RF Exposure Evaluation Declaration

Product Name	:	LM960
Trade Name	:	Telit
Model No.	:	LM960
FCC ID.	:	RI7LM960
IC ID.	:	5131A-LM960

Applicant : Telit Wireless Solutions Co. Ltd.

Address : 13th Fl.,Shinyoung Securities Bld, 6, Gukjegeumyung-ro 8-gil, Yeongdeungpo-gu, Seoul, 07330, Korea

Date of Receipt	:	Apr. 09, 2018
Date of Declaration	:	Jun. 27, 2018
Report No.	:	1840058R-RF-US-Exp
Report Version	:	V1.0

Testing Laboratory
3024

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

According to IC RSS-102 Issue 5: For the purpose of this standard, Industry Canada has adopted the SAR and RF field strength limits established in Health Canada's RF exposure guideline.

RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

Frequency Range (MHz)	**Electric Field (V/m rms)**	**Magnetic Field (A/m rms)**	**Power Density (W/m2)**	**Reference Period (minutes)**
0.003-1021	83	90	-	Instantaneous*
0.1-10	-	0.73/ f	-	6**
1.1-10	87/ f 0.5	-	-	6**
10-20	27.46	0.0728	2	6
20-48	58.07/ f 0.25	0.1540/ f 0.25	8.944/ f 0.5	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 f 0.3417	0.008335 f 0.3417	0.02619f0.6834	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ f 1.2
150000-300000	0.158 f 0.5	4.21 x 10-4 f 0.5	6.67 x 10-5 f	616000/ f 1.2
Note: f is frequency in MHz. *Based on nerve stimulation (NS). ** Based on specific absorption rate (SAR).				

RF Field Strength Limits for Controlled Use Devices (Controlled Environment)

Frequency Range (MHz)	**Electric Field (V/m rms)**	**Magnetic Field (A/m rms)**	**Power Density (W/m2)**	**Reference Period (minutes)**
0.003-1023	170	180	-	Instantaneous*
0.1-10	-	1.6/ f	-	6**
1.29-10	193/ f 0.5	-	-	6**
10-20	61.4	0.163	10	6
20-48	129.8/ f 0.25	0.3444/ f 0.25	44.72/ f 0.5	6
48-100	49.33	0.1309	6.455	6
100-6000	15.60 f 0.25	0.04138 f 0.25	0.6455f0.5	6
6000-15000	137	0.364	50	6
15000-150000	137	0.364	50	616000/ f 1.2
150000-300000	0.354 f 0.5	9.40 x 10-4 f 0.5	3.33 x 10-4 f	616000/ f 1.2
Note: f is frequency in MHz. *Based on nerve stimulation (NS). ** Based on specific absorption rate (SAR).				

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4*pi*r^2)

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm^2 . If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18℃and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Product	LM960
Test Mode	Transmit
Test Condition	RF Exposure Evaluation

WCDMA Band	Usable maximum Antenna Gain by manufacturer's declaration (dBi)	Usable maximum Antenna Gain under limit of output power (dBi)
2	3.5	10.0
4	3.5	10.0
5	1.5	14.0

LTE Band	Usable maximum Antenna Gain by manufacturer's declaration (dBi)	Usable maximum Antenna Gain under limit of output power (dBi)
2	3.5	9.0
4	3.5	5.0
5	1.5	16.0
7	3.0	8.0
12	1.5	13.0
13	1.5	13.0
14	1.5	13.0
17	1.5	13.0
18	1.5	28.0
19	1.5	28.0
25	3.5	9.0
26	1.5	29.0
30	1.0	1.0
38	3.0	8.0
41	3.0	6.0
66	3.5	6.0
71	1.5	13.0

Note: For ISED, this device doesn't support the LTE band 18/19/71. And the LTE band 26 frequency range is 824-849MHz for ISED.

