FCC RADIO TEST REPORT

FCC ID	:	2AJN7-TP00145CL
Equipment	:	Notebook Computer
Brand Name	:	Lenovo
Model Name	:	TP00145C
Applicant	:	LC Future Center Limited Taiwan Branch 7F., No.780, Beian Rd., Zhongshan Dist., Taipei 104, Taiwan
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: Quetel EM061K-GL tested inside of Lenovo Notebook Computer.

The product was received on Oct. 18, 2023 and testing was performed from Oct. 26, 2023 to Nov. 10, 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

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History of this test report

Report No.	Version	Description	Issue Date
FG3O1310A	01	Initial issue of report	Nov. 21, 2023
FG3O1310A	02	1. Revise Appendix B 2. Revise Product Feature of Equipment Under Test 3. Revise Section 2.4 This report is an updated version, replacing the report issued on Nov. 21, 2023.	Jan. 11, 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) (Band 17) (Band 71)		
	§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 17) (Band 25) (Band 26) (Band 66) (Band 71)	-	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 17) (Band 25) (Band 26) (Band 66) (Band 71)	-	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) §90.231	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 17) (Band 25) (Band 26) (Band 66) (Band 71)	Pass	7.52 dB under the limit at 4620.00 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)		

Note:

1. For host device, Radiated Spurious Emission, Effective Radiated Power 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: EM061K-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: Ming Chen

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Notebook Computer
Brand Name	Lenovo
Model Name	TP00145C
FCC ID	2AJN7-TP00145CL
Sample 1	EUT with Amphenol Taiwan Corporation Antenna
Sample 2	EUT with Speed Antenna
Integrated WLAN Module	Brand Name: Intel Model Name: AX211D2W FCC ID: PD9AX211D2
Integrated WLAN Module	Brand Name: Intel Model Name: BE200D2W FCC ID: PD9BE200D2
Integrated NFC Module	Brand Name: Foxconn Model Name: T77H747
EUT supports Radios application	WCDMA/HSPA/LTE/GNSS/NFC WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80/VHT160 WLAN 11ax HE20/HE40/HE80/HE160 WLAN 11be EHT20/EHT40/EHT80/EHT160/EHT320 Bluetooth BR/EDR/LE
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer.
2. Equipment: Quetel EM061K-GL tested inside of Lenovo Notebook Computer.

Support band and evaluated information	
Supported band	B2, B4, B5, B7, B12, B13, B14, B17, B25, B26, B30, B38, B41, B66, B71
Evaluated and Tested band	B2, B4, B5, B7, B12, B13, B14, B17, B25, B26, B30, B38, B41, B66, B71
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) ■ B12 cover B17 (Part 27) ■ B41 cover B38 (Part 27) ■ B66 cover B4 (Part 27)

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

Antenna Information				
Main Antenna	Manufacturer	Amphenol Taiwan Corporation	Peak gain(dBi)	LTE Band 2 : 0.4 LTE Band 4 : 1.6 LTE Band 5 : -0.4 LTE Band 7 : 0.4 LTE Band 12 : -2.8 LTE Band 13 : -2.0 LTE Band 14 : -2.1 LTE Band 17 : -2.8 LTE Band 25 : 0.4 LTE Band 26 : -1.0 LTE Band 30 : 0.2 LTE Band 38 : 0.8 LTE Band 41 : 0.6 LTE Band 66 : 1.8 LTE Band 71 : -2.8
	Part number	DC33001YS50	Type	PIFA Antenna
Main Antenna	Manufacturer	Speed	Peak gain(dBi)	LTE Band 2 : 0.4 LTE Band 4 : 1.6 LTE Band 5 : -0.4 LTE Band 7 : 0.4 LTE Band 12 : -2.8 LTE Band 13 : -2.0 LTE Band 14 : -2.1 LTE Band 17 : -2.8 LTE Band 25 : 0.4 LTE Band 26 : -1.0 LTE Band 30 : 0.2 LTE Band 38 : 0.8 LTE Band 41 : 0.6 LTE Band 66 : 1.8 LTE Band 71 : -2.8
	Part number	DC33001YT50	Type	PIFA Antenna

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 17: 706.5 MHz ~ 713.5 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 LTE Band 71: 665.5 MHz ~ 695.5 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 17: 736.5 MHz ~ 743.5 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 LTE Band 71: 619.5 MHz ~ 649.5 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 17: 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 LTE Band 71: 5MHz/ 10MHz / 15MHz / 20MHz

Product Specification is subject to this standard	
Maximum Output Power to Antenna	LTE Band 2 : 23.65 dBm LTE Band 4 : 23.67 dBm LTE Band 5 : 23.49 dBm LTE Band 7 : 23.20 dBm LTE Band 12 : 23.58 dBm LTE Band 13 : 23.62 dBm LTE Band 14 : 23.53 dBm LTE Band 17 : 23.57 dBm LTE Band 25 : 23.78 dBm LTE Band 26 : 23.57 dBm for Part22H LTE Band 26 : 23.56 dBm for Part90S LTE Band 30 : 21.88 dBm LTE Band 38 : 22.96 dBm LTE Band 41 : 23.02 dBm LTE Band 66 : 23.79 dBm LTE Band 71 : 23.45 dBm
Type of Modulation	QPSK / 16QAM

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	HaoEn Zhang
Temperature (℃)	21.5~22.3
Relative Humidity (%)	52.1~53.6

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.**
	03CH15-HY (TAF Code: 3786)
Test Engineer	Danel Lee, Quentin Liu and Bigshow Wang
Temperature (℃)	21.4~22.8
Relative Humidity (%)	48~59
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

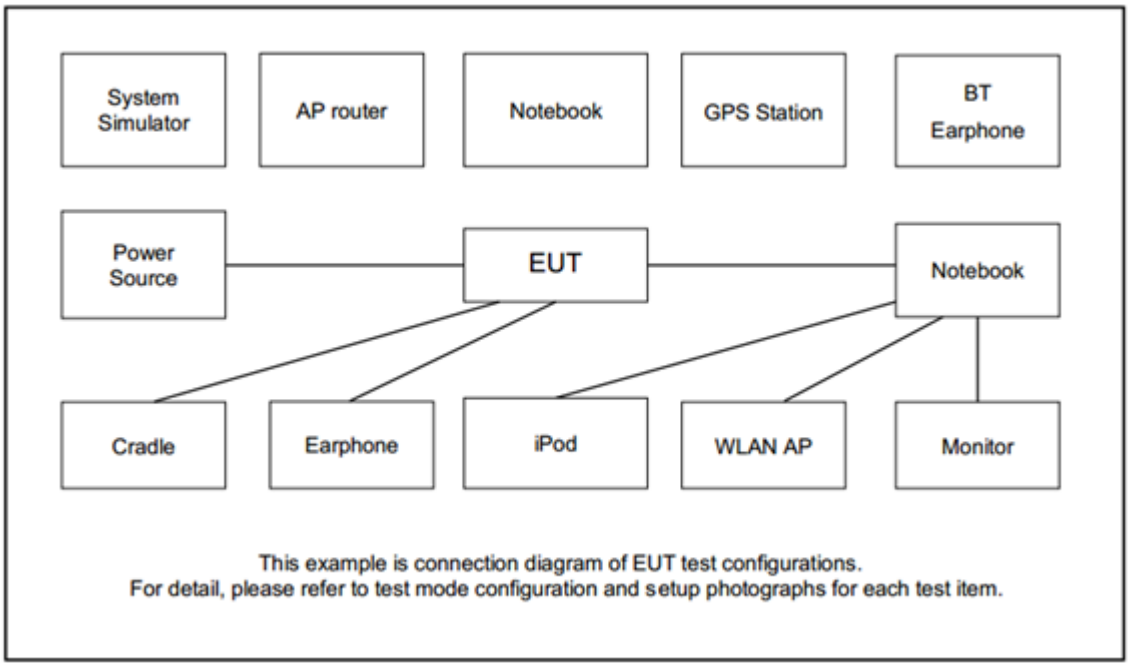
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Modulation Type	Modulation
A	QPSK
B	16QAM

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	10 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. During the RSE preliminary test, the standalone mode and charging modes were verified. It is determined that the adapter mode is the worst case for the official test.
4. All the radiated test cases were performed with Sample 1 and Battery 2

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.	Earphone	Moto	JYN1181B	N/A	Shielded, 1.2 m	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 17 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23780	23790	23800
	Frequency	709	710	711
5	Channel	23755	23790	23825
	Frequency	706.5	710	713.5

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 (Part22H)				
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 (Part90S)				
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 71 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	133222	133297	133372
	Frequency	673.0	680.5	688.0
15	Channel	133197	133297	133397
	Frequency	670.5	680.5	690.5
10	Channel	133172	133297	133422
	Frequency	668.0	680.5	693.0
5	Channel	133147	133297	133447
	Frequency	665.5	680.5	695.5

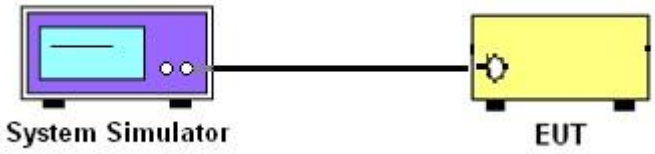
3 Conducted Test Items

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, Band 17, Band 71

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.

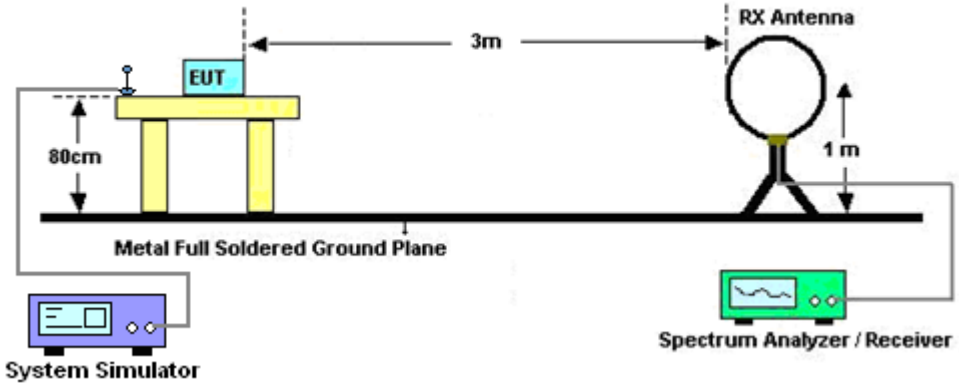
4 Radiated Test Items

4.1 Measuring Instruments

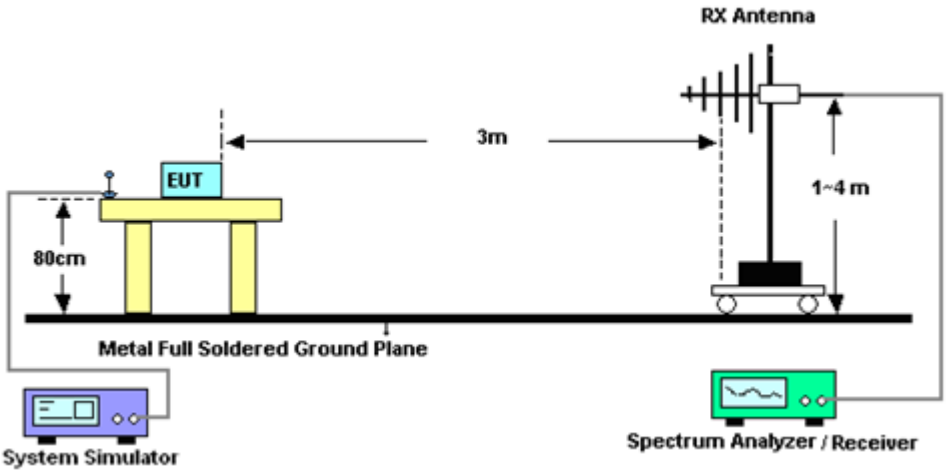
See list of measuring instruments of this test report.

