



# TESTREPORT

Applicant Name : TECNO MOBILE LIMITED  
Address : FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35  
SHAN MEI STREET FOTAN NT Hong Kong  
Report Number: SZNS220422-15992E-RF-00D  
FCC ID: 2ADYY-KG5KS

## Test Standard (s)

FCC PART 27; FCC PART 22H; FCC PART 24E

## Sample Description

Product Type: Mobile Phone  
Model No.: KG5ks  
Multiple Model(s) No.: N/A  
Trade Mark: TECNO SPARK  
Date Received: 2022/04/22  
Report Date: 2022/06/01

Test Result:	Pass*
--------------	-------

\* In the configuration tested, the EUT complied with the standards above.

## Prepared and Checked By:

Ting Lü  
EMC Engineer

## Approved By:

Robert Li  
EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

Shenzhen Accurate Technology Co., Ltd. is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk "★". Customer model name, addresses, names, trademarks etc. are not considered data.

This report cannot be reproduced except in full, without prior written approval of the Company. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

## Shenzhen Accurate Technology Co., Ltd.

1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86 755-26503290

Fax: +86 755-26503396

Web: www.atc-lab.com

Version 2: 2021-11-09

Page 1 of 132

FCC -2G,3G,4G

## TABLE OF CONTENTS

<b>GENERAL INFORMATION</b> .....	<b>3</b>
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) .....	3
OBJECTIVE .....	3
TEST METHODOLOGY .....	4
MEASUREMENT UNCERTAINTY .....	4
TEST FACILITY .....	4
<b>SYSTEM TEST CONFIGURATION</b> .....	<b>5</b>
DESCRIPTION OF TEST CONFIGURATION .....	5
EQUIPMENT MODIFICATIONS .....	6
SUPPORT EQUIPMENT LIST AND DETAILS .....	6
SUPPORT CABLE DESCRIPTION .....	6
BLOCK DIAGRAM OF TEST SETUP .....	7
<b>SUMMARY OF TEST RESULTS</b> .....	<b>8</b>
<b>TEST EQUIPMENT LIST</b> .....	<b>9</b>
<b>FCC §1.1307(B)&amp;§2.1093 - RF EXPOSURE INFORMATION</b> .....	<b>11</b>
<b>FCC§2.1047 - MODULATION CHARACTERISTIC</b> .....	<b>12</b>
<b>FCC § 2.1046,§ 22.913 (A)&amp;§ 24.232(C); §27.50(B)(C)(D)(H)- RF OUTPUT POWER</b> .....	<b>13</b>
APPLICABLE STANDARD .....	13
TEST PROCEDURE .....	13
TEST DATA .....	13
<b>FCC §2.1049, §22.917, §22.905 &amp; §24.238&amp;§27.53 - OCCUPIED BANDWIDTH</b> .....	<b>41</b>
APPLICABLE STANDARD .....	41
TEST PROCEDURE .....	41
TEST DATA .....	41
<b>FCC §2.1051, §22.917(A) &amp; §24.238(A)&amp; §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS</b> ..	<b>69</b>
APPLICABLE STANDARD .....	69
TEST PROCEDURE .....	69
TEST DATA .....	69
<b>FCC § 2.1053; § 22.917 (A);§ 24.238 (A); §27.53- SPURIOUS RADIATED EMISSIONS</b> .....	<b>90</b>
APPLICABLE STANDARD .....	90
TEST PROCEDURE .....	90
TEST DATA .....	90
<b>FCC§ 22.917 (A);§ 24.238 (A); §27.53 (C)(G)(H)(M) - BAND EDGES</b> .....	<b>105</b>
APPLICABLE STANDARD .....	105
TEST PROCEDURE .....	105
TEST DATA .....	105
<b>FCC § 2.1055; § 22.355; § 24.235; §27.54 - FREQUENCY STABILITY</b> .....	<b>119</b>
APPLICABLE STANDARD .....	119
TEST PROCEDURE .....	119
TEST DATA .....	120

## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

Frequency Range	GSM 850: 824-849MHz(TX); 869-894MHz(RX) PCS 1900: 1850-1910MHz(TX); 1930-1990MHz(RX) WCDMA Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX) WCDMA Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX) WCDMA Band 5: 824-849MHz(TX); 869-894MHz(RX) LTE Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX) LTE Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX) LTE Band 5: 824-849MHz(TX); 869-894MHz(RX) LTE Band 7: 2500-2570MHz(TX); 2620-2690MHz(RX) LTE Band 13: 777-787MHz(TX); 746-756MHz(RX) LTE Band 17: 704-716MHz(TX); 734-746MHz(RX) LTE Band 38: 2570-2620MHz(TX/RX) LTE Band 41: 2535-2655MHz(TX/RX) LTE Band 66: 1710-1780MHz(TX); 2110-2180MHz(RX)
Modulation Technique	2G: GMSK, 8PSK 3G: BPSK, QPSK, 16QAM 4G: QPSK, 16QAM
Antenna Specification*	GSM850/WCDMA Band5/LTE Band 5: -2.9dBi PCS1900/WCDMA Band 2/ LTE Band 2: -0.9dBi WCDMA Band 4/ LTE Band 4/ LTE Band 66: -2.4dBi LTE Band 7/ LTE Band 38/LTE Band 41: -0.1dBi LTE Band 13/LTE Band 17: -3.0dBi(provided by the applicant)
Voltage Range	DC 3.85V from battery or DC 5.0V from adapter
Sample serial number	SZNS220422-15992E-RF-S1 for Conducted and Radiated Emissions SZNS220422-15992E-RF-S2 for RF Conducted Test (Assigned by ATC)
Sample/EUT Status	Good condition
Adapter information	Model: U100TSA Input: AC 100-240V, 50/60Hz, 0.3A Output: DC 5.0V, 2.0A
Extreme condition*	L.V.: Low Voltage 3.45V N.V.: Normal Voltage 3.85V H.V.: High Voltage 4.4V (provided by the applicant)

### Objective

This test report is in accordance with Part 2-Subpart J, Part 22-Subpart H, Part 24-Subpart E, and Subpart 27 of the Federal Communication Commission's rules.

The objective is to determine the compliance of the EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, and spurious emission at antenna terminal, spurious radiated emission, frequency stability and band edge.

## Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2-Subpart J as well as the following parts:

Part 22 Subpart H - Public Mobile Services  
 Part 24 Subpart E - Personal Communication Services  
 Part 27 - Miscellaneous Wireless Communications Services

ANSI C63.26-2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Each test item follows test standards and with no deviation.

## Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF output power, conducted		±0.73dB
Unwanted Emission, conducted		±1.6dB
RF Frequency		±0.082*10 <sup>-7</sup>
Emissions, Radiated	30MHz - 1GHz	±4.28dB
	1GHz - 18GHz	±4.98dB
	18GHz - 26.5GHz	±5.06dB
Temperature		±1°C
Humidity		±6%
Supply voltages		±0.4%

*Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.*

## Test Facility

The Test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189. Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 429 7.01.

Listed by Innovation, Science and Economic Development Canada (ISED), the Registration Number is 5077A.

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

The final qualification test was performed with the EUT operating at normal mode.

Test was performed as below table:

Frequency band	Bandwidth (MHz)	Test Frequency(MHz)		
		Low	Middle	High
GSM850	0.25	824.2	836.6	848.8
DCS1900	0.25	1850.2	1880	1909.8
WCDMA B2	4.2	1852.4	1880	1907.6
WCDMA B4	4.2	1712.4	1732.6	1752.6
WCDMA B5	4.2	826.4	836.6	846.6
LTE B2	1.4	1850.7	1880	1909.3
	3	1851.5	1880	1908.5
	5	1852.5	1880	1907.5
	10	1855	1880	1905
	15	1857.5	1880	1902.5
	20	1860	1880	1900
LTE B4	1.4	1710.7	1732.5	1754.3
	3	1711.5	1732.5	1753.5
	5	1712.5	1732.5	1752.5
	10	1715	1732.5	1750
	15	1717.5	1732.5	1747.5
	20	1720	1732.5	1745
LTE B5	1.4	824.7	836.5	848.3
	3	825.5	836.5	847.5
	5	826.5	836.5	846.5
	10	829	836.5	844
LTE B7	5	2502.5	2535	2567.5
	10	2505	2535	2565
	15	2507.5	2535	2562.5
	20	2510	2535	2560
LTE B13	5	779.5	782	784.5
	10	/	782	/
LTE B17	5	706.5	710	713.5
	10	709	710	711

Frequency band	Bandwidth (MHz)	Test Frequency(MHz)		
		Low	Middle	High
LTE B38	5	2572.5	2595	2617.5
	10	2575	2595	2615
	15	2577.5	2595	2612.5
	20	2580	2595	2610
LTE B41	5	2537.5	2595	2652.5
	10	2540	2595	2650
	15	2542.5	2595	2647.5
	20	2545	2595	2645
LTE B66	1.4	1710.7	1745	1779.3
	3	1711.5	1745	1778.5
	5	1712.5	1745	1777.5
	10	1715	1745	1775
	15	1717.5	1745	1772.5
	20	1720	1745	1770

### Equipment Modifications

No modification was made to the EUT.

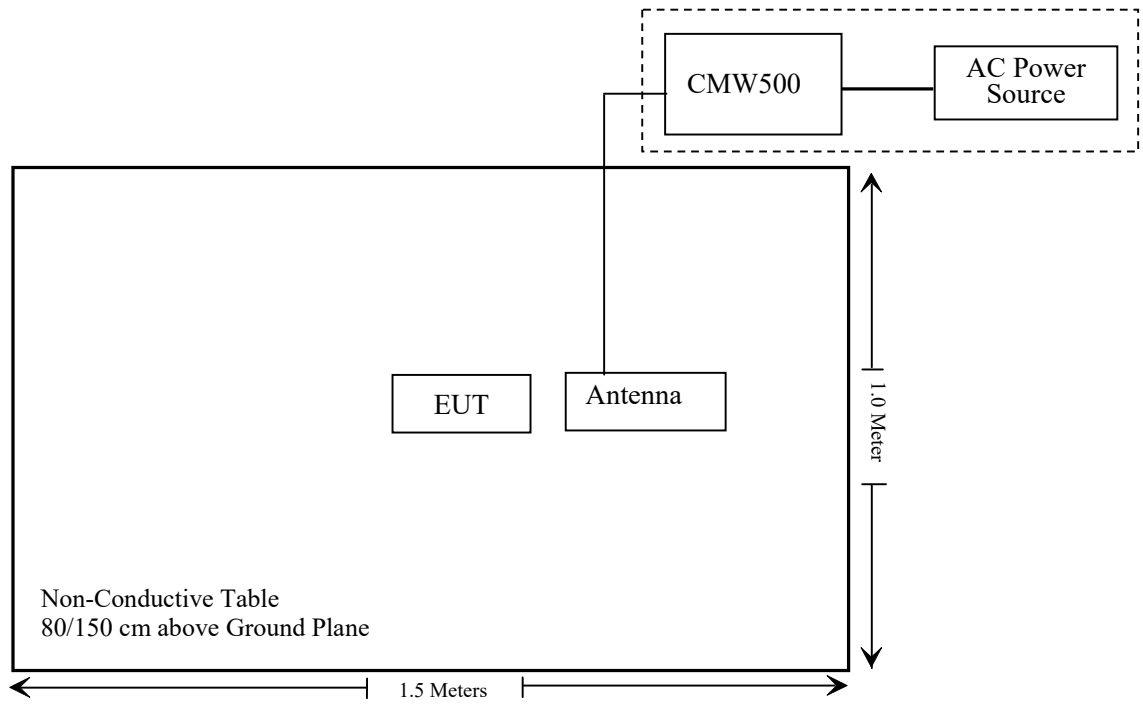
### Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606

### Support Cable Description

Cable Description	Length (m)	From / Port	To
Un-shielded Un-detachable AC cable	1.2	AC Power	CMW500

### Block Diagram of Test Setup



**SUMMARY OF TEST RESULTS**

FCC Rules	Description of Test	Result
§ 1.1307 ,§2.1093	RF Exposure (SAR)	Compliant*
§2.1046; § 22.913 (a); § 24.232 (c); §27.50(b)(c)(d) (h);	RF Output Power	Compliant
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905; § 22.917; § 24.238; §27.53	Occupied Bandwidth	Compliant
§ 2.1051; §22.917 (a); § 24.238 (a); §27.53;	Spurious Emissions at Antenna Terminal	Compliant
§ 2.1053; § 22.917 (a); § 24.238 (a); §27.53	Field Strength of Spurious Radiation	Compliant
§ 22.917 (a); § 24.238 (a); §27.53(c)(g)(h)(m)	Band Edge	Compliant
§ 2.1055; § 22.355; § 24.235; §27.54;	Frequency stability	Compliant

Note: \* Please refer to SAR report number: SZNS220422-15992E-SA.



**TEST EQUIPMENT LIST**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Rohde& Schwarz	Test Receiver	ESR	102725	2021/12/13	2022/12/12
Rohde&Schwarz	Spectrum Analyzer	FSV40	101949	2021/12/13	2022/12/12
SONOMA INSTRUMENT	Amplifier	310 N	186131	2021/11/09	2022/11/08
A.H. Systems, inc.	Preamplifier	PAM-0118P	135	2021/11/09	2022/11/08
Quinstar	Amplifier	QLW-184055 36-J0	15964001002	2021/11/11	2022/11/10
Radiated Emission Test Software: e3 19821b (V9)					
Unknown	RF Coaxial Cable	No.10	N050	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.11	N1000	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.12	N040	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.13	N300	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.14	N800	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.15	N600	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.16	N650	2021/12/14	2022/12/13
Schwarzbeck	Bilog Antenna	VULB9163	9163-194	2020/01/05	2023/01/04
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-655	2020/01/05	2023/01/04
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	2020/01/05	2023/01/04
PASTERNAK	Horn Antenn	PE9852/2F-20	1120 (ATC-BA-024-1)	2020/01/05	2023/01/04
PASTERNAK	Horn Antenn	PE9852/2F-20	1120 (ATC-BA-025-1)	2020/01/05	2023/01/04
Wainwright	High Pass Filter	WHKX3.6/18 G-10SS	5	2021/12/14	2022/12/13
CD	High Pass Filter	HPM-1.2/18G -60	110	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.16	N200	2021/12/14	2022/12/13
Agilent	Signal Generator	N5183A	MY51040755	2021/12/13	2022/12/12

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
SPECTRUM ANALYZER	Rohde & Schwarz	FSU26	200982	2021/07/06	2022/07/05
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606	2021/12/13	2022/12/12
Mini-Circuits	Power Splitter	DC-18000MHz	SF10944151S	2021/12/14	2022/12/13
Gongwen	Temp. & Humid. Chamber	HSD-500	109	2021/10/14	2022/10/13
WEINSCHTEL	10dB Attenuator	5324	AU 3842	2021/12/14	2022/12/13
Fluke	Multi Meter	45	7664009	2021/12/14	2022/12/13
Manson	DC Power Source	KPS-6604	ATCS-205	NCR	NCR
Unknown	RF Coaxial Cable	No.33	RF-03	Each time	
Unknown	RF Coaxial Cable	No.34	RF-04	Each time	

\* Statement of Traceability: Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

---

## **FCC §1.1307(b)&§2.1093 - RF EXPOSURE INFORMATION**

---

### **Applicable Standard**

FCC§1.1310 and §2.1093.

### **Test Result**

Compliant, please refer to the SAR report: SZNS220422-15992E-SA.

---

## **FCC§2.1047 - MODULATION CHARACTERISTIC**

---

According to FCC § 2.1047(d), Part 22H & 24E& 27, there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

## FCC § 2.1046, § 22.913 (a) & § 24.232(c); § 27.50(b)(c)(d)(h)- RF OUTPUT POWER

### Applicable Standard

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC §2.1046 and §24.232 (c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

According to §27.50(b), Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

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

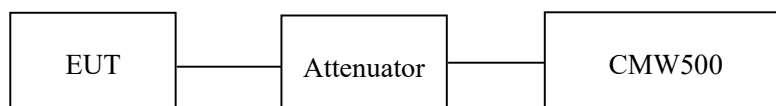
According to §27.50(d), Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

According to §27.50(h), the maximum EIRP must not exceed 2Watts (33dBm) for 2496-2690 MHz.

### Test Procedure

*Conducted method:*

The RF output of the transmitter was connected to the CMW500 through sufficient attenuation.



### Test Data

#### Environmental Conditions

<b>Temperature:</b>	27.2 °C
<b>Relative Humidity:</b>	56.8 %
<b>ATM Pressure:</b>	101.0 kPa

*The testing was performed by Black Ding from 2022-05-17 to 2022-05-19.*

**Conducted Power****Cellular Band (Part 22H)**

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
GSM	128	824.2	33.40	28.35	38.45
	190	836.6	33.40	28.35	38.45
	251	848.8	33.30	28.25	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				ERP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
GPRS	128	824.2	33.36	31.80	29.81	27.70	28.31	26.75	24.76	22.65	38.45
	190	836.6	33.34	31.79	29.77	27.67	28.29	26.74	24.72	22.62	38.45
	251	848.8	33.32	31.73	29.76	27.64	28.27	26.68	24.71	22.59	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				ERP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
EGPRS	128	824.2	27.02	25.93	23.36	20.67	21.97	20.88	18.31	15.62	38.45
	190	836.6	27.33	26.37	23.82	21.04	22.28	21.32	18.77	15.99	38.45
	251	848.8	27.42	26.36	23.90	21.10	22.37	21.31	18.85	16.05	38.45

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 5)	RMC12.2k		20.88	20.85	20.81	15.83	15.80	15.76
	HSDPA	1	20.19	20.18	20.35	15.14	15.13	15.30
		2	20.22	20.32	20.24	15.17	15.27	15.19
		3	20.18	20.22	20.21	15.13	15.17	15.16
		4	20.26	20.14	20.16	15.21	15.09	15.11
	HSUPA	1	20.21	20.29	20.35	15.16	15.24	15.30
		2	20.23	20.25	20.14	15.18	15.20	15.09
		3	20.33	20.14	20.16	15.28	15.09	15.11
		4	20.24	20.16	20.14	15.19	15.11	15.09
		5	20.15	20.14	20.13	15.10	15.09	15.08
HSPA+	1	20.36	20.22	20.22	15.31	15.17	15.17	

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)  
 For GSM850 / WCDMA Band5: Antenna Gain = -2.9dBi = -5.05dBd (0dBd=2.15dBi))  
 Limit: ERP ≤ 38.45dBm

**PCS Band (Part 24E)**

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	EIRP(dBm)	Limit (dBm)
GSM	512	1850.2	24.60	23.70	33
	661	1880.0	24.20	23.30	33
	810	1909.8	23.90	23.00	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				EIRP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
GPRS	512	1850.2	24.54	24.39	24.25	24.02	23.64	23.49	23.35	23.12	33
	661	1880.0	24.17	24.03	23.85	23.65	23.27	23.13	22.95	22.75	33
	810	1909.8	23.89	23.76	23.56	23.39	22.99	22.86	22.66	22.49	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				EIRP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
EGPRS	512	1850.2	20.65	20.09	19.87	19.72	19.75	19.19	18.97	18.82	33
	661	1880.0	20.91	20.42	20.14	19.99	20.01	19.52	19.24	19.09	33
	810	1909.8	20.92	20.43	20.10	19.95	20.02	19.53	19.20	19.05	33

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 2)	RMC12.2k		17.18	17.34	17.17	16.28	16.44	16.27
	HSDPA	1	17.16	17.27	17.11	16.26	16.37	16.21
		2	17.11	17.22	17.14	16.21	16.32	16.24
		3	17.14	17.25	17.13	16.24	16.35	16.23
		4	17.12	17.23	17.15	16.22	16.33	16.25
	HSUPA	1	17.15	17.22	17.14	16.25	16.32	16.24
		2	17.12	17.21	17.12	16.22	16.31	16.22
		3	17.10	17.22	17.14	16.20	16.32	16.24
		4	17.14	17.24	17.13	16.24	16.34	16.23
		5	17.13	17.25	17.12	16.23	16.35	16.22
HSPA+	1	17.11	17.26	17.11	16.21	16.36	16.21	

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
For PCS1900 / WCDMA Band2: Antenna Gain = -0.9dBi  
Limit: EIRP ≤ 33dBm

**AWS Band**

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 4)	RMC12.2k		17.57	17.88	17.41	15.17	15.48	15.01
	HSDPA	1	17.44	17.68	17.21	15.04	15.28	14.81
		2	17.22	17.69	17.22	14.82	15.29	14.82
		3	17.35	17.58	17.24	14.95	15.18	14.84
		4	17.34	17.54	17.26	14.94	15.14	14.86
	HSUPA	1	16.91	17.10	17.22	14.51	14.70	14.82
		2	16.58	17.12	17.13	14.18	14.72	14.73
		3	16.88	17.11	17.15	14.48	14.71	14.75
		4	16.57	17.15	17.22	14.17	14.75	14.82
		5	16.59	17.12	17.24	14.19	14.72	14.84
	HSPA+	1	16.58	17.14	17.26	14.18	14.74	14.86

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)

For Band4: Antenna Gain = -2.4dBi

Limit: EIRP ≤ 30dBm



**LTE Band 2**

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	18.29	18.39	17.63	17.39	17.49	16.73
		RB1#3	17.70	18.51	17.73	16.80	17.61	16.83
		RB1#5	17.56	18.31	17.49	16.66	17.41	16.59
		RB3#0	17.71	18.51	17.78	16.81	17.61	16.88
		RB3#3	17.74	18.44	17.65	16.84	17.54	16.75
		RB6#0	16.56	17.46	16.68	15.66	16.56	15.78
	16QAM	RB1#0	16.42	17.51	16.63	15.52	16.61	15.73
		RB1#3	16.67	17.64	16.71	15.77	16.74	15.81
		RB1#5	16.51	17.42	16.45	15.61	16.52	15.55
		RB3#0	16.78	17.48	16.81	15.88	16.58	15.91
		RB3#3	16.83	17.44	16.67	15.93	16.54	15.77
		RB6#0	15.68	16.56	15.71	14.78	15.66	14.81
3.0	QPSK	RB1#0	17.50	18.44	17.86	16.60	17.54	16.96
		RB1#8	17.76	18.41	17.77	16.86	17.51	16.87
		RB1#14	17.74	18.22	17.40	16.84	17.32	16.50
		RB6#0	16.57	17.49	16.88	15.67	16.59	15.98
		RB6#9	16.70	17.35	16.63	15.80	16.45	15.73
		RB15#0	16.67	17.48	16.79	15.77	16.58	15.89
	16QAM	RB1#0	17.02	17.59	16.82	16.12	16.69	15.92
		RB1#8	17.28	17.57	16.75	16.38	16.67	15.85
		RB1#14	17.28	17.37	16.41	16.38	16.47	15.51
		RB6#0	15.76	16.60	15.98	14.86	15.70	15.08
		RB6#9	15.90	16.46	15.70	15.00	15.56	14.80
		RB15#0	15.86	16.48	15.95	14.96	15.58	15.05

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	17.35	18.26	17.64	16.45	17.36	16.74
		RB1#13	18.02	18.51	17.95	17.12	17.61	17.05
		RB1#24	17.79	17.90	17.16	16.89	17.00	16.26
		RB15#0	16.68	17.49	16.92	15.78	16.59	16.02
		RB15#10	16.86	17.35	16.73	15.96	16.45	15.83
		RB25#0	16.73	17.39	16.77	15.83	16.49	15.87
	16QAM	RB1#0	16.10	17.53	16.65	15.20	16.63	15.75
		RB1#13	16.78	17.79	17.00	15.88	16.89	16.10
		RB1#24	16.55	17.18	16.21	15.65	16.28	15.31
		RB15#0	15.78	16.52	16.07	14.88	15.62	15.17
		RB15#10	15.91	16.38	15.89	15.01	15.48	14.99
		RB25#0	15.83	16.43	15.94	14.93	15.53	15.04
10.0	QPSK	RB1#0	16.61	18.41	17.84	15.71	17.51	16.94
		RB1#25	17.23	18.34	17.99	16.33	17.44	17.09
		RB1#49	18.17	18.40	18.02	17.27	17.50	17.12
		RB25#0	15.97	17.49	17.02	15.07	16.59	16.12
		RB25#25	16.83	17.42	17.13	15.93	16.52	16.23
		RB50#0	16.42	17.47	17.07	15.52	16.57	16.17
	16QAM	RB1#0	16.13	17.55	16.68	15.23	16.65	15.78
		RB1#25	16.79	17.50	16.81	15.89	16.60	15.91
		RB1#49	17.71	17.48	16.76	16.81	16.58	15.86
		RB25#0	15.04	16.62	16.09	14.14	15.72	15.19
		RB25#25	15.90	16.52	16.20	15.00	15.62	15.30
		RB50#0	15.42	16.56	16.16	14.52	15.66	15.26

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	17.16	19.26	17.66	16.26	18.36	16.76
		RB1#38	17.55	18.47	17.52	16.65	17.57	16.62
		RB1#74	18.59	18.65	17.53	17.69	17.75	16.63
		RB36#0	16.27	17.93	16.46	15.37	17.03	15.56
		RB36#39	17.13	17.39	16.52	16.23	16.49	15.62
		RB75#0	16.71	17.63	16.50	15.81	16.73	15.60
	16QAM	RB1#0	16.66	18.42	16.89	15.76	17.52	15.99
		RB1#38	17.14	17.50	16.83	16.24	16.60	15.93
		RB1#74	18.11	17.59	16.84	17.21	16.69	15.94
		RB36#0	15.35	16.89	15.52	14.45	15.99	14.62
		RB36#39	16.25	16.40	15.66	15.35	15.50	14.76
		RB75#0	15.81	16.64	15.60	14.91	15.74	14.70
20.0	QPSK	RB1#0	16.24	19.55	17.19	15.34	18.65	16.29
		RB1#50	17.21	18.45	17.38	16.31	17.55	16.48
		RB1#99	17.87	18.56	17.32	16.97	17.66	16.42
		RB50#0	15.95	18.14	16.26	15.05	17.24	15.36
		RB50#50	16.87	17.53	16.56	15.97	16.63	15.66
		RB100#0	16.46	17.83	16.40	15.56	16.93	15.50
	16QAM	RB1#0	15.85	18.70	16.53	14.95	17.80	15.63
		RB1#50	16.56	17.60	16.89	15.66	16.70	15.99
		RB1#99	17.48	17.75	16.65	16.58	16.85	15.75
		RB50#0	15.04	17.09	15.46	14.14	16.19	14.56
		RB50#50	15.98	16.49	15.76	15.08	15.59	14.86
		RB100#0	15.55	16.79	15.60	14.65	15.89	14.70

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)

For Band2: Antenna Gain = -0.9dBi

Limit: EIRP ≤ 33dBm

**LTE Band 4**

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	17.98	18.30	17.79	15.58	15.90	15.39
		RB1#3	18.25	18.55	17.98	15.85	16.15	15.58
		RB1#5	18.25	18.35	17.83	15.85	15.95	15.43
		RB3#0	18.27	18.43	17.94	15.87	16.03	15.54
		RB3#3	18.35	18.43	17.91	15.95	16.03	15.51
		RB6#0	17.43	17.57	16.98	15.03	15.17	14.58
	16QAM	RB1#0	17.26	17.58	17.03	14.86	15.18	14.63
		RB1#3	17.52	17.82	17.21	15.12	15.42	14.81
		RB1#5	17.43	17.62	17.00	15.03	15.22	14.60
		RB3#0	17.65	17.59	17.00	15.25	15.19	14.60
		RB3#3	17.73	17.64	17.01	15.33	15.24	14.61
		RB6#0	16.31	16.66	16.06	13.91	14.26	13.66
3.0	QPSK	RB1#0	17.99	18.28	17.86	15.59	15.88	15.46
		RB1#8	18.33	18.47	17.93	15.93	16.07	15.53
		RB1#14	18.40	18.38	17.78	16.00	15.98	15.38
		RB6#0	17.35	17.54	17.00	14.95	15.14	14.60
		RB6#9	17.56	17.62	16.94	15.16	15.22	14.54
		RB15#0	17.48	17.62	16.98	15.08	15.22	14.58
	16QAM	RB1#0	17.86	17.59	16.93	15.46	15.19	14.53
		RB1#8	18.19	17.78	17.01	15.79	15.38	14.61
		RB1#14	18.15	17.68	16.87	15.75	15.28	14.47
		RB6#0	16.38	16.60	16.00	13.98	14.20	13.60
		RB6#9	16.61	16.69	15.96	14.21	14.29	13.56
		RB15#0	16.51	16.60	16.11	14.11	14.20	13.71

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	17.74	18.00	17.63	15.34	15.60	15.23
		RB1#13	18.69	18.74	18.14	16.29	16.34	15.74
		RB1#24	18.33	18.27	17.59	15.93	15.87	15.19
		RB15#0	17.54	17.48	17.19	15.14	15.08	14.79
		RB15#10	17.73	17.56	17.02	15.33	15.16	14.62
		RB25#0	17.60	17.49	16.97	15.20	15.09	14.57
	16QAM	RB1#0	16.90	17.36	16.77	14.50	14.96	14.37
		RB1#13	17.74	18.02	17.16	15.34	15.62	14.76
		RB1#24	17.39	17.56	16.61	14.99	15.16	14.21
		RB15#0	16.48	16.49	16.09	14.08	14.09	13.69
		RB15#10	16.63	16.59	16.07	14.23	14.19	13.67
		RB25#0	16.50	16.53	16.07	14.10	14.13	13.67
10.0	QPSK	RB1#0	17.22	18.21	18.29	14.82	15.81	15.89
		RB1#25	17.85	18.62	18.10	15.45	16.22	15.70
		RB1#49	18.59	19.13	18.50	16.19	16.73	16.10
		RB25#0	16.90	17.53	17.45	14.50	15.13	15.05
		RB25#25	17.34	17.97	17.36	14.94	15.57	14.96
		RB50#0	17.05	17.77	17.39	14.65	15.37	14.99
	16QAM	RB1#0	16.95	17.37	17.35	14.55	14.97	14.95
		RB1#25	17.62	17.80	17.18	15.22	15.40	14.78
		RB1#49	18.20	18.23	17.47	15.80	15.83	15.07
		RB25#0	15.86	16.60	16.51	13.46	14.20	14.11
		RB25#25	16.47	17.07	16.54	14.07	14.67	14.14
		RB50#0	16.13	16.82	16.47	13.73	14.42	14.07

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	18.17	18.89	19.16	15.77	16.49	16.76
		RB1#38	18.10	18.63	18.20	15.70	16.23	15.80
		RB1#74	19.01	19.18	18.29	16.61	16.78	15.89
		RB36#0	17.26	17.76	17.73	14.86	15.36	15.33
		RB36#39	17.66	17.99	17.25	15.26	15.59	14.85
		RB75#0	17.45	17.87	17.52	15.05	15.47	15.12
	16QAM	RB1#0	17.93	18.08	18.66	15.53	15.68	16.26
		RB1#38	17.91	17.86	17.73	15.51	15.46	15.33
		RB1#74	18.79	18.40	17.87	16.39	16.00	15.47
		RB36#0	16.21	16.82	16.77	13.81	14.42	14.37
		RB36#39	16.56	16.93	16.21	14.16	14.53	13.81
		RB75#0	16.30	16.80	16.47	13.90	14.40	14.07
20.0	QPSK	RB1#0	17.57	18.20	19.07	15.17	15.80	16.67
		RB1#50	17.86	18.47	18.10	15.46	16.07	15.70
		RB1#99	18.65	18.63	17.97	16.25	16.23	15.57
		RB50#0	16.95	17.47	17.85	14.55	15.07	15.45
		RB50#50	17.43	17.77	17.17	15.03	15.37	14.77
		RB100#0	17.19	17.63	17.51	14.79	15.23	15.11
	16QAM	RB1#0	16.93	17.17	18.82	14.53	14.77	16.42
		RB1#50	17.29	17.74	17.94	14.89	15.34	15.54
		RB1#99	18.02	17.70	17.81	15.62	15.30	15.41
		RB50#0	16.11	16.50	17.18	13.71	14.10	14.78
		RB50#50	16.58	16.85	16.53	14.18	14.45	14.13
		RB100#0	16.38	16.66	16.85	13.98	14.26	14.45

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)

For Band4: Antenna Gain = -2.4dBi

Limit: EIRP ≤ 30dBm

## LTE Band 5

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	20.58	20.59	20.44	15.53	15.54	15.39
		RB1#3	20.55	20.72	20.50	15.50	15.67	15.45
		RB1#5	20.47	20.59	20.52	15.42	15.54	15.47
		RB3#0	20.61	20.77	20.60	15.56	15.72	15.55
		RB3#3	20.55	20.66	20.64	15.50	15.61	15.59
		RB6#0	19.60	19.80	19.49	14.55	14.75	14.44
	16QAM	RB1#0	20.16	20.19	19.20	15.11	15.14	14.15
		RB1#3	20.14	20.37	19.29	15.09	15.32	14.24
		RB1#5	20.16	20.31	19.29	15.11	15.26	14.24
		RB3#0	19.77	19.90	19.67	14.72	14.85	14.62
		RB3#3	19.71	19.95	19.67	14.66	14.90	14.62
		RB6#0	18.82	19.04	18.80	13.77	13.99	13.75
3.0	QPSK	RB1#0	20.60	20.64	20.65	15.55	15.59	15.60
		RB1#8	20.49	20.67	20.59	15.44	15.62	15.54
		RB1#14	20.53	20.73	20.68	15.48	15.68	15.63
		RB6#0	19.60	19.75	19.67	14.55	14.70	14.62
		RB6#9	19.54	19.80	19.65	14.49	14.75	14.60
		RB15#0	19.61	19.77	19.53	14.56	14.72	14.48
	16QAM	RB1#0	19.87	20.45	20.47	14.82	15.40	15.42
		RB1#8	19.84	20.49	20.43	14.79	15.44	15.38
		RB1#14	19.90	20.50	20.42	14.85	15.45	15.37
		RB6#0	18.88	19.12	19.24	13.83	14.07	14.19
		RB6#9	19.15	19.09	18.91	14.10	14.04	13.86
		RB15#0	19.04	19.05	19.03	13.99	14.00	13.98

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	20.59	20.62	20.69	15.54	15.57	15.64
		RB1#13	20.65	20.76	20.44	15.60	15.71	15.39
		RB1#24	20.87	20.71	20.54	15.82	15.66	15.49
		RB15#0	19.55	19.59	19.54	14.50	14.54	14.49
		RB15#10	19.61	19.70	19.43	14.56	14.65	14.38
		RB25#0	19.64	19.72	19.51	14.59	14.67	14.46
	16QAM	RB1#0	18.65	19.85	19.23	13.60	14.80	14.18
		RB1#13	18.63	19.90	19.13	13.58	14.85	14.08
		RB1#24	19.14	19.87	19.21	14.09	14.82	14.16
		RB15#0	18.98	19.06	19.21	13.93	14.01	14.16
		RB15#10	19.19	18.99	18.94	14.14	13.94	13.89
		RB25#0	19.05	19.03	19.05	14.00	13.98	14.00
10.0	QPSK	RB1#0	20.41	20.81	20.46	15.36	15.76	15.41
		RB1#25	20.69	20.81	20.69	15.64	15.76	15.64
		RB1#49	20.40	20.81	20.76	15.35	15.76	15.71
		RB25#0	19.58	19.68	19.60	14.53	14.63	14.55
		RB25#25	19.54	19.75	19.54	14.49	14.70	14.49
		RB50#0	19.93	19.72	19.68	14.88	14.67	14.63
	16QAM	RB1#0	19.76	19.83	20.02	14.71	14.78	14.97
		RB1#25	20.16	19.93	19.86	15.11	14.88	14.81
		RB1#49	19.86	19.90	19.78	14.81	14.85	14.73
		RB25#0	19.22	19.19	19.77	14.17	14.14	14.72
		RB25#25	19.56	19.26	19.54	14.51	14.21	14.49
		RB50#0	19.36	19.22	19.64	14.31	14.17	14.59

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)  
For Band5: Antenna Gain = -2.9dBi = -5.05dBd (0dBd=2.15dBi)  
Limit: ERP ≤ 38.45dBm



