FCC PART 27

FCC PART 22H, PART 24E

TEST REPORT

For

BLU Products, Inc.

10814 NW 33rd St # 100 Doral, FL 33172, Doral, Florida, United States

FCC ID: YHLBLUG51LITE

Report Type:	**Product Type:**
Original Report	Smart Phone

Report Number:	SZ1210208-04467E-00D
Report Date:	2021-03-31
Reviewed By:	Jacob Kong 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	Smart Phone
Tested Model	G51 LITE
Multiple Model	M6 2021
Model Differences	Refer to the DoS letter
Frequency Range	EGSM 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 12: 699-716MHz(TX); 729-746MHz(RX) LTE Band 38: 2570-2620MHz(TX/RX)
Maximum Conducted Average Output Power	EGSM 850: 32.19dBm(GMSK), 25.13dBm(8PSK) PCS 1900: 29.43dBm(GMSK), 24.83dBm(8PSK) WCDMA Band 2: 22.89dBm; WCDMA Band 4: 22.95dBm WCDMA Band 5: 22.97dBm LTE Band 2: 23.85dBm; LTE Band 4: 23.24dBm LTE Band 5: 22.66dBm; LTE Band 7: 22.79dBm LTE Band 12: 22.77dBm; LTE Band 38: 21.36dBm
Modulation Technique	2G: GMSK, 8PSK 3G: BPSK, QPSK, 16QAM 4G: QPSK, 16QAM
Antenna Specification*	EGSM850/ WCDMA Band 5/ LTE Band 5: -1.9dBi PCS1900/WCDMA Band 2/ LTE Band 2: -0.8dBi WCDMA Band 4/ LTE Band 4 :-0.9dBi LTE Band 7: 0.1dBi LTE Band 12: -2.2dBi LTE Band 38: -0.12 dBi (provided by the applicant)
Voltage Range	DC3.8V from battery or DC 5.0V from adapter
Date of Test	2021-02-26 to 2021-03-31
Sample serial number	SZ1210208-04467E-RF-S1(Assigned by BACL, Shenzhen)
Received date	2021-02-08
Sample/EUT Status	Good condition
Adapter information	Model: US-AR-1000 Input: AC 100-240V, 50/60Hz, 0.2A Output: DC 5.0V, 1000mA

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.

Measurement Uncertainty

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

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

Test Facility

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

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

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

SYSTEM TEST CONFIGURATION

Description of Test Configuration

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

Test was performed as below table:

Frequency band	Bandwidth (MHz)	Test Frequency(MHz)		
		Low	Middle	High
GSM850	0.25	824.2	836.6	848.8
DCS1900	0.25	1850.2	1880	1909.8
WCDMA B2	4.2	1852.4	1880	1907.6
WCDMA B4	4.2	1712.4	1732.6	1752.6
WCDMA B5	4.2	826.4	836.6	846.6
LTE B2	1.4	1850.7	1880	1909.3
	3	1851.5	1880	1908.5
	5	1852.5	1880	1907.5
	10	1855	1880	1905
	15	1857.5	1880	1902.5
	20	1860	1880	1900
LTE B4	1.4	1710.7	1732.5	1754.3
	3	1711.5	1732.5	1753.5
	5	1712.5	1732.5	1752.5
	10	1715	1732.5	1750
	15	1717.5	1732.5	1747.5
	20	1720	1732.5	1745
LTE B5	1.4	824.7	836.5	848.3
	3	825.5	836.5	847.5
	5	826.5	836.5	846.5
	10	829	836.5	844
LTE B7	5	2502.5	2535	2567.5
	10	2505	2535	2565
	15	2507.5	2535	2562.5
	20	2510	2535	2560
LTE B12	1.4	699.7	707.5	715.3
	3	700.5	707.5	714.5
	5	701.5	707.5	713.5
	10	704	707.5	711
LTE B38	5	2572.5	2595	2617.5
	10	2575	2595	2615
	15	2577.5	2595	2612.5
	20	2580	2595	2610

Equipment Modifications

No modification was made to the EUT.

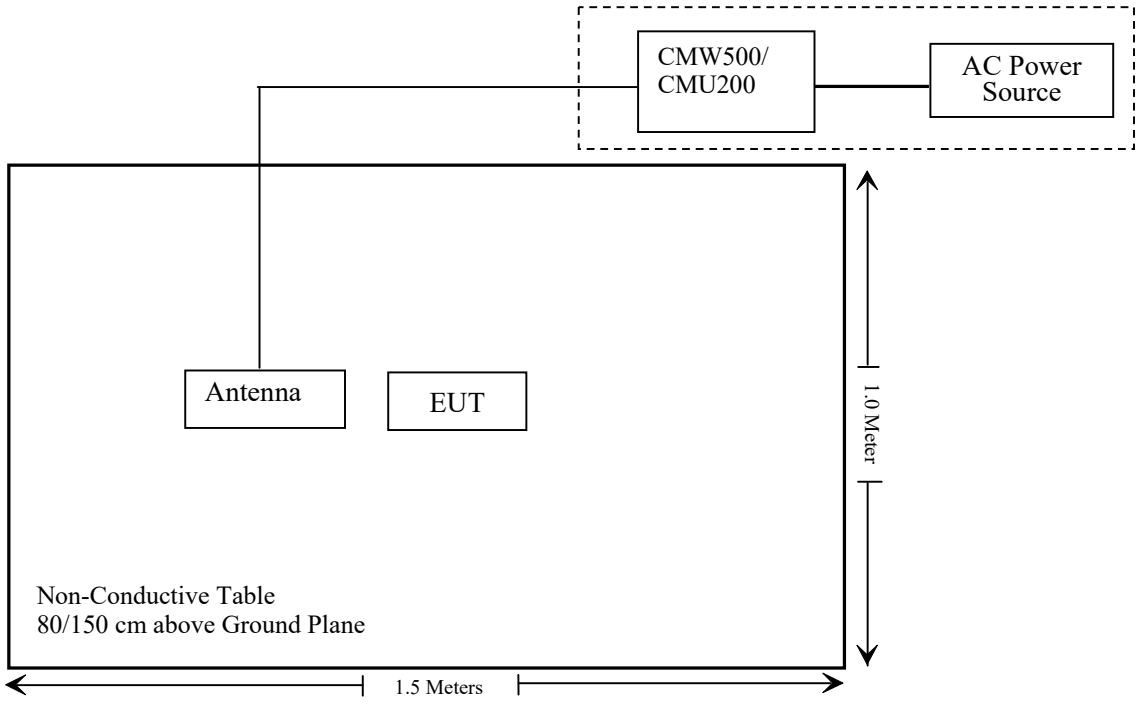
Support Equipment List and Details

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
Unshielded Un-detachable AC cable	1.2	AC Power	CMW500/ CMU200

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

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

Note: * Please refer to SAR report released by BACL, report number: SZ1210208-04467E-SA.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
R&S	EMI Test Receiver	ESR3	102455	2020/08/04	2021/08/03
Sonoma instrument	Pre-amplifier	310 N	186238	2020/08/04	2021/08/03
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2020/12/22	2023/12/21
COM-POWER	Dipole Antenna	AD-100	721027	NCR	NCR
Unknown	Cable 2	RF Cable 2	F-03-EM197	2020/11/29	2021/11/28
Unknown	Cable	Chamber Cable 1	F-03-EM236	2020/11/29	2021/11/28
Rohde & Schwarz	Spectrum Analyzer	FSV40-N	102259	2020/08/04	2021/08/03
COM-POWER	Pre-amplifier	PA-122	181919	2020/11/29	2021/11/28
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2020/11/29	2021/11/28
Sunol Sciences	Horn Antenna	3115	9107-3694	2021/01/15	2024/01/14
A.H.System	Horn Antenna	SAS-200/571	135	2018/09/01	2021/08/31
Insulted Wire Inc.	RF Cable	SPS-2503-3150	02222010	2020/11/29	2021/11/28
Unknown	RF Cable	W1101-EQ1 OUT	F-19-EM005	2020/11/29	2021/11/28
MICRO-TRONICS	Passband filter	HPM50111	F-19-EM006	2020/04/20	2021/04/20
Unknown	High Pass filter	1.3GHz	101120	2020/04/20	2021/04/20
Ducommun Technolagies	Horn antenna	ARH-4223-02	1007726-01 1304	2020/12/06	2023/12/05
Ducommun Technolagies	Horn antenna	ARH-4223-02	1007726-02 1304	2020/12/06	2023/12/05
Agilent	Signal Generator	N5183A	MY51040755	2020/12/29	2021/12/28

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	SPECTRUM ANALYZER	FSU26	200120	2020/04/03	2021/04/02
Yijia	Temperature & Humidity Meter	10316377	T-03-EM397	2020/09/30	2021/09/29
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	1201.002K50-146520-wh	2020/08/04	2021/08/03
Unknown	RF Cable	Unknown	2301 276	2020/11/29	2021/11/28
Unknown	RF Cable	Unknown	DLO J5/W6102	2020/11/29	2021/11/28
Weinschel	Power divider	1515	MY628	2020/11/29	2021/11/28
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	115500	2020/07/31	2021/07/30
instek	DC Power Supply	GPS-3030DD	EM832096	NCR	NCR
Fluke	Digital Multimeter	287	19000011	2020/07/23	2021/07/22
Rohde & Schwarz	Signal and Spectrum Analyzer	FSV40	101473	2020/08/04	2021/08/03
ESPEC	Temperature & Humidity Chamber	EL-10KA	9107726	2021/01/05	2022/01/05

* 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: SZ1210208-04467E-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), the maximum EIRP must not exceed 3Watts (34.77dBm) for 699-746MHz.

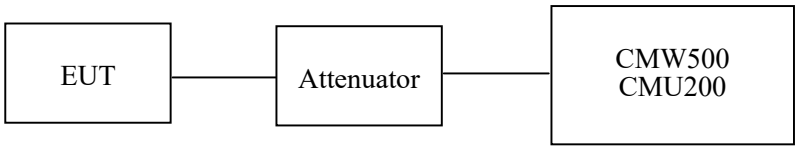
According to §27.50(d), the maximum EIRP must not exceed 1Watts (30dBm) for 1710-1755MHz.

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:	25 ℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Coco Liu and Alan He from 2021-03-05 to 2021-03-24.

