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TEST REPORT

of

FCC Part 2 Subpart J, Part 22 Subpart C/H,
Part 24 Subpart E, Part 27 Subpart C and Part 90 Subpart S

FCC ID: BEJTL1T22NR

Equipment Under Test	:	Telematics
Model Name	:	TL1T22NR
Variant Model Name(s)	:	Refer to the page 3
Applicant	:	LG Electronics USA
Manufacturer	:	LG Electronics Inc.
Date of Receipt	:	2022.11.04
Date of Test(s)	:	2022.11.04 ~ 2022.12.26
Date of Issue	:	2023.01.17

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

1) The results of this test report are effective only to the items tested.
2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.
3) This test report cannot be reproduced, except in full, without prior written permission of the Company.
4) The data marked ※ in this report was provided by the customer and may affect the validity of the test results.
We are responsible for all the information of this test report except for the data(※) provided by the customer.

Tested by: Teo Kim

Technical Manager: Jinhyoung Cho

SGS Korea Co., Ltd. Gunpo Laboratory

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx.

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1.2. Details of Applicant

Applicant : LG Electronics USA
Address : 111 Sylvan Avenue, North Building, Englewood Cliffs, New Jersey, United States, 07632
Contact Person : Kim, Sung-soo
Phone No. : +1 201 266 2215

1.3. Details of Manufacturer

Company : LG Electronics Inc.
Address : 10, Magokjungang 10-ro, Gangseo-gu, Seoul, Korea, 07796

1.4. Description of EUT

Kind of Product	Telematics
Model Name	TL1T22NR
Variant Model Name	TL1T22NE
Serial Number	352162110147030
Power Supply	DC 12.5 V
Rated Power	LTE Band 2, 4, 5, 7, 12, 17, 26, 41: 23 dBm
Frequency Range	LTE Band 2: 1 850 ㎒ ~ 1 910 ㎒ LTE Band 4: 1 710 ㎒ ~ 1 755 ㎒ LTE Band 5: 824 ㎒ ~ 849 ㎒ LTE Band 7: 2 500 ㎒ ~ 2 570 ㎒ LTE Band 12: 699 ㎒ ~ 716 ㎒ LTE Band 17: 704 ㎒ ~ 716 ㎒ LTE Band 26(Part 90): 814 ㎒ ~ 824 ㎒ LTE Band 26(Part 22): 824 ㎒ ~ 849 ㎒ LTE Band 41: 2 496 ㎒ ~ 2 690 ㎒
Modulation Technique	QPSK, 16QAM
Antenna Type	External Antenna
Antenna Gain※	699 ㎒ ~ 716 ㎒: 2.6 dBi 704 ㎒ ~ 716 ㎒: 2.6 dBi 814 ㎒ ~ 824 ㎒: 2.1 dBi 824 ㎒ ~ 849 ㎒: 2.1 dBi 1 710 ㎒ ~ 1 755 ㎒: 5.4 dBi 1 850 ㎒ ~ 1 910 ㎒: 6.2 dBi 2 500 ㎒ ~ 2 570 ㎒: 6.6 dBi 2 496 ㎒ ~ 2 690 ㎒: 6.6 dBi
H/W Version	Rev.D1
S/W Version	v004.144.010

1.5. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Signal Generator	Agilent	E8257D	MY51501169	Mar. 04, 2022	Annual	Mar. 04, 2023
Signal Generator	R&S	SMBV100A	255834	May 25, 2022	Annual	May 25, 2023
Spectrum Analyzer	R&S	FSV30	103210	Dec. 07, 2022	Annual	Dec. 07, 2023
Spectrum Analyzer	Agilent	N9030A	MY53120526	Jan. 07, 2022	Annual	Jan. 07, 2023
Communication Analyzer	R&S	MT8821C	6262192291	Oct. 11, 2022	Annual	Oct. 11, 2023
Mobile Test Unit	R&S	CMW 500	144034	Feb. 21, 2022	Annual	Feb. 21, 2023
Power Meter	Anritsu	ML2495A	1223004	Nov. 29, 2022	Annual	Nov. 29, 2023
Power Sensor	Anritsu	MA2411B	1207272	May 27, 2022	Annual	May 27, 2023
Temperature Chamber	ESPEC CORP.	SH-662	15004184	Jun. 02, 2022	Annual	Jun. 02, 2023
Low Pass Filter	Mini-Circuits	NLP-1200+	V 8979400903-2	Feb. 10, 2022	Annual	Feb. 10, 2023
High Pass Filter	Wainwright Instrument GmbH	WHKX10-900-1000-18000 -40SS	7	Mar. 04, 2022	Annual	Mar. 04, 2023
High Pass Filter	Wainwright Instrument GmbH	WHKX2.2/12.75G-10SS	8	Mar. 04, 2022	Annual	Mar. 04, 2023
High Pass Filter	Wainwright Instrument GmbH	WHKX3.0/18G-6SS	21	Jun. 09, 2022	Annual	Jun. 09, 2023
High Pass Filter	Wainwright Instrument GmbH	WHNX7.5/26.5G-6SS	11	Oct. 24, 2022	Annual	Oct. 24, 2023
BRIDGE COUPLER	MARKI MICROWAVE INC	CBR16-0012	1542	May 06, 2022	Annual	May 06, 2023
Directional Coupler	KRYTAR	152613	122660	Jul. 06, 2022	Annual	Jul. 06, 2023
Power Splitter	Weinschel	1534	499	May 31, 2022	Annual	May 31, 2023
DC Power Supply	R&S	HMP2020	020089489	May 17, 2022	Annual	May 17, 2023
Preamplifier	H.P.	8447F	2944A03909	Aug. 04, 2022	Annual	Aug. 04, 2023
Preamplifier	R&S	SCU 18	10117	Jun. 13, 2022	Annual	Jun. 13, 2023
Preamplifier	TESTEK	TK-PA1840H	130016	Jan. 10, 2022	Annual	Jan. 10, 2023
Test Receiver	R&S	ESU26	100109	Jan. 18, 2022	Annual	Jan. 18, 2023
Loop Antenna	Schwarzbeck Mess-Elektronik	FMZB 1519	1519-039	Aug. 23, 2021	Biennial	Aug. 23, 2023
Bilog Antenna	Schwarzbeck Mess-Elektronik	VULB9163	01126	Feb. 07, 2022	Annual	Feb. 07, 2023
Horn Antenna	R&S	HF906	100326	Feb. 18, 2022	Annual	Feb. 18, 2023
Horn Antenna	Schwarzbeck Mess-Elektronik	BBHA 9170	9170-540	Nov. 30, 2022	Annual	Nov. 30, 2023
Antenna Master	Innco systems GmbH	MA4640-XP-ET	MA4640/536/383 30516/L	N.C.R.	N/A	N.C.R.
Turn Table	Innco systems GmbH	DS 1200S	N/A	N.C.R.	N/A	N.C.R.
Controller	Innco systems GmbH	CONTROLLER CO3000-4P	CO3000/963/383 30516/L	N.C.R.	N/A	N.C.R.
Anechoic Chamber	SY Corporation	L × W × H (9.6 m × 6.4 m × 6.6 m)	N/A	N.C.R.	N/A	N.C.R.
Coaxial Cable	RFONE	MWX221-NMSNMS (4 m)	J1023142	Oct. 04, 2022	Semi-Annual	Apr. 04, 2023
Coaxial Cable	Qualwave Inc.	QA500-18-NN-10 (10 m)	22200114	Oct. 04, 2022	Semi-Annual	Apr. 04, 2023
Coaxial Cable	RADIALL	TESTPRO 3	182287	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023
Coaxial Cable	RADIALL	TESTPRO 3	182288	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023
Coaxial Cable	RADIALL	TESTPRO 3	182291	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023

Note;
- For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

1.6. Summary of Test Results

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 2, 22, 24, 27 and 90		
Section(s)	**Test Item(s)**	**Result**
§22.913(a)(5) §24.232(c) §27.50(c)(10) §27.50(d)(4) §27.50(h)(2) §90.635(b)	E.R.P. / E.I.R.P.	Complied
§22.917(a) §24.238(a) §27.53(g) §27.53(h)(1) §27.53(m)(4) §90.691(a)	Spurious Radiated Emission	Complied
§2.1046	Conducted Output Power	Complied
§2.1049	Occupied Bandwidth	Complied
§22.913(d) §24.232(d) §27.50(d)(5)	Peak-Average Ratio	Complied
§22.917(a) §24.238(a) §27.53(g) §27.53(h)(1) §27.53(m)(4) §90.691(a)	Spurious Emission at Antenna Terminal	Complied
§22.917(a) §24.238(a) §27.53(g) §27.53(h)(1) §27.53(m)(4) §90.691(a)	Band Edge and Emission Mask	Complied
§2.1055 §22.355 §24.235 §27.54 §90.213(a)	Frequency Stability	Complied

1.7. Sample Calculation for Offset

Where relevant, the following sample calculation is provided:

1.7.1. Conducted Test

Offset value (㏈) = Directional Coupler (㏈) + Cable loss (㏈)

1.7.2. Radiation test

- E.I.R.P. (㏈ m) = Measured level (㏈㎶) + Antenna factor (㏈/m) + Cable loss (㏈) + 20 Log D - 104.8; where D is the measurement distance in meters.
- E.R.P. (㏈ m) = E.I.R.P. (㏈ m) - 2.15 (㏈)

1.8. Device Capabilities

This device contains the following capabilities;

LTE Band 17 (704 ㎒ ~ 716 ㎒) is covered by LTE Band 12 (699 ㎒ ~ 716 ㎒) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth. Therefore test data provided in this report covers LTE Band 17 as well as Band 12.
LTE Band 5 (824 ㎒ ~ 849 ㎒) is covered by LTE Band 26 (824 ㎒ ~ 849 ㎒) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth. Therefore test data provided in this report covers LTE Band 5 as well as Band 26.

1.9. Worst Case Configuration and Mode

The worst-case is based on the conducted output power measurement investigation results. All testing was performed using QPSK and 16QAM modulations. However, the spurious radiated emission and spurious at antenna terminal were only performed on bandwidth and RB offset (with RB size 1) with the highest conducted power in QPSK.

The peak to average ratio were tested only 16QAM modulation as worst case.

The radiation test of the EUT was investigated in three orthogonal orientations X, Y, and Z, and the worst case data is reported.

1.10. Measurement Configuration

Test Items	Band	Test Channel			Bandwidth (MHz)						Modulation		RB #		
		Low	Mid	High	1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full
Conducted Output Power	2	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	4	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	7	V	V	V			V	V	V	V	V	V	V	V	V
	12	V	V	V	V	V					V	V	V	V	V
	12/17	V	V	V			V	V			V	V	V	V	V
	26/5 Part22	V	V	V	V	V	V	V			V	V	V	V	V
	26 Part22	V	V	V					V		V	V	V	V	V
	26 Part90	V	V	V	V	V	V	V	V		V	V	V	V	V
	41	V	V	V			V	V	V	V	V	V	V	V	V
Frequency Stability	2	-	V	-	-	-	V	-	-	-	V	-	-	-	V
	4	-	V	-	-	-	V	-	-	-	V	-	-	-	V
	7	-	V	-			V	-	-	-	V	-	-	-	V
	12/17	-	V	-	-	-	V	-			V	-	-	-	V
	26/5 Part22	-	V	-	-	-	V	-	-		V	-	-	-	V
	26 Part90	-	V	-	-	-	V	-	-		V	-	-	-	V
	41	-	V	-			V	-	-	-	V	-	-	-	V
Occupied Bandwidth	2	-	V	-	V	V	V	V	V	V	V	V	-	-	V
	4	-	V	-	V	V	V	V	V	V	V	V	-	-	V
	7	-	V	-			V	V	V	V	V	V	-	-	V
	12	-	V	-	V	V					V	V	-	-	V
	12/17	-	V	-			V	V			V	V	-	-	V
	26/5 Part22	-	V	-	V	V	V	V			V	V	-	-	V
	26 Part22	-	V	-					V		V	V	-	-	V
	26 Part90	-	V	-	V	V	V	V	V		V	V	-	-	V
	41	-	V	-			V	V	V	V	V	V	-	-	V
Peak-to-Average Ratio	2	V	V	V	V	V	V	V	V	V	-	V	-	-	V
	4	V	V	V	V	V	V	V	V	V	-	V	-	-	V
	7	V	V	V			V	V	V	V	-	V	-	-	V
	12	V	V	V	V	V					-	V	-	-	V
	12/17	V	V	V			V	V			-	V	-	-	V
	26/5 Part22	V	V	V	V	V	V	V			-	V	-	-	V
	26 Part22	V	V	V					V		-	V	-	-	V
	26 Part90	V	V	V	V	V	V	V	V		-	V	-	-	V
	41	V	V	V			V	V	V	V	-	V	-	-	V

Test Items	Band	Test Channel			Bandwidth (MHz)						Modulation		RB #		
		Low	Mid	High	1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full
Band edge	2	V	-	V	V	V	V	V	V	V	V	V	V	-	V
	4	V	-	V	V	V	V	V	V	V	V	V	V	-	V
	7	V	-	V			V	V	V	V	V	V	V	-	V
	12	V	-	V	V	V					V	V	V	-	V
	12/17	V	-	V			V	V			V	V	V	-	V
	26/5 Part22	V	-	V	V	V	V	V			V	V	V	-	V
	26 Part22	V	-	V					V		V	V	V	-	V
	26 Part90	V	-	V	V	V	V	V	V		V	V	V	-	V
	41	V	-	V			V	V	V	V	V	V	V	-	V
Spurious at antenna terminal & Spurious Radiated Emission	2	V	V	V	-	-	-	-	V	-	V	-	V	-	-
	4	V	V	V	-	-	-	-	-	V	V	-	V	-	-
	7	V	V	V			V	-	-	-	V	-	V	-	-
	12/17	V	V	V	-	-	V	-			V	-	V	-	-
	26/5 Part22	V	V	V	-	-	-	-	V		V	-	V	-	-
	26 Part90	V	V	V	-	-	-	-	V		V	-	V	-	-
	41	V	V	V			-	-	-	V	V	-	V	-	-

1.11. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty	
RF Output Power	0.32 dB	
Occupied Bandwidth	3.90 ㎑	
Conducted Spurious Emissions	0.61 dB	
Peak to Average Ratio	0.60 dB	
Frequency Stability	5.97 ㎑	
Radiated Emission, 9 ㎑ to 30 ㎒	H	3.40 dB
	V	3.40 dB
Radiated Emission, below 1 ㎓	H	4.50 dB
	V	5.10 dB
Radiated Emission, above 1 ㎓	H	3.70 dB
	V	3.90 dB

All measurement uncertainty values are shown with a coverage factor of *k*=2 to indicate a 95 % level of confidence.

1.12. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL003655	2022.12.26	Initial
1	F690501-RF-RTL003655-1	2023.01.17	Corrected the Band 7 of clause 3.3.

1.13. Emission Designator and Max Power

Band	Band width (㎒)	Modulation	Low Freq. (㎒)	Upper Freq. (㎒)	Conducted Average Power (dB m)	Ant. Gain (dB i)	E.R.P. / E.I.R.P. Average (dB m)	E.R.P. / E.I.R.P. Average (W)	Emission Designator
2	1.4	QPSK	1 850.7	1 909.3	21.56	6.2	27.76	0.597	1M09G7D
		16QAM			20.80		27.00	0.501	1M09D7D
	3	QPSK	1 851.5	1 908.5	21.71		27.91	0.618	2M69G7D
		16QAM			20.98		27.18	0.522	2M70D7D
	5	QPSK	1 852.5	1 907.5	21.60		27.80	0.603	4M51G7D
		16QAM			20.87		27.07	0.509	4M49D7D
	10	QPSK	1 855	1 905	21.70		27.90	0.617	8M95G7D
		16QAM			20.95		27.15	0.519	8M95D7D
	15	QPSK	1 857.5	1 902.5	21.76		27.96	0.625	13M4G7D
		16QAM			21.08		27.28	0.535	13M4D7D
	20	QPSK	1 860	1 900	21.70		27.90	0.617	17M8G7D
		16QAM			21.09		27.29	0.536	17M9D7D
4	1.4	QPSK	1 710.7	1 754.3	21.58	5.4	26.98	0.499	1M09G7D
		16QAM			20.86		26.26	0.423	1M09D7D
	3	QPSK	1 711.5	1 753.5	21.69		27.09	0.512	2M68G7D
		16QAM			20.93		26.33	0.430	2M69D7D
	5	QPSK	1 712.5	1 752.5	21.70		27.10	0.513	4M49G7D
		16QAM			21.00		26.40	0.437	4M49D7D
	10	QPSK	1 715	1 750	21.73		27.13	0.516	8M95G7D
		16QAM			21.00		26.40	0.437	8M95D7D
	15	QPSK	1 717.5	1 747.5	21.83		27.23	0.528	13M5G7D
		16QAM			21.11		26.51	0.448	13M5D7D
	20	QPSK	1 720	1 745	21.84		27.24	0.530	17M8G7D
		16QAM			21.10		26.50	0.447	17M8D7D
7	5	QPSK	2 502.5	2 567.5	21.59	6.6	28.19	0.659	4M51G7D
		16QAM			20.78		27.38	0.547	4M49D7D
	10	QPSK	2 505	2 565	21.42		28.02	0.634	8M95G7D
		16QAM			20.66		27.26	0.532	8M95D7D
	15	QPSK	2 507.5	2 562.5	21.53		28.13	0.650	13M5G7D
		16QAM			20.97		27.57	0.571	13M5D7D
	20	QPSK	2 510	2 560	21.54		28.14	0.652	18M0G7D
		16QAM			20.86		27.46	0.557	17M9D7D
12	1.4	QPSK	699.7	715.3	22.35	2.6	24.95	0.313	1M09G7D
		16QAM			21.62		24.22	0.264	1M09D7D
	3	QPSK	700.5	714.5	22.43		25.03	0.318	2M69G7D
		16QAM			21.66		24.26	0.267	2M69D7D
12/17	5	QPSK	701.5	713.5	22.49		25.09	0.323	4M49G7D
		16QAM			21.65		24.25	0.266	4M53D7D
	10	QPSK	704	711	22.38		24.98	0.315	8M95G7D
		16QAM			21.70		24.30	0.269	8M95D7D

Band	Band width (㎒)	Modulation	Low Freq. (㎒)	Upper Freq. (㎒)	Conducted Average (dB m)	Ant. Gain (dB i)	E.R.P. / E.I.R.P. Average (dB m)	E.R.P. / E.I.R.P. Average (W)	Emission Designator
26/5 Part 22	1.4	QPSK	824.7	848.3	21.90	2.1	24.07	0.255	1M09G7D
		16QAM			21.10		23.41	0.219	1M10D7D
	3	QPSK	825.5	847.5	21.93		23.92	0.247	2M70G7D
		16QAM			21.22		23.33	0.215	2M70D7D
	5	QPSK	826.5	846.5	21.94		24.01	0.252	4M51G7D
		16QAM			21.31		23.34	0.216	4M49D7D
	10	QPSK	829	844	21.95		24.01	0.252	8M95G7D
		16QAM			21.23		23.35	0.216	8M92D7D
26 Part 22	15	QPSK	831.5	841.5	21.97		24.07	0.255	13M5G7D
		16QAM			21.31		23.41	0.219	13M4D7D
26 Part 90	1.4	QPSK	814.7	823.3	21.82	2.1	23.92	0.247	1M09G7D
		16QAM			21.23		23.33	0.215	1M10D7D
	3	QPSK	815.5	822.5	21.91		24.01	0.252	2M69G7D
		16QAM			21.24		23.34	0.216	2M70D7D
	5	QPSK	816.5	821.5	21.91		24.01	0.252	4M51G7D
		16QAM			21.25		23.35	0.216	4M51D7D
	10	QPSK	819		21.90		24.00	0.251	8M95G7D
		16QAM			21.19		23.29	0.213	8M95D7D
	15	QPSK	821.5		22.05		24.15	0.260	13M4G7D
		16QAM			21.23		23.33	0.215	13M5D7D
41	5	QPSK	2 498.5	2 687.5	20.41	6.6	27.01	0.502	4M49G7D
		16QAM			19.45		26.05	0.403	4M53D7D
	10	QPSK	2 501	2 685	20.86		27.46	0.557	8M92G7D
		16QAM			19.86		26.46	0.443	8M92D7D
	15	QPSK	2 503.5	2 682.5	20.86		27.46	0.557	13M5G7D
		16QAM			19.71		26.31	0.428	13M5D7D
	20	QPSK	2 506	2 680	20.88		27.48	0.560	17M9G7D
		16QAM			19.71		26.31	0.428	18M0D7D

1.14. Information of Variant Model

Model Name		Description
Basic Model	TL1T22NR	Fully mounted module on hardware.
Variant Model	TL1T22NE	Band 21 duplexer, PA are removed.

