



TEST REPORT

Applicant Name : Senwa Global International, S.A. de C.V.
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Cuajimalpa de Morelos, C.P. 05320 Ciudad de Mexico, Mexico
Report Number : SZNS211026-55030E-RF-00C
FCC ID: 2AZYA-D40

Test Standard (s)

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

Sample Description

Product Type: Mobile Phone
Model No.: D40
Multiple Model(s) No.: N/A
Trade Mark: Kodak
Date Received: 2021/10/26
Date of Test: 2021/11/03~2021/12/24
Report Date: 2021/12/24

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Ting Lü
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 "★".

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Version 3: 2021-11-09

Page 1 of 79

FCC -2G,3G

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	5
SUPPORT EQUIPMENT LIST AND DETAILS	5
SUPPORT CABLE DESCRIPTION	5
BLOCK DIAGRAM OF TEST SETUP	6
SUMMARY OF TEST RESULTS	7
TEST EQUIPMENT LIST	8
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) - 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	19
APPLICABLE STANDARD	19
TEST PROCEDURE	19
TEST DATA	19
FCC §2.1051, §22.917(A) & §24.238(A) & §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS ..	38
APPLICABLE STANDARD	38
TEST PROCEDURE	38
TEST DATA	38
FCC § 2.1053; § 22.917 (A); § 24.238 (A); §27.53 - SPURIOUS RADIATED EMISSIONS.....	59
APPLICABLE STANDARD	59
TEST PROCEDURE	59
TEST DATA	59
FCC § 22.917 (A); § 24.238 (A); §27.53 (C)(H)(M) - BAND EDGES	63
APPLICABLE STANDARD	63
TEST PROCEDURE	63
TEST DATA	64
FCC § 2.1055; § 22.355; § 24.235; §27.54 - FREQUENCY STABILITY	76
APPLICABLE STANDARD	76
TEST PROCEDURE	76
TEST DATA	77

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)
Maximum Conducted Output Power	GSM 850: 32.62dBm PCS 1900: 29.82dBm WCDMA Band 2: 22.39dBm WCDMA Band 4: 22.68dBm WCDMA Band 5: 22.58dBm
Modulation Technique	2G: GMSK 3G: BPSK, QPSK, 16QAM
Antenna Specification*	GSM 850/WCDMA Band 5: 0.6dBi PCS 1900/WCDMA Band 2: 1.4dBi WCDMA Band 4: 1.2dBi (provided by the applicant)
Voltage Range	DC 3.8V from battery or DC 5.0V from adapter
Sample serial number	SZNS211026-55030E-RF-S1(Assigned by ATC)
Sample/EUT Status	Good condition
Adapter information	Model: SGITL05A Input: AC 100-240V, 50/60Hz, 0.2A Output: DC 5.0V, 500 mA
Normal/Extreme Condition	L.V.: Low Voltage 3.5 V _{DC} ; N.V.: Normal Voltage 3.8V _{DC} ; H.V.: High Voltage 4.35V _{DC} ; Note: the extreme test condition was declared by manufacturer.

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 Frequency		0.082×10^{-7}
RF output power, conducted		0.73dB
Unwanted Emission, conducted		1.6dB
AC Power Lines Conducted Emissions		2.72dB
Emissions, Radiated	9kHz - 30MHz	2.66dB
	30MHz - 1GHz	4.28dB
	1GHz - 18GHz	4.98dB
	18GHz - 26.5GHz	5.06dB
	26.5GHz - 40GHz	4.72dB
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.

The test items were performed with the EUT operating at testing mode. Test was performed with channels 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

Equipment Modifications

No modification was made to the EUT.

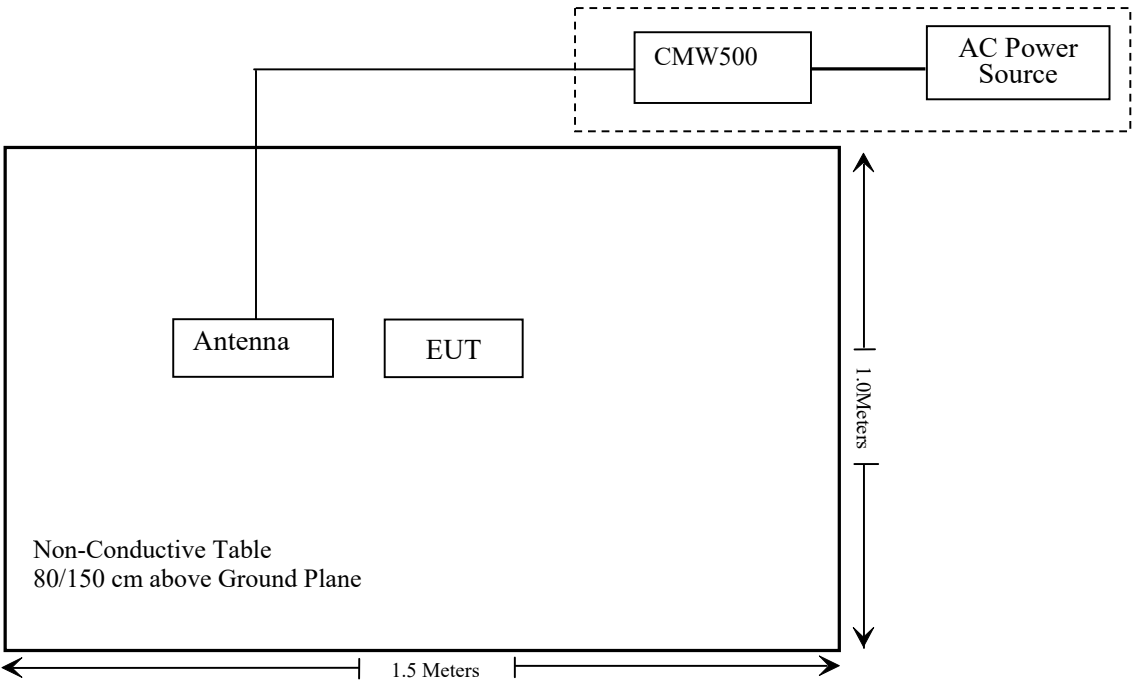
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.002K50-11621 8-U

Support Cable Description

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

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

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

Note: * Please refer to SAR report number: SZNS211026-55030E-SA.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Below 1GHz)					
Rohde& Schwarz	Test Receiver	ESR	101817	2020/12/24	2021/12/23
SONOMA INSTRUMENT	Amplifier	310 N	186131	2020/12/25	2021/12/24
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2020/12/25	2021/12/24
Schwarzbeck	Bilog Antenna	VULB9163	9163-194	2020/01/05	2023/01/04
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2020/01/05	2023/01/04
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-1m	No.7	2020/12/25	2021/12/24
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606	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
Radiated Emission Test (Above 1GHz)					
Rohde&Schwarz	Spectrum Analyzer	FSV40	101495	2020/12/24	2021/12/23
A.H. Systems, inc.	Preamplifier	PAM-0118P	531	2020/11/09	2021/11/08
Quinstar	Amplifier	QLW-184055 36-J0	15964001002	2020/11/28	2021/11/27
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2020/12/25	2021/12/24
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-10m	No.7	2020/11/09	2021/11/08
Unknown	RF Coaxial Cable	N-2m	No.8	2020/11/09	2021/11/08
Unknown	RF Coaxial Cable	N-1m	No.7	2020/12/25	2021/12/24
Unknown	Band Reject Filter	MSF824-862 MS-1147	201706003	2020/12/25	2021/12/24
Unknown	Band Reject Filter	MSF1850-191 0MS-1148	201706003	2020/12/25	2021/12/24
Unknown	Band Reject Filter	MSF1710-178 5MS-1150	201706003	2020/12/25	2021/12/24
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606	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
Rohde & Schwarz	Spectrum Analyzer	FSV-40	101495	2021/12/24	2022/12/23
Rohde & Schwarz	Open Switch and Control Unit	OSP120 + OSP-B157	101244 + 100866	2020/12/24	2021/12/23
Rohde & Schwarz	Open Switch and Control Unit	OSP120 + OSP-B157	101244 + 100866	2021/12/24	2022/12/23
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606	2020/12/25	2021/12/24
HP	6dB Attenuator	8493B 6dB Attenuator	2708A 04769	2020/12/25	2021/12/24
Gongwen	Temp. & Humid. Chamber	JB913R	GZ-WS004	2020/12/25	2021/12/24

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: SZNS211026-55030E-SA.

FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 22H & 24E 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) - 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.

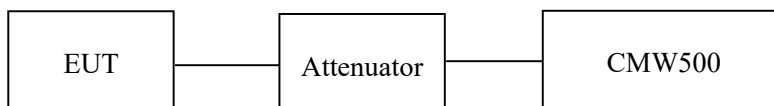
The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

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.

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:	27.6 °C
Relative Humidity:	58 %
ATM Pressure:	101.0 kPa

The testing was performed by Ting Lü from 2021-11-03 to 2021-11-05.

EUT operation mode: Transmitting

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

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
GSM	128	824.2	32.4	30.85	38.45
	190	836.6	32.5	30.95	38.45
	251	848.8	32.5	30.95	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	32.44	30.64	29.19	27.59	30.89	29.09	27.64	26.04	38.45
	190	836.6	32.57	30.72	29.25	27.67	31.02	29.17	27.70	26.12	38.45
	251	848.8	32.62	30.77	29.27	27.72	31.07	29.22	27.72	26.17	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		22.06	21.86	22.58	20.51	20.31	21.03
	HSDPA	1	20.42	20.82	20.55	18.87	19.27	19.00
		2	20.51	20.66	20.54	18.96	19.11	18.99
		3	20.52	20.65	20.49	18.97	19.10	18.94
		4	20.48	20.71	20.43	18.93	19.16	18.88
	HSUPA	1	20.90	20.65	20.53	19.35	19.10	18.98
		2	20.77	20.62	20.55	19.22	19.07	19.00
		3	20.75	20.58	20.54	19.20	19.03	18.99
		4	20.78	20.59	20.48	19.23	19.04	18.93
		5	20.69	20.61	20.56	19.14	19.06	19.01
	HSPA+	1	20.55	20.54	20.53	19.00	18.99	18.98

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)

For GSM850 / WCDMA Band5: Antenna Gain = 0.6dBi = -1.55dBd (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	29.1	30.5	33
	661	1880.0	29.5	30.9	33
	810	1909.8	29.7	31.1	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	29.23	26.96	25.46	23.57	30.63	28.36	26.86	24.97	33
	661	1880.0	29.54	27.30	25.83	24.09	30.94	28.70	27.23	25.49	33
	810	1909.8	29.82	27.61	26.23	24.51	31.22	29.01	27.63	25.91	33

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 2)	RMC12.2k		22.35	22.39	21.53	23.75	23.79	22.93
	HSDPA	1	20.90	20.75	20.36	22.30	22.15	21.76
		2	20.68	20.55	20.42	22.08	21.95	21.82
		3	20.88	20.72	20.51	22.28	22.12	21.91
		4	20.75	20.71	20.53	22.15	22.11	21.93
	HSUPA	1	20.69	20.62	20.47	22.09	22.02	21.87
		2	20.62	20.48	20.48	22.02	21.88	21.88
		3	20.64	20.56	20.46	22.04	21.96	21.86
		4	20.52	20.47	20.52	21.92	21.87	21.92
		5	20.48	20.39	20.54	21.88	21.79	21.94
	HSPA+	1	20.47	20.55	20.53	21.87	21.95	21.93

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

For PCS1900 / WCDMA Band2: Antenna Gain = 1.4dBi

Limit: EIRP≤33dBm

AWS Band

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 4)	RMC12.2k		22.12	21.46	22.68	23.32	22.66	23.88
	HSDPA	1	20.97	20.31	20.74	22.17	21.51	21.94
		2	20.88	20.54	20.66	22.08	21.74	21.86
		3	20.62	20.56	20.67	21.82	21.76	21.87
		4	20.71	20.49	20.58	21.91	21.69	21.78
	HSUPA	1	20.72	20.37	20.81	21.92	21.57	22.01
		2	20.71	20.55	20.47	21.91	21.75	21.67
		3	20.66	20.54	20.53	21.86	21.74	21.73
		4	20.64	20.48	20.39	21.84	21.68	21.59
		5	20.63	20.49	20.46	21.83	21.69	21.66
	HSPA+	1	20.58	20.52	20.49	21.78	21.72	21.69

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

For Band4: Antenna Gain = 1.2dBi

Limit: EIRP≤30dBm

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

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.46	13
	Middle	3.52	13
	High	3.51	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC	Low	3.51	13
	Middle	3.48	13
	High	3.51	13
HSDPA	Low	3.49	13
	Middle	3.36	13
	High	3.52	13
HSUPA	Low	3.47	13
	Middle	3.42	13
	High	3.51	13
HSPA+	Low	3.53	13
	Middle	3.52	13
	High	3.51	13

PCS Band (Part 24E)

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.52	13
	Middle	3.53	13
	High	3.54	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC	Low	3.51	13
	Middle	3.54	13
	High	3.52	13
HSDPA	Low	3.53	13
	Middle	3.51	13
	High	3.47	13
HSUPA	Low	3.42	13
	Middle	3.36	13
	High	3.37	13
HSPA+	Low	3.33	13
	Middle	3.41	13
	High	3.38	13

AWS Band

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.42	13
	Middle	3.43	13
	High	3.51	13
HSDPA (16QAM)	Low	3.52	13
	Middle	3.53	13
	High	3.52	13
HSUPA (BPSK)	Low	3.58	13
	Middle	3.57	13
	High	3.53	13
HSPA+	Low	3.52	13
	Middle	3.48	13
	High	3.50	13

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

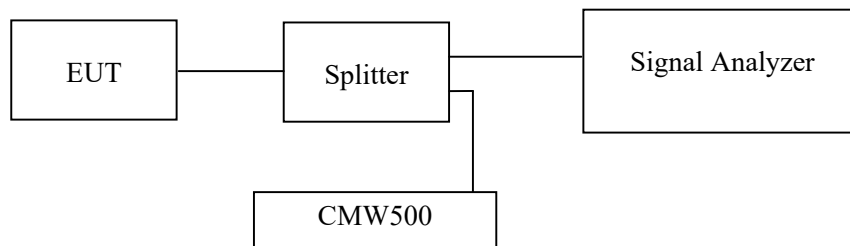
Applicable Standard

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

Test Procedure

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

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



Test Data

Environmental Conditions

Temperature:	27.5 °C
Relative Humidity:	58 %
ATM Pressure:	101.0 kPa

The testing was performed by Ting Lü from 2021-11-03 to 2021-11-05.

EUT operation mode: Transmitting

Test Result: Pass

Cellular Band (Part 22H)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM (GMSK)	128	824.2	243.51	311.40
	190	836.6	243.51	311.40
	251	848.8	243.51	311.40

	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	826.4	4.15	4.67
	836.6	4.15	4.67
	846.6	4.14	4.67
HSDPA	826.4	4.17	4.69
	836.6	4.15	4.69
	846.6	4.14	4.67
HSUPA	826.4	4.15	4.69
	836.6	4.14	4.67
	846.6	4.14	4.67

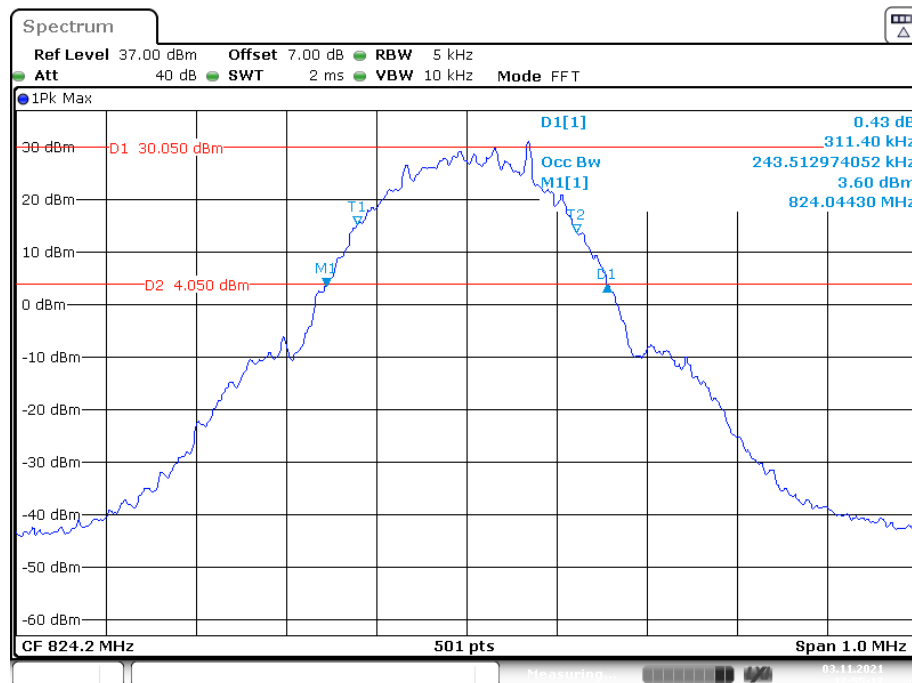
PCS Band (Part 24E)

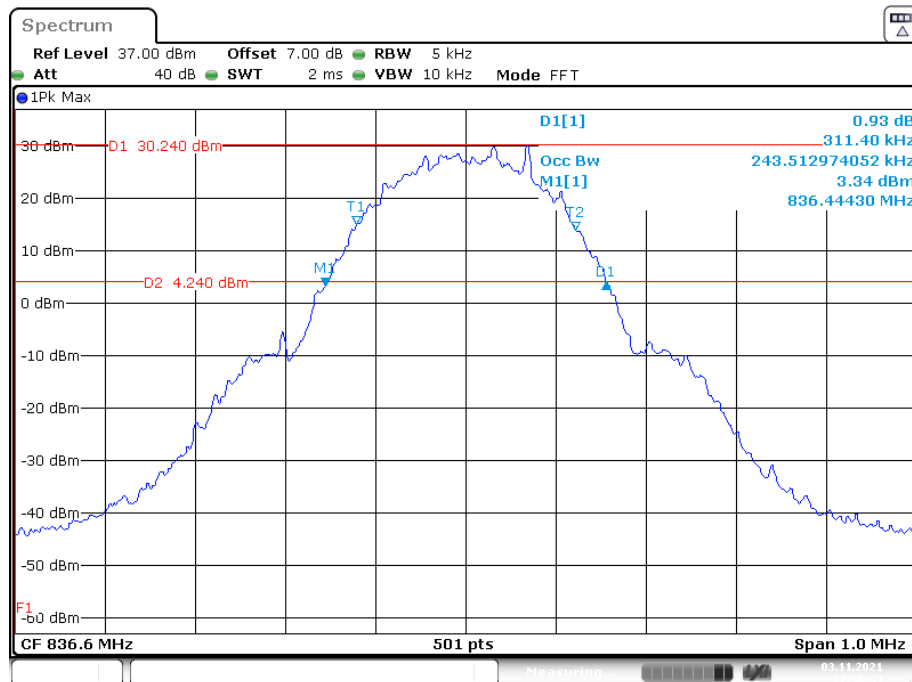
Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM (GMSK)	512	1850.2	245.51	311.40
	661	1880.0	243.51	309.40
	810	1909.8	245.51	309.40

	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1852.4	4.14	4.69
	1880.0	4.14	4.69
	1907.6	4.14	4.69
HSDPA	1852.4	4.17	4.72
	1880.0	4.17	4.73
	1907.6	4.15	4.69
HSUPA	1852.4	4.17	4.67
	1880.0	4.15	4.69
	1907.6	4.14	4.67

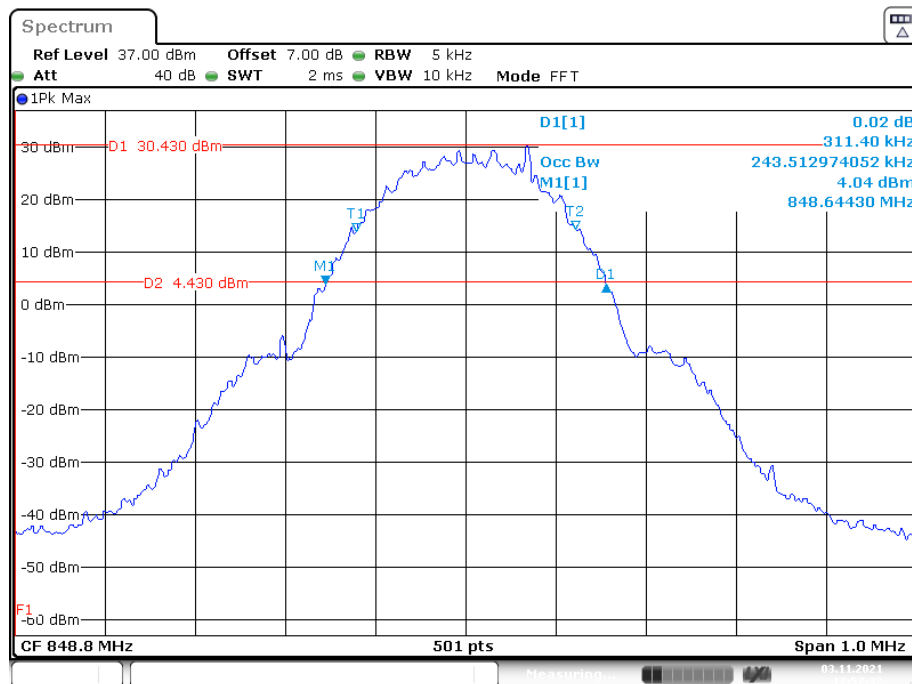
AWS Band (Part 27)

	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1712.4	4.14	4.70
	1732.6	4.14	4.67
	1752.6	4.14	4.67
HSDPA	1712.4	4.15	4.67
	1732.6	4.18	4.72
	1752.6	4.15	4.70
HSUPA	1712.4	4.15	4.69
	1732.6	4.17	4.69
	1752.6	4.15	4.67

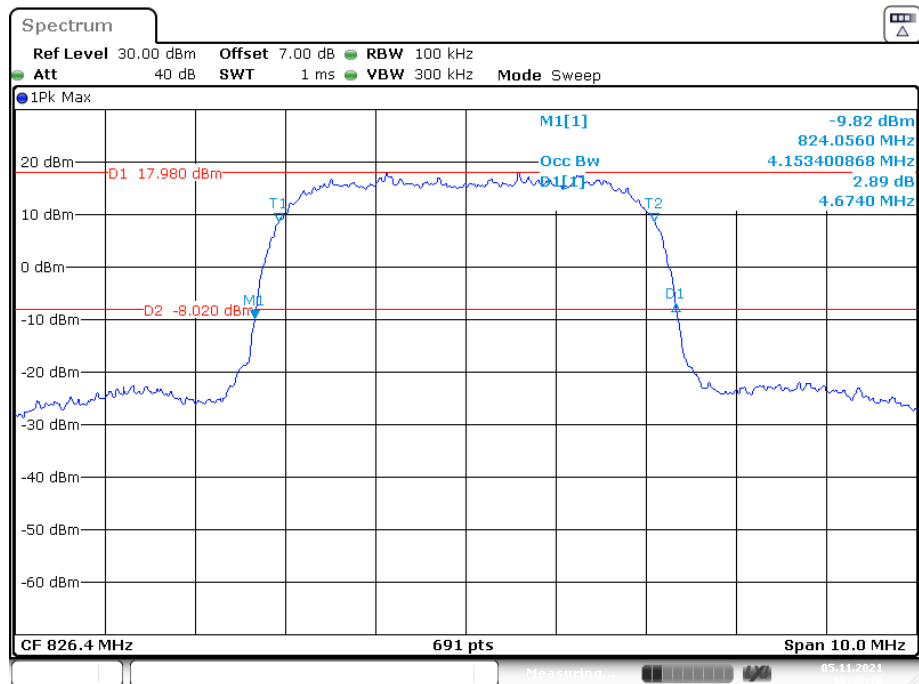
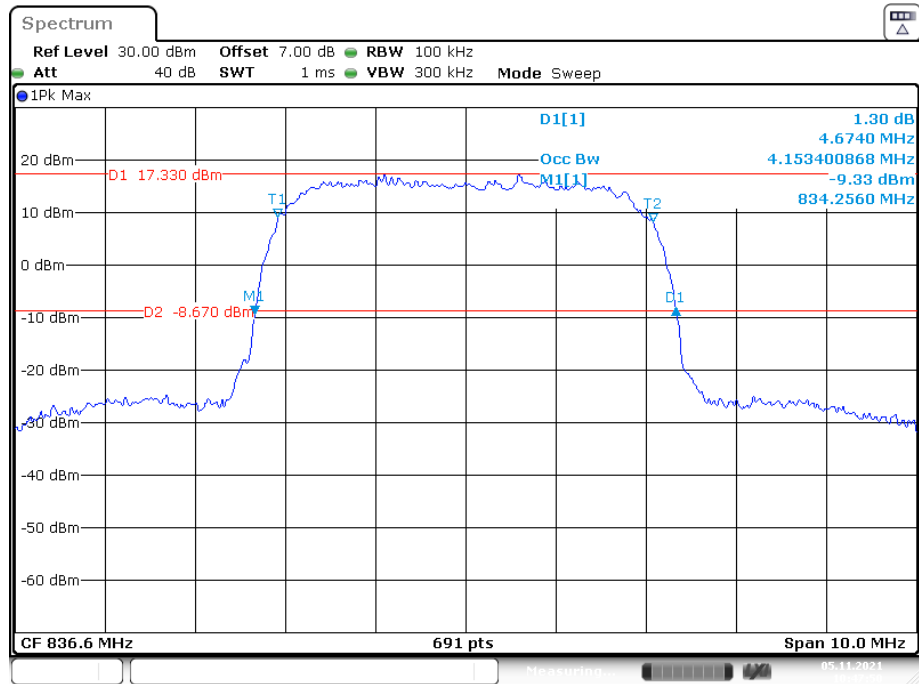
Cellular Band (Part 22H)**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Low channel**

