RF EXPOSURE & MPE CALCULATION

FCC ID: I28MD-ZBR7BTLE, IC ID: 3798B-ZBR7BTLE

RF EXPOSURE CALCULATION

According to §15.247(e)(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to KDB 447498 D01 General RF Exposure Guidance v05r02 Part 4.3.1,

no SAR Test required if

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0

Maximum measured transmitter power:

Mode	Target Power (dBm)	Tune up power tolerance (dB)	Max Tune up Power (dBm)	Max Antenna Gain (dBi)	EIRP (dBm)
DSS band BT BDR/EDR	8.5	1	9.5	2.8	12.3
DTS band BT LE	8.5	1	9.5	2.8	12.3

Minimum Test separation distance=5mm

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)]
=19.05/10*(√2.4)=2.80≤ 3.0

Conclusion: No SAR is required.

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Date: Jan 16, 2015

MPE CALCULATION

RF Exposure Requirements: 47 CFR §1.1307(b)

RF Radiation Exposure Limits: 47 CFR §1.1310

RF Radiation Exposure Guidelines: FCC OST/OET Bulletin Number 65

EUT Frequency Band: 2402-2480 MHz

Limits for General Population/Uncontrolled Exposure in the band of: 1500 - 100,000 MHz

Power Density Limit: 1 mW / cm^2

Equation: $S = PG / 4\pi R^2$ or $R = \sqrt{PG / 4\pi S}$

Where, S = Power Density

P = Power Input to Antenna

G = Antenna Gain

R = distance to the center of radiated antenna

Prediction distance 20cm

Mode	Prediction distance (cm)	Target Power (dBm)	Tune up power tolerance (dB)	Max Tune up Power (dBm)	Max Antenna Gain (dBi)	Power density (mW/ cm^2)
DSS band BT BDR/EDR	20	8.5	1	9.5	2.8	0.0038
DTS band BT LE	20	8.5	1	9.5	2.8	0.0038

Maximum MPE is 0.0048 mW/cm^2, which is less than 1.

The Above Result had shown that Device complied with MPE requirement.

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