# UT32M0R500 Power Consumption

| PRODUCT NAME | MANUFACTURER PART NUMBER | SMD # | DEVICE TYPE | INTERNAL PIC NUMBER |
|---|---|---|---|---|
| Arm Cortex M0+ | UT32M0R500 | 5962-17212 | | QS30 |

**Table 1: Cross Reference of Applicable Products**

## 1.0 OVERVIEW

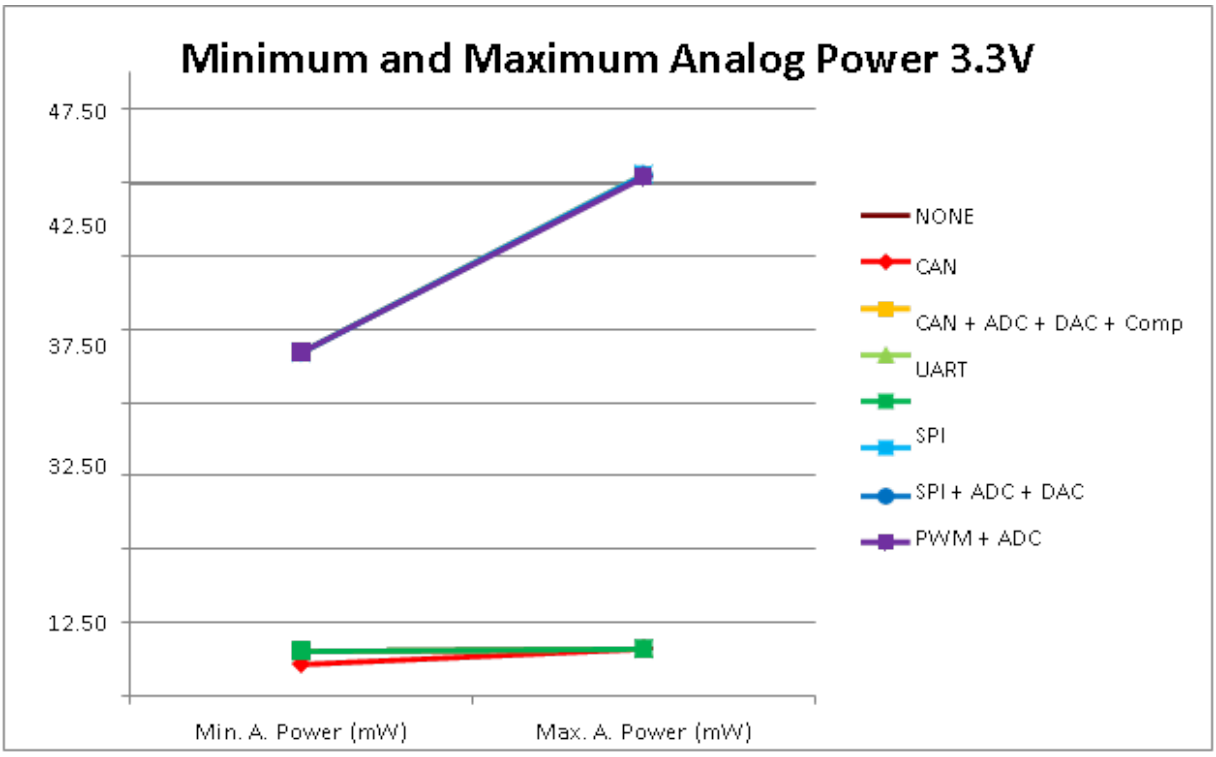
The UT32M0R500 microcontroller can selectively activate both analog and digital peripherals, changing the power the device consumes. This document details the power consumption of various active peripherals with respect to changes in temperature and external clock speed.

## 2.0 MINIMUM AND MAXIMUM POWER SUMMARY

The below table summarizes the maximum and minimum power draw for each set of active peripherals for all temperatures. This is a comparison of all run tests for each peripheral set at both 3.3V and 3.6V, in an attempt to better account for extreme values. For average values, see section 3.0. Assume, unless otherwise stated that the tests used the internal 50 MHz clock.

### 2.1 Graphs of Minimum and Maximum Power

#### 2.1.1 Min and Max Analog Power at 3.3V, -55°C to +105°C



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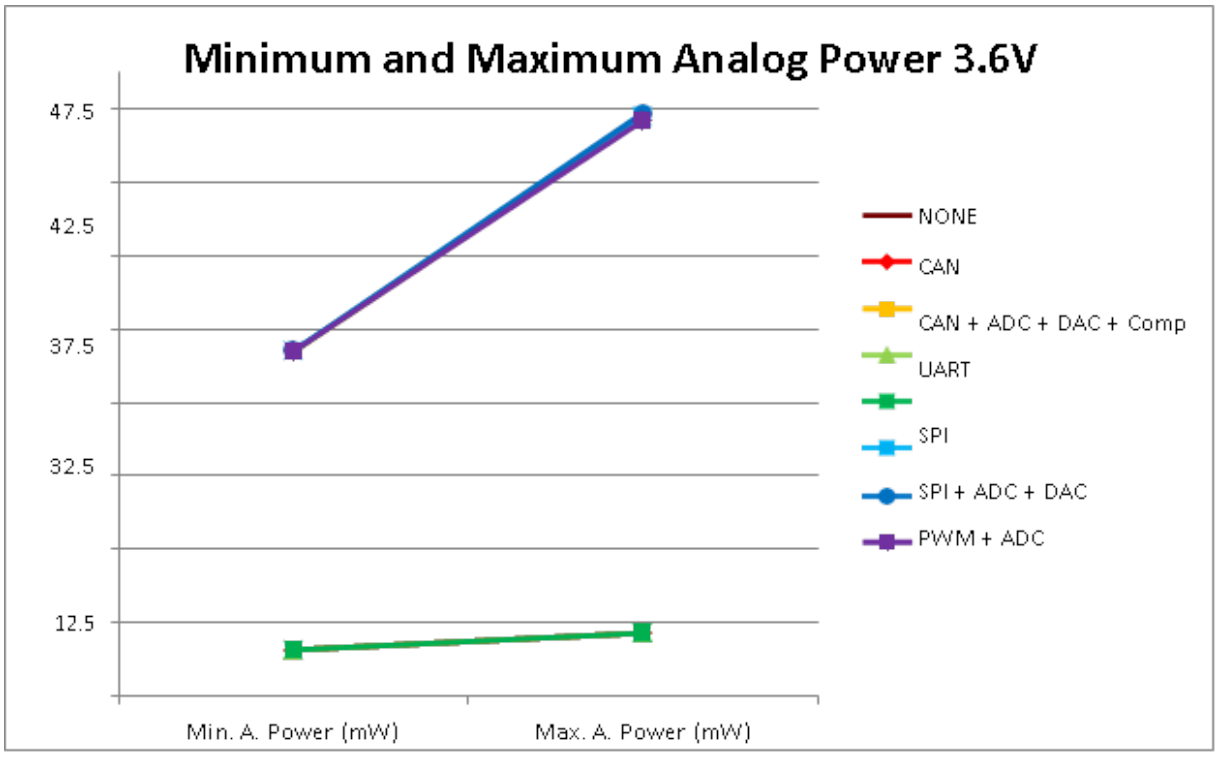
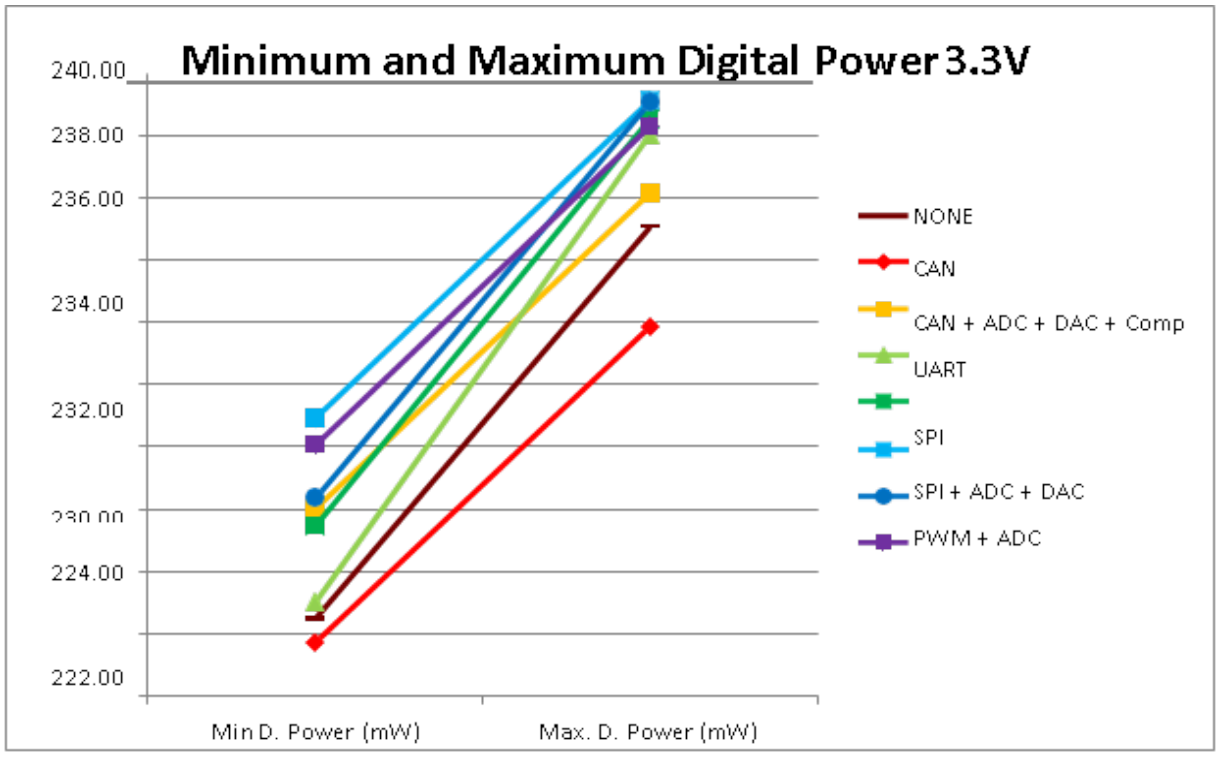
### 2.1.2 Minimum and Maximum Analog Power at 3.6V, -55°C to +105°C




