



TEST REPORT

REPORT NUMBER: I20W00001-WWAN_Rev2

ON

Type of Equipment: LTE Module
Model Name: L506
Manufacturer: Shanghai MobileTek Communication Ltd.

ACCORDING TO

FCC CFR Part 2, FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS;e-CFR, 2019

PART 22, PUBLIC MOBILE SERVICES;e-CFR, 2019

PART 27,MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES;e-CFR, 2019

ANSI C63.26-2015

Chongqing Academy of Information and Communications Technology

Month date, year

Jun, 19, 2020

Signature



Zhang Yan
Director

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of Chongqing Academy of Information and Communications Technology.

Report No.:I20W00001-WWAN_Rev2
Revision Version

Report Number	Revision	Date	Memo
I20W00001	V0.0	2020-06-02	--
I20W00001	V1.0	2020-06-12	--
I20W00001	V2.0	2020-06-19	--

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Report No.:I20W00001-WWAN_Rev2

FCC ID: 2AK9DL506LA1

Report Date: 2020-06-19

Test Firm Name: Chongqing Academy of Information and Communications Technology

FCC Registration Number: CN1239

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22, 27 , ANSI C63.26-2015, The sample tested was found to comply with the requirements defined in the applied rules.

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1 General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22, 27, ANSI C63.26-2015.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex B.

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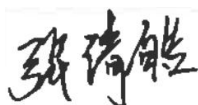
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1.2 Testers

Name: Zhang qinghao
Position: Engineer
Department: Department of RF test
Date: 2020-05-25 to 2020-06-01

Signature:



Editor of this test report:

Name: Chen Wen
Position: Engineer
Department: Department of RF test
Date: 2020-06-19

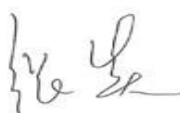
Signature:



Technical responsibility for area of testing:

Name: Zhang Yan
Position: Manager
Department: Director of the laboratory
Date: 2020-06-19

Signature:



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1.3 Testing Laboratory information

1.3.1 Location

Name: Chongqing Academy of Information and Communications Technology
Address: No. 8, Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China
4th Floor, Block B1-3, 19 East Road, XTB Valley, Yubeu District, Chongqing, P. R. China
Postal Code: 401336
Tel: +86-23-88069965
Fax: +86-23-88608777
Email: liqiao@caict.ac.cn

1.3.2 Test location, where different from section 1.3.1

Name: -----
Street: -----
City: -----
Country: -----
Telephone: -----
Fax: -----
Postcode: -----

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1.4 Details of applicant or manufacturer

1.4.1 Applicant

Name: Shanghai MobileTek Communication Ltd.
Address: Free Trade Zone No.33, No.17 building 6H Xiya Road
Country: China
Telephone: 15821966417
Fax: --
Contact: qh.zhang
Telephone: 15821966417
Email: qh.zhang@mobiletek.cn

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name: --
Address: --
Country: --
Telephone: --
Fax: --
Contact: --
Telephone: --
Email: --

Report No.:I20W00001-WWAN_Rev2**2 Test Item****2.1 General Information**

Manufacturer: Shanghai MobileTek Communication Ltd.

Type of Equipment: LTE Module

Model Name: L506

Production Status: Product

Hardware Version: V1

Software Version: L506LA1v04.01b02

Antenna type: Single stage sub-antenna

Antenna gain: 3dBi-4dBi

Modulation Type: QPSK/16QAM

operating frequency: Wcdma Band5 UL:824MHz-849MHz;DL:869MHz – 894MHz
LTE Band4 UL:1710MHz-1755MHz;DL:2110MHz – 2155MHz
LTE Band5UL:824MHz-849MHz;DL:869MHz – 894MHz

Receipt date of test item: 2020-05-25

2.2 Outline of Equipment under Test

The L506 referred to as “EUT” hereafter, is a multi-Band wireless module operating on the WCDMA/LTE networks. The table below shows the supported Bands for the EUT.

Technology	Band	UL Freq.(MHz)	DL Freq.(MHz)	Note
WCDMA	B5	824 – 849	869 – 894	--
LTE	B4	1710 – 1755	2110 – 2155	--
	B5	824 – 849	869 – 894	--

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

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2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	Modules	Shanghai MobileTek Communication Ltd.	L506	865699031154043	None
B	Adaptor	None	None	--	None

2.5 Other Information

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Report No.:I20W00001-WWAN_Rev2**3 Summary of Test Results**

A brief summary of the tests carried out is shown as following.

FCC Rules	Name of Test	Result
2.1046, 22.913(a) , 27.50	Conducted RF Power Output	Pass
2.1046, 22.913(a), 27.50	ERP and EIRP	Pass
2.1049, 22.917(b)	Occupied Bandwidth	*Note 1
2.1051, 2.1053 22.917, 27.53	Conducted spurious emissions	Pass
2.1051, 2.1053 22.917, 27.53	Radiated Spurious Emission	Pass
2.1051, 2.1053 22.917, 27.53	Band Edge	Pass
2.1055, 22.355, 27.54	Frequency Stability over Temperature Variation	Pass
2.1055, 22.355, 27.54	Frequency Stability over Voltage Variation	Pass
22.913,27.50	Peak to Average Ratio	Pass
Note 1: No applicable performance criteria.		

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4 Test Equipments and Ancillaries Used For Tests

The test equipments and ancillaries used are as follows.

No.	Equipment	Model	SN	Manufacture	Cal. Due Date
1	EMI Test Receiver	ESU26	100367	R&S	2021-02-28
2	Trilog super broad band test antenna	VULB 9163	9163-544	R&S	2020-11-23
3	Double-Ridged Horn Antenna	HF907	100357	R&S	2021-06-22
4	Fully-Anechoic Chamber	11.8m×6.5m×6.3m	--	ETS	2020-10-22
5	Universal Radio Communication Tester	CMW500	152395	R&S	2021-02-28
6	Signal Generator	SMU200A	104517	R&S	2021-02-28
7	Spectrum analyzer	FSQ 26	201137/026	R&S	2021-02-28
8	DC Power Supply	N6705B	MY50000919	Agilent	2020-12-04
9	Climate chamber	SH-241	92010759	ESPEC	2021-02-28

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5 Test Results

5.1 Conducted RF Power Output

Specifications:	FCC Part 2.1046, 22.913(a), 27.50
DUT Serial Number:	865699031154043
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 22.913(a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

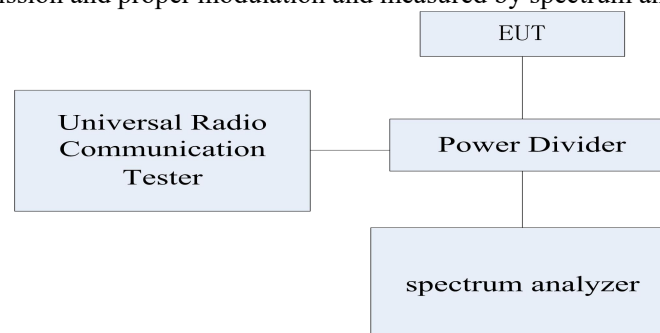
According to Part 27.50(d), fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz Band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz Bands are limited to 1 watt EIRP.

Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	0.52 dB (k=2)

Test Setup:

During the test, the EUT was controlled via the Wireless Telecommunications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method:

- 1) The EUT was coupled to the spectrum analyzer and the Wireless Telecommunications Test Set through a power divider. The loss of the RF cables of the test system is calibrated to correct the readings.
- 2) For RMS power test, the spectrum analyzer was set to RMS Detector function and Maximum hold mode.

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3) For Peak power test, the spectrum analyzer was set to Maxpeak Detector function and Maximum hold mode.

4) The resolution Bandwidth of the spectrum analyzer was comparable to the emission Bandwidth.

Note: --

5.1.1 WCDMA Band5 Conducted RF Power Output Results

		Maximum output power(pk) [dBm]			Maximum output power(RMS) [dBm]		
Mode	3GPP Subtest	4132	4182	4233	4132	4182	4233
RMC	--	26.43	26.75	26.30	22.26	22.62	22.61
HSDPA (QPSK)	1	25.40	25.19	25.95	21.51	21.59	21.71
	2	25.06	25.44	25.72	21.57	21.60	21.56
	3	25.91	26.03	25.39	20.95	21.08	21.13
	4	25.15	25.59	25.07	21.01	21.07	21.11
HSDPA (16QAM)	1	25.85	25.27	25.62	21.47	21.68	21.69
	2	25.36	25.44	25.71	21.56	21.57	21.69
	3	25.85	25.65	25.80	21.03	21.06	21.11
	4	26.12	25.55	25.74	21.03	21.05	21.19
HSUPA	1	25.37	25.85	25.17	21.22	21.21	21.34
	2	25.57	25.29	25.33	20.47	20.54	20.69
	3	25.95	25.07	25.65	20.50	20.44	20.58
	4	25.78	25.26	25.43	21.07	20.92	21.06
	5	25.11	25.67	25.89	21.36	21.44	21.68

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5.1.2 LTE B4 Conducted RF Power Output Results

Test Data (1.4MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
19957	1710.7	1	0	QPSK	22.64	27.15	4.51
		1	2		22.70	27.11	4.41
		1	5		22.89	27.32	4.43
		6	0		21.62	27.16	5.54
		1	0	16QAM	21.84	27.14	5.30
		1	2		22.14	27.30	5.16
		1	5		21.82	27.15	5.33
		6	0		20.48	27.02	6.54
20175	1732.5	1	0	QPSK	22.61	27.45	4.84
		1	2		22.48	27.27	4.79
		1	5		22.58	27.43	4.85
		6	0		24.55	27.13	2.58
		1	0	16QAM	21.87	27.34	5.47
		1	2		22.12	27.38	5.26
		1	5		22.09	27.46	5.37
		6	0		20.71	27.31	6.60
20393	1754.3	1	0	QPSK	22.46	27.33	4.87
		1	2		22.67	27.40	4.73
		1	5		22.55	27.39	4.84
		6	0		21.45	27.00	5.55
		1	0	16QAM	21.74	27.27	5.53
		1	2		21.59	27.12	5.53
		1	5		21.43	27.01	5.58
		6	0		20.44	26.98	6.54

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Test Data (3MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
19965	1711.5	1	0	QPSK	22.68	27.18	4.50
		1	8		22.59	27.04	4.45
		1	15		22.64	27.27	4.63
		15	0		21.66	27.33	5.67
		1	0	16QAM	22.13	27.08	4.95
		1	8		22.13	27.03	4.90
		1	15		22.28	27.25	4.97
		15	0		20.52	27.17	6.65
20175	1732.5	1	0	QPSK	22.70	27.56	4.86
		1	8		22.59	27.31	4.72
		1	15		22.68	27.54	4.86
		15	0		21.59	27.40	5.81
		1	0	16QAM	21.96	27.43	5.47
		1	8		22.14	27.48	5.34
		1	15		22.09	27.54	5.45
		15	0		20.95	27.93	6.98
20385	1753.5	1	0	QPSK	22.52	27.38	4.86
		1	8		22.35	27.09	4.74
		1	15		22.42	27.32	4.90
		15	0		21.50	28.00	6.50
		1	0	16QAM	21.45	27.00	5.55
		1	8		21.28	26.78	5.50
		1	15		21.28	26.91	5.63
		15	0		21.58	27.49	5.91

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Test Data (5MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
19975	1712.5	1	0	QPSK	22.58	27.11	4.53
		1	13		22.55	27.10	4.55
		1	24		22.66	27.33	4.67
		25	0		21.62	27.30	5.68
		1	0	16QAM	21.57	27.05	5.48
		1	13		21.84	27.22	5.38
		1	24		21.90	27.46	5.56
		25	0		20.71	27.27	6.56
20175	1732.5	1	0	QPSK	22.51	27.36	4.85
		1	13		22.55	27.25	4.70
		1	24		22.34	27.17	4.83
		25	0		21.54	27.40	5.86
		1	0	16QAM	21.98	27.54	5.56
		1	13		21.98	27.40	5.42
		1	24		22.27	27.75	5.48
		25	0		20.58	27.89	7.31
20375	1752.5	1	0	QPSK	22.70	27.47	4.77
		1	13		22.51	27.21	4.70
		1	24		22.24	27.15	4.91
		25	0		21.49	27.29	5.80
		1	0	16QAM	21.79	27.49	5.70
		1	13		21.33	27.01	5.68
		1	24		21.30	27.13	5.83
		25	0		20.46	27.57	7.11

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Test Data (10MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20000	1715	1	0	QPSK	22.80	27.27	4.47
		1	25		22.95	27.53	4.58
		1	49		22.69	27.56	4.87
		50	0		21.65	27.11	5.46
		1	0	16QAM	22.07	27.05	4.98
		1	25		22.24	27.29	5.05
		1	49		22.28	27.56	5.28
		25	0		20.42	26.59	6.17
20175	1732.5	1	0	QPSK	22.46	27.33	4.87
		1	25		22.67	27.46	4.79
		1	49		22.42	27.29	4.87
		50	0		21.47	27.66	6.19
		1	0	16QAM	21.33	26.86	5.53
		1	25		22.40	27.61	5.21
		1	49		21.97	27.41	5.44
		25	0		20.53	26.21	5.68
20350	1750	1	0	QPSK	22.84	27.50	4.66
		1	25		22.50	27.34	4.84
		1	49		22.38	27.29	4.91
		50	0		21.65	27.51	5.86
		1	0	16QAM	22.37	27.54	5.17
		1	25		22.05	27.22	5.17
		1	49		21.43	26.94	5.51
		25	0		20.37	26.51	6.14

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Test Data (15MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20025	1717.5	1	0	QPSK	22.24	26.83	4.59
		1	38		22.17	26.98	4.81
		1	74		22.10	27.01	4.91
		75	0		21.21	27.13	5.92
		1	0	16QAM	21.92	26.87	4.95
		1	38		21.83	26.92	5.09
		1	74		20.96	26.33	5.37
		25	0		20.36	26.47	6.11
20175	1732.5	1	0	QPSK	21.93	26.79	4.86
		1	38		22.05	26.85	4.80
		1	74		22.07	26.84	4.77
		75	0		21.00	27.04	6.04
		1	0	16QAM	20.97	26.50	5.53
		1	38		21.80	27.13	5.33
		1	74		21.38	26.79	5.41
		25	0		20.41	26.59	6.18
20325	1747.5	1	0	QPSK	22.14	26.84	4.70
		1	38		22.01	26.69	4.68
		1	74		21.54	26.41	4.87
		75	0		20.98	26.69	5.71
		1	0	16QAM	21.43	26.56	5.13
		1	38		21.53	26.62	5.09
		1	74		20.59	25.96	5.37
		25	0		20.39	26.44	6.05

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Test Data (20MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20050	1720	1	0	QPSK	22.34	26.83	4.49
		1	50		22.39	27.13	4.74
		1	99		21.39	26.36	4.97
		100	0		21.20	27.50	6.30
		1	0	16QAM	21.65	26.82	5.17
		1	50		22.15	27.50	5.35
		1	99		20.74	26.39	5.65
		25	0		20.55	26.76	6.21
20175	1732.5	1	0	QPSK	21.94	26.70	4.76
		1	50		22.59	27.26	4.67
		1	99		22.53	27.03	4.5
		100	0		20.96	27.19	6.23
		1	0	16QAM	21.04	26.66	5.62
		1	50		21.06	26.27	5.21
		1	99		21.30	26.78	5.48
		25	0		20.33	26.53	6.20
20300	1745	1	0	QPSK	21.72	26.62	4.90
		1	50		22.32	26.94	4.62
		1	99		21.40	26.32	4.92
		100	0		21.09	27.25	6.16
		1	0	16QAM	21.28	26.65	5.37
		1	50		22.43	27.32	4.89
		1	99		21.00	26.40	5.40
		25	0		20.40	26.66	6.26

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5.1.3 LTE B5 Conducted RF Power Output Results

Test Data (1.4MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20407	824.7	1	0	QPSK	23.16	27.51	4.35
		1	2		23.34	27.51	4.17
		1	5		23.50	27.63	4.13
		6	0		22.16	27.74	5.58
		1	0	16QAM	22.58	27.65	5.07
		1	2		22.65	27.58	4.93
		1	5		22.45	27.48	5.03
		6	0		21.16	27.59	6.43
20525	836.5	1	0	QPSK	23.36	28.05	4.69
		1	2		23.38	28.02	4.64
		1	5		23.25	28.04	4.79
		6	0		22.33	27.70	5.37
		1	0	16QAM	23.08	28.31	5.23
		1	2		23.28	28.37	5.09
		1	5		23.07	28.31	5.24
		6	0		21.60	28.14	6.54
20643	848.3	1	0	QPSK	23.09	27.53	4.44
		1	2		23.51	27.74	4.23
		1	5		23.13	27.62	4.49
		6	0		22.31	27.65	5.34
		1	0	16QAM	22.36	27.49	5.13
		1	2		22.54	27.58	5.04
		1	5		22.36	27.56	5.20
		6	0		21.44	27.66	6.22

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Test Data (3MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20415	825.5	1	0	QPSK	23.12	27.47	4.35
		1	8		23.11	27.25	4.14
		1	15		23.22	27.36	4.14
		15	0		22.19	27.70	5.51
		1	0	16QAM	22.60	27.41	4.81
		1	8		22.52	27.13	4.61
		1	15		22.48	27.17	4.69
		15	0		21.00	27.29	6.29
20525	836.5	1	0	QPSK	23.27	27.92	4.65
		1	8		23.26	27.86	4.60
		1	15		23.48	28.26	4.78
		15	0		22.26	27.72	5.46
		1	0	16QAM	22.83	28.00	5.17
		1	8		22.98	28.20	5.22
		1	15		23.05	28.40	5.35
		15	0		21.28	28.28	7.00
20635	847.5	1	0	QPSK	23.46	27.84	4.38
		1	8		23.35	27.61	4.26
		1	15		23.38	27.79	4.41
		15	0		22.39	28.40	6.01
		1	0	16QAM	22.46	27.59	5.13
		1	8		22.24	27.35	5.11
		1	15		22.22	27.47	5.25
		15	0		21.37	27.80	6.43

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Test Data (5MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20425	826.5	1	0	QPSK	23.02	27.40	4.38
		1	13		23.07	27.18	4.11
		1	24		22.97	27.23	4.26
		25	0		22.07	27.53	5.46
		1	0	16QAM	22.02	27.36	5.34
		1	13		22.02	27.12	5.10
		1	24		21.54	26.90	5.36
		25	0		21.08	27.52	6.44
20525	836.5	1	0	QPSK	23.14	27.73	4.59
		1	13		23.29	27.88	4.59
		1	24		23.09	27.82	4.73
		25	0		22.21	28.02	5.81
		1	0	16QAM	22.88	28.06	5.18
		1	13		23.21	28.41	5.20
		1	24		22.98	28.36	5.38
		25	0		21.37	28.22	6.85
20625	846.5	1	0	QPSK	23.18	27.73	4.55
		1	13		23.31	27.63	4.32
		1	24		22.99	27.57	4.58
		25	0		22.30	27.89	5.59
		1	0	16QAM	22.43	27.86	5.43
		1	13		21.97	27.47	5.50
		1	24		21.96	27.47	5.51
		25	0		21.11	28.00	6.89

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Test Data (10MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Max Power(RMS)	Max Power (PK)	PAR
20450	829	1	0	QPSK	23.14	27.46	4.32
		1	25		23.38	27.40	4.02
		1	49		23.02	27.68	4.66
		50	0		22.19	27.59	5.40
		1	0	16QAM	22.67	27.43	4.76
		1	25		22.66	27.19	4.53
		1	49		22.82	27.70	4.88
		25	0		22.47	28.37	5.90
20525	836.5	1	0	QPSK	23.08	27.49	4.41
		1	25		23.19	27.30	4.11
		1	49		23.24	27.74	4.50
		50	0		22.25	28.06	5.81
		1	0	16QAM	22.83	27.65	4.82
		1	25		22.69	27.28	4.59
		1	49		22.60	27.76	5.16
		25	0		22.49	28.41	5.92
20600	844	1	0	QPSK	23.69	28.36	4.67
		1	25		23.49	27.94	4.45
		1	49		23.26	27.72	4.46
		50	0		22.26	27.52	5.26
		1	0	16QAM	23.00	28.25	5.25
		1	25		22.81	27.81	5.00
		1	49		22.98	27.90	4.92
		25	0		22.51	28.69	6.18

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5.2 ERP and EIRP

Specifications:	FCC Part 2.1046, 22.913(a), 27.50
DUT Serial Number:	865699031154043
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

This is the test for the maximum radiated power from the EUT.

According to 22.913(a), The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.”

According to Part 27.50(d), “Fixed, mobile, and portable (handheld) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP”.

According to Part 27.50(h)(2) “Mobile stations are limited to 2.0 watts EIRP.”.

According to Part 27.50(c),specifies “Portable stations (hand-held de-vices) are limited to 3 watts ERP.”.

Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	0.52 dB (k=2)

Test Procedure:

ANSI C63.26:2015

KDB 971168 Section 5.6

$EIRP(dBm) = ERP(dBm) + 2.15(dB)$

$ERP/EIRP = P_{meas} + GT - LC$

where: ERP/ERP =effective or equivalent radiated power, respectively(expressed inthe same units as P_{meas} , typically dBw or dBm);

P_{meas} =measured transmitter output power or PSD, in dBm or dBw;

GT=gain of the transmitting antenna, in dBd(ERP)or dBi(EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna,in dB.2

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

EUT includes different power levels for head use configuration and body useconfiguration and the below tables contain the highest of all configurations averageconducted and ERP/ERP output powers as follows:

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Report No.:I20W00001-WWAN_Rev2**5.2.1 WCDMA Band 5 Measurement result**

Channel	Modulation	Conducted Average Power(dBm)	Antenna Gain(dBi)	ERP Average (dBm)
4132	QPSK	21.57	4	23.42
	16QAM	21.56	4	23.41
4182	QPSK	21.60	4	23.45
	16QAM	21.68	4	23.53
4233	QPSK	21.71	4	23.56
	16QAM	21.69	4	23.54

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5.2.2 LTE Band 4 Measurement result

Test Data (1.4MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Conducted Average Power(dBm)	Antenna Gain (dBi)	EIRP Average (dBm)
19957	1710.7	1	0	QPSK	22.64	4	26.64
		1	2		22.70	4	26.70
		1	5		22.89	4	26.89
		6	0		21.62	4	25.62
		1	0	16QAM	21.84	4	25.84
		1	2		22.14	4	26.14
		1	5		21.82	4	25.82
		6	0		20.48	4	24.48
20175	1732.5	1	0	QPSK	22.61	4	26.61
		1	2		22.48	4	26.48
		1	5		22.58	4	26.58
		6	0		24.55	4	28.55
		1	0	16QAM	21.87	4	25.87
		1	2		22.12	4	26.12
		1	5		22.09	4	26.09
		6	0		20.71	4	24.71
20393	1754.3	1	0	QPSK	22.46	4	26.46
		1	2		22.67	4	26.67
		1	5		22.55	4	26.55
		6	0		21.45	4	25.45
		1	0	16QAM	21.74	4	25.74
		1	2		21.59	4	25.59
		1	5		21.43	4	25.43
		6	0		20.44	4	24.44

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Test Data (3MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Conducted Average Power(dBm)	Antenna Gain (dBi)	EIRP Average (dBm)
19965	1711.5	1	0	QPSK	22.68	4	26.68
		1	8		22.59	4	26.59
		1	15		22.64	4	26.64
		15	0		21.66	4	25.66
		1	0	16QAM	22.13	4	26.13
		1	8		22.13	4	26.13
		1	15		22.28	4	26.28
		15	0		20.52	4	24.52
20175	1732.5	1	0	QPSK	22.70	4	26.70
		1	8		22.59	4	26.59
		1	15		22.68	4	26.68
		15	0		21.59	4	25.59
		1	0	16QAM	21.96	4	25.96
		1	8		22.14	4	26.14
		1	15		22.09	4	26.09
		15	0		20.95	4	24.95
20385	1753.5	1	0	QPSK	22.52	4	26.52
		1	8		22.35	4	26.35
		1	15		22.42	4	26.42
		15	0		21.50	4	25.50
		1	0	16QAM	21.45	4	25.45
		1	8		21.28	4	25.28
		1	15		21.28	4	25.28
		15	0		21.58	4	25.58

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Test Data (5MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Conducted Average Power(dBm)	Antenna Gain (dBi)	EIRP Average (dBm)
19975	1712.5	1	0	QPSK	22.58	4	26.58
		1	13		22.55	4	26.55
		1	24		22.66	4	26.66
		25	0		21.62	4	25.62
		1	0	16QAM	21.57	4	25.57
		1	13		21.84	4	25.84
		1	24		21.90	4	25.90
		25	0		20.71	4	24.71
20175	1732.5	1	0	QPSK	22.51	4	26.51
		1	13		22.55	4	26.55
		1	24		22.34	4	26.34
		25	0		21.54	4	25.54
		1	0	16QAM	21.98	4	25.98
		1	13		21.98	4	25.98
		1	24		22.27	4	26.27
		25	0		20.58	4	24.58
20375	1752.5	1	0	QPSK	22.70	4	26.70
		1	13		22.51	4	26.51
		1	24		22.24	4	26.24
		25	0		21.49	4	25.49
		1	0	16QAM	21.79	4	25.79
		1	13		21.33	4	25.33
		1	24		21.30	4	25.30
		25	0		20.46	4	24.46

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Test Data (10MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Conducted Average Power(dBm)	Antenna Gain (dBi)	EIRP Average (dBm)
20000	1715	1	0	QPSK	22.80	4	26.80
		1	25		22.95	4	26.95
		1	49		22.69	4	26.69
		50	0		21.65	4	25.65
		1	0	16QAM	22.07	4	26.07
		1	25		22.24	4	26.24
		1	49		22.28	4	26.28
		25	0		20.42	4	24.42
20175	1732.5	1	0	QPSK	22.46	4	26.46
		1	25		22.67	4	26.67
		1	49		22.42	4	26.42
		50	0		21.47	4	25.47
		1	0	16QAM	21.33	4	25.33
		1	25		22.40	4	26.40
		1	49		21.97	4	25.97
		25	0		20.53	4	24.53
20350	1750	1	0	QPSK	22.84	4	26.84
		1	25		22.50	4	26.50
		1	49		22.38	4	26.38
		50	0		21.65	4	25.65
		1	0	16QAM	22.37	4	26.37
		1	25		22.05	4	26.05
		1	49		21.43	4	25.43
		25	0		20.37	4	24.37

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Test Data (15MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Conducted Average Power(dBm)	Antenna Gain (dBi)	EIRP Average (dBm)
20025	1717.5	1	0	QPSK	22.24	4	26.24
		1	38		22.17	4	26.17
		1	74		22.10	4	26.10
		75	0		21.21	4	25.21
		1	0	16QAM	21.92	4	25.92
		1	38		21.83	4	25.83
		1	74		20.96	4	24.96
		25	0		20.36	4	24.36
20175	1732.5	1	0	QPSK	21.93	4	25.93
		1	38		22.05	4	26.05
		1	74		22.07	4	26.07
		75	0		21.00	4	25.00
		1	0	16QAM	20.97	4	24.97
		1	38		21.80	4	25.80
		1	74		21.38	4	25.38
		25	0		20.41	4	24.41
20325	1747.5	1	0	QPSK	22.14	4	26.14
		1	38		22.01	4	26.01
		1	74		21.54	4	25.54
		75	0		20.98	4	24.98
		1	0	16QAM	21.43	4	25.43
		1	38		21.53	4	25.53
		1	74		20.59	4	24.59
		25	0		20.39	4	24.39

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Test Data (20MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Conducted Average Power(dBm)	Antenna Gain (dBi)	EIRP Average (dBm)
20050	1720	1	0	QPSK	22.34	4	26.34
		1	50		22.39	4	26.39
		1	99		21.39	4	25.39
		100	0		21.20	4	25.20
		1	0	16QAM	21.65	4	25.65
		1	50		22.15	4	26.15
		1	99		20.74	4	24.74
		25	0		20.55	4	24.55
20175	1732.5	1	0	QPSK	21.94	4	25.94
		1	50		22.59	4	26.59
		1	99		22.53	4	26.53
		100	0		20.96	4	24.96
		1	0	16QAM	21.04	4	25.04
		1	50		21.06	4	25.06
		1	99		21.30	4	25.30
		25	0		20.33	4	24.33
20300	1745	1	0	QPSK	21.72	4	25.72
		1	50		22.32	4	26.32
		1	99		21.40	4	25.40
		100	0		21.09	4	25.09
		1	0	16QAM	21.28	4	25.28
		1	50		22.43	4	26.43
		1	99		21.00	4	25.00
		25	0		20.40	4	24.4

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5.2.3 LTE Band 5 Measurement result

Test Data (1.4MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Conducted Average Power(dBm)	Antenna Gain (dBi)	EIRP Average (dBm)
20407	824.7	1	0	QPSK	23.16	4	27.16
		1	2		23.34	4	27.34
		1	5		23.50	4	27.50
		6	0		22.16	4	26.16
		1	0	16QAM	22.58	4	26.58
		1	2		22.65	4	26.65
		1	5		22.45	4	26.45
		6	0		21.16	4	25.16
20525	836.5	1	0	QPSK	23.36	4	27.36
		1	2		23.38	4	27.38
		1	5		23.25	4	27.25
		6	0		22.33	4	26.33
		1	0	16QAM	23.08	4	27.08
		1	2		23.28	4	27.28
		1	5		23.07	4	27.07
		6	0		21.60	4	25.60
20643	848.3	1	0	QPSK	23.09	4	27.09
		1	2		23.51	4	27.51
		1	5		23.13	4	27.13
		6	0		22.31	4	26.31
		1	0	16QAM	22.36	4	26.36
		1	2		22.54	4	26.54
		1	5		22.36	4	26.36
		6	0		21.44	4	25.44

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Test Data (3MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Conducted Average Power(dBm)	Antenna Gain (dBi)	EIRP Average (dBm)
20415	825.5	1	0	QPSK	23.12	4	27.12
		1	8		23.11	4	27.11
		1	15		23.22	4	27.22
		15	0		22.19	4	26.19
		1	0	16QAM	22.60	4	26.60
		1	8		22.52	4	26.52
		1	15		22.48	4	26.48
		15	0		21.00	4	25.00
20525	836.5	1	0	QPSK	23.27	4	27.27
		1	8		23.26	4	27.26
		1	15		23.48	4	27.48
		15	0		22.26	4	26.26
		1	0	16QAM	22.83	4	26.83
		1	8		22.98	4	26.98
		1	15		23.05	4	27.05
		15	0		21.28	4	25.28
20635	847.5	1	0	QPSK	23.46	4	27.46
		1	8		23.35	4	27.35
		1	15		23.38	4	27.38
		15	0		22.39	4	26.39
		1	0	16QAM	22.46	4	26.46
		1	8		22.24	4	26.24
		1	15		22.22	4	26.22
		15	0		21.37	4	25.37

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Report No.:I20W00001-WWAN_Rev2

Test Data (5MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Conducted Average Power(dBm)	Antenna Gain (dBi)	EIRP Average (dBm)
20425	826.5	1	0	QPSK	23.02	4	27.02
		1	13		23.07	4	27.07
		1	24		22.97	4	26.97
		25	0		22.07	4	26.07
		1	0	16QAM	22.02	4	26.02
		1	13		22.02	4	26.02
		1	24		21.54	4	25.54
		25	0		21.08	4	25.08
20525	836.5	1	0	QPSK	23.14	4	27.14
		1	13		23.29	4	27.29
		1	24		23.09	4	27.09
		25	0		22.21	4	26.21
		1	0	16QAM	22.88	4	26.88
		1	13		23.21	4	27.21
		1	24		22.98	4	26.98
		25	0		21.37	4	25.37
20625	846.5	1	0	QPSK	23.18	4	27.18
		1	13		23.31	4	27.31
		1	24		22.99	4	26.99
		25	0		22.30	4	26.30
		1	0	16QAM	22.43	4	26.43
		1	13		21.97	4	25.97
		1	24		21.96	4	25.96
		25	0		21.11	4	25.11

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Test Data (10MHz bandwidth Mode)

Channel	Frequency (MHz)	No.RB	RB START	Modulation	Conducted Average Power(dBm)	Antenna Gain (dBi)	EIRP Average (dBm)
20450	829	1	0	QPSK	23.14	4	27.14
		1	25		23.38	4	27.38
		1	49		23.02	4	27.02
		50	0		22.19	4	26.19
		1	0	16QAM	22.67	4	26.67
		1	25		22.66	4	26.66
		1	49		22.82	4	26.82
		25	0		22.47	4	26.47
20525	836.5	1	0	QPSK	23.08	4	27.08
		1	25		23.19	4	27.19
		1	49		23.24	4	27.24
		50	0		22.25	4	26.25
		1	0	16QAM	22.83	4	26.83
		1	25		22.69	4	26.69
		1	49		22.60	4	26.60
		25	0		22.49	4	26.49
20600	844	1	0	QPSK	23.69	4	27.69
		1	25		23.49	4	27.49
		1	49		23.26	4	27.26
		50	0		22.26	4	26.26
		1	0	16QAM	23.00	4	27.00
		1	25		22.81	4	26.81
		1	49		22.98	4	26.98
		25	0		22.51	4	26.51

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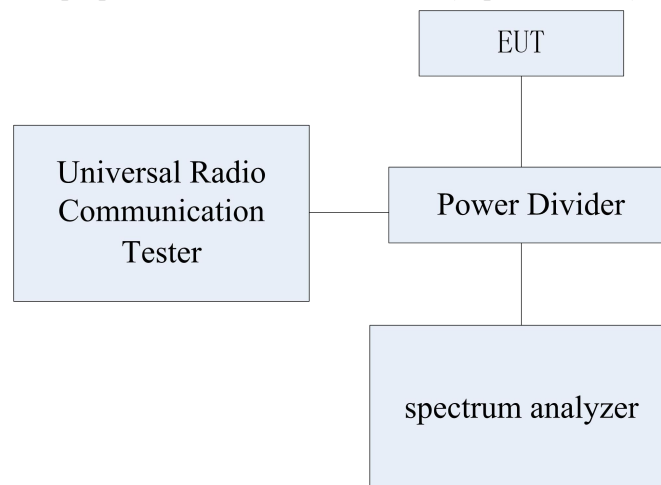
Report No.:I20W00001-WWAN_Rev2

5.3 Occupied Bandwidth

Specifications:	FCC Part 2.1049, 22.917(b)
DUT Serial Number:	865699031154043
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	--

Test Setup

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	69 kHz (k=2)

Test Method

The 99% occupied Bandwidth was calculated from the spectrum analyzer. Markers in the spectrum analyzer were then placed between the calculated frequencies to show the calculated 99% power Band. The 26dB Bandwidth was also measured and recorded.

Note: --

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5.2.1 WCDMA Band mode occupied bandwidth Results

Band	EUT channel No.	Mode	99% OBW (MHz)	-26dBc OBW (MHz)
B5	4182 (836.4MHz)	QPSK	4.13	4.73
	4182 (836.4MHz)	16QAM	4.15	4.71

5.2.2 LTE B4 occupied bandwidth Results

Mode	EUT channel No.	bandwidth	No. RB	RB offset	99% occupied bandwidth [MHz]	-26dBc occupied bandwidth [MHz]
QPSK	20175 (1732.5MHz)	1.4MHz	6	0	1.10	1.31
		3MHz	15		2.69	2.95
		5MHz	25		4.49	4.90
		10MHz	50		8.97	9.52
		15MHz	75		13.41	14.16
		20MHz	100		17.84	18.72
16QAM		1.4MHz	6		1.11	1.32
		3MHz	15		2.70	2.93
		5MHz	25		4.47	4.90
		10MHz	25		4.66	5.38
		15MHz	25		4.50	5.19
		20MHz	25		4.52	5.32

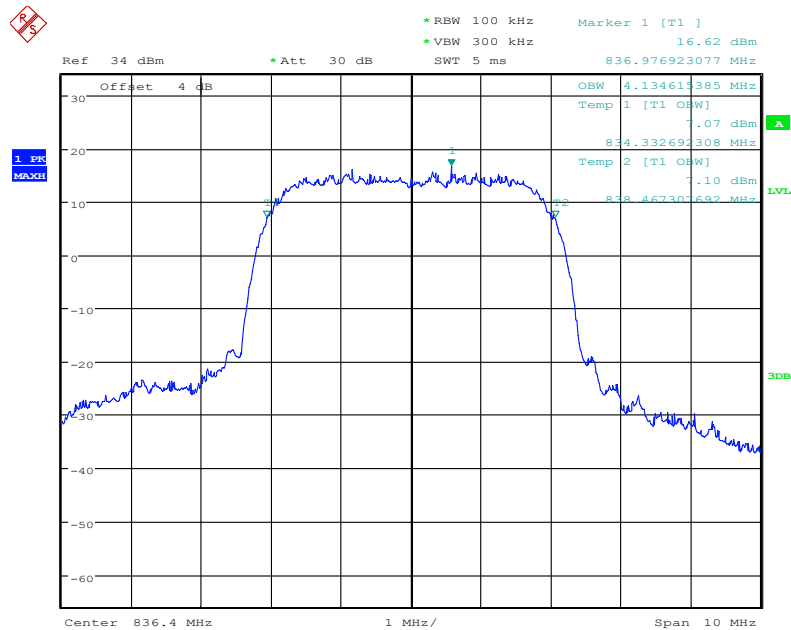
Report No.:I20W00001-WWAN_Rev2

5.2.3 LTE B5 occupied bandwidth Results

Mode	EUT channel No.	bandwidth	No. RB	RB offset	99% occupied bandwidth [MHz]	-26dBc occupied bandwidth [MHz]
QPSK	20525 (836.5MHz)	1.4MHz	6	0	1.10	1.30
		3MHz	15		2.70	2.92
		5MHz	25		4.48	4.90
		10MHz	50		8.94	9.49
16QAM		1.4MHz	6		1.10	1.31
		3MHz	15		2.68	2.92
		5MHz	25		4.47	4.87
		10MHz	25		4.52	5.06

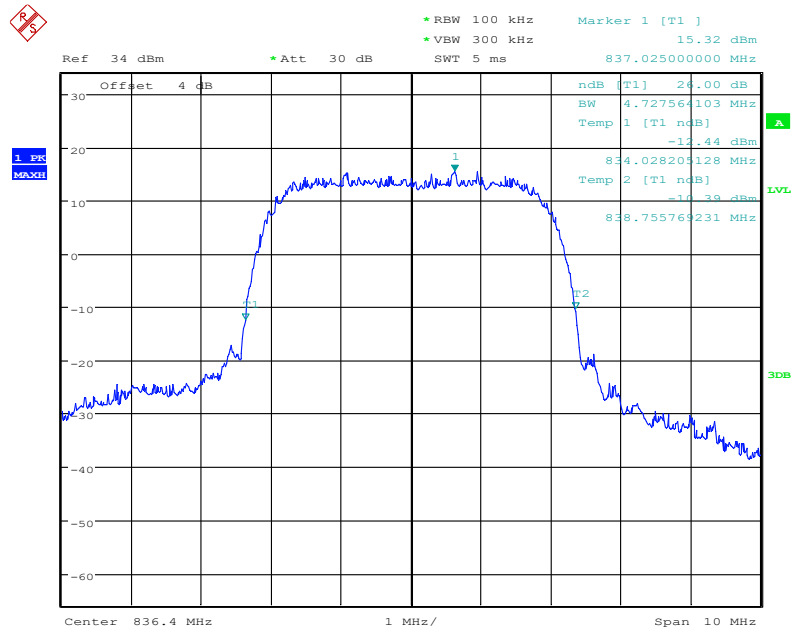
Report No.:I20W00001-WWAN_Rev2

Graphical results for WCDMA Band5:



Date: 19.MAY.2020 22:46:19

WCDMA B5 99% QPSK



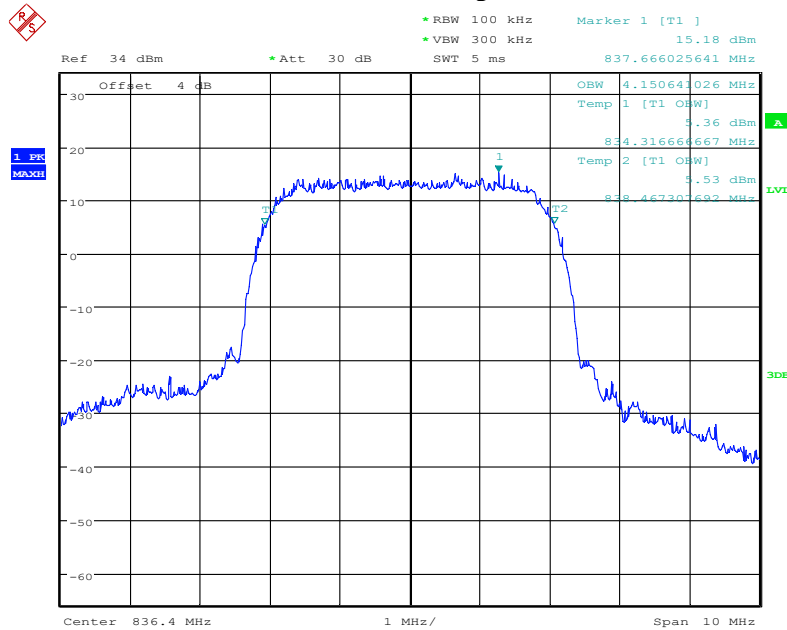
Date: 19.MAY.2020 22:46:46

WCDMA B5 -26dBc QPSK

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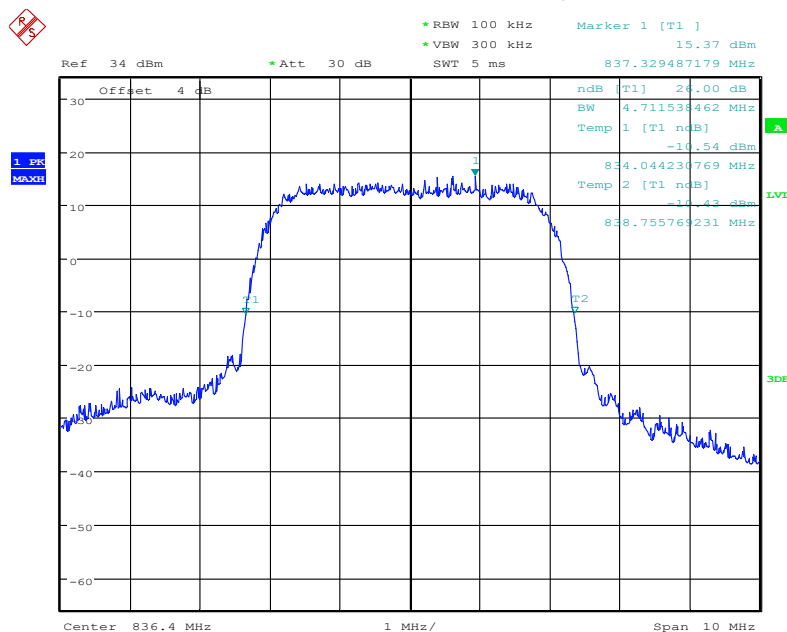
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Date: 19.MAY.2020 22:47:56

WCDMA B5 99% 16QAM



Date: 19.MAY.2020 22:47:38

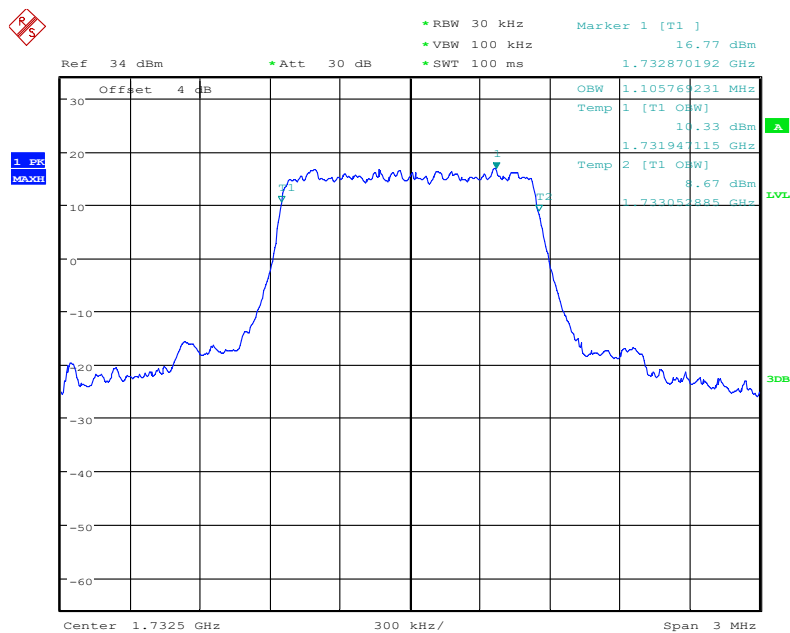
WCDMA B5 -26dBc 16QAM

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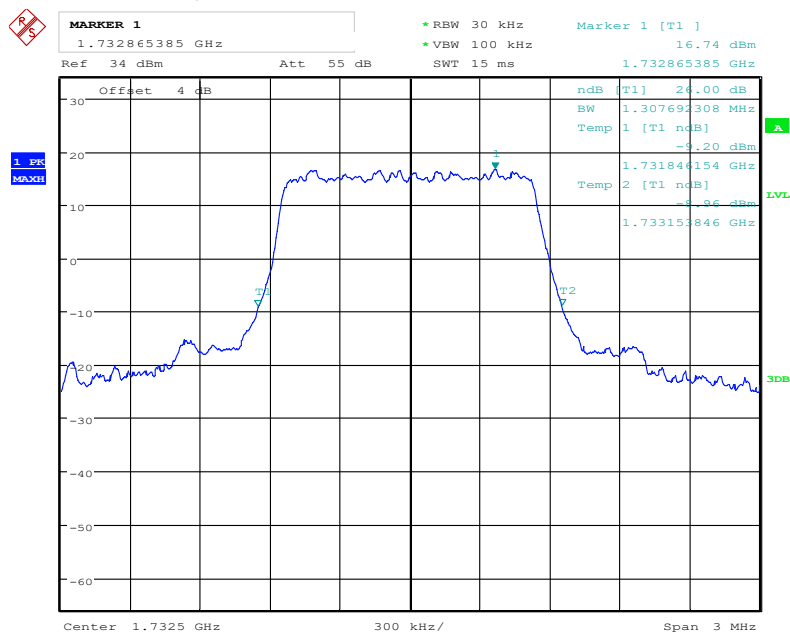
Report No.:I20W00001-WWAN_Rev2

Graphical results for LTE B4:



Date: 19.MAY.2020 05:26:22

LTE Band4 QPSK 99% Channel 20175 BW=1.4MHz RB=6 RB Offset=0



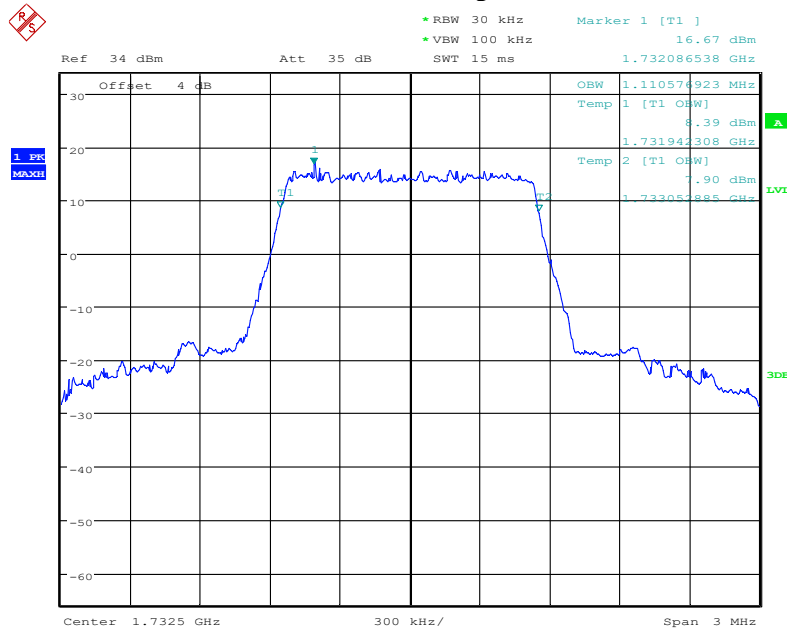
Date: 19.MAY.2020 06:06:00

LTE Band4 QPSK -26dBc Channel 20175 BW=1.4MHz RB=6 RB Offset=0

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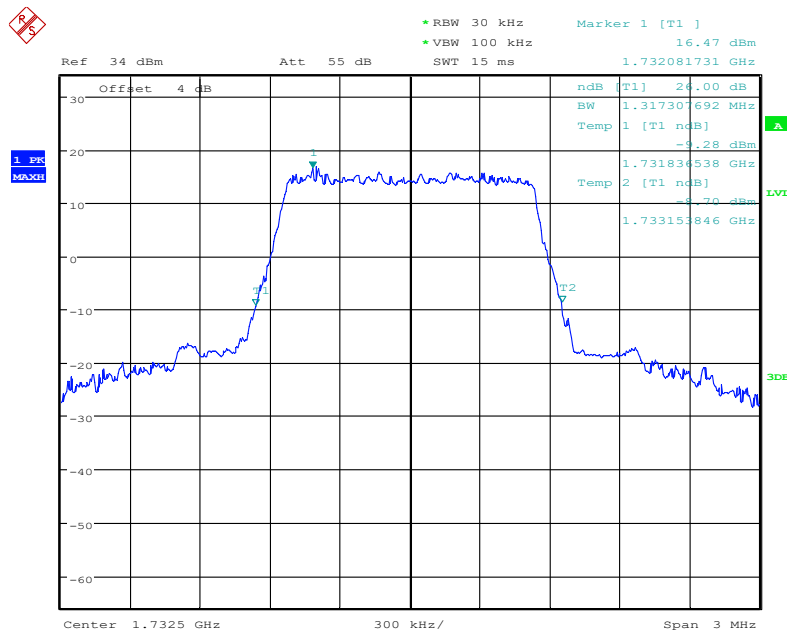
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:29:51

LTE Band4 16QAM 99% Channel 20175 BW=1.4MHz RB=6 RB Offset=0



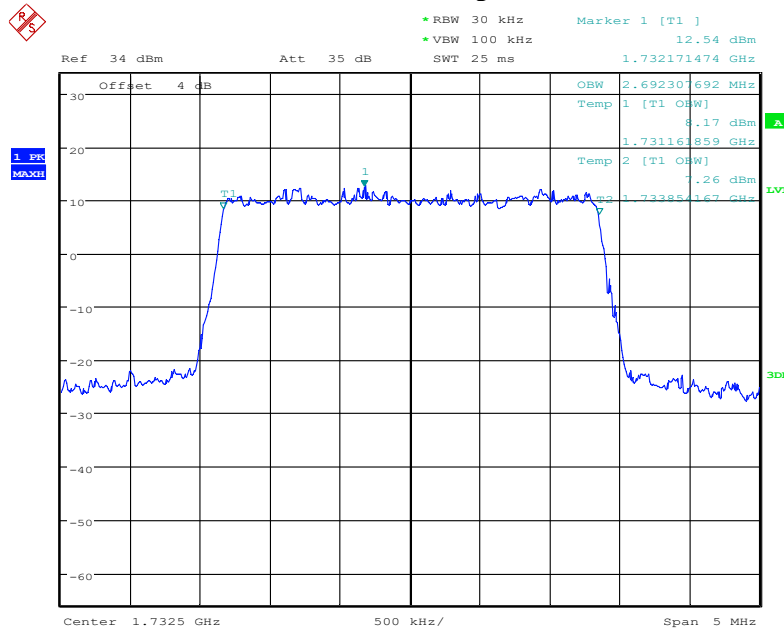
Date: 19.MAY.2020 06:06:23

LTE Band4 16QAM -26dBc Channel 20175 BW=1.4MHz RB=6 RB Offset=0

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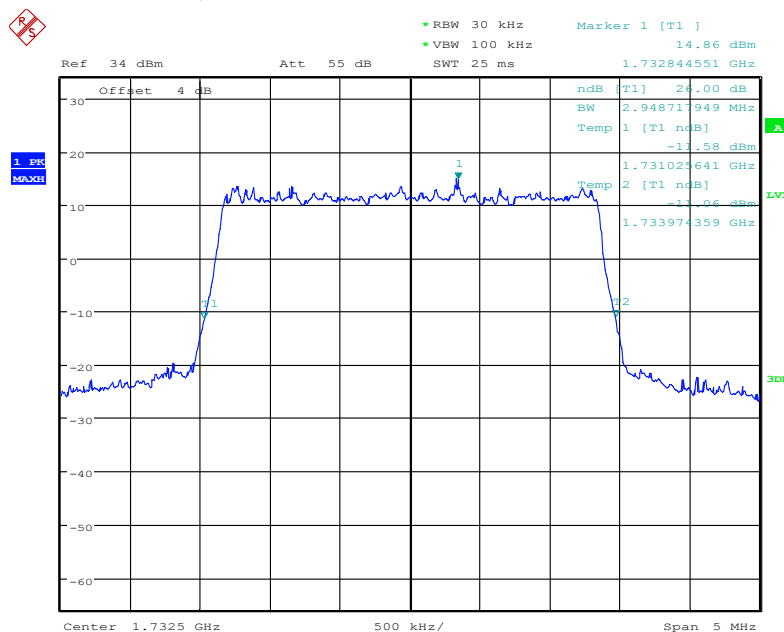
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:42:11

LTE Band4 QPSK 99% Channel 20175 BW=3MHz RB=15 RB Offset=0



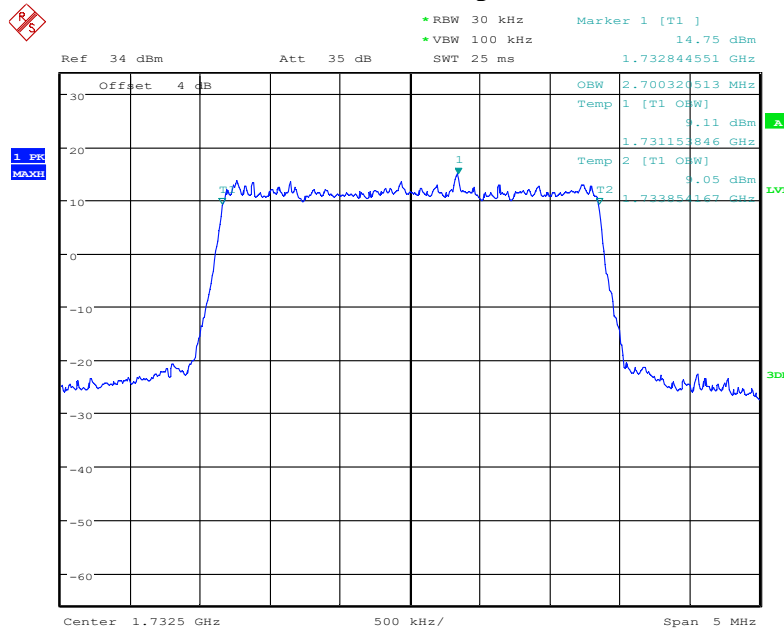
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LTE Band4 QPSK -26dBc Channel 20175 BW=3MHz RB=15 RB Offset=0

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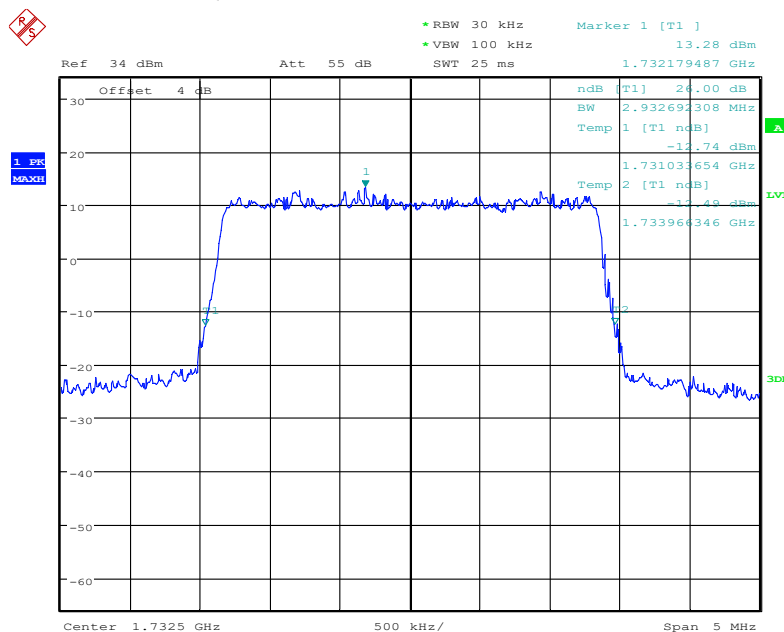
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:42:40

LTE Band4 16QAM 99% Channel 20175 BW=3MHz RB=15 RB Offset=0



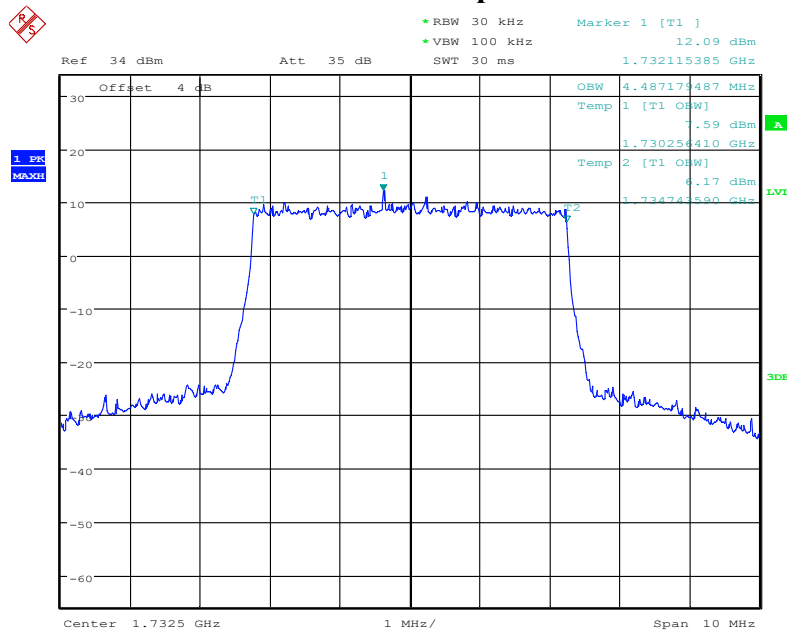
Date: 19.MAY.2020 06:08:14

LTE Band4 16QAM -26dBc Channel 20175 BW=3MHz RB=15 RB Offset=0

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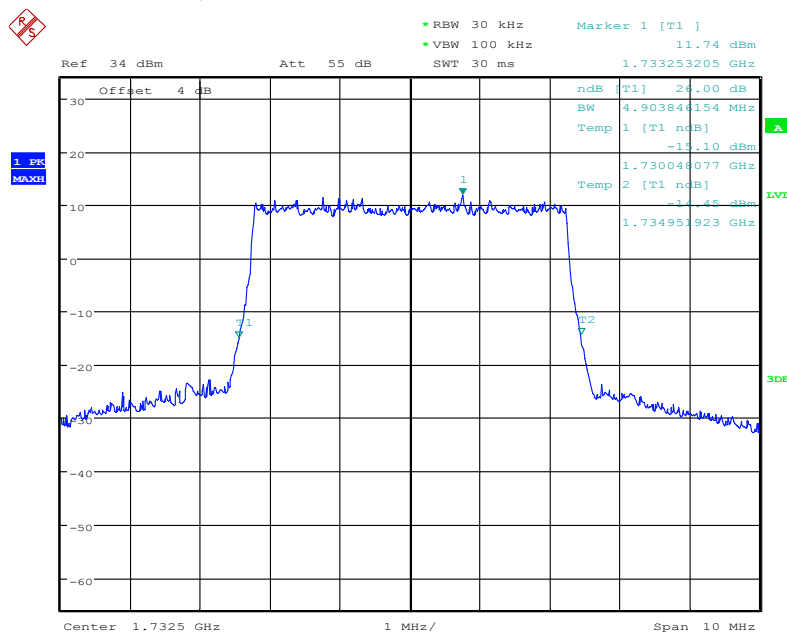
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:45:03

LTE Band4 QPSK 99% Channel 20175 BW=5MHz RB=25 RB Offset=0



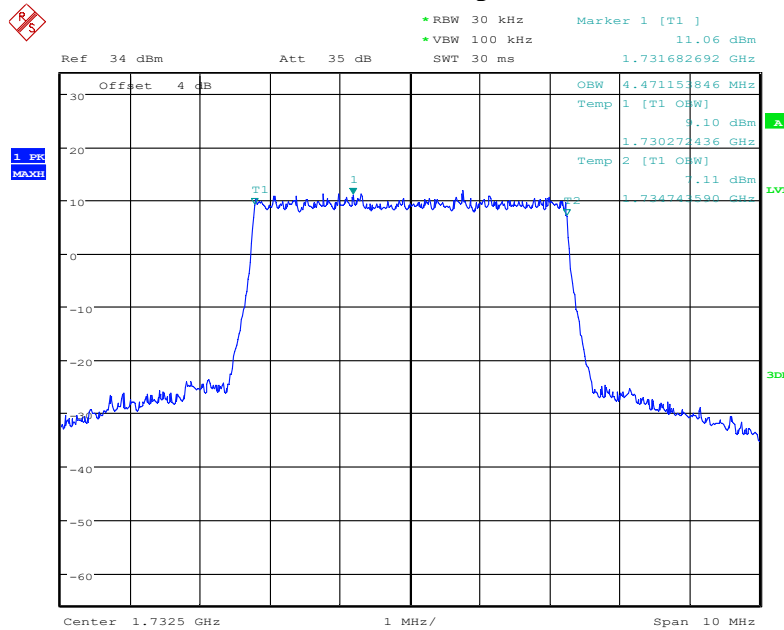
Date: 19.MAY.2020 06:09:59

LTE Band4 QPSK -26dBc Channel 20175 BW=5MHz RB=25 RB Offset=0

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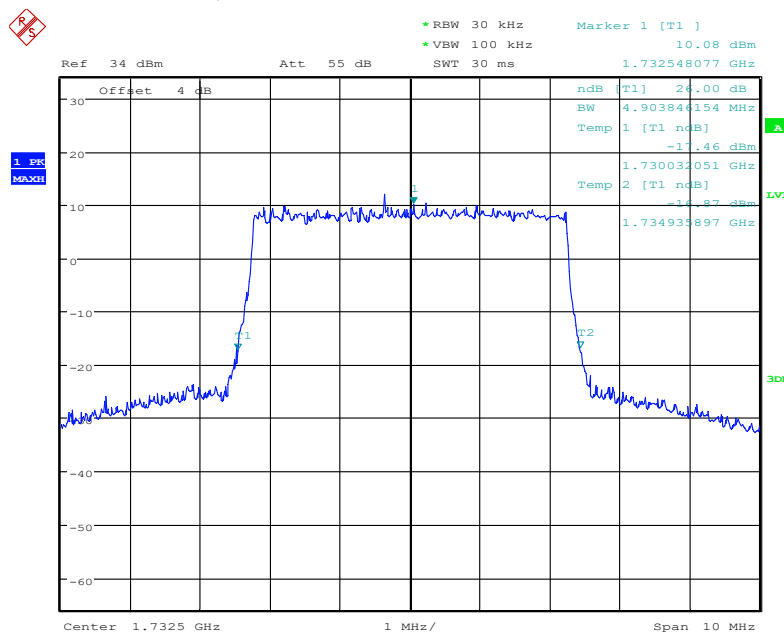
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:44:10

LTE Band4 16QAM 99% Channel 20175 BW=5MHz RB=25 RB Offset=0



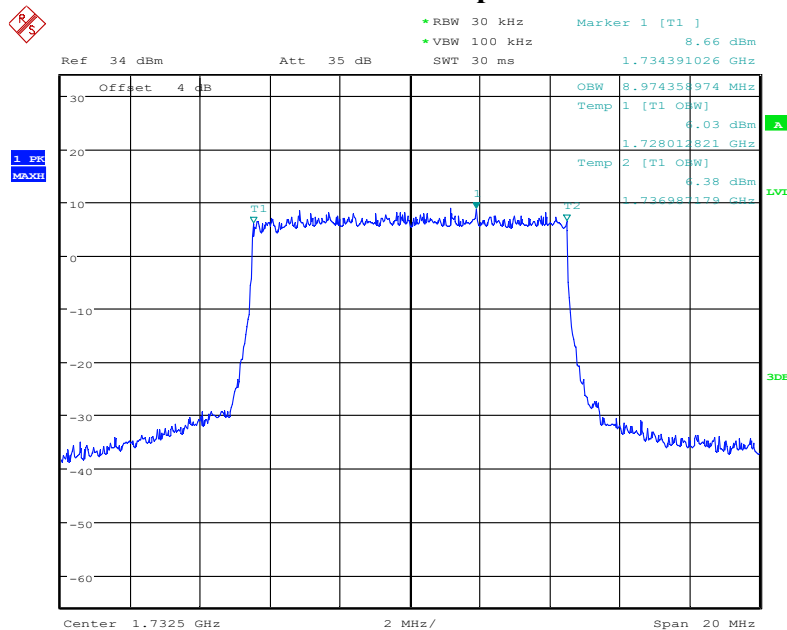
Date: 19.MAY.2020 06:10:20

LTE Band4 16QAM -26dBc Channel 20175 BW=5MHz RB=25 RB Offset=0

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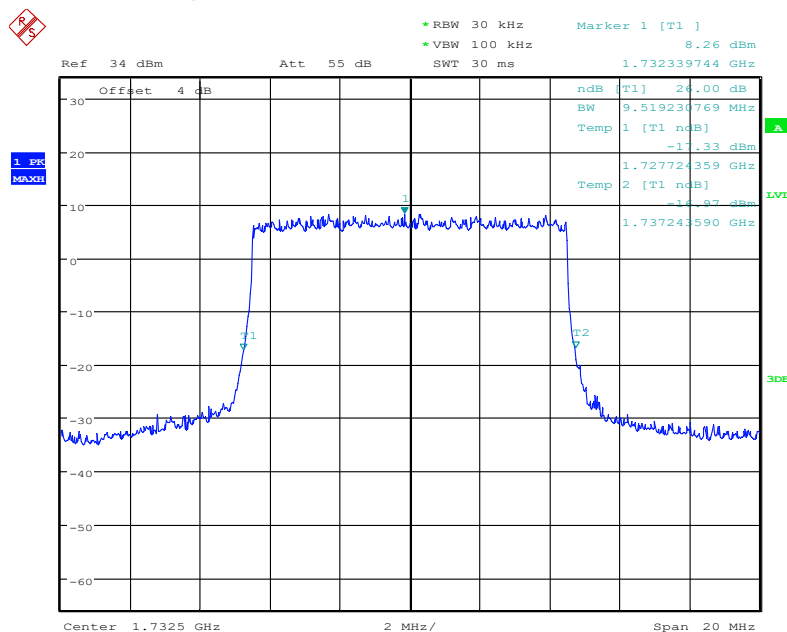
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Date: 19.MAY.2020 05:47:10

LTE Band4 QPSK 99% Channel 20175 BW=10MHz RB=50 RB Offset=0



Date: 19.MAY.2020 06:10:47

LTE Band4 QPSK -26dBc Channel 20175 BW=10MHz RB=50 RB Offset=0

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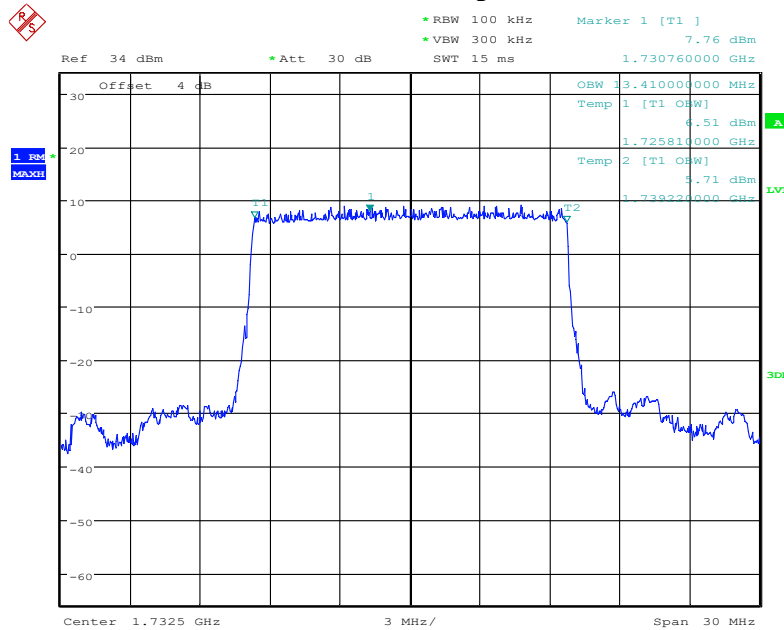
LTE Band4 16QAM 99% Channel 20175 BW=10MHz RB=25 RB Offset=0



LTE Band4 16QAM -26dBc Channel 20175 BW=10MHz RB=25 RB Offset=0

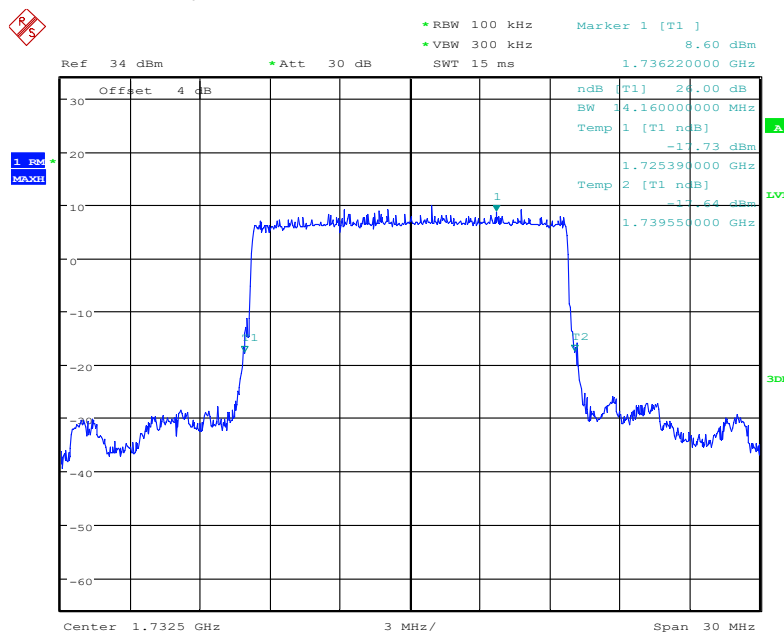
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Report No.:I20W00001-WWAN_Rev2



Date: 20.MAY.2020 01:44:09

LTE Band4 QPSK 99% Channel 20175 BW=15MHz RB=75 RB Offset=0



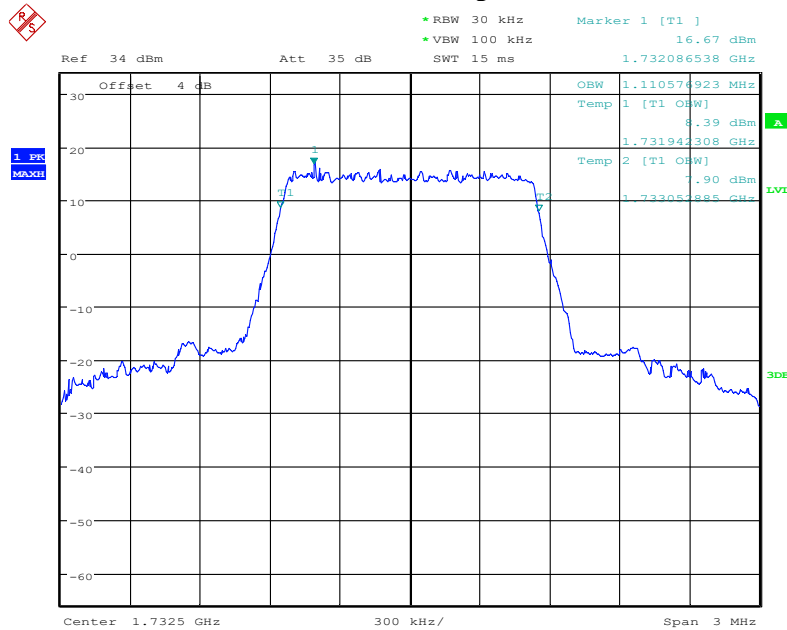
Date: 20.MAY.2020 01:44:26

LTE Band4 QPSK -26dBc Channel 20175 BW=15MHz RB=75 RB Offset=0

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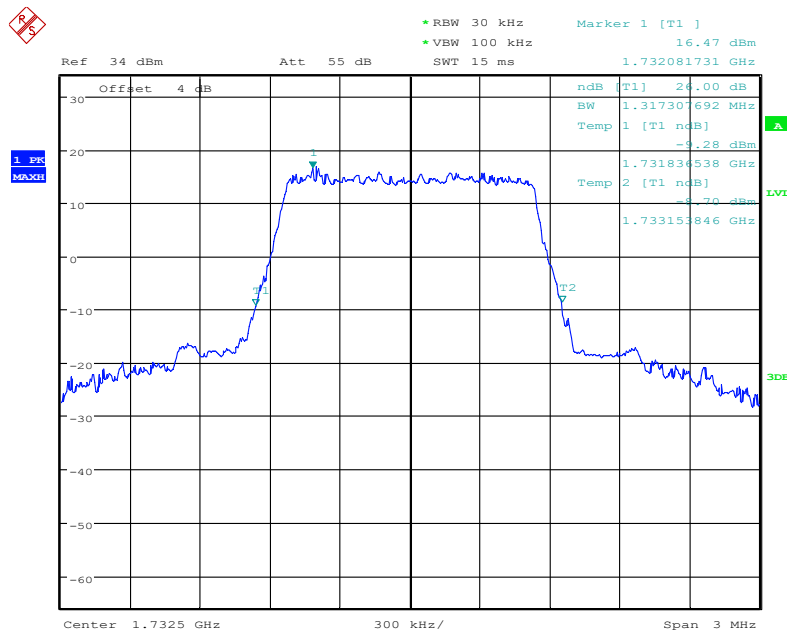
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:29:51

LTE Band4 16QAM 99% Channel 20175 BW=15MHz RB=25 RB Offset=0



Date: 19.MAY.2020 06:06:23

LTE Band4 16QAM -26dBc Channel 20175 BW=15MHz RB=25 RB Offset=0

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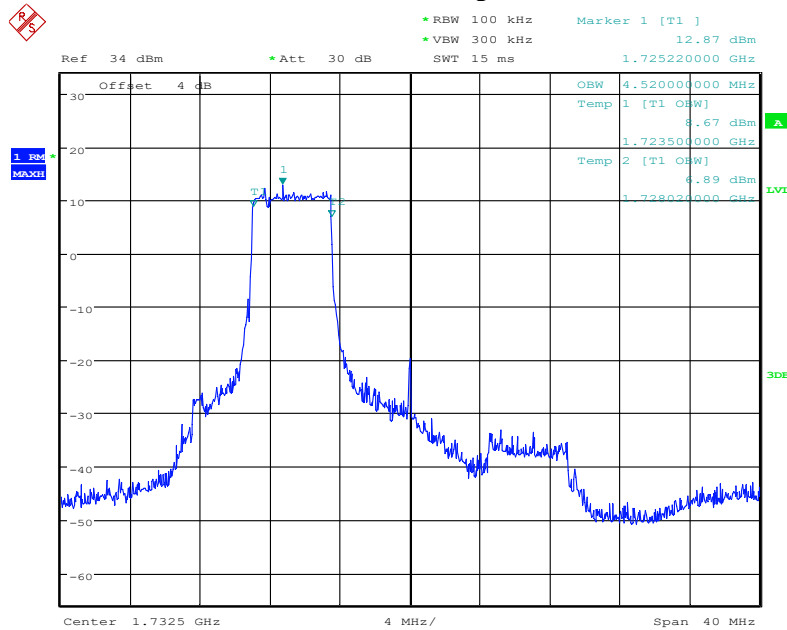
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LTE Band4 QPSK -26dBc Channel 20175 BW=20MHz RB=100 RB Offset=0

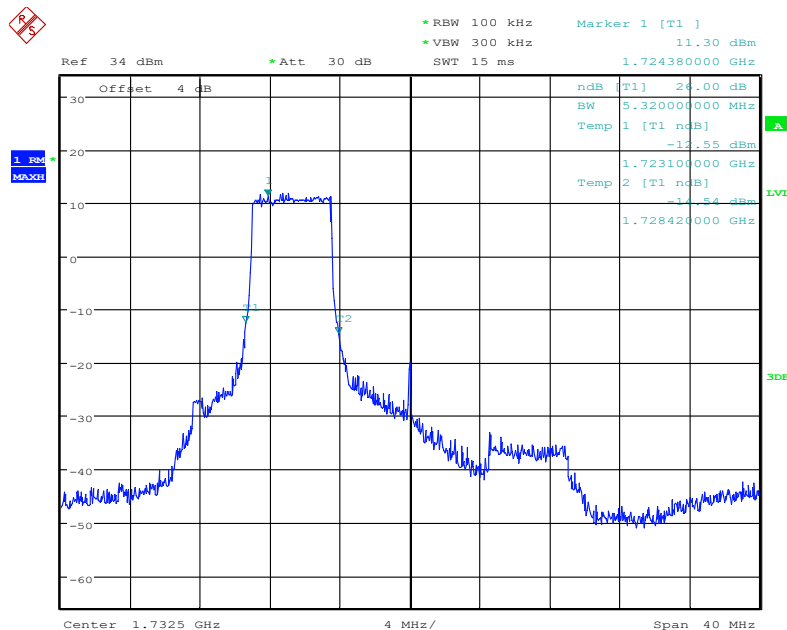
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Date: 20.MAY.2020 01:52:34

LTE Band4 16QAM 99% Channel 20175 BW=20MHz RB=25 RB Offset=0



Date: 20.MAY.2020 01:52:15

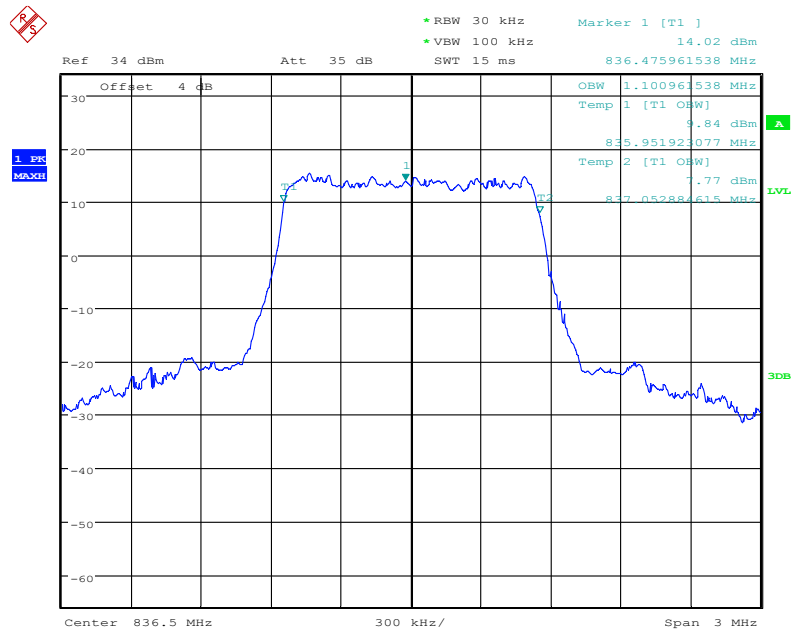
LTE Band4 16QAM -26dBc Channel 20175 BW=20MHz RB=25 RB Offset=0

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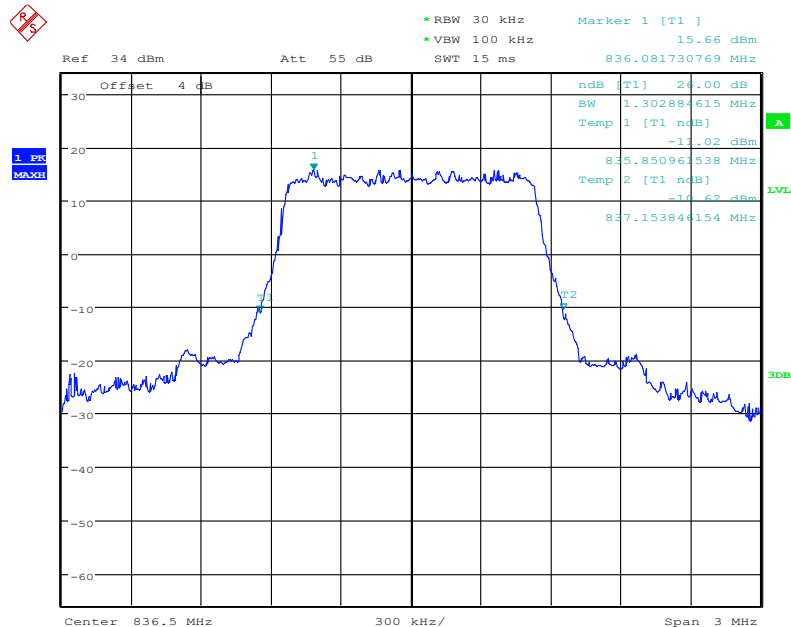
Report No.:I20W00001-WWAN_Rev2

Graphical results for LTE B5:



Date: 19.MAY.2020 05:54:48

LTE Band5 QPSK 99% Channel 20525 BW=1.4MHz RB=6 RB Offset=0



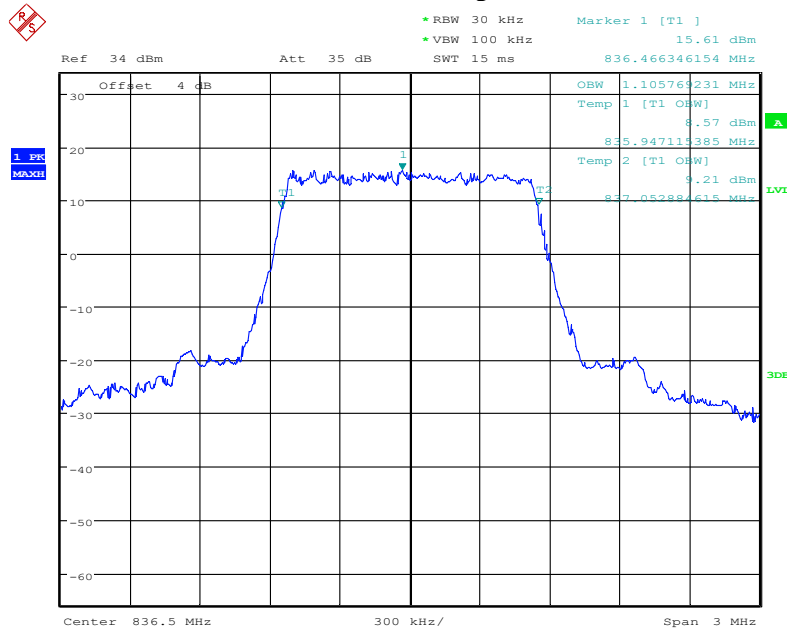
Date: 19.MAY.2020 06:11:32

LTE Band5 QPSK -26dBc Channel 20525 BW=1.4MHz RB=6 RB Offset=0

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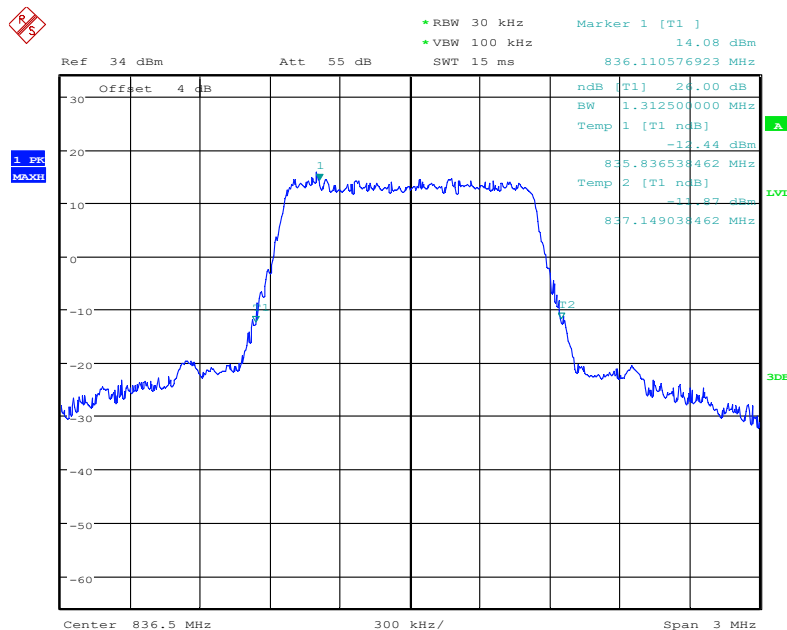
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:55:14

LTE Band5 16QAM 99% Channel 20525 BW=1.4MHz RB=6 RB Offset=0



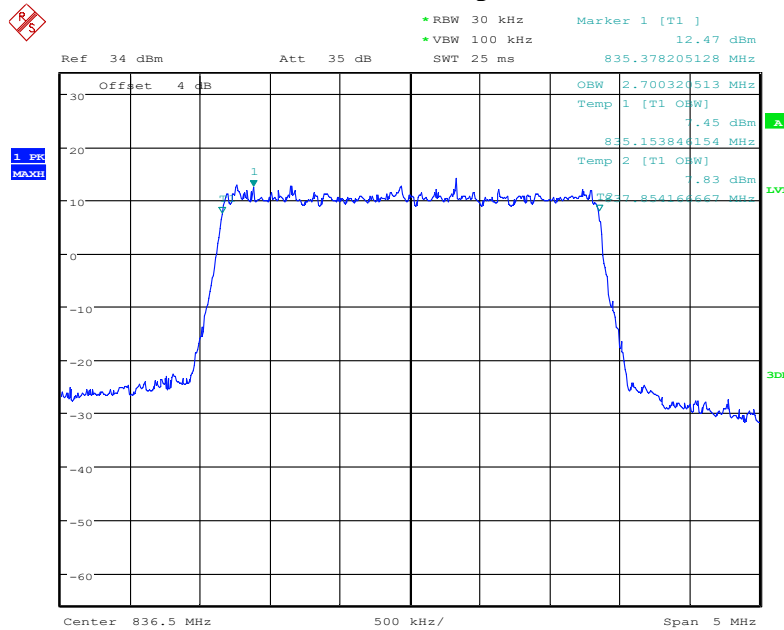
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LTE Band5 16QAM -26dBc Channel 20525 BW=1.4MHz RB=6 RB Offset=0

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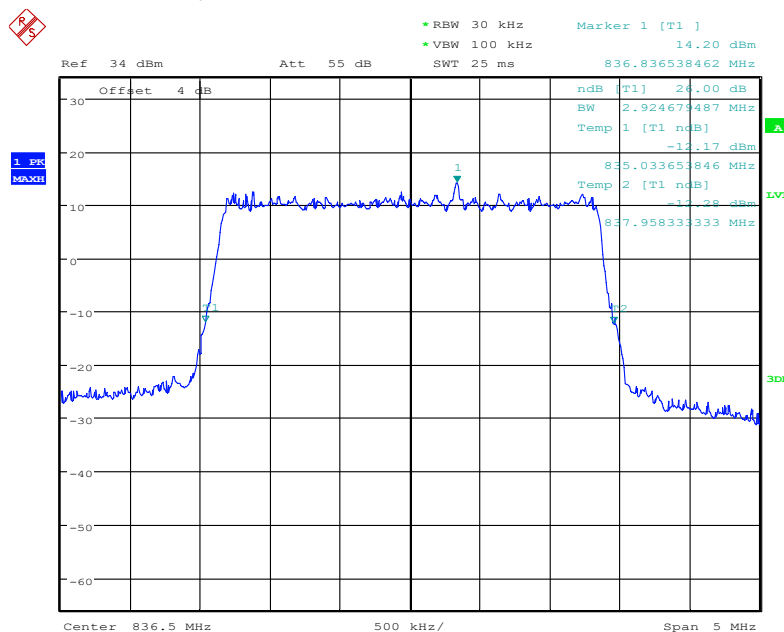
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:55:41

LTE Band5 QPSK 99% Channel 20525 BW=3MHz RB=15 RB Offset=0



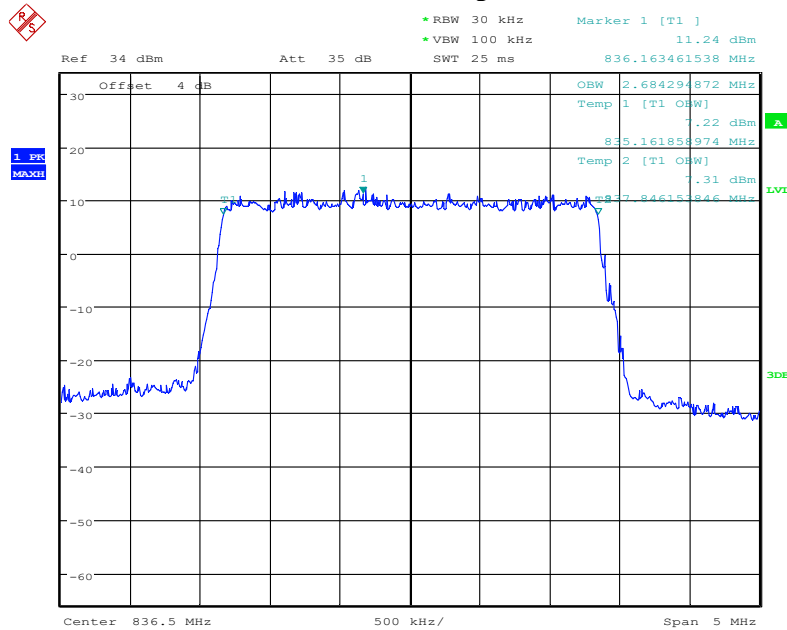
Date: 19.MAY.2020 06:12:14

LTE Band5 QPSK 16dBc Channel 20525 BW=3MHz RB=15 RB Offset=0

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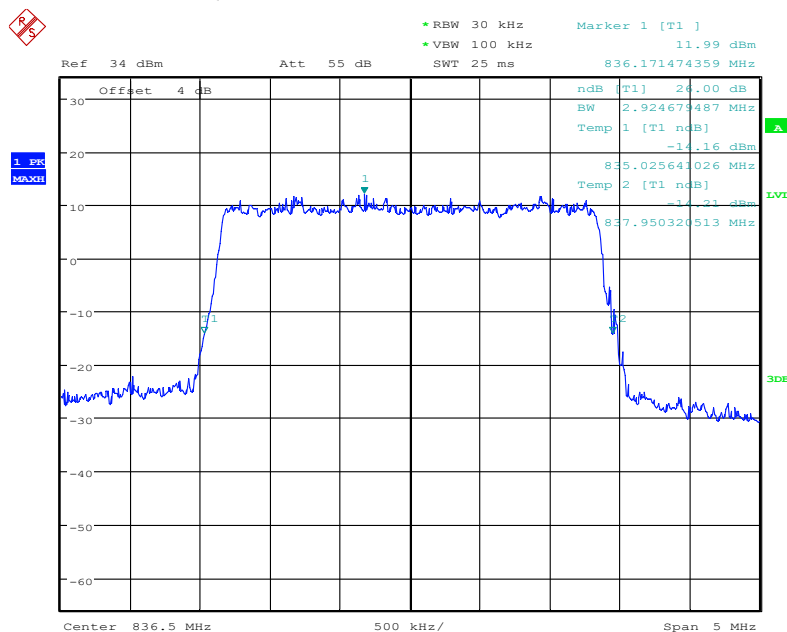
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Date: 19.MAY.2020 05:56:00

LTE Band5 16QAM 99% Channel 20525 BW=3MHz RB=15 RB Offset=0



Date: 19.MAY.2020 06:12:33

LTE Band5 16QAM -26dBc Channel 20525 BW=3MHz RB=15 RB Offset=0

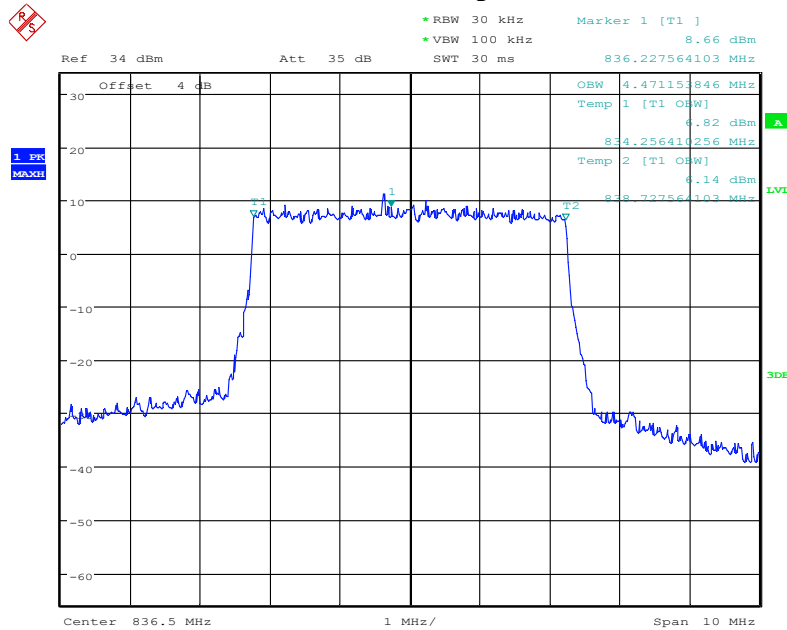
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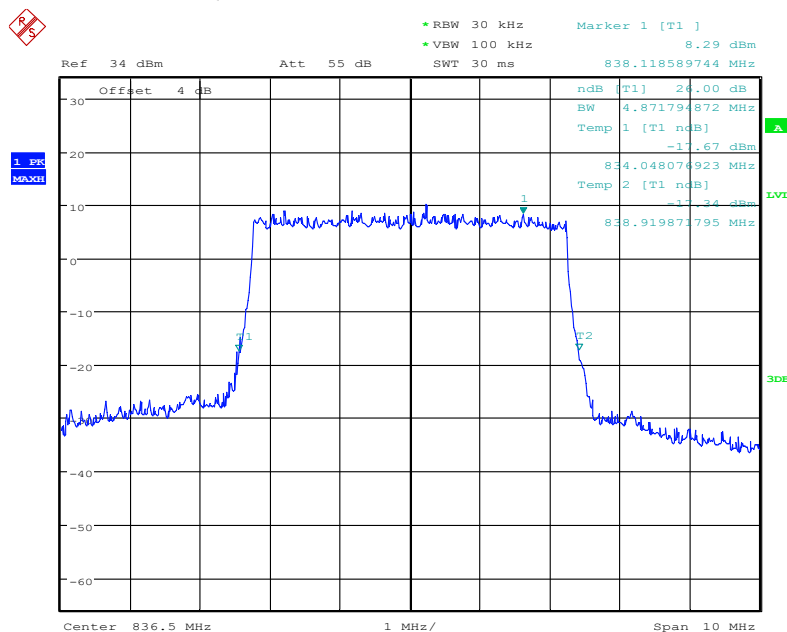
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:56:33

