IMPERIAL

Imperial College London

Department of Computing

A Low-Overhead Approach to Dynamic Frequency Scaling for GPUs Using Multi-Dimensional Energy Efficiency Curves

Author:
Evie Wright

Supervisor:
Dr Anandha Gopalan

Submitted in partial fulfillment of the requirements for the BEng degree in Computing of Imperial College London

June 2024

Abstract

Today's society faces the realities of climate change while becoming increasingly reliant on computational technology. As such, it is vital to use our technology economically - particularly with regards to the energy needed to power it.

Several areas of previous research [1][2][3] have approached this problem using Dynamic Voltage and Frequency Scaling (DVFS) - real-time adjustment of the power drawn by a machine to better match current execution conditions. However, there remains a need for a low-overhead, generalisable method that is effective on Graphics Processing Units running as part of a server.

This report hence introduces a novel Dynamic Frequency Scaling method for Graphics Processing Units (GPUs). Inspired by previous work for CPUs [1], precalculated energy efficiency curves - which encapsulate the relationship between frequency, utilisation, workload and energy consumption - are used to conduct scaling. The result is a method of frequency governance capable of predicting optimal frequencies for an execution with minimal overhead. Comparison of the novel governor with default executions shows consistent energy savings of up to 33%, with an temperature-aware extension of the governor displaying potential for even larger efficiency gains.

Contents

1 Introduction

1.1 Motivation

In recent years we've developed increasing reliance on data centre and cloud server computing. Despite significant advancements in computing ability, data centre power consumption is predicted to reach almost 4,250 megawatts by 2028 [4] and to make up 3.21% of EU energy demand by 2030 [5]. It is hence paramount that data is processed efficiently with regards to energy consumption and carbon emissions.

One solution with the potential to greatly improve energy efficiency is Dynamic Voltage and Frequency Scaling (DVFS). DVFS involves the continual adjustment of voltage and frequency during runtime to better match current demands on the system. Since higher clock speeds increase execution rate and hence inherently require more power, this improves energy efficiency by reducing redundancy in power draw.

However, DVFS can be less impactful in a cloud server setting because:

- There is a high overhead due to the use of complex optimisation functions. In a cloud computing environment this may cause fluctuations in throughput, leading to Service Level Agreement (SLA) violations.
- The task conducted by a server can change rapidly, hence the inferences made by a model may quickly become outdated.
- Models may require specific program information as input, such as the number, types, or orderings of instructions. On a public cloud computing server these are private to the user and hence this would not be possible.
- Lower-overhead DVFS algorithms tend to be optimised for a specific use case and hence are not generalisable with regards to the type of task performed. Due to this, they do not work well in environments where a variety of tasks are executed.

1.2 Project Aims

In 2023, W. Lin et Al. introduced the *Multi-model Prediction-based Parameter Optimization Method with DVFS* (MPOD) [1]. This uses a simplified algorithm to predict optimal CPU frequency, given CPU utilisation and energy efficiency

curves pre-calculated using a benchmark. While not as accurate as some alternatives [6][7][8][9], due to the restricted input, this approach has many other benefits. It greatly reduces the overhead of frequency optimisation, does not require private details of the execution, and is generally adaptable to many tasks.

To the author's knowledge, however, this notion has yet to be implemented for GPUs, despite their rapidly-increasing prominence in data centres for the purposes of neural network training/inference, simulation, and analytics [10]. Additionally the algorithm has not been extended to consider the effect of temperature, despite recent research showing the ability of temperature-aware scaling to improve energy consumption of FPGAs by up to 30% compared to conventional DVFS [11]. Hence the aims of this project were the following:

1. To provide an adaptation of the MPOD frequency scaling algorithm for use with GPUs, taking advantage of their unique structure.
2. To extend this algorithm to also consider the current temperature of the GPU and to react accordingly.
3. To evaluate potential efficiency gains from performing Dynamic Frequency Scaling using the novel algorithm, as compared to a typical execution.

1.3 Overview of Project Contributions

Inspired by MPOD's frequency scaling mechanism, this project contributes a benchmark for the creation of two-dimensional energy efficiency curves, and a novel frequency governor for GPU. The governor performs scaling according to created energy efficiency curves, acting on the two major domains of a GPU (graphics and memory). The governor is extended to consider the current temperature of the GPU and penalise graphics frequency in the case of temperature rise.

A comparative evaluation of scaling models is performed and documented. Reliable energy savings are shown with use of the contributed mechanism, ranging from 1.85% to 33%. The temperature-aware extension of the governor displays potential for even larger efficiency gains during long executions. Comparison of baseline energy draw indicates that both the basic and extended algorithms have no additional overhead compared to the test machine default.

2 Background

2.1 Energy Efficiency Measurement and Metrics

In this section basic theory of system energy consumption is introduced, and an overview of methods for measuring and evaluating energy efficiency is provided.

2.1.1 Static and Dynamic Power

The power consumption of a system consists of static and dynamic components. Static (or leakage) power refers to the background power consumed even when the system is idle, while dynamic power is power consumed as a result of charging/discharging of capacitance load during process execution. The total power consumed by a system is equal to $P_{static}+P_{dynamic}$ [12]. Static power consumption is proportional to voltage [13], and dynamic power consumption is strongly related to both voltage and frequency. This makes DVFS a highly effective method for modifying power consumption.

$$P_{dynamic} = \alpha \cdot C \cdot V_{dd}^2 \cdot f$$

Figure 1: Formula for calculation of dynamic power, where α is the activity factor (proportion of the circuit that is active), V_{dd} the voltage, C the capacitance, and f the clock frequency.[4]

2.1.2 Methods for Estimating Energy Efficiency

Performance Counters (PMCs): a special-purpose register in modern processors, which counts the occurrences of a specific type of event (e.g. L2 cache misses). Intel uses PMCs in many of their processors and categorises them as core PMCs (e.g. ALU, registers, L1/L2 cache) and uncore PMCs (e.g. DRAM, memory controllers). The overhead of PMCs themselves is negligible, however complex regression is required to obtain an accurate estimation of efficiency. Another downside is that they do not separate usage over processes.

Simulation: running a simulation of processor activity can provide a high level of detail and an accurate estimation of energy use, however this is computationally very expensive - sometimes even infeasible for complex machine-learning problems.

Instruction-Level Estimation: micro-benchmarks - benchmarking executions focused on a single functionality - are used to isolate the power consumption of each instruction. These can then be summed to estimate power consumption of the overall program.

Thermal Design Power: the maximum power a machine can draw. This can be used to calculate an upper bound for energy consumption.

Multiply-Accumulate Operations: the number of MAC operations in an execution can be used to approximate the Floating Point Operations required and by extension the energy consumption.

2.1.3 Energy Efficiency Metrics

Several metrics have been proposed to encapsulate the notion of energy efficiency:

Energy Consumption (measured in Joules): This is the product of power (in Watts) and time (in seconds), and is simply the quantity of electricity consumed. Energy consumption is a simple metric to measure and understand, however it does not take the utilisation or source of the energy into account.

Energy Delay Product (EDP) [14]: EDP is calculated as the product of energy and execution time. This is useful in cases where time efficiency is particularly valued, such as in public data centres, as it places higher emphasis on the time variable.

Energy Efficiency Ratio Score: The work of W. Lin et Al. utilises the *Benchmark for Server Energy Efficiency (BenchSEE)* - a benchmarking suite developed specifically for energy efficiency analysis of servers [15]. It provides an *Energy Efficiency Ratio Score*, 'based on the opinions of multiple server vendors, chip vendors, energy efficiency certification organizations, and scientific research institutes in the IT energy-saving field'.

Power Usage Effectiveness (PUE): PUE represents the proportion of facility power consumption going towards computation in comparison with overheads such as cooling and lighting. This is a useful metric for comparing energy efficiency within a particular facility, however its sensitivity to centre-specific factors such as local climate and exclusion of energy supply split make it a less effective comparator of facilities [16].

$$PUE = \frac{total\ facility\ energy}{IT\ equipment\ energy}$$

Carbon Emission: The carbon impact of an execution instance is approximated using energy consumption alongside the resource split of the centre's electricity supply at the time of execution. This provides a direct representation of emissions impact - a key consideration when assessing ecological footprint.

2.2 DVFS and Previous Related Work

In this section previous work in the field of Dynamic Voltage and Frequency Scaling is presented.

2.2.1 Linux Governors

The Linux CPUFreq governors provide a set of policy options for setting CPU clock speed [17]. Four of these are able to act dynamically:

- The ***on-demand*** governor takes as parameter an upper limit on utilisation, and increases the frequency to maximum if average utilisation is above this. Otherwise, optimal frequency is calculated according to average utilisation and the minimum frequency. Pseudocode of this algorithm is shown in Algorithm 1.

- The ***conservative*** governor uses a similar premise to the on-demand, however works incrementally rather than leaping to the maximum frequency. It takes additional parameters *freq_step* (the amount to increment/decrement frequency if necessary) and *down_threshold* (a low-threshold for average utilisation, similar to *up_threshold*).

- The ***schedutil*** governor is a newer and more versatile development, encompassing the rhetoric of several older governors depending on the current state. For example, it reacts differently when invoked by real-time or deadline schedulers in comparison to a Completely Fair Scheduler - maximising frequency in the first case and estimating optimal frequency with per-entity load tracking in the second. It also has an I/O wait boosting mechanism, which temporarily boosts CPU frequency for processes that have just finished waiting for I/O.

- The ***userspace*** governor allows modification of frequency by any user or user program with root privileges. This is achieved via the *scaling_setspeed* sysfs file present in the *CPU-device* directory.

Algorithm 1: On-Demand Governor

function On-demand ():
Parameters: *CPU_util*, *up_threshold*, *min_frequency*, *max_frequency*
while do
    if CPU_util > up_threshold **then**
        Set_frequency(max_frequency)
    else
        next_frequency = min_frequency + CPU_util * (max_frequency - min_frequency)/100
        Set_frequency(next_frequency)
    end
end

Algorithm 1: Pseudocode algorithm for the On-Demand governor [2]

2.2.2 PollO

Lee, Song, and Eom leverage polling-based I/O services to develop the *Polling-Aware On-Demand* (PollO) governor [2].

I/O execution in Linux is primarily interrupt-based: an application will sleep following an I/O request, remaining dormant until the request is completed and an interrupt is sent by the storage device. By contrast, in polling-based I/O algorithms the application polls the storage device at regular intervals to check for completion. Initial experiments by the authors found that when polling-based I/O is used with high-performance storage devices, savings on context switches more than offset the extra overhead from polling.

The PollO governor is adapted specifically for use with polling-aware I/O. It sets CPU frequency to a predefined value *pollo_frequency* (by default 1.5Ghz) whenever polling is detected, with the result of minimising power draw during polling. The *I/O_sensitivity* parameter provides adaptability for I/O-intensive tasks by increasing frequency whenever the rate of I/O requests surpasses the parameter value. Algorithm 2 contains an outline of the governor algorithm.

The results demonstrated are promising: a 26.93% drop in power consumption and no detriment to performance compared to the on-demand governor with an interrupt-based I/O service. However, the improvements made by PollO are solely in I/O and do not extend to other areas of execution.

Algorithm 2: PollO Governor

function PollO ():
Parameters: *CPU_util*, *up_threshold*, *min_frequency*, *max_frequency*, *poll_flag*, *poll_count*, *PollO_frequency*, *I/O_sensitivity*
while do
    if CPU_util > up_threshold **then**
        if poll_flag=TRUE **then**
            if # of I/O request > I/O sensitivity * # of iterations **then**
                PollO_frequency += 100Mhz
            end
            Set_frequency(PollO_frequency)
        end
    else
        next_frequency = min_frequency + CPU_util * (max_frequency - min_frequency)/100
        Set_frequency(next_frequency)
        poll_flag = FALSE
        poll_count = 0
    end
end
Algorithm 2: Pseudocode algorithm for the PollO governor [2]

2.2.3 Leveraging Thermal Margin

Leveraging Thermal Margin (LTM) is a recent solution exploiting FGPA temperature to reduce voltage. At cooler temperatures, it is possible for a chip to drop further in voltage, and hence better voltage limits are observed [18]. The process aims therefore to organise logic in a way that avoids excessive temperature peaks. Recent work by Khalegi et al. [11] has shown improvements on conventional DVFS by up to 30%, demonstrating the potential impact of considering processor temperature during scaling.

2.2.4 MPOD and Energy Efficiency Curves

Within their proposed *Multi-model Prediction-based Parameter Optimization Method with DVFS* [1], W. Lin et Al. utilise machine-specific energy efficiency curves to approximate the relationship between frequency, load, and energy efficiency. These are created using benchmarking - energy efficiency and average utilisation are measured for each possible frequency and at a range of load intensities.

CPU utilisation is used as a predictor of throughput behaviour. Whenever utilisation is lower than 100%, application throughput can reach its maximum potential. Hence, if utilisation remains less than 100% after reducing the frequency, application throughput will be maintained but power consumption will be reduced - improving the efficiency of the execution. If utilisation rises to 100% after frequency is reduced, however, application throughput is likely to have also reduced. This likely means a slower execution and a negative impact on total energy consumption.

The optimal utilisation range for a given frequency f is denoted $[U_{low}(f), U_{up}(f)]$ and is calculated using the following rhetoric:

> $U_{low}(f) \rightarrow$ find the highest load level at which decreasing the frequency gives an increase in efficiency. $U_{low}(f)$ is then equal to the utilisation at this frequency and load level.
>
> $U_{up}(f) \rightarrow$ find the lowest load level at which increasing the frequency gives an increase in efficiency. $U_{up}(f)$ is then equal to the utilisation at this frequency and load level.

The authors give the graph in Figure 2 for explanation, prompting the reader to consider the 2.1Ghz frequency. This is the most energy-efficient frequency at a 70% load, however at an 80% load a 2.2Ghz frequency is more efficient while at a 60% load a 2.0Ghz frequency is more efficient. Hence at 2.1Ghz the optimal utilisation range is [0.758, 1] (0.758 being the utilisation at 60% load and 2.1Ghz, and 1 being the utilisation at 80% load and 2.1Ghz). The authors theorise that the accuracy of these bounds may be improved by:

1. repeating the experiment multiple times and using the intersection of resultant bounds
2. using a smaller interval between load levels

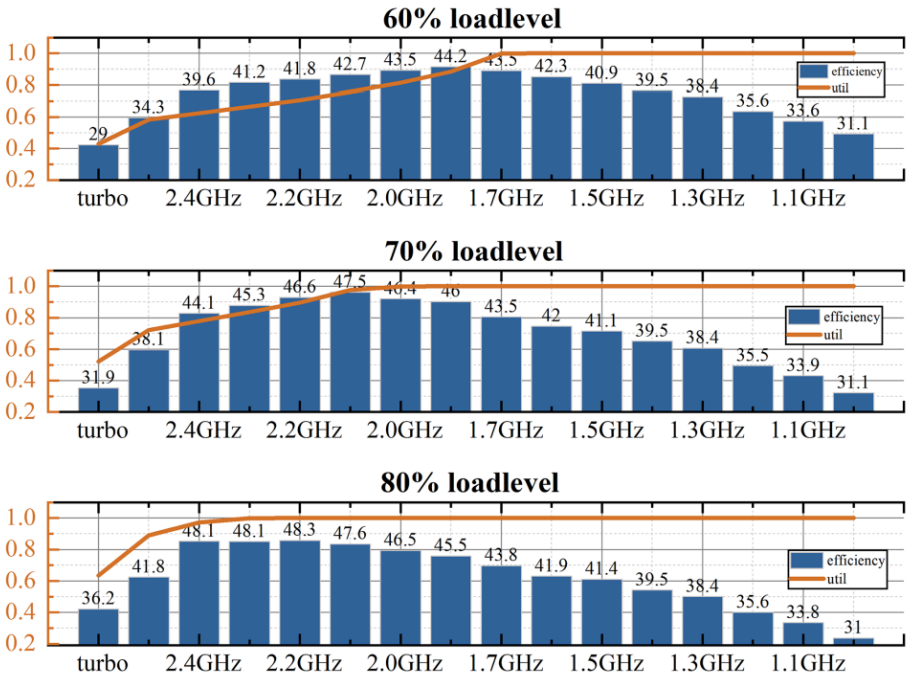

Figure 2: CPU Energy Efficiency Curves evaluated by W. Lin et Al. using the BenchSee Compress benchmark [1]

While the authors did not publish any isolated experiments with the fast frequency scaling mechanism, those conducted with the complete algorithm showed an efficiency improvement of 20.1% and 10.8% for the SERT and TPC-H benchmarks respectively, indicating the algorithm to be effective and generalisable. Additionally, the overhead of MPOD required only 0.34% of the computing resource and 0.1% of the memory capacity of the test server.

Algorithm 3: Energy Efficiency Based Frequency Scaling Mechanism

Input: optimal utilisation interval with upper bound U_{up} and lower bound U_{low}
Output: optimal frequency of each core

```
while not interrupt program do
    for each core in CPU do
        get real-time utilisation u and frequency f
        if U_low(f) < u < U_up(f) then
            maintain current frequency configuration
        end if
        if u > U_up(f) then
            if the core has increased at least twice continuously then
                increase 4 frequency levels
            else
                increase 1 frequency level
            end if
        end if
        if u < U_low(f) then
                decrease frequency by U_low(f)/u levels
        end if
    end for
end while
```

Algorithm 3: Pseudocode for MPOD's frequency scaling mechanism, as defined in [1]

2.2.5 Energy Efficiency and Threading

Rauber, Rünger, and Stachowski investigated the energy efficiency of various threading models, and observe that optimal processor frequency varies with the number of threads used [3]. This provides a range of optimal frequencies for each application on each machine. Additionally there is often a saturation point with regards to the number of threads, beyond which execution will not get any faster.

Power draw tends to stabilise or even drop slightly once the number of logical threads surpasses the number of physical threads. Prior to this point a non-linear increase in power draw and a decrease in execution time are observed in applications optimised for parallelism, however the rate of change is found to vary heavily between applications and processors. Previous work by the authors [19] is generalised to an arbitrary number of threads p, and used to calculate the optimal frequency scaling factor s_{opt}.

$$E(p,s) = (s^{-2} \cdot P_{dyn}(p,1) + s \cdot P_{stat}(p,1)) \cdot T_{par}(p,1)$$

$$s_{opt}(p) = \left(\frac{2 \cdot P_{dyn}(p,1)}{P_{static}(p,1)}\right)^{1/3}$$

$$\frac{\delta EDP(p,s)}{\delta s} = (-s^{-2} P_{dyn}(p,1) + 2 \cdot s \cdot P_{static}(p,1)) \cdot T(p,1)^2$$

$$s_{opt}^{EDP}(p) = \left(\frac{P_{dyn}(p,1)}{2 \cdot P_{static}(p,1)}\right)^{1/3}$$

Figure 3: Equations to calculate optimal frequency for a given number of threads [3]

2.3 Energy Efficiency for GPUs and Machine Learning

In this section background and previous research regarding energy efficiency for GPUs and machine learning/AI are introduced.

Machine learning and AI is rapidly becoming a major use sector within data centres. In a 2022 survey of 450 enterprises 51% had already moved their AI applications to a cloud format, with the remainder planning to do so by 2023 [20]. AI compute intensity is currently doubling every six to 10 months [21]. As this field relies heavily on GPUs, the importance of research into its energy efficiency is evident.

2.3.1 Graphics Processing Units

Unlike CPUs, which are designed for serial processing of instructions and binary calculations, GPUs are specialised for parallelism and contain a larger number of cores. Their architecture is shown in Figure 4 and consists of two major domains: the graphics (core) domain (responsible for computations) and the memory domain (holding volatile storage).

GPUs have a far higher Thermal Design Power than CPUs, hence tend to draw a larger amount of power. Despite this, recent research on NLP model training and image classification [22] found that the far-superior speed of GPUs results in considerably lower energy consumption for these tasks compared to CPUs.

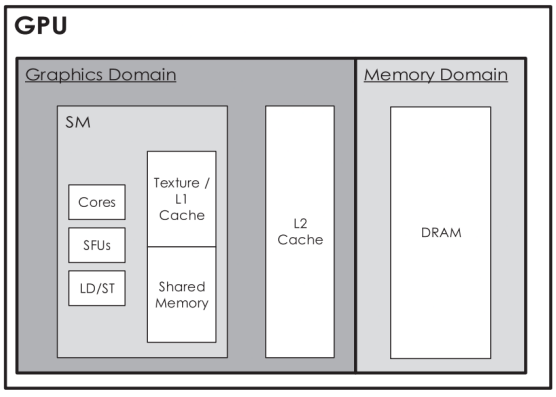

Figure 4: Existing frequency domains in modern GPU devices [23]

2.3.2 DVFS for GPUs

In contemporary GPUs, the frequencies of individual components can be set independently. The frequency balance between components can therefore be adapted to the current execution.

Guerrero, Ilic, Roma, and Tomàs [13] extended the typical compute-bound /memory-bound classification of an application to reflect GPU performance under varying frequency combinations. Applications are classified based on the impact of DVFS on execution time and power consumption.

An application is considered memory-bounded at a frequency F_{Mem_i} if with memory set to this frequency there is at least one core frequency at which memory latency is the limiting factor. If this is not the case the application is considered to be compute-bounded. The higher the number of frequencies at which the application is compute-bounded, the more likely it is that application performance scales proportionally with the core frequency. Similarly, the performance of an application that is primarily memory-bounded will likely scale in proportion with memory frequency.

Hence, the proposed classification is as follows:

- **Class TA** applications are memory-bounded at the highest available memory frequency (and therefore at all lower memory frequencies). They have a very high DRAM utilisation and their speed is highly sensitive to changes in memory frequency. As compute speed is often limited by memory bottlenecks, they have low utilisation of major graphics components such as shared memory and floating point units.
- **Class TC** applications are compute-bounded at the lowest available memory frequency (and therefore at all higher memory frequencies). They are characterised by low DRAM utilisation and high utilisation of graphics components. Their execution speed is highly dependent on the core frequency however is not considerably impacted by changes in memory frequency.
- **Class TB** applications lie between classes TA and TC, and their performance is impacted by both memory and core frequencies. It is possible to further subdivide class TB by the memory frequency at which an application changes from memory-bound to compute-bound.

The authors then propose a second classification, encapsulating the expected impact of voltage/frequency scaling on the application's power consumption:

- **Class PA** applications show a higher sensitivity to F_{Mem} and a lower sensitivity to F_{Core}
- **Class PB** applications show a higher sensitivity to F_{Mem} and a higher sensitivity to F_{Core}
- **Class PC** applications show a lower sensitivity to F_{Mem} and a lower sensitivity to F_{Core}
- **Class PD** applications show a lower sensitivity to F_{Mem} and a higher sensitivity to F_{Core}

where applications with a 'higher sensitivity to F_{Mem}' demonstrate a considerable power saving when memory frequency is decreased, applications with a 'higher sensitivity to F_{Core}' demonstrate a considerable power saving when core frequency is decreased, and the 'lower' counterparts of each represent the opposite case.

2.3.3 Energy Efficiency in Machine Learning/AI

A large proportion of the energy requirements of machine learning is attributed to memory access and data movement [24]. Several solutions exist targeting these areas: these include lightweight models with fewer parameters and size compression through quantisation.

Opportunity for energy efficiency gains can be found at various points within the machine learning life-cycle. Solutions may focus around software/hardware infrastructure, reducing input data, neural network modelling, training efficiency, inference efficiency, or a combination of these areas [25].

In addition to energy efficiency and speed, model accuracy must be considered when evaluating an implementation. Several metrics exist that encompass the trade-off between model accuracy and resource consumption:

- **Accuracy per Joule**, equal to model accuracy/energy per request [26].
- The **Full-Cycle Energy Consumption Metric (Greenness)** encompasses training energy cost (TEC), inference energy cost (IEC), and model accuracy. [27]

  $$G(MUI) = Accuracy/(MUI * IEC + TEC)$$

  Model Usage Intensity (MUI) is the average number of inferences in each lifecycle, and is used to approximate the respective proportions of energy consumption from training and inference.

In a recent survey paper on energy consumption estimation in machine learning [12], the majority of literature reviewed uses performance counters with regression techniques. Power consumption is often derived via power weights associated with each counter, using the formula

$$P_{total} = (\sum_{i=1}^{n_{component}} AR_i \cdot w_i) + p_{static}$$

where w_i is the weight associated with component i, AR_i is the activity ratio of component i, and P_{static} represents the overall static power of all components.

2.3.4 Frequency and Power Management of GPUs

The **Nvidia Management Library** (NVML) [28] is an API provided by Nvidia for querying and control of Nvidia brand GPUs. Its functionalities include querying of current graphics/memory domain utilisation, current unit power draw, and current unit temperature, current querying of clock information, and setting of clock frequencies. The **Pynvml** library [29] provides a Python wrapper over NVML, allowing for easy integration within Python projects.

The **ZeusML** Python library [30] was introduced in 2023 from the University of Michigan, with the purpose of providing real-time power monitoring and optimisation for deep learning workloads. To achieve the former, NVML calls are utilised to extract information on power and energy consumption within a given window.

The library also provides optimisers for the tuning of either deep learning hyperparameters, such as batch size, or GPU behaviour: in the form of a power limit optimiser which finds the optimal power limit for DNN training, and a pipeline frequency optimiser which predicts optimal SM frequencies for parallel pipeline training such that dead time for each GPU is minimised.

In this project ZeusML's power monitoring facility is used to measure power draw for use in efficiency calculations.

3 Project Contributions

3.1 Benchmark

The first contribution of this project is a novel benchmark for the creation of energy efficiency curves for GPU. The benchmark utilises the CuPy Python library [29] - which provides CUDA-specific optimisations of the popular NumPy and SciPy libraries - for memory management, and the APIs of NVML [28] and ZeusML [30] for measurement of utilisation and power respectively.

3.1.1 Benchmark Structure

The benchmark and corresponding DVFS algorithms are based on the premises introduced by W. Lin et Al. Inspired by work in [23], the graphics domain is stressed through dense matrix multiplication, while the memory domain is stressed using a large and dense memory copy of an input matrix.

The notion of load levels is implemented by variation of matrix size. There are distinct load levels for the graphics and memory stressors, with the matrix sizes for each memory load level being five times larger in each dimension than the matrix size for the corresponding graphics level. This value was chosen to provide roughly even scaling in utilisation between the domains. While it may differ between GPU models the same rhetoric may be used to find a correct scalar for each machine, such that the effect of the benchmark is similar.

3.1.2 Benchmark Execution

For each pair of graphics and memory frequencies available on the machine, the following is executed:

For each pairing of graphics load level and memory load level, the dense multiplication and dense copy benchmarks are executed in parallel. This is achieved by launching two additional threads. Number of repetitions of each action is used to define the scope of thread execution, so that total throughput is similar across frequencies but scales monotonically across load levels. Utilisations are averaged (by mean) over the period where at least one benchmark is running, to smooth any fluctuation caused due to scheduling. The benchmarks are executed for 200,000 and 1,250,000 repetitions respectively: these values were chosen so that execution time is long enough

to get accurate and averaged measurements, but short enough that it is feasible to execute many times over for multiple load levels and frequencies. On the test machine running the benchmark in full took just under 48 hours.

During execution the original thread measures utilisations and power draw every 0.1 seconds via calls to NVML and ZeusML. These values are summed and their averages calculated at the end of the execution. Power draw is returned multiplied by the total execution time, providing the total energy expenditure. This expenditure is used directly in future calculations, due to the project's focus on energy efficiency. However, an alternative metric such as Energy Delay Product [14] could also be used to take additional performance indicators, such as execution time, into account.

In order to optimise measurement accuracy, the matrices to be multiplied and copied are initialised prior to thread launch and are passed to the thread as arguments. A three-second cool-down period is also implemented between initialisation and thread launch, to prevent prior execution from impacting the measurements.

3.2 Algorithm for Calculation of Energy-Optimal Utilisations In Two Dimensions

The second project contribution is an algorithm for the calculation of energy-optimal utilisation ranges. This algorithm is extends the one proposed in [1] to two dimensions, facilitating two-dimensional scaling of the GPU core and memory domains.

3.2.1 Rhetoric

The rhetoric used within MPOD's scaling mechanism is as follows:
xGhz is the most efficient frequency for load level a. At load level a + b the most efficient frequency is higher, at load level a - c the most efficient frequency is lower, and these are respectively the lowest and highest load levels for which this is the case. Hence the optimal utilisation range at xGhz frequency is [average utilisation at a - c, average utilisation at a + b]

The extended version, contributed by this project, is as follows:
(xGhz, yGhz) is the most efficient frequency pairing for load level (a, b). ***c*** *is defined as the smallest value such that the most efficient graphics frequency at (a + c, b) is higher.* ***d*** *is defined as the largest value such that the most efficient graphics frequency at (a - d, b) is lower. Hence the optimal utilisation range for the graphics domain at frequency (xGhz, yGhz) is*
[graphics utilisation at (a - d, b), graphics utilisation at (a + c, b)].
Similarly, if ***e*** *is the smallest value at which the most efficient memory frequency for load (a, b + e) is higher, and* ***f*** *the largest value at which the most efficient memory frequency for load (a, b - f) is lower, the optimal range for memory utilisation is*
[memory utilisation at (a, b - f), memory utilisation at (a, b + e)].

An issue in the rhetoric which was not covered in [1] is how optimal utilisation should be defined for frequencies that are not the most efficient for any load level. Some possible solutions to this issue are:

1. During dynamic scaling, to only consider the subset of frequencies that are energy-optimal at some load level.

2. To estimate the optimal utilisation range using extrapolation from neighbouring frequencies.

For the purpose of this project the optimal range is predicted via extrapolation, with the following rhetoric:
Assume that (fg, fm) is not optimal at any load level measured by the benchmark, however frequency (fg-1, fm) is optimal for some load level (a, b). It is likely that the optimal graphics frequency for load (a + 1, b) will be higher, as utilisation increases with load at the same frequency and hence at frequency (fg-1, fm) 100% utilisation will be surpassed at an earlier point. The optimal graphics utilisation range for (fg, fm) can therefore be estimated as (graphics utilisation at (fg, fm) and (c + 1, d), graphics utilisation at (fg, fm) and (e + 1, f)), where (c, d) is the smallest load at which (fg - 1, fm) is optimal, and (e, f)) is the largest. The same notion can be applied to the memory domain by altering memory frequency and load as opposed to graphics.

This algorithm may be applied iteratively in cases where multiple consecutive frequencies are not energy-optimal at any load level. However, in this case a sanity check is performed for each frequency, that caps the load levels to those of the optimal load levels of the first higher frequency which is optimal for some load level.

3.2.2 Implementation

The algorithm is implemented in four stages. Pseudocode of each stage is detailed by Algorithm 4.

During the first stage, the most energy-efficient graphics/memory frequency pairing is found for each pair of load levels, according to the benchmark results. In the case of a tie the larger frequency pair is chosen, for prioritisation of better performance. Ordering is defined according to lexicographical ordering over graphics and memory.

```
// finds optimal frequencies for each pair of load levels
// algorithm finds the local minimum energy expenditure across the two //
load-level dimensions for each pair of frequencies

for gll < num_graphics_load_levels:
    for mll < num_memory_load_levels:
        curr_max_efficiency = -1
        curr_max_args = (-1, -1)
        for gdx < num_graphics_frequencies:
            for mdx < num_memory_frequencies:
                energy = energies[gdx][mdx][gll][mll]
                if energy <= curr_max_efficiency:
                    curr_max_efficiency = energy
                    curr_max_args = (gdx, mdx)
        optimals[gll][mll] = curr_max_args
```

Algorithm 4(a): calculation of optimal frequencies for each pair of load levels

The second stage identifies the lowest and highest load level at which each graphics and memory level is optimal.

```
// finds lowest and highest load level at which each frequency level is optimal
// opts_g_high and opts_m_high are initialised to -1
// opts_g_low and opts_m_low are initialised to one higher than their //
length

for gll < num_graphics_load_levels:
    for mll < num_memory_load_levels:
        (opt_g, opt_m) = optimals[gll][mll]
        opts_g_low[opt_g] = min(opts_g_low[opt_g], gll)
        opts_g_high[opt_g] = max(opts_g_high[opt_g], gll)
        opts_m_low[opt_m] = min(opts_m_low[opt_m], mll)
        opts_m_high[opt_m] = max(opts_m_high[opt_m], mll)
```

Algorithm 4(b): identification of optimal load level range for each frequency

In the third stage, loads corresponding to optimal utilisations are calculated by extrapolation for frequencies that were not optimal at any measured load level. Algorithm 4(c) outlines pseudocode for this stage, following the rhetoric introduced in Section 3.2.1.

```
while repeat:
    repeat = False
    for gdx < num_graphics_frequencies:
        if opts_g_high[gdx] == -1:
            if opts_g_high[gdx - 1] != -1:
                opt_low = min(max(opts_g_low[gdx - 1] + 1, 0), len_graphics_load_levels)
                opt_high = min(max(opts_g_high[gdx - 1] + 1, 0), len_graphics_load_levels)
                neighbours_above = [idx in range(gdx + 1, num_graphics_load_levels)
                where opts_g_low[idx] != -1]
                if neighbours_above is not empty:
                    neighbour = min(neighbours_above)
                    opt_low = min(opt_low, opts_g_low[neighbour])
                    opt_high = min(opt_high, opts_g_high[neighbour])
                opts_g_low[gdx] = opt_low
                opts_g_high[gdx] = opt_high
            else if opts_g_high[gdx + 1] != -1:
                opt_low = min(max(opts_g_low[gdx + 1] - 1, 0), len_graphics_load_levels)
                opt_high = min(max(opts_g_high[gdx + 1] - 1, 0), len_graphics_load_levels)
                neighbours_below = [idx < gdx where opts_g_low[idx] != -1]
                if neighbours_below is not empty:
                    neighbour = max(neighbours_below)
                    opt_low = max(opt_low, opts_g_low[neighbour])
                    opt_high = max(opt_high, opts_g_high[neighbour])
                opts_g_low[gdx] = opt_low
                opts_g_high[gdx] = opt_high
                else:
                // skip and set intention to revisit when immediate neighbours
                // are filled in
                    repeat = True

repeat for memory frequencies
```

Algorithm 4(c): extrapolation of optimal loads for frequencies not optimal at any measured load level.

Finally, the optimal utilisations are found for each frequency pair. The optimal utilisation for frequency level (*gdx, mdx*) is defined as the graphics utilisation at the optimal graphics level identified for *gdx* in stage three, paired with the memory utilisation at the optimal memory level identified for *mdx* in stage three.

```
// finds optimal utilisations for each frequency pair
// utils_up_g, utils_low_g, utils_up_m, utils_low_m are all 2D arrays

for gdx < num_graphics_frequencies:
    for mdx < num_memory_frequencies:
        utils_up_g[gdx][mdx] =
            utils_graphics[opts_g_high[gdx]][opts_m_high[mdx]]
        utils_up_m[gdx][mdx] =
            utils_mem[opts_g_high[gdx]][opts_m_high[mdx]]
        utils_low_g[gdx][mdx] =
            utils_graphics[opts_g_low[gdx]][opts_m_low[mdx]]
        utils_low_m[gdx][mdx] =
            utils_mem[opts_g_low[gdx]][opts_m_low[mdx]]
```

Algorithm 4(d): identification of optimal utilisations.

3.3 DFS Algorithm for Optimal Energy Efficiency

The final major project contribution is an adaptation of the scaling algorithm used in [1] to two dimensions. Pseudocode of the adapted algorithm is shown in Algorithm 5. It takes as input arrays *utils_low_g*, *utils_up_g*, *utils_low_m* and *utils_up_m* - whose element values are calculated as described in Section 3.2, measures current frequency and utilisations, and alters or does not alter frequencies accordingly. After launch this execution runs every 0.1 seconds until killed.

```
function alter_frequency(utils_up_g, utils_low_g, utils_up_m, utils_low_m,
current_graphics_frequency, current_memory_frequency):
    u_low_graphics = utils_low_g[current_graphics_frequency][current_memory_frequency]
    u_low_mem = utils_low_m[current_graphics_frequency][current_memory_frequency]
    u_up_graphics = utils_low_g[current_graphics_frequency][current_memory_frequency]
    u_up_graphics = utils_low_m[current_graphics_frequency][current_memory_frequency]
    utils = get_GPU_utilisations()

    if utils.gpu == 0:
        new_graphics_freq_level = 0
        has_increased = False
    else if utils.gpu < u_low_graphics:
        scale_frequency_factor = u_low_graphics // utils.gpu
        new_graphics_freq_level = current_graphics_frequency - scale_frequency_factor
        has_increased = False
    else if utils.gpu > u_up_graphics:
        new_graphics_freq_level = current_graphics_frequency + 4 if has_increased
        else current_graphics_frequency + 1
        has_increased = True
    else:
        new_graphics_freq_level = current_graphics_frequency
        has_increased = False

    if utils.memory == 0:
        new_mem_freq_level = 0
    else if utils.memory < u_low_mem:
        scale_frequency_factor = u_low_mem / utils.memory
        new_mem_freq_level = current_memory_frequency - scale_frequency_factor
        set_memory_frequency(new_level)
    else if utils.memory > u_up_mem:
        new_mem_freq_level = current_memory_frequency+1
    else:
        new_mem_freq_level = current_memory_frequency

    set_graphics_frequency(new_graphics_freq_level)
    set_memory_frequency(new_mem_freq_level)
```

Algorithm 5: Frequency alteration algorithm of the novel governor.

3.4 Auxiliary Contributions

3.4.1 Print Formatting

The *print_format.py* module contains several functions to facilitate the storage and input of benchmark information. It primarily provides functions to read and write csv files and LaTeX-formatted text files, and can achieve this for both two-dimensional and four-dimensional arrays. Additional functionality includes conversion between an n-dimensional array of tuples and two n-dimensional arrays of floats (useful for joining or separation of measured graphics and memory utilisations), conversion between csv and LaTeX-style outputs, and pretty-printing of the current system time (for use within file names).

3.4.2 Machine Profiling

The module *device_profile.py* queries information on which frequencies can be set for the GPU and writes this information to a csv file for later use. As the number of accepted frequencies is very large for certain devices - especially for graphics - parameters are passed through which the user can specify the proportion of frequencies they want included. The profile used for project evaluation was done for 1/8 of the available graphics frequencies and all available memory frequencies.

3.4.3 Shell Scripts

A number of bash shell scripts are provided to make the project code smoother to run. These can be found in the outermost folder of the repository and include:

- *profile_device.sh* for obtaining the frequencies to be used for benchmarking and scaling
- *run_benchmark.sh* for launching and running the benchmark
- *calculate_optimals.sh* for calculating optimal utilisation ranges
- *run.sh* to run the dynamic frequency scaler.

Scripts execute the corresponding Python module under a Python virtual environment, with root permissions where necessary.

3.5 Project Extension: Temperature-Aware DFS

This project additionally contributes an extension to the novel governor that takes GPU temperature into account. This can be activated by setting the RUN_TEMP bash environment variable to 1 when executing the governor.

The extended governor penalises rises in GPU temperature, with the aim of preventing temperature from becoming too high and affecting efficiency. This is achieved through calculation of a delta value for graphics level on each execution of the scaling algorithm - equal to -1 if temperature has increased since the last execution and frequency is set to increase or stay the same, and 0 otherwise.

Algorithm 6 gives pseudocode for the function used to calculate delta, called immediately before graphics and memory domains are set to their new frequencies. This output is then added to the newly calculated graphics frequency level to give the next frequency set by the governor.

```
function delta_for_temperature(new_g):
    delta = -1 if current_temp > previous_temperature and new_g
    >= current_graphics_frequency else 0
    return delta
```

Algorithm 6: Function for calculation of deltas.

3.6 Project Extension: DFS Using the Average of Benchmark Runs

The *calculate_averages.py* module can take information from multiple benchmark runs as input and return averages, in order to smooth out any anomalies encountered during a specific benchmark run. This can be activated by running the calculate_averages.sh script and then setting the USE_AVERAGES bash environment variable to 1 when executing the governor.

4 Project Evaluation

Benchmark execution and evaluation were conducted using an Nvidia GeForce RTX 3060Ti GPU, driven by a machine running Ubuntu 22.04 LTS.
Section 4.1 provides an overview of results obtained using the novel benchmark. Section 4.2 outlines findings from an evaluation of the project's impact on energy efficiency.

4.1 Analysis of Benchmark Results

The full set of results tables can be found in the Appendix of this report. Within the results the following trends can be identified:

4.1.1 Trends in Utilisation

At the same memory load but as graphics load increases, graphics utilisation increases monotonically. This is illustrated by Figure 5. As a result, a higher computational load can be predicted to lead to an increase in maximum graphics throughput.