### 2.1.3 Minimum and Maximum Digital Power at 3.6V, -55°C to +105°C



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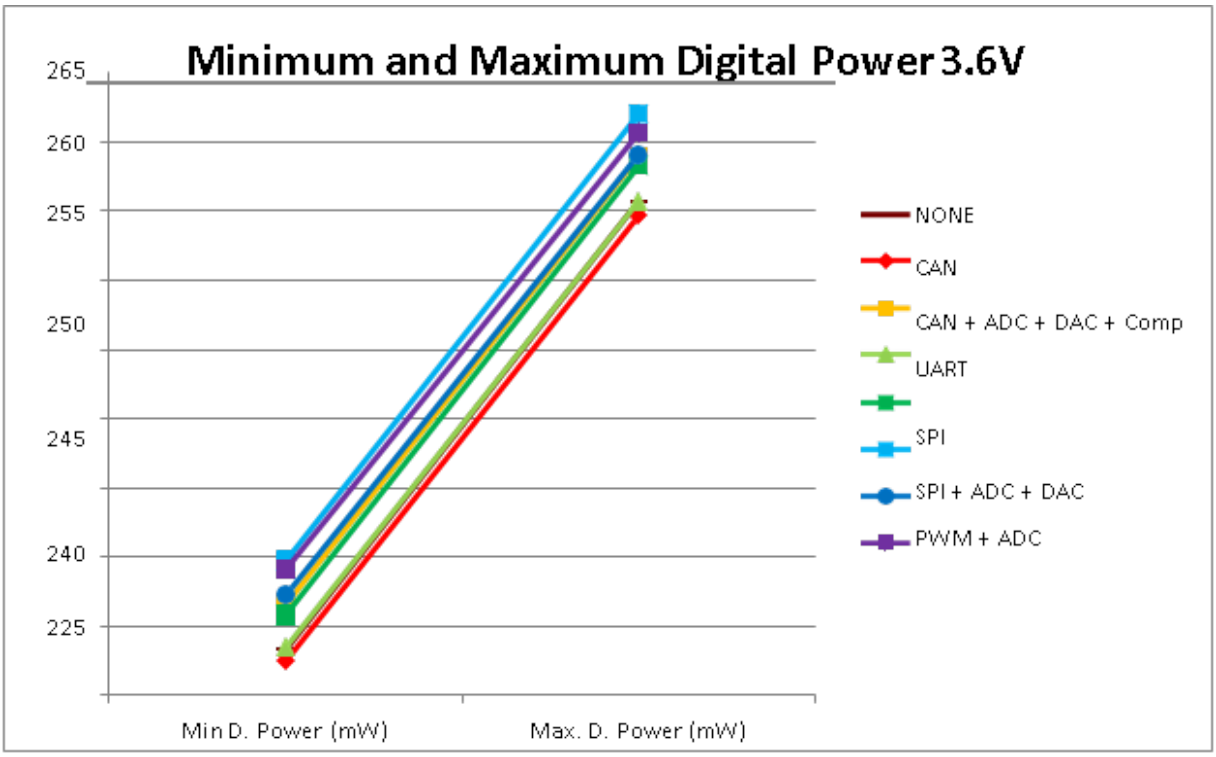
### 2.1.4 Minimum and Maximum Digital Power at 3.6V, -55°C to +105°C




## 2.2 Minimum and Maximum Power Data

### 2.2.1 Minimum and Maximum Power at 3.3V, -55°C to +105°C

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | Min. Digital Power (mW) | Max. Digital Power (mW) | Min. Analog Power (mW) | Max. Analog Power (mW) | Active Peripherals |
|---|---|---|---|---|---|---|---|
| ——— | EE5786 - 019 | 3.3 | 222.49 | 235.06 | 10.55 | 10.71 | NONE |
| ——— | EE5786 - 019 | 3.3 | 221.73 | 231.86 | 9.66 | 10.71 | CAN |
| ——— | EE5786 - 019 | 3.3 | 226.017 | 236.148 | 30.9342 | 43.0683 | CAN + ADC + DAC + Comparator |
| ——— | EE5786 - 019 | 3.3 | 223.014 | 238.029 | 10.5435 | 10.7118 | UART |
| ——— | EE5786 - 019 | 3.3 | 225.456 | 238.524 | 10.5468 | 10.7151 | SPI |
| ——— | EE5786 - 019 | 3.3 | 228.921 | 239.118 | 30.9243 | 43.0683 | SPI + ADC + DAC |
| ——— | EE5786 - 019 | 3.3 | 226.347 | 239.052 | 30.9111 | 42.9495 | PWM + ADC |
| ——— | EE5786 - 019 | 3.3 | 228.063 | 238.293 | 30.9177 | 42.8802 | ALL |

# UT32M0R500 Power Consumption

### 2.2.2 Minimum and Maximum Power at 3.6V, -55°C to +105°C

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | Min. Digital Power (mW) | Max. Digital Power (mW) | Min. Analog Power (mW) | Max. Analog Power (mW) | Active Peripherals |
|---|---|---|---|---|---|---|---|
| ——— | EE5786 - 019 | 3.6 | 223.289 | 255.744 | 10.637 | 11.79 | NONE |
| | EE5786 - 019 | 3.6 | 222.453 | 254.7 | 10.6359 | 11.7864 | CAN |
| ——— | EE5786 - 019 | 3.6 | 226.545 | 258.984 | 30.9947 | 46.9296 | CAN + ADC + DAC + Comparator |
| ——— | EE5786 - 019 | 3.6 | 223.432 | 255.744 | 10.6359 | 11.79 | UART |
| ——— | EE5786 - 019 | 3.6 | 225.808 | 258.3 | 10.6359 | 11.79 | SPI |
| ——— | EE5786 - 019 | 3.6 | 229.724 | 262.044 | 31.0332 | 47.0232 | SPI + ADC + DAC |
| ——— | EE5786 - 019 | 3.6 | 227.227 | 259.128 | 31.0288 | 47.2572 | PWM + ADC |
| ——— | EE5786 - 019 | 3.6 | 229.097 | 260.676 | 31.0035 | 46.7496 | ALL |





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# UT32M0R500 Power Consumption

## 3.0 AVERAGE CURRENT AND POWER AT CONSTANT TEMPERATURE

To ensure consistency and data validity three parts, EE5789-019, EE5789-012, and EE5789-024 were tested at room temperature, and the average of each active peripheral setting was calculated. The average between the three parts is recorded below.

