FCC RADIO TEST REPORT

FCC ID	:	**XMR2020EM160RGL2**
Equipment	:	**LTE-A Cat 16 M.2 Module**
Brand Name	:	**Quectel**
Model Name	:	**EM160R-GL**
Applicant	:	**Quectal Wireless Solutions Co., Ltd.** **Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233**
Manufacturer	:	**LCFC (HeFei) Electronics Technology Co., Ltd.** **No. 3188-1, Yungu Road (Hefei Export Processing Zone), Hefei Economics & Technology Development Area, Anhui, CHINA**
Standard	:	**FCC 47 CFR Part 2, 22(H), 24(E), 27, Part 90(R), Part 90(S)**

Equipment: Quectel EM160R-GL tested inside of Lenovo Notebook Computer.

The product was received on Oct. 12, 2023 and testing was performed from Oct. 25, 2023 to Nov. 13, 2023. 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 partial report apply exclusively to the tested model / sample. Without written approval from 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

Table of Contents

History of this test report

Report No.	Version	Description	Issue Date
FG3O1203A	01	Initial issue of report	Nov. 29, 2023
FG3O1203A	02	Revise Frequency List and section 3.2.1 This report is an updated version, replacing the report issued on Nov. 29, 2023.	Jan. 03, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
	§22.913 (a)(5) §90.635	Effective Radiated Power (Band 5) (Band 26)	Pass	
	§27.50 (b)(10) §27.50 (c)(10)	Effective Radiated Power (Band 12) (Band 13)		
	§24.232 (c) §27.50 (h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 7) (Band 38) (Band 41)		
	§27.50 (d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)		
	§27.50 (a)(3)	Effective Isotropic Radiated Power (Band 30)		
	§90.542 (a)(7)	Effective Radiated Power (Band 14)		
-	§24.232 (d) §27.50 (d)(5)	Peak-to-Average Ratio	-	See Note
-	§2.1049	Occupied Bandwidth	-	See Note
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2)(4) §27.53 (g) §27.53 (h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66)	-	See Note
	§2.1051 §27.53 (m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41)		
	§2.1051 §27.53 (a)(4)	Conducted Band Edge Measurement (Band 30)		
	§2.1051 §90.543 (e)(2)	Conducted Band Edge Measuremen (Band 14)		
-	§2.1051 §90.210 (n)	Emission Mask (Band 14)	-	See Note
	§2.1051 §90.691	Emission masks (Band 26)		

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (g) §27.53 (h) §90.691	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66)	-	See Note
	§2.1051 §27.53 (m)(4)	Conducted Spurious Emission (Band 7) (Band 38) (Band 41)		
	§2.1051 §27.53 (a)(4)	Conducted Spurious Emission (Band 30)		
	§2.1051 §90.543 (e)(3)	Conducted Spurious Emission (Band 14)		
-	§2.1055 §22.355 §24.235 §27.54 §90.539 (e) §90.691	Frequency Stability Temperature & Voltage	-	See Note
4.2	§2.1053 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (f) §27.53 (g) §27.53 (h) §90.691	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66)	Pass	2.29 dB under the limit at 6916.00 MHz
	§2.1051 §27.53 (m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)		
	§2.1053 §27.53 (a)(4)	Radiated Spurious Emission (Band 30)		
	§2.1053 §90.543 (e)(3) §90.543 (f)	Radiated Spurious Emission (Band 14)		

Remark:

1. For host device, Radiated Spurious Emission and Equivalent Isotropic Radiated Power are verified and complies with the limit in this test report.
2. For host device, the Conducted Output Power is no difference after compared to module (Model: EM160R-GL)

Conformity Assessment Condition:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account. 2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”.
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sheng Kuo

Report Producer: Clio Lo

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	LTE-A Cat 16 M.2 Module
Brand Name	Quectel
Model Name	EM160R-GL
FCC ID	XMR2020EM160RGL2
Sample 1	EUT with Host 1
Sample 2	EUT with Host 2
EUT supports Radios application	WCDMA/HSPA/LTE/GNSS
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer.
2. Equipment: Quetel EM160R-GL tested inside of Lenovo Notebook Computer.

The product was installed into Notebook Computer (Brand Name: Lenovo, Model Name: TP00151A) during test, and the host information was recorded in the following table.

Host Information	
Host 1	Host with Amphenol Antenna
Host 2	Host with Speed Taiwan Corporation Antenna

Support band and evaluated information	
Supported band	B2, B4, B5, B7, B12, B13, B14, B25, B26, B30, B38, B41, B66
Evaluated and Tested band	B2, B4, B5, B7, B12, B13, B14, B25, B26, B30, B38, B41, B66
Band covered information	Wider operating frequency band range covers narrower one when the power is worse as follows: ■ B26 cover B5 (Part 22) ■ B25 cover B2 (Part 24) ■ B41 cover B38 (Part 27) ■ B66 cover B4 (Part 27)

TDD band Power Class		
	PC3	**PC2**
B38	V	-
B41	V	V

WWAN Antenna Information for Host				
Main Antenna	**Manufacturer**	Amphenol	**Peak gain (dBi)**	LTE Band 2 : 0.79 LTE Band 4 : 1.04 LTE Band 5 : -0.35 LTE Band 7 : 1.77 LTE Band 12 : -1.19 LTE Band 13 : -0.22 LTE Band 14 : -0.05 LTE Band 25 : 0.65 LTE Band 26 : -0.01 LTE Band 30 : 0.97 LTE Band 38 : 2.00 LTE Band 41 : 1.83 LTE Band 66 : 1.15
	Part number	TKF113-16-000-R	**Type**	PIFA
	Manufacturer	Speed Taiwan Corporation	**Peak gain (dBi)**	LTE Band 2 : 0.83 LTE Band 4 : 1.16 LTE Band 5 : -0.43 LTE Band 7 : 1.75 LTE Band 12 : -1.19 LTE Band 13 : -0.13 LTE Band 14 : 0.00 LTE Band 25 : 0.61 LTE Band 26 :-0.11 LTE Band 30 : 0.96 LTE Band 38 : 1.93 LTE Band 41 : 1.78 LTE Band 66 : 1.28
	Part number	F-0G-JV-0228-001-00	**Type**	PIFA
MIMO 2 Antenna	**Manufacturer**	Amphenol	**Peak gain (dBi)**	LTE Band 2 : 1.95 LTE Band 4 : 1.88 LTE Band 7 : 1.52 LTE Band 25 : 1.94 LTE Band 30 :0.91 LTE Band 38 : 1.52 LTE Band 41 : 0.62 LTE Band 66 : 1.88
	Part number	TKF114-16-000-R	**Type**	PIFA
	Manufacturer	Speed Taiwan Corporation	**Peak gain (dBi)**	LTE Band 2 : 1.99 LTE Band 4 : 1.75 LTE Band 7 : 1.44 LTE Band 25 : 1.88 LTE Band 30 :0.83 LTE Band 38 : 1.64 LTE Band 41 : 0.71 LTE Band 66 : 1.75
	Part number	F-0G-JV-0228-002-00	**Type**	PIFA

Remark: The above EUT's information was declared by manufacturer. Please refer to Disclaimer in report summary.

1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard	
Tx Frequency	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 14: 790.5 MHz ~ 795.5 MHz LTE Band 25: 1850.7MHz ~ 1914.3 MHz LTE Band 26 (Part22H): 824.7 MHz ~ 848.3 MHz LTE Band 26 (Part90S): 814.7 MHz ~ 823.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz
Rx Frequency	LTE Band 2: 1930.7 MHz ~ 1989.3 MHz LTE Band 4: 2110.7 MHz ~ 2154.3 MHz LTE Band 5: 869.7 MHz ~ 893.3 MHz LTE Band 7: 2622.5MHz ~ 2687.5 MHz LTE Band 12: 729.7 MHz ~ 745.3 MHz LTE Band 13: 748.5 MHz ~ 753.5 MHz LTE Band 14: 760.5 MHz ~ 765.5 MHz LTE Band 25: 1930.7MHz ~ 1994.3 MHz LTE Band 26 (Part22H): 869.7 MHz ~ 893.3MHz LTE Band 26 (Part90S): 859.7 MHz ~ 868.3 MHz LTE Band 30: 2352.5 MHz ~ 2357.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 2110.7 MHz ~ 2199.3 MHz
Bandwidth	LTE Band 2: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7: 5MHz/ 10MHz / 15MHz / 20MHz LTE Band 12: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13: 5MHz / 10MHz LTE Band 14: 5MHz / 10MHz LTE Band 25: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 30 : 5MHz / 10MHz LTE Band 38: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz

Product Specification is subject to this standard	
Maximum Output Power to Antenna	LTE Band 2 : 24.42 dBm LTE Band 4 : 24.18 dBm LTE Band 5 : 24.39 dBm LTE Band 7 : 24.52 dBm LTE Band 12 : 24.38 dBm LTE Band 13 : 24.26 dBm LTE Band 14 : 24.11 dBm LTE Band 25 : 24.45 dBm LTE Band 26 : 24.39 dBm for Part22H LTE Band 26 : 24.39 dBm for Part90S LTE Band 30 : 22.26 dBm LTE Band 38 : 24.48 dBm LTE Band 41 : 23.22 dBm LTE Band 41 : 25.92 dBm for HPUE LTE Band 66 : 24.20 dBm LTE Band 41C : 24.31 dBm
Type of Modulation	QPSK / 16QAM / 64QAM

1.3 Modification of EUT

No modifications made to the EUT during the testing.

1.4 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333
Test Site No.	**Sporton Site No.**
	TH03-HY
Test Engineer	Bryant Liu
Temperature (℃)	21.1~21.9
Relative Humidity (%)	49.7~51.2

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010
Test Site No.	**Sporton Site No.**
	03CH12HY (TAF Code: 3786)
Test Engineer	Jesse Fan, Tim Lee and Wilson Wu
Temperature (℃)	20~25
Relative Humidity (%)	50~60
Remark	The Radiated Spurious Emission test item subcontracted to Sporton International Inc. Wensan Laboratory.

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

FCC Designation No.: TW1190 and TW3786

1.5 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, 22(H), 24(E), 27, Part 90(R), Part 90(S)
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- FCC KDB 414788 D01 Radiated Test Site v01r01.

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. 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 in Tablet Mode (three orthogonal axis (X: flat, Y: portrait, Z: landscape)) and Notebook Mode, and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and only the worst case emissions were reported in this report..

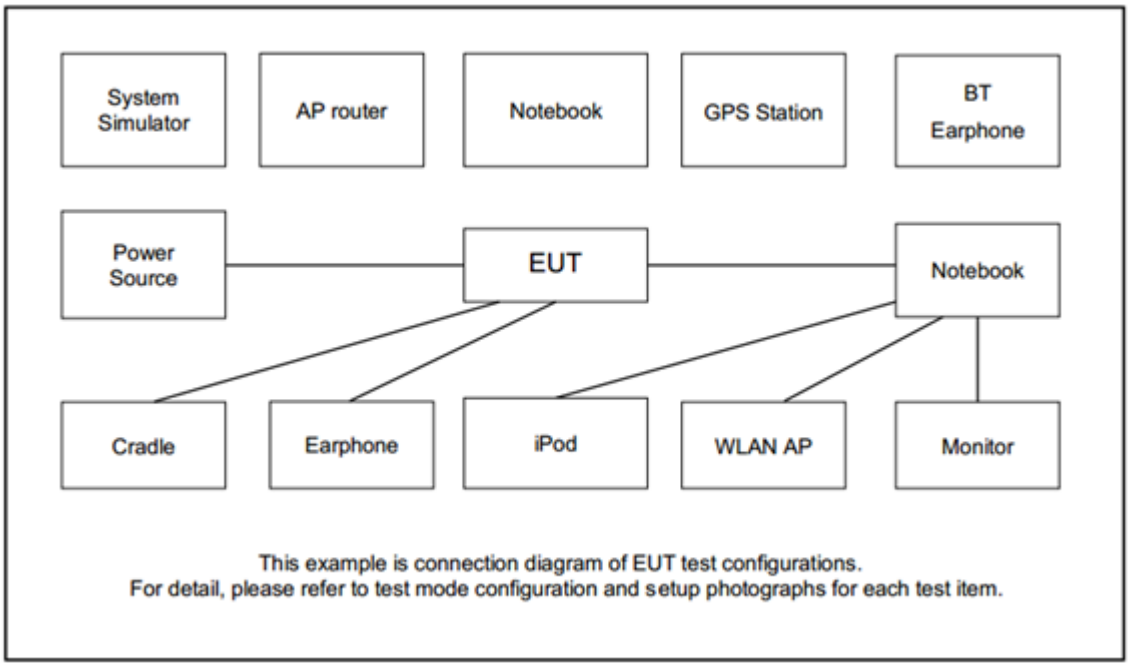
Modulation Type	Modulation
A	QPSK
B	16QAM
C	64QAM

Test Item	Modulation Type	Bandwidth	RB Size	Channel
Conducted Power	A, B	All	1, Half, Full	L, M, H
EIRP	A, B	All	1, Half, Full	L, M, H
RSE	A	20 MHz or less	1RB	L, M, H

Remark:

1. Evaluated all the transmitter signal and reporting worst-case configuration among all modulation types.
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.
3. The maximum power of QPSK is higher than other modulation(16QAM/64QAM), therefore, according to engineering evaluation , we choose higher power (QPSK) to perform all tests and show in the report.
4. All the radiated test cases were performed with AC Adapter 1 and Battery 1.

