ACCREDITED
TESTING LABORATORY
CERTIFICATE # 4821.01

Bay Area Compliance Labs Corp.

FCC PART 27

FCC PART 22H, PART 24E

TEST REPORT

For

INFINIX MOBILITY LIMITED

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

FCC ID: 2AIZN-X6812B

Report Type:	**Product Type:**
Original Report	Mobile Phone

Report Number:	SZ1210813-34307E-RF-00A
Report Date:	2021-09-13
Reviewed By:	Jimmy Xiao RF Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 5F(B-West) ,6F,7F,the 3rd Phase of Wan Li Industrial Building D,Shihua Rd, FuTian Free Trade Zone, Shenzhen, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Mobile Phone
Tested Model	X6812B
Frequency Range	GSM 850: 824-849MHz(TX); 869-894MHz(RX) PCS 1900: 1850-1910MHz(TX); 1930-1990MHz(RX) WCDMA Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX) WCDMA Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX) WCDMA Band 5: 824-849MHz(TX); 869-894MHz(RX) LTE Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX) LTE Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX) LTE Band 5: 824-849MHz(TX); 869-894MHz(RX) LTE Band 7: 2500-2570MHz(TX); 2620-2690MHz(RX) LTE Band 38: 2570-2620MHz(TX/RX) LTE Band 41: 2535-2655MHz(TX/RX)
Modulation Technique	2G: GMSK, 8PSK 3G: BPSK, QPSK, 16QAM 4G: QPSK, 16QAM
Antenna Specification*	GSM 850/WCDMA Band 5/LTE Band 5: -2.9dBi PCS1900/WCDMA Band 2/LTE Band 2: -0.3dBi WCDMA Band 4/LTE Band 4: -0.3dBi LTE Band 7/LTE Band 38/LTE Band 41: 05dBi (provided by the applicant)
Voltage Range	DC 3.85V from battery or DC 5.0/9.0/12.0V from adapter
Sample number	SZ1210813-34307E-RF-S1(Assigned by BACL, Shenzhen)
Received date	2021-08-13
Sample/EUT Status	Good condition
Adapter information	Model: CQ-18LX Input: 100-240V~50/60Hz, 0.6A Output: 5.0V~9.0V, 2.0A 9.0V~12.0V, 1.5A

Objective

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

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

Test Methodology

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

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

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

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

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF output power, conducted		±0.73dB
Unwanted Emission, conducted		±1.6dB
Emissions, Radiated	Below 1GHz	±4.75dB
	Above 1GHz	±4.88dB
Temperature		±1°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
DCS1900	0.25	1850.2	1880	1909.8
WCDMA B2	4.2	1852.4	1880	1907.6
WCDMA B4	4.2	1712.4	1732.6	1752.6
WCDMA B5	4.2	826.4	836.6	846.6
LTE B2	1.4	1850.7	1880	1909.3
	3	1851.5	1880	1908.5
	5	1852.5	1880	1907.5
	10	1855	1880	1905
	15	1857.5	1880	1902.5
	20	1860	1880	1900
LTE B4	1.4	1710.7	1732.5	1754.3
	3	1711.5	1732.5	1753.5
	5	1712.5	1732.5	1752.5
	10	1715	1732.5	1750
	15	1717.5	1732.5	1747.5
	20	1720	1732.5	1745
LTE B5	1.4	824.7	836.5	848.3
	3	825.5	836.5	847.5
	5	826.5	836.5	846.5
	10	829	836.5	844
LTE B7	5	2502.5	2535	2567.5
	10	2505	2535	2565
	15	2507.5	2535	2562.5
	20	2510	2535	2560
LTE B38	5	2572.5	2595	2617.5
	10	2575	2595	2615
	15	2577.5	2595	2612.5
	20	2580	2595	2610
LTE B41	5	2537.5	2595	2652.5
	10	2540	2595	2650
	15	2542.5	2595	2647.5
	20	2545	2595	2645

Equipment Modifications

No modification was made to the EUT.

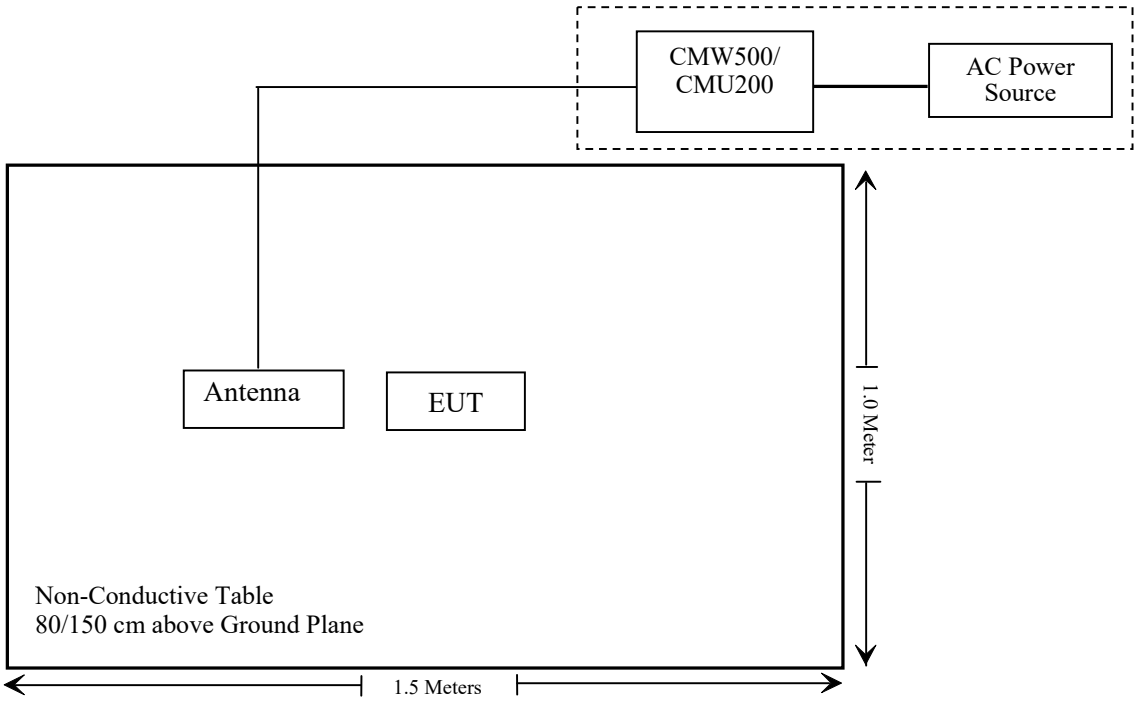
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.002K50-116218-UY
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	110605

Support Cable Description

Cable Description	Length (m)	From / Port	To
Un-Shielded Detachable AC Cable	1.2	AC Power	CMW500/ CMU200

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

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

Note: * Please refer to SAR report released by BACL, report number: SZ1210813-34307E-SA.

TEST EQUIPMENT LIST

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

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	SPECTRUM ANALYZER	FSU26	200982	2021/07/06	2022/07/05
WEINSCHEL	3dB Attenuator	Unknown	F-03-EM121	2020/11/29	2021/11/28
Unknown	RF Cable	Unknown	2301 276	2020/11/29	2021/11/28
Unknown	RF Cable	Unknown	0501 067	2020/11/29	2021/11/28
Weinschel	Power divider	1515	RH386	2021/04/20	2022/04/20
instek	DC Power Supply	GPS-3030DD	EM832096	NCR	NCR
Fluke	Digital Multimeter	287	19000011	2021/02/22	2022/02/21
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.0002K50-116218-U	2021/07/06	2022/07/05
ESPEC	Temperature & Humidity Chamber	EL-10KA	9107726	2021/02/23	2022/02/22

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1307(b) & §2.1093 - RF EXPOSURE INFORMATION

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliance, please refer to the SAR report: SZ1210813-34307E-SA.

FCC §2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 22H & 24E & 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

FCC § 2.1046, § 22.913 (a) & § 24.232 (c); §27.50 (c) (d) (h) - RF OUTPUT POWER

Applicable Standard

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

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

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

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

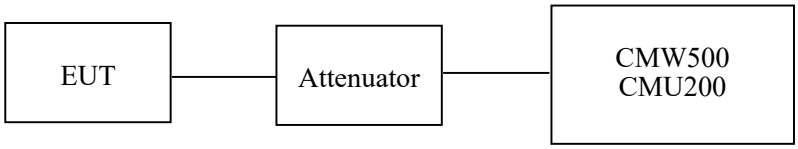
According to §27.50(d), the maximum EIRP must not exceed 1Watts (30dBm) for 1710-1780MHz.

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

Test Procedure

Conducted method:

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



Test Data

Environmental Conditions

Temperature:	28.9~29.1℃
Relative Humidity:	53 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun from 2021-08-29 to 2021-08-30.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables and plots.

Conducted Power

Cellular Band

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
GSM	128	824.2	33.42	28.37	38.45
	190	836.6	33.40	28.35	38.45
	251	848.8	33.39	28.34	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	33.36	32.09	30.12	29.09	28.31	27.04	25.07	24.04	38.45
	190	836.6	33.37	32.15	30.16	29.10	28.32	27.10	25.11	24.05	38.45
	251	848.8	33.38	32.18	30.18	29.12	28.33	27.13	25.13	24.07	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				ERP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
EGPRS	128	824.2	26.80	25.69	23.89	22.09	21.75	20.64	18.84	17.04	38.45
	190	836.6	26.94	25.72	23.94	22.12	21.89	20.67	18.89	17.07	38.45
	251	848.8	26.98	25.76	23.99	22.15	21.93	20.71	18.94	17.10	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		23.12	23.16	23.21	18.07	18.11	18.16
	HSDPA	1	22.10	22.12	22.15	17.05	17.07	17.10
		2	22.16	22.14	22.20	17.11	17.09	17.15
		3	22.20	22.20	22.26	17.15	17.15	17.21
		4	22.24	22.26	22.31	17.19	17.21	17.26
	HSUPA	1	22.85	22.92	22.93	17.80	17.87	17.88
		2	22.92	22.99	23.00	17.87	17.94	17.95
		3	22.97	23.07	23.03	17.92	18.02	17.98
		4	23.01	23.12	23.07	17.96	18.07	18.02
		5	23.08	23.14	23.13	18.03	18.09	18.08
	HSPA+	1	23.13	23.20	23.20	18.08	18.15	18.15

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
For GSM850/WCDMA Band5: Antenna Gain =-2.9dBi =-5.05dBd (0dBd=2.15dBi)
Limit: ERP≤38.45dBm

PCS Band

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	EIRP(dBm)	Limit (dBm)
GSM	512	1850.2	26.18	25.88	33
	661	1880.0	26.29	25.99	33
	810	1909.8	26.51	26.21	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	25.65	25.22	25.08	24.71	25.35	24.92	24.78	24.41	33
	661	1880.0	26.27	25.64	25.48	24.85	25.97	25.34	25.18	24.55	33
	810	1909.8	26.47	25.88	25.67	24.97	26.17	25.58	25.37	24.67	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				EIRP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
EGPRS	512	1850.2	25.25	24.12	22.89	21.56	24.95	23.82	22.59	21.26	33
	661	1880.0	24.87	23.86	22.92	21.72	24.57	23.56	22.62	21.42	33
	810	1909.8	24.70	23.61	23.01	21.85	24.40	23.31	22.71	21.55	33

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 2)	RMC12.2k		15.46	15.42	15.43	15.16	15.12	15.13
	HSDPA	1	14.32	14.34	14.35	14.02	14.04	14.05
		2	14.36	14.39	14.40	14.06	14.09	14.10
		3	14.43	14.42	14.43	14.13	14.12	14.13
		4	14.49	14.46	14.47	14.19	14.16	14.17
	HSUPA	1	14.87	14.99	14.93	14.57	14.69	14.63
		2	14.90	15.05	14.97	14.60	14.75	14.67
		3	14.94	15.10	15.04	14.64	14.80	14.74
		4	14.97	15.14	15.09	14.67	14.84	14.79
		5	15.01	15.20	15.13	14.71	14.90	14.83
	HSPA+	1	15.05	15.23	15.16	14.75	14.93	14.86

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For PCS1900/WCDMA Band2: Antenna Gain = -0.3dBi
Limit: EIRP≤33dBm

AWS Band

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 4)	RMC12.2k		15.81	15.86	15.83	15.51	15.56	15.53
	HSDPA	1	14.69	14.74	14.68	14.39	14.44	14.38
		2	14.71	14.77	14.75	14.41	14.47	14.45
		3	14.73	14.79	14.81	14.43	14.49	14.51
		4	14.76	14.82	14.87	14.46	14.52	14.57
	HSUPA	1	15.38	15.42	15.30	15.08	15.12	15.00
		2	15.44	15.45	15.34	15.14	15.15	15.04
		3	15.48	15.51	15.41	15.18	15.21	15.11
		4	15.50	15.59	15.48	15.20	15.29	15.18
		5	15.56	15.62	15.50	15.26	15.32	15.20
	HSPA+	1	15.59	15.69	15.53	15.29	15.39	15.23

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band 4: Antenna Gain = -0.3dBi
Limit: EIRP≤30dBm

Peak-to-average ratio (PAR)

Cellular Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.15	13
	Middle	3.14	13
	High	3.16	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	3.18	13
	Middle	3.19	13
	High	3.21	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.59	13
	Middle	3.61	13
	High	3.62	13
HSDPA (16QAM)	Low	3.51	13
	Middle	3.53	13
	High	3.57	13
HSUPA (BPSK)	Low	3.59	13
	Middle	3.62	13
	High	3.65	13
HSUPA+	Low	3.61	13
	Middle	3.59	13
	High	3.60	13

PCS Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.14	13
	Middle	3.13	13
	High	3.18	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	3.21	13
	Middle	3.17	13
	High	3.22	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.58	13
	Middle	3.64	13
	High	3.71	13
HSDPA (16QAM)	Low	3.49	13
	Middle	3.97	13
	High	3.78	13
HSUPA (BPSK)	Low	3.69	13
	Middle	3.77	13
	High	3.79	13
HSUPA+	Low	3.68	13
	Middle	3.88	13
	High	3.68	13

AWS Band

Mode	Channel	PAR (dB)	Limit (dB)
WCDMA (BPSK)	Low	3.59	13
	Middle	3.68	13
	High	3.78	13
HSDPA (16QAM)	Low	3.49	13
	Middle	3.51	13
	High	3.59	13
HSUPA (BPSK)	Low	3.42	13
	Middle	3.57	13
	High	3.59	13
HSUPA+	Low	3.63	13
	Middle	3.72	13
	High	3.68	13

LTE Band 2

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	16.73	16.55	16.54	16.43	16.25	16.24
		RB1#3	16.97	16.66	16.68	16.67	16.36	16.38
		RB1#5	16.72	16.55	16.56	16.42	16.25	16.26
		RB3#0	16.83	16.72	16.65	16.53	16.42	16.35
		RB3#3	16.86	16.77	16.66	16.56	16.47	16.36
		RB6#0	15.85	15.62	15.57	15.55	15.32	15.27
	16QAM	RB1#0	15.91	15.60	15.58	15.61	15.30	15.28
		RB1#3	16.03	15.75	15.78	15.73	15.45	15.48
		RB1#5	15.94	15.61	15.61	15.64	15.31	15.31
		RB3#0	15.87	15.87	15.81	15.57	15.57	15.51
		RB3#3	15.92	15.87	15.86	15.62	15.57	15.56
		RB6#0	14.92	14.66	14.62	14.62	14.36	14.32
3.0	QPSK	RB1#0	16.76	16.69	16.66	16.46	16.39	16.36
		RB1#8	16.70	16.65	16.59	16.40	16.35	16.29
		RB1#14	16.69	16.65	16.65	16.39	16.35	16.35
		RB6#0	15.80	15.58	15.58	15.50	15.28	15.28
		RB6#9	15.74	15.59	15.57	15.44	15.29	15.27
		RB15#0	15.78	15.68	15.61	15.48	15.38	15.31
	16QAM	RB1#0	16.51	15.83	15.73	16.21	15.53	15.43
		RB1#8	16.44	15.83	15.67	16.14	15.53	15.37
		RB1#14	16.43	15.83	15.67	16.13	15.53	15.37
		RB6#0	14.85	14.69	14.62	14.55	14.39	14.32
		RB6#9	14.83	14.75	14.61	14.53	14.45	14.31
		RB15#0	14.93	14.73	14.76	14.63	14.43	14.46

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	16.72	16.65	16.56	16.42	16.35	16.26
		RB1#13	16.82	16.72	16.69	16.52	16.42	16.39
		RB1#24	16.68	16.57	16.54	16.38	16.27	16.24
		RB15#0	15.86	15.71	15.68	15.56	15.41	15.38
		RB15#10	15.78	15.68	15.54	15.48	15.38	15.24
		RB25#0	15.80	15.68	15.60	15.50	15.38	15.30
	16QAM	RB1#0	15.67	15.95	15.68	15.37	15.65	15.38
		RB1#13	15.78	16.07	15.76	15.48	15.77	15.46
		RB1#24	15.63	15.90	15.63	15.33	15.60	15.33
		RB15#0	14.91	14.78	14.79	14.61	14.48	14.49
		RB15#10	14.86	14.69	14.67	14.56	14.39	14.37
		RB25#0	14.90	14.73	14.71	14.60	14.43	14.41
10.0	QPSK	RB1#0	16.74	16.68	16.58	16.44	16.38	16.28
		RB1#25	16.87	16.79	16.78	16.57	16.49	16.48
		RB1#49	16.70	16.62	16.61	16.40	16.32	16.31
		RB25#0	15.86	15.76	15.70	15.56	15.46	15.40
		RB25#25	15.82	15.67	15.56	15.52	15.37	15.26
		RB50#0	15.82	15.68	15.61	15.52	15.38	15.31
	16QAM	RB1#0	16.49	15.83	15.61	16.19	15.53	15.31
		RB1#25	16.63	15.99	15.83	16.33	15.69	15.53
		RB1#49	16.44	15.82	15.64	16.14	15.52	15.34
		RB25#0	14.93	14.83	14.86	14.63	14.53	14.56
		RB25#25	14.92	14.77	14.75	14.62	14.47	14.45
		RB50#0	14.92	14.78	14.74	14.62	14.48	14.44

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	16.65	16.61	16.51	16.35	16.31	16.21
		RB1#38	16.82	16.70	16.66	16.52	16.40	16.36
		RB1#74	16.56	16.51	16.55	16.26	16.21	16.25
		RB36#0	15.81	15.71	15.70	15.51	15.41	15.40
		RB36#39	15.80	15.65	15.61	15.50	15.35	15.31
		RB75#0	15.83	15.71	15.64	15.53	15.41	15.34
	16QAM	RB1#0	16.41	15.75	15.99	16.11	15.45	15.69
		RB1#38	16.47	15.87	16.14	16.17	15.57	15.84
		RB1#74	16.33	15.71	15.98	16.03	15.41	15.68
		RB36#0	14.83	14.77	14.72	14.53	14.47	14.42
		RB36#39	14.83	14.71	14.63	14.53	14.41	14.33
		RB75#0	14.84	14.74	14.71	14.54	14.44	14.41
20.0	QPSK	RB1#0	16.56	16.47	16.37	16.26	16.17	16.07
		RB1#50	16.99	16.87	16.80	16.69	16.57	16.50
		RB1#99	16.44	16.41	16.32	16.14	16.11	16.02
		RB50#0	15.85	15.77	15.74	15.55	15.47	15.44
		RB50#50	15.88	15.62	15.56	15.58	15.32	15.26
		RB100#0	15.87	15.70	15.68	15.57	15.40	15.38
	16QAM	RB1#0	15.97	15.74	16.01	15.67	15.44	15.71
		RB1#50	16.32	16.18	16.40	16.02	15.88	16.10
		RB1#99	15.80	15.66	16.00	15.50	15.36	15.70
		RB50#0	14.87	14.85	14.82	14.57	14.55	14.52
		RB50#50	14.87	14.72	14.64	14.57	14.42	14.34
		RB100#0	14.91	14.80	14.75	14.61	14.50	14.45

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band2: Antenna Gain =-0.3dBi
Limit: EIRP≤33dBm

LTE Band 4

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	16.42	16.47	16.40	16.12	16.17	16.10
		RB1#3	16.61	16.68	16.61	16.31	16.38	16.31
		RB1#5	16.45	16.48	16.40	16.15	16.18	16.10
		RB3#0	16.57	16.59	16.56	16.27	16.29	16.26
		RB3#3	16.58	16.59	16.52	16.28	16.29	16.22
		RB6#0	15.52	15.56	15.53	15.22	15.26	15.23
	16QAM	RB1#0	15.58	15.67	15.55	15.28	15.37	15.25
		RB1#3	15.65	15.76	15.73	15.35	15.46	15.43
		RB1#5	15.55	15.70	15.58	15.25	15.40	15.28
		RB3#0	15.87	15.62	15.79	15.57	15.32	15.49
		RB3#3	15.82	15.73	15.73	15.52	15.43	15.43
		RB6#0	14.58	14.63	14.51	14.28	14.33	14.21
3.0	QPSK	RB1#0	16.49	16.55	16.53	16.19	16.25	16.23
		RB1#8	16.43	16.53	16.46	16.13	16.23	16.16
		RB1#14	16.42	16.52	16.46	16.12	16.22	16.16
		RB6#0	15.47	15.53	15.52	15.17	15.23	15.22
		RB6#9	15.48	15.50	15.48	15.18	15.20	15.18
		RB15#0	15.54	15.58	15.57	15.24	15.28	15.27
	16QAM	RB1#0	16.20	15.78	15.66	15.90	15.48	15.36
		RB1#8	16.21	15.75	15.60	15.91	15.45	15.30
		RB1#14	16.22	15.74	15.59	15.92	15.44	15.29
		RB6#0	14.59	14.58	14.50	14.29	14.28	14.20
		RB6#9	14.61	14.61	14.46	14.31	14.31	14.16
		RB15#0	14.63	14.57	14.67	14.33	14.27	14.37

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	16.41	16.50	16.51	16.11	16.20	16.21
		RB1#13	16.53	16.56	16.54	16.23	16.26	16.24
		RB1#24	16.47	16.49	16.46	16.17	16.19	16.16
		RB15#0	15.54	15.58	15.67	15.24	15.28	15.37
		RB15#10	15.61	15.57	15.64	15.31	15.27	15.34
		RB25#0	15.55	15.60	15.65	15.25	15.30	15.35
	16QAM	RB1#0	15.39	15.89	15.66	15.09	15.59	15.36
		RB1#13	15.50	15.93	15.71	15.20	15.63	15.41
		RB1#24	15.41	15.87	15.64	15.11	15.57	15.34
		RB15#0	14.62	14.61	14.74	14.32	14.31	14.44
		RB15#10	14.67	14.58	14.71	14.37	14.28	14.41
		RB25#0	14.60	14.63	14.69	14.30	14.33	14.39
10.0	QPSK	RB1#0	16.39	16.55	16.54	16.09	16.25	16.24
		RB1#25	16.55	16.68	16.72	16.25	16.38	16.42
		RB1#49	16.49	16.56	16.51	16.19	16.26	16.21
		RB25#0	15.52	15.71	15.64	15.22	15.41	15.34
		RB25#25	15.65	15.65	15.65	15.35	15.35	15.35
		RB50#0	15.64	15.67	15.71	15.34	15.37	15.41
	16QAM	RB1#0	16.17	15.81	15.66	15.87	15.51	15.36
		RB1#25	16.36	15.82	15.74	16.06	15.52	15.44
		RB1#49	16.26	15.78	15.67	15.96	15.48	15.37
		RB25#0	14.61	14.76	14.79	14.31	14.46	14.49
		RB25#25	14.77	14.72	14.81	14.47	14.42	14.51
		RB50#0	14.67	14.73	14.78	14.37	14.43	14.48

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	16.32	16.45	16.48	16.02	16.15	16.18
		RB1#38	16.50	16.59	16.56	16.20	16.29	16.26
		RB1#74	16.44	16.49	16.49	16.14	16.19	16.19
		RB36#0	15.52	15.59	15.64	15.22	15.29	15.34
		RB36#39	15.62	15.60	15.64	15.32	15.30	15.34
		RB75#0	15.54	15.59	15.64	15.24	15.29	15.34
	16QAM	RB1#0	16.13	15.65	16.00	15.83	15.35	15.70
		RB1#38	16.25	15.76	16.12	15.95	15.46	15.82
		RB1#74	16.23	15.70	16.03	15.93	15.40	15.73
		RB36#0	14.55	14.66	14.65	14.25	14.36	14.35
		RB36#39	14.66	14.62	14.64	14.36	14.32	14.34
		RB75#0	14.56	14.64	14.63	14.26	14.34	14.33
20.0	QPSK	RB1#0	16.26	16.32	16.22	15.96	16.02	15.92
		RB1#50	16.74	16.70	16.60	16.44	16.40	16.30
		RB1#99	16.34	16.41	16.28	16.04	16.11	15.98
		RB50#0	15.55	15.69	15.72	15.25	15.39	15.42
		RB50#50	15.73	15.63	15.71	15.43	15.33	15.41
		RB100#0	15.65	15.68	15.75	15.35	15.38	15.45
	16QAM	RB1#0	15.64	15.63	15.97	15.34	15.33	15.67
		RB1#50	16.09	15.99	16.43	15.79	15.69	16.13
		RB1#99	15.75	15.71	16.00	15.45	15.41	15.70
		RB50#0	14.57	14.69	14.77	14.27	14.39	14.47
		RB50#50	14.76	14.67	14.78	14.46	14.37	14.48
		RB100#0	14.68	14.72	14.77	14.38	14.42	14.47

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band4: Antenna Gain =-0.3dBi
Limit: EIRP≤30dBm

LTE Band5

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	23.87	23.95	23.97	18.82	18.90	18.92
		RB1#3	24.09	24.11	24.18	19.04	19.06	19.13
		RB1#5	23.93	23.94	23.99	18.88	18.89	18.94
		RB3#0	24.00	24.07	24.13	18.95	19.02	19.08
		RB3#3	23.98	24.00	24.12	18.93	18.95	19.07
		RB6#0	22.97	23.01	23.08	17.92	17.96	18.03
	16QAM	RB1#0	22.88	23.05	22.98	17.83	18.00	17.93
		RB1#3	23.01	23.25	23.20	17.96	18.20	18.15
		RB1#5	22.93	23.04	23.04	17.88	17.99	17.99
		RB3#0	23.14	22.96	23.15	18.09	17.91	18.10
		RB3#3	23.15	22.97	23.17	18.10	17.92	18.12
		RB6#0	21.98	22.09	22.07	16.93	17.04	17.02
3.0	QPSK	RB1#0	23.95	23.97	24.08	18.90	18.92	19.03
		RB1#8	23.93	24.00	24.06	18.88	18.95	19.01
		RB1#14	23.94	23.99	24.03	18.89	18.94	18.98
		RB6#0	22.92	23.00	23.01	17.87	17.95	17.96
		RB6#9	22.94	22.98	23.01	17.89	17.93	17.96
		RB15#0	22.95	23.01	23.10	17.90	17.96	18.05
	16QAM	RB1#0	23.53	23.12	23.05	18.48	18.07	18.00
		RB1#8	23.48	23.14	23.06	18.43	18.09	18.01
		RB1#14	23.48	23.13	23.01	18.43	18.08	17.96
		RB6#0	22.04	22.07	22.00	16.99	17.02	16.95
		RB6#9	22.05	22.08	22.02	17.00	17.03	16.97
		RB15#0	22.07	22.06	22.19	17.02	17.01	17.14

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	23.83	23.90	23.89	18.78	18.85	18.84
		RB1#13	24.04	24.02	24.07	18.99	18.97	19.02
		RB1#24	23.87	23.86	23.95	18.82	18.81	18.90
		RB15#0	22.96	22.99	23.15	17.91	17.94	18.10
		RB15#10	22.99	23.01	23.08	17.94	17.96	18.03
		RB25#0	22.94	22.98	23.02	17.89	17.93	17.97
	16QAM	RB1#0	22.76	23.18	22.96	17.71	18.13	17.91
		RB1#13	22.94	23.29	23.17	17.89	18.24	18.12
		RB1#24	22.77	23.15	23.03	17.72	18.10	17.98
		RB15#0	22.08	22.01	22.21	17.03	16.96	17.16
		RB15#10	22.07	22.02	22.13	17.02	16.97	17.08
		RB25#0	22.05	22.04	22.13	17.00	16.99	17.08
10.0	QPSK	RB1#0	23.92	23.96	24.03	18.87	18.91	18.98
		RB1#25	24.09	24.16	24.18	19.04	19.11	19.13
		RB1#49	23.94	23.98	24.07	18.89	18.93	19.02
		RB25#0	22.98	23.04	23.13	17.93	17.99	18.08
		RB25#25	23.00	23.04	23.01	17.95	17.99	17.96
		RB50#0	23.02	23.00	23.08	17.97	17.95	18.03
	16QAM	RB1#0	23.46	23.13	23.01	18.41	18.08	17.96
		RB1#25	23.60	23.28	23.17	18.55	18.23	18.12
		RB1#49	23.46	23.16	23.04	18.41	18.11	17.99
		RB25#0	22.08	22.11	22.25	17.03	17.06	17.20
		RB25#25	22.11	22.11	22.18	17.06	17.06	17.13
		RB50#0	22.05	22.09	22.14	17.00	17.04	17.09

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
For Band5: Antenna Gain =-2.9dBi = -5.05dBd (0dBd=2.15dBi)
Limit: ERP≤38.45dBm