*Difference between two models does not affect bands that can be used in the US. [Band 21]

- Supported Cellular Band

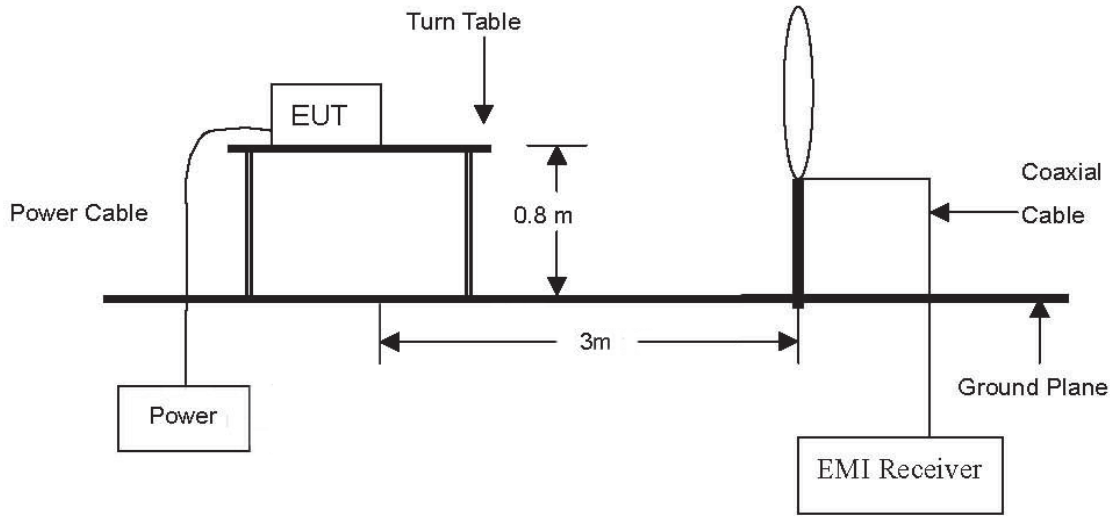
MODEL	GSM	WCDMA	LTE
TL1T22NR	GSM850, PCS1900	B2, B4, B5	B2, B4, B5, B7, B12, B17, B26, B41
TL1T22NE	N/A	B2, B4, B5	B2, B4, B5, B7, B12, B17

*Operating bands are different by Software.

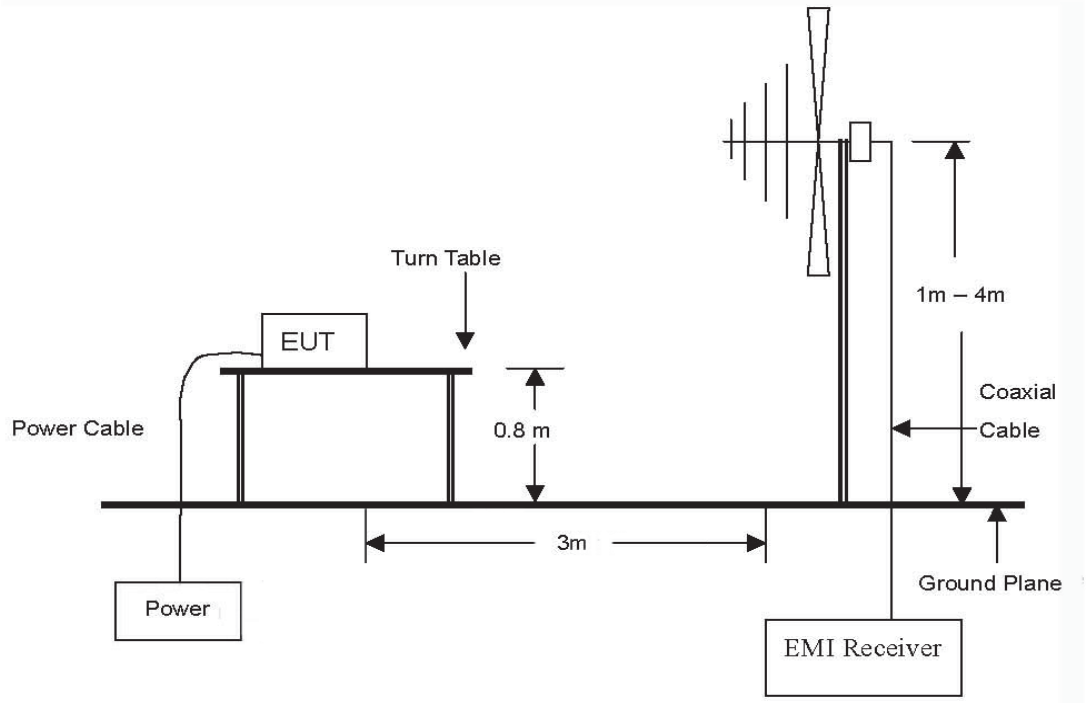
2. E.R.P. / E.I.R.P. & Spurious Radiated Emission

2.1. Test setup

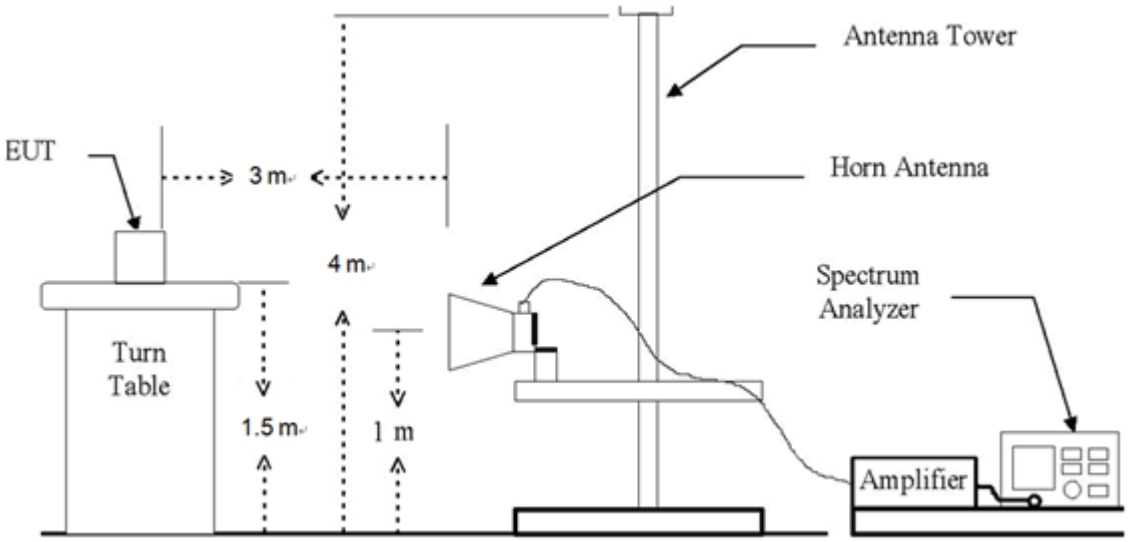
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 ㎑ to 30 ㎒.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ Emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 ㎓ to 27 ㎓ Emissions.



2.2. Limit

2.2.1. Limit of E.R.P. / E.I.R.P.

- §22.913(a)(5), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

- §24.232l, mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

- §27.50l(10), portable stations (hand-held devices) in the 600 ㎒ uplink band and the 698-746 ㎒ band, and fixed and mobile stations in the 600 ㎒ uplink band are limited to 3 watts ERP.

- §27.50(d)(4), fixed, mobile, and portable (hand-held) stations operating in the 1 710-1 755 ㎒ band and mobile and portable stations operating in the 1 695-1 710 ㎒ and 1 755-1 780 ㎒ bands are limited to 1 watt EIRP.

- §27.50(h)(2), Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

- §90.635(b), the maximum output power of the transmitter for mobile stations is 100 watts (20 ㏈W).

2.2.2. Limit of Spurious Radiated Emission

- §22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) ㏈.

- §24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) ㏈.

- §27.53(g), the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) ㏈.

- §27.53(h)(1), for operations in the 1 695-1 710 ㎒, 1 710-1 755 ㎒, 1 755-1 780 ㎒, 1 915-1 920 ㎒, 1 995-2 000 ㎒, 2 000-2 020 ㎒, 2 110-2 155 ㎒, 2 155-2 180 ㎒, and 2 180-2 200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$ (P) ㏈.

- §27.53(m)(4), for mobile digital stations, the attenuation factor shall be not less than 40 + 10 $\log_{10}$ (P) ㏈ on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 $\log_{10}$ (P) ㏈ on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 $\log_{10}$ (P) ㏈ on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 $\log_{10}$ (P) ㏈ on all frequencies between 2490.5 ㎒ and 2496 ㎒ and 55 + 10 $\log_{10}$ (P) ㏈ at or below 2490.5 ㎒. Mobile Satellite Service licensees operating on frequencies below 2495 ㎒ may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

- §90.691(a), out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(E) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 ㎑, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log_{10} (f / 6.1) decibels or 50 + 10 Log_{10} (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 ㎑.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 ㎑, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 Log_{10} (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 ㎑.

2.3. Test Procedure: Based on ANSI/TIA 603E: 2016 and ANSI C63.26-2015 and KDB 971168 D01 Power Meas License Digital Systems v03r01.

1. On a test site, the EUT shall be placed at 0.8 m or 1.5 m height on a turn table, and in the position close to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond to the fundamental frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is used for the measurement.
4. Radiated spurious emissions measurement method was set as follows:
   RBW = 100 ㎑ for emissions below 1 ㎓ and 1 ㎒ for emissions above 1 ㎓, VBW ≥ 3 x RBW,
   Detector = RMS, trace mode = max hold, per the guidelines of KDB 971168 D01 Power Meas License Digital Systems v03r01.
5. The transmitter shall be switched on, the measuring receiver shall be tuned to the frequency of the transmitter under test.
6. The test antenna shall be raised and lowered through the specified range of height until the maximum signal level is detected by the measuring receiver.
7. The transmitter shall be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
8. The test antenna shall be raised and lowered again through the specified range of height until the maximum signal level is detected by the measuring receiver.
9. The maximum signal level detected by the measuring receiver shall be noted.
10. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
11. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
12. The measurement shall be repeated with the test antenna orientated for horizontal polarization.

2.4. Test results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

2.4.1. E.R.P. / E.I.R.P.

Band	Frequency (㎒)	Maximum Conducted Power (dB m)	Maximum Conducted Power (W)	Antenna Gain (dB i)	Maximum E.I.R.P. (dB m)	Maximum E.I.R.P. (W)	Maximum E.R.P. (dB m)	Maximum E.R.P. (W)	Limit
2	1 850 ~ 1 910	21.76	0.150	6.2	27.96	0.625			2 W E.I.R.P.
4	1 710 ~ 1 755	21.84	0.153	5.4	27.24	0.530			1 W E.I.R.P.
7	2 500 ~ 2 570	21.59	0.144	6.6	28.19	0.659			2 W E.I.R.P.
12/17	699 ~ 716	22.49	0.177	2.6	25.09	0.323	22.94	0.197	3 W E.R.P.
26/5 Part 22	824 ~ 849	21.97	0.157	2.1	24.07	0.255	21.92	0.156	7 W E.R.P.
26 Part 90	814 ~ 824	22.05	0.160	2.1	24.15	0.260	22.00	0.158	100 W
41	2 496 ~ 2 690	20.88	0.122	6.6	27.48	0.560			2 W E.I.R.P.

Remark;

1. E.I.R.P. (dB m) = Maximum Conducted Power (dB m) + Antenna Gain (dB i)
2. E.R.P. (dB m) = E.I.R.P. (dB m) - 2.15 (dB); where E.R.P. and E.I.R.P. are expressed in consistent units.

2.4.2. Spurious radiated emission

LTE band 2 (15 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (1 857.5 ㎒)									
3 628.92	54.07	H	31.47	-37.09	48.45	-95.26	-46.81	-13	33.81
3 628.00	52.33	V	31.47	-37.10	46.70	-95.26	-48.56	-13	35.56
5 552.26	46.88	H	33.90	-34.20	46.58	-95.26	-48.68	-13	35.68
5 552.81	54.38	V	33.90	-34.20	54.08	-95.26	-41.18	-13	28.18
9 254.31	52.54	H	37.21	-32.67	57.08	-95.26	-38.18	-13	25.18
12 955.67	41.34	H	39.00	-29.04	51.30	-95.26	-43.96	-13	30.96
12 956.14	43.20	V	39.00	-29.00	53.20	-95.26	-42.06	-13	29.06
14 806.33	53.20	H	41.09	-23.52	70.77	-95.26	-24.49	-13	11.49
14 807.20	51.11	V	41.09	-23.50	68.70	-95.26	-26.56	-13	13.56
16 658.17	47.66	H	41.80	-23.09	66.37	-95.26	-28.89	-13	15.89
16 656.69	49.81	V	41.80	-23.08	68.53	-95.26	-26.73	-13	13.73
Above 16 700.00	Not detected	-	-	-	-	-	-	-	-
Middle Channel (1 880 ㎒)									
3 628.53	52.99	H	31.47	-37.10	47.36	-95.26	-47.90	-13	34.90
3 630.43	47.98	V	31.48	-37.07	42.39	-95.26	-52.87	-13	39.87
5 620.19	46.29	H	33.90	-33.59	46.60	-95.26	-48.66	-13	35.66
5 619.73	52.53	V	33.90	-33.59	52.84	-95.26	-42.42	-13	29.42
9 366.45	51.82	H	37.47	-32.32	56.97	-95.26	-38.29	-13	25.29
13 113.71	44.81	H	39.13	-28.17	55.77	-95.26	-39.49	-13	26.49
13 113.55	50.34	V	39.13	-28.17	61.30	-95.26	-33.96	-13	20.96
14 986.90	56.19	H	40.73	-26.65	70.27	-95.26	-24.99	-13	11.99
14 986.84	53.34	V	40.73	-26.65	67.42	-95.26	-27.84	-13	14.84
16 860.07	44.61	H	42.02	-24.23	62.40	-95.26	-32.86	-13	19.86
16 860.30	46.09	V	42.02	-24.24	63.87	-95.26	-31.39	-13	18.39
Above 16 900.00	Not detected	-	-	-	-	-	-	-	-

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
High Channel (1 902.5 ㎒)									
3 627.70	54.12	H	31.47	-37.10	48.49	-95.26	-46.77	-13	33.77
3 629.88	48.79	V	31.48	-37.09	43.18	-95.26	-52.08	-13	39.08
5 687.29	45.68	H	33.90	-33.44	46.14	-95.26	-49.12	-13	36.12
5 687.75	50.37	V	33.90	-33.43	50.84	-95.26	-44.42	-13	31.42
9 479.29	52.64	H	37.70	-32.10	58.24	-95.26	-37.02	-13	24.02
13 270.82	46.35	H	39.44	-28.55	57.24	-95.26	-38.02	-13	25.02
13 270.85	53.67	V	39.44	-28.55	64.56	-95.26	-30.70	-13	17.70
15 166.77	57.13	H	40.37	-25.29	72.21	-95.26	**-23.05**	-13	10.05
15 166.78	53.60	V	40.37	-25.29	68.68	-95.26	-26.58	-13	13.58
17 062.63	45.07	H	42.20	-22.92	64.35	-95.26	-30.91	-13	17.91
17 062.61	42.83	V	42.20	-22.92	62.11	-95.26	-33.15	-13	20.15
Above 17 100.00	Not detected	–	-	-	-	-	-	-	-

LTE band 4 (20 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (1 720.0 ㎒)									
3 628.80	52.09	H	31.47	-37.09	46.47	-95.26	-48.79	-13	35.79
3 628.34	51.47	V	31.47	-37.10	45.84	-95.26	-49.42	-13	36.42
5 133.27	50.28	H	33.27	-35.46	48.09	-95.26	-47.17	-13	34.17
5 133.26	56.51	V	33.27	-35.46	54.32	-95.26	-40.94	-13	27.94
8 555.53	52.07	H	36.51	-33.53	55.05	-95.26	-40.21	-13	27.21
8 555.23	55.45	V	36.51	-33.53	58.43	-95.26	-36.83	-13	23.83
10 266.52	46.76	H	37.80	-31.27	53.29	-95.26	-41.97	-13	28.97
10 266.37	52.70	V	37.80	-31.27	59.23	-95.26	-36.03	-13	23.03
13 688.91	41.65	V	40.40	-27.88	54.17	-95.26	-41.09	-13	28.09
15 399.55	47.17	H	40.00	-25.91	61.26	-95.26	**-34.00**	-13	21.00
15 399.84	37.07	V	40.00	-25.91	51.16	-95.26	-44.10	-13	31.10
Above 15 400.00	Not detected	–	-	-	-	-	-	-	-