**LTE Band 7**

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	15.53	15.93	15.45	15.43	15.83	15.35
		RB1#13	16.02	16.30	16.27	15.92	16.20	16.17
		RB1#24	15.31	15.66	15.71	15.21	15.56	15.61
		RB15#0	15.01	15.39	14.98	14.91	15.29	14.88
		RB15#10	14.93	15.28	15.11	14.83	15.18	15.01
		RB25#0	14.93	15.30	15.00	14.83	15.20	14.90
	16QAM	RB1#0	14.54	15.34	14.43	14.44	15.24	14.33
		RB1#13	15.03	15.76	15.28	14.93	15.66	15.18
		RB1#24	14.37	15.10	14.73	14.27	15.00	14.63
		RB15#0	14.13	14.50	14.13	14.03	14.40	14.03
		RB15#10	14.06	14.40	14.27	13.96	14.30	14.17
		RB25#0	14.08	14.45	14.16	13.98	14.35	14.06
10.0	QPSK	RB1#0	15.99	15.85	14.71	15.89	15.75	14.61
		RB1#25	16.15	16.15	15.87	16.05	16.05	15.77
		RB1#49	15.73	15.86	16.37	15.63	15.76	16.27
		RB25#0	15.42	15.34	14.30	15.32	15.24	14.20
		RB25#25	15.24	15.40	15.28	15.14	15.30	15.18
		RB50#0	15.32	15.39	14.82	15.22	15.29	14.72
	16QAM	RB1#0	15.73	15.12	13.63	15.63	15.02	13.53
		RB1#25	15.87	15.49	14.80	15.77	15.39	14.70
		RB1#49	15.51	15.15	15.31	15.41	15.05	15.21
		RB25#0	14.54	14.58	13.55	14.44	14.48	13.45
		RB25#25	14.40	14.57	14.51	14.30	14.47	14.41
		RB50#0	14.43	14.47	14.01	14.33	14.37	13.91

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	16.84	16.57	15.47	16.74	16.47	15.37
		RB1#38	15.74	16.15	15.81	15.64	16.05	15.71
		RB1#74	15.68	15.96	16.98	15.58	15.86	16.88
		RB36#0	15.63	15.62	14.64	15.53	15.52	14.54
		RB36#39	14.69	15.23	15.70	14.59	15.13	15.60
		RB75#0	15.10	15.42	15.21	15.00	15.32	15.11
	16QAM	RB1#0	16.56	15.89	15.03	16.46	15.79	14.93
		RB1#38	15.45	15.48	15.36	15.35	15.38	15.26
		RB1#74	15.43	15.19	16.51	15.33	15.09	16.41
		RB36#0	14.55	14.66	14.82	14.45	14.56	14.72
		RB36#39	14.72	14.28	14.78	14.62	14.18	14.68
		RB75#0	14.15	14.48	14.27	14.05	14.38	14.17
20.0	QPSK	RB1#0	16.89	16.22	15.44	16.79	16.12	15.34
		RB1#50	15.92	16.28	15.32	15.82	16.18	15.22
		RB1#99	16.01	15.31	16.77	15.91	15.21	16.67
		RB50#0	15.81	15.59	14.43	15.71	15.49	14.33
		RB50#50	15.07	15.16	15.46	14.97	15.06	15.36
		RB100#0	15.47	15.38	15.07	15.37	15.28	14.97
	16QAM	RB1#0	16.43	15.62	15.24	16.33	15.52	15.14
		RB1#50	15.38	15.62	15.19	15.28	15.52	15.09
		RB1#99	15.34	14.78	16.60	15.24	14.68	16.50
		RB50#0	14.97	14.71	14.56	14.87	14.61	14.46
		RB50#50	14.27	14.26	14.10	14.17	14.16	14.00
		RB100#0	14.66	14.49	14.73	14.56	14.39	14.63

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
For Band7: Antenna Gain = -0.1dBi  
Limit: EIRP ≤ 33dBm

**LTE Band 13**

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	23.47	23.38	23.54	18.32	18.23	18.39
		RB1#13	23.21	23.65	23.68	18.06	18.5	18.53
		RB1#24	23.45	23.85	23.81	18.30	18.70	18.66
		RB15#0	22.55	22.64	22.67	17.40	17.49	17.52
		RB15#10	22.25	22.55	22.84	17.10	17.40	17.69
		RB25#0	22.27	22.50	22.65	17.12	17.35	17.50
	16QAM	RB1#0	21.80	22.48	22.26	16.65	17.33	17.11
		RB1#13	21.48	22.71	22.35	16.33	17.56	17.20
		RB1#24	21.78	22.86	22.60	16.63	17.71	17.45
		RB15#0	21.64	21.63	21.81	16.49	16.48	16.66
		RB15#10	21.38	21.47	21.95	16.23	16.32	16.80
		RB25#0	21.44	21.63	21.70	16.29	16.48	16.55
10.0	QPSK	RB1#0	/	23.54	/	/	18.39	/
		RB1#25	/	23.54	/	/	18.39	/
		RB1#49	/	23.82	/	/	18.67	/
		RB25#0	/	22.38	/	/	17.23	/
		RB25#25	/	22.69	/	/	17.54	/
		RB50#0	/	22.59	/	/	17.44	/
	16QAM	RB1#0	/	22.72	/	/	17.57	/
		RB1#25	/	22.73	/	/	17.58	/
		RB1#49	/	23.01	/	/	17.86	/
		RB25#0	/	21.39	/	/	16.24	/
		RB25#25	/	21.81	/	/	16.66	/
		RB50#0	/	21.72	/	/	16.57	/

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)  
For Band 13: Antenna Gain = -3.0dBi = -5.15dBd (0dBd=2.15dBi)  
Limit: ERP ≤ 34.77dBm

**LTE Band 17**

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	24.50	24.80	24.72	19.35	19.65	19.57
		RB1#13	24.54	24.98	24.72	19.39	19.83	19.57
		RB1#24	24.65	24.90	24.51	19.50	19.75	19.36
		RB15#0	23.66	23.70	23.73	18.51	18.55	18.58
		RB15#10	23.71	23.77	23.60	18.56	18.62	18.45
		RB25#0	23.76	23.78	23.80	18.61	18.63	18.65
	16QAM	RB1#0	22.83	23.42	23.76	17.68	18.27	18.61
		RB1#13	22.84	23.61	23.80	17.69	18.46	18.65
		RB1#24	22.97	23.64	23.74	17.82	18.49	18.59
		RB15#0	22.67	22.63	22.75	17.52	17.48	17.60
		RB15#10	22.75	22.75	22.64	17.60	17.60	17.49
		RB25#0	22.85	22.76	22.88	17.70	17.61	17.73
10.0	QPSK	RB1#0	24.61	24.67	24.68	19.46	19.52	19.53
		RB1#25	24.68	24.79	24.80	19.53	19.64	19.65
		RB1#49	24.73	24.68	24.67	19.58	19.53	19.52
		RB25#0	23.73	23.65	23.78	18.58	18.50	18.63
		RB25#25	23.70	23.74	23.70	18.55	18.59	18.55
		RB50#0	23.77	23.69	23.82	18.62	18.54	18.67
	16QAM	RB1#0	24.05	24.36	23.49	18.90	19.21	18.34
		RB1#25	24.20	24.50	23.58	19.05	19.35	18.43
		RB1#49	24.17	24.46	23.52	19.02	19.31	18.37
		RB25#0	22.82	22.81	23.04	17.67	17.66	17.89
		RB25#25	22.81	22.94	22.96	17.66	17.79	17.81
		RB50#0	22.82	22.82	22.91	17.67	17.67	17.76

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)  
For Band17: Antenna Gain = -3.0dBi = -5.15dBd (0dBd=2.15dBi)  
Limit: ERP ≤ 34.77dBm

**LTE Band 38**

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	17.74	17.92	17.17	17.64	17.82	17.07
		RB1#13	18.27	18.33	17.50	18.17	18.23	17.40
		RB1#24	17.76	17.79	16.92	17.66	17.69	16.82
		RB15#0	16.96	17.08	16.47	16.86	16.98	16.37
		RB15#10	16.97	17.04	16.37	16.87	16.94	16.27
		RB25#0	16.92	17.03	16.38	16.82	16.93	16.28
	16QAM	RB1#0	16.82	16.77	16.27	16.72	16.67	16.17
		RB1#13	17.36	17.20	16.60	17.26	17.10	16.50
		RB1#24	16.86	16.65	16.01	16.76	16.55	15.91
		RB15#0	15.93	16.16	15.46	15.83	16.06	15.36
		RB15#10	15.94	16.12	15.34	15.84	16.02	15.24
		RB25#0	15.85	16.19	15.39	15.75	16.09	15.29
10.0	QPSK	RB1#0	18.02	18.15	17.54	17.92	18.05	17.44
		RB1#25	18.30	18.29	17.64	18.20	18.19	17.54
		RB1#49	18.49	18.43	17.67	18.39	18.33	17.57
		RB25#0	17.05	17.12	16.71	16.95	17.02	16.61
		RB25#25	17.28	17.26	16.73	17.18	17.16	16.63
		RB50#0	17.16	17.19	16.72	17.06	17.09	16.62
	16QAM	RB1#0	16.99	16.86	16.68	16.89	16.76	16.58
		RB1#25	17.28	17.08	16.75	17.18	16.98	16.65
		RB1#49	17.47	17.14	16.80	17.37	17.04	16.70
		RB25#0	16.08	16.26	15.67	15.98	16.16	15.57
		RB25#25	16.33	16.40	15.70	16.23	16.30	15.60
		RB50#0	16.21	16.31	15.67	16.11	16.21	15.57

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	18.75	19.16	18.46	18.65	19.06	18.36
		RB1#38	18.18	18.26	17.62	18.08	18.16	17.52
		RB1#74	18.66	18.80	17.81	18.56	18.70	17.71
		RB36#0	17.25	17.45	16.78	17.15	17.35	16.68
		RB36#39	17.18	17.26	16.49	17.08	17.16	16.39
		RB75#0	17.20	17.35	16.64	17.10	17.25	16.54
	16QAM	RB1#0	17.73	17.88	17.47	17.63	17.78	17.37
		RB1#38	17.20	17.07	16.70	17.10	16.97	16.60
		RB1#74	17.65	17.53	16.82	17.55	17.43	16.72
		RB36#0	16.30	16.57	15.97	16.20	16.47	15.87
		RB36#39	16.24	16.36	15.68	16.14	16.26	15.58
		RB75#0	16.23	16.49	15.78	16.13	16.39	15.68
20.0	QPSK	RB1#0	18.54	19.14	18.81	18.44	19.04	18.71
		RB1#50	18.23	18.24	17.72	18.13	18.14	17.62
		RB1#99	18.38	18.73	18.08	18.28	18.63	17.98
		RB50#0	17.41	17.61	17.12	17.31	17.51	17.02
		RB50#50	17.32	17.37	16.74	17.22	17.27	16.64
		RB100#0	17.35	17.48	16.89	17.25	17.38	16.79
	16QAM	RB1#0	17.43	17.90	17.70	17.33	17.80	17.60
		RB1#50	17.20	17.11	16.71	17.10	17.01	16.61
		RB1#99	17.28	17.50	16.96	17.18	17.40	16.86
		RB50#0	16.47	16.78	16.18	16.37	16.68	16.08
		RB50#50	16.38	16.54	15.81	16.28	16.44	15.71
		RB100#0	16.41	16.61	15.96	16.31	16.51	15.86

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
For Band38: Antenna Gain = -0.1dBi  
Limit: EIRP ≤ 33dBm

**LTE Band 41**

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	17.91	17.79	16.91	17.81	17.69	16.81
		RB1#13	18.41	18.31	17.37	18.31	18.21	17.27
		RB1#24	17.91	17.73	16.80	17.81	17.63	16.70
		RB15#0	17.04	17.04	16.31	16.94	16.94	16.21
		RB15#10	17.05	17.01	16.29	16.95	16.91	16.19
		RB25#0	17.01	16.99	16.26	16.91	16.89	16.16
	16QAM	RB1#0	16.90	16.69	16.03	16.80	16.59	15.93
		RB1#13	17.45	17.18	16.51	17.35	17.08	16.41
		RB1#24	16.92	16.58	15.92	16.82	16.48	15.82
		RB15#0	16.06	16.13	15.47	15.96	16.03	15.37
		RB15#10	16.06	16.10	15.43	15.96	16.00	15.33
		RB25#0	15.97	16.16	15.43	15.87	16.06	15.33
10.0	QPSK	RB1#0	18.12	18.09	17.28	18.02	17.99	17.18
		RB1#25	18.33	18.32	17.42	18.23	18.22	17.32
		RB1#49	18.67	18.37	17.50	18.57	18.27	17.40
		RB25#0	17.09	17.12	16.45	16.99	17.02	16.35
		RB25#25	17.38	17.26	16.56	17.28	17.16	16.46
		RB50#0	17.23	17.19	16.50	17.13	17.09	16.40
	16QAM	RB1#0	17.03	16.79	16.35	16.93	16.69	16.25
		RB1#25	17.36	17.12	16.56	17.26	17.02	16.46
		RB1#49	17.60	17.09	16.59	17.50	16.99	16.49
		RB25#0	16.06	16.27	15.59	15.96	16.17	15.49
		RB25#25	16.36	16.41	15.71	16.26	16.31	15.61
		RB50#0	16.21	16.31	15.65	16.11	16.21	15.55

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	18.85	18.99	18.07	18.75	18.89	17.97
		RB1#38	18.31	18.29	17.29	18.21	18.19	17.19
		RB1#74	18.75	18.64	17.55	18.65	18.54	17.45
		RB36#0	17.31	17.41	16.77	17.21	17.31	16.67
		RB36#39	17.29	17.21	16.47	17.19	17.11	16.37
		RB75#0	17.29	17.31	16.62	17.19	17.21	16.52
	16QAM	RB1#0	17.81	17.73	17.47	17.71	17.63	17.37
		RB1#38	17.34	17.09	16.58	17.24	16.99	16.48
		RB1#74	17.72	17.36	16.94	17.62	17.26	16.84
		RB36#0	16.27	16.50	15.98	16.17	16.40	15.88
		RB36#39	16.25	16.30	15.69	16.15	16.20	15.59
		RB75#0	16.23	16.43	15.78	16.13	16.33	15.68
20.0	QPSK	RB1#0	18.71	18.82	18.21	18.61	18.72	18.11
		RB1#50	18.31	18.22	17.51	18.21	18.12	17.41
		RB1#99	18.61	18.42	17.51	18.51	18.32	17.41
		RB50#0	17.39	17.48	16.92	17.29	17.38	16.82
		RB50#50	17.31	17.24	16.52	17.21	17.14	16.42
		RB100#0	17.35	17.35	16.72	17.25	17.25	16.62
	16QAM	RB1#0	17.50	17.58	17.34	17.40	17.48	17.24
		RB1#50	17.20	17.09	16.79	17.10	16.99	16.69
		RB1#99	17.42	17.18	16.66	17.32	17.08	16.56
		RB50#0	16.36	16.65	16.13	16.26	16.55	16.03
		RB50#50	16.27	16.41	15.73	16.17	16.31	15.63
		RB100#0	16.30	16.48	15.89	16.20	16.38	15.79

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
For Band41: Antenna Gain = -0.1dBi  
Limit: EIRP ≤ 33dBm



**LTE Band 66:**

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	17.87	17.89	17.46	15.47	15.49	15.06
		RB1#3	18.17	18.00	17.55	15.77	15.60	15.15
		RB1#5	18.04	17.78	17.40	15.64	15.38	15.00
		RB3#0	18.09	18.01	17.57	15.69	15.61	15.17
		RB3#3	18.17	18.09	17.52	15.77	15.69	15.12
		RB6#0	16.98	17.06	16.59	14.58	14.66	14.19
	16QAM	RB1#0	16.78	16.91	16.65	14.38	14.51	14.25
		RB1#3	17.08	17.06	16.81	14.68	14.66	14.41
		RB1#5	16.95	16.86	16.57	14.55	14.46	14.17
		RB3#0	17.16	17.10	16.68	14.76	14.70	14.28
		RB3#3	17.23	17.05	16.65	14.83	14.65	14.25
		RB6#0	15.99	15.99	15.69	13.59	13.59	13.29
3.0	QPSK	RB1#0	17.87	18.01	17.76	15.47	15.61	15.36
		RB1#8	18.20	18.07	17.72	15.80	15.67	15.32
		RB1#14	18.19	17.90	17.50	15.79	15.50	15.10
		RB6#0	17.02	17.12	16.87	14.62	14.72	14.47
		RB6#9	17.27	17.01	16.71	14.87	14.61	14.31
		RB15#0	17.22	17.10	16.80	14.82	14.70	14.40
	16QAM	RB1#0	17.53	17.24	16.82	15.13	14.84	14.42
		RB1#8	17.89	17.26	16.79	15.49	14.86	14.39
		RB1#14	17.84	17.04	16.60	15.44	14.64	14.20
		RB6#0	16.18	16.23	15.82	13.78	13.83	13.42
		RB6#9	16.41	16.12	15.66	14.01	13.72	13.26
		RB15#0	16.32	16.11	15.87	13.92	13.71	13.47

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	17.65	17.76	17.72	15.25	15.36	15.32
		RB1#13	18.49	18.15	17.90	16.09	15.75	15.50
		RB1#24	18.13	17.45	17.20	15.73	15.05	14.80
		RB15#0	17.18	17.11	16.99	14.78	14.71	14.59
		RB15#10	17.39	16.99	16.79	14.99	14.59	14.39
		RB25#0	17.24	17.02	16.84	14.84	14.62	14.44
	16QAM	RB1#0	16.50	17.12	16.84	14.10	14.72	14.44
		RB1#13	17.37	17.50	17.03	14.97	15.10	14.63
		RB1#24	17.01	16.80	16.33	14.61	14.40	13.93
		RB15#0	16.17	16.14	16.00	13.77	13.74	13.60
		RB15#10	16.36	16.02	15.80	13.96	13.62	13.40
		RB25#0	16.22	16.06	15.85	13.82	13.66	13.45
10.0	QPSK	RB1#0	16.89	18.09	18.53	14.49	15.69	16.13
		RB1#25	17.66	18.03	18.16	15.26	15.63	15.76
		RB1#49	18.19	18.09	17.95	15.79	15.69	15.55
		RB25#0	16.42	17.23	17.55	14.02	14.83	15.15
		RB25#25	17.01	17.20	17.20	14.61	14.80	14.80
		RB50#0	16.74	17.22	17.38	14.34	14.82	14.98
	16QAM	RB1#0	16.51	17.25	17.63	14.11	14.85	15.23
		RB1#25	17.32	17.25	17.25	14.92	14.85	14.85
		RB1#49	17.73	17.26	17.00	15.33	14.86	14.60
		RB25#0	15.51	16.34	16.62	13.11	13.94	14.22
		RB25#25	16.12	16.31	16.24	13.72	13.91	13.84
		RB50#0	15.79	16.31	16.33	13.39	13.91	13.93

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	17.62	18.88	19.48	15.22	16.48	17.08
		RB1#38	17.74	17.98	18.23	15.34	15.58	15.83
		RB1#74	18.51	18.10	17.84	16.11	15.70	15.44
		RB36#0	16.68	17.48	17.96	14.28	15.08	15.56
		RB36#39	17.08	17.02	17.01	14.68	14.62	14.61
		RB75#0	16.88	17.25	17.50	14.48	14.85	15.10
	16QAM	RB1#0	17.17	17.99	18.86	14.77	15.59	16.46
		RB1#38	17.39	17.21	17.71	14.99	14.81	15.31
		RB1#74	18.06	17.18	17.24	15.66	14.78	14.84
		RB36#0	15.82	16.65	17.00	13.42	14.25	14.60
		RB36#39	16.24	16.18	15.96	13.84	13.78	13.56
		RB75#0	16.02	16.40	16.43	13.62	14.00	14.03
20.0	QPSK	RB1#0	17.20	19.00	19.36	14.80	16.6	16.96
		RB1#50	17.65	18.06	18.59	15.25	15.66	16.19
		RB1#99	18.34	18.12	17.63	15.94	15.72	15.23
		RB50#0	16.58	17.66	18.26	14.18	15.26	15.86
		RB50#50	17.10	17.09	17.25	14.70	14.69	14.85
		RB100#0	16.83	17.37	17.78	14.43	14.97	15.38
	16QAM	RB1#0	16.42	18.10	18.89	14.02	15.70	16.49
		RB1#50	16.99	17.34	18.22	14.59	14.94	15.82
		RB1#99	17.58	17.21	17.18	15.18	14.81	14.78
		RB50#0	15.67	16.86	17.28	13.27	14.46	14.88
		RB50#50	16.20	16.29	16.25	13.80	13.89	13.85
		RB100#0	15.95	16.57	16.71	13.55	14.17	14.31

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)  
For Band 66: Antenna Gain = -2.4dBi  
Limit: EIRP ≤ 30dBm

**Peak-to-average ratio (PAR)****Cellular Band**

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.61	13
	Middle	3.55	13
	High	3.48	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	3.52	13
	Middle	3.49	13
	High	3.48	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.56	13
	Middle	3.44	13
	High	3.45	13
HSDPA (16QAM)	Low	3.61	13
	Middle	3.63	13
	High	3.65	13
HSUPA (QPSK)	Low	3.48	13
	Middle	3.47	13
	High	3.52	13
HSPA+	Low	3.52	13
	Middle	3.51	13
	High	3.57	13

**PCS Band**

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.54	13
	Middle	3.55	13
	High	3.57	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	3.52	13
	Middle	3.54	13
	High	3.48	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.41	13
	Middle	3.55	13
	High	3.42	13
HSDPA (16QAM)	Low	3.47	13
	Middle	3.56	13
	High	3.62	13
HSUPA (QPSK)	Low	3.45	13
	Middle	3.25	13
	High	3.36	13
HSPA+	Low	3.39	13
	Middle	3.57	13
	High	3.46	13

#### AWS Band

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.48	13
	Middle	3.47	13
	High	3.58	13
HSDPA (16QAM)	Low	3.46	13
	Middle	3.48	13
	High	3.47	13
HSUPA (QPSK)	Low	3.55	13
	Middle	3.26	13
	High	3.29	13
HSPA+	Low	3.46	13
	Middle	3.48	13
	High	3.62	13

**LTE Band 2 20MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	8.65	5.64	5.45	13	Pass
QPSK (100RB Size)	5.61	5.77	5.61	13	Pass
16QAM (1RB Size)	6.12	6.99	6.92	13	Pass
16QAM (100RB Size)	6.57	6.47	6.31	13	Pass

**LTE Band 4 20MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.61	6.06	5.74	13	Pass
QPSK (100RB Size)	5.74	5.77	5.77	13	Pass
16QAM (1RB Size)	6.06	7.44	7.40	13	Pass
16QAM (100RB Size)	6.70	6.67	6.60	13	Pass

**LTE Band 5 10MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.62	4.42	4.26	13	Pass
QPSK (50RB Size)	5.54	5.45	5.58	13	Pass
16QAM (1RB Size)	5.71	5.16	5.32	13	Pass
16QAM (50RB Size)	6.44	6.28	6.44	13	Pass

**LTE Band 7 20MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.93	5.61	5.71	13	Pass
QPSK (100RB Size)	5.58	5.58	5.61	13	Pass
16QAM (1RB Size)	7.05	7.15	6.15	13	Pass
16QAM (100RB Size)	6.44	6.44	6.44	13	Pass

**LTE Band 13 10MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	/	5.06	/	13	Pass
QPSK (50RB Size)	/	5.90	/	13	Pass
16QAM (1RB Size)	/	6.31	/	13	Pass
16QAM (50RB Size)	/	6.73	/	13	Pass

**LTE Band 17 10MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.00	5.03	5.26	13	Pass
QPSK (50RB Size)	5.64	5.61	5.67	13	Pass
16QAM (1RB Size)	6.12	5.80	6.28	13	Pass
16QAM (50RB Size)	6.60	6.54	6.51	13	Pass

**LTE Band 38 20MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	7.66	8.24	7.05	13	Pass
QPSK (100RB Size)	10.38	5.06	12.60	13	Pass
16QAM (1RB Size)	10.54	7.60	7.66	13	Pass
16QAM (100RB Size)	9.13	8.69	9.26	13	Pass

**LTE Band 41 20MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	9.77	9.10	7.88	13	Pass
QPSK (100RB Size)	7.31	8.01	7.37	13	Pass
16QAM (1RB Size)	10.87	8.78	7.44	13	Pass
16QAM (100RB Size)	8.01	9.17	8.33	13	Pass

**LTE Band 66 20MHz Bandwidth**

<b>Modulation</b>	<b>Low channel (dB)</b>	<b>Middle channel (dB)</b>	<b>High channel (dB)</b>	<b>PAR Limit (dB)</b>	<b>Result</b>
QPSK (1RB Size)	5.71	5.80	5.61	13	Pass
QPSK (100RB Size)	5.80	5.71	5.71	13	Pass
16QAM (1RB Size)	7.31	6.60	6.22	13	Pass
16QAM (100RB Size)	6.54	6.57	6.67	13	Pass



## FCC §2.1049, §22.917, §22.905 & §24.238&§27.53 - OCCUPIED BANDWIDTH

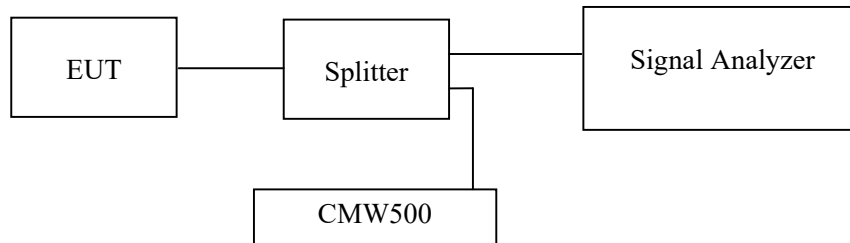
### Applicable Standard

FCC 47 §2.1049, §22.917, §22.905, §24.238, and §27.53.

### Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 1% to 5% of the anticipated emission bandwidth and the 26 dB & 99% bandwidth was recorded.



### Test Data

#### Environmental Conditions

<b>Temperature:</b>	27.2 °C
<b>Relative Humidity:</b>	56.8 %
<b>ATM Pressure:</b>	101.0 kPa

*The testing was performed by Black Ding from 2022-05-18 to 2022-06-01.*

*EUT operation mode: Transmitting*

**Test Result: Pass**

*Please refer to the following tables and plots.*

**Cellular Band (Part 22H)**

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM (GMSK)	128	824.2	243.59	315.71
	190	836.6	246.00	316.53
	251	848.8	245.19	315.71
EGPRS(8PSK)	128	824.2	241.99	315.71
	190	836.6	245.19	309.29
	251	848.8	245.19	306.09

	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	826.4	4.15	4.68
	836.6	4.15	4.70
	846.6	4.15	4.68
HSDPA	826.4	4.17	4.68
	836.6	4.18	4.70
	846.6	4.17	4.70
HSUPA	826.4	4.17	4.70
	836.6	4.15	4.70
	846.6	4.17	4.70

**PCS Band (Part 24E)**

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM (GMSK)	512	1850.2	246.79	317.31
	661	1880.0	245.19	314.10
	810	1909.8	245.19	317.31
EGPRS(8PSK)	512	1850.2	238.78	304.49
	661	1880.0	238.78	299.68
	810	1909.8	243.59	306.09

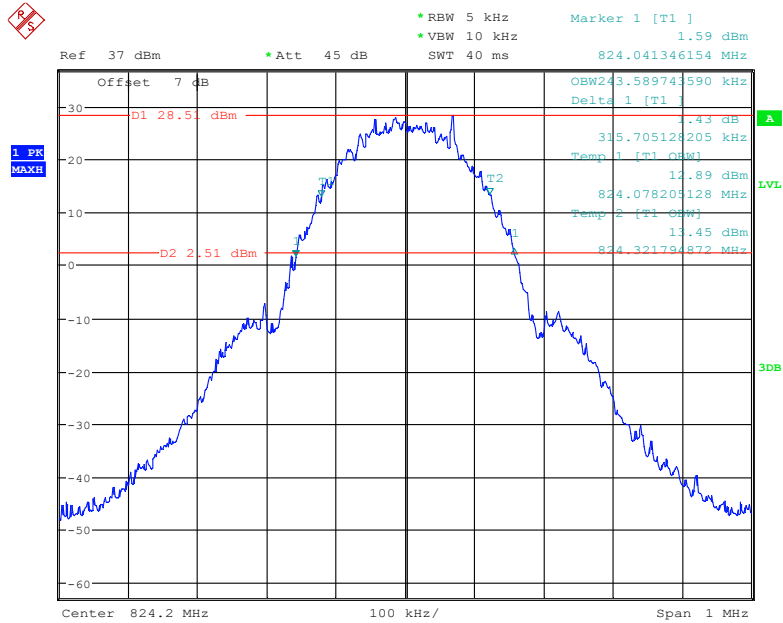
	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1852.4	4.15	4.70
	1880.0	4.17	4.68
	1907.6	4.17	4.70
HSDPA	1852.4	4.15	4.68
	1880.0	4.18	4.70
	1907.6	4.17	4.70
HSUPA	1852.4	4.15	4.68
	1880.0	4.17	4.68
	1907.6	4.17	4.70

#### AWS Band (Part 27)

	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1712.4	4.15	4.68
	1732.6	4.15	4.68
	1752.6	4.17	4.68
HSDPA	1712.4	4.15	4.68
	1732.6	4.15	4.68
	1752.6	4.18	4.71
HSUPA	1712.4	4.15	4.68
	1732.6	4.16	4.70
	1752.6	4.15	4.68

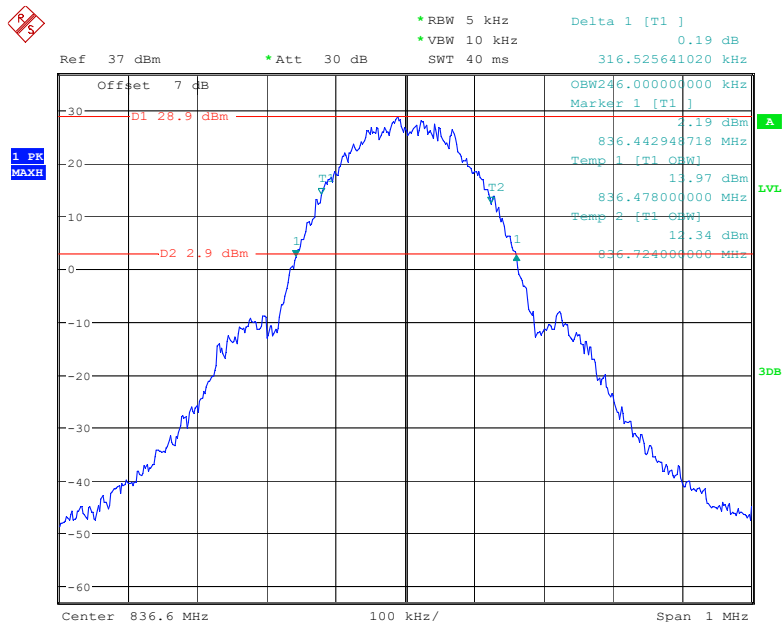
Cellular Band (Part 22H)