LTE Band 7

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	15.88	15.94	15.98	16.38	16.44	16.48
		RB1#13	16.04	16.03	16.18	16.54	16.53	16.68
		RB1#24	15.87	15.92	16.03	16.37	16.42	16.53
		RB15#0	14.96	15.00	15.14	15.46	15.50	15.64
		RB15#10	14.96	15.02	15.09	15.46	15.52	15.59
		RB25#0	14.93	15.00	15.07	15.43	15.50	15.57
	16QAM	RB1#0	14.76	15.19	15.06	15.26	15.69	15.56
		RB1#13	14.87	15.35	15.21	15.37	15.85	15.71
		RB1#24	14.74	15.18	15.09	15.24	15.68	15.59
		RB15#0	14.03	13.99	14.19	14.53	14.49	14.69
		RB15#10	14.03	14.01	14.16	14.53	14.51	14.66
		RB25#0	14.02	14.04	14.16	14.52	14.54	14.66
10.0	QPSK	RB1#0	15.91	16.03	16.11	16.41	16.53	16.61
		RB1#25	16.06	16.15	16.26	16.56	16.65	16.76
		RB1#49	15.95	16.02	16.10	16.45	16.52	16.60
		RB25#0	14.86	15.00	15.11	15.36	15.50	15.61
		RB25#25	15.04	15.08	15.16	15.54	15.58	15.66
		RB50#0	14.97	15.04	15.09	15.47	15.54	15.59
	16QAM	RB1#0	15.51	15.17	15.09	16.01	15.67	15.59
		RB1#25	15.66	15.23	15.22	16.16	15.73	15.72
		RB1#49	15.53	15.15	15.09	16.03	15.65	15.59
		RB25#0	13.94	14.03	14.19	14.44	14.53	14.69
		RB25#25	14.13	14.14	14.24	14.63	14.64	14.74
		RB50#0	14.01	14.09	14.17	14.51	14.59	14.67

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	15.79	15.92	15.95	16.29	16.42	16.45
		RB1#38	15.94	15.99	16.09	16.44	16.49	16.59
		RB1#74	15.80	15.95	16.01	16.30	16.45	16.51
		RB36#0	14.85	14.96	15.08	15.35	15.46	15.58
		RB36#39	15.00	15.01	15.09	15.50	15.51	15.59
		RB75#0	14.94	15.00	15.07	15.44	15.50	15.57
	16QAM	RB1#0	15.42	15.04	15.36	15.92	15.54	15.86
		RB1#38	15.56	15.12	15.47	16.06	15.62	15.97
		RB1#74	15.43	15.08	15.41	15.93	15.58	15.91
		RB36#0	13.87	14.02	14.09	14.37	14.52	14.59
		RB36#39	13.99	14.07	14.09	14.49	14.57	14.59
		RB75#0	13.98	14.03	14.06	14.48	14.53	14.56
20.0	QPSK	RB1#0	15.71	15.75	15.78	16.21	16.25	16.28
		RB1#50	16.15	16.12	16.18	16.65	16.62	16.68
		RB1#99	15.75	15.81	15.84	16.25	16.31	16.34
		RB50#0	14.84	14.94	15.08	15.34	15.44	15.58
		RB50#50	15.02	15.06	15.11	15.52	15.56	15.61
		RB100#0	14.90	15.06	15.12	15.40	15.56	15.62
	16QAM	RB1#0	14.98	14.95	15.39	15.48	15.45	15.89
		RB1#50	15.40	15.39	15.74	15.90	15.89	16.24
		RB1#99	15.02	14.99	15.42	15.52	15.49	15.92
		RB50#0	13.89	13.97	14.16	14.39	14.47	14.66
		RB50#50	14.04	14.10	14.17	14.54	14.60	14.67
		RB100#0	13.96	14.07	14.15	14.46	14.57	14.65

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band 7: Antenna Gain =0.5dBi
Limit: EIRP≤33dBm

LTE Band 38

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QP SK	RB1#0	16.19	16.22	16.22	16.69	16.72	16.72
		RB1#13	16.32	16.34	16.34	16.82	16.84	16.84
		RB1#24	16.19	16.20	16.26	16.69	16.70	16.76
		RB15#0	15.21	15.26	15.33	15.71	15.76	15.83
		RB15#10	15.24	15.32	15.33	15.74	15.82	15.83
		RB25#0	15.23	15.26	15.32	15.73	15.76	15.82
	16QAM	RB1#0	15.44	15.18	15.28	15.94	15.68	15.78
		RB1#13	15.53	15.34	15.45	16.03	15.84	15.95
		RB1#24	15.39	15.21	15.31	15.89	15.71	15.81
		RB15#0	14.28	14.20	14.33	14.78	14.70	14.83
		RB15#10	14.27	14.21	14.34	14.77	14.71	14.84
		RB25#0	14.19	14.26	14.34	14.69	14.76	14.84
10.0	QPSK	RB1#0	16.31	16.33	16.36	16.81	16.83	16.86
		RB1#25	16.54	16.59	16.68	17.04	17.09	17.18
		RB1#49	16.29	16.34	16.38	16.79	16.84	16.88
		RB25#0	15.29	15.40	15.38	15.79	15.90	15.88
		RB25#25	15.32	15.29	15.36	15.82	15.79	15.86
		RB50#0	15.30	15.32	15.36	15.80	15.82	15.86
	16QAM	RB1#0	15.53	15.26	15.44	16.03	15.76	15.94
		RB1#25	15.77	15.53	15.71	16.27	16.03	16.21
		RB1#49	15.53	15.24	15.48	16.03	15.74	15.98
		RB25#0	14.25	14.33	14.40	14.75	14.83	14.90
		RB25#25	14.29	14.35	14.39	14.79	14.85	14.89
		RB50#0	14.30	14.29	14.34	14.80	14.79	14.84

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	16.23	16.26	16.30	16.73	16.76	16.80
		RB1#38	16.29	16.38	16.40	16.79	16.88	16.90
		RB1#74	16.27	16.28	16.32	16.77	16.78	16.82
		RB36#0	15.26	15.33	15.34	15.76	15.83	15.84
		RB36#39	15.34	15.31	15.35	15.84	15.81	15.85
		RB75#0	15.31	15.31	15.36	15.81	15.81	15.86
	16QAM	RB1#0	15.44	15.19	15.48	15.94	15.69	15.98
		RB1#38	15.50	15.28	15.62	16.00	15.78	16.12
		RB1#74	15.48	15.19	15.55	15.98	15.69	16.05
		RB36#0	14.24	14.27	14.39	14.74	14.77	14.89
		RB36#39	14.29	14.22	14.37	14.79	14.72	14.87
		RB75#0	14.22	14.32	14.34	14.72	14.82	14.84
20.0	QPSK	RB1#0	16.07	16.03	16.14	16.57	16.53	16.64
		RB1#50	16.54	16.53	16.66	17.04	17.03	17.16
		RB1#99	16.08	16.09	16.23	16.58	16.59	16.73
		RB50#0	15.21	15.28	15.32	15.71	15.78	15.82
		RB50#50	15.31	15.29	15.28	15.81	15.79	15.78
		RB100#0	15.25	15.29	15.33	15.75	15.79	15.83
	16QAM	RB1#0	15.15	15.03	15.36	15.65	15.53	15.86
		RB1#50	15.62	15.54	15.87	16.12	16.04	16.37
		RB1#99	15.17	15.06	15.43	15.67	15.56	15.93
		RB50#0	14.23	14.32	14.33	14.73	14.82	14.83
		RB50#50	14.29	14.32	14.29	14.79	14.82	14.79
		RB100#0	14.25	14.29	14.32	14.75	14.79	14.82

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band38: Antenna Gain =0.5dBi
Limit: EIRP≤33dBm

LTE Band 41:

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QP SK	RB1#0	16.07	16.16	16.24	16.57	16.66	16.74
		RB1#13	16.16	16.27	16.36	16.66	16.77	16.86
		RB1#24	16.07	16.17	16.26	16.57	16.67	16.76
		RB15#0	15.06	15.18	15.24	15.56	15.68	15.74
		RB15#10	15.09	15.21	15.27	15.59	15.71	15.77
		RB25#0	15.09	15.21	15.27	15.59	15.71	15.77
	16QAM	RB1#0	15.02	15.24	15.51	15.52	15.74	16.01
		RB1#13	15.18	15.35	15.57	15.68	15.85	16.07
		RB1#24	15.08	15.24	15.45	15.58	15.74	15.95
		RB15#0	14.04	14.25	14.33	14.54	14.75	14.83
		RB15#10	14.07	14.27	14.34	14.57	14.77	14.84
		RB25#0	14.15	14.26	14.26	14.65	14.76	14.76
10.0	QPSK	RB1#0	16.16	16.33	16.36	16.66	16.83	16.86
		RB1#25	16.46	16.61	16.65	16.96	17.11	17.15
		RB1#49	16.19	16.31	16.34	16.69	16.81	16.84
		RB25#0	15.14	15.27	15.34	15.64	15.77	15.84
		RB25#25	15.16	15.28	15.37	15.66	15.78	15.87
		RB50#0	15.12	15.24	15.33	15.62	15.74	15.83
	16QAM	RB1#0	15.37	15.23	15.45	15.87	15.73	15.95
		RB1#25	15.68	15.53	15.74	16.18	16.03	16.24
		RB1#49	15.40	15.22	15.43	15.90	15.72	15.93
		RB25#0	14.16	14.33	14.39	14.66	14.83	14.89
		RB25#25	14.19	14.36	14.46	14.69	14.86	14.96
		RB50#0	14.15	14.31	14.38	14.65	14.81	14.88

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	16.12	16.26	16.29	16.62	16.76	16.79
		RB1#38	16.22	16.36	16.37	16.72	16.86	16.87
		RB1#74	16.15	16.29	16.28	16.65	16.79	16.78
		RB36#0	15.14	15.30	15.34	15.64	15.80	15.84
		RB36#39	15.17	15.31	15.38	15.67	15.81	15.88
		RB75#0	15.17	15.31	15.34	15.67	15.81	15.84
	16QAM	RB1#0	15.29	15.19	15.52	15.79	15.69	16.02
		RB1#38	15.44	15.30	15.57	15.94	15.80	16.07
		RB1#74	15.36	15.23	15.51	15.86	15.73	16.01
		RB36#0	14.17	14.28	14.37	14.67	14.78	14.87
		RB36#39	14.19	14.29	14.45	14.69	14.79	14.95
		RB75#0	14.16	14.33	14.38	14.66	14.83	14.88
20.0	QPSK	RB1#0	15.93	16.00	16.18	16.43	16.50	16.68
		RB1#50	16.44	16.53	16.71	16.94	17.03	17.21
		RB1#99	15.93	16.06	16.23	16.43	16.56	16.73
		RB50#0	15.16	15.27	15.31	15.66	15.77	15.81
		RB50#50	15.20	15.31	15.42	15.70	15.81	15.92
		RB100#0	15.19	15.35	15.38	15.69	15.85	15.88
	16QAM	RB1#0	15.02	15.03	15.40	15.52	15.53	15.90
		RB1#50	15.52	15.53	15.90	16.02	16.03	16.40
		RB1#99	15.03	15.06	15.42	15.53	15.56	15.92
		RB50#0	14.19	14.39	14.37	14.69	14.89	14.87
		RB50#50	14.24	14.39	14.49	14.74	14.89	14.99
		RB100#0	14.23	14.37	14.44	14.73	14.87	14.94

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band41: Antenna Gain =0.5dBi
Limit: EIRP≤33dBm

Peak-to-average ratio (PAR)

LTE Band 2

20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.96	5.77	5.93	13	Pass
QPSK (100RB Size)	5.90	5.83	5.77	13	Pass
16QAM (1RB Size)	7.60	7.37	6.54	13	Pass
16QAM (100RB Size)	6.73	6.70	6.67	13	Pass

LTE Band 4

20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.71	6.03	6.41	13	Pass
QPSK (100RB Size)	5.83	5.93	5.80	13	Pass
16QAM (1RB Size)	6.60	7.69	6.89	13	Pass
16QAM (100RB Size)	6.79	6.73	6.70	13	Pass

LTE Band 5

10MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	3.97	4.29	4.26	13	Pass
QPSK (50RB Size)	5.42	5.26	5.38	13	Pass
16QAM (1RB Size)	5.00	5.48	5.00	13	Pass
16QAM (50RB Size)	6.35	5.99	6.22	13	Pass

LTE Band 7

20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.13	5.99	5.38	13	Pass
QPSK (100RB Size)	5.61	5.74	5.64	13	Pass
16QAM (1RB Size)	6.06	6.57	6.86	13	Pass
16QAM (100RB Size)	6.44	6.47	6.22	13	Pass

LTE Band 38

20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	9.52	9.75	7.34	13	Pass
QPSK (100RB Size)	10.58	7.50	8.73	13	Pass
16QAM (1RB Size)	8.08	8.65	10.03	13	Pass
16QAM (100RB Size)	11.03	8.61	9.05	13	Pass

LTE Band 41

20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	8.96	7.82	10.16	13	Pass
QPSK (100RB Size)	8.11	7.34	9.95	13	Pass
16QAM (1RB Size)	10.13	8.91	9.17	13	Pass
16QAM (100RB Size)	9.10	8.61	10.77	13	Pass

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

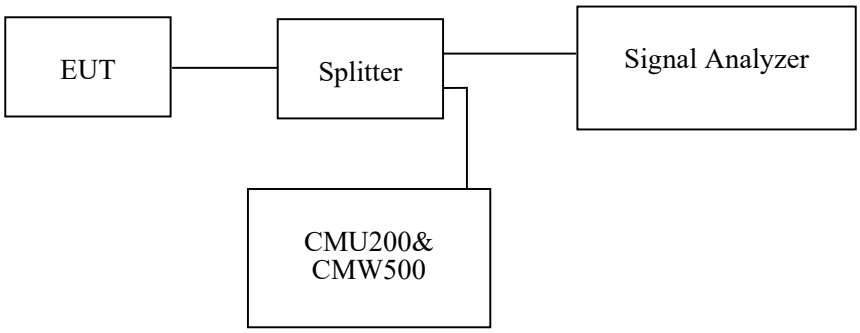
Applicable Standard

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

Test Procedure

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

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



Test Data

Environmental Conditions

Temperature:	28.9~29.1℃
Relative Humidity:	53 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun from 2021-08-29 to 2021-08-30.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables and plots.

Cellular Band (Part 22H)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	128	824.2	247.50	322.44
	190	836.6	245.00	321.79
	251	848.8	245.00	320.83
EGPRS(8PSK)	128	824.2	247.50	314.42
	190	836.6	247.50	309.94
	251	848.8	245.00	312.18

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	826.4	4.17	4.72
	836.6	4.17	4.71
	846.6	4.20	4.96
HSDPA	826.4	4.20	4.73
	836.6	4.18	4.74
	846.6	4.20	5.11
HSUPA	826.4	4.21	5.08
	836.6	4.20	4.70
	846.6	4.18	4.71

PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	512	1850.2	242.50	318.59
	661	1880.0	242.50	318.59
	810	1909.8	245.00	315.96
EGPRS(8PSK)	512	1850.2	245.00	310.26
	661	1880.0	250.00	318.53
	810	1909.8	250.00	311.99

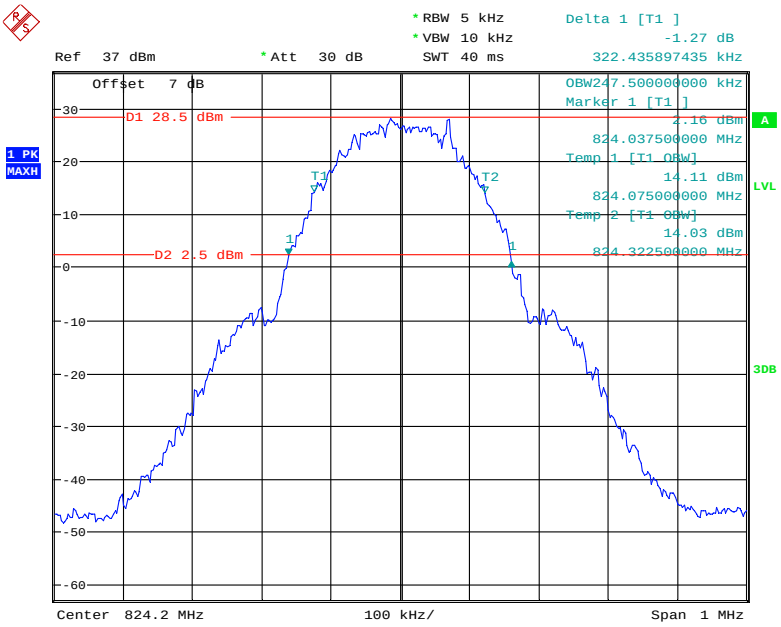
Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1852.4	4.17	4.71
	1880.0	4.17	4.71
	1907.6	4.18	4.72
HSDPA	1852.4	4.20	4.71
	1880.0	4.20	4.71
	1907.6	4.20	4.74
HSUPA	1852.4	4.17	4.74
	1880.0	4.19	4.71
	1907.6	4.25	6.62

AWS Band (Part 27)

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1712.4	4.17	4.71
	1732.6	4.18	4.70
	1752.6	4.20	4.70
HSDPA	1712.4	4.18	4.73
	1732.6	4.20	4.73
	1752.6	4.20	4.73
HSUPA	1712.4	4.20	4.72
	1732.6	4.20	4.72
	1752.6	4.20	4.72

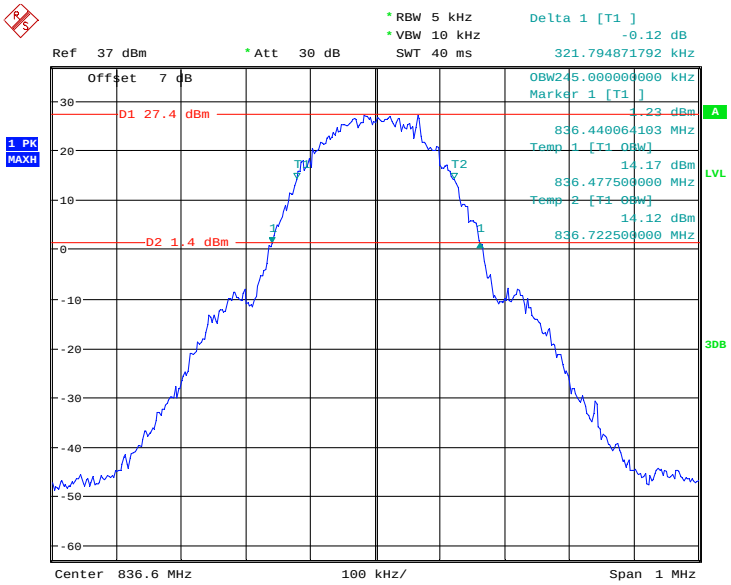
Cellular Band (Part 22H)

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



Date: 29.AUG.2021 16:22:05

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



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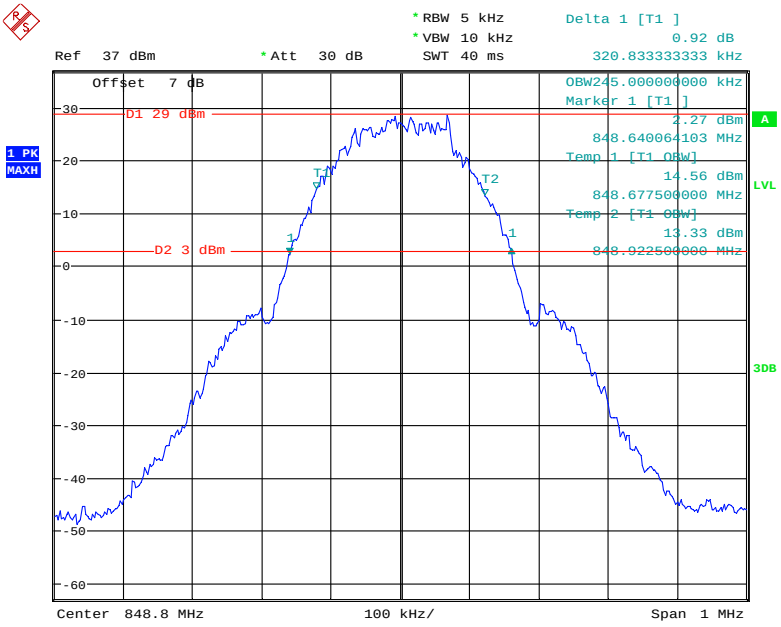
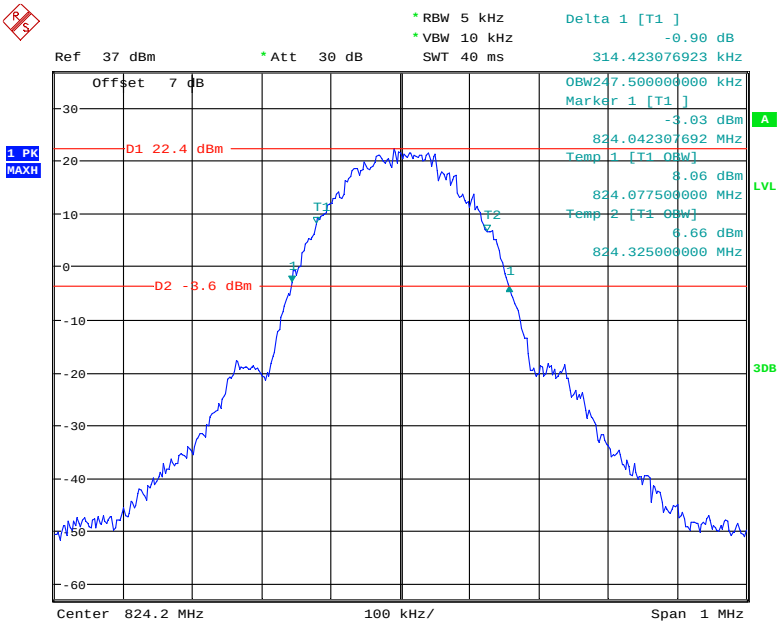
26 dB Emissions &99% Occupied Bandwidth for GSM (GMSK) Mode, High channel



