

FCC PART 27
FCC PART 22H, PART 24E
TEST REPORT

For

INFINIX MOBILITY LIMITED

FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET
FOTAN NT Hong Kong

FCC ID: 2AIZN-X663B

Report Type: Original Report	Product Type: Mobile Phone
Report Number: SZ1210803-32416E-RF-00E	
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Mobile Phone
Tested Model	X663B
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)
Modulation Technique	2G: GMSK, 8PSK 3G: BPSK, QPSK, 16QAM 4G: QPSK, 16QAM
Antenna Specification*	GSM 850/WCDMA B5/LTE B5: -4.03dBi PCS1900/WCDMA B2/ LTE FDD B2: 0.1dBi; WCDMA B4/LTE FDD B4: 0.1dBi; LTE FDD B7/LTE FDD B38/LTE FDD B41: 0.31dBi (provided by the applicant)
Voltage Range	DC 3.87V from battery or DC 5V/10V from adapter
Date of Test	2021-08-11 to 2021-09-14
Sample number	SZ1210803-32416E-RF -S1(Assigned by BACL, Shenzhen)
Received date	2021-08-03
Sample/EUT Status	Good condition
Normal/Extreme Condition	L.V.: Low Voltage 3.45V _{DC} N.V.: Normal Voltage 3.87V _{DC} H.V.: High Voltage 4.45V _{DC} The extreme condition was declared by the applicant
Adapter information	Model: U330XSA Input: 100-240V ~ 50/60Hz, 1.5A Output: 5.0V, 3.0A 15.0W or 10.0V, 3.3A 33.0W MAX

Objective

This test report is in accordance with Part 2-Subpart J, Part 22-Subpart H and Part 24-Subpart E and Subpart 27 of the Federal Communication Commissions 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 Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.
Each test item follows test standards and with no deviation.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF output power, conducted		±0.73dB
Unwanted Emission, conducted		±1.6dB
Emissions, Radiated	Below 1GHz	±4.75dB
	Above 1GHz	±4.88dB
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 Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West) ,6F,7F,the 3rd Phase of Wan Li Industrial Building D,Shihua Rd, FuTian Free Trade Zone, Shenzhen, 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.: 342867, the FCC Designation No.: CN1221.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062B.

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
EGSM850	0.25	824.2	836.6	848.8
DCS1900	0.25	1850.2	1880	1909.8
WCDMA B2	4.2	1852.4	1880	1907.6
WCDMA B4	4.2	1712.4	1732.6	1752.6
WCDMA B5	4.2	826.4	836.6	846.6
LTE B2	1.4	1850.7	1880	1909.3
	3	1851.5	1880	1908.5
	5	1852.5	1880	1907.5
	10	1855	1880	1905
	15	1857.5	1880	1902.5
	20	1860	1880	1900
LTE B4	1.4	1710.7	1732.5	1754.3
	3	1711.5	1732.5	1753.5
	5	1712.5	1732.5	1752.5
	10	1715	1732.5	1750
	15	1717.5	1732.5	1747.5
	20	1720	1732.5	1745
LTE B5	1.4	824.7	836.5	848.3
	3	825.5	836.5	847.5
	5	826.5	836.5	846.5
	10	829	836.5	844
LTE B7	5	2502.5	2535	2567.5
	10	2505	2535	2565
	15	2507.5	2535	2562.5
	20	2510	2535	2560
LTE 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

Equipment Modifications

No modification was made to the EUT.

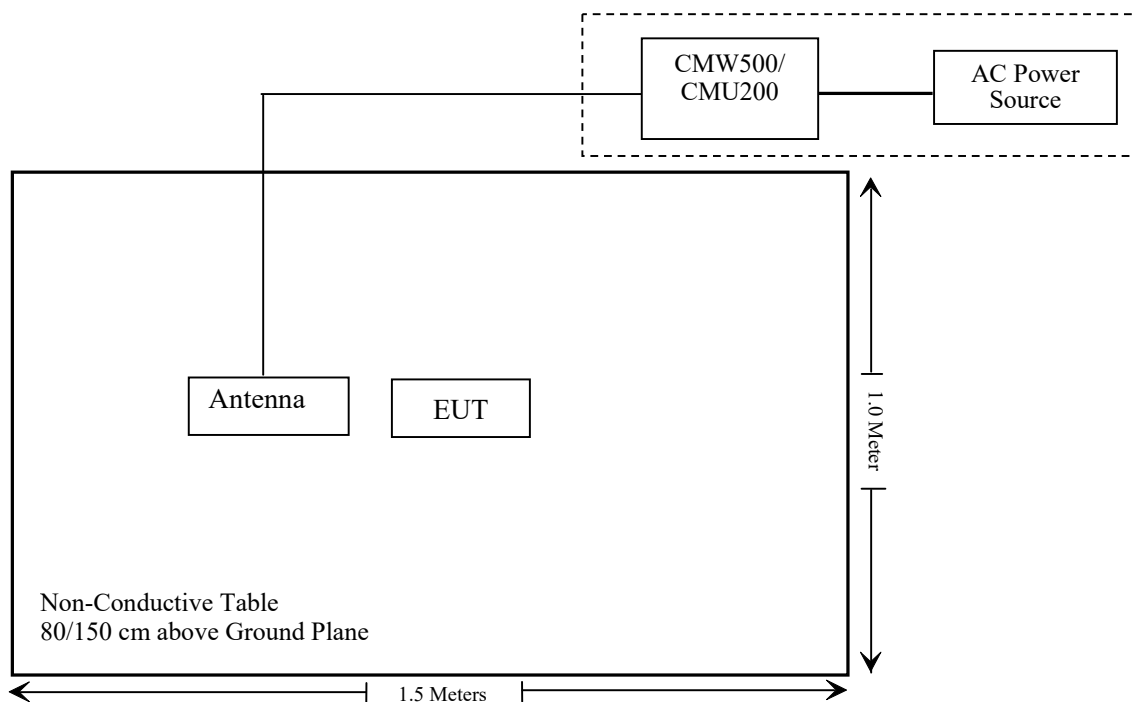
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.002K50-116218-U
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	115500

Support Cable Description

Cable Description	Length (m)	From / Port	To
Un-shielded Un-detachable AC cable	1.2	AC Power	CMW500/ CMU200

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 (c) (d) (h)	RF Output Power	Compliant
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905; § 22.917; § 24.238; §27.53	Occupied Bandwidth	Compliant
§ 2.1051; § 22.917 (a); § 24.238 (a); §27.53	Spurious Emissions at Antenna Terminal	Compliant
§ 2.1053; § 22.917 (a); § 24.238 (a); §27.53	Field Strength of Spurious Radiation	Compliant
§ 22.917 (a); § 24.238 (a); §27.53(c)(h) (m)	Band Edge	Compliant
§ 2.1055; § 22.355; § 24.235; §27.54;	Frequency stability	Compliant

Note: * Please refer to SAR report released by BACL, report number: SZ1210803-32416E-SA.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
R&S	EMI Test Receiver	ESR3	102455	2021/07/06	2022/07/05
Sonoma instrument	Pre-amplifier	310 N	186238	2021/08/03	2022/08/02
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2020/12/22	2023/12/21
COM-POWER	Dipole Antenna	AD-100	721027	NCR	NCR
Unknown	Cable 2	RF Cable 2	F-03-EM197	2020/11/29	2021/11/28
Unknown	Cable	Chamber Cable 1	F-03-EM236	2021/08/03	2022/08/02
Unknown	Cable	Chamber Cable 4	EC-007	2021/08/03	2022/08/02
Rohde & Schwarz	Spectrum Analyzer	FSV40-N	102259	2021/07/06	2022/07/05
COM-POWER	Pre-amplifier	PA-122	181919	2020/11/29	2021/11/28
A.H.System	Pre-amplifier	PAM-1840VH	190	2021/08/03	2022/08/02
Sunol Sciences	Horn Antenna	3115	9107-3694	2021/01/15	2024/01/14
A.H.System	Horn Antenna	SAS-200/571	135	2021/07/14	2024/07/13
Insulted Wire Inc.	RF Cable	SPS-2503-3150	02222010	2020/11/29	2021/11/28
Unknown	RF Cable	W1101-EQ1 OUT	F-19-EM005	2020/11/29	2021/11/28
Unknown	Signal Cable	RG-214	2	2020/11/29	2021/11/28
Ducommun Technologies	Horn antenna	ARH-4223-02	1007726-02 1304	2020/12/06	2023/12/05
Ducommun Technologies	Horn antenna	ARH-4223-02	1007726-01 1304	2020/12/06	2023/12/05
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	115500	2021/07/06	2022/07/05
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.0002K50-116218-U	2021/07/06	2022/07/05
Agilent	Signal Generator	N5183A	MY51040755	2020/12/29	2021/12/28

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	SPECTRUM ANALYZER	FSU26	200120	2021/04/02	2022/04/01
WEINSCHTEL	3dB Attenuator	Unknown	F-03-EM121	2020/11/29	2021/11/28
Unknown	RF Cable	Unknown	2301 276	2020/11/29	2021/11/28
Unknown	RF Cable	Unknown	0501 067	2020/11/29	2021/11/28
Weinschel	Power divider	1515	RH386	2021/04/20	2022/04/20
instek	DC Power Supply	GPS-3030DD	EM832096	NCR	NCR
Fluke	Digital Multimeter	287	19000011	2021/02/22	2022/02/21
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	115500	2021/07/06	2022/07/05
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.0002K50-116218-U	2021/07/06	2022/07/05
ESPEC	Temperature & Humidity Chamber	EL-10KA	9107726	2021/02/23	2022/02/22

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) 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

Compliance, please refer to the SAR report: SZ1210803-32416E-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 (c) (d) (h) - RF OUTPUT POWER

Applicable Standard

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

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

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

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

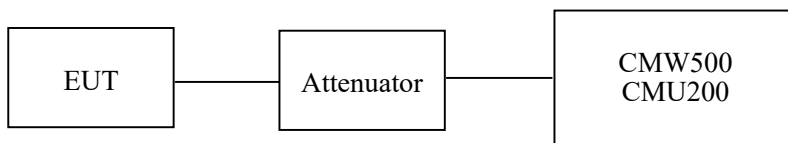
According to §27.50(d), the maximum EIRP must not exceed 1Watts (30dBm) for 1710-1780MHz.

According to §27.50(h), the maximum EIRP must not exceed 2Watts (33dBm) for 2500-2570MHz & 2496-2690MHz.

Test Procedure

Conducted method:

The RF output of the transmitter was connected to the CMW500/CMU200 through sufficient attenuation.



Test Data

Environmental Conditions

Temperature:	28.9~29.2°C
Relative Humidity:	49~51 %
ATM Pressure:	101.0 kPa

The testing was performed by Sky Luo on 2021-08-29.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables and plots.

Conducted Power**Cellular Band 850**

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
GSM	128	824.2	32.4	26.22	38.45
	190	836.6	33.2	27.02	38.45
	251	848.8	33.1	26.92	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				ERP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
GPRS	128	824.2	33.20	32.31	30.25	29.12	27.02	26.13	24.07	22.94	38.45
	190	836.6	33.37	32.15	30.08	28.93	27.19	25.97	23.9	22.75	38.45
	251	848.8	33.08	32.03	29.92	28.78	26.9	25.85	23.74	22.6	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	26.54	25.53	24.17	22.93	20.36	19.35	17.99	16.75	38.45
	190	836.6	26.32	25.49	24.11	22.75	20.14	19.31	17.93	16.57	38.45
	251	848.8	26.08	25.25	23.71	22.50	19.9	19.07	17.53	16.32	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		23.19	23.17	23.21	17.01	16.99	17.03
	HSDPA	1	22.14	22.09	22.5	15.96	15.91	16.32
		2	22.50	22.18	22.49	16.32	16	16.31
		3	22.49	22.19	22.57	16.31	16.01	16.39
		4	22.57	22.24	22.72	16.39	16.06	16.54
	HSUPA	1	22.72	22.67	22.72	16.54	16.49	16.54
		2	22.72	22.64	22.76	16.54	16.46	16.58
		3	22.76	22.72	22.74	16.58	16.54	16.56
		4	22.74	22.73	22.8	16.56	16.55	16.62
		5	22.80	22.79	22.85	16.62	16.61	16.67
	HSPA+	1	22.85	22.84	22.50	16.67	16.66	16.32

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
 For GSM850 / WCDMA Band5: Antenna Gain = -4.03dBi = -6.18dBd (0dBd=2.15dBi)
 Limit: ERP ≤ 38.45dBm

PCS Band 1900

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	EIRP(dBm)	Limit (dBm)
GSM	512	1850.2	29.8	29.9	33
	661	1880.0	29.8	29.9	33
	810	1909.8	29.8	29.9	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	29.87	28.80	26.71	25.60	29.97	28.9	26.81	25.7	33
	661	1880.0	29.84	28.82	26.74	25.63	29.94	28.92	26.84	25.73	33
	810	1909.8	29.94	28.92	26.88	25.26	30.04	29.02	26.98	25.36	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	25.56	25.17	24.59	22.55	25.66	25.27	24.69	22.65	33
	661	1880.0	25.98	25.13	24.37	23.04	26.08	25.23	24.47	23.14	33
	810	1909.8	25.37	25.09	24.36	22.73	25.47	25.19	24.46	22.83	33

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 2)	RMC12.2k		19.68	19.72	19.60	19.78	19.82	19.7
	HSDPA	1	18.54	18.55	18.45	18.64	18.65	18.55
		2	18.61	18.59	18.52	18.71	18.69	18.62
		3	18.58	18.60	18.49	18.68	18.7	18.59
		4	18.63	18.67	18.54	18.73	18.77	18.64
	HSUPA	1	19.28	19.18	19.19	19.38	19.28	19.29
		2	19.26	19.17	19.17	19.36	19.27	19.27
		3	19.30	19.23	19.21	19.4	19.33	19.31
		4	19.31	19.25	19.22	19.41	19.35	19.32
		5	19.36	19.30	19.27	19.46	19.4	19.37
	HSPA+	1	19.40	19.36	19.31	19.5	19.46	19.41

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

AWS Band 4

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 4)	RMC12.2k		18.96	18.96	18.97	19.06	19.06	19.07
	HSDPA	1	18.53	18.62	18.44	18.63	18.72	18.54
		2	18.60	18.65	18.51	18.7	18.75	18.61
		3	18.58	18.67	18.49	18.68	18.77	18.59
		4	18.01	17.95	17.92	18.11	18.05	18.02
	HSUPA	1	19.28	19.18	19.19	19.38	19.28	19.29
		2	19.26	19.19	19.17	19.36	19.29	19.27
		3	19.28	19.22	19.19	19.38	19.32	19.29
		4	19.27	19.22	19.18	19.37	19.32	19.28
		5	19.33	19.29	19.24	19.43	19.39	19.34
	HSPA+	1	19.37	19.32	19.28	19.47	19.42	19.38

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

For Band4: Antenna Gain = 0.1dBi

Limit: EIRP ≤ 33dBm

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

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.30	13
	Middle	3.37	13
	High	3.34	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	3.76	13
	Middle	3.28	13
	High	3.64	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.39	13
	Middle	3.41	13
	High	3.38	13
HSDPA (16QAM)	Low	3.48	13
	Middle	3.42	13
	High	3.47	13
HSUPA (BPSK)	Low	3.51	13
	Middle	3.54	13
	High	3.58	13
HSUPA+	Low	3.58	13
	Middle	3.55	13
	High	3.49	13

PCS Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.38	13
	Middle	3.36	13
	High	3.35	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	3.48	13
	Middle	3.57	13
	High	3.29	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.43	13
	Middle	3.51	13
	High	3.62	13
HSDPA (16QAM)	Low	3.55	13
	Middle	3.58	13
	High	3.51	13
HSUPA (BPSK)	Low	3.49	13
	Middle	3.54	13
	High	3.58	13
HSUPA+	Low	3.62	13
	Middle	3.54	13
	High	3.57	13

AWS Band

Mode	Channel	PAR (dB)	Limit (dB)
WCDMA (BPSK)	Low	3.47	13
	Middle	3.46	13
	High	3.45	13
HSDPA (16QAM)	Low	3.43	13
	Middle	3.45	13
	High	3.46	13
HSUPA (BPSK)	Low	3.47	13
	Middle	3.44	13
	High	3.45	13
HSUPA+	Low	3.46	13
	Middle	3.50	13
	High	3.42	13

LTE Band 2

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	18.10	18.06	17.96	18.2	18.16	18.06
		RB1#3	18.41	18.23	18.33	18.51	18.33	18.43
		RB1#5	18.30	18.02	18.26	18.4	18.12	18.36
		RB3#0	18.47	18.33	18.26	18.57	18.43	18.36
		RB3#3	18.46	18.28	18.10	18.56	18.38	18.2
		RB6#0	18.18	18.23	18.34	18.28	18.33	18.44
	16QAM	RB1#0	18.20	18.22	18.17	18.3	18.32	18.27
		RB1#3	18.41	18.51	18.54	18.51	18.61	18.64
		RB1#5	18.23	18.19	18.27	18.33	18.29	18.37
		RB3#0	18.50	18.67	18.17	18.6	18.77	18.27
		RB3#3	18.65	18.45	18.38	18.75	18.55	18.48
		RB6#0	18.46	18.27	18.36	18.56	18.37	18.46
3.0	QPSK	RB1#0	18.19	18.14	18.05	18.29	18.24	18.15
		RB1#8	18.55	18.41	18.46	18.65	18.51	18.56
		RB1#14	18.26	18.16	18.27	18.36	18.26	18.37
		RB6#0	18.31	18.32	18.10	18.41	18.42	18.2
		RB6#9	18.31	18.26	18.16	18.41	18.36	18.26
		RB15#0	18.38	18.29	18.25	18.48	18.39	18.35
	16QAM	RB1#0	18.29	18.30	18.21	18.39	18.4	18.31
		RB1#8	18.49	18.30	18.42	18.59	18.4	18.52
		RB1#14	18.42	18.14	18.23	18.52	18.24	18.33
		RB6#0	18.45	18.51	18.16	18.55	18.61	18.26
		RB6#9	18.66	18.45	18.20	18.76	18.55	18.3
		RB15#0	18.33	18.22	18.17	18.43	18.32	18.27

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	18.09	18.23	18.15	18.19	18.33	18.25
		RB1#13	18.44	18.43	18.25	18.54	18.53	18.35
		RB1#24	18.05	18.13	18.20	18.15	18.23	18.3
		RB15#0	18.35	18.34	18.25	18.45	18.44	18.35
		RB15#10	18.43	18.25	18.16	18.53	18.35	18.26
		RB25#0	18.23	18.25	18.33	18.33	18.35	18.43
	16QAM	RB1#0	18.21	18.21	18.29	18.31	18.31	18.39
		RB1#13	18.47	18.55	18.47	18.57	18.65	18.57
		RB1#24	18.28	18.24	18.25	18.38	18.34	18.35
		RB15#0	18.60	18.60	18.34	18.7	18.7	18.44
		RB15#10	18.68	18.44	18.32	18.78	18.54	18.42
		RB25#0	18.23	18.22	18.11	18.33	18.32	18.21
10.0	QPSK	RB1#0	18.11	18.12	18.15	18.21	18.22	18.25
		RB1#25	18.49	18.35	18.26	18.59	18.45	18.36
		RB1#49	18.29	18.16	18.10	18.39	18.26	18.2
		RB25#0	18.52	18.22	18.22	18.62	18.32	18.32
		RB25#25	18.49	18.13	18.20	18.59	18.23	18.3
		RB50#0	18.39	18.30	18.03	18.49	18.4	18.13
	16QAM	RB1#0	18.15	18.11	18.30	18.25	18.21	18.4
		RB1#25	18.34	18.36	18.44	18.44	18.46	18.54
		RB1#49	18.27	18.18	18.32	18.37	18.28	18.42
		RB25#0	18.47	18.47	18.28	18.57	18.57	18.38
		RB25#25	18.17	18.10	18.07	18.27	18.2	18.17
		RB50#0	18.51	18.35	18.17	18.61	18.45	18.27

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	18.13	18.28	18.32	18.23	18.38	18.42
		RB1#38	18.51	18.43	18.28	18.61	18.53	18.38
		RB1#74	18.01	17.98	18.04	18.11	18.08	18.14
		RB36#0	18.49	18.25	18.54	18.59	18.35	18.64
		RB36#39	18.37	18.28	18.04	18.47	18.38	18.14
		RB75#0	18.25	18.19	18.51	18.35	18.29	18.61
	16QAM	RB1#0	18.31	18.23	18.07	18.41	18.33	18.17
		RB1#38	18.39	18.73	18.52	18.49	18.83	18.62
		RB1#74	18.51	18.05	18.18	18.61	18.15	18.28
		RB36#0	18.61	18.53	18.52	18.71	18.63	18.62
		RB36#39	18.73	18.32	18.23	18.83	18.42	18.33
		RB75#0	18.3	18.23	18.23	18.4	18.33	18.33
20.0	QPSK	RB1#0	18.15	18.2	18.1	18.25	18.3	18.2
		RB1#50	18.28	18.41	18.31	18.38	18.51	18.41
		RB1#99	18.38	18.38	18.1	18.48	18.48	18.2
		RB50#0	18.71	18.31	18.33	18.81	18.41	18.43
		RB50#50	18.39	18.05	18.11	18.49	18.15	18.21
		RB100#0	18.31	18.35	18.19	18.41	18.45	18.29
	16QAM	RB1#0	18	18.08	18.15	18.1	18.18	18.25
		RB1#50	18.46	18.44	18.49	18.56	18.54	18.59
		RB1#99	18.34	18.21	18.42	18.44	18.31	18.52
		RB50#0	18.3	18.69	18.13	18.4	18.79	18.23
		RB50#50	18.18	18.13	17.9	18.28	18.23	18
		RB100#0	18.42	18.25	18.14	18.52	18.35	18.24

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

For Band2: Antenna Gain =0.1dBi

Limit: EIRP≤33dBm

LTE Band 4

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	18.41	18.1	18.22	18.51	18.2	18.32
		RB1#3	18.19	18.3	18.06	18.29	18.4	18.16
		RB1#5	18.02	18.03	18.26	18.12	18.13	18.36
		RB3#0	18.37	18.4	18.14	18.47	18.5	18.24
		RB3#3	18.29	18.24	18.41	18.39	18.34	18.51
		RB6#0	18.23	18.14	18.43	18.33	18.24	18.53
	16QAM	RB1#0	18.17	18.25	18.44	18.27	18.35	18.54
		RB1#3	18.36	18.68	18.48	18.46	18.78	18.58
		RB1#5	18.41	18.36	18.23	18.51	18.46	18.33
		RB3#0	18.49	18.56	18.47	18.59	18.66	18.57
		RB3#3	18.58	18.39	18.38	18.68	18.49	18.48
		RB6#0	18.23	18.24	18.02	18.33	18.34	18.12
3.0	QPSK	RB1#0	18.01	18.33	18.11	18.11	18.43	18.21
		RB1#8	18.54	18.22	18.37	18.64	18.32	18.47
		RB1#14	18.07	18.23	18.09	18.17	18.33	18.19
		RB6#0	18.76	18.27	18.22	18.86	18.37	18.32
		RB6#9	18.63	18.14	18.24	18.73	18.24	18.34
		RB15#0	18.42	18.34	18.17	18.52	18.44	18.27
	16QAM	RB1#0	18.14	18.01	18.33	18.24	18.11	18.43
		RB1#8	18.3	18.37	18.63	18.4	18.47	18.73
		RB1#14	18.36	18.15	18.47	18.46	18.25	18.57
		RB6#0	18.35	18.4	18.13	18.45	18.5	18.23
		RB6#9	18.02	17.92	18.07	18.12	18.02	18.17
		RB15#0	18.62	18.1	17.93	18.72	18.2	18.03

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	18.01	18.22	18.23	18.11	18.32	18.33
		RB1#13	18.45	18.42	18.17	18.55	18.52	18.27
		RB1#24	18.2	18.13	18.45	18.3	18.23	18.55
		RB15#0	18.45	18.57	18.29	18.55	18.67	18.39
		RB15#10	18.65	18.43	18.34	18.75	18.53	18.44
		RB25#0	18.31	18.17	18.38	18.41	18.27	18.48
	16QAM	RB1#0	18.24	18.24	18.08	18.34	18.34	18.18
		RB1#13	18.29	18.69	18.59	18.39	18.79	18.69
		RB1#24	18.12	18.29	18.27	18.22	18.39	18.37
		RB15#0	18.55	18.7	18.34	18.65	18.8	18.44
		RB15#10	18.56	18.44	18.46	18.66	18.54	18.56
		RB25#0	18.08	18.42	18.69	18.18	18.52	18.79
10.0	QPSK	RB1#0	18.48	18.25	18.37	18.58	18.35	18.47
		RB1#25	18.47	18.46	18.06	18.57	18.56	18.16
		RB1#49	18.43	18.26	18.2	18.53	18.36	18.3
		RB25#0	18.47	18.19	18.26	18.57	18.29	18.36
		RB25#25	18.31	18.15	18.22	18.41	18.25	18.32
		RB50#0	18.26	18.41	18.13	18.36	18.51	18.23
	16QAM	RB1#0	18.49	18.43	18.23	18.59	18.53	18.33
		RB1#25	18.2	18.35	18.46	18.3	18.45	18.56
		RB1#49	18.33	18.4	18.48	18.43	18.5	18.58
		RB25#0	18.45	18.56	18.06	18.55	18.66	18.16
		RB25#25	18.47	18.3	18.27	18.57	18.4	18.37
		RB50#0	18.69	18.27	18.29	18.79	18.37	18.39

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	18.18	18.13	18.23	18.28	18.23	18.33
		RB1#38	18.3	18.22	18.35	18.4	18.32	18.45
		RB1#74	18.47	18.1	18.33	18.57	18.2	18.43
		RB36#0	18.48	18.42	18.27	18.58	18.52	18.37
		RB36#39	18.63	18.24	18.21	18.73	18.34	18.31
		RB75#0	18.2	18.17	18.05	18.3	18.27	18.15
	16QAM	RB1#0	18.35	18.26	18.38	18.45	18.36	18.48
		RB1#38	18.47	18.54	18.66	18.57	18.64	18.76
		RB1#74	18.2	18.48	18.35	18.3	18.58	18.45
		RB36#0	18.47	18.35	18.56	18.57	18.45	18.66
		RB36#39	18.78	18.22	18.54	18.88	18.32	18.64
		RB75#0	18.2	18.4	18.58	18.3	18.5	18.68
20.0	QPSK	RB1#0	18.53	18.21	18.19	18.63	18.31	18.29
		RB1#50	18.48	18.3	18.32	18.58	18.4	18.42
		RB1#99	18.32	18.15	18.1	18.42	18.25	18.2
		RB50#0	18.55	18.32	18.22	18.65	18.42	18.32
		RB50#50	18.22	18.08	18.18	18.32	18.18	18.28
		RB100#0	18.22	18.19	17.96	18.32	18.29	18.06
	16QAM	RB1#0	18.36	18.18	18.37	18.46	18.28	18.47
		RB1#50	18.39	18.42	18.66	18.49	18.52	18.76
		RB1#99	18.08	18.23	18.15	18.18	18.33	18.25
		RB50#0	18.49	18.57	18.29	18.59	18.67	18.39
		RB50#50	18.67	18.43	18.18	18.77	18.53	18.28
		RB100#0	18.62	18.17	18.23	18.72	18.27	18.33

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

For Band4: Antenna Gain = 0.1dBi

Limit: EIRP ≤ 30dBm

LTE Band5

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	23.51	23.58	23.18	17.33	17.4	17
		RB1#3	23.35	23.09	22.94	17.17	16.91	16.76
		RB1#5	23.36	23.01	22.99	17.18	16.83	16.81
		RB3#0	23.48	23.02	22.96	17.3	16.84	16.78
		RB3#3	23.18	23.17	23.24	17	16.99	17.06
		RB6#0	23.21	23.22	22.88	17.03	17.04	16.7
	16QAM	RB1#0	23.46	23.08	23.32	17.28	16.9	17.14
		RB1#3	23.46	22.83	22.94	17.28	16.65	16.76
		RB1#5	23.42	23.01	23.17	17.24	16.83	16.99
		RB3#0	23.18	22.83	22.93	17	16.65	16.75
		RB3#3	23.38	23.27	22.85	17.2	17.09	16.67
		RB6#0	23.55	23.36	22.9	17.37	17.18	16.72
3.0	QPSK	RB1#0	23.55	23.19	23.07	17.37	17.01	16.89
		RB1#8	23.43	22.94	23.02	17.25	16.76	16.84
		RB1#14	23.34	23.32	23	17.16	17.14	16.82
		RB6#0	23.24	23.63	22.97	17.06	17.45	16.79
		RB6#9	23.31	23.27	23.11	17.13	17.09	16.93
		RB15#0	23.53	23.18	22.92	17.35	17	16.74
	16QAM	RB1#0	23.39	22.98	23.15	17.21	16.8	16.97
		RB1#8	23.07	22.87	23.28	16.89	16.69	17.1
		RB1#14	23.31	23.38	23.22	17.13	17.2	17.04
		RB6#0	23.46	23.24	23.15	17.28	17.06	16.97
		RB6#9	23.31	22.98	22.91	17.13	16.8	16.73
		RB15#0	23.4	22.78	23.19	17.22	16.6	17.01

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	23.31	23.67	22.83	17.13	17.49	16.65
		RB1#13	23.34	23.17	23.09	17.16	16.99	16.91
		RB1#24	23.48	23.19	22.9	17.3	17.01	16.72
		RB15#0	23.17	22.94	23.25	16.99	16.76	17.07
		RB15#10	23.25	23.03	23.09	17.07	16.85	16.91
		RB25#0	23.43	23.62	22.88	17.25	17.44	16.7
	16QAM	RB1#0	23.67	23.15	23.03	17.49	16.97	16.85
		RB1#13	23.58	23.09	22.95	17.4	16.91	16.77
		RB1#24	23.23	22.95	23.16	17.05	16.77	16.98
		RB15#0	23.12	22.74	23.07	16.94	16.56	16.89
		RB15#10	23.38	23.3	22.98	17.2	17.12	16.8
		RB25#0	23.61	23.28	23.13	17.43	17.1	16.95
10.0	QPSK	RB1#0	23.53	22.97	22.87	17.35	16.79	16.69
		RB1#25	23.32	22.98	23.15	17.14	16.8	16.97
		RB1#49	23.28	22.97	23.16	17.1	16.79	16.98
		RB25#0	23.32	23.45	22.93	17.14	17.27	16.75
		RB25#25	23.55	23.43	23.39	17.37	17.25	17.21
		RB50#0	23.47	22.97	23.16	17.29	16.79	16.98
	16QAM	RB1#0	23.3	22.99	23.28	17.12	16.81	17.1
		RB1#25	23.29	23.14	23.26	17.11	16.96	17.08
		RB1#49	23.16	23.66	23.1	16.98	17.48	16.92
		RB25#0	23.59	23.27	23.15	17.41	17.09	16.97
		RB25#25	23.17	22.8	23.11	16.99	16.62	16.93
		RB50#0	23.42	23.17	22.98	17.24	16.99	16.8

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
 For Band5: Antenna Gain = -4.03dBi = -6.18dBd (0dBd=2.15dBi)
 Limit: ERP ≤ 38.45dBm

LTE Band 7

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	15.94	15.64	15.82	16.25	15.95	16.13
		RB1#13	15.9	16.07	15.87	16.21	16.38	16.18
		RB1#24	15.88	15.71	15.66	16.19	16.02	15.97
		RB15#0	15.65	15.81	15.63	15.96	16.12	15.94
		RB15#10	15.84	15.76	15.72	16.15	16.07	16.03
		RB25#0	15.84	15.58	15.68	16.15	15.89	15.99
	16QAM	RB1#0	15.71	15.7	15.65	16.02	16.01	15.96
		RB1#13	15.8	15.97	15.59	16.11	16.28	15.9
		RB1#24	16.02	15.83	15.7	16.33	16.14	16.01
		RB15#0	15.92	15.8	15.58	16.23	16.11	15.89
		RB15#10	16.18	15.66	15.89	16.49	15.97	16.2
		RB25#0	15.67	15.91	15.64	15.98	16.22	15.95
10.0	QPSK	RB1#0	16.03	15.9	15.66	16.34	16.21	15.97
		RB1#25	15.93	15.7	15.89	16.24	16.01	16.2
		RB1#49	15.95	15.67	15.89	16.26	15.98	16.2
		RB25#0	15.87	15.66	15.55	16.18	15.97	15.86
		RB25#25	15.96	15.79	15.88	16.27	16.1	16.19
		RB50#0	15.72	15.84	15.91	16.03	16.15	16.22
	16QAM	RB1#0	16.04	15.75	15.55	16.35	16.06	15.86
		RB1#25	15.7	15.81	15.78	16.01	16.12	16.09
		RB1#49	15.8	15.69	15.82	16.11	16	16.13
		RB25#0	15.87	15.75	15.64	16.18	16.06	15.95
		RB25#25	15.98	15.68	16.05	16.29	15.99	16.36
		RB50#0	15.61	15.73	15.61	15.92	16.04	15.92

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	15.88	15.86	15.72	16.19	16.17	16.03
		RB1#38	16.09	15.69	15.88	16.4	16	16.19
		RB1#74	15.6	15.8	15.63	15.91	16.11	15.94
		RB36#0	15.88	15.81	15.42	16.19	16.12	15.73
		RB36#39	15.74	15.89	15.77	16.05	16.2	16.08
		RB75#0	15.93	15.67	15.76	16.24	15.98	16.07
	16QAM	RB1#0	15.59	15.72	15.62	15.9	16.03	15.93
		RB1#38	15.82	15.98	15.57	16.13	16.29	15.88
		RB1#74	15.88	15.86	15.71	16.19	16.17	16.02
		RB36#0	15.56	15.94	15.62	15.87	16.25	15.93
		RB36#39	16.12	15.69	15.88	16.43	16	16.19
		RB75#0	15.63	15.83	15.65	15.94	16.14	15.96
20.0	QPSK	RB1#0	15.76	15.63	15.84	16.07	15.94	16.15
		RB1#50	15.9	15.98	15.94	16.21	16.29	16.25
		RB1#99	15.77	15.5	15.8	16.08	15.81	16.11
		RB50#0	15.69	15.73	15.72	16	16.04	16.03
		RB50#50	15.83	15.83	15.83	16.14	16.14	16.14
		RB100#0	15.65	15.57	15.89	15.96	15.88	16.2
	16QAM	RB1#0	15.76	15.62	15.47	16.07	15.93	15.78
		RB1#50	16.17	15.59	15.85	16.48	15.9	16.16
		RB1#99	15.92	15.62	15.75	16.23	15.93	16.06
		RB50#0	15.6	15.79	15.78	15.91	16.1	16.09
		RB50#50	15.88	15.8	15.91	16.19	16.11	16.22
		RB100#0	15.69	15.96	15.63	16	16.27	15.94

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

For Band 7: Antenna Gain = 0.31dBi

Limit: EIRP ≤ 33dBm

LTE Band 38

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5	QPSK	RB1#0	19.42	19.49	19.33	19.73	19.8	19.64
		RB1#13	19.32	19.42	19.35	19.63	19.73	19.66
		RB1#24	19.4	19.31	19.58	19.71	19.62	19.89
		RB15#0	19.48	19.13	19.33	19.79	19.44	19.64
		RB15#10	19.64	19.52	19.33	19.95	19.83	19.64
		RB25#0	19.31	19.36	19.52	19.62	19.67	19.83
	16QAM	RB1#0	19.24	19.35	19.31	19.55	19.66	19.62
		RB1#13	19.61	19.59	19.21	19.92	19.9	19.52
		RB1#24	19.49	19.17	19.41	19.8	19.48	19.72
		RB15#0	19.43	19.45	19.28	19.74	19.76	19.59
		RB15#10	19.61	19.36	19.31	19.92	19.67	19.62
		RB25#0	19.6	19.36	19.2	19.91	19.67	19.51
10	QPSK	RB1#0	19.45	19.49	19.32	19.76	19.8	19.63
		RB1#25	19.58	19.47	19.54	19.89	19.78	19.85
		RB1#49	19.33	19.43	19.22	19.64	19.74	19.53
		RB25#0	19.63	19.55	19.41	19.94	19.86	19.72
		RB25#25	19.4	19.23	19.63	19.71	19.54	19.94
		RB50#0	19.42	19.23	19.2	19.73	19.54	19.51
	16QAM	RB1#0	19.46	19.27	19.43	19.77	19.58	19.74
		RB1#25	19.52	19.57	19.19	19.83	19.88	19.5
		RB1#49	19.23	19.3	19.22	19.54	19.61	19.53
		RB25#0	19.54	19.3	19.39	19.85	19.61	19.7
		RB25#25	19.4	19.53	19.6	19.71	19.84	19.91
		RB50#0	19.36	19.31	19.44	19.67	19.62	19.75

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15	QPSK	RB1#0	19.48	19.26	19.3	19.79	19.57	19.61
		RB1#38	19.49	19.34	19.44	19.8	19.65	19.75
		RB1#74	19.44	19.3	19.22	19.75	19.61	19.53
		RB36#0	19.39	19.5	19.14	19.7	19.81	19.45
		RB36#39	19.59	19.46	19.68	19.9	19.77	19.99
		RB75#0	19.61	19.28	19.12	19.92	19.59	19.43
	16QAM	RB1#0	19.48	19.28	19.25	19.79	19.59	19.56
		RB1#38	19.4	19.32	19.34	19.71	19.63	19.65
		RB1#74	19.25	19.41	19.29	19.56	19.72	19.6
		RB36#0	19.54	19.62	19.1	19.85	19.93	19.41
		RB36#39	19.55	19.46	19.57	19.86	19.77	19.88
		RB75#0	19.39	19.41	19.56	19.7	19.72	19.87
20	QPSK	RB1#0	19.62	19.22	19.26	19.93	19.53	19.57
		RB1#50	19.63	19.27	19.58	19.94	19.58	19.89
		RB1#99	19.48	19.5	19.13	19.79	19.81	19.44
		RB50#0	19.58	19.18	19.44	19.89	19.49	19.75
		RB50#50	19.32	19.51	19.2	19.63	19.82	19.51
		RB100#0	19.49	19.32	19.31	19.8	19.63	19.62
	16QAM	RB1#0	19.64	19.21	19.27	19.95	19.52	19.58
		RB1#50	19.49	19.5	19.42	19.8	19.81	19.73
		RB1#99	19.27	19.34	19.36	19.58	19.65	19.67
		RB50#0	19.39	19.52	19.33	19.7	19.83	19.64
		RB50#50	19.48	19.48	19.53	19.79	19.79	19.84
		RB100#0	19.17	19.34	19.26	19.48	19.65	19.57

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

For Band38: Antenna Gain =0.31dBi

Limit: EIRP≤33dBm

LTE Band 41:

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5	QPSK	RB1#0	19.44	19.35	19.34	19.75	19.66	19.65
		RB1#13	19.3	19.52	19.4	19.61	19.83	19.71
		RB1#24	19.32	19.37	19.37	19.63	19.68	19.68
		RB15#0	19.53	19.13	19.37	19.84	19.44	19.68
		RB15#10	19.27	19.54	19.27	19.58	19.85	19.58
		RB25#0	19.51	19.26	19.14	19.82	19.57	19.45
	16QAM	RB1#0	19.19	19.52	19.37	19.5	19.83	19.68
		RB1#13	19.4	19.36	19.46	19.71	19.67	19.77
		RB1#24	19.58	19.51	19.32	19.89	19.82	19.63
		RB15#0	19.25	19.21	19.36	19.56	19.52	19.67
		RB15#10	19.72	19.24	19.69	20.03	19.55	20
		RB25#0	19.26	19.3	19.2	19.57	19.61	19.51
10	QPSK	RB1#0	19.26	19.58	19.38	19.57	19.89	19.69
		RB1#25	19.49	19.49	19.35	19.8	19.8	19.66
		RB1#49	19.49	19.55	19.48	19.8	19.86	19.79
		RB25#0	19.26	19.29	19.53	19.57	19.6	19.84
		RB25#25	19.61	19.4	19.35	19.92	19.71	19.66
		RB50#0	19.35	19.32	19.37	19.66	19.63	19.68
	16QAM	RB1#0	19.19	19.26	19.29	19.5	19.57	19.6
		RB1#25	19.45	19.3	19.24	19.76	19.61	19.55
		RB1#49	19.54	19.44	19.14	19.85	19.75	19.45
		RB25#0	19.41	19.49	19.41	19.72	19.8	19.72
		RB25#25	19.67	19.5	19.39	19.98	19.81	19.7
		RB50#0	19.6	19.4	19.28	19.91	19.71	19.59

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15	QPSK	RB1#0	19.34	19.37	19.14	19.65	19.68	19.45
		RB1#38	19.67	19.49	19.64	19.98	19.8	19.95
		RB1#74	19.47	19.48	19.32	19.78	19.79	19.63
		RB36#0	19.41	19.3	19.27	19.72	19.61	19.58
		RB36#39	19.49	19.62	19.45	19.8	19.93	19.76
		RB75#0	19.27	19.55	19.44	19.58	19.86	19.75
	16QAM	RB1#0	19.49	19.54	19.34	19.8	19.85	19.65
		RB1#38	19.57	19.21	19.72	19.88	19.52	20.03
		RB1#74	19.33	19.56	19.21	19.64	19.87	19.52
		RB36#0	19.56	19.18	19.57	19.87	19.49	19.88
		RB36#39	19.42	19.53	19.5	19.73	19.84	19.81
		RB75#0	19.44	19.34	19.09	19.75	19.65	19.4
20	QPSK	RB1#0	19.33	19.42	19.19	19.64	19.73	19.5
		RB1#50	19.52	19.25	19.21	19.83	19.56	19.52
		RB1#99	19.47	19.25	19.48	19.78	19.56	19.79
		RB50#0	19.31	19.44	19.29	19.62	19.75	19.6
		RB50#50	19.56	19.55	19.5	19.87	19.86	19.81
		RB100#0	19.2	19.24	19.26	19.51	19.55	19.57
	16QAM	RB1#0	19.49	19.34	19.48	19.8	19.65	19.79
		RB1#50	19.53	19.52	19.36	19.84	19.83	19.67
		RB1#99	19.58	19.48	19.29	19.89	19.79	19.6
		RB50#0	19.21	19.51	19.45	19.52	19.82	19.76
		RB50#50	19.48	19.29	19.45	19.79	19.6	19.76
		RB100#0	19.47	19.55	19.33	19.78	19.86	19.64

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

For Band41: Antenna Gain =0.31dBi

Limit: EIRP≤33dBm

Peak-to-average ratio (PAR)**LTE Band 2 20MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	6.19	5.64	5.67	13	Pass
QPSK (100RB Size)	5.77	5.77	5.77	13	Pass
16QAM (1RB Size)	7.31	6.31	7.15	13	Pass
16QAM (100RB Size)	6.73	6.67	6.51	13	Pass

LTE Band 4 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.96	6.03	5.74	13	Pass
QPSK (100RB Size)	5.83	5.80	5.77	13	Pass
16QAM (1RB Size)	7.34	7.44	6.47	13	Pass
16QAM (100RB Size)	6.63	6.63	6.67	13	Pass

LTE Band 5 10MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.04	4.49	4.13	13	Pass
QPSK (50RB Size)	5.48	5.48	5.35	13	Pass
16QAM (1RB Size)	4.87	5.67	4.94	13	Pass
16QAM (50RB Size)	6.35	6.28	6.25	13	Pass

LTE Band 7 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.93	5.35	5.74	13	Pass
QPSK (100RB Size)	5.54	5.58	5.61	13	Pass
16QAM (1RB Size)	7.28	6.03	7.08	13	Pass
16QAM (100RB Size)	6.41	6.41	6.28	13	Pass

LTE Band 38 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	8.68	7.60	9.38	13	Pass
QPSK (100RB Size)	8.01	7.34	7.82	13	Pass
16QAM (1RB Size)	9.00	9.39	8.81	13	Pass
16QAM (100RB Size)	10.22	8.17	8.17	13	Pass

LTE Band 41 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	7.03	8.40	8.64	13	Pass
QPSK (100RB Size)	7.98	8.21	7.77	13	Pass
16QAM (1RB Size)	8.78	8.61	9.65	13	Pass
16QAM (100RB Size)	8.21	6.63	8.81	13	Pass

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

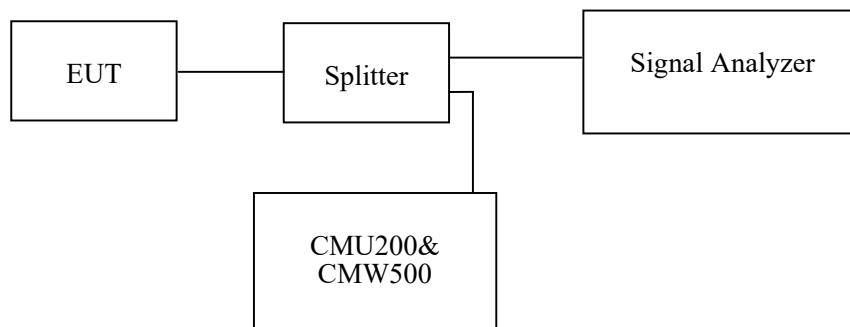
Applicable Standard

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

Test Procedure

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

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



Test Data

Environmental Conditions

Temperature:	28.9~29.2℃
Relative Humidity:	49~51 %
ATM Pressure:	101.0 kPa

The testing was performed by Sky Luo from 2021-08-27 to 2021-09-14.

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	245.19	316.35
	190	836.6	246.79	316.03
	251	848.8	245.19	314.42
EGPRS(8PSK)	128	824.2	246.79	308.01
	190	836.6	246.79	313.46
	251	848.8	248.40	315.18

	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	826.4	4.17	4.74
	836.6	4.17	4.71
	846.6	4.18	4.73
HSDPA	826.4	4.21	4.86
	836.6	4.21	4.91
	846.6	4.24	5.62
HSUPA	826.4	4.22	5.03
	836.6	4.20	4.88
	846.6	4.18	4.72

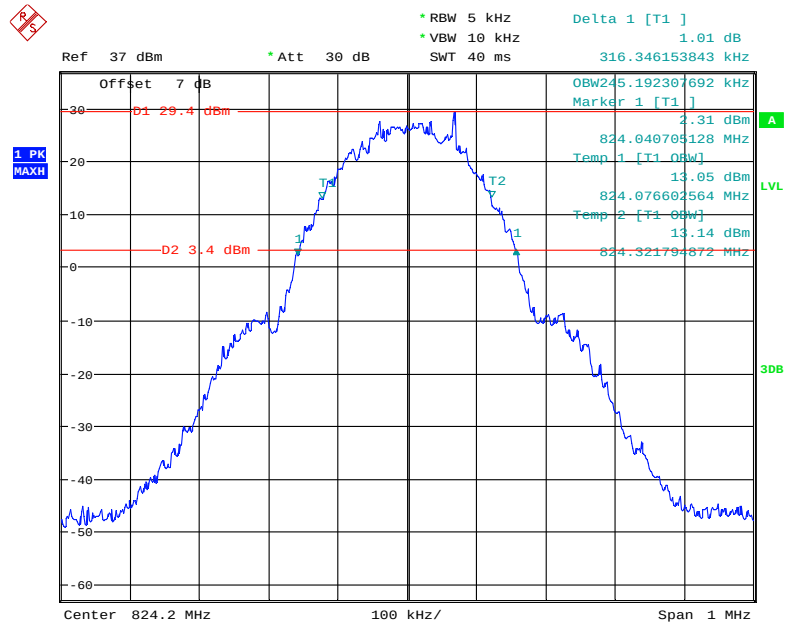
PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	512	1850.2	245.19	314.42
	661	1880.0	244.00	308.45
	810	1909.8	243.59	314.42
EGPRS(8PSK)	512	1850.2	250.00	313.78
	661	1880.0	250.00	320.19
	810	1909.8	253.21	324.04

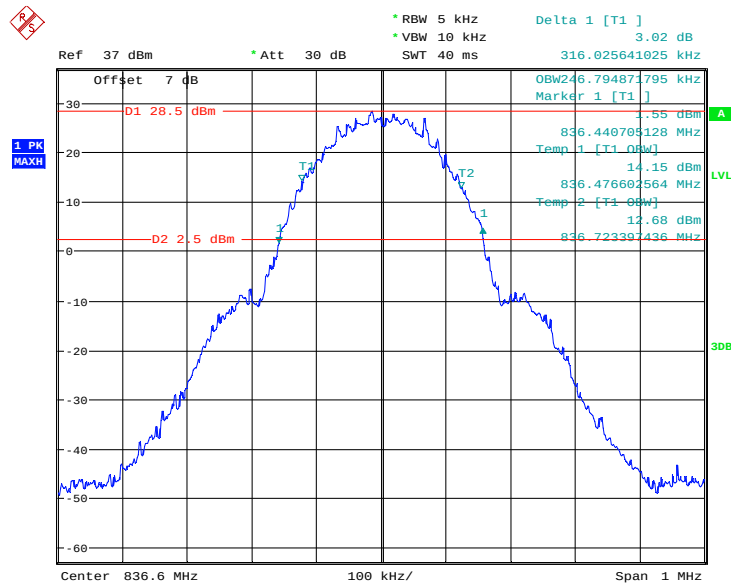
Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1852.4	4.17	4.73
	1880.0	4.17	4.73
	1907.6	4.17	4.71
HSDPA	1852.4	4.18	4.73
	1880.0	4.20	5.03
	1907.6	4.18	4.74
HSUPA	1852.4	4.18	4.71
	1880.0	4.17	4.82
	1907.6	4.18	4.72

AWS Band (Part 27)

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1712.4	4.18	4.74
	1732.6	4.17	4.72
	1752.6	4.18	4.71
HSDPA	1712.4	4.35	8.99
	1732.6	4.20	5.33
	1752.6	4.41	9.60
HSUPA	1712.4	4.20	6.09
	1732.6	4.38	8.99
	1752.6	4.36	9.08

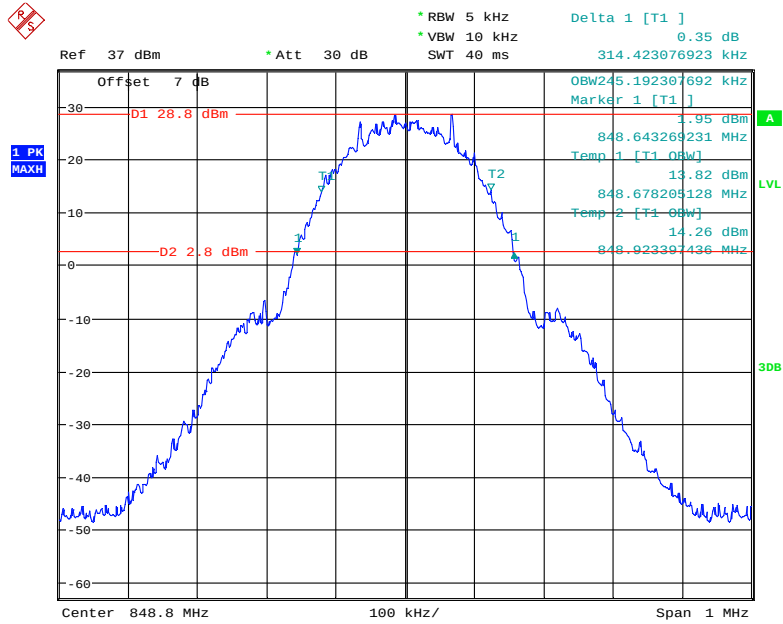
Cellular Band (Part 22H)**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Low channel**

Date: 27.AUG.2021 21:36:27

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

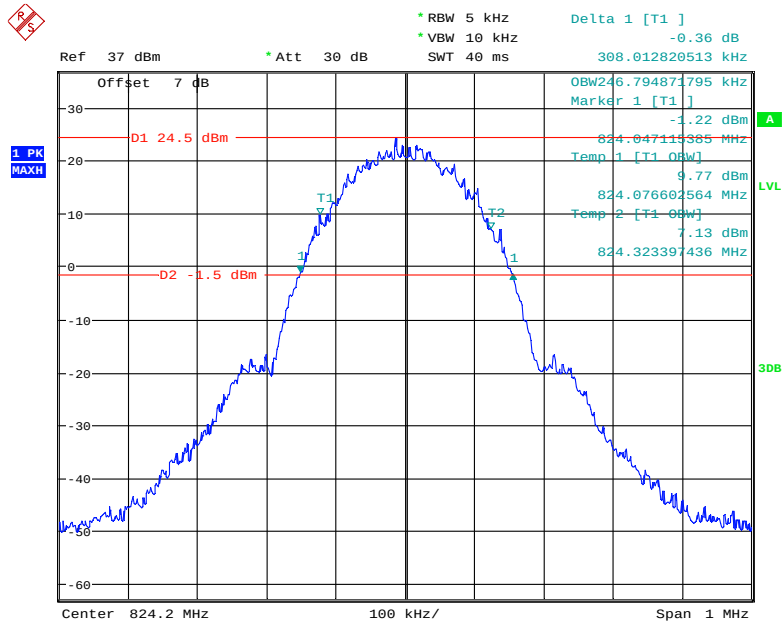
Date: 27.AUG.2021 21:39:50

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



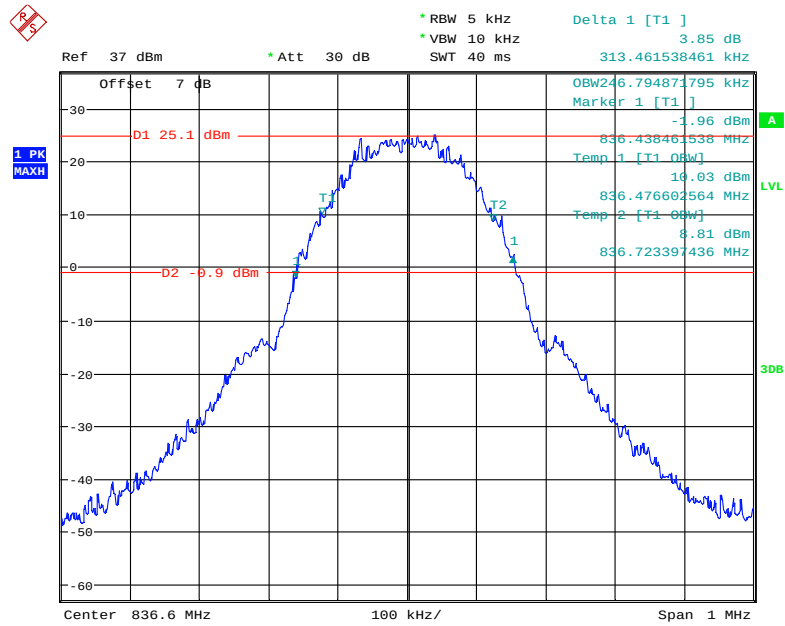
Date: 27.AUG.2021 21:38:02

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



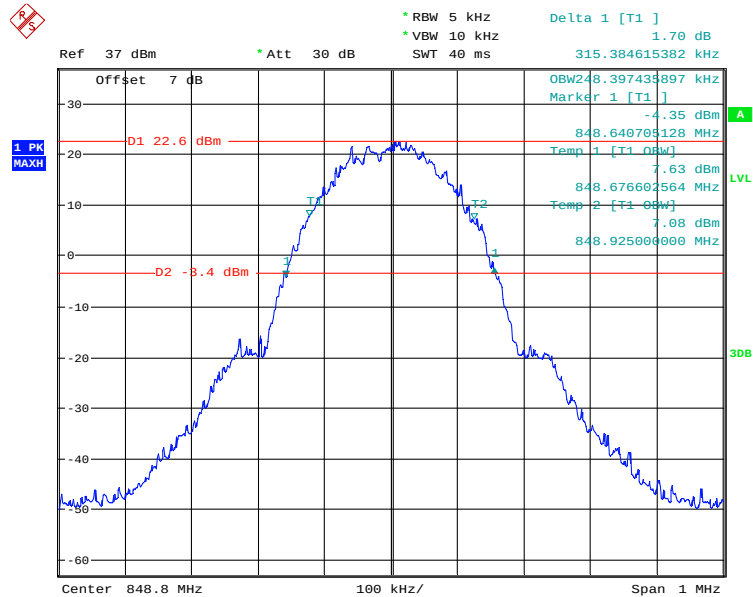
Date: 27.AUG.2021 22:00:44

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



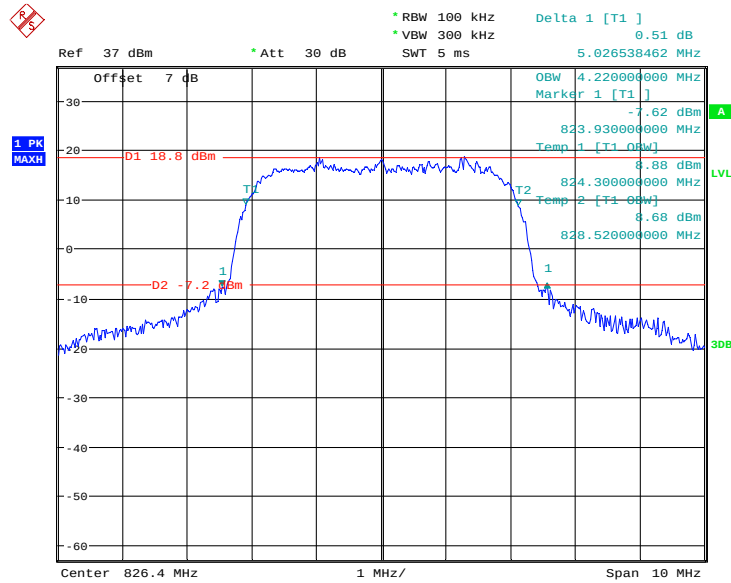
Date: 9.SEP.2021 16:20:04

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



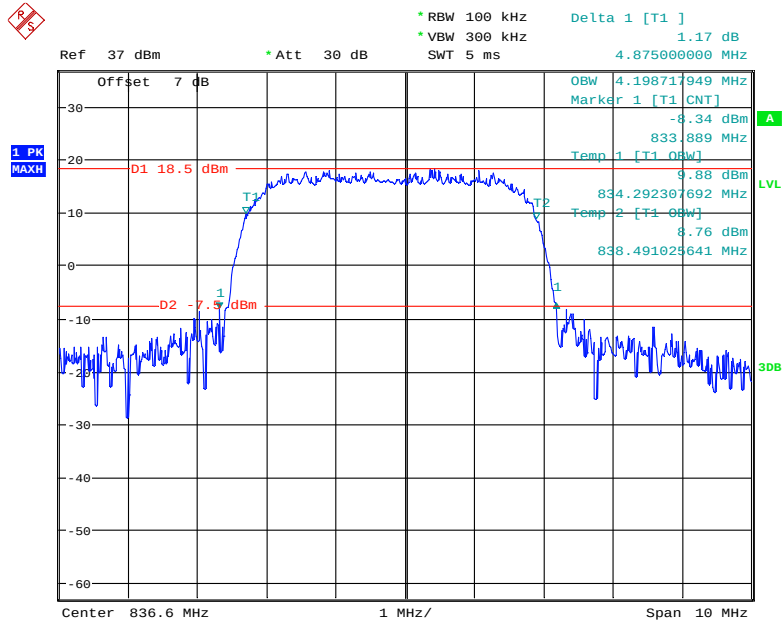
Date: 27.AUG.2021 22:27:35

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

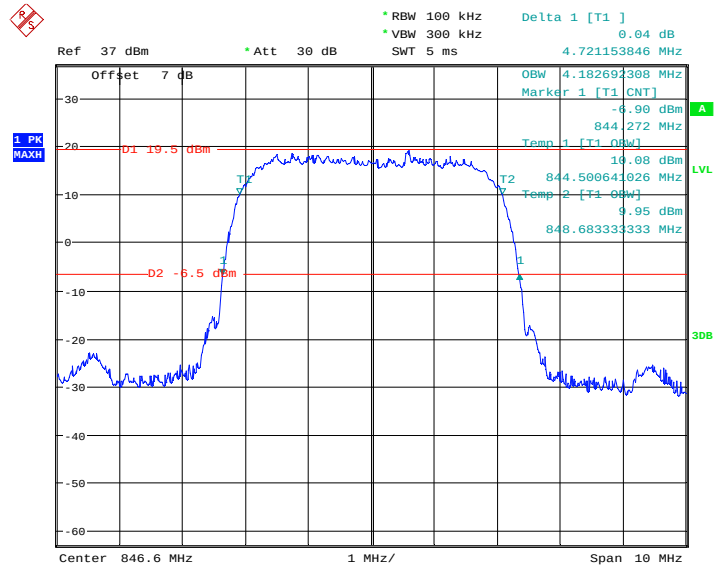


Date: 14.SEP.2021 14:26:17

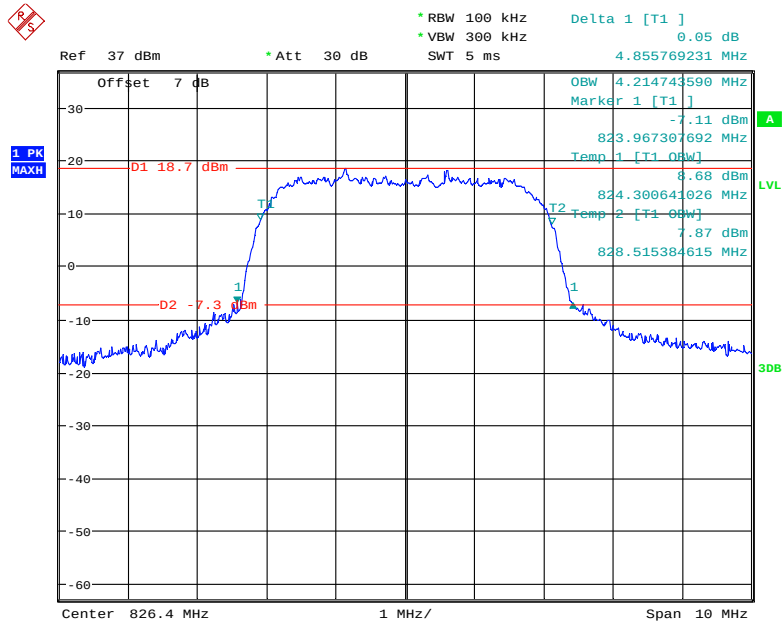
26 dB Emissions & 99% Occupied Bandwidth for HSUPA (BPSK) Mode, Middle channel



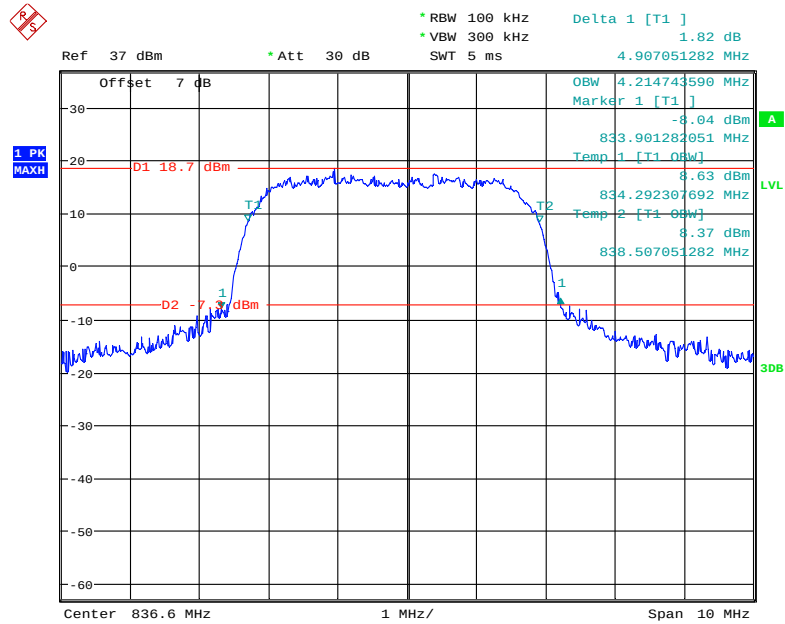
Date: 28.AUG.2021 00:55:23

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

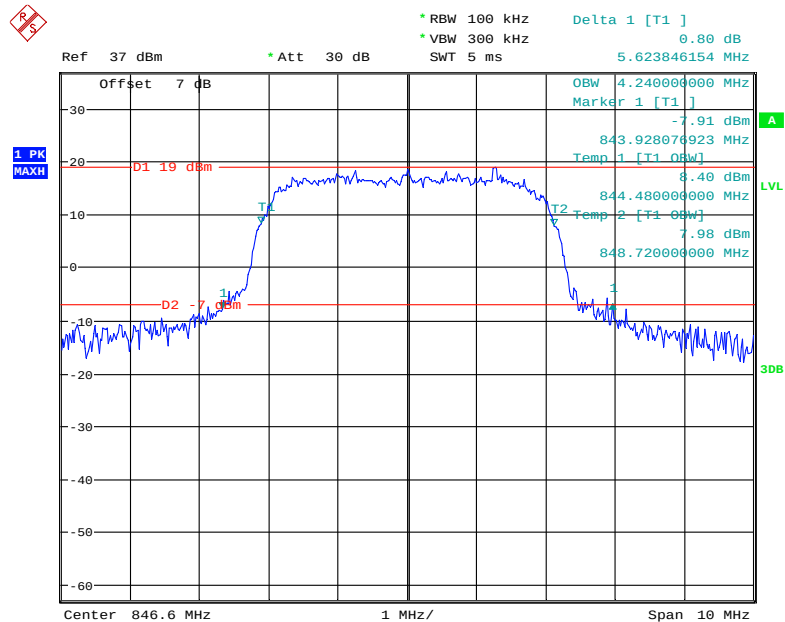
Date: 28.AUG.2021 00:51:48

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

Date: 28.AUG.2021 01:20:47

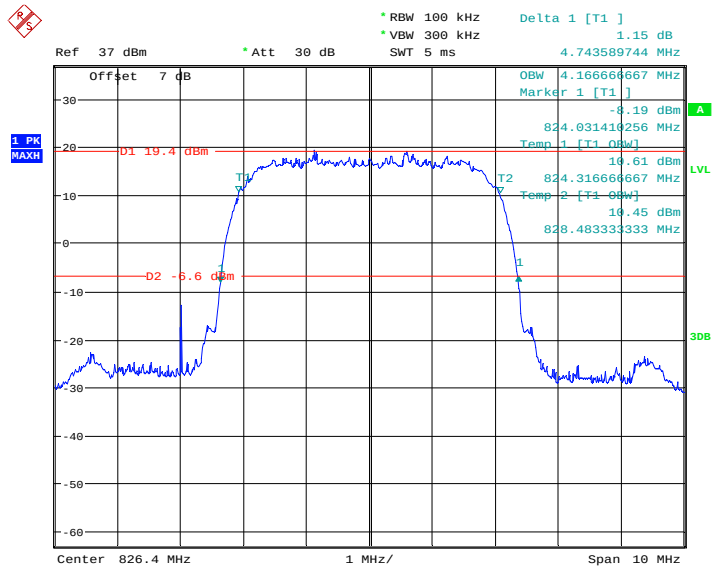
26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel

Date: 28.AUG.2021 01:24:49

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

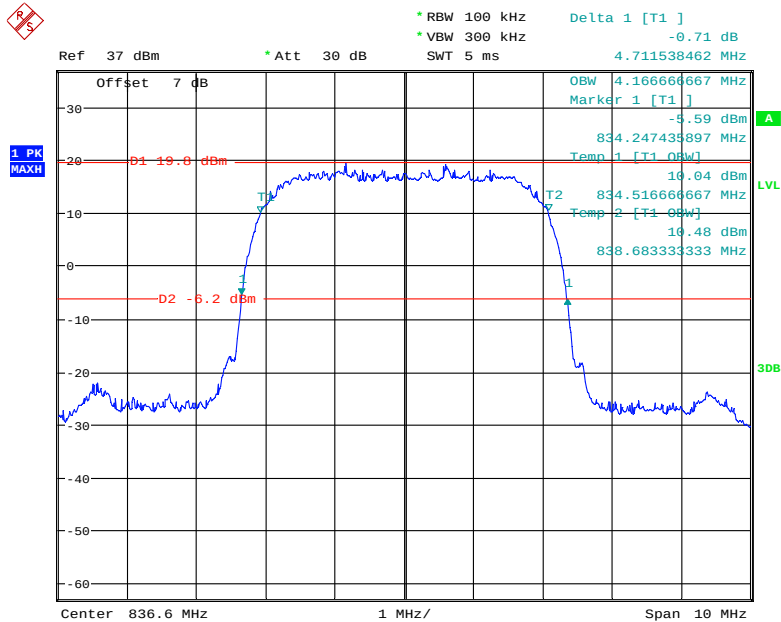
Date: 14.SEP.2021 14:28:33

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



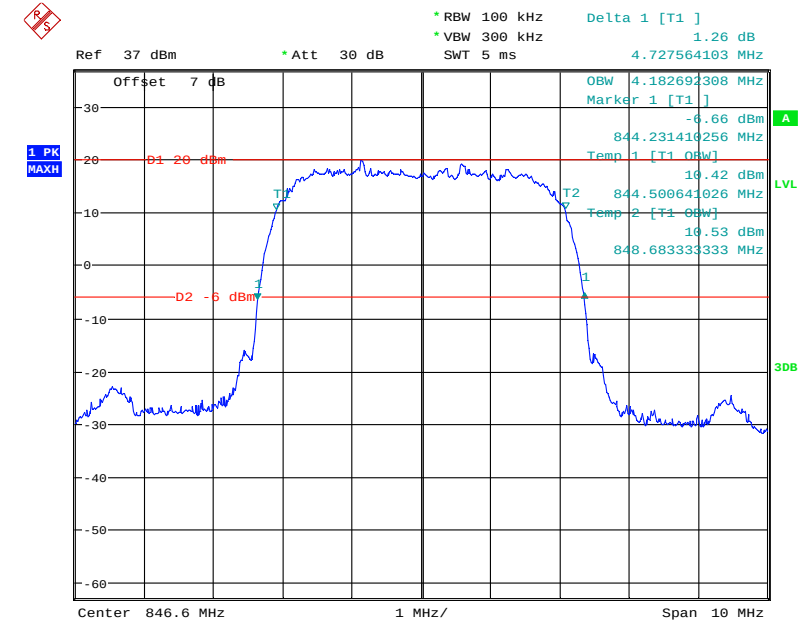
Date: 27.AUG.2021 23:53:20

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

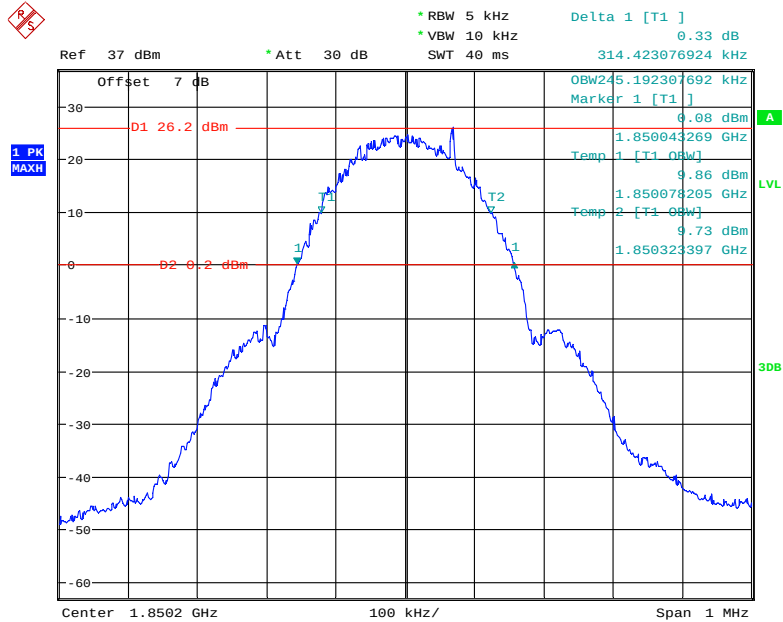


Date: 27.AUG.2021 23:55:33

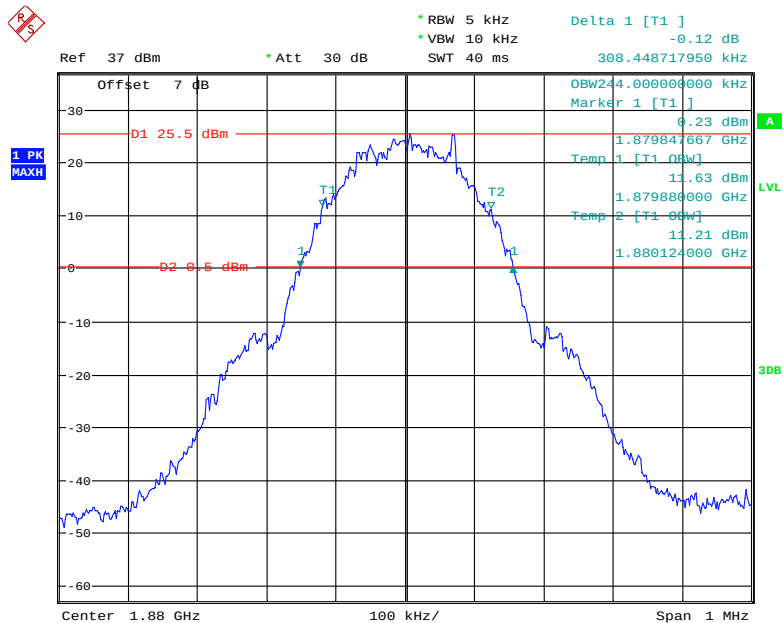
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel



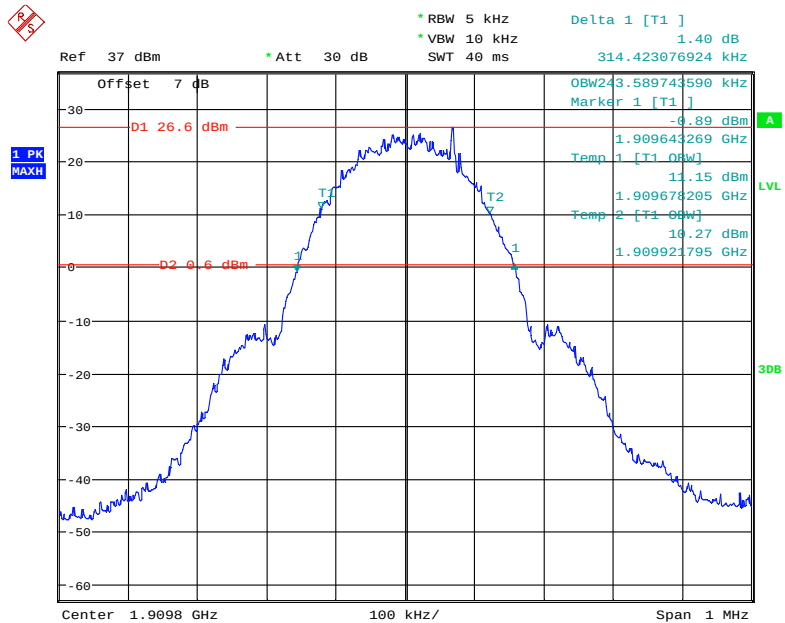
Date: 27.AUG.2021 23:52:14

PCS Band (Part 24E)**26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, Low channel**

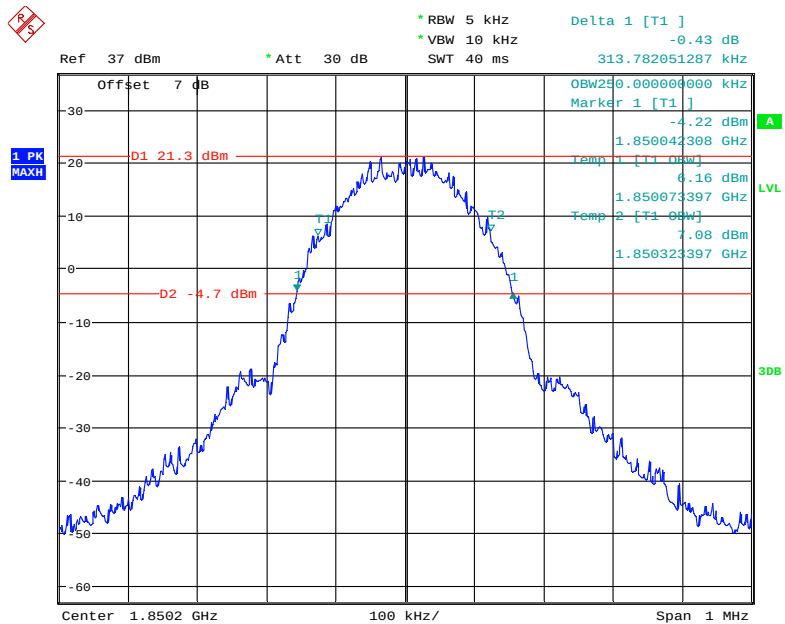
Date: 27.AUG.2021 23:14:12

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

Date: 14.SEP.2021 14:39:19

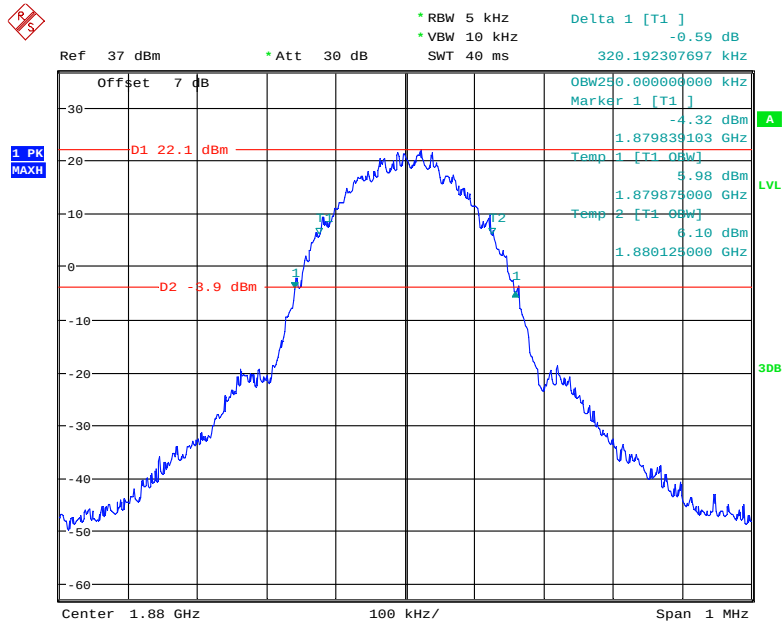
26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, High channel

Date: 27.AUG.2021 23:11:32

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

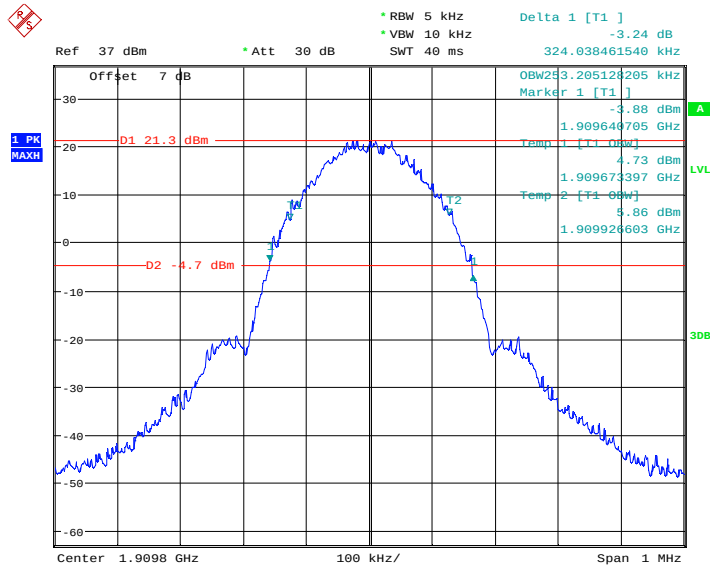
Date: 27.AUG.2021 23:03:44

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



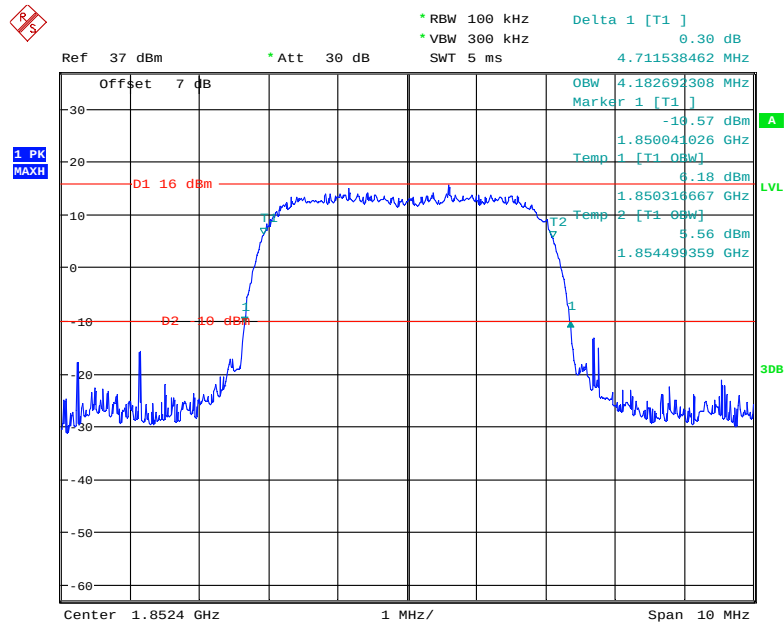
Date: 27.AUG.2021 23:05:02

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



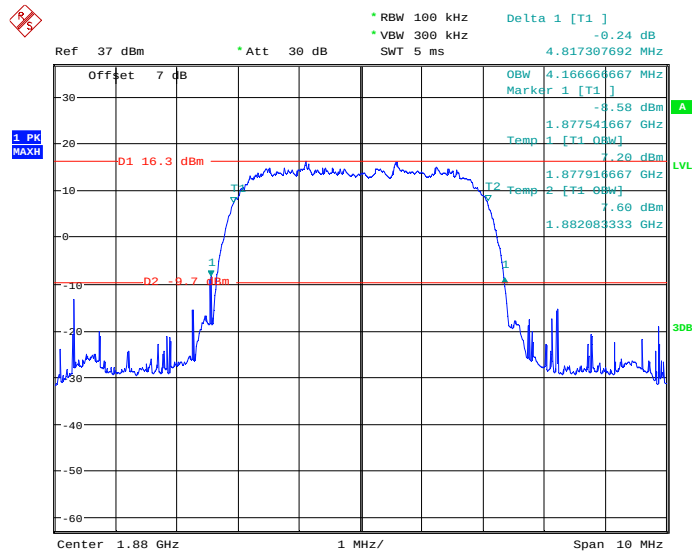
Date: 27.AUG.2021 23:02:40

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

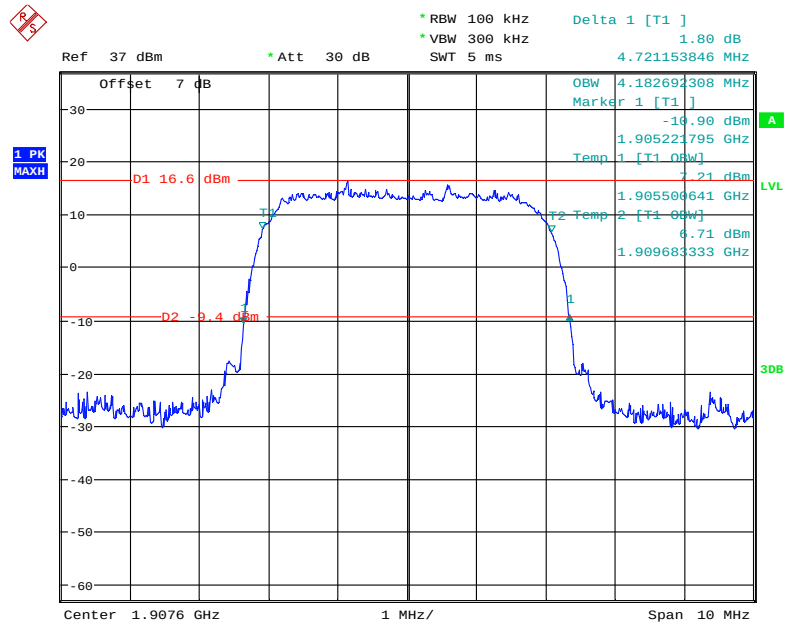


Date: 28.AUG.2021 00:34:56

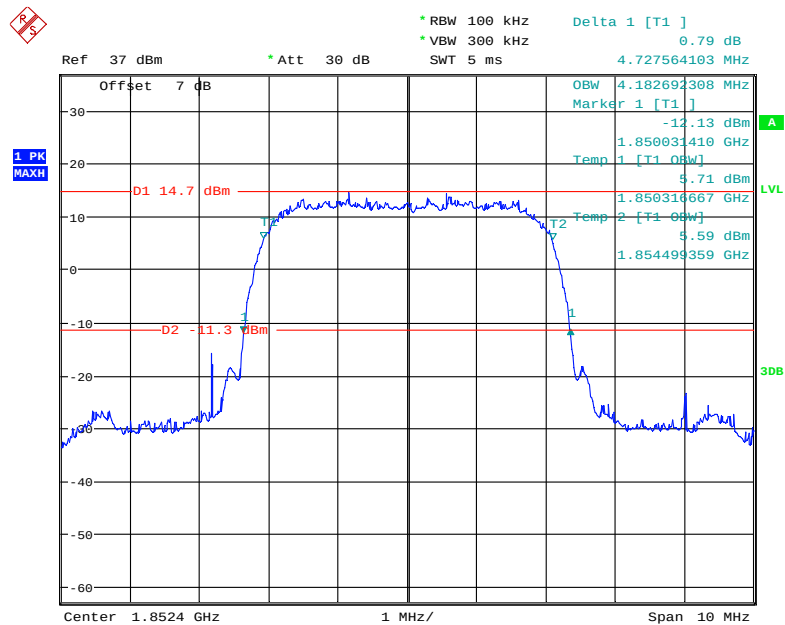
26 dB Emissions & 99% Occupied Bandwidth for HSUPA (BPSK) Mode, Middle channel



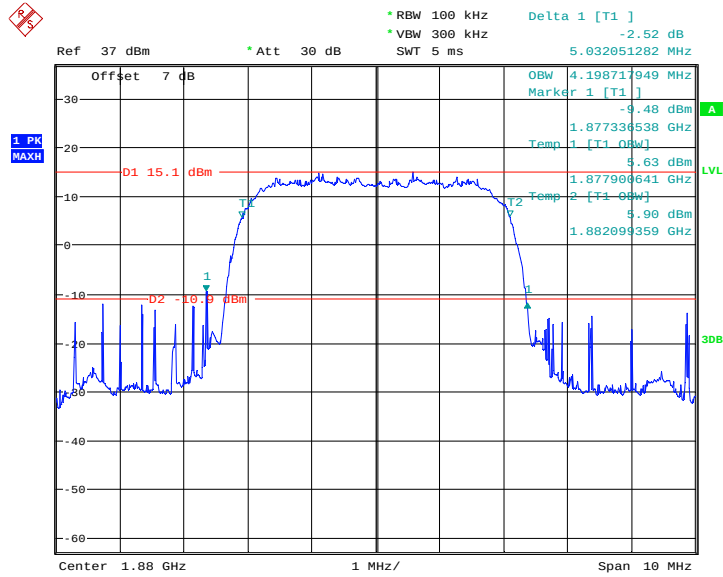
Date: 28.AUG.2021 00:37:46

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

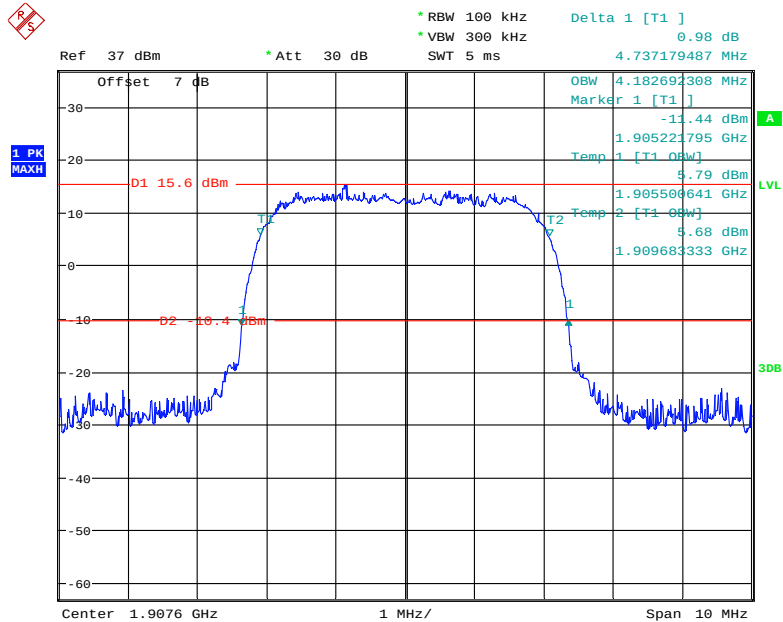
Date: 28.AUG.2021 00:29:09

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

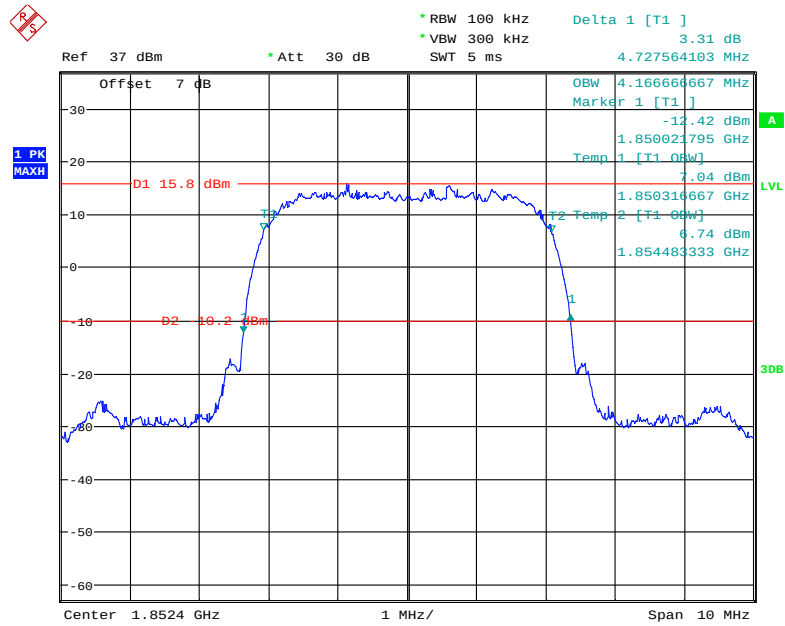
Date: 28.AUG.2021 01:05:14

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

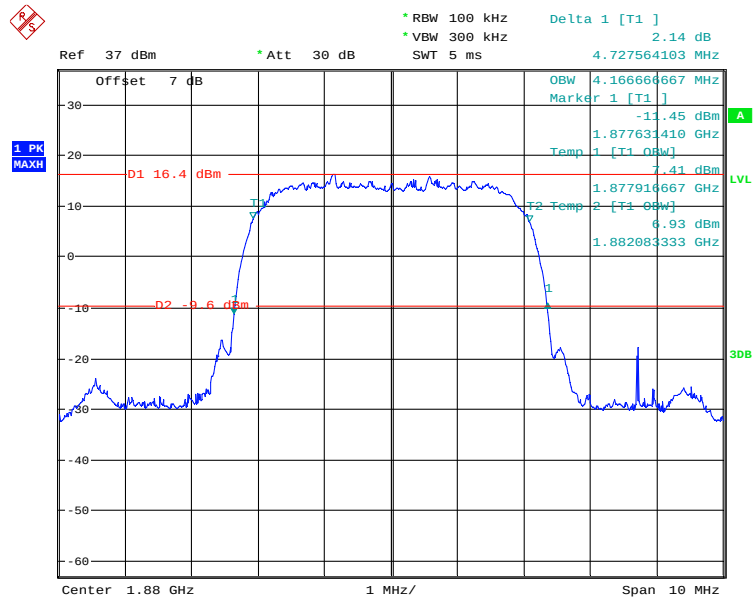
Date: 28.AUG.2021 01:06:28

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

Date: 28.AUG.2021 01:03:26

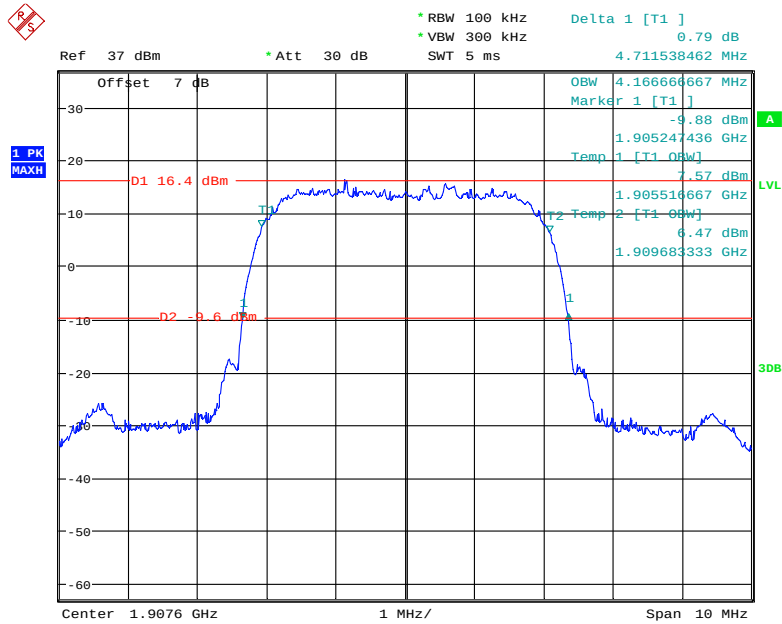
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel

Date: 27.AUG.2021 23:44:34

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

Date: 27.AUG.2021 23:46:06

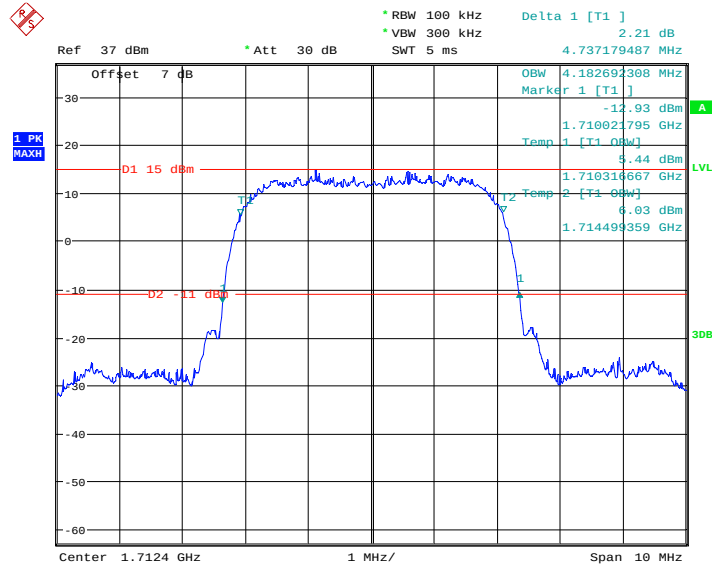
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel



Date: 27.AUG.2021 23:42:58

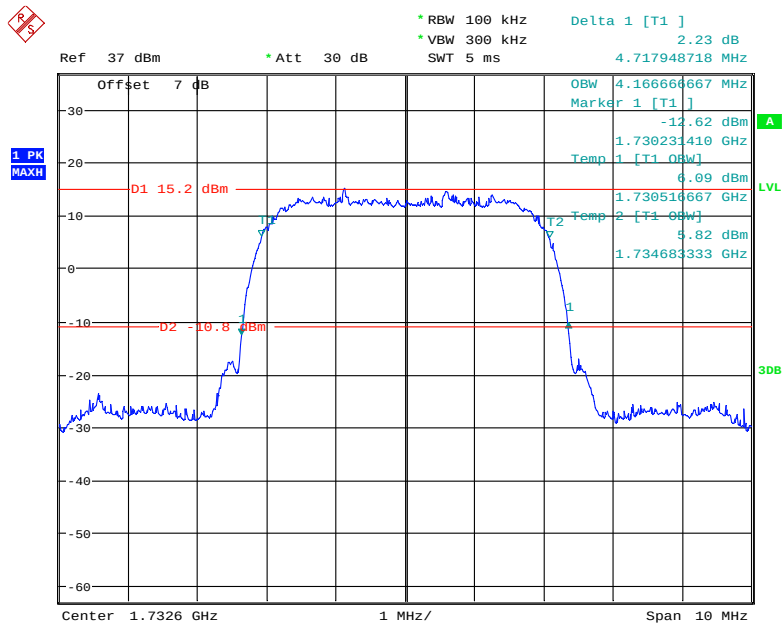
AWS Band (Part 27)

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

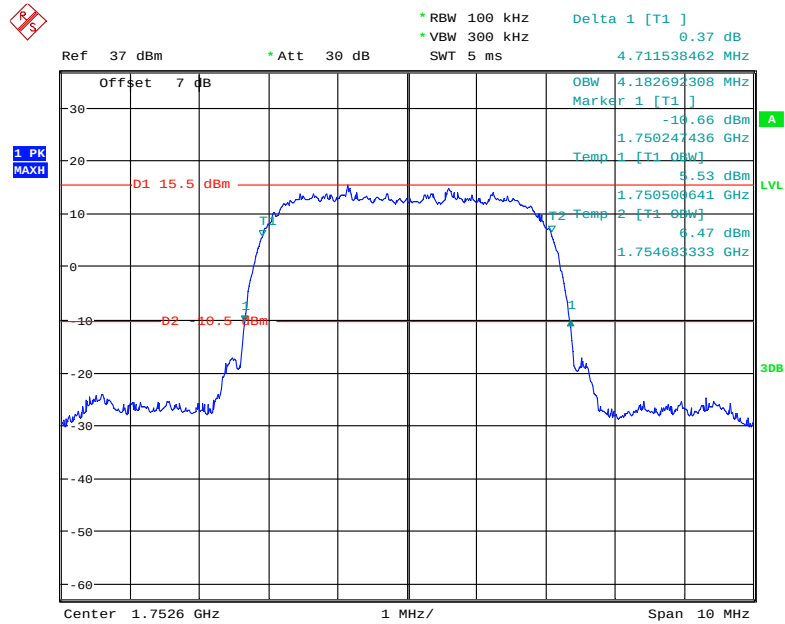


Date: 27.AUG.2021 23:49:13

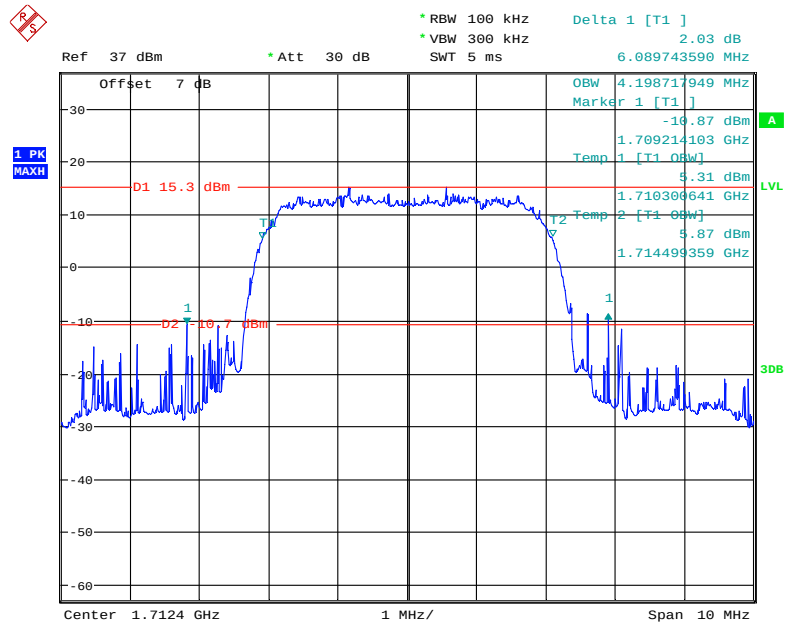
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel



Date: 27.AUG.2021 23:50:11

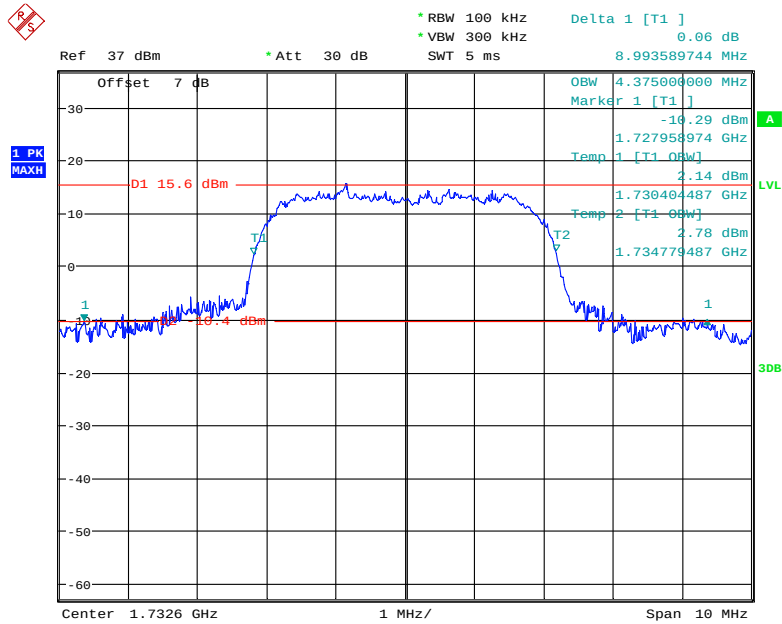
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel

Date: 27.AUG.2021 23:47:46

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

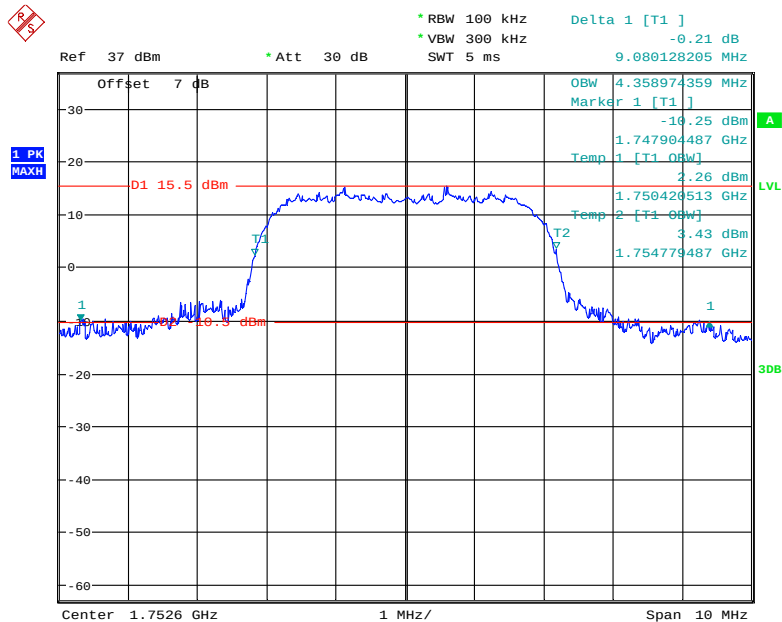
Date: 9.SEP.2021 16:48:05

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



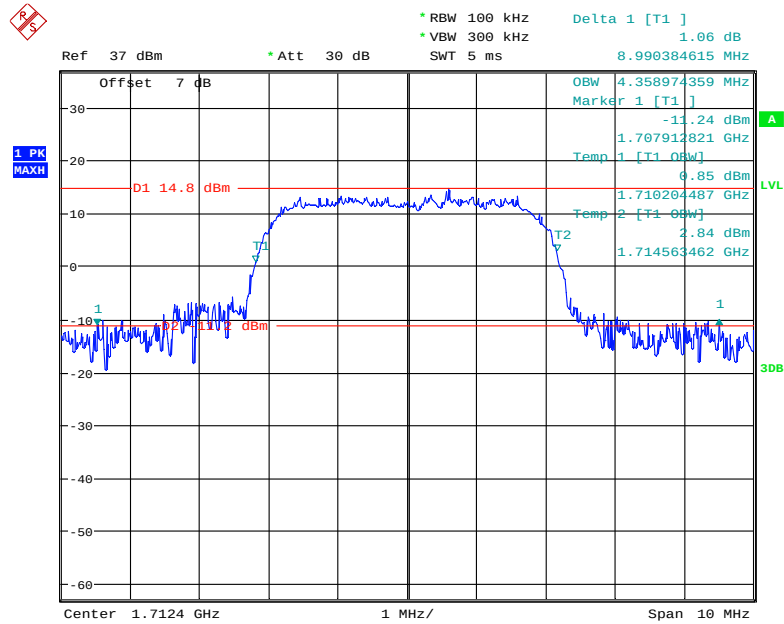
Date: 9.SEP.2021 16:46:26

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



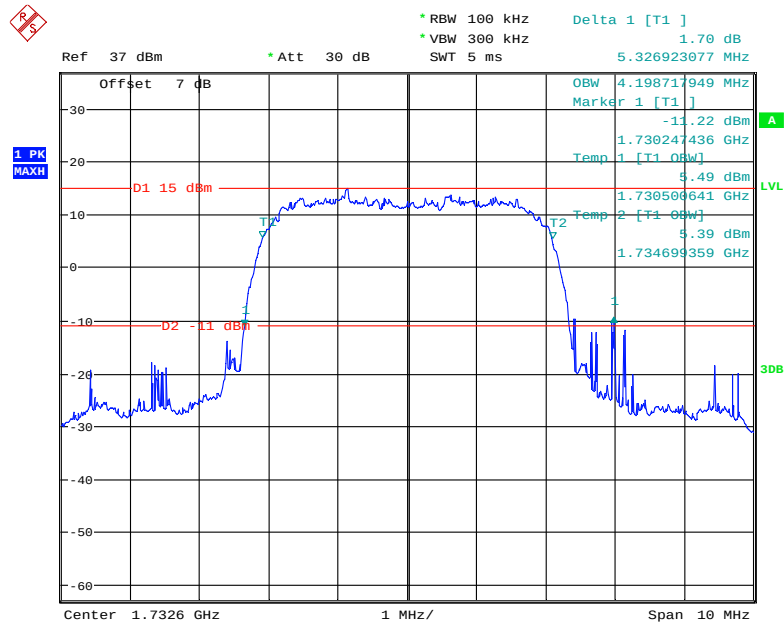
Date: 9.SEP.2021 16:44:20

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

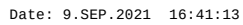


Date: 9.SEP.2021 16:50:38

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



Date: 9.SEP.2021 16:37:52



LTE Band 2:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.104	1.314	1.104	1.356	1.092	1.302
	16QAM	1.092	1.296	1.104	1.296	1.098	1.308
3 MHz	QPSK	2.688	2.880	2.688	2.880	2.688	2.892
	16QAM	2.688	2.892	2.688	2.880	2.688	2.880
5 MHz	QPSK	4.520	4.940	4.520	4.960	4.480	4.920
	16QAM	4.500	4.900	4.520	4.980	4.520	4.980
10 MHz	QPSK	8.960	9.680	8.960	9.600	8.960	9.600
	16QAM	8.960	9.640	8.960	9.560	8.960	9.560
15 MHz	QPSK	13.500	14.820	13.500	14.820	13.560	14.820
	16QAM	13.500	14.820	13.500	14.820	13.560	14.820
20 MHz	QPSK	18.000	19.360	18.000	19.360	18.000	19.520
	16QAM	18.000	19.440	18.000	19.360	17.920	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	1.092	1.296	1.110	1.314	1.104	1.290
	16QAM	1.110	1.314	1.104	1.302	1.104	1.308
3 MHz	QPSK	2.700	2.868	2.688	2.880	2.688	2.892
	16QAM	2.688	2.940	2.688	2.880	2.688	2.892
5 MHz	QPSK	4.525	4.985	4.520	4.960	4.500	4.940
	16QAM	4.500	4.940	4.520	4.980	4.520	4.960
10 MHz	QPSK	9.000	9.640	8.960	9.560	8.960	9.720
	16QAM	9.000	12.506	8.960	9.600	8.960	9.680
15 MHz	QPSK	13.560	14.880	13.500	14.760	13.560	14.820
	16QAM	13.560	14.820	13.500	14.820	13.500	14.760
20 MHz	QPSK	18.000	19.360	18.000	19.440	18.000	19.360
	16QAM	18.000	19.440	18.000	19.360	18.000	19.360

LTE Band 5:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.098	1.314	1.104	1.308	1.110	1.302
	16QAM	1.104	1.314	1.098	1.296	1.098	1.290
3 MHz	QPSK	2.688	2.868	2.688	2.880	2.688	2.904
	16QAM	2.688	2.892	2.676	2.880	2.676	2.868
5 MHz	QPSK	4.520	4.960	4.520	4.900	4.500	4.960
	16QAM	4.520	4.920	4.500	4.940	4.520	4.960
10 MHz	QPSK	8.960	9.680	8.960	9.600	8.960	9.520
	16QAM	8.960	9.600	9.000	9.600	8.960	9.560

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	4.520	4.940	4.520	4.940	4.520	4.920
	16QAM	4.500	4.940	4.520	4.940	4.500	4.940
10 MHz	QPSK	9.000	9.720	8.960	9.560	8.960	9.600
	16QAM	8.960	9.520	8.960	9.640	8.960	9.600
15 MHz	QPSK	13.500	14.760	13.500	14.700	13.500	14.940
	16QAM	13.500	14.820	13.500	14.700	13.500	14.820
20 MHz	QPSK	18.000	19.280	17.920	19.280	18.080	19.520
	16QAM	18.080	19.440	18.000	19.440	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	4.500	4.980	4.520	5.040	4.500	4.940
	16QAM	4.500	5.190	4.500	4.920	4.520	5.040
10 MHz	QPSK	8.960	9.680	8.960	9.680	8.960	9.640
	16QAM	8.960	9.520	8.960	9.520	8.960	9.920
15 MHz	QPSK	13.500	15.360	13.500	15.441	13.575	15.490
	16QAM	13.600	15.115	13.575	15.962	13.575	15.731
20 MHz	QPSK	18.100	19.795	18.000	19.360	18.000	20.000
	16QAM	18.000	19.600	18.000	20.400	18.000	19.360

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	4.500	4.940	4.520	4.880	4.520	4.960
	16QAM	4.500	5.100	4.500	5.040	4.500	4.960
10 MHz	QPSK	9.000	9.680	9.000	9.640	8.960	9.800
	16QAM	8.960	9.560	8.960	9.520	8.960	9.880
15 MHz	QPSK	13.560	15.120	13.500	15.360	13.500	15.480
	16QAM	13.620	15.480	13.560	15.840	13.560	15.960
20 MHz	QPSK	18.000	20.000	18.000	19.680	18.000	19.520
	16QAM	18.000	19.360	18.000	20.400	18.000	19.600

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

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

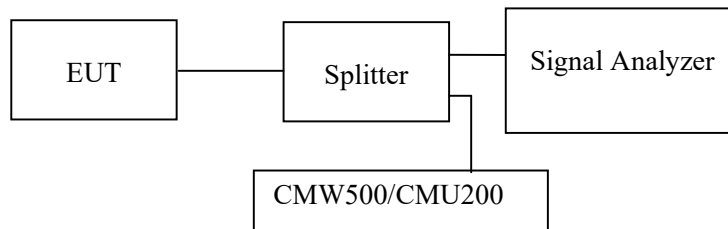
Applicable Standard

FCC §2.1051, §22.917(a) and §24.238(a) and §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:	28.9~29.2°C
Relative Humidity:	49~51 %
ATM Pressure:	101.0 kPa

The testing was performed by Sky Luo from 2021-08-27 to 2021-09-09.

EUT operation mode: Transmitting

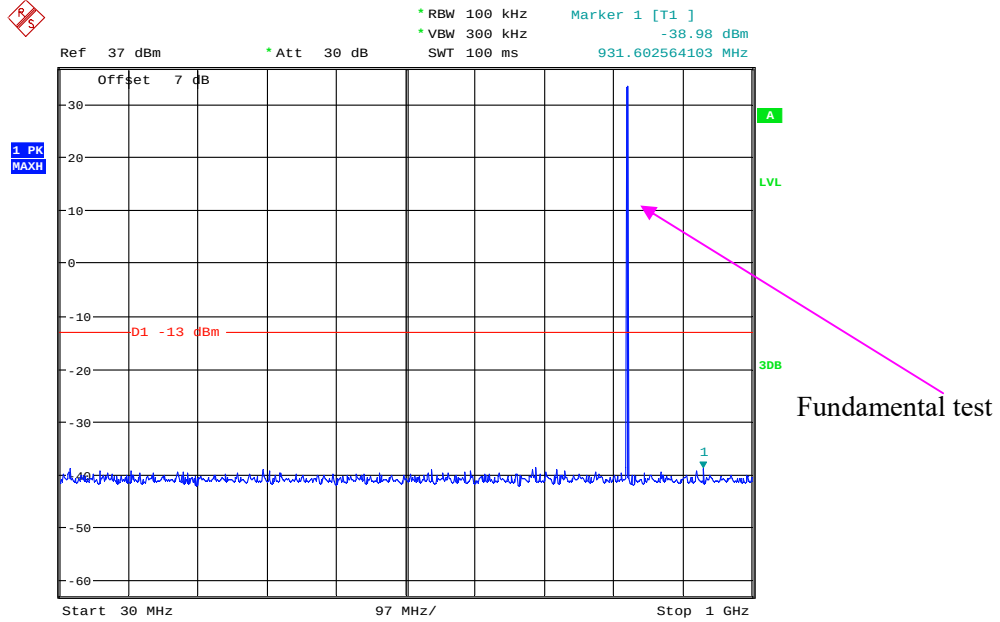
Test result: Pass

Please refer to the following plots.

Cellular Band (Part 22H)

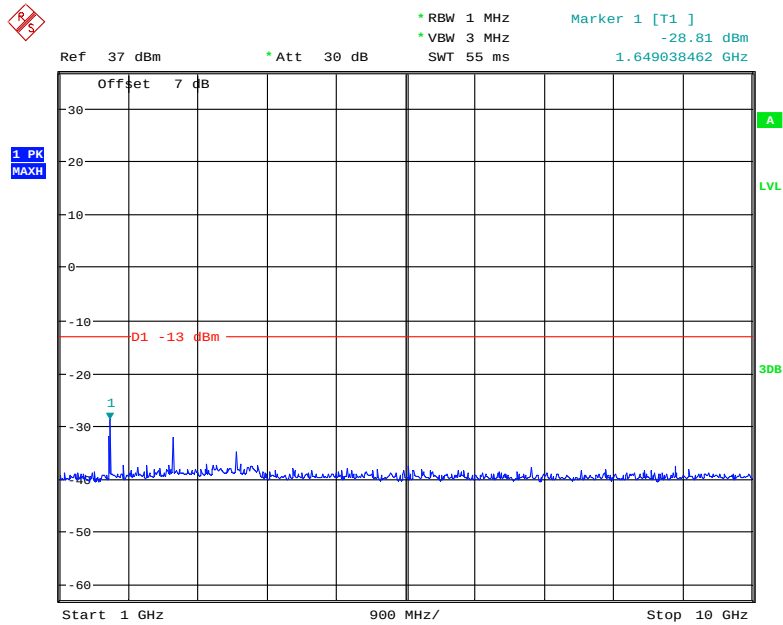
Low Channel:

30 MHz – 1 GHz (GSM Mode)



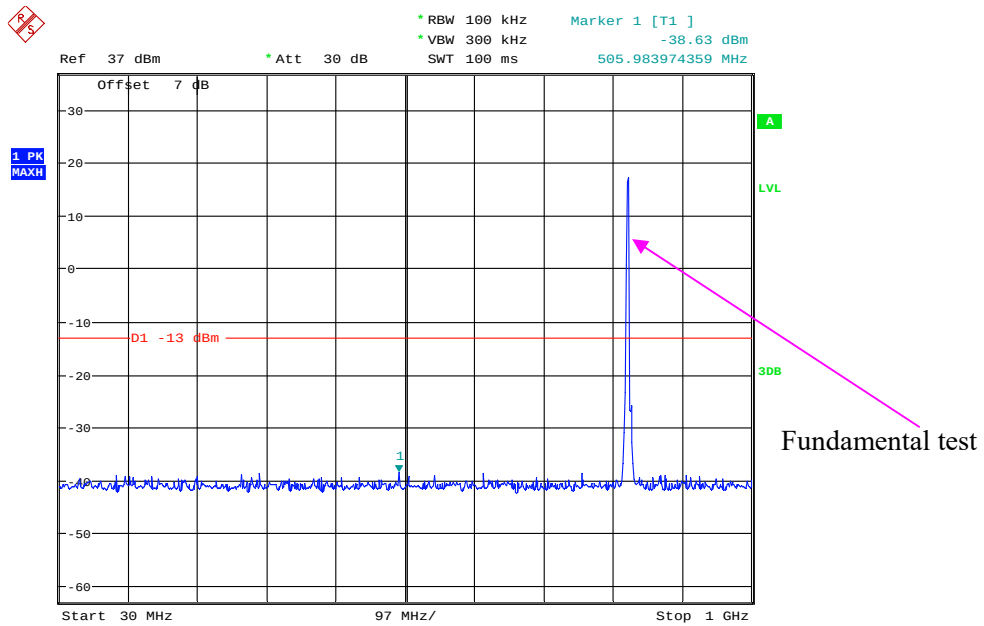
Date: 27.AUG.2021 21:43:50

1 GHz – 10 GHz (GSM Mode)



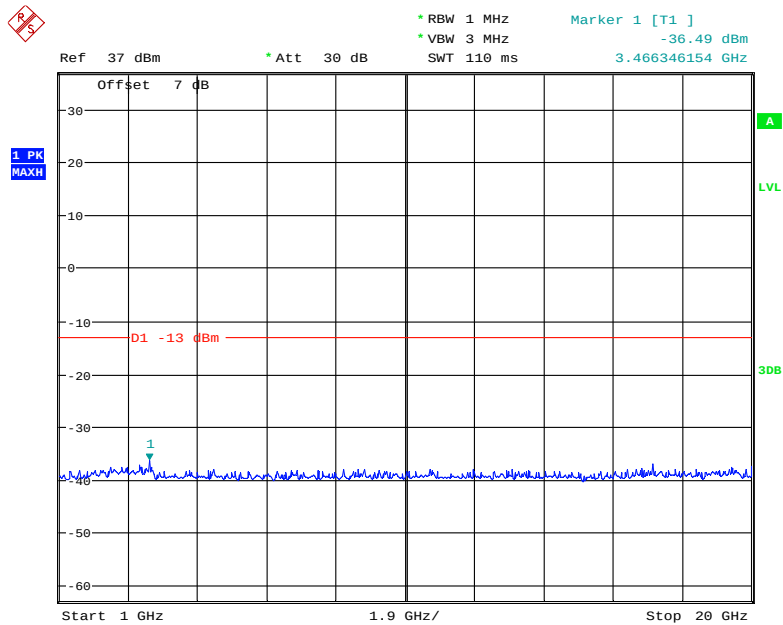
Date: 27.AUG.2021 21:43:05

30 MHz – 1 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:08:59

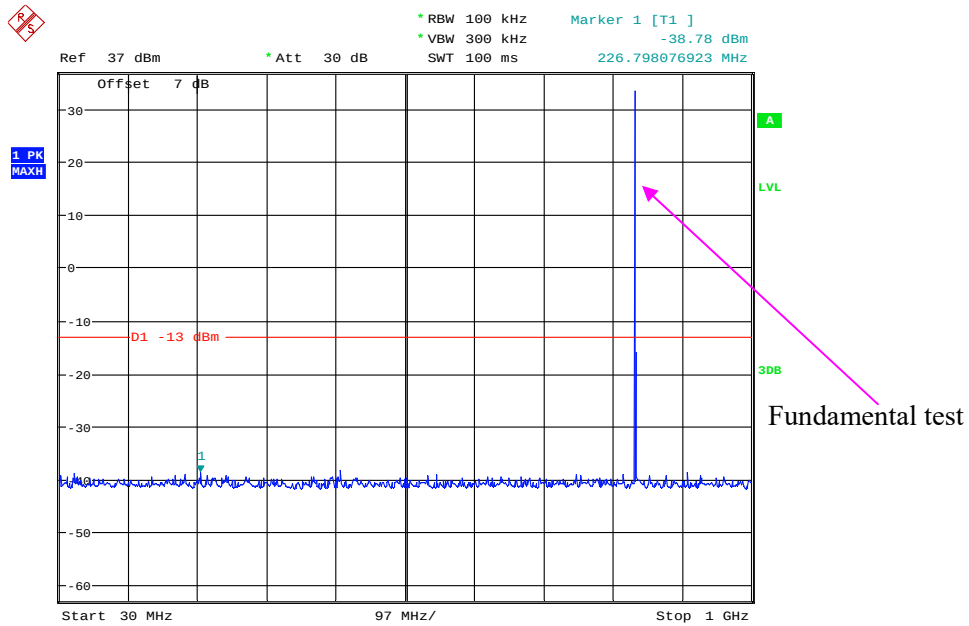
1 GHz – 20 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:05:47

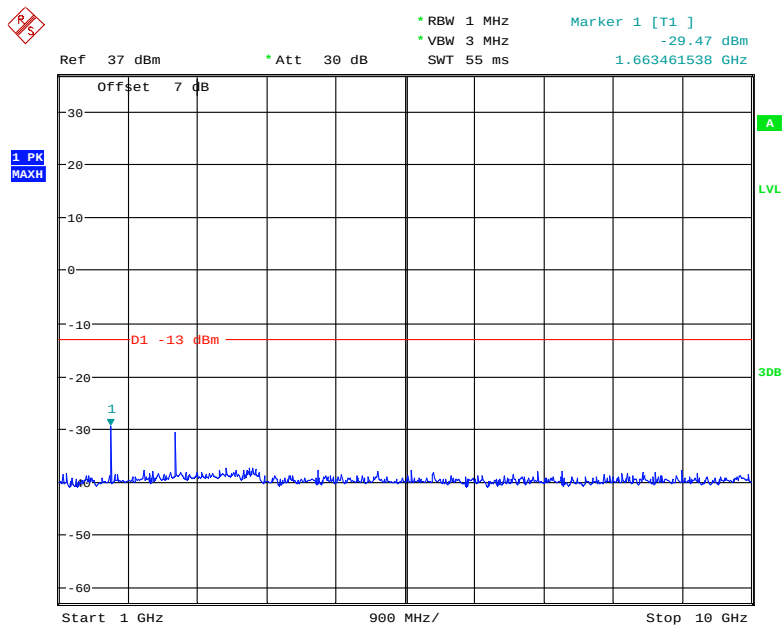
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



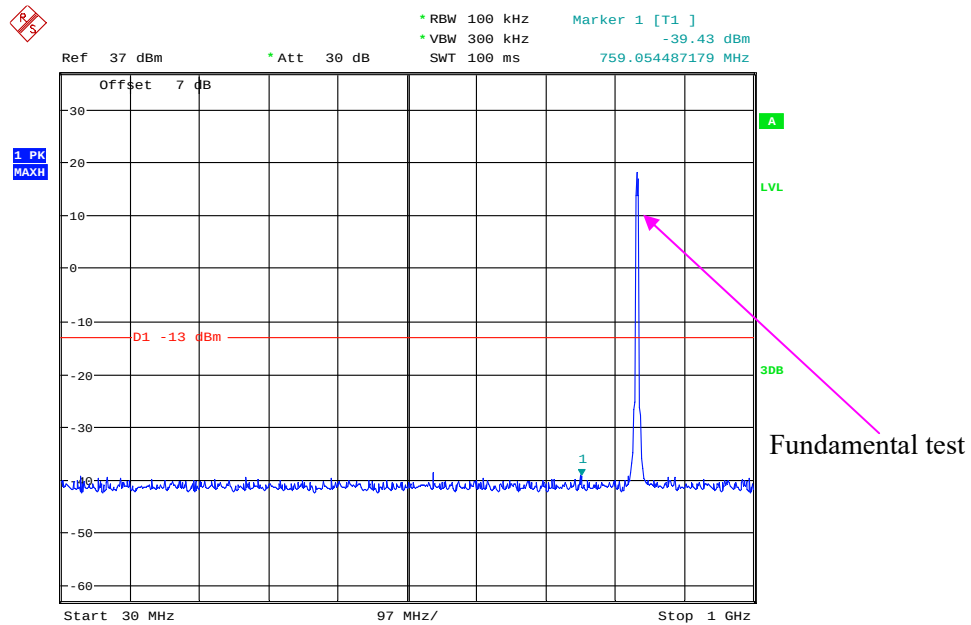
Date: 27.AUG.2021 21:44:39

1 GHz – 10 GHz (GSM Mode)



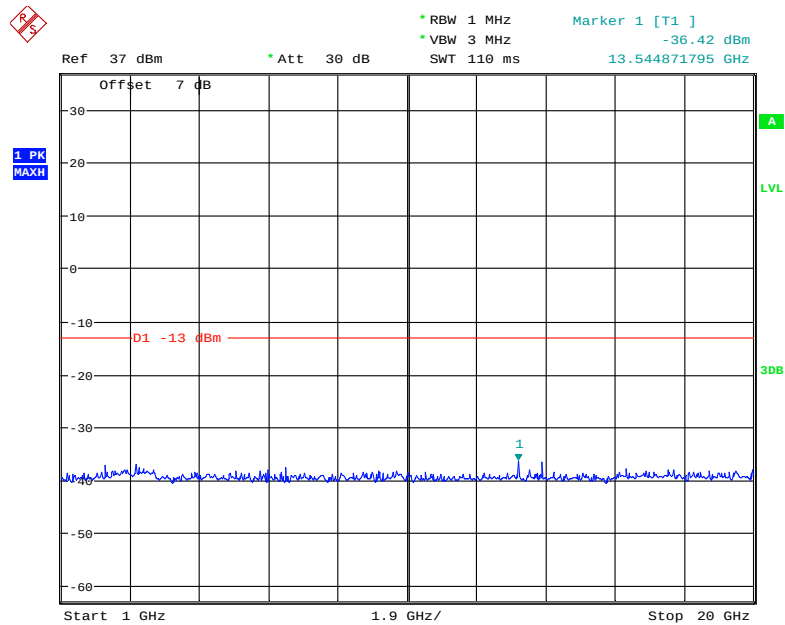
Date: 27.AUG.2021 21:42:35

30 MHz – 1 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:08:23

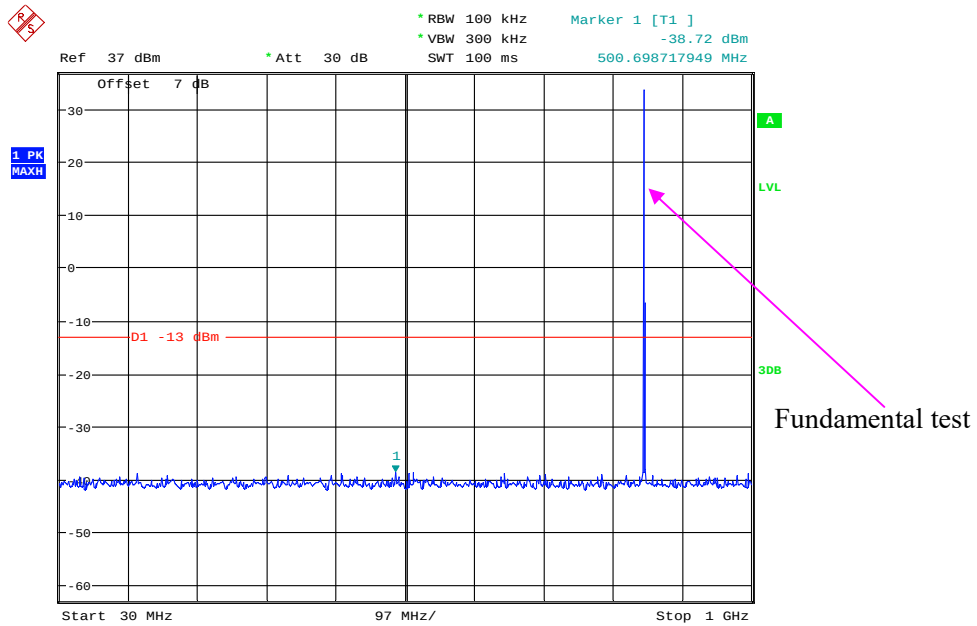
1 GHz – 20 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:04:35

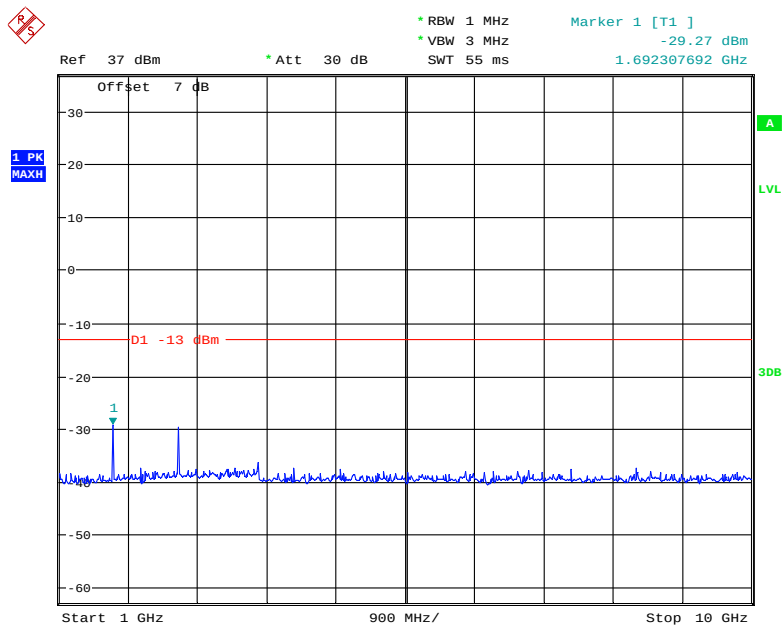
High Channel:

30 MHz – 1 GHz (GSM Mode)



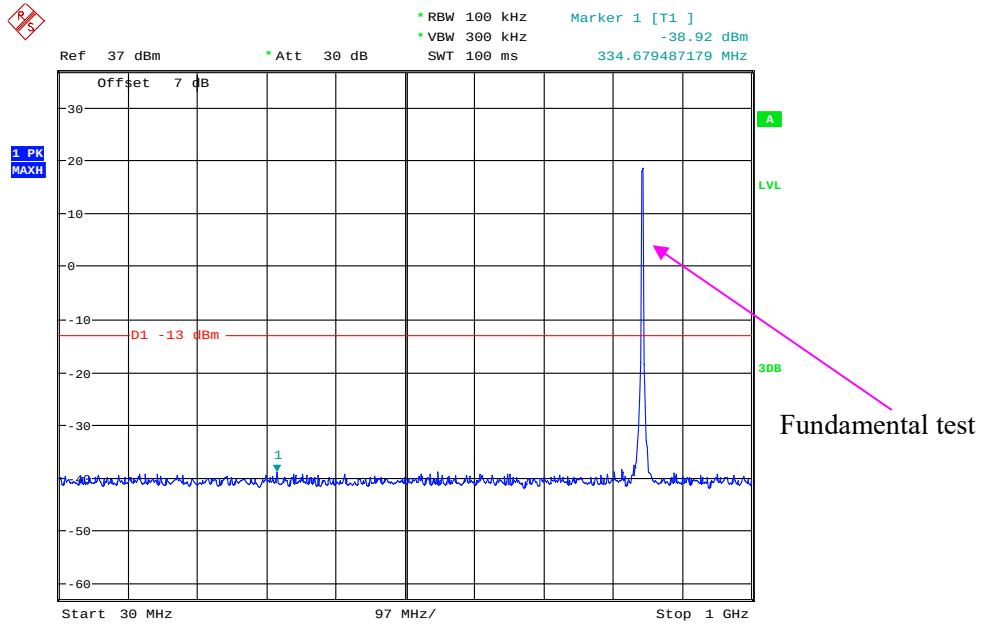
Date: 27.AUG.2021 21:45:17

1 GHz – 10 GHz (GSM Mode)



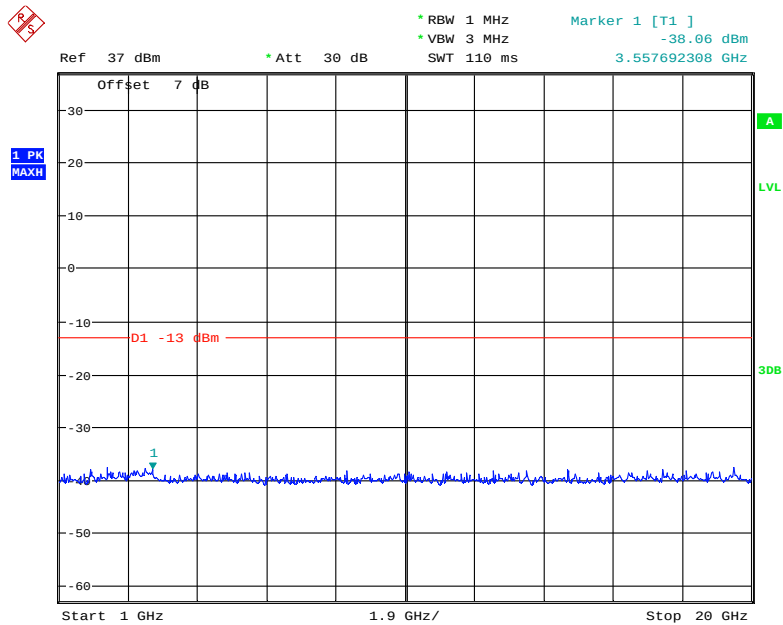
Date: 27.AUG.2021 21:41:38

30 MHz – 1 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:07:38

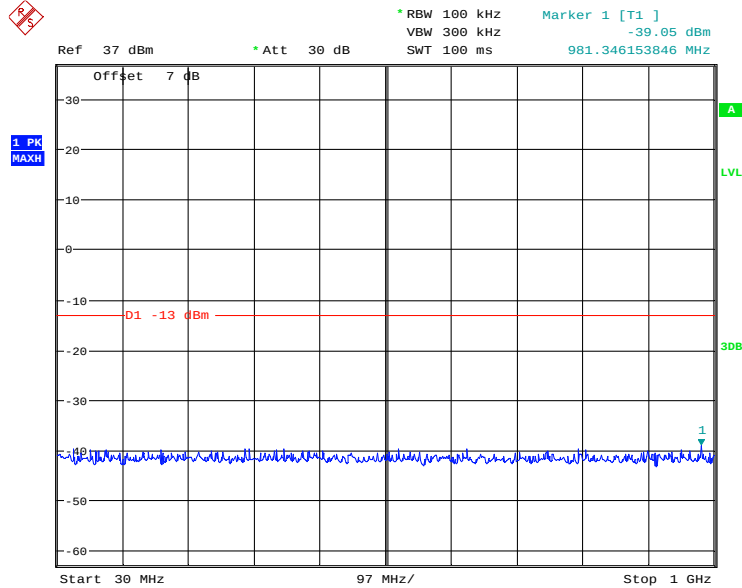
1 GHz – 20 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:05:07

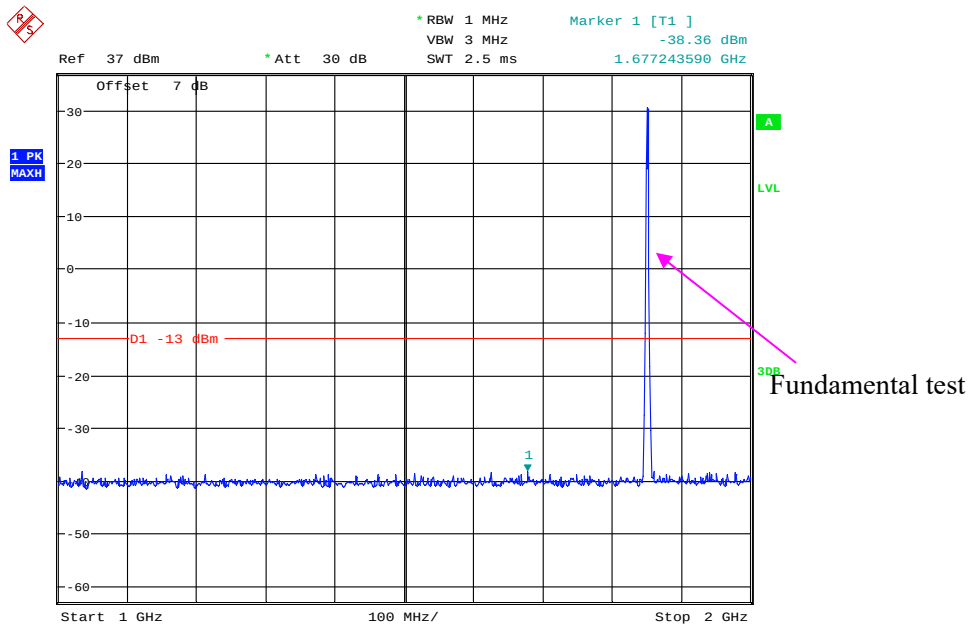
PCS Band (Part 24E)
Low Channel:

30 MHz – 1 GHz (GSM Mode)



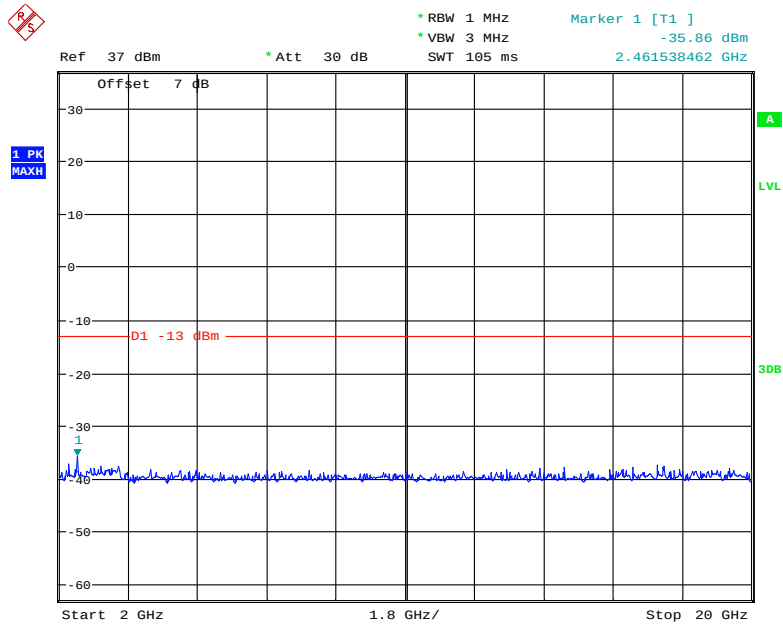
Date: 9.SEP.2021 16:59:13

1 GHz – 2 GHz (GSM Mode)



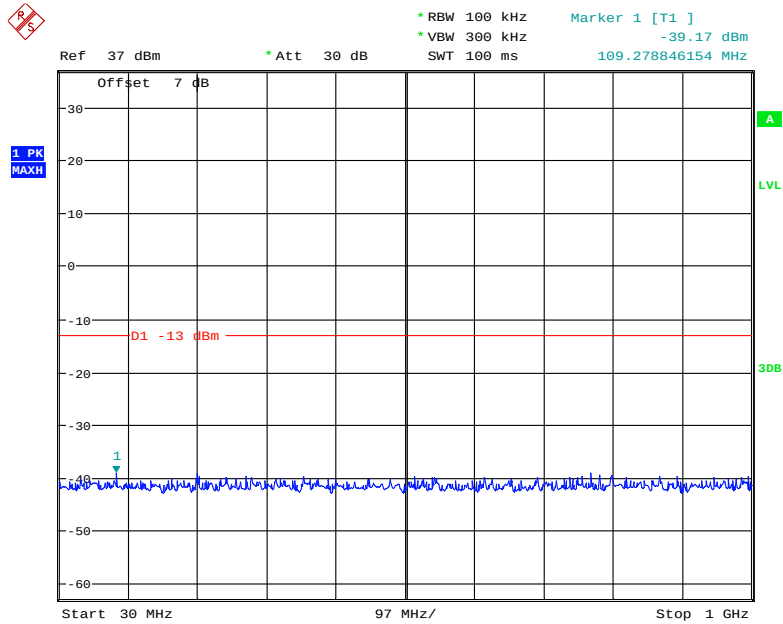
Date: 9.SEP.2021 17:00:25

2 GHz – 20 GHz (GSM Mode)



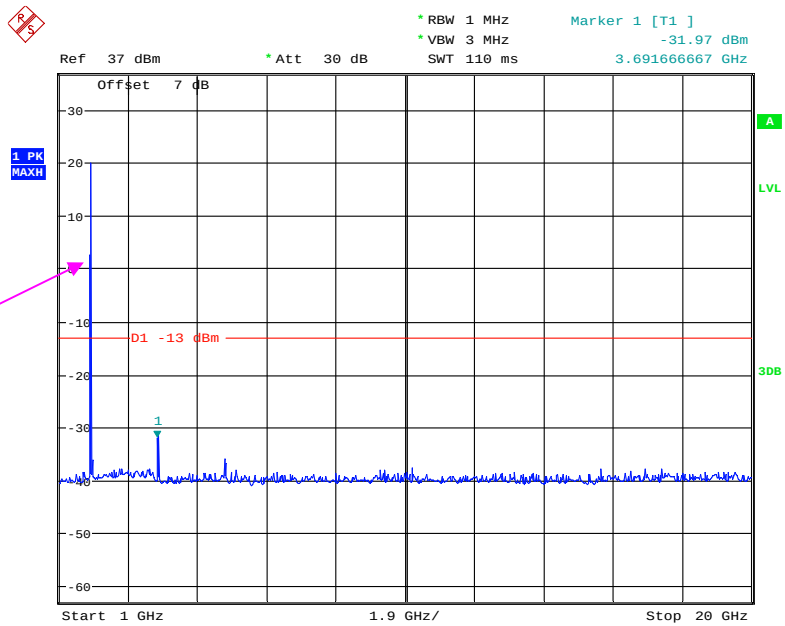
Date: 27.AUG.2021 22:29:34

30 MHz – 1 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:00:08

1 GHz – 20 GHz (WCDMA Mode)

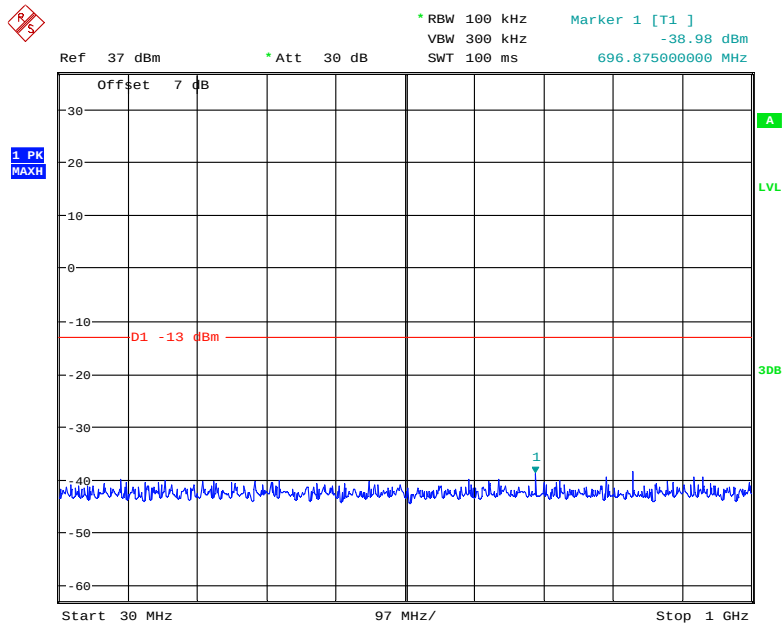


Fundamental test

Date: 27.AUG.2021 23:58:44

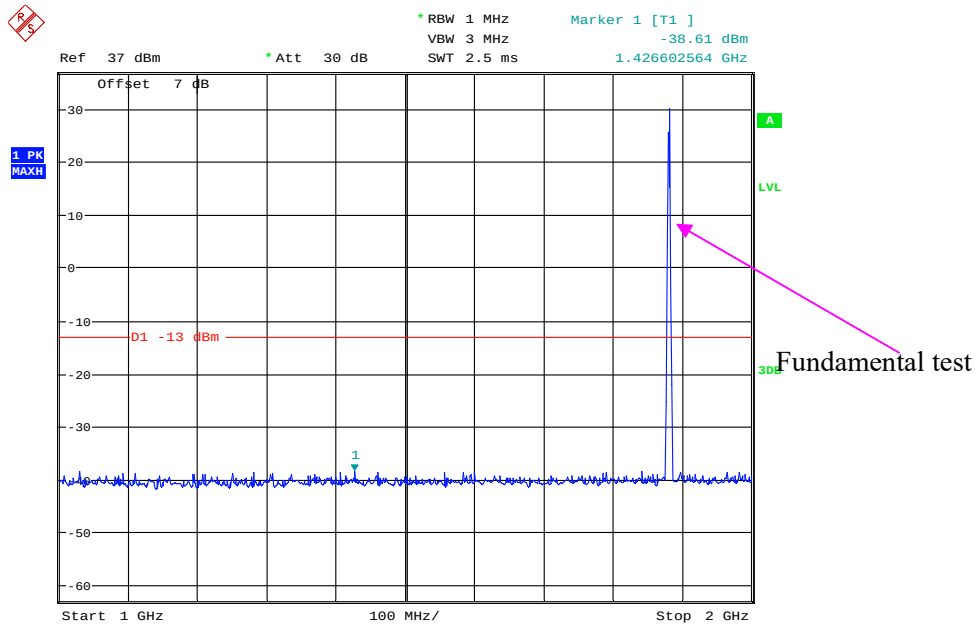
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



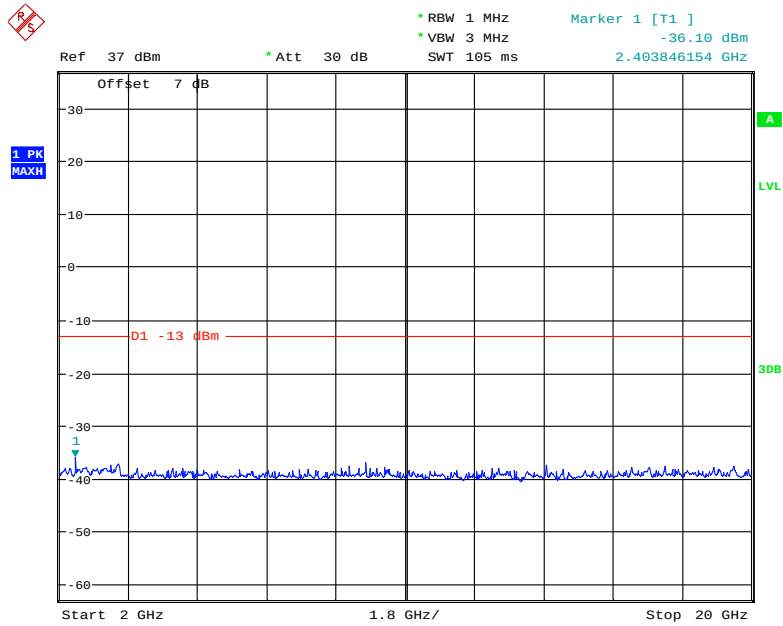
Date: 9.SEP.2021 16:59:36

1 GHz – 2 GHz (GSM Mode)



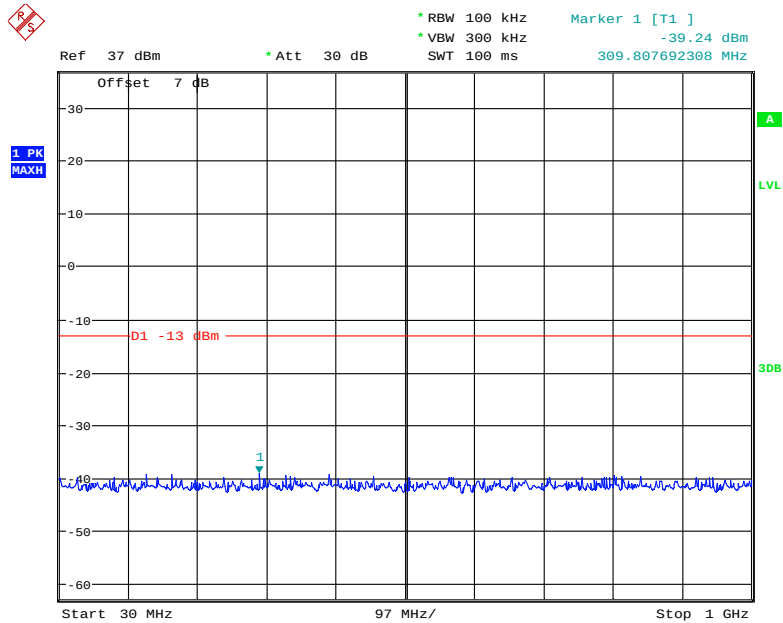
Date: 9.SEP.2021 17:01:00

2 GHz – 20 GHz (GSM Mode)



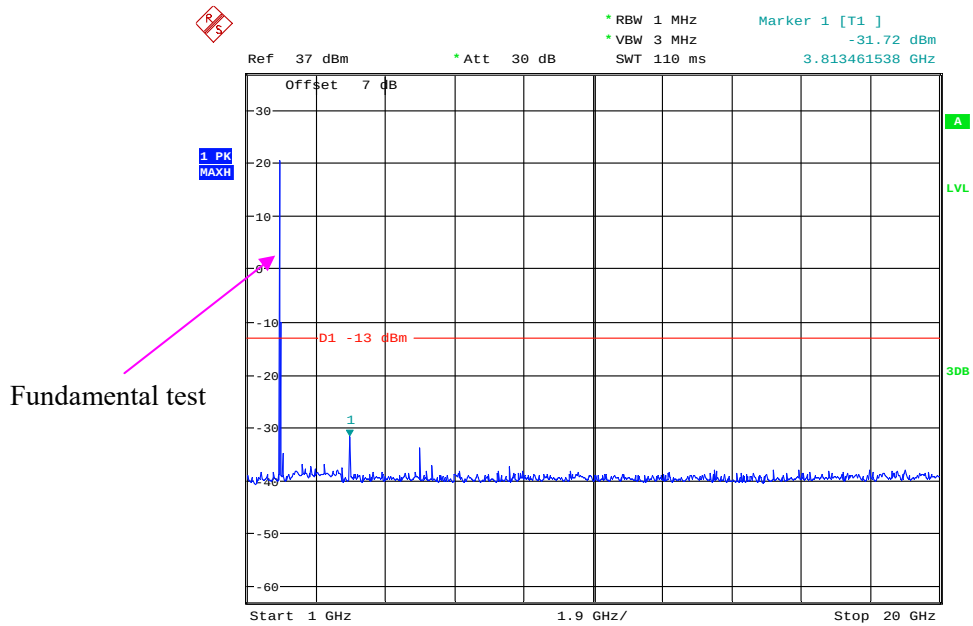
Date: 27.AUG.2021 22:30:13

30 MHz – 1 GHz (WCDMA Mode)

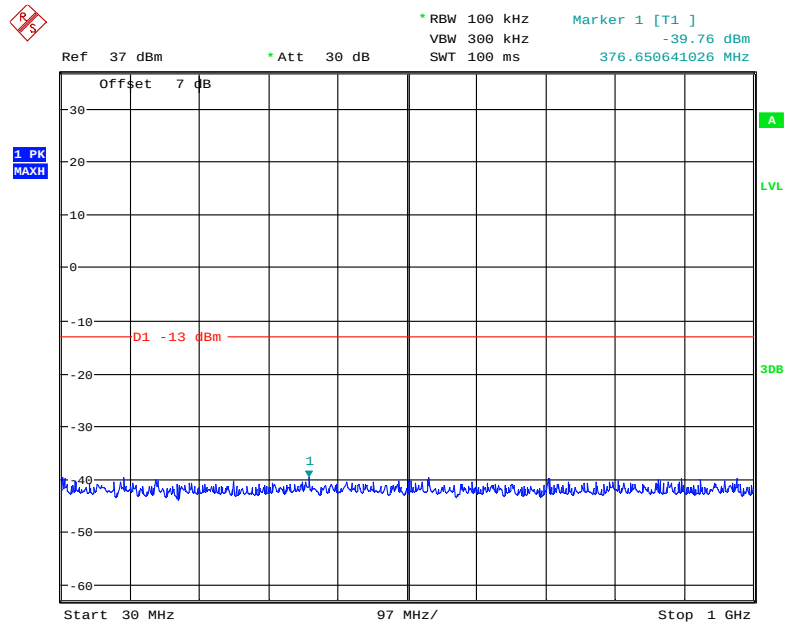


Date: 28.AUG.2021 00:00:36

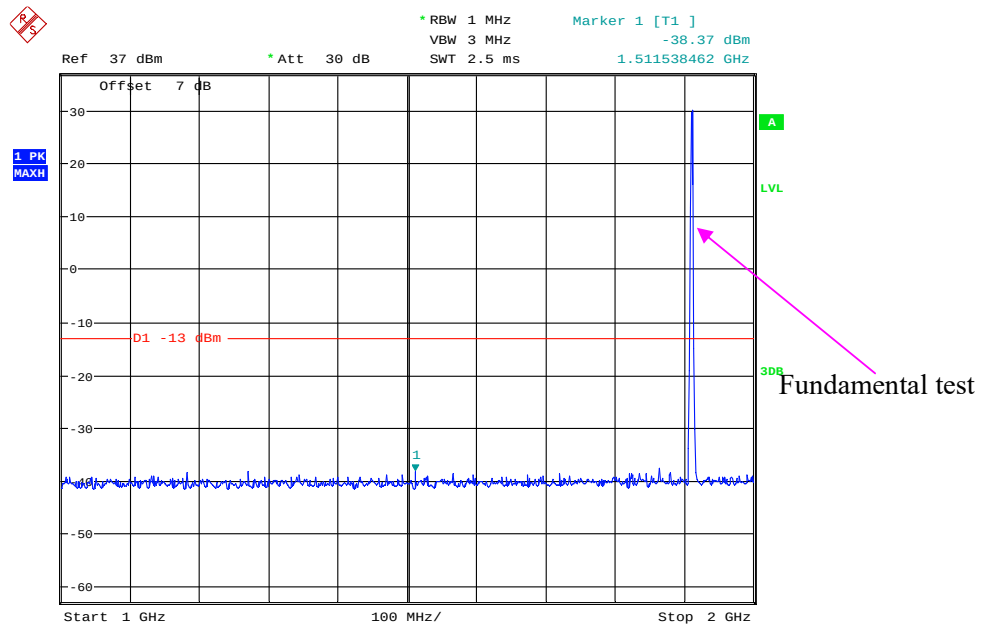
1 GHz – 20 GHz (WCDMA Mode)



Date: 27.AUG.2021 23:58:16

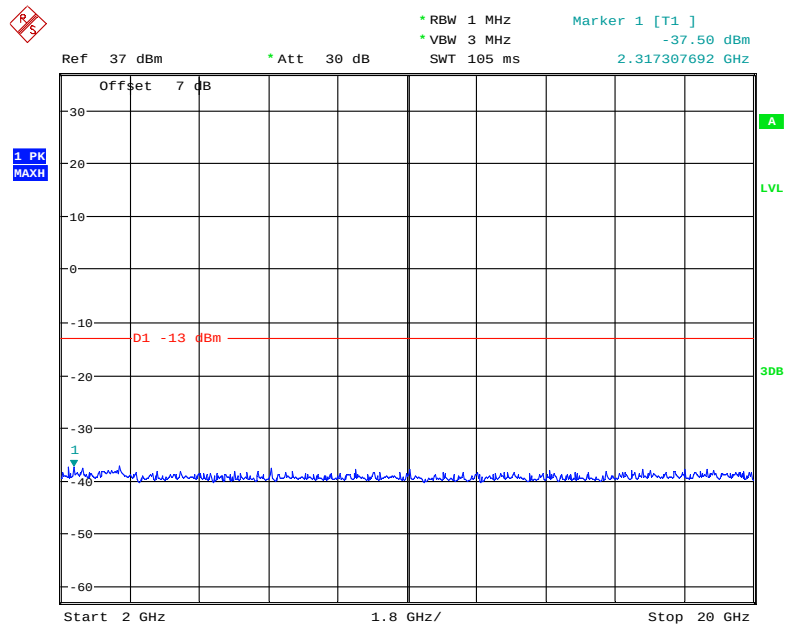
High Channel:**30 MHz – 1 GHz (GSM Mode)**

Date: 9.SEP.2021 16:59:51

1 GHz – 2 GHz (GSM Mode)

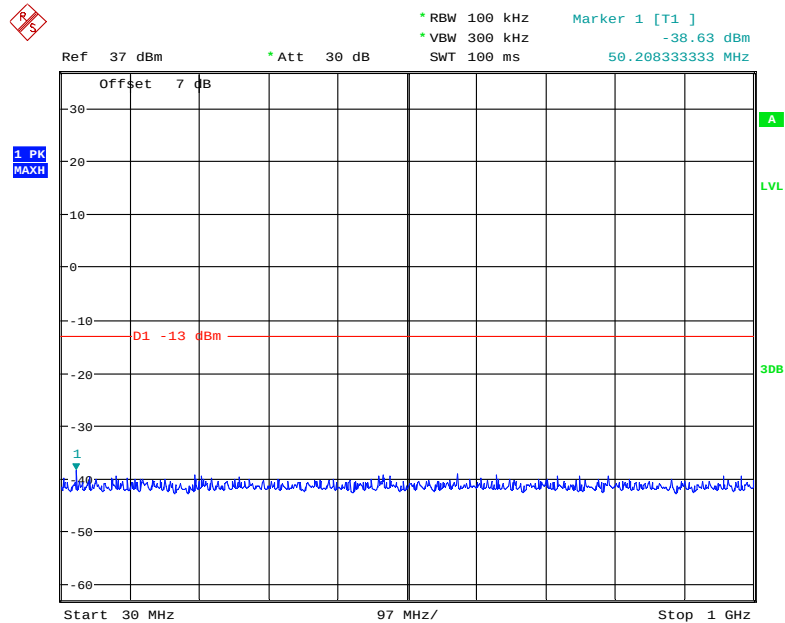
Date: 9.SEP.2021 17:01:24

2 GHz – 20 GHz (GSM Mode)



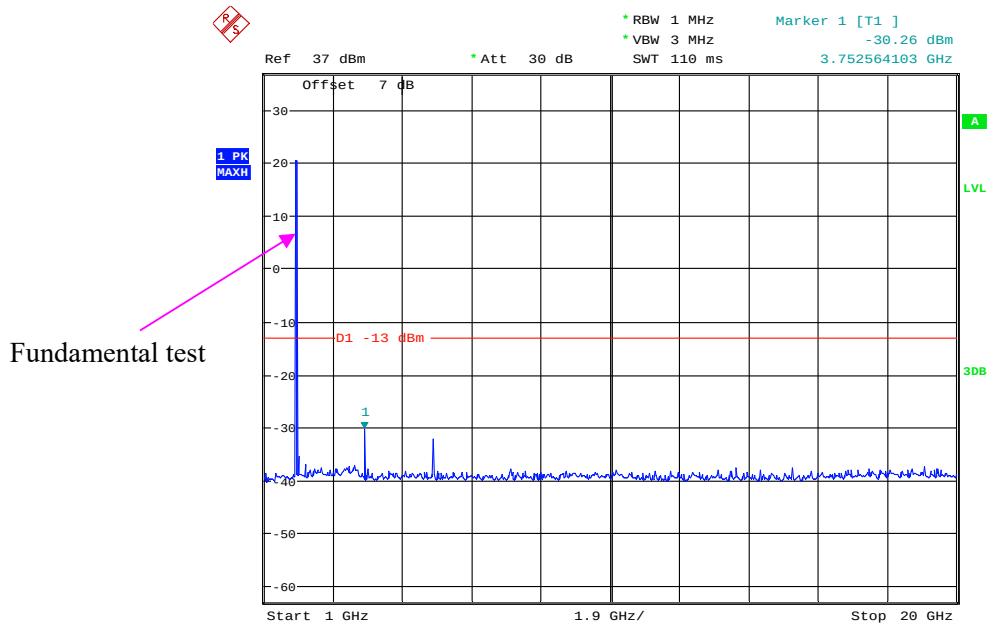
Date: 27.AUG.2021 22:29:06

30 MHz – 1 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:00:51

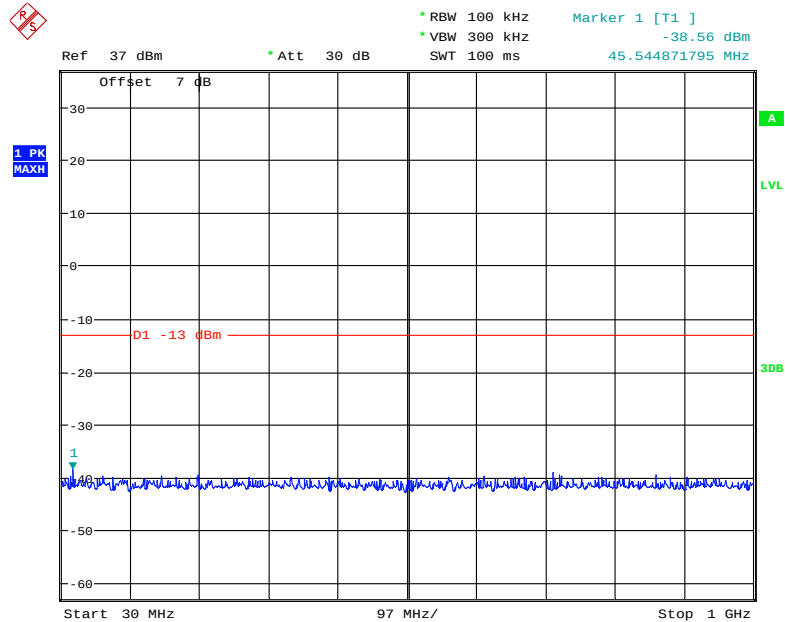
1 GHz – 20 GHz (WCDMA Mode)



Date: 27.AUG.2021 23:57:31

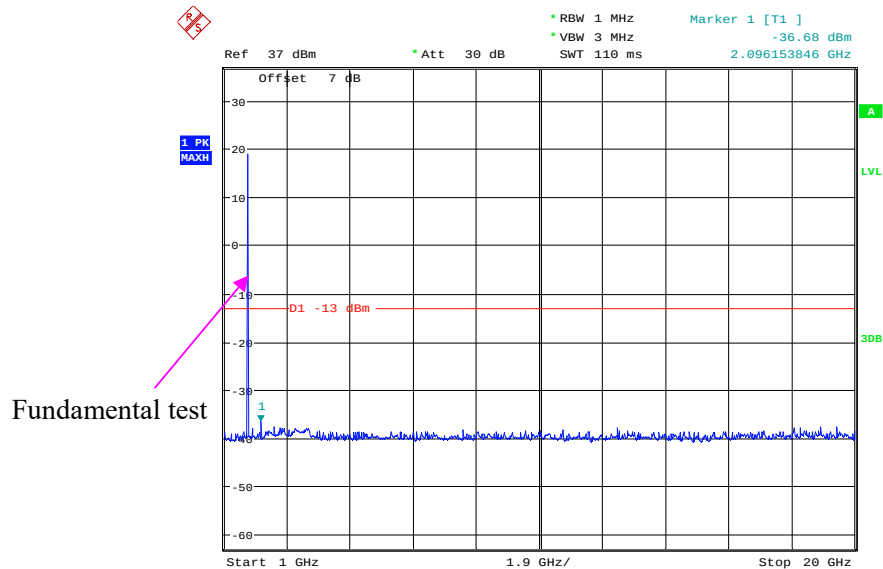
AWS Band (Part 27) **Low Channel:**

30 MHz – 1 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:02:13

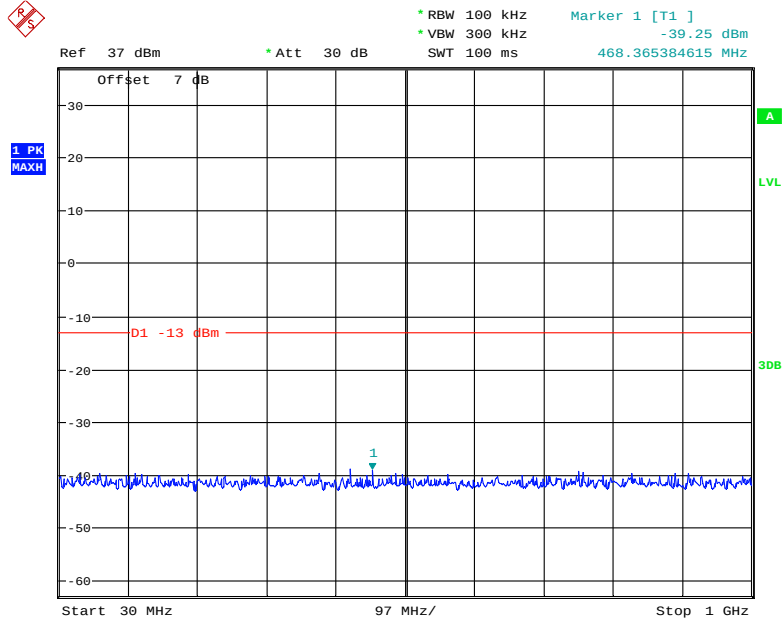
1 GHz – 20 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:03:13

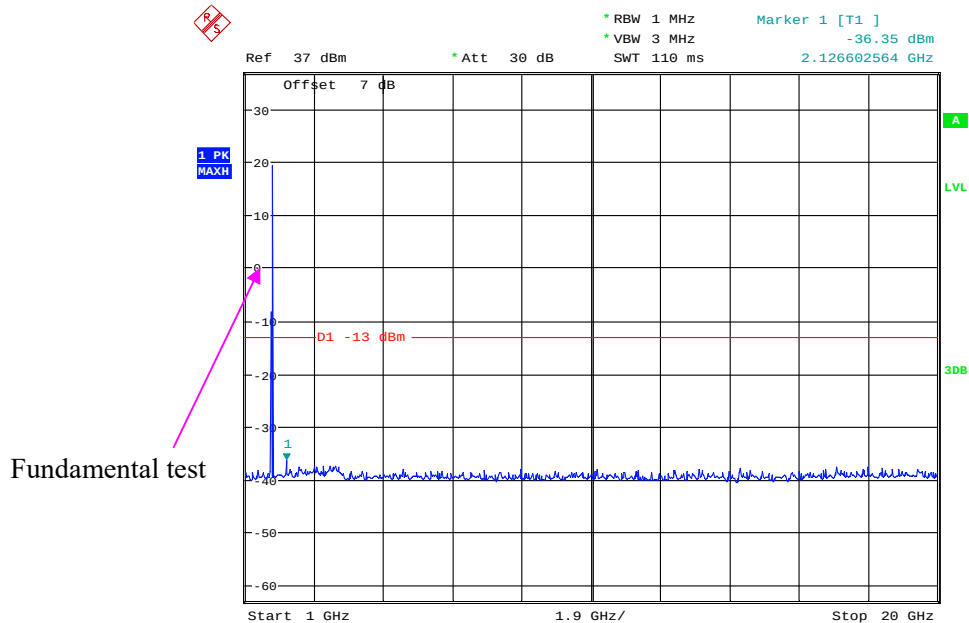
Middle Channel

30 MHz – 1 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:01:58

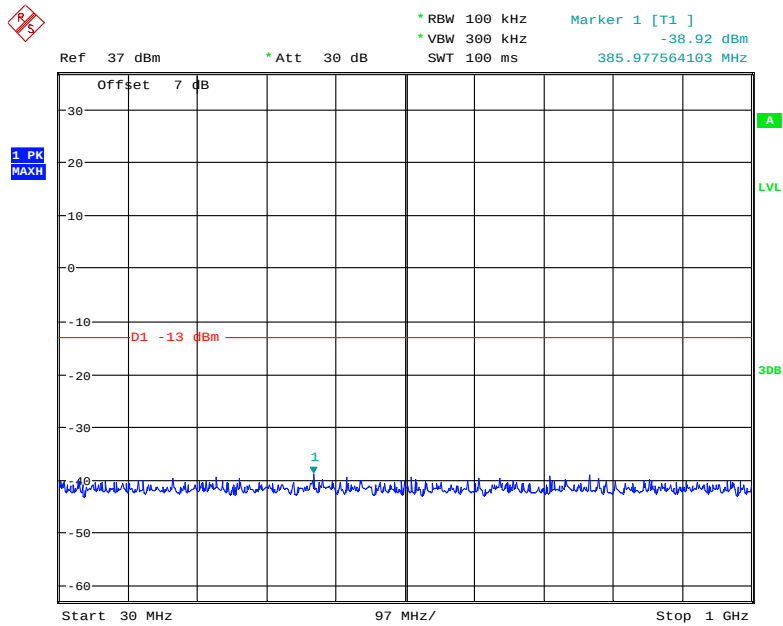
1 GHz – 20 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:03:49

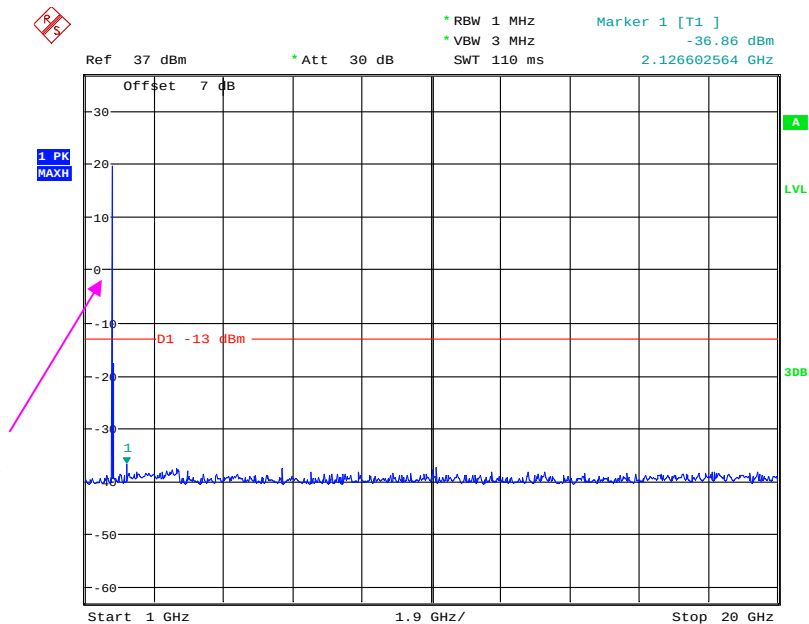
High Channel:

30 MHz – 1 GHz (WCDMA Mode)



Date: 28.AUG.2021 00:01:36

1 GHz – 20 GHz (WCDMA Mode)



Fundamental test

Date: 28.AUG.2021 00:10:55

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) and § 24.238(a) and § 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:	25.2~27.2 °C
Relative Humidity:	50~57%
ATM Pressure:	101~101.1 kPa

The testing was performed by Cloud Qiu 2021-08-11 for below 1GHz and Bruce Lin on 2021-08-16 for above 1GHz.

EUT operation mode: Transmitting

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

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 22H	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
GSM 850 Mode										
Low channel										
960.3	30.55	39	1.7	H	-66.0	1.36	0.0	-67.36	-13	54.36
960.3	31.43	252	1.5	V	-62.6	1.36	0.0	-63.96	-13	50.96
1648.40	43.41	119	2.3	H	-64.7	1.40	8.70	-57.40	-13	44.40
1648.40	43.09	265	1.3	V	-64.8	1.40	8.70	-57.50	-13	44.50
2472.60	42.94	256	2.1	H	-60.4	2.60	10.20	-52.80	-13	39.80
2472.60	42.99	4	1.3	V	-59.7	2.60	10.20	-52.10	-13	39.10
Middle channel										
960.6	30.62	125	1.7	H	-65.9	1.36	0.0	-67.26	-13	54.26
960.6	31.41	139	1.5	V	-62.6	1.36	0.0	-63.96	-13	50.96
1673.20	44.19	297	2.1	H	-62.1	1.30	8.90	-54.50	-13	41.50
1673.20	44.23	281	1.8	V	-61.5	1.30	8.90	-53.90	-13	40.90
2509.80	42.68	152	2.4	H	-60.7	2.60	10.20	-53.10	-13	40.10
2509.80	43.19	218	2.5	V	-59.6	2.60	10.20	-52.00	-13	39.00
High Channel										
961.8	30.58	2	1.0	H	-65.9	1.36	0.0	-67.26	-13	54.26
961.8	31.52	204	1.2	V	-62.5	1.36	0.0	-63.86	-13	50.86
1697.60	44.13	83	2.1	H	-62.2	1.30	8.90	-54.60	-13	41.60
1697.60	44.35	23	2.4	V	-61.4	1.30	8.90	-53.80	-13	40.80
2546.40	42.58	310	1.1	H	-60.8	2.60	10.20	-53.20	-13	40.20
2546.40	43.33	89	1.6	V	-59.4	2.60	10.20	-51.80	-13	38.80

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 27	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
WCDMA Mode										
Low channel										
962.9	30.52	336	1.4	H	-66.0	1.36	0.0	-67.36	-13	54.36
962.9	31.81	241	2.3	V	-62.2	1.36	0.0	-63.56	-13	50.56
1652.80	44.41	321	1.9	H	-61.9	1.30	8.90	-54.30	-13	41.30
1652.80	44.28	16	2.4	V	-61.5	1.30	8.90	-53.90	-13	40.90
2479.20	45.26	103	1.7	H	-58.1	2.60	10.20	-50.50	-13	37.50
2479.20	49.68	226	2.4	V	-53.1	2.60	10.20	-45.50	-13	32.50
Middle channel										
961.6	30.26	208	1.2	H	-66.2	1.36	0.0	-67.56	-13	54.56
961.6	31.83	334	1.2	V	-62.2	1.36	0.0	-63.56	-13	50.56
1673.20	43.17	17	1.1	H	-63.2	1.30	8.90	-55.60	-13	42.60
1673.20	43.30	296	1.8	V	-62.4	1.30	8.90	-54.80	-13	41.80
2509.80	45.33	34	2.0	H	-58.0	2.60	10.20	-50.40	-13	37.40
2509.80	47.28	324	1.1	V	-55.5	2.60	10.20	-47.90	-13	34.90
High channel										
963.8	30.32	175	1.7	H	-66.2	1.36	0.0	-67.56	-13	54.56
963.8	31.65	131	1.7	V	-62.4	1.36	0.0	-63.76	-13	50.76
1693.20	44.43	179	1.2	H	-61.9	1.30	8.90	-54.30	-13	41.30
1693.20	43.47	290	2.4	V	-62.3	1.30	8.90	-54.70	-13	41.70
2539.80	44.94	157	1.9	H	-58.4	2.60	10.20	-50.80	-13	37.80
2539.80	46.28	69	1.4	V	-56.5	2.60	10.20	-48.90	-13	35.90

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

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 22H	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
PCS 1900 Mode										
Low channel										
962.3	30.37	170	2.4	H	-66.1	1.36	0.0	-67.46	-13	54.46
962.3	31.69	204	2.2	V	-62.4	1.36	0.0	-63.76	-13	50.76
3700.40	43.27	267	1.4	H	-58.5	1.60	11.90	-48.20	-13	35.20
3700.40	44.36	80	2.0	V	-56.9	1.60	11.90	-46.60	-13	33.60
Middle channel										
961.2	30.41	25	1.8	H	-66.1	1.36	0.0	-67.46	-13	54.46
961.2	31.66	336	2.1	V	-62.4	1.36	0.0	-63.76	-13	50.76
3760.00	42.89	169	1.7	H	-59.2	1.50	11.80	-48.90	-13	35.90
3760.00	43.10	356	1.3	V	-58.5	1.50	11.80	-48.20	-13	35.20
High channel										
962.5	30.35	190	2.1	H	-66.2	1.36	0.0	-67.56	-13	54.56
962.5	31.67	314	1.8	V	-62.4	1.36	0.0	-63.76	-13	50.76
3819.60	42.96	173	1.7	H	-59.1	1.50	11.80	-48.80	-13	35.80
3819.60	43.34	54	1.4	V	-58.2	1.50	11.80	-47.90	-13	34.90
WCDMA Mode										
Low channel										
959.8	30.38	297	1.9	H	-66.1	1.36	0.0	-67.46	-13	54.46
959.8	31.61	200	1.5	V	-62.4	1.36	0.0	-63.76	-13	50.76
3704.80	45.11	48	2.5	H	-56.7	1.60	11.90	-46.40	-13	33.40
3704.80	44.39	305	2.3	V	-56.8	1.60	11.90	-46.50	-13	33.50
Middle channel										
958.7	30.43	59	2.4	H	-66.1	1.36	0.0	-67.46	-13	54.46
958.7	31.66	173	1.6	V	-62.4	1.36	0.0	-63.76	-13	50.76
3760.00	45.85	223	1.2	H	-56.2	1.50	11.80	-45.90	-13	32.90
3760.00	44.39	184	2.4	V	-57.2	1.50	11.80	-46.90	-13	33.90
High channel										
960.2	30.47	137	1.8	H	-66.0	1.36	0.0	-67.36	-13	54.36
960.2	31.77	218	1.7	V	-62.3	1.36	0.0	-63.66	-13	50.66
3815.20	45.22	316	2.1	H	-56.8	1.50	11.80	-46.50	-13	33.50
3815.20	45.71	34	2.0	V	-55.9	1.50	11.80	-45.60	-13	32.60

30 MHz ~ 20 GHz:**AWS Band**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 27	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
WCDMA Mode										
Low channel										
962.3	30.33	167	2.5	H	-66.2	1.36	0.0	-67.56	-13	54.56
962.3	31.72	345	1.0	V	-62.3	1.36	0.0	-63.66	-13	50.66
3424.80	44.38	144	1.3	H	-56.4	1.40	11.80	-46.00	-13	33.00
3424.80	44.14	259	1.9	V	-56.5	1.40	11.80	-46.10	-13	33.10
Middle channel										
961.6	30.28	97	1.1	H	-66.2	1.36	0.0	-67.56	-13	54.56
961.6	31.75	103	1.6	V	-62.3	1.36	0.0	-63.66	-13	50.66
3465.20	45.14	175	1.9	H	-55.6	1.50	12.00	-45.10	-13	32.10
3465.20	44.64	216	1.7	V	-56.9	1.50	12.00	-46.40	-13	33.40
High channel										
960.8	30.31	30	2.4	H	-66.2	1.36	0.0	-67.56	-13	54.56
960.8	31.58	279	1.7	V	-62.5	1.36	0.0	-63.86	-13	50.86
3505.20	44.81	97	1.4	H	-55.9	1.50	12.00	-45.40	-13	32.40
3505.20	44.94	207	1.4	V	-56.6	1.50	12.00	-46.10	-13	33.10

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

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 2 (30MHz~20GHz)										
1.4MHz bandwidth, Low channel										
961.1	30.36	53	1.7	H	-66.1	1.36	0.0	-67.46	-13	54.46
961.1	31.67	341	1.8	V	-62.4	1.36	0.0	-63.76	-13	50.76
3701.40	45.82	66	1.5	H	-56.0	1.60	11.90	-45.70	-13	32.70
3701.40	44.73	205	2.4	V	-56.5	1.60	11.90	-46.20	-13	33.20
1.4MHz bandwidth, Middle channel										
961.3	30.45	263	1.2	H	-66.1	1.36	0.0	-67.46	-13	54.46
961.3	31.61	22	1.7	V	-62.4	1.36	0.0	-63.76	-13	50.76
3760.00	47.55	173	2.4	H	-54.5	1.50	11.80	-44.20	-13	31.20
3760.00	45.06	304	1.2	V	-56.5	1.50	11.80	-46.20	-13	33.20
1.4MHz bandwidth, High channel										
959.2	30.41	109	2.0	H	-66.1	1.36	0.0	-67.46	-13	54.46
959.2	31.64	129	1.1	V	-62.4	1.36	0.0	-63.76	-13	50.76
3818.60	46.28	137	1.4	H	-55.8	1.50	11.80	-45.50	-13	32.50
3818.60	45.33	217	1.0	V	-56.3	1.50	11.80	-46.00	-13	33.00
Band 4(30MHz~20GHz)										
1.4MHz bandwidth, Low channel										
962.9	30.24	84	1.8	H	-66.3	1.36	0.0	-67.66	-13	54.66
962.9	31.54	289	1.0	V	-62.5	1.36	0.0	-63.86	-13	50.86
3421.40	44.59	153	2.1	H	-56.2	1.40	11.80	-45.80	-13	32.80
3421.40	45.22	242	2.3	V	-55.4	1.40	11.80	-45.00	-13	32.00
1.4MHz bandwidth, Middle channel										
964.6	30.21	208	2.0	H	-66.3	1.36	0.0	-67.66	-13	54.66
964.6	31.57	136	2.1	V	-62.5	1.36	0.0	-63.86	-13	50.86
3465.00	44.83	188	1.6	H	-55.9	1.50	12.00	-45.40	-13	32.40
3465.00	45.61	216	2.0	V	-55.9	1.50	12.00	-45.40	-13	32.40
1.4MHz bandwidth, High channel										
960.7	30.58	163	1.9	H	-65.9	1.36	0.0	-67.26	-13	54.26
960.7	31.52	53	1.4	V	-62.5	1.36	0.0	-63.86	-13	50.86
3508.60	45.28	348	2.1	H	-55.5	1.50	12.00	-45.00	-13	32.00
3508.60	45.37	207	2.4	V	-56.1	1.50	12.00	-45.60	-13	32.60

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 5(30MHz~10GHz)										
1.4MHz bandwidth, Low channel										
962.8	30.33	64	1.2	H	-66.2	1.36	0.0	-67.56	-13	54.56
962.8	31.69	85	1.7	V	-62.4	1.36	0.0	-63.76	-13	50.76
1649.40	48.57	65	1.1	H	-59.5	1.40	8.70	-52.20	-13	39.20
1649.40	47.38	233	2.2	V	-60.5	1.40	8.70	-53.20	-13	40.20
1.4MHz bandwidth, Middle channel										
964.4	30.27	326	1.1	H	-66.2	1.36	0.0	-67.56	-13	54.56
964.4	31.72	330	1.1	V	-62.3	1.36	0.0	-63.66	-13	50.66
1673.00	49.38	136	1.1	H	-57.0	1.30	8.90	-49.40	-13	36.40
1673.00	46.91	177	1.5	V	-58.8	1.30	8.90	-51.20	-13	38.20
1.4MHz bandwidth, High channel										
963.2	30.45	149	2.1	H	-66.1	1.36	0.0	-67.46	-13	54.46
963.2	31.65	102	1.9	V	-62.4	1.36	0.0	-63.76	-13	50.76
1696.60	49.17	91	2.1	H	-57.2	1.30	8.90	-49.60	-13	36.60
1696.60	46.28	50	2.2	V	-59.5	1.30	8.90	-51.90	-13	38.90
Band 7(30MHz~26.5GHz)										
5MHz bandwidth, Low channel										
958.3	30.53	171	1.7	H	-66.0	1.36	0.0	-67.36	-25	42.36
958.3	31.81	231	2.3	V	-62.2	1.36	0.0	-63.56	-25	38.56
5005.00	46.82	35	1.3	H	-53.8	1.70	12.00	-43.50	-25	18.50
5005.00	45.29	17	2.5	V	-54.7	1.70	12.00	-44.40	-25	19.40
5MHz bandwidth, Middle channel										
962.6	30.66	149	1.7	H	-65.8	1.36	0.0	-67.16	-25	42.16
962.6	31.84	27	1.4	V	-62.2	1.36	0.0	-63.56	-25	38.56
5070.00	47.12	103	1.4	H	-52.9	1.60	12.10	-42.40	-25	17.40
5070.00	45.93	294	1.6	V	-54.1	1.60	12.10	-43.60	-25	18.60
5MHz bandwidth, High channel										
965.8	30.25	231	1.2	H	-66.3	1.36	0.0	-67.66	-25	42.66
965.8	31.78	296	2.5	V	-62.3	1.36	0.0	-63.66	-25	38.66
5135.00	47.33	94	2.2	H	-52.7	1.60	12.10	-42.20	-25	17.20
5135.00	45.82	25	2.1	V	-54.2	1.60	12.10	-43.70	-25	18.70

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 38(30MHz~26.5GHz)										
5MHz bandwidth, Low channel										
962.9	30.39	228	1.8	H	-66.1	1.36	0.0	-67.46	-25	42.46
962.9	31.73	19	1.6	V	-62.3	1.36	0.0	-63.66	-25	38.66
5145.00	53.28	131	2.1	H	-46.7	1.60	12.10	-36.20	-25	11.20
5145.00	49.79	360	1.8	V	-50.2	1.60	12.10	-39.70	-25	14.70
7717.50	54.92	40	1.8	H	-42.6	2.10	10.50	-34.20	-25	9.20
7717.50	50.23	345	2.2	V	-47.1	2.10	10.50	-38.70	-25	13.70
5MHz bandwidth, Middle channel										
961.9	30.49	208	2.3	H	-66.0	1.36	0.0	-67.36	-25	42.36
961.9	31.59	107	1.5	V	-62.5	1.36	0.0	-63.86	-25	38.86
5190.00	54.47	206	1.2	H	-45.6	1.60	12.10	-35.10	-25	10.10
5190.00	50.26	255	2.4	V	-49.4	1.60	12.10	-38.90	-25	13.90
7785.00	55.40	335	1.4	H	-40.9	2.00	10.50	-32.40	-25	7.40
7785.00	51.28	31	2.2	V	-44.9	2.00	10.50	-36.40	-25	11.40
5MHz bandwidth, High channel										
963.6	30.44	194	1.4	H	-66.1	1.36	0.0	-67.46	-25	42.46
963.6	31.35	97	2.1	V	-62.7	1.36	0.0	-64.06	-25	39.06
5230.00	53.96	110	2.0	H	-46.1	1.60	12.10	-35.60	-25	10.60
5230.00	51.23	300	1.8	V	-48.4	1.60	12.10	-37.90	-25	12.90
7845.00	53.82	179	1.3	H	-42.4	2.00	10.50	-33.90	-25	8.90
7845.00	49.68	146	1.7	V	-46.5	2.00	10.50	-38.00	-25	13.00

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 41(30MHz~26.5GHz)										
5MHz bandwidth, Low channel										
965.4	30.34	78	1.8	H	-66.2	1.36	0.0	-67.56	-25	42.56
965.4	31.57	264	2.4	V	-62.5	1.36	0.0	-63.86	-25	38.86
5075.00	51.14	45	2.0	H	-48.9	1.60	12.10	-38.40	-25	13.40
5075.00	47.13	302	1.2	V	-52.9	1.60	12.10	-42.40	-25	17.40
7612.50	55.51	113	2.3	H	-42.0	2.10	10.50	-33.60	-25	8.60
7612.50	53.39	45	1.3	V	-43.9	2.10	10.50	-35.50	-25	10.50
5MHz bandwidth, Middle channel										
960.7	30.56	19	1.6	H	-65.9	1.36	0.0	-67.26	-25	42.26
960.7	31.68	247	1.4	V	-62.4	1.36	0.0	-63.76	-25	38.76
5190.00	49.91	195	2.3	H	-50.2	1.60	12.10	-39.70	-25	14.70
5190.00	53.24	64	2.0	V	-46.4	1.60	12.10	-35.90	-25	10.90
7785.00	54.45	275	2.1	H	-41.8	2.00	10.50	-33.30	-25	8.30
7785.00	57.11	144	1.2	V	-39.1	2.00	10.50	-30.60	-25	5.60
5MHz bandwidth, High channel										
965.5	30.51	145	2.0	H	-66.0	1.36	0.0	-67.36	-25	42.36
965.5	31.54	328	1.1	V	-62.5	1.36	0.0	-63.86	-25	38.86
5304.40	49.64	258	2.1	H	-50.1	1.60	12.20	-39.50	-25	14.50
5304.40	51.99	89	2.2	V	-47.2	1.60	12.20	-36.60	-25	11.60
7956.60	54.22	55	1.2	H	-43.8	2.10	10.70	-35.20	-25	10.20
7956.60	56.14	102	1.1	V	-41.8	2.10	10.70	-33.20	-25	8.20

Note:

Absolute Level = Substituted Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

dBd is for the ERP, dBi is for EIRP.

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.

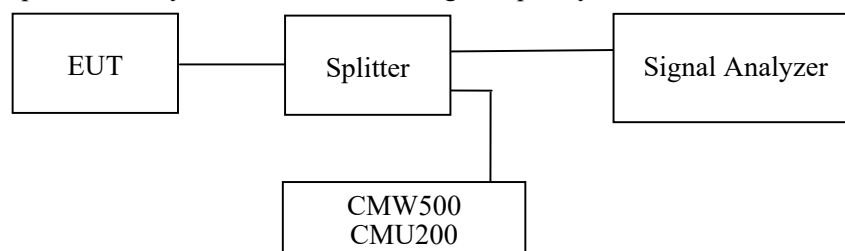
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to FCC §27.53 (c)(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:	28.9~29.2°C
Relative Humidity:	49~51 %
ATM Pressure:	101.0 kPa

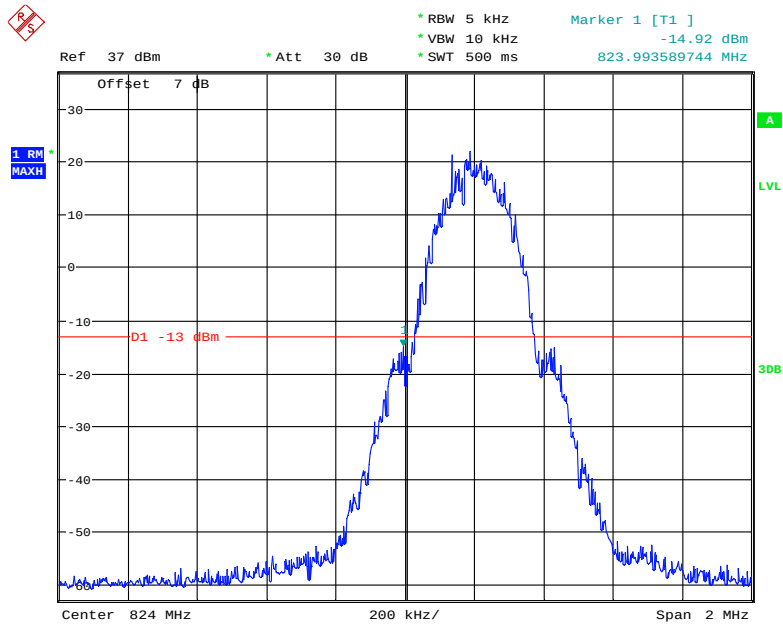
The testing was performed by Sky Luo from 2021-08-27 to 2021-09-09.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

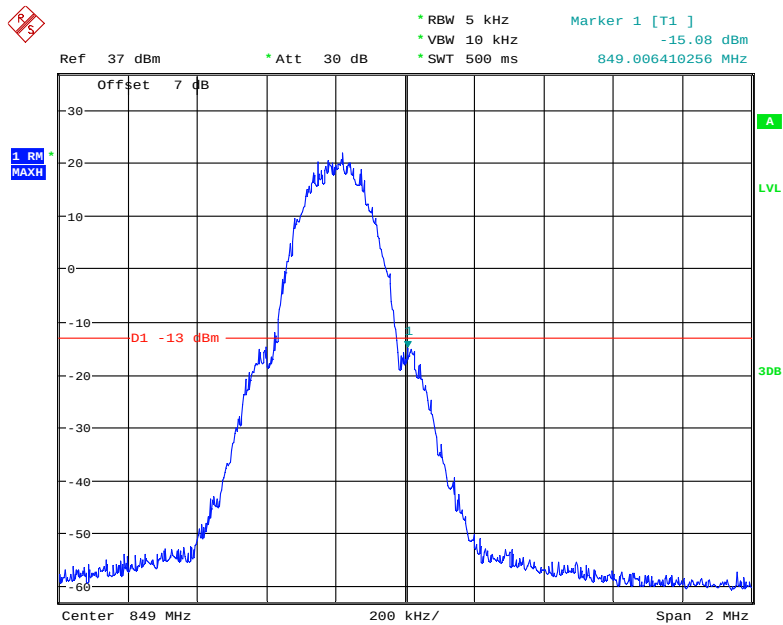
Please refer to the following plots.

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



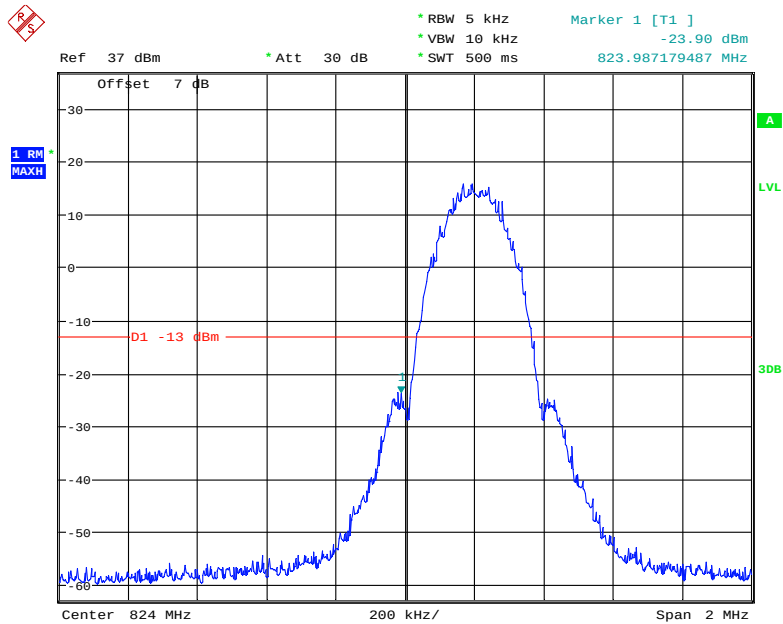
Date: 27.AUG.2021 21:26:53

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



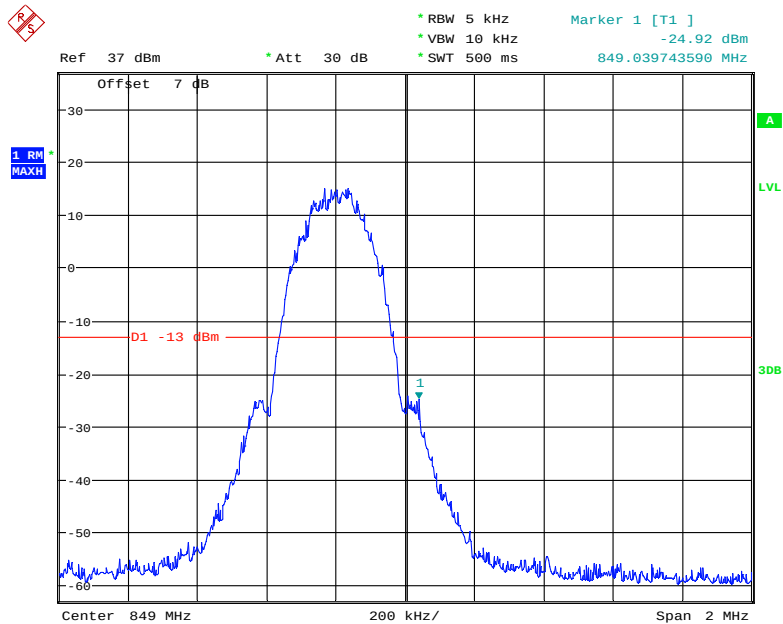
Date: 27.AUG.2021 21:29:19

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



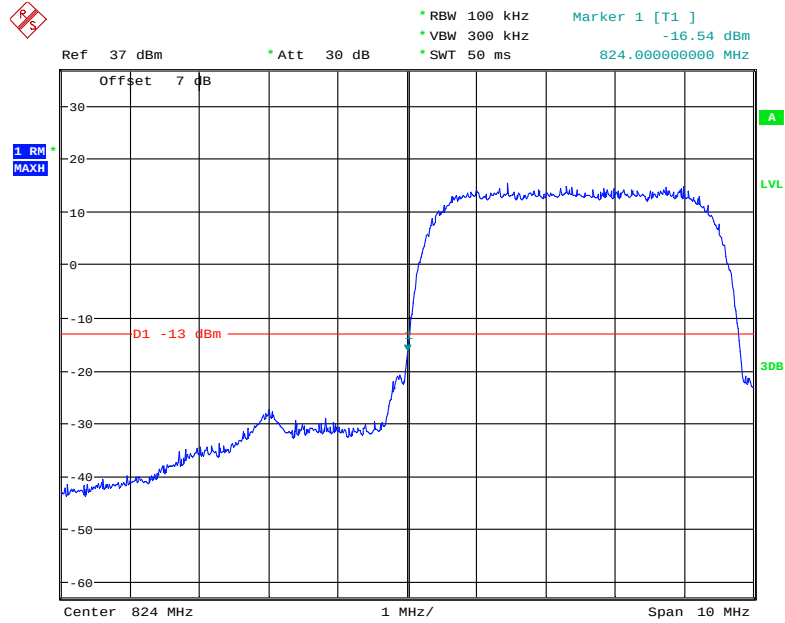
Date: 27.AUG.2021 21:52:34

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



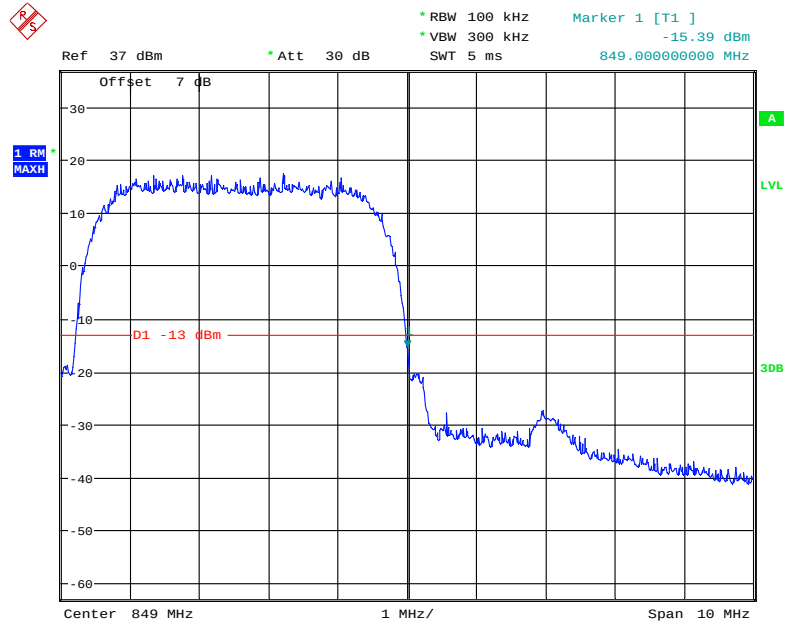
Date: 27.AUG.2021 23:22:23

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



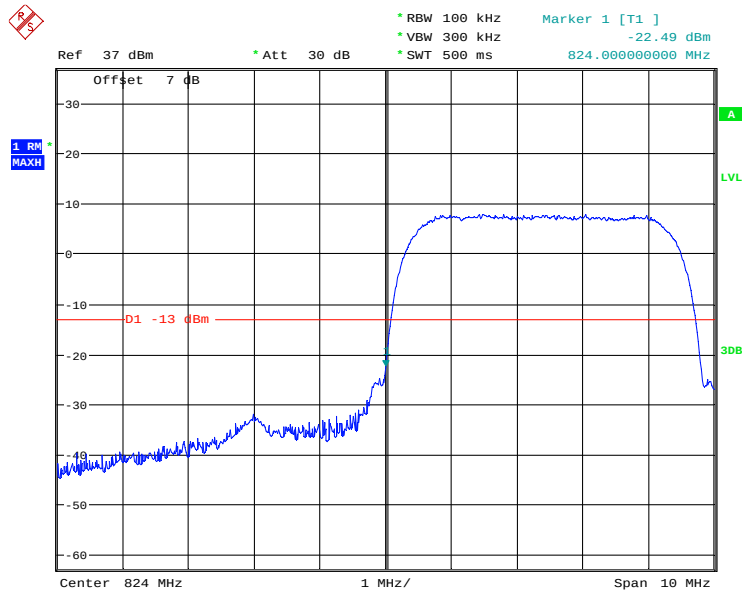
Date: 9.SEP.2021 16:53:22

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



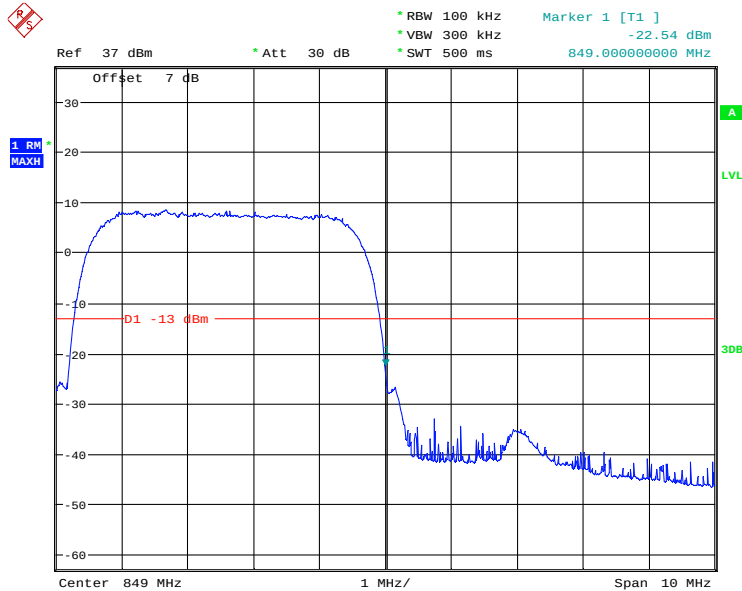
Date: 27.AUG.2021 23:32:48

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



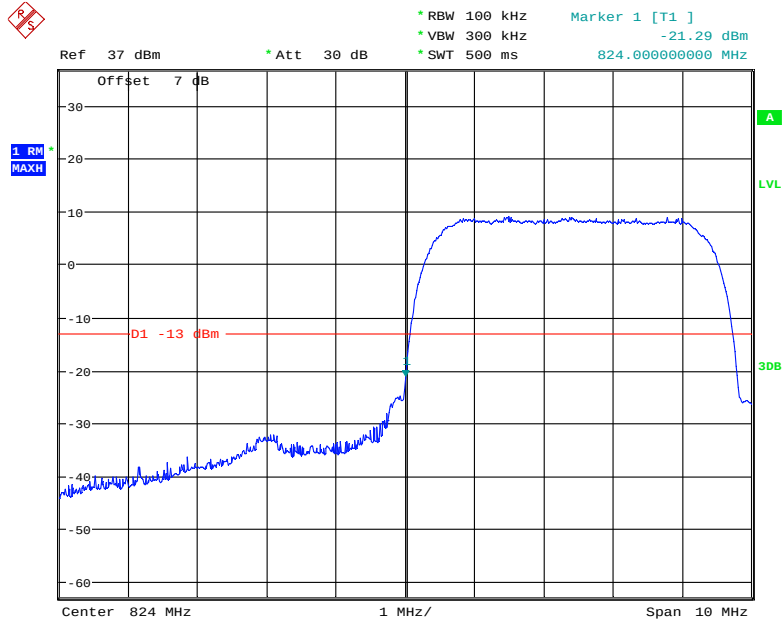
Date: 28.AUG.2021 01:00:18

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



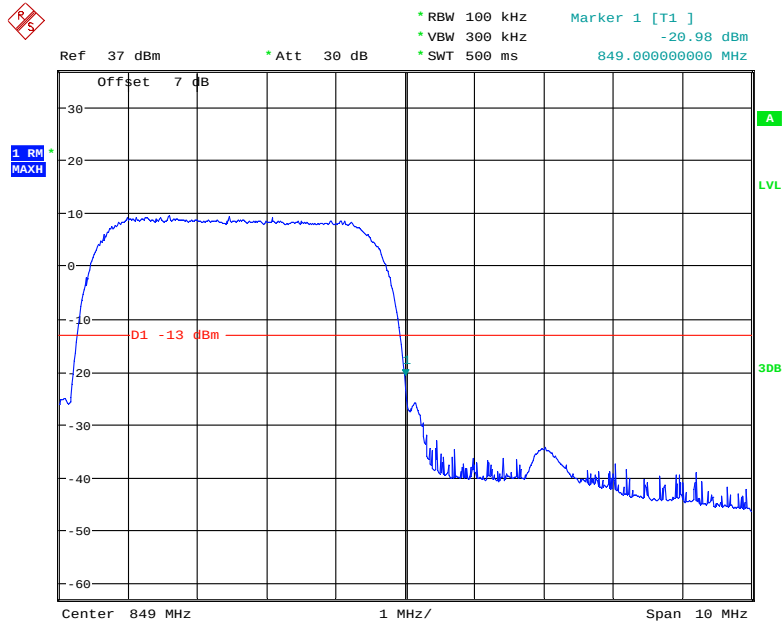
Date: 28.AUG.2021 01:00:54

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



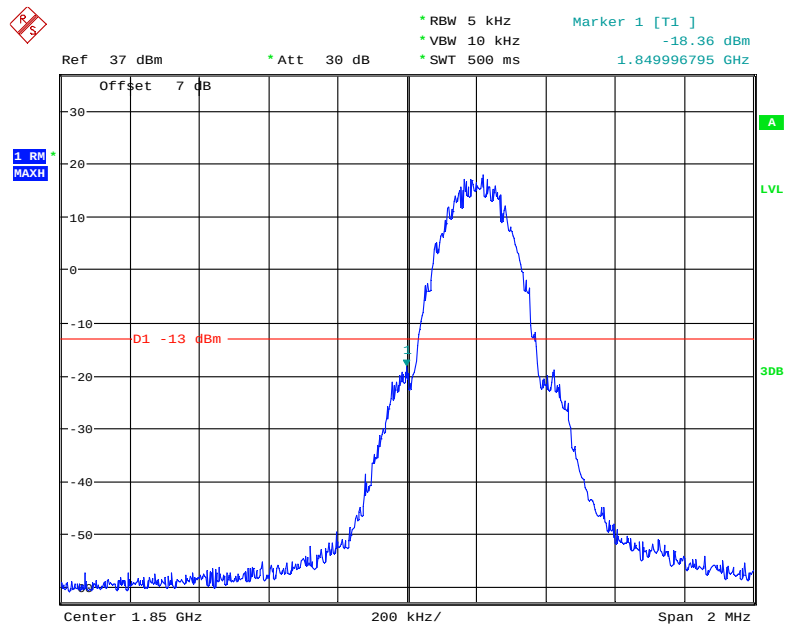
Date: 28.AUG.2021 00:22:23

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



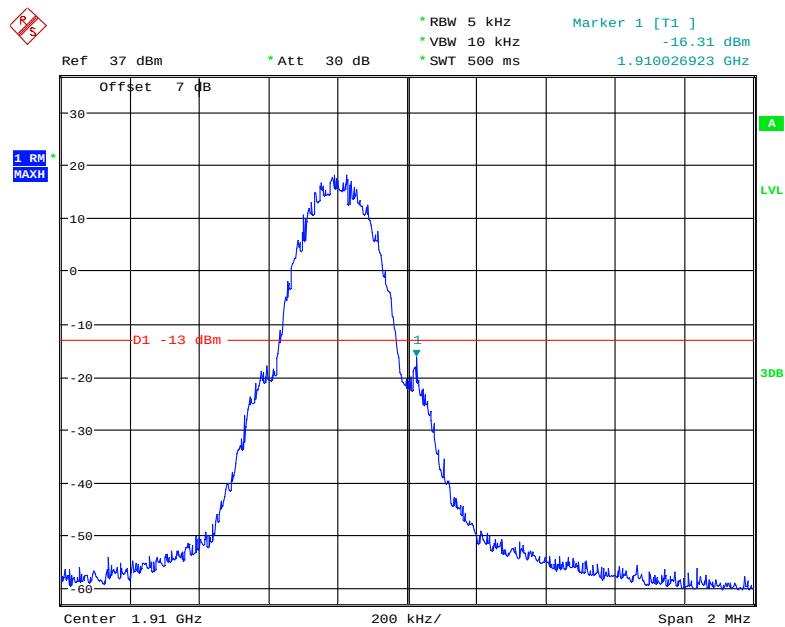
Date: 28.AUG.2021 00:23:14

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



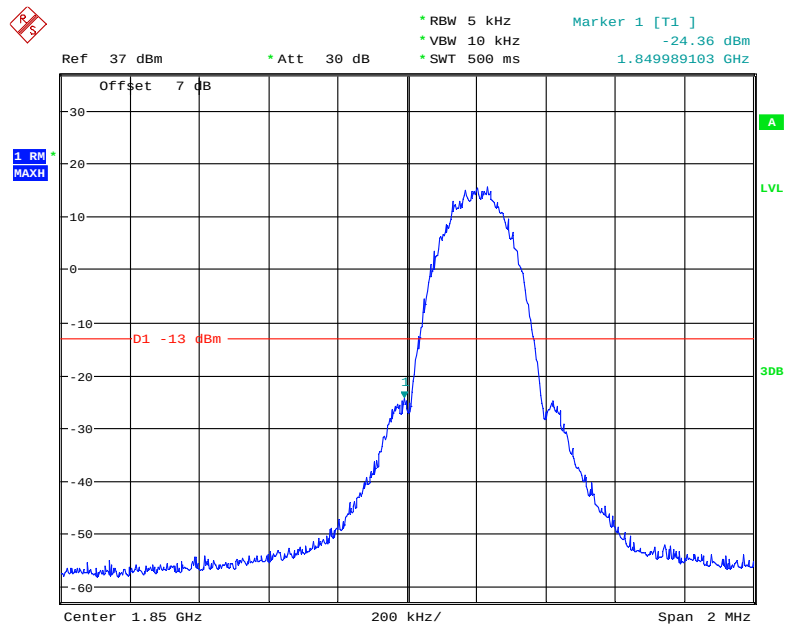
Date: 27.AUG.2021 23:08:11

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



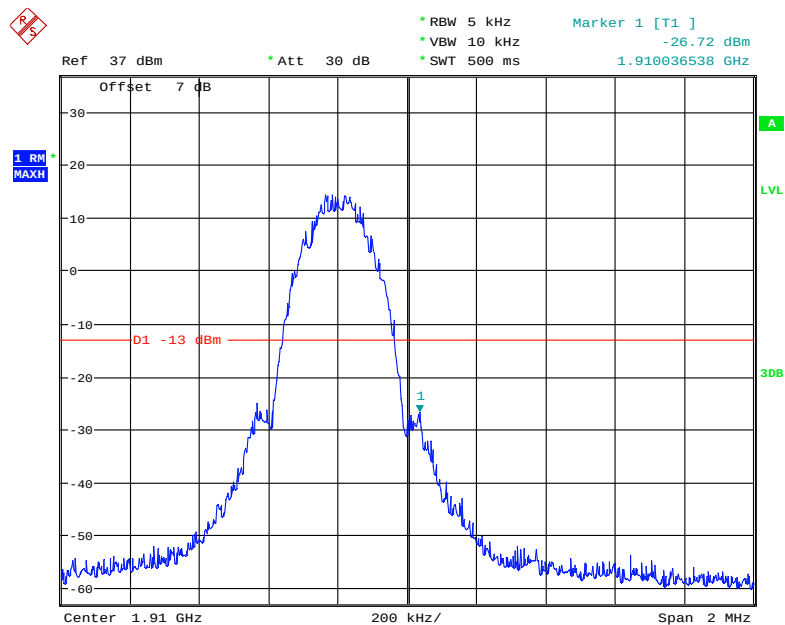
Date: 27.AUG.2021 23:09:11

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

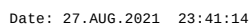
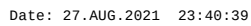


Date: 27.AUG.2021 22:54:11

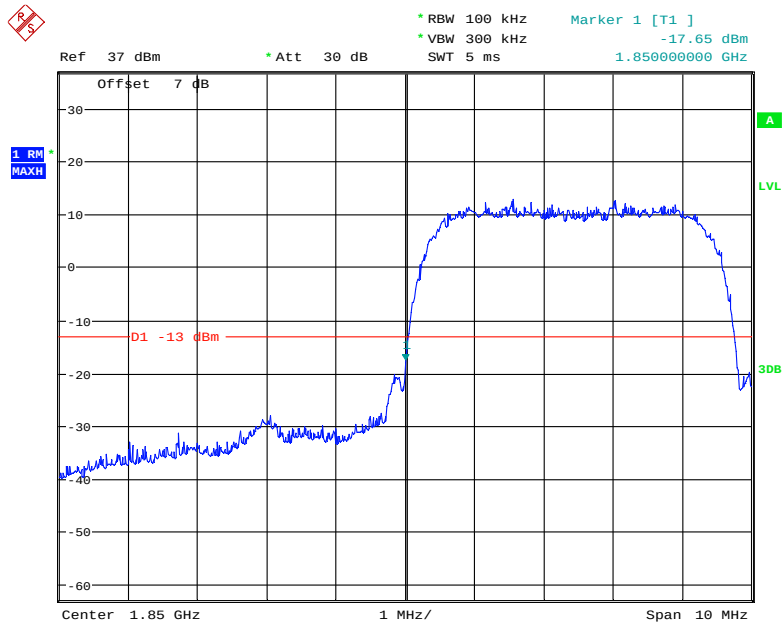
PCS Band, Right Band Edge for EGPRS (8PSK) Mode



Date: 27.AUG.2021 22:57:17

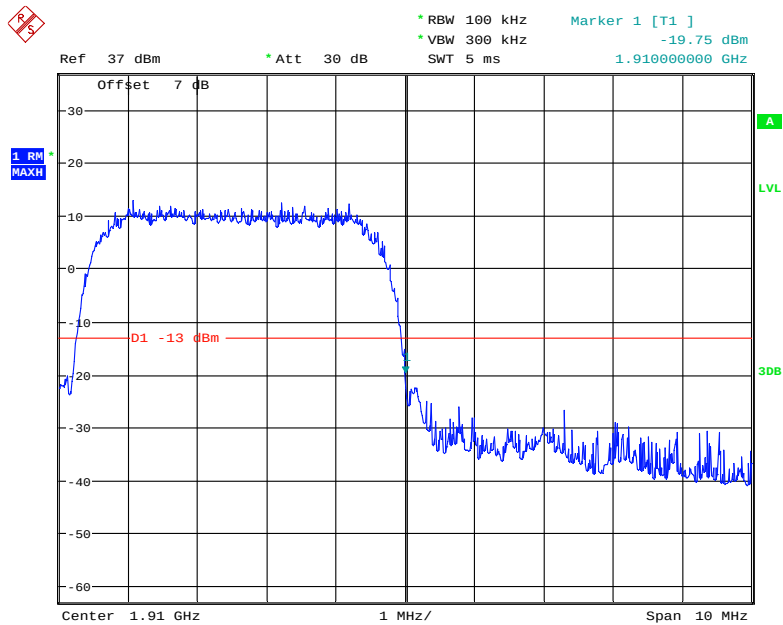


PCS Band, Left Band Edge for HSDPA (16QAM) Mode



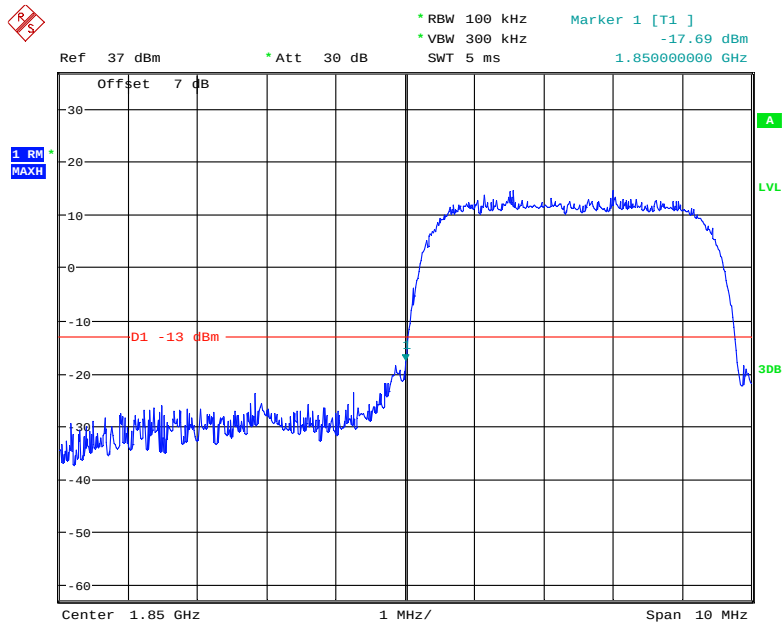
Date: 28.AUG.2021 00:57:33

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



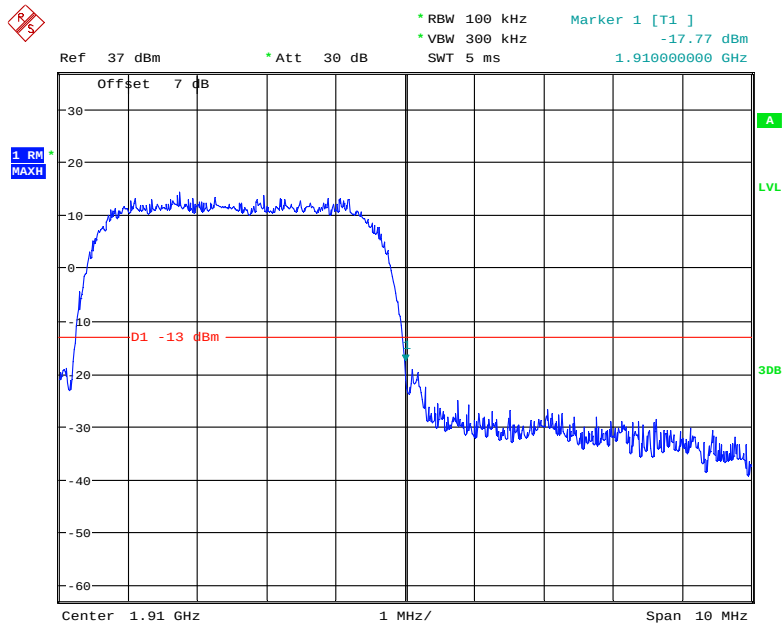
Date: 28.AUG.2021 00:58:12

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



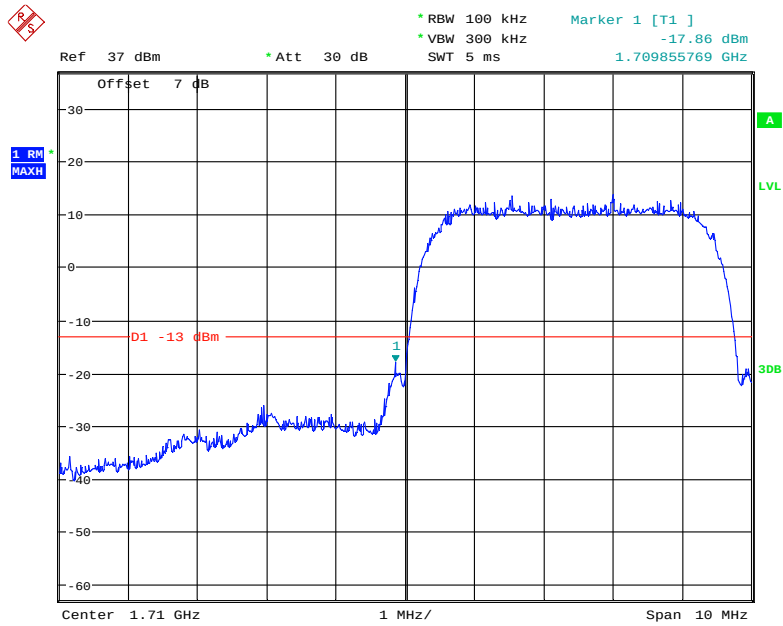
Date: 28.AUG.2021 00:15:53

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



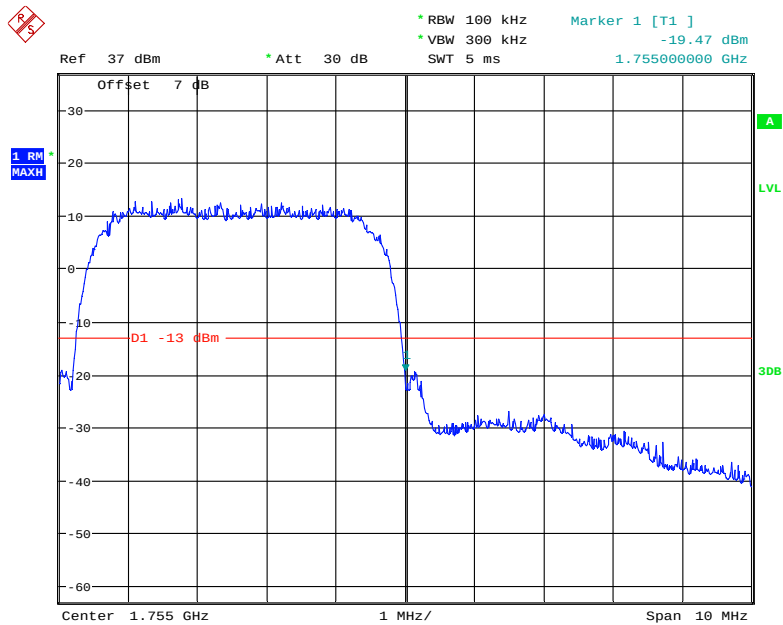
Date: 28.AUG.2021 00:17:22

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



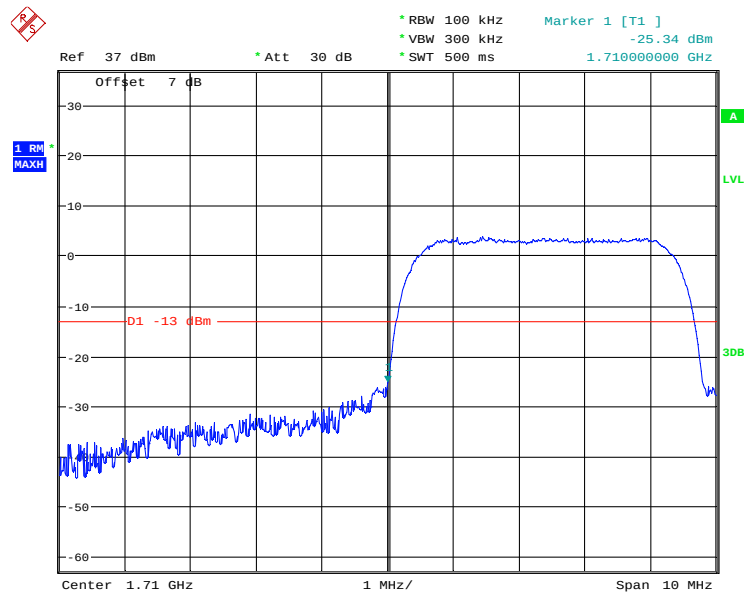
Date: 27.AUG.2021 23:30:15

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



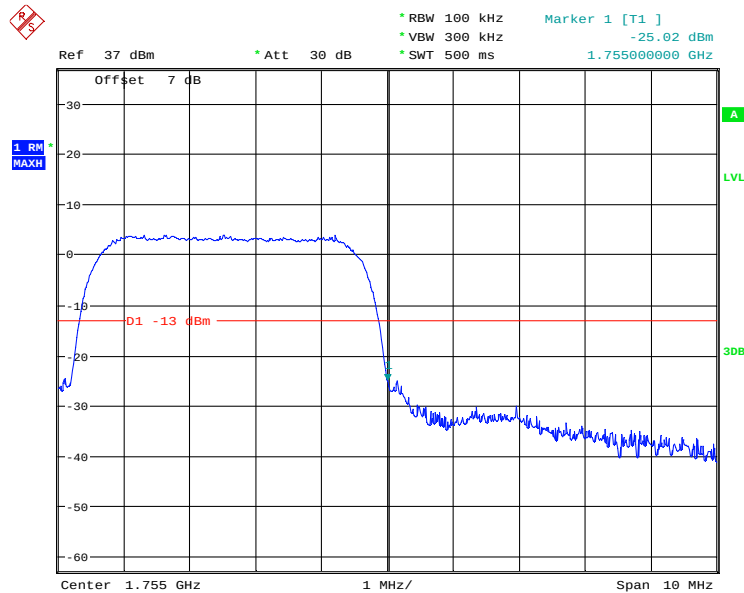
Date: 27.AUG.2021 23:31:01

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



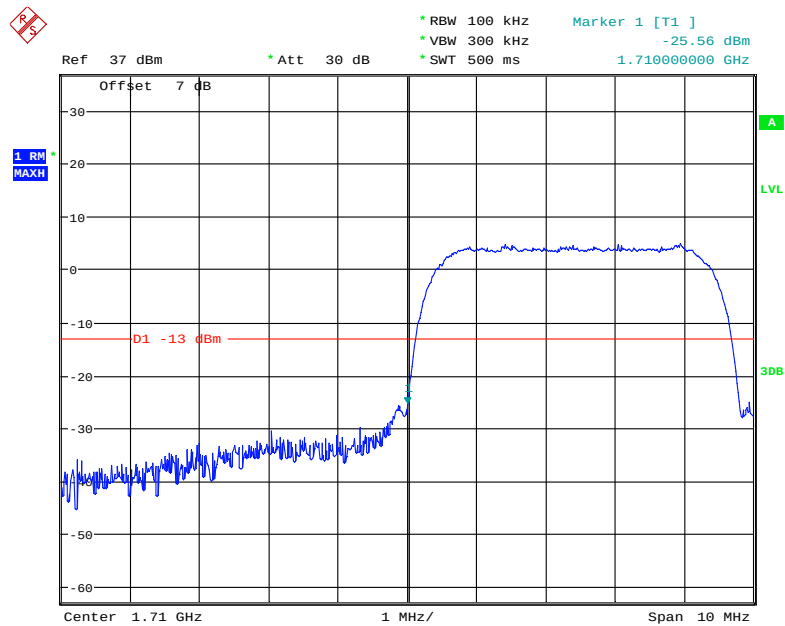
Date: 28.AUG.2021 00:58:58

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



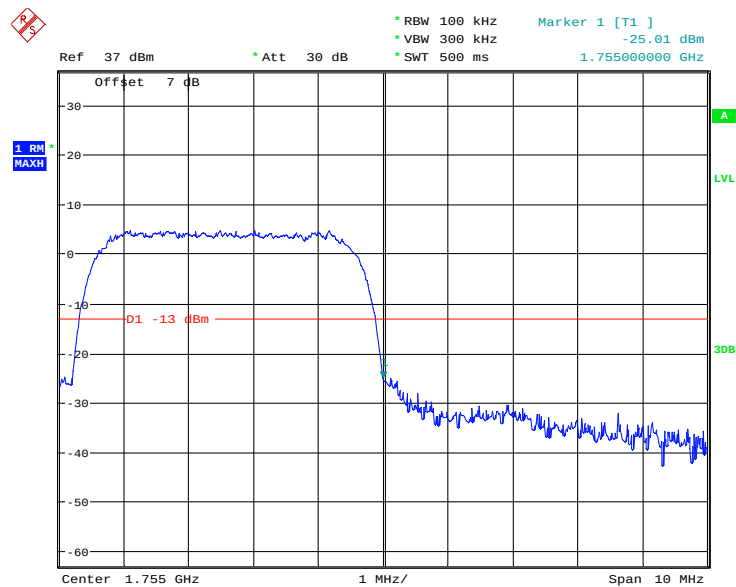
Date: 28.AUG.2021 00:59:30

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



Date: 28.AUG.2021 00:19:41

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



Date: 28.AUG.2021 00:20:50

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 and §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

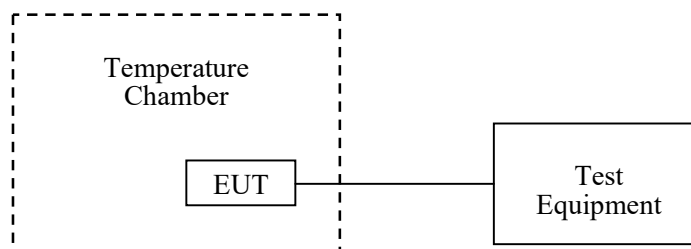
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized frequency block.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC 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 DC 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:	28.9~29.2°C
Relative Humidity:	49~51 %
ATM Pressure:	101.0 kPa

The testing was performed by Sky Luo on 2021-08-29.

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	-0.0084	2.5
-20		-5	-0.0060	2.5
-10		-3	-0.0036	2.5
0		-8	-0.0096	2.5
10		-10	-0.0120	2.5
20		-7	-0.0084	2.5
30		-8	-0.0096	2.5
40		-5	-0.0060	2.5
50		-8	-0.0096	2.5
20	L.V.	-5	-0.0060	2.5
	H.V.	-3	-0.0036	2.5

EDGE 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.	-4	-0.0048	2.5
-20		-5	-0.0060	2.5
-10		-7	-0.0084	2.5
0		-4	-0.0048	2.5
10		-6	-0.0072	2.5
20		-5	-0.0060	2.5
30		-7	-0.0084	2.5
40		-6	-0.0072	2.5
50		-8	-0.0096	2.5
20	L.V.	-4	-0.0048	2.5
	H.V.	-6	-0.0072	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	NV	-4	-0.0048	2.5
-20		-5	-0.0060	2.5
-10		-6	-0.0072	2.5
0		-5	-0.0060	2.5
10		-4	-0.0048	2.5
20		-5	-0.0060	2.5
30		-4	-0.0048	2.5
40		-7	-0.0084	2.5
50		-6	-0.0072	2.5
20	LV	-5	-0.0060	2.5
	HV	-5	-0.0060	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	NV	25	0.0133	Pass
-20		29	0.0154	Pass
-10		25	0.0133	Pass
0		24	0.0128	Pass
10		26	0.0138	Pass
20		27	0.0144	Pass
30		24	0.0128	Pass
40		25	0.0133	Pass
50		24	0.0128	Pass
20	LV	29	0.0154	Pass
	HV	25	0.0133	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.	20	0.0106	pass
-20		25	0.0133	pass
-10		27	0.0144	pass
0		24	0.0128	pass
10		26	0.0138	pass
20		25	0.0133	pass
30		24	0.0128	pass
40		23	0.0122	pass
50		21	0.0112	pass
20	L.V.	25	0.0133	pass
	H.V.	26	0.0138	pass

WCDMA Mode

Middle Channel, $f_0 = 1880.0$ MHz				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	NV	-9	-0.0048	Pass
-20		-9	-0.0048	Pass
-10		-10	-0.0053	Pass
0		-8	-0.0043	Pass
10		-7	-0.0037	Pass
20		-9	-0.0048	Pass
30		-10	-0.0053	Pass
40		-9	-0.0048	Pass
50		-11	-0.0059	Pass
20	LV	-10	-0.0053	Pass
	HV	-9	-0.0048	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	NV	1710.0575	1754.6736	1710	1755
-20		1710.0583	1754.3222	1710	1755
-10		1710.0795	1754.5403	1710	1755
0		1710.3763	1754.3425	1710	1755
10		1710.0619	1754.2533	1710	1755
20		1710.1385	1754.5081	1710	1755
30		1710.0818	1754.4673	1710	1755
40		1710.2447	1754.5985	1710	1755
50		1710.2000	1754.7375	1710	1755
20	LV	1710.0678	1754.7930	1710	1755
	HV	1710.0598	1754.6809	1710	1755

LTE:
QPSK:

Band 2:

10.0 MHz Middle Channel, $f_o=1880\text{MHz}$				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	NV	-10.14	-0.0054	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	NV	1710.2032	1754.4857	1710	1755
-20		1710.2370	1754.5490	1710	1755
-10		1710.3076	1754.6184	1710	1755
0		1710.2310	1754.5549	1710	1755
10		1710.2730	1754.5278	1710	1755
20		1710.3332	1754.5188	1710	1755
30		1710.2714	1754.5980	1710	1755
40		1710.2326	1754.5337	1710	1755
50		1710.2379	1754.4619	1710	1755
20	LV	1710.2809	1754.5857	1710	1755
	HV	1710.2219	1754.5523	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	NV	-5.64	-0.0067	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	LV	8.99	0.0107	2.5
	HV	-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	NV	2500.5220	2569.4888	2500	2570
-20		2500.5489	2569.5267	2500	2570
-10		2500.6254	2569.5956	2500	2570
0		2500.5682	2569.5374	2500	2570
10		2500.5011	2569.4933	2500	2570
20		2500.5616	2569.5226	2500	2570
30		2500.6025	2569.5602	2500	2570
40		2500.5488	2569.5267	2500	2570
50		2500.4934	2569.4700	2500	2570
20	LV	2500.5502	2569.5542	2500	2570
	HV	2500.6029	2569.5217	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	NV	2570.1602	2619.486	2570	2620
-20		2570.2364	2619.5074	2570	2620
-10		2570.2823	2619.5612	2570	2620
0		2570.2243	2619.4864	2570	2620
10		2570.1503	2619.4524	2570	2620
20		2570.1908	2619.5908	2570	2620
30		2570.2192	2619.5192	2570	2620
40		2570.1942	2619.4942	2570	2620
50		2570.1511	2619.5511	2570	2620
20	LV	2570.2127	2619.5297	2570	2620
	HV	2570.2436	2619.4663	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	NV	2535.1620	2654.483	2535	2655
-20		2535.2320	2654.5056	2535	2655
-10		2535.2723	2654.5489	2535	2655
0		2535.2024	2654.4893	2535	2655
10		2535.1447	2654.4257	2535	2655
20		2535.2330	2654.5460	2535	2655
30		2535.3112	2654.6093	2535	2655
40		2535.2461	2654.5663	2535	2655
50		2535.1839	2654.5123	2535	2655
20	LV	2535.2246	2654.5441	2535	2655
	HV	2535.1916	2654.5227	2535	2655

Note: The applicant declared operational frequency range is 2535~2655MHz.

16QAM:**Band 2:**

10.0 MHz Middle Channel, $f_o=1880\text{MHz}$				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	NV	-5.56	-0.003	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	LV	6.05	0.0032	Pass
	HV	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	NV	1710.5400	1754.4807	1710	1755
-20		1710.5410	1754.5257	1710	1755
-10		1710.6002	1754.5798	1710	1755
0		1710.5270	1754.5577	1710	1755
10		1710.4512	1754.5015	1710	1755
20		1710.5419	1754.5068	1710	1755
30		1710.5889	1754.5643	1710	1755
40		1710.5386	1754.4988	1710	1755
50		1710.5095	1754.4743	1710	1755
20	LV	1710.5592	1754.5243	1710	1755
	HV	1710.6204	1754.5481	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	NV	-6.65	-0.0079	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	LV	6.34	0.0076	2.5
	HV	-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	NV	2500.5250	2569.4870	2500	2570
-20		2500.5409	2569.5460	2500	2570
-10		2500.5856	2569.5804	2500	2570
0		2500.5281	2569.5388	2500	2570
10		2500.5042	2569.4725	2500	2570
20		2500.5838	2569.5123	2500	2570
30		2500.6628	2569.5729	2500	2570
40		2500.6127	2569.5080	2500	2570
50		2500.5592	2569.4534	2500	2570
20	LV	2500.5568	2569.5483	2500	2570
	HV	2500.5902	2569.5846	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	NV	2570.5204	2619.4880	2570	2620
-20		2570.5904	2619.5113	2570	2620
-10		2570.6650	2619.5756	2570	2620
0		2570.6247	2619.5148	2570	2620
10		2570.5915	2619.4413	2570	2620
20		2570.5979	2619.5545	2570	2620
30		2570.6716	2619.6018	2570	2620
40		2570.6261	2619.5282	2570	2620
50		2570.5524	2619.4775	2570	2620
20	LV	2570.5659	2619.5168	2570	2620
	HV	2570.6206	2619.5629	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	NV	2535.5212	2654.4832	2535	2655
-20		2535.5967	2654.5500	2535	2655
-10		2535.6291	2654.6119	2535	2655
0		2535.5805	2654.5403	2535	2655
10		2535.5317	2654.4828	2535	2655
20		2535.5970	2654.5428	2535	2655
30		2535.6526	2654.6134	2535	2655
40		2535.5958	2654.5358	2535	2655
50		2535.5343	2654.4906	2535	2655
20	LV	2535.5700	2654.5250	2535	2655
	HV	2535.6171	2654.5700	2535	2655

Note: The applicant declared operational frequency range is 2535~2655MHz.

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