4.1.1 Test Setup

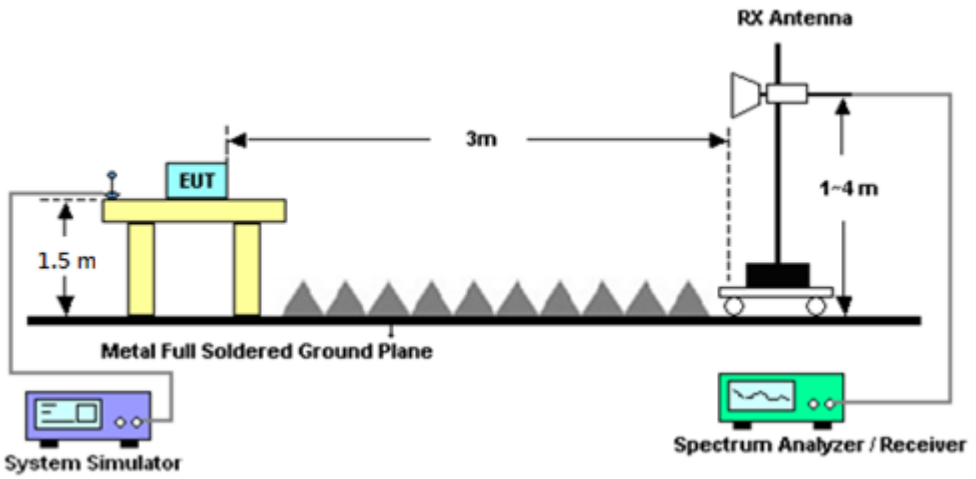
For radiated test below 30MHz



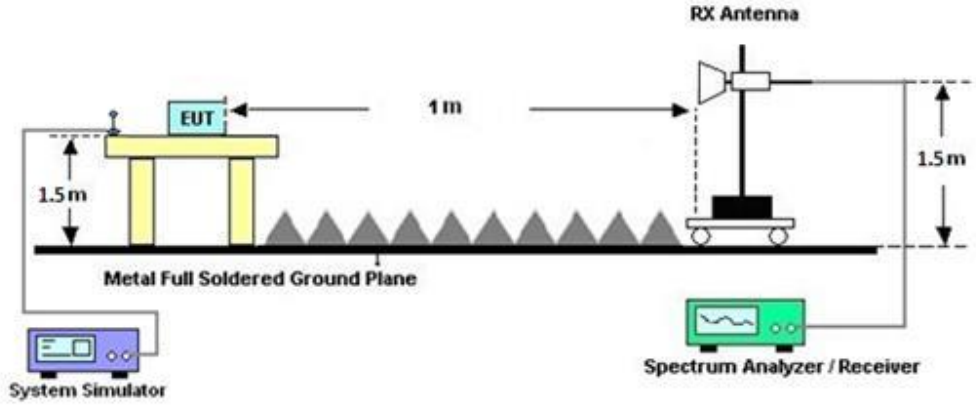
For radiated test from 30MHz to 1GHz



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)

   EIRP(dBm) = Level (dBuV/m) + 20log(d) -104.77,

   where d is the distance at which filed strength limit is specified in the rules
7. Field Strength Level (dBm) = Spectrum Reading (dBm) + Antenna Factor + Cable Loss + Read Level - Preamp Factor.
8. ERP (dBm) = EIRP (dBm) - 2.15
9. The 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)
   EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain

   ERP (dBm) = EIRP - 2.15

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	100488	9 kHz~30 MHz	Sep. 12, 2023	Oct. 26, 2023~ Nov. 09, 2023	Sep. 11, 2024	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	41912 & 05	30MHz~1GHz	Feb. 05, 2023	Oct. 26, 2023~ Nov. 09, 2023	Feb. 04, 2024	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02294	1GHz~18GHz	Jun. 30, 2023	Oct. 26, 2023~ Nov. 09, 2023	Jun. 29, 2024	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	00993	18GHz~40GHz	Nov. 24, 2022	Oct. 26, 2023~ Nov. 09, 2023	Nov. 23, 2023	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 26, 2022	Oct. 26, 2023~ Nov. 09, 2023	Dec. 25, 2023	Radiation (03CH15-HY)
Amplifier	EMEC	EM1G18G	060837	1GHz~18GHz	Feb. 16, 2023	Oct. 26, 2023~ Nov. 09, 2023	Feb. 15, 2024	Radiation (03CH15-HY)
Preamplifier	EM Electronics	EM01G18G	060802	1GHz~18GHz	Mar. 03, 2023	Oct. 26, 2023~ Nov. 09, 2023	Mar. 02, 2024	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	Jun. 27, 2023	Oct. 26, 2023~ Nov. 09, 2023	Jun. 26, 2024	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010B	MY60241058	10Hz~44GHz	Jul. 06, 2023	Oct. 26, 2023~ Nov. 09, 2023	Jul. 05, 2024	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Oct. 26, 2023~ Nov. 09, 2023	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Oct. 26, 2023~ Nov. 09, 2023	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24 (k5)	RK-000451	N/A	N/A	Oct. 26, 2023~ Nov. 09, 2023	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY582185/4, 519228/2,80 3950/2	30MHz~18G	Jun. 13, 2023	Oct. 26, 2023~ Nov. 09, 2023	Jun. 12, 2024	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY582185/4, 519228/2,80 3950/2	30MHz~18G	Jun. 13, 2023	Oct. 26, 2023~ Nov. 09, 2023	Jun. 12, 2024	Radiation (03CH15-HY)
Filter	Wainwright	SUCOFLEX 102	804011/2,804 012/2	18-40G	Jan. 03, 2023	Oct. 26, 2023~ Nov. 09, 2023	Jan. 04, 2024	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-1080 -1200-15000-6 0ST	SN5	1.2GHz High Pass Filter	Jun. 14, 2023	Oct. 26, 2023~ Nov. 09, 2023	Jun. 13, 2024	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700 -3000-18000-6 0ST	SN4	3GHz High Pass Filter	Jun. 14, 2023	Oct. 26, 2023~ Nov. 09, 2023	Jun. 13, 2024	Radiation (03CH15-HY)
Base Station (Measure)	Anritsu	MT8821C	6201664755	LTE FDD/TDD (with44), LTE-4CC DLCA/2CC ULCA, CatM1/NB1/NB2	Jul. 18, 2023	Nov. 10, 2023	Jul. 17, 2024	Conducted (TH03-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101908	10Hz~40GHz	Sep. 11, 2023	Nov. 10, 2023	Sep. 10, 2024	Conducted (TH03-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#B	1-18GHz	Jan. 06, 2023	Nov. 10, 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))	**3.02 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.57 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.97 dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power & ERP/EIRP)

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.38	23.65	23.38	24.05	0.2541
20	1	0	16-QAM	22.63	22.71	22.72	23.19	0.2084
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.62	23.63	23.64	24.04	0.2535
15	1	0	16-QAM	22.85	22.95	22.96	23.36	0.2168
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.59	23.58	23.62	24.02	0.2523
10	1	0	16-QAM	22.85	22.87	22.92	23.32	0.2148
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.62	23.61	23.54	24.02	0.2523
5	1	0	16-QAM	22.86	22.90	22.81	23.32	0.2148
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.52	23.57	23.51	23.97	0.2495
3	1	0	16-QAM	22.81	22.84	22.78	23.26	0.2118
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.40	23.45	23.37	23.93	0.2472
1.4	1	0	16-QAM	22.66	22.69	22.65	23.19	0.2084
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.47	23.78	23.58	24.18	0.2618
20	1	0	16-QAM	22.75	22.86	22.91	23.31	0.2143
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.69	23.73	23.76	24.17	0.2612
15	1	0	16-QAM	22.99	23.02	23.04	23.44	0.2208
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.61	23.65	23.71	24.12	0.2582
10	1	0	16-QAM	22.86	22.94	22.97	23.38	0.2178
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.62	23.64	23.68	24.10	0.2570
5	1	0	16-QAM	22.88	22.93	22.92	23.36	0.2168
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.58	23.62	23.64	24.06	0.2547
3	1	0	16-QAM	22.84	22.88	22.90	23.30	0.2138
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.47	23.45	23.50	24.04	0.2535
1.4	1	0	16-QAM	22.74	22.73	22.70	23.24	0.2109
Limit	EIRP < 2W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.29	23.67	23.29	25.27	0.3365
20	1	0	16-QAM	22.53	22.54	22.51	24.23	0.2649
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.51	23.55	23.56	25.25	0.3350
15	1	0	16-QAM	22.75	22.86	22.79	24.50	0.2818
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.55	23.56	23.65	25.25	0.3350
10	1	0	16-QAM	22.81	22.78	22.89	24.51	0.2825
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.56	23.56	23.66	25.26	0.3357
5	1	0	16-QAM	22.80	22.77	22.89	24.53	0.2838
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.49	23.52	23.61	25.22	0.3327
3	1	0	16-QAM	22.72	22.71	22.86	24.50	0.2818
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.35	23.38	23.48	25.18	0.3296
1.4	1	0	16-QAM	22.60	22.57	22.73	24.40	0.2754
Limit	EIRP < 1W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = -0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.43	23.49	23.42	20.94	0.1242
10	1	0	16-QAM	22.70	22.79	22.70	20.25	0.1059
Limit	ERP < 7W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = -0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.45	23.48	23.43	20.93	0.1239
5	1	0	16-QAM	22.71	22.80	22.71	20.25	0.1059
Limit	ERP < 7W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = -0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	23.43	23.47	23.40	20.92	0.1236
3	1	0	16-QAM	22.65	22.75	22.71	20.22	0.1052
Limit	ERP < 7W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = -0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.28	23.30	23.23	20.87	0.1222
1.4	1	0	16-QAM	22.53	22.60	22.52	20.14	0.1033
Limit	ERP < 7W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	22.55	23.20	22.72	23.60	0.2291
20	1	0	16-QAM	21.91	22.05	22.12	22.63	0.1832
Limit	EIRP < 2W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	22.93	23.01	22.97	23.59	0.2286
15	1	0	16-QAM	22.26	22.32	22.30	22.98	0.1986
Limit	EIRP < 2W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	22.81	22.91	22.80	23.45	0.2213
10	1	0	16-QAM	22.14	22.24	22.15	22.85	0.1928
Limit	EIRP < 2W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	22.86	22.96	22.85	23.40	0.2188
5	1	0	16-QAM	22.13	22.26	22.19	22.76	0.1888
Limit	EIRP < 2W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -2.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.22	23.58	23.31	18.63	0.0729
10	1	0	16-QAM	22.48	22.49	22.56	17.82	0.0605
Limit	ERP < 3W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -2.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	23.37	23.52	23.40	18.60	0.0724
3	1	0	16-QAM	22.63	22.65	22.68	17.81	0.0604
Limit	ERP < 3W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -2.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.24	23.40	23.25	18.52	0.0711
1.4	1	0	16-QAM	22.50	22.57	22.48	17.63	0.0579
Limit	ERP < 3W			Result			Pass	

LTE Band 13 Maximum Average Power [dBm] (GT - LC = -2 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	-	23.62	-	19.47	0.0885
10	1	0	16-QAM		22.60		18.66	0.0735
Limit	ERP < 3W			Result			Pass	

LTE Band 13 Maximum Average Power [dBm] (GT - LC = -2 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.49	23.47	23.53	19.46	0.0883
5	1	0	16-QAM	22.63	22.71	22.78	18.73	0.0746
Limit	ERP < 3W			Result			Pass	

LTE Band 17 Maximum Average Power [dBm] (GT - LC = -2.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.37	23.57	23.35	18.62	0.0728
10	1	0	16-QAM	22.53	22.53	22.41	17.87	0.0612
Limit	ERP < 3W			Result			Pass	

LTE Band 17 Maximum Average Power [dBm] (GT - LC = -2.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.41	23.38	23.38	18.56	0.0718
5	1	0	16-QAM	22.57	22.56	22.64	17.84	0.0608
Limit	ERP < 3W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	23.53	23.57	23.43	20.42	0.1102
15	1	0	16-QAM	22.70	22.65	22.75	19.68	0.0929
Limit	ERP < 7W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.46	23.34	23.45	20.34	0.1081
10	1	0	16-QAM	22.74	22.71	22.71	19.59	0.0910
Limit	ERP < 7W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.37	23.40	23.43	20.38	0.1091
5	1	0	16-QAM	22.78	22.63	22.71	19.63	0.0918
Limit	ERP < 7W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	23.48	23.42	23.39	20.33	0.1079
3	1	0	16-QAM	22.69	22.59	22.67	19.65	0.0923
Limit	ERP < 7W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.28	23.20	23.21	20.33	0.1079
1.4	1	0	16-QAM	22.54	22.61	22.52	19.52	0.0895
Limit	ERP < 7W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = 0.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	22.79	22.96	22.93	23.76	0.2377
20	1	0	16-QAM	21.91	21.92	22.03	22.84	0.1923
Limit	EIRP < 2W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = 0.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	22.80	22.82	22.93	23.75	0.2371
15	1	0	16-QAM	21.92	21.96	22.05	22.89	0.1945
Limit	EIRP < 2W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = 0.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	22.69	22.86	22.88	23.68	0.2333
10	1	0	16-QAM	21.81	21.84	21.94	22.77	0.1892
Limit	EIRP < 2W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = 0.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	22.72	22.85	22.87	23.67	0.2328
5	1	0	16-QAM	21.85	21.82	21.97	22.77	0.1892
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 0.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	22.96	23.02	22.84	23.62	0.2301
20	1	0	16-QAM	22.05	22.14	22.02	22.74	0.1879
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 0.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	22.89	22.92	22.71	23.60	0.2291
15	1	0	16-QAM	21.91	22.06	21.84	22.66	0.1845
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 0.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	22.86	22.92	22.77	23.52	0.2249
10	1	0	16-QAM	21.98	22.05	21.92	22.65	0.1841
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 0.6 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	22.88	22.93	22.77	23.53	0.2254
5	1	0	16-QAM	21.99	22.07	21.96	22.67	0.1849
Limit	EIRP < 2W			Result			Pass	