26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Low channel



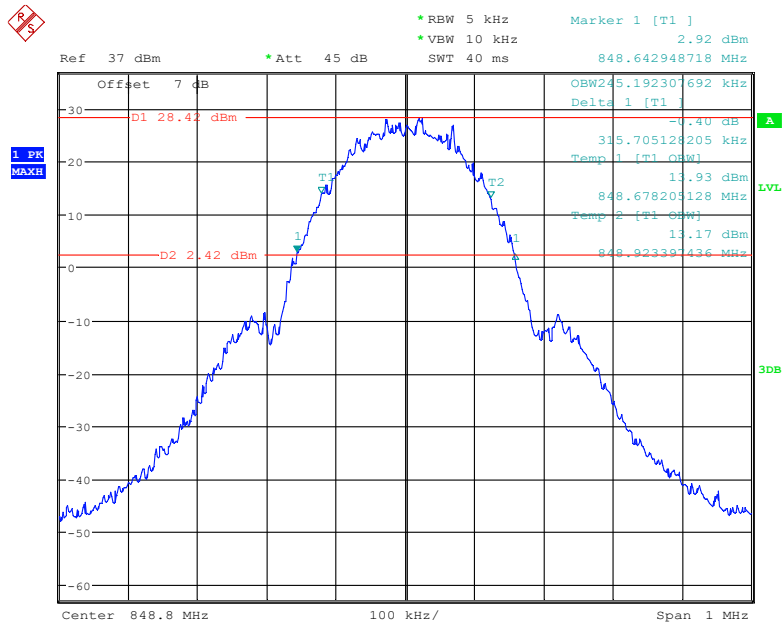
Date: 19.MAY.2022 09:44:32

26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel



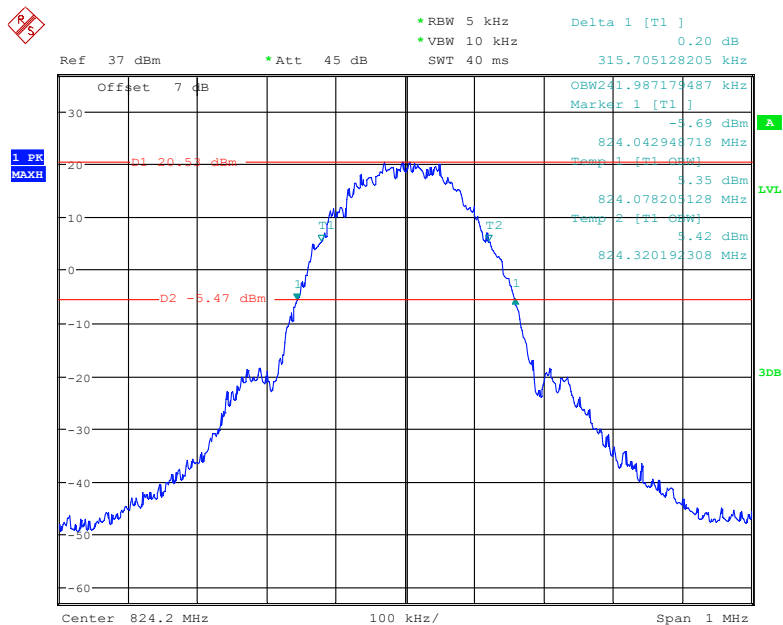
Date: 1.JUN.2022 18:19:42

**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, High channel**



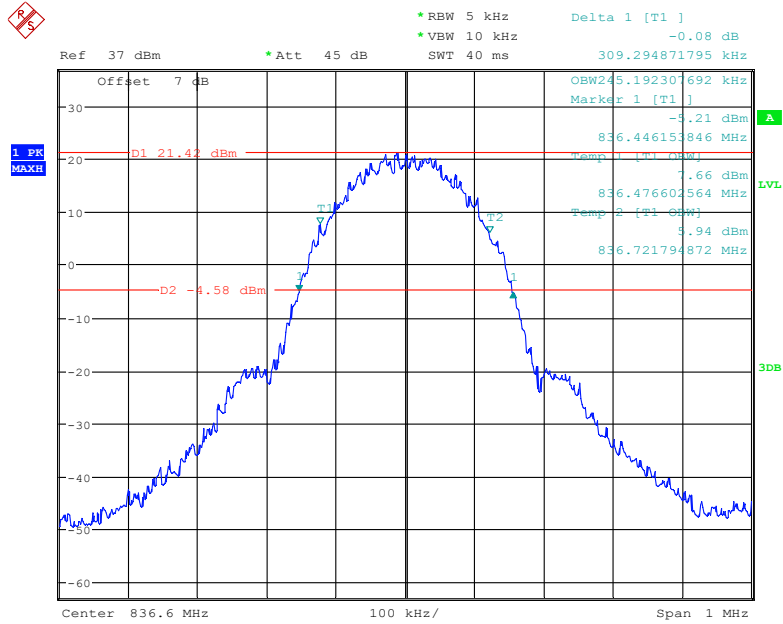
Date: 19.MAY.2022 09:46:33

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Low channel**



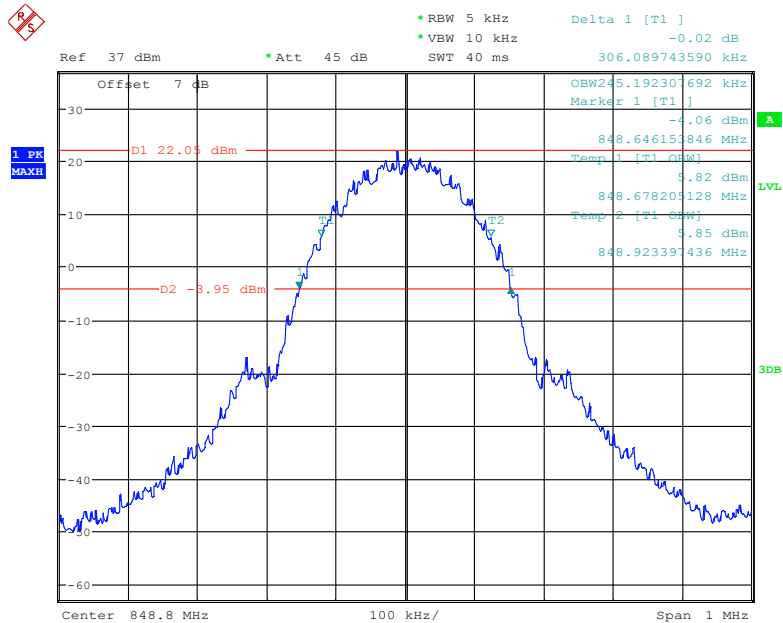
Date: 19.MAY.2022 10:03:52

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Middle channel**



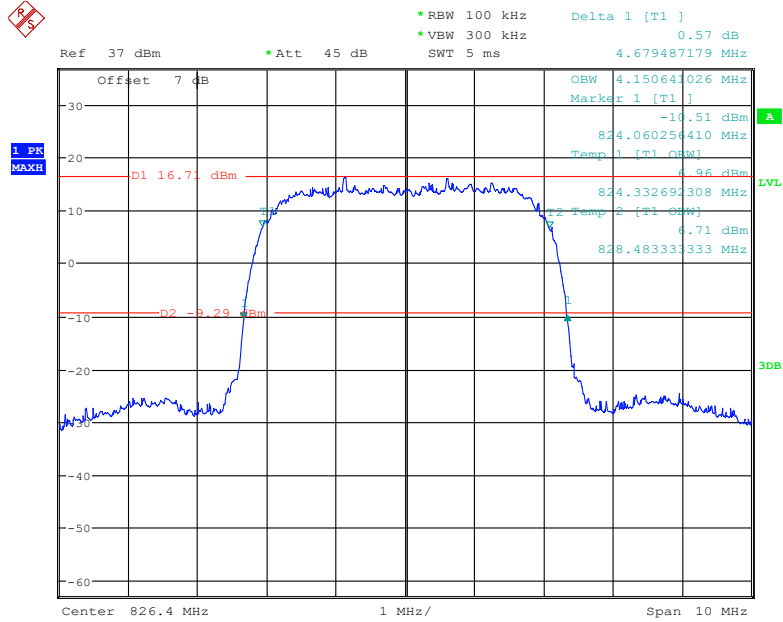
Date: 19.MAY.2022 10:05:32

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, High channel**



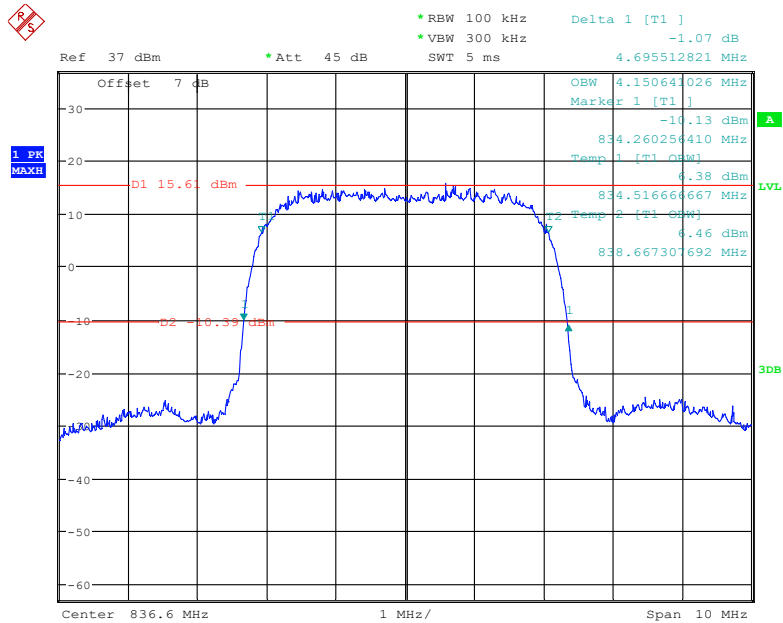
Date: 19.MAY.2022 10:07:10

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel**



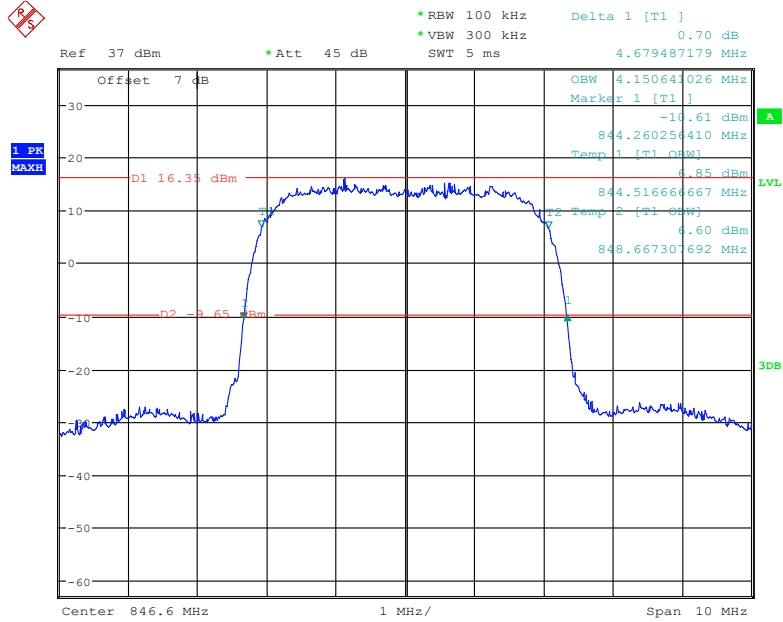
Date: 19.MAY.2022 11:19:35

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel**



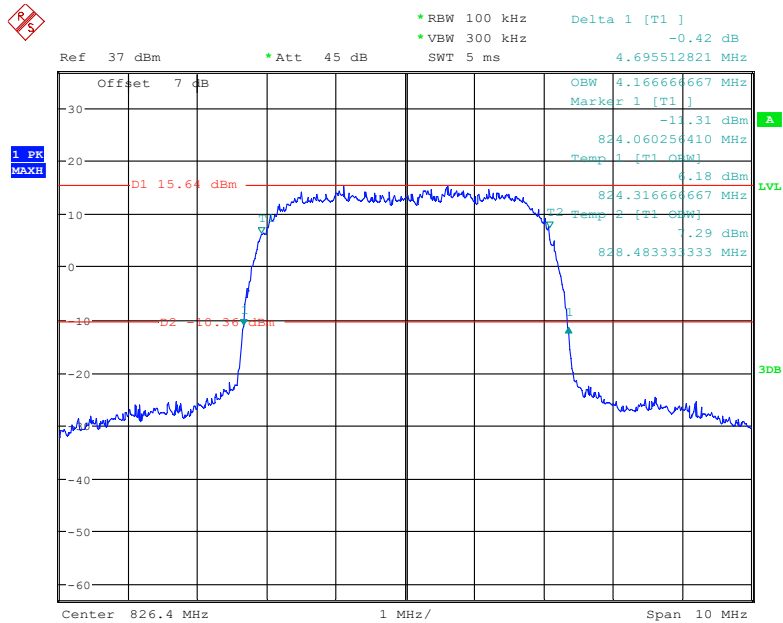
Date: 19.MAY.2022 11:20:28

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel**



Date: 19.MAY.2022 15:44:13

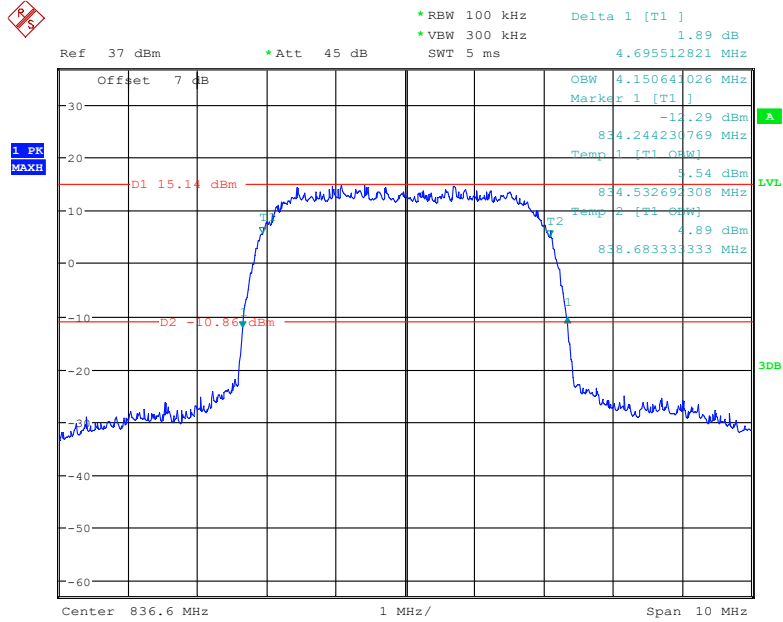
**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Low channel**



Date: 19.MAY.2022 11:54:14

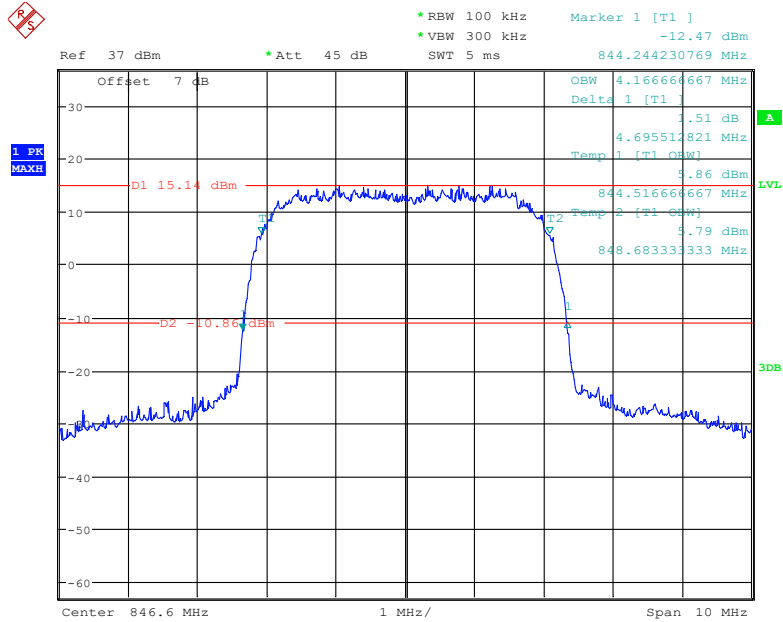


**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Middle channel**



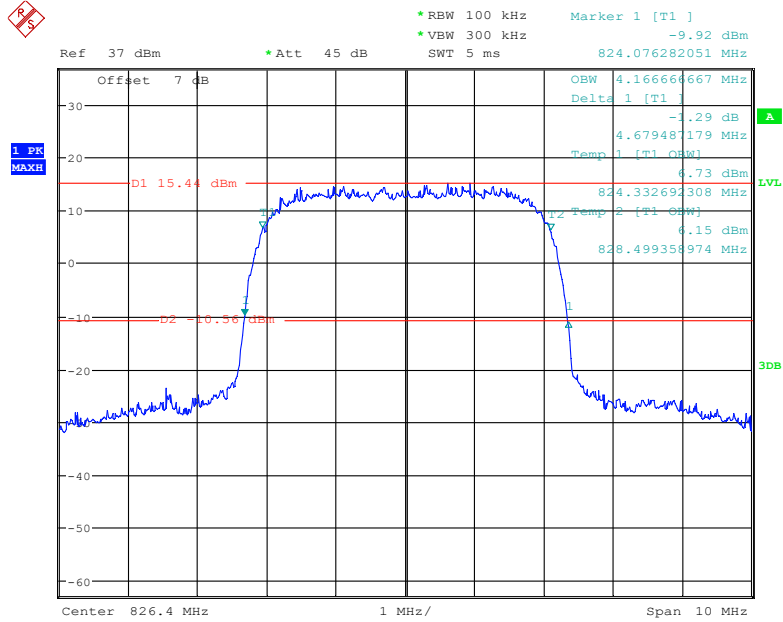
Date: 19.MAY.2022 11:55:05

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, High channel**



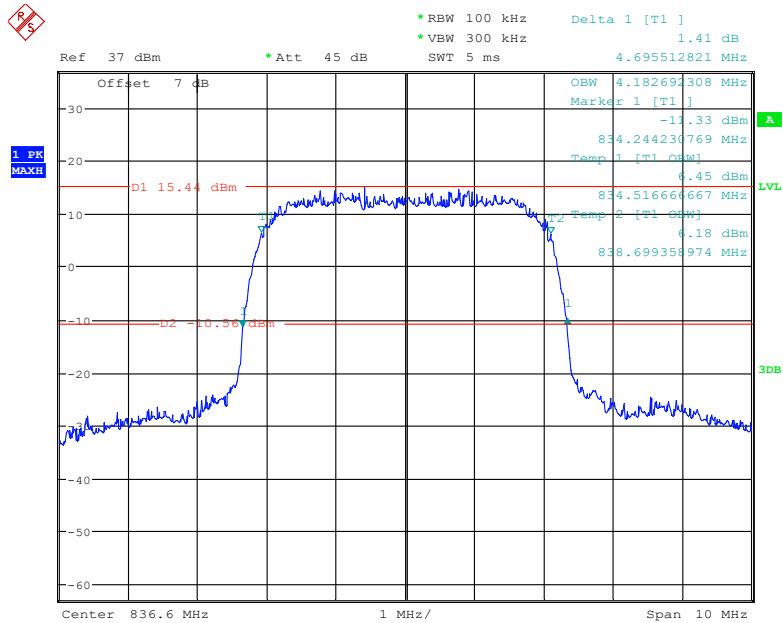
Date: 19.MAY.2022 11:55:40

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel**



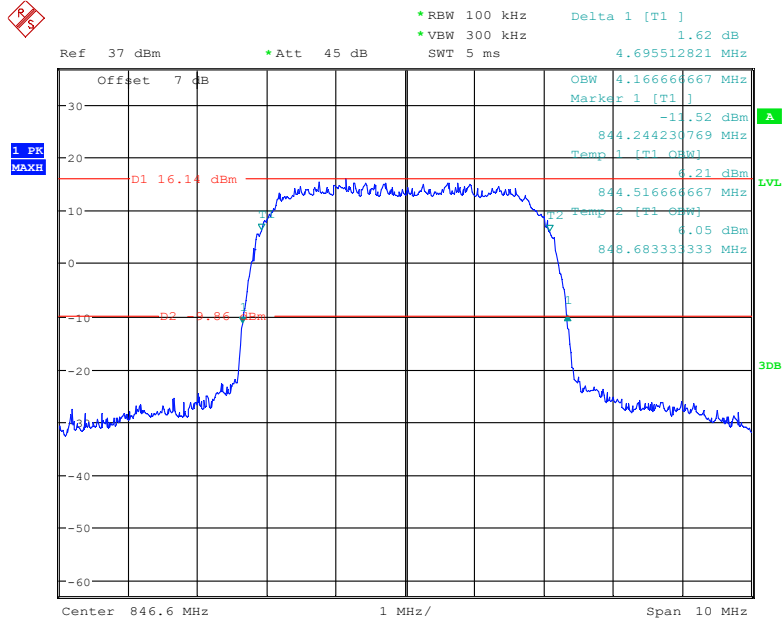
Date: 19.MAY.2022 11:51:33

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel**



Date: 19.MAY.2022 11:50:41

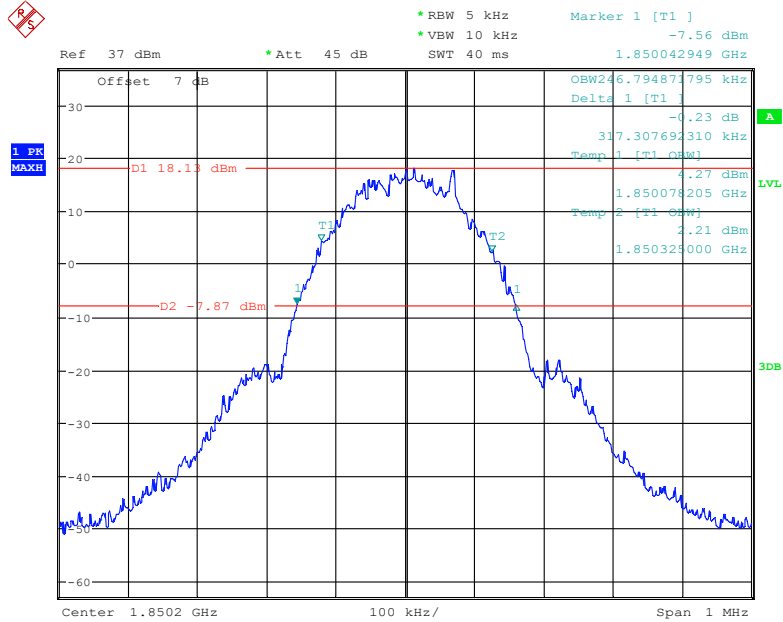
**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel**



Date: 19.MAY.2022 11:49:36

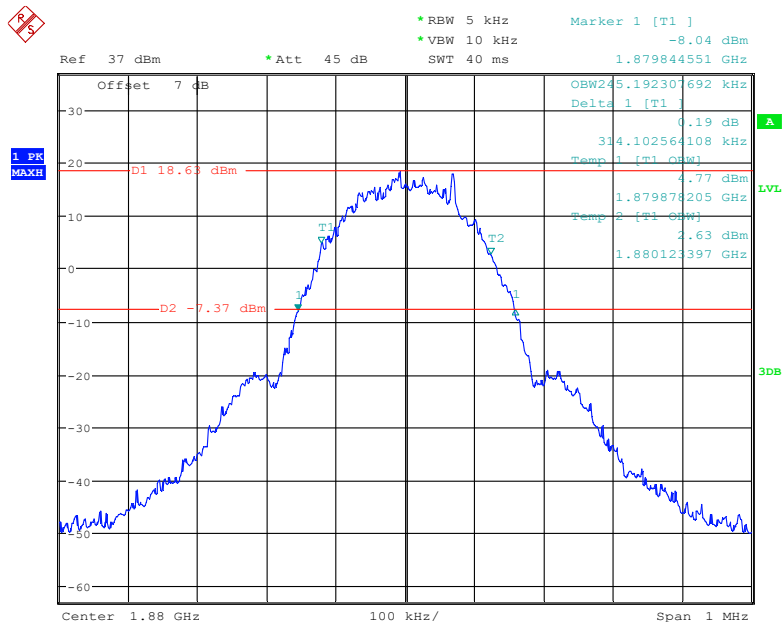
PCS Band (Part 24E)

26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Low channel



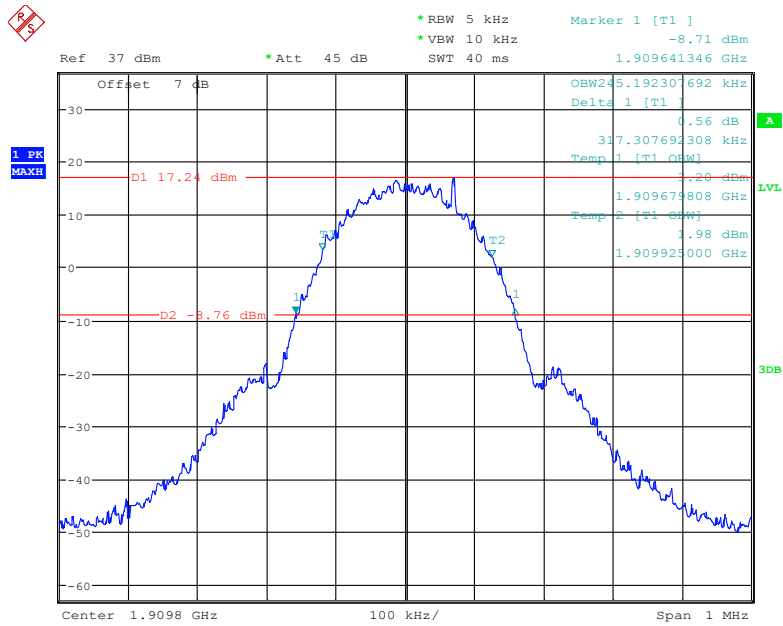
Date: 19.MAY.2022 10:10:40

26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel



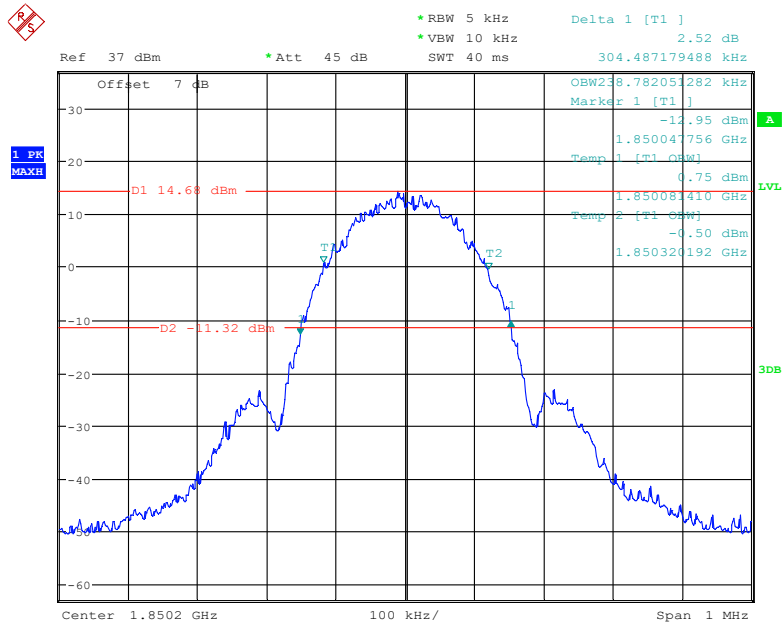
Date: 19.MAY.2022 10:12:50

**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, High channel**



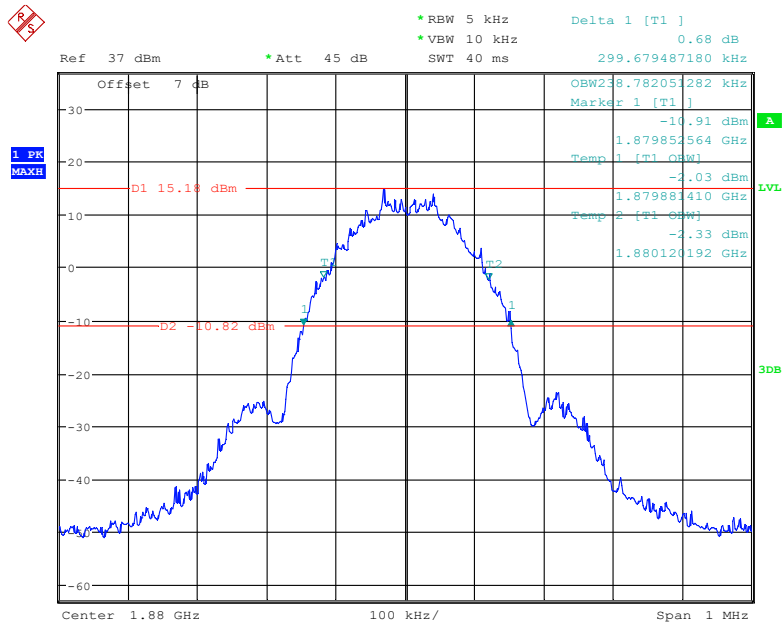
Date: 19.MAY.2022 10:15:20

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Low channel**



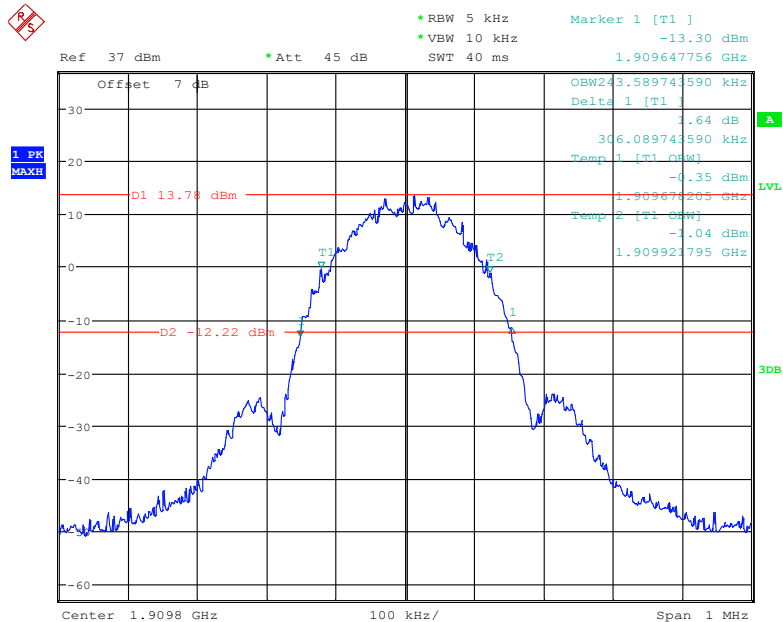
Date: 19.MAY.2022 10:33:39

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Middle channel**



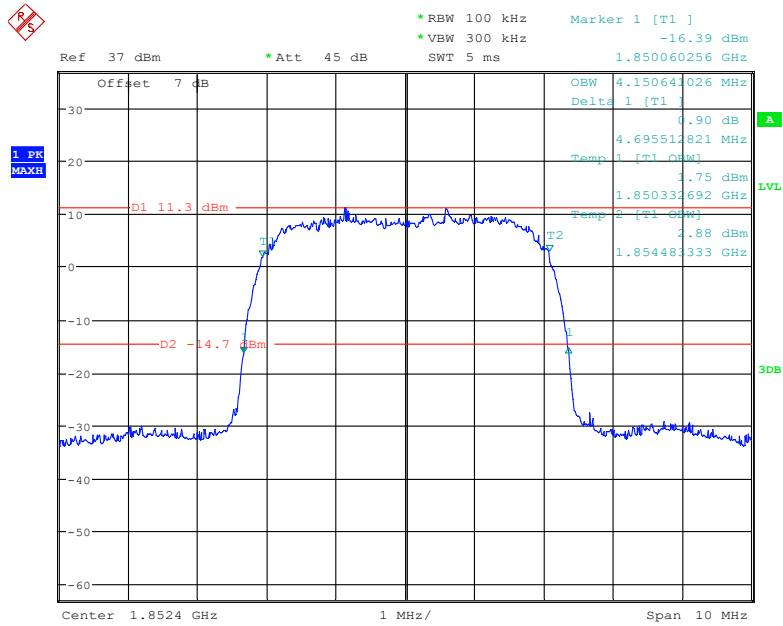
Date: 19.MAY.2022 10:31:30

**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, High channel**



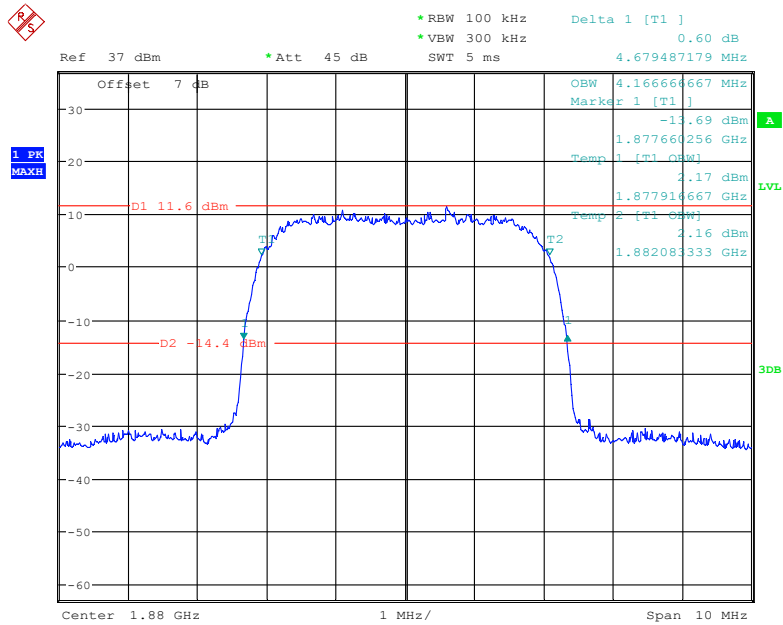
Date: 19.MAY.2022 10:30:10

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel**



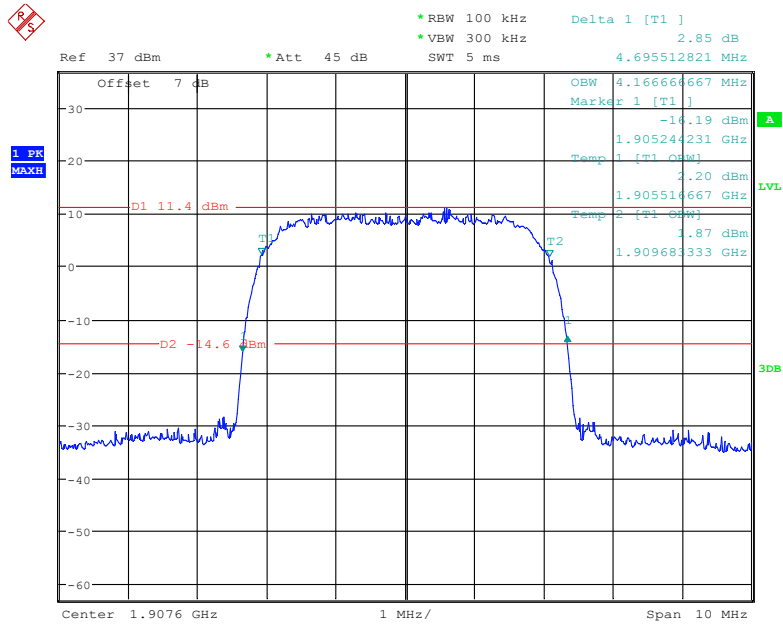
Date: 19.MAY.2022 10:37:37

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel**



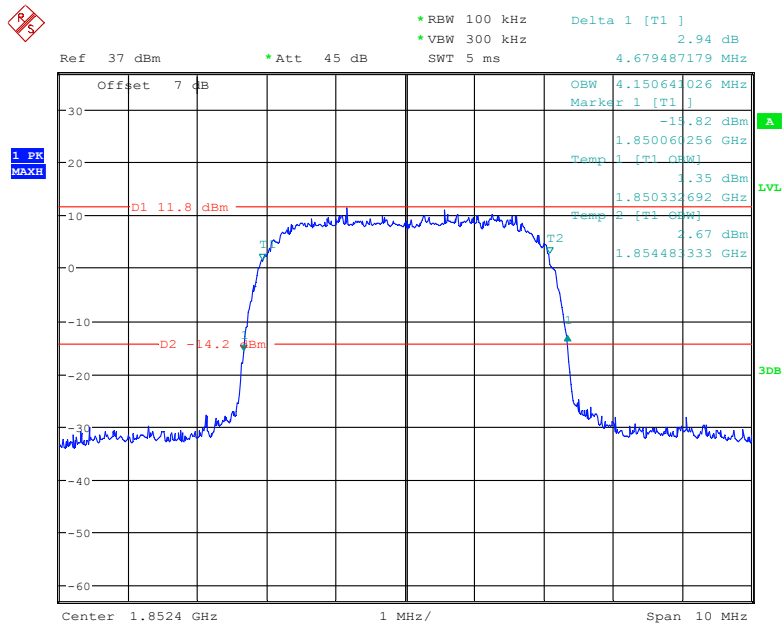
Date: 19.MAY.2022 10:53:06

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel**



Date: 19.MAY.2022 10:54:40

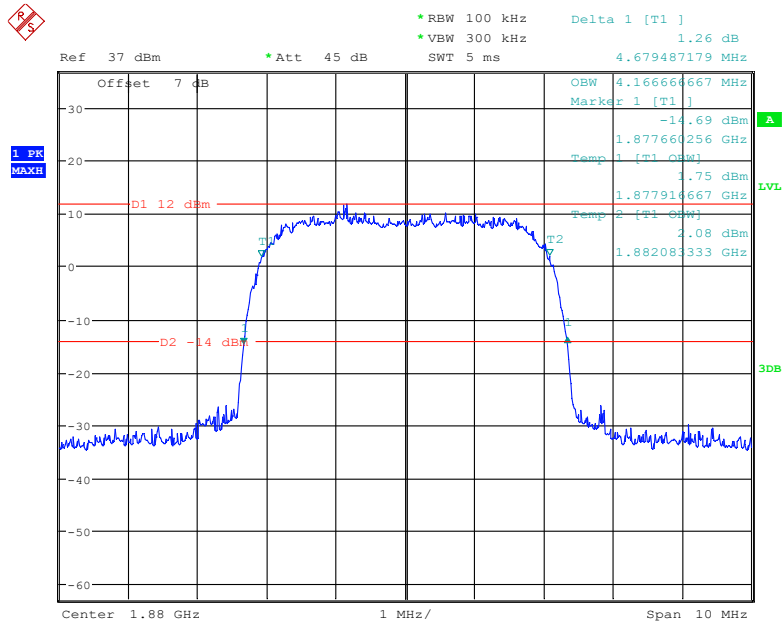
**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Low channel**