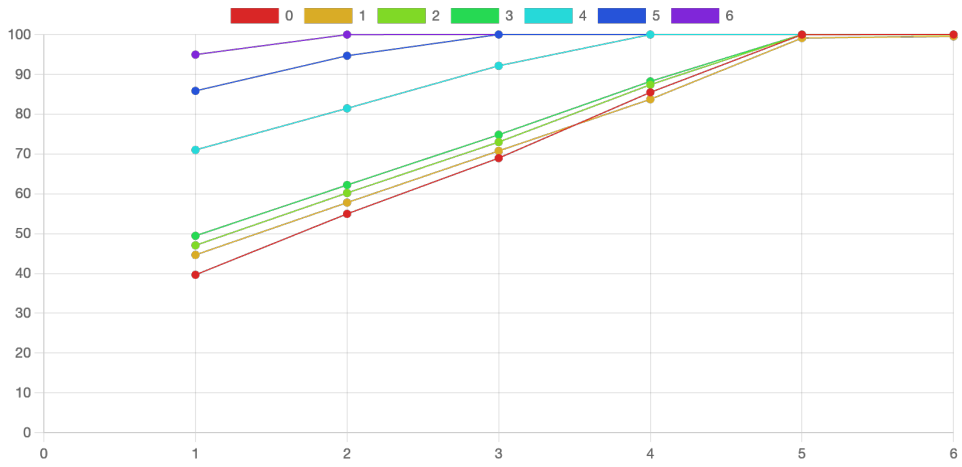

Figure 5: Graphics utilisations at 2100Mhz/7001Mhz frequency for each measured memory load.

For each frequency pair and graphics load, a memory load can be identified below which memory utilisation is negligible. This is likely due to caching behaviour, as L1 and L2 cache utilisations are included by NVML when querying graphics utilisation. In Figure 6 it can be observed that the threshold

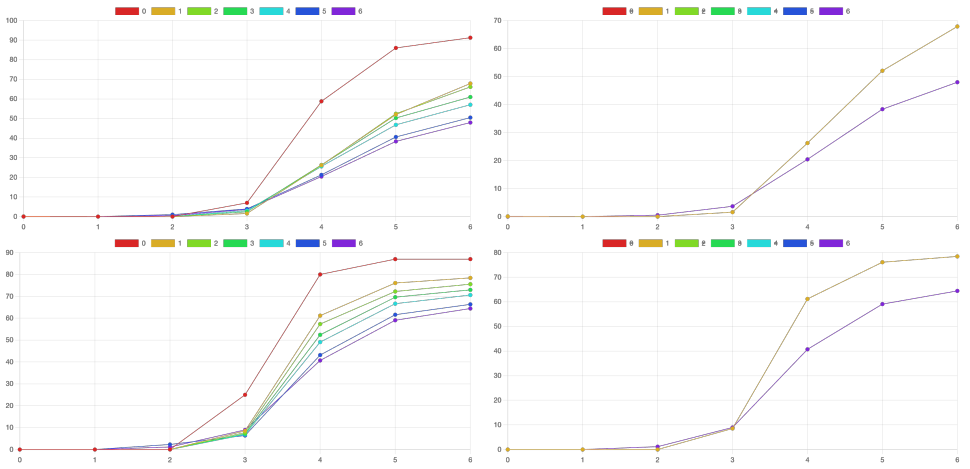

Figure 6: Memory utilisations at 2100Mhz/7001Mhz frequency (above) and 540Mhz /810Mhz frequency (below) for each measured graphics load. To the right subsets of the data are displayed for clearer comparison between light and heavy graphics load.

decreases as computational load increases. This may occur because higher computational loads utilise more cache space, reducing the amount available for memory load. It can also be observed however that peak memory utilisation is lower at heavier graphics load - this may be due to more intense competition for resources.

As shown in Table 1, for each memory frequency and pair of load levels a graphics frequency can be identified, below which graphics utilisation is always 100%. Prior to this point, an increase in graphics frequency is likely to lead to an increase in the corresponding throughput. This is because the domain is fully utilised - hence its maximum potential throughput is likely not being reached. Once this threshold has been passed, and with fixed memory frequency and loads, graphics utilisation reduces as clock speed increases.

Additionally, it can be observed that the threshold (visualised as the demarcation between red and black) occurs at a higher frequency as memory load increases. This is more directly visualised in Figure 7, which compares the threshold across frequencies and loads. For purposes of this figure, the pairing of graphics load level a and memory load level b is annotated as $(a.b)$. For cases where graphics utilisation is 100% for all graphics frequencies, the threshold is placed at 2100MHz - the highest measured graphics frequency.

	420	540	660	780	900	1020	1140	1260	1380	1500	1620	1740	1860	1980	2100
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	100.0	100.0	100.0	98.0629	85.9514	76.4615	68.9301	62.0208	56.972	52.2657	48.0833	45.0	42.0	41.0	41.0
2	100.0	100.0	100.0	100.0	100.0	100.0	95.1667	85.9722	78.9583	72.0828	66.9097	62.2569	58.1806	56.9167	56.7222
3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.4483	91.9655	85.7986	79.5724	74.3793	71.7329	71.9448
4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.9236	91.0139	87.8345	88.1389
5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

	420	540	660	780	900	1020	1140	1260	1380	1500	1620	1740	1860	1980	2100
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	100.0	100.0	100.0	100.0	96.0421	85.8377	78.9149	73.2663	67.0	62.9553	58.3876	54.4213	51.3429	49.8686	49.8125
2	100.0	100.0	100.0	100.0	100.0	100.0	99.4255	92.0652	84.2337	78.3425	73.581	68.7528	64.7232	63.3657	63.2171
3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9626	94.7418	88.0608	83.774	78.5	75.5028	75.6966
4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.7167	92.9545	89.0113	89.858
5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

	420	540	660	780	900	1020	1140	1260	1380	1500	1620	1740	1860	1980	2100
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 1: Comparison of graphics domain utilisation across graphics frequencies (x-axis) and load levels (y-axis), memory frequency 5001MHz, and memory load 0, 3, and 6.

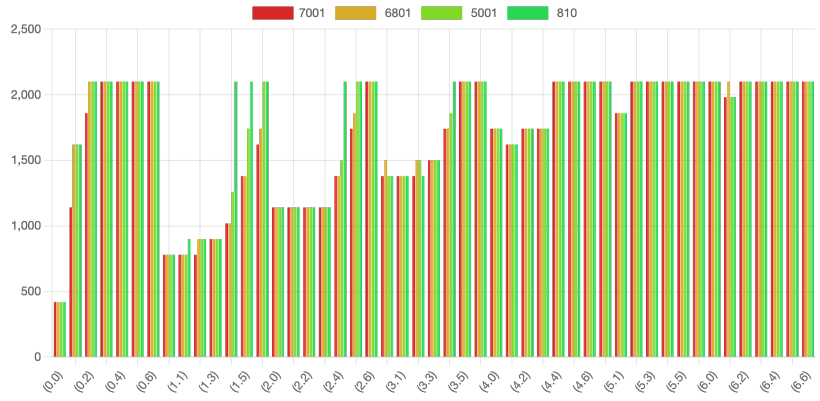

Figure 7: Comparison of thresholds across memory frequencies and loads.)

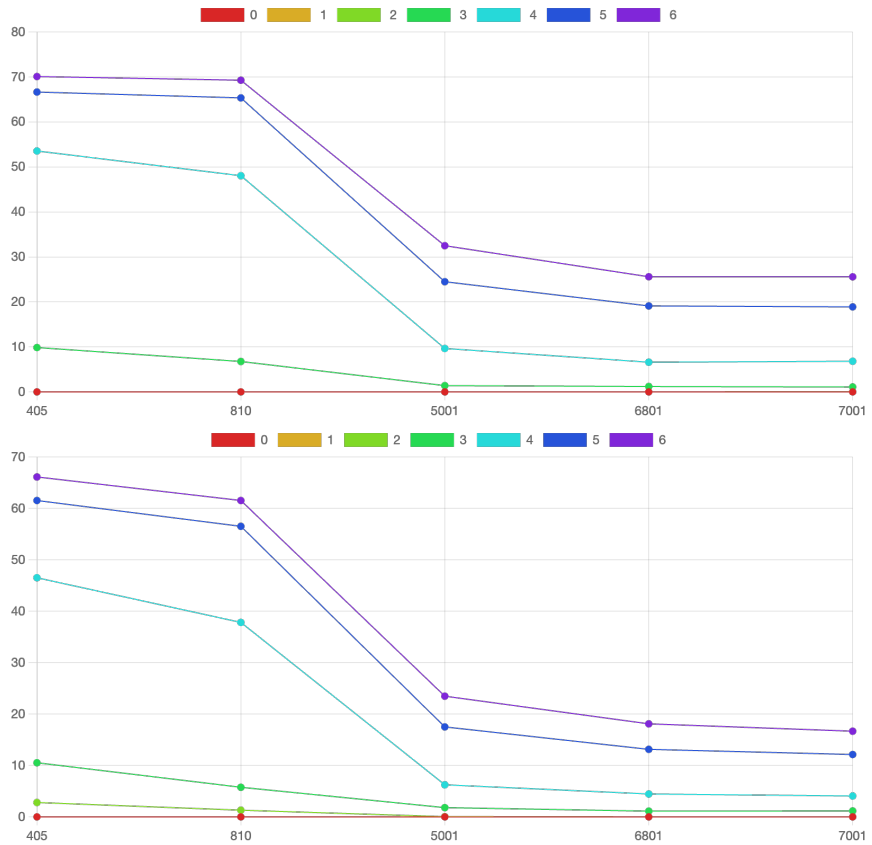

Figure 8: Comparison of memory utilisations across frequencies and load levels at 420MHz graphics frequency and graphics load levels 3 (above) and 5 (below).

A similar trend can be seen for memory, as shown in Figure 8: at constant graphics frequency but increasing memory frequency, memory utilisation is lower for the same load. This means that, for frequencies where utilisation is less than one, the same throughput can be achieved with lower operating frequency and hence lower energy expenditure. This is because the domain is not fully utilised, indicating that the maximum potential throughput for that load has been reached. Hence, throughput in all of these cases will be equal. This applies within both graphics and memory domains.

4.1.2 Trends in Energy Consumption

Energy consumption increases monotonically as load increases (as predicted). This applies for both graphics and memory loads - as can be observed in Figure 9 - and indicates a positive correlation between total throughput and energy consumption. However, while scaling appears to become more astute with increasing graphics load the opposite is the case for memory.

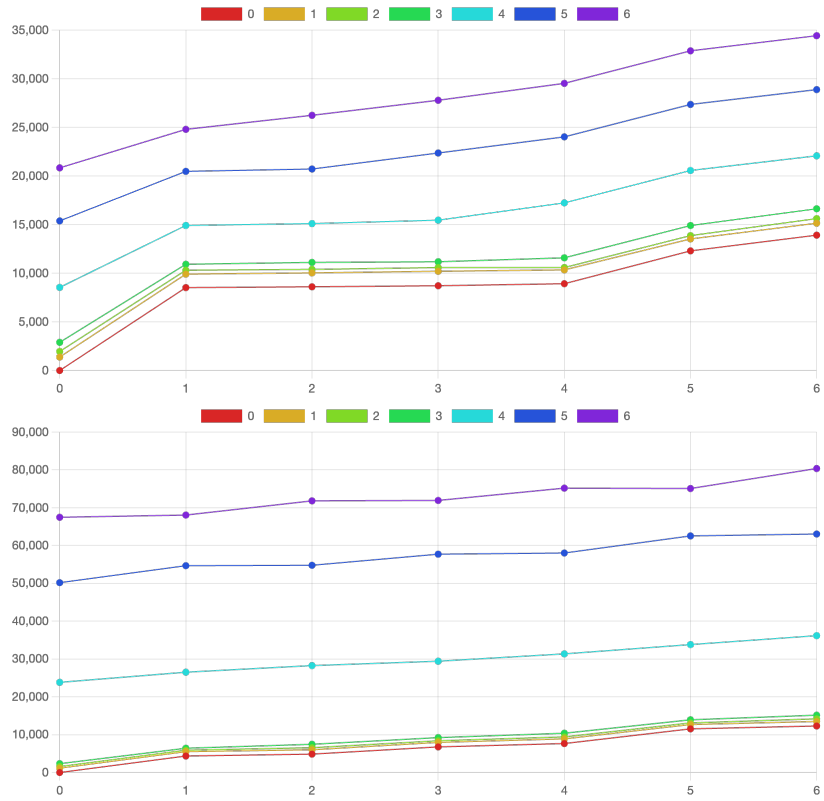

Figure 9: Energy consumption measured for 1620Mhz/7001Mhz (above) and 900Mhz/810Mhz (below). Variance in graphics load is plotted along the x-axis, and distinct lines represent different memory loads.

At fixed load levels and memory frequency, an *energy-optimal graphics frequency* can be identified. Figure 10 illustrates the curves formed by energy expenditure across graphics frequencies, with expenditure increasing in both directions with distance from the minimum. This energy-minimal graphics frequency can hence be considered as optimal at the given graphics/memory loads and the given memory frequency.

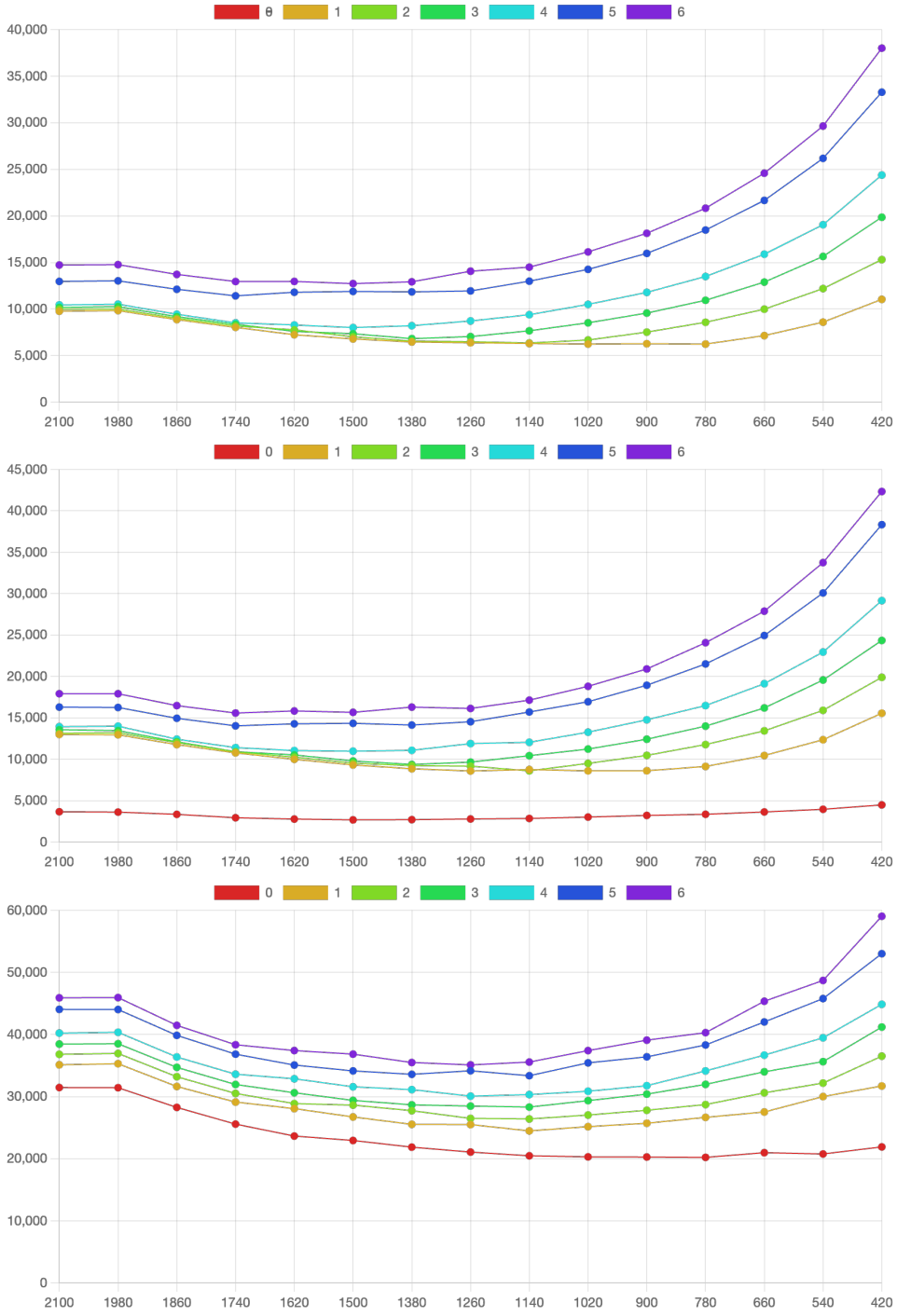

Figure 10: Energy consumption measured at Memory Frequency=5001MHz, across graphics frequencies and load levels, for memory load levels 0, 3, and 6 respectively.

Similarly an *energy-optimal memory frequency* can be identified for each graphics frequency and load. This is observable in Table 2. Energy expenditure across memory frequencies forms a curve, with expenditure increasing in both directions with distance from the minimum. Hence, this frequency can be considered as optimal at the given graphics/memory loads and the given memory frequency.

	810	5001	6800	7001
1	1371.132276	1644.775324	1657.016791	1754.134207
2	1839.783776	2120.517512	2386.249784	2405.083338
3	2715.569154	3360.219326	3456.16396	3449.687996
4	23307.1959	8392.840324	7853.471084	7745.312568
5	48225.68049	15195.22269	14273.10473	14528.18968
6	63649.3722	20219.20334	18781.66694	19106.69031

	810	5001	6800	7001
0	6996.808364	10940.10316	11935.54064	12143.99846
1	8282.158027	12512.62659	13459.83396	14347.65729
2	8806.923656	12949.61307	14169.09102	14924.28412
3	9932.557251	14003.1291	15033.99607	15437.16647
4	30537.76473	18718.90751	19681.23344	19921.11362
5	56599.73448	26283.63821	26429.86699	27195.04973
6	73914.93228	31971.35679	30795.72692	31130.83809

	810	5001	6800	7001
0	14721.63778	20821.34224	23304.27569	23431.88543
1	15955.06736	22523.94187	24692.53676	25747.54831
2	16495.62574	23110.51443	24946.18195	25944.89975
3	17462.535	24077.02653	25645.24416	27062.31584
4	36800.02688	28553.99778	30303.27189	31537.5653
5	64957.21508	34930.83457	37965.11103	37932.57342
6	78418.64872	40296.42628	43006.28528	42762.2225

Table 2: Measured energy draw across memory frequencies (x-axis) and load levels (y-axis), for 780MHz graphics frequency and graphics load levels 0, 3, and 6 respectively. The minimum energy expenditure for each load is highlighted.

An exception to these trends is the case of load level (0, 0). This occurs once per frequency pair due to the two-dimensional nature of the scale, and both utilisation and energy consumption are negligible in these cases as the combination corresponds to no throughput. This shows that overhead within the benchmark threads is negligible.

4.2 Governor Overhead

Overhead of the governors was evaluated by measuring energy consumption for 60 seconds using ZeusML's [30] energy monitor, and calculating average wattage. Findings are presented in Table 3 and show that the novel governors require no additional energy draw.

	Default	Novel Governor	Temperature-Aware
Avg. Energy Consumption (W)	23.20	23.20	23.18

Table 3: Comparison of baseline energy consumption for different governance styles.

4.3 Evaluation of Impact

4.3.1 Experiment Setup

As the intention of this project is to improve energy efficiency of server GPU execution, evaluation was carried out via comparative experiments on efficiency. The conducted experiments utilise two third-party benchmarks, selected to represent common use cases of industrial GPUs:

- Lambda Labs' **Deep Learning Benchmark** [31] is included to represent a machine learning execution. Machine learning is a key use-case for GPUs in data centres as discussed above, hence evaluation specified to this use case gives a realistic indication of potential savings. The benchmark provides evaluation facilities against Nvidia's *Deep Learning Examples* repository, whose models are widely used and trusted. For the purposes of this evaluation the Single-Shot Multibox Detector (SSD) [32], Google Neural Machine Translation System (GNMT) [33], ResNet50 [34], Tacotron2 [35] and WaveGlow [36] models were evaluated at a range of precisions, to provide a variety of tasks and for reasons of practicality.

- **Unigine Superposition** [37] is used to represent a render-intensive execution. Unigine is a popular graphics engine for video games, and this benchmark was created by the Unigine development team, in collaboration with industry partners including Nvidia, to measure graphics rendering performance. Results from this benchmark indicate the potential effect of the novel governor for tasks such as simulation and streaming. The benchmark was run at 1080P resolution with extreme shading, 4K resolution, and 8K resolution.

This approach is inspired by [1], in which the authors demonstrated the generalisability of their work by evaluating it against benchmarks unrelated both to their contributed algorithm and to one other.

4.3.2 The Test Execution

Each benchmark was run under

1. The default GPU setup
2. The basic version of the novel governor with results of a single benchmark run used as input
3. The novel governor extended to be temperature-aware
4. The basic version of the novel governor with the averaged results of two benchmark runs as input

For the Superposition benchmark, an unmeasured warm-up run was executed for each benchmark, and the test machine was allowed to cool in-between executions, in order to minimise variance of extraneous variables such as processor starting temperature and cache state. Additionally the order in which governors were used was switched for each iteration.

Execution of the Deep Learning Benchmark involved benchmarking the models sequentially for each governance style. A cool-down period of at least two minutes was left between model executions, and the test machine was rebooted when switching between styles.

During each execution ZeusML's [30] energy monitor was launched from a remote machine and used to measure energy draw.

4.3.3 Evaluation Findings: Superposition Benchmark

Tables 4, 5, 6 and 7 show respectively energy consumption, benchmark score, execution time, and maximum GPU temperature, for each governance style and various graphics resolutions.

For every resolution and iteration the default governance style draw the most energy, indicating that the novel governors are effective in reducing consumption. On average a 4.4% saving can be observed with the novel governor at 1080P, a 5.56% saving at 4K, and a 1.85% saving at 8K.

There is a small performance impact observable from the novel governor compared to the default governance style. The scores provided by the benchmark are on average 2.5% lower at 1080P, 3.4% lower at 4K, and 1.3% lower at 8K for the basic novel governor as compared to default governance. Additionally, benchmark executions respectively took 1.08%, 1.00%, and 1.01% longer. This suggests that the energy efficiency gains achieved by the novel governors have come at some performance cost. This is not entirely unexpected, because the novel governor selects frequencies according to efficiency rather than performance. However this may mean that use of the novel governors is not advisable in situations where achievement of optimal performance or execution time is paramount.

No significant discrepancies in energy consumption or performance are observable between the basic novel governor and the temperature-aware governor, or between the basic novel governor and the averaged governor. In this case the project extensions regarding temperature awareness and averaging do not seem to have had a further impact on energy savings.

Maximum GPU temperature is consistently either higher or the same for executions under the default governance style as compared to all novel governors. Executions under the temperature-aware governor consistently reported the lowest maximum temperatures: on average 0.33C, 0.33C, and 0.67C lower than the other governance styles. It is difficult to ascertain at the scope of this experiment whether this particular result is significant, however it may indicate that the temperature-aware governor is successful in limiting temperature rise. Were this to be the case, further energy savings may be possible for longer executions: work in [11] indicates significant savings in energy consumption as a result of temperature-aware scaling.

		Default	Novel Governor	Temperature-Aware	Averaged
1080p	1	35959.01	34418.12	34282.4	34144.88
	2	35900.65	34274.71	34154.66	34367.42
	3	35981.62	34401.45	34407.99	34400.88
	Average	35947.09	34364.76	34281.68	34304.39
4K	1	35824.67	33803.61	34093.23	33595.23
	2	35860.17	33831.9	33878.78	33816.01
	3	35879.64	33947.64	33789.77	33907.83
	Average	35854.83	33861.05	33920.59	33773.02
8K	1	36057.58	35269.11	35288.8	35243.97
	2	35997.7	35395.22	35421.74	35310.92
	3	35998.59	35310.7	35379.87	35342.12
	Average	36017.95667	35352.96	35363.47	35299.00

Table 4: Energy consumptions measured for the Superposition benchmark run under various governance algorithms.

		Default	Novel Governor	Temperature-Aware	Averaged
1080p	1	6274	6105	6080	6082
	2	6280	6100	6102	6128
	3	6272	6143	6109	6119
	Average	6275.33	6116	6097	6109.67
4K	1	8366	8054	8143	8039
	2	8375	8088	8072	8084
	3	8369	8106	8054	8113
	Average	8370	8082.67	8089.67	8078.67
8K	1	3632	3561	3596	3586
	2	3631	3592	3586	3590
	3	3626	3594	3588	3590
	Average	3629.67	3582.33	3590	3588.67

Table 5: Performance scores measured for the Superposition benchmark run under various governance algorithms.

		Default	Novel Governor	Temperature-Aware	Averaged
1080p	1	185.77	188.73	187.62	189.64
	2	185.13	187.43	186.47	189.77
	3	186.37	187.16	193.41	187.8
	Average	185.76	187.77	189.17	189.07
4K	1	184.9	186.68	185.69	186.03
	2	184.89	186.19	186.58	186.78
	3	185.67	186.71	187.16	185.70
	Average	185.15	186.53	186.48	186.17
8K	1	186.64	187.22	187.83	187.03
	2	185.75	187.65	188.6	187.39
	3	186.54	187.77	186.62	186.62
	Average	186.31	187.55	187.68	187.01

Table 6: Execution times measured for the Superposition benchmark run under various governance algorithms.

		Default	Novel Governor	Temperature-Aware	Averaged
1080p	1	79	77	77	77
	2	79	77	76	76
	3	78	77	77	77
	Average	78.67	77	76.67	76.67
4K	1	78	77	77	77
	2	78	77	76	77
	3	78	77	77	77
	Average	78	77	76.67	77
8K	1	78	78	77	76
	2	78	78	78	78
	3	78	78	77	77
	Average	78	78	77.33	77

Table 7: Maximum temperatures measured for the Superposition benchmark run under various governance algorithms.

4.3.4 Evaluation Findings: Deep Learning Benchmark

Table 8, visualised by Figure 11, shows measured energy consumption of each evaluated model under each governance style. Once again, the default governance style is most energy-intensive in every case - clearly demonstrating the energy efficiency gain resulting from use of the novel governors. Savings from use of the basic novel governor range from 13.57% (for the SSD model at FP32 precision) to 33.41% (for GNMT at Automatic Mixed Precision).

On average, a further 1.19% energy saving is observed when running under the temperature-aware governor. This indicates that additional efficiency gains are possible when GPU temperature is considered - especially for longer executions, where this further saving is most obvious.

Figure 11: Energy consumption (J) measured for various models under the Lambda Labs Deep Learning benchmark

	Default	**Novel Governor**	**Temperature-Aware**	**Averaged**
ssd_amp	20154.46	17095.72	16823.38	17264.91
ssd_fp32	11907.94	10291.55	10249.91	10407.21
gnmt_fp16	106166.97	70692.14	69500.27	69159.18
resnet50_amp	11140.75	9428.37	9437.48	9425.91
tacotron2_fp32	22194.27	18244.51	17974.53	18157.54
waveglow_fp32	63377.94	52569.42	51484.8	52305.5

Table 8: Energy consumption (J) measured for various models under the Lambda Labs Deep Learning benchmark

	Default	Novel Governor	Temperature-Aware	Averaged
ssd_amp	-	-	-	-
ssd_fp32	-	-	-	-
gnmt_fp16	Train: 3.8983 Val: 4.7923	Train: 3.8983 Val: 4.7923	Train: 3.8983 Val: 4.7923	Train: 3.8983 Val: 4.7923
resnet50_amp	Train: 4.3804	Train: 3.7377	Train: 4.1430	Train: 4.4738
tacotron2_fp32	Train: 46.889 Val: 50.038	Train: 51.096 Val: 50.039	Train: 50.321 Val: 49.937	Train: 54.679 Val: 50.068
waveglow_fp32	Train: 0.0007346 Val: 0.002317	Train: 0.002879 Val: 0.002099	Train: 0.001386 Val: 0.001978	Train: 0.003749 Val: 0.001911

Table 9: Training and validation losses measured for various models under the Lambda Labs Deep Learning benchmark

	Default	Novel Governor	Temperature-Aware	Averaged
gnmt_fp16	461327	307179	302000	300517
resnet50_amp	522379	481752	474903	515399
tacotron2_fp32	1075612	922579	901045	950974
waveglow_fp32	96.702	130.845	86.597	148.025

Table 10: Joule-Loss calculated for various models under the Lambda Labs Deep Learning benchmark

Tables 9 and 10 show losses (as measured by the benchmark) and calculated Joule-Loss. Joule-Loss is calculated as the product of loss and energy, and for models with separately reported training and validation losses the average of these is used. It is used in place of accuracy per Joule [26] for the purposes of this evaluation, as model accuracies were not reported by the benchmark, however serves a similar purpose of considering energy consumption in the context of model training performance.

In certain cases, notably for the WaveGlow model, training loss is significantly lower under the default governance style. Despite this, the default style gives the highest Joule-Loss in all cases bar one. This shows that, even when taking accuracy into consideration, the novel governors are often more efficient.

	Default	Novel Governor	Temperature-Aware	Averaged
ssd_amp	122.18	106.36	125.58	127.15
ssd_fp32	76.63	81.18	80.7	82.22
gnmt_fp16	605.38	728.62	732.86	772.94
resnet50_amp	75.96	79.81	80.26	81.62
tacotron2_fp32	149.8	154.62	154.15	156.4
waveglow_fp32	427.86	451.45	451.72	454.48

Table 11: Execution times (s) measured for various models under the Lambda Labs Deep Learning benchmark

	Default	Novel Governor	Temperature-Aware	Averaged
ssd_amp	125.067	119.575	119.166	120.472
ssd_fp32	73.405	71.389	71.243	71.34
gnmt_fp16	26522.99	22134.11	22045.2	21022.16
resnet50_amp	478.86	462.54	461.95	462.59
tacotron2_fp32	Train: 6054.57 Val: 22194.27	Train: 5826.34 Val: 22826.68	Train: 5841.203 Val: 21859.633	Train: 5828.71 Val: 23751.14
waveglow_fp32	Train: 26330.37 Val: 114265.53	Train: 24917.05 Val: 102116.82	Train: 24795.26 Val: 102214.75	Train: 24946.56 Val: 104613.47

Table 12: Throughputs, in items per second, measured for various models under the Lambda Labs Deep Learning benchmark

Tables 11 and 12 document throughput and execution times for each model and governance style. Throughput is measured in items per second, as reported by the benchmark. The definition of an item is model-dependent (for example, an image for SSD and ResNet50) however remains constant for all executions of that model.

On both measures, the default governor is generally the most effective. The exceptions are SSD with AMP for execution time, and Tacotron2's validation for throughput. This is a similar finding to the Unigine benchmark, also suggesting that the energy efficiency gains achieved by the novel governors have come at a performance cost.

5 Conclusion

5.1 Future Work

Currently, a major limitation of NVML is that the utilisation of sub-domains is not reported. This was challenging to work around theoretically as it was not possible to differentiate between core and cache utilisation for an arbitrary execution. Should querying of subdomain utilisation become available in future, the algorithms introduced within this project could be extended to consider subdomains.

The optimal step size for either frequency or load levels was not considered within the scope of this project. In [1] it is theorised that a smaller step size would provide finer control and hence better energy savings. However, in order to consider efficiency holistically the cost of pre-calculating bounds and effecting clock speed changes must also be taken into account: in both cases this cost is higher when control is finer-grained. Experimentation to find this optimal value for a machine could be a worthwhile extension to this project. Similar experimentation could be carried out regarding frequency of execution of the scaling algorithm.

Due to the time-limited nature of this project, it was not possible to perform experiments using the average of a large number of benchmark runs. This governance strategy may better anticipate GPU energy use, as there is a smaller chance of anomalies within the average of multiple measurements, and hence further efficiency gains may be observed. Similarly, the effect of making the governor temperature-aware should be further explored. It is difficult to tell from the scope of this project whether there could be significant energy savings from this extension, as the evaluation setup used for this project did not involve abnormally high temperatures, extended execution times, or a large number of repetitions.

5.2 Project Summary

To summarise, the major contributions of this project are:

1. A novel benchmark for gathering of GPU performance information at a range of workloads and operating frequencies.

2. An extended algorithm for the creation of energy efficiency curves in two dimensions, also able to cope with frequencies that are not energy-optimal at any measured load using extrapolation.

3. An adaptation of the fast-frequency-scaling mechanism introduced by Lin et Al. in [1], that functions over two dimensions.

4. A further extension of this mechanism that is temperature-aware.

Additional contributions as part of this project include auxiliary Python modules for the calculation and use of averaged results over multiple benchmark executions and the fetching and storage of necessary information, and shell scripts to facilitate executions.

Comparative evaluations between a typical execution, the basic novel governor, and its extended variants were performed with a GeForce RTX 3060Ti GPU, considering energy draw and performance of two third-party benchmarks. The Unigine Superposition benchmark is chosen to represent a rendering-intensive execution, while Lambda Labs' Deep Learning Benchmark represents the use case of model training.

In all cases the novel scaling mechanisms gave improved efficiency: energy savings range from 1.85% to 5.56% for the Superposition benchmark and from 13.57% to 33.41% for the Deep Learning Benchmarks. No significant difference was observed between the basic and temperature-aware governors for the Unigine benchmark, however a small improvement in average energy consumption can be observed for the Deep Learning Benchmarks, in particular for longer executions. While the potential of temperature-aware or averaged governance is not clear from the scope of this project, the results perhaps invite further research.

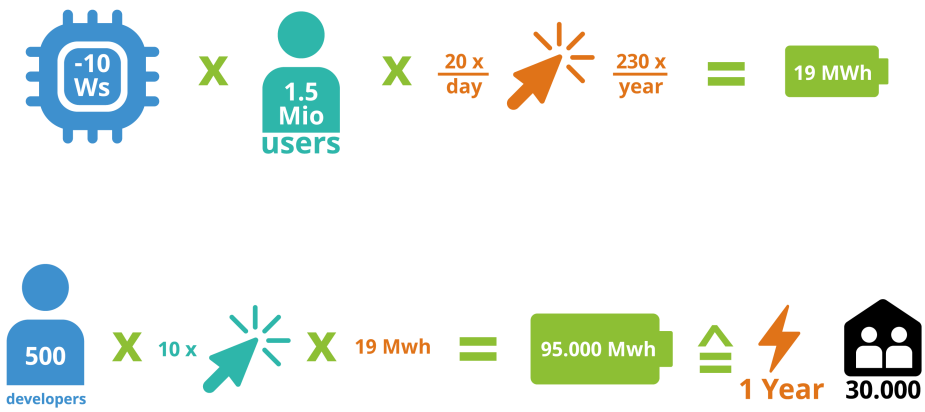

Figure 12: Potential impact of a seemingly insignificant energy saving at scale. Images from KDE Eco published under a CC-BY-SA-4.0 license.

While in some cases the reported savings seem small, a large energy saving can occur when these savings are experienced many times over. Figure 12 is introduced in [38]: it shows how, through simple scaling calculations, a seemingly-insignificant ten watt-second saving leads to 95 thousand megawatt hours of energy saved. This saving is equivalent to the annual energy use of 30-thousand two-person households. Were this scaling methodology be used throughout industry, the potential cumulative savings could be immense.

Acknowledgements

I would like to acknowledge and extend great thanks to my supervisor, Dr Anandha Gopalan, whose guidance and encouragement throughout this project has been indispensable. I wish him the very best for his future adventures in Singapore. Additionally, I am highly grateful to Geoff and Lloyd from the department's Computing Support Group for their help with the setting up and fixing of development hardware - although I suspect they never want to see me again! - and to my second marker Dr Naranker Dulay for his advice on project management.
Finally, but by no means least: to my parents, who are my rocks, and to my grandparents - my Granny and late Grandpa, who have done so much to encourage and support my educational journey.

References

[1] Weiwei Lin et al. "An Energy-Efficient Tuning Method for Cloud Servers Combining DVFS and Parameter Optimization". In: *IEEE Transactions on Cloud Computing* 11 (Oct. 2023), pp. 3643–3655. DOI: 10.1109/tcc.2023.3308927.

[2] Sungwoo Lee, Yongju Song, and Young Ik Eom. "PollO: Polling-aware On-demand Governor for Improving Power Efficiency". In: (2020), pp. 1–4. DOI: 10.1109/IMCOM48794.2020.9001676.

[3] Thomas Rauber, Gudula Rünger, and Matthias Stachowski. "Model -based optimization of the energy efficiency of multi-threaded applications". In: *Sustainable Computing: Informatics and Systems* 22 (June 2019), pp. 44–61. DOI: 10.1016/j.suscom.2019.01.022.

[4] Jim McGregor. *Generative AI Breaks The Data Center: Data Center Infrastructure And Operating Costs Projected To Increase To Over* 76*BillionBy*2028. Forbes, May 2023. (Visited on 01/17/2024).

[5] *Energy-efficient Cloud Computing Technologies and Policies for an Eco-friendly Cloud Market | Shaping Europe's digital future*. Nov. 2020. URL: https://digital-strategy.ec.europa.eu/en/library/energy-efficient-cloud-computing-technologies-and-policies-eco-friendly-cloud-market (visited on 01/17/2024).

[6] Ayat Fekry et al. "Accelerating the configuration tuning of big data analytics with similarity-aware multitask Bayesian optimization". In: *2020 IEEE International Conference on Big Data (Big Data)*. Atlanta, GA, USA: IEEE, Dec. 2020.

[7] M. Maruf Öztürk. "Tuning parameters of Apache Spark with Gauss–Pareto-based multi-objective optimization". In: *Knowl. Inf. Syst.* 66.2 (Dec. 2023), pp. 1065–1090. ISSN: 0219-1377. DOI: 10.1007/s10115-023-02032-z. URL: https://doi.org/10.1007/s10115-023-02032-z.

[8] Harshitha Menon, Abhinav Bhatele, and Todd Gamblin. "Auto-tuning Parameter Choices in HPC Applications using Bayesian Optimization". In: May 2020, pp. 831–840. DOI: 10.1109/IPDPS47924.2020.00090.

[9] Jia-Ke Ge, Yan-Feng Chai, and Yun-Peng Chai. "WATuning: A workload-aware tuning system with attention-based deep reinforcement learning". en. In: *J. Comput. Sci. Technol.* 36.4 (July 2021), pp. 741–761.

[10] *What Are Data Center GPUs and Why Use Them? - Intel — intel.com*. https://www.intel.com/content/www/us/en/products/docs/discrete-gpus/data-center-gpu/what-is-data-center-gpu.html. (Visited on 01/24/2024).

[11] Behnam Khaleghi et al. "FPGA Energy Efficiency by Leveraging Thermal Margin". In: *2019 IEEE 37th International Conference on Computer Design (ICCD)*. 2019, pp. 376–384. DOI: 10.1109/ICCD46524.2019.00059.

[12] Eva García-Martín et al. "Estimation of Energy Consumption in Machine Learning". In: *Journal of Parallel and Distributed Computing* 134 (Dec. 2019), pp. 75–88. DOI: 10.1016/j.jpdc.2019.07.007.

[13] John L Hennessy, David A Patterson, and Andrea C Arpaci-Dusseau. *Computer architecture : a quantitative approach*. Morgan Kaufmann, 2019.

[14] M. Horowitz, T. Indermaur, and R. Gonzalez. *Low-power digital design*. Oct. 1994. DOI: 10.1109/LPE.1994.573184.

[15] *BenchSEE — energylabel.com.cn*. https://www.energylabel.com.cn/benchsee/benchSEE_en.html. (Visited on 01/18/2024).

[16] Victor Avelar and Dan Azevedo. *PUE: A Comprehensive Examination of the Metric*. Oct. 2012. URL: https://www.thegreengrid.org/en/resources/library-and-tools/237-PUE%3A-A-Comprehensive-Examination-of-the-Metric (visited on 01/17/2024).

[17] Rafael J. Wysocki. *CPU Performance Scaling - the Linux Kernel Documentation*. 2017. URL: https://www.kernel.org/doc./html/latest/admin-guide/pm/cpufreq.html (visited on 01/17/2024).

[18] Mattia Tibaldi and Christian Pilato. "A Survey of FPGA Optimization Methods for Data Center Energy Efficiency". In: *IEEE Transactions on Sustainable Computing* 8.3 (2023), pp. 343–362. DOI: 10.1109/TSUSC.2023.3273852.