LTE Band5 16QAM 99% Channel 20525 BW=5MHz RB=25 RB Offset=0



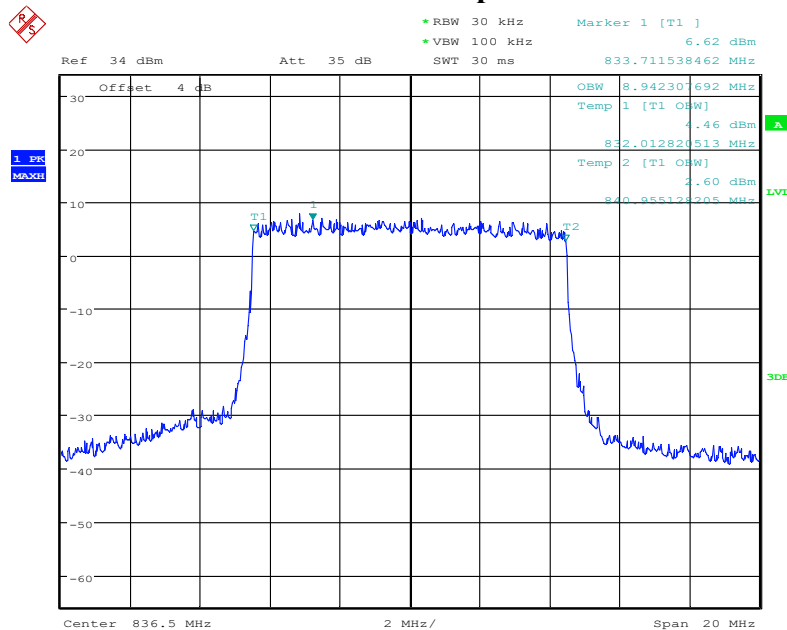
Date: 19.MAY.2020 06:13:17

LTE Band5 16QAM -26dBc Channel 20525 BW=5MHz RB=25 RB Offset=0

Chongqing Academy of Information and Communication Technology

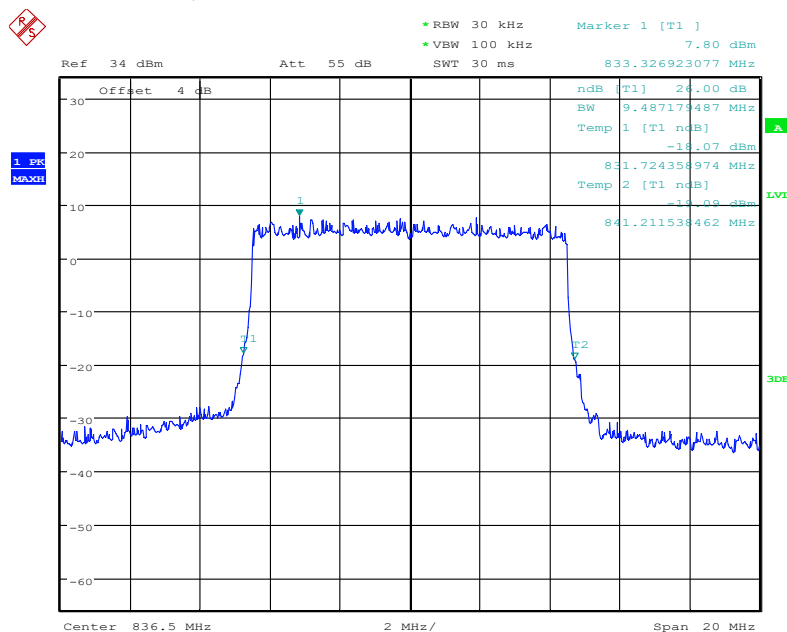
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:57:17

LTE Band5 QPSK 99% Channel 20525 BW=10MHz RB=50 RB Offset=0



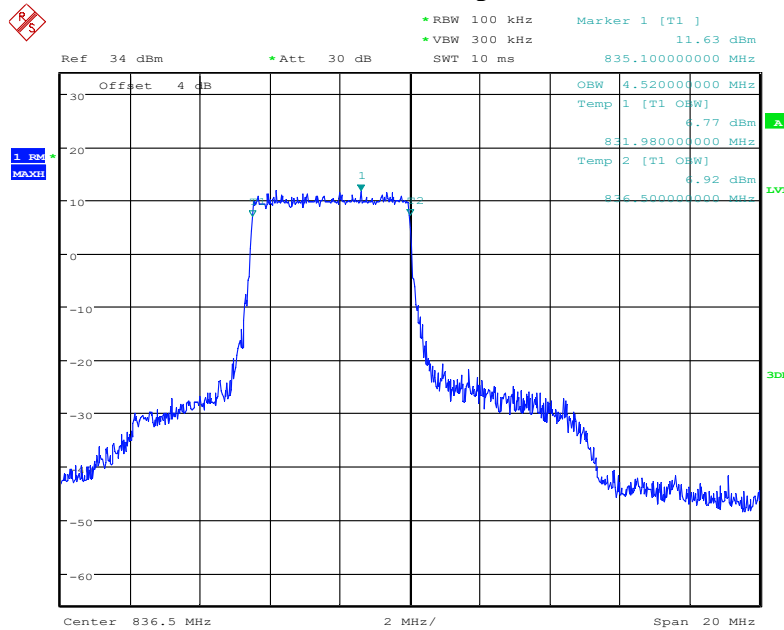
Date: 19.MAY.2020 06:13:41

LTE Band5 QPSK -26dBc Channel 20525 BW=10MHz RB=50 RB Offset=0

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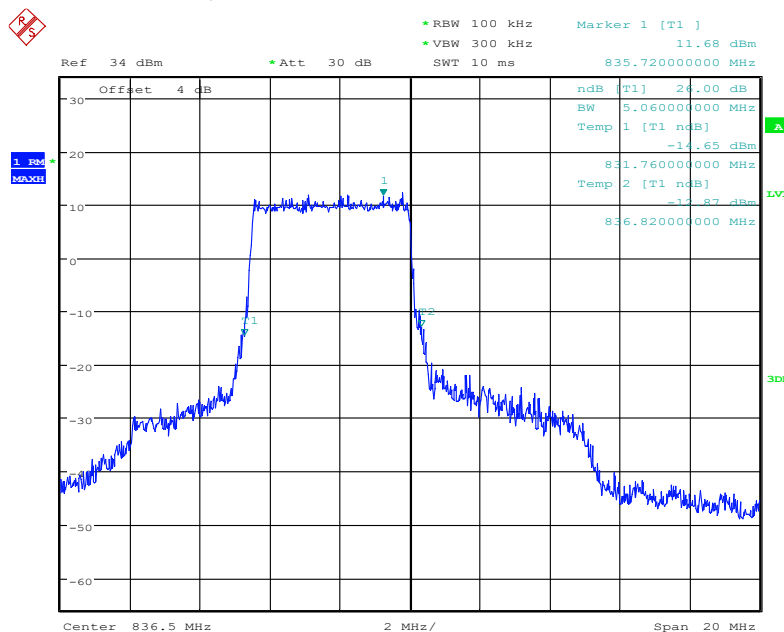
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 20.MAY.2020 01:33:20

LTE Band5 16QAM 99% Channel 20525 BW=10MHz RB=25 RB Offset=0



Date: 20.MAY.2020 01:33:34

LTE Band5 16QAM -26dBc Channel 20525 BW=10MHz RB=25 RB Offset=0

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Report No.:I20W00001-WWAN_Rev2

5.4 Conducted Spurious Emission

Specifications:	FCC Part 2.1051, 2.1053, 22.917, 27.53
DUT Serial Number:	865699031154043
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 22.917 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to Part 27.53(h):

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 Bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

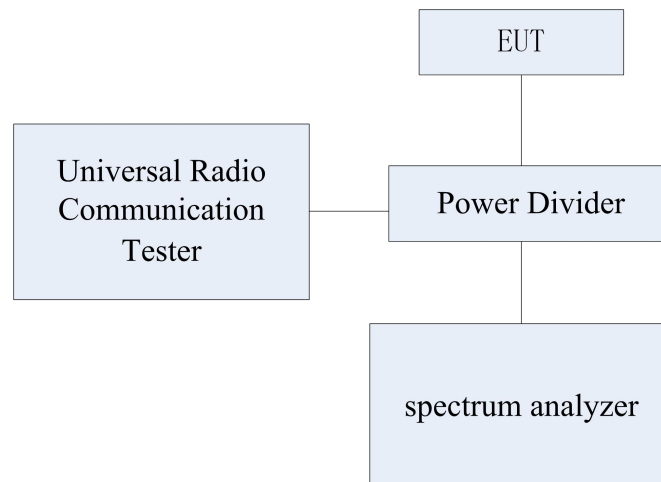
Measurement Uncertainty:

Item	Uncertainty	
Expanded Uncertainty	$9\text{kHz} < f \leq 4\text{GHz}$	0.71 dB (k=2)
	$4\text{GHz} \leq f < 12.75\text{GHz}$	0.74 dB (k=2)
	$12.75\text{GHz} \leq f < 26\text{GHz}$	2.70 dB (k=2)

Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.

Report No.:I20W00001-WWAN_Rev2



Test Method:

The measurement was performed accordance with section 2.2.13 of ANSI/TIA-603-E: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

The measurement was performed accordance with section 2.2.13 of ANSI/TIA-603-E-2010: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-Band emissions, if any, up to 10th harmonic. The EUT was scanned for spurious emissions from 30MHz to 20GHz with sufficient Bandwidth and video resolution. The spectrum analyzer was set to Maximum hold mode to ensure that the worst-case emissions were captured.

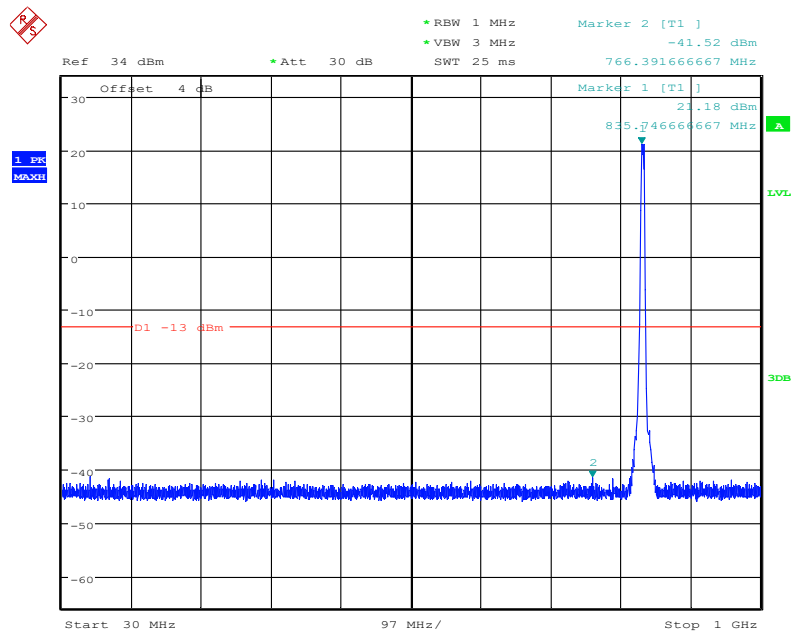
Note: --

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Report No.:I20W00001-WWAN_Rev2

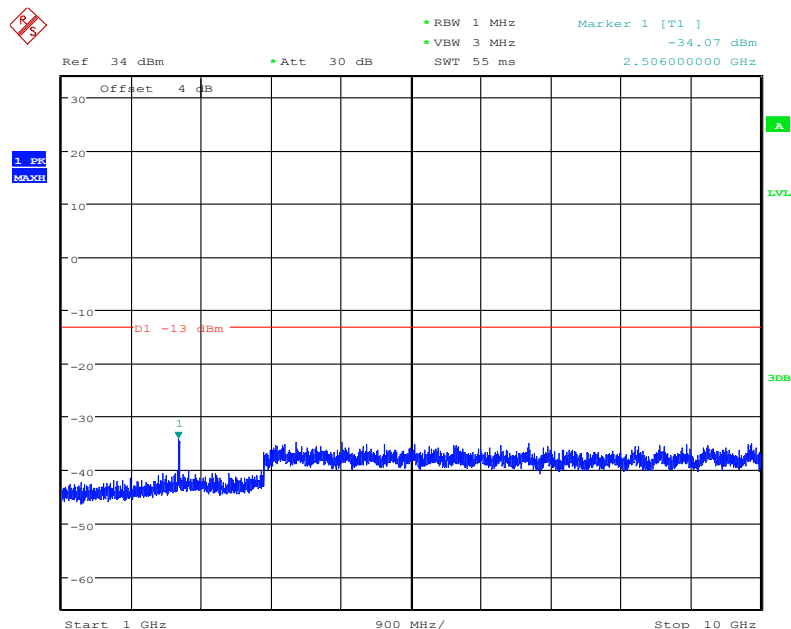
5.3.1 WCDMA Band 5 Conducted Spurious Emission Results



Date: 19.MAY.2020 22:49:50

WCDMA Band 5 QPSK Middle Channel, 836.4 MHz, 30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



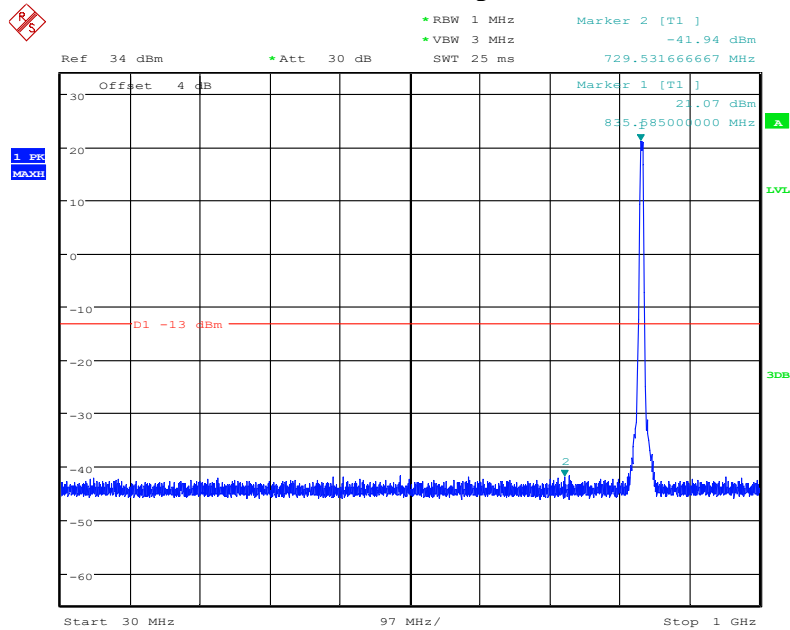
Date: 19.MAY.2020 22:50:04

WCDMA Band 5 QPSK Middle Channel, 836.4 MHz, 1GHz to 10GHz

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Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

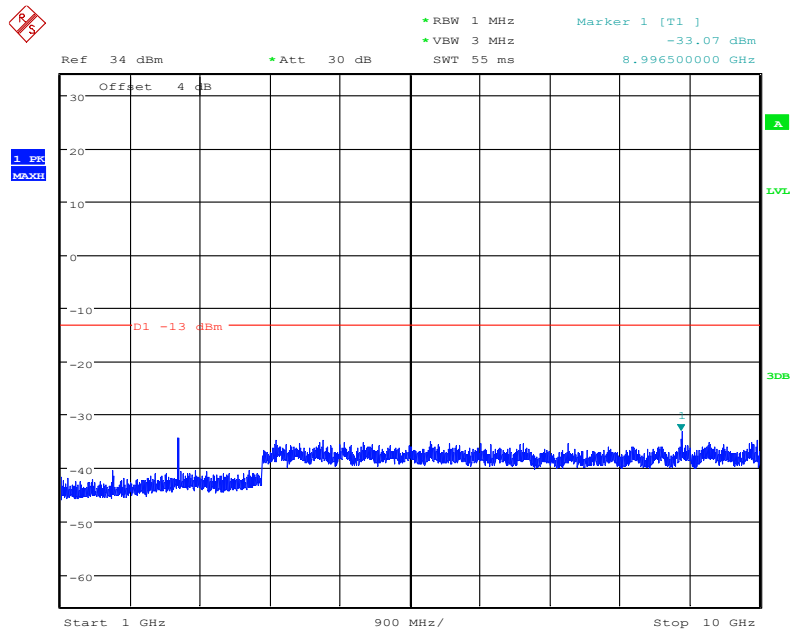
Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 22:50:54

WCDMA Band 5 16QAM Middle Channel, 836.4 MHz, 30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



Date: 19.MAY.2020 22:50:32

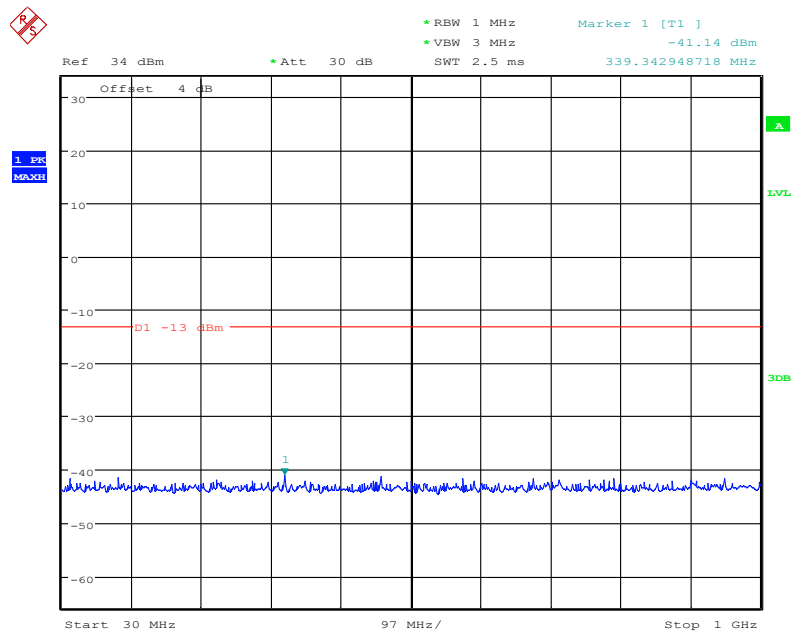
WCDMA Band 5 16QAM Middle Channel, 836.4 MHz, 1GHz to 10GHz

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Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

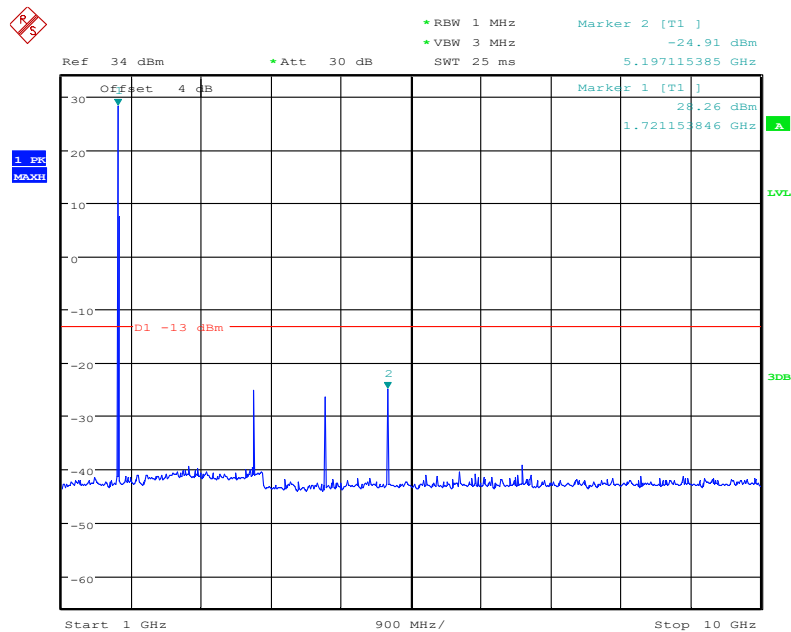
Report No.:I20W00001-WWAN_Rev2

5.3.2 LTE B4 Conducted Spurious Emission Results



Date: 19.MAY.2020 04:46:42

1.4MHz bandwidth QPSK Mode Middle channel, 1732.5 MHz, 30MHz to 1GHz



Date: 19.MAY.2020 04:45:42

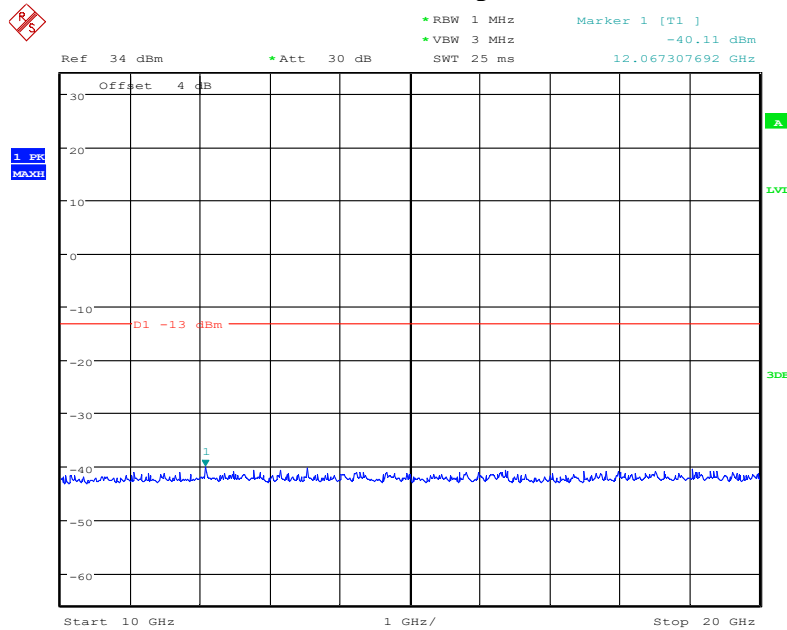
1.4MHz bandwidth QPSK Middle channel, 1732.5MHz,1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.

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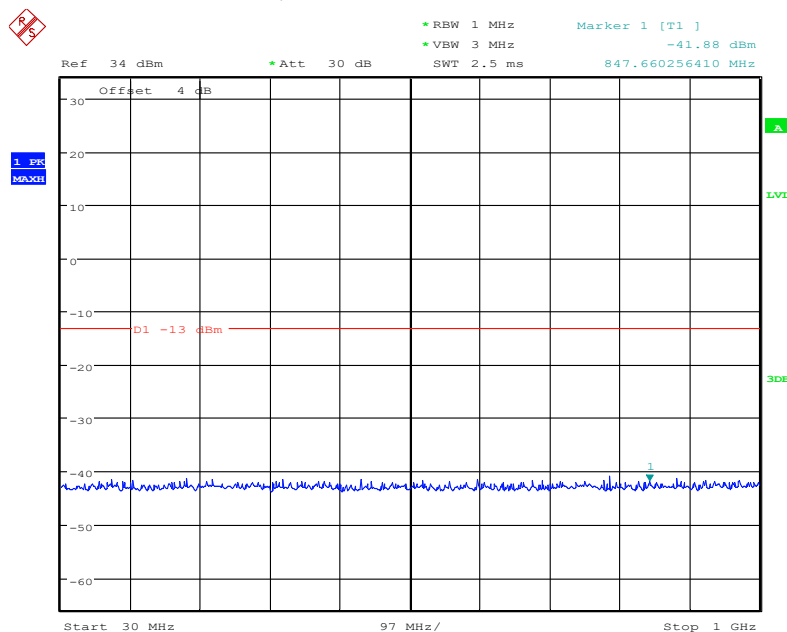
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 04:46:21

1.4MHz bandwidth QPSK Middle channel, 1732.5 MHz, 10GHz to 20GHz



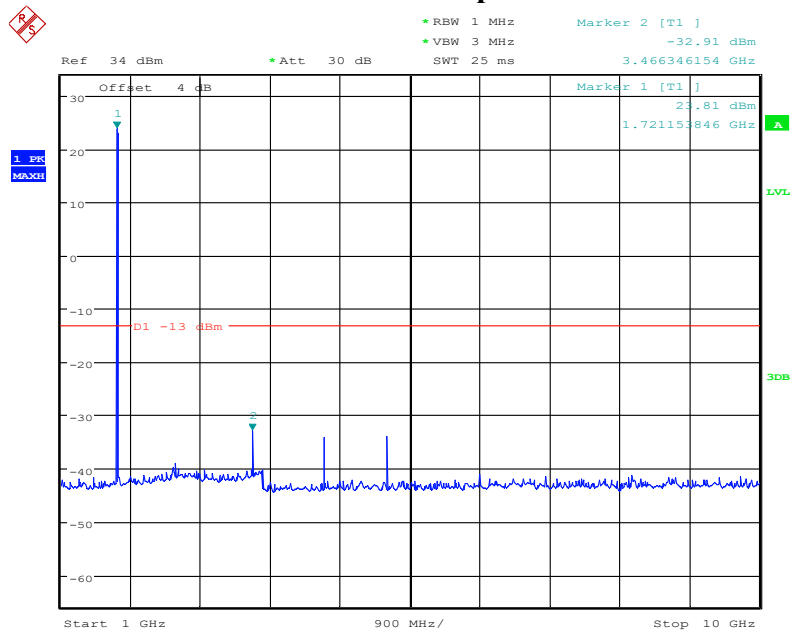
Date: 19.MAY.2020 04:48:44

3MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 30MHz to 1GHz

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Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
 Tel: 0086-23-88069965 FAX:0086-23-88608777

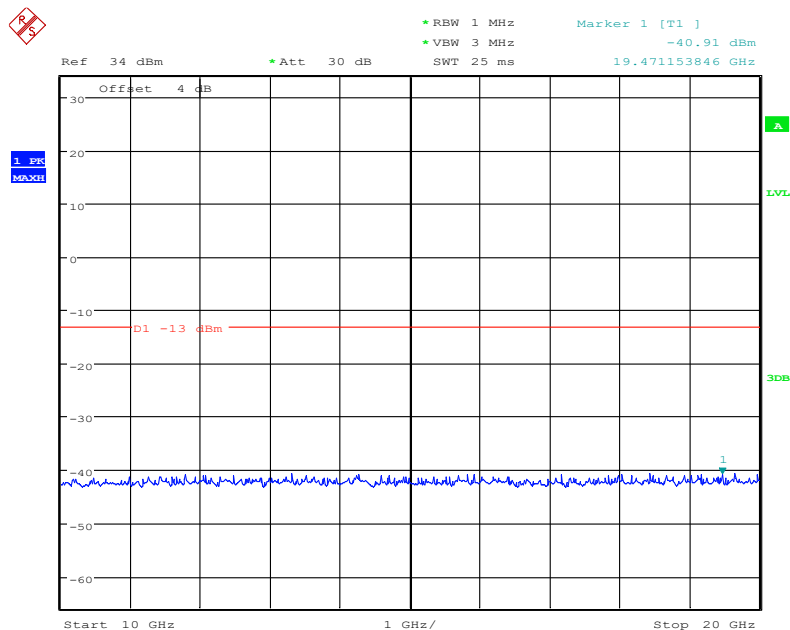
Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 04:49:09

3MHz bandwidth QPSK Middle Channel, 1732.5 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.



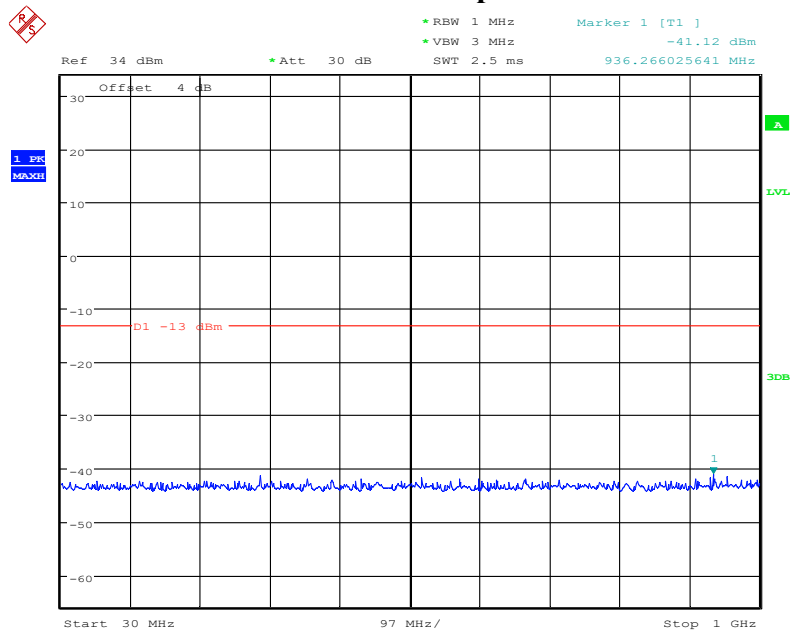
Date: 19.MAY.2020 04:49:44

3MHz bandwidth QPSK Middle Channel, 1732.5 MHz, 10GHz to 20GHz

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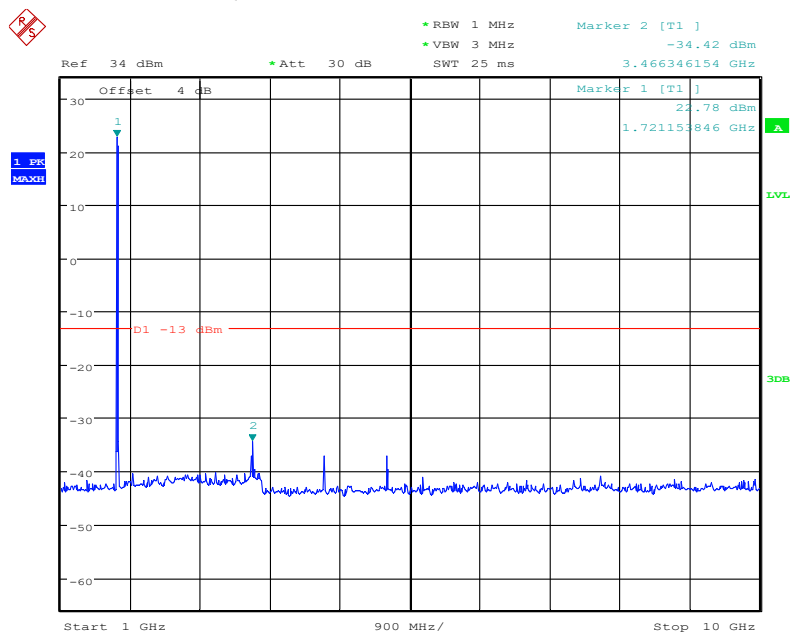
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
 Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 04:50:36

5MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz,30MHz to 1GHz



Date: 19.MAY.2020 04:50:56

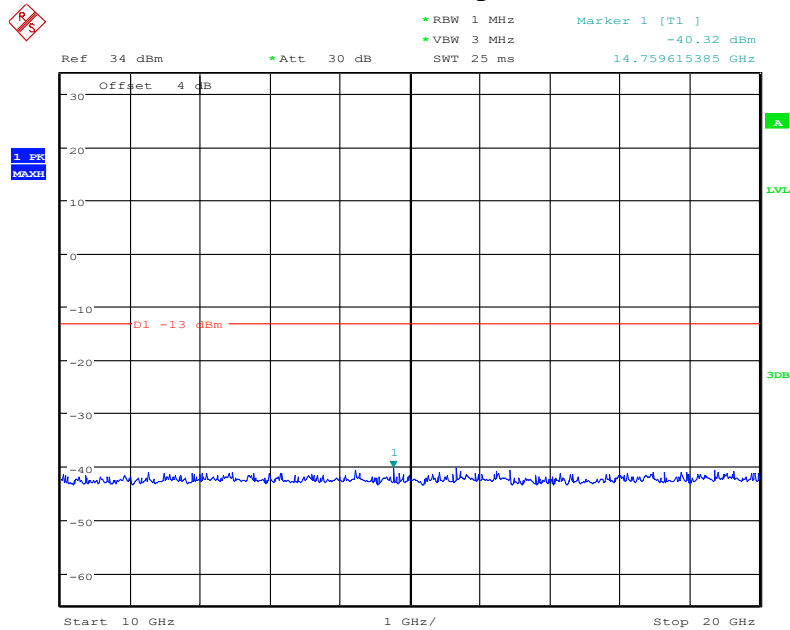
5MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz,1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.

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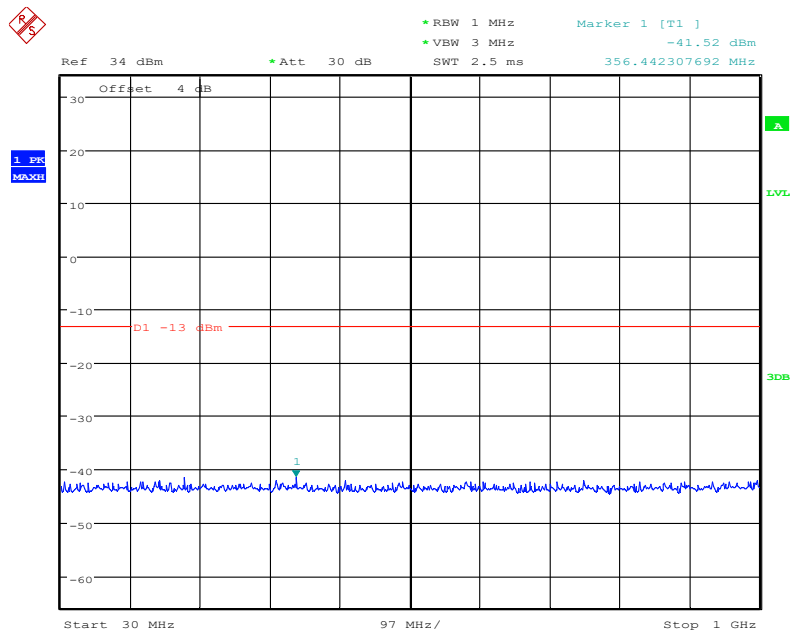
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 04:51:20

5MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz,10GHz to 20GHz



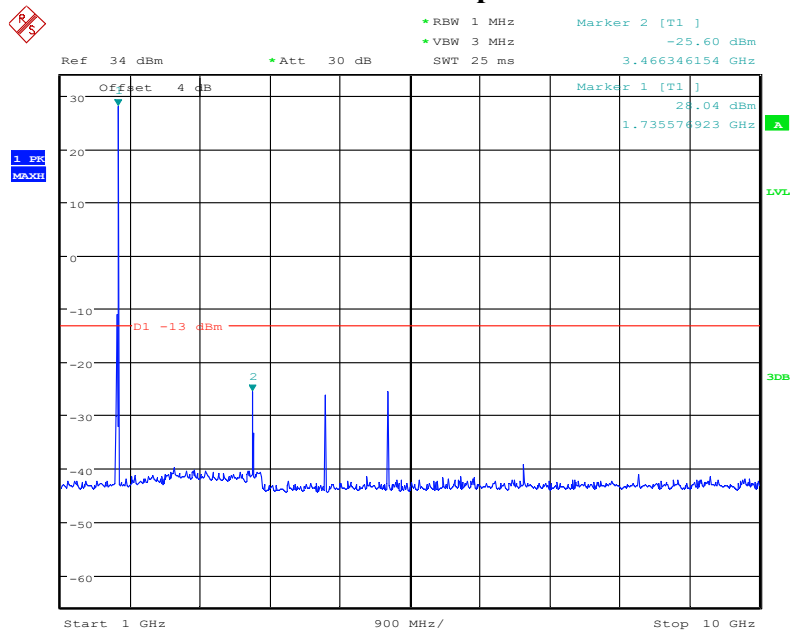
Date: 19.MAY.2020 04:51:51

10MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 30MHz to 1GHz

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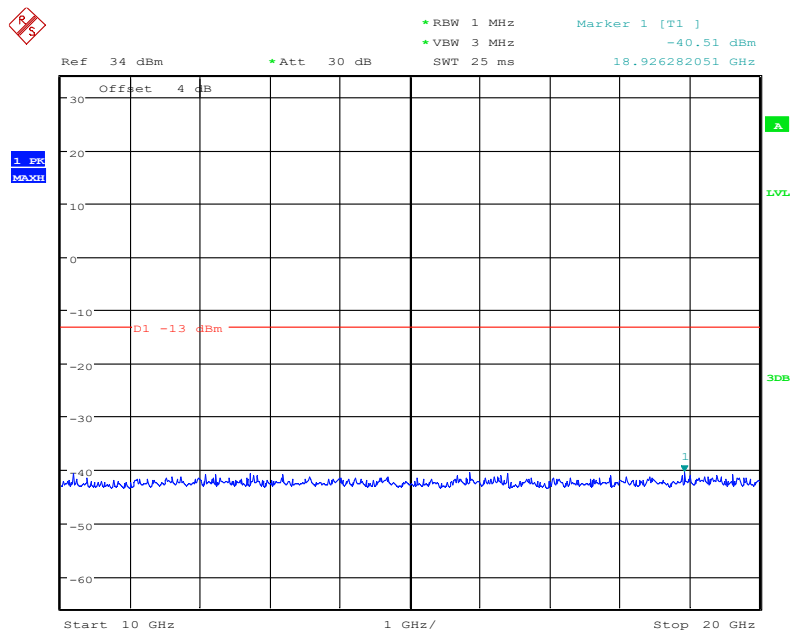
Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 04:52:13

10MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.



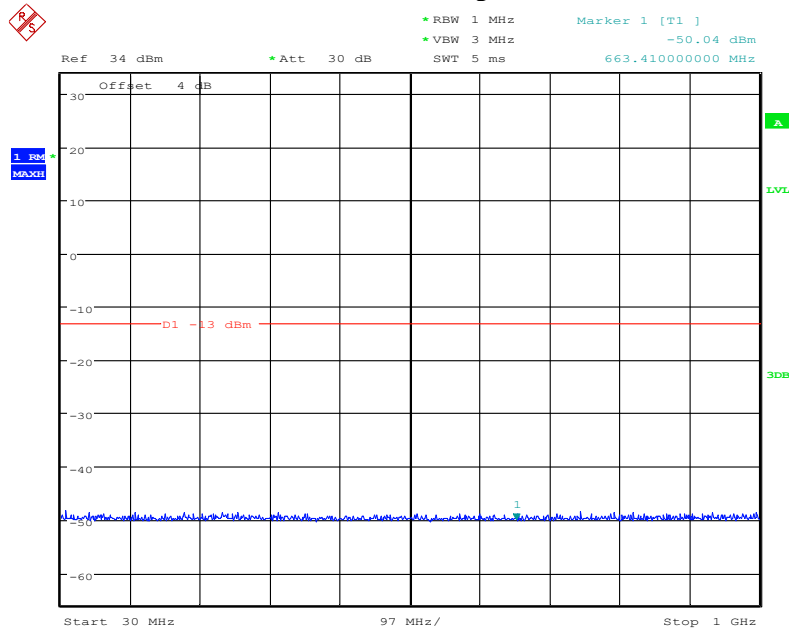
Date: 19.MAY.2020 04:52:36

10MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 10GHz to 20GHz

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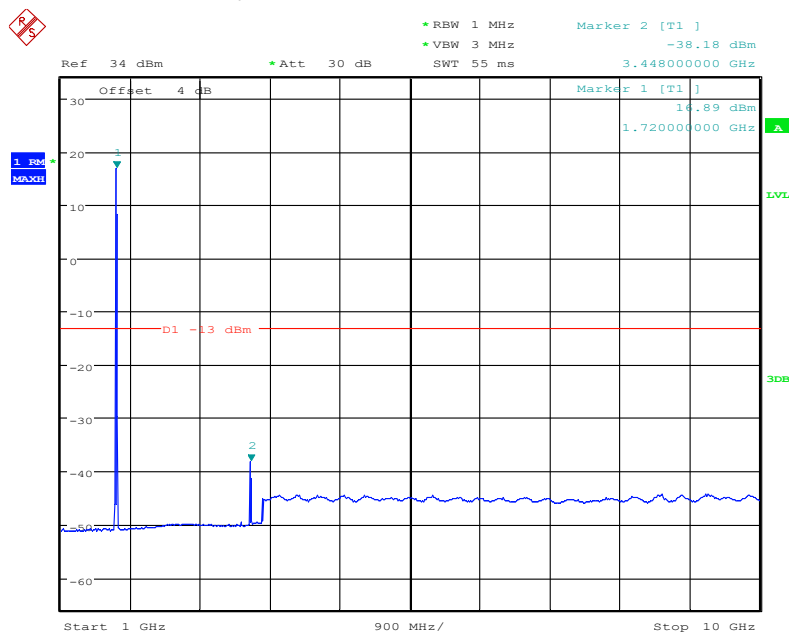
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
 Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 20.MAY.2020 01:47:05

15MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 30MHz to 1GHz



Date: 20.MAY.2020 01:47:41

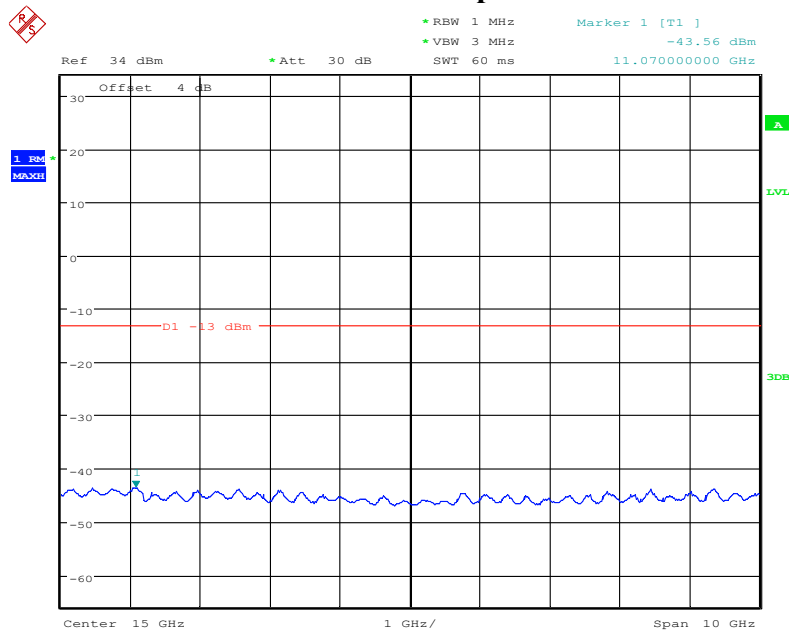
15MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.

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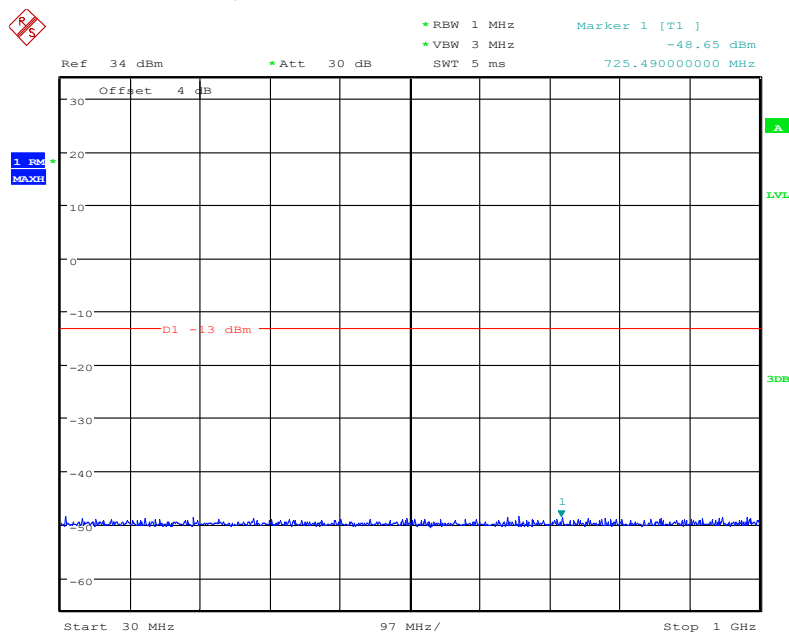
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 20.MAY.2020 01:47:58

15MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 10GHz to 20GHz



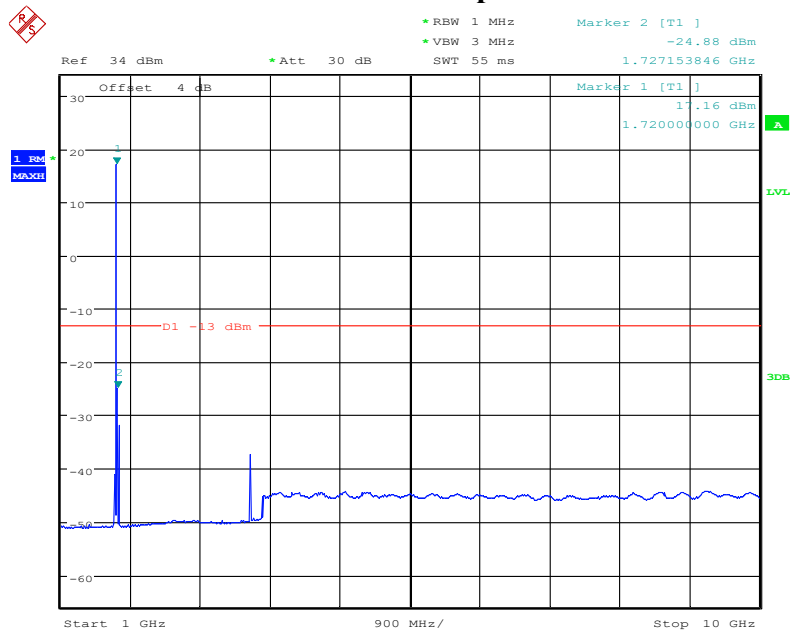
Date: 20.MAY.2020 01:48:57

20MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 30MHz to 1GHz

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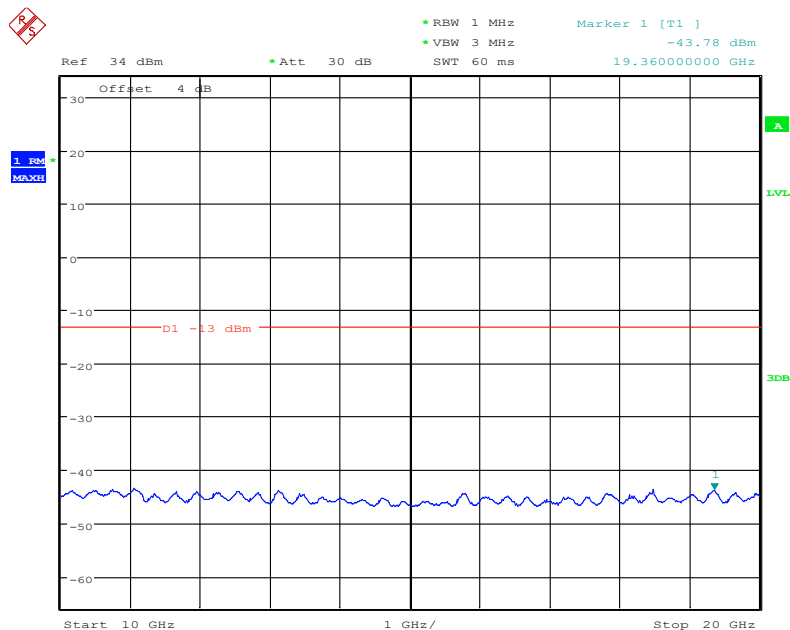
Report No.:I20W00001-WWAN_Rev2



Date: 20.MAY.2020 01:49:57

20MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 1GHz to 10GHz

Note: The strong emission shown in each case is the carrier signal.