### 3.1 Current and Power Data

#### 3.1.1 Average Current and Power at 3.3V, 30°C for Three Parts

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | Digital Current (mA) | Digital Power (mW) | Analog Current (mA) | Analog Power (mW) | Active Peripherals |
|---|---|---|---|---|---|---|---|
| 30 | EE5786 – 019, 012, 024 | 3.3 | 68.69 | 226.67 | 3.18 | 10.50 | NONE |
| 30 | EE5786 – 019, 012, 024 | 3.3 | 68.42 | 225.78 | 3.18 | 10.50 | CAN |
| 30 | EE5786 – 019, 012, 024 | 3.3 | 69.59 | 229.63 | 11.59 | 38.25 | CAN + ADC + DAC + Comparator |
| 30 | EE5786 –019, 012, 024 | 3.3 | 68.68 | 226.65 | 3.18 | 10.50 | UART |
| 30 | EE5786 –019, 012, 024 | 3.3 | 69.40 | 229.02 | 3.18 | 10.50 | SPI |
| 30 | EE5786 – 019, 012, 024 | 3.3 | 70.55 | 232.83 | 11.58 | 38.22 | SPI + ADC + DAC |
| 30 | EE5786 – 019, 012, 024 | 3.3 | 69.84 | 230.48 | 11.60 | 38.27 | PWM + ADC |
| 30 | EE5786 – 019, 012, 024 | 3.3 | 70.24 | 231.78 | 11.60 | 38.28 | ALL |

# UT32M0R500 Power Consumption

### 3.1.2 Average Current and Power at 3.6V, 30°C for Three Parts

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | Digital Current (mA) | Digital Power (mW) | Analog Current (mA) | Analog Power (mW) | Active Peripherals |
|---|---|---|---|---|---|---|---|
| 30 | EE5786 – 019, 012, 024 | 3.6 | 69.44 | 249.98 | 3.21 | 11.56 | NONE |
| 30 | EE5786 – 019, 012, 024 | 3.6 | 69.21 | 249.15 | 3.21 | 11.56 | CAN |
| 30 | EE5786 – 019, 012, 024 | 3.6 | 70.38 | 253.38 | 11.64 | 41.91 | CAN + ADC + DAC + Comparator |
| 30 | EE5786 – 019, 012, 024 | 3.6 | 69.44 | 250.00 | 3.21 | 11.56 | UART |
| 30 | EE5786 – 019, 012, 024 | 3.6 | 70.15 | 252.55 | 3.21 | 11.56 | SPI |
| 30 | EE5786 – 019, 012, 024 | 3.6 | 71.24 | 256.46 | 11.64 | 41.91 | SPI + ADC + DAC |
| 30 | EE5786 – 019, 012, 024 | 3.6 | 70.45 | 253.61 | 11.65 | 41.92 | PWM + ADC |
| 30 | EE5786 – 019, 012, 024 | 3.6 | 70.86 | 255.10 | 11.65 | 41.94 | ALL |

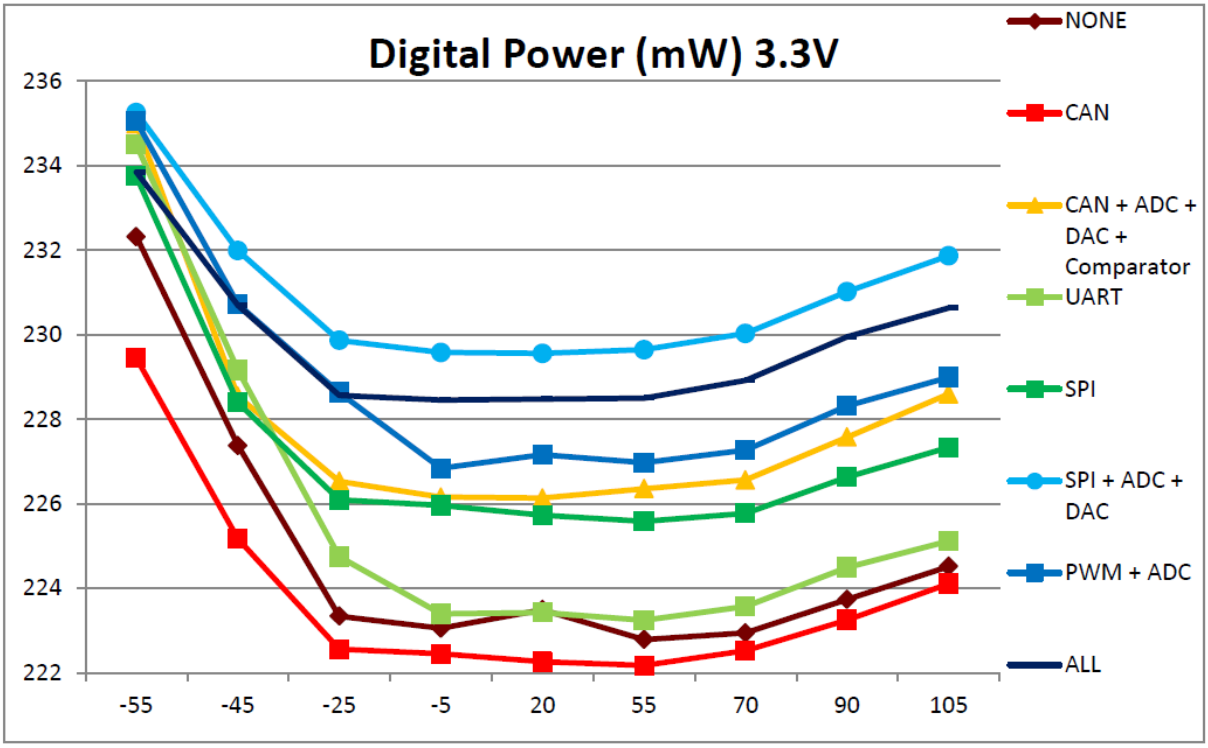
# UT32M0R500 Power Consumption

## 4.0 POWER VARIATION FROM -55°C TO +105°C

The -55°C to +105°C Power Variation Tests were performed on a single part (EE5786-019) multiple times and averaged. Tests were performed by activating the desired peripheral(s) and measuring the current draw starting at -55°C, working to +105°C.