[19] Thomas Rauber and Gudula Rünger. "Modeling and analyzing the energy consumption of fork-join-based task parallel programs". In: *Concurrency and Computation: Practice and Experience* 27 (Feb. 2014), pp. 211–236. DOI: 10.1002/cpe.3219.

[20] Run:ai. *Western company plans in moving artificial intelligence (AI) applications and infrastructure to cloud format in the 2nd half of 2022 [Graph]*. Jan. 2023. URL: https://www.statista.com/statistics/1412924/ai-to-cloud-infrastructure-us-europe/ (visited on 01/17/2024).

[21] Andrew Chow and Billy Perrigo. *The AI Arms Race Is On. Start Worrying*. Time, Feb. 2023. URL: https://time.com/6255952/ai-impact-chatgpt-microsoft-google/ (visited on 01/17/2024).

[22] Deloitte. *Unpacking the Complexity in AI Training, Energy Consumption, and Emissions*. 2023. URL: https://www2.deloitte.com/content/dam/Deloitte/us/Documents/consulting/us-nvidia-gpu-vs-cpu.pdf (visited on 01/17/2024).

[23] João Guerreiro et al. "DVFS-aware application classification to improve GPGPUs energy efficiency". In: *Parallel Computing* 83 (Apr. 2019), pp. 93–117. DOI: 10.1016/j.parco.2018.02.001.

[24] Mohit Kumar et al. "Energy-Efficient Machine Learning on the Edges". In: *2020 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW)* (May 2020), pp. 912–921. DOI: 10.1109/IPDPSW50202.2020.00153.

[25] Vanessa Mehlin and Carsten Lanquillon. *Towards energy-efficient Deep Learning: An overview of energy- efficient approaches along the Deep Learning Lifecycle*. 2023.

[26] Walid A. Hanafy, Tergel Molom-Ochir, and Rohan Shenoy. "Design Considerations for Energy-efficient Inference on Edge Devices". In: *Proceedings of the Twelfth ACM International Conference on Future Energy Systems* (June 2021). DOI: 10.1145/3447555.3465326.

[27] Bo Li et al. *Full-Cycle Energy Consumption Benchmark for Low-Carbon Computer Vision*. Oct. 2021.

[28] *NVIDIA Management Library (NVML)*. URL: https://developer.nvidia.com/management-library-nvml.

[29] Ryosuke Okuta et al. "CuPy: A NumPy-Compatible Library for NVIDIA GPU Calculations". In: *Proceedings of Workshop on Machine Learning Systems (LearningSys) in The Thirty-first Annual Conference on Neural Information Processing Systems (NIPS)*. 2017. URL: http://learningsys.org/nips17/assets/papers/paper_16.pdf.

[30] Jie You, Jae-Won Chung, and Mosharaf Chowdhury. "Zeus: Understanding and Optimizing GPU Energy Consumption of DNN Training". In: (Apr. 2023), pp. 119–139. URL: https://www.usenix.org/conference/nsdi23/presentation/you.

[31] *GPU Benchmarks for Deep Learning*. lambdalabs.com. URL: https://lambdalabs.com/gpu-benchmarks.

[32] Wei Liu et al. "SSD: Single Shot MultiBox Detector". In: *Lecture Notes in Computer Science*. Springer International Publishing, 2016, pp. 21–37. ISBN: 9783319464480. DOI: 10.1007/978-3-319-46448-0_2. URL: http://dx.doi.org/10.1007/978-3-319-46448-0_2.

[33] Yonghui Wu et al. *Google's Neural Machine Translation System: Bridging the Gap between Human and Machine Translation*. 2016. eprint: 1609.08144.

[34] Kaiming He et al. "Deep Residual Learning for Image Recognition". In: *2016 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. June 2016. DOI: 10.1109/CVPR.2016.90.

[35] Jonathan Shen et al. *Natural TTS Synthesis by Conditioning WaveNet on Mel Spectrogram Predictions*. 2018. arXiv: 1712.05884.

[36] Ryan Prenger, Rafael Valle, and Bryan Catanzaro. *WaveGlow: A Flow-based Generative Network for Speech Synthesis*. 2018. arXiv: 1811.00002.

[37] *UNIGINE Benchmarks*. Unigine.com, 2017. URL: https://benchmark.unigine.com/superposition.

[38] *Handbook — eco.kde.org*. https://eco.kde.org/handbook/. [Accessed 17-06-2024].

6 Appendix

6.1 Utilisations: Initial Benchmark Run

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(91.9157, 0.0)	(99.8851, 0.023)	(100.0, 7.0)	(100.0, 58.7825)	(100.0, 85.9972)	(100.0, 91.22)
1	(39.6503, 0.0744)	(44.648, 0.0)	(47.0536, 0.0)	(49.4418, 1.5756)	(71.0088, 26.2516)	(85.8459, 52.0583)	(94.9547, 67.8601)
2	(54.9573, 0.0)	(57.7854, 0.0)	(60.2024, 0.0)	(62.1987, 1.5722)	(81.4533, 26.112)	(94.6685, 52.4347)	(99.976, 66.136)
3	(68.9628, 0.0)	(70.7679, 0.0)	(72.9932, 0.0)	(74.8256, 2.4703)	(92.1449, 26.3355)	(100.0, 50.2702)	(100.0, 60.9719)
4	(85.4724, 0.0)	(83.7308, 0.0)	(87.3904, 0.0849)	(88.2281, 3.0477)	(99.9936, 25.5964)	(100.0, 46.7948)	(100.0, 57.0427)
5	(99.9729, 0.0)	(99.1153, 0.0)	(100.0, 1.0)	(100.0, 3.8965)	(100.0, 21.2895)	(100.0, 40.5957)	(100.0, 50.4879)
6	(99.9952, 0.0)	(99.543, 0.0)	(99.9237, 0.5011)	(100.0, 3.6761)	(100.0, 20.4295)	(99.9974, 38.3342)	(100.0, 47.9571)

Table 13: Core Frequency: 2100MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(90.0667, 0.2667)	(99.6, 0.2)	(100.0, 10.0)	(100.0, 59.0)	(100.0, 86.0)	(100.0, 92.991)
1	(40.9863, 0.0)	(45.0857, 0.0)	(47.1156, 0.0)	(50.209, 1.8531)	(71.5982, 26.4977)	(87.9363, 56.1723)	(95.5488, 68.9259)
2	(56.8219, 0.0)	(58.6818, 0.125)	(60.2356, 0.0)	(63.6477, 1.858)	(82.5845, 26.1689)	(96.5318, 55.6255)	(100.0, 65.7362)
3	(72.0272, 0.0)	(71.3352, 0.0)	(73.7371, 0.0)	(75.0442, 2.7072)	(92.1086, 26.0543)	(100.0, 52.3203)	(100.0, 60.9518)
4	(87.3716, 0.0)	(85.7086, 0.0)	(88.0, 1.1494)	(89.1006, 6.2961)	(100.0, 25.4934)	(100.0, 48.6699)	(100.0, 56.9328)
5	(100.0, 0.0)	(99.4422, 0.0)	(99.6832, 1.1089)	(100.0, 5.1449)	(100.0, 21.2238)	(100.0, 41.7775)	(100.0, 50.6773)
6	(100.0, 0.0)	(99.5625, 0.0)	(99.9336, 0.4248)	(100.0, 4.9914)	(100.0, 20.2185)	(100.0, 39.8311)	(100.0, 47.5893)

Table 14: Core Frequency: 2100MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(91.5, 0.0)	(100.0, 0.0)	(100.0, 13.0)	(100.0, 67.0)	(100.0, 92.0)	(100.0, 95.0)
1	(41.0, 0.0)	(44.5287, 0.0)	(46.7861, 0.0)	(49.8125, 2.1023)	(75.9052, 33.9224)	(95.8176, 69.5068)	(100.0, 78.5405)
2	(56.7222, 0.0)	(58.4598, 0.0)	(61.0936, 0.0)	(63.2171, 2.9886)	(85.5431, 33.75)	(100.0, 67.2964)	(100.0, 73.6757)
3	(71.9448, 0.0)	(70.8343, 0.0)	(74.8235, 0.0)	(75.6966, 3.9551)	(96.3147, 34.3448)	(100.0, 61.9727)	(100.0, 69.3258)
4	(88.1389, 0.0)	(83.3559, 0.0)	(85.6136, 1.2045)	(89.858, 7.9375)	(100.0, 32.0449)	(100.0, 57.304)	(100.0, 65.5048)
5	(100.0, 0.0)	(99.1276, 0.0)	(99.8894, 1.0603)	(100.0, 4.522)	(100.0, 27.5068)	(100.0, 51.01)	(100.0, 59.1453)
6	(100.0, 0.0)	(99.4818, 0.0)	(99.7387, 0.6982)	(100.0, 4.6419)	(99.9812, 25.5925)	(100.0, 48.2911)	(100.0, 56.4645)

Table 15: Core Frequency: 2100MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(90.7143, 0.0)	(100.0, 0.0)	(100.0, 47.0)	(100.0, 82.9737)	(100.0, 90.0)	(100.0, 90.0)
1	(40.6713, 0.0)	(44.5491, 0.0)	(46.4128, 0.0)	(49.88, 8.04)	(100.0, 80.255)	(100.0, 86.4802)	(100.0, 87.0466)
2	(56.0, 0.0)	(57.5543, 0.0)	(59.526, 0.0)	(62.0227, 9.2614)	(100.0, 75.2196)	(100.0, 85.168)	(100.0, 86.2016)
3	(71.4792, 0.0)	(69.3559, 0.0)	(73.5789, 0.0)	(75.6743, 12.5086)	(100.0, 76.3383)	(100.0, 84.0109)	(100.0, 85.2395)
4	(87.7014, 0.0)	(84.0462, 0.0)	(86.9357, 0.0)	(88.3807, 12.4773)	(100.0, 71.6047)	(100.0, 82.7824)	(100.0, 84.4153)
5	(100.0, 0.0)	(99.0622, 0.0)	(100.0, 0.0)	(100.0, 13.7363)	(100.0, 70.2057)	(100.0, 80.7583)	(100.0, 82.8435)
6	(100.0, 0.0)	(99.3303, 0.0)	(99.8813, 3.8447)	(99.9912, 18.5929)	(100.0, 67.2568)	(100.0, 79.6753)	(100.0, 82.1944)

Table 16: Core Frequency: 2100MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(89.4302, 0.0)	(99.4318, 0.0)	(99.8783, 6.9826)	(100.0, 60.0)	(100.0, 82.0)	(100.0, 91.0623)
1	(39.014, 0.0)	(44.552, 0.0)	(46.7653, 0.0)	(49.4064, 1.579)	(71.1539, 26.1867)	(85.8629, 52.4607)	(94.525, 67.3726)
2	(54.0886, 0.0)	(57.5672, 0.0)	(59.9404, 0.0)	(62.1098, 1.5767)	(81.3283, 26.0641)	(94.8207, 51.9964)	(99.9106, 65.9513)
3	(68.8158, 0.0)	(70.7395, 0.0)	(72.9743, 0.0)	(74.5224, 2.4763)	(92.0425, 26.2734)	(99.9806, 50.6224)	(99.9793, 60.9609)
4	(84.4479, 0.0)	(83.747, 0.0)	(86.2585, 0.0)	(87.2536, 2.477)	(99.9174, 25.6356)	(99.9968, 46.5809)	(100.0, 57.0716)
5	(100.0, 0.0)	(99.1446, 0.0)	(99.9784, 0.0)	(99.8862, 2.4181)	(100.0, 21.2833)	(100.0, 40.8474)	(100.0, 50.6517)
6	(100.0, 0.0)	(99.4918, 0.0)	(99.8925, 0.4645)	(100.0, 4.4211)	(100.0, 20.4387)	(100.0, 38.1291)	(100.0, 47.9183)

Table 17: Core Frequency: 1980MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(89.9286, 0.0)	(100.0, 0.0)	(100.0, 9.0)	(100.0, 59.0)	(100.0, 86.0)	(100.0, 90.0)
1	(40.9655, 0.0)	(45.0514, 0.0)	(47.3966, 0.0)	(50.2147, 1.8136)	(72.5991, 26.7327)	(87.8876, 56.161)	(95.5051, 67.596)
2	(56.9589, 0.0)	(57.1556, 0.0)	(61.7151, 0.0)	(63.1854, 1.8258)	(81.5249, 25.819)	(95.7333, 55.2704)	(100.0, 65.6515)
3	(72.6531, 0.0)	(72.6457, 0.0)	(75.436, 0.0)	(76.1517, 2.7416)	(93.621, 26.6758)	(100.0, 52.3132)	(100.0, 60.9337)
4	(88.637, 0.0)	(83.3889, 0.0)	(88.0517, 0.0)	(89.9551, 3.4213)	(99.9648, 25.4053)	(99.9739, 48.634)	(100.0, 56.8852)
5	(100.0, 0.0)	(99.4975, 0.0)	(99.9158, 1.1188)	(100.0, 3.0769)	(100.0, 21.147)	(100.0, 41.7684)	(100.0, 50.5985)
6	(100.0, 0.0)	(99.5045, 0.0357)	(99.9386, 0.7281)	(100.0, 4.1159)	(100.0, 20.4488)	(100.0, 39.7684)	(100.0, 47.9026)

Table 18: Core Frequency: 1980MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(89.4286, 0.0)	(100.0, 0.0)	(100.0, 13.0)	(100.0, 67.0)	(100.0, 92.0)	(100.0, 95.0)
1	(41.0, 0.0)	(45.0636, 0.0)	(46.3908, 0.0)	(49.8686, 2.0971)	(75.9478, 33.7217)	(96.7235, 70.1229)	(100.0, 78.6427)
2	(56.9167, 0.0)	(57.9829, 0.0)	(60.4535, 0.0)	(63.3657, 3.0114)	(86.9565, 34.3609)	(100.0, 67.3225)	(100.0, 73.6685)
3	(71.7329, 0.0)	(70.0112, 0.0)	(73.5202, 0.0)	(75.5028, 3.904)	(97.0306, 34.4105)	(100.0, 62.0182)	(100.0, 69.2222)
4	(87.8345, 0.0)	(83.6875, 0.0)	(86.1943, 1.2057)	(89.0113, 8.2203)	(100.0, 32.5766)	(100.0, 57.392)	(100.0, 65.5036)
5	(100.0, 0.0)	(99.0457, 0.0)	(99.9899, 0.0)	(100.0, 3.8195)	(100.0, 27.2321)	(100.0, 50.9027)	(100.0, 59.1109)
6	(100.0, 0.0)	(99.4955, 0.0)	(99.9459, 0.5856)	(100.0, 5.1354)	(100.0, 25.6875)	(100.0, 48.1831)	(100.0, 56.4899)

Table 19: Core Frequency: 1980MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(89.6667, 0.0)	(100.0, 0.0)	(100.0, 47.0)	(100.0, 86.8459)	(100.0, 90.0)	(100.0, 90.0)
1	(40.3846, 0.0)	(44.4023, 0.0)	(46.5523, 0.0)	(49.7919, 7.8035)	(100.0, 77.2024)	(100.0, 86.4993)	(100.0, 87.0693)
2	(56.4965, 0.0)	(57.7471, 0.0)	(60.0058, 0.0)	(61.9153, 8.9096)	(100.0, 78.1116)	(100.0, 85.1395)	(100.0, 86.1986)
3	(71.3403, 0.0)	(70.4828, 0.0)	(74.4083, 0.0)	(75.4286, 11.9143)	(100.0, 73.5272)	(100.0, 84.0122)	(100.0, 85.2318)
4	(87.5874, 0.0)	(84.4913, 0.0)	(86.4477, 0.0)	(89.3506, 12.5747)	(100.0, 73.8665)	(100.0, 82.8074)	(100.0, 84.4385)
5	(100.0, 0.0)	(99.2539, 0.0)	(99.9897, 0.0)	(100.0, 13.7662)	(100.0, 68.4429)	(100.0, 80.7015)	(100.0, 82.8438)
6	(100.0, 0.0)	(99.424, 0.0)	(99.945, 3.9633)	(100.0, 20.84)	(100.0, 68.8295)	(100.0, 79.661)	(100.0, 82.2055)

Table 20: Core Frequency: 1980MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(92.9176, 0.0)	(99.2527, 0.0)	(99.8824, 6.9832)	(100.0, 59.0)	(100.0, 82.0)	(100.0, 91.0)
1	(40.29, 0.0)	(46.3769, 0.0)	(48.0946, 0.0)	(50.5976, 1.591)	(71.7265, 25.8919)	(87.2035, 52.2117)	(94.9144, 67.1972)
2	(55.9451, 0.0)	(59.4919, 0.0)	(61.7091, 0.0)	(63.9974, 1.5926)	(82.7733, 25.9577)	(95.4121, 51.7844)	(100.0, 65.2775)
3	(71.8113, 0.0)	(73.1407, 0.0)	(75.1588, 0.0)	(76.6846, 2.4901)	(93.2657, 25.8888)	(99.981, 49.6577)	(99.9883, 60.376)
4	(86.9891, 0.0)	(86.2358, 0.0)	(88.5878, 0.0)	(89.8581, 2.4875)	(99.9855, 25.1172)	(99.9792, 46.012)	(100.0, 56.4874)
5	(99.9788, 0.0)	(99.3011, 0.0)	(99.9767, 0.0)	(99.9977, 2.4203)	(100.0, 20.9656)	(99.9931, 39.8468)	(100.0, 49.8493)
6	(100.0, 0.0)	(99.5563, 0.0)	(99.9958, 0.4822)	(100.0, 3.6039)	(100.0, 19.3583)	(100.0, 37.1869)	(100.0, 47.1697)

Table 21: Core Frequency: 1860MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(93.5, 0.0)	(100.0, 0.0)	(100.0, 9.0)	(100.0, 58.0)	(100.0, 85.0)	(100.0, 90.0)
1	(42.2897, 0.0)	(47.1686, 0.0)	(49.7977, 0.2601)	(52.0904, 1.8023)	(73.977, 26.8848)	(89.1011, 55.9363)	(96.3154, 67.5772)
2	(58.1781, 0.0)	(59.5112, 0.0)	(62.7184, 0.0)	(65.4719, 1.7978)	(84.1091, 26.1909)	(97.4478, 54.9888)	(100.0, 64.8462)
3	(74.6096, 0.0)	(73.209, 0.0)	(76.8613, 0.0)	(78.9157, 2.6966)	(95.3744, 26.6119)	(100.0, 51.2797)	(100.0, 60.089)
4	(89.6284, 0.0)	(87.5398, 0.0)	(90.2171, 0.0)	(94.0795, 3.5909)	(99.9489, 25.1915)	(100.0, 47.3601)	(100.0, 56.1708)
5	(100.0, 0.0)	(99.3171, 0.0)	(100.0, 0.0)	(100.0, 3.4673)	(100.0, 20.9011)	(100.0, 41.3812)	(100.0, 49.7918)
6	(100.0, 0.0)	(99.6681, 0.0)	(99.897, 0.3476)	(100.0, 4.9958)	(100.0, 19.1419)	(100.0, 38.6227)	(100.0, 47.1689)

Table 22: Core Frequency: 1860MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(91.8571, 0.0)	(100.0, 0.0)	(100.0, 12.0)	(100.0, 66.0)	(100.0, 92.0)	(100.0, 94.4545)
1	(42.0, 0.0)	(45.9657, 0.0)	(48.1792, 0.0)	(51.3429, 2.0114)	(76.9319, 33.766)	(97.4475, 70.1695)	(100.0, 77.7708)
2	(58.1806, 0.0)	(59.3864, 0.0)	(62.2081, 0.0)	(64.7232, 2.9492)	(86.5, 33.3248)	(100.0, 66.4469)	(100.0, 72.88)
3	(74.3793, 0.0)	(73.4229, 0.0)	(75.0686, 0.0)	(78.5, 3.8182)	(98.7957, 34.4435)	(99.9463, 61.2806)	(100.0, 68.4439)
4	(91.0139, 0.0)	(87.1257, 0.0)	(89.6609, 1.2126)	(92.9545, 4.5341)	(100.0, 31.4683)	(100.0, 56.5515)	(99.9953, 64.5258)
5	(100.0, 0.0)	(99.3168, 0.0)	(100.0, 1.0585)	(100.0, 4.4434)	(100.0, 26.3113)	(100.0, 50.0123)	(100.0, 58.1134)
6	(100.0, 0.0)	(99.6123, 0.0)	(99.9565, 0.6957)	(100.0, 5.0339)	(100.0, 25.1009)	(100.0, 47.3871)	(100.0, 55.688)

Table 23: Core Frequency: 1860MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(92.5, 0.0)	(100.0, 0.0)	(100.0, 46.0)	(100.0, 82.7149)	(100.0, 90.0)	(100.0, 90.0)
1	(41.965, 0.0)	(46.4012, 0.0)	(48.7836, 0.0)	(52.1453, 8.0465)	(100.0, 79.6667)	(100.0, 86.1644)	(100.0, 86.9535)
2	(58.0972, 0.0)	(59.0682, 0.0)	(62.6725, 0.0)	(64.8693, 9.6364)	(100.0, 74.5644)	(100.0, 85.0702)	(100.0, 86.045)
3	(74.1172, 0.0)	(72.5909, 0.0)	(76.4471, 0.0)	(77.9375, 12.5398)	(100.0, 75.4172)	(100.0, 83.7398)	(100.0, 85.051)
4	(90.8681, 0.0)	(85.791, 0.0)	(89.8721, 0.0)	(92.0341, 12.6932)	(100.0, 70.9694)	(100.0, 82.5013)	(100.0, 84.1576)
5	(100.0, 0.0)	(99.3632, 0.0)	(99.9265, 0.0)	(100.0, 13.0431)	(100.0, 69.2187)	(100.0, 80.4652)	(100.0, 82.5785)
6	(100.0, 0.0)	(99.6267, 0.0)	(99.9648, 2.304)	(99.9829, 17.2778)	(100.0, 66.575)	(100.0, 79.3073)	(100.0, 81.9034)

Table 24: Core Frequency: 1860MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(94.4368, 0.0)	(99.6735, 0.0)	(100.0, 6.0)	(100.0, 57.0)	(100.0, 80.0)	(100.0, 90.0)
1	(42.9042, 0.0)	(48.8374, 0.0)	(51.2027, 0.0)	(54.0066, 1.5244)	(74.4448, 25.5996)	(88.588, 51.7613)	(97.3977, 67.2201)
2	(60.068, 0.0)	(63.4783, 0.0)	(65.5649, 0.0)	(67.7267, 1.5217)	(85.8639, 25.6231)	(99.3616, 51.9096)	(99.9954, 63.4641)
3	(76.8196, 0.0)	(78.2207, 0.0)	(80.1667, 0.0)	(81.54, 2.4037)	(97.4962, 25.6659)	(100.0, 48.0705)	(99.9886, 58.8414)
4	(93.4252, 0.0)	(91.9393, 0.0)	(94.3261, 0.0)	(96.1421, 2.4211)	(99.9802, 23.6772)	(100.0, 44.0652)	(99.9974, 54.6391)
5	(99.9926, 0.0)	(99.6107, 0.0)	(99.9716, 0.0)	(100.0, 2.3369)	(100.0, 19.4514)	(100.0, 38.3375)	(100.0, 48.231)
6	(100.0, 0.0)	(99.7769, 0.0)	(99.9921, 0.4024)	(100.0, 3.5929)	(100.0, 18.6782)	(100.0, 35.4911)	(100.0, 45.6204)

Table 25: Core Frequency: 1740MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(94.2, 0.0)	(100.0, 0.0)	(100.0, 9.0)	(100.0, 57.0)	(100.0, 83.0809)	(100.0, 89.0)
1	(45.0, 0.0)	(49.1989, 0.0)	(51.1921, 0.0)	(55.5028, 1.8249)	(75.8829, 25.8739)	(89.8667, 54.0926)	(99.2264, 68.1622)
2	(62.0822, 0.0)	(63.3258, 0.0)	(65.904, 0.0)	(69.0833, 1.8222)	(87.1532, 25.7838)	(99.8141, 54.0781)	(100.0, 63.3594)
3	(79.3537, 0.0)	(76.7017, 0.0)	(81.3943, 0.0)	(84.2247, 2.7135)	(99.2127, 26.0995)	(100.0, 49.1593)	(100.0, 58.1873)
4	(97.8493, 0.0)	(94.1314, 0.0)	(95.6705, 1.125)	(98.0391, 6.5084)	(100.0, 23.9106)	(100.0, 45.4706)	(100.0, 54.552)
5	(100.0, 0.0)	(99.6073, 0.0)	(100.0, 0.0)	(99.9652, 2.5609)	(99.887, 19.2691)	(100.0, 39.3979)	(100.0, 48.1098)
6	(100.0, 0.0)	(99.7796, 0.0)	(99.9839, 0.2771)	(100.0, 3.8016)	(100.0, 18.737)	(100.0, 36.651)	(100.0, 45.1206)

Table 26: Core Frequency: 1740MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(95.5714, 0.0)	(100.0, 0.0)	(100.0, 12.0)	(100.0, 64.9138)	(100.0, 90.0)	(100.0, 93.8785)
1	(45.0, 0.0)	(48.6514, 0.0)	(52.3216, 0.0)	(54.4213, 2.1236)	(79.382, 33.5236)	(97.7733, 68.3133)	(100.0, 76.3539)
2	(62.2569, 0.0)	(63.1073, 0.0)	(66.16, 0.0)	(68.7528, 3.0112)	(90.434, 33.7319)	(100.0, 64.3491)	(100.0, 71.3255)
3	(79.5724, 0.0)	(77.0562, 0.0)	(81.4509, 0.0)	(83.774, 3.9209)	(99.8059, 33.1772)	(100.0, 58.8488)	(100.0, 66.8325)
4	(97.9236, 0.0)	(92.5511, 0.0)	(95.3086, 1.1486)	(96.7167, 8.1667)	(100.0, 30.2302)	(100.0, 54.2595)	(100.0, 63.0205)
5	(100.0, 0.0)	(99.6481, 0.0)	(100.0, 0.0)	(100.0, 3.6872)	(100.0, 25.7098)	(100.0, 47.9693)	(100.0, 56.7943)
6	(100.0, 0.0)	(99.7613, 0.0)	(100.0, 0.5547)	(100.0, 4.5591)	(100.0, 23.9566)	(100.0, 45.5078)	(100.0, 53.8263)

Table 27: Core Frequency: 1740MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(95.8571, 0.0)	(100.0, 0.0)	(100.0, 42.0)	(100.0, 86.0)	(100.0, 90.0)	(100.0, 90.0)
1	(45.0, 0.0)	(49.9298, 0.0)	(50.4457, 0.0)	(54.0621, 7.7853)	(100.0, 75.8133)	(100.0, 86.0415)	(100.0, 86.6923)
2	(62.2937, 0.0)	(64.0405, 0.0)	(65.2356, 0.0)	(69.3409, 9.5)	(100.0, 76.668)	(100.0, 84.6527)	(100.0, 85.7158)
3	(79.2361, 0.0)	(77.9368, 0.0)	(81.0756, 0.0)	(84.1954, 11.3218)	(100.0, 71.8554)	(100.0, 83.2562)	(100.0, 84.6705)
4	(97.2569, 0.0)	(92.8971, 0.0)	(94.7429, 0.0)	(96.9382, 12.2978)	(100.0, 71.9012)	(100.0, 81.9657)	(100.0, 83.7337)
5	(100.0, 0.0)	(99.729, 0.0)	(100.0, 0.0)	(100.0, 12.5422)	(100.0, 66.2197)	(100.0, 79.686)	(100.0, 82.0617)
6	(100.0, 0.0)	(99.7992, 0.0)	(100.0, 3.3374)	(100.0, 18.8367)	(100.0, 66.7173)	(100.0, 78.5663)	(100.0, 81.2342)

Table 28: Core Frequency: 1740MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(98.6747, 0.0)	(100.0, 0.0)	(100.0, 6.0)	(100.0, 55.4608)	(100.0, 79.0)	(100.0, 88.0)
1	(46.7911, 0.0)	(52.6607, 0.0)	(54.7197, 0.0)	(57.4744, 1.5583)	(77.3649, 25.5113)	(91.2025, 51.2016)	(99.0057, 66.2927)
2	(64.8485, 0.0)	(68.3238, 0.0)	(70.3946, 0.0)	(71.9766, 1.5553)	(89.4378, 25.367)	(99.8612, 50.5507)	(99.985, 61.1649)
3	(82.9538, 0.0)	(83.4307, 0.0)	(85.0134, 0.0)	(86.8825, 2.4413)	(99.9809, 25.2439)	(100.0, 46.0846)	(100.0, 56.4665)
4	(100.0, 0.0)	(98.6735, 0.0)	(99.9572, 0.0884)	(100.0, 2.9333)	(100.0, 22.3346)	(100.0, 42.1058)	(100.0, 52.4235)
5	(100.0, 0.0)	(99.9037, 0.0)	(99.9918, 1.0)	(99.998, 2.6891)	(100.0, 18.5972)	(100.0, 36.2461)	(100.0, 45.8777)
6	(100.0, 0.0)	(99.9326, 0.0)	(99.9982, 0.3938)	(100.0, 4.2011)	(100.0, 17.3362)	(100.0, 33.9782)	(100.0, 43.296)

Table 29: Core Frequency: 1620MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(97.7143, 0.0)	(100.0, 0.0)	(100.0, 8.0)	(100.0, 54.0)	(100.0, 81.0)	(100.0, 88.0)
1	(48.089, 0.0)	(52.7386, 0.0)	(55.0966, 0.0)	(58.5556, 1.7833)	(79.0995, 25.5837)	(92.5613, 53.3048)	(99.887, 67.0365)
2	(67.0552, 0.0)	(68.3352, 0.0)	(71.3771, 0.0)	(73.3516, 1.7857)	(91.0357, 25.3482)	(100.0, 51.7004)	(100.0, 61.3617)
3	(85.2245, 0.0)	(84.3029, 0.0)	(86.1243, 0.0)	(89.8156, 2.6369)	(99.9739, 25.0304)	(100.0, 47.2157)	(100.0, 56.5766)
4	(100.0, 0.0)	(98.7079, 0.0)	(100.0, 0.0)	(100.0, 2.6455)	(100.0, 22.2146)	(100.0, 42.9048)	(100.0, 52.6581)
5	(100.0, 0.0)	(99.7607, 0.0)	(100.0, 0.0)	(100.0, 2.4858)	(100.0, 18.1352)	(100.0, 36.7157)	(100.0, 46.0045)
6	(100.0, 0.0)	(99.8859, 0.0)	(100.0, 0.3545)	(100.0, 4.6812)	(100.0, 17.0632)	(100.0, 34.7872)	(100.0, 43.395)

Table 30: Core Frequency: 1620MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(97.0714, 0.0)	(100.0, 0.0)	(100.0, 11.0)	(100.0, 63.6017)	(100.0, 89.0)	(100.0, 93.0)
1	(48.0833, 0.0)	(52.0571, 0.0)	(55.4483, 0.0)	(58.3876, 2.0899)	(83.0769, 33.6111)	(99.77, 67.9233)	(100.0, 74.6841)
2	(66.9097, 0.0)	(67.9143, 0.0)	(70.7714, 0.0)	(73.581, 2.9888)	(94.5, 33.7479)	(100.0, 62.3811)	(100.0, 69.4809)
3	(85.7986, 0.0)	(82.9943, 0.0)	(86.1023, 0.0)	(88.0608, 3.8619)	(100.0, 31.716)	(100.0, 56.5803)	(100.0, 65.0284)
4	(100.0, 0.0)	(98.5511, 0.0)	(99.9777, 0.0)	(100.0, 3.8663)	(100.0, 28.5884)	(100.0, 52.5469)	(100.0, 61.0619)
5	(100.0, 0.0)	(99.8312, 0.0)	(100.0, 0.0)	(100.0, 3.6475)	(100.0, 24.1164)	(100.0, 45.9683)	(100.0, 54.5501)
6	(100.0, 0.0)	(99.9077, 0.0)	(99.9623, 0.5509)	(100.0, 4.8974)	(100.0, 22.3306)	(100.0, 43.3774)	(100.0, 52.0689)

Table 31: Core Frequency: 1620MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(98.2143, 0.0)	(100.0, 0.0)	(100.0, 42.0)	(100.0, 82.0)	(100.0, 90.0)	(100.0, 90.0)
1	(48.1678, 0.0)	(52.2759, 0.0)	(54.8555, 0.0)	(57.905, 8.2235)	(100.0, 78.3667)	(100.0, 85.5547)	(100.0, 86.4977)
2	(66.9859, 0.0)	(67.375, 0.0)	(71.7965, 0.0)	(72.45, 9.6056)	(100.0, 73.0127)	(100.0, 84.1732)	(100.0, 85.3737)
3	(85.1818, 0.0)	(83.3966, 0.0)	(86.046, 0.0)	(87.8547, 12.486)	(100.0, 73.589)	(100.0, 82.726)	(100.0, 84.2372)
4	(100.0, 0.0)	(98.9483, 0.0)	(100.0, 5.0282)	(99.9891, 24.2337)	(100.0, 68.9249)	(100.0, 81.3102)	(100.0, 83.3194)
5	(100.0, 0.0)	(99.9039, 0.0)	(100.0, 4.8077)	(100.0, 16.0124)	(100.0, 66.9811)	(100.0, 79.1188)	(100.0, 81.2862)
6	(100.0, 0.0)	(99.8444, 0.0)	(100.0, 3.0077)	(100.0, 15.5074)	(100.0, 63.6334)	(100.0, 77.8222)	(100.0, 80.6414)

Table 32: Core Frequency: 1620MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.0)	(100.0, 53.9211)	(100.0, 77.0)	(100.0, 87.0)
1	(50.9305, 0.0)	(56.6074, 0.0)	(58.8273, 0.0)	(61.4713, 1.5992)	(80.4394, 25.015)	(93.945, 51.0902)	(100.0, 65.0465)
2	(69.9649, 0.0)	(72.5, 0.0)	(74.5507, 0.0)	(77.3885, 1.5971)	(93.9925, 25.1708)	(99.9915, 48.2607)	(100.0, 59.234)
3	(89.6624, 0.0)	(89.9356, 0.0)	(91.6094, 0.0)	(93.457, 2.4766)	(100.0, 23.3729)	(99.9876, 44.1901)	(99.9933, 54.4131)
4	(100.0, 0.0)	(99.9897, 0.0)	(99.9702, 0.0893)	(100.0, 2.799)	(99.9964, 20.9111)	(100.0, 40.2293)	(100.0, 50.3368)
5	(100.0, 0.0)	(99.9961, 0.0)	(100.0, 0.071)	(100.0, 2.5807)	(100.0, 17.4071)	(100.0, 34.5781)	(100.0, 44.1341)
6	(100.0, 0.0)	(99.9983, 0.0)	(99.9966, 0.2566)	(100.0, 2.5206)	(100.0, 15.9372)	(100.0, 32.2273)	(100.0, 41.4286)

Table 33: Core Frequency: 1500MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.0)	(100.0, 53.0)	(100.0, 78.0)	(100.0, 86.0087)
1	(52.1103, 0.0)	(56.6171, 0.0)	(59.0843, 0.0)	(62.8956, 1.7308)	(81.0614, 24.7412)	(94.8708, 51.6937)	(100.0, 64.7379)
2	(72.7793, 0.0)	(72.3596, 0.0)	(77.2114, 0.0)	(79.0, 1.7143)	(94.3524, 24.9515)	(100.0, 48.7812)	(100.0, 58.9677)
3	(92.0748, 0.0)	(90.8352, 0.0)	(91.326, 0.0)	(95.9396, 2.5879)	(100.0, 23.2653)	(100.0, 44.4281)	(100.0, 54.1099)
4	(100.0, 0.0)	(99.9895, 0.0)	(100.0, 1.0867)	(100.0, 5.6146)	(100.0, 20.8188)	(100.0, 40.8125)	(100.0, 50.1901)
5	(100.0, 0.0)	(99.9842, 0.0)	(100.0, 0.0)	(100.0, 2.3993)	(100.0, 17.3471)	(100.0, 34.4493)	(100.0, 43.6039)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.2655)	(100.0, 3.6388)	(100.0, 15.779)	(100.0, 32.7534)	(100.0, 41.4689)

Table 34: Core Frequency: 1500MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 10.0)	(100.0, 61.0)	(100.0, 88.0)	(100.0, 92.0)
1	(52.2657, 0.0)	(56.3391, 0.0)	(58.6836, 0.0)	(62.9553, 2.067)	(86.2308, 33.3034)	(99.974, 66.2695)	(100.0, 72.8928)
2	(72.0828, 0.0)	(72.7955, 0.0)	(77.9012, 0.0)	(78.3425, 2.895)	(98.3432, 32.8686)	(100.0, 60.0475)	(100.0, 67.5827)
3	(91.9655, 0.0)	(90.6379, 0.0)	(93.6343, 0.0)	(94.7418, 3.8242)	(100.0, 30.092)	(100.0, 54.5272)	(100.0, 62.9312)
4	(100.0, 0.0)	(99.9628, 0.0)	(100.0, 1.1658)	(100.0, 4.8812)	(100.0, 26.8915)	(100.0, 50.392)	(100.0, 58.8415)
5	(100.0, 0.0)	(99.976, 0.0)	(99.9297, 0.0)	(100.0, 3.5623)	(100.0, 22.6761)	(100.0, 44.1844)	(100.0, 52.3422)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.4843)	(100.0, 4.152)	(100.0, 20.9227)	(100.0, 41.4706)	(100.0, 49.8574)

Table 35: Core Frequency: 1500MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 40.0)	(100.0, 85.4712)	(100.0, 90.0)	(100.0, 89.9989)
1	(52.0986, 0.0)	(56.5263, 0.0)	(59.6163, 0.0)	(62.4213, 8.1011)	(100.0, 74.7264)	(100.0, 85.189)	(100.0, 86.1032)
2	(71.7793, 0.0)	(72.7714, 0.0)	(76.023, 0.0)	(78.7278, 10.0167)	(100.0, 74.5349)	(100.0, 83.672)	(100.0, 84.9606)
3	(92.3287, 0.0)	(88.5852, 0.0)	(93.1322, 0.0)	(94.1154, 12.8297)	(100.0, 70.1429)	(100.0, 82.2164)	(100.0, 83.8063)
4	(100.0, 0.0)	(99.8811, 0.0)	(100.0, 4.9005)	(100.0, 13.08)	(100.0, 69.5829)	(100.0, 80.7506)	(100.0, 82.788)
5	(100.0, 0.0)	(99.9271, 0.0)	(100.0, 4.7273)	(100.0, 11.4618)	(100.0, 63.987)	(100.0, 78.4078)	(100.0, 80.6481)
6	(100.0, 0.0)	(99.9928, 0.0)	(100.0, 2.9718)	(100.0, 15.244)	(100.0, 63.8525)	(100.0, 76.8581)	(100.0, 79.93)

Table 36: Core Frequency: 1500MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 5.0)	(100.0, 51.0)	(100.0, 76.0)	(100.0, 85.9979)
1	(54.9407, 0.0)	(60.7592, 0.0)	(63.1551, 0.0)	(66.1062, 1.5104)	(84.5213, 24.5171)	(97.5827, 50.2127)	(100.0, 63.0775)
2	(76.1456, 0.0)	(78.6364, 0.0)	(80.7287, 0.0)	(82.9459, 1.5122)	(98.3316, 24.4559)	(100.0, 46.3374)	(100.0, 57.1836)
3	(96.606, 0.0)	(97.1238, 0.0)	(97.6143, 0.0)	(99.5808, 2.3821)	(100.0, 21.8242)	(99.9949, 41.4596)	(100.0, 52.1757)
4	(100.0, 0.0)	(99.9692, 0.0)	(100.0, 0.0904)	(100.0, 3.2467)	(100.0, 19.1311)	(100.0, 38.1704)	(100.0, 48.2487)
5	(100.0, 0.0)	(99.9964, 0.0)	(100.0, 0.0)	(100.0, 2.253)	(100.0, 15.8067)	(100.0, 32.398)	(100.0, 41.8246)
6	(100.0, 0.0)	(99.9984, 0.0)	(100.0, 0.2904)	(100.0, 2.2231)	(100.0, 15.1552)	(100.0, 30.4776)	(100.0, 39.248)