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Middle Channel (1 732.5 ㎒)									
3 628.15	54.14	H	31.47	-37.10	48.51	-95.26	-46.75	-13	33.75
3 630.28	48.66	V	31.48	-37.07	43.07	-95.26	-52.19	-13	39.19
5 170.82	49.32	H	33.38	-35.34	47.36	-95.26	-47.90	-13	34.90
5 170.85	53.05	V	33.38	-35.34	51.09	-95.26	-44.17	-13	31.17
8 617.92	50.20	H	36.64	-33.87	52.97	-95.26	-42.29	-13	29.29
8 617.77	51.23	V	36.64	-33.87	54.00	-95.26	-41.26	-13	28.26
10 341.58	42.12	H	37.80	-30.70	49.22	-95.26	-46.04	-13	33.04
10 341.56	47.46	V	37.80	-30.70	54.56	-95.26	-40.70	-13	27.70
13 788.55	38.98	V	40.50	-28.43	51.05	-95.26	-44.21	-13	31.21
15 512.26	46.59	H	40.02	-25.41	61.20	-95.26	-34.06	-13	21.06
15 512.40	39.14	V	40.02	-25.42	53.74	-95.26	-41.52	-13	28.52
Above 15 600.00	Not detected	–	-	-	-	-	-	-	-
High Channel (1 745 ㎒)									
3 631.80	50.27	H	31.49	-37.06	44.70	-95.26	-50.56	-13	37.56
3 629.62	48.69	V	31.48	-37.09	43.08	-95.26	-52.18	-13	39.18
5 208.25	50.08	H	33.52	-35.15	48.45	-95.26	-46.81	-13	33.81
5 208.31	54.41	V	33.52	-35.15	52.78	-95.26	-42.48	-13	29.48
8 680.47	50.42	H	36.82	-34.44	52.80	-95.26	-42.46	-13	29.46
8 680.56	49.89	V	36.82	-34.43	52.28	-95.26	-42.98	-13	29.98
10 416.66	40.64	H	37.80	-31.07	47.37	-95.26	-47.89	-13	34.89
10 416.52	43.24	V	37.80	-31.07	49.97	-95.26	-45.29	-13	32.29
13 889.06	39.71	V	40.60	-25.44	54.87	-95.26	-40.39	-13	27.39
15 624.88	43.77	H	40.15	-25.88	58.04	-95.26	-37.22	-13	24.22
15 624.79	38.76	V	40.15	-25.88	53.03	-95.26	-42.23	-13	29.23
Above 15 700.00	Not detected	–	-	-	-	-	-	-	-

LTE band 7 (5 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (2 502.5 ㎒)									
3 629.40	50.36	H	31.48	-37.09	44.75	-95.26	-50.51	-25	25.51
3 626.50	51.70	V	31.46	-37.11	46.05	-95.26	-49.21	-25	24.21
5 009.40	57.05	V	33.00	-35.27	54.78	-95.26	-40.48	-25	15.48
7 514.04	43.22	H	35.90	-32.88	46.24	-95.26	-49.02	-25	24.02
7 513.86	46.73	V	35.90	-32.89	49.74	-95.26	-45.52	-25	20.52
10 018.72	48.86	H	37.80	-31.65	55.01	-95.26	-40.25	-25	15.25
10 018.74	52.85	V	37.80	-31.65	59.00	-95.26	-36.26	-25	11.26
15 028.04	45.59	H	40.64	-26.36	59.87	-95.26	-35.39	-25	10.39
15 028.09	48.14	V	40.64	-26.36	62.42	-95.26	-32.84	-25	7.84
17 532.72	41.40	V	43.33	-23.21	61.52	-95.26	-33.74	-25	8.74
Above 17 600.00	Not detected	–	-	-	-	-	-	-	-
Middle Channel (2 535.0 ㎒)									
3 629.40	51.20	H	31.48	-37.09	45.59	-95.26	-49.67	-25	24.67
3 630.40	49.26	V	31.48	-37.07	43.67	-95.26	-51.59	-25	26.59
5 074.32	59.49	V	33.10	-35.33	57.26	-95.26	-38.00	-25	13.00
7 611.76	46.41	H	35.90	-32.61	49.70	-95.26	-45.56	-25	20.56
7 611.39	52.12	V	35.90	-32.61	55.41	-95.26	-39.85	-25	14.85
10 148.55	48.48	H	37.90	-31.59	54.79	-95.26	-40.47	-25	15.47
10 148.77	48.15	V	37.90	-31.59	54.46	-95.26	-40.80	-25	15.80
15 222.87	45.27	H	40.25	-23.39	62.13	-95.26	-33.13	-25	8.13
15 223.06	47.44	V	40.25	-23.38	64.31	-95.26	**-30.95**	-25	5.95
17 760.21	39.84	V	44.02	-21.61	62.25	-95.26	-33.01	-25	8.01
Above 17 800.00	Not detected	–	-	-	-	-	-	-	-

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
High Channel (2 567.5 ㎒)									
3 628.00	51.83	H	31.47	-37.10	46.20	-95.26	-49.06	-25	24.06
3 629.80	51.45	V	31.48	-37.09	45.84	-95.26	-49.42	-25	24.42
5 139.36	56.95	V	33.28	-35.47	54.76	-95.26	-40.50	-25	15.50
7 709.09	47.91	H	36.00	-32.26	51.65	-95.26	-43.61	-25	18.61
7 708.94	54.35	V	36.00	-32.25	58.10	-95.26	-37.16	-25	12.16
10 278.74	52.53	H	37.80	-31.26	59.07	-95.26	-36.19	-25	11.19
10 278.71	56.40	V	37.80	-31.26	62.94	-95.26	-32.32	-25	7.32
15 417.66	44.22	H	40.00	-26.01	58.21	-95.26	-37.05	-25	12.05
15 418.04	44.52	V	40.00	-26.02	58.50	-95.26	-36.76	-25	11.76
17 987.67	35.47	V	44.32	-23.41	56.38	-95.26	-38.88	-25	13.88
Above 18 000.00	Not detected	–	-	-	-	-	-	-	-

LTE band 12/17 (5 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (701.5 ㎒)									
1 166.91	53.70	H	24.97	-39.92	38.75	-97.41	-58.66	-13	45.66
1 333.59	53.48	H	25.10	-39.29	39.29	-97.41	-58.12	-13	45.12
1 333.81	55.04	V	25.10	-39.29	40.85	-97.41	-56.56	-13	43.56
1 398.78	71.96	V	25.10	-39.15	57.91	-97.41	**-39.50**	-13	26.50
1 500.06	49.79	H	25.00	-38.90	35.89	-97.41	-61.52	-13	48.52
1 499.84	51.09	V	25.00	-38.90	37.19	-97.41	-60.22	-13	47.22
1 603.09	57.69	V	25.51	-38.59	44.61	-97.41	-52.80	-13	39.80
1 999.91	48.88	H	27.70	-37.64	38.94	-97.41	-58.47	-13	45.47
1 999.91	51.12	V	27.70	-37.64	41.18	-97.41	-56.23	-13	43.23
2 098.34	62.69	V	27.50	-37.35	52.84	-97.41	-44.57	-13	31.57
2 166.81	49.42	H	27.63	-36.48	40.57	-97.41	-56.84	-13	43.84
2 166.81	51.24	V	27.63	-36.48	42.39	-97.41	-55.02	-13	42.02
2 333.72	48.38	H	27.80	-36.43	39.75	-97.41	-57.66	-13	44.66
2 592.06	50.02	H	28.82	-36.78	42.06	-97.41	-55.35	-13	42.35
2 590.75	52.72	V	28.81	-36.77	44.76	-97.41	-52.65	-13	39.65
2 797.47	53.83	V	28.89	-36.78	45.94	-97.41	-51.47	-13	38.47
3 131.72	50.15	H	30.06	-36.64	43.57	-97.41	-53.84	-13	40.84
3 626.53	54.76	H	31.46	-37.11	49.11	-97.41	-48.30	-13	35.30
4 659.69	45.45	H	32.04	-36.08	41.41	-97.41	-56.00	-13	43.00
5 701.81	46.39	V	33.90	-33.56	46.73	-97.41	-50.68	-13	37.68
Above 5 800.00	Not detected	–	–	–	–	–	–	–	–

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Middle Channel (707.5 ㎒)									
1 166.91	54.26	H	24.97	-39.92	39.31	-97.41	-58.10	-13	45.10
1 250.03	50.81	V	25.00	-39.57	36.24	-97.41	-61.17	-13	48.17
1 333.81	52.63	H	25.10	-39.29	38.44	-97.41	-58.97	-13	45.97
1 333.81	55.08	V	25.10	-39.29	40.89	-97.41	-56.52	-13	43.52
1 410.81	71.30	V	25.08	-39.14	57.24	-97.41	-40.17	-13	27.17
1 500.06	50.01	H	25.00	-38.90	36.11	-97.41	-61.30	-13	48.30
1 500.28	51.61	V	25.00	-38.90	37.71	-97.41	-59.70	-13	46.70
1 775.03	48.49	H	27.05	-38.77	36.77	-97.41	-60.64	-13	47.64
2 000.34	48.47	H	27.70	-37.64	38.53	-97.41	-58.88	-13	45.88
2 000.13	49.18	V	27.70	-37.64	39.24	-97.41	-58.17	-13	45.17
2 167.03	50.81	H	27.63	-36.47	41.97	-97.41	-55.44	-13	42.44
2 114.97	57.43	V	27.53	-37.15	47.81	-97.41	-49.60	-13	36.60
2 333.50	50.16	H	27.80	-36.44	41.52	-97.41	-55.89	-13	42.89
2 590.75	48.53	H	28.81	-36.77	40.57	-97.41	-56.84	-13	43.84
2 592.72	54.62	V	28.83	-36.79	46.66	-97.41	-50.75	-13	37.75
2 821.75	50.50	V	29.07	-36.76	42.81	-97.41	-54.60	-13	41.60
3 630.03	49.85	H	31.48	-37.07	44.26	-97.41	-53.15	-13	40.15
Above 3 700.00	Not detected	–	-	-	-	-	-	-	-

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
High Channel (713.5 ㎒)									
1 166.69	52.93	H	24.97	-39.93	37.97	-97.41	-59.44	-13	46.44
1 333.38	52.65	H	25.10	-39.29	38.46	-97.41	-58.95	-13	45.95
1 333.59	55.26	V	25.10	-39.29	41.07	-97.41	-56.34	-13	43.34
1 422.84	66.96	V	25.05	-39.14	52.87	-97.41	-44.54	-13	31.54
1 500.06	49.43	H	25.00	-38.90	35.53	-97.41	-61.88	-13	48.88
1 500.28	51.86	V	25.00	-38.90	37.96	-97.41	-59.45	-13	46.45
2 166.81	52.77	H	27.63	-36.48	43.92	-97.41	-53.49	-13	40.49
2 134.22	51.73	V	27.57	-36.92	42.38	-97.41	-55.03	-13	42.03
2 621.59	55.03	V	28.81	-36.90	46.94	-97.41	-50.47	-13	37.47
3 631.13	51.94	H	31.49	-37.07	46.36	-97.41	-51.05	-13	38.05
5 701.38	43.86	H	33.90	-33.56	44.20	-97.41	-53.21	-13	40.21
Above 5 800.00	Not detected	–	-	-	-	-	-	-	-

LTE band 26/5_Part 22 (15 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (831.5 ㎒)									
1 167.00	55.73	H	24.97	-39.92	40.78	-97.41	-56.63	-13	43.63
1 166.50	52.98	V	24.97	-39.93	38.02	-97.41	-59.39	-13	46.39
1 333.50	52.29	V	25.10	-39.29	38.10	-97.41	-59.31	-13	46.31
1 500.25	50.70	H	25.00	-38.90	36.80	-97.41	-60.61	-13	47.61
1 500.00	53.61	V	25.00	-38.90	39.71	-97.41	-57.70	-13	44.70
2 000.25	49.63	H	27.70	-37.64	39.69	-97.41	-57.72	-13	44.72
2 000.00	50.17	V	27.70	-37.64	40.23	-97.41	-57.18	-13	44.18
2 167.00	51.11	H	27.63	-36.47	42.27	-97.41	-55.14	-13	42.14
2 167.25	48.67	V	27.63	-36.47	39.83	-97.41	-57.58	-13	44.58
2 333.25	49.22	H	27.80	-36.44	40.58	-97.41	-56.83	-13	43.83
2 333.75	48.50	V	27.80	-36.43	39.87	-97.41	-57.54	-13	44.54
2 589.75	50.45	H	28.80	-36.76	42.49	-97.41	-54.92	-13	41.92
2 592.00	57.08	V	28.82	-36.78	49.12	-97.41	-48.29	-13	35.29
3 629.75	56.93	H	31.48	-37.09	51.32	-97.41	**-46.09**	-13	33.09
3 628.00	50.61	V	31.47	-37.10	44.98	-97.41	-52.43	-13	39.43
5 707.75	46.59	V	33.92	-33.56	46.95	-97.41	-50.46	-13	37.46
Above 5 800.00	Not detected	-	-	-	-	-	-	-	-

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
High Channel (841.5 ㎒)									
1 167.00	52.49	H	24.97	-39.92	37.54	-97.41	-59.87	-13	46.87
1 166.75	53.31	V	24.97	-39.92	38.36	-97.41	-59.05	-13	46.05
1 333.50	53.40	H	25.10	-39.29	39.21	-97.41	-58.20	-13	45.20
1 333.50	52.75	V	25.10	-39.29	38.56	-97.41	-58.85	-13	45.85
1 500.50	50.44	H	25.00	-38.90	36.54	-97.41	-60.87	-13	47.87
1 500.25	53.29	V	25.00	-38.90	39.39	-97.41	-58.02	-13	45.02
2 000.00	57.60	H	27.70	-37.64	47.66	-97.41	-49.75	-13	36.75
2 000.25	49.70	V	27.70	-37.64	39.76	-97.41	-57.65	-13	44.65
2 167.00	49.44	H	27.63	-36.47	40.60	-97.41	-56.81	-13	43.81
2 167.00	50.36	V	27.63	-36.47	41.52	-97.41	-55.89	-13	42.89
2 618.50	51.23	H	28.83	-36.89	43.17	-97.41	-54.24	-13	41.24
2 592.00	54.25	V	28.82	-36.78	46.29	-97.41	-51.12	-13	38.12
3 628.00	48.97	H	31.47	-37.10	43.34	-97.41	-54.07	-13	41.07
3 630.25	50.12	V	31.48	-37.07	44.53	-97.41	-52.88	-13	39.88
5 705.00	44.87	V	33.91	-33.56	45.22	-97.41	-52.19	-13	39.19
Above 5 800.00	Not detected	-	-	-	-	-	-	-	-

LTE band 26_Part 90 (15 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Middle Channel (821.5 ㎒)									
1 167.00	54.37	H	24.97	-39.92	39.42	-97.41	-57.99	-13	44.99
1 167.25	50.21	V	24.97	-39.92	35.26	-97.41	-62.15	-13	49.15
1 333.50	52.82	H	25.10	-39.29	38.63	-97.41	-58.78	-13	45.78
1 333.50	54.26	V	25.10	-39.29	40.07	-97.41	-57.34	-13	44.34
1 500.00	51.86	H	25.00	-38.90	37.96	-97.41	-59.45	-13	46.45
1 500.25	52.85	V	25.00	-38.90	38.95	-97.41	-58.46	-13	45.46
1 629.75	49.20	H	25.56	-38.63	36.13	-97.41	-61.28	-13	48.28
2 000.25	49.76	V	27.70	-37.64	39.82	-97.41	-57.59	-13	44.59
2 000.00	51.17	H	27.70	-37.64	41.23	-97.41	-56.18	-13	43.18
2 167.25	48.46	V	27.63	-36.47	39.62	-97.41	-57.79	-13	44.79
2 166.75	50.21	H	27.63	-36.48	41.36	-97.41	-56.05	-13	43.05
2 333.75	49.38	H	27.80	-36.43	40.75	-97.41	-56.66	-13	43.66
2 588.50	50.78	V	28.79	-36.74	42.83	-97.41	-54.58	-13	41.58
2 590.00	49.51	H	28.80	-36.76	41.55	-97.41	-55.86	-13	42.86
3 629.75	47.50	V	31.48	-37.09	41.89	-97.41	-55.52	-13	42.52
3 615.50	49.51	H	31.39	-37.05	43.85	-97.41	**-53.56**	-13	40.56
Above 3 700.00	Not detected	-	-	-	-	-	-	-	-

LTE band 41 (20 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (2 498.5 ㎒)									
3 626.66	48.72	H	31.46	-37.11	43.07	-95.26	-52.19	-25	27.19
4 994.25	45.01	H	33.00	-35.31	42.70	-95.26	-52.56	-25	27.56
4 994.12	54.52	V	33.00	-35.31	52.21	-95.26	-43.05	-25	18.05
7 491.28	48.72	H	35.92	-32.94	51.70	-95.26	-43.56	-25	18.56
7 491.36	53.22	V	35.92	-32.94	56.20	-95.26	-39.06	-25	14.06
9 988.37	57.18	V	37.80	-32.08	62.90	-95.26	**-32.36**	-25	7.36
Above 10 000.00	Not detected	–	-	-	-	-	-	-	-
Middle Channel (2 593.0 ㎒)									
3 628.24	50.19	H	31.47	-37.10	44.56	-95.26	-50.70	-25	25.70
5 168.19	52.38	H	33.37	-35.36	50.39	-95.26	-44.87	-25	19.87
5 168.11	59.24	V	33.37	-35.36	57.25	-95.26	-38.01	-25	13.01
7 752.04	44.15	H	36.00	-32.54	47.61	-95.26	-47.65	-25	22.65
7 752.37	50.47	V	36.00	-32.54	53.93	-95.26	-41.33	-25	16.33
10 336.41	52.92	V	37.80	-30.76	59.96	-95.26	-35.30	-25	10.30
Above 10 400.00	Not detected	–	-	-	-	-	-	-	-
High Channel (2 687.5 ㎒)									
3 628.60	49.50	H	31.47	-37.10	43.87	-95.26	-51.39	-25	26.39
5 342.13	44.59	H	33.88	-34.71	43.76	-95.26	-51.50	-25	26.50
5 342.21	54.18	V	33.88	-34.71	53.35	-95.26	-41.91	-25	16.91
8 013.29	42.07	H	36.13	-33.16	45.04	-95.26	-50.22	-25	25.22
8 013.24	44.13	V	36.13	-33.16	47.10	-95.26	-48.16	-25	23.16
10 684.08	50.87	V	37.87	-30.80	57.94	-95.26	-37.32	-25	12.32
Above 10 700.00	Not detected	–	-	-	-	-	-	-	-

Remark;

1. AF = Antenna Factor, CL = Cable Loss, CF = Conversion Factor.
2. E (dB㎶/m) = Measured Level (dB㎶) + Antenna Factor (dB/m) + AMP (dB) + Cable Loss (dB).
3. E.I.R.P. (dB m) = E (dB㎶/m) + CF (dB).
4. E.R.P. (dB m) = E (dB㎶/m) + CF (dB) - 2.15 (dB); where E.R.P. and E.I.R.P. are expressed in consistent units.
5. CF (dB) = 20 log D - 104.8; where D is the measurement distance in meters, According to KDB 971168 D01 v03r01 5.8.4.
6. The frequency spectrum is examined from 9 ㎑ to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions above table.