WCDMA Band 2

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
1852.4	24.00	251.19	22.52	178.65	0.112	1.000	0.448
1880.0	24.00	251.19	20.30	107.15	0.112	1.000	0.453
1907.6	24.00	251.19	20.06	101.39	0.112	1.000	0.457

WCDMA Band 4

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
1712.4	24.00	251.19	22.80	190.55	0.112	1.000	0.425
1732.6	24.00	251.19	20.24	105.68	0.112	1.000	0.428
1752.6	24.00	251.19	20.28	106.66	0.112	1.000	0.431

WCDMA Band 5

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
826.4	24.00	251.19	23.55	226.46	0.071	0.551	0.258
836.6	24.00	251.19	20.15	103.51	0.071	0.558	0.260
846.6	24.00	251.19	20.22	105.20	0.071	0.564	0.262

LTE Band 2

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
1857.5	24.5	281.84	23.15	206.54	0.126	1	0.449
1880.0	24.5	281.84	23.17	207.49	0.126	1	0.453
1902.5	24.5	281.84	23.42	219.79	0.126	1	0.456

LTE Band 4

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
1717.5	24.5	281.84	24.10	257.04	0.126	1	0.425
1732.5	24.5	281.84	24.01	251.77	0.126	1	0.428
1747.5	24.5	281.84	23.85	242.66	0.126	1	0.431

LTE Band 5

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
829.0	24.5	281.84	23.88	244.34	0.079	0.553	0.259
836.5	24.5	281.84	24.05	254.10	0.079	0.558	0.260
844.0	24.5	281.84	23.89	244.91	0.079	0.563	0.262

LTE Band 7

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.0 dBi or 2.0 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
2510	24.5	281.84	23.99	250.61	0.112	1	0.551
2535	24.5	281.84	24.04	253.51	0.112	1	0.555
2565	24.5	281.84	23.95	248.31	0.112	1	0.560

LTE Band 12

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
700.5	24.5	281.84	23.44	220.80	0.079	0.467	0.231
707.5	24.5	281.84	23.34	215.77	0.079	0.472	0.232
711.0	24.5	281.84	23.22	209.89	0.079	0.474	0.233

LTE Band 13

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
779.5	24.5	281.84	23.15	206.54	0.079	0.520	0.248
782.0	24.5	281.84	23.23	210.38	0.079	0.521	0.249
784.5	24.5	281.84	23.21	209.41	0.079	0.523	0.249

LTE Band 14

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
790.5	24.5	281.84	23.25	211.35	0.079	0.527	0.250
793.0	24.5	281.84	23.25	211.35	0.079	0.529	0.251
795.5	24.5	281.84	23.11	204.64	0.079	0.530	0.251

LTE Band 17

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
706.5	24.5	281.84	23.44	220.80	0.079	0.471	0.232
710.0	24.5	281.84	23.36	216.77	0.079	0.473	0.233
711.0	24.5	281.84	23.30	213.80	0.079	0.474	0.233

LTE Band 18

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
817.5	24.5	281.84	23.41	219.28	0.079	0.545	0.256
822.5	24.5	281.84	23.47	222.33	0.079	0.548	0.257
827.5	24.5	281.84	23.44	220.80	0.079	0.552	0.258

LTE Band 19

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
832.5	24.5	281.84	23.64	231.21	0.079	0.555	0.259
837.5	24.5	281.84	23.84	242.10	0.079	0.558	0.260
842.5	24.5	281.84	23.37	217.27	0.079	0.562	0.261

LTE Band 25

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
1857.5	24.5	281.84	23.24	210.86	0.126	1	0.449
1882.5	24.5	281.84	23.33	215.28	0.126	1	0.453
1907.5	24.5	281.84	23.69	233.88	0.126	1	0.457

LTE Band 26

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
816.5	24.5	281.84	23.01	199.99	0.079	0.544	0.256
831.5	24.5	281.84	23.11	204.64	0.079	0.554	0.259
841.5	24.5	281.84	23.14	206.06	0.079	0.561	0.261