Table 37: Core Frequency: 1380MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.0)	(100.0, 50.0)	(100.0, 76.0)	(100.0, 85.0)
1	(56.9178, 0.0)	(60.9209, 0.0)	(64.0, 0.0)	(68.1257, 1.776)	(85.0652, 24.5391)	(97.9121, 51.0183)	(100.0, 62.7931)
2	(78.726, 0.0)	(79.7175, 0.0)	(81.5193, 0.0)	(85.1081, 1.8)	(99.0348, 24.2826)	(100.0, 46.4352)	(100.0, 56.8757)
3	(100.0, 0.0)	(97.5593, 0.0)	(99.5556, 0.0)	(99.9683, 2.6296)	(100.0, 21.8199)	(100.0, 41.8661)	(100.0, 52.0231)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.5312)	(100.0, 19.1111)	(100.0, 38.1348)	(100.0, 47.9551)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.4075)	(100.0, 15.7033)	(100.0, 32.6424)	(100.0, 41.8228)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.1994)	(100.0, 2.9663)	(100.0, 15.1278)	(100.0, 30.334)	(100.0, 39.0876)

Table 38: Core Frequency: 1380MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 9.0)	(100.0, 59.0)	(100.0, 86.0)	(100.0, 90.849)
1	(56.972, 0.0)	(60.9371, 0.0)	(64.1989, 0.0)	(67.0, 1.9945)	(88.8091, 32.2863)	(99.9937, 63.4385)	(100.0, 71.0286)
2	(78.9583, 0.0)	(78.435, 0.0)	(81.8079, 0.0)	(84.2337, 2.8859)	(99.951, 31.8816)	(100.0, 57.0371)	(100.0, 65.6019)
3	(99.4483, 0.0)	(97.1932, 0.0)	(99.618, 0.0)	(99.9626, 3.754)	(100.0, 28.2007)	(100.0, 52.0156)	(100.0, 60.6071)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9621, 1.1611)	(100.0, 4.371)	(100.0, 25.1693)	(100.0, 47.7847)	(100.0, 56.6481)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.4844)	(100.0, 20.9213)	(100.0, 41.4907)	(100.0, 50.302)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.345)	(100.0, 3.4472)	(100.0, 19.2567)	(100.0, 38.9056)	(100.0, 47.4761)

Table 39: Core Frequency: 1380MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 39.9062)	(100.0, 81.0)	(100.0, 89.904)	(100.0, 89.1562)
1	(56.8099, 0.0)	(60.6571, 0.0)	(63.733, 0.0)	(66.9558, 9.2486)	(100.0, 76.4203)	(100.0, 84.694)	(100.0, 85.2947)
2	(78.6224, 0.0)	(77.9771, 0.0)	(80.9382, 0.0)	(84.6167, 10.35)	(100.0, 70.828)	(100.0, 83.0483)	(100.0, 84.0695)
3	(99.0833, 0.0)	(96.017, 0.0)	(98.9944, 0.0)	(99.9027, 12.6054)	(100.0, 70.8597)	(100.0, 81.3815)	(100.0, 82.7872)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 11.3165)	(100.0, 66.1556)	(100.0, 79.9366)	(100.0, 81.7129)
5	(100.0, 0.0)	(99.9703, 0.0)	(100.0, 0.0)	(100.0, 10.4859)	(100.0, 63.4092)	(100.0, 77.1977)	(100.0, 79.5247)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.3204)	(100.0, 14.2445)	(100.0, 60.5692)	(100.0, 75.8723)	(100.0, 78.6085)

Table 40: Core Frequency: 1380MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 5.0)	(100.0, 48.5087)	(100.0, 73.0)	(100.0, 83.9979)
1	(60.4152, 0.0)	(65.9458, 0.0)	(68.2812, 0.0)	(71.4884, 1.5527)	(88.511, 23.5226)	(99.7529, 49.4925)	(100.0, 60.657)
2	(83.6141, 0.0)	(85.0202, 0.0)	(87.2161, 0.0)	(89.9246, 1.5396)	(99.998, 22.9401)	(99.9883, 43.6833)	(100.0, 54.5748)
3	(100.0, 0.0)	(99.9304, 0.0)	(100.0, 0.0)	(100.0, 2.3771)	(100.0, 19.9602)	(100.0, 39.7659)	(99.9988, 49.6711)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9958, 0.0)	(100.0, 2.006)	(100.0, 17.5846)	(100.0, 35.8959)	(100.0, 45.7408)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.2202)	(100.0, 14.2622)	(100.0, 30.6265)	(100.0, 39.3703)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.2163)	(100.0, 2.2171)	(100.0, 13.6335)	(100.0, 28.252)	(100.0, 37.1013)

Table 41: Core Frequency: 1260MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.0)	(100.0, 48.0)	(100.0, 74.0)	(100.0, 84.0)
1	(62.1241, 0.0)	(66.2147, 0.0)	(69.2514, 0.0)	(71.9786, 1.8021)	(89.7696, 24.1)	(99.9211, 49.6452)	(100.0, 60.5392)
2	(86.0069, 0.0)	(85.9777, 0.0)	(88.4254, 0.0)	(91.2834, 1.6952)	(99.9669, 23.0124)	(100.0, 44.3797)	(100.0, 54.6378)
3	(100.0, 0.0)	(99.9577, 0.0)	(100.0, 0.0)	(100.0, 2.5971)	(100.0, 20.2821)	(100.0, 39.5706)	(100.0, 49.8153)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.418)	(100.0, 17.6006)	(100.0, 36.2646)	(100.0, 45.8966)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0744)	(100.0, 3.5737)	(100.0, 14.2066)	(100.0, 30.5601)	(100.0, 39.3514)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.1474)	(100.0, 3.4438)	(100.0, 13.6573)	(100.0, 28.3552)	(100.0, 36.9767)

Table 42: Core Frequency: 1260MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 9.0)	(100.0, 57.0)	(100.0, 83.0)	(100.0, 89.0)
1	(62.0208, 0.0)	(66.8343, 0.0)	(69.5587, 0.0)	(73.2663, 1.9837)	(94.2417, 32.1875)	(100.0, 59.8593)	(100.0, 68.6364)
2	(85.9722, 0.0)	(86.3409, 0.0)	(88.5944, 0.0)	(92.0652, 2.9565)	(100.0, 29.6031)	(100.0, 53.8237)	(100.0, 62.9792)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.4369)	(100.0, 26.557)	(100.0, 48.9975)	(100.0, 58.121)
4	(100.0, 0.0)	(99.9643, 0.0)	(100.0, 1.0823)	(100.0, 4.8512)	(100.0, 23.619)	(100.0, 44.7745)	(100.0, 54.0059)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.0621)	(100.0, 3.038)	(100.0, 19.3203)	(100.0, 38.6082)	(100.0, 47.5189)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.3761)	(100.0, 3.4306)	(100.0, 17.8884)	(100.0, 36.4244)	(100.0, 44.8998)

Table 43: Core Frequency: 1260MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 37.0)	(100.0, 84.9768)	(100.0, 89.0179)	(100.0, 89.0)
1	(61.8252, 0.0)	(66.1086, 0.0)	(68.9326, 0.0)	(70.9358, 9.2781)	(100.0, 72.6713)	(100.0, 83.6763)	(100.0, 84.8021)
2	(86.2324, 0.0)	(84.2303, 0.0)	(88.6949, 0.0)	(90.3081, 11.0432)	(100.0, 72.5304)	(100.0, 81.9176)	(100.0, 83.411)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 11.599)	(100.0, 67.3376)	(100.0, 80.1863)	(100.0, 82.059)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9563, 4.0087)	(100.0, 14.795)	(100.0, 66.6619)	(100.0, 78.5551)	(100.0, 80.8124)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.6766)	(100.0, 9.9617)	(100.0, 60.7153)	(100.0, 75.5943)	(100.0, 78.5101)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.4985)	(100.0, 14.7135)	(100.0, 60.0594)	(100.0, 74.2786)	(100.0, 77.455)

Table 44: Core Frequency: 1260MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(99.0, 0.0)	(100.0, 0.0)	(100.0, 5.0)	(100.0, 47.0)	(100.0, 72.9948)	(100.0, 82.0)
1	(66.0226, 0.0)	(70.9088, 0.0)	(73.1671, 0.0)	(76.9501, 1.5736)	(93.1096, 23.1739)	(100.0, 47.1899)	(100.0, 57.9957)
2	(91.6886, 0.0)	(92.4144, 0.0)	(94.9658, 0.0)	(97.1926, 1.5714)	(100.0, 21.2469)	(99.9866, 42.0387)	(100.0, 52.0374)
3	(100.0, 0.0)	(99.9929, 0.0)	(100.0, 0.0)	(100.0, 2.3388)	(100.0, 18.5917)	(100.0, 37.2259)	(99.9977, 47.131)
4	(100.0, 0.0)	(99.9931, 0.0)	(100.0, 0.0843)	(99.9852, 2.6153)	(100.0, 16.185)	(100.0, 33.9437)	(100.0, 43.2387)
5	(100.0, 0.0)	(99.9478, 0.0)	(100.0, 0.0)	(100.0, 1.3326)	(100.0, 13.5524)	(100.0, 28.3362)	(100.0, 37.02)
6	(100.0, 0.0)	(99.956, 0.0)	(100.0, 0.1481)	(100.0, 2.9167)	(100.0, 12.1481)	(100.0, 26.4942)	(100.0, 34.6067)

Table 45: Core Frequency: 1140MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.0)	(100.0, 46.0)	(100.0, 73.0)	(100.0, 83.0)
1	(67.7329, 0.0)	(70.4451, 0.0)	(74.533, 0.0)	(76.7749, 1.7173)	(94.3319, 23.9267)	(100.0, 47.6323)	(100.0, 58.1541)
2	(94.8219, 0.0)	(93.2111, 0.0)	(96.9834, 0.0)	(98.4521, 1.7181)	(100.0, 21.3101)	(100.0, 42.2229)	(100.0, 52.557)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.4779)	(100.0, 18.7013)	(100.0, 37.6783)	(100.0, 47.4601)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.1634)	(100.0, 4.0187)	(100.0, 16.4633)	(100.0, 33.9831)	(100.0, 43.2729)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.302)	(100.0, 13.7329)	(100.0, 28.3092)	(100.0, 37.2909)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.1105)	(100.0, 2.2711)	(100.0, 12.1161)	(100.0, 26.5547)	(100.0, 34.7851)

Table 46: Core Frequency: 1140MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 8.0)	(100.0, 54.0)	(100.0, 79.1992)	(100.0, 87.2273)
1	(68.9301, 0.0)	(73.6705, 0.0)	(75.1978, 0.0)	(78.9149, 2.0372)	(99.6488, 31.8388)	(100.0, 56.0295)	(100.0, 66.0)
2	(95.1667, 0.0)	(93.4641, 0.0)	(98.1278, 0.0)	(99.4255, 2.9043)	(100.0, 27.4929)	(100.0, 49.9711)	(100.0, 60.1788)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.7368)	(100.0, 23.913)	(100.0, 45.4171)	(100.0, 55.3826)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9961, 1.0856)	(100.0, 5.7575)	(100.0, 21.268)	(100.0, 41.3931)	(100.0, 51.3439)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.0)	(100.0, 4.151)	(100.0, 17.6494)	(100.0, 35.807)	(100.0, 44.7691)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.2895)	(100.0, 3.6633)	(100.0, 16.2407)	(100.0, 33.3106)	(100.0, 42.2492)

Table 47: Core Frequency: 1140MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 35.0)	(100.0, 80.0171)	(100.0, 89.0)	(100.0, 89.0)
1	(68.7254, 0.0)	(71.9096, 0.0)	(75.3128, 0.0)	(79.3459, 9.4486)	(100.0, 74.0412)	(100.0, 83.0705)	(100.0, 84.3013)
2	(95.7042, 0.0)	(93.7006, 0.0)	(96.5746, 0.0)	(99.4247, 10.9086)	(100.0, 68.1226)	(100.0, 81.0836)	(100.0, 82.7979)
3	(100.0, 0.0)	(99.9902, 0.0)	(100.0, 0.0)	(100.0, 11.2634)	(100.0, 67.6659)	(100.0, 79.1938)	(100.0, 81.325)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 9.9132)	(100.0, 62.812)	(100.0, 77.4558)	(100.0, 80.0033)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.5893)	(100.0, 9.7168)	(100.0, 59.5163)	(100.0, 74.4456)	(100.0, 77.3336)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.185)	(100.0, 11.801)	(100.0, 56.4855)	(100.0, 72.8084)	(100.0, 76.2252)

Table 48: Core Frequency: 1140MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 4.0)	(100.0, 44.9872)	(100.0, 71.0)	(100.0, 81.998)
1	(73.3215, 0.0)	(77.6927, 0.0)	(80.0786, 0.0)	(82.6145, 1.4531)	(97.3605, 22.2079)	(99.9822, 45.4242)	(100.0, 56.0951)
2	(100.0, 0.0)	(99.9149, 0.0)	(100.0, 0.0)	(99.952, 1.4317)	(100.0, 19.2471)	(100.0, 39.3975)	(100.0, 49.9846)
3	(100.0, 0.0)	(99.9979, 0.0)	(100.0, 0.0)	(100.0, 1.3596)	(99.9985, 16.7872)	(100.0, 35.267)	(100.0, 44.9585)
4	(100.0, 0.0)	(99.9749, 0.0)	(100.0, 0.0)	(100.0, 1.3002)	(100.0, 14.6035)	(100.0, 31.7889)	(100.0, 41.0096)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2284)	(100.0, 11.912)	(100.0, 26.5124)	(100.0, 34.7357)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0962)	(100.0, 2.1353)	(100.0, 11.1617)	(100.0, 24.5021)	(100.0, 32.4498)

Table 49: Core Frequency: 1020MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.0)	(100.0, 45.0)	(100.0, 72.0)	(100.0, 82.0)
1	(75.6897, 0.0)	(77.4278, 0.0)	(81.9126, 0.0)	(84.623, 1.7696)	(98.4658, 22.5598)	(100.0, 45.5443)	(100.0, 56.1292)
2	(100.0, 0.0)	(99.9781, 0.0)	(100.0, 0.0)	(99.9024, 1.722)	(99.9493, 19.1775)	(100.0, 39.8746)	(100.0, 49.9404)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.5896)	(100.0, 16.8354)	(100.0, 35.2412)	(100.0, 45.0953)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.3973)	(100.0, 14.5393)	(100.0, 31.6449)	(100.0, 40.9759)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.127)	(100.0, 1.7179)	(100.0, 11.9349)	(100.0, 26.527)	(100.0, 34.7602)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0355)	(100.0, 3.1382)	(100.0, 10.9407)	(100.0, 24.6718)	(100.0, 32.5118)

Table 50: Core Frequency: 1020MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.0)	(100.0, 52.0)	(100.0, 78.0)	(100.0, 86.0)
1	(76.4615, 0.0)	(80.0674, 0.0)	(82.2459, 0.0)	(85.8377, 1.9738)	(100.0, 29.6484)	(100.0, 53.0452)	(100.0, 63.4988)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.7356)	(100.0, 25.1419)	(100.0, 47.2537)	(100.0, 57.4545)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.6299)	(100.0, 22.0405)	(100.0, 42.3901)	(100.0, 52.476)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.0804)	(100.0, 3.5151)	(100.0, 19.5328)	(100.0, 38.4494)	(100.0, 48.7876)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.4031)	(100.0, 15.9052)	(100.0, 32.7389)	(100.0, 42.1309)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.2317)	(100.0, 3.5826)	(100.0, 15.1377)	(100.0, 30.9683)	(100.0, 39.5909)

Table 51: Core Frequency: 1020MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 33.0)	(100.0, 83.0)	(100.0, 88.4331)	(100.0, 88.8575)
1	(76.9291, 0.0)	(78.8833, 0.0)	(82.989, 0.0)	(86.7766, 9.7447)	(100.0, 70.1448)	(100.0, 82.263)	(100.0, 83.6647)
2	(100.0, 0.0)	(99.9351, 0.0)	(100.0, 0.0)	(100.0, 10.125)	(100.0, 68.6646)	(100.0, 80.0641)	(100.0, 81.9433)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 10.908)	(100.0, 64.1359)	(100.0, 78.0875)	(100.0, 80.1869)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9161, 3.6993)	(100.0, 16.6364)	(100.0, 62.0531)	(100.0, 76.2433)	(100.0, 79.0204)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 9.0954)	(100.0, 56.445)	(100.0, 72.732)	(100.0, 76.1459)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.031)	(100.0, 13.169)	(100.0, 54.8994)	(100.0, 70.9805)	(100.0, 74.7658)

Table 52: Core Frequency: 1020MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 4.0)	(100.0, 42.0)	(100.0, 70.0)	(100.0, 80.998)
1	(82.8198, 0.0)	(85.7095, 0.0)	(88.5033, 0.0)	(91.7334, 1.4819)	(99.9398, 20.246)	(100.0, 42.7613)	(99.998, 53.5736)
2	(100.0, 0.0)	(99.9619, 0.0)	(100.0, 0.0)	(99.97, 1.4099)	(100.0, 16.6589)	(100.0, 37.0669)	(100.0, 47.1582)
3	(100.0, 0.0)	(99.9962, 0.0)	(100.0, 0.0)	(100.0, 1.3418)	(100.0, 14.69)	(100.0, 32.6424)	(100.0, 41.9595)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0744)	(100.0, 2.4862)	(100.0, 12.5911)	(100.0, 29.2638)	(100.0, 38.0835)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4525)	(100.0, 10.1802)	(100.0, 24.4338)	(100.0, 32.0938)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.7094)	(100.0, 9.6011)	(100.0, 22.5539)	(100.0, 29.7473)

Table 53: Core Frequency: 900MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.0)	(100.0, 42.0)	(100.0, 70.0)	(100.0, 80.877)
1	(84.8345, 0.0)	(86.4365, 0.0)	(88.9194, 0.0)	(94.3053, 1.8211)	(100.0, 20.9393)	(100.0, 42.9102)	(100.0, 53.4176)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.7031)	(99.9733, 17.1233)	(100.0, 37.2053)	(100.0, 46.8879)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.5709)	(100.0, 15.2045)	(100.0, 32.5758)	(100.0, 42.2)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.15)	(100.0, 3.4639)	(100.0, 13.321)	(100.0, 29.2261)	(100.0, 37.9513)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3653)	(100.0, 10.3084)	(100.0, 24.653)	(100.0, 31.9827)
6	(100.0, 0.0046)	(100.0, 0.0)	(100.0, 0.0168)	(100.0, 2.3755)	(100.0, 9.831)	(100.0, 22.5275)	(100.0, 29.8667)

Table 54: Core Frequency: 900MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.0)	(100.0, 51.0)	(100.0, 76.9504)	(100.0, 86.0)
1	(85.9514, 0.0)	(86.1304, 0.0)	(91.4536, 0.0)	(96.0421, 2.0526)	(100.0, 27.1978)	(100.0, 50.8841)	(100.0, 61.4054)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.7241)	(100.0, 23.1477)	(100.0, 44.5247)	(100.0, 55.3065)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.581)	(100.0, 20.1862)	(100.0, 39.9036)	(100.0, 50.1548)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.1838)	(100.0, 3.5179)	(100.0, 17.6511)	(100.0, 36.1799)	(100.0, 45.9633)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.3759)	(100.0, 14.2064)	(100.0, 30.2722)	(100.0, 39.4615)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.1408)	(100.0, 2.3408)	(100.0, 13.6621)	(100.0, 28.308)	(100.0, 36.7976)

Table 55: Core Frequency: 900MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 30.0)	(100.0, 79.0)	(100.0, 88.0)	(100.0, 88.0)
1	(86.7518, 0.0)	(90.9609, 0.0)	(92.2553, 0.0)	(96.7513, 10.5285)	(100.0, 70.165)	(100.0, 80.8032)	(100.0, 82.3746)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 10.5339)	(100.0, 64.5692)	(100.0, 78.4928)	(100.0, 80.4801)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 9.9444)	(100.0, 62.7721)	(100.0, 76.3504)	(100.0, 78.6863)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 8.531)	(100.0, 58.6704)	(100.0, 74.1186)	(100.0, 77.0936)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.9455)	(100.0, 53.8006)	(100.0, 70.5629)	(100.0, 74.0187)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.7101)	(100.0, 10.3878)	(100.0, 51.7689)	(100.0, 68.5922)	(100.0, 72.7306)

Table 56: Core Frequency: 900MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.0)	(100.0, 31.0)	(100.0, 62.0)	(100.0, 72.9982)
1	(95.0893, 0.0)	(96.0265, 0.0)	(98.6918, 0.0)	(99.8768, 0.4895)	(100.0, 12.83)	(100.0, 32.3634)	(100.0, 41.4733)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.3741)	(100.0, 10.3035)	(100.0, 26.9511)	(100.0, 35.4081)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2039)	(100.0, 8.65)	(100.0, 23.1546)	(100.0, 30.833)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1676)	(100.0, 7.7516)	(100.0, 20.547)	(100.0, 27.3752)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1231)	(100.0, 6.0083)	(100.0, 16.485)	(100.0, 22.3189)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.11)	(100.0, 5.6929)	(100.0, 15.1858)	(100.0, 20.564)

Table 57: Core Frequency: 780MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 5.0)	(100.0, 39.0)	(100.0, 69.0)	(100.0, 79.0)
1	(97.3517, 0.0)	(97.1878, 0.0)	(99.5401, 0.0)	(99.9113, 1.6897)	(100.0, 18.1963)	(100.0, 40.1552)	(100.0, 50.2757)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.5323)	(100.0, 15.0212)	(100.0, 34.4069)	(100.0, 43.8698)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4348)	(100.0, 13.2245)	(100.0, 29.6503)	(100.0, 38.6353)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3708)	(100.0, 11.4204)	(100.0, 26.6875)	(100.0, 34.852)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2778)	(100.0, 8.808)	(100.0, 21.6815)	(100.0, 29.0043)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.6607)	(100.0, 8.109)	(100.0, 19.9436)	(100.0, 27.0721)

Table 58: Core Frequency: 780MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.0)	(100.0, 48.0)	(100.0, 75.9918)	(100.0, 85.0)
1	(98.0629, 0.0)	(98.2857, 0.0)	(99.9362, 0.0)	(100.0, 2.0784)	(100.0, 24.5559)	(100.0, 48.0736)	(100.0, 58.1953)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.6981)	(100.0, 20.2949)	(100.0, 41.5187)	(100.0, 51.6552)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.5432)	(100.0, 17.6014)	(100.0, 36.8762)	(100.0, 46.5792)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.1475)	(100.0, 2.8403)	(100.0, 15.5654)	(100.0, 33.0486)	(100.0, 42.4288)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.297)	(100.0, 12.3446)	(100.0, 27.8355)	(100.0, 36.0353)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0823)	(100.0, 2.274)	(100.0, 11.7077)	(100.0, 25.7272)	(100.0, 33.6323)

Table 59: Core Frequency: 780MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 27.0)	(100.0, 81.0)	(100.0, 87.0081)	(100.0, 88.0)
1	(99.0638, 0.0)	(99.8043, 0.0)	(100.0, 0.0)	(100.0, 9.3679)	(100.0, 66.0806)	(100.0, 79.2093)	(100.0, 81.4176)
2	(100.0, 0.0)	(99.9837, 0.0)	(100.0, 0.0)	(100.0, 8.4286)	(100.0, 63.3817)	(100.0, 76.5189)	(100.0, 79.2821)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 8.9121)	(100.0, 59.0082)	(100.0, 74.2173)	(100.0, 77.3964)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 8.2887)	(100.0, 56.1171)	(100.0, 71.7677)	(100.0, 75.586)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.7909)	(100.0, 50.5551)	(100.0, 67.8198)	(100.0, 72.126)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.6745)	(100.0, 8.5405)	(100.0, 48.5505)	(100.0, 65.679)	(100.0, 70.586)

Table 60: Core Frequency: 780MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.0)	(100.0, 31.0)	(100.0, 62.0)	(100.0, 72.9982)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.4895)	(100.0, 12.83)	(100.0, 32.3634)	(100.0, 41.4733)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.3741)	(100.0, 10.3035)	(100.0, 26.9511)	(100.0, 35.4081)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2039)	(100.0, 8.65)	(100.0, 23.1546)	(100.0, 30.833)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1676)	(100.0, 7.7516)	(100.0, 20.547)	(100.0, 27.3752)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1231)	(100.0, 6.0083)	(100.0, 16.485)	(100.0, 22.3189)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.11)	(100.0, 5.6929)	(100.0, 15.1858)	(100.0, 20.564)

Table 61: Core Frequency: 660MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 5.0)	(100.0, 35.0)	(100.0, 66.0)	(100.0, 77.0)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.678)	(100.0, 15.1617)	(100.0, 36.6929)	(100.0, 46.1617)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.5212)	(100.0, 12.9387)	(100.0, 30.8274)	(100.0, 39.7431)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4233)	(100.0, 10.3573)	(100.0, 26.7137)	(100.0, 35.2118)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3563)	(100.0, 9.7417)	(100.0, 23.5379)	(100.0, 31.5759)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0508)	(100.0, 1.4007)	(100.0, 7.5327)	(100.0, 19.555)	(100.0, 25.769)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.348)	(100.0, 7.2955)	(100.0, 17.772)	(100.0, 23.7846)

Table 62: Core Frequency: 660MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.0)	(100.0, 43.0)	(100.0, 73.0)	(100.0, 82.9569)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.8734)	(100.0, 21.2346)	(100.0, 44.1174)	(100.0, 54.9414)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.6678)	(100.0, 17.0756)	(100.0, 37.864)	(100.0, 47.8418)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.5435)	(100.0, 15.1527)	(100.0, 33.575)	(100.0, 42.869)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.46)	(100.0, 12.6648)	(100.0, 29.7422)	(100.0, 38.7423)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3486)	(100.0, 10.2695)	(100.0, 24.7073)	(100.0, 32.3545)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.011)	(100.0, 3.0667)	(100.0, 9.7122)	(100.0, 22.9577)	(100.0, 30.1885)

Table 63: Core Frequency: 660MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 27.0)	(100.0, 77.9863)	(100.0, 87.0)	(100.0, 87.4324)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 9.0656)	(100.0, 65.8099)	(100.0, 77.8058)	(100.0, 79.8661)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 8.8959)	(100.0, 59.4979)	(100.0, 74.8572)	(100.0, 77.8381)
3	(100.0, 0.0066)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.8822)	(100.0, 57.0244)	(100.0, 72.2464)	(100.0, 75.4711)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.4667)	(100.0, 11.8965)	(100.0, 52.3228)	(100.0, 69.6385)	(100.0, 73.2856)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.1716)	(100.0, 9.6803)	(100.0, 47.2258)	(100.0, 65.1996)	(100.0, 69.662)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2422)	(100.0, 9.8822)	(100.0, 45.1588)	(100.0, 62.8833)	(100.0, 67.8479)

Table 64: Core Frequency: 660MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.0)	(100.0, 31.0)	(100.0, 62.0)	(100.0, 72.9982)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.4895)	(99.9951, 12.83)	(100.0, 32.3634)	(100.0, 41.4733)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.3741)	(100.0, 10.3035)	(100.0, 26.9511)	(100.0, 35.4081)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2039)	(100.0, 8.65)	(100.0, 23.1546)	(100.0, 30.833)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1676)	(100.0, 7.7516)	(100.0, 20.547)	(100.0, 27.3752)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1231)	(100.0, 6.0083)	(100.0, 16.485)	(100.0, 22.3189)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.11)	(100.0, 5.6929)	(100.0, 15.1858)	(100.0, 20.564)

Table 65: Core Frequency: 540MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 4.0)	(100.0, 31.0)	(100.0, 62.0)	(100.0, 73.0)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4841)	(100.0, 13.073)	(100.0, 32.3543)	(100.0, 41.2686)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.372)	(100.0, 10.2641)	(100.0, 27.1689)	(100.0, 35.4552)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2961)	(100.0, 8.5962)	(100.0, 23.0894)	(100.0, 30.8493)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0615)	(100.0, 1.4151)	(100.0, 7.8013)	(100.0, 20.2645)	(100.0, 27.0)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0447)	(100.0, 1.3142)	(100.0, 6.115)	(100.0, 16.2118)	(100.0, 22.0993)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2777)	(100.0, 5.7295)	(100.0, 15.0537)	(100.0, 20.32)

Table 66: Core Frequency: 540MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 5.0)	(100.0, 40.0)	(100.0, 70.0)	(100.0, 80.97)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.6573)	(100.0, 17.0926)	(100.0, 39.6989)	(100.0, 49.8125)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.5067)	(100.0, 14.1388)	(100.0, 33.6399)	(100.0, 43.3883)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4245)	(100.0, 11.9482)	(100.0, 29.3754)	(100.0, 38.2332)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3469)	(100.0, 10.4896)	(100.0, 26.1929)	(100.0, 34.3122)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0983)	(100.0, 1.5223)	(100.0, 8.1702)	(100.0, 21.2804)	(100.0, 28.4651)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.8678)	(100.0, 7.7674)	(100.0, 19.5181)	(100.0, 26.2637)

Table 67: Core Frequency: 540MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 25.0)	(100.0, 80.0)	(100.0, 86.9913)	(100.0, 87.0)
1	(100.0, 0.0)	(99.9921, 0.0)	(100.0, 0.0)	(100.0, 8.5464)	(100.0, 61.1677)	(100.0, 76.0773)	(100.0, 78.4302)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.7215)	(100.0, 57.3207)	(100.0, 72.2183)	(100.0, 75.5474)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.1772)	(100.0, 52.411)	(100.0, 69.609)	(100.0, 72.9532)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.8561)	(100.0, 49.0849)	(100.0, 66.6465)	(100.0, 70.5923)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.3101)	(100.0, 6.4)	(100.0, 43.1705)	(100.0, 61.5998)	(100.0, 66.3355)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1567)	(100.0, 8.9635)	(100.0, 40.6988)	(100.0, 59.0645)	(100.0, 64.4266)

Table 68: Core Frequency: 540MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.0)	(100.0, 25.0)	(100.0, 55.998)	(100.0, 65.9983)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.3199)	(100.0, 10.0441)	(100.0, 26.7479)	(100.0, 35.2866)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.2464)	(100.0, 7.9256)	(100.0, 22.3835)	(100.0, 29.5253)
3	(100.0, 0.001)	(100.0, 0.0005)	(100.0, 0.0236)	(100.0, 1.0944)	(100.0, 6.808)	(100.0, 18.8872)	(100.0, 25.5715)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0372)	(100.0, 1.2353)	(100.0, 5.8985)	(100.0, 16.7277)	(100.0, 22.5286)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.0578)	(100.0, 4.6012)	(100.0, 13.3216)	(100.0, 18.1167)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1551)	(100.0, 4.0691)	(100.0, 12.1301)	(100.0, 16.6629)

Table 69: Core Frequency: 420MHz, Memory Frequency: 7001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.0225)	(100.0, 25.0)	(100.0, 55.0935)	(100.0, 65.9669)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3064)	(100.0, 9.9685)	(100.0, 26.8837)	(100.0, 35.2413)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2378)	(100.0, 8.0808)	(100.0, 22.4441)	(100.0, 29.5278)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1921)	(100.0, 6.6039)	(100.0, 19.1028)	(100.0, 25.5874)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0586)	(100.0, 1.3228)	(100.0, 5.9936)	(100.0, 16.4507)	(100.0, 22.5204)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1156)	(100.0, 4.4533)	(100.0, 13.1333)	(100.0, 18.0946)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1087)	(100.0, 4.2616)	(100.0, 12.065)	(100.0, 16.467)

Table 70: Core Frequency: 420MHz, Memory Frequency: 6801MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 4.0)	(100.0, 33.0)	(100.0, 65.847)	(100.0, 75.9944)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4876)	(100.0, 13.6704)	(100.0, 34.3352)	(100.0, 43.729)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3919)	(100.0, 11.3759)	(100.0, 28.6335)	(100.0, 37.116)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3924)	(100.0, 9.6454)	(100.0, 24.4813)	(100.0, 32.4882)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0617)	(100.0, 2.0912)	(100.0, 8.0775)	(100.0, 21.473)	(100.0, 28.6506)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.044)	(100.0, 1.7991)	(100.0, 6.2408)	(100.0, 17.4968)	(100.0, 23.4753)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2144)	(100.0, 5.9257)	(100.0, 15.8368)	(100.0, 21.6012)

Table 71: Core Frequency: 420MHz, Memory Frequency: 5001MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 22.0)	(100.0, 76.0)	(100.0, 86.0)	(100.0, 86.0474)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.0193)	(100.0, 58.2718)	(100.0, 73.131)	(100.0, 75.8281)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.293)	(100.0, 51.8332)	(100.0, 68.9491)	(100.0, 72.4549)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.7565)	(100.0, 48.0407)	(100.0, 65.336)	(100.0, 69.2673)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 5.547)	(100.0, 43.5316)	(100.0, 62.0677)	(100.0, 66.5485)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3003)	(100.0, 5.7607)	(100.0, 37.8182)	(100.0, 56.5031)	(100.0, 61.5255)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.8465)	(100.0, 6.4837)	(100.0, 35.4784)	(100.0, 53.7751)	(100.0, 59.4242)

Table 72: Core Frequency: 420MHz, Memory Frequency: 810MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0357)	(100.0, 0.0)	(100.0, 33.0)	(100.0, 70.0)	(100.0, 76.0)	(100.0, 77.9634)
1	(100.0, 0.0)	(100.0, 0.0062)	(100.0, 0.0)	(100.0, 10.2373)	(100.0, 59.4345)	(100.0, 70.436)	(100.0, 73.2152)
2	(100.0, 0.0054)	(100.0, 0.0023)	(100.0, 0.0044)	(100.0, 8.9317)	(100.0, 55.6809)	(100.0, 68.5393)	(100.0, 71.6547)
3	(100.0, 0.0042)	(100.0, 0.0037)	(100.0, 0.0018)	(100.0, 9.8559)	(100.0, 53.538)	(100.0, 66.6366)	(100.0, 70.0806)
4	(100.0, 0.0034)	(100.0, 0.0031)	(100.0, 0.003)	(100.0, 8.4513)	(100.0, 49.9858)	(100.0, 64.8487)	(100.0, 68.7594)
5	(100.0, 0.005)	(100.0, 0.0023)	(100.0, 2.7975)	(100.0, 10.5283)	(100.0, 46.5026)	(100.0, 61.5222)	(100.0, 66.1049)
6	(100.0, 0.0044)	(100.0, 0.0041)	(100.0, 1.7327)	(100.0, 9.3571)	(100.0, 43.8095)	(100.0, 60.2899)	(100.0, 65.0247)

Table 73: Core Frequency: 420MHz, Memory Frequency: 405MHz

6.2 Energy Consumptions: Initial Benchmark Run

	0	1	2	3	4	5	6
0	0.0	1817.2765	2350.5049	3638.5823	10797.823	20333.8105	27002.9963
1	10667.3741	12547.7785	13007.4028	13592.3088	18907.8243	26010.74	31710.1463
2	10836.4486	12857.3957	13268.618	13773.7628	19102.7357	26482.1687	32668.5249
3	10997.772	12994.6287	13272.24	13880.325	19515.559	27197.8387	34366.877
4	11207.7737	13213.8177	13494.2554	14481.3339	20227.911	29668.0749	36613.0289
5	14211.2884	15699.4478	15884.4402	17135.2659	24226.3277	33080.9773	40523.4463
6	15893.5699	17516.1643	17982.767	18946.9532	25895.3532	35207.9573	42043.4719

Table 74: Core Frequency: 2100.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1868.9644	2326.7283	3648.8072	10794.6001	19639.3945	26833.9131
1	10590.7937	12558.5288	12789.0332	13461.7558	18950.938	26156.9781	31844.5607
2	10776.7144	12907.6294	13038.5163	13695.8018	19360.3622	26024.7146	32613.0126
3	10890.8193	12844.9786	13102.145	13873.9058	19495.8942	27410.6335	34257.9458
4	11222.9529	13255.3079	13436.9471	14560.3361	20060.737	28990.2177	36220.0721
5	13875.6029	15465.741	15641.0465	16886.2845	23962.2597	33129.0145	40120.9538
6	15734.4164	17398.5064	17737.1196	18824.0049	25790.9614	34711.6976	41884.6168

Table 75: Core Frequency: 2100.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1749.5273	2222.7711	3547.5103	11911.8829	23609.1374	31413.8968
1	9943.9003	11914.9366	12144.2005	13095.292	19136.1039	27436.6006	35272.2831
2	10151.5824	12173.675	12205.061	13355.7403	19486.0005	28901.7614	36851.389
3	10337.9689	12202.2458	12399.5435	13475.2139	19676.4189	29808.5483	38487.4265
4	10731.2008	12568.1864	12791.4786	13781.1694	21026.1384	32467.1442	40300.9458
5	13191.3995	14745.6565	15096.6427	16431.0385	25075.0186	35785.8598	44439.7937
6	14884.6945	16352.1157	16796.8606	18210.0764	26913.0998	37919.9136	45949.5646

Table 76: Core Frequency: 2100.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1359.1578	1763.3067	2943.7612	39079.7279	84447.8353	117687.4829
1	7093.5058	8436.3743	8846.8759	9934.3459	44025.2088	92896.3165	121507.9118
2	7297.0038	8776.1682	8934.3631	9901.4775	43439.78	92109.3985	123538.4891
3	7482.2954	8902.8217	9044.397	10109.9322	44639.914	94642.7735	126274.2552
4	7546.6702	8940.1458	9398.3445	10708.5196	45790.5973	91639.3828	124471.798
5	9425.4832	10832.0889	11718.0715	13111.216	50401.3985	99417.4564	127823.8053
6	10760.4063	11912.176	12568.1754	14152.729	50446.3054	99543.0308	130746.5586

Table 77: Core Frequency: 2100.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1784.5975	2347.0262	3637.8494	10733.4062	19696.9379	26899.8193
1	10536.9045	12487.7809	13014.3644	13700.6754	18991.4186	26281.3323	32063.048
2	10875.7801	12919.5124	13091.3557	13864.6422	19251.5064	26325.0228	32681.6009
3	10913.8094	12961.27	13302.3322	13954.8682	19473.6622	27536.6467	34308.6092
4	11189.2738	13175.373	13764.7798	14430.5316	20205.4207	29023.2161	36362.2838
5	14056.4894	15624.6024	16060.54	17051.0111	24127.3409	33255.6056	40247.4926
6	15887.0618	17477.7717	17814.8215	18957.4989	25899.6167	34807.627	42134.9516

Table 78: Core Frequency: 1980.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1851.4252	2305.95	3621.8648	10685.0314	20037.3481	26762.8719
1	10521.7008	12569.46	12827.8738	13579.486	18954.4525	25756.126	31786.5949
2	10681.7523	12766.5324	13243.8603	13839.8283	19174.522	26579.8702	32588.7948
3	10951.5913	12958.9481	13164.7776	14013.9804	19192.4851	27027.0065	34225.9363
4	11072.8598	13118.6281	13278.473	14652.2225	20092.5692	29275.9709	36235.0917
5	13915.856	15568.9775	15932.9498	16880.9675	24029.3242	32759.483	40067.7214
6	15798.9126	17336.8287	17768.7654	18875.8191	25918.8939	35103.4133	41847.3956

Table 79: Core Frequency: 1980.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1736.5124	2169.5926	3535.9815	11757.4046	22582.1407	31300.6526
1	9911.8434	11811.5621	11889.6555	13030.5891	19225.5817	28177.3979	35141.384
2	10132.755	12110.2797	12208.5343	13330.8494	19508.3395	28019.048	36784.5352
3	10313.2753	12314.0429	12327.9842	13479.2647	19710.0554	30754.1685	38483.1377
4	10732.3558	12616.5223	12894.1952	13930.4112	21029.9397	31719.517	40288.9402
5	13053.5103	14565.708	15007.8778	16199.7673	24783.5903	36101.2632	44098.7014
6	14758.9952	16237.4803	16667.692	18035.6325	26600.7732	37335.4074	45983.4447

Table 80: Core Frequency: 1980.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1334.9367	1683.796	3019.9544	38919.3503	90775.6839	118824.6585
1	7123.502	8530.9553	8908.8393	9577.0495	42113.1922	89929.8842	122971.37
2	7300.2798	8670.4906	8885.6412	9857.8142	43438.2692	92784.3982	125747.0211
3	7432.0378	8809.2231	9093.4696	10032.3361	44771.0502	90213.2363	126052.3196
4	7679.8007	9070.46	9411.7668	10701.8435	45997.6325	95248.1079	124544.8672
5	9462.5207	10664.0783	11525.8978	13005.2711	50470.4712	96180.3577	128084.1946
6	10812.1974	11960.7662	12554.0682	14176.1749	50550.8503	102548.1715	130698.3436