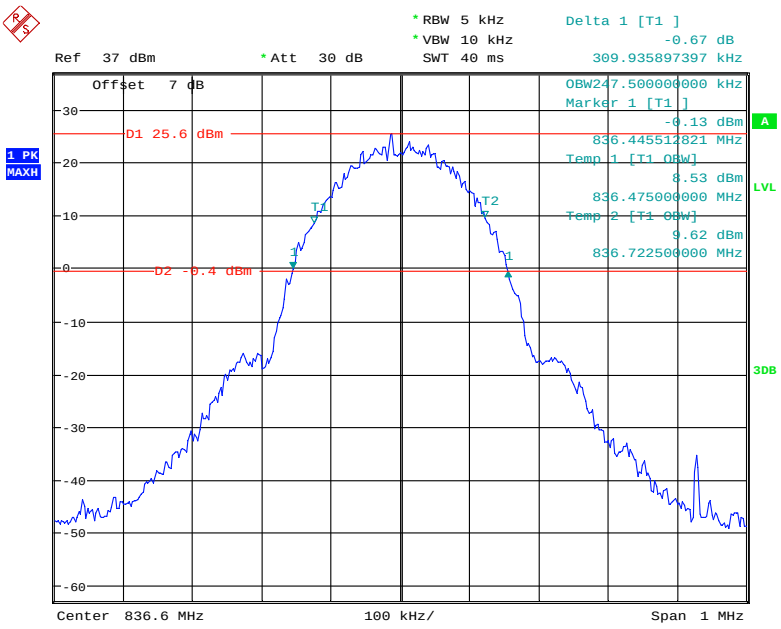
Date: 29.AUG.2021 16:24:42

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



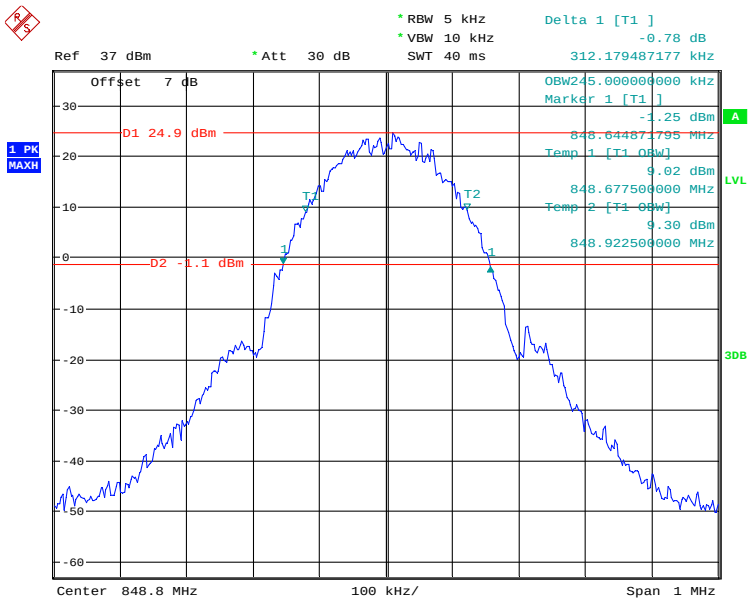
Date: 29.AUG.2021 16:56:40

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



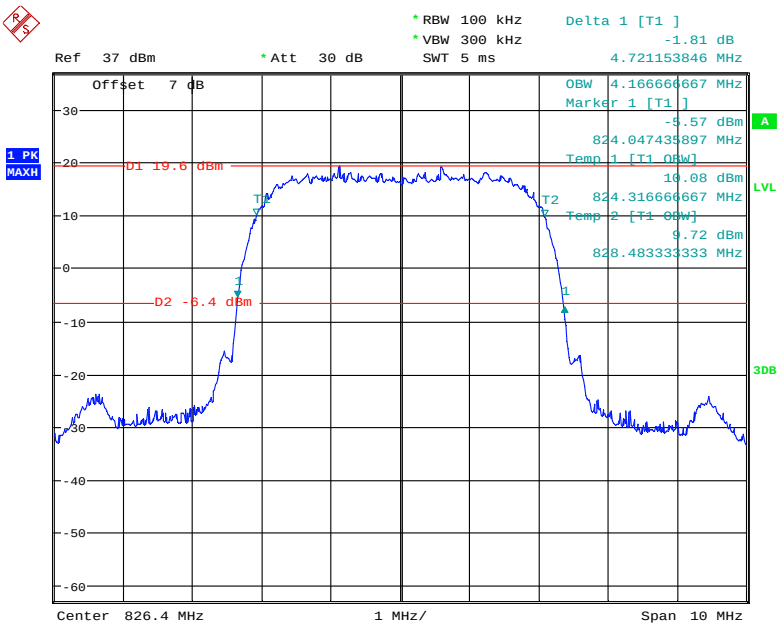
Date: 29.AUG.2021 16:59:42

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



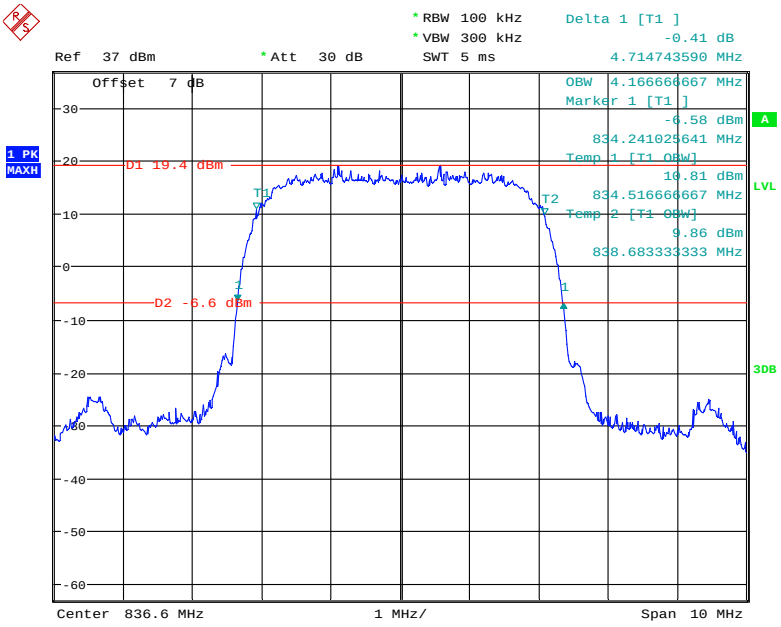
Date: 29.AUG.2021 17:00:35

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



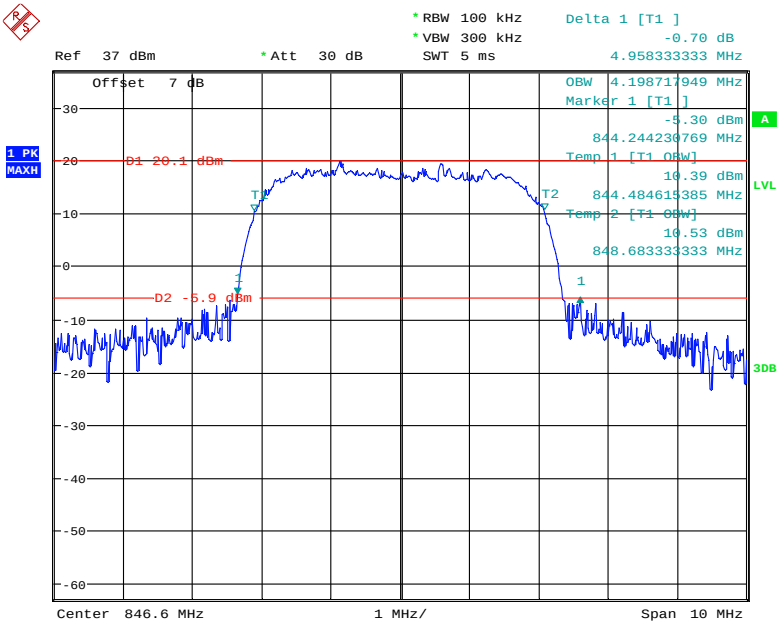
Date: 29.AUG.2021 14:47:05

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



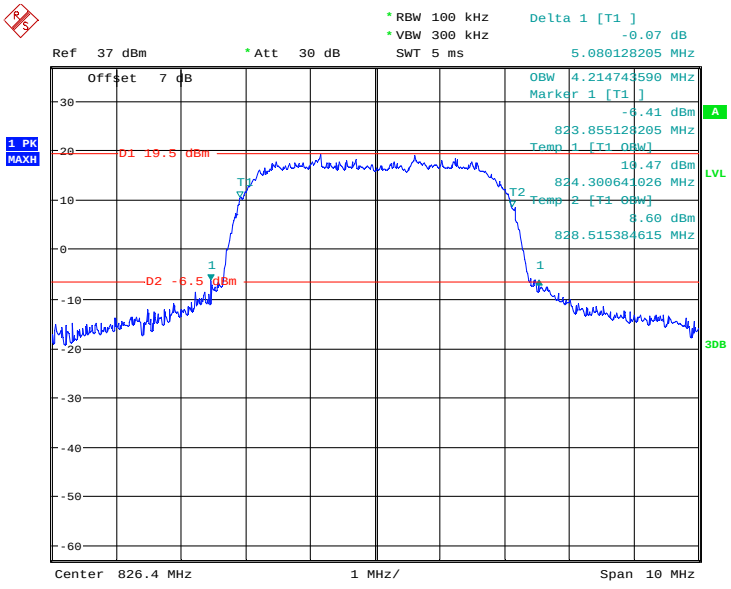
Date: 29.AUG.2021 14:48:18

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



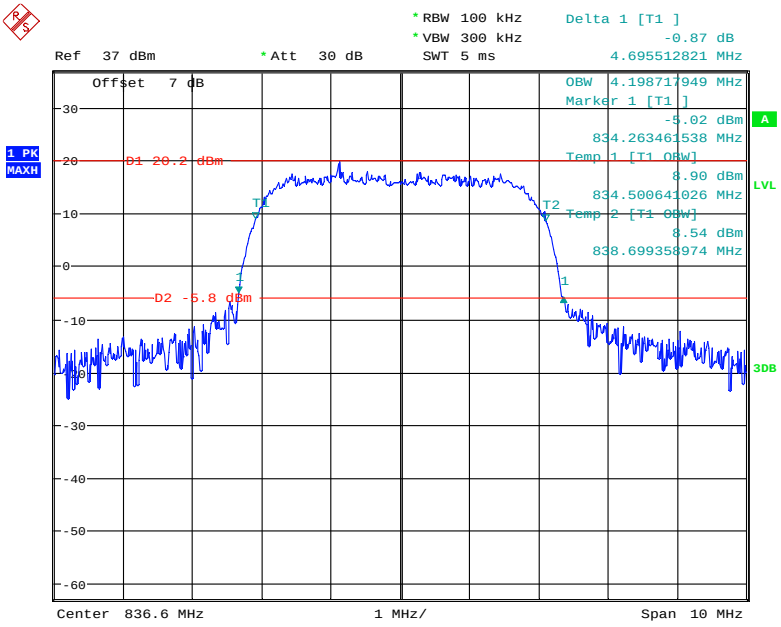
Date: 29.AUG.2021 14:50:25

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



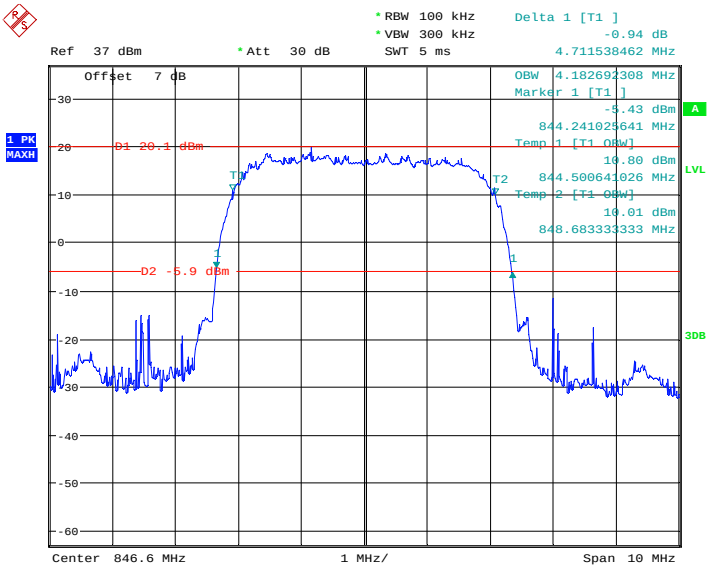
Date: 29.AUG.2021 15:45:23

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



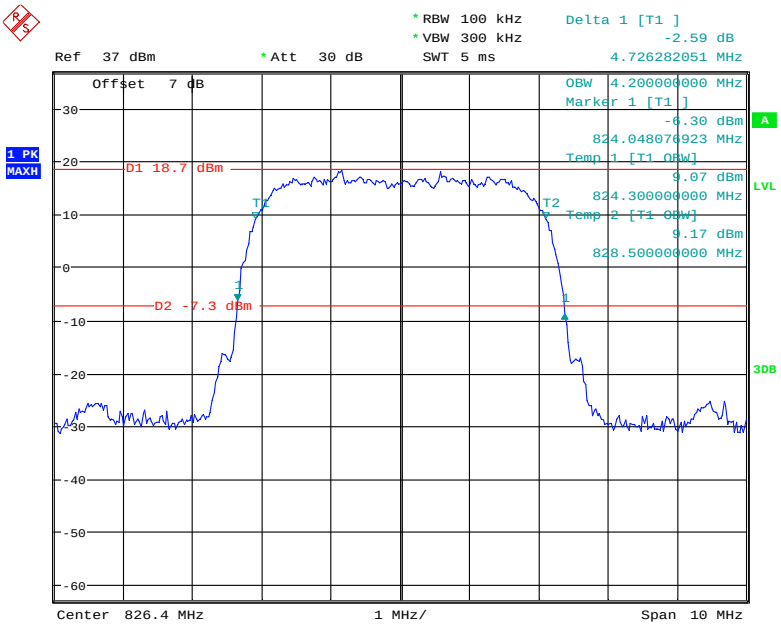
Date: 29.AUG.2021 15:43:28

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



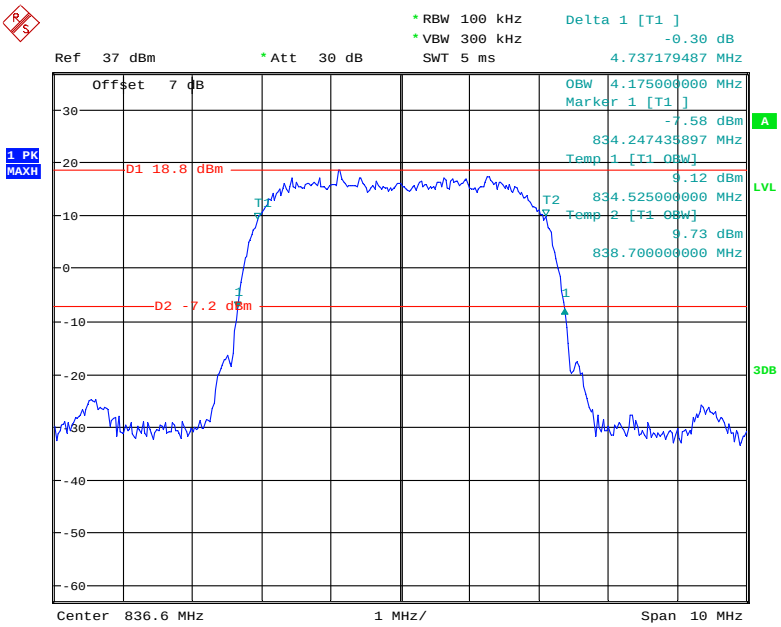
Date: 29.AUG.2021 15:40:53

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



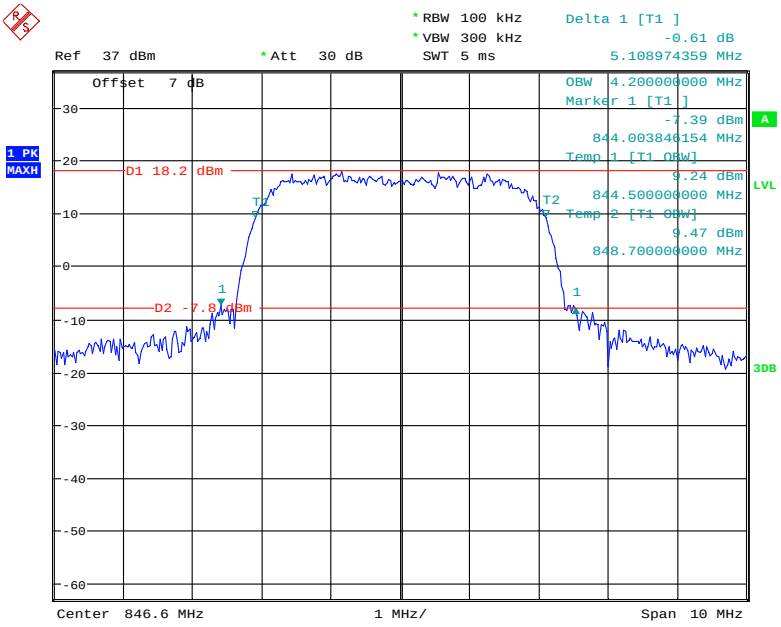
Date: 29.AUG.2021 16:02:35

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



Date: 29.AUG.2021 16:03:38

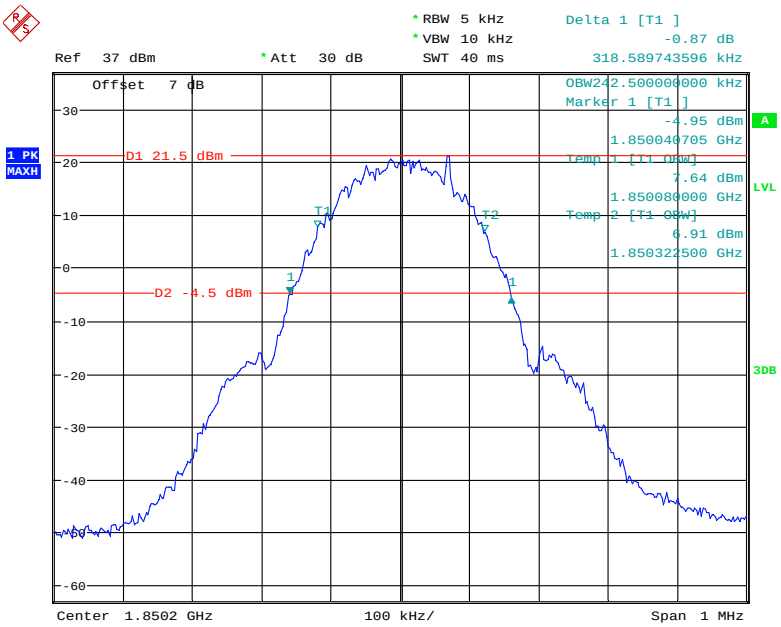
26 dB Emissions &99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel



Date: 29.AUG.2021 16:04:29

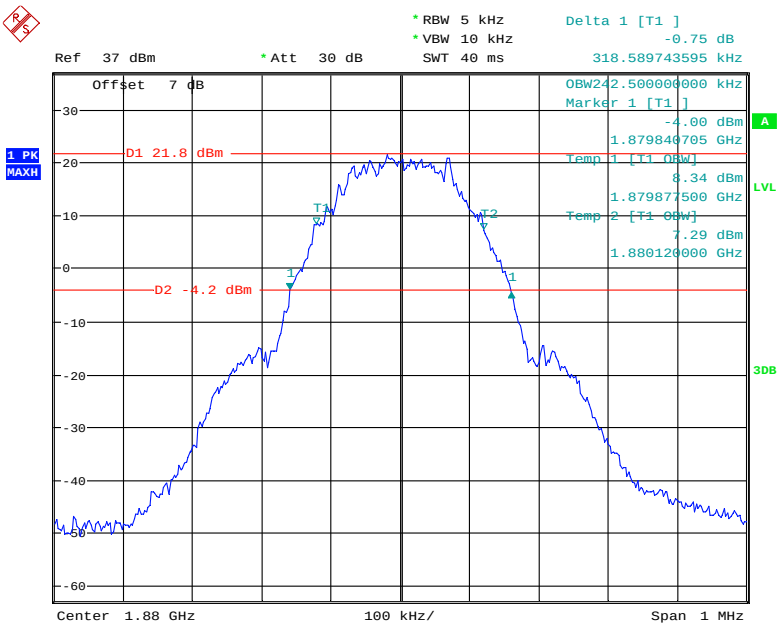
PCS Band (Part 24E)

