



TEST REPORT

Applicant Name : INFINIX MOBILITY LIMITED
Address : FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35
SHAN MEI STREET FOTAN NT Hong Kong
Report Number: SZNS211123-60257E-RF-00D
FCC ID: 2AIZN-X689F

Test Standard (s)

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

Sample Description

Product Type: Mobile Phone
Model No.: X689F
Multiple Model(s) No.: N/A
Trade Mark: **Infinix**
Date Received: 2021/11/23
Date of Test: 2021/12/05~2021/12/16
Report Date: 2021/12/17

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

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

Prepared and Checked By:

Fan Yang
EMC Engineer

Approved By:

Candy 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 128

FCC -2G,3G,4G

TABLE OF CONTENTS

GENERAL INFORMATION.....	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	3
OBJECTIVE	3
TEST METHODOLOGY	4
MEASUREMENT UNCERTAINTY	4
TEST FACILITY	4
SYSTEM TEST CONFIGURATION	5
DESCRIPTION OF TEST CONFIGURATION	5
EQUIPMENT MODIFICATIONS	6
SUPPORT EQUIPMENT LIST AND DETAILS	6
SUPPORT CABLE DESCRIPTION	6
BLOCK DIAGRAM OF TEST SETUP	7
SUMMARY OF TEST RESULTS	8
TEST EQUIPMENT LIST	9
FCC §1.1307(B)&§2.1093 - RF EXPOSURE INFORMATION.....	11
FCC§2.1047 - MODULATION CHARACTERISTIC	12
FCC § 2.1046,§ 22.913 (A)&§ 24.232(C); §27.50(D)(H)- RF OUTPUT POWER	13
APPLICABLE STANDARD	13
TEST PROCEDURE	13
TEST DATA	13
FCC §2.1049, §22.917, §22.905 & §24.238&§27.53 - OCCUPIED BANDWIDTH&26 DB EMISSION BANDWIDTH.....	43
APPLICABLE STANDARD	43
TEST PROCEDURE	43
TEST DATA	43
FCC §2.1051, §22.917(A) & §24.238(A)& §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS ...	70
APPLICABLE STANDARD	70
TEST PROCEDURE	70
TEST DATA	70
FCC § 2.1053; § 22.917 (A);§ 24.238 (A); §27.53- SPURIOUS RADIATED EMISSIONS.....	91
APPLICABLE STANDARD	91
TEST PROCEDURE	91
TEST DATA	91
FCC§ 22.917 (A);§ 24.238 (A); §27.53 (H)(M) - BAND EDGES	102
APPLICABLE STANDARD	102
TEST PROCEDURE	102
TEST DATA	102
FCC § 2.1055; § 22.355; § 24.235; §27.54 - FREQUENCY STABILITY	116
APPLICABLE STANDARD	116
TEST PROCEDURE	116
TEST DATA	117

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 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: -3.3dBi PCS1900/WCDMA Band 2/ LTE Band 2: 0.1dBi WCDMA Band 4/ LTE Band 4/ LTE Band 66: -0.7dBi LTE Band 7/LTE Band 38/LTE Band 41: -0.4 dBi (provided by the applicant)
Voltage Range	DC 3.85V from battery or DC 5V from adapter
Sample serial number	SZNS211123-60257E-RF-S1 for RF conducted SZNS211123-60257E-RF-S5 for CE&RE (Assigned by ATC)
Sample/EUT Status	Good condition
Extreme condition*	LV: Low Voltage 3.45V NV: Normal Voltage 3.85V HV: High Voltage 4.4V(provided by the applicant)
Adapter information	Model: U100XSA Input: AC 100-240V~50/60Hz, 0.3A Output: DC 5.0V, 2.0A

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.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF output power, conducted		±0.73dB
Unwanted Emission, conducted		±1.6dB
RF Frequency		±0.082*10 ⁻⁷
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
PCS1900	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

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

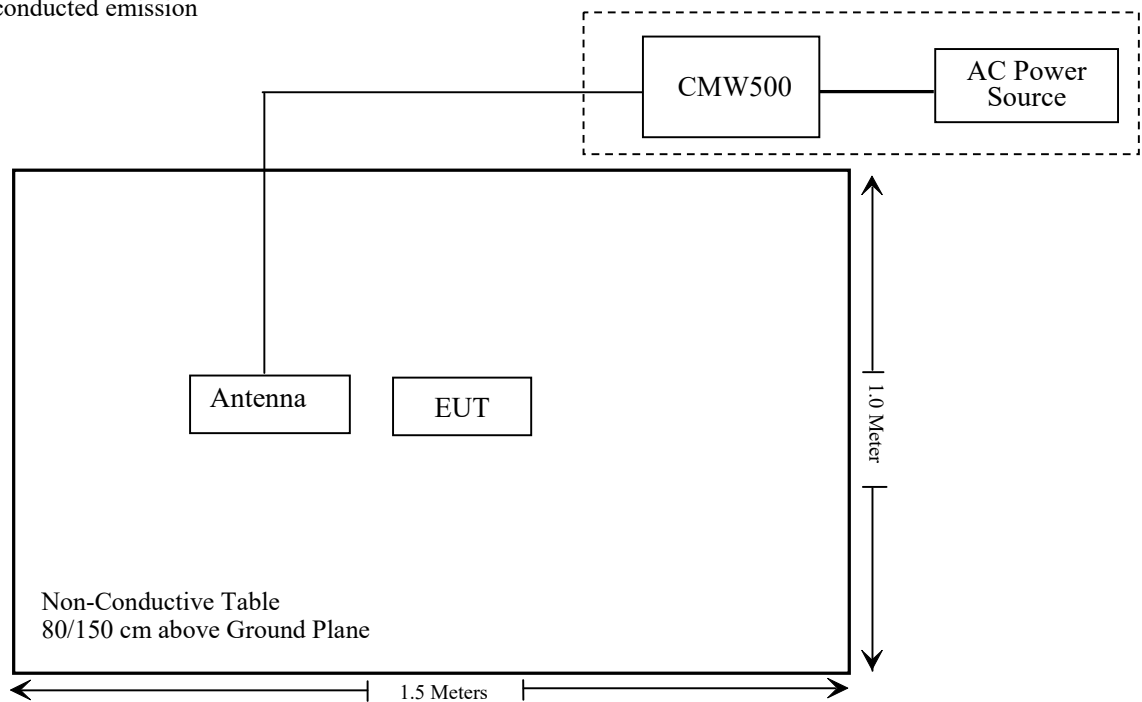
Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606

Support Cable Description

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

Block Diagram of Test Setup

For conducted emission



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 (d) (h);	RF Output Power	Compliant
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905; § 22.917; § 24.238; §27.53	Occupied Bandwidth&26 dB Emission 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 (h) (m)	Band Edge	Compliant
§ 2.1055; § 22.355; § 24.235; §27.54;	Frequency stability	Compliant

Note: * Please refer to SAR report number: SZNS211123-60257E-SA.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Rohde& Schwarz	Test Receiver	ESR	102725	2020/12/25	2021/12/24
Rohde&Schwarz	Spectrum Analyzer	FSV40	101949	2021/5/18	2022/5/17
SONOMA INSTRUMENT	Amplifier	310 N	186131	2020/12/25	2021/12/24
A.H. Systems, inc.	Preamplifier	PAM-0118P	531	2021/11/09	2022/11/08
Quinstar	Amplifier	QLW-184055 36-J0	15964001002	2021/11/11	2022/11/10
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2020/12/25	2021/12/24
Unknown	RF Coaxial Cable	N-5m	No.3	2020/12/25	2021/12/24
Unknown	RF Coaxial Cable	N-1m	No.5	2020/12/25	2021/12/24
Unknown	RF Coaxial Cable	N-10m	No.7	2021/11/09	2022/11/08
Unknown	RF Coaxial Cable	N-2m	No.8	2021/11/09	2022/11/08
Schwarzbeck	Bilog Antenna	VULB9163	9163-194	2020/01/05	2023/01/04
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2020/01/05	2023/01/04
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	2020/01/05	2023/01/04
PASTERNAK	Horn Antenn	PE9852/2F-20	1120	2020/01/05	2023/01/04
Unknown	RF Coaxial Cable	N-1m	No.7	2020/12/25	2021/12/24
Anritsu	Signal Generator	68369B	004114	2021/7/31	2022/7/30

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSV-40	101495	2020/12/24	2021/12/23
SPECTRUM ANALYZER	Rohde & Schwarz	FSU26	200982	2021/07/06	2022/07/05
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606	2020/12/25	2021/12/24
Mini-Circuits	Power Splitter	DC-18000MHz	SF10944151S	2020/12/25	2021/12/24
Gongwen	Temp. & Humid. Chamber	JB913R	GZ-WS004	2020/12/25	2021/12/24
FLUKE	Multimeter	17B+	31141269WS	2020/12/25	2021/12/24
Manson	DC Power Source	KPS-6604	ATCS-205	NCR	NCR

* 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: SZNS211123-60257E-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(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.

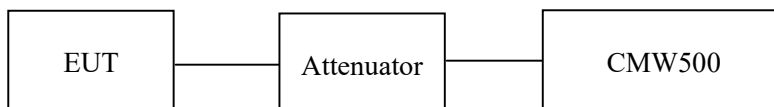
The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

According to §27.50(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 2500-2570MHz.

Test Procedure*Conducted method:*

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

*Radiated method:*

ANSI C63.26-2015 Section 5.5.

Test Data**Environmental Conditions**

Temperature:	23 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Black Ding from 2021-12-01 to 2021-12-02.

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

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
GSM	128	824.2	29.90	24.45	38.45
	190	836.6	29.80	24.35	38.45
	251	848.8	29.70	24.25	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	29.52	29.28	28.97	28.79	24.07	23.83	23.52	23.34	38.45
	190	836.6	29.25	29.03	28.72	28.50	23.80	23.58	23.27	23.05	38.45
	251	848.8	28.97	28.75	28.48	28.26	23.52	23.30	23.03	22.81	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	27.53	25.97	23.51	21.98	22.08	20.52	18.06	16.53	38.45
	190	836.6	27.58	25.99	23.56	22.06	22.13	20.54	18.11	16.61	38.45
	251	848.8	27.70	26.17	23.66	22.12	22.25	20.72	18.21	16.67	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		23.54	23.52	23.45	18.09	18.07	18.00
	HSDPA	1	21.69	22.10	21.93	16.24	16.65	16.48
		2	21.65	22.08	21.98	16.20	16.63	16.53
		3	21.48	22.09	21.97	16.03	16.64	16.52
		4	21.52	22.10	21.89	16.07	16.65	16.44
	HSUPA	1	22.88	22.71	22.64	17.43	17.26	17.19
		2	22.27	22.55	22.64	16.82	17.10	17.19
		3	22.51	22.63	22.63	17.06	17.18	17.18
		4	22.34	22.64	22.58	16.89	17.19	17.13
		5	22.36	22.67	22.54	16.91	17.22	17.09
	HSPA+	1	22.45	22.63	22.59	17.00	17.18	17.14

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
 For GSM850 / WCDMA Band5: Antenna Gain = -3.3dBi = -5.45dBd (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	26.50	26.60	33
	661	1880.0	26.60	26.70	33
	810	1909.8	26.40	26.50	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	26.37	25.90	25.05	24.65	26.47	26.00	25.15	24.75	33
	661	1880.0	26.38	25.93	25.08	24.61	26.48	26.03	25.18	24.71	33
	810	1909.8	26.15	25.74	24.92	24.47	26.25	25.84	25.02	24.57	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	26.86	25.69	23.79	22.76	26.96	25.79	23.89	22.86	33
	661	1880.0	26.14	25.08	23.11	22.01	26.24	25.18	23.21	22.11	33
	810	1909.8	26.29	25.27	23.32	22.18	26.39	25.37	23.42	22.28	33

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 2)	RMC12.2k		16.22	16.09	16.20	16.32	16.19	16.30
	HSDPA	1	13.51	13.43	13.83	13.61	13.53	13.93
		2	13.62	13.57	13.78	13.72	13.67	13.88
		3	13.57	13.52	13.82	13.67	13.62	13.92
		4	13.64	13.61	13.58	13.74	13.71	13.68
	HSUPA	1	14.80	14.92	14.69	14.90	15.02	14.79
		2	14.38	14.90	14.75	14.48	15.00	14.85
		3	14.58	14.87	14.82	14.68	14.97	14.92
		4	14.62	14.85	14.75	14.72	14.95	14.85
		5	14.65	14.77	14.68	14.75	14.87	14.78
	HSPA+	1	14.63	14.53	14.65	14.73	14.63	14.75

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
 For PCS1900 / WCDMA Band2: Antenna Gain = 0.1dBi
 Limit: EIRP ≤ 33dBm

AWS Band (Part 27)

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 4)	RMC12.2k		17.85	18.04	18.06	17.15	17.34	17.36
	HSDPA	1	15.37	15.51	15.39	14.67	14.81	14.69
		2	15.47	15.56	15.42	14.77	14.86	14.72
		3	15.42	15.48	15.37	14.72	14.78	14.67
		4	15.53	15.49	15.32	14.83	14.79	14.62
	HSUPA	1	16.59	16.60	16.69	15.89	15.90	15.99
		2	16.54	16.52	16.43	15.84	15.82	15.73
		3	16.42	16.43	16.42	15.72	15.73	15.72
		4	16.48	16.48	16.45	15.78	15.78	15.75
		5	16.41	16.39	16.34	15.71	15.69	15.64
	HSPA+	1	16.38	16.42	16.29	15.68	15.72	15.59

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

For Band4: Antenna Gain = -0.7dBi

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	4.56	13
	Middle	4.44	13
	High	4.45	13
HSDPA (16QAM)	Low	4.61	13
	Middle	4.63	13
	High	4.65	13
HSUPA (BPSK)	Low	4.48	13
	Middle	4.47	13
	High	4.52	13
HSPA+	Low	4.52	13
	Middle	4.51	13
	High	4.57	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	4.41	13
	Middle	4.52	13
	High	4.47	13
HSDPA (16QAM)	Low	4.52	13
	Middle	4.51	13
	High	4.47	13
HSUPA (BPSK)	Low	4.45	13
	Middle	4.47	13
	High	4.48	13
HSPA+	Low	4.42	13
	Middle	4.51	13
	High	4.54	13

AWS Band

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	4.48	13
	Middle	4.61	13
	High	4.55	13
HSDPA (16QAM)	Low	4.52	13
	Middle	4.53	13
	High	4.62	13
HSUPA (BPSK)	Low	4.62	13
	Middle	4.51	13
	High	4.64	13
HSPA+	Low	4.55	13
	Middle	4.64	13
	High	4.65	13

LTE Band 2:**Maximum Output Power**

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	16.07	15.98	15.99	16.17	16.08	16.09
		RB1#3	16.12	16.15	16.16	16.22	16.25	16.26
		RB1#5	16.11	15.94	16.00	16.21	16.04	16.10
		RB3#0	16.22	16.06	16.09	16.32	16.16	16.19
		RB3#3	16.21	16.12	16.15	16.31	16.22	16.25
		RB6#0	15.10	15.02	15.08	15.20	15.12	15.18
	16QAM	RB1#0	15.13	15.12	15.02	15.23	15.22	15.12
		RB1#3	15.24	15.26	15.18	15.34	15.36	15.28
		RB1#5	15.14	15.15	15.05	15.24	15.25	15.15
		RB3#0	15.42	15.04	15.19	15.52	15.14	15.29
		RB3#3	15.44	15.07	15.18	15.54	15.17	15.28
		RB6#0	14.19	14.03	14.02	14.29	14.13	14.12
3.0	QPSK	RB1#0	16.19	16.06	16.12	16.29	16.16	16.22
		RB1#8	16.04	15.99	16.06	16.14	16.09	16.16
		RB1#14	16.07	16.08	16.07	16.17	16.18	16.17
		RB6#0	15.09	14.97	15.04	15.19	15.07	15.14
		RB6#9	15.07	14.99	15.06	15.17	15.09	15.16
		RB15#0	15.11	15.00	15.04	15.21	15.10	15.14
	16QAM	RB1#0	15.79	15.21	15.11	15.89	15.31	15.21
		RB1#8	15.67	15.14	15.06	15.77	15.24	15.16
		RB1#14	15.71	15.23	15.13	15.81	15.33	15.23
		RB6#0	14.16	14.01	14.01	14.26	14.11	14.11
		RB6#9	14.15	14.03	14.00	14.25	14.13	14.10
		RB15#0	14.19	13.98	14.11	14.29	14.08	14.21

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	16.17	16.11	16.06	16.27	16.21	16.16
		RB1#13	16.16	16.02	16.04	16.26	16.12	16.14
		RB1#24	16.19	16.09	16.12	16.29	16.19	16.22
		RB15#0	15.13	15.05	15.13	15.23	15.15	15.23
		RB15#10	15.12	15.01	15.01	15.22	15.11	15.11
		RB25#0	15.10	14.99	15.05	15.20	15.09	15.15
	16QAM	RB1#0	15.11	15.37	15.21	15.21	15.47	15.31
		RB1#13	15.02	15.28	15.17	15.12	15.38	15.27
		RB1#24	15.07	15.34	15.22	15.17	15.44	15.32
		RB15#0	14.16	14.01	14.16	14.26	14.11	14.26
		RB15#10	14.18	13.96	14.05	14.28	14.06	14.15
		RB25#0	14.18	14.00	14.08	14.28	14.10	14.18
10.0	QPSK	RB1#0	16.15	16.14	16.03	16.25	16.24	16.13
		RB1#25	16.26	16.14	16.24	16.36	16.24	16.34
		RB1#49	16.13	16.04	16.15	16.23	16.14	16.25
		RB25#0	15.21	15.16	15.12	15.31	15.26	15.22
		RB25#25	15.23	15.10	15.02	15.33	15.20	15.12
		RB50#0	15.18	15.11	15.10	15.28	15.21	15.20
	16QAM	RB1#0	15.76	15.28	15.03	15.86	15.38	15.13
		RB1#25	15.89	15.34	15.24	15.99	15.44	15.34
		RB1#49	15.77	15.22	15.16	15.87	15.32	15.26
		RB25#0	14.27	14.15	14.22	14.37	14.25	14.32
		RB25#25	14.27	14.11	14.13	14.37	14.21	14.23
		RB50#0	14.23	14.19	14.16	14.33	14.29	14.26

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	16.10	16.10	16.00	16.20	16.20	16.10
		RB1#38	16.06	16.00	16.02	16.16	16.10	16.12
		RB1#74	16.08	16.00	16.09	16.18	16.10	16.19
		RB36#0	15.16	15.15	15.05	15.26	15.25	15.15
		RB36#39	15.16	15.05	15.04	15.26	15.15	15.14
		RB75#0	15.13	15.08	15.03	15.23	15.18	15.13
	16QAM	RB1#0	15.75	15.27	15.45	15.85	15.37	15.55
		RB1#38	15.71	15.17	15.45	15.81	15.27	15.55
		RB1#74	15.73	15.16	15.50	15.83	15.26	15.60
		RB36#0	14.22	14.19	14.01	14.32	14.29	14.11
		RB36#39	14.15	14.03	14.04	14.25	14.13	14.14
		RB75#0	14.15	14.08	14.04	14.25	14.18	14.14
20.0	QPSK	RB1#0	16.01	15.99	15.85	16.11	16.09	15.95
		RB1#50	16.24	16.21	16.16	16.34	16.31	16.26
		RB1#99	15.96	15.93	15.97	16.06	16.03	16.07
		RB50#0	15.22	15.18	15.06	15.32	15.28	15.16
		RB50#50	15.11	15.05	15.00	15.21	15.15	15.10
		RB100#0	15.20	15.13	15.08	15.30	15.23	15.18
	16QAM	RB1#0	15.34	15.22	15.44	15.44	15.32	15.54
		RB1#50	15.54	15.47	15.73	15.64	15.57	15.83
		RB1#99	15.28	15.13	15.53	15.38	15.23	15.63
		RB50#0	14.21	14.23	14.16	14.31	14.33	14.26
		RB50#50	14.12	14.00	14.05	14.22	14.10	14.15
		RB100#0	14.21	14.09	14.12	14.31	14.19	14.22

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
 For Band2: Antenna Gain = 0.1dB
 Limit: EIRP ≤ 33dBm

Peak-to-average ratio (PAR)**20MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.74	5.74	5.61	13	Pass
QPSK (100RB Size)	5.80	5.61	5.74	13	Pass
16QAM (1RB Size)	6.99	7.24	6.19	13	Pass
16QAM (100RB Size)	6.54	6.47	6.60	13	Pass

LTE Band 4**Maximum Output Power**

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	17.23	17.17	17.17	16.53	16.47	16.47
		RB1#3	17.69	17.29	17.35	16.99	16.59	16.65
		RB1#5	17.13	17.23	17.18	16.43	16.53	16.48
		RB3#0	17.23	17.31	17.28	16.53	16.61	16.58
		RB3#3	17.23	17.34	17.31	16.53	16.64	16.61
		RB6#0	16.24	16.29	16.29	15.54	15.59	15.59
	16QAM	RB1#0	16.21	16.40	16.27	15.51	15.70	15.57
		RB1#3	16.39	16.54	16.53	15.69	15.84	15.83
		RB1#5	16.19	16.40	16.32	15.49	15.70	15.62
		RB3#0	16.49	16.35	16.42	15.79	15.65	15.72
		RB3#3	16.46	16.38	16.42	15.76	15.68	15.72
		RB6#0	15.25	15.30	15.26	14.55	14.60	14.56
3.0	QPSK	RB1#0	17.18	17.30	17.33	16.48	16.60	16.63
		RB1#8	17.13	17.21	17.27	16.43	16.51	16.57
		RB1#14	17.13	17.30	17.27	16.43	16.60	16.57
		RB6#0	16.19	16.28	16.27	15.49	15.58	15.57
		RB6#9	16.22	16.27	16.25	15.52	15.57	15.55
		RB15#0	16.25	16.30	16.37	15.55	15.60	15.67
	16QAM	RB1#0	16.84	16.46	16.45	16.14	15.76	15.75
		RB1#8	16.82	16.45	16.34	16.12	15.75	15.64
		RB1#14	16.86	16.46	16.35	16.16	15.76	15.65
		RB6#0	15.25	15.29	15.27	14.55	14.59	14.57
		RB6#9	15.26	15.33	15.22	14.56	14.63	14.52
		RB15#0	15.31	15.27	15.41	14.61	14.57	14.71

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	17.17	17.34	17.32	16.47	16.64	16.62
		RB1#13	17.20	17.36	17.34	16.50	16.66	16.64
		RB1#24	17.21	17.33	17.29	16.51	16.63	16.59
		RB15#0	16.25	16.35	16.42	15.55	15.65	15.72
		RB15#10	16.24	16.39	16.37	15.54	15.69	15.67
		RB25#0	16.22	16.32	16.35	15.52	15.62	15.65
	16QAM	RB1#0	16.19	16.67	16.51	15.49	15.97	15.81
		RB1#13	16.16	16.67	16.49	15.46	15.97	15.79
		RB1#24	16.16	16.66	16.43	15.46	15.96	15.73
		RB15#0	15.27	15.30	15.46	14.57	14.60	14.76
		RB15#10	15.28	15.35	15.38	14.58	14.65	14.68
		RB25#0	15.25	15.39	15.43	14.55	14.69	14.73
10.0	QPSK	RB1#0	17.14	17.31	17.31	16.44	16.61	16.61
		RB1#25	17.26	17.41	17.48	16.56	16.71	16.78
		RB1#49	17.19	17.32	17.33	16.49	16.62	16.63
		RB25#0	16.28	16.36	16.46	15.58	15.66	15.76
		RB25#25	16.32	16.39	16.39	15.62	15.69	15.69
		RB50#0	16.32	16.40	16.46	15.62	15.70	15.76
	16QAM	RB1#0	16.98	16.54	16.42	16.28	15.84	15.72
		RB1#25	16.98	16.59	16.57	16.28	15.89	15.87
		RB1#49	16.95	16.54	16.44	16.25	15.84	15.74
		RB25#0	15.37	15.48	15.58	14.67	14.78	14.88
		RB25#25	15.39	15.50	15.53	14.69	14.80	14.83
		RB50#0	15.34	15.47	15.48	14.64	14.77	14.78

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	17.34	17.33	16.46	16.64	16.63
		RB1#38	17.22	17.30	17.33	16.52	16.60	16.63
		RB1#74	17.24	17.33	17.27	16.54	16.63	16.57
		RB36#0	16.36	16.44	16.47	15.66	15.74	15.77
		RB36#39	16.41	16.46	16.45	15.71	15.76	15.75
		RB75#0	16.32	16.44	16.43	15.62	15.74	15.73
	16QAM	RB1#0	16.96	16.55	16.81	16.26	15.85	16.11
		RB1#38	16.94	16.56	16.82	16.24	15.86	16.12
		RB1#74	17.04	16.56	16.80	16.34	15.86	16.10
		RB36#0	15.34	15.47	15.42	14.64	14.77	14.72
		RB36#39	15.41	15.48	15.38	14.71	14.78	14.68
		RB75#0	15.36	15.47	15.42	14.66	14.77	14.72
20.0	QPSK	RB1#0	17.15	17.21	17.19	16.45	16.51	16.49
		RB1#50	17.44	17.51	17.45	16.74	16.81	16.75
		RB1#99	17.29	17.27	17.23	16.59	16.57	16.53
		RB50#0	16.37	16.45	16.52	15.67	15.75	15.82
		RB50#50	16.49	16.54	16.46	15.79	15.84	15.76
		RB100#0	16.44	16.50	16.50	15.74	15.80	15.80
	16QAM	RB1#0	16.52	16.50	16.89	15.82	15.80	16.19
		RB1#50	16.81	16.80	17.14	16.11	16.10	16.44
		RB1#99	16.64	16.56	16.91	15.94	15.86	16.21
		RB50#0	15.43	15.49	15.58	14.73	14.79	14.88
		RB50#50	15.52	15.56	15.49	14.82	14.86	14.79
		RB100#0	15.49	15.54	15.50	14.79	14.84	14.80

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

For Band4: Antenna Gain = -0.7dBi

Limit: EIRP ≤ 30dBm

Peak-to-average ratio (PAR)**20MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.45	5.51	5.74	13	Pass
QPSK (100RB Size)	5.64	5.77	5.64	13	Pass
16QAM (1RB Size)	6.41	7.15	7.24	13	Pass
16QAM (100RB Size)	6.57	6.54	6.35	13	Pass

LTE Band 5:**Maximum Output Power**

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	24.75	24.68	24.62	19.30	19.23	19.17
		RB1#3	24.84	24.83	24.76	19.39	19.38	19.31
		RB1#5	24.75	24.66	24.57	19.30	19.21	19.12
		RB3#0	24.78	24.74	24.64	19.33	19.29	19.19
		RB3#3	24.77	24.63	24.68	19.32	19.18	19.23
		RB6#0	23.83	23.78	23.67	18.38	18.33	18.22
	16QAM	RB1#0	23.75	23.76	23.60	18.30	18.31	18.15
		RB1#3	23.86	23.92	23.79	18.41	18.47	18.34
		RB1#5	23.78	23.79	23.63	18.33	18.34	18.18
		RB3#0	23.97	23.61	23.73	18.52	18.16	18.28
		RB3#3	23.94	23.68	23.72	18.49	18.23	18.27
		RB6#0	22.80	22.77	22.61	17.35	17.32	17.16
3.0	QPSK	RB1#0	24.82	24.76	24.73	19.37	19.31	19.28
		RB1#8	24.76	24.71	24.68	19.31	19.26	19.23
		RB1#14	24.77	24.68	24.67	19.32	19.23	19.22
		RB6#0	23.77	23.73	23.68	18.32	18.28	18.23
		RB6#9	23.77	23.66	23.61	18.32	18.21	18.16
		RB15#0	23.80	23.73	23.72	18.35	18.28	18.27
	16QAM	RB1#0	24.29	23.86	23.75	18.84	18.41	18.30
		RB1#8	24.25	23.78	23.66	18.80	18.33	18.21
		RB1#14	24.24	23.84	23.67	18.79	18.39	18.22
		RB6#0	22.87	22.70	22.64	17.42	17.25	17.19
		RB6#9	22.88	22.76	22.55	17.43	17.31	17.10
		RB15#0	22.82	22.68	22.76	17.37	17.23	17.31

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	24.76	24.73	24.69	19.31	19.28	19.24
		RB1#13	24.79	24.73	24.69	19.34	19.28	19.24
		RB1#24	24.74	24.70	24.63	19.29	19.25	19.18
		RB15#0	23.80	23.81	23.80	18.35	18.36	18.35
		RB15#10	23.90	23.71	23.67	18.45	18.26	18.22
		RB25#0	23.84	23.75	23.69	18.39	18.30	18.24
	16QAM	RB1#0	23.66	23.96	23.80	18.21	18.51	18.35
		RB1#13	23.70	23.97	23.75	18.25	18.52	18.30
		RB1#24	23.63	23.95	23.73	18.18	18.50	18.28
		RB15#0	22.84	22.78	22.82	17.39	17.33	17.37
		RB15#10	22.89	22.74	22.67	17.44	17.29	17.22
		RB25#0	22.89	22.75	22.75	17.44	17.30	17.30
10.0	QPSK	RB1#0	24.77	24.75	24.69	19.32	19.30	19.24
		RB1#25	24.91	24.82	24.87	19.46	19.37	19.42
		RB1#49	24.74	24.71	24.69	19.29	19.26	19.24
		RB25#0	23.81	23.84	23.80	18.36	18.39	18.35
		RB25#25	23.81	23.75	23.67	18.36	18.30	18.22
		RB50#0	23.81	23.78	23.77	18.36	18.33	18.32
	16QAM	RB1#0	24.28	23.86	23.71	18.83	18.41	18.26
		RB1#25	24.38	24.02	23.84	18.93	18.57	18.39
		RB1#49	24.21	23.86	23.67	18.76	18.41	18.22
		RB25#0	22.88	22.90	22.88	17.43	17.45	17.43
		RB25#25	22.88	22.79	22.79	17.43	17.34	17.34
		RB50#0	22.87	22.79	22.77	17.42	17.34	17.32

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
 For Band5: Antenna Gain = -3.3dBi = -5.45dBd (0dBd=2.15dBi)
 Limit: ERP≤38.45dBm

Peak-to-average ratio (PAR)**10MHz bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	3.46	3.97	3.49	13	Pass
QPSK (50RB Size)	5.42	5.45	5.48	13	Pass
16QAM (1RB Size)	4.26	4.90	4.55	13	Pass
16QAM (50RB Size)	6.28	6.31	6.28	13	Pass

LTE Band 7:**Maximum Output Power**

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	17.52	17.62	17.52	17.12	17.22	17.12
		RB1#13	17.60	17.58	17.56	17.20	17.18	17.16
		RB1#24	17.59	17.57	17.59	17.19	17.17	17.19
		RB15#0	16.47	16.50	16.50	16.07	16.10	16.10
		RB15#10	16.54	16.52	16.52	16.14	16.12	16.12
		RB25#0	16.50	16.47	16.51	16.10	16.07	16.11
	16QAM	RB1#0	16.47	16.87	16.58	16.07	16.47	16.18
		RB1#13	16.47	16.86	16.62	16.07	16.46	16.22
		RB1#24	16.52	16.86	16.63	16.12	16.46	16.23
		RB15#0	15.57	15.47	15.61	15.17	15.07	15.21
		RB15#10	15.66	15.52	15.62	15.26	15.12	15.22
		RB25#0	15.58	15.54	15.60	15.18	15.14	15.20
10.0	QPSK	RB1#0	17.52	17.55	17.52	17.12	17.15	17.12
		RB1#25	17.59	17.62	17.59	17.19	17.22	17.19
		RB1#49	17.51	17.57	17.53	17.11	17.17	17.13
		RB25#0	16.42	16.46	16.56	16.02	16.06	16.16
		RB25#25	16.57	16.58	16.53	16.17	16.18	16.13
		RB50#0	16.47	16.52	16.58	16.07	16.12	16.18
	16QAM	RB1#0	17.20	16.72	16.52	16.80	16.32	16.12
		RB1#25	17.27	16.85	16.65	16.87	16.45	16.25
		RB1#49	17.23	16.71	16.60	16.83	16.31	16.20
		RB25#0	15.52	15.55	15.75	15.12	15.15	15.35
		RB25#25	15.70	15.65	15.75	15.30	15.25	15.35
		RB50#0	15.56	15.59	15.70	15.16	15.19	15.30

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	17.50	17.53	17.43	17.10	17.13	17.03
		RB1#38	17.48	17.57	17.50	17.08	17.17	17.10
		RB1#74	17.55	17.58	17.55	17.15	17.18	17.15
		RB36#0	16.50	16.56	16.53	16.10	16.16	16.13
		RB36#39	16.64	16.63	16.51	16.24	16.23	16.11
		RB75#0	16.54	16.56	16.55	16.14	16.16	16.15
	16QAM	RB1#0	17.18	16.72	16.85	16.78	16.32	16.45
		RB1#38	17.18	16.72	16.92	16.78	16.32	16.52
		RB1#74	17.24	16.68	16.99	16.84	16.28	16.59
		RB36#0	15.54	15.56	15.50	15.14	15.16	15.10
		RB36#39	15.62	15.63	15.55	15.22	15.23	15.15
		RB75#0	15.60	15.56	15.53	15.20	15.16	15.13
20.0	QPSK	RB1#0	17.43	17.39	17.28	17.03	16.99	16.88
		RB1#50	17.66	17.71	17.60	17.26	17.31	17.20
		RB1#99	17.43	17.49	17.43	17.03	17.09	17.03
		RB50#0	16.49	16.56	16.58	16.09	16.16	16.18
		RB50#50	16.61	16.68	16.54	16.21	16.28	16.14
		RB100#0	16.51	16.58	16.58	16.11	16.18	16.18
	16QAM	RB1#0	16.73	16.65	16.91	16.33	16.25	16.51
		RB1#50	16.96	16.97	17.24	16.56	16.57	16.84
		RB1#99	16.74	16.69	17.08	16.34	16.29	16.68
		RB50#0	15.54	15.57	15.65	15.14	15.17	15.25
		RB50#50	15.56	15.73	15.61	15.16	15.33	15.21
		RB100#0	15.62	15.64	15.64	15.22	15.24	15.24

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

For Band7: Antenna Gain = -0.4dBi

Limit: EIRP ≤ 33dBm

Peak-to-average ratio (PAR)**20MHz bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	6.54	6.70	5.67	13	Pass
QPSK (100RB Size)	5.64	5.64	5.83	13	Pass
16QAM (1RB Size)	7.47	7.60	6.44	13	Pass
16QAM (100RB Size)	6.54	6.51	6.73	13	Pass

LTE Band 38:**Maximum Output Power**

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	18.49	18.58	18.63	18.09	18.18	18.23
		RB1#13	18.55	18.63	18.78	18.15	18.23	18.38
		RB1#24	18.52	18.62	18.60	18.12	18.22	18.20
		RB15#0	17.54	17.56	17.59	17.14	17.16	17.19
		RB15#10	17.53	17.60	17.62	17.13	17.20	17.22
		RB25#0	17.56	17.58	17.61	17.16	17.18	17.21
	16QAM	RB1#0	17.61	17.85	17.61	17.21	17.45	17.21
		RB1#13	17.60	17.89	17.66	17.20	17.49	17.26
		RB1#24	17.61	17.89	17.60	17.21	17.49	17.20
		RB15#0	16.56	16.66	16.58	16.16	16.26	16.18
		RB15#10	16.63	16.72	16.61	16.23	16.32	16.21
		RB25#0	16.62	16.65	16.72	16.22	16.25	16.32
10.0	QPSK	RB1#0	18.51	18.63	18.70	18.11	18.23	18.30
		RB1#25	18.82	18.85	18.95	18.42	18.45	18.55
		RB1#49	18.61	18.66	18.65	18.21	18.26	18.25
		RB25#0	17.53	17.56	17.61	17.13	17.16	17.21
		RB25#25	17.61	17.61	17.65	17.21	17.21	17.25
		RB50#0	17.53	17.58	17.62	17.13	17.18	17.22
	16QAM	RB1#0	17.81	17.55	17.78	17.41	17.15	17.38
		RB1#25	18.05	17.80	18.00	17.65	17.40	17.60
		RB1#49	17.87	17.60	17.76	17.47	17.20	17.36
		RB25#0	16.56	16.67	16.68	16.16	16.27	16.28
		RB25#25	16.68	16.72	16.74	16.28	16.32	16.34
		RB50#0	16.61	16.68	16.71	16.21	16.28	16.31

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	18.49	18.60	18.66	18.09	18.20	18.26
		RB1#38	18.61	18.64	18.60	18.21	18.24	18.20
		RB1#74	18.58	18.66	18.59	18.18	18.26	18.19
		RB36#0	17.53	17.57	17.70	17.13	17.17	17.30
		RB36#39	17.61	17.70	17.67	17.21	17.30	17.27
		RB75#0	17.52	17.59	17.69	17.12	17.19	17.29
	16QAM	RB1#0	17.76	17.52	17.88	17.36	17.12	17.48
		RB1#38	17.83	17.59	17.84	17.43	17.19	17.44
		RB1#74	17.83	17.60	17.83	17.43	17.20	17.43
		RB36#0	16.56	16.57	16.80	16.16	16.17	16.40
		RB36#39	16.65	16.67	16.77	16.25	16.27	16.37
		RB75#0	16.57	16.67	16.73	16.17	16.27	16.33
20.0	QPSK	RB1#0	18.35	18.38	18.58	17.95	17.98	18.18
		RB1#50	18.81	18.84	18.99	18.41	18.44	18.59
		RB1#99	18.49	18.54	18.60	18.09	18.14	18.20
		RB50#0	17.49	17.55	17.63	17.09	17.15	17.23
		RB50#50	17.67	17.64	17.66	17.27	17.24	17.26
		RB100#0	17.60	17.61	17.66	17.20	17.21	17.26
	16QAM	RB1#0	17.46	17.39	17.76	17.06	16.99	17.36
		RB1#50	17.91	17.83	18.22	17.51	17.43	17.82
		RB1#99	17.58	17.51	17.82	17.18	17.11	17.42
		RB50#0	16.57	16.68	16.74	16.17	16.28	16.34
		RB50#50	16.73	16.78	16.75	16.33	16.38	16.35
		RB100#0	16.65	16.71	16.74	16.25	16.31	16.34