Conducted Power

Cellular Band (Part 22H)

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
GSM	128	824.2	32.19	27.54	38.45
	190	836.6	32.11	27.46	38.45
	251	848.8	31.93	27.28	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	31.12	30.23	29.68	27.86	26.47	25.58	25.03	23.21	38.45
	190	836.6	31.14	30.26	29.82	28.05	26.49	25.61	25.17	23.4	38.45
	251	848.8	31.13	30.22	29.53	28.13	26.48	25.57	24.88	23.48	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	24.87	23.53	21.63	19.97	20.22	18.88	16.98	15.32	38.45
	190	836.6	24.63	23.52	21.34	19.89	19.98	18.87	16.69	15.24	38.45
	251	848.8	25.13	23.64	21.76	20.23	20.48	18.99	17.11	15.58	38.45

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 5)	RMC12.2k		22.97	22.94	22.89	18.32	18.29	18.24
	HSDPA	1	22.68	22.62	22.58	18.03	17.97	17.93
		2	22.31	22.43	22.12	17.66	17.78	17.47
		3	21.31	21.52	21.47	16.66	16.87	16.82
		4	20.79	20.87	20.84	16.14	16.22	16.19
	HSUPA	1	22.12	22.41	22.23	17.47	17.76	17.58
		2	22.09	22.24	22.15	17.44	17.59	17.50
		3	21.59	21.73	21.59	16.94	17.08	16.94
		4	21.43	21.49	21.38	16.78	16.84	16.73
		5	21.27	21.08	21.13	16.62	16.43	16.48

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - Cable loss(dB)
For GSM850 / WCDMA Band5: Antenna Gain = -1.9dBi = -4.05dBd (0dBd=2.15dBi)
Cable Loss=0.6dB* (provided by the applicant)
Limit: ERP≤38.45dBm

PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	EIRP(dBm)	Limit (dBm)
GSM	512	1850.2	29.1	27.7	33
	661	1880.0	28.9	27.5	33
	810	1909.8	28.9	27.5	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				EIRP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
GPRS	512	1850.2	29.12	27.01	25.20	23.61	27.72	25.61	23.8	22.21	33
	661	1880.0	29.21	27.06	25.57	23.72	27.81	25.66	24.17	22.32	33
	810	1909.8	29.43	27.12	25.64	23.79	28.03	25.72	24.24	22.39	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	24.83	23.12	21.51	20.10	23.43	21.72	20.11	18.7	33
	661	1880.0	24.61	23.64	21.34	19.97	23.21	22.24	19.94	18.57	33
	810	1909.8	24.76	23.79	21.22	20.16	23.36	22.39	19.82	18.76	33

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 2)	RMC12.2k		22.89	22.76	22.64	21.49	21.36	21.24
	HSDPA	1	21.57	21.49	21.73	20.17	20.09	20.33
		2	21.36	21.27	21.58	19.96	19.87	20.18
		3	21.20	21.13	21.17	19.8	19.73	19.77
		4	20.61	20.49	20.53	19.21	19.09	19.13
	HSUPA	1	21.79	21.57	21.64	20.39	20.17	20.24
		2	21.37	21.16	21.09	19.97	19.76	19.69
		3	21.04	21.13	20.97	19.64	19.73	19.57
		4	20.94	20.81	20.89	19.54	19.41	19.49
		5	20.76	20.73	20.74	19.36	19.33	19.34

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable loss(dB)
For PCS1900 / WCDMA Band2: Antenna Gain = -0.8dBi
Cable Loss=0.6dB*(provided by the applicant)
Limit: EIRP≤33dBm

AWS Band (Part 27)

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 4)	RMC12.2k		22.67	22.89	22.86	21.17	21.39	21.36
	HSDPA	1	22.86	22.78	22.95	21.36	21.28	21.45
		2	21.94	21.86	21.79	20.44	20.36	20.29
		3	21.24	21.27	21.16	19.74	19.77	19.66
		4	20.87	20.94	20.86	19.37	19.44	19.36
	HSUPA	1	22.64	22.75	22.69	21.14	21.25	21.19
		2	21.85	21.67	21.87	20.35	20.17	20.37
		3	21.94	20.73	20.84	20.44	19.23	19.34
		4	20.16	20.34	20.51	18.66	18.84	19.01
		5	20.12	20.16	20.04	18.62	18.66	18.54

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable loss(dB)
For Band4: Antenna Gain =-0.9dBi
Cable Loss=0.6dB*(provided by the applicant)
Limit: EIRP≤30dBm

Peak-to-average ratio (PAR)

Cellular Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.25	13
	Middle	3.56	13
	High	3.49	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	3.64	13
	Middle	3.76	13
	High	3.48	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.56	13
	Middle	3.35	13
	High	3.54	13
HSDPA (16QAM)	Low	3.45	13
	Middle	3.24	13
	High	3.46	13
HSUPA (BPSK)	Low	3.14	13
	Middle	3.24	13
	High	3.37	13

PCS Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.28	13
	Middle	3.22	13
	High	3.49	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	3.69	13
	Middle	3.21	13
	High	3.53	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.56	13
	Middle	3.45	13
	High	3.41	13
HSDPA (16QAM)	Low	3.51	13
	Middle	3.38	13
	High	3.48	13
HSUPA (BPSK)	Low	3.34	13
	Middle	3.61	13
	High	3.54	13

AWS Band

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.14	13
	Middle	3.35	13
	High	3.54	13
HSDPA (16QAM)	Low	3.43	13
	Middle	3.37	13
	High	3.54	13
HSUPA (BPSK)	Low	3.26	13
	Middle	3.47	13
	High	3.42	13

LTE Band 2:

Maximum Output Power

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	23.53	23.46	23.39	22.13	22.06	21.99
		RB1#2	23.14	23.19	22.93	21.74	21.79	21.53
		RB1#5	23.40	23.63	23.52	22.00	22.23	22.12
		RB3#0	23.20	23.32	23.19	21.8	21.92	21.79
		RB3#1	23.09	23.09	23.16	21.69	21.69	21.76
		RB3#2	23.35	23.18	23.35	21.95	21.78	21.95
		RB6#0	23.61	23.39	23.39	22.21	21.99	21.99
	16QAM	RB1#0	23.33	23.14	23.37	21.93	21.74	21.97
		RB1#2	23.24	23.28	23.28	21.84	21.88	21.88
		RB1#5	23.22	23.13	23.35	21.82	21.73	21.95
		RB3#0	23.30	23.23	23.14	21.9	21.83	21.74
		RB3#1	23.43	23.66	23.59	22.03	22.26	22.19
		RB3#2	23.59	23.61	23.51	22.19	22.21	22.11
		RB6#0	23.35	23.51	23.59	21.95	22.11	22.19
3.0	QPSK	RB1#0	23.61	23.49	23.55	22.21	22.09	22.15
		RB1#7	23.22	23.13	23.21	21.82	21.73	21.81
		RB1#14	23.25	23.65	23.47	21.85	22.25	22.07
		RB8#0	23.55	23.55	23.60	22.15	22.15	22.2
		RB8#4	23.34	23.52	23.35	21.94	22.12	21.95
		RB8#7	23.42	23.41	23.28	22.02	22.01	21.88
		RB15#0	23.49	23.65	23.37	22.09	22.25	21.97
	16QAM	RB1#0	23.53	23.64	23.35	22.13	22.24	21.95
		RB1#7	23.59	23.58	23.20	22.19	22.18	21.8
		RB1#14	23.18	22.94	23.06	21.78	21.54	21.66
		RB8#0	23.74	23.71	23.51	22.34	22.31	22.11
		RB8#4	22.99	23.07	23.13	21.59	21.67	21.73
		RB8#7	23.02	22.82	22.95	21.62	21.42	21.55
		RB15#0	23.64	23.75	23.35	22.24	22.35	21.95

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	23.39	23.38	23.18	21.99	21.98	21.78
		RB1#12	23.61	23.74	23.68	22.21	22.34	22.28
		RB1#24	23.46	23.51	23.48	22.06	22.11	22.08
		RB12#0	23.19	23.24	23.25	21.79	21.84	21.85
		RB12#6	23.69	23.70	23.57	22.29	22.3	22.17
		RB12#11	23.40	23.66	23.42	22	22.26	22.02
		RB25#0	23.60	23.77	23.85	22.2	22.37	22.45
	16QAM	RB1#0	23.24	23.15	23.22	21.84	21.75	21.82
		RB1#12	23.14	23.23	23.29	21.74	21.83	21.89
		RB1#24	23.60	23.61	23.54	22.2	22.21	22.14
		RB12#0	22.91	23.08	23.05	21.51	21.68	21.65
		RB12#6	23.72	23.59	23.55	22.32	22.19	22.15
		RB12#11	23.27	23.28	23.23	21.87	21.88	21.83
		RB25#0	23.42	23.36	23.37	22.02	21.96	21.97
10.0	QPSK	RB1#0	23.39	23.47	23.41	21.99	22.07	22.01
		RB1#24	23.18	23.19	23.02	21.78	21.79	21.62
		RB1#49	23.04	22.96	22.92	21.64	21.56	21.52
		RB25#0	23.37	23.40	23.35	21.97	22	21.95
		RB25#12	23.06	22.87	23.08	21.66	21.47	21.68
		RB25#24	23.32	23.29	23.22	21.92	21.89	21.82
		RB50#0	23.41	23.27	23.35	22.01	21.87	21.95
	16QAM	RB1#0	23.15	23.13	23.20	21.75	21.73	21.8
		RB1#24	23.25	23.15	23.16	21.85	21.75	21.76
		RB1#49	23.45	23.62	23.54	22.05	22.22	22.14
		RB25#0	23.46	23.35	23.43	22.06	21.95	22.03
		RB25#12	23.31	23.18	23.20	21.91	21.78	21.8
		RB25#24	23.47	23.41	23.21	22.07	22.01	21.81
		RB50#0	23.21	23.24	23.31	21.81	21.84	21.91