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



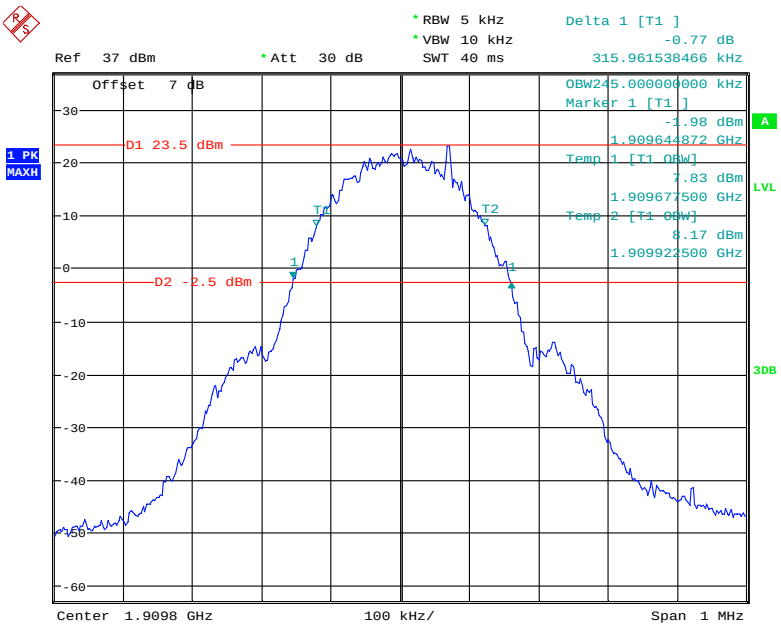
Date: 29.AUG.2021 16:43:21

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



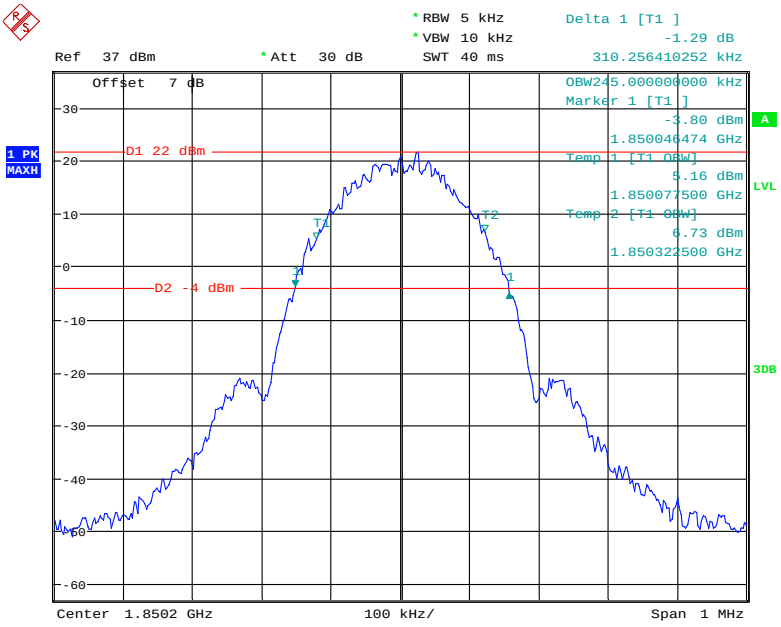
Date: 29.AUG.2021 16:41:12

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



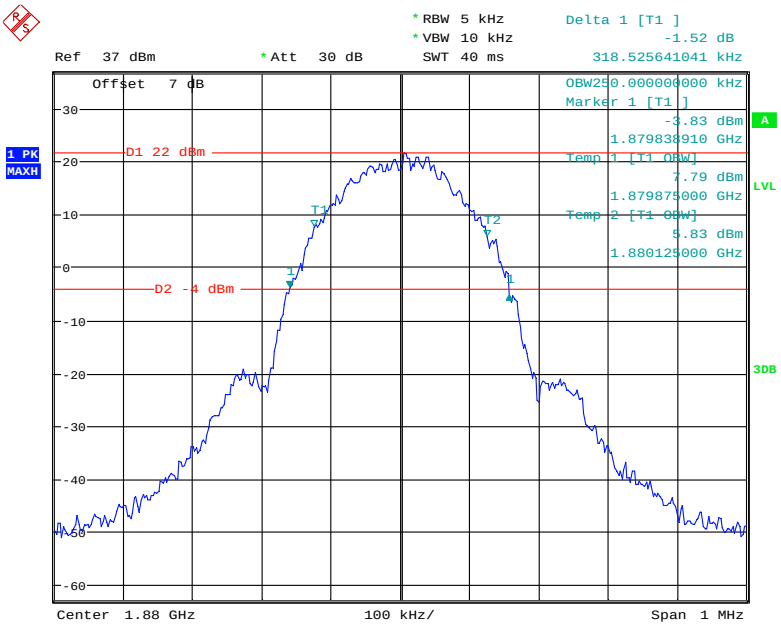
Date: 29.AUG.2021 16:39:40

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



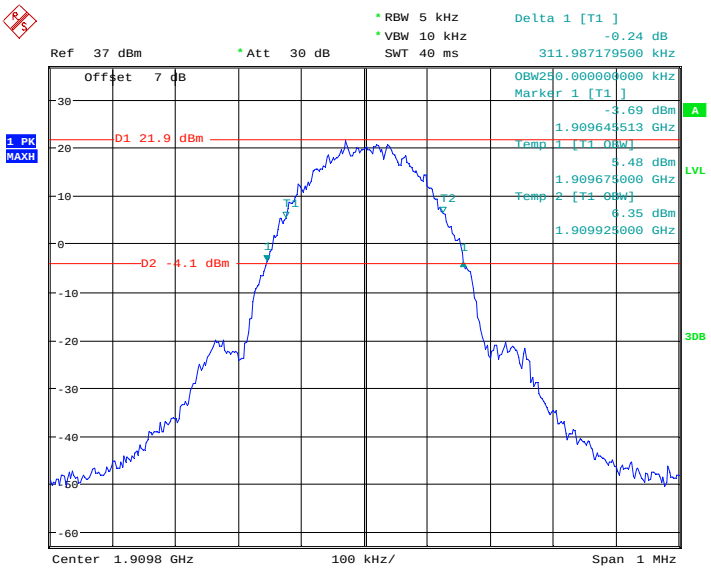
Date: 29.AUG.2021 16:52:54

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



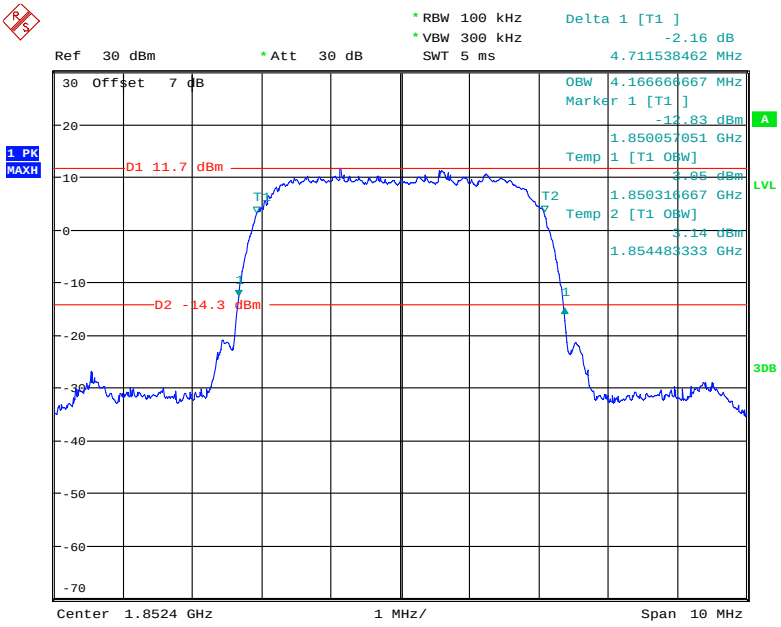
Date: 29.AUG.2021 16:51:59

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



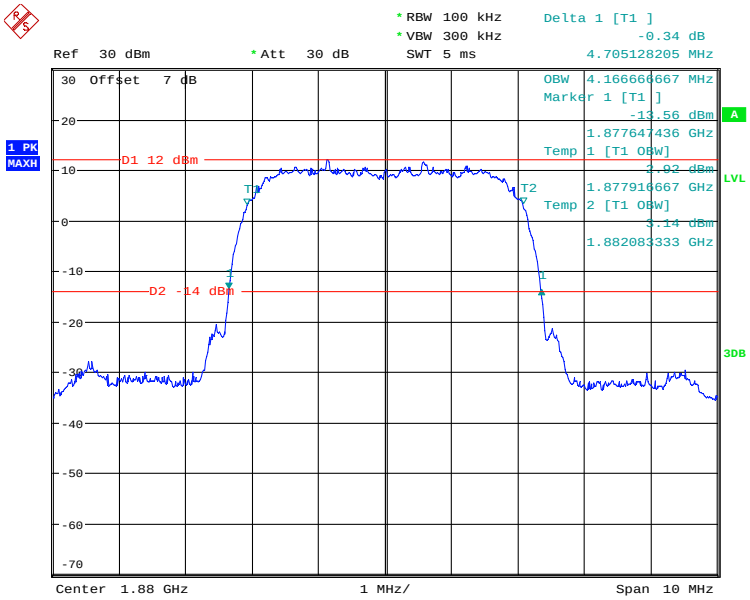
Date: 29.AUG.2021 16:49:58

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



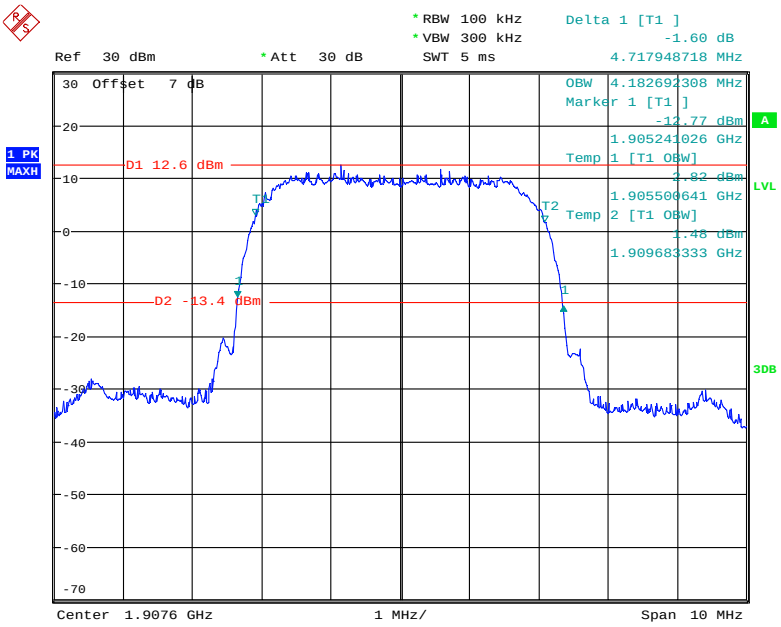
Date: 29.AUG.2021 14:36:41

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



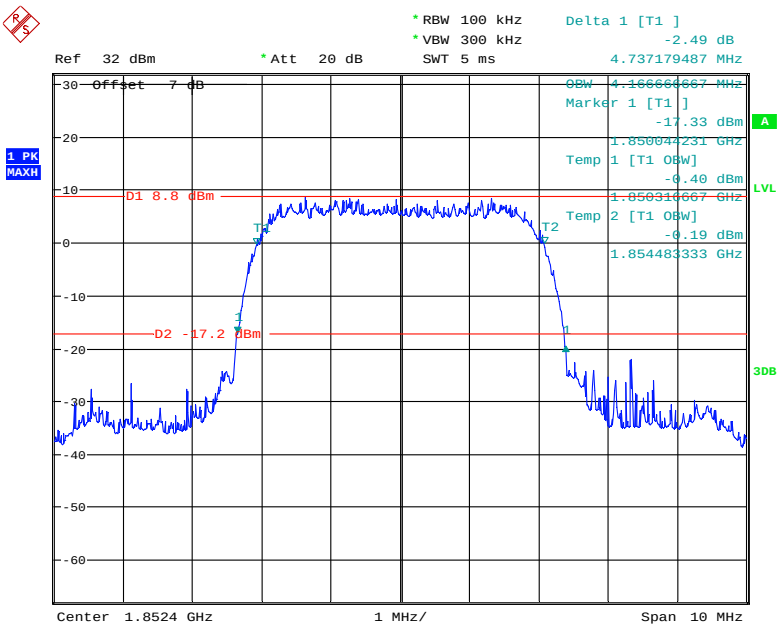
Date: 29.AUG.2021 14:38:13

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



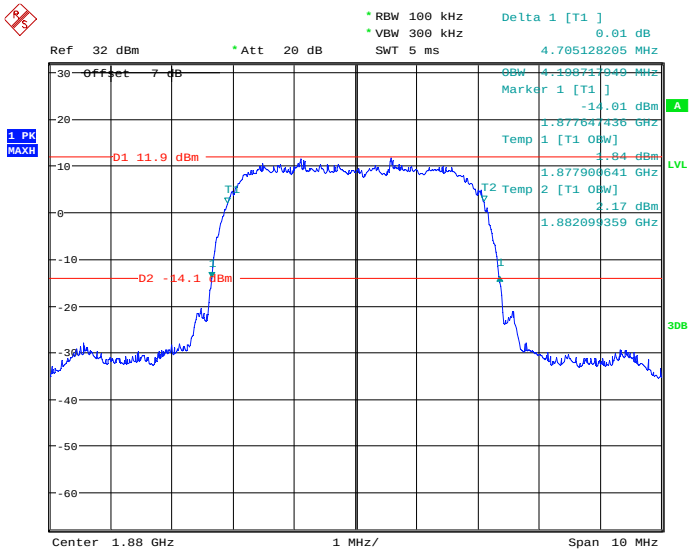
Date: 29.AUG.2021 14:39:30

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



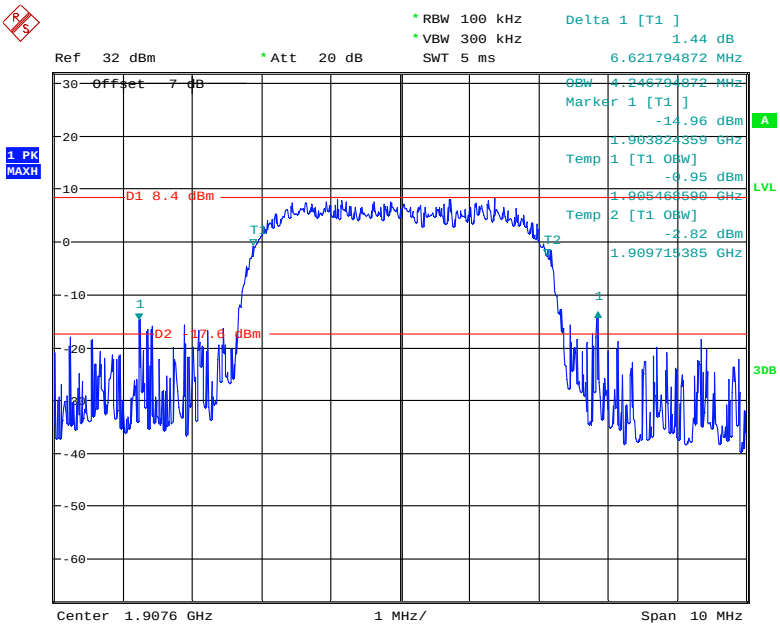
Date: 29.AUG.2021 15:28:02

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



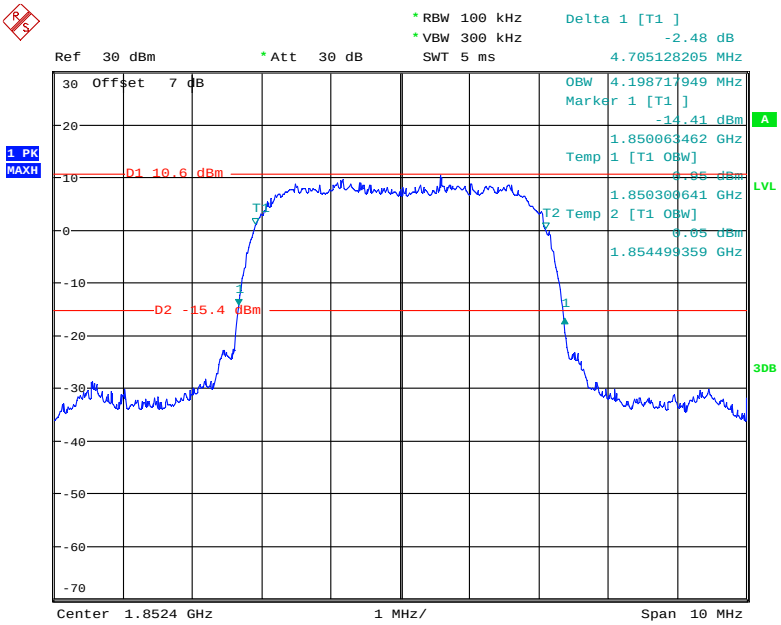
Date: 29.AUG.2021 15:25:31

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



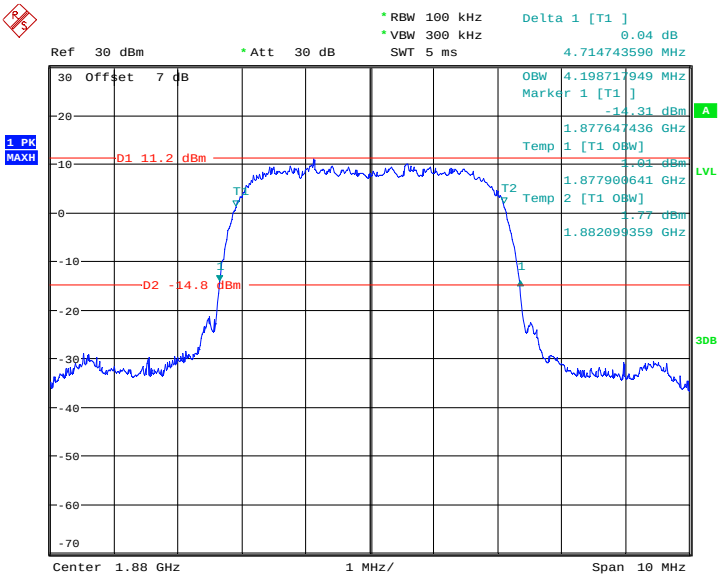
Date: 29.AUG.2021 15:22:37

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



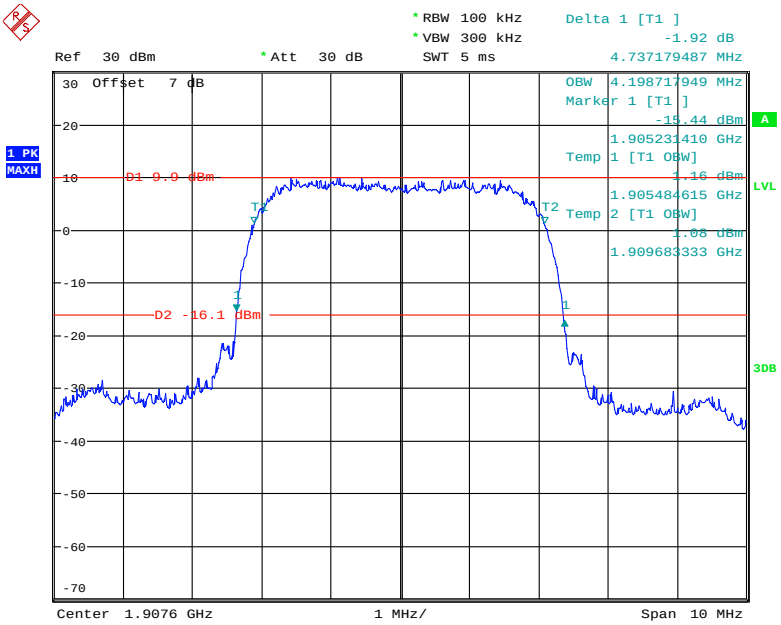
Date: 29.AUG.2021 16:10:20

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



Date: 29.AUG.2021 16:11:58

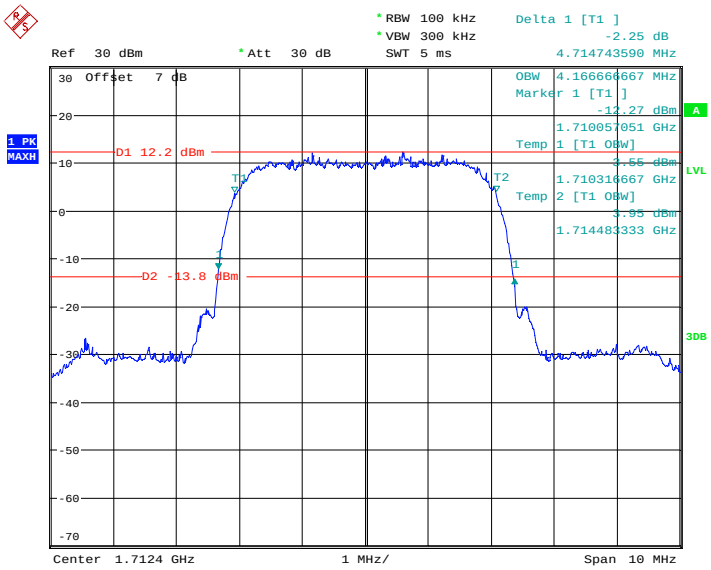
26 dB Emissions &99% Occupied Bandwidth for HSDPA (16QAM) Mode, High channel



Date: 29.AUG.2021 16:13:52

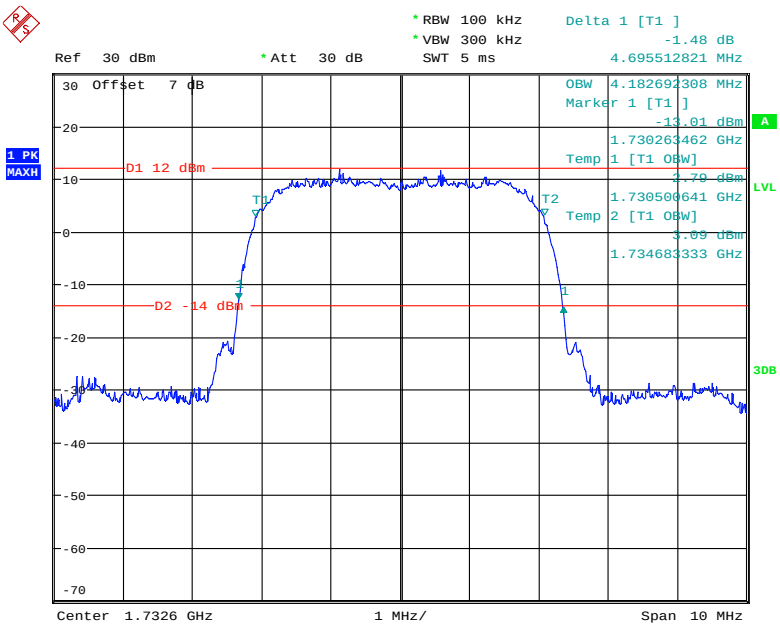
AWS Band (Part 27)

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



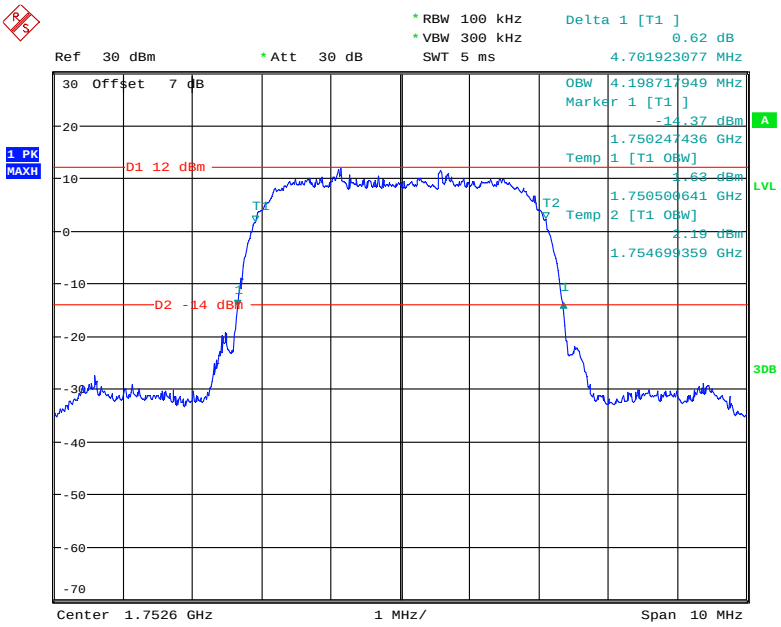
Date: 29.AUG.2021 14:45:34

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



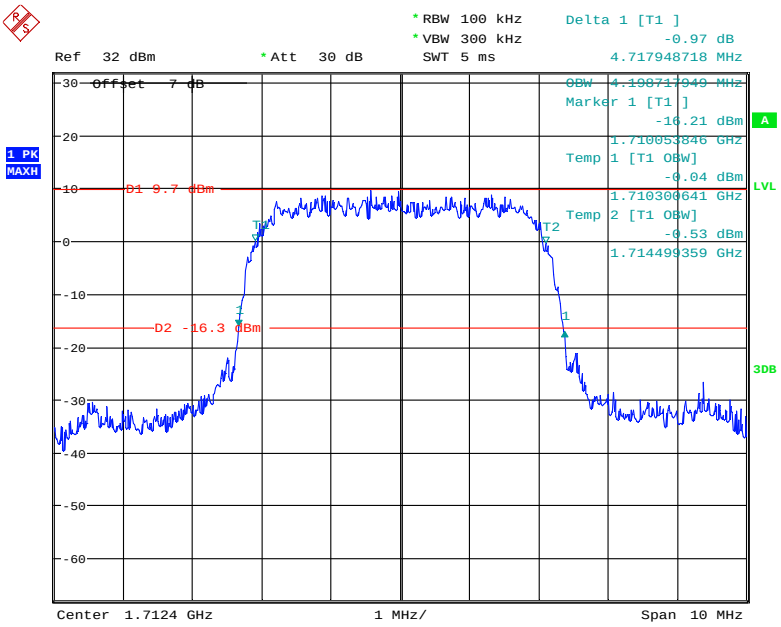
Date: 29.AUG.2021 14:44:15

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



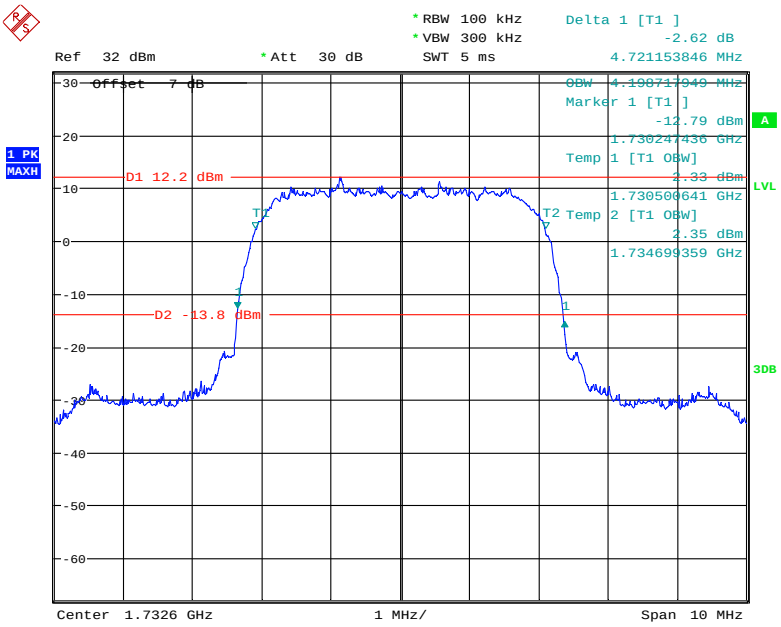
Date: 29.AUG.2021 14:42:52

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



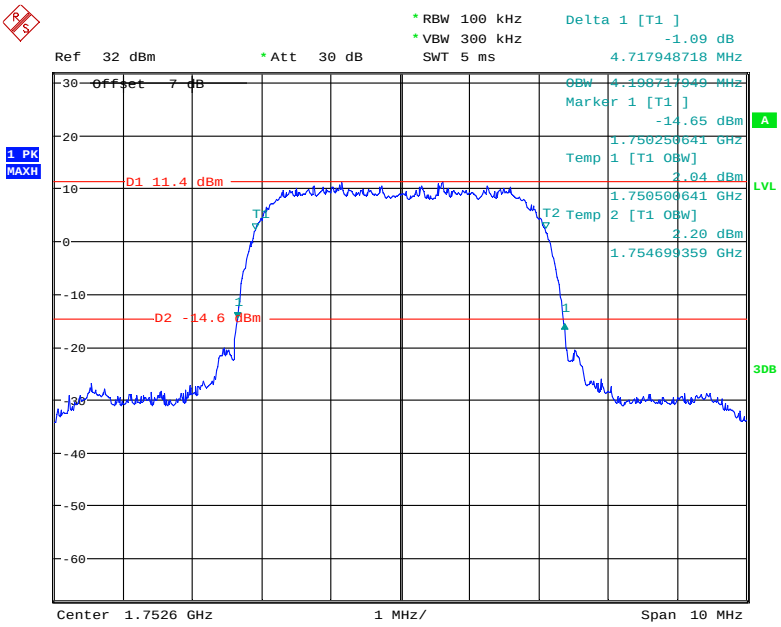
Date: 29.AUG.2021 15:32:53

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



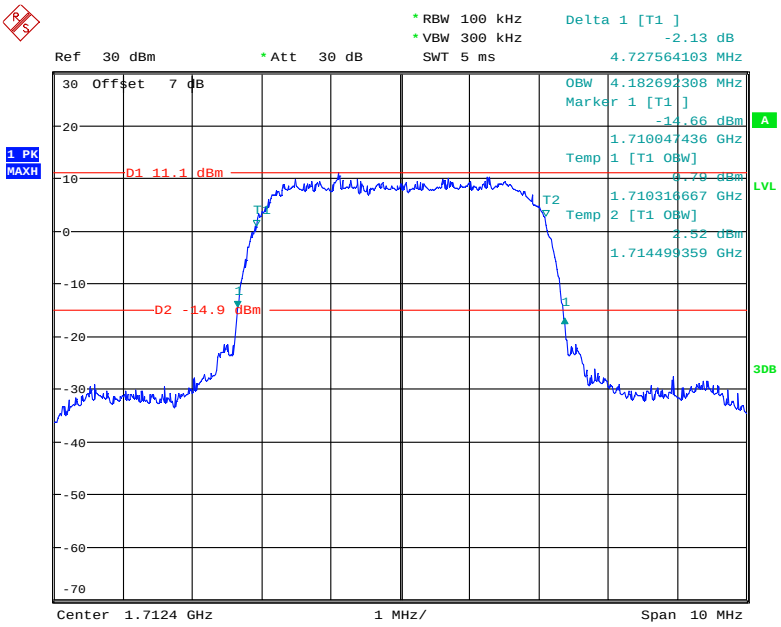
Date: 29.AUG.2021 15:35:14

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



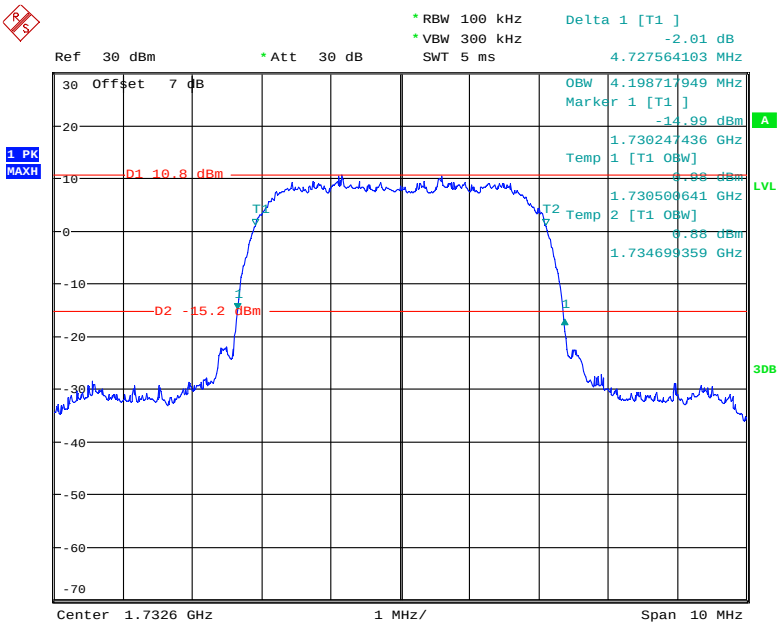
Date: 29.AUG.2021 15:38:02

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



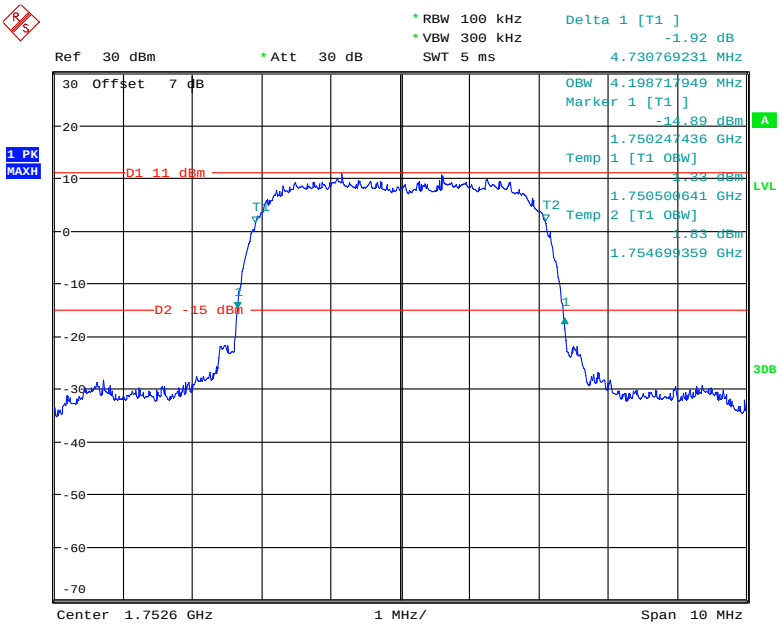
Date: 29.AUG.2021 16:09:24

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



Date: 29.AUG.2021 16:08:33

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



LTE Band 2:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.104	1.290	1.098	1.284	1.104	1.326
	16QAM	1.092	1.302	1.110	1.314	1.098	1.290
3 MHz	QPSK	2.688	2.880	2.688	2.880	2.688	2.880
	16QAM	2.688	2.892	2.688	2.880	2.688	2.880
5 MHz	QPSK	4.525	4.971	4.520	4.920	4.520	4.920
	16QAM	4.500	4.880	4.520	4.960	4.520	4.960
10 MHz	QPSK	9.000	9.600	8.960	9.560	8.960	9.560
	16QAM	9.000	9.487	8.960	9.600	8.960	9.600
15 MHz	QPSK	13.500	14.820	13.500	14.640	13.500	14.904
	16QAM	13.500	14.760	13.500	14.700	13.500	14.808
20 MHz	QPSK	18.000	19.440	18.000	19.440	18.000	19.440
	16QAM	18.080	19.200	18.000	19.360	18.100	19.359

LTE Band 4:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.098	1.296	1.110	1.320	1.104	1.290
	16QAM	1.118	1.327	1.098	1.290	1.104	1.290
3 MHz	QPSK	2.676	2.892	2.688	2.892	2.688	2.892
	16QAM	2.688	2.892	2.688	2.880	2.688	2.892
5 MHz	QPSK	4.500	4.980	4.520	4.920	4.500	4.900
	16QAM	4.520	4.900	4.520	4.980	4.540	4.980
10 MHz	QPSK	9.000	9.640	8.960	9.560	8.960	9.600
	16QAM	8.960	9.520	8.960	9.640	8.960	9.640
15 MHz	QPSK	13.560	14.820	13.500	14.760	13.500	14.820
	16QAM	13.500	14.700	13.500	14.760	13.500	14.700
20 MHz	QPSK	18.000	19.440	18.000	19.280	18.000	19.474
	16QAM	18.000	19.360	18.000	19.440	18.000	19.440

LTE Band 5:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.098	1.296	1.104	1.320	1.104	1.290
	16QAM	1.110	1.314	1.092	1.296	1.098	1.296
3 MHz	QPSK	2.688	2.880	2.688	2.880	2.688	2.892
	16QAM	2.688	2.868	2.688	2.880	2.676	2.868
5 MHz	QPSK	4.520	4.920	4.500	4.920	4.500	4.900
	16QAM	4.500	4.900	4.520	4.940	4.520	4.980
10 MHz	QPSK	8.960	9.560	8.960	9.520	9.000	9.520
	16QAM	8.960	9.480	8.960	9.640	8.960	9.560

LTE Band 7:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.520	4.940	4.520	4.980	4.520	4.920
	16QAM	4.500	4.940	4.540	4.940	4.500	4.960
10 MHz	QPSK	8.960	9.640	8.960	9.560	8.960	9.600
	16QAM	8.960	9.600	8.960	9.680	8.960	9.560
15 MHz	QPSK	13.575	14.917	13.500	14.700	13.500	14.820
	16QAM	13.500	14.725	13.560	14.760	13.500	14.700
20 MHz	QPSK	18.000	19.280	18.000	19.360	18.000	19.280
	16QAM	18.000	19.340	18.000	19.440	18.100	19.333

LTE Band 38

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.520	4.900	4.500	4.900	4.520	4.940
	16QAM	4.500	4.960	4.520	5.080	4.520	5.080
10 MHz	QPSK	8.960	9.600	8.960	9.680	8.960	9.600
	16QAM	8.960	9.520	8.960	9.480	8.960	9.640
15 MHz	QPSK	13.500	15.060	13.500	14.760	13.500	14.760
	16QAM	13.560	16.680	13.500	15.540	13.620	15.720
20 MHz	QPSK	18.000	19.360	18.000	19.308	18.100	19.744
	16QAM	18.000	19.360	18.000	20.205	18.000	19.280

LTE Band 41

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.550	5.208	4.500	4.880	4.525	5.029
	16QAM	4.500	5.040	4.500	5.000	4.500	4.997
10 MHz	QPSK	9.000	9.560	9.000	9.487	8.960	9.880
	16QAM	9.000	9.480	8.960	9.520	8.960	9.720
15 MHz	QPSK	13.560	15.240	13.575	15.449	13.575	15.163
	16QAM	13.560	15.540	13.560	15.120	13.500	16.221
20 MHz	QPSK	18.000	19.680	18.000	19.295	18.000	19.600
	16QAM	18.000	19.440	18.000	20.720	18.000	19.360

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

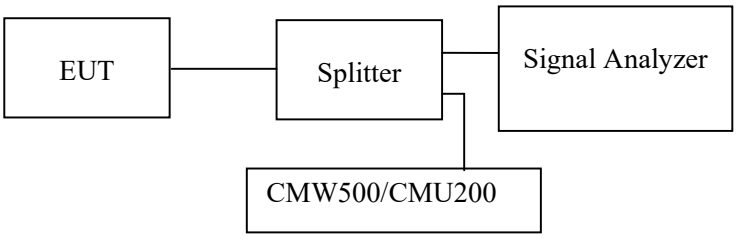
Applicable Standard

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 10^{th} harmonic.



Test Data

Environmental Conditions

Temperature:	28.9~29.1℃
Relative Humidity:	53 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun on 2021-08-29.

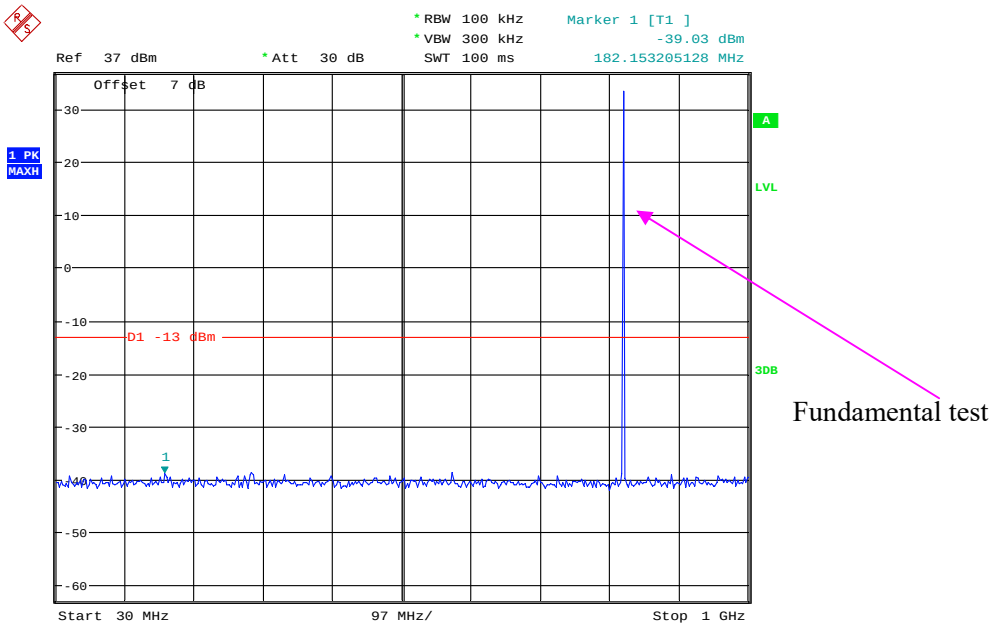
EUT operation mode: Transmitting

Test result: Pass

Please refer to the following plots.

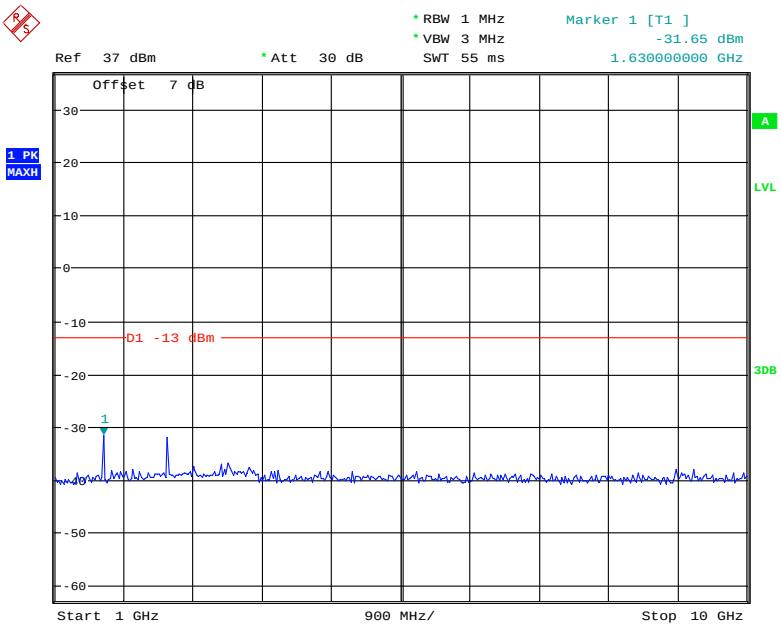
Cellular Band (Part 22H)
Low Channel:

30 MHz – 1 GHz (GSM Mode)



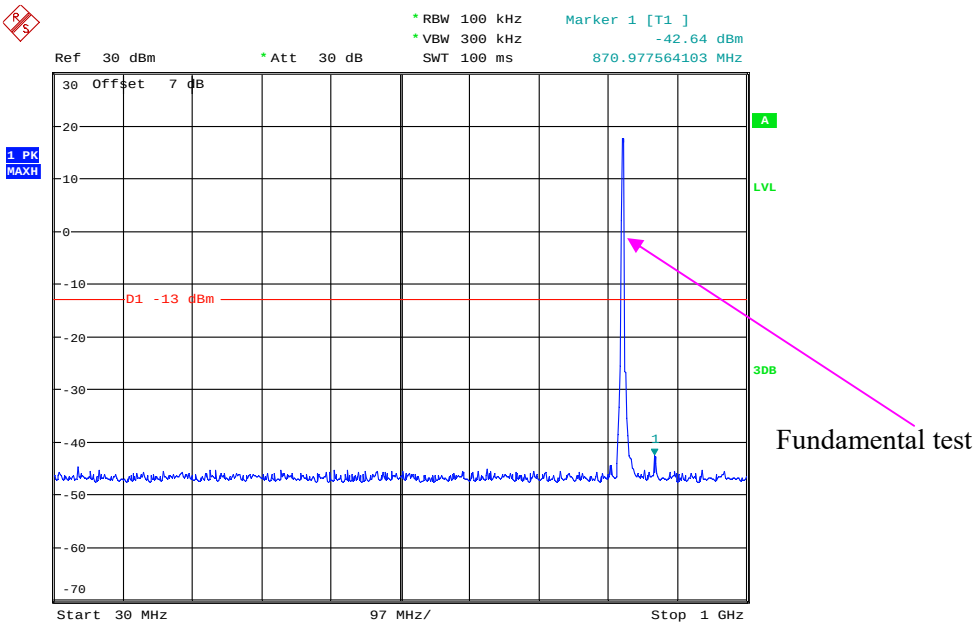
Date: 29.AUG.2021 16:28:40

1 GHz – 10 GHz (GSM Mode)



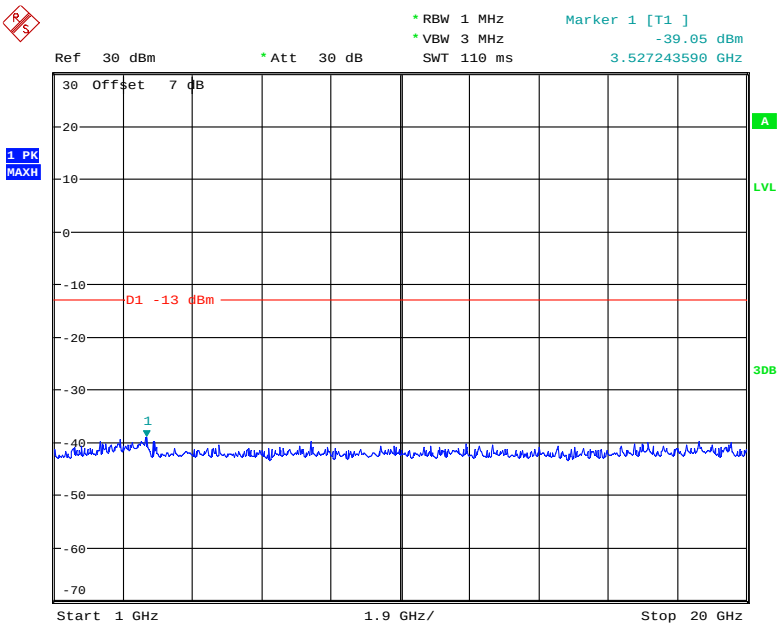
Date: 29.AUG.2021 16:30:57

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.AUG.2021 15:01:52

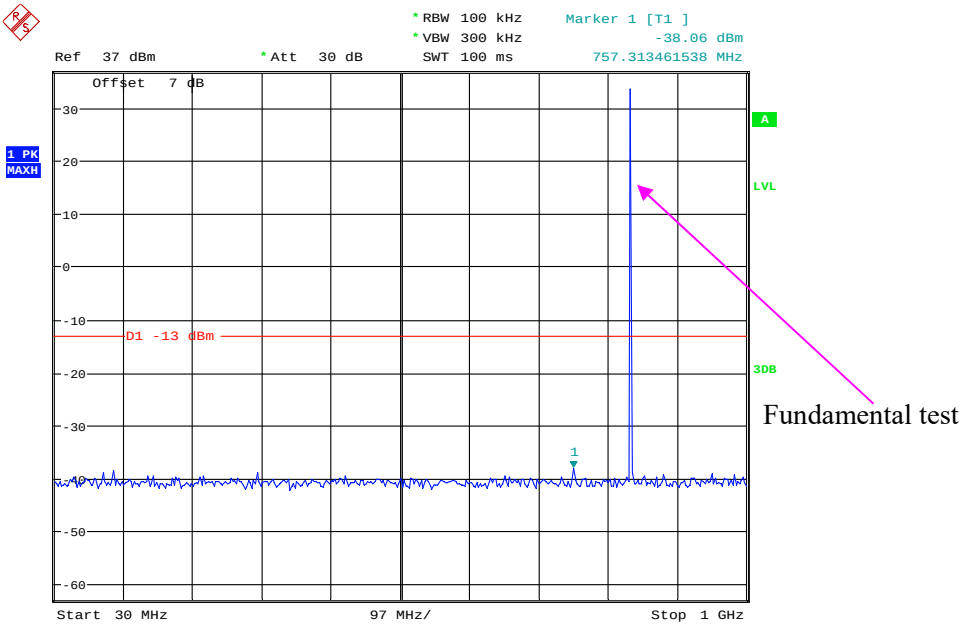
1 GHz – 20 GHz (WCDMA Mode)