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

For Band38: Antenna Gain = -0.4dBi

Limit: EIRP ≤ 33dBm

Peak-to-average ratio (PAR)**20MHz bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	8.78	8.27	8.37	13	Pass
QPSK (100RB Size)	6.86	9.81	7.50	13	Pass
16QAM (1RB Size)	8.53	8.27	8.27	13	Pass
16QAM (100RB Size)	8.46	7.85	7.88	13	Pass

LTE Band 41:**Maximum Output Power**

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	19.77	19.70	19.57	19.37	19.30	19.17
		RB1#13	19.75	19.70	19.59	19.35	19.30	19.19
		RB1#24	19.75	19.72	19.58	19.35	19.32	19.18
		RB15#0	18.68	18.62	18.57	18.28	18.22	18.17
		RB15#10	18.67	18.65	18.53	18.27	18.25	18.13
		RB25#0	18.69	18.65	18.55	18.29	18.25	18.15
	16QAM	RB1#0	18.80	18.92	18.57	18.40	18.52	18.17
		RB1#13	18.85	18.89	18.57	18.45	18.49	18.17
		RB1#24	18.86	18.95	18.56	18.46	18.55	18.16
		RB15#0	17.81	17.68	17.50	17.41	17.28	17.10
		RB15#10	17.77	17.75	17.51	17.37	17.35	17.11
		RB25#0	17.80	17.69	17.64	17.40	17.29	17.24
10.0	QPSK	RB1#0	19.74	19.70	19.67	19.34	19.30	19.27
		RB1#25	20.03	20.01	19.93	19.63	19.61	19.53
		RB1#49	19.69	19.76	19.58	19.29	19.36	19.18
		RB25#0	18.74	18.66	18.66	18.34	18.26	18.26
		RB25#25	18.71	18.71	18.60	18.31	18.31	18.20
		RB50#0	18.71	18.71	18.62	18.31	18.31	18.22
	16QAM	RB1#0	18.97	18.60	18.74	18.57	18.20	18.34
		RB1#25	19.22	18.90	19.00	18.82	18.50	18.60
		RB1#49	18.94	18.65	18.66	18.54	18.25	18.26
		RB25#0	17.73	17.69	17.65	17.33	17.29	17.25
		RB25#25	17.76	17.80	17.67	17.36	17.40	17.27
		RB50#0	17.76	17.75	17.64	17.36	17.35	17.24

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	19.71	19.63	19.66	19.31	19.23	19.26
		RB1#38	19.68	19.68	19.62	19.28	19.28	19.22
		RB1#74	19.62	19.72	19.55	19.22	19.32	19.15
		RB36#0	18.69	18.61	18.68	18.29	18.21	18.28
		RB36#39	18.69	18.70	18.59	18.29	18.30	18.19
		RB75#0	18.67	18.64	18.64	18.27	18.24	18.24
	16QAM	RB1#0	18.91	18.53	18.88	18.51	18.13	18.48
		RB1#38	18.89	18.59	18.87	18.49	18.19	18.47
		RB1#74	18.84	18.65	18.77	18.44	18.25	18.37
		RB36#0	17.67	17.59	17.71	17.27	17.19	17.31
		RB36#39	17.66	17.65	17.61	17.26	17.25	17.21
		RB75#0	17.64	17.62	17.56	17.24	17.22	17.16
20.0	QPSK	RB1#0	19.53	19.42	19.59	19.13	19.02	19.19
		RB1#50	19.89	19.85	19.96	19.49	19.45	19.56
		RB1#99	19.46	19.53	19.52	19.06	19.13	19.12
		RB50#0	18.64	18.57	18.60	18.24	18.17	18.20
		RB50#50	18.59	18.65	18.56	18.19	18.25	18.16
		RB100#0	18.65	18.61	18.59	18.25	18.21	18.19
	16QAM	RB1#0	18.63	18.41	18.80	18.23	18.01	18.40
		RB1#50	18.95	18.84	19.17	18.55	18.44	18.77
		RB1#99	18.54	18.53	18.70	18.14	18.13	18.30
		RB50#0	17.64	17.66	17.61	17.24	17.26	17.21
		RB50#50	17.64	17.75	17.56	17.24	17.35	17.16
		RB100#0	17.65	17.64	17.58	17.25	17.24	17.18

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

For Band41: Antenna Gain = -0.4dBi

Limit: EIRP ≤ 33dBm

Peak-to-average ratio (PAR)**20MHz bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.16	10.20	10.02	13	Pass
QPSK (100RB Size)	6.75	5.80	8.52	13	Pass
16QAM (1RB Size)	7.25	10.00	7.25	13	Pass
16QAM (100RB Size)	7.62	10.55	7.45	13	Pass

LTE Band 66:**Maximum Output Power**

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	18.10	18.32	18.37	17.40	17.62	17.67
		RB1#3	18.27	18.47	18.59	17.57	17.77	17.89
		RB1#5	18.14	18.33	18.35	17.44	17.63	17.65
		RB3#0	18.22	18.44	18.45	17.52	17.74	17.75
		RB3#3	18.29	18.42	18.45	17.59	17.72	17.75
		RB6#0	17.19	17.37	17.39	16.49	16.67	16.69
	16QAM	RB1#0	17.17	17.38	17.46	16.47	16.68	16.76
		RB1#3	17.36	17.50	17.67	16.66	16.80	16.97
		RB1#5	17.23	17.38	17.49	16.53	16.68	16.79
		RB3#0	17.40	17.69	17.46	16.70	16.99	16.76
		RB3#3	17.40	17.65	17.46	16.70	16.95	16.76
		RB6#0	16.20	16.47	16.49	15.50	15.77	15.79
3.0	QPSK	RB1#0	18.20	18.47	18.44	17.50	17.77	17.74
		RB1#8	18.20	18.49	18.41	17.50	17.79	17.71
		RB1#14	18.21	18.44	18.42	17.51	17.74	17.72
		RB6#0	17.21	17.40	17.41	16.51	16.70	16.71
		RB6#9	17.24	17.38	17.35	16.54	16.68	16.65
		RB15#0	17.34	17.43	17.44	16.64	16.73	16.74
	16QAM	RB1#0	17.92	17.56	17.48	17.22	16.86	16.78
		RB1#8	17.95	17.59	17.47	17.25	16.89	16.77
		RB1#14	17.94	17.60	17.44	17.24	16.90	16.74
		RB6#0	16.32	16.46	16.41	15.62	15.76	15.71
		RB6#9	16.36	16.50	16.41	15.66	15.80	15.71
		RB15#0	16.39	16.45	16.54	15.69	15.75	15.84

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	18.16	18.38	18.36	17.46	17.68	17.66
		RB1#13	18.30	18.46	18.49	17.60	17.76	17.79
		RB1#24	18.26	18.39	18.34	17.56	17.69	17.64
		RB15#0	17.26	17.45	17.49	16.56	16.75	16.79
		RB15#10	17.34	17.40	17.38	16.64	16.70	16.68
		RB25#0	17.26	17.42	17.41	16.56	16.72	16.71
	16QAM	RB1#0	17.11	17.68	17.46	16.41	16.98	16.76
		RB1#13	17.25	17.77	17.53	16.55	17.07	16.83
		RB1#24	17.12	17.72	17.46	16.42	17.02	16.76
		RB15#0	16.38	16.57	16.61	15.68	15.87	15.91
		RB15#10	16.38	16.49	16.48	15.68	15.79	15.78
		RB25#0	16.36	16.52	16.52	15.66	15.82	15.82
10.0	QPSK	RB1#0	18.18	18.45	18.38	17.48	17.75	17.68
		RB1#25	18.39	18.57	18.57	17.69	17.87	17.87
		RB1#49	18.32	18.44	18.42	17.62	17.74	17.72
		RB25#0	17.33	17.53	17.56	16.63	16.83	16.86
		RB25#25	17.38	17.47	17.37	16.68	16.77	16.67
		RB50#0	17.37	17.50	17.44	16.67	16.80	16.74
	16QAM	RB1#0	17.90	17.61	17.40	17.20	16.91	16.70
		RB1#25	18.09	17.74	17.60	17.39	17.04	16.90
		RB1#49	18.05	17.60	17.42	17.35	16.90	16.72
		RB25#0	16.41	16.63	16.73	15.71	15.93	16.03
		RB25#25	16.55	16.57	16.51	15.85	15.87	15.81
		RB50#0	16.48	16.60	16.57	15.78	15.90	15.87

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	18.11	18.38	18.34	17.41	17.68	17.64
		RB1#38	18.37	18.49	18.51	17.67	17.79	17.81
		RB1#74	18.30	18.38	18.35	17.60	17.68	17.65
		RB36#0	17.36	17.47	17.51	16.66	16.77	16.81
		RB36#39	17.44	17.44	17.37	16.74	16.74	16.67
		RB75#0	17.38	17.46	17.43	16.68	16.76	16.73
	16QAM	RB1#0	17.83	17.53	17.83	17.13	16.83	17.13
		RB1#38	18.01	17.63	17.92	17.31	16.93	17.22
		RB1#74	17.99	17.51	17.78	17.29	16.81	17.08
		RB36#0	16.35	16.55	16.52	15.65	15.85	15.82
		RB36#39	16.51	16.53	16.39	15.81	15.83	15.69
		RB75#0	16.42	16.54	16.50	15.72	15.84	15.80
20.0	QPSK	RB1#0	18.02	18.23	18.10	17.32	17.53	17.40
		RB1#50	18.55	18.67	18.49	17.85	17.97	17.79
		RB1#99	18.23	18.25	18.17	17.53	17.55	17.47
		RB50#0	17.33	17.55	17.53	16.63	16.85	16.83
		RB50#50	17.49	17.41	17.26	16.79	16.71	16.56
		RB100#0	17.43	17.51	17.41	16.73	16.81	16.71
	16QAM	RB1#0	17.42	17.51	17.75	16.72	16.81	17.05
		RB1#50	17.99	17.85	18.14	17.29	17.15	17.44
		RB1#99	17.56	17.50	17.76	16.86	16.80	17.06
		RB50#0	16.43	16.59	16.60	15.73	15.89	15.90
		RB50#50	16.56	16.50	16.37	15.86	15.80	15.67
		RB100#0	16.52	16.55	16.54	15.82	15.85	15.84

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
 For Band 66: Antenna Gain = -0.7dBi
 Limit: EIRP ≤ 30dBm

Peak-to-average ratio (PAR)**20MHz bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.64	5.80	5.67	13	Pass
QPSK (100RB Size)	5.74	5.77	5.64	13	Pass
16QAM (1RB Size)	6.35	7.40	6.57	13	Pass
16QAM (100RB Size)	6.63	6.60	6.54	13	Pass

FCC §2.1049, §22.917, §22.905 & §24.238&§27.53 - Occupied Bandwidth&26 dB Emission Bandwidth

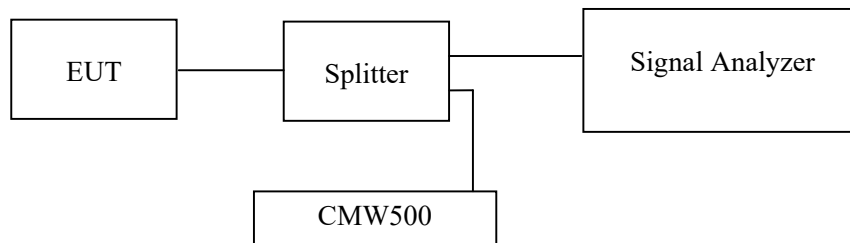
Applicable Standard

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

Temperature:	23 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Black Ding from 2021-12-01 to 2021-12-16.

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	244.57	315.50
	190	836.6	243.13	319.80
	251	848.8	244.57	318.40
EGPRS(8PSK)	128	824.2	248.91	319.80
	190	836.6	248.91	319.80
	251	848.8	248.91	321.30

	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	826.4	4.15	4.75
	836.6	4.20	4.83
	846.6	4.15	4.72
HSDPA	826.4	4.18	4.81
	836.6	4.20	4.92
	846.6	4.17	4.79
HSUPA	826.4	4.19	4.77
	836.6	4.20	4.76
	846.6	4.21	5.04

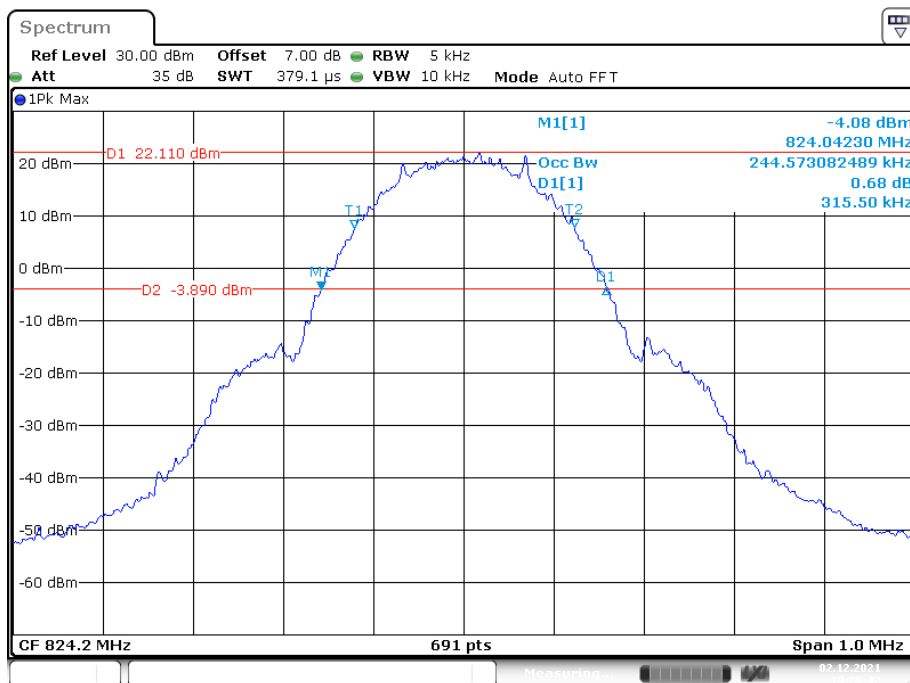
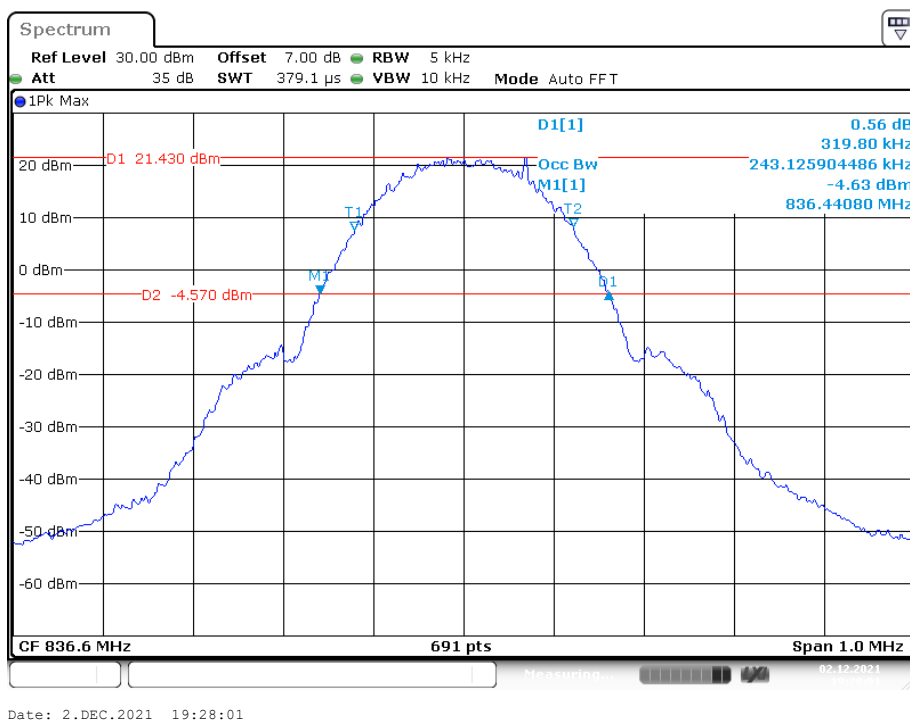
PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	512	1850.2	244.57	316.90
	661	1880.0	244.57	316.90
	810	1909.8	243.13	316.90
EGPRS(8PSK)	512	1850.2	251.81	319.80
	661	1880.0	251.81	321.30
	810	1909.8	253.26	324.20

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1852.4	4.17	4.72
	1880.0	4.17	4.73
	1907.6	4.15	4.73
HSDPA	1852.4	4.17	4.72
	1880.0	4.18	4.72
	1907.6	4.17	4.71
HSUPA	1852.4	4.17	4.72
	1880.0	4.17	4.72
	1907.6	4.19	4.71

AWS Band (Part 27)

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1712.4	4.17	4.73
	1732.6	4.15	4.72
	1752.6	4.17	4.72
HSDPA	1712.4	4.17	4.72
	1732.6	4.18	4.70
	1752.6	4.18	4.73
HSUPA	1712.4	4.17	4.70
	1732.6	4.17	4.72
	1752.6	4.18	4.72

Cellular Band (Part 22H)**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Low channel****26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel**

Spectrum

Ref Level 30.00 dBm Offset 7.00 dB RBW 5 kHz
 Att 35 dB SWT 379.1 μ s VBW 10 kHz Mode Auto FFT

1Pk Max

D1 21.840 dBm

D2 -4.160 dBm

T1

T2

M2

D1[1] 1.14 dB
 318.40 kHz
 Occ Bw 244.573082489 kHz
 M1[1] -5.01 dBm
 848.64080 MHz

CF 848.8 MHz 691 pts Span 1.0 MHz

Spectrum

Ref Level 30.00 dBm Offset 7.00 dB RBW 5 kHz
 Att 35 dB SWT 379.1 μs VBW 10 kHz Mode Auto FFT

1Pk Max

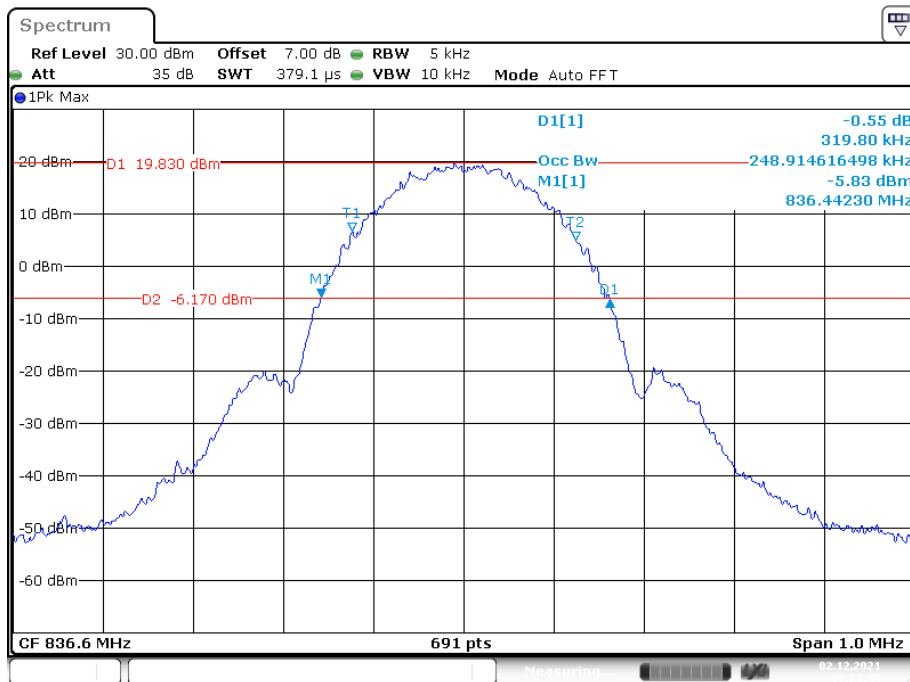
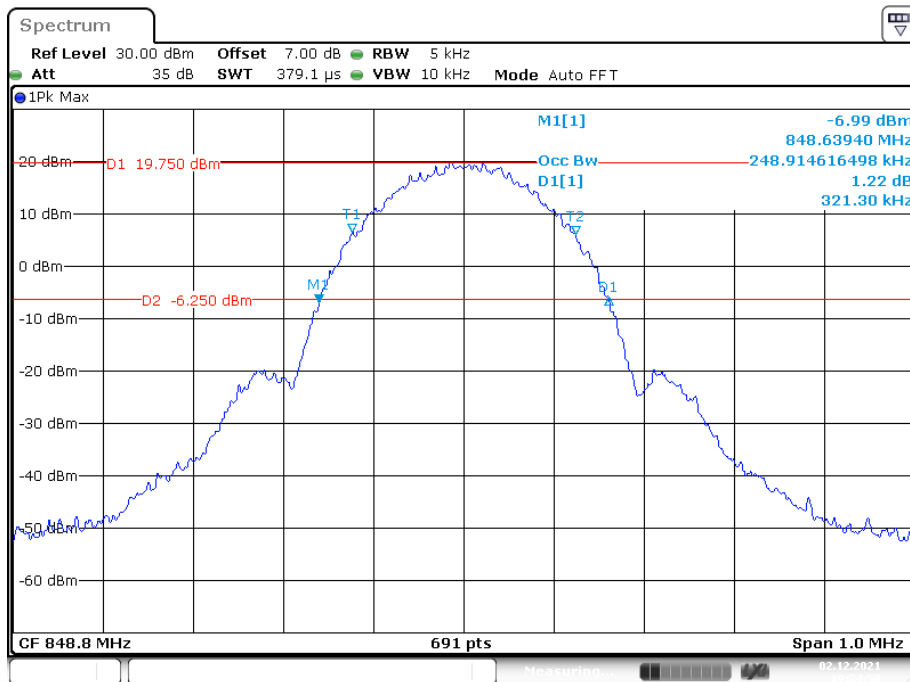
D1[1] 0.11 dB
 319.80 kHz
 Occ Bw 248.914616498 kHz
 M1[1] -6.31 dBm
 824.04230 MHz

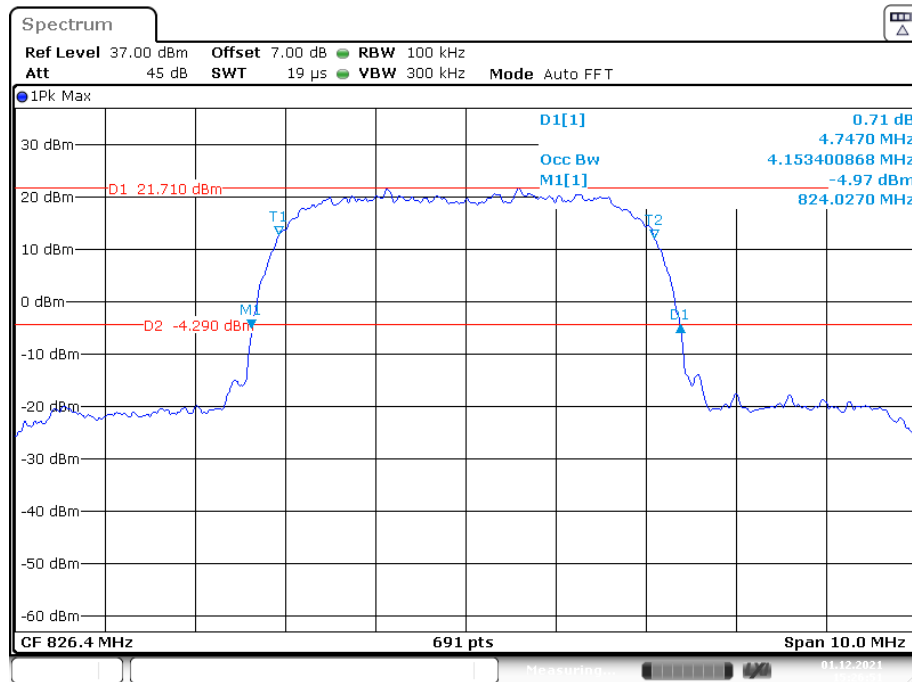
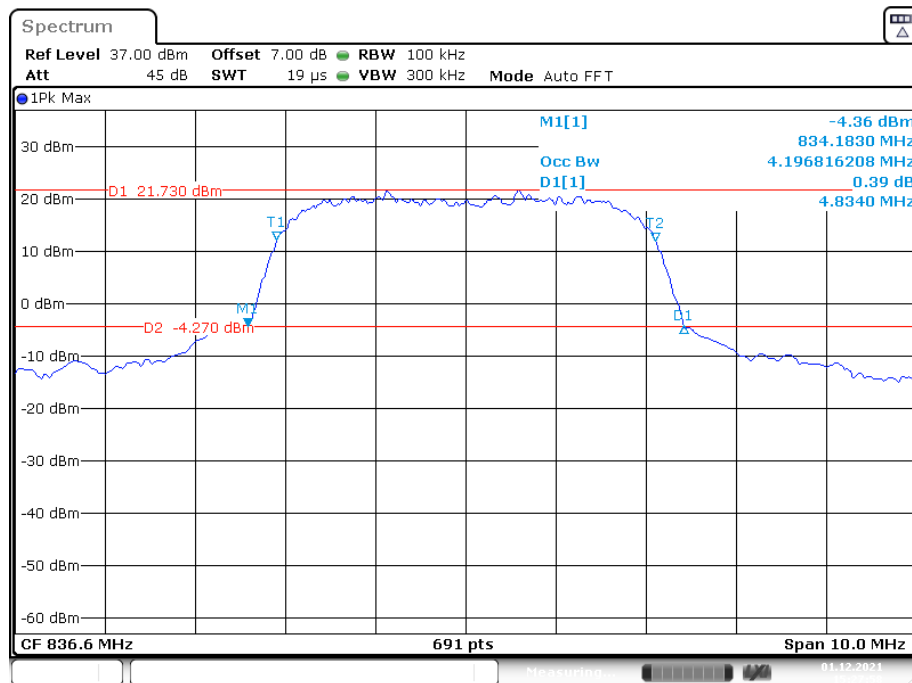
D1 19.780 dBm
 D2 -6.220 dBm

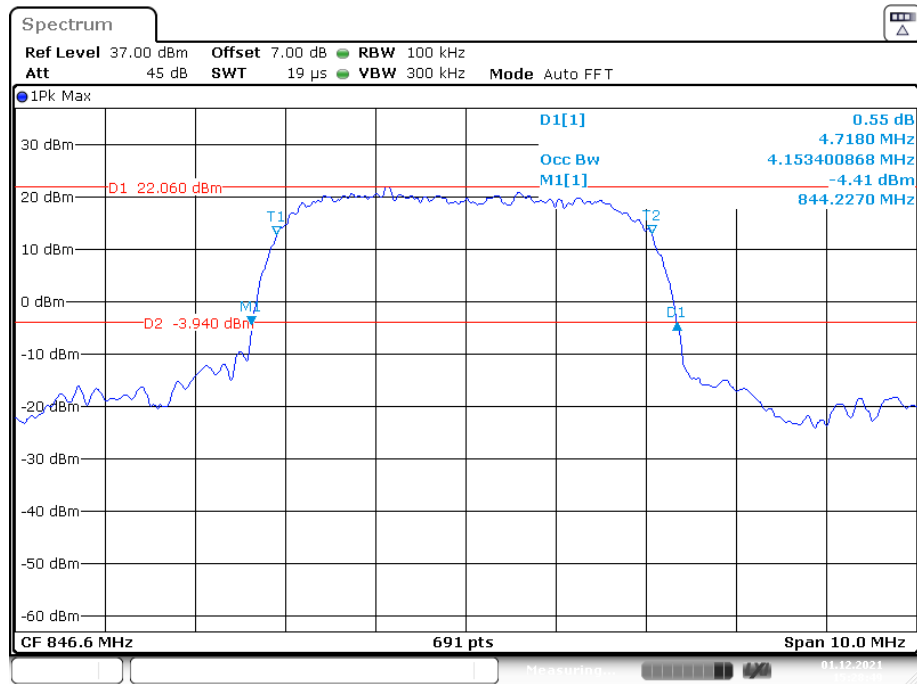
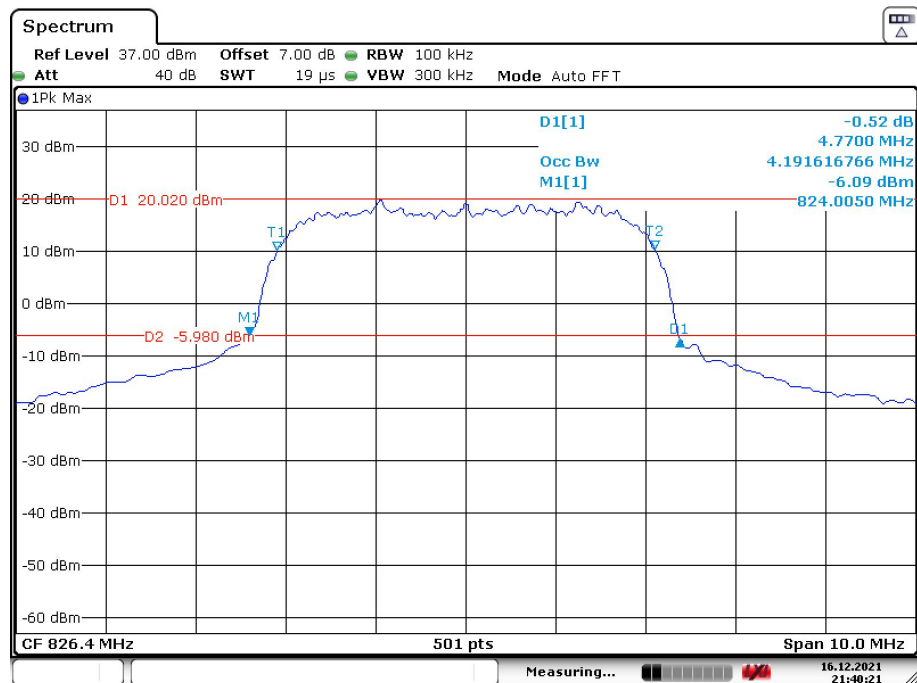
T1
 T2
 M2
 D1

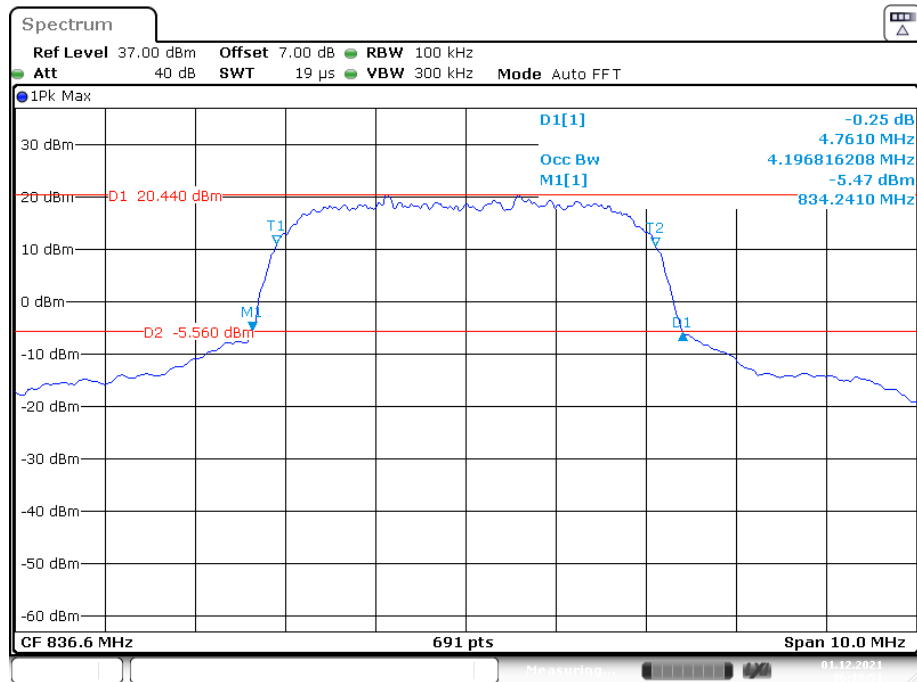
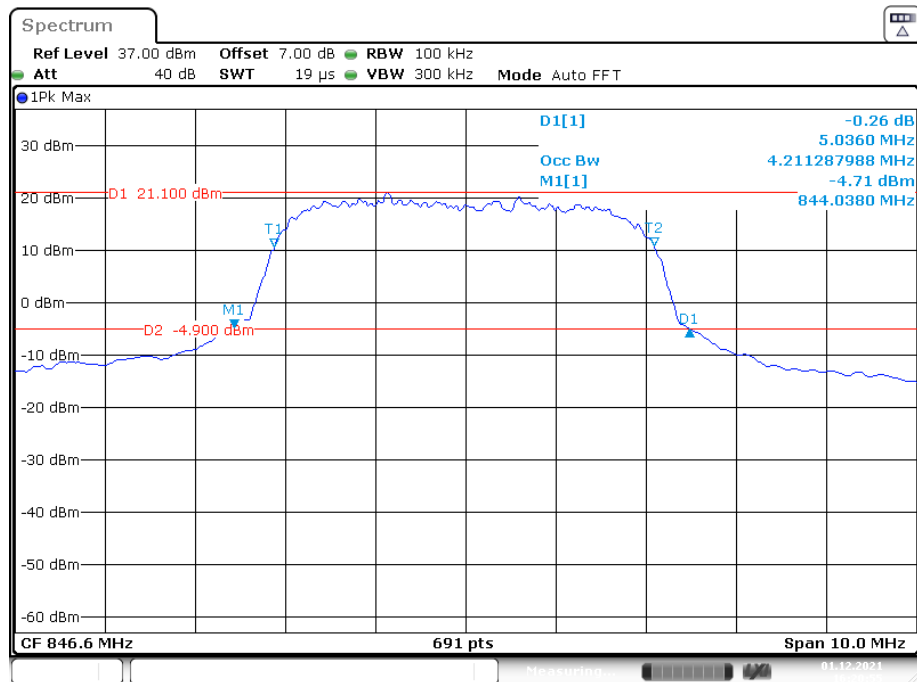
CF 824.2 MHz 691 pts Span 1.0 MHz

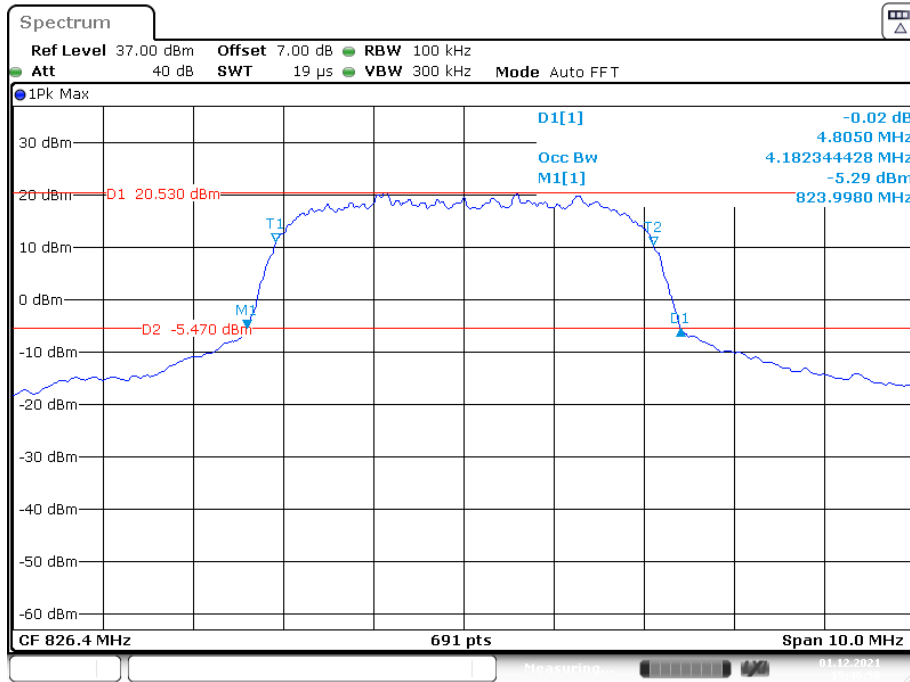
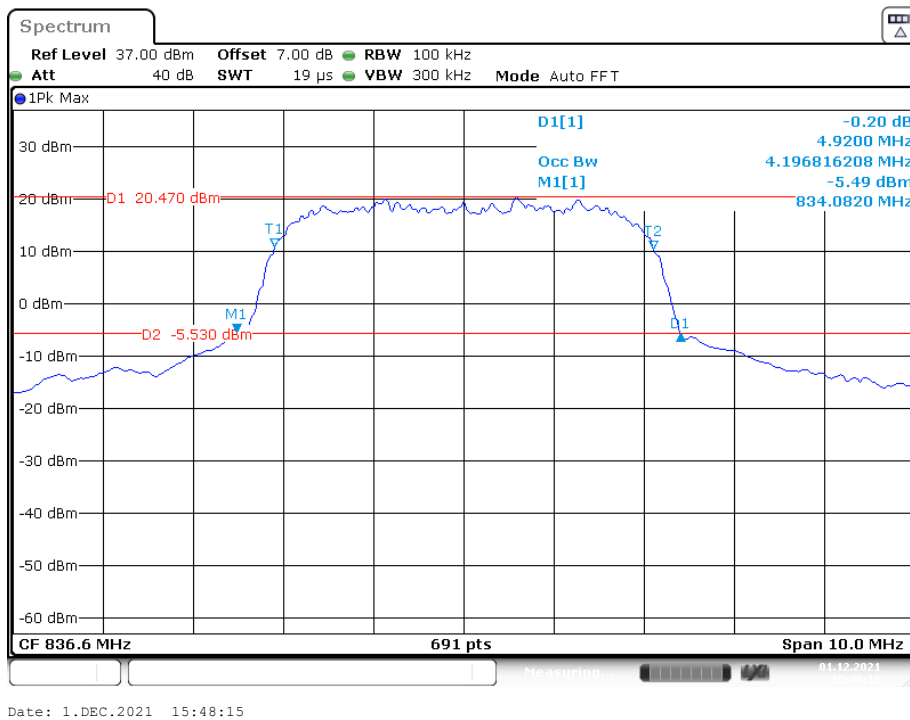
FCC -2G,3G,4G

