



FCC INTER-BAND RADIO TEST REPORT

FCC ID : GKRRMLN1
Equipment : 5G LGA Module
Brand Name : COMPAL
Model Name : RML-N1
Marketing Name : 5G LGA Module
Applicant : Compal Electronics, Inc.
No. 581 & 581-1, Ruiguang Rd., Neihu District,
Taipei, (114) Taiwan
Manufacturer : Compal Electronics, Inc.
No. 581 & 581-1, Ruiguang Rd., Neihu District,
Taipei, (114) Taiwan
Standard : FCC 47 CFR Part 2, 22(H), 24(E), 27, 96

The product was received on Nov. 01, 2021 and testing was performed from Nov. 16, 2021 and completed on Nov. 18, 2021. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FG133040-04C	01	Initial issue of report	Nov. 30, 2021
FG133040-04C	02	1. Add all functions supported by the device. 2. Revise applicable standards. 3. Revise description in section 3.2.	Dec. 14, 2021



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1053 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (f) §27.53 (g) §27.53 (h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66) (Band 71)	Pass	Under limit 15.95 dB at 7230.000 MHz
	§2.1051 §27.53 (m)(4)	Radiated Spurious Emission (Band 41)		
	§2.1053 §27.53 (a)(4)	Radiated Spurious Emission (Band 30)		
	§2.1051 §96.41	Radiated Spurious Emission (Band 48)		

Note: This is a variant report by turning on WWAN Band (LTE Band 13 / Band 17 / 5G NR n78) via software. All the test cases were performed on original report which can be referred to Sporton Report Number FG133040-02G.

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Keven Cheng

Report Producer: Vivian Hsu



1 General Description

1.1 Product Feature of Equipment Under Test

LTE/5G NR and GNSS

Product Feature	
Test Antenna Type	Monopole Antenna
Test Antenna Gain	<p><Ant. 0>: LTE Band 2: 3.9 dBi LTE Band 4: 2.7 dBi LTE Band 5: 0.9 dBi LTE Band 12: 0 dBi LTE Band 13: 1.3 dBi LTE Band 25: 3.9 dBi LTE Band 26: 0.9 dBi LTE Band 30: -1.1 dBi LTE Band 66: 2.7 dBi LTE Band 71: 0 dBi</p> <p><Ant. 2>: LTE Band 30: -1.2 dBi LTE Band 41: 3.5 dBi</p> <p><Ant. 3>: LTE Band 13: 1.7 dBi</p> <p><Ant. 4>: LTE Band 2: 3.7 dBi LTE Band 4: 3.9 dBi LTE Band 25: 3.7 dBi LTE Band 66: 3.9 dBi</p> <p><Ant. 5>: LTE Band 48: -2.2 dBi</p>

Remark: The above EUT's information is declared by manufacturer. Please refer to Comments and Explanations in report summary.

1.2 Modification of EUT

No modifications made to the EUT during the testing.



1.3 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. 03CH07-HY
Test Engineer	Jesse Wang, Stan Hsieh and Ken Wu
Temperature	19~27°C
Relative Humidity	48~63%

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190

1.4 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ FCC 47 CFR Part 2, 96
- ♦ FCC 47 CFR Part 2, 22(H), 24(E), 27
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ FCC KDB 940660 D01 Part 96 CBRS Eqpt v03