Date: 29.AUG.2021 15:08:27

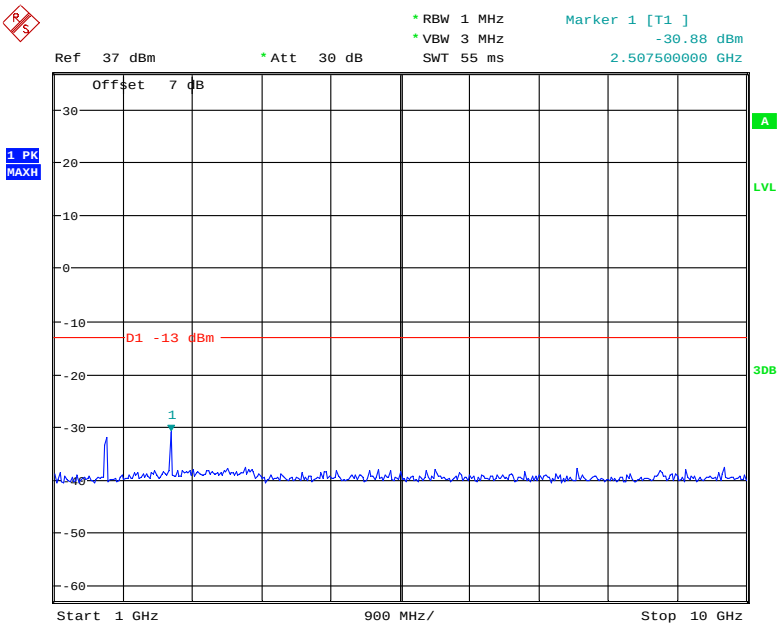
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



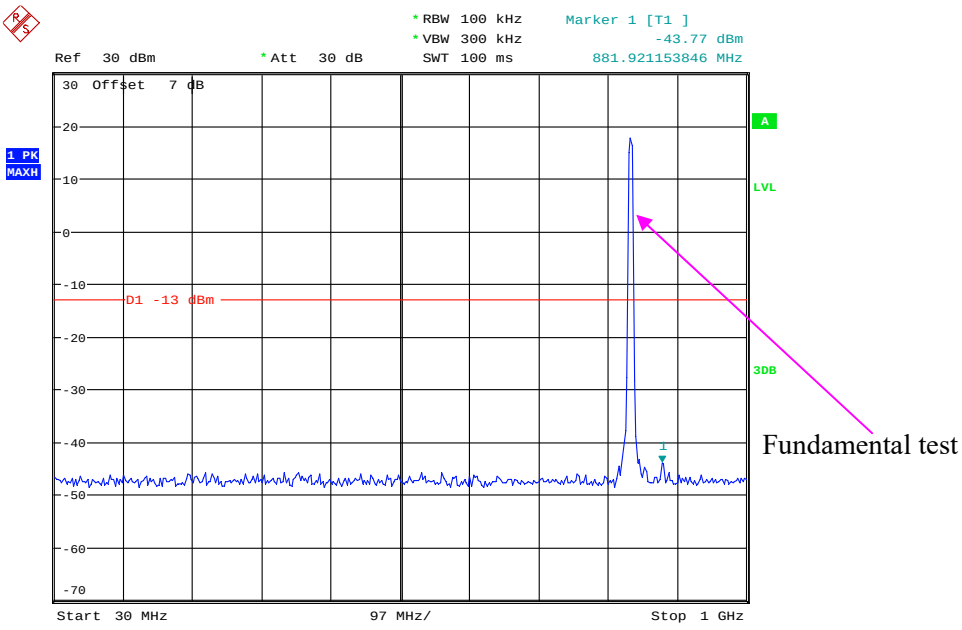
Date: 29.AUG.2021 16:29:18

1 GHz – 10 GHz (GSM Mode)



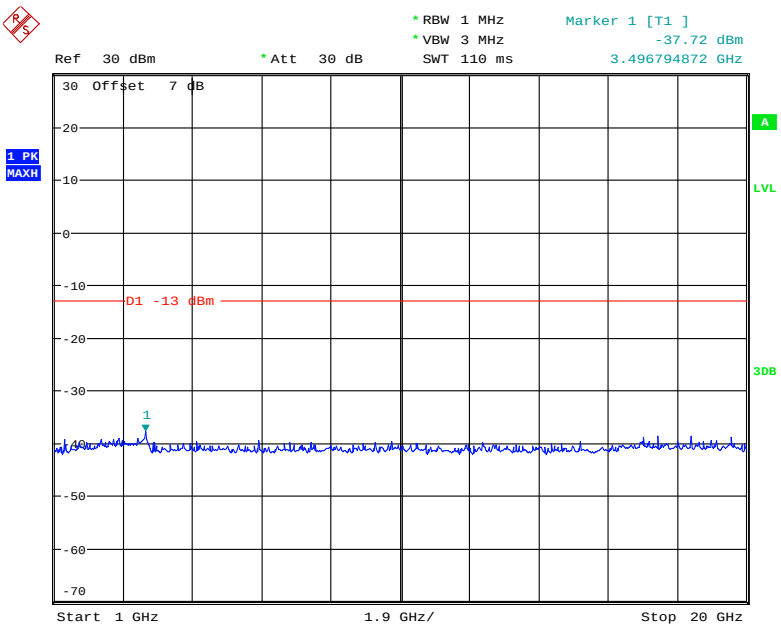
Date: 29.AUG.2021 16:30:41

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.AUG.2021 15:07:10

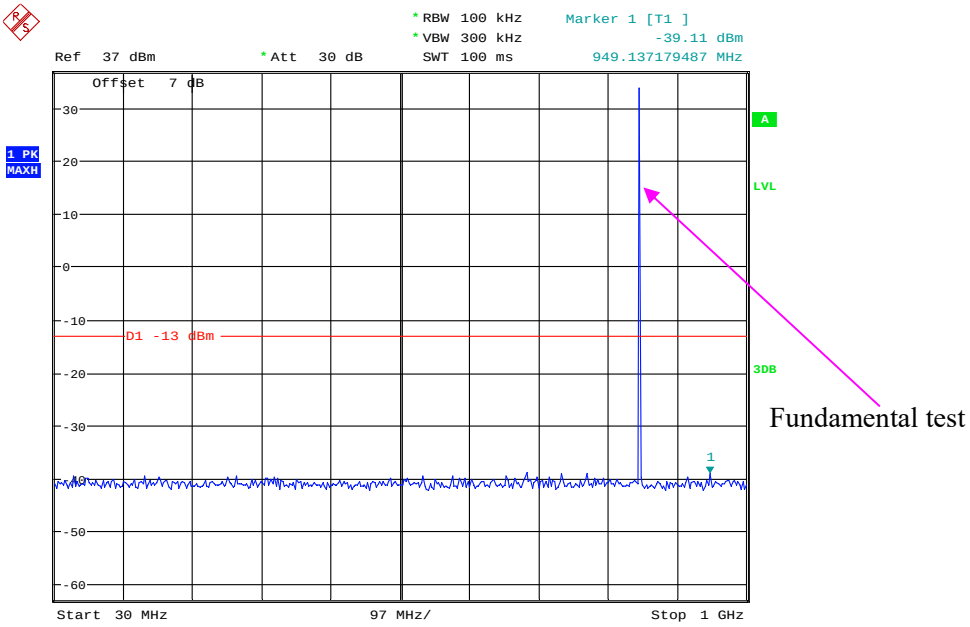
1 GHz – 20 GHz (WCDMA Mode)



Date: 29.AUG.2021 15:08:59

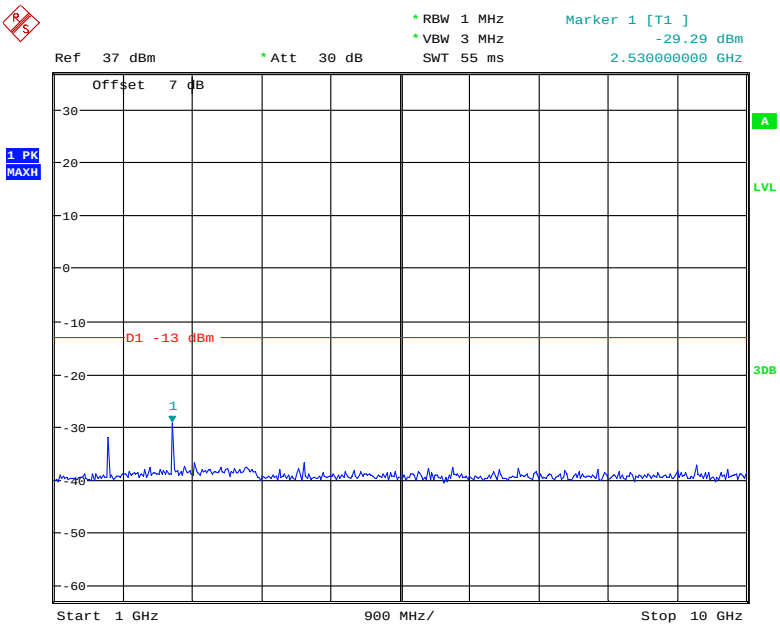
High Channel:

30 MHz – 1 GHz (GSM Mode)



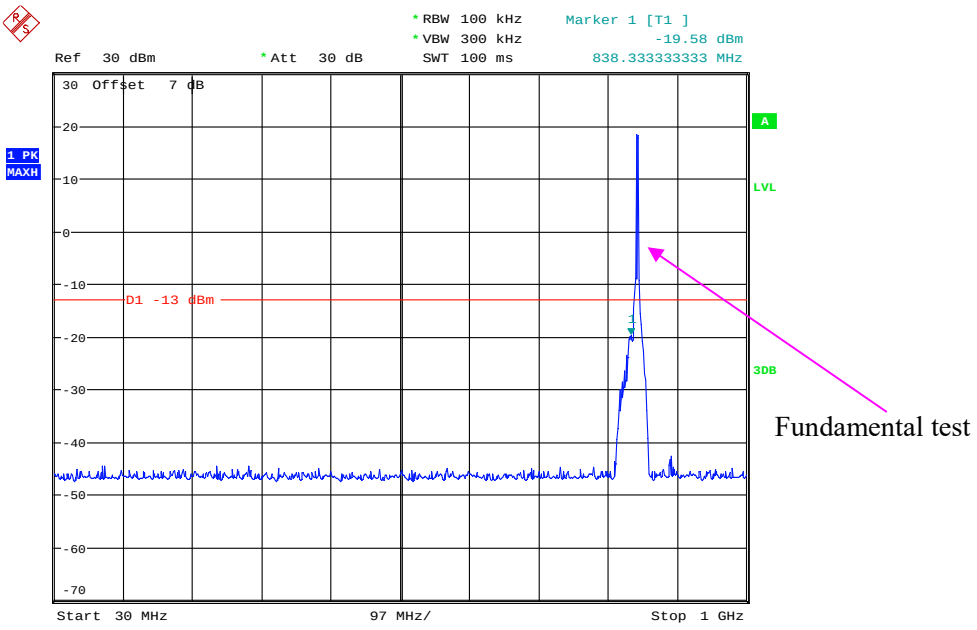
Date: 29.AUG.2021 16:29:39

1 GHz – 10 GHz (GSM Mode)



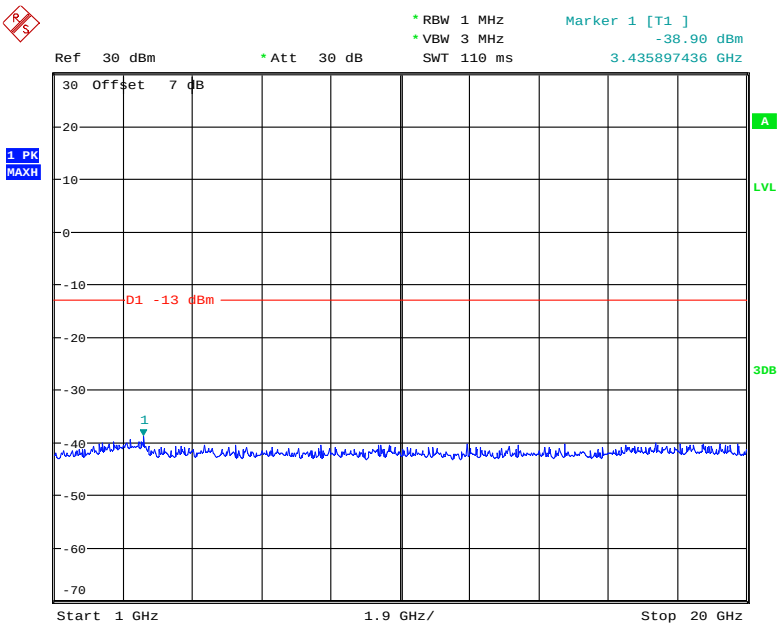
Date: 29.AUG.2021 16:30:11

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.AUG.2021 15:05:11

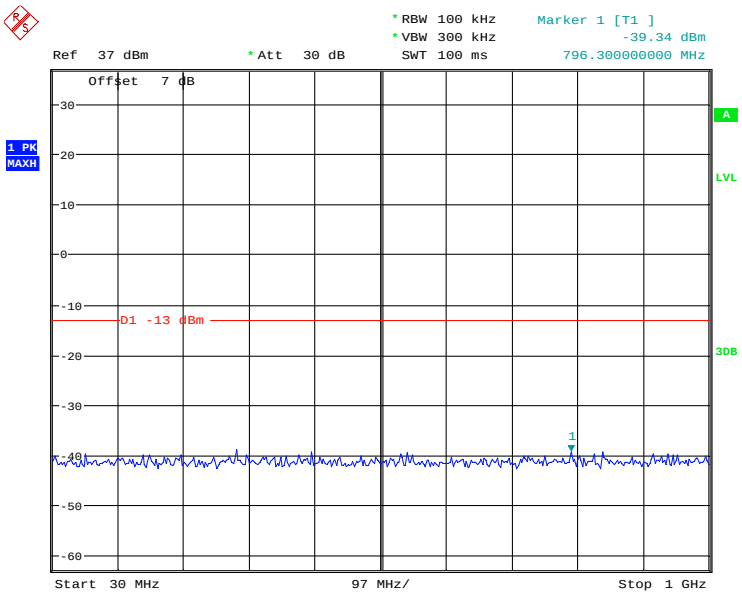
1 GHz – 20 GHz (WCDMA Mode)



Date: 29.AUG.2021 15:09:12

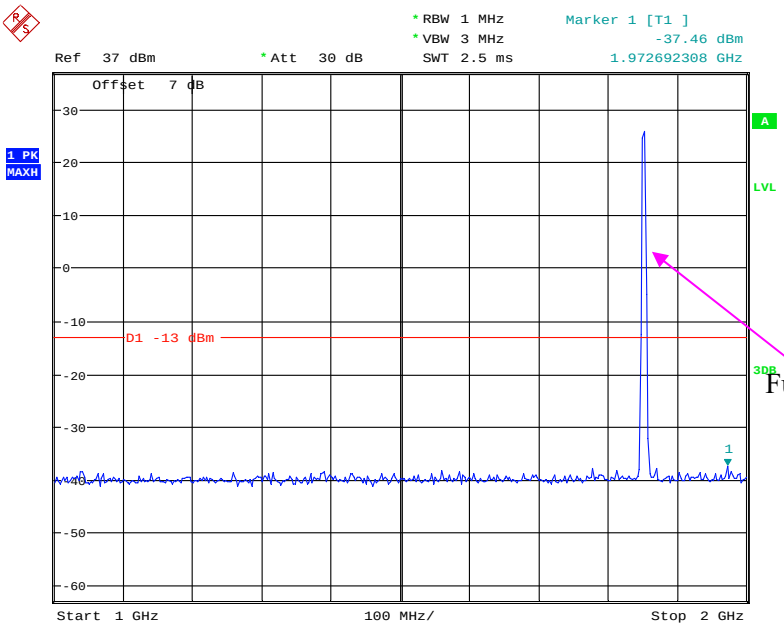
PCS Band (Part 24E)
Low Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 29.AUG.2021 16:36:34

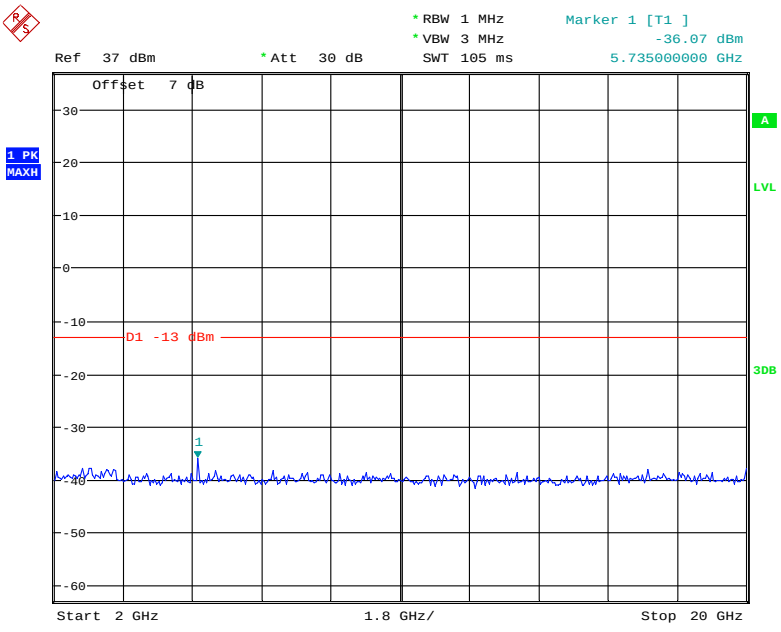
1 GHz – 2 GHz (GSM Mode)



Fundamental test

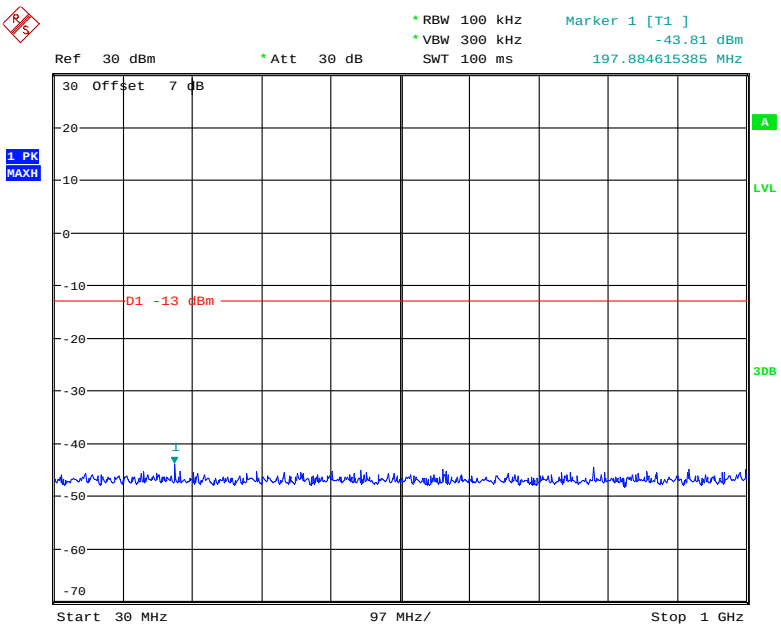
Date: 29.AUG.2021 16:33:44

2 GHz – 20 GHz (GSM Mode)



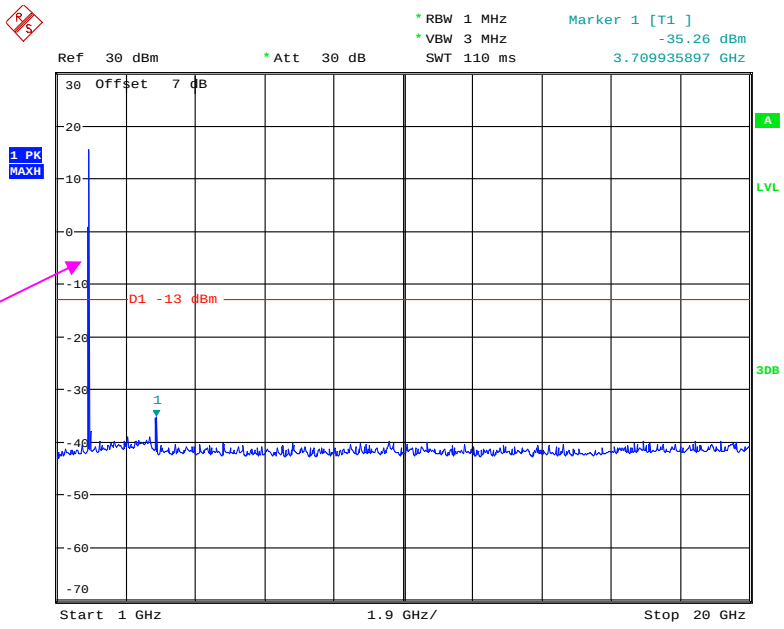
Date: 29.AUG.2021 16:36:15

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.AUG.2021 14:59:07

1 GHz – 20 GHz (WCDMA Mode)

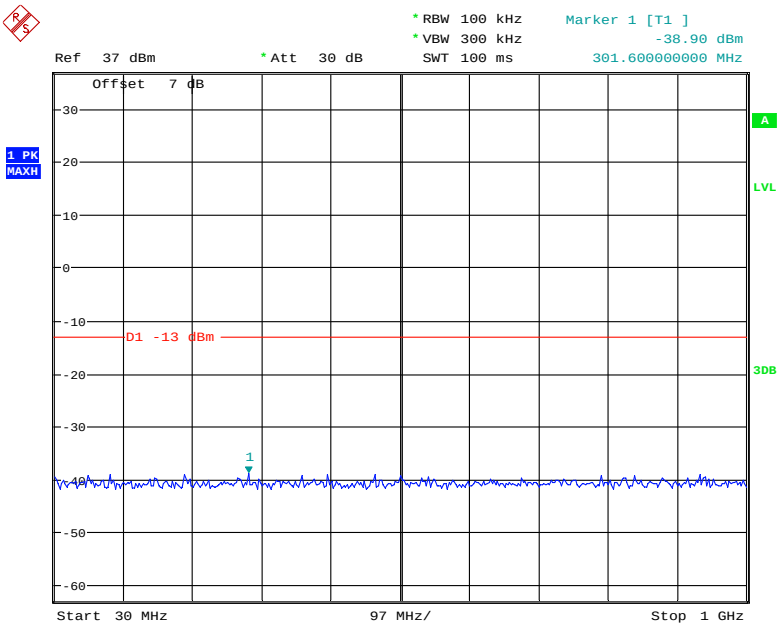


Fundamental test

Date: 29.AUG.2021 15:11:15

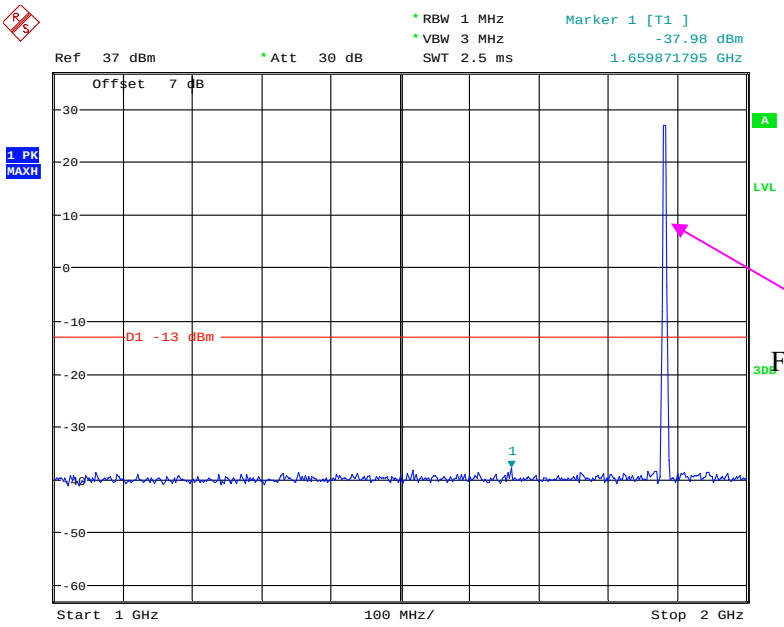
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 29.AUG.2021 16:36:43

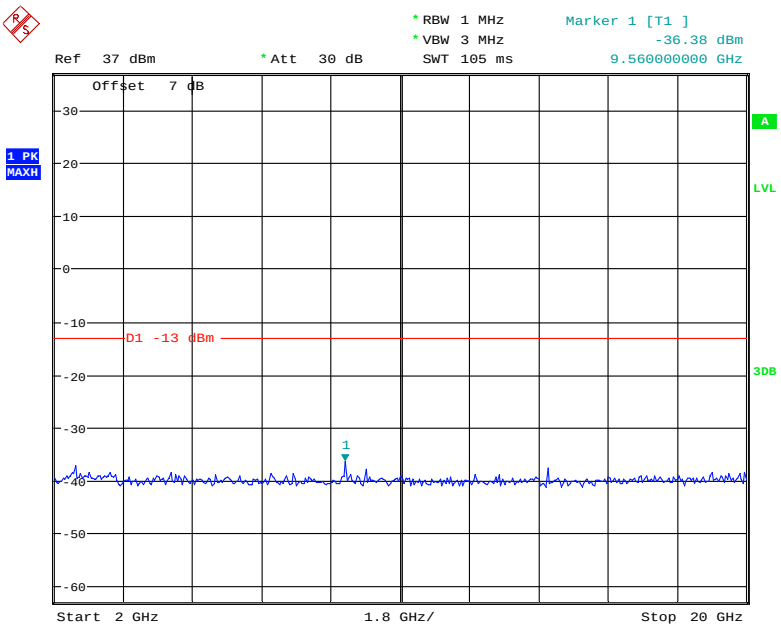
1 GHz – 2 GHz (GSM Mode)