Table 81: Core Frequency: 1980.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1619.3156	2128.6752	3421.3036	9589.0187	18211.5202	24435.9332
1	9744.2594	11643.6887	11833.8535	12503.1705	17115.1963	23528.2668	29014.7238
2	9858.0249	11653.9457	11998.3962	12599.7683	17317.6035	24360.3277	29948.1411
3	10068.3292	11879.8987	12078.2797	13028.3203	17857.8218	25597.6844	32045.0278
4	10386.8994	12151.8676	12342.1623	13468.9145	18858.8679	27668.0087	33822.6429
5	13290.6372	14682.8248	15030.3307	16022.9263	22266.8446	30748.1485	37393.4245
6	14858.6002	16416.6196	16628.5713	17749.5321	23944.4575	32744.8732	39131.3589

Table 82: Core Frequency: 1860.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1664.6249	2129.8838	3384.0411	9589.2995	17685.1665	24273.6663
1	9641.1883	11409.4277	11654.8962	12268.2326	17051.3942	23744.1042	28940.561
2	9791.0467	11748.7862	11807.8941	12547.2083	17138.8266	23874.6512	29730.3261
3	9865.0218	11765.7281	12037.8867	12743.912	17413.8579	25373.4283	31383.113
4	10173.2785	11958.1774	12418.4211	13202.0215	18572.0373	26736.1763	33303.6174
5	13053.6239	14541.0835	14627.0916	15868.1953	22065.6494	30768.7509	36910.0578
6	14775.0835	16289.264	16437.6735	17467.0445	23693.3867	32109.132	38637.2471

Table 83: Core Frequency: 1860.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1562.9719	2009.8521	3264.5474	10704.8457	21105.0624	27764.9941
1	8895.0277	10581.3523	10903.3126	11796.5337	17302.2868	24934.579	31708.0073
2	9106.6059	10887.4289	10983.3969	11989.3739	17642.179	26468.854	33366.7424
3	9299.9147	10947.4165	11228.0039	12277.452	17860.9058	27338.5434	35047.0528
4	9590.4904	11415.2	11637.4689	12709.4233	19304.2075	29648.2445	36715.3337
5	12197.1431	13567.1832	14030.1122	15181.8759	22713.837	32516.9579	40324.8096
6	13801.8967	15168.0323	15610.3631	16811.8186	24442.3633	34642.1056	41969.4576

Table 84: Core Frequency: 1860.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1208.0464	1740.7272	2849.2041	37499.4894	77026.2238	107369.8683
1	6414.5898	7443.6939	7932.0899	8999.9345	38696.2507	85365.5299	110417.5344
2	6609.0037	8018.3689	8158.5916	9194.1406	40187.0951	83871.5395	111390.7545
3	6910.3442	7947.6481	8362.1057	9195.5406	41190.9279	87847.1449	111757.1112
4	7112.0779	8362.8128	8545.8753	9358.4703	42237.7849	86431.5512	114020.55
5	9063.1934	10146.5541	10376.3631	11295.0378	44777.8258	91706.3978	117905.0536
6	10242.7939	11171.7481	11534.9355	12676.7829	46619.5752	90082.3657	119383.0564

Table 85: Core Frequency: 1860.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1512.6254	2015.9988	2953.1991	8691.505	16120.549	21803.6108
1	8641.521	10165.0438	10598.1394	11197.0728	15466.11	21364.1992	25958.7532
2	8679.207	10377.5695	10622.6958	11131.8045	15734.2334	21324.7564	27134.8175
3	8833.4076	10591.6231	11056.6062	11273.2428	15781.4253	23198.3122	28684.049
4	9083.2554	10833.5319	11194.2609	11718.8921	17279.8786	24646.1933	30494.1402
5	12341.4209	13736.5842	14200.3458	14979.161	20628.3698	28224.177	33737.6561
6	14031.4601	15388.1007	15666.2395	16548.8721	22303.3378	29631.066	35337.8202

Table 86: Core Frequency: 1740.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1517.1307	2037.0557	2992.1109	8859.4733	16670.3664	21796.3513
1	8613.6869	10291.7527	10508.984	11242.8494	15479.5696	21299.8734	25899.7352
2	8697.4715	10505.8436	10694.6233	11202.532	15716.9776	21711.6638	27072.0464
3	8909.0429	10549.3376	10922.6327	11257.4909	15782.4955	22829.963	28694.0829
4	9043.1841	10773.0935	11083.507	11823.0344	17211.7679	24829.841	30432.0993
5	12296.595	13720.4756	13829.1948	14894.6968	20607.2319	27982.302	33602.3916
6	13924.1191	15270.5455	15554.1967	16379.1755	22183.1635	29761.6514	35151.8133

Table 87: Core Frequency: 1740.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1407.6338	1912.3593	3017.6749	9917.69	18631.6574	25521.6364
1	8121.3753	9612.1183	9968.8883	11051.0688	16191.239	23164.874	29438.7924
2	8297.1535	9935.7618	10346.4101	11007.7116	16163.1139	23801.7852	30925.7532
3	8496.8086	10044.9748	10243.4658	11205.141	16594.6561	25949.4843	32306.4907
4	8651.1933	10209.3315	10440.5889	11418.914	18290.1717	27033.5863	33881.308
5	11475.974	12769.7794	13148.0317	14360.8654	21452.2432	30655.0636	37212.8186
6	12973.8536	14298.3253	14674.0676	15917.9727	23133.9504	31809.1663	38805.4907

Table 88: Core Frequency: 1740.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1051.8421	1480.7182	2382.1094	30368.7996	69803.8689	89798.4174
1	5755.5633	6897.4179	7246.8791	8058.342	32871.2923	70497.2862	93051.4933
2	5838.0624	7001.6592	7321.6627	8161.8547	34099.4943	74058.9741	94171.4563
3	5944.0361	6989.9933	7457.0135	8368.8701	35322.0556	72672.0157	95053.9797
4	6017.1637	7240.8806	7687.0813	8612.557	36213.1782	76249.524	96442.8262
5	8259.5025	9368.0831	9869.788	11013.9056	39022.1875	75453.1619	98644.1841
6	9591.6079	10658.9464	11109.1948	12254.7091	41558.6076	77567.2399	100370.4318

Table 89: Core Frequency: 1740.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1345.5306	1936.9915	2900.5811	8381.5449	15649.6635	20670.1245
1	8240.5646	9800.0534	10088.0576	10524.4006	14498.4307	19867.9929	24505.0716
2	8331.447	9895.4096	10254.7189	10663.7201	14816.9859	21017.6646	26101.541
3	8428.9621	9978.1917	10302.255	10948.741	15353.1744	22291.5699	27675.9327
4	8808.6855	10159.1337	10560.9994	11350.746	17008.5163	24221.4937	29433.6784
5	12155.4792	13430.3413	13899.6712	14621.7352	20343.6549	27260.8583	32757.6773
6	13714.6669	15013.2488	15390.904	16363.0353	21939.4486	29147.7478	34358.6944

Table 90: Core Frequency: 1620.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1350.9975	1907.8755	2874.9247	8399.7901	15270.2011	20668.1376
1	8161.5202	9674.9057	10102.3288	10512.3643	14705.4325	20377.9216	24618.7579
2	8388.1999	9946.6626	10333.1069	10610.9508	14899.1389	20660.0105	26209.2636
3	8520.767	10024.8213	10288.3443	10868.358	15306.9087	22434.7061	27659.5511
4	8848.9147	10193.8217	10660.8471	11411.5898	17051.4297	24003.4338	29773.6727
5	12450.626	13644.8778	13853.804	14754.2123	20105.4061	27320.526	32477.6793
6	13795.4527	15052.1877	15554.132	16378.7718	21925.6809	28905.4212	34333.795

Table 91: Core Frequency: 1620.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1322.3561	1801.0782	2828.7772	9329.6323	18268.0651	23908.3827
1	7449.3515	8863.9461	9329.7861	10060.1395	15086.8015	21554.7027	28303.3331
2	7847.4846	9285.1833	9578.6994	10289.2757	14988.6778	23091.9363	28880.8133
3	7755.8095	9177.3713	9687.5046	10569.275	15854.7324	24248.6035	30729.2215
4	8310.7321	9631.9042	10014.4538	11178.1314	17439.7763	26387.4161	32665.0673
5	11895.4944	13032.0146	13398.7007	14393.4155	20483.4544	28924.5856	35093.1385
6	12989.379	14466.523	14918.8513	15964.61	22201.1788	31094.5152	37068.8274

Table 92: Core Frequency: 1620.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	916.7685	1345.315	2161.8162	28173.1066	61168.4349	85679.7306
1	5217.7577	6169.8585	6501.5792	7370.8366	30905.5752	67141.5076	88561.694
2	5374.254	6355.1841	6776.0857	7606.5345	32176.9845	65520.3931	89270.9927
3	5497.4623	6486.1996	6914.0972	7659.53	33144.5738	69349.3334	90043.8315
4	5896.0495	6793.2115	7246.0608	8063.0485	34114.8146	68118.8989	91134.5309
5	8213.6441	9155.2533	9477.301	10362.9848	36410.1501	73286.1882	92732.5783
6	9357.4584	10305.7774	10751.5266	11644.7379	38356.0911	72203.0799	94115.3637

Table 93: Core Frequency: 1620.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1400.4917	1973.6701	2839.3317	8039.3101	14467.4723	19553.1615
1	7820.6535	9327.9151	9774.4031	9940.7333	13895.8985	19457.2639	23540.1371
2	8028.3837	9620.8456	9905.3225	10448.9399	14094.3164	20556.6599	25728.0327
3	8180.2522	9861.7417	10107.1565	10716.372	15042.024	22019.504	27443.1307
4	9270.4024	10500.0496	10958.2251	11759.515	16694.2318	23575.3454	28314.016
5	12526.3143	13799.2362	14477.3333	15179.9621	20138.8948	26965.4723	31850.1645
6	14266.1241	15598.3832	15981.7489	16693.7877	21686.8313	28864.6754	33772.8472

Table 94: Core Frequency: 1500.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1379.9809	1960.7017	2804.6671	8008.1089	14706.6429	19635.0862
1	8025.0031	9458.7543	10012.7214	10312.4581	14043.2991	19071.935	23415.7831
2	7887.914	9408.6333	9908.21	10246.2994	13995.621	20073.8407	25125.2678
3	8085.8359	9517.5903	9817.2442	10321.8214	14927.4928	21578.6249	26752.2905
4	9248.7581	10657.7559	11219.9815	11852.0185	16821.427	23576.1634	28373.3985
5	12573.106	13872.8769	14454.353	15123.8993	20104.8496	26775.3369	31813.7518
6	14262.0168	15581.6082	15895.0549	16782.922	21818.3454	29198.7517	33776.7723

Table 95: Core Frequency: 1500.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1318.7909	1825.8966	2749.2453	8956.6955	16709.3213	22905.9971
1	6888.4742	8216.8659	8746.2275	9436.3567	14306.3102	21074.8215	26678.9081
2	7032.2561	8428.5326	8782.866	9544.6773	14293.8691	22093.8731	28525.2663
3	7586.1333	8985.9146	9251.2526	9921.117	15677.9994	23879.512	29520.8869
4	8062.4145	9392.6206	9897.4034	10960.726	17334.5604	24964.5704	31317.7444
5	11400.5431	12666.6961	13401.244	14447.0421	21077.6348	29403.8055	34763.6313
6	12977.2853	14086.1395	14792.752	15791.6204	22141.8213	29800.7304	36102.5229

Table 96: Core Frequency: 1500.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	912.9564	1360.6906	2090.1613	26061.0369	60224.0678	82547.3351
1	5003.0269	5845.627	6223.9944	6991.0157	28651.439	60868.974	85003.8001
2	5045.4259	6000.9747	6507.5829	7124.061	29807.1684	64426.6317	85861.7611
3	5157.735	6097.1277	6380.2554	7132.8912	31162.6696	63617.4869	86576.6154
4	5849.3263	6639.2087	6974.1161	7977.5055	32309.3026	67153.286	87490.9455
5	8236.0917	8959.1214	9412.0265	10442.8747	34939.6036	67523.3367	89448.0001
6	9183.5693	10014.6518	10659.4768	11728.0528	36426.491	71009.1977	90468.962

Table 97: Core Frequency: 1500.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1425.3963	1910.4421	2796.3779	7786.9265	14296.4289	18716.3938
1	7397.8034	8962.2736	9288.1504	9524.3611	13304.3131	18459.0574	23103.8599
2	7872.5743	9599.4712	9806.5746	9878.1969	13487.4503	19868.2685	24230.6387
3	7644.2317	9183.2144	9639.4346	10068.386	15120.9314	21441.7076	26053.9277
4	9341.3126	10748.5384	10895.4408	11907.9375	16995.6594	23499.3338	28574.0352
5	13219.6321	14441.5005	14777.1609	15304.4411	20564.0018	26498.1385	31316.3474
6	14716.3879	15995.1504	16364.9351	17011.8794	22224.6725	28559.1661	33820.5706

Table 98: Core Frequency: 1380.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1437.2591	1943.84	2820.5065	7951.8507	14450.028	19070.1222
1	7557.7103	9055.6328	9294.0488	9626.6292	13445.4439	18549.1489	22895.5259
2	7607.9558	9150.9926	9488.4072	9813.9556	13530.4404	19707.1592	24397.1472
3	7770.0284	9377.4627	9883.892	10483.8381	15416.4965	21725.6948	26083.8686
4	9349.967	10737.2235	10957.6166	11995.9665	16891.0894	23089.6696	27910.467
5	12960.0143	14328.919	14873.753	15573.1148	20639.2271	27331.1641	31678.7867
6	14728.9755	16003.9956	16316.4756	17035.3578	22085.2352	28140.7535	32770.6607

Table 99: Core Frequency: 1380.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1318.1252	1845.49	2741.8389	8877.492	16982.9125	21985.7284
1	6628.5743	7947.35	8373.7253	9074.1383	13688.3303	19891.9587	25667.932
2	6719.4867	8047.5013	8416.5914	9072.7401	14052.2561	21881.4113	27543.0214
3	7165.917	8634.0377	8919.6814	9544.1344	15647.6445	22879.0699	28609.3975
4	8319.6155	9505.6758	10017.9013	10960.0645	17182.3889	24913.1891	30508.4697
5	11924.6232	13344.2318	13985.2883	14849.7562	20619.2029	28089.554	33515.1085
6	13082.7136	14229.8399	14676.9313	15751.0178	21906.012	30262.967	35998.5533

Table 100: Core Frequency: 1380.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	893.2809	1304.4614	1983.0264	24603.2031	54105.0831	76920.4027
1	4844.7947	5842.4019	6062.2099	6865.5653	28251.7565	58243.6601	78471.7121
2	4843.9216	5905.5941	6181.3568	6868.8396	29437.8738	60262.7563	78374.8391
3	4851.5421	5757.8981	6079.2175	6927.3392	30310.3034	62480.9947	82295.3699
4	5880.5022	6701.41	7082.8123	7937.2994	30855.4667	61311.7239	84240.2579
5	8217.3	9105.6911	9352.7415	10137.7213	33156.2516	65241.7117	86564.9055
6	9310.4718	10155.0921	10431.4778	11418.6884	34618.2421	65077.0763	87603.7542

Table 101: Core Frequency: 1380.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1457.3276	1979.9163	2899.6294	7660.0888	13799.9719	18510.7844
1	6987.0943	8467.3386	8940.1203	9355.4565	13157.7358	18426.1271	23099.6253
2	7591.887	9092.0594	9348.8594	9417.9046	13718.0928	19752.6435	24450.5073
3	7832.9138	9228.7609	9763.1391	10434.2087	15435.5027	21439.2526	26384.6287
4	10027.1299	11608.7283	11994.6167	12849.1463	17577.9651	23477.662	28046.9099
5	13516.0533	15077.8496	15366.173	16051.8368	20954.07	27199.8972	31915.7127
6	15935.7878	17564.9771	17611.8777	18048.369	22821.588	29215.6775	33645.8922

Table 102: Core Frequency: 1260.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1448.4413	1973.8729	2864.993	7671.6047	13795.5023	18538.9087
1	7118.088	8693.4028	9296.7392	9633.5084	13378.8677	18400.3083	22726.3851
2	7249.3686	8769.809	9171.962	9487.1958	13678.542	19722.8492	24381.8552
3	7822.9364	9196.1167	9726.1861	10429.3601	15577.1172	21731.0044	26669.6224
4	10079.4108	11325.8489	11754.9069	12395.6533	17420.3055	23449.9953	28030.408
5	13476.779	14796.7177	15333.6305	16162.0888	21304.1292	27589.8187	32139.5774
6	15498.8528	16757.6562	17011.518	17662.1801	22508.4729	28871.0643	33405.2272

Table 103: Core Frequency: 1260.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1310.4787	1804.4403	2746.1738	8252.9426	15332.647	21161.9218
1	6431.9414	7869.7594	8264.1136	8905.4206	13874.8423	20081.0638	25199.6585
2	6477.7909	7996.2293	8342.962	8842.8543	13941.727	21183.7049	26399.0349
3	7066.41	8281.923	8777.5247	9735.0752	15796.8771	23675.4906	29195.0502
4	8826.4206	9987.2873	10398.1763	11409.3708	17128.0577	24658.2364	29957.3451
5	11935.1457	13108.8774	13683.1655	14893.3526	21114.3264	29264.8435	34096.8894
6	13616.1213	14846.7937	15227.4172	16122.1609	21792.9743	29497.1625	35820.3999

Table 104: Core Frequency: 1260.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	931.0584	1366.5477	2110.6619	23957.379	53900.9348	72971.7559
1	4726.0046	5668.3675	5875.7806	6294.2822	26395.183	54388.381	75399.7688
2	4774.5875	5803.9722	5947.9596	6670.5942	28600.7461	59064.7055	74591.0659
3	5126.2375	6061.7175	6374.7511	7025.5862	29214.5248	57380.9669	78581.6923
4	6284.9055	7206.8304	7520.9726	8077.0815	29866.5566	59977.8222	79009.4206
5	8794.4148	9735.4398	10114.2546	10985.8635	33265.9611	60626.0545	79658.3388
6	9803.4362	10710.8987	11139.9818	11985.9213	34271.8194	64922.1618	81941.7578

Table 105: Core Frequency: 1260.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1451.6215	2024.1098	3043.647	7660.8347	13864.0548	18515.3844
1	6952.8282	8442.4972	8841.1667	9160.6324	13056.7906	18631.7235	23260.3821
2	7485.1515	9205.5553	9305.6211	9664.693	14447.8291	20278.9903	24987.9345
3	8564.5344	9976.6484	10491.4619	11270.7366	16185.908	22305.838	26943.8816
4	10760.5129	12272.6124	13005.301	13969.4438	18954.0374	24603.5768	28952.3289
5	14674.2837	16031.2233	16554.5005	17185.5524	22116.2636	28379.4201	33034.3358
6	17202.8273	18920.7042	18905.5741	19215.9099	23929.4722	30325.835	34781.5998

Table 106: Core Frequency: 1140.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1448.4853	2020.3011	3029.4979	7687.5135	13915.7935	18566.5809
1	6978.8303	8481.0454	8886.2964	9225.6523	13042.7123	18637.6295	23186.6352
2	7418.6725	9202.4108	9491.2356	9908.3944	14496.7378	20367.7214	24985.1213
3	8524.0314	9959.4553	10491.6003	11205.2671	16189.7928	22225.7733	26835.904
4	10778.2495	12189.5306	12892.3271	13902.2649	18985.5643	24677.7626	29043.2877
5	14661.495	16092.8029	16546.603	17140.679	22051.9694	28400.8403	33137.1762
6	17336.2768	18886.5975	18697.7867	19143.8145	24036.8491	30301.7741	34657.655

Table 107: Core Frequency: 1140.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1424.9842	1943.1158	2906.5756	8392.8593	15646.1242	20159.805
1	6344.3042	7706.4534	7995.1176	8600.4883	12630.0062	19512.8742	24401.135
2	6362.8816	7750.3466	8192.5404	8667.3129	14283.9653	22020.7779	26921.1122
3	7755.491	9089.6742	9478.8558	10274.1223	15565.1902	22918.0402	28110.6606
4	9383.7987	10702.3182	11142.7133	12117.059	17668.7783	25652.5916	30631.1348
5	12908.5097	14253.7839	14694.9408	15467.136	20598.641	28093.8725	33875.0739
6	14712.4385	16178.3813	16705.0432	17358.0757	22501.2376	29881.9829	35065.7993

Table 108: Core Frequency: 1140.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	998.5232	1381.2391	2146.1142	23579.3485	50861.3457	69167.5548
1	4362.3831	5458.5392	5687.6839	6274.5382	25836.6663	54936.8447	72666.6182
2	4668.6299	5724.4123	5876.3986	6352.4035	27751.3556	55057.2695	73675.3067
3	5333.2929	6340.8076	6768.1376	7451.7325	28079.378	57308.9512	75031.9661
4	6889.9782	7890.7455	8233.4372	8863.7204	30018.0626	57711.0337	75515.9838
5	9258.649	10280.7677	10619.7338	11294.9577	31743.4849	61032.8916	79232.6109
6	10670.8105	11696.6089	12004.5463	12762.0686	34088.696	61125.6254	78804.2667

Table 109: Core Frequency: 1140.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1598.674	2166.8643	3229.2703	7896.1934	14231.1734	18771.9758
1	7112.8737	8593.4203	8928.1026	9377.433	13042.4811	19048.6456	23664.3174
2	7324.3926	8829.3877	9379.8228	10088.0009	15055.411	21333.4015	26262.0326
3	9949.214	11614.4351	11856.15	12507.3067	17241.2083	23472.7732	27894.4776
4	11638.8453	13118.6199	13640.0999	14441.9528	19285.4675	25922.4176	30799.2677
5	16718.4203	17869.4968	18240.4609	18857.9755	23573.9013	30029.1726	34441.2912
6	18567.6634	20321.9792	20998.4571	21930.6016	26053.0929	32149.8405	36740.9635

Table 110: Core Frequency: 1020.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1598.5329	2120.9923	3194.9404	7802.7206	14241.5026	18991.3242
1	7166.9209	8703.3615	9048.0363	9297.8754	13064.8412	19033.0136	23582.6793
2	7307.2241	8770.3677	9371.4226	10068.9652	14857.1614	21166.3164	26161.3414
3	9868.4424	11535.9511	12157.1438	12605.8779	17242.3863	23507.1754	27926.0573
4	11600.0653	13076.7787	13585.7701	14371.0536	19161.4878	25818.2463	30617.2475
5	17020.0272	18189.2305	18365.9429	18883.3094	23634.6413	30039.7984	34348.3915
6	18134.3508	20079.1311	20581.1139	21772.0698	26689.4906	32437.894	36724.0623

Table 111: Core Frequency: 1020.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1472.8688	2014.1285	3035.5163	8404.3375	15145.7615	20175.619
1	6348.5335	7777.1654	8032.2342	8666.2399	12645.0194	20003.9978	24876.8517
2	6657.4934	8101.5628	8617.2388	9485.9532	15259.7637	22534.5951	27163.4816
3	8540.9235	9936.5371	10384.1895	11208.5942	16157.5187	23591.5327	29018.7327
4	10438.4536	11906.4584	12449.5662	13446.1885	18927.49	25691.3958	30874.9239
5	14262.6265	15665.7929	16112.8918	16865.6906	22080.5718	29832.1053	35680.8252
6	16212.7724	17584.895	17993.2193	18876.5795	23638.6811	30815.9251	36882.4938

Table 112: Core Frequency: 1020.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1102.6628	1386.6602	2166.3844	22336.9088	50841.4598	68778.6028
1	4548.3136	5549.2005	5790.7483	6298.6003	26128.7136	52931.7787	72069.3752
2	4830.1224	5780.2446	6041.2375	6804.7784	26192.933	54506.0353	72461.4905
3	6073.9255	7155.4743	7542.5382	8287.5441	28717.9469	55608.5451	74708.8621
4	7604.4684	8530.8864	8787.288	9513.0115	28660.0095	57419.0574	75414.4086
5	10370.0835	11435.1954	11774.8714	12489.0691	32653.0664	59920.1562	78841.467
6	11291.7607	12084.388	12671.842	13655.4516	33169.6985	61902.21	80318.9446

Table 113: Core Frequency: 1020.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1623.1128	2205.5343	3281.577	7716.9307	14125.681	18592.0568
1	6911.0852	8417.5121	8898.7749	9349.9544	13433.8183	19660.854	24380.921
2	8333.1243	10040.7245	10794.5532	11726.0794	16671.7161	22519.6695	26745.6062
3	10537.6577	12054.2608	12660.0468	13426.5779	18186.6142	24771.9464	29021.2374
4	13117.5125	14959.0417	15379.9384	17041.7593	21408.9425	27572.1993	31630.7899
5	17967.4772	19519.0104	20041.5246	20647.8182	25586.864	32630.8869	37530.7843
6	20937.6851	22033.937	22390.984	22849.8005	27488.826	34343.8656	39498.3086

Table 114: Core Frequency: 900.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1622.3545	2255.8	3318.4268	7818.1758	14362.6515	19063.7512
1	7070.624	8542.9966	9051.4247	9464.6201	13501.16	19664.4126	24253.803
2	8123.2311	9620.4251	10212.4894	10940.5528	15807.9896	22373.8375	27183.7496
3	11093.5134	12726.9561	12968.9451	13574.8231	18263.206	24804.9585	29055.8141
4	12890.2584	14424.3836	14932.7124	16063.976	21099.4837	27847.9546	32465.6026
5	18304.9161	19628.3014	19577.3162	20670.6744	25139.9369	32033.4251	37035.8233
6	21317.8816	22965.6159	22480.6786	23042.7106	27528.0999	34239.8728	38837.465

Table 115: Core Frequency: 900.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1535.0917	2047.7942	3155.2715	8463.0502	15539.3766	20580.3852
1	6359.2936	7850.5425	8115.5522	8878.7743	13235.0235	20534.1222	25580.9601
2	7468.0171	9003.7132	9436.1884	10338.4829	15479.6046	23168.0969	28411.7788
3	9654.5878	11117.4458	11591.1136	12422.3221	17231.0777	24389.3195	29706.9994
4	11715.2824	13265.9573	13773.6294	14716.5281	20238.1146	27480.82	32175.6599
5	16047.695	17583.6732	18015.4989	18851.9924	23909.9664	31488.8327	37465.031
6	18219.6514	19722.8577	20161.233	21043.5127	25743.5436	33180.3863	39203.4351

Table 116: Core Frequency: 900.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1263.599	1564.8388	2398.7025	22783.1935	49079.3954	68214.8554
1	4457.5423	5380.7006	5624.1541	6237.0042	24902.9466	52265.7937	69929.279
2	5198.9904	6423.6987	6769.4634	7618.6547	27296.5717	53621.4604	72729.3415
3	6813.3453	7994.2071	8439.0119	9204.5635	29152.3082	57349.542	72990.3738
4	7747.2706	8784.8327	9297.1415	10348.4658	29488.1259	55810.5741	75012.3365
5	11492.7645	12675.0371	13020.6877	13840.9421	33164.4469	61439.7132	79149.7577
6	13118.7036	14262.2699	14664.7527	15501.8923	35093.7816	62139.5248	77729.5731

Table 117: Core Frequency: 900.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1645.1093	2379.9441	3480.0101	7821.009	14369.6352	18726.5378
1	6778.0687	8452.3721	8983.683	9616.993	14282.5772	20627.7602	25433.5584
2	9557.1733	11326.6729	12204.1393	13174.6067	17491.275	23766.998	27849.9881
3	11858.9502	13421.1704	14141.3591	14924.3714	19527.5421	26548.3879	31181.0149
4	15527.6818	17229.9542	17314.3239	17933.082	22645.5475	29372.2915	33564.5966
5	20102.9982	22034.5743	23131.1859	24342.1565	29401.9922	35065.9866	39226.7731
6	22889.9571	24435.723	24808.0867	26065.7792	31300.2523	38635.4087	42375.1406

Table 118: Core Frequency: 780.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1624.8872	2365.0668	3482.6934	7795.5283	14213.2296	18635.1593
1	6715.23	8490.0435	9171.8567	9896.6641	14690.0766	21203.5561	25749.9891
2	9422.2733	10870.3842	11612.6879	12340.7351	17011.0939	23658.3954	27847.0401
3	11822.8534	13634.6953	14524.0495	15638.3009	20626.9868	27247.476	31004.4894
4	14734.7796	16332.2685	16459.5646	17881.1622	22380.6709	29495.039	34308.7116
5	21540.8111	22911.4238	22330.2483	23397.8313	27705.0036	34625.5193	39439.693
6	23833.8522	26007.8918	26052.6035	26008.9928	30387.9931	37057.0911	41756.2999

Table 119: Core Frequency: 780.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1532.4363	2134.2204	3298.4097	8317.6898	15291.5576	20194.1814
1	6301.7567	7814.8391	8186.258	9189.0884	14060.3307	21649.454	26867.8722
2	8627.4542	10230.0715	10766.8893	11707.8294	16324.2351	23596.3849	28713.1847
3	10980.6659	12500.3094	13037.9381	14086.014	18896.2267	26770.0908	32231.7063
4	13487.9252	14988.5541	15561.5943	16512.1996	21041.6741	28200.4374	34063.907
5	18487.519	20145.7093	20661.6791	21529.1805	26121.0443	32610.9027	38223.2277
6	20889.731	22534.291	23272.5669	24173.7123	28641.7416	35113.9769	40098.0317

Table 120: Core Frequency: 780.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1350.993	1780.8364	2512.6448	21493.0596	47260.2819	65555.4252
1	4194.2936	5480.5761	6025.6862	6859.6437	26254.1809	52129.7403	71145.146
2	6027.2137	7367.3338	7814.9428	8747.138	28370.0763	56315.2072	73310.6358
3	7304.4028	8449.8603	8739.5675	9788.4876	28849.4943	54642.5158	73764.2437
4	9366.3622	10687.4693	11186.0957	12117.1272	31535.6984	59391.3509	76562.9159
5	13101.7139	14401.0704	14772.0447	15722.784	34708.9787	61450.7782	78501.5763
6	13582.4113	14957.1144	15648.3902	16818.0415	35847.5689	63371.9254	81336.7161

Table 121: Core Frequency: 780.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1836.785	2548.8003	3825.9525	8012.8379	14416.665	18949.1364
1	7545.0561	9381.7419	10250.325	11305.169	16110.0844	22800.9904	27238.5987
2	10953.184	12631.2258	13339.7764	14179.5116	18702.6105	25484.2104	29782.5566
3	14075.3699	16124.2771	17098.5113	18393.01	22792.9313	29137.0945	33288.4039
4	17047.9608	18710.5296	19402.0622	20451.9512	25631.127	33010.3987	37572.1641
5	23823.2065	25371.3496	26000.6072	26595.9094	31704.5001	39310.7787	44090.2346
6	26827.9353	28476.1483	28660.2339	29687.1346	35053.8541	42838.5698	46493.3662

Table 122: Core Frequency: 660.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1900.3927	2665.9178	3860.7565	8241.5384	15074.4853	19356.6781
1	7740.3723	9459.6529	10137.9926	11102.0332	15709.9983	22257.2468	26472.1318
2	10641.6328	12432.6831	13349.1756	14440.0949	19261.6448	26292.3406	30243.7561
3	13966.3611	15657.9418	16362.0536	17223.1012	21840.9141	28770.3635	33531.9123
4	17894.438	20052.238	19672.5595	20768.0298	25240.508	32097.7645	36547.136
5	23534.1921	25927.7897	27178.5886	28496.3387	32009.3479	38348.5288	42823.8205
6	26463.394	28518.8237	29630.0579	31145.985	35921.9245	41415.7041	45910.5589

Table 123: Core Frequency: 660.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1692.0094	2317.4837	3586.9413	8375.7705	15437.04	20612.2111
1	7181.8732	8858.4757	9458.5746	10660.3635	15580.7267	22939.486	27645.2234
2	10011.1458	11669.4465	12267.6937	13399.4416	17732.8877	25109.7021	30846.608
3	12980.2937	14671.7982	15325.5375	16343.1453	20720.781	27506.9838	32582.6537
4	15687.6426	17442.7354	18064.6175	19263.1644	23989.221	31798.8054	35936.7496
5	21592.3273	23204.3621	23763.327	25065.728	29595.7298	37247.0254	41567.7901
6	24453.9697	26081.4013	26657.0187	27919.15	32596.0259	40127.6605	43996.2479

Table 124: Core Frequency: 660.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1464.4821	1905.76	2831.8552	22518.9167	48377.7636	67314.9871
1	4956.2488	6439.683	6883.824	7873.8618	27389.6494	54896.958	69144.3389
2	6310.6135	7661.8359	8285.9802	9302.7877	28148.1861	53720.1324	72836.5401
3	8812.986	10238.6017	10750.3106	11733.3472	31115.3303	58753.051	75844.8111
4	11067.0636	12439.5558	12832.6374	13801.5024	33216.6455	59469.504	75983.4459
5	13836.2798	15406.3673	16038.1183	17197.2563	35955.065	63225.8029	81066.3382
6	17052.3547	18407.2373	18953.5642	20012.3282	39114.554	65458.0745	84405.5456

Table 125: Core Frequency: 660.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	2050.1319	2926.7059	4300.1842	8970.1721	15468.9617	20128.9816
1	9355.1014	11183.8598	11958.1183	12959.3296	18047.0718	24313.8382	28797.0445
2	12763.6746	15024.5793	16109.0089	17334.6233	22757.6676	29003.7242	32939.9812
3	16624.1222	18523.2298	19251.1513	20243.4084	25763.929	32899.0894	37970.1702
4	20982.3115	22542.4211	23187.933	24181.0665	29306.3731	36841.9157	42154.2673
5	28873.1791	30237.6801	30902.3801	31678.5948	37647.6	45422.0318	49144.0645
6	32050.8258	33848.5523	34446.6469	36291.8494	42672.6744	47847.1982	51881.2945

Table 126: Core Frequency: 540.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1980.4177	2893.5848	4249.7605	8920.9345	14860.2552	19480.4548
1	9251.2873	11348.8732	12364.0782	13565.2026	18870.0557	24996.7574	28935.1421
2	12905.9274	14901.7736	15665.5761	16617.0725	21652.4699	28519.7016	33281.6079
3	17700.8149	19534.5711	19663.8662	20582.8397	25551.3261	32069.7617	36818.0076
4	20957.8651	23441.2267	24267.1793	25566.5908	29618.4231	36147.8575	40822.5758
5	28088.1892	30899.6795	31895.3479	34081.0752	37437.3454	43570.4856	48263.2857
6	31950.242	34980.6956	36516.4101	36519.8043	40482.2946	46652.7507	52114.9801

Table 127: Core Frequency: 540.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1947.5996	2661.9068	4011.0746	8716.6606	16058.7125	20824.4087
1	8596.3274	10487.1551	11172.5242	12301.3768	16565.6367	24248.3238	29900.0778
2	12241.7085	14174.2304	14903.696	15918.3163	20214.3943	27076.5728	32108.9085
3	15535.6516	17494.0761	18227.0152	19502.5618	24025.6499	31725.3774	35874.6451
4	19090.8156	20928.5621	21582.6956	22936.6957	27380.2789	34927.1451	40236.6929
5	26217.8016	27985.9724	28610.8294	30116.8427	34587.1662	42034.6662	45929.4991
6	29623.0072	31329.8617	32200.8352	33613.2648	38388.6431	44710.2026	48918.3509

Table 128: Core Frequency: 540.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1567.5038	2087.5085	3045.0083	22634.4965	49821.3732	62369.3715
1	5446.3664	6886.8929	7545.9631	8578.9076	27286.9257	52643.8877	71577.8516
2	8204.6067	9740.3138	10306.1298	11306.7798	30424.8659	57616.8181	74866.1033
3	10803.4268	12286.2331	12829.1129	13854.5776	33046.1227	58838.9189	75951.2878
4	12106.882	13489.5925	14168.3795	15399.1562	34377.7221	61196.862	78718.4195
5	17983.3136	19433.8294	19924.9687	21012.9789	39776.7813	65843.4909	84659.1998
6	20153.5424	20471.6636	20981.2102	22497.502	41494.836	68158.0855	86145.854

Table 129: Core Frequency: 540.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	2378.3588	3505.9492	4929.9911	10521.9903	16297.1114	21335.2689
1	11583.1019	13876.2554	14880.8384	16036.3581	21944.8145	28526.1987	33558.3846
2	17342.5164	19687.159	19913.5791	20911.632	26646.3752	33039.8555	38109.2898
3	21630.8631	24525.0007	26083.3407	26264.5663	31644.2531	37972.6374	43017.304
4	26319.4224	29284.8141	31094.4636	31416.384	36571.7754	42919.9124	48159.0283
5	36961.796	40398.4221	39118.4328	40132.0686	45696.3213	53775.8206	59423.1669
6	40470.9719	42343.2666	43984.6425	46498.2781	52248.4306	56617.3536	61534.201

Table 130: Core Frequency: 420.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	2348.9634	3457.8957	4926.0116	10529.2425	16309.3637	21257.23
1	11587.0077	13835.3961	14848.0804	16022.8506	21921.7742	28409.4929	33510.7839
2	17360.0944	19762.9017	19971.5523	20867.8244	26745.1075	33136.372	37976.7803
3	21394.7928	24220.3597	25827.7115	26828.1717	31766.4474	38128.487	43045.952
4	25685.6887	28644.3087	29804.1478	32567.4672	37194.7483	43144.6564	48062.2651
5	35397.1024	38825.0276	41135.882	41275.6392	45868.6444	51904.4125	58341.1257
6	42868.7106	43178.0316	43387.0635	44730.3711	52128.0863	58617.3187	61852.3257

Table 131: Core Frequency: 420.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	2174.467	3048.0382	4446.6824	9930.9841	16778.88	21471.8162
1	10893.9137	13126.9432	13998.7636	15434.5334	20430.589	27985.0836	32603.3354
2	15456.6563	17607.1832	18405.3979	19748.7077	24772.6471	31560.7788	37670.8385
3	20027.7669	22097.0352	22853.5682	24208.742	29250.3229	35962.4805	41999.5265
4	24484.0374	26562.8879	27247.3872	28778.8961	33837.8728	40843.2772	45255.8309
5	33436.8168	35397.021	36534.0771	38207.2443	43447.5576	48996.43	53186.9558
6	37953.0562	40218.9008	41333.8123	42628.6961	47183.0069	53209.3081	59269.103

Table 132: Core Frequency: 420.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1711.9141	2381.4524	3440.9171	22373.9839	47911.4447	66387.4642
1	7439.6065	9114.2665	9725.8724	11006.2181	29848.246	57015.0518	73660.8813
2	9868.9932	11310.5343	11796.3542	13208.1943	31666.4845	56584.0286	75452.2437
3	13249.2873	14940.7405	15550.9119	16820.3628	35600.8276	62465.6341	79415.4119
4	16463.0348	18150.571	18864.4379	20074.0422	38598.7736	64352.1882	82832.4234
5	21962.4119	22685.2911	23423.883	25058.2848	43725.1336	70276.9978	88034.772
6	25564.0392	27233.2799	27978.1468	29316.7993	48150.4752	73806.3779	92283.835

Table 133: Core Frequency: 420.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1747.9825	2312.4585	3497.0102	41356.4703	100379.9012	130000.6415
1	6764.4536	8459.1745	9054.5322	10278.383	48048.8922	101809.9801	139022.2296
2	9538.3704	11339.2145	11961.7755	13113.5836	51043.5711	110633.2497	142225.4937
3	12402.5539	14188.9395	14757.5388	15980.2783	54176.8669	107828.9907	144908.0088
4	15178.6412	16978.9072	17541.9534	18804.4325	56699.7453	116424.8794	148139.2058
5	20888.8165	22706.6609	23226.6557	24624.1793	62928.6897	116940.7219	154349.891
6	23662.7493	25298.0798	26143.8565	27466.8542	66040.461	123505.2165	157362.1935

Table 134: Core Frequency: 420.0MHz, Memory Frequency: 405.0MHz

6.3 Averaged Utilisations of Two Benchmark Runs

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(91.5732, 0.0)	(99.4425, 0.0115)	(100.0, 7.5)	(100.0, 59.3912)	(100.0, 85.9925)	(100.0, 91.61)
1	(40.2823, 0.0372)	(44.9483, 0.0)	(46.625, 0.0)	(49.4517, 1.5896)	(71.2628, 26.1717)	(86.0817, 52.4121)	(95.7802, 68.8691)
2	(55.4929, 0.0)	(57.9825, 0.0)	(59.7699, 0.0)	(62.4787, 1.6126)	(81.9464, 26.271)	(95.7653, 54.2508)	(99.9605, 66.4202)
3	(70.4849, 0.0)	(71.1025, 0.0)	(73.1433, 0.0)	(75.4128, 2.4955)	(92.0772, 26.2963)	(99.9053, 50.5252)	(100.0, 61.3749)
4	(86.7862, 0.0)	(84.6757, 0.0)	(86.6893, 0.1223)	(88.6999, 3.4114)	(99.7515, 25.5598)	(100.0, 47.7336)	(100.0, 57.3974)
5	(99.9864, 0.0412)	(99.134, 0.0)	(99.9319, 1.0628)	(99.9898, 3.6868)	(100.0, 21.3451)	(100.0, 40.6436)	(100.0, 50.7815)
6	(99.9976, 0.0)	(99.5649, 0.0)	(99.9362, 0.697)	(99.9795, 3.5153)	(100.0, 20.3214)	(99.9932, 39.0456)	(100.0, 48.239)