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

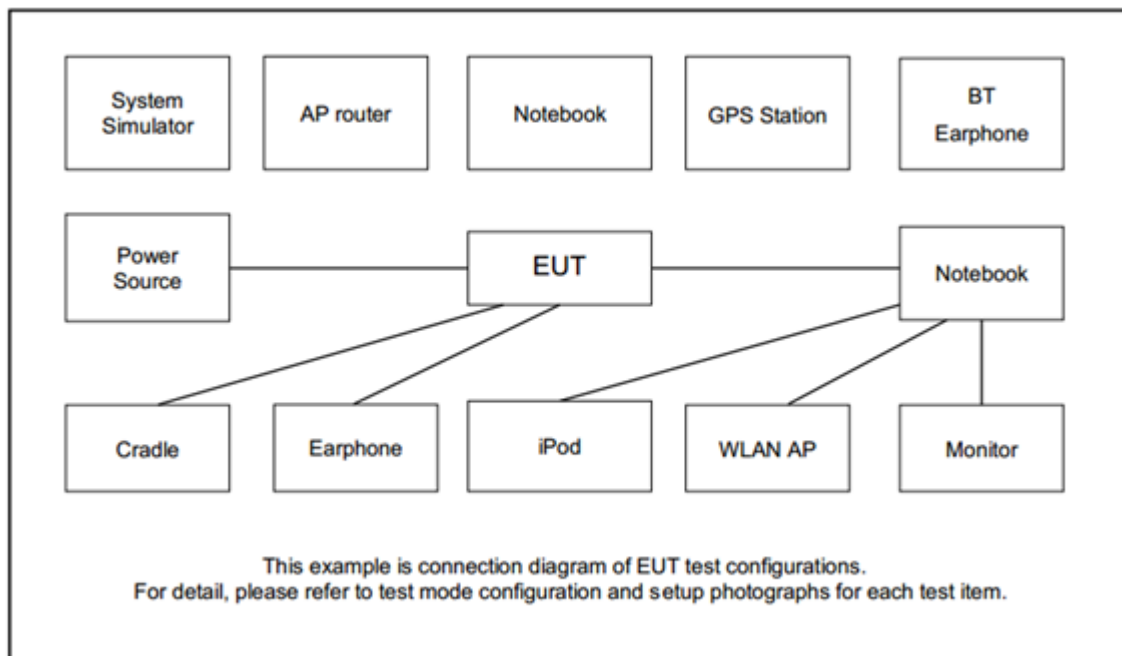
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and the worst cases were recorded below.

Test Items	Antenna combination	Band	Bandwidth (MHz)		Modulation	RB #	Test Channel			Worse Plane
			10+20	20+10	QPSK	1	L	M	H	
Radiated Spurious Emission	Ant. 4+3	2A+13A	-	v	v	v	-	v	-	Y
	Ant. 0+0	4A+13A	-	v	v	v	-	v	-	Z
	Ant. 0+0	13A+66A	v	-	v	v	-	v	-	Z
	Ant. 0+5	13A+48A	v	-	v	v	-	v	-	Z
Remark	1. The mark "v" means that this configuration is chosen for testing. 2. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.									

2.2 Connection Diagram of Test System





2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	DC Power Supply	GW Instek	GPE-2323	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	5G Wireless Test Platform	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
4.	fixture	Compal	ZM52	N/A	N/A	N/A

2.4 Frequency List of Low/Middle/High Channels

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3

LTE Band 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3



LTE Band 13 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23230	-
	Frequency	-	782	-
5	Channel	23205	23230	23255
	Frequency	779.5	782	784.5

LTE Band 48 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	55340	55990	56640
	Frequency	3560.0	3625.0	3690.0
15	Channel	55315	55990	56665
	Frequency	3557.5	3625.0	3692.5
10	Channel	55290	55990	56690
	Frequency	3555.0	3625.0	3695.0
5	Channel	55265	55990	56715
	Frequency	3552.5	3625.0	3697.5

LTE Band 66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	132072	132322	132572
	Frequency	1720	1745	1770
15	Channel	132047	132322	132597
	Frequency	1717.5	1745	1772.5
10	Channel	132022	132322	132622
	Frequency	1715	1745	1775
5	Channel	131997	132322	132647
	Frequency	1712.5	1745	1777.5
3	Channel	131987	132322	132657
	Frequency	1711.5	1745	1778.5
1.4	Channel	131979	132322	132665
	Frequency	1710.7	1745	1779.3

