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|-----------|-------------------------------|----------------------|--------------|
| Client: | Topcon Positioning Systems | Job Number: | JD103485 |
| Model: | GR-5 GNSS Receiver with FH915 | T-Log Number: | T103567 |
| Contact: | Ferdinand Riodique | Project Manager: | Deepa Shetty |
| Standard: | FCC Part 15.247, RSS-247 | Project Coordinator: | - |
| | | Class: | N/A |

Maximum Permissible Exposure / SAR Exclusion

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 4/4/2017

Test Engineer: Deniz Demirci

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 20 cm separation: | No |
| If not, required separation distance (in cm): | 27.3 |

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

| | | | |
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Multiple Transmitters (General use)

| Band | Mode | Output Power | | Antenna gain (Max) | EIRP | | Channels Available | Channels Used | Total EIRP | |
|-------------------|------|--------------|---------|--------------------|------|-------|--------------------|---------------|------------|-------|
| | | Peak | Average | | dBm | W | | | W | dBm |
| 902 - 925 | FHSS | 29.1 | - | 5.0 | 34.1 | 2.570 | Varies | 1 | 2.570 | 34.10 |
| 2400 - 2483.5 | BT | 1.9 | - | -4.0 | -2.1 | 0.001 | 79 | 1 | 0.001 | -2.10 |
| Worst case total: | | | | | | | | 2 | 2.571 | 34.10 |

Note: Although the 900 MHz antenna will not be installed near the BT antenna, worst case calculations presented.

Industry Canada MPE Calculation

Use: General

Antenna: 5 dBi

300-6000 MHz transmitters (General use)

| Freq. MHz | EUT Power | | Cable Loss | Ant Gain | Power at Ant | EIRP | Power Density (S) at 20 cm | MPE Limit at 20 cm |
|-----------|-----------|-----|------------|----------|--------------|---------|----------------------------|--------------------|
| | dBm | mW* | Loss dB | dBi | dBm | mW | mW/cm ² | mW/cm ² |
| 902.2 | - | - | - | - | - | 2571.00 | 0.511 | 0.274 |
| 927.6 | - | - | - | - | - | 2571.00 | 0.511 | 0.279 |

For the cases where S > the MPE Limit

| Freq. MHz | Power Density (S) at 20 cm | MPE Limit at 20 cm | Distance where S <= MPE Limit |
|-----------|----------------------------|--------------------|-------------------------------|
| | mW/cm ² | mW/cm ² | cm |
| 902.2 | 0.511 | 0.274 | 27.3 |
| 927.6 | 0.511 | 0.279 | 27.1 |

FCC MPE Calculation

Use: General

Antenna: 5 dBi

300-1500 MHz transmitters (General use)

| Freq. MHz | EUT Power | | Cable Loss | Ant Gain | Power at Ant | EIRP | Power Density (S) at 20 cm | MPE Limit at 20 cm |
|-----------|-----------|-----|------------|----------|--------------|---------|----------------------------|--------------------|
| | dBm | mW* | Loss dB | dBi | dBm | mW | mW/cm ² | mW/cm ² |
| 902.2 | - | - | - | - | - | 2571.00 | 0.511 | 0.601 |

For the cases where S > the MPE Limit

| Freq. MHz | Power Density (S) at 20 cm | MPE Limit at 20 cm | Distance where S <= MPE Limit |
|-----------|----------------------------|--------------------|-------------------------------|
| | mW/cm ² | mW/cm ² | cm |
| 902.2 | 0.511 | 0.601 | 18.4 |