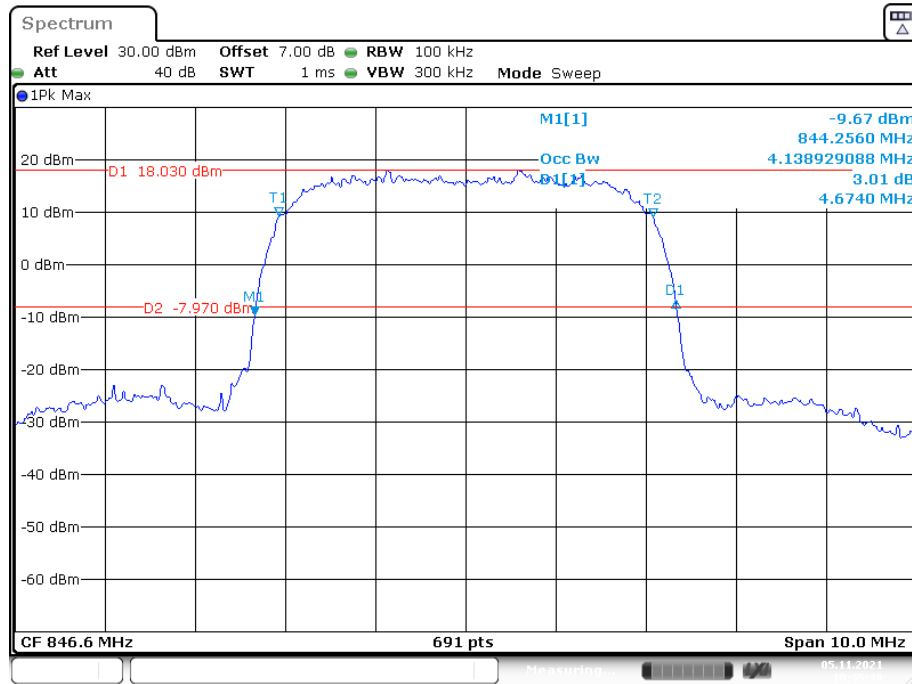
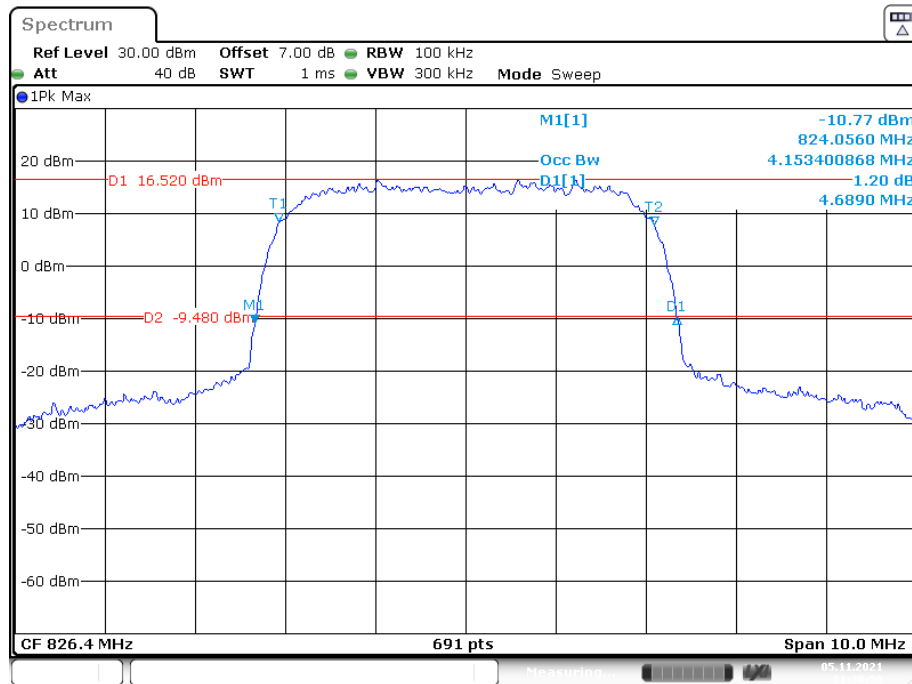
26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel

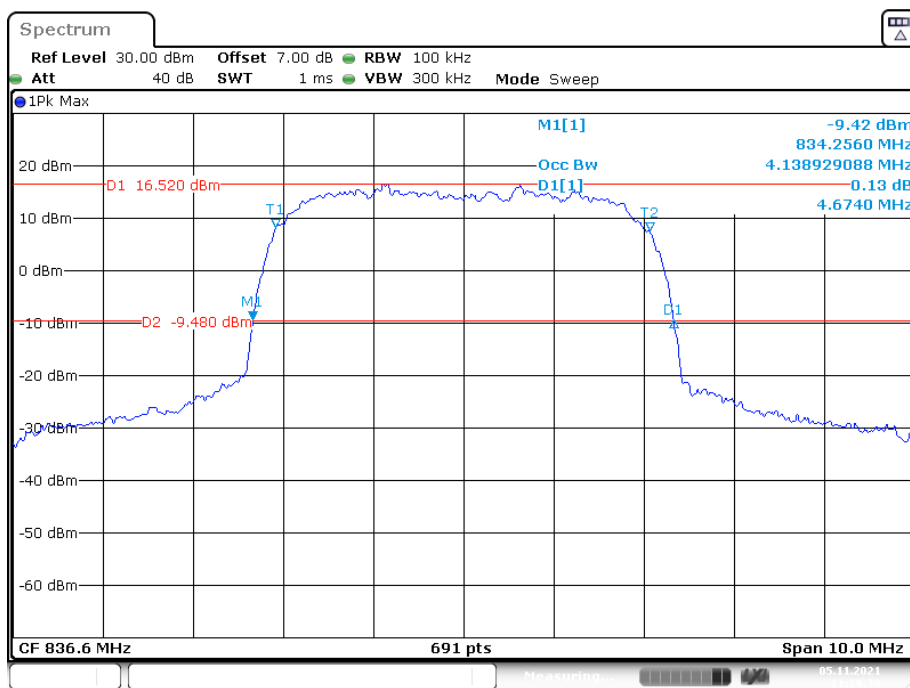
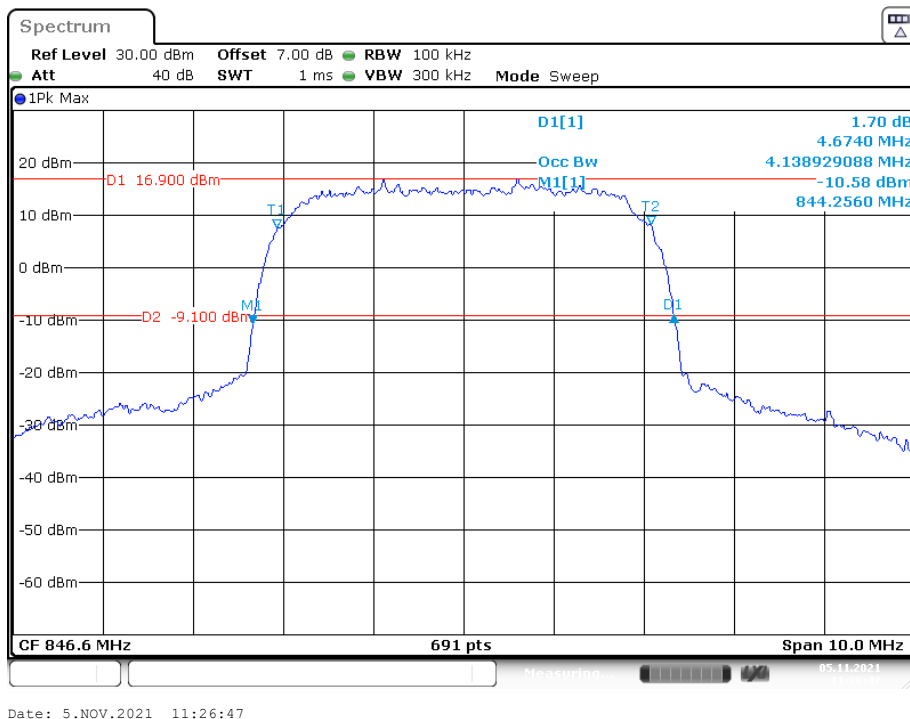
Date: 3.NOV.2021 17:56:33

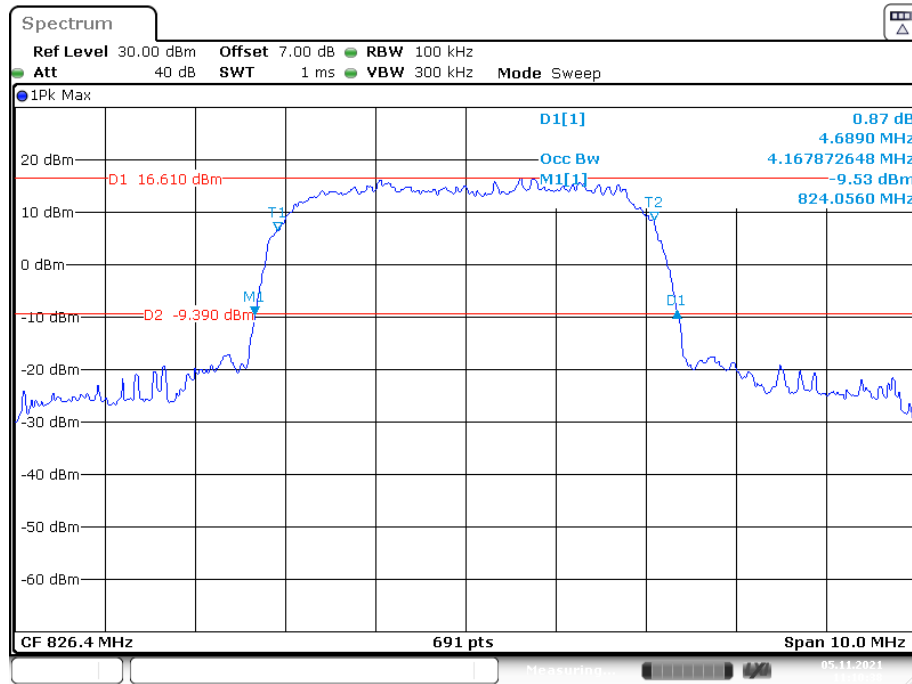
26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, High channel

Date: 3.NOV.2021 17:57:32

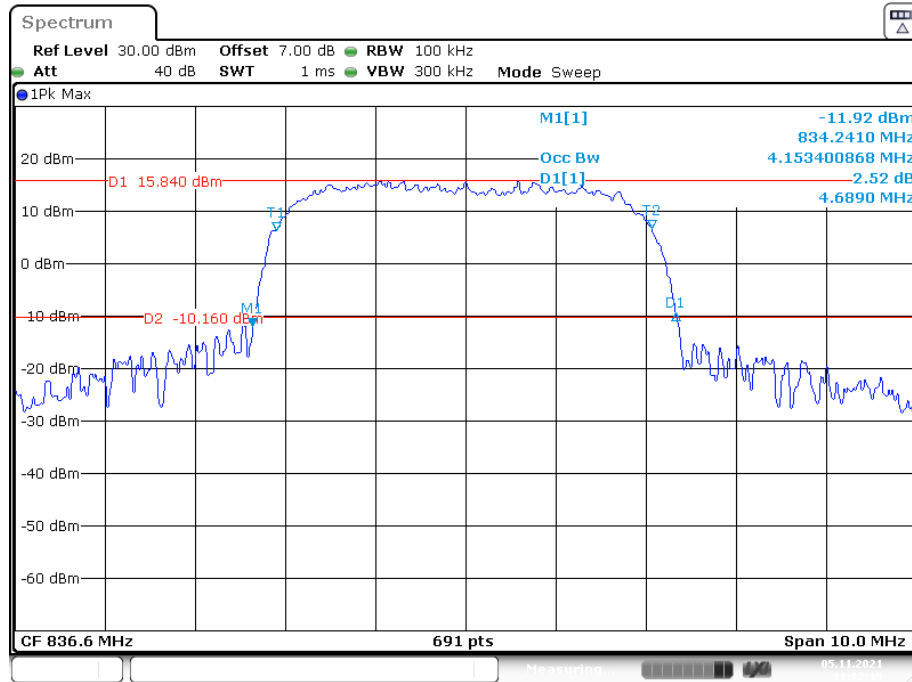
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel**

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

Date: 5.NOV.2021 11:10:39

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

Date: 5.NOV.2021 11:12:15

Spectrum

Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz
 Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep

1Pk Max

20 dBm
 10 dBm
 0 dBm
 -10 dBm
 -20 dBm
 -30 dBm
 -40 dBm
 -50 dBm
 -60 dBm

D1 16.680 dBm
 D2 -9.320 dBm
 M1
 T1
 T2
 D1
 Occ Bw
 M1[1]
 D1[1]

2.30 dB
 4.6740 MHz
 4.138929088 MHz
 -10.42 dBm
 844.2560 MHz

CF 846.6 MHz 691 pts Span 10.0 MHz

Measuring

05/11/2021

Date: 5.NOV.2021 11:13:55

Spectrum

Ref Level 37.00 dBm Offset 7.00 dB RBW 5 kHz
 Att 40 dB SWT 2 ms VBW 10 kHz Mode FFT

1Pk Max

30 dBm
 20 dBm
 10 dBm
 0 dBm
 -10 dBm
 -20 dBm
 -30 dBm
 -40 dBm
 -50 dBm
 -60 dBm

D1 25.400 dBm
 D2 -0.600 dBm

T1
 T2
 M1
 M2

D1[1]
 Occ Bw
 M1[1]

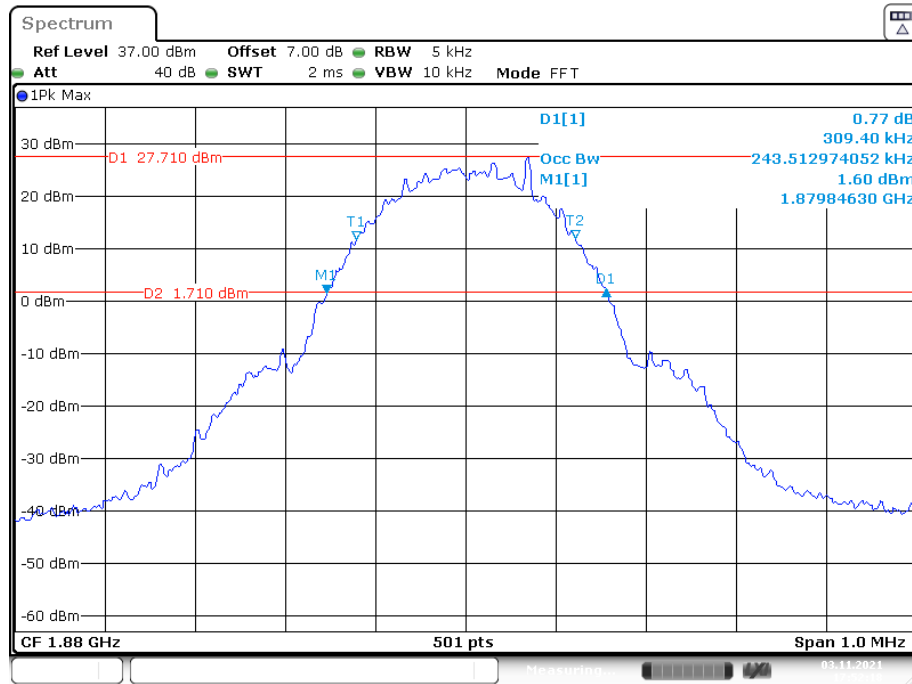
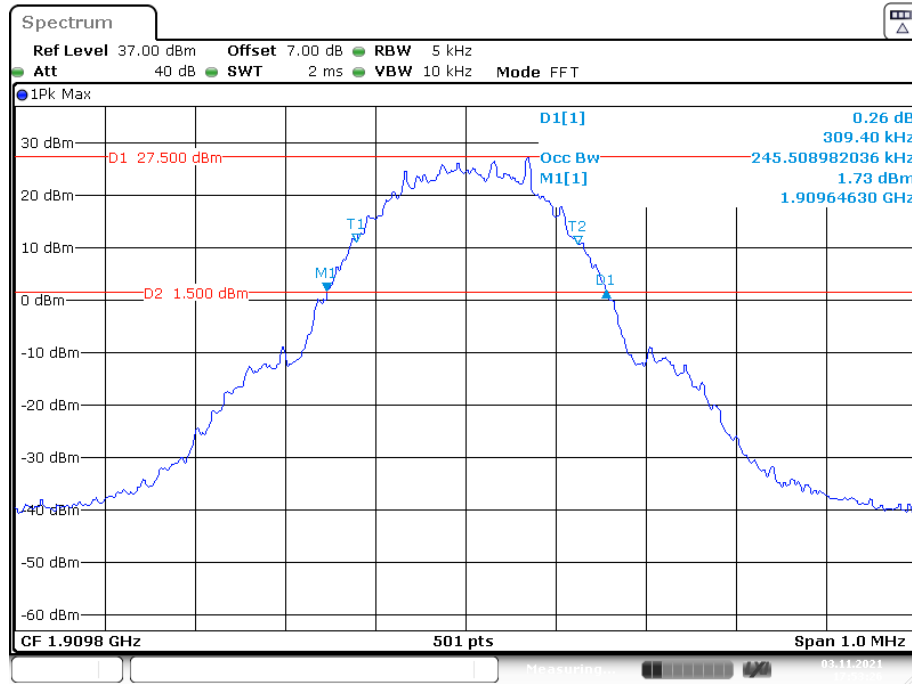
1.11 dB
 311.40 kHz
 245.508982036 kHz
 -1.29 dBm
 1.85004430 GHz

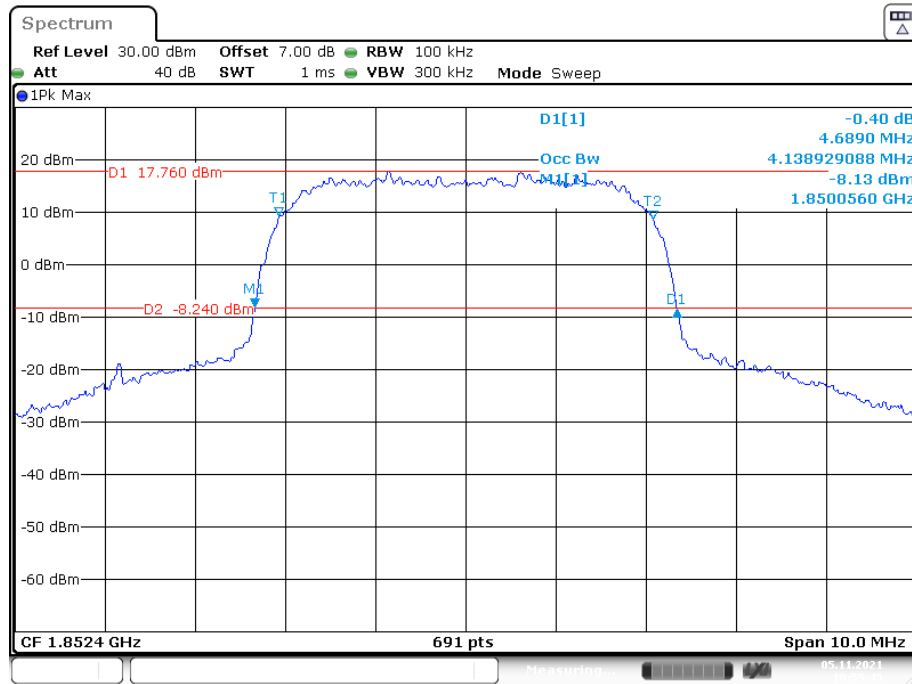
CF 1.8502 GHz 501 pts Span 1.0 MHz

Measuring

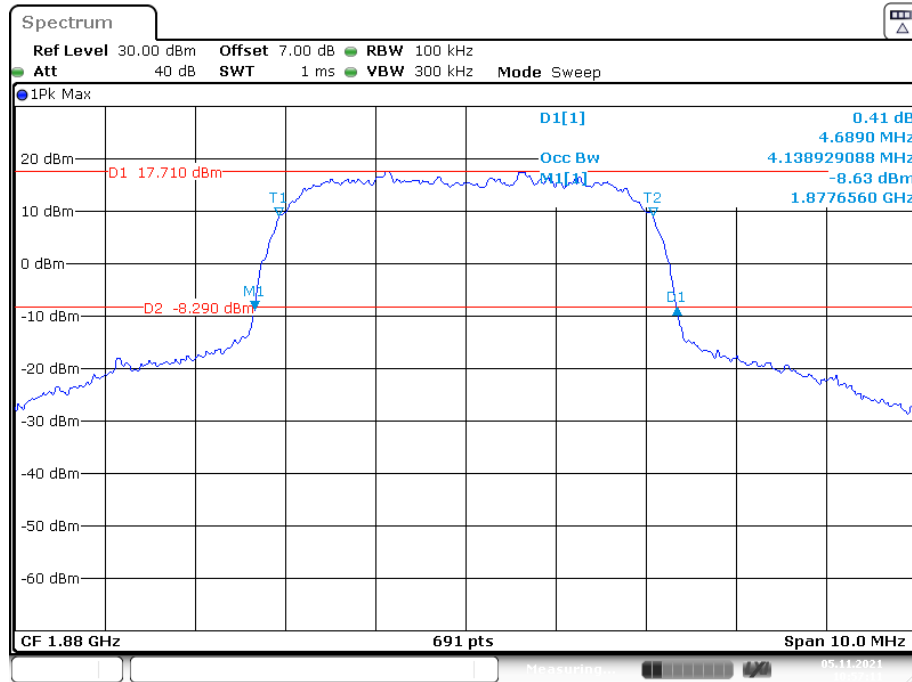
03/11/2021

Date: 3.NOV.2021 17:51:00

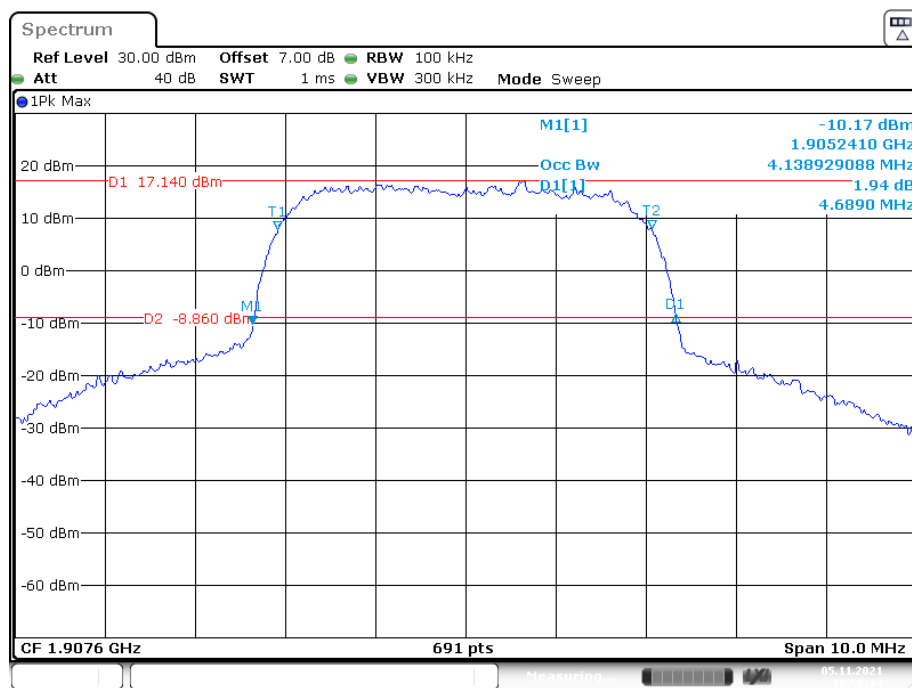
26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK)) Mode, High channel**

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

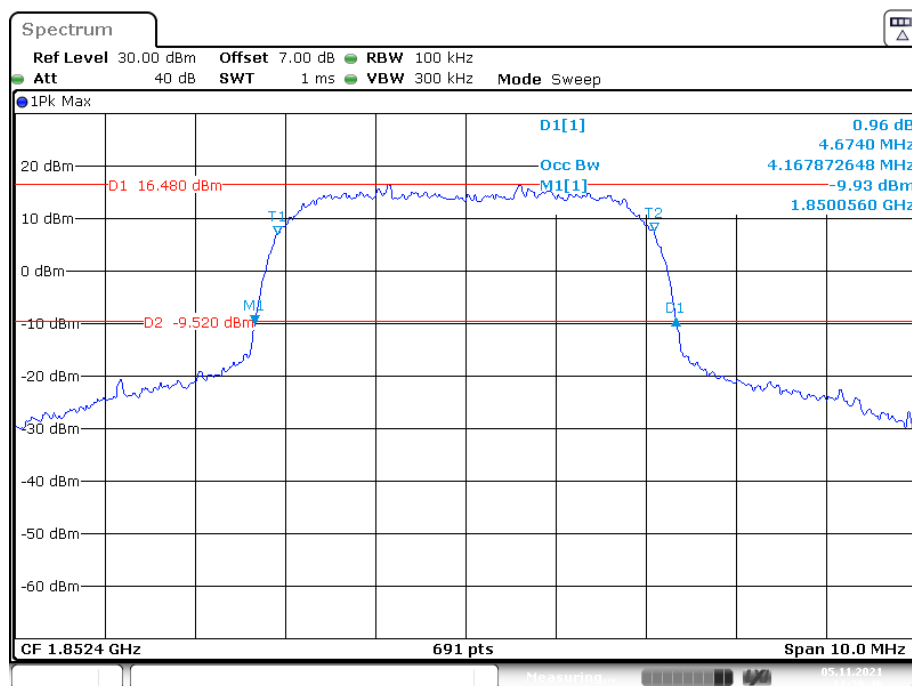
Date: 5.NOV.2021 10:55:45

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

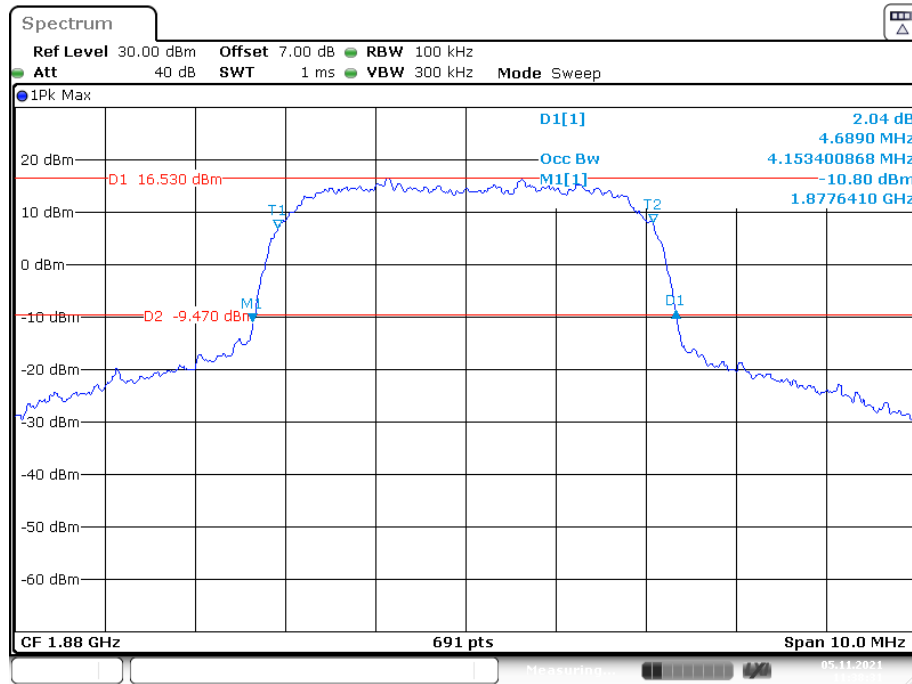
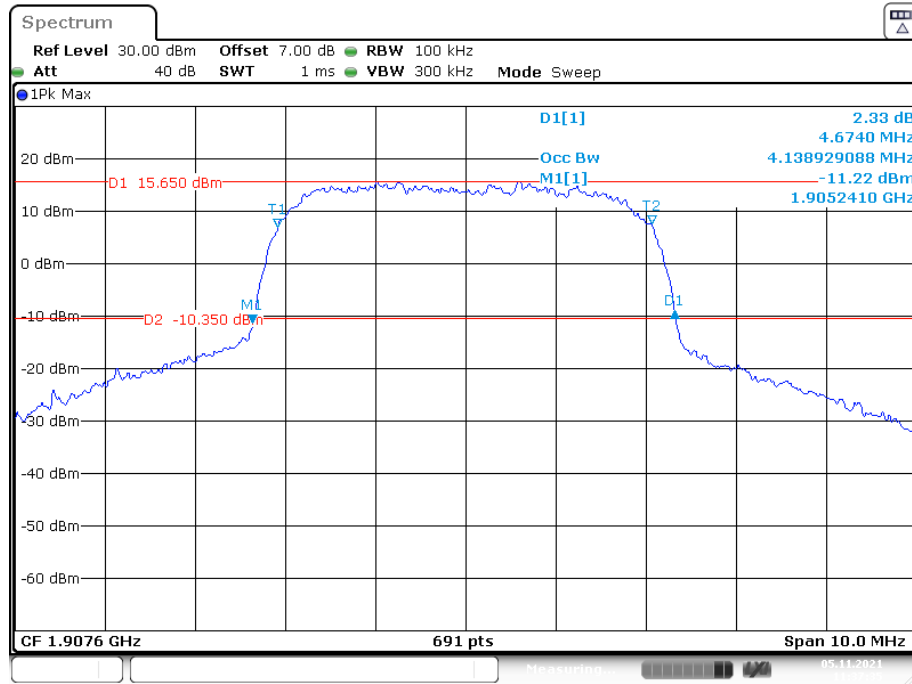
Date: 5.NOV.2021 10:57:12