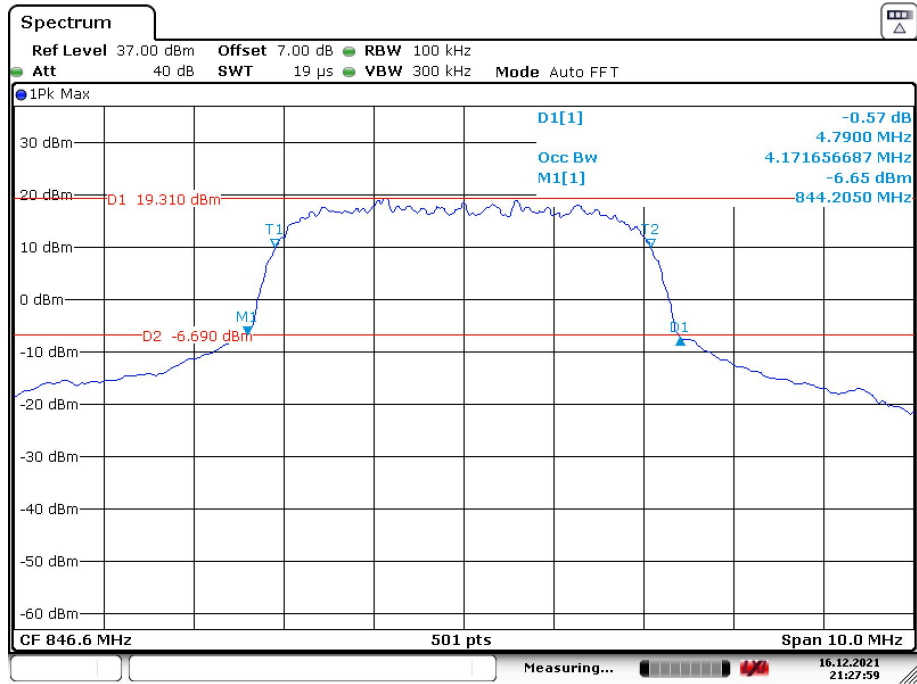
26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Middle channel**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, High channel**

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

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

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

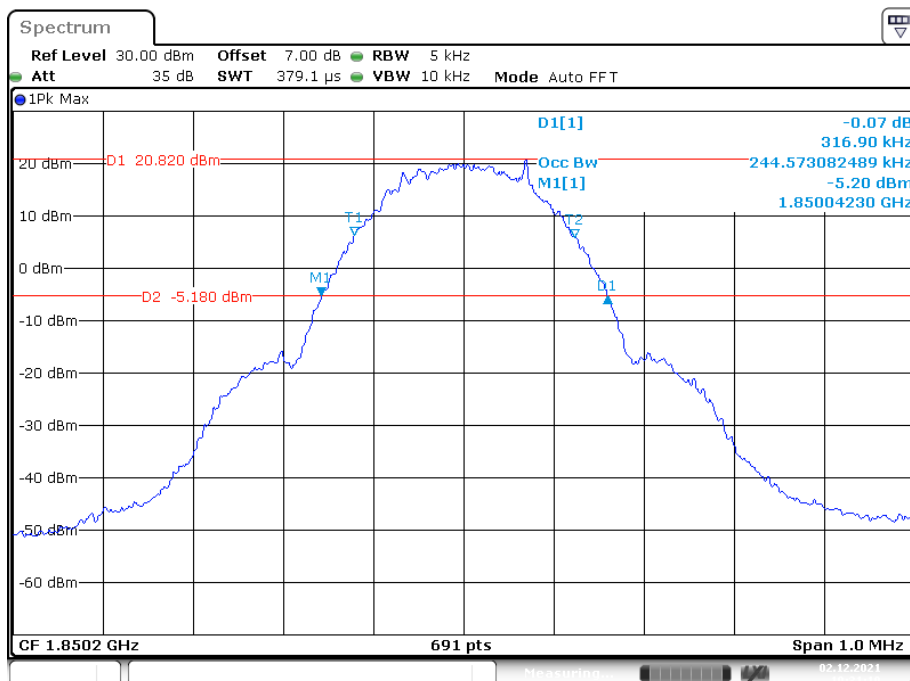
26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel**26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel**

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

Date: 16.DEC.2021 21:28:00

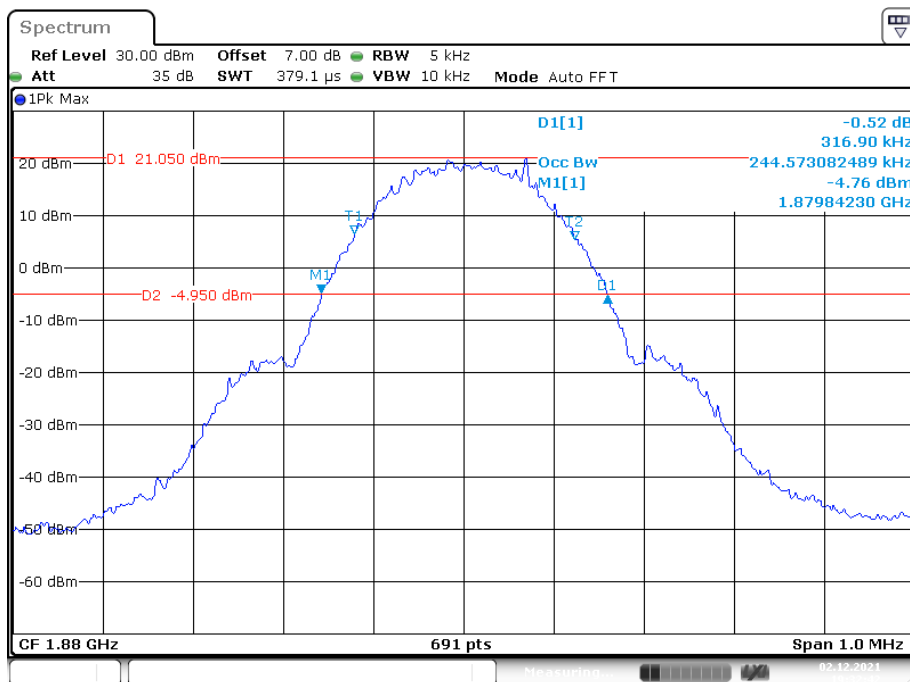
PCS Band (Part 24E)

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

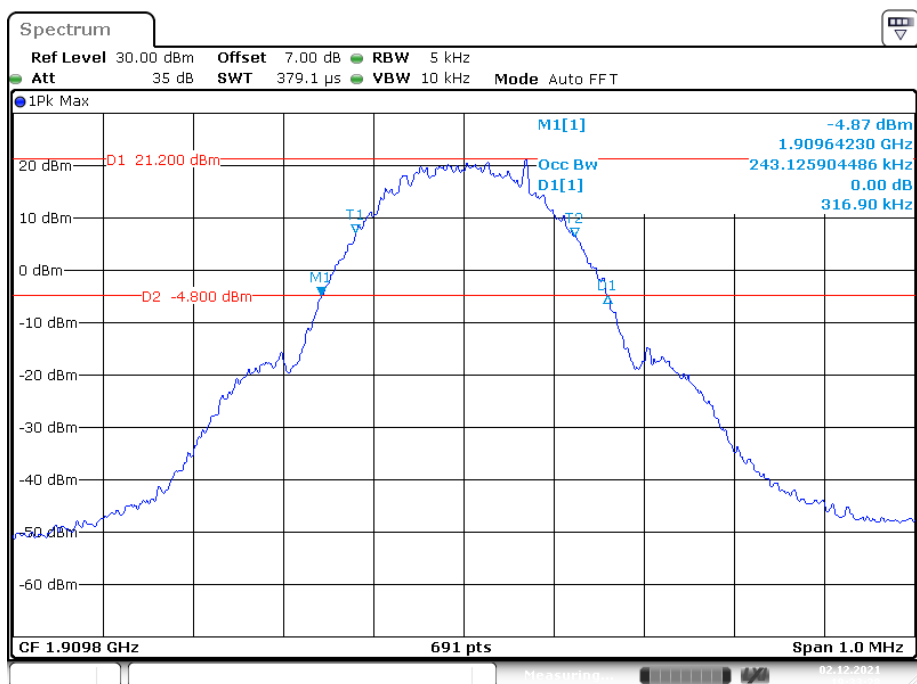


Date: 2.DEC.2021 19:31:10

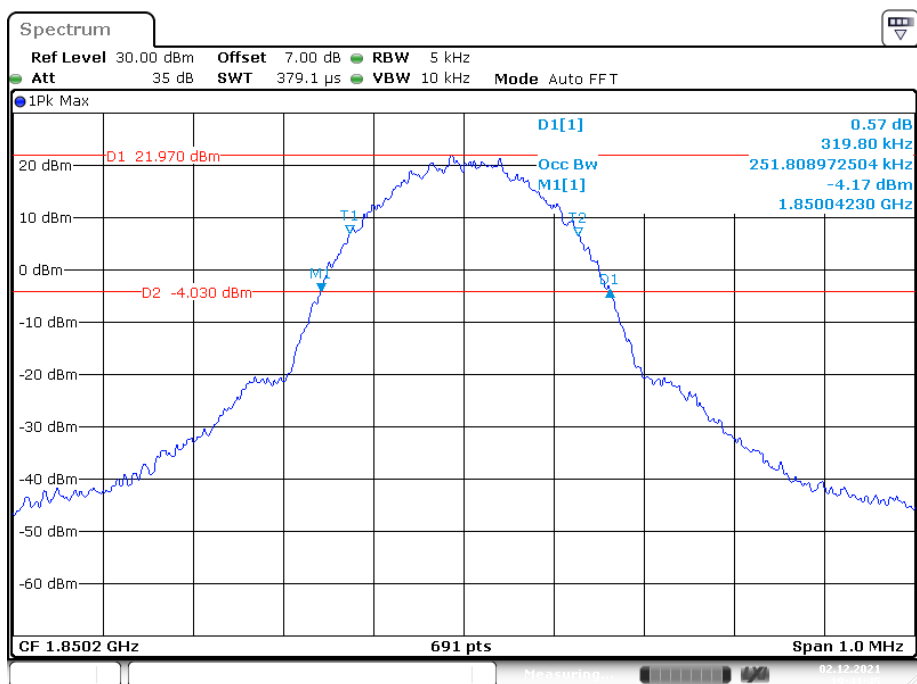
26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel



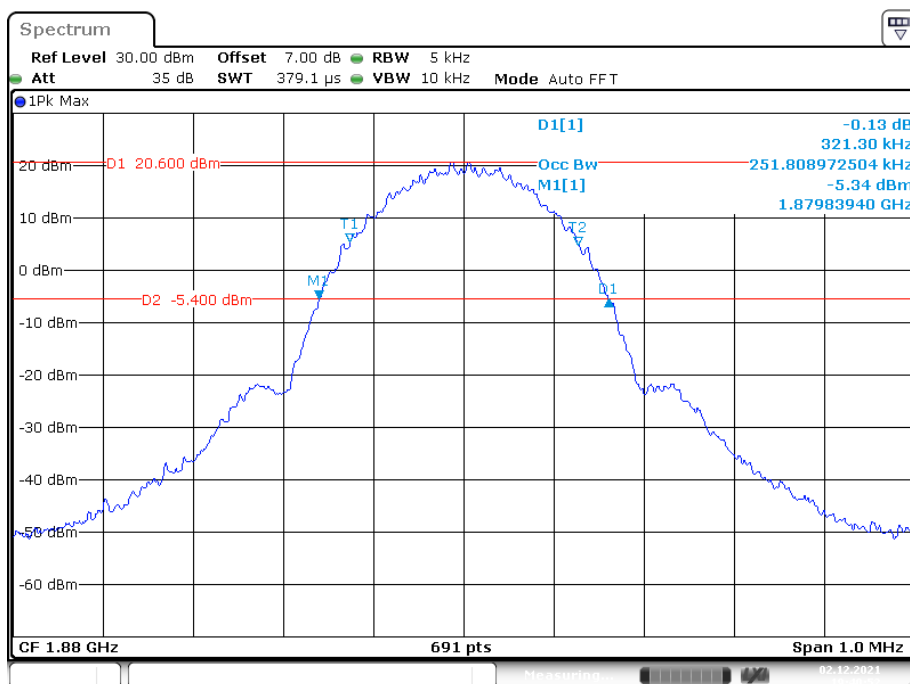
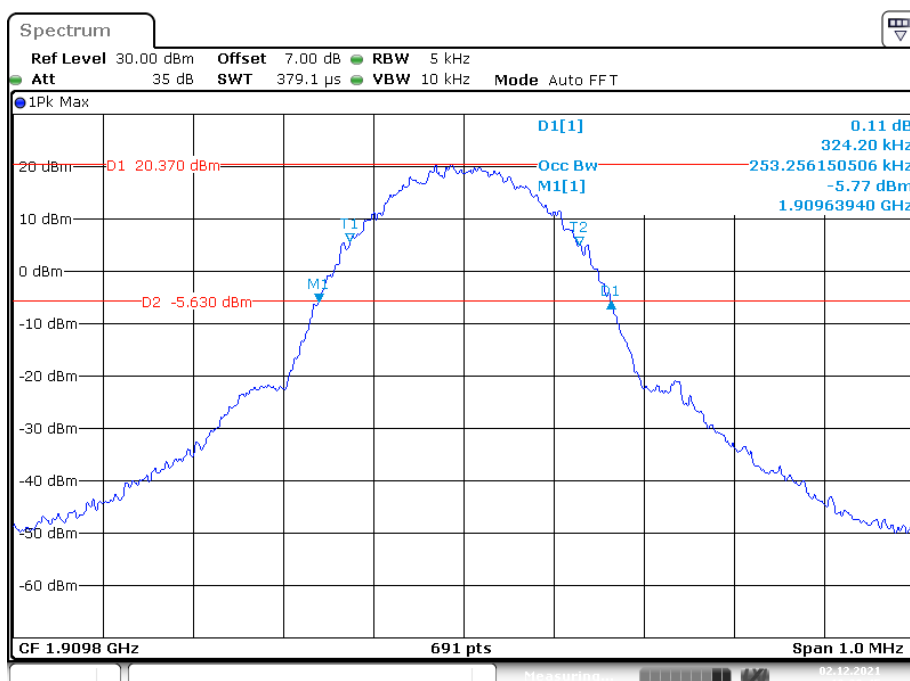
Date: 2.DEC.2021 19:32:43

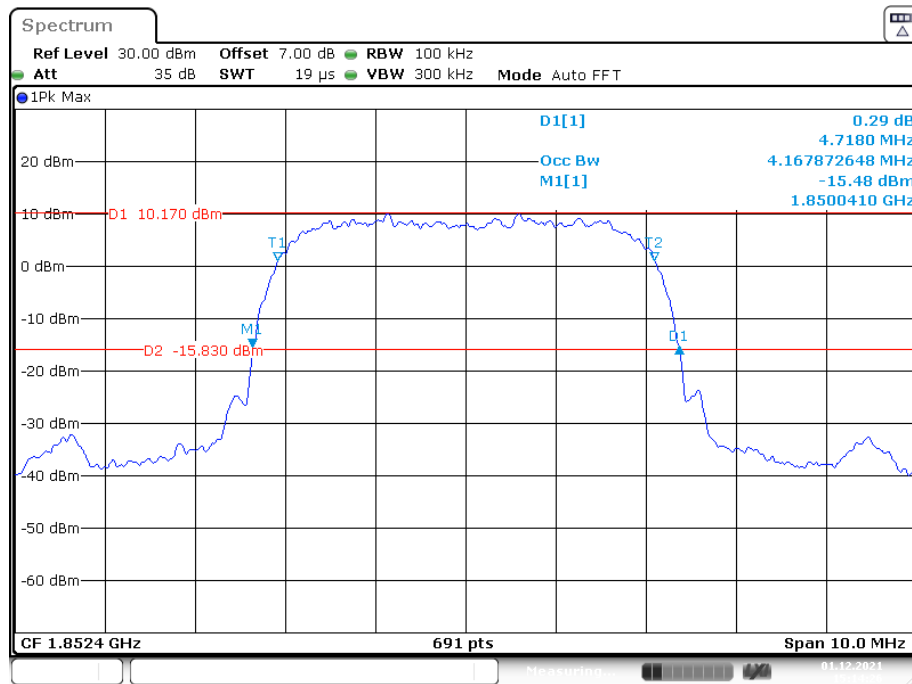
26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, High channel

Date: 2.DEC.2021 19:33:28

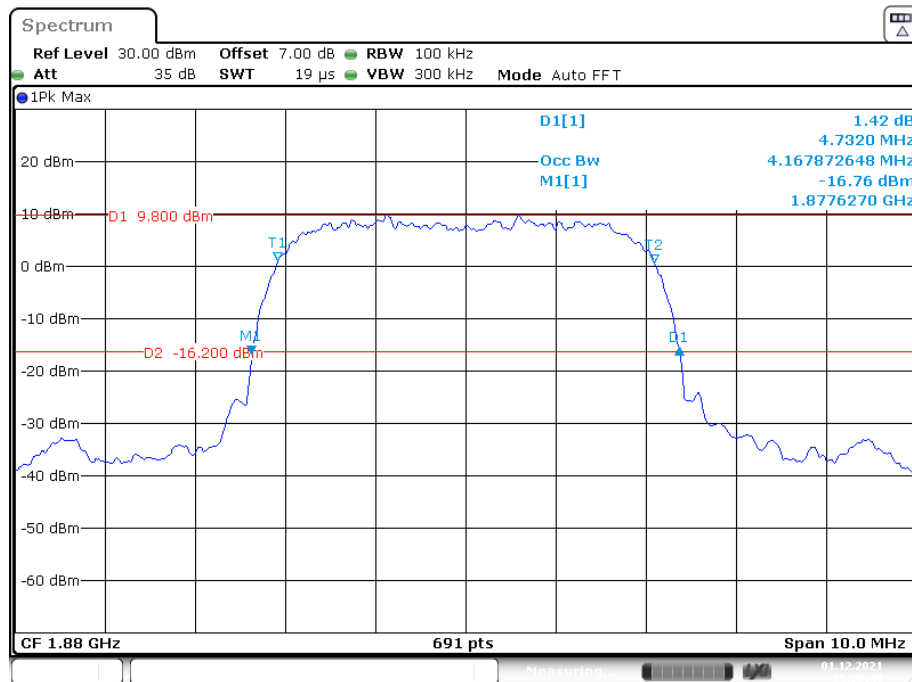
26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Low channel

Date: 2.DEC.2021 19:41:46

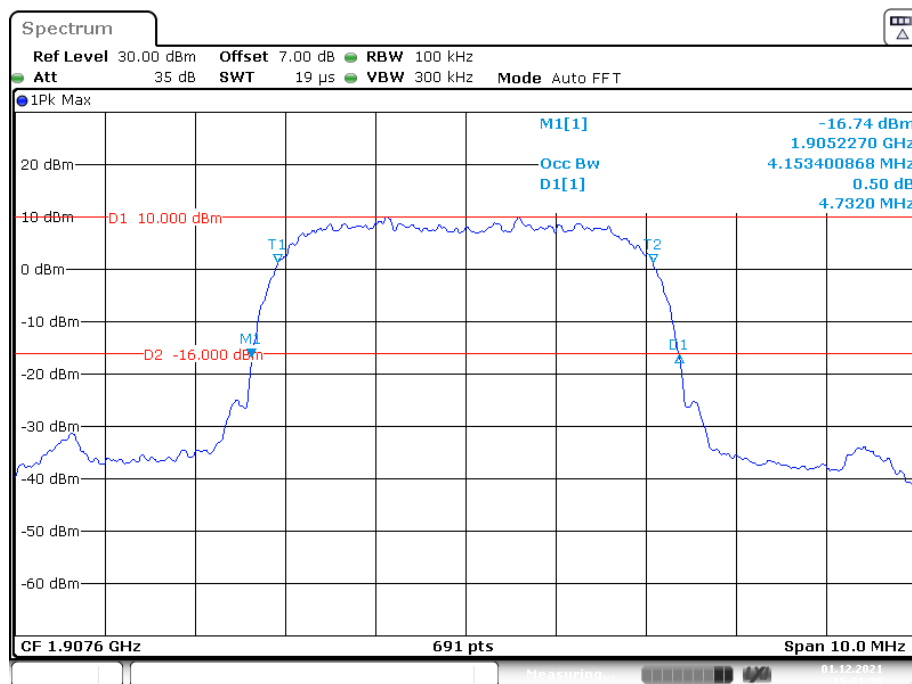
26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, Middle channel**26 dB Emissions & 99% Occupied Bandwidth for EGPRS (8PSK) Mode, High channel**

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

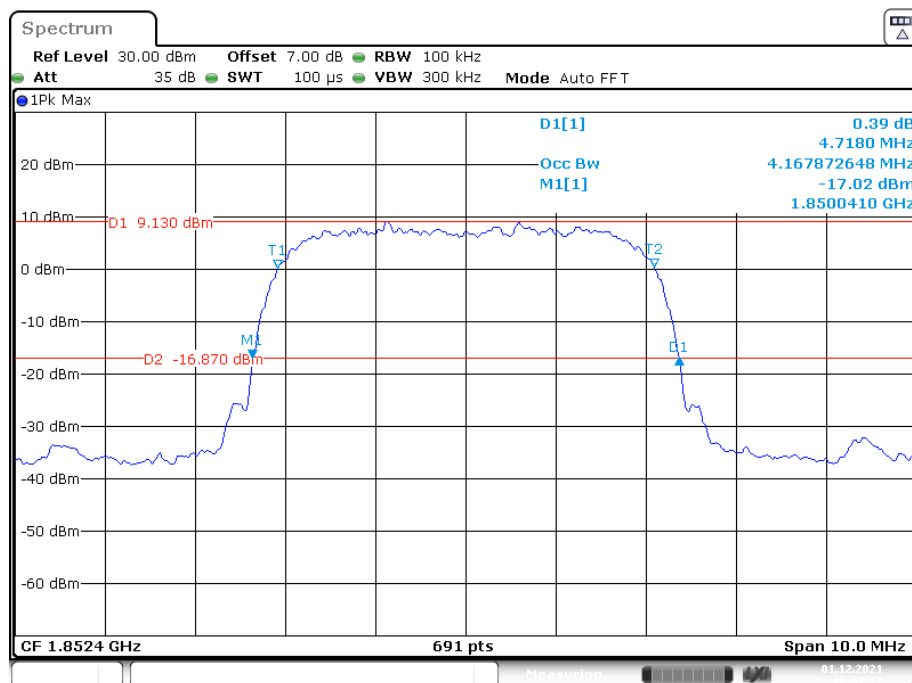
Date: 1.DEC.2021 15:14:26

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

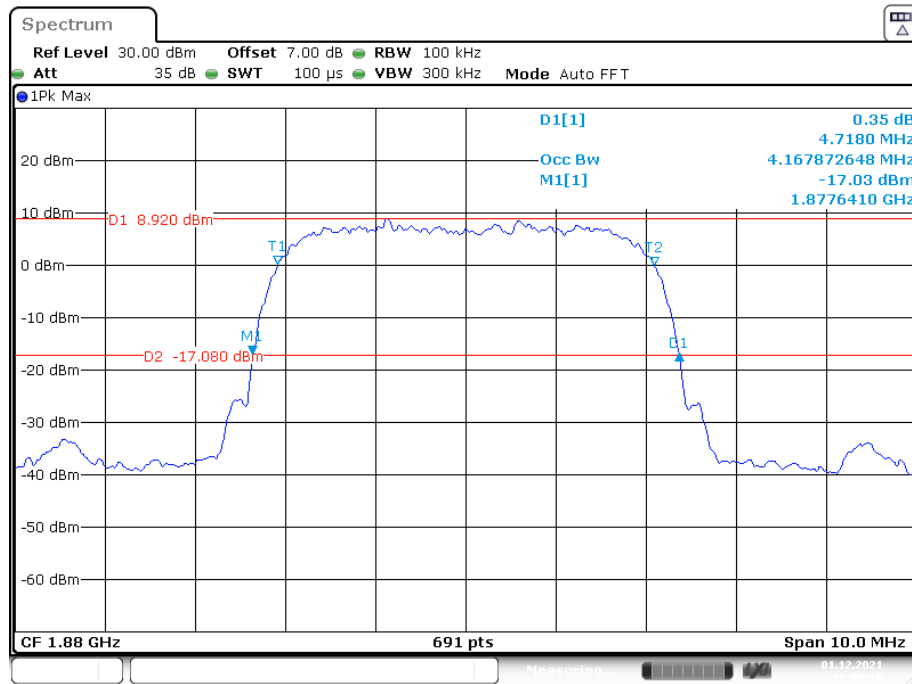
Date: 1.DEC.2021 15:20:43

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

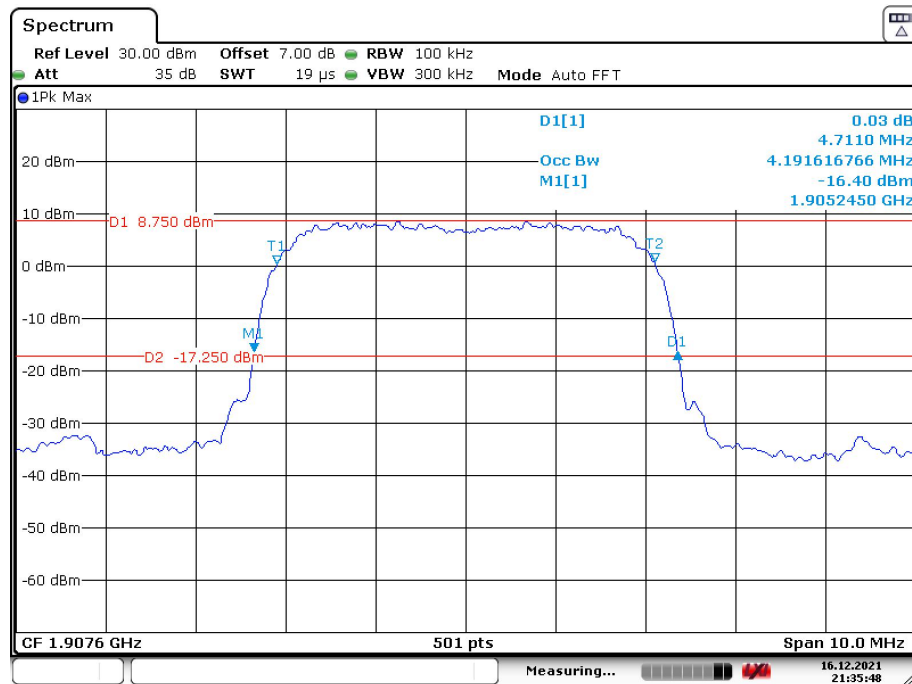
Date: 1.DEC.2021 15:21:38

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

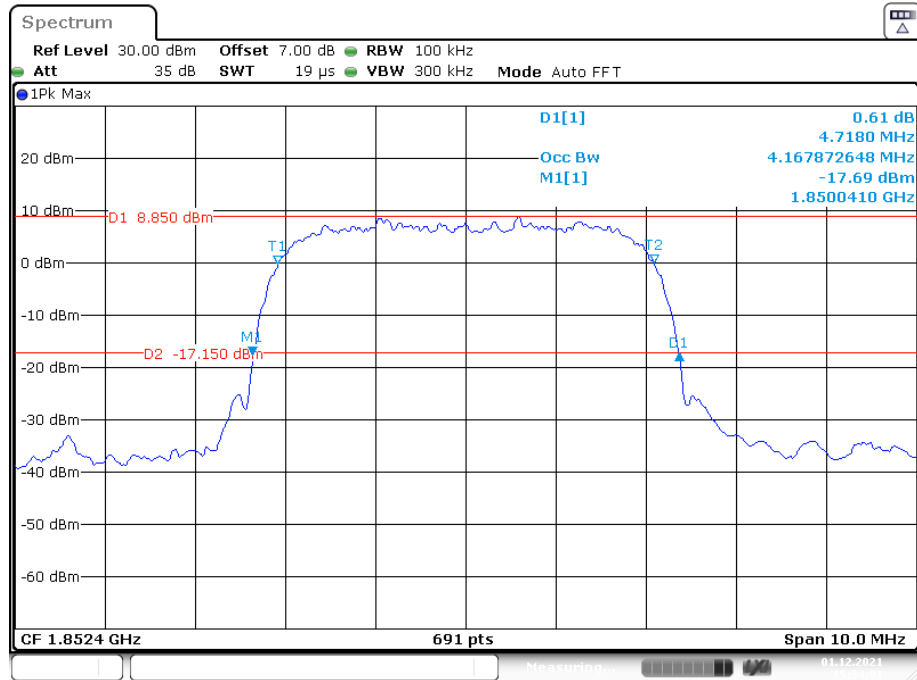
Date: 1.DEC.2021 16:07:18

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

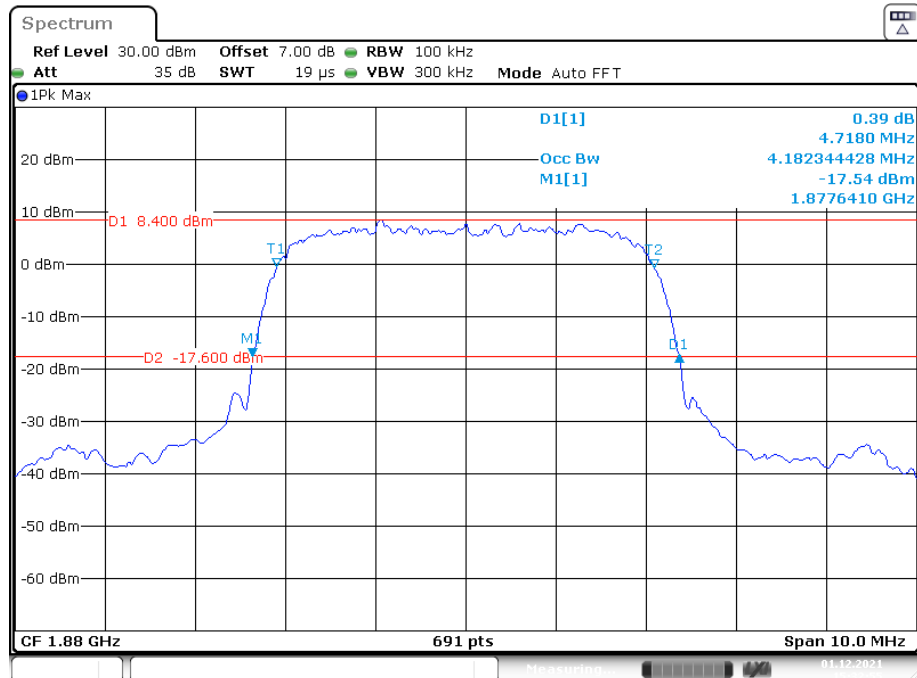
Date: 1.DEC.2021 16:08:16

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

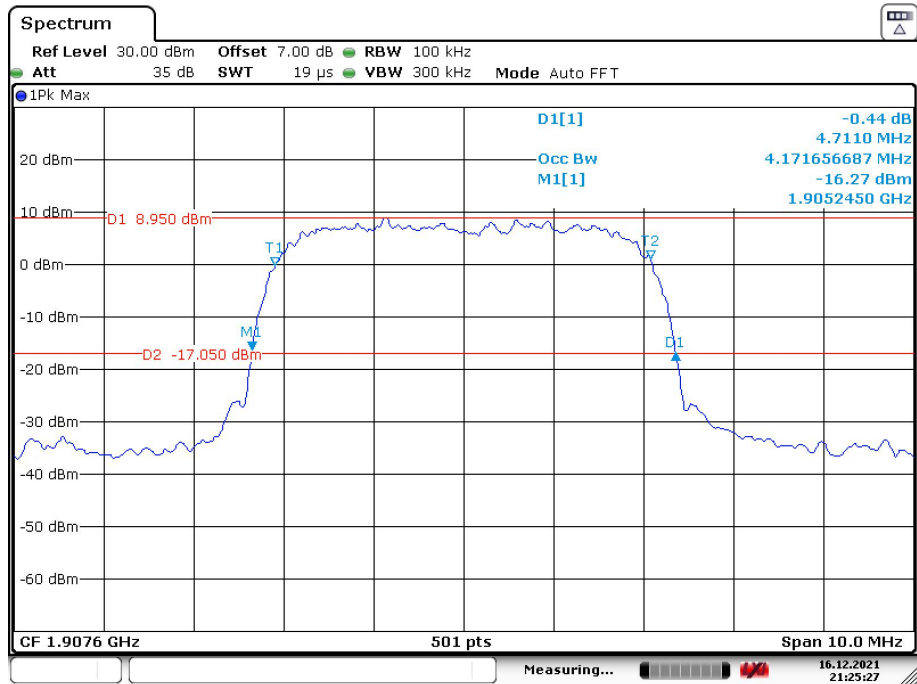
Date: 16.DEC.2021 21:35:48

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

Date: 1.DEC.2021 15:34:01

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

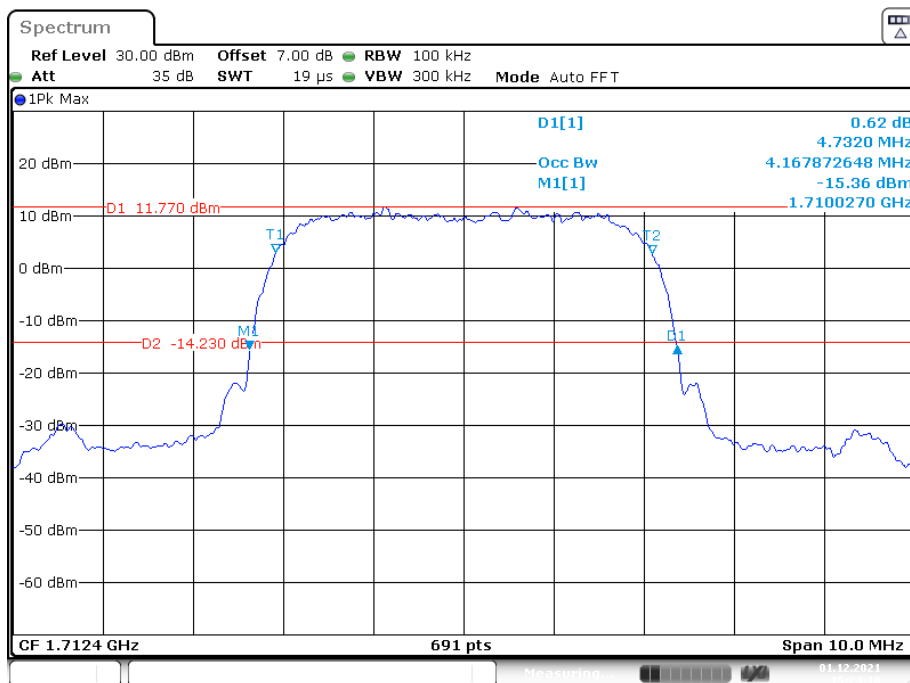
Date: 1.DEC.2021 15:32:55

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

Date: 16.DEC.2021 21:25:27

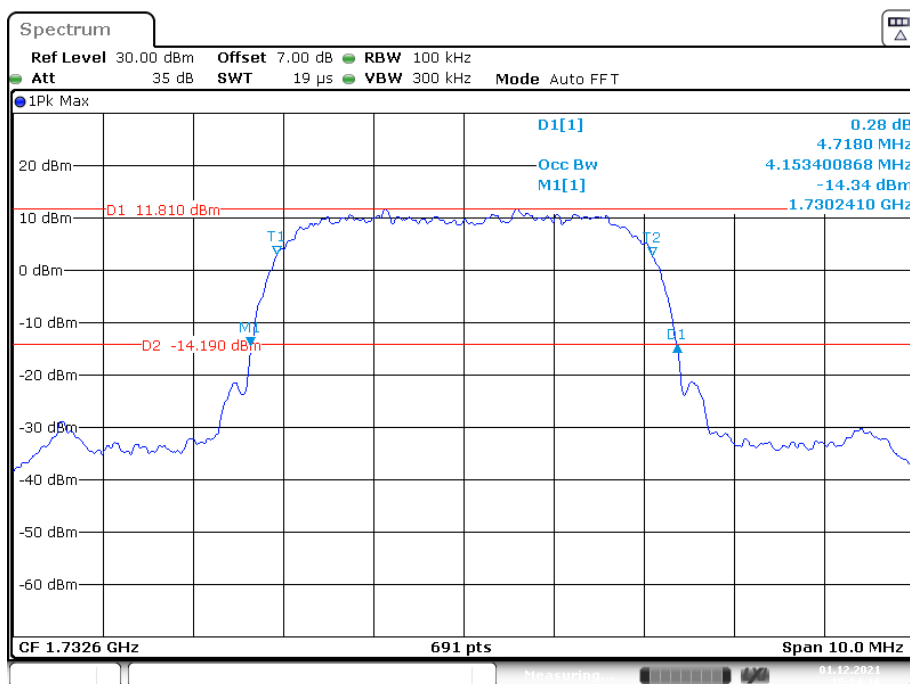
AWS Band (Part 27)

