

# FCC RF Exposure

**FCC ID: 2AG32EG7010CM11N**

**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 <sup>2</sup> )	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	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 (30cm)

Antenna Gain information

Completely unCorrelated Antenna Gain for LTE Band48: 14dBi

### 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	17.73	17.60	20.68	21±1
		Middle	20.29	19.30	22.83	23±1
		High	20.17	20.12	23.16	23±1
	16QAM	Low	17.55	17.54	20.56	21±1
		Middle	19.59	19.04	22.33	23±1
		High	20.03	19.68	22.87	23±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	17.98	17.67	20.84	21±1
		Middle	19.68	19.92	22.81	23±1
		High	20.68	20.08	23.40	23±1
	16QAM	Low	17.34	17.38	20.37	21±1
		Middle	19.29	19.31	22.31	23±1
		High	19.62	19.71	22.68	23±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	18.51	18.28	21.41	21±1
		Middle	20.14	20.83	23.51	23±1
		High	20.98	21.05	24.03	24±1
	16QAM	Low	18.31	18.44	21.39	21±1
		Middle	20.75	20.73	23.75	23±1
		High	21.13	21.25	24.20	24±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	19.81	19.52	22.68	22±1
		Middle	21.45	21.27	24.37	24±1
		High	22.12	21.95	25.05	25±1
	16QAM	Low	19.28	19.18	22.24	22±1
		Middle	21.06	21.13	24.11	24±1
		High	21.58	21.52	24.56	24±1

**Calculation results: pass**

Mode	Maximum tune up power(dBm)	ANT Gain(dBi)	RF distance(cm)	Result (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
LTE Band48	25	14	30	0.702	1