Fundamental test

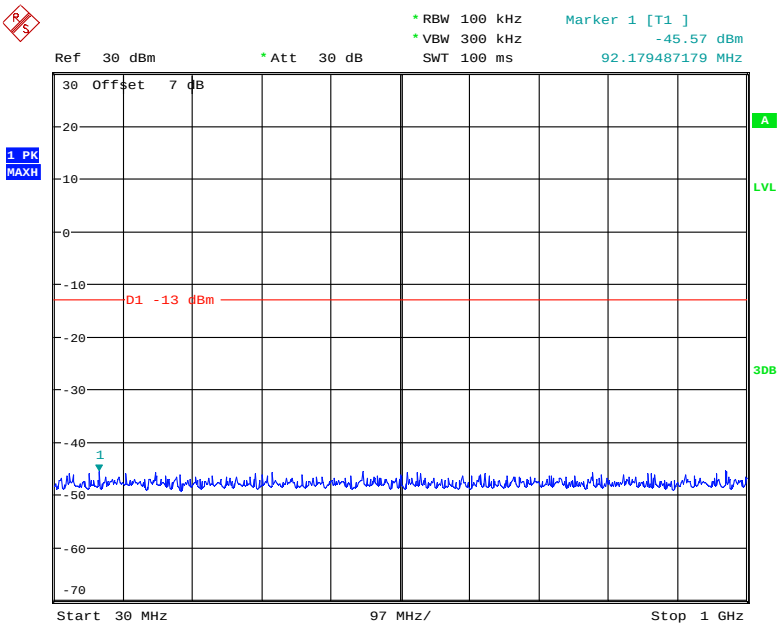
Date: 29.AUG.2021 16:34:19

2 GHz – 20 GHz (GSM Mode)



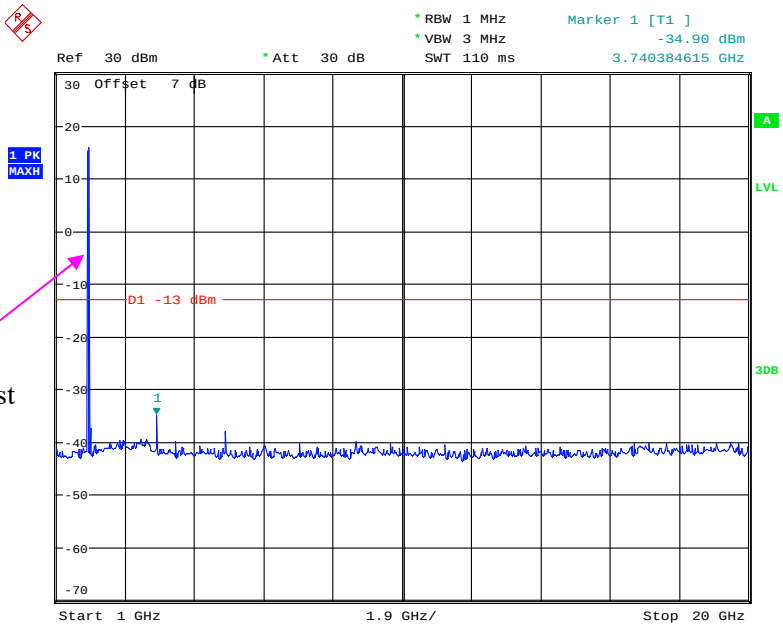
Date: 29.AUG.2021 16:36:04

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.AUG.2021 14:59:33

1 GHz – 20 GHz (WCDMA Mode)

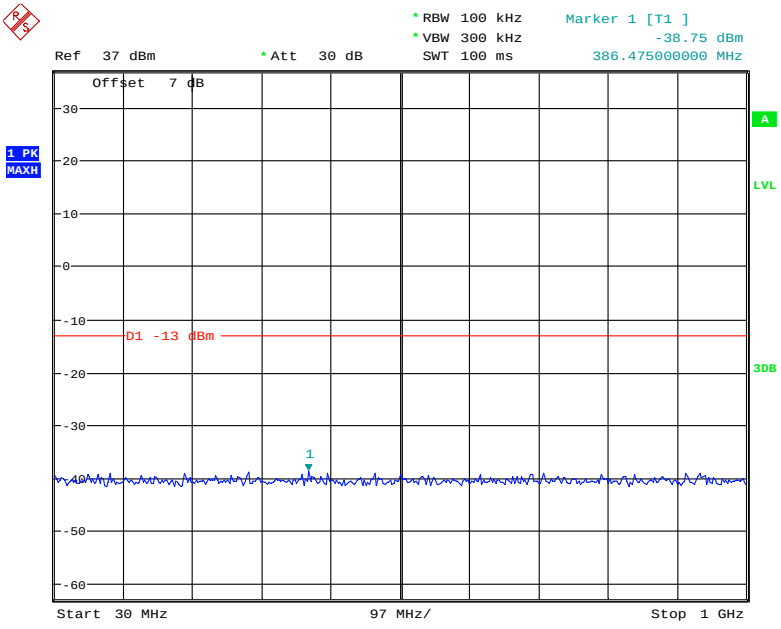


Fundamental test

Date: 29.AUG.2021 15:11:37

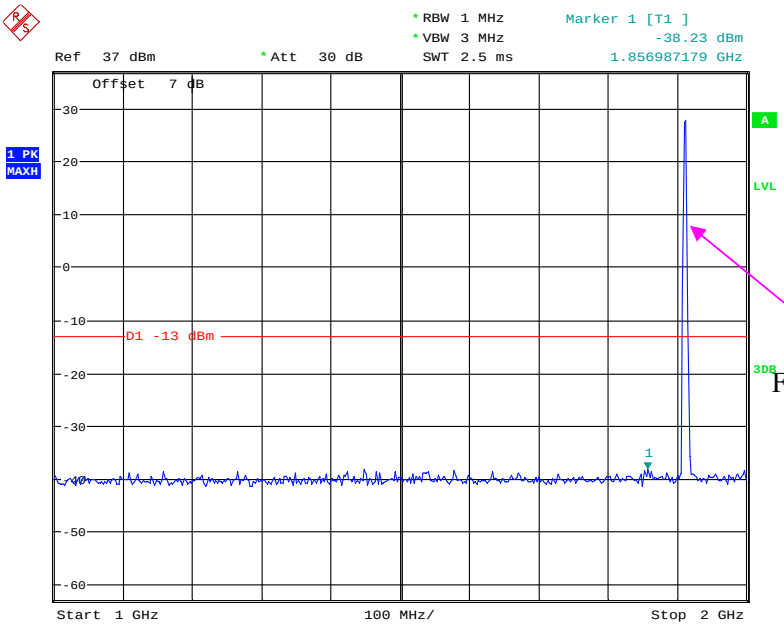
High Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 29.AUG.2021 16:36:51

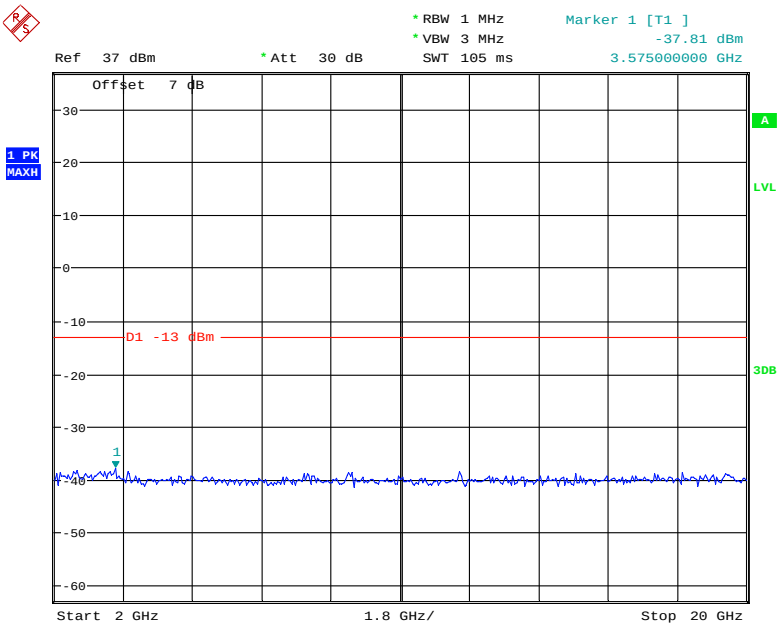
1 GHz – 2 GHz (GSM Mode)



Fundamental test

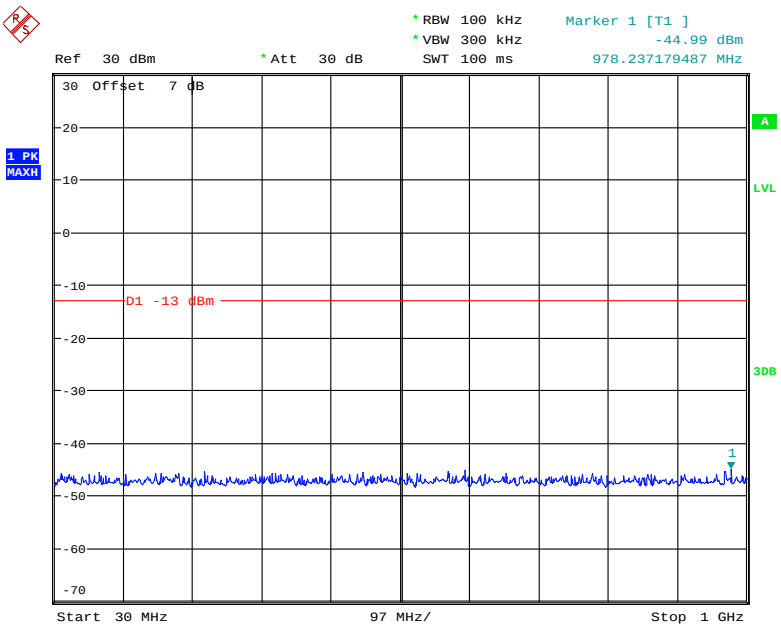
Date: 29.AUG.2021 16:34:42

2 GHz – 20 GHz (GSM Mode)



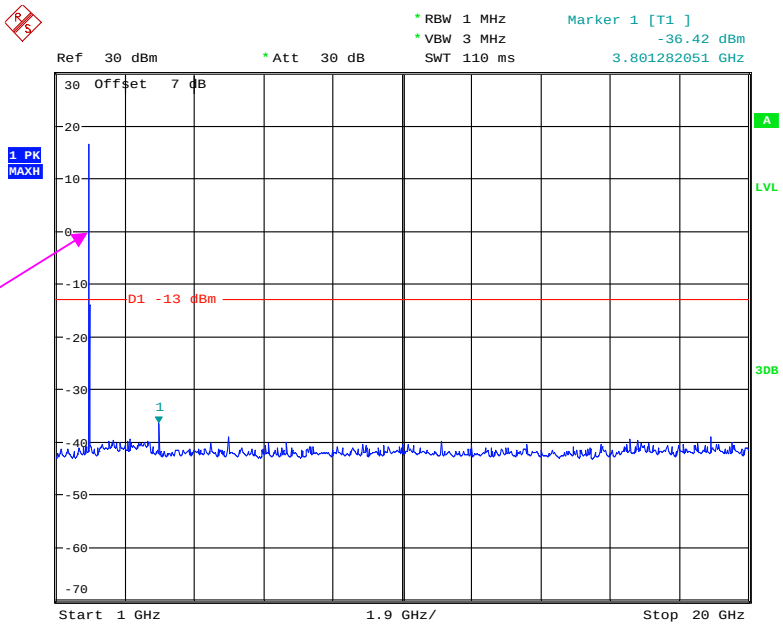
Date: 29.AUG.2021 16:35:47

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.AUG.2021 14:59:42

1 GHz – 20 GHz (WCDMA Mode)

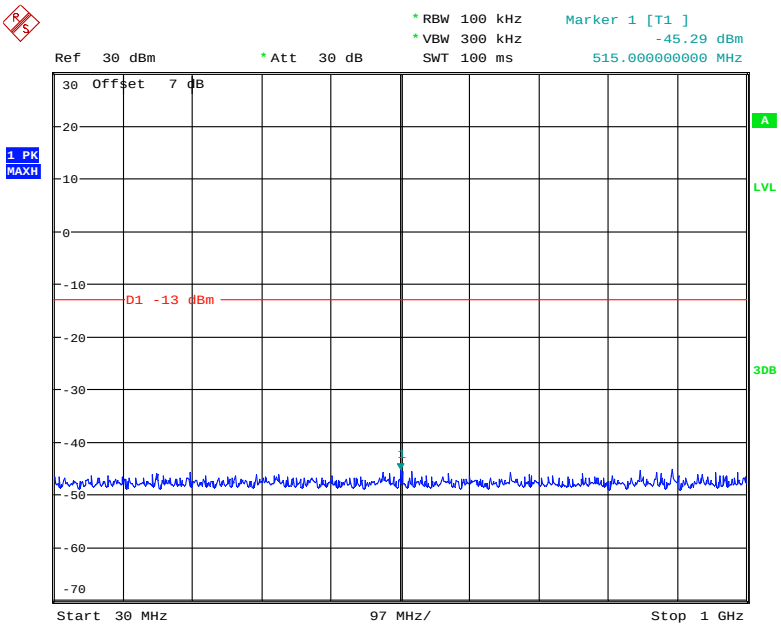


Fundamental test

Date: 29.AUG.2021 15:11:57

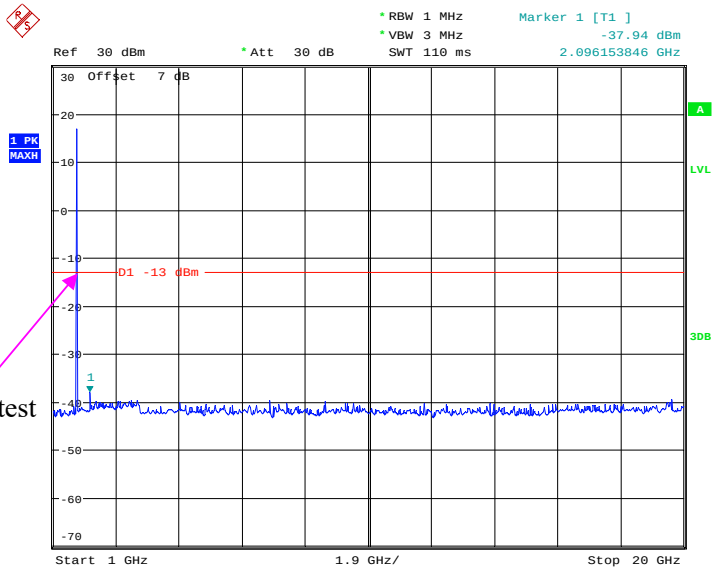
AWS Band (Part 27)
Low Channel:

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.AUG.2021 15:00:17

1 GHz – 20 GHz (WCDMA Mode)

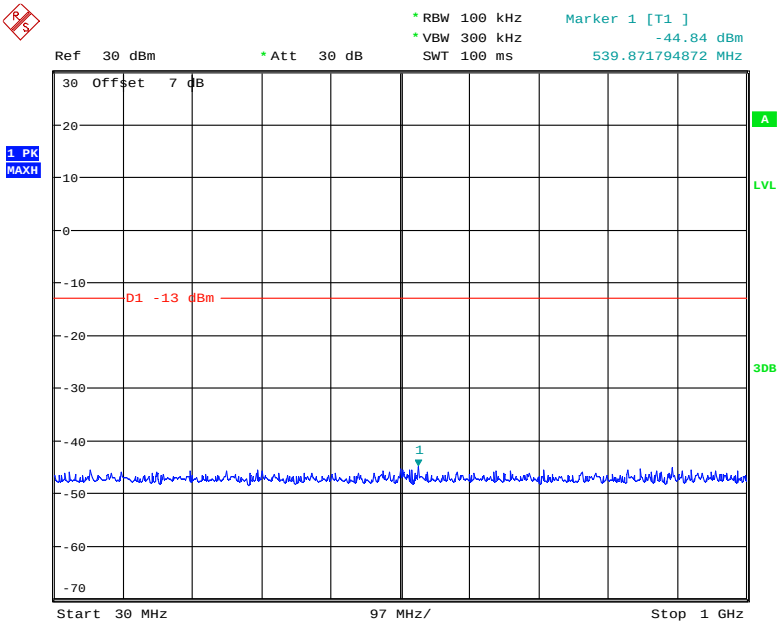


Fundamental test

Date: 29.AUG.2021 15:10:46

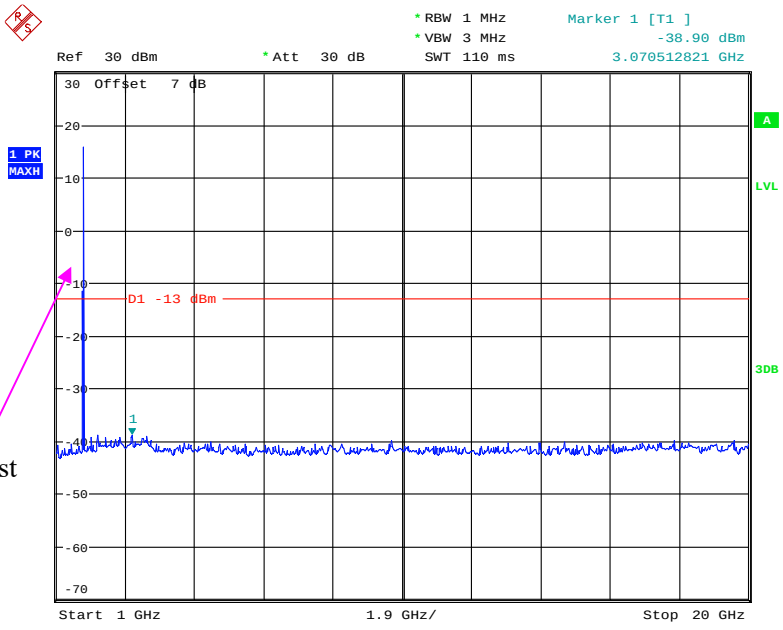
Middle Channel

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.AUG.2021 15:00:25

1 GHz – 20 GHz (WCDMA Mode)

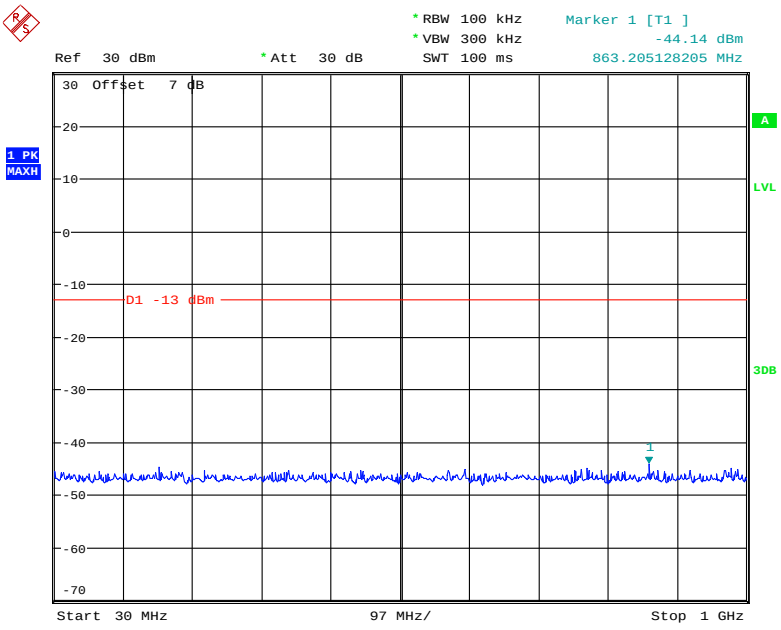


Fundamental test

Date: 29.AUG.2021 15:10:16

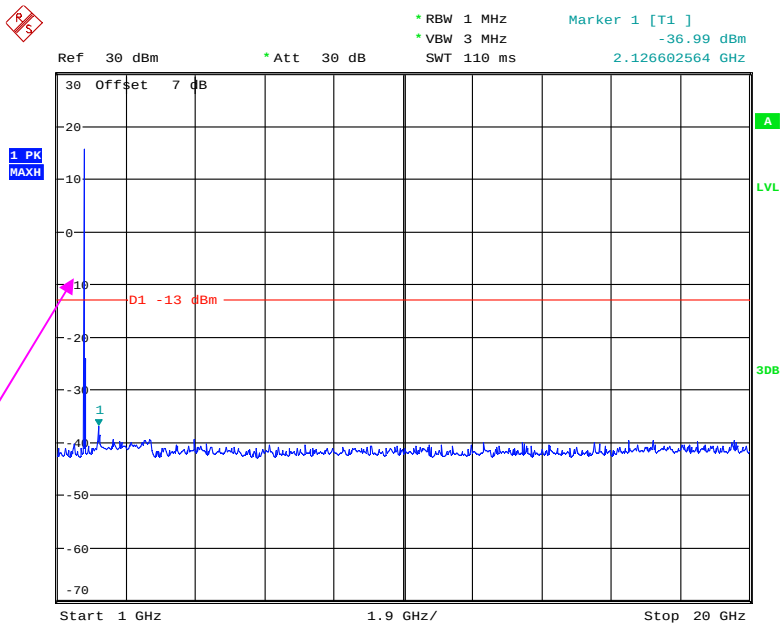
High Channel:

30 MHz – 1 GHz (WCDMA Mode)



Date: 29.AUG.2021 15:00:01

1 GHz – 20 GHz (WCDMA Mode)



Fundamental test

Date: 29.AUG.2021 15:09:42

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:	28.1~29 ℃
Relative Humidity:	51~52 %
ATM Pressure:	101~101.1 kPa

The testing was performed by Williarm Wang 2021-09-09 for below 1GHz and Bruce Lin on 2021-08-31 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 850 Mode										
Low channel										
958.6	33.09	43	2.0	H	-63.8	1.36	0.0	-65.16	-13	52.16
958.6	34.21	53	1.4	V	-60.2	1.36	0.0	-61.56	-13	48.56
1648.40	43.58	329	1.7	H	-64.5	1.40	8.70	-57.20	-13	44.20
1648.40	43.22	311	1.4	V	-64.6	1.40	8.70	-57.30	-13	44.30
Middle channel										
953.9	32.97	61	1.6	H	-63.9	1.36	0.0	-65.26	-13	52.26
953.9	34.09	198	1.7	V	-60.4	1.36	0.0	-61.76	-13	48.76
1673.20	43.28	30	1.3	H	-63.1	1.30	8.90	-55.50	-13	42.50
1673.20	43.63	256	1.0	V	-62.1	1.30	8.90	-54.50	-13	41.50
High Channel										
959.1	32.78	37	2.0	H	-64.1	1.36	0.0	-65.46	-13	52.46
959.1	34.01	329	1.8	V	-60.4	1.36	0.0	-61.76	-13	48.76
1697.60	43.28	277	2.2	H	-63.1	1.30	8.90	-55.50	-13	42.50
1697.60	43.19	35	1.4	V	-62.5	1.30	8.90	-54.90	-13	41.90
WCDMA Mode										
Low channel										
945.6	32.37	24	1.3	H	-63.9	1.36	0.0	-65.26	-13	52.26
945.6	33.41	216	2.2	V	-60.4	1.36	0.0	-61.76	-13	48.76
1653.20	44.49	349	1.5	H	-61.8	1.30	8.90	-54.20	-13	41.20
1653.20	43.89	106	1.7	V	-61.8	1.30	8.90	-54.20	-13	41.20
Middle channel										
955.3	32.44	170	1.1	H	-63.8	1.36	0.0	-65.16	-13	52.16
955.3	33.27	322	2.0	V	-60.6	1.36	0.0	-61.96	-13	48.96
1653.20	43.95	246	2.5	H	-62.4	1.30	8.90	-54.80	-13	41.80
1653.20	44.42	228	1.7	V	-61.3	1.30	8.90	-53.70	-13	40.70
High channel										
968.5	32.3	25	1.1	H	-64.0	1.36	0.0	-65.36	-13	52.36
968.5	33.51	167	2.3	V	-60.3	1.36	0.0	-61.66	-13	48.66
1653.20	44.08	102	1.4	H	-62.2	1.30	8.90	-54.60	-13	41.60
1653.20	44.41	279	1.2	V	-61.3	1.30	8.90	-53.70	-13	40.70

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)
PCS 1900 Mode										
Low channel										
955.4	32.97	216	1.1	H	-63.9	1.36	0.0	-65.26	-13	52.26
955.4	34.04	226	2.4	V	-60.4	1.36	0.0	-61.76	-13	48.76
3700.40	43.42	270	1.3	H	-58.4	1.60	11.90	-48.10	-13	35.10
3700.40	43.03	152	2.2	V	-58.2	1.60	11.90	-47.90	-13	34.90
Middle channel										
956.5	32.84	329	2.4	H	-64.1	1.36	0.0	-65.46	-13	52.46
956.5	34.06	97	2.3	V	-60.4	1.36	0.0	-61.76	-13	48.76
3760.00	43.35	149	2.4	H	-58.7	1.50	11.80	-48.40	-13	35.40
3760.00	43.02	44	1.9	V	-58.6	1.50	11.80	-48.30	-13	35.30
High channel										
955.8	32.89	354	1.2	H	-64.0	1.36	0.0	-65.36	-13	52.36
955.8	33.96	210	1.6	V	-60.5	1.36	0.0	-61.86	-13	48.86
3819.60	43.24	307	1.2	H	-58.8	1.50	11.80	-48.50	-13	35.50
3819.60	43.18	5	1.3	V	-58.4	1.50	11.80	-48.10	-13	35.10
WCDMA Mode										
Low channel										
966.4	32.36	108	2.2	H	-63.9	1.36	0.0	-65.26	-13	52.26
966.4	33.49	161	1.8	V	-60.3	1.36	0.0	-61.66	-13	48.66
3704.80	43.81	322	1.1	H	-58.0	1.60	11.90	-47.70	-13	34.70
3704.80	44.21	260	2.5	V	-57.0	1.60	11.90	-46.70	-13	33.70
Middle channel										
965.5	32.22	220	1.5	H	-64.1	1.36	0.0	-65.46	-13	52.46
965.5	33.43	354	1.0	V	-60.4	1.36	0.0	-61.76	-13	48.76
3760.00	44.01	35	1.2	H	-58.0	1.50	11.80	-47.70	-13	34.70
3760.00	44.02	168	2.4	V	-57.6	1.50	11.80	-47.30	-13	34.30
High channel										
965.1	32.25	246	2.3	H	-64.0	1.36	0.0	-65.36	-13	52.36
965.1	33.4	147	2.5	V	-60.4	1.36	0.0	-61.76	-13	48.76
3815.20	43.85	70	1.6	H	-58.2	1.50	11.80	-47.90	-13	34.90
3815.20	44.36	140	2.5	V	-57.2	1.50	11.80	-46.90	-13	33.90

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										
960.5	32.36	331	2.0	H	-63.9	1.36	0.0	-65.26	-13	52.26
960.5	33.49	211	2.1	V	-60.3	1.36	0.0	-61.66	-13	48.66
3424.80	43.84	179	2.3	H	-57.0	1.40	11.80	-46.60	-13	33.60
3424.80	43.94	104	2.0	V	-56.7	1.40	11.80	-46.30	-13	33.30
Middle channel										
958.4	32.30	32	1.4	H	-64.0	1.36	0.0	-65.36	-13	52.36
958.4	33.43	155	1.2	V	-60.4	1.36	0.0	-61.76	-13	48.76
3480.00	44.25	59	2.4	H	-56.5	1.50	12.00	-46.00	-13	33.00
3480.00	44.33	246	1.7	V	-57.2	1.50	12.00	-46.70	-13	33.70
High channel										
964.9	32.42	17	2.2	H	-63.9	1.36	0.0	-65.26	-13	52.26
964.9	33.36	109	1.5	V	-60.5	1.36	0.0	-61.86	-13	48.86
3505.20	44.30	252	1.4	H	-56.4	1.50	12.00	-45.90	-13	32.90
3505.20	44.35	14	1.6	V	-57.1	1.50	12.00	-46.60	-13	33.60

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

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 2 (30MHz~20GHz)										
1.4MHz bandwidth, Low channel										
965.3	32.96	171	1.9	H	-63.9	1.36	0.0	-65.26	-13	52.26
965.3	33.87	144	1.1	V	-60.6	1.36	0.0	-61.96	-13	48.96
3701.40	48.12	216	1.3	H	-53.7	1.60	11.90	-43.40	-13	30.40
3701.40	50.75	21	2.1	V	-50.5	1.60	11.90	-40.20	-13	27.20
1.4MHz bandwidth, Middle channel										
965	33.04	20	1.0	H	-63.9	1.36	0.0	-65.26	-13	52.26
965	33.91	255	1.4	V	-60.5	1.36	0.0	-61.86	-13	48.86
3760.00	46.03	334	1.5	H	-56.0	1.50	11.80	-45.70	-13	32.70
3760.00	51.48	131	2.0	V	-50.1	1.50	11.80	-39.80	-13	26.80
1.4MHz bandwidth, High channel										
963.1	33.11	298	1.4	H	-63.8	1.36	0.0	-65.16	-13	52.16
963.1	33.97	213	1.3	V	-60.5	1.36	0.0	-61.86	-13	48.86
3818.60	48.16	81	2.4	H	-53.9	1.50	11.80	-43.60	-13	30.60
3818.60	51.39	45	2.1	V	-50.2	1.50	11.80	-39.90	-13	26.90
Band 4(30MHz~20GHz)										
1.4MHz bandwidth, Low channel										
967.6	33.14	192	1.7	H	-63.8	1.36	0.0	-65.16	-13	52.16
967.6	33.89	308	2.0	V	-60.6	1.36	0.0	-61.96	-13	48.96
3421.40	45.29	199	1.9	H	-55.5	1.40	11.80	-45.10	-13	32.10
3421.40	46.81	327	1.8	V	-53.8	1.40	11.80	-43.40	-13	30.40
1.4MHz bandwidth, Middle channel										
962.3	32.95	92	2.5	H	-64.0	1.36	0.0	-65.36	-13	52.36
962.3	33.83	1	1.6	V	-60.6	1.36	0.0	-61.96	-13	48.96
3465.00	44.18	235	2.1	H	-56.6	1.50	12.00	-46.10	-13	33.10
3465.00	45.29	126	2.5	V	-56.2	1.50	12.00	-45.70	-13	32.70
1.4MHz bandwidth, High channel										
963.4	32.99	186	2.0	H	-63.9	1.36	0.0	-65.26	-13	52.26
963.4	33.93	21	1.1	V	-60.5	1.36	0.0	-61.86	-13	48.86
3508.60	45.23	4	2.4	H	-55.5	1.50	12.00	-45.00	-13	32.00
3508.60	45.87	41	1.4	V	-55.6	1.50	12.00	-45.10	-13	32.10