Table 135: Core Frequency: 2100.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(90.5333, 0.1333)	(99.3, 0.1)	(100.0, 9.0)	(100.0, 59.5)	(100.0, 84.5)	(100.0, 92.4955)
1	(40.9045, 0.0)	(45.0667, 0.0)	(47.0069, 0.0)	(50.1696, 1.7461)	(71.2114, 26.2394)	(88.1283, 56.2717)	(95.413, 68.8858)
2	(56.411, 0.0)	(58.3527, 0.0625)	(60.3903, 0.0)	(63.2332, 1.7477)	(81.5516, 25.991)	(96.3731, 54.5111)	(100.0, 66.2507)
3	(71.9391, 0.0)	(71.7365, 0.0)	(73.7159, 0.0)	(75.4929, 2.6021)	(91.7726, 26.0154)	(100.0, 52.59)	(100.0, 61.3344)
4	(87.1647, 0.0)	(85.1797, 0.0)	(87.1412, 0.6512)	(88.7526, 4.6394)	(99.9908, 25.5209)	(99.9724, 47.8867)	(100.0, 57.3626)
5	(100.0, 0.0)	(99.2816, 0.0)	(99.8103, 1.1117)	(99.9975, 4.4159)	(100.0, 21.2331)	(100.0, 41.767)	(100.0, 50.9184)
6	(100.0, 0.0)	(99.4448, 0.0)	(99.9066, 0.5203)	(100.0, 4.1699)	(100.0, 20.1735)	(100.0, 39.1642)	(100.0, 48.0095)

Table 136: Core Frequency: 2100.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(91.75, 0.0)	(99.4643, 0.0)	(100.0, 11.5)	(100.0, 67.5)	(100.0, 92.0)	(100.0, 96.5)
1	(40.6127, 0.0)	(44.5451, 0.0)	(46.8989, 0.0)	(49.7415, 1.9615)	(76.4188, 34.236)	(95.1864, 67.6537)	(100.0, 79.813)
2	(56.3541, 0.0)	(57.8686, 0.0)	(60.6592, 0.0)	(62.8844, 2.8621)	(85.8028, 33.9152)	(100.0, 67.0982)	(100.0, 74.8695)
3	(71.4898, 0.0)	(70.8967, 0.0)	(74.1928, 0.0)	(75.7154, 3.3417)	(96.3694, 34.2751)	(100.0, 60.8261)	(100.0, 70.2701)
4	(87.0108, 0.0)	(83.8359, 0.0)	(86.3956, 0.6023)	(89.5249, 5.6577)	(100.0, 32.3363)	(100.0, 57.4872)	(100.0, 66.2378)
5	(99.8713, 0.0117)	(99.1311, 0.0)	(99.9164, 0.5302)	(100.0, 4.0819)	(100.0, 27.545)	(100.0, 50.0621)	(100.0, 59.7792)
6	(100.0, 0.0)	(99.5084, 0.0)	(99.844, 0.7293)	(100.0, 4.6111)	(99.9906, 25.6908)	(100.0, 48.2367)	(100.0, 57.0687)

Table 137: Core Frequency: 2100.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(90.8571, 0.0)	(99.3, 0.0)	(100.0, 43.5)	(100.0, 84.9869)	(100.0, 89.782)	(100.0, 91.5042)
1	(40.8287, 0.0)	(45.2302, 0.0)	(46.7561, 0.0)	(49.5343, 7.6543)	(100.0, 80.2915)	(100.0, 86.7444)	(100.0, 88.552)
2	(56.3507, 0.0)	(57.9563, 0.0)	(59.9781, 0.0)	(62.3722, 8.7756)	(100.0, 76.4783)	(100.0, 84.8098)	(100.0, 87.6467)
3	(71.4177, 0.0)	(70.4165, 0.0)	(73.6645, 0.0)	(75.6281, 11.2741)	(100.0, 76.0814)	(100.0, 84.1985)	(100.0, 86.4934)
4	(87.8854, 0.0)	(85.1108, 0.0)	(87.2924, 2.6667)	(89.0898, 17.2386)	(100.0, 72.6832)	(100.0, 82.257)	(100.0, 85.395)
5	(100.0, 0.0)	(99.1433, 0.0)	(99.9668, 2.2449)	(99.9751, 13.8881)	(100.0, 70.0296)	(100.0, 80.9233)	(100.0, 83.6145)
6	(100.0, 0.0)	(99.3797, 0.0)	(99.8569, 3.7912)	(99.9627, 20.0947)	(100.0, 67.9082)	(100.0, 79.4059)	(100.0, 83.1715)

Table 138: Core Frequency: 2100.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(90.792, 0.0)	(99.2159, 0.0)	(99.9391, 7.4913)	(100.0, 60.0)	(100.0, 82.5)	(100.0, 91.5311)
1	(40.007, 0.0)	(44.976, 0.0)	(46.6624, 0.0)	(49.4517, 1.6053)	(71.0985, 26.1101)	(86.9922, 54.299)	(94.5555, 67.9039)
2	(54.7996, 0.0)	(57.8997, 0.0)	(59.8474, 0.0)	(62.321, 1.6041)	(81.3784, 26.0273)	(94.8493, 52.382)	(99.8115, 66.2907)
3	(70.3186, 0.0)	(71.1003, 0.0)	(72.9425, 0.0)	(75.4476, 2.5222)	(92.0427, 26.2415)	(99.9903, 51.7071)	(99.9897, 61.3852)
4	(85.9418, 0.0)	(84.4398, 0.0)	(86.0908, 0.0)	(88.3635, 2.5166)	(99.9587, 25.6271)	(99.9984, 46.7434)	(100.0, 57.4444)
5	(99.9231, 0.0)	(99.1913, 0.0)	(99.9473, 0.0)	(99.9202, 2.4451)	(100.0, 21.3451)	(100.0, 41.4666)	(100.0, 50.8699)
6	(100.0, 0.0)	(99.4818, 0.0)	(99.7897, 0.4869)	(100.0, 3.8856)	(100.0, 20.2543)	(99.9972, 38.3012)	(100.0, 48.233)

Table 139: Core Frequency: 1980.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(90.75, 0.0)	(99.5, 0.0)	(100.0, 8.5)	(100.0, 59.5)	(100.0, 86.0)	(100.0, 91.0)
1	(40.8019, 0.0)	(44.9754, 0.0)	(47.0792, 0.0)	(49.7643, 1.7178)	(71.7453, 26.3947)	(87.4379, 54.6639)	(95.349, 68.198)
2	(56.5902, 0.0)	(57.6403, 0.0)	(60.4774, 0.0)	(62.8037, 1.7337)	(81.4275, 25.9095)	(95.633, 55.252)	(100.0, 66.2173)
3	(72.1117, 0.0)	(71.8939, 0.0)	(74.465, 0.0)	(75.6828, 2.6309)	(93.3918, 26.6513)	(100.0, 51.5833)	(100.0, 61.3285)
4	(88.2756, 0.0)	(84.431, 0.0)	(87.4247, 0.5595)	(88.8942, 3.84)	(99.9455, 25.5321)	(99.9869, 48.6316)	(100.0, 57.3037)
5	(100.0, 0.0)	(99.2802, 0.0)	(99.8824, 0.5594)	(99.9798, 2.7708)	(100.0, 21.2074)	(100.0, 41.1833)	(100.0, 50.8417)
6	(100.0, 0.0)	(99.555, 0.0179)	(99.9415, 0.6233)	(99.982, 3.7359)	(100.0, 20.4147)	(100.0, 39.8294)	(100.0, 48.2079)

Table 140: Core Frequency: 1980.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(89.9286, 0.0)	(99.5, 0.0)	(100.0, 11.5)	(100.0, 67.5)	(100.0, 90.5)	(100.0, 96.5)
1	(40.521, 0.0)	(44.7569, 0.0)	(46.6595, 0.0)	(49.68, 1.959)	(75.7784, 33.7698)	(96.1539, 69.7229)	(99.9941, 79.8228)
2	(56.4024, 0.0)	(57.9304, 0.0)	(60.4976, 0.0)	(62.8064, 2.8592)	(86.505, 34.2519)	(99.9965, 65.7062)	(100.0, 74.8563)
3	(71.356, 0.0)	(70.3062, 0.0)	(73.9298, 0.0)	(75.3836, 3.3198)	(96.7251, 34.366)	(100.0, 62.2128)	(100.0, 70.1628)
4	(86.7552, 0.0)	(83.7972, 0.0)	(86.3223, 0.6029)	(88.7758, 5.6849)	(100.0, 32.5645)	(100.0, 56.5239)	(100.0, 66.2408)
5	(100.0, 0.0)	(99.2572, 0.0)	(99.9563, 0.0)	(99.9, 3.6823)	(99.9477, 27.2363)	(100.0, 50.9603)	(100.0, 59.7276)
6	(100.0, 0.0)	(99.5105, 0.0)	(99.9338, 0.6292)	(99.9933, 4.9605)	(100.0, 25.6963)	(99.9927, 47.4583)	(100.0, 57.101)

Table 141: Core Frequency: 1980.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(90.3333, 0.0)	(99.5, 0.0)	(100.0, 43.5)	(100.0, 86.923)	(100.0, 90.4875)	(100.0, 91.5139)
1	(40.6368, 0.0)	(44.7273, 0.0)	(46.6181, 0.0)	(49.5845, 7.4617)	(100.0, 78.7642)	(100.0, 86.063)	(100.0, 88.6033)
2	(56.6441, 0.0)	(58.4554, 0.0)	(60.348, 0.0)	(62.6119, 8.6062)	(100.0, 77.9364)	(100.0, 85.4032)	(100.0, 87.6246)
3	(71.6701, 0.0)	(71.2588, 0.0)	(74.1752, 0.0)	(76.0764, 11.4399)	(100.0, 74.67)	(100.0, 83.495)	(100.0, 86.4789)
4	(87.2937, 0.0)	(84.548, 0.0)	(86.9535, 0.0)	(89.2548, 11.7135)	(100.0, 73.8987)	(100.0, 82.9953)	(100.0, 85.308)
5	(100.0, 0.0)	(99.2392, 0.0)	(99.9418, 2.2424)	(100.0, 13.9276)	(100.0, 69.14)	(100.0, 80.3283)	(100.0, 83.6198)
6	(100.0, 0.0)	(99.4483, 0.0)	(99.9453, 3.8572)	(100.0, 19.6503)	(100.0, 68.6792)	(100.0, 79.764)	(100.0, 83.0543)

Table 142: Core Frequency: 1980.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(92.7665, 0.0)	(99.1264, 0.0)	(99.4412, 6.9916)	(100.0, 59.0)	(100.0, 83.5)	(100.0, 91.0)
1	(41.1343, 0.0)	(46.0337, 0.0)	(48.203, 0.0)	(50.5895, 1.5804)	(72.0259, 25.9459)	(87.8929, 52.7584)	(95.6948, 67.9798)
2	(56.9725, 0.0)	(59.7911, 0.0)	(61.8066, 0.0)	(64.3516, 1.5845)	(83.0422, 25.9477)	(96.1731, 53.4058)	(100.0, 65.415)
3	(72.3916, 0.0)	(73.2638, 0.0)	(75.6788, 0.0)	(77.2086, 2.5096)	(93.8257, 26.1658)	(99.9905, 49.8177)	(99.9941, 60.7301)
4	(88.2499, 0.0)	(87.2866, 0.0)	(89.0813, 0.5359)	(90.7975, 2.6268)	(99.9927, 25.1423)	(99.9896, 46.979)	(100.0, 56.6332)
5	(99.9894, 0.1143)	(99.3839, 0.0)	(99.9553, 0.0)	(99.9597, 2.4062)	(100.0, 20.9085)	(99.9966, 39.8396)	(100.0, 49.9706)
6	(100.0, 0.0)	(99.4585, 0.0)	(99.9481, 0.4719)	(99.9583, 3.5234)	(100.0, 19.3037)	(100.0, 37.9467)	(100.0, 47.2815)

Table 143: Core Frequency: 1860.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(93.3929, 0.0)	(99.5, 0.0)	(99.5, 8.0)	(100.0, 58.5)	(100.0, 83.5)	(100.0, 90.5)
1	(42.1448, 0.0)	(46.8687, 0.0)	(49.1953, 0.1301)	(51.9364, 1.6952)	(73.448, 26.5019)	(89.6273, 56.3186)	(96.1193, 68.0124)
2	(58.089, 0.0)	(59.5821, 0.0)	(62.6945, 0.0)	(65.1313, 1.6954)	(84.1215, 26.1983)	(97.0121, 53.767)	(100.0, 65.2352)
3	(74.3154, 0.0)	(73.2909, 0.0)	(76.2472, 0.0)	(78.4404, 2.578)	(94.9597, 26.5121)	(100.0, 51.571)	(100.0, 60.4284)
4	(89.8142, 0.0)	(87.7788, 0.0)	(89.5145, 0.0)	(92.534, 3.034)	(99.9745, 25.1895)	(100.0, 46.6801)	(100.0, 56.4845)
5	(100.0, 0.0)	(99.3779, 0.0)	(99.9724, 0.5553)	(99.9587, 2.9764)	(100.0, 20.7924)	(100.0, 41.2955)	(100.0, 49.8959)
6	(100.0, 0.0)	(99.6395, 0.0)	(99.9216, 0.4272)	(99.9587, 4.637)	(100.0, 19.245)	(100.0, 37.9649)	(100.0, 47.275)

Table 144: Core Frequency: 1860.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(92.5, 0.0)	(99.5, 0.0)	(99.5, 11.0)	(100.0, 66.5)	(100.0, 91.5)	(100.0, 96.2273)
1	(41.9789, 0.0)	(46.2846, 0.0)	(48.3043, 0.0)	(50.999, 1.9109)	(77.4254, 33.9911)	(96.5181, 68.0316)	(100.0, 79.1252)
2	(57.9609, 0.0)	(59.3473, 0.0)	(62.4969, 0.0)	(64.6882, 2.8561)	(87.058, 33.6088)	(100.0, 66.2761)	(100.0, 74.2009)
3	(73.8945, 0.0)	(73.7555, 0.0)	(75.7059, 0.0)	(78.3477, 3.2884)	(98.4245, 34.344)	(99.9731, 60.0821)	(100.0, 69.4018)
4	(90.3601, 0.0)	(87.0018, 0.0)	(89.801, 0.6063)	(91.6477, 3.8011)	(100.0, 31.4811)	(100.0, 56.6063)	(99.9977, 65.4708)
5	(100.0, 0.0)	(99.3074, 0.0)	(99.9652, 0.5293)	(99.9591, 3.9981)	(100.0, 26.3263)	(100.0, 49.2319)	(100.0, 58.832)
6	(100.0, 0.0)	(99.6035, 0.0)	(99.9471, 0.65)	(99.9677, 4.7368)	(100.0, 25.1163)	(100.0, 47.1818)	(100.0, 56.2246)

Table 145: Core Frequency: 1860.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(92.75, 0.0)	(99.5, 0.0)	(99.5, 42.1818)	(100.0, 84.8575)	(100.0, 89.6292)	(100.0, 91.5)
1	(41.9617, 0.0)	(46.8308, 0.0)	(48.9448, 0.0)	(51.8097, 7.6215)	(100.0, 79.8507)	(100.0, 86.2349)	(100.0, 88.4335)
2	(58.0486, 0.0)	(59.2427, 0.0)	(62.5543, 0.0)	(64.6847, 8.9261)	(100.0, 76.0189)	(100.0, 84.6207)	(100.0, 87.498)
3	(73.969, 0.0)	(73.62, 0.0)	(75.9056, 0.0)	(77.858, 11.3949)	(100.0, 75.4792)	(100.0, 83.7637)	(100.0, 86.3638)
4	(90.6076, 0.0)	(86.9565, 0.0)	(90.239, 0.0)	(92.3992, 11.8753)	(100.0, 72.236)	(100.0, 82.0929)	(100.0, 85.0456)
5	(100.0, 0.0)	(99.4229, 0.0)	(99.9312, 3.0148)	(99.9905, 13.4501)	(100.0, 69.2318)	(100.0, 80.4361)	(100.0, 83.4189)
6	(100.0, 0.0)	(99.6422, 0.0)	(99.9341, 3.1454)	(99.9915, 18.9338)	(100.0, 67.2737)	(100.0, 79.0392)	(100.0, 82.7222)

Table 146: Core Frequency: 1860.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(93.6827, 0.0)	(98.7485, 0.0)	(100.0, 6.5)	(100.0, 57.4888)	(100.0, 80.5)	(100.0, 90.0)
1	(43.8735, 0.0)	(49.2793, 0.0)	(51.0037, 0.0)	(53.8797, 1.5639)	(74.7986, 25.7284)	(90.0578, 53.8039)	(97.8278, 67.7196)
2	(61.1455, 0.0)	(63.6972, 0.0)	(65.8872, 0.0)	(68.6016, 1.5667)	(85.8897, 25.7224)	(99.6431, 52.4984)	(99.9977, 63.6462)
3	(77.942, 0.0)	(78.1251, 0.0)	(79.4874, 0.0)	(82.5729, 2.4489)	(97.8, 25.9603)	(100.0, 48.9063)	(99.9943, 58.9965)
4	(95.0947, 0.0)	(92.6155, 0.0)	(94.5122, 0.0)	(96.9365, 2.462)	(99.9729, 23.8408)	(100.0, 44.2949)	(99.9987, 54.7704)
5	(99.9963, 0.0)	(99.6275, 0.0)	(99.9504, 0.0)	(99.9772, 2.3693)	(100.0, 19.6012)	(100.0, 38.8986)	(100.0, 48.2494)
6	(100.0, 0.0)	(99.7709, 0.0)	(99.9518, 0.4248)	(99.9652, 3.5075)	(100.0, 18.6478)	(100.0, 35.7037)	(100.0, 45.6566)

Table 147: Core Frequency: 1740.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(94.4929, 0.0)	(99.5, 0.0)	(100.0, 8.0)	(100.0, 57.1278)	(100.0, 83.5405)	(100.0, 89.5)
1	(44.9645, 0.0)	(49.0876, 0.0)	(51.4037, 0.0)	(54.527, 1.7079)	(75.5358, 25.8473)	(89.5462, 53.1436)	(98.5661, 68.0706)
2	(62.0482, 0.0)	(63.2506, 0.0)	(65.8873, 0.0)	(68.9296, 1.7272)	(86.4324, 25.7896)	(99.7557, 54.5352)	(100.0, 63.6078)
3	(78.9321, 0.0)	(77.2832, 0.0)	(80.3774, 0.0)	(83.7897, 2.6009)	(98.5596, 26.0801)	(99.9075, 48.6419)	(100.0, 58.6447)
4	(97.2509, 0.0)	(93.8823, 0.0)	(95.7139, 0.5625)	(97.311, 4.4999)	(100.0, 23.9234)	(100.0, 45.6838)	(100.0, 54.7788)
5	(100.0, 0.0)	(99.5051, 0.0)	(99.9509, 0.5561)	(99.9394, 2.5486)	(99.9435, 19.4708)	(100.0, 38.9733)	(100.0, 48.1632)
6	(100.0, 0.0)	(99.769, 0.0)	(99.9564, 0.3708)	(99.9654, 3.5776)	(100.0, 18.7135)	(100.0, 36.8563)	(100.0, 45.394)

Table 148: Core Frequency: 1740.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(95.6429, 0.0)	(99.5, 0.0)	(100.0, 10.5)	(100.0, 65.4569)	(100.0, 88.5)	(100.0, 95.4392)
1	(44.6503, 0.0)	(48.8728, 0.0)	(51.8538, 0.0)	(53.8455, 1.9494)	(79.2674, 33.5806)	(98.0048, 68.3964)	(100.0, 77.5967)
2	(62.0166, 0.0)	(63.2019, 0.0)	(66.0625, 0.0)	(68.862, 2.8619)	(90.7748, 33.8704)	(100.0, 62.8898)	(100.0, 72.4348)
3	(79.0015, 0.0)	(77.6129, 0.0)	(81.1901, 0.0)	(83.0205, 3.3042)	(99.8943, 33.2509)	(100.0, 59.1176)	(100.0, 67.6936)
4	(97.0247, 0.0)	(93.0403, 0.0)	(95.5131, 0.5743)	(96.5572, 5.7339)	(100.0, 30.2197)	(100.0, 53.4917)	(100.0, 63.7533)
5	(100.0, 0.0)	(99.6, 0.0)	(99.9698, 0.0)	(100.0, 3.5835)	(100.0, 25.5782)	(100.0, 48.057)	(100.0, 57.2544)
6	(100.0, 0.0)	(99.7546, 0.0)	(99.973, 0.5616)	(100.0, 5.0667)	(100.0, 23.9249)	(100.0, 44.7527)	(100.0, 54.2711)

Table 149: Core Frequency: 1740.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(95.8571, 0.0)	(99.5, 0.0)	(100.0, 39.5)	(100.0, 86.5)	(100.0, 90.0)	(100.0, 91.5)
1	(44.9583, 0.0)	(50.0468, 0.0)	(50.8464, 0.0)	(53.8533, 7.551)	(100.0, 77.6187)	(100.0, 85.5881)	(100.0, 88.2337)
2	(62.185, 0.0)	(64.2528, 0.0)	(65.3994, 0.0)	(69.0019, 8.9073)	(100.0, 76.6713)	(100.0, 84.6309)	(100.0, 87.1538)
3	(79.1043, 0.0)	(78.9772, 0.0)	(80.7763, 0.0)	(83.3449, 11.1834)	(100.0, 73.2801)	(100.0, 82.7965)	(100.0, 85.9499)
4	(97.1424, 0.0)	(93.5329, 0.0)	(95.3947, 2.5523)	(97.31, 14.2881)	(100.0, 72.1833)	(100.0, 81.9572)	(100.0, 84.7101)
5	(100.0, 0.0)	(99.7156, 0.0)	(99.9633, 0.0)	(100.0, 11.8622)	(100.0, 67.2156)	(100.0, 79.4269)	(100.0, 82.8358)
6	(100.0, 0.0)	(99.7875, 0.0)	(99.9734, 3.3388)	(100.0, 19.0697)	(100.0, 66.8779)	(100.0, 78.4772)	(100.0, 82.2156)

Table 150: Core Frequency: 1740.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(98.6066, 0.0)	(99.4444, 0.0)	(99.9615, 6.5)	(100.0, 55.7304)	(100.0, 80.5)	(100.0, 88.5)
1	(47.3955, 0.0)	(52.7106, 0.0)	(54.9551, 0.0)	(57.9, 1.6047)	(77.7438, 25.541)	(92.256, 51.8905)	(99.2485, 66.8031)
2	(65.6814, 0.0)	(68.4104, 0.0)	(70.3326, 0.0)	(72.7166, 1.6071)	(89.9524, 25.5113)	(99.9306, 51.6776)	(99.9925, 61.4847)
3	(83.9233, 0.0)	(83.7483, 0.0)	(85.7552, 0.0)	(87.3755, 2.4978)	(99.9675, 25.2412)	(100.0, 46.0958)	(99.9795, 56.6512)
4	(100.0, 0.0)	(99.1552, 0.0)	(99.935, 0.0442)	(99.8944, 2.7222)	(99.9817, 22.3482)	(100.0, 42.8675)	(100.0, 52.6535)
5	(100.0, 0.0)	(99.833, 0.0)	(99.9652, 0.5)	(99.9609, 2.5479)	(100.0, 18.6314)	(100.0, 36.2785)	(100.0, 46.0792)
6	(100.0, 0.0)	(99.9023, 0.0)	(99.9716, 0.4028)	(99.9696, 3.7374)	(100.0, 17.3454)	(100.0, 34.598)	(100.0, 43.5108)

Table 151: Core Frequency: 1620.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(98.0495, 0.0)	(99.5, 0.0)	(100.0, 7.5)	(100.0, 55.0)	(100.0, 80.0)	(100.0, 88.5)
1	(48.0481, 0.0)	(53.1103, 0.0)	(55.1248, 0.0)	(58.6737, 1.7269)	(78.4661, 25.6105)	(93.3, 54.2706)	(99.94, 67.3841)
2	(66.8857, 0.0)	(68.5337, 0.0)	(71.0365, 0.0)	(73.7223, 1.7184)	(90.163, 25.4068)	(100.0, 51.2138)	(100.0, 61.6112)
3	(85.07, 0.0)	(84.4967, 0.0)	(86.4941, 0.0)	(89.3044, 2.5914)	(99.8648, 25.0673)	(100.0, 47.3578)	(100.0, 56.8086)
4	(100.0, 0.0)	(99.2504, 0.0)	(99.8879, 0.0)	(100.0, 2.5879)	(100.0, 22.3713)	(100.0, 42.5614)	(100.0, 52.7901)
5	(100.0, 0.0)	(99.7981, 0.0)	(99.9696, 0.0348)	(100.0, 2.5917)	(100.0, 18.2041)	(100.0, 37.0987)	(100.0, 46.1167)
6	(100.0, 0.0)	(99.86, 0.0)	(99.9611, 0.3679)	(100.0, 4.3802)	(100.0, 17.1442)	(100.0, 34.4208)	(100.0, 43.5012)

Table 152: Core Frequency: 1620.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(97.8571, 0.0)	(99.5, 0.0)	(100.0, 10.0)	(100.0, 63.8008)	(100.0, 89.0)	(100.0, 94.007)
1	(48.0277, 0.0)	(52.558, 0.0)	(55.0392, 0.0)	(58.1738, 1.9564)	(82.5732, 33.4577)	(99.5948, 66.341)	(99.972, 75.6193)
2	(66.5388, 0.0)	(67.8903, 0.0)	(70.6487, 0.0)	(73.0899, 2.8532)	(94.2653, 33.5683)	(100.0, 62.4553)	(100.0, 70.2846)
3	(85.1007, 0.0)	(83.3305, 0.0)	(86.2517, 0.0)	(88.0784, 3.3123)	(100.0, 31.7407)	(100.0, 55.7051)	(100.0, 65.6458)
4	(100.0, 0.0)	(98.8453, 0.0)	(99.9517, 0.58)	(99.9945, 4.7228)	(100.0, 28.571)	(100.0, 52.8568)	(100.0, 61.5502)
5	(100.0, 0.0)	(99.8235, 0.0)	(99.9677, 0.0)	(100.0, 3.5571)	(100.0, 24.0536)	(100.0, 45.1825)	(100.0, 54.8734)
6	(100.0, 0.0)	(99.9068, 0.0)	(99.9542, 0.5582)	(100.0, 4.6614)	(100.0, 22.3619)	(100.0, 43.3503)	(100.0, 52.4016)

Table 153: Core Frequency: 1620.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(98.3214, 0.0)	(99.5, 0.0)	(100.0, 39.0)	(100.0, 84.1173)	(100.0, 89.5)	(100.0, 91.5)
1	(48.077, 0.0)	(52.9011, 0.0)	(55.0751, 0.0)	(58.1491, 7.8758)	(100.0, 78.3491)	(100.0, 85.5776)	(100.0, 87.9756)
2	(66.6033, 0.0)	(68.2166, 0.0)	(71.2373, 0.0)	(72.2554, 8.974)	(100.0, 74.378)	(100.0, 83.6166)	(100.0, 86.7947)
3	(84.9806, 0.0)	(83.9064, 0.0)	(85.8516, 0.0)	(87.9052, 11.5708)	(100.0, 73.6005)	(100.0, 82.7506)	(100.0, 85.4669)
4	(100.0, 0.0)	(99.1351, 0.0)	(99.809, 5.0872)	(99.9489, 20.3373)	(100.0, 70.0116)	(100.0, 80.7318)	(100.0, 84.2708)
5	(100.0, 0.0)	(99.887, 0.0)	(99.966, 2.4038)	(99.9649, 13.0826)	(100.0, 66.8451)	(100.0, 78.9469)	(100.0, 82.1977)
6	(100.0, 0.0)	(99.8679, 0.0)	(99.9715, 3.1559)	(99.9668, 15.357)	(100.0, 64.553)	(100.0, 77.3961)	(100.0, 81.4634)

Table 154: Core Frequency: 1620.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(99.5667, 0.0)	(98.9762, 0.0)	(100.0, 6.0)	(100.0, 53.9606)	(100.0, 77.5)	(100.0, 87.0)
1	(51.426, 0.0)	(56.6668, 0.0)	(58.7596, 0.0)	(61.8707, 1.5898)	(80.9417, 25.1664)	(94.2729, 51.7865)	(99.9932, 65.1338)
2	(70.8193, 0.0)	(72.7412, 0.0)	(75.0707, 0.0)	(77.5763, 1.6328)	(94.2218, 25.2319)	(99.9957, 48.1089)	(100.0, 58.8753)
3	(90.3738, 0.0)	(89.7924, 0.0351)	(92.3603, 0.0292)	(93.4492, 2.4785)	(100.0, 23.4644)	(99.9938, 44.5395)	(99.9967, 54.5122)
4	(100.0, 0.0)	(99.9949, 0.0)	(99.945, 0.0447)	(100.0, 2.6149)	(99.9982, 20.9842)	(100.0, 40.384)	(100.0, 50.4424)
5	(100.0, 0.0)	(99.9939, 0.0)	(99.9636, 0.0355)	(100.0, 2.4472)	(100.0, 17.2748)	(100.0, 34.8118)	(100.0, 44.0862)
6	(100.0, 0.0)	(99.9549, 0.0)	(99.9622, 0.2709)	(100.0, 2.8673)	(100.0, 15.9231)	(100.0, 32.3695)	(100.0, 41.4928)

Table 155: Core Frequency: 1500.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(100.0, 6.5)	(100.0, 53.5)	(100.0, 78.5)	(100.0, 86.5044)
1	(52.0303, 0.0)	(57.2661, 0.0)	(59.1627, 0.0)	(62.5184, 1.6592)	(80.6905, 24.9277)	(94.8123, 51.568)	(99.9057, 64.9396)
2	(72.2797, 0.0)	(73.1176, 0.0)	(76.2947, 0.0)	(78.0894, 1.6421)	(94.4919, 25.1025)	(100.0, 49.2881)	(100.0, 59.256)
3	(91.5199, 0.0)	(90.8732, 0.0)	(92.26, 0.0)	(95.5493, 2.5269)	(100.0, 23.4831)	(100.0, 44.3056)	(100.0, 54.3281)
4	(100.0, 0.0)	(99.9947, 0.0)	(99.9601, 0.5434)	(100.0, 4.0114)	(100.0, 20.8962)	(100.0, 40.9785)	(100.0, 50.3206)
5	(100.0, 0.0)	(99.988, 0.0)	(99.9659, 0.0)	(100.0, 2.3553)	(100.0, 17.3905)	(100.0, 34.4539)	(100.0, 43.9082)
6	(100.0, 0.0)	(100.0, 0.0)	(99.9713, 0.2994)	(100.0, 3.4222)	(100.0, 15.9836)	(100.0, 32.865)	(100.0, 41.5173)

Table 156: Core Frequency: 1500.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(100.0, 9.0)	(100.0, 61.5)	(100.0, 86.5)	(100.0, 93.0)
1	(52.066, 0.0)	(56.6078, 0.0)	(58.6579, 0.0)	(62.6012, 1.9436)	(86.0201, 33.2491)	(99.9558, 66.0196)	(100.0, 73.8303)
2	(72.0097, 0.0)	(73.1404, 0.0)	(77.0286, 0.0)	(78.3145, 2.7902)	(98.2365, 32.9776)	(100.0, 58.8972)	(100.0, 68.232)
3	(91.8779, 0.0)	(90.9013, 0.0)	(92.7114, 0.0)	(94.9299, 3.2604)	(100.0, 30.0421)	(100.0, 54.8089)	(100.0, 63.5404)
4	(100.0, 0.0)	(99.889, 0.0)	(99.9579, 0.5829)	(100.0, 3.7487)	(100.0, 26.9928)	(100.0, 49.6116)	(100.0, 59.388)
5	(100.0, 0.0)	(99.927, 0.0)	(99.9331, 0.0)	(100.0, 3.4773)	(100.0, 22.6246)	(100.0, 44.1398)	(100.0, 52.5352)
6	(100.0, 0.0)	(100.0, 0.0)	(99.9699, 0.5542)	(100.0, 3.7519)	(100.0, 20.9706)	(100.0, 40.8202)	(100.0, 50.1805)

Table 157: Core Frequency: 1500.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(100.0, 37.0)	(100.0, 85.7356)	(100.0, 90.0)	(100.0, 91.4995)
1	(52.0493, 0.0)	(56.972, 0.0)	(59.3624, 0.0)	(62.288, 7.8351)	(100.0, 76.1663)	(100.0, 84.6435)	(100.0, 87.5961)
2	(71.8345, 0.0)	(73.299, 0.0)	(75.2865, 0.0)	(78.1808, 9.604)	(100.0, 74.6483)	(100.0, 83.68)	(100.0, 86.4131)
3	(92.054, 0.0)	(90.188, 0.0)	(92.5802, 0.0)	(94.6074, 12.2463)	(100.0, 71.2149)	(100.0, 81.6458)	(100.0, 85.0116)
4	(100.0, 0.0)	(99.9352, 0.0)	(99.9635, 2.4503)	(100.0, 11.7216)	(100.0, 69.749)	(100.0, 80.7455)	(100.0, 83.6496)
5	(100.0, 0.0)	(99.9595, 0.0)	(99.9685, 2.3636)	(100.0, 10.7309)	(100.0, 64.501)	(100.0, 77.8434)	(100.0, 81.4667)
6	(100.0, 0.0)	(99.9964, 0.0)	(99.9737, 2.9473)	(100.0, 14.8159)	(100.0, 63.8089)	(100.0, 76.7617)	(100.0, 80.7552)

Table 158: Core Frequency: 1500.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(99.5, 5.5)	(100.0, 51.5)	(100.0, 76.0)	(100.0, 85.9989)
1	(55.4989, 0.0)	(60.8145, 0.0)	(63.6448, 0.0)	(66.7037, 1.5847)	(85.0924, 24.7375)	(97.6055, 50.4473)	(99.9967, 62.9863)
2	(77.0335, 0.0)	(78.8947, 0.0)	(81.3033, 0.0)	(83.7046, 1.5781)	(98.9505, 24.7349)	(100.0, 46.4882)	(100.0, 57.0043)
3	(97.842, 0.0)	(97.1266, 0.0)	(98.1491, 0.0)	(99.7265, 2.4355)	(100.0, 21.9647)	(99.9974, 41.7079)	(100.0, 52.3392)
4	(100.0, 0.0)	(99.8735, 0.0)	(99.9559, 0.1334)	(99.9484, 2.9708)	(100.0, 19.3245)	(100.0, 38.2363)	(100.0, 48.133)
5	(100.0, 0.0)	(99.9982, 0.0)	(99.9703, 0.0)	(99.9964, 2.2812)	(100.0, 15.8903)	(100.0, 32.5047)	(100.0, 41.8963)
6	(100.0, 0.0)	(99.9992, 0.0)	(99.9719, 0.281)	(99.9646, 2.3189)	(100.0, 15.1517)	(100.0, 30.4335)	(100.0, 39.141)

Table 159: Core Frequency: 1380.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(100.0, 6.5)	(100.0, 51.0)	(100.0, 75.8121)	(100.0, 85.0)
1	(56.6078, 0.0)	(61.0599, 0.0)	(63.9273, 0.0)	(67.2835, 1.7008)	(85.1335, 24.742)	(97.9863, 51.2326)	(100.0, 63.0334)
2	(78.3772, 0.0)	(79.4114, 0.0)	(81.4033, 0.0)	(84.087, 1.7187)	(99.0676, 24.6436)	(100.0, 46.4045)	(100.0, 56.9276)
3	(99.617, 0.0)	(97.9444, 0.0)	(99.3841, 0.0)	(99.855, 2.5538)	(100.0, 21.978)	(100.0, 41.9469)	(100.0, 52.0677)
4	(100.0, 0.0)	(99.995, 0.0)	(99.9587, 0.0874)	(99.9488, 2.9563)	(100.0, 19.2364)	(100.0, 38.139)	(100.0, 48.1164)
5	(100.0, 0.0)	(99.9962, 0.0)	(99.9688, 0.0)	(100.0, 2.3604)	(100.0, 15.8631)	(100.0, 32.7574)	(100.0, 41.7875)
6	(100.0, 0.0)	(100.0, 0.0)	(99.972, 0.2461)	(99.965, 2.6822)	(100.0, 15.1765)	(100.0, 30.2177)	(100.0, 39.1785)

Table 160: Core Frequency: 1380.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(100.0, 8.5)	(100.0, 59.5)	(100.0, 85.9891)	(100.0, 91.4245)
1	(56.5353, 0.0)	(61.3136, 0.0)	(63.8665, 0.0)	(66.5797, 1.9396)	(89.0511, 32.5009)	(99.9968, 62.1087)	(100.0, 71.5236)
2	(78.3673, 0.0)	(78.9355, 0.0)	(81.8382, 0.0)	(84.0809, 2.8242)	(99.9755, 31.9241)	(100.0, 57.2923)	(100.0, 66.076)
3	(99.179, 0.0)	(97.7507, 0.0)	(98.9775, 0.0)	(99.9321, 3.2377)	(99.9927, 28.2157)	(99.9731, 51.2175)	(100.0, 60.9747)
4	(100.0, 0.0)	(99.995, 0.0)	(99.9402, 0.5806)	(99.9493, 3.4989)	(100.0, 25.2383)	(100.0, 47.8814)	(100.0, 57.0096)
5	(100.0, 0.0)	(99.9851, 0.0)	(99.9672, 0.0)	(100.0, 2.9781)	(100.0, 20.9352)	(100.0, 40.8865)	(100.0, 50.3462)
6	(100.0, 0.0)	(100.0, 0.0)	(99.9723, 0.4152)	(99.9653, 3.8703)	(100.0, 19.3549)	(100.0, 38.9489)	(100.0, 47.6384)

Table 161: Core Frequency: 1380.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(100.0, 35.9834)	(100.0, 83.4953)	(100.0, 89.2845)	(100.0, 91.0778)
1	(56.3463, 0.0)	(60.7743, 0.0)	(64.155, 0.0)	(66.8604, 8.5178)	(100.0, 76.6012)	(100.0, 84.7501)	(100.0, 87.02)
2	(78.2319, 0.0)	(78.2456, 0.0)	(81.0892, 0.0)	(84.6188, 9.8591)	(100.0, 72.2462)	(100.0, 82.3715)	(100.0, 85.7212)
3	(98.9834, 0.0)	(97.1935, 0.0)	(99.2429, 0.0)	(99.8707, 12.2651)	(100.0, 71.0187)	(100.0, 81.4355)	(100.0, 84.2465)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9595, 2.0)	(100.0, 11.8363)	(100.0, 67.3752)	(100.0, 79.2595)	(100.0, 82.855)
5	(100.0, 0.0)	(99.9851, 0.0)	(99.9712, 0.0)	(100.0, 9.7308)	(100.0, 63.4772)	(100.0, 77.0399)	(100.0, 80.5358)
6	(100.0, 0.0)	(100.0, 0.0)	(99.9711, 2.6264)	(100.0, 13.916)	(100.0, 61.3205)	(100.0, 75.3186)	(100.0, 79.6145)

Table 162: Core Frequency: 1380.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(99.5, 5.0)	(100.0, 48.7543)	(100.0, 73.0)	(100.0, 83.499)
1	(60.8862, 0.0)	(66.4966, 0.0)	(68.5601, 0.0)	(71.6164, 1.5541)	(89.2945, 23.9654)	(99.7761, 49.6217)	(100.0, 60.5408)
2	(84.1592, 0.0)	(84.8894, 0.0)	(87.1165, 0.0)	(90.574, 1.5464)	(99.999, 23.1129)	(99.9942, 43.743)	(100.0, 54.4752)
3	(100.0, 0.0)	(99.9155, 0.0)	(99.9495, 0.0)	(99.9394, 2.3704)	(100.0, 20.1606)	(100.0, 39.7447)	(99.9994, 49.6035)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9557, 0.0889)	(99.9487, 2.2124)	(99.9868, 17.6151)	(100.0, 35.8376)	(100.0, 45.5453)
5	(100.0, 0.0)	(100.0, 0.0052)	(99.9696, 0.0)	(99.9592, 2.2359)	(100.0, 14.5081)	(100.0, 30.7629)	(100.0, 39.328)
6	(100.0, 0.0067)	(100.0, 0.0)	(99.9714, 0.3838)	(99.9664, 2.2548)	(100.0, 13.7145)	(100.0, 28.2386)	(100.0, 36.9731)

