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-X6812

Report Type:	Product Type:
Original Report	Mobile Phone

Report Number:	SZ1210622-24747E-00A
Report Date:	2021-07-21
Reviewed By:	Jimmy Xiao RF Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 5F(B-West) ,6F,7F,the 3rd Phase of Wan Li Industrial Building D,Shihua Rd, FuTian Free Trade Zone, Shenzhen, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

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

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Mobile Phone
Tested Model	X6812
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*	EGSM850/WCDMA Band 5/LTE Band 5: -2.9dBi(-5.05dBd) PCS1900/WCDMA Band 2/ LTE Band 2: -0.3dBi WCDMA Band 4/ LTE Band 4: -0.3dBi LTE Band 7/ Band 38/ Band 41: 0.5dBi (provided by the applicant)
Voltage Range	DC 3.85V from battery or DC 5.0V from adapter
Date of Test	2021-06-26 to 2021-07-13
Sample number	SZ1210622-24747E-RF-S1 SZ1210622-24747E-RF-S4 (RF Conducted Test) (Assigned by BACL, Shenzhen)
Received date	2021-06-22
Sample/EUT Status	Good condition
Adapter information	Model: CQ-18LX Input: AC 100-240V ~ 50/60Hz, 0.6A Output: DC 5.0V~9.0V~2.0A 9.0V, 12.0V, 1.5A

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℃
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
GSM850	0.25	824.2	836.6	848.8
DCS1900	0.25	1850.2	1880	1909.8
WCDMA B2	4.2	1852.4	1880	1907.6
WCDMA B4	4.2	1712.4	1732.6	1752.6
WCDMA B5	4.2	826.4	836.6	846.6
LTE B2	1.4	1850.7	1880	1909.3
	3	1851.5	1880	1908.5
	5	1852.5	1880	1907.5
	10	1855	1880	1905
	15	1857.5	1880	1902.5
	20	1860	1880	1900
LTE B4	1.4	1710.7	1732.5	1754.3
	3	1711.5	1732.5	1753.5
	5	1712.5	1732.5	1752.5
	10	1715	1732.5	1750
	15	1717.5	1732.5	1747.5
	20	1720	1732.5	1745
LTE B5	1.4	824.7	836.5	848.3
	3	825.5	836.5	847.5
	5	826.5	836.5	846.5
	10	829	836.5	844
LTE B7	5	2502.5	2535	2567.5
	10	2505	2535	2565
	15	2507.5	2535	2562.5
	20	2510	2535	2560
LTE 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.

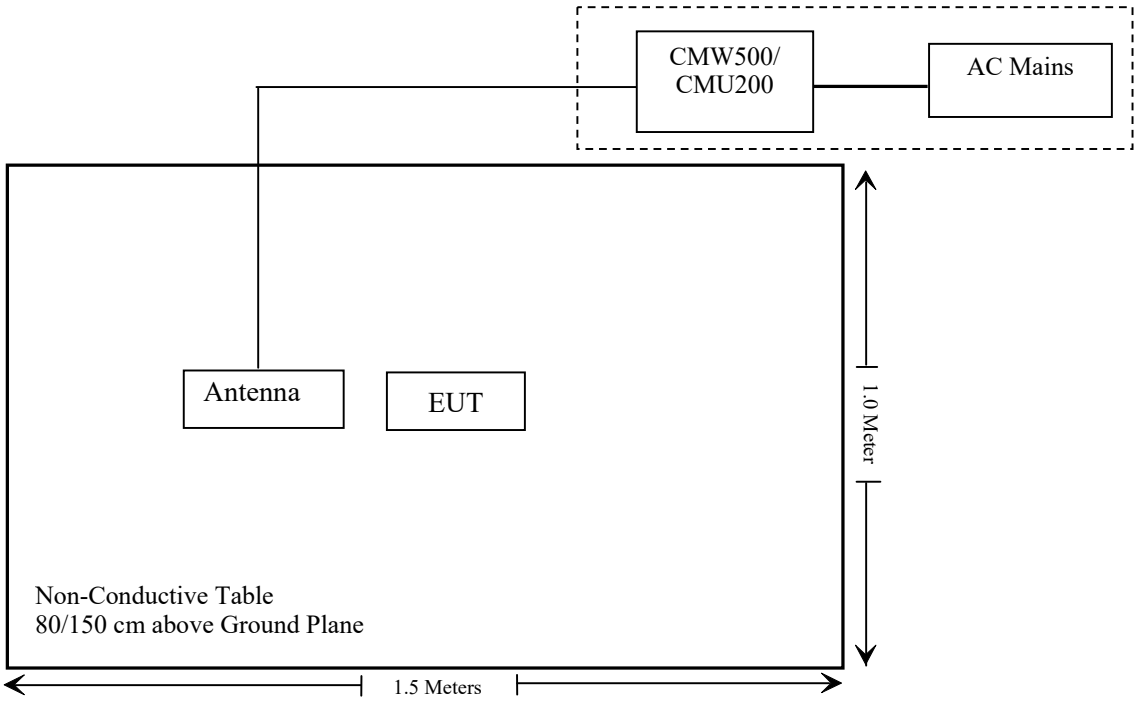
Support Equipment List and Details

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
Unshielded Detachable AC Cable	1.2	AC Mains	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: SZ1210622-24747E-SA.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
R&S	EMI Test Receiver	ESR3	102455	2020/08/04	2021/08/03
Sonoma instrument	Pre-amplifier	310 N	186238	2020/08/04	2021/08/03
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 4	EC-007	2020/11/29	2021/11/28
Rohde & Schwarz	Spectrum Analyzer	FSV40-N	102259	2020/08/04	2021/08/03
COM-POWER	Pre-amplifier	PA-122	181919	2020/11/29	2021/11/28
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2020/11/28	2021/11/27
Sunol Sciences	Horn Antenna	3115	9107-3694	2021/01/15	2024/01/14
A.H.System	Horn Antenna	SAS-200/571	135	2018/09/01	2021/08/31
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
MICRO-TRONICS	Passband filter	HPM50111	F-19-EM006	2021/04/20	2022/04/20
Unknown	High Pass filter	1.3GHz	101120	2021/04/20	2022/04/20
Ducommun Technolagies	Horn antenna	ARH-4223-02	1007726-02 1304	2020/12/06	2023/12/05
Ducommun Technolagies	Horn antenna	ARH-4223-02	1007726-01 1304	2020/12/06	2023/12/05
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
Unknown	RF Cable	Unknown	0501 067	2020/11/29	2021/11/28
Weinschel	Power divider	1515	RH386	2021/04/20	2022/04/20
ESPEC	Temperature & Humidity Chamber	EL-10KA	9107726	2021/02/23	2022/02/22
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	115500	2020/07/31	2021/07/30
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.002K50-146520-wh	2020/08/04	2021/08/03
instek	DC Power Supply	GPS-3030DD	EM832096	NCR	NCR
Fluke	Digital Multimeter	287	19000011	2020/07/23	2021/07/22

* 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: SZ1210622-24747E-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.

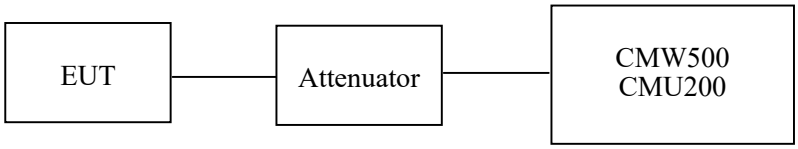
According to §27.50(d), the maximum EIRP must not exceed 1Watts (30dBm) for 1710-1780MHz.

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:	28~28.8 ℃
Relative Humidity:	57 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2021-06-29 and 2021-07-13.

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	33.7	28.65	38.45
	190	836.6	33.6	28.55	38.45
	251	848.8	33.7	28.65	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	33.72	32.14	30.14	28.26	28.67	27.09	25.09	23.21	38.45
	190	836.6	33.60	31.99	30.01	28.15	28.55	26.94	24.96	23.1	38.45
	251	848.8	33.77	32.04	30.15	28.20	28.72	26.99	25.1	23.15	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				ERP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
EGPRS	128	824.2	27.32	25.63	24.01	22.44	22.27	20.58	18.96	17.39	38.45
	190	836.6	27.14	25.47	23.97	22.31	22.09	20.42	18.92	17.26	38.45
	251	848.8	27.17	25.51	23.96	22.39	22.12	20.46	18.91	17.34	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		23.41	23.37	23.54	18.36	18.32	18.49
	HSDPA	1	22.45	22.31	22.47	17.40	17.26	17.42
		2	22.49	22.35	22.55	17.44	17.30	17.50
		3	22.57	22.41	22.58	17.52	17.36	17.53
		4	22.61	22.46	22.63	17.56	17.41	17.58
	HSUPA	1	22.93	22.97	22.98	17.88	17.92	17.93
		2	22.99	22.99	23.04	17.94	17.94	17.99
		3	23.04	23.02	23.07	17.99	17.97	18.02
		4	23.10	23.08	23.11	18.05	18.03	18.06
		5	23.17	23.13	23.16	18.12	18.08	18.11
	HSPA+	1	23.21	23.20	23.22	18.16	18.15	18.17

Note: ERP(dBm) = Conducted Power (dBm) + Antenna Gain(dBd)
Antenna Gain = -2.9dBi = -5.05dBd (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	29.1	28.8	33
	661	1880.0	29.3	29.0	33
	810	1909.8	29.4	29.1	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				EIRP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
GPRS	512	1850.2	29.11	27.36	26.01	24.33	28.81	27.06	25.71	24.03	33
	661	1880.0	29.25	27.41	26.22	24.28	28.95	27.11	25.92	23.98	33
	810	1909.8	29.43	27.56	26.31	24.37	29.13	27.26	26.01	24.07	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	25.82	24.47	22.88	20.91	25.52	24.17	22.58	20.61	33
	661	1880.0	25.48	24.22	22.51	20.67	25.18	23.92	22.21	20.37	33
	810	1909.8	25.31	24.12	22.23	20.48	25.01	23.82	21.93	20.18	33

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 2)	RMC12.2k		15.12	15.22	15.01	14.82	14.92	14.71
	HSDPA	1	13.12	13.45	13.71	12.82	13.15	13.41
		2	13.42	13.55	13.77	13.12	13.25	13.47
		3	13.42	13.65	13.45	13.12	13.35	13.15
		4	13.52	13.75	13.31	13.22	13.45	13.01
	HSUPA	1	14.37	14.42	14.52	14.07	14.12	14.22
		2	14.57	14.47	14.42	14.27	14.17	14.12
		3	14.67	14.52	14.62	14.37	14.22	14.32
		4	14.57	14.52	14.27	14.27	14.22	13.97
		5	14.77	14.62	14.77	14.47	14.32	14.47
	HSPA+	1	15.14	15.46	15.47	14.84	15.16	15.17

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
Antenna Gain = -0.3dBi
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		16.47	16.21	16.35	16.17	15.91	16.05
	HSDPA	1	15.67	15.71	15.82	15.37	15.41	15.52
		2	15.57	15.11	15.52	15.27	14.81	15.22
		3	15.67	15.71	15.62	15.37	15.41	15.32
		4	15.69	15.61	15.42	15.39	15.31	15.12
	HSUPA	1	15.16	15.22	15.11	14.86	14.92	14.81
		2	15.37	15.01	15.09	15.07	14.71	14.79
		3	15.32	15.18	15.05	15.02	14.88	14.75
		4	15.18	15.24	15.11	14.88	14.94	14.81
		5	15.29	15.21	15.06	14.99	14.91	14.76
	HSPA+	1	15.35	15.27	15.45	15.05	14.97	15.15

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
Antenna Gain = -0.3dBi
Limit: EIRP≤30dBm

Peak-to-average ratio (PAR)

Cellular Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.18	13
	Middle	3.45	13
	High	3.46	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.49	13
	Middle	3.33	13
	High	3.49	13
HSDPA (16QAM)	Low	3.47	13
	Middle	3.28	13
	High	3.36	13
HSUPA (BPSK)	Low	3.15	13
	Middle	3.19	13
	High	3.34	13
HSUPA+	Low	3.46	13
	Middle	3.32	13
	High	3.29	13

PCS Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.22	13
	Middle	3.35	13
	High	3.47	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.69	13
	Middle	3.47	13
	High	3.47	13
HSDPA (16QAM)	Low	3.53	13
	Middle	3.32	13
	High	3.47	13
HSUPA (BPSK)	Low	3.31	13
	Middle	3.63	13
	High	3.47	13
HSUPA+	Low	3.25	13
	Middle	3.38	13
	High	3.49	13

AWS Band

Mode	Channel	PAR (dB)	Limit (dB)
WCDMA (BPSK)	Low	3.14	13
	Middle	3.28	13
	High	3.54	13
HSDPA (16QAM)	Low	3.38	13
	Middle	3.47	13
	High	3.58	13
HSUPA (BPSK)	Low	3.16	13
	Middle	3.48	13
	High	3.32	13
HSUPA+	Low	3.31	13
	Middle	3.45	13
	High	3.32	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	16.94	16.31	16.25	16.64	16.01	15.95
		RB1#3	17.10	16.51	16.44	16.80	16.21	16.14
		RB1#5	16.85	16.35	16.25	16.55	16.05	15.95
		RB3#0	17.01	16.40	16.40	16.71	16.10	16.10
		RB3#3	16.94	16.40	16.41	16.64	16.10	16.11
		RB6#0	15.94	15.39	15.30	15.64	15.09	15.00
	16QAM	RB1#0	15.95	15.43	15.26	15.65	15.13	14.96
		RB1#3	16.14	15.60	15.48	15.84	15.30	15.18
		RB1#5	15.88	15.44	15.28	15.58	15.14	14.98
		RB3#0	16.25	15.45	15.46	15.95	15.15	15.16
		RB3#3	16.20	15.37	15.46	15.90	15.07	15.16
		RB6#0	14.97	14.49	14.28	14.67	14.19	13.98
3.0	QPSK	RB1#0	16.84	16.32	16.30	16.54	16.02	16.00
		RB1#8	16.75	16.34	16.32	16.45	16.04	16.02
		RB1#14	16.58	16.32	16.30	16.28	16.02	16.00
		RB6#0	15.80	15.24	15.27	15.50	14.94	14.97
		RB6#9	15.67	15.24	15.24	15.37	14.94	14.94
		RB15#0	15.83	15.33	15.29	15.53	15.03	14.99
	16QAM	RB1#0	16.48	15.49	15.32	16.18	15.19	15.02
		RB1#8	16.39	15.47	15.34	16.09	15.17	15.04
		RB1#14	16.23	15.49	15.33	15.93	15.19	15.03
		RB6#0	14.90	14.34	14.24	14.60	14.04	13.94
		RB6#9	14.75	14.31	14.29	14.45	14.01	13.99
		RB15#0	14.88	14.28	14.40	14.58	13.98	14.10

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	16.83	16.23	16.15	16.53	15.93	15.85
		RB1#13	16.74	16.36	16.35	16.44	16.06	16.05
		RB1#24	16.45	16.22	16.21	16.15	15.92	15.91
		RB15#0	15.82	15.34	15.36	15.52	15.04	15.06
		RB15#10	15.68	15.31	15.29	15.38	15.01	14.99
		RB25#0	15.73	15.30	15.29	15.43	15.00	14.99
	16QAM	RB1#0	15.75	15.54	15.27	15.45	15.24	14.97
		RB1#13	15.66	15.64	15.41	15.36	15.34	15.11
		RB1#24	15.37	15.52	15.25	15.07	15.22	14.95
		RB15#0	14.91	14.31	14.39	14.61	14.01	14.09
		RB15#10	14.70	14.27	14.32	14.40	13.97	14.02
		RB25#0	14.78	14.32	14.34	14.48	14.02	14.04
10.0	QPSK	RB1#0	16.79	16.28	16.27	16.49	15.98	15.97
		RB1#25	16.58	16.45	16.38	16.28	16.15	16.08
		RB1#49	16.28	16.26	16.27	15.98	15.96	15.97
		RB25#0	15.67	15.35	15.40	15.37	15.05	15.10
		RB25#25	15.50	15.31	15.27	15.20	15.01	14.97
		RB50#0	15.61	15.35	15.32	15.31	15.05	15.02
	16QAM	RB1#0	16.48	15.42	15.28	16.18	15.12	14.98
		RB1#25	16.23	15.57	15.41	15.93	15.27	15.11
		RB1#49	15.96	15.42	15.28	15.66	15.12	14.98
		RB25#0	14.78	14.41	14.53	14.48	14.11	14.23
		RB25#25	14.59	14.32	14.34	14.29	14.02	14.04
		RB50#0	14.66	14.36	14.35	14.36	14.06	14.05

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	16.67	16.26	16.15	16.37	15.96	15.85
		RB1#38	16.29	16.31	16.28	15.99	16.01	15.98
		RB1#74	16.24	16.17	16.16	15.94	15.87	15.86
		RB36#0	15.60	15.32	15.33	15.30	15.02	15.03
		RB36#39	15.38	15.29	15.25	15.08	14.99	14.95
		RB75#0	15.47	15.30	15.28	15.17	15.00	14.98
	16QAM	RB1#0	16.36	15.39	15.62	16.06	15.09	15.32
		RB1#38	15.96	15.44	15.67	15.66	15.14	15.37
		RB1#74	15.87	15.33	15.60	15.57	15.03	15.30
		RB36#0	14.58	14.35	14.31	14.28	14.05	14.01
		RB36#39	14.39	14.31	14.19	14.09	14.01	13.89
		RB75#0	14.51	14.33	14.27	14.21	14.03	13.97
20.0	QPSK	RB1#0	16.60	16.11	16.00	16.30	15.81	15.70
		RB1#50	16.54	16.45	16.34	16.24	16.15	16.04
		RB1#99	16.14	16.07	16.00	15.84	15.77	15.70
		RB50#0	15.52	15.41	15.35	15.22	15.11	15.05
		RB50#50	15.34	15.27	15.06	15.04	14.97	14.76
		RB100#0	15.44	15.36	15.29	15.14	15.06	14.99
	16QAM	RB1#0	15.94	15.34	15.58	15.64	15.04	15.28
		RB1#50	15.80	15.69	15.95	15.50	15.39	15.65
		RB1#99	15.42	15.30	15.60	15.12	15.00	15.30
		RB50#0	14.52	14.37	14.33	14.22	14.07	14.03
		RB50#50	14.34	14.31	14.10	14.04	14.01	13.80
		RB100#0	14.49	14.37	14.29	14.19	14.07	13.99

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
Antenna Gain =-0.3dBi
Limit: EIRP≤33dBm

LTE Band 4

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	17.36	17.37	17.27	17.06	17.07	16.97
		RB1#3	17.54	17.53	17.45	17.24	17.23	17.15
		RB1#5	17.38	17.35	17.26	17.08	17.05	16.96
		RB3#0	17.49	17.45	17.40	17.19	17.15	17.10
		RB3#3	17.51	17.48	17.43	17.21	17.18	17.13
		RB6#0	16.44	16.45	16.34	16.14	16.15	16.04
	16QAM	RB1#0	16.51	16.51	16.35	16.21	16.21	16.05
		RB1#3	16.63	16.70	16.54	16.33	16.40	16.24
		RB1#5	16.47	16.53	16.32	16.17	16.23	16.02
		RB3#0	16.75	16.61	16.48	16.45	16.31	16.18
		RB3#3	16.78	16.52	16.55	16.48	16.22	16.25
		RB6#0	15.53	15.49	15.32	15.23	15.19	15.02
3.0	QPSK	RB1#0	17.46	17.39	17.33	17.16	17.09	17.03
		RB1#8	17.38	17.37	17.33	17.08	17.07	17.03
		RB1#14	17.32	17.39	17.32	17.02	17.09	17.02
		RB6#0	16.37	16.39	16.31	16.07	16.09	16.01
		RB6#9	16.43	16.35	16.27	16.13	16.05	15.97
		RB15#0	16.49	16.46	16.34	16.19	16.16	16.04
	16QAM	RB1#0	17.12	16.61	16.44	16.82	16.31	16.14
		RB1#8	17.09	16.63	16.36	16.79	16.33	16.06
		RB1#14	17.03	16.57	16.37	16.73	16.27	16.07
		RB6#0	15.52	15.42	15.27	15.22	15.12	14.97
		RB6#9	15.51	15.42	15.28	15.21	15.12	14.98
		RB15#0	15.58	15.44	15.45	15.28	15.14	15.15

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	17.38	17.35	17.26	17.08	17.05	16.96
		RB1#13	17.51	17.45	17.35	17.21	17.15	17.05
		RB1#24	17.37	17.33	17.24	17.07	17.03	16.94
		RB15#0	16.44	16.45	16.43	16.14	16.15	16.13
		RB15#10	16.49	16.44	16.35	16.19	16.14	16.05
		RB25#0	16.44	16.44	16.38	16.14	16.14	16.08
	16QAM	RB1#0	16.36	16.71	16.39	16.06	16.41	16.09
		RB1#13	16.44	16.79	16.48	16.14	16.49	16.18
		RB1#24	16.28	16.67	16.40	15.98	16.37	16.10
		RB15#0	15.54	15.50	15.47	15.24	15.20	15.17
		RB15#10	15.61	15.45	15.42	15.31	15.15	15.12
		RB25#0	15.56	15.50	15.42	15.26	15.20	15.12
10.0	QPSK	RB1#0	17.39	17.41	17.32	17.09	17.11	17.02
		RB1#25	17.54	17.57	17.51	17.24	17.27	17.21
		RB1#49	17.40	17.37	17.32	17.10	17.07	17.02
		RB25#0	16.47	16.50	16.45	16.17	16.20	16.15
		RB25#25	16.52	16.47	16.33	16.22	16.17	16.03
		RB50#0	16.49	16.50	16.46	16.19	16.20	16.16
	16QAM	RB1#0	17.13	16.62	16.45	16.83	16.32	16.15
		RB1#25	17.29	16.73	16.58	16.99	16.43	16.28
		RB1#49	17.12	16.60	16.38	16.82	16.30	16.08
		RB25#0	15.54	15.62	15.58	15.24	15.32	15.28
		RB25#25	15.61	15.50	15.46	15.31	15.20	15.16
		RB50#0	15.52	15.54	15.52	15.22	15.24	15.22

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	17.31	17.38	17.32	17.01	17.08	17.02
		RB1#38	17.41	17.41	17.40	17.11	17.11	17.10
		RB1#74	17.32	17.31	17.24	17.02	17.01	16.94
		RB36#0	16.45	16.49	16.39	16.15	16.19	16.09
		RB36#39	16.47	16.47	16.34	16.17	16.17	16.04
		RB75#0	16.46	16.45	16.39	16.16	16.15	16.09
	16QAM	RB1#0	17.02	16.56	16.81	16.72	16.26	16.51
		RB1#38	17.11	16.61	16.90	16.81	16.31	16.60
		RB1#74	17.04	16.53	16.70	16.74	16.23	16.40
		RB36#0	15.43	15.48	15.45	15.13	15.18	15.15
		RB36#39	15.45	15.50	15.37	15.15	15.20	15.07
		RB75#0	15.45	15.46	15.40	15.15	15.16	15.10
20.0	QPSK	RB1#0	17.22	17.24	17.08	16.92	16.94	16.78
		RB1#50	17.58	17.60	17.51	17.28	17.30	17.21
		RB1#99	17.21	17.28	17.12	16.91	16.98	16.82
		RB50#0	16.44	16.58	16.47	16.14	16.28	16.17
		RB50#50	16.56	16.51	16.39	16.26	16.21	16.09
		RB100#0	16.48	16.55	16.43	16.18	16.25	16.13
	16QAM	RB1#0	16.56	16.52	16.75	16.26	16.22	16.45
		RB1#50	16.96	16.86	17.15	16.66	16.56	16.85
		RB1#99	16.59	16.55	16.76	16.29	16.25	16.46
		RB50#0	15.47	15.56	15.50	15.17	15.26	15.20
		RB50#50	15.48	15.54	15.48	15.18	15.24	15.18
		RB100#0	15.51	15.57	15.48	15.21	15.27	15.18

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
Antenna Gain =-0.3dBi
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	23.41	23.42	23.36	18.36	18.37	18.31
		RB1#3	23.53	23.62	23.55	18.48	18.57	18.50
		RB1#5	23.37	23.41	23.36	18.32	18.36	18.31
		RB3#0	23.47	23.48	23.45	18.42	18.43	18.40
		RB3#3	23.40	23.52	23.48	18.35	18.47	18.43
		RB6#0	22.45	22.48	22.46	17.40	17.43	17.41
	16QAM	RB1#0	22.49	22.41	22.33	17.44	17.36	17.28
		RB1#3	22.64	22.68	22.57	17.59	17.63	17.52
		RB1#5	22.46	22.41	22.38	17.41	17.36	17.33
		RB3#0	22.35	22.54	22.58	17.30	17.49	17.53
		RB3#3	22.30	22.59	22.62	17.25	17.54	17.57
		RB6#0	21.53	21.46	21.48	16.48	16.41	16.43
3.0	QPSK	RB1#0	23.33	23.37	23.35	18.28	18.32	18.30
		RB1#8	23.28	23.47	23.35	18.23	18.42	18.30
		RB1#14	23.31	23.36	23.40	18.26	18.31	18.35
		RB6#0	22.37	22.36	22.36	17.32	17.31	17.31
		RB6#9	22.34	22.36	22.39	17.29	17.31	17.34
		RB15#0	22.34	22.40	22.37	17.29	17.35	17.32
	16QAM	RB1#0	22.85	22.51	22.35	17.80	17.46	17.30
		RB1#8	22.79	22.56	22.38	17.74	17.51	17.33
		RB1#14	22.82	22.51	22.36	17.77	17.46	17.31
		RB6#0	21.39	21.40	21.31	16.34	16.35	16.26
		RB6#9	21.37	21.44	21.33	16.32	16.39	16.28
		RB15#0	21.37	21.38	21.43	16.32	16.33	16.38

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	23.21	23.29	23.24	18.16	18.24	18.19
		RB1#13	23.32	23.45	23.35	18.27	18.40	18.30
		RB1#24	23.24	23.26	23.29	18.19	18.21	18.24
		RB15#0	22.35	22.34	22.44	17.30	17.29	17.39
		RB15#10	22.33	22.37	22.29	17.28	17.32	17.24
		RB25#0	22.31	22.30	22.34	17.26	17.25	17.29
	16QAM	RB1#0	22.08	22.55	22.27	17.03	17.50	17.22
		RB1#13	22.24	22.73	22.41	17.19	17.68	17.36
		RB1#24	22.17	22.52	22.33	17.12	17.47	17.28
		RB15#0	21.41	21.33	21.49	16.36	16.28	16.44
		RB15#10	21.32	21.40	21.33	16.27	16.35	16.28
		RB25#0	21.37	21.36	21.38	16.32	16.31	16.33
10.0	QPSK	RB1#0	23.28	23.36	23.33	18.23	18.31	18.28
		RB1#25	23.50	23.53	23.48	18.45	18.48	18.43
		RB1#49	23.31	23.31	23.38	18.26	18.26	18.33
		RB25#0	22.44	22.37	22.39	17.39	17.32	17.34
		RB25#25	22.40	22.39	22.20	17.35	17.34	17.15
		RB50#0	22.41	22.36	22.32	17.36	17.31	17.27
	16QAM	RB1#0	22.75	22.49	22.27	17.70	17.44	17.22
		RB1#25	23.08	22.66	22.49	18.03	17.61	17.44
		RB1#49	22.87	22.42	22.34	17.82	17.37	17.29
		RB25#0	21.51	21.44	21.47	16.46	16.39	16.42
		RB25#25	21.46	21.44	21.34	16.41	16.39	16.29
		RB50#0	21.44	21.42	21.35	16.39	16.37	16.30

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

LTE Band 7

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	14.84	14.80	14.77	15.34	15.30	15.27
		RB1#13	14.89	14.90	14.89	15.39	15.40	15.39
		RB1#24	14.79	14.81	14.82	15.29	15.31	15.32
		RB15#0	13.81	13.81	13.88	14.31	14.31	14.38
		RB15#10	13.85	13.87	13.87	14.35	14.37	14.37
		RB25#0	13.81	13.84	13.83	14.31	14.34	14.33
	16QAM	RB1#0	13.73	14.04	13.89	14.23	14.54	14.39
		RB1#13	13.77	14.14	13.96	14.27	14.64	14.46
		RB1#24	13.68	14.07	13.93	14.18	14.57	14.43
		RB15#0	12.82	12.75	12.88	13.32	13.25	13.38
		RB15#10	12.85	12.81	12.92	13.35	13.31	13.42
		RB25#0	12.84	12.83	12.86	13.34	13.33	13.36
10.0	QPSK	RB1#0	14.92	14.86	14.87	15.42	15.36	15.37
		RB1#25	14.97	15.01	15.00	15.47	15.51	15.50
		RB1#49	14.82	14.88	14.92	15.32	15.38	15.42
		RB25#0	13.83	13.85	13.90	14.33	14.35	14.40
		RB25#25	13.91	13.92	13.90	14.41	14.42	14.40
		RB50#0	13.86	13.88	13.89	14.36	14.38	14.39
	16QAM	RB1#0	14.47	13.94	13.81	14.97	14.44	14.31
		RB1#25	14.54	14.18	13.96	15.04	14.68	14.46
		RB1#49	14.43	13.99	13.89	14.93	14.49	14.39
		RB25#0	12.89	12.85	13.00	13.39	13.35	13.50
		RB25#25	12.93	12.93	12.97	13.43	13.43	13.47
		RB50#0	12.88	12.85	12.89	13.38	13.35	13.39

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	14.76	14.75	14.75	15.26	15.25	15.25
		RB1#38	14.86	14.90	14.88	15.36	15.40	15.38
		RB1#74	14.71	14.75	14.84	15.21	15.25	15.34
		RB36#0	13.89	13.86	13.85	14.39	14.36	14.35
		RB36#39	13.88	13.90	13.92	14.38	14.40	14.42
		RB75#0	13.82	13.85	13.87	14.32	14.35	14.37
	16QAM	RB1#0	14.39	13.87	14.14	14.89	14.37	14.64
		RB1#38	14.47	13.98	14.25	14.97	14.48	14.75
		RB1#74	14.29	13.89	14.18	14.79	14.39	14.68
		RB36#0	12.82	12.81	12.80	13.32	13.31	13.30
		RB36#39	12.83	12.86	12.85	13.33	13.36	13.35
		RB75#0	12.84	12.81	12.83	13.34	13.31	13.33
20.0	QPSK	RB1#0	14.67	14.66	14.59	15.17	15.16	15.09
		RB1#50	15.03	15.11	14.94	15.53	15.61	15.44
		RB1#99	14.57	14.68	14.70	15.07	15.18	15.20
		RB50#0	13.82	13.78	13.84	14.32	14.28	14.34
		RB50#50	13.85	13.88	13.88	14.35	14.38	14.38
		RB100#0	13.85	13.83	13.92	14.35	14.33	14.42
	16QAM	RB1#0	13.96	13.83	14.12	14.46	14.33	14.62
		RB1#50	14.22	14.26	14.51	14.72	14.76	15.01
		RB1#99	13.84	13.82	14.17	14.34	14.32	14.67
		RB50#0	12.76	12.77	12.84	13.26	13.27	13.34
		RB50#50	12.88	12.87	12.84	13.38	13.37	13.34
		RB100#0	12.85	12.79	12.89	13.35	13.29	13.39

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
Antenna Gain = 0.5dBi
Limit: EIRP≤33dBm

LTE Band 38

Maximum Output Power

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5	QPSK	RB1#0	18.33	18.31	18.31	18.83	18.81	18.81
		RB1#13	18.42	18.37	18.45	18.92	18.87	18.95
		RB1#24	18.26	18.22	18.29	18.76	18.72	18.79
		RB15#0	17.41	17.34	17.44	17.91	17.84	17.94
		RB15#10	17.39	17.34	17.37	17.89	17.84	17.87
		RB25#0	17.41	17.28	17.42	17.91	17.78	17.92
	16QAM	RB1#0	17.65	17.34	17.42	18.15	17.84	17.92
		RB1#13	17.72	17.50	17.58	18.22	18.00	18.08
		RB1#24	17.58	17.33	17.42	18.08	17.83	17.92
		RB15#0	16.46	16.34	16.37	16.96	16.84	16.87
		RB15#10	16.41	16.33	16.38	16.91	16.83	16.88
		RB25#0	16.39	16.43	16.43	16.89	16.93	16.93
10	QPSK	RB1#0	18.46	18.46	18.47	18.96	18.96	18.97
		RB1#25	18.68	18.74	18.75	19.18	19.24	19.25
		RB1#49	18.38	18.42	18.43	18.88	18.92	18.93
		RB25#0	17.47	17.45	17.43	17.97	17.95	17.93
		RB25#25	17.44	17.43	17.46	17.94	17.93	17.96
		RB50#0	17.44	17.45	17.45	17.94	17.95	17.95
	16QAM	RB1#0	17.74	17.42	17.60	18.24	17.92	18.10
		RB1#25	17.93	17.70	17.87	18.43	18.20	18.37
		RB1#49	17.64	17.38	17.58	18.14	17.88	18.08
		RB25#0	16.44	16.48	16.48	16.94	16.98	16.98
		RB25#25	16.43	16.49	16.50	16.93	16.99	17.00
		RB50#0	16.43	16.43	16.48	16.93	16.93	16.98

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15	QPSK	RB1#0	18.34	18.37	18.39	18.84	18.87	18.89
		RB1#38	18.38	18.44	18.42	18.88	18.94	18.92
		RB1#74	18.30	18.32	18.32	18.80	18.82	18.82
		RB36#0	17.41	17.47	17.46	17.91	17.97	17.96
		RB36#39	17.40	17.46	17.45	17.90	17.96	17.95
		RB75#0	17.39	17.41	17.44	17.89	17.91	17.94
	16QAM	RB1#0	17.58	17.37	17.62	18.08	17.87	18.12
		RB1#38	17.62	17.44	17.67	18.12	17.94	18.17
		RB1#74	17.55	17.31	17.59	18.05	17.81	18.09
		RB36#0	16.38	16.39	16.50	16.88	16.89	17.00
		RB36#39	16.35	16.37	16.50	16.85	16.87	17.00
		RB75#0	16.36	16.42	16.46	16.86	16.92	16.96
20	QPSK	RB1#0	18.18	18.16	18.25	18.68	18.66	18.75
		RB1#50	18.60	18.63	18.77	19.10	19.13	19.27
		RB1#99	18.16	18.16	18.26	18.66	18.66	18.76
		RB50#0	17.44	17.48	17.43	17.94	17.98	17.93
		RB50#50	17.45	17.48	17.48	17.95	17.98	17.98
		RB100#0	17.43	17.47	17.49	17.93	17.97	17.99
	16QAM	RB1#0	17.30	17.22	17.51	17.80	17.72	18.01
		RB1#50	17.73	17.66	18.00	18.23	18.16	18.50
		RB1#99	17.33	17.20	17.53	17.83	17.70	18.03
		RB50#0	16.44	16.51	16.46	16.94	17.01	16.96
		RB50#50	16.43	16.50	16.47	16.93	17.00	16.97
		RB100#0	16.43	16.45	16.48	16.93	16.95	16.98

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
Antenna Gain = 0.5dBi
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	18.34	18.29	18.30	18.84	18.79	18.80
		RB1#13	18.46	18.46	18.42	18.96	18.96	18.92
		RB1#24	18.33	18.29	18.29	18.83	18.79	18.79
		RB15#0	17.39	17.36	17.37	17.89	17.86	17.87
		RB15#10	17.44	17.36	17.38	17.94	17.86	17.88
		RB25#0	17.43	17.37	17.40	17.93	17.87	17.90
	16QAM	RB1#0	17.39	17.42	17.59	17.89	17.92	18.09
		RB1#13	17.50	17.55	17.68	18.00	18.05	18.18
		RB1#24	17.37	17.41	17.58	17.87	17.91	18.08
		RB15#0	16.35	16.38	16.39	16.85	16.88	16.89
		RB15#10	16.37	16.39	16.41	16.87	16.89	16.91
		RB25#0	16.43	16.42	16.37	16.93	16.92	16.87
10	QPSK	RB1#0	18.39	18.44	18.42	18.89	18.94	18.92
		RB1#25	18.68	18.73	18.57	19.18	19.23	19.07
		RB1#49	18.38	18.41	18.40	18.88	18.91	18.90
		RB25#0	17.43	17.44	17.45	17.93	17.94	17.95
		RB25#25	17.49	17.47	17.45	17.99	17.97	17.95
		RB50#0	17.46	17.45	17.43	17.96	17.95	17.93
	16QAM	RB1#0	17.68	17.43	17.53	18.18	17.93	18.03
		RB1#25	17.97	17.71	17.69	18.47	18.21	18.19
		RB1#49	17.67	17.39	17.53	18.17	17.89	18.03
		RB25#0	16.43	16.49	16.47	16.93	16.99	16.97
		RB25#25	16.49	16.50	16.48	16.99	17.00	16.98
		RB50#0	16.46	16.45	16.47	16.96	16.95	16.97

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15	QPSK	RB1#0	18.34	18.33	18.32	18.84	18.83	18.82
		RB1#38	18.42	18.45	18.39	18.92	18.95	18.89
		RB1#74	18.27	18.35	18.30	18.77	18.85	18.80
		RB36#0	17.42	17.39	17.40	17.92	17.89	17.90
		RB36#39	17.43	17.45	17.44	17.93	17.95	17.94
		RB75#0	17.42	17.48	17.45	17.92	17.98	17.95
	16QAM	RB1#0	17.59	17.32	17.58	18.09	17.82	18.08
		RB1#38	17.58	17.41	17.66	18.08	17.91	18.16
		RB1#74	17.55	17.32	17.56	18.05	17.82	18.06
		RB36#0	16.36	16.36	16.43	16.86	16.86	16.93
		RB36#39	16.40	16.41	16.46	16.90	16.91	16.96
		RB75#0	16.36	16.41	16.43	16.86	16.91	16.93
20	QPSK	RB1#0	18.16	18.14	18.22	18.66	18.64	18.72
		RB1#50	18.62	18.61	18.72	19.12	19.11	19.22
		RB1#99	18.16	18.17	18.25	18.66	18.67	18.75
		RB50#0	17.36	17.44	17.41	17.86	17.94	17.91
		RB50#50	17.45	17.50	17.46	17.95	18.00	17.96
		RB100#0	17.43	17.48	17.46	17.93	17.98	17.96
	16QAM	RB1#0	17.30	17.19	17.47	17.80	17.69	17.97
		RB1#50	17.76	17.68	18.00	18.26	18.18	18.50
		RB1#99	17.29	17.21	17.50	17.79	17.71	18.00
		RB50#0	16.35	16.49	16.44	16.85	16.99	16.94
		RB50#50	16.42	16.54	16.46	16.92	17.04	16.96
		RB100#0	16.43	16.49	16.46	16.93	16.99	16.96

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band 41: Antenna Gain = 0.5dBi
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)	4.65	4.68	4.36	13	Pass
QPSK (100RB Size)	5.54	5.51	5.42	13	Pass
16QAM (1RB Size)	5.67	6.03	5.19	13	Pass
16QAM (100RB Size)	6.35	6.35	6.22	13	Pass

LTE Band 4 (20MHz Bandwidth)

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.01	4.13	3.97	13	Pass
QPSK (100RB Size)	5.26	5.42	5.10	13	Pass
16QAM (1RB Size)	4.68	5.03	5.00	13	Pass
16QAM (100RB Size)	6.12	6.25	5.99	13	Pass

LTE Band 5 (10MHz Bandwidth)

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	3.97	4.29	4.36	13	Pass
QPSK (50RB Size)	5.32	5.48	5.42	13	Pass
16QAM (1RB Size)	4.84	4.97	5.48	13	Pass
16QAM (50RB Size)	6.22	6.25	6.19	13	Pass

LTE Band 7 (20MHz Bandwidth)

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	3.97	4.29	4.39	13	Pass
QPSK (100RB Size)	5.29	5.29	5.35	13	Pass
16QAM (1RB Size)	4.62	5.38	5.16	13	Pass
16QAM (100RB Size)	6.19	6.12	6.25	13	Pass

LTE Band 38 (20MHz Bandwidth)

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	8.51	8.94	8.65	13	Pass
QPSK (100RB Size)	8.96	7.79	7.98	13	Pass
16QAM (1RB Size)	8.32	7.88	9.12	13	Pass
16QAM (100RB Size)	8.51	8.99	9.58	13	Pass

LTE Band 41 (20MHz Bandwidth)

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	6.73	9.65	8.35	13	Pass
QPSK (100RB Size)	7.69	7.24	7.59	13	Pass
16QAM (1RB Size)	8.26	8.72	9.13	13	Pass
16QAM (100RB Size)	7.64	8.34	8.83	13	Pass

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

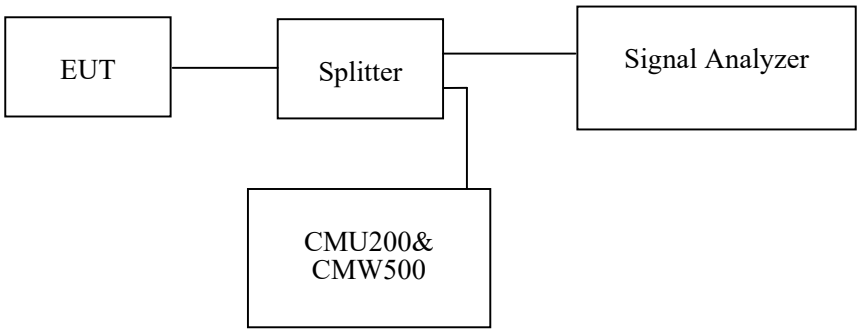
Applicable Standard

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:	28.8 ℃
Relative Humidity:	57 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2021-06-29 and 2021-07-12.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables and plots.

Cellular Band (Part 22H)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	128	824.2	243.59	317.63
	190	836.6	245.19	317.31
	251	848.8	245.19	316.03
EGPRS(8PSK)	128	824.2	253.21	316.35
	190	836.6	254.81	317.31
	251	848.8	248.40	315.71

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	826.4	4.17	4.71
	836.6	4.17	4.73
	846.6	4.17	4.72
HSDPA	826.4	4.20	4.74
	836.6	4.18	4.74
	846.6	4.20	4.74
HSUPA	826.4	4.21	4.82
	836.6	4.20	4.79
	846.6	4.18	4.73

PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	512	1850.2	245.19	311.86
	661	1880.0	243.59	309.29
	810	1909.8	241.99	315.71
EGPRS(8PSK)	512	1850.2	246.79	320.51
	661	1880.0	250.00	314.42
	810	1909.8	250.00	326.92

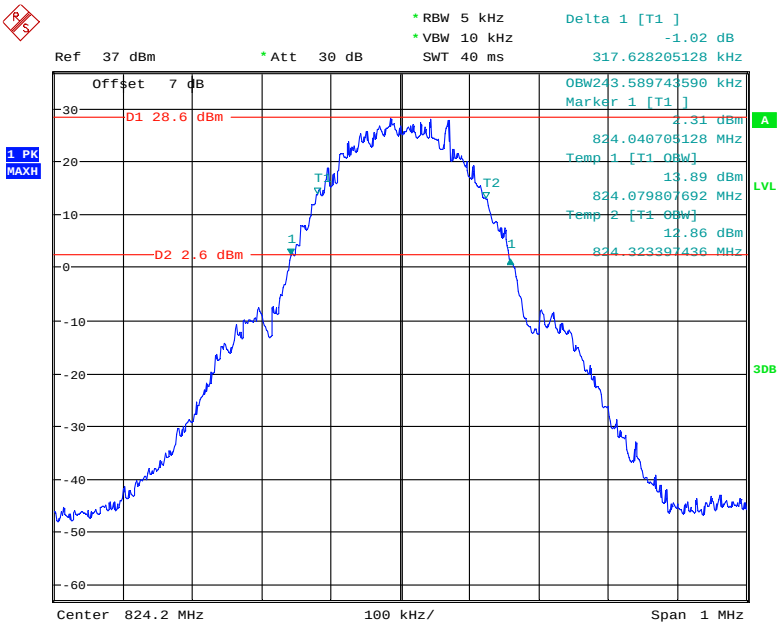
Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
HSUPA	1852.4	4.20	4.73
	1880.0	4.20	4.73
	1907.6	4.18	4.62
HSDPA	1852.4	4.18	4.74
	1880.0	4.18	4.73
	1907.6	4.18	4.73
RMC	1852.4	4.20	4.73
	1880.0	4.18	4.74
	1907.6	4.18	4.73

AWS Band (Part 27)

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1712.4	4.18	4.72
	1732.6	4.18	4.72
	1752.6	4.20	4.73
HSDPA	1712.4	4.18	4.73
	1732.6	4.18	4.71
	1752.6	4.20	4.73
HSUPA	1712.4	4.20	4.74
	1732.6	4.18	4.71
	1752.6	4.20	4.72

Cellular Band (Part 22H)

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



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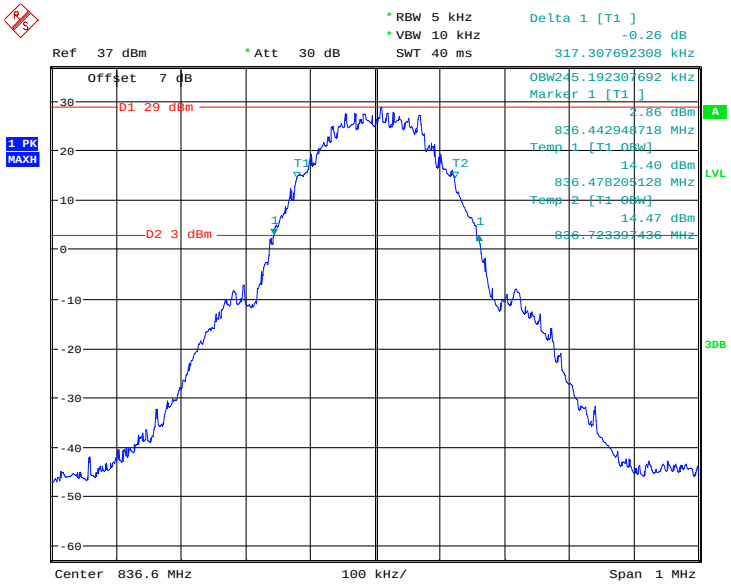
26 dB Emissions &99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel



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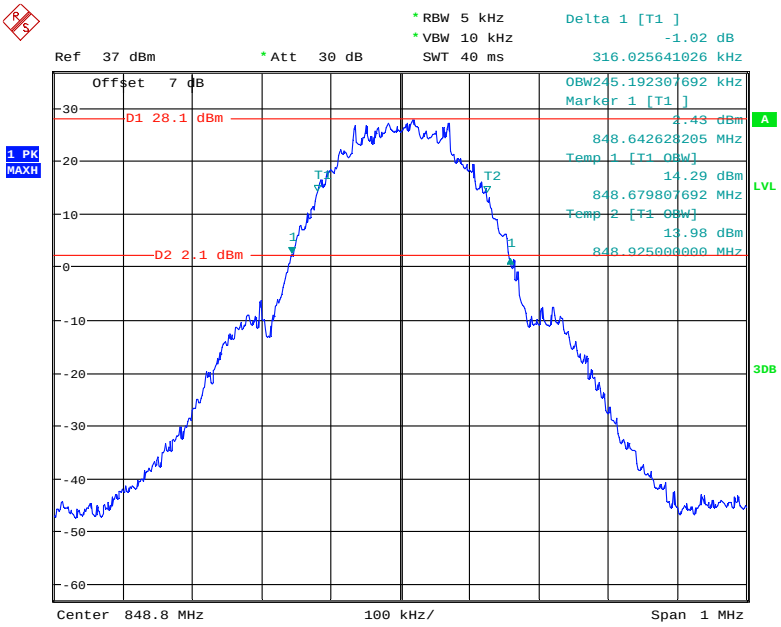
26 dB Emissions &99% Occupied Bandwidth for GSM (GMSK) Mode, High channel



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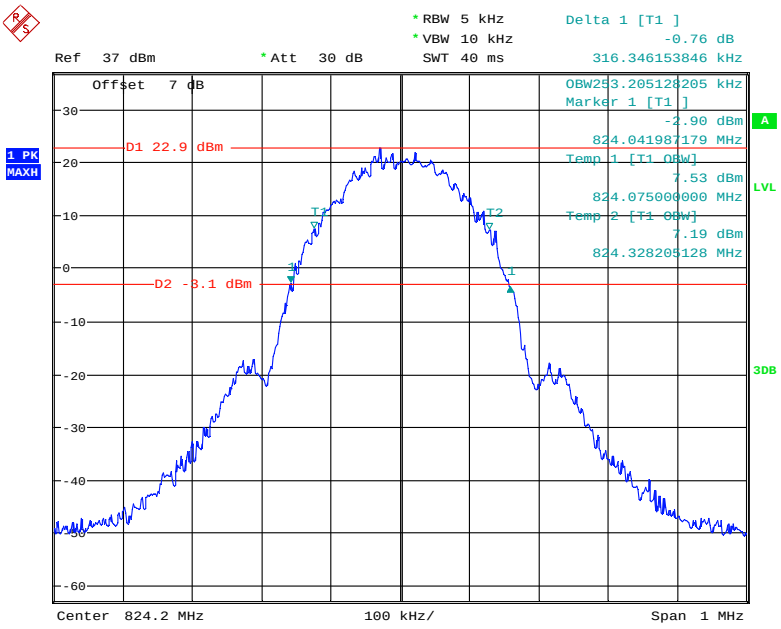
26 dB Emissions &99% Occupied Bandwidth for EGPRS (8PSK) Mode, Low channel



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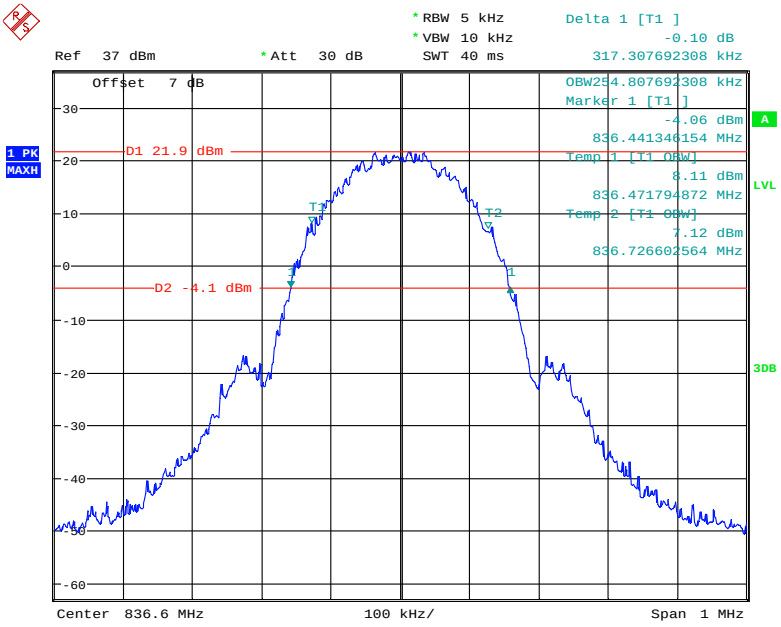
26 dB Emissions &99% Occupied Bandwidth for EGPRS (8PSK) Mode, Middle channel



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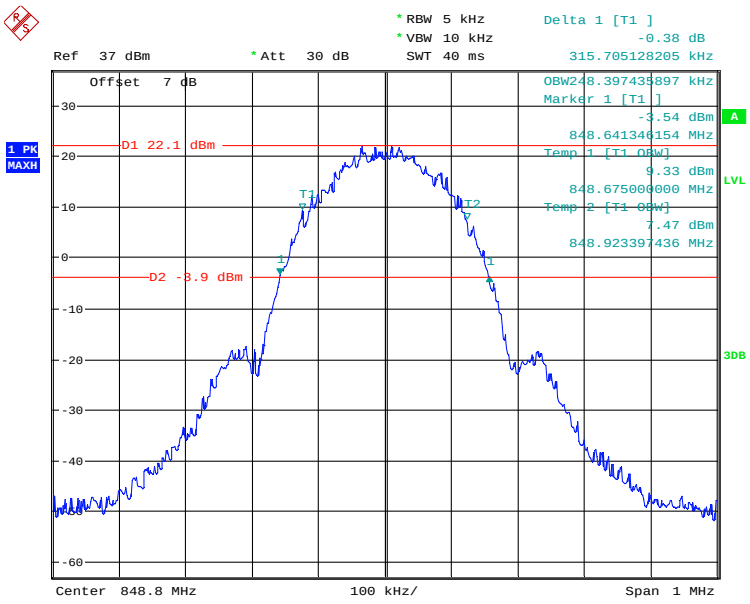
26 dB Emissions &99% Occupied Bandwidth for EGPRS (8PSK) Mode, High channel



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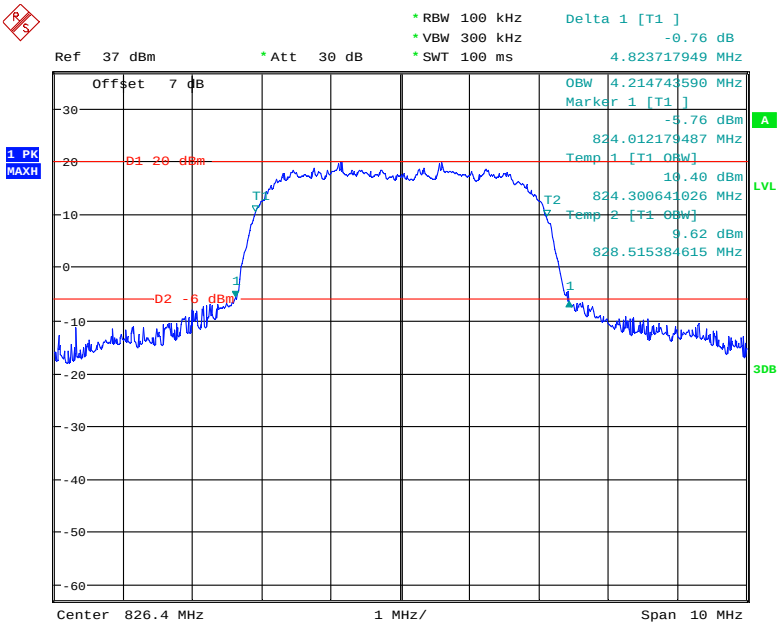
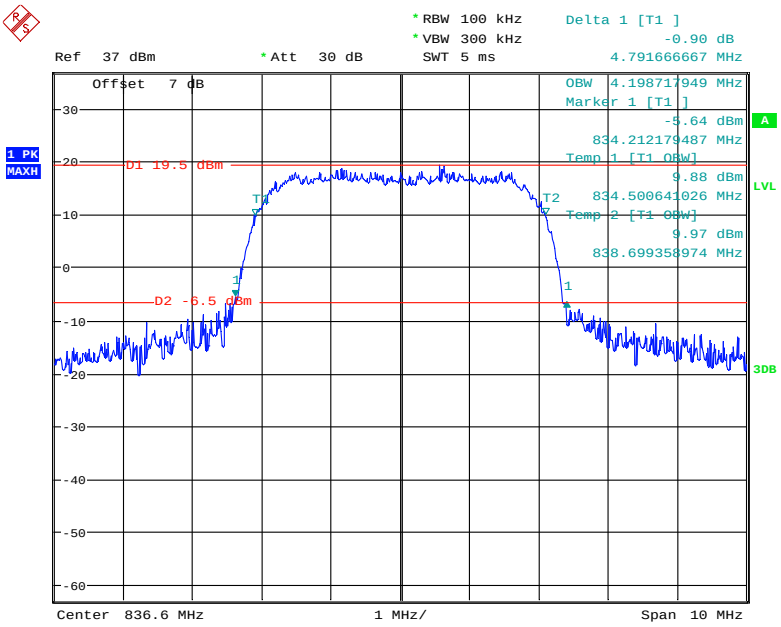
26 dB Emissions &99% Occupied Bandwidth for HSUPA (BPSK) Mode, Low channel



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



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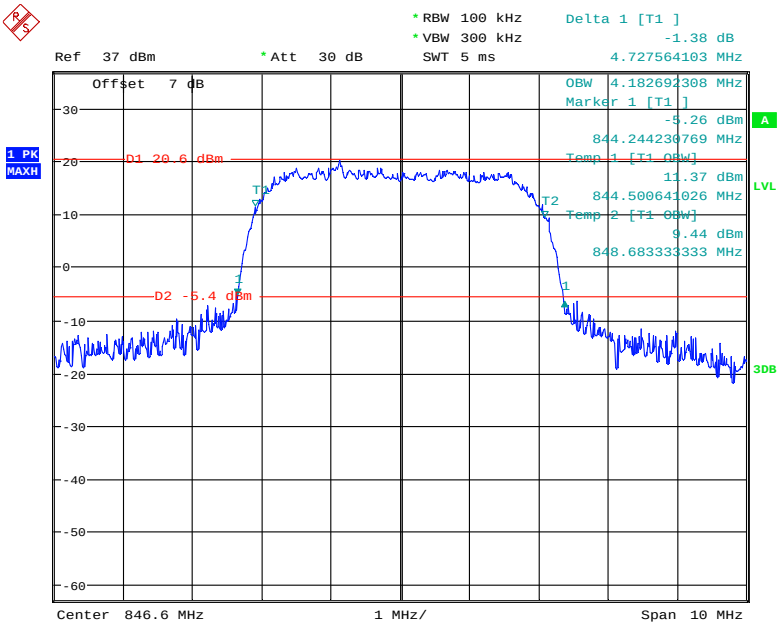
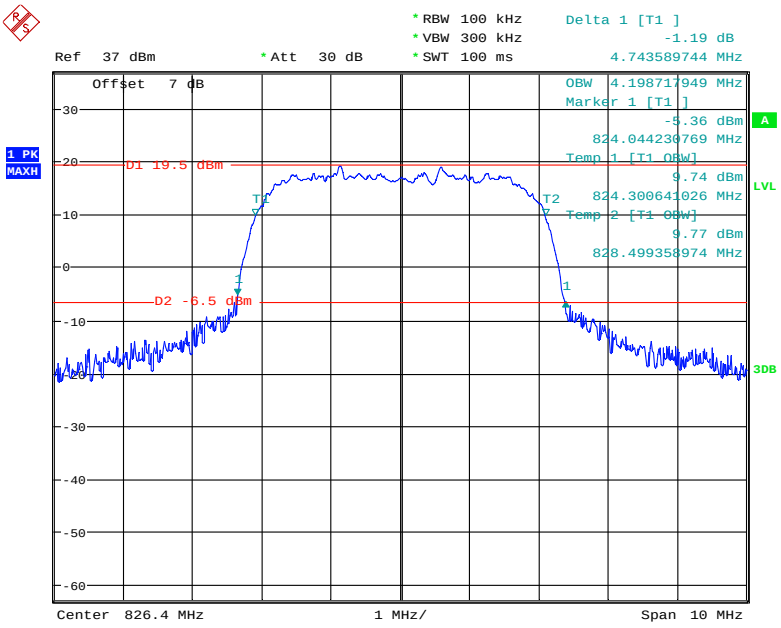
26 dB Emissions &99% Occupied Bandwidth for HSUPA (BPSK) Mode, High channel



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



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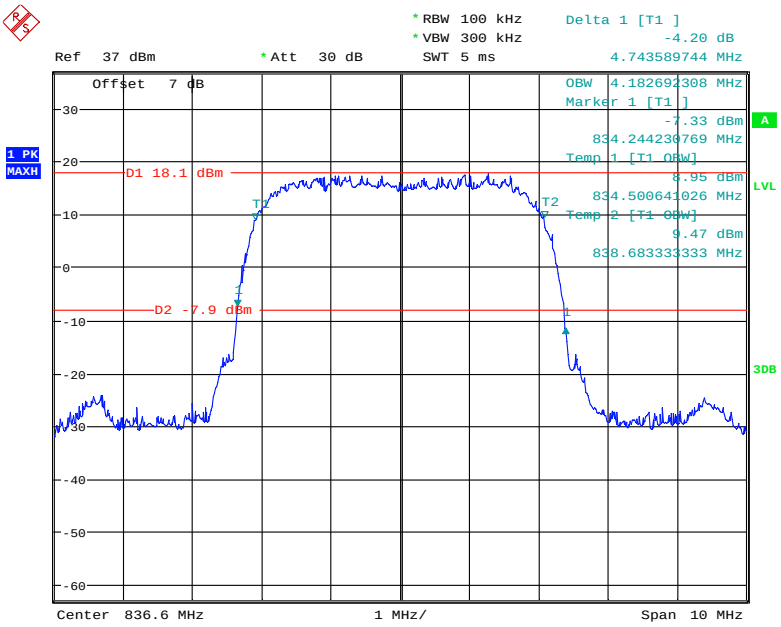
26 dB Emissions &99% Occupied Bandwidth for HSDPA (16QAM) Mode, Middle channel



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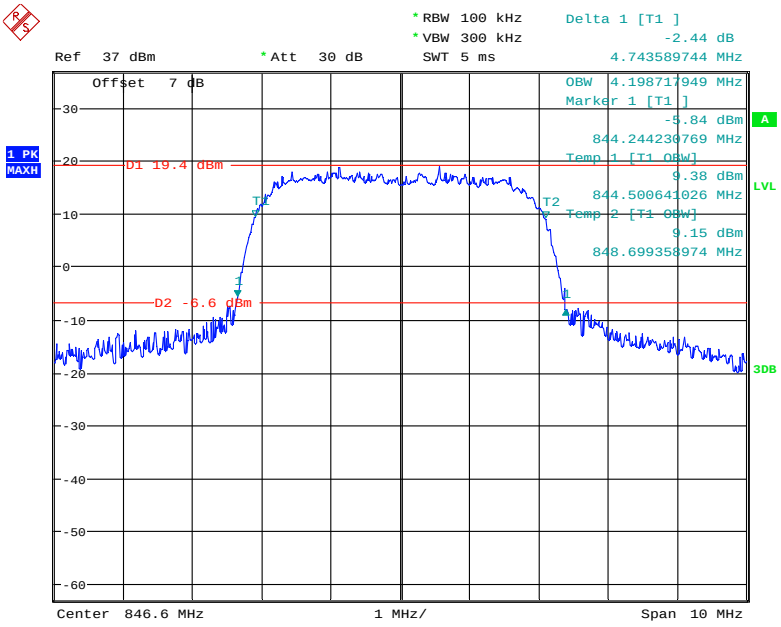
26 dB Emissions &99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel



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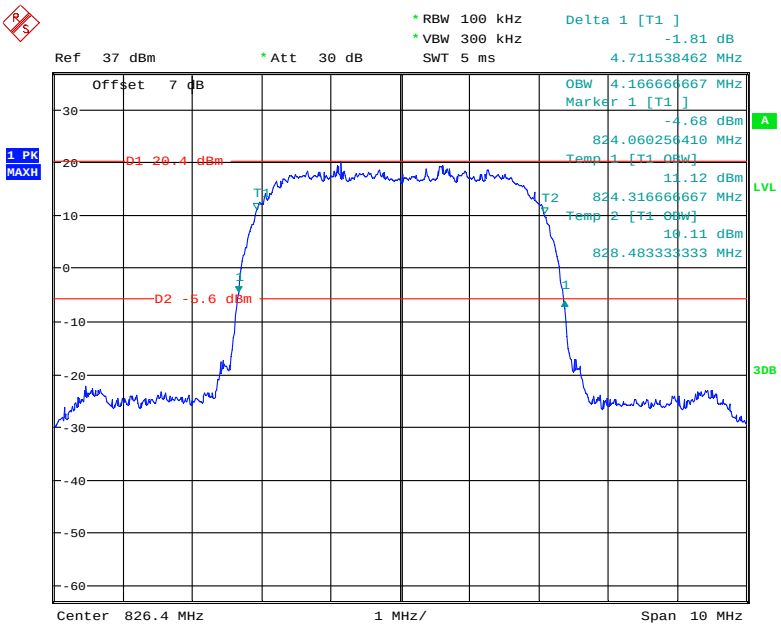
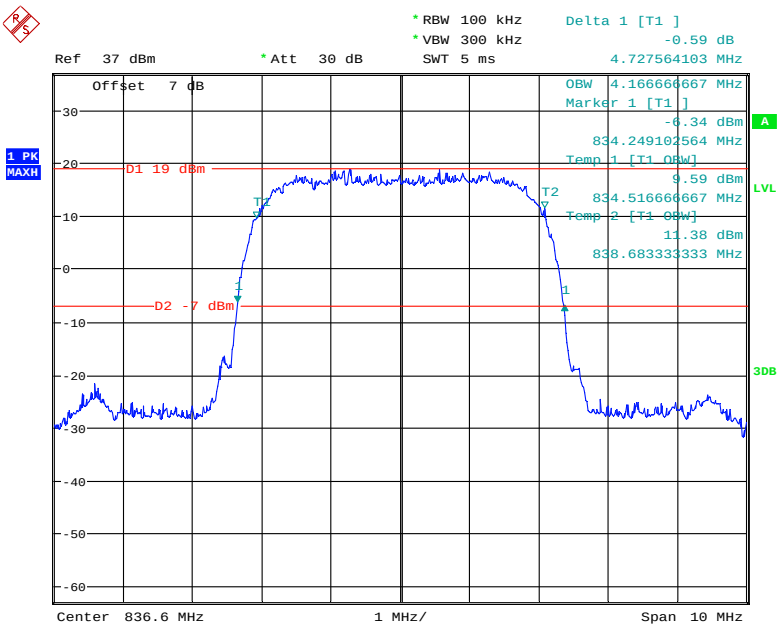
26 dB Emissions &99% Occupied Bandwidth for RMC (BPSK) Mode, Low channel



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



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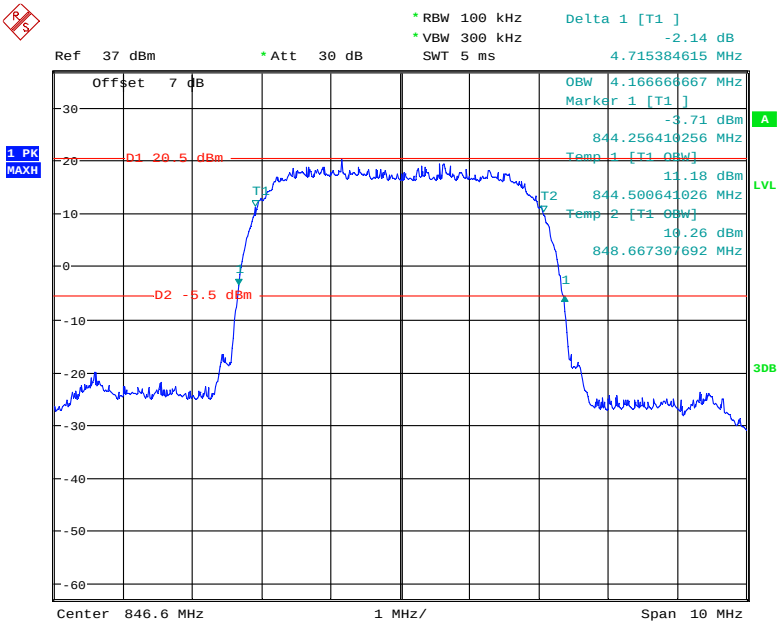
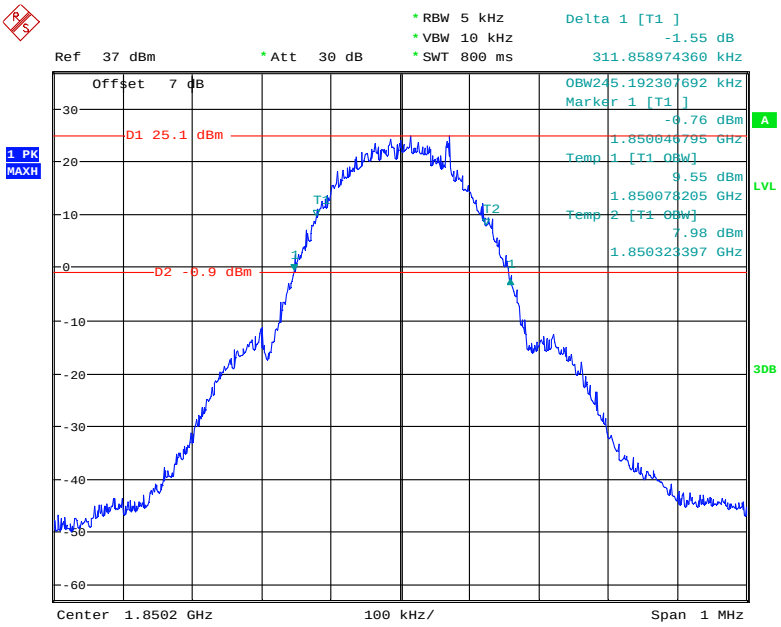
26 dB Emissions &99% Occupied Bandwidth for RMC (BPSK) Mode, High channel



Date: 29.JUN.2021 22:25:47

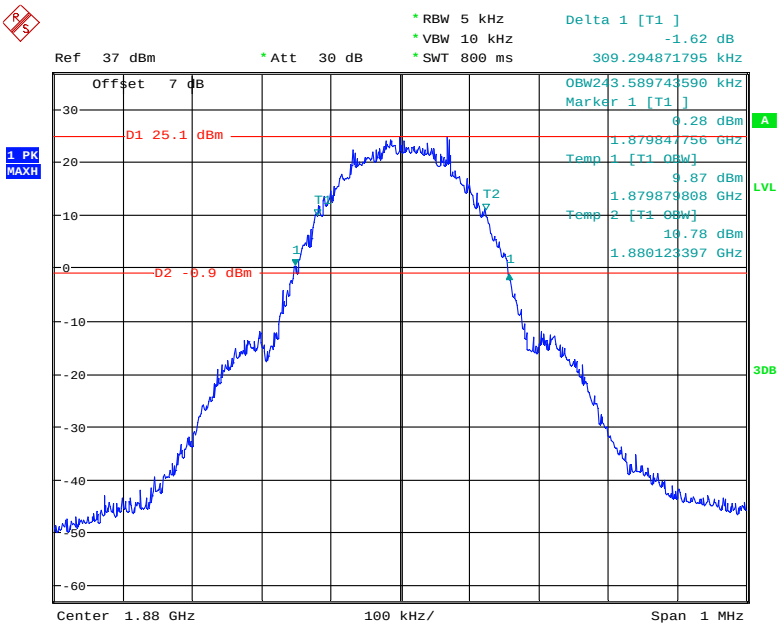
PCS Band (Part 24E)

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



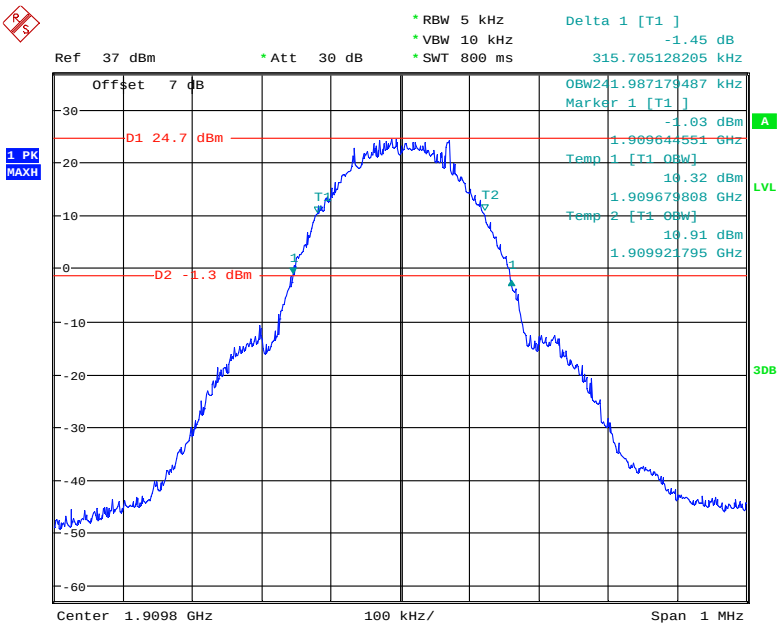
Date: 29.JUN.2021 21:48:25

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



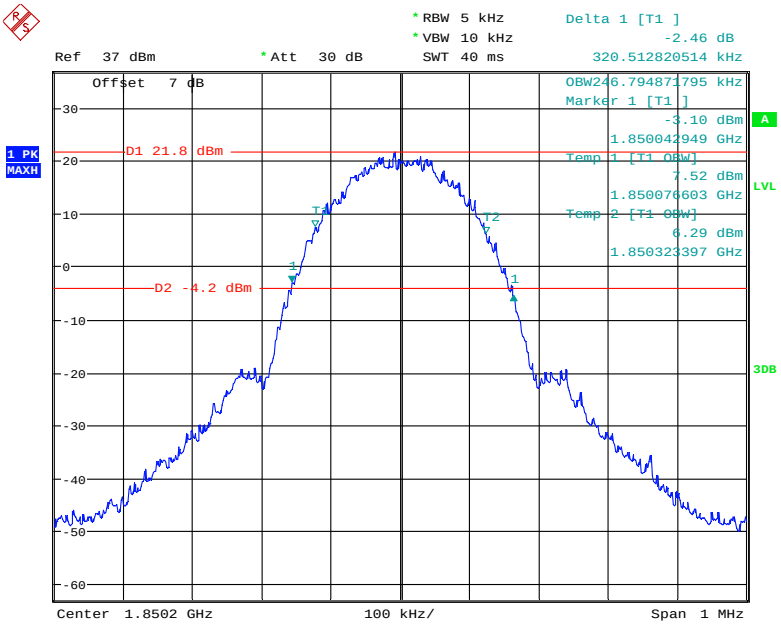
Date: 29.JUN.2021 21:46:44

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



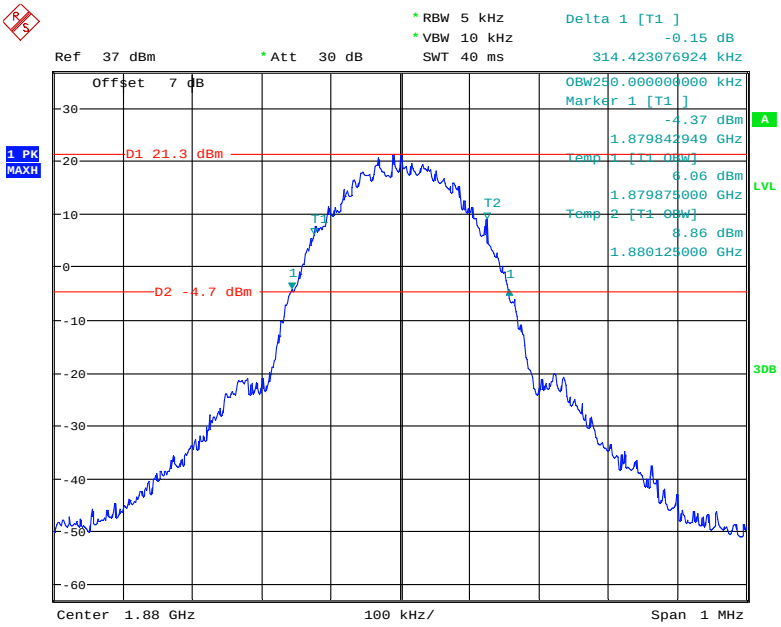
Date: 29.JUN.2021 21:45:05

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



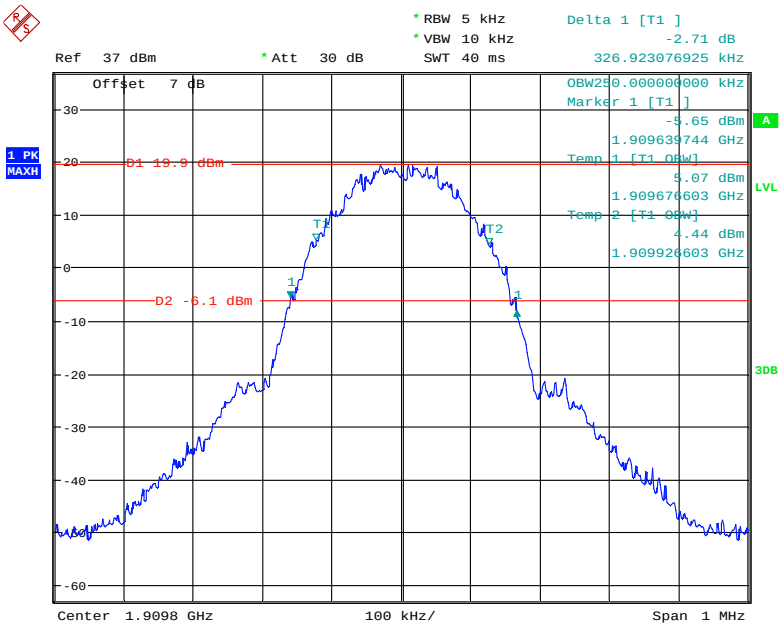
Date: 29.JUN.2021 22:01:40

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

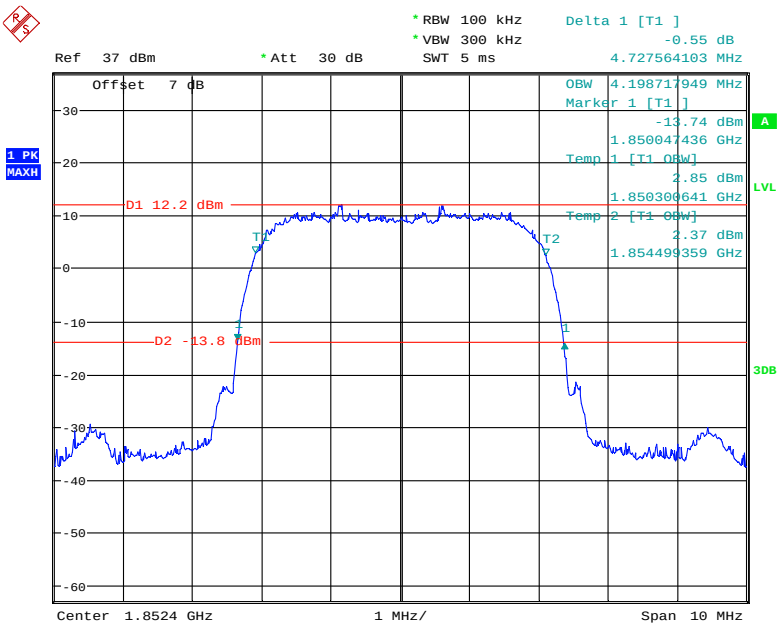


Date: 29.JUN.2021 22:03:19

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

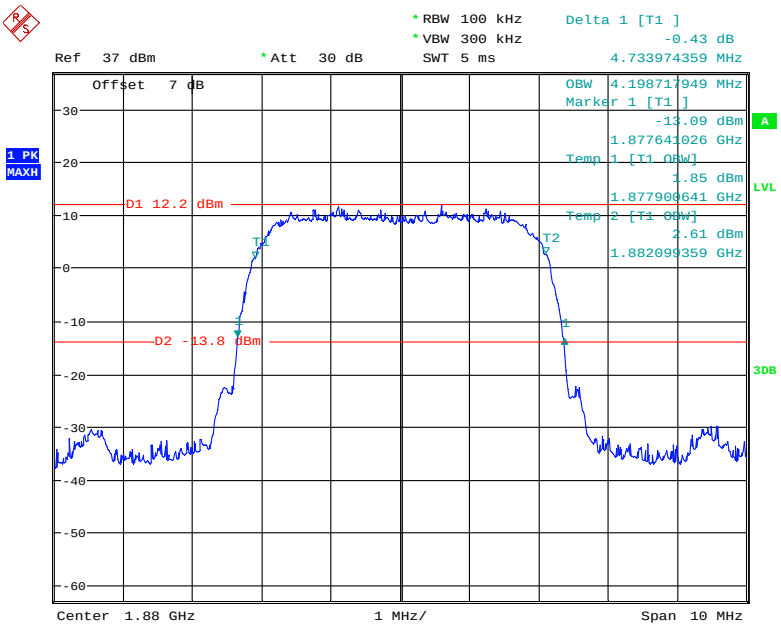


26 dB Emissions &99% Occupied Bandwidth for HSUPA (BPSK) Mode, Low channel

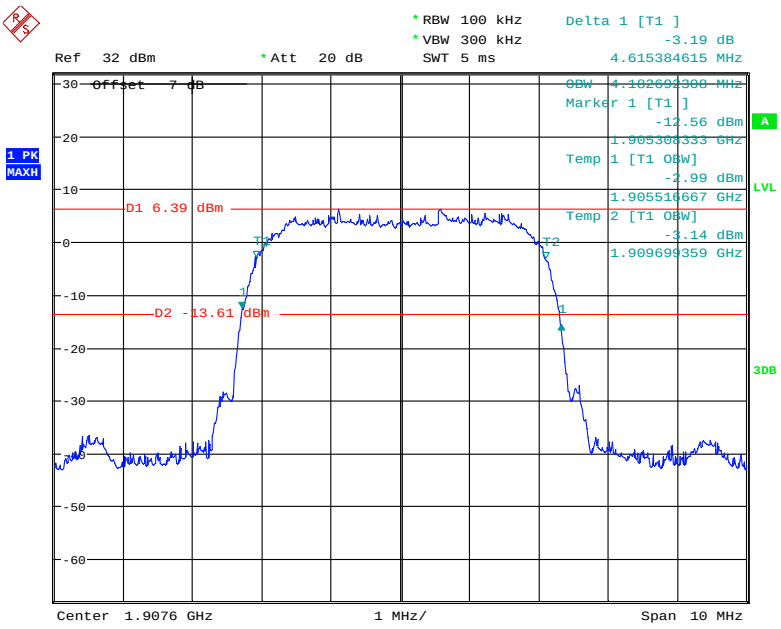


Date: 22.JUL.2021 21:38:44

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

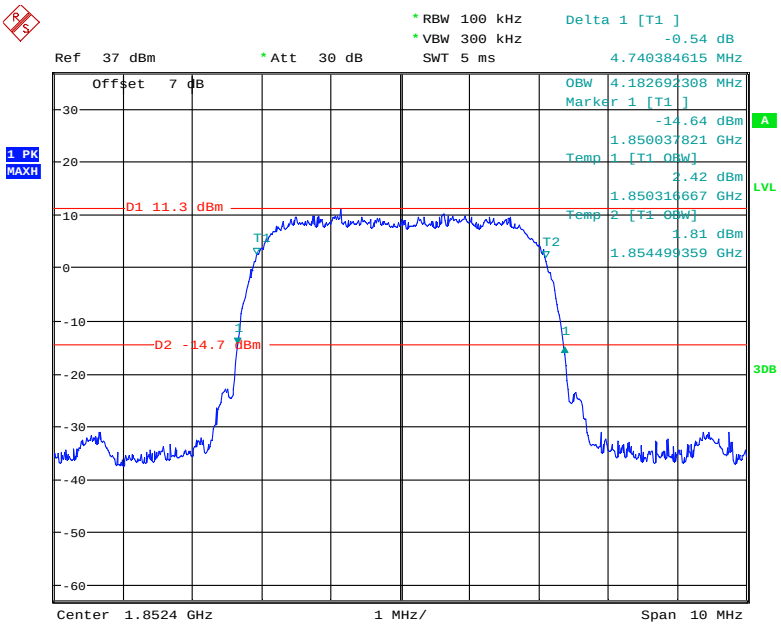


26 dB Emissions &99% Occupied Bandwidth for HSUPA (BPSK) Mode, High channel



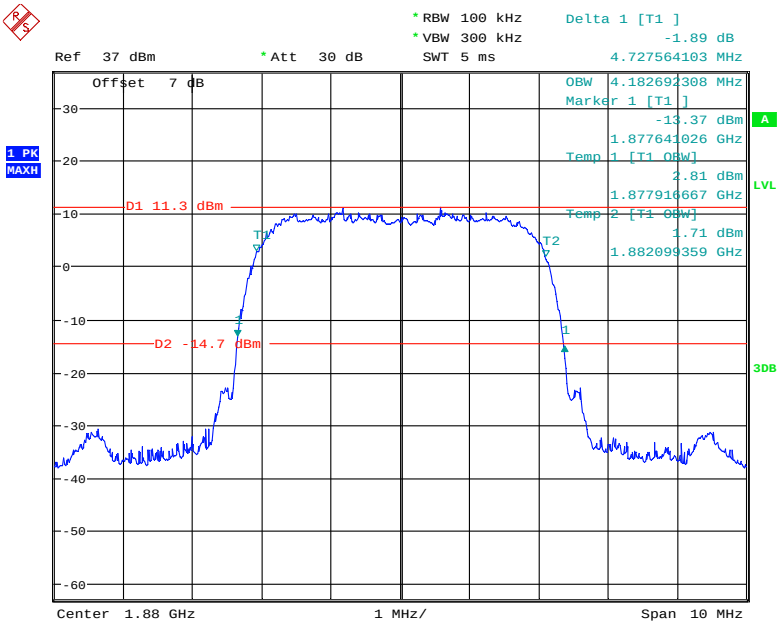
Date: 23.JUL.2021 09:17:05

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

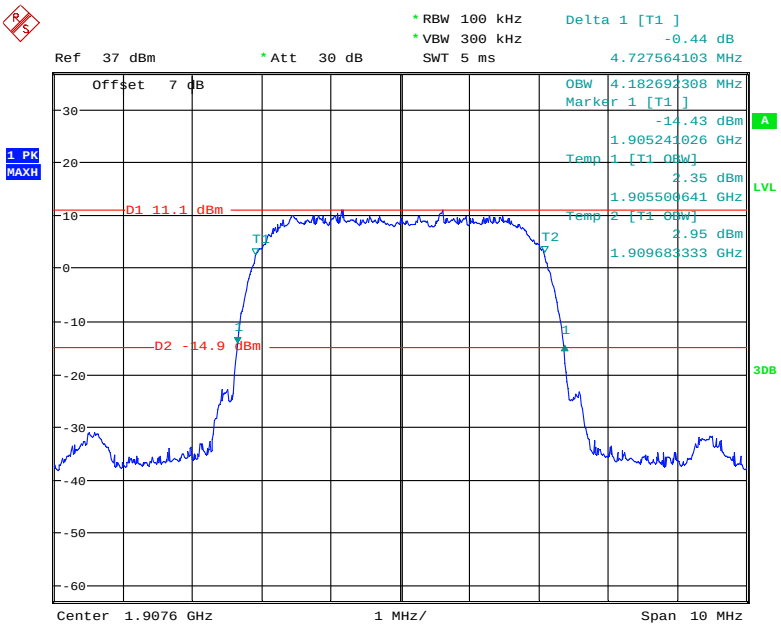


Date: 22.JUL.2021 21:54:04

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

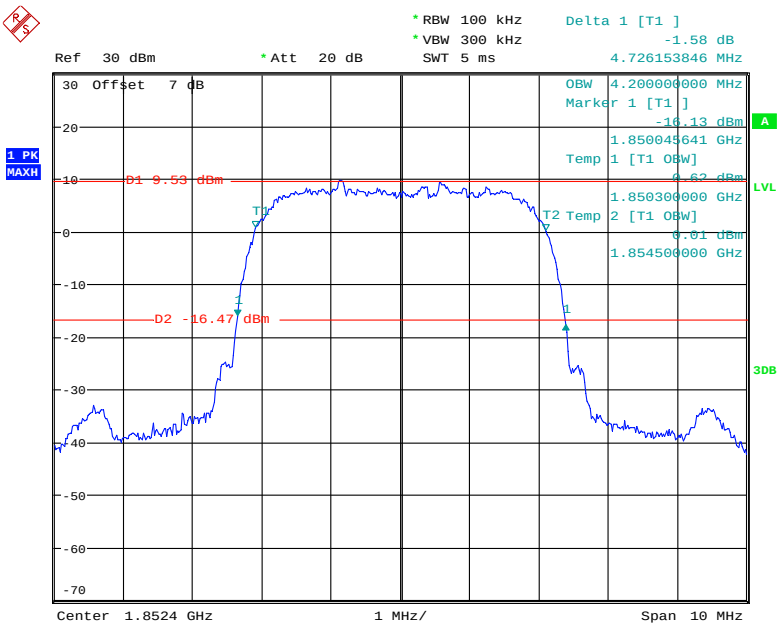


26 dB Emissions &99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel



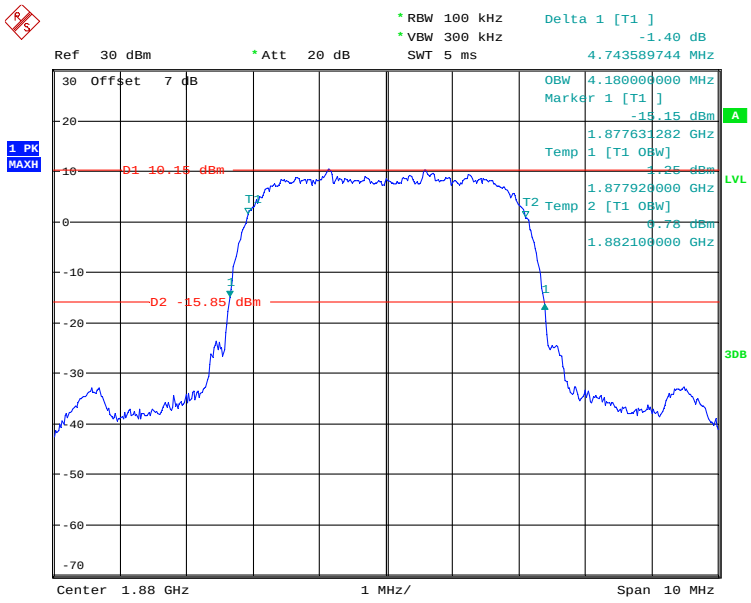
Date: 22.JUL.2021 21:51:38

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



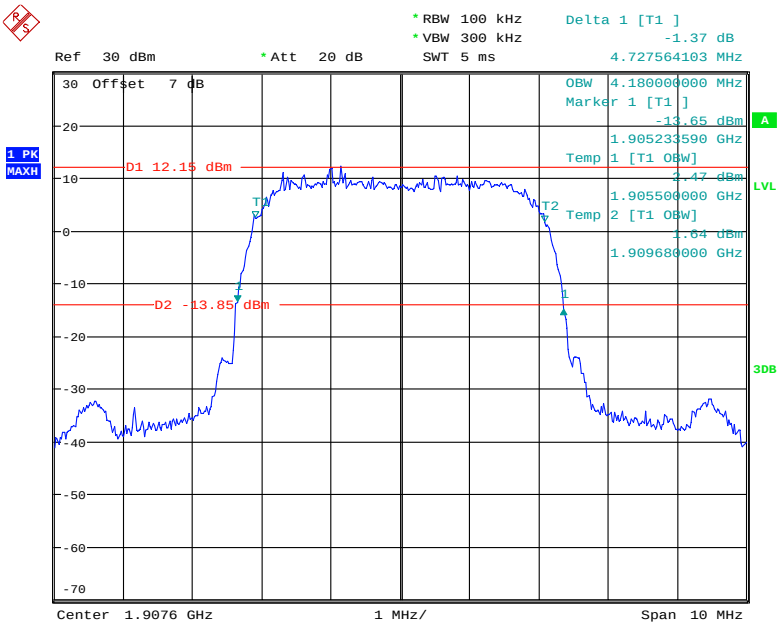
Date: 12.JUL.2021 17:39:17

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



Date: 12.JUL.2021 17:41:08

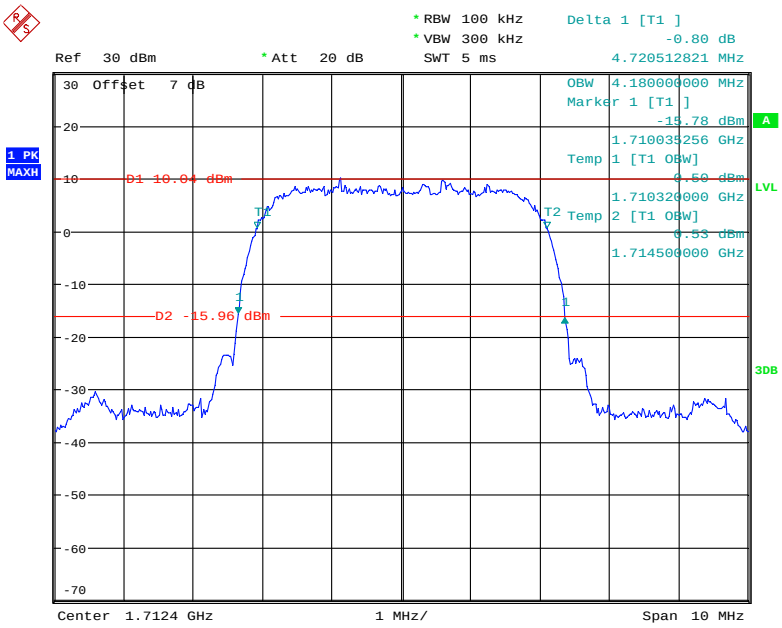
26 dB Emissions &99% Occupied Bandwidth for RMC (BPSK) Mode, High channel



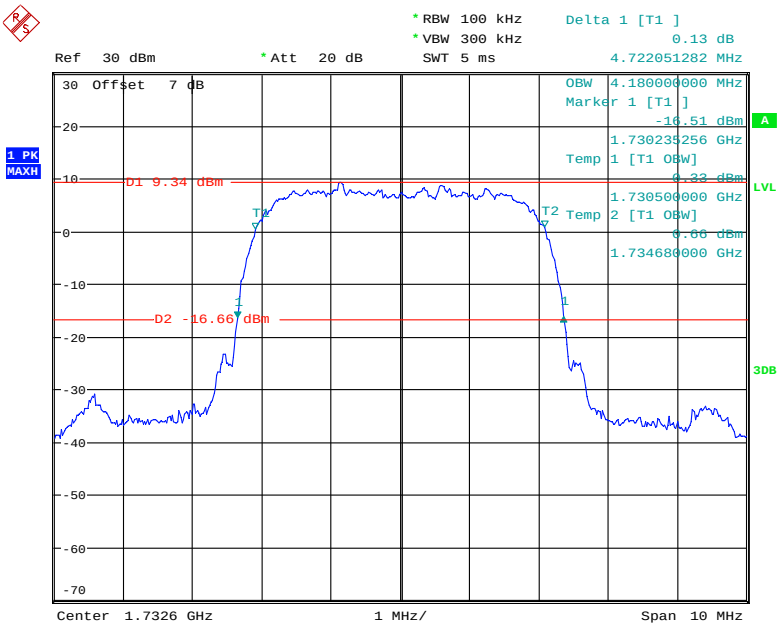
Date: 12.JUL.2021 17:42:59

AWS Band (Part 27)

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

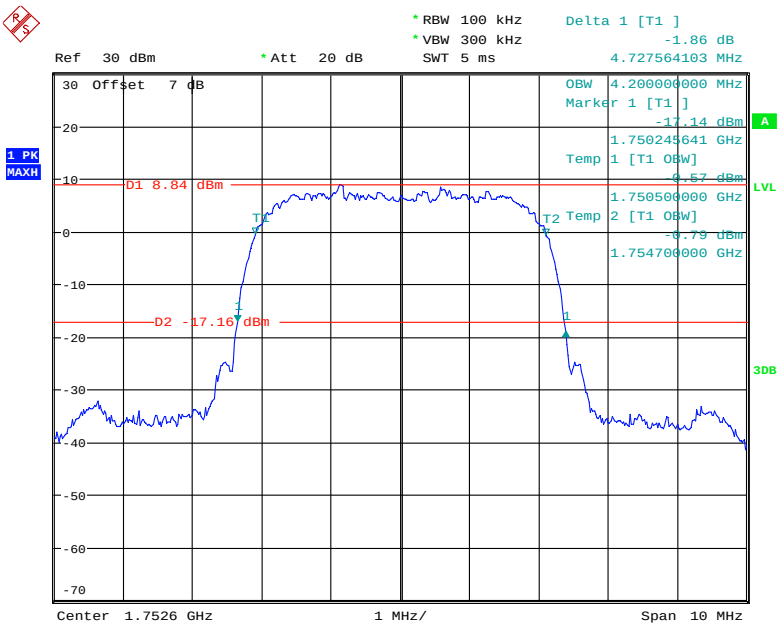


26 dB Emissions &99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel



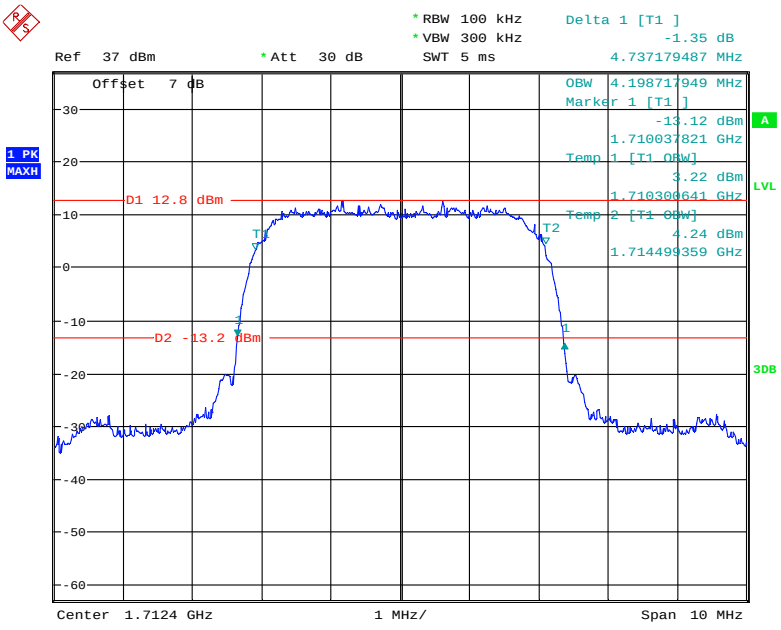
Date: 12.JUL.2021 17:08:06

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



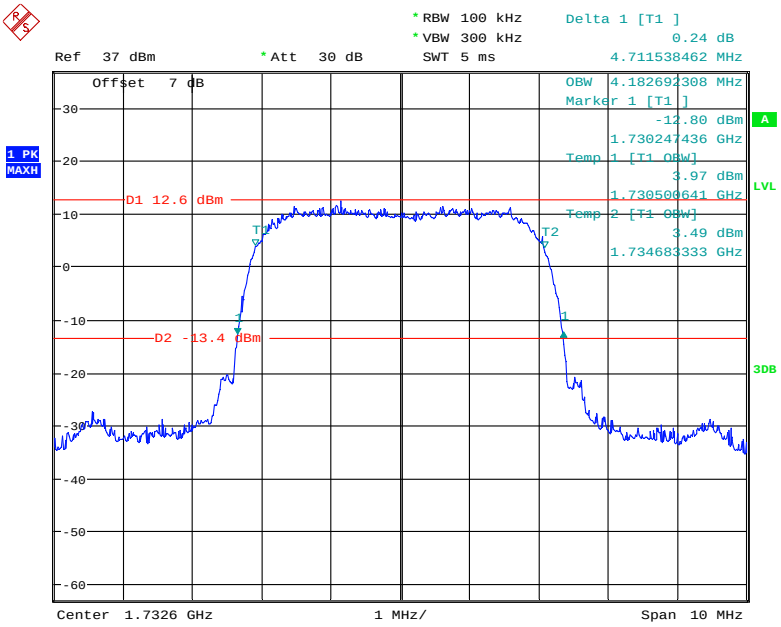
Date: 12.JUL.2021 17:12:45

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



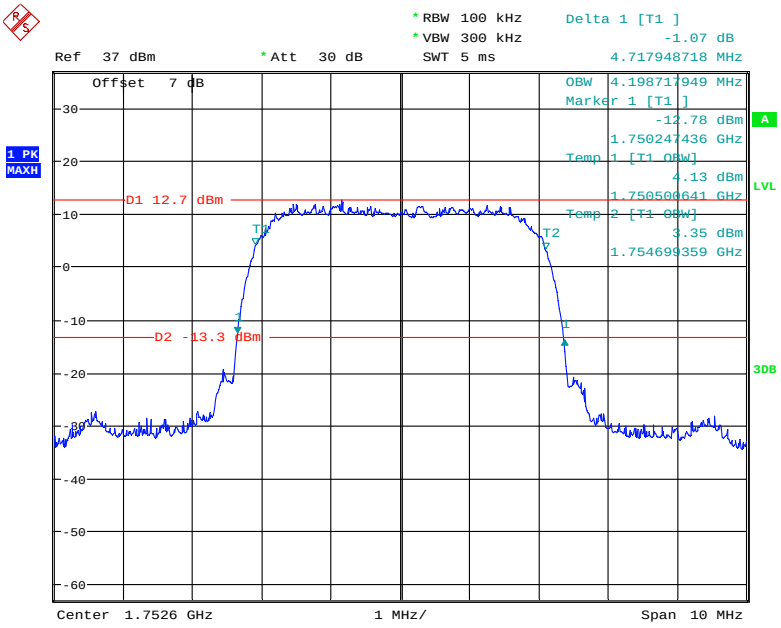
Date: 22.JUL.2021 21:29:50

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



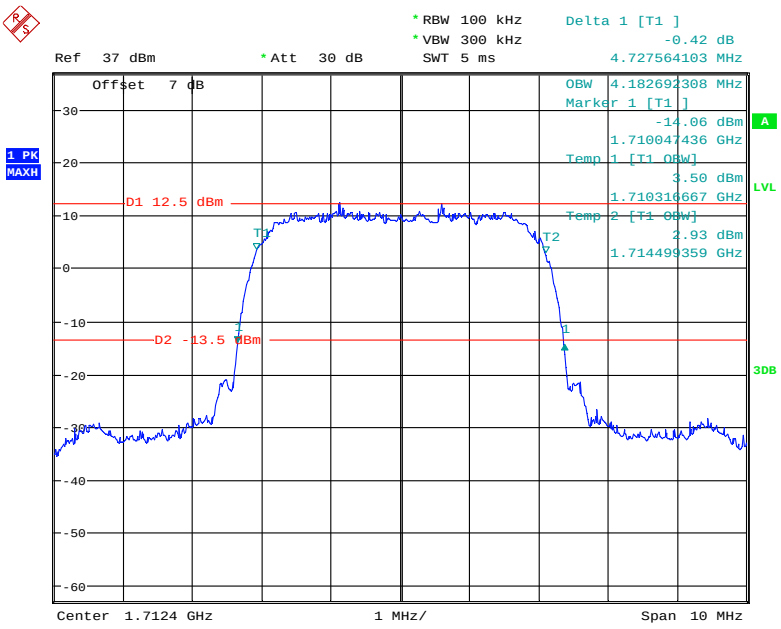
Date: 22.JUL.2021 21:28:27

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



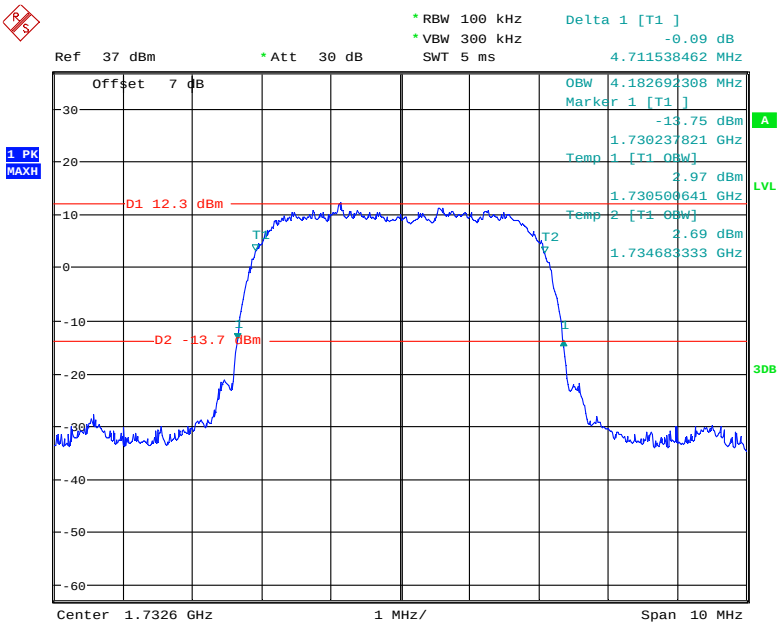
Date: 22.JUL.2021 21:27:19

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



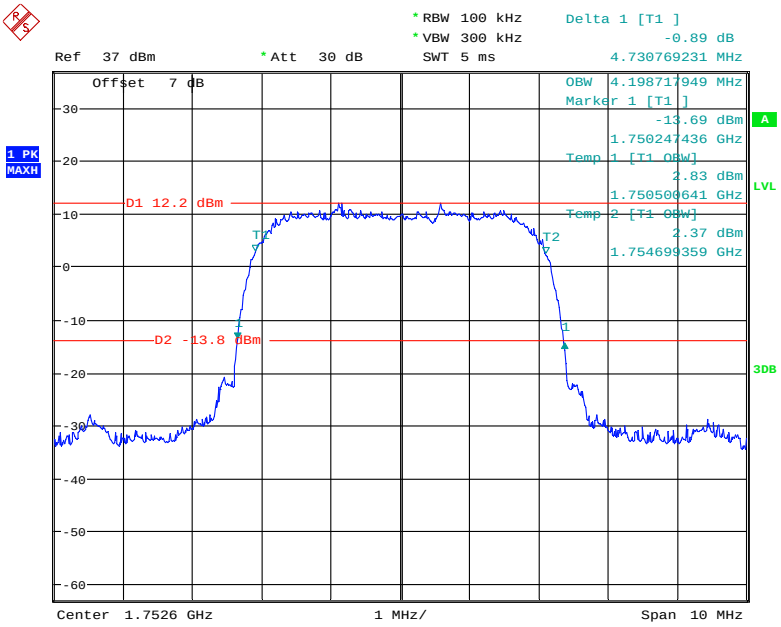
Date: 22.JUL.2021 21:55:53

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



Date: 22.JUL.2021 21:57:38

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



Date: 22.JUL.2021 21:59:17

LTE Band 2:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	Low	1.098	1.302
		Middle	1.098	1.320
		High	1.106	1.320
	16QAM	Low	1.104	1.314
		Middle	1.092	1.290
		High	1.096	1.282
3	QPSK	Low	2.688	2.856
		Middle	2.700	2.880
		High	2.683	2.885
	16QAM	Low	2.688	2.892
		Middle	2.688	2.880
		High	2.692	2.865
5	QPSK	Low	4.520	4.960
		Middle	4.520	4.980
		High	4.520	4.880
	16QAM	Low	4.500	4.920
		Middle	4.520	4.980
		High	4.520	4.940
10	QPSK	Low	8.960	9.640
		Middle	8.960	9.600
		High	8.960	9.600
	16QAM	Low	8.960	9.600
		Middle	8.960	9.600
		High	8.960	9.560
15	QPSK	Low	13.500	14.760
		Middle	13.500	14.700
		High	13.500	14.880
	16QAM	Low	13.500	14.700
		Middle	13.500	14.760
		High	13.560	14.760
20	QPSK	Low	18.000	19.360
		Middle	18.000	19.440
		High	17.920	19.440
	16QAM	Low	17.920	19.520
		Middle	18.000	19.280
		High	18.000	19.360

LTE Band 4:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	Low	1.098	1.296
		Middle	1.104	1.326
		High	1.110	1.290
	16QAM	Low	1.110	1.332
		Middle	1.098	1.290
		High	1.104	1.296
3	QPSK	Low	2.688	2.880
		Middle	2.688	2.880
		High	2.688	2.880
	16QAM	Low	2.688	2.880
		Middle	2.688	2.880
		High	2.688	2.880
5	QPSK	Low	4.520	4.920
		Middle	4.520	4.940
		High	4.500	4.900
	16QAM	Low	4.500	4.900
		Middle	4.520	4.920
		High	4.500	4.920
10	QPSK	Low	9.000	9.680
		Middle	8.960	9.520
		High	8.960	9.680
	16QAM	Low	8.960	9.520
		Middle	8.960	9.600
		High	8.960	9.560
15	QPSK	Low	13.560	14.880
		Middle	13.500	14.700
		High	13.500	14.820
	16QAM	Low	13.500	14.760
		Middle	13.500	14.820
		High	13.500	14.760
20	QPSK	Low	18.000	19.440
		Middle	18.000	19.360
		High	18.000	19.440
	16QAM	Low	18.000	19.280
		Middle	18.000	19.440
		High	18.000	19.280

LTE Band 5:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	Low	1.098	1.314
		Middle	1.104	1.326
		High	1.110	1.302
	16QAM	Low	1.104	1.308
		Middle	1.098	1.290
		High	1.104	1.290
3	QPSK	Low	2.688	2.868
		Middle	2.688	2.868
		High	2.688	2.892
	16QAM	Low	2.688	2.868
		Middle	2.688	2.880
		High	2.676	2.868
5	QPSK	Low	4.500	4.940
		Middle	4.520	4.940
		High	4.520	4.920
	16QAM	Low	4.500	4.940
		Middle	4.520	4.920
		High	4.520	5.100
10	QPSK	Low	8.960	9.560
		Middle	8.960	9.600
		High	8.960	9.560
	16QAM	Low	8.960	9.560
		Middle	8.960	9.560
		High	8.960	9.480

LTE Band 7:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5	QPSK	Low	4.520	4.940
		Middle	4.520	4.940
		High	4.500	4.920
	16QAM	Low	4.500	4.900
		Middle	4.500	4.940
		High	4.500	4.940
10	QPSK	Low	8.960	9.600
		Middle	8.960	9.600
		High	8.960	9.600
	16QAM	Low	8.960	9.600
		Middle	8.960	9.600
		High	8.960	9.600
15	QPSK	Low	13.560	14.940
		Middle	13.500	14.640
		High	13.500	14.820
	16QAM	Low	13.560	14.760
		Middle	13.500	14.700
		High	13.500	14.700
20	QPSK	Low	17.920	19.360
		Middle	17.920	19.440
		High	18.000	19.440
	16QAM	Low	18.000	19.360
		Middle	17.920	19.200
		High	18.000	19.440

LTE Band 38:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5	QPSK	Low	4.500	5.007
		Middle	4.520	4.920
		High	4.500	4.980
	16QAM	Low	4.500	5.048
		Middle	4.500	4.920
		High	4.500	4.960
10	QPSK	Low	9.000	9.667
		Middle	8.960	9.640
		High	8.960	9.720
	16QAM	Low	9.000	9.538
		Middle	8.960	9.480
		High	8.960	9.840
15	QPSK	Low	13.575	15.472
		Middle	13.440	14.880
		High	13.500	14.820
	16QAM	Low	13.575	15.904
		Middle	13.560	15.120
		High	13.575	15.760
20	QPSK	Low	18.000	19.920
		Middle	18.000	20.154
		High	18.000	19.600
	16QAM	Low	18.000	19.280
		Middle	18.000	19.920
		High	18.000	19.440

LTE Band 41:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5	QPSK	Low	4.500	4.940
		Middle	4.520	4.940
		High	4.520	5.300
	16QAM	Low	4.525	5.141
		Middle	4.480	5.020
		High	4.500	4.940
10	QPSK	Low	9.000	9.760
		Middle	8.960	9.640
		High	8.960	9.560
	16QAM	Low	8.960	9.480
		Middle	8.960	9.520
		High	8.960	10.200
15	QPSK	Low	13.560	15.060
		Middle	13.500	15.240
		High	13.575	15.583
	16QAM	Low	13.575	16.208
		Middle	13.500	14.880
		High	13.560	15.660
20	QPSK	Low	18.000	19.360
		Middle	18.000	19.200
		High	18.100	19.577
	16QAM	Low	18.000	19.558
		Middle	18.000	20.400
		High	18.000	19.769

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

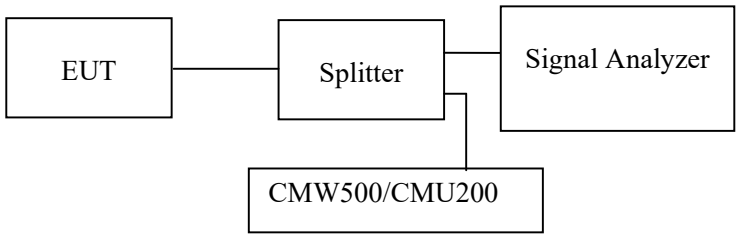
Applicable Standard

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:	28.8 ℃
Relative Humidity:	57 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2021-06-29 to 2021-07-12.

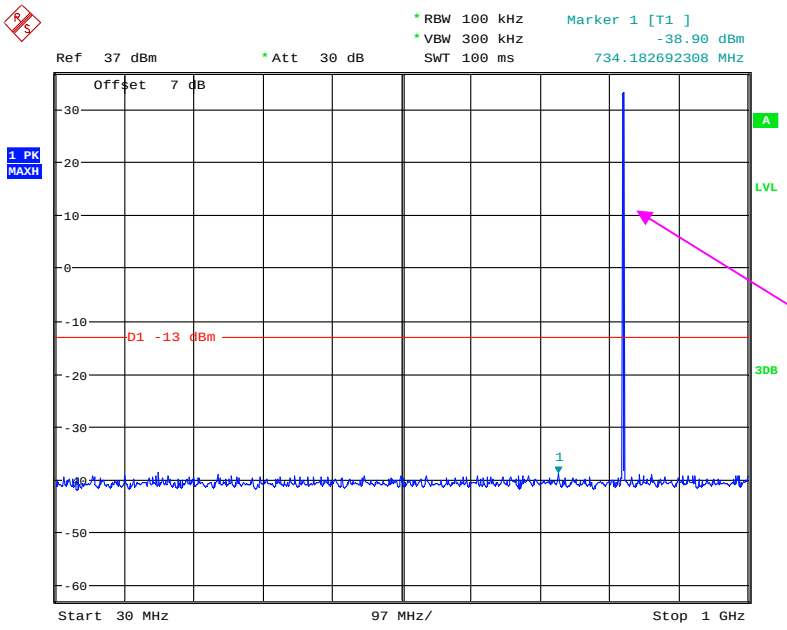
EUT operation mode: Transmitting

Test result: Pass

Please refer to the following plots.

Cellular Band (Part 22H)
Low Channel:

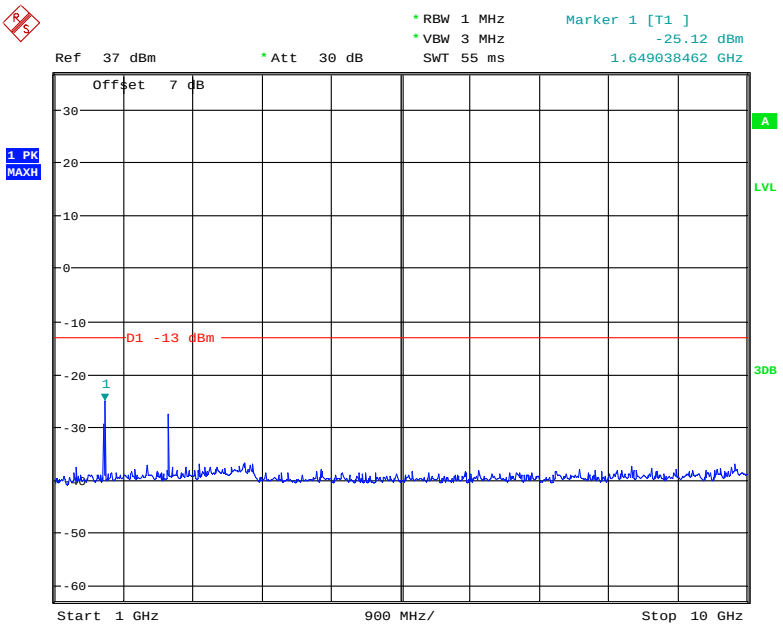
30 MHz – 1 GHz (GSM Mode)



Fundamental test

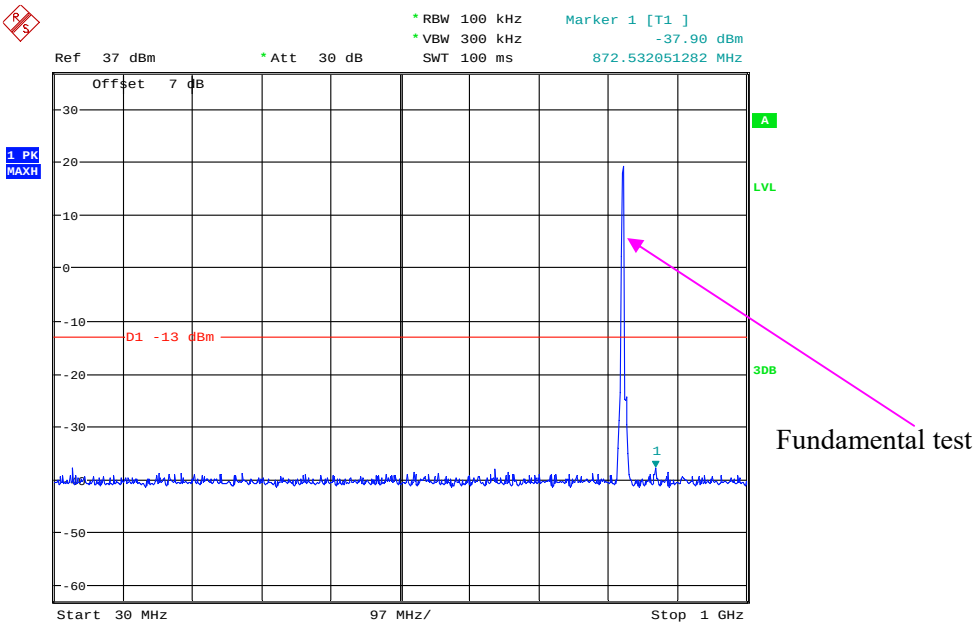
Date: 29.JUN.2021 20:57:15

1 GHz – 10 GHz (GSM Mode)



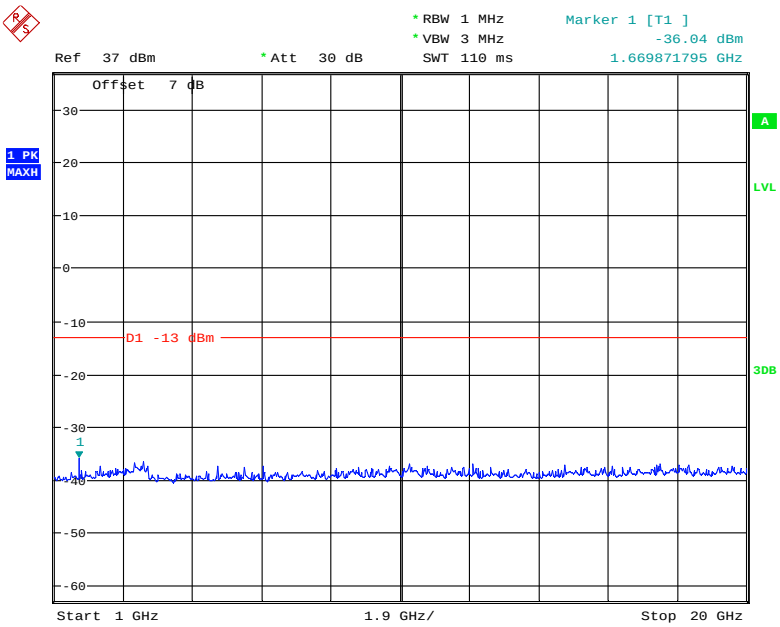
Date: 29.JUN.2021 20:59:49

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:43:40

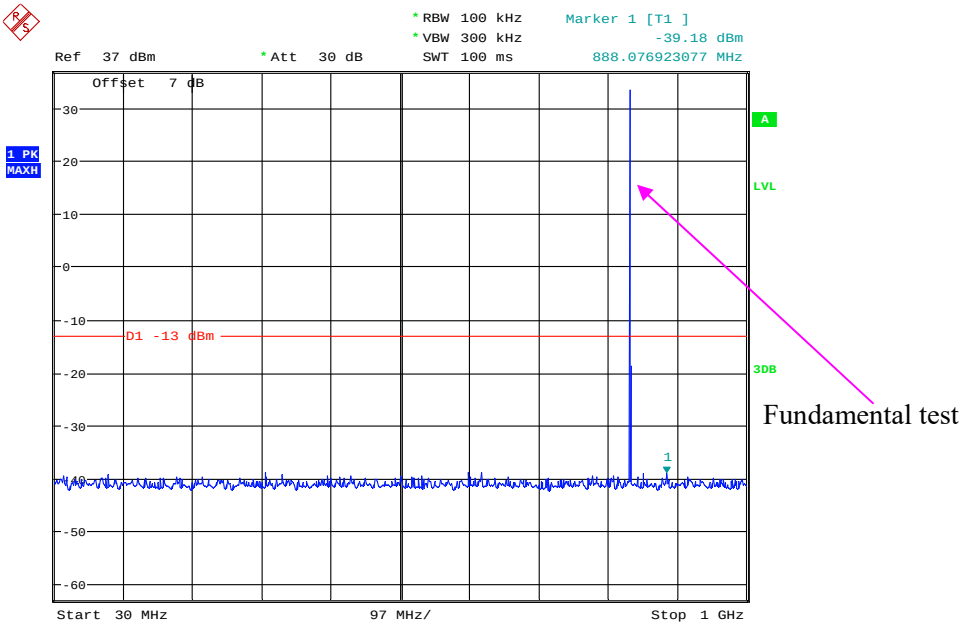
1 GHz – 20 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:46:21

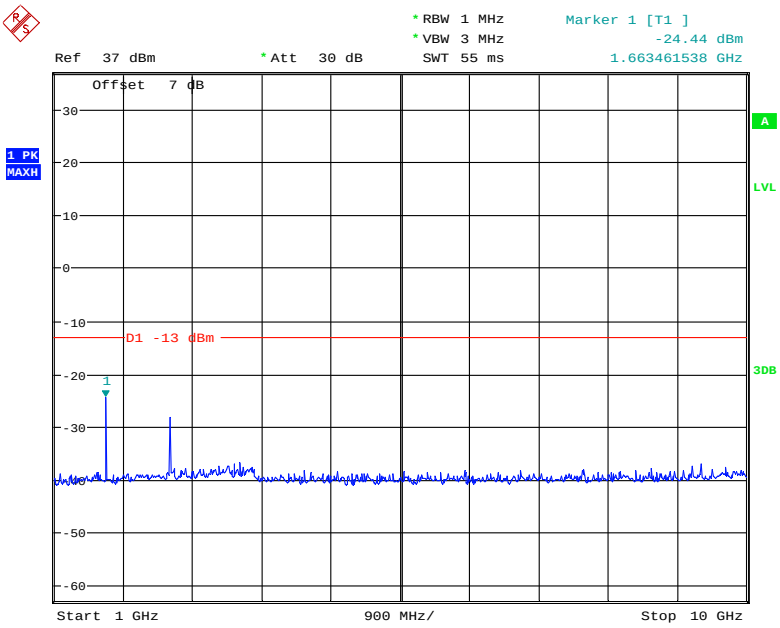
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



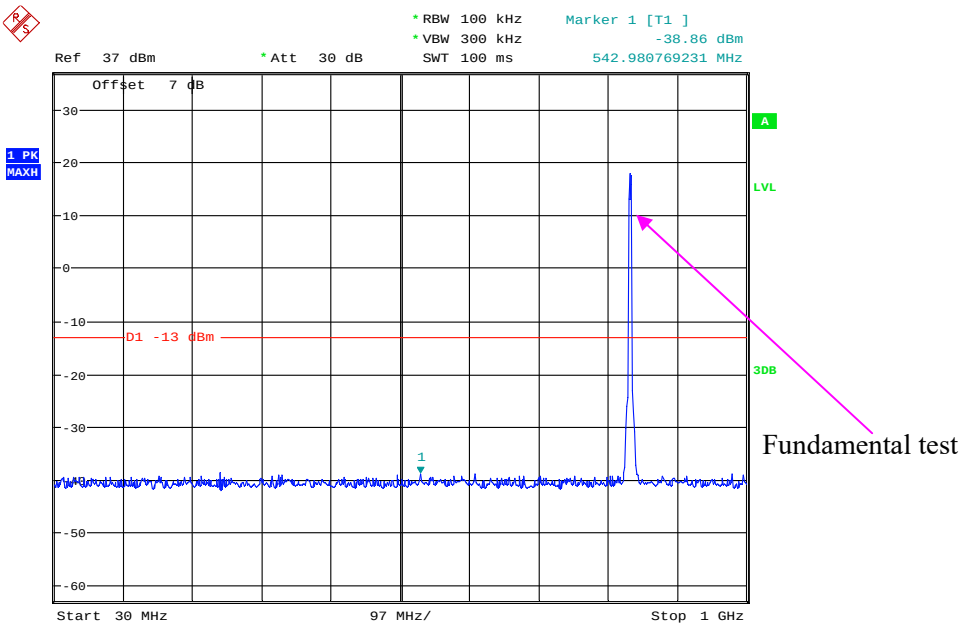
Date: 29.JUN.2021 20:57:53

1 GHz – 10 GHz (GSM Mode)



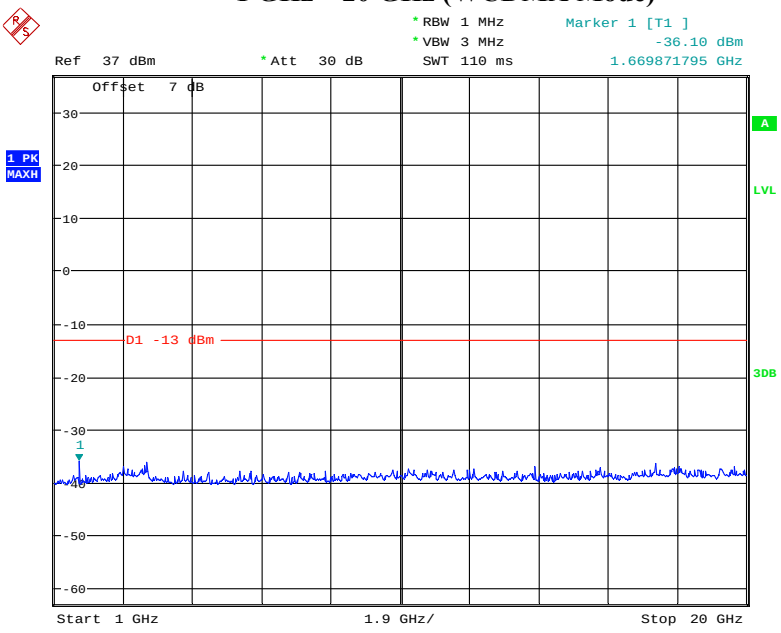
Date: 29.JUN.2021 20:59:28

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:44:24

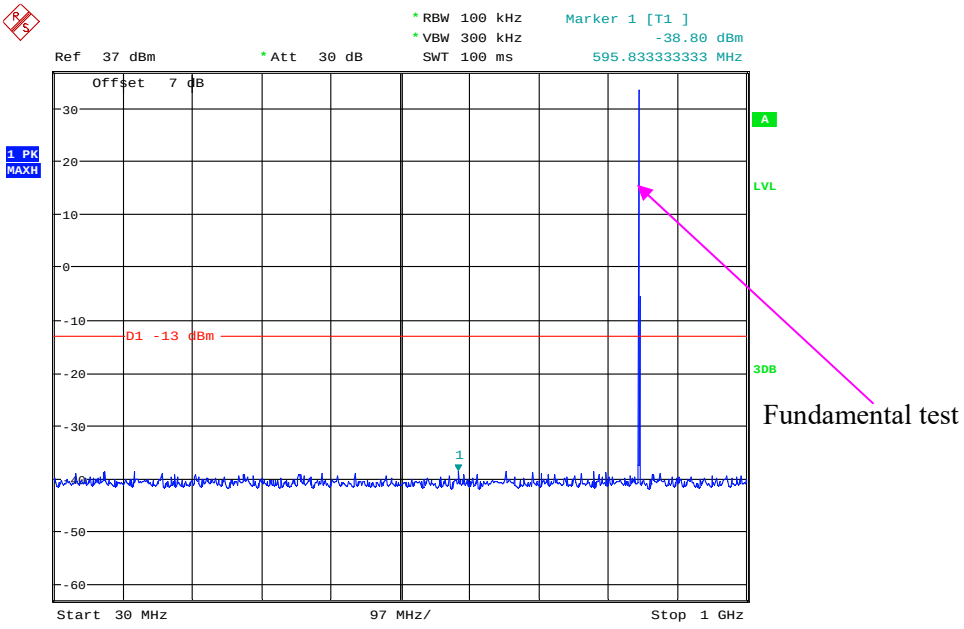
1 GHz – 20 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:46:00

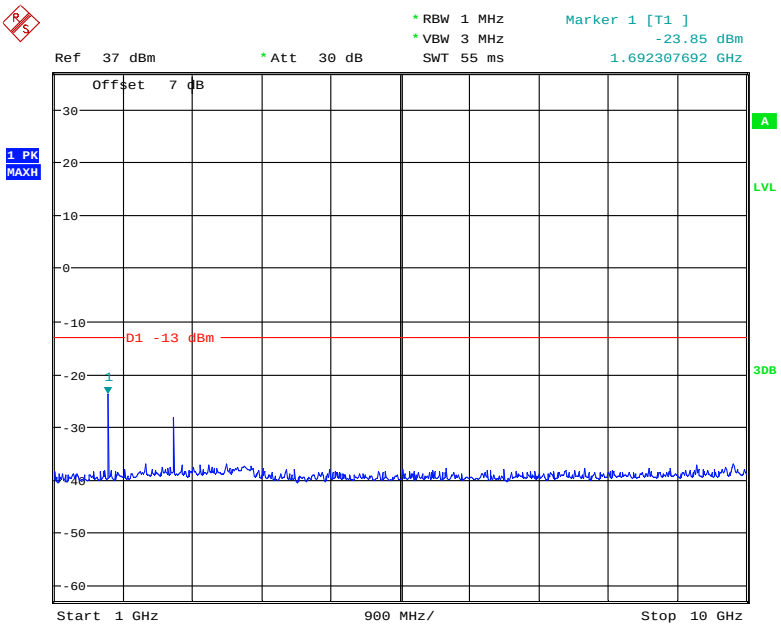
High Channel:

30 MHz – 1 GHz (GSM Mode)



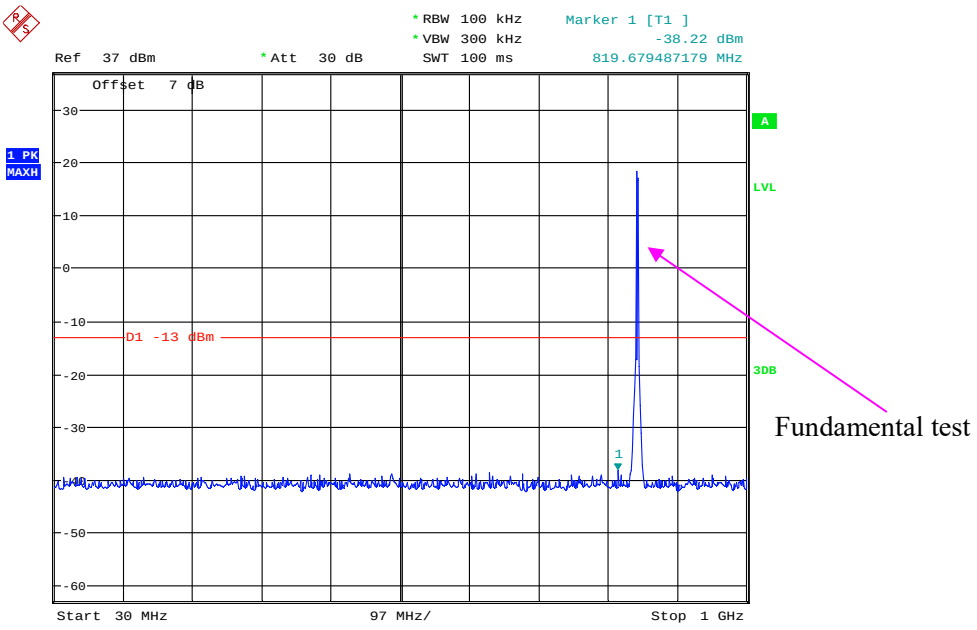
Date: 29.JUN.2021 20:58:21

1 GHz – 10 GHz (GSM Mode)



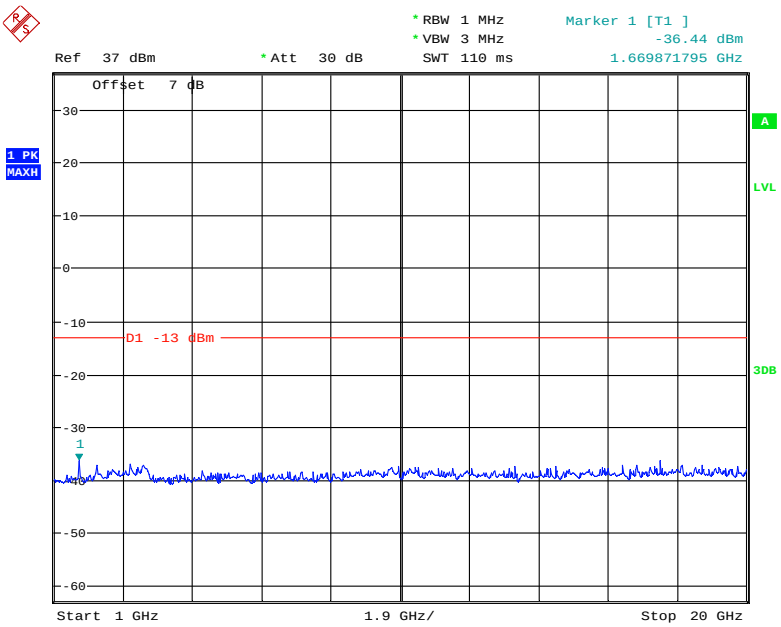
Date: 29.JUN.2021 20:58:59

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:44:56

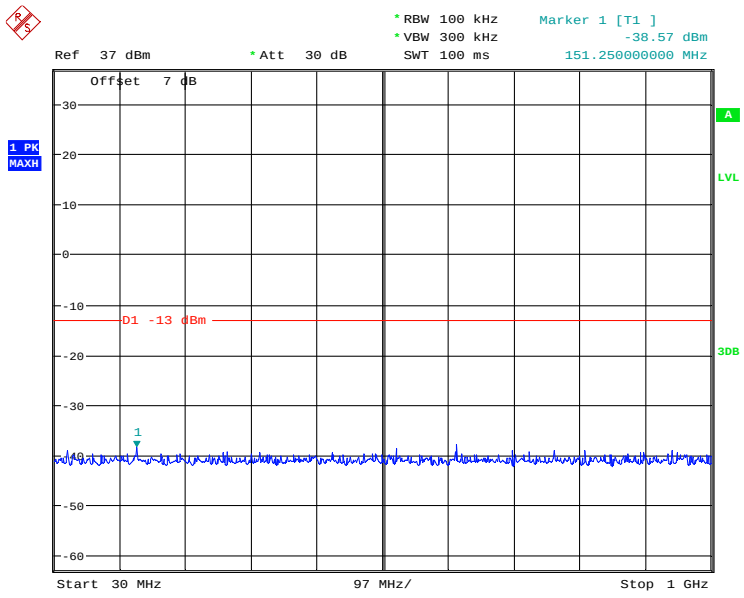
1 GHz – 2 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:45:28

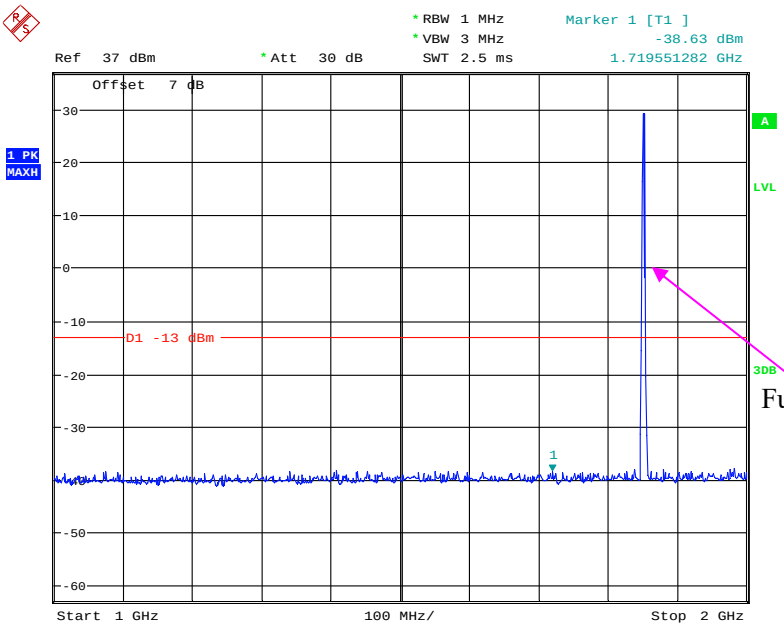
PCS Band (Part 24E)
Low Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 29.JUN.2021 21:49:33

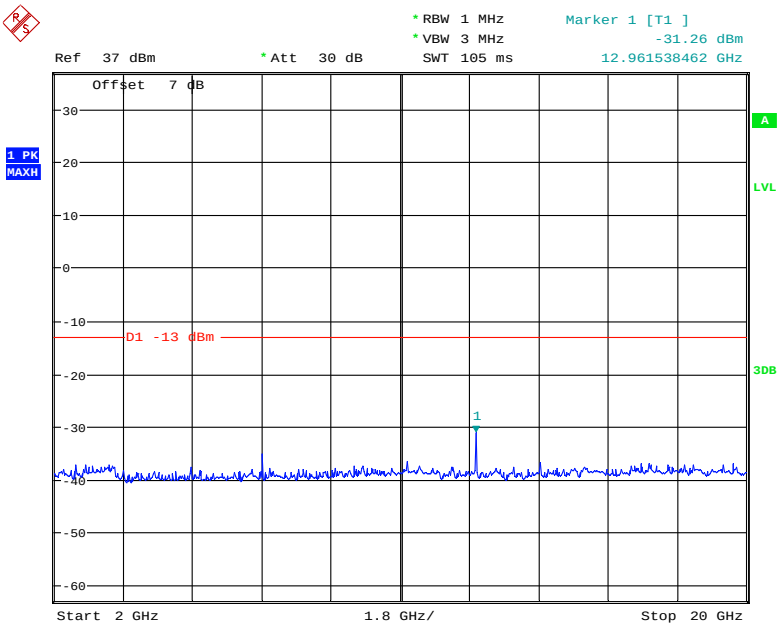
1 GHz – 2 GHz (GSM Mode)



Fundamental test

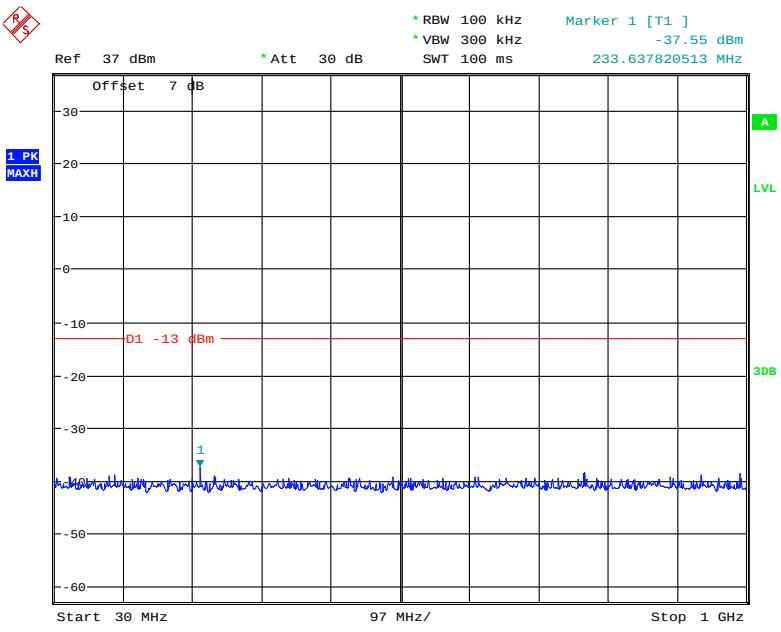
Date: 29.JUN.2021 21:52:48

2 GHz – 20 GHz (GSM Mode)



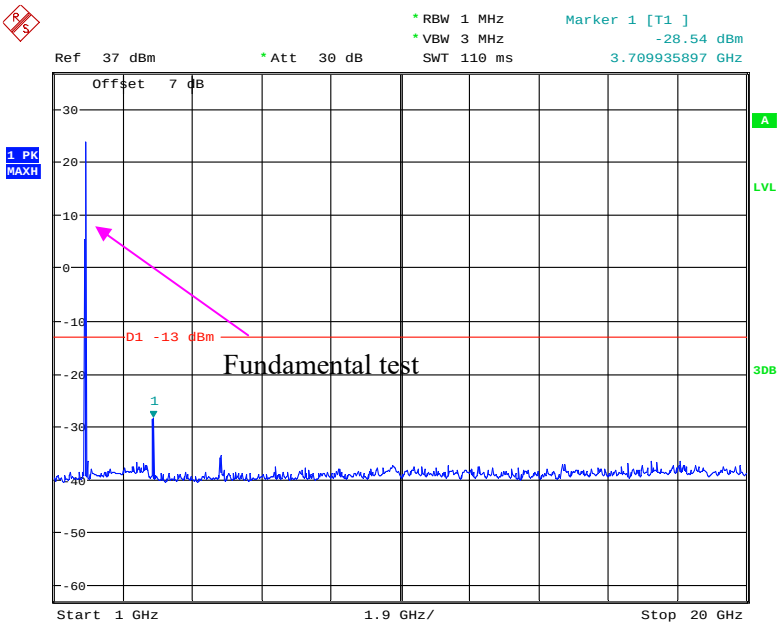
Date: 29.JUN.2021 21:54:33

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:40:45

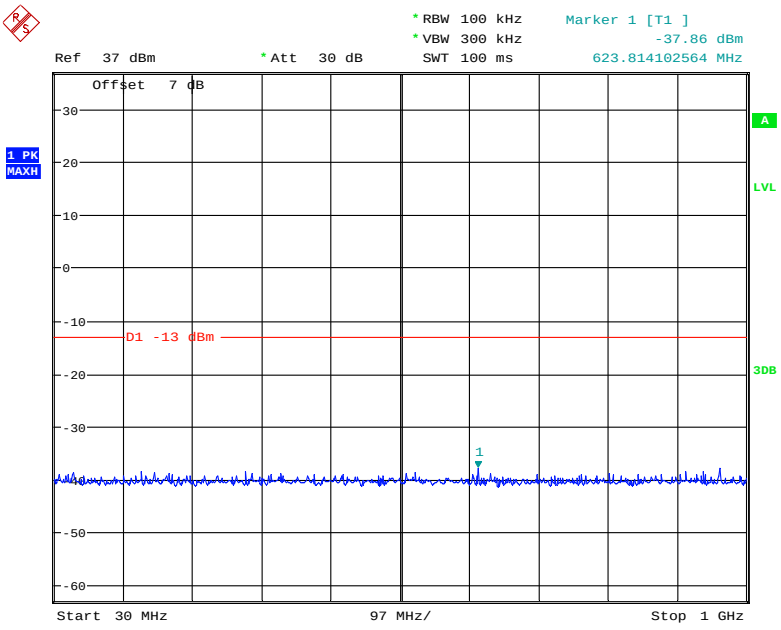
1 GHz – 20 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:49:17

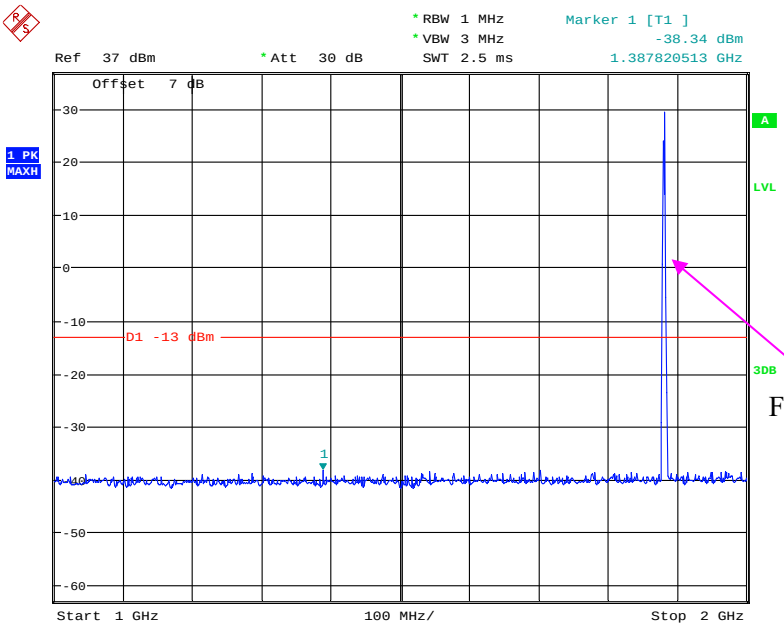
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 29.JUN.2021 21:50:04

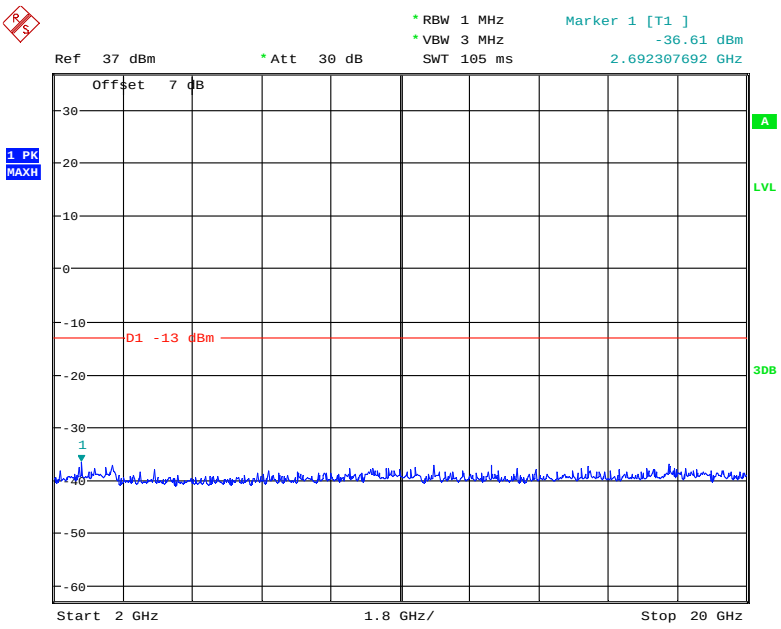
1 GHz – 2 GHz (GSM Mode)



Fundamental test

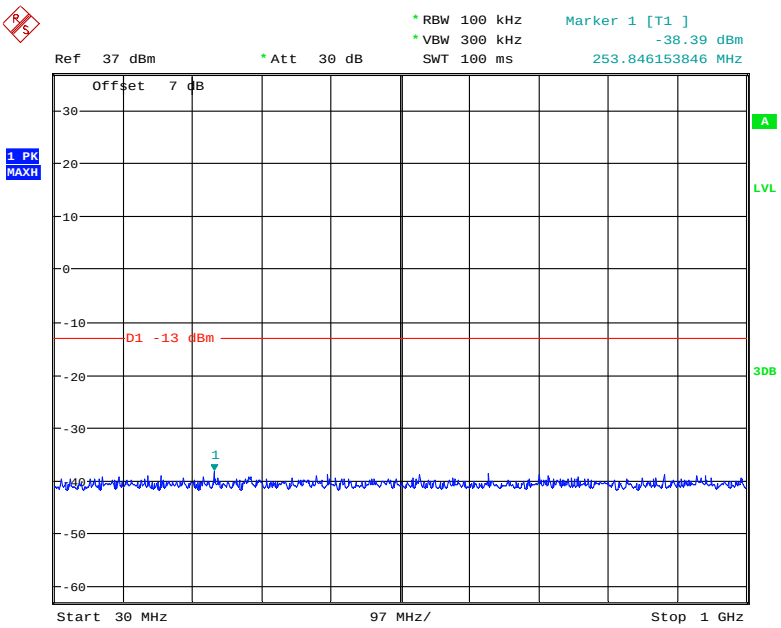
Date: 29.JUN.2021 21:51:46

2 GHz – 20 GHz (GSM Mode)



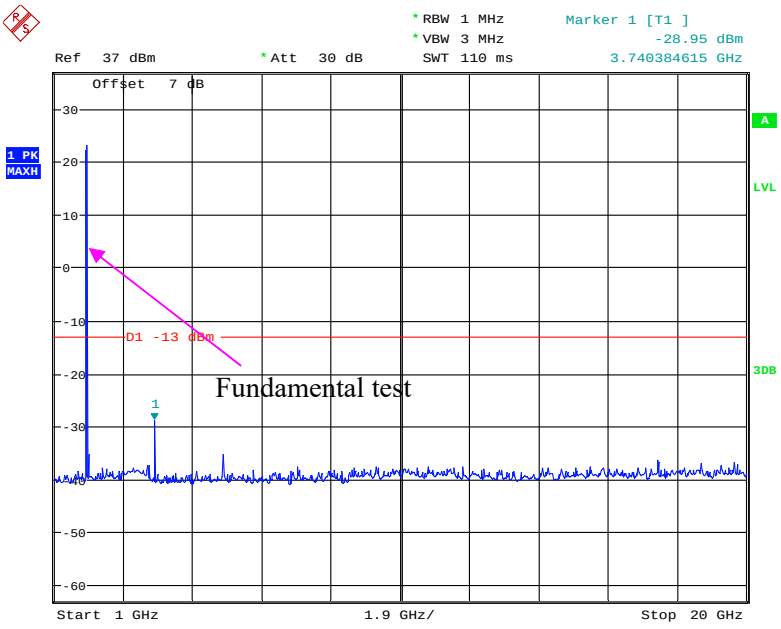
Date: 29.JUN.2021 21:55:06

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:41:25

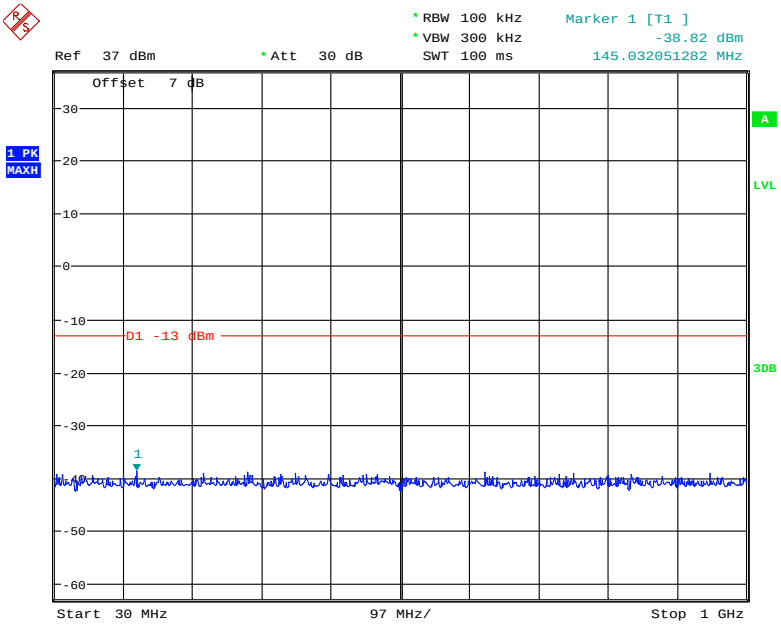
1 GHz – 20 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:49:40

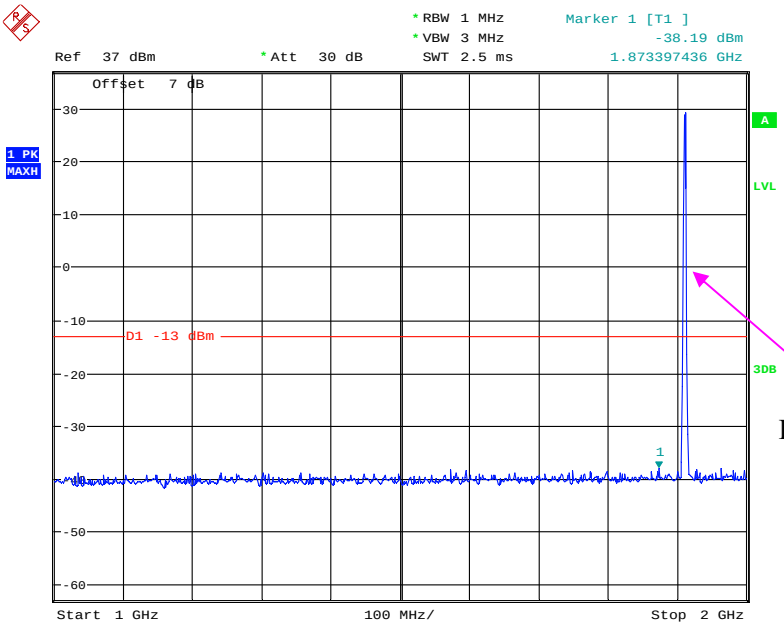
High Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 29.JUN.2021 21:50:28

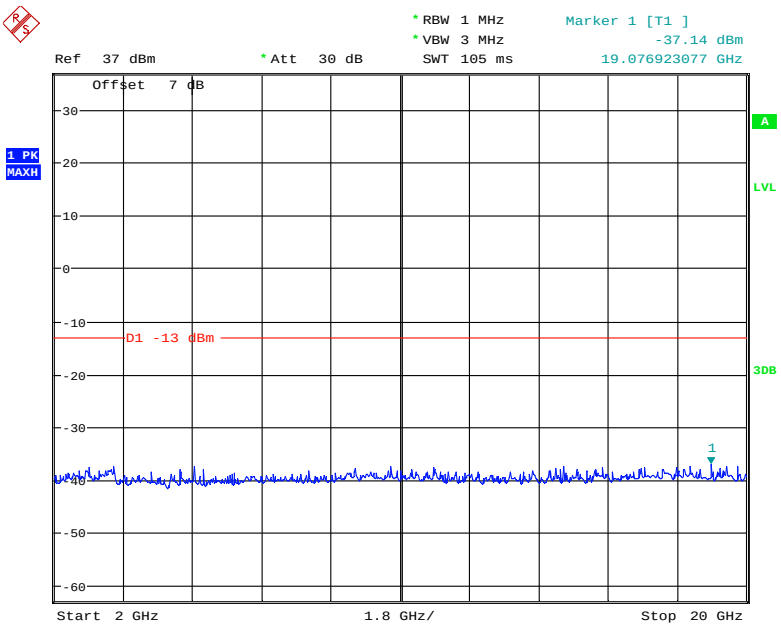
1 GHz – 2 GHz (GSM Mode)



Fundamental test

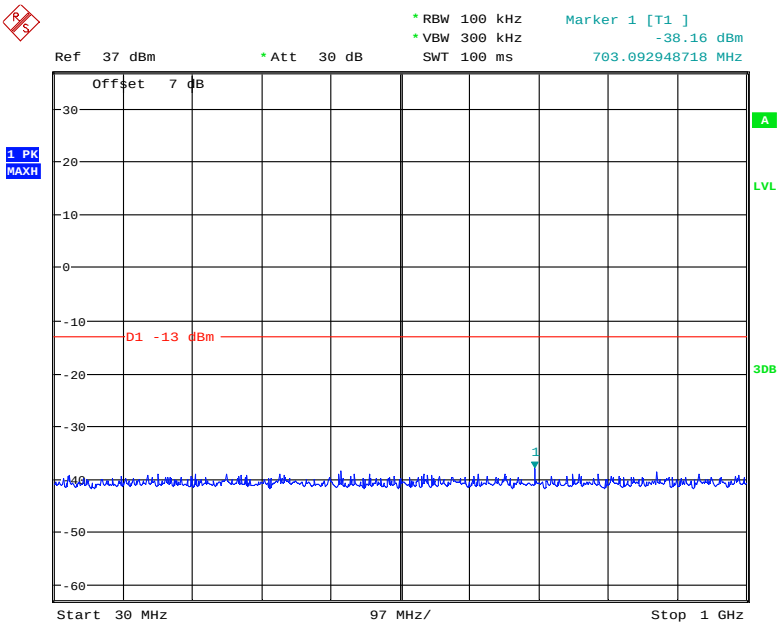
Date: 29.JUN.2021 21:51:08

2 GHz – 20 GHz (GSM Mode)



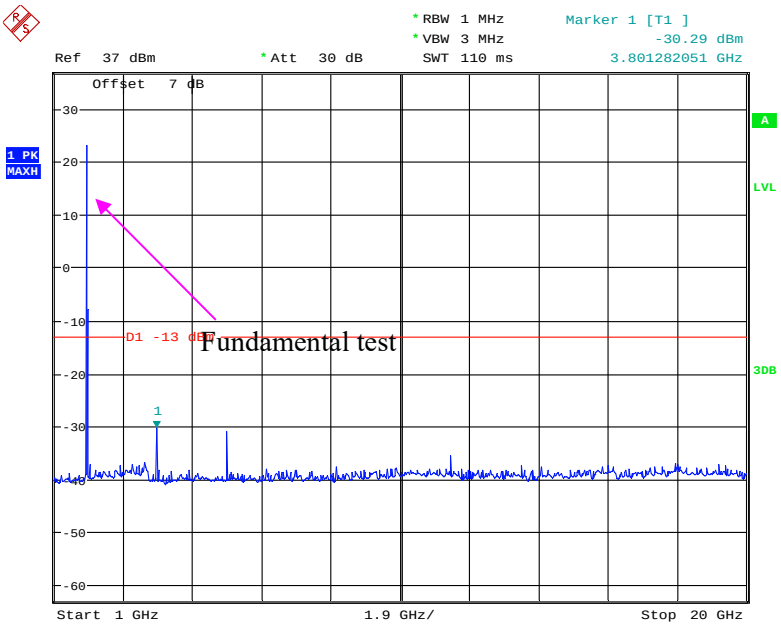
Date: 29.JUN.2021 21:55:59

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:41:50

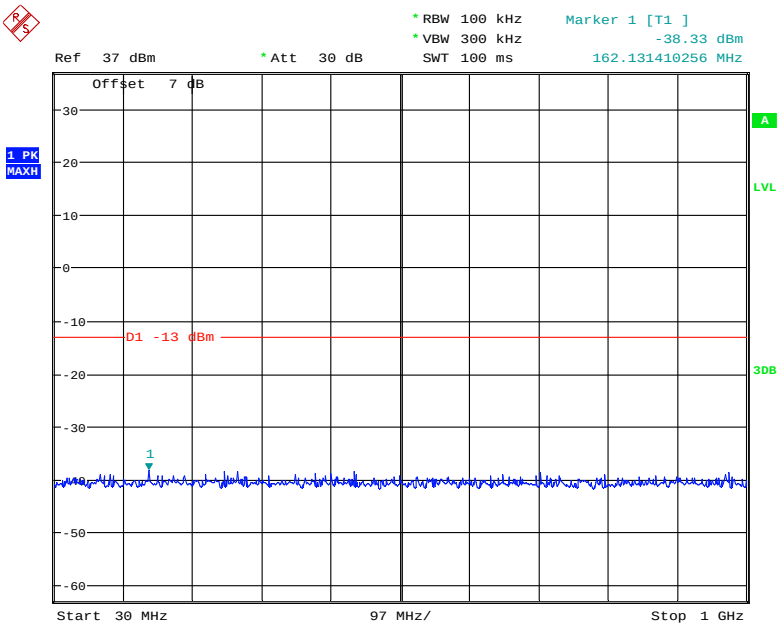
1 GHz – 20 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:50:01

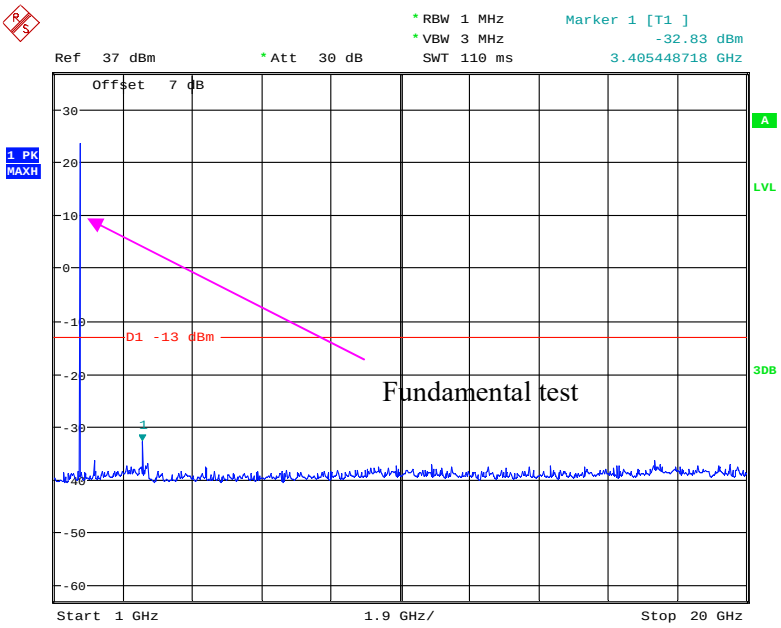
AWS Band (Part 27)
Low Channel:

30 MHz – 1 GHz (WCDMA Mode)



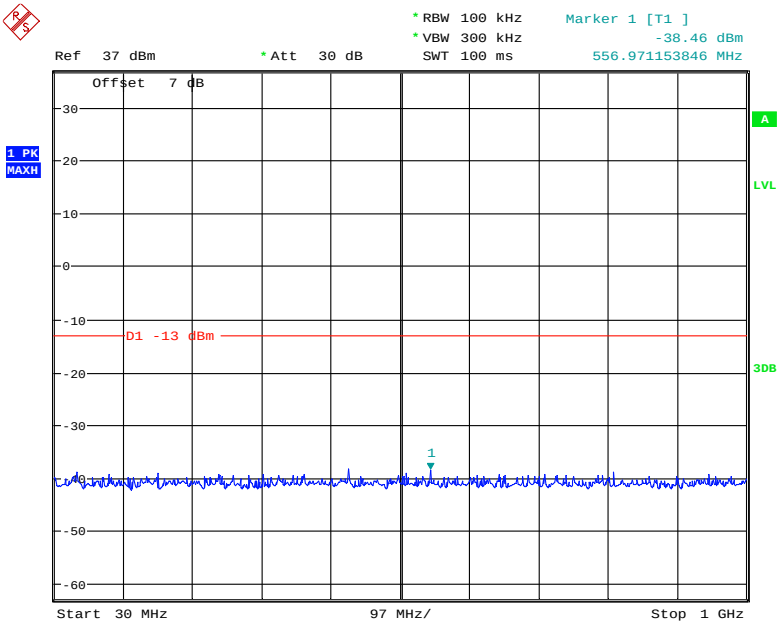
Date: 29.JUN.2021 22:42:30

1 GHz – 20 GHz (WCDMA Mode)



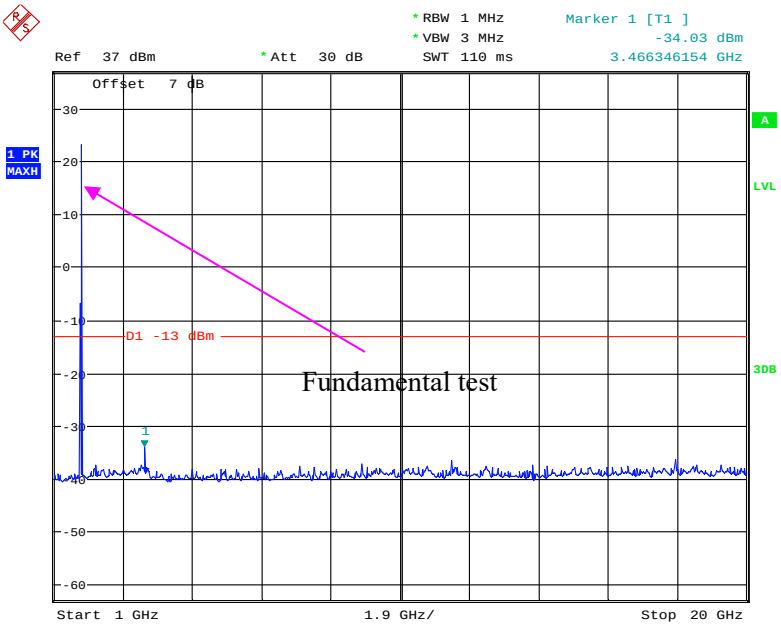
Middle Channel

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:42:50

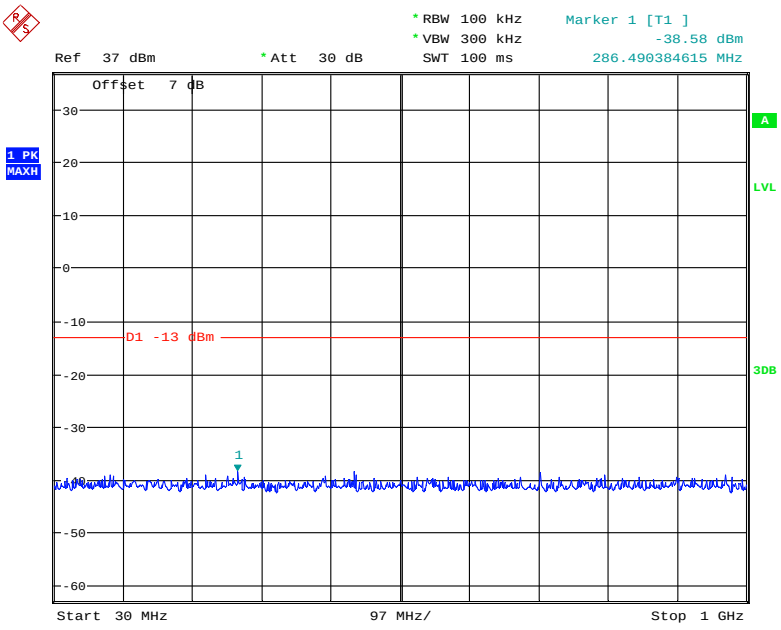
1 GHz – 20 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:48:28

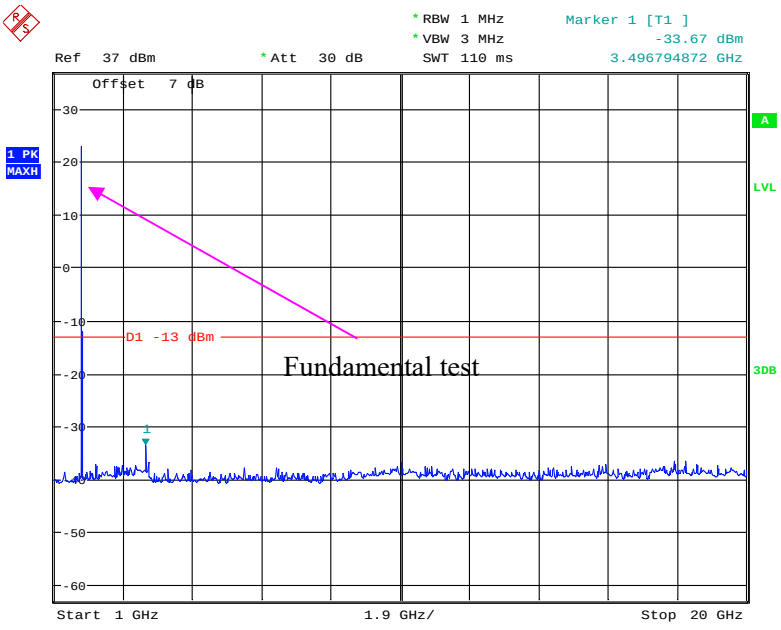
High Channel:

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:42:20

1 GHz – 20 GHz (WCDMA Mode)



Date: 29.JUN.2021 22:48:49

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:	26.1~ 27 ℃
Relative Humidity:	51~ 57 %
ATM Pressure:	101.0~101.2 kPa

The testing was performed by Cloud Qiu 2021-06-26 for below 1GHz and Bruce Lin on 2021-06-29 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										
965.3	31.36	54	1.4	H	-65.1	1.36	0.0	-66.46	-13	53.46
965.3	32.62	327	2.2	V	-61.4	1.36	0.0	-62.76	-13	49.76
1648.40	47.14	241	1.8	H	-60.9	1.40	8.70	-53.60	-13	40.60
1648.40	47.49	103	2.4	V	-60.4	1.40	8.70	-53.10	-13	40.10
Middle channel										
960.6	31.49	38	2.5	H	-65.0	1.36	0.0	-66.36	-13	53.36
960.6	32.68	332	1.9	V	-61.4	1.36	0.0	-62.76	-13	49.76
1673.20	46.58	246	1.6	H	-59.8	1.30	8.90	-52.20	-13	39.20
1673.20	46.37	95	2.4	V	-59.4	1.30	8.90	-51.80	-13	38.80
High Channel										
965.8	31.43	68	1.9	H	-65.1	1.36	0.0	-66.46	-13	53.46
965.8	32.67	267	2.3	V	-61.4	1.36	0.0	-62.76	-13	49.76
1697.60	46.25	51	1.3	H	-60.1	1.30	8.90	-52.50	-13	39.50
1697.60	46.14	211	2.2	V	-59.6	1.30	8.90	-52.00	-13	39.00

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)
WCDMA Mode										
Low channel										
962.6	31.48	250	1.5	H	-65.0	1.36	0.0	-66.36	-13	53.36
962.6	32.56	83	2.4	V	-61.5	1.36	0.0	-62.86	-13	49.86
1652.80	51.25	351	1.2	H	-55.1	1.30	8.90	-47.50	-13	34.50
1652.80	48.28	55	1.1	V	-57.5	1.30	8.90	-49.90	-13	36.90
Middle channel										
961.9	31.35	30	1.9	H	-65.2	1.36	0.0	-66.56	-13	53.56
961.9	32.63	257	1.1	V	-61.4	1.36	0.0	-62.76	-13	49.76
1673.20	49.25	86	1.9	H	-57.1	1.30	8.90	-49.50	-13	36.50
1673.20	48.67	104	1.8	V	-57.1	1.30	8.90	-49.50	-13	36.50
High channel										
963.8	31.43	35	1.8	H	-65.1	1.36	0.0	-66.46	-13	53.46
963.8	32.68	231	2.0	V	-61.4	1.36	0.0	-62.76	-13	49.76
1693.20	48.56	234	2.4	H	-57.8	1.30	8.90	-50.20	-13	37.20
1693.20	47.58	40	1.2	V	-58.2	1.30	8.90	-50.60	-13	37.60

30 MHz ~ 20 GHz:

PCS Band (Part 24E)

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 24E	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
PCS 1900 Mode										
Low channel										
962.1	31.51	302	1.5	H	-65.0	1.36	0.0	-66.36	-13	53.36
962.1	32.64	33	2.3	V	-61.4	1.36	0.0	-62.76	-13	49.76
3700.40	44.59	157	2.0	H	-57.2	1.60	11.90	-46.90	-13	33.90
3700.40	44.37	221	2.2	V	-56.9	1.60	11.90	-46.60	-13	33.60
Middle channel										
963.2	31.55	141	2.1	H	-65.0	1.36	0.0	-66.36	-13	53.36
963.2	32.71	70	2.1	V	-61.3	1.36	0.0	-62.66	-13	49.66
3760.00	44.51	338	2.4	H	-57.5	1.50	11.80	-47.20	-13	34.20
3760.00	44.33	331	1.5	V	-57.3	1.50	11.80	-47.00	-13	34.00
High channel										
962.5	31.53	193	2.2	H	-65.0	1.36	0.0	-66.36	-13	53.36
962.5	32.74	126	1.7	V	-61.3	1.36	0.0	-62.66	-13	49.66
3819.6	44.96	6	1.2	H	-57.1	1.50	11.80	-46.80	-13	33.80
3819.6	44.54	276	1.1	V	-57.0	1.50	11.80	-46.70	-13	33.70
WCDMA Mode										
Low channel										
956.2	31.36	54	1.3	H	-65.1	1.36	0.0	-66.46	-13	53.46
956.2	32.63	22	1.6	V	-61.4	1.36	0.0	-62.76	-13	49.76
3704.80	44.56	284	1.4	H	-57.2	1.60	11.90	-46.90	-13	33.90
3704.80	44.25	139	1.0	V	-57.0	1.60	11.90	-46.70	-13	33.70
Middle channel										
956.7	31.52	94	2.3	H	-65.0	1.36	0.0	-66.36	-13	53.36
956.7	32.69	11	2.1	V	-61.4	1.36	0.0	-62.76	-13	49.76
3760.00	44.68	232	1.7	H	-57.4	1.50	11.80	-47.10	-13	34.10
3760.00	44.35	233	2.0	V	-57.2	1.50	11.80	-46.90	-13	33.90
High channel										
963.1	31.45	358	2.2	H	-65.1	1.36	0.0	-66.46	-13	53.46
963.1	32.77	208	2.3	V	-61.3	1.36	0.0	-62.66	-13	49.66
3815.20	44.87	205	1.9	H	-57.2	1.50	11.80	-46.90	-13	33.90
3815.20	44.65	341	1.2	V	-56.9	1.50	11.80	-46.60	-13	33.60

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	31.59	37	1.8	H	-64.9	1.36	0.0	-66.26	-13	53.26
962.3	32.72	232	1.9	V	-61.3	1.36	0.0	-62.66	-13	49.66
3424.80	44.56	62	2.2	H	-56.2	1.40	11.80	-45.80	-13	32.80
3424.80	44.27	275	2.1	V	-56.3	1.40	11.80	-45.90	-13	32.90
Middle channel										
965.6	31.33	124	1.7	H	-65.2	1.36	0.0	-66.56	-13	53.56
965.6	32.57	11	1.4	V	-61.5	1.36	0.0	-62.86	-13	49.86
3465.20	44.15	176	1.8	H	-56.6	1.50	12.00	-46.10	-13	33.10
3465.20	44.58	101	1.9	V	-56.9	1.50	12.00	-46.40	-13	33.40
High channel										
967.8	31.37	203	2.4	H	-65.1	1.36	0.0	-66.46	-13	53.46
967.8	32.51	322	2.4	V	-61.5	1.36	0.0	-62.86	-13	49.86
3505.20	44.75	43	1.3	H	-56.0	1.50	12.00	-45.50	-13	32.50
3505.20	44.38	329	1.8	V	-57.1	1.50	12.00	-46.60	-13	33.60

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										
Test frequency range: 30 MHz ~ 20 GHz										
1.4MHz, Low channel										
951.6	31.32	307	1.8	H	-65.2	1.36	0.0	-66.56	-13	53.56
951.6	32.39	293	2.3	V	-61.7	1.36	0.0	-63.06	-13	50.06
3701.40	49.14	92	2.0	H	-52.7	1.60	11.90	-42.40	-13	29.40
3701.40	46.64	139	2.1	V	-54.6	1.60	11.90	-44.30	-13	31.30
5552.10	52.46	170	1.1	H	-47.2	1.70	12.40	-36.50	-13	23.50
5552.10	52.40	345	1.1	V	-46.9	1.70	12.40	-36.20	-13	23.20
7402.80	52.14	85	2.2	H	-44.3	2.10	10.60	-35.80	-13	22.80
7402.80	51.92	286	2.2	V	-45.0	2.10	10.60	-36.50	-13	23.50
1.4 MHz, Middle channel										
957.3	31.39	22	1.2	H	-65.1	1.36	0.0	-66.46	-13	53.46
957.3	32.49	245	1.5	V	-61.6	1.36	0.0	-62.96	-13	49.96
3760.00	52.63	169	2.0	H	-49.4	1.50	11.80	-39.10	-13	26.10
3760.00	50.77	360	2.5	V	-50.8	1.50	11.80	-40.50	-13	27.50
5640.00	51.58	127	2.2	H	-48.1	1.70	12.40	-37.40	-13	24.40
5640.00	48.75	66	1.0	V	-50.6	1.70	12.40	-39.90	-13	26.90
7520.00	54.32	290	1.6	H	-41.6	1.90	10.70	-32.80	-13	19.80
7520.00	51.94	98	1.3	V	-43.6	1.90	10.70	-34.80	-13	21.80
1.4MHz, High channel										
959.4	31.63	53	1.6	H	-64.9	1.36	0.0	-66.26	-13	53.26
959.4	32.84	160	1.6	V	-61.2	1.36	0.0	-62.56	-13	49.56
3818.60	53.41	299	1.4	H	-48.6	1.50	11.80	-38.30	-13	25.30
3818.60	52.15	77	2.2	V	-49.4	1.50	11.80	-39.10	-13	26.10
5727.90	53.33	271	1.2	H	-46.5	1.60	12.10	-36.00	-13	23.00
5727.90	50.14	322	1.1	V	-49.1	1.60	12.10	-38.60	-13	25.60
7637.20	53.43	185	1.7	H	-44.1	2.10	10.50	-35.70	-13	22.70
7637.20	51.65	18	1.8	V	-45.6	2.10	10.50	-37.20	-13	24.20

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 4										
Test frequency range:30 MHz ~ 20 GHz										
1.4 MHz, Low channel										
965.6	31.55	291	1.3	H	-65.0	1.36	0.0	-66.36	-13	53.36
965.6	32.81	24	2.5	V	-61.2	1.36	0.0	-62.56	-13	49.56
3421.40	50.20	229	1.5	H	-50.6	1.40	11.80	-40.20	-13	27.20
3421.40	46.25	312	1.3	V	-54.4	1.40	11.80	-44.00	-13	31.00
5132.10	49.08	310	1.3	H	-50.9	1.60	12.10	-40.40	-13	27.40
5132.10	55.10	318	2.3	V	-44.9	1.60	12.10	-34.40	-13	21.40
6842.80	45.38	119	2.1	H	-53.3	1.80	11.20	-43.90	-13	30.90
6842.80	48.36	160	1.8	V	-50.8	1.80	11.20	-41.40	-13	28.40
1.4MHz, Middle channel										
965.9	31.65	164	2.4	H	-64.9	1.36	0.0	-66.26	-13	53.26
965.9	32.73	60	1.5	V	-61.3	1.36	0.0	-62.66	-13	49.66
3465.00	49.46	309	1.8	H	-51.3	1.50	12.00	-40.80	-13	27.80
3465.00	45.15	118	1.0	V	-56.4	1.50	12.00	-45.90	-13	32.90
5197.50	51.46	21	1.7	H	-48.6	1.60	12.10	-38.10	-13	25.10
5197.50	55.05	88	1.0	V	-44.6	1.60	12.10	-34.10	-13	21.10
6930.00	45.27	225	2.0	H	-53.1	1.80	11.30	-43.60	-13	30.60
6930.00	46.38	93	1.4	V	-52.1	1.80	11.30	-42.60	-13	29.60
1.4MHz, High channel										
964.4	31.59	249	2.4	H	-64.9	1.36	0.0	-66.26	-13	53.26
964.4	32.61	76	1.0	V	-61.4	1.36	0.0	-62.76	-13	49.76
3508.60	48.93	95	2.2	H	-51.8	1.50	12.00	-41.30	-13	28.30
3508.60	45.71	155	2.0	V	-55.8	1.50	12.00	-45.30	-13	32.30
5262.90	54.20	164	1.4	H	-45.5	1.60	12.20	-34.90	-13	21.90
5262.90	52.25	329	2.4	V	-46.9	1.60	12.20	-36.30	-13	23.30
7017.20	47.23	51	2.1	H	-51.6	1.90	11.20	-42.30	-13	29.30
7017.20	46.80	239	1.9	V	-52.2	1.90	11.20	-42.90	-13	29.90

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										
Test frequency range:30 MHz ~ 10 GHz										
1.4MHz, Low channel										
953.2	31.61	190	2.1	H	-64.9	1.36	0.0	-66.26	-13	53.26
953.2	32.66	302	2.1	V	-61.4	1.36	0.0	-62.76	-13	49.76
1649.40	45.25	61	2.1	H	-62.8	1.40	8.70	-55.50	-13	42.50
1649.40	47.30	272	1.1	V	-60.6	1.40	8.70	-53.30	-13	40.30
2474.10	46.89	145	1.2	H	-56.5	2.60	10.20	-48.90	-13	35.90
2474.10	47.58	319	2.0	V	-55.2	2.60	10.20	-47.60	-13	34.60
1.4MHz, Middle channel										
958.6	31.43	221	1.6	H	-65.1	1.36	0.0	-66.46	-13	53.46
958.6	32.77	283	2.0	V	-61.3	1.36	0.0	-62.66	-13	49.66
1673.00	51.26	305	2.3	H	-55.1	1.30	8.90	-47.50	-13	34.50
1673.00	51.58	204	2.1	V	-54.2	1.30	8.90	-46.60	-13	33.60
2509.50	45.06	208	1.8	H	-58.3	2.60	10.20	-50.70	-13	37.70
2509.50	45.15	311	1.6	V	-57.6	2.60	10.20	-50.00	-13	37.00
1.4MHz, High channel										
959.3	31.34	262	1.5	H	-65.2	1.36	0.0	-66.56	-13	53.56
959.3	32.82	230	1.8	V	-61.2	1.36	0.0	-62.56	-13	49.56
1696.60	45.51	177	2.4	H	-60.8	1.30	8.90	-53.20	-13	40.20
1696.60	45.86	205	1.5	V	-59.9	1.30	8.90	-52.30	-13	39.30
2544.90	46.25	284	1.0	H	-57.1	2.60	10.20	-49.50	-13	36.50
2544.90	46.17	248	2.0	V	-56.6	2.60	10.20	-49.00	-13	36.00

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 7										
Test frequency range: 30 MHz ~ 26.5 GHz										
5MHz, Low channel										
956.8	31.49	190	1.6	H	-65.0	1.36	0.0	-66.36	-25	41.36
956.8	32.69	231	1.1	V	-61.4	1.36	0.0	-62.76	-25	37.76
5005.00	53.60	303	2.0	H	-47.0	1.70	12.00	-36.70	-25	11.70
5005.00	56.44	48	1.6	V	-43.6	1.70	12.00	-33.30	-25	8.30
7507.50	45.17	240	2.1	H	-50.8	1.90	10.70	-42.00	-25	17.00
7507.50	44.39	288	1.4	V	-51.1	1.90	10.70	-42.30	-25	17.30
10010.0	49.58	150	2.3	H	-46.9	2.40	10.80	-38.50	-25	13.50
10010.0	47.25	197	1.8	V	-49.4	2.40	10.80	-41.00	-25	16.00
5MHz, Middle channel										
954.7	31.38	37	2.1	H	-65.1	1.36	0.0	-66.46	-25	41.46
954.7	32.74	154	1.9	V	-61.3	1.36	0.0	-62.66	-25	37.66
5070.00	51.04	65	1.8	H	-49.0	1.60	12.10	-38.50	-25	13.50
5070.00	58.52	341	2.0	V	-41.5	1.60	12.10	-31.00	-25	6.00
7605.00	46.52	243	2.2	H	-51.0	2.10	10.50	-42.60	-25	17.60
7605.00	47.55	316	1.5	V	-49.7	2.10	10.50	-41.30	-25	16.30
10140.0	46.64	277	1.6	H	-49.8	2.40	10.80	-41.40	-25	16.40
10140.0	45.93	311	1.1	V	-50.8	2.40	10.80	-42.40	-25	17.40
5 MHz, High channel										
960.2	31.25	153	1.6	H	-65.3	1.36	0.0	-66.66	-25	41.66
960.2	32.77	98	2.0	V	-61.3	1.36	0.0	-62.66	-25	37.66
5135.00	54.43	87	1.9	H	-45.6	1.60	12.10	-35.10	-25	10.10
5135.00	58.39	195	1.6	V	-41.6	1.60	12.10	-31.10	-25	6.10
7702.50	47.51	338	1.2	H	-50.0	2.10	10.50	-41.60	-25	16.60
7702.50	46.63	182	1.3	V	-50.7	2.10	10.50	-42.30	-25	17.30
10270.0	46.91	297	2.0	H	-49.5	2.60	10.60	-41.50	-25	16.50
10270.0	45.36	170	2.4	V	-50.3	2.60	10.60	-42.30	-25	17.30

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										
Test frequency range: 30 MHz ~26.5 GHz										
5MHz, Low channel										
957.1	31.22	177	2.1	H	-65.3	1.36	0.0	-66.66	-25	41.66
957.1	32.47	218	2.1	V	-61.6	1.36	0.0	-62.96	-25	37.96
5145.00	61.71	330	1.1	H	-38.3	1.60	12.10	-27.80	-25	2.80
5145.00	61.88	272	1.4	V	-38.1	1.60	12.10	-27.60	-25	2.60
7717.50	62.82	32	1.1	H	-34.7	2.10	10.50	-26.30	-25	1.30
7717.50	59.47	73	2.4	V	-37.8	2.10	10.50	-29.40	-25	4.40
10290.0	43.58	250	2.2	H	-52.8	2.60	10.60	-44.80	-25	19.80
10290.0	43.67	49	1.5	V	-52.0	2.60	10.60	-44.00	-25	19.00
5 MHz, Middle channel										
957.6	31.26	38	1.0	H	-65.2	1.36	0.0	-66.56	-25	41.56
957.6	32.43	307	2.0	V	-61.6	1.36	0.0	-62.96	-25	37.96
5190.00	60.42	178	1.2	H	-39.7	1.60	12.10	-29.20	-25	4.20
5190.00	62.69	31	1.6	V	-36.9	1.60	12.10	-26.40	-25	1.40
7785.00	61.55	188	1.6	H	-34.7	2.00	10.50	-26.20	-25	1.20
7785.00	60.18	13	1.5	V	-36.0	2.00	10.50	-27.50	-25	2.50
10380.0	42.58	183	2.4	H	-52.9	2.60	10.50	-45.00	-25	20.00
10380.0	43.57	131	1.0	V	-52.4	2.60	10.50	-44.50	-25	19.50
5MHz, High channel										
956.6	31.24	1	1.4	H	-65.3	1.36	0.0	-66.66	-25	41.66
956.6	32.54	127	2.1	V	-61.5	1.36	0.0	-62.86	-25	37.86
5235.00	62.48	326	2.5	H	-37.6	1.60	12.10	-27.10	-25	2.10
5235.00	62.53	184	1.0	V	-37.1	1.60	12.10	-26.60	-25	1.60
7852.50	61.07	278	1.9	H	-35.2	2.00	10.50	-26.70	-25	1.70
7852.50	59.26	225	1.7	V	-36.9	2.00	10.50	-28.40	-25	3.40
10470.0	43.24	158	1.3	H	-52.2	2.60	10.50	-44.30	-25	19.30
10470.0	43.72	138	1.3	V	-52.3	2.60	10.50	-44.40	-25	19.40

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										
Test frequency range: 30 MHz ~ 26.5GHz										
5 MHz, Low channel										
952.4	31.43	287	2.1	H	-65.1	1.36	0.0	-66.46	-25	41.46
952.4	32.47	48	2.2	V	-61.6	1.36	0.0	-62.96	-25	37.96
5075.00	56.28	330	1.5	H	-43.7	1.60	12.10	-33.20	-25	8.20
5075.00	55.87	62	2.4	V	-44.1	1.60	12.10	-33.60	-25	8.60
7612.50	47.27	278	1.6	H	-50.2	2.10	10.50	-41.80	-25	16.80
7612.50	46.17	185	1.2	V	-51.1	2.10	10.50	-42.70	-25	17.70
5 MHz, Middle channel										
959.3	31.36	10	1.1	H	-65.1	1.36	0.0	-66.46	-25	41.46
959.3	32.49	275	1.1	V	-61.6	1.36	0.0	-62.96	-25	37.96
5190.00	57.98	169	1.6	H	-42.1	1.60	12.10	-31.60	-25	6.60
5190.00	58.04	86	1.5	V	-41.6	1.60	12.10	-31.10	-25	6.10
7785.00	47.54	62	2.5	H	-48.7	2.00	10.50	-40.20	-25	15.20
7785.00	46.66	156	1.1	V	-49.5	2.00	10.50	-41.00	-25	16.00
5 MHz, High channel										
960.1	31.28	191	1.6	H	-65.2	1.36	0.0	-66.56	-25	41.56
960.1	32.67	46	1.4	V	-61.4	1.36	0.0	-62.76	-25	37.76
5305.00	58.36	345	1.9	H	-41.4	1.60	12.20	-30.80	-25	5.80
5305.00	57.65	253	1.6	V	-41.5	1.60	12.20	-30.90	-25	5.90
7957.50	48.04	239	2.3	H	-50.0	2.10	10.70	-41.40	-25	16.40
7957.50	46.23	166	1.4	V	-51.7	2.10	10.70	-43.10	-25	18.10

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.

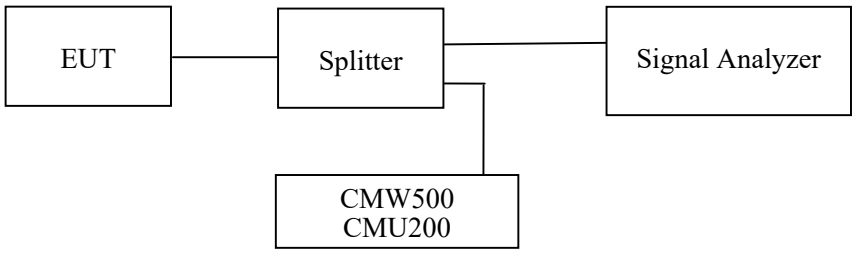
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

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:	28.8 ℃
Relative Humidity:	57 %
ATM Pressure:	101.0 kPa

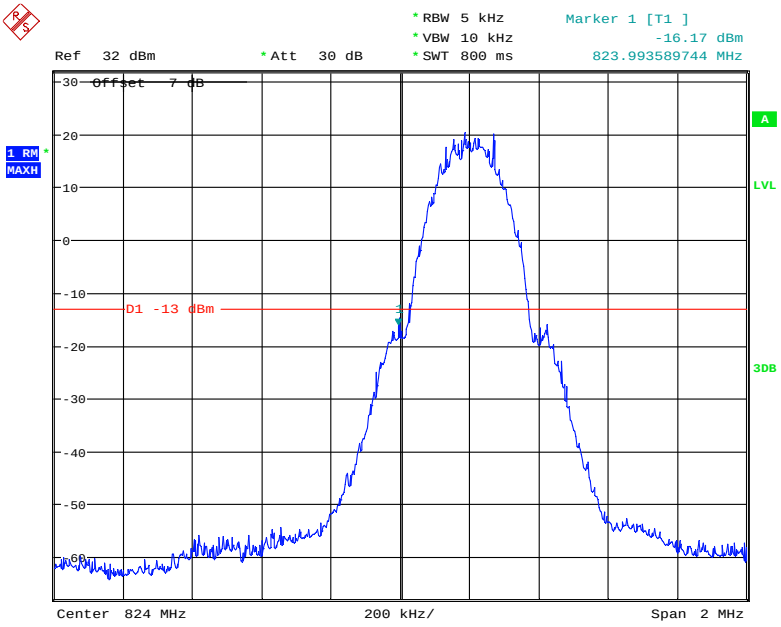
The testing was performed by Pedro Yun from 2021-06-29.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

Please refer to the following plots.

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



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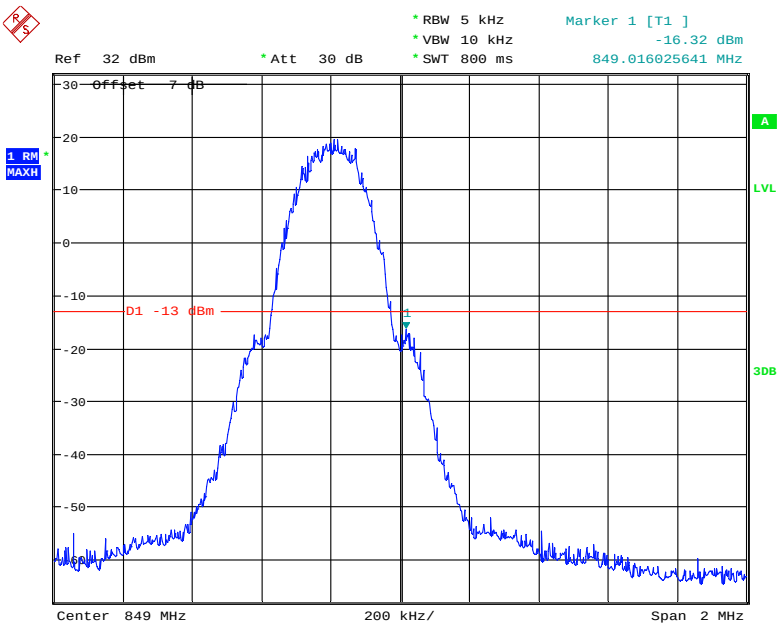
Cellular Band, Right Band Edge for GSM (GMSK) Mode



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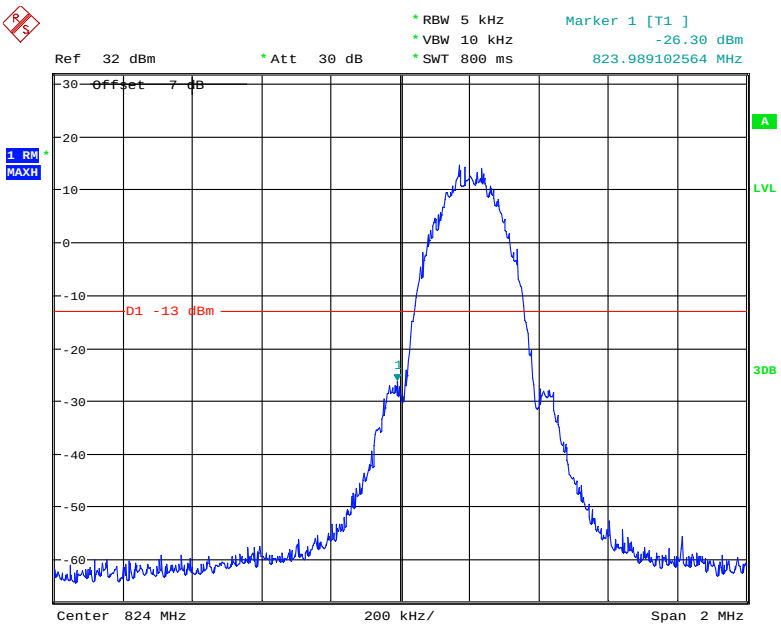
Cellular Band, Left Band Edge for EGPRS (8PSK) Mode



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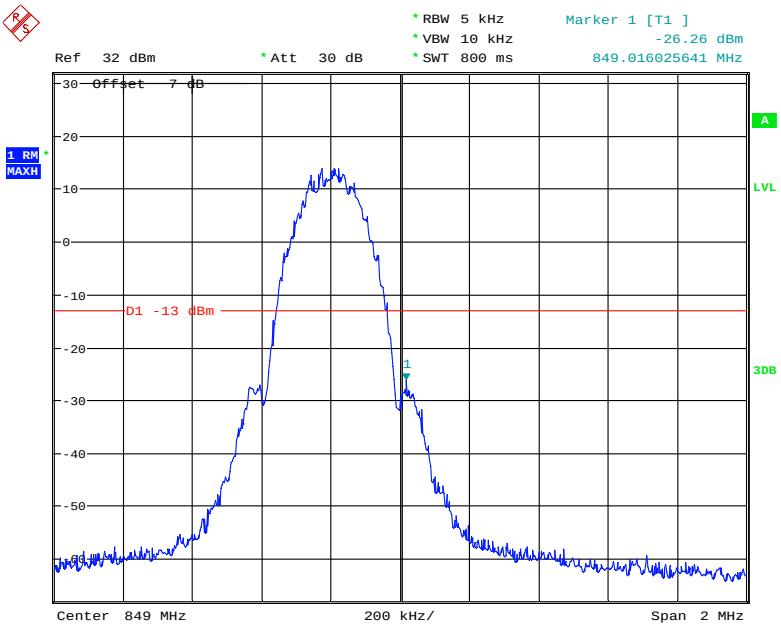
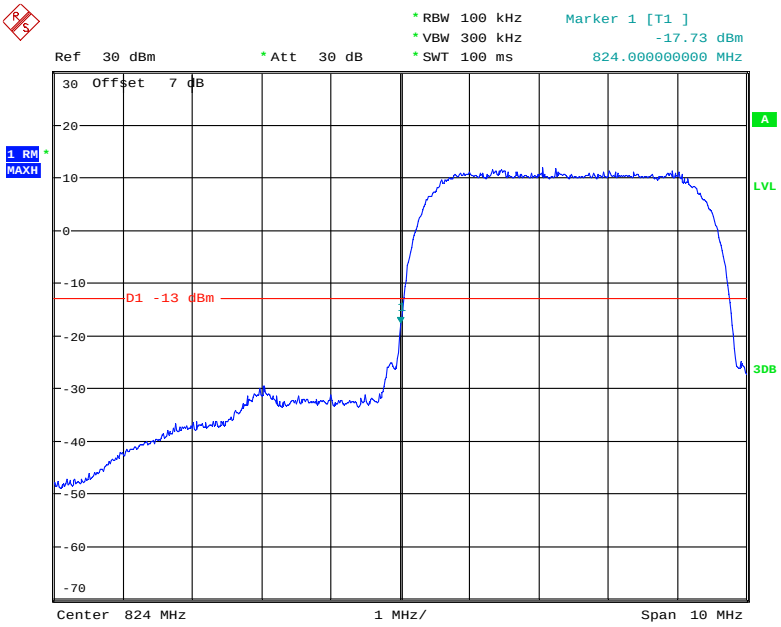
Cellular Band, Right Band Edge for EGPRS (8PSK) Mode



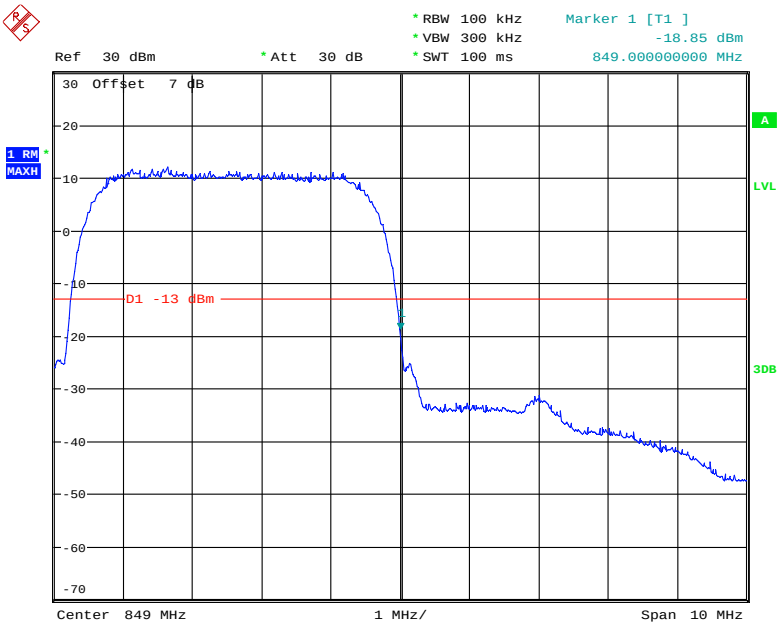
Date: 29.JUN.2021 21:33:26

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



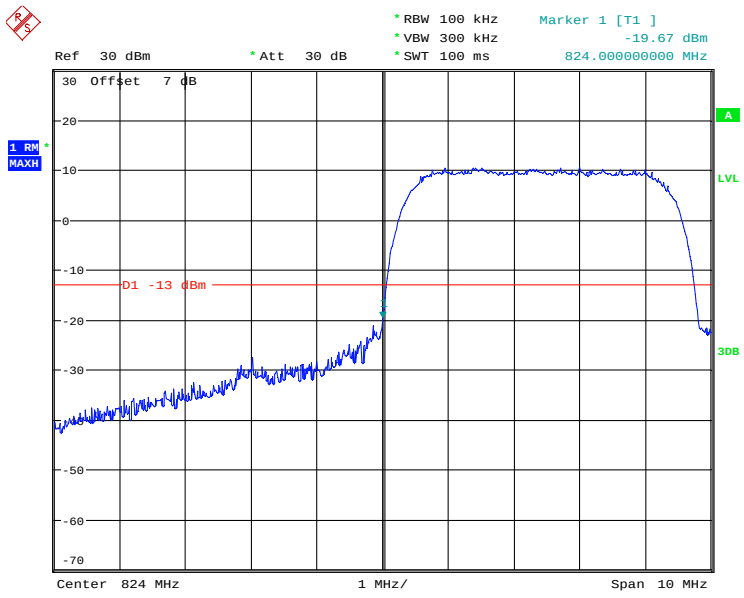
Date: 29.JUN.2021 22:22:38

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



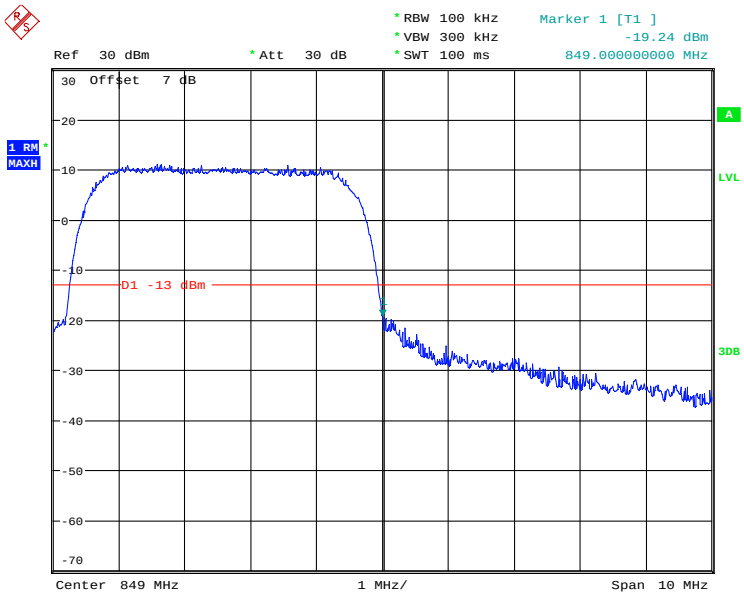
Date: 29.JUN.2021 22:23:18

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



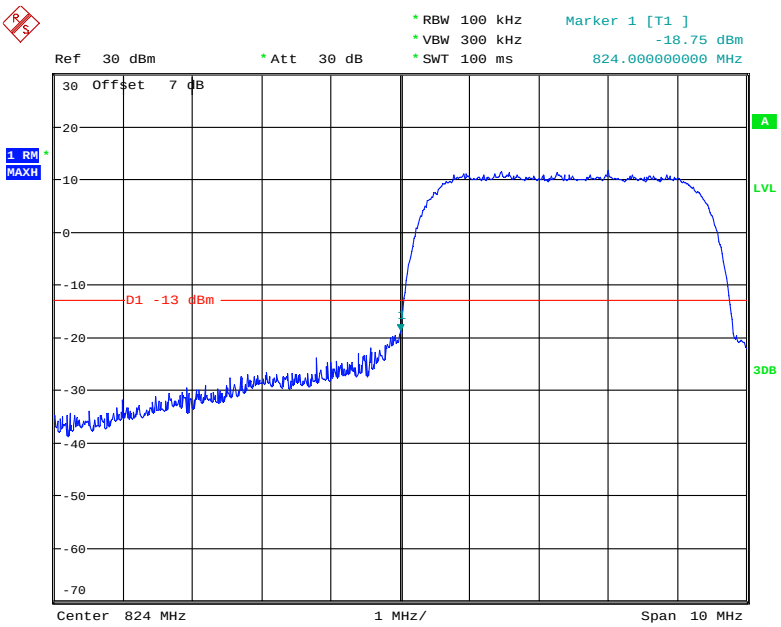
Date: 29.JUN.2021 23:45:05

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



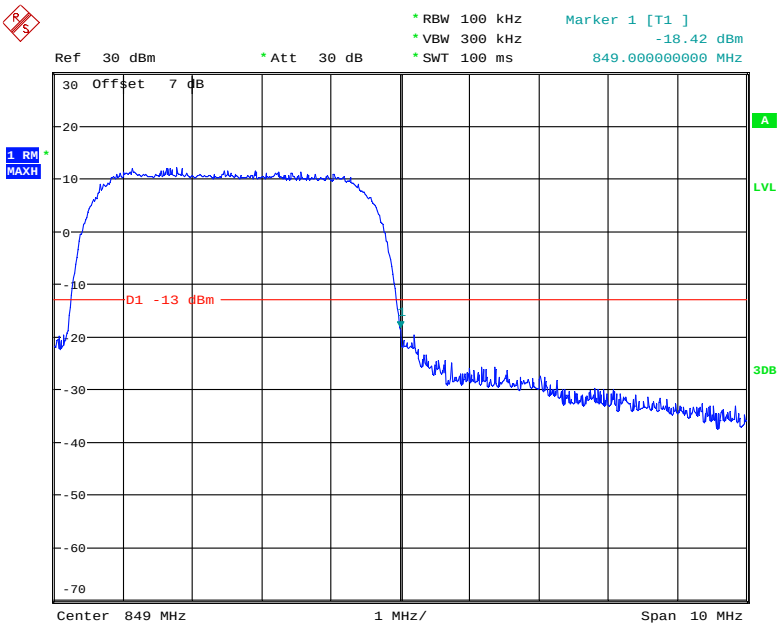
Date: 29.JUN.2021 23:45:58

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



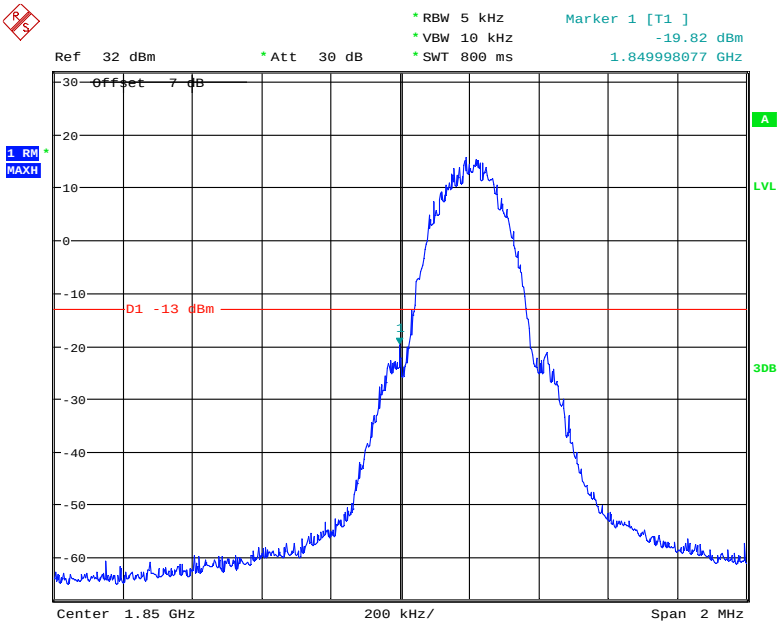
Date: 29.JUN.2021 23:43:56

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



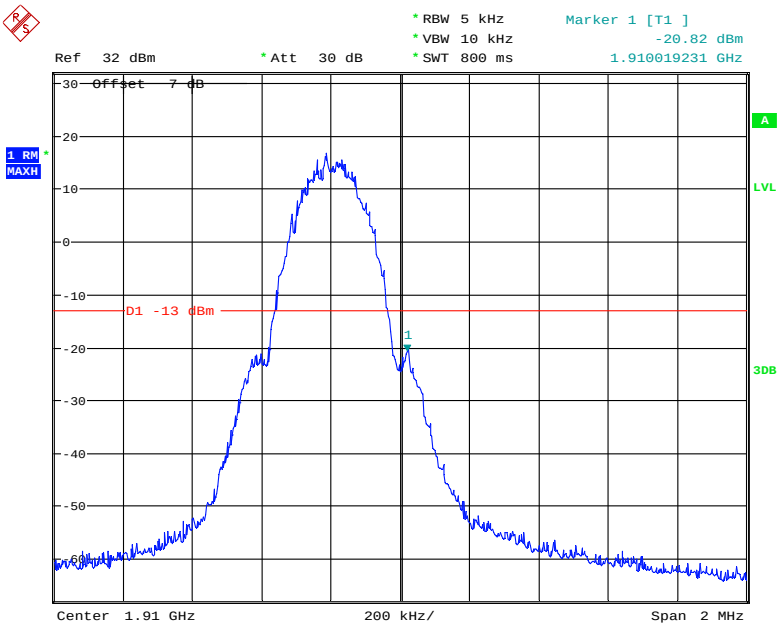
Date: 29.JUN.2021 23:43:00

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



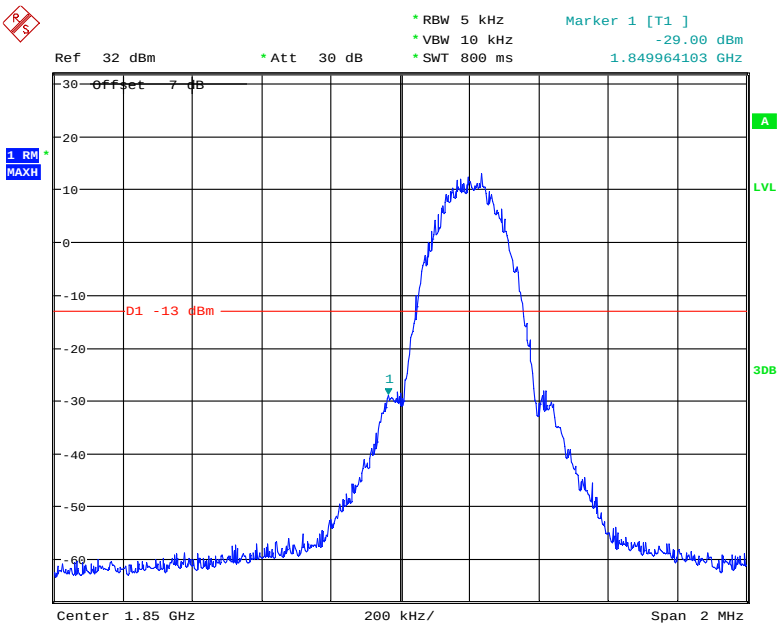
Date: 29.JUN.2021 21:40:13

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



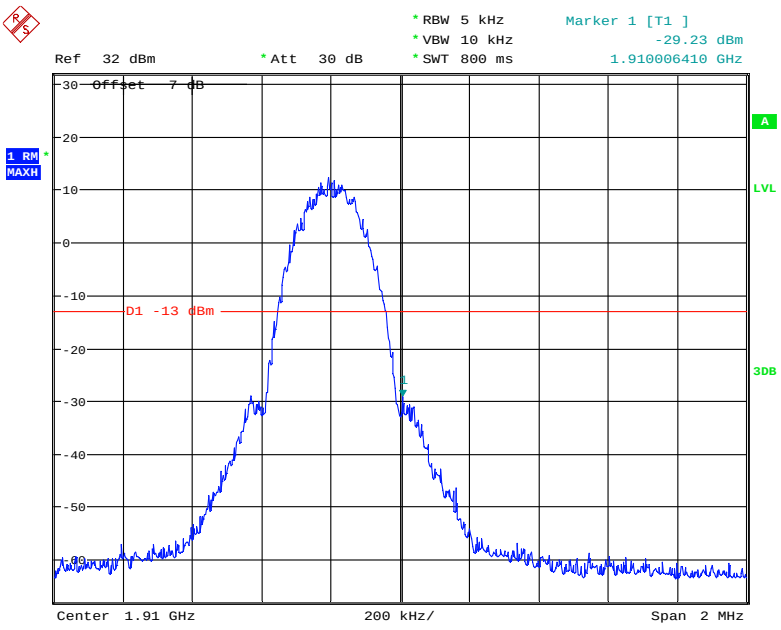
Date: 29.JUN.2021 21:41:47

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



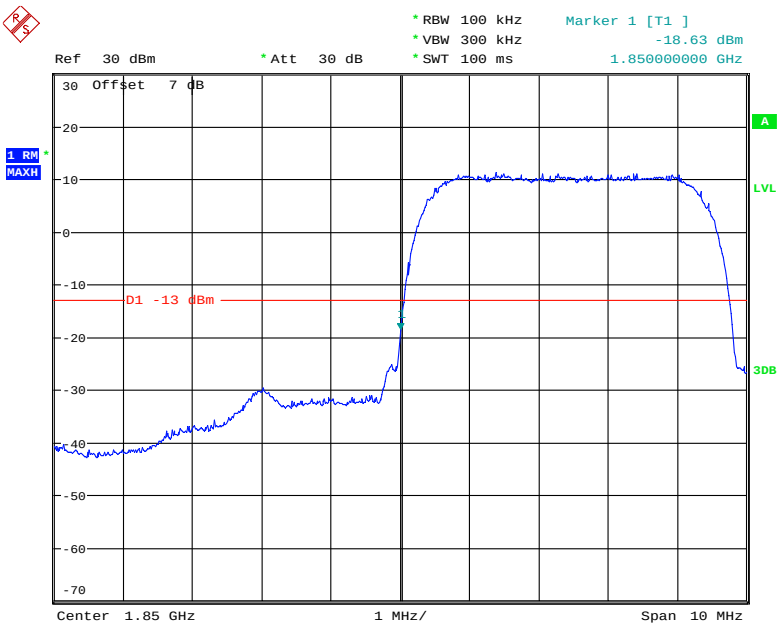
Date: 29.JUN.2021 22:08:36

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



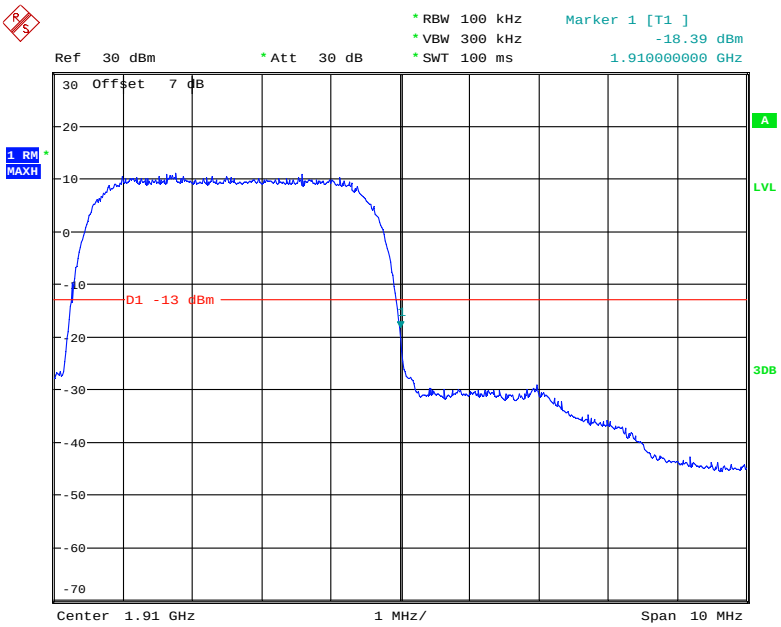
Date: 29.JUN.2021 22:07:22

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



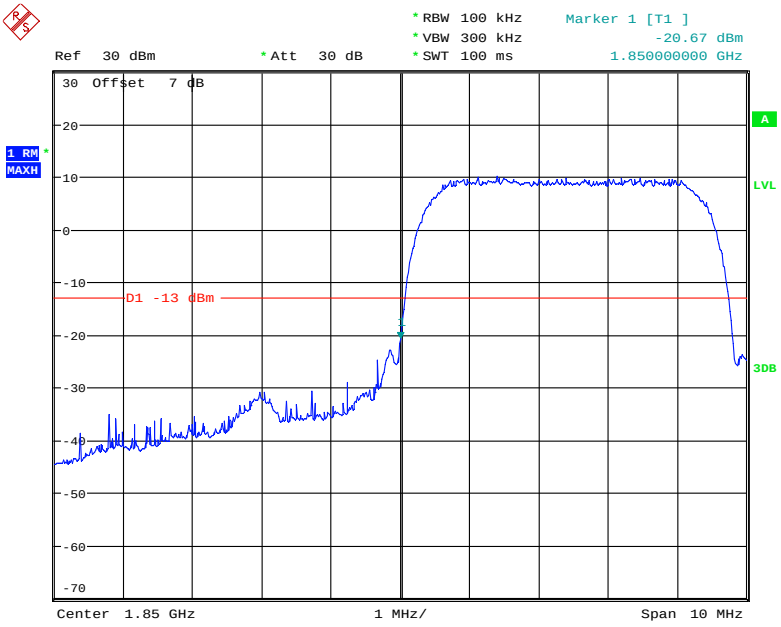
Date: 29.JUN.2021 22:18:06

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

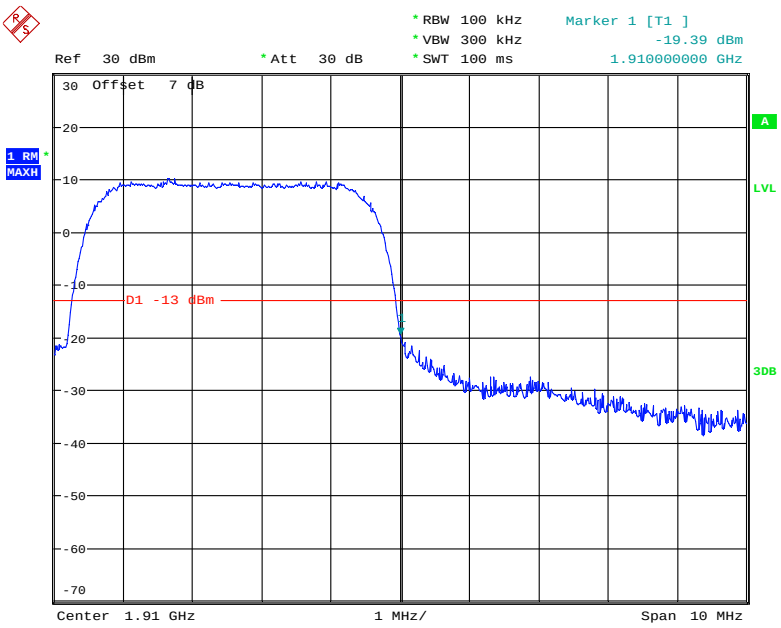


Date: 29.JUN.2021 22:20:41

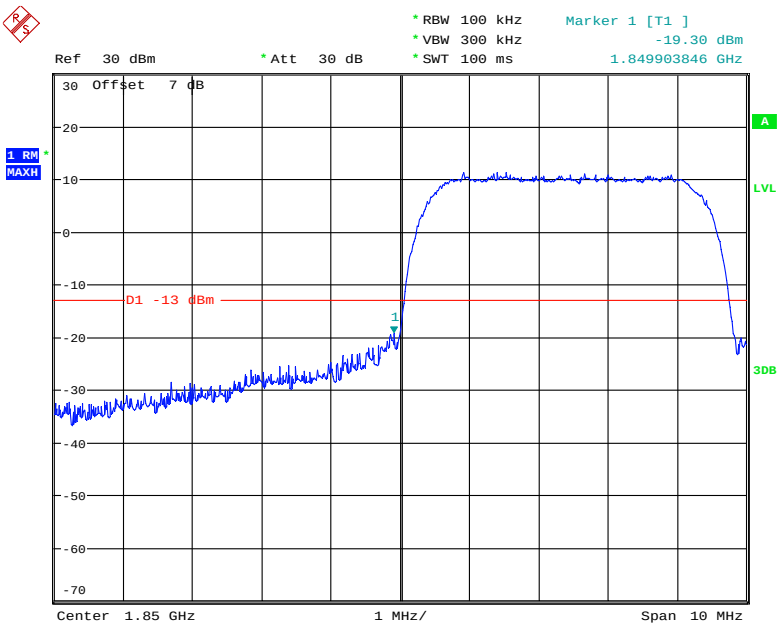
PCS Band, Left Band Edge for HSDPA (16QAM) Mode



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

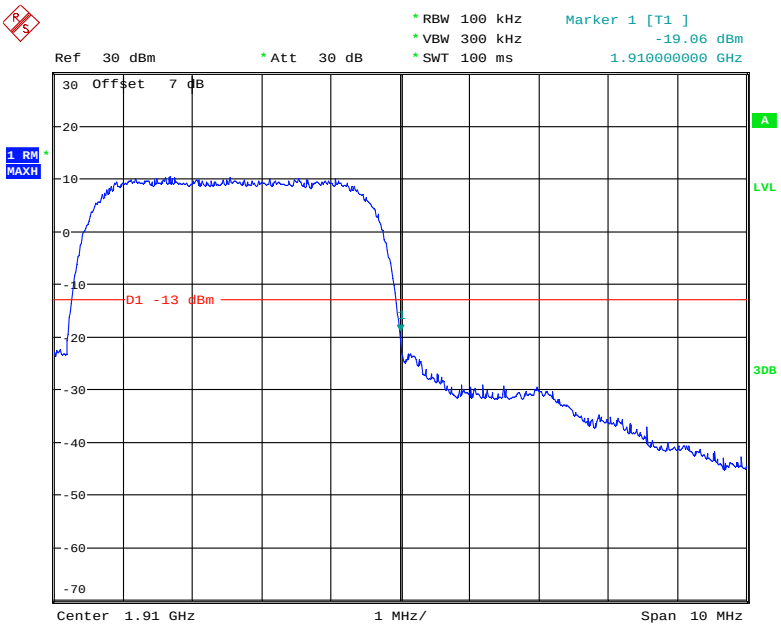


PCS Band, Left Band Edge for HSUPA (BPSK) Mode



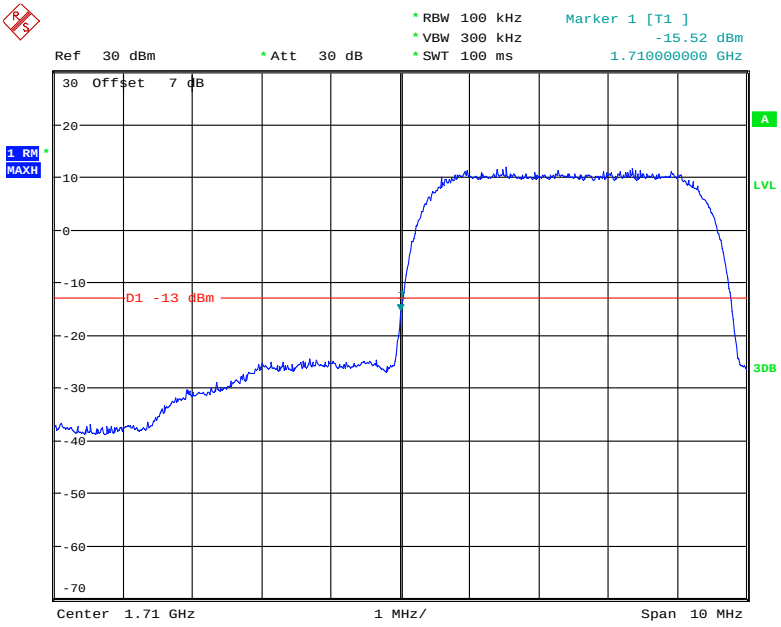
Date: 29.JUN.2021 23:39:54

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



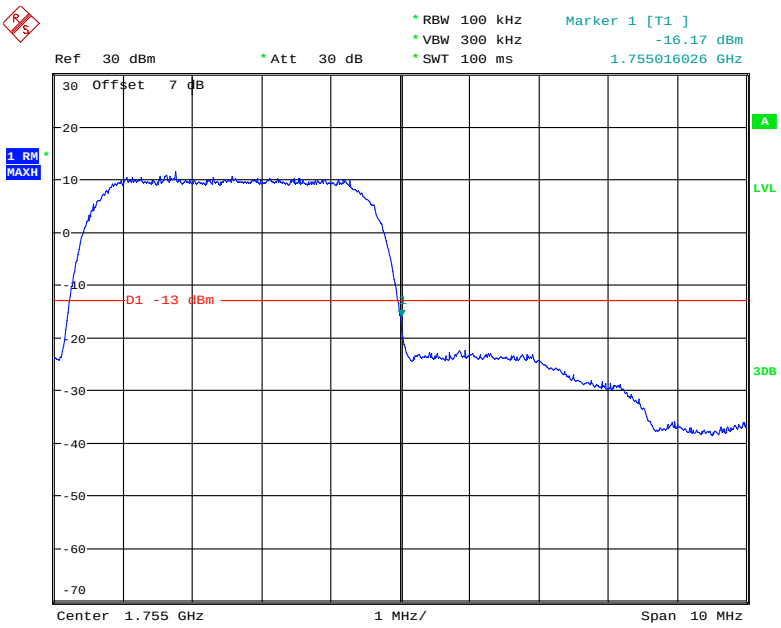
Date: 29.JUN.2021 23:40:26

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



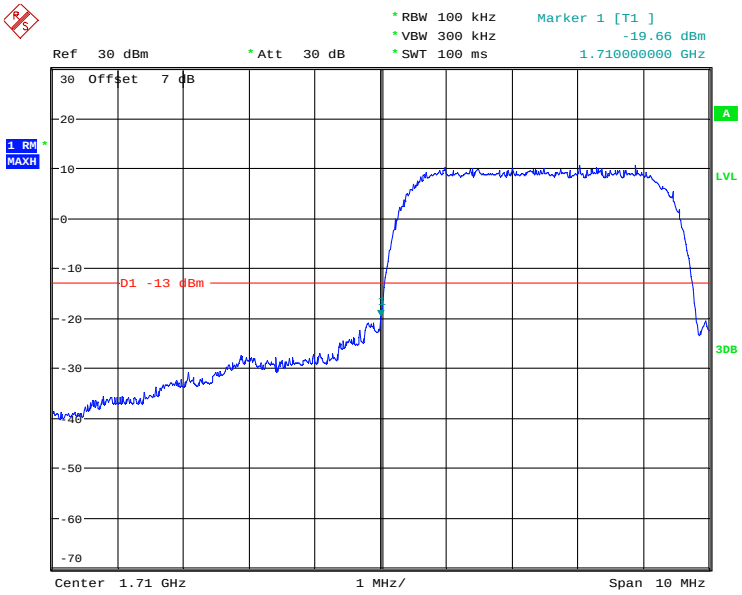
Date: 29.JUN.2021 22:21:25

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



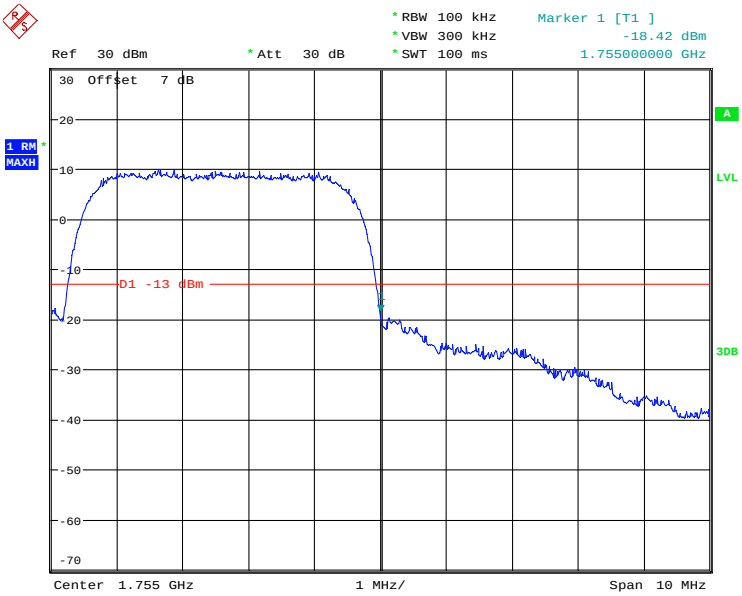
Date: 29.JUN.2021 22:21:54

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



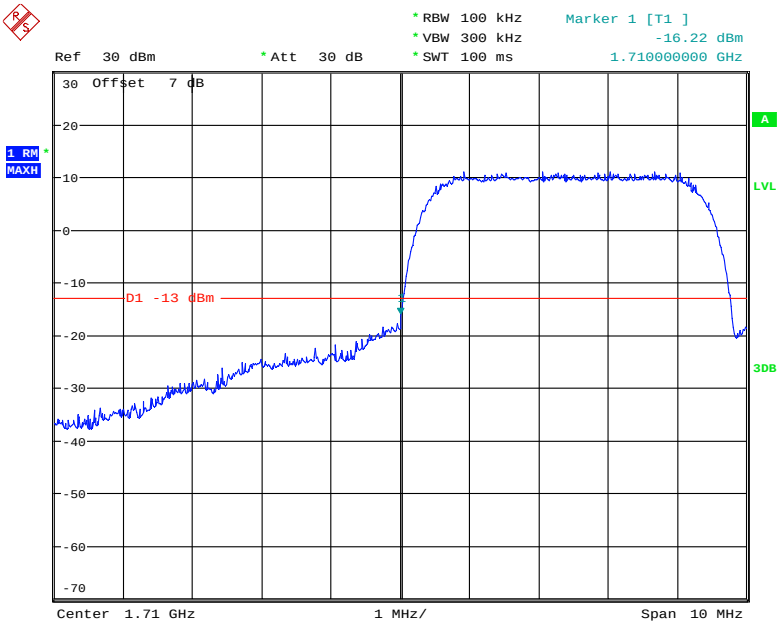
Date: 29.JUN.2021 23:46:34

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



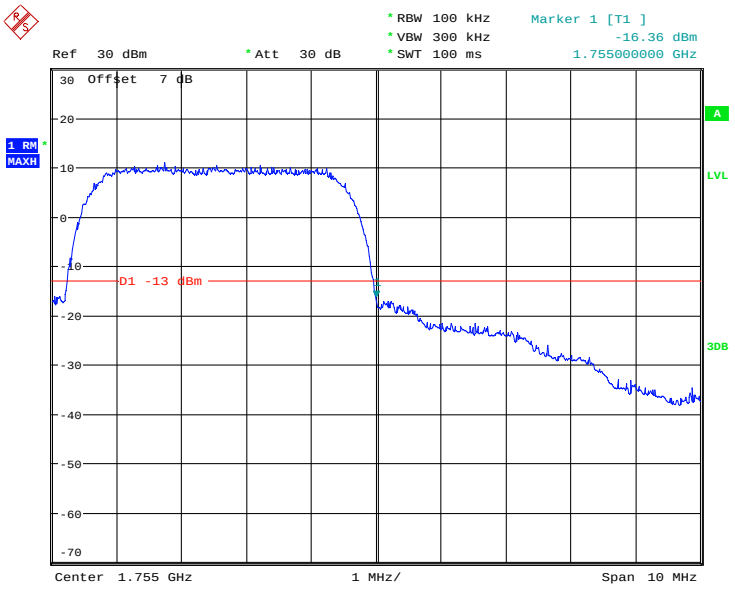
Date: 29.JUN.2021 23:47:08

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



Date: 29.JUN.2021 23:41:38

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



Date: 29.JUN.2021 23:41:09

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

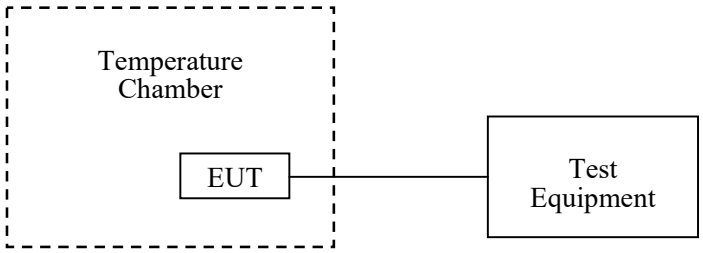
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

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:	28.8 ℃
Relative Humidity:	57 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2021-06-29.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables.

Cellular Band (Part 22H)

GSM Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	-4	-0.0048	2.5
-20		-3	-0.0036	2.5
-10		-5	-0.0060	2.5
0		-3	-0.0036	2.5
10		-1	-0.0012	2.5
20		-3	-0.0036	2.5
30		3	0.0036	2.5
40		4	0.0048	2.5
50		-5	-0.0060	2.5
20	3.45	4	0.0048	2.5
	4.40	-2	-0.0024	2.5

EDGE Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	6	0.0072	2.5
-20		5	0.0060	2.5
-10		7	0.0084	2.5
0		6	0.0072	2.5
10		7	0.0084	2.5
20		5	0.0060	2.5
30		8	0.0096	2.5
40		6	0.0072	2.5
50		4	0.0048	2.5
20	3.45	8	0.0096	2.5
	4.40	6	0.0072	2.5

PCS Band (Part 24E)

GSM Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	5	0.0027	pass
-20		6	0.0032	pass
-10		7	0.0037	pass
0		2	0.0011	pass
10		3	0.0016	pass
20		4	0.0021	pass
30		5	0.0027	pass
40		7	0.0037	pass
50		4	0.0021	pass
20	3.45	3	0.0016	pass
	4.40	4	0.0021	pass

EDGE Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	-3	-0.0016	pass
-20		-2	-0.0011	pass
-10		3	0.0016	pass
0		5	0.0027	pass
10		4	0.0021	pass
20		-3	-0.0016	pass
30		-4	-0.0021	pass
40		-5	-0.0027	pass
50		-6	-0.0032	pass
20	3.45	-5	-0.0027	pass
	4.40	-4	-0.0021	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	3.85	1710.0406	1754.8277	1710	1755
-20		1710.0724	1754.8307	1710	1755
-10		1710.0395	1754.8403	1710	1755
0		1710.5058	1754.7094	1710	1755
10		1710.0516	1754.8275	1710	1755
20		1710.0816	1754.7933	1710	1755
30		1710.0975	1754.7415	1710	1755
40		1710.0397	1754.4892	1710	1755
50		1710.0988	1754.7855	1710	1755
20	3.45	1710.0472	1754.7928	1710	1755
	4.40	1710.0850	1754.8069	1710	1755

LTE:
QPSK:

Band 2:

10.0 MHz Middle Channel, f_o =1880MHz				
Temperature (°C)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	-5.69	-0.0030	pass
-20		-9.58	-0.0051	pass
-10		-6.34	-0.0034	pass
0		6.29	0.0033	pass
10		7.25	0.0039	pass
20		6.34	0.0034	pass
30		-6.58	-0.0035	pass
40		7.24	0.0039	pass
50		-9.38	-0.0050	pass
20	3.45	-8.48	-0.0045	pass
	4.40	-7.26	-0.0039	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	3.85	1710.3138	1754.7205	1710	1755
-20		1710.2642	1754.7030	1710	1755
-10		1710.3975	1754.7281	1710	1755
0		1710.2822	1754.6982	1710	1755
10		1710.1926	1754.7011	1710	1755
20		1710.1710	1754.7349	1710	1755
30		1710.1095	1754.6938	1710	1755
40		1710.2114	1754.7171	1710	1755
50		1710.2421	1754.7569	1710	1755
20	3.45	1710.2985	1754.6729	1710	1755
	4.40	1710.2870	1754.6916	1710	1755

Band 5:

10.0 MHz Middle Channel, f_o=836.5MHz				
Temperature (°C)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	-8.79	-0.0105	2.5
-20		9.22	0.0110	2.5
-10		8.57	0.0102	2.5
0		-7.26	-0.0087	2.5
10		-5.36	-0.0064	2.5
20		7.24	0.0087	2.5
30		-5.75	-0.0069	2.5
40		5.44	0.0065	2.5
50		6.59	0.0079	2.5
20	3.45	9.62	0.0115	2.5
	4.40	9.80	0.0117	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	3.85	2500.2587	2569.7228	2500	2570
-20		2500.2784	2569.6935	2500	2570
-10		2500.2729	2569.6763	2500	2570
0		2500.2932	2569.6780	2500	2570
10		2500.3225	2569.7141	2500	2570
20		2500.3071	2569.6732	2500	2570
30		2500.2948	2569.7172	2500	2570
40		2500.3151	2569.6741	2500	2570
50		2500.3080	2569.7473	2500	2570
20	3.45	2500.2925	2569.7229	2500	2570
	4.40	2500.2973	2569.7075	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	3.85	2570.3263	2619.7489	2570	2620
-20		2570.2259	2619.7515	2570	2620
-10		2570.3385	2619.7096	2570	2620
0		2570.2101	2619.7177	2570	2620
10		2570.2024	2619.7158	2570	2620
20		2570.1996	2619.7428	2570	2620
30		2570.2455	2619.7473	2570	2620
40		2570.2511	2619.7483	2570	2620
50		2570.2423	2619.7201	2570	2620
20	3.45	2570.1934	2619.7192	2570	2620
	4.40	2570.2137	2619.7158	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	3.85	2535.2654	2654.6902	2535	2655
-20		2535.2194	2654.6993	2535	2655
-10		2535.3385	2654.6096	2535	2655
0		2535.2863	2654.6643	2535	2655
10		2535.2683	2654.6462	2535	2655
20		2535.2663	2654.7075	2535	2655
30		2535.2463	2654.7033	2535	2655
40		2535.2659	2654.6955	2535	2655
50		2535.2387	2654.6903	2535	2655
20	3.45	2535.2837	2654.6632	2535	2655
	4.40	2535.2574	2654.6997	2535	2655

Note: the frequency range 2535-2655MHz was declared by applicant.

16QAM:

Band 2:

10.0 MHz Middle Channel, f_o =1880MHz				
Temperature (°C)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	-8	-0.0043	pass
-20		-4	-0.0021	pass
-10		10	0.0053	pass
0		-5	-0.0027	pass
10		6	0.0032	pass
20		-7	-0.0037	pass
30		-6	-0.0032	pass
40		-5	-0.0027	pass
50		8	0.0043	pass
20	3.45	9	0.0048	pass
	4.40	10	0.0053	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	3.85	1710.2766	1754.7470	1710	1755
-20		1710.2743	1754.7693	1710	1755
-10		1710.2072	1754.7642	1710	1755
0		1710.2481	1754.7284	1710	1755
10		1710.2728	1754.7163	1710	1755
20		1710.2914	1754.7056	1710	1755
30		1710.2350	1754.6565	1710	1755
40		1710.2357	1754.7866	1710	1755
50		1710.2246	1754.7175	1710	1755
20	3.45	1710.2316	1754.6911	1710	1755
	4.40	1710.2491	1754.7221	1710	1755

Band 5:

10.0 MHz Middle Channel, f_o=836.5MHz				
Temperature (°C)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	-3.65	-0.0044	2.5
-20		6.82	0.0082	2.5
-10		-9.56	-0.0114	2.5
0		-8.24	-0.0098	2.5
10		-8.36	-0.0100	2.5
20		-9.56	-0.0114	2.5
30		8.48	0.0101	2.5
40		6.69	0.0080	2.5
50		-5.45	-0.0065	2.5
20	3.45	8.78	0.0105	2.5
	4.40	-7.64	-0.0091	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	3.85	2500.3471	2569.7391	2500	2570
-20		2500.3219	2569.6849	2500	2570
-10		2500.3102	2569.7386	2500	2570
0		2500.2967	2569.6752	2500	2570
10		2500.2977	2569.6636	2500	2570
20		2500.2992	2569.6945	2500	2570
30		2500.3321	2569.7333	2500	2570
40		2500.3284	2569.7366	2500	2570
50		2500.2977	2569.6631	2500	2570
20	3.45	2500.3027	2569.7218	2500	2570
	4.40	2500.3349	2569.7204	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	3.85	2570.2408	2619.6770	2570	2620
-20		2570.2515	2619.6539	2570	2620
-10		2570.2385	2619.7096	2570	2620
0		2570.2423	2619.7103	2570	2620
10		2570.2120	2619.7281	2570	2620
20		2570.2135	2619.6416	2570	2620
30		2570.1714	2619.6997	2570	2620
40		2570.2045	2619.6721	2570	2620
50		2570.2453	2619.6516	2570	2620
20	3.45	2570.2549	2619.7062	2570	2620
	4.40	2570.2270	2619.7311	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	3.85	2535.2225	2654.6972	2535	2655
-20		2535.2401	2654.7078	2535	2655
-10		2535.2385	2654.7096	2535	2655
0		2535.2130	2654.7184	2535	2655
10		2535.2368	2654.6549	2535	2655
20		2535.1861	2654.7234	2535	2655
30		2535.2045	2654.7011	2535	2655
40		2535.1738	2654.6978	2535	2655
50		2535.2112	2654.7093	2535	2655
20	3.45	2535.1925	2654.7040	2535	2655
	4.40	2535.1766	2654.7076	2535	2655

Note: the frequency range 2535-2655MHz was declared by applicant.

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