

FCC RF Exposure

FCC ID: 2AG32PBS212096

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: 13dBi

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)
10MHz	QPSK	Low	22.45	21.51	25.02	25 ± 1
		Middle	22.81	21.55	25.24	25 ± 1
		High	22.86	21.62	25.29	25 ± 1
	64QAM	Low	22.43	21.59	25.04	25 ± 1
		Middle	22.14	21.19	24.70	25 ± 1
		High	22.41	22.08	25.26	25 ± 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)
20MHz	QPSK	Low	19.77	18.75	22.30	23 ± 1
		Middle	19.96	19.21	22.61	23 ± 1
		High	20.44	19.23	22.89	23 ± 1
	64QAM	Low	19.77	18.72	22.29	23 ± 1
		Middle	19.71	19.02	22.39	23 ± 1
		High	20.27	19.24	22.80	23 ± 1

Bandwidth	Modulation	Test Channel	Chain 0 Output power (dBm/20MHz)	Chain 1 Output power (dBm/20MHz)	Total Power (dBm/10MHz)	Total Power tolerance (dBm/10MHz)
20MHz	QPSK	Low	22.89	21.59	25.30	25 ± 1
		Middle	22.74	22.32	25.55	25 ± 1
		High	22.87	22.46	25.68	25 ± 1
	64QAM	Low	22.74	21.64	25.24	25 ± 1
		Middle	22.67	21.57	25.17	25 ± 1
		High	22.83	22.37	25.62	25 ± 1

Calculation results: pass

Mode	Maximum tune up power(dBm)	ANT Gain(dBi)	RF distance(cm)	Result (mW/cm2)	Limit (mW/cm2)
LTE Band48	26	13	30	0.7	1