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	23.52	23.58	23.47	22.12	22.18	22.07
		RB1#37	23.07	23.10	23.14	21.67	21.7	21.74
		RB1#74	23.51	23.51	23.42	22.11	22.11	22.02
		RB36#0	23.32	23.16	23.39	21.92	21.76	21.99
		RB36#18	22.97	23.02	23.06	21.57	21.62	21.66
		RB36#37	23.41	23.27	23.30	22.01	21.87	21.9
		RB75#0	23.39	23.39	23.54	21.99	21.99	22.14
	16QAM	RB1#0	23.01	23.07	23.00	21.61	21.67	21.6
		RB1#37	23.10	23.20	23.25	21.7	21.8	21.85
		RB1#74	23.63	23.56	23.48	22.23	22.16	22.08
		RB36#0	23.34	23.31	23.21	21.94	21.91	21.81
		RB36#18	23.77	23.45	23.59	22.37	22.05	22.19
		RB36#37	23.04	23.28	23.07	21.64	21.88	21.67
		RB75#0	23.36	23.27	23.20	21.96	21.87	21.8
20.0	QPSK	RB1#0	23.17	23.06	23.14	21.77	21.66	21.74
		RB1#49	23.46	23.34	23.36	22.06	21.94	21.96
		RB1#99	23.57	23.67	23.51	22.17	22.27	22.11
		RB50#0	23.22	23.35	23.29	21.82	21.95	21.89
		RB50#24	23.50	23.45	23.30	22.1	22.05	21.9
		RB50#49	23.33	23.32	23.21	21.93	21.92	21.81
		RB100#0	23.46	23.51	23.64	22.06	22.11	22.24
	16QAM	RB1#0	23.15	22.99	23.09	21.75	21.59	21.69
		RB1#49	23.26	23.11	23.08	21.86	21.71	21.68
		RB1#99	23.45	23.44	23.57	22.05	22.04	22.17
		RB50#0	23.50	23.44	23.36	22.1	22.04	21.96
		RB50#24	23.53	23.43	23.61	22.13	22.03	22.21
		RB50#49	23.43	23.46	23.41	22.03	22.06	22.01
		RB100#0	23.43	23.48	23.31	22.03	22.08	21.91

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable loss(dB)
For Band2: Antenna Gain = -0.8dBi, Cable Loss=0.6dB*(provided by the applicant)
Limit: EIRP≤33dBm

Peak-to-average ratio (PAR)

20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	3.41	4.09	3.85	13	Pass
QPSK (100RB Size)	5.25	5.34	5.31	13	Pass
16QAM (1RB Size)	4.03	4.86	4.75	13	Pass
16QAM (100RB Size)	6.04	6.18	6.23	13	Pass

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	22.32	22.33	22.30	20.82	20.83	20.8
		RB1#2	22.06	22.06	22.10	20.56	20.56	20.6
		RB1#5	23.24	23.16	23.24	21.74	21.66	21.74
		RB3#0	22.60	22.75	22.94	21.1	21.25	21.44
		RB3#1	22.39	22.28	22.09	20.89	20.78	20.59
		RB3#2	22.42	22.48	22.61	20.92	20.98	21.11
		RB6#0	22.27	22.35	22.43	20.77	20.85	20.93
	16QAM	RB1#0	22.60	22.73	22.64	21.1	21.23	21.14
		RB1#2	22.08	21.99	22.34	20.58	20.49	20.84
		RB1#5	22.25	22.17	22.30	20.75	20.67	20.8
		RB3#0	22.04	22.14	22.13	20.54	20.64	20.63
		RB3#1	22.35	22.20	22.31	20.85	20.7	20.81
		RB3#2	22.28	22.21	22.27	20.78	20.71	20.77
		RB6#0	22.52	22.54	22.61	21.02	21.04	21.11
3.0	QPSK	RB1#0	22.32	22.41	22.32	20.82	20.91	20.82
		RB1#7	22.26	22.24	22.17	20.76	20.74	20.67
		RB1#14	22.38	22.33	22.38	20.88	20.83	20.88
		RB8#0	22.22	22.23	22.29	20.72	20.73	20.79
		RB8#4	22.08	22.99	22.17	20.58	21.49	20.67
		RB8#7	22.25	22.20	22.34	20.75	20.7	20.84
		RB15#0	22.17	22.14	22.23	20.67	20.64	20.73
	16QAM	RB1#0	22.40	22.47	22.43	20.9	20.97	20.93
		RB1#7	22.30	22.26	22.39	20.8	20.76	20.89
		RB1#14	22.22	22.31	22.16	20.72	20.81	20.66
		RB8#0	22.18	22.12	22.18	20.68	20.62	20.68
		RB8#4	22.33	22.24	22.25	20.83	20.74	20.75
		RB8#7	22.45	22.45	22.43	20.95	20.95	20.93
		RB15#0	22.31	22.27	22.34	20.81	20.77	20.84

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	22.20	22.29	22.15	20.7	20.79	20.65
		RB1#12	22.11	22.13	22.15	20.61	20.63	20.65
		RB1#24	22.26	22.31	22.26	20.76	20.81	20.76
		RB12#0	22.15	22.20	22.24	20.65	20.7	20.74
		RB12#6	22.31	22.26	22.34	20.81	20.76	20.84
		RB12#11	22.37	22.38	22.39	20.87	20.88	20.89
		RB25#0	22.08	22.16	22.04	20.58	20.66	20.54
	16QAM	RB1#0	22.29	22.21	22.24	20.79	20.71	20.74
		RB1#12	22.64	22.66	22.62	21.14	21.16	21.12
		RB1#24	22.44	22.35	22.5	20.94	20.85	21
		RB12#0	22.23	22.13	22.25	20.73	20.63	20.75
		RB12#6	22.18	22.15	22.24	20.68	20.65	20.74
		RB12#11	22.26	22.32	22.34	20.76	20.82	20.84
		RB25#0	22.61	22.56	22.57	21.11	21.06	21.07
10.0	QPSK	RB1#0	22.57	22.63	22.59	21.07	21.13	21.09
		RB1#24	22.40	22.32	22.49	20.9	20.82	20.99
		RB1#49	22.55	22.63	22.65	21.05	21.13	21.15
		RB25#0	22.09	22.08	22.15	20.59	20.58	20.65
		RB25#12	22.50	22.46	22.58	21	20.96	21.08
		RB25#24	22.14	22.05	22.23	20.64	20.55	20.73
		RB50#0	22.22	22.18	22.31	20.72	20.68	20.81
	16QAM	RB1#0	22.11	22.12	22.02	20.61	20.62	20.52
		RB1#24	22.52	22.48	22.53	21.02	20.98	21.03
		RB1#49	22.36	22.40	22.4	20.86	20.9	20.9
		RB25#0	22.41	22.45	22.44	20.91	20.95	20.94
		RB25#12	22.39	22.42	22.31	20.89	20.92	20.81
		RB25#24	22.25	22.26	22.29	20.75	20.76	20.79
		RB50#0	22.50	22.49	22.43	21	20.99	20.93

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	22.17	22.09	22.08	20.67	20.59	20.58
		RB1#37	22.58	22.59	22.55	21.08	21.09	21.05
		RB1#74	22.15	22.06	22.18	20.65	20.56	20.68
		RB36#0	22.44	22.46	22.42	20.94	20.96	20.92
		RB36#18	22.44	22.48	22.42	20.94	20.98	20.92
		RB36#37	22.76	22.81	22.84	21.26	21.31	21.34
		RB75#0	22.21	22.25	22.3	20.71	20.75	20.8
	16QAM	RB1#0	22.08	22.07	22.02	20.58	20.57	20.52
		RB1#37	22.27	22.33	22.2	20.77	20.83	20.7
		RB1#74	22.01	21.95	21.93	20.51	20.45	20.43
		RB36#0	22.27	22.21	22.29	20.77	20.71	20.79
		RB36#18	22.3	22.31	22.38	20.8	20.81	20.88
		RB36#37	22.23	22.25	22.19	20.73	20.75	20.69
		RB75#0	22.13	22.1	22.18	20.63	20.6	20.68
20.0	QPSK	RB1#0	22.54	22.49	22.55	21.04	20.99	21.05
		RB1#49	22.69	22.64	22.75	21.19	21.14	21.25
		RB1#99	22.6	22.63	22.58	21.1	21.13	21.08
		RB50#0	22.04	22.01	22.14	20.54	20.51	20.64
		RB50#24	22.18	22.16	22.16	20.68	20.66	20.66
		RB50#49	22.17	22.12	22.16	20.67	20.62	20.66
		RB100#0	22.27	22.31	22.21	20.77	20.81	20.71
	16QAM	RB1#0	22.45	22.38	22.41	20.95	20.88	20.91
		RB1#49	22.42	22.51	22.37	20.92	21.01	20.87
		RB1#99	22.4	22.33	22.46	20.9	20.83	20.96
		RB50#0	22.01	22.07	22.11	20.51	20.57	20.61
		RB50#24	22.69	22.65	22.7	21.19	21.15	21.2
		RB50#49	22.69	22.74	22.78	21.19	21.24	21.28
		RB100#0	22.39	22.38	22.42	20.89	20.88	20.92

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable loss(dB)
For Band4: Antenna Gain =-0.9dBi, Cable Loss=0.6dB*(provided by the applicant)
Limit: EIRP≤30dBm

Peak-to-average ratio (PAR)

20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.44	4.16	3.85	13	Pass
QPSK (100RB Size)	5.48	5.25	5.25	13	Pass
16QAM (1RB Size)	5.76	5.01	4.72	13	Pass
16QAM (100RB Size)	6.37	6.18	6.05	13	Pass

LTE Band 5:

Maximum Output Power

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	22.35	22.31	22.36	17.7	17.66	17.71
		RB1#2	22.24	22.2	22.19	17.59	17.55	17.54
		RB1#5	22.18	22.2	22.16	17.53	17.55	17.51
		RB3#0	22.53	22.52	22.45	17.88	17.87	17.8
		RB3#1	22.32	22.41	22.24	17.67	17.76	17.59
		RB3#2	22.58	22.63	22.66	17.93	17.98	18.01
		RB6#0	22.35	22.41	22.26	17.7	17.76	17.61
	16QAM	RB1#0	22.6	22.55	22.64	17.95	17.9	17.99
		RB1#2	22.08	22.06	22.04	17.43	17.41	17.39
		RB1#5	22.25	22.27	22.3	17.6	17.62	17.65
		RB3#0	22.04	22.12	22.13	17.39	17.47	17.48
		RB3#1	22.35	22.45	22.31	17.7	17.8	17.66
		RB3#2	22.28	22.33	22.27	17.63	17.68	17.62
		RB6#0	22.52	22.42	22.61	17.87	17.77	17.96
3.0	QPSK	RB1#0	22.32	22.41	22.32	17.67	17.76	17.67
		RB1#7	22.26	22.24	22.17	17.61	17.59	17.52
		RB1#14	22.38	22.33	22.38	17.73	17.68	17.73
		RB8#0	22.22	22.23	22.29	17.57	17.58	17.64
		RB8#4	22.08	21.99	22.17	17.43	17.34	17.52
		RB8#7	22.25	22.2	22.34	17.6	17.55	17.69
		RB15#0	22.17	22.14	22.23	17.52	17.49	17.58
	16QAM	RB1#0	22.4	22.47	22.43	17.75	17.82	17.78
		RB1#7	22.3	22.26	22.39	17.65	17.61	17.74
		RB1#14	22.22	22.31	22.16	17.57	17.66	17.51
		RB8#0	22.18	22.12	22.18	17.53	17.47	17.53
		RB8#4	22.33	22.24	22.25	17.68	17.59	17.6
		RB8#7	22.45	22.45	22.43	17.8	17.8	17.78
		RB15#0	22.31	22.27	22.34	17.66	17.62	17.69