Date: 20.MAY.2020 01:50:14

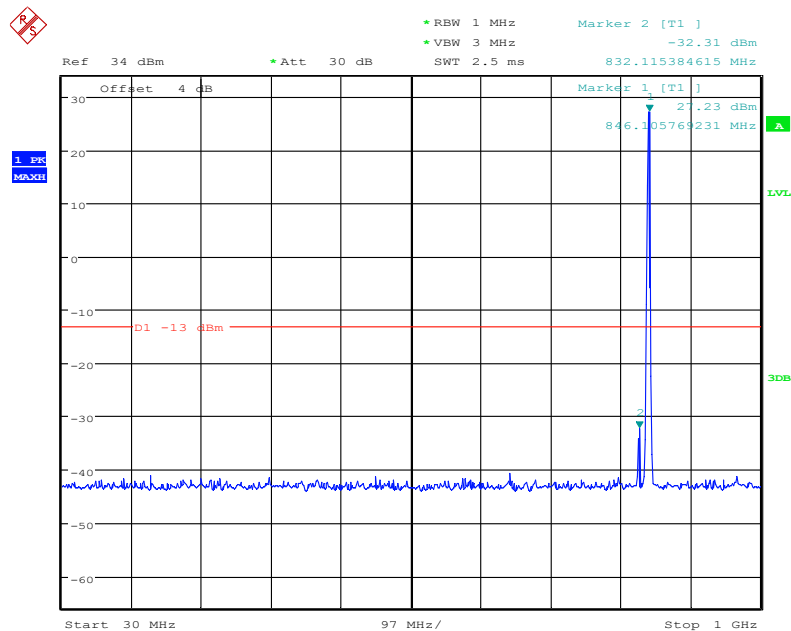
20MHz bandwidth QPSK Mode Middle Channel, 1732.5 MHz, 10GHz to 20GHz

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Report No.:I20W00001-WWAN_Rev2

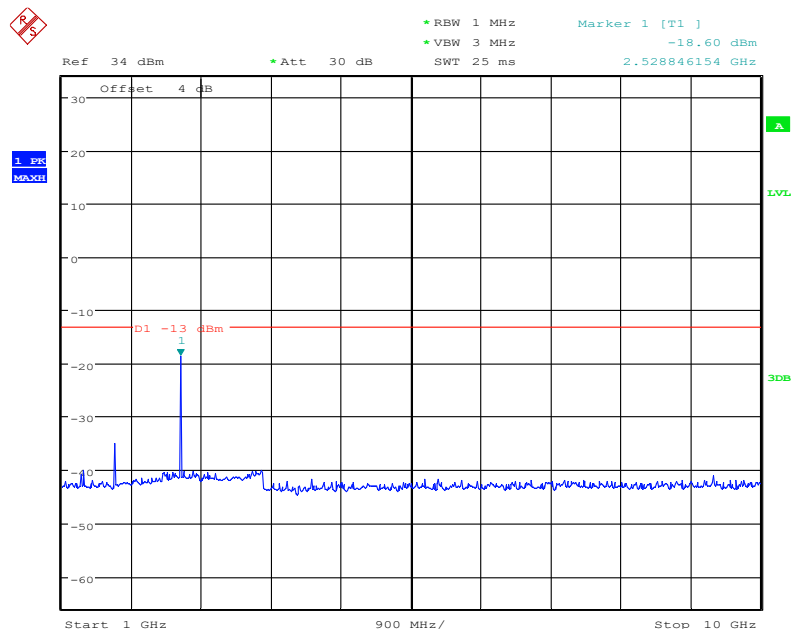
5.3.3 LTE B5 Conducted Spurious Emission Results



Date: 19.MAY.2020 04:55:42

1.4MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



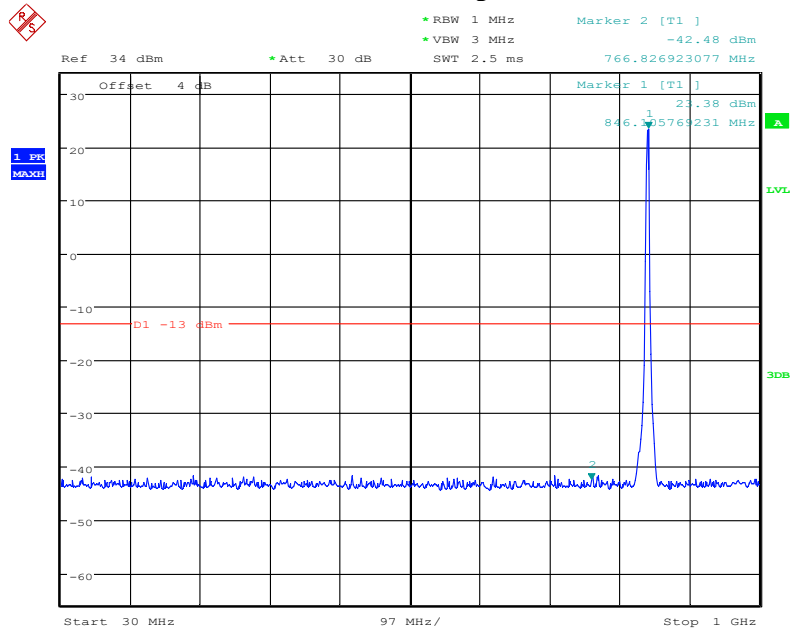
Date: 19.MAY.2020 04:56:16

1.4MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz, 1GHz to 10GHz

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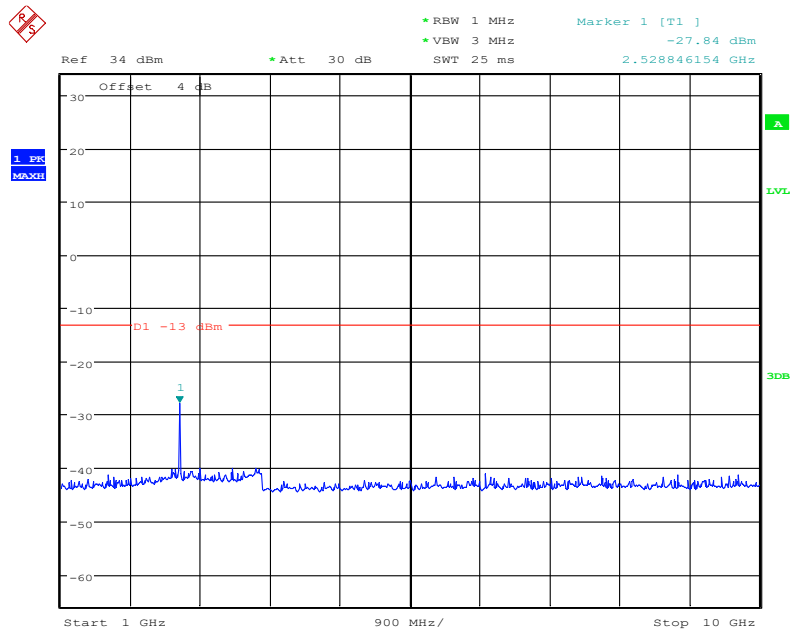
Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 04:58:22

3MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



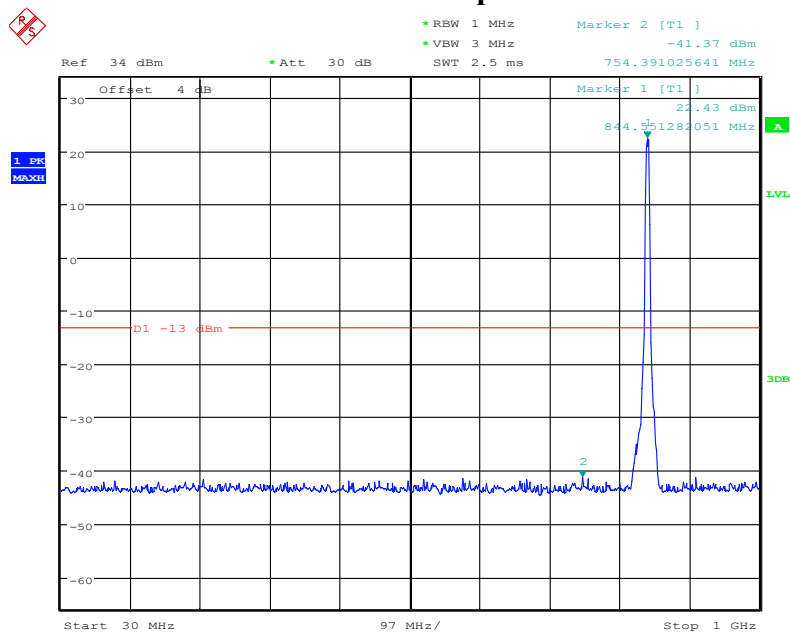
Date: 19.MAY.2020 04:57:59

3MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,1GHz to 10GHz

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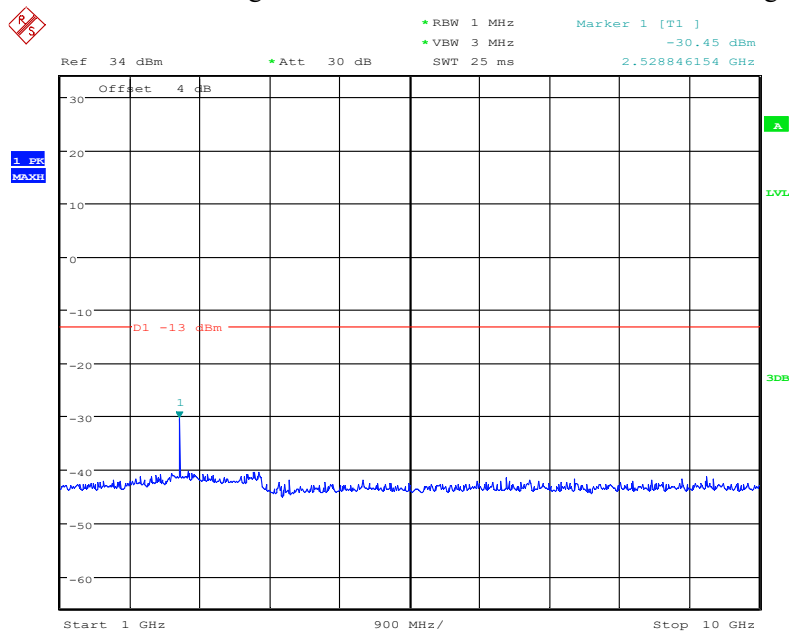
Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 04:58:56

5MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



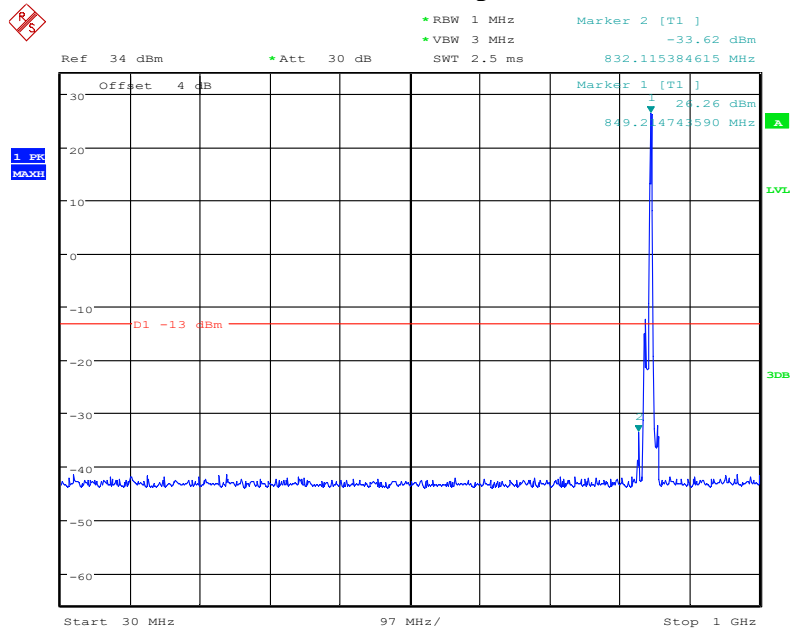
Date: 19.MAY.2020 04:59:15

5MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz, 1GHz to 10GHz

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Tel: 0086-23-88069965 FAX:0086-23-88608777

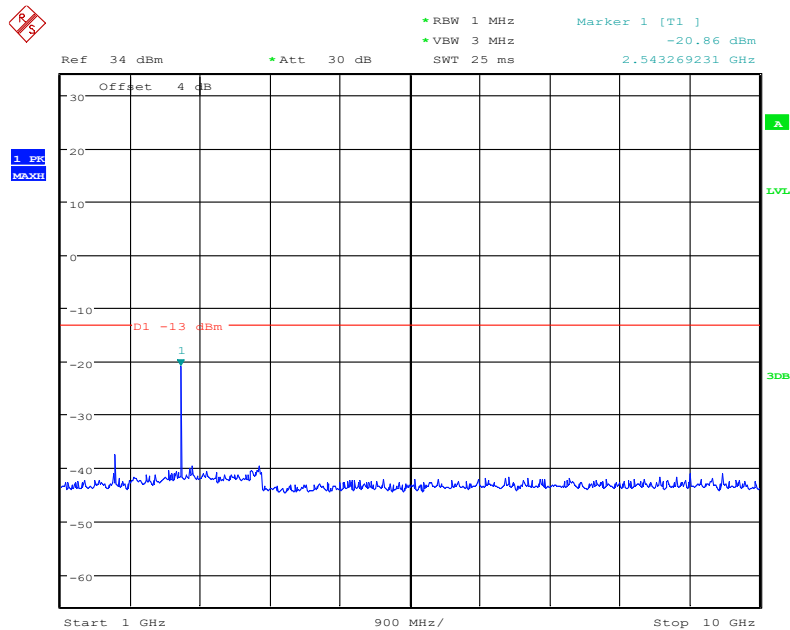
Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 05:01:24

10MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,30MHz to 1GHz

Note: The strong emission shown in each case is the carrier signal.



Date: 19.MAY.2020 05:00:20

10MHz bandwidth QPSK Mode Middle Channel, 836.5 MHz,1GHz to 10GHz

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Report No.:I20W00001-WWAN_Rev2

5.5 Radiated Spurious Emission

Specifications:	FCC Part 2.1051, 2.1053, 22.917, 27.53
DUT Serial Number:	865699031154043
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 22.917 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to Part 27.53(h):

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 Bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

Limits for Radiated spurious emissions(UE)	
Frequency range	Limit Level /Resolution Bandwidth
30 MHz to 20000 MHz	-13dBm/1MHz

Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	5.15 dB (k=2)

Test Setup:

The EUT was placed in an anechoic chamber. The Wireless Communications Test Set was used to set the TX channel and power level and modulate the TX signal with different bit patterns.

Test Method:

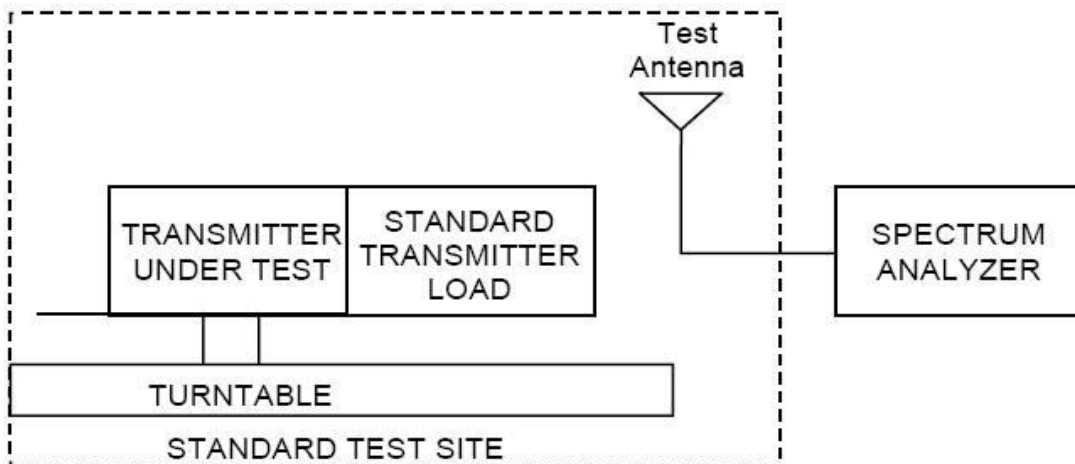
The measurement method is substitution method accordance with section 2.2.12 of ANSI/TIA-603-E: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

(a) Connect the equipment as illustrated and measure the spurious emissions as the method as above. The distance from the device to the antenna is 3 m .

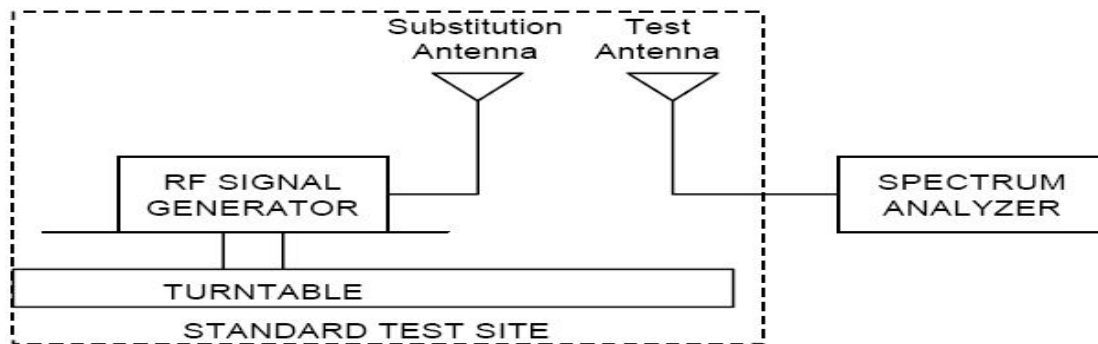
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Report No.:I20W00001-WWAN_Rev2



(b) Reconnect the equipment as illustrated.



(c) Remove the transmitter and replace it with a substitution antenna. The center of the substitution antenna should be approximately at the same location as the center of the transmitter.

(d) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized, and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.

(e) Repeat step d) with both antennas vertically polarized for each spurious frequency.

(f) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps d) and e) by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:

$$P_d(\text{dBm}) = P_g(\text{dBm}) - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

where:

P_d is the dipole equivalent power and P_g is the generator output power into the substitution antenna.

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Report No.:I20W00001-WWAN_Rev2

5.5.1 WCDMA B5 Radiated Spurious Emission Results

Test Data (QPSK Mode channel 4132)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1652.8	-76.8	4.8	7.3	-74.3	V
2479.2	-68.0	6.0	6.8	-67.2	V
3305.6	-68.8	6.7	8.9	-66.6	V
4132.0	-66.3	7.6	9.2	-64.7	V
4958.4	-65.4	7.7	9.9	-63.2	V
5784.8	-72.3	1.5	10.5	-63.3	V

Test Data (QPSK Mode channel 4182)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1672.8	-76.1	4.7	7.3	-73.5	V
2509.2	-67.7	5.9	6.7	-66.9	V
3345.6	-69.1	6.8	8.9	-67.0	V
4182.0	-66.5	7.8	9.2	-65.1	V
5018.4	-66.2	7.5	9.9	-63.8	V
5854.8	-72.2	1.1	10.5	-62.8	V

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Test Data (QPSK Mode channel 4233)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1693.2	-76.4	4.8	8.0	-73.2	V
2539.8	-67.2	5.9	6.9	-66.2	V
3386.4	-69.2	6.9	8.9	-67.2	V
4233.0	-66.4	7.8	9.2	-65.0	V
5079.6	-66.6	6.8	9.9	-63.5	V
5926.2	-71.8	1.4	10.9	-62.3	V

Test Data (16QAM Mode channel 4132)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1652.8	-75.7	4.8	7.3	-73.2	V
2479.2	-68.4	6	6.8	-67.6	V
3305.6	-68.9	6.7	8.9	-66.7	V
4132.0	-65.8	7.6	9.2	-64.2	V
4958.4	-65.2	7.7	9.9	-63.0	V
5784.8	-72.0	1.5	10.5	-63.0	V

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Test Data (16QAM Mode channel 4182)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1672.8	-76.4	4.7	7.3	-73.8	V
2509.2	-67.8	5.9	6.7	-67.0	V
3345.6	-69.1	6.8	8.9	-67.0	V
4182.0	-66.2	7.8	9.2	-64.8	V
5018.4	-66.3	7.5	9.9	-63.9	V
5854.8	-71.7	1.1	10.5	-62.3	V

Test Data (16QAM Mode channel 4233)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1693.2	-76.7	4.8	8.0	-73.5	V
2539.8	-67.5	5.9	6.9	-66.5	V
3386.4	-69.3	6.9	8.9	-67.3	V
4233.0	-65.8	7.8	9.2	-64.4	V
5079.6	-67.1	6.8	9.9	-64.0	V
5926.2	-72.1	1.4	10.9	-62.6	V

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5.5.2 LTE B4 Radiated Spurious Emission Results

Test Data (1.4MHz bandwidth 19957 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3421.4	-70.1	6.9	8.9	-68.1	V
5132.1	-68.3	6.3	9.9	-64.7	V
6842.8	-74.6	0.8	11.9	-63.5	V
8553.5	-72.1	0.9	11.2	-61.8	V
10264.2	-72.5	0.5	12.0	-61.0	V
11974.9	-72.4	0.4	12.2	-60.6	V

Test Data (1.4MHz bandwidth 19957 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3421.4	-69.7	6.9	8.9	-67.7	V
5132.1	-68.2	6.3	9.9	-64.6	V
6842.8	-74.5	0.8	11.9	-63.4	V
8553.5	-72.4	0.9	11.2	-62.1	V
10264.2	-72.9	0.5	12.0	-61.4	V
11974.9	-72.7	0.4	12.2	-60.9	V

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Test Data (1.4MHz bandwidth 20175 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.8	6.9	8.9	-67.8	V
5197.5	-68.9	5.8	9.9	-64.8	V
6930.0	-74.8	0.9	11.9	-63.8	V
8662.5	-71.4	0.9	11.2	-61.1	V
10395.0	-72.8	0.7	12.2	-61.3	V
12127.5	-72.5	0.6	12.2	-60.9	V

Test Data (1.4MHz bandwidth 20175 QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.4	6.9	8.9	-67.4	V
5197.5	-69.6	5.8	9.9	-65.5	V
6930.0	-74.6	0.9	11.9	-63.6	V
8662.5	-72.1	0.9	11.2	-61.8	V
10395.0	-73.2	0.7	12.2	-61.7	V
12127.5	-71.9	0.6	12.2	-60.3	V

Test Data (1.4MHz bandwidth 20392 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3508.4	-69.8	7.0	8.9	-67.9	V
5262.5	-70.4	4.7	9.9	-65.2	V
7016.8	-73.0	1.2	11.9	-62.3	V
8771.0	-70.9	1.1	11.2	-60.8	V
10525.2	-72.7	0.6	12.2	-61.1	V
12279.4	-71.2	0.3	12.2	-59.3	V

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Test Data (1.4MHz bandwidth 20392 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3508.4	-70.1	7.0	8.9	-68.2	V
5262.5	-70.8	4.7	9.9	-65.6	V
7016.8	-73.0	1.2	11.9	-62.3	V
8771.0	-71.0	1.1	11.2	-60.9	V
10525.2	-72.6	0.6	12.2	-61.0	V
12279.4	-71.2	0.3	12.2	-59.3	V

Test Data (3MHz bandwidth 19965 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3423.0	-70.1	6.9	8.9	-68.1	V
5134.5	-67.6	6.3	9.9	-64.0	V
6846.0	-74.6	0.8	11.9	-63.5	V
8557.5	-71.8	0.9	11.2	-61.5	V
10269.0	-73.1	0.5	12.0	-61.6	V
11980.5	-72.8	0.4	12.2	-61.0	V

Test Data (3MHz bandwidth 19965 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3423.0	-70.1	6.9	8.9	-68.1	V
5134.5	-67.4	6.3	9.9	-63.8	V
6846.0	-74.3	0.8	11.9	-63.2	V
8557.5	-71.2	0.9	11.2	-60.9	V
10269.0	-71.9	0.5	12.0	-60.4	V
11980.5	-71.9	0.4	12.2	-60.1	V

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Test Data (3MHz bandwidth 20175 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.8	6.9	8.9	-67.8	V
5197.5	-68.9	5.8	9.9	-64.8	V
6930.0	-74.8	0.9	11.9	-63.8	V
8662.5	-71.4	0.9	11.2	-61.1	V
10395.0	-72.8	0.7	12.2	-61.3	V
12127.5	-72.5	0.6	12.2	-60.9	V

Test Data (3MHz bandwidth 20175 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.5	6.9	8.9	-67.5	V
5197.5	-69.8	5.8	9.9	-65.7	V
6930.0	-75.2	0.9	11.9	-64.2	V
8662.5	-71.2	0.9	11.2	-60.9	V
10395.0	-72.6	0.7	12.2	-61.1	V
12127.5	-72.3	0.6	12.2	-60.7	V

Test Data (3MHz bandwidth 20384 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3506.8	-69.8	7.0	8.9	-67.9	V
5260.2	-70.3	5.0	9.9	-65.4	V
7013.6	-72.6	1.2	11.9	-61.9	V
8767.0	-70.6	1.2	11.2	-60.6	V
10520.4	-71.9	0.6	12.2	-60.3	V
12273.8	-71.3	0.3	12.2	-59.4	V

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Test Data (3MHz bandwidth 20384 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3506.8	-69.5	7.0	8.9	-67.6	V
5260.2	-70.1	5.0	9.9	-65.2	V
7013.6	-73.0	1.2	11.9	-62.3	V
8767.0	-70.4	1.2	11.2	-60.4	V
10520.4	-72.0	0.6	12.2	-60.4	V
12273.8	-71.5	0.3	12.2	-59.6	V

Test Data (5MHz bandwidth 19975 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3425.0	-69.7	6.9	8.9	-67.7	V
5137.5	-68.3	6.3	9.9	-64.7	V
6850.0	-74.7	0.8	11.9	-63.6	V
8562.5	-71.8	0.9	11.2	-61.5	V
10275.0	-73.0	0.5	12.0	-61.5	V
11987.5	-72.1	0.4	12.2	-60.3	V

Test Data (5MHz bandwidth 19975 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3425.0	-70.2	6.9	8.9	-68.2	V
5137.5	-67.9	6.3	9.9	-64.3	V
6850.0	-74.7	0.8	11.9	-63.6	V
8562.5	-71.1	0.9	11.2	-60.8	V
10275.0	-73.4	0.5	12.0	-61.9	V
11987.5	-72.1	0.4	12.2	-60.3	V

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Test Data (5MHz bandwidth 20175 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.2	6.9	8.9	-67.2	V
5197.5	-69.9	5.8	9.9	-65.8	V
6930.0	-74.6	0.9	11.9	-63.6	V
8662.5	-71.3	0.9	11.2	-61.0	V
10395.0	-73.6	0.7	12.2	-62.1	V
12127.5	-72.1	0.6	12.2	-60.5	V

Test Data (5MHz bandwidth 20175 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.8	6.9	8.9	-67.8	V
5197.5	-69.3	5.8	9.9	-65.2	V
6930.0	-73.5	0.9	11.9	-62.5	V
8662.5	-71.2	0.9	11.2	-60.9	V
10395.0	-73.2	0.7	12.2	-61.7	V
12127.5	-72.3	0.6	12.2	-60.7	V

Test Data (5MHz bandwidth 20374 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3504.8	-70.2	7.0	8.9	-68.3	V
5257.2	-69.6	5.0	9.9	-64.7	V
7009.6	-73.5	1.2	11.9	-62.8	V
8762.0	-71.2	1.2	11.2	-61.2	V
10514.4	-72.7	0.6	12.2	-61.1	V
12266.8	-71.6	0.4	12.2	-59.8	V

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Test Data (5MHz bandwidth 20374 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3504.8	-69.7	7.0	8.9	-67.8	V
5257.2	-70.1	5.0	9.9	-65.2	V
7009.6	-73.3	1.2	11.9	-62.6	V
8762.0	-71.2	1.2	11.2	-61.2	V
10514.4	-72.5	0.6	12.2	-60.9	V
12266.8	-71.7	0.4	12.2	-59.9	V

Test Data (10MHz bandwidth 20000 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3430.0	-70.4	6.9	8.9	-68.4	V
5145.0	-67.8	6.3	9.9	-64.2	V
6860.0	-74.8	0.8	11.9	-63.7	V
8575.0	-71.8	0.9	11.2	-61.5	V
10290.0	-72.7	0.5	12.0	-61.2	V
12005.0	-72.5	0.4	12.2	-60.7	V

Test Data (10MHz bandwidth 20000 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3430.0	-70.1	6.9	8.9	-68.1	V
5145.0	-68.4	6.3	9.9	-64.8	V
6860.0	-74.0	0.8	11.9	-62.9	V
8575.0	-71.8	0.9	11.2	-61.5	V
10290.0	-72.6	0.5	12.0	-61.1	V
12005.0	-72.0	0.4	12.2	-60.2	V

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Test Data (10MHz bandwidth 20175 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-70.0	6.9	8.9	-68.0	V
5197.5	-69.8	5.8	9.9	-65.7	V
6930.0	-74.6	0.9	11.9	-63.6	V
8662.5	-71.2	0.9	11.2	-60.9	V
10395.0	-72.9	0.7	12.2	-61.4	V
12127.5	-72.4	0.6	12.2	-60.8	V

Test Data (10MHz bandwidth 20175 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.8	6.9	8.9	-67.8	V
5197.5	-68.2	5.8	9.9	-64.1	V
6930.0	-75.2	0.9	11.9	-64.2	V
8662.5	-71.9	0.9	11.2	-61.6	V
10395.0	-73.0	0.7	12.2	-61.5	V
12127.5	-72.0	0.6	12.2	-60.4	V

Test Data (10MHz bandwidth 20349 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3499.8	-69.9	7.0	8.9	-68.0	V
5249.7	-70.2	5.0	9.9	-65.3	V
6999.6	-73.1	0.9	11.9	-62.1	V
8749.5	-71.4	1.2	11.2	-61.4	V
10499.4	-72.7	0.6	12.2	-61.1	V
12249.3	-72.0	0.3	12.2	-60.1	V

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Test Data (10MHz bandwidth 20349 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3499.8	-69.8	7.0	8.9	-67.9	V
5249.7	-69.6	5.0	9.9	-64.7	V
6999.6	-74.3	0.9	11.9	-63.3	V
8749.5	-70.7	1.2	11.2	-60.7	V
10499.4	-72.4	0.6	12.2	-60.8	V
12249.3	-72.4	0.3	12.2	-60.5	V

Test Data (15MHz bandwidth 20025 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3435.0	-69.9	6.9	8.9	-67.9	V
5152.5	-68.4	6.3	9.9	-64.8	V
6870.0	-74.3	0.8	11.9	-63.2	V
8587.5	-72.2	0.9	11.2	-61.9	V
10305.0	-72.7	0.7	12.2	-61.2	V
12022.5	-72.2	0.6	12.2	-60.6	V

Test Data (15MHz bandwidth 20025 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3435.0	-70.3	6.9	8.9	-68.3	V
5152.5	-68.2	6.3	9.9	-64.6	V
6870.0	-74.5	0.8	11.9	-63.4	V
8587.5	-71.4	0.9	11.2	-61.1	V
10305.0	-73.5	0.7	12.2	-62.0	V
12022.5	-72.0	0.6	12.2	-60.4	V

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Test Data (15MHz bandwidth 20175 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.8	6.9	8.9	-67.8	V
5197.5	-68.9	6.3	9.9	-65.3	V
6930.0	-74.2	0.8	11.9	-63.1	V
8662.5	-71.3	0.9	11.2	-61.0	V
10395.0	-73.4	0.7	12.2	-61.9	V
12127.5	-71.3	0.6	12.2	-59.7	V

Test Data (15MHz bandwidth 20175 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.5	6.9	8.9	-67.5	V
5197.5	-69.1	5.8	9.9	-65.0	V
6930.0	-74.8	0.9	11.9	-63.8	V
8662.5	-71.6	0.9	11.2	-61.3	V
10395.0	-72.9	0.7	12.2	-61.4	V
12127.5	-72.4	0.6	12.2	-60.8	V

Test Data (15MHz bandwidth 20324 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3494.8	-69.5	7.0	8.9	-67.6	V
5242.2	-70.5	5.0	9.9	-65.6	V
6989.6	-74.0	1.2	11.9	-63.3	V
8737.0	-71.5	1.2	11.2	-61.5	V
10484.4	-72.9	0.3	12.2	-61.0	V
12231.8	-71.4	0.3	12.2	-59.5	V

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Test Data (15MHz bandwidth 20324 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3494.8	-69.6	7.0	8.9	-67.7	V
5242.2	-69.7	5.0	9.9	-64.8	V
6989.6	-74.2	1.2	11.9	-63.5	V
8737.0	-71.1	1.2	11.2	-61.1	V
10484.4	-73.3	0.3	12.2	-61.4	V
12231.8	-71.7	0.3	12.2	-59.8	V

Test Data (20MHz bandwidth 20050 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3440.0	-70.1	6.9	8.9	-68.1	V
5160.0	-68.3	6.3	9.9	-64.7	V
6880.0	-74.5	0.8	11.9	-63.4	V
8600.0	-71.6	0.9	11.2	-61.3	V
10320.0	-73.2	0.7	12.2	-61.7	V
12040.0	-72.3	0.6	12.2	-60.7	V

Test Data (20MHz bandwidth 20050 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3440.0	-70.0	6.9	8.9	-68.0	V
5160.0	-67.9	6.3	9.9	-64.3	V
6880.0	-74.0	0.8	11.9	-62.9	V
8600.0	-71.3	0.9	11.2	-61.0	V
10320.0	-73.6	0.7	12.2	-62.1	V
12040.0	-72.2	0.6	12.2	-60.6	V

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Test Data (20MHz bandwidth 20175 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.3	6.9	8.9	-67.3	V
5197.5	-69.5	5.8	9.9	-65.4	V
6930.0	-74.5	0.9	11.9	-63.5	V
8662.5	-71.4	0.9	11.2	-61.1	V
10395.0	-72.8	0.7	12.2	-61.3	V
12127.5	-72.4	0.6	12.2	-60.8	V

Test Data (20MHz bandwidth 20175 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3465.0	-69.1	6.9	8.9	-67.1	V
5197.5	-67.7	5.8	9.9	-63.6	V
6930.0	-72.8	0.9	11.9	-61.8	V
8662.5	-70.4	0.9	11.2	-60.1	V
10395.0	-71.6	0.7	12.2	-60.1	V
12127.5	-71.2	0.6	12.2	-59.6	V

Test Data (20MHz bandwidth 20299 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3489.8	-68.9	7.0	8.9	-67.0	V
5234.7	-68.7	5.0	9.9	-63.8	V
6979.6	-72.7	0.9	11.9	-61.7	V
8724.5	-69.7	1.2	11.2	-59.7	V
10469.4	-71.8	0.3	12.2	-59.9	V
12214.3	-71.0	0.3	12.2	-59.1	V

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Test Data (20MHz bandwidth 20299 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3489.8	-69.2	7.0	8.9	-67.3	V
5234.7	-69.0	5.0	9.9	-64.1	V
6979.6	-73.2	0.9	11.9	-62.2	V
8724.5	-69.6	1.2	11.2	-59.6	V
10469.4	-71.4	0.3	12.2	-59.5	V
12214.3	-71.2	0.3	12.2	-59.3	V

5.5.3 LTE B5 Radiated Spurious Emission Results

Test Data (1.4MHz bandwidth 20407 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1649.4	-76.3	4.7	7.3	-73.7	V
2474.1	-68.2	6.0	6.8	-67.4	V
3298.8	-68.8	6.7	8.9	-66.6	V
4123.5	-66.3	7.6	9.2	-64.7	V
4948.2	-64.5	7.7	9.9	-62.3	V
5772.9	-72.2	1.4	10.5	-63.1	V

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Test Data (1.4MHz bandwidth 20407 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1649.4	-76.2	4.7	7.3	-73.6	V
2474.1	-68.2	6.0	6.8	-67.4	V
3298.8	-69.0	6.7	8.9	-66.8	V
4123.5	-66.4	7.6	9.2	-64.8	V
4948.2	-65.2	7.7	9.9	-63.0	V
5772.9	-72.5	1.4	10.5	-63.4	V

Test Data (1.4MHz bandwidth 20525 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-76.5	4.7	7.3	-73.9	V
2509.5	-67.5	5.9	6.7	-66.7	V
3346.0	-68.7	6.8	8.9	-66.6	V
4182.5	-66.4	7.8	9.2	-65.0	V
5019.0	-65.9	7.5	9.9	-63.5	V
5855.5	-72.1	1.1	10.5	-62.7	V

Test Data (1.4MHz bandwidth 20525 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-76.8	4.7	7.3	-74.2	V
2509.5	-68.0	5.9	6.7	-67.2	V
3346.0	-69.0	6.8	8.9	-66.9	V
4182.5	-66.2	7.8	9.2	-64.8	V
5019.0	-66.1	7.5	9.9	-63.7	V
5855.5	-72.5	1.1	10.5	-63.1	V

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Test Data (1.4MHz bandwidth 20642 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1696.4	-77.0	4.8	7.9	-73.9	V
2544.6	-66.8	5.9	6.9	-65.8	V
3392.8	-69.0	6.9	8.9	-67.0	V
4241.0	-66.3	7.8	9.2	-64.9	V
5089.2	-66.5	6.8	9.9	-63.4	V
5937.4	-72.5	1.4	10.9	-63.0	V

Test Data (1.4MHz bandwidth 20642 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1696.4	-76.7	4.8	7.9	-73.6	V
2544.6	-67.4	5.9	6.9	-66.4	V
3392.8	-68.6	6.9	8.9	-66.6	V
4241.0	-66.4	7.8	9.2	-65.0	V
5089.2	-66.4	6.8	9.9	-63.3	V
5937.4	-71.9	1.4	10.9	-62.4	V

Test Data (3MHz bandwidth 20415 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1651.0	-77.0	4.8	7.9	-73.9	V
2476.5	-68.3	5.9	6.9	-67.3	V
3302.0	-69.0	6.9	8.9	-67.0	V
4127.5	-66.1	7.8	9.2	-64.7	V
4953.0	-66.4	6.8	9.9	-63.3	V
5778.5	-72.7	1.4	10.9	-63.2	V

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Test Data (3MHz bandwidth 20415 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1651.0	-77.0	4.8	7.9	-73.9	V
2476.5	-68.1	5.9	6.9	-67.1	V
3302.0	-69.4	6.9	8.9	-67.4	V
4127.5	-66.8	7.8	9.2	-65.4	V
4953.0	-67.2	6.8	9.9	-64.1	V
5778.5	-73.6	1.4	10.9	-64.1	V

Test Data (3MHz bandwidth 20525 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-76.4	4.7	7.3	-73.8	V
2509.5	-67.6	5.9	6.7	-66.8	V
3346.0	-70.5	6.8	8.9	-68.4	V
4182.5	-67.5	7.8	9.2	-66.1	V
5019.0	-67.6	7.5	9.9	-65.2	V
5855.5	-73.8	1.1	10.5	-64.4	V

Test Data (3MHz bandwidth 20525 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-76.9	4.7	7.3	-74.3	V
2509.5	-67.9	5.9	6.7	-67.1	V
3346.0	-69.7	6.8	8.9	-67.6	V
4182.5	-65.9	7.8	9.2	-64.5	V
5019.0	-66.1	7.5	9.9	-63.7	V
5855.5	-72.6	1.1	10.5	-63.2	V

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Test Data (3MHz bandwidth 20634 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1694.8	-76.5	4.8	8.0	-73.3	V
2542.2	-67.7	5.9	6.9	-66.7	V
3389.6	-68.8	6.9	8.9	-66.8	V
4237.0	-65.7	7.8	9.2	-64.3	V
5084.4	-66.7	6.8	9.9	-63.6	V
5931.8	-72.4	1.4	10.9	-62.9	V

Test Data (3MHz bandwidth 20634 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1694.8	-76.6	4.8	8.0	-73.4	V
2542.2	-67.5	5.9	6.9	-66.5	V
3389.6	-68.9	6.9	8.9	-66.9	V
4237.0	-66.0	7.8	9.2	-64.6	V
5084.4	-66.9	6.8	9.9	-63.8	V
5931.8	-71.8	1.4	10.9	-62.3	V

Test Data (5MHz bandwidth 20425 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1653.0	-76.4	4.8	7.3	-73.9	V
2479.5	-67.6	5.9	6.6	-66.9	V
3306.0	-69.3	6.8	8.9	-67.2	V
4132.5	-66.2	7.6	9.2	-64.6	V
4959.0	-65.4	7.5	9.9	-63.0	V
5785.5	-71.6	1.4	10.5	-62.5	V

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Test Data (5MHz bandwidth 20425 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1653.0	-76.2	4.8	7.3	-73.7	V
2479.5	-67.6	5.9	6.6	-66.9	V
3306.0	-69.2	6.8	8.9	-67.1	V
4132.5	-66.3	7.6	9.2	-64.7	V
4959.0	-65.8	7.5	9.9	-63.4	V
5785.5	-72.9	1.4	10.5	-63.8	V

Test Data (5MHz bandwidth 20525 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-76.4	4.7	7.3	-73.8	V
2509.5	-67.7	5.9	6.7	-66.9	V
3346.0	-69.2	6.8	8.9	-67.1	V
4182.5	-66.5	7.8	9.2	-65.1	V
5019.0	-65.8	7.5	9.9	-63.4	V
5855.5	-72.2	1.1	10.5	-62.8	V

Test Data (5MHz bandwidth 20525 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-76.9	4.7	7.3	-74.3	V
2509.5	-67.7	5.9	6.7	-66.9	V
3346.0	-68.8	6.8	8.9	-66.7	V
4182.5	-66.5	7.8	9.2	-65.1	V
5019.0	-66.3	7.5	9.9	-63.9	V
5855.5	-72.7	1.1	10.5	-63.3	V

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Test Data (5MHz bandwidth 20624 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1692.8	-76.7	4.8	8.0	-73.5	V
2539.2	-67.7	5.9	6.9	-66.7	V
3385.6	-69.2	6.9	8.9	-67.2	V
4232.0	-66.6	7.8	9.2	-65.2	V
5078.4	-66.6	6.8	9.9	-63.5	V
5924.8	-72.6	1.4	10.9	-63.1	V

Test Data (5MHz bandwidth 20624 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1692.8	-76.7	4.8	8.0	-73.5	V
2539.2	-67.6	5.9	6.9	-66.6	V
3385.6	-69.2	6.9	8.9	-67.2	V
4232.0	-66.2	7.8	9.2	-64.8	V
5078.4	-66.9	6.8	9.9	-63.8	V
5924.8	-72.5	1.4	10.9	-63.0	V

Test Data (10MHz bandwidth 20450 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1658.0	-76.6	4.8	7.6	-73.8	V
2487.0	-68.3	5.9	6.6	-67.6	V
3316.0	-68.8	6.8	8.9	-66.7	V
4145.0	-66.6	7.6	9.2	-65.0	V
4974.0	-65.4	7.5	9.9	-63.0	V
5803.0	-72.2	1.4	10.9	-62.7	V

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Test Data (10MHz bandwidth 20450 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1658.0	-76.8	4.8	7.6	-74.0	V
2487.0	-68.2	5.9	6.6	-67.5	V
3316.0	-69.1	6.8	8.9	-67.0	V
4145.0	-66.7	7.6	9.2	-65.1	V
4974.0	-65.7	7.5	9.9	-63.3	V
5803.0	-72.2	1.4	10.9	-62.7	V

Test Data (10MHz bandwidth 20525 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-77.0	4.7	7.3	-74.4	V
2509.5	-68.1	5.9	6.7	-67.3	V
3346.0	-69.2	6.8	8.9	-67.1	V
4182.5	-66.5	7.8	9.2	-65.1	V
5019.0	-66.2	7.5	9.9	-63.8	V
5855.5	-72.5	1.1	10.5	-63.1	V

Test Data (10MHz bandwidth 20525 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1673.0	-76.2	4.7	7.3	-73.6	V
2509.5	-68.4	5.9	6.7	-67.6	V
3346.0	-68.9	6.8	8.9	-66.8	V
4182.5	-65.9	7.8	9.2	-64.5	V
5019.0	-66.2	7.5	9.9	-63.8	V
5855.5	-72.7	1.1	10.5	-63.3	V

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Test Data (10MHz bandwidth 20599 QPSK Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1687.8	-77.7	4.8	8.1	-74.4	V
2531.7	-68.1	5.9	6.9	-67.1	V
3375.6	-69.5	6.8	8.9	-67.4	V
4219.5	-66.2	7.8	9.2	-64.8	V
5063.4	-66.9	7.1	9.9	-64.1	V
5907.3	-72.1	1.4	10.9	-62.6	V

Test Data (10MHz bandwidth 20599 16QAM Mode)

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
1687.8	-77.5	4.8	8.1	-74.2	V
2531.7	-67.6	5.9	6.9	-66.6	V
3375.6	-69.2	6.8	8.9	-67.1	V
4219.5	-66.3	7.8	9.2	-64.9	V
5063.4	-66.6	7.1	9.9	-63.8	V
5907.3	-72.0	1.4	10.9	-62.5	V

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5.6 Band Edge

Specifications:	FCC Part 2.1051, 2.1053, 22.917, 27.53
DUT Serial Number:	865699031154043
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 22.917 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to Part 27.53(h):

Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 Bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

Measurement Uncertainty:

Item	Uncertainty	
Expanded Uncertainty	$9\text{kHz} < f \leq 4\text{GHz}$	0.71 dB (k=2)
	$4\text{GHz} \leq f < 12.75\text{GHz}$	0.74 dB (k=2)
	$12.75\text{GHz} \leq f < 26\text{GHz}$	2.70 dB (k=2)

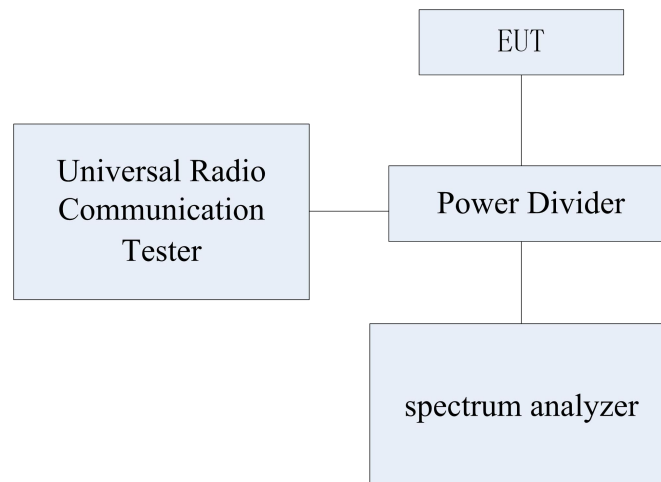
Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.

