

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

LTE BAND2	1.79	1.510	23.43	220.29	0.066179	1
LTE BAND4	-0.12	0.973	23.12	205.12	0.039694	1
LTE BAND5	-1.56	0.698	22.90	194.98	0.027084	0.550
LTE BAND12	-2.76	0.530	22.86	193.20	0.020357	0.466
LTE BAND13	-1.28	0.745	22.88	194.09	0.028755	0.518
LTE BAND17	-2.76	0.530	22.95	197.24	0.020784	0.469

WCDMA

WCDMA BAND2	1.71	1.506	23.66	232.27	0.069586	1
WCDMA BAND5	1.86	1.535	23.59	228.56	0.069778	0.550

WIFI

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	1.778	1.506	9.77	9.48	0.002841	1

Simultaneous evaluation for Licensed and Unlicensed transmitters:

Maximum MPE ratio		Sum of MPE ratios	Limit	Verdict
Unlicensed Transmitter	Licensed Transmitter			
$0.00284/1=0.00284$	$0.06978/0.55=0.127$	0.130	1.0	Compliance

3 Photographs of test setup and EUT.

Note: Please refer to appendix: WTF18S09122915W_Photo.

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