3. Conducted Output Power

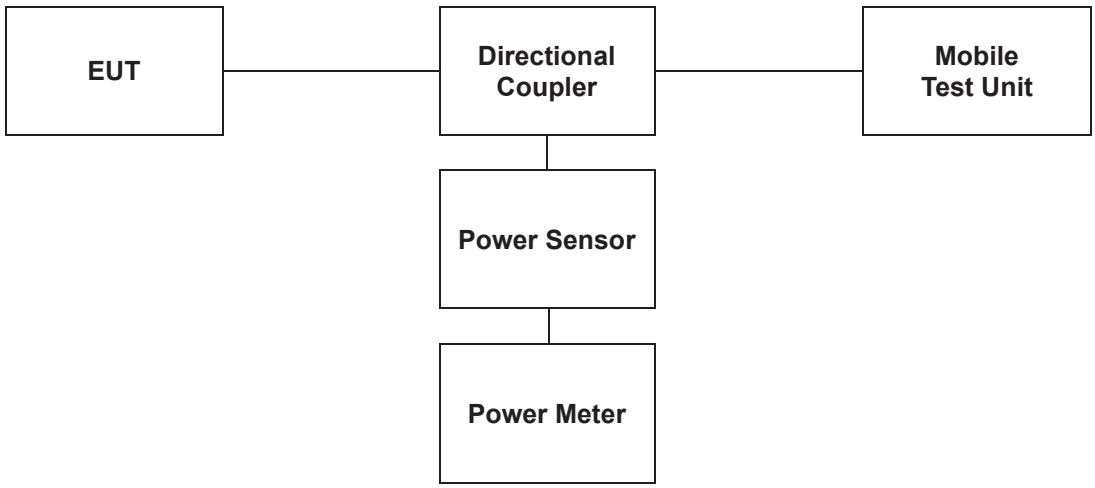
3.1. Limit

CFR 47, Section FCC §2.1046.

3.2. Test Procedure

Output power shall be measured at the RF output terminals for all configurations.

1. The RF output of the transmitter was connected to the input of the mobile test unit in order to establish communication with the EUT.
2. The EUT was set up for the max. output power with pseudo random data modulation by using mobile test unit parameters.
3. The measurement performed using a wideband RF power meter.
4. This EUT was tested under all configurations and the highest power was investigated and reported.



3.3. Test Result

Ambient temperature : (23 ± 1) ℃

Relative humidity : 47 % R.H.

LTE Band 2									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				18607 (1 850.7 ㎒)		18900 (1 880.0 ㎒)		19193 (1 909.3 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
1.4	QPSK	1	0	21.20	0.132	21.20	0.132	21.51	0.142
		1	3	21.19	0.132	21.20	0.132	21.44	0.139
		1	5	21.08	0.128	21.18	0.131	**21.56**	**0.143**
		3	0	21.06	0.128	21.23	0.133	21.53	0.142
		3	2	21.16	0.131	21.25	0.133	21.50	0.141
		3	3	21.14	0.130	21.23	0.133	21.42	0.139
		6	0	20.15	0.104	21.25	0.133	21.49	0.141
	16QAM	1	0	20.51	0.112	20.41	0.110	**20.80**	**0.120**
		1	3	20.57	0.114	20.50	0.112	20.73	0.118
		1	5	20.36	0.109	20.49	0.112	20.73	0.118
		3	0	20.36	0.109	20.42	0.110	20.63	0.116
		3	2	20.35	0.108	20.54	0.113	20.70	0.117
		3	3	20.24	0.106	20.60	0.115	20.78	0.120
		6	0	19.30	0.085	20.51	0.112	20.69	0.117

LTE Band 2									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				18615 (1 851.5 ㎒)		18900 (1 880.0 ㎒)		19185 (1 913.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
3	QPSK	1	0	21.36	0.137	21.34	0.136	21.62	0.145
		1	7	21.48	0.141	21.33	0.136	21.60	0.145
		1	14	21.27	0.134	21.29	0.135	**21.71**	**0.148**
		8	0	21.29	0.135	20.35	0.108	20.59	0.115
		8	4	21.35	0.136	20.28	0.107	20.59	0.115
		8	7	21.32	0.136	20.30	0.107	20.59	0.115
		15	0	20.32	0.108	20.32	0.108	20.59	0.115
	16QAM	1	0	20.46	0.111	20.66	0.116	20.74	0.119
		1	7	20.69	0.117	20.68	0.117	20.77	0.119
		1	14	20.55	0.114	20.68	0.117	**20.98**	**0.125**
		8	0	20.37	0.109	19.36	0.086	19.66	0.092
		8	4	20.40	0.110	19.47	0.089	19.62	0.092
		8	7	20.45	0.111	19.35	0.086	19.64	0.092
		15	0	19.37	0.086	19.36	0.086	19.63	0.092

LTE Band 2									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				18625 (1 852.5 ㎒)		18900 (1 880.0 ㎒)		19175 (1 907.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	QPSK	1	0	21.38	0.137	21.34	0.136	**21.60**	**0.145**
		1	12	21.40	0.138	21.33	0.136	21.56	0.143
		1	24	21.28	0.134	21.38	0.137	21.47	0.140
		12	0	21.33	0.136	21.29	0.135	20.64	0.116
		12	6	21.30	0.135	21.34	0.136	20.62	0.115
		12	13	21.30	0.135	21.34	0.136	20.58	0.114
		25	0	21.28	0.134	20.34	0.108	20.60	0.115
	16QAM	1	0	20.53	0.113	20.51	0.112	20.80	0.120
		1	12	20.65	0.116	20.64	0.116	20.74	0.119
		1	24	20.63	0.116	20.64	0.116	**20.87**	**0.122**
		12	0	20.33	0.108	20.33	0.108	19.64	0.092
		12	6	20.46	0.111	20.36	0.109	19.67	0.093
		12	13	20.49	0.112	20.40	0.110	19.65	0.092
		25	0	20.42	0.110	19.36	0.086	19.59	0.091

LTE Band 2									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				18650 (1 855.0 ㎒)		18900 (1 880.0 ㎒)		19150 (1 905.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	QPSK	1	0	**21.70**	**0.148**	21.44	0.139	21.59	0.144
		1	25	21.29	0.135	21.36	0.137	21.57	0.144
		1	49	21.37	0.137	21.45	0.140	21.54	0.143
		25	0	21.41	0.138	21.36	0.137	21.60	0.145
		25	12	21.30	0.135	21.43	0.139	21.65	0.146
		25	25	21.35	0.136	21.36	0.137	21.63	0.146
		50	0	21.43	0.139	20.34	0.108	20.62	0.115
	16QAM	1	0	20.79	0.120	20.78	0.120	**20.95**	**0.124**
		1	25	20.60	0.115	20.66	0.116	20.90	0.123
		1	49	20.63	0.116	20.69	0.117	20.92	0.124
		25	0	20.63	0.116	20.46	0.111	20.63	0.116
		25	12	20.57	0.114	20.40	0.110	20.65	0.116
		25	25	20.40	0.110	20.46	0.111	20.70	0.117
		50	0	20.50	0.112	19.46	0.088	19.61	0.091

LTE Band 2									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				18675 (1 857.5 ㎒)		18900 (1 880.0 ㎒)		19125 (1 902.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
15	QPSK	1	0	21.33	0.136	21.45	0.140	**21.76**	**0.150**
		1	36	21.31	0.135	21.47	0.140	21.61	0.145
		1	74	21.44	0.139	21.41	0.138	21.71	0.148
		36	0	21.40	0.138	21.46	0.140	21.72	0.149
		36	18	21.30	0.135	21.41	0.138	21.71	0.148
		36	37	21.40	0.138	21.41	0.138	21.72	0.149
		75	0	21.40	0.138	21.42	0.139	20.70	0.117
	16QAM	1	0	20.72	0.118	20.62	0.115	20.98	0.125
		1	36	20.71	0.118	20.66	0.116	20.94	0.124
		1	74	20.74	0.119	20.60	0.115	**21.08**	**0.128**
		36	0	20.60	0.115	20.51	0.112	20.73	0.118
		36	18	20.47	0.111	20.52	0.113	20.80	0.120
		36	37	20.45	0.111	20.48	0.112	20.71	0.118
		75	0	20.54	0.113	20.47	0.111	19.74	0.094

LTE Band 2									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				18700 (1 860.0 ㎒)		18900 (1 880.0 ㎒)		19100 (1 900.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	QPSK	1	0	21.52	0.142	21.60	0.145	21.63	0.146
		1	50	21.62	0.145	21.51	0.142	21.66	0.147
		1	99	21.35	0.136	21.39	0.138	**21.70**	**0.148**
		50	0	21.61	0.145	21.49	0.141	21.67	0.147
		50	25	21.48	0.141	21.40	0.138	21.63	0.146
		50	13	21.39	0.138	21.44	0.139	21.62	0.145
		100	0	21.53	0.142	21.45	0.140	20.65	0.116
	16QAM	1	0	20.94	0.124	20.71	0.118	20.99	0.126
		1	50	20.65	0.116	20.87	0.122	20.83	0.121
		1	99	20.82	0.121	20.69	0.117	**21.09**	**0.129**
		50	0	20.71	0.118	20.61	0.115	20.72	0.118
		50	25	20.59	0.115	20.52	0.113	20.71	0.118
		50	50	20.54	0.113	20.55	0.114	20.62	0.115
		100	0	20.66	0.116	20.54	0.113	19.69	0.093

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				19957 (1 710.7 ㎒)		20175 (1 732.5 ㎒)		20393 (1 754.3 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
1.4	QPSK	1	0	21.29	0.135	21.26	0.134	21.54	0.143
		1	3	21.45	0.140	21.15	0.130	21.54	0.143
		1	5	21.28	0.134	21.32	0.136	**21.58**	**0.145**
		3	0	21.36	0.137	21.27	0.134	21.51	0.142
		3	2	21.47	0.140	21.45	0.140	21.55	0.143
		3	3	21.38	0.137	21.38	0.137	21.50	0.141
		6	0	20.41	0.110	21.21	0.132	21.46	0.140
	16QAM	1	0	20.62	0.115	20.50	0.112	**20.86**	**0.122**
		1	3	20.67	0.117	20.42	0.110	20.74	0.119
		1	5	20.59	0.115	20.68	0.117	20.76	0.119
		3	0	20.46	0.111	20.62	0.115	20.84	0.121
		3	2	20.50	0.112	20.61	0.115	20.66	0.116
		3	3	20.54	0.113	20.81	0.121	20.82	0.121
		6	0	19.46	0.088	20.53	0.113	20.77	0.119

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				19965 (1 711.5 ㎒)		20175 (1 732.5 ㎒)		20385 (1 753.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
3	QPSK	1	0	21.56	0.143	21.38	0.137	21.53	0.142
		1	7	21.47	0.140	21.44	0.139	21.61	0.145
		1	14	21.48	0.141	21.53	0.142	**21.69**	**0.148**
		8	0	21.53	0.142	20.32	0.108	20.62	0.115
		8	4	21.50	0.141	20.49	0.112	20.62	0.115
		8	7	21.51	0.142	20.47	0.111	20.60	0.115
		15	0	20.49	0.112	20.42	0.110	20.54	0.113
	16QAM	1	0	20.88	0.122	20.57	0.114	20.74	0.119
		1	7	20.82	0.121	20.83	0.121	**20.93**	**0.124**
		1	14	20.93	0.124	20.72	0.118	20.91	0.123
		8	0	20.62	0.115	19.46	0.088	19.63	0.092
		8	4	20.71	0.118	19.59	0.091	19.68	0.093
		8	7	20.61	0.115	19.60	0.091	19.70	0.093
		15	0	19.60	0.091	19.52	0.090	19.59	0.091

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				19975 (1 712.5 ㎒)		20175 (1 732.5 ㎒)		20375 (1 752.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	QPSK	1	0	21.46	0.140	21.41	0.138	**21.70**	**0.148**
		1	12	21.62	0.145	21.42	0.139	21.53	0.142
		1	24	21.51	0.142	21.53	0.142	21.53	0.142
		12	0	21.50	0.141	21.39	0.138	20.59	0.115
		12	6	21.50	0.141	21.34	0.136	20.60	0.115
		12	13	21.48	0.141	21.41	0.138	20.58	0.114
		25	0	21.49	0.141	20.39	0.109	20.59	0.115
	16QAM	1	0	20.86	0.122	20.95	0.124	**21.00**	**0.126**
		1	12	20.80	0.120	20.64	0.116	20.90	0.123
		1	24	20.96	0.125	20.81	0.121	20.78	0.120
		12	0	20.51	0.112	20.43	0.110	19.69	0.093
		12	6	20.65	0.116	20.50	0.112	19.64	0.092
		12	13	20.53	0.113	20.54	0.113	19.59	0.091
		25	0	20.55	0.114	19.48	0.089	19.60	0.091

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20000 (1 715.0 ㎒)		20175 (1 732.5 ㎒)		20350 (1 750.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	QPSK	1	0	21.60	0.145	21.59	0.144	21.59	0.144
		1	25	21.65	0.146	21.50	0.141	**21.73**	**0.149**
		1	49	21.64	0.146	21.44	0.139	21.54	0.143
		25	0	21.69	0.148	21.55	0.143	21.61	0.145
		25	12	21.67	0.147	21.59	0.144	21.63	0.146
		25	25	21.69	0.148	21.44	0.139	21.63	0.146
		50	0	21.65	0.146	20.53	0.113	20.61	0.115
	16QAM	1	0	20.84	0.121	20.80	0.120	20.73	0.118
		1	25	20.93	0.124	20.72	0.118	20.88	0.122
		1	49	**21.00**	**0.126**	20.69	0.117	20.81	0.121
		25	0	20.74	0.119	20.61	0.115	20.71	0.118
		25	12	20.77	0.119	20.63	0.116	20.67	0.117
		25	25	20.91	0.123	20.55	0.114	20.67	0.117
		50	0	20.74	0.119	19.62	0.092	19.63	0.092

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20025 (1 717.5 ㎒)		20175 (1 732.5 ㎒)		20300 (1 745.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
15	QPSK	1	0	21.75	0.150	21.67	0.147	21.54	0.143
		1	36	**21.83**	**0.152**	21.62	0.145	21.51	0.142
		1	74	21.58	0.144	21.73	0.149	21.60	0.145
		36	0	21.77	0.150	21.65	0.146	21.57	0.144
		36	18	21.70	0.148	21.63	0.146	21.52	0.142
		36	37	21.65	0.146	21.59	0.144	21.58	0.144
		75	0	21.72	0.149	21.56	0.143	20.63	0.116
	16QAM	1	0	20.95	0.124	21.02	0.126	20.75	0.119
		1	36	20.84	0.121	20.88	0.122	20.78	0.120
		1	74	20.77	0.119	20.67	0.117	**21.11**	**0.129**
		36	0	20.80	0.120	20.68	0.117	20.67	0.117
		36	18	20.85	0.122	20.63	0.116	20.68	0.117
		36	37	20.62	0.115	20.64	0.116	20.64	0.116
		75	0	20.79	0.120	20.64	0.116	19.64	0.092

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20050 (1 720.0 ㎒)		20175 (1 732.5 ㎒)		20300 (1 745.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	QPSK	1	0	**21.84**	**0.153**	21.64	0.146	21.66	0.147
		1	50	21.84	0.153	21.67	0.147	21.66	0.147
		1	99	21.60	0.145	21.65	0.146	21.64	0.146
		50	0	21.71	0.148	21.64	0.146	21.65	0.146
		50	25	21.60	0.145	21.70	0.148	21.67	0.147
		50	13	21.61	0.145	21.61	0.145	21.64	0.146
		100	0	21.80	0.151	21.64	0.146	20.59	0.115
	16QAM	1	0	**21.10**	**0.129**	21.02	0.126	20.81	0.121
		1	50	21.09	0.129	20.81	0.121	20.98	0.125
		1	99	20.87	0.122	20.79	0.120	20.94	0.124
		50	0	20.98	0.125	20.70	0.117	20.65	0.116
		50	25	20.77	0.119	20.71	0.118	20.65	0.116
		50	50	20.68	0.117	20.72	0.118	20.64	0.116
		100	0	20.84	0.121	20.70	0.117	19.65	0.092

LTE Band 7									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20775 (2 502.5 ㎒)		21100 (2 535.0 ㎒)		21425 (2 567.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	QPSK	1	0	21.19	0.132	21.18	0.131	21.43	0.139
		1	12	21.13	0.130	21.31	0.135	21.41	0.138
		1	24	21.10	0.129	21.29	0.135	**21.59**	**0.144**
		3	0	20.19	0.104	20.21	0.105	21.41	0.138
		3	6	20.17	0.104	20.21	0.105	21.40	0.138
		3	13	20.11	0.103	20.22	0.105	21.44	0.139
		6	0	20.15	0.104	20.21	0.105	21.35	0.136
	16QAM	1	0	20.40	0.110	20.49	0.112	20.65	0.116
		1	12	20.35	0.108	20.31	0.107	20.61	0.115
		1	24	20.47	0.111	20.38	0.109	**20.78**	**0.120**
		3	0	19.19	0.083	19.25	0.084	20.56	0.114
		3	6	19.28	0.085	19.23	0.084	20.63	0.116
		3	13	19.19	0.083	19.21	0.083	20.72	0.118
		6	0	19.19	0.083	19.30	0.085	20.75	0.119

LTE Band 7									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20800 (2 505.0 ㎒)		21100 (2 535.0 ㎒)		21400 (2 565.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	QPSK	1	0	21.26	0.134	21.24	0.133	**21.42**	**0.139**
		1	25	21.21	0.132	21.26	0.134	21.32	0.136
		1	49	21.14	0.130	21.15	0.130	21.34	0.136
		25	0	21.25	0.133	20.29	0.107	20.47	0.111
		25	12	21.27	0.134	20.21	0.105	20.39	0.109
		25	25	21.25	0.133	20.15	0.104	20.49	0.112
		50	0	20.19	0.104	20.21	0.105	20.45	0.111
	16QAM	1	0	20.50	0.112	20.65	0.116	**20.66**	**0.116**
		1	25	20.46	0.111	20.56	0.114	20.52	0.113
		1	49	20.40	0.110	20.37	0.109	20.49	0.112
		25	0	20.30	0.107	19.28	0.085	19.45	0.088
		25	12	20.26	0.106	19.33	0.086	19.45	0.088
		25	25	20.29	0.107	19.21	0.083	19.50	0.089
		50	0	19.20	0.083	19.28	0.085	19.47	0.089

LTE Band 7									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20825 (2 507.5 ㎒)		21100 (2 535.0 ㎒)		21375 (2 562.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
15	QPSK	1	0	21.40	0.138	21.41	0.138	**21.53**	**0.142**
		1	36	21.29	0.135	21.39	0.138	21.32	0.136
		1	74	21.35	0.136	21.30	0.135	21.26	0.134
		36	0	21.38	0.137	20.29	0.107	20.44	0.111
		36	18	21.39	0.138	20.28	0.107	20.38	0.109
		36	37	21.41	0.138	20.24	0.106	20.40	0.110
		75	0	20.37	0.109	20.28	0.107	20.38	0.109
	16QAM	1	0	20.62	0.115	20.56	0.114	**20.97**	**0.125**
		1	36	20.51	0.112	20.62	0.115	20.60	0.115
		1	74	20.68	0.117	20.39	0.109	20.66	0.116
		36	0	20.40	0.110	19.33	0.086	19.46	0.088
		36	18	20.44	0.111	19.35	0.086	19.44	0.088
		36	37	20.45	0.111	19.27	0.085	19.38	0.087
		75	0	19.38	0.087	19.27	0.085	19.29	0.085