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

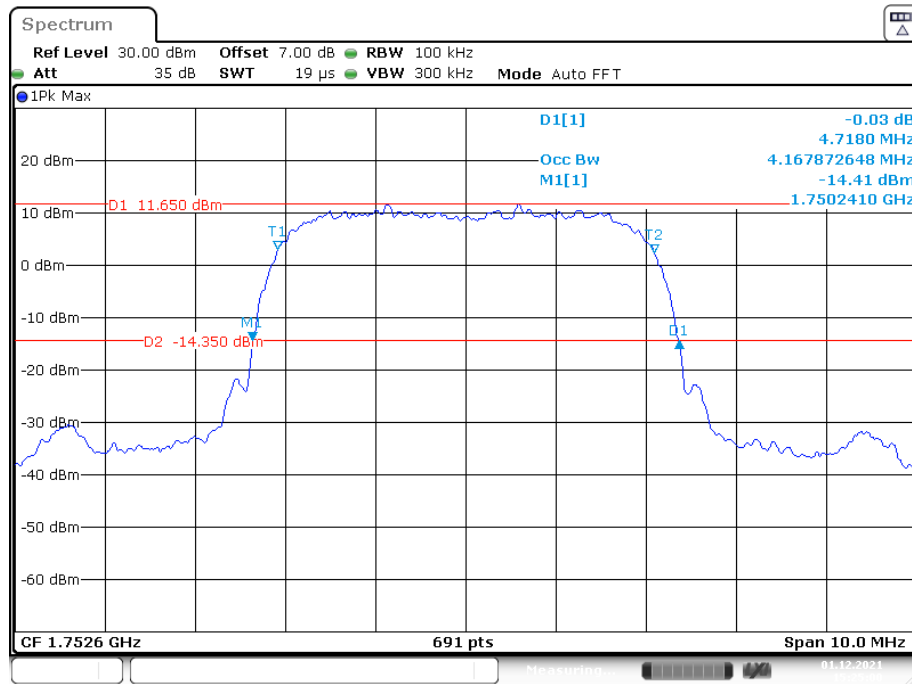
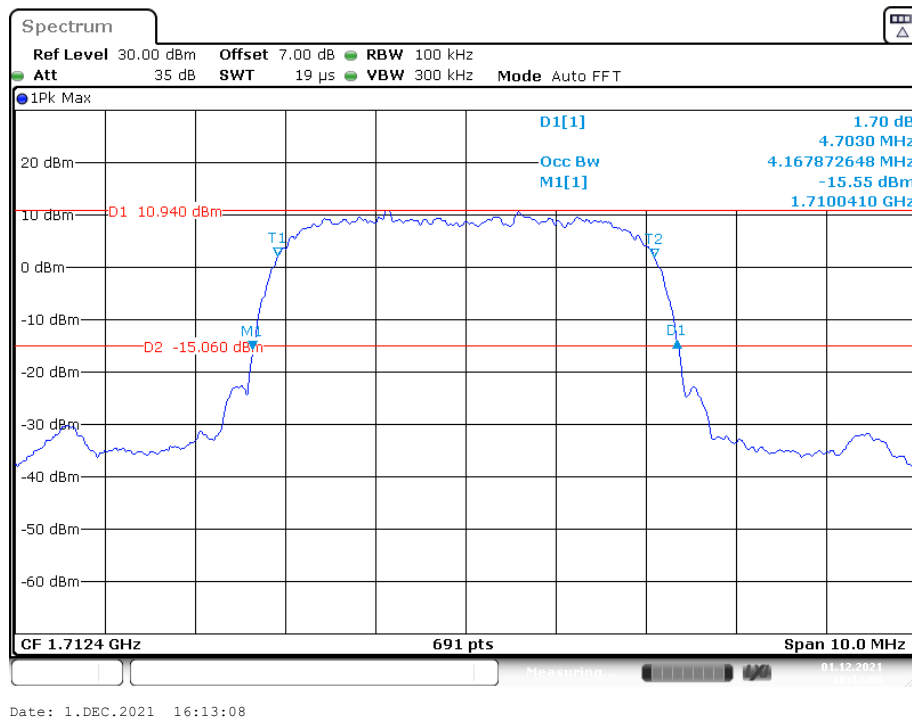


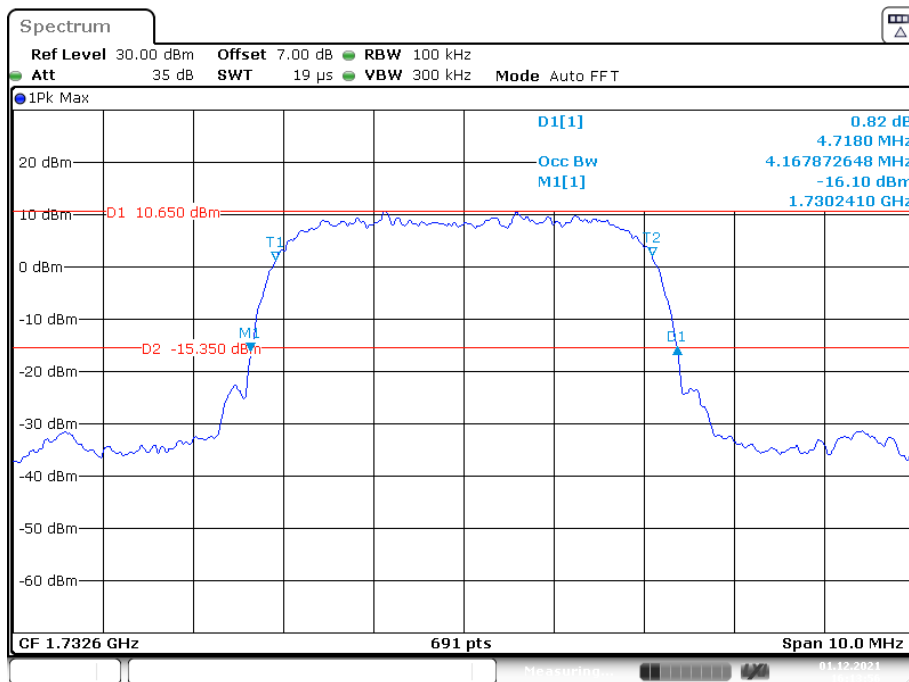
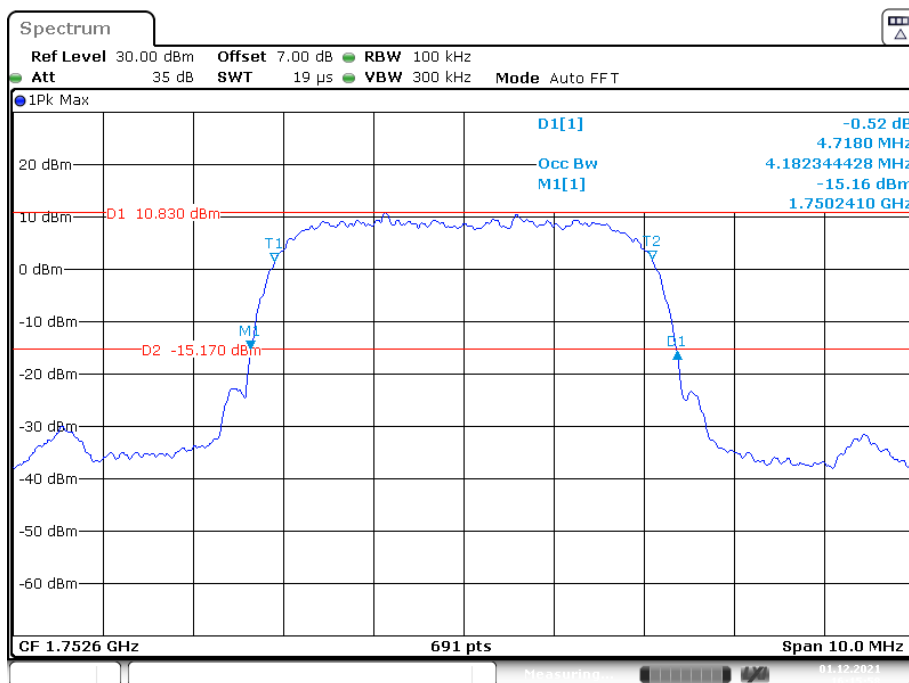
Date: 1.DEC.2021 15:23:10

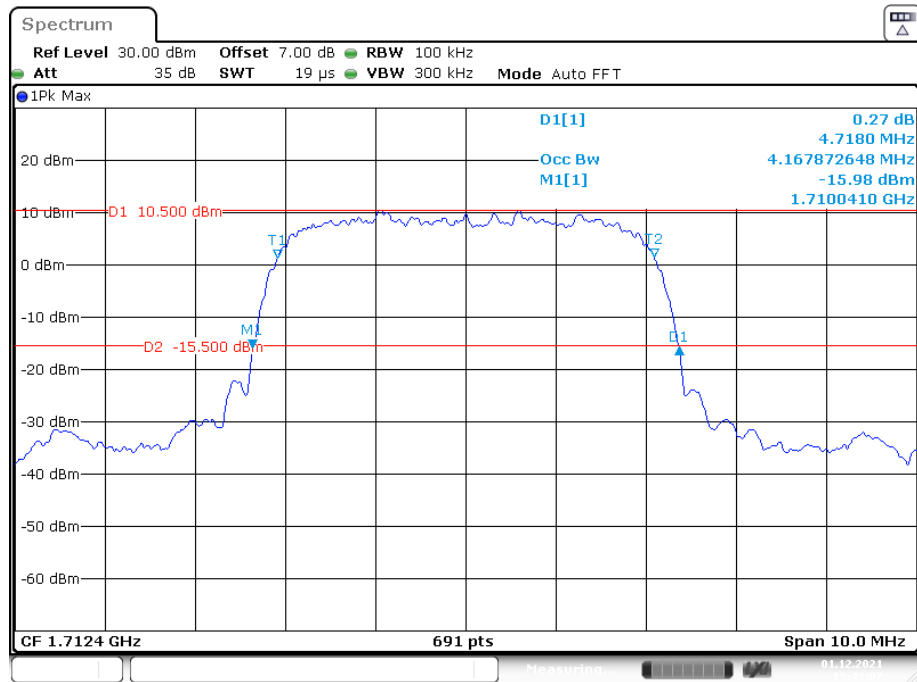
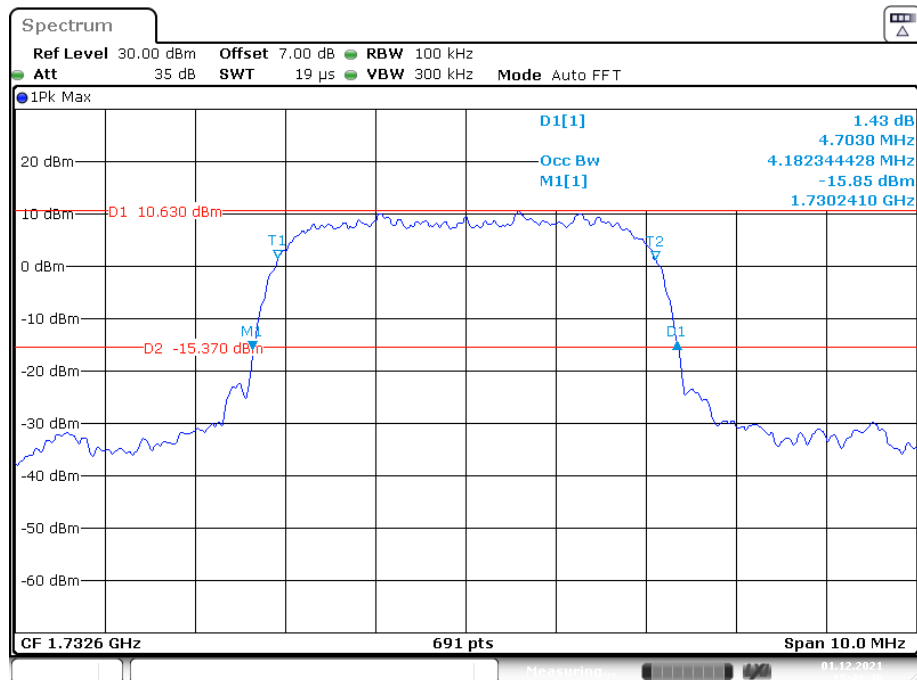
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel

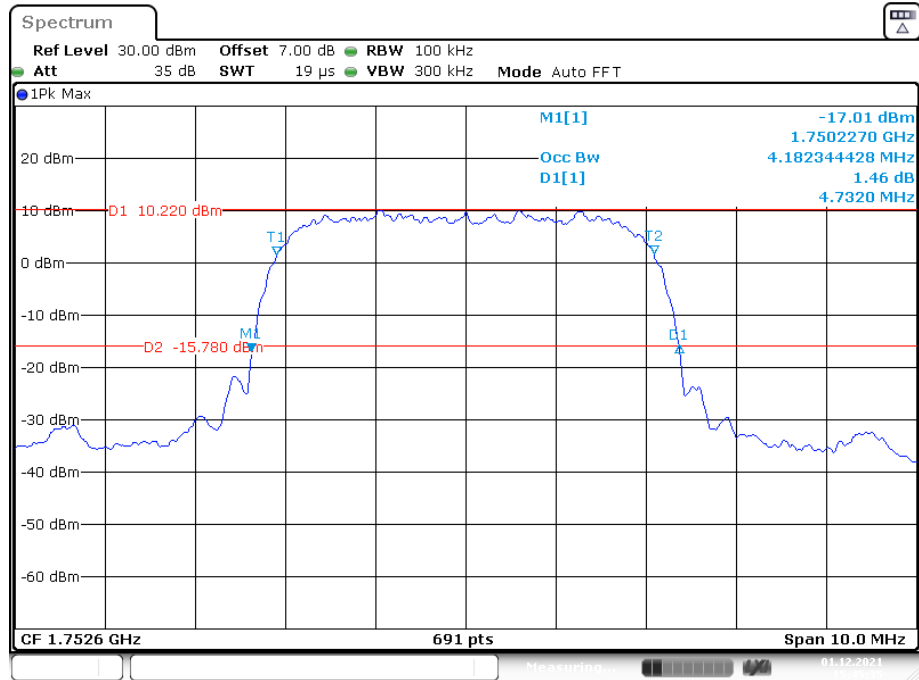


Date: 1.DEC.2021 15:24:16

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

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

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

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

Date: 1.DEC.2021 15:45:36

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	1.110	1.317	1.098	1.308	1.104	1.320
	16QAM	1.098	1.296	1.104	1.320	1.098	1.290
3 MHz	QPSK	2.688	2.868	2.688	2.880	2.688	2.892
	16QAM	2.688	2.868	2.688	2.880	2.688	2.892
5 MHz	QPSK	4.540	4.980	4.520	4.940	4.520	4.900
	16QAM	4.535	4.968	4.540	4.960	4.520	4.940
10 MHz	QPSK	8.960	9.600	8.960	9.520	8.960	9.680
	16QAM	8.960	9.600	8.960	9.560	8.960	9.600
15 MHz	QPSK	13.510	14.952	13.500	14.700	13.500	14.820
	16QAM	13.500	14.760	13.500	14.760	13.500	14.820
20 MHz	QPSK	18.000	19.440	18.000	19.440	17.920	19.520
	16QAM	18.000	19.360	18.000	19.440	18.000	19.360

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	1.284	1.098	1.302	1.104	1.308
	16QAM	1.098	1.296	1.110	1.314	1.092	1.296
3 MHz	QPSK	2.688	2.880	2.700	2.880	2.688	2.892
	16QAM	2.688	2.892	2.688	2.880	2.688	2.880
5 MHz	QPSK	4.500	4.960	4.520	4.940	4.500	4.920
	16QAM	4.500	4.940	4.520	4.980	4.520	4.980
10 MHz	QPSK	8.960	9.640	8.960	9.600	8.974	9.679
	16QAM	8.960	9.560	9.000	9.680	8.960	9.560
15 MHz	QPSK	13.560	14.880	13.500	14.760	13.560	14.880
	16QAM	13.620	14.820	13.500	14.760	13.560	14.760
20 MHz	QPSK	18.000	19.360	17.920	19.440	18.000	19.520
	16QAM	18.000	19.440	18.000	19.440	18.000	19.440

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	1.110	1.332	1.104	1.302	1.110	1.296
	16QAM	1.110	1.326	1.098	1.290	1.104	1.296
3 MHz	QPSK	2.688	2.868	2.688	2.880	2.688	2.892
	16QAM	2.688	2.892	2.688	2.868	2.676	2.892
5 MHz	QPSK	4.520	4.980	4.519	4.968	4.525	4.989
	16QAM	4.500	4.940	4.520	4.960	4.525	4.957
10 MHz	QPSK	8.960	9.560	8.960	9.560	8.960	9.560
	16QAM	8.960	9.600	8.960	9.560	9.000	9.520

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	5.280	4.520	4.920	4.500	4.920
	16QAM	4.500	4.900	4.500	4.940	4.519	4.968
10 MHz	QPSK	9.000	9.600	8.960	9.640	8.960	9.760
	16QAM	8.920	9.600	9.000	9.600	8.960	9.640
15 MHz	QPSK	13.500	14.760	13.500	14.760	13.560	14.880
	16QAM	13.560	14.700	13.560	14.760	13.560	14.700
20 MHz	QPSK	18.000	19.440	18.000	20.160	18.000	19.520
	16QAM	18.080	19.920	18.000	21.440	18.000	19.440

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	4.550	5.064	4.500	5.200	4.500	5.000
	16QAM	4.500	5.120	4.500	4.980	4.520	5.160
10 MHz	QPSK	8.960	9.800	8.960	9.680	8.960	9.600
	16QAM	8.960	9.520	8.960	9.560	8.950	9.872
15 MHz	QPSK	13.560	15.360	13.560	15.600	13.500	15.780
	16QAM	13.575	16.346	13.560	15.660	13.620	16.200
20 MHz	QPSK	18.000	19.760	18.000	19.440	18.000	19.600
	16QAM	18.000	19.840	18.000	20.080	18.000	19.200

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	4.511	5.100	4.491	4.960	4.511	5.080
	16QAM	4.511	5.060	4.511	5.200	4.511	5.080
10 MHz	QPSK	8.942	9.680	8.942	9.720	8.942	9.640
	16QAM	8.942	9.560	8.942	9.640	8.942	9.480
15 MHz	QPSK	13.533	14.760	13.473	14.580	13.473	14.580
	16QAM	13.533	15.540	13.533	14.940	13.533	16.380
20 MHz	QPSK	17.964	19.200	17.964	19.360	17.884	19.600
	16QAM	17.884	19.360	17.964	19.520	17.884	19.200

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	1.296	1.098	1.302	1.098	1.320
	16QAM	1.098	1.290	1.104	1.320	1.098	1.284
3 MHz	QPSK	2.688	2.856	2.700	2.880	2.688	2.892
	16QAM	2.688	2.892	2.688	2.892	2.688	2.868
5 MHz	QPSK	4.519	5.176	4.520	5.180	4.520	5.160
	16QAM	4.551	5.256	4.560	5.180	4.540	5.240
10 MHz	QPSK	8.960	9.960	8.960	9.800	8.960	9.840
	16QAM	8.960	9.880	8.960	9.840	8.960	9.840
15 MHz	QPSK	13.606	15.337	13.500	15.180	13.560	15.120
	16QAM	13.606	15.288	13.560	15.180	13.560	15.120
20 MHz	QPSK	18.000	19.680	17.920	19.680	18.000	19.680
	16QAM	18.000	19.680	18.000	19.680	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

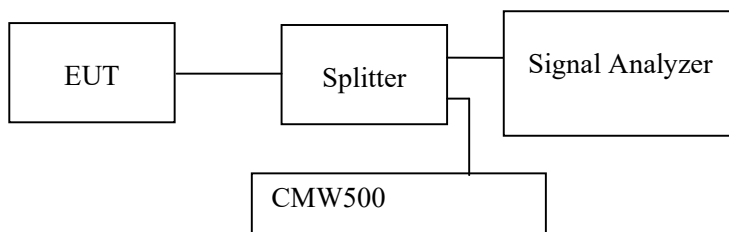
Applicable Standard

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 10th harmonic.



Test Data

Environmental Conditions

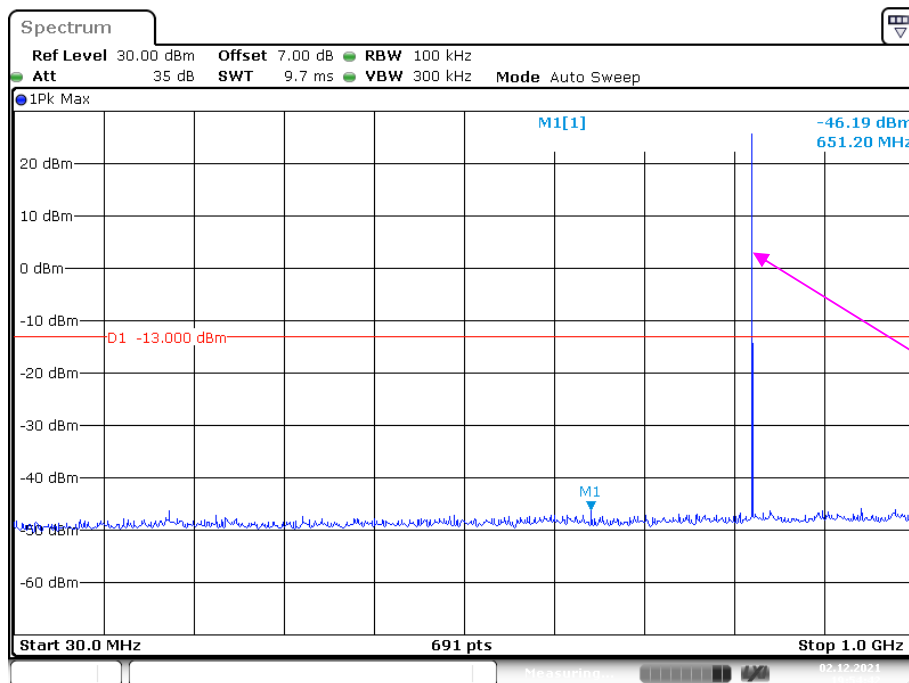
Temperature:	23 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Black Ding from 2021-12-01 to 2021-12-16.

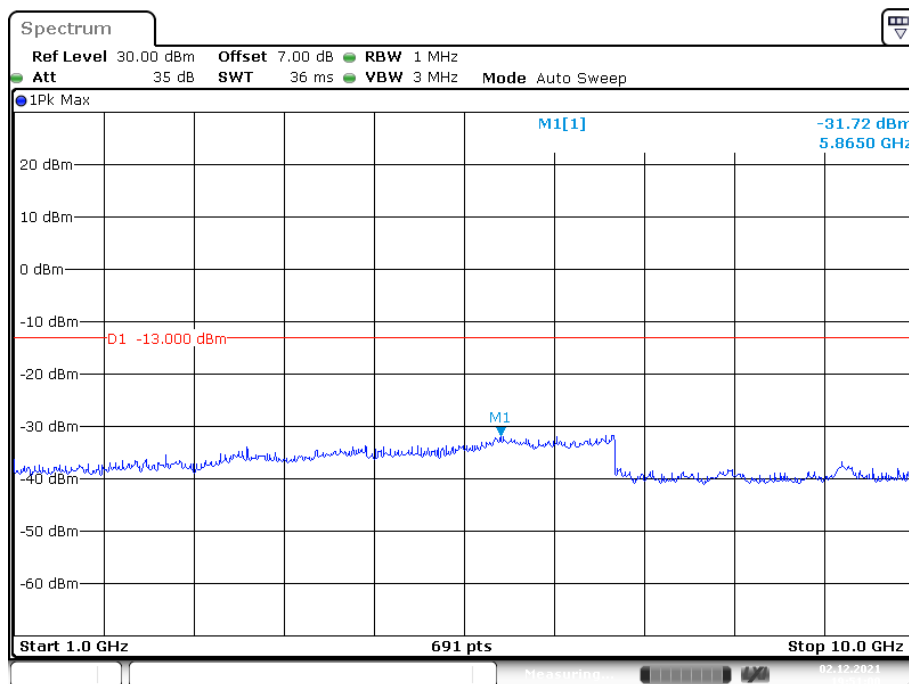
EUT operation mode: Transmitting

Test result: Pass

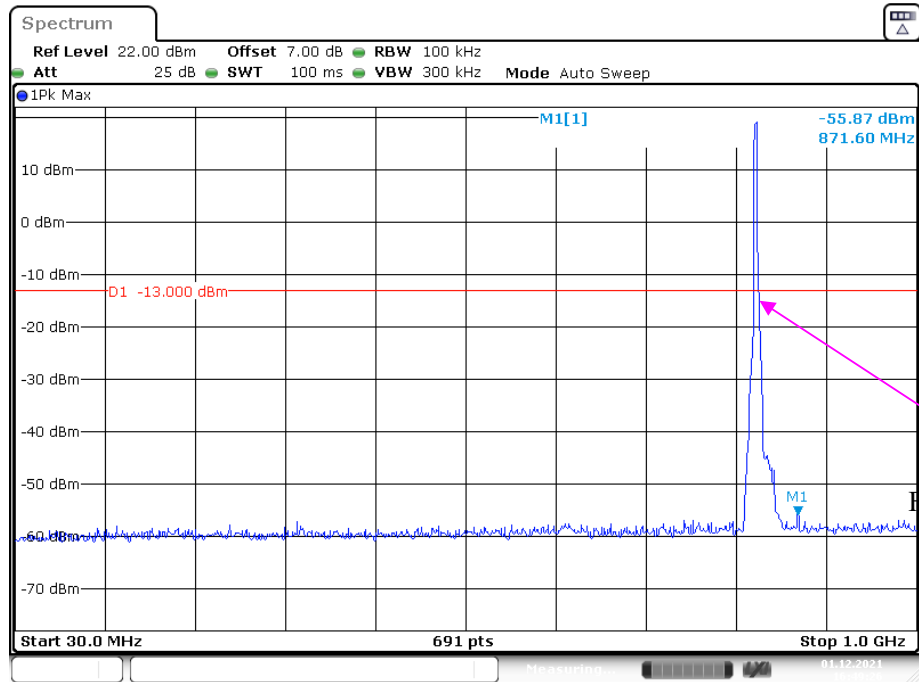
Please refer to the following plots.

Cellular Band (Part 22H)**Low Channel:****30 MHz – 1 GHz (GSM Mode)**

Fundamental test

1 GHz – 10 GHz (GSM Mode)

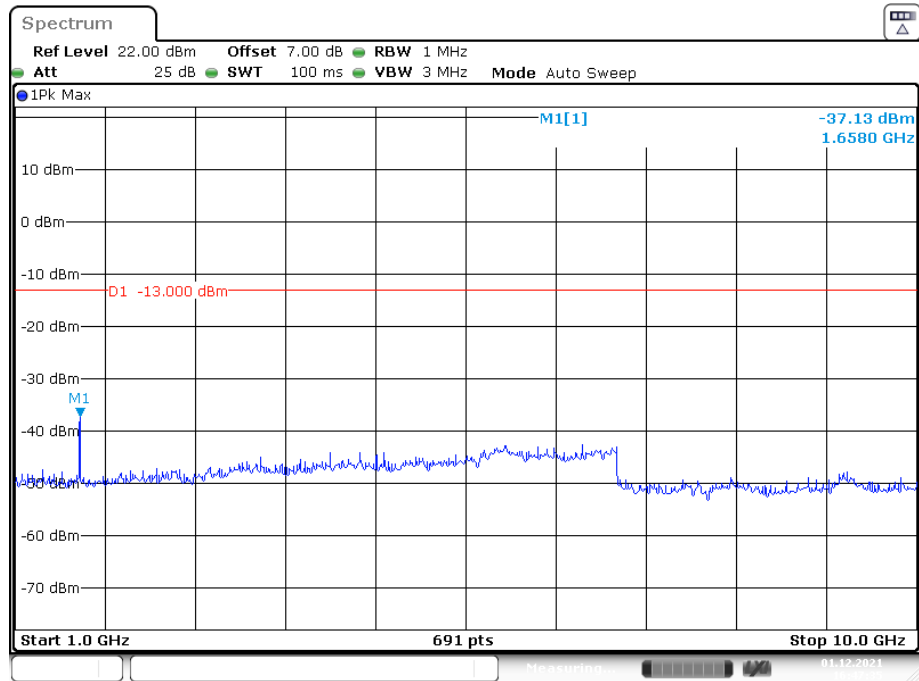
30 MHz – 1 GHz (WCDMA Mode)



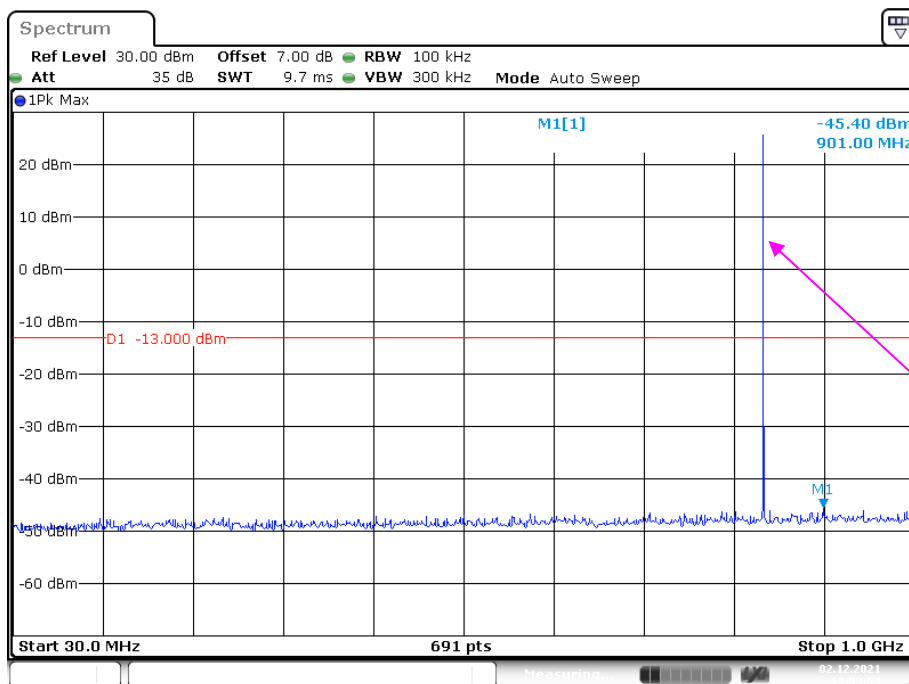
Date: 1.DEC.2021 16:49:27

Fundamental test

1 GHz – 10 GHz (WCDMA Mode)

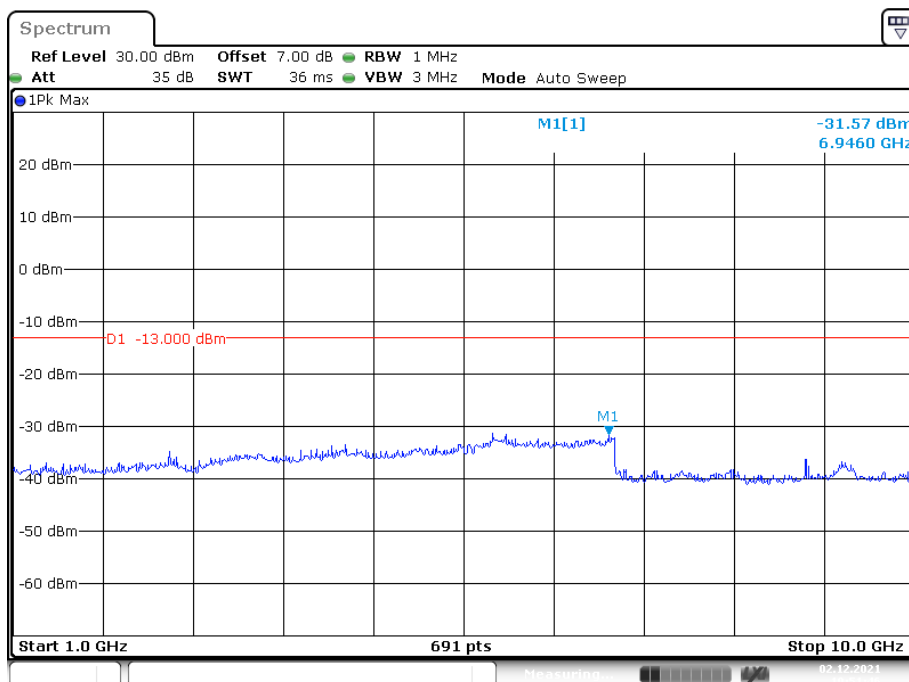


Date: 1.DEC.2021 16:47:35

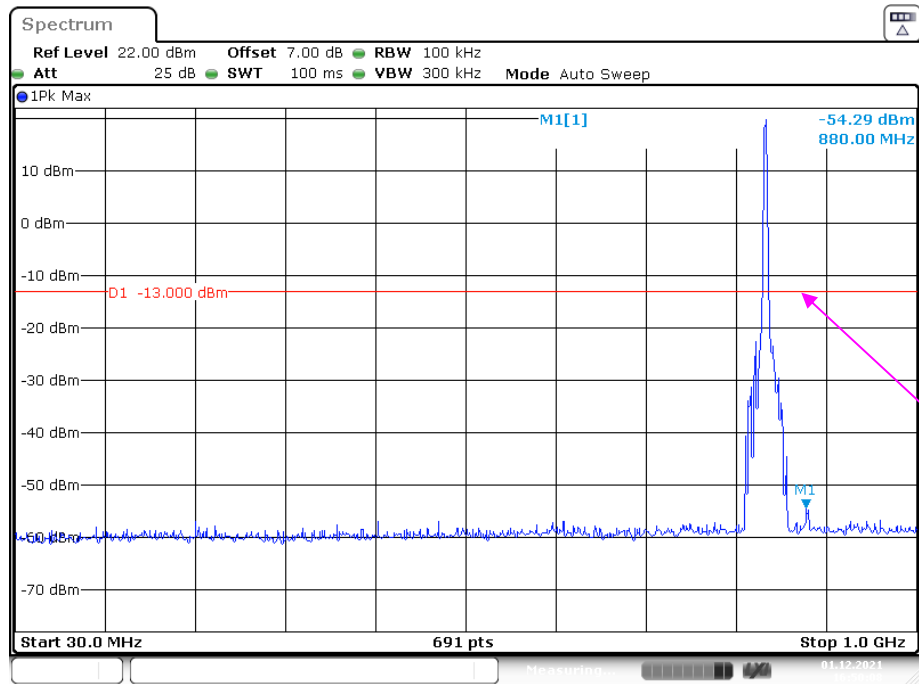
Middle Channel:**30 MHz – 1 GHz (GSM Mode)**

Date: 2.DEC.2021 19:53:54

Fundamental test

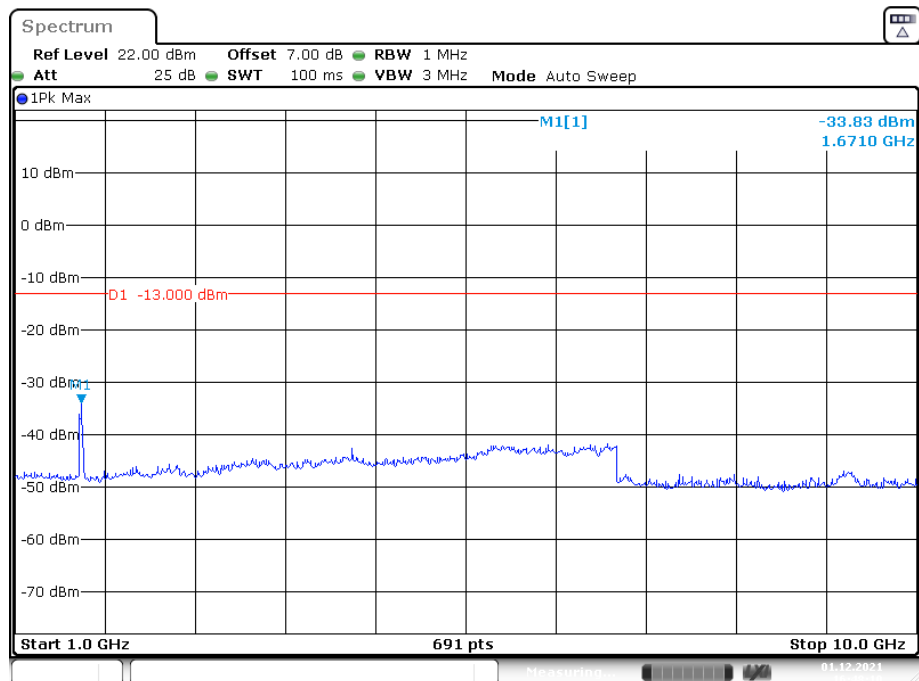
1 GHz – 10 GHz (GSM Mode)