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	22.2	22.29	22.15	17.55	17.64	17.5
		RB1#12	22.11	22.13	22.15	17.46	17.48	17.5
		RB1#24	22.26	22.31	22.26	17.61	17.66	17.61
		RB12#0	22.15	22.2	22.24	17.5	17.55	17.59
		RB12#6	22.31	22.26	22.34	17.66	17.61	17.69
		RB12#11	22.37	22.38	22.39	17.72	17.73	17.74
		RB25#0	22.08	22.16	22.04	17.43	17.51	17.39
	16QAM	RB1#0	22.29	22.21	22.24	17.64	17.56	17.59
		RB1#12	22.64	22.66	22.62	17.99	18.01	17.97
		RB1#24	22.44	22.35	22.5	17.79	17.7	17.85
		RB12#0	22.23	22.13	22.25	17.58	17.48	17.6
		RB12#6	22.18	22.15	22.24	17.53	17.5	17.59
		RB12#11	22.26	22.32	22.34	17.61	17.67	17.69
		RB25#0	22.61	22.56	22.57	17.96	17.91	17.92
10.0	QPSK	RB1#0	22.57	22.63	22.59	17.92	17.98	17.94
		RB1#24	22.4	22.32	22.49	17.75	17.67	17.84
		RB1#49	22.55	22.63	22.65	17.9	17.98	18
		RB25#0	22.09	22.08	22.15	17.44	17.43	17.5
		RB25#12	22.5	22.46	22.58	17.85	17.81	17.93
		RB25#24	22.14	22.05	22.23	17.49	17.4	17.58
		RB50#0	22.22	22.18	22.31	17.57	17.53	17.66
	16QAM	RB1#0	22.11	22.12	22.02	17.46	17.47	17.37
		RB1#24	22.52	22.48	22.53	17.87	17.83	17.88
		RB1#49	22.36	22.4	22.4	17.71	17.75	17.75
		RB25#0	22.41	22.45	22.44	17.76	17.8	17.79
		RB25#12	22.39	22.42	22.31	17.74	17.77	17.66
		RB25#24	22.25	22.26	22.29	17.6	17.61	17.64
		RB50#0	22.5	22.49	22.43	17.85	17.84	17.78

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - Cable loss(dB)
For Band5: Antenna Gain = -1.9dBi = -4.05dBd (0dBd=2.15dBi)
Cable Loss= 0.6dB*(provided by the applicant)
Limit: ERP≤38.45dBm

Peak-to-average ratio (PAR)

10MHz bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.56	4.15	4.33	13	Pass
QPSK (50RB Size)	5.31	5.43	5.45	13	Pass
16QAM (1RB Size)	5.58	4.96	5.04	13	Pass
16QAM (50RB Size)	6.22	6.31	6.28	13	Pass

LTE Band 7:

Maximum Output Power

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	22.23	22.17	22.14	21.73	21.67	21.64
		RB1#12	22.2	22.26	22.23	21.7	21.76	21.73
		RB1#24	22.08	22.06	22.05	21.58	21.56	21.55
		RB12#0	22.28	22.35	22.35	21.78	21.85	21.85
		RB12#6	22.48	22.56	22.4	21.98	22.06	21.9
		RB12#11	22.43	22.37	22.36	21.93	21.87	21.86
		RB25#0	22.37	22.38	22.37	21.87	21.88	21.87
	16QAM	RB1#0	22.32	22.22	22.4	21.82	21.72	21.9
		RB1#12	22.48	22.47	22.39	21.98	21.97	21.89
		RB1#24	22.42	22.44	22.38	21.92	21.94	21.88
		RB12#0	21.98	21.89	22.06	21.48	21.39	21.56
		RB12#6	22.39	22.39	22.44	21.89	21.89	21.94
		RB12#11	22.43	22.51	22.5	21.93	22.01	22
		RB25#0	22.24	22.31	22.28	21.74	21.81	21.78
10.0	QPSK	RB1#0	22.23	22.29	22.21	21.73	21.79	21.71
		RB1#24	22.16	22.12	22.2	21.66	21.62	21.7
		RB1#49	22.01	21.94	21.98	21.51	21.44	21.48
		RB25#0	22.63	22.71	22.68	22.13	22.21	22.18
		RB25#12	22.33	22.34	22.31	21.83	21.84	21.81
		RB25#24	22.32	22.29	22.25	21.82	21.79	21.75
		RB50#0	22.43	22.43	22.36	21.93	21.93	21.86
	16QAM	RB1#0	22.25	22.31	22.17	21.75	21.81	21.67
		RB1#24	22.12	22.17	22.19	21.62	21.67	21.69
		RB1#49	22.39	22.38	22.42	21.89	21.88	21.92
		RB25#0	22.44	22.54	22.52	21.94	22.04	22.02
		RB25#12	22.27	22.25	22.26	21.77	21.75	21.76
		RB25#24	22.52	22.46	22.48	22.02	21.96	21.98
		RB50#0	22.12	22.06	22.1	21.62	21.56	21.6

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	22.23	22.18	22.28	21.73	21.68	21.78
		RB1#37	22.17	22.18	22.26	21.67	21.68	21.76
		RB1#74	22.3	22.27	22.23	21.8	21.77	21.73
		RB36#0	22.11	22.05	22.03	21.61	21.55	21.53
		RB36#18	22.45	22.49	22.38	21.95	21.99	21.88
		RB36#37	22.15	22.05	22.12	21.65	21.55	21.62
		RB75#0	22.37	22.45	22.43	21.87	21.95	21.93
	16QAM	RB1#0	22.29	22.26	22.21	21.79	21.76	21.71
		RB1#37	22.5	22.55	22.6	22	22.05	22.1
		RB1#74	22.67	22.63	22.59	22.17	22.13	22.09
		RB36#0	22.7	22.63	22.79	22.2	22.13	22.29
		RB36#18	22.49	22.55	22.56	21.99	22.05	22.06
		RB36#37	22.17	22.16	22.07	21.67	21.66	21.57
		RB75#0	22.56	22.48	22.54	22.06	21.98	22.04
20.0	QPSK	RB1#0	22.23	22.18	22.17	21.73	21.68	21.67
		RB1#49	22.08	22	22.1	21.58	21.5	21.6
		RB1#99	22.71	22.64	22.7	22.21	22.14	22.2
		RB50#0	22.01	21.99	22.05	21.51	21.49	21.55
		RB50#24	22.57	22.62	22.49	22.07	22.12	21.99
		RB50#49	22.44	22.48	22.49	21.94	21.98	21.99
		RB100#0	22.24	22.2	22.24	21.74	21.7	21.74
	16QAM	RB1#0	22.28	22.27	22.18	21.78	21.77	21.68
		RB1#49	22.28	22.19	22.34	21.78	21.69	21.84
		RB1#99	22.43	22.45	22.42	21.93	21.95	21.92
		RB50#0	21.91	21.85	21.85	21.41	21.35	21.35
		RB50#24	22.2	22.24	22.22	21.7	21.74	21.72
		RB50#49	22.3	22.28	22.35	21.8	21.78	21.85
		RB100#0	22.3	22.28	22.4	21.8	21.78	21.9

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable loss(dB)
For Band 7: Antenna Gain = 0.1dBi, Cable Loss=0.6dB*(provided by the applicant)
Limit: EIRP≤33dBm

Peak-to-average ratio (PAR)

20MHz bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.06	4.26	3.72	13	Pass
QPSK (100RB Size)	5.35	5.55	5.34	13	Pass
16QAM (1RB Size)	5.02	5.08	4.75	13	Pass
16QAM (100RB Size)	6.18	6.34	6.22	13	Pass

LTE Band 12

Maximum Output Power

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	22.33	22.33	22.40	17.38	17.38	17.45
		RB1#2	22.20	22.27	22.21	17.25	17.32	17.26
		RB1#5	22.46	22.44	22.42	17.51	17.49	17.47
		RB3#0	22.60	22.56	22.62	17.65	17.61	17.67
		RB3#1	22.31	22.23	22.34	17.36	17.28	17.39
		RB3#2	22.42	22.47	22.52	17.47	17.52	17.57
		RB6#0	21.96	22.02	22.00	17.01	17.07	17.05
	16QAM	RB1#0	22.21	22.12	22.18	17.26	17.17	17.23
		RB1#2	21.95	21.99	21.95	17.00	17.04	17.00
		RB1#5	22.33	22.25	22.27	17.38	17.30	17.32
		RB3#0	22.33	22.30	22.27	17.38	17.35	17.32
		RB3#1	22.29	22.19	22.27	17.34	17.24	17.32
		RB3#2	22.28	22.36	22.19	17.33	17.41	17.24
		RB6#0	22.21	22.16	22.23	17.26	17.21	17.28
3.0	QPSK	RB1#0	22.33	22.39	22.24	17.38	17.44	17.29
		RB1#7	22.39	22.45	22.44	17.44	17.50	17.49
		RB1#14	22.15	22.07	22.23	17.20	17.12	17.28
		RB8#0	22.41	22.34	22.50	17.46	17.39	17.55
		RB8#4	22.44	22.49	22.41	17.49	17.54	17.46
		RB8#7	22.32	22.38	22.41	17.37	17.43	17.46
		RB15#0	22.53	22.61	22.48	17.58	17.66	17.53
	16QAM	RB1#0	22.60	22.66	22.65	17.65	17.71	17.70
		RB1#7	22.10	22.06	22.15	17.15	17.11	17.20
		RB1#14	21.93	21.95	21.87	16.98	17.00	16.92
		RB8#0	22.28	22.36	22.29	17.33	17.41	17.34
		RB8#4	22.48	22.44	22.47	17.53	17.49	17.52
		RB8#7	22.05	22.13	22.10	17.10	17.18	17.15
		RB15#0	22.13	22.14	22.03	17.18	17.19	17.08