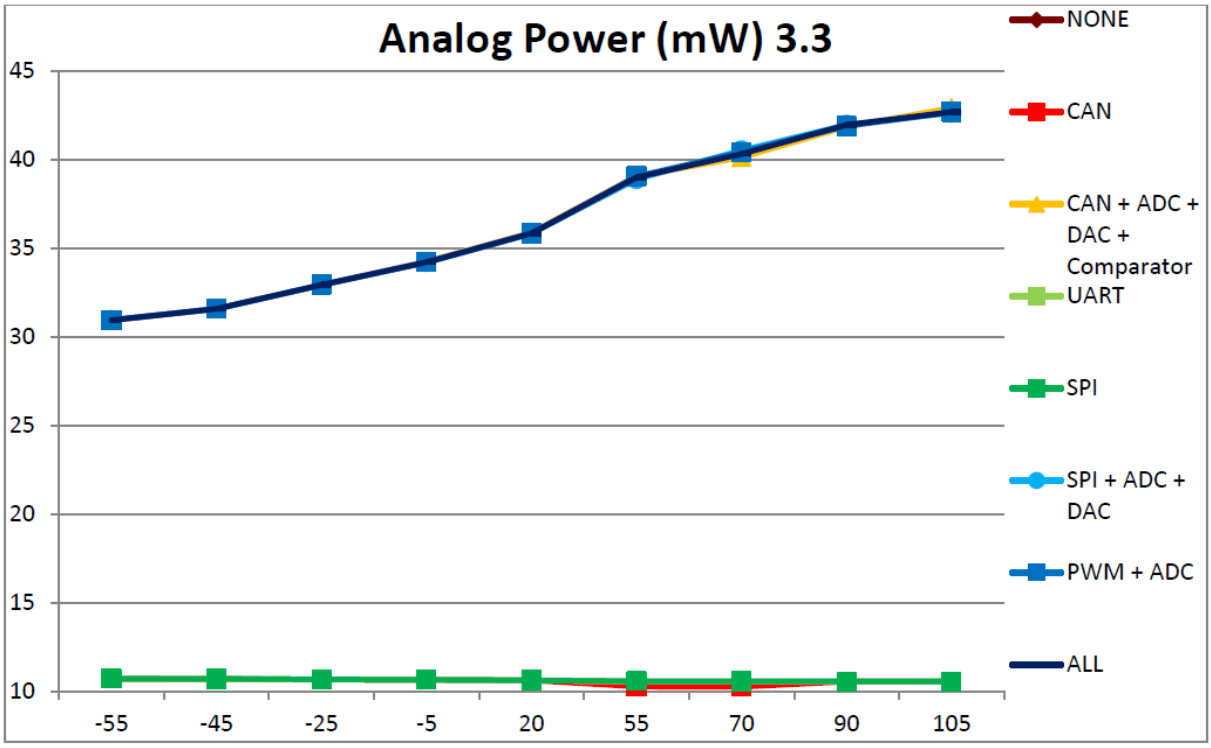
## 4.1 Graphs of Power vs. Temperature at 3.3V and 3.6V

### 4.1.1 Digital Power from -55°C to +105°C at 3.3 V

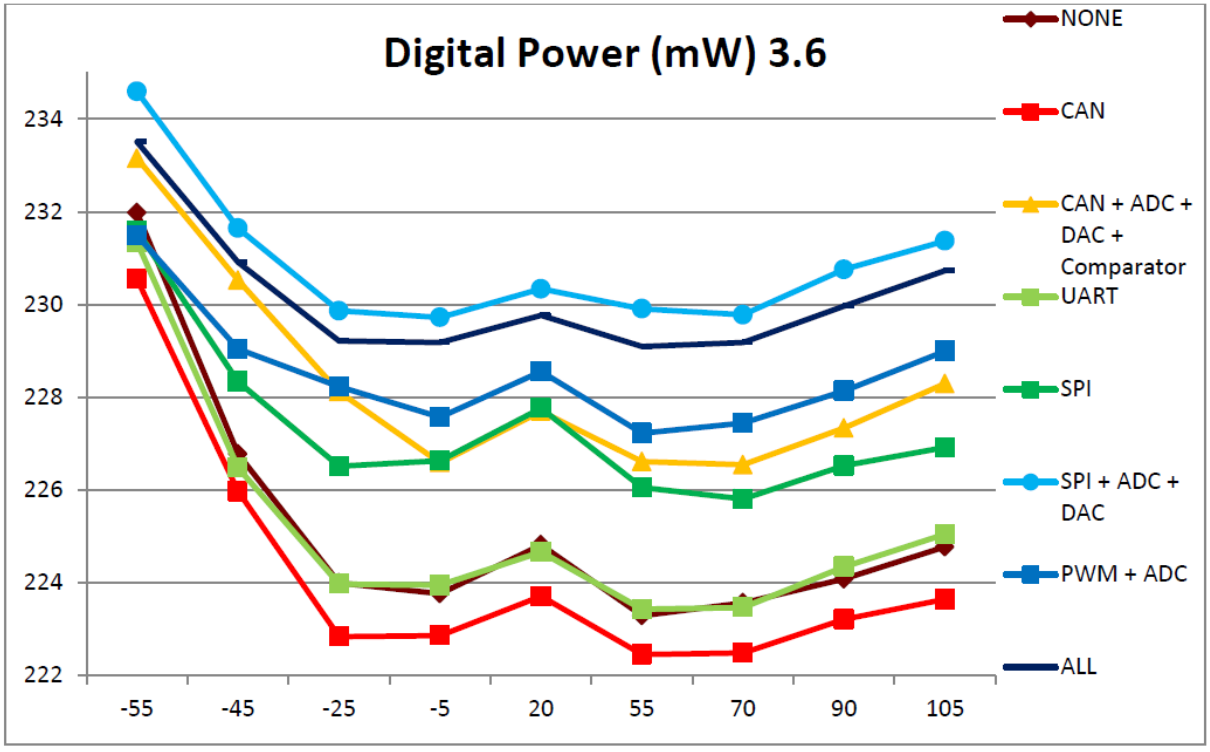


# UT32M0R500 Power Consumption

### 4.1.2 Analog Power from -55°C to +105°C at 3.3 V

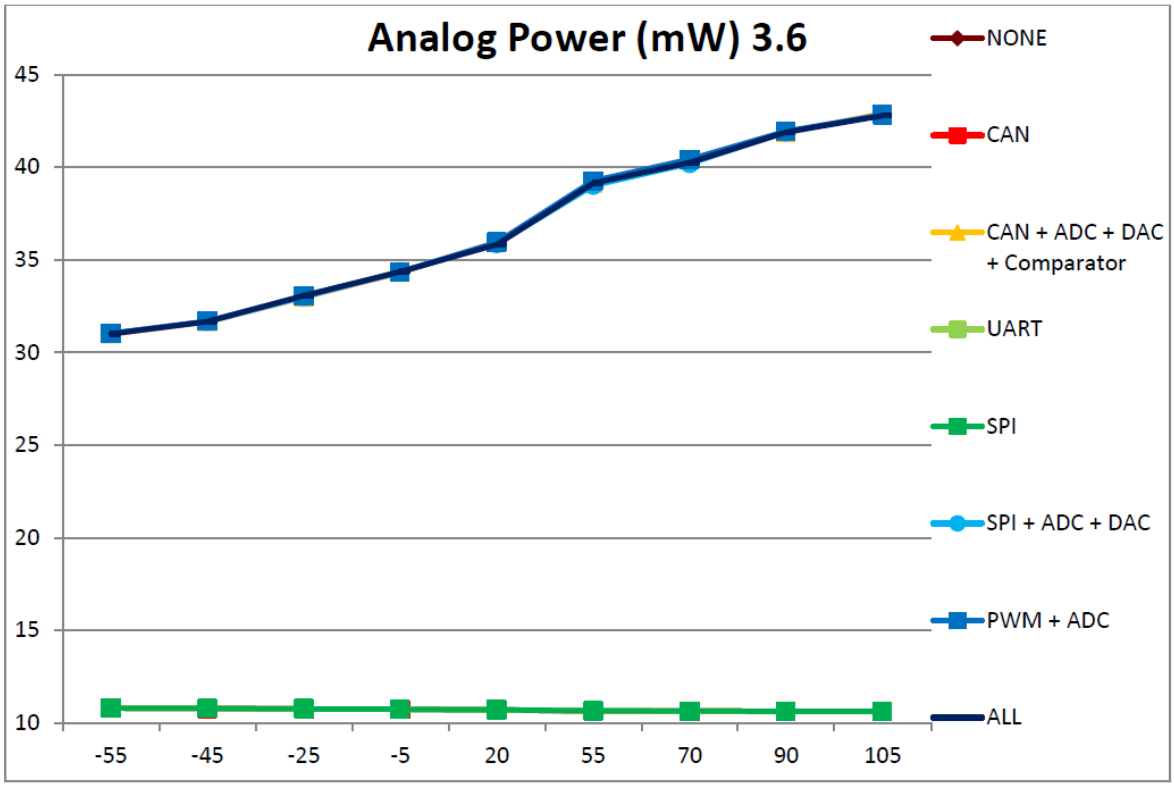



### 4.1.3 Digital Power from -55°C to +105°C at 3.6 V



# UT32M0R500 Power Consumption

### 4.1.4 Analog Power from -55°C to +105°C at 3.6 V





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## 4.2 Data for -55°C to +105°C Power Variation Tests