Date: 2.DEC.2021 19:51:47

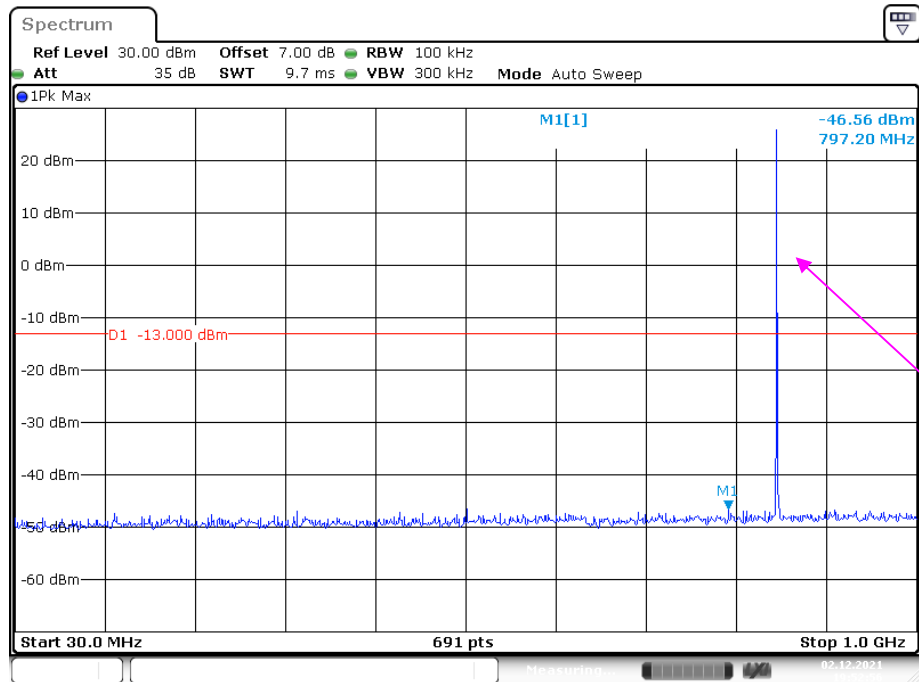
30 MHz – 1 GHz (WCDMA Mode)

Date: 1.DEC.2021 16:50:08

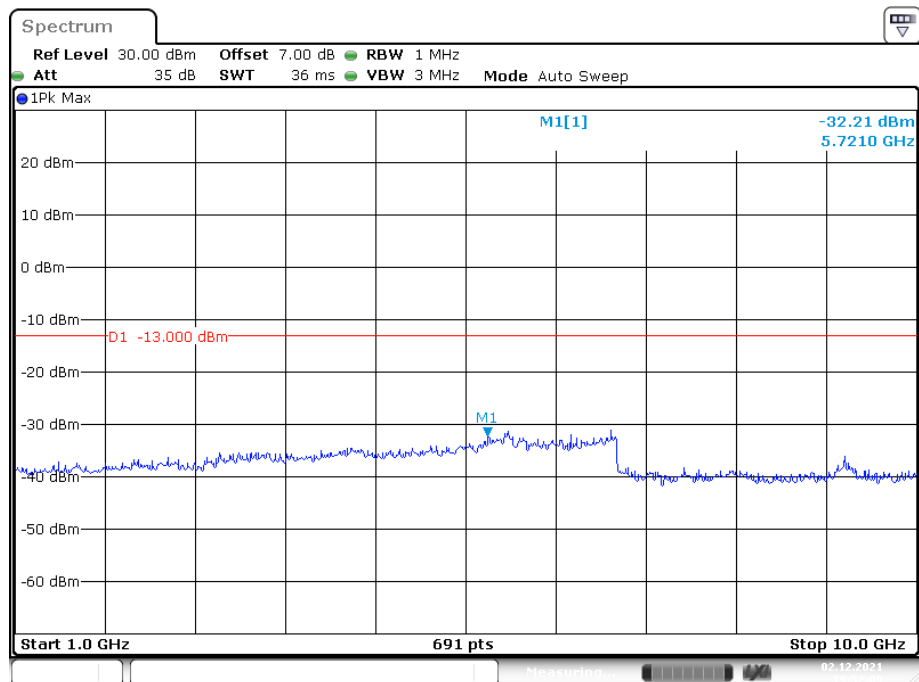
Fundamental test

1 GHz – 10 GHz (WCDMA Mode)

Date: 1.DEC.2021 16:48:10

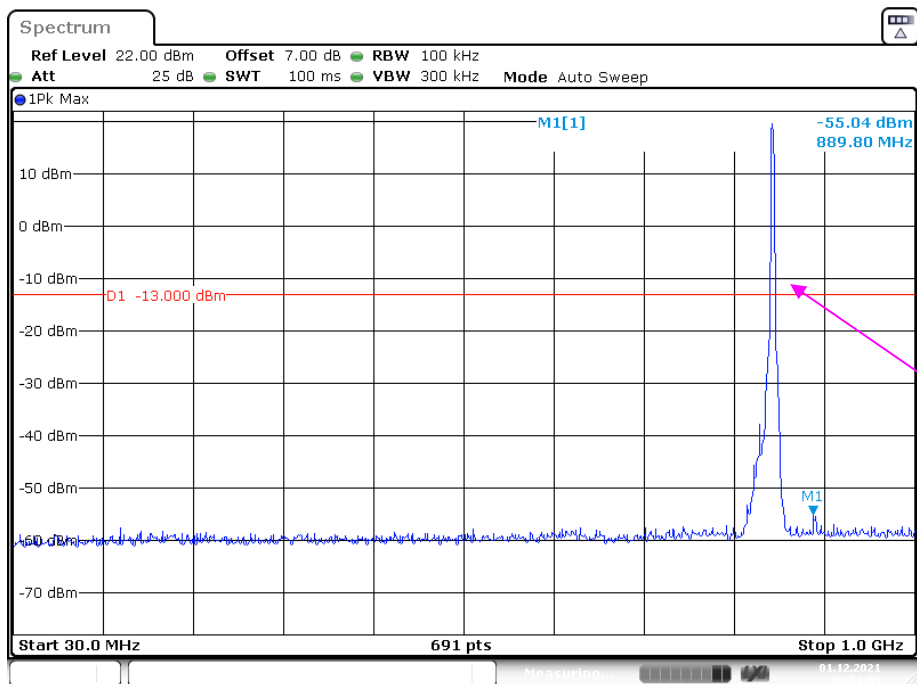
High Channel:**30 MHz – 1 GHz (GSM Mode)**

Date: 2.DEC.2021 19:52:57

1 GHz – 10 GHz (GSM Mode)

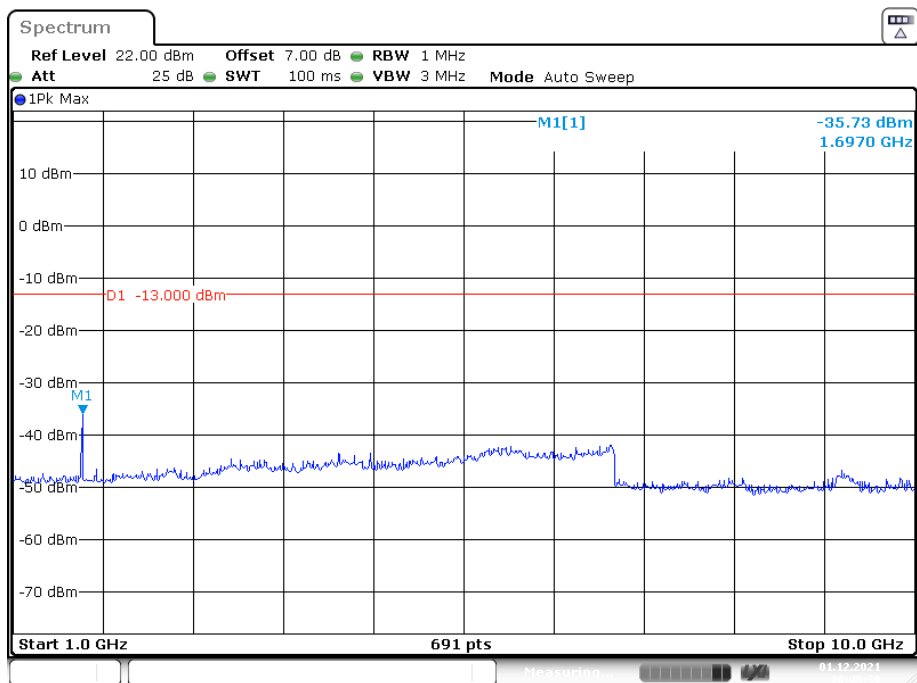
Date: 2.DEC.2021 19:52:10

30 MHz – 1 GHz (WCDMA Mode)

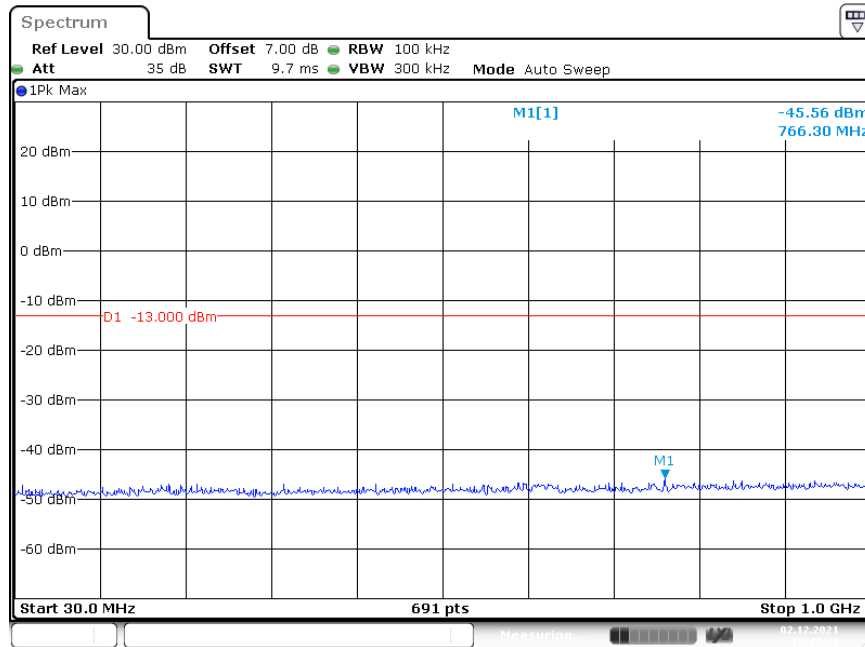


Date: 1.DEC.2021 16:51:05

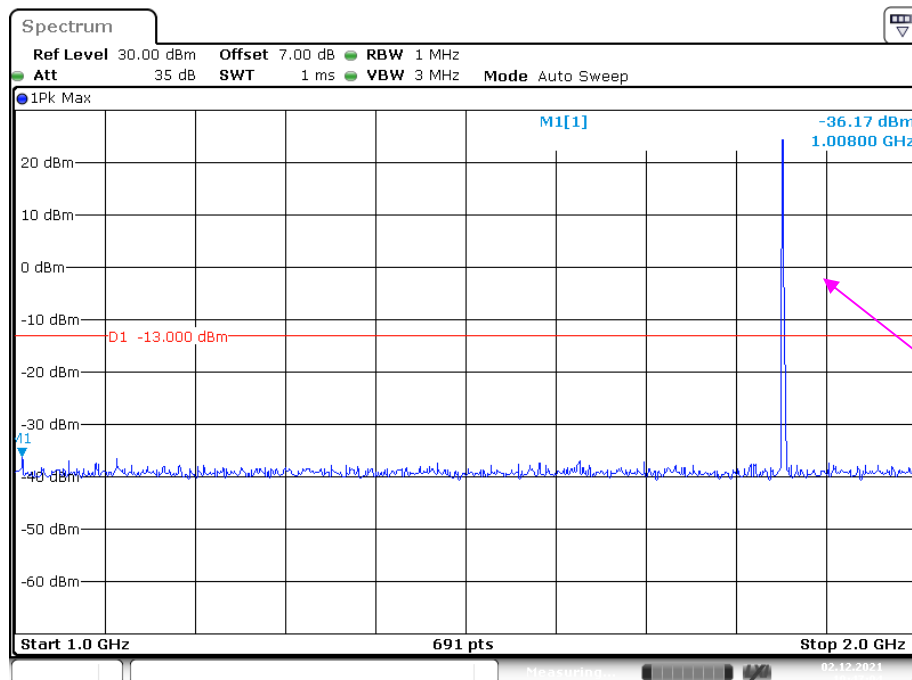
1 GHz – 10 GHz (WCDMA Mode)



Date: 1.DEC.2021 16:48:31

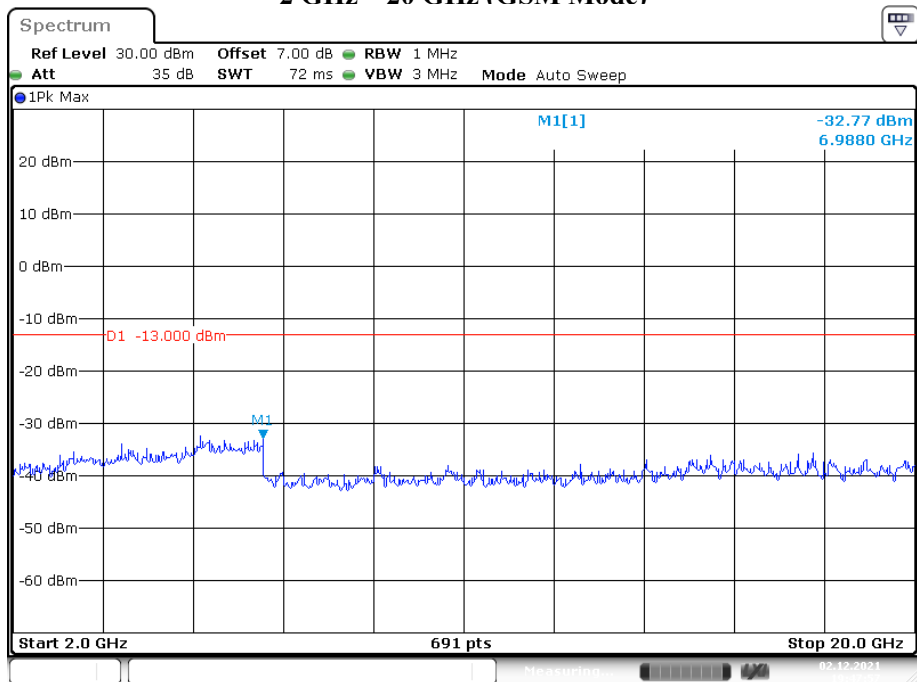
**PCS Band (Part 24E)
Low Channel:****30 MHz – 1 GHz (GSM Mode)**

Date: 2.DEC.2021 19:43:44

1 GHz – 2 GHz (GSM Mode)

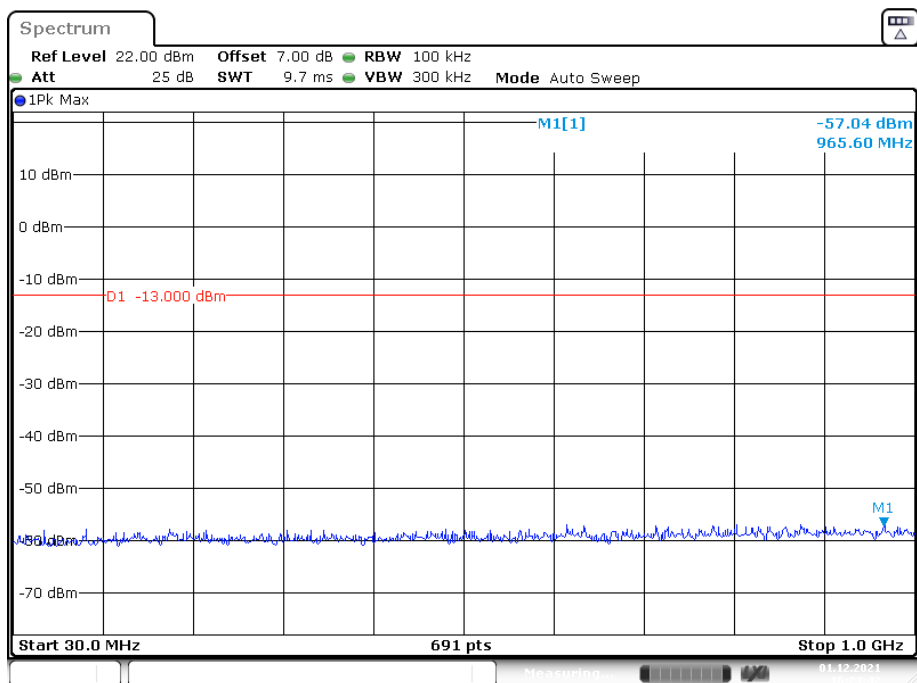
Date: 2.DEC.2021 19:47:04

2 GHz – 20 GHz (GSM Mode)



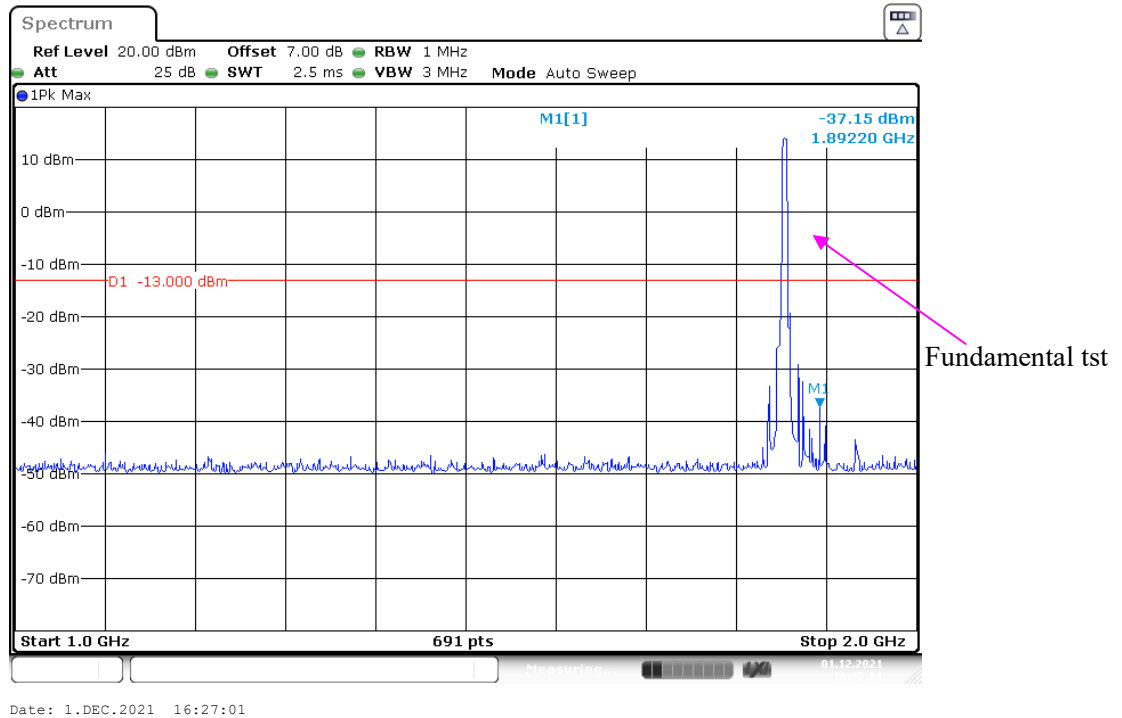
Date: 2.DEC.2021 19:47:57

30 MHz – 1 GHz (WCDMA Mode)

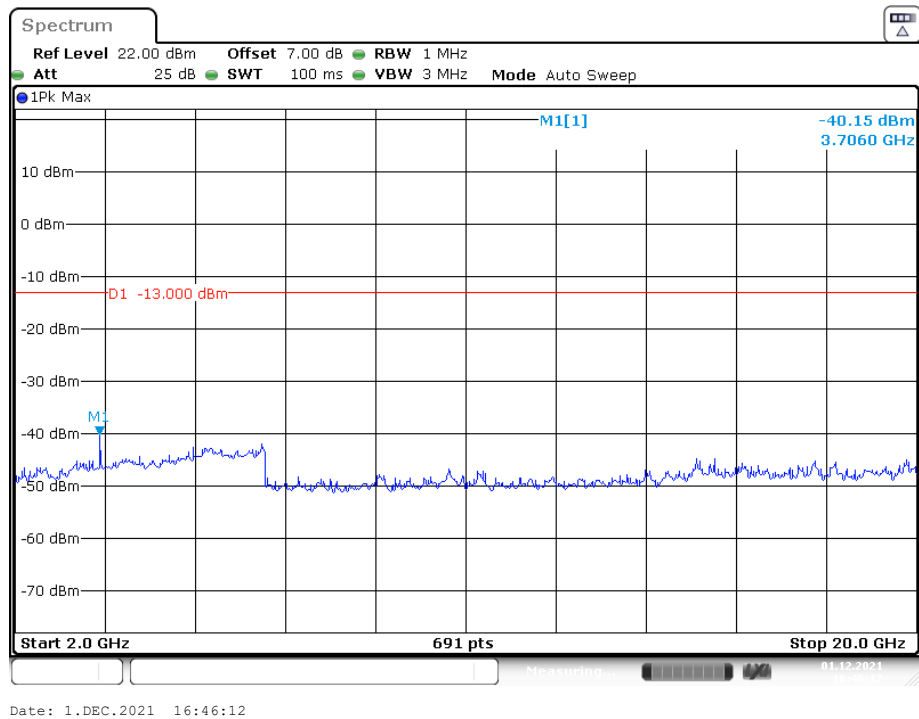


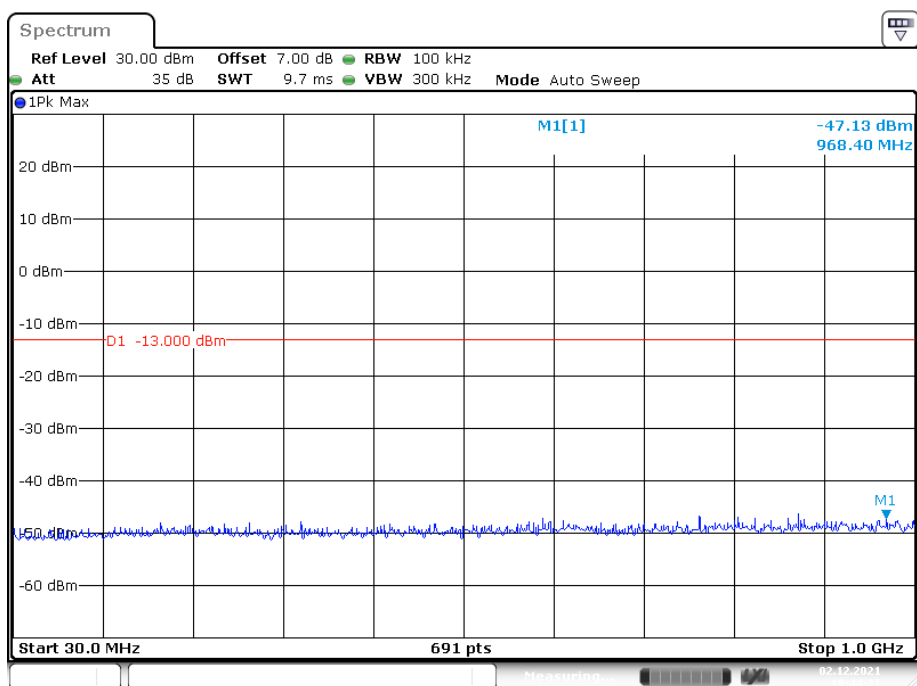
Date: 1.DEC.2021 16:23:42

1 GHz – 2 GHz (WCDMA Mode)

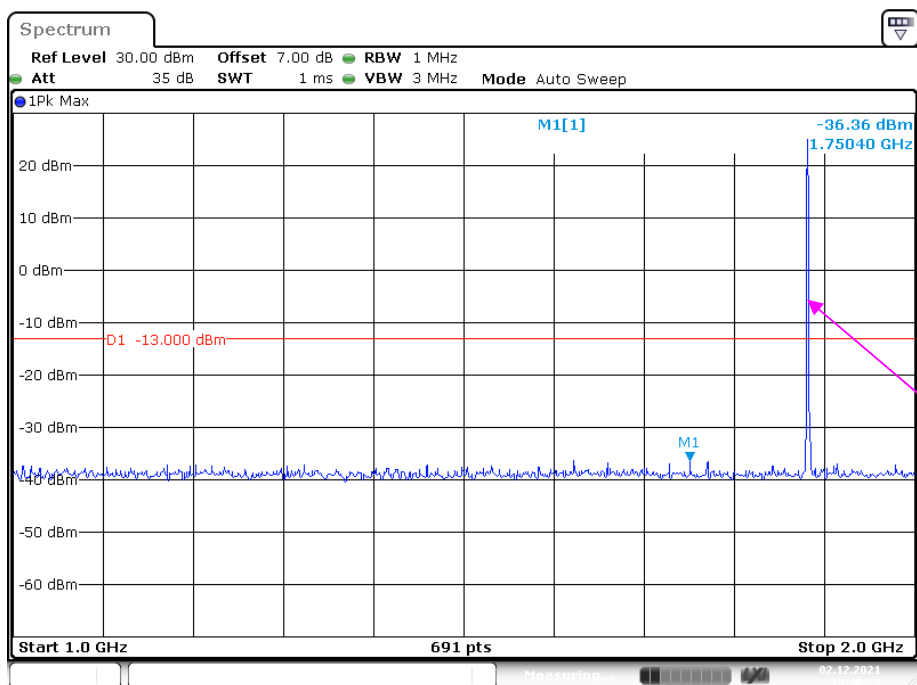


2 GHz – 20 GHz (WCDMA Mode)



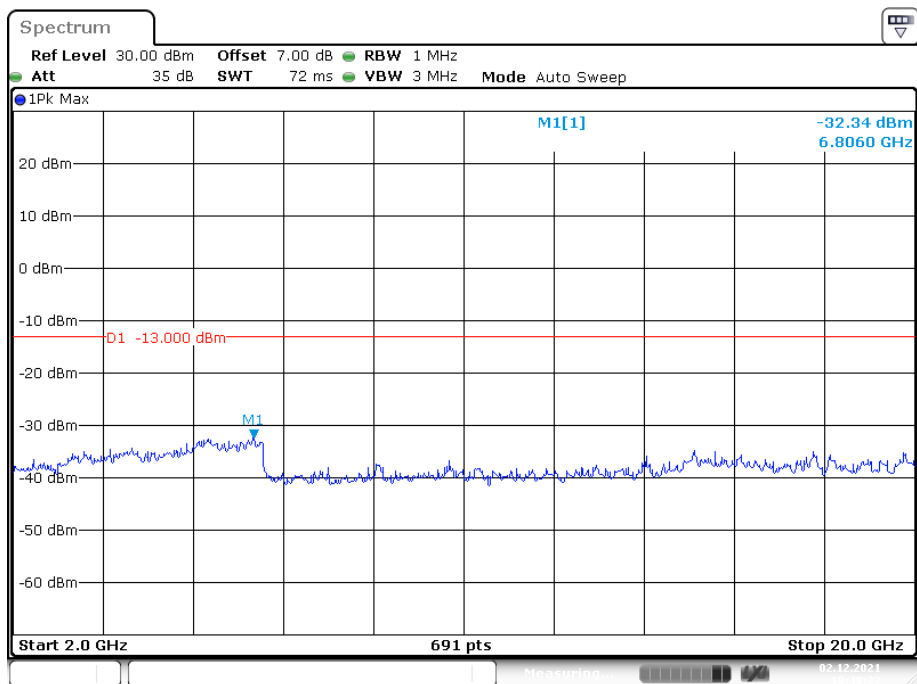
Middle Channel:**30 MHz – 1 GHz (GSM Mode)**

Date: 2.DEC.2021 19:44:22

1 GHz – 2 GHz (GSM Mode)

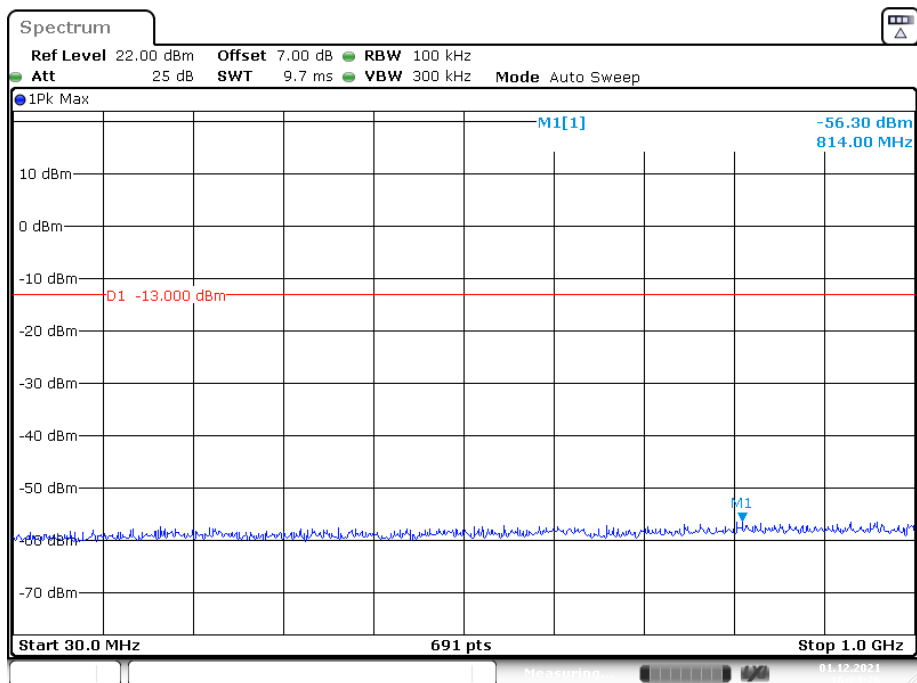
Date: 2.DEC.2021 19:46:25

2 GHz – 20 GHz (GSM Mode)



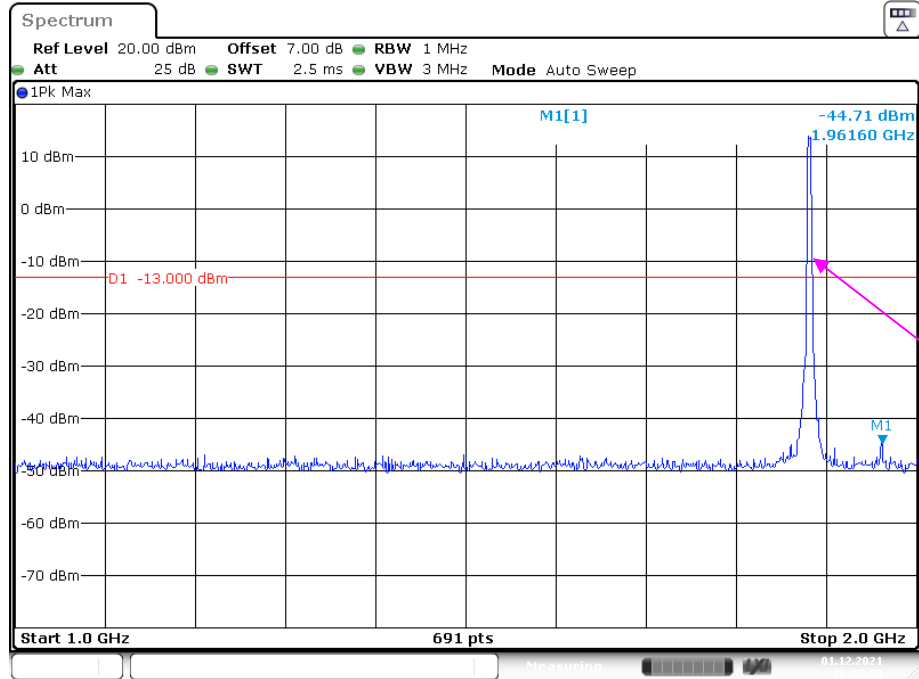
Date: 2.DEC.2021 19:48:23

30 MHz – 1 GHz (WCDMA Mode)



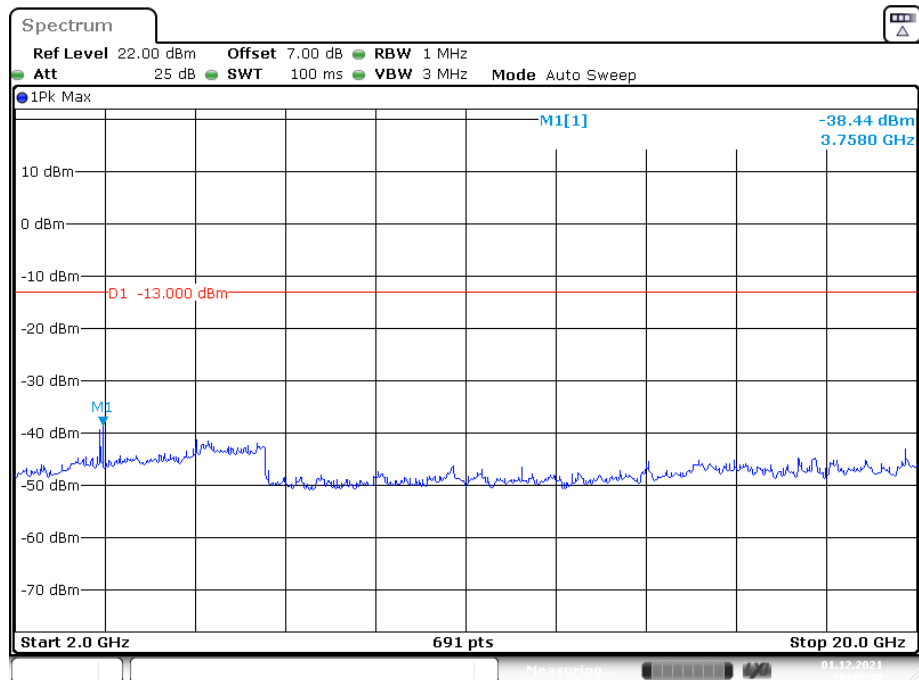
Date: 1.DEC.2021 16:24:26

1 GHz – 2GHz (WCDMA Mode)

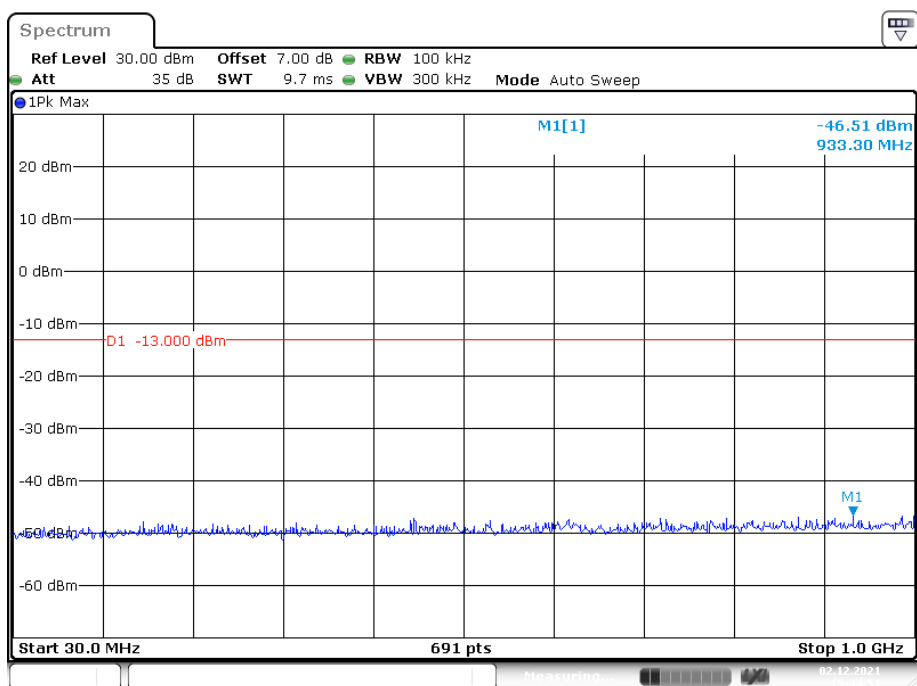


Date: 1.DEC.2021 16:27:50

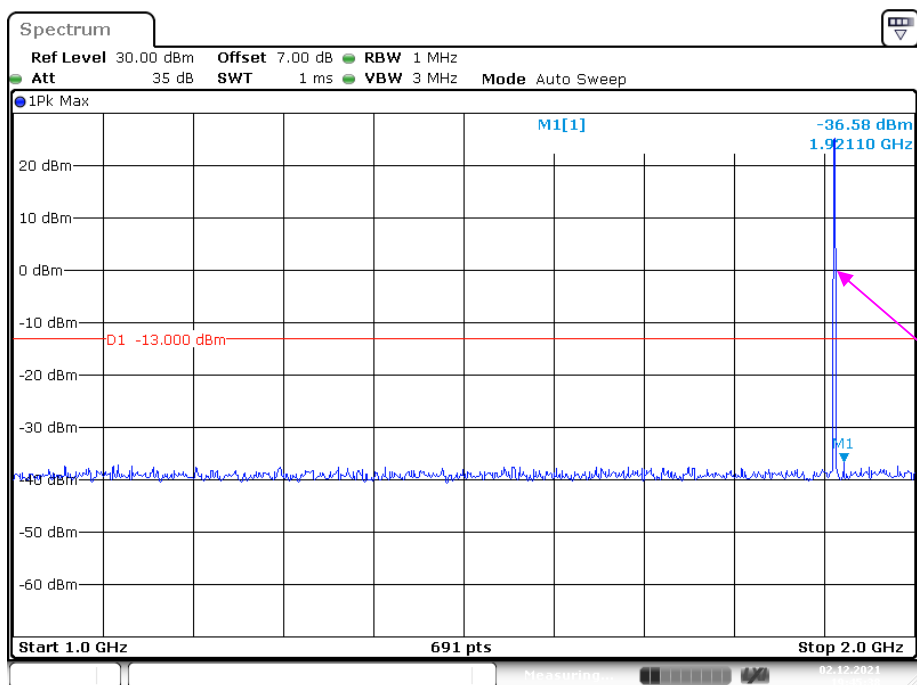
2 GHz – 20 GHz (WCDMA Mode)