LTE Band 30 Maximum Average Power [dBm] (GT - LC = 0.2 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	-	21.88	-	22.08	0.1614
10	1	0	16-QAM		21.05		21.36	0.1368
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 = 0.2 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	21.78	21.72	21.59	22.04	0.1600
5	1	0	16-QAM	21.02	21.02	20.87	21.32	0.1355
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 = 1.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.64	23.79	23.50	25.59	0.3622
20	1	0	16-QAM	22.99	22.88	22.71	24.87	0.3069
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.49	23.54	23.30	25.46	0.3516
15	1	0	16-QAM	22.88	22.85	22.62	24.75	0.2985
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.72	23.57	23.50	25.58	0.3614
10	1	0	16-QAM	22.98	22.76	22.71	24.83	0.3041
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.59	23.51	23.48	25.44	0.3499
5	1	0	16-QAM	22.98	22.75	22.66	24.82	0.3034
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.69	23.49	23.47	25.51	0.3556
3	1	0	16-QAM	22.94	22.69	22.69	24.79	0.3013
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.50	23.34	23.32	25.42	0.3483
1.4	1	0	16-QAM	22.74	22.55	22.55	24.66	0.2924
Limit	EIRP < 1W			Result			Pass	

LTE Band 71 Maximum Average Power [dBm] (GT - LC = -2.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
20	1	0	QPSK	23.18	23.45	23.21	18.50	0.0708
20	1	0	16-QAM	22.44	22.42	22.66	17.76	0.0597
Limit	ERP < 3W			Result			Pass	

LTE Band 71 Maximum Average Power [dBm] (GT - LC = -2.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	23.11	23.11	23.36	18.41	0.0693
15	1	0	16-QAM	22.38	22.32	22.60	17.70	0.0589
Limit	ERP < 3W			Result			Pass	

LTE Band 71 Maximum Average Power [dBm] (GT - LC = -2.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.10	23.12	23.35	18.40	0.0692
10	1	0	16-QAM	22.34	22.36	22.55	17.67	0.0585
Limit	ERP < 3W			Result			Pass	

LTE Band 71 Maximum Average Power [dBm] (GT - LC = -2.8 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.12	23.14	23.36	18.41	0.0693
5	1	0	16-QAM	22.34	22.35	22.56	17.68	0.0586
Limit	ERP < 3W			Result			Pass	

LTE Band 14 Maximum Average Power [dBm] (GT - LC = -2.1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	-	23.53	-	19.28	0.0847
10	1	0	16-QAM		22.81		18.56	0.0718
Limit	ERP < 3W			Result			Pass	

LTE Band 14 Maximum Average Power [dBm] (GT - LC = -2.1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.44	23.49	23.44	19.24	0.0839
5	1	0	16-QAM	22.73	22.76	22.75	18.51	0.0710
Limit	ERP < 3W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	23.56	-	-	20.41	0.1099
15	1	0	16-QAM	22.76	-	-	19.65	0.0923
Limit	Power < 100W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	-	23.38	-	20.23	0.1054
10	1	0	16-QAM	-	22.64	-	19.56	0.0904
Limit	Power < 100W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.47	23.47	23.50	20.35	0.1084
5	1	0	16-QAM	22.70	22.69	22.67	19.60	0.0912
Limit	Power < 100W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	23.47	23.53	23.38	20.38	0.1091
3	1	0	16-QAM	22.66	22.73	22.71	19.61	0.0914
Limit	Power < 100W			Result			Pass	

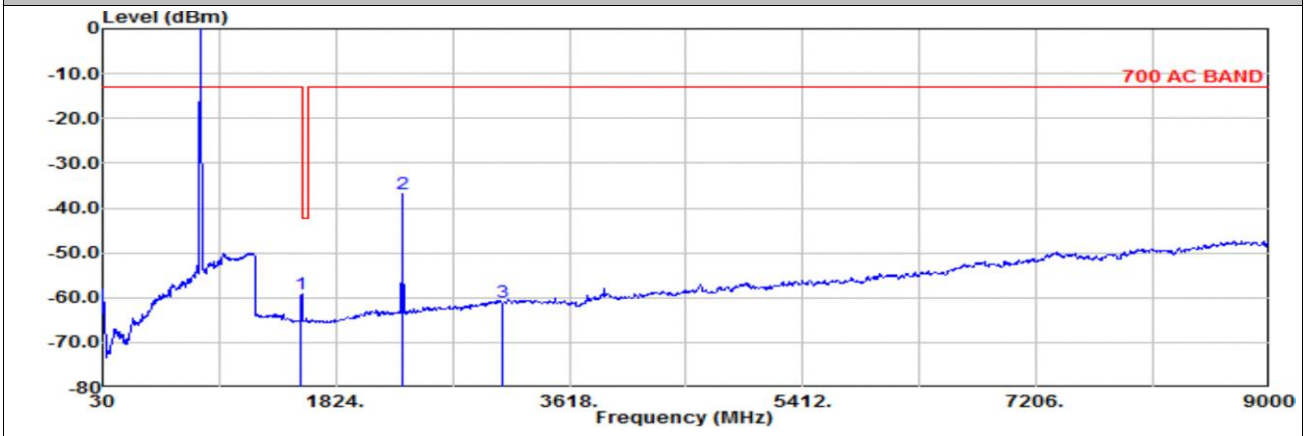
LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.33	23.35	23.37	20.32	0.1076
1.4	1	0	16-QAM	22.54	22.62	22.45	19.48	0.0887
Limit	Power < 100W			Result			Pass	

Appendix B. Test Results of Radiated Test

Mode	Part	Band	Ch	Freq (MHz)	Level (dBm)	Det	Ant Factor (dB)	Amp\Cbl (dB)	Filter (dB)	EIRPCF (dB)	Reading (dBuV)	Limit (dBm)	Margin (dB)	Pol	Ant
1	Part 27F	LTE B13	H	1564	-59.08	RMS	25.57	-32.39	0.70	-95.23	42.27	-42.15	-16.93	H	Main
2	Part 27F	LTE B13	M	2332	-30.94	RMS	27.26	-31.25	0.46	-95.23	67.82	-13.00	-17.94	H	Main
1	Part 27L	LTE B4	H	3472	-52.33	RMS	29.40	-29.96	1.09	-95.23	42.37	-13.00	-39.33	V	Main
1	Part 27D	LTE B30	H	13862	-48.07	RMS	39.92	-42.81	0.58	-95.23	49.47	-40.00	-8.07	V	Main
2	Part 27D	LTE B30	M	4620	-47.52	RMS	31.64	-49.86	0.49	-95.23	65.44	-40	-7.52	V	Main
1	Part 27M	LTE B7	M	10104	-45.94	RMS	38.41	-25.71	0.36	-95.23	36.23	-25.00	-20.94	H	Main

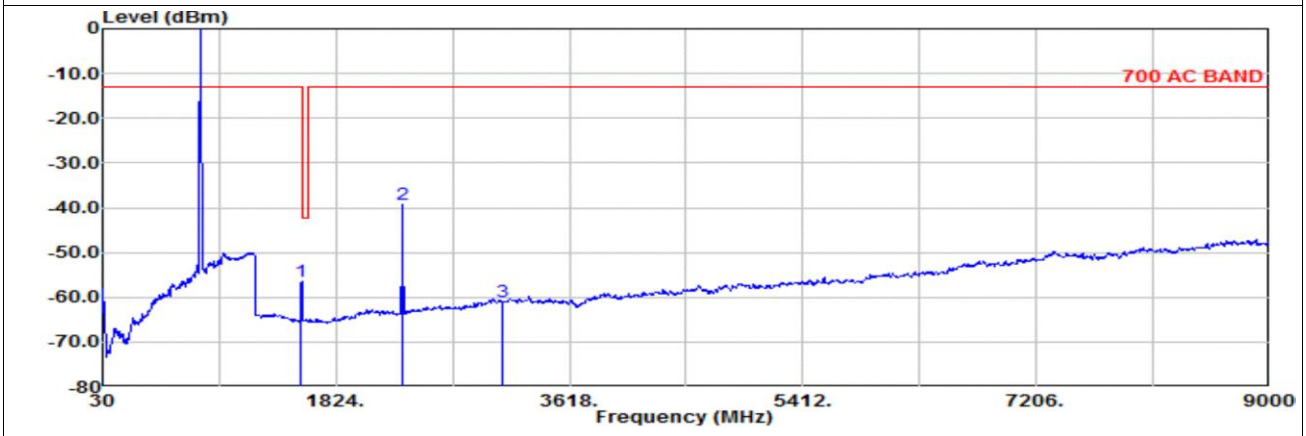
Main

Part 27F Mode 1 LTE B13 5M Ch23205 1RB0 QPSK
L



Site : 03CH15-HY
Condition: 700 AC BAND 3m BBHA 9120 D_9120D-02294 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	1554.00	-59.09	RMS	25.59	-32.41	0.72	-95.23	42.24	-13.00	-46.09	Horizontal
2	2332.00	-36.88	RMS	27.26	-31.25	0.46	-95.23	61.88	-13.00	-23.88	Horizontal
3	3109.00	-61.09	RMS	29.55	-30.31	0.37	-95.23	34.53	-13.00	-48.09	Horizontal



Site : 03CH15-HY
Condition: 700 AC BAND 3m BBHA 9120 D_9120D-02294 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	1554.00	-56.42	RMS	25.59	-32.41	0.72	-95.23	44.91	-13.00	-43.42	Vertical
2	2332.00	-39.16	RMS	27.26	-31.25	0.46	-95.23	59.60	-13.00	-26.16	Vertical
3	3109.00	-61.07	RMS	29.55	-30.31	0.37	-95.23	34.55	-13.00	-48.07	Vertical

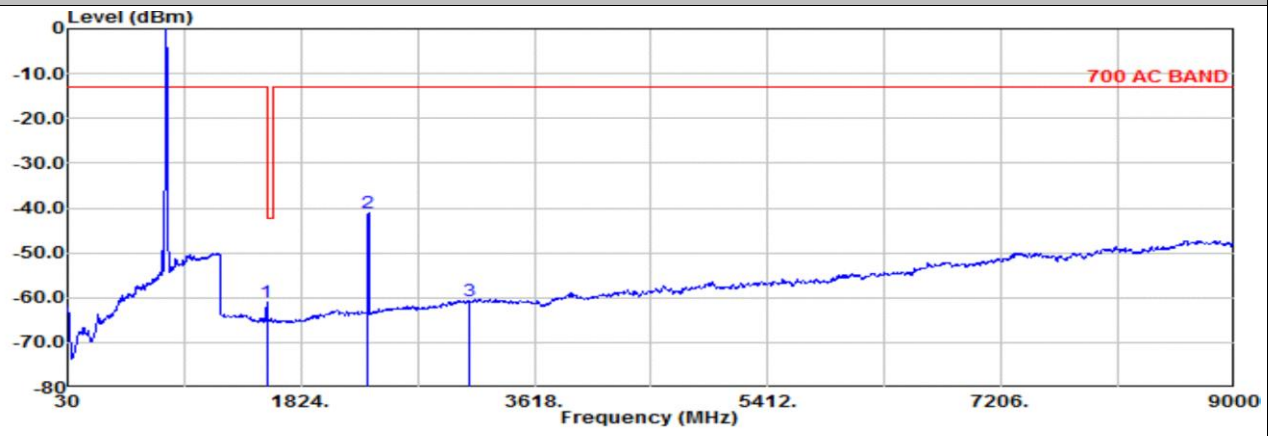
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27F Mode 1