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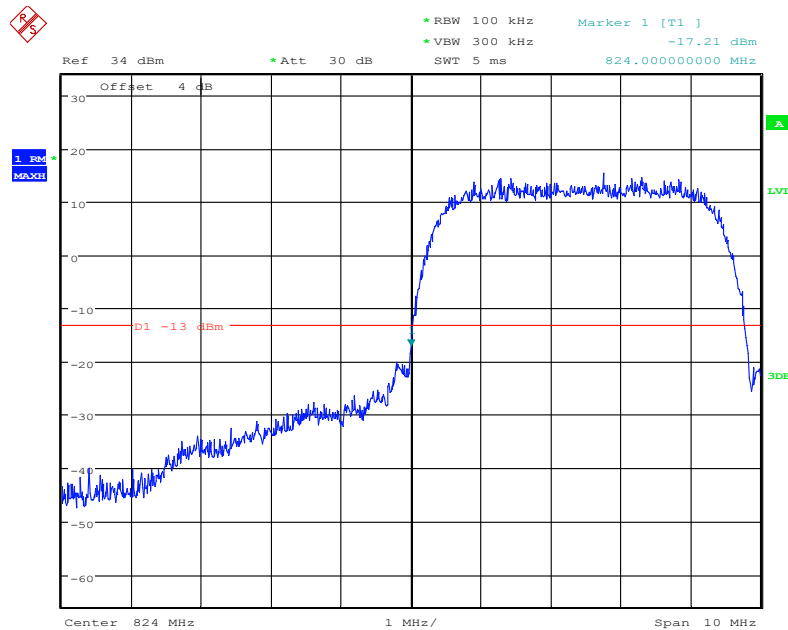
Test Method:

- 1) The EUT was coupled to the EMI test receiver analyzer mode and the base station simulator through a power divider. The loss of the cables the test system is calibrated to correct the readings.
- 2) The spectrum analyzer was set to Average Detector function and Maximum hold mode.
- 3) The resolution Bandwidth of the spectrum analyzer was a little greater than 1% of the 26dB emission Bandwidth.

Note: In the graphical result description (X, Y), X represents the number of RB, Y represents the RB offset.

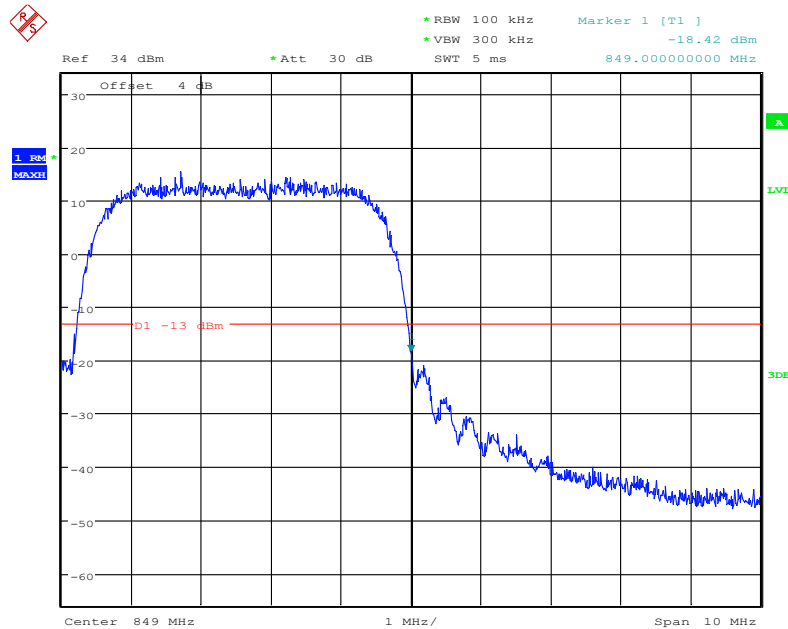
Report No.:I20W00001-WWAN_Rev2

5.5.1 WCDMA B5 Band Edge Results



Date: 19.MAY.2020 22:53:04

WCDMA Band 5 QPSK, Low Channel , Below 824MHz



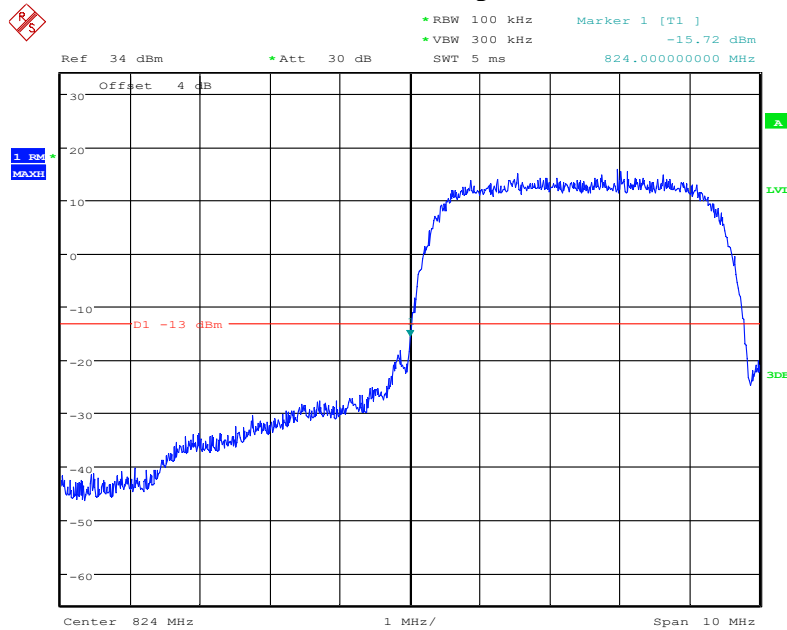
Date: 19.MAY.2020 22:53:39

WCDMA Band 5 QPSK, High Channel , Above 849MHz

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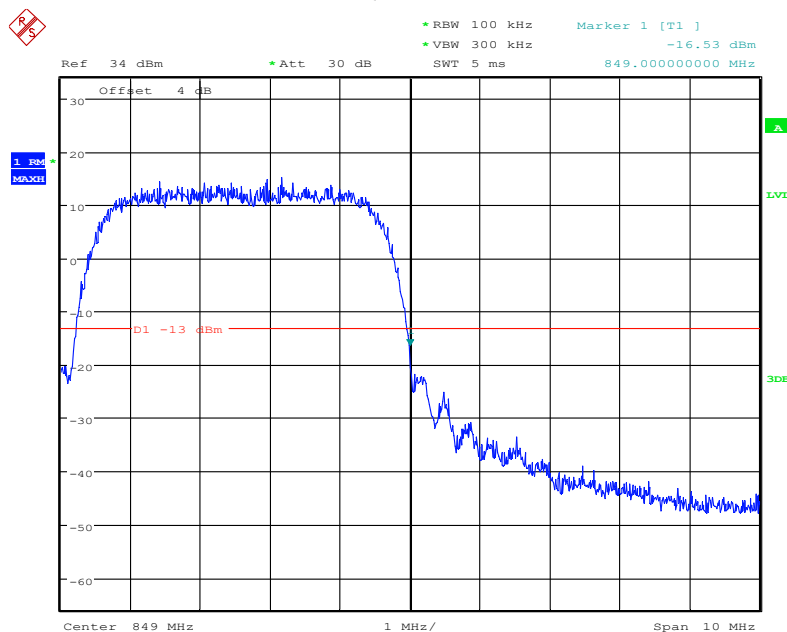
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 22:52:50

WCDMA Band 5 16QAM, Low Channel , Below 824MHz



Date: 19.MAY.2020 22:53:54

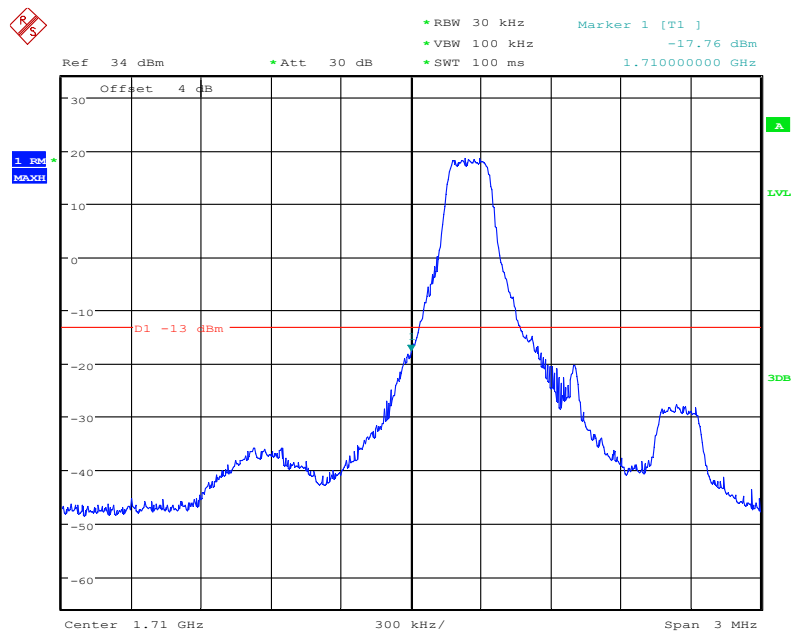
WCDMA Band 5 16QAM, High Channel , Above 849MHz

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 Tel: 0086-23-88069965 FAX:0086-23-88608777

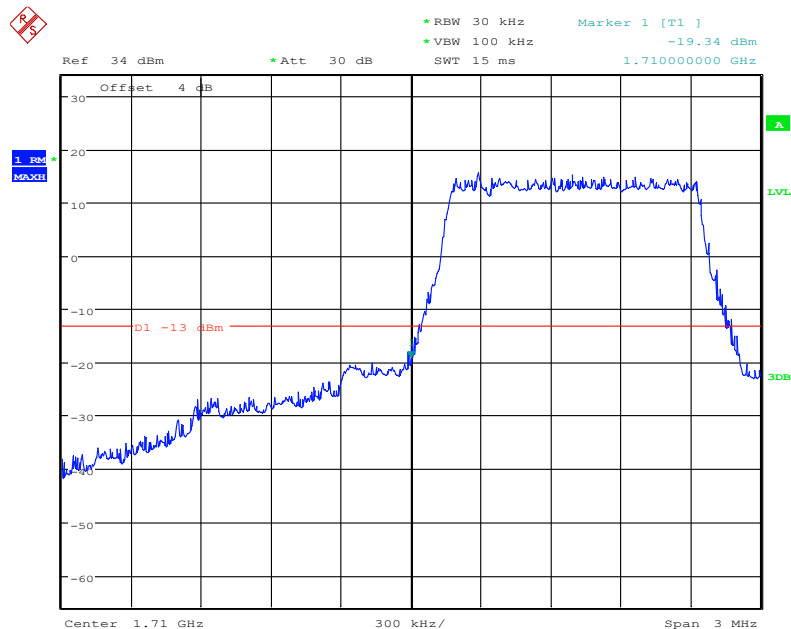
Report No.:I20W00001-WWAN_Rev2

5.5.2 LTE B4 Band Edge Results



Date: 19.MAY.2020 18:21:16

LTE Band4, 1.4MHz bandwidth, QPSK,(1,0) Mode , Below 1710MHz



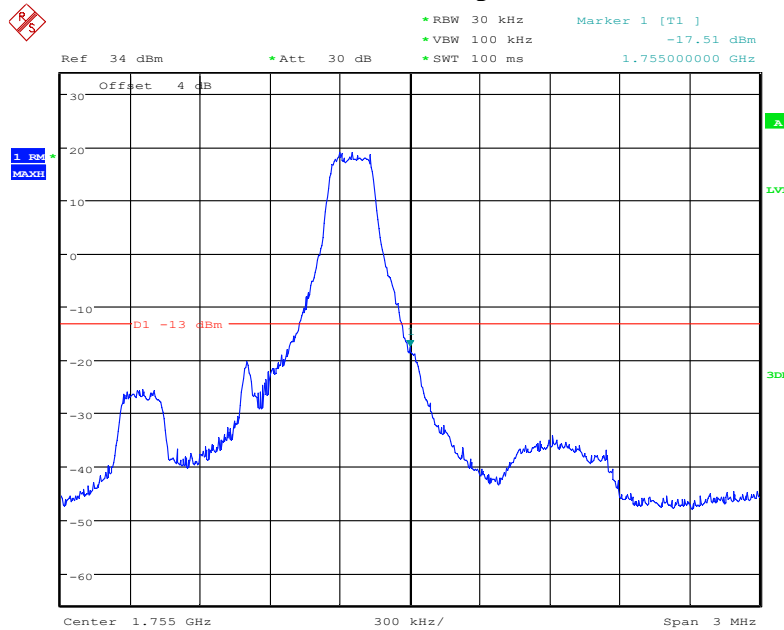
Date: 19.MAY.2020 18:22:00

LTE Band4, 1.4MHz bandwidth, QPSK,(6,0) Mode , Below 1710MHz

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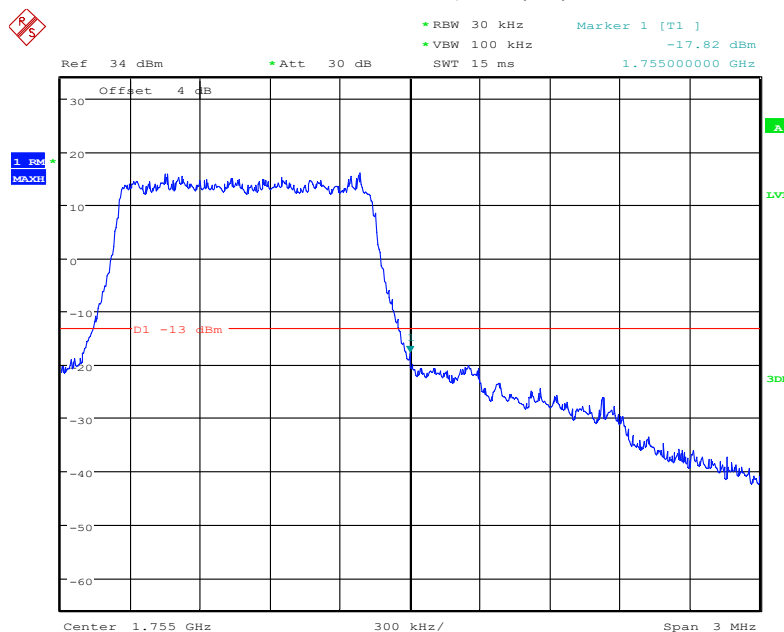
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 18:23:17

LTE Band4, 1.4MHz bandwidth, QPSK,(1,6) Mode, Above 1755MHz



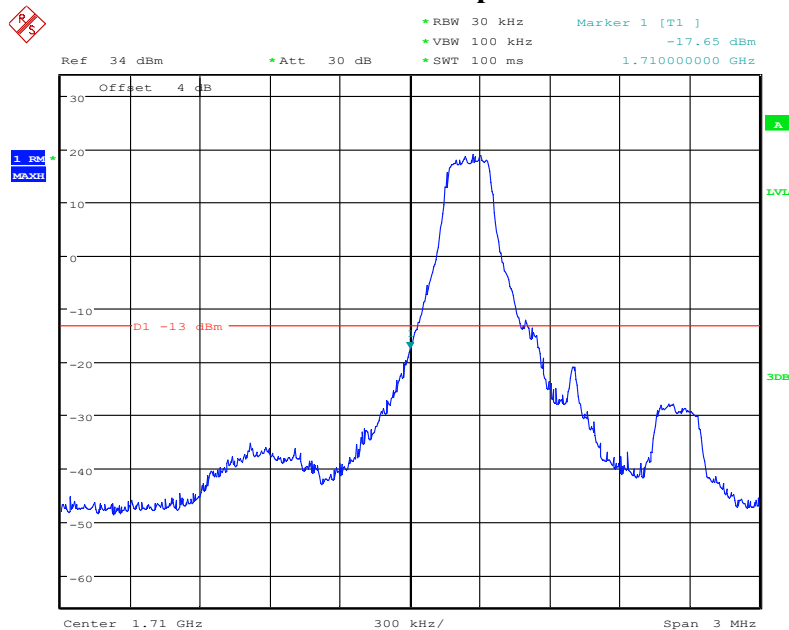
Date: 19.MAY.2020 18:22:44

LTE Band4, 1.4MHz bandwidth, QPSK,(6,0) Mode, Above 1755MHz

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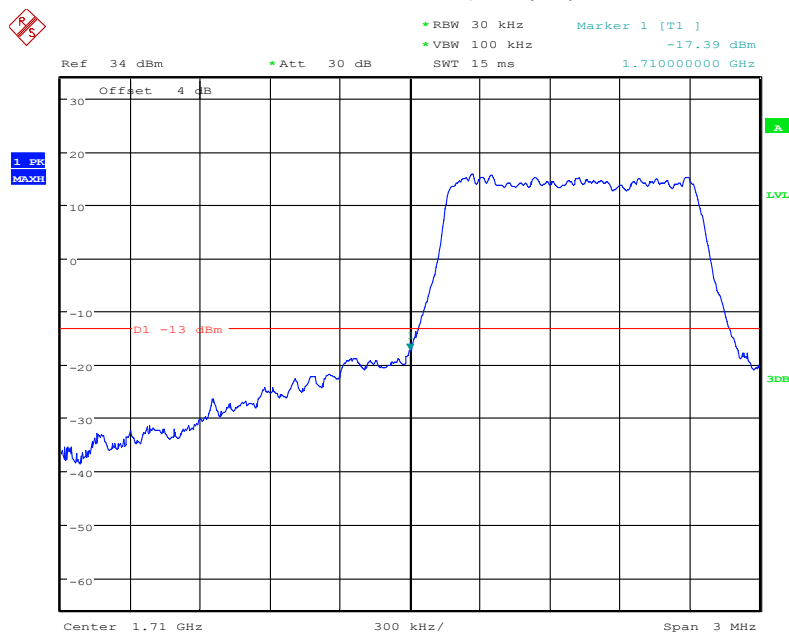
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
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Date: 19.MAY.2020 18:20:53

LTE Band4, 1.4MHz bandwidth, 16QAM,(1,0) Mode , Below 1710MHz



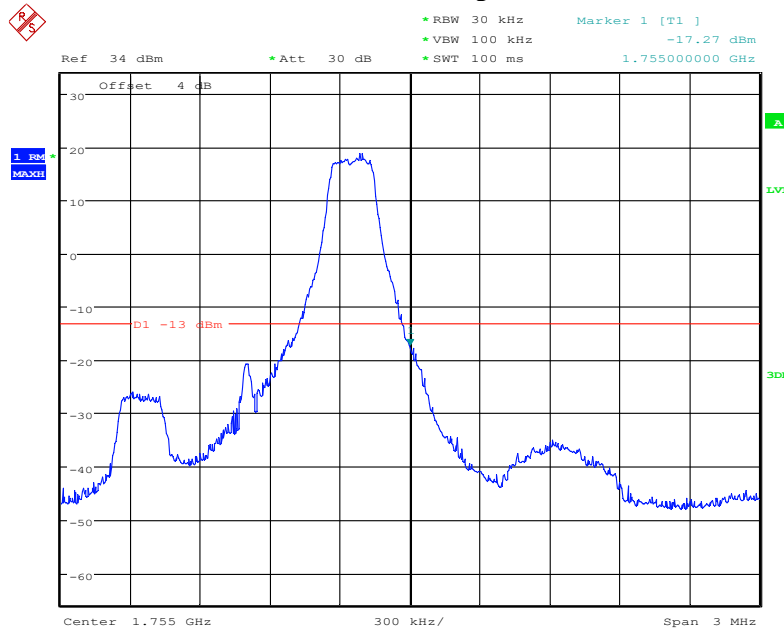
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LTE Band4, 1.4MHz bandwidth, 16QAM,(6,0) Mode , Below 1710MHz

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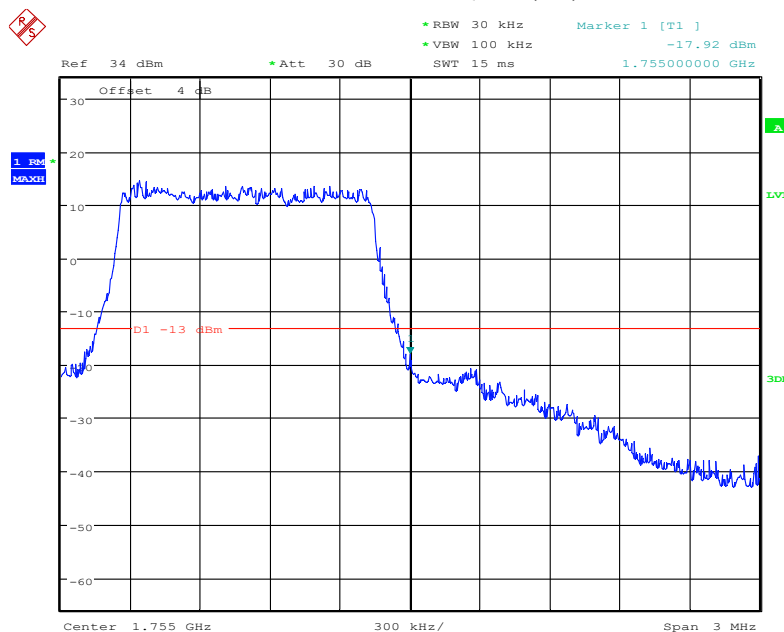
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 18:45:58

LTE Band4, 1.4MHz bandwidth, 16QAM,(1,6) Mode, Above 1755MHz



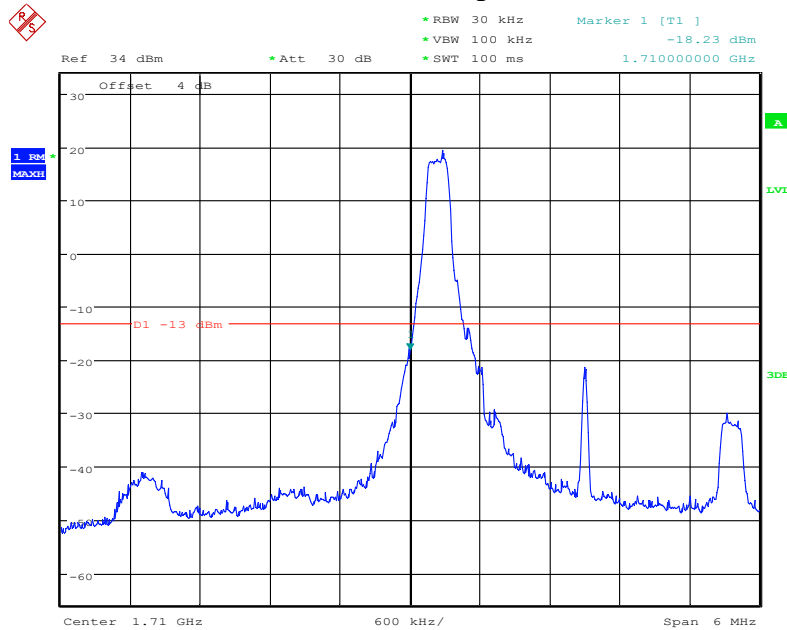
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LTE Band4, 1.4MHz bandwidth, 16QAM,(6,0) Mode, Above 1755MHz

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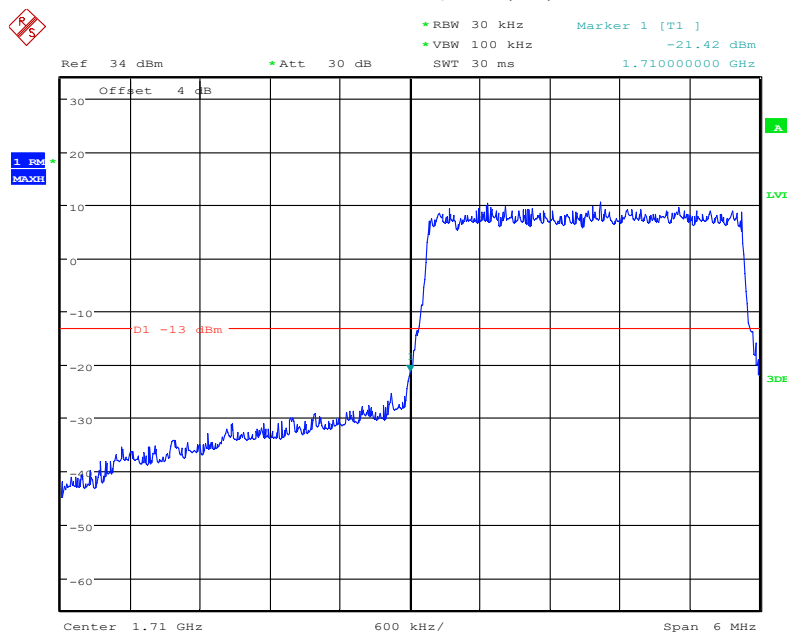
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 18:47:22

LTE Band4, 3MHz bandwidth, QPSK,(1,0) Mode , Below 1710MHz



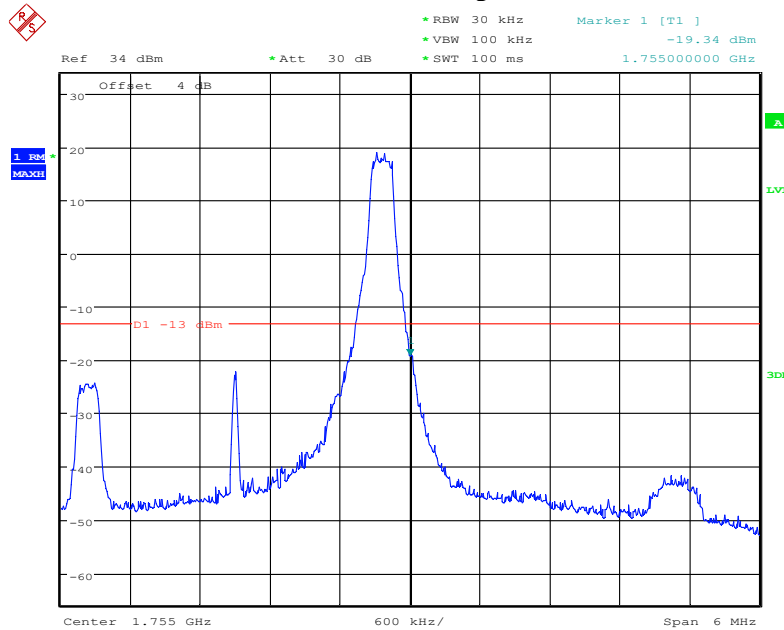
Date: 19.MAY.2020 18:48:02

LTE Band4, 3MHz bandwidth, QPSK,(15,0) Mode , Below 1710MHz

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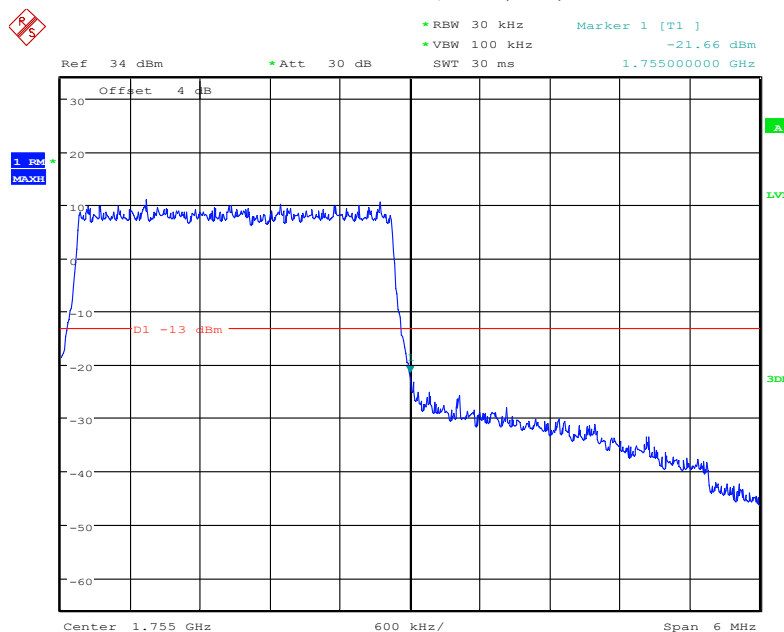
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 18:49:29

LTE Band4, 3MHz bandwidth, QPSK,(1,15) Mode, Above 1755MHz



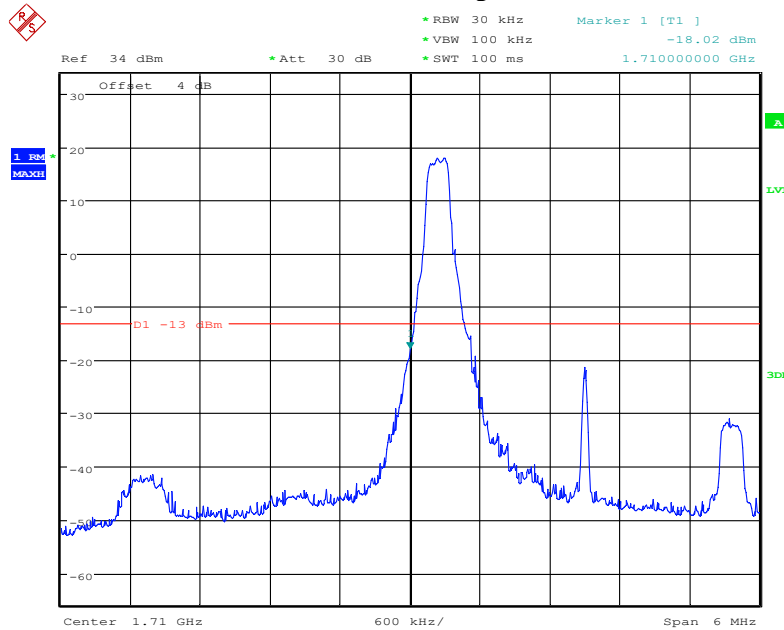
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LTE Band4, 3MHz bandwidth, QPSK,(15,0) Mode, Above 1755MHz

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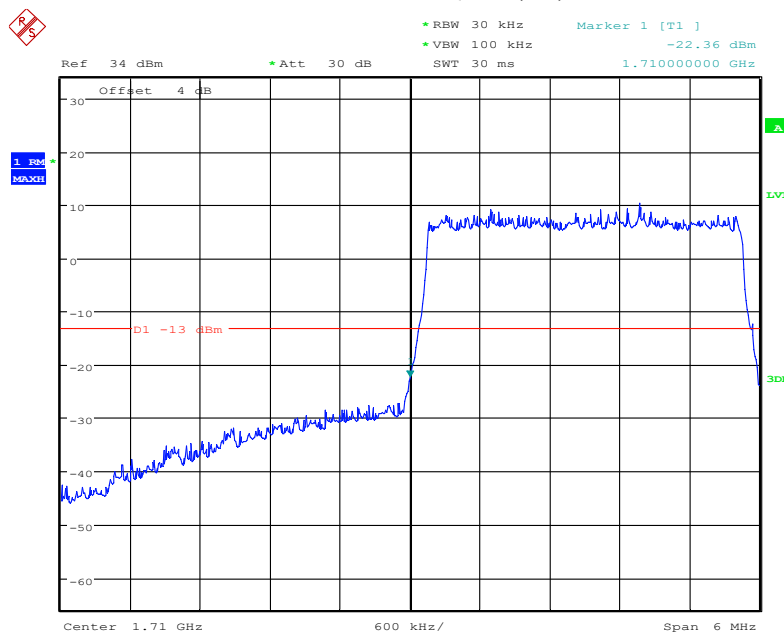
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 18:47:35

LTE Band4, 3MHz bandwidth, 16QAM,(1,0) Mode , Below 1710MHz



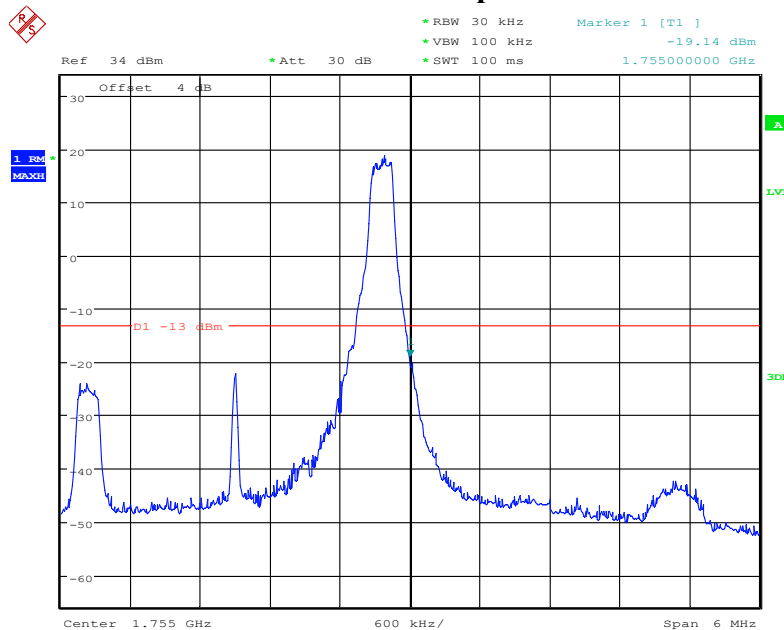
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LTE Band4, 3MHz bandwidth, 16QAM,(15,0) Mode , Below 1710MHz

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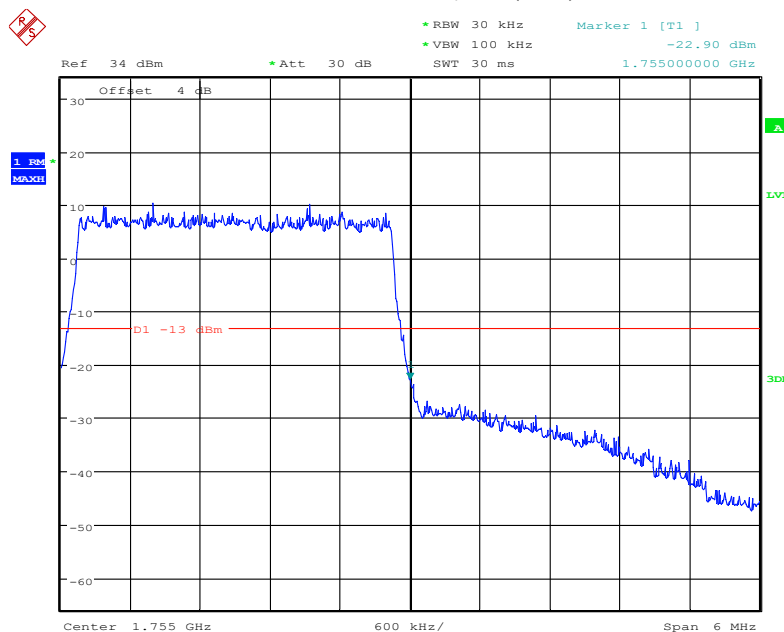
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 18:49:17

LTE Band4, 3MHz bandwidth, 16QAM,(1,15) Mode, Above 1755MHz



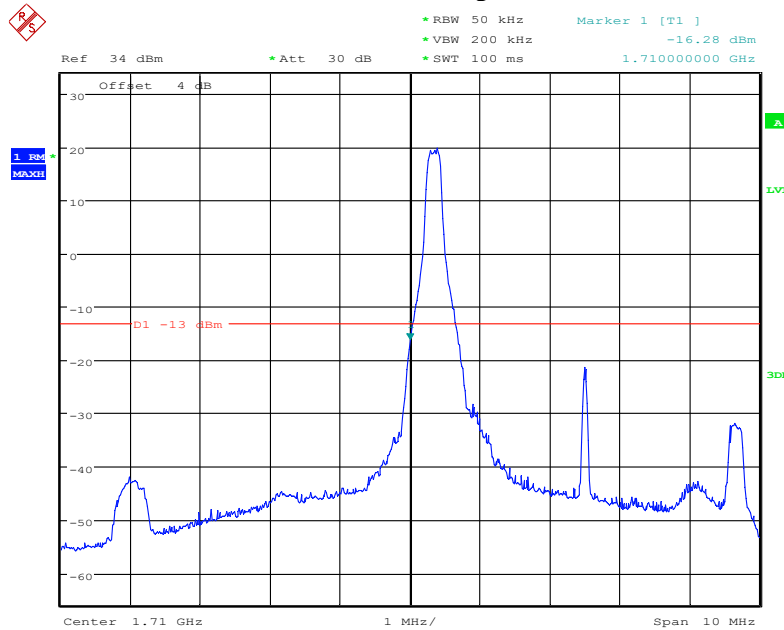
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LTE Band4, 3MHz bandwidth, 16QAM,(15,0) Mode, Above 1755MHz

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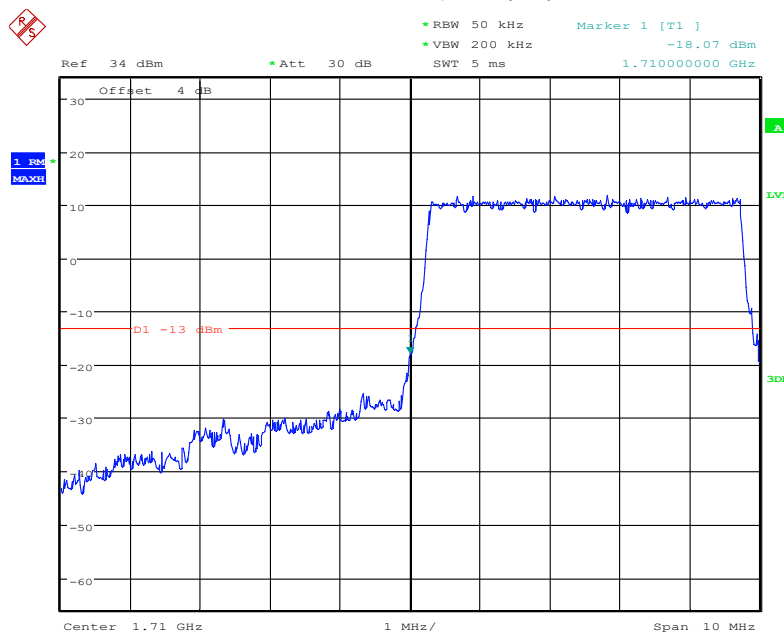
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Date: 19.MAY.2020 21:31:18

LTE Band4, 5MHz bandwidth, QPSK,(1,0) Mode , Below 1710MHz



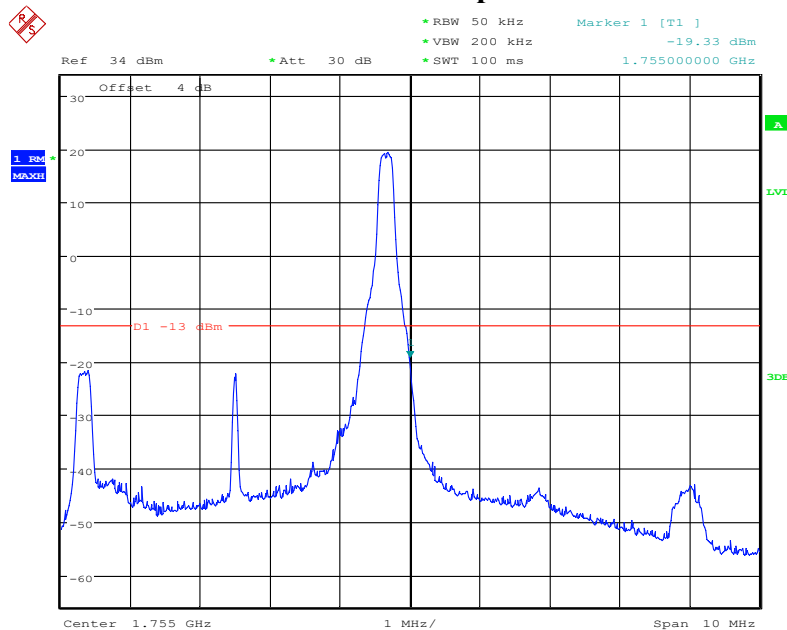
Date: 19.MAY.2020 21:32:32

LTE Band4, 5MHz bandwidth, QPSK,(25,0) Mode , Below 1710MHz

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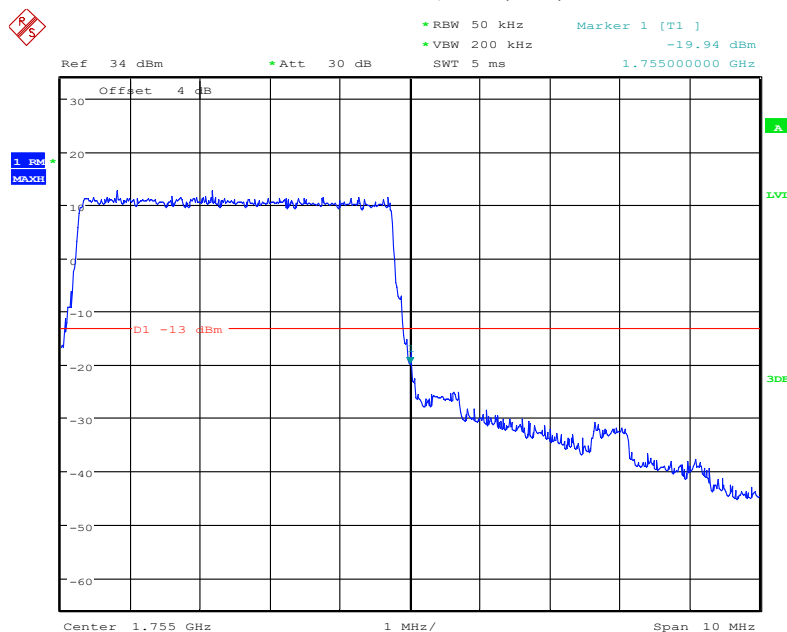
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:33:44

LTE Band4, 5MHz bandwidth, QPSK,(1,25) Mode, Above 1755MHz



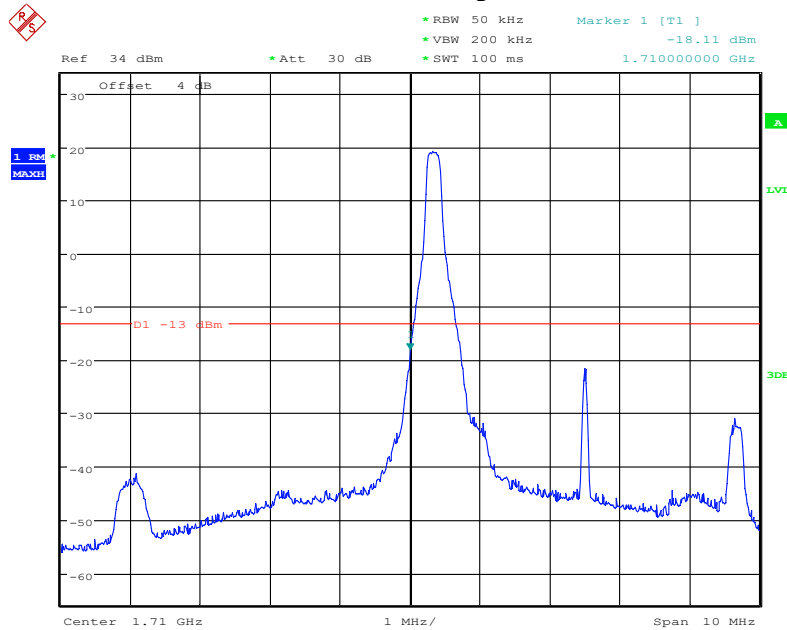
Date: 19.MAY.2020 21:32:58

LTE Band4, 5MHz bandwidth, QPSK,(25,0) Mode, Above 1755MHz

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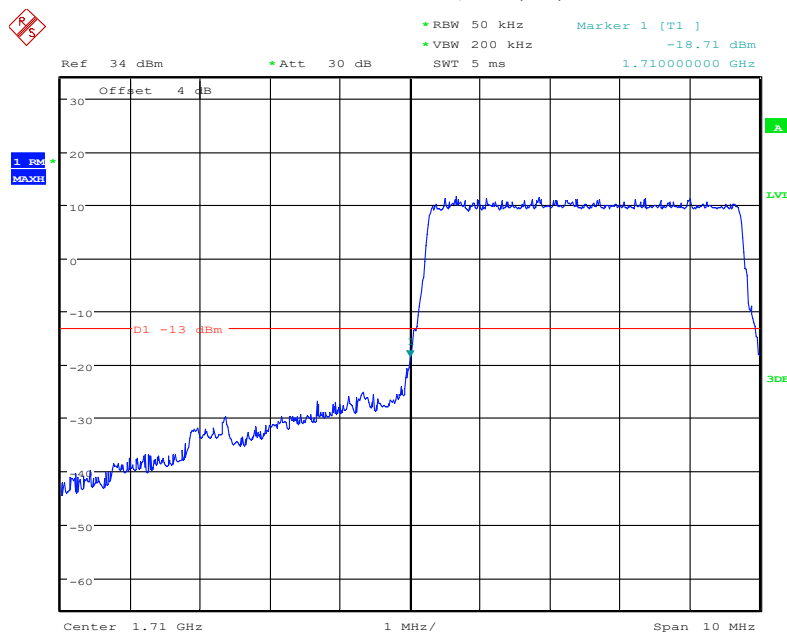
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:31:50