Date: 1.DEC.2021 16:46:38

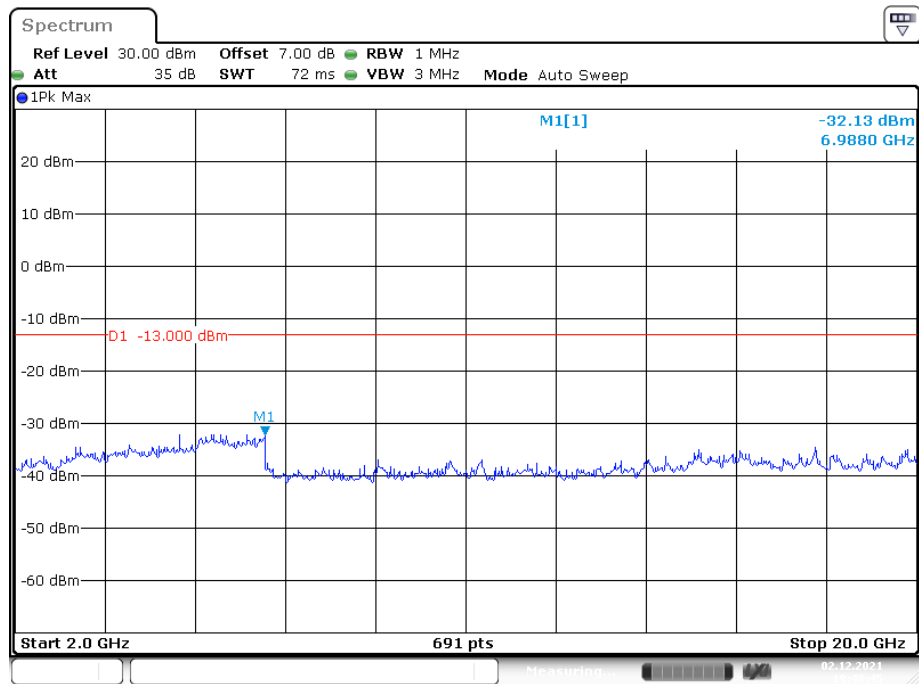
High Channel:**30 MHz – 1 GHz (GSM Mode)**

Date: 2.DEC.2021 19:44:51

1 GHz – 2 GHz (GSM Mode)

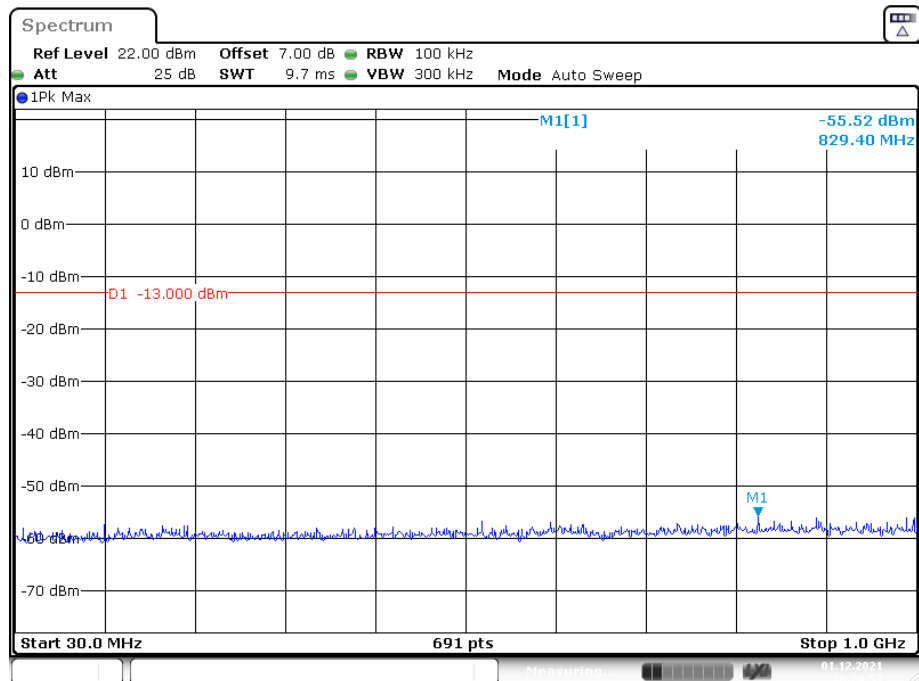
Date: 2.DEC.2021 19:45:38

2 GHz – 20 GHz (GSM Mode)



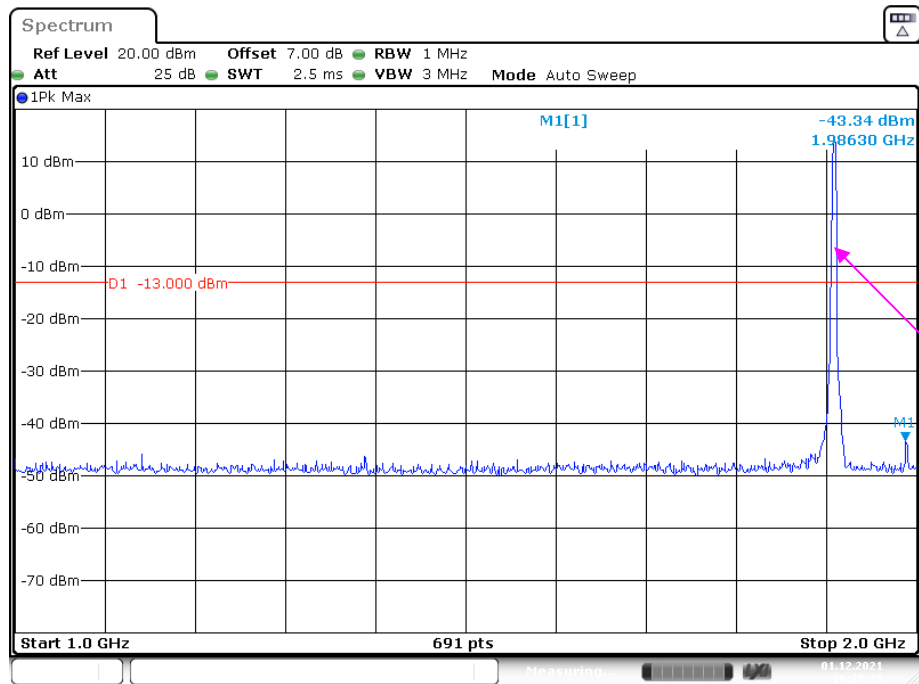
Date: 2.DEC.2021 19:48:46

30 MHz – 1 GHz (WCDMA Mode)



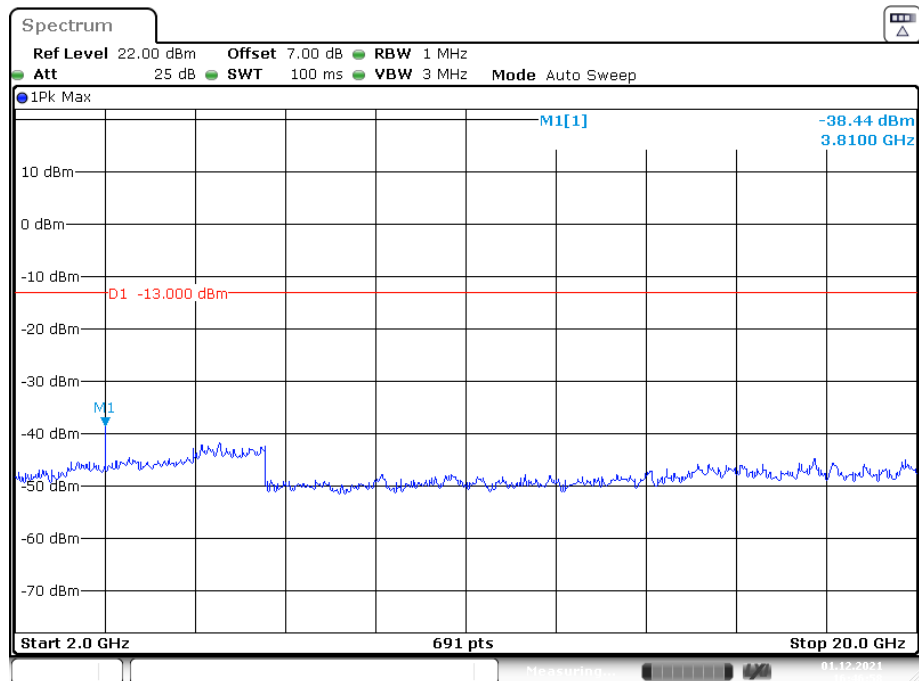
Date: 1.DEC.2021 16:24:53

1 GHz – 2 GHz (WCDMA Mode)

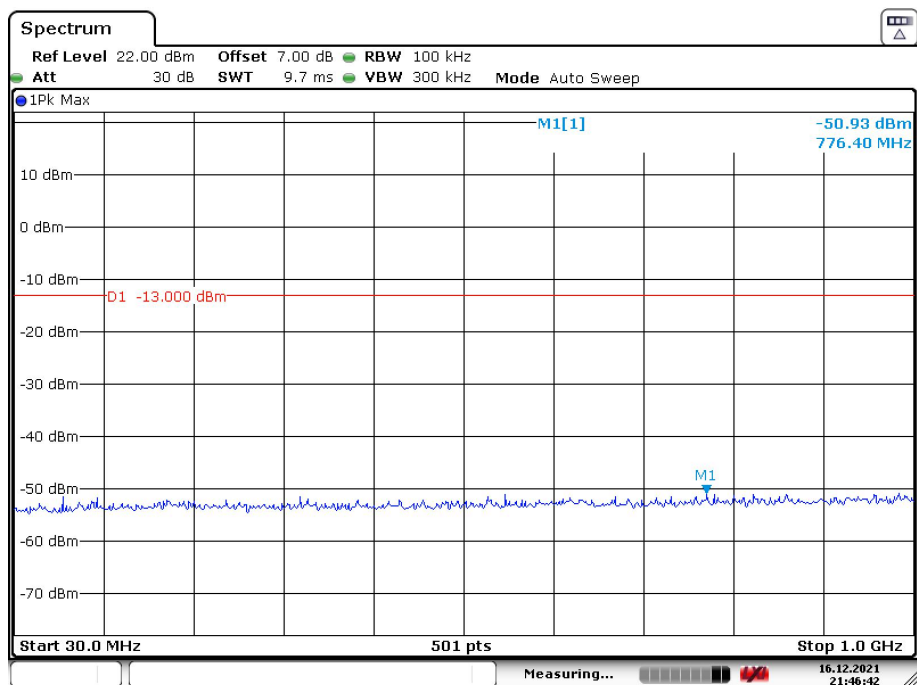


Date: 1.DEC.2021 16:28:23

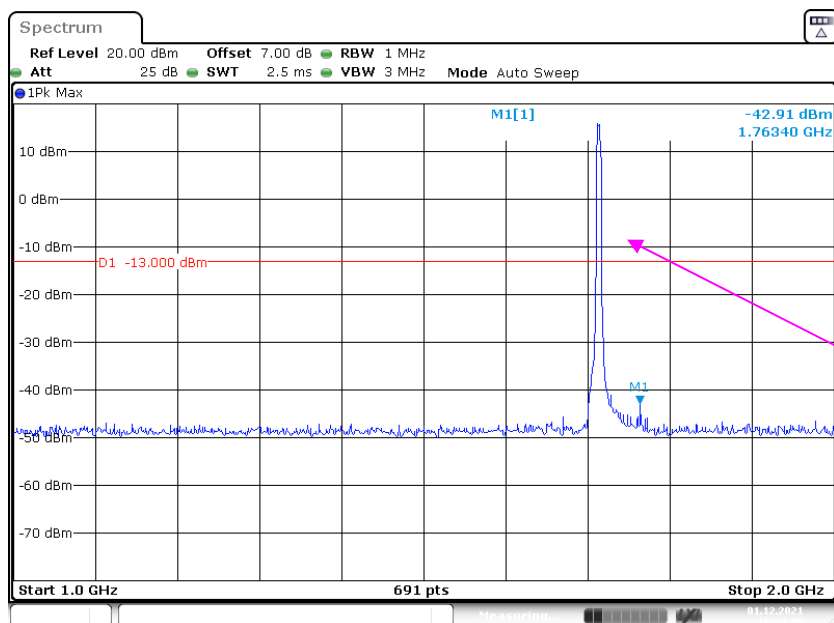
2 GHz – 20 GHz (WCDMA Mode)



Date: 1.DEC.2021 16:46:58

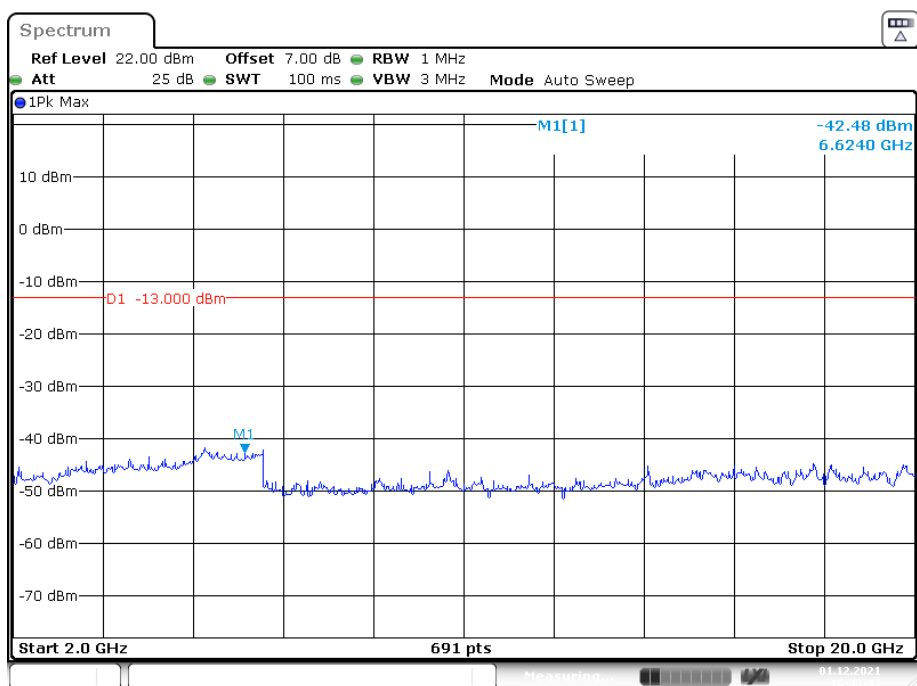
AWS Band (Part 27)
Low Channel:**30 MHz – 1 GHz (WCDMA Mode)**

Date: 16.DEC.2021 21:46:43

1 GHz – 20 GHz (WCDMA Mode)

Date: 1.DEC.2021 16:29:05

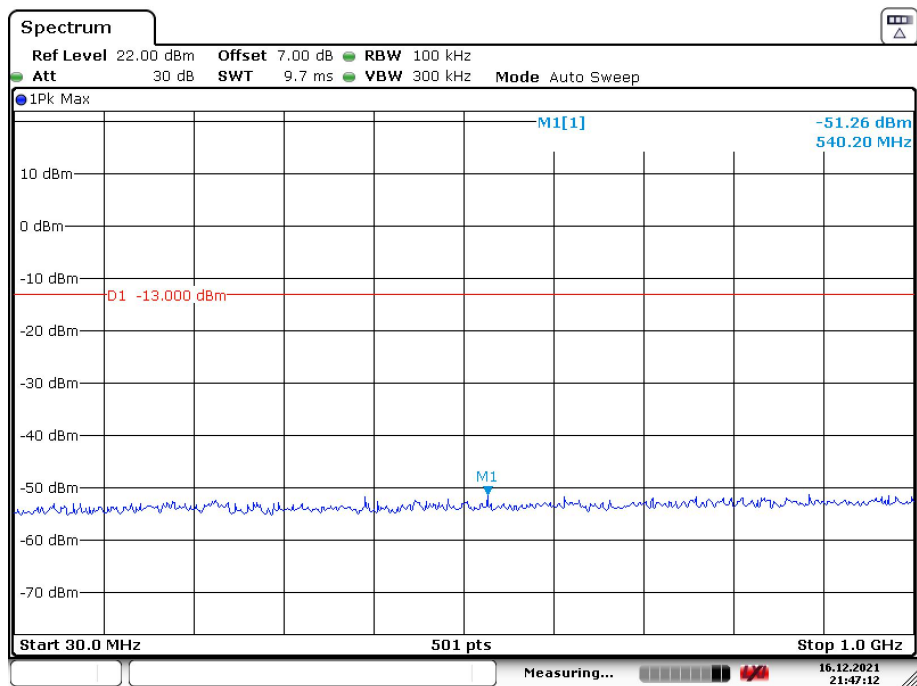
2 GHz – 20 GHz (WCDMA Mode)



Date: 1.DEC.2021 16:43:43

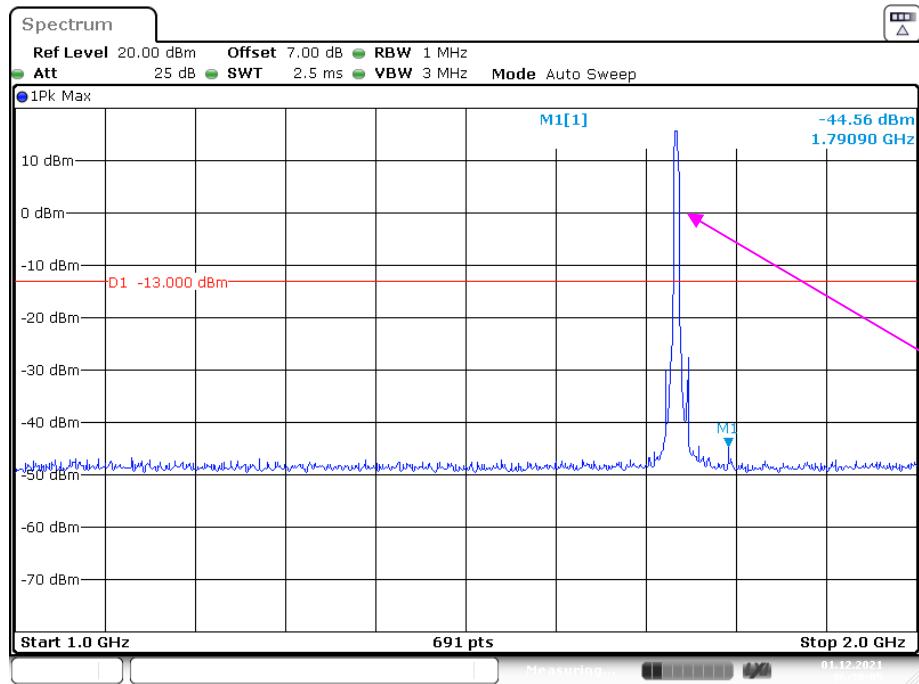
Middle Channel

30 MHz – 1 GHz (WCDMA Mode)



Date: 16.DEC.2021 21:47:13

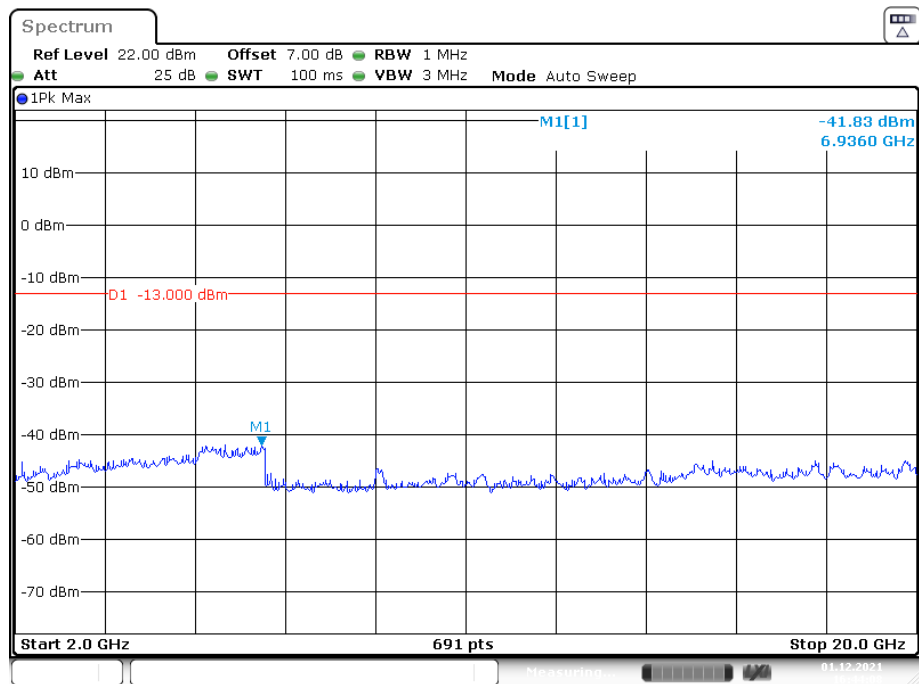
1 GHz – 20 GHz (WCDMA Mode)



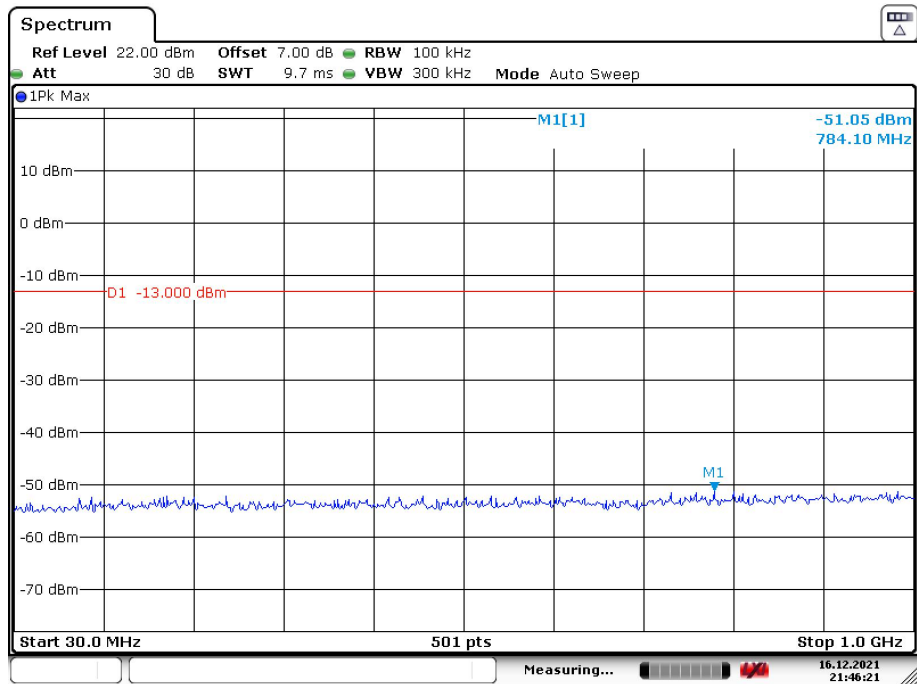
Date: 1.DEC.2021 16:30:05

Fundamental test

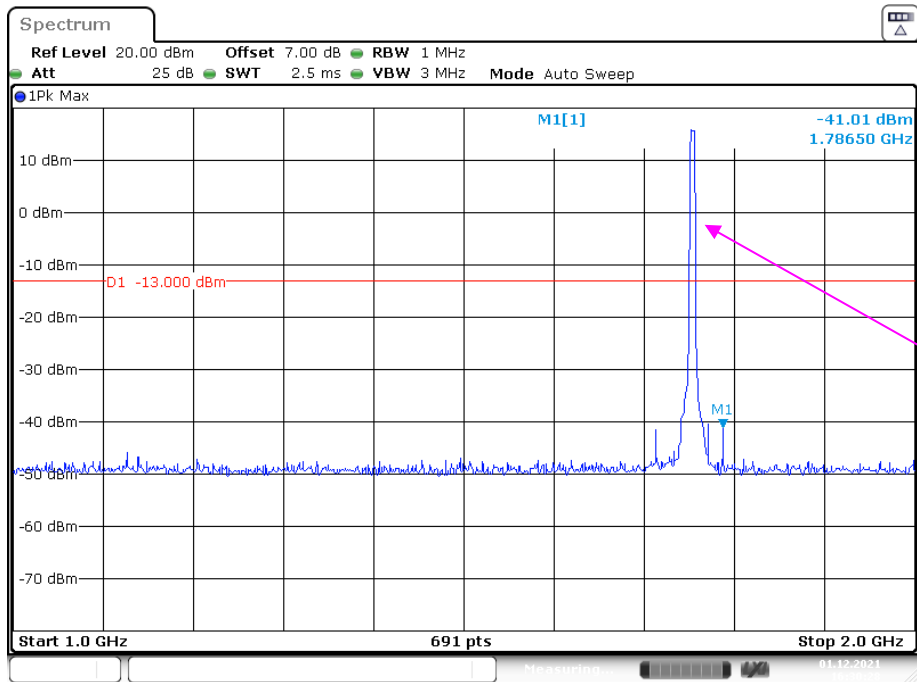
2 GHz – 20 GHz (WCDMA Mode)



Date: 1.DEC.2021 16:44:09

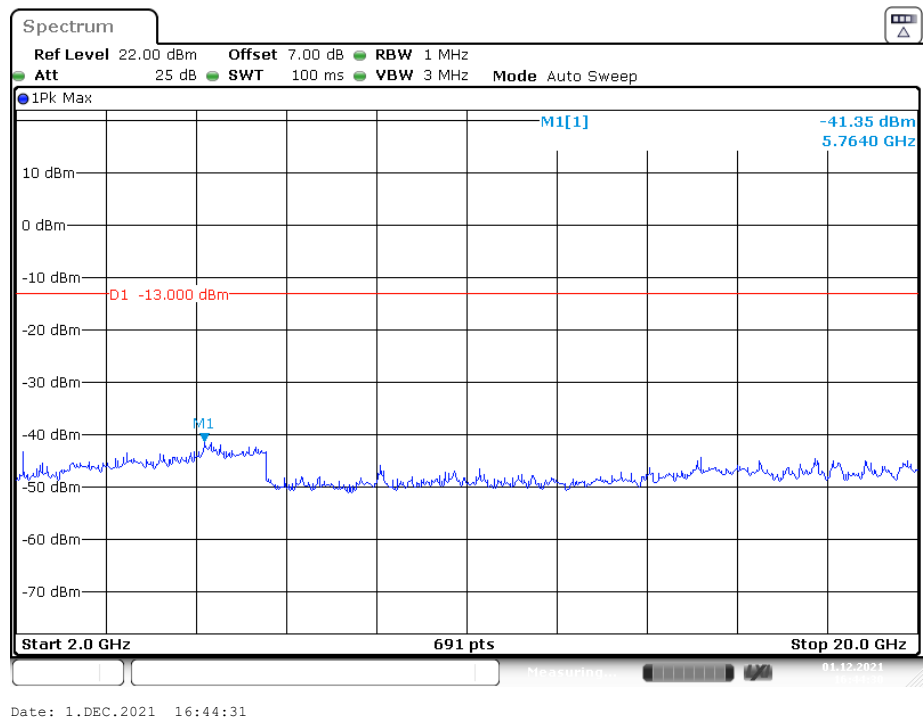
High Channel:**30 MHz – 1 GHz (WCDMA Mode)**

Date: 16.DEC.2021 21:46:22

1 GHz – 20 GHz (WCDMA Mode)

Date: 1.DEC.2021 16:30:28

2 GHz – 20 GHz (WCDMA Mode)



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**

Temperature:	26 °C
Relative Humidity:	50 %
ATM Pressure:	101.0kPa

The testing was performed by Bin Deng on 2021-12-05.

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								
759.36	-77.15	322	1.9	H	9.2	-67.95	-13	-54.95
759.36	-76.27	14	1.7	V	11.0	-65.27	-13	-52.27
1648.4	-58.70	281	1.8	H	3.5	-55.20	-13	-42.20
1648.4	-57.10	152	1.2	V	3.1	-54.00	-13	-41.00
2472.6	-55.50	202	1.7	H	6.6	-48.90	-13	-35.90
2472.6	-52.90	260	2.1	V	5.8	-47.10	-13	-34.10
3296.8	-52.10	329	1.6	H	6.4	-45.70	-13	-32.70
3296.8	-51.10	160	1.8	V	5.7	-45.40	-13	-32.40
Middle Channel								
759.36	-76.93	328	1.8	H	9.2	-67.73	-13	-54.73
759.36	-76.70	343	1.4	V	11.0	-65.70	-13	-52.70
1673.2	-53.10	137	1.2	H	3.8	-49.30	-13	-36.30
1673.2	-50.80	250	1.3	V	3.1	-47.70	-13	-34.70
2509.8	-56.50	326	2.0	H	6.2	-50.30	-13	-37.30
2509.8	-52.40	114	1.1	V	5.5	-46.90	-13	-33.90
3346.4	-52.20	72	1.9	H	6.6	-45.60	-13	-32.60
3346.4	-50.60	78	2.2	V	5.4	-45.20	-13	-32.20
High Channel								
759.36	-77.57	335	1.9	H	9.2	-68.37	-13	-55.37
759.36	-77.94	43	1.9	V	11.0	-66.94	-13	-53.94
1697.6	-56.60	29	1.6	H	4.1	-52.50	-13	-39.50
1697.6	-54.10	336	1.7	V	3.1	-51.00	-13	-38.00
2546.4	-56.70	263	1.8	H	6.1	-50.60	-13	-37.60
2546.4	-53.30	95	1.6	V	5.8	-47.50	-13	-34.50
3395.2	-52.20	230	1.4	H	6.2	-46.00	-13	-33.00
3395.2	-50.80	341	1.4	V	5.4	-45.40	-13	-32.40

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								
759.36	-77.49	344	1.3	H	9.2	-68.29	-13	-55.29
759.36	-76.17	226	2.2	V	11.0	-65.17	-13	-52.17
1652.8	-23.40	129	1.1	H	3.5	-19.90	-13	-6.90
1652.8	-31.10	270	1.4	V	3.1	-28.00	-13	-15.00
2479.2	-45.50	227	2.2	H	6.6	-38.90	-13	-25.90
2479.2	-48.50	7	1.9	V	5.8	-42.70	-13	-29.70
3305.6	-48.70	64	1.4	H	6.4	-42.30	-13	-29.30
3305.6	-50.10	21	1.4	V	5.7	-44.40	-13	-31.40
Middle Channel								
759.36	-76.34	290	1.2	H	9.2	-67.14	-13	-54.14
759.36	-77.36	69	2.1	V	11.0	-66.36	-13	-53.36
1673.2	-29.50	332	1.9	H	3.8	-25.70	-13	-12.70
1673.2	-36.30	100	1.0	V	3.1	-33.20	-13	-20.20
2509.8	-44.10	160	2.1	H	6.2	-37.90	-13	-24.90
2509.8	-47.50	7	1.6	V	5.5	-42.00	-13	-29.00
3346.4	-47.00	333	1.7	H	6.6	-40.40	-13	-27.40
3346.4	-49.90	16	1.7	V	5.4	-44.50	-13	-31.50
High Channel								
759.36	-76.22	308	1.1	H	9.2	-67.02	-13	-54.02
759.36	-76.43	38	1.9	V	11.0	-65.43	-13	-52.43
1693.2	-25.20	327	2.1	H	4.1	-21.10	-13	-8.10
1693.2	-30.90	101	1.9	V	3.1	-27.80	-13	-14.80
2539.8	-50.50	170	1.8	H	6.1	-44.40	-13	-31.40
2539.8	-55.20	175	1.9	V	5.8	-49.40	-13	-36.40
3386.4	-45.40	212	1.3	H	6.2	-39.20	-13	-26.20
3386.4	-49.10	239	1.7	V	5.4	-43.70	-13	-30.70

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								
759.36	-77.79	330	1.4	H	9.2	-68.59	-13	-55.59
759.36	-76.28	222	2.0	V	11.0	-65.28	-13	-52.28
3700.4	-54.50	359	2.1	H	8.1	-46.40	-13	-33.40
3700.4	-53.20	232	1.4	V	7.6	-45.60	-13	-32.60
Middle Channel								
759.36	-77.04	118	1.6	H	9.2	-67.84	-13	-54.84
759.36	-76.02	291	1.0	V	11.0	-65.02	-13	-52.02
3760.0	-56.40	225	2.1	H	8.8	-47.60	-13	-34.60
3760.0	-54.70	116	1.9	V	8.0	-46.70	-13	-33.70
High Channel								
759.36	-77.97	164	2.1	H	9.2	-68.77	-13	-55.77
759.36	-76.64	24	1.4	V	11.0	-65.64	-13	-52.64
3819.6	-55.60	138	1.2	H	8.7	-46.90	-13	-33.90
3819.6	-54.20	297	1.7	V	8.0	-46.20	-13	-33.20
WCDMA Band 2								
Low Channel (1852.4MHz)								
759.36	-76.40	224	1.8	H	9.2	-67.20	-13	-54.20
759.36	-77.78	13	1.7	V	11.0	-66.78	-13	-53.78
3704.8	-48.40	192	1.2	H	8.1	-40.30	-13	-27.30
3704.8	-51.00	283	2.0	V	7.6	-43.40	-13	-30.40
Middle Channel (1880MHz)								
759.36	-77.90	205	2.1	H	9.2	-68.70	-13	-55.70
759.36	-77.85	298	1.7	V	11.0	-66.85	-13	-53.85
3760.0	-49.10	300	1.5	H	8.8	-40.30	-13	-27.30
3760.0	-51.90	219	2.0	V	8.0	-43.90	-13	-30.90
High Channel (1907.6MHz)								
759.36	-77.64	124	2.0	H	9.2	-68.44	-13	-55.44
759.36	-77.62	178	2.0	V	11.0	-66.62	-13	-53.62
3815.2	-45.40	119	1.7	H	8.7	-36.70	-13	-23.70
3815.2	-48.00	165	1.3	V	8.0	-40.00	-13	-27.00

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 (1712.4MHz)								
759.36	-77.94	54	1.7	H	9.2	-68.74	-13	-55.74
759.36	-76.08	152	2.1	V	11.0	-65.08	-13	-52.08
3424.8	-46.70	117	1.3	H	6.4	-40.30	-13	-27.30
3424.8	-51.10	336	1.7	V	5.7	-45.40	-13	-32.40
Middle Channel (1732.6MHz)								
759.36	-78.19	20	1.7	H	9.2	-68.99	-13	-55.99
759.36	-77.46	294	1.5	V	11.0	-66.46	-13	-53.46
3465.2	-48.20	280	2.2	H	6.9	-41.30	-13	-28.30
3465.2	-51.50	273	1.2	V	6.2	-45.30	-13	-32.30
High Channel (1752.6MHz)								
759.36	-77.57	162	1.9	H	9.2	-68.37	-13	-55.37
759.36	-77.10	195	1.3	V	11.0	-66.10	-13	-53.10
3505.2	-48.90	185	1.4	H	7.8	-41.10	-13	-28.10
3505.2	-50.60	305	1.1	V	6.5	-44.10	-13	-31.10

LTE Band: (Pre-scan with all the bandwidth, 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								
1.4MHz bandwidth, Low Channel								
759.36	-76.57	166	2.2	H	9.2	-67.37	-13	-54.37
759.36	-77.04	302	1.7	V	11.0	-66.04	-13	-53.04
3701.4	-43.90	225	1.2	H	8.1	-35.80	-13	-22.80
3701.4	-46.50	335	1.3	V	7.6	-38.90	-13	-25.90
1.4MHz bandwidth, Middle Channel								
759.36	-77.89	80	1.2	H	9.2	-68.69	-13	-55.69
759.36	-77.13	287	1.9	V	11.0	-66.13	-13	-53.13
3760.0	-43.50	250	1.0	H	8.8	-34.70	-13	-21.70
3760.0	-47.20	266	1.8	V	8.0	-39.20	-13	-26.20
1.4MHz bandwidth, High Channel								
759.36	-77.48	314	1.7	H	9.2	-68.28	-13	-55.28
759.36	-77.05	355	1.4	V	11.0	-66.05	-13	-53.05
3818.6	-40.00	90	2.2	H	8.7	-31.30	-13	-18.30
3818.6	-42.00	346	2.0	V	8.0	-34.00	-13	-21.00