### 4.2.1 3.3V Data

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | Digital Power (mW) | Analog Power (mW) | Active Peripherals |
|---|---|---|---|---|---|
| -55 | EE5786 - 019 | 3.3 | 232.32 | 10.7085 | NONE |
| -45 | EE5786 - 019 | 3.3 | 227.381 | 10.6964 | NONE |
| -25 | EE5786 - 019 | 3.3 | 223.344 | 10.6711 | NONE |
| -5 | EE5786 - 019 | 3.3 | 223.058 | 10.648 | NONE |
| 20 | EE5786 - 019 | 3.3 | 223.498 | 10.6205 | NONE |
| 55 | EE5786 - 019 | 3.3 | 222.794 | 10.5688 | NONE |
| 70 | EE5786 - 019 | 3.3 | 222.948 | 10.5578 | NONE |
| 90 | EE5786 - 019 | 3.3 | 223.74 | 10.5479 | NONE |
| 105 | EE5786 - 019 | 3.3 | 224.521 | 10.5479 | NONE |
| -55 | EE5786 - 019 | 3.3 | 229.449 | 10.7107 | CAN |
| -45 | EE5786 - 019 | 3.3 | 225.17 | 10.6997 | CAN |
| -25 | EE5786 - 019 | 3.3 | 222.563 | 10.6744 | CAN |
| -5 | EE5786 - 019 | 3.3 | 222.453 | 10.6502 | CAN |
| 20 | EE5786 - 019 | 3.3 | 222.266 | 10.6205 | CAN |
| 55 | EE5786 - 019 | 3.3 | 222.178 | 10.2729 | CAN |
| 70 | EE5786 - 019 | 3.3 | 222.53 | 10.2553 | CAN |
| 90 | EE5786 - 019 | 3.3 | 223.256 | 10.5479 | CAN |
| 105 | EE5786 - 019 | 3.3 | 224.114 | 10.5479 | CAN |
| -55 | EE5786 - 019 | 3.3 | 234.982 | 30.9496 | CAN + ADC + DAC + Comparator |
| -45 | EE5786 - 019 | 3.3 | 228.547 | 31.5865 | CAN + ADC + DAC + Comparator |
| -25 | EE5786 - 019 | 3.3 | 226.534 | 32.9186 | CAN + ADC + DAC + Comparator |
| -5 | EE5786 - 019 | 3.3 | 226.16 | 34.2452 | CAN + ADC + DAC + Comparator |
| 20 | EE5786 - 019 | 3.3 | 226.138 | 35.8941 | CAN + ADC + DAC + Comparator |
| 55 | EE5786 - 019 | 3.3 | 226.358 | 39.072 | CAN + ADC + DAC + Comparator |
| 70 | EE5786 - 019 | 3.3 | 226.567 | 40.1324 | CAN + ADC + DAC + Comparator |
| 90 | EE5786 - 019 | 3.3 | 227.579 | 41.8627 | CAN + ADC + DAC + Comparator |
| 105 | EE5786 - 019 | 3.3 | 228.602 | 42.9077 | CAN + ADC + DAC + Comparator |
| -55 | EE5786 - 019 | 3.3 | 234.498 | 10.7096 | UART |
| -45 | EE5786 - 019 | 3.3 | 229.163 | 10.6975 | UART |
| -25 | EE5786 - 019 | 3.3 | 224.752 | 10.6733 | UART |
| -5 | EE5786 - 019 | 3.3 | 223.399 | 10.6502 | UART |

# UT32M0R500 Power Consumption

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | Digital Power (mW) | Analog Power (mW) | Active Peripherals |
|---|---|---|---|---|---|
| 20 | EE5786 - 019 | 3.3 | 223.432 | 10.6216 | UART |
| 55 | EE5786 - 019 | 3.3 | 223.245 | 10.5677 | UART |
| 70 | EE5786 - 019 | 3.3 | 223.575 | 10.5523 | UART |
| 90 | EE5786 - 019 | 3.3 | 224.499 | 10.5479 | UART |
| 105 | EE5786 - 019 | 3.3 | 225.126 | 10.549 | UART |
| -55 | EE5786 - 019 | 3.3 | 233.75 | 10.7107 | SPI |
| -45 | EE5786 - 019 | 3.3 | 228.393 | 10.6975 | SPI |
| -25 | EE5786 - 019 | 3.3 | 226.094 | 10.6744 | SPI |
| -5 | EE5786 - 019 | 3.3 | 225.962 | 10.6491 | SPI |
| 20 | EE5786 - 019 | 3.3 | 225.731 | 10.6205 | SPI |
| 55 | EE5786 - 019 | 3.3 | 225.588 | 10.5688 | SPI |
| 70 | EE5786 - 019 | 3.3 | 225.775 | 10.5545 | SPI |
| 90 | EE5786 - 019 | 3.3 | 226.633 | 10.5468 | SPI |
| 105 | EE5786 - 019 | 3.3 | 227.337 | 10.549 | SPI |
| -55 | EE5786 - 019 | 3.3 | 235.257 | 30.9606 | SPI + ADC + DAC |
| -45 | EE5786 - 019 | 3.3 | 231.99 | 31.5898 | SPI + ADC + DAC |
| -25 | EE5786 - 019 | 3.3 | 229.867 | 32.9109 | SPI + ADC + DAC |
| -5 | EE5786 - 019 | 3.3 | 229.581 | 34.2111 | SPI + ADC + DAC |
| 20 | EE5786 - 019 | 3.3 | 229.559 | 35.8413 | SPI + ADC + DAC |
| 55 | EE5786 - 019 | 3.3 | 229.647 | 38.8949 | SPI + ADC + DAC |
| 70 | EE5786 - 019 | 3.3 | 230.032 | 40.5306 | SPI + ADC + DAC |
| 90 | EE5786 - 019 | 3.3 | 231.022 | 41.9672 | SPI + ADC + DAC |
| 105 | EE5786 - 019 | 3.3 | 231.869 | 42.6305 | SPI + ADC + DAC |
| -55 | EE5786 - 019 | 3.3 | 235.048 | 30.9419 | PWM + ADC |
| -45 | EE5786 - 019 | 3.3 | 230.725 | 31.5909 | PWM + ADC |
| -25 | EE5786 - 019 | 3.3 | 228.635 | 32.9428 | PWM + ADC |
| -5 | EE5786 - 019 | 3.3 | 226.842 | 34.2078 | PWM + ADC |
| 20 | EE5786 - 019 | 3.3 | 227.161 | 35.8314 | PWM + ADC |
| 55 | EE5786 - 019 | 3.3 | 226.974 | 39.0599 | PWM + ADC |
| 70 | EE5786 - 019 | 3.3 | 227.271 | 40.4217 | PWM + ADC |
| 90 | EE5786 - 019 | 3.3 | 228.316 | 41.888 | PWM + ADC |
| 105 | EE5786 - 019 | 3.3 | 228.998 | 42.6811 | PWM + ADC |
| -55 | EE5786 - 019 | 3.3 | 233.849 | 30.9452 | ALL |
| -45 | EE5786 - 019 | 3.3 | 230.692 | 31.5887 | ALL |
| -25 | EE5786 - 019 | 3.3 | 228.569 | 32.9417 | ALL |
| -5 | EE5786 - 019 | 3.3 | 228.459 | 34.221 | ALL |
| 20 | EE5786 - 019 | 3.3 | 228.481 | 35.8468 | ALL |
| 55 | EE5786 - 019 | 3.3 | 228.503 | 38.9928 | ALL |
| 70 | EE5786 - 019 | 3.3 | 228.921 | 40.3227 | ALL |
| 90 | EE5786 - 019 | 3.3 | 229.955 | 41.9584 | ALL |
| 105 | EE5786 - 019 | 3.3 | 230.637 | 42.6888 | ALL |