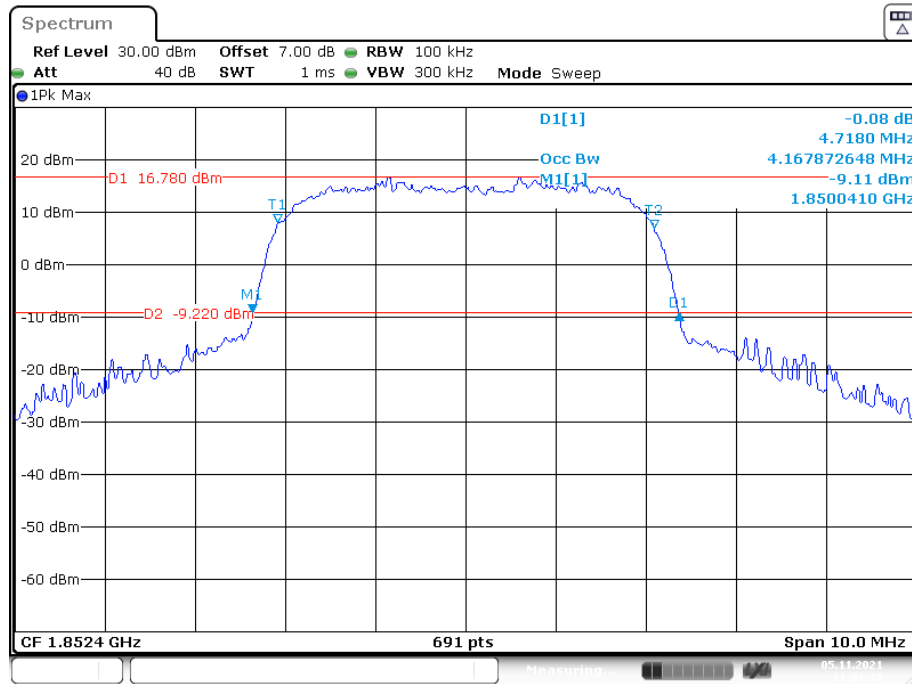
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel

Date: 5.NOV.2021 10:58:14

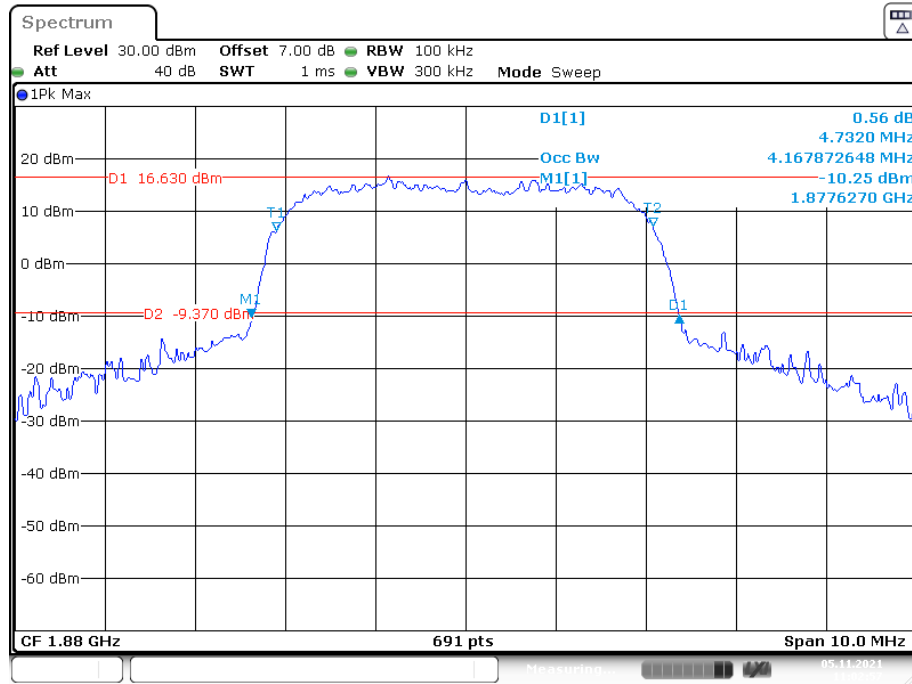
26 dB Emissions & 99% Occupied Bandwidth for HSUPA (BPSK) Mode, Low channel

Date: 5.NOV.2021 11:39:46

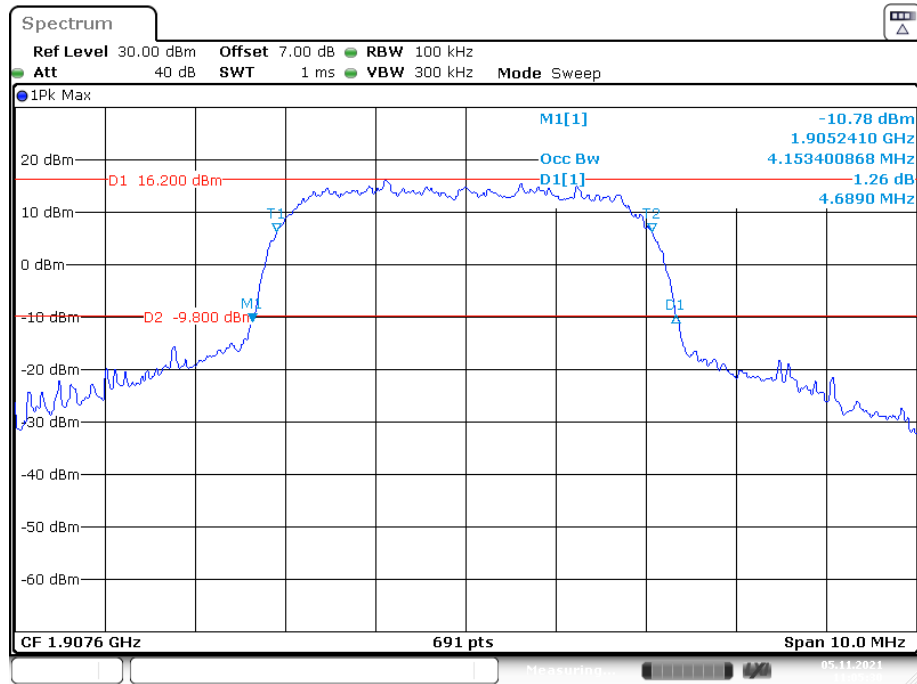
26 dB Emissions & 99% Occupied Bandwidth for HSUPA (BPSK) Mode, Middle channel**26 dB Emissions & 99% Occupied Bandwidth for HSUPA (BPSK) Mode, High channel**

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

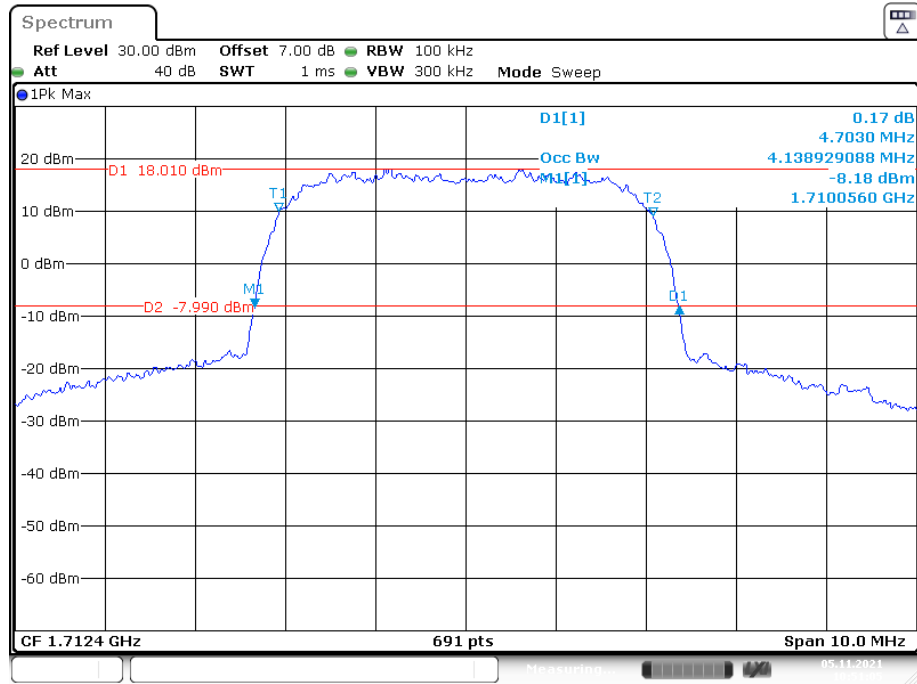
Date: 5.NOV.2021 11:01:39

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

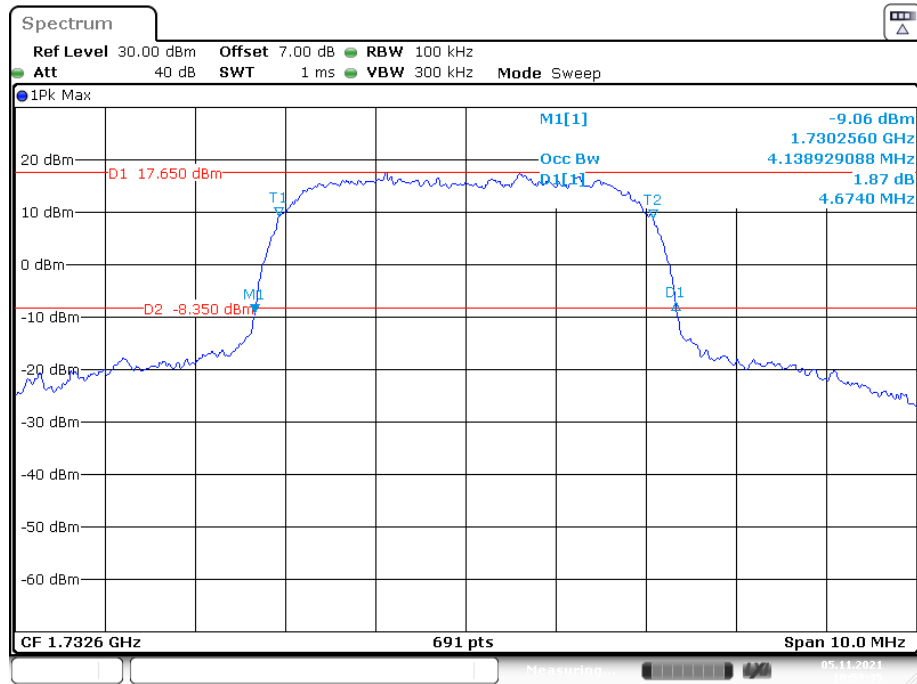
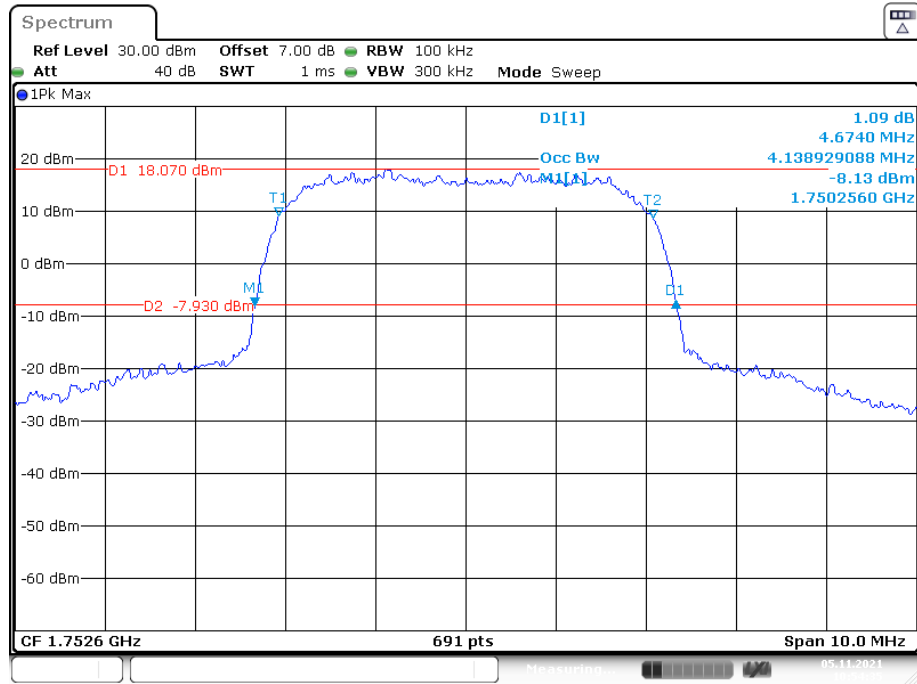
Date: 5.NOV.2021 11:02:58

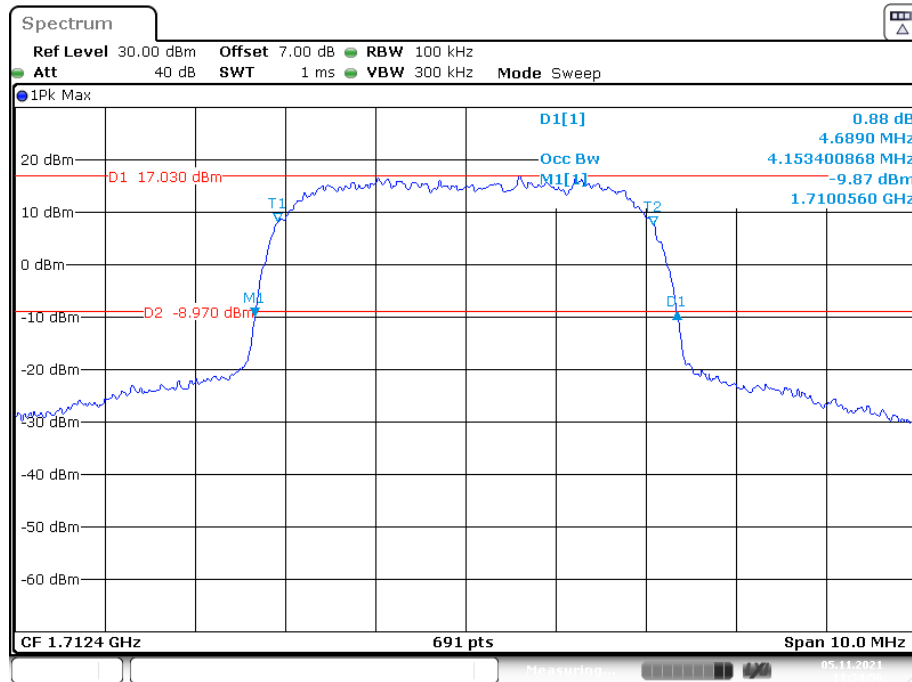
26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel

Date: 5.NOV.2021 11:05:31

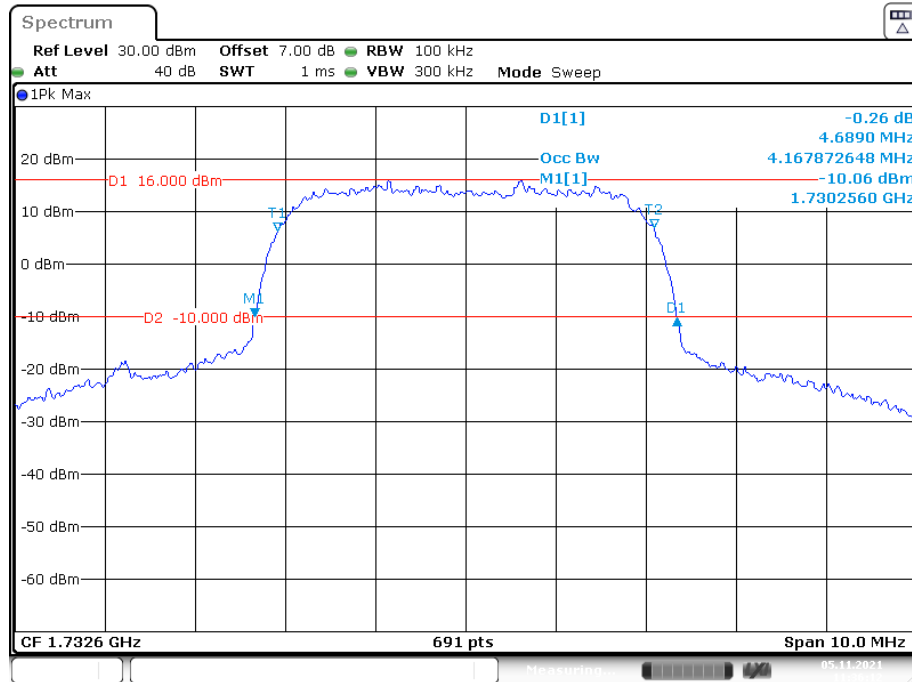
AWS Band (Part 27)**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel**

Date: 5.NOV.2021 10:51:06

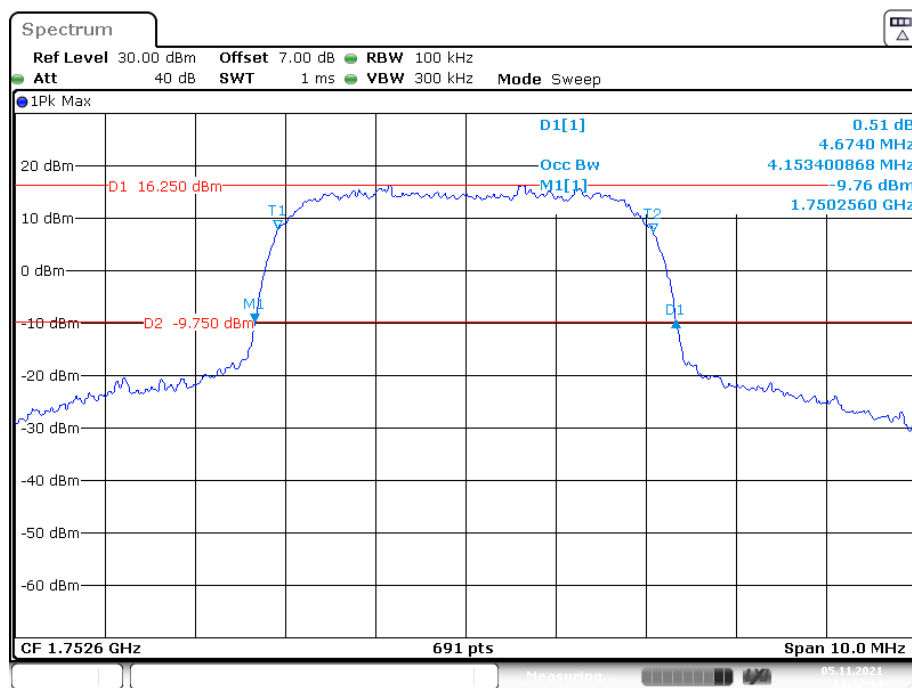
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel**26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel**

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

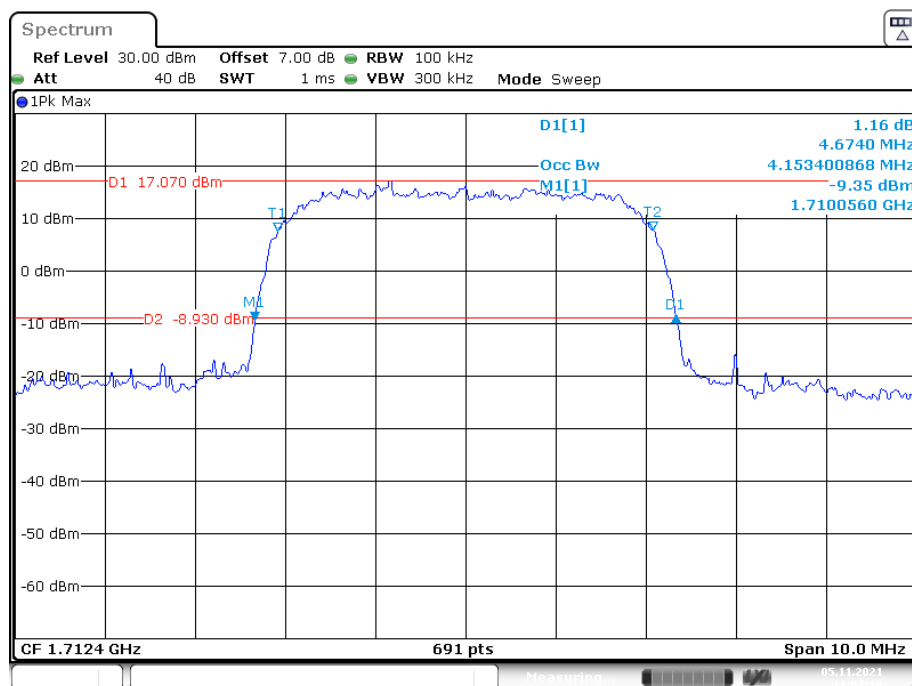
Date: 5.NOV.2021 11:34:56

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

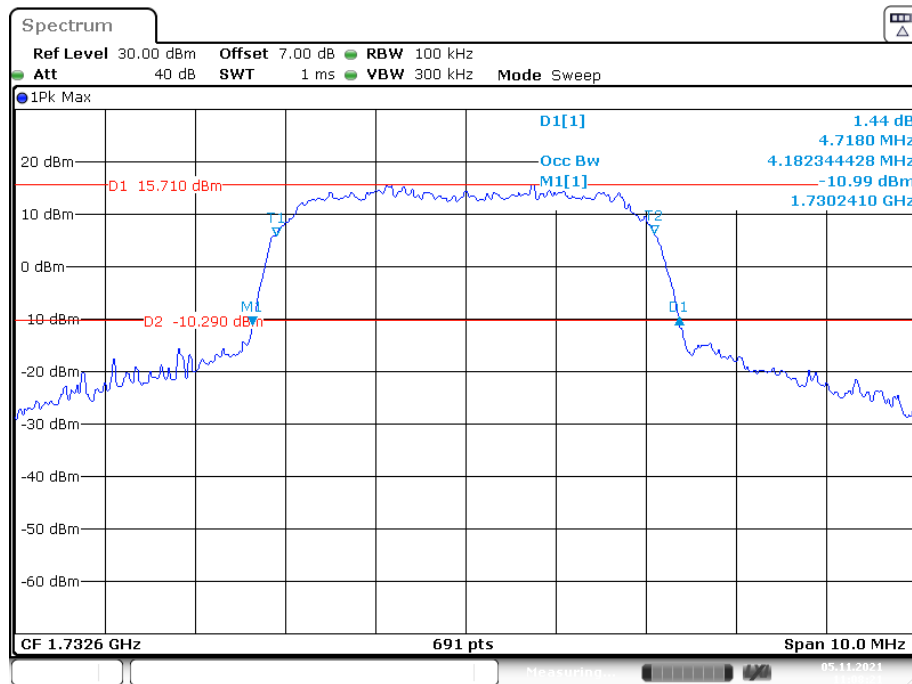
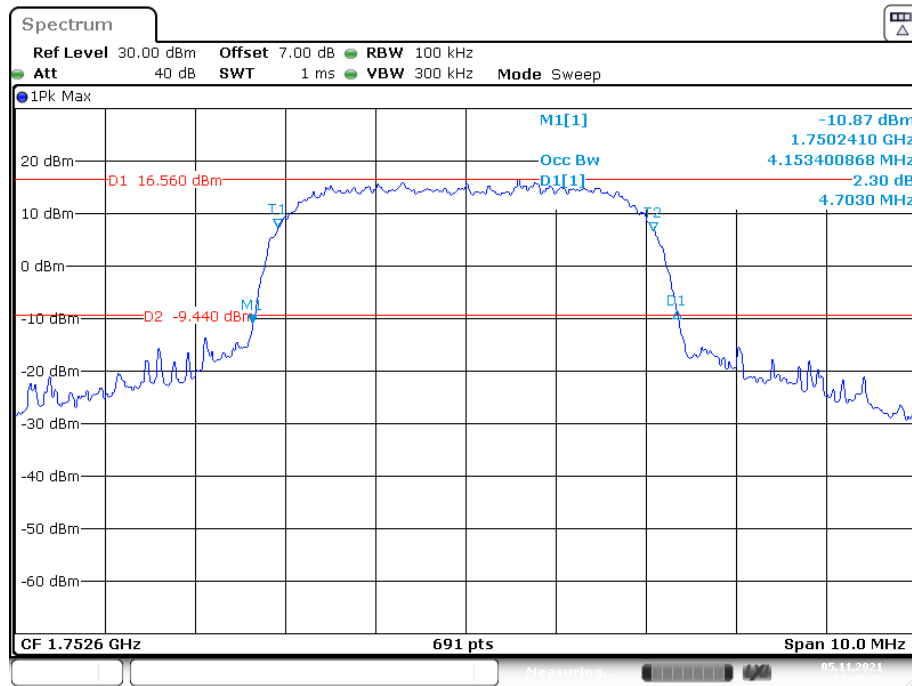
Date: 5.NOV.2021 11:36:12

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

Date: 5.NOV.2021 11:32:14

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

Date: 5.NOV.2021 11:07:20

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

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

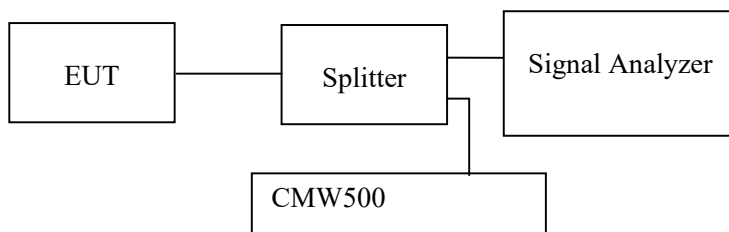
Applicable Standard

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

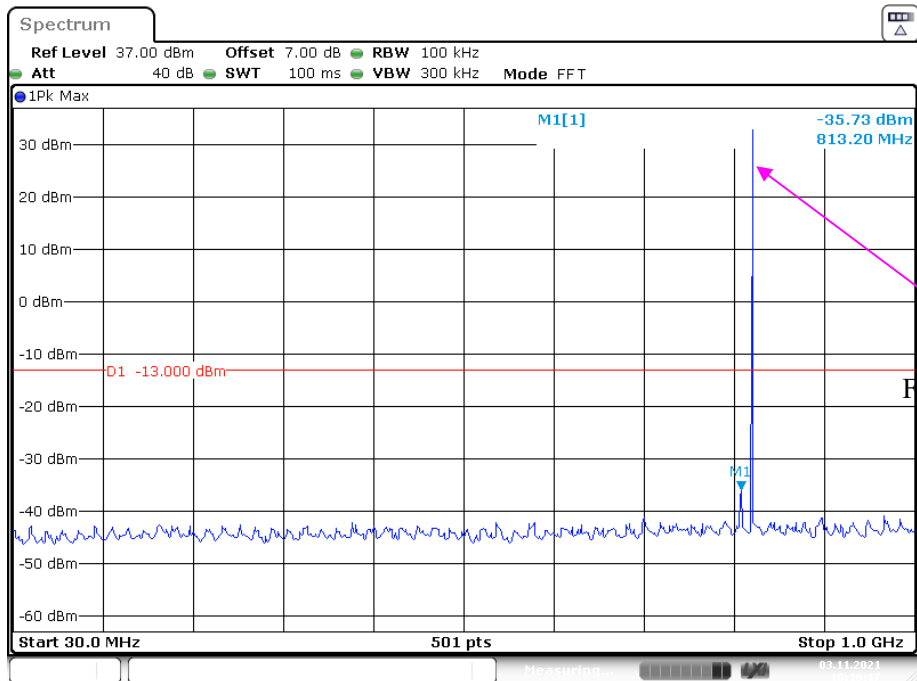
Environmental Conditions

Temperature:	27.5 °C
Relative Humidity:	58 %
ATM Pressure:	101.0 kPa

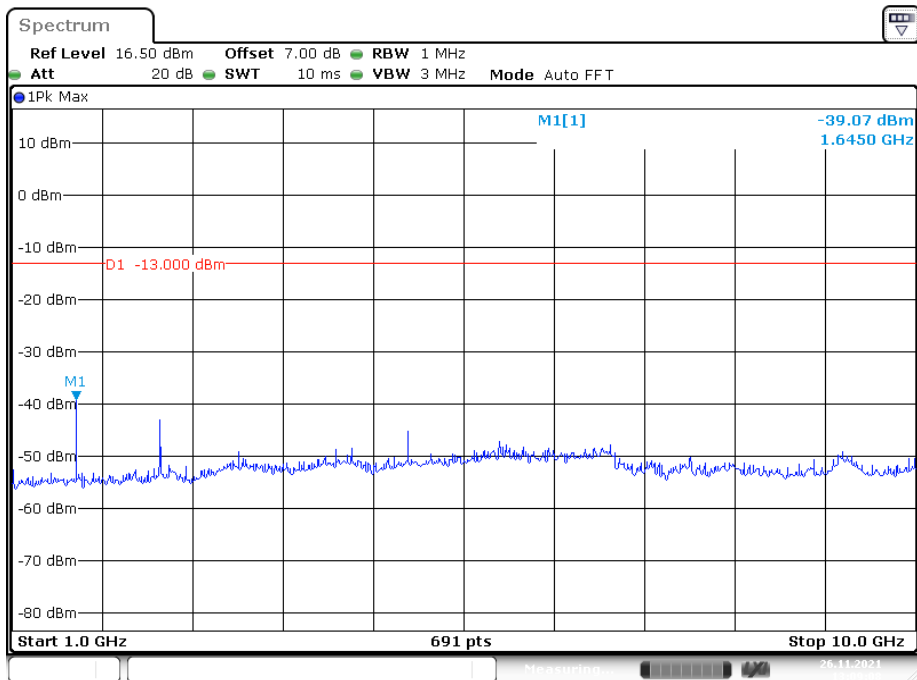
The testing was performed by Ting Lü from 2021-11-03 to 2021-11-26.