LTE Band 7									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20850 (2 510.0 ㎒)		21100 (2 535.0 ㎒)		21350 (2 560.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	QPSK	1	0	21.43	0.139	21.47	0.140	**21.54**	**0.143**
		1	50	21.41	0.138	21.30	0.135	21.48	0.141
		1	99	21.35	0.136	21.23	0.133	21.32	0.136
		50	0	21.46	0.140	20.39	0.109	20.49	0.112
		50	25	21.39	0.138	20.33	0.108	20.42	0.110
		50	50	21.39	0.138	20.31	0.107	20.35	0.108
		100	0	20.37	0.109	20.35	0.108	20.43	0.110
	16QAM	1	0	20.80	0.120	20.85	0.122	**20.86**	**0.122**
		1	50	20.71	0.118	20.66	0.116	20.69	0.117
		1	99	20.60	0.115	20.31	0.107	20.44	0.111
		50	0	20.49	0.112	19.40	0.087	19.55	0.090
		50	25	20.42	0.110	19.40	0.087	19.50	0.089
		50	50	20.44	0.111	19.30	0.085	19.35	0.086
		100	0	19.43	0.088	19.34	0.086	19.43	0.088

LTE Band 12									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				23017 (699.7 ㎒)		23095 (707.5 ㎒)		23173 (715.3 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
1.4	QPSK	1	0	22.16	0.164	22.14	0.164	22.00	0.158
		1	3	**22.35**	**0.172**	22.10	0.162	22.03	0.160
		1	5	22.35	0.172	22.09	0.162	22.12	0.163
		3	0	22.22	0.167	22.09	0.162	22.12	0.163
		3	2	22.33	0.171	22.13	0.163	22.15	0.164
		3	3	22.32	0.171	22.14	0.164	22.13	0.163
		6	0	21.32	0.136	22.15	0.164	22.09	0.162
	16QAM	1	0	21.44	0.139	21.31	0.135	21.43	0.139
		1	3	**21.62**	**0.145**	21.37	0.137	21.22	0.132
		1	5	21.39	0.138	21.45	0.140	21.39	0.138
		3	0	21.35	0.136	21.53	0.142	21.44	0.139
		3	2	21.50	0.141	21.37	0.137	21.41	0.138
		3	3	21.42	0.139	21.51	0.142	21.41	0.138
		6	0	20.45	0.111	21.41	0.138	21.33	0.136

LTE Band 12									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				23025 (700.5 ㎒)		23095 (707.5 ㎒)		23165 (714.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
3	QPSK	1	0	22.21	0.166	22.31	0.170	22.16	0.164
		1	7	22.33	0.171	**22.43**	**0.175**	22.29	0.169
		1	14	22.29	0.169	22.37	0.173	22.21	0.166
		8	0	22.22	0.167	22.31	0.170	22.13	0.163
		8	4	22.32	0.171	22.39	0.173	22.27	0.169
		8	7	22.33	0.171	22.42	0.175	22.25	0.168
		15	0	21.29	0.135	21.40	0.138	21.21	0.132
	16QAM	1	0	21.49	0.141	21.57	0.144	21.44	0.139
		1	7	21.60	0.145	**21.66**	**0.147**	21.53	0.142
		1	14	21.52	0.142	21.61	0.145	21.47	0.140
		8	0	21.26	0.134	21.36	0.137	21.17	0.131
		8	4	21.45	0.140	21.51	0.142	21.38	0.137
		8	7	21.38	0.137	21.48	0.141	21.30	0.135
		15	0	20.38	0.109	20.44	0.111	20.31	0.107

LTE Band 12/17									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				23035 (701.5 ㎒)		23095 (707.5 ㎒)		23155 (713.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	QPSK	1	0	**22.49**	**0.177**	22.24	0.167	22.30	0.170
		1	12	22.34	0.171	22.30	0.170	22.27	0.169
		1	24	22.39	0.173	22.23	0.167	22.31	0.170
		12	0	22.19	0.166	22.24	0.167	22.30	0.170
		12	6	22.28	0.169	22.23	0.167	22.24	0.167
		12	13	22.31	0.170	22.24	0.167	22.16	0.164
		25	0	22.35	0.172	21.21	0.132	21.20	0.132
	16QAM	1	0	21.48	0.141	21.46	0.140	**21.65**	**0.146**
		1	12	21.54	0.143	21.54	0.143	21.64	0.146
		1	24	21.59	0.144	21.52	0.142	21.47	0.140
		12	0	21.34	0.136	21.31	0.135	21.25	0.133
		12	6	21.36	0.137	21.30	0.135	21.26	0.134
		12	13	21.43	0.139	21.28	0.134	21.23	0.133
		25	0	21.45	0.140	20.22	0.105	20.22	0.105

LTE Band 12/17									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				23060 (704.0 ㎒)		23095 (707.5 ㎒)		23130 (711.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	QPSK	1	0	**22.38**	**0.173**	22.19	0.166	22.23	0.167
		1	25	22.29	0.169	22.20	0.166	22.27	0.169
		1	49	22.35	0.172	22.28	0.169	22.23	0.167
		25	0	22.29	0.169	22.22	0.167	22.24	0.167
		25	12	22.32	0.171	22.24	0.167	22.31	0.170
		25	25	22.37	0.173	22.26	0.168	22.29	0.169
		50	0	22.29	0.169	21.31	0.135	21.33	0.136
	16QAM	1	0	21.58	0.144	21.34	0.136	21.62	0.145
		1	25	21.54	0.143	21.42	0.139	21.49	0.141
		1	49	**21.70**	**0.148**	21.63	0.146	21.60	0.145
		25	0	21.40	0.138	21.30	0.135	21.23	0.133
		25	12	21.43	0.139	21.39	0.138	21.35	0.136
		25	25	21.54	0.143	21.34	0.136	21.40	0.138
		50	0	21.37	0.137	20.30	0.107	20.44	0.111

LTE Band 26/5_part 22									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				26797 (824.7 ㎒)		26915 (836.5 ㎒)		27033 (848.3 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
1.4	QPSK	1	0	21.68	0.147	21.74	0.149	**21.90**	**0.155**
		1	2	21.78	0.151	21.73	0.149	21.64	0.146
		1	5	21.65	0.146	21.79	0.151	21.86	0.153
		3	0	21.69	0.148	21.79	0.151	21.62	0.145
		3	2	21.76	0.150	21.74	0.149	21.87	0.154
		3	3	21.71	0.148	21.85	0.153	21.78	0.151
		6	0	20.70	0.117	21.71	0.148	21.73	0.149
	16QAM	1	0	20.90	0.123	**21.10**	**0.129**	21.03	0.127
		1	3	20.99	0.126	20.96	0.125	20.83	0.121
		1	5	21.07	0.128	20.99	0.126	20.84	0.121
		3	0	20.84	0.121	21.00	0.126	20.95	0.124
		3	2	20.82	0.121	21.07	0.128	21.01	0.126
		3	3	20.87	0.122	21.07	0.128	20.95	0.124
		6	0	19.76	0.095	20.90	0.123	20.94	0.124

LTE Band 26/5_part 22									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				26805 (825.5 ㎒)		26915 (836.5 ㎒)		27025 (847.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
3	QPSK	1	0	21.76	0.150	21.84	0.153	21.80	0.151
		1	7	21.85	0.153	**21.93**	**0.156**	21.78	0.151
		1	14	21.79	0.151	21.82	0.152	21.83	0.152
		8	0	21.80	0.151	20.87	0.122	20.90	0.123
		8	4	21.80	0.151	20.88	0.122	20.89	0.123
		8	7	21.82	0.152	20.82	0.121	20.90	0.123
		15	0	20.79	0.120	20.87	0.122	20.90	0.123
	16QAM	1	0	20.92	0.124	**21.22**	**0.132**	21.21	0.132
		1	7	21.04	0.127	21.22	0.132	21.11	0.129
		1	14	21.08	0.128	20.92	0.124	21.17	0.131
		8	0	20.84	0.121	19.89	0.097	19.91	0.098
		8	4	21.04	0.127	19.93	0.098	19.94	0.099
		8	7	20.84	0.121	19.86	0.097	19.93	0.098
		15	0	19.89	0.097	19.83	0.096	19.93	0.098

LTE Band 26/5_part 22									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				26815 (826.5 ㎒)		26915 (836.5 ㎒)		27015 (846.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	QPSK	1	0	21.66	0.147	21.89	0.155	**21.94**	**0.156**
		1	12	21.90	0.155	21.84	0.153	21.83	0.152
		1	24	21.89	0.155	21.89	0.155	21.71	0.148
		12	0	21.78	0.151	21.87	0.154	20.92	0.124
		12	6	21.78	0.151	21.87	0.154	20.96	0.125
		12	13	21.78	0.151	21.88	0.154	20.89	0.123
		25	0	21.78	0.151	20.89	0.123	20.91	0.123
	16QAM	1	0	21.06	0.128	21.07	0.128	21.18	0.131
		1	12	21.17	0.131	**21.31**	**0.135**	21.17	0.131
		1	24	21.09	0.129	21.14	0.130	21.21	0.132
		12	0	20.87	0.122	20.94	0.124	19.97	0.099
		12	6	20.92	0.124	20.95	0.124	19.97	0.099
		12	13	20.92	0.124	20.91	0.123	19.87	0.097
		25	0	20.82	0.121	19.84	0.096	19.92	0.098

LTE Band 26/5_part 22									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				26840 (829.0 ㎒)		26915 (836.5 ㎒)		26990 (844.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	QPSK	1	0	21.77	0.150	21.75	0.150	21.85	0.153
		1	25	21.76	0.150	21.72	0.149	21.72	0.149
		1	49	21.82	0.152	21.89	0.155	**21.95**	**0.157**
		25	0	21.77	0.150	21.80	0.151	21.84	0.153
		25	12	21.85	0.153	21.79	0.151	21.93	0.156
		25	25	21.83	0.152	21.95	0.157	21.97	0.157
		50	0	21.79	0.151	20.83	0.121	20.86	0.122
	16QAM	1	0	21.15	0.130	21.15	0.130	21.14	0.130
		1	25	20.98	0.125	21.06	0.128	21.09	0.129
		1	49	21.16	0.131	**21.23**	**0.133**	21.08	0.128
		25	0	20.87	0.122	20.89	0.123	20.91	0.123
		25	12	20.87	0.122	20.89	0.123	20.88	0.122
		25	25	20.87	0.122	21.00	0.126	21.01	0.126
		50	0	20.91	0.123	19.81	0.096	19.88	0.097

LTE Band 26_part 22									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				26865 (831.5 ㎒)				26965 (841.5 ㎒)	
				(dB m)	(W)			(dB m)	(W)
15	QPSK	1	0	21.86	0.153	-	-	21.90	0.155
		1	36	21.93	0.156	-	-	21.87	0.154
		1	74	21.91	0.155	-	-	**21.97**	**0.157**
		36	0	21.83	0.152	-	-	21.90	0.155
		36	18	21.78	0.151	-	-	21.88	0.154
		36	37	21.87	0.154	-	-	21.95	0.157
		75	0	21.83	0.152	-	-	20.93	0.124
	16QAM	1	0	21.08	0.128	-	-	**21.31**	**0.135**
		1	36	21.19	0.132	-	-	21.14	0.130
		1	74	21.30	0.135	-	-	21.28	0.134
		36	0	20.99	0.126	-	-	20.98	0.125
		36	18	20.87	0.122	-	-	20.94	0.124
		36	37	21.10	0.129	-	-	20.99	0.126
		75	0	20.87	0.122	-	-	19.93	0.098

LTE Band 26_part 90									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				26697 (814.7 ㎒)		26740 (819.0 ㎒)		26783 (823.3 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
1.4	QPSK	1	0	21.69	0.148	21.67	0.147	21.65	0.146
		1	2	**21.82**	**0.152**	21.66	0.147	21.67	0.147
		1	5	21.65	0.146	21.63	0.146	21.71	0.148
		3	0	21.77	0.150	21.69	0.148	21.73	0.149
		3	2	21.82	0.152	21.77	0.150	21.74	0.149
		3	3	21.73	0.149	21.77	0.150	21.65	0.146
		6	0	20.70	0.117	21.72	0.149	21.76	0.150
	16QAM	1	0	**21.23**	**0.133**	20.99	0.126	20.99	0.126
		1	2	20.94	0.124	21.01	0.126	21.02	0.126
		1	5	20.87	0.122	20.96	0.125	21.01	0.126
		3	0	20.79	0.120	20.97	0.125	21.07	0.128
		3	2	20.90	0.123	20.97	0.125	21.03	0.127
		3	3	20.95	0.124	20.99	0.126	20.85	0.122
		6	0	19.77	0.095	20.92	0.124	20.99	0.126

LTE Band 26_part 90									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				26705 (815.5 ㎒)		26740 (819.0 ㎒)		26775 (822.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
3	QPSK	1	0	21.73	0.149	21.74	0.149	21.65	0.146
		1	7	21.90	0.155	21.76	0.150	**21.91**	**0.155**
		1	14	21.77	0.150	21.70	0.148	21.88	0.154
		8	0	21.86	0.153	20.76	0.119	20.81	0.121
		8	4	21.84	0.153	20.78	0.120	20.81	0.121
		8	7	21.84	0.153	20.74	0.119	20.81	0.121
		15	0	20.79	0.120	20.76	0.119	20.80	0.120
	16QAM	1	0	21.16	0.131	20.95	0.124	21.01	0.126
		1	7	**21.24**	**0.133**	21.11	0.129	21.19	0.132
		1	14	21.08	0.128	21.01	0.126	21.07	0.128
		8	0	20.94	0.124	20.88	0.122	20.88	0.122
		8	4	21.04	0.127	20.82	0.121	20.86	0.122
		8	7	20.95	0.124	20.74	0.119	20.80	0.120
		15	0	19.96	0.099	19.77	0.095	19.82	0.096

LTE Band 26_part 90									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				26715 (816.5 ㎒)		26740 (819.0 ㎒)		26765 (821.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	QPSK	1	0	21.84	0.153	21.81	0.152	21.74	0.149
		1	12	**21.91**	**0.155**	21.77	0.150	21.85	0.153
		1	24	21.75	0.150	21.80	0.151	21.73	0.149
		12	0	21.79	0.151	21.79	0.151	21.75	0.150
		12	6	21.86	0.153	21.80	0.151	21.84	0.153
		12	13	21.70	0.148	21.82	0.152	21.74	0.149
		25	0	21.81	0.152	20.82	0.121	20.85	0.122
	16QAM	1	0	21.09	0.129	21.01	0.126	21.02	0.126
		1	12	**21.25**	**0.133**	21.11	0.129	21.14	0.130
		1	24	20.98	0.125	21.04	0.127	21.04	0.127
		12	0	20.96	0.125	20.87	0.122	20.81	0.121
		12	6	20.92	0.124	20.85	0.122	20.84	0.121
		12	13	20.84	0.121	20.82	0.121	20.82	0.121
		25	0	20.77	0.119	20.85	0.122	20.78	0.120

LTE Band 26_part 90									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
						26740 (819.0 ㎒)			
						(dB m)	(W)		
10	QPSK	1	0	-	-	**21.90**	**0.155**	-	-
		1	25	-	-	21.77	0.150	-	-
		1	49	-	-	21.78	0.151	-	-
		25	0	-	-	21.83	0.152	-	-
		25	12	-	-	21.86	0.153	-	-
		25	25	-	-	21.87	0.154	-	-
		50	0	-	-	20.85	0.122	-	-
	16QAM	1	0	-	-	**21.19**	**0.132**	-	-
		1	25	-	-	21.12	0.129	-	-
		1	49	-	-	21.10	0.129	-	-
		25	0	-	-	20.95	0.124	-	-
		25	12	-	-	20.93	0.124	-	-
		25	25	-	-	20.82	0.121	-	-
		50	0	-	-	19.84	0.096	-	-

LTE Band 26_part 90									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
						26765 (821.5 ㎒)			
15	QPSK	1	0	-	-	**22.05**	**0.160**	-	-
		1	36	-	-	21.87	0.154	-	-
		1	74	-	-	21.88	0.154	-	-
		36	0	-	-	21.97	0.157	-	-
		36	18	-	-	21.80	0.151	-	-
		36	37	-	-	21.82	0.152	-	-
		75	0	-	-	21.86	0.153	-	-
	16QAM	1	0	-	-	21.19	0.132	-	-
		1	36	-	-	**21.23**	**0.133**	-	-
		1	74	-	-	21.16	0.131	-	-
		36	0	-	-	21.11	0.129	-	-
		36	18	-	-	20.98	0.125	-	-
		36	37	-	-	20.95	0.124	-	-
		75	0	-	-	20.97	0.125	-	-

LTE Band 41									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				39675 (2 498.5 ㎒)		40620 (2 593.0 ㎒)		41565 (2 687.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	QPSK	1	0	20.35	0.108	20.32	0.108	20.37	0.109
		1	12	20.34	0.108	20.31	0.107	20.31	0.107
		1	24	20.31	0.107	**20.41**	**0.110**	20.30	0.107
		12	0	19.19	0.083	19.44	0.088	20.14	0.103
		12	6	19.08	0.081	19.36	0.086	20.18	0.104
		12	13	19.01	0.080	19.55	0.090	20.23	0.105
		25	0	19.19	0.083	19.41	0.087	20.23	0.105
	16QAM	1	0	19.30	0.085	**19.45**	**0.088**	19.34	0.086
		1	12	19.35	0.086	19.44	0.088	19.31	0.085
		1	24	19.19	0.083	19.38	0.087	19.39	0.087
		12	0	18.45	0.070	18.63	0.073	19.29	0.085
		12	6	18.16	0.065	18.52	0.071	19.18	0.083
		12	13	18.22	0.066	18.44	0.070	19.15	0.082
		25	0	18.28	0.067	18.50	0.071	19.33	0.086

LTE Band 41									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				39700 (2 501.0 ㎒)		40620 (2 593.0 ㎒)		41540 (2 685.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	QPSK	1	0	20.37	0.109	20.49	0.112	**20.86**	**0.122**
		1	25	20.31	0.107	20.31	0.107	20.31	0.107
		1	49	20.36	0.109	20.46	0.111	20.34	0.108
		25	0	20.32	0.108	20.41	0.110	19.43	0.088
		25	12	20.31	0.107	20.56	0.114	19.58	0.091
		25	25	20.24	0.106	20.33	0.108	19.39	0.087
		50	0	19.23	0.084	19.48	0.089	19.37	0.086
	16QAM	1	0	19.11	0.081	19.53	0.090	**19.86**	**0.097**
		1	25	19.18	0.083	19.44	0.088	19.41	0.087
		1	49	19.10	0.081	19.50	0.089	19.35	0.086
		25	0	19.27	0.085	19.46	0.088	18.44	0.070
		25	12	19.34	0.086	19.49	0.089	18.59	0.072
		25	25	19.19	0.083	19.41	0.087	18.60	0.072
		50	0	18.20	0.066	18.63	0.073	18.53	0.071