LTE Band4, 5MHz bandwidth, 16QAM,(1,0) Mode , Below 1710MHz



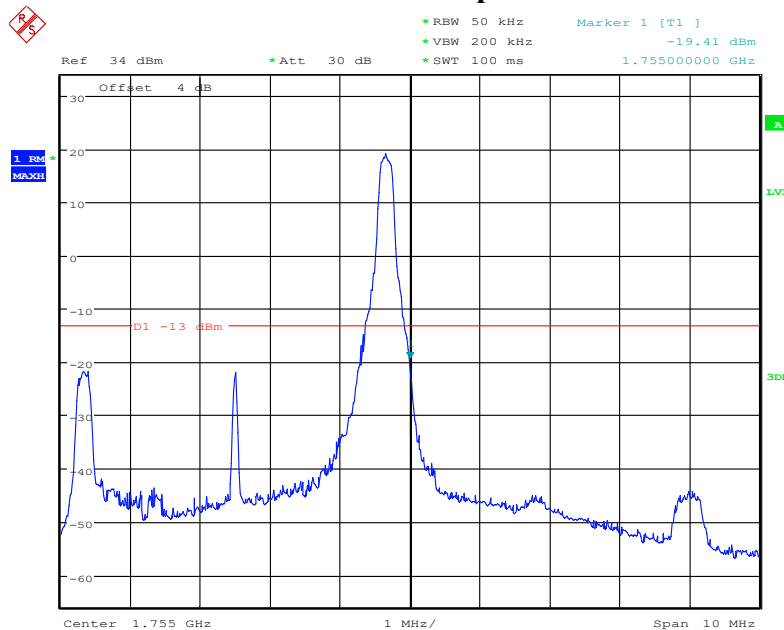
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LTE Band4, 5MHz bandwidth, 16QAM,(25,0) Mode , Below 1710MHz

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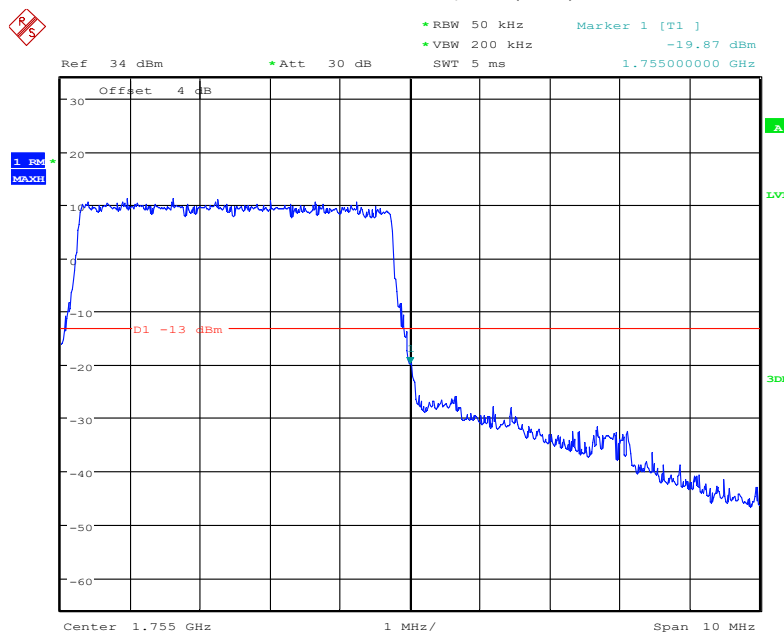
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Date: 19.MAY.2020 21:34:02

LTE Band4, 5MHz bandwidth, 16QAM,(1,25) Mode, Above 1755MHz



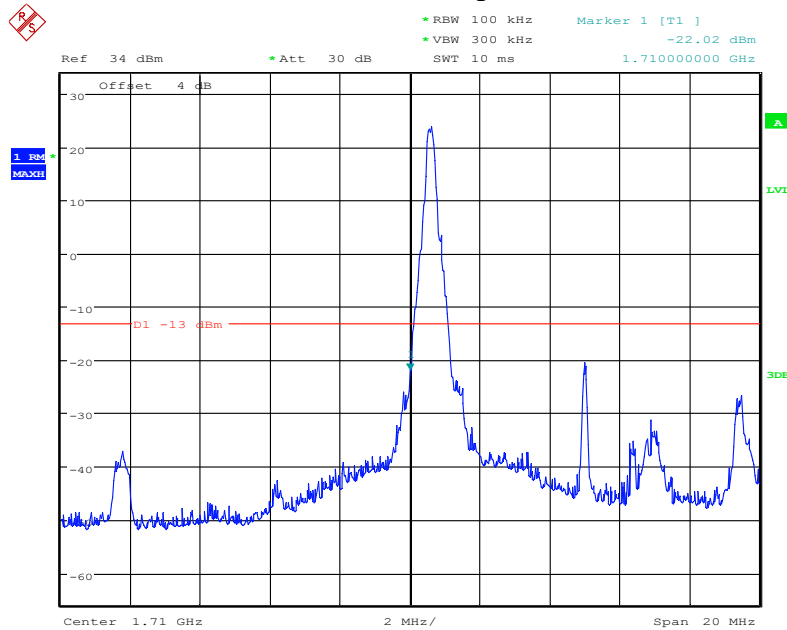
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LTE Band4, 5MHz bandwidth, 16QAM,(25,0) Mode, Above 1755MHz

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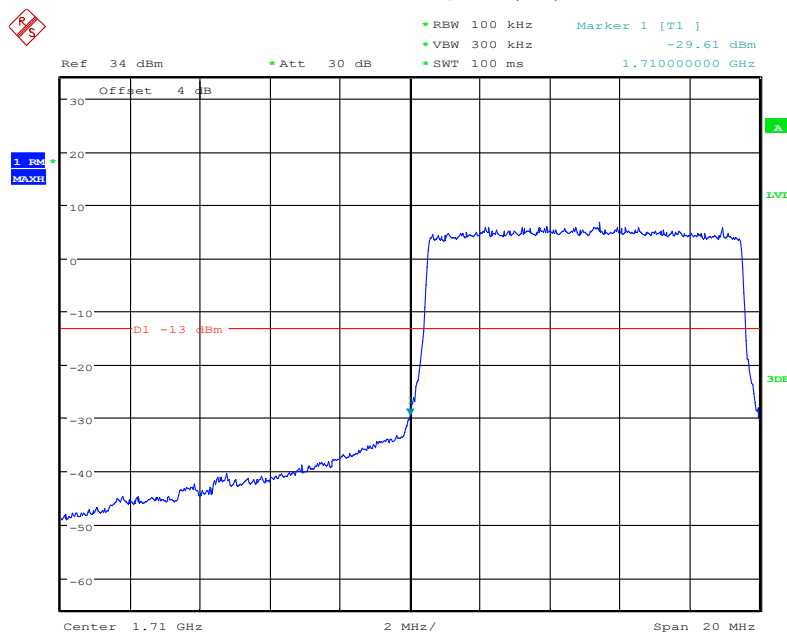
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Date: 19.MAY.2020 21:36:24

LTE Band4, 10MHz bandwidth, QPSK,(1,0) Mode , Below 1710MHz



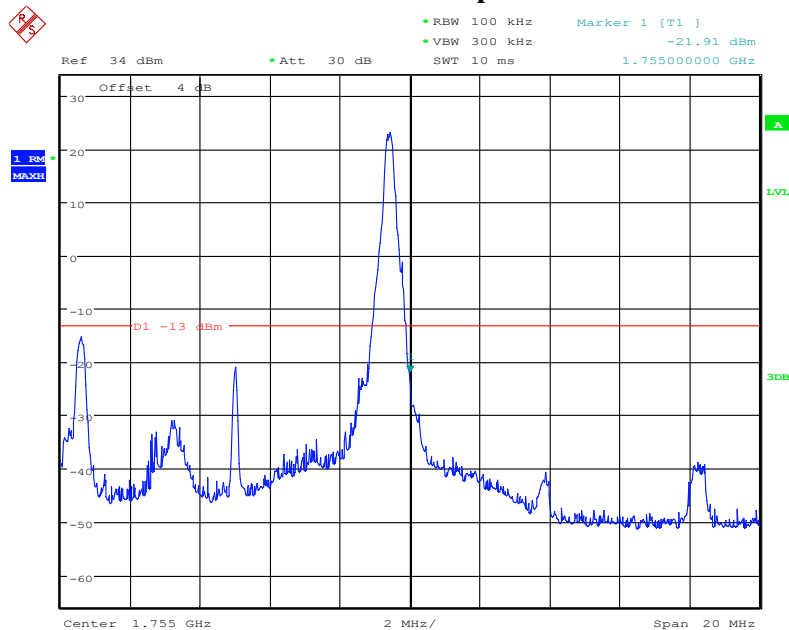
Date: 19.MAY.2020 21:34:58

LTE Band4, 10MHz bandwidth, QPSK,(50,0) Mode , Below 1710MHz

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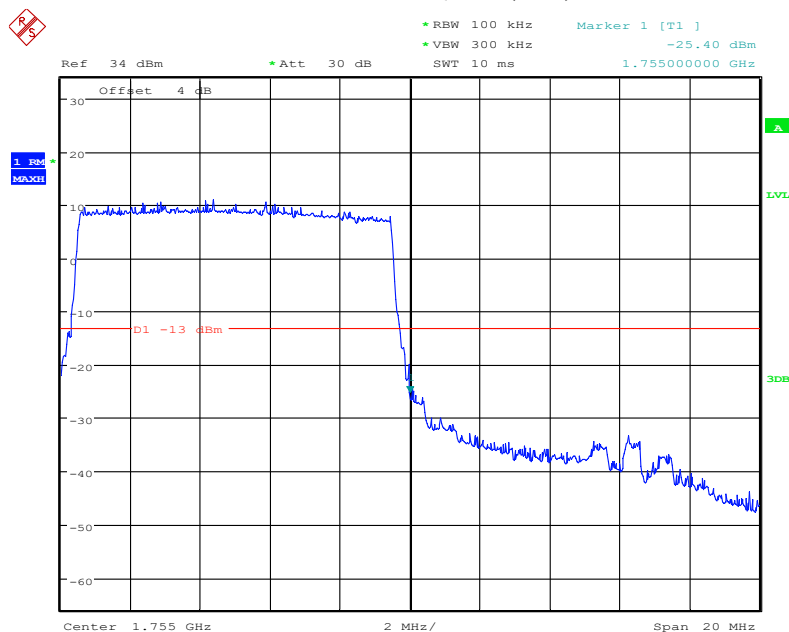
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:36:56

LTE Band4, 10MHz bandwidth, QPSK,(1,50) Mode, Above 1755MHz



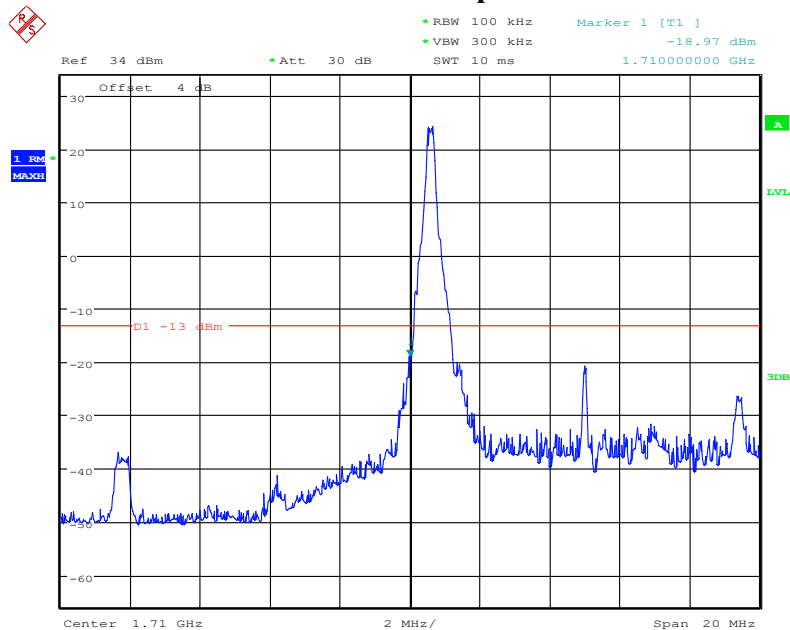
Date: 19.MAY.2020 21:37:30

LTE Band4, 10MHz bandwidth, QPSK,(50,0) Mode, Above 1755MHz

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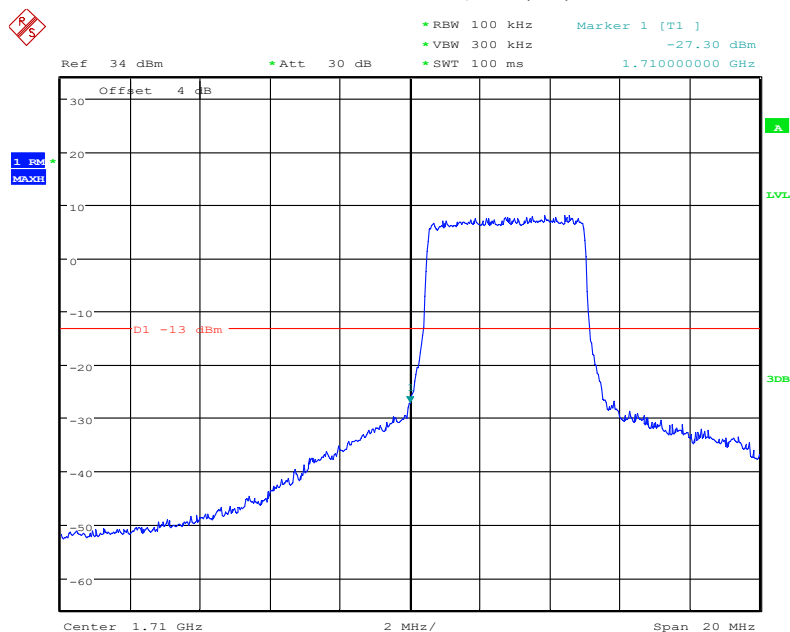
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Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:36:12

LTE Band4, 10MHz bandwidth, 16QAM,(1,0) Mode , Below 1710MHz



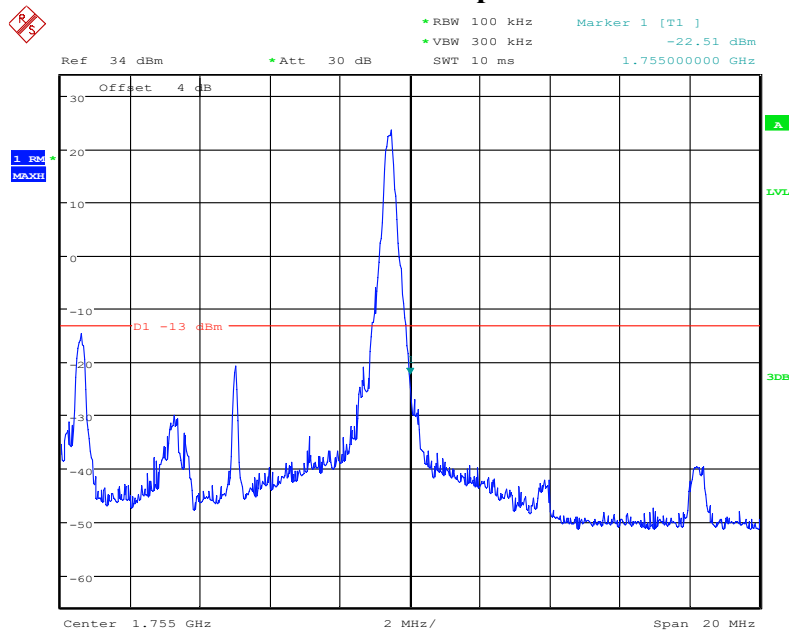
Date: 19.MAY.2020 21:35:27

LTE Band4, 10MHz bandwidth, 16QAM,(25,0) Mode , Below 1710MHz

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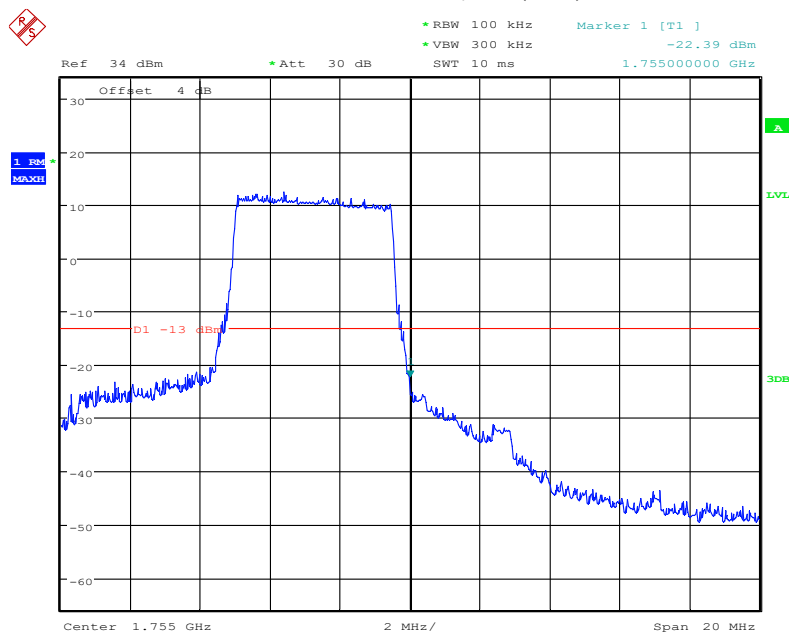
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
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Date: 19.MAY.2020 21:37:09

LTE Band4, 10MHz bandwidth, 16QAM,(1,50) Mode, Above 1755MHz



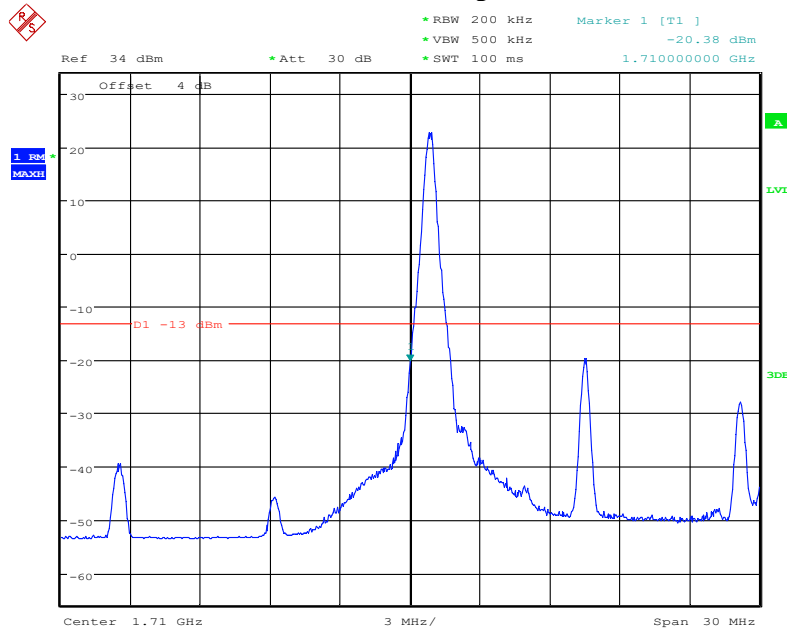
Date: 19.MAY.2020 21:37:53

LTE Band4, 10MHz bandwidth, 16QAM,(25,0) Mode, Above 1755MHz

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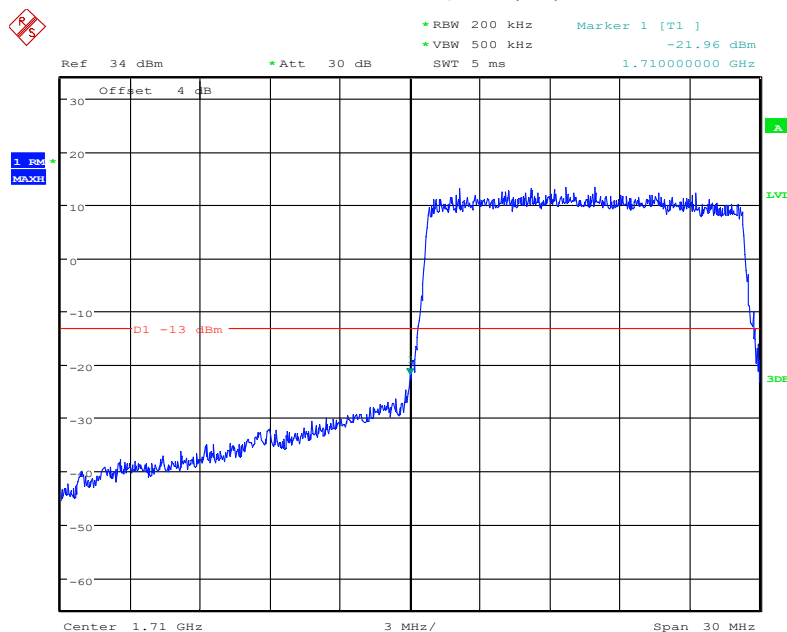
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Date: 19.MAY.2020 23:23:17

LTE Band4, 15MHz bandwidth, QPSK,(1,0) Mode , Below 1710MHz



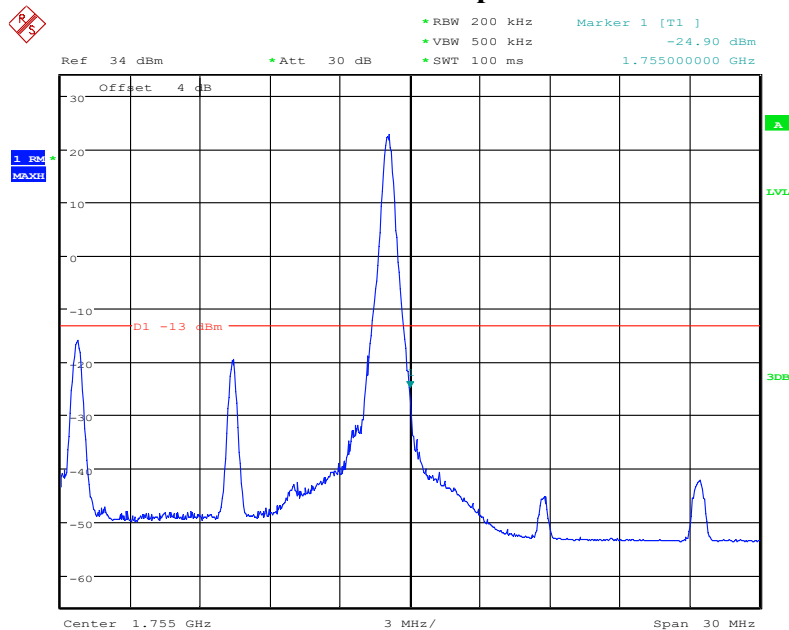
Date: 19.MAY.2020 23:23:56

LTE Band4, 15MHz bandwidth, QPSK,(75,0) Mode , Below 1710MHz

Chongqing Academy of Information and Communication Technology

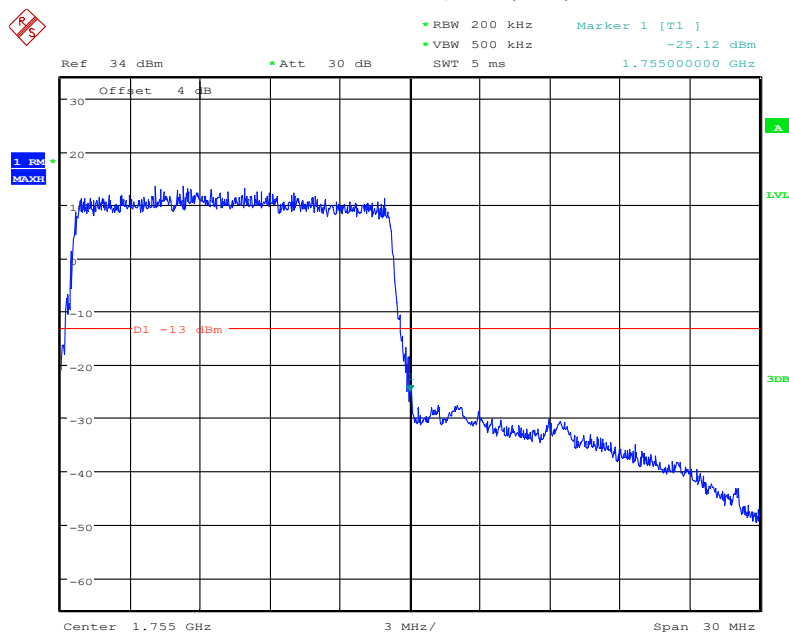
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 23:26:55

LTE Band4, 15MHz bandwidth, QPSK,(1,75) Mode, Above 1755MHz



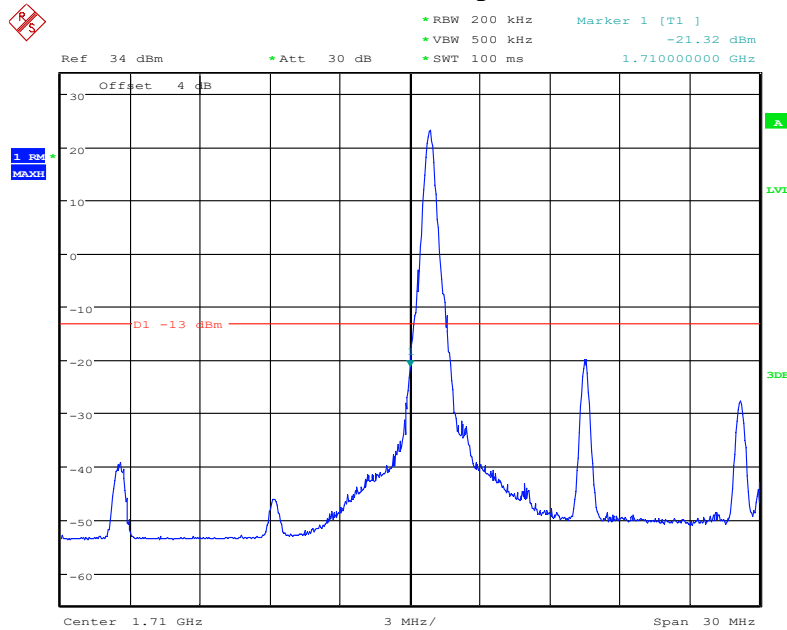
Date: 19.MAY.2020 23:27:27

LTE Band4, 15MHz bandwidth, QPSK,(75,0) Mode, Above 1755MHz

Chongqing Academy of Information and Communication Technology

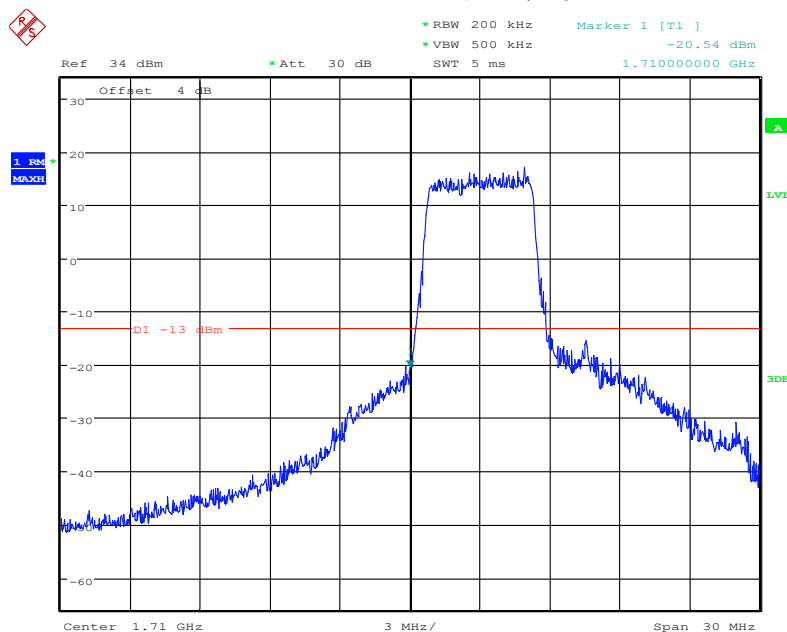
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 23:23:32

LTE Band4, 15MHz bandwidth, 16QAM,(1,0) Mode , Below 1710MHz



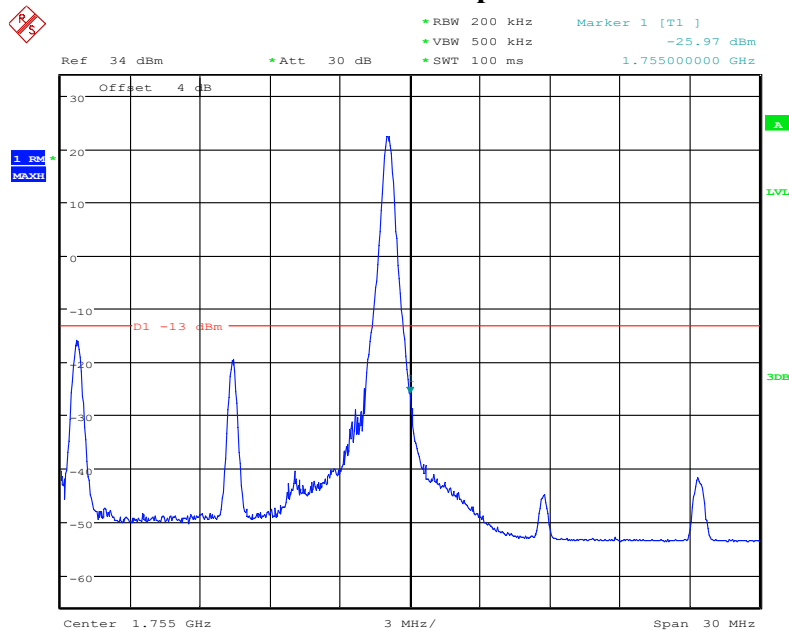
Date: 19.MAY.2020 23:24:19

LTE Band4, 15MHz bandwidth, 16QAM,(25,0) Mode , Below 1710MHz

Chongqing Academy of Information and Communication Technology

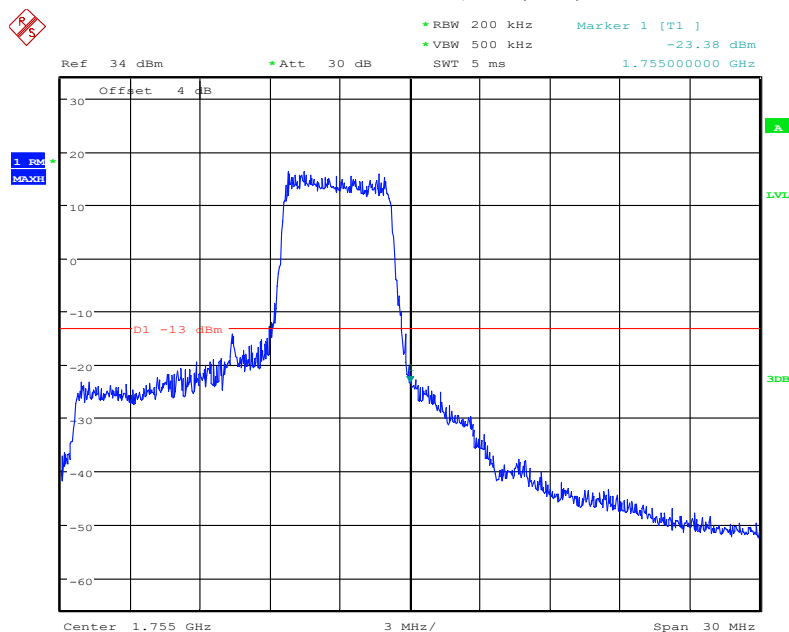
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 23:27:08

LTE Band4, 15MHz bandwidth, 16QAM,(1,75) Mode, Above 1755MHz



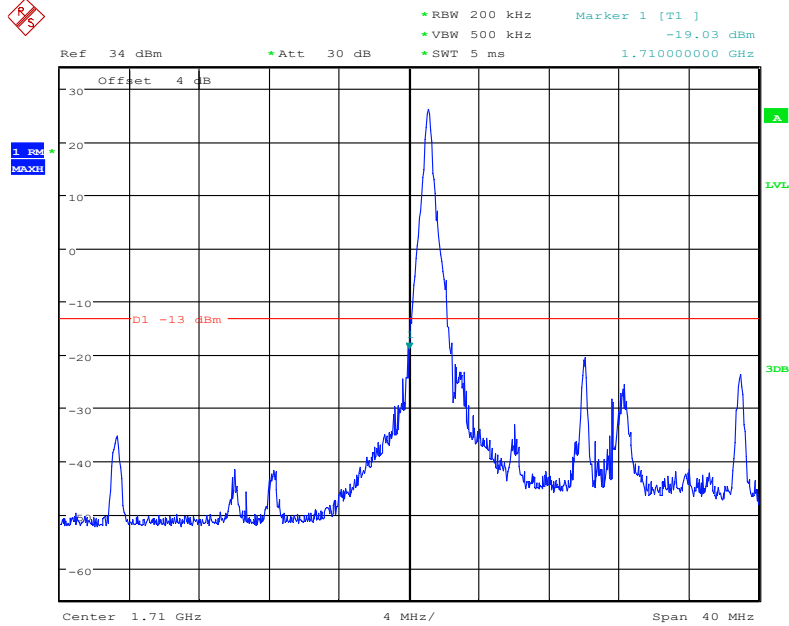
Date: 19.MAY.2020 23:27:46

LTE Band4, 15MHz bandwidth, 16QAM,(25,0) Mode, Above 1755MHz

Chongqing Academy of Information and Communication Technology

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

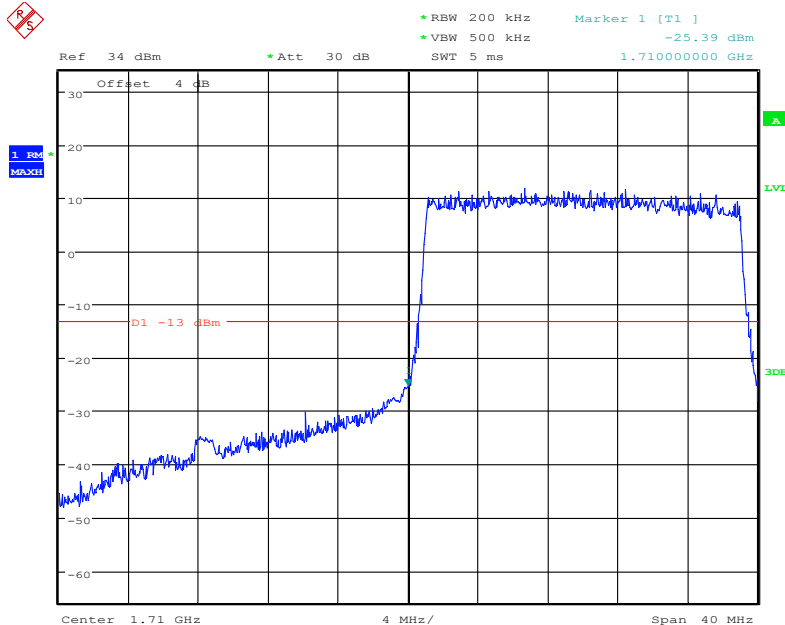
Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 23:28:47

1

LTE Band4, 20MHz bandwidth, QPSK,(1,0) Mode , Below 1710MHz



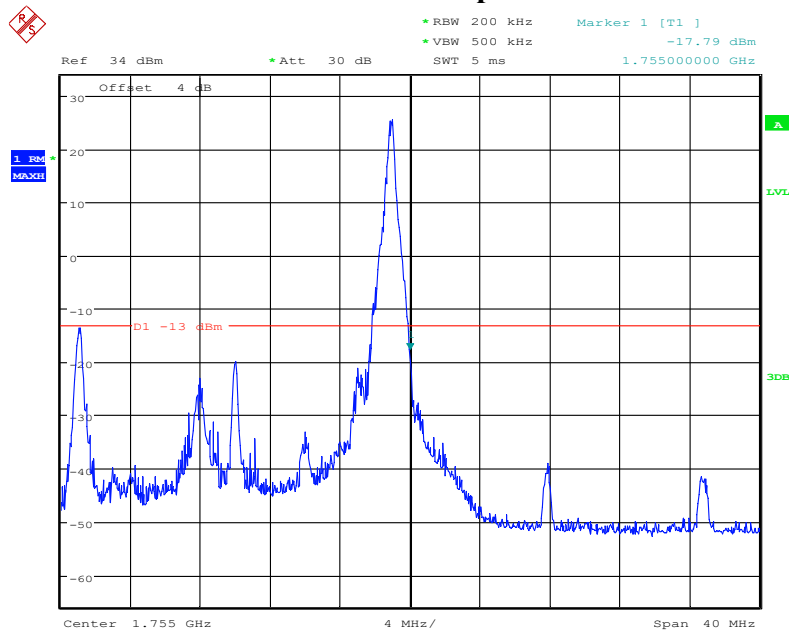
Date: 19.MAY.2020 23:29:33

LTE Band4, 20MHz bandwidth, QPSK,(100,0) Mode , Below 1710MHz

Chongqing Academy of Information and Communication Technology

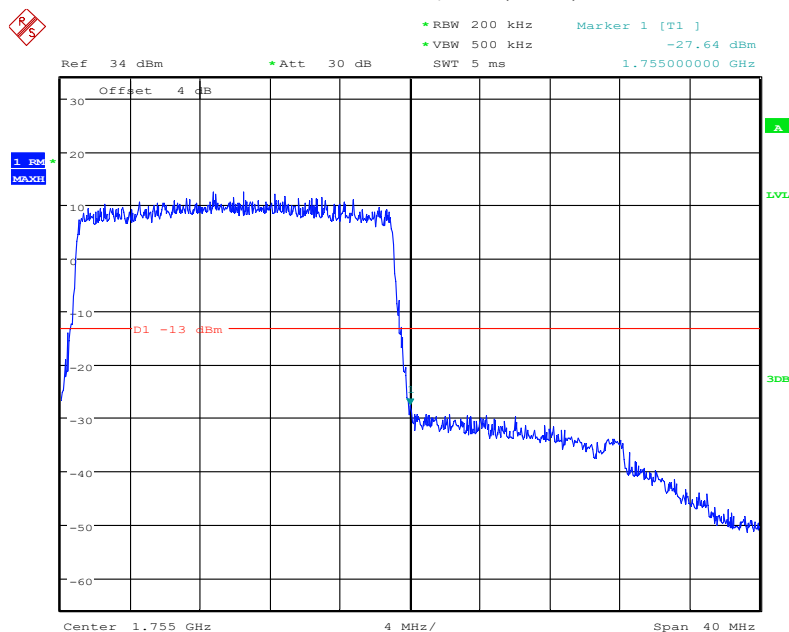
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
 Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 23:30:40

LTE Band4, 20MHz bandwidth, QPSK,(1,100) Mode, Above 1755MHz



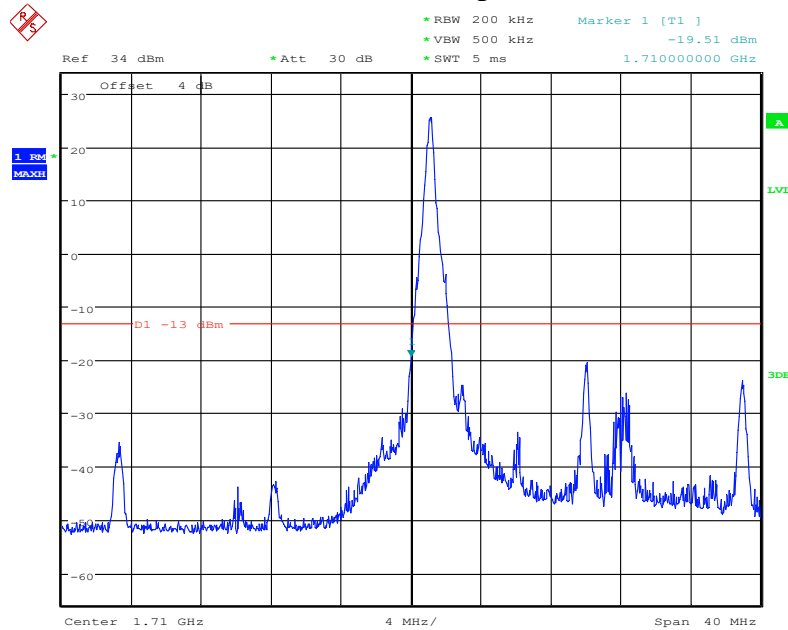
Date: 19.MAY.2020 23:31:32

LTE Band4, 20MHz bandwidth, QPSK,(100,0) Mode, Above 1755MHz

Chongqing Academy of Information and Communication Technology

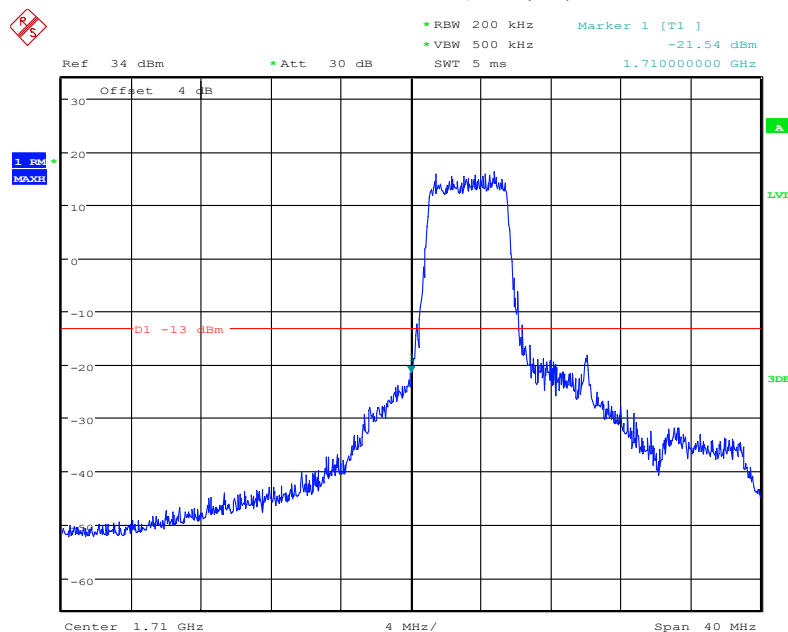
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 23:29:07

LTE Band4, 20MHz bandwidth, 16QAM,(1,0) Mode , Below 1710MHz



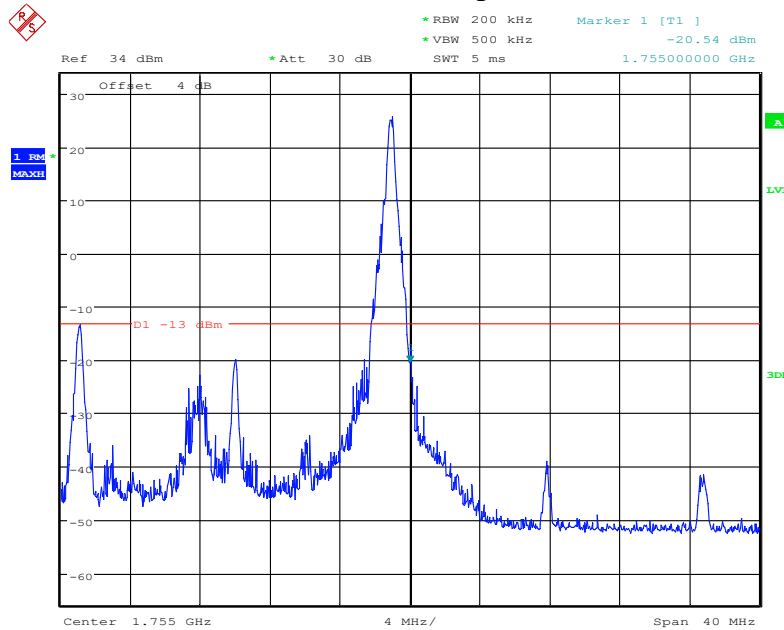
Date: 19.MAY.2020 23:29:55

LTE Band4, 20MHz bandwidth, 16QAM,(25,0) Mode , Below 1710MHz

Chongqing Academy of Information and Communication Technology

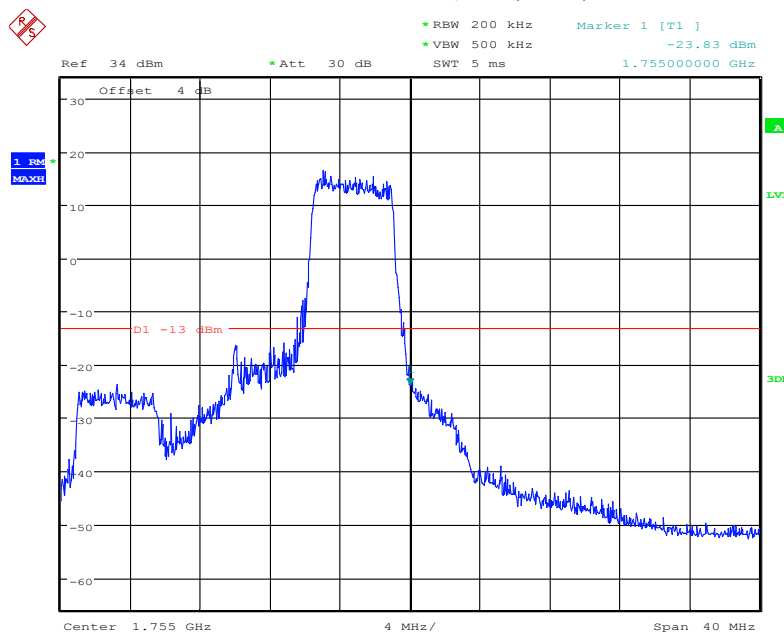
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 23:30:58

LTE Band4, 20MHz bandwidth, 16QAM,(1,100) Mode, Above 1755MHz



Date: 19.MAY.2020 23:31:55

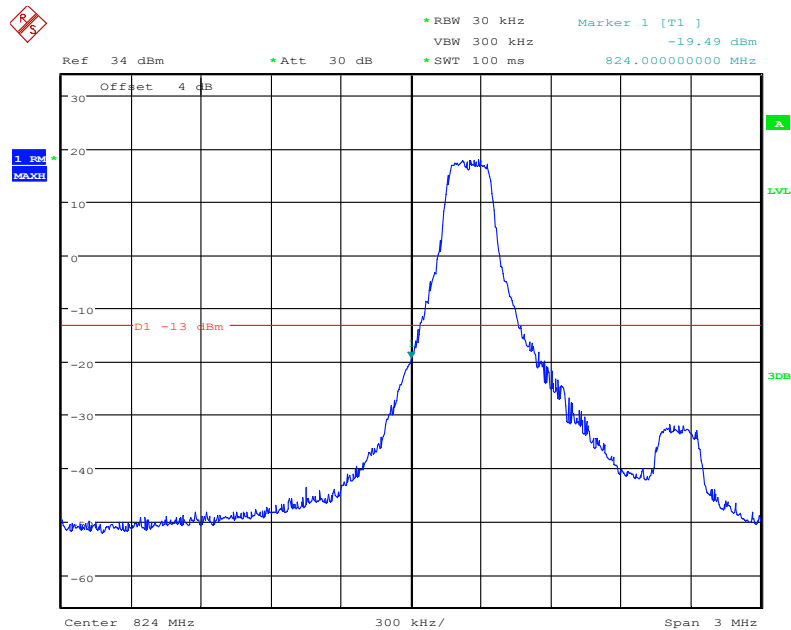
LTE Band4, 20MHz bandwidth, 16QAM,(25,0) Mode, Above 1755MHz