LTE Band 30

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.0 dBi or 1.26 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
2307.5	24.5	281.84	22.89	194.54	0.071	1	0.521
2310.0	24.5	281.84	22.85	192.75	0.071	1	0.521
2312.5	24.5	281.84	22.75	188.36	0.071	1	0.521

LTE Band 38

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.0 dBi or 2.0 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
2575.0	24.5	281.84	24.09	256.45	0.112	1	0.561
2595.0	24.5	281.84	24.07	255.27	0.112	1	0.564
2610.0	24.5	281.84	24.01	251.77	0.112	1	0.566

LTE Band 41

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.0 dBi or 2.0 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
2506.0	27.5	562.34	26.74	472.06	0.223	1	0.551
2593.0	27.5	562.34	26.70	467.74	0.223	1	0.564
2680.0	27.5	562.34	26.66	463.45	0.223	1	0.577

LTE Band 66

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
1712.5	24.5	281.84	23.99	250.61	0.126	1	0.425
1745.0	24.5	281.84	23.79	239.33	0.126	1	0.430
1770.0	24.5	281.84	23.60	229.09	0.126	1	0.434

LTE Band 71

Antenna Gain

Based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Channel Frequency (MHz)	Maximum Output Power by manufacturer's declaration		Conducted Output Power by Testing		Maximum Power Density at R = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)
	(dBm)	(mW)	(dBm)	(mW)			
673.0	24.5	281.84	23.72	235.50	0.079	0.449	0.224
680.5	24.5	281.84	23.81	240.44	0.079	0.454	0.226
688.0	24.5	281.84	23.84	242.10	0.079	0.459	0.228

LTE Band 2A-5A

Antenna Gain

For Band2, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

For Band5, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
2	1855.0	22.12	162.93	0.073	1.000	0.448	0.073	0.163
5	826.5	21.36	136.77	0.038	0.551	0.258	0.070	0.147

Max. Total Power = 24.77 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.073+0.070 =0.146 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.163+0.147 =0.310 < 1 (limit), Result : Pass

LTE Band 2A-12A

Antenna Gain

For Band2, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

For Band12, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
2	1852.5	21.22	132.43	0.059	1.000	0.448	0.059	0.132
12	700.5	20.21	104.95	0.029	0.467	0.231	0.062	0.126

Max. Total Power = 23.75 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.059+0.062 =0.121 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.132+0.126 =0.258 < 1 (limit), Result : Pass

LTE Band 2A-13A

Antenna Gain

For Band2, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

For Band13, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency	Conducted Power		Power Density	FCC Limit	IC Limit	FCC	IC
	(MHz)	(dBm)	(mW)	(mW/cm^2)	(mW/cm^2)	(mW/cm^2)	Result	Result
2	1907.5	20.97	125.03	0.056	1.000	0.457	0.056	0.123
13	782.0	20.41	109.90	0.031	0.521	0.249	0.060	0.125

Max. Total Power = 23.71 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.056+0.060 =0.116 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.123+0.125 =0.248 < 1 (limit), Result : Pass

LTE Band 4A-5A

Antenna Gain

For Band4, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

For Band5, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency	Conducted Power		Power Density	FCC Limit	IC Limit	FCC	IC
	(MHz)	(dBm)	(mW)	(mW/cm^2)	(mW/cm^2)	(mW/cm^2)	Result	Result
4	1752.5	23.14	206.06	0.092	1.000	0.431	0.092	0.213
5	844.0	16.85	48.42	0.014	0.563	0.262	0.025	0.053

Max. Total Power = 24.06 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.092+0.025 =0.117 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.213+0.053 =0.266 < 1 (limit), Result : Pass

LTE Band 4A-7A

Antenna Gain

For Band4, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

For Band7, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.0 dBi or 2.0 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
4	1712.5	25.04	319.15	0.142	1.000	0.425	0.142	0.334
7	2502.5	15.38	34.51	0.014	1.000	0.550	0.014	0.025