# UT32M0R500 Power Consumption

### 4.2.2 3.6V Data

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | Digital Power (mW) | Analog Power (mW) | Active Peripherals |
|---|---|---|---|---|---|
| -55 | EE5786 - 019 | 3.6 | 231.979 | 10.8053 | NONE |
| -45 | EE5786 - 019 | 3.6 | 226.776 | 10.7899 | NONE |
| -25 | EE5786 - 019 | 3.6 | 223.993 | 10.7668 | NONE |
| -5 | EE5786 - 019 | 3.6 | 223.762 | 10.7426 | NONE |
| 20 | EE5786 - 019 | 3.6 | 224.818 | 10.7151 | NONE |
| 55 | EE5786 - 019 | 3.6 | 223.289 | 10.6557 | NONE |
| 70 | EE5786 - 019 | 3.6 | 223.564 | 10.6425 | NONE |
| 90 | EE5786 - 019 | 3.6 | 224.081 | 10.637 | NONE |
| 105 | EE5786 - 019 | 3.6 | 224.774 | 10.6381 | NONE |
| -55 | EE5786 - 019 | 3.6 | 230.549 | 10.8042 | CAN |
| -45 | EE5786 - 019 | 3.6 | 225.973 | 10.7921 | CAN |
| -25 | EE5786 - 019 | 3.6 | 222.838 | 10.7668 | CAN |
| -5 | EE5786 - 019 | 3.6 | 222.86 | 10.7426 | CAN |
| 20 | EE5786 - 019 | 3.6 | 223.707 | 10.714 | CAN |
| 55 | EE5786 - 019 | 3.6 | 222.453 | 10.6557 | CAN |
| 70 | EE5786 - 019 | 3.6 | 222.486 | 10.6436 | CAN |
| 90 | EE5786 - 019 | 3.6 | 223.212 | 10.6359 | CAN |
| 105 | EE5786 - 019 | 3.6 | 223.641 | 10.637 | CAN |
| -55 | EE5786 - 019 | 3.6 | 233.156 | 30.9947 | CAN + ADC + DAC + Comparator |
| -45 | EE5786 - 019 | 3.6 | 230.527 | 31.6558 | CAN + ADC + DAC + Comparator |
| -25 | EE5786 - 019 | 3.6 | 228.118 | 32.9714 | CAN + ADC + DAC + Comparator |
| -5 | EE5786 - 019 | 3.6 | 226.589 | 34.3178 | CAN + ADC + DAC + Comparator |
| 20 | EE5786 - 019 | 3.6 | 227.7 | 35.9579 | CAN + ADC + DAC + Comparator |
| 55 | EE5786 - 019 | 3.6 | 226.611 | 39.1314 | CAN + ADC + DAC + Comparator |
| 70 | EE5786 - 019 | 3.6 | 226.545 | 40.4349 | CAN + ADC + DAC + Comparator |
| 90 | EE5786 - 019 | 3.6 | 227.337 | 41.8583 | CAN + ADC + DAC + Comparator |
| 105 | EE5786 - 019 | 3.6 | 228.294 | 42.9066 | CAN + ADC + DAC + Comparator |
| -55 | EE5786 - 019 | 3.6 | 231.341 | 10.8053 | UART |
| -45 | EE5786 - 019 | 3.6 | 226.479 | 10.791 | UART |
| -25 | EE5786 - 019 | 3.6 | 223.971 | 10.7668 | UART |
| -5 | EE5786 - 019 | 3.6 | 223.949 | 10.7415 | UART |
| 20 | EE5786 - 019 | 3.6 | 224.664 | 10.7129 | UART |

# UT32M0R500 Power Consumption

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | Digital Power (mW) | Analog Power (mW) | Active Peripherals |
|---|---|---|---|---|---|
| 55 | EE5786 - 019 | 3.6 | 226.05 | 10.6623 | SPI |
| 70 | EE5786 - 019 | 3.6 | 225.808 | 10.6447 | SPI |
| 90 | EE5786 - 019 | 3.6 | 226.523 | 10.637 | SPI |
| 105 | EE5786 - 019 | 3.6 | 226.919 | 10.6359 | SPI |
| -55 | EE5786 - 019 | 3.6 | 234.597 | 31.0332 | SPI + ADC + DAC |
| -45 | EE5786 - 019 | 3.6 | 231.649 | 31.6701 | SPI + ADC + DAC |
| -25 | EE5786 - 019 | 3.6 | 229.867 | 33.0033 | SPI + ADC + DAC |
| -5 | EE5786 - 019 | 3.6 | 229.724 | 34.3596 | SPI + ADC + DAC |
| 20 | EE5786 - 019 | 3.6 | 230.34 | 35.8721 | SPI + ADC + DAC |
| 55 | EE5786 - 019 | 3.6 | 229.911 | 39.0115 | SPI + ADC + DAC |
| 70 | EE5786 - 019 | 3.6 | 229.779 | 40.2017 | SPI + ADC + DAC |
| 90 | EE5786 - 019 | 3.6 | 230.758 | 41.8957 | SPI + ADC + DAC |
| 105 | EE5786 - 019 | 3.6 | 231.374 | 42.8241 | SPI + ADC + DAC |
| -55 | EE5786 - 019 | 3.6 | 231.495 | 31.0288 | PWM + ADC |
| -45 | EE5786 - 019 | 3.6 | 229.042 | 31.6866 | PWM + ADC |
| -25 | EE5786 - 019 | 3.6 | 228.228 | 33.055 | PWM + ADC |
| -5 | EE5786 - 019 | 3.6 | 227.568 | 34.3387 | PWM + ADC |
| 20 | EE5786 - 019 | 3.6 | 228.558 | 35.948 | PWM + ADC |
| 55 | EE5786 - 019 | 3.6 | 227.227 | 39.2623 | PWM + ADC |
| 70 | EE5786 - 019 | 3.6 | 227.447 | 40.4272 | PWM + ADC |
| 90 | EE5786 - 019 | 3.6 | 228.14 | 41.943 | PWM + ADC |
| 105 | EE5786 - 019 | 3.6 | 228.998 | 42.8208 | PWM + ADC |
| -55 | EE5786 - 019 | 3.6 | 233.508 | 31.0035 | ALL |
| -45 | EE5786 - 019 | 3.6 | 230.912 | 31.6624 | ALL |
| -25 | EE5786 - 019 | 3.6 | 229.218 | 33.0704 | ALL |
| -5 | EE5786 - 019 | 3.6 | 229.185 | 34.3695 | ALL |
| 20 | EE5786 - 019 | 3.6 | 229.768 | 35.8248 | ALL |
| 55 | EE5786 - 019 | 3.6 | 229.097 | 39.1424 | ALL |
| 70 | EE5786 - 019 | 3.6 | 229.185 | 40.2501 | ALL |
| 90 | EE5786 - 019 | 3.6 | 229.966 | 41.8935 | ALL |
| 105 | EE5786 - 019 | 3.6 | 230.736 | 42.7911 | ALL |