EUT operation mode: Transmitting

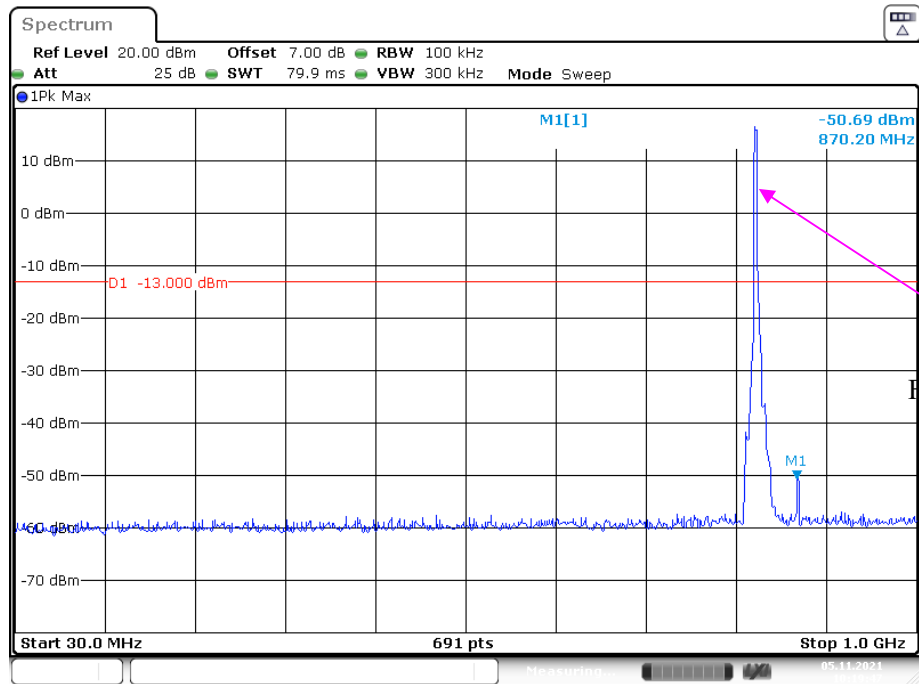
Test result: Pass. Please refer to below plots.

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

Date: 3.NOV.2021 18:10:17

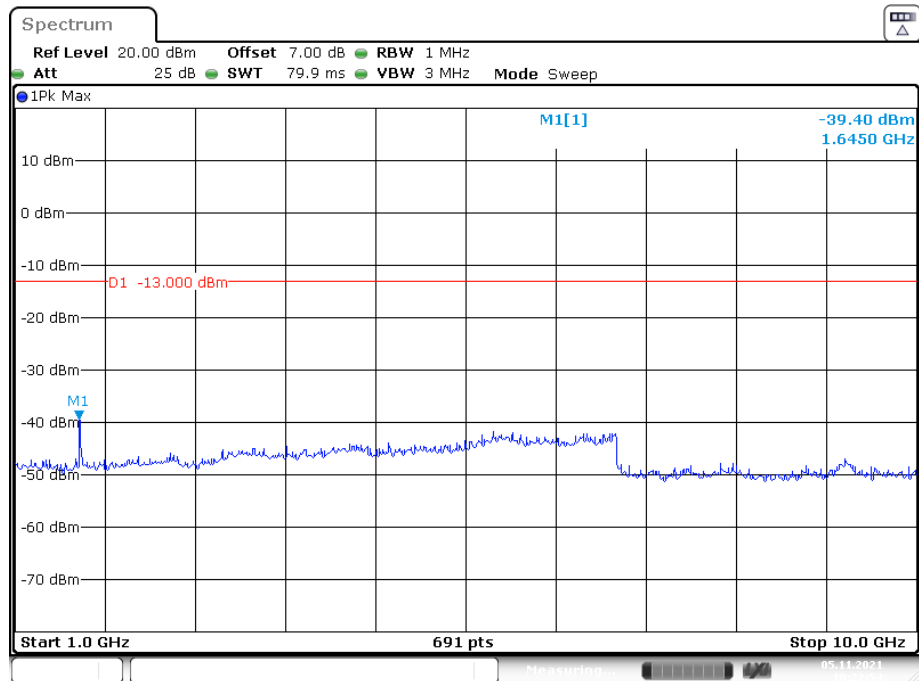
1 GHz – 10 GHz (GSM Mode)

Date: 26.NOV.2021 13:09:09

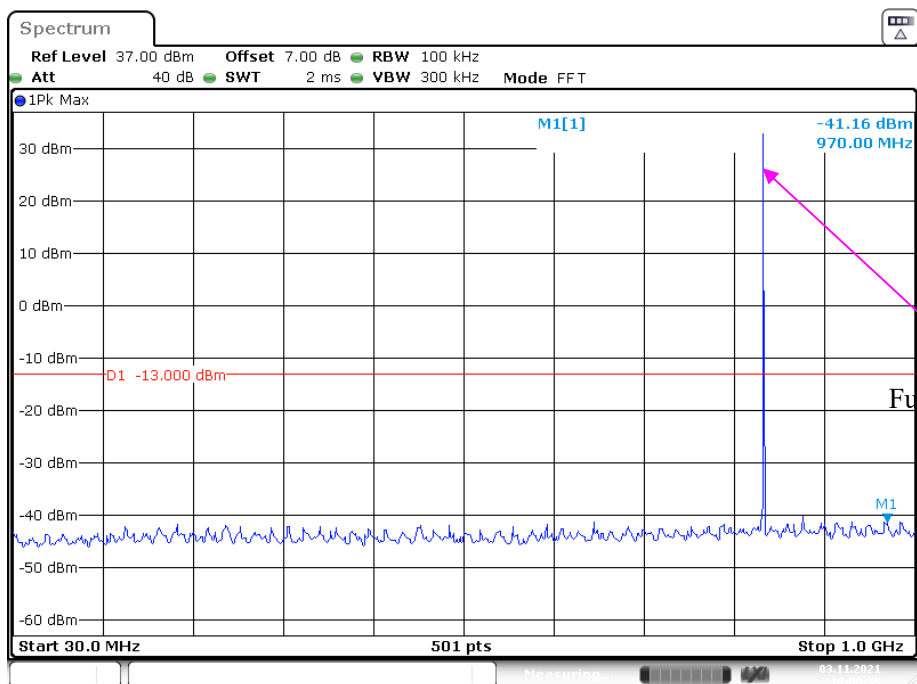
30 MHz – 1 GHz (WCDMA Mode)

Date: 5.NOV.2021 10:19:48

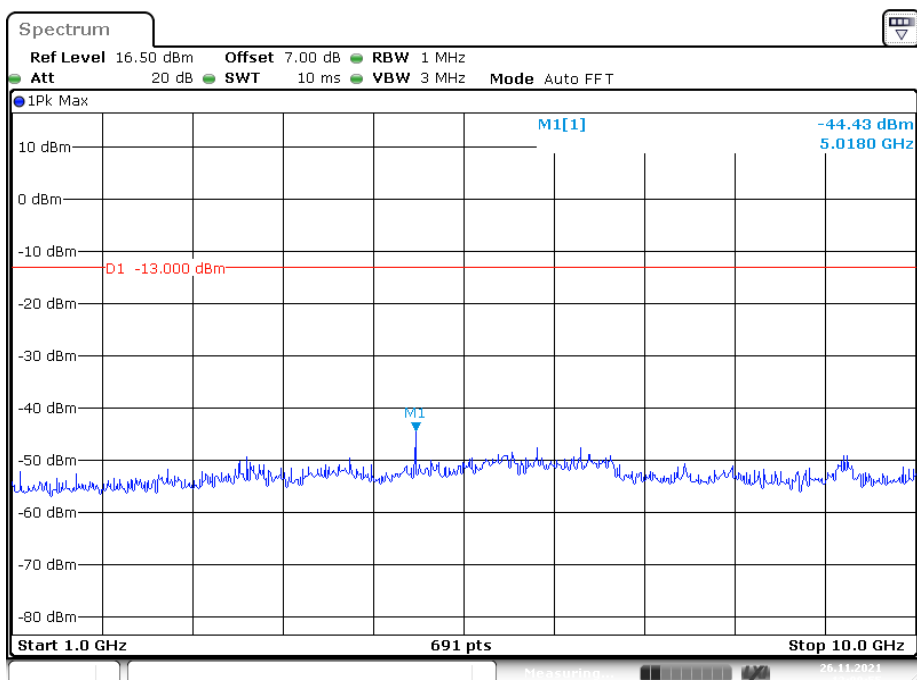
Fundamental test

1 GHz – 10 GHz (WCDMA Mode)

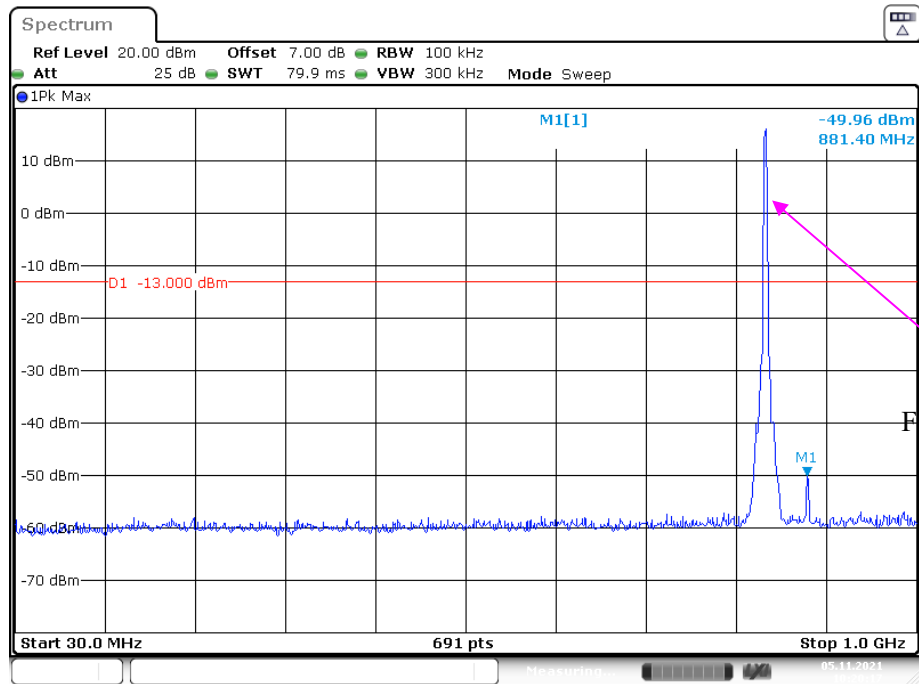
Date: 5.NOV.2021 10:22:55

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

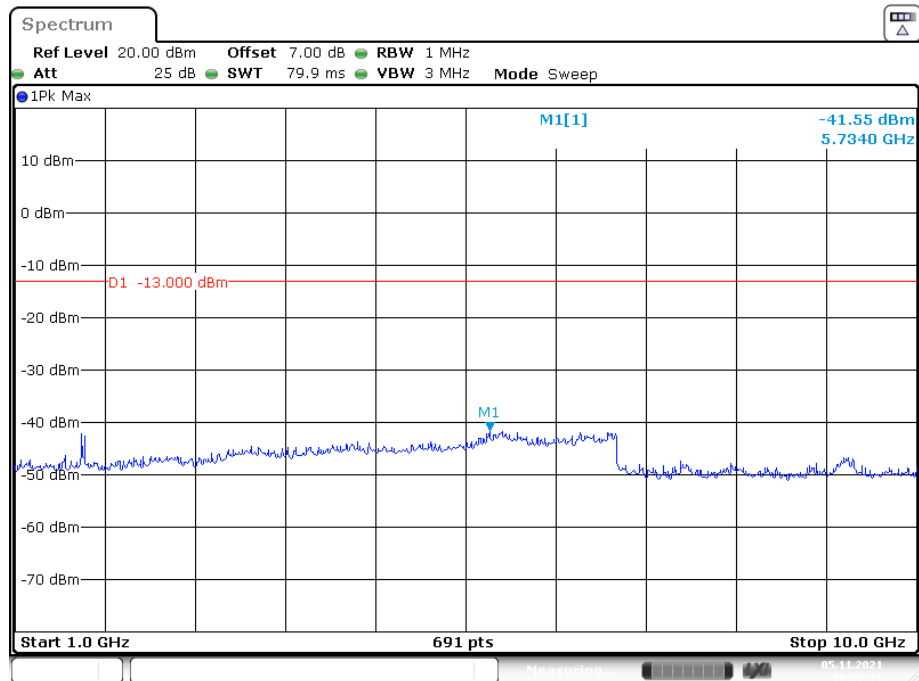
Date: 3.NOV.2021 18:00:55

1 GHz – 10 GHz (GSM Mode)

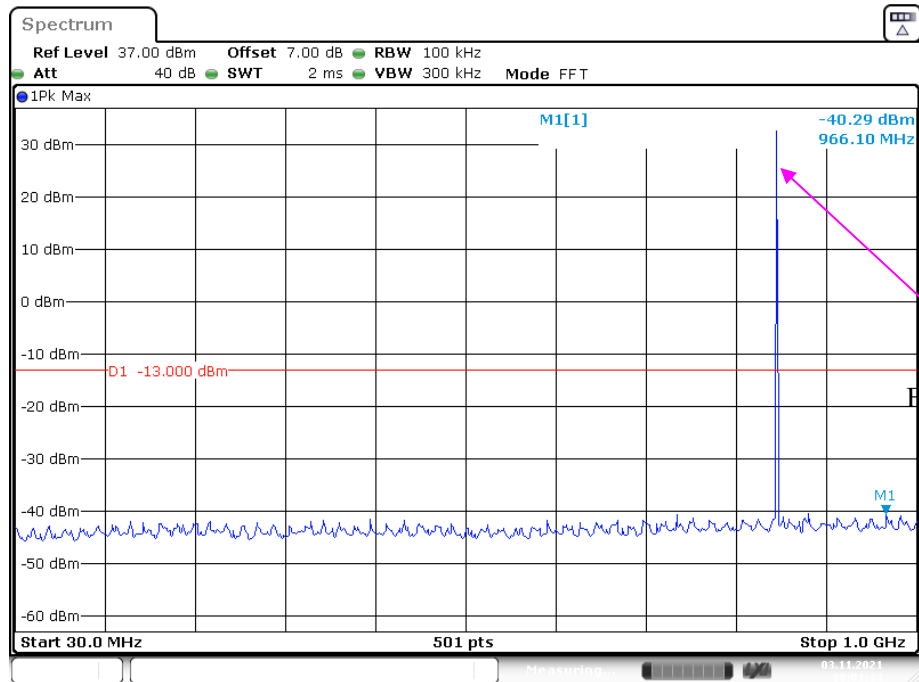
Date: 26.NOV.2021 13:09:56

30 MHz – 1 GHz (WCDMA Mode)

Date: 5.NOV.2021 10:20:18

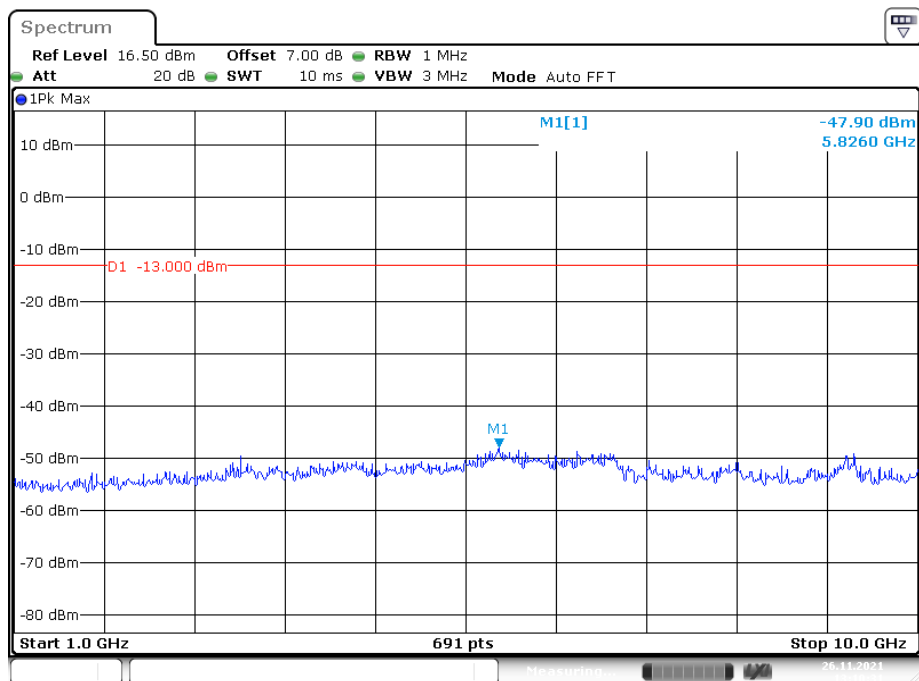
1 GHz – 10 GHz (WCDMA Mode)

Date: 5.NOV.2021 10:22:31

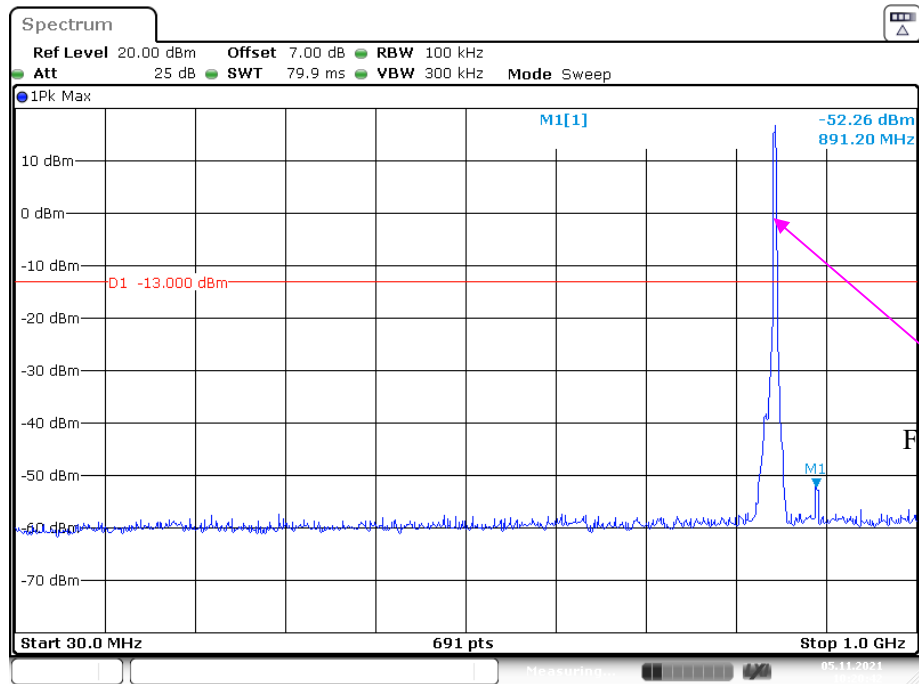
High Channel:**30 MHz – 1 GHz (GSM Mode)**

