



EMC Test Data

Client:	Freewave	Job Number:	PR091113
Model:	FGR3-C-U and FGR3-T-U	T-Log Number:	TL091113-RA
		Project Manager:	Deepa Shetty
Contact:	Riaz Momand	Project Coordinator:	David Bare
Standard:	FCC Part 15.247, RSS-247	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: 12/10/2018
 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:	No
If not, required separation distance (in cm) US:	22.4
If not, required separation distance (in cm) Canada:	33.3

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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FCC MPE Calculation

Use: General

Antenna: 8.6 dBi Yagi

Freq. MHz	EUT Power		Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
	dBm	mW*						
902.2464	26.8	478.6	0	8.6	26.8	3467.37	0.690	0.601
914.9184	26.7	467.7	0	8.6	26.7	3388.44	0.674	0.610
927.8208	25.9	389.0	0	8.6	25.9	2818.38	0.561	0.619

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²	Distance where S <= MPE Limit cm
902.2464	0.690	0.601	21.4
914.9184	0.674	0.610	21.0
927.8208	0.561	0.619	19.0

Antenna: 8.15 dBi Omni

Freq. MHz	EUT Power		Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
	dBm	mW*						
902.2464	27.5	562.3	0	8.15	27.5	3672.82	0.731	0.601
914.9184	27.7	588.8	0	8.15	27.7	3845.92	0.765	0.610
927.8208	26.5	446.7	0	8.15	26.5	2917.43	0.580	0.619

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²	Distance where S <= MPE Limit cm
902.2464	0.731	0.601	22.0
914.9184	0.765	0.610	22.4
927.8208	0.580	0.619	19.4



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		Class:	N/A

Antenna: 3 dBi Omni

Freq. MHz	EUT Power		Cable Loss Loss dB	Ant Gain Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
	dBm	mW*						
902.2464	30.0	1000.0	0	3	30.0	1995.26	0.397	0.601
914.9184	30.0	1000.0	0	3	30.0	1995.26	0.397	0.610
927.8208	29.6	912.0	0	3	29.6	1819.70	0.362	0.619

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²	Distance where S <= MPE Limit cm
902.2464	0.397	0.601	16.2
914.9184	0.397	0.610	16.1
927.8208	0.362	0.619	15.3

Industry Canada MPE Calculation

Use: General

Antenna: 8.6 dBi Yagi

Freq. MHz	EUT Power		Cable Loss Loss dB	Ant Gain Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
	dBm	mW*						
902.2464	26.8	478.6	0	8.6	26.8	3467.37	0.690	0.274
914.9184	26.7	467.7	0	8.6	26.7	3388.44	0.674	0.277
927.8208	25.9	389.0	0	8.6	25.9	2818.38	0.561	0.279

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²	Distance where S <= MPE Limit cm
902.2464	0.690	0.274	31.7
914.9184	0.674	0.277	31.2
927.8208	0.561	0.279	28.3



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Antenna: 8.15 dBi Omni

Freq. MHz	EUT Power		Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
	dBm	mW*						
902.2464	27.5	562.3	0	8.15	27.5	3672.82	0.731	0.274
914.9184	27.7	588.8	0	8.15	27.7	3845.92	0.765	0.277
927.8208	26.5	446.7	0	8.15	26.5	2917.43	0.580	0.279

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²	Distance where S <= MPE Limit cm
902.2464	0.731	0.274	32.7
914.9184	0.765	0.277	33.3
927.8208	0.580	0.279	28.8

Antenna: 3 dBi Omni

Freq. MHz	EUT Power		Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²
	dBm	mW*						
902.2464	30	1000.0	0	3	30.0	1995.26	0.397	0.274
914.9184	30	1000.0	0	3	30.0	1995.26	0.397	0.277
927.8208	29.6	912.0	0	3	29.6	1819.70	0.362	0.279

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm mW/cm ²	MPE Limit at 20 cm mW/cm ²	Distance where S <= MPE Limit cm
902.2464	0.397	0.274	24.1
914.9184	0.397	0.277	24.0
927.8208	0.362	0.279	22.8