Date: 19.MAY.2022 12:07:11

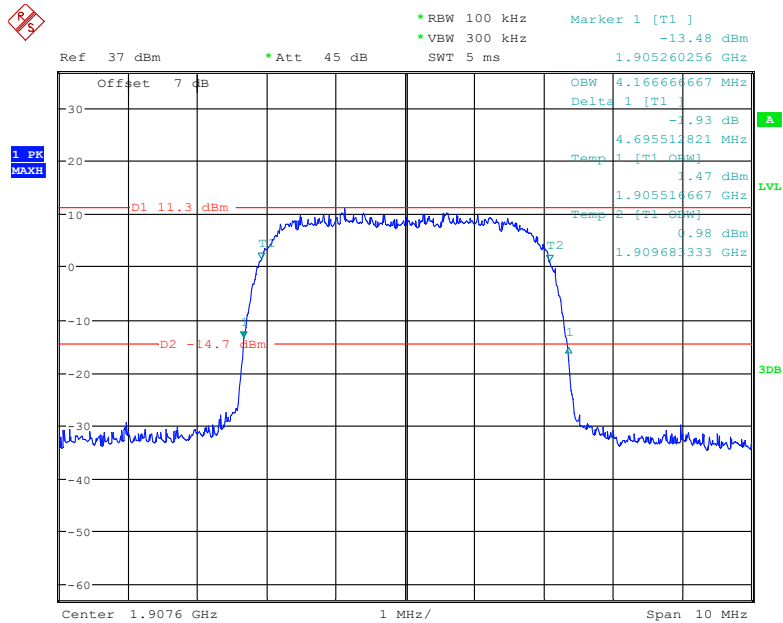


**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Middle channel**



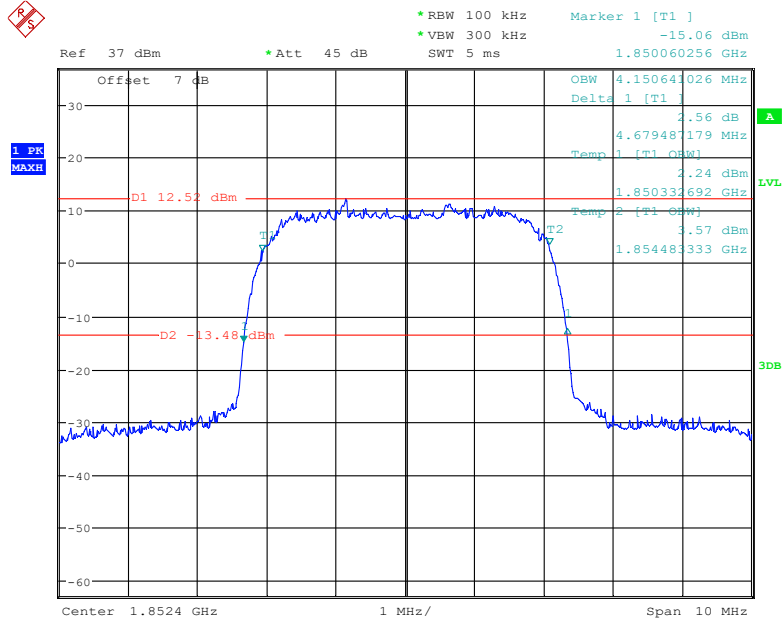
Date: 19.MAY.2022 12:07:47

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, High channel**



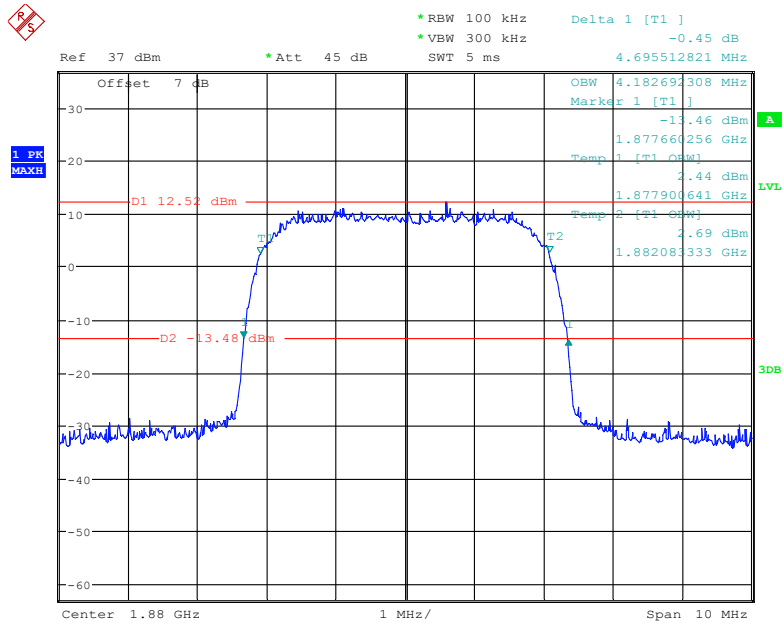
Date: 19.MAY.2022 12:09:03

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel**



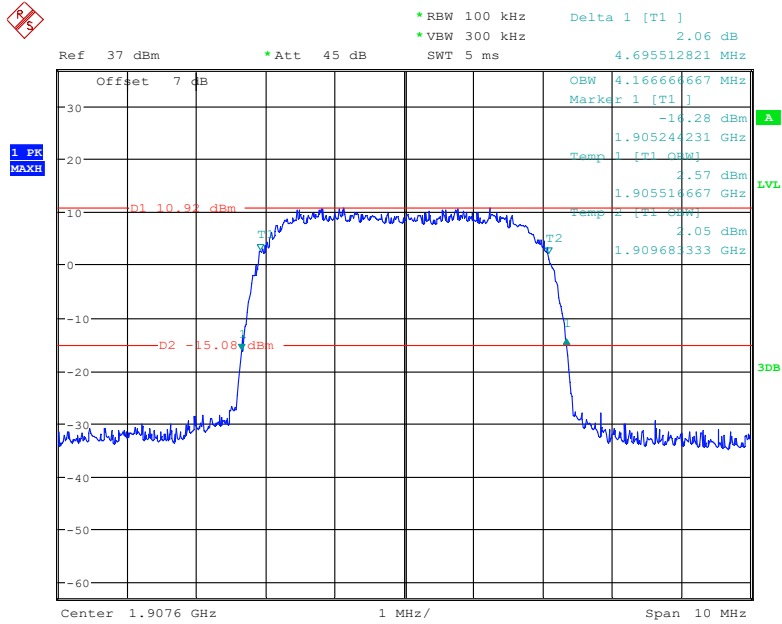
Date: 19.MAY.2022 11:36:36

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel**



Date: 19.MAY.2022 11:37:50

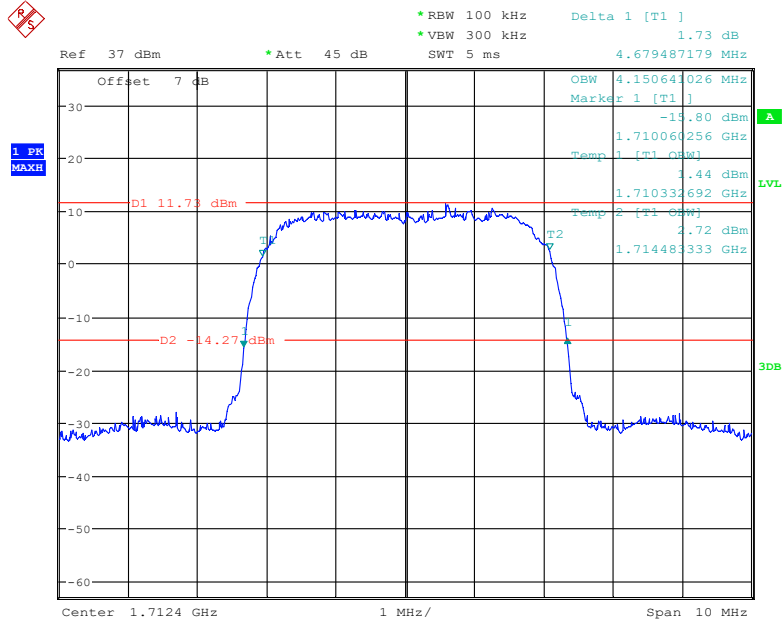
**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel**



Date: 19.MAY.2022 11:38:33

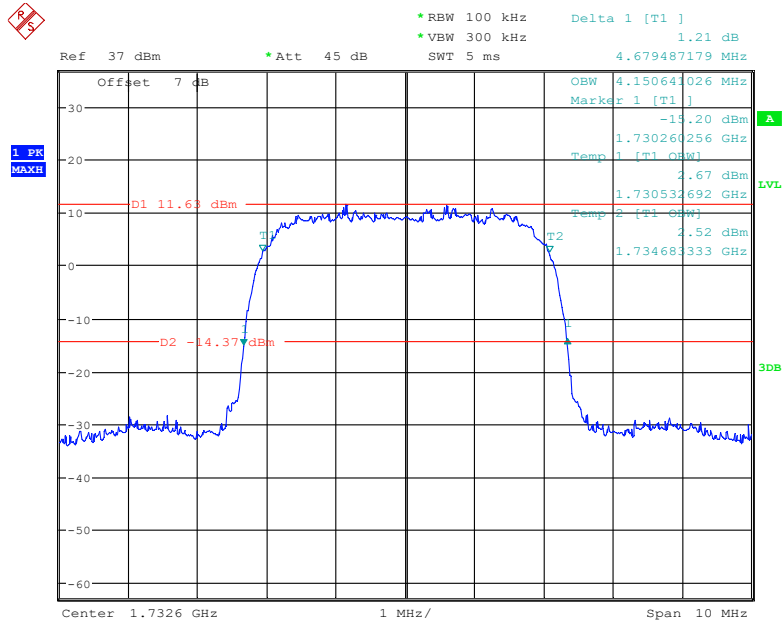
**AWS Band (Part 27)**

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel**



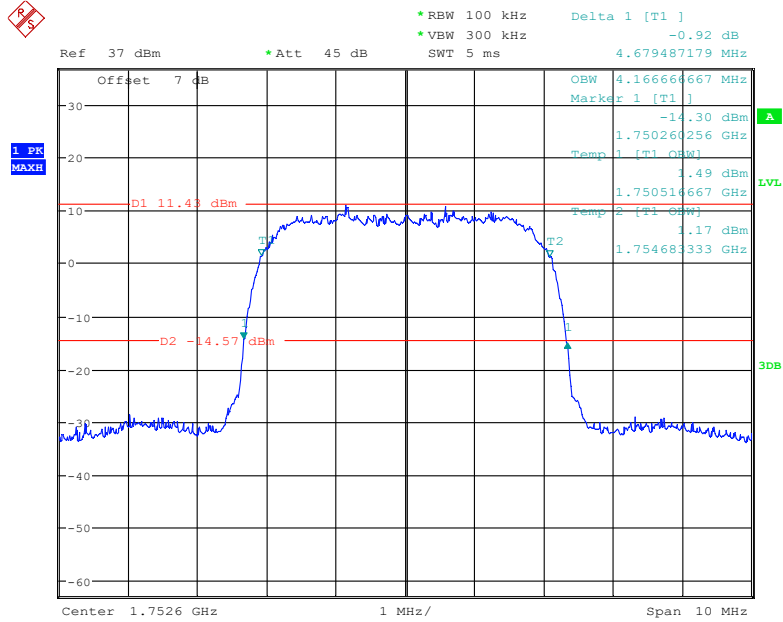
Date: 19.MAY.2022 11:07:03

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel**



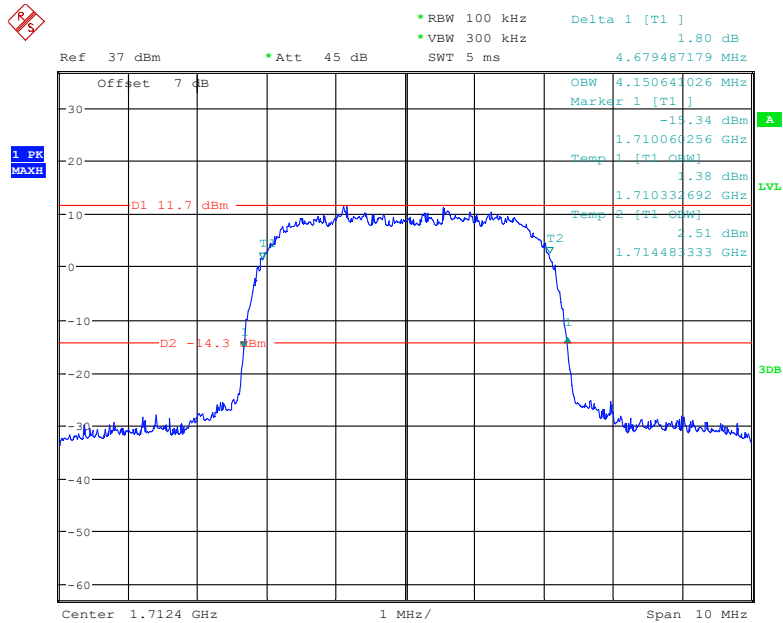
Date: 19.MAY.2022 11:10:55

**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel**



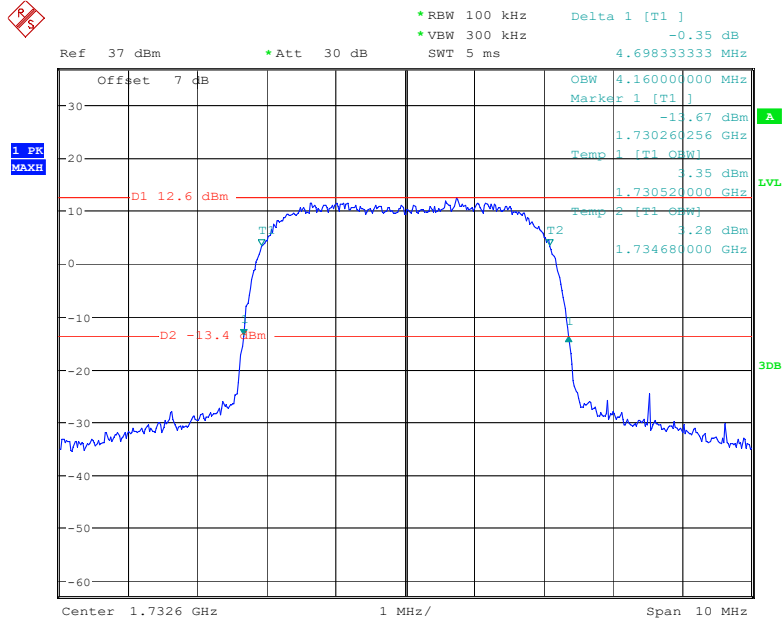
Date: 19.MAY.2022 11:12:00

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Low channel**



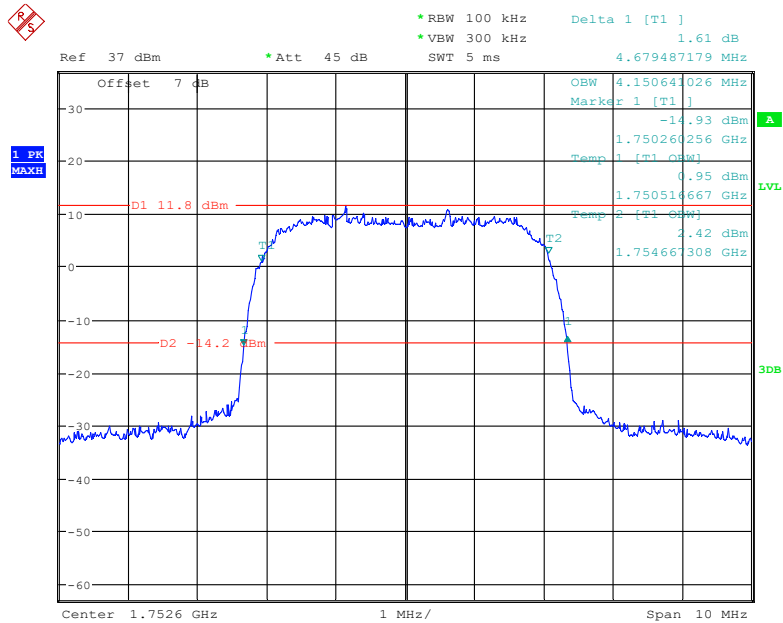
Date: 19.MAY.2022 12:02:56

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, Middle channel**



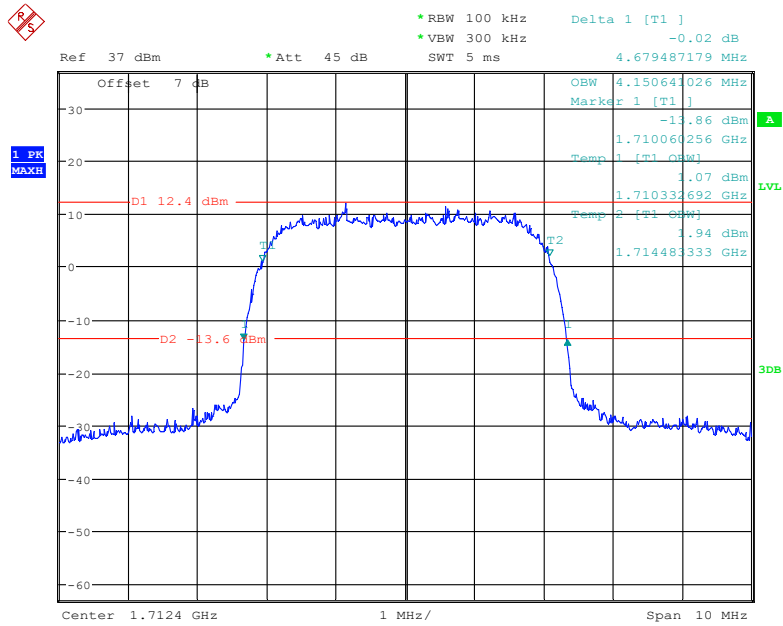
Date: 1.JUN.2022 18:31:30

**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (QPSK) Mode, High channel**



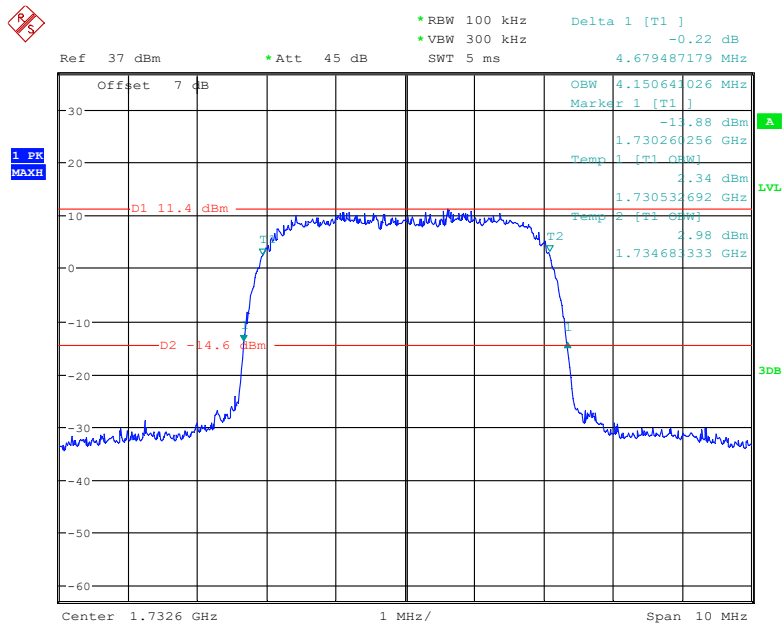
Date: 19.MAY.2022 12:00:13

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel**



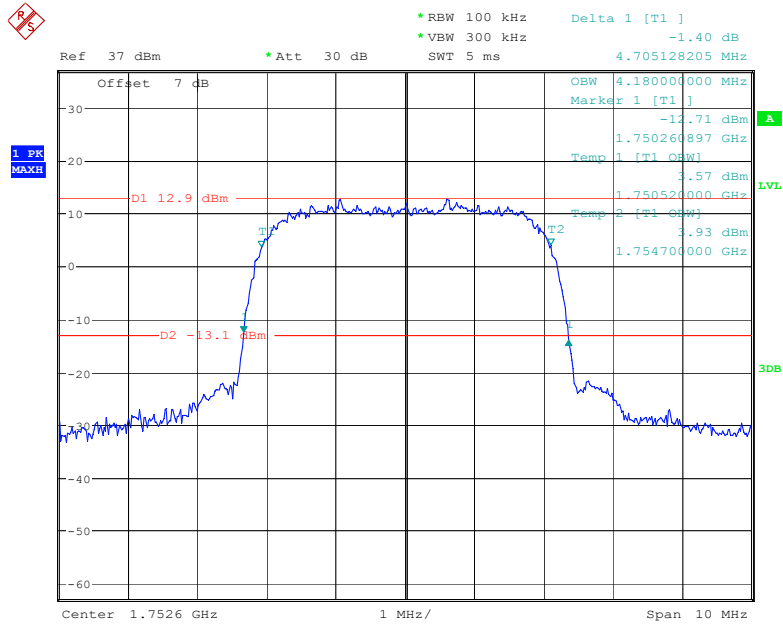
Date: 19.MAY.2022 11:42:30

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel**



Date: 19.MAY.2022 11:43:24

**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel**



Date: 1.JUN.2022 18:33:34



**LTE Band 2:**

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.104	1.266	1.110	1.266	1.104	1.260
	16QAM	1.116	1.266	1.104	1.254	1.104	1.254
3 MHz	QPSK	2.700	3.000	2.688	3.000	2.700	3.024
	16QAM	2.688	3.012	2.700	3.024	2.700	3.012
5 MHz	QPSK	4.540	5.020	4.520	5.000	4.520	4.960
	16QAM	4.500	4.940	4.540	5.020	4.520	5.000
10 MHz	QPSK	9.000	9.760	8.960	9.760	8.960	9.720
	16QAM	9.000	9.720	8.960	9.800	8.960	9.720
15 MHz	QPSK	13.560	15.000	13.500	14.880	13.560	15.000
	16QAM	13.560	15.000	13.560	15.000	13.560	15.060
20 MHz	QPSK	17.920	19.520	18.080	19.600	18.000	19.680
	16QAM	17.920	19.600	18.080	19.760	18.000	19.600

**LTE Band 4:**

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.104	1.260	1.110	1.260	1.104	1.254
	16QAM	1.116	1.260	1.104	1.260	1.098	1.254
3 MHz	QPSK	2.688	3.000	2.700	3.024	2.688	3.024
	16QAM	2.700	3.024	2.700	3.024	2.700	3.024
5 MHz	QPSK	4.540	5.020	4.520	5.000	4.520	4.980
	16QAM	4.520	4.980	4.520	5.020	4.520	5.000
10 MHz	QPSK	9.000	9.680	9.000	9.760	8.960	9.800
	16QAM	8.920	9.680	9.000	9.760	8.960	9.840
15 MHz	QPSK	13.560	15.060	13.500	15.060	13.560	15.060
	16QAM	13.560	15.000	13.620	15.120	13.620	15.120
20 MHz	QPSK	18.000	19.520	17.920	19.520	18.000	19.760
	16QAM	18.080	19.680	18.000	19.680	18.000	19.600

**LTE Band 5:**

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.098	1.260	1.098	1.260	1.098	1.260
	16QAM	1.110	1.266	1.110	1.254	1.098	1.254
3 MHz	QPSK	2.700	2.976	2.688	2.988	2.688	3.012
	16QAM	2.700	3.024	2.688	3.000	2.700	3.000
5 MHz	QPSK	4.520	5.000	4.520	5.020	4.520	4.980
	16QAM	4.520	4.960	4.540	5.000	4.520	4.980
10 MHz	QPSK	8.960	9.720	8.960	9.760	8.960	9.800
	16QAM	8.960	9.760	8.960	9.720	8.960	9.760

**LTE Band 7:**

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.540	5.000	4.520	4.980	4.500	4.980
	16QAM	4.520	5.000	4.540	4.960	4.540	5.000
10 MHz	QPSK	8.960	9.720	8.960	9.840	9.000	9.760
	16QAM	8.960	9.720	8.960	9.800	8.960	9.760
15 MHz	QPSK	13.620	15.060	13.500	15.000	13.560	15.120
	16QAM	13.620	15.060	13.560	14.940	13.560	14.940
20 MHz	QPSK	18.000	19.520	18.000	19.520	17.920	19.680
	16QAM	18.000	19.760	18.000	19.680	18.000	19.760

**LTE Band 13:**

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.520	5.000	4.520	5.000	4.500	4.940
	16QAM	4.540	4.980	4.540	5.000	4.520	4.980
10 MHz	QPSK	/	/	9.000	9.680	/	/
	16QAM	/	/	8.920	9.720	/	/

**LTE Band 17:**

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.540	4.980	4.540	5.000	4.520	4.960
	16QAM	4.500	4.940	4.540	5.000	4.560	5.000
10 MHz	QPSK	8.960	9.720	8.960	9.640	8.960	9.800
	16QAM	8.960	9.760	8.960	9.720	8.960	9.800

**LTE Band 38**

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.500	5.180	4.520	5.000	4.520	5.120
	16QAM	4.500	5.140	4.520	5.100	4.520	5.260
10 MHz	QPSK	8.960	9.720	9.000	9.840	8.960	9.800
	16QAM	8.960	9.760	8.960	9.760	8.960	9.800
15 MHz	QPSK	13.620	15.240	13.560	15.420	13.620	15.420
	16QAM	13.560	15.420	13.620	15.360	13.560	16.440
20 MHz	QPSK	18.000	19.600	18.000	19.520	18.000	19.600
	16QAM	18.000	19.680	18.000	20.320	18.000	19.600

**LTE Band 41**

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.520	5.080	4.520	5.140	4.520	5.020
	16QAM	4.520	5.220	4.500	5.140	4.520	5.000
10 MHz	QPSK	8.960	9.720	8.960	9.800	8.960	9.760
	16QAM	8.960	9.640	8.960	9.720	8.960	9.840
15 MHz	QPSK	13.620	15.240	13.500	15.660	13.500	15.300
	16QAM	13.620	15.600	13.620	15.600	13.620	16.200
20 MHz	QPSK	17.920	19.600	18.000	20.000	18.000	19.680
	16QAM	18.000	19.760	18.000	20.160	18.000	19.840

**LTE Band 66**

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.104	1.248	1.110	1.260	1.104	1.260
	16QAM	1.116	1.260	1.104	1.260	1.116	1.260
3 MHz	QPSK	2.700	3.000	2.712	3.000	2.700	3.012
	16QAM	2.700	2.988	2.688	3.012	2.688	3.024
5 MHz	QPSK	4.540	5.000	4.520	5.000	4.520	4.940
	16QAM	4.500	4.980	4.540	5.000	4.520	4.980
10 MHz	QPSK	9.000	9.720	8.960	9.800	8.960	9.840
	16QAM	8.920	9.680	9.000	9.720	8.960	9.800
15 MHz	QPSK	13.620	15.060	13.500	14.940	13.560	15.060
	16QAM	13.560	15.060	13.620	15.060	13.560	15.060
20 MHz	QPSK	18.000	19.520	18.000	19.600	18.000	19.680
	16QAM	18.000	19.680	18.000	19.760	17.920	19.600

The test plots of LTE band please refer to the Appendix A.

## FCC §2.1051, §22.917(a) & §24.238(a)& §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

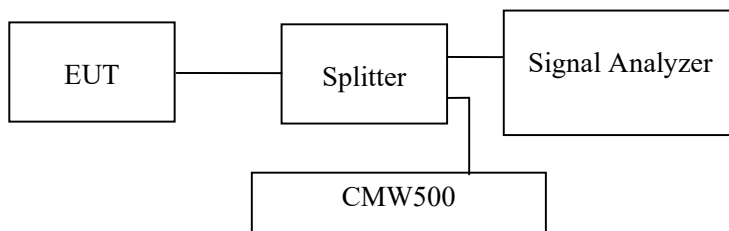
### Applicable Standard

FCC §2.1051, §22.917(a) & §24.238(a)&§27.53.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

### Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz. Sufficient scans were taken to show any out of band emissions up to 10<sup>th</sup> harmonic.



### Test Data

#### Environmental Conditions

<b>Temperature:</b>	27.2 °C
<b>Relative Humidity:</b>	56.8 %
<b>ATM Pressure:</b>	101.0 kPa

*The testing was performed by Black Ding from 2022-05-18 to 2022-06-01.*

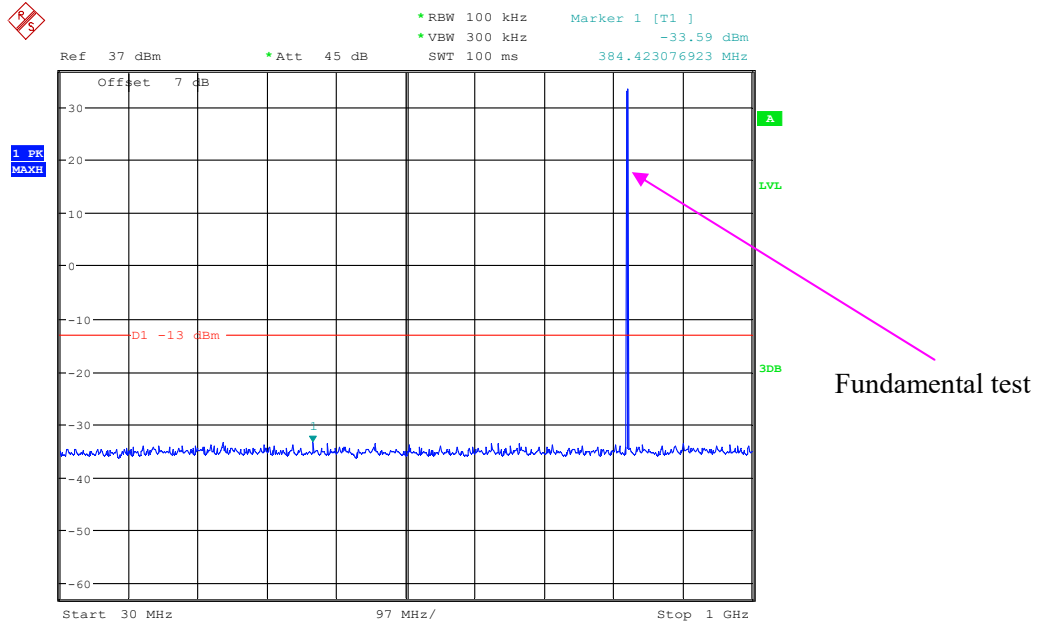
*EUT operation mode: Transmitting*

**Test result: Pass**

*Please refer to the following plots.*

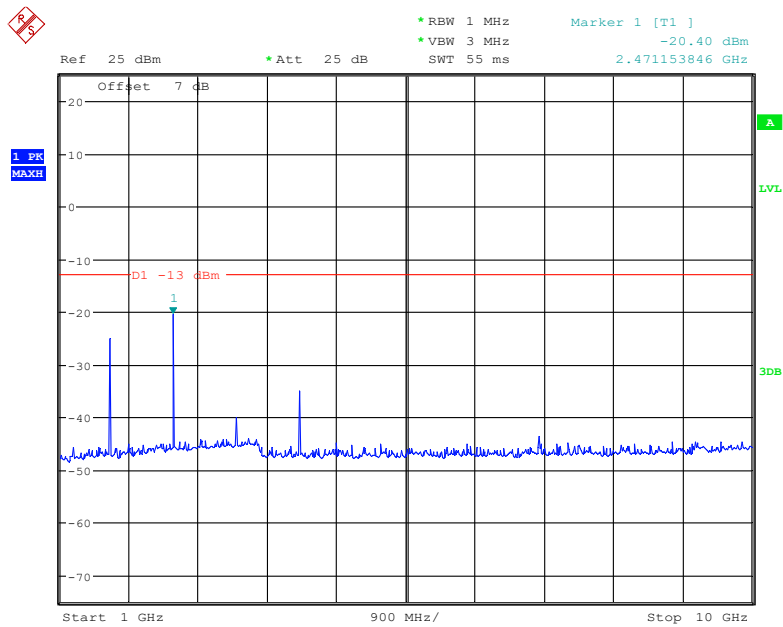
### Cellular Band (Part 22H) Low Channel:

#### 30 MHz – 1 GHz (GSM Mode)



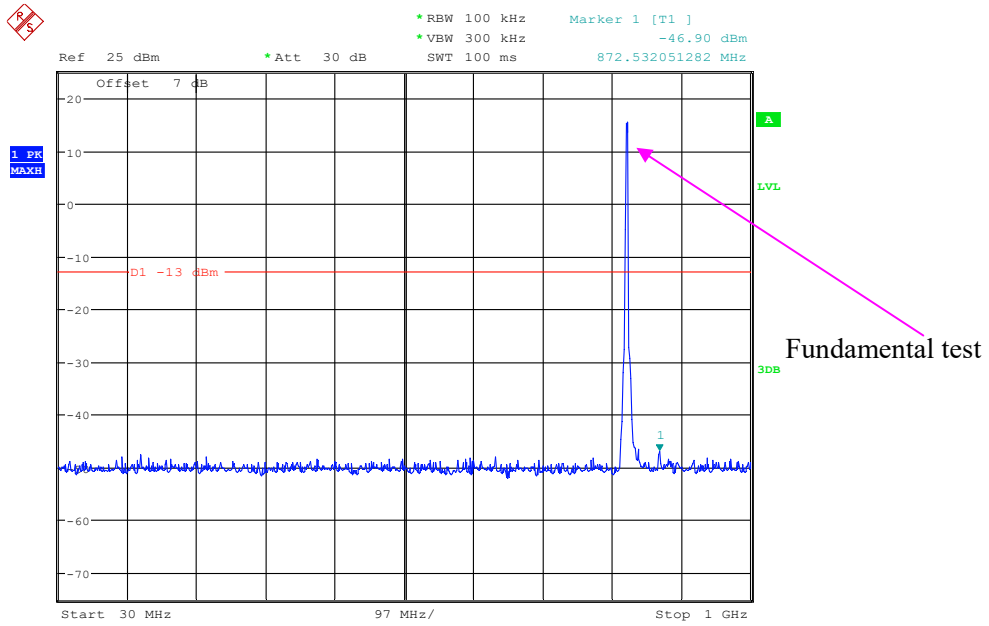
Date: 19.MAY.2022 09:51:48

#### 1 GHz – 10 GHz (GSM Mode)



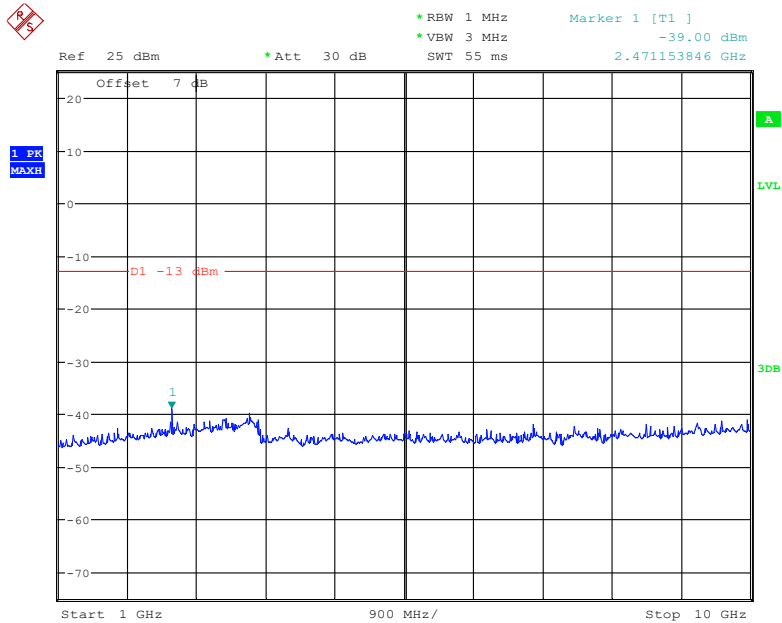
Date: 19.MAY.2022 09:55:08

### 30 MHz – 1 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:24:29

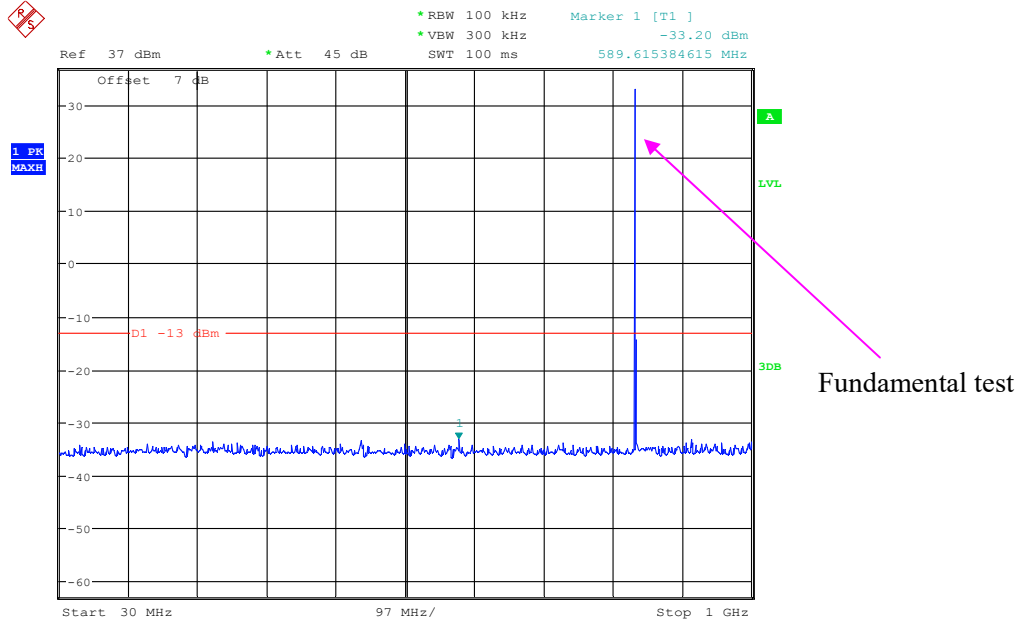
### 1 GHz – 10 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:32:27