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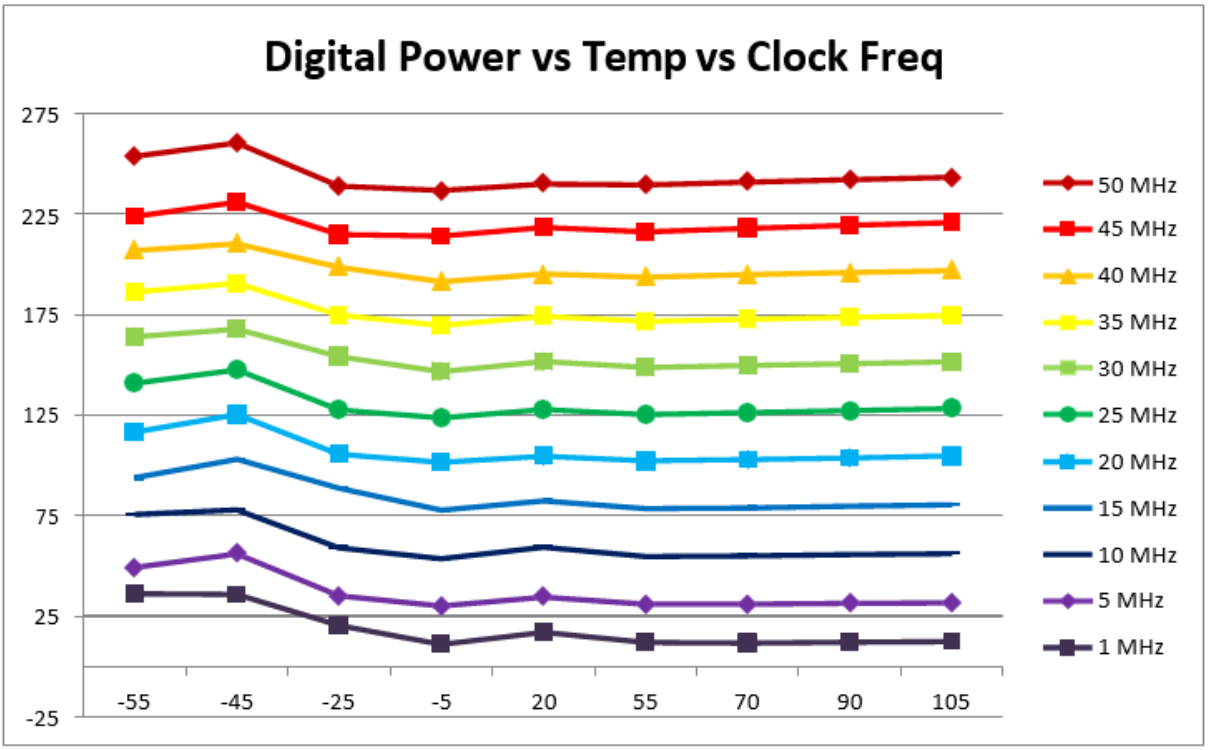
## 5.0 POWER RELATIVE TO AN EXTERNAL CLOCK AND TEMPERATURE

The values below are from four tests run on a single part (EE5786-012) at 3.3V. All tests were run with GPIO, ADC, and DTIMER active.

### 5.1 Graphs of Power vs. Temperature vs. External Clock Frequency

#### 5.1.1 Digital Power





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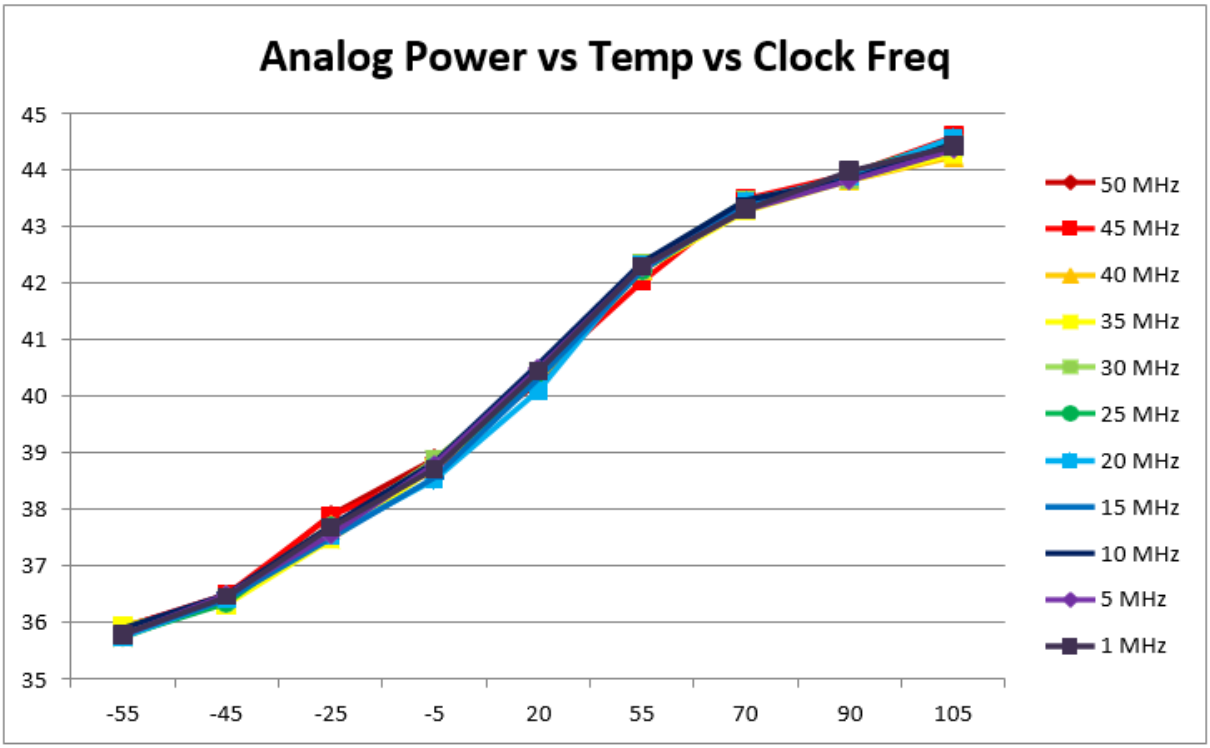
# UT32M0R500 Power Consumption

### 5.1.2 Analog Power




## 5.2 Data

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | External Clock (MHz) | Digital Power (mW) | Analog Power (mW) |
|---|---|---|---|---|---|
| -55 | EE5786 - 012 | 3.3 | 50 | 253.77 | 35.934525 |
| -45 | EE5786 - 012 | 3.3 | 50 | 260.37825 | 36.436125 |
| -25 | EE5786 - 012 | 3.3 | 50 | 238.86225 | 37.9038 |
| -5 | EE5786 - 012 | 3.3 | 50 | 236.70075 | 38.889675 |
| 20 | EE5786 - 012 | 3.3 | 50 | 240.05025 | 40.241025 |
| 55 | EE5786 - 012 | 3.3 | 50 | 239.5305 | 42.329925 |
| 70 | EE5786 - 012 | 3.3 | 50 | 240.933 | 43.3719 |
| 90 | EE5786 - 012 | 3.3 | 50 | 242.12925 | 43.900725 |
| 105 | EE5786 - 012 | 3.3 | 50 | 243.33375 | 44.4048 |
| -55 | EE5786 - 012 | 3.3 | 45 | 223.905 | 35.918025 |
| -45 | EE5786 - 012 | 3.3 | 45 | 231 | 36.498825 |
| -25 | EE5786 - 012 | 3.3 | 45 | 214.92075 | 37.88565 |
| -5 | EE5786 - 012 | 3.3 | 45 | 214.038 | 38.685075 |
| 20 | EE5786 - 012 | 3.3 | 45 | 218.43525 | 40.351575 |
| 55 | EE5786 - 012 | 3.3 | 45 | 216.183 | 42.024675 |
| 70 | EE5786 - 012 | 3.3 | 45 | 217.94025 | 43.486575 |