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.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
2.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0m	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 5 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3

LTE Band 7 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5

LTE Band 12 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3

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 14 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
10	Channel	-	23330	-
	Frequency	-	793	-
5	Channel	23305	23330	23355
	Frequency	790.5	793	795.5

LTE Band 25 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	26140	26340	26590
	Frequency	1860	1880	1905
15	Channel	26115	26340	26615
	Frequency	1857.5	1880	1907.5
10	Channel	26090	26340	26640
	Frequency	1855	1880	1910
5	Channel	26065	26340	26665
	Frequency	1852.5	1880	1912.5
3	Channel	26055	26340	26675
	Frequency	1851.5	1880	1913.5
1.4	Channel	26047	26340	26683
	Frequency	1850.7	1880	1914.3

LTE Band 26 Channel and Frequency List (Part22)				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
15	Channel	26865	26915	26965
	Frequency	831.5	836.5	841.5
10	Channel	26840	26915	26990
	Frequency	829.0	836.5	844.0
5	Channel	26815	26915	27015
	Frequency	826.5	836.5	846.5
3	Channel	26805	26915	27025
	Frequency	825.5	836.5	847.5
1.4	Channel	26797	26915	27033
	Frequency	824.7	836.5	848.3

LTE Band 26 Channel and Frequency List (Part90 S)				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
10	Channel	-	26740	-
	Frequency	-	819	-
5	Channel	26715	26740	26765
	Frequency	816.5	819	821.5
3	Channel	26705	26740	26775
	Frequency	815.5	819	822.5
1.4	Channel	26697	26740	26783
	Frequency	814.7	819	823.3

LTE Band 26 Channel and Frequency List (Part90 S)				
BW [MHz]	**Channel/Frequency(MHz)**	**cross-rule channels**	**cross-rule channels**	**-**
15	Channel	26765	26790	-
	Frequency	821.5	824	-
10	Channel	-	26790	-
	Frequency	-	824	-
5	Channel	-	26790	-
	Frequency	-	824	-
3	Channel	-	26790	-
	Frequency	-	824	-
1.4	Channel	-	26790	-
	Frequency	-	824	-

LTE Band 30 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
10	Channel	-	27710	-
	Frequency	-	2310	-
5	Channel	27685	27710	27735
	Frequency	2307.5	2310	2312.5

LTE Band 38 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	37850	38000	38150
	Frequency	2580.0	2595.0	2610.0
15	Channel	37825	38000	38175
	Frequency	2577.5	2595.0	2612.5
10	Channel	37800	38000	38200
	Frequency	2575.0	2595.0	2615.0
5	Channel	37775	38000	38225
	Frequency	2572.5	2595.0	2617.5

LTE Band 41 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	39750	40620	41490
	Frequency	2506.0	2593.0	2680.0
15	Channel	39725	40620	41515
	Frequency	2503.5	2593.0	2682.5
10	Channel	39700	40620	41540
	Frequency	2501.0	2593.0	2685.0
5	Channel	39675	40620	41565
	Frequency	2498.5	2593.0	2687.5

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

LTE Band 41C Channel and Frequency List_CA					
BW [MHz]	**Channel/Frequency(MHz)**		**Lowest**	**Middle**	**Highest**
20 + 20	PCC	Channel	39750	40521	41292
		Frequency	2506.0	2583.1	2660.2
	SCC	Channel	39948	40719	41490
		Frequency	2525.8	2602.9	2680.0
20 + 15	PCC	Channel	39750	40546	41341
		Frequency	2506.0	2585.6	2665.1
	SCC	Channel	39921	40717	41512
		Frequency	2523.1	2602.7	2682.2
15 + 20	PCC	Channel	39728	40523	41319
		Frequency	2503.8	2593.3	2662.9
	SCC	Channel	39899	40694	41490
		Frequency	2520.9	2600.4	2680.0
20 + 10	PCC	Channel	39750	40571	41391
		Frequency	2506.0	2588.1	2670.1
	SCC	Channel	39894	40715	41535
		Frequency	2520.4	2602.5	2684.5
10 + 20	PCC	Channel	39705	40526	41346
		Frequency	2501.5	2583.6	2665.6
	SCC	Channel	39849	40670	41490
		Frequency	2515.9	2598.0	2680.0

LTE Band 41C Channel and Frequency List_CA					
20 + 5	PCC	Channel	39750	40595	41440
		Frequency	2506.0	2590.5	2675.0
	SCC	Channel	39867	40712	41557
		Frequency	2517.7	2602.2	2686.7
5 + 20	PCC	Channel	39683	40528	41373
		Frequency	2499.3	2583.8	2668.3
	SCC	Channel	39800	40645	41490
		Frequency	2511.0	2595.5	2680.0
15 + 15	PCC	Channel	39725	40545	41365
		Frequency	2503.5	2585.5	2667.5
	SCC	Channel	39875	40695	41515
		Frequency	2518.5	2600.5	2682.5
10 + 15	PCC	Channel	39703	40549	41395
		Frequency	2501.3	2585.9	2670.5
	SCC	Channel	39823	40669	41515
		Frequency	2513.3	2597.9	2682.5
15 + 10	PCC	Channel	39725	40571	41417
		Frequency	2503.5	2588.1	2672.7
	SCC	Channel	39845	40691	41537
		Frequency	2515.5	2600.1	2684.7

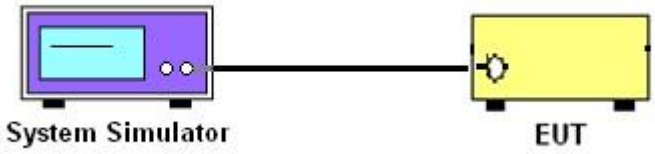
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.1.1 Test Setup

3.1.2 Conducted Output Power



3.1.3 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power and ERP/EIRP

3.2.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5, Band 26 (Part 22H)

The Output Power of mobile transmitters must not exceed 100 Watts for LTE Band 26 (Part 90S)

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12, Band 13, Band 14

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2, Band 25, Band 7, Band 38, Band 41

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4, Band 66

The EIRP of mobile transmitters must not exceed 250mW/5MHz for LTE Band 30

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.2.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

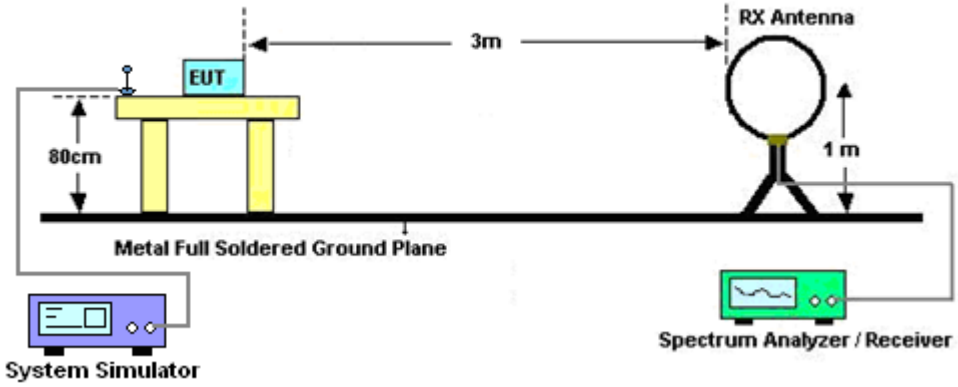
4 Radiated Test Items

4.1 Measuring Instruments

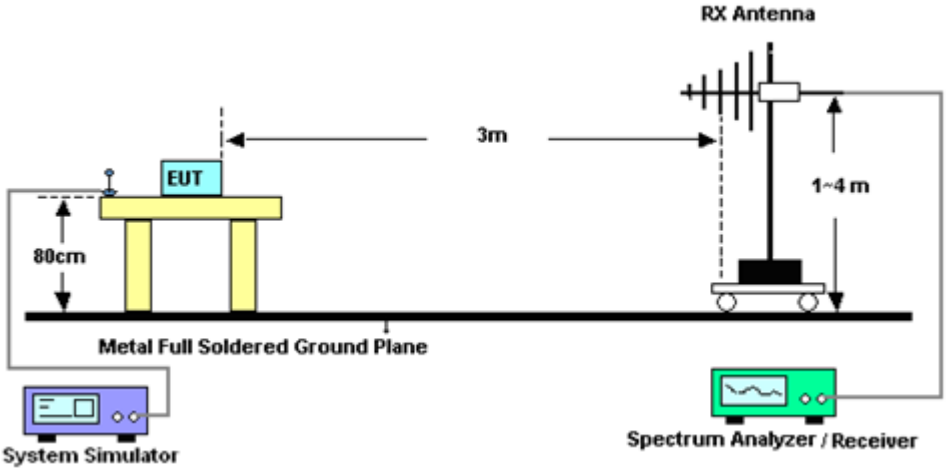
See list of measuring instruments of this test report.

4.1.1 Test Setup

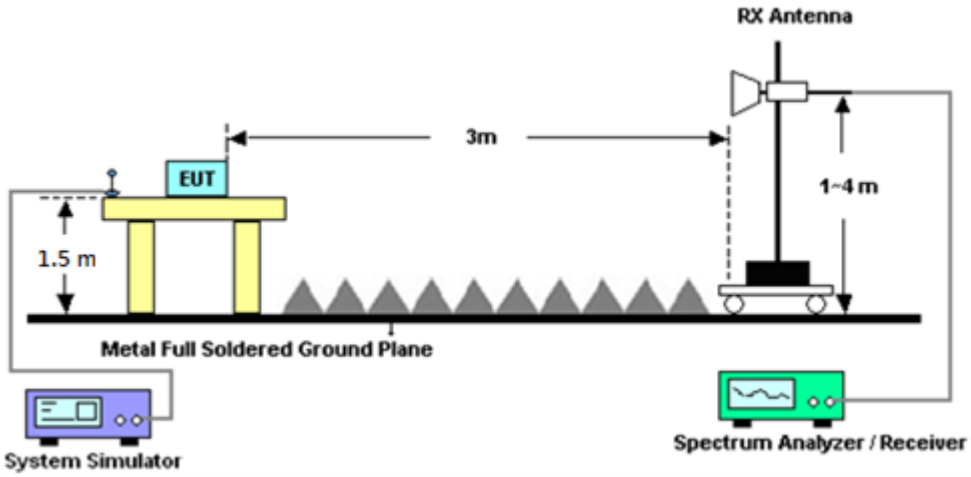
For radiated test below 30MHz



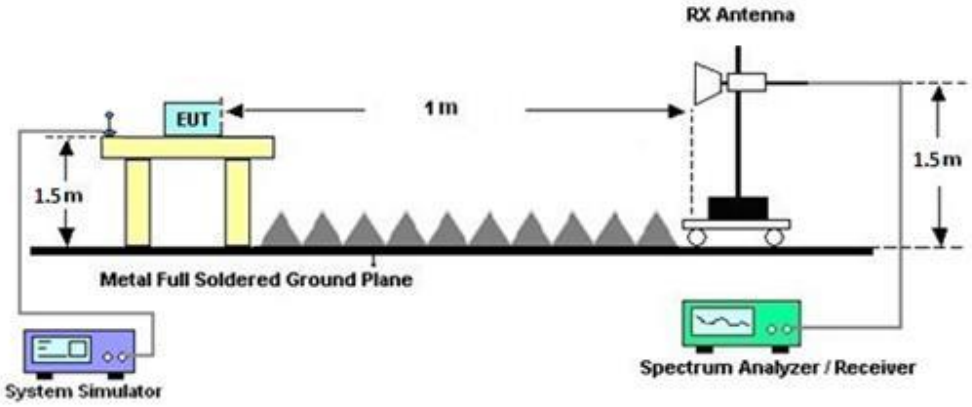
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

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.

4.2 Radiated Spurious Emission Measurement

4.2.1 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 7, 38, 41

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 55 + 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 30

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 70 + 10 log (P) dB.

For LTE Band 14

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics 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 the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

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

4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI C63.26-2015 section 5.5.4 Radiated measurement using the field strength method.

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was 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 one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. To convert spectrum reading E(dBuV/m) to EIRP(dBm)
7. EIRP(dBm) = Level (dBuV/m) + 20log(d) -104.77, where d is the distance at which filed strength limit is specified in the rules
8. Field Strength Level (dBm) = Spectrum Reading (dBm) + Antenna Factor + Cable Loss + Read Level - Preamp Factor.
9. ERP (dBm) = EIRP(dBm) -2.15The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
   For LTE Band 30

   The limit line is derived from 70 + 10log(P)dB below the transmitter power P(Watts)
   For LTE Band 7, 38, 41
   The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Feb. 28, 2023	Oct. 30, 2023~ Nov. 13, 2023	Feb. 27, 2024	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Nov. 10, 2022	Oct. 30, 2023~ Nov. 08, 2023	Nov. 09, 2023	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Nov. 03, 2023	Nov. 08, 2023~ Nov. 13, 2023	Nov. 02, 2024	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	40103 & 07	30MHz~1GHz	Apr. 23, 2023	Oct. 30, 2023~ Nov. 13, 2023	Apr. 22, 2024	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1328	1GHz~18GHz	Dec. 15, 2022	Oct. 30, 2023~ Nov. 13, 2023	Dec. 14, 2023	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02114	1GHz~18GHz	Jul. 31, 2023	Oct. 30, 2023~ Nov. 13, 2023	Jul. 30, 2024	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	1224	18GHz-40GHz	Jul. 10, 2023	Oct. 30, 2023~ Nov. 13, 2023	Jul. 09, 2024	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	00993	18GHz-40GHz	Nov. 24, 2022	Oct. 30, 2023~ Nov. 13, 2023	Nov. 23, 2023	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103A	161075	10MHz~1GHz	Mar. 21, 2023	Oct. 30, 2023~ Nov. 13, 2023	Mar. 20, 2024	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5GHz	May 23, 2023	Oct. 30, 2023~ Nov. 13, 2023	May 22, 2024	Radiation (03CH12-HY)
Preamplifier	E-INSTRUMENT TECH LTD.	ERA-100M-18G-56-01-A70	EC1900249	1GHz-18GHz	Dec. 21, 2022	Oct. 30, 2023~ Nov. 13, 2023	Dec. 20, 2023	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 07, 2022	Oct. 30, 2023~ Nov. 13, 2023	Dec. 06, 2023	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Jan. 10, 2023	Oct. 30, 2023~ Nov. 13, 2023	Jan. 09, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-900-1000-15000-60SS	SN12	1GHz High Pass Filter	Sep. 11, 2023	Oct. 30, 2023~ Nov. 13, 2023	Sep. 10, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN2	3GHz High Pass Filter	Mar. 14, 2023	Oct. 30, 2023~ Nov. 13, 2023	Mar. 13, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 07, 2023	Oct. 30, 2023~ Nov. 13, 2023	Mar. 06, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 20, 2022	Oct. 30, 2023~ Nov. 13, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Dec. 20, 2022	Oct. 30, 2023~ Nov. 13, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803953/2	30MHz~40GHz	Dec. 20, 2022	Oct. 30, 2023~ Nov. 13, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP210117	N/A	Oct. 19, 2023	Oct. 30, 2023~ Nov. 13, 2023	Oct. 18, 2024	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Oct. 30, 2023~ Nov. 13, 2023	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Oct. 30, 2023~ Nov. 13, 2023	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Oct. 30, 2023~ Nov. 13, 2023	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Oct. 30, 2023~ Nov. 13, 2023	N/A	Radiation (03CH12-HY)
Base Station (Measure)	Anritsu	MT8821C	6201664755	LTE FDD/TDD(with44), LTE-4CC DLCA/2CC ULCA, CatM1/NB1/NB2	Jul. 18, 2023	Oct. 25, 2023	Jul. 17, 2024	Conducted (TH03-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#B	1-18GHz	Jan. 06, 2023	Oct. 25, 2023	Jan. 05, 2024	Conducted (TH03-HY)