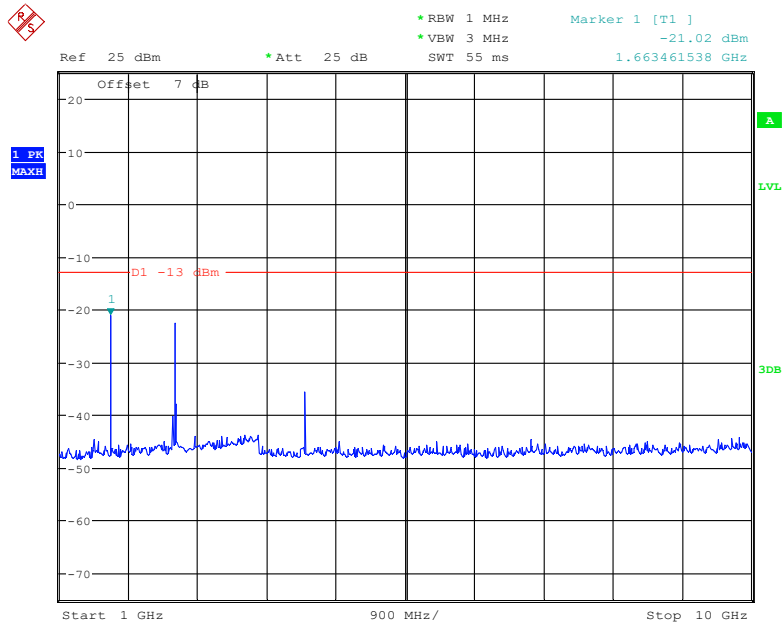
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 19.MAY.2022 09:53:21

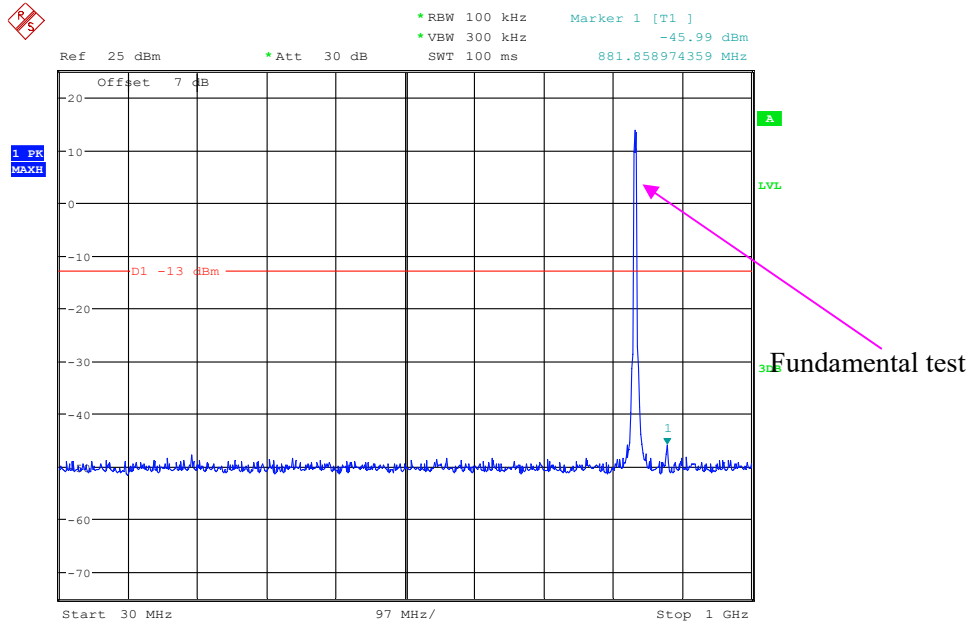
1 GHz – 10 GHz (GSM Mode)



Date: 19.MAY.2022 09:54:52

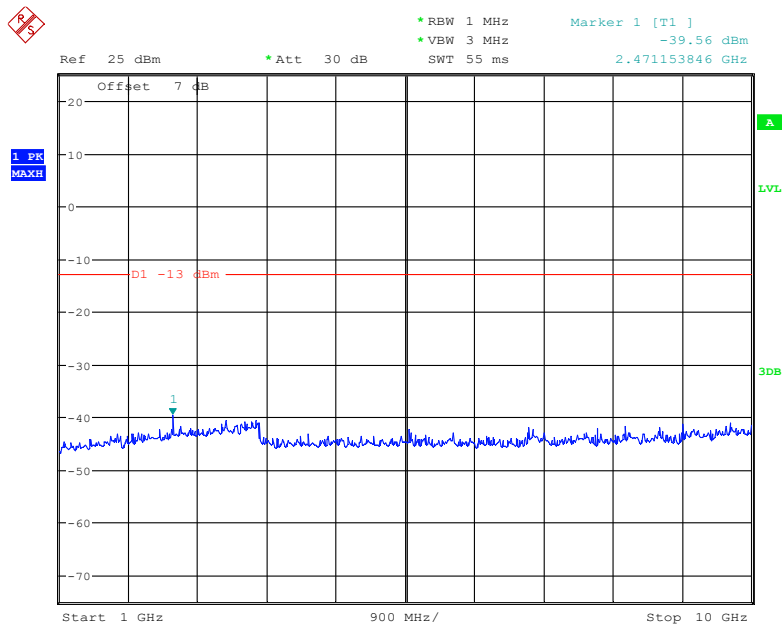


### 30 MHz – 1 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:24:14

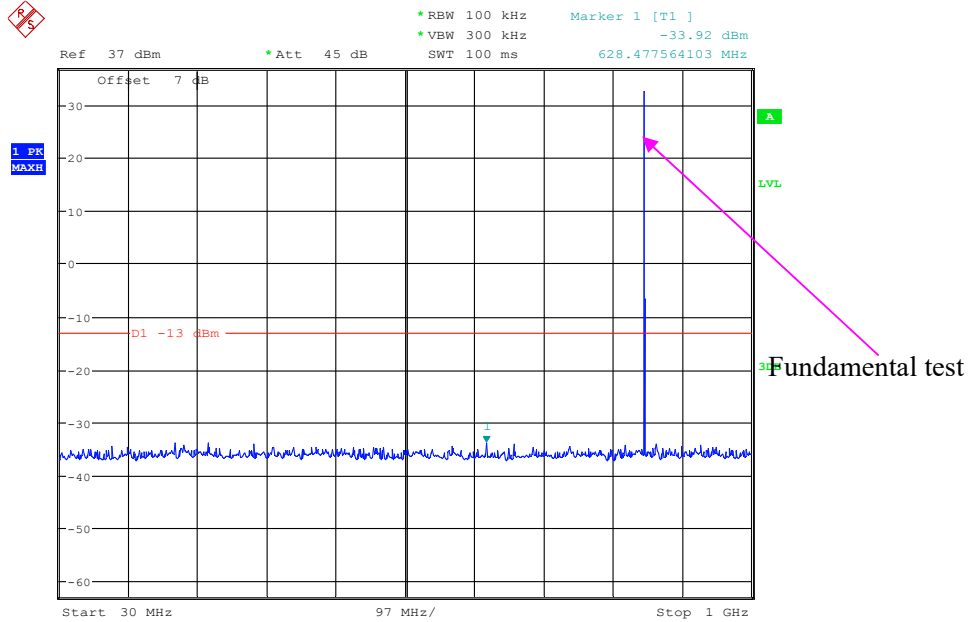
### 1 GHz – 10 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:32:11

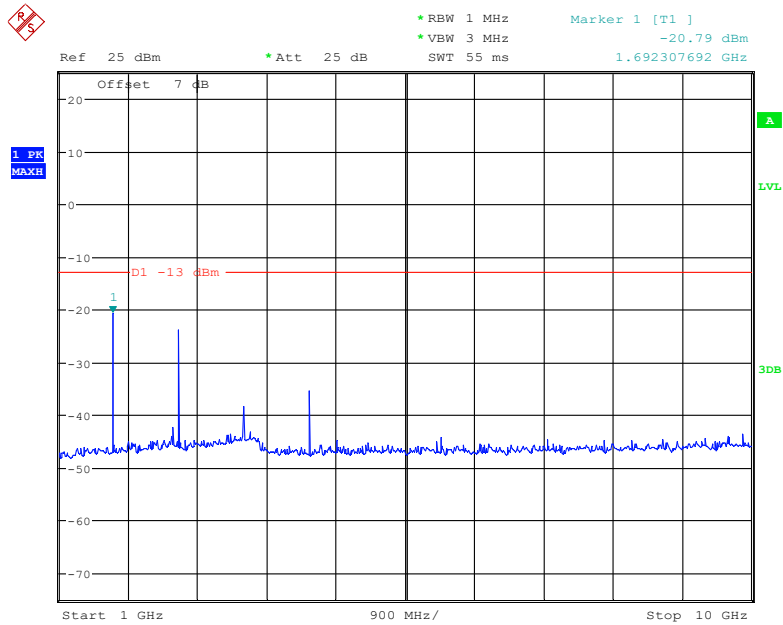
High Channel:

30 MHz – 1 GHz (GSM Mode)



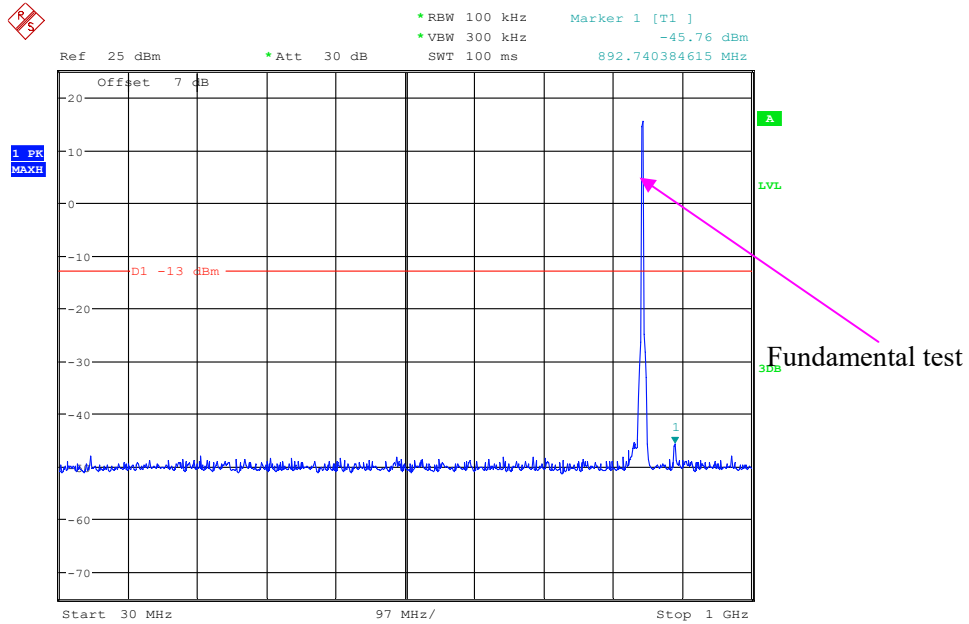
Date: 19.MAY.2022 09:53:46

1 GHz – 10 GHz (GSM Mode)



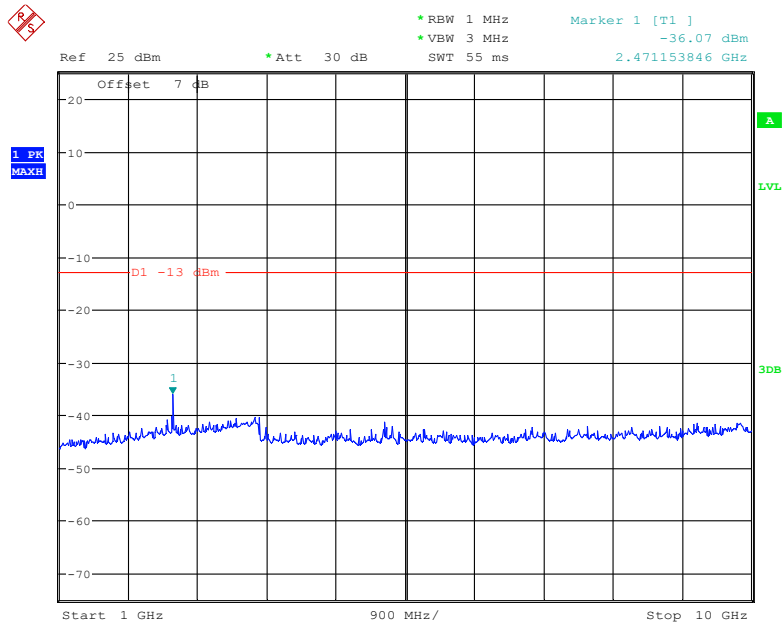
Date: 19.MAY.2022 09:54:26

### 30 MHz – 1 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:23:36

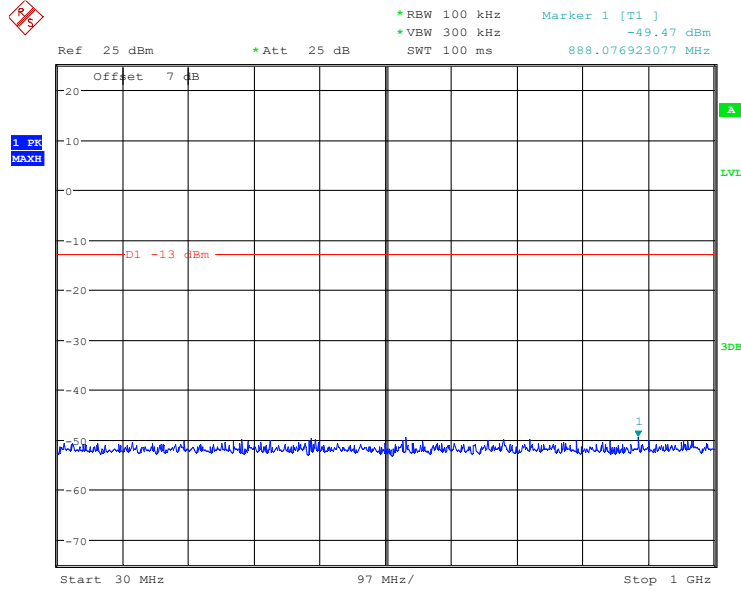
### 1 GHz – 10 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:31:51

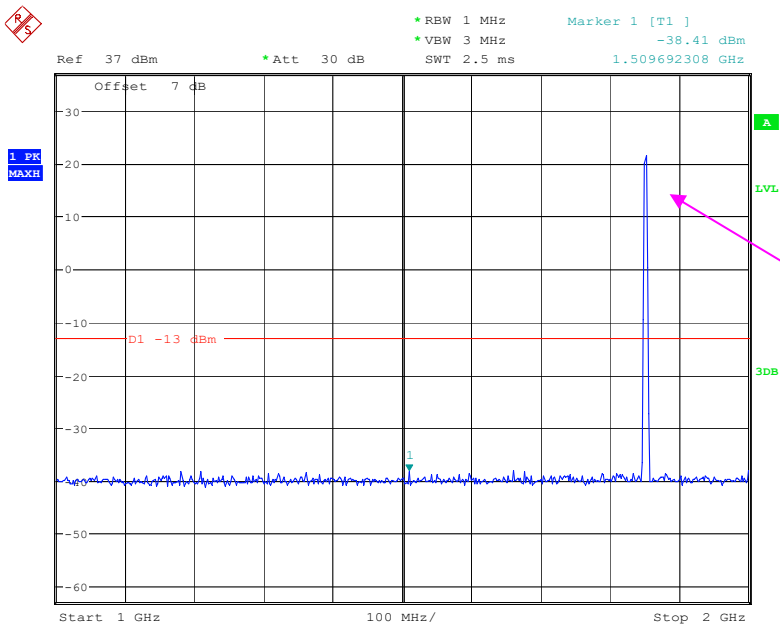
**PCS Band (Part 24E)  
Low Channel:**

**30 MHz – 1 GHz (GSM Mode)**



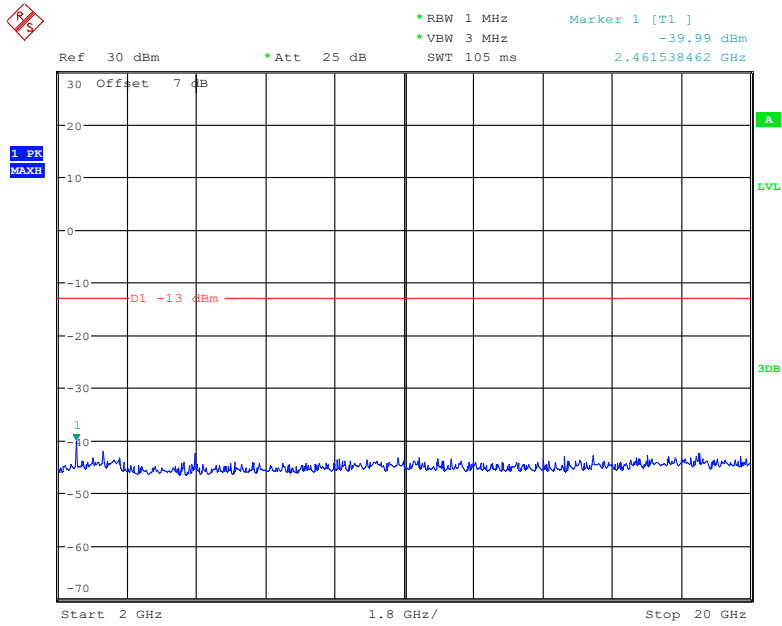
Date: 19.MAY.2022 10:18:57

**1 GHz – 2 GHz (GSM Mode)**



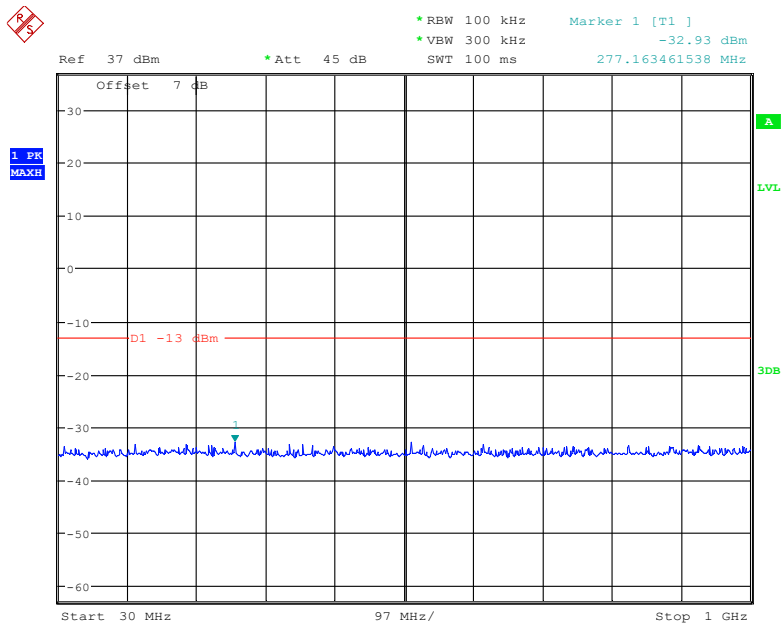
Date: 1.JUN.2022 18:23:46

### 2 GHz – 20 GHz (GSM Mode)



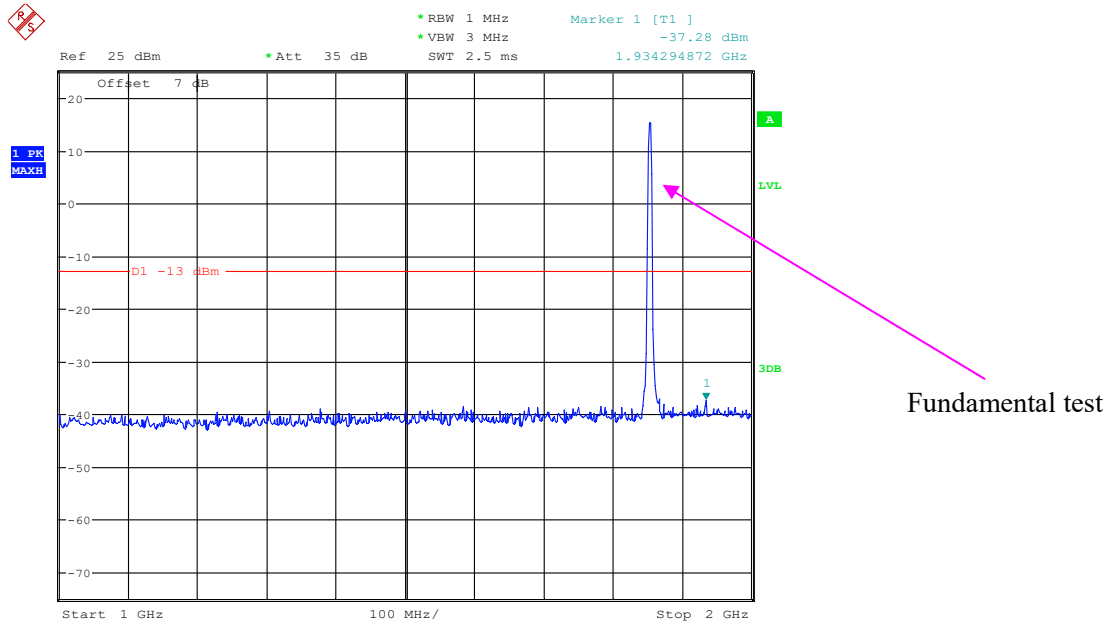
Date: 19.MAY.2022 10:22:56

### 30 MHz – 1 GHz (WCDMA Mode)



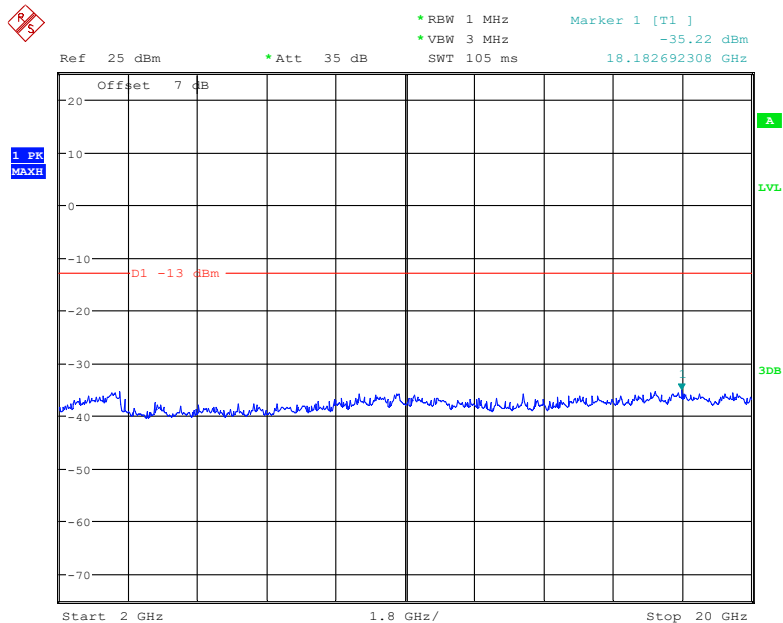
Date: 19.MAY.2022 10:59:36

### 1 GHz – 2 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:02:53

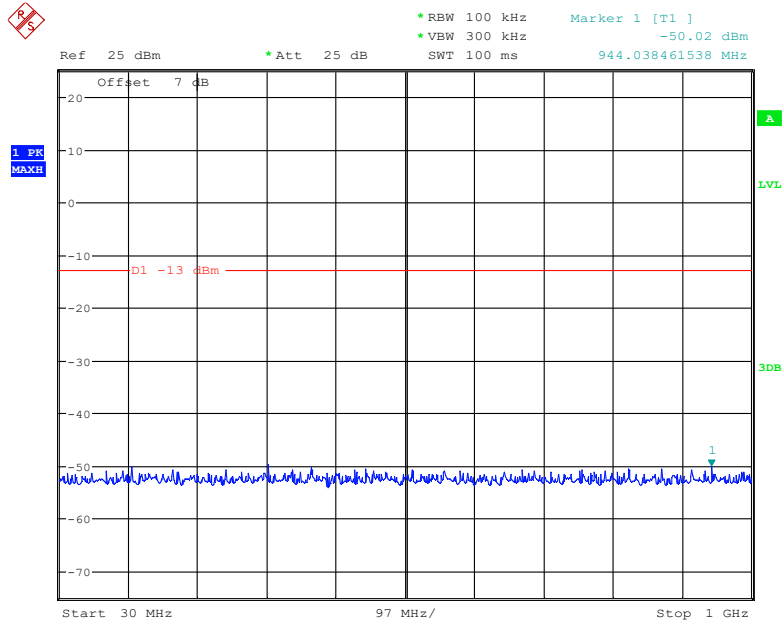
### 2 GHz – 20 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:03:21

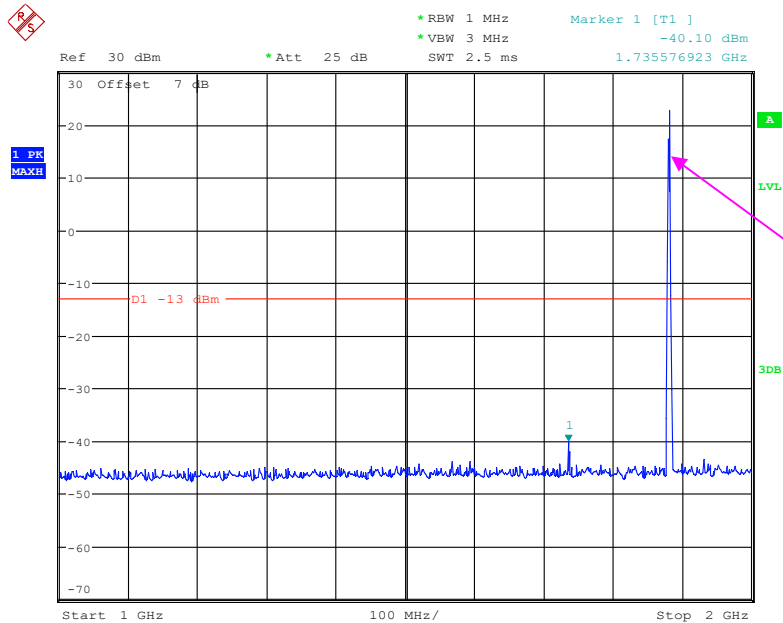
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 19.MAY.2022 10:19:30

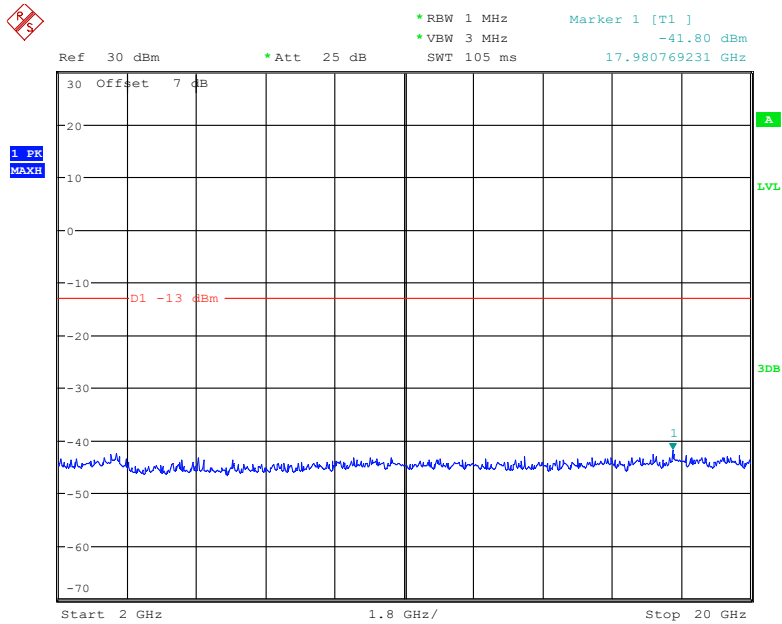
1 GHz – 2 GHz (GSM Mode)



Fundamental test

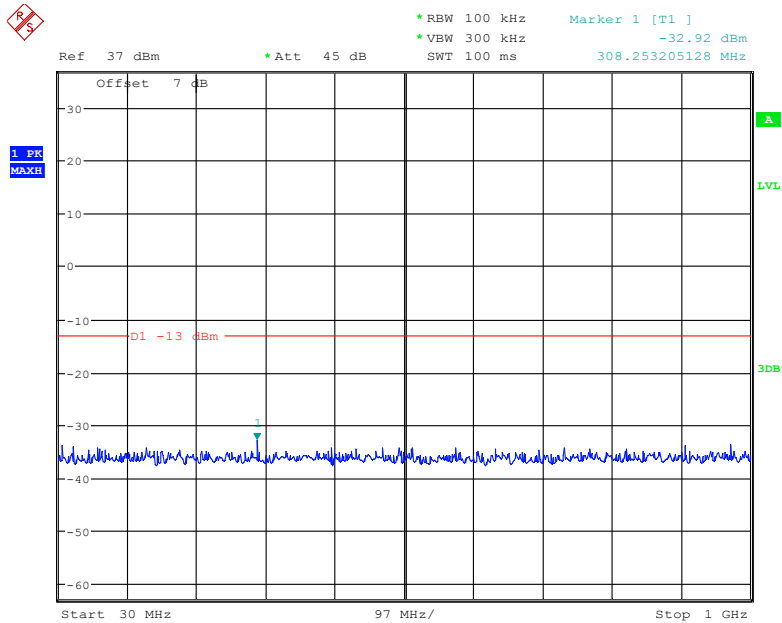
Date: 19.MAY.2022 10:20:55

### 2 GHz – 20 GHz (GSM Mode)



Date: 19.MAY.2022 10:22:39

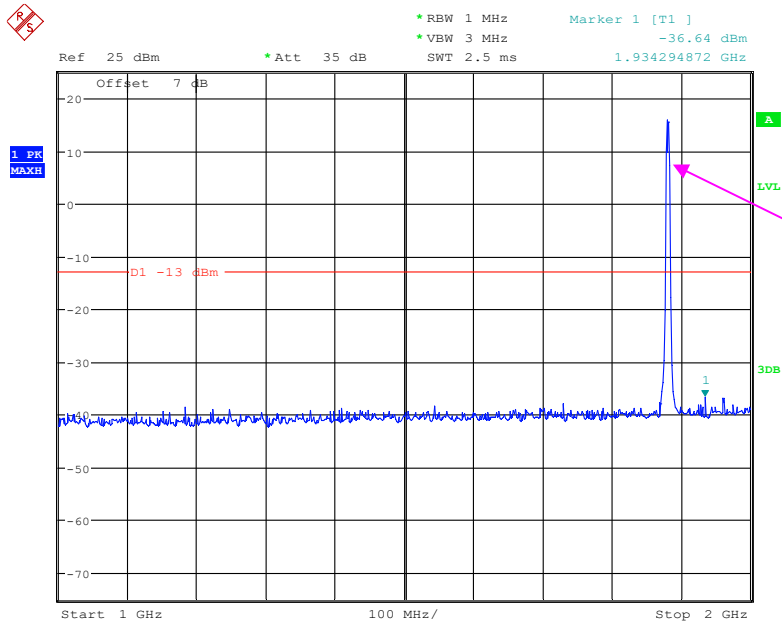
### 30 MHz – 1 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:00:16

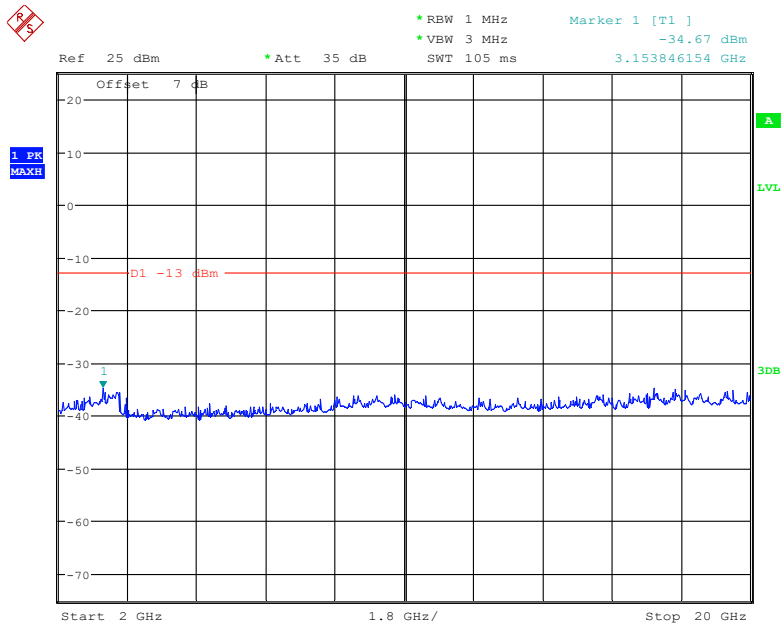


### 1 GHz – 2GHz (WCDMA Mode)



Date: 19.MAY.2022 11:02:35

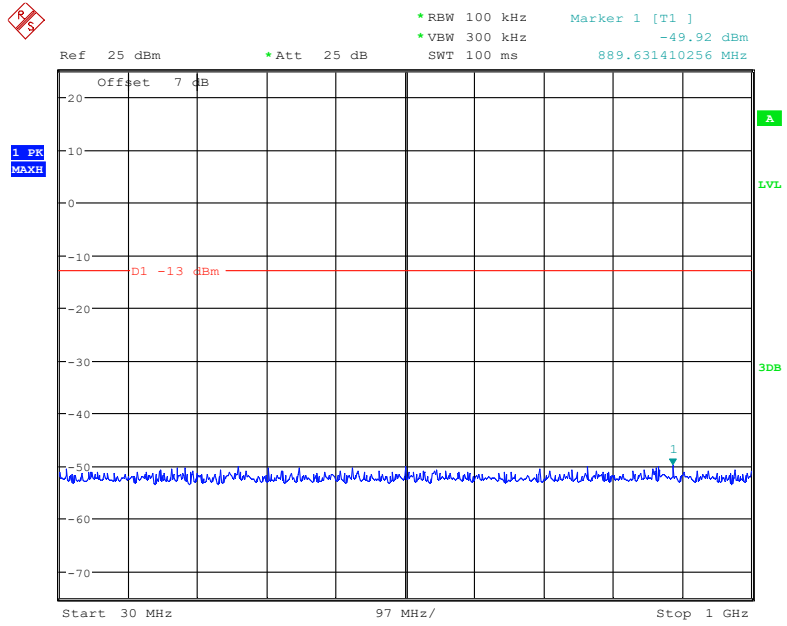
### 2 GHz – 20GHz (WCDMA Mode)



Date: 19.MAY.2022 11:03:45

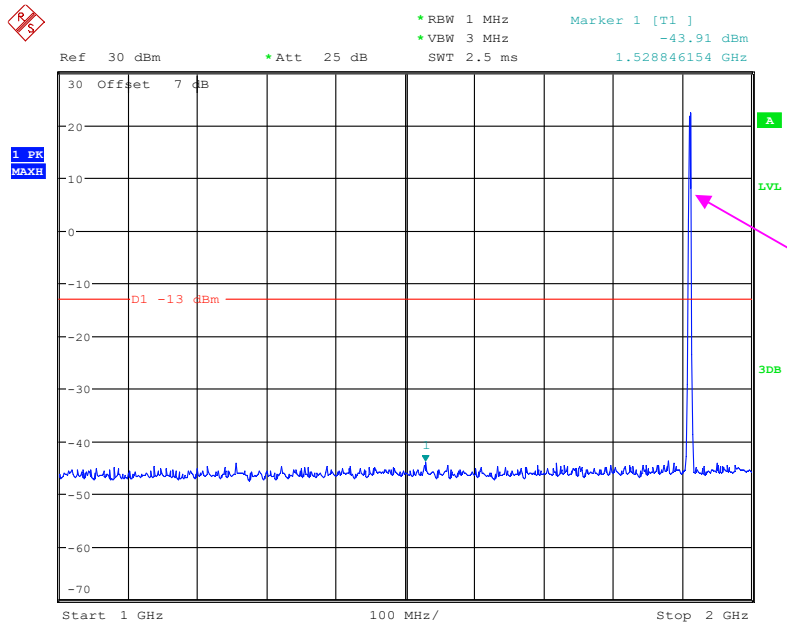
High Channel:

30 MHz – 1 GHz (GSM Mode)



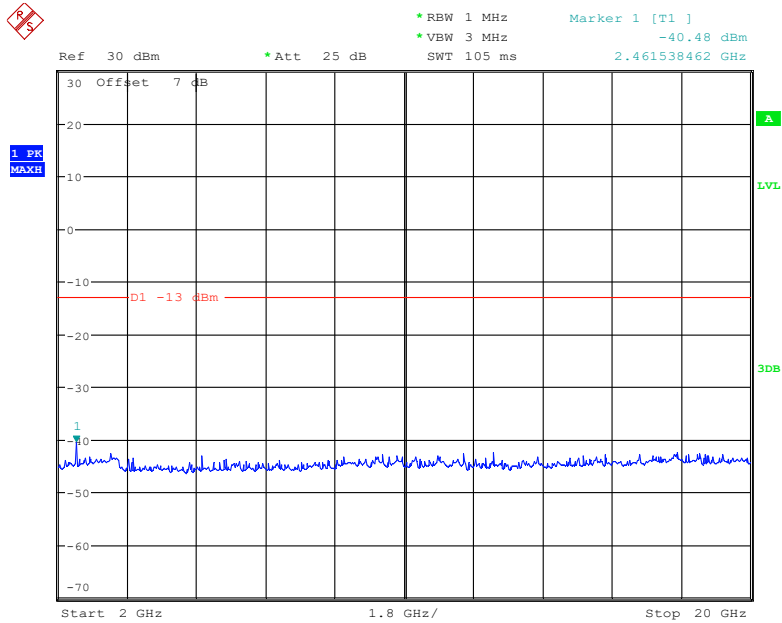
Date: 19.MAY.2022 10:19:46

1 GHz – 2 GHz (GSM Mode)



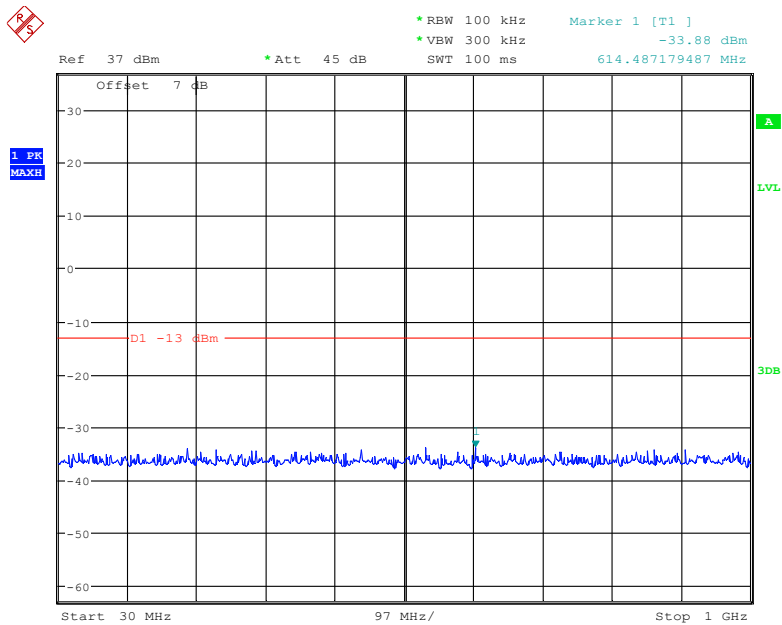
Date: 19.MAY.2022 10:21:54

### 2 GHz– 20 GHz (GSM Mode)



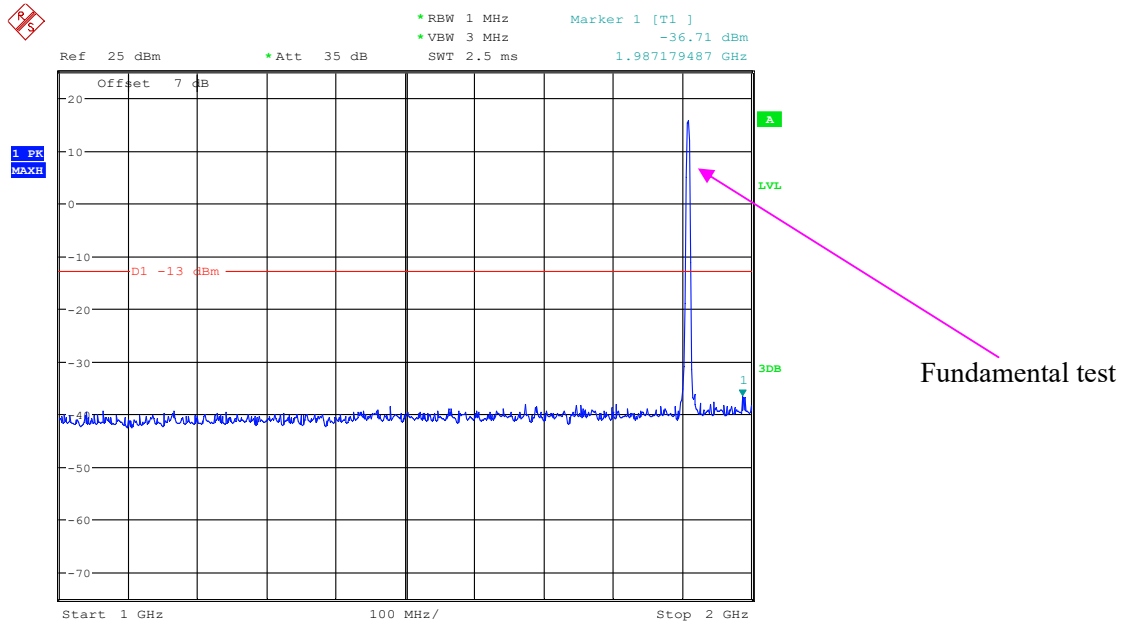
Date: 19.MAY.2022 10:22:19

### 30 MHz – 1 GHz (WCDMA Mode)



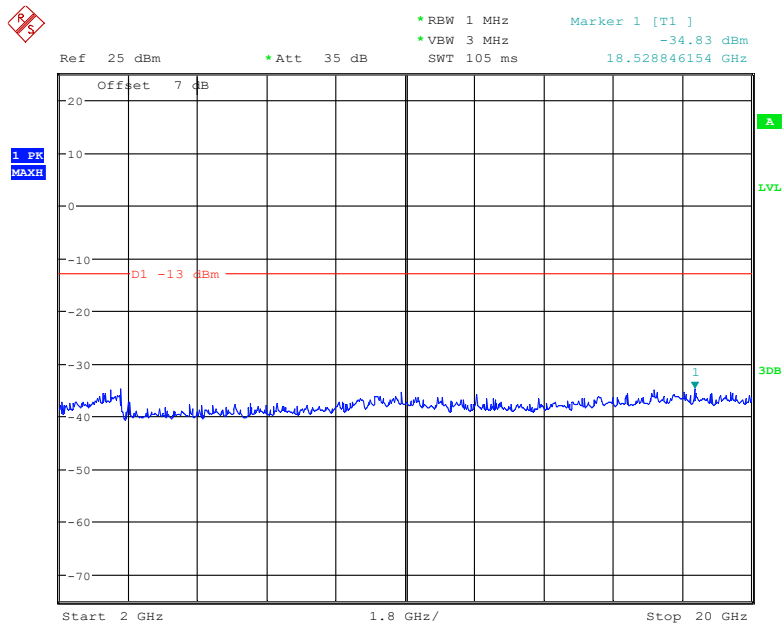
Date: 19.MAY.2022 11:00:32

### 1 GHz – 2 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:01:53

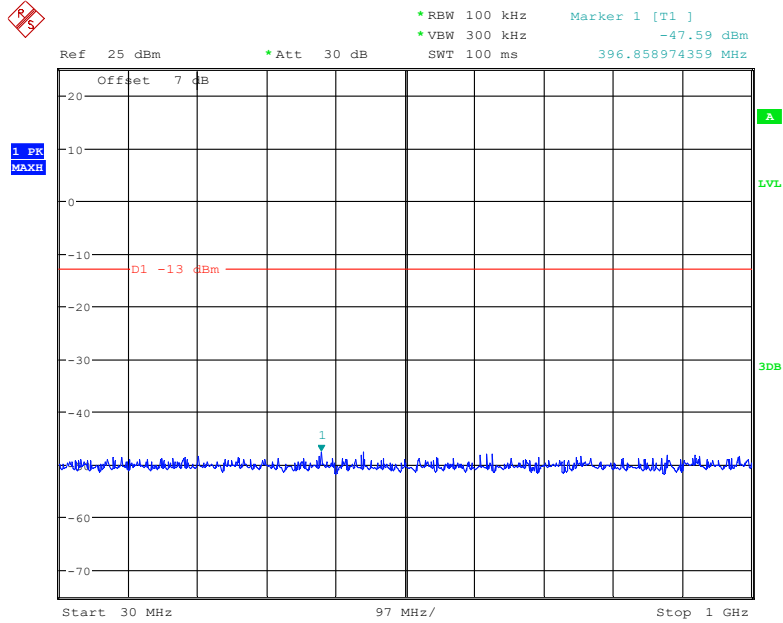
### 2GHz – 20 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:04:08

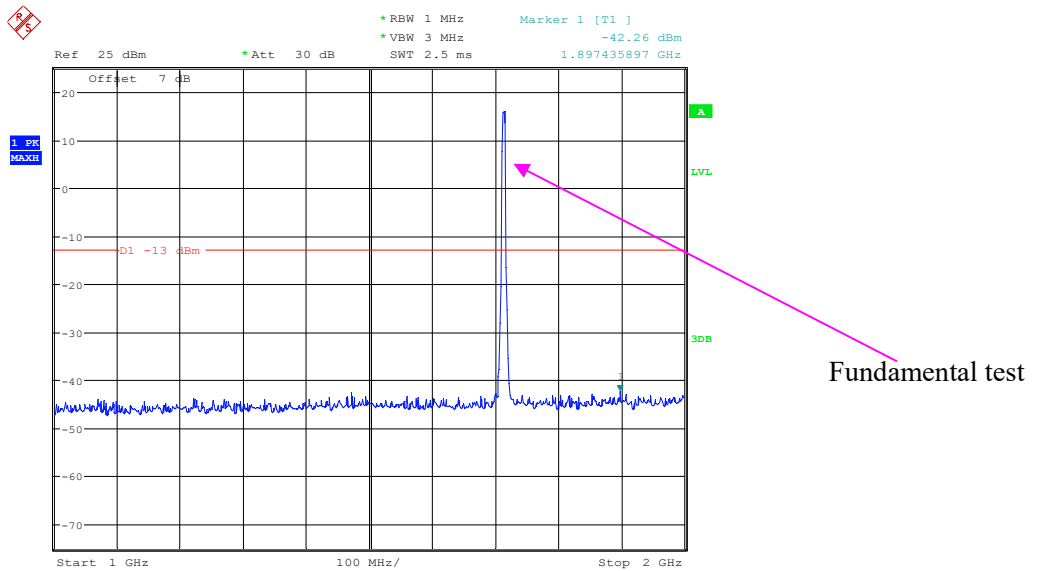
**AWS Band (Part 27)  
Low Channel:**

**30 MHz – 1 GHz (WCDMA Mode)**



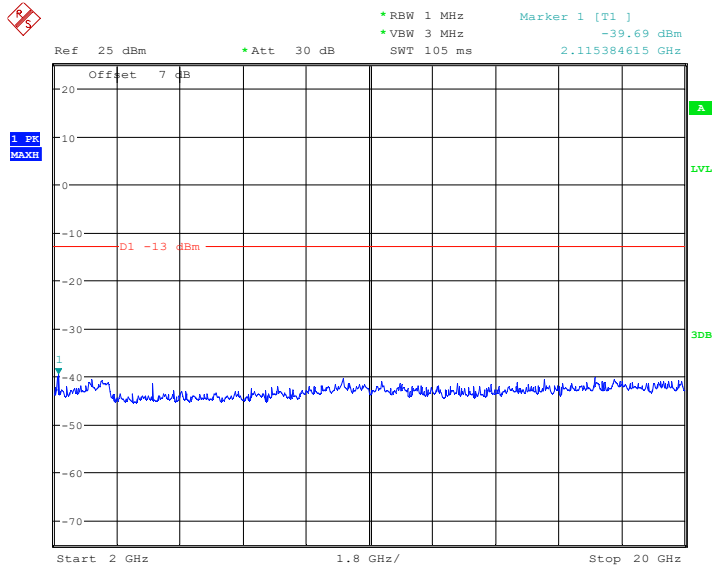
Date: 19.MAY.2022 11:29:45

**1 GHz – 2 GHz (WCDMA Mode)**



Date: 19.MAY.2022 11:27:09

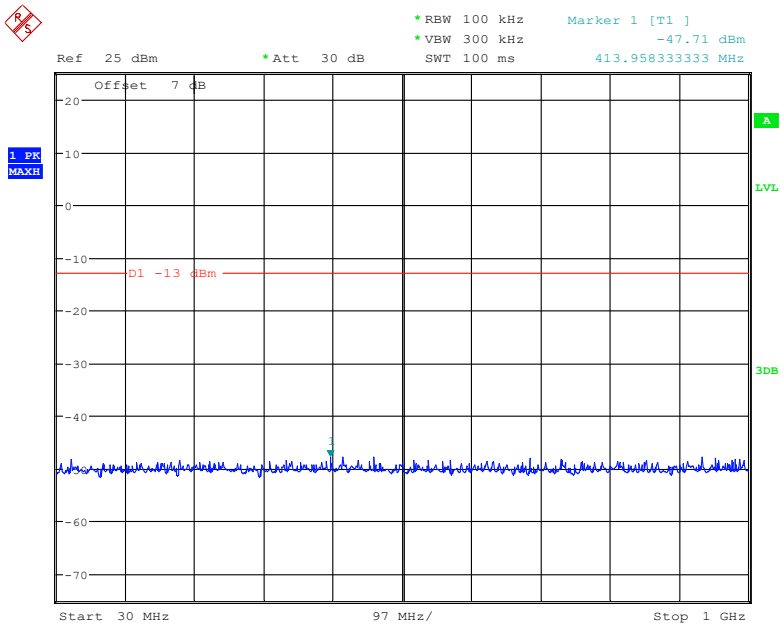
### 2 GHz – 20 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:29:14

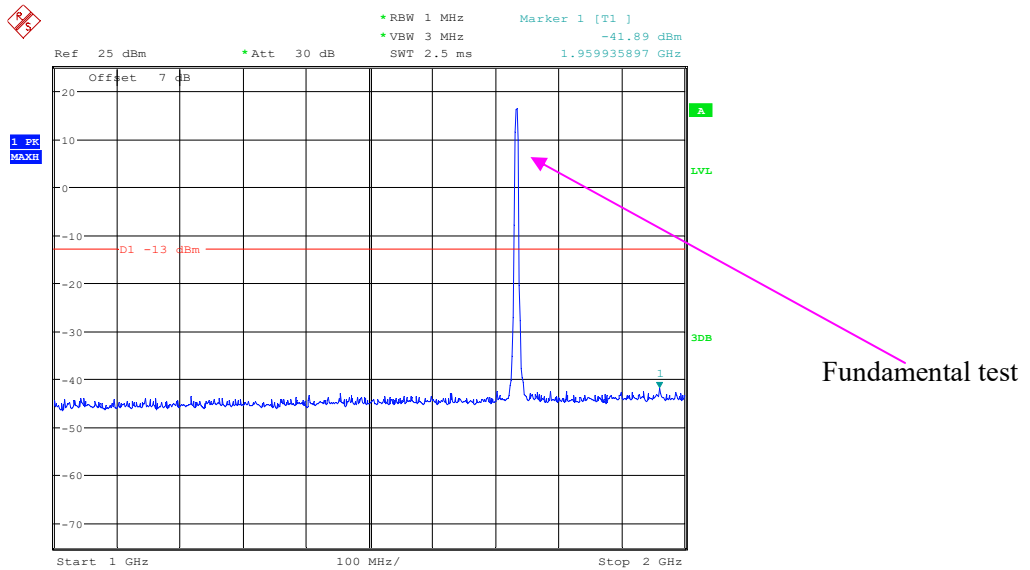
### Middle Channel

### 30 MHz – 1 GHz (WCDMA Mode)



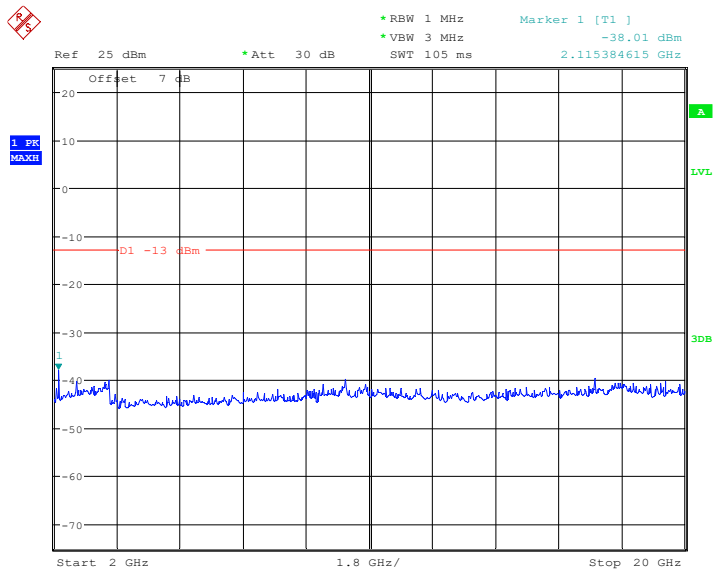
Date: 19.MAY.2022 11:30:08

### 1 GHz – 2 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:28:00

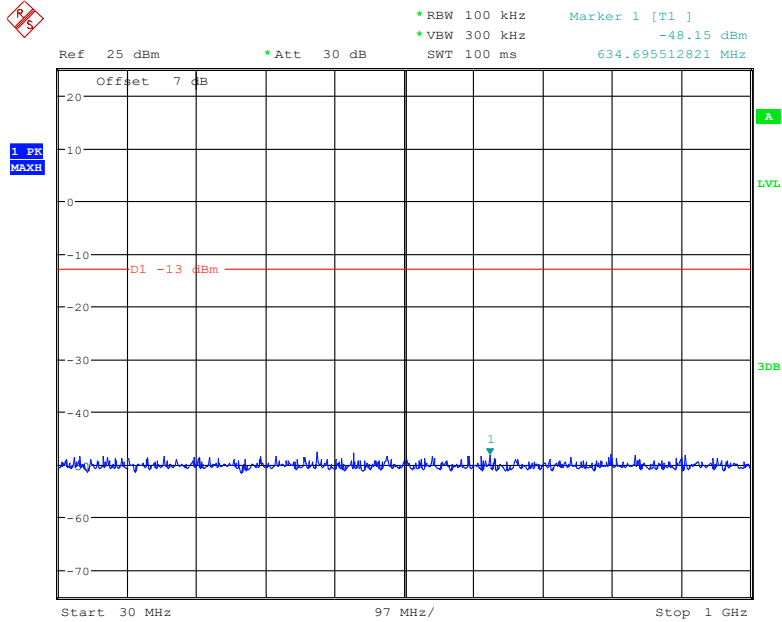
### 2 GHz – 20 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:28:58

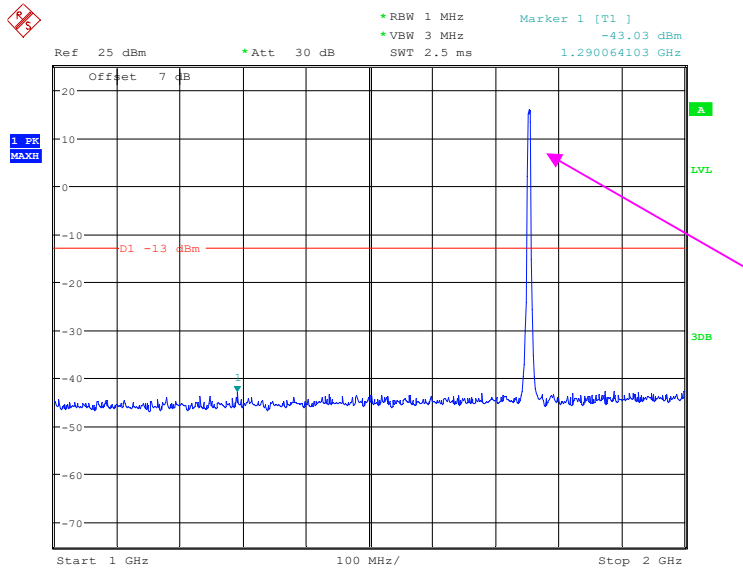
High Channel:

30 MHz – 1 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:30:24

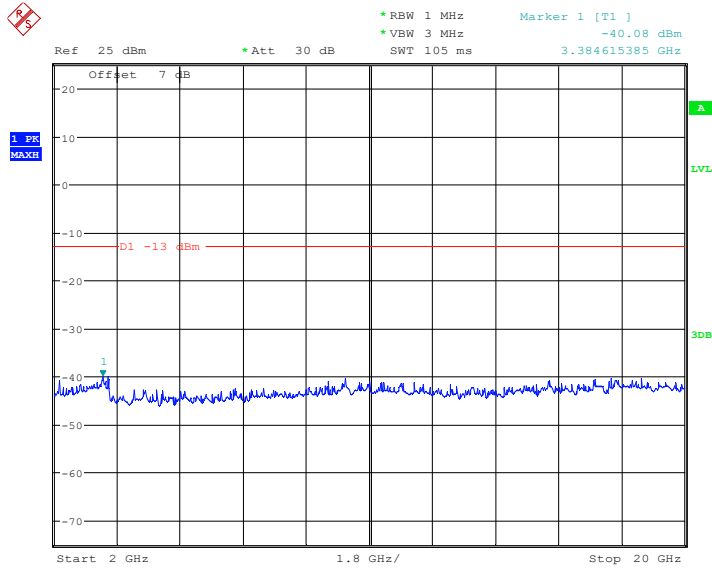
1 GHz – 2 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:28:26



### 2 GHz – 20 GHz (WCDMA Mode)



Date: 19.MAY.2022 11:28:42

The test plots of LTE band please refer to the Appendix B.

## **FCC § 2.1053; § 22.917 (a);§ 24.238 (a); §27.53- SPURIOUS RADIATED EMISSIONS**

### **Applicable Standard**

FCC § 2.1053, §22.917(a)& § 24.238(a) &§ 27.53.

### **Test Procedure**

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

### **Test Data**

#### **Environmental Conditions**

<b>Temperature:</b>	25.7 °C
<b>Relative Humidity:</b>	59 %
<b>ATM Pressure:</b>	101.0 kPa

*The testing was performed by Level Li from 2022-05-01 to 2022-05-03.*

*Test mode: Transmitting (Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

*The worst case is as below:*

**30MHz-10GHz:****Cellular Band (Part 22H)**

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
GSM850								
Low Channel								
955.57	-72.58	255	2.1	H	10.0	-62.58	-13	49.58
955.57	-77.21	3	2.4	V	11.7	-65.51	-13	52.51
1648.4	-45.6	47	1.4	H	3.5	-42.1	-13	29.1
1648.4	-48.5	280	1.2	V	3.1	-45.4	-13	32.4
2472.6	-41.1	304	1.5	H	6.6	-34.5	-13	21.5
2472.6	-40.9	73	1.3	V	5.8	-35.1	-13	22.1
3296.8	-51.9	29	1.6	H	6.4	-45.5	-13	32.5
3296.8	-47.6	335	1.5	V	5.7	-41.9	-13	28.9
Middle Channel								
956.15	-70.97	41	1.7	H	10.0	-60.97	-13	47.97
956.15	-76.70	345	2.1	V	11.7	-65.00	-13	52.00
1673.2	-46.9	109	1.4	H	3.8	-43.1	-13	30.1
1673.2	-48.4	133	1.6	V	3.1	-45.3	-13	32.3
2509.8	-44.8	32	1.2	H	6.2	-38.6	-13	25.6
2509.8	-46.2	301	1.0	V	5.5	-40.7	-13	27.7
3346.4	-50.9	343	1.2	H	6.6	-44.3	-13	31.3
3346.4	-48.8	342	1.9	V	5.4	-43.4	-13	30.4
High Channel								
953.01	-71.65	100	1.5	H	10.0	-61.65	-13	48.65
953.01	-74.81	81	2.5	V	11.7	-63.11	-13	50.11
1697.6	-48.3	244	1.6	H	4.1	-44.2	-13	31.2
1697.6	-47.3	218	1.3	V	3.1	-44.2	-13	31.2
2546.4	-45.8	167	2.0	H	6.1	-39.7	-13	26.7
2546.4	-50.3	314	2.4	V	5.8	-44.5	-13	31.5
3395.2	-50.3	45	1.8	H	6.2	-44.1	-13	31.1
3395.2	-49.5	160	2.3	V	5.4	-44.1	-13	31.1

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
WCDMA Band 5								
Low Channel								
952.78	-72.84	20	2.0	H	10.0	-62.84	-13	49.84
952.78	-76.84	100	1.8	V	11.7	-65.14	-13	52.14
1652.8	-56.3	83	1.7	H	3.5	-52.8	-13	39.8
1652.8	-54.2	135	1.6	V	3.1	-51.1	-13	38.1
2479.2	-56.0	147	1.9	H	6.6	-49.4	-13	36.4
2479.2	-55.6	173	2.4	V	5.8	-49.8	-13	36.8
3305.6	-51.2	276	1.0	H	6.4	-44.8	-13	31.8
3305.6	-51.2	309	2.2	V	5.7	-45.5	-13	32.5
Middle Channel								
955.80	-71.51	121	1.9	H	10.0	-61.51	-13	48.51
955.80	-76.13	33	1.4	V	11.7	-64.43	-13	51.43
1673.2	-49.8	296	1.0	H	3.5	-46.3	-13	33.3
1673.2	-50.9	234	2.4	V	3.1	-47.8	-13	34.8
2509.8	-56.4	231	1.6	H	6.6	-49.8	-13	36.8
2509.8	-55.9	357	2.3	V	5.8	-50.1	-13	37.1
3346.4	-51.0	348	1.9	H	6.4	-44.6	-13	31.6
3346.4	-51.1	175	2.1	V	5.7	-45.4	-13	32.4
High Channel								
953.54	-70.76	44	2.0	H	10.0	-60.76	-13	47.76
953.54	-75.29	54	1.7	V	11.7	-63.59	-13	50.59
1693.2	-55.0	65	1.7	H	4.1	-50.9	-13	37.9
1693.2	-54.2	313	1.6	V	3.1	-51.1	-13	38.1
2539.8	-55.3	98	1.2	H	6.1	-49.2	-13	36.2
2539.8	-55.1	72	1.3	V	5.8	-49.3	-13	36.3
3386.4	-51.1	71	2.1	H	6.2	-44.9	-13	31.9
3386.4	-50.8	84	2.1	V	5.4	-45.4	-13	32.4

**30MHz-20GHz:****PCS Band (Part 24E)**

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
GSM 1900								
Low Channel								
956.70	-70.71	134	2.2	H	10.0	-60.71	-13	47.71
956.70	-77.70	232	1.7	V	11.7	-66.00	-13	53.00
3700.4	-54.2	24	1.3	H	8.1	-46.1	-13	33.1
3700.4	-52.7	230	1.4	V	7.6	-45.1	-13	32.1
5550.6	-52.4	274	1.6	H	9.6	-42.8	-13	29.8
5550.6	-52.2	51	1.6	V	9.1	-43.1	-13	30.1
Middle Channel								
953.58	-71.97	110	1.9	H	10.0	-61.97	-13	48.97
953.58	-77.23	297	2.2	V	11.7	-65.53	-13	52.53
3760	-54.2	156	2.3	H	8.8	-45.4	-13	32.4
3760	-54.2	202	1.1	V	8	-46.2	-13	33.2
5640	-51.6	349	1.5	H	10.2	-41.4	-13	28.4
5640	-52.2	107	1.3	V	9.5	-42.7	-13	29.7
High Channel								
951.31	-72.74	217	1.4	H	10.0	-62.74	-13	49.74
951.31	-74.95	297	2.1	V	11.7	-63.25	-13	50.25
3819.6	-52.2	276	2.2	H	8.7	-43.5	-13	30.5
3819.6	-53.4	203	1.6	V	8	-45.4	-13	32.4
5729.4	-50.1	321	2.4	H	10.8	-39.3	-13	26.3
5729.4	-49.2	24	1.5	V	10.4	-38.8	-13	25.8

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
WCDMA Band 2								
Low Channel								
950.53	-72.40	334	1.3	H	10.0	-62.40	-13	49.40
950.53	-76.85	102	1.8	V	11.7	-65.15	-13	52.15
3704.8	-51.2	192	1.6	H	8.1	-43.1	-13	30.1
3704.8	-46.3	54	1.3	V	7.6	-38.7	-13	25.7
5557.2	-53.2	40	1.4	H	9.6	-43.6	-13	30.6
5557.2	-52.1	118	1.4	V	9.1	-43	-13	30.0
Middle Channel								
954.35	-71.26	229	2.0	H	10.0	-61.26	-13	48.26
954.35	-76.34	306	2.2	V	11.7	-64.64	-13	51.64
3760	-54.6	14	2.3	H	8.8	-45.8	-13	32.8
3760	-51.5	173	1.4	V	8	-43.5	-13	30.5
5640	-54.8	143	2.4	H	10.2	-44.6	-13	31.6
5640	-53.4	42	1.4	V	9.5	-43.9	-13	30.9
High Channel								
954.74	-72.58	271	1.7	H	10.0	-62.58	-13	49.58
954.74	-75.70	341	2.4	V	11.7	-64.00	-13	51.00
3815.2	-53.3	74	2.3	H	8.7	-44.6	-13	31.6
3815.2	-51.3	335	2.4	V	8	-43.3	-13	30.3
5722.8	-55.2	20	2.2	H	10.4	-44.8	-13	31.8
5722.8	-53.7	304	2.2	V	9.9	-43.8	-13	30.8

**30MHz-20GHz:****AWS Band (Part 27E)**

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
WCDMA Band 4								
Low Channel								
956.08	-70.86	344	1.6	H	10.0	-60.86	-13	47.86
956.08	-75.46	313	1.7	V	11.7	-63.76	-13	50.76
3424.8	-48.6	137	2.2	H	6.4	-42.2	-13	29.2
3424.8	-47.5	46	2.4	V	5.7	-41.8	-13	28.8
5137.2	-54.3	117	2.1	H	11.3	-43	-13	30.0
5137.2	-55.4	11	1.3	V	10.8	-44.6	-13	31.6
Middle Channel								
952.33	-70.31	272	1.0	H	10.0	-60.31	-13	47.31
952.33	-76.37	280	2.1	V	11.7	-64.67	-13	51.67
3465.2	-50.5	166	1.2	H	7	-43.5	-13	30.5
3465.2	-49.9	5	1.6	V	6.2	-43.7	-13	30.7
5197.8	-54.8	314	1.8	H	10.4	-44.4	-13	31.4
5197.8	-54.1	40	2.1	V	9.8	-44.3	-13	31.3
High Channel								
952.51	-71.93	350	1.2	H	10.0	-61.93	-13	48.93
952.51	-76.52	53	1.8	V	11.7	-64.82	-13	51.82
3505.2	-49.7	9	2.3	H	7.8	-41.9	-13	28.9
3505.2	-48.8	185	2.4	V	6.6	-42.2	-13	29.2
5257.8	-53.3	228	1.0	H	9.5	-43.8	-13	30.8
5257.8	-52.4	89	1.5	V	8.9	-43.5	-13	30.5

**LTE Band:** (Pre-scan with all the bandwidth and modulation, and worst case as below)

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 2								
Test frequency range: 30MHz-20GHz								
QPSK, 1.4MHz bandwidth, Low Channel								
951.83	-72.23	205	2.0	H	10.0	-62.23	-13	49.23
951.83	-75.82	145	1.1	V	11.7	-64.12	-13	51.12
3701.4	-46.3	17	1.3	H	8.1	-38.2	-13	25.2
3701.4	-41.7	202	2.1	V	7.6	-34.1	-13	21.1
5552.1	-50.4	278	2.2	H	9.6	-40.8	-13	27.8
5552.1	-47.7	86	2.0	V	9.1	-38.6	-13	25.6
QPSK, 1.4MHz bandwidth, Middle Channel								
950.40	-72.96	179	1.7	H	10.0	-62.96	-13	49.96
950.40	-77.08	320	2.5	V	11.7	-65.38	-13	52.38
3760	-51.8	184	1.4	H	8.8	-43	-13	30.0
3760	-48.6	10	1.4	V	8	-40.6	-13	27.6
5640	-54.3	147	2.4	H	10.2	-44.1	-13	31.1
5640	-52.4	234	1.1	V	9.5	-42.9	-13	29.9
QPSK, 1.4MHz bandwidth, High Channel								
955.17	-71.21	295	1.2	H	10.0	-61.21	-13	48.21
955.17	-75.58	252	1.5	V	11.7	-63.88	-13	50.88
3818.6	-50.5	200	1.1	H	8.7	-41.8	-13	28.8
3818.6	-47.1	29	1.1	V	8	-39.1	-13	26.1
5727.9	-53.1	246	2.5	H	10.6	-42.5	-13	29.5
5727.9	-51.4	226	2.3	V	10.2	-41.2	-13	28.2



Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 4								
Test frequency range: 30MHz-20GHz								
QPSK, 1.4MHz bandwidth, Low Channel								
950.09	-72.21	158	1.4	H	10.0	-62.21	-13	49.21
950.09	-74.79	68	1.8	V	11.7	-63.09	-13	50.09
3421.4	-44.7	12	2.1	H	6.4	-38.3	-13	25.3
3421.4	-43.5	298	1.8	V	5.7	-37.8	-13	24.8
5132.1	-48.0	107	2.5	H	11.3	-36.7	-13	23.7
5132.1	-54.4	69	1.7	V	10.8	-43.6	-13	30.6
QPSK, 1.4MHz bandwidth, Middle Channel								
951.68	-70.59	148	2.5	H	10.0	-60.59	-13	47.59
951.68	-75.76	203	2.1	V	11.7	-64.06	-13	51.06
3465	-48.1	188	2.2	H	7	-41.1	-13	28.1
3465	-47.9	266	2.1	V	6.2	-41.7	-13	28.7
5197.5	-46.5	19	1.2	H	10.4	-36.1	-13	23.1
5197.5	-51.1	126	1.2	V	9.8	-41.3	-13	28.3
QPSK, 1.4MHz bandwidth, High Channel								
950.68	-72.66	192	2.5	H	10.0	-62.66	-13	49.66
950.68	-77.50	53	2.1	V	11.7	-65.80	-13	52.80
3508.6	-47.7	175	2.0	H	7.8	-39.9	-13	26.9
3508.6	-47.0	44	1.6	V	6.6	-40.4	-13	27.4
5262.9	-45.9	299	1.6	H	9.5	-36.4	-13	23.4
5262.9	-47.6	26	1.8	V	8.9	-38.7	-13	25.7

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 5								
Test frequency range: 30MHz-10GHz								
QPSK, 1.4MHz bandwidth, Low Channel								
950.53	-71.06	314	2.0	H	10.0	-61.06	-13	48.06
950.53	-75.10	18	2.5	V	11.7	-63.40	-13	50.40
1649.4	-56.7	332	1.9	H	3.5	-53.2	-13	40.2
1649.4	-55.5	306	1.1	V	3.1	-52.4	-13	39.4
2474.1	-55.1	99	1.7	H	6.6	-48.5	-13	35.5
2474.1	-55.0	275	2.4	V	5.8	-49.2	-13	36.2
3298.8	-47.6	230	1.2	H	6.4	-41.2	-13	28.2
3298.8	-49.7	123	1.4	V	5.7	-44	-13	31.0
QPSK, 1.4MHz bandwidth, Middle Channel								
956.85	-70.31	263	2.4	H	10.0	-60.31	-13	47.31
956.85	-76.72	305	1.4	V	11.7	-65.02	-13	52.02
1673	-49.5	241	2.1	H	3.8	-45.7	-13	32.7
1673	-50.6	123	1.9	V	3.1	-47.5	-13	34.5
2509.5	-55.1	301	2.4	H	6.2	-48.9	-13	35.9
2509.5	-54.5	223	1.4	V	5.5	-49	-13	36.0
3346	-47.5	73	1.3	H	6.6	-40.9	-13	27.9
3346	-49.1	104	1.8	V	5.4	-43.7	-13	30.7
QPSK, 1.4MHz bandwidth, High Channel								
952.95	-71.20	321	1.2	H	10.0	-61.20	-13	48.20
952.95	-76.66	192	2.4	V	11.7	-64.96	-13	51.96
1696.6	-57.2	32	1.6	H	4.1	-53.1	-13	40.1
1696.6	-54.8	255	1.6	V	3.1	-51.7	-13	38.7
2544.9	-52.0	236	1.5	H	6.1	-45.9	-13	32.9
2544.9	-51.3	296	2.0	V	5.8	-45.5	-13	32.5
3393.2	-47.6	42	1.4	H	6.2	-41.4	-13	28.4
3393.2	-49.8	270	1.9	V	5.4	-44.4	-13	31.4