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	22.33	22.40	22.31	17.38	17.45	17.36
		RB1#12	22.36	22.27	22.29	17.41	17.32	17.34
		RB1#24	22.10	22.08	22.14	17.15	17.13	17.19
		RB12#0	22.44	22.41	22.38	17.49	17.46	17.43
		RB12#6	22.38	22.36	22.44	17.43	17.41	17.49
		RB12#11	22.59	22.69	22.67	17.64	17.74	17.72
		RB25#0	22.39	22.29	22.31	17.44	17.34	17.36
	16QAM	RB1#0	22.53	22.50	22.55	17.58	17.55	17.60
		RB1#12	22.27	22.24	22.33	17.32	17.29	17.38
		RB1#24	22.50	22.46	22.46	17.55	17.51	17.51
		RB12#0	22.10	22.10	22.14	17.15	17.15	17.19
		RB12#6	22.11	22.06	22.02	17.16	17.11	17.07
		RB12#11	22.61	22.57	22.61	17.66	17.62	17.66
		RB25#0	22.38	22.42	22.37	17.43	17.47	17.42
10.0	QPSK	RB1#0	22.33	22.26	22.33	17.38	17.31	17.38
		RB1#24	22.06	21.97	22.01	17.11	17.02	17.06
		RB1#49	22.61	22.59	22.69	17.66	17.64	17.74
		RB25#0	22.43	22.51	22.46	17.48	17.56	17.51
		RB25#12	22.67	22.77	22.68	17.72	17.82	17.73
		RB25#24	22.38	22.42	22.42	17.43	17.47	17.47
		RB50#0	22.67	22.61	22.60	17.72	17.66	17.65
	16QAM	RB1#0	22.54	22.61	22.52	17.59	17.66	17.57
		RB1#24	22.32	22.29	22.34	17.37	17.34	17.39
		RB1#49	22.18	22.18	22.22	17.23	17.23	17.27
		RB25#0	22.13	22.10	22.04	17.18	17.15	17.09
		RB25#12	22.57	22.52	22.66	17.62	17.57	17.71
		RB25#24	22.60	22.51	22.69	17.65	17.56	17.74
		RB50#0	22.70	22.67	22.61	17.75	17.72	17.66

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable loss(dB)
For Band 12: Antenna Gain = -2.2dBi= -4.35dBd (0dBd=2.15dBi)
Cable Loss=0.6dB*(provided by the applicant)
Limit: EIRP≤33dBm

Peak-to-average ratio (PAR)

10MHz bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.32	4.32	4.75	13	Pass
QPSK (50RB Size)	5.55	5.68	5.61	13	Pass
16QAM (1RB Size)	5.53	5.22	5.86	13	Pass
16QAM (50RB Size)	6.48	6.41	6.48	13	Pass

LTE Band 38

Maximum Output Power

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5	QPSK	RB1#0	21.15	20.88	20.14	20.03	19.76	19.02
		RB1#2	21.16	20.85	20.11	20.04	19.73	18.99
		RB1#5	21.23	20.89	20.24	20.11	19.77	19.12
		RB3#0	20.55	20.48	20.16	19.43	19.36	19.04
		RB3#1	20.65	20.44	20.22	19.53	19.32	19.10
		RB3#2	20.57	20.43	20.13	19.45	19.31	19.01
		RB6#0	20.52	20.41	20.09	19.40	19.29	18.97
	16QAM	RB1#0	20.44	20.66	20.08	19.32	19.54	18.96
		RB1#2	20.41	20.59	20.03	19.29	19.47	18.91
		RB1#5	20.61	20.67	19.99	19.49	19.55	18.87
		RB3#0	20.37	20.17	19.89	19.25	19.05	18.77
		RB3#1	20.23	20.13	19.83	19.11	19.01	18.71
		RB3#2	20.33	20.09	19.85	19.21	18.97	18.73
		RB6#0	20.17	20.13	19.75	19.05	19.01	18.63
10	QPSK	RB1#0	21.31	20.78	19.92	20.19	19.66	18.80
		RB1#7	21.36	20.71	19.97	20.24	19.59	18.85
		RB1#14	21.18	20.80	19.84	20.06	19.68	18.72
		RB8#0	20.63	20.28	19.67	19.51	19.16	18.55
		RB8#4	20.70	20.20	19.81	19.58	19.08	18.69
		RB8#7	20.60	20.15	19.79	19.48	19.03	18.67
		RB15#0	20.43	20.05	19.68	19.31	18.93	18.56
	16QAM	RB1#0	20.19	20.45	20.25	19.07	19.33	19.13
		RB1#7	20.39	20.50	20.24	19.27	19.38	19.12
		RB1#14	20.29	20.85	19.87	19.17	19.73	18.75
		RB8#0	20.17	19.89	19.87	19.05	18.77	18.75
		RB8#4	20.17	19.80	19.79	19.05	18.68	18.67
		RB8#7	20.31	19.82	19.80	19.19	18.70	18.68
		RB15#0	20.23	19.76	19.72	19.11	18.64	18.60

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15	QPSK	RB1#0	20.90	20.50	20.44	19.78	19.38	19.32
		RB1#12	20.96	20.48	20.37	19.84	19.36	19.25
		RB1#24	20.81	20.36	20.39	19.69	19.24	19.27
		RB12#0	20.36	19.94	20.08	19.24	18.82	18.96
		RB12#6	20.34	19.81	20.01	19.22	18.69	18.89
		RB12#11	20.21	19.82	19.95	19.09	18.70	18.83
		RB25#0	20.11	19.76	19.91	18.99	18.64	18.79
	16QAM	RB1#0	20.35	20.89	20.64	19.23	19.77	19.52
		RB1#12	20.50	20.66	20.62	19.38	19.54	19.50
		RB1#24	20.21	20.56	20.49	19.09	19.44	19.37
		RB12#0	19.86	19.52	19.69	18.74	18.40	18.57
		RB12#6	19.87	19.86	19.89	18.75	18.74	18.77
		RB12#11	19.93	19.89	19.95	18.81	18.77	18.83
		RB25#0	19.86	19.84	19.92	18.74	18.72	18.80
20.0	QPSK	RB1#0	20.27	20.52	21.24	19.15	19.40	20.12
		RB1#24	20.30	20.47	21.12	19.18	19.35	20.00
		RB1#49	20.16	20.46	21.12	19.04	19.34	20.00
		RB25#0	19.76	20.05	20.48	18.64	18.93	19.36
		RB25#12	19.62	19.91	20.40	18.50	18.79	19.28
		RB25#24	19.70	19.92	20.42	18.58	18.80	19.30
		RB50#0	19.68	19.86	20.38	18.56	18.74	19.26
	16QAM	RB1#0	20.26	20.17	21.28	19.14	19.05	20.16
		RB1#24	20.19	20.23	21.24	19.07	19.11	20.12
		RB1#49	20.03	20.12	21.15	18.91	19.00	20.03
		RB25#0	20.08	20.25	20.59	18.96	19.13	19.47
		RB25#12	20.04	20.02	20.51	18.92	18.90	19.39
		RB25#24	19.91	20.08	20.52	18.79	18.96	19.40
		RB50#0	19.86	20.01	20.43	18.74	18.89	19.31

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - Cable Loss(dB)
For Band38: Antenna Gain = -0.12dBi, Cable Loss=1.0dB* (provided by the applicant)
Limit: EIRP≤33dBm

Peak-to-average ratio (PAR)

20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.45	4.25	4.36	13	Pass
QPSK (100RB Size)	5.73	5.82	4.79	13	Pass
16QAM (1RB Size)	5.29	5.78	5.45	13	Pass
16QAM (100RB Size)	6.09	6.15	7.19	13	Pass

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

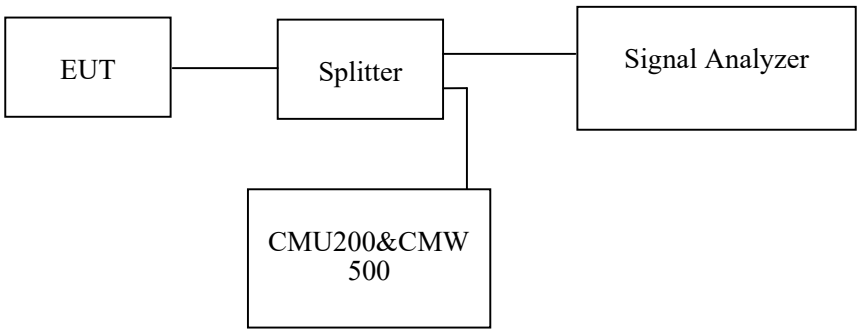
Applicable Standard

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:	25 ℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Coco Liu and Alan He from 2021-02-26 to 2021-03-31.

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	241.99	316.99
	190	836.6	241.99	321.79
	251	848.8	241.99	316.67
EGPRS(8PSK)	128	824.2	246.79	311.22
	190	836.6	245.19	317.63
	251	848.8	245.19	315.06

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	826.4	4.15	4.68
	836.6	4.17	4.70
	846.6	4.15	4.66
HSDPA	826.4	4.13	4.68
	836.6	4.17	4.68
	846.6	4.15	4.66
HSUPA	826.4	4.15	4.67
	836.6	4.17	4.70
	846.6	4.15	4.66

PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	512	1850.2	243.63	317.63
	661	1880.0	245.19	316.03
	810	1909.8	238.78	302.89
EGPRS(8PSK)	512	1850.2	245.19	311.22
	661	1880.0	246.79	311.86
	810	1909.8	242.00	315.03

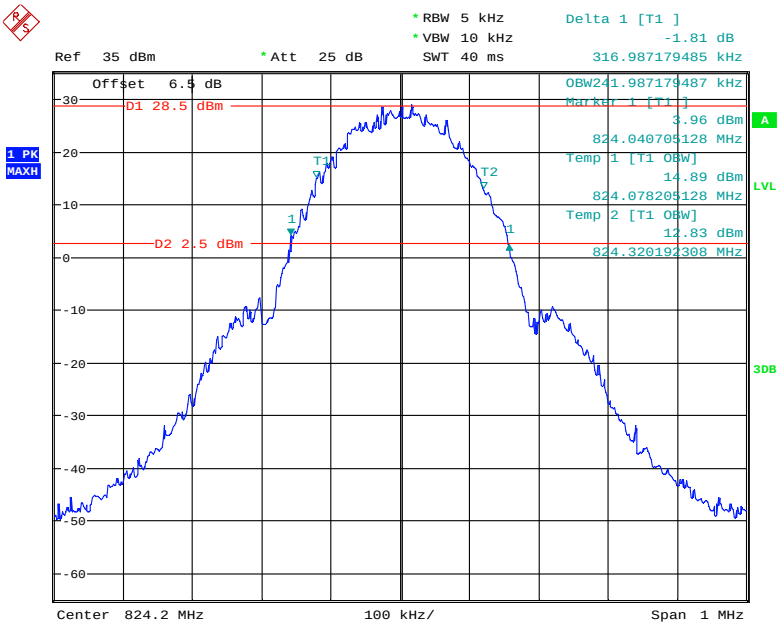
Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1852.4	4.17	4.70
	1880.0	4.17	4.70
	1907.6	4.18	4.70
HSDPA	1852.4	4.17	4.68
	1880.0	4.15	4.70
	1907.6	4.15	4.70
HSUPA	1852.4	4.17	4.70
	1880.0	4.15	4.70
	1907.6	4.17	4.66