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 5(30MHz~10GHz)										
1.4MHz bandwidth, Low channel										
960.5	33.13	74	1.7	H	-63.8	1.36	0.0	-65.16	-13	52.16
960.5	33.99	161	2.4	V	-60.5	1.36	0.0	-61.86	-13	48.86
1649.40	55.14	184	1.8	H	-52.9	1.40	8.70	-45.60	-13	32.60
1649.40	52.97	355	1.1	V	-54.9	1.40	8.70	-47.60	-13	34.60
2474.10	47.68	178	1.9	H	-55.7	2.60	10.20	-48.10	-13	35.10
2474.10	47.05	333	1.1	V	-55.7	2.60	10.20	-48.10	-13	35.10
3298.80	44.96	352	1.2	H	-55.9	1.50	11.70	-45.70	-13	32.70
3298.80	44.15	227	1.1	V	-56.8	1.50	11.70	-46.60	-13	33.60
1.4MHz bandwidth, Middle channel										
968.4	33.17	300	1.2	H	-63.7	1.36	0.0	-65.06	-13	52.06
968.4	34.02	55	1.9	V	-60.4	1.36	0.0	-61.76	-13	48.76
1673.00	54.31	50	1.1	H	-52.0	1.30	8.90	-44.40	-13	31.40
1673.00	51.56	138	1.9	V	-54.2	1.30	8.90	-46.60	-13	33.60
2509.50	48.27	145	1.2	H	-55.1	2.60	10.20	-47.50	-13	34.50
2509.50	47.73	32	1.4	V	-55.0	2.60	10.20	-47.40	-13	34.40
3346.00	45.21	308	1.6	H	-55.7	1.50	11.70	-45.50	-13	32.50
3346.00	45.17	209	2.4	V	-55.8	1.50	11.70	-45.60	-13	32.60
1.4MHz bandwidth, High channel										
964.9	33.15	326	1.2	H	-63.8	1.36	0.0	-65.16	-13	52.16
964.9	34.01	155	1.1	V	-60.4	1.36	0.0	-61.76	-13	48.76
1696.60	54.98	49	1.5	H	-51.4	1.30	8.90	-43.80	-13	30.80
1696.60	51.03	56	1.5	V	-54.7	1.30	8.90	-47.10	-13	34.10
2544.90	48.19	186	1.0	H	-55.2	2.60	10.20	-47.60	-13	34.60
2544.90	46.28	177	1.7	V	-56.5	2.60	10.20	-48.90	-13	35.90
3393.20	44.85	292	1.6	H	-56.4	1.40	11.80	-46.00	-13	33.00
3393.20	44.69	128	1.2	V	-56.4	1.40	11.80	-46.00	-13	33.00
Band 7(30MHz~26.5GHz)										
5MHz bandwidth, Low channel										
961	33.26	229	2.0	H	-63.6	1.36	0.0	-64.96	-25	39.96
961	34.06	79	1.6	V	-60.4	1.36	0.0	-61.76	-25	36.76
5005.00	45.61	44	2.1	H	-53.2	1.70	12.00	-42.90	-25	17.90
5005.00	46.38	227	1.8	V	-51.9	1.70	12.00	-41.60	-25	16.60
5MHz bandwidth, Middle channel										
961.3	33.02	133	2.4	H	-63.9	1.36	0.0	-65.26	-25	40.26
955.3	34.13	41	2.1	V	-60.3	1.36	0.0	-61.66	-25	36.66
5070.00	45.29	18	2.3	H	-52.3	1.60	12.10	-41.80	-25	16.80
5070.00	46.15	360	1.4	V	-51.5	1.60	12.10	-41.00	-25	16.00
5MHz bandwidth, High channel										
970.5	33.25	109	1.3	H	-63.7	1.36	0.0	-65.06	-25	40.06
970.5	34.11	304	2.5	V	-60.3	1.36	0.0	-61.66	-25	36.66
5135.00	46.35	134	2.1	H	-51.3	1.60	12.10	-40.80	-25	15.80
5135.00	46.37	52	1.1	V	-51.3	1.60	12.10	-40.80	-25	15.80

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 38(30MHz~26.5GHz)										
5MHz bandwidth, Low channel										
966.2	32.89	354	1.2	H	-64.0	1.36	0.0	-65.36	-25	40.36
966.2	33.96	210	1.6	V	-60.5	1.36	0.0	-61.86	-25	36.86
5145.00	49.01	126	2.3	H	-51.0	1.60	12.10	-40.50	-25	15.50
5145.00	46.21	77	1.7	V	-53.8	1.60	12.10	-43.30	-25	18.30
5MHz bandwidth, Middle channel										
965.4	32.99	157	2.4	H	-63.9	1.36	0.0	-65.26	-25	40.26
965.4	34.11	301	1.6	V	-60.3	1.36	0.0	-61.66	-25	36.66
5190.00	49.68	128	1.2	H	-50.4	1.60	12.10	-39.90	-25	14.90
5190.00	46.25	103	2.3	V	-53.4	1.60	12.10	-42.90	-25	17.90
5MHz bandwidth, High channel										
960.1	32.63	200	2.1	H	-64.0	1.36	0.0	-65.36	-25	40.36
960.1	33.49	77	2.1	V	-60.4	1.36	0.0	-61.76	-25	36.76
5230.00	48.77	180	2.3	H	-51.3	1.60	12.10	-40.80	-25	15.80
5303.00	46.84	244	1.7	V	-52.3	1.60	12.20	-41.70	-25	16.70
Band 41(30MHz~26.5GHz)										
5MHz bandwidth, Low channel										
954.5	32.53	313	1.2	H	-63.9	1.36	0.0	-65.26	-25	40.26
954.5	33.39	42	2.0	V	-60.4	1.36	0.0	-61.76	-25	36.76
5075.00	48.36	227	1.0	H	-51.6	1.60	12.10	-41.10	-25	16.10
5075.00	46.59	92	2.3	V	-53.4	1.60	12.10	-42.90	-25	17.90
5MHz bandwidth, Middle channel										
957.2	32.52	129	1.3	H	-64.0	1.36	0.0	-65.36	-25	40.36
957.2	33.27	146	1.8	V	-60.4	1.36	0.0	-61.76	-25	36.76
5190.00	49.69	158	1.8	H	-50.4	1.60	12.10	-39.90	-25	14.90
5190.00	47.38	61	1.2	V	-52.2	1.60	12.10	-41.70	-25	16.70
5MHz bandwidth, High channel										
952.7	32.49	251	2.4	H	-63.9	1.36	0.0	-65.26	-25	40.26
952.7	33.35	172	2.2	V	-60.3	1.36	0.0	-61.66	-25	36.66
5305.00	48.92	194	1.3	H	-50.8	1.60	12.20	-40.20	-25	15.20
5305.00	46.79	109	2.1	V	-52.4	1.60	12.20	-41.80	-25	16.80

Note:
Absolute Level = Substituted Level - Cable loss + Antenna Gain
Margin = Limit- Absolute Level
dBd is for the ERP, dBi is for EIRP.

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

Applicable Standard

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

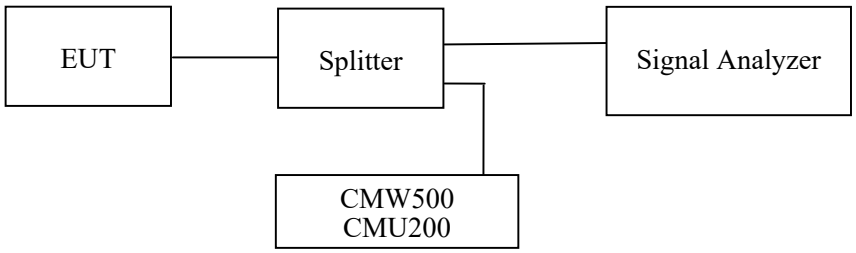
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to FCC §27.53 (c)(h)(m), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Test Procedure

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

The center of the spectrum analyzer was set to block edge frequency



Test Data

Environmental Conditions

Temperature:	28.9~29.1℃
Relative Humidity:	53 %
ATM Pressure:	101.0 kPa

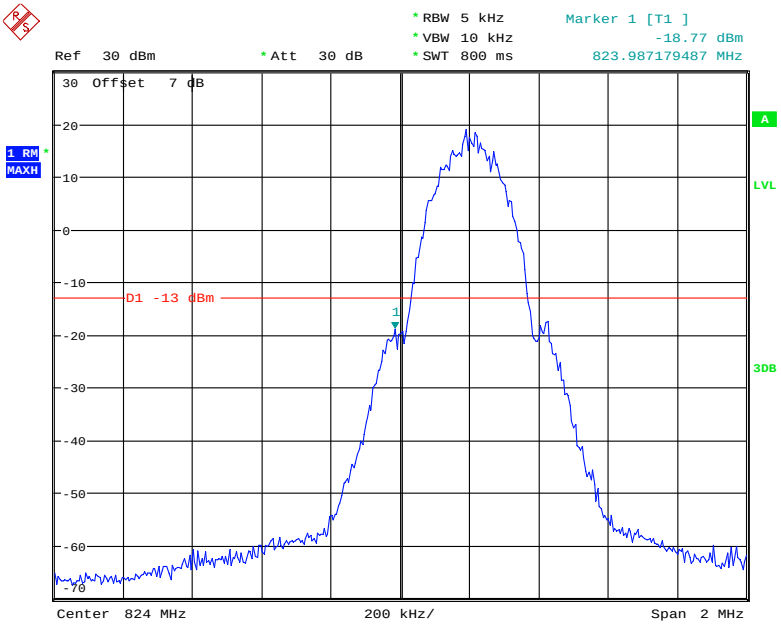
The testing was performed by Pedro Yun from 2021-08-29 to 2021-08-30.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

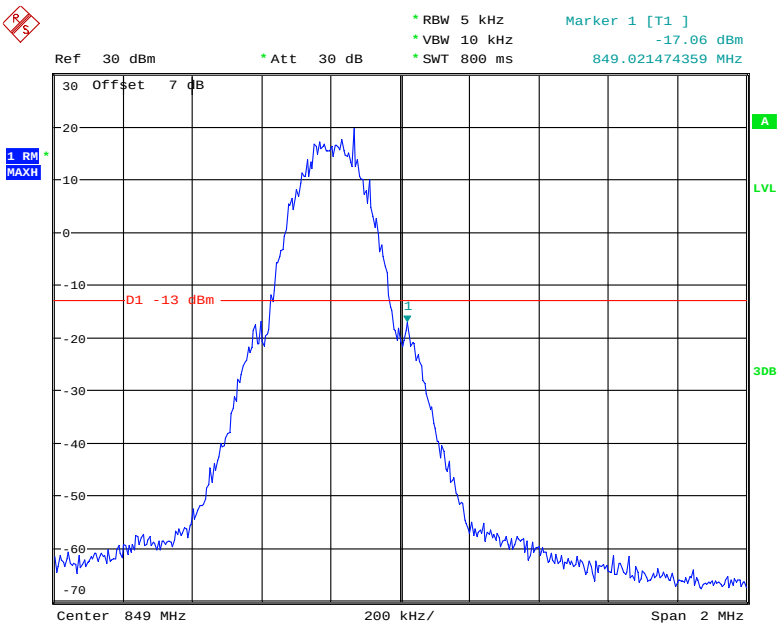
Please refer to the following plots.