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 7								
Test frequency range: 30MHz-26.5GHz								
QPSK, 5MHz bandwidth, Low Channel								
950.27	-70.90	52	1.3	H	10.0	-60.90	-25	35.90
950.27	-76.78	9	1.9	V	11.7	-65.08	-25	40.08
5005	-44.3	215	1.9	H	10.8	-33.5	-25	8.5
5005	-48.3	174	2.1	V	10.2	-38.1	-25	13.1
7507.5	-61.0	6	1.2	H	20.3	-40.7	-25	15.7
7507.5	-61.1	328	1.3	V	20.1	-41	-25	16.0
QPSK, 5MHz bandwidth, Middle Channel								
954.52	-71.24	115	1.3	H	9.8	-61.44	-25	36.44
954.52	-77.08	126	2.2	V	11.7	-65.38	-25	40.38
5070	-44.5	73	1.7	H	11.1	-33.4	-25	8.4
5070	-51.4	6	1.8	V	10.8	-40.6	-25	15.6
7605	-65.8	355	1.9	H	21.2	-44.6	-25	19.6
7605	-64.7	339	2.3	V	20.1	-44.6	-25	19.6
QPSK, 5MHz bandwidth, High Channel								
950.28	-71.36	252	1.3	H	10.0	-61.36	-25	36.36
950.28	-75.17	210	2.0	V	11.7	-63.47	-25	38.47
5135	-45.3	190	2.2	H	11.3	-34	-25	9.0
5135	-53.1	179	1.8	V	10.8	-42.3	-25	17.3
7702.5	-65.1	119	2.1	H	21.2	-43.9	-25	18.9
7702.5	-64.9	351	1.7	V	21	-43.9	-25	18.9

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 13								
Test frequency range: 30MHz-8GHz								
QPSK, 5MHz bandwidth, Low Channel								
956.24	-61.05	11	1.7	H	-0.2	-61.25	-13	48.25
956.24	-67.07	177	1.6	V	3.1	-63.97	-13	50.97
1559	-52.4	346	1.0	H	4.2	-48.2	-40	8.2
1559	-54.2	203	1.2	V	3.3	-50.9	-40	10.9
2338.5	-57.7	276	1.4	H	7.3	-50.4	-13	37.4
2338.5	-57.5	83	1.4	V	6.5	-51	-13	38.0
3118	-46.3	246	2.3	H	7.3	-39	-13	26.0
3118	-49.8	287	2.0	V	6.5	-43.3	-13	30.3
QPSK, 5MHz bandwidth, Middle Channel								
955.62	-70.37	37	2.1	H	10.0	-60.37	-13	47.37
955.62	-75.78	315	1.6	V	11.7	-64.08	-13	51.08
1564	-55.7	194	2.0	H	4.2	-51.5	-40	11.5
1564	-55.2	4	1.9	V	3.3	-51.9	-40	11.9
2346	-53.3	89	1.8	H	7.3	-46	-13	33.0
2346	-57.4	84	1.8	V	6.4	-51	-13	38.0
3128	-41.0	342	1.3	H	7.3	-33.7	-13	20.7
3128	-47.5	1	2.4	V	6.6	-40.9	-13	27.9
QPSK, 5MHz bandwidth, High Channel								
955.83	-72.32	138	2.1	H	10.0	-62.32	-13	49.32
955.83	-77.20	265	1.5	V	11.7	-65.50	-13	52.50
1569	-57.3	330	1.8	H	4.2	-53.1	-40	13.1
1569	-57.0	196	2.0	V	3.3	-53.7	-40	13.7
2353.5	-51.8	258	1.8	H	7.3	-44.5	-13	31.5
2353.5	-54.6	99	1.4	V	6.4	-48.2	-13	35.2
3138	-41.8	309	1.0	H	7.4	-34.4	-13	21.4
3138	-48.1	274	2.3	V	6.6	-41.5	-13	28.5

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 17								
Test frequency range: 30MHz-8GHz								
QPSK, 5MHz bandwidth, Low Channel								
956.03	-70.94	147	1.9	H	10.0	-60.94	-13	47.94
956.03	-76.09	277	2.0	V	11.7	-64.39	-13	51.39
1413	-58.4	259	1.5	H	5.7	-52.7	-13	39.7
1413	-60.4	281	1.8	V	5.4	-55	-13	42.0
2119.5	-48.6	118	1.5	H	6.6	-42	-13	29.0
2119.5	-51.6	167	1.7	V	5.7	-45.9	-13	32.9
2826	-43.9	126	2.4	H	7.1	-36.8	-13	23.8
2826	-46.8	189	1.6	V	6.5	-40.3	-13	27.3
QPSK, 5MHz bandwidth, Middle Channel								
951.32	-70.68	215	1.0	H	10.0	-60.68	-13	47.68
951.32	-77.62	133	2.2	V	11.7	-65.92	-13	52.92
1420	-56.3	23	1.1	H	5.6	-50.7	-13	37.7
1420	-58.7	57	2.2	V	5.2	-53.5	-13	40.5
2130	-45.3	319	2.1	H	6.8	-38.5	-13	25.5
2130	-50.6	93	1.6	V	6.1	-44.5	-13	31.5
2840	-36.7	304	2.0	H	7	-29.7	-13	16.7
2840	-39.3	1	1.4	V	6.6	-32.7	-13	19.7
QPSK, 5MHz bandwidth, High Channel								
951.27	-71.64	347	1.3	H	10.0	-61.64	-13	48.64
951.27	-77.33	302	1.9	V	11.7	-65.63	-13	52.63
1427	-58.8	29	1.3	H	5.5	-53.3	-13	40.3
1427	-60.3	238	1.1	V	4.9	-55.4	-13	42.4
2140.5	-49.1	35	1.2	H	7	-42.1	-13	29.1
2140.5	-52.7	62	1.4	V	6.4	-46.3	-13	33.3
2854	-35.8	8	1.3	H	7.4	-28.4	-13	15.4
2854	-38.9	232	1.6	V	6.4	-32.5	-13	19.5

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 38								
Test frequency range: 30MHz-26.5GHz								
QPSK, 5MHz, Low Channel								
956.84	-71.55	135	1.5	H	10.0	-61.55	-25	36.55
956.84	-75.35	74	1.8	V	11.7	-63.65	-25	38.65
5145	-45.0	214	2.0	H	11.4	-33.6	-25	8.6
5145	-51.2	291	2.4	V	10.7	-40.5	-25	15.5
7717.5	-64.8	137	1.8	H	20.6	-44.2	-25	19.2
7717.5	-62.0	359	1.2	V	20.4	-41.6	-25	16.6
QPSK, 5MHz, Middle Channel								
952.65	-84.35	206	1.6	H	10.0	-74.35	-25	49.35
952.65	-88.80	7	1.5	V	11.7	-77.10	-25	52.10
5190	-53.3	321	2.0	H	10.5	-42.8	-25	-17.8
5190	-52.2	147	2.0	V	10	-42.2	-25	-17.2
7785	-61.6	163	1.2	H	18.3	-43.3	-25	-18.3
7785	-61.8	325	2.0	V	18	-43.8	-25	-18.8
QPSK, 5MHz, High Channel								
954.87	-72.34	60	1.9	H	10.0	-62.34	-25	37.34
954.87	-75.33	54	1.6	V	11.7	-63.63	-25	38.63
5235	-46.7	15	2.0	H	9.7	-37	-25	12.0
5235	-50.7	36	1.4	V	9.3	-41.4	-25	16.4
7852.5	-60.7	328	2.0	H	18.2	-42.5	-25	17.5
7852.5	-57.9	279	1.1	V	17.6	-40.3	-25	15.3

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 41								
Test frequency range: 30-26.5GHz								
QPSK, 5MHz, Low Channel								
953.87	-70.77	277	2.0	H	10.0	-60.77	-25	35.77
953.87	-75.29	355	1.0	V	11.7	-63.59	-25	38.59
5075	-45.9	211	1.9	H	11.2	-34.7	-25	9.7
5075	-52.7	283	1.7	V	10.8	-41.9	-25	16.9
7612.5	-64.4	242	1.8	H	21.2	-43.2	-25	18.2
7612.5	-64.6	74	2.3	V	20.2	-44.4	-25	19.4
QPSK, 5MHz bandwidth, Middle Channel								
950.91	-72.51	76	2.4	H	10.0	-62.51	-25	37.51
950.91	-75.32	84	1.9	V	11.7	-63.62	-25	38.62
5190	-45.9	353	2.1	H	10.52	-35.4	-25	10.4
5190	-50.7	296	1.5	V	10	-40.7	-25	15.7
7785	-58.2	255	1.1	H	18.3	-39.9	-25	14.9
7785	-57.9	47	2.0	V	18	-39.9	-25	14.9
QPSK, 5MHz bandwidth, High Channel								
952.71	-71.99	201	1.0	H	10.0	-61.99	-25	36.99
952.71	-75.28	245	2.5	V	11.7	-63.58	-25	38.58
5305	-45.0	128	1.6	H	9.6	-35.4	-25	10.4
5305	-49.5	74	1.8	V	8.8	-40.7	-25	15.7
7957.5	-58.8	262	1.4	H	18.9	-39.9	-25	14.9
7957.5	-58.4	305	2.2	V	18.5	-39.9	-25	14.9

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 66								
Test frequency range: 30-20GHz								
QPSK, 1.4MHz, Low Channel								
951.51	-71.23	352	1.4	H	10.0	-61.23	-13	48.23
951.51	-77.37	181	1.8	V	11.7	-65.67	-13	52.67
3421.4	-45.4	170	2.2	H	6.4	-39	-13	26.0
3421.4	-44.4	23	2.3	V	5.7	-38.7	-13	25.7
5132.1	-48.6	288	2.3	H	11.7	-36.9	-13	23.9
5132.1	-55.9	153	1.4	V	10.8	-45.1	-13	32.1
QPSK, 1.4MHz bandwidth, Middle Channel								
956.26	-71.51	19	1.9	H	10.0	-61.51	-13	48.51
956.26	-76.32	106	1.0	V	11.7	-64.62	-13	51.62
3510	-47.9	135	1.7	H	7.8	-40.1	-13	27.1
3510	-46.9	273	2.4	V	6.6	-40.3	-13	27.3
5265	-47.2	174	2.0	H	9.5	-37.7	-13	24.7
5265	-48.0	81	1.7	V	8.9	-39.1	-13	26.1
QPSK, 1.4MHz bandwidth, High Channel								
953.63	-72.30	115	1.0	H	10.0	-62.30	-13	49.30
953.63	-76.48	308	1.5	V	11.7	-64.78	-13	51.78
3558.6	-49.5	39	1.8	H	7.8	-41.7	-13	28.7
3558.6	-46.1	81	1.1	V	7	-39.1	-13	26.1
5337.9	-49.0	16	1.2	H	9.4	-39.6	-13	26.6
5337.9	-46.0	24	2.0	V	8.7	-37.3	-13	24.3

**Note:**

Absolute Level = Reading Level + Substituted Factor

Substituted Factor contains: SG Level - Cable loss+ Antenna Gain

Margin = Limit- Absolute Level



## **FCC§ 22.917 (a);§ 24.238 (a); §27.53 (c)(g)(h)(m) - BAND EDGES**

### **Applicable Standard**

According to § 22.917(a), the power of any emissions 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.

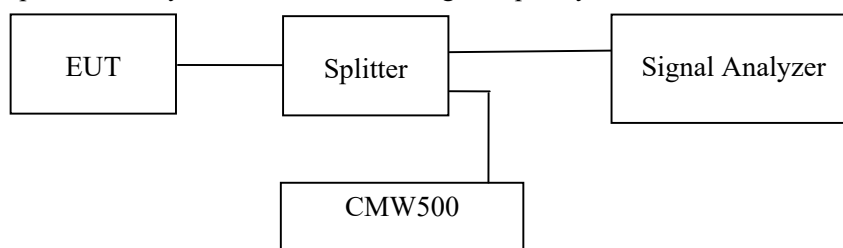
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

According to FCC §27.53 (c)(g)(h)(m), 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.

### **Test Procedure**

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency



### **Test Data**

#### **Environmental Conditions**

<b>Temperature:</b>	27.2 °C
<b>Relative Humidity:</b>	56.8 %
<b>ATM Pressure:</b>	101.0 kPa

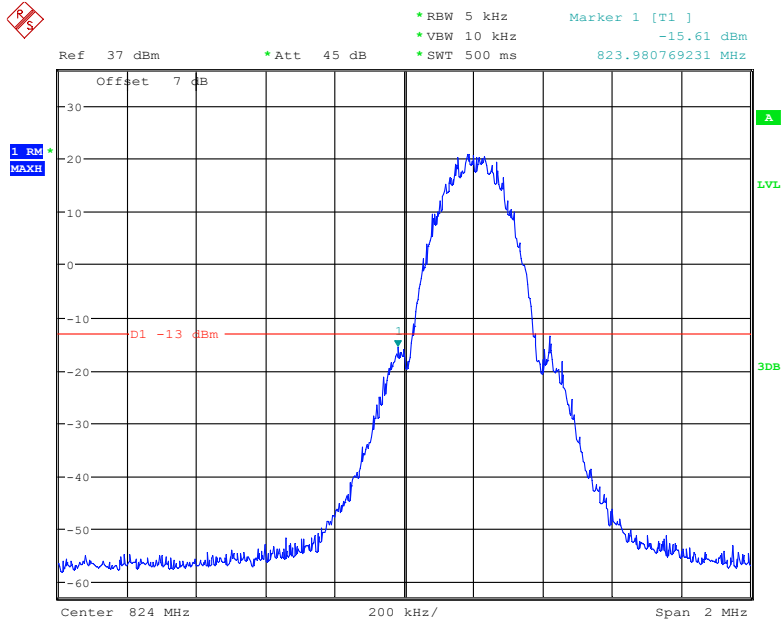
*The testing was performed by Black Ding from 2022-05-18 to 2022-06-01.*

*EUT operation mode: Transmitting (Worst case)*

**Test Result: Pass**

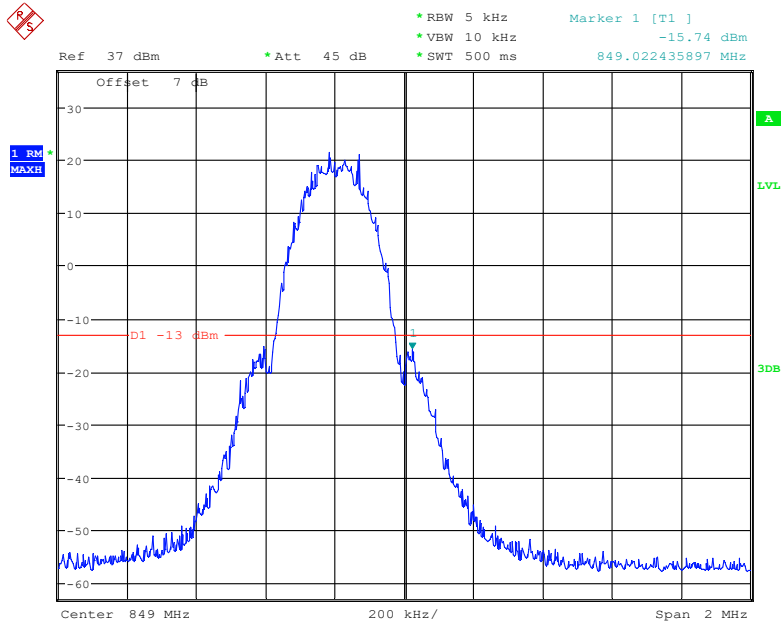
*Please refer to the following plots.*

### Cellular Band, Left Band Edge for GSM (GMSK) Mode



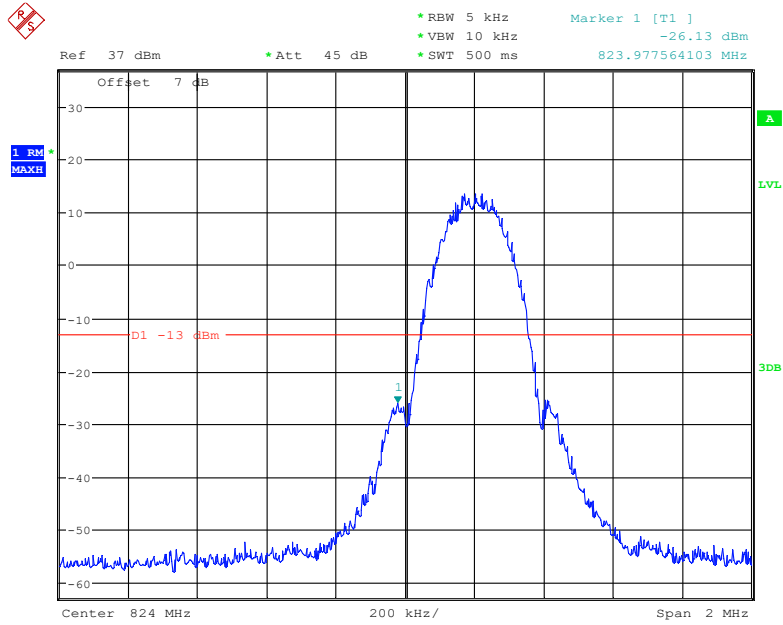
Date: 19.MAY.2022 09:49:56

### Cellular Band, Right Band Edge for GSM (GMSK) Mode



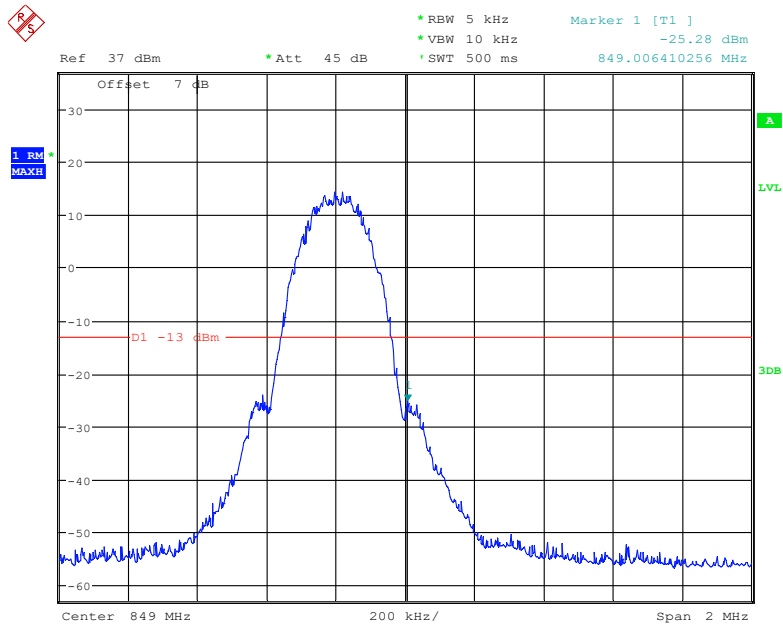
Date: 19.MAY.2022 09:48:33

### Cellular Band, Left Band Edge for EGPRS (8PSK) Mode



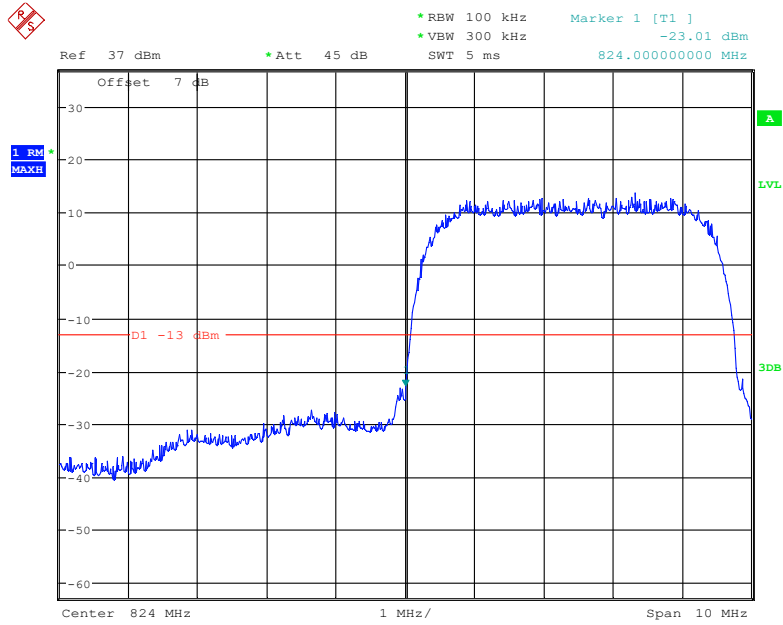
Date: 19.MAY.2022 10:02:15

### Cellular Band, Right Band Edge for EGPRS (8PSK) Mode



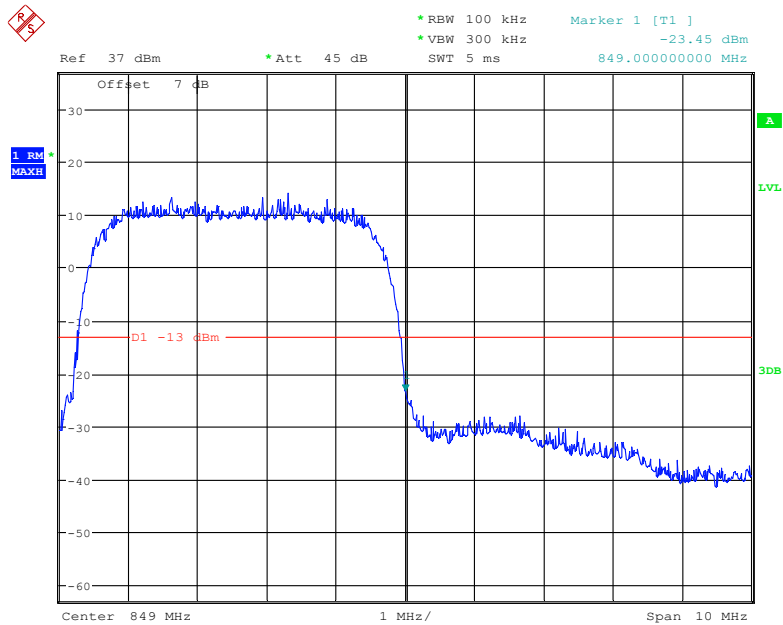
Date: 19.MAY.2022 10:01:04

### Cellular Band, Left Band Edge for RMC (BPSK) Mode



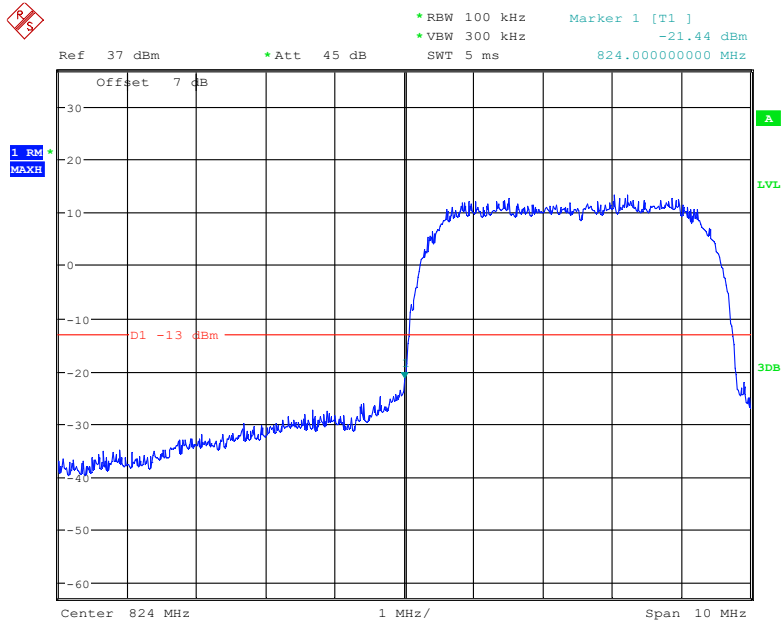
Date: 19.MAY.2022 11:15:41

### Cellular Band, Right Band Edge for RMC (BPSK) Mode



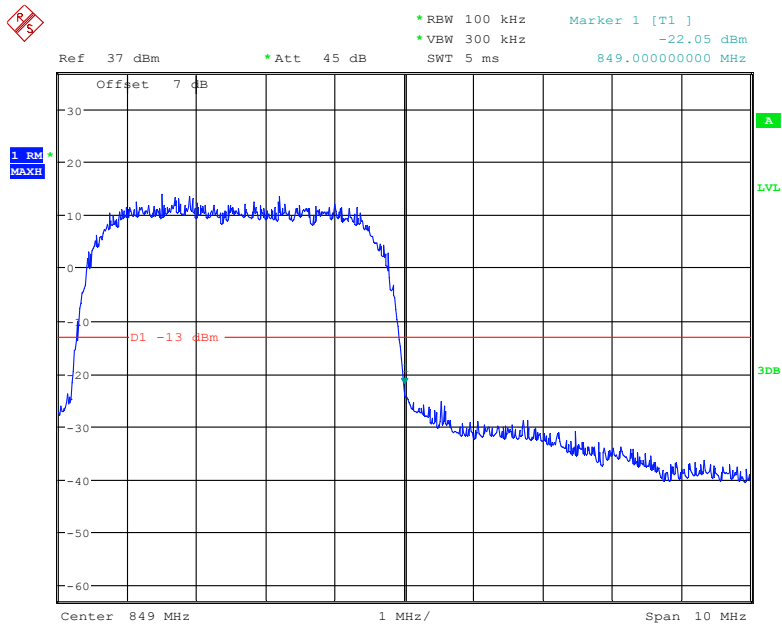
Date: 19.MAY.2022 11:15:58

### Cellular Band, Left Band Edge for HSDPA(16QAM) Mode



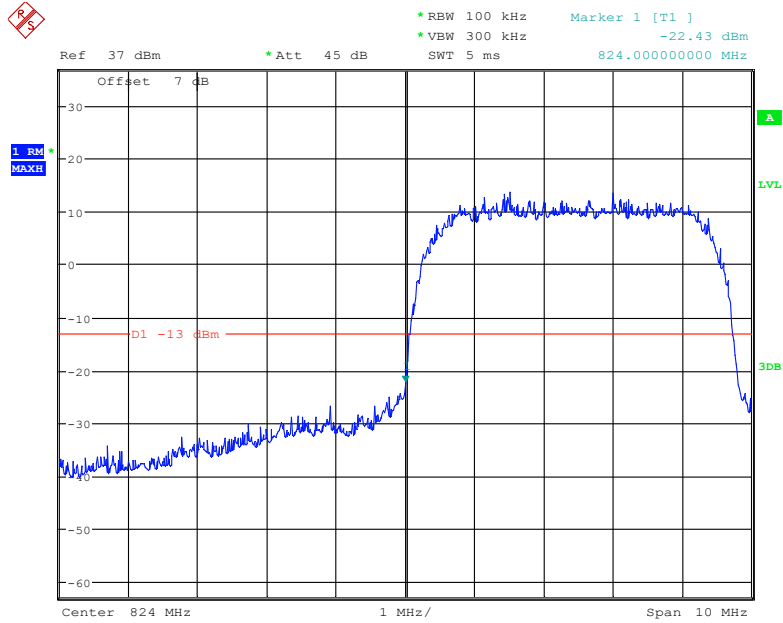
Date: 19.MAY.2022 11:48:05

### Cellular Band, Right Band Edge for HSDPA (16QAM) Mode



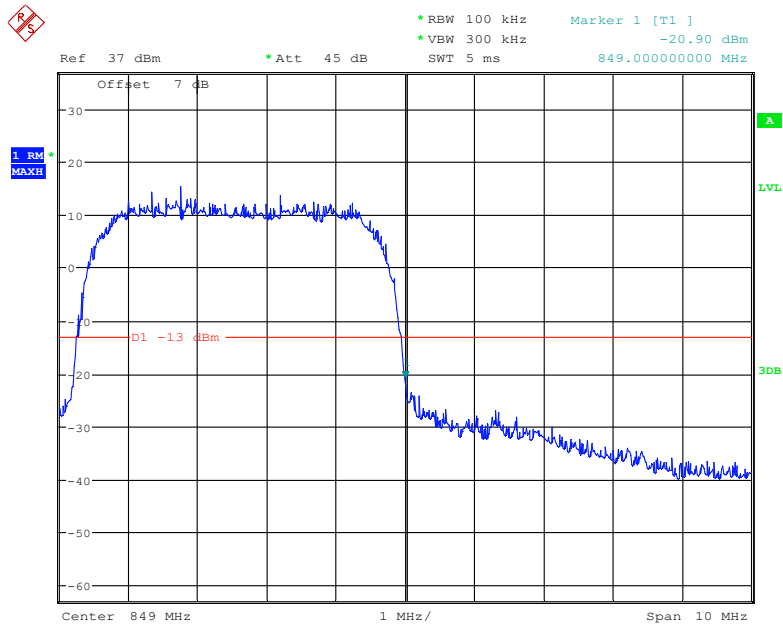
Date: 19.MAY.2022 11:48:24

### Cellular Band, Left Band Edge for HSUPA (QPSK) Mode



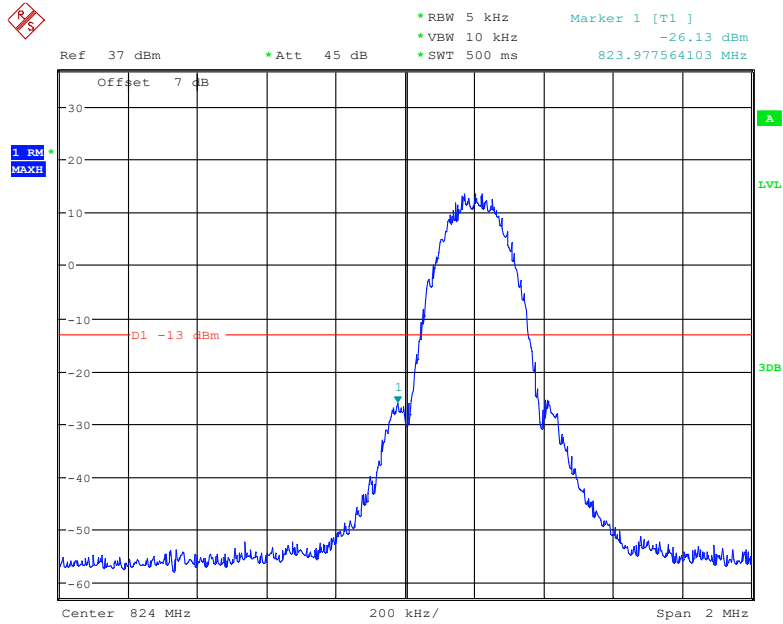
Date: 19.MAY.2022 11:56:38

### Cellular Band, Right Band Edge for HSUPA (QPSK) Mode



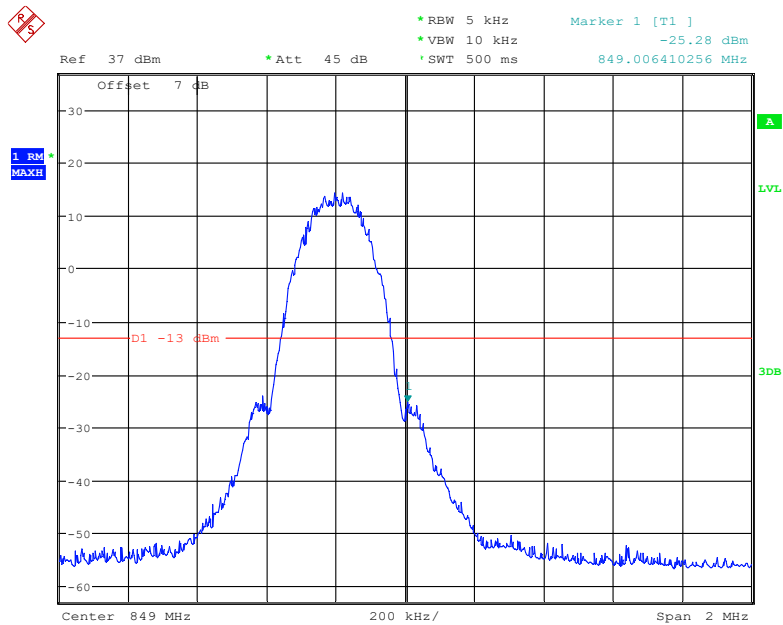
Date: 19.MAY.2022 11:56:03

### PCS Band, Left Band Edge for GSM (GMSK) Mode



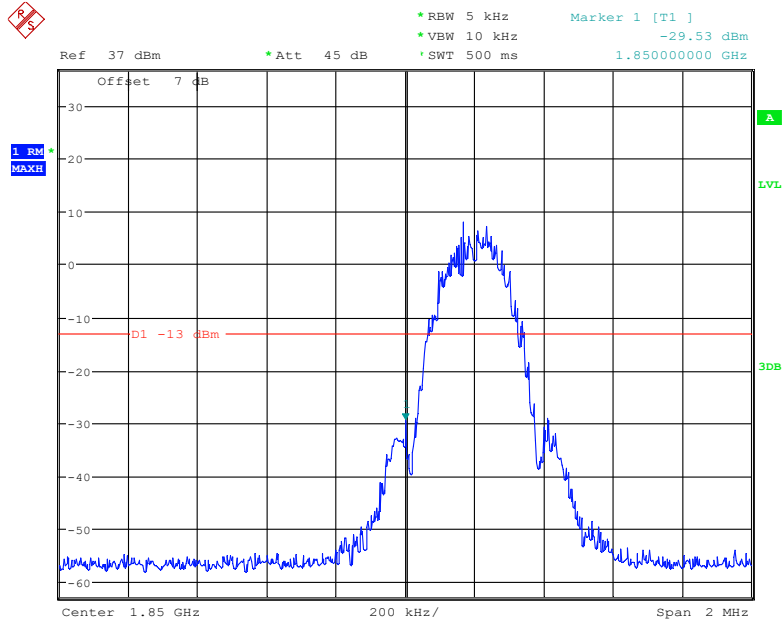
Date: 19.MAY.2022 10:02:15

### PCS Band, Right Band Edge for GSM (GMSK) Mode



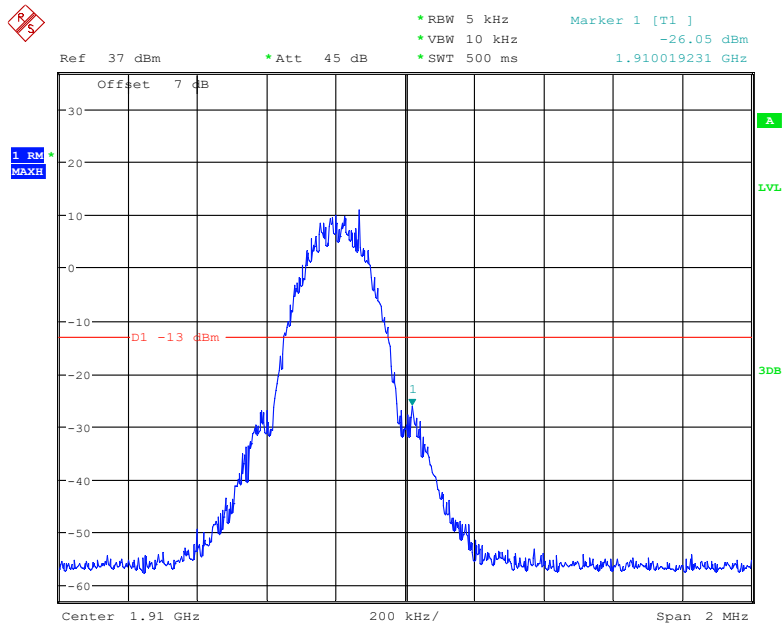
Date: 19.MAY.2022 10:01:04

### PCS Band, Left Band Edge for EGPRS (8PSK) Mode



Date: 19.MAY.2022 10:25:28

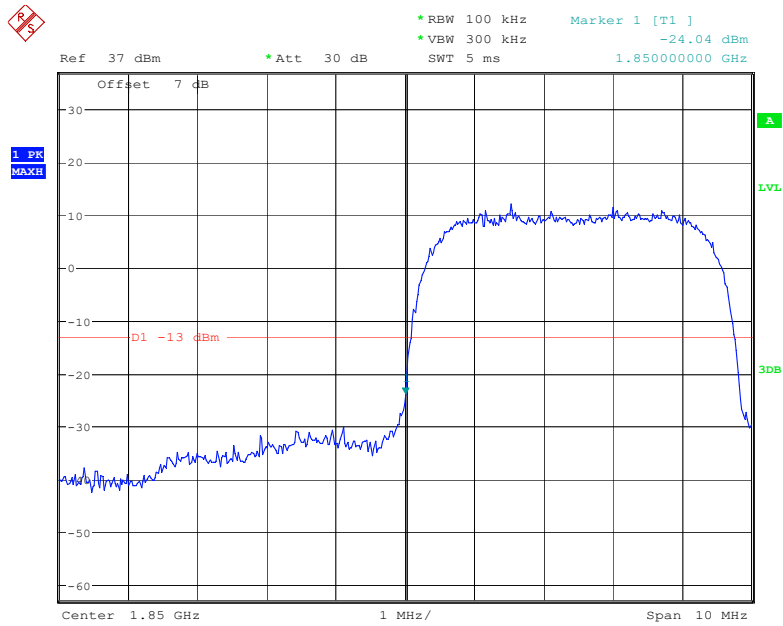
### PCS Band, Right Band Edge for EGPRS (8PSK) Mode