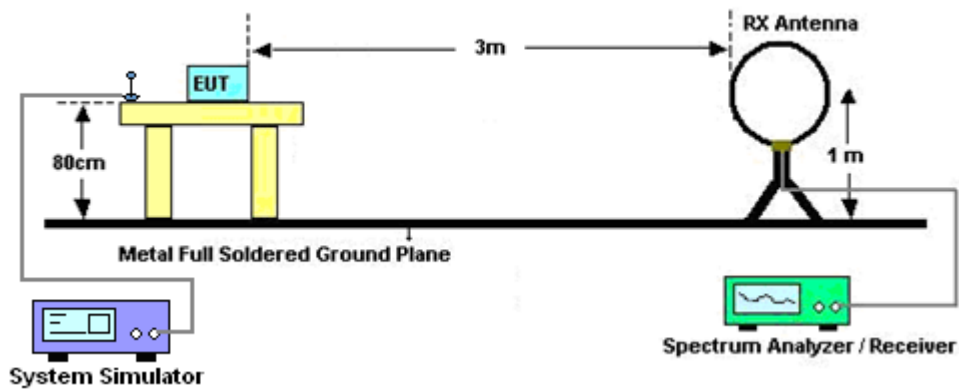
3 Radiated Test Items

3.1 Measuring Instruments

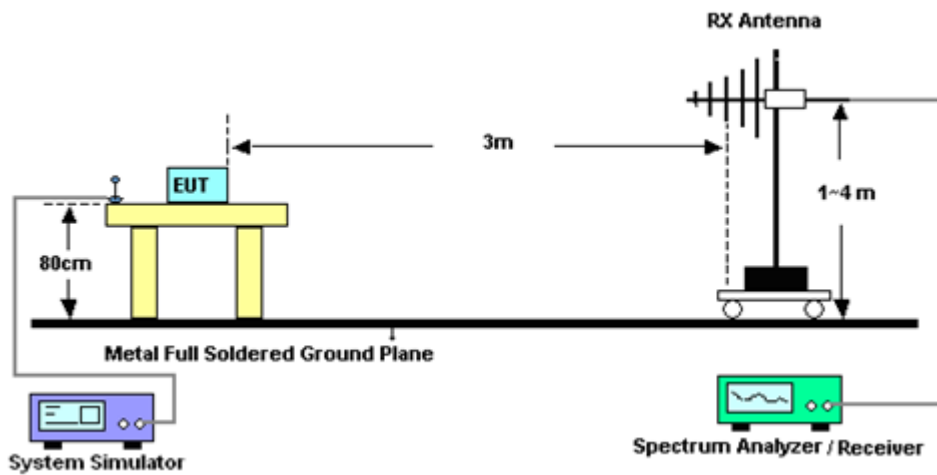
Please refer to the measuring equipment list in this test report.

3.1.1 Test Setup

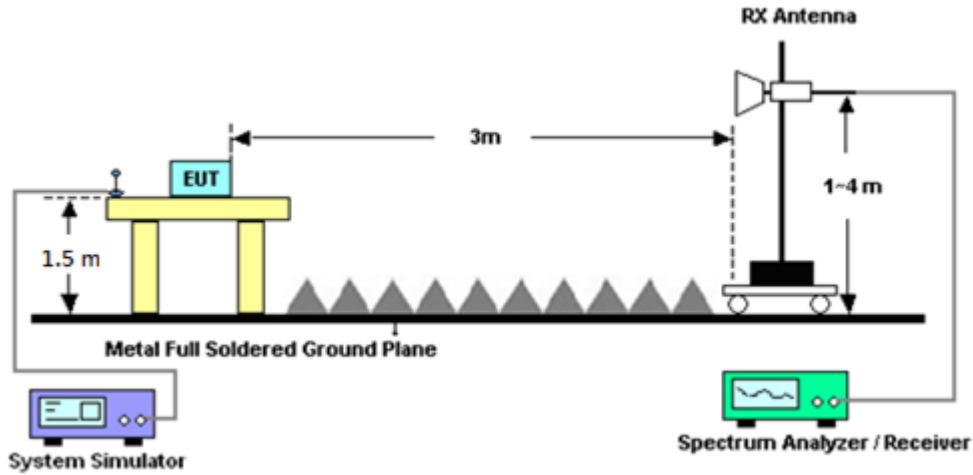
For radiated test below 30MHz



For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



3.1.2 Test Result of Radiated Test

Please refer to Appendix A.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.



3.2 Radiated Spurious Emission Measurement

3.2.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For LTE Band 13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

For LTE Band 48

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least -40 dBm / MHz .

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.



