

|           |              |                      |                  |
|-----------|--------------|----------------------|------------------|
| Client:   | Tivo, Inc.   | Job Number:          | JD101876         |
| Model:    | Mantis       | T-Log Number:        | T102023          |
| Contact:  | Jim Inokuchi | Project Manager:     | Irene Radamacher |
| Standard: | FCC Part 15  | Project Coordinator: | -                |
|           |              | Class:               | B                |

## Maximum Permissible Exposure / SAR Exclusion

### Test Specific Details

Objective: Evaluate the RF Exposure requirements per FCC 1.1310, 2.1091 and RSS-102.

Date of Evaluation: 7/22/2016

Test Engineer: David Bare

### General Test Configuration

Calculation uses the free space transmission formula:

$$S = (PG)/(4 \pi d^2)$$

Where: S is power density ( $W/m^2$ ), P is output power (W), G is antenna gain relative to isotropic, d is separation distance from the transmitting antenna (m).

### Summary of Results

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| Device complies with Power Density requirements at 20cm separation: | Yes |
| If not, required separation distance (in cm):                       | -   |

### Deviations From The Standard

No deviations were made from the requirements of the standard.

# EMC Test Data

|           |              |                      |                  |
|-----------|--------------|----------------------|------------------|
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## FCC MPE Calculation

Use: General

Antenna: Integral (2x2)

| Freq.<br>MHz | EUT Power |       | Cable Loss<br>Loss<br>dB | Eff Ant<br>Gain<br>dBi | Power<br>at Ant<br>dBm | EIRP<br>mW | Power Density (S)<br>at 20 cm<br>mW/cm <sup>2</sup> | MPE Limit<br>at 20 cm<br>mW/cm <sup>2</sup> |
|--------------|-----------|-------|--------------------------|------------------------|------------------------|------------|-----------------------------------------------------|---------------------------------------------|
| 2437         | 22.3      | 171.4 | 0                        | 7.8                    | 22.3                   | 1032.8     | 0.205                                               | 1.000                                       |
| 5200         | 21.0      | 124.8 | 0                        | 8.4                    | 21.0                   | 863.6      | 0.172                                               | 1.000                                       |
| 5300         | 19.6      | 91.5  | 0                        | 7.8                    | 19.6                   | 551.6      | 0.110                                               | 1.000                                       |
| 5580         | 20.6      | 115.4 | 0                        | 8.7                    | 20.6                   | 855.5      | 0.170                                               | 1.000                                       |
| 5785         | 21.1      | 129.7 | 0                        | 8.8                    | 21.1                   | 984.0      | 0.196                                               | 1.000                                       |

For the cases where S > the MPE Limit

| Freq.<br>MHz | S @ 20 cm<br>mW/cm <sup>2</sup> | MPE Limit<br>mW/cm <sup>2</sup> | Distance where<br>S <= MPE Limit |
|--------------|---------------------------------|---------------------------------|----------------------------------|
| 2437         | 0.205                           | 1.000                           | 9.1cm                            |
| 5200         | 0.172                           | 1.000                           | 8.3cm                            |
| 5300         | 0.110                           | 1.000                           | 6.6cm                            |
| 5580         | 0.170                           | 1.000                           | 8.3cm                            |
| 5785         | 0.196                           | 1.000                           | 8.8cm                            |