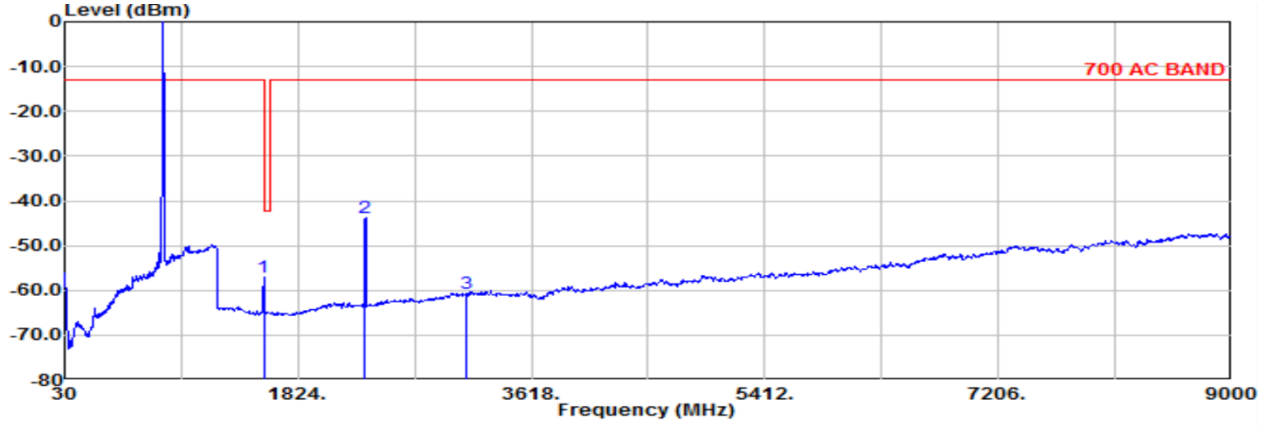
LTE B13 5M Ch23230 1RB0 QPSK

M



Site : 03CH15-HY
Condition: 700 AC BAND 3m BBHA 9120 D_9120D-02294 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	-61.08	RMS	25.58	-32.40	0.71	-95.23	40.26	-42.15	-18.93	Horizontal
2	2339.00	-41.18	RMS	27.28	-31.24	0.46	-95.23	57.55	-13.00	-28.18	Horizontal
3	3119.00	-60.58	RMS	29.61	-30.30	0.37	-95.23	34.97	-13.00	-47.58	Horizontal



Site : 03CH15-HY
Condition: 700 AC BAND 3m BBHA 9120 D_9120D-02294 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	-57.13	RMS	25.58	-32.40	0.71	-95.23	44.21	-42.15	-14.98	Vertical
2	2339.00	-43.85	RMS	27.28	-31.24	0.46	-95.23	54.88	-13.00	-30.85	Vertical
3	3119.00	-60.56	RMS	29.61	-30.30	0.37	-95.23	34.99	-13.00	-47.56	Vertical

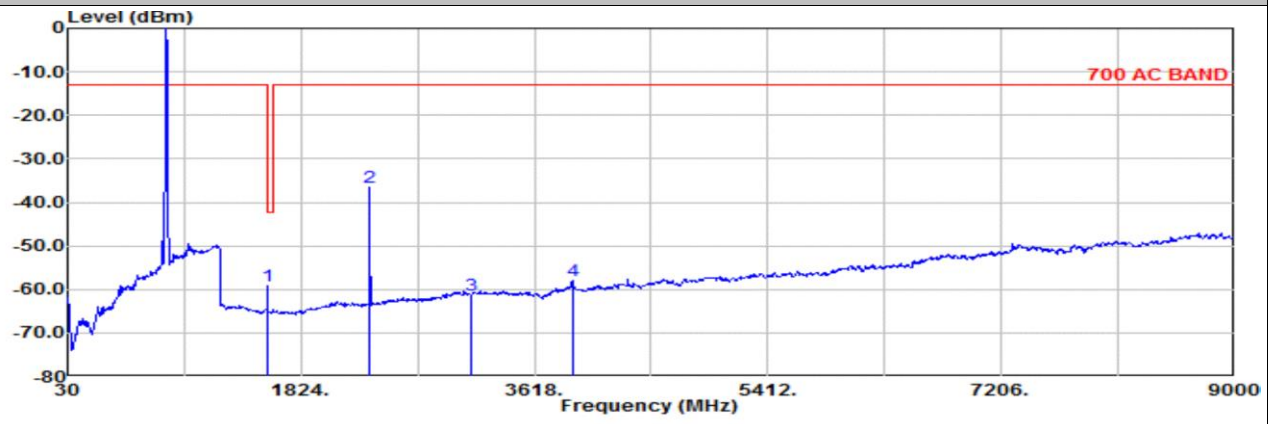
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27F Mode 1

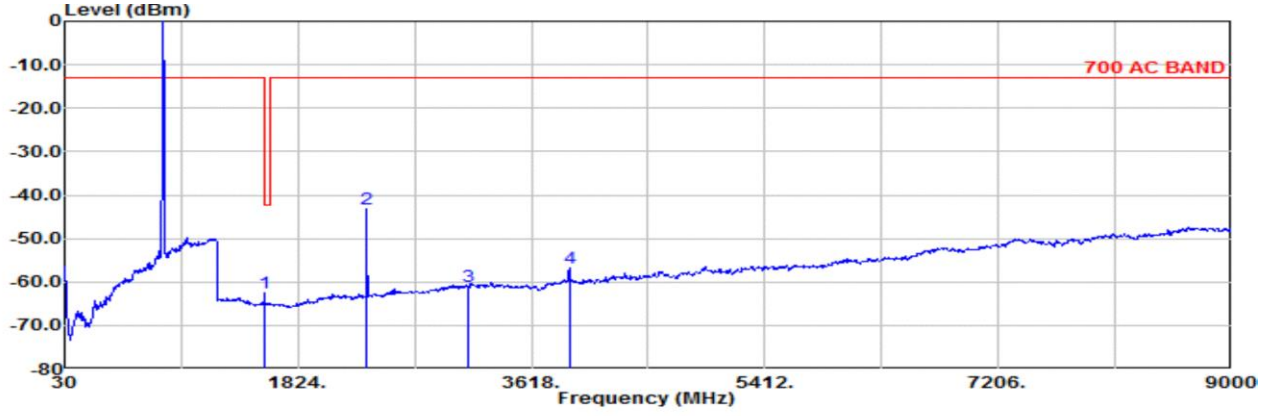
LTE B13 5M Ch23255 1RB0 QPSK

H



Site : 03CH15-HY
Condition: 700 AC BAND 3m BBHA 9120 D_9120D-02294 Horizontal
: LTE Band 13 5M 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	1564.00	-59.08	RMS	25.57	-32.39	0.70	-95.23	42.27	-42.15	-16.93	Horizontal
2	2347.00	-36.54	RMS	27.29	-31.23	0.46	-95.23	62.17	-13.00	-23.54	Horizontal
3	3129.00	-61.26	RMS	29.67	-30.29	0.37	-95.23	34.22	-13.00	-48.26	Horizontal
4	3912.00	-57.85	RMS	30.90	-29.79	0.28	-95.23	35.99	-13.00	-44.85	Horizontal



Site : 03CH15-HY
Condition: 700 AC BAND 3m BBHA 9120 D_9120D-02294 Vertical
: LTE Band 13 5M 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	1564.00	-62.48	RMS	25.57	-32.39	0.70	-95.23	38.87	-42.15	-20.33	Vertical
2	2347.00	-43.23	RMS	27.29	-31.23	0.46	-95.23	55.48	-13.00	-30.23	Vertical
3	3129.00	-60.87	RMS	29.67	-30.29	0.37	-95.23	34.61	-13.00	-47.87	Vertical
4	3911.00	-56.76	RMS	30.90	-29.79	0.28	-95.23	37.08	-13.00	-43.76	Vertical

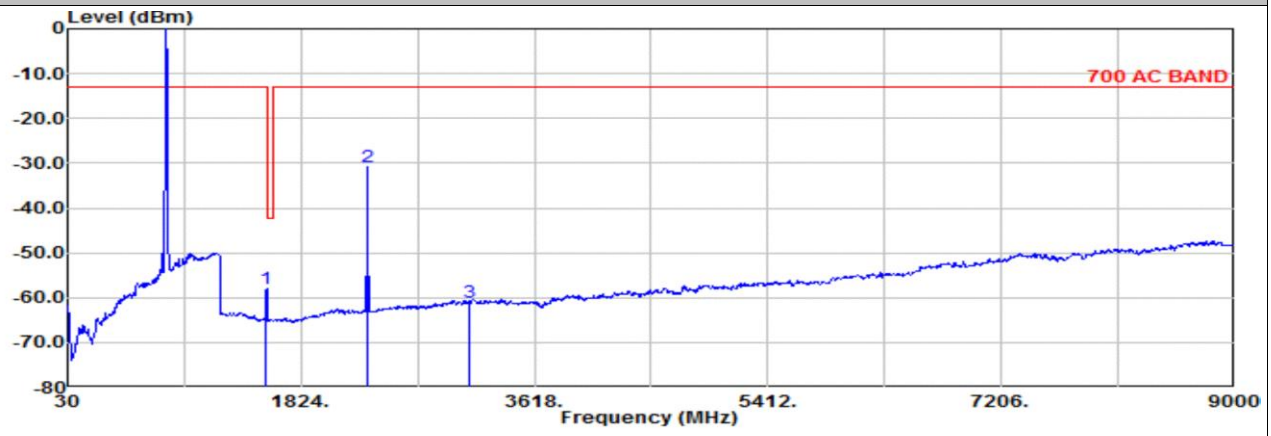
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27F Mode 2

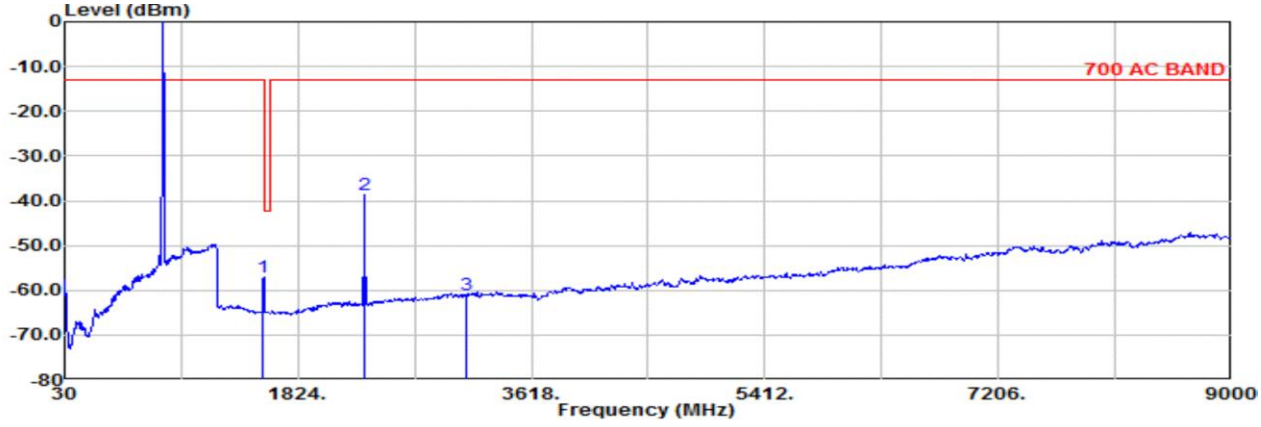
LTE B13 10M Ch23230 1RB0 QPSK

M



Site : 03CH15-HY
Condition: 700 AC BAND 3m BBHA 9120 D_9120D-02294 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	-57.90	RMS	25.59	-32.41	0.71	-95.23	43.44	-13.00	-44.90	Horizontal
2	2332.00	-30.94	RMS	27.26	-31.25	0.46	-95.23	67.82	-13.00	-17.94	Horizontal
3	3110.00	-60.85	RMS	29.56	-30.31	0.37	-95.23	34.76	-13.00	-47.85	Horizontal