LTE Band 41									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				39725 (2 503.5 ㎒)		40620 (2 593.0 ㎒)		41515 (2 682.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
15	QPSK	1	0	20.37	0.109	20.49	0.112	**20.86**	**20.37**
		1	36	20.31	0.107	20.31	0.107	20.31	20.31
		1	74	20.36	0.109	20.46	0.111	20.34	20.36
		36	0	20.32	0.108	20.41	0.110	19.43	20.32
		36	18	20.31	0.107	20.56	0.114	19.58	20.31
		36	37	20.24	0.106	20.33	0.108	19.39	20.24
		75	0	19.23	0.084	19.48	0.089	19.37	19.23
	16QAM	1	0	19.42	0.087	**19.71**	**0.094**	19.34	0.086
		1	36	19.26	0.084	19.66	0.092	19.34	0.086
		1	74	19.33	0.086	19.56	0.090	19.17	0.083
		36	0	19.24	0.084	19.37	0.086	18.38	0.069
		36	18	19.17	0.083	19.54	0.090	18.48	0.070
		36	37	19.30	0.085	19.57	0.091	18.35	0.068
		75	0	18.41	0.069	18.56	0.072	18.37	0.069

LTE Band 41									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				39750 (2 506.0 ㎒)		40620 (2 593.0 ㎒)		41490 (2 680.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	QPSK	1	0	20.51	0.112	20.69	0.117	**20.88**	**0.122**
		1	50	20.50	0.112	20.59	0.115	20.34	0.108
		1	99	20.40	0.110	20.49	0.112	20.38	0.109
		50	0	20.48	0.112	20.65	0.116	19.63	0.092
		50	25	20.50	0.112	20.77	0.119	19.42	0.087
		50	13	20.46	0.111	20.56	0.114	19.40	0.087
		100	0	19.50	0.089	19.78	0.095	19.29	0.085
	16QAM	1	0	19.44	0.088	**19.71**	**0.094**	19.57	0.091
		1	50	19.55	0.090	19.67	0.093	19.43	0.088
		1	99	19.49	0.089	19.62	0.092	19.36	0.086
		50	0	19.53	0.090	19.65	0.092	18.63	0.073
		50	25	19.42	0.087	19.62	0.092	18.42	0.070
		50	50	19.66	0.092	19.69	0.093	18.32	0.068
		100	0	18.54	0.071	18.81	0.076	18.53	0.071

4. Occupied Bandwidth

4.1. Limit

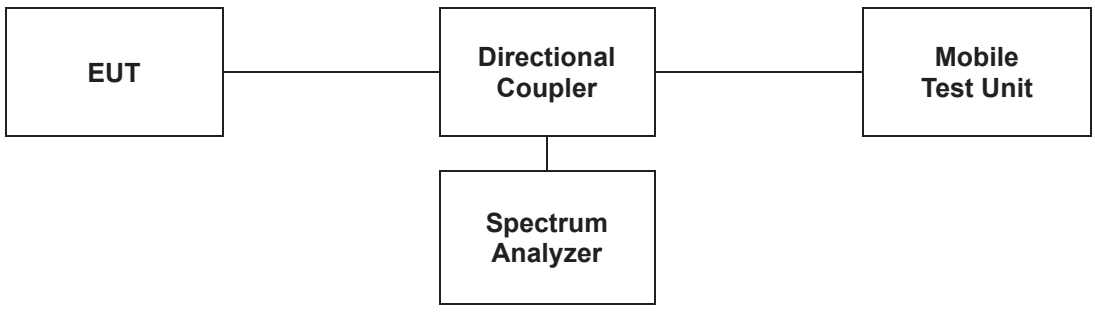
CFR 47, Section FCC §2.1049.

4.2. Test Procedure

The test follows section 5.4.4 of ANSI C63.26-2015.

a. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation. products including the emission skirts (typically a span of 1.5 × OBW is sufficient).
b. The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1 % to 5 % of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
c. Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
d. Set the detection mode to peak, and the trace mode to max-hold.
e. If the instrument does not have a 99 % OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5 % of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5 % of the total is reached and record that frequency as the upper OBW frequency. The 99 % power OBW can be determined by computing the difference these two frequencies.
f. The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).

For the 99 % emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99 % emission bandwidth).



4.3 Test Results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

Band	Bandwidth (㎒)	Frequency (㎒)	Occupied Bandwidth (㎒)	
			QPSK	16QAM
2	1.4	1 880.0	1.088	1.088
	3		2.686	2.696
	5		4.509	4.493
	10		8.952	8.952
	15		13.428	13.428
	20		17.837	17.903
4	1.4	1 732.5	1.088	1.093
	3		2.676	2.686
	5		4.493	4.493
	10		8.952	8.952
	15		13.478	13.478
	20		17.837	17.837
7	5	2 535.0	4.509	4.493
	10		8.952	8.952
	15		13.478	13.478
	20		17.970	17.903
12	1.4	707.5	1.088	1.093
	3		2.686	2.686
12/17	5		4.493	4.526
	10		8.952	8.952
26/5 Part 22	1.4	836.5	1.093	1.098
	3		2.696	2.696
	5		4.509	4.493
	10		8.952	8.918
26 Part 22	15	831.5	13.478	13.428
26 Part 90	1.4	819.0	1.093	1.098
	3		2.686	2.696
	5		4.509	4.509
	10		8.952	8.952
	15	821.5	13.428	13.478
41	5	2 593.0	4.493	4.526
	10		8.918	8.918
	15		13.478	13.478
	20		17.903	17.970