Date: 19.MAY.2022 10:16:33

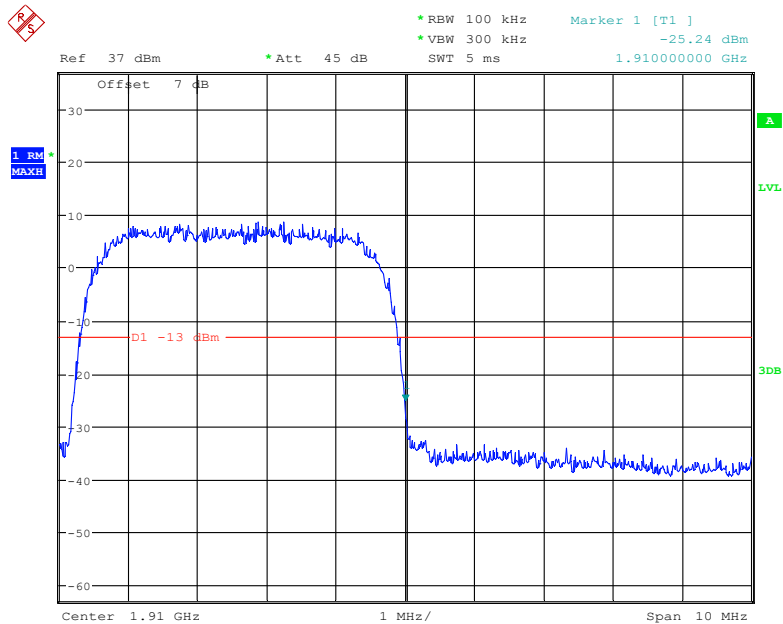


### PCS Band, Left Band Edge for RMC (BPSK) Mode



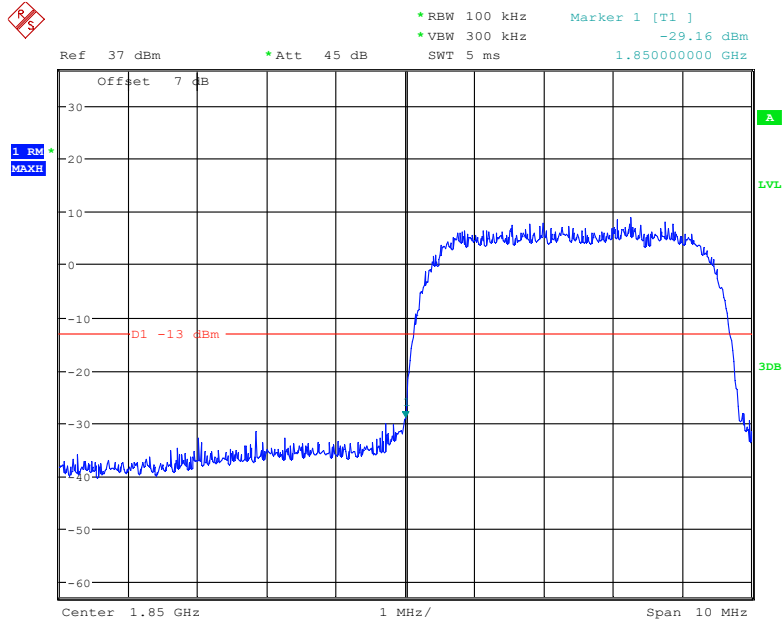
Date: 1.JUN.2022 18:35:47

### PCS Band, Right Band Edge for RMC (BPSK) Mode



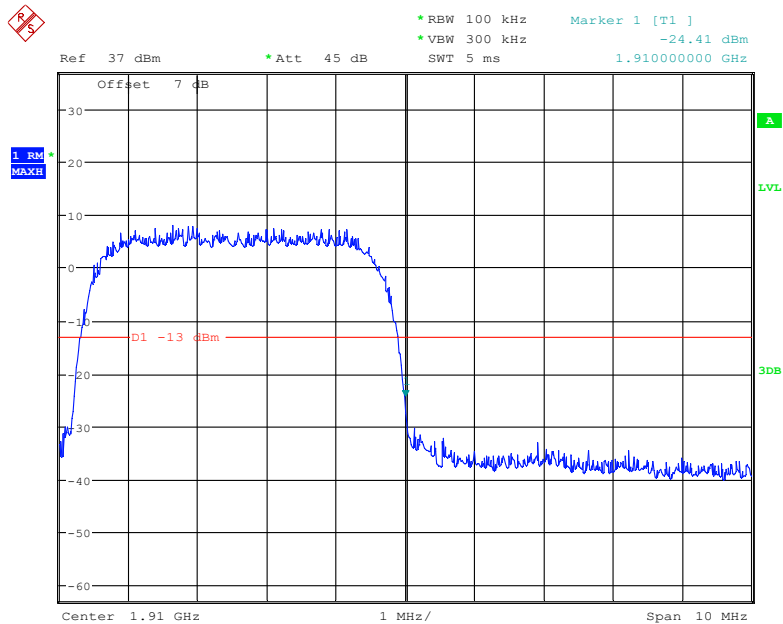
Date: 19.MAY.2022 10:55:29

### PCS Band, Left Band Edge for HSDPA(16QAM) Mode



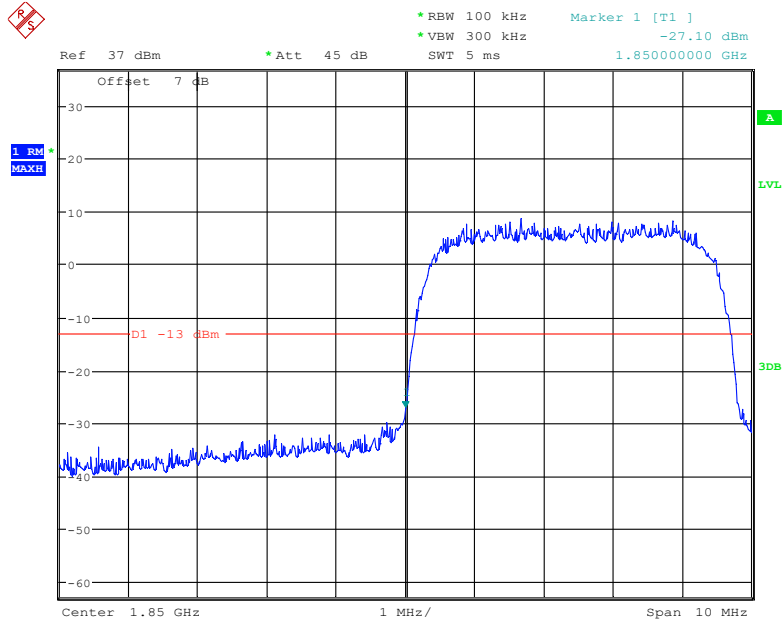
Date: 19.MAY.2022 11:46:33

### PCS Band, Right Band Edge for HSDPA (16QAM) Mode



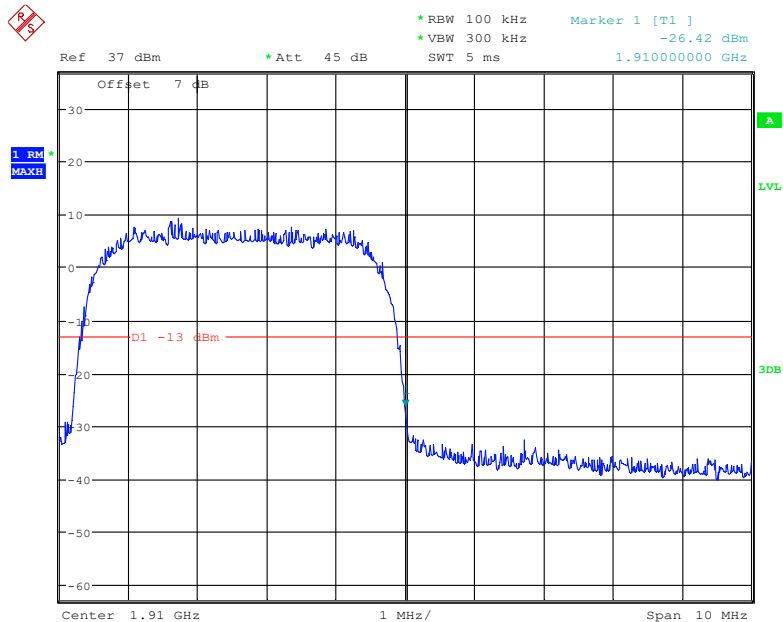
Date: 19.MAY.2022 11:46:51

### PCS Band, Left Band Edge for HSUPA (QPSK) Mode



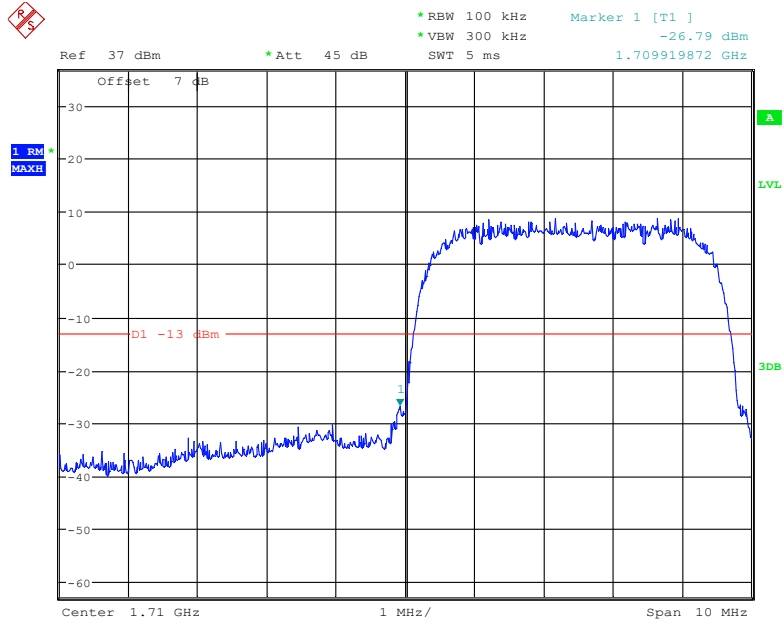
Date: 19.MAY.2022 12:10:14

### PCS Band, Right Band Edge for HSUPA (QPSK) Mode



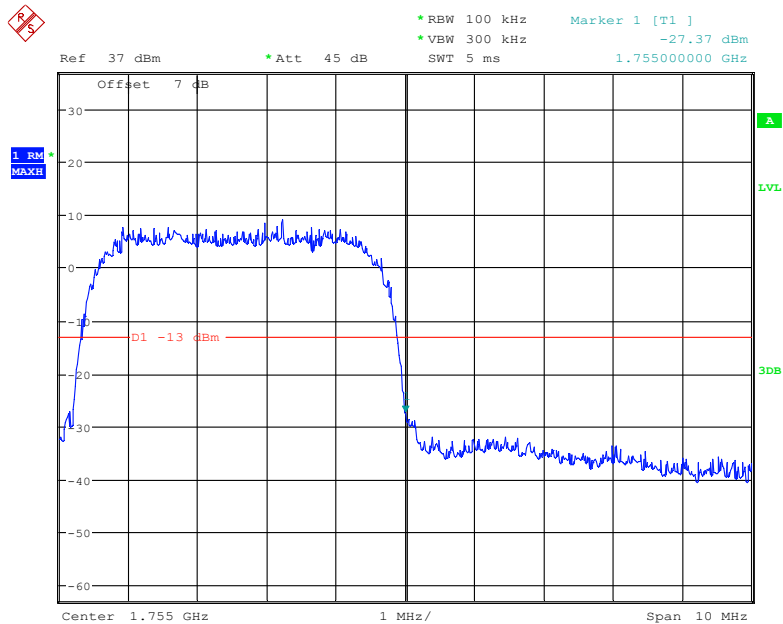
Date: 19.MAY.2022 12:09:41

### AWS Band, Left Band Edge for RMC (BPSK) Mode



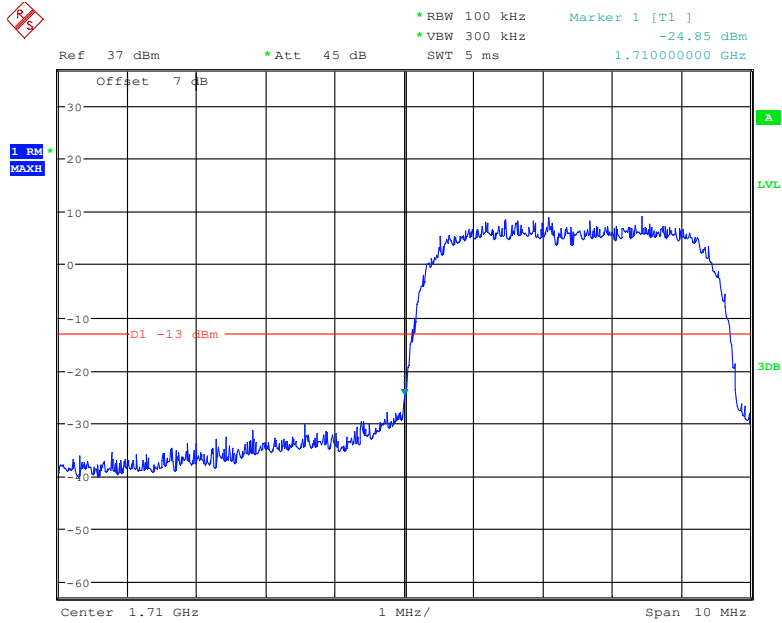
Date: 19.MAY.2022 11:14:43

### AWS Band, Right Band Edge for RMC (BPSK) Mode



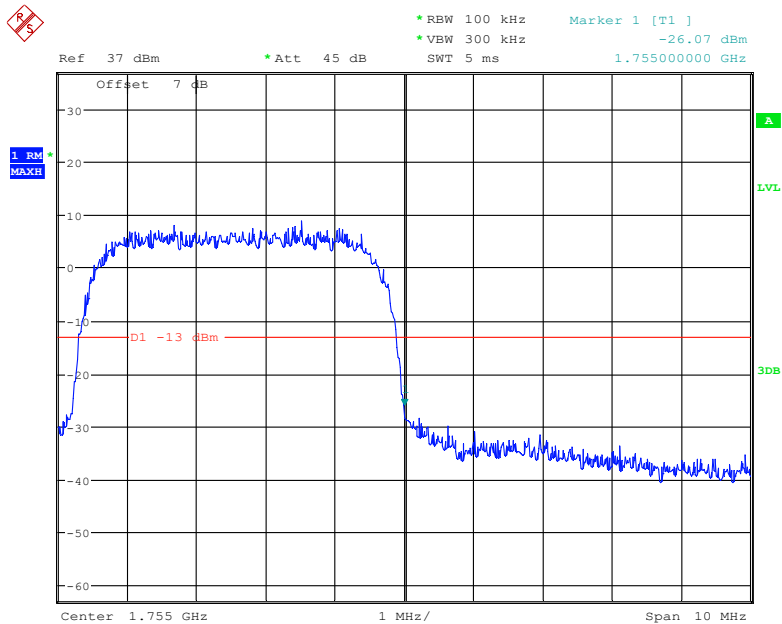
Date: 19.MAY.2022 11:13:50

### AWS Band, Left Band Edge for HSDPA(16QAM) Mode



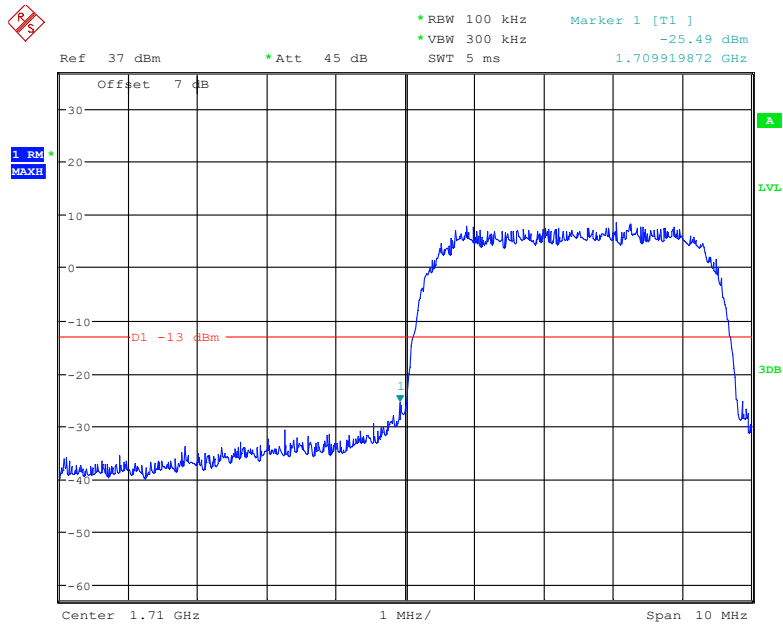
Date: 19.MAY.2022 11:45:38

### AWS Band, Right Band Edge for HSDPA (16QAM) Mode



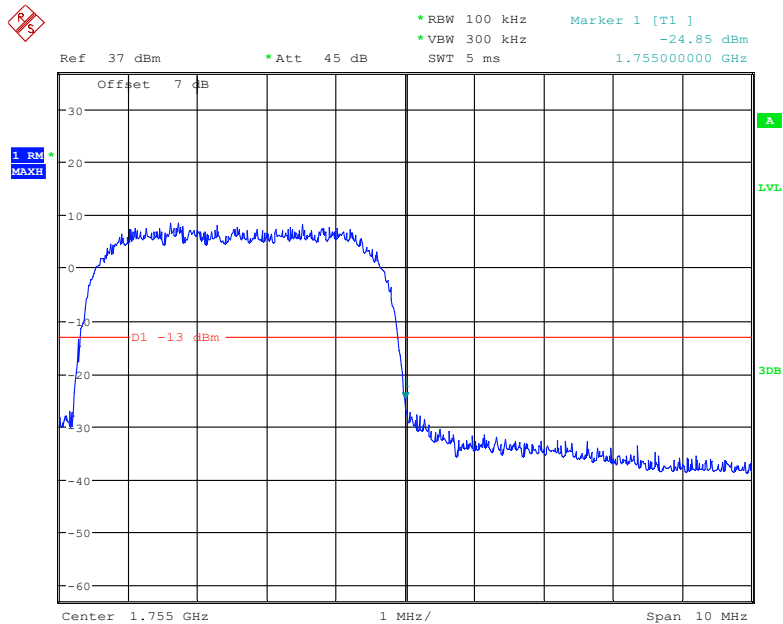
Date: 19.MAY.2022 11:45:00

### AWS Band, Left Band Edge for HSUPA (QPSK) Mode



Date: 19.MAY.2022 11:57:34

### AWS Band, Right Band Edge for HSUPA (QPSK) Mode



Date: 19.MAY.2022 11:58:08

The test plots of LTE bands please refer to the Appendix C.

## **FCC § 2.1055; § 22.355; § 24.235; §27.54 - FREQUENCY STABILITY**

### **Applicable Standard**

FCC § 2.1055, §22.355, §24.235&§27.54.

According to FCC §2.1055, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile > 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

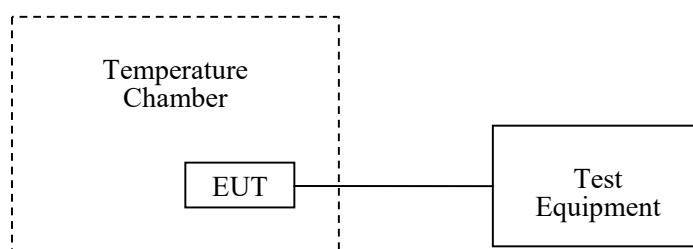
According to §24.235&§27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

### **Test Procedure**

**Frequency Stability vs. Temperature:** The equipment under test was connected to an external AC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The AC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

**Frequency Stability vs. Voltage:** For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



**Test Data****Environmental Conditions**

<b>Temperature:</b>	27.2 °C
<b>Relative Humidity:</b>	56.8 %
<b>ATM Pressure:</b>	101.0 kPa

The testing was performed by Black Ding from 2022-05-17 to 2022-05-19.

EUT operation mode: Transmitting

**Test Result: Pass**

Please refer to the following tables.

**Cellular Band (Part 22H)****GSM Mode**

Middle Channel, $f_0=836.6\text{MHz}$				
Temperature (°C)	Voltage Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	N.V.	7	0.0084	2.5
-20		8	0.0096	2.5
-10		4	0.0048	2.5
0		6	0.0072	2.5
10		3	0.0036	2.5
20		3	0.0036	2.5
30		6	0.0072	2.5
40		4	0.0048	2.5
50		8	0.0096	2.5
20	L.V.	2	0.0024	2.5
	H.V.	3	0.0036	2.5



**EDGE Mode**

<b>Middle Channel, <math>f_0=836.6\text{MHz}</math></b>				
<b>Temperature (°C)</b>	<b>Voltage Supplied (<math>V_{DC}</math>)</b>	<b>Frequency Error (Hz)</b>	<b>Frequency Error (ppm)</b>	<b>Limit (ppm)</b>
-30	N.V.	8	0.0096	2.5
-20		6	0.0072	2.5
-10		3	0.0036	2.5
0		4	0.0048	2.5
10		6	0.0072	2.5
20		-3	-0.0036	2.5
30		7	0.0084	2.5
40		3	0.0036	2.5
50		2	0.0024	2.5
20		L.V.	4	0.0048
	H.V.	3	0.0036	2.5

**WCDMA Mode**

<b>Middle Channel, <math>f_0=836.6\text{MHz}</math></b>				
<b>Temperature (°C)</b>	<b>Voltage Supplied (<math>V_{DC}</math>)</b>	<b>Frequency Error (Hz)</b>	<b>Frequency Error (ppm)</b>	<b>Limit (ppm)</b>
-30	N.V.	1.97	0.0024	2.5
-20		11.26	0.0135	2.5
-10		1.12	0.0013	2.5
0		1.36	0.0016	2.5
10		1.17	0.0014	2.5
20		0.89	0.0011	2.5
30		1.11	0.0013	2.5
40		1.35	0.0016	2.5
50		1.76	0.0021	2.5
20		L.V.	1.82	0.0022
	H.V.	1.95	0.0023	2.5

**PCS Band (Part 24E)  
GSM Mode**

Middle Channel, $f_0 = 1880.0$ MHz				
Temperature (°C)	Voltage Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	N.V.	3	0.0016	pass
-20		4	0.0021	pass
-10		6	0.0032	pass
0		7	0.0037	pass
10		2	0.0011	pass
20		15	0.0080	pass
30		3	0.0016	pass
40		4	0.0021	pass
50		5	0.0027	pass
20		L.V.	6	0.0032
	H.V.	3	0.0016	pass

**EDGE Mode**

Middle Channel, $f_0 = 1880.0$ MHz				
Temperature (°C)	Voltage Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	N.V.	4	0.0021	pass
-20		6	0.0032	pass
-10		8	0.0042	pass
0		10	0.0054	pass
10		4	0.0021	pass
20		-10	-0.0054	pass
30		3	0.0016	pass
40		5	0.0027	pass
50		7	0.0037	pass
20		L.V.	3	0.0016
	H.V.	4	0.0028	pass

## WCDMA Mode

Middle Channel, $f_0=1880.0$ MHz				
Temperature (°C)	Voltage Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	N.V.	2.11	0.0011	pass
-20		1.19	0.0006	pass
-10		3.18	0.0017	pass
0		1.15	0.0006	pass
10		4.13	0.0022	pass
20		1.39	0.0007	pass
30		2.84	0.0015	pass
40		2.17	0.0012	pass
50		3.16	0.0017	pass
20		L.V.	2.15	0.0011
	H.V.	2.72	0.0014	pass

## AWS Band (Part 27)

Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	1710.0173	1754.9727	1710	1755
-20		1710.0166	1754.9725	1710	1755
-10		1710.0155	1754.9717	1710	1755
0		1710.0147	1754.9734	1710	1755
10		1710.0136	1754.9746	1710	1755
20		1710.0124	1754.9725	1710	1755
30		1710.0135	1754.9729	1710	1755
40		1710.0126	1754.9738	1710	1755
50		1710.0127	1754.9737	1710	1755
20		L.V.	1710.0138	1754.9729	1710
	H.V.	1710.0145	1754.9734	1710	1755

**LTE:**  
**QPSK:**  
**Band 2:**

10.0 MHz Middle Channel, $f_0=1880\text{MHz}$				
Temperature (°C)	Voltage Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	N.V.	-39.22	-0.0209	pass
-20		-9.97	-0.0053	pass
-10		-6.13	-0.0033	pass
0		6.17	0.0033	pass
10		7.92	0.0042	pass
20		6.46	0.0034	pass
30		-6.52	-0.0035	pass
40		7.18	0.0038	pass
50		-9.69	-0.0052	pass
20		L.V.	-8.17	-0.0043
	H.V.	-7.05	-0.0038	pass

**Band 4:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	1710.1165	1754.8739	1710	1755
-20		1710.1152	1754.8737	1710	1755
-10		1710.119	1754.8726	1710	1755
0		1710.1153	1754.8732	1710	1755
10		1710.1146	1754.8754	1710	1755
20		1710.1149	1754.8749	1710	1755
30		1710.1137	1754.8756	1710	1755
40		1710.1122	1754.8732	1710	1755
50		1710.1126	1754.8747	1710	1755
20		L.V.	1710.1138	1754.8733	1710
	H.V.	1710.1044	1754.8742	1710	1755

**Band 5:**

10.0 MHz Middle Channel, $f_0=836.5\text{MHz}$				
Temperature (°C)	Voltage Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	N.V.	22.10	0.0264	2.5
-20		-6.97	-0.0083	2.5
-10		-5.50	-0.0066	2.5
0		6.06	0.0072	2.5
10		9.80	0.0117	2.5
20		5.03	0.0060	2.5
30		-6.62	-0.0079	2.5
40		-8.73	-0.0104	2.5
50		-7.05	-0.0084	2.5
20	L.V.	8.99	0.0107	2.5
	H.V.	-7.17	-0.0086	2.5

**Band 7:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	2500.8782	2569.9852	2500	2570
-20		2500.8796	2569.9944	2500	2570
-10		2500.8787	2569.9853	2500	2570
0		2500.8786	2569.9761	2500	2570
10		2500.7982	2569.9827	2500	2570
20		2500.7878	2569.9422	2500	2570
30		2500.7754	2569.9339	2500	2570
40		2500.7653	2569.9925	2500	2570
50		2500.7565	2569.9879	2500	2570
20	L.V.	2500.7525	2569.9832	2500	2570
	H.V.	2500.7436	2569.9741	2500	2570

**Band 13:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	777.1295	786.8467	777	787
-20		777.1237	786.8437	777	787
-10		777.1276	786.8445	777	787
0		777.1216	786.8465	777	787
10		777.1248	786.8456	777	787
20		777.1297	786.8482	777	787
30		777.1256	786.8487	777	787
40		777.1295	786.8495	777	787
50		777.1264	786.8452	777	787
20	L.V.	777.1212	786.8461	777	787
	H.V.	777.1267	786.8445	777	787

**Band 17:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	704.3396	715.8825	704	716
-20		704.3158	715.8769	704	716
-10		704.2589	715.8423	704	716
0		704.2612	715.8513	704	716
10		704.5146	715.4682	704	716
20		704.5028	715.4523	704	716
30		704.4562	715.3346	704	716
40		704.3564	715.3628	704	716
50		704.3328	715.2835	704	716
20	L.V.	704.2954	715.2649	704	716
	H.V.	704.3112	715.3314	704	716

**Band 38:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	2570.8376	2619.9823	2570	2620
-20		2570.8073	2619.8721	2570	2620
-10		2570.7245	2619.7637	2570	2620
0		2570.6154	2619.6552	2570	2620
10		2570.5055	2619.5424	2570	2620
20		2570.3932	2619.4323	2570	2620
30		2570.2832	2619.3223	2570	2620
40		2570.1727	2619.2124	2570	2620
50		2570.1612	2619.1325	2570	2620
20	L.V.	2570.1523	2619.1224	2570	2620
	H.V.	2570.1821	2619.1123	2570	2620

**Band 41:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	2535.9752	2654.9878	2535	2655
-20		2535.8671	2654.8854	2535	2655
-10		2535.7569	2654.7762	2535	2655
0		2535.6423	2654.6653	2535	2655
10		2535.5327	2654.5551	2535	2655
20		2535.4220	2654.4437	2535	2655
30		2535.3154	2654.3352	2535	2655
40		2535.2156	2654.2234	2535	2655
50		2535.2932	2654.1064	2535	2655
20		L.V.	2535.8622	2654.0033	2535
	H.V.	2535.8525	2654.0011	2535	2655

Note: The applicant declared the operating frequency range is 2535-2655MHz

**Band 66:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	1710.0243	1779.9724	1710	1780
-20		1710.0237	1779.9724	1710	1780
-10		1710.0240	1779.9832	1710	1780
0		1710.0234	1779.9755	1710	1780
10		1710.0236	1779.9753	1710	1780
20		1710.0228	1779.9744	1710	1780
30		1710.0257	1779.9745	1710	1780
40		1710.0256	1779.9752	1710	1780
50		1710.0229	1779.9823	1710	1780
20	L.V.	1710.0227	1779.9721	1710	1780
	H.V.	1710.0224	1779.9762	1710	1780

**16QAM:****Band 2:**

10.0 MHz Middle Channel, f <sub>0</sub> =1880MHz				
Temperature (°C)	Voltage Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	N.V.	-24.15	-0.0128	pass
-20		-6.68	-0.0036	pass
-10		9.77	0.0052	pass
0		-7.62	-0.0041	pass
10		-9.91	-0.0053	pass
20		-9.82	-0.0052	pass
30		-6.68	-0.0036	pass
40		-8.85	-0.0047	pass
50		5.67	0.0030	pass
20	L.V.	6.05	0.0032	pass
	H.V.	7.52	0.0040	pass



**Band 4:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	1710.2964	1754.7675	1710	1755
-20		1710.2952	1754.7564	1710	1755
-10		1710.2752	1754.7673	1710	1755
0		1710.2653	1754.7454	1710	1755
10		1710.2632	1754.7436	1710	1755
20		1710.2645	1754.7627	1710	1755
30		1710.2577	1754.7622	1710	1755
40		1710.2654	1754.7656	1710	1755
50		1710.2611	1754.7751	1710	1755
20	L.V.	1710.2624	1754.7535	1710	1755
	H.V.	1710.2716	1754.7522	1710	1755

**Band 5:**

10.0 MHz Middle Channel, f <sub>0</sub> =836.5MHz				
Temperature (°C)	Voltage Supplied (V <sub>DC</sub> )	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	N.V.	28.28	0.0338	2.5
-20		8.10	0.0097	2.5
-10		-8.59	-0.0103	2.5
0		9.33	0.0112	2.5
10		-6.94	-0.0083	2.5
20		7.54	0.009	2.5
30		6.43	0.0077	2.5
40		-6.17	-0.0074	2.5
50		-6.44	-0.0077	2.5
20	L.V.	6.34	0.0076	2.5
	H.V.	-6.89	-0.0082	2.5

**Band 7:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	2500.8459	2569.8374	2500	2570
-20		2500.8421	2569.8554	2500	2570
-10		2500.7648	2569.8422	2500	2570
0		2500.7252	2569.8536	2500	2570
10		2500.6327	2569.8284	2500	2570
20		2500.6230	2569.7825	2500	2570
30		2500.6353	2569.7832	2500	2570
40		2500.6227	2569.8421	2500	2570
50		2500.6225	2569.8453	2500	2570
20	L.V.	2500.6234	2569.8357	2500	2570
	H.V.	2500.6146	2569.8232	2500	2570

**Band 13:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	777.0316	786.9217	777	787
-20		777.0362	786.9243	777	787
-10		777.0357	786.9245	777	787
0		777.0365	786.9276	777	787
10		777.0317	786.9237	777	787
20		777.0328	786.9248	777	787
30		777.0332	786.9217	777	787
40		777.0315	786.9249	777	787
50		777.0297	786.9247	777	787
20		L.V.	777.0342	786.9253	777
	H.V.	777.0346	786.9214	777	787

**Band 17:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	704.3369	715.8876	704	716
-20		704.5986	715.7654	704	716
-10		704.2987	715.6982	704	716
0		704.2688	715.6438	704	716
10		704.3322	715.4983	704	716
20		704.3591	715.4581	704	716
30		704.6231	715.5938	704	716
40		704.5682	715.5532	704	716
50		704.2699	715.4931	704	716
20	L.V.	704.2853	715.5864	704	716
	H.V.	704.3324	715.5329	704	716

**Band 38:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	2570.9872	2619.9859	2570	2620
-20		2570.8921	2619.8763	2570	2620
-10		2570.7821	2619.7692	2570	2620
0		2570.6735	2619.6554	2570	2620
10		2570.5634	2619.5491	2570	2620
20		2570.4522	2619.4342	2570	2620
30		2570.3416	2619.3296	2570	2620
40		2570.2378	2619.2114	2570	2620
50		2570.1282	2619.1125	2570	2620
20	L.V.	2570.2174	2619.8785	2570	2620
	H.V.	2570.2135	2619.7642	2570	2620

**Band 41:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	2535.9433	2654.9651	2535	2655
-20		2535.8445	2654.8585	2535	2655
-10		2535.7375	2654.7484	2535	2655
0		2535.6264	2654.6372	2535	2655
10		2535.5136	2654.5289	2535	2655
20		2535.4172	2654.4181	2535	2655
30		2535.2981	2654.3585	2535	2655
40		2535.1889	2654.1985	2535	2655
50		2535.1824	2654.1884	2535	2655
20		L.V.	2535.1612	2654.0763	2535
	H.V.	2535.0575	2654.0342	2535	2655

Note: The applicant declared the operating frequency range is 2535-2655MHz

**Band 66:**

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V <sub>DC</sub> )	F <sub>L</sub> (MHz)	F <sub>H</sub> (MHz)	F <sub>L</sub> Limit (MHz)	F <sub>H</sub> Limit (MHz)
-30	N.V.	1710.0272	1779.8393	1710	1780
-20		1710.0243	1779.8445	1710	1780
-10		1710.0245	1779.8364	1710	1780
0		1710.0274	1779.8352	1710	1780
10		1710.0266	1779.8363	1710	1780
20		1710.0232	1779.8335	1710	1780
30		1710.0244	1779.8342	1710	1780
40		1710.0243	1779.8363	1710	1780
50		1710.0231	1779.8377	1710	1780
20		L.V.	1710.0291	1779.8352	1710
	H.V.	1710.0253	1779.8355	1710	1780

\*\*\*\*\* END OF REPORT \*\*\*\*\*