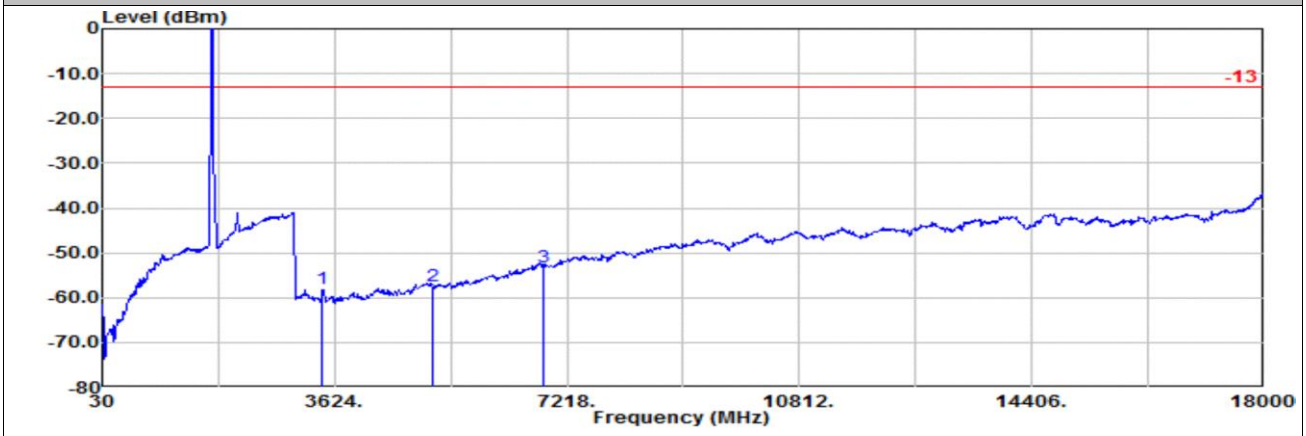
Site : 03CH15-HY
Condition: 700 AC BAND 3m BBHA 9120 D_9120D-02294 Vertical
: LTE Band 13 10M Ch23230 1RB0 QPSK

	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	-56.91	RMS	25.59	-32.41	0.71	-95.23	44.43	-13.00	-43.91	Vertical
2	2332.00	-38.68	RMS	27.26	-31.25	0.46	-95.23	60.08	-13.00	-25.68	Vertical
3	3110.00	-61.09	RMS	29.56	-30.31	0.37	-95.23	34.52	-13.00	-48.09	Vertical

Remark: The over limit signal before #1 is fundamental signal which can be ignored.

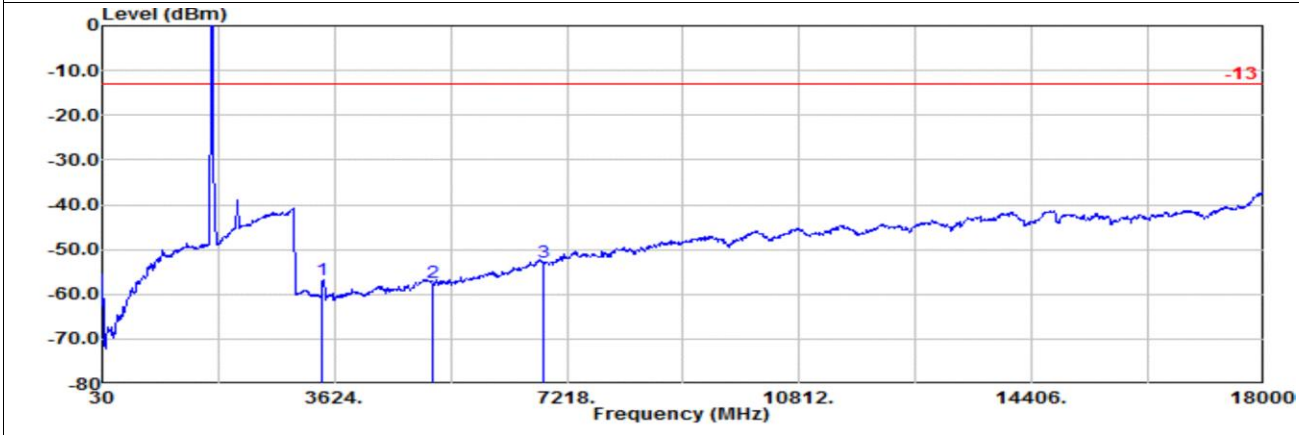
Main

Part 27L Mode 1 LTE B4 20M Ch20050 1RB0 QPSK
L



Site : 03CH15-HY
Condition: -13 3m BBHA 9120 D_9120D-02294 Horizontal
Mode : LTE Band 4 20M Ch20050 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	3422.00	-58.11	RMS	29.51	-30.00	1.15	-95.23	36.46	-13.00	-45.11	Horizontal
2	5133.00	-57.32	RMS	32.93	-28.32	0.52	-95.23	32.78	-13.00	-44.32	Horizontal
3	6844.00	-53.16	RMS	35.71	-26.73	0.48	-95.23	32.61	-13.00	-40.16	Horizontal



Site : 03CH15-HY
Condition: -13 3m BBHA 9120 D_9120D-02294 Vertical
Mode : LTE Band 4 20M Ch20050 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	3422.00	-56.69	RMS	29.51	-30.00	1.15	-95.23	37.88	-13.00	-43.69	Vertical
2	5133.00	-57.30	RMS	32.93	-28.32	0.52	-95.23	32.80	-13.00	-44.30	Vertical
3	6844.00	-52.87	RMS	35.71	-26.73	0.48	-95.23	32.90	-13.00	-39.87	Vertical

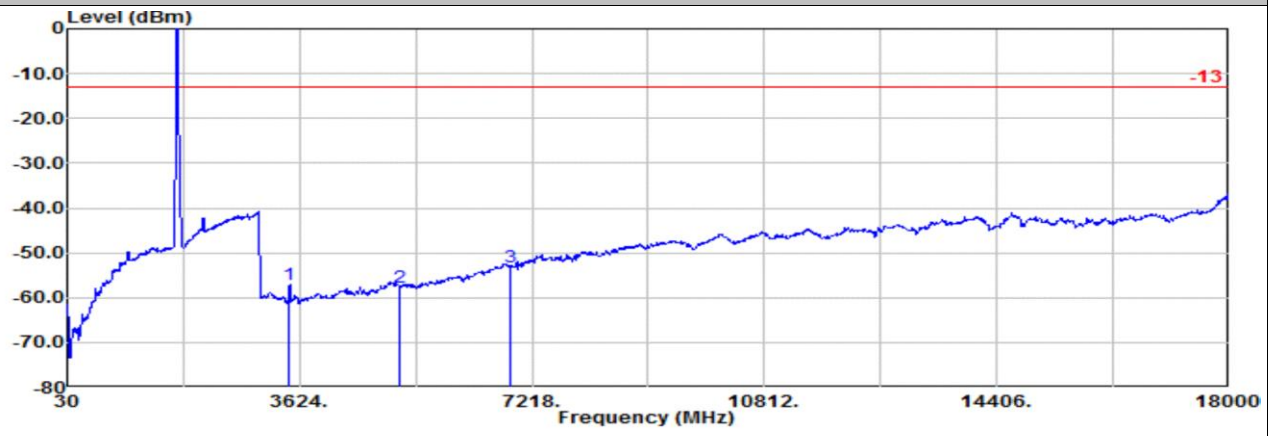
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27L Mode 1

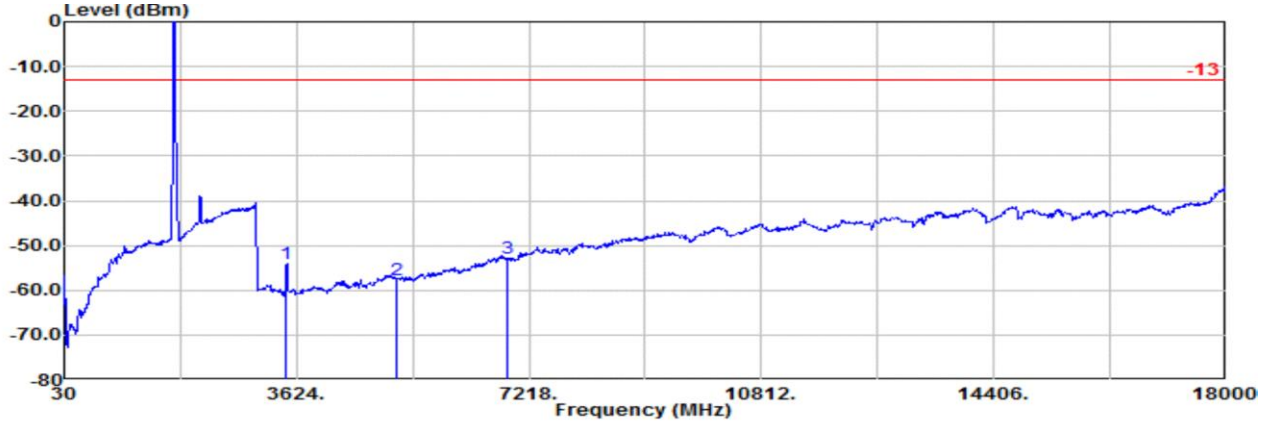
LTE B4 20M Ch20175 1RB0 QPSK

M



Site : 03CH15-HY
Condition: -13 3m BBHA 9120 D_9120D-02294 Horizontal
Mode : LTE Band 4 20M Ch20175 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	3447.00	-56.95	RMS	29.41	-29.98	1.12	-95.23	37.73	-13.00	-43.95	Horizontal
2	5170.00	-57.76	RMS	32.90	-28.28	0.52	-95.23	32.33	-13.00	-44.76	Horizontal
3	6894.00	-53.11	RMS	35.61	-26.70	0.46	-95.23	32.75	-13.00	-40.11	Horizontal



Site : 03CH15-HY
Condition: -13 3m BBHA 9120 D_9120D-02294 Vertical
Mode : LTE Band 4 20M Ch20175 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	3447.00	-54.10	RMS	29.41	-29.98	1.12	-95.23	40.58	-13.00	-41.10	Vertical
2	5170.00	-57.80	RMS	32.90	-28.28	0.52	-95.23	32.29	-13.00	-44.80	Vertical
3	6894.00	-52.83	RMS	35.61	-26.70	0.46	-95.23	33.03	-13.00	-39.83	Vertical

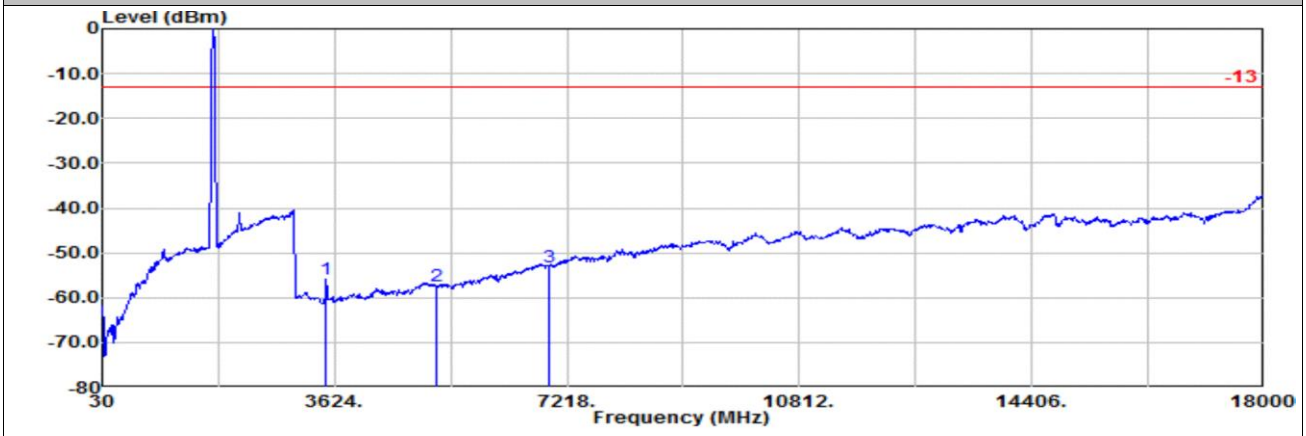
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27L Mode 1