3.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

$$\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$$

$$\text{ERP (dBm)} = \text{EIRP} - 2.15$$

The limit line is derived from $43 + 10\log(P)\text{dB}$ below the transmitter power P(Watts)

LTE Band 48

The limit line is -40dBm/MHz



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	35419 & 03	30MHz~1GHz	Apr. 28, 2021	Nov. 16, 2021~Nov. 18, 2021	Apr. 27, 2022	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Dec. 01, 2020	Nov. 16, 2021~Nov. 18, 2021	Nov. 30, 2021	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz~18GHz	Apr. 22, 2021	Nov. 16, 2021~Nov. 18, 2021	Apr. 21, 2022	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	May 18, 2021	Nov. 16, 2021~Nov. 18, 2021	May 17, 2022	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Oct. 04, 2021	Nov. 16, 2021~Nov. 18, 2021	Oct. 03, 2022	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	0600789	18-40GHz	Jul. 23, 2021	Nov. 16, 2021~Nov. 18, 2021	Jul. 22, 2022	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Jul. 22, 2021	Nov. 16, 2021~Nov. 18, 2021	Jul. 21, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY15682-4	30MHz to 18GHz	Feb. 24, 2021	Nov. 16, 2021~Nov. 18, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971-4	9kHz to 18GHz	Feb. 24, 2021	Nov. 16, 2021~Nov. 18, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655-4	9kHz to 18GHz	Feb. 24, 2021	Nov. 16, 2021~Nov. 18, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2,80 1606/2	18GHz~40GHz	Feb. 24, 2021	Nov. 16, 2021~Nov. 18, 2021	Feb. 23, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126	532078/126E	30MHz~18GHz	Sep. 17, 2021	Nov. 16, 2021~Nov. 18, 2021	Sep. 16, 2022	Radiation (03CH07-HY)
Controller	EMEC	EM1000	N/A	Control Ant Mast	Apr. 28, 2021	Nov. 16, 2021~Nov. 18, 2021	Apr. 27, 2022	Radiation (03CH07-HY)
Controller	MF	MF-7802	N/A	Control Turn table	N/A	Nov. 16, 2021~Nov. 18, 2021	N/A	Radiation (03CH07-HY)
Antenna Mast	EMEC	AM-BS-4500E	N/A	Boresight mast 1M~4M	Apr. 28, 2021	Nov. 16, 2021~Nov. 18, 2021	Apr. 27, 2022	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Nov. 16, 2021~Nov. 18, 2021	N/A	Radiation (03CH07-HY)
Software	Audix	E3 6.2009-8-24	N/A	N/A	N/A	Nov. 16, 2021~Nov. 18, 2021	N/A	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB2495	N/A	Mar. 09, 2021	Nov. 16, 2021~Nov. 18, 2021	Mar. 08, 2022	Radiation (03CH07-HY)
Horn Antenna	EMCO	3117	00143261	1GHz~18GHz	Jan. 26, 2021	Nov. 16, 2021~Nov. 18, 2021	Jan. 25, 2022	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917025 1	18GHz~40GHz	Dec. 02, 2020	Nov. 16, 2021~Nov. 18, 2021	Dec. 01, 2021	Radiation (03CH07-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	Dec. 04, 2020	Nov. 16, 2021~Nov. 18, 2021	Dec. 03, 2021	Radiation (03CH07-HY)



5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.16 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.71 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.16 dB
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Appendix A. Test Results of Radiated Test

<Ant. 4+3>

LTE Band 2A+13A

LTE Band 2A+13A / 20MHz+10MHz / QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
2A Middle	3744	-31.98	-13	-18.98	-52.73	-38.59	1.68	8.29	H
	5616	-52.44	-13	-39.44	-78.01	-59.49	2.69	9.75	H
	7482	-53.82	-13	-40.82	-80.88	-63.15	2.44	11.76	H
	9357	-47.23	-13	-34.23	-77.98	-57.23	2.56	12.56	H
									H
									H
	3744	-34.41	-13	-21.41	-55.04	-41.02	1.68	8.29	V
	5616	-53.63	-13	-40.63	-79.24	-60.68	2.69	9.75	V
	7482	-52.68	-13	-39.68	-80.02	-62.01	2.44	11.76	V
	9357	-43.84	-13	-30.84	-75.02	-53.84	2.56	12.56	V
									V
									V
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
13A Middle	1554	-54.63	-13	-41.63	-75.78	-56.69	0.94	5.15	H
	2332	-50.84	-13	-37.84	-77.28	-52.35	1.24	4.90	H
	3108	-58.98	-13	-45.98	-78.14	-61.62	1.48	6.28	H
									H
									H
	1554	-53.95	-13	-40.95	-75.56	-56.01	0.94	5.15	V
	2332	-49.91	-13	-36.91	-76.84	-51.42	1.24	4.90	V
	3108	-58.18	-13	-45.18	-77.99	-60.82	1.48	6.28	V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