Chongqing Academy of Information and Communication Technology

Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

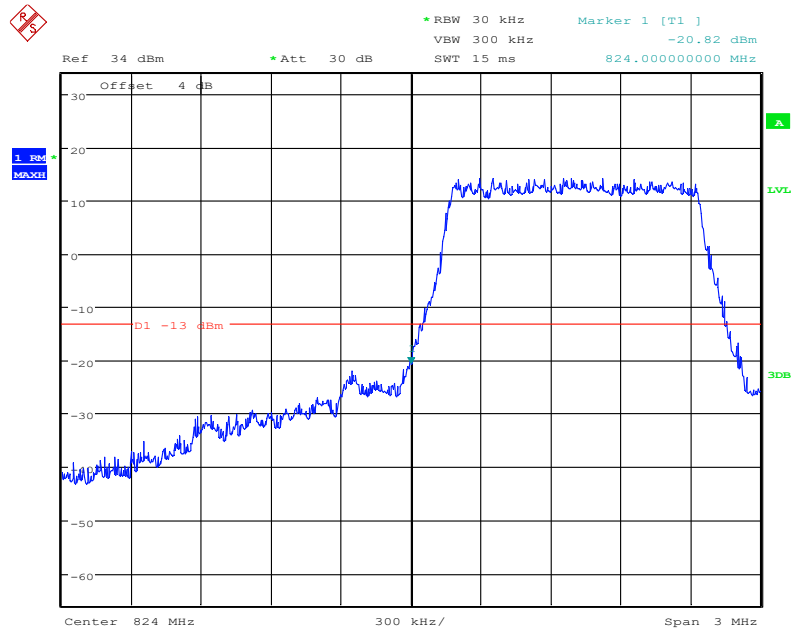
Report No.:I20W00001-WWAN_Rev2

5.5.3 LTE B5 Band Edge Results



Date: 19.MAY.2020 20:49:33

LTE Band5, 1.4MHz bandwidth, QPSK,(1,0) Mode , Below 824MHz



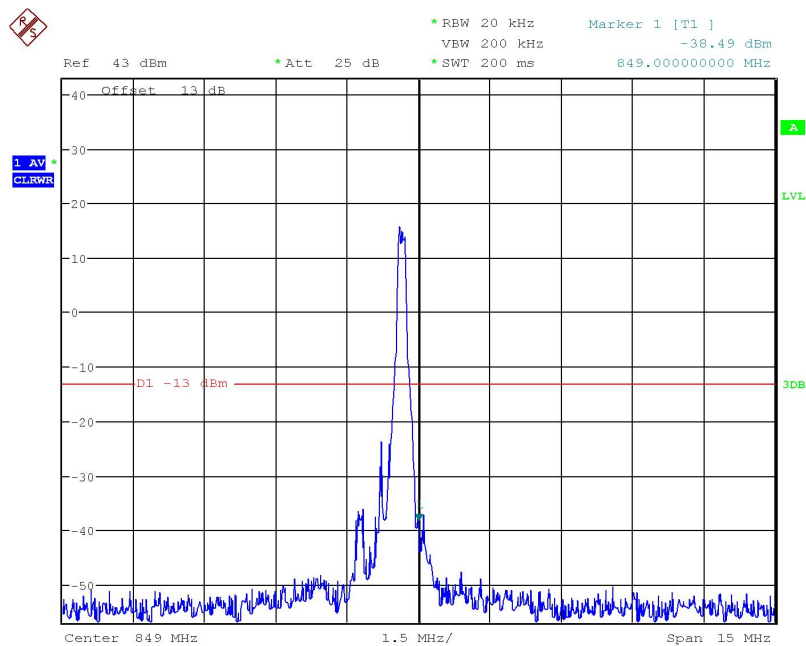
Date: 19.MAY.2020 20:49:11

LTE Band5, 1.4MHz bandwidth, QPSK,(6,0) Mode , Below 824MHz

Chongqing Academy of Information and Communication Technology

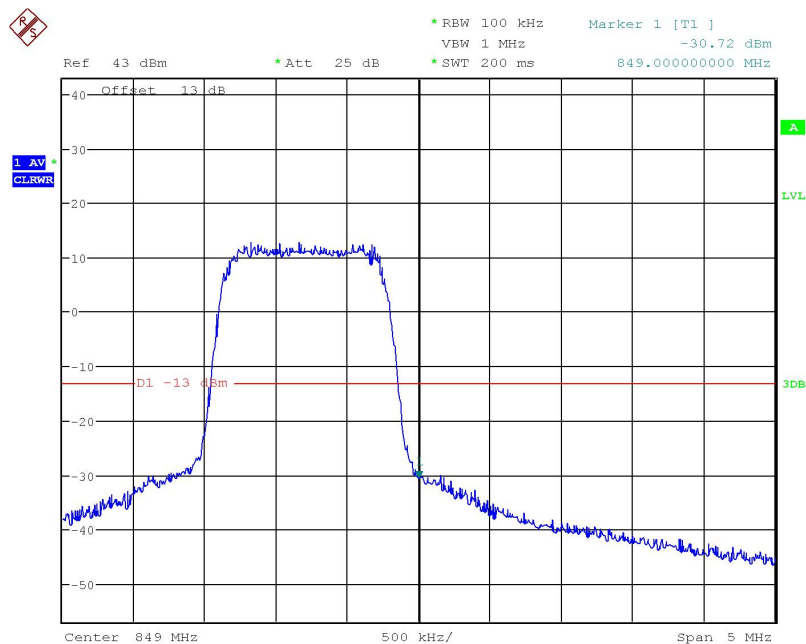
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 11.MAR.2019 13:00:24

LTE Band5, 1.4MHz bandwidth, QPSK,(1,6) Mode, Above 849MHz



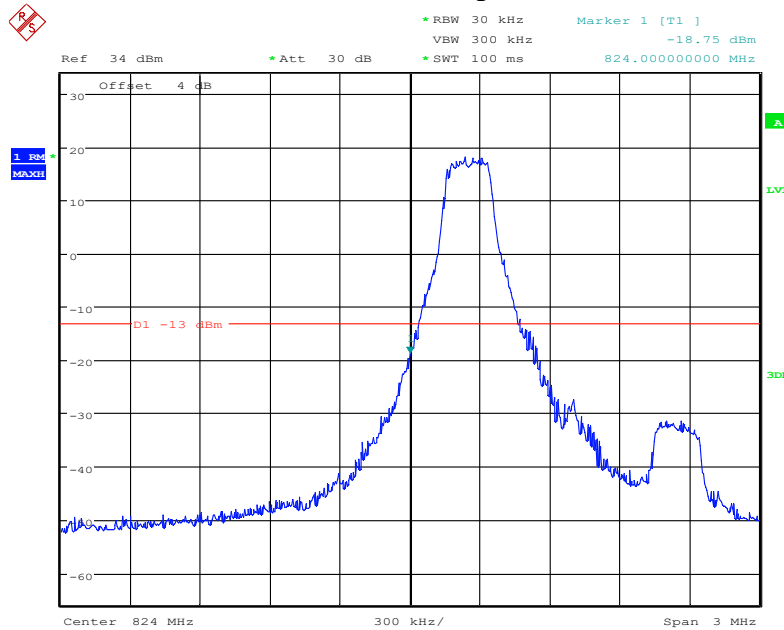
Date: 11.MAR.2019 13:00:57

LTE Band5, 1.4MHz bandwidth, QPSK,(6,0) Mode, Above 849MHz

Chongqing Academy of Information and Communication Technology

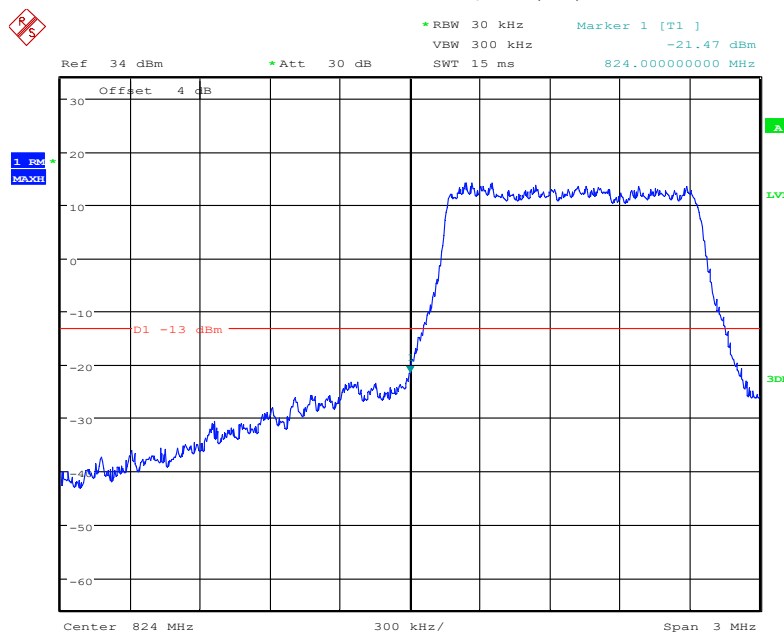
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 20:49:48

LTE Band5, 1.4MHz bandwidth, 16QAM,(1,0) Mode , Below 824MHz



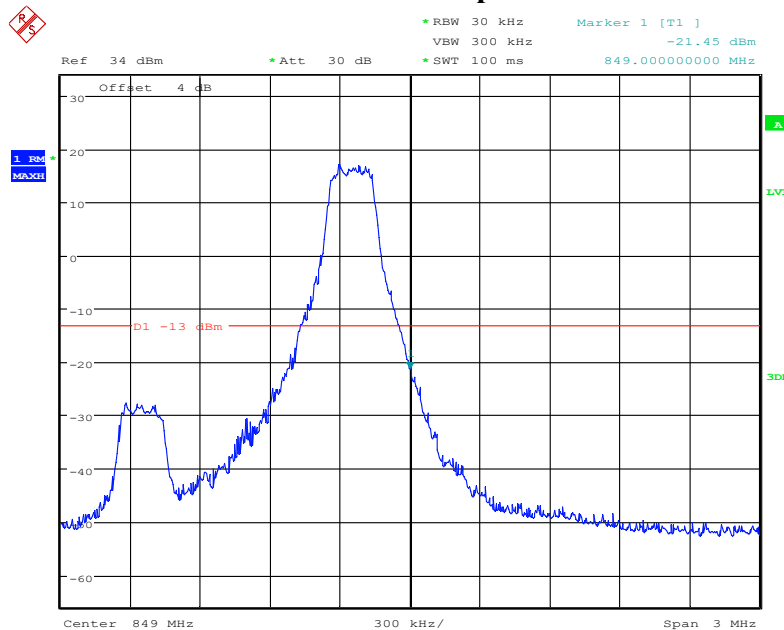
Date: 19.MAY.2020 20:48:58

LTE Band5, 1.4MHz bandwidth, 16QAM,(6,0) Mode , Below 824MHz

Chongqing Academy of Information and Communication Technology

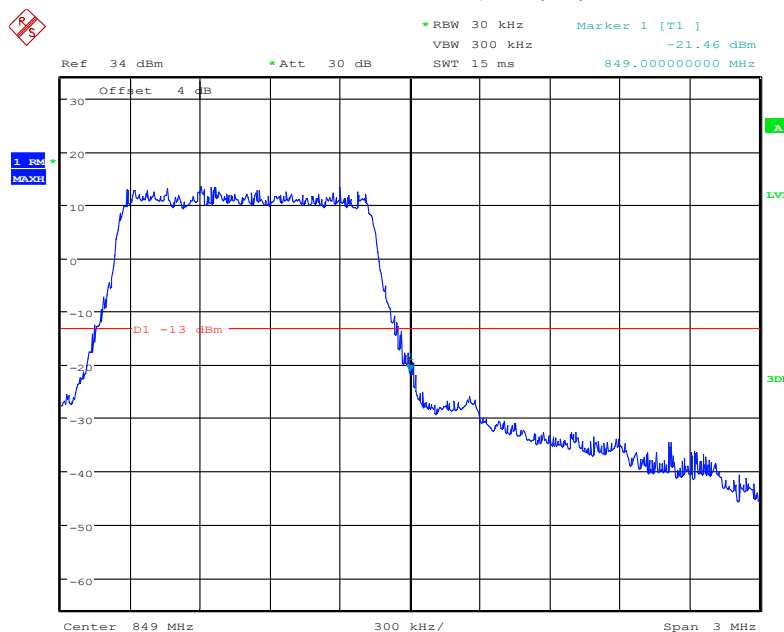
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
 Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 20:50:16

LTE Band5, 1.4MHz bandwidth, 16QAM,(1,6) Mode, Above 849MHz



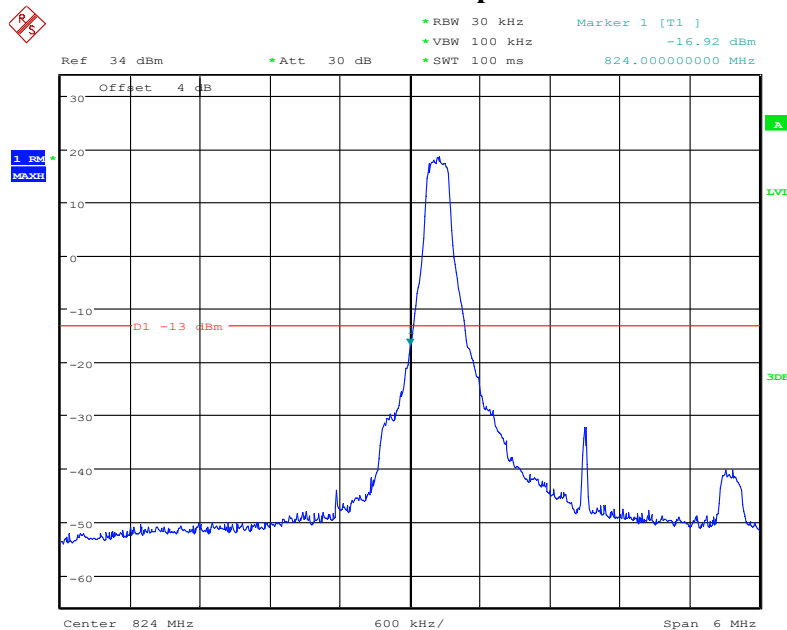
Date: 19.MAY.2020 20:50:57

LTE Band5, 1.4MHz bandwidth, 16QAM,(6,0) Mode, Above 849MHz

Chongqing Academy of Information and Communication Technology

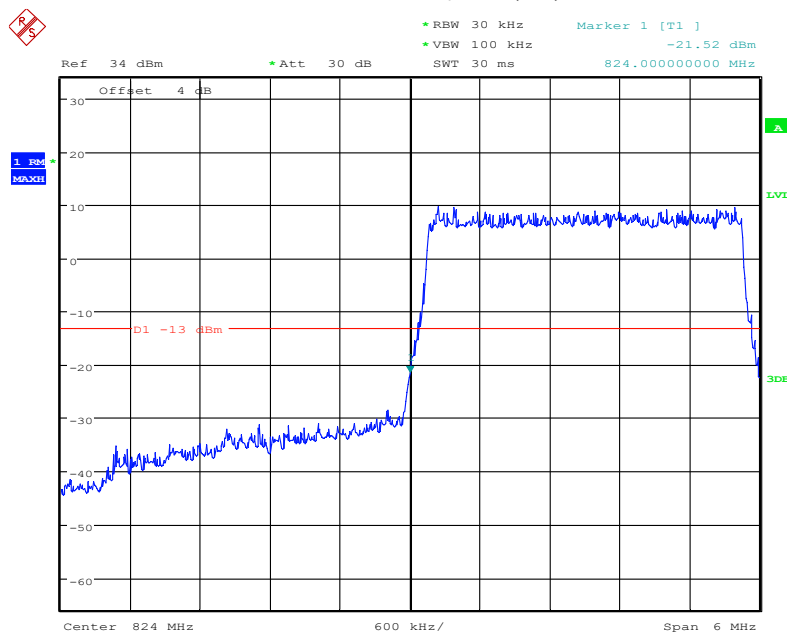
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 20:58:24

LTE Band5, 3MHz bandwidth, QPSK,(1,0) Mode , Below 824MHz



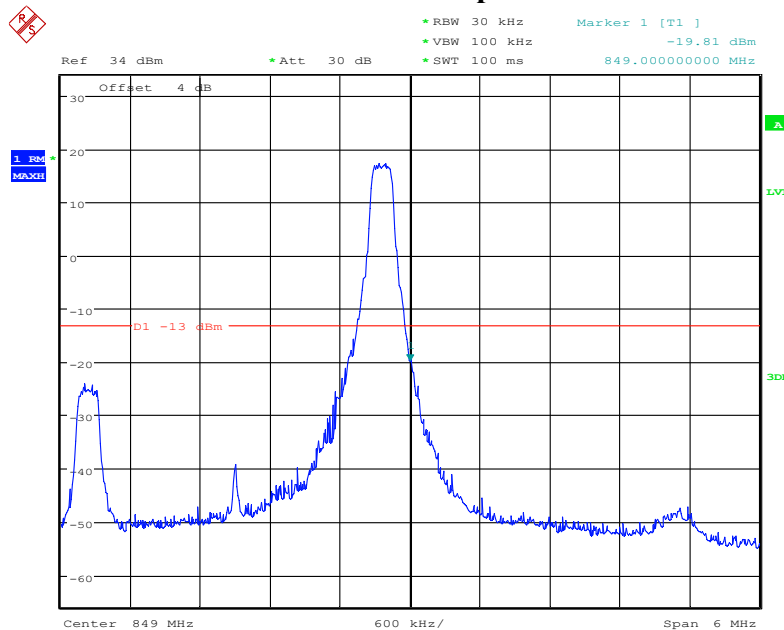
Date: 19.MAY.2020 20:59:01

LTE Band5, 3MHz bandwidth, QPSK,(15,0) Mode , Below 824MHz

Chongqing Academy of Information and Communication Technology

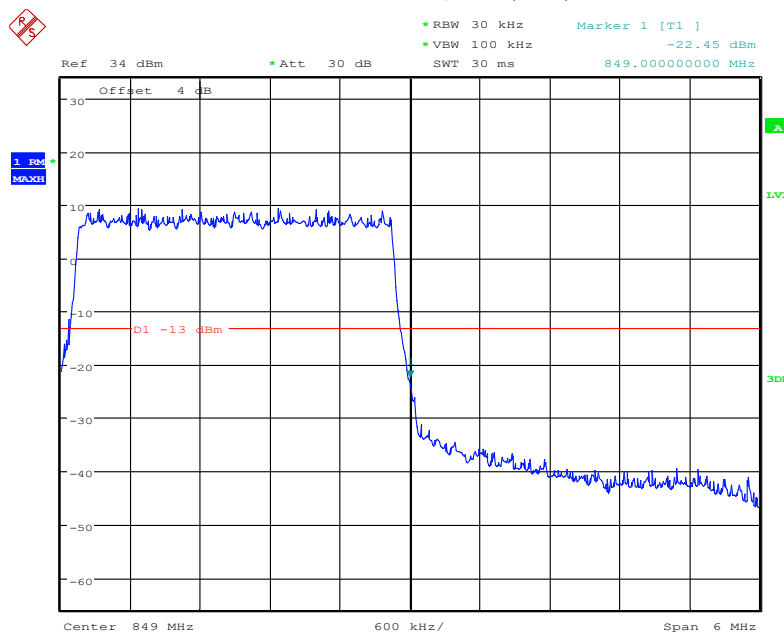
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
 Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:00:12

LTE Band5, 3MHz bandwidth, QPSK,(1,15) Mode, Above 849MHz



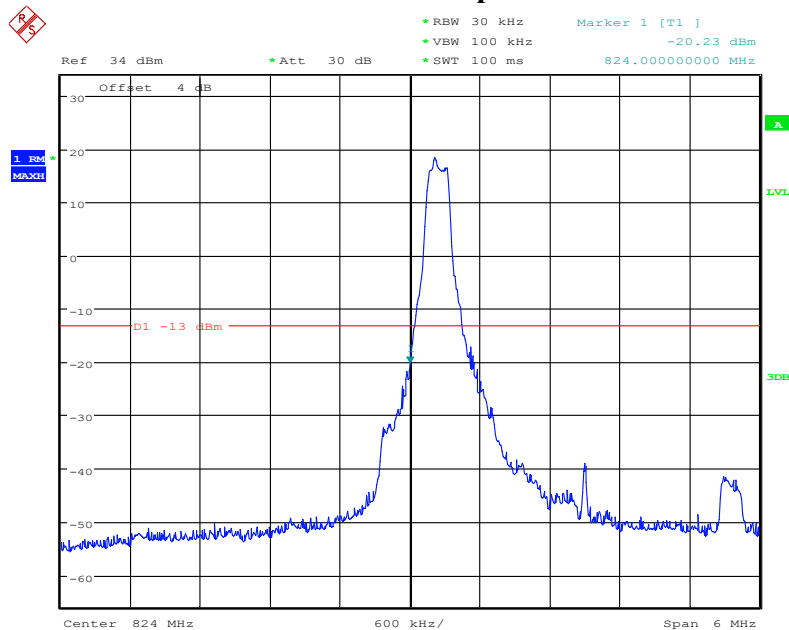
Date: 19.MAY.2020 20:59:24

LTE Band5, 3MHz bandwidth, QPSK,(15,0) Mode, Above 849MHz

Chongqing Academy of Information and Communication Technology

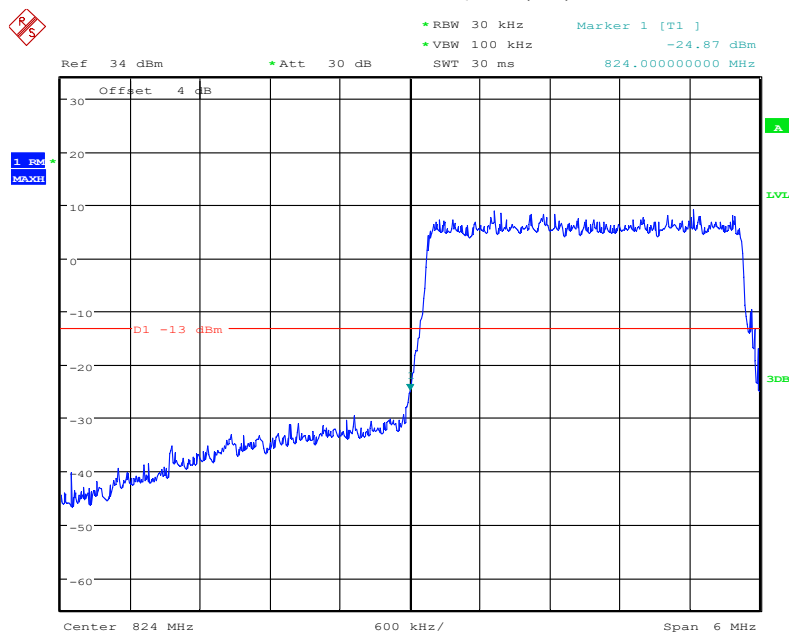
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 20:58:38

LTE Band5, 3MHz bandwidth, 16QAM,(1,0) Mode , Below 824MHz



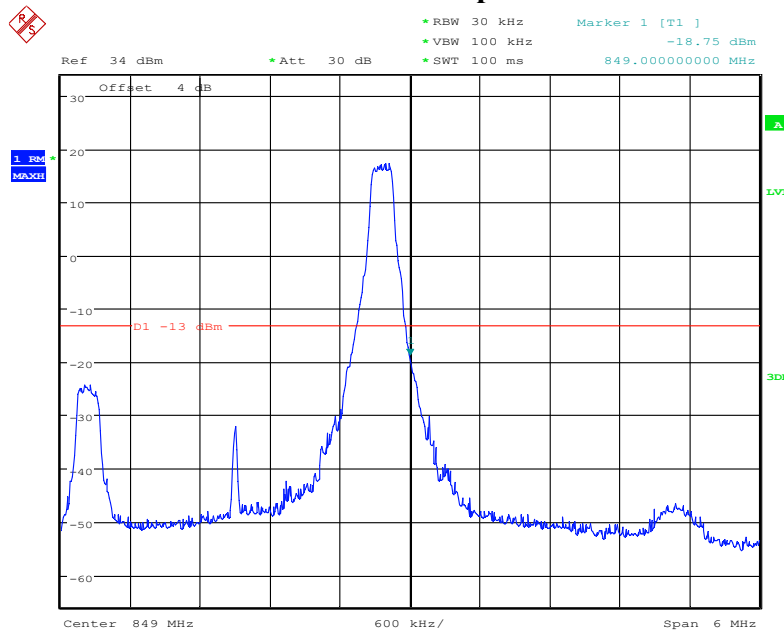
Date: 19.MAY.2020 20:58:50

LTE Band5, 3MHz bandwidth, 16QAM,(15,0) Mode , Below 824MHz

Chongqing Academy of Information and Communication Technology

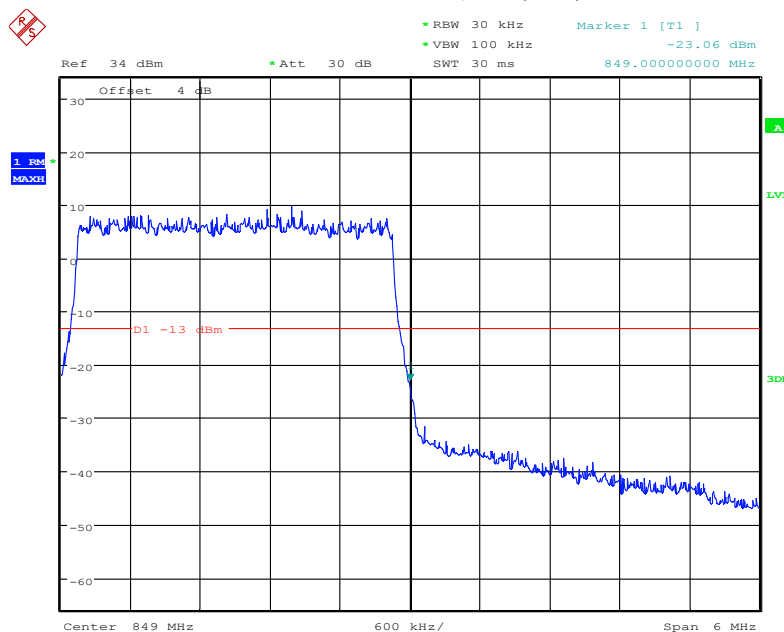
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:00:00

LTE Band5, 3MHz bandwidth, 16QAM,(1,15) Mode, Above 849MHz



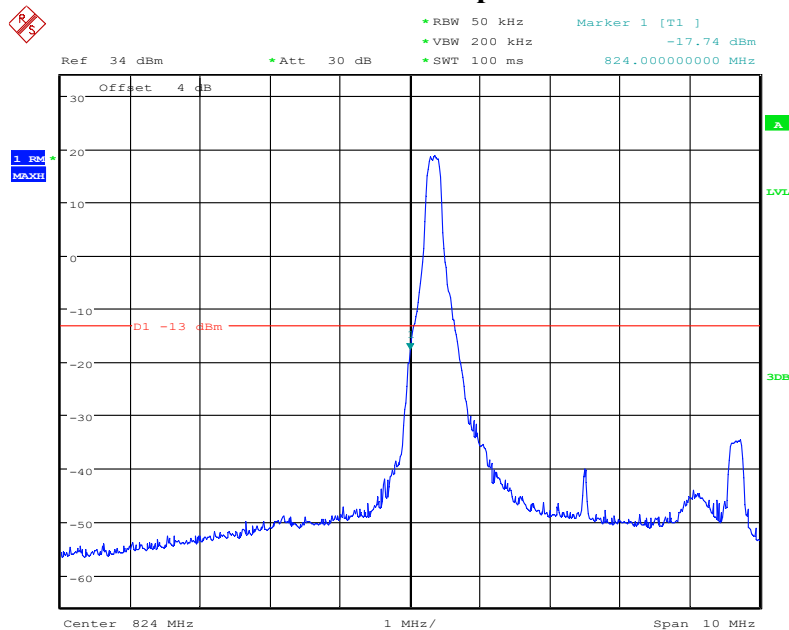
Date: 19.MAY.2020 20:59:39

LTE Band5, 3MHz bandwidth, 16QAM,(15,0) Mode, Above 849MHz

Chongqing Academy of Information and Communication Technology

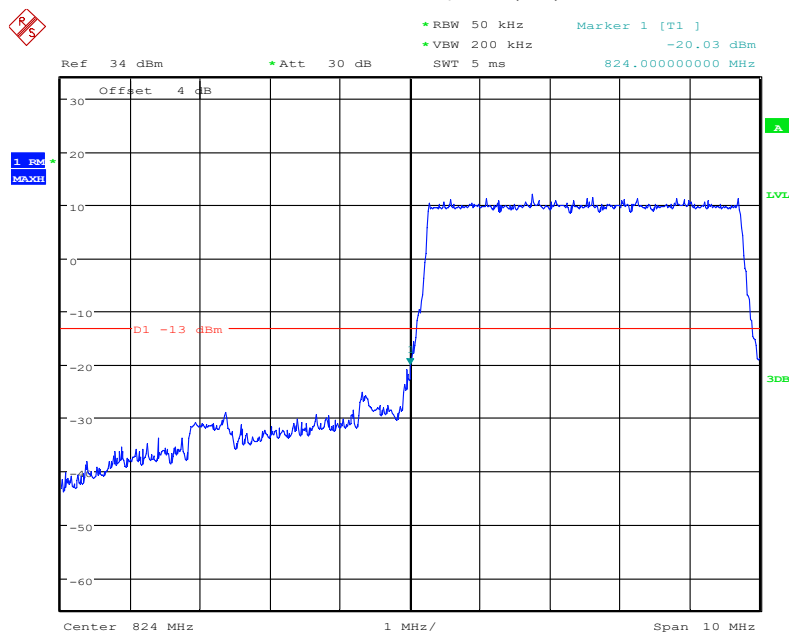
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:01:54

LTE Band5, 5MHz bandwidth, QPSK,(1,0) Mode , Below 824MHz



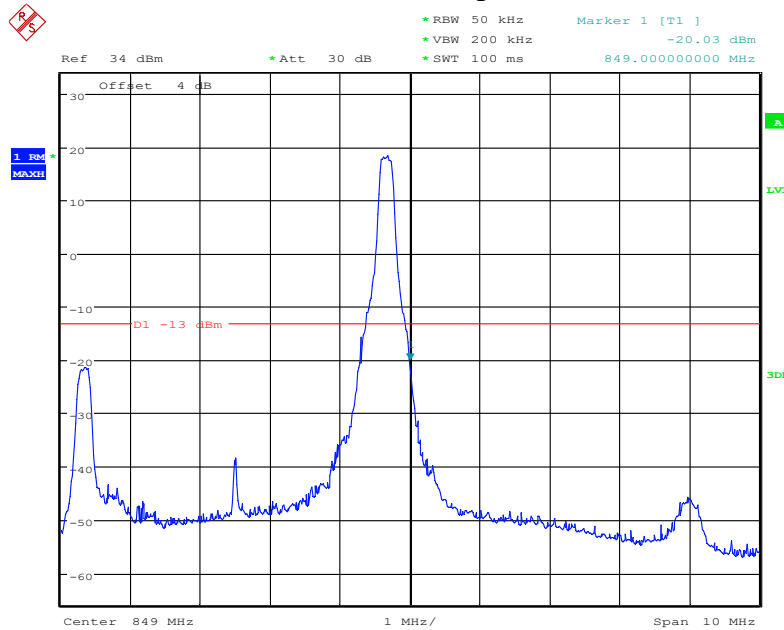
Date: 19.MAY.2020 21:02:34

LTE Band5, 5MHz bandwidth, QPSK,(25,0) Mode , Below 824MHz

Chongqing Academy of Information and Communication Technology

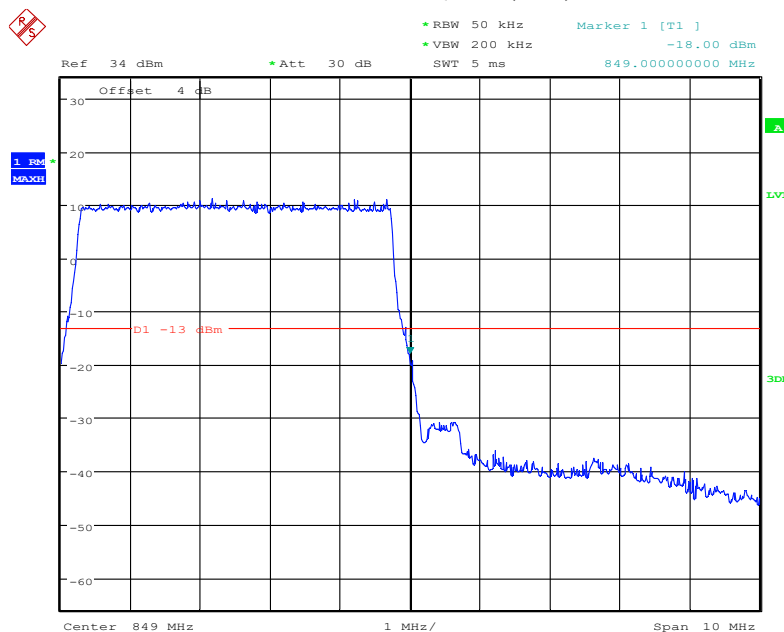
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:03:49

LTE Band5, 5MHz bandwidth, QPSK,(1,25) Mode, Above 849MHz



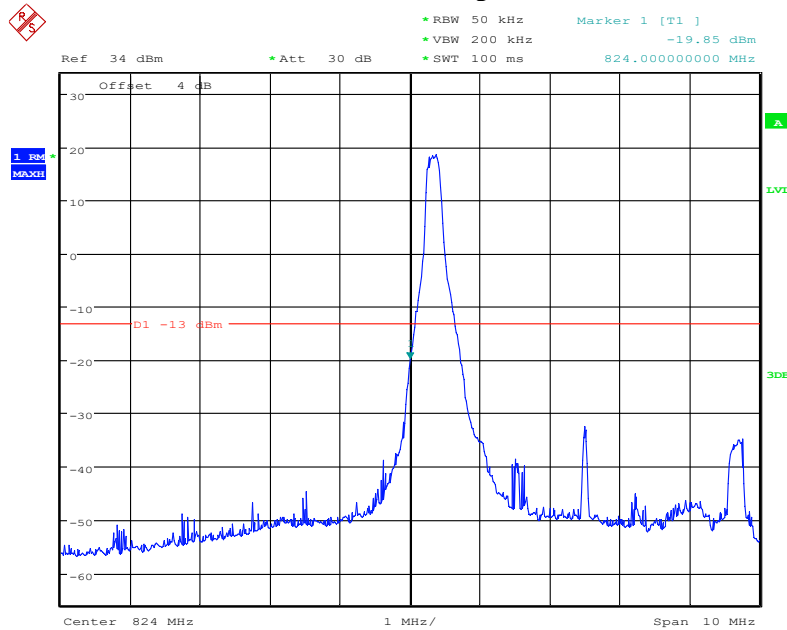
Date: 19.MAY.2020 21:02:58

LTE Band5, 5MHz bandwidth, QPSK,(25,0) Mode, Above 849MHz

Chongqing Academy of Information and Communication Technology

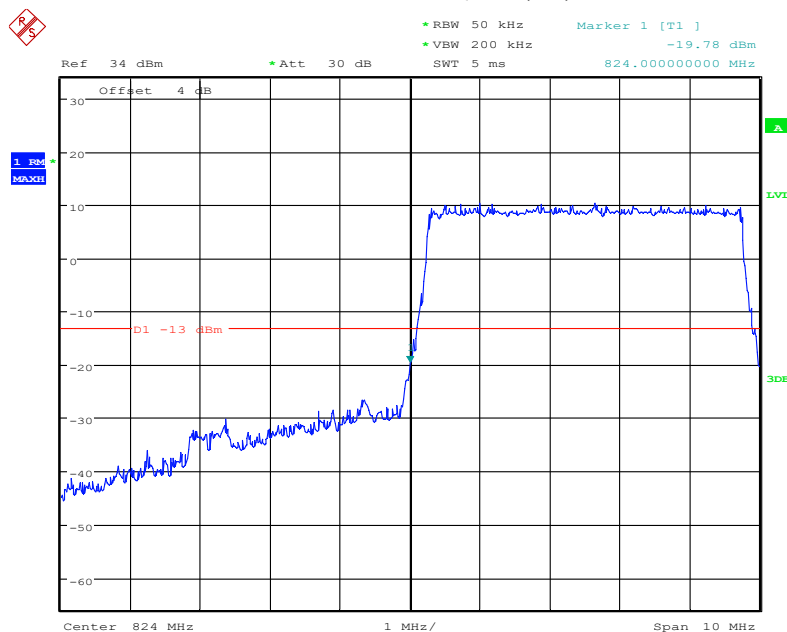
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
 Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:02:06

LTE Band5, 5MHz bandwidth, 16QAM,(1,0) Mode , Below 824MHz



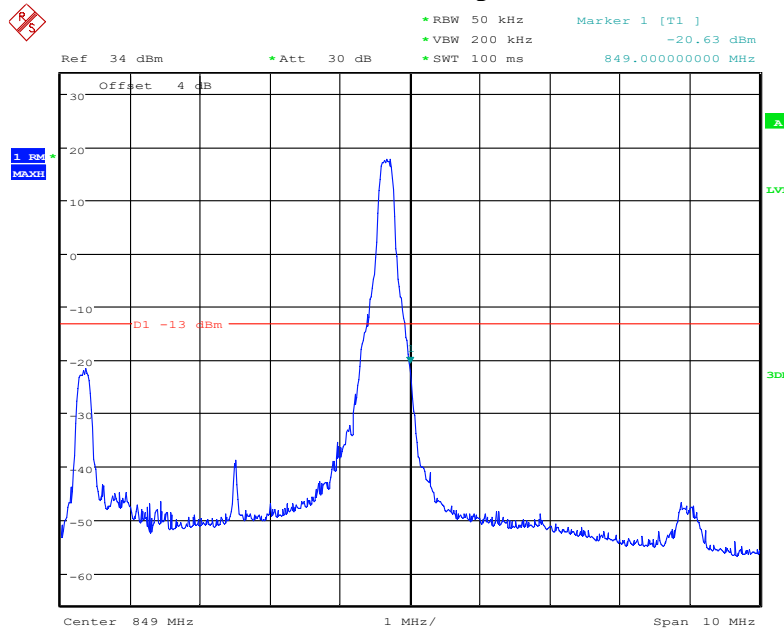
Date: 19.MAY.2020 21:02:20

LTE Band5, 5MHz bandwidth, 16QAM,(25,0) Mode , Below 824MHz

Chongqing Academy of Information and Communication Technology

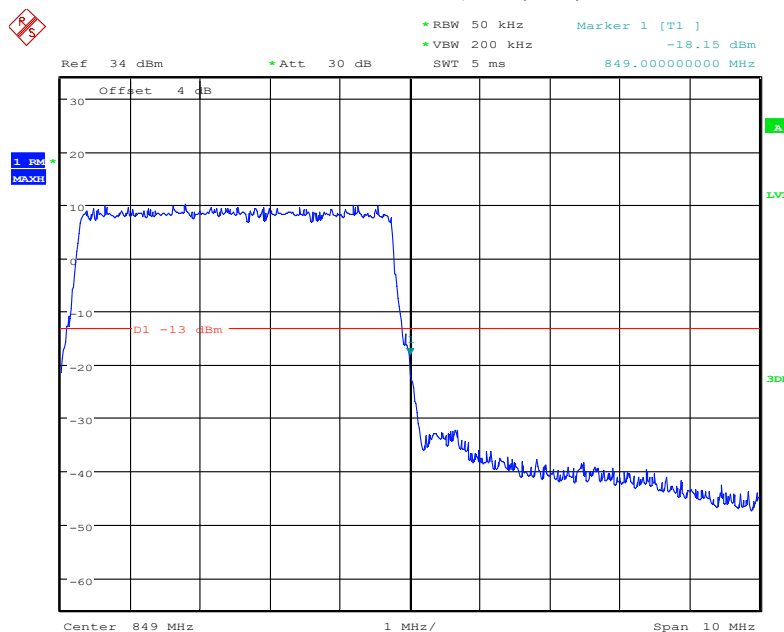
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:03:35

LTE Band5, 5MHz bandwidth, 16QAM,(1,25) Mode, Above 849MHz



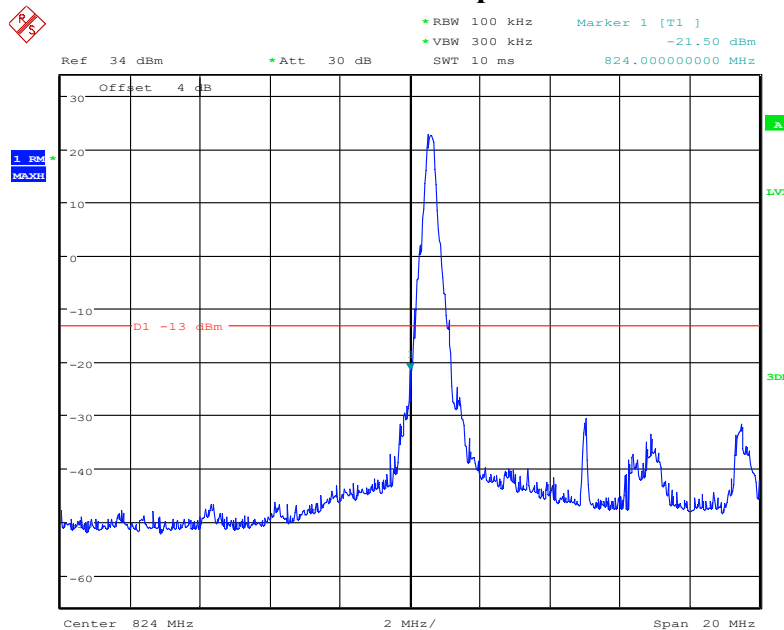
Date: 19.MAY.2020 21:03:11

LTE Band5, 5MHz bandwidth, 16QAM,(25,0) Mode, Above 849MHz

Chongqing Academy of Information and Communication Technology

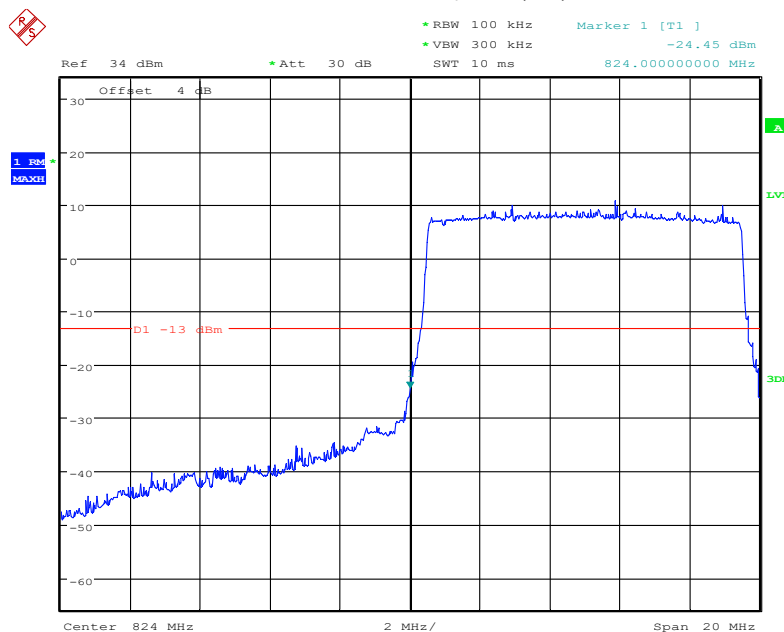
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:10:26

LTE Band5, 10MHz bandwidth, QPSK,(1,0) Mode , Below 824MHz



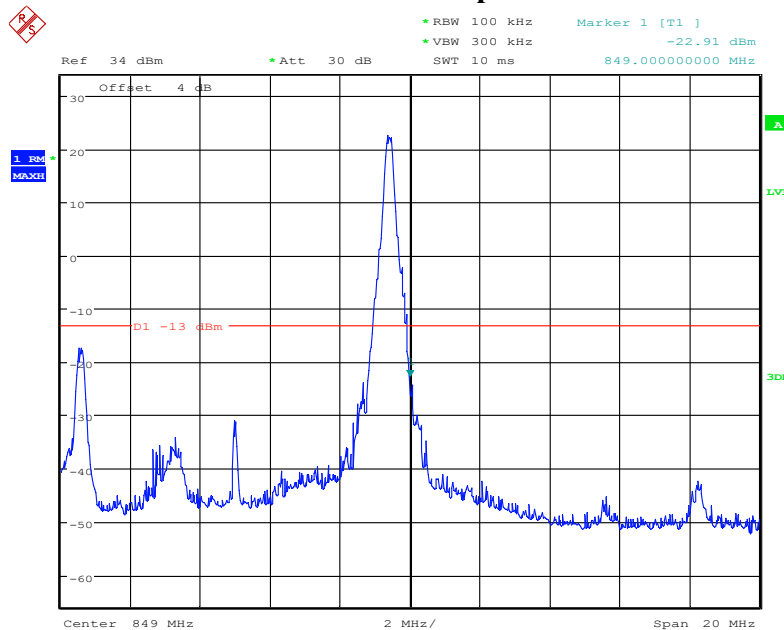
Date: 19.MAY.2020 21:04:45

LTE Band5, 10MHz bandwidth, QPSK,(50,0) Mode , Below 824MHz

Chongqing Academy of Information and Communication Technology

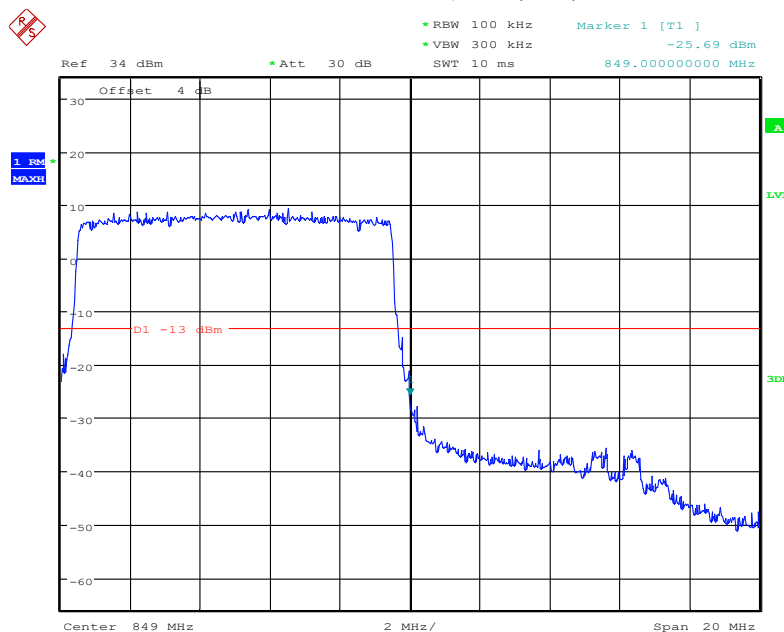
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:10:59