AWS Band (Part 27)

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1712.4	4.15	4.68
	1732.6	4.17	4.70
	1752.6	4.15	4.68
HSDPA	1712.4	4.17	4.65
	1732.6	4.17	4.66
	1752.6	4.17	4.66
HSUPA	1712.4	4.17	4.68
	1732.6	4.15	4.70
	1752.6	4.17	4.68

Cellular Band (Part 22H)

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



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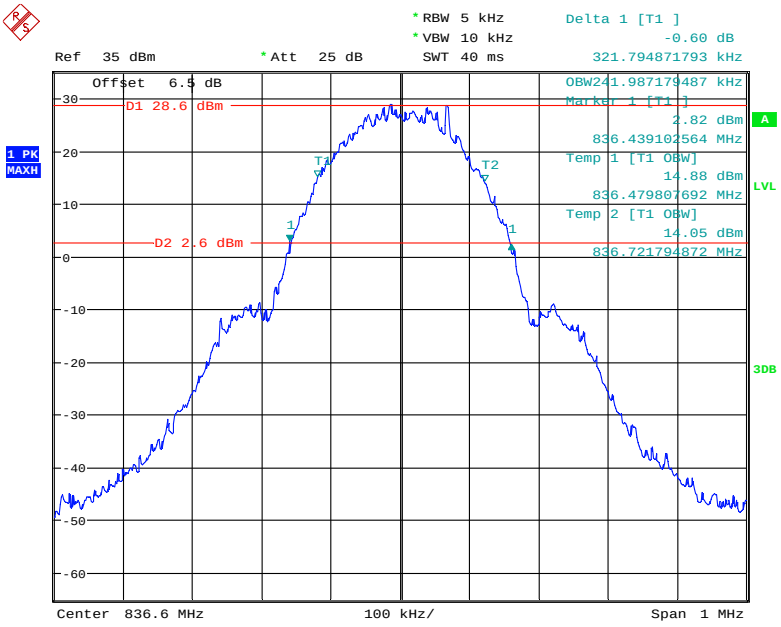
26 dB Emissions &99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel



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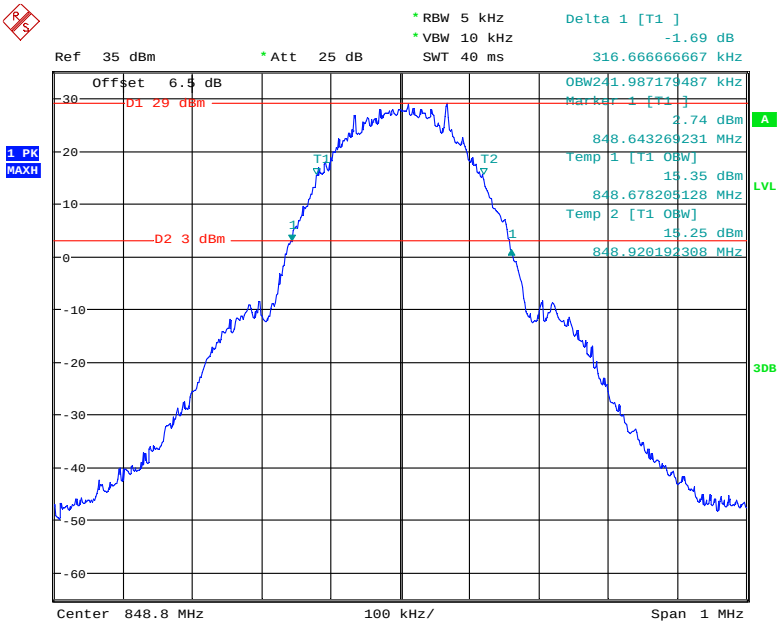
26 dB Emissions &99% Occupied Bandwidth for GSM (GMSK) Mode, High channel



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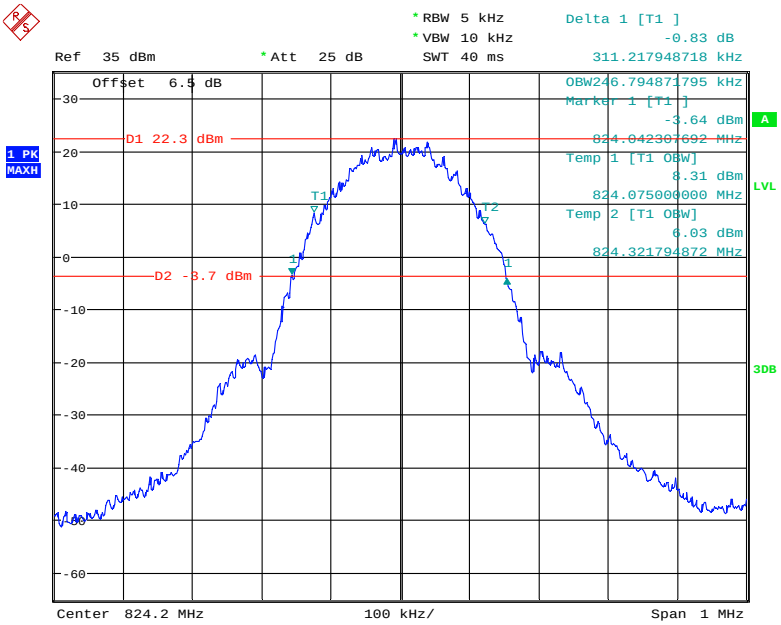
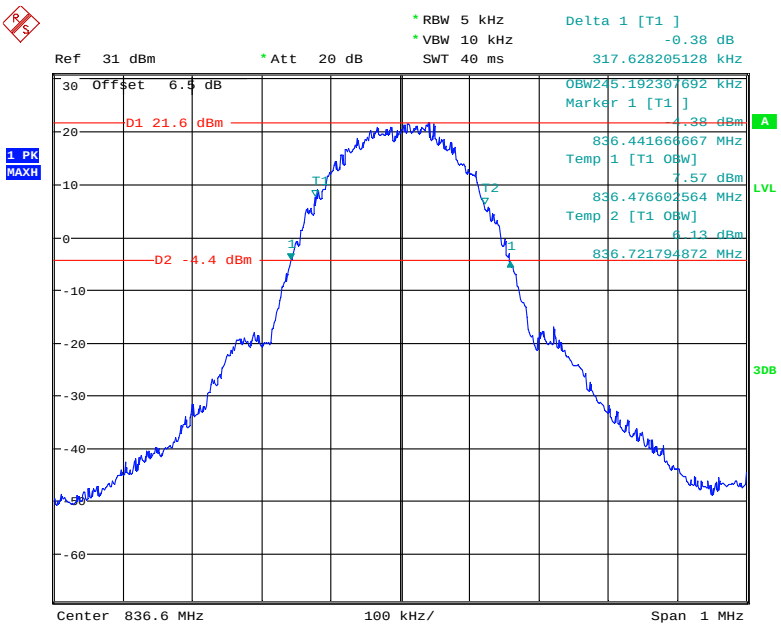
26 dB Emissions &99% Occupied Bandwidth for EGPRS (8PSK) Mode, Low channel