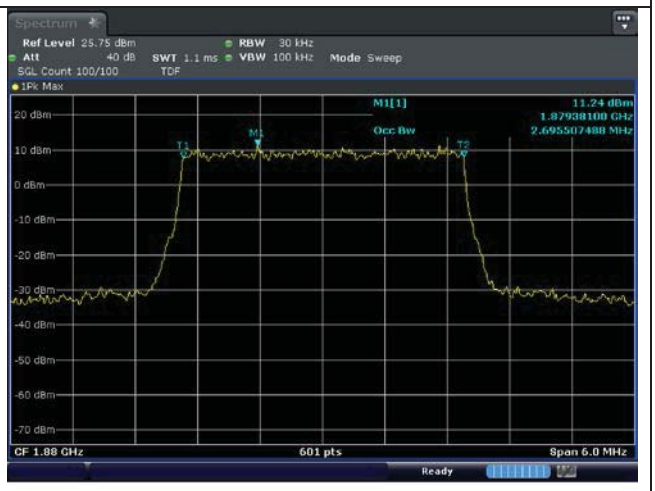
- Test plots

LTE band 2

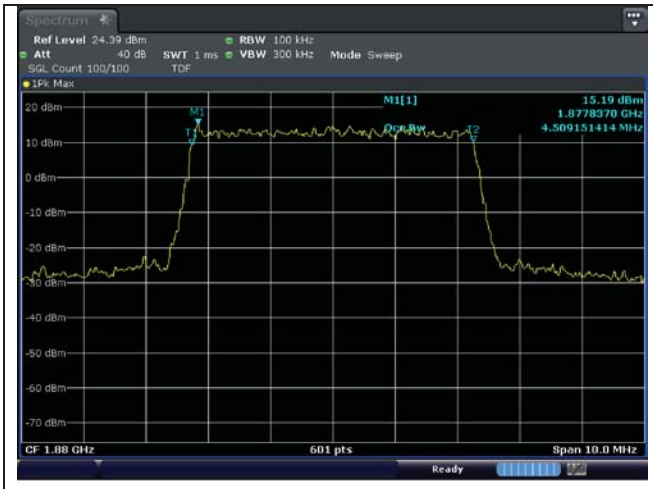
1.4 ㎒ QPSK Middle Channel - Full RB

1.4 ㎒ 16QAM Middle Channel - Full RB

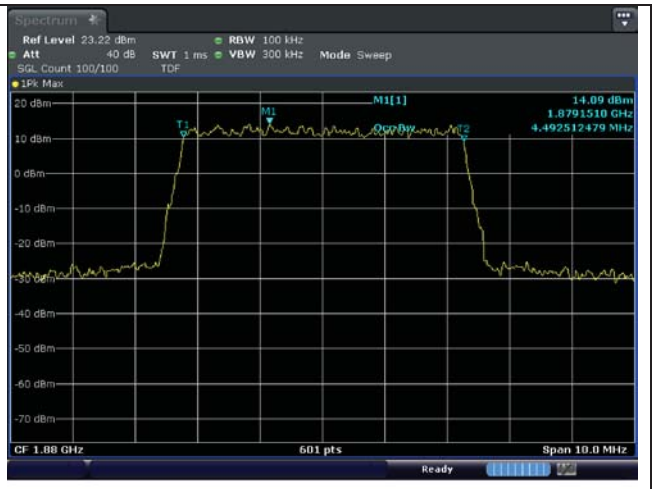
3 ㎒ QPSK Middle Channel - Full RB



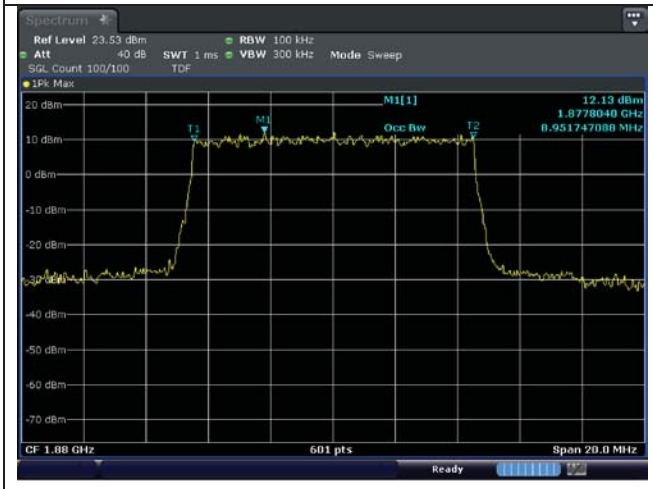
3 ㎒ 16QAM Middle Channel - Full RB



5 ㎒ QPSK Middle Channel - Full RB

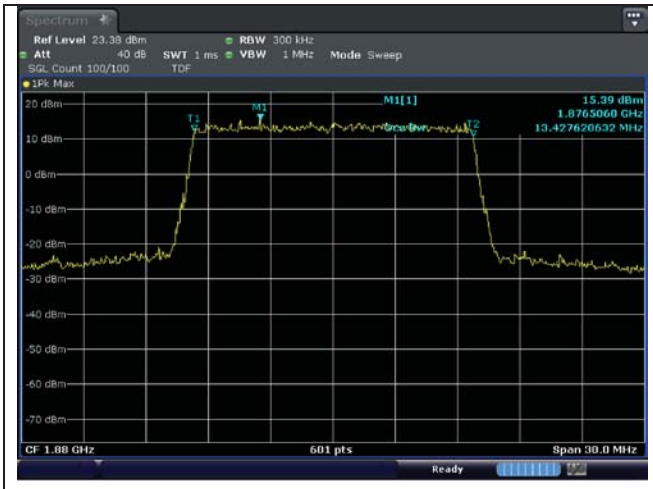


5 ㎒ 16QAM Middle Channel - Full RB



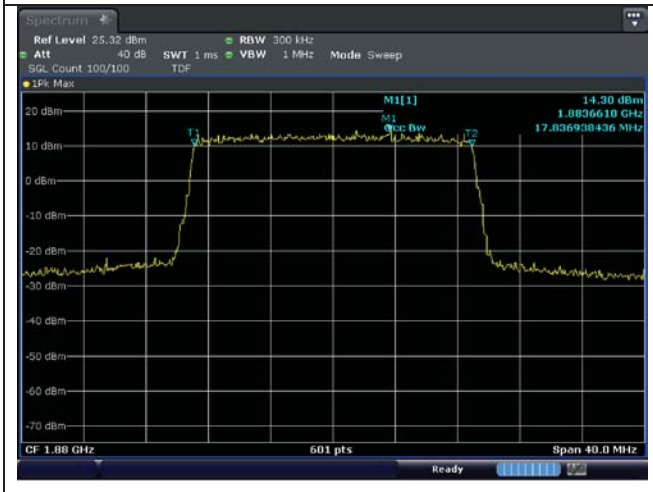
10 ㎒ QPSK Middle Channel - Full RB

10 ㎒ 16QAM Middle Channel - Full RB



15 ㎒ QPSK Middle Channel - Full RB

15 ㎒ 16QAM Middle Channel - Full RB



20 ㎒ QPSK Middle Channel - Full RB

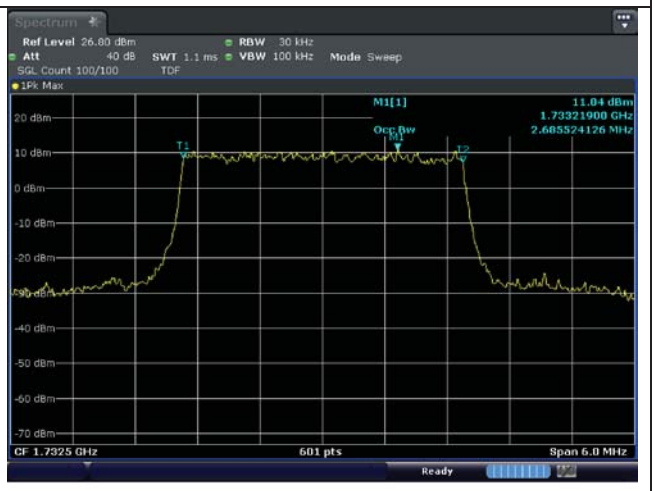
20 ㎒ 16QAM Middle Channel - Full RB

LTE band 4

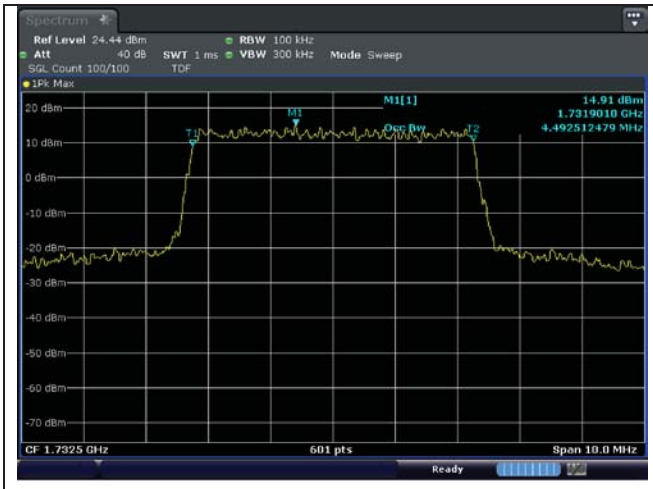
1.4 ㎒ QPSK Middle Channel - Full RB

1.4 ㎒ 16QAM Middle Channel - Full RB

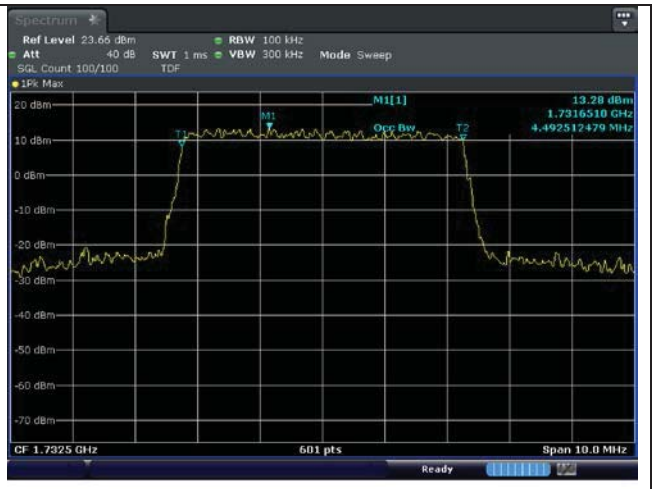
3 ㎒ QPSK Middle Channel - Full RB



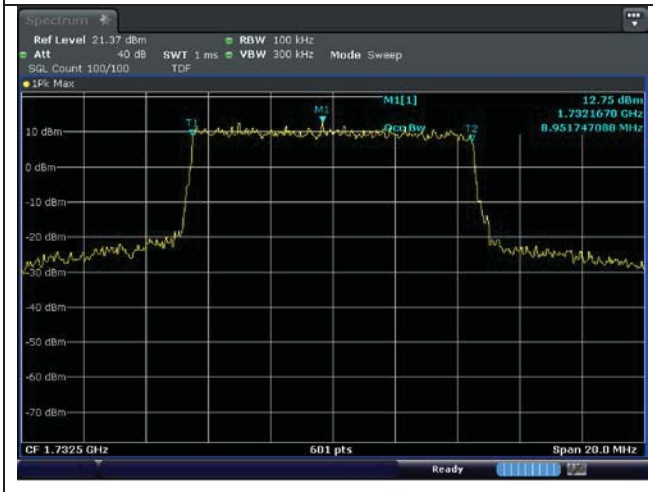
3 ㎒ 16QAM Middle Channel - Full RB



5 ㎒ QPSK Middle Channel - Full RB

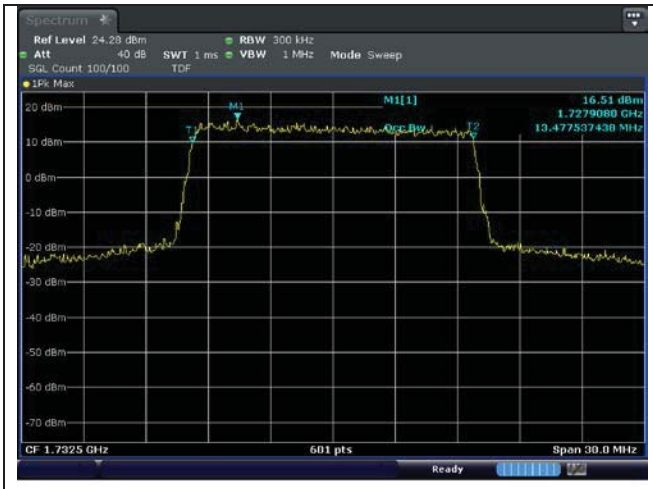


5 ㎒ 16QAM Middle Channel - Full RB



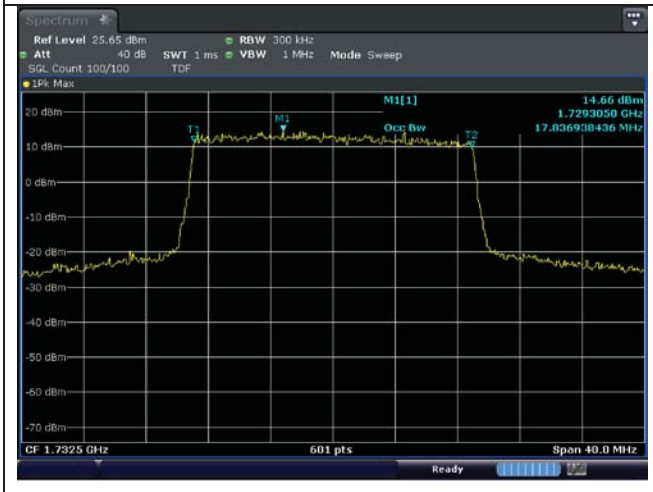
10 ㎒ QPSK Middle Channel - Full RB

10 ㎒ 16QAM Middle Channel - Full RB

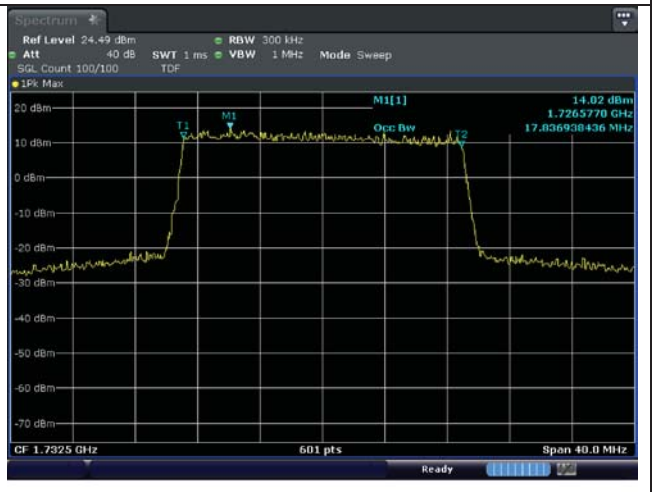


15 ㎒ QPSK Middle Channel - Full RB

15 ㎒ 16QAM Middle Channel - Full RB

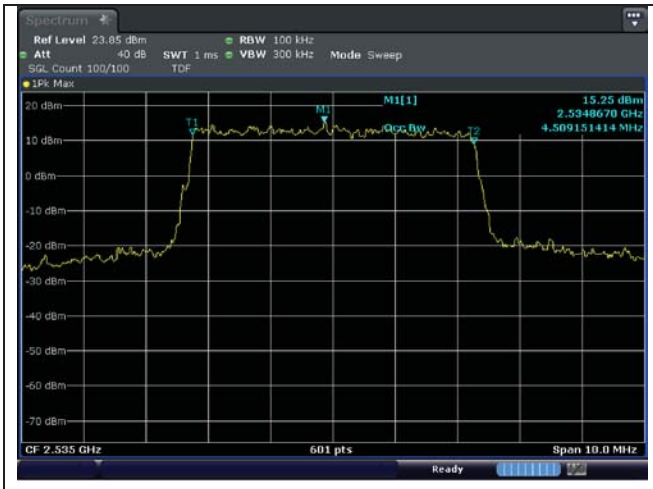


20 ㎒ QPSK Middle Channel - Full RB



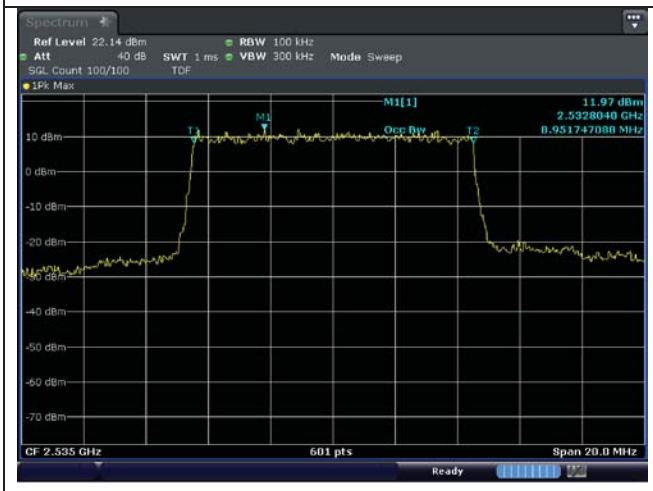
20 ㎒ 16QAM Middle Channel - Full RB

LTE band 7



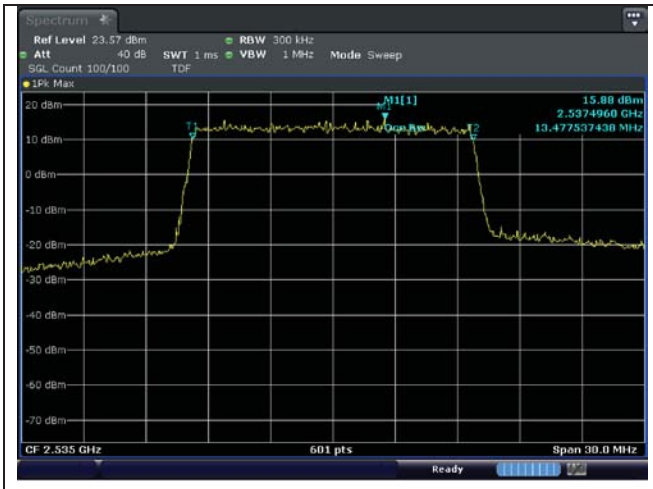
5 ㎒ QPSK Middle Channel - Full RB

5 ㎒ 16QAM Middle Channel - Full RB



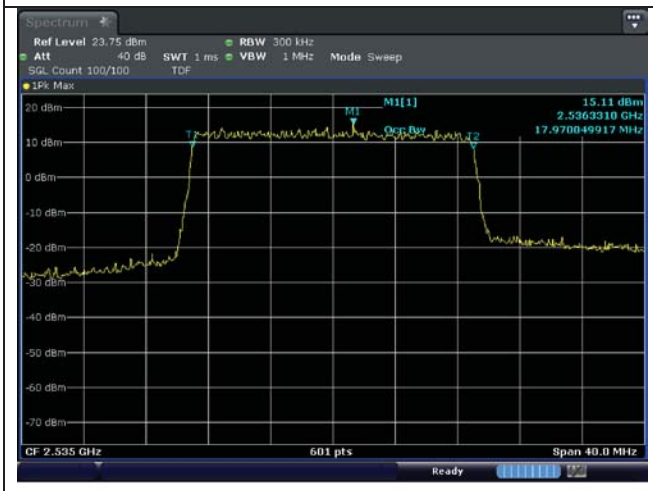
10 ㎒ QPSK Middle Channel - Full RB

10 ㎒ 16QAM Middle Channel - Full RB

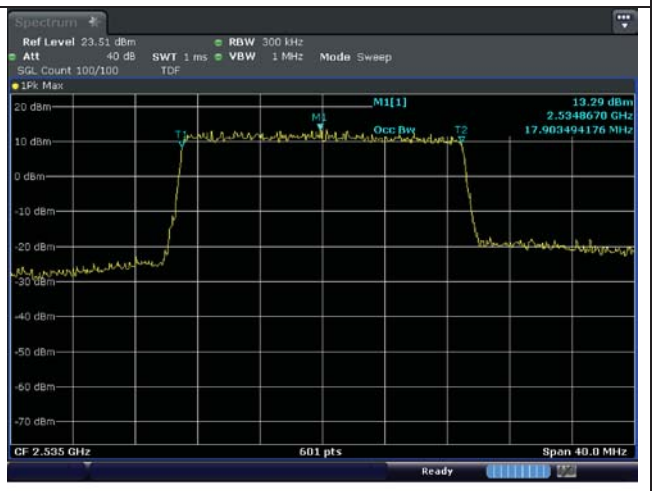


15 ㎒ QPSK Middle Channel - Full RB

15 ㎒ 16QAM Middle Channel - Full RB



20 ㎒ QPSK Middle Channel - Full RB

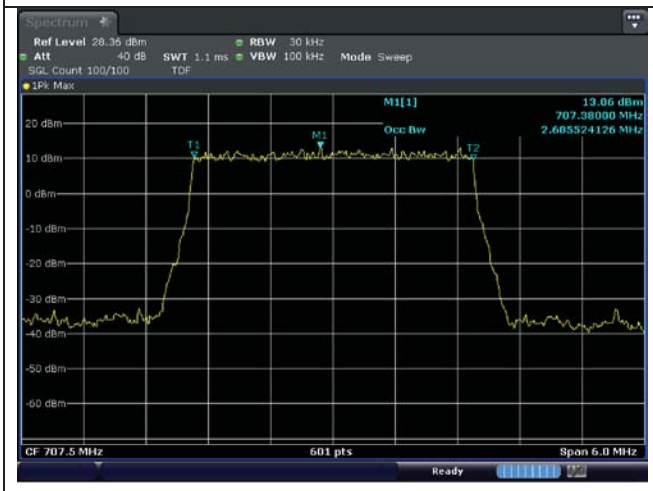


20 ㎒ 16QAM Middle Channel - Full RB

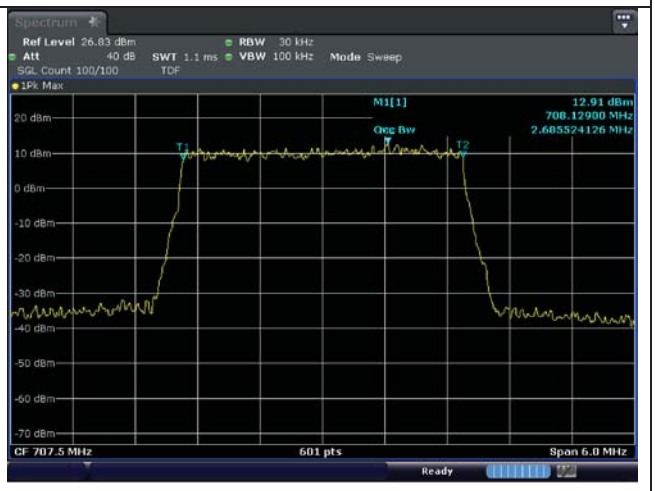
LTE band 12

1.4 ㎒ QPSK Middle Channel - Full RB

1.4 ㎒ 16QAM Middle Channel - Full RB

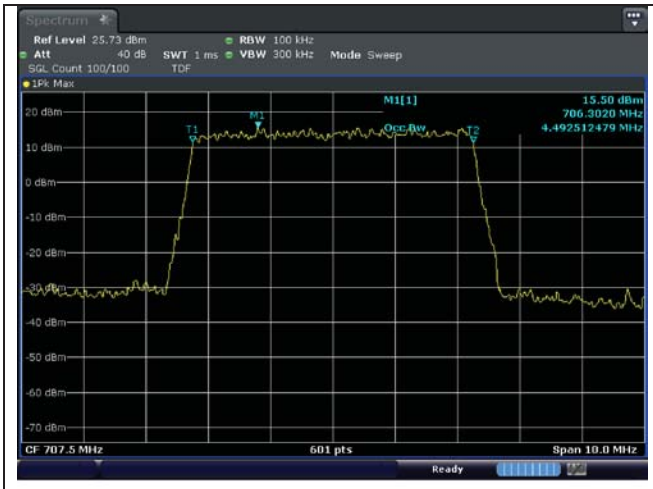


3 ㎒ QPSK Middle Channel - Full RB



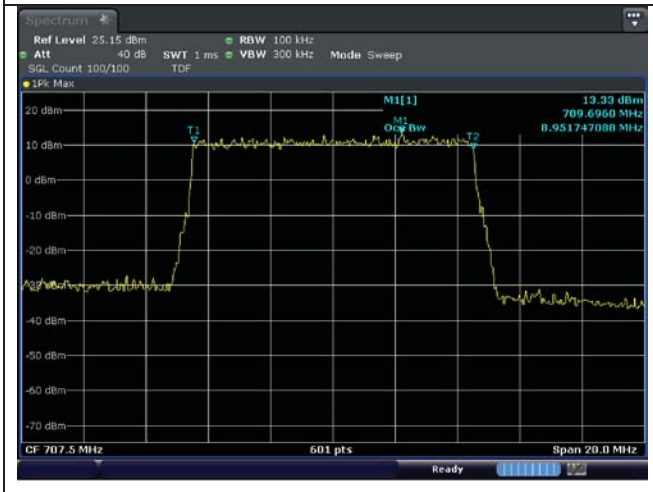
3 ㎒ 16QAM Middle Channel - Full RB

LTE band 12/17



5 ㎒ QPSK Middle Channel - Full RB

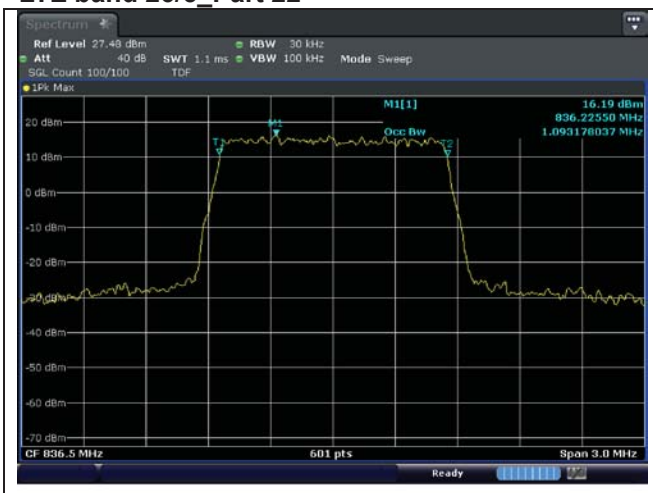
5 ㎒ 16QAM Middle Channel - Full RB



10 ㎒ QPSK Middle Channel - Full RB

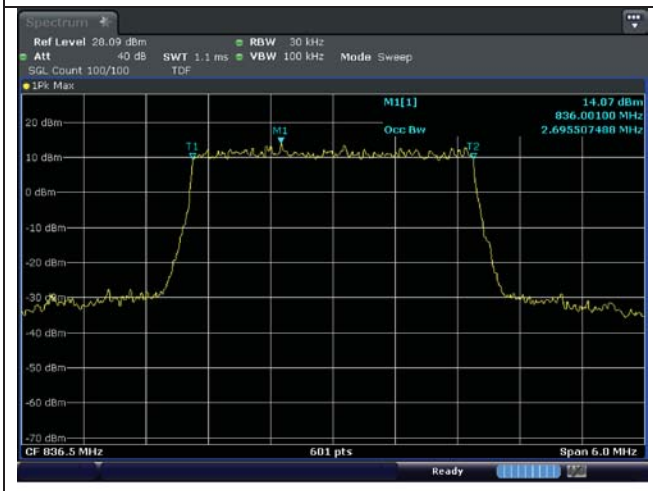
10 ㎒ 16QAM Middle Channel - Full RB

LTE band 26/5_Part 22

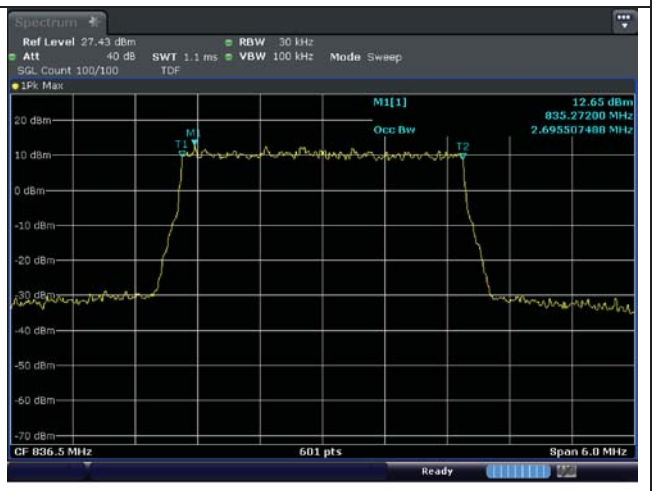


1.4 ㎒ QPSK Middle Channel - Full RB

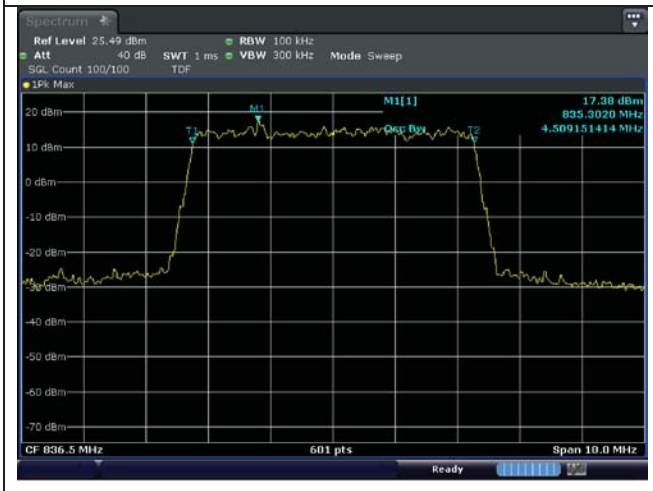
1.4 ㎒ 16QAM Middle Channel - Full RB



3 ㎒ QPSK Middle Channel - Full RB

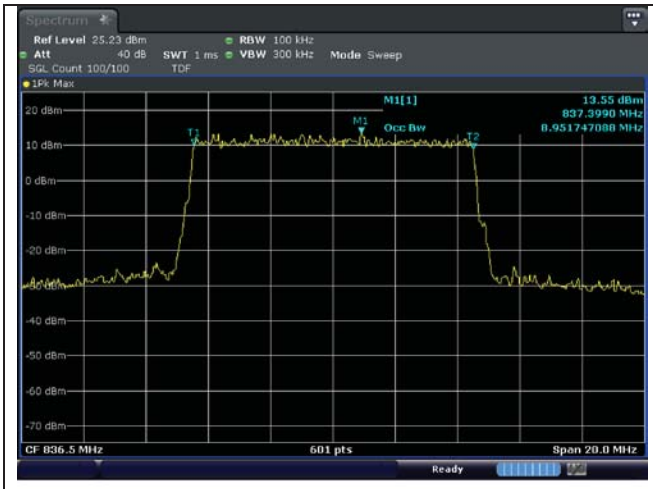


3 ㎒ 16QAM Middle Channel - Full RB



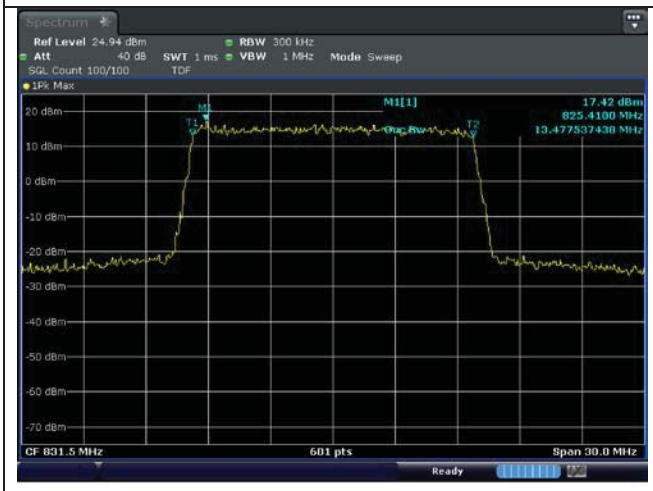
5 ㎒ QPSK Middle Channel - Full RB

5 ㎒ 16QAM Middle Channel - Full RB

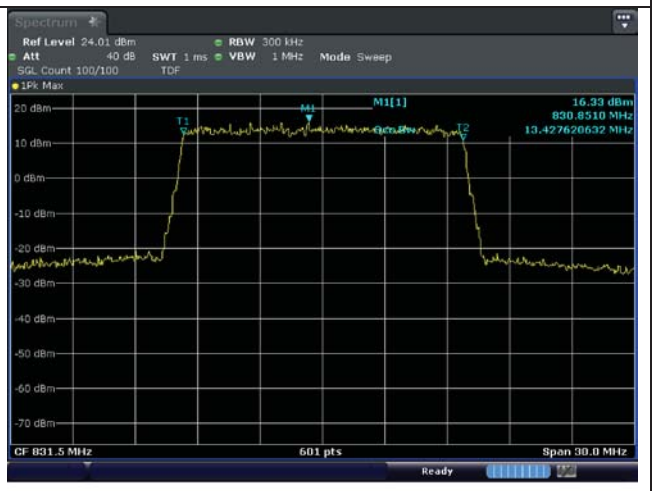


10 ㎒ QPSK Middle Channel - Full RB

10 ㎒ 16QAM Middle Channel - Full RB



15 ㎒ QPSK Low Channel - Full RB



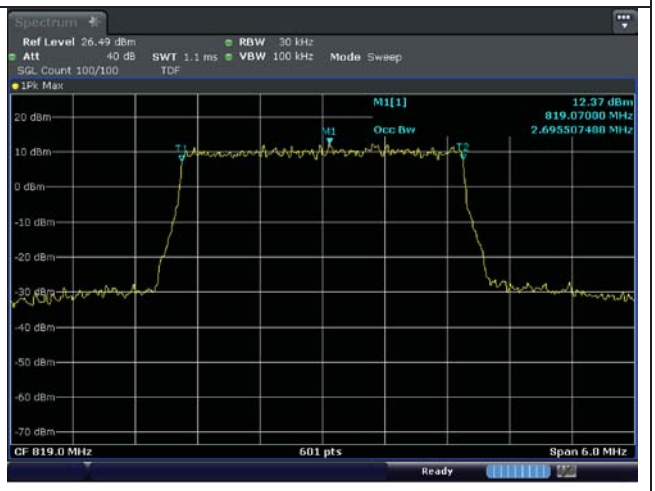
15 ㎒ 16QAM Low Channel - Full RB

LTE band 26_Part 90

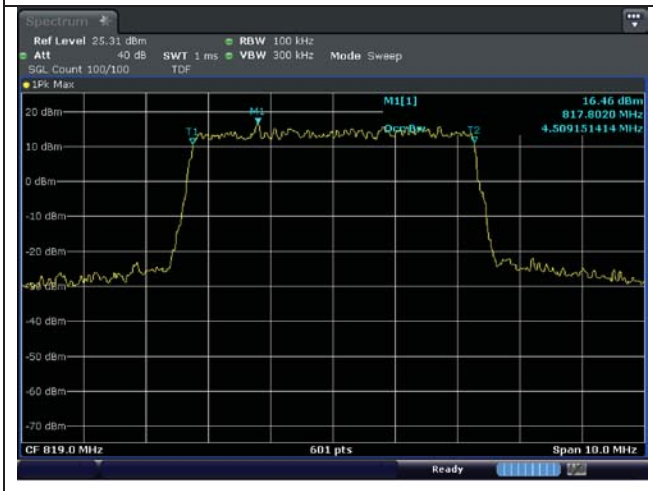
1.4 ㎒ QPSK Middle Channel - Full RB

1.4 ㎒ 16QAM Middle Channel - Full RB

3 ㎒ QPSK Middle Channel - Full RB

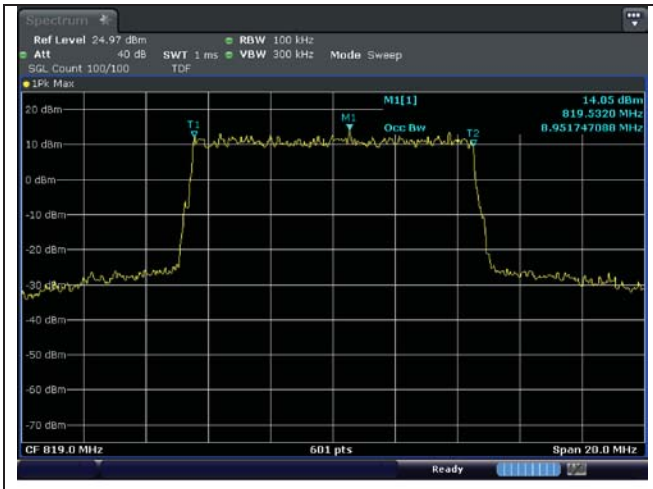


3 ㎒ 16QAM Middle Channel - Full RB

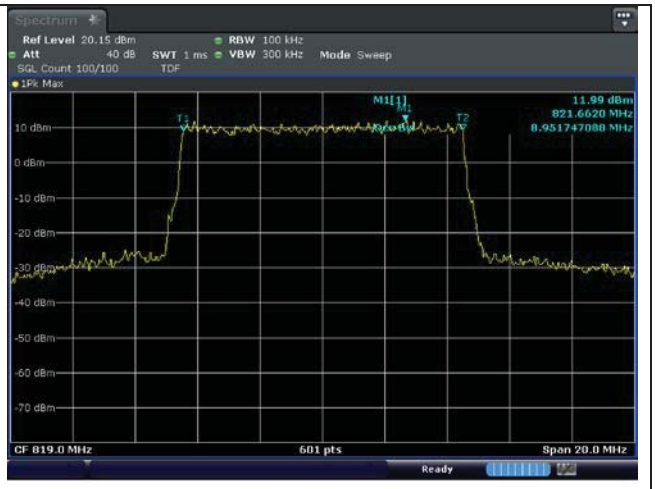


5 ㎒ QPSK Middle Channel - Full RB

5 ㎒ 16QAM Middle Channel - Full RB



10 ㎒ QPSK Middle Channel - Full RB

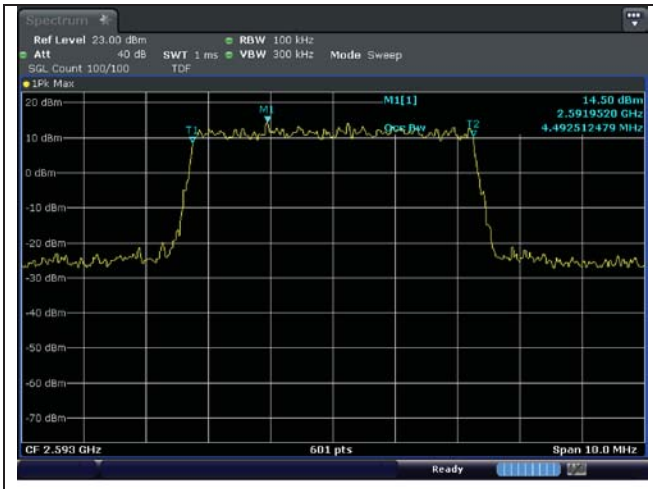


10 ㎒ 16QAM Middle Channel - Full RB

15 ㎒ QPSK Middle Channel - Full RB

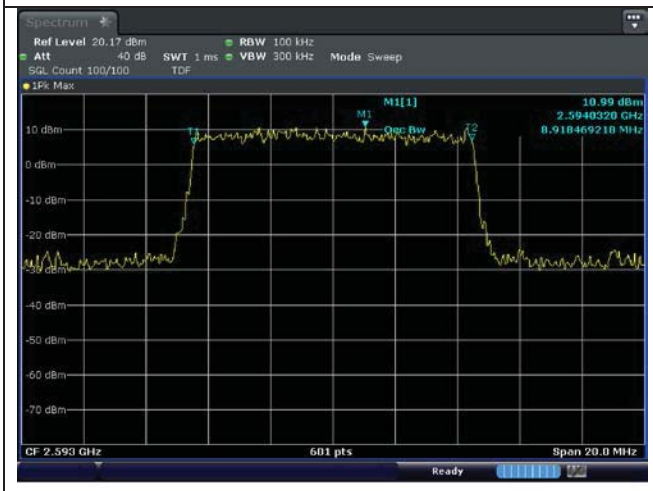
15 ㎒ 16QAM Middle Channel - Full RB

LTE band 41



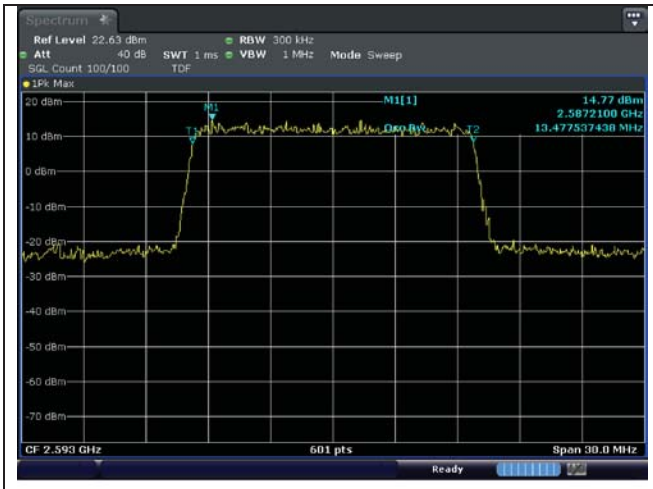
5 ㎒ QPSK Middle Channel - Full RB

5 ㎒ 16QAM Middle Channel - Full RB



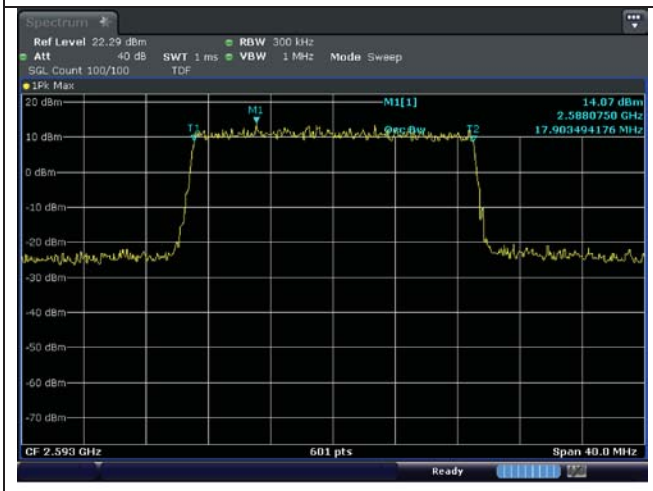
10 ㎒ QPSK Middle Channel - Full RB

10 ㎒ 16QAM Middle Channel - Full RB

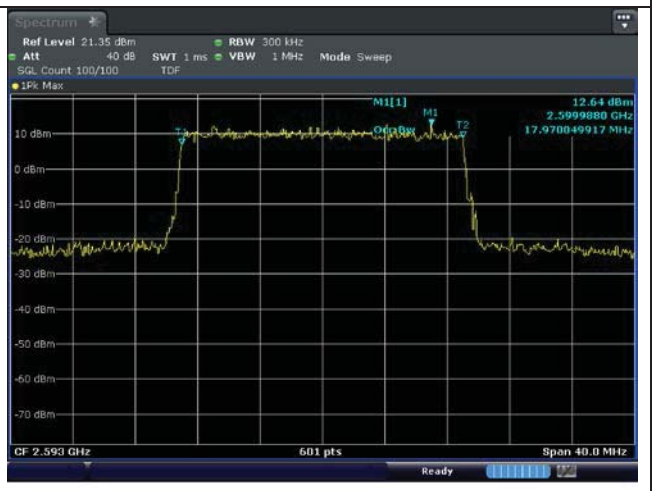


15 ㎒ QPSK Middle Channel - Full RB

15 ㎒ 16QAM Middle Channel - Full RB



20 ㎒ QPSK Middle Channel - Full RB