# UT32M0R500 Power Consumption

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | External Clock (MHz) | Digital Power (mW) | Analog Power (mW) |
|---|---|---|---|---|---|
| 90 | EE5786 - 012 | 3.3 | 45 | 219.483 | 43.923 |
| 105 | EE5786 - 012 | 3.3 | 45 | 220.76175 | 44.5863 |
| -55 | EE5786 - 012 | 3.3 | 40 | 206.877 | 35.828925 |
| -45 | EE5786 - 012 | 3.3 | 40 | 210.2595 | 36.47985 |
| -25 | EE5786 - 012 | 3.3 | 40 | 198.60225 | 37.7124 |
| -5 | EE5786 - 012 | 3.3 | 40 | 191.4 | 38.742825 |
| 20 | EE5786 - 012 | 3.3 | 40 | 195.2115 | 40.35405 |
| 55 | EE5786 - 012 | 3.3 | 40 | 193.6275 | 42.225975 |
| 70 | EE5786 - 012 | 3.3 | 40 | 194.87325 | 43.404075 |
| 90 | EE5786 - 012 | 3.3 | 40 | 196.053 | 43.81575 |
| 105 | EE5786 - 012 | 3.3 | 40 | 196.9605 | 44.230725 |
| -55 | EE5786 - 012 | 3.3 | 35 | 186.2685 | 35.95185 |
| -45 | EE5786 - 012 | 3.3 | 35 | 190.59975 | 36.3264 |
| -25 | EE5786 - 012 | 3.3 | 35 | 174.8175 | 37.469025 |
| -5 | EE5786 - 012 | 3.3 | 35 | 169.57875 | 38.73705 |
| 20 | EE5786 - 012 | 3.3 | 35 | 174.24 | 40.29135 |
| 55 | EE5786 - 012 | 3.3 | 35 | 171.732 | 42.229275 |
| 70 | EE5786 - 012 | 3.3 | 35 | 172.66425 | 43.27125 |
| 90 | EE5786 - 012 | 3.3 | 35 | 173.811 | 43.811625 |
| 105 | EE5786 - 012 | 3.3 | 35 | 174.59475 | 44.27445 |
| -55 | EE5786 - 012 | 3.3 | 30 | 164.00175 | 35.739825 |
| -45 | EE5786 - 012 | 3.3 | 30 | 167.7885 | 36.42045 |
| -25 | EE5786 - 012 | 3.3 | 30 | 154.10175 | 37.637325 |
| -5 | EE5786 - 012 | 3.3 | 30 | 146.7015 | 38.881425 |
| 20 | EE5786 - 012 | 3.3 | 30 | 151.6845 | 40.419225 |
| 55 | EE5786 - 012 | 3.3 | 30 | 148.8135 | 42.34065 |
| 70 | EE5786 - 012 | 3.3 | 30 | 149.754 | 43.4643 |
| 90 | EE5786 - 012 | 3.3 | 30 | 150.65325 | 43.829775 |
| 105 | EE5786 - 012 | 3.3 | 30 | 151.47825 | 44.390775 |
| -55 | EE5786 - 012 | 3.3 | 25 | 140.7285 | 35.766225 |
| -45 | EE5786 - 012 | 3.3 | 25 | 147.477 | 36.34785 |
| -25 | EE5786 - 012 | 3.3 | 25 | 127.55325 | 37.701675 |
| -5 | EE5786 - 012 | 3.3 | 25 | 123.6345 | 38.739525 |
| 20 | EE5786 - 012 | 3.3 | 25 | 127.71 | 40.353225 |
| 55 | EE5786 - 012 | 3.3 | 25 | 125.32575 | 42.2202 |
| 70 | EE5786 - 012 | 3.3 | 25 | 126.16725 | 43.3587 |
| 90 | EE5786 - 012 | 3.3 | 25 | 127.347 | 43.925475 |
| 105 | EE5786 - 012 | 3.3 | 25 | 128.29575 | 44.531025 |
| -55 | EE5786 - 012 | 3.3 | 20 | 116.58075 | 35.748075 |
| -45 | EE5786 - 012 | 3.3 | 20 | 125.301 | 36.42375 |
| -25 | EE5786 - 012 | 3.3 | 20 | 105.57525 | 37.541625 |
| -5 | EE5786 - 012 | 3.3 | 20 | 101.56575 | 38.52585 |

# UT32M0R500 Power Consumption

| Temperature (°C) | DUT Part Number | Supply Voltage (V) | External Clock (MHz) | Digital Power (mW) | Analog Power (mW) |
|---|---|---|---|---|---|
| 20 | EE5786 - 012 | 3.3 | 20 | 104.676 | 40.095 |
| 55 | EE5786 - 012 | 3.3 | 20 | 102.3165 | 42.3225 |
| 70 | EE5786 - 012 | 3.3 | 20 | 102.98475 | 43.4412 |
| 90 | EE5786 - 012 | 3.3 | 20 | 103.686 | 43.879275 |
| 105 | EE5786 - 012 | 3.3 | 20 | 104.709 | 44.5665 |
| -55 | EE5786 - 012 | 3.3 | 15 | 93.87675 | 35.787675 |
| -45 | EE5786 - 012 | 3.3 | 15 | 103.0755 | 36.411375 |
| -25 | EE5786 - 012 | 3.3 | 15 | 88.605 | 37.4913 |
| -5 | EE5786 - 012 | 3.3 | 15 | 77.73975 | 38.5671 |
| 20 | EE5786 - 012 | 3.3 | 15 | 82.32675 | 40.308675 |
| 55 | EE5786 - 012 | 3.3 | 15 | 78.5235 | 42.219375 |
| 70 | EE5786 - 012 | 3.3 | 15 | 78.903 | 43.399125 |
| 90 | EE5786 - 012 | 3.3 | 15 | 79.7115 | 43.847925 |
| 105 | EE5786 - 012 | 3.3 | 15 | 80.37975 | 44.432025 |
| -55 | EE5786 - 012 | 3.3 | 10 | 75.6855 | 35.904 |
| -45 | EE5786 - 012 | 3.3 | 10 | 78.02025 | 36.500475 |
| -25 | EE5786 - 012 | 3.3 | 10 | 59.09475 | 37.7124 |
| -5 | EE5786 - 012 | 3.3 | 10 | 53.68275 | 38.8311 |
| 20 | EE5786 - 012 | 3.3 | 10 | 59.34225 | 40.562775 |
| 55 | EE5786 - 012 | 3.3 | 10 | 54.846 | 42.36045 |
| 70 | EE5786 - 012 | 3.3 | 10 | 55.1595 | 43.46595 |
| 90 | EE5786 - 012 | 3.3 | 10 | 55.66275 | 43.82235 |
| 105 | EE5786 - 012 | 3.3 | 10 | 56.22375 | 44.4576 |
| -55 | EE5786 - 012 | 3.3 | 5 | 49.208775 | 35.7852 |
| -45 | EE5786 - 012 | 3.3 | 5 | 56.067 | 36.498 |
| -25 | EE5786 - 012 | 3.3 | 5 | 35.1285 | 37.55235 |
| -5 | EE5786 - 012 | 3.3 | 5 | 30.063 | 38.797275 |
| 20 | EE5786 - 012 | 3.3 | 5 | 34.57575 | 40.4811 |
| 55 | EE5786 - 012 | 3.3 | 5 | 31.07775 | 42.28455 |
| 70 | EE5786 - 012 | 3.3 | 5 | 31.0035 | 43.29435 |
| 90 | EE5786 - 012 | 3.3 | 5 | 31.416 | 43.811625 |
| 105 | EE5786 - 012 | 3.3 | 5 | 31.6965 | 44.351175 |
| -55 | EE5786 - 012 | 3.3 | 1 | 36.30825 | 35.799225 |
| -45 | EE5786 - 012 | 3.3 | 1 | 35.91225 | 36.457575 |
| -25 | EE5786 - 012 | 3.3 | 1 | 20.43525 | 37.68765 |
| -5 | EE5786 - 012 | 3.3 | 1 | 11.1045 | 38.714775 |
| 20 | EE5786 - 012 | 3.3 | 1 | 17.0775 | 40.4415 |
| 55 | EE5786 - 012 | 3.3 | 1 | 12.078 | 42.2961 |
| 70 | EE5786 - 012 | 3.3 | 1 | 11.6985 | 43.29765 |
| 90 | EE5786 - 012 | 3.3 | 1 | 12.15225 | 43.974975 |
| 105 | EE5786 - 012 | 3.3 | 1 | 12.49875 | 44.41635 |





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## 6.0 REVISION HISTORY

| Date | Revision | Author | Change Description |
|---|---|---|---|
| 05/14/2018 | 0.0.1 | OW | Initial Draft |
| 05/25/2018 | 0.1.0 | OW | Added External Clock Power Measurements |
| 08/20/2018 | 0.2.0 | OW | Added Three-Part Average Power Measurements |
| 09/27/2018 | 0.3.0 | OW | Updated Data from External Clock Tests |
| 12/06/18 | 1.0.0 | JA | Initial Release |
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