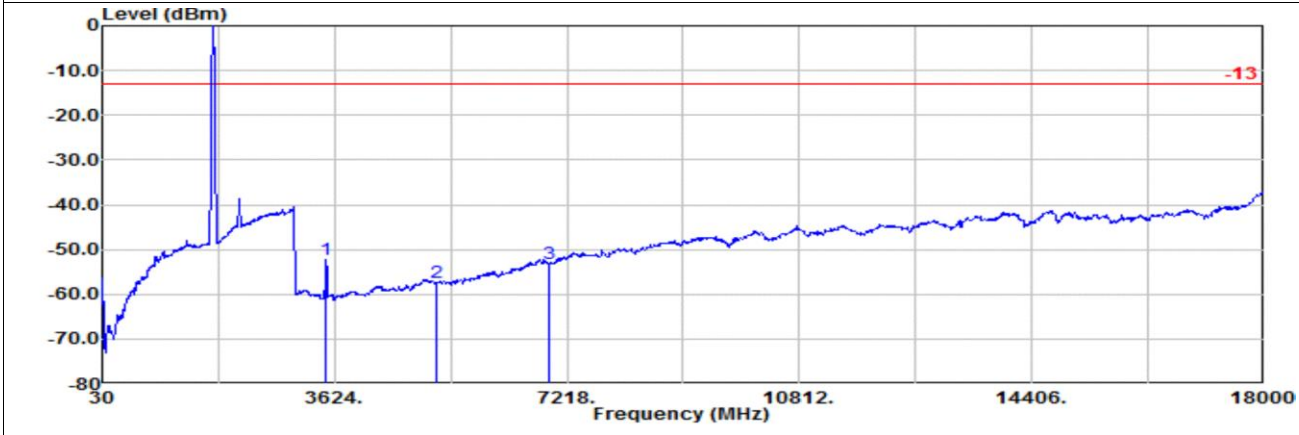
LTE B4 20M Ch20300 1RB0 QPSK

H



Site : 03CH15-HY
Condition: -13 3m BBHA 9120 D_9120D-02294 Horizontal
Mode : LTE Band 4 20M Ch20300 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	3472.00	-55.99	RMS	29.40	-29.96	1.09	-95.23	38.71	-13.00	-42.99	Horizontal
2	5208.00	-57.40	RMS	32.90	-28.24	0.53	-95.23	32.64	-13.00	-44.40	Horizontal
3	6944.00	-53.15	RMS	35.60	-26.67	0.44	-95.23	32.71	-13.00	-40.15	Horizontal



Site : 03CH15-HY
Condition: -13 3m BBHA 9120 D_9120D-02294 Vertical
Mode : LTE Band 4 20M Ch20300 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	3472.00	-52.33	RMS	29.40	-29.96	1.09	-95.23	42.37	-13.00	-39.33	Vertical
2	5208.00	-57.27	RMS	32.90	-28.24	0.53	-95.23	32.77	-13.00	-44.27	Vertical
3	6944.00	-53.16	RMS	35.60	-26.67	0.44	-95.23	32.70	-13.00	-40.16	Vertical

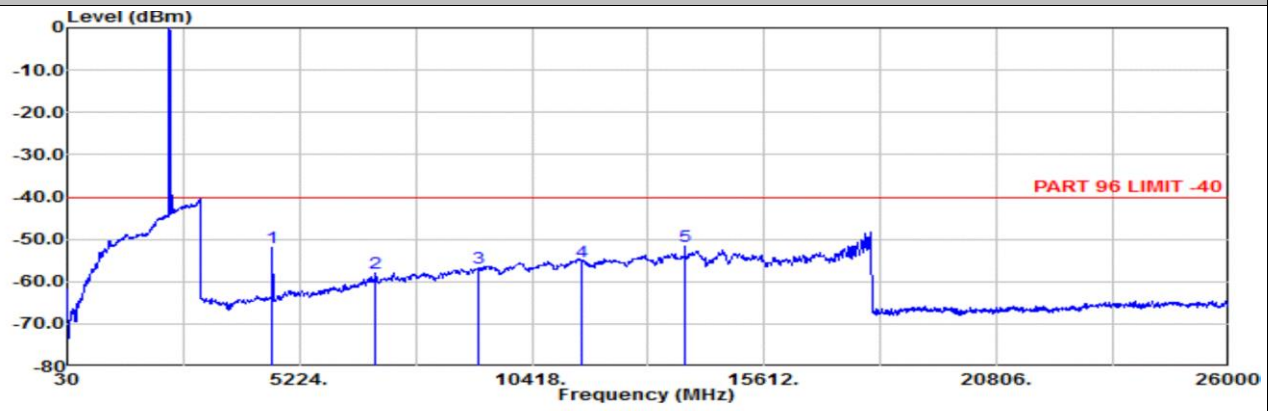
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27D Mode 1

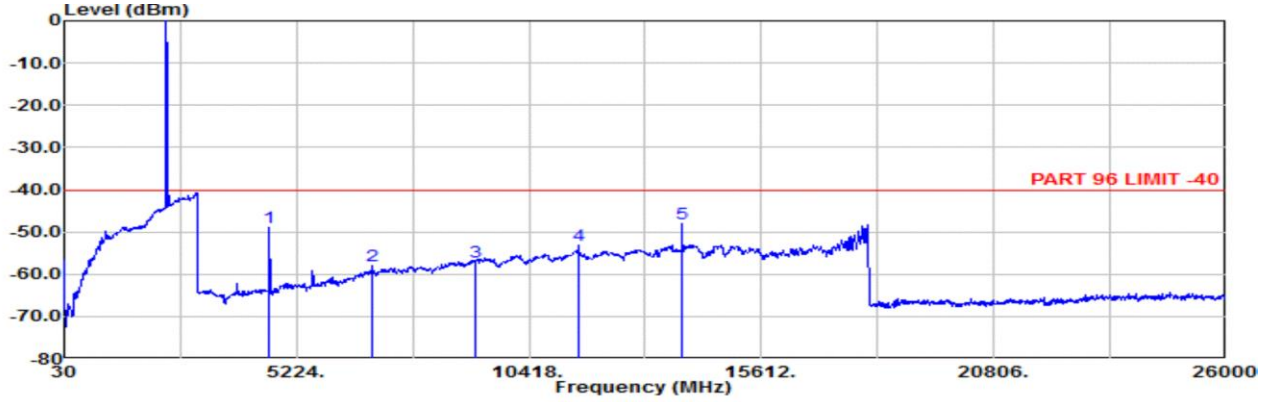
LTE B30 5M Ch27685 1RB0 QPSK

L



Site : 03CH15-HY
Condition: PART 96 LIMIT -40 3m BBHA 9120 D_9120D-02294 Horizontal
Mode : LTE Band 30 5M 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	-51.79	RMS	31.62	-49.86	0.49	-95.23	61.19	-40.00	-11.79	Horizontal
2	6916.00	-57.95	RMS	35.60	-48.70	0.45	-95.23	49.93	-40.00	-17.95	Horizontal
3	9221.00	-56.70	RMS	38.20	-47.35	0.41	-95.23	47.27	-40.00	-16.70	Horizontal
4	11526.00	-55.22	RMS	38.82	-44.51	0.45	-95.23	45.25	-40.00	-15.22	Horizontal
5	13832.00	-51.55	RMS	39.86	-42.83	0.58	-95.23	46.07	-40.00	-11.55	Horizontal



Site : 03CH15-HY
Condition: PART 96 LIMIT -40 3m BBHA 9120 D_9120D-02294 Vertical
Mode : LTE Band 30 5M 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	-48.81	RMS	31.62	-49.86	0.49	-95.23	64.17	-40.00	-8.81	Vertical
2	6916.00	-57.95	RMS	35.60	-48.70	0.45	-95.23	49.93	-40.00	-17.95	Vertical
3	9221.00	-57.04	RMS	38.20	-47.35	0.41	-95.23	46.93	-40.00	-17.04	Vertical
4	11526.00	-53.27	RMS	38.82	-44.51	0.45	-95.23	47.20	-40.00	-13.27	Vertical
5	13832.00	-48.10	RMS	39.86	-42.83	0.58	-95.23	49.52	-40.00	-8.10	Vertical

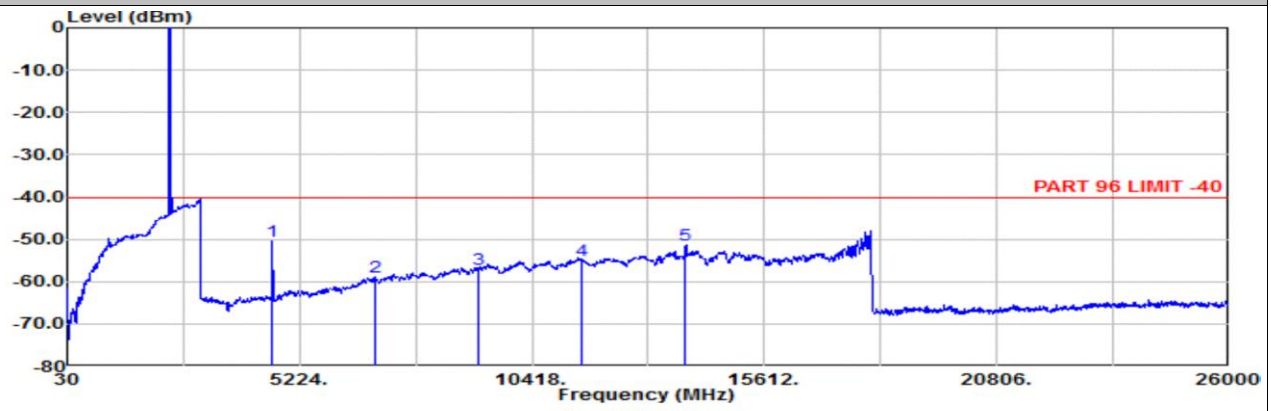
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27D Mode 1

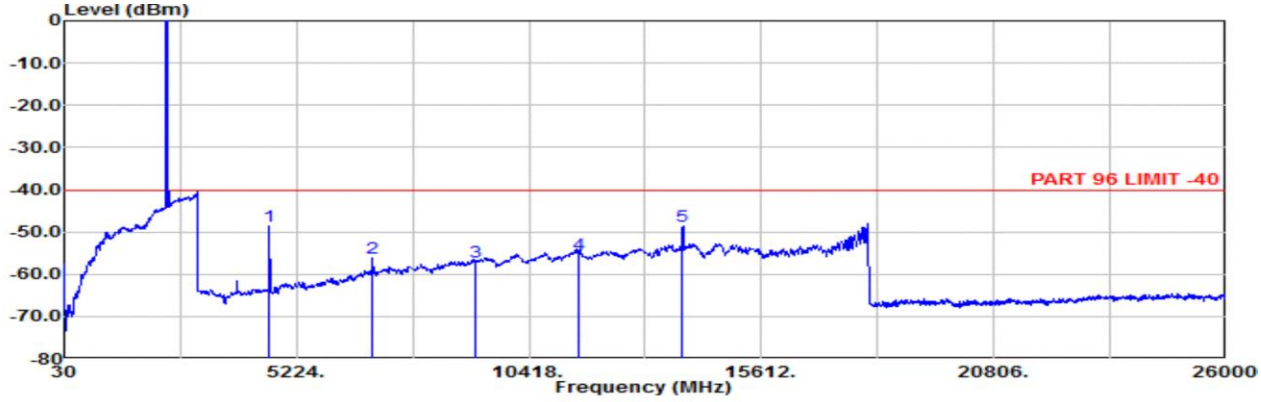
LTE B30 5M Ch27710 1RB0 QPSK

M



Site : 03CH15-HY
Condition: PART 96 LIMIT -40 3m BBHA 9120 D_9120D-02294 Horizontal
Mode : LTE Band 30 5M 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	-50.53	RMS	31.63	-49.86	0.49	-95.23	62.44	-40.00	-10.53	Horizontal
2	6923.00	-58.79	RMS	35.60	-48.69	0.45	-95.23	49.08	-40.00	-18.79	Horizontal
3	9231.00	-57.01	RMS	38.20	-47.35	0.41	-95.23	46.96	-40.00	-17.01	Horizontal
4	11539.00	-55.05	RMS	38.78	-44.50	0.45	-95.23	45.45	-40.00	-15.05	Horizontal
5	13847.00	-51.45	RMS	39.89	-42.82	0.58	-95.23	46.13	-40.00	-11.45	Horizontal



Site : 03CH15-HY
Condition: PART 96 LIMIT -40 3m BBHA 9120 D_9120D-02294 Vertical
Mode : LTE Band 30 5M 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	-48.71	RMS	31.63	-49.86	0.49	-95.23	64.26	-40.00	-8.71	Vertical
2	6923.00	-56.00	RMS	35.60	-48.69	0.45	-95.23	51.87	-40.00	-16.00	Vertical
3	9231.00	-56.93	RMS	38.20	-47.35	0.41	-95.23	47.04	-40.00	-16.93	Vertical
4	11539.00	-55.28	RMS	38.78	-44.50	0.45	-95.23	45.22	-40.00	-15.28	Vertical
5	13847.00	-48.61	RMS	39.89	-42.82	0.58	-95.23	48.97	-40.00	-8.61	Vertical