Date: 3.NOV.2021 18:01:34

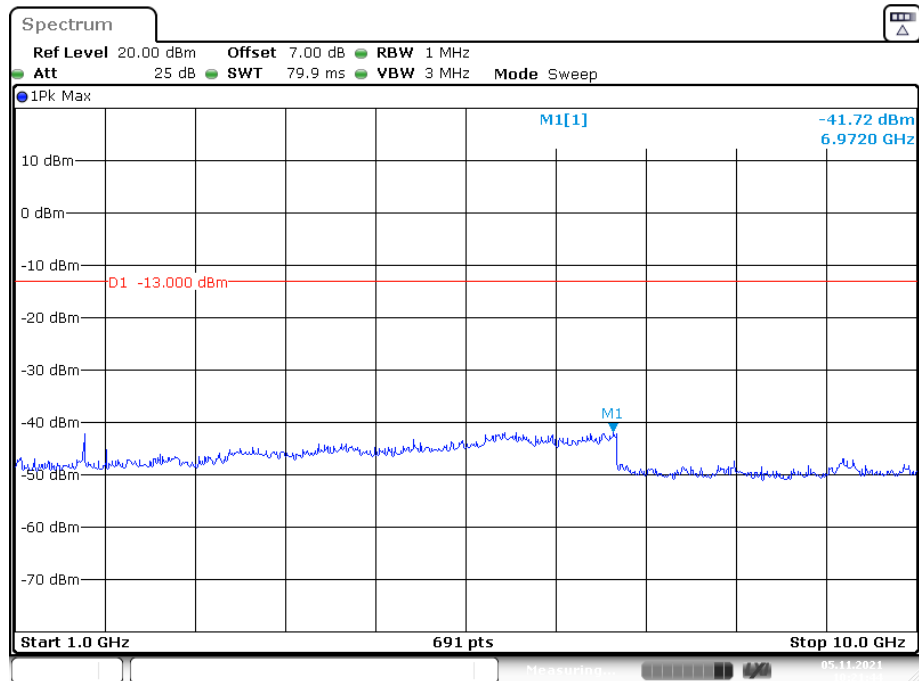
Fundamental test

1 GHz – 10 GHz (GSM Mode)

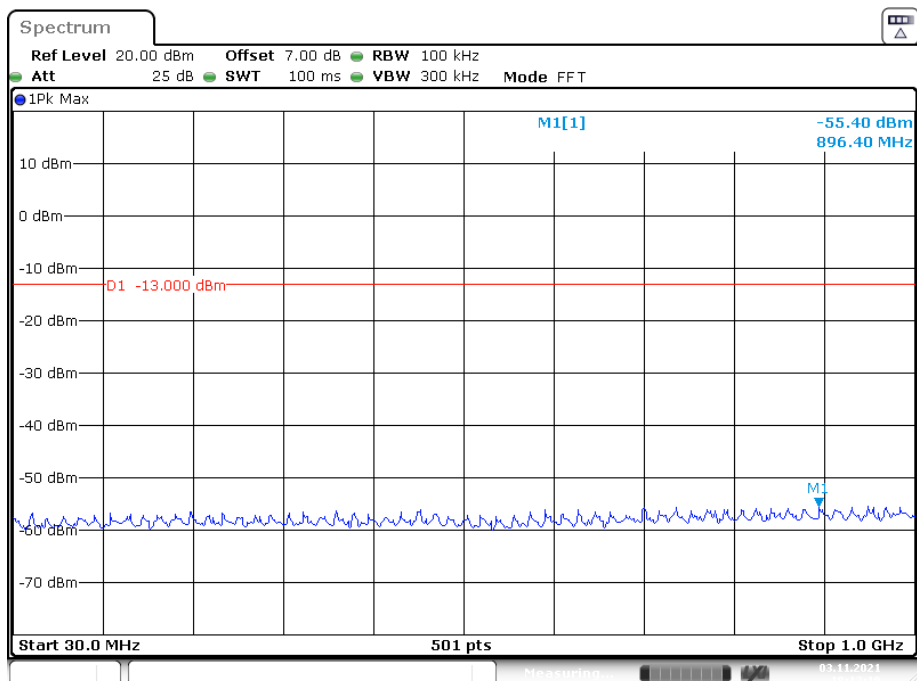
Date: 26.NOV.2021 13:10:32

30 MHz – 1 GHz (WCDMA Mode)

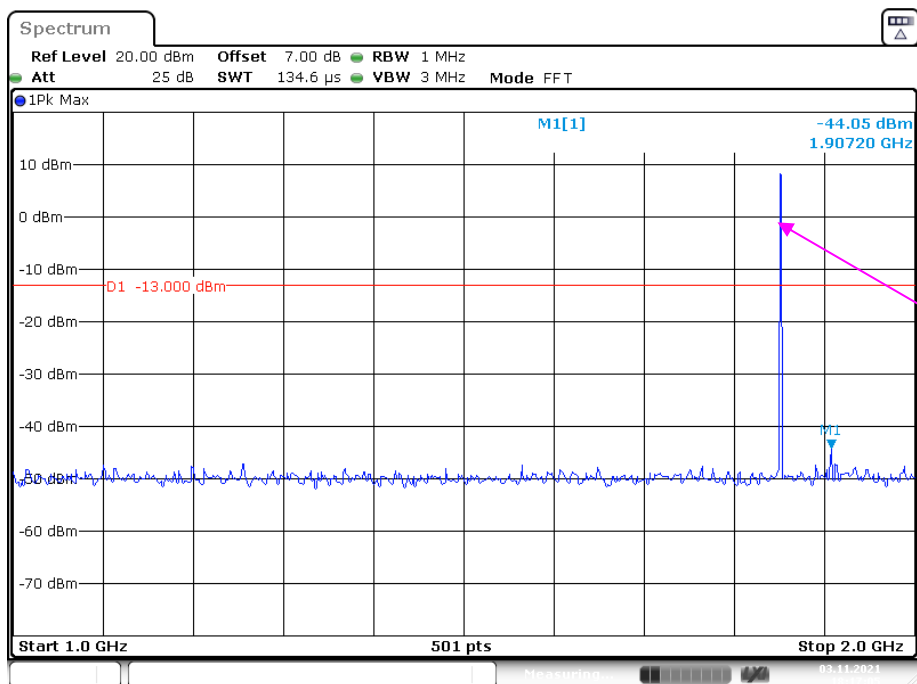
Date: 5.NOV.2021 10:20:42

1 GHz – 10 GHz (WCDMA Mode)

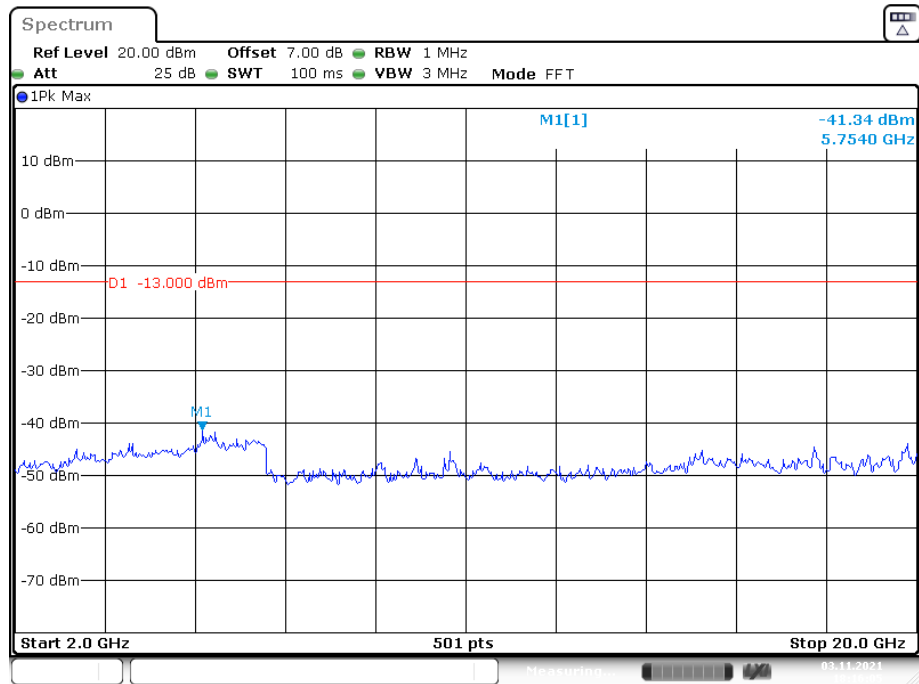
Date: 5.NOV.2021 10:21:44

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

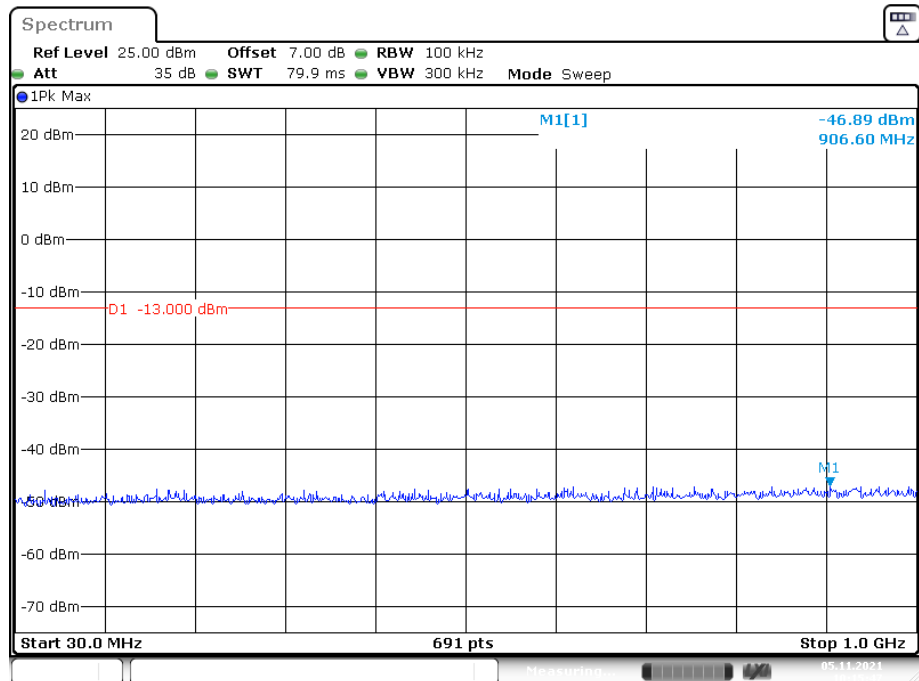
Date: 3.NOV.2021 18:12:10

1 GHz – 2 GHz (GSM Mode)

Date: 3.NOV.2021 18:17:05

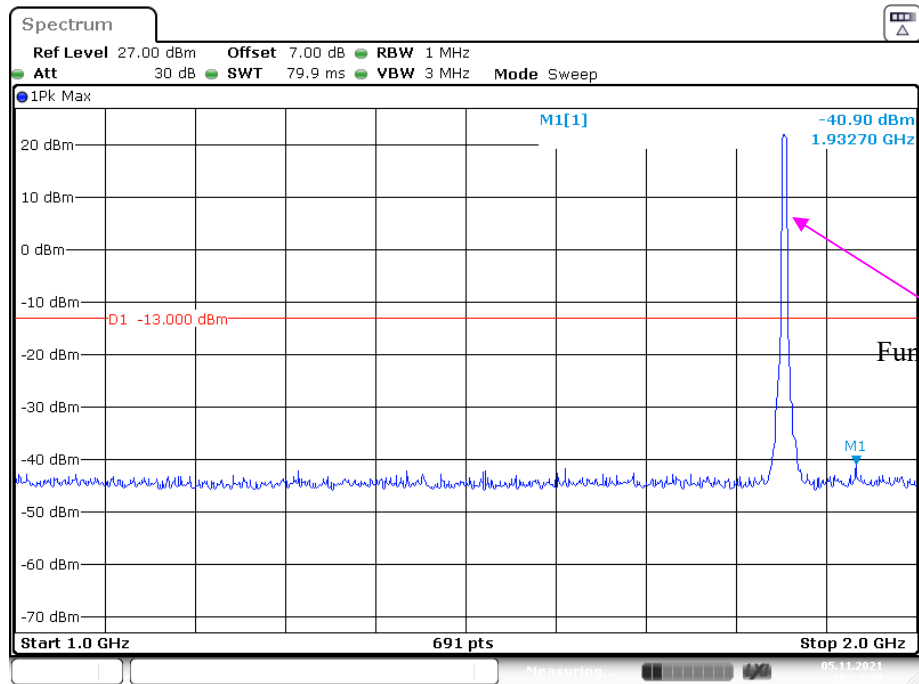
2 GHz – 20 GHz (GSM Mode)

Date: 3.NOV.2021 18:16:05

30 MHz – 1 GHz (WCDMA Mode)

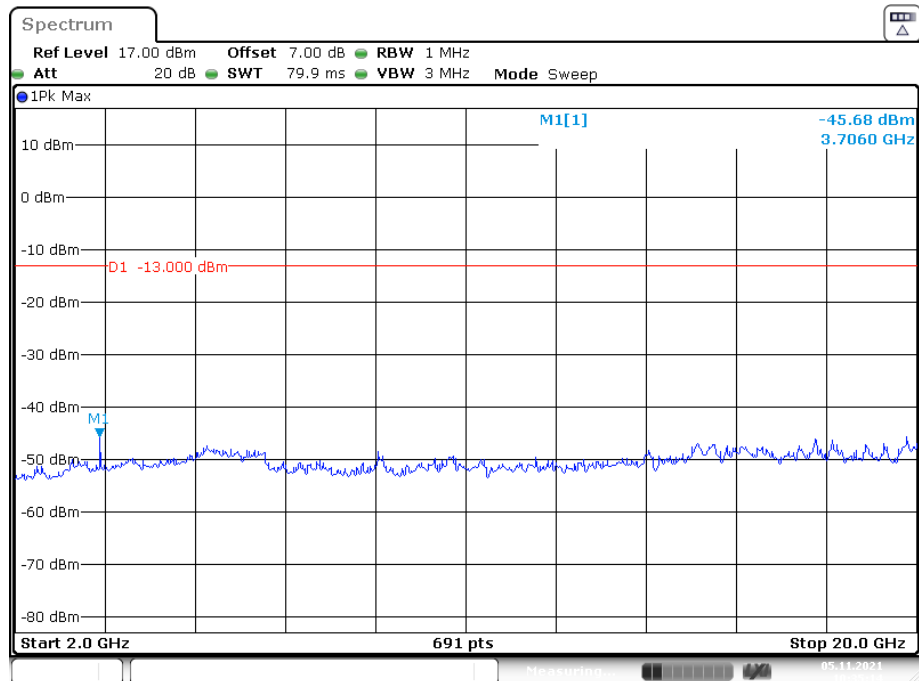
Date: 5.NOV.2021 10:15:47

1 GHz – 2 GHz (WCDMA Mode)

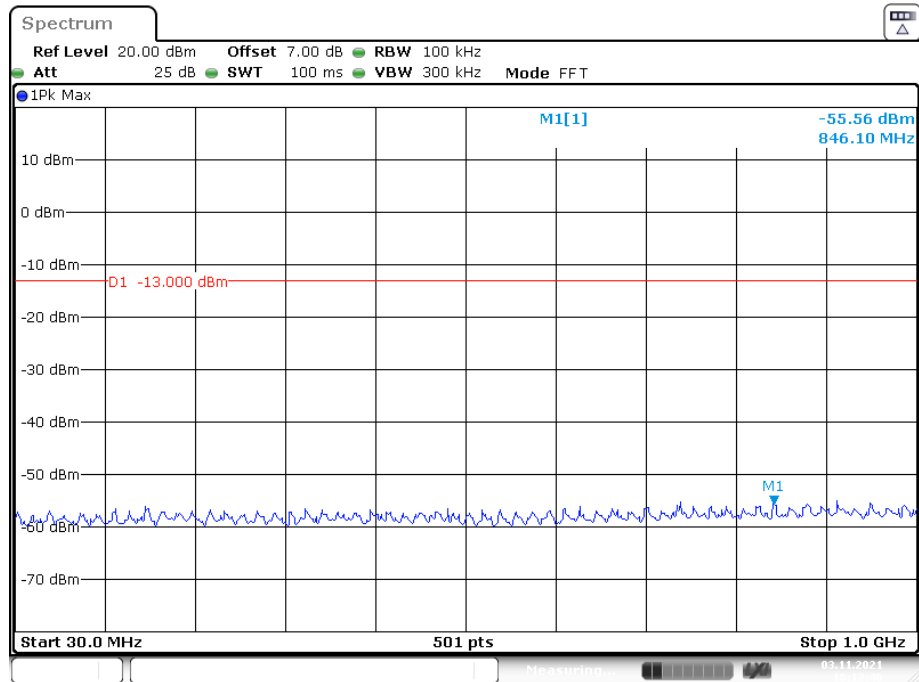


Date: 5.NOV.2021 10:24:31

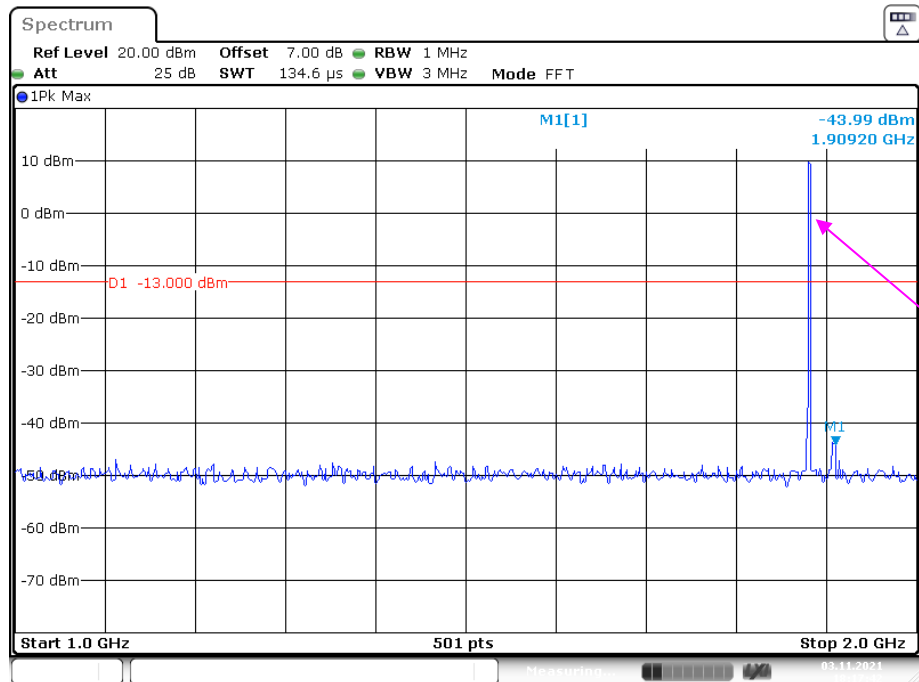
2 GHz – 20 GHz (WCDMA Mode)



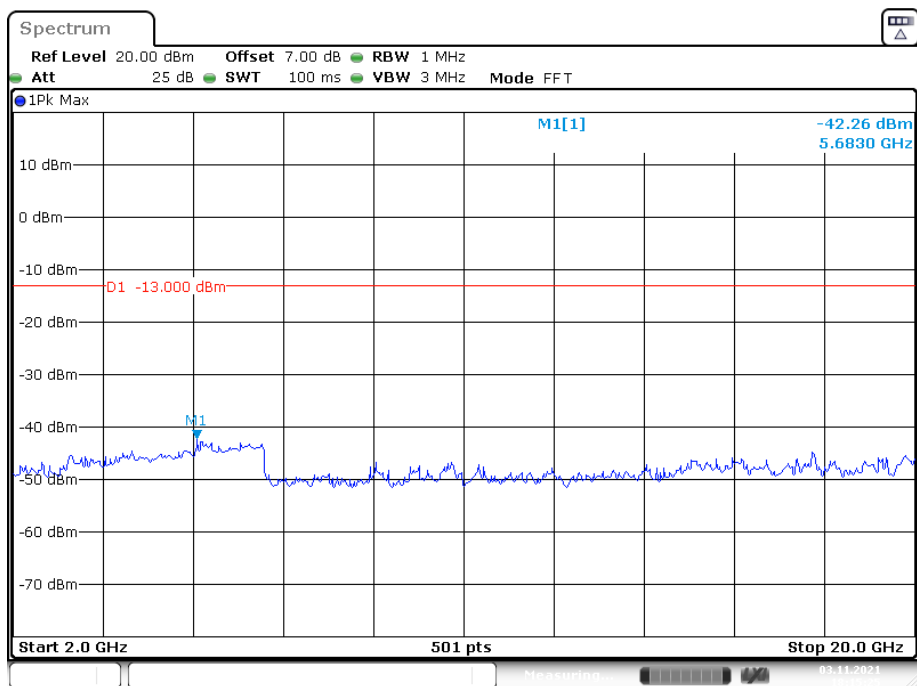
Date: 5.NOV.2021 10:35:15

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

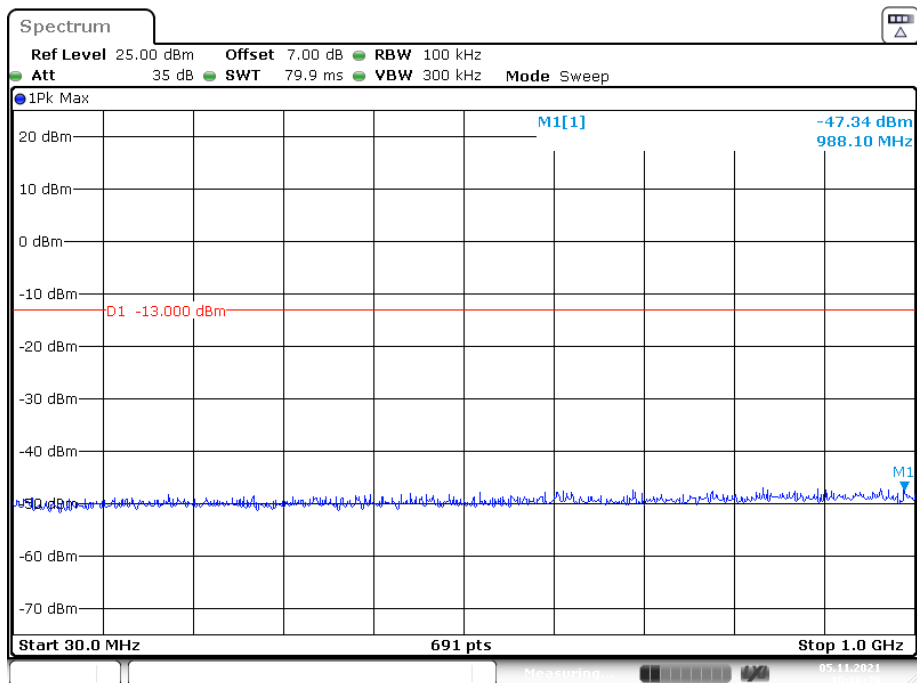
Date: 3.NOV.2021 18:12:46

1 GHz – 2 GHz (GSM Mode)

Date: 3.NOV.2021 18:17:42

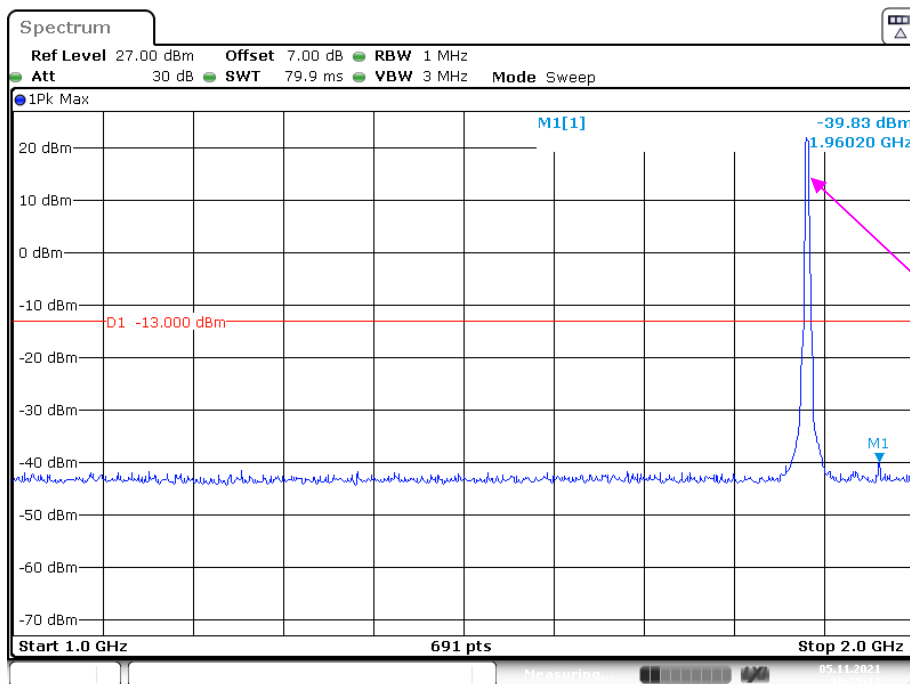
2 GHz – 20 GHz (GSM Mode)

Date: 3.NOV.2021 18:15:25

30 MHz – 1 GHz (WCDMA Mode)

Date: 5.NOV.2021 10:16:39

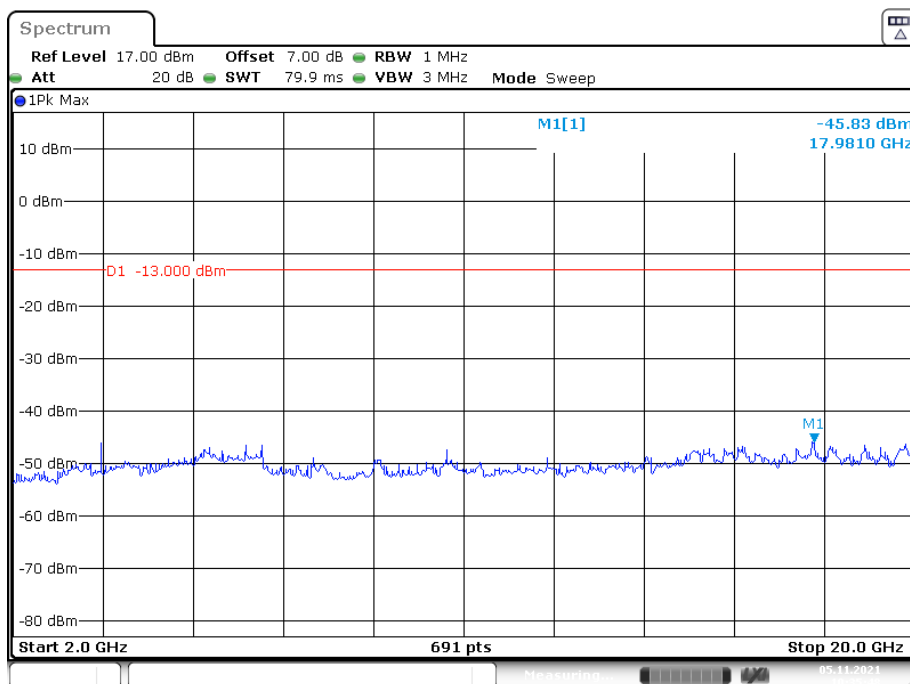
1 GHz – 2 GHz (WCDMA Mode)



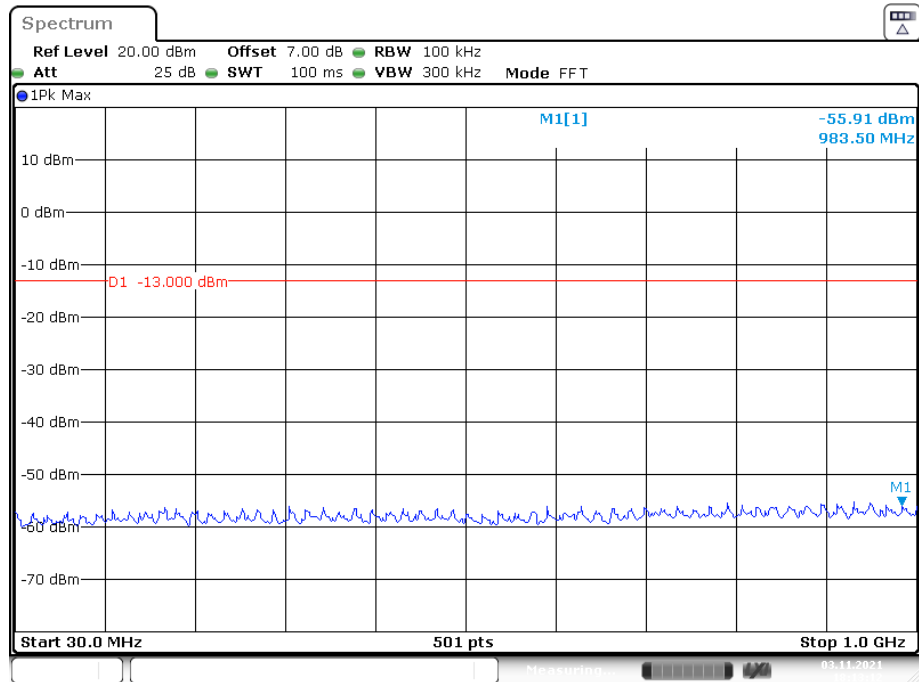
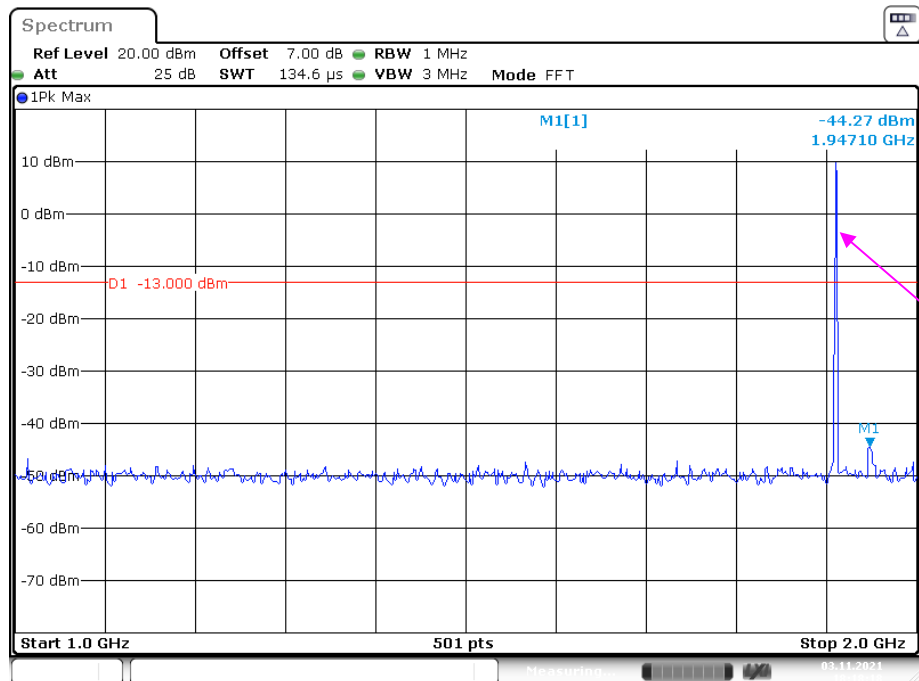
Date: 5.NOV.2021 10:25:13