LTE Band5, 10MHz bandwidth, QPSK,(1,50) Mode, Above 849MHz



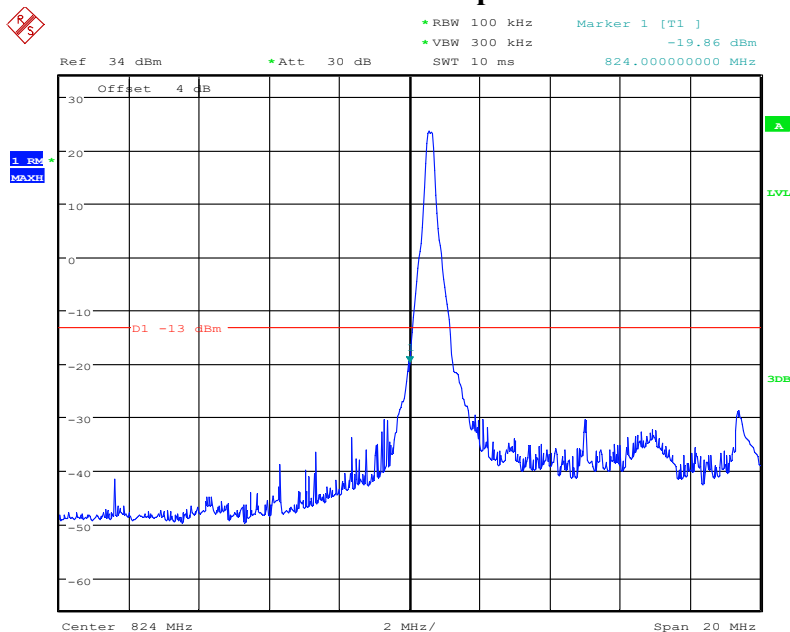
Date: 19.MAY.2020 21:11:50

LTE Band5, 10MHz bandwidth, QPSK,(50,0) Mode, Above 849MHz

Chongqing Academy of Information and Communication Technology

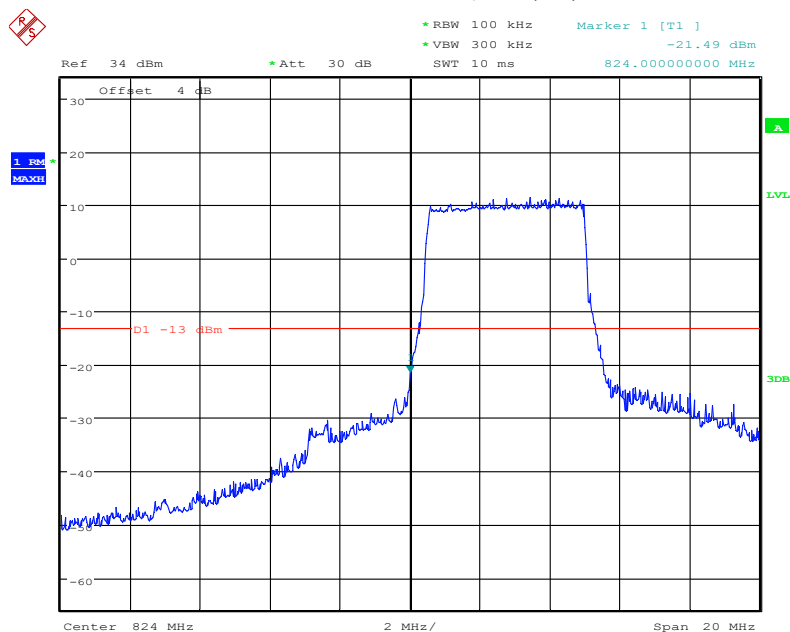
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:10:15

LTE Band5, 10MHz bandwidth, 16QAM,(1,0) Mode , Below 824MHz



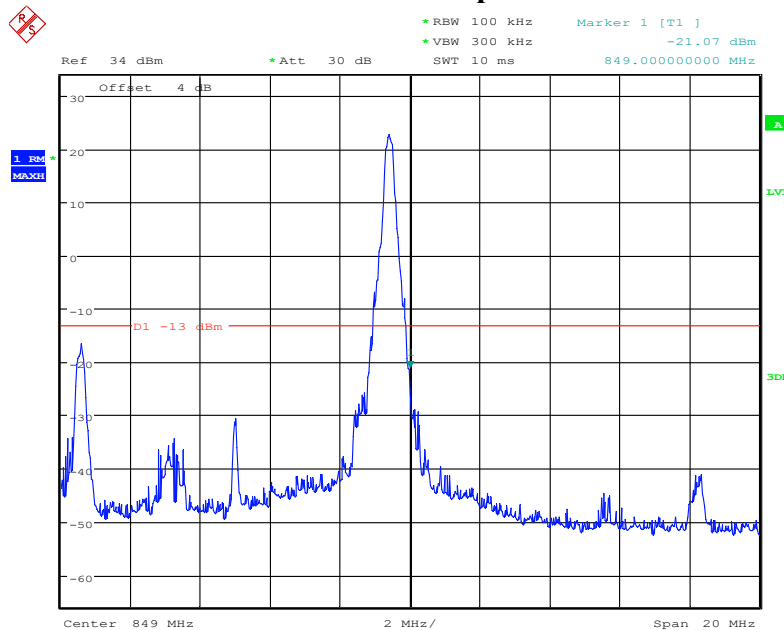
Date: 19.MAY.2020 21:05:27

LTE Band5, 10MHz bandwidth, 16QAM,(25,0) Mode , Below 824MHz

Chongqing Academy of Information and Communication Technology

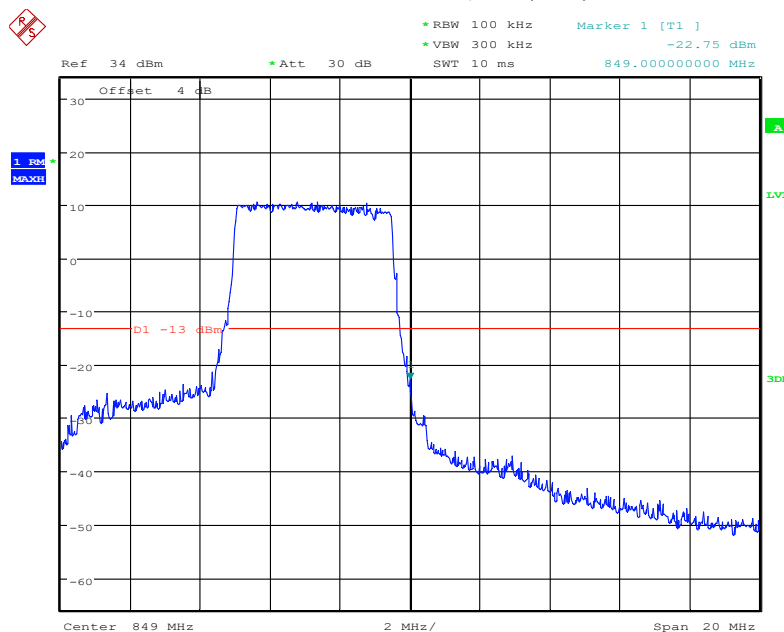
Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2



Date: 19.MAY.2020 21:11:14

LTE Band5, 10MHz bandwidth, 16QAM,(1,50) Mode, Above 849MHz



Date: 19.MAY.2020 21:11:33

LTE Band5, 10MHz bandwidth, 16QAM,(25,0) Mode, Above 849MHz

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Address: No. 8,Yuma Road, Chayuan New City, Nan'an District, Chongqing, P. R. China,401336
 Tel: 0086-23-88069965 FAX:0086-23-88608777

Report No.:I20W00001-WWAN_Rev2

5.7 Frequency Stability over Temperature Variation

Specifications:	FCC Part 2.1055, 22.355, 27.54
DUT Serial Number:	865699031154043
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

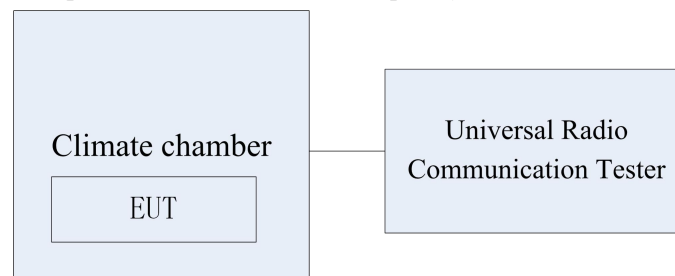
Limit	
Frequency deviation [ppm]	±2.5

Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	15 Hz (k=2)

Test Setup

The EUT was placed in a temperature chamber, demonstrated as figure T. The Wireless Telecommunications Test Set was used to set the Tx channel and power level, modulate the TX signal with different bit patterns and measure the frequency of Tx.



Test Method

- 1、 The EUT was turned off and placed in the temperature chamber.
- 2、 The temperature of the chamber was set to -30°C and allowed to stabilize.
- 3、 The EUT temperature was allowed to stabilize for 45 minutes.
- 4、 The EUT was turned on and set to transmit with Wireless Telecommunications Test Set.
- 5、 The maximum transmit frequency deviation during one minute period was measured by Wireless Communications Test Set.
- 6、 The steps 3-5 were repeated for -30°C, -20°C, -10°C, 0°C, 10°C, 20°C, 30°C, 40°C and 50°C.

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5.6.1 WCDMA Band Frequency Stability over Temperature Variation Results

Band	Offset	Temperature[°C]								
		-30	-20	-10	0	10	20	30	40	50
5	Hz	2.96	3.32	-3.56	-5.52	3.43	4.12	3.45	-3.24	-2.01
	ppm	0.003	0.004	-0.004	-0.006	0.004	0.005	0.004	-0.004	-0.002

5.6.2 LTE Band Frequency Stability over Temperature Variation Results

Band	Offset	Temperature[°C]								
		-30	-20	-10	0	10	20	30	40	50
4	Hz	5.59	3.12	1.78	-2.33	5.98	6.67	-3.29	3.72	-3.51
	ppm	0.003	0.002	0.001	-0.001	0.003	0.004	-0.002	0.002	-0.002
5	Hz	-4.31	5.29	3.08	-6.31	-3.28	2.72	4.39	6.83	-7.25
	ppm	-0.005	0.006	0.004	-0.007	-0.004	0.003	0.005	0.008	-0.009

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5.8 Frequency Stability over Voltage Variation

Specifications:	FCC Part 2.1055, 22.355, 27.54
DUT Serial Number:	865699031154043
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

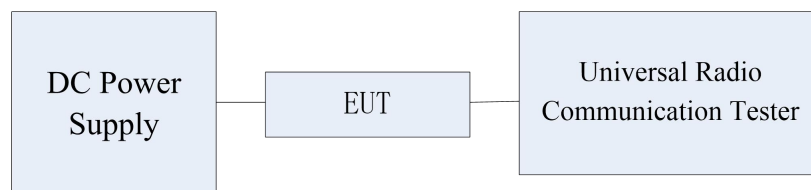
Limit	
Frequency deviation [ppm]	±2.5

Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	15 Hz (k=2)

Test Setup

The EUT was placed in a shielding chamber and powered by an adjustable power supply, demonstrated as figure V. A Wireless Telecommunications Test Set was used to set the TX channel and power level, modulate the TX signal with different bit patterns and measure the frequency of TX.



Test Method

The EUT was powered by the adjustable power supply. The frequency stability is measured by the Wireless Telecommunications Test Set.

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5.7.1 WCDMA Band Frequency Stability over Voltage Variation Results

Test data:

Band	Offset	Voltage (V)		
		3.4	3.8	4.2
5	Hz	4.62	2.27	-4.15
	ppm	0.005	0.003	-0.005

5.7.2 LTE Band Frequency Stability over Voltage Variation Results

Test data:

Band	Offset	Voltage (V)		
		3.4	3.8	4.2
4	Hz	-3.58	-2.26	4.47
	ppm	-0.002	-0.001	0.002
5	Hz	5.23	4.19	-6.84
	ppm	0.006	0.005	-0.008

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5.9 Peak to Average Ratio

Specifications:	FCC Part 22.913,27.50
DUT Serial Number:	865699031154043
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit

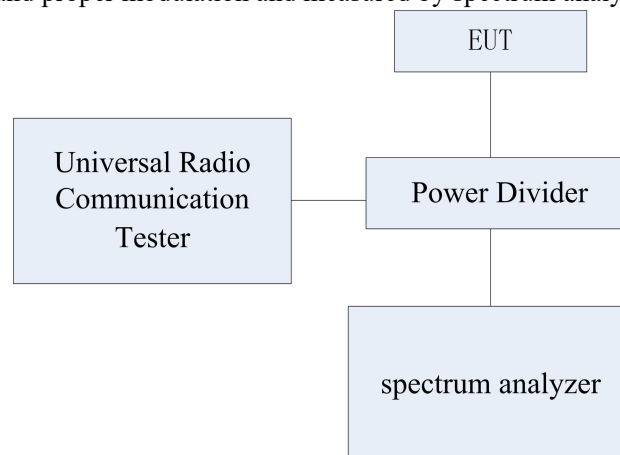
The EUT meets the requirement of having a peak to average ratio of less than 13dB.

Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	0.52 dB (k=2)

Test Setup

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method

The transmitter output was connected to a CMW500 through a coaxial RF cable and directional coupler, and configured to operate at maximum power. The peak to average ratio was measured at the required operating frequencies in each Band on the Spectrum Analyzer.

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5.8.1 WCDMA B5 Peak to Average Ratio Results

Frequency (MHz)	EUT channel No.	Modulation	Peak to Average Ratio
836.4	4182	QPSK	3.94
836.4	4182	16QAM	3.95

5.8.2 LTE B4 Peak to Average Ratio Results

Frequency (MHz)	EUT channel No.	bandwidth	Modulation	Peak to Average Ratio
1732.5MHz	20175	1.4MHz	QPSK	5.90
			16QAM	6.94
		3MHz	QPSK	6.30
			16QAM	6.96
		5MHz	QPSK	6.26
			16QAM	7.25
		10MHz	QPSK	6.35
			16QAM	5.90
		15MHz	QPSK	6.13
			16QAM	6.47
		20MHz	QPSK	6.66
			16QAM	6.44

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5.8.3 LTE B5 Peak to Average Ratio Results

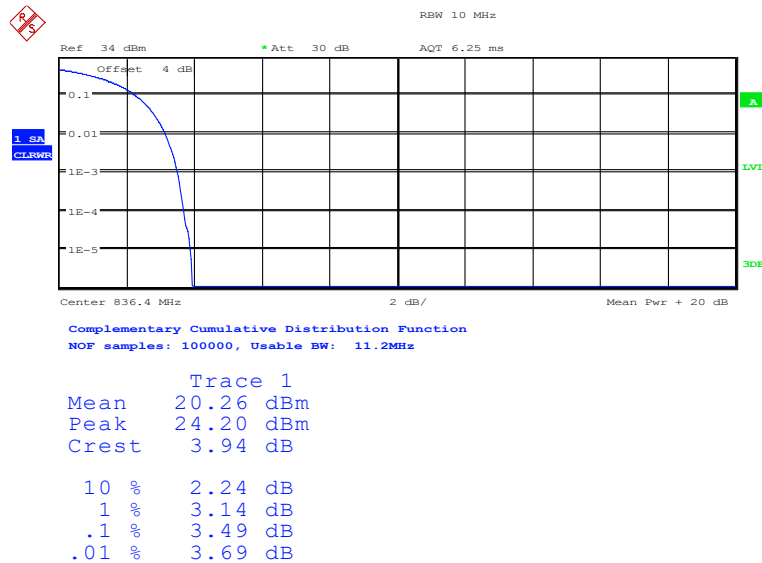
Frequency (MHz)	EUT channel No.	bandwidth	Modulation	Peak to Average Ratio
836.5MHz	20525	1.4MHz	QPSK	5.87
			16QAM	6.51
		3MHz	QPSK	6.15
			16QAM	6.92
		5MHz	QPSK	6.10
			16QAM	7.03
		10MHz	QPSK	4.21
			16QAM	4.97

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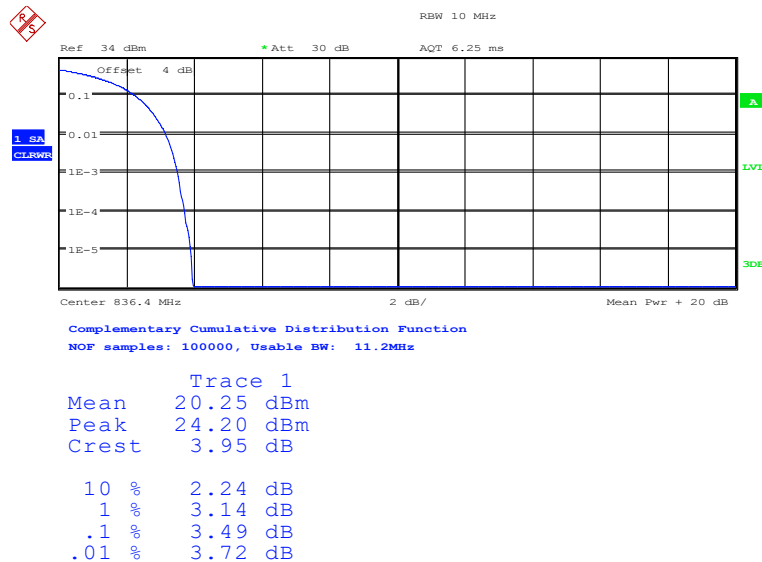
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Graphical for Peak to Average Ratio Results



Date: 19.MAY.2020 22:55:11

WCDMA Band5, QPSK



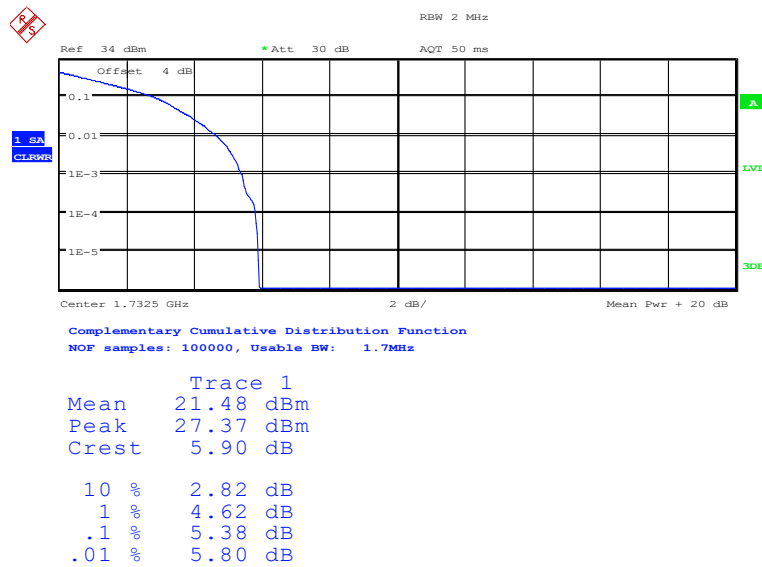
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WCDMA Band5, 16QAM

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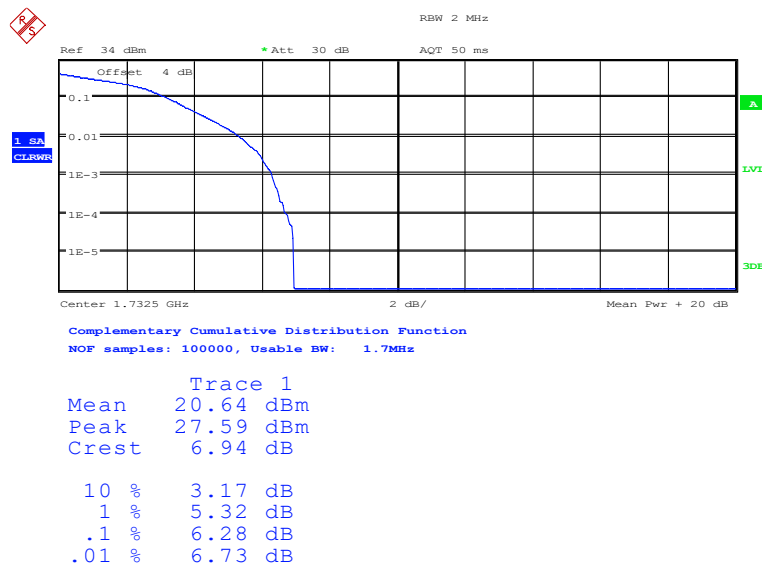
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Date: 19.MAY.2020 17:41:46

LTE Band4, QPSK,BW=1.4MHz



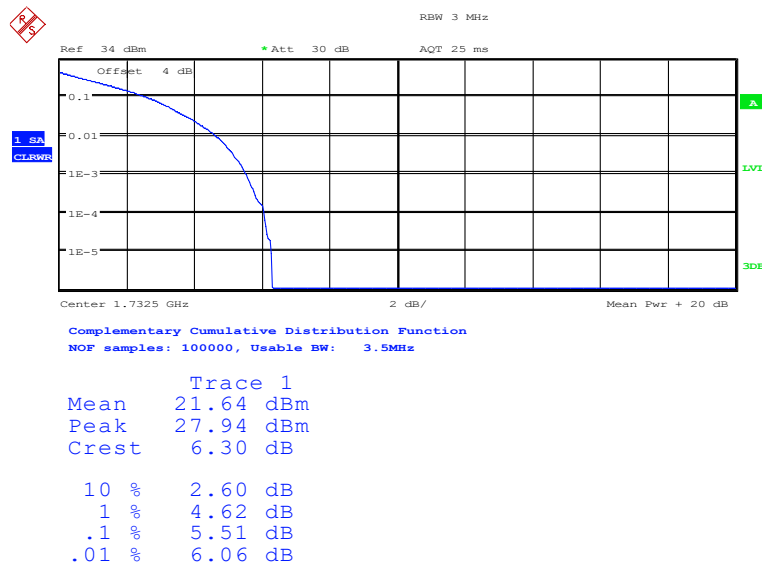
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LTE Band4, 16QAM,BW=1.4MHz

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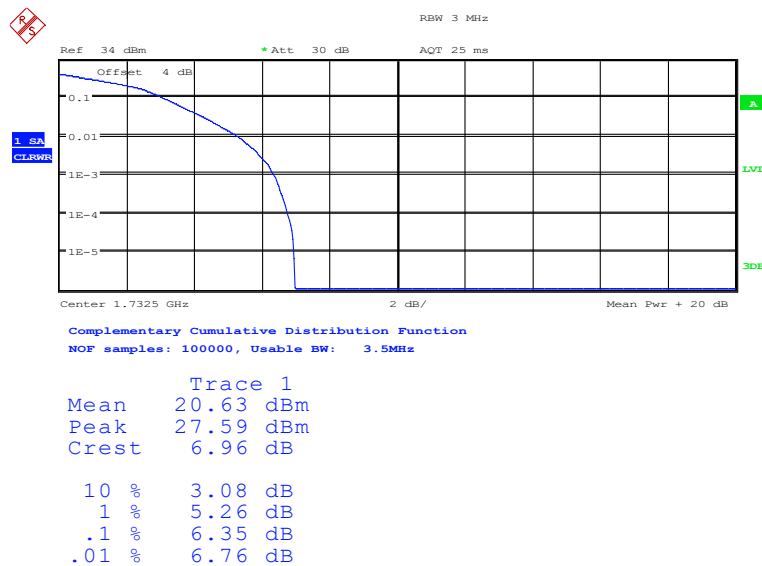
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Date: 19.MAY.2020 17:42:29

LTE Band4, QPSK,BW=3MHz



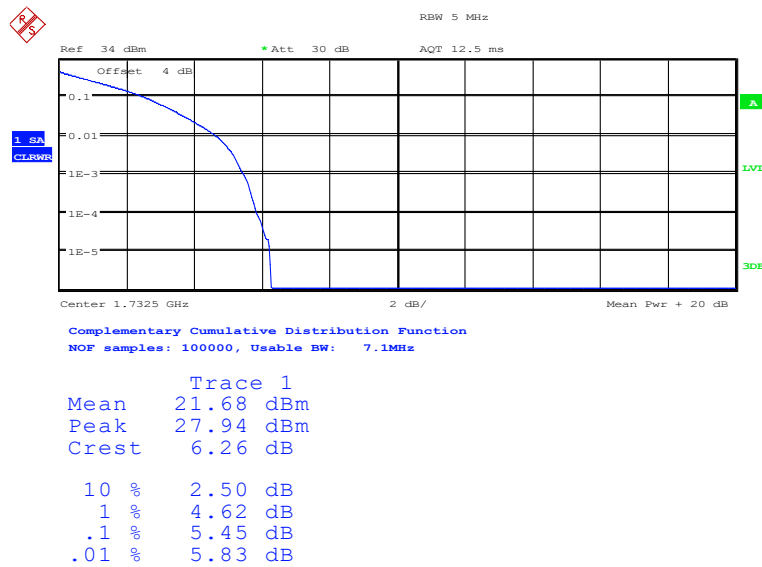
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LTE Band4, 16QAM,BW=3MHz

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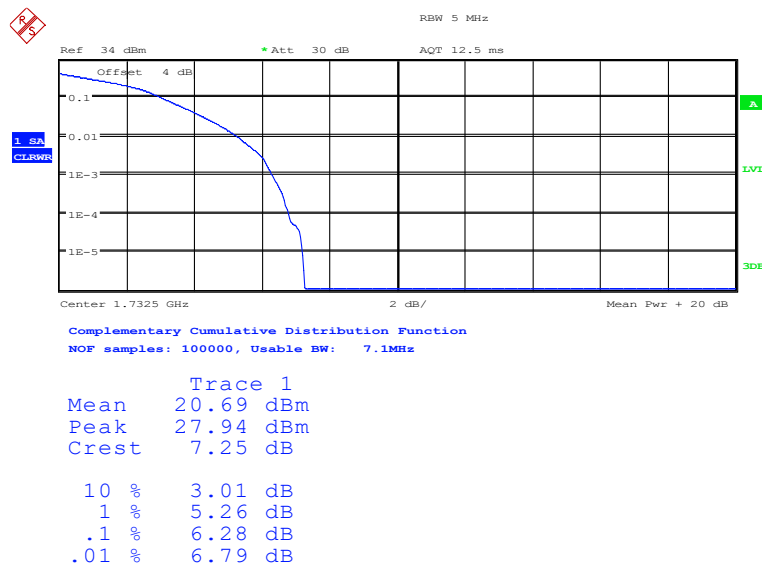
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Date: 19.MAY.2020 17:43:44

LTE Band4, QPSK,BW=5MHz



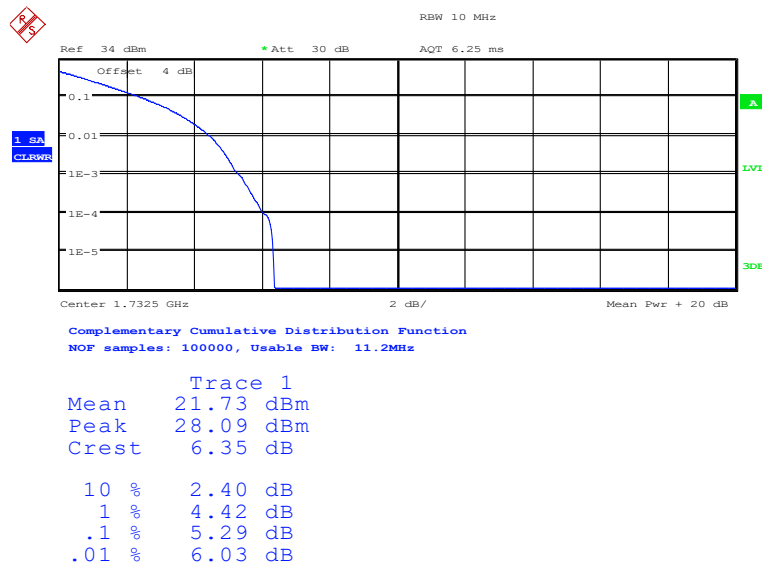
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LTE Band4, 16QAM,BW=5MHz

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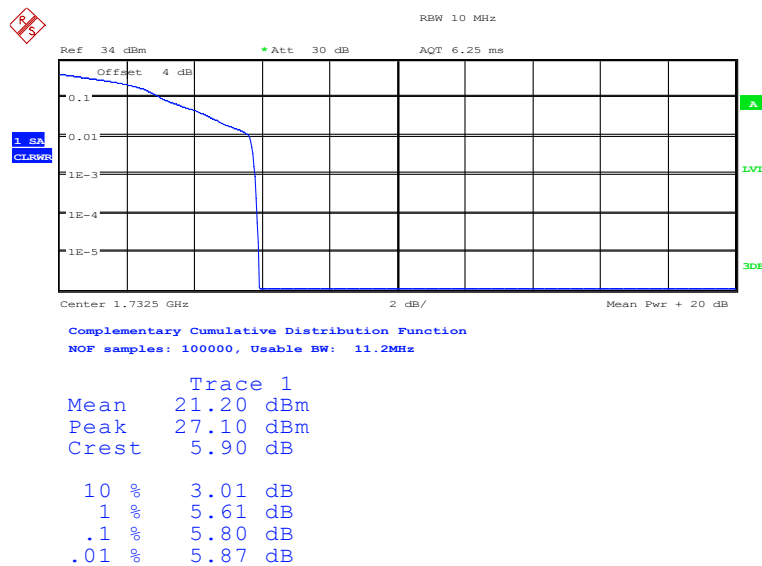
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Date: 19.MAY.2020 17:44:40

LTE Band4, QPSK,BW=10MHz



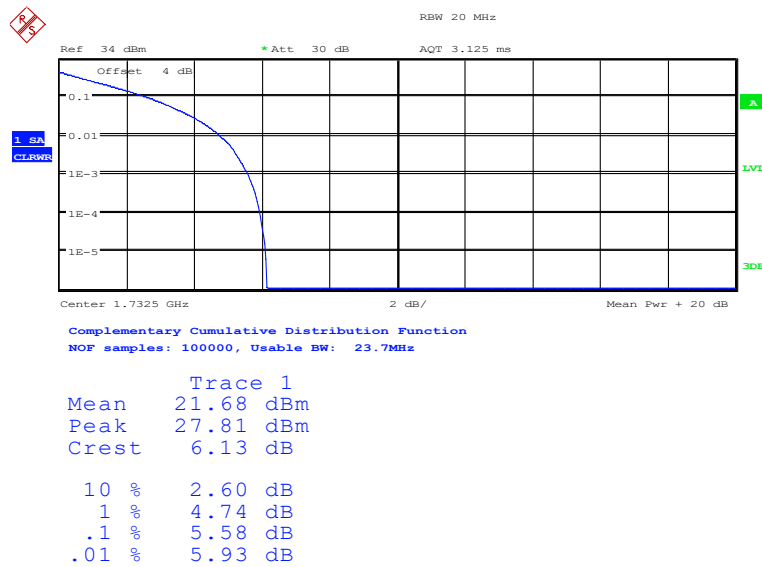
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LTE Band4, 16QAM,BW=10MHz

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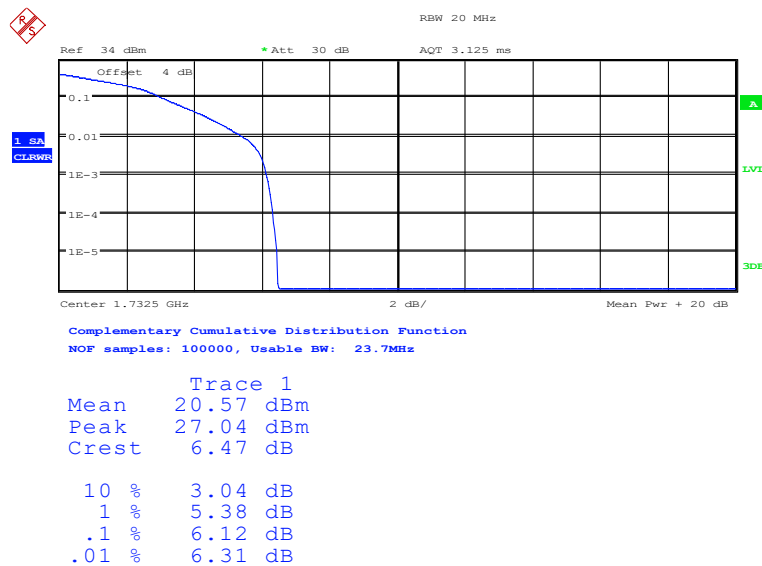
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Date: 19.MAY.2020 23:18:04

LTE Band4, QPSK,BW=15MHz



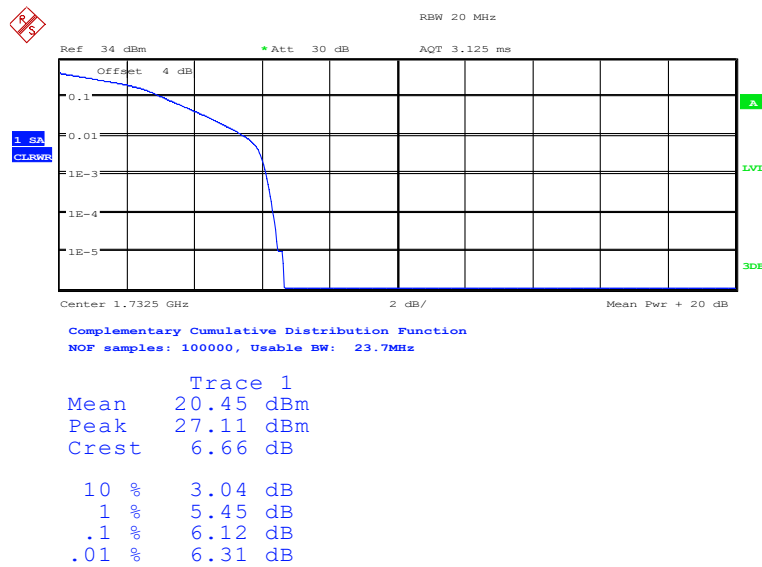
Date: 19.MAY.2020 23:20:29

LTE Band4, 16QAM,BW=15MHz

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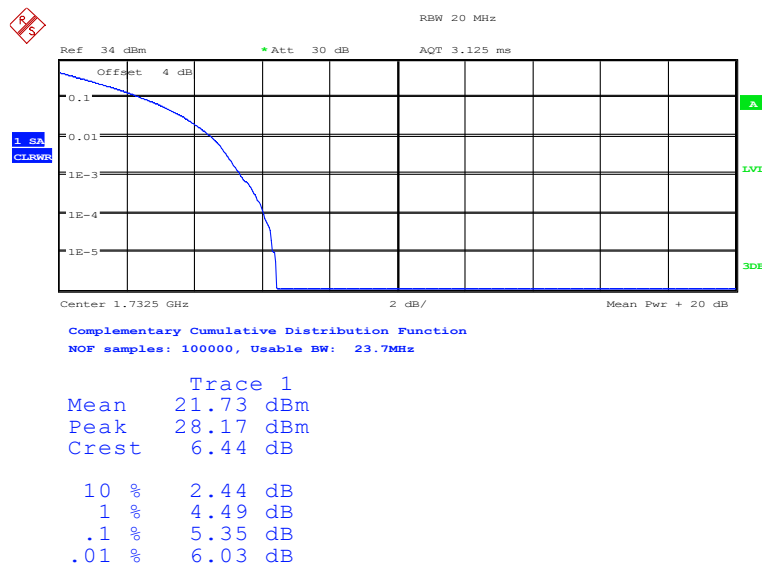
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Date: 19.MAY.2020 23:21:06

LTE Band4, QPSK,BW=20MHz



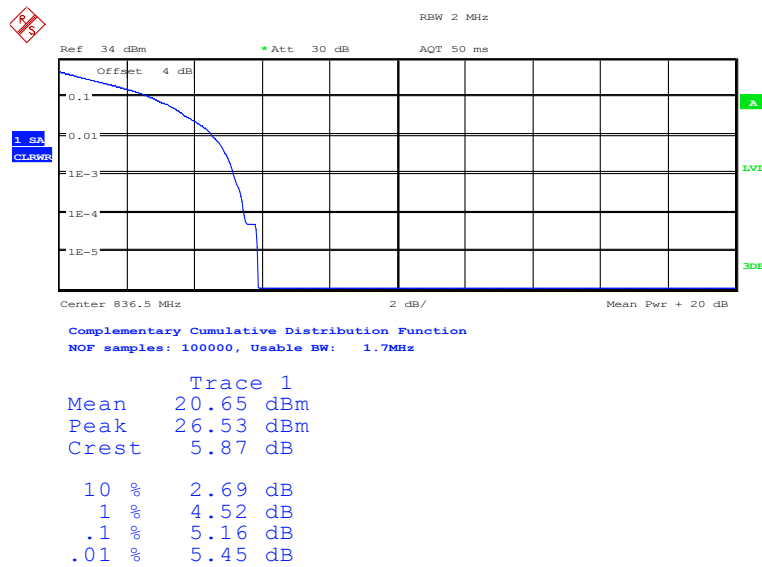
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LTE Band4, 16QAM,BW=20MHz

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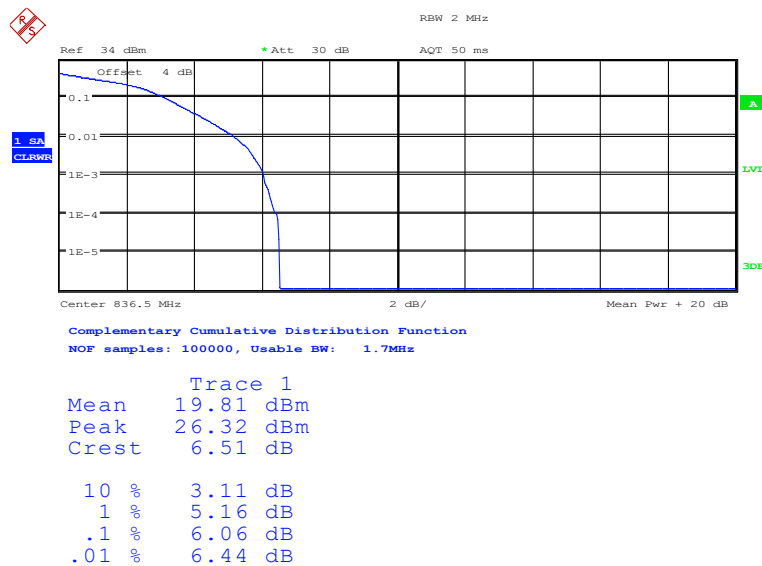
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Date: 19.MAY.2020 17:48:25

LTE Band5, QPSK,BW=1.4MHz



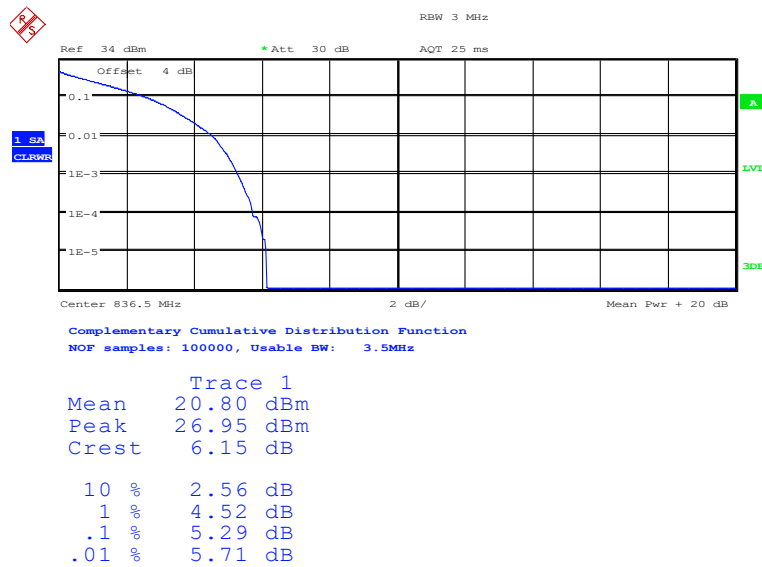
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LTE Band5, 16QAM,BW=1.4MHz

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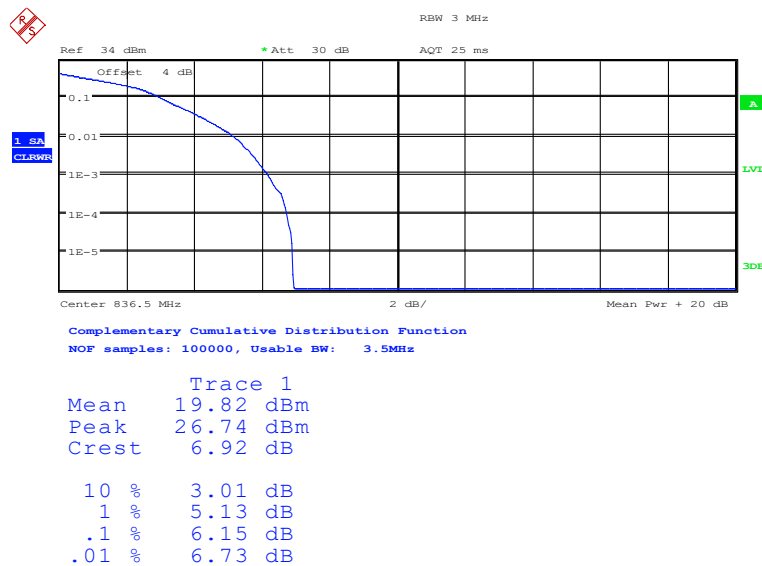
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Date: 19.MAY.2020 17:48:55

LTE Band5, QPSK,BW=3MHz



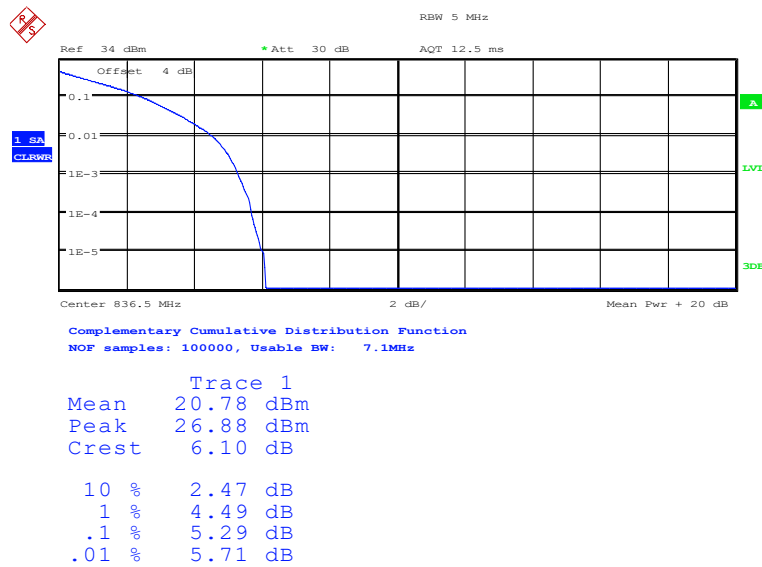
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LTE Band5, 16QAM,BW=3MHz

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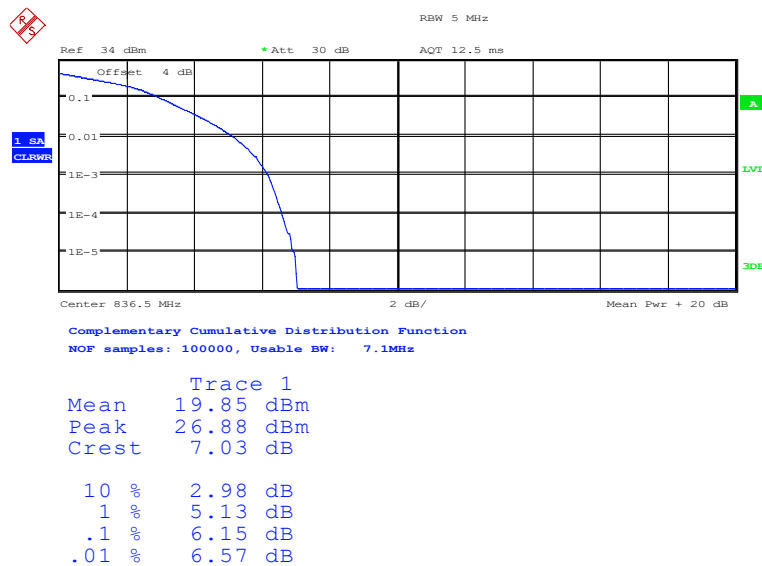
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Date: 19.MAY.2020 17:49:40

LTE Band5, QPSK,BW=5MHz



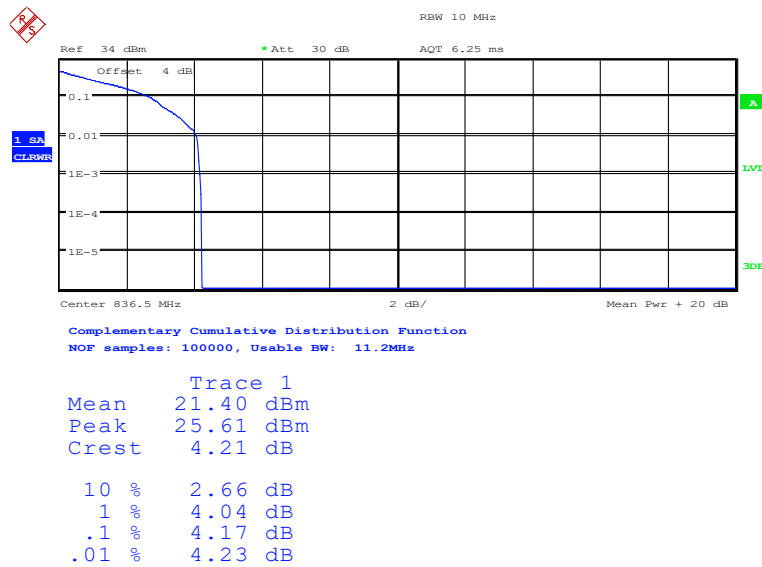
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LTE Band5, 16QAM,BW=5MHz

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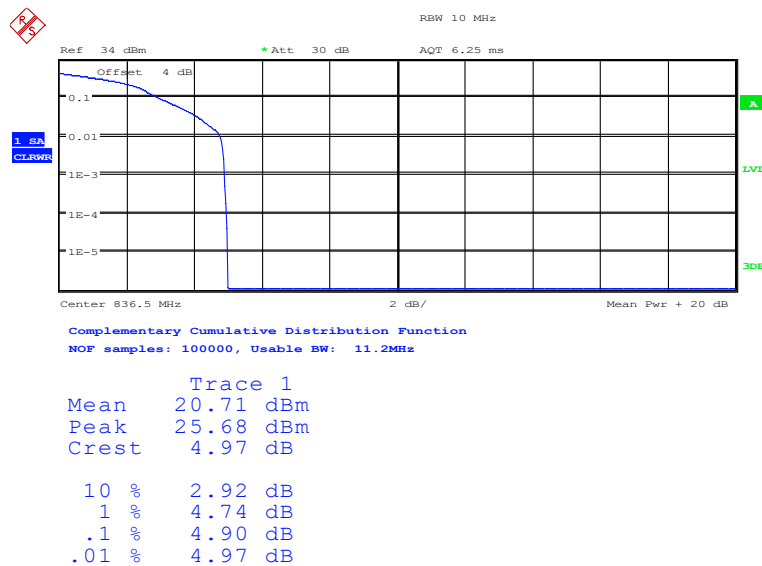
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Date: 19.MAY.2020 17:50:25

LTE Band5, QPSK,BW=10MHz



Date: 19.MAY.2020 17:50:11

LTE Band5, 16QAM,BW=10MHz

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Annex A EUT Photos

See the document” L506 -External Photos”.

See the document” L506 -Internal Photos”.

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ANNEX B Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

*****End Of Report*****