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



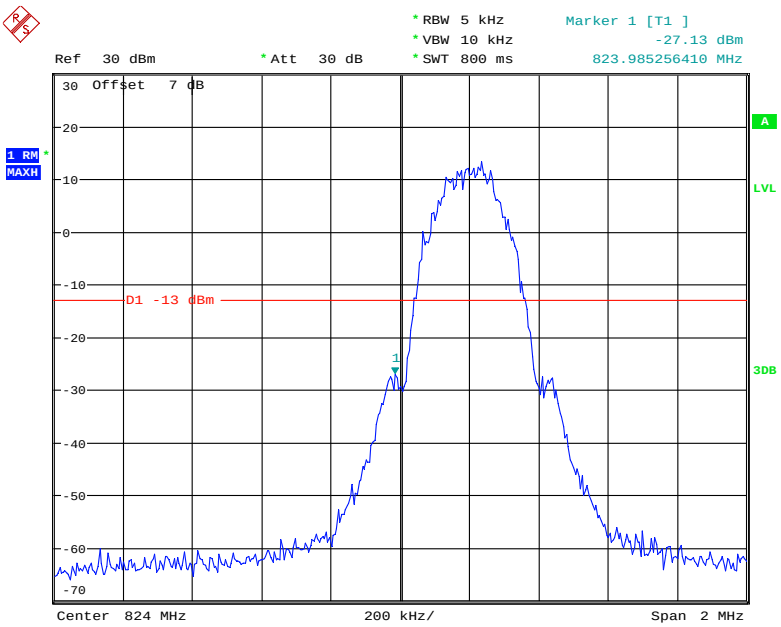
Date: 29.AUG.2021 16:26:54

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



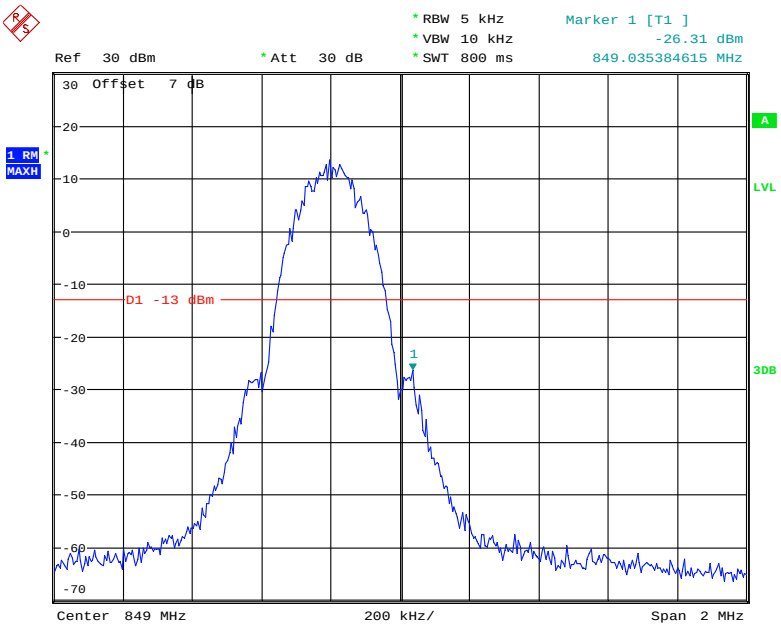
Date: 29.AUG.2021 16:26:06

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



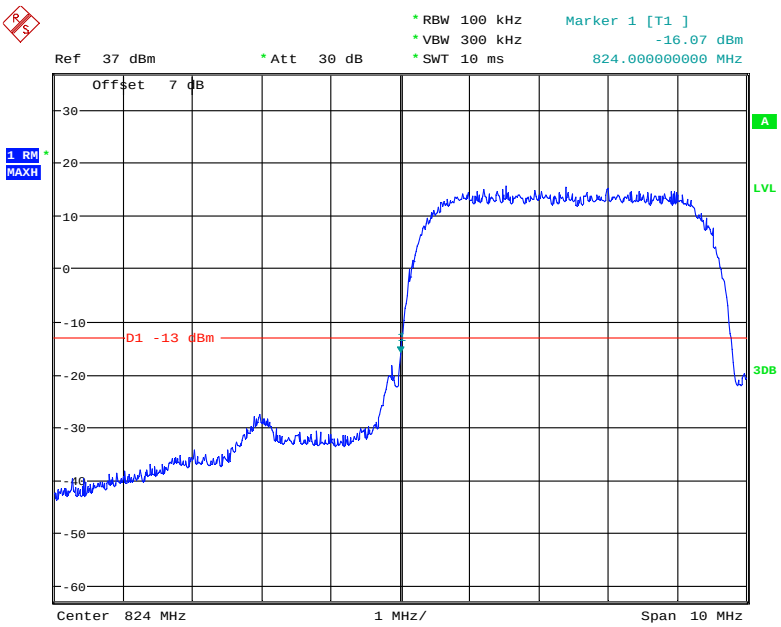
Date: 29.AUG.2021 17:02:22

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



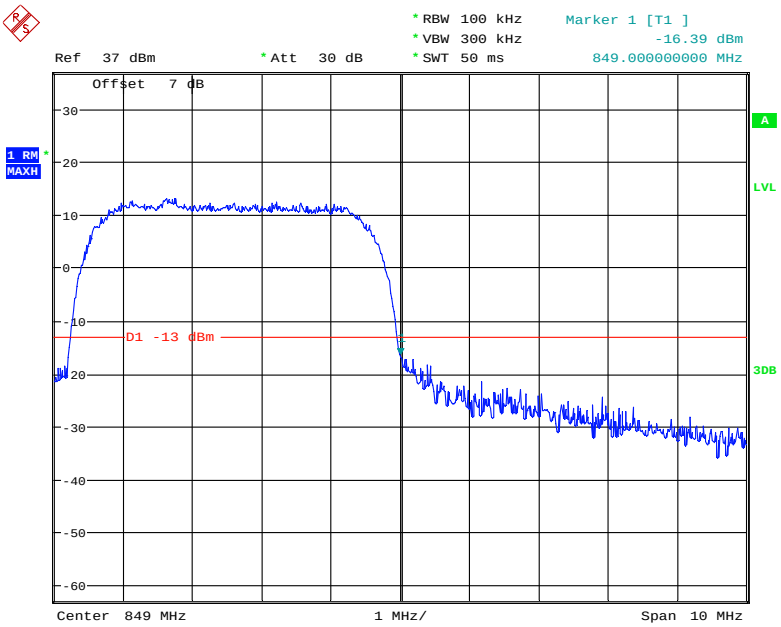
Date: 29.AUG.2021 17:01:26

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



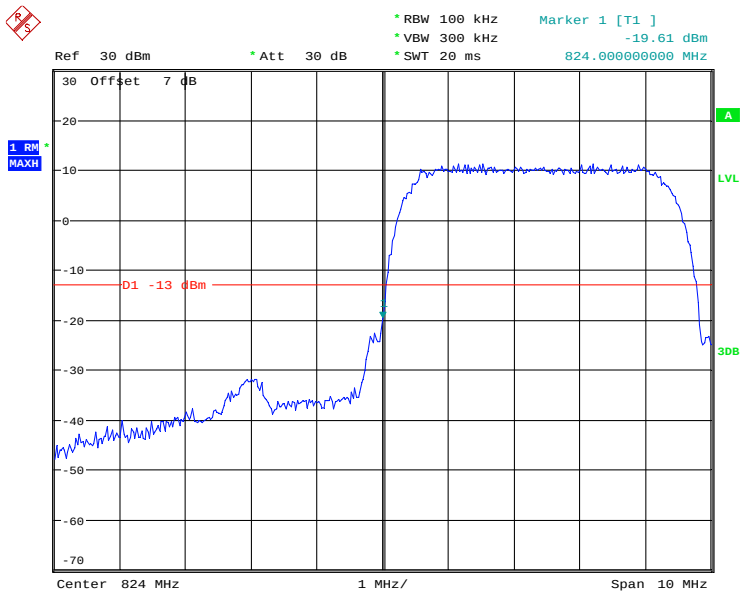
Date: 29.AUG.2021 14:53:47

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



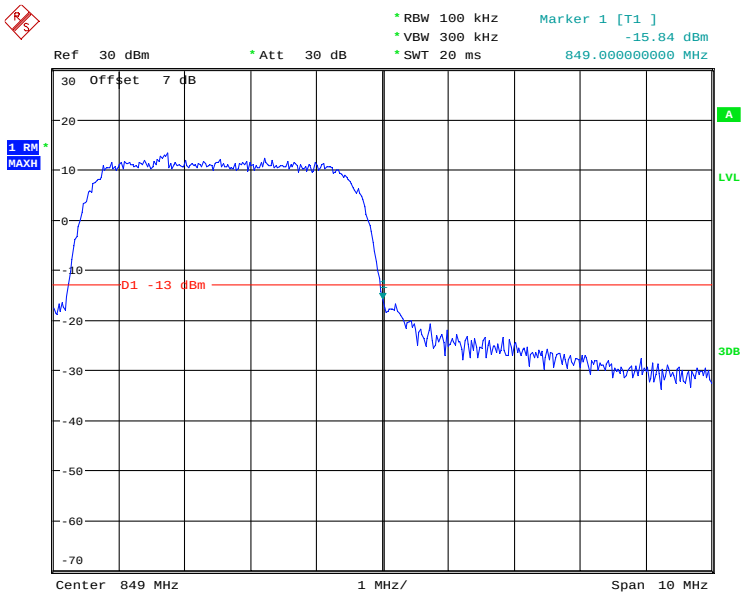
Date: 29.AUG.2021 14:52:37

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



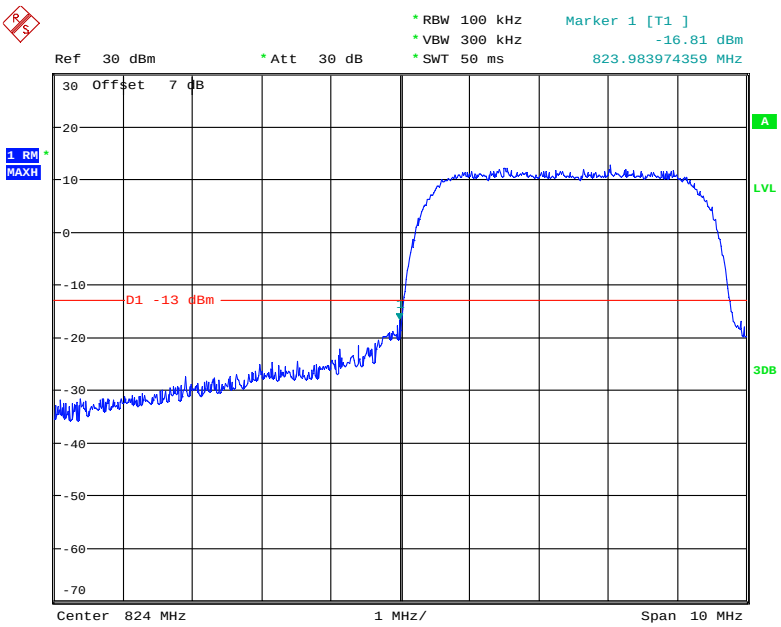
Date: 29.AUG.2021 16:00:53

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



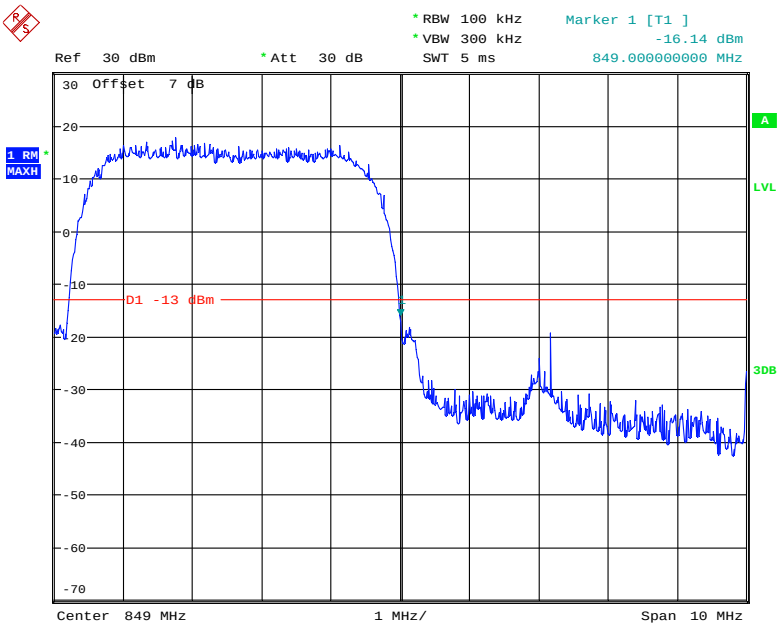
Date: 29.AUG.2021 16:00:31

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



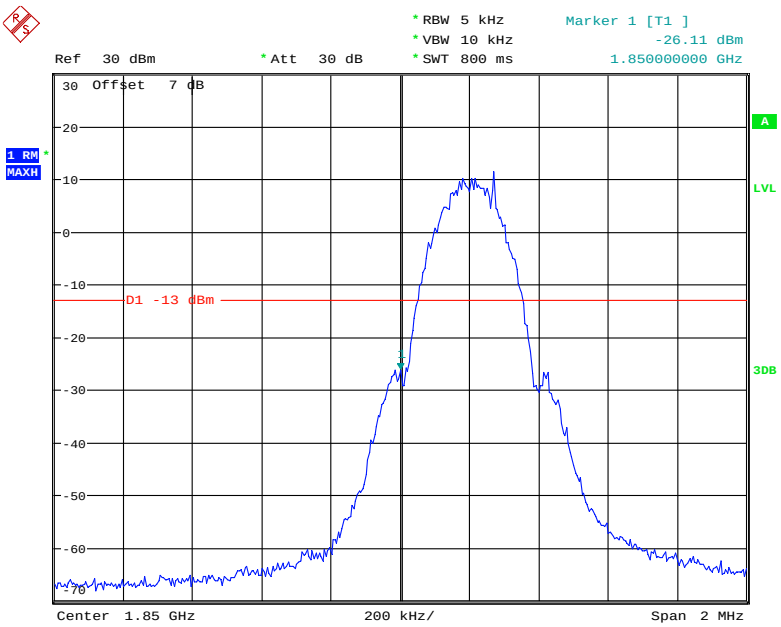
Date: 29.AUG.2021 15:48:48

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



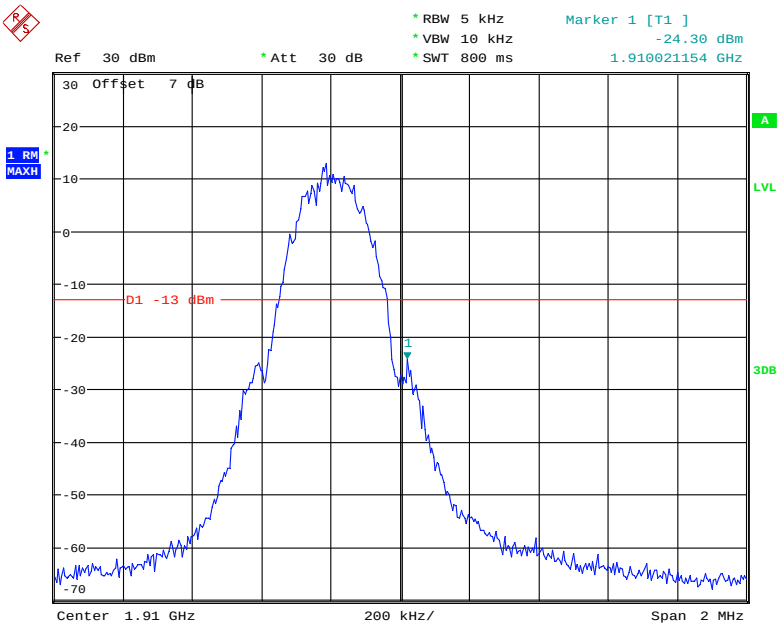
Date: 29.AUG.2021 15:49:57

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



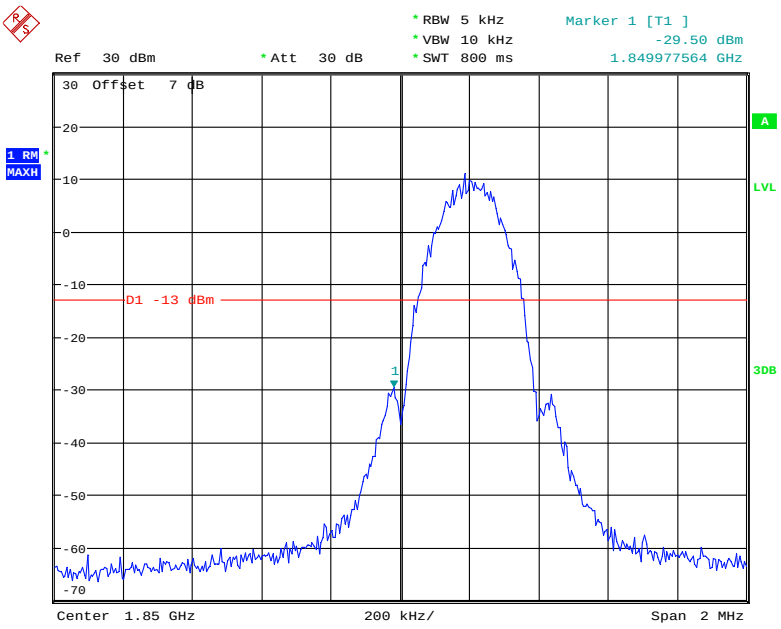
Date: 29.AUG.2021 16:44:33

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



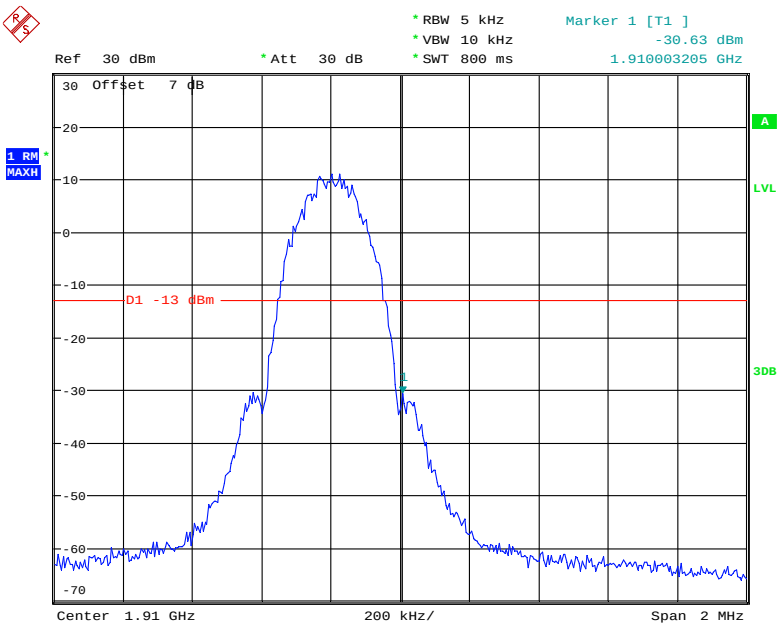
Date: 29.AUG.2021 16:45:10

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



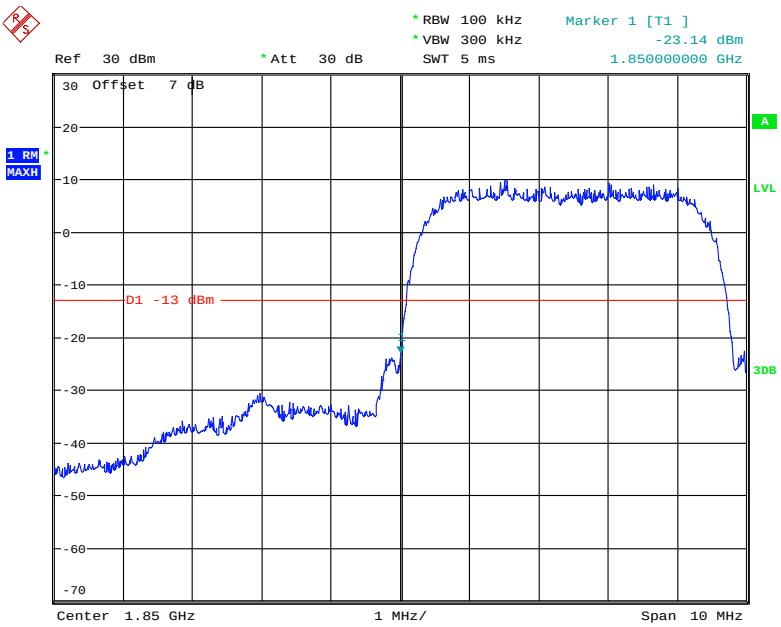
Date: 29.AUG.2021 16:46:38

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



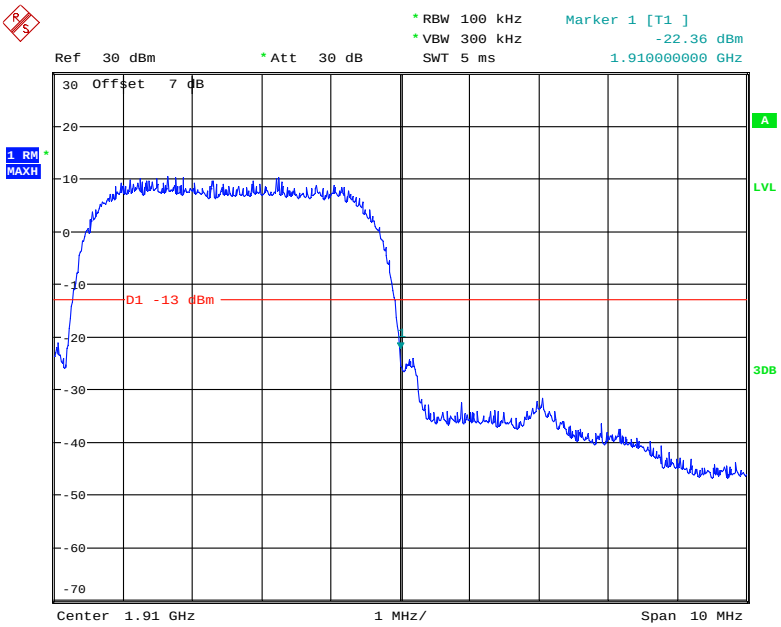
Date: 29.AUG.2021 16:47:37

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



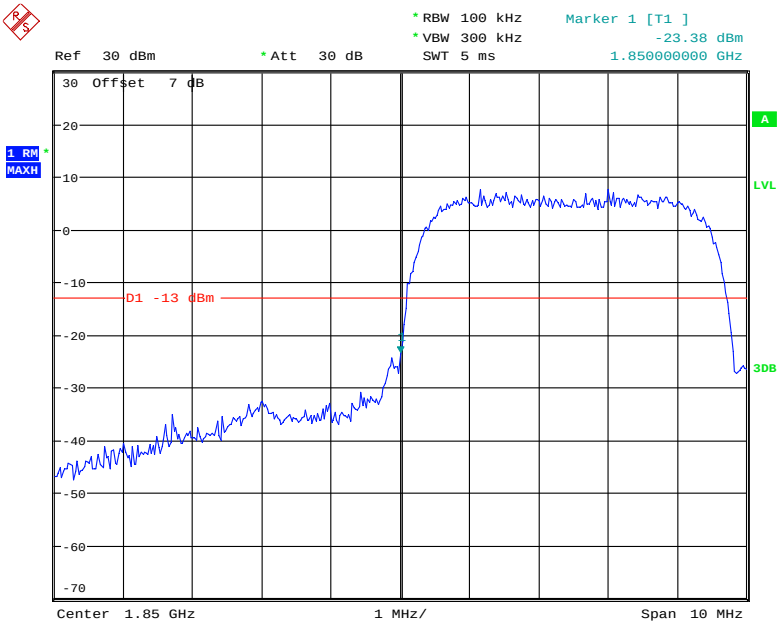
Date: 29.AUG.2021 14:57:52

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



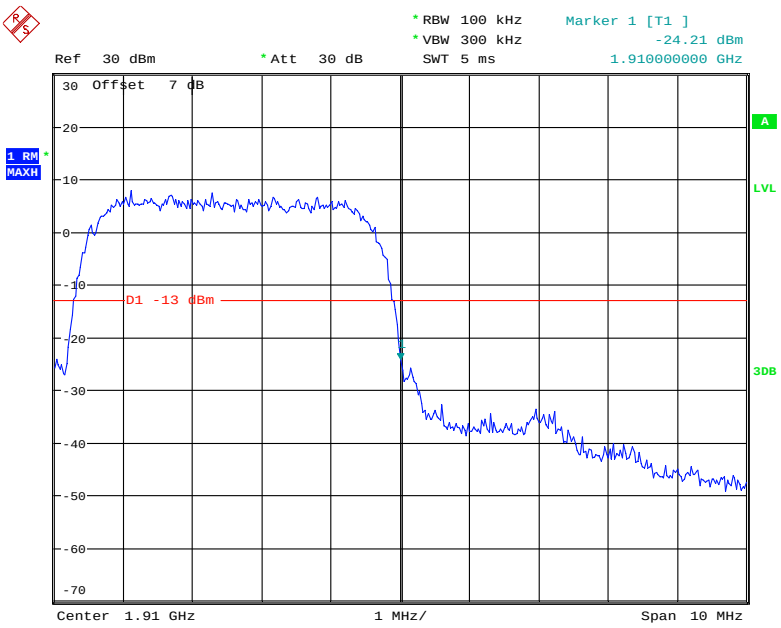
Date: 29.AUG.2021 14:57:09

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



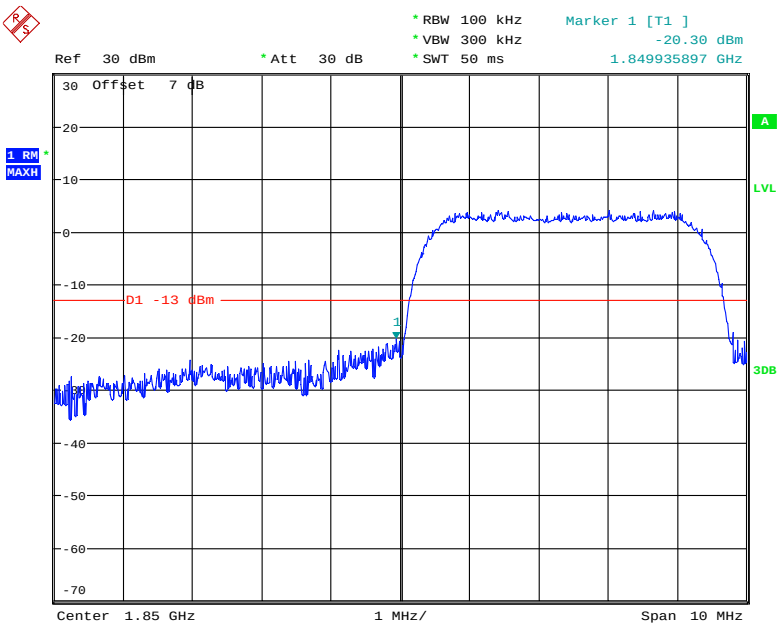
Date: 29.AUG.2021 15:58:21

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



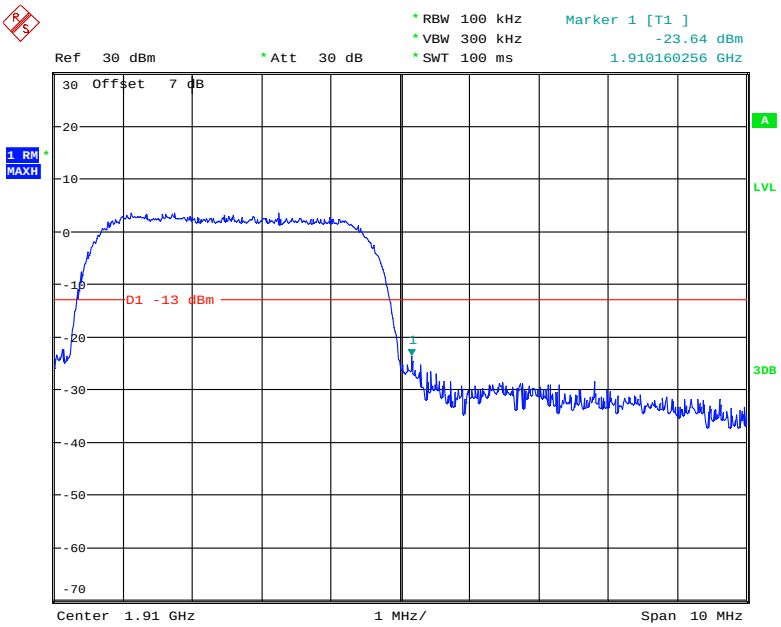
Date: 29.AUG.2021 15:57:42

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



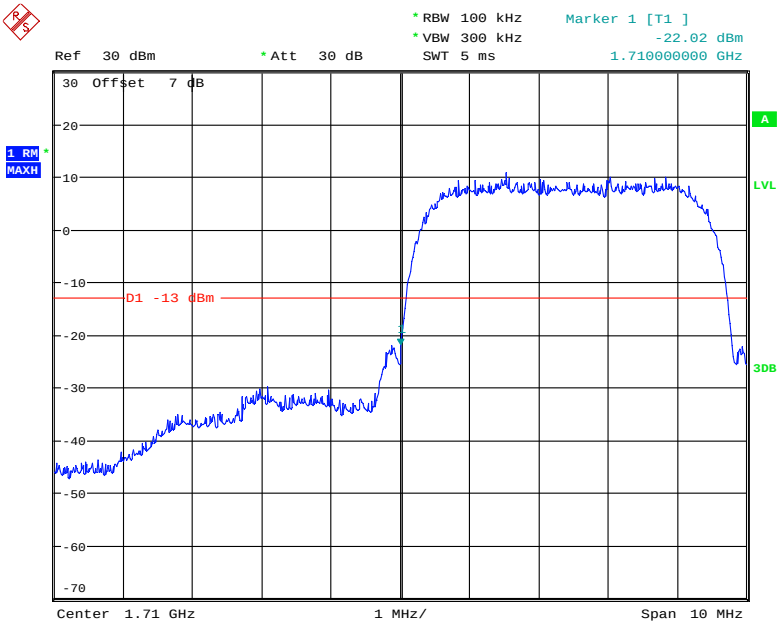
Date: 29.AUG.2021 15:53:42

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



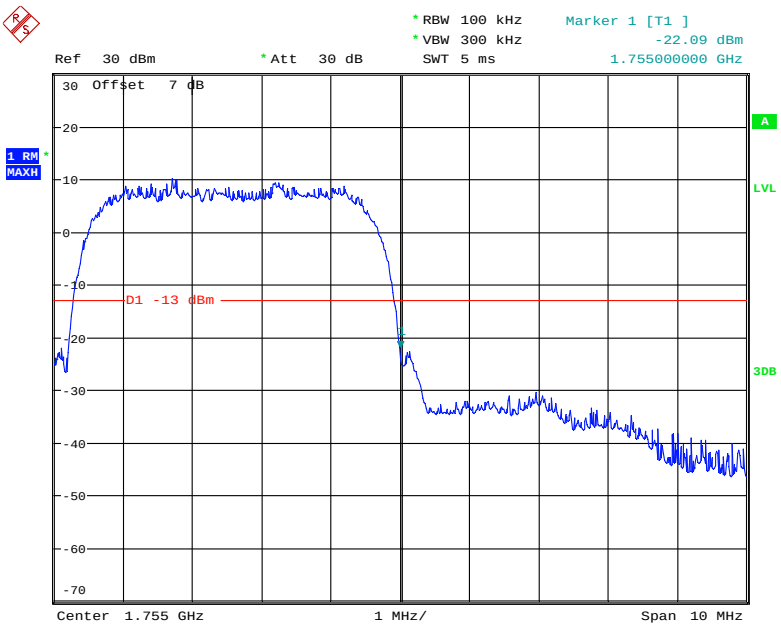
Date: 29.AUG.2021 15:56:29

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



Date: 29.AUG.2021 14:55:18

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



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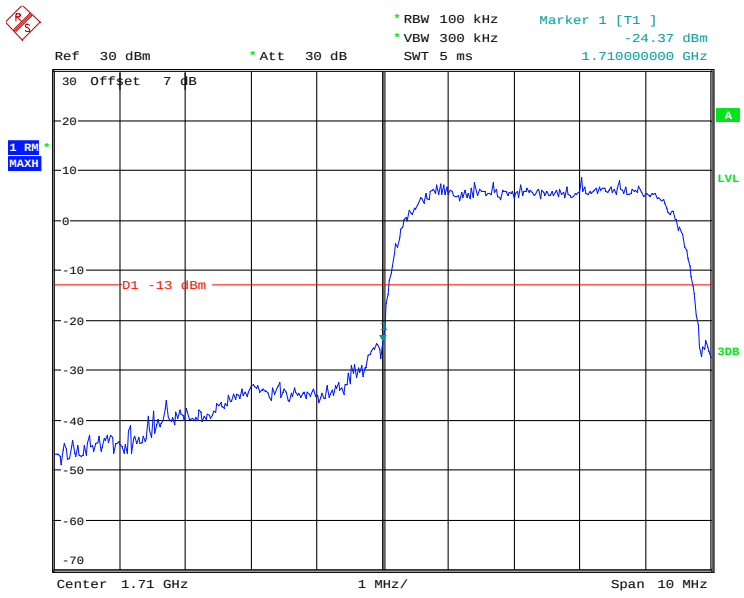
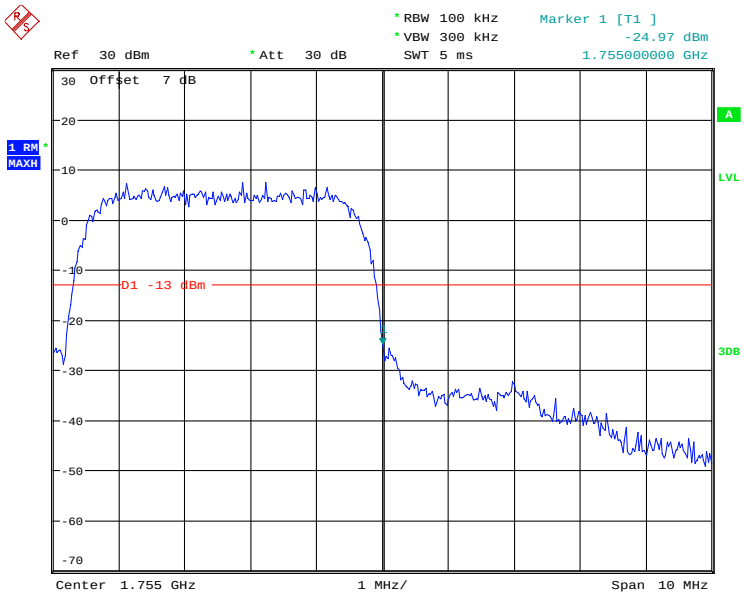
AWS Band, Left Band Edge for HSDPA (16QAM) Mode



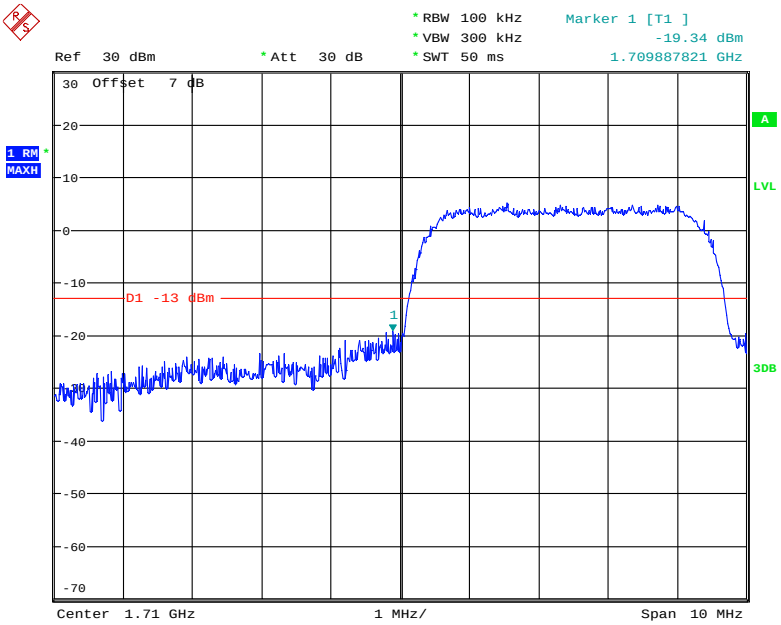
Date: 29.AUG.2021 15:59:00

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

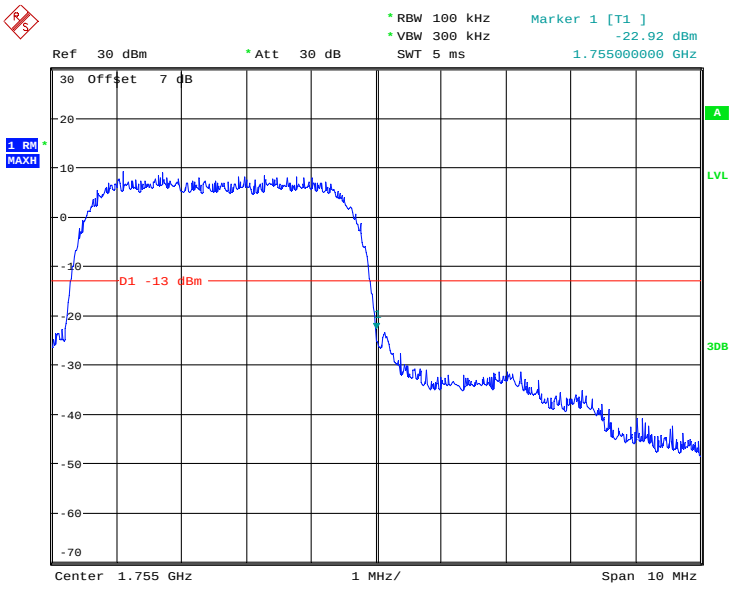


Date: 29.AUG.2021 15:59:28

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



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



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

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

Applicable Standard

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

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

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

Frequency Tolerance for Transmitters in the Public Mobile Services

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

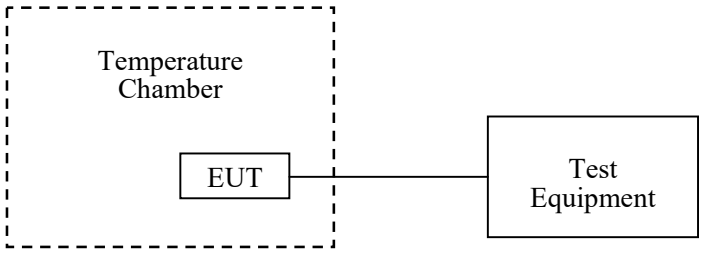
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

Test Procedure

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

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

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



Test Data

Environmental Conditions

Temperature:	28.9~29.1℃
Relative Humidity:	53 %
ATM Pressure:	101.0 kPa

The testing was performed by Pedro Yun from 2021-08-29 to 2021-08-30.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables.

Cellular Band (Part 22H)

GSM Mode

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

EDGE Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	-9	-0.0108	2.5
-20		-8	-0.0096	2.5
-10		-7	-0.0084	2.5
0		-5	-0.0060	2.5
10		-6	-0.0072	2.5
20		-7	-0.0084	2.5
30		-9	-0.0108	2.5
40		-7	-0.0084	2.5
50		-6	-0.0072	2.5
20	3.45	-8	-0.0096	2.5
	4.40	-5	-0.0060	2.5

WCDMA Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	-19	-0.0227	2.5
-20		-21	-0.0251	2.5
-10		-22	-0.0263	2.5
0		-18	-0.0215	2.5
10		-16	-0.0191	2.5
20		-14	-0.0167	2.5
30		-15	-0.0179	2.5
40		-19	-0.0227	2.5
50		-17	-0.0203	2.5
20	3.45	-23	-0.0275	2.5
	4.40	-18	-0.0215	2.5

PCS Band (Part 24E)

GSM Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (°C)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	21	0.0112	Pass
-20		23	0.0122	Pass
-10		22	0.0117	Pass
0		24	0.0128	Pass
10		26	0.0138	Pass
20		27	0.0144	Pass
30		26	0.0138	Pass
40		24	0.0128	Pass
50		22	0.0117	Pass
20	3.45	23	0.0122	Pass
	4.40	25	0.0133	Pass

EDGE Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (°C)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	21	0.0112	Pass
-20		23	0.0122	Pass
-10		27	0.0144	Pass
0		25	0.0133	Pass
10		26	0.0138	Pass
20		24	0.0128	Pass
30		27	0.0144	Pass
40		28	0.0149	Pass
50		25	0.0133	Pass
20	3.45	24	0.0128	Pass
	4.40	26	0.0138	Pass

WCDMA Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (°C)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	-22	-0.0117	Pass
-20		-23	-0.0122	Pass
-10		-20	-0.0106	Pass
0		-19	-0.0101	Pass
10		-17	-0.0090	Pass
20		-16	-0.0085	Pass
30		-18	-0.0096	Pass
40		-20	-0.0106	Pass
50		-19	-0.0101	Pass
20	3.45	-22	-0.0117	Pass
	4.40	-17	-0.0090	Pass

AWS Band (Part 27)

Temperature (°C)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	1710.0212	1754.6724	1710	1755
-20		1710.0230	1754.3347	1710	1755
-10		1710.0145	1754.5025	1710	1755
0		1710.3649	1754.4584	1710	1755
10		1710.0657	1754.1946	1710	1755
20		1710.0812	1754.5970	1710	1755
30		1710.0036	1754.4274	1710	1755
40		1710.2608	1754.5686	1710	1755
50		1710.2674	1754.3040	1710	1755
20	3.45	1710.0898	1754.5514	1710	1755
	4.40	1710.0526	1754.3991	1710	1755

LTE:
QPSK:

Band 2:

10.0 MHz Middle Channel, f_o =1880MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	-7.15	-0.0038	Pass
-20		-9.85	-0.0052	Pass
-10		-6.25	-0.0033	Pass
0		6.29	0.0033	Pass
10		7.81	0.0042	Pass
20		6.24	0.0033	Pass
30		-6.13	-0.0033	Pass
40		7.29	0.0039	Pass
50		-9.77	-0.0052	Pass
20	3.45	-8.34	-0.0044	Pass
	4.40	-7.26	-0.0039	Pass

Band 4:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	1710.0126	1754.7717	1710	1755
-20		1710.0518	1754.6715	1710	1755
-10		1710.0974	1754.5284	1710	1755
0		1710.0331	1754.6622	1710	1755
10		1710.0432	1754.7952	1710	1755
20		1710.0580	1754.8520	1710	1755
30		1710.0325	1754.7305	1710	1755
40		1710.0027	1754.6002	1710	1755
50		1710.0474	1754.7326	1710	1755
20	3.45	1710.0836	1754.4534	1710	1755
	4.40	1710.0462	1754.7223	1710	1755

Band 5:

10.0 MHz Middle Channel, f_o=836.5MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	-9.07	-0.0108	2.5
-20		-6.79	-0.0081	2.5
-10		9.81	0.0117	2.5
0		-7.29	-0.0087	2.5
10		-9.87	-0.0118	2.5
20		-9.48	-0.0113	2.5
30		-6.59	-0.0079	2.5
40		-8.17	-0.0098	2.5
50		5.35	0.0064	2.5
20	3.45	6.19	0.0074	2.5
	4.40	7.47	0.0089	2.5

Band 7:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2500.0199	2569.4525	2500	2570
-20		2500.0217	2569.5701	2500	2570
-10		2500.0268	2569.6921	2500	2570
0		2500.0109	2569.7639	2500	2570
10		2500.0472	2569.8421	2500	2570
20		2500.0400	2569.7600	2500	2570
30		2500.0104	2569.6142	2500	2570
40		2500.0534	2569.5377	2500	2570
50		2500.0572	2569.7515	2500	2570
20	3.45	2500.0284	2569.8351	2500	2570
	4.40	2500.0254	2569.6423	2500	2570

Band 38

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2570.0197	2619.3328	2570	2620
-20		2570.0556	2619.4571	2570	2620
-10		2570.0877	2619.5161	2570	2620
0		2570.0059	2619.6011	2570	2620
10		2570.0742	2619.4649	2570	2620
20		2570.0200	2619.4544	2570	2620
30		2570.0696	2619.5074	2570	2620
40		2570.0340	2619.7374	2570	2620
50		2570.0994	2619.6706	2570	2620
20	3.45	2570.0673	2619.5922	2570	2620
	4.40	2570.0112	2619.7079	2570	2620

Band 41

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2535.1995	2654.6793	2535	2655
-20		2535.4640	2654.7481	2535	2655
-10		2535.3642	2654.4350	2535	2655
0		2535.3200	2654.5970	2535	2655
10		2535.1104	2654.6520	2535	2655
20		2535.2419	2654.4800	2535	2655
30		2535.3231	2654.5072	2535	2655
40		2535.3769	2654.7576	2535	2655
50		2535.3011	2654.6575	2535	2655
20	3.45	2535.1739	2654.4292	2535	2655
	4.40	2535.2753	2654.7383	2535	2655

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

16QAM:

Band 2:

10.0 MHz Middle Channel, f_o =1880MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.85	-7.29	-0.0039	Pass
-20		-6.49	-0.0035	Pass
-10		9.38	0.0050	Pass
0		-7.17	-0.0038	Pass
10		-9.19	-0.0049	Pass
20		-9.49	-0.0050	Pass
30		-6.78	-0.0036	Pass
40		-8.74	-0.0046	Pass
50		5.62	0.0030	Pass
20	3.45	6.31	0.0034	Pass
	4.40	7.49	0.0040	Pass

Band 4:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	1710.0637	1754.6134	1710	1755
-20		1710.0632	1754.7613	1710	1755
-10		1710.0808	1754.8498	1710	1755
0		1710.0569	1754.9064	1710	1755
10		1710.0190	1754.7492	1710	1755
20		1710.0462	1754.8520	1710	1755
30		1710.0589	1754.8457	1710	1755
40		1710.0186	1754.7018	1710	1755
50		1710.0373	1754.8312	1710	1755
20	3.45	1710.0328	1754.6283	1710	1755
	4.40	1710.0492	1754.7565	1710	1755

Band 5:

10.0 MHz Middle Channel, f_o=836.5MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.85	-6.14	-0.0073	2.5
-20		8.39	0.0100	2.5
-10		-8.67	-0.0104	2.5
0		9.49	0.0113	2.5
10		-6.87	-0.0082	2.5
20		7.66	0.0092	2.5
30		6.52	0.0078	2.5
40		-6.34	-0.0076	2.5
50		-6.51	-0.0078	2.5
20	3.45	6.36	0.0076	2.5
	4.40	-6.91	-0.0083	2.5

Band 7:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2500.0398	2569.8416	2500	2570
-20		2500.0946	2569.7959	2500	2570
-10		2500.0848	2569.7601	2500	2570
0		2500.0815	2569.8607	2500	2570
10		2500.0445	2569.6212	2500	2570
20		2500.0402	2569.7600	2500	2570
30		2500.0596	2569.7845	2500	2570
40		2500.0129	2569.8249	2500	2570
50		2500.0358	2569.7324	2500	2570
20	3.45	2500.0811	2569.8554	2500	2570
	4.40	2500.0425	2569.9253	2500	2570

Band 38

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2570.0999	2619.8484	2570	2620
-20		2570.0705	2619.6744	2570	2620
-10		2570.0883	2619.7741	2570	2620
0		2570.0447	2619.8909	2570	2620
10		2570.0272	2619.7969	2570	2620
20		2570.0240	2619.7679	2570	2620
30		2570.0790	2619.8301	2570	2620
40		2570.0083	2619.7434	2570	2620
50		2570.0745	2619.8998	2570	2620
20	3.45	2570.0371	2619.6866	2570	2620
	4.40	2570.0633	2619.8804	2570	2620

Band 41

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.85	2535.0116	2654.5840	2535	2655
-20		2535.3627	2654.7920	2535	2655
-10		2535.2853	2654.5400	2535	2655
0		2535.2969	2654.6957	2535	2655
10		2535.2127	2654.4284	2535	2655
20		2535.2800	2654.4802	2535	2655
30		2535.3528	2654.6041	2535	2655
40		2535.1594	2654.3897	2535	2655
50		2535.2678	2654.6204	2535	2655
20	3.45	2535.3972	2654.4137	2535	2655
	4.40	2535.1918	2654.3962	2535	2655

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

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