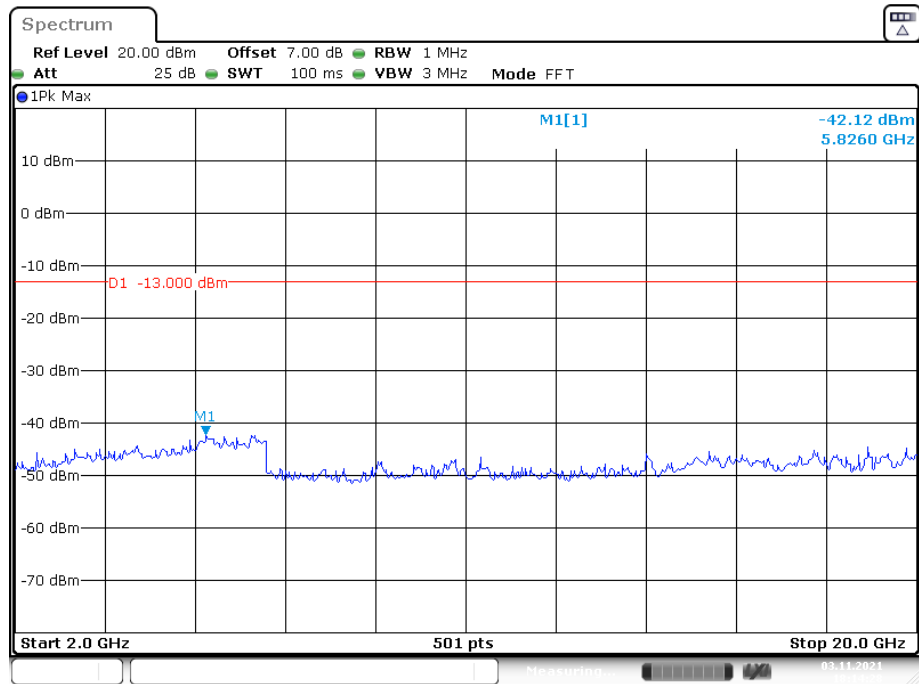
Fundamental test

2 GHz – 20 GHz (WCDMA Mode)

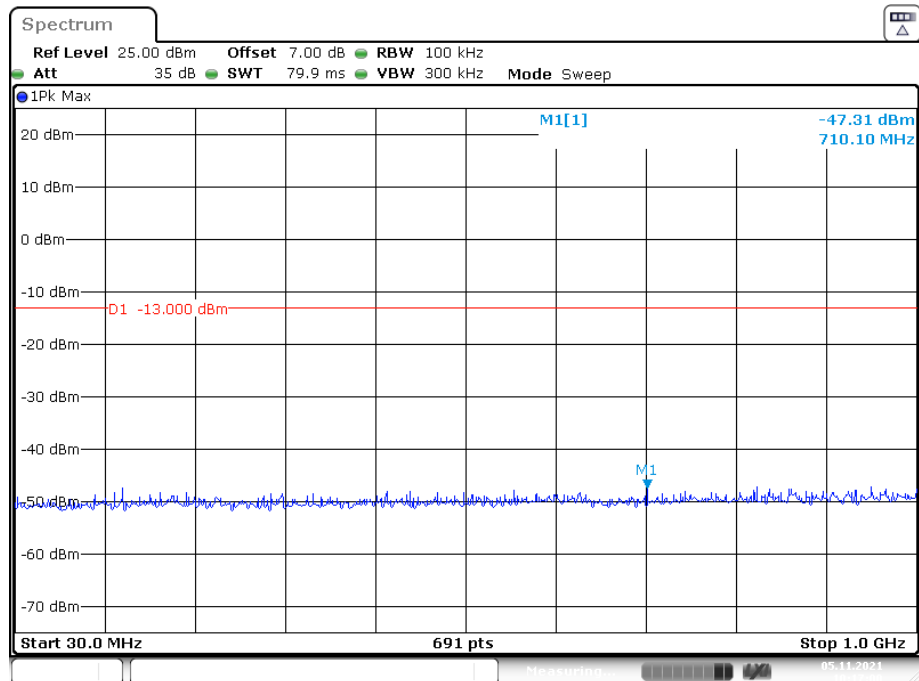


Date: 5.NOV.2021 10:35:49

High Channel:**30 MHz – 1 GHz (GSM Mode)****1 GHz – 2 GHz (GSM Mode)**

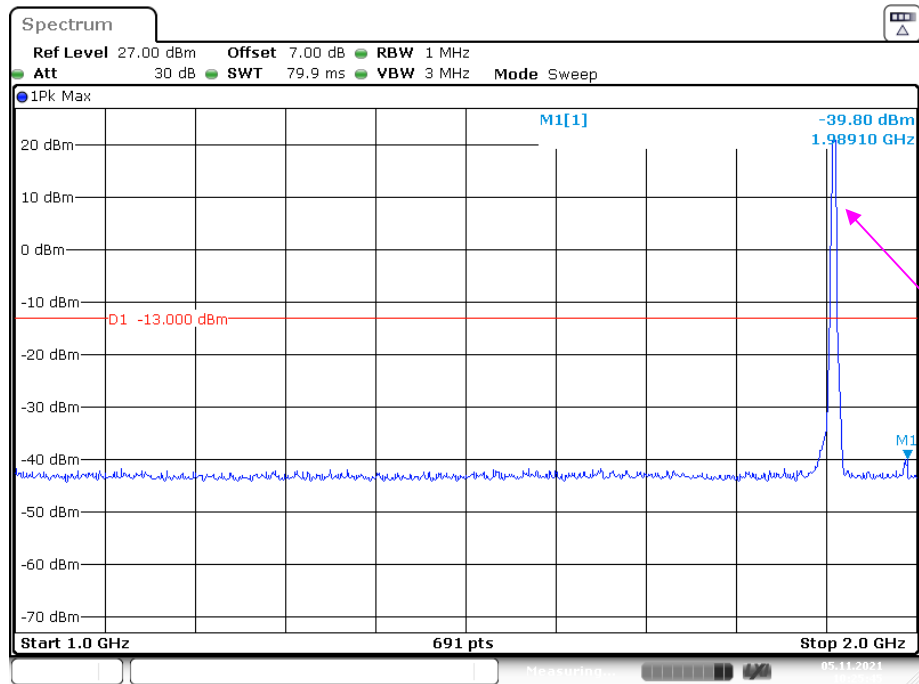
2 GHz – 20 GHz (GSM Mode)

Date: 3.NOV.2021 18:14:28

30 MHz – 1 GHz (WCDMA Mode)

Date: 5.NOV.2021 10:17:01

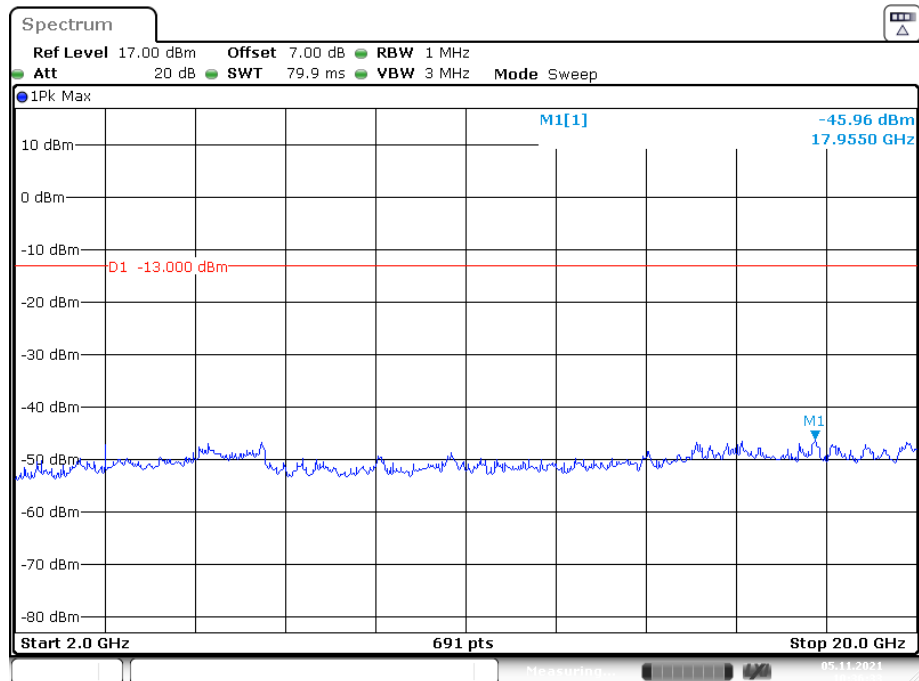
1 GHz – 2 GHz (WCDMA Mode)



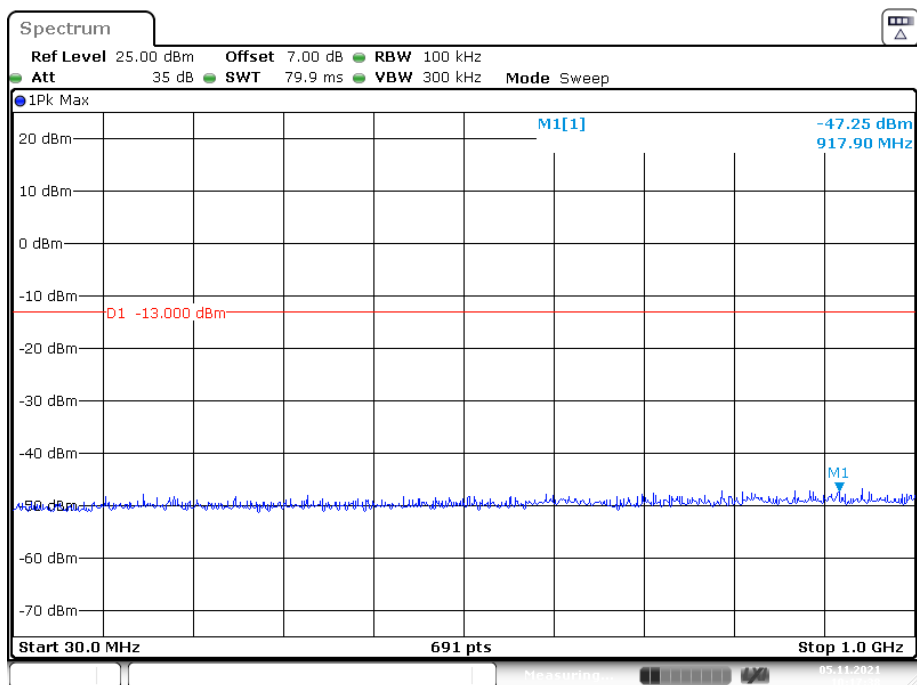
Date: 5.NOV.2021 10:25:45

Fundamental test

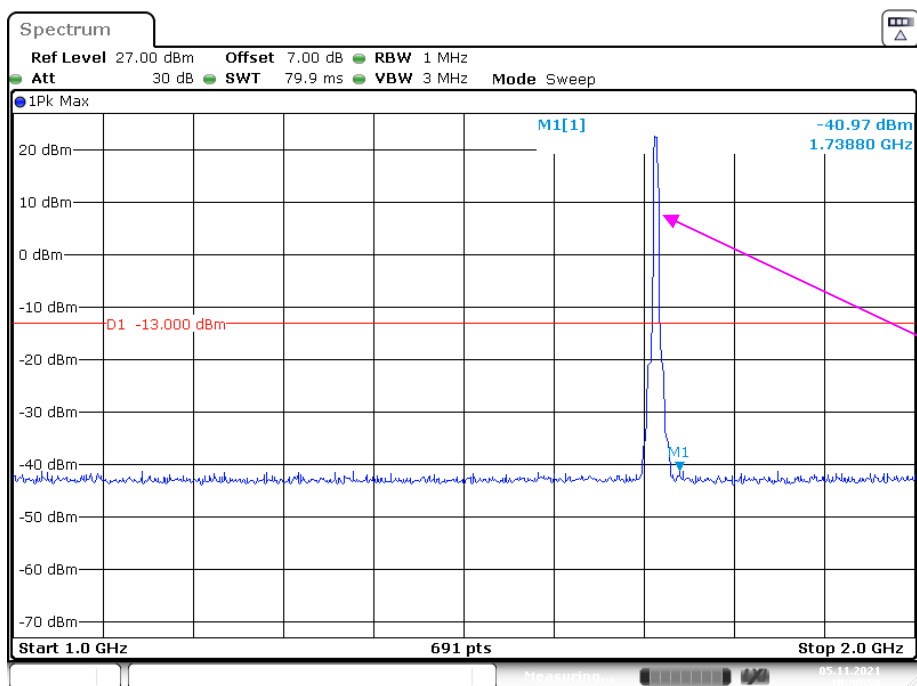
2GHz – 20 GHz (WCDMA Mode)



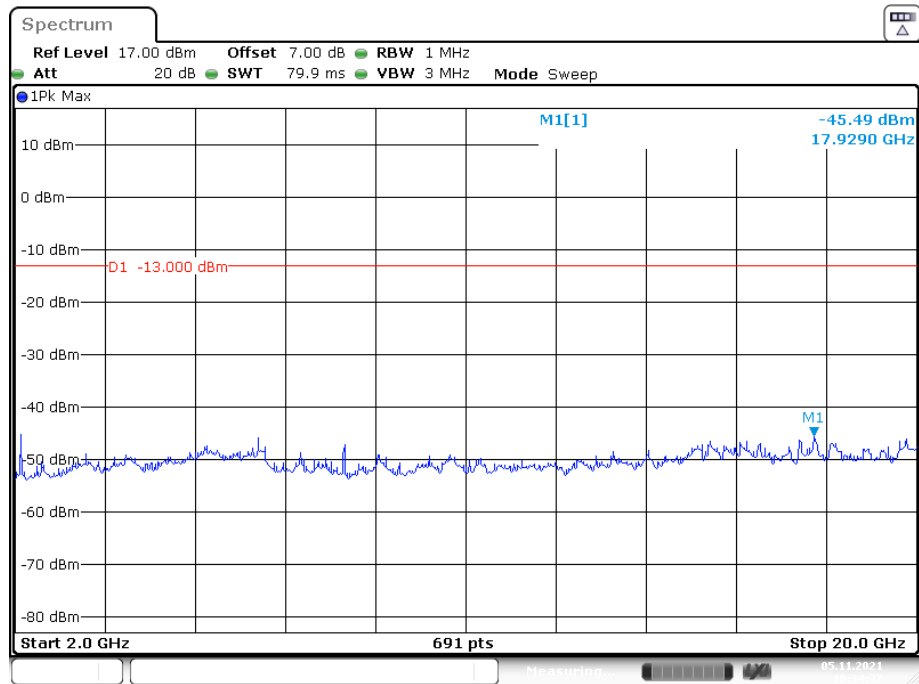
Date: 5.NOV.2021 10:36:34

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

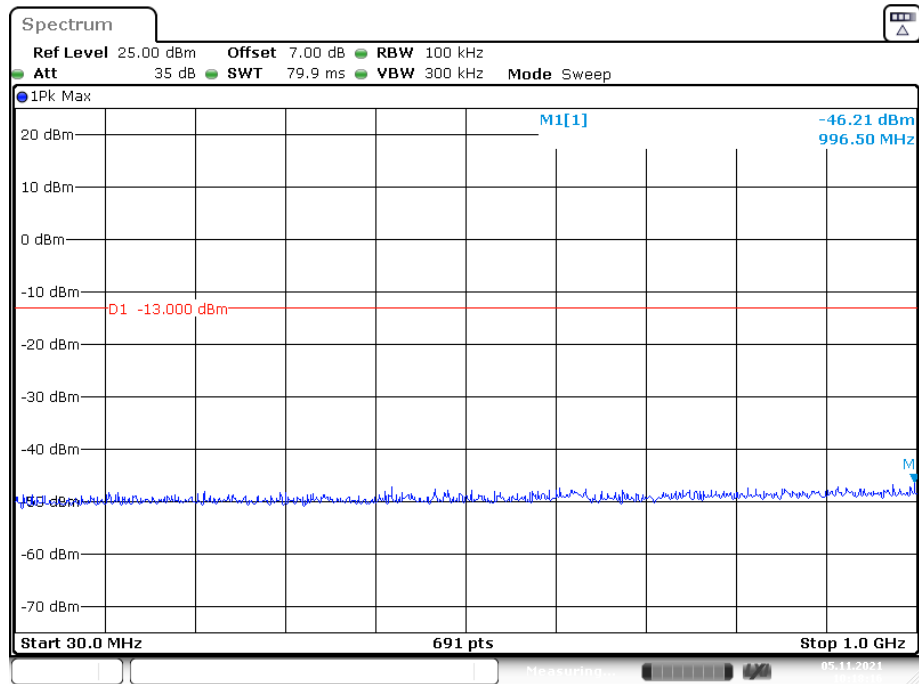
Date: 5.NOV.2021 10:17:39

1 GHz – 2 GHz (WCDMA Mode)

Date: 5.NOV.2021 10:30:51

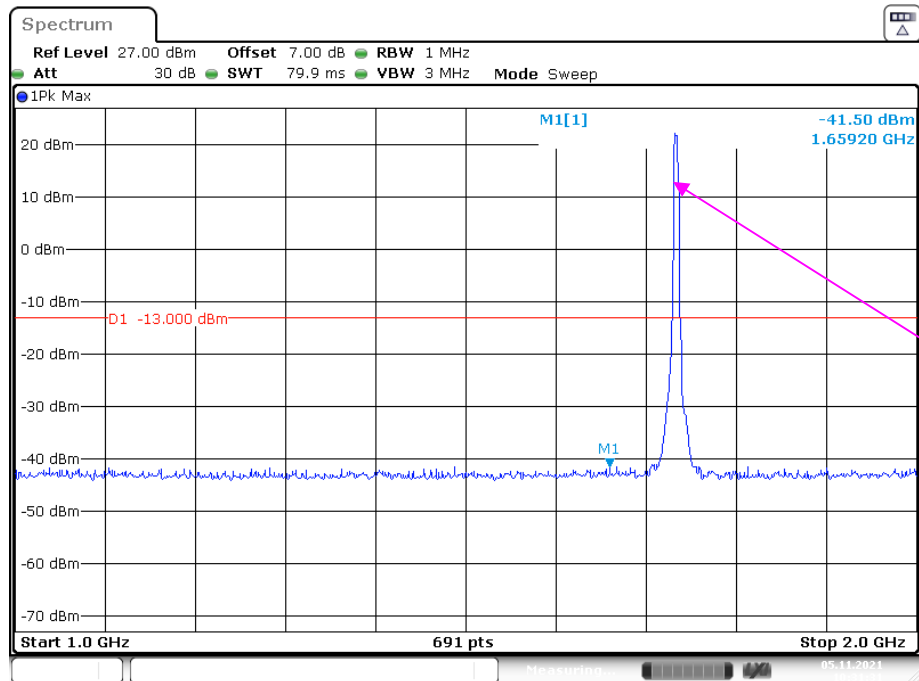
2 GHz – 20GHz (WCDMA Mode)

Date: 5.NOV.2021 10:34:38

Middle Channel**30 MHz – 1 GHz (WCDMA Mode)**

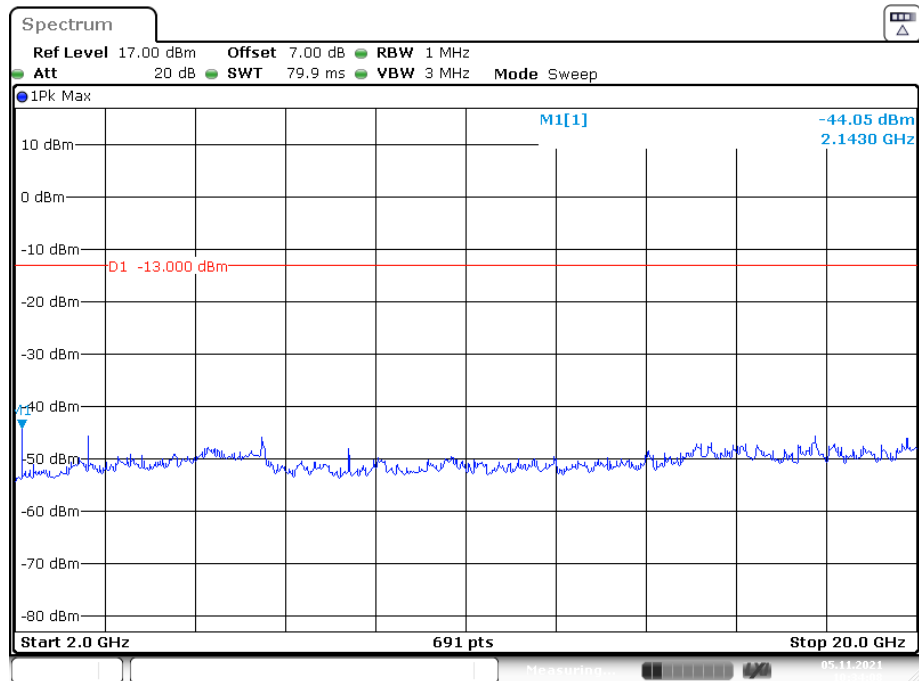
Date: 5.NOV.2021 10:18:16

1 GHz – 2 GHz (WCDMA Mode)

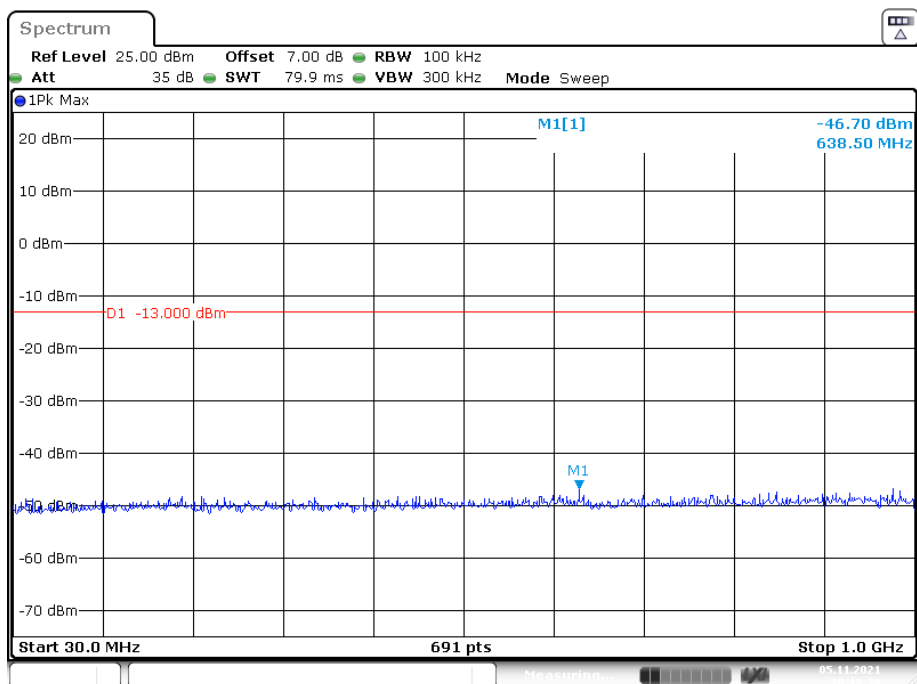


Date: 5.NOV.2021 10:31:31

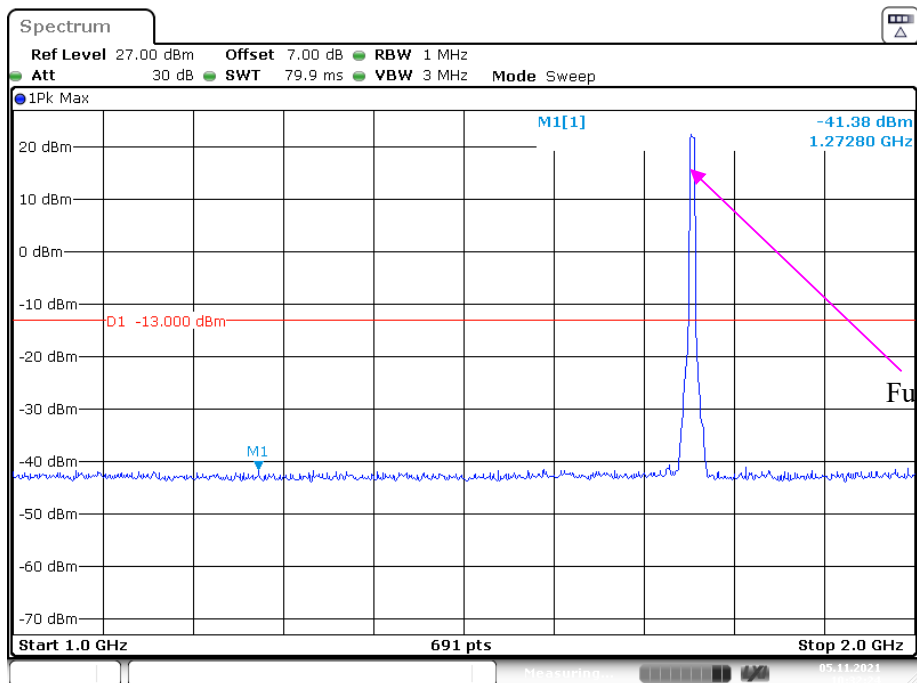
1 GHz – 20 GHz (WCDMA Mode)



Date: 5.NOV.2021 10:34:08

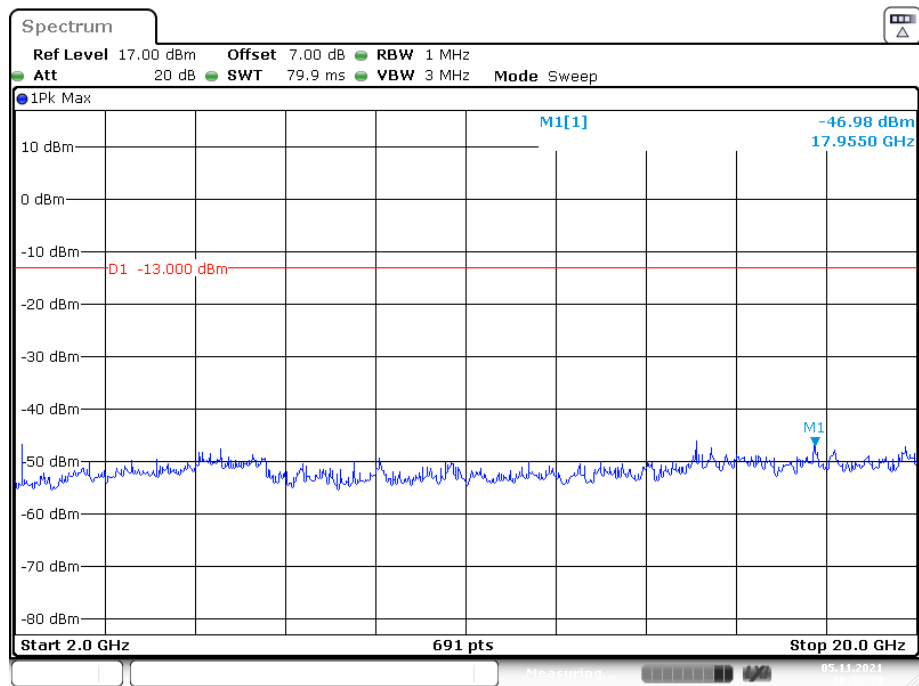
High Channel:**30 MHz – 1 GHz (WCDMA Mode)**

Date: 5.NOV.2021 10:18:39

1 GHz – 2 GHz (WCDMA Mode)

Date: 5.NOV.2021 10:32:25

2 GHz – 20 GHz (WCDMA Mode)



Date: 5.NOV.2021 10:33:40

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:	25~26.5 °C
Relative Humidity:	52~64 %
ATM Pressure:	101.0 kPa

The testing was performed by Caro Hu on 2021-11-17 for below 1GHz and on 2021-11-05 for above 1GHz.