20 ㎒ 16QAM Middle Channel - Full RB

5. Peak-Average Ratio

5.1. Limit

- §22.913(d) Measurement of the ERP of Cellular base transmitters and repeaters must be made using an average power measurement technique. The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB.

- §24.232(d), power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

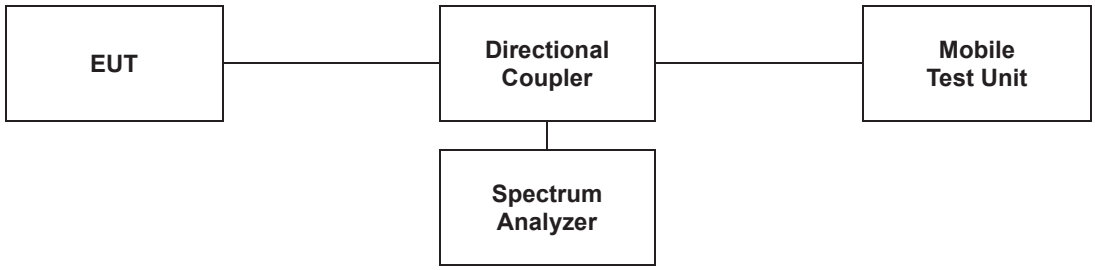
- §27.50(d)(5), power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

5.2. Test Procedure

The test follows section 5.2.3.4 of ANSI C63.26-2015.

See instrumentation-specific application literature for further guidance regarding use of the CCDF capability.
The following guidelines are offered for performing a CCDF measurement.

a. Set resolution/measurement bandwidth ≥ OBW or specified reference bandwidth.
b. Set the number of counts to a value that stabilizes the measured CCDF curve.
c. Set the measurement interval as follows:
   1) For continuous transmissions, set to greater of [10 x (number of points in sweep) x (transmission symbol period)] or 1 ms.
   2) For burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize. Set the measurement interval to a time that is less than or equal to the burst duration.
   3) If there are several carriers in a single antenna port, the peak power shall be determined for each individual carrier (by disabling the other carriers while measuring the required carrier) and the total peak power calculated from the sum of the individual carrier peak powers.
d. Record the maximum PAPR level associated with a probability of 0.1 %.
e. The peak power level is calculated form the sum of the PAPR value from step d) to the measured average power.



5.3 Test Results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

Band	Bandwidth (㎒)	Mode	Frequency (㎒)	PAR (dB)
2	1.4	16QAM	1 850.7	5.25
			1 880.0	5.94
			1 909.3	5.57
	3		1 851.5	5.59
			1 880.0	5.80
			1 908.5	5.42
	5		1 852.5	5.68
			1 880.0	5.57
			1 907.5	5.62
	10		1 855.0	5.59
			1 880.0	5.57
			1 905.0	5.54
	15		1 857.5	5.62
			1 880.0	5.65
			1 902.5	5.71
	20		1 860.0	5.71
			1 880.0	5.57
			1 900.0	5.65
4	1.4	16QAM	1 710.7	5.83
			1 732.5	5.51
			1 754.3	5.97
	3		1 711.5	5.51
			1 732.5	5.39
			1 753.5	5.83
	5		1 712.5	5.48
			1 732.5	5.28
			1 752.5	5.62
	10		1 715.0	5.59
			1 732.5	5.33
			1 750.0	5.48
	15		1 717.5	5.51
			1 732.5	5.30
			1 747.5	5.48
	20		1 720.0	5.48
			1 732.5	5.33
			1 745.0	5.39

Band	Bandwidth (㎒)	Modulation	Frequency (㎒)	PAR (dB)
7	5	16QAM	2 502.5	5.68
			2 535.0	5.48
			2 567.5	5.25
	10		2 505.0	5.83
			2 535.0	5.57
			2 565.0	5.54
	15		2 507.5	6.00
			2 535.0	5.51
			2 562.5	5.88
	20		2 510.0	6.03
			2 535.0	5.83
			2 560.0	6.14
12	1.4	16QAM	699.7	5.88
			707.5	6.35
			715.3	6.03
	3		700.5	5.68
			707.5	5.86
			714.5	5.83
12/17	5		701.5	5.86
			707.5	5.94
			713.5	5.74
	10		704.0	5.83
			707.5	6.03
			711.0	5.77
26/5 Part 22	1.4	16QAM	824.7	6.32
			836.5	6.17
			848.3	5.80
	3		825.5	5.88
			836.5	5.91
			847.5	5.65
	5		826.5	5.94
			836.5	6.03
			846.5	5.62
	10		829.0	6.00
			836.5	5.94
			844.0	5.91
26 Part 22	15		831.5	6.03
			841.5	5.91

Band	Bandwidth (㎒)	Modulation	Frequency (㎒)	PAR (dB)
26 Part 90	1.4	16QAM	814.7	6.12
			819.0	6.26
			823.3	6.58
	3		815.5	6.00
			819.0	5.88
			822.5	6.09
	5		816.5	6.12
			819.0	6.17
			821.5	6.09
	10		819.0	6.03
	15		821.5	6.06
41	5	16QAM	2 498.5	6.06
			2 593.0	5.86
			2 687.5	5.77
	10		2 501.0	5.86
			2 593.0	5.83
			2 685.0	5.77
	15		2 503.5	5.94
			2 593.0	5.83
			2 682.5	5.74
	20		2 506.0	5.80
			2 593.0	5.86
			2 680.0	5.80

- Test plots

LTE band 2

1.4 ㎒ Low Channel - Full RB

3 ㎒ Low Channel - Full RB

1.4 ㎒ Middle Channel - Full RB

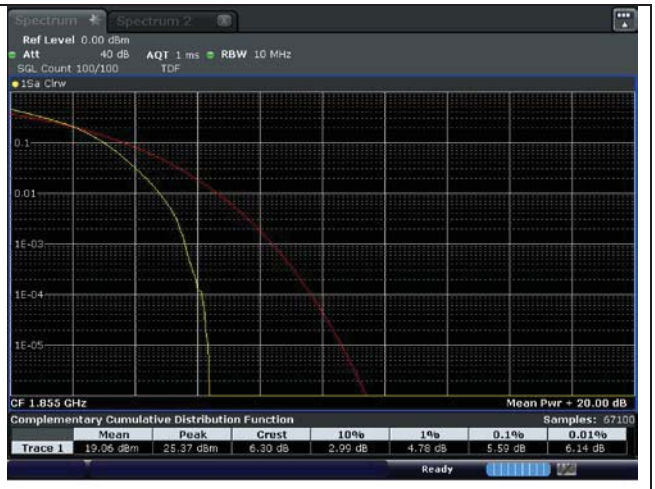
3 ㎒ Middle Channel - Full RB

1.4 ㎒ High Channel - Full RB

3 ㎒ High Channel - Full RB

LTE band 2

5 ㎒ Low Channel - Full RB



10 ㎒ Low Channel - Full RB

5 ㎒ Middle Channel - Full RB

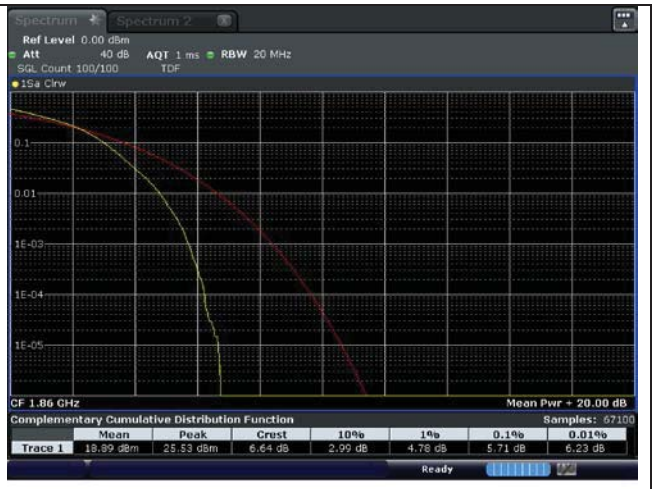
10 ㎒ Middle Channel - Full RB

5 ㎒ High Channel - Full RB

10 ㎒ High Channel - Full RB

LTE band 2

15 ㎒ Low Channel - Full RB



20 ㎒ Low Channel - Full RB

15 ㎒ Middle Channel - Full RB

20 ㎒ Middle Channel - Full RB

15 ㎒ High Channel - Full RB

20 ㎒ High Channel - Full RB