Max. Total Power = 25.49 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.142+0.014 =0.156< 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.334+0.025 =0.360 < 1 (limit), Result : Pass

LTE Band 4A-12A

Antenna Gain

For Band4, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

For Band12, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
4	1745.0	25.54	358.10	0.159	1.000	0.430	0.159	0.370
12	711.0	10.99	12.56	0.004	0.474	0.233	0.008	0.017

Max. Total Power = 25.69 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.159+0.008 =0.167 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.370+0.017 =0.387 < 1 (limit), Result : Pass

LTE Band 4A-13A

Antenna Gain

For Band4, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

For Band13, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
4	1715.0	25.01	316.96	0.141	1.000	0.425	0.141	0.332
13	782.0	15.93	39.170	0.011	0.521	0.249	0.021	0.044

Max. Total Power = 25.52 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.141+0.021=0.162 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.332+0.044 =0.376 < 1 (limit), Result : Pass

LTE Band 5A-66A

Antenna Gain

For Band5, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

For Band66, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
5	826.5	21.27	133.97	0.038	0.551	0.258	0.069	0.147
66	1883.5	22.50	177.83	0.079	1.000	0.453	0.079	0.174

Max. Total Power = 24.94 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.069+0.079 =0.148 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.147+0.174 =0.322 < 1 (limit), Result : Pass

LTE Band 12A-66A

Antenna Gain

For Band12, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1,41 in linear scale.

For Band66, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.5 dBi or 2.24 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
12	701.5	22.94	196.79	0.055	0.468	0.231	0.118	0.238
66	1711.5	14.98	31.48	0.014	1.000	0.424	0.014	0.033

Max. Total Power = 23.58 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.118+0.014 =0.132 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.238+0.033 =0.271 < 1 (limit), Result : Pass

LTE Band 5B

Antenna Gain

For Band5, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 1.5 dBi or 1.41 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
5	834.1	21.99	158.12	0.044	0.556	0.260	0.079	0.169
5	844.0	21.99	158.12	0.044	0.563	0.262	0.078	0.168

Max. Total Power = 25 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.079+0.078 =0.157< 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.169+0.168 =0.337 < 1 (limit), Result : Pass

LTE Band 7C

Antenna Gain

For Band7, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.0 dBi or 2.0 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
7	2507.5	20.48	111.69	0.044	1.000	0.551	0.044	0.080
7	2522.5	20.48	111.69	0.044	1.000	0.553	0.044	0.080

Max. Total Power = 23.49 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.044+0.044 =0.088 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.080+0.080 =0.160 < 1 (limit), Result : Pass

LTE Band 38C

Antenna Gain

For Band38, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.0 dBi or 2.0 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
38	2587.5	20.67	116.68	0.046	1.000	0.563	0.046	0.082
38	2602.5	20.67	116.68	0.046	1.000	0.565	0.046	0.081

Max. Total Power = 23.68 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.046+0.046 =0.092 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.082+0.081 =0.163 < 1 (limit), Result : Pass

LTE Band 41C

Antenna Gain

For Band41, based on the Maximum Conducted Output Power, the usable maximum antenna gain by manufacturer's declaration is 3.0 dBi or 2.0 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

Band	Frequency (MHz)	Conducted Power		Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	IC Limit (mW/cm^2)	FCC Result	IC Result
		(dBm)	(mW)					
41	2667.5	20.69	117.22	0.047	1.000	0.575	0.047	0.082
41	2682.5	20.69	117.22	0.047	1.000	0.577	0.047	0.081

Max. Total Power = 23.70 dBm

Result = Power Density / Limit

For FCC, calculation for Multi-Transmitter = 0.047+0.047 =0.094 < 1 (limit), Result : Pass

For IC, calculation for Multi-Transmitter = 0.082+0.081 =0.163 < 1 (limit), Result : Pass