

1 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS

2 RF Exposure

Test Requirement: FCC Part 1.1307

Test Mode: The EUT work in test mode(Tx).

2.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

2.2 The procedures / limit

FCC Part 1.1307:

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.3 MPE Calculation Method

Predication of MPE limit at a given distance

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

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW).

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)

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

stand-alone

LTE

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
LTE BAND2	0.25	1.059	21.98	157.76	0.033245	1
LTE BAND4	0.50	1.122	23.00	199.53	0.044537	1
LTE BAND5	0.10	1.023	21.80	151.36	0.030812	0.55
LTE BAND7	0.60	1.148	22.00	158.49	0.036201	1
LTE BAND12	0.80	1.202	23.25	211.35	0.050550	0.47
LTE BAND17	0.90	1.230	22.20	165.96	0.040618	0.47

WCDMA

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
WCDMA BAND2	0.25	1.059	22.70	186.21	0.039239	1
WCDMA BAND4	0.50	1.122	22.82	191.43	0.042729	1
WCDMA BAND5	0.10	1.023	22.52	178.65	0.036368	0.550

GSM

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
GSM850	0.10	1.023	34.03	2529.30	0.514896	0.55
GSM1900	0.25	1.059	30.37	1088.93	0.229467	1

2.4GWIFI

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
WiFi	0.00	1.000	19.21	83.37	0.016585	1

BT

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
BT	0.00	1.000	2.48	1.77	0.000352	1

5GWIFI

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
BANDI	0.30	1.072	14.97	31.41	0.006698	1
BANDIV	0.35	1.122	16.14	41.11	0.009177	1

3 Photographs of test setup and EUT.

Note: Please refer to appendix: WTS18S10125849W_Photo.

=====End of Report=====