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

The worst case is as below:

30MHz- 10GHz:

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 (824.2 MHz)								
945.9	-74.59	333	1.3	H	11.79	-62.8	-13	49.8
945.9	-76.84	132	1.5	V	12.48	-64.36	-13	51.36
1648.4	-36.18	181	2.1	H	-2.32	-38.5	-13	25.5
1648.4	-33.71	121	1.9	V	-2.29	-36	-13	23
2472.6	-34.86	191	1.9	H	1.16	-33.7	-13	20.7
2472.6	-32.39	82	1.1	V	1.09	-31.3	-13	18.3
3296.8	-48.95	222	1.5	H	3.25	-45.7	-13	32.7
3296.8	-48.36	81	1.8	V	3.16	-45.2	-13	32.2
Middle Channel (836.6 MHz)								
1673.2	-32.42	207	1.4	H	-2.38	-34.8	-13	21.8
1673.2	-29.39	258	2.1	V	-2.31	-31.7	-13	18.7
2509.8	-34.64	118	1.6	H	1.34	-33.3	-13	20.3
2509.8	-30.87	295	2.1	V	1.37	-29.5	-13	16.5
3346.4	-48.82	89	2.1	H	3.32	-45.5	-13	32.5
3346.4	-48.04	294	2.1	V	3.24	-44.8	-13	31.8
High Channel (848.8 MHz)								
1697.6	-31.52	291	1.9	H	-2.38	-33.9	-13	20.9
1697.6	-28.46	152	2	V	-2.34	-30.8	-13	17.8
2546.4	-32.48	201	1.2	H	1.38	-31.1	-13	18.1
2546.4	-30.62	41	1.1	V	1.42	-29.2	-13	16.2
3395.2	-48.72	64	1.7	H	3.32	-45.4	-13	32.4
3395.2	-47.61	323	2	V	3.21	-44.4	-13	31.4
WCDMA Band 5								
Low Channel (826.4MHz)								
957.47	-74.6	240	1.3	H	11.79	-62.81	-13	49.81
957.47	-77.84	247	1.2	V	12.48	-65.36	-13	52.36
1652.8	-48.98	306	2.1	H	-2.32	-51.3	-13	38.3
1652.8	-46.21	162	1.2	V	-2.29	-48.5	-13	35.5
Middle Channel (836.6MHz)								
955.14	-74.93	3	1.2	H	11.79	-63.14	-13	50.14
955.14	-76.81	222	2.1	V	12.48	-64.33	-13	51.33
1673.2	-44.06	345	1.3	H	-2.34	-46.4	-13	33.4
1673.2	-46.69	31	2.2	V	-2.31	-49	-13	36
High Channel (846.6MHz)								
949.35	-72.96	270	1	H	11.79	-61.17	-13	48.17
949.35	-75.43	250	1.2	V	12.48	-62.95	-13	49.95
1693.2	-48.12	40	1.9	H	-2.38	-50.5	-13	37.5
1693.2	-45.86	158	2	V	-2.34	-48.2	-13	35.2

30MHz- 20GHz:

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 (1850.2 MHz)								
955.47	-72.48	182	1.6	H	11.79	-60.69	-13	47.69
955.47	-74.09	260	2.2	V	12.48	-61.61	-13	48.61
3700.4	-49.02	253	1.1	H	4.72	-44.3	-13	31.3
3700.4	-48.71	231	1.4	V	4.61	-44.1	-13	31.1
Middle Channel (1880 MHz)								
974.69	-72.95	202	1.7	H	11.79	-61.16	-13	48.16
974.69	-74.95	60	2	V	12.48	-62.47	-13	49.47
3760	-47.54	211	2	H	4.94	-42.6	-13	29.6
3760	-47.35	230	1.7	V	4.85	-42.5	-13	29.5
Middle Channel (1909.80 MHz)								
958.47	-71.98	221	1.7	H	11.79	-60.19	-13	47.19
958.47	-75.35	117	1.4	V	12.48	-62.87	-13	49.87
3819.6	-46.75	201	1.4	H	5.25	-41.5	-13	28.5
3819.6	-46.48	122	1.3	V	5.08	-41.4	-13	28.4
WCDMA Band 2								
Low Channel (1852.4MHz)								
965.47	-74.59	280	1.5	H	11.79	-62.8	-13	49.8
965.47	-76.69	310	1.9	V	12.48	-64.21	-13	51.21
3704.8	-48.25	267	1.1	H	4.75	-43.5	-13	30.5
3704.8	-46.72	138	1.7	V	4.62	-42.1	-13	29.1
Middle Channel (1880MHz)								
948.5	-72.37	142	2	H	11.79	-60.58	-13	47.58
948.5	-74.56	232	1	V	12.48	-62.08	-13	49.08
3760	-47.04	249	1.3	H	4.94	-42.1	-13	29.1
3760	-45.25	81	1	V	4.85	-40.4	-13	27.4
Middle Channel (1907.6MHz)								
959.8	-72.98	89	1.7	H	11.79	-61.19	-13	48.19
959.8	-75.46	24	1.7	V	12.48	-62.98	-13	49.98
3815.2	-46.32	56	2.1	H	5.22	-41.1	-13	28.1
3815.2	-44.95	274	1.8	V	5.05	-39.9	-13	26.9

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
WCDMA Band 4								
Low Channel (1712.4MHz)								
956.42	-72.37	47	1.9	H	11.79	-60.58	-13	47.58
956.42	-74.99	147	1.9	V	12.48	-62.51	-13	49.51
3424.8	-47.06	183	1.5	H	3.26	-43.8	-13	30.8
3424.8	-46.13	331	1.7	V	3.23	-42.9	-13	29.9
Middle Channel (1732.6MHz)								
955.52	-74.4	245	1.2	H	11.79	-62.61	-13	49.61
955.52	-76.05	321	1.4	V	12.48	-63.57	-13	50.57
3465.2	-46.05	266	1.1	H	3.35	-42.7	-13	29.7
3465.2	-46.02	185	1.3	V	3.32	-42.7	-13	29.7
High Channel (1752.6MHz)								
963.2	-72.95	228	1.8	H	11.79	-61.16	-13	48.16
963.2	-75.05	286	1.9	V	12.48	-62.57	-13	49.57
3505.2	-45.66	190	1.6	H	3.56	-42.1	-13	29.1
3505.2	-45.38	322	1.7	V	3.48	-41.9	-13	28.9

Note:

Absolute Level = Reading Level + Substituted Factor

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

Margin = Limit - Absolute Level

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

Applicable Standard

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

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

According to FCC §27.53 (c), For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

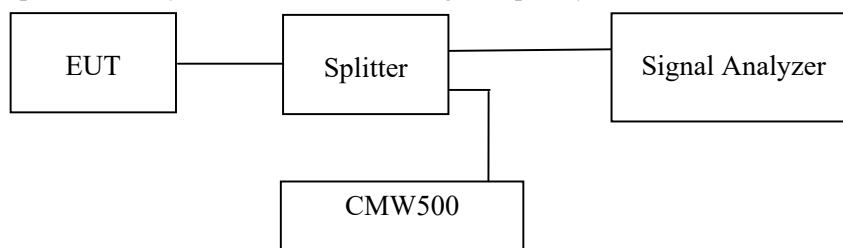
- (1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB;
- (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB;
- (3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log(P)$ dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;

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:	27.6 °C
Relative Humidity:	58 %
ATM Pressure:	101.0 kPa

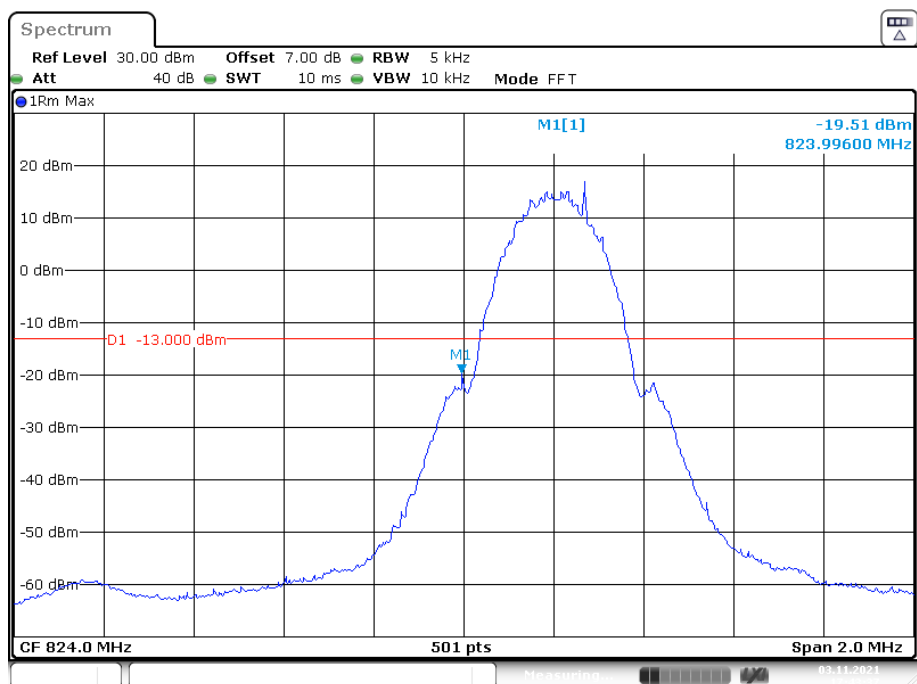
The testing was performed by Ting Lü from 2021-11-03 to 2021-12-24.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass.

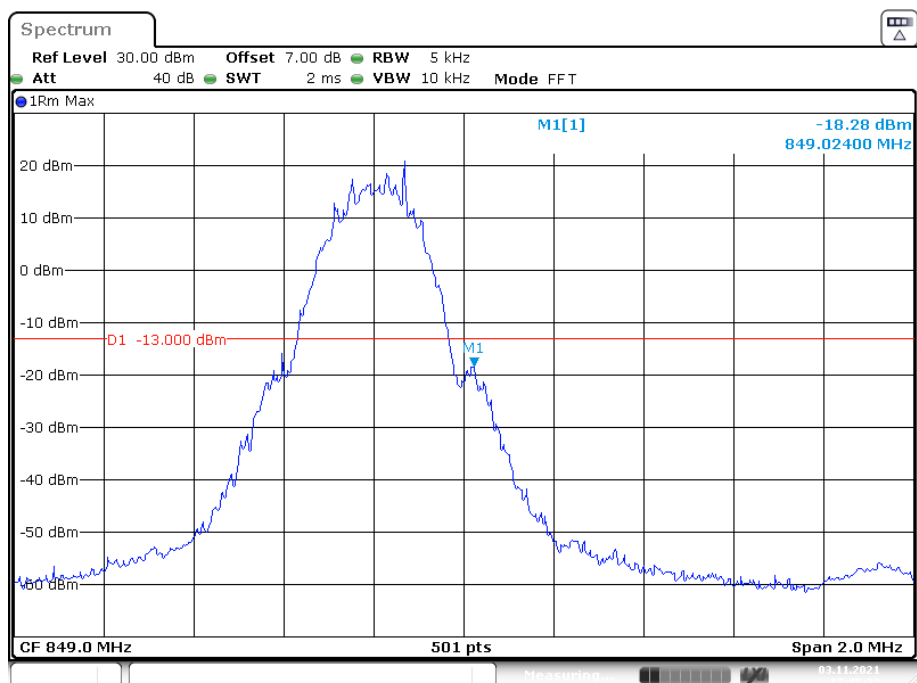
Please refer to below plots.