6 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.07 dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.63 dB**

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.14 dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power & ERP/EIRP)

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.36	24.42	24.38	25.25	0.3350
20	1	0	16-QAM	23.33	23.40	23.33	24.23	0.2649
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	24.28	24.33	24.32	25.16	0.3281
15	1	0	16-QAM	23.26	23.31	23.26	24.14	0.2594
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.33	24.36	24.32	25.19	0.3304
10	1	0	16-QAM	23.22	23.33	23.33	24.16	0.2606
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.36	24.35	24.30	25.19	0.3304
5	1	0	16-QAM	23.22	23.38	23.30	24.21	0.2636
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	24.35	24.42	24.30	25.25	0.3350
3	1	0	16-QAM	23.27	23.34	23.32	24.17	0.2612
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	24.19	24.16	24.08	25.08	0.3221
1.4	1	0	16-QAM	23.40	23.46	23.32	24.29	0.2685
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.65 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.45	24.41	24.43	25.10	0.3236
20	1	0	16-QAM	23.71	23.72	23.64	24.37	0.2735
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.65 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	24.37	24.36	24.35	25.03	0.3184
15	1	0	16-QAM	23.68	23.68	23.54	24.33	0.2710
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.65 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.35	24.35	24.32	25.00	0.3162
10	1	0	16-QAM	23.63	23.71	23.56	24.36	0.2729
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.65 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.38	24.39	24.35	25.04	0.3192
5	1	0	16-QAM	23.66	23.69	23.54	24.34	0.2716
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.65 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	24.33	24.38	24.35	25.03	0.3184
3	1	0	16-QAM	23.64	23.61	23.54	24.29	0.2685
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.65 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	24.24	24.24	24.08	24.99	0.3155
1.4	1	0	16-QAM	23.48	23.52	23.29	24.22	0.2642
Limit	EIRP < 2W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.16 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.15	24.17	24.18	25.34	0.3420
20	1	0	16-QAM	22.80	22.78	22.88	24.51	0.2825
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.16 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.51	23.55	23.48	25.28	0.3373
15	1	0	16-QAM	22.75	22.70	22.81	24.45	0.2786
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.16 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.56	23.54	23.51	25.32	0.3404
10	1	0	16-QAM	22.78	22.78	22.79	24.48	0.2805
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.16 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.55	23.50	23.55	25.27	0.3365
5	1	0	16-QAM	22.69	22.75	22.79	24.47	0.2799
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.16 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.53	23.58	23.51	25.30	0.3388
3	1	0	16-QAM	22.73	22.76	22.88	24.49	0.2812
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.16 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.98	23.99	23.91	25.28	0.3373
1.4	1	0	16-QAM	23.21	23.29	23.21	24.48	0.2805
Limit	EIRP < 1W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = -0.35 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	24.23	24.39	24.29	21.89	0.1545
10	1	0	16-QAM	23.55	23.63	23.57	21.15	0.1303
Limit	ERP < 7W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = -0.35 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	24.15	24.30	24.19	21.80	0.1514
5	1	0	16-QAM	23.54	23.60	23.47	21.11	0.1291
Limit	ERP < 7W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = -0.35 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	24.21	24.32	24.26	21.82	0.1521
3	1	0	16-QAM	23.54	23.55	23.54	21.09	0.1285
Limit	ERP < 7W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = -0.35 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	24.21	24.35	24.21	21.85	0.1531
1.4	1	0	16-QAM	23.41	23.44	23.42	21.06	0.1276
Limit	ERP < 7W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.77 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.34	24.24	24.52	26.29	0.4256
20	1	0	16-QAM	23.59	23.54	22.81	25.56	0.3597
Limit	EIRP < 2W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.77 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	24.26	24.20	24.43	26.20	0.4169
15	1	0	16-QAM	23.51	23.52	22.74	25.47	0.3524
Limit	EIRP < 2W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.77 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.30	24.18	24.44	26.24	0.4207
10	1	0	16-QAM	23.50	23.44	22.80	25.52	0.3565
Limit	EIRP < 2W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.77 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.25	24.23	24.46	26.23	0.4198
5	1	0	16-QAM	23.53	23.53	22.72	25.48	0.3532
Limit	EIRP < 2W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -1.19 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	24.25	24.30	24.38	21.04	0.1271
10	1	0	16-QAM	23.47	23.46	23.48	20.17	0.1040
Limit	ERP < 3W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -1.19 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	24.24	24.23	24.30	20.96	0.1247
5	1	0	16-QAM	23.37	23.43	23.42	20.09	0.1021
Limit	ERP < 3W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -1.19 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	24.21	24.26	24.30	20.96	0.1247
3	1	0	16-QAM	23.43	23.37	23.44	20.10	0.1023
Limit	ERP < 3W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -1.19 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	24.08	24.17	24.16	20.96	0.1247
1.4	1	0	16-QAM	23.30	23.39	23.39	20.23	0.1054
Limit	ERP < 3W			Result			Pass	

LTE Band 13 Maximum Average Power [dBm] (GT - LC = -0.13 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	-	24.26	-	21.98	0.1578
10	1	0	16-QAM		23.49		21.21	0.1321
Limit	ERP < 3W			Result			Pass	

LTE Band 13 Maximum Average Power [dBm] (GT - LC = -0.13 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	24.19	24.23	24.25	21.97	0.1574
5	1	0	16-QAM	23.34	23.33	23.44	21.27	0.1340
Limit	ERP < 3W			Result			Pass	

LTE Band 26 (Part22H) Maximum Average Power [dBm] (GT - LC = -0.01 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	24.39	24.34	24.30	22.23	0.1671
15	1	0	16-QAM	23.63	23.60	23.56	21.50	0.1413
Limit	ERP < 7W			Result			Pass	

LTE Band 26 (Part22H) Maximum Average Power [dBm] (GT - LC = -0.01 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	24.29	24.29	24.26	22.20	0.1660
10	1	0	16-QAM	23.62	23.56	23.54	21.47	0.1403
Limit	ERP < 7W			Result			Pass	

LTE Band 26 (Part22H) Maximum Average Power [dBm] (GT - LC = -0.01 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	24.31	24.26	24.20	22.19	0.1656
5	1	0	16-QAM	23.58	23.52	23.49	21.44	0.1393
Limit	ERP < 7W			Result			Pass	

LTE Band 26 (Part22H) Maximum Average Power [dBm] (GT - LC = -0.01 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	24.30	24.32	24.21	22.16	0.1644
3	1	0	16-QAM	23.55	23.55	23.52	21.46	0.1400
Limit	ERP < 7W			Result			Pass	

LTE Band 26 (Part22H) Maximum Average Power [dBm] (GT - LC = -0.01 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	24.20	24.19	24.08	22.19	0.1656
1.4	1	0	16-QAM	23.47	23.45	23.34	21.42	0.1387
Limit	ERP < 7W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = 2 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.41	24.40	24.48	26.48	0.4446
20	1	0	16-QAM	23.66	23.64	23.66	25.72	0.3733
Limit	EIRP < 2W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = 2 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	24.40	24.34	24.39	26.40	0.4365
15	1	0	16-QAM	23.63	23.58	23.64	25.64	0.3664
Limit	EIRP < 2W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = 2 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.36	24.38	24.38	26.38	0.4345
10	1	0	16-QAM	23.58	23.54	23.60	25.66	0.3681
Limit	EIRP < 2W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = 2 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.33	24.37	24.43	26.43	0.4395
5	1	0	16-QAM	23.65	23.54	23.64	25.65	0.3673
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.22	23.08	23.04	25.05	0.3199
20	1	0	16-QAM	22.13	21.64	21.76	23.99	0.2506
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.12	23.04	23.02	24.95	0.3126
15	1	0	16-QAM	22.03	21.54	21.68	23.95	0.2483
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.12	23.02	22.96	24.95	0.3126
10	1	0	16-QAM	22.03	21.59	21.71	23.91	0.2460
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.21	22.98	22.96	25.04	0.3192
5	1	0	16-QAM	22.12	21.61	21.75	23.95	0.2483
Limit	EIRP < 2W			Result			Pass	

LTE Band 41(HPUE) Maximum Average Power [dBm] (GT - LC = 1.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	25.92	25.68	25.84	27.75	0.5957
20	1	0	16-QAM	25.19	24.67	24.87	27.02	0.5035
Limit	EIRP < 2W			Result			Pass	

LTE Band 41(HPUE) Maximum Average Power [dBm] (GT - LC = 1.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	25.91	25.60	25.76	27.74	0.5943
15	1	0	16-QAM	25.12	24.63	24.79	26.95	0.4955
Limit	EIRP < 2W			Result			Pass	

LTE Band 41(HPUE) Maximum Average Power [dBm] (GT - LC = 1.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	25.82	25.65	25.76	27.70	0.5888
10	1	0	16-QAM	25.11	24.58	24.86	26.94	0.4943
Limit	EIRP < 2W			Result			Pass	

LTE Band 41(HPUE) Maximum Average Power [dBm] (GT - LC = 1.83 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	25.91	25.58	25.77	27.74	0.5943
5	1	0	16-QAM	25.10	24.58	24.80	26.96	0.4966
Limit	EIRP < 2W			Result			Pass	

LTE Band 30 Maximum Average Power [dBm] (GT - LC = 0.97 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	-	22.26	-	23.23	0.2104
10	1	0	16-QAM		21.52		22.49	0.1774
Limit	EIRP < 250mW/5MHz			Result			Pass	

Total EIRP power is less than partial EIRP limit 250 mW/5MHz.

LTE Band 30 Maximum Average Power [dBm] (GT - LC = 0.97 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	22.21	22.23	22.24	23.21	0.2094
5	1	0	16-QAM	21.38	21.36	21.42	22.49	0.1774
Limit	EIRP < 250mW/5MHz			Result			Pass	

Total EIRP power is less than partial EIRP limit 250 mW/5MHz.

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.28 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.71	23.83	24.20	25.48	0.3532
20	1	0	16-QAM	23.31	23.35	23.40	24.68	0.2938
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.28 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.66	23.82	24.14	25.42	0.3483
15	1	0	16-QAM	23.21	23.32	23.35	24.63	0.2904
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.28 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.65	23.78	24.17	25.45	0.3508
10	1	0	16-QAM	23.23	23.35	23.38	24.66	0.2924
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.28 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.65	23.82	24.17	25.45	0.3508
5	1	0	16-QAM	23.28	23.33	23.38	24.66	0.2924
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.28 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.67	23.74	24.15	25.43	0.3491
3	1	0	16-QAM	23.27	23.25	23.33	24.61	0.2891
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.28 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.83	23.81	23.47	25.28	0.3373
1.4	1	0	16-QAM	23.08	23.06	22.72	24.47	0.2799
Limit	EIRP < 1W			Result			Pass	

LTE Band 14 Maximum Average Power [dBm] (GT - LC = 0 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	-	24.11	-	21.96	0.1570
10	1	0	16-QAM		23.37		21.22	0.1324
Limit	ERP < 3W			Result			Pass	

LTE Band 14 Maximum Average Power [dBm] (GT - LC = 0 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	24.09	24.05	24.02	21.94	0.1563
5	1	0	16-QAM	23.28	23.31	23.29	21.20	0.1318
Limit	ERP < 3W			Result			Pass	

LTE Band 26 (Part90S) Maximum Average Power [dBm] (GT - LC = -0.01 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	24.39	-	-	22.23	0.1671
15	1	0	16-QAM	23.63	-	-	21.49	0.1409
Limit	Power < 100W			Result			Pass	

LTE Band 26 (Part90S) Maximum Average Power [dBm] (GT - LC = -0.01 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	-	24.29	-	22.13	0.1633
10	1	0	16-QAM	-	23.56	-	21.47	0.1403
Limit	Power < 100W			Result			Pass	

LTE Band 26 (Part90S) Maximum Average Power [dBm] (GT - LC = -0.01 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	24.31	24.36	24.33	22.22	0.1667
5	1	0	16-QAM	23.58	23.56	23.63	21.47	0.1403
Limit	Power < 100W			Result			Pass	

LTE Band 26 (Part90S) Maximum Average Power [dBm] (GT - LC = -0.01 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	24.30	24.30	24.27	22.19	0.1656
3	1	0	16-QAM	23.55	23.65	23.55	21.53	0.1422
Limit	Power < 100W			Result			Pass	

LTE Band 26 (Part90S) Maximum Average Power [dBm] (GT - LC = -0.01 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	24.20	24.16	24.10	22.22	0.1667
1.4	1	0	16-QAM	23.47	23.47	23.38	21.42	0.1387
Limit	Power < 100W			Result			Pass	

LTE Band 41C_CA Maximum Average Power [dBm] (GT - LC = 1.83 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
20+20	1	99	1	0	QPSK	23.98	24.25	24.31	26.14	0.4111
20+20	1	99	1	0	16-QAM	22.89	23.21	23.32	25.15	0.3273
20+15	1	99	1	0	QPSK	24.30	24.30	24.30	26.13	0.4102
20+15	1	99	1	0	16-QAM	23.82	23.78	23.74	25.65	0.3673
15+20	1	74	1	0	QPSK	24.30	24.30	24.30	26.13	0.4102
15+20	1	74	1	0	16-QAM	23.75	23.74	23.93	25.76	0.3767
Limit	EIRP < 2W					Result			Pass	

LTE Band 41C_CA Maximum Average Power [dBm] (GT - LC = 1.83 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
20+10	1	99	1	0	QPSK	24.30	24.30	24.30	26.13	0.4102
20+10	1	99	1	0	16-QAM	23.82	23.83	23.67	25.66	0.3681
10+20	1	49	1	0	QPSK	24.30	24.30	24.30	26.13	0.4102
10+20	1	49	1	0	16-QAM	23.78	23.72	23.89	25.72	0.3733
20+5	1	99	1	0	QPSK	24.30	24.30	24.30	26.13	0.4102
20+5	1	99	1	0	16-QAM	23.91	24.05	24.10	25.93	0.3917
Limit	EIRP < 2W					Result			Pass	

LTE Band 41C_CA Maximum Average Power [dBm] (GT - LC = 1.83 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
5+20	1	24	1	0	QPSK	24.29	24.30	24.30	26.13	0.4102
5+20	1	24	1	0	16-QAM	23.65	23.68	23.65	25.51	0.3556
15+10	1	74	1	0	QPSK	24.30	24.30	24.30	26.13	0.4102
15+10	1	74	1	0	16-QAM	23.84	23.86	23.71	25.69	0.3707
10+15	1	49	1	0	QPSK	24.30	24.30	24.30	26.13	0.4102
10+15	1	49	1	0	16-QAM	23.79	23.77	23.75	25.62	0.3648
Limit	EIRP < 2W					Result			Pass	

LTE Band 41C_CA Maximum Average Power [dBm] (GT - LC = 1.83 dB)										
15+15	1	74	1	0	QPSK	24.30	24.30	24.30	26.13	0.4102
15+15	1	74	1	0	16-QAM	23.77	23.76	23.73	25.60	0.3631
Limit	EIRP < 2W					Result			Pass	

Appendix B. Test Results of Radiated Test

B.1. Summary of each worse mode

<Sample 1>

Part	Mode	Ch	Freq (MHz)	Level (dBm)	Detector	Ant Factor (dB/m)	Amp\Cbl (dB)	Filter (dB)	EIRP CF (dB)	Reading (dBuV)	Limit (dBm)	Margin (dB)	Pol	Ant
Part 24E	1	L	7404.000	-45.52	RMS	36.70	-22.24	0.63	-95.23	34.62	-13.00	-32.52	H	Main
Part 27F	1	H	1565.000	-60.07	RMS	25.60	-28.43	0.60	-95.23	37.39	-42.15	-17.92	V	Main
Part 27F	2	M	3110.000	-54.41	RMS	29.78	-25.58	0.30	-95.23	36.32	-13.00	-41.41	V	Main
Part 27D	1	L	6916.000	-43.14	RMS	36.00	-53.07	0.72	-95.23	68.44	-40.00	-3.14	V	Main
Part 27D	2	M	6916.000	-42.29	RMS	36.00	-53.07	0.72	-95.23	69.29	-40.00	-2.29	V	Main
Part 27M	1	H	8013.000	-38.19	RMS	37.30	-21.99	0.95	-95.23	40.78	-25.00	-13.19	V	Main

<Sample 2>

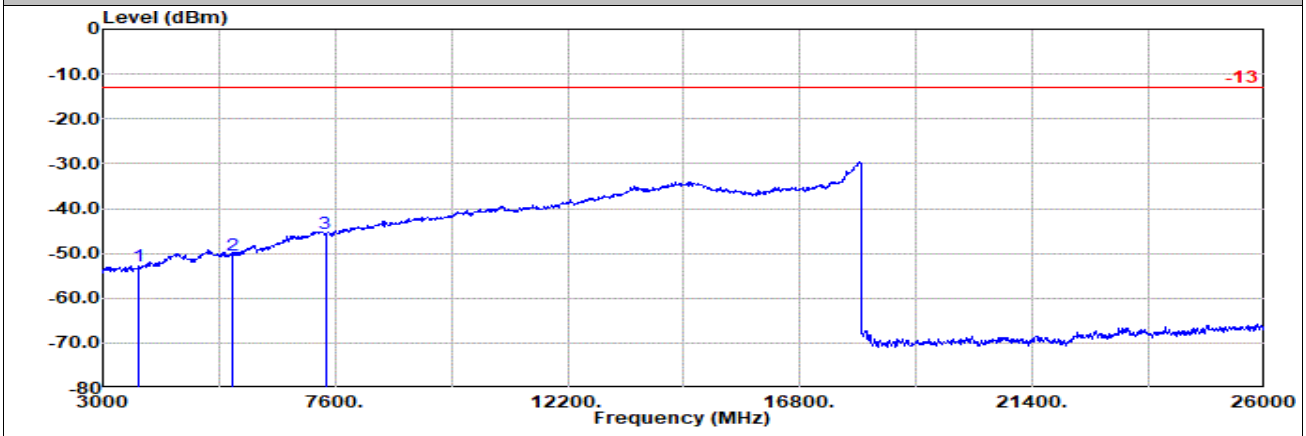
Part	Mode	Ch	Freq (MHz)	Level (dBm)	Detector	Ant Factor (dB/m)	Amp\Cbl (dB)	Filter (dB)	EIRP CF (dB)	Reading (dBuV)	Limit (dBm)	Margin (dB)	Pol	Ant
Part 27F	1	H	1565.000	-60.07	RMS	25.60	-28.43	0.60	-95.23	37.39	-42.15	-17.92	V	Main
Part 27F	2	M	3110.000	-54.41	RMS	29.78	-25.58	0.30	-95.23	36.32	-13.00	-41.41	V	Main

Main

Part 24E Mode 1

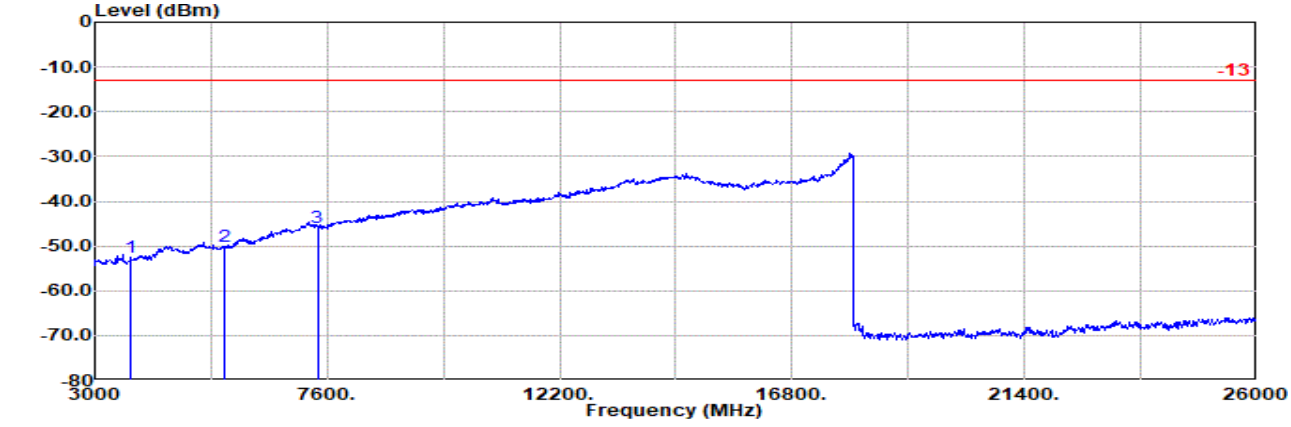
LTE B25 20M Ch26140 1RB0 QPSK

L



Site : 03CH12-HY
Condition: -13 3m 9120D-02114-230731 Horizontal
: LTE Band 25 20M Ch26140 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3702.00	-52.75	RMS	29.71	-24.09	1.14	-95.23	35.72	-13.00	-39.75	Horizontal
2	5553.00	-50.29	RMS	33.11	-23.30	0.67	-95.23	34.46	-13.00	-37.29	Horizontal
3	7404.00	-45.52	RMS	36.70	-22.24	0.63	-95.23	34.62	-13.00	-32.52	Horizontal



Site : 03CH12-HY
Condition: -13 3m 9120D-02114-230731 Vertical
: LTE Band 25 20M Ch26140 1RB0 QPSK

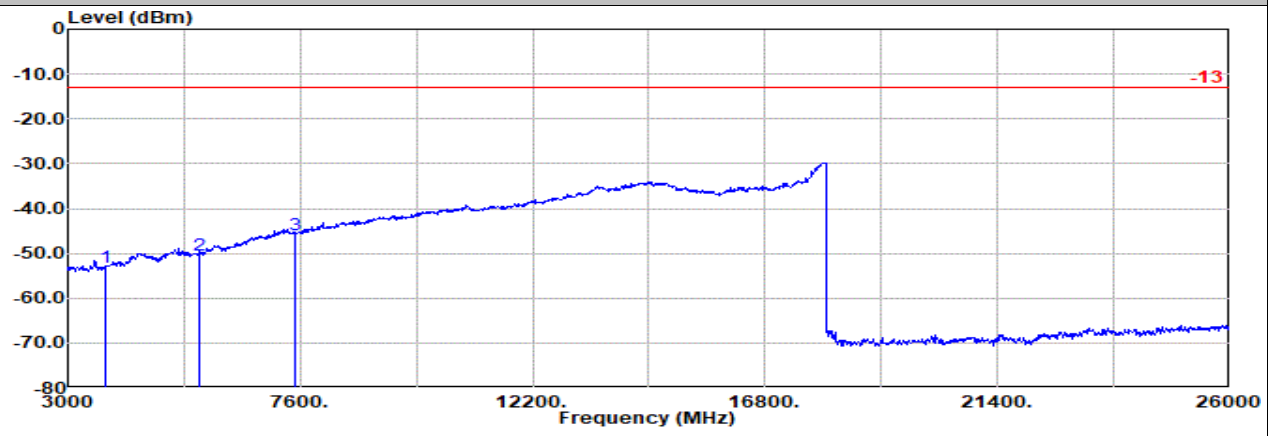
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3702.00	-52.46	RMS	29.71	-24.09	1.14	-95.23	36.01	-13.00	-39.46	Vertical
2	5553.00	-50.23	RMS	33.11	-23.30	0.67	-95.23	34.52	-13.00	-37.23	Vertical
3	7404.00	-45.77	RMS	36.70	-22.24	0.63	-95.23	34.37	-13.00	-32.77	Vertical

Main

Part 24E Mode 1

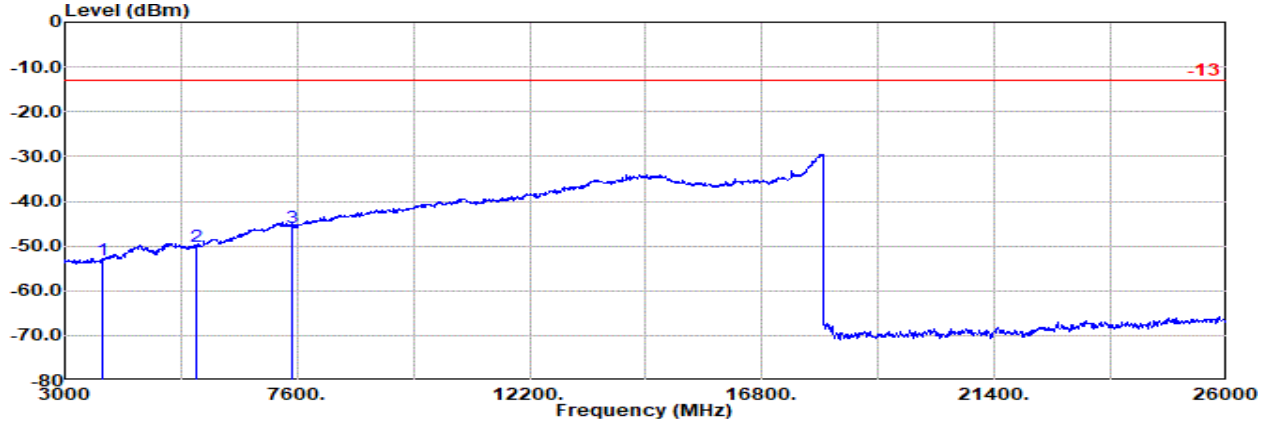
LTE B25 20M Ch26340 1RB0 QPSK

M



Site : 03CH12-HY
Condition: -13 3m 9120D-02114-230731 Horizontal
: LTE Band 25 20M Ch26340 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3742.00	-53.27	RMS	29.87	-24.01	1.10	-95.23	35.00	-13.00	-40.27	Horizontal
2	5613.00	-50.33	RMS	33.20	-23.32	0.63	-95.23	34.39	-13.00	-37.33	Horizontal
3	7484.00	-45.76	RMS	36.56	-22.20	0.69	-95.23	34.42	-13.00	-32.76	Horizontal



Site : 03CH12-HY
Condition: -13 3m 9120D-02114-230731 Vertical
: LTE Band 25 20M Ch26340 1RB0 QPSK

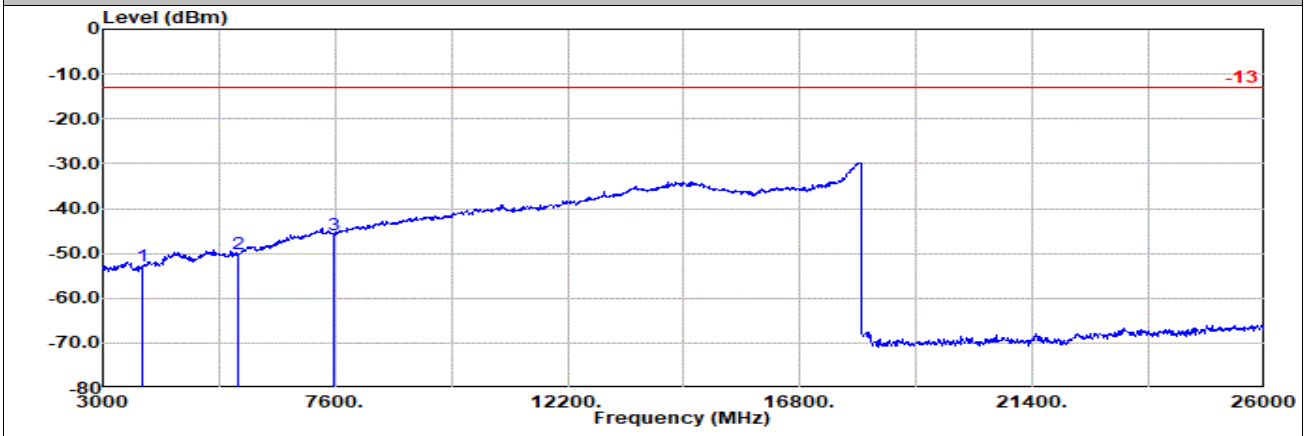
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3742.00	-53.18	RMS	29.87	-24.01	1.10	-95.23	35.09	-13.00	-40.18	Vertical
2	5613.00	-50.13	RMS	33.20	-23.32	0.63	-95.23	34.59	-13.00	-37.13	Vertical
3	7484.00	-45.96	RMS	36.56	-22.20	0.69	-95.23	34.22	-13.00	-32.96	Vertical

Main

Part 24E Mode 1

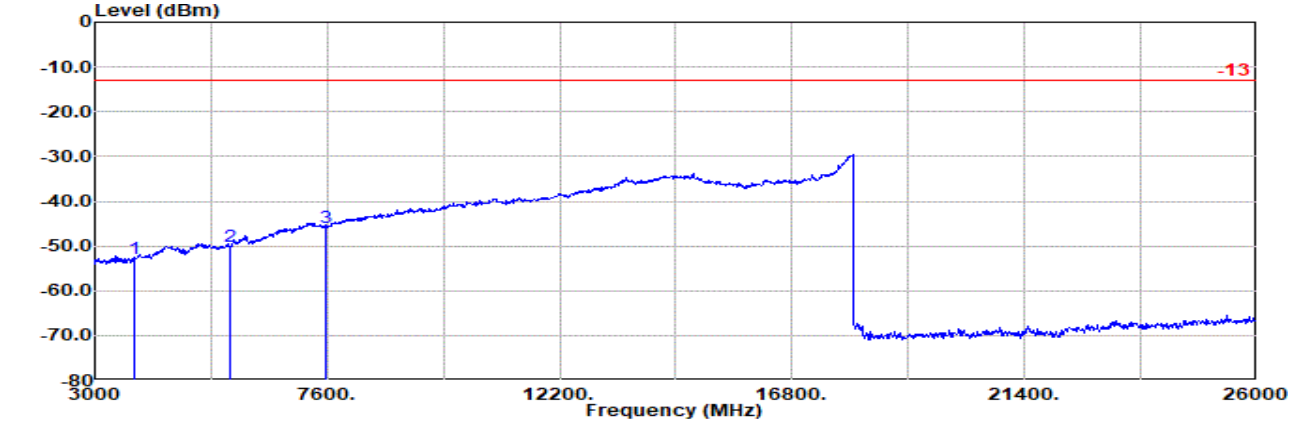
LTE B25 20M Ch26590 1RB0 QPSK

H



Site : 03CH12-HY
Condition: -13 3m 9120D-02114-230731 Horizontal
: LTE Band 25 20M Ch26590 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3792.00	-52.95	RMS	30.15	-23.91	1.05	-95.23	34.99	-13.00	-39.95	Horizontal
2	5688.00	-50.09	RMS	33.12	-23.28	0.60	-95.23	34.70	-13.00	-37.09	Horizontal
3	7584.00	-45.92	RMS	36.40	-22.17	0.77	-95.23	34.31	-13.00	-32.92	Horizontal



Site : 03CH12-HY
Condition: -13 3m 9120D-02114-230731 Vertical
: LTE Band 25 20M Ch26590 1RB0 QPSK

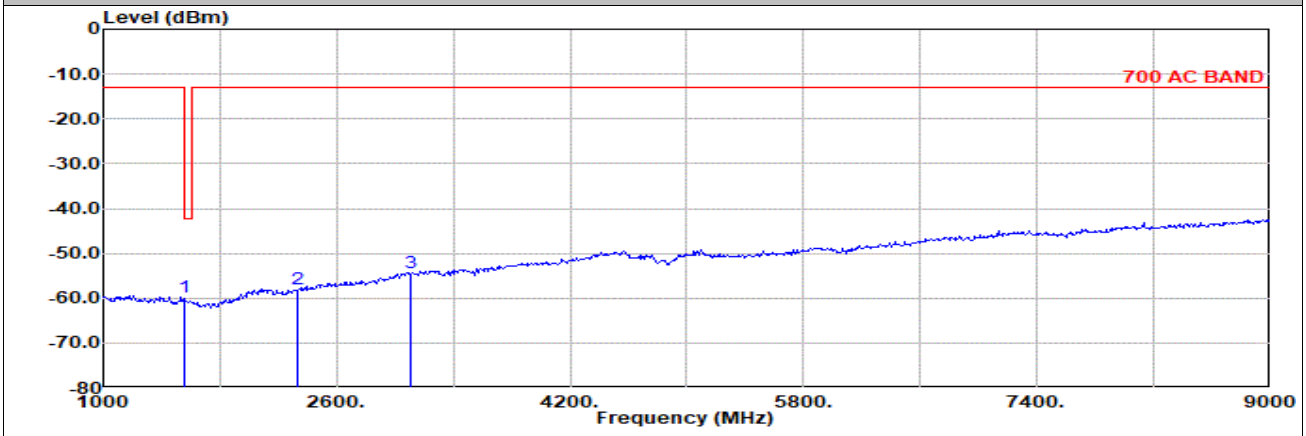
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3792.00	-52.81	RMS	30.15	-23.91	1.05	-95.23	35.13	-13.00	-39.81	Vertical
2	5688.00	-50.25	RMS	33.12	-23.28	0.60	-95.23	34.54	-13.00	-37.25	Vertical
3	7584.00	-45.95	RMS	36.40	-22.17	0.77	-95.23	34.28	-13.00	-32.95	Vertical

Main

Part 27F Mode 1

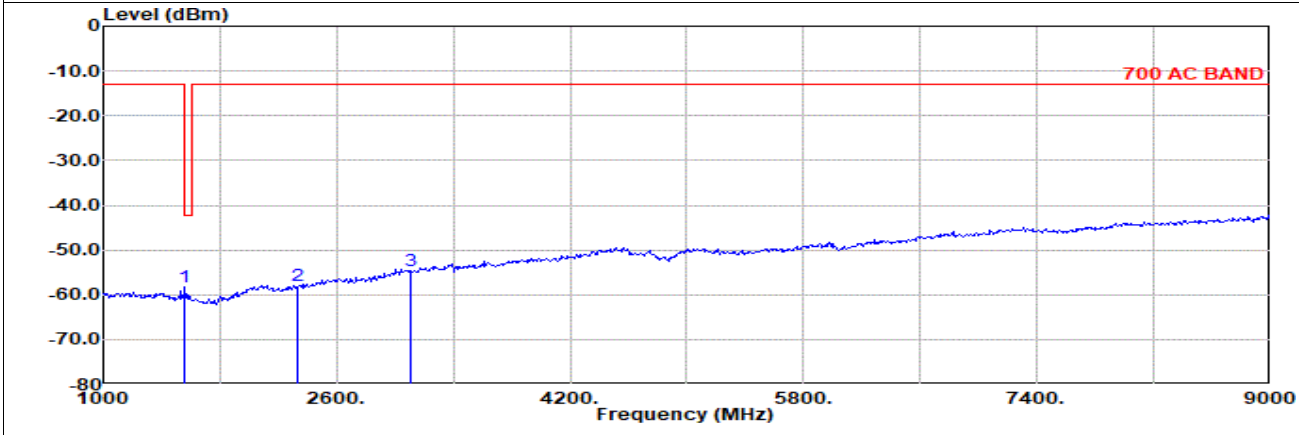
LTE B13 5M Ch23205 1RB0 QPSK

L



Site : 03CH12-HY
Condition: 700 AC BAND 3m 9120D-02114-230731 Horizontal
: LTE Band 13 5M Ch23205 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1555.00	-59.90	RMS	25.60	-28.45	0.61	-95.23	37.57	-13.00	-46.90	Horizontal
2	2332.00	-58.03	RMS	27.22	-27.00	0.42	-95.23	36.56	-13.00	-45.03	Horizontal
3	3109.00	-54.43	RMS	29.78	-25.58	0.30	-95.23	36.30	-13.00	-41.43	Horizontal



Site : 03CH12-HY
Condition: 700 AC BAND 3m 9120D-02114-230731 Vertical
: LTE Band 13 5M Ch23205 1RB0 QPSK

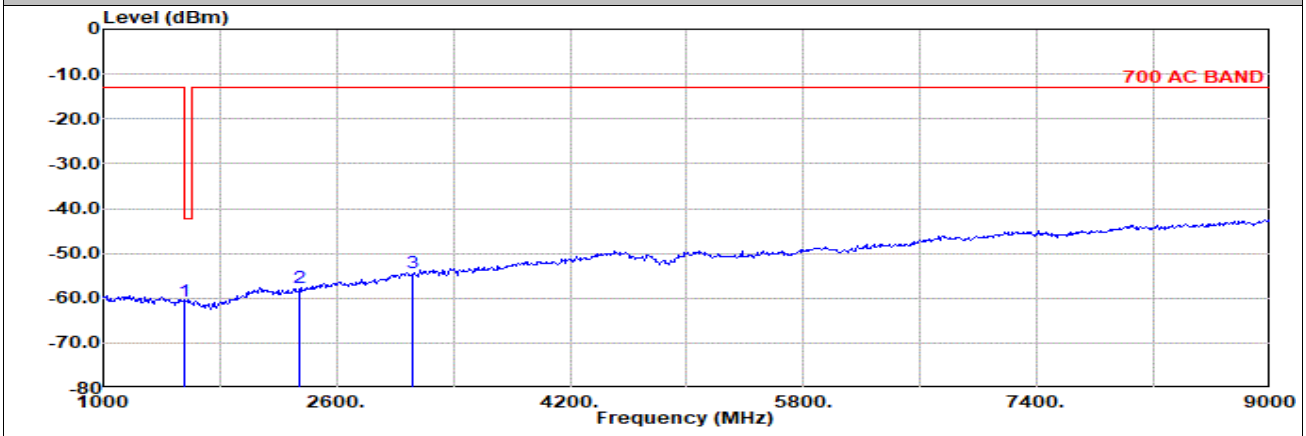
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1555.00	-58.19	RMS	25.60	-28.45	0.61	-95.23	39.28	-13.00	-45.19	Vertical
2	2332.00	-58.08	RMS	27.22	-27.00	0.42	-95.23	36.51	-13.00	-45.08	Vertical
3	3109.00	-54.70	RMS	29.78	-25.58	0.30	-95.23	36.03	-13.00	-41.70	Vertical

Main

Part 27F Mode 1

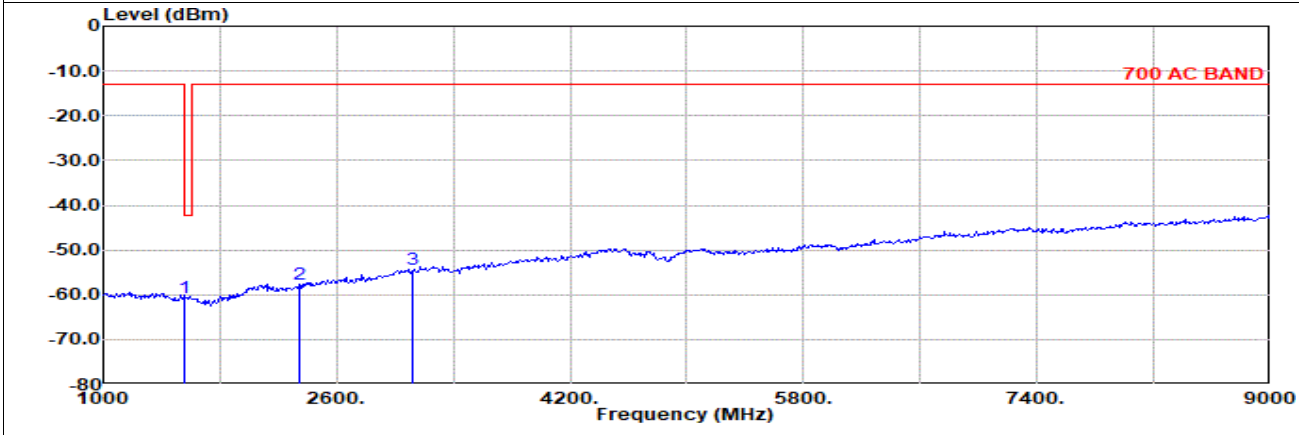
LTE B13 5M Ch23230 1RB0 QPSK

M



Site : 03CH12-HY
Condition: 700 AC BAND 3m 9120D-02114-230731 Horizontal
: LTE Band 13 5M Ch23230 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1559.00	-60.82	RMS	25.60	-28.44	0.60	-95.23	36.65	-42.15	-18.67	Horizontal
2	2339.00	-57.67	RMS	27.29	-26.99	0.42	-95.23	36.84	-13.00	-44.67	Horizontal
3	3119.00	-54.38	RMS	29.76	-25.55	0.30	-95.23	36.34	-13.00	-41.38	Horizontal



Site : 03CH12-HY
Condition: 700 AC BAND 3m 9120D-02114-230731 Vertical
: LTE Band 13 5M Ch23230 1RB0 QPSK

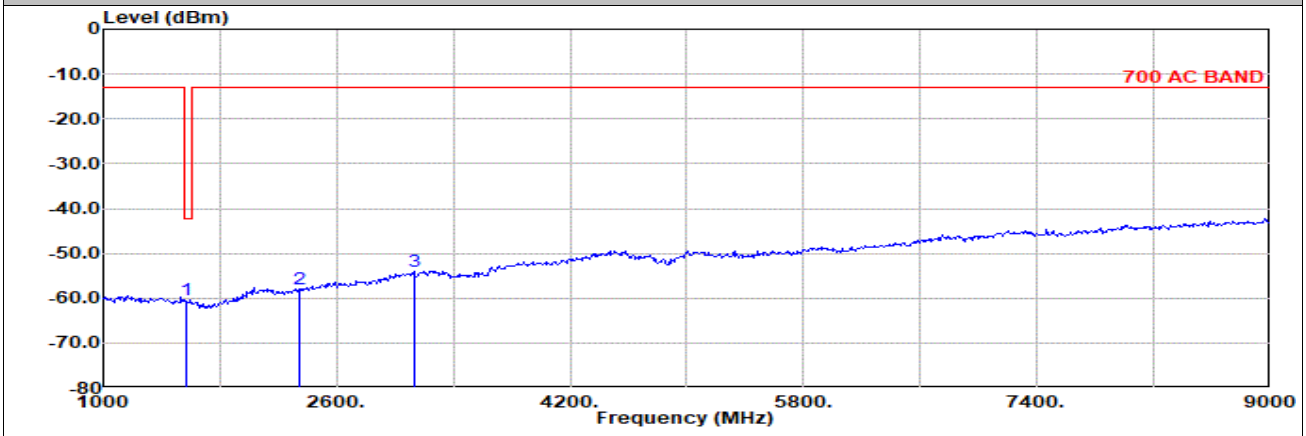
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1559.00	-60.59	RMS	25.60	-28.44	0.60	-95.23	36.88	-42.15	-18.44	Vertical
2	2339.00	-57.64	RMS	27.29	-26.99	0.42	-95.23	36.87	-13.00	-44.64	Vertical
3	3119.00	-54.45	RMS	29.76	-25.55	0.30	-95.23	36.27	-13.00	-41.45	Vertical

Main

Part 27F Mode 1

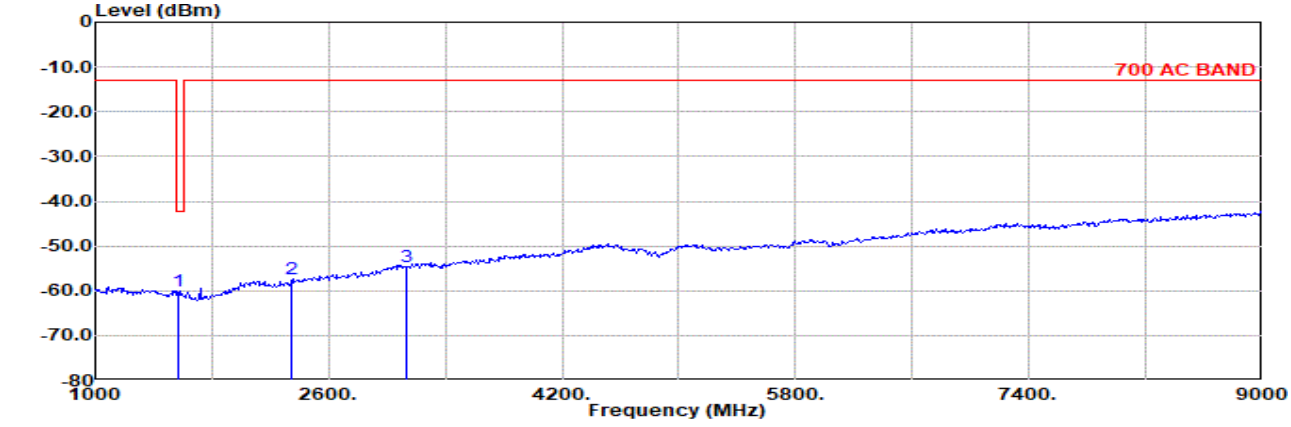
LTE B13 5M Ch23255 1RB0 QPSK

H



Site : 03CH12-HY
Condition: 700 AC BAND 3m 9120D-02114-230731 Horizontal
: LTE Band 13 10M Ch23255 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1565.00	-60.46	RMS	25.60	-28.43	0.60	-95.23	37.00	-42.15	-18.31	Horizontal
2	2347.00	-57.98	RMS	27.30	-26.98	0.42	-95.23	36.51	-13.00	-44.98	Horizontal
3	3129.00	-54.19	RMS	29.74	-25.52	0.30	-95.23	36.52	-13.00	-41.19	Horizontal



Site : 03CH12-HY
Condition: 700 AC BAND 3m 9120D-02114-230731 Vertical
: LTE Band 13 10M Ch23255 1RB0 QPSK

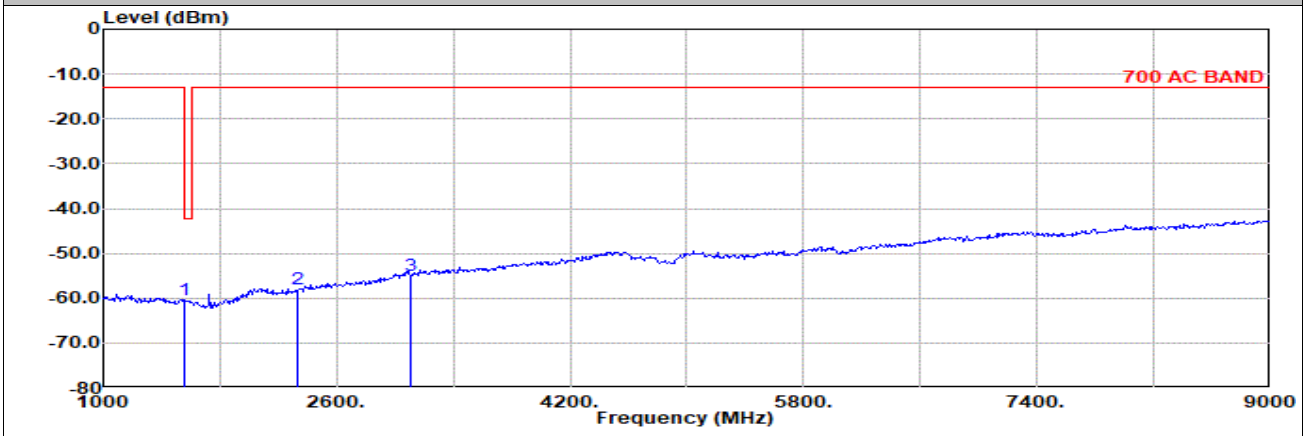
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1565.00	-60.07	RMS	25.60	-28.43	0.60	-95.23	37.39	-42.15	-17.92	Vertical
2	2347.00	-57.39	RMS	27.30	-26.98	0.42	-95.23	37.10	-13.00	-44.39	Vertical
3	3129.00	-54.63	RMS	29.74	-25.52	0.30	-95.23	36.08	-13.00	-41.63	Vertical

Main

Part 27F Mode 2

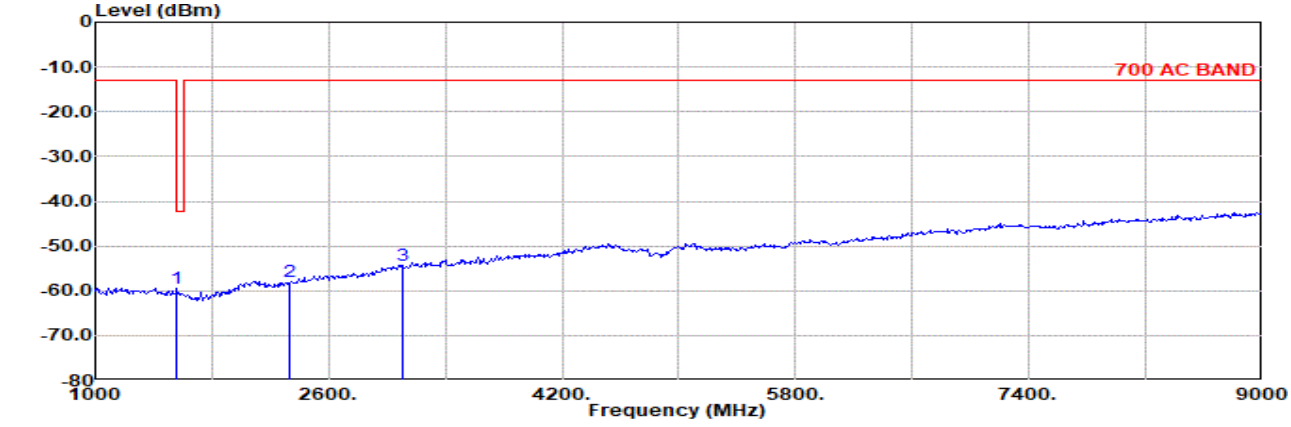
LTE B13 10M Ch23230 1RB0 QPSK

M



Site : 03CH12-HY
Condition: 700 AC BAND 3m 9120D-02114-230731 Horizontal
: LTE Band 13 10M Ch23230 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1555.00	-60.24	RMS	25.60	-28.45	0.61	-95.23	37.23	-13.00	-47.24	Horizontal
2	2333.00	-57.97	RMS	27.23	-27.00	0.42	-95.23	36.61	-13.00	-44.97	Horizontal
3	3110.00	-54.84	RMS	29.78	-25.58	0.30	-95.23	35.89	-13.00	-41.84	Horizontal



Site : 03CH12-HY
Condition: 700 AC BAND 3m 9120D-02114-230731 Vertical
: LTE Band 13 10M Ch23230 1RB0 QPSK

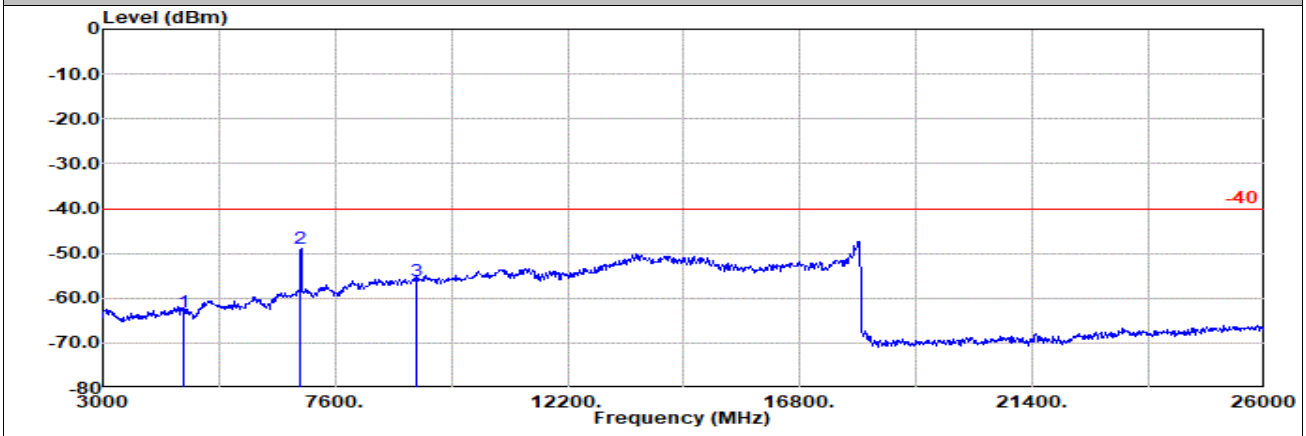
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1555.00	-59.57	RMS	25.60	-28.45	0.61	-95.23	37.90	-13.00	-46.57	Vertical
2	2333.00	-58.06	RMS	27.23	-27.00	0.42	-95.23	36.52	-13.00	-45.06	Vertical
3	3110.00	-54.41	RMS	29.78	-25.58	0.30	-95.23	36.32	-13.00	-41.41	Vertical

Main

Part 27D Mode 1

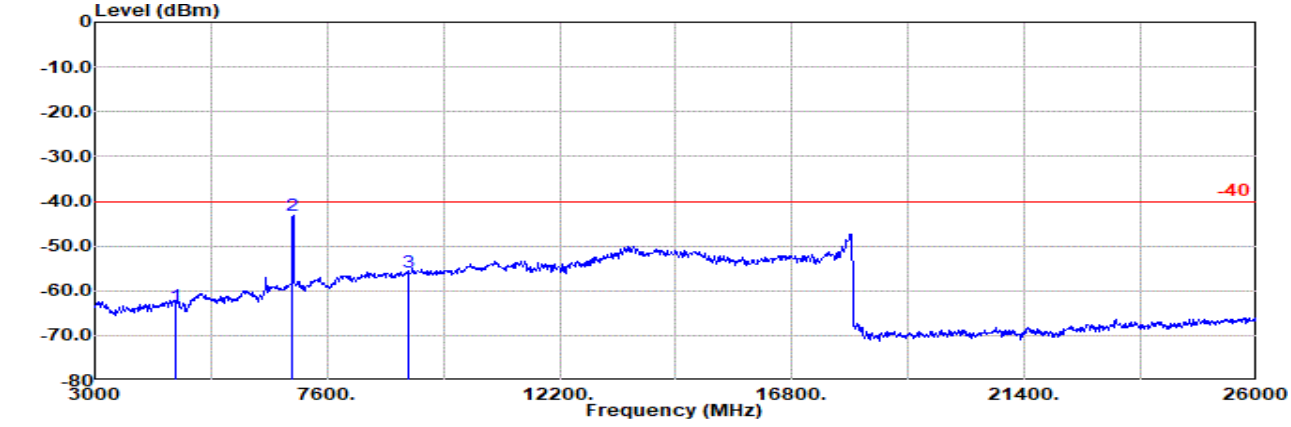
LTE B30 5M Ch27685 1RB0 QPSK

L



Site : 03CH12-HY
Condition: -40 3m 9120D-02114-230731 Horizontal
: LTE Band 30 BW5M Ch27685 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4610.00	-63.20	RMS	31.78	-57.17	0.75	-95.23	56.67	-40.00	-23.20	Horizontal
2	6916.00	-48.97	RMS	36.00	-53.07	0.72	-95.23	62.61	-40.00	-8.97	Horizontal
3	9221.00	-56.08	RMS	38.40	-52.98	0.75	-95.23	52.98	-40.00	-16.08	Horizontal



Site : 03CH12-HY
Condition: -40 3m 9120D-02114-230731 Vertical
: LTE Band 30 BW5M Ch27685 1RB0 QPSK

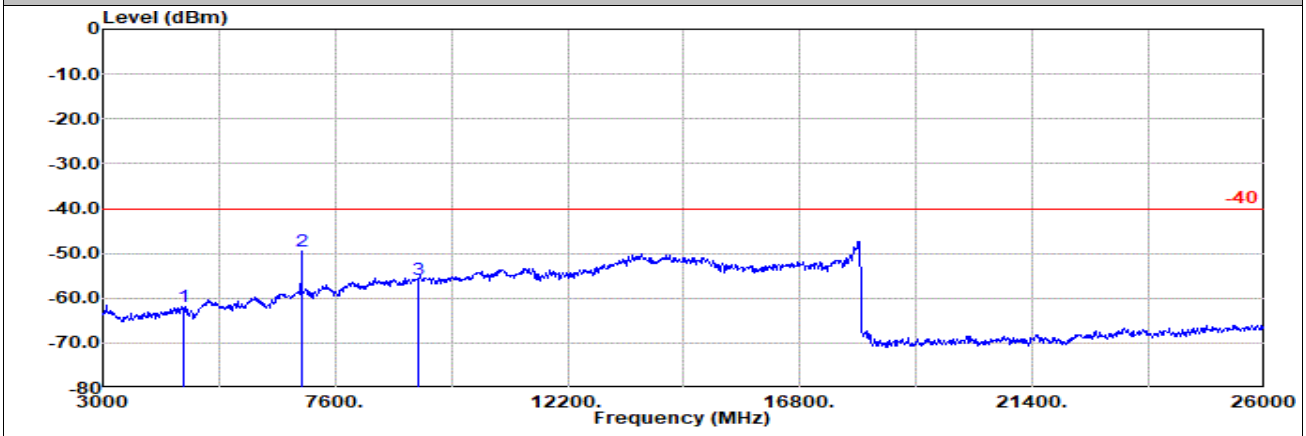
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4610.00	-63.26	RMS	31.78	-57.17	0.75	-95.23	56.61	-40.00	-23.26	Vertical
2	6916.00	-43.14	RMS	36.00	-53.07	0.72	-95.23	68.44	-40.00	-3.14	Vertical
3	9221.00	-55.96	RMS	38.40	-52.98	0.75	-95.23	53.10	-40.00	-15.96	Vertical

Main

Part 27D Mode 1

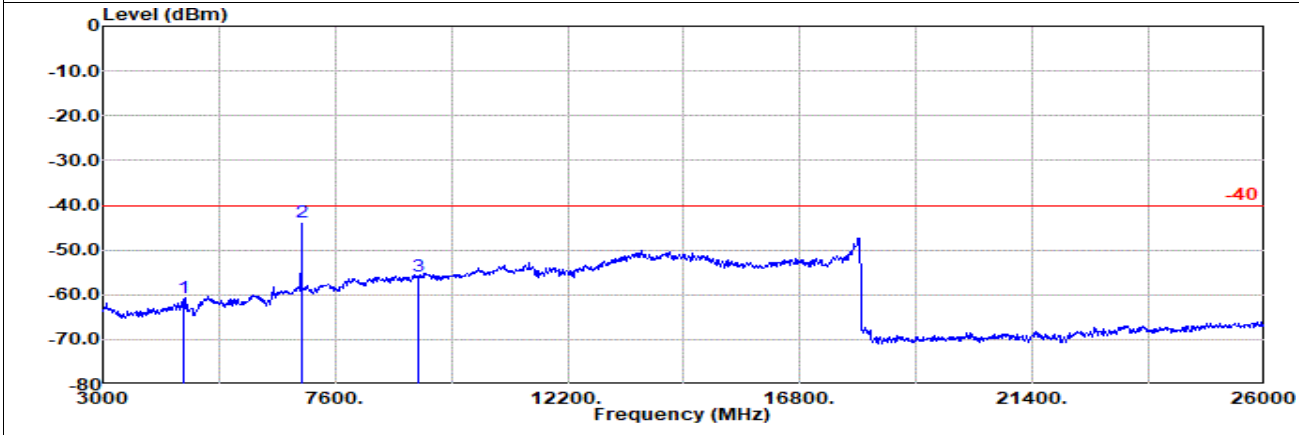
LTE B30 5M Ch27710 1RB0 QPSK

M



Site : 03CH12-HY
Condition: -40 3m 9120D-02114-230731 Horizontal
: LTE Band 30 BW5M Ch27710 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4615.00	-61.84	RMS	31.77	-57.16	0.75	-95.23	58.03	-40.00	-21.84	Horizontal
2	6923.00	-49.63	RMS	36.00	-53.07	0.72	-95.23	61.95	-40.00	-9.63	Horizontal
3	9231.00	-55.71	RMS	38.40	-52.97	0.75	-95.23	53.34	-40.00	-15.71	Horizontal



Site : 03CH12-HY
Condition: -40 3m 9120D-02114-230731 Vertical
: LTE Band 30 BW5M Ch27710 1RB0 QPSK

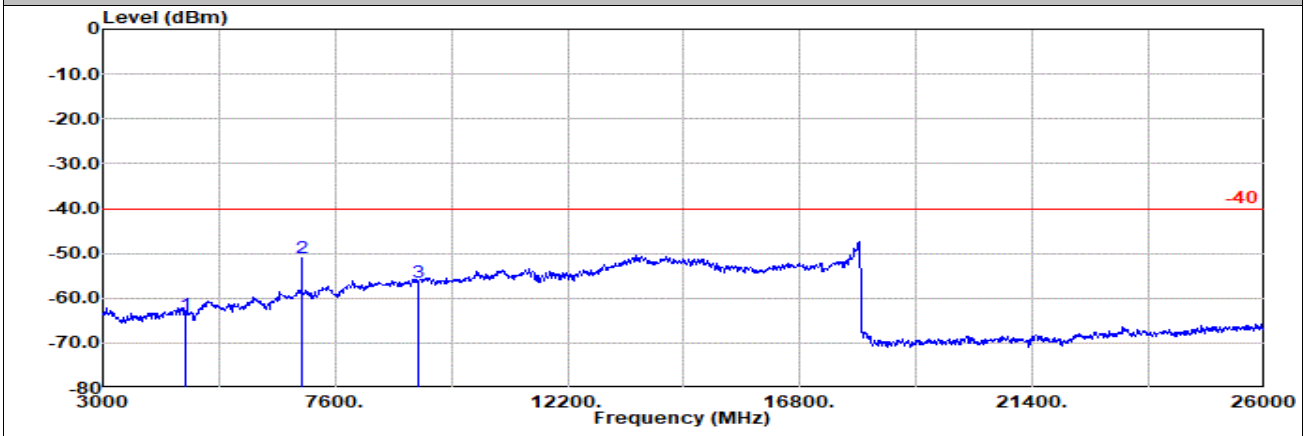
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4615.00	-60.57	RMS	31.77	-57.16	0.75	-95.23	59.30	-40.00	-20.57	Vertical
2	6923.00	-43.64	RMS	36.00	-53.07	0.72	-95.23	67.94	-40.00	-3.64	Vertical
3	9231.00	-55.82	RMS	38.40	-52.97	0.75	-95.23	53.23	-40.00	-15.82	Vertical

Main

Part 27D Mode 1

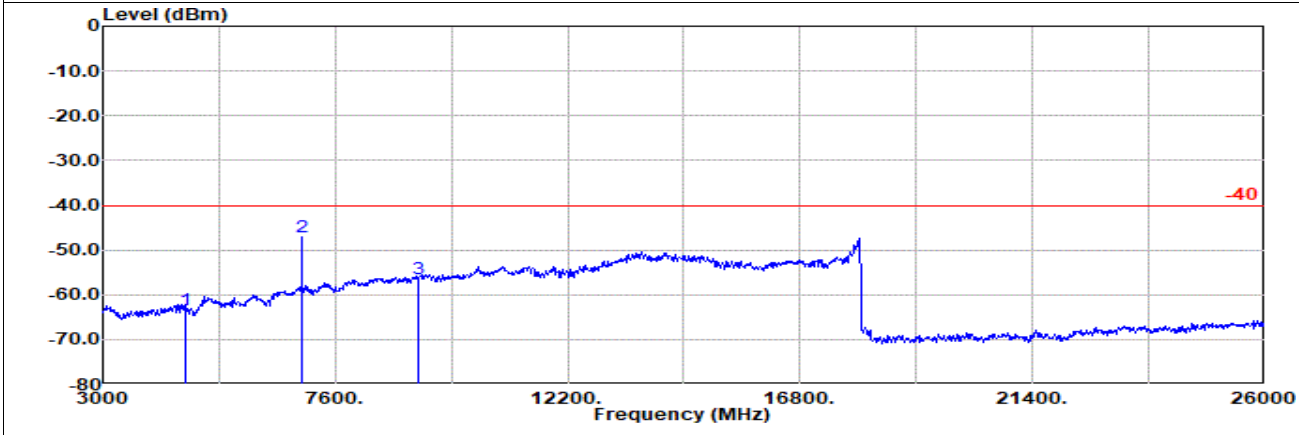
LTE B30 5M Ch27735 1RB0 QPSK

H



Site : 03CH12-HY
Condition: -40 3m 9120D-02114-230731 Horizontal
: LTE Band 30 BW5M Ch27735 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4620.00	-63.70	RMS	31.76	-57.15	0.75	-95.23	56.17	-40.00	-23.70	Horizontal
2	6931.00	-51.09	RMS	36.00	-53.07	0.71	-95.23	60.50	-40.00	-11.09	Horizontal
3	9241.00	-56.30	RMS	38.40	-52.96	0.75	-95.23	52.74	-40.00	-16.30	Horizontal



Site : 03CH12-HY
Condition: -40 3m 9120D-02114-230731 Vertical
: LTE Band 30 BW5M Ch27735 1RB0 QPSK

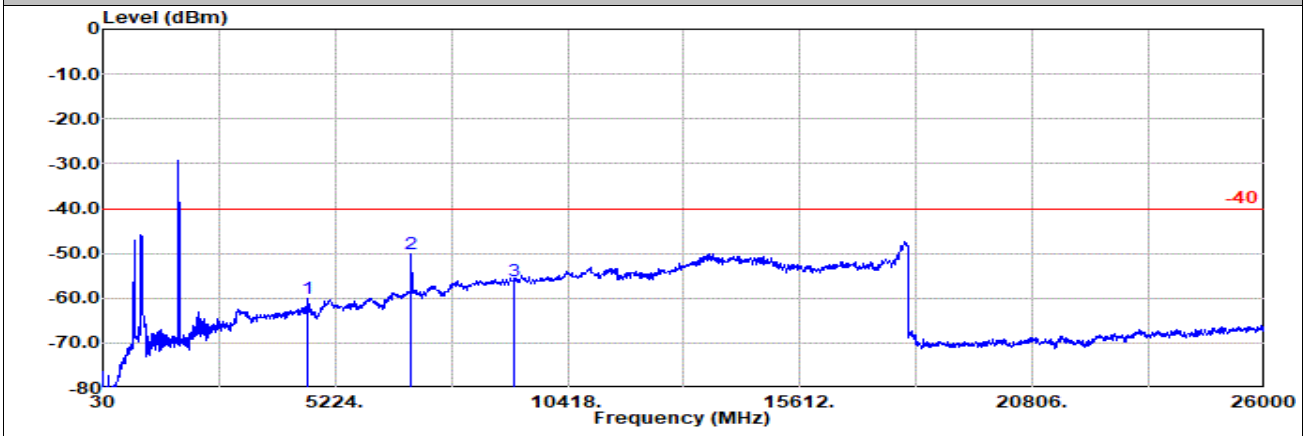
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4620.00	-63.54	RMS	31.76	-57.15	0.75	-95.23	56.33	-40.00	-23.54	Vertical
2	6931.00	-47.22	RMS	36.00	-53.07	0.71	-95.23	64.37	-40.00	-7.22	Vertical
3	9241.00	-56.37	RMS	38.40	-52.96	0.75	-95.23	52.67	-40.00	-16.37	Vertical

Main

Part 27D Mode 2

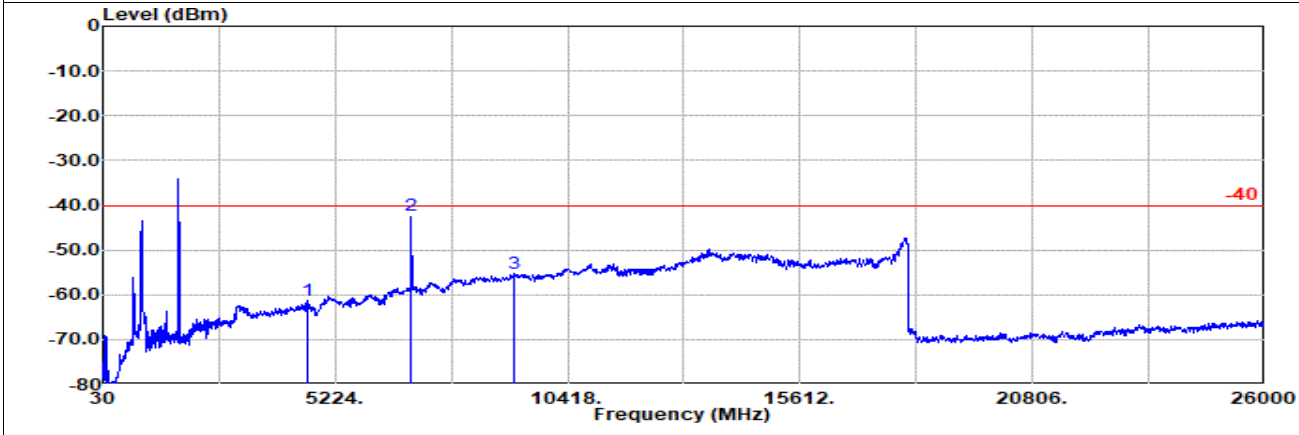
LTE B30 10M Ch27710 1RB0 QPSK

M



Site : 03CH12-HY
Condition: -40 3m 9120D-02114-230731 Horizontal
: LTE Band 30 BW10M Ch27710 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4611.00	-60.01	RMS	31.78	-57.17	0.75	-95.23	59.86	-40.00	-20.01	Horizontal
2	6916.00	-50.00	RMS	36.00	-53.07	0.72	-95.23	61.58	-40.00	-10.00	Horizontal
3	9222.00	-56.20	RMS	38.40	-52.98	0.75	-95.23	52.86	-40.00	-16.20	Horizontal



Site : 03CH12-HY
Condition: -40 3m 9120D-02114-230731 Vertical
: LTE Band 30 BW10M Ch27710 1RB0 QPSK