Table 163: Core Frequency: 1260.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(99.5, 5.5)	(100.0, 48.5)	(100.0, 74.0)	(100.0, 83.5)
1	(62.0621, 0.0)	(66.7375, 0.0)	(68.9183, 0.0)	(72.1726, 1.6733)	(90.2272, 24.3354)	(99.9606, 49.4837)	(100.0, 60.5118)
2	(85.6737, 0.0)	(86.047, 0.0)	(88.6641, 0.0)	(90.9164, 1.6223)	(99.9835, 23.0795)	(100.0, 44.3674)	(99.9664, 54.5024)
3	(100.0, 0.0)	(99.9788, 0.0)	(99.9474, 0.0)	(99.94, 2.4785)	(100.0, 20.3065)	(100.0, 39.3538)	(100.0, 49.6824)
4	(100.0, 0.0)	(99.9772, 0.0)	(99.958, 0.0)	(99.947, 1.9421)	(99.9934, 17.7036)	(100.0, 36.2652)	(100.0, 45.6751)
5	(100.0, 0.0)	(100.0, 0.0)	(99.9682, 0.0372)	(99.9612, 2.9066)	(100.0, 14.4578)	(100.0, 30.4878)	(100.0, 39.2494)
6	(100.0, 0.0)	(100.0, 0.0)	(99.9716, 0.2129)	(99.9623, 2.8697)	(100.0, 13.6144)	(100.0, 28.3963)	(100.0, 36.9641)

Table 164: Core Frequency: 1260.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(99.95, 0.0)	(99.5, 0.0)	(100.0, 8.0)	(100.0, 57.5)	(100.0, 82.0)	(100.0, 89.6081)
1	(61.8661, 0.0)	(66.3999, 0.0)	(69.1409, 0.0)	(73.0998, 1.9141)	(93.4843, 32.0727)	(100.0, 60.4158)	(99.9974, 69.0824)
2	(85.9192, 0.0)	(85.888, 0.0)	(87.8055, 0.0)	(91.538, 2.8261)	(100.0, 29.7309)	(100.0, 53.1604)	(100.0, 63.2425)
3	(100.0, 0.0)	(100.0, 0.0)	(99.9505, 0.0)	(100.0, 3.0244)	(100.0, 26.5294)	(100.0, 49.2267)	(100.0, 58.3614)
4	(100.0, 0.0)	(99.9686, 0.0)	(99.9583, 0.8416)	(100.0, 3.8941)	(100.0, 23.5961)	(100.0, 44.2479)	(100.0, 54.1322)
5	(100.0, 0.0)	(99.9898, 0.0)	(99.9684, 0.531)	(99.9615, 2.7177)	(100.0, 19.3952)	(100.0, 38.8714)	(100.0, 47.6728)
6	(100.0, 0.0)	(100.0, 0.0)	(99.9733, 0.3824)	(100.0, 3.3536)	(100.0, 17.9613)	(100.0, 36.0881)	(100.0, 45.01)

Table 165: Core Frequency: 1260.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(100.0, 34.0)	(100.0, 84.9884)	(100.0, 89.0691)	(100.0, 90.5733)
1	(61.4712, 0.0)	(66.381, 0.0)	(69.0305, 0.0)	(71.7668, 8.9271)	(100.0, 74.0657)	(100.0, 83.1684)	(100.0, 86.3767)
2	(85.5683, 0.0)	(84.9972, 0.0)	(89.0385, 0.0)	(90.861, 10.5646)	(100.0, 72.3317)	(100.0, 81.9303)	(100.0, 84.8404)
3	(100.0, 0.0)	(99.9787, 0.0)	(99.9536, 0.0)	(100.0, 11.2113)	(100.0, 68.3545)	(100.0, 79.5954)	(100.0, 83.2601)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9394, 2.0044)	(100.0, 12.1382)	(100.0, 66.3969)	(100.0, 78.5962)	(100.0, 81.7785)
5	(100.0, 0.0)	(100.0, 0.0)	(99.969, 1.8383)	(99.962, 9.4365)	(100.0, 61.1288)	(100.0, 75.1364)	(100.0, 79.3125)
6	(100.0, 0.0)	(100.0, 0.0)	(99.9722, 2.5694)	(99.966, 13.5876)	(100.0, 60.0381)	(100.0, 74.1387)	(100.0, 78.26)

Table 166: Core Frequency: 1260.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(99.5, 0.0)	(100.0, 0.0)	(100.0, 5.0)	(100.0, 47.0)	(100.0, 72.9974)	(100.0, 82.5)
1	(66.6756, 0.0)	(71.6556, 0.0)	(73.8783, 0.0)	(77.6223, 1.5813)	(94.089, 23.6668)	(99.9821, 47.258)	(100.0, 58.2744)
2	(93.03, 0.0)	(92.8768, 0.0)	(95.8463, 0.0)	(97.9046, 1.5802)	(99.9593, 21.3653)	(99.9933, 42.0948)	(100.0, 52.2456)
3	(100.0, 0.0)	(99.9965, 0.0)	(100.0, 0.0)	(100.0, 1.909)	(100.0, 18.6222)	(100.0, 37.2875)	(99.9988, 47.34)
4	(100.0, 0.0)	(99.9965, 0.0)	(99.9959, 0.0421)	(99.9576, 2.01)	(100.0, 16.2048)	(100.0, 33.9731)	(100.0, 43.3408)
5	(100.0, 0.0)	(99.9739, 0.0)	(100.0, 0.0)	(100.0, 1.7779)	(100.0, 13.5478)	(100.0, 28.3253)	(100.0, 37.1741)
6	(100.0, 0.0)	(99.978, 0.0)	(100.0, 0.1829)	(100.0, 2.597)	(100.0, 12.2419)	(100.0, 26.5737)	(100.0, 34.692)

Table 167: Core Frequency: 1140.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(99.5, 5.5)	(100.0, 46.5)	(100.0, 72.5331)	(100.0, 83.0)
1	(67.5473, 0.0)	(71.0822, 0.0)	(74.5522, 0.0)	(77.3683, 1.6592)	(94.2467, 23.9163)	(100.0, 47.7806)	(100.0, 58.3595)
2	(94.6485, 0.0)	(93.051, 0.0)	(96.8317, 0.0)	(98.5805, 1.6612)	(100.0, 21.397)	(100.0, 42.0554)	(100.0, 52.5184)
3	(100.0, 0.0)	(99.9675, 0.0)	(100.0, 0.0)	(100.0, 1.9832)	(100.0, 18.6632)	(100.0, 37.666)	(100.0, 47.4813)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0817)	(100.0, 2.7101)	(100.0, 16.2698)	(100.0, 33.8473)	(100.0, 43.4617)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.2631)	(100.0, 13.5865)	(100.0, 28.4727)	(100.0, 37.347)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.122)	(100.0, 2.2714)	(100.0, 12.2188)	(100.0, 26.5173)	(100.0, 34.7209)

Table 168: Core Frequency: 1140.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(100.0, 7.0)	(100.0, 54.9771)	(100.0, 80.0996)	(100.0, 87.6136)
1	(68.5636, 0.0)	(73.6599, 0.0)	(75.5174, 0.0)	(78.9061, 1.8943)	(98.9223, 31.8194)	(100.0, 55.734)	(100.0, 66.1708)
2	(94.8141, 0.0)	(94.2778, 0.0)	(96.6704, 0.0)	(99.3526, 2.7532)	(100.0, 27.7282)	(100.0, 50.6254)	(100.0, 60.3815)
3	(100.0, 0.0)	(99.9563, 0.0)	(99.9507, 0.0)	(100.0, 2.614)	(100.0, 24.0696)	(100.0, 45.3583)	(100.0, 55.5026)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9566, 0.6337)	(99.9472, 4.9731)	(100.0, 21.41)	(100.0, 41.8226)	(100.0, 51.4049)
5	(100.0, 0.0)	(99.9985, 0.0)	(99.9687, 0.5)	(100.0, 3.233)	(100.0, 17.7328)	(100.0, 35.6455)	(100.0, 44.7498)
6	(100.0, 0.0)	(100.0, 0.0)	(99.9706, 0.2998)	(99.965, 3.4793)	(100.0, 16.613)	(100.0, 33.5897)	(100.0, 42.2529)

Table 169: Core Frequency: 1140.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(100.0, 32.0)	(100.0, 82.5085)	(100.0, 88.4911)	(100.0, 90.5)
1	(68.3696, 0.0)	(72.2409, 0.0)	(75.6509, 0.0)	(79.0539, 9.0444)	(100.0, 74.2381)	(100.0, 83.0748)	(100.0, 85.7769)
2	(95.3004, 0.0)	(94.3112, 0.0)	(97.0387, 0.0)	(99.6188, 10.6014)	(100.0, 69.4858)	(100.0, 80.4542)	(100.0, 84.2116)
3	(100.0, 0.0)	(99.9951, 0.0)	(99.9493, 0.0)	(99.9956, 10.6142)	(100.0, 67.7372)	(100.0, 79.176)	(100.0, 82.4645)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9611, 1.8677)	(99.9498, 10.28)	(100.0, 63.7388)	(100.0, 76.7086)	(100.0, 80.9213)
5	(100.0, 0.0)	(100.0, 0.0)	(99.9691, 1.7946)	(100.0, 8.8128)	(100.0, 59.4814)	(100.0, 74.1897)	(100.0, 78.1779)
6	(100.0, 0.0)	(100.0, 0.0)	(99.9723, 2.2376)	(99.9668, 12.7701)	(100.0, 57.1615)	(100.0, 72.2996)	(100.0, 77.088)

Table 170: Core Frequency: 1140.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 4.5)	(100.0, 45.3918)	(100.0, 71.0)	(100.0, 81.9839)
1	(74.0118, 0.0)	(78.2353, 0.0)	(80.9704, 0.0)	(83.7413, 1.5397)	(98.3069, 22.7397)	(99.9911, 45.5158)	(100.0, 56.2021)
2	(100.0, 0.0)	(99.9377, 0.0)	(100.0, 0.0)	(99.976, 1.5052)	(100.0, 19.561)	(100.0, 39.5138)	(100.0, 49.9587)
3	(100.0, 0.0)	(99.9944, 0.0)	(99.9868, 0.0)	(100.0, 1.408)	(99.996, 16.8822)	(100.0, 35.2225)	(100.0, 44.9376)
4	(100.0, 0.0)	(99.9874, 0.0)	(100.0, 0.0)	(100.0, 1.3466)	(100.0, 14.6351)	(100.0, 31.6954)	(100.0, 41.0645)
5	(100.0, 0.0)	(99.9816, 0.0)	(100.0, 0.0)	(100.0, 1.2666)	(100.0, 11.9458)	(100.0, 26.5947)	(100.0, 34.7376)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0901)	(100.0, 2.431)	(100.0, 11.3046)	(100.0, 24.5677)	(100.0, 32.3948)

Table 171: Core Frequency: 1020.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 5.5)	(100.0, 45.4174)	(100.0, 71.9783)	(100.0, 81.9573)
1	(75.3413, 0.0)	(77.8892, 0.0)	(81.4057, 0.0)	(84.5697, 1.6837)	(98.7954, 22.8781)	(100.0, 45.4056)	(100.0, 56.1296)
2	(100.0, 0.0)	(99.9778, 0.0)	(100.0, 0.0)	(99.901, 1.6424)	(99.9746, 19.4722)	(100.0, 39.8947)	(100.0, 49.9677)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.5294)	(100.0, 16.9838)	(100.0, 35.1297)	(100.0, 45.0351)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.8955)	(100.0, 14.6415)	(100.0, 31.7829)	(100.0, 41.0513)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0635)	(100.0, 1.5088)	(100.0, 12.0124)	(100.0, 26.5477)	(100.0, 34.7228)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0447)	(100.0, 2.9242)	(100.0, 11.2352)	(100.0, 24.7242)	(100.0, 32.3992)

Table 172: Core Frequency: 1020.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.5)	(100.0, 52.5)	(100.0, 77.5)	(100.0, 86.5)
1	(76.1678, 0.0)	(80.045, 0.0)	(82.5622, 0.0)	(85.8657, 1.8965)	(100.0, 29.8882)	(100.0, 53.7373)	(100.0, 63.8222)
2	(100.0, 0.0)	(100.0, 0.0)	(99.9845, 0.0)	(100.0, 2.6653)	(100.0, 25.2889)	(99.9975, 47.2053)	(100.0, 57.7993)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.5559)	(100.0, 22.2188)	(100.0, 42.9535)	(100.0, 52.7429)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.5402)	(100.0, 2.9636)	(100.0, 19.6097)	(100.0, 38.451)	(100.0, 48.8255)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.3574)	(100.0, 16.0713)	(100.0, 33.0009)	(100.0, 42.1707)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.2753)	(100.0, 3.2948)	(100.0, 15.1792)	(100.0, 30.8882)	(100.0, 39.6326)

Table 173: Core Frequency: 1020.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(99.5, 0.0)	(99.5, 0.0)	(100.0, 30.0)	(100.0, 83.5)	(100.0, 88.7165)	(100.0, 90.4288)
1	(76.2077, 0.0)	(79.9947, 0.0)	(83.4098, 0.0)	(87.0251, 9.1355)	(100.0, 71.4165)	(100.0, 81.6037)	(100.0, 85.1284)
2	(100.0, 0.0)	(99.9676, 0.0)	(99.9416, 0.0)	(100.0, 9.6146)	(100.0, 68.6594)	(100.0, 80.103)	(100.0, 83.3705)
3	(100.0, 0.0)	(100.0, 0.0)	(99.9506, 0.0)	(99.9375, 9.7509)	(100.0, 64.8645)	(100.0, 77.4033)	(100.0, 81.4496)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9165, 3.2631)	(100.0, 14.5102)	(100.0, 62.1906)	(100.0, 76.2149)	(100.0, 79.8895)
5	(100.0, 0.0)	(100.0, 0.0)	(99.9698, 0.0)	(99.967, 8.3599)	(100.0, 56.6701)	(100.0, 72.1648)	(100.0, 76.9073)
6	(100.0, 0.0)	(99.9773, 0.0)	(99.9718, 2.0296)	(100.0, 12.8572)	(100.0, 54.9684)	(100.0, 70.8788)	(100.0, 75.7433)

Table 174: Core Frequency: 1020.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 4.0)	(100.0, 42.0)	(100.0, 70.0)	(100.0, 80.982)
1	(83.4028, 0.0)	(86.7027, 0.0)	(88.9409, 0.0)	(92.4721, 1.4977)	(99.9699, 20.5043)	(100.0, 42.8437)	(99.999, 53.5946)
2	(100.0, 0.0)	(99.981, 0.0)	(100.0, 0.0)	(99.985, 1.4153)	(100.0, 16.8747)	(100.0, 37.136)	(100.0, 47.1767)
3	(100.0, 0.0)	(99.9981, 0.0)	(100.0, 0.0)	(100.0, 1.3425)	(100.0, 14.799)	(100.0, 32.6258)	(100.0, 42.15)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.1091)	(100.0, 2.078)	(100.0, 12.6056)	(100.0, 29.3235)	(100.0, 38.1073)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3293)	(100.0, 10.1956)	(100.0, 24.4197)	(100.0, 32.0739)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0306)	(100.0, 2.6562)	(100.0, 9.6525)	(100.0, 22.4747)	(100.0, 29.8056)

Table 175: Core Frequency: 900.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 5.0)	(100.0, 42.0)	(100.0, 70.0)	(100.0, 80.9195)
1	(84.7719, 0.0)	(86.9986, 0.0)	(88.7791, 0.0)	(93.3219, 1.6645)	(100.0, 20.8394)	(100.0, 42.9599)	(100.0, 53.5449)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.56)	(99.9867, 17.0945)	(100.0, 37.1876)	(100.0, 47.0478)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.454)	(100.0, 15.0713)	(100.0, 32.5662)	(100.0, 42.3645)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.075)	(100.0, 2.3739)	(100.0, 13.149)	(100.0, 29.3304)	(100.0, 38.1533)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0268)	(100.0, 1.3474)	(100.0, 10.2386)	(100.0, 24.517)	(100.0, 32.0651)
6	(100.0, 0.0023)	(100.0, 0.0)	(100.0, 0.0149)	(100.0, 2.2487)	(100.0, 9.7608)	(100.0, 22.5768)	(100.0, 29.8621)

Table 176: Core Frequency: 900.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.5)	(100.0, 51.4964)	(100.0, 76.4752)	(100.0, 85.9968)
1	(85.6658, 0.0)	(87.1916, 0.0)	(91.4098, 0.0)	(94.7205, 1.9615)	(100.0, 27.5839)	(100.0, 50.707)	(100.0, 61.4693)
2	(100.0, 0.0)	(100.0, 0.0)	(99.9676, 0.0)	(99.9607, 2.2245)	(100.0, 23.3858)	(100.0, 44.5977)	(100.0, 55.278)
3	(100.0, 0.0)	(99.9611, 0.0)	(100.0, 0.0)	(100.0, 2.079)	(100.0, 20.3471)	(100.0, 39.7947)	(100.0, 50.1404)
4	(100.0, 0.0)	(99.9676, 0.0)	(100.0, 0.0919)	(100.0, 2.5323)	(100.0, 17.727)	(100.0, 36.0938)	(100.0, 45.9082)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.3357)	(100.0, 14.3894)	(100.0, 30.2867)	(100.0, 39.3909)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.1872)	(100.0, 2.3491)	(100.0, 13.6403)	(100.0, 28.3633)	(100.0, 36.7894)

Table 177: Core Frequency: 900.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(99.5, 0.0)	(100.0, 0.0)	(100.0, 27.3929)	(100.0, 81.0)	(100.0, 87.44)	(100.0, 89.5)
1	(86.3142, 0.0)	(91.0214, 0.0)	(92.6753, 0.0)	(96.4161, 9.7617)	(100.0, 70.3459)	(100.0, 80.7627)	(100.0, 83.8185)
2	(100.0, 0.0)	(99.947, 0.0)	(100.0, 0.0)	(100.0, 9.6774)	(100.0, 65.4105)	(100.0, 77.747)	(100.0, 81.8536)
3	(100.0, 0.0)	(99.9925, 0.0)	(99.9496, 0.0)	(99.9364, 9.1234)	(100.0, 62.8943)	(100.0, 76.3201)	(100.0, 79.8365)
4	(100.0, 0.0)	(99.9657, 0.0)	(100.0, 0.0)	(100.0, 7.7931)	(100.0, 58.9916)	(100.0, 73.4649)	(100.0, 78.0251)
5	(100.0, 0.0)	(99.9741, 0.0)	(100.0, 0.0)	(100.0, 7.2886)	(100.0, 53.8112)	(100.0, 70.2245)	(100.0, 74.8139)
6	(100.0, 0.0)	(100.0, 0.0)	(99.9711, 1.8416)	(99.964, 10.9189)	(100.0, 51.9112)	(100.0, 68.0695)	(100.0, 73.4974)

Table 178: Core Frequency: 900.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.6857, 0.0)	(100.0, 3.5)	(100.0, 35.0)	(100.0, 65.0)	(100.0, 75.9949)
1	(96.0839, 0.0)	(96.3704, 0.0)	(98.9647, 0.0)	(99.9384, 1.0025)	(100.0, 15.527)	(100.0, 36.3793)	(100.0, 45.9789)
2	(100.0, 0.0)	(99.9956, 0.0)	(100.0, 0.0)	(100.0, 0.8835)	(100.0, 12.6832)	(100.0, 30.6452)	(100.0, 39.6577)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2681)	(100.0, 10.8357)	(100.0, 26.4484)	(100.0, 34.8085)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.221)	(100.0, 9.5809)	(100.0, 23.4975)	(100.0, 31.0989)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1628)	(100.0, 7.6178)	(100.0, 19.1704)	(100.0, 25.698)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3668)	(100.0, 6.8893)	(100.0, 17.5775)	(100.0, 23.752)

Table 179: Core Frequency: 780.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 4.5)	(100.0, 39.0)	(100.0, 68.9036)	(100.0, 79.0)
1	(97.1546, 0.0)	(97.2111, 0.0)	(99.3497, 0.0)	(99.9557, 1.6025)	(100.0, 18.1805)	(100.0, 40.1206)	(100.0, 50.3872)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4669)	(100.0, 15.0106)	(100.0, 34.4629)	(100.0, 43.8452)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3803)	(100.0, 13.1756)	(100.0, 29.6856)	(100.0, 38.7095)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0338)	(100.0, 1.4819)	(100.0, 11.3337)	(100.0, 26.7034)	(100.0, 34.9198)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0254)	(100.0, 1.3981)	(100.0, 8.8083)	(100.0, 21.6947)	(100.0, 29.0433)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4595)	(100.0, 8.088)	(100.0, 20.1026)	(100.0, 27.0157)

Table 180: Core Frequency: 780.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.0)	(100.0, 48.5)	(100.0, 74.9959)	(100.0, 85.0)
1	(97.9021, 0.0)	(98.3021, 0.0)	(99.8397, 0.0)	(100.0, 1.9006)	(100.0, 24.6921)	(100.0, 47.9641)	(100.0, 58.3607)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.6277)	(100.0, 20.5903)	(100.0, 41.4301)	(100.0, 51.8373)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.006)	(100.0, 17.7188)	(100.0, 36.8637)	(100.0, 46.614)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0738)	(100.0, 2.108)	(100.0, 15.6135)	(100.0, 32.9496)	(100.0, 42.5865)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.7954)	(100.0, 12.4769)	(100.0, 27.7968)	(100.0, 36.1336)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.1668)	(100.0, 2.2647)	(100.0, 11.7507)	(100.0, 25.6015)	(100.0, 33.6255)

Table 181: Core Frequency: 780.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(99.5, 0.0)	(100.0, 25.0)	(100.0, 81.5)	(100.0, 87.2433)	(100.0, 89.5)
1	(99.0216, 0.0)	(99.9022, 0.0)	(100.0, 0.25)	(100.0, 8.8606)	(100.0, 67.1478)	(100.0, 78.4712)	(100.0, 82.8535)
2	(100.0, 0.0)	(99.9918, 0.0)	(99.9962, 0.0)	(100.0, 8.4329)	(100.0, 63.4714)	(100.0, 76.5861)	(100.0, 80.6736)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 8.4383)	(100.0, 59.4609)	(100.0, 73.4331)	(100.0, 78.4779)
4	(100.0, 0.0)	(100.0, 0.0)	(99.9633, 0.0)	(100.0, 7.5416)	(100.0, 56.2618)	(100.0, 71.845)	(100.0, 76.4515)
5	(100.0, 0.0)	(100.0, 0.0)	(99.9691, 0.0)	(99.9587, 7.0945)	(100.0, 50.5624)	(100.0, 67.2257)	(100.0, 72.8883)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.6011)	(100.0, 9.4929)	(100.0, 48.6977)	(100.0, 65.6622)	(100.0, 71.3923)

Table 182: Core Frequency: 780.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.5)	(100.0, 33.0)	(100.0, 64.0)	(100.0, 74.4991)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.9958)	(100.0, 14.037)	(100.0, 34.4133)	(100.0, 43.8605)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.8796)	(100.0, 11.5545)	(100.0, 28.8905)	(100.0, 37.5721)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2531)	(100.0, 9.6991)	(100.0, 24.8228)	(100.0, 33.0519)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.21)	(100.0, 8.6012)	(100.0, 22.0824)	(100.0, 29.3926)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1598)	(100.0, 6.7797)	(100.0, 17.8918)	(100.0, 24.0218)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1647)	(100.0, 6.1648)	(100.0, 16.4766)	(100.0, 22.1232)

Table 183: Core Frequency: 660.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 4.5)	(100.0, 35.0)	(100.0, 65.5)	(100.0, 76.5)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.5901)	(100.0, 15.2003)	(100.0, 36.6486)	(100.0, 46.1415)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4485)	(100.0, 12.9005)	(100.0, 30.7399)	(100.0, 39.6895)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3683)	(100.0, 10.5378)	(100.0, 26.7161)	(100.0, 35.1962)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0324)	(100.0, 1.3544)	(100.0, 9.6398)	(100.0, 23.5311)	(100.0, 31.5169)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0254)	(100.0, 1.2969)	(100.0, 7.5729)	(100.0, 19.3927)	(100.0, 25.7096)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4329)	(100.0, 7.207)	(100.0, 17.7066)	(100.0, 23.7115)

Table 184: Core Frequency: 660.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 5.5)	(100.0, 43.5)	(100.0, 73.0)	(100.0, 82.9785)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.7926)	(100.0, 21.1562)	(100.0, 43.8665)	(100.0, 54.7837)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.6019)	(100.0, 17.19)	(100.0, 37.8874)	(100.0, 47.8124)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4878)	(100.0, 15.1263)	(100.0, 33.4843)	(100.0, 42.8552)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.412)	(100.0, 12.8381)	(100.0, 29.8403)	(100.0, 38.7267)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0512)	(100.0, 1.4016)	(100.0, 10.2324)	(100.0, 24.6282)	(100.0, 32.3425)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0511)	(100.0, 2.6213)	(100.0, 9.6908)	(100.0, 22.8334)	(100.0, 30.1563)

Table 185: Core Frequency: 660.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 24.0)	(100.0, 79.4931)	(100.0, 86.2236)	(100.0, 89.0679)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 8.5169)	(100.0, 65.6555)	(100.0, 77.8518)	(100.0, 81.5544)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 8.1068)	(100.0, 60.2092)	(100.0, 74.0807)	(100.0, 79.1262)
3	(100.0, 0.0033)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.4028)	(100.0, 56.8759)	(100.0, 72.1796)	(100.0, 76.5061)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2333)	(100.0, 8.931)	(100.0, 52.6162)	(100.0, 68.8089)	(100.0, 74.2961)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.0858)	(100.0, 7.4952)	(100.0, 47.1635)	(100.0, 64.9229)	(100.0, 70.3766)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2743)	(100.0, 8.8598)	(100.0, 45.1154)	(100.0, 62.2599)	(100.0, 68.622)

Table 186: Core Frequency: 660.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.0)	(100.0, 31.0)	(100.0, 62.0)	(100.0, 72.9876)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.9059)	(99.9975, 12.883)	(100.0, 32.3528)	(100.0, 41.5236)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.8075)	(100.0, 10.3445)	(100.0, 27.0577)	(100.0, 35.3804)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1974)	(100.0, 8.7723)	(100.0, 23.1579)	(100.0, 30.9055)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1678)	(100.0, 7.7777)	(100.0, 20.4165)	(100.0, 27.3499)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1222)	(100.0, 6.0212)	(100.0, 16.4299)	(100.0, 22.3)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2486)	(100.0, 5.6727)	(100.0, 15.1212)	(100.0, 20.5093)

Table 187: Core Frequency: 540.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.5)	(100.0, 31.0)	(100.0, 62.0)	(100.0, 72.9925)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4015)	(100.0, 12.9789)	(100.0, 32.3474)	(100.0, 41.388)
2	(100.0, 0.0)	(100.0, 0.0)	(99.997, 0.0)	(100.0, 1.3079)	(100.0, 10.4196)	(100.0, 27.1777)	(100.0, 35.4294)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2491)	(100.0, 8.7652)	(100.0, 23.1466)	(100.0, 30.8895)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0624)	(100.0, 1.3938)	(100.0, 7.7958)	(100.0, 20.3923)	(100.0, 27.0634)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.046)	(100.0, 1.2481)	(100.0, 6.0672)	(100.0, 16.307)	(100.0, 22.2079)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1951)	(100.0, 5.7063)	(100.0, 15.0953)	(100.0, 20.3839)

Table 188: Core Frequency: 540.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 4.5)	(100.0, 39.5)	(100.0, 69.5)	(100.0, 80.485)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.5778)	(100.0, 17.1717)	(100.0, 39.6945)	(100.0, 49.8517)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4436)	(100.0, 14.1172)	(100.0, 33.6428)	(100.0, 43.2581)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3657)	(100.0, 11.8752)	(100.0, 29.3409)	(100.0, 38.1117)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3042)	(100.0, 10.3131)	(100.0, 26.0506)	(100.0, 34.2144)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0972)	(100.0, 1.3971)	(100.0, 8.1412)	(100.0, 21.2721)	(100.0, 28.352)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.0208)	(100.0, 7.7108)	(100.0, 19.4201)	(100.0, 26.1675)

Table 189: Core Frequency: 540.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 22.5)	(100.0, 80.0453)	(100.0, 86.9832)	(100.0, 88.5)
1	(100.0, 0.0)	(99.9883, 0.0)	(100.0, 0.0)	(100.0, 7.6946)	(100.0, 61.9867)	(100.0, 75.2324)	(100.0, 79.7986)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 7.2522)	(100.0, 57.1333)	(100.0, 72.4245)	(100.0, 76.8713)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.9311)	(100.0, 52.5378)	(100.0, 68.4242)	(100.0, 73.95)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.1763)	(100.0, 48.9995)	(100.0, 66.6458)	(100.0, 71.4454)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1551)	(100.0, 5.7605)	(100.0, 42.8772)	(100.0, 60.7529)	(100.0, 66.9985)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2081)	(100.0, 8.6231)	(100.0, 40.8146)	(100.0, 59.0229)	(100.0, 65.1228)

Table 190: Core Frequency: 540.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 2.5)	(100.0, 25.0)	(100.0, 55.9821)	(100.0, 65.9855)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.4071)	(100.0, 10.13)	(100.0, 26.7477)	(100.0, 35.3323)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.7394)	(100.0, 8.0045)	(100.0, 22.4619)	(100.0, 29.4714)
3	(100.0, 0.0005)	(100.0, 0.0002)	(100.0, 0.0118)	(100.0, 1.1394)	(100.0, 7.0346)	(100.0, 18.9037)	(100.0, 25.566)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0186)	(100.0, 1.1952)	(100.0, 5.9069)	(100.0, 16.6828)	(100.0, 22.5417)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0215)	(100.0, 1.0858)	(100.0, 4.5648)	(100.0, 13.2955)	(100.0, 18.0757)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1289)	(100.0, 4.0763)	(100.0, 12.1248)	(100.0, 16.6019)

Table 191: Core Frequency: 420.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 3.0112)	(100.0, 25.0)	(100.0, 55.0467)	(100.0, 65.9715)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.9068)	(100.0, 10.0785)	(100.0, 26.9488)	(100.0, 35.3043)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.2363)	(100.0, 8.034)	(100.0, 22.2816)	(100.0, 29.509)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1885)	(100.0, 6.9589)	(100.0, 19.1242)	(100.0, 25.5789)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0594)	(100.0, 1.2397)	(100.0, 5.9653)	(100.0, 16.4985)	(100.0, 22.4946)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1148)	(100.0, 4.5019)	(100.0, 13.2427)	(100.0, 18.1063)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.1033)	(100.0, 4.1745)	(100.0, 12.0126)	(100.0, 16.4951)

Table 192: Core Frequency: 420.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 4.0)	(100.0, 33.0)	(100.0, 65.9199)	(100.0, 75.9972)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.4244)	(100.0, 13.6996)	(100.0, 34.1594)	(100.0, 43.7046)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3793)	(100.0, 11.3355)	(100.0, 28.6063)	(100.0, 37.1067)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3407)	(100.0, 9.5962)	(100.0, 24.4799)	(100.0, 32.5003)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0309)	(100.0, 1.6662)	(100.0, 8.0362)	(100.0, 21.46)	(100.0, 28.6936)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.022)	(100.0, 1.4738)	(100.0, 6.2713)	(100.0, 17.4429)	(100.0, 23.4707)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 1.3235)	(100.0, 5.8776)	(100.0, 15.8268)	(100.0, 21.5774)

Table 193: Core Frequency: 420.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 19.5)	(100.0, 77.5)	(100.0, 85.1308)	(100.0, 87.5964)
1	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.6065)	(100.0, 58.1583)	(100.0, 73.0797)	(100.0, 77.2056)
2	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 5.9975)	(100.0, 52.0154)	(100.0, 68.1675)	(100.0, 73.7491)
3	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.0)	(100.0, 6.0554)	(100.0, 47.722)	(100.0, 65.2811)	(100.0, 70.2875)
4	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.6991)	(100.0, 5.6592)	(100.0, 43.4309)	(100.0, 61.0113)	(100.0, 67.377)
5	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.6502)	(100.0, 4.8681)	(100.0, 37.5838)	(100.0, 56.2174)	(100.0, 62.2668)
6	(100.0, 0.0)	(100.0, 0.0)	(100.0, 0.9621)	(100.0, 6.0918)	(100.0, 35.3899)	(100.0, 53.1975)	(100.0, 60.1081)

Table 194: Core Frequency: 420.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	(0.0, 0.0)	(100.0, 1.7401)	(100.0, 1.0617)	(100.0, 31.0)	(100.0, 70.4781)	(100.0, 76.179)	(100.0, 78.4799)
1	(100.0, 0.0)	(100.0, 0.006)	(100.0, 0.0028)	(100.0, 9.575)	(100.0, 59.2087)	(100.0, 70.6942)	(100.0, 72.8727)
2	(100.0, 0.0053)	(100.0, 0.0011)	(100.0, 0.0022)	(100.0, 8.4549)	(100.0, 55.5631)	(100.0, 68.4432)	(100.0, 71.3174)
3	(100.0, 0.0041)	(100.0, 0.0036)	(100.0, 0.0026)	(100.0, 9.0957)	(100.0, 53.0248)	(100.0, 66.8032)	(100.0, 69.7812)
4	(100.0, 0.0034)	(100.0, 0.003)	(100.0, 0.0029)	(100.0, 7.7422)	(100.0, 49.9831)	(100.0, 64.0708)	(100.0, 68.4325)
5	(100.0, 0.0049)	(100.0, 0.0023)	(100.0, 1.4009)	(100.0, 8.5299)	(100.0, 45.9175)	(100.0, 61.8955)	(100.0, 65.8458)
6	(100.0, 0.0043)	(100.0, 0.003)	(100.0, 1.8634)	(100.0, 10.2275)	(100.0, 43.8712)	(100.0, 60.2719)	(100.0, 64.7588)

Table 195: Core Frequency: 420.0MHz, Memory Frequency: 405.0MHz

6.4 Averaged Energy Consumptions of Two Benchmark Runs

	0	1	2	3	4	5	6
0	0.0	1744.3092	2275.2693	3617.2445	10764.5322	20438.3778	26923.069
1	10707.0906	12524.0827	12921.594	13704.146	19072.4223	26151.5559	31968.3176
2	10948.5697	12920.8726	13263.0979	13987.7918	19329.3212	26573.5401	32831.3023
3	11190.1398	13041.735	13353.808	14159.2624	19605.3771	27368.7887	34537.0893
4	11368.0202	13300.6545	13445.4417	14718.6686	20371.5208	29537.7629	36639.1351
5	14179.8011	15677.2964	15875.3276	17244.9814	24326.9844	33170.9308	40556.5665
6	15930.9408	17480.5995	17987.6102	19088.9818	26076.9598	35178.3956	42270.2308

Table 196: Core Frequency: 2100.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1863.5018	2328.7587	3612.9013	10800.6796	20015.5617	26962.2531
1	10480.3991	12460.0299	12680.9403	13450.8151	18943.4168	26146.1149	31879.7152
2	10662.188	12868.4692	12968.3039	13624.7807	19213.1849	26159.1756	32607.7321
3	10877.3969	12882.2909	13131.4476	14012.8211	19468.5489	27385.6915	34289.8278
4	11208.1777	13192.4545	13326.0047	14594.714	20199.7932	29183.3747	36296.8165
5	13921.3487	15528.0128	15730.8003	16992.423	24065.9051	33179.4886	40191.3587
6	15791.1304	17439.8369	17748.9108	18957.2652	25884.7158	34891.446	42003.8163

Table 197: Core Frequency: 2100.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1737.9227	2206.7311	3607.8595	12021.7555	23661.9125	31436.7648
1	9854.6432	11872.2786	12106.3036	13049.7859	19277.9129	27768.0168	35197.4973
2	10061.715	12073.2513	12167.8921	13250.8605	19574.8392	28924.6314	36830.4894
3	10257.6437	12192.4742	12323.7335	13523.8863	19805.8379	30207.7481	38471.4671
4	10586.39	12609.9762	12847.1576	13861.9987	21036.1289	32406.6462	40262.9873
5	13077.3369	14626.3477	15049.5945	16365.8911	25040.122	35955.6369	44242.754
6	14805.1604	16283.2567	16722.3188	18064.3408	26741.707	37914.8091	45928.2347

Table 198: Core Frequency: 2100.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1370.4997	1791.3716	3045.6102	40877.9836	86628.9732	117191.153
1	7062.0223	8491.7027	8823.482	9790.7741	43232.9026	93436.2026	121518.2085
2	7295.6574	8794.8135	8964.6704	9904.8993	44971.8996	92578.2785	122535.0396
3	7424.6304	8963.3828	9008.535	10102.8172	44896.1501	95932.6587	124901.3025
4	7523.8617	8963.3105	9331.8455	10670.2836	47370.3527	93701.7423	124244.6133
5	9407.2543	10704.6616	11416.3166	12815.7649	49728.2185	99100.0414	127445.6091
6	10731.4631	11928.777	12583.2641	14135.94	51839.6077	99975.0283	129868.9169

Table 199: Core Frequency: 2100.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1814.9873	2357.8147	3679.3889	10859.5307	19783.6643	26965.354
1	10797.2836	12630.2673	13063.7646	13860.3791	19185.4606	26352.9092	32213.598
2	11064.1236	12982.6601	13212.2336	14070.5067	19428.1633	26538.5718	32866.8504
3	11161.2392	13039.4893	13375.1327	14221.548	19593.0021	27514.6662	34527.5096
4	11433.0386	13299.3305	13817.4342	14719.3083	20380.2084	29260.3767	36535.8121
5	14101.5022	15639.7799	16112.8582	17202.0715	24313.2589	33268.2039	40422.1846
6	15923.131	17462.8113	17907.0816	19145.8356	26061.9105	35001.8182	42309.5459

Table 200: Core Frequency: 1980.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1840.9765	2338.6276	3632.4883	10754.4626	20190.5156	26896.6231
1	10510.3275	12564.6498	12848.6092	13534.262	18888.2162	25992.3519	31856.2846
2	10690.0622	12926.4897	13050.2508	13793.6897	19215.6777	26591.7745	32645.8436
3	10905.3753	12907.2567	13051.5406	13965.6928	19263.496	27229.447	34332.2028
4	11091.9321	13309.1167	13394.3673	14538.8975	20135.3027	29328.762	36310.0313
5	13972.7052	15568.2485	15865.0977	17005.5574	24155.518	32946.3569	40195.5651
6	15850.412	17416.04	17870.0609	18987.0647	26025.4159	35213.559	42081.9791

Table 201: Core Frequency: 1980.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1722.3376	2166.9887	3580.3547	11957.1615	23056.622	31366.0244
1	9873.1209	11775.3697	12013.7361	12997.7664	19270.8198	28076.7328	35218.3776
2	10060.094	12078.519	12176.57	13260.9867	19560.6821	28490.5986	36866.7412
3	10284.5102	12344.9925	12345.4707	13469.3773	19711.2078	30694.5808	38497.3981
4	10626.7265	12597.1838	12882.2456	13962.9896	21168.007	32047.0096	40322.5952
5	13040.7356	14572.4178	14962.8647	16229.2847	24737.1718	36112.1044	44061.894
6	14762.0187	16229.5808	16648.0397	17976.0666	26628.391	37621.1172	45963.3367

Table 202: Core Frequency: 1980.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1356.4486	1739.4067	3030.5981	39213.4624	89704.7407	117843.4968
1	7103.5178	8588.719	8868.9128	9561.6234	43748.3294	92176.255	122028.5755
2	7283.7238	8730.906	8894.0865	9902.9873	43636.8522	93019.8496	123737.2546
3	7393.4352	8848.7193	9002.7073	10074.2581	46206.6405	92332.6396	124469.4486
4	7574.3789	9024.0753	9360.4902	10646.1693	46217.58	95618.2131	124409.3413
5	9470.4429	10632.6091	11323.9276	12778.5776	50908.741	98485.3195	128351.5319
6	10783.505	11930.8118	12556.8927	14137.3868	50371.5378	101321.4755	131132.0505