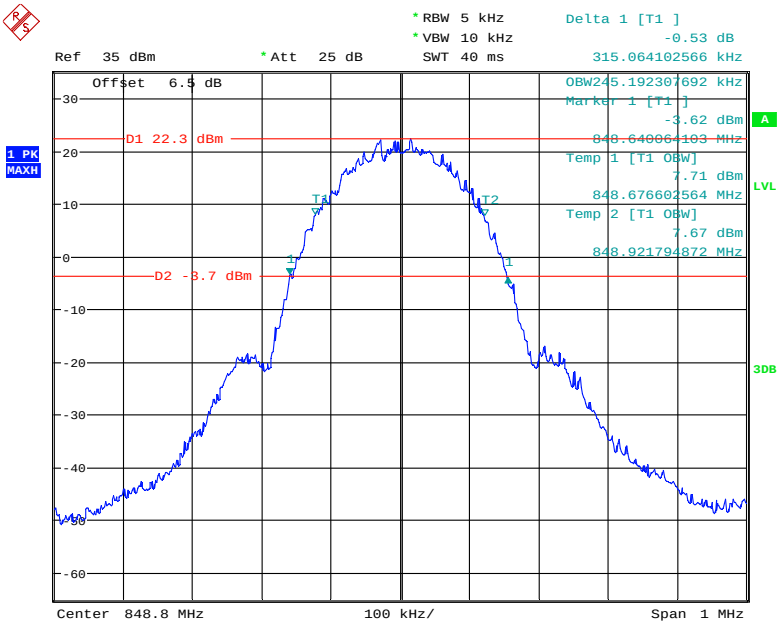
Date: 26.FEB.2021 15:21:02

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



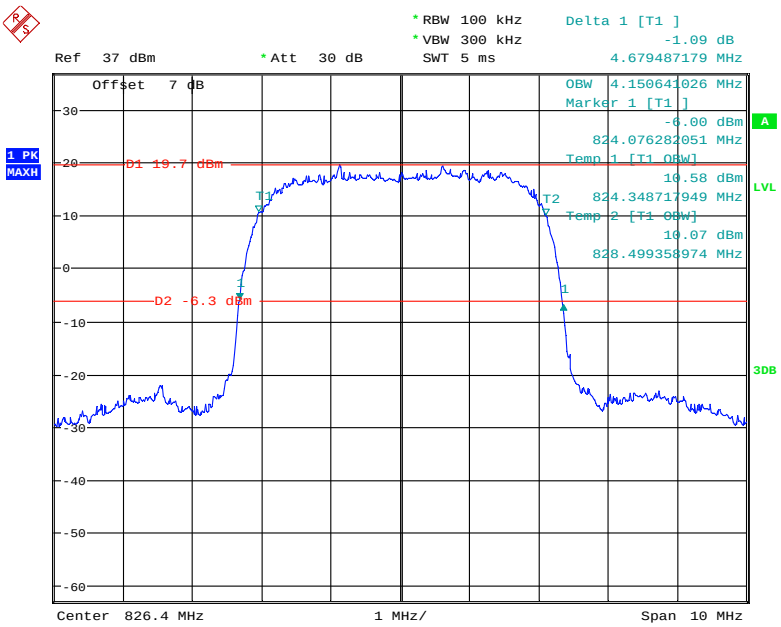
Date: 26.FEB.2021 14:39:27

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



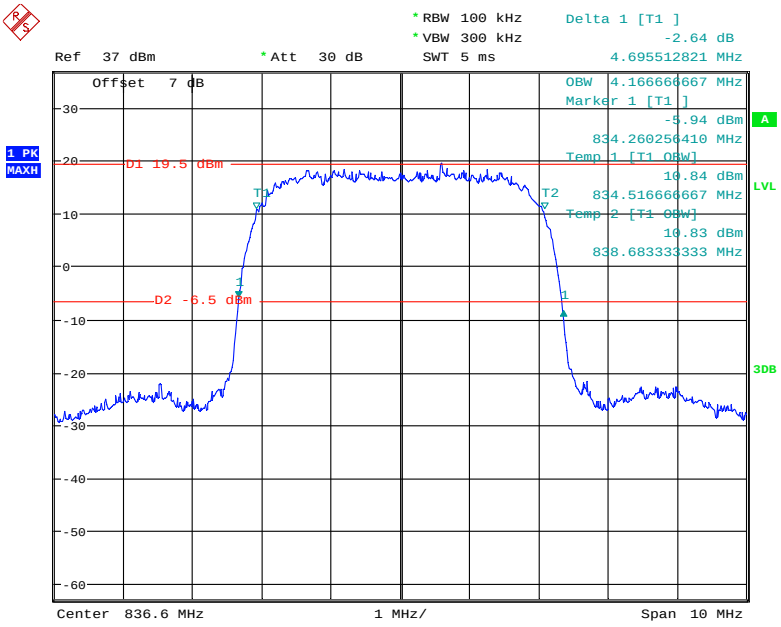
Date: 26.FEB.2021 15:19:25

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



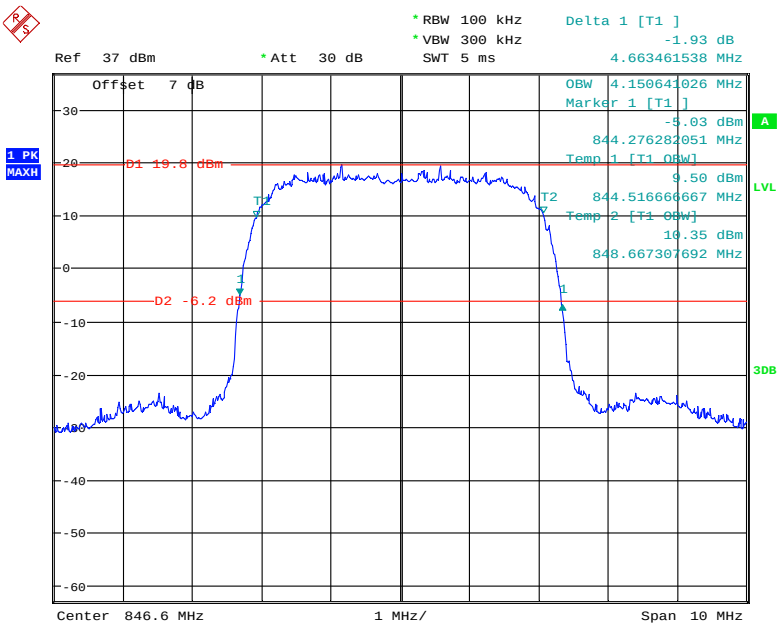
Date: 5.MAR.2021 16:26:15

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



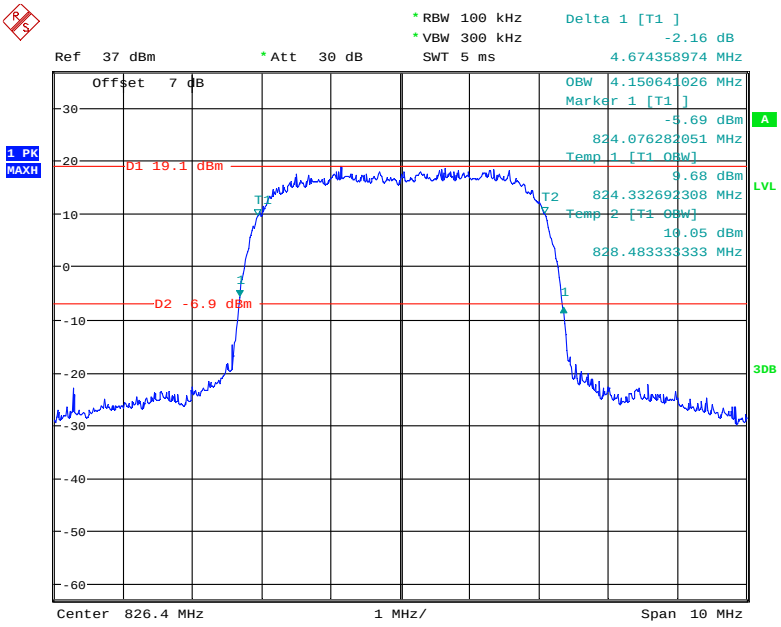
Date: 5.MAR.2021 16:24:40

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



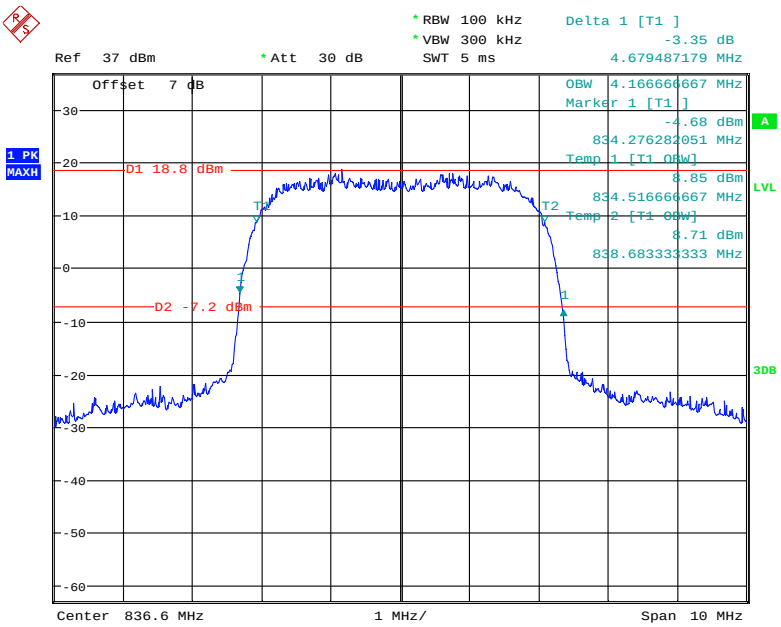
Date: 5.MAR.2021 16:23:21

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



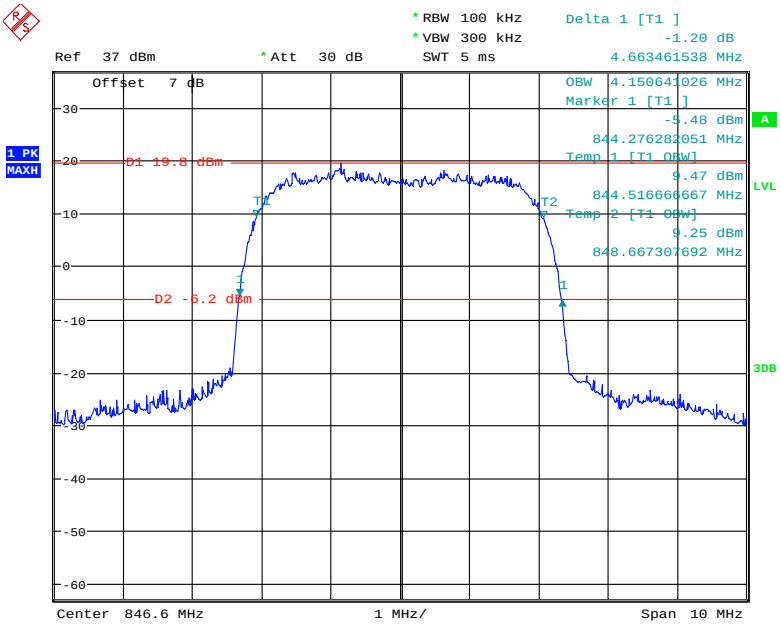
Date: 5.MAR.2021 16:38:35

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



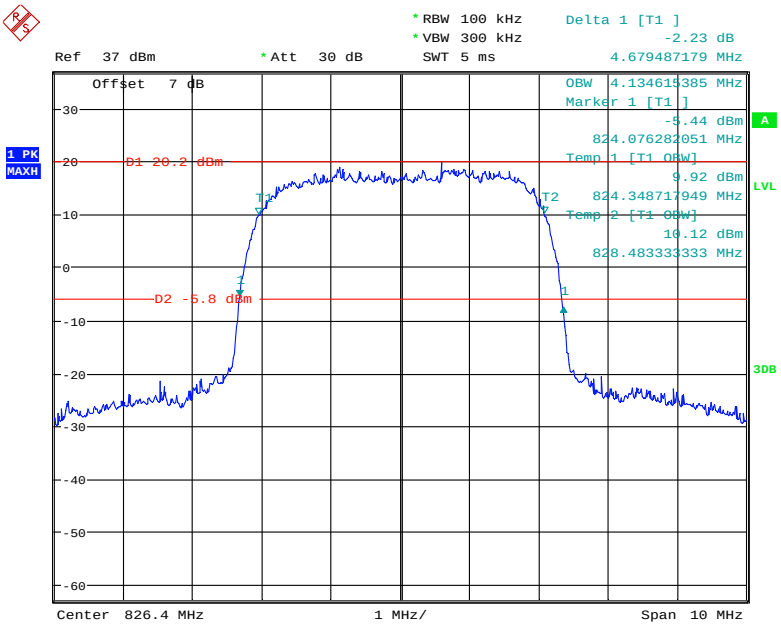
Date: 5.MAR.2021 16:36:51