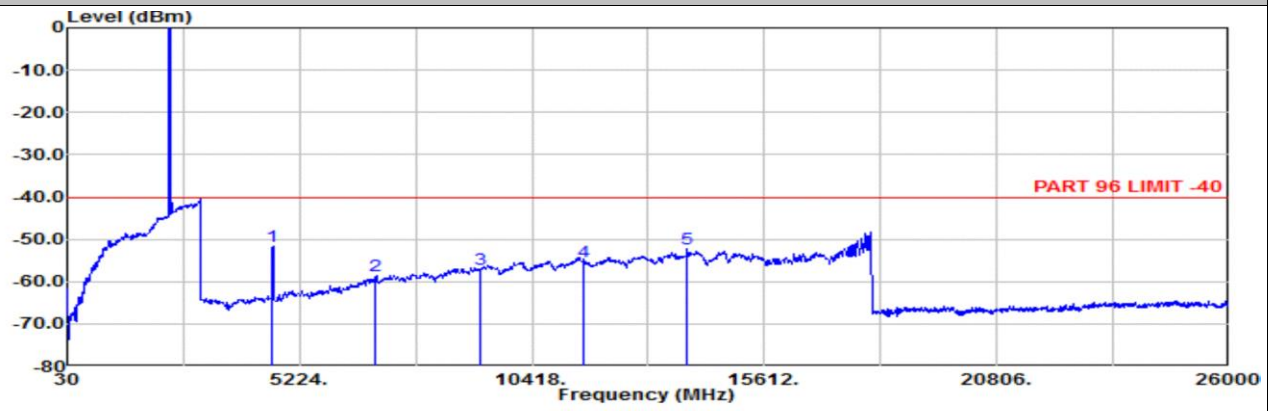
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27D Mode 1

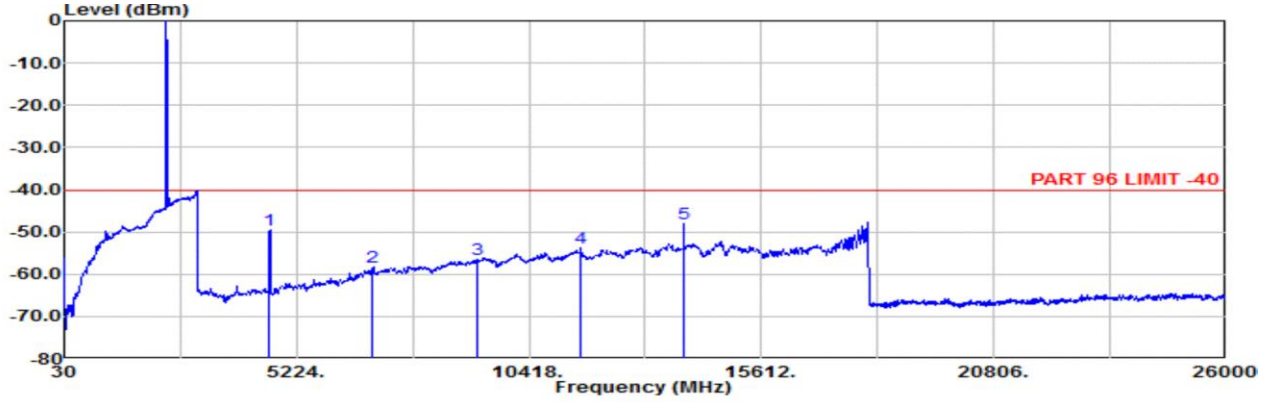
LTE B30 5M Ch27735 1RB0 QPSK

H



Site : 03CH15-HY
Condition: PART 96 LIMIT -40 3m BBHA 9120 D_9120D-02294 Horizontal
Mode : LTE Band 30 5M 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	-51.51	RMS	31.64	-49.86	0.49	-95.23	61.45	-40.00	-11.51	Horizontal
2	6931.00	-58.43	RMS	35.60	-48.69	0.45	-95.23	49.44	-40.00	-18.43	Horizontal
3	9241.00	-57.03	RMS	38.20	-47.34	0.41	-95.23	46.93	-40.00	-17.03	Horizontal
4	11551.00	-55.19	RMS	38.75	-44.48	0.45	-95.23	45.32	-40.00	-15.19	Horizontal
5	13862.00	-52.28	RMS	39.92	-42.81	0.58	-95.23	45.26	-40.00	-12.28	Horizontal



Site : 03CH15-HY
Condition: PART 96 LIMIT -40 3m BBHA 9120 D_9120D-02294 Vertical
Mode : LTE Band 30 5M 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	-49.51	RMS	31.64	-49.86	0.49	-95.23	63.45	-40.00	-9.51	Vertical
2	6931.00	-58.16	RMS	35.60	-48.69	0.45	-95.23	49.71	-40.00	-18.16	Vertical
3	9241.00	-56.52	RMS	38.20	-47.34	0.41	-95.23	47.44	-40.00	-16.52	Vertical
4	11551.00	-53.59	RMS	38.75	-44.48	0.45	-95.23	46.92	-40.00	-13.59	Vertical
5	13862.00	-48.07	RMS	39.92	-42.81	0.58	-95.23	49.47	-40.00	-8.07	Vertical

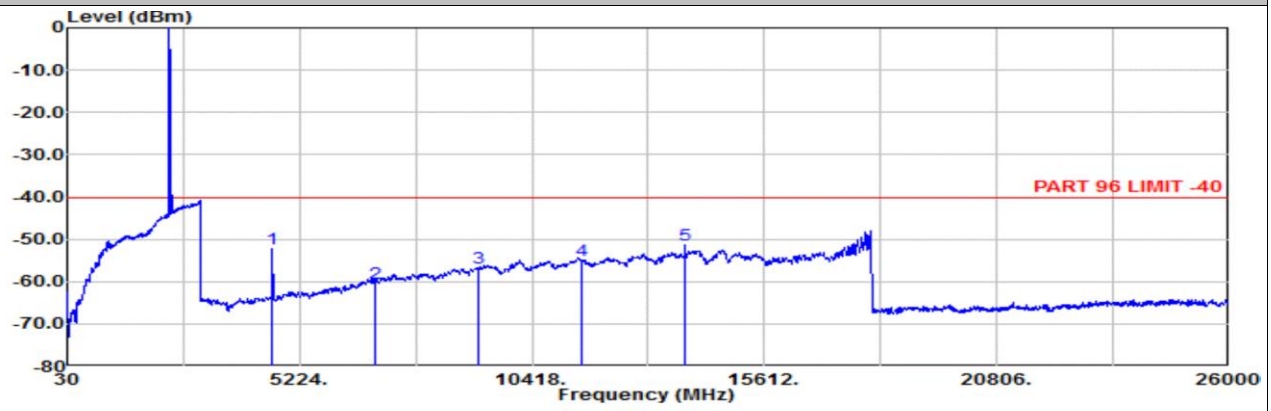
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27D Mode 2

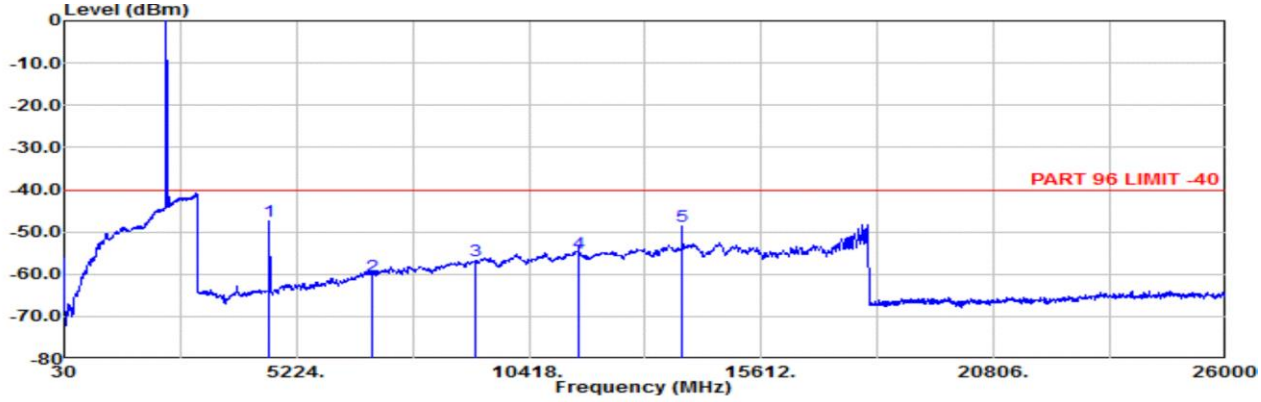
LTE B30 10M Ch27710 1RB0 QPSK

M



Site : 03CH15-HY
Condition: PART 96 LIMIT -40 3m BBHA 9120 D_9120D-02294 Horizontal
Mode : LTE Band 30 10M 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	-52.11	RMS	31.62	-49.86	0.49	-95.23	60.87	-40.00	-12.11	Horizontal
2	6916.00	-60.28	RMS	35.60	-48.70	0.45	-95.23	47.60	-40.00	-20.28	Horizontal
3	9222.00	-56.86	RMS	38.20	-47.35	0.41	-95.23	47.11	-40.00	-16.86	Horizontal
4	11527.00	-55.05	RMS	38.82	-44.51	0.45	-95.23	45.42	-40.00	-15.05	Horizontal
5	13833.00	-51.34	RMS	39.87	-42.83	0.58	-95.23	46.27	-40.00	-11.34	Horizontal



Site : 03CH15-HY
Condition: PART 96 LIMIT -40 3m BBHA 9120 D_9120D-02294 Vertical
Mode : LTE Band 30 10M 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	-47.52	RMS	31.62	-49.86	0.49	-95.23	65.46	-40.00	-7.52	Vertical
2	6916.00	-60.45	RMS	35.60	-48.70	0.45	-95.23	47.43	-40.00	-20.45	Vertical
3	9222.00	-56.88	RMS	38.20	-47.35	0.41	-95.23	47.09	-40.00	-16.88	Vertical
4	11527.00	-54.94	RMS	38.82	-44.51	0.45	-95.23	45.53	-40.00	-14.94	Vertical
5	13833.00	-48.61	RMS	39.87	-42.83	0.58	-95.23	49.00	-40.00	-8.61	Vertical

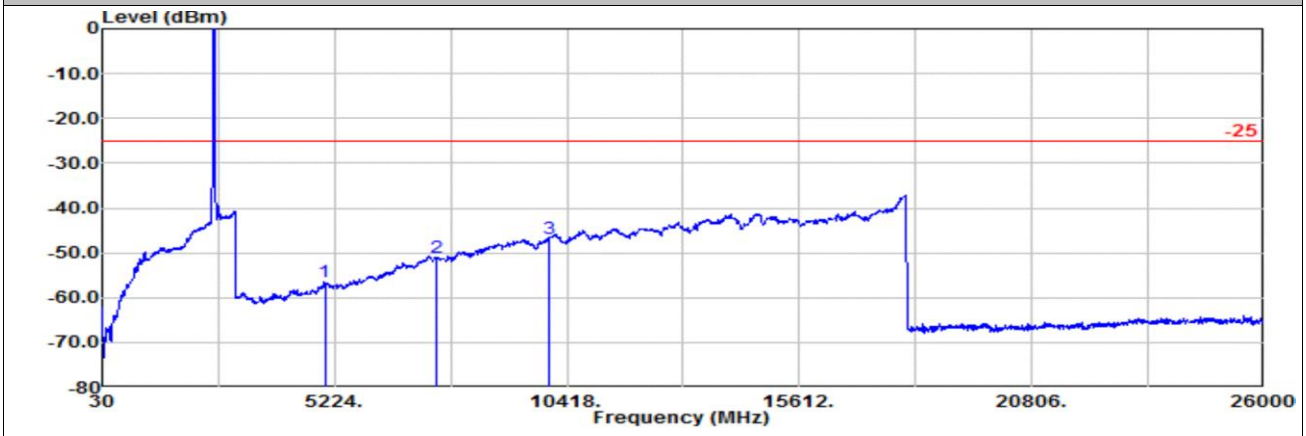
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27M Mode 1