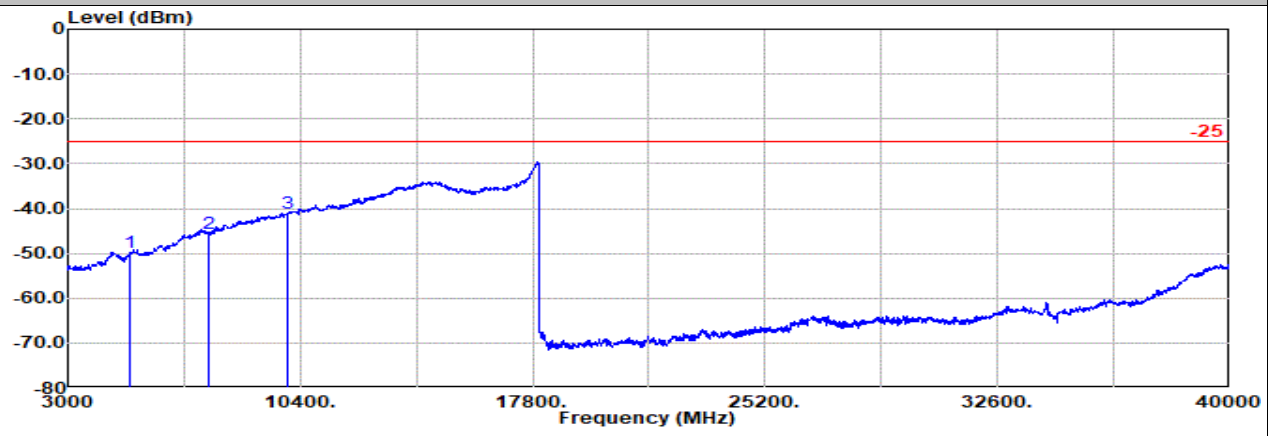
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4611.00	-61.32	RMS	31.78	-57.17	0.75	-95.23	58.55	-40.00	-21.32	Vertical
2	6916.00	-42.29	RMS	36.00	-53.07	0.72	-95.23	69.29	-40.00	-2.29	Vertical
3	9222.00	-55.31	RMS	38.40	-52.98	0.75	-95.23	53.75	-40.00	-15.31	Vertical

Main

Part 27M Mode 1

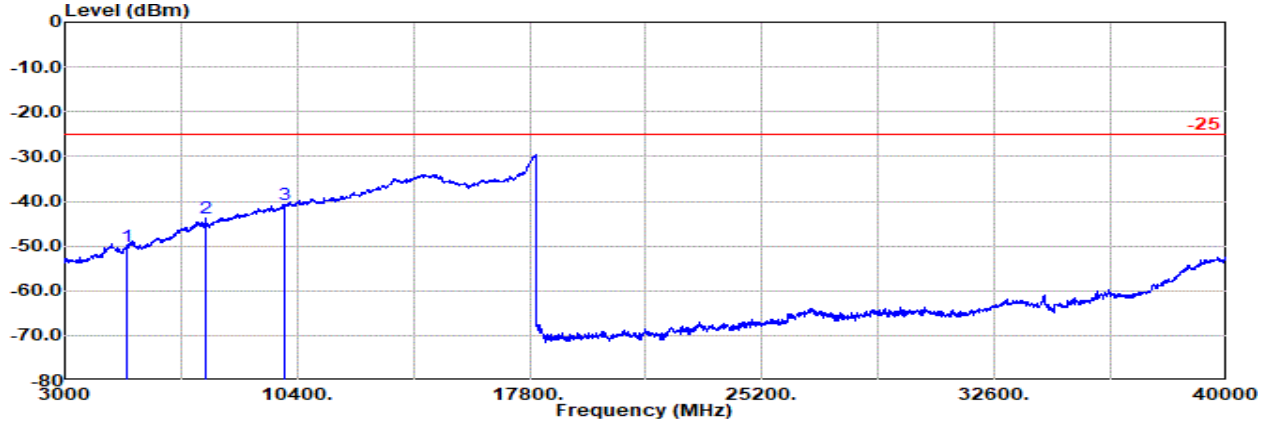
LTE B41 20M Ch39750 1RB0 QPSK

L



Site : 03CH12-HY
Condition: -25 3m 9120D-02114-230731 Horizontal
: LTE Band 41 20M Ch39750 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4994.00	-49.83	RMS	33.16	-23.85	0.63	-95.23	35.46	-25.00	-24.83	Horizontal
2	7491.00	-45.45	RMS	36.54	-22.20	0.70	-95.23	34.74	-25.00	-20.45	Horizontal
3	9988.00	-40.94	RMS	38.55	-20.40	0.78	-95.23	35.36	-25.00	-15.94	Horizontal



Site : 03CH12-HY
Condition: -25 3m 9120D-02114-230731 Vertical
: LTE Band 41 20M Ch39750 1RB0 QPSK

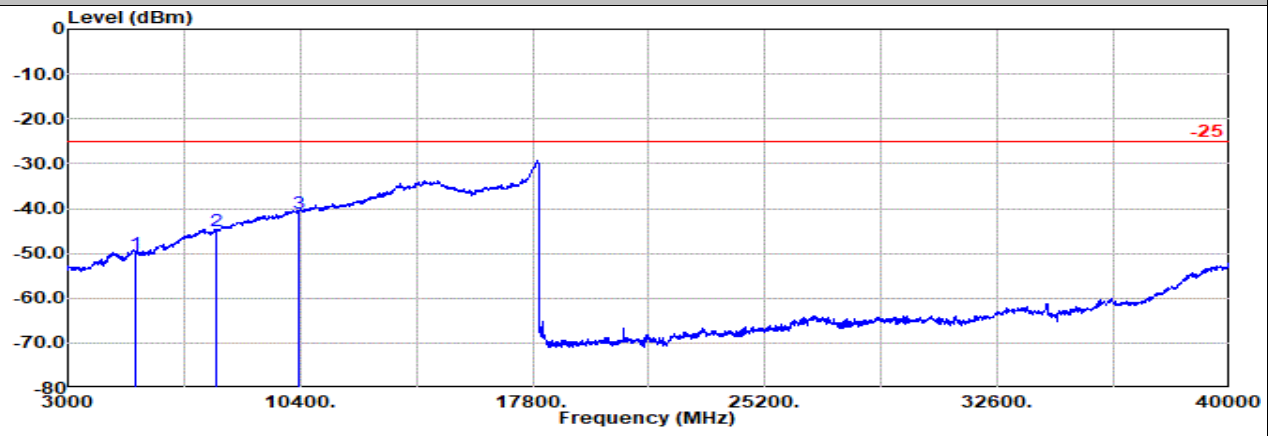
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4994.00	-50.06	RMS	33.16	-23.85	0.63	-95.23	35.23	-25.00	-25.06	Vertical
2	7491.00	-43.86	RMS	36.54	-22.20	0.70	-95.23	36.33	-25.00	-18.86	Vertical
3	9988.00	-40.85	RMS	38.55	-20.40	0.78	-95.23	35.45	-25.00	-15.85	Vertical

Main

Part 27M Mode 1

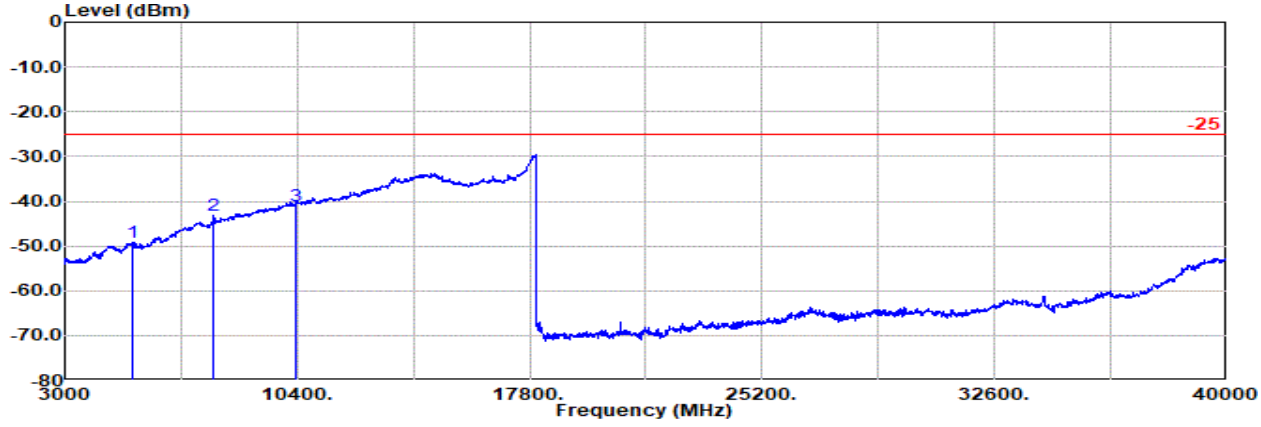
LTE B41 20M Ch40620 1RB0 QPSK

M



Site : 03CH12-HY
Condition: -25 3m 9120D-02114-230731 Horizontal
: LTE Band 41 20M Ch40620 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	5168.00	-49.98	RMS	33.16	-23.62	0.70	-95.23	35.01	-25.00	-24.98	Horizontal
2	7752.00	-45.02	RMS	36.81	-22.17	0.83	-95.23	34.74	-25.00	-20.02	Horizontal
3	10336.00	-40.93	RMS	39.02	-19.95	0.78	-95.23	34.45	-25.00	-15.93	Horizontal



Site : 03CH12-HY
Condition: -25 3m 9120D-02114-230731 Vertical
: LTE Band 41 20M Ch40620 1RB0 QPSK

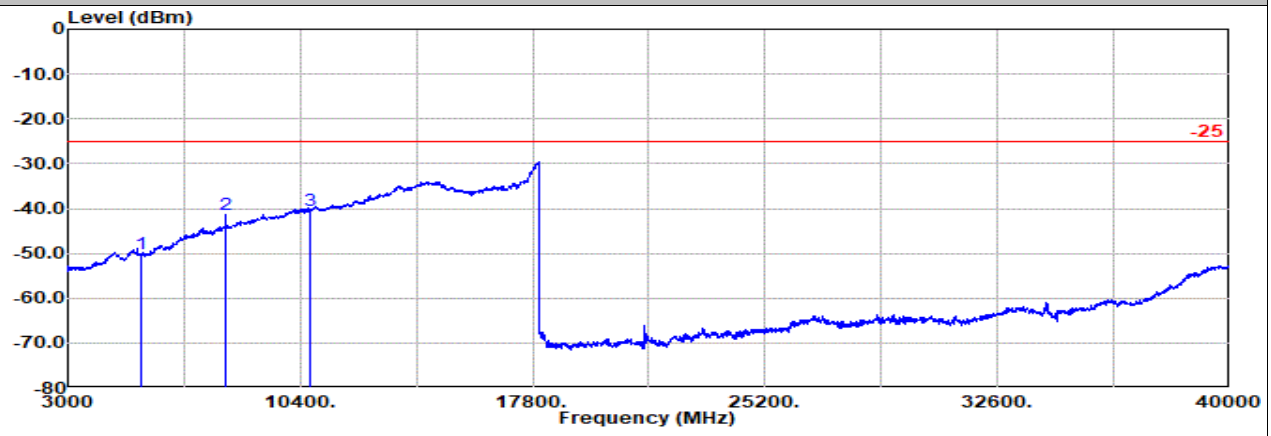
	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	5168.00	-49.26	RMS	33.16	-23.62	0.70	-95.23	35.73	-25.00	-24.26	Vertical
2	7752.00	-43.25	RMS	36.81	-22.17	0.83	-95.23	36.51	-25.00	-18.25	Vertical
3	10336.00	-41.19	RMS	39.02	-19.95	0.78	-95.23	34.19	-25.00	-16.19	Vertical

Main

Part 27M Mode 1

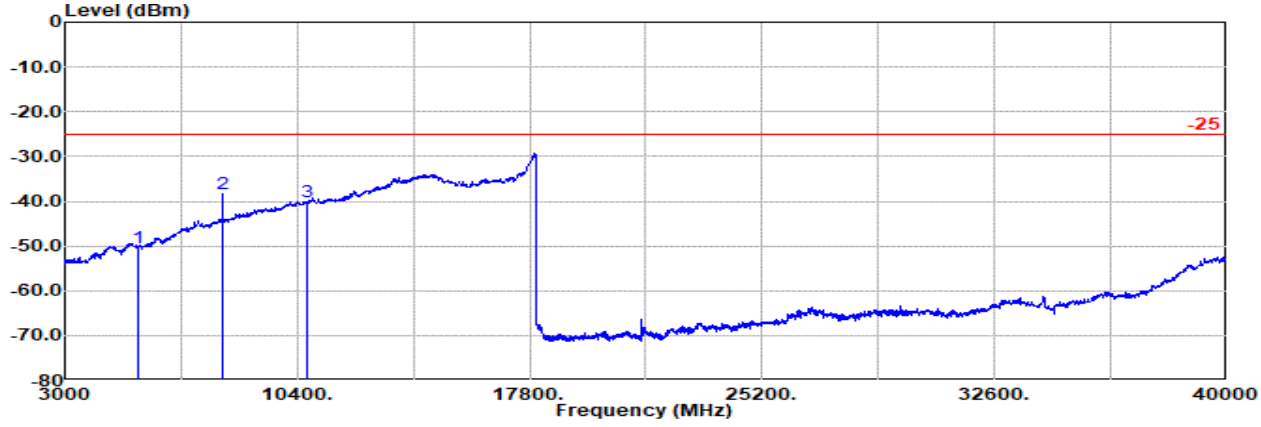
LTE B41 20M Ch41490 1RB0 QPSK

H



Site : 03CH12-HY
Condition: -25 3m 9120D-02114-230731 Horizontal
: LTE Band 41 20M Ch41490 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	5342.00	-50.26	RMS	33.20	-23.37	0.76	-95.23	34.38	-25.00	-25.26	Horizontal
2	8013.00	-41.34	RMS	37.30	-21.99	0.95	-95.23	37.63	-25.00	-16.34	Horizontal
3	10684.00	-40.32	RMS	39.30	-19.39	0.77	-95.23	34.23	-25.00	-15.32	Horizontal



Site : 03CH12-HY
Condition: -25 3m 9120D-02114-230731 Vertical
: LTE Band 41 20M Ch41490 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cbl	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	5342.00	-50.48	RMS	33.20	-23.37	0.76	-95.23	34.16	-25.00	-25.48	Vertical
2	8013.00	-38.19	RMS	37.30	-21.99	0.95	-95.23	40.78	-25.00	-13.19	Vertical
3	10684.00	-40.12	RMS	39.30	-19.39	0.77	-95.23	34.43	-25.00	-15.12	Vertical