

FCC RF Exposure

FCC ID: 2AG32EG7010AM11N

Applicant: Baicells Technologies Co., Ltd.

Exposure category: General population/uncontrolled environment

EUT Type: Internal Antenna

Refer Standard: FCC Part 2.1091: Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands)

FCC MPE Limited:

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

Test Data

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

Where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (40cm)

Antenna Gain information

Completely unCorrelated Antenna Gain for LTE Band48: 15dBi

Maximum Conduct Power & Manufacturing tolerance

Bandwidth	Modulation	Test Channel	Chain 0 Output power (dBm/10MHz)	Chain 1 Output power (dBm/10MHz)	Total Power (dBm/10MHz)	Total Power tolerance (dBm/10MHz)
5MHz	QPSK	Low	21.42	21.76	24.60	24±1
		Middle	21.85	21.44	24.66	24±1
		High	21.92	21.44	24.70	24±1
	16QAM	Low	21.93	21.26	24.62	24±1
		Middle	21.69	21.61	24.66	24±1
		High	21.85	21.23	24.56	24±1
Bandwidth	Modulation	Test Channel	Chain 0 Output power (dBm/10MHz)	Chain 1 Output power (dBm/10MHz)	Total Power (dBm/10MHz)	Total Power tolerance (dBm/10MHz)
10MHz	QPSK	Low	22.01	21.83	24.93	24±1
		Middle	21.97	21.65	24.82	24±1
		High	21.93	21.71	24.83	24±1
	16QAM	Low	21.45	21.48	24.48	24±1
		Middle	21.28	21.75	24.53	24±1
		High	21.97	21.67	24.83	24±1
Bandwidth	Modulation	Test Channel	Chain 0 Output power (dBm/15MHz)	Chain 1 Output power (dBm/15MHz)	Total Power (dBm/15MHz)	Total Power tolerance (dBm/15MHz)
15MHz	QPSK	Low	22.26	22.31	25.30	25±1
		Middle	21.95	22.67	25.34	25±1
		High	22.13	22.36	25.26	25±1
	16QAM	Low	22.21	22.25	25.24	25±1
		Middle	21.92	22.44	25.20	25±1
		High	22.04	22.28	25.17	25±1
Bandwidth	Modulation	Test Channel	Chain 0 Output power (dBm/20MHz)	Chain 1 Output power (dBm/20MHz)	Total Power (dBm/20MHz)	Total Power tolerance (dBm/20MHz)
20MHz	QPSK	Low	23.51	23.29	26.41	26±1
		Middle	23.55	23.72	26.65	26±1
		High	23.16	23.31	26.25	26±1
	16QAM	Low	23.08	22.95	26.03	26±1
		Middle	23.45	23.02	26.25	26±1
		High	23.24	23.15	26.21	26±1

Calculation results: pass

Mode	Maximum tune up power(dBm)	ANT Gain(dBi)	RF distance(cm)	Result (mW/cm ²)	Limit (mW/cm ²)
LTE Band48	27	15	40	0.788	1