

# RF Exposure

**FCC ID:** SRQ-ZTEMF256

**Applicant:** ZTE Corporation

Exposure category: General population/uncontrolled environment

EUT Type: Production Unit

Device Type: LTE CAT6 CPE Outdoor

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 (appropriate units, e.g., cm)

WWAN Antenna Gain:

LTE Band 2:2dBi

LTE Band 4:2dBi

LTE Band 7: 3dBi

LTE Band 41: 3dBi

### Manufacturing tolerance for WWAN

Band	Max. RF Power(dBm)	Target (dBm)	Tolerance ±(dB)	Max Tune up power
LTE Band 2	22.49	23.0	1	24.0
LTE Band 4	23.38	23.0	1	24.0
LTE Band 7	23.64	23.0	1	24.0
LTE Band 41	23.96	23.0	1	24.0

### Worst-Case mode Conducted Output Power Results for WWAN

Band	Channel	Frequency (MHz)	Max Tune up power(dBm)	Max Tune up power(mW)	Duty cycle(%)	Average power(mW)
LTE Band 2	Low	1860	24.00	251	100	251
	Mid	1880	24.00	251	100	251
	High	1900	24.00	251	100	251
LTE Band 4	Low	1720	24.00	251	100	251
	Mid	1732.5	24.00	251	100	251
	High	1745	24.00	251	100	251
LTE Band 7	Low	2510	24.00	251	100	251
	Mid	2535	24.00	251	100	251
	High	2560	24.00	251	100	251
LTE Band 41	Low	2501	24.00	251	100	251
	Mid	2593	24.00	251	100	251
	High	2680	24.00	251	100	251

### Calculation results (for WWAN): pass

Band	Channel	Frequency (MHz)	Result(mW/cm <sup>2</sup> )	Limit(mW/cm <sup>2</sup> )	Ratio
LTE Band 2	Low	1860	0.079	1.0	0.079
	Mid	1880	0.079	1.0	0.079
	High	1900	0.079	1.0	0.079
LTE Band 4	Low	1720	0.079	1.0	0.079
	Mid	1732.5	0.079	1.0	0.079
	High	1745	0.079	1.0	0.079
LTE Band 7	Low	2510	0.100	1.0	0.100
	Mid	2535	0.100	1.0	0.100
	High	2560	0.100	1.0	0.100
LTE Band 41	Low	2501	0.100	1.0	0.100
	Mid	2593	0.100	1.0	0.100
	High	2680	0.100	1.0	0.100

Simultaneous Transmission Calculation: N/A