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								
1.4MHz bandwidth, Low Channel								
759.36	-77.08	133	1.7	H	9.2	-67.88	-13	-54.88
759.36	-76.35	270	1.4	V	11.0	-65.35	-13	-52.35
3421.4	-43.70	360	1.7	H	6.4	-37.30	-13	-24.30
3421.4	-49.00	206	1.8	V	5.7	-43.30	-13	-30.30
5132.1	-49.10	73	1.4	H	11.3	-37.80	-13	-24.80
5132.1	-44.10	287	1.7	V	10.8	-33.30	-13	-20.30
1.4MHz bandwidth, Middle Channel								
759.36	-76.83	212	2.0	H	9.2	-67.63	-13	-54.63
759.36	-77.82	301	1.3	V	11.0	-66.82	-13	-53.82
3465.0	-44.40	245	1.9	H	6.9	-37.50	-13	-24.50
3465.0	-50.60	102	2.2	V	6.2	-44.40	-13	-31.40
5197.5	-47.10	282	2.1	H	10.3	-36.80	-13	-23.80
5197.5	-42.80	206	1.5	V	9.8	-33.00	-13	-20.00
1.4MHz bandwidth, High Channel								
759.36	-76.89	278	1.4	H	9.2	-67.69	-13	-54.69
759.36	-77.17	107	1.1	V	11.0	-66.17	-13	-53.17
3508.6	-46.70	148	1.4	H	7.8	-38.90	-13	-25.90
3508.6	-49.10	230	1.2	V	6.5	-42.60	-13	-29.60
5262.9	-47.20	313	1.0	H	9.5	-37.70	-13	-24.70
5262.9	-43.10	9	1.7	V	8.9	-34.20	-13	-21.20

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								
1.4MHz bandwidth, Low Channel								
759.36	-77.82	157	1.7	H	9.2	-68.62	-13	-55.62
759.36	-77.76	315	2.0	V	11.0	-66.76	-13	-53.76
1649.4	-30.20	43	2.1	H	3.5	-26.70	-13	-13.70
1649.4	-37.80	21	1.1	V	3.1	-34.70	-13	-21.70
2474.1	-40.60	249	1.1	H	6.6	-34.00	-13	-21.00
2474.1	-41.70	232	1.8	V	5.8	-35.90	-13	-22.90
3298.8	-46.90	300	2.0	H	6.4	-40.50	-13	-27.50
3298.8	-49.80	29	1.2	V	5.7	-44.10	-13	-31.10
1.4MHz bandwidth, Middle Channel								
759.36	-76.82	173	1.2	H	9.2	-67.62	-13	-54.62
759.36	-77.84	153	1.7	V	11.0	-66.84	-13	-53.84
1673.0	-32.30	137	2.2	H	3.8	-28.50	-13	-15.50
1673.0	-40.00	105	2.2	V	3.1	-36.90	-13	-23.90
2509.5	-38.80	101	1.2	H	6.2	-32.60	-13	-19.60
2509.5	-43.30	52	1.8	V	5.5	-37.80	-13	-24.80
3346.0	-40.60	220	1.0	H	6.6	-34.00	-13	-21.00
3346.0	-45.20	337	2.0	V	5.4	-39.80	-13	-26.80
1.4MHz bandwidth, High Channel								
759.36	-76.94	69	1.9	H	9.2	-67.74	-13	-54.74
759.36	-76.90	345	1.4	V	11.0	-65.90	-13	-52.90
1696.6	-27.70	299	1.6	H	4.1	-23.60	-13	-10.60
1696.6	-33.50	269	1.7	V	3.1	-30.40	-13	-17.40
2544.9	-37.10	21	1.3	H	6.1	-31.00	-13	-18.00
2544.9	-45.60	17	1.7	V	5.8	-39.80	-13	-26.80
3393.2	-41.10	73	2.2	H	6.2	-34.90	-13	-21.90
3393.2	-44.80	161	1.1	V	5.4	-39.40	-13	-26.40

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								
5MHz bandwidth, Low Channel								
759.36	-77.72	171	1.7	H	9.2	-68.52	-25	-43.52
759.36	-76.28	249	1.8	V	11.0	-65.28	-25	-40.28
5005.0	-55.70	213	2.1	H	10.8	-44.90	-25	-19.90
5005.0	-50.50	342	2.1	V	10.1	-40.40	-25	-15.40
5MHz bandwidth, Middle Channel								
759.36	-76.81	245	2.0	H	9.2	-67.61	-25	-42.61
759.36	-76.90	202	1.2	V	11.0	-65.90	-25	-40.90
5070.0	-55.60	116	1.7	H	11.1	-44.50	-25	-19.50
5070.0	-51.50	52	1.3	V	10.7	-40.80	-25	-15.80
5MHz bandwidth, High Channel								
759.36	-76.42	224	1.3	H	9.2	-67.22	-25	-42.22
759.36	-76.73	323	1.2	V	11.0	-65.73	-25	-40.73
5135.0	-55.60	118	2.0	H	11.3	-44.30	-25	-19.30
5135.0	-50.50	344	1.9	V	10.8	-39.70	-25	-14.70
LTE BAND 38								
Test frequency range: 30MHz-26.5GHz								
5MHz, Low Channel								
759.36	-76.39	285	1.1	H	9.2	-67.19	-25	-42.19
759.36	-76.68	50	1.5	V	11.0	-65.68	-25	-40.68
5145.0	-55.50	35	1.0	H	11.4	-44.10	-25	-19.10
5145.0	-50.20	111	1.5	V	10.7	-39.50	-25	-14.50
5MHz, Middle Channel								
759.36	-76.93	199	2.0	H	9.2	-67.73	-25	-42.73
759.36	-77.87	295	1.3	V	11.0	-66.87	-25	-41.87
5190.0	-53.40	310	2.0	H	10.5	-42.90	-25	-17.90
5190.0	-47.50	76	1.4	V	10.0	-37.50	-25	-12.50
5MHz, High Channel								
759.36	-76.62	345	2.0	H	9.2	-67.42	-25	-42.42
759.36	-77.35	105	1.2	V	11.0	-66.35	-25	-41.35
5235.0	-53.30	182	1.7	H	9.7	-43.60	-25	-18.60
5235.0	-48.00	130	1.8	V	9.3	-38.70	-25	-13.70

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: 30MHz-26.5GHz								
5MHz, Low Channel								
759.36	-77.16	322	1.7	H	9.2	-67.96	-25	-42.96
759.36	-77.31	318	1.2	V	11.0	-66.31	-25	-41.31
5075.0	-55.40	261	1.3	H	11.1	-44.30	-25	-19.30
5075.0	-51.20	274	1.1	V	10.7	-40.50	-25	-15.50
5MHz bandwidth, Middle Channel								
759.36	-77.49	166	1.7	H	9.2	-68.29	-25	-43.29
759.36	-76.15	195	1.0	V	11.0	-65.15	-25	-40.15
5190.0	-53.80	116	2.0	H	10.5	-43.30	-25	-18.30
5190.0	-48.80	358	1.3	V	10.0	-38.80	-25	-13.80
5MHz bandwidth, High Channel								
759.36	-76.60	2	2	H	9.2	-67.40	-25	-42.40
759.36	-76.00	265	2	V	11.0	-65.00	-25	-40.00
5305.0	-49.00	213	1	H	9.6	-39.40	-25	-14.40
5305.0	-44.00	173	2	V	8.8	-35.20	-25	-10.20

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: 30MHz-20GHz								
1.4MHz bandwidth, Low Channel								
759.36	-79.11	326	1.1	H	11.0	-68.11	-13	-55.11
759.36	-77.90	323	1.6	V	11.4	-66.50	-13	-53.50
3421.4	-42.30	163	1.7	H	6.4	-35.90	-13	-22.90
3421.4	-48.70	255	1.7	V	5.7	-43.00	-13	-30.00
5132.1	-48.20	333	2.1	H	11.3	-36.90	-13	-23.90
5132.1	-42.60	297	1.5	V	10.8	-31.80	-13	-18.80
1.4MHz bandwidth, Middle Channel								
759.36	-78.76	344	2.1	H	11.0	-67.76	-13	-54.76
759.36	-77.59	358	1.2	V	11.4	-66.19	-13	-53.19
3490.0	-45.90	228	1.3	H	7.6	-38.30	-13	-25.30
3490.0	-48.60	293	1.7	V	6.4	-42.20	-13	-29.20
5235.0	-46.60	58	1.4	H	9.7	-36.90	-13	-23.90
5235.0	-43.10	310	1.3	V	9.2	-33.90	-13	-20.90
1.4MHz bandwidth, High Channel								
759.36	-78.87	176	1.1	H	11.0	-67.87	-13	-54.87
759.36	-77.10	124	1.5	V	11.4	-65.70	-13	-52.70
3558.6	-45.10	168	2.2	H	7.7	-37.40	-13	-24.40
3558.6	-45.90	305	1.2	V	6.9	-39.00	-13	-26.00
5337.9	-44.20	224	1.0	H	9.4	-34.80	-13	-21.80
5337.9	-41.00	15	1.6	V	8.7	-32.30	-13	-19.30

Note:

Absolute Level = Reading Level + Substituted Factor

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

Margin = Absolute Level - Limit

FCC§ 22.917 (a);§ 24.238 (a); §27.53 (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.

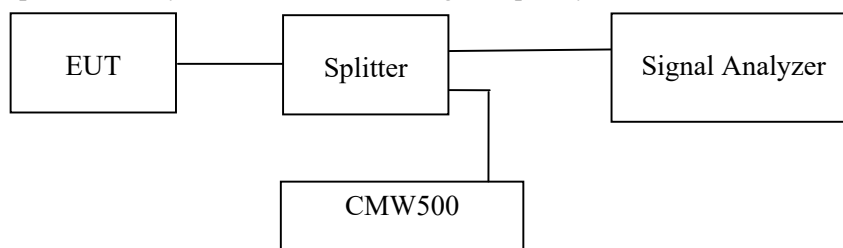
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to FCC §27.53 (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**

Temperature:	23 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

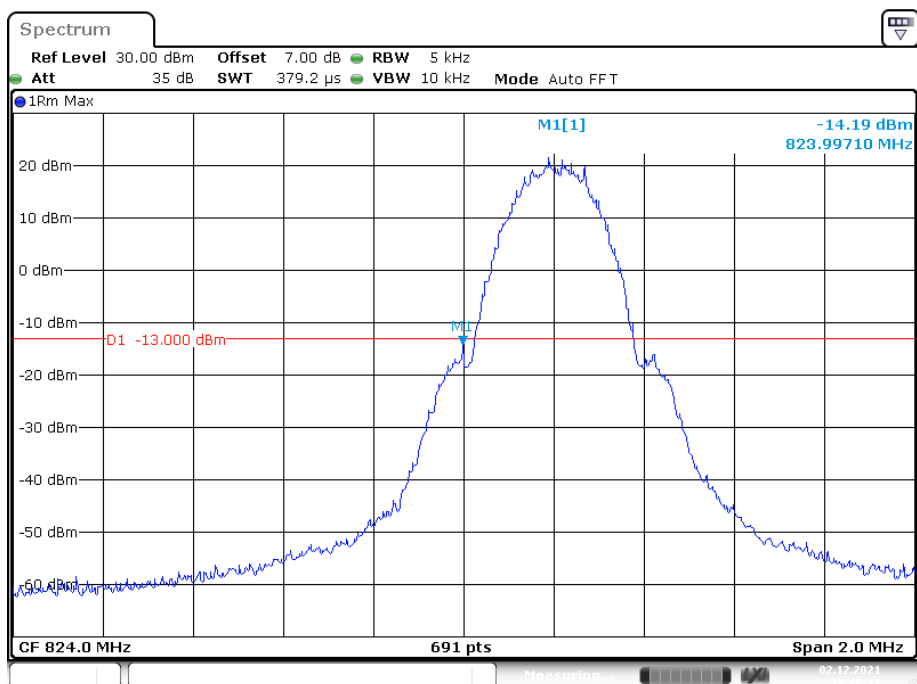
The testing was performed by Black Ding from 2021-12-01 to 2021-12-02.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

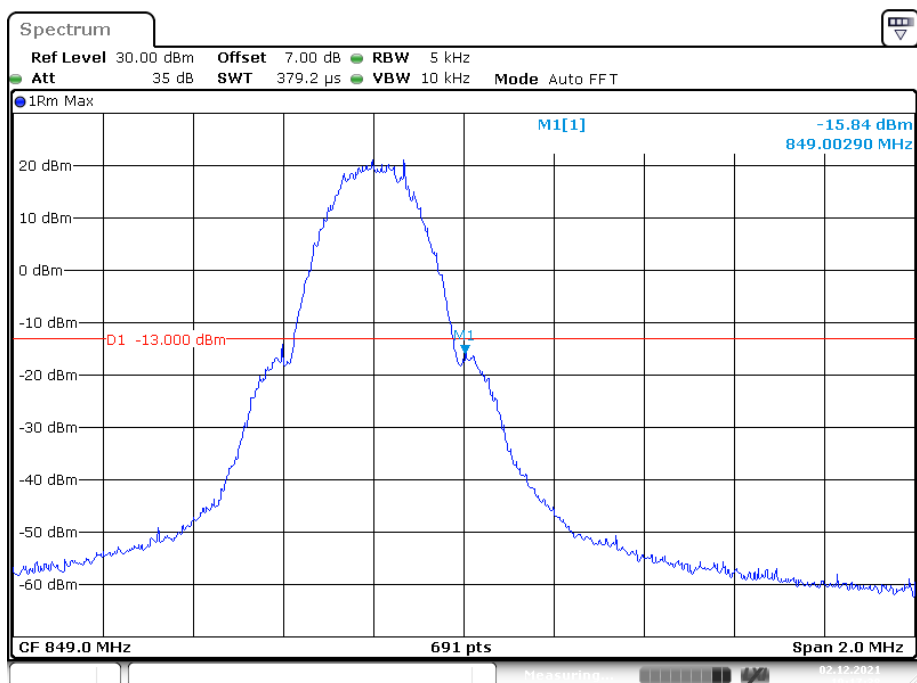
Please refer to the following plots.

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



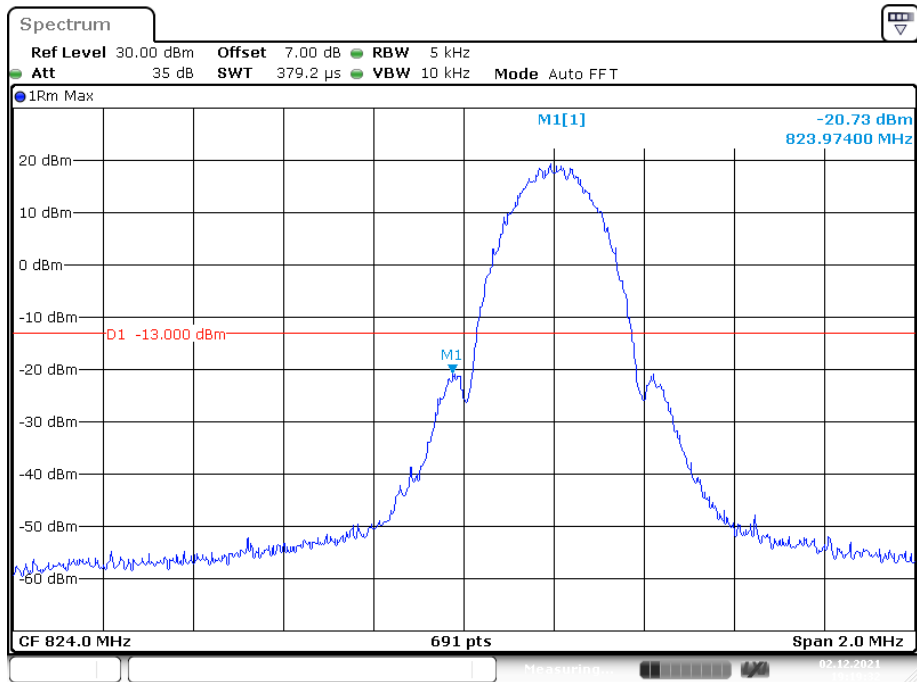
Date: 2.DEC.2021 19:16:11

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



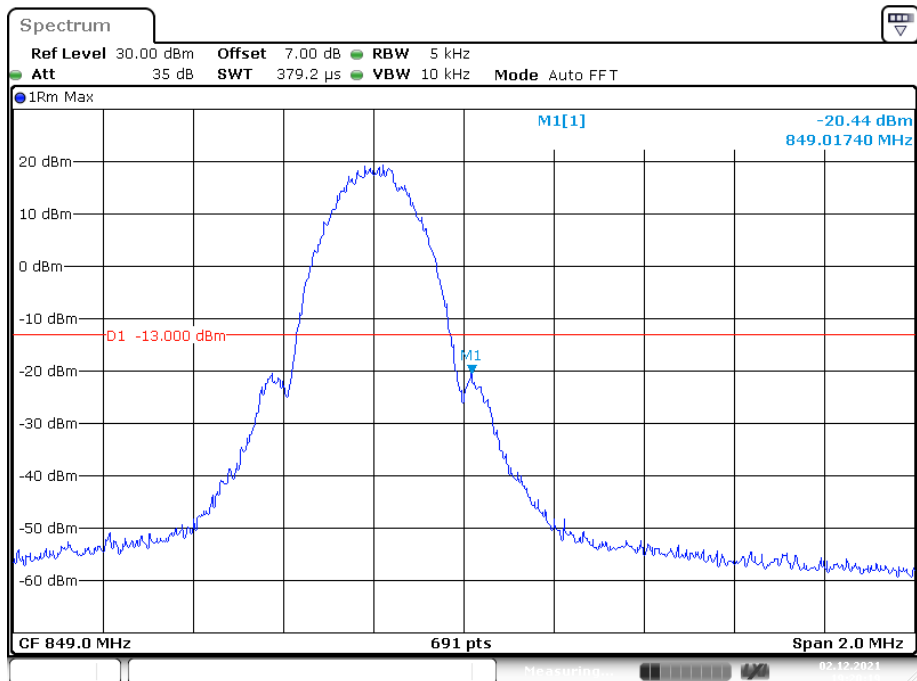
Date: 2.DEC.2021 19:17:38

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

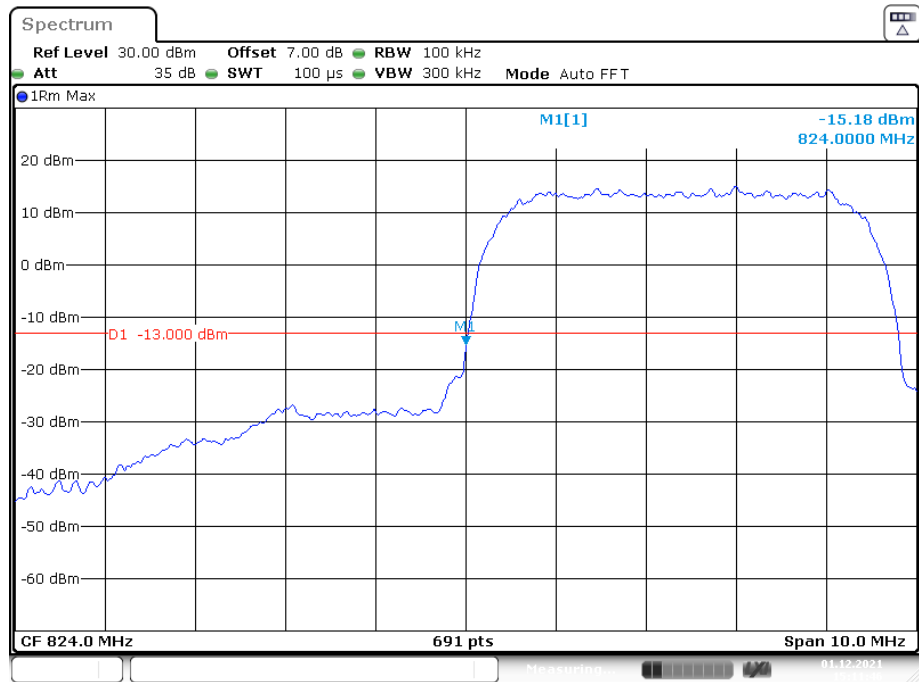


Date: 2.DEC.2021 19:19:32

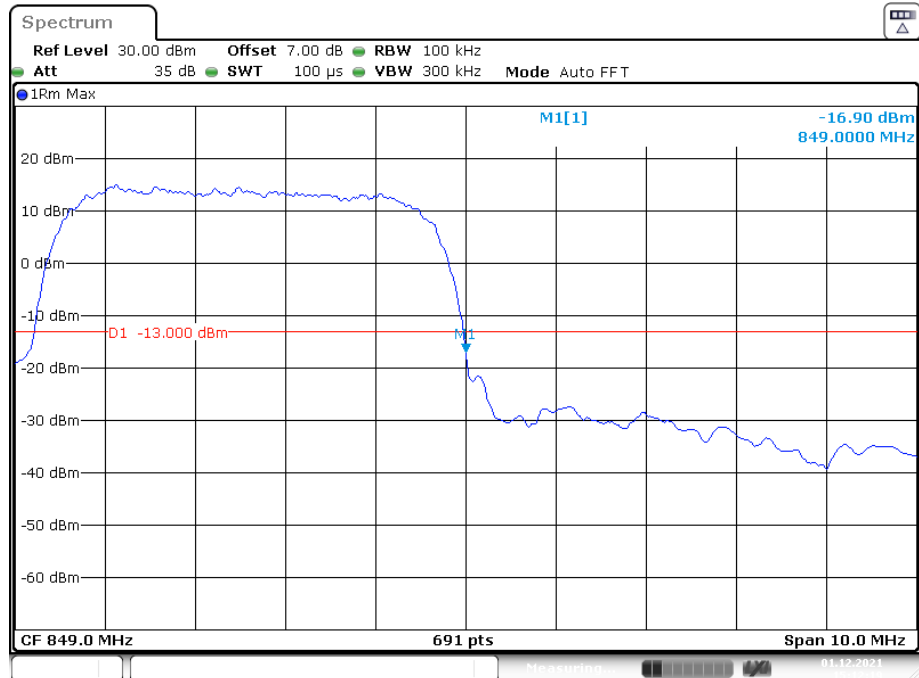
Cellular Band, Right Band Edge for EGPRS (8PSK) Mode



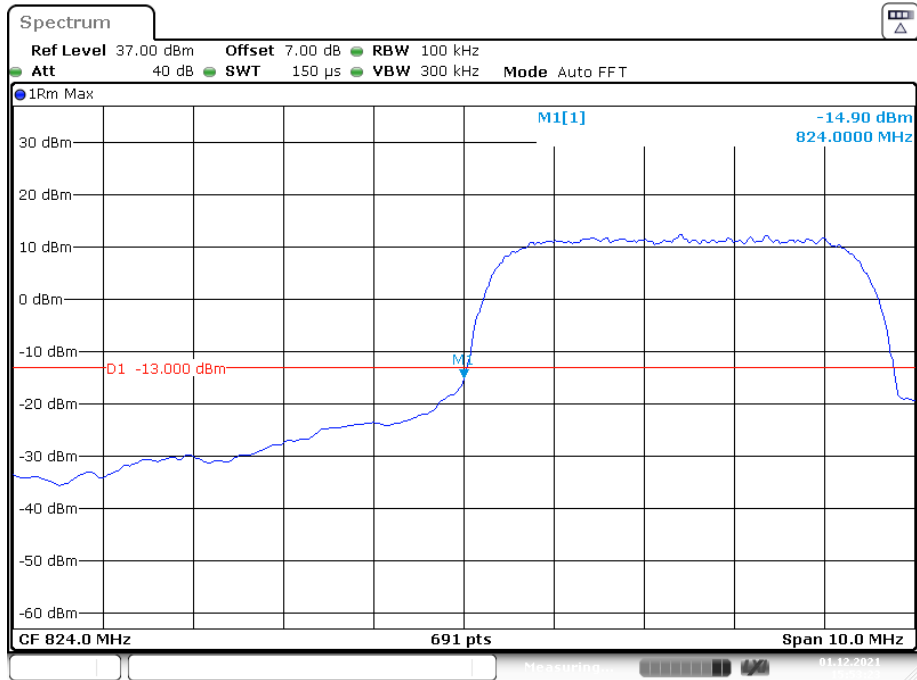
Date: 2.DEC.2021 19:20:19

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

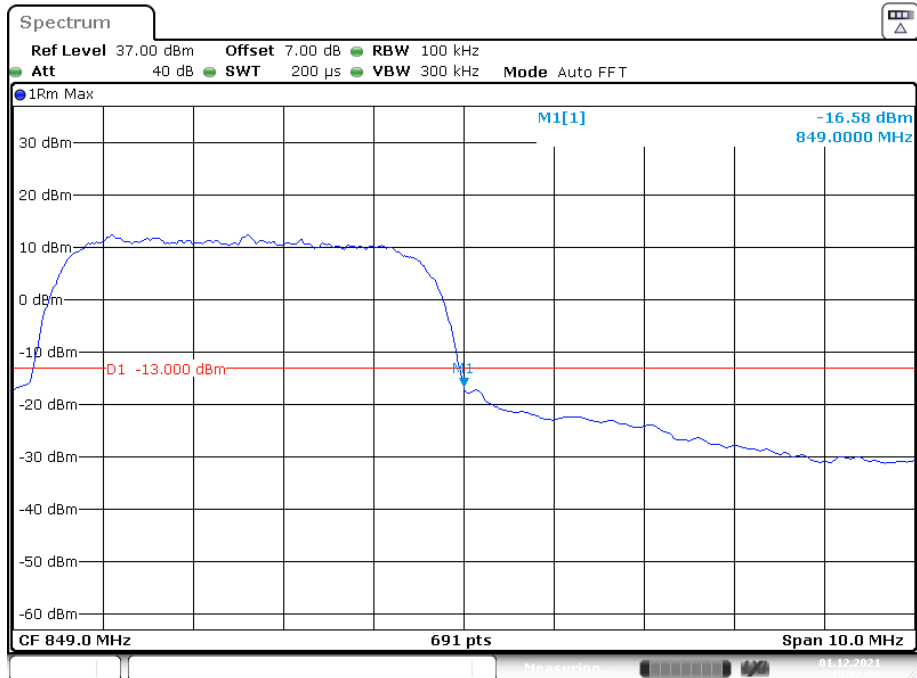
Date: 1.DEC.2021 15:11:46

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

Date: 1.DEC.2021 15:12:19

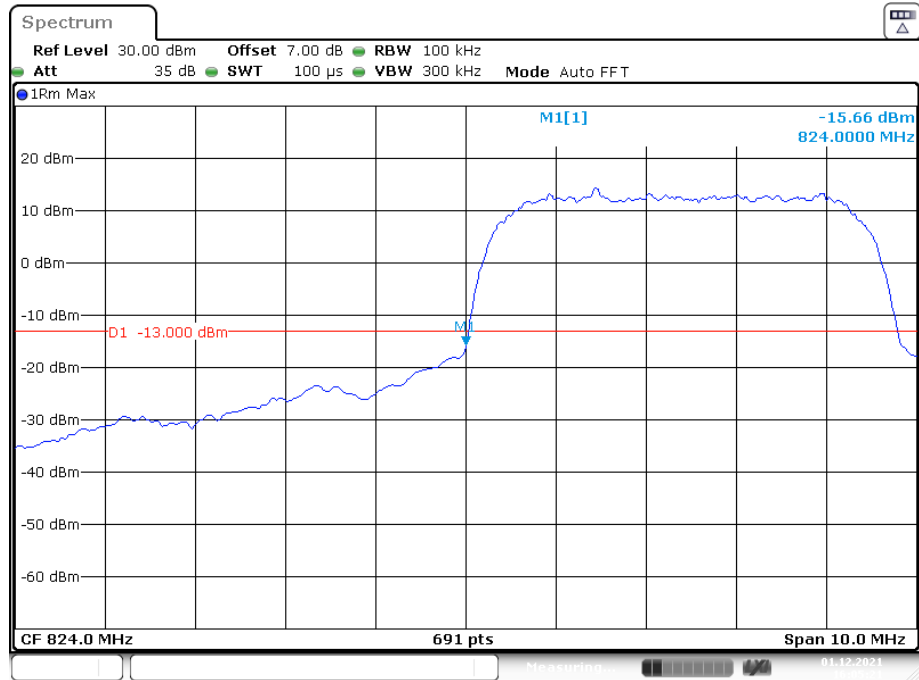
Cellular Band, Left Band Edge for HSDPA(16QAM) Mode

