

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