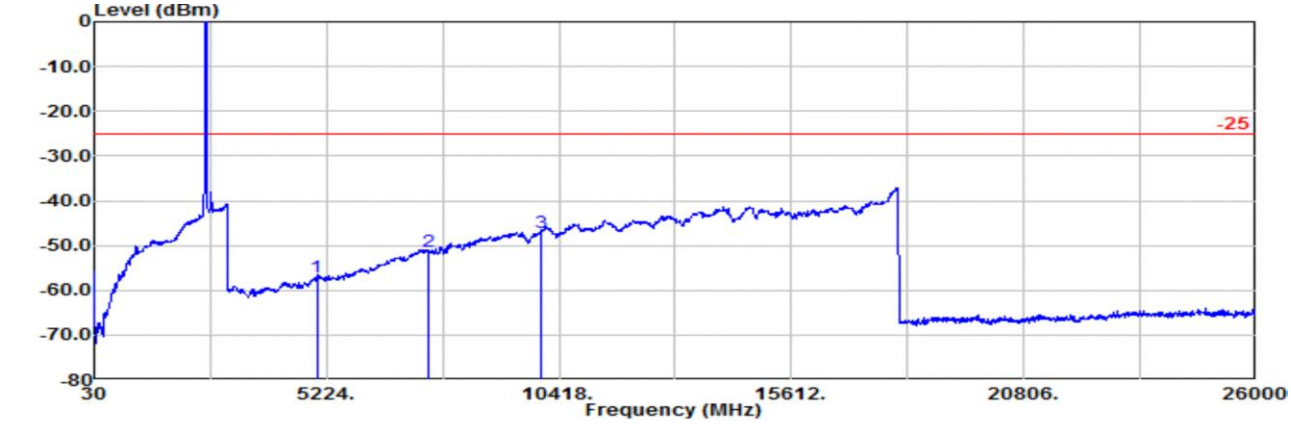
LTE B7 20M Ch20850 1RB0 QPSK

L



Site : 03CH15-HY
Condition: -25 3m BBHA 9120 D_9120D-02294 Horizontal
Mode : LTE Band 7 20M Ch20850 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	5002.00	-56.56	RMS	33.20	-28.46	0.49	-95.23	33.44	-25.00	-31.56	Horizontal
2	7503.00	-51.15	RMS	35.99	-26.20	0.50	-95.23	33.79	-25.00	-26.15	Horizontal
3	10004.00	-46.92	RMS	38.40	-25.79	0.35	-95.23	35.35	-25.00	-21.92	Horizontal



Site : 03CH15-HY
Condition: -25 3m BBHA 9120 D_9120D-02294 Vertical
Mode : LTE Band 7 20M Ch20850 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	5002.00	-56.97	RMS	33.20	-28.46	0.49	-95.23	33.03	-25.00	-31.97	Vertical
2	7503.00	-51.18	RMS	35.99	-26.20	0.50	-95.23	33.76	-25.00	-26.18	Vertical
3	10004.00	-47.04	RMS	38.40	-25.79	0.35	-95.23	35.23	-25.00	-22.04	Vertical

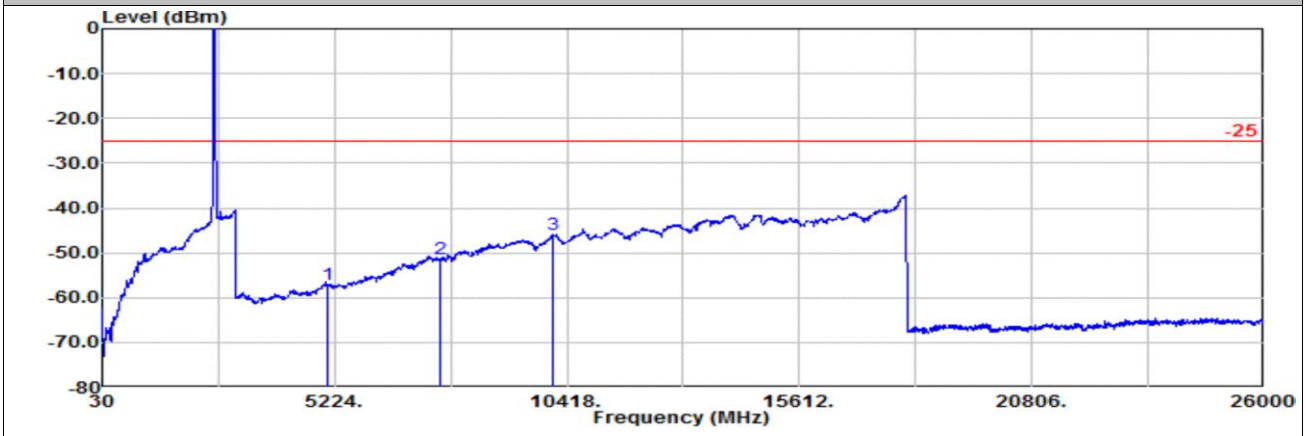
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27M Mode 1

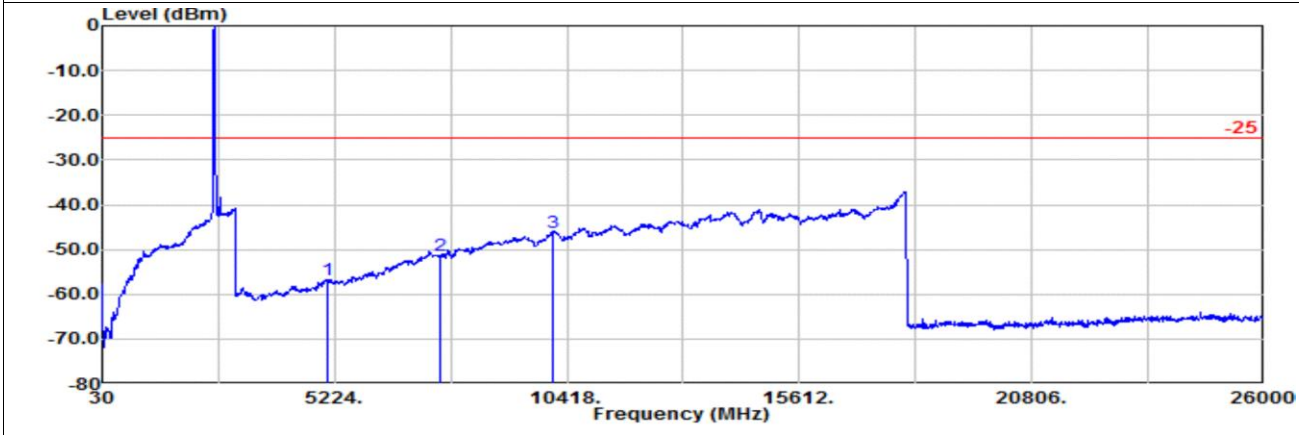
LTE B7 20M Ch21100 1RB0 QPSK

M



Site : 03CH15-HY
Condition: -25 3m BBHA 9120 D_9120D-02294 Horizontal
Mode : LTE Band 7 20M Ch21100 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	5052.00	-56.93	RMS	33.19	-28.40	0.50	-95.23	33.01	-25.00	-31.93	Horizontal
2	7578.00	-51.34	RMS	36.01	-26.18	0.60	-95.23	33.46	-25.00	-26.34	Horizontal
3	10104.00	-45.94	RMS	38.41	-25.71	0.36	-95.23	36.23	-25.00	-20.94	Horizontal



Site : 03CH15-HY
Condition: -25 3m BBHA 9120 D_9120D-02294 Vertical
Mode : LTE Band 7 20M Ch21100 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	5052.00	-56.64	RMS	33.19	-28.40	0.50	-95.23	33.30	-25.00	-31.64	Vertical
2	7578.00	-51.18	RMS	36.01	-26.18	0.60	-95.23	33.62	-25.00	-26.18	Vertical
3	10104.00	-46.33	RMS	38.41	-25.71	0.36	-95.23	35.84	-25.00	-21.33	Vertical

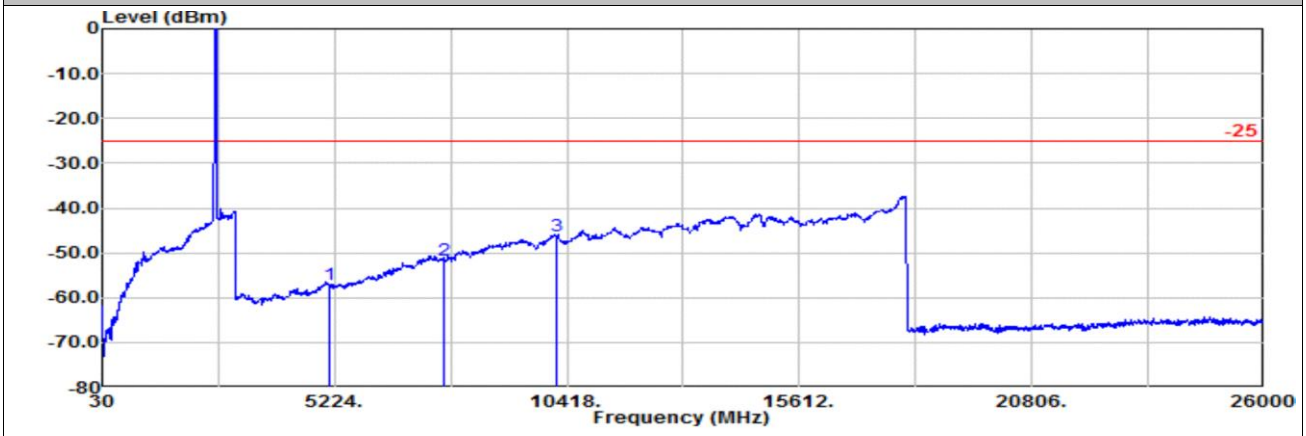
Remark: The over limit signal before #1 is fundamental signal which can be ignored.

Main

Part 27M Mode 1

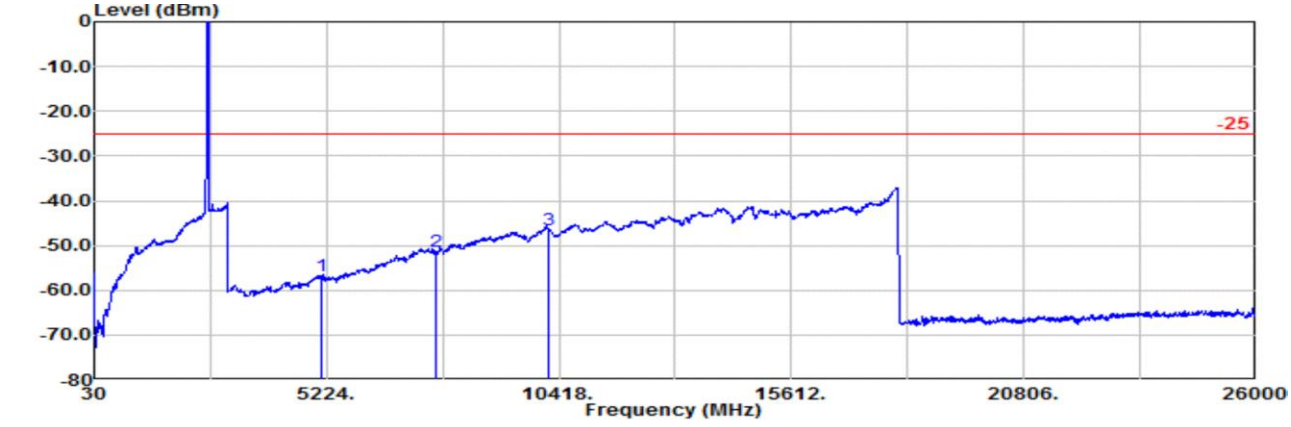
LTE B7 20M Ch21350 1RB0 QPSK

H



Site : 03CH15-HY
Condition: -25 3m BBHA 9120 D_9120D-02294 Horizontal
Mode : LTE Band 7 20M Ch21350 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	5102.00	-57.06	RMS	33.00	-28.35	0.51	-95.23	33.01	-25.00	-32.06	Horizontal
2	7653.00	-51.64	RMS	36.21	-26.16	0.58	-95.23	32.96	-25.00	-26.64	Horizontal
3	10204.00	-46.12	RMS	38.70	-25.63	0.36	-95.23	35.68	-25.00	-21.12	Horizontal



Site : 03CH15-HY
Condition: -25 3m BBHA 9120 D_9120D-02294 Vertical
Mode : LTE Band 7 20M Ch21350 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	5102.00	-56.80	RMS	33.00	-28.35	0.51	-95.23	33.27	-25.00	-31.80	Vertical
2	7653.00	-51.44	RMS	36.21	-26.16	0.58	-95.23	33.16	-25.00	-26.44	Vertical
3	10204.00	-46.55	RMS	38.70	-25.63	0.36	-95.23	35.25	-25.00	-21.55	Vertical

Remark: The over limit signal before #1 is fundamental signal which can be ignored.