

FCC §15.247 (i) & §1.1307 (b) (3) & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)**Applicable Standard**

According to subpart 15.247 (i) and subpart 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

According to KDB 447498 D04 Interim General RF Exposure Guidance

MPE-Based Exemption:

General frequency and separation-distance dependent MPE-based effective radiated power (ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(3)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz.

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$.
1.34-30	$3,450 R^2/f^2$.
30-300	$3.83 R^2$.
300-1,500	$0.0128 R^2 f$.
1,500-100,000	$19.2 R^2$.

R is the minimum separation distance in meters

f = frequency in MHz

Result

Mode	Frequency (MHz)	Tune up conducted power	Antenna Gain		ERP		Evaluation Distance (m)	ERP Limit (W)
		(dBm)	(dBi)	(dBd)	(dBm)	(W)		
BLE	2402-2480	1.00	3.14	0.99	1.99	0.002	0.2	0.768
GSM 850	824 ~ 849	35.00	-7.11	-9.26	25.74	0.375	0.2	0.422
PCS 1900	1850 ~ 1910	32.00	-5.84	-7.99	24.01	0.252	0.2	0.768
NB-IoT Band 2	1850 ~ 1910	25.70	-5.84	-7.99	17.71	0.059	0.2	0.768
NB-IoT Band 5	824 ~ 849	25.70	-7.11	-9.26	16.44	0.044	0.2	0.422
NB-IoT Band 12	699 ~ 746	25.70	-10.28	-12.43	13.27	0.021	0.2	0.358
NB-IoT Band 13	746 ~ 787	25.70	-9.97	-12.12	13.58	0.023	0.2	0.382
NB-IoT Band 17	704 ~ 746	25.70	-10.28	-12.43	13.27	0.021	0.2	0.360
NB-IoT Band 26	814 ~ 894	25.70	-7.11	-9.26	16.44	0.044	0.2	0.417
CAT-M1 Band 2	1850 ~ 1910	25.70	-5.84	-7.99	17.71	0.059	0.2	0.768
CAT-M1 Band 4	1710 ~ 1755	25.70	-18.20	-20.35	5.35	0.003	0.2	0.768
CAT-M1 Band 5	824 ~ 849	25.70	-7.11	-9.26	16.44	0.044	0.2	0.422
CAT-M1 Band 12	699 ~ 746	25.70	-10.28	-12.43	13.27	0.021	0.2	0.358
CAT-M1 Band 13	746 ~ 787	25.70	-9.97	-12.12	13.58	0.023	0.2	0.382
CAT-M1 Band 26	814 ~ 894	25.70	-7.11	-9.26	16.44	0.044	0.2	0.417

Note 1: The tune up conducted power and antenna gain was declared by the applicant.

Note 2: The target power of WWAN radio is from the contain ID of module with report number B18W50279-MPE

Simultaneous transmitting consideration (worst case):

The ratio= ERP BLE /limit+ GSM 850/limit= 0.002/0.768+0.375/0.422=0.891<1.0

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliant.