

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

For

TECNO MOBILE LIMITED

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

FCC ID: 2ADYY-CH9N

Report Type: Original Report	Product Type: Mobile Phone
Report Number: SZ1210622-24764E-00A	
Report Date: 2021-07-30	
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Mobile Phone
Tested Model	CH9n
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 17: 704-716MHz(TX); 734-746MHz(RX) LTE Band 38: 2570-2620MHz(TX/RX) LTE Band 41: 2535-2655MHz(TX/RX) LTE Band 66: 1710-1780MHz(TX); 2110-2180MHz(RX)
Modulation Technique	2G: GMSK, 8PSK 3G: BPSK, QPSK, 16QAM 4G: QPSK, 16QAM
Antenna Specification*	GSM850/WCDMA Band 5/LTE Band 5: -1.5dBi PCS1900/WCDMA Band 2/ LTE Band 2: -0.5dBi WCDMA Band 4/LTE Band 4/LTE Band 66: -0.7dBi LTE Band 7/Band 38/Band 41: -0.4dBi LTE Band 17: -1.9dBi (provided by the applicant)
Voltage Range	DC 3.87V from battery or DC 5.0 or 10.0V from adapter
Date of Test	2021-06-26 to 2021-07-30
Sample number	SZ1210622-24764E-RF -S1 (Assigned by BACL, Shenzhen)
Received date	2021-06-22
Sample/EUT Status	Good condition
Adapter information	Model: U330TSA Input: AC 100-240V ~ 50/60Hz, 1.5A Output: DC 5.0V, 3.0A, 15.0W or DC 10.0V, 3.3A, 33W MAX

Objective

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

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

Test Methodology

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

Part 22 Subpart H - Public Mobile Services
Part 24 Subpart E - Personal Communication Services
Part 27 – Miscellaneous wireless communications services

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

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters. Each test item follows test standards and with no deviation.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF output power, conducted		±0.73dB
Unwanted Emission, conducted		±1.6dB
Emissions, Radiated	Below 1GHz	±4.75dB
	Above 1GHz	±4.88dB
Temperature		±1°C
Humidity		±6%
Supply voltages		±0.4%

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

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West) ,6F,7F,the 3rd Phase of Wan Li Industrial Building D,Shihua Rd, FuTian Free Trade Zone, Shenzhen, China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 342867, the FCC Designation No.: CN1221.

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

SYSTEM TEST CONFIGURATION

Description of Test Configuration

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

Test was performed as below table:

Frequency Band	Bandwidth (MHz)	Test Frequency(MHz)		
		Low	Middle	High
GSM850	0.25	824.2	836.6	848.8
PCS1900	0.25	1850.2	1880	1909.8
WCDMA B2	4.2	1852.4	1880	1907.6
WCDMA B4	4.2	1712.4	1732.6	1752.6
WCDMA B5	4.2	826.4	836.6	846.6
LTE B2	1.4	1850.7	1880	1909.3
	3	1851.5	1880	1908.5
	5	1852.5	1880	1907.5
	10	1855	1880	1905
	15	1857.5	1880	1902.5
	20	1860	1880	1900
LTE B4	1.4	1710.7	1732.5	1754.3
	3	1711.5	1732.5	1753.5
	5	1712.5	1732.5	1752.5
	10	1715	1732.5	1750
	15	1717.5	1732.5	1747.5
	20	1720	1732.5	1745
LTE B5	1.4	824.7	836.5	848.3
	3	825.5	836.5	847.5
	5	826.5	836.5	846.5
	10	829	836.5	844
LTE B7	5	2502.5	2535	2567.5
	10	2505	2535	2565
	15	2507.5	2535	2562.5
	20	2510	2535	2560
LTE B17	5	706.5	710.0	713.5
	10	709.0	710.0	711.0
LTE B38	5	2572.5	2595	2617.5
	10	2575	2595	2615
	15	2577.5	2595	2612.5
	20	2580	2595	2610

Frequency Band	Bandwidth (MHz)	Test Frequency(MHz)		
		Low	Middle	High
LTE B41	5	2537.5	2595	2652.5
	10	2540	2595	2650
	15	2542.5	2595	2647.5
	20	2545	2595	2645
LTE B66	1.4	1710.7	1745.0	1779.3
	3	1715.5	1745.0	1778.5
	5	1712.5	1745.0	1777.5
	10	1715.0	1745.0	1775.0
	15	1717.5	1745.0	1772.5
	20	1720.0	1745.0	1770.0

Equipment Modifications

No modification was made to the EUT.

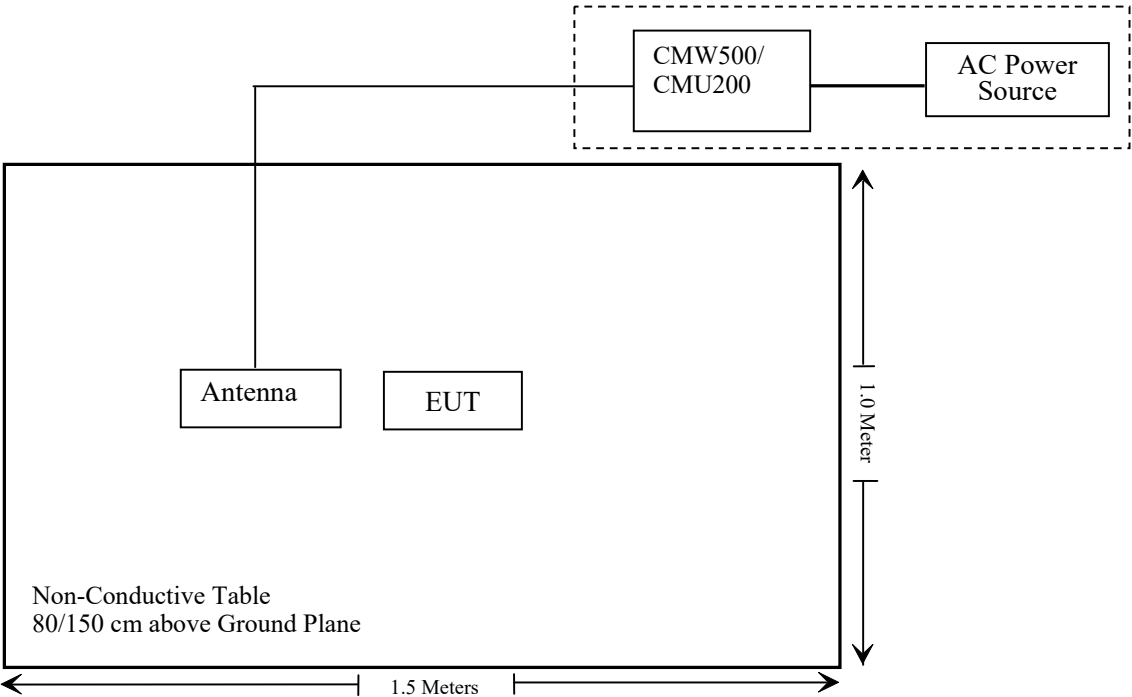
Support Equipment List and Details

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 Power	CMW500/ CMU200

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307 , §2.1093	RF Exposure (SAR)	Compliance*
§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: SZ1210622-24764E-20.

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
Insulated 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 Technologies	Horn antenna	ARH-4223-02	1007726-02 1304	2020/12/06	2023/12/05
Ducommun Technologies	Horn antenna	ARH-4223-02	1007726-01 1304	2020/12/06	2023/12/05
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: SZ1210622-24764E-20.

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.

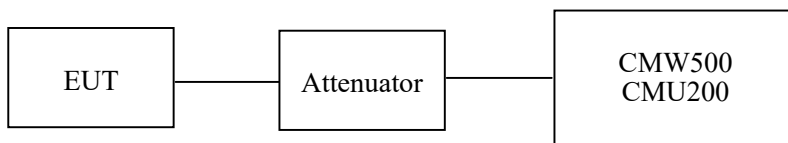
According to §27.50(d), the maximum EIRP must not exceed 1Watts (30dBm) for 1710-1780MHz.

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:	28~28.9 °C
Relative Humidity:	52~56 %
ATM Pressure:	101.0 kPa

The testing was performed by Blaker Zhang on 2021-06-29 and Black Chen on 2021-06-28.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables and plots.

Cellular 850

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP (dBm)	Limit (dBm)
GSM	128	824.2	33.5	29.85	38.45
	190	836.6	33.4	29.75	38.45
	251	848.8	33.6	29.95	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				ERP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
GPRS	128	824.2	33.52	31.63	29.74	27.91	29.87	27.98	26.09	24.26	38.45
	190	836.6	33.47	31.60	29.70	27.88	29.82	27.95	26.05	24.23	38.45
	251	848.8	33.65	31.57	29.71	27.89	30.00	27.92	26.06	24.24	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	27.42	25.53	23.64	21.81	23.77	21.88	19.99	18.16	38.45
	190	836.6	27.34	25.48	23.60	21.76	23.69	21.83	19.95	18.11	38.45
	251	848.8	27.48	25.50	23.58	21.75	23.83	21.85	19.93	18.10	38.45

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			ERP (dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 5)	RMC12.2k		22.98	22.97	22.92	19.33	19.32	19.27
	HSDPA	1	22.43	22.29	22.45	18.78	18.64	18.80
		2	22.48	22.35	22.50	18.83	18.70	18.85
		3	22.53	22.43	22.53	18.88	18.78	18.88
		4	22.60	22.47	22.57	18.95	18.82	18.92
	HSUPA	1	22.24	22.36	22.57	18.59	18.71	18.92
		2	22.30	22.39	22.64	18.65	18.74	18.99
		3	22.34	22.45	22.67	18.69	18.80	19.02
		4	22.40	22.49	22.74	18.75	18.84	19.09
		5	22.46	22.53	22.81	18.81	18.88	19.16
	HSPA+	1	22.53	22.61	22.88	18.88	18.96	19.23

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
 For GSM850/WCDMA Band5: Antenna Gain = -1.5dBi = -3.65dBd (0dBd=2.15dBi)
 Limit: ERP≤38.45dBm

PCS 1900

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	EIRP (dBm)	Limit (dBm)
GSM	512	1850.2	26.6	26.1	33
	661	1880.0	26.4	25.9	33
	810	1909.8	26.2	25.7	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	27.13	26.85	26.49	26.23	26.63	26.35	25.99	25.73	33
	661	1880.0	26.98	26.85	26.41	26.16	26.48	26.35	25.91	25.66	33
	810	1909.8	26.82	26.59	26.24	26.00	26.32	26.09	25.74	25.50	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				EIRP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
EGPRS	512	1850.2	26.15	25.11	22.96	21.67	25.65	24.61	22.46	21.17	33
	661	1880.0	26.22	25.15	23.02	21.77	25.72	24.65	22.52	21.27	33
	810	1909.8	26.44	25.29	23.11	21.92	25.94	24.79	22.61	21.42	33

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 2)	RMC12.2k		17.02	17.09	16.92	16.52	16.59	16.42
	HSDPA	1	15.86	15.98	15.82	15.36	15.48	15.32
		2	15.48	15.81	15.59	14.98	15.31	15.09
		3	15.69	16.08	15.67	15.19	15.58	15.17
		4	15.79	15.84	15.78	15.29	15.34	15.28
	HSUPA	1	15.47	15.53	15.37	14.97	15.03	14.87
		2	15.26	15.56	15.39	14.76	15.06	14.89
		3	15.38	15.42	15.41	14.88	14.92	14.91
		4	15.45	15.38	15.27	14.95	14.88	14.77
		5	15.57	15.47	15.36	15.07	14.97	14.86
	HSPA+	1	15.39	15.55	15.37	14.89	15.05	14.87

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

For PCS1900/WCDMA Band2: Antenna Gain = -0.5dBi

Limit: EIRP≤33.0dBm

AWS Band

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 4)	RMC12.2k		16.89	16.91	17.04	16.19	16.21	16.34
	HSDPA	1	15.74	15.75	15.86	15.04	15.05	15.16
		2	15.58	15.58	15.74	14.88	14.88	15.04
		3	15.67	15.64	15.69	14.97	14.94	14.99
		4	15.81	15.59	15.89	15.11	14.89	15.19
	HSUPA	1	15.32	15.28	15.35	14.62	14.58	14.65
		2	15.48	15.38	15.39	14.78	14.68	14.69
		3	15.39	15.27	15.41	14.69	14.57	14.71
		4	15.28	15.28	15.24	14.58	14.58	14.54
		5	15.33	15.36	15.30	14.63	14.66	14.60
	HSPA+	1	15.29	15.42	15.28	14.59	14.72	14.58

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

For Band4: Antenna Gain = -0.7dBi

Limit: EIRP≤30.0dBm

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

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.25	13
	Middle	3.36	13
	High	3.44	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.47	13
	Middle	3.35	13
	High	3.48	13
HSDPA (16QAM)	Low	3.44	13
	Middle	3.15	13
	High	3.29	13
HSUPA (BPSK)	Low	3.35	13
	Middle	3.27	13
	High	3.42	13
HSUPA+	Low	3.15	13
	Middle	3.28	13
	High	3.49	13

PCS Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.14	13
	Middle	3.18	13
	High	3.25	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.57	13
	Middle	3.24	13
	High	3.28	13
HSDPA (16QAM)	Low	3.35	13
	Middle	3.34	13
	High	3.28	13
HSUPA (BPSK)	Low	3.39	13
	Middle	3.14	13
	High	3.35	13
HSUPA+	Low	3.14	13
	Middle	3.29	13
	High	3.48	13

AWS Band

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.19	13
	Middle	3.21	13
	High	3.47	13
HSDPA (16QAM)	Low	3.33	13
	Middle	3.43	13
	High	3.59	13
HSUPA (BPSK)	Low	3.20	13
	Middle	3.49	13
	High	3.34	13
HSUPA+	Low	3.34	13
	Middle	3.49	13
	High	3.37	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	17.33	17.27	17.28	16.83	16.77	16.78
		RB1#3	17.19	17.35	17.34	16.69	16.85	16.84
		RB1#5	17.11	17.30	17.26	16.61	16.80	16.76
		RB3#0	17.22	17.42	17.41	16.72	16.92	16.91
		RB3#3	17.24	17.46	17.41	16.74	16.96	16.91
		RB6#0	16.25	16.46	16.41	15.75	15.96	15.91
	16QAM	RB1#0	16.22	16.28	16.28	15.72	15.78	15.78
		RB1#3	16.27	16.37	16.33	15.77	15.87	15.83
		RB1#5	16.21	16.26	16.24	15.71	15.76	15.74
		RB3#0	16.22	16.52	16.53	15.72	16.02	16.03
		RB3#3	16.22	16.53	16.59	15.72	16.03	16.09
		RB6#0	15.31	15.44	15.48	14.81	14.94	14.98
3.0	QPSK	RB1#0	16.85	17.13	17.10	16.35	16.63	16.60
		RB1#8	16.99	17.22	17.21	16.49	16.72	16.71
		RB1#14	16.92	17.13	17.11	16.42	16.63	16.61
		RB6#0	16.08	16.28	16.30	15.58	15.78	15.80
		RB6#9	16.10	16.29	16.31	15.60	15.79	15.81
		RB15#0	16.12	16.32	16.30	15.62	15.82	15.80
	16QAM	RB1#0	16.55	16.26	16.12	16.05	15.76	15.62
		RB1#8	16.59	16.36	16.24	16.09	15.86	15.74
		RB1#14	16.49	16.24	16.14	15.99	15.74	15.64
		RB6#0	15.24	15.29	15.30	14.74	14.79	14.80
		RB6#9	15.16	15.39	15.29	14.66	14.89	14.79
		RB15#0	15.19	15.27	15.35	14.69	14.77	14.85

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	17.17	17.40	17.34	16.67	16.90	16.84
		RB1#13	17.37	17.49	17.47	16.87	16.99	16.97
		RB1#24	17.22	17.40	17.37	16.72	16.90	16.87
		RB15#0	16.18	16.41	16.42	15.68	15.91	15.92
		RB15#10	16.20	16.38	16.39	15.70	15.88	15.89
		RB25#0	16.22	16.40	16.39	15.72	15.90	15.89
	16QAM	RB1#0	16.07	16.68	16.45	15.57	16.18	15.95
		RB1#13	16.21	16.84	16.58	15.71	16.34	16.08
		RB1#24	16.15	16.69	16.45	15.65	16.19	15.95
		RB15#0	15.25	15.40	15.45	14.75	14.90	14.95
		RB15#10	15.27	15.37	15.41	14.77	14.87	14.91
		RB25#0	15.33	15.45	15.44	14.83	14.95	14.94
10.0	QPSK	RB1#0	17.21	17.41	17.42	16.71	16.91	16.92
		RB1#25	17.26	17.43	17.47	16.76	16.93	16.97
		RB1#49	17.28	17.44	17.45	16.78	16.94	16.95
		RB25#0	16.14	16.36	16.36	15.64	15.86	15.86
		RB25#25	16.29	16.33	16.35	15.79	15.83	15.85
		RB50#0	16.26	16.37	16.42	15.76	15.87	15.92
	16QAM	RB1#0	16.81	16.56	16.44	16.31	16.06	15.94
		RB1#25	16.89	16.61	16.47	16.39	16.11	15.97
		RB1#49	16.91	16.57	16.43	16.41	16.07	15.93
		RB25#0	15.19	15.44	15.49	14.69	14.94	14.99
		RB25#25	15.39	15.41	15.49	14.89	14.91	14.99
		RB50#0	15.30	15.43	15.44	14.80	14.93	14.94

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	17.12	17.32	17.37	16.62	16.82	16.87
		RB1#38	17.32	17.51	17.49	16.82	17.01	16.99
		RB1#74	17.22	17.43	17.39	16.72	16.93	16.89
		RB36#0	16.11	16.32	16.39	15.61	15.82	15.89
		RB36#39	16.28	16.38	16.36	15.78	15.88	15.86
		RB75#0	16.25	16.40	16.38	15.75	15.90	15.88
	16QAM	RB1#0	16.76	16.48	16.82	16.26	15.98	16.32
		RB1#38	16.95	16.63	16.90	16.45	16.13	16.40
		RB1#74	16.90	16.55	16.79	16.40	16.05	16.29
		RB36#0	15.17	15.36	15.39	14.67	14.86	14.89
		RB36#39	15.30	15.42	15.37	14.80	14.92	14.87
		RB75#0	15.23	15.42	15.40	14.73	14.92	14.90
20.0	QPSK	RB1#0	17.09	17.29	17.28	16.59	16.79	16.78
		RB1#50	17.34	17.49	17.44	16.84	16.99	16.94
		RB1#99	17.31	17.41	17.33	16.81	16.91	16.83
		RB50#0	16.15	16.35	16.43	15.65	15.85	15.93
		RB50#50	16.42	16.40	16.42	15.92	15.90	15.92
		RB100#0	16.30	16.37	16.40	15.80	15.87	15.90
	16QAM	RB1#0	16.39	16.53	16.86	15.89	16.03	16.36
		RB1#50	16.68	16.77	17.04	16.18	16.27	16.54
		RB1#99	16.63	16.62	16.94	16.13	16.12	16.44
		RB50#0	15.17	15.37	15.49	14.67	14.87	14.99
		RB50#50	15.40	15.40	15.45	14.90	14.90	14.95
		RB100#0	15.33	15.40	15.47	14.83	14.90	14.97

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

For Band 2: Antenna Gain = -0.5dBi

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	15.22	15.38	15.53	14.52	14.68	14.83
		RB1#3	15.29	15.42	15.60	14.59	14.72	14.90
		RB1#5	15.21	15.34	15.53	14.51	14.64	14.83
		RB3#0	15.34	15.48	15.63	14.64	14.78	14.93
		RB3#3	15.37	15.49	15.67	14.67	14.79	14.97
		RB6#0	14.34	14.48	14.66	13.64	13.78	13.96
	16QAM	RB1#0	14.20	14.46	14.54	13.50	13.76	13.84
		RB1#3	14.30	14.56	14.59	13.60	13.86	13.89
		RB1#5	14.25	14.48	14.53	13.55	13.78	13.83
		RB3#0	14.55	14.50	14.76	13.85	13.80	14.06
		RB3#3	14.62	14.55	14.76	13.92	13.85	14.06
		RB6#0	13.56	13.68	13.76	12.86	12.98	13.06
3.0	QPSK	RB1#0	15.10	15.27	15.39	14.40	14.57	14.69
		RB1#8	15.17	15.32	15.51	14.47	14.62	14.81
		RB1#14	15.12	15.20	15.46	14.42	14.50	14.76
		RB6#0	14.24	14.39	14.60	13.54	13.69	13.90
		RB6#9	14.29	14.40	14.61	13.59	13.70	13.91
		RB15#0	14.33	14.44	14.64	13.63	13.74	13.94
	16QAM	RB1#0	14.79	14.41	14.42	14.09	13.71	13.72
		RB1#8	14.85	14.47	14.59	14.15	13.77	13.89
		RB1#14	14.72	14.38	14.50	14.02	13.68	13.80
		RB6#0	13.48	13.58	13.72	12.78	12.88	13.02
		RB6#9	13.48	13.65	13.70	12.78	12.95	13.00
		RB15#0	13.52	13.52	13.81	12.82	12.82	13.11

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	15.48	15.53	15.70	14.78	14.83	15.00
		RB1#13	15.61	15.66	15.82	14.91	14.96	15.12
		RB1#24	15.45	15.60	15.71	14.75	14.90	15.01
		RB15#0	14.38	14.54	14.78	13.68	13.84	14.08
		RB15#10	14.45	14.62	14.78	13.75	13.92	14.08
		RB25#0	14.46	14.57	14.74	13.76	13.87	14.04
	16QAM	RB1#0	14.32	14.84	14.81	13.62	14.14	14.11
		RB1#13	14.47	14.99	14.92	13.77	14.29	14.22
		RB1#24	14.35	14.89	14.82	13.65	14.19	14.12
		RB15#0	13.56	13.65	13.92	12.86	12.95	13.22
		RB15#10	13.67	13.70	13.90	12.97	13.00	13.20
		RB25#0	13.63	13.74	13.95	12.93	13.04	13.25
10.0	QPSK	RB1#0	15.47	15.53	15.67	14.77	14.83	14.97
		RB1#25	15.48	15.61	15.80	14.78	14.91	15.10
		RB1#49	15.53	15.66	15.77	14.83	14.96	15.07
		RB25#0	14.36	14.47	14.67	13.66	13.77	13.97
		RB25#25	14.53	14.62	14.72	13.83	13.92	14.02
		RB50#0	14.49	14.61	14.75	13.79	13.91	14.05
	16QAM	RB1#0	15.13	14.69	14.71	14.43	13.99	14.01
		RB1#25	15.18	14.80	14.84	14.48	14.10	14.14
		RB1#49	15.16	14.75	14.81	14.46	14.05	14.11
		RB25#0	13.58	13.66	13.94	12.88	12.96	13.24
		RB25#25	13.71	13.80	13.98	13.01	13.10	13.28
		RB50#0	13.65	13.72	13.88	12.95	13.02	13.18

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	15.36	15.51	15.58	14.66	14.81	14.88
		RB1#38	15.54	15.65	15.81	14.84	14.95	15.11
		RB1#74	15.49	15.60	15.75	14.79	14.90	15.05
		RB36#0	14.38	14.43	14.61	13.68	13.73	13.91
		RB36#39	14.55	14.57	14.69	13.85	13.87	13.99
		RB75#0	14.48	14.56	14.67	13.78	13.86	13.97
	16QAM	RB1#0	15.07	14.67	15.05	14.37	13.97	14.35
		RB1#38	15.23	14.79	15.23	14.53	14.09	14.53
		RB1#74	15.17	14.79	15.21	14.47	14.09	14.51
		RB36#0	13.55	13.66	13.76	12.85	12.96	13.06
		RB36#39	13.66	13.76	13.82	12.96	13.06	13.12
		RB75#0	13.63	13.69	13.82	12.93	12.99	13.12
20.0	QPSK	RB1#0	15.41	15.46	15.44	14.71	14.76	14.74
		RB1#50	15.64	15.74	15.78	14.94	15.04	15.08
		RB1#99	15.59	15.73	15.72	14.89	15.03	15.02
		RB50#0	14.45	14.55	14.65	13.75	13.85	13.95
		RB50#50	14.61	14.71	14.81	13.91	14.01	14.11
		RB100#0	14.60	14.67	14.71	13.90	13.97	14.01
	16QAM	RB1#0	14.68	14.75	15.11	13.98	14.05	14.41
		RB1#50	15.00	14.98	15.40	14.30	14.28	14.70
		RB1#99	14.91	14.94	15.38	14.21	14.24	14.68
		RB50#0	13.57	13.69	13.79	12.87	12.99	13.09
		RB50#50	13.74	13.82	13.92	13.04	13.12	13.22
		RB100#0	13.70	13.79	13.85	13.00	13.09	13.15

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

For Band 4: Antenna Gain = -0.7dBi

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	24.05	24.10	24.04	20.40	20.45	20.39
		RB1#3	24.11	24.12	24.15	20.46	20.47	20.50
		RB1#5	24.07	24.08	24.04	20.42	20.43	20.39
		RB3#0	24.14	24.17	24.19	20.49	20.52	20.54
		RB3#3	24.17	24.17	24.16	20.52	20.52	20.51
		RB6#0	23.23	23.28	23.23	19.58	19.63	19.58
	16QAM	RB1#0	23.04	23.11	23.05	19.39	19.46	19.40
		RB1#3	23.11	23.23	23.13	19.46	19.58	19.48
		RB1#5	23.05	23.14	23.05	19.40	19.49	19.40
		RB3#0	23.28	23.07	23.24	19.63	19.42	19.59
		RB3#3	23.36	23.09	23.21	19.71	19.44	19.56
		RB6#0	22.24	22.28	22.21	18.59	18.63	18.56
3.0	QPSK	RB1#0	23.91	23.97	23.95	20.26	20.32	20.30
		RB1#8	24.02	24.06	24.09	20.37	20.41	20.44
		RB1#14	23.92	23.92	23.93	20.27	20.27	20.28
		RB6#0	23.07	23.09	23.15	19.42	19.44	19.50
		RB6#9	23.11	23.10	23.11	19.46	19.45	19.46
		RB15#0	23.10	23.07	23.09	19.45	19.42	19.44
	16QAM	RB1#0	23.38	22.99	22.92	19.73	19.34	19.27
		RB1#8	23.50	23.09	23.08	19.85	19.44	19.43
		RB1#14	23.45	23.03	22.94	19.80	19.38	19.29
		RB6#0	22.15	22.11	22.12	18.50	18.46	18.47
		RB6#9	22.13	22.14	22.07	18.48	18.49	18.42
		RB15#0	22.14	22.01	22.15	18.49	18.36	18.50

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	24.13	24.16	24.17	20.48	20.51	20.52
		RB1#13	24.32	24.26	24.31	20.67	20.61	20.66
		RB1#24	24.20	24.19	24.16	20.55	20.54	20.51
		RB15#0	23.18	23.12	23.29	19.53	19.47	19.64
		RB15#10	23.20	23.18	23.23	19.55	19.53	19.58
		RB25#0	23.16	23.17	23.26	19.51	19.52	19.61
	16QAM	RB1#0	22.99	23.43	23.22	19.34	19.78	19.57
		RB1#13	23.17	23.49	23.35	19.52	19.84	19.70
		RB1#24	23.08	23.39	23.23	19.43	19.74	19.58
		RB15#0	22.22	22.11	22.32	18.57	18.46	18.67
		RB15#10	22.23	22.14	22.25	18.58	18.49	18.60
		RB25#0	22.22	22.17	22.31	18.57	18.52	18.66
10.0	QPSK	RB1#0	24.20	24.25	24.24	20.55	20.60	20.59
		RB1#25	24.26	24.24	24.32	20.61	20.59	20.67
		RB1#49	24.28	24.20	24.29	20.63	20.55	20.64
		RB25#0	23.11	23.17	23.21	19.46	19.52	19.56
		RB25#25	23.23	23.15	23.14	19.58	19.50	19.49
		RB50#0	23.22	23.20	23.21	19.57	19.55	19.56
	16QAM	RB1#0	23.68	23.37	23.18	20.03	19.72	19.53
		RB1#25	23.81	23.36	23.29	20.16	19.71	19.64
		RB1#49	23.75	23.33	23.23	20.10	19.68	19.58
		RB25#0	22.19	22.19	22.31	18.54	18.54	18.66
		RB25#25	22.32	22.18	22.31	18.67	18.53	18.66
		RB50#0	22.20	22.20	22.21	18.55	18.55	18.56

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
 For Band 5: Antenna Gain = -1.5dBi = -3.65dBd (0dBd=2.15dBi)
 Limit: ERP≤38.45dBm

LTE Band 7

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	15.81	15.57	15.55	15.41	15.17	15.15
		RB1#13	15.88	15.64	15.68	15.48	15.24	15.28
		RB1#24	15.76	15.56	15.59	15.36	15.16	15.19
		RB15#0	14.75	14.55	14.63	14.35	14.15	14.23
		RB15#10	14.74	14.52	14.58	14.34	14.12	14.18
		RB25#0	14.77	14.56	14.59	14.37	14.16	14.19
	16QAM	RB1#0	14.66	14.82	14.64	14.26	14.42	14.24
		RB1#13	14.77	15.03	14.72	14.37	14.63	14.32
		RB1#24	14.66	14.82	14.72	14.26	14.42	14.32
		RB15#0	13.82	13.51	13.64	13.42	13.11	13.24
		RB15#10	13.79	13.51	13.64	13.39	13.11	13.24
		RB25#0	13.85	13.58	13.66	13.45	13.18	13.26
10.0	QPSK	RB1#0	15.80	15.61	15.58	15.40	15.21	15.18
		RB1#25	15.78	15.66	15.67	15.38	15.26	15.27
		RB1#49	15.75	15.62	15.67	15.35	15.22	15.27
		RB25#0	14.75	14.55	14.63	14.35	14.15	14.23
		RB25#25	14.81	14.58	14.61	14.41	14.18	14.21
		RB50#0	14.80	14.57	14.64	14.40	14.17	14.24
	16QAM	RB1#0	15.47	14.74	14.60	15.07	14.34	14.20
		RB1#25	15.45	14.78	14.68	15.05	14.38	14.28
		RB1#49	15.37	14.75	14.67	14.97	14.35	14.27
		RB25#0	13.83	13.65	14.05	13.43	13.25	13.65
		RB25#25	13.91	13.62	13.74	13.51	13.22	13.34
		RB50#0	13.80	13.60	13.66	13.40	13.20	13.26

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	15.76	15.62	15.48	15.36	15.22	15.08
		RB1#38	15.81	15.68	15.74	15.41	15.28	15.34
		RB1#74	15.66	15.57	15.61	15.26	15.17	15.21
		RB36#0	14.72	14.56	14.51	14.32	14.16	14.11
		RB36#39	14.75	14.49	14.74	14.35	14.09	14.34
		RB75#0	14.71	14.57	14.57	14.31	14.17	14.17
	16QAM	RB1#0	15.40	14.71	14.90	15.00	14.31	14.50
		RB1#38	15.43	14.80	15.05	15.03	14.40	14.65
		RB1#74	15.27	14.68	15.01	14.87	14.28	14.61
		RB36#0	13.75	13.63	13.51	13.35	13.23	13.11
		RB36#39	13.78	13.52	13.56	13.38	13.12	13.16
		RB75#0	13.79	13.58	13.58	13.39	13.18	13.18
20.0	QPSK	RB1#0	15.72	15.50	15.39	15.32	15.10	14.99
		RB1#50	15.78	15.67	15.61	15.38	15.27	15.21
		RB1#99	15.58	15.51	15.52	15.18	15.11	15.12
		RB50#0	14.63	14.52	14.48	14.23	14.12	14.08
		RB50#50	14.71	14.55	14.51	14.31	14.15	14.11
		RB100#0	14.76	14.58	14.49	14.36	14.18	14.09
	16QAM	RB1#0	14.96	14.74	14.94	14.56	14.34	14.54
		RB1#50	15.08	14.93	15.19	14.68	14.53	14.79
		RB1#99	14.85	14.70	15.21	14.45	14.30	14.81
		RB50#0	13.62	13.55	13.47	13.22	13.15	13.07
		RB50#50	13.80	13.52	13.54	13.40	13.12	13.14
		RB100#0	13.68	13.54	13.81	13.28	13.14	13.41

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

For Band 7: Antenna Gain = -0.4dBi

Limit: EIRP≤33dBm

LTE Band 17

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	24.06	24.02	23.99	20.01	19.97	19.94
		RB1#13	24.14	24.16	24.20	20.09	20.11	20.15
		RB1#24	24.03	24.03	24.05	19.98	19.98	20.00
		RB15#0	23.02	23.06	23.17	18.97	19.01	19.12
		RB15#10	23.07	23.02	23.07	19.02	18.97	19.02
		RB25#0	23.05	23.04	23.03	19.00	18.99	18.98
	16QAM	RB1#0	22.95	23.31	23.06	18.90	19.26	19.01
		RB1#13	23.03	23.41	23.22	18.98	19.36	19.17
		RB1#24	22.91	23.27	23.02	18.86	19.22	18.97
		RB15#0	22.08	22.03	22.16	18.03	17.98	18.11
		RB15#10	22.14	21.99	22.07	18.09	17.94	18.02
		RB25#0	22.14	22.05	22.14	18.09	18.00	18.09
10.0	QPSK	RB1#0	24.08	24.08	24.12	20.03	20.03	20.07
		RB1#25	24.11	24.16	24.16	20.06	20.11	20.11
		RB1#49	24.08	24.13	24.23	20.03	20.08	20.18
		RB25#0	22.95	22.91	23.01	18.90	18.86	18.96
		RB25#25	23.00	23.01	23.00	18.95	18.96	18.95
		RB50#0	22.99	23.03	23.04	18.94	18.98	18.99
	16QAM	RB1#0	23.67	23.25	23.09	19.62	19.20	19.04
		RB1#25	23.66	23.30	23.17	19.61	19.25	19.12
		RB1#49	23.62	23.24	23.08	19.57	19.19	19.03
		RB25#0	22.00	21.97	22.13	17.95	17.92	18.08
		RB25#25	22.06	22.04	22.15	18.01	17.99	18.10
		RB50#0	21.98	21.97	22.07	17.93	17.92	18.02

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
 For Band17: Antenna Gain = -1.9dBi = -4.05dBd (0dBd=2.15dBi)
 Limit: ERP≤34.77dBm

LTE Band 38

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	23.61	23.66	23.69	23.21	23.26	23.29
		RB1#13	23.78	23.85	23.86	23.38	23.45	23.46
		RB1#24	23.67	23.73	23.68	23.27	23.33	23.28
		RB15#0	22.67	22.79	22.84	22.27	22.39	22.44
		RB15#10	22.69	22.85	22.82	22.29	22.45	22.42
		RB25#0	22.67	22.83	22.79	22.27	22.43	22.39
	16QAM	RB1#0	22.87	22.68	22.79	22.47	22.28	22.39
		RB1#13	23.06	22.86	22.95	22.66	22.46	22.55
		RB1#24	22.93	22.80	22.79	22.53	22.40	22.39
		RB15#0	21.67	21.75	21.82	21.27	21.35	21.42
		RB15#10	21.72	21.80	21.81	21.32	21.40	21.41
		RB25#0	21.67	21.86	21.84	21.27	21.46	21.44
10.0	QPSK	RB1#0	23.64	23.78	23.83	23.24	23.38	23.43
		RB1#25	23.76	23.89	23.89	23.36	23.49	23.49
		RB1#49	23.72	23.83	23.82	23.32	23.43	23.42
		RB25#0	22.67	22.82	22.82	22.27	22.42	22.42
		RB25#25	22.77	22.80	22.82	22.37	22.40	22.42
		RB50#0	22.77	22.82	22.84	22.37	22.42	22.44
	16QAM	RB1#0	22.86	22.71	22.99	22.46	22.31	22.59
		RB1#25	22.98	22.80	23.00	22.58	22.40	22.60
		RB1#49	22.94	22.80	22.95	22.54	22.40	22.55
		RB25#0	21.66	21.85	21.85	21.26	21.45	21.45
		RB25#25	21.73	21.91	21.87	21.33	21.51	21.47
		RB50#0	21.72	21.80	21.87	21.32	21.40	21.47

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	23.58	23.65	23.79	23.18	23.25	23.39
		RB1#38	23.80	23.87	23.90	23.40	23.47	23.50
		RB1#74	23.72	23.83	23.79	23.32	23.43	23.39
		RB36#0	22.72	22.80	22.83	22.32	22.40	22.43
		RB36#39	22.79	22.87	22.82	22.39	22.47	22.42
		RB75#0	22.78	22.88	22.91	22.38	22.48	22.51
	16QAM	RB1#0	22.80	22.63	22.96	22.40	22.23	22.56
		RB1#38	23.01	22.84	23.13	22.61	22.44	22.73
		RB1#74	22.94	22.78	22.99	22.54	22.38	22.59
		RB36#0	21.66	21.77	21.90	21.26	21.37	21.50
		RB36#39	21.75	21.81	21.88	21.35	21.41	21.48
		RB75#0	21.62	21.85	21.88	21.22	21.45	21.48
20.0	QPSK	RB1#0	23.52	23.59	23.73	23.12	23.19	23.33
		RB1#50	23.86	23.90	23.97	23.46	23.50	23.57
		RB1#99	23.72	23.73	23.76	23.32	23.33	23.36
		RB50#0	22.68	22.80	22.89	22.28	22.40	22.49
		RB50#50	22.78	22.80	22.80	22.38	22.40	22.40
		RB100#0	22.71	22.82	22.79	22.31	22.42	22.39
	16QAM	RB1#0	22.65	22.60	22.97	22.25	22.20	22.57
		RB1#50	22.91	22.90	23.23	22.51	22.50	22.83
		RB1#99	22.81	22.73	23.02	22.41	22.33	22.62
		RB50#0	21.69	21.84	21.86	21.29	21.44	21.46
		RB50#50	21.76	21.89	21.85	21.36	21.49	21.45
		RB100#0	21.73	21.80	21.79	21.33	21.40	21.39

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

For Band 38: Antenna Gain = -0.4dBi

Limit: EIRP≤33dBm

LTE Band 41

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	23.58	23.44	23.35	23.18	23.04	22.95
		RB1#13	23.67	23.59	23.47	23.27	23.19	23.07
		RB1#24	23.50	23.46	23.35	23.10	23.06	22.95
		RB15#0	22.55	22.52	22.46	22.15	22.12	22.06
		RB15#10	22.64	22.59	22.40	22.24	22.19	22.00
		RB25#0	22.58	22.59	22.38	22.18	22.19	21.98
	16QAM	RB1#0	22.83	22.50	22.38	22.43	22.10	21.98
		RB1#13	22.91	22.65	22.51	22.51	22.25	22.11
		RB1#24	22.80	22.53	22.38	22.40	22.13	21.98
		RB15#0	21.61	21.47	21.47	21.21	21.07	21.07
		RB15#10	21.68	21.49	21.40	21.28	21.09	21.00
		RB25#0	21.61	21.62	21.50	21.21	21.22	21.10
10.0	QPSK	RB1#0	23.59	23.58	23.47	23.19	23.18	23.07
		RB1#25	23.63	23.65	23.49	23.23	23.25	23.09
		RB1#49	23.52	23.59	23.47	23.12	23.19	23.07
		RB25#0	22.57	22.56	22.45	22.17	22.16	22.05
		RB25#25	22.66	22.61	22.42	22.26	22.21	22.02
		RB50#0	22.65	22.60	22.50	22.25	22.20	22.10
	16QAM	RB1#0	22.79	22.52	22.53	22.39	22.12	22.13
		RB1#25	22.81	22.56	22.53	22.41	22.16	22.13
		RB1#49	22.74	22.59	22.53	22.34	22.19	22.13
		RB25#0	21.54	21.62	21.51	21.14	21.22	21.11
		RB25#25	21.65	21.66	21.42	21.25	21.26	21.02
		RB50#0	21.62	21.62	21.48	21.22	21.22	21.08

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	23.52	23.46	23.43	23.12	23.06	23.03
		RB1#38	23.59	23.67	23.55	23.19	23.27	23.15
		RB1#74	23.47	23.58	23.43	23.07	23.18	23.03
		RB36#0	22.55	22.54	22.50	22.15	22.14	22.10
		RB36#39	22.61	22.58	22.47	22.21	22.18	22.07
		RB75#0	22.62	22.63	22.52	22.22	22.23	22.12
	16QAM	RB1#0	22.74	22.45	22.60	22.34	22.05	22.20
		RB1#38	22.79	22.60	22.71	22.39	22.20	22.31
		RB1#74	22.70	22.50	22.60	22.30	22.10	22.20
		RB36#0	21.50	21.52	21.53	21.10	21.12	21.13
		RB36#39	21.55	21.52	21.48	21.15	21.12	21.08
		RB75#0	21.53	21.56	21.43	21.13	21.16	21.03
20.0	QPSK	RB1#0	23.46	23.33	23.37	23.06	22.93	22.97
		RB1#50	23.65	23.63	23.59	23.25	23.23	23.19
		RB1#99	23.38	23.44	23.38	22.98	23.04	22.98
		RB50#0	22.46	22.54	22.47	22.06	22.14	22.07
		RB50#50	22.58	22.56	22.37	22.18	22.16	21.97
		RB100#0	22.52	22.53	22.41	22.12	22.13	22.01
	16QAM	RB1#0	22.56	22.36	22.60	22.16	21.96	22.20
		RB1#50	22.71	22.61	22.80	22.31	22.21	22.40
		RB1#99	22.49	22.45	22.62	22.09	22.05	22.22
		RB50#0	21.42	21.59	21.48	21.02	21.19	21.08
		RB50#50	21.57	21.62	21.36	21.17	21.22	20.96
		RB100#0	21.51	21.57	21.39	21.11	21.17	20.99

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

For Band 41: Antenna Gain = -0.4dBi

Limit: EIRP≤33dBm

LTE Band 66:

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	16.33	16.55	16.75	15.63	15.85	16.05
		RB1#3	16.38	16.60	16.85	15.68	15.90	16.15
		RB1#5	16.31	16.53	16.76	15.61	15.83	16.06
		RB3#0	16.47	16.66	16.91	15.77	15.96	16.21
		RB3#3	16.48	16.68	16.96	15.78	15.98	16.26
		RB6#0	15.51	15.67	15.97	14.81	14.97	15.27
	16QAM	RB1#0	15.32	15.64	15.79	14.62	14.94	15.09
		RB1#3	15.39	15.72	15.89	14.69	15.02	15.19
		RB1#5	15.35	15.63	15.84	14.65	14.93	15.14
		RB3#0	15.65	15.66	16.03	14.95	14.96	15.33
		RB3#3	15.71	15.68	16.04	15.01	14.98	15.34
		RB6#0	14.57	14.78	14.96	13.87	14.08	14.26
3.0	QPSK	RB1#0	16.14	16.42	16.66	15.44	15.72	15.96
		RB1#8	16.26	16.52	16.73	15.56	15.82	16.03
		RB1#14	16.19	16.40	16.65	15.49	15.70	15.95
		RB6#0	15.33	15.60	15.77	14.63	14.90	15.07
		RB6#9	15.39	15.65	15.86	14.69	14.95	15.16
		RB15#0	15.42	15.63	15.85	14.72	14.93	15.15
	16QAM	RB1#0	15.84	15.53	15.68	15.14	14.83	14.98
		RB1#8	15.91	15.67	15.76	15.21	14.97	15.06
		RB1#14	15.77	15.63	15.71	15.07	14.93	15.01
		RB6#0	14.50	14.64	14.81	13.80	13.94	14.11
		RB6#9	14.47	14.69	14.84	13.77	13.99	14.14
		RB15#0	14.48	14.61	14.94	13.78	13.91	14.24

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QP SK	RB1#0	16.49	16.69	16.90	15.79	15.99	16.20
		RB1#13	16.62	16.79	17.01	15.92	16.09	16.31
		RB1#24	16.50	16.72	16.93	15.80	16.02	16.23
		RB15#0	15.46	15.70	15.96	14.76	15.00	15.26
		RB15#10	15.47	15.73	15.99	14.77	15.03	15.29
		RB25#0	15.51	15.73	15.97	14.81	15.03	15.27
	16QAM	RB1#0	15.37	15.96	16.02	14.67	15.26	15.32
		RB1#13	15.53	16.13	16.13	14.83	15.43	15.43
		RB1#24	15.42	15.99	16.05	14.72	15.29	15.35
		RB15#0	14.55	14.72	15.05	13.85	14.02	14.35
		RB15#10	14.56	14.71	15.01	13.86	14.01	14.31
		RB25#0	14.59	14.79	15.02	13.89	14.09	14.32
10.0	QPSK	RB1#0	16.48	16.70	16.94	15.78	16.00	16.24
		RB1#25	16.54	16.78	17.04	15.84	16.08	16.34
		RB1#49	16.61	16.82	17.05	15.91	16.12	16.35
		RB25#0	15.43	15.63	15.93	14.73	14.93	15.23
		RB25#25	15.62	15.76	15.99	14.92	15.06	15.29
		RB50#0	15.55	15.72	16.00	14.85	15.02	15.30
	16QAM	RB1#0	16.15	15.86	15.93	15.45	15.16	15.23
		RB1#25	16.21	15.95	16.05	15.51	15.25	15.35
		RB1#49	16.28	15.96	16.06	15.58	15.26	15.36
		RB25#0	14.52	14.75	15.07	13.82	14.05	14.37
		RB25#25	14.71	14.84	15.08	14.01	14.14	14.38
		RB50#0	14.56	14.74	15.03	13.86	14.04	14.33

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	16.43	16.68	16.84	15.73	15.98	16.14
		RB1#38	16.62	16.83	17.03	15.92	16.13	16.33
		RB1#74	16.52	16.79	16.97	15.82	16.09	16.27
		RB36#0	15.43	15.61	15.87	14.73	14.91	15.17
		RB36#39	15.60	15.72	15.96	14.90	15.02	15.26
		RB75#0	15.58	15.71	15.96	14.88	15.01	15.26
	16QAM	RB1#0	16.10	15.80	16.30	15.40	15.10	15.60
		RB1#38	16.29	15.97	16.44	15.59	15.27	15.74
		RB1#74	16.19	15.94	16.40	15.49	15.24	15.70
		RB36#0	14.48	14.70	14.91	13.78	14.00	14.21
		RB36#39	14.63	14.81	14.99	13.93	14.11	14.29
		RB75#0	14.55	14.75	14.92	13.85	14.05	14.22
20.0	QPSK	RB1#0	16.42	16.59	16.69	15.72	15.89	15.99
		RB1#50	16.67	16.83	16.99	15.97	16.13	16.29
		RB1#99	16.58	16.80	16.89	15.88	16.10	16.19
		RB50#0	15.45	15.67	15.98	14.75	14.97	15.28
		RB50#50	15.63	15.77	15.98	14.93	15.07	15.28
		RB100#0	15.55	15.68	15.95	14.85	14.98	15.25
	16QAM	RB1#0	15.69	15.81	16.30	14.99	15.11	15.60
		RB1#50	16.02	16.08	16.61	15.32	15.38	15.91
		RB1#99	15.92	16.02	16.55	15.22	15.32	15.85
		RB50#0	14.44	14.69	15.00	13.74	13.99	14.30
		RB50#50	14.65	14.78	15.02	13.95	14.08	14.32
		RB100#0	14.58	14.73	14.99	13.88	14.03	14.29

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

For Band 66: Antenna Gain = -0.7dBi

Limit: EIRP ≤ 30dBm

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)	4.62	4.78	4.10	13	Pass
QPSK (100RB Size)	5.32	5.48	5.29	13	Pass
16QAM (1RB Size)	5.32	5.96	5.00	13	Pass
16QAM (100RB Size)	6.25	6.38	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)	5.48	5.38	5.16	13	Pass
QPSK (100RB Size)	5.77	5.61	5.71	13	Pass
16QAM (1RB Size)	6.51	6.54	6.12	13	Pass
16QAM (100RB Size)	6.57	6.44	6.54	13	Pass

LTE Band 5**10MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.67	5.19	5.42	13	Pass
QPSK (50RB Size)	5.61	5.77	5.71	13	Pass
16QAM (1RB Size)	6.38	6.47	6.41	13	Pass
16QAM (50RB Size)	6.54	6.54	6.63	13	Pass

LTE Band 7**20MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	2.85	2.95	2.82	13	Pass
QPSK (100RB Size)	5.16	5.06	5.06	13	Pass
16QAM (1RB Size)	3.75	3.97	3.78	13	Pass
16QAM (100RB Size)	6.12	5.96	5.99	13	Pass

LTE Band 17**10MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.68	5.90	5.58	13	Pass
QPSK (50RB Size)	5.91	5.86	5.15	13	Pass
16QAM (1RB Size)	6.77	6.44	6.28	13	Pass
16QAM (50RB Size)	6.38	6.47	6.44	13	Pass

LTE Band 38**20MHz Bandwidth**

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.32	5.21	5.97	13	Pass
QPSK (100RB Size)	6.92	6.21	6.28	13	Pass
16QAM (1RB Size)	6.46	6.02	6.33	13	Pass
16QAM (100RB Size)	7.69	7.53	7.46	13	Pass

LTE Band 41
20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.68	4.90	4.97	13	Pass
QPSK (100RB Size)	5.51	5.67	5.51	13	Pass
16QAM (1RB Size)	5.77	6.44	5.71	13	Pass
16QAM (100RB Size)	6.38	6.47	6.44	13	Pass

LTE Band 66
20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.29	3.30	3.14	13	Pass
QPSK (100RB Size)	5.35	5.26	5.03	13	Pass
16QAM (1RB Size)	4.90	4.36	4.23	13	Pass
16QAM (100RB Size)	6.25	6.12	5.99	13	Pass

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

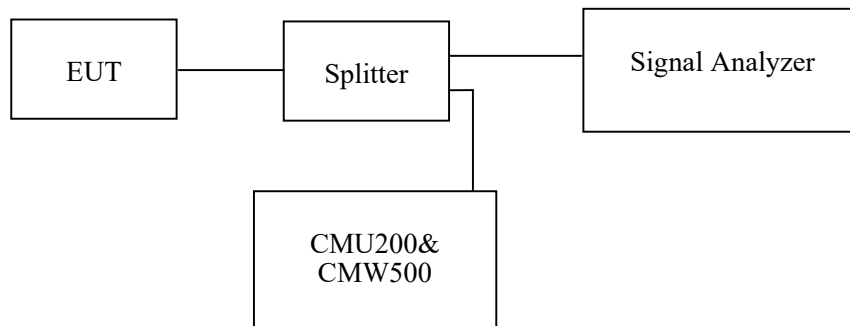
Applicable Standard

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:	28~28.9 °C
Relative Humidity:	52~56 %
ATM Pressure:	101.0 kPa

The testing was performed by Blaker Zhang from 2021-06-27 to 2021-07-22.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables and plots.

Cellular Band (Part 22H)

Mode	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	824.2	243.59	319.23
	836.6	246.79	316.99
	848.8	245.19	318.59

Mode	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
EGPRS (8PSK)	824.2	250.00	316.03
	836.6	253.21	318.27
	848.8	251.60	320.83

	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	826.4	4.18	4.71
	836.6	4.16	4.74
	846.6	4.18	4.76
HSDPA	826.4	4.18	4.70
	836.6	4.20	4.70
	846.6	4.18	4.72
HSUPA	826.4	4.18	4.71
	836.6	4.20	4.72
	846.6	4.18	4.72

PCS Band (Part 24E)

Mode	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	1850.2	243.59	316.03
	1880.0	243.59	315.06
	1909.8	243.59	312.82

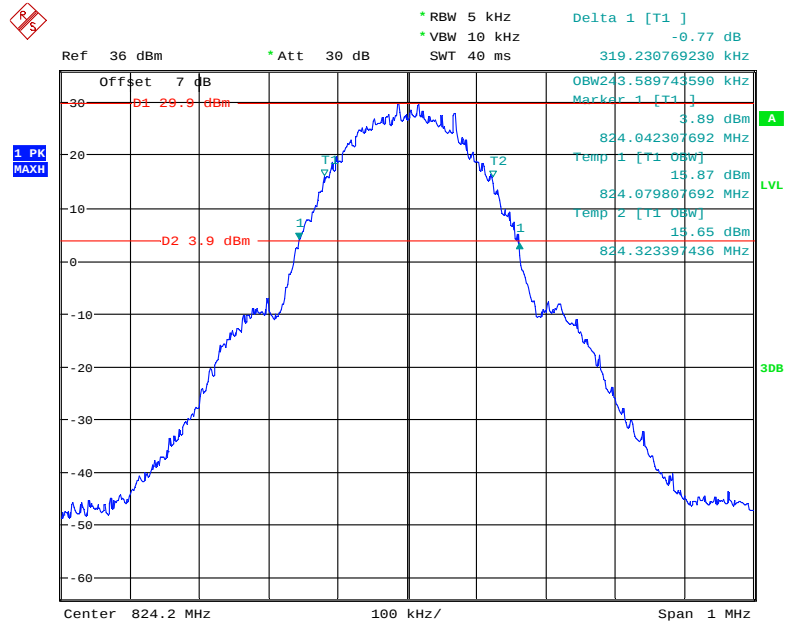
Mode	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
EGPRS (8PSK)	1850.2	248.40	321.79
	1880.0	245.19	314.42
	1909.8	251.60	315.38

	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1852.4	4.18	4.72
	1880.0	4.18	4.73
	1907.6	4.18	4.75
HSDPA	1852.4	4.18	4.71
	1880.0	4.18	4.70
	1907.6	4.18	4.71
HSUPA	1852.4	4.18	4.70
	1880.0	4.18	4.70
	1907.6	4.20	4.70

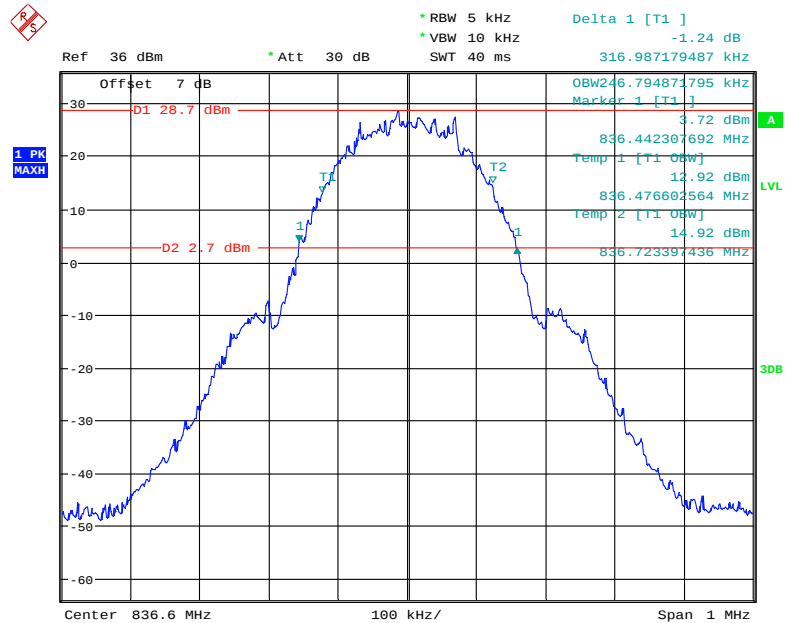
AWS Band

	Frequency (MHz)	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1712.4	4.18	4.70
	1732.6	4.20	4.76
	1752.6	4.18	4.72
HSDPA	1712.4	4.18	4.72
	1732.6	4.18	4.75
	1752.6	4.20	4.71
HSUPA	1712.4	4.18	4.68
	1732.6	4.20	4.72
	1752.6	4.18	4.68

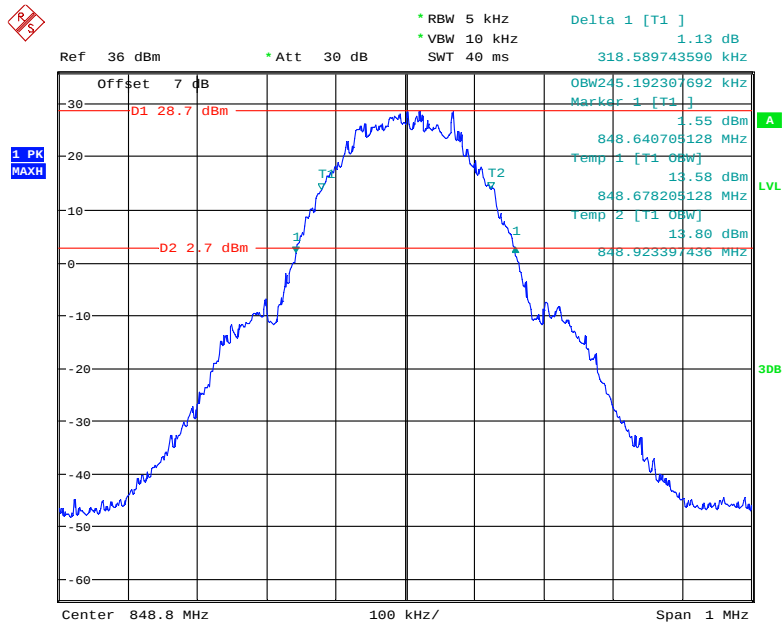
Cellular Band (Part 22H)

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

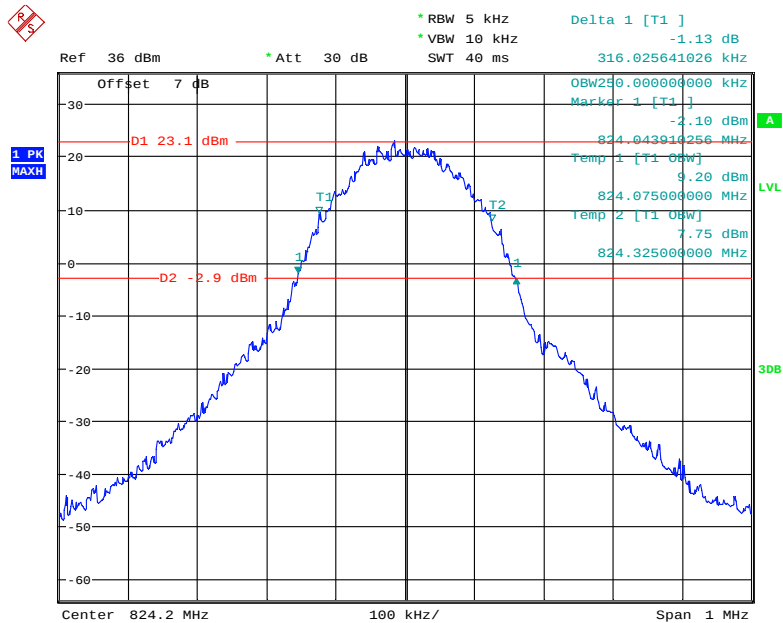
Date: 27.JUN.2021 14:19:06

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

Date: 27.JUN.2021 14:13:43

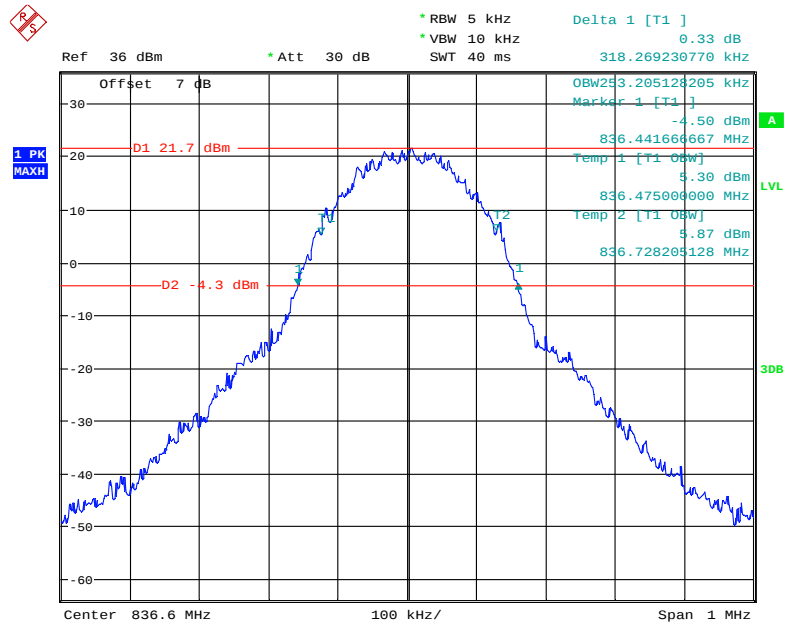
26 dB Emissions & 99% Occupied Bandwidth for GSM (GMSK) Mode, High channel

Date: 27.JUN.2021 14:10:59

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

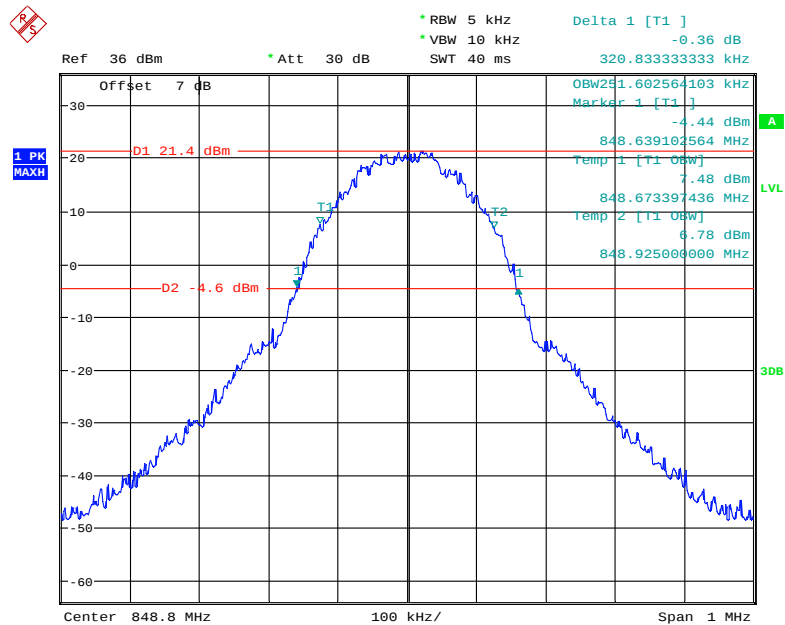
Date: 27.JUN.2021 14:25:28

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



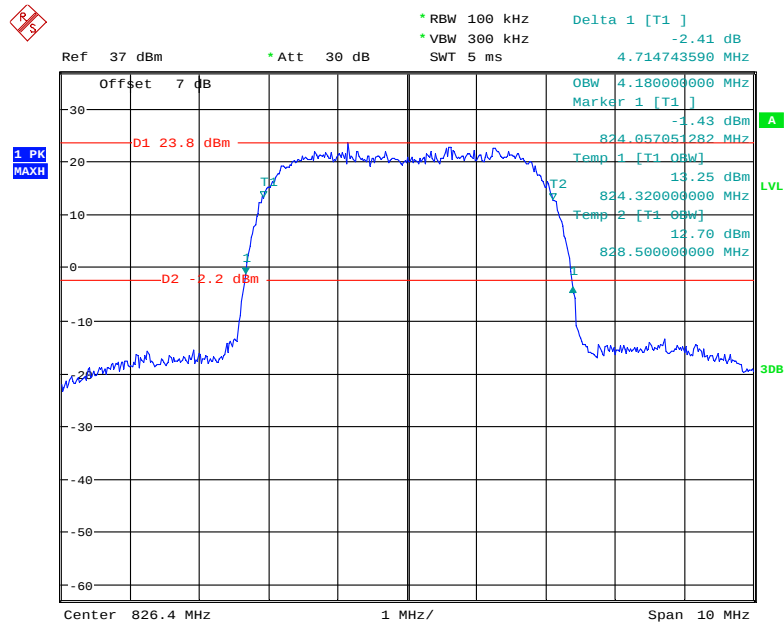
Date: 27.JUN.2021 14:27:59

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



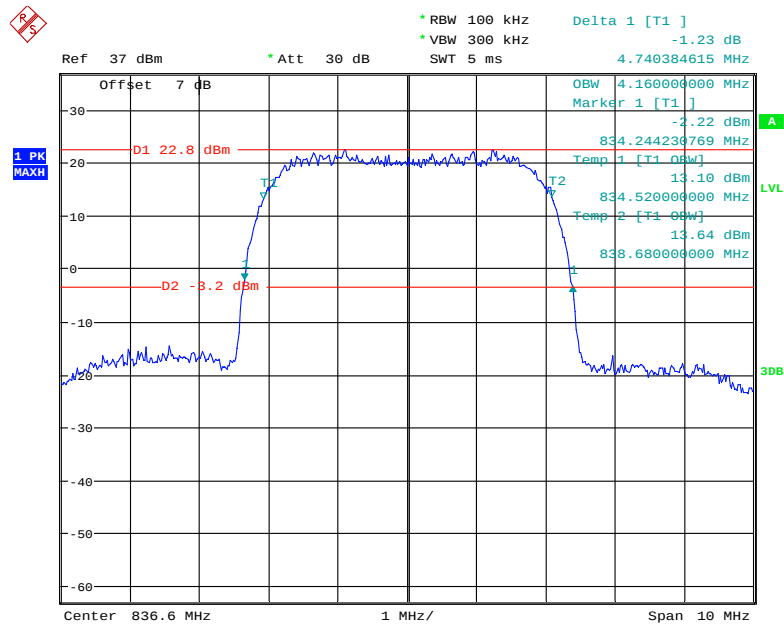
Date: 27.JUN.2021 14:32:21

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

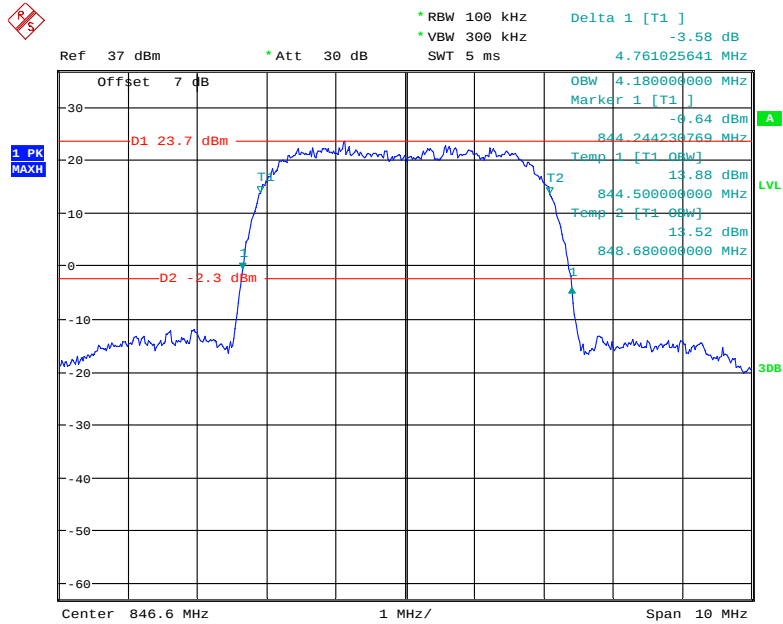


Date: 29.JUN.2021 01:03:01

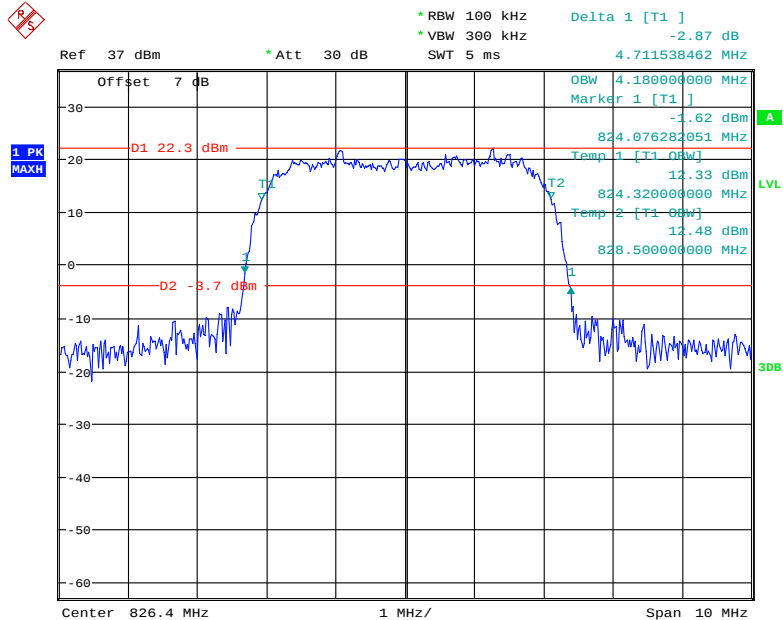
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel



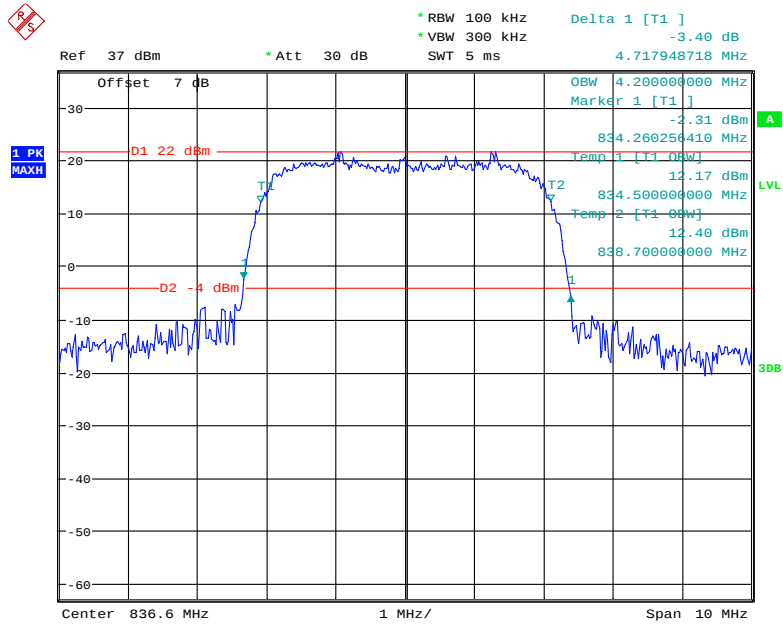
Date: 29.JUN.2021 01:04:02

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

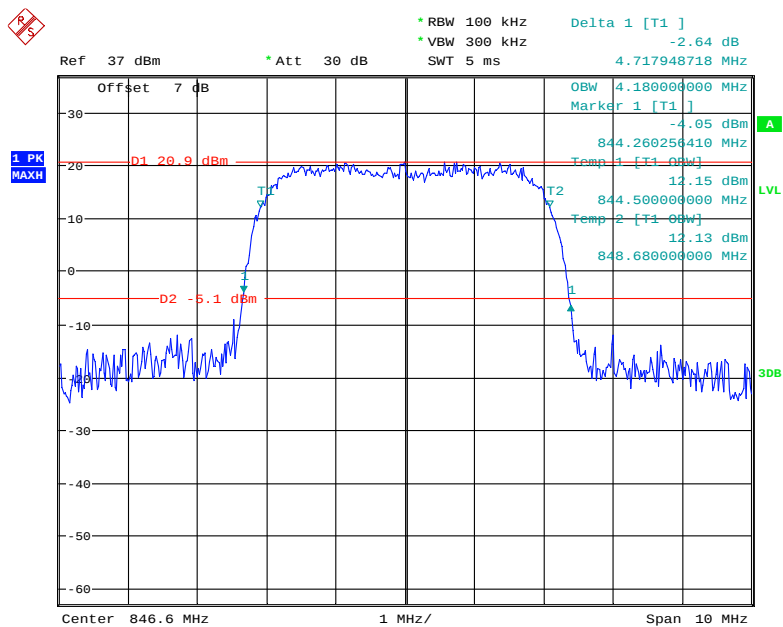
Date: 29.JUN.2021 01:05:55

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

Date: 29.JUN.2021 01:29:44

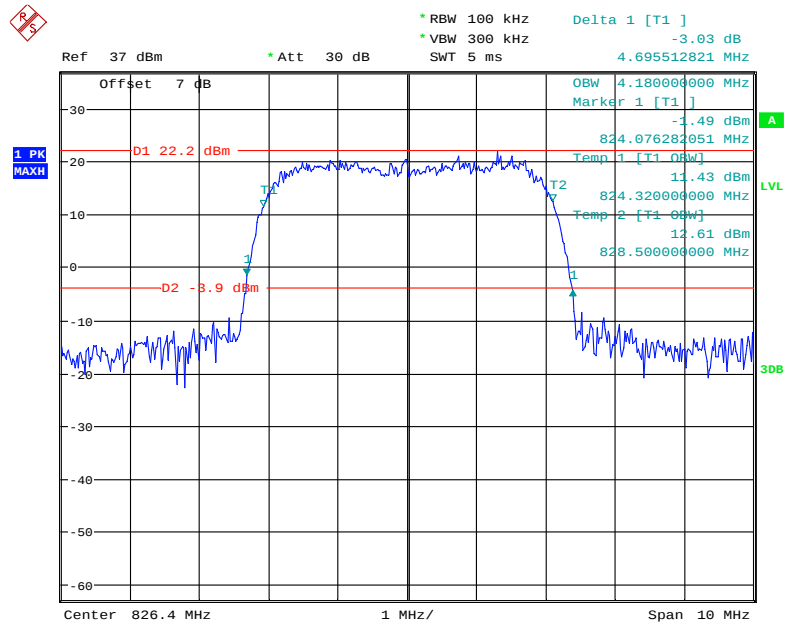
26 dB Emissions & 99% Occupied Bandwidth for HSUPA (BPSK) Mode, Middle channel

Date: 29.JUN.2021 01:32:30

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

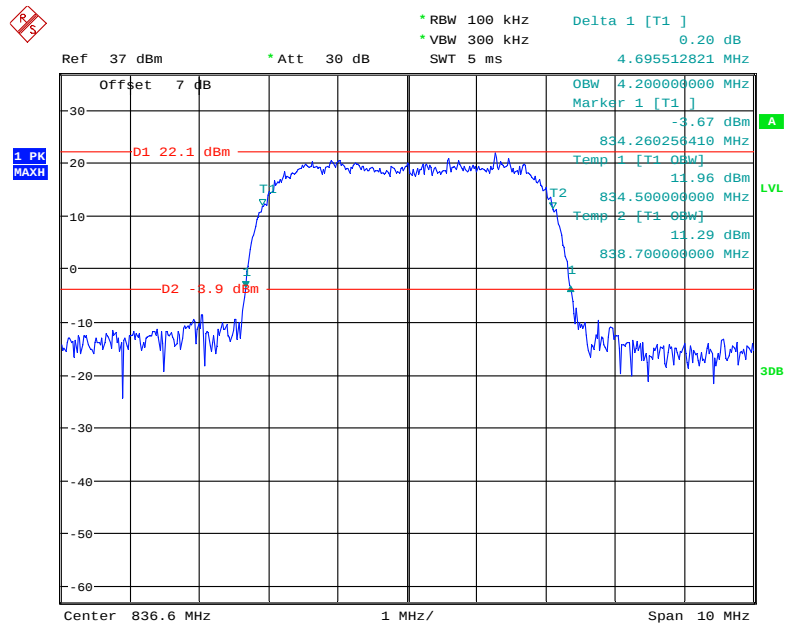
Date: 29.JUN.2021 01:33:40

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



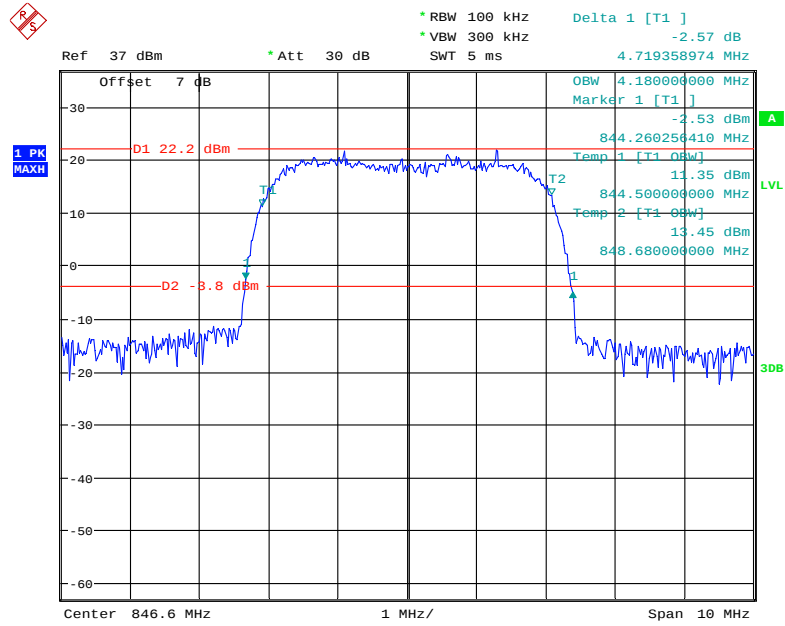
Date: 29.JUN.2021 01:11:34

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



Date: 29.JUN.2021 01:10:38

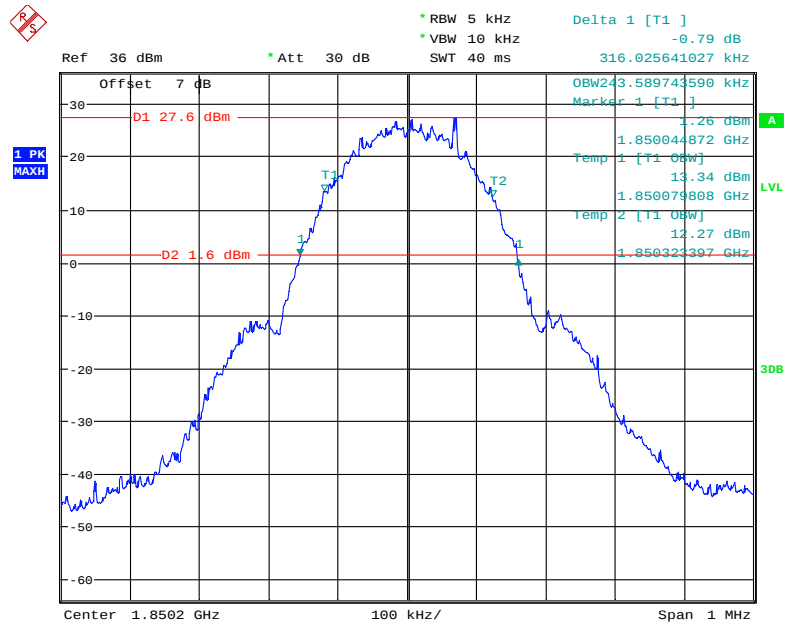
26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel



Date: 29.JUN.2021 01:08:29

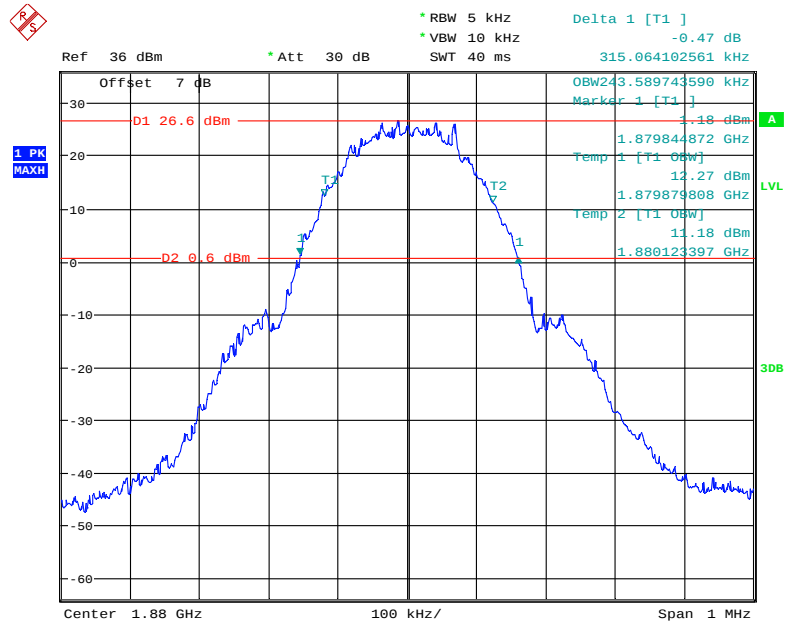
PCS Band (Part 24E)

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



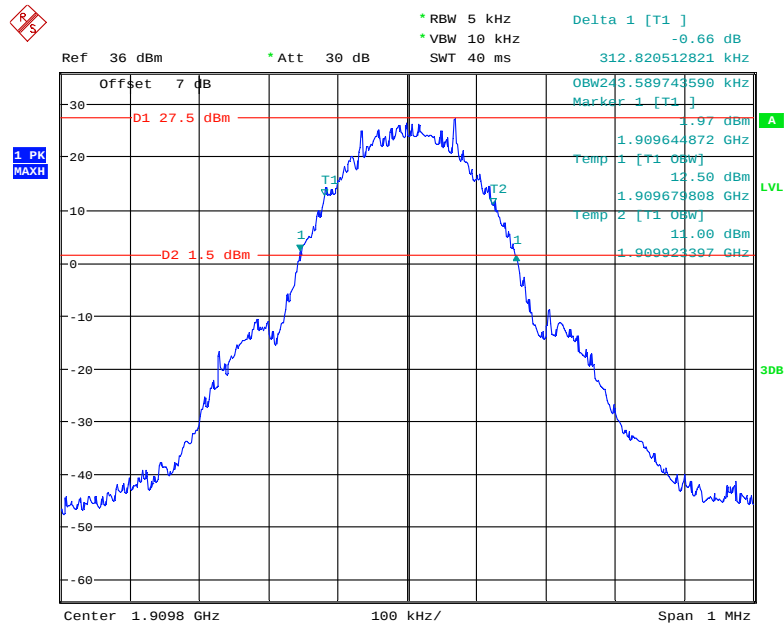
Date: 27.JUN.2021 14:02:46

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



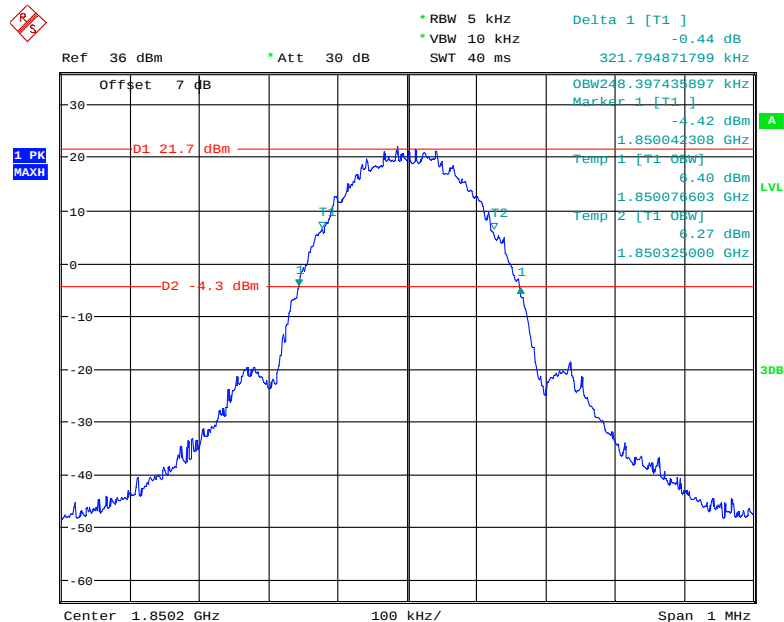
Date: 27.JUN.2021 14:05:03

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



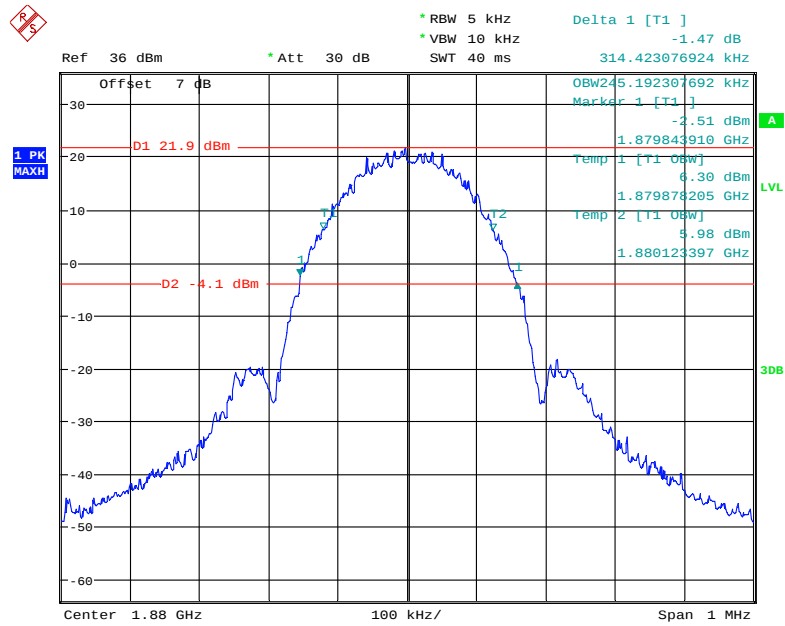
Date: 27.JUN.2021 14:06:56

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



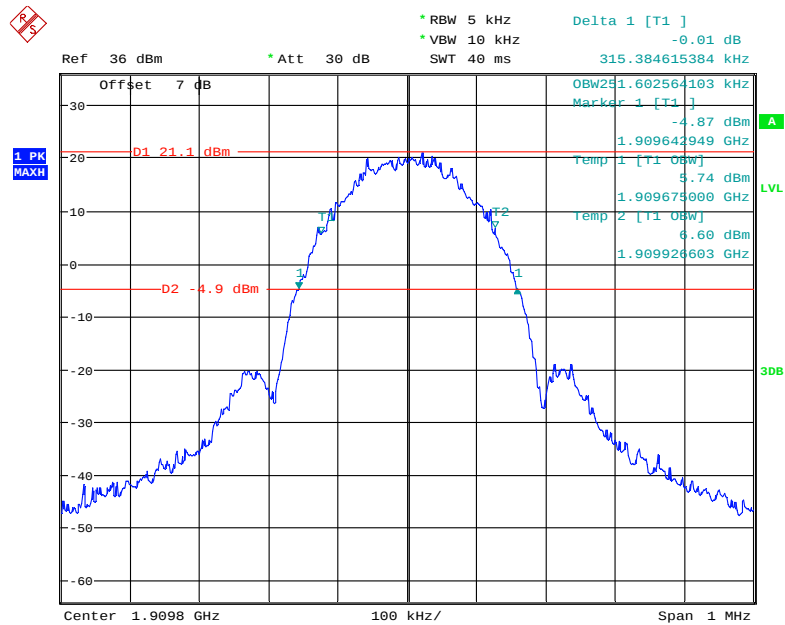
Date: 27.JUN.2021 14:38:02

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



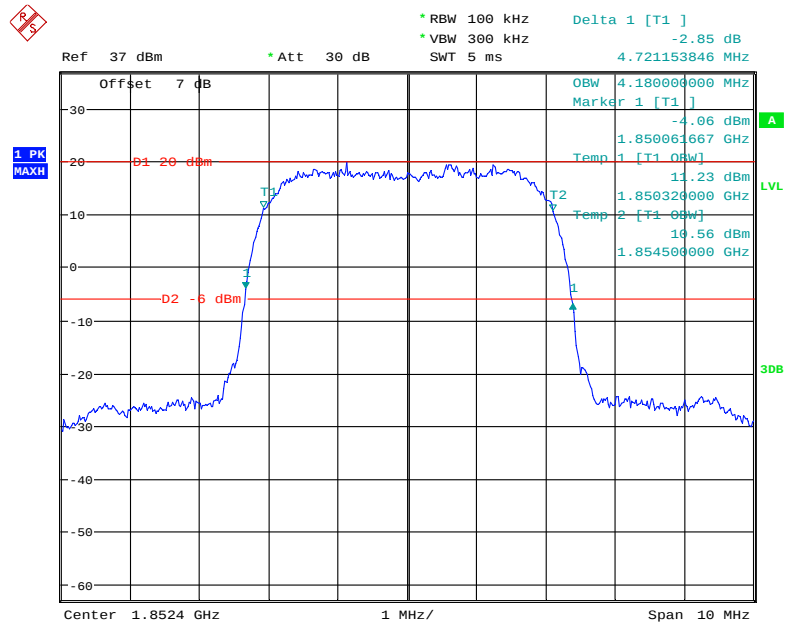
Date: 27.JUN.2021 14:41:00

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



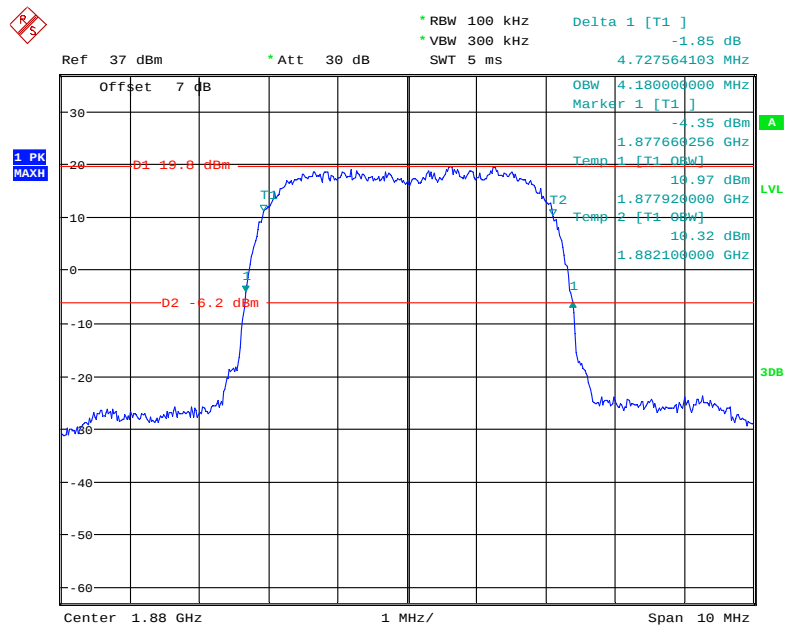
Date: 27.JUN.2021 14:43:58

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

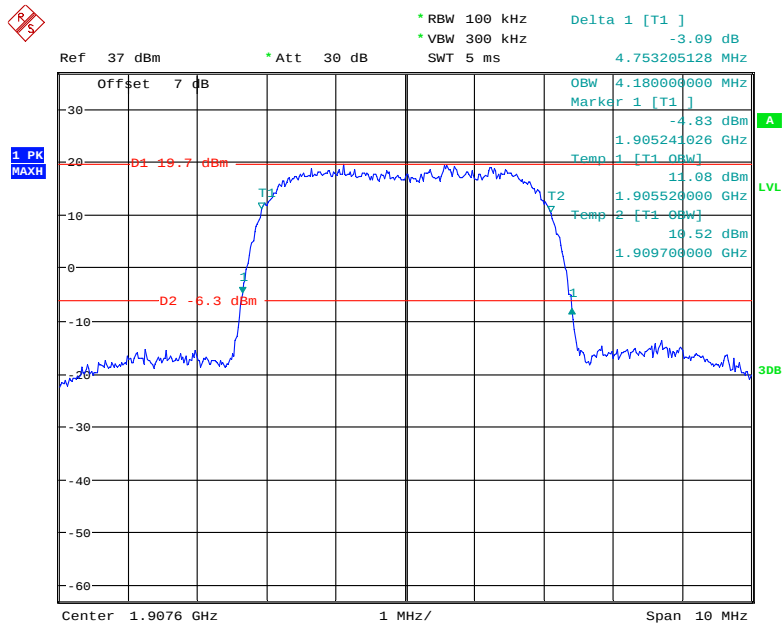


Date: 29.JUN.2021 00:56:12

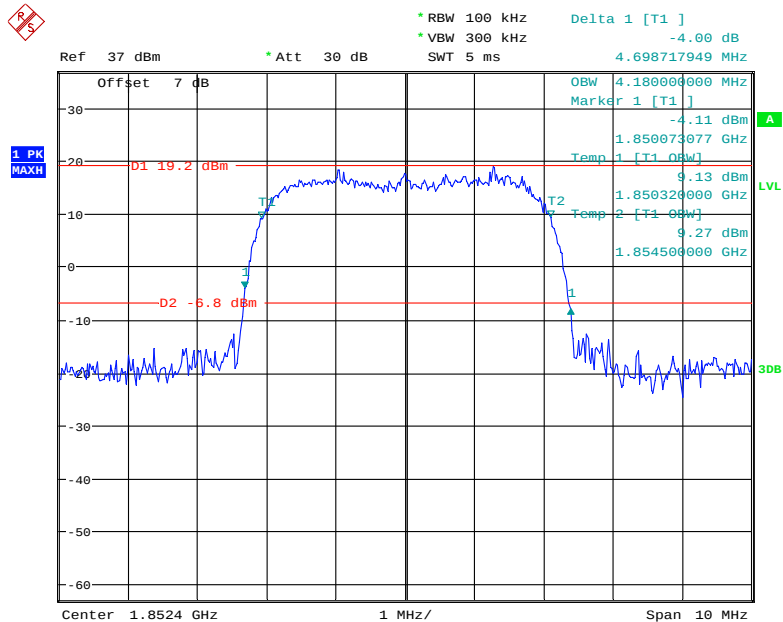
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, Middle channel



Date: 29.JUN.2021 00:57:39

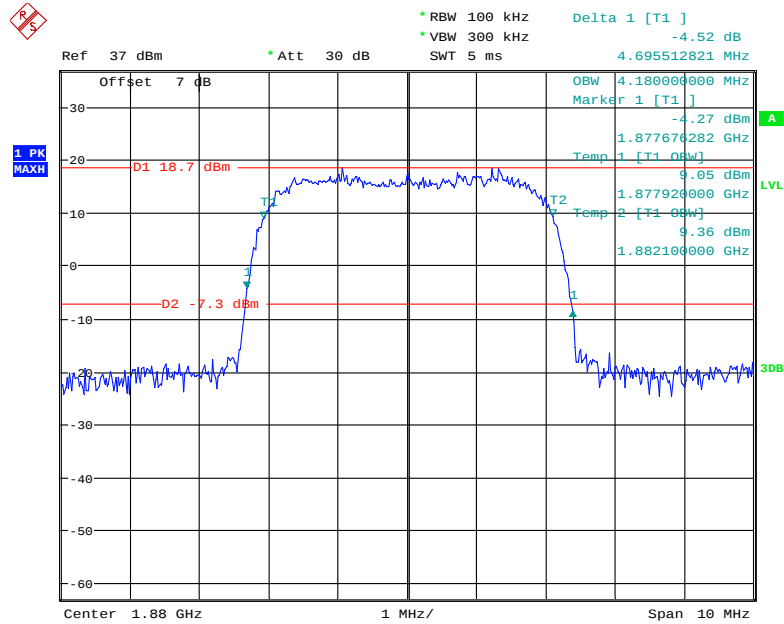
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel

Date: 29.JUN.2021 00:59:01

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

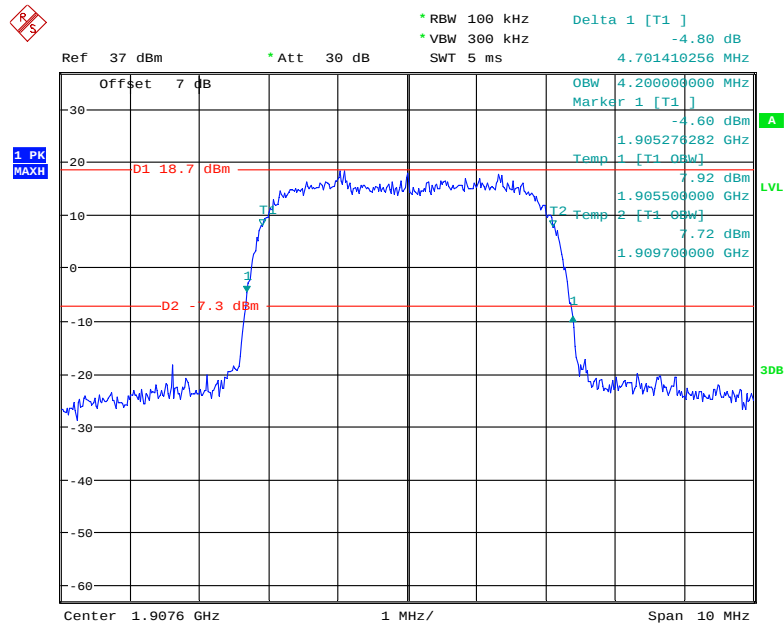
Date: 29.JUN.2021 01:21:35

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



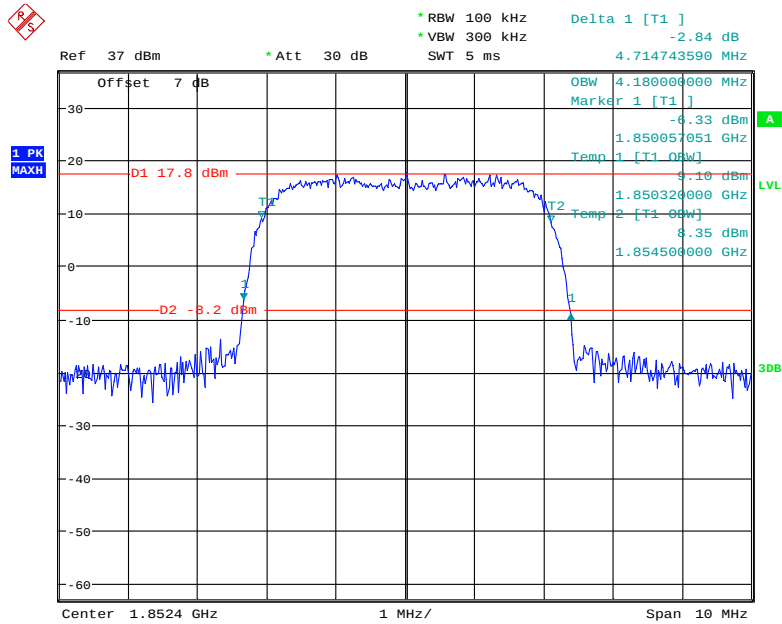
Date: 29.JUN.2021 01:22:55

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



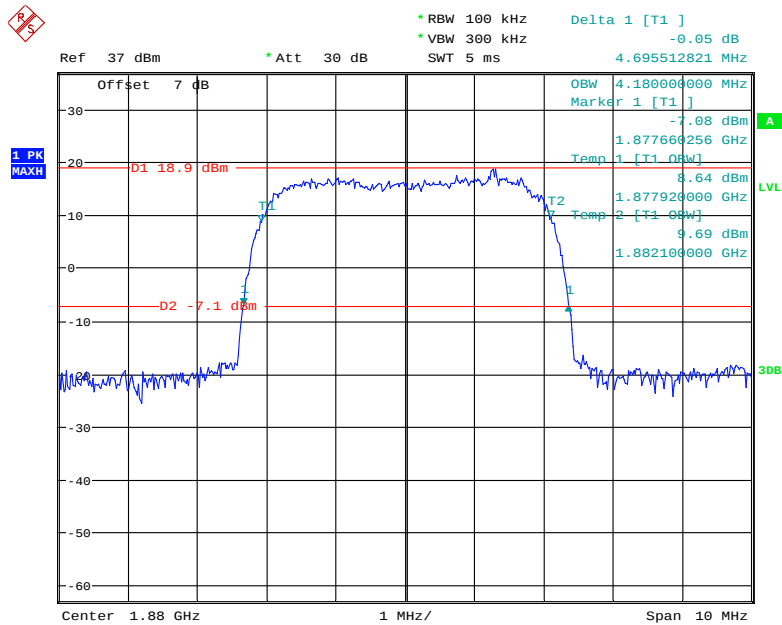
Date: 29.JUN.2021 01:23:53

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



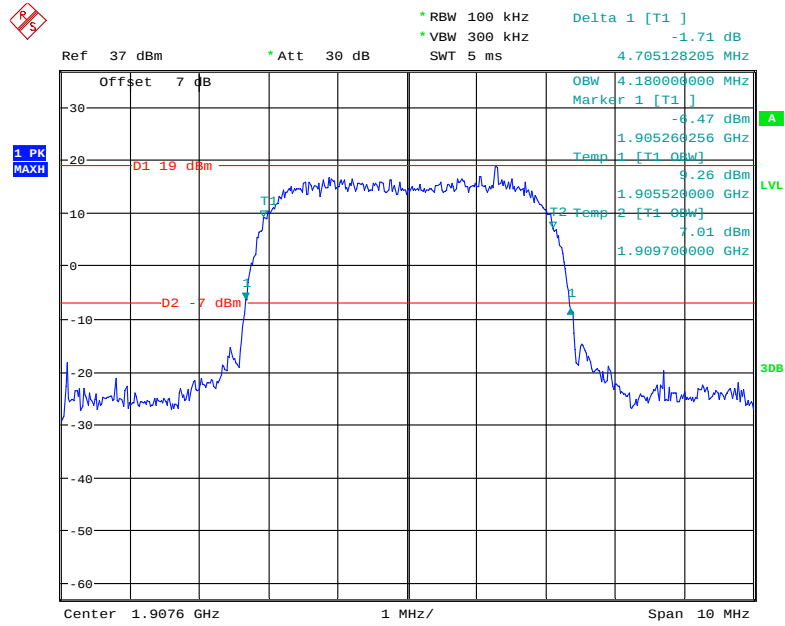
Date: 29.JUN.2021 01:20:04

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

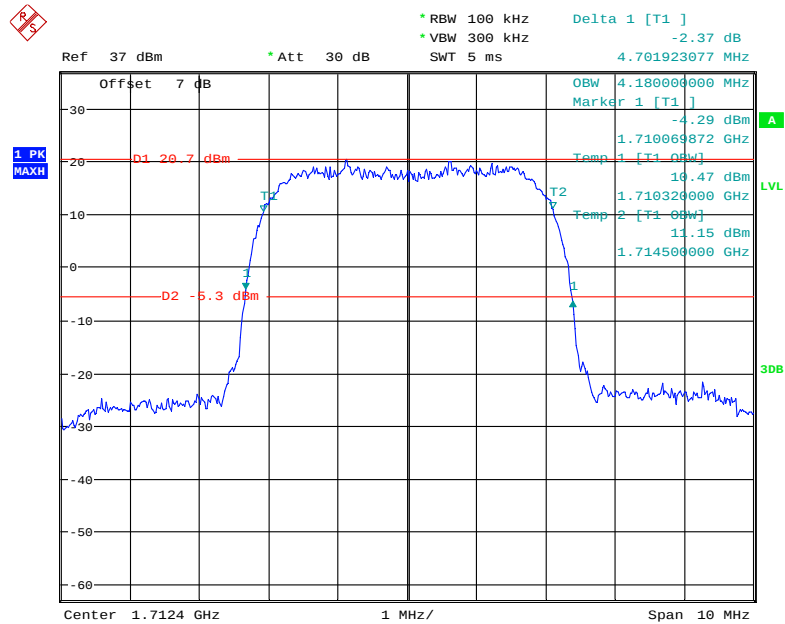


Date: 29.JUN.2021 01:18:44

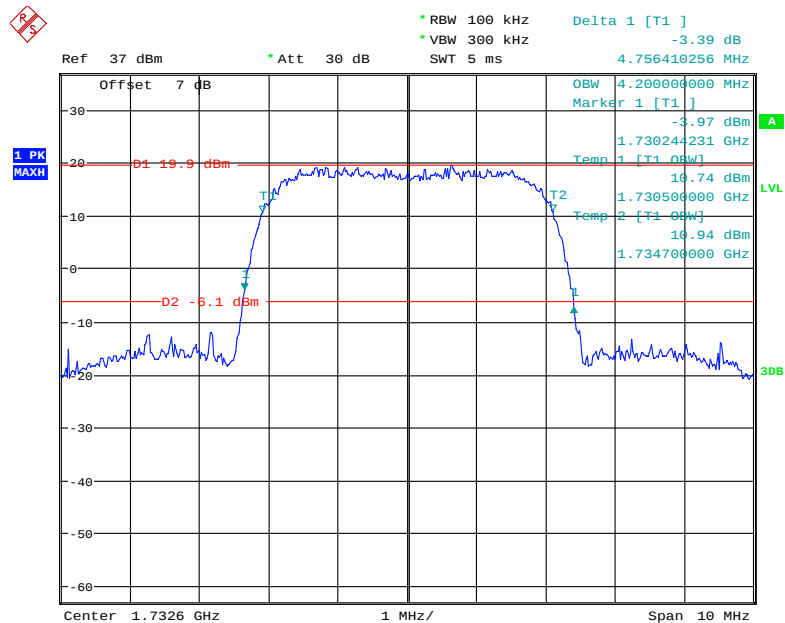
26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel



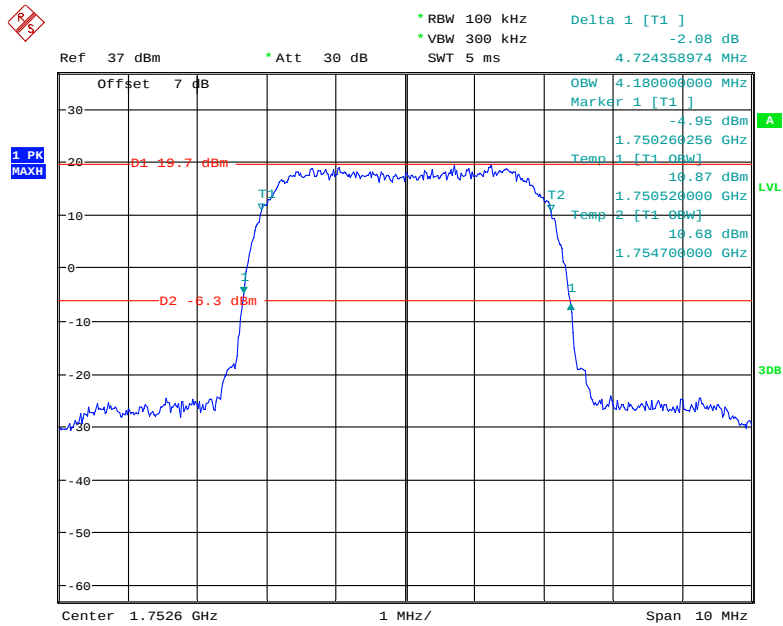
Date: 29.JUN.2021 01:17:10

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

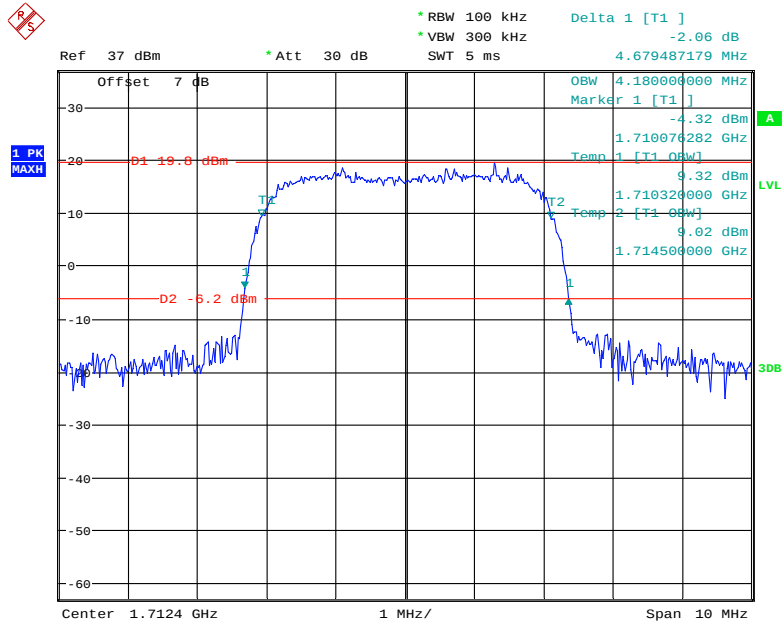
Date: 29.JUN.2021 00:59:58

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

Date: 29.JUN.2021 01:01:03

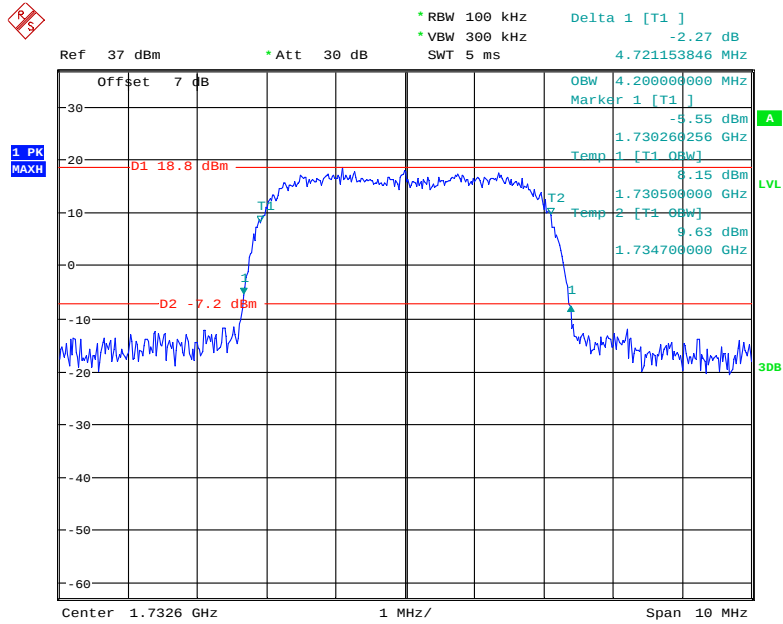
26 dB Emissions & 99% Occupied Bandwidth for RMC (BPSK) Mode, High channel

Date: 29.JUN.2021 01:01:54

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

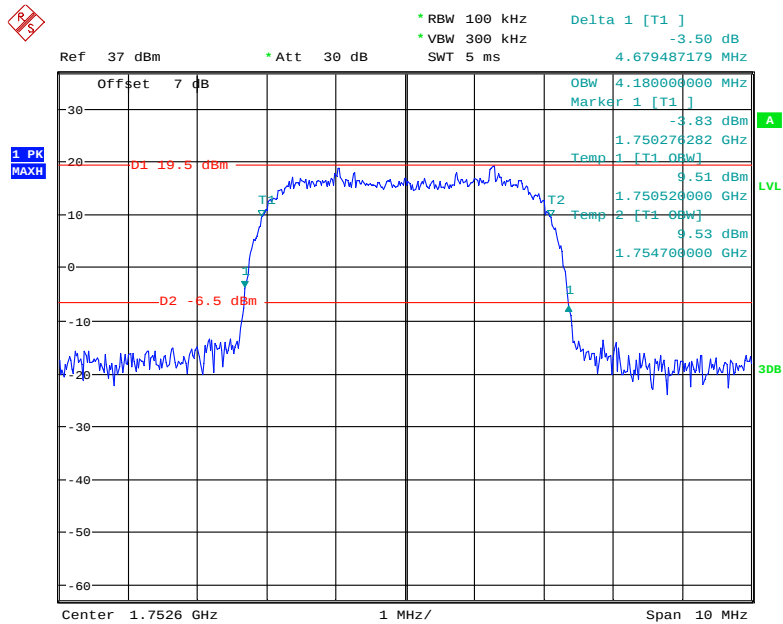
Date: 29.JUN.2021 01:25:50

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

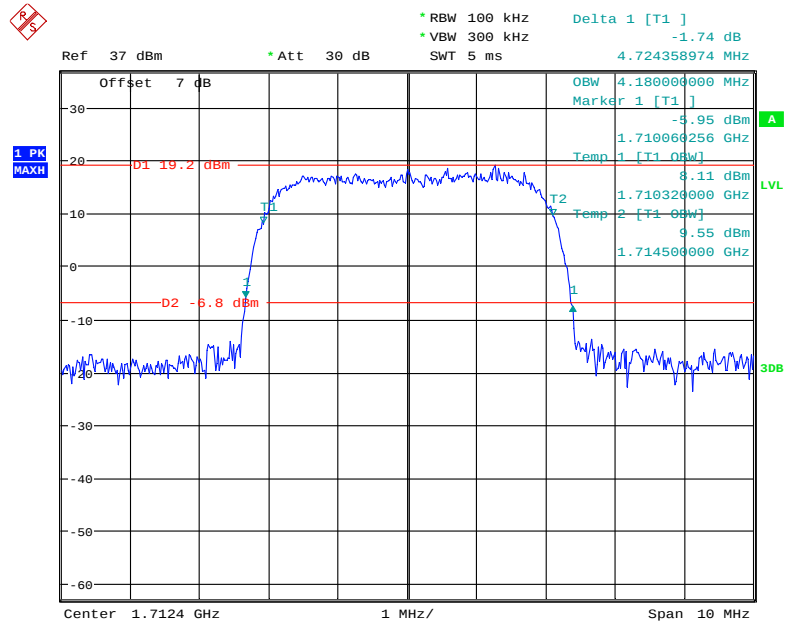


Date: 29.JUN.2021 01:27:03

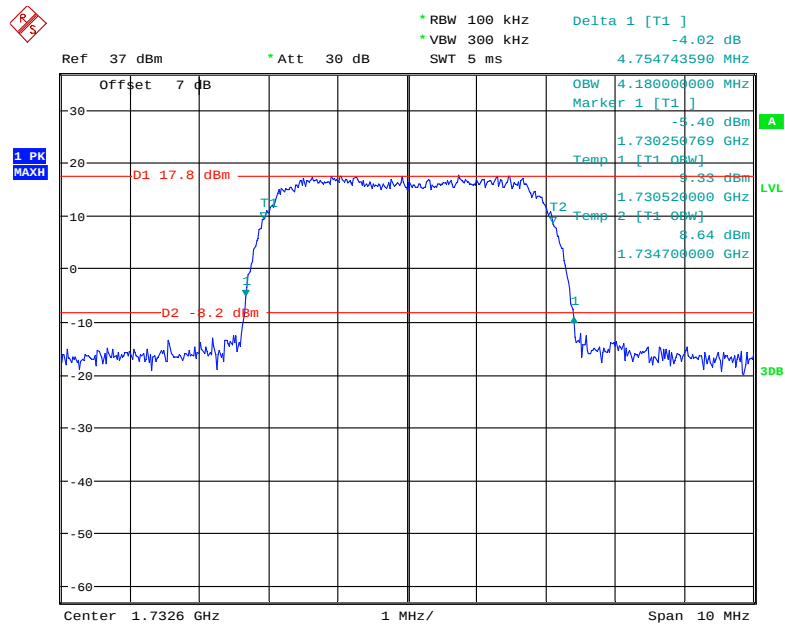
26 dB Emissions & 99% Occupied Bandwidth for HSUPA (BPSK) Mode, High channel



Date: 29.JUN.2021 01:28:15

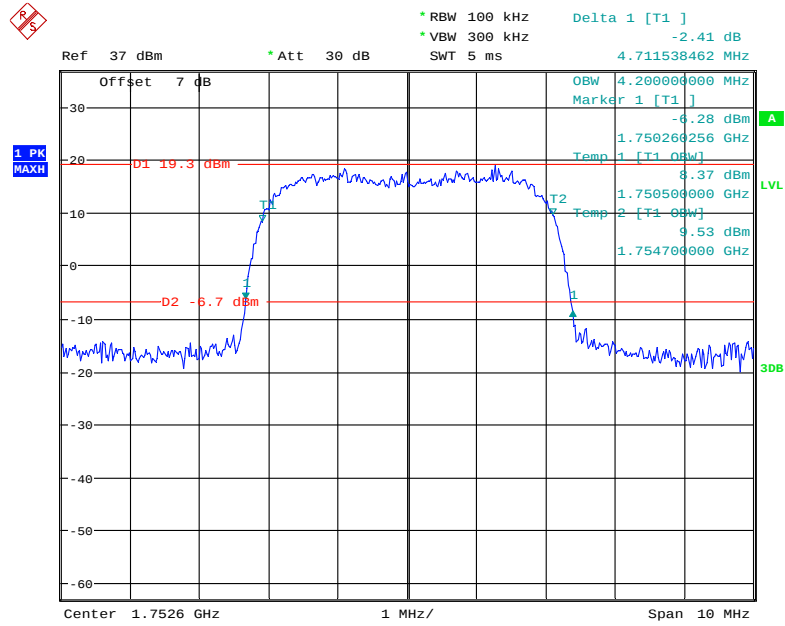
26 dB Emissions & 99% Occupied Bandwidth for HSDPA (16QAM) Mode, Low channel

Date: 29.JUN.2021 01:16:03

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

Date: 29.JUN.2021 01:14:32

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



Date: 29.JUN.2021 01:13:01

LTE Band 2:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4 MHz	QPSK	1.104	1.278	1.098	1.296	1.110	1.314
	16QAM	1.104	1.284	1.104	1.290	1.098	1.284
3 MHz	QPSK	2.688	2.916	2.688	2.928	2.688	2.940
	16QAM	2.688	2.952	2.688	2.940	2.688	2.940
5 MHz	QPSK	4.520	5.100	4.520	4.920	4.520	4.920
	16QAM	4.500	4.920	4.520	4.940	4.540	5.080
10 MHz	QPSK	9.000	9.640	8.960	9.560	8.960	9.600
	16QAM	8.960	9.520	8.960	9.560	8.960	9.640
15 MHz	QPSK	13.500	14.820	13.500	14.760	13.500	14.820
	16QAM	13.500	14.700	13.560	14.760	13.500	14.700
20 MHz	QPSK	17.920	19.280	17.920	19.200	18.000	19.280
	16QAM	17.920	19.280	18.000	19.280	18.000	19.360

LTE Band 4:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4 MHz	QPSK	1.098	1.374	1.098	1.296	1.104	1.278
	16QAM	1.110	1.302	1.092	1.284	1.104	1.296
3 MHz	QPSK	2.688	2.904	2.700	2.940	2.688	2.940
	16QAM	2.688	2.940	2.688	2.940	2.688	2.964
5 MHz	QPSK	4.520	4.900	4.520	4.920	4.500	4.920
	16QAM	4.500	4.920	4.520	4.920	4.520	4.940
10 MHz	QPSK	8.960	9.680	8.960	9.600	8.960	9.640
	16QAM	8.960	9.640	8.960	9.640	8.960	9.600
15 MHz	QPSK	13.560	15.540	13.500	14.580	13.560	14.760
	16QAM	13.500	14.760	13.500	14.760	13.500	14.760
20 MHz	QPSK	18.000	19.360	17.920	19.200	17.920	19.360
	16QAM	18.000	19.280	17.920	19.280	18.000	19.360

LTE Band 5:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4 MHz	QPSK	1.098	1.290	1.104	1.290	1.104	1.290
	16QAM	1.104	1.296	1.110	1.302	1.098	1.272
3 MHz	QPSK	2.688	2.916	2.676	2.928	2.688	2.940
	16QAM	2.688	2.940	2.688	2.952	2.676	2.928
5 MHz	QPSK	4.520	4.940	4.520	4.920	4.520	4.920
	16QAM	4.500	4.920	4.520	4.900	4.520	4.960
10 MHz	QPSK	8.960	9.600	8.960	9.520	8.960	9.520
	16QAM	8.960	9.520	8.960	9.560	8.960	9.640

LTE Band 7:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5 MHz	QPSK	4.520	4.920	4.520	4.940	4.500	4.920
	16QAM	4.500	4.900	4.520	4.940	4.500	4.940
10 MHz	QPSK	9.000	9.680	8.960	9.640	8.960	9.560
	16QAM	8.920	9.640	8.960	9.560	8.960	9.640
15 MHz	QPSK	13.500	14.700	13.500	14.700	13.500	14.820
	16QAM	13.500	14.700	13.500	14.760	13.500	14.700
20 MHz	QPSK	17.920	19.360	17.920	19.280	18.000	19.280
	16QAM	18.000	19.280	17.920	19.360	18.000	19.615

LTE Band 17:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5 MHz	QPSK	4.500	4.940	4.520	4.900	4.540	4.960
	16QAM	4.520	4.940	4.500	4.920	4.540	4.940
10 MHz	QPSK	8.920	9.600	8.960	9.560	8.960	9.520
	16QAM	8.920	9.600	8.960	9.480	8.920	9.520

LTE Band 38:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5 MHz	QPSK	4.500	4.880	4.500	5.060	4.520	4.940
	16QAM	4.520	4.940	4.500	4.940	4.520	5.000
10 MHz	QPSK	8.960	9.600	8.960	9.640	8.960	9.560
	16QAM	8.960	9.520	8.960	9.600	8.960	9.920
15 MHz	QPSK	13.560	15.060	13.500	15.000	13.500	14.820
	16QAM	13.500	15.300	13.560	14.880	13.620	15.480
20 MHz	QPSK	18.000	19.360	18.000	19.200	18.000	19.360
	16QAM	18.000	19.360	18.000	19.600	17.920	19.360

LTE Band 41:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5 MHz	QPSK	4.520	4.880	4.500	5.080	4.520	4.940
	16QAM	4.500	4.940	4.500	4.920	4.520	4.980
10 MHz	QPSK	9.000	9.640	8.960	9.680	8.960	9.560
	16QAM	9.000	9.480	8.960	9.560	8.960	9.800
15 MHz	QPSK	13.560	14.820	13.500	14.940	13.500	15.060
	16QAM	13.560	15.300	13.560	15.000	13.560	15.480
20 MHz	QPSK	17.920	19.280	18.000	19.360	17.920	19.520
	16QAM	17.920	19.520	17.920	19.760	17.920	19.360

LTE Band 66

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4 MHz	QPSK	1.077	1.311	1.098	1.290	1.104	1.308
	16QAM	1.098	1.278	1.110	1.308	1.098	1.278
3 MHz	QPSK	2.688	3.036	2.688	2.940	2.688	2.928
	16QAM	2.688	2.952	2.688	2.940	2.688	2.988
5 MHz	QPSK	4.520	4.900	4.520	4.940	4.500	4.900
	16QAM	4.520	4.920	4.520	4.940	4.520	4.920
10 MHz	QPSK	8.960	9.640	8.960	9.520	8.960	9.560
	16QAM	8.960	9.520	8.960	9.520	8.960	9.520
15 MHz	QPSK	13.560	14.760	13.500	14.760	13.500	14.700
	16QAM	13.500	15.000	13.500	14.760	13.500	14.700
20 MHz	QPSK	18.000	19.360	17.920	19.280	18.000	19.440
	16QAM	18.000	19.200	18.000	19.280	17.920	19.280

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

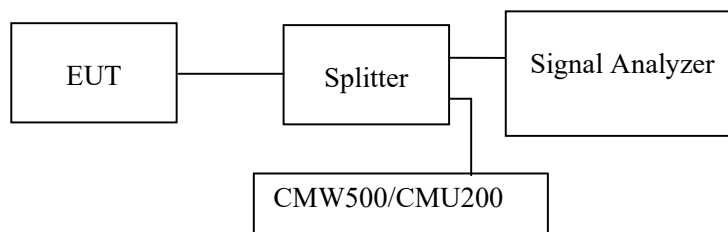
Applicable Standard

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:	28~28.9 °C
Relative Humidity:	52~56 %
ATM Pressure:	101.0 kPa

The testing was performed by Blaker Zhang on 2021-06-27 and 2021-06-29 and Black Chen on 2021-06-28.

EUT operation mode: Transmitting

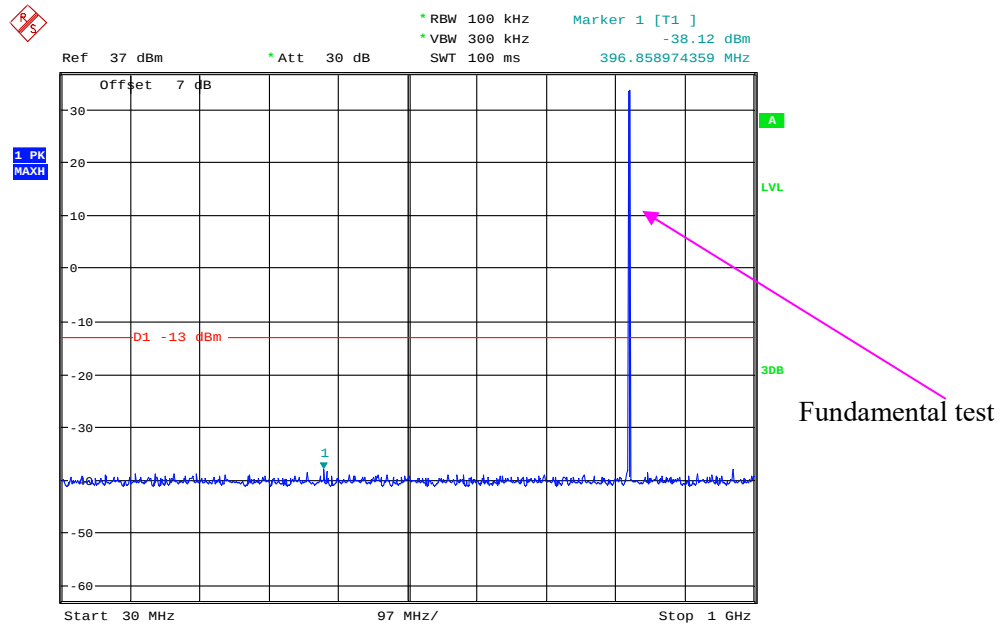
Test result: Pass

Please refer to the following plots.

Cellular Band (Part 22H)

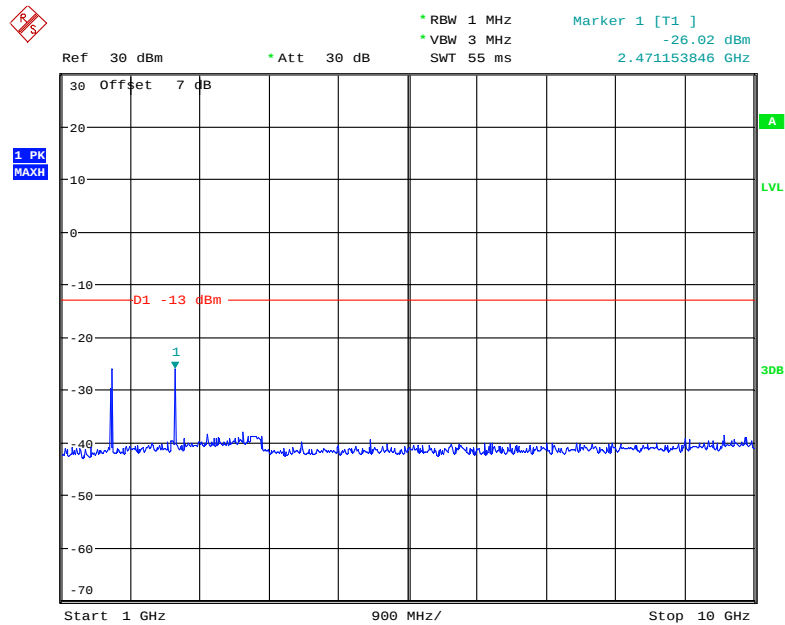
Low Channel:

30 MHz – 1 GHz (GSM Mode)



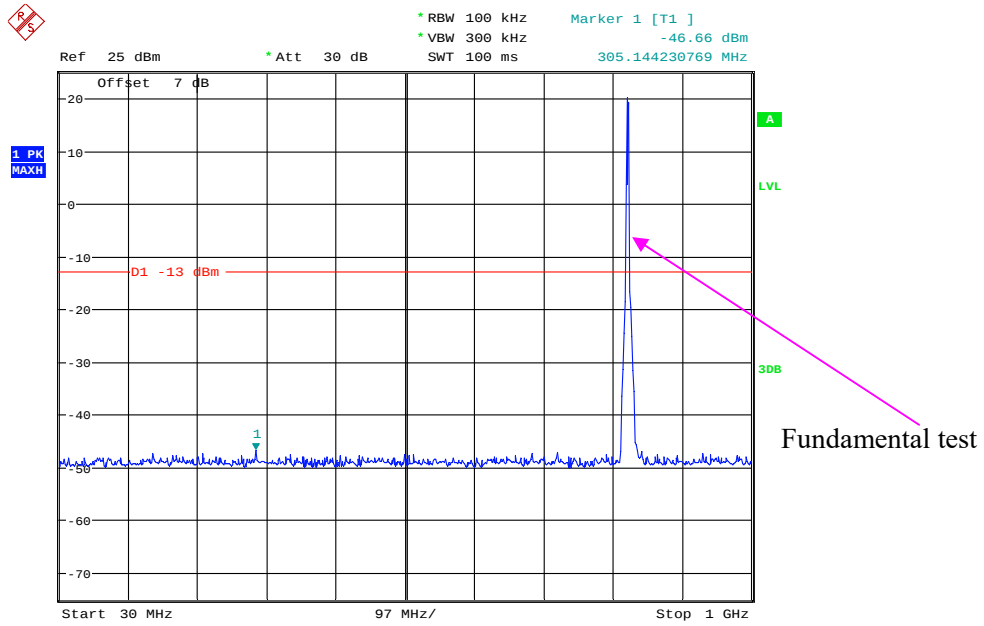
Date: 27.JUN.2021 13:30:30

1 GHz – 10 GHz (GSM Mode)



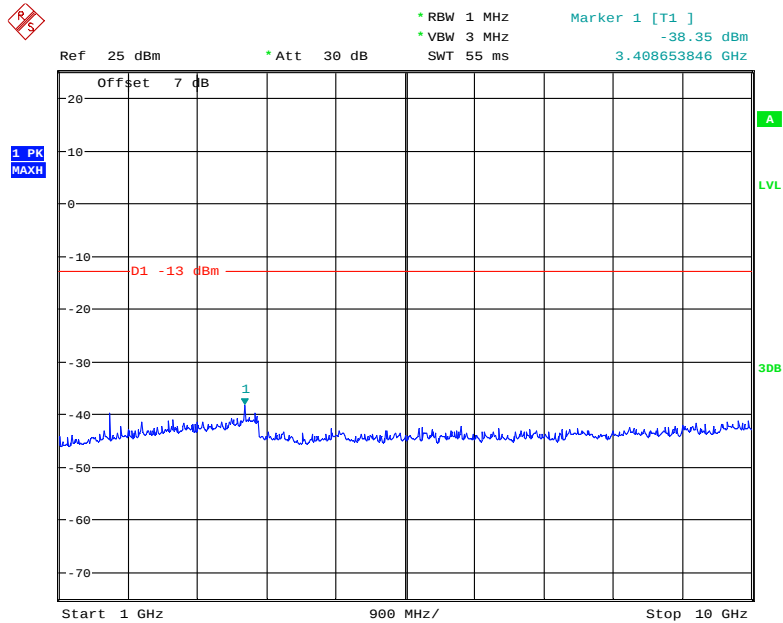
Date: 27.JUN.2021 13:19:38

30 MHz – 1 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:27:35

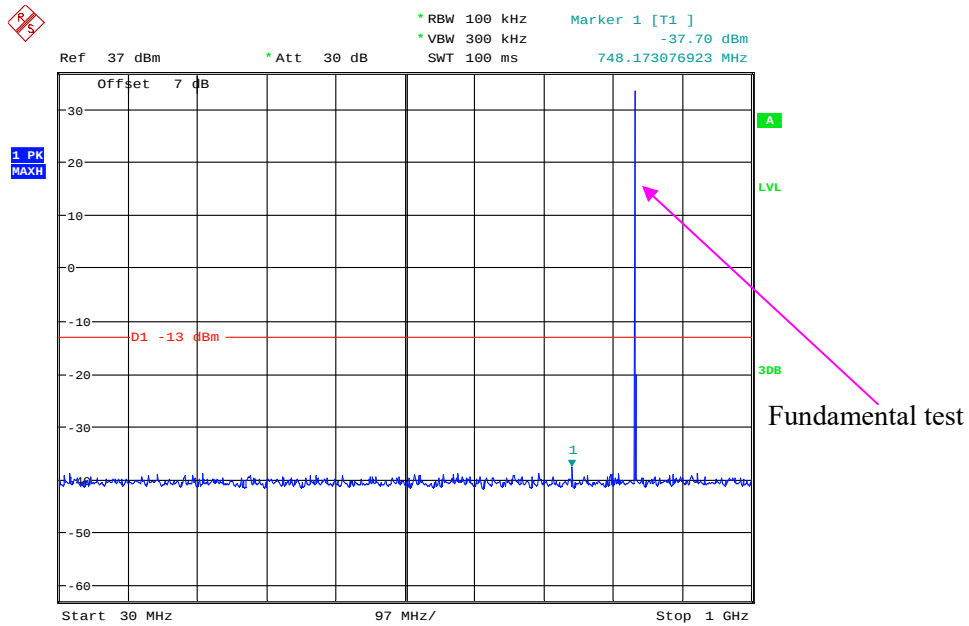
1 GHz – 10 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:35:59

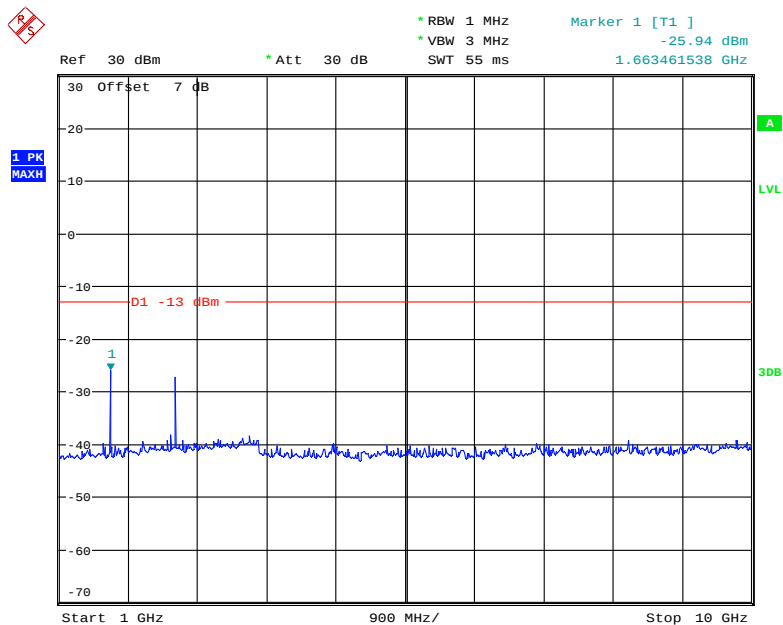
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



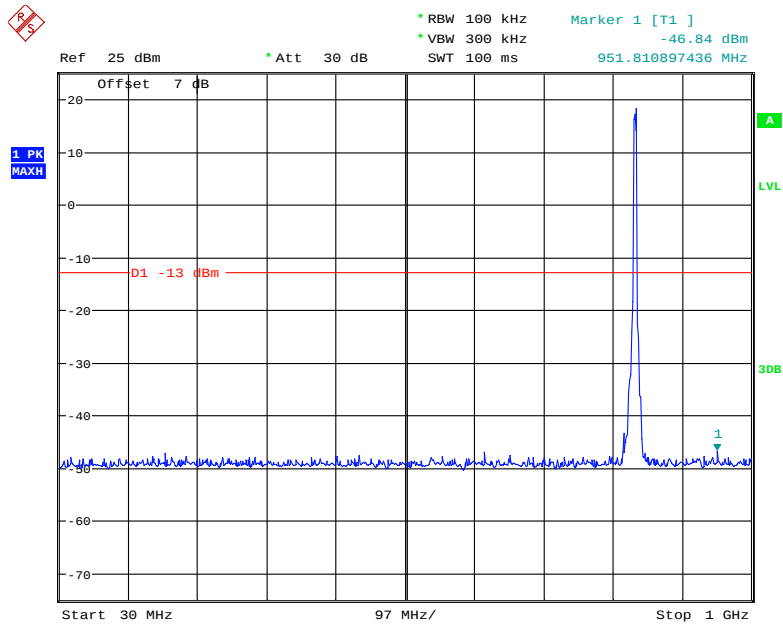
Date: 27.JUN.2021 13:29:05

1 GHz – 10 GHz (GSM Mode)



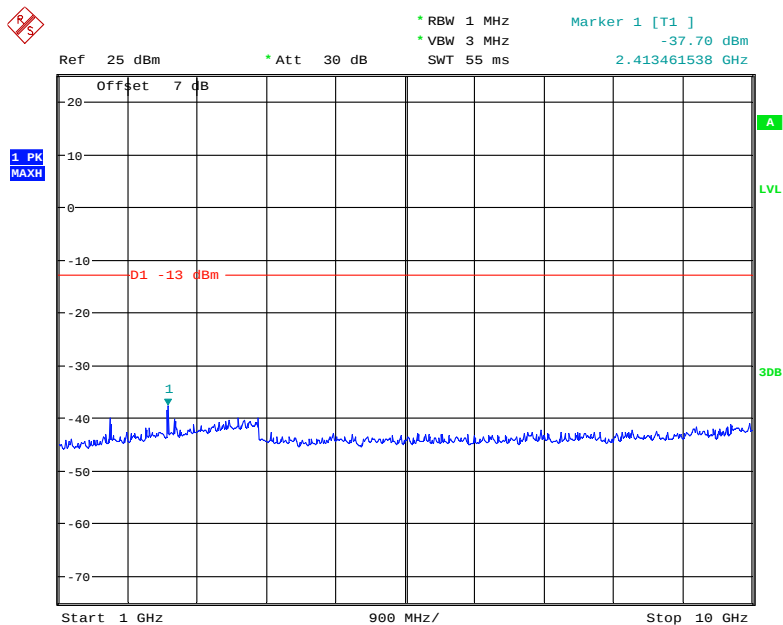
Date: 27.JUN.2021 13:20:43

30 MHz – 1 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:30:16

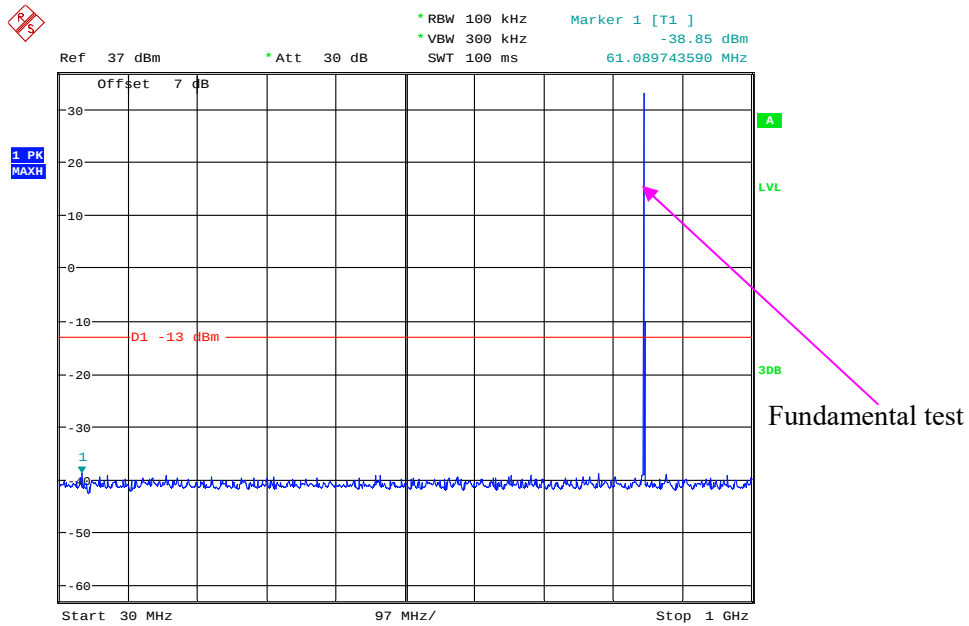
1 GHz – 10 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:34:51

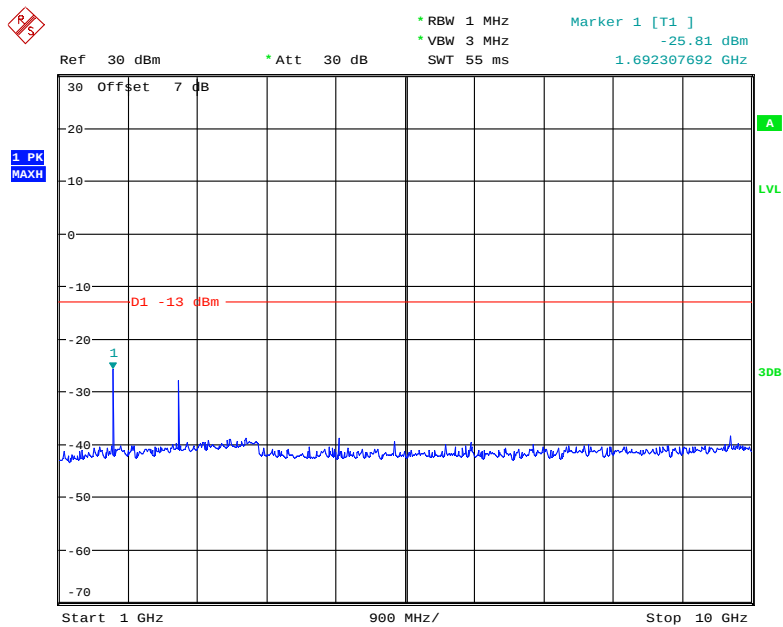
High Channel:

30 MHz – 1 GHz (GSM Mode)



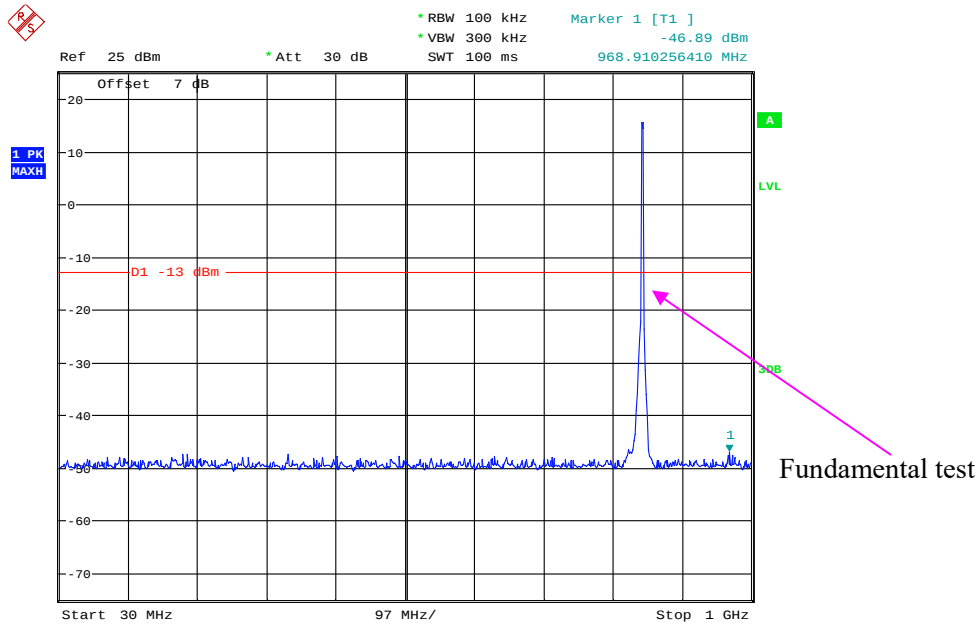
Date: 27.JUN.2021 13:29:30

1 GHz – 10 GHz (GSM Mode)



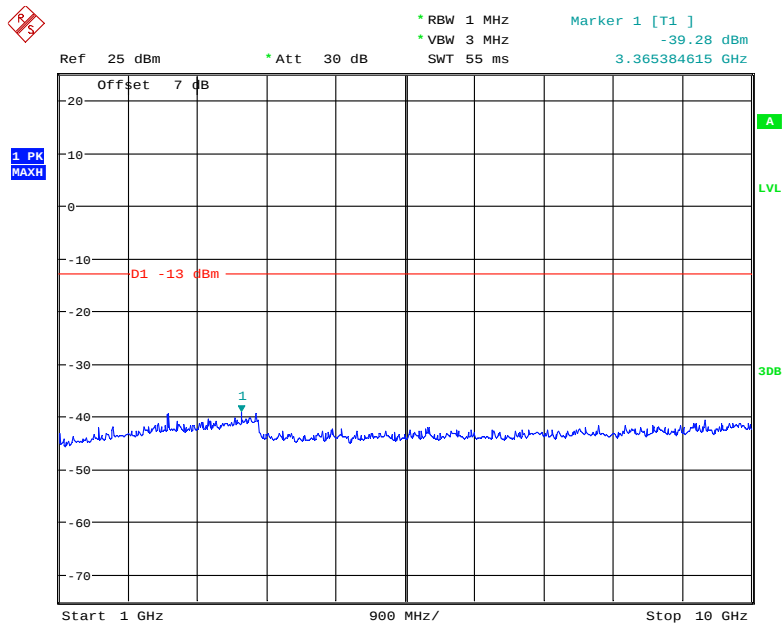
Date: 27.JUN.2021 13:21:05

30 MHz – 1 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:32:01

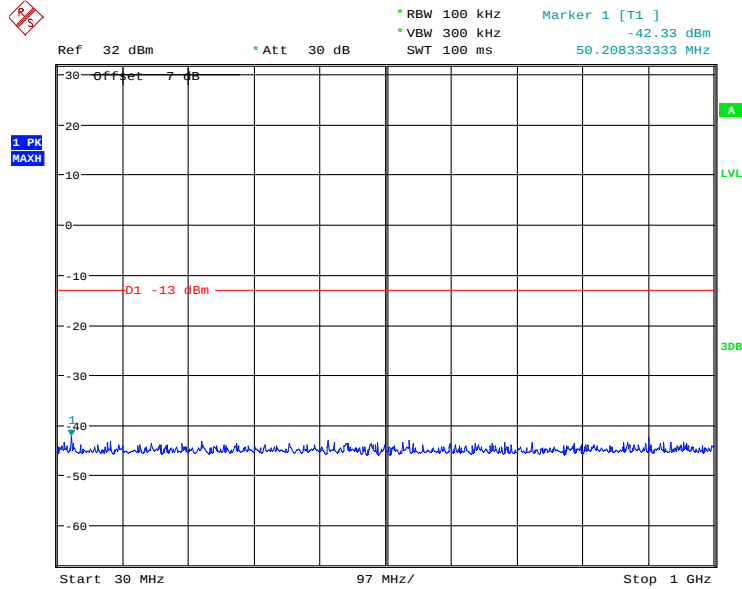
1 GHz – 10 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:33:13

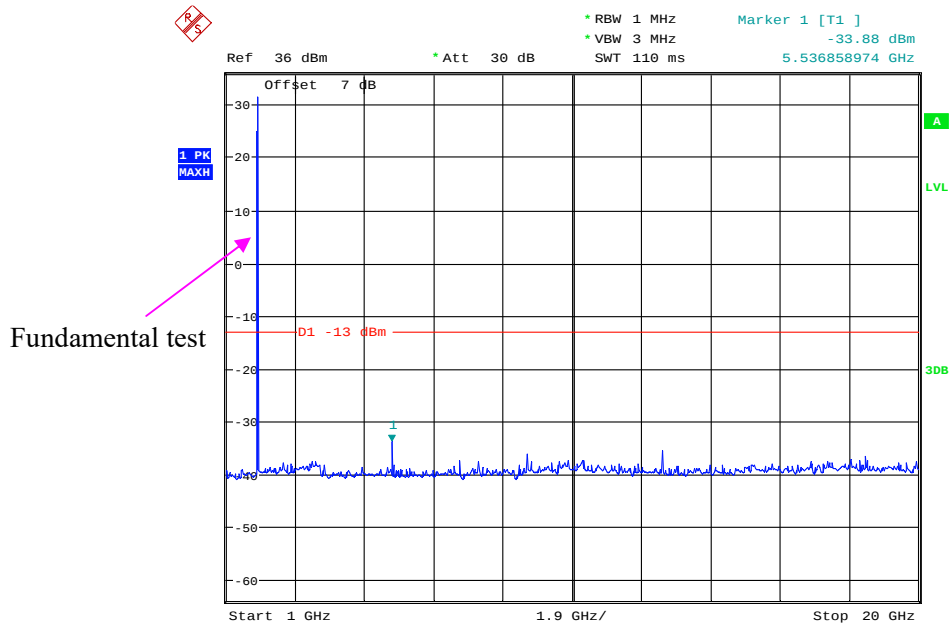
PCS Band (Part 24E)
Low Channel:

30 MHz – 1 GHz (GSM Mode)



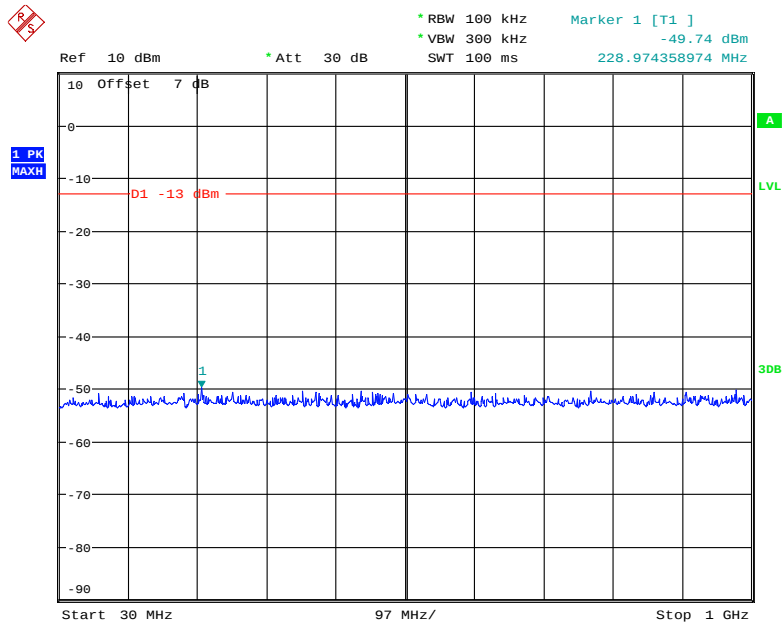
Date: 27.JUN.2021 13:48:43

1 GHz – 20 GHz (GSM Mode)



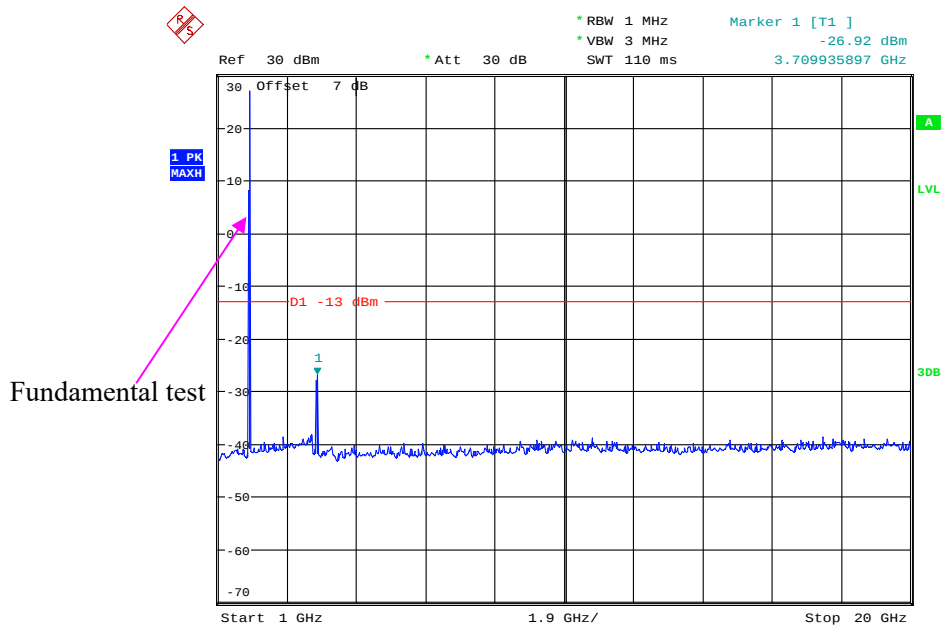
Date: 27.JUN.2021 13:49:42

30 MHz – 1 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:18:32

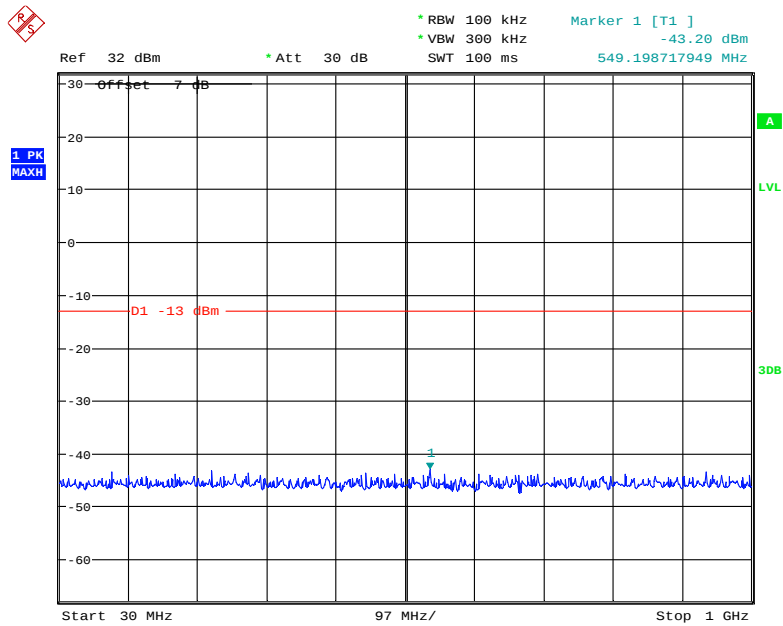
1 GHz – 20 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:53:56

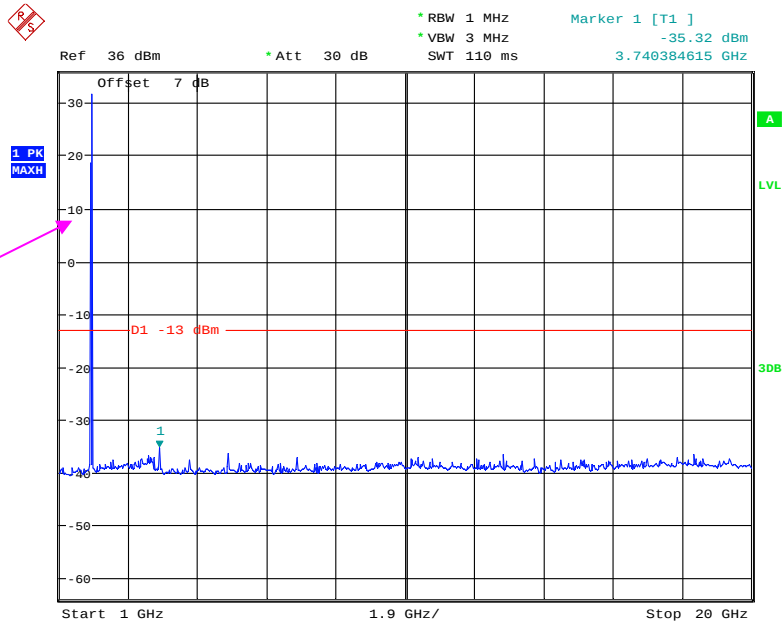
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 27.JUN.2021 13:48:25

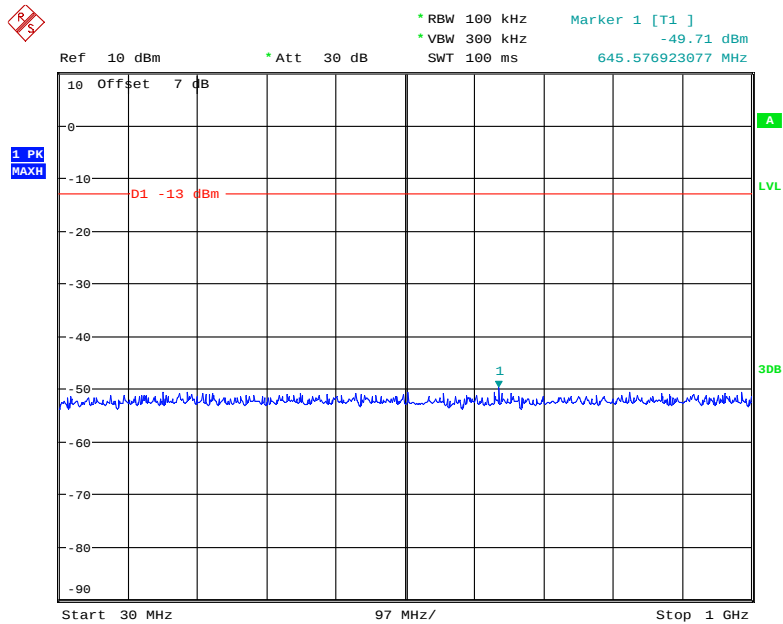
1 GHz – 20 GHz (GSM Mode)



Fundamental test

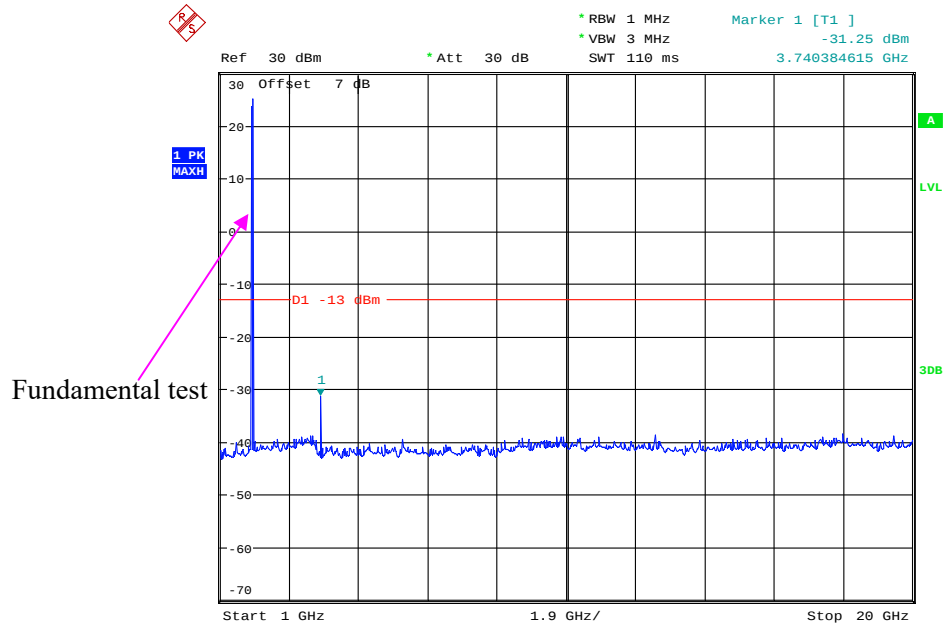
Date: 27.JUN.2021 13:50:44

30 MHz – 1 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:17:56

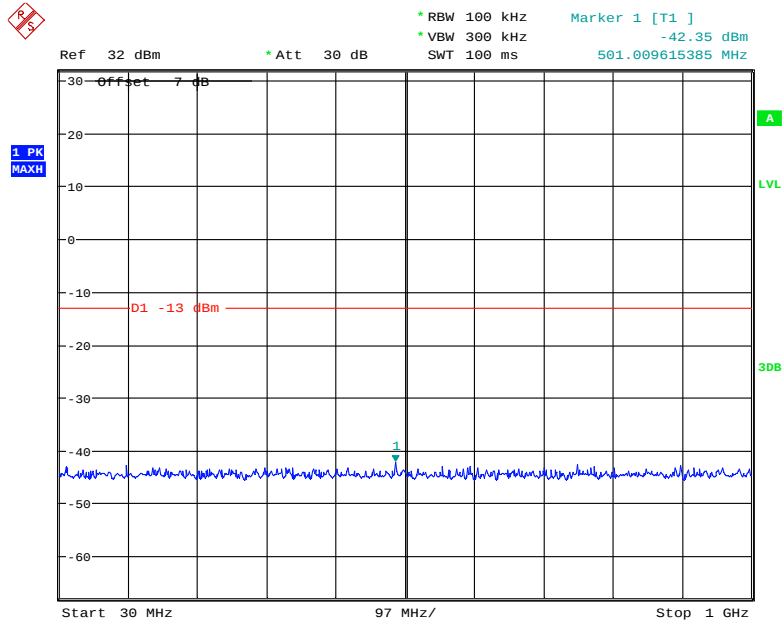
1 GHz – 20 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:54:20

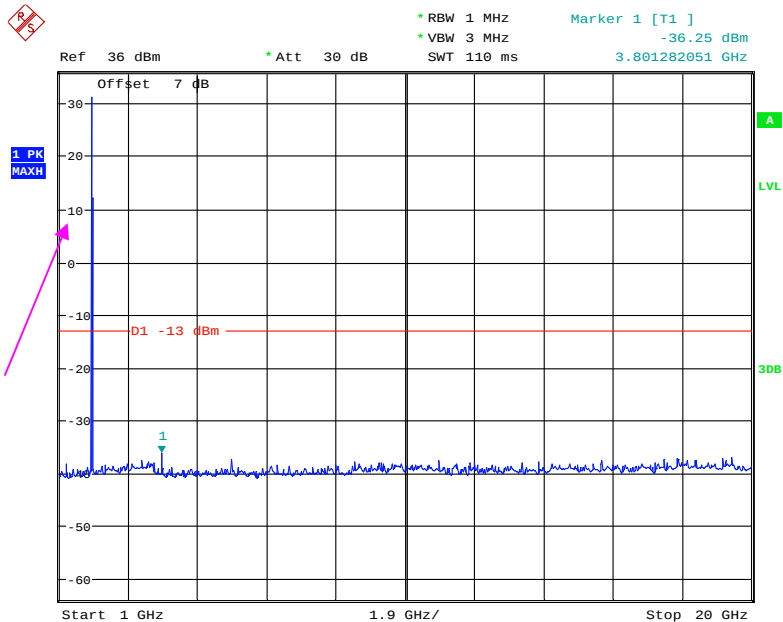
High Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 27.JUN.2021 13:47:38

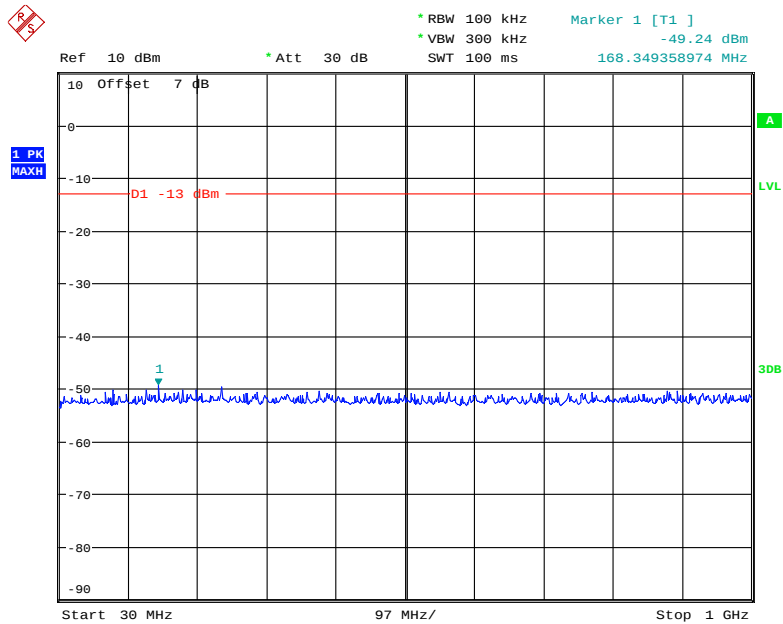
1 GHz – 20 GHz (GSM Mode)



Fundamental test

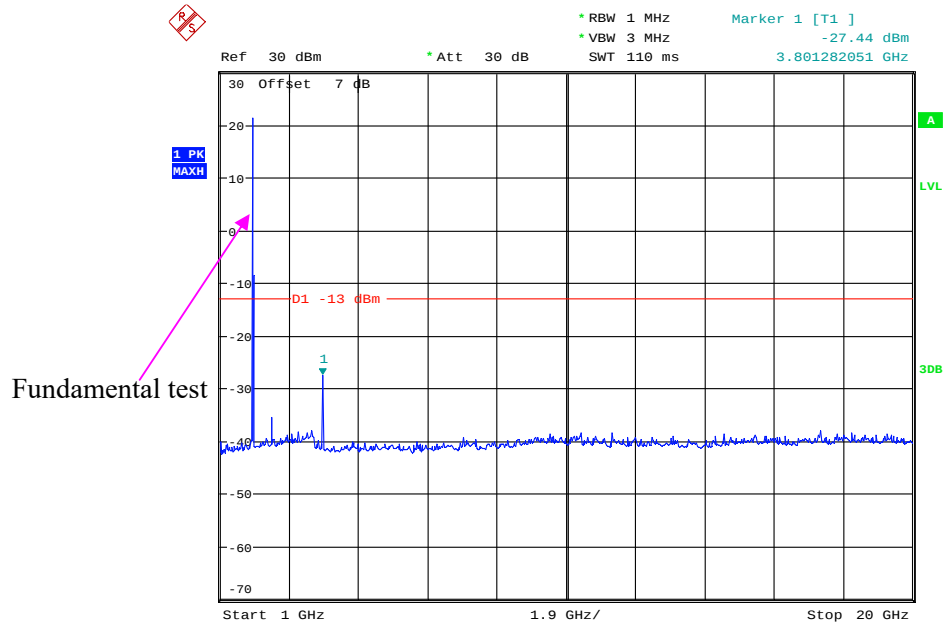
Date: 27.JUN.2021 13:51:23

30 MHz – 1 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:15:34

1 GHz – 20 GHz (WCDMA Mode)

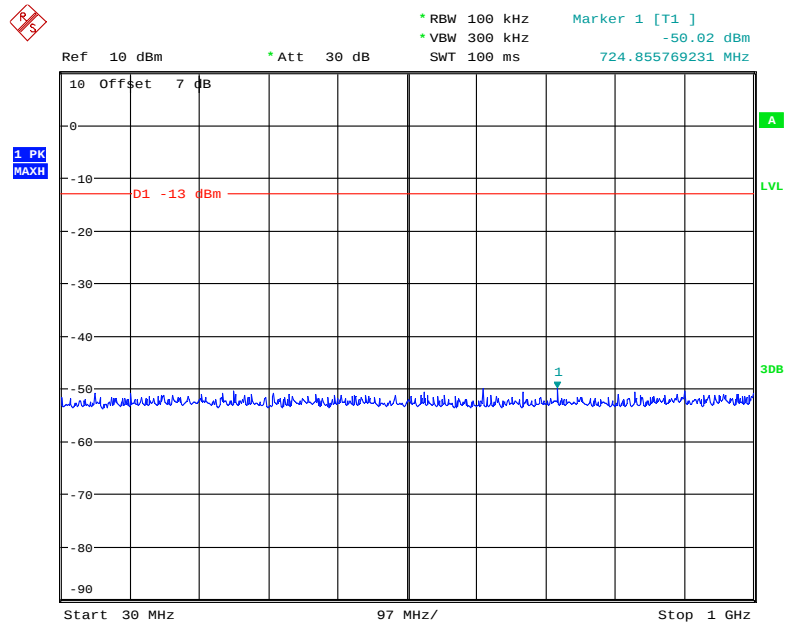


Date: 27.JUN.2021 11:52:57

AWS Band (Part 27)

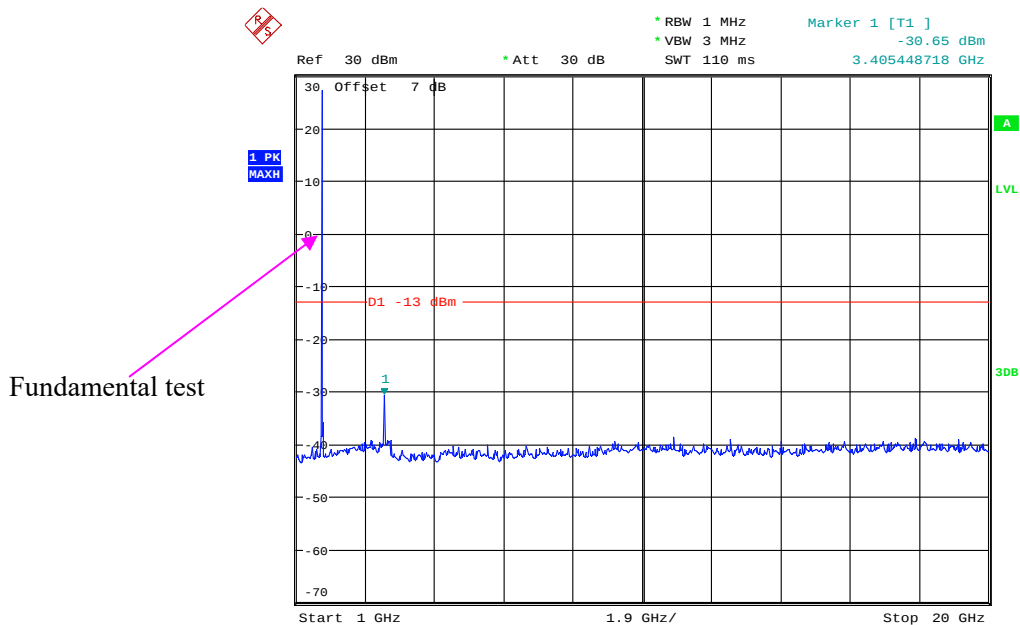
Low Channel:

30 MHz – 1 GHz (WCDMA Mode)



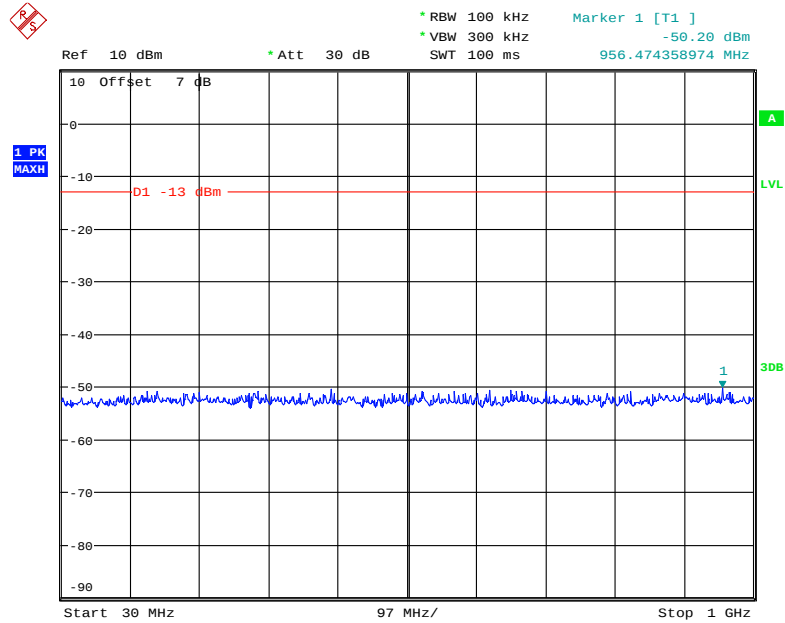
Date: 27.JUN.2021 11:19:29

1 GHz – 20 GHz (WCDMA Mode)



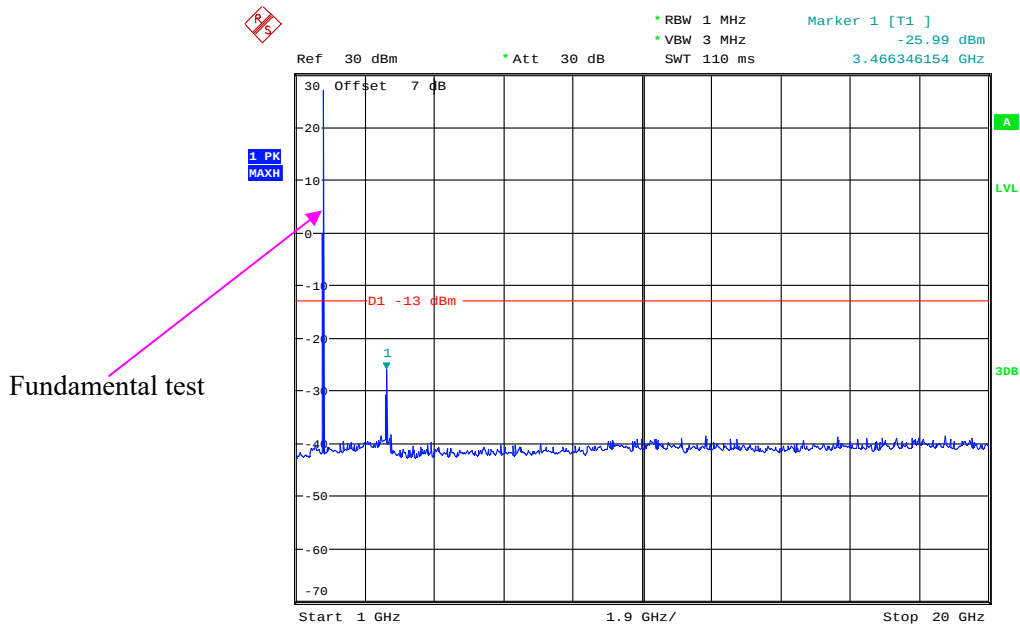
Middle Channel

30 MHz – 1 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:19:54

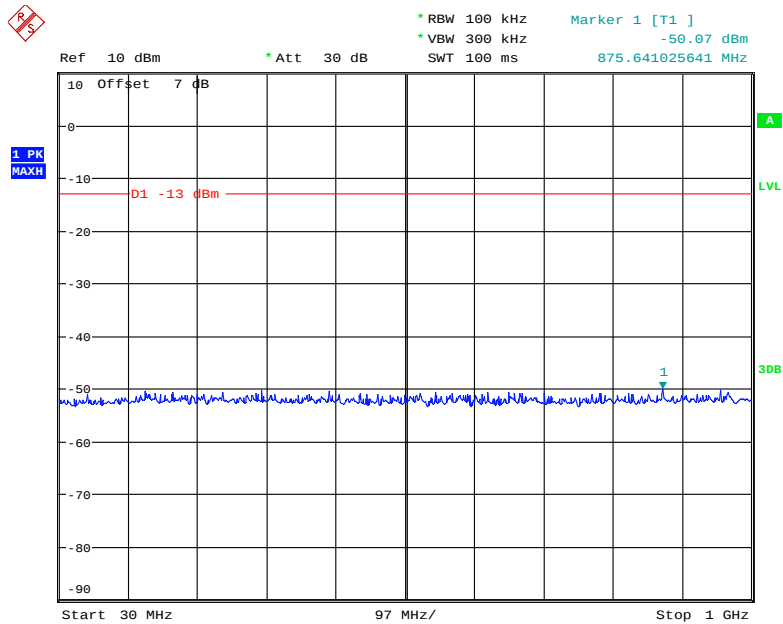
1 GHz – 20 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:55:55

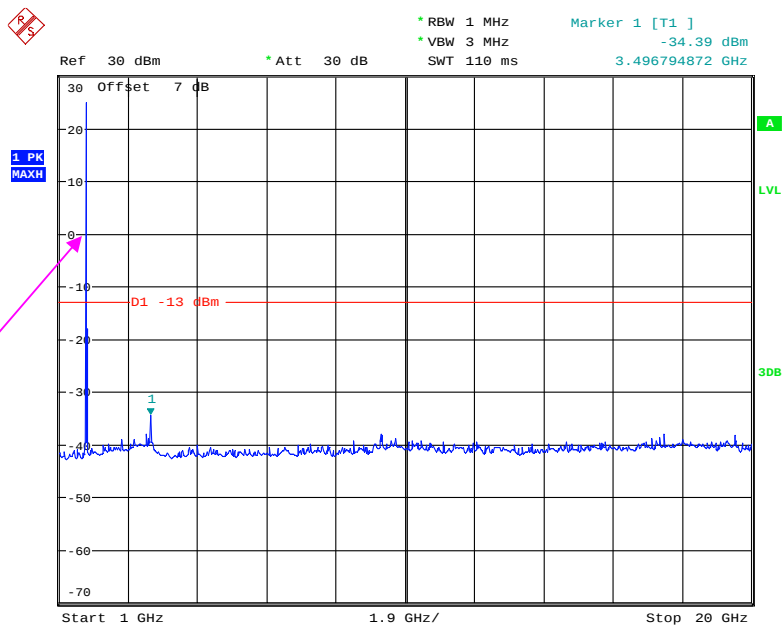
High Channel:

30 MHz – 1 GHz (WCDMA Mode)



Date: 27.JUN.2021 11:20:07

1 GHz – 20 GHz (WCDMA Mode)



Fundamental test

Date: 27.JUN.2021 11:57:31

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:	26.4~27 °C
Relative Humidity:	52~57 %
ATM Pressure:	101.0~101.1 kPa

The testing was performed by Cloud Qiu 2021-06-26 for below 1GHz and Bruce Lin on 2021-07-04 for above 1GHz.

EUT operation mode: Transmitting

30 MHz ~ 10 GHz:**Cellular Band**

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 Mode										
Low channel										
967.3	31.49	312	1.6	H	-65.0	1.36	0.0	-66.36	-13	53.36
967.3	32.52	190	2.3	V	-61.5	1.36	0.0	-62.86	-13	49.86
1648.40	62.84	234	1.8	H	-45.2	1.40	8.70	-37.90	-13	24.90
1648.40	66.49	199	2.2	V	-41.4	1.40	8.70	-34.10	-13	21.10
2472.60	72.45	174	2.3	H	-30.9	2.60	10.20	-23.30	-13	10.30
2472.60	72.94	176	1.5	V	-29.8	2.60	10.20	-22.20	-13	9.20
3296.80	64.31	5	2.4	H	-36.6	1.50	11.70	-26.40	-13	13.40
3296.80	60.25	6	2.2	V	-40.7	1.50	11.70	-30.50	-13	17.50
Middle channel										
967.6	31.34	192	2.2	H	-65.2	1.36	0.0	-66.56	-13	53.56
967.6	32.59	258	2.1	V	-61.5	1.36	0.0	-62.86	-13	49.86
1673.20	68.57	256	2.2	H	-37.8	1.30	8.90	-30.20	-13	17.20
1673.20	70.11	218	1.3	V	-35.6	1.30	8.90	-28.00	-13	15.00
2509.80	74.85	278	1.8	H	-28.5	2.60	10.20	-20.90	-13	7.90
2509.80	69.69	282	1.8	V	-33.1	2.60	10.20	-25.50	-13	12.50
3346.40	65.46	297	1.5	H	-35.4	1.50	11.70	-25.20	-13	12.20
3346.40	61.65	320	1.9	V	-39.3	1.50	11.70	-29.10	-13	16.10
High channel										
965.8	31.28	106	1.1	H	-65.2	1.36	0.0	-66.56	-13	53.56
965.8	32.63	108	2.5	V	-61.4	1.36	0.0	-62.76	-13	49.76
1697.60	67.03	266	2.3	H	-39.3	1.30	8.90	-31.70	-13	18.70
1697.60	72.42	39	1.5	V	-33.3	1.30	8.90	-25.70	-13	12.70
2546.40	70.73	99	1.1	H	-32.6	2.60	10.20	-25.00	-13	12.00
2546.40	64.62	42	2.1	V	-38.1	2.60	10.20	-30.50	-13	17.50
3395.20	65.85	6	2.0	H	-35.4	1.40	11.80	-25.00	-13	12.00
3395.20	61.71	343	1.6	V	-39.3	1.40	11.80	-28.90	-13	15.90

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										
962.3	31.33	339	1.3	H	-65.2	1.36	0.0	-66.56	-13	53.56
962.3	32.74	170	1.5	V	-61.3	1.36	0.0	-62.66	-13	49.66
1652.80	43.15	143	2.0	H	-63.2	1.30	8.90	-55.60	-13	42.60
1652.80	43.57	231	1.7	V	-62.2	1.30	8.90	-54.60	-13	41.60
Middle channel										
971.6	31.31	310	2.0	H	-65.2	1.36	0.0	-66.56	-13	53.56
971.6	32.68	304	1.6	V	-61.4	1.36	0.0	-62.76	-13	49.76
1673.20	43.58	24	1.9	H	-62.8	1.30	8.90	-55.20	-13	42.20
1673.20	43.74	176	1.8	V	-62.0	1.30	8.90	-54.40	-13	41.40
High channel										
976.8	31.46	167	2.5	H	-65.0	1.36	0.0	-66.36	-13	53.36
976.8	32.57	249	1.4	V	-61.5	1.36	0.0	-62.86	-13	49.86
1693.20	43.58	17	2.1	H	-62.8	1.30	8.90	-55.20	-13	42.20
1693.20	43.37	242	2.4	V	-62.4	1.30	8.90	-54.80	-13	41.80

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

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)
GSM Mode										
Low channel										
969.1	31.44	49	2.2	H	-65.1	1.36	0.0	-66.46	-13	53.46
969.1	32.67	55	2.3	V	-61.4	1.36	0.0	-62.76	-13	49.76
3700.40	44.25	99	2.2	H	-57.6	1.60	11.90	-47.30	-13	34.30
3700.40	45.14	187	2.3	V	-56.1	1.60	11.90	-45.80	-13	32.80
Middle channel										
973.2	31.47	168	2.2	H	-65.0	1.36	0.0	-66.36	-13	53.36
973.2	32.72	246	1.8	V	-61.3	1.36	0.0	-62.66	-13	49.66
3760.00	45.26	354	1.9	H	-56.8	1.50	11.80	-46.50	-13	33.50
3760.00	45.86	70	2.1	V	-55.7	1.50	11.80	-45.40	-13	32.40
High channel										
972.5	31.52	10	1.7	H	-65.0	1.36	0.0	-66.36	-13	53.36
972.5	32.79	340	1.3	V	-61.3	1.36	0.0	-62.66	-13	49.66
3819.60	45.28	28	1.6	H	-56.8	1.50	11.80	-46.50	-13	33.50
3819.60	46.01	98	1.1	V	-55.6	1.50	11.80	-45.30	-13	32.30
WCDMA Mode										
Low channel										
976.8	31.44	260	2.0	H	-65.1	1.36	0.0	-66.46	-13	53.46
976.8	32.71	125	2.1	V	-61.3	1.36	0.0	-62.66	-13	49.66
3704.80	44.86	166	1.3	H	-56.9	1.60	11.90	-46.60	-13	33.60
3704.80	45.70	66	1.8	V	-55.5	1.60	11.90	-45.20	-13	32.20
Middle channel										
974.7	31.52	38	1.0	H	-65.0	1.36	0.0	-66.36	-13	53.36
974.7	32.83	156	2.3	V	-61.2	1.36	0.0	-62.56	-13	49.56
3760.00	44.57	138	2.1	H	-57.5	1.50	11.80	-47.20	-13	34.20
3760.00	45.38	290	1.1	V	-56.2	1.50	11.80	-45.90	-13	32.90
High channel										
971.2	31.41	228	1.0	H	-65.1	1.36	0.0	-66.46	-13	53.46
971.2	32.77	321	2.5	V	-61.3	1.36	0.0	-62.66	-13	49.66
3815.20	44.76	324	1.9	H	-57.3	1.50	11.80	-47.00	-13	34.00
3815.20	45.19	230	1.5	V	-56.4	1.50	11.80	-46.10	-13	33.10

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										
972.3	31.49	336	1.8	H	-65.0	1.36	0.0	-66.36	-13	53.36
972.3	32.61	62	1.9	V	-61.4	1.36	0.0	-62.76	-13	49.76
3425.20	46.49	297	2.3	H	-54.3	1.40	11.80	-43.90	-13	30.90
3425.20	45.12	348	2.4	V	-55.5	1.40	11.80	-45.10	-13	32.10
Middle channel										
971.6	31.36	295	1.7	H	-65.1	1.36	0.0	-66.46	-13	53.46
971.6	32.66	351	1.6	V	-61.4	1.36	0.0	-62.76	-13	49.76
3480.00	45.83	73	1.3	H	-54.9	1.50	12.00	-44.40	-13	31.40
3480.00	45.62	61	1.5	V	-55.9	1.50	12.00	-45.40	-13	32.40
High channel										
974.8	31.49	287	1.7	H	-65.0	1.36	0.0	-66.36	-13	53.36
974.8	32.79	334	1.3	V	-61.3	1.36	0.0	-62.66	-13	49.66
3504.80	46.12	115	2.4	H	-54.6	1.50	12.00	-44.10	-13	31.10
3504.80	45.76	41	2.5	V	-55.7	1.50	12.00	-45.20	-13	32.20

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										
971.6	31.56	149	1.3	H	-64.9	1.36	0.0	-66.26	-13	53.26
971.6	32.79	94	2.1	V	-61.3	1.36	0.0	-62.66	-13	49.66
3701.40	57.26	121	1.0	H	-44.5	1.60	11.90	-34.20	-13	21.20
3701.40	54.61	304	2.4	V	-46.6	1.60	11.90	-36.30	-13	23.30
1.4MHz, Middle channel										
971.3	31.64	121	1.7	H	-64.9	1.36	0.0	-66.26	-13	53.26
971.3	32.61	54	2.4	V	-61.4	1.36	0.0	-62.76	-13	49.76
3760.00	58.27	285	1.2	H	-43.8	1.50	11.80	-33.50	-13	20.50
3760.00	55.24	170	1.1	V	-46.3	1.50	11.80	-36.00	-13	23.00
1.4MHz, High channel										
969.4	31.57	143	1.5	H	-65.0	1.36	0.0	-66.36	-13	53.36
969.4	32.65	62	1.1	V	-61.4	1.36	0.0	-62.76	-13	49.76
3818.60	57.68	157	2.3	H	-44.4	1.50	11.80	-34.10	-13	21.10
3818.60	55.75	26	1.7	V	-45.8	1.50	11.80	-35.50	-13	22.50
Band 4										
Test frequency range:30 MHz ~ 20 GHz										
1.4MHz, Low channel										
973.1	31.44	133	1.2	H	-65.1	1.36	0.0	-66.46	-13	53.46
973.1	32.73	16	2.2	V	-61.3	1.36	0.0	-62.66	-13	49.66
3421.40	58.68	138	1.3	H	-42.1	1.40	11.80	-31.70	-13	18.70
3421.40	54.97	142	2.0	V	-45.6	1.40	11.80	-35.20	-13	22.20
1.4MHz, Middle channel										
978.6	31.23	138	1.0	H	-65.3	1.36	0.0	-66.66	-13	53.66
978.6	32.71	151	1.1	V	-61.3	1.36	0.0	-62.66	-13	49.66
3465.00	59.68	301	2.1	H	-41.1	1.50	12.00	-30.60	-13	17.60
3465.00	55.14	68	2.2	V	-46.4	1.50	12.00	-35.90	-13	22.90
1.4MHz, High channel										
979.7	31.34	300	2.1	H	-65.2	1.36	0.0	-66.56	-13	53.56
979.7	32.75	349	2.2	V	-61.3	1.36	0.0	-62.66	-13	49.66
3508.60	58.26	5	2.0	H	-42.5	1.50	12.00	-32.00	-13	19.00
3508.60	54.07	281	1.4	V	-47.4	1.50	12.00	-36.90	-13	23.90

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										
976.8	31.37	261	1.0	H	-65.1	1.36	0.0	-66.46	-13	53.46
976.8	32.79	256	2.5	V	-61.3	1.36	0.0	-62.66	-13	49.66
1649.40	45.33	95	2.5	H	-62.7	1.40	8.70	-55.40	-13	42.40
1649.40	45.91	27	1.0	V	-61.9	1.40	8.70	-54.60	-13	41.60
2474.10	55.76	254	2.4	H	-47.6	2.60	10.20	-40.00	-13	27.00
2474.10	54.70	273	1.3	V	-48.0	2.60	10.20	-40.40	-13	27.40
1.4MHz, Middle channel										
968.7	31.41	359	1.1	H	-65.1	1.36	0.0	-66.46	-13	53.46
968.7	32.87	117	2.0	V	-61.2	1.36	0.0	-62.56	-13	49.56
1673.00	48.58	132	1.4	H	-57.8	1.30	8.90	-50.20	-13	37.20
1673.00	49.68	293	1.9	V	-56.1	1.30	8.90	-48.50	-13	35.50
2509.50	53.74	358	1.9	H	-49.6	2.60	10.20	-42.00	-13	29.00
2509.50	54.87	273	2.2	V	-47.9	2.60	10.20	-40.30	-13	27.30
1.4MHz, High channel										
971.2	31.55	299	1.9	H	-65.0	1.36	0.0	-66.36	-13	53.36
971.2	32.62	30	1.5	V	-61.4	1.36	0.0	-62.76	-13	49.76
1696.60	49.87	302	2.2	H	-56.5	1.30	8.90	-48.90	-13	35.90
1696.60	50.38	96	2.4	V	-55.4	1.30	8.90	-47.80	-13	34.80
2544.90	52.68	283	1.1	H	-50.7	2.60	10.20	-43.10	-13	30.10
2544.90	53.50	18	2.0	V	-49.2	2.60	10.20	-41.60	-13	28.60
Band 7										
Test frequency range: 30 MHz ~ 26.5 GHz										
10MHz, Low channel										
967.7	31.46	93	1.5	H	-65.0	1.36	0.0	-66.36	-25	41.36
967.7	32.65	148	2.3	V	-61.4	1.36	0.0	-62.76	-25	37.76
5005.00	60.61	178	2.4	H	-40.0	1.70	12.00	-29.70	-25	4.70
5005.00	62.58	357	2.3	V	-37.5	1.70	12.00	-27.20	-25	2.20
10MHz, Middle channel										
977.6	31.42	242	1.1	H	-65.1	1.36	0.0	-66.46	-25	41.46
977.6	32.61	273	1.3	V	-61.4	1.36	0.0	-62.76	-25	37.76
5070.00	56.71	290	1.5	H	-43.3	1.60	12.10	-32.80	-25	7.80
5070.00	54.86	210	1.6	V	-45.2	1.60	12.10	-34.70	-25	9.70
10MHz, High channel										
966.8	31.33	164	1.0	H	-65.2	1.36	0.0	-66.56	-25	41.56
966.8	32.74	169	2.3	V	-61.3	1.36	0.0	-62.66	-25	37.66
5135.00	57.58	263	2.3	H	-42.4	1.60	12.10	-31.90	-25	6.90
5135.00	56.28	320	1.7	V	-43.7	1.60	12.10	-33.20	-25	8.20

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level	Limit	Margin
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)	(dBm)	(dBm)	(dB)
Band 17										
Test frequency range: 30 MHz ~10 GHz										
10MHz, Low channel										
972.5	31.35	16	1.2	H	-65.2	1.36	0.0	-66.56	-13	53.56
972.5	32.65	335	2.2	V	-61.4	1.36	0.0	-62.76	-13	49.76
1413.00	44.27	236	2.4	H	-63.9	1.60	7.90	-57.60	-13	44.60
1413.00	45.73	61	2.0	V	-62.7	1.60	7.90	-56.40	-13	43.40
2119.50	48.79	147	1.9	H	-52.3	1.30	9.70	-43.90	-13	30.90
2119.50	49.76	317	1.7	V	-52.2	1.30	9.70	-43.80	-13	30.80
10MHz, Middle channel										
973.7	31.29	107	1.5	H	-65.2	1.36	0.0	-66.56	-13	53.56
973.7	32.78	203	1.4	V	-61.3	1.36	0.0	-62.66	-13	49.66
1420.00	44.58	263	2.2	H	-63.6	1.60	7.90	-57.30	-13	44.30
1420.00	45.28	341	2.4	V	-63.2	1.60	7.90	-56.90	-13	43.90
2130.00	48.22	288	1.9	H	-52.9	1.30	9.70	-44.50	-13	31.50
2130.00	50.25	308	2.1	V	-51.7	1.30	9.70	-43.30	-13	30.30
10MHz, High channel										
973.6	31.56	272	1.0	H	-64.9	1.36	0.0	-66.26	-13	53.26
973.6	32.87	299	2.1	V	-61.2	1.36	0.0	-62.56	-13	49.56
1427.00	45.87	235	2.4	H	-62.3	1.60	7.90	-56.00	-13	43.00
1427.00	46.58	58	1.7	V	-61.9	1.60	7.90	-55.60	-13	42.60
2140.50	49.72	29	1.8	H	-51.4	1.30	9.70	-43.00	-13	30.00
2140.50	50.61	345	1.0	V	-51.3	1.30	9.70	-42.90	-13	29.90
Band 38										
Test frequency range: 30 MHz ~ 26.5GHz										
10MHz, Low channel										
975.3	31.23	167	2.1	H	-65.3	1.36	0.0	-66.66	-25	41.66
975.3	32.76	201	1.2	V	-61.3	1.36	0.0	-62.66	-25	37.66
5145.00	59.59	184	1.8	H	-40.4	1.60	12.10	-29.90	-25	4.90
5145.00	60.25	359	2.4	V	-39.8	1.60	12.10	-29.30	-25	4.30
7717.50	59.25	353	1.3	H	-38.3	2.10	10.50	-29.90	-25	4.90
7717.50	59.88	206	2.1	V	-37.4	2.10	10.50	-29.00	-25	4.00
10MHz, Middle channel										
970.6	31.32	294	1.9	H	-65.2	1.36	0.0	-66.56	-25	41.56
970.6	32.72	41	1.2	V	-61.3	1.36	0.0	-62.66	-25	37.66
5190.00	58.05	140	1.2	H	-42.0	1.60	12.10	-31.50	-25	6.50
5190.00	59.83	162	1.2	V	-39.8	1.60	12.10	-29.30	-25	4.30
7785.00	58.95	233	1.7	H	-37.3	2.00	10.50	-28.80	-25	3.80
7785.00	59.51	223	2.3	V	-36.7	2.00	10.50	-28.20	-25	3.20
10MHz, High channel										
966.8	31.26	37	1.0	H	-65.2	1.36	0.0	-66.56	-25	41.56
966.8	32.66	301	1.3	V	-61.4	1.36	0.0	-62.76	-25	37.76
5235.00	60.25	64	1.6	H	-39.8	1.60	12.10	-29.30	-25	4.30
5235.00	59.11	24	1.9	V	-40.5	1.60	12.10	-30.00	-25	5.00
7852.50	58.64	227	1.5	H	-37.6	2.00	10.50	-29.10	-25	4.10
7852.50	59.47	174	2.0	V	-36.7	2.00	10.50	-28.20	-25	3.20

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 41										
Test frequency range: 30 MHz ~ 26.5GHz										
10MHz, Low channel										
973.2	31.43	221	1.7	H	-65.1	1.36	0.0	-66.46	-25	41.46
973.2	32.77	264	1.2	V	-61.3	1.36	0.0	-62.66	-25	37.66
4997.00	60.25	152	1.7	H	-40.3	1.70	12.00	-30.00	-25	5.00
4997.00	62.37	11	1.1	V	-37.7	1.70	12.00	-27.40	-25	2.40
7495.50	59.68	339	1.8	H	-36.2	1.90	10.70	-27.40	-25	2.40
7495.50	60.25	131	1.4	V	-35.3	1.90	10.70	-26.50	-25	1.50
10MHz, Middle channel										
972.5	31.54	350	1.4	H	-65.0	1.36	0.0	-66.36	-25	41.36
972.5	32.67	39	1.8	V	-61.4	1.36	0.0	-62.76	-25	37.76
5186.00	59.68	231	1.8	H	-40.4	1.60	12.10	-29.90	-25	4.90
5186.00	61.25	335	2.3	V	-38.4	1.60	12.10	-27.90	-25	2.90
7779.00	58.74	341	1.5	H	-37.5	2.00	10.50	-29.00	-25	4.00
7779.00	60.25	137	2.1	V	-35.9	2.00	10.50	-27.40	-25	2.40
10MHz, High channel										
968.8	31.24	306	1.5	H	-65.3	1.36	0.0	-66.66	-25	41.66
968.8	32.84	169	1.2	V	-61.2	1.36	0.0	-62.56	-25	37.56
5357.00	61.11	99	1.5	H	-38.9	1.60	12.30	-28.20	-25	3.20
5357.00	61.47	183	1.2	V	-37.8	1.60	12.30	-27.10	-25	2.10
8035.50	59.64	357	1.3	H	-38.4	2.10	10.70	-29.80	-25	4.80
8035.50	61.47	223	1.8	V	-36.5	2.10	10.70	-27.90	-25	2.90

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 66										
Test frequency range: 30 MHz ~ 20GHz										
10MHz, Low channel										
965.5	32.54	238	2.3	H	-64.0	1.36	0.0	-65.36	-13	52.36
965.5	33.19	36	2.1	V	-60.9	1.36	0.0	-62.26	-13	49.26
3421.40	54.22	196	2.2	H	-46.6	1.40	11.80	-36.20	-13	23.20
3421.40	50.64	31	1.9	V	-50.0	1.40	11.80	-39.60	-13	26.60
5132.10	52.97	338	2.1	H	-47.0	1.60	12.10	-36.50	-13	23.50
5132.10	53.54	308	2.3	V	-46.5	1.60	12.10	-36.00	-13	23.00
6842.80	50.73	58	1.5	H	-48.0	1.80	11.20	-38.60	-13	25.60
6842.80	51.68	108	1.0	V	-47.4	1.80	11.20	-38.00	-13	25.00
10MHz, Middle channel										
951.3	31.18	251	2.2	H	-65.3	1.36	0.0	-66.66	-13	53.66
951.3	32.64	198	1.9	V	-61.4	1.36	0.0	-62.76	-13	49.76
3510.00	55.69	255	2.4	H	-45.1	1.50	12.00	-34.60	-13	21.60
3510.00	52.47	55	1.7	V	-49.0	1.50	12.00	-38.50	-13	25.50
5265.00	52.59	259	2.1	H	-47.2	1.60	12.20	-36.60	-13	23.60
5265.00	53.15	105	1.3	V	-46.0	1.60	12.20	-35.40	-13	22.40
7020.00	49.72	269	1.3	H	-49.1	1.90	11.20	-39.80	-13	26.80
7020.00	50.35	157	1.4	V	-48.6	1.90	11.20	-39.30	-13	26.30
10MHz, High channel										
962.3	32.74	254	1.7	H	-63.8	1.36	0.0	-65.16	-13	52.16
962.3	33.69	180	1.6	V	-60.4	1.36	0.0	-61.76	-13	48.76
3558.60	56.86	260	1.8	H	-44.7	1.50	12.10	-34.10	-13	21.10
3558.60	53.68	171	1.4	V	-47.3	1.50	12.10	-36.70	-13	23.70
5337.90	52.87	47	1.2	H	-46.9	1.60	12.20	-36.30	-13	23.30
5337.90	53.55	72	1.0	V	-45.6	1.60	12.20	-35.00	-13	22.00
7117.20	50.17	234	2.2	H	-48.7	1.80	10.80	-39.70	-13	26.70
7117.20	51.61	10	1.1	V	-46.9	1.80	10.80	-37.90	-13	24.90

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.

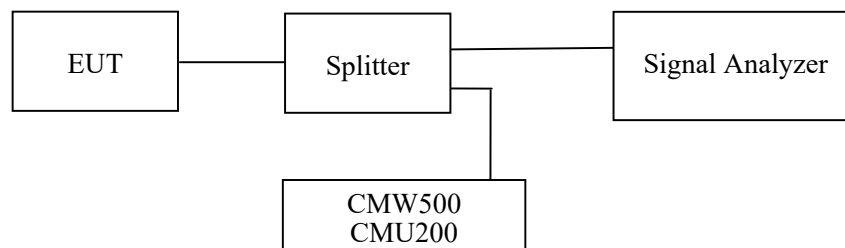
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

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:	28~28.9 °C
Relative Humidity:	52~56 %
ATM Pressure:	101.0 kPa

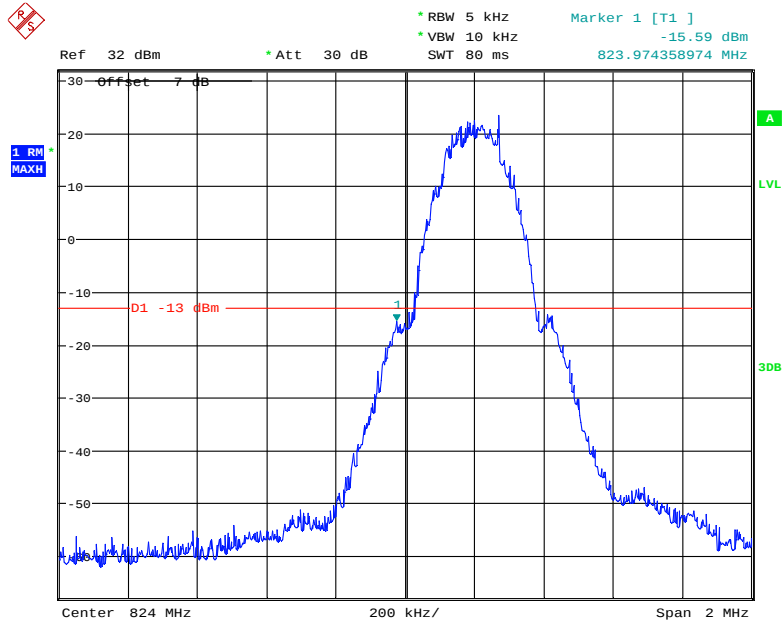
The testing was performed by Blaker Zhang on 2021-06-27 to 2021-07-30.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

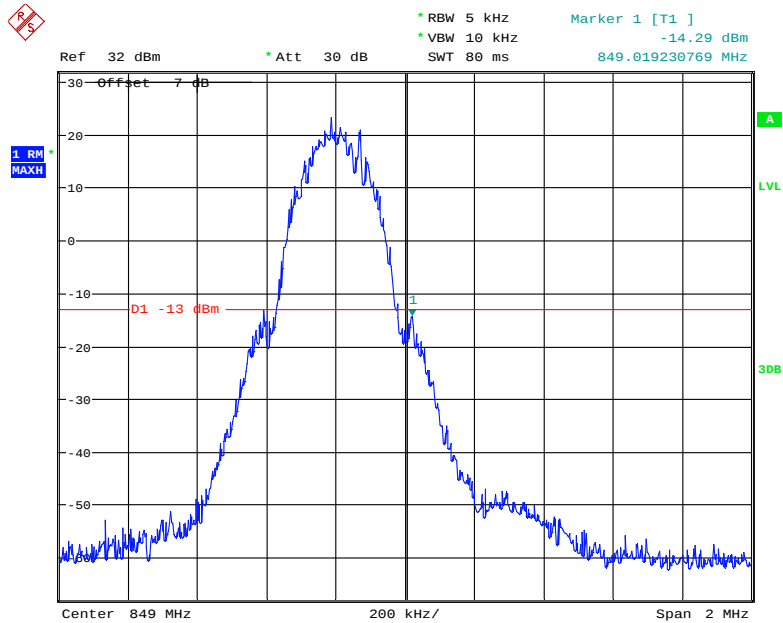
Please refer to the following plots.

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



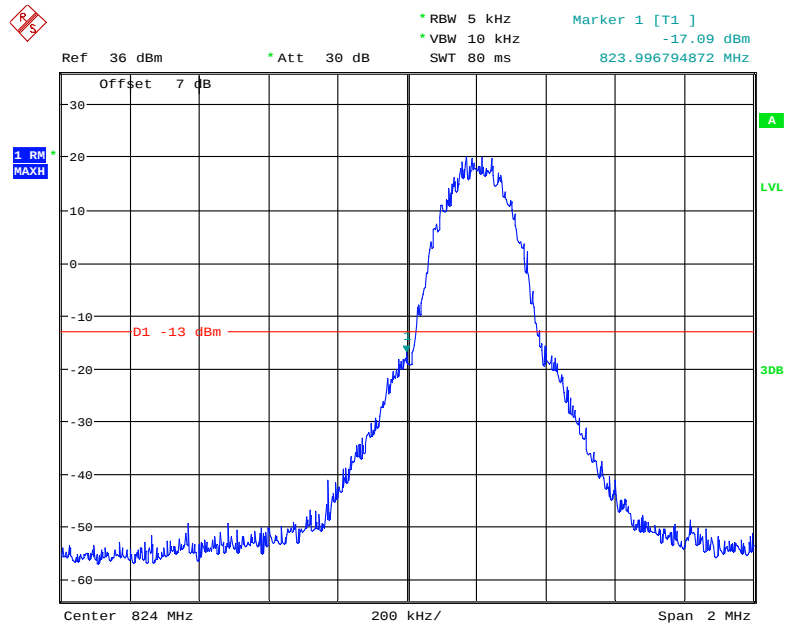
Date: 27.JUN.2021 13:38:44

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



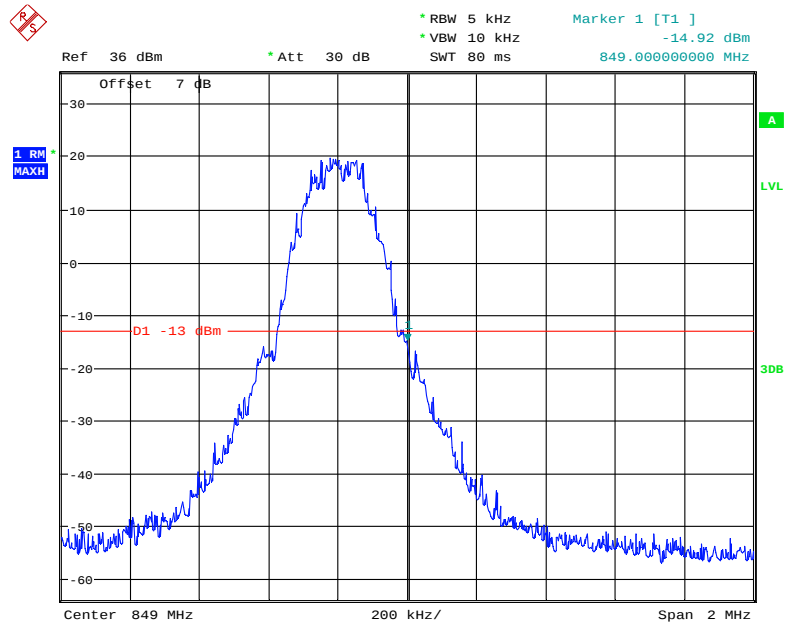
Date: 27.JUN.2021 13:37:57

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



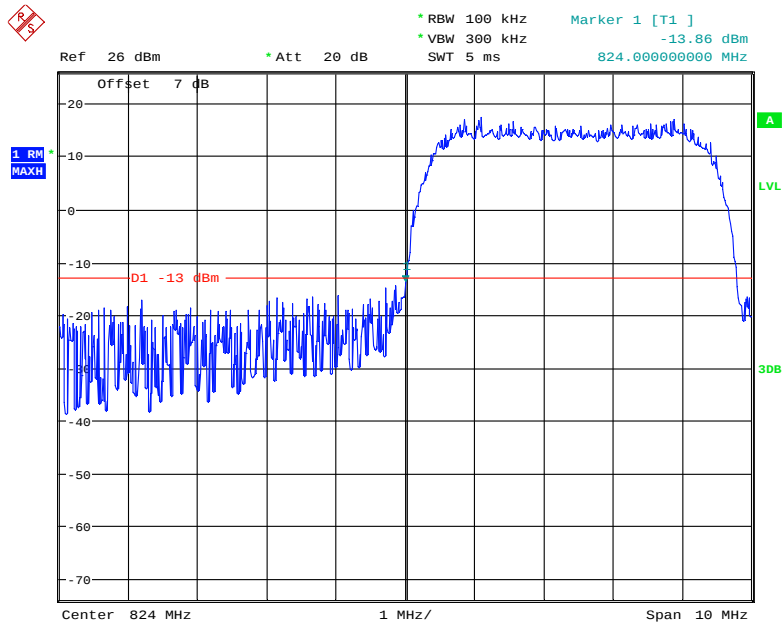
Date: 27.JUN.2021 14:58:33

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



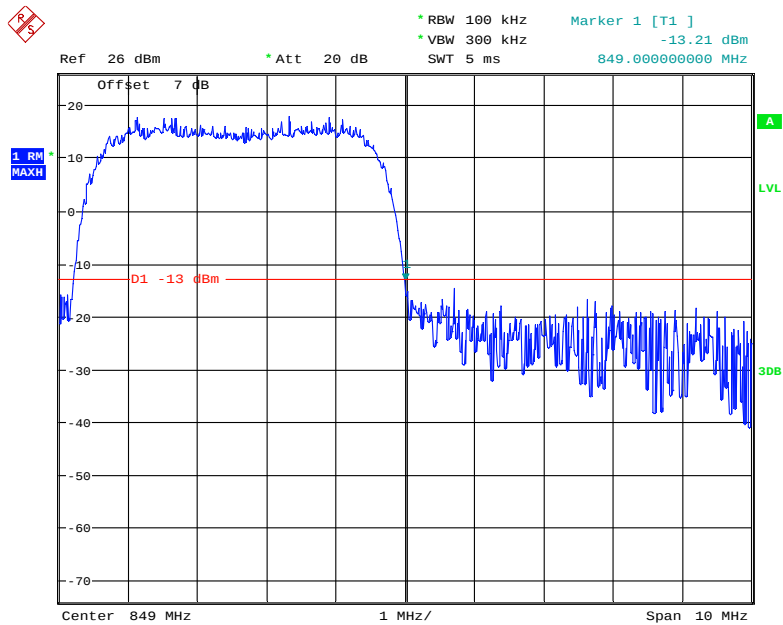
Date: 30.JUL.2021 14:50:04

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



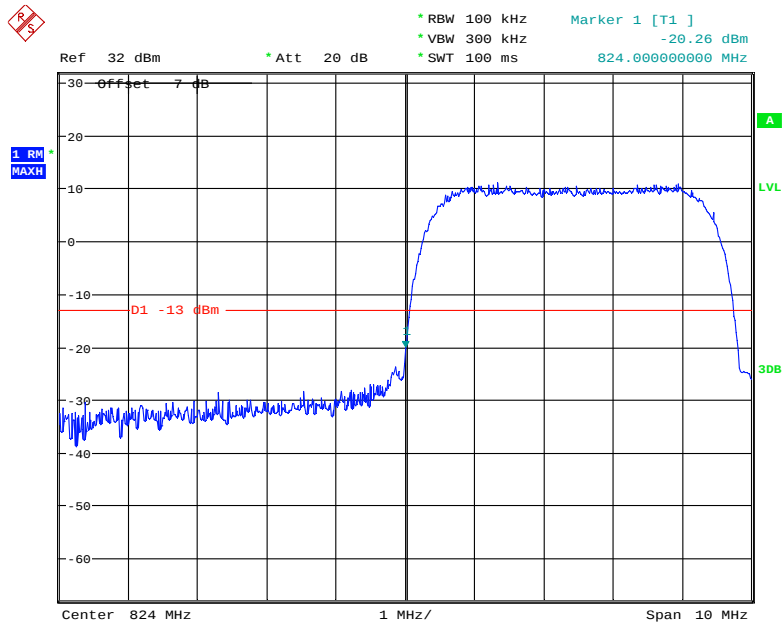
Date: 30.JUL.2021 15:48:36

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



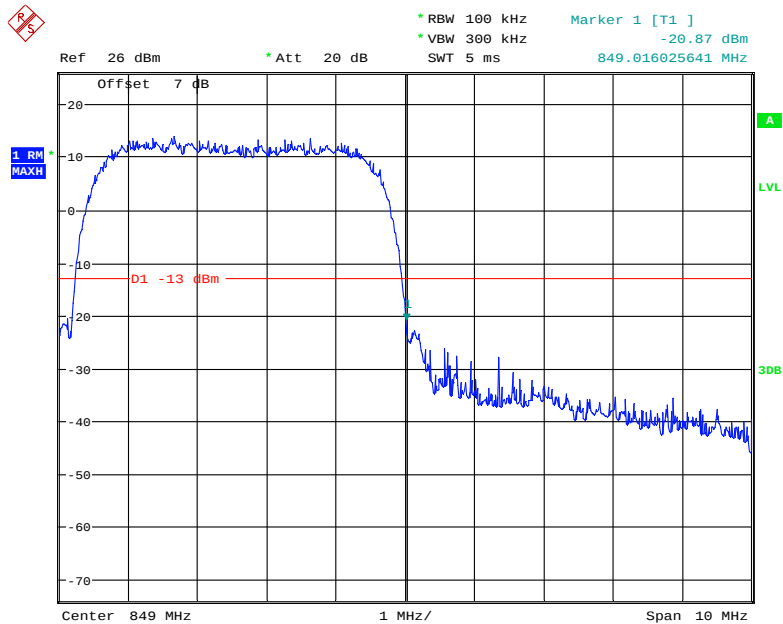
Date: 30.JUL.2021 15:47:02

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



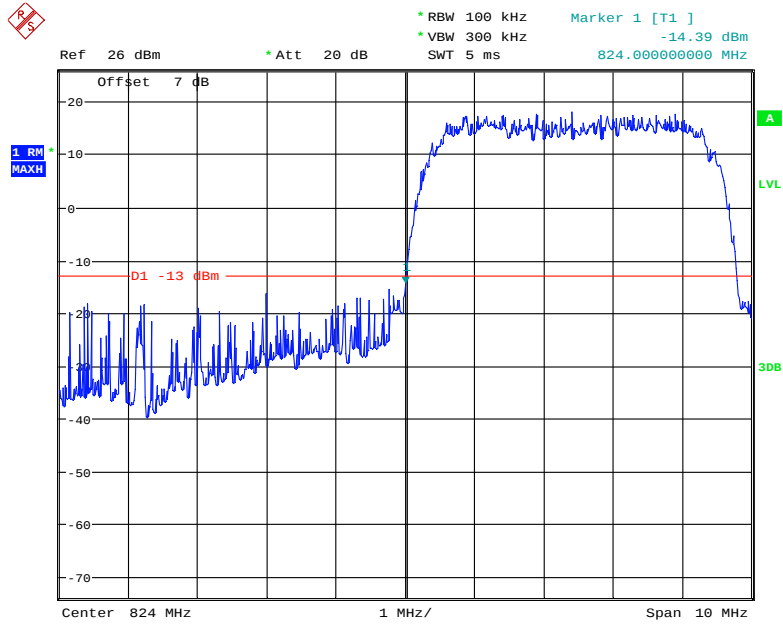
Date: 15.JUL.2021 14:59:57

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



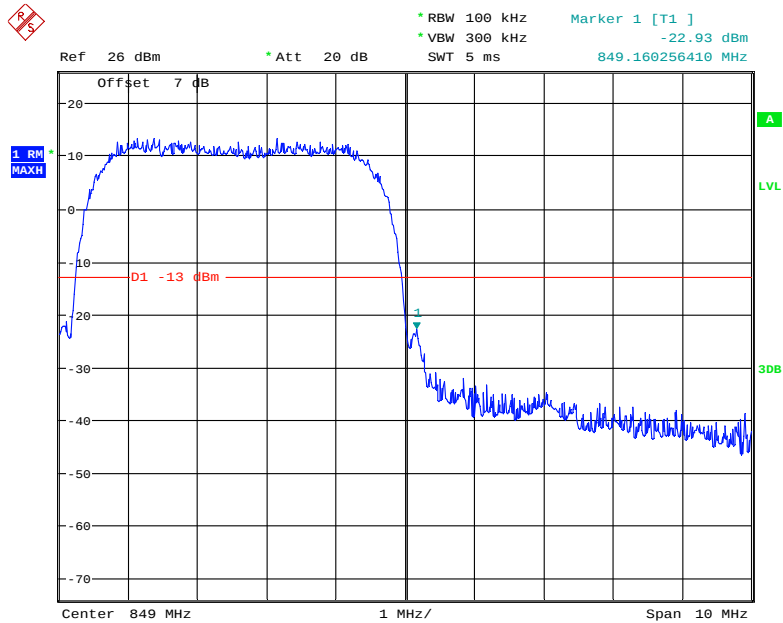
Date: 27.JUN.2021 10:34:58

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



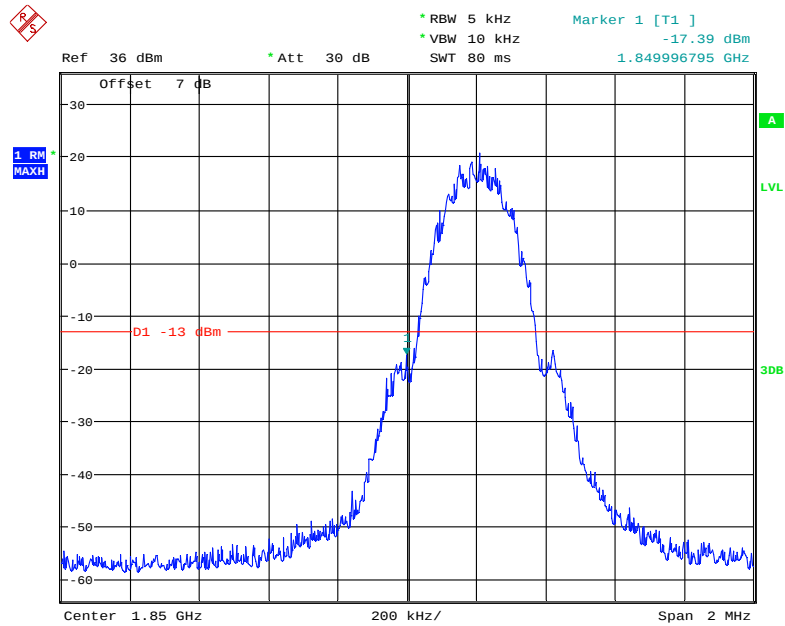
Date: 30.JUL.2021 15:51:31

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



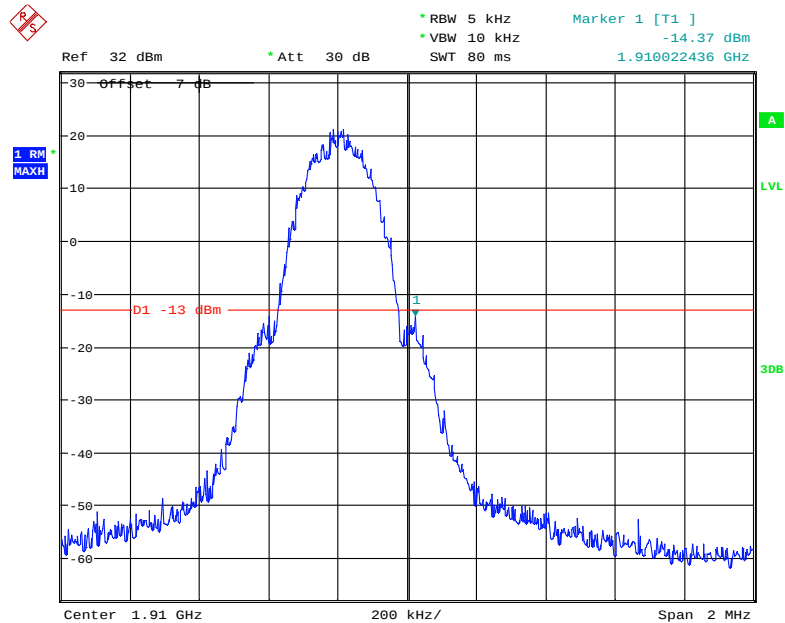
Date: 27.JUN.2021 10:55:19

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



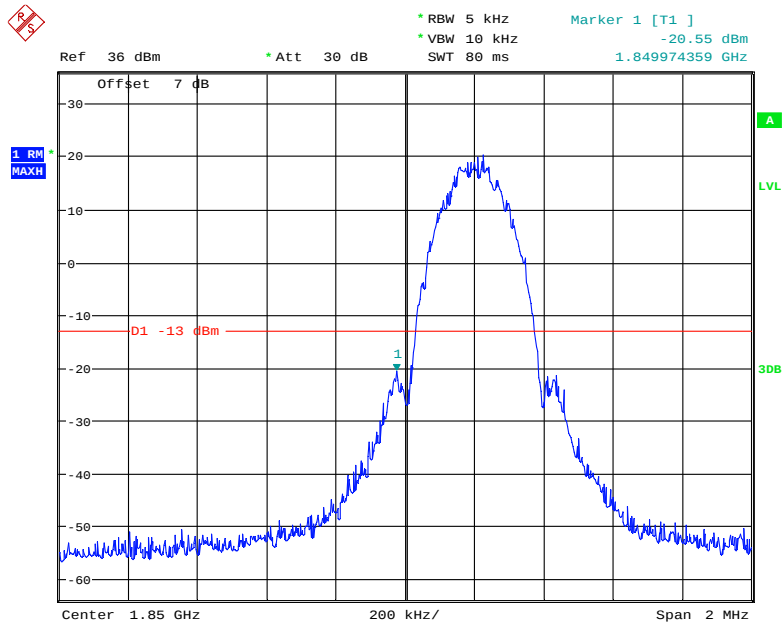
Date: 30.JUL.2021 15:00:29

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



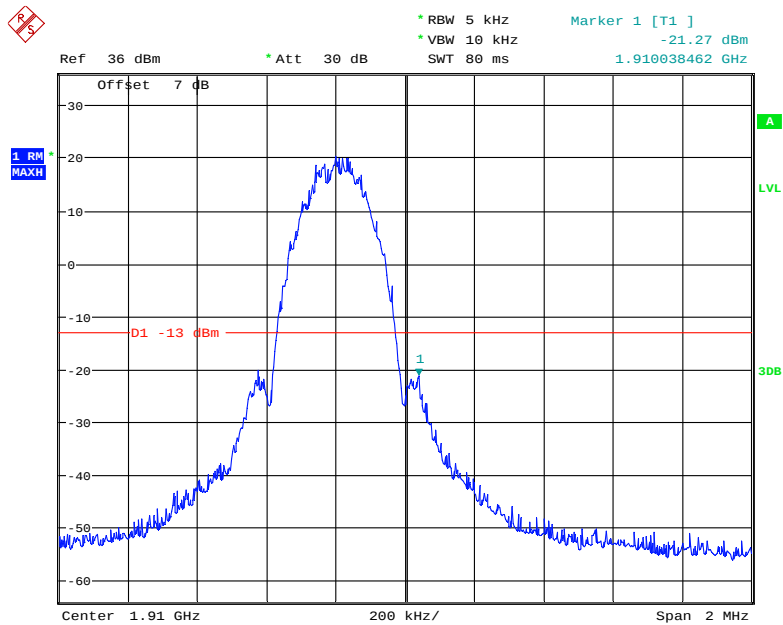
Date: 27.JUN.2021 13:44:27

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



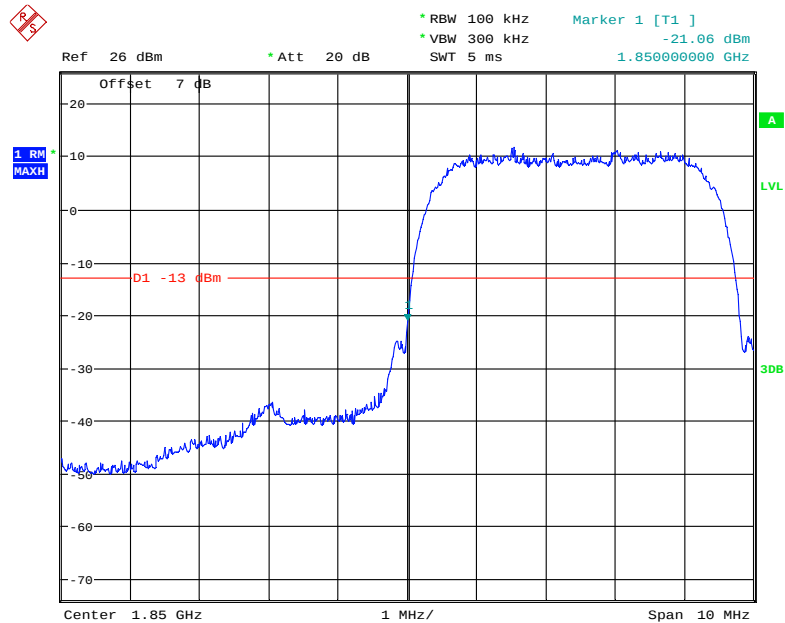
Date: 27.JUN.2021 14:52:47

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



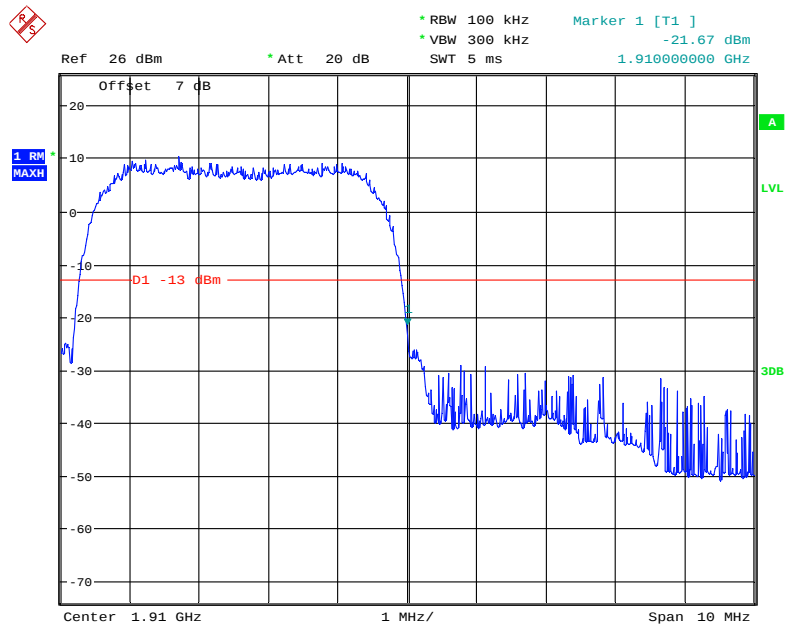
Date: 27.JUN.2021 14:54:46

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



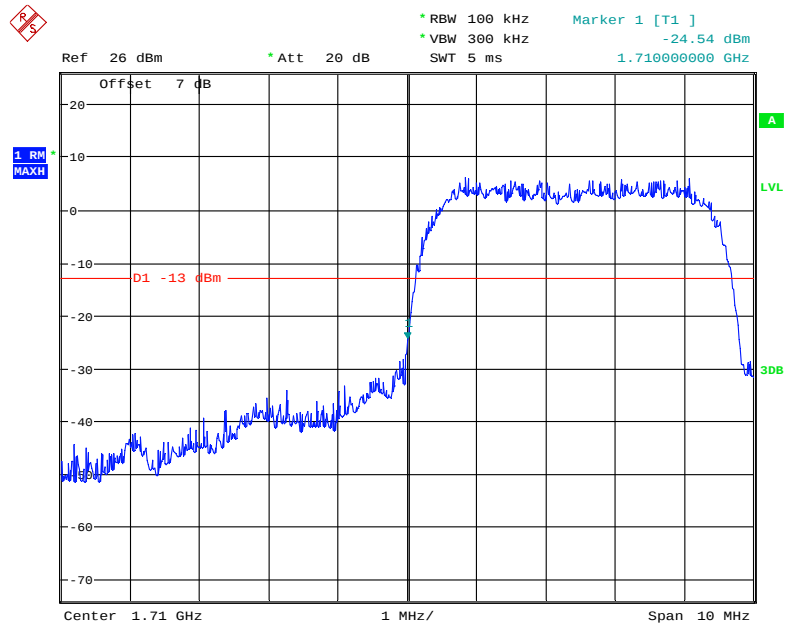
Date: 30.JUL.2021 15:36:09

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



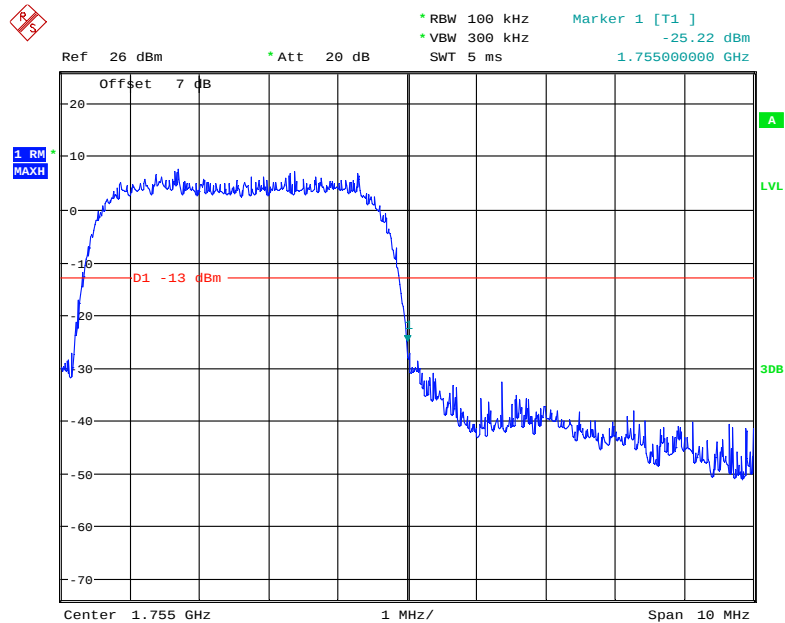
Date: 30.JUL.2021 15:37:07

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



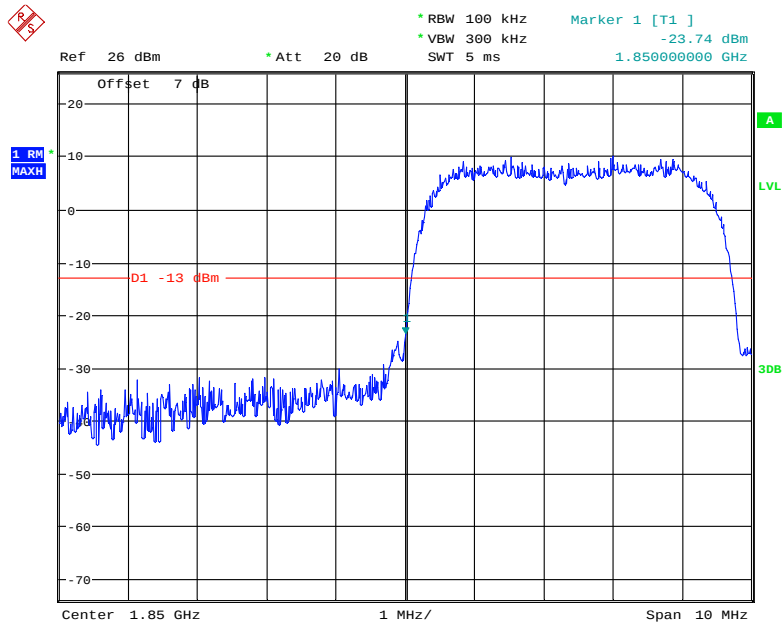
Date: 30.JUL.2021 15:40:19

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



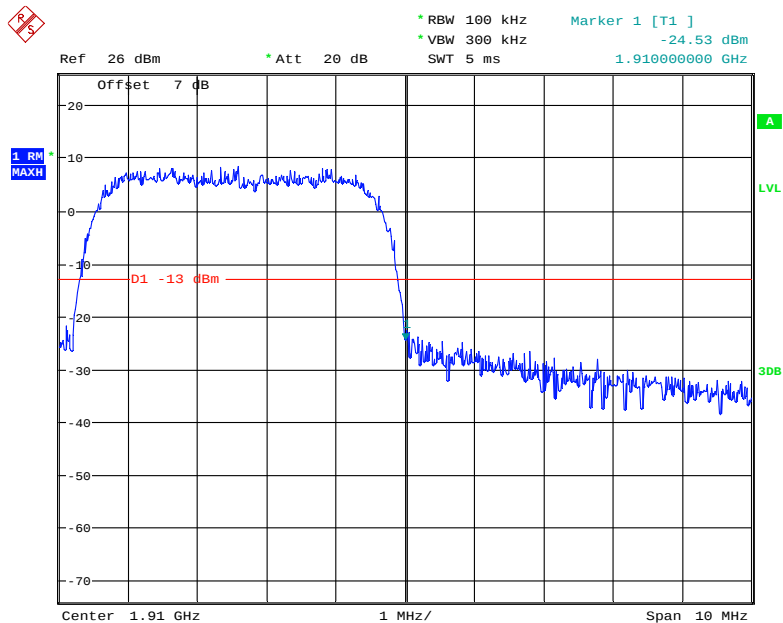
Date: 30.JUL.2021 15:40:59

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



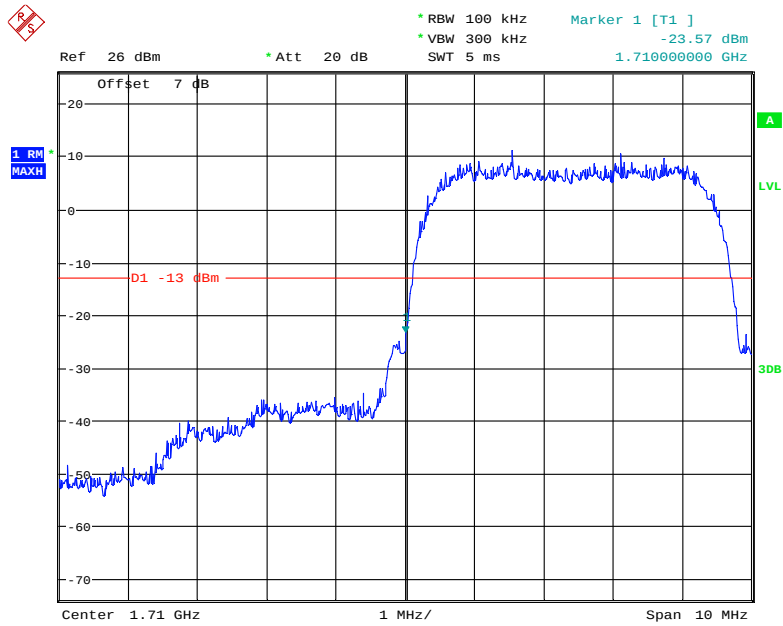
Date: 15.JUL.2021 15:02:24

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



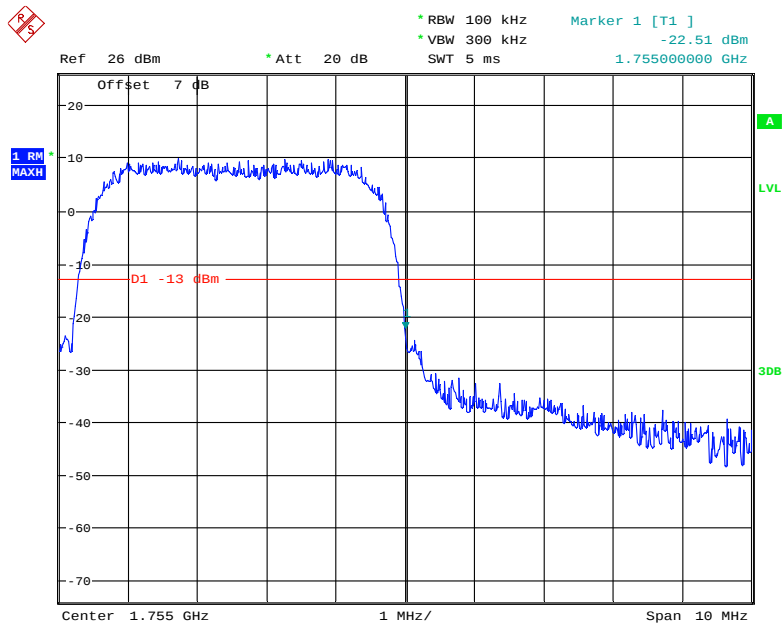
Date: 30.JUL.2021 15:38:21

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



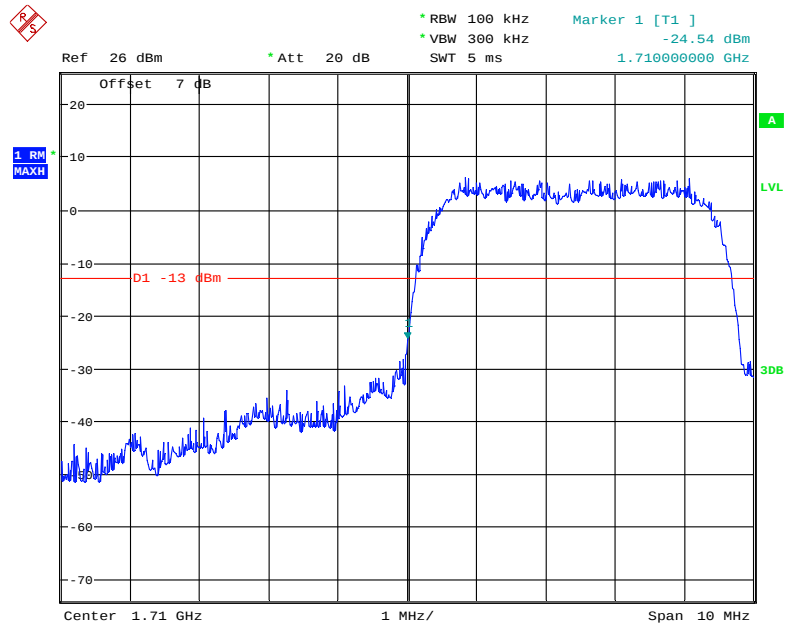
Date: 30.JUL.2021 15:42:26

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



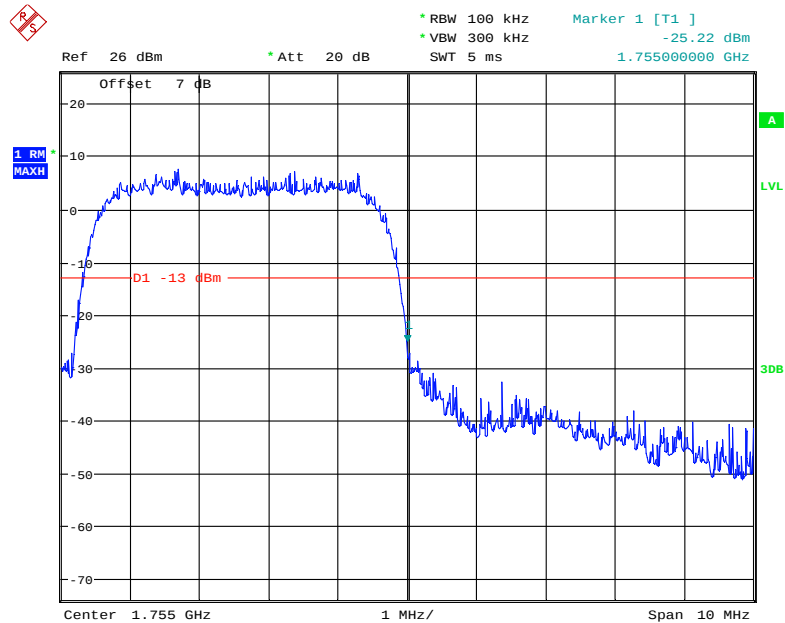
Date: 30.JUL.2021 15:41:45

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

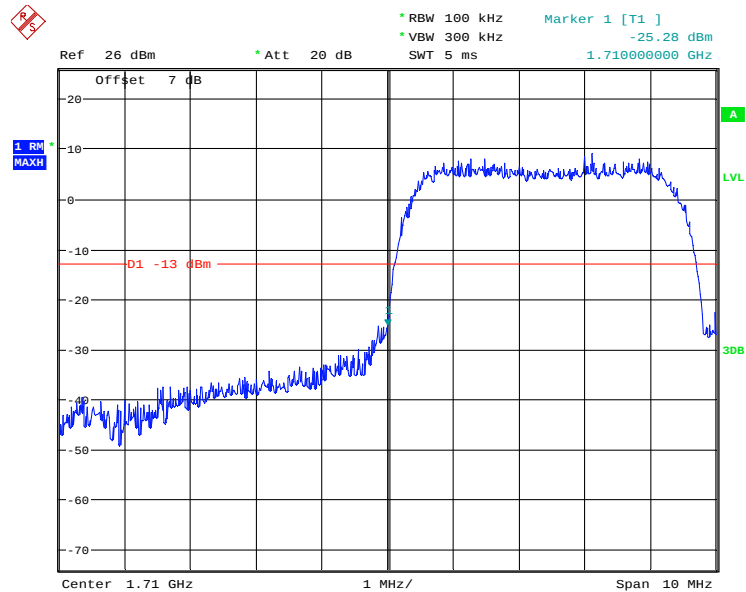


Date: 30.JUL.2021 15:40:19

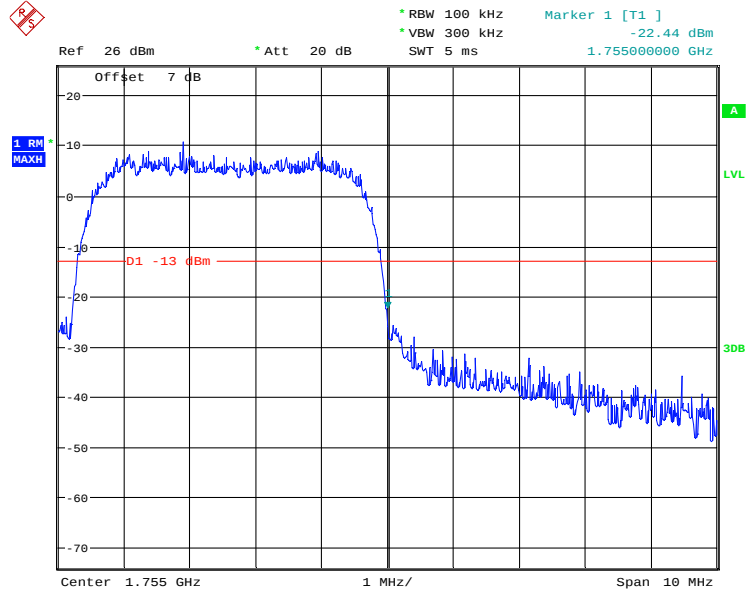
AWS Band, Right Band Edge for HSDPA (16QAM) Mode



Date: 30.JUL.2021 15:40:59

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

Date: 30.JUL.2021 15:43:44

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

Date: 30.JUL.2021 15:45:42

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

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

Applicable Standard

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

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

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

Frequency Tolerance for Transmitters in the Public Mobile Services

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

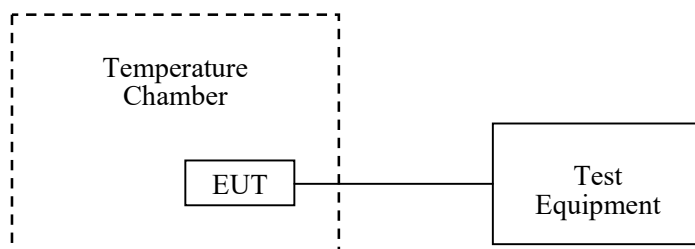
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized frequency block.

Test Procedure

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

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

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



Test Data**Environmental Conditions**

Temperature:	28~28.9 °C
Relative Humidity:	52~56 %
ATM Pressure:	101.0 kPa

The testing was performed by Blaker Zhang on 2021-06-29 and Black Chen on 2021-06-28.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables.

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

Middle Channel, $f_0=836.6\text{MHz}$				
Temperature (°C)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.87	-3	-0.0036	2.5
-20		-4	-0.0048	2.5
-10		-6	-0.0072	2.5
0		-5	-0.0060	2.5
10		-2	-0.0024	2.5
20		-4	-0.0048	2.5
30		4	0.0048	2.5
40		5	0.0060	2.5
50		-6	-0.0072	2.5
20	3.45	5	0.0060	2.5
	4.45	-3	-0.0036	2.5

WCDMA Mode

Middle Channel, $f_0=836.6\text{MHz}$				
Temperature (°C)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.87	5	0.0060	2.5
-20		4	0.0048	2.5
-10		6	0.0072	2.5
0		5	0.0060	2.5
10		6	0.0072	2.5
20		5	0.0060	2.5
30		7	0.0084	2.5
40		6	0.0072	2.5
50		5	0.0060	2.5
20	3.45	7	0.0084	2.5
	4.45	8	0.0096	2.5

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

Middle Channel, $f_0=1880.0\text{ MHz}$				
Temperature (°C)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	3.87	4	0.0021	pass
-20		5	0.0027	pass
-10		6	0.0032	pass
0		3	0.0016	pass
10		4	0.0021	pass
20		5	0.0027	pass
30		4	0.0021	pass
40		8	0.0043	pass
50		6	0.0032	pass
20	3.45	4	0.0021	pass
	4.45	5	0.0027	pass

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

Middle Channel, $f_0 = 1880.0$ MHz				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	3.87	-4	-0.0021	pass
-20		-3	-0.0016	pass
-10		4	0.0021	pass
0		5	0.0027	pass
10		6	0.0032	pass
20		-4	-0.0021	pass
30		-5	-0.0027	pass
40		-7	-0.0037	pass
50		-5	-0.0027	pass
20	3.45	-4	-0.0021	pass
	4.45	-6	-0.0032	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	3.87	1710.0821	1754.2741	1710	1755
-20		1710.3158	1754.3240	1710	1755
-10		1710.0395	1754.5403	1710	1755
0		1710.3379	1754.3714	1710	1755
10		1710.0877	1754.5902	1710	1755
20		1710.1966	1754.5682	1710	1755
30		1710.0429	1754.3265	1710	1755
40		1710.2033	1754.3954	1710	1755
50		1710.1170	1754.3332	1710	1755
20	3.45	1710.1304	1754.5488	1710	1755
	4.45	1710.0839	1754.4077	1710	1755

LTE:
QPSK:

Band 2:

10.0 MHz Middle Channel, $f_o=1880\text{MHz}$				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	3.87	7.70	0.0040	pass
-20		-9.97	-0.0053	pass
-10		-6.13	-0.0033	pass
0		6.17	0.0033	pass
10		7.92	0.0042	pass
20		6.46	0.0034	pass
30		-6.52	-0.0035	pass
40		7.18	0.0038	pass
50		-9.69	-0.0052	pass
20	3.45	-8.17	-0.0043	pass
	4.45	-7.05	-0.0038	pass

Band 4:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	3.87	1710.1404	1754.8835	1710	1755
-20		1710.1270	1754.8457	1710	1755
-10		1710.1404	1754.8363	1710	1755
0		1710.1536	1754.8965	1710	1755
10		1710.1610	1754.8659	1710	1755
20		1710.1478	1754.8028	1710	1755
30		1710.1554	1754.8748	1710	1755
40		1710.1590	1754.8152	1710	1755
50		1710.1510	1754.8670	1710	1755
20	3.45	1710.1569	1754.8314	1710	1755
	4.45	1710.1503	1754.8951	1710	1755

Band 5:

10.0 MHz Middle Channel, $f_0=836.5\text{MHz}$				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.87	-3.53	-0.0042	2.5
-20		-9.97	-0.0119	2.5
-10		-6.13	-0.0073	2.5
0		6.17	0.0074	2.5
10		7.92	0.0095	2.5
20		6.46	0.0077	2.5
30		-6.52	-0.0078	2.5
40		7.18	0.0086	2.5
50		-9.69	-0.0116	2.5
20	3.45	-8.17	-0.0098	2.5
	4.45	-7.05	-0.0084	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	3.87	2500.1705	2569.8648	2500	2570
-20		2500.1650	2569.8624	2500	2570
-10		2500.1682	2569.8741	2500	2570
0		2500.1581	2569.8644	2500	2570
10		2500.1732	2569.8753	2500	2570
20		2500.1714	2569.8634	2500	2570
30		2500.1558	2569.8507	2500	2570
40		2500.1577	2569.8697	2500	2570
50		2500.1463	2569.8702	2500	2570
20	3.45	2500.1519	2569.8688	2500	2570
	4.45	2500.1510	2569.8544	2500	2570

Band 17:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	3.87	704.2842	715.8330	704	716
-20		704.2626	715.8379	704	716
-10		704.2631	715.8441	704	716
0		704.2784	715.8330	704	716
10		704.2867	715.8359	704	716
20		704.2741	715.8373	704	716
30		704.2611	715.8330	704	716
40		704.2665	715.8380	704	716
50		704.2667	715.8463	704	716
20	3.45	704.2630	715.8223	704	716
	4.45	704.2620	715.8287	704	716

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	3.87	2570.2426	2619.8937	2570	2620
-20		2570.2452	2619.8890	2570	2620
-10		2570.2354	2619.8997	2570	2620
0		2570.2381	2619.8887	2570	2620
10		2570.2415	2619.8882	2570	2620
20		2570.2397	2619.8906	2570	2620
30		2570.2319	2619.8852	2570	2620
40		2570.2356	2619.8888	2570	2620
50		2570.2361	2619.8896	2570	2620
20	3.45	2570.2453	2619.8952	2570	2620
	4.45	2570.2487	2619.8986	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	3.87	2535.2671	2654.8549	2535	2655
-20		2535.2599	2654.8664	2535	2655
-10		2535.2552	2654.8628	2535	2655
0		2535.2755	2654.8737	2535	2655
10		2535.2792	2654.8647	2535	2655
20		2535.2644	2654.8612	2535	2655
30		2535.2623	2654.8554	2535	2655
40		2535.2758	2654.8690	2535	2655
50		2535.2544	2654.8637	2535	2655
20	3.45	2535.2601	2654.8833	2535	2655
	4.45	2535.2658	2654.8852	2535	2655

Band 66

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	3.87	1710.1434	1779.8704	1710	1780
-20		1710.1407	1779.8732	1710	1780
-10		1710.1509	1779.8819	1710	1780
0		1710.1358	1779.8671	1710	1780
10		1710.1395	1779.8811	1710	1780
20		1710.1363	1779.8791	1710	1780
30		1710.1386	1779.8802	1710	1780
40		1710.1347	1779.8733	1710	1780
50		1710.1264	1779.8826	1710	1780
20	3.45	1710.1353	1779.8761	1710	1780
	4.45	1710.1379	1779.8731	1710	1780

16QAM:**Band 2:**

10.0 MHz Middle Channel, $f_o=1880\text{MHz}$				
Temperature (°C)	Voltage Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Result
-30	3.87	1.12	0.0006	pass
-20		-6.68	-0.0036	pass
-10		9.77	0.0052	pass
0		-7.62	-0.0041	pass
10		-9.91	-0.0053	pass
20		-9.82	-0.0052	pass
30		-6.68	-0.0036	pass
40		-8.85	-0.0047	pass
50		5.67	0.003	pass
20	3.45	6.05	0.0032	pass
	4.45	7.52	0.004	pass

Band 4:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	3.87	1710.1719	1754.8767	1710	1755
-20		1710.1499	1754.8642	1710	1755
-10		1710.1753	1754.8726	1710	1755
0		1710.1558	1754.8690	1710	1755
10		1710.1498	1754.8690	1710	1755
20		1710.1476	1754.8721	1710	1755
30		1710.1572	1754.8582	1710	1755
40		1710.1497	1754.8476	1710	1755
50		1710.1545	1754.8691	1710	1755
20	3.45	1710.1532	1754.8718	1710	1755
	4.45	1710.1574	1754.8757	1710	1755

Band 5:

10.0 MHz Middle Channel, $f_0=836.5\text{MHz}$				
Temperature (°C)	Voltage Supplied (V_{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-30	3.87	-4.31	-0.0052	2.5
-20		-6.68	-0.008	2.5
-10		9.77	0.0117	2.5
0		-7.62	-0.0091	2.5
10		-9.91	-0.0118	2.5
20		-9.82	-0.0117	2.5
30		-6.68	-0.008	2.5
40		-8.85	-0.0106	2.5
50		5.67	0.0068	2.5
20	3.45	6.05	0.0072	2.5
	4.45	7.52	0.009	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	3.87	2500.2566	2569.8609	2500	2570
-20		2500.2659	2569.8728	2500	2570
-10		2500.2641	2569.8750	2500	2570
0		2500.2707	2569.8838	2500	2570
10		2500.2655	2569.8643	2500	2570
20		2500.2555	2569.8625	2500	2570
30		2500.2689	2569.8587	2500	2570
40		2500.2550	2569.8633	2500	2570
50		2500.2506	2569.8797	2500	2570
20	3.45	2500.2612	2569.8587	2500	2570
	4.45	2500.2542	2569.8663	2500	2570

Band 17:

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	3.87	704.0843	715.9683	704	716
-20		704.0515	715.9715	704	716
-10		704.0579	715.9301	704	716
0		704.0483	715.9114	704	716
10		704.0587	715.9089	704	716
20		704.0649	715.9153	704	716
30		704.0650	715.9036	704	716
40		704.0435	715.9391	704	716
50		704.0442	715.9386	704	716
20	3.45	704.0634	715.9057	704	716
	4.45	704.0339	715.9267	704	716

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	3.87	2570.1492	2619.8412	2570	2620
-20		2570.1478	2619.8498	2570	2620
-10		2570.1457	2619.8431	2570	2620
0		2570.1403	2619.8436	2570	2620
10		2570.1408	2619.8416	2570	2620
20		2570.1387	2619.8420	2570	2620
30		2570.1477	2619.8426	2570	2620
40		2570.1422	2619.8364	2570	2620
50		2570.1405	2619.8384	2570	2620
20	3.45	2570.1397	2619.8399	2570	2620
	4.45	2570.1404	2619.8539	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	3.87	2535.2578	2654.8614	2535	2655
-20		2535.2661	2654.8720	2535	2655
-10		2535.2700	2654.8725	2535	2655
0		2535.2188	2654.8678	2535	2655
10		2535.2288	2654.8542	2535	2655
20		2535.2195	2654.8705	2535	2655
30		2535.2134	2654.8519	2535	2655
40		2535.2970	2654.8548	2535	2655
50		2535.2718	2654.8517	2535	2655
20	3.45	2535.2929	2654.8598	2535	2655
	4.45	2535.2297	2654.8639	2535	2655

Band 66

10 MHz Bandwidth					
Temperature (°C)	Power Supplied (V _{DC})	F _L (MHz)	F _H (MHz)	F _L Limit (MHz)	F _H Limit (MHz)
-30	3.87	1710.1472	1779.8346	1710	1780
-20		1710.1416	1779.8402	1710	1780
-10		1710.1315	1779.8451	1710	1780
0		1710.1365	1779.8390	1710	1780
10		1710.1313	1779.8377	1710	1780
20		1710.1497	1779.8319	1710	1780
30		1710.1324	1779.8410	1710	1780
40		1710.1351	1779.8456	1710	1780
50		1710.1498	1779.8452	1710	1780
20	3.45	1710.1331	1779.8333	1710	1780
	4.45	1710.1324	1779.8353	1710	1780

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