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



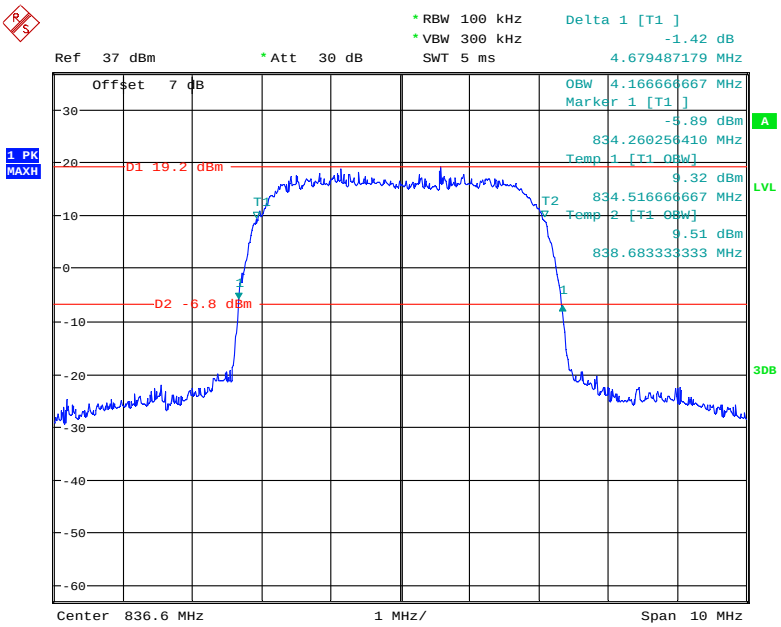
Date: 5.MAR.2021 16:35:49

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



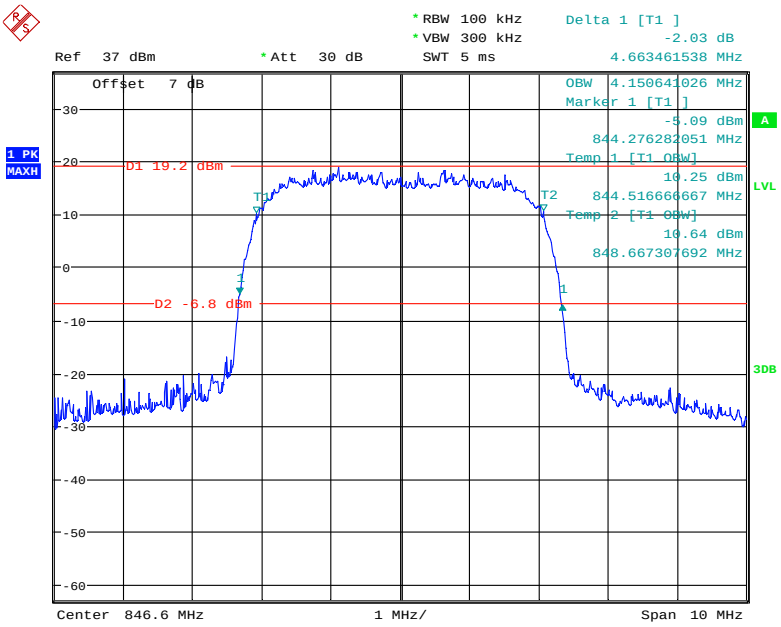
Date: 5.MAR.2021 16:32:24

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



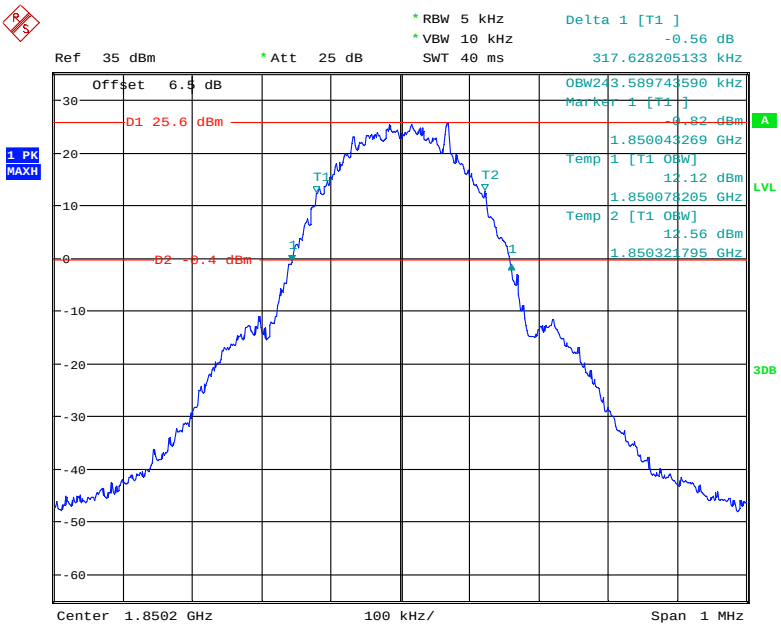
Date: 5.MAR.2021 16:33:40

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



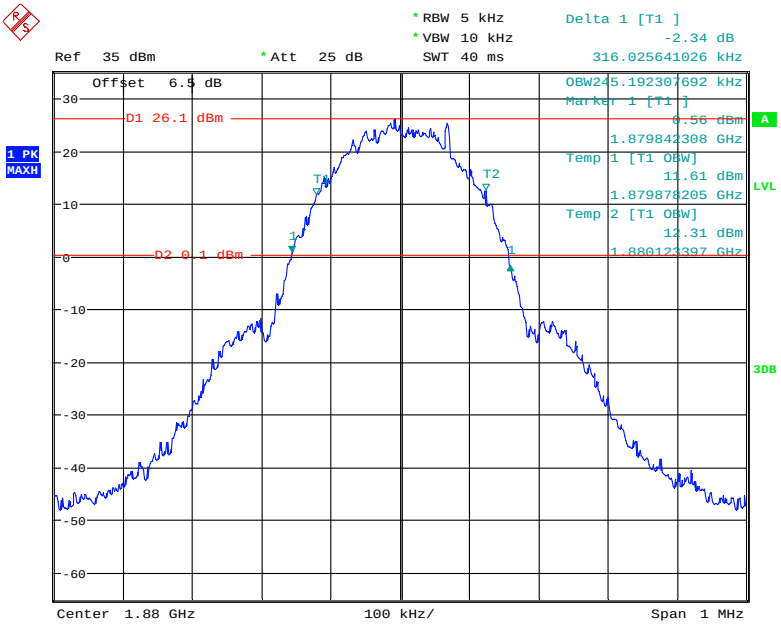
PCS Band (Part 24E)

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



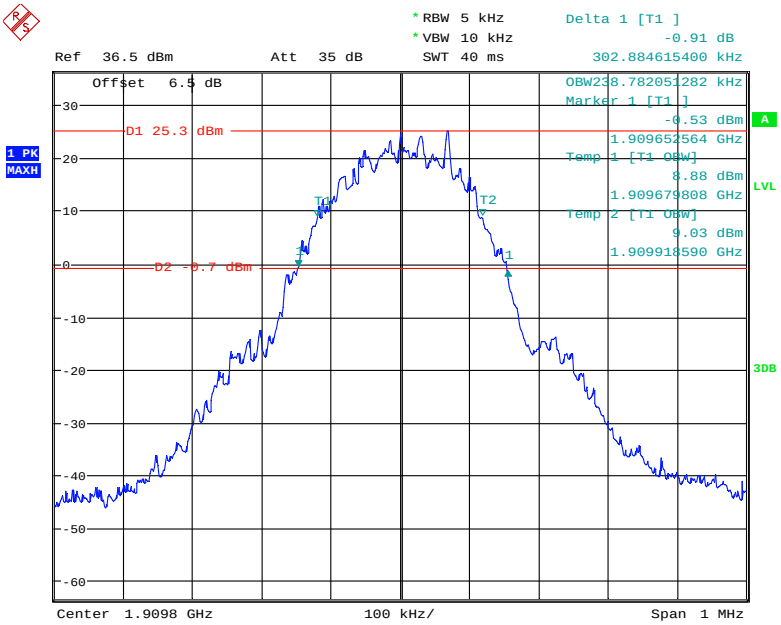
Date: 26.FEB.2021 15:06:50

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



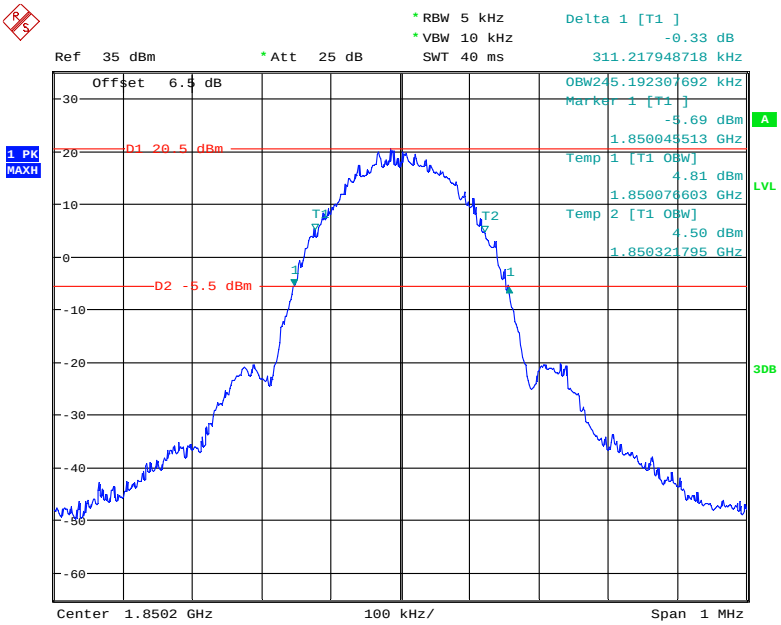
Date: 26.FEB.2021 14:49:36

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



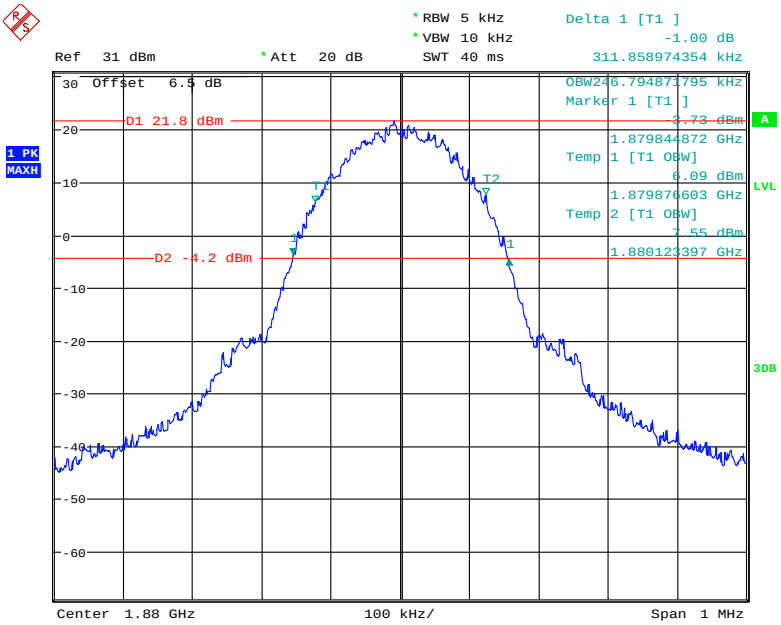
Date: 31.MAR.2021 18:00:08

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