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



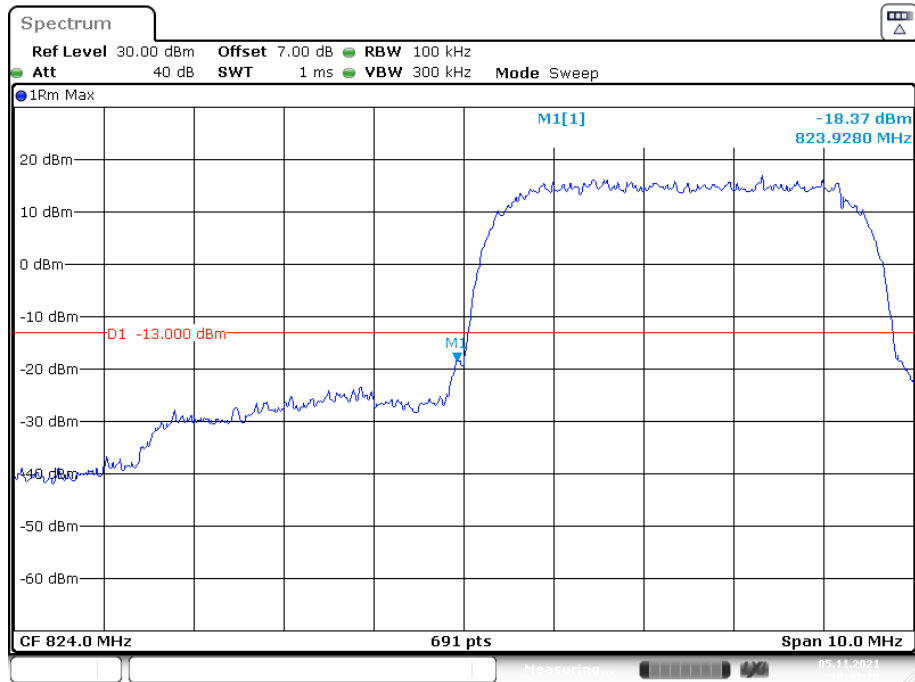
Date: 3.NOV.2021 17:43:37

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



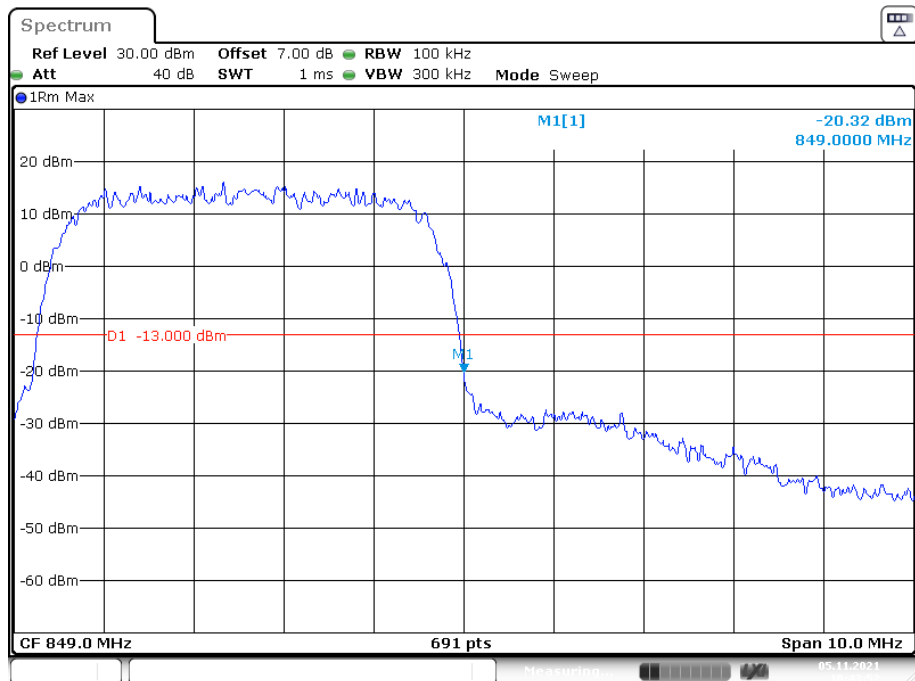
Date: 3.NOV.2021 17:45:32

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



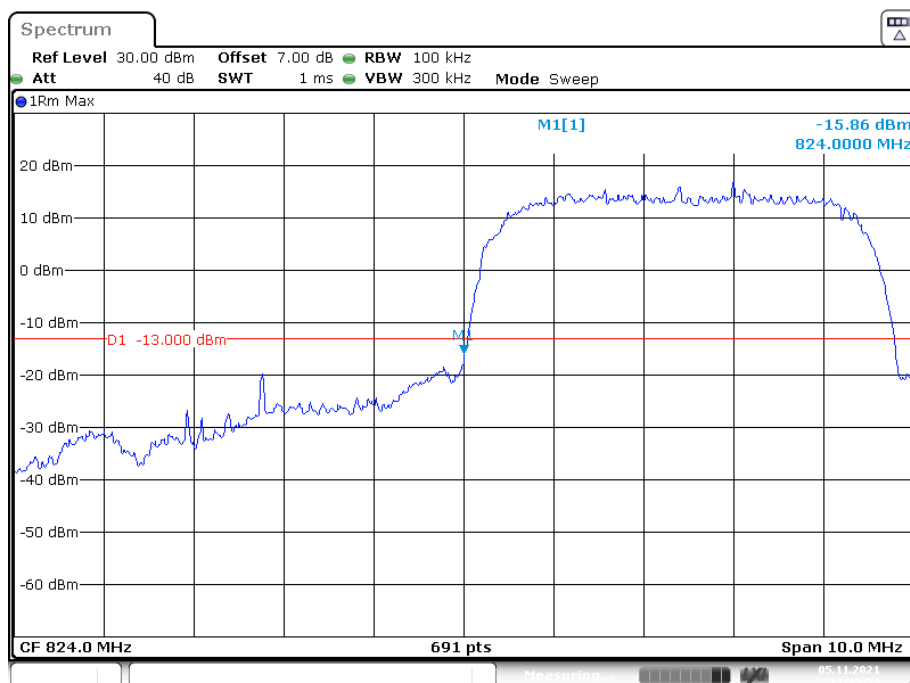
Date: 5.NOV.2021 10:43:21

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



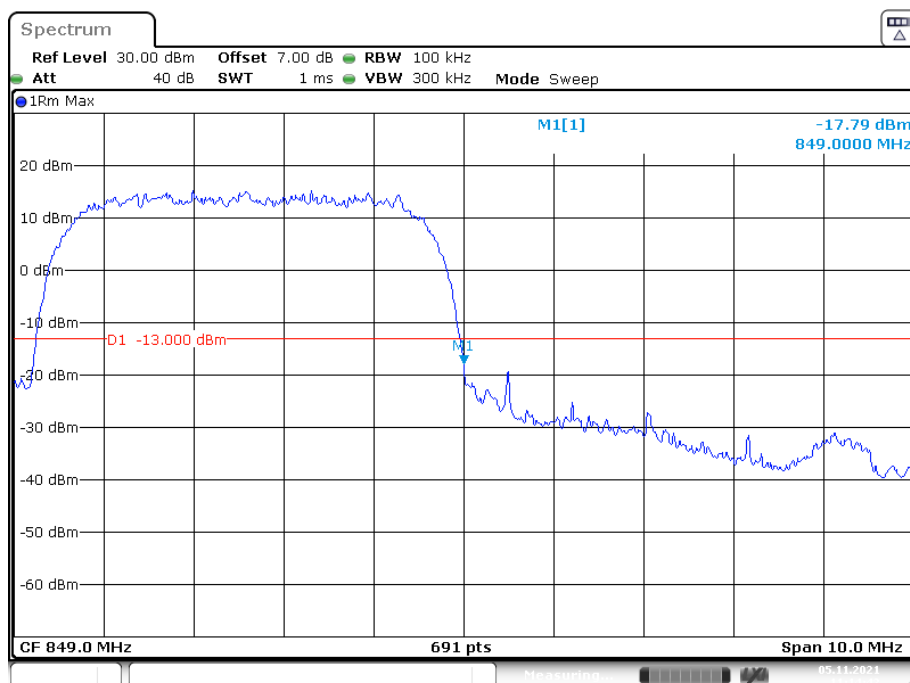
Date: 5.NOV.2021 10:43:53

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



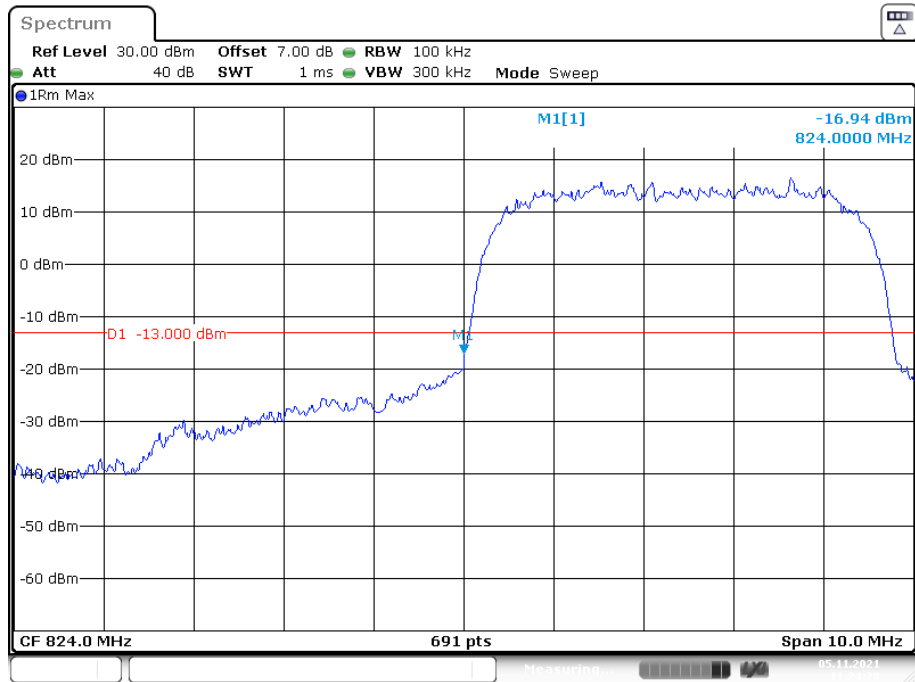
Date: 5.NOV.2021 11:15:55

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



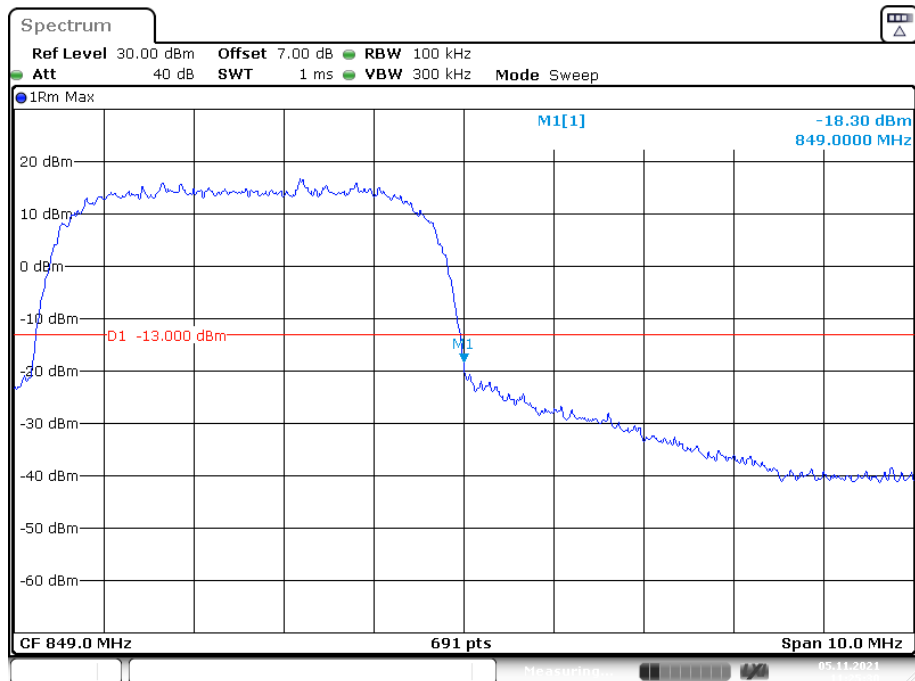
Date: 5.NOV.2021 11:14:43

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



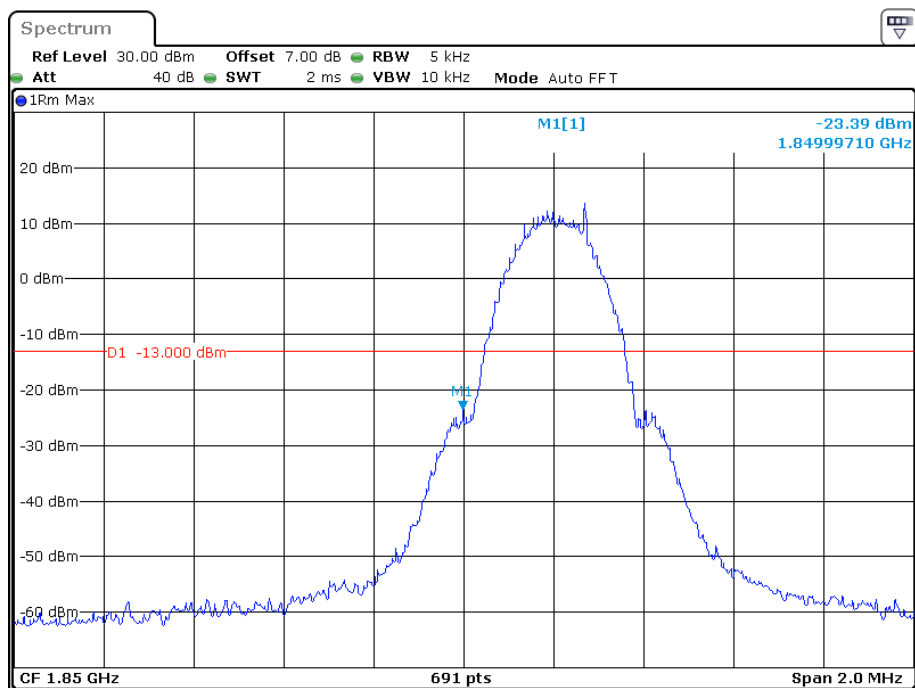
Date: 5.NOV.2021 11:24:29

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



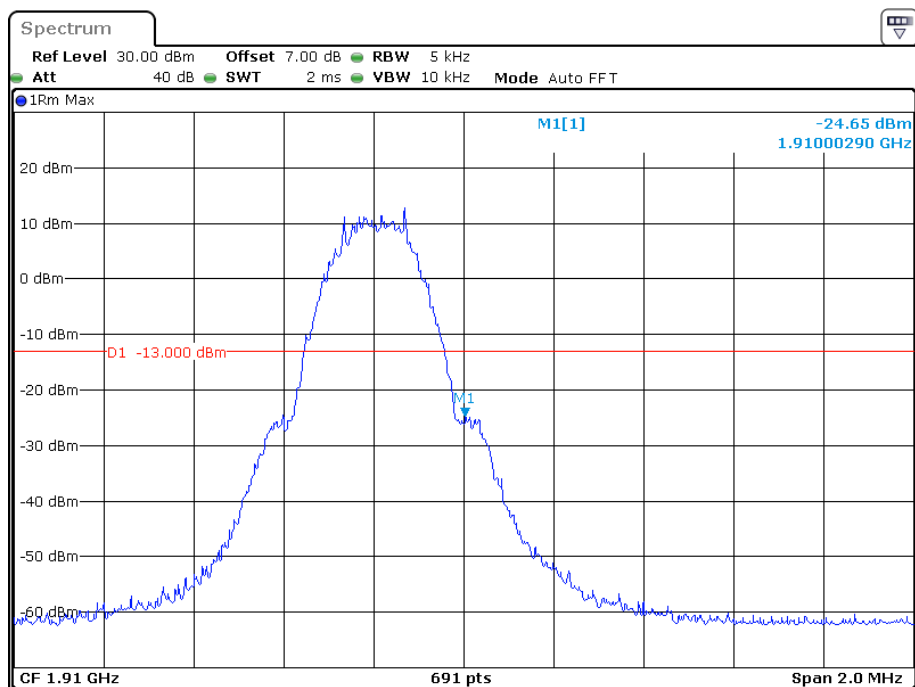
Date: 5.NOV.2021 11:25:31

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



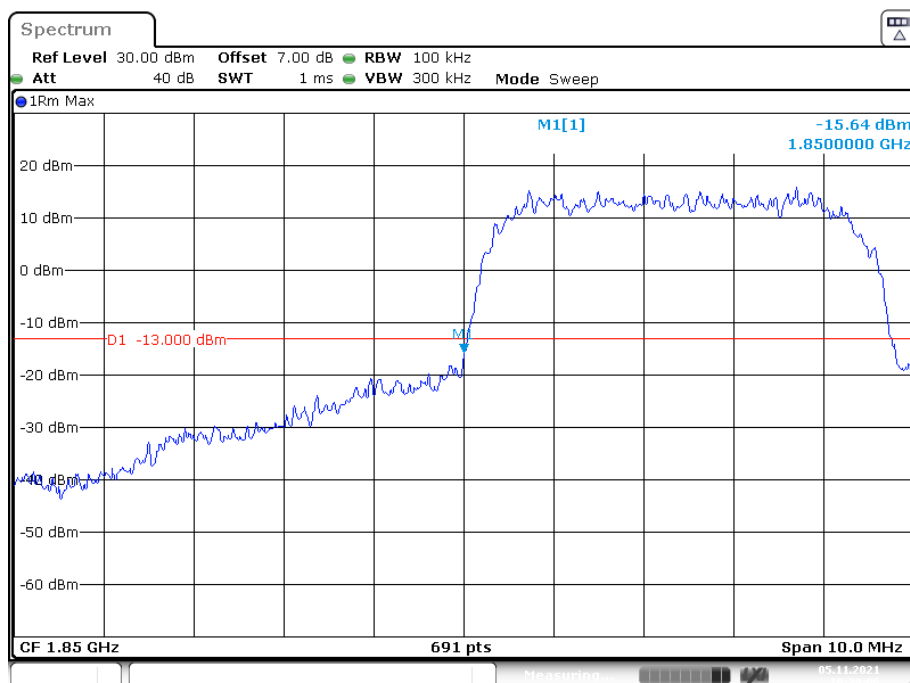
Date: 24.DEC.2021 13:22:50

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



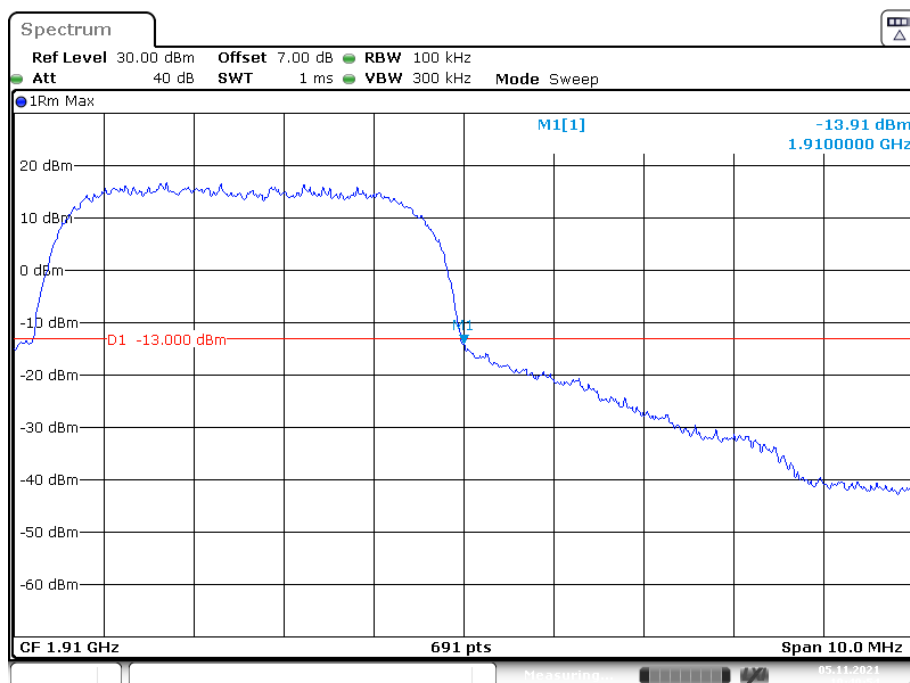
Date: 24.DEC.2021 13:25:18

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



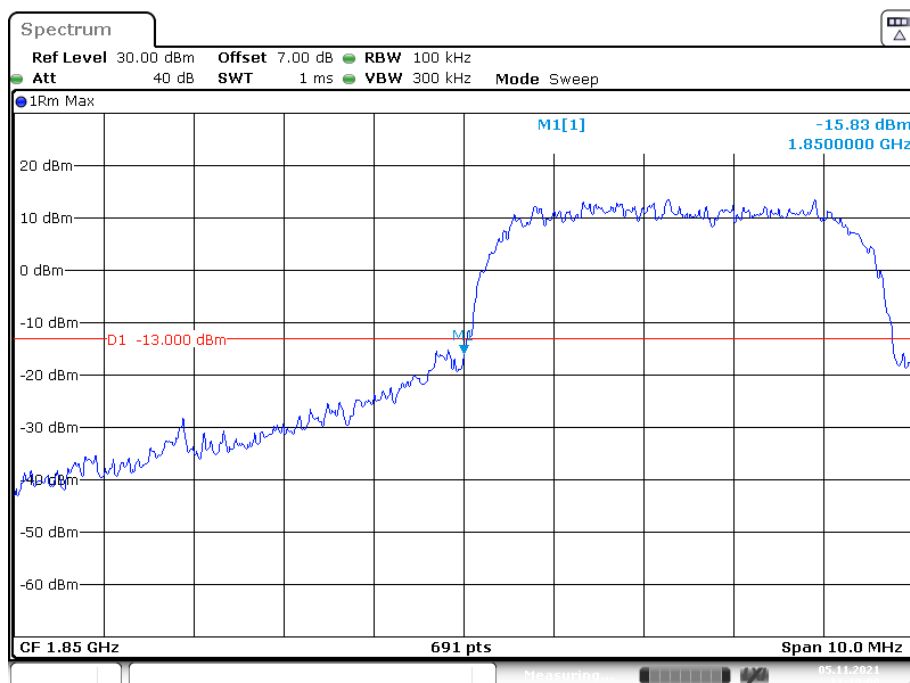
Date: 5.NOV.2021 10:39:07

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



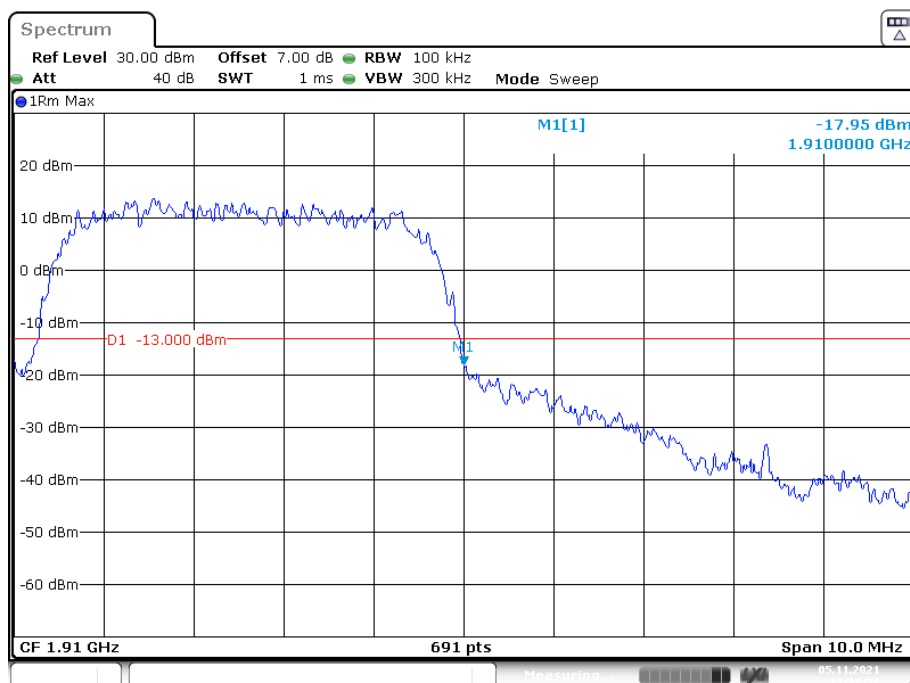
Date: 5.NOV.2021 10:40:55

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



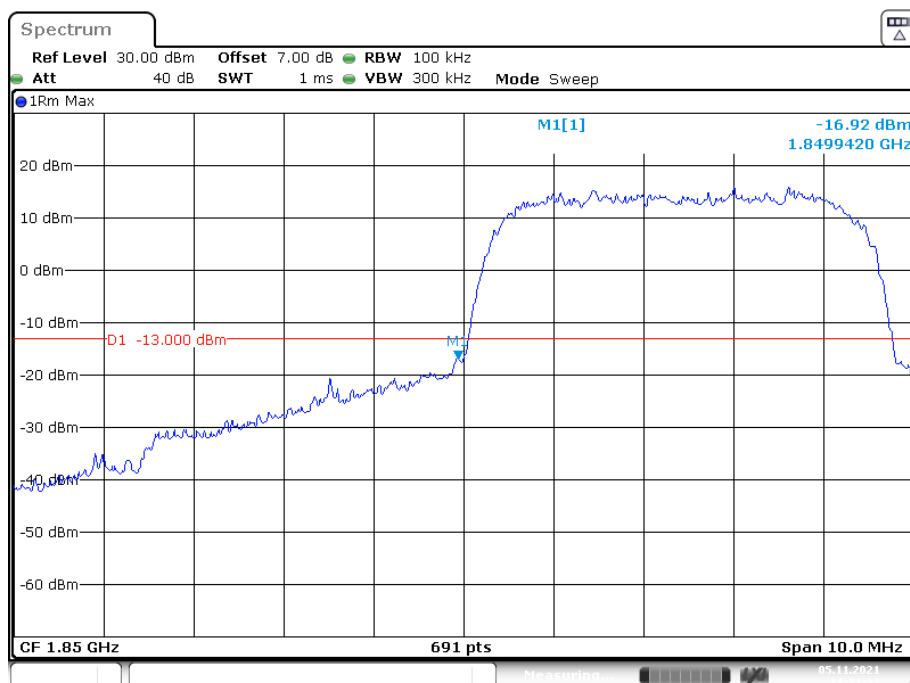
Date: 5.NOV.2021 11:19:01

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



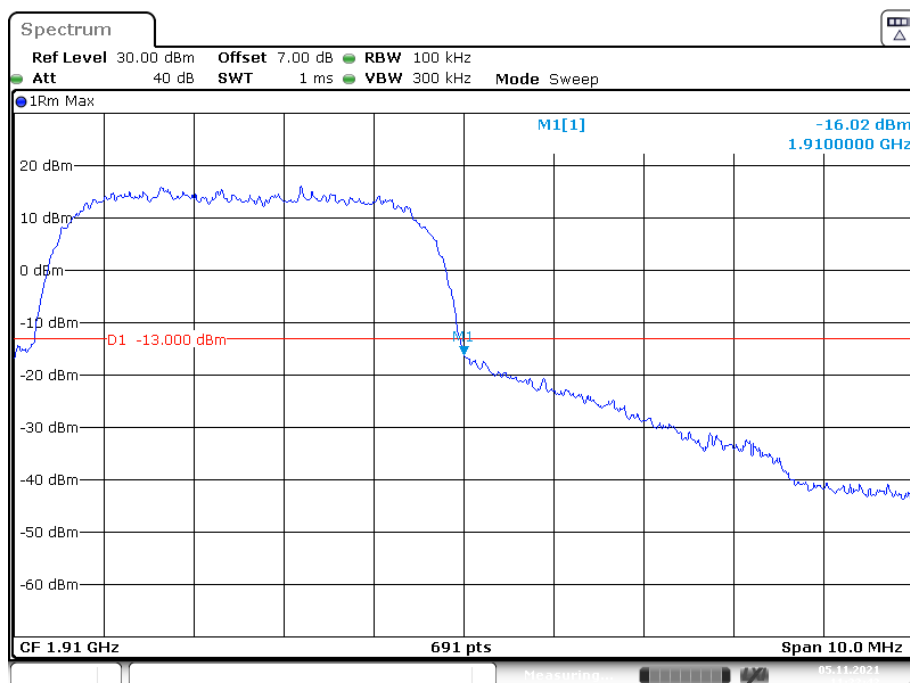
Date: 5.NOV.2021 11:18:23

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



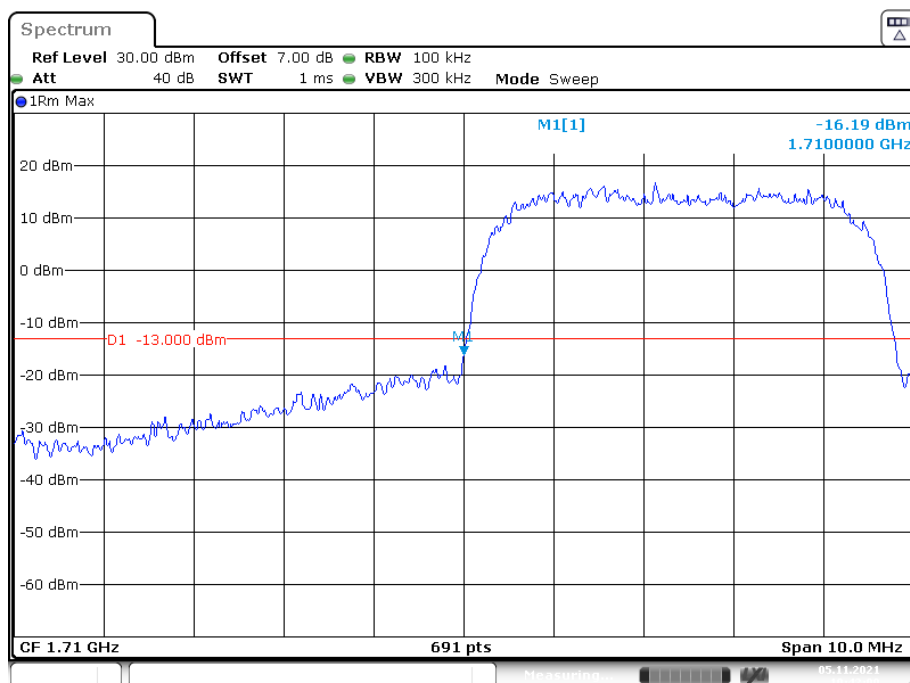
Date: 5.NOV.2021 11:21:33

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



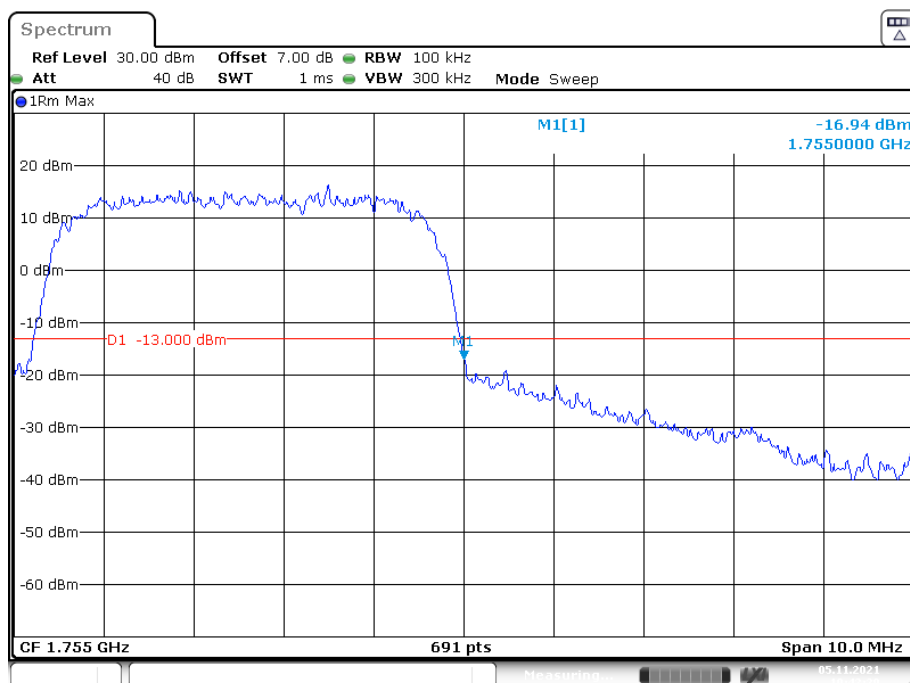
Date: 5.NOV.2021 11:22:42

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



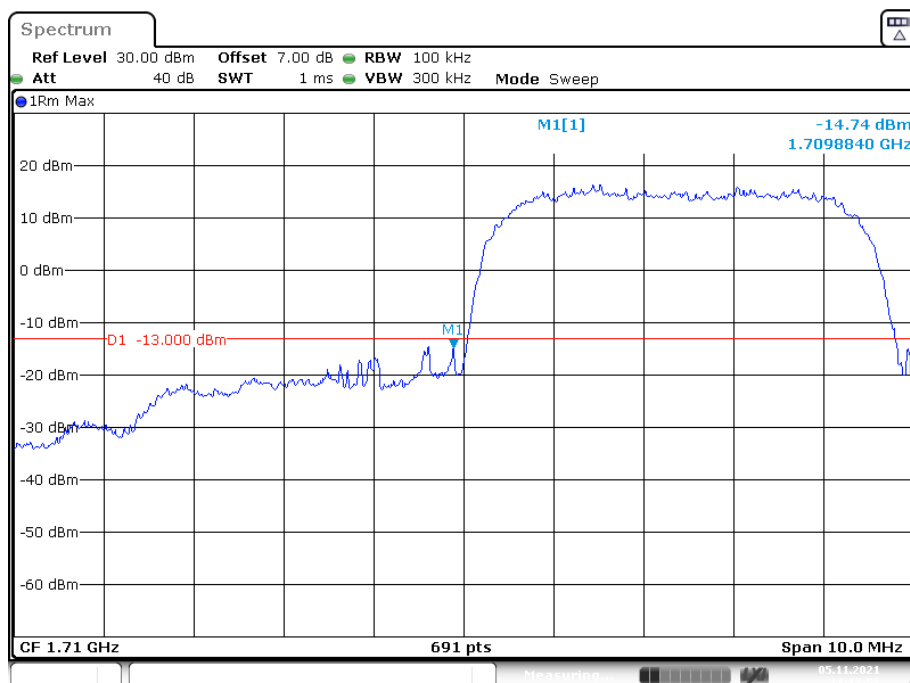
Date: 5.NOV.2021 10:42:01

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

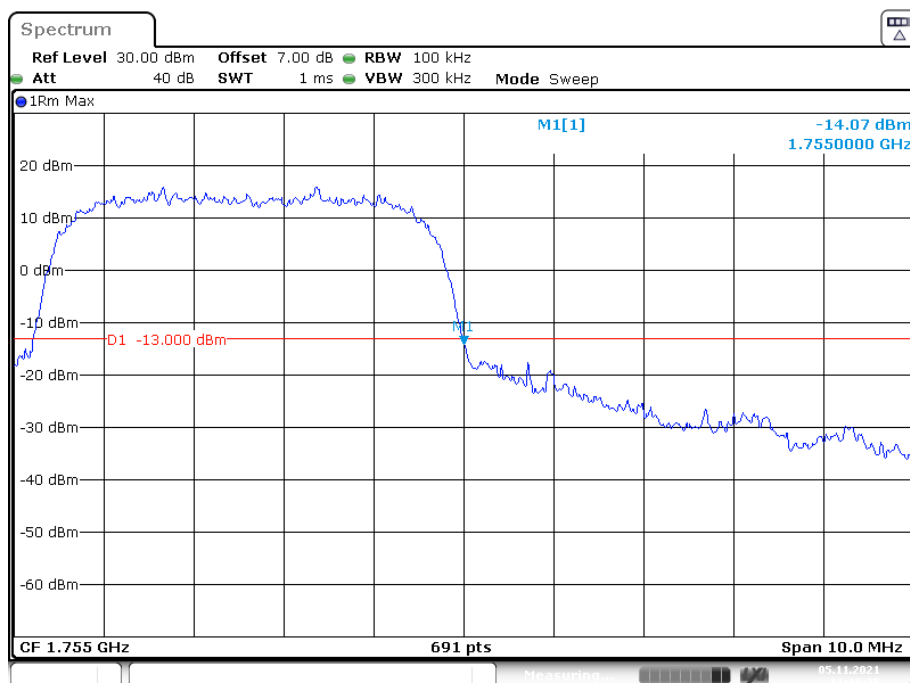


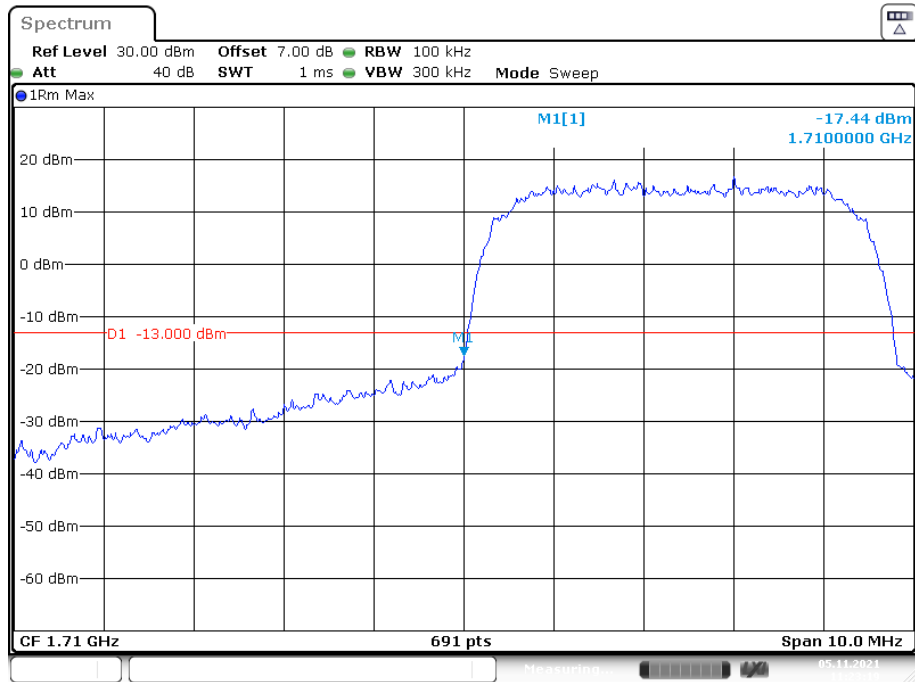
Date: 5.NOV.2021 10:42:29

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

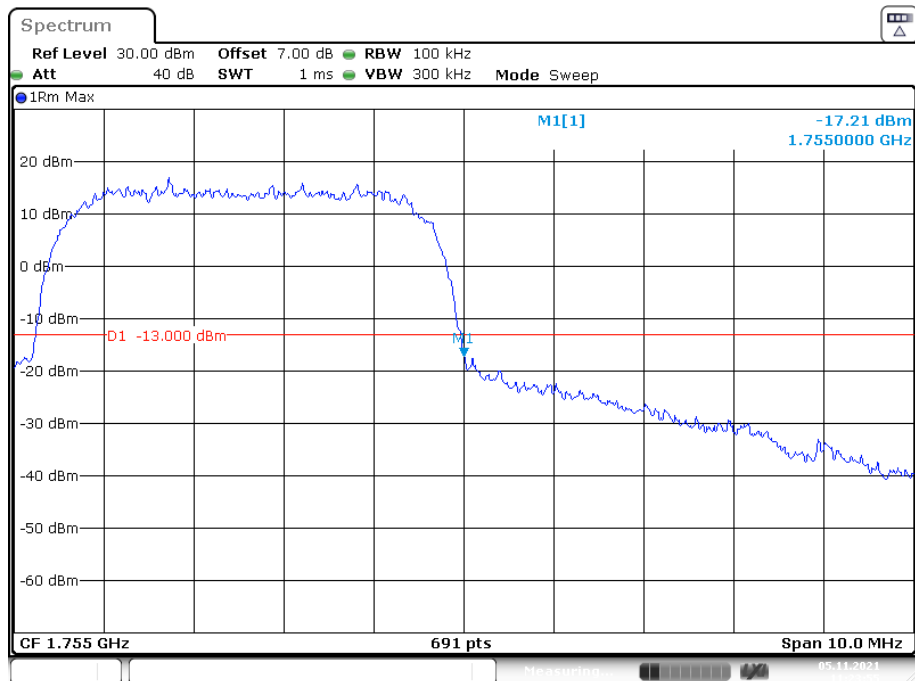


AWS Band, Right Band Edge for HSDPA (16QAM) Mode



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

Date: 5.NOV.2021 11:23:20

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

Date: 5.NOV.2021 11:23:56

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

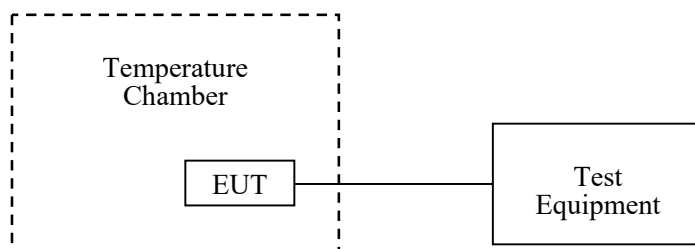
According to §24.235 & §27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

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:	27.6 °C
Relative Humidity:	58 %
ATM Pressure:	101.0 kPa

The testing was performed by Ting Lü from 2021-11-03 to 2021-11-05.

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.	6	0.00717	2.5
-20		-4	-0.00478	2.5
-10		2	0.00239	2.5
0		6	0.00717	2.5
10		-3	-0.00359	2.5
20		-7	-0.00837	2.5
30		10	0.01195	2.5
40		7	0.00837	2.5
50		8	0.00956	2.5
20	L.V	2	0.00239	2.5
	H.V	-2	-0.00239	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.	0.14	0.00017	2.5
-20		0.09	0.00011	2.5
-10		0.08	0.00010	2.5
0		0.09	0.00011	2.5
10		0.12	0.00014	2.5
20		0.11	0.00013	2.5
30		0.12	0.00014	2.5
40		0.15	0.00018	2.5
50		0.18	0.00022	2.5
20	L.V	0.11	0.00013	2.5
	H.V	0.16	0.00019	2.5

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

Middle Channel, $f_0=1880.0\text{ MHz}$				
Temperature (°C)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	N.V.	-3	-0.00160	pass
-20		-8	-0.00426	pass
-10		3	0.00160	pass
0		4	0.00213	pass
10		2	0.00106	pass
20		7	0.00372	pass
30		-3	-0.00160	pass
40		6	0.00319	pass
50		5	0.00266	pass
20	L.V	-3	-0.00160	pass
	H.V	-2	-0.00106	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.	-0.22	-0.00012	pass
-20		-0.19	-0.00010	pass
-10		-0.17	-0.00009	pass
0		-0.13	-0.00007	pass
10		-0.16	-0.00009	pass
20		-0.24	-0.00013	pass
30		-0.14	-0.00007	pass
40		-0.12	-0.00006	pass
50		-0.18	-0.00010	pass
20	L.V	-0.19	-0.00010	pass
	H.V	-0.16	-0.00009	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.	1710.0125	1754.9722	1710	1755
-20		1710.0157	1754.9736	1710	1755
-10		1710.0127	1754.9733	1710	1755
0		1710.0134	1754.9754	1710	1755
10		1710.0112	1754.9737	1710	1755
20		1710.0115	1754.9748	1710	1755
30		1710.0109	1754.9722	1710	1755
40		1710.0124	1754.9736	1710	1755
50		1710.0122	1754.9735	1710	1755
20	L.V	1710.0128	1754.9738	1710	1755
	H.V	1710.0156	1754.9722	1710	1755

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