<Ant. 0+0>

LTE Band 4A+13A

LTE Band 4A+13A / 20MHz+10MHz / QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
4A Middle	3450	-51.91	-13	-38.91	-72.13	-58.1	1.59	7.78	H
	5172	-45.84	-13	-32.84	-69.49	-53.1	2.44	9.70	H
	6894	-50.95	-13	-37.95	-77.31	-59	2.62	10.67	H
									H
									H
									H
	3450	-50.11	-13	-37.11	-70.72	-56.3	1.59	7.78	V
	5172	-51.94	-13	-38.94	-75.51	-59.2	2.44	9.70	V
	6894	-52.25	-13	-39.25	-78.61	-60.3	2.62	10.67	V
									V
									V
									V
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
13A Middle	1554	-54.54	-13	-41.54	-75.26	-56.6	0.94	5.15	H
	2332	-38.09	-13	-25.09	-64.24	-39.6	1.24	4.90	H
	3108	-57.86	-13	-44.86	-76.97	-60.5	1.48	6.28	H
									H
									H
									H
	1554	-54.04	-13	-41.04	-75.2	-56.1	0.94	5.15	V
	2332	-48.59	-13	-35.59	-75.04	-50.1	1.24	4.90	V
	3108	-57.56	-13	-44.56	-77.04	-60.2	1.48	6.28	V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 13A+66A

LTE Band 13A+66A / 10MHz+20MHz / QPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
13A Middle	1554	-54.03	-13	-41.03	-75.11	-56.09	0.94	5.15	H
	2332	-49.83	-13	-36.83	-76.33	-51.34	1.24	4.90	H
	3108	-57.72	-13	-44.72	-76.85	-60.36	1.48	6.28	H
									H
									H
									H
	1554	-53.43	-13	-40.43	-75.08	-55.49	0.94	5.15	V
	2332	-49.62	-13	-36.62	-76.59	-51.13	1.24	4.90	V
	3108	-56.94	-13	-43.94	-76.95	-59.58	1.48	6.28	V
									V
									V
									V
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
66A Middle	3474	-42.52	-13	-29.52	-63.38	-48.81	1.60	7.89	H
	5208	-53.14	-13	-40.14	-77.38	-60.38	2.46	9.70	H
	6942	-46.13	-13	-33.13	-72.88	-54.25	2.61	10.73	H
	12150	-42.53	-13	-29.53	-76.53	-52.14	2.72	12.33	H
									H
									H
	3474	-49.06	-13	-36.06	-69.76	-55.35	1.60	7.89	V
	5208	-55.64	-13	-42.64	-79.72	-62.88	2.46	9.70	V
	6942	-52.12	-13	-39.12	-78.85	-60.24	2.61	10.73	V
	12150	-48.44	-13	-35.44	-81.89	-58.05	2.72	12.33	V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



<Ant. 0+5>

LTE Band 13A+48A

LTE Band 13A+48A / 10MHz+20MHz / QPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
13A Middle	1554	-54.23	-13	-41.23	-75.32	-56.29	0.94	5.15	H
	2332	-47.74	-13	-34.74	-74.41	-49.25	1.24	4.90	H
	3106	-49.22	-13	-36.22	-77.65	-51.86	1.48	6.27	H
									H
									H
									H
	1554	-54.03	-13	-41.03	-75.66	-56.09	0.94	5.15	V
	2332	-46.05	-13	-33.05	-73.05	-47.56	1.24	4.90	V
	3106	-48.72	-13	-35.72	-77.83	-51.36	1.48	6.27	V
									V
									V
									V
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
48A Middle	7230	-55.95	-40	-15.95	-60.88	-64.69	2.52	11.26	H
	10845	-57.67	-40	-17.67	-68.59	-67.45	2.69	12.47	H
	14460	-57.33	-40	-17.33	-71.32	-67.05	3.37	13.10	H
									H
									H
									H
	7230	-57.41	-40	-17.41	-62.59	-66.15	2.52	11.26	V
	10845	-57.91	-40	-17.91	-68.64	-67.69	2.69	12.47	V
	14460	-57.43	-40	-17.43	-71.36	-67.15	3.37	13.10	V
									V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.