Table 203: Core Frequency: 1980.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1653.083	2163.14	3436.1337	9864.1646	18318.1649	24753.2673
1	9918.3821	11653.2209	11899.3194	12671.7129	17405.7285	23941.1307	29476.6071
2	10032.6036	11744.7681	12043.3299	12779.1338	17573.6981	24532.6817	30331.4994
3	10201.8372	11918.8441	12159.8862	13129.1572	17952.111	25607.6304	32202.8756
4	10637.8119	12330.5993	12626.5309	13630.4868	19021.5617	27635.3109	34036.5487
5	13285.3852	14724.0564	15138.7243	16132.3579	22584.461	31008.0392	37681.3867
6	14947.0789	16442.7797	16740.0017	17864.0668	24214.1479	32849.8544	39440.6431

Table 204: Core Frequency: 1860.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1667.4996	2142.7696	3423.805	9865.3366	18245.9952	24653.1215
1	9642.6495	11392.5053	11703.0709	12328.2552	17052.7109	23921.505	29032.1066
2	9774.6226	11782.2317	11822.7799	12552.2349	17242.7247	24020.3564	29856.2535
3	9835.4927	11793.1402	11952.3437	12709.0893	17405.5238	25341.6395	31440.611
4	10175.0442	11986.7167	12366.4315	13077.4667	18628.1576	26931.4583	33365.4903
5	12993.07	14507.2283	14739.0898	15838.6354	22062.7635	30793.9322	36974.874
6	14716.877	16193.0996	16466.3168	17499.4965	23734.6877	32256.8499	38667.4992

Table 205: Core Frequency: 1860.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1561.5859	2008.2735	3308.6763	10815.096	21163.352	28014.4406
1	8881.0607	10671.2394	10912.8708	11786.3466	17500.47	25123.4246	31669.9867
2	9057.6304	10902.7013	11028.5663	12007.1546	17718.8448	26400.9625	33284.1459
3	9237.0682	10947.3278	11222.0714	12195.0362	17788.8557	27612.2141	34879.7696
4	9515.2051	11365.2711	11551.2185	12569.6198	19245.6058	29506.5703	36548.1157
5	12157.8835	13536.0308	13925.0149	15067.0994	22683.4288	32597.1465	40093.5343
6	13759.3779	15113.9181	15527.8735	16647.5091	24292.128	34450.0403	41722.2369

Table 206: Core Frequency: 1860.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1176.9113	1681.3917	2821.1366	37401.4695	77207.4699	106588.0879
1	6609.6139	7855.1261	8123.5403	8962.2925	38288.6327	82736.2113	109261.8507
2	6822.4325	8312.0475	8340.7334	9228.8866	40629.3641	82484.593	111376.5278
3	6975.665	8177.0867	8377.4407	9224.9912	40219.4334	84970.8773	112569.8237
4	7095.761	8436.5697	8559.2539	9372.8437	42271.6528	86607.0848	113977.936
5	8963.5998	10016.4772	10306.1394	11326.4013	44396.0001	91429.5755	115856.723
6	10116.6352	11098.7687	11532.3963	12632.8128	47146.6439	91433.2873	116593.3378

Table 207: Core Frequency: 1860.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1526.0065	2036.437	3037.1146	8909.1376	16303.5279	22069.4968
1	8899.2791	10353.6916	10728.21	11341.2125	15684.3444	21584.9394	26293.1486
2	8945.3862	10530.7674	10839.9205	11405.123	15877.8169	21593.603	27426.9593
3	9122.9279	10687.3331	11153.4298	11597.1112	15960.8377	23184.8715	28967.5804
4	9441.2062	11050.9733	11410.6746	11987.3023	17420.4318	24802.7012	30786.5195
5	12503.3578	13852.0879	14318.1319	15128.611	20797.6295	28276.1538	34100.9216
6	14180.4988	15492.0029	15816.7336	16701.5741	22410.2499	29856.5526	35680.2167

Table 208: Core Frequency: 1740.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1532.3945	2015.5667	3057.8109	8918.067	16566.9784	21937.7213
1	8599.8994	10310.7798	10563.8413	11102.5307	15547.2508	21419.8048	25966.7418
2	8693.6619	10514.0467	10726.7908	11220.3231	15700.3543	21676.0248	27166.714
3	8876.0372	10674.0015	10849.9003	11285.2909	15755.481	22940.7764	28748.6458
4	9032.2481	10770.3879	10945.4696	11863.0864	17269.9573	24826.9672	30521.716
5	12320.5322	13719.1999	13989.8994	14940.9902	20662.1315	28100.2172	33701.0574
6	13956.6944	15287.3912	15592.2287	16450.9532	22224.2703	29740.8216	35230.5615

Table 209: Core Frequency: 1740.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1395.6834	1893.8783	2979.777	9971.0312	18858.3044	25546.8948
1	8078.5221	9668.3864	9915.7642	10914.9448	16089.9391	23085.795	29279.4232
2	8242.8309	9961.7047	10261.2996	10952.3828	16182.666	23911.3071	30718.993
3	8427.685	10097.6002	10214.1409	11059.8526	16510.2635	25669.894	32128.8885
4	8582.3339	10261.6966	10451.2763	11414.3407	18200.3266	27009.8956	33742.4341
5	11446.2241	12741.7275	13135.3983	14200.2137	21338.7252	30423.188	37023.6731
6	12963.5218	14269.9309	14653.2995	15751.2562	22957.352	31735.5057	38578.9062

Table 210: Core Frequency: 1740.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1040.106	1481.6071	2408.5377	30193.5108	69481.2726	89681.2024
1	5722.7499	6893.5977	7243.7109	7971.8625	33916.1488	71647.6206	92787.883
2	5832.4183	7010.268	7310.8808	8126.7923	34208.3616	74014.8235	93786.6483
3	5932.4503	7055.8292	7387.9322	8299.1738	36447.2331	73975.4681	94854.0668
4	6028.93	7297.3076	7746.2198	8675.6596	36544.1624	76317.3064	96143.7275
5	8304.6845	9430.2106	9954.7283	11013.6829	40426.4834	76701.4228	98479.6044
6	9612.3824	10678.3296	11228.6979	12357.2225	41124.248	77734.9616	100695.1698

Table 211: Core Frequency: 1740.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1364.2591	1946.3108	2897.8984	8462.6241	15515.8013	20752.4097
1	8383.0444	9855.9239	10202.0774	10725.0769	14705.9133	20171.9495	24649.5518
2	8469.2722	9966.1591	10324.7183	10889.037	14961.6708	20866.6555	26169.6514
3	8572.1641	10091.0099	10443.6773	11064.5254	15404.847	22326.6506	27729.4344
4	8866.3395	10253.296	10572.8574	11468.3742	17122.2107	24121.0881	29477.1667
5	12227.2802	13478.1444	13884.5553	14763.2659	20454.4179	27307.6308	32811.6358
6	13814.8448	15078.5051	15503.8301	16496.0894	22005.0152	29014.0213	34390.0585

Table 212: Core Frequency: 1620.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1353.0672	1916.1379	2871.9272	8479.9339	15314.352	20674.9361
1	8151.3008	9723.8147	10047.0797	10504.4397	14536.648	20226.2197	24537.574
2	8283.0888	9906.5676	10189.6456	10644.8835	14789.8547	20619.407	26006.7689
3	8455.4863	9975.8282	10261.9847	10769.5763	15204.6574	22249.3992	27524.1775
4	8813.3618	10196.4523	10607.3528	11362.625	16974.5355	23887.7385	29470.7333
5	12290.232	13522.9631	13849.2795	14669.6234	20125.7599	27218.5849	32777.797
6	13865.0286	15090.5118	15510.0596	16329.9812	21802.4383	28830.3462	34198.2988

Table 213: Core Frequency: 1620.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1304.8287	1811.4758	2806.0365	9337.5306	18131.6766	23779.6108
1	7346.2466	8817.9092	9185.4605	10028.6518	15018.2273	21719.8662	28188.2967
2	7805.7908	9286.2999	9536.846	10273.598	14996.1876	23040.2887	28877.7406
3	7679.3641	9184.9077	9592.5383	10548.5898	15896.9955	24428.9793	30675.2688
4	8299.5545	9627.9074	10026.7997	11115.9612	17442.2624	26432.9143	32769.8009
5	11847.9005	12965.1493	13339.6886	14338.5239	20491.6504	29084.7767	35086.7018
6	12975.4512	14301.3087	14867.1451	15900.1997	22193.1928	31011.0308	37240.7439

Table 214: Core Frequency: 1620.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	940.5012	1389.628	2269.0301	29686.6378	62577.8318	84603.7816
1	5334.9456	6439.2973	6741.6869	7526.3079	31373.0329	66951.0499	87236.7896
2	5478.7651	6631.2304	6897.9236	7687.7267	33579.0686	66741.4158	88124.3322
3	5620.21	6737.239	7054.7217	7776.9208	33741.0621	69167.6299	89103.1301
4	5987.2773	6935.1042	7337.1769	8244.993	35800.8347	69128.8286	90347.0453
5	8304.2785	9255.0903	9674.2208	10619.5174	36836.2551	72500.2661	92903.4466
6	9526.8365	10340.2404	10713.0103	11614.5199	38868.2496	72861.1164	94594.7784

Table 215: Core Frequency: 1620.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1365.2251	1946.8363	2813.6325	8077.5775	14543.3613	19557.2635
1	7925.9862	9373.8432	9857.1703	10195.4868	14049.4809	19456.5554	23474.5948
2	8105.0973	9644.9267	10035.6948	10540.8515	14209.7097	20419.8281	25372.3935
3	8211.5103	9760.6101	10144.5157	10744.699	15119.4481	21924.0183	27054.6696
4	9186.7977	10431.4159	10893.1781	11846.5966	16863.2686	23669.1826	28354.7179
5	12560.7378	13860.1602	14440.8068	15298.5098	20249.6015	27067.9672	31953.1183
6	14247.2214	15635.4843	16059.7423	16843.5712	21851.3703	28868.8511	33741.3897

Table 216: Core Frequency: 1500.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1359.345	1930.7811	2784.4488	8037.6332	14550.3656	19590.663
1	7842.7181	9334.6237	9800.1665	10091.4755	13970.6043	18960.3429	23334.0379
2	7822.4749	9427.1001	9729.3971	10113.4586	13974.6906	20110.6879	25300.5658
3	8114.918	9579.5124	9939.3124	10296.9775	14926.2547	21566.2246	26684.2385
4	9111.1572	10466.1207	10837.1382	11769.005	16642.5224	23401.742	28293.4666
5	12490.4817	13792.7146	14334.1255	14989.4623	20058.9502	26962.9667	31974.6967
6	14283.8138	15534.4529	15860.66	16689.5832	21684.3322	28579.6807	33438.1963

Table 217: Core Frequency: 1500.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1309.0027	1817.8092	2717.9023	8997.3097	16973.1239	22922.8785
1	6839.5033	8212.8727	8685.2531	9378.5124	14272.4498	20992.316	26701.7504
2	7026.5226	8464.8493	8698.6571	9537.1352	14311.13	22244.6947	28578.9804
3	7467.0945	8825.367	9077.666	9859.0467	15614.5403	23699.6973	29456.3423
4	8035.6334	9354.84	9820.1347	10969.888	17353.2117	25096.4232	31448.2734
5	11644.1304	12987.5514	13444.4912	14395.5375	20825.8486	28901.9521	34451.1566
6	12853.267	14096.6407	14678.3543	15729.4753	22117.6635	29970.6452	36469.9667

Table 218: Core Frequency: 1500.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	901.5853	1370.8297	2099.3684	26169.3108	60219.1082	82213.0091
1	4940.1711	5862.9384	6195.5979	6948.6053	29631.2496	62170.7187	84483.037
2	5065.5824	6051.7753	6405.8854	7105.5638	29950.8872	64733.6641	85331.5613
3	5113.6303	6135.2272	6352.8461	7174.0933	32136.2246	64931.6592	86193.517
4	5825.0543	6618.4731	7049.4403	8002.3335	32497.7411	67434.927	87163.0117
5	8186.3792	8925.7248	9498.7933	10455.4653	36098.931	68934.4436	88962.5663
6	9159.5173	10065.6589	10724.4208	11764.4471	36401.4098	71483.3176	89634.5192

Table 219: Core Frequency: 1500.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1405.2332	1919.9293	2784.0242	7842.8946	14261.6619	18770.8894
1	7529.3247	9047.709	9399.435	9688.2723	13559.6595	18682.8034	23061.9856
2	7842.7102	9453.7834	9773.3086	9977.7399	13660.2277	20013.6033	24390.8937
3	7800.8356	9249.8292	9745.4845	10169.2424	15257.8842	21732.5895	26105.8292
4	9371.9922	10757.2189	10934.3637	12032.8611	17191.2985	23502.4762	28275.4626
5	13118.0924	14399.0251	14890.0548	15660.3065	20619.0889	26586.248	31356.5836
6	14751.6406	16105.0968	16671.9003	17074.4822	22308.3048	28472.7282	33545.0046

Table 220: Core Frequency: 1380.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1403.518	1913.4948	2758.6363	7873.8149	14263.5174	18791.2575
1	7415.1554	8932.193	9230.5218	9515.2262	13484.1829	18430.5792	22980.5333
2	7699.2289	9306.8826	9607.4931	9851.6844	13572.919	19695.5619	24278.3027
3	7634.6299	9245.5055	9645.837	10231.99	15218.5082	21420.1684	25952.5226
4	9301.922	10658.8432	11022.1626	11921.3407	16994.3879	23281.6229	28200.7991
5	13066.966	14337.5921	14826.402	15424.7869	20489.7501	26819.1249	31313.5697
6	14609.6293	15918.9127	16256.7359	16949.3301	22155.4922	28348.2047	33111.0365

Table 221: Core Frequency: 1380.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1303.5468	1856.0354	2726.7218	8816.7964	16723.5586	21925.1286
1	6547.2412	7917.7145	8280.6969	8965.3934	13716.6279	19956.6736	25603.0899
2	6638.467	8055.564	8425.0749	9156.6243	14163.9408	22017.3097	27638.6
3	6994.7974	8425.4902	8694.8124	9458.1048	15589.6605	22994.3333	28642.2858
4	8265.2315	9459.6558	9943.9518	11021.5299	17289.2092	25048.4884	30816.1018
5	11882.5294	13089.0865	13589.1083	14492.6418	20567.6508	28152.4466	33552.4639
6	13002.4812	14284.4346	14816.8862	16026.3255	22291.4786	30423.7907	35744.1145

Table 222: Core Frequency: 1380.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	899.1879	1297.6243	2009.4591	25833.2446	55541.8771	76531.4369
1	4775.095	5799.768	5983.2474	6617.6738	27942.9023	58994.0584	79076.3867
2	4811.5293	5875.7469	6120.3647	6707.4448	29880.3389	60514.2273	79782.3557
3	4855.3318	5849.9949	6088.3744	6855.2627	30019.0119	62162.5002	82305.3126
4	5918.9468	6740.1362	7110.5282	7927.5588	31664.0959	62211.7323	83784.9853
5	8204.8775	9087.2242	9368.5291	10181.2481	33226.257	65411.1804	86037.7405
6	9290.1928	10101.3115	10427.1259	11478.0599	35585.3427	66168.3406	86798.2196

Table 223: Core Frequency: 1380.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1441.5361	1969.9283	2885.1841	7697.7125	13892.9053	18522.1658
1	7142.299	8608.23	9047.4361	9572.6356	13397.2203	18345.9983	22860.6698
2	7532.3895	9020.9764	9350.3924	9617.2119	13935.4744	19934.5711	24458.4215
3	7927.1825	9297.0736	9847.4777	10569.7037	15724.6001	21608.4131	26397.6207
4	9954.6206	11430.5715	11896.3679	12834.0383	17670.9043	23567.5273	28212.1262
5	13622.4266	15083.7848	15757.1592	16198.841	21141.2333	27221.001	31892.6556
6	15765.0951	17213.7013	17382.7957	18199.6889	22944.5771	29200.5966	33600.1035

Table 224: Core Frequency: 1260.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1448.4733	1958.9526	2839.7178	7720.9014	13816.5469	18496.279
1	7060.7066	8634.551	9081.0684	9448.0686	13246.7966	18193.3977	22629.9246
2	7189.0218	8763.1757	9120.9237	9424.4225	13741.9114	19830.7568	24515.9863
3	8033.4921	9344.7786	9814.1947	10498.5864	15615.8593	21594.5502	26419.1771
4	9920.8536	11205.2348	11680.0994	12307.3918	17379.322	23452.2077	28189.3104
5	13753.826	15203.8205	15360.9015	16221.3353	21219.2802	27314.0015	31779.9706
6	15380.9338	16608.4374	16933.7843	17585.4264	22633.3973	29057.0875	33741.6177

Table 225: Core Frequency: 1260.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1288.012	1801.1425	2769.3878	8372.3891	15540.2132	21116.2495
1	6408.2877	7783.4618	8149.5819	8745.5355	13429.699	19852.8776	25349.2477
2	6483.2718	7962.9263	8393.0301	9008.701	14209.5371	21327.4294	26442.874
3	7054.731	8285.1364	8767.7709	9697.7541	15633.6934	23386.6981	28836.0629
4	8773.3867	10001.348	10502.2035	11653.0577	17578.1864	24934.7205	30016.8254
5	11939.2989	13141.0746	13630.2021	14713.5464	20689.7789	28821.2667	34127.1213
6	13838.1692	14984.9636	15302.671	16129.4864	21876.9713	29573.8357	35462.1081

Table 226: Core Frequency: 1260.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	916.7203	1372.6682	2117.7765	23919.2188	53818.8668	72260.5158
1	4723.7962	5705.3822	5925.7291	6465.642	27939.7508	55585.3399	74323.4628
2	4735.5464	5824.0743	5953.5095	6615.8197	28585.0626	59265.9621	74659.2998
3	5110.5139	6042.9114	6364.2913	7016.9715	30049.3798	58526.5954	78235.9315
4	6291.671	7183.8958	7528.7335	8101.2993	29995.3992	60229.894	79056.5167
5	8755.5391	9635.5197	10016.8564	10750.9676	33575.1624	61832.4962	80588.9489
6	9808.3496	10666.5219	11070.6708	11807.7375	33843.6893	64611.7501	82359.4557

Table 227: Core Frequency: 1260.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1493.1469	2048.0473	3012.6528	7710.6675	13935.1781	18612.3209
1	7142.9645	8627.644	9065.8335	9505.6735	13312.097	18707.2301	23173.6186
2	7468.7692	9093.427	9321.7007	9768.8349	14619.1751	20457.5079	25088.657
3	8643.7117	10044.8029	10597.1684	11468.3472	16479.2692	22419.9316	27036.198
4	10770.7972	12234.8822	12851.3613	14031.0808	18786.3285	24602.1305	29108.0839
5	14793.5857	16323.1361	16985.7708	17373.563	22279.9118	28745.3319	33091.7663
6	17027.4772	18650.5576	19148.7042	19496.8104	24089.7159	30673.3537	34964.7897

Table 228: Core Frequency: 1140.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1489.9677	2049.482	3010.4725	7758.1935	13915.1118	18562.7462
1	7014.5493	8612.0709	8920.977	9310.7	13075.9027	18512.8272	23085.1043
2	7228.3728	8946.9505	9213.7052	9673.0233	14491.152	20449.9277	25227.445
3	8714.5559	10080.5588	10590.6185	11280.3913	16260.3788	22245.6946	26870.9308
4	10655.7296	12107.4543	12516.1414	13670.9403	18709.5643	24660.0842	29313.3359
5	14822.5092	16210.6581	16684.0383	17238.491	22112.8736	28400.768	32976.9858
6	16917.6041	18524.4978	18754.8024	19404.594	24487.7709	30487.3578	34784.5894

Table 229: Core Frequency: 1140.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1371.6357	1892.5648	2882.5671	8413.7998	15497.7015	20316.4511
1	6321.8359	7706.9249	8066.2728	8680.8501	12753.5916	19580.4874	24441.93
2	6357.048	7806.5967	8061.8474	8635.0004	14116.7674	21629.4509	26660.9239
3	7710.7146	9059.8714	9489.8506	10355.4274	16014.2602	23198.944	28213.7294
4	9387.2155	10691.6987	11148.7265	12085.3355	17423.5636	25243.4789	30478.8489
5	12949.297	14325.522	14840.393	15590.0188	20746.8082	28066.6896	33618.8698
6	14604.524	15946.9467	16484.6036	17250.3066	22692.6959	30364.5987	35314.3122

Table 230: Core Frequency: 1140.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	987.7437	1368.3581	2136.3482	24077.9222	51252.6639	69114.5221
1	4471.4334	5562.7406	5771.6374	6298.1459	26356.4512	55620.4022	72024.689
2	4573.2341	5667.933	5857.4659	6340.4043	28363.7529	55818.0918	73801.4535
3	5501.4604	6487.025	6855.4485	7475.7137	28132.1267	57086.7087	74679.9525
4	6878.4902	7868.7875	8209.6142	8863.1725	31034.1451	58823.5248	75056.6312
5	9308.7841	10305.6773	10672.451	11329.0237	32200.3659	61602.4391	79132.8233
6	10594.1617	11532.5072	11894.0881	12639.4199	34564.5121	62157.4422	79707.5877

Table 231: Core Frequency: 1140.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1566.5458	2150.2991	3174.2713	7807.0552	14160.6982	18748.1282
1	7197.1674	8656.4171	9092.919	9700.7952	13329.9673	19128.4566	23665.3931
2	7394.1768	8875.7759	9429.5827	10294.1342	15281.1132	21340.0743	26104.2461
3	9770.1716	11315.2001	11833.7732	12748.12	17372.0931	23543.295	28036.37
4	11727.8113	13234.8629	14065.4994	14658.5956	19471.7518	25944.1008	30834.7827
5	16599.9603	17816.6697	18546.4458	19275.0499	23775.6359	30302.015	34686.4257
6	18549.7518	20213.2605	21043.2798	21555.4545	26024.3175	32511.4763	36866.6234

Table 232: Core Frequency: 1020.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1551.4077	2113.8523	3181.1822	7781.5401	14053.4651	18760.1328
1	7025.9139	8627.1675	8975.4279	9312.3275	13081.0348	18973.7139	23589.4182
2	7388.6111	8914.4468	9583.6263	10354.8673	15232.5561	21277.2501	26042.6722
3	9702.2957	11227.5883	11855.0161	12462.6161	17189.2189	23462.4211	27853.125
4	11558.9519	13047.9659	13749.7706	14665.2308	19565.6145	25971.0608	30514.428
5	16675.8317	17937.0322	18067.364	18833.4904	23630.0218	30027.2313	34551.3397
6	18540.1998	20377.5243	20617.007	21455.8126	26157.0442	32252.068	36659.3045

Table 233: Core Frequency: 1020.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1435.2671	1947.166	3029.8216	8400.786	15110.6256	20238.6253
1	6295.6078	7746.1861	8017.6076	8635.2503	12734.56	20012.821	25020.3144
2	6666.9626	8082.9611	8604.6197	9495.3959	15128.5562	22184.0001	27099.5782
3	8531.5458	9908.5636	10341.7001	11223.726	16174.576	23656.0241	29185.5363
4	10468.1751	11891.3139	12435.5391	13359.8921	18697.5978	25565.9899	30869.3316
5	14260.5461	15621.39	16039.1894	16907.6253	22207.3831	29997.733	35558.6525
6	16172.531	17523.4768	17950.6909	18844.6518	23762.3129	31040.8933	37145.1988

Table 234: Core Frequency: 1020.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1080.3741	1388.2672	2179.8987	22316.2538	50234.1566	68209.7216
1	4475.3953	5576.7112	5780.4554	6323.9211	26985.2213	53993.403	71736.7067
2	4693.5242	5677.8865	5974.9032	6771.0927	26417.2258	54823.0212	72499.7598
3	6121.9625	7183.0593	7565.5776	8290.2546	29690.5368	56877.7802	73197.6408
4	7425.1657	8427.8494	8813.3413	9569.3403	29211.15	58162.0692	75675.3427
5	10410.1485	11418.5614	11649.3249	12371.0439	32733.2247	60316.4949	78526.3798
6	11522.3816	12423.8499	12910.6593	13792.3195	33819.1836	62467.7661	78957.9449

Table 235: Core Frequency: 1020.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1609.3083	2232.4888	3265.2125	7710.8112	14157.6956	18723.3834
1	7073.5364	8602.919	9141.8445	9743.7376	13643.4679	19832.8876	24490.8722
2	8347.8218	9965.5218	10763.7649	11802.5597	16472.6497	22479.7214	26883.0546
3	10624.1318	12193.7371	13042.3057	13738.4834	18336.2573	24889.5669	29405.7345
4	13252.0124	14860.8091	15193.9024	17001.2439	21338.4097	27593.6329	31831.9931
5	18359.3887	19675.0006	20138.0335	21330.9263	25737.4044	32767.0632	37290.8405
6	20790.6319	22394.292	22742.6318	23313.83	28186.9857	34586.6145	39528.7427

Table 236: Core Frequency: 900.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1614.0387	2270.9768	3269.5282	7779.579	14173.83	18882.3002
1	7055.5624	8708.0457	9216.6681	9638.4136	13824.7391	19871.2987	24385.2145
2	8195.1281	9683.1047	10293.8697	11006.1283	15838.1234	22267.9568	26886.4383
3	10781.086	12361.4935	12892.69	13726.59	18503.5467	25051.1459	29312.9951
4	12992.27	14523.7341	14849.4999	16086.3763	20892.6971	27551.651	32053.1414
5	18393.8779	19921.3922	20405.5783	21116.248	25430.08	32155.6804	36775.3586
6	20792.8406	22318.6409	22341.2092	23250.473	28061.8493	34773.1751	38991.8407

Table 237: Core Frequency: 900.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1531.13	2044.5268	3189.1039	8481.8883	15362.9074	20428.4653
1	6318.0403	7891.0	8053.9467	8747.8412	13207.1501	20535.464	25647.1318
2	7494.739	8994.76	9465.6782	10406.0079	15726.4788	23000.8269	28105.9989
3	9610.2104	11074.902	11532.9618	12424.4055	17237.5498	24532.3138	30053.4291
4	11751.7861	13310.014	13780.9564	14743.2623	19849.9745	26949.2555	31966.918
5	16009.5381	17502.7713	17979.4996	18898.0797	24028.7522	31698.2335	36934.3036
6	18175.6645	19653.1846	20060.5893	20975.6815	25849.8912	33359.0341	39146.8944

Table 238: Core Frequency: 900.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1208.4918	1569.0491	2368.5481	23311.5247	49633.6094	67845.0493
1	4410.391	5454.2948	5758.1978	6329.0219	25711.7909	53471.0834	68996.7658
2	5032.163	6217.8904	6662.006	7540.902	27783.431	54205.2272	72271.4857
3	6793.0166	7981.8883	8413.1005	9215.88	29288.0719	57535.16	72459.7715
4	7703.6998	8841.1141	9355.3538	10367.193	30426.0848	56920.4612	75096.2409
5	11517.4273	12681.83	13063.2751	13888.3567	33493.538	61994.7979	77113.3962
6	12711.2743	13877.4402	14427.2209	15330.5236	35636.8558	62596.7167	79047.7516

Table 239: Core Frequency: 900.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1699.6218	2392.5137	3464.849	7783.1608	14448.9124	18916.614
1	6971.09	8620.5557	9098.0817	9889.8132	14615.4621	20836.3128	25508.9672
2	9487.9026	11176.3585	12142.6224	13206.3198	17384.8586	23854.8924	28031.2834
3	12001.4743	13884.4139	14532.8216	15180.7689	19724.3278	26871.7188	31155.9265
4	15248.3358	16997.8188	17696.1243	18108.1802	22694.0807	29795.2577	33845.1505
5	20434.478	22631.7297	22920.5868	24242.8811	29269.9358	35179.1335	39721.9771
6	23160.9213	25091.6357	25376.4932	26564.0475	31418.9088	38283.9911	42568.6815

Table 240: Core Frequency: 780.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1640.952	2375.6583	3469.4287	7824.4997	14243.1671	18708.4131
1	6752.5998	8477.3318	9068.3563	9822.0852	14554.0732	20999.8563	25502.5691
2	9455.1356	11085.1277	11823.7865	12715.1244	17433.2495	23803.5868	27910.291
3	11879.197	13547.2646	14346.5703	15336.1485	20154.1101	26838.6715	30900.1081
4	14904.5813	16650.0678	17174.622	18331.1227	22651.9771	29521.179	34026.1772
5	20901.8158	22362.1581	22412.7263	23365.6416	28174.4831	35185.2579	39583.8687
6	23569.0639	25350.2143	25499.3927	25827.1185	30345.6325	37511.101	42381.2926

Table 241: Core Frequency: 780.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1588.6058	2127.3689	3329.3145	8355.2651	15243.3902	20206.6924
1	6269.3488	7816.0294	8164.2307	9162.3281	13942.4377	21449.5294	26763.1602
2	8602.8124	10216.4463	10750.4784	11744.2114	16498.0032	23633.0499	28715.4407
3	10960.3845	12506.468	12993.7756	14044.5715	18807.5671	26526.8645	32101.5316
4	13490.4473	15018.667	15495.5528	16499.4141	21061.0038	28175.0597	34099.1271
5	18483.015	20132.8291	20622.8838	21521.4215	26059.7015	32534.3846	38267.7648
6	20855.5366	22529.1164	23191.5407	24125.3694	28597.8697	35022.4057	40197.229

Table 242: Core Frequency: 780.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1361.0626	1810.3101	2614.107	22400.1278	47742.9812	64602.3987
1	4153.547	5417.6788	5920.3831	6816.256	26949.2108	53009.1043	70910.8742
2	6000.3644	7355.0321	7817.2726	8720.0938	28489.6874	56350.582	71697.6032
3	7150.6056	8366.0092	8773.2456	9860.5224	29693.6295	55621.1252	73839.588
4	9380.8797	10679.4205	11167.6618	12110.7612	31640.1065	59605.715	75487.0295
5	12503.2127	13792.6813	14281.1853	15382.3292	35060.8299	61626.5302	78849.7768
6	14152.0245	15456.0909	16072.0079	17140.2883	36323.7979	64164.5702	79877.6824

Table 243: Core Frequency: 780.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1812.6009	2568.3801	3824.0567	7954.9817	14602.8182	19072.5376
1	7632.2378	9469.1293	10489.4732	11528.4246	15996.8267	22663.0087	27091.9249
2	11249.2493	12744.6592	13382.0478	14331.3547	19196.4303	25727.9373	29920.9066
3	14071.5062	16314.6639	17094.9578	17994.5135	22611.4759	29314.7023	33377.8705
4	17247.129	19347.2804	19701.0544	20709.0859	25909.4594	32805.1842	37536.9083
5	23949.6215	25708.4539	26642.8881	27071.6658	32220.2776	39230.3354	43947.3401
6	27171.2378	29184.2757	29236.6124	30439.988	35129.5934	42531.4924	46844.4111

Table 244: Core Frequency: 660.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1872.421	2644.1609	3851.0035	8193.5645	14846.1154	19191.924
1	7666.3509	9417.0191	10113.9039	11103.198	15721.6367	22239.9134	26479.559
2	10620.7986	12488.9764	13469.5151	14591.9068	19382.5047	26288.3513	30228.9766
3	13968.4088	15653.1642	16351.5188	17230.1906	21817.0407	28738.0746	33419.9999
4	17756.3165	19881.5928	20242.7168	20966.5218	25435.6454	32192.8171	36573.1345
5	23568.3682	25546.1701	26405.9756	28120.9399	32415.3773	38791.1027	43063.9521
6	26618.6359	28424.5845	29232.2528	30550.1365	35705.6413	42100.7826	46174.5741

Table 245: Core Frequency: 660.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1689.8414	2336.2926	3614.7828	8460.2193	15593.0222	20793.8357
1	7165.4069	8833.3353	9396.3067	10559.5318	15266.8105	22504.1186	27583.2415
2	9997.8766	11675.6255	12313.3305	13416.9846	17968.462	25511.8535	30728.1774
3	12936.7706	14602.5787	15208.6047	16271.1068	20681.0578	27819.1084	33289.6557
4	15785.8637	17451.7613	18023.8646	19195.9188	23734.9863	31220.2568	36308.0087
5	21625.809	23340.6046	23800.9296	25005.8835	29457.6402	36771.8491	41794.2067
6	24517.3002	26117.4923	26645.6159	27902.5502	32428.87	39817.9813	44675.4652

Table 246: Core Frequency: 660.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1373.7668	1881.571	2755.3049	22687.2031	48123.6508	66146.8936
1	4877.1145	6320.0333	6804.0044	7781.6519	27265.5511	54721.7275	70176.6277
2	6624.9339	8040.163	8587.4789	9604.0335	29518.3461	55004.3157	71069.5701
3	8586.3971	9981.1348	10495.7319	11534.7478	30921.8456	58269.3166	75340.4241
4	10990.8928	12417.9427	12866.1833	13885.3111	34011.7953	60314.0631	75987.538
5	13818.3023	15310.2559	16070.4712	17199.9491	36010.5331	63461.7146	80968.4863
6	16991.0409	18364.9005	18898.9394	19997.1647	39915.0283	66240.8336	83258.5317

Table 247: Core Frequency: 660.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	2037.3813	2930.1586	4261.6312	8886.6227	15330.391	19931.828
1	9285.6258	11262.5593	12367.093	13309.8503	18156.1935	24616.6278	29104.393
2	12919.7962	14984.0771	16400.6206	17430.1107	22359.6703	29180.4761	33078.3532
3	16660.9079	19000.1133	19844.6386	20505.6288	26235.2692	32829.6664	37786.3465
4	20953.0535	22702.8004	23906.0177	24390.6086	30008.7656	36758.3738	42046.2019
5	28782.7993	31029.3295	31351.7623	32605.7404	37883.4365	44884.7889	49402.5677
6	32567.326	34466.6413	35377.7828	36230.5024	42229.0577	48289.0858	52430.6175

Table 248: Core Frequency: 540.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	1983.741	2910.2007	4278.4914	8943.4943	14927.2108	19578.2412
1	9202.993	11193.7205	12166.2747	13259.614	18474.719	24812.0614	29147.0066
2	13279.8502	15339.4396	15959.5621	16832.8917	21804.2095	28448.1919	33101.8385
3	17115.5729	18997.8574	19579.6246	20861.1802	26049.7955	32756.6754	37071.3521
4	20872.3626	22951.075	23526.0261	24934.1176	29577.472	36571.6397	41440.8173
5	28512.1625	30697.287	31180.7849	32969.2415	37334.4715	44339.0203	48754.4228
6	32085.7869	34424.5908	35517.3106	36325.253	41365.7975	47582.6413	52215.177

Table 249: Core Frequency: 540.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	1914.596	2621.1196	3986.8063	8738.6162	15968.3387	20794.902
1	8594.849	10451.3623	11133.2802	12331.6092	16612.9062	24314.3222	29953.9161
2	12217.8597	14154.7982	14825.5409	15914.7102	20198.1051	27009.6367	32145.0976
3	15589.9804	17517.8947	18230.7792	19536.3346	24037.0635	31317.8341	35752.3489
4	19071.3864	20880.421	21605.6192	22942.4074	27413.5665	34999.3296	39853.0908
5	26195.2425	27936.874	28635.8978	30100.5198	34596.2461	41919.034	45854.6401
6	29630.4738	31353.0382	32203.6204	33680.1741	38356.3031	44576.0281	48810.3635

Table 250: Core Frequency: 540.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1471.8196	2018.0972	2941.8042	22007.7057	48578.1346	63394.268
1	5599.9758	7054.1619	7677.3614	8761.6633	28397.3179	53958.6612	71709.5618
2	8244.9565	9782.584	10366.1583	11384.3756	30656.8867	57824.7555	73234.8592
3	10261.1135	11732.4813	12346.8893	13454.6874	33273.2877	58918.9382	76043.3354
4	12556.5377	13988.8437	14592.217	15801.6376	34945.6376	61975.3251	79208.811
5	17752.4277	18796.2678	19359.0133	20546.0204	40159.6094	66086.7464	84119.1042
6	20304.8118	21122.5377	21684.9941	23063.3605	42074.6448	69144.8361	86551.9969

Table 251: Core Frequency: 540.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	2373.5415	3456.7327	4901.8926	10458.435	16324.3092	21365.2811
1	11609.1789	14223.3296	15283.4881	16114.6829	22188.62	28773.4813	33440.3919
2	17100.2133	19753.7963	19885.9037	21311.3202	27129.4495	33485.0456	38443.1611
3	21465.6313	24794.9672	25455.8516	26676.6682	31776.9857	38689.4924	43336.9954
4	26706.3322	29003.1723	30564.8309	31533.1737	36957.2115	43776.572	48603.0147
5	36622.7379	40086.1951	39889.3888	40564.1574	46576.886	54010.9542	59285.2674
6	41022.71	43158.7144	44727.8284	46598.4809	52125.508	57773.2422	62598.4103

Table 252: Core Frequency: 420.0MHz, Memory Frequency: 7001.0MHz

	0	1	2	3	4	5	6
0	0.0	2322.3942	3428.1767	4917.8357	10540.6439	16300.5936	21285.5903
1	11550.3529	13757.0839	14816.5931	16117.7822	22287.9717	28785.3572	33580.4388
2	16982.8632	19239.866	19814.9545	20874.682	26696.538	33242.9363	38412.9068
3	21948.3742	24085.6007	25267.3206	26317.1301	31648.7421	38088.7136	43386.946
4	26632.9562	29032.0488	29468.4965	31656.5938	36766.4982	43141.389	48746.4236
5	36025.0165	38484.5564	39993.6682	40769.0147	46801.9945	53093.2123	58252.5864
6	41658.1438	43000.9489	44183.8664	45971.1729	51601.0822	57607.3082	61886.2572

Table 253: Core Frequency: 420.0MHz, Memory Frequency: 6801.0MHz

	0	1	2	3	4	5	6
0	0.0	2183.8307	3031.3352	4470.3884	9919.4313	16807.3614	21687.9072
1	10966.0843	13192.7982	14031.809	15498.962	20372.4059	27348.2954	32157.322
2	15381.3629	17579.3818	18419.5114	19822.9514	24839.5101	31809.8223	37093.1725
3	19940.7819	21976.0985	22805.3277	24277.9361	29304.2087	36104.553	41598.5504
4	24432.7634	26451.7703	27252.5413	28968.5879	33940.6979	40844.7459	45057.9134
5	33355.6428	35330.2137	36455.3443	38268.7703	43295.052	48881.6466	53099.5922
6	37975.4213	40221.584	41269.2214	42480.939	47112.2614	53181.5236	59150.1198

Table 254: Core Frequency: 420.0MHz, Memory Frequency: 5001.0MHz

	0	1	2	3	4	5	6
0	0.0	1759.5407	2383.195	3410.5328	22719.303	47021.3999	64735.5094
1	7272.5789	8916.9597	9576.3888	10817.2374	29759.4951	56583.9831	73268.0755
2	10117.7182	11683.3243	12281.7705	13594.0597	33038.3198	58256.925	75952.4392
3	13335.3754	15007.9187	15654.747	16882.6378	35859.8927	62708.5788	79437.571
4	16103.6077	17478.7033	18168.7036	19484.4304	38798.7226	64281.1026	82005.6213
5	22189.7121	23341.0386	24099.8221	25551.2679	44426.0692	70986.6867	88407.6453
6	25659.4172	27271.8101	27960.2641	29317.2441	48852.9791	74477.4877	92135.8753

Table 255: Core Frequency: 420.0MHz, Memory Frequency: 810.0MHz

	0	1	2	3	4	5	6
0	0.0	1747.2427	2387.7079	3550.1379	41580.0667	100548.3423	130211.987
1	6759.2062	8443.412	9066.0157	10292.3908	50507.6411	104594.4067	138307.5088
2	9518.9147	11280.6791	11905.7646	13130.6339	51072.1158	110398.6375	141348.7229
3	12337.3784	14087.936	14685.497	15928.1688	56198.4698	110317.4626	144137.9161
4	15128.5722	16883.9236	17433.0315	18735.0689	56751.7854	116344.2099	147473.3747
5	20810.3402	22594.1901	23242.9547	24531.5749	64872.8177	118089.9523	153556.1516
6	23531.5442	25196.1018	26026.2409	27326.6725	65847.966	122930.032	156481.5228

Table 256: Core Frequency: 420.0MHz, Memory Frequency: 405.0MHz