Date: 1.DEC.2021 15:53:23

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

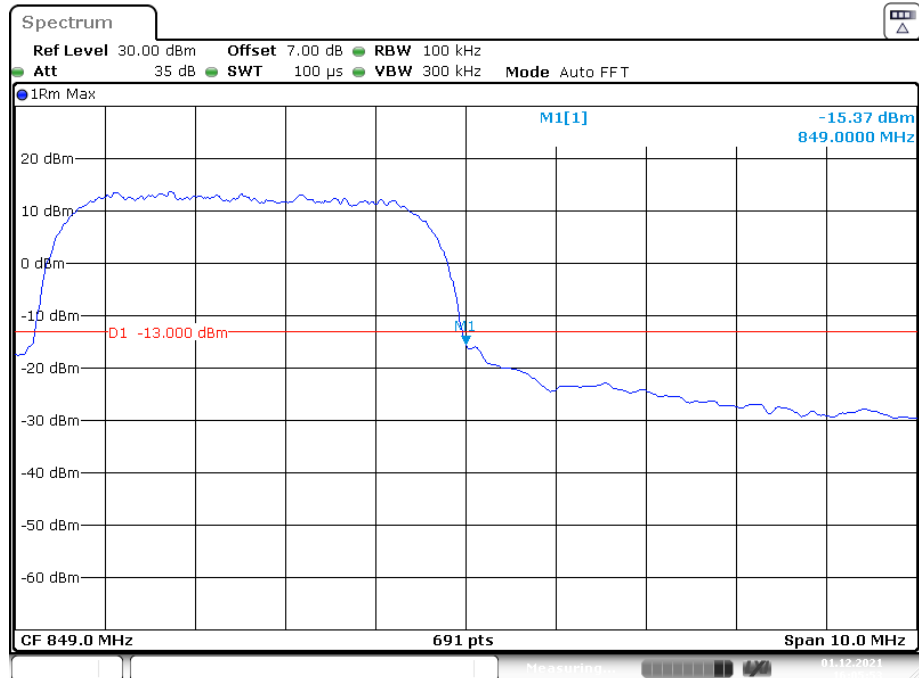
Date: 1.DEC.2021 15:52:22

Cellular Band, Left Band Edge for HSUPA (BPSK) Mode



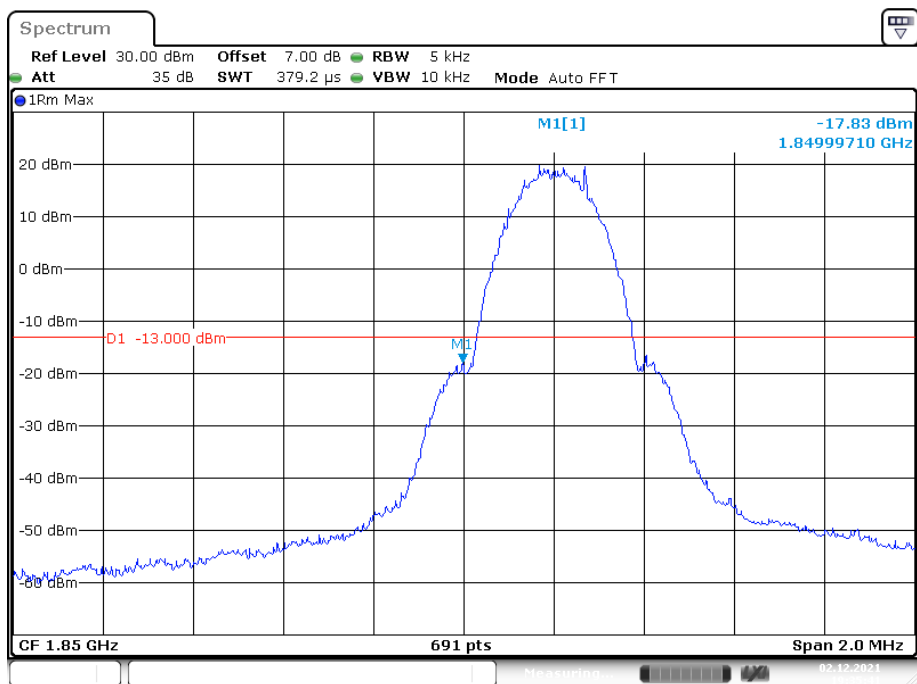
Date: 1.DEC.2021 16:05:21

Cellular Band, Right Band Edge for HSUPA (BPSK) Mode



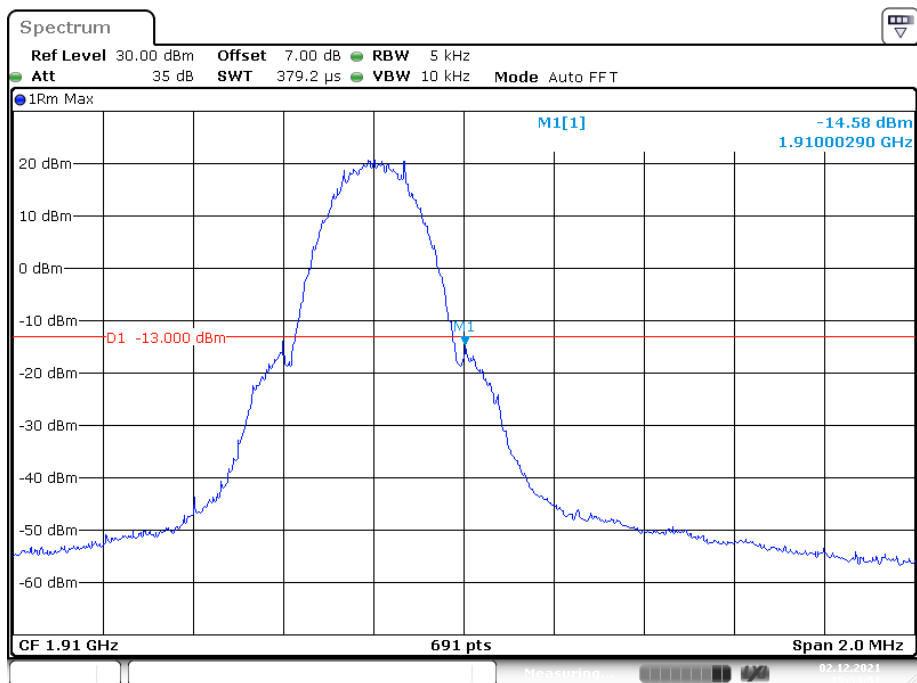
Date: 1.DEC.2021 16:05:53

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



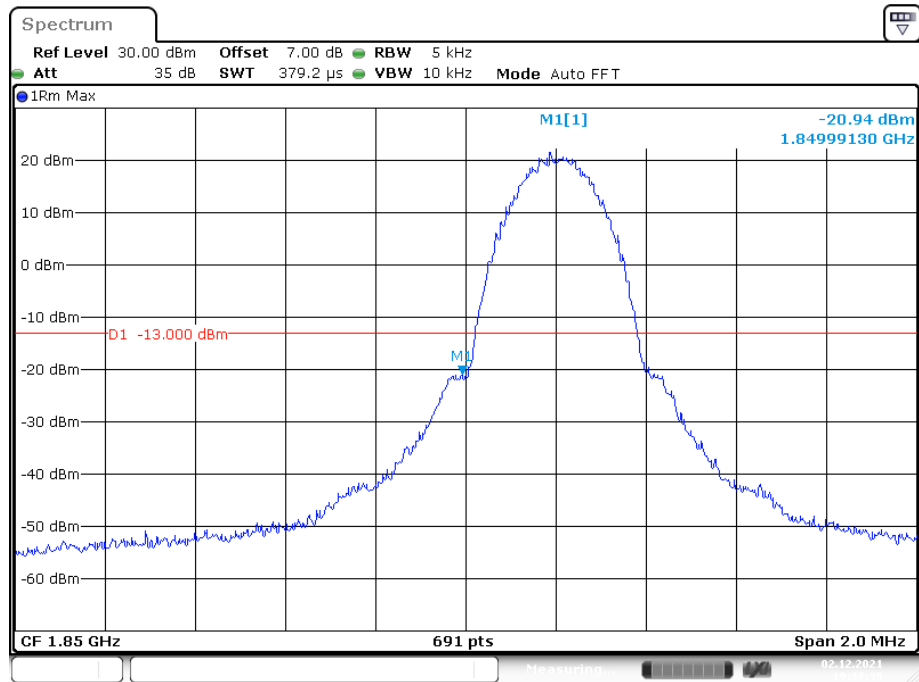
Date: 2.DEC.2021 19:35:41

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



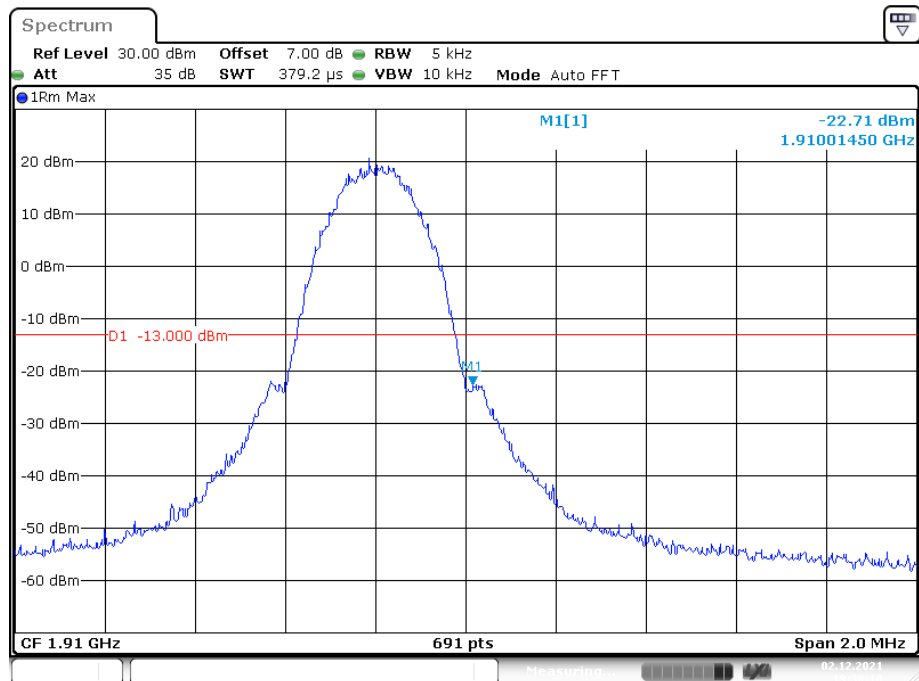
Date: 2.DEC.2021 19:34:51

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



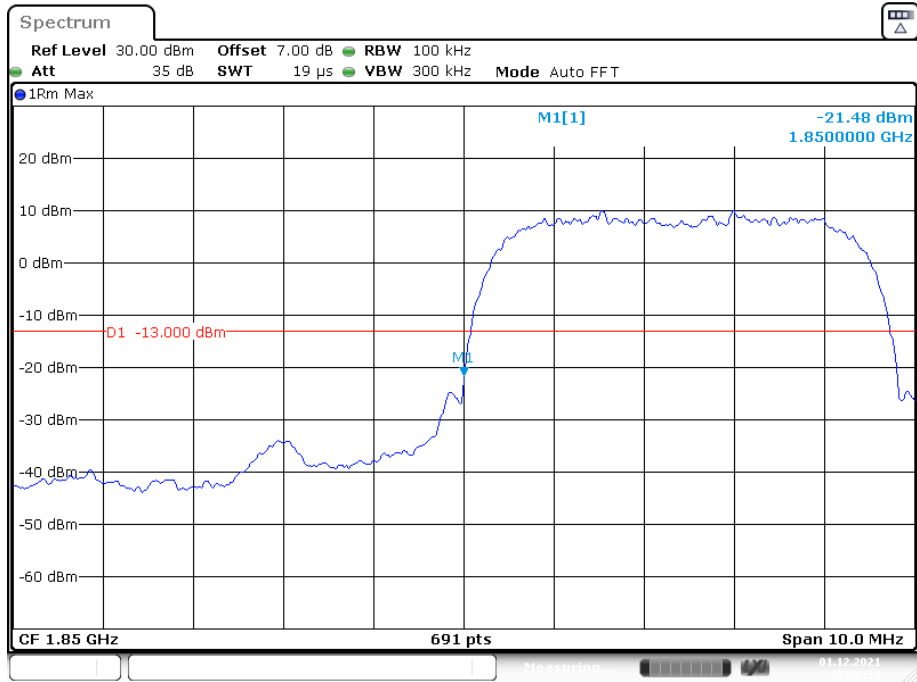
Date: 2.DEC.2021 19:37:36

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



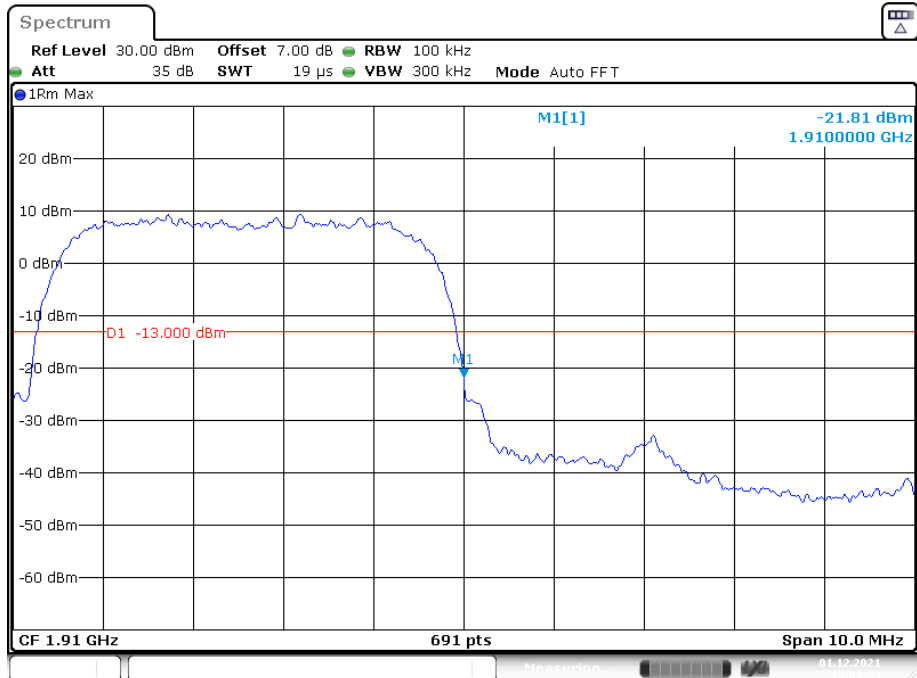
Date: 2.DEC.2021 19:38:19

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



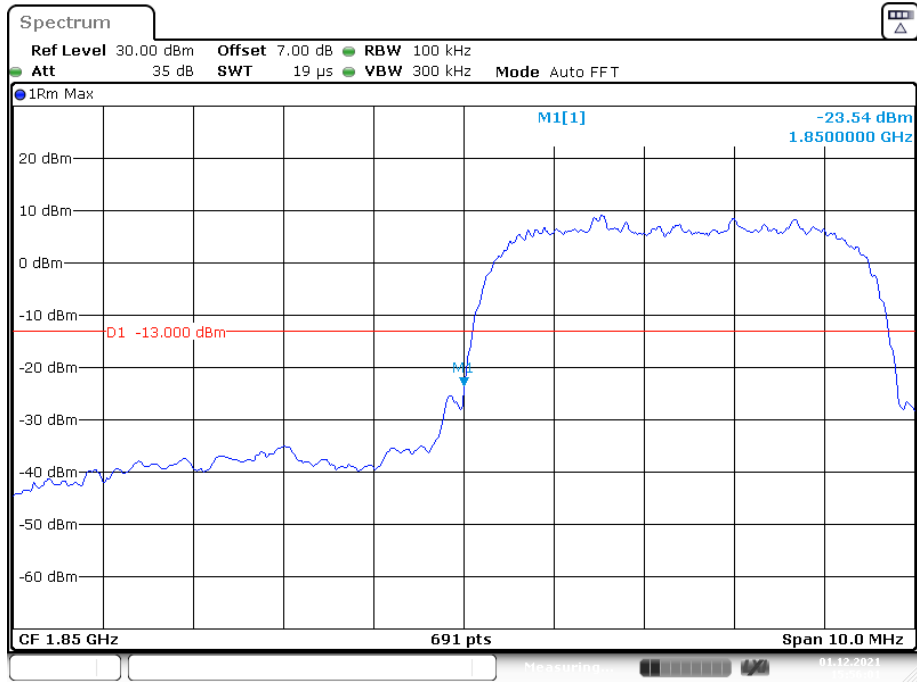
Date: 1.DEC.2021 15:08:54

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



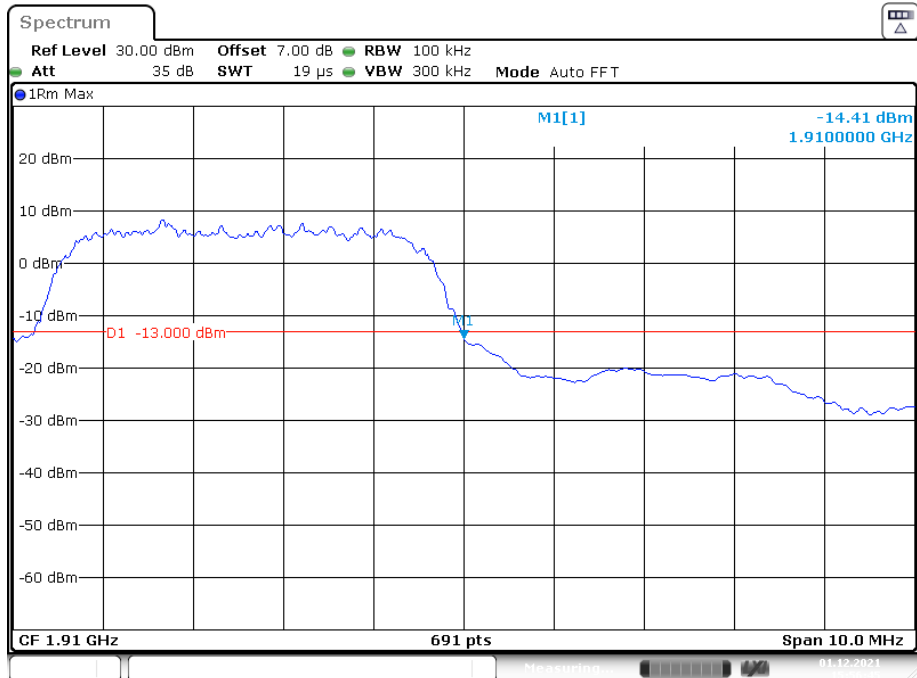
Date: 1.DEC.2021 15:09:54

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



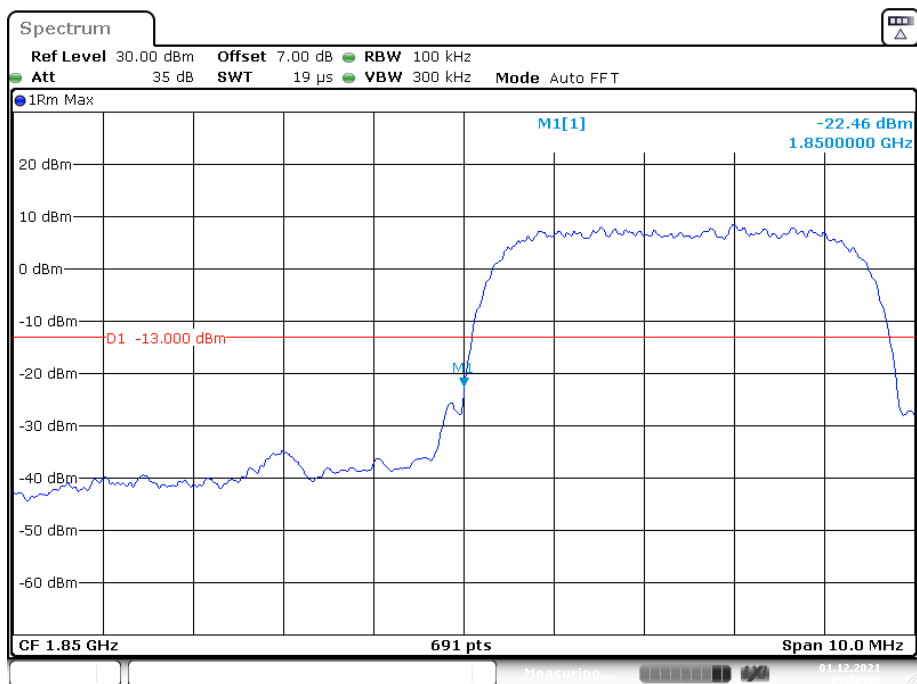
Date: 1.DEC.2021 15:56:01

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



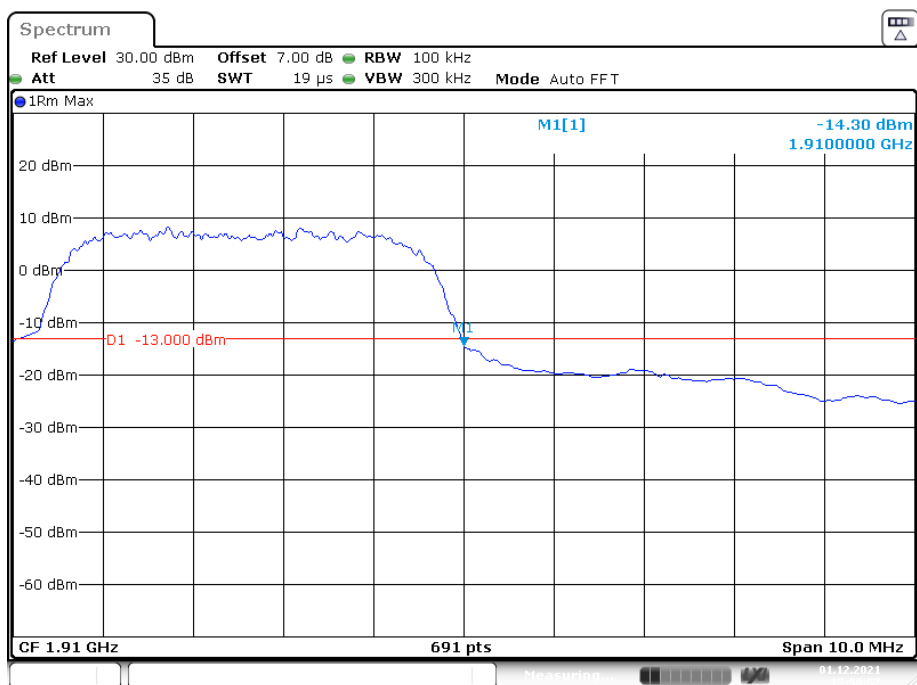
Date: 1.DEC.2021 15:56:45

PCS Band, Left Band Edge for HSUPA (BPSK) Mode



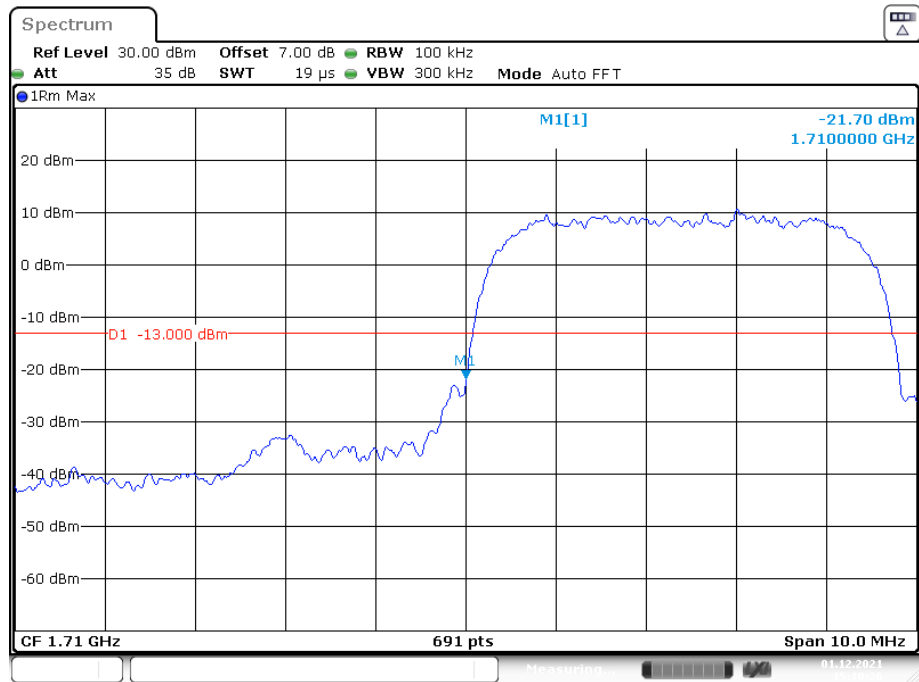
Date: 1.DEC.2021 15:58:06

PCS Band, Right Band Edge for HSUPA (BPSK) Mode



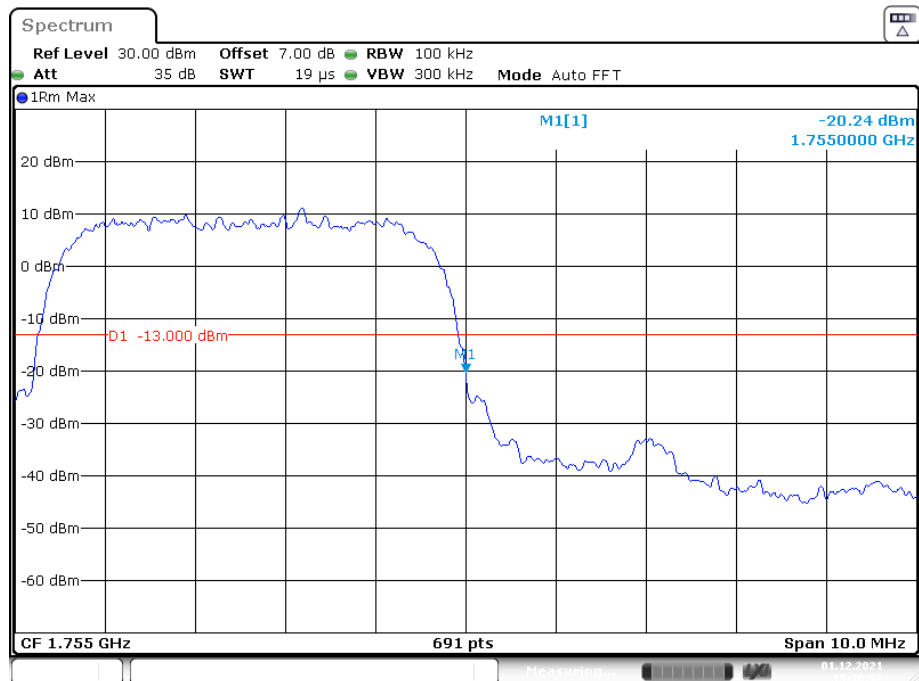
Date: 1.DEC.2021 15:58:57

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



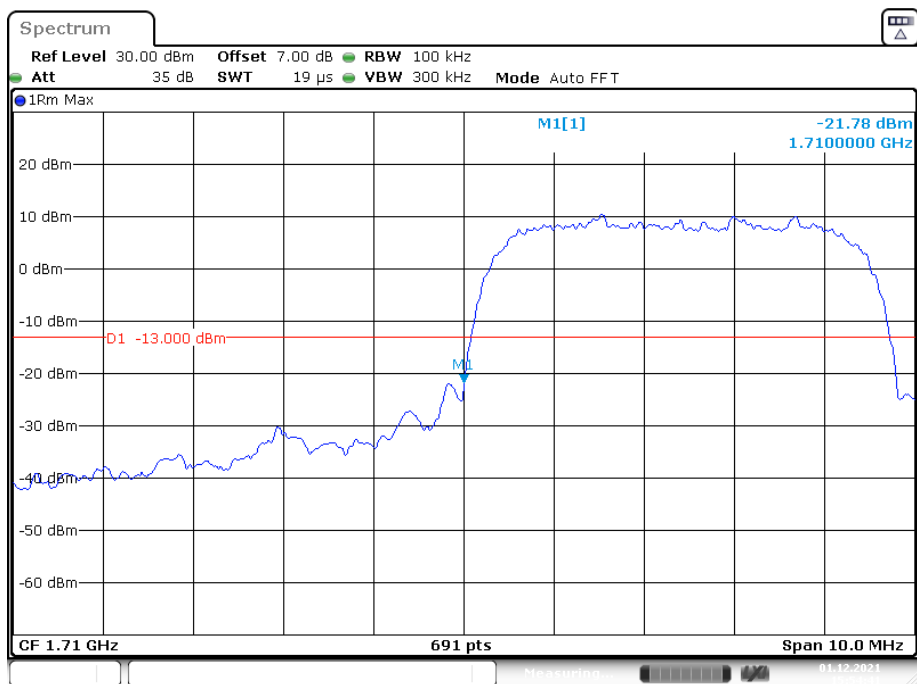
Date: 1.DEC.2021 15:10:26

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



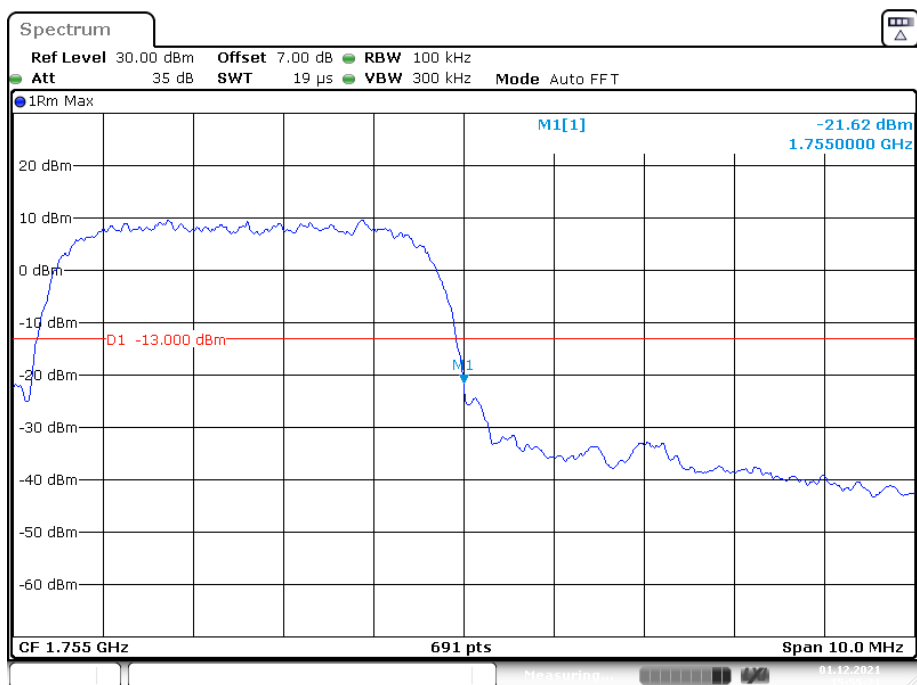
Date: 1.DEC.2021 15:10:53

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

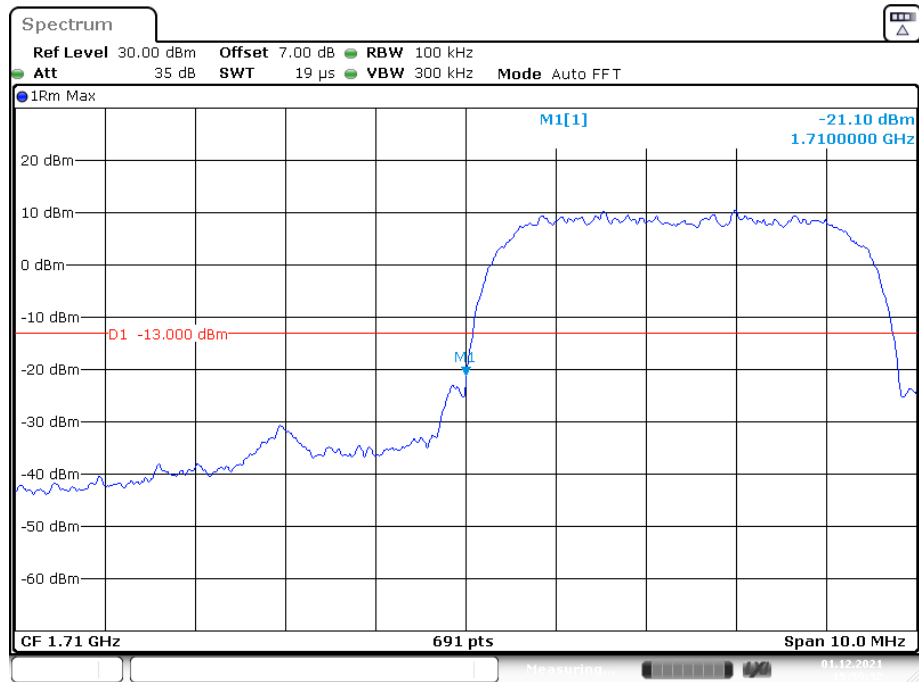


Date: 1.DEC.2021 15:54:41

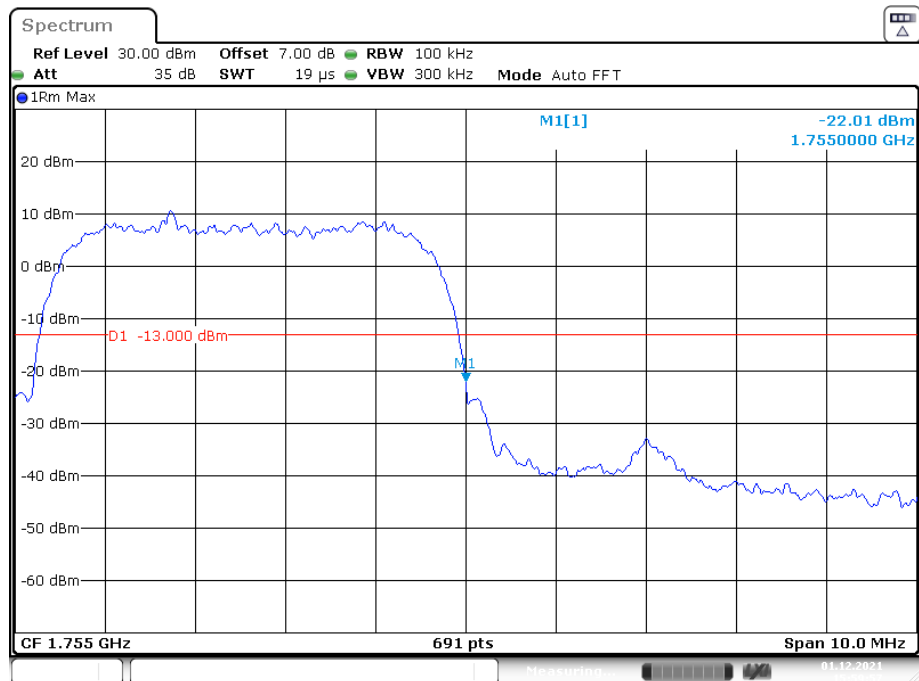
AWS Band, Right Band Edge for HSDPA (16QAM) Mode



Date: 1.DEC.2021 15:55:21

AWS Band, Left Band Edge for HSUPA (BPSK) Mode

Date: 1.DEC.2021 15:59:32

AWS Band, Right Band Edge for HSUPA (BPSK) Mode

Date: 1.DEC.2021 15:59:57

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

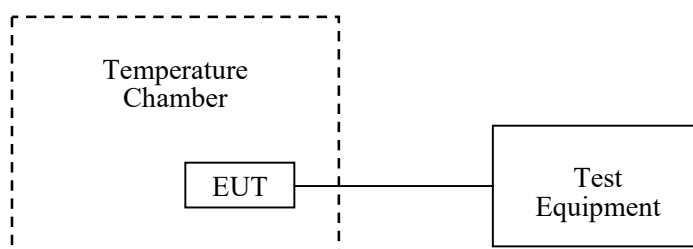
According to §24.235&§27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

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**

Temperature:	23 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Black Ding from 2021-12-01 to 2021-12-02.

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_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	N.V.	7.23	0.0086	2.5
-20		8.16	0.0098	2.5
-10		4.22	0.0050	2.5
0		6.08	0.0073	2.5
10		3.27	0.0039	2.5
20		3.14	0.0038	2.5
30		6.26	0.0075	2.5
40		4.32	0.0052	2.5
50		5.38	0.0064	2.5
20	L.V.	2.88	0.0034	2.5
	H.V.	3.49	0.0042	2.5

EGPRS Mode

Middle Channel, $f_0=836.6\text{MHz}$				
Temperature (°C)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	N.V.	8.25	0.0099	2.5
-20		6.38	0.0076	2.5
-10		-3.92	-0.0047	2.5
0		-4.51	-0.0054	2.5
10		-6.18	-0.0074	2.5
20		-2.65	-0.0032	2.5
30		7.83	0.0094	2.5
40		3.10	0.0037	2.5
50		-2.49	-0.0030	2.5
20	L.V.	4.37	0.0052	2.5
	H.V.	3.69	0.0044	2.5

WCDMA Mode

Middle Channel, $f_0=836.6\text{MHz}$				
Temperature (°C)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	N.V.	-7.30	-0.0087	2.5
-20		-8.26	-0.0099	2.5
-10		-13.93	-0.0167	2.5
0		-12.13	-0.0145	2.5
10		-10.62	-0.0127	2.5
20		-8.28	-0.0099	2.5
30		-7.26	-0.0087	2.5
40		-10.31	-0.0123	2.5
50		-6.38	-0.0076	2.5
20	L.V.	-8.46	-0.0101	2.5
	H.V.	-9.27	-0.0111	2.5

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

Middle Channel, $f_0=1880.0$ MHz				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	N.V.	3.24	0.0017	pass
-20		4.16	0.0022	pass
-10		6.52	0.0035	pass
0		7.37	0.0039	pass
10		2.59	0.0014	pass
20		5.29	0.0028	pass
30		7.62	0.0041	pass
40		3.11	0.0017	pass
50		4.26	0.0023	pass
20	L.V.	5.33	0.0028	pass
	H.V.	3.29	0.0018	pass

EDGE Mode

Middle Channel, $f_0=1880.0$ MHz				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	N.V.	4.36	0.0023	pass
-20		6.18	0.0033	pass
-10		8.39	0.0045	pass
0		10.12	0.0054	pass
10		4.28	0.0023	pass
20		5.29	0.0028	pass
30		3.13	0.0017	pass
40		-5.17	-0.0028	pass
50		-7.28	-0.0039	pass
20	L.V.	5.81	0.0031	pass
	H.V.	4.16	0.0022	pass

WCDMA Mode

Middle Channel, $f_0=1880.0$ MHz				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	N.V.	3.24	0.0017	pass
-20		4.16	0.0022	pass
-10		6.52	0.0035	pass
0		7.37	0.0039	pass
10		2.59	0.0014	pass
20		5.29	0.0028	pass
30		7.62	0.0041	pass
40		3.11	0.0017	pass
50		4.26	0.0023	pass
20	L.V.	5.33	0.0028	pass
	H.V.	3.29	0.0018	pass

AWS Band (Part 27)

Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	N.V.	1710.0172	1754.9728	1710	1755
-20		1710.0169	1754.9726	1710	1755
-10		1710.0158	1754.9727	1710	1755
0		1710.0159	1754.9733	1710	1755
10		1710.0138	1754.9736	1710	1755
20		1710.0139	1754.9729	1710	1755
30		1710.0137	1754.9725	1710	1755
40		1710.0128	1754.9735	1710	1755
50		1710.0125	1754.9736	1710	1755
20	L.V.	1710.0136	1754.9728	1710	1755
	H.V.	1710.0144	1754.9729	1710	1755

LTE:
QPSK:
Band 2:

10.0 MHz Middle Channel, $f_0=1880\text{MHz}$				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	NV	-3.52	-0.0019	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	LV	-8.17	-0.0043	pass
	HV	-7.05	-0.0038	pass

Band 4:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	N.V.	1710.1166	1754.8738	1710	1755
-20		1710.1158	1754.8736	1710	1755
-10		1710.1152	1754.8737	1710	1755
0		1710.1154	1754.8738	1710	1755
10		1710.1147	1754.8757	1710	1755
20		1710.1142	1754.8755	1710	1755
30		1710.1139	1754.8754	1710	1755
40		1710.1130	1754.8756	1710	1755
50		1710.1129	1754.8749	1710	1755
20	L.V.	1710.1128	1754.8748	1710	1755
	H.V.	1710.1024	1754.8742	1710	1755

Band 5:

10.0 MHz Middle Channel, $f_o=836.5\text{MHz}$				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	N.V.	-8.30	-0.0099	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	0.006	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 _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	N.V.	2500.8796	2569.9855	2500	2570
-20		2500.8792	2569.9947	2500	2570
-10		2500.8788	2569.9856	2500	2570
0		2500.8786	2569.9762	2500	2570
10		2500.7987	2569.9828	2500	2570
20		2500.7879	2569.9425	2500	2570
30		2500.7757	2569.9337	2500	2570
40		2500.7656	2569.9926	2500	2570
50		2500.7562	2569.9925	2500	2570
20	L.V.	2500.7528	2569.9835	2500	2570
	H.V.	2500.7431	2569.9741	2500	2570

Band 38:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	N.V.	2570.8378	2619.9826	2570	2620
-20		2570.8077	2619.8725	2570	2620
-10		2570.7246	2619.7631	2570	2620
0		2570.6155	2619.6557	2570	2620
10		2570.5056	2619.5425	2570	2620
20		2570.3933	2619.4321	2570	2620
30		2570.2838	2619.3225	2570	2620
40		2570.1729	2619.2125	2570	2620
50		2570.1618	2619.1326	2570	2620
20	L.V.	2570.1520	2619.1222	2570	2620
	H.V.	2570.1021	2619.1124	2570	2620

Band 41:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	N.V.	2535.9758	2654.9871	2535	2655
-20		2535.8678	2654.8852	2535	2655
-10		2535.7565	2654.7766	2535	2655
0		2535.6425	2654.6652	2535	2655
10		2535.5327	2654.5556	2535	2655
20		2535.4228	2654.4438	2535	2655
30		2535.3159	2654.3351	2535	2655
40		2535.2157	2654.2237	2535	2655
50		2535.2939	2654.1065	2535	2655
20	L.V.	2535.8622	2654.0032	2535	2655
	H.V.	2535.8524	2654.0012	2535	2655

Band 66:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	N.V.	1710.0241	1779.9728	1710	1780
-20		1710.0238	1779.9727	1710	1780
-10		1710.0236	1779.9839	1710	1780
0		1710.0235	1779.9756	1710	1780
10		1710.0237	1779.9755	1710	1780
20		1710.0228	1779.9747	1710	1780
30		1710.0257	1779.9749	1710	1780
40		1710.0256	1779.9756	1710	1780
50		1710.0229	1779.9828	1710	1780
20	L.V.	1710.0225	1779.9727	1710	1780
	H.V.	1710.0226	1779.9775	1710	1780

16QAM:**Band 2:**

10.0 MHz Middle Channel, $f_0=1880\text{MHz}$				
Temperature (°C)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	N.V.	-11.12	-0.0059	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	0.003	pass
20	L.V.	6.05	0.0032	pass
	H.V.	7.52	0.004	pass

Band 4:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V_{DC})	F_L (MHz)	F_H (MHz)	F_L Limit (MHz)	F_H Limit (MHz)
-30	N.V.	1710.2966	1754.7672	1710	1755
-20		1710.2958	1754.7562	1710	1755
-10		1710.2751	1754.7672	1710	1755
0		1710.2652	1754.7452	1710	1755
10		1710.2633	1754.7435	1710	1755
20		1710.2643	1754.7626	1710	1755
30		1710.2572	1754.7625	1710	1755
40		1710.2658	1754.7652	1710	1755
50		1710.2636	1754.7752	1710	1755
20	L.V.	1710.2621	1754.7536	1710	1755
	H.V.	1710.2715	1754.7524	1710	1755

Band 5:

10.0 MHz Middle Channel, $f_0=836.5\text{MHz}$				
Temperature (°C)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	N.V.	-10.47	-0.0125	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_{DC})	F_L (MHz)	F_H (MHz)	F_L Limit (MHz)	F_H Limit (MHz)
-30	N.V.	2500.8456	2569.8376	2500	2570
-20		2500.8428	2569.8551	2500	2570
-10		2500.7641	2569.8425	2500	2570
0		2500.7255	2569.8537	2500	2570
10		2500.6326	2569.8285	2500	2570
20		2500.6239	2569.7829	2500	2570
30		2500.6351	2569.7836	2500	2570
40		2500.6327	2569.8426	2500	2570
50		2500.6226	2569.8457	2500	2570
20	L.V.	2500.6235	2569.8352	2500	2570
	H.V.	2500.6144	2569.8238	2500	2570

Band 38:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	N.V.	2570.9877	2619.9856	2570	2620
-20		2570.8928	2619.8769	2570	2620
-10		2570.7825	2619.7695	2570	2620
0		2570.6731	2619.6556	2570	2620
10		2570.5636	2619.5492	2570	2620
20		2570.4526	2619.4345	2570	2620
30		2570.3412	2619.3294	2570	2620
40		2570.2375	2619.2113	2570	2620
50		2570.1287	2619.1125	2570	2620
20	L.V.	2570.2178	2619.8785	2570	2620
	H.V.	2570.2134	2619.7643	2570	2620

Band 41:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	N.V.	2535.9456	2654.9655	2535	2655
-20		2535.8442	2654.8582	2535	2655
-10		2535.7372	2654.7486	2535	2655
0		2535.6266	2654.6375	2535	2655
10		2535.5138	2654.5284	2535	2655
20		2535.4175	2654.4182	2535	2655
30		2535.2988	2654.3587	2535	2655
40		2535.1882	2654.1986	2535	2655
50		2535.1829	2654.1882	2535	2655
20	L.V.	2535.1618	2654.0765	2535	2655
	H.V.	2535.0572	2654.0344	2535	2655

Band 66:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	N.V.	1710.0277	1779.8392	1710	1780
-20		1710.0249	1779.8444	1710	1780
-10		1710.0246	1779.8363	1710	1780
0		1710.0275	1779.8358	1710	1780
10		1710.0265	1779.8362	1710	1780
20		1710.0239	1779.8333	1710	1780
30		1710.0225	1779.8341	1710	1780
40		1710.0246	1779.8368	1710	1780
50		1710.0233	1779.8376	1710	1780
20	L.V.	1710.0258	1779.8356	1710	1780
	H.V.	1710.0252	1779.8354	1710	1780

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