Client:	Crestron Electronics	PR Number:	PR093543
Model:	CWD7712	T-Log Number:	TL093543-RA
		Project Manager:	Christine Krebill
Contact:	William Wack	Project Engineer:	Deniz Demirci
Standard:	FCC 15.247, RSS-247	Class:	N/A

Maximum Permissible Exposure / SAR Exclusion

Specific Details

Objective: Evaluate the RF Exposure requirements per FCC 1.1310, 2.1091, 2.1093 and RSS-102.

Date of Test: 9/10/2019
Test Engineer: Deniz Demirci
Fremont EMC Lab #4A

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).

SAR exclusion calculation formula is from FCC KDB 447498 D01 section 4.3:

$$[\text{(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)}] \cdot [\sqrt{f_{(GHz)}}]$$

Where: $f_{(GHz)}$ is the RF transmit channel frequency

Summary of Results

Device complies with Power Density requirements at 20 cm separation:	Yes

Deviations From The Standard

No deviations were made from the requirements of the standard.

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FCC MPE Calculation

Use: General

Antenna: 1.6 dBi PCB trace antenna

For 1.5 - 15 GHz single transmitters (General use)

Freq.	EUT Power		Cable Loss	Ant Gain	Power at Ant	EIRP	Power Density (S) at 20 cm	MPE Limit at 20 cm
MHz	dBm*	mW*	Loss dB	dBi	dBm	mW	mW/cm^2	mW/cm^2
2405	19.5	89.1	0	1.6	19.5	128.82	0.026	1.000
2440	19.5	89.1	0	1.6	19.5	128.82	0.026	1.000
2475	19.5	89.1	0	1.6	19.5	128.82	0.026	1.000
2480	14.0	25.1	0	1.6	14.0	36.31	0.007	1.000

ISED Canada MPE Calculation

Use: General

Antenna: 1.6 dBi PCB trace antenna

For 0.3 - 6 GHz single transmitters (General use)

Freq.	EUT Power		Cable Loss	Ant Gain	Power at Ant	EIRP	Power Density (S) at 20 cm	MPE Limit at 20 cm
MHz	dBm*	mW*	Loss dB	dBi	dBm	mW	mW/cm^2	mW/cm^2
2405	19.5	89.1	0	1.6	19.5	128.82	0.026	0.536
2440	19.5	89.1	0	1.6	19.5	128.82	0.026	0.541
2475	19.5	89.1	0	1.6	19.5	128.82	0.026	0.546
2480	14.0	25.1	0	1.6	14.0	36.31	0.007	0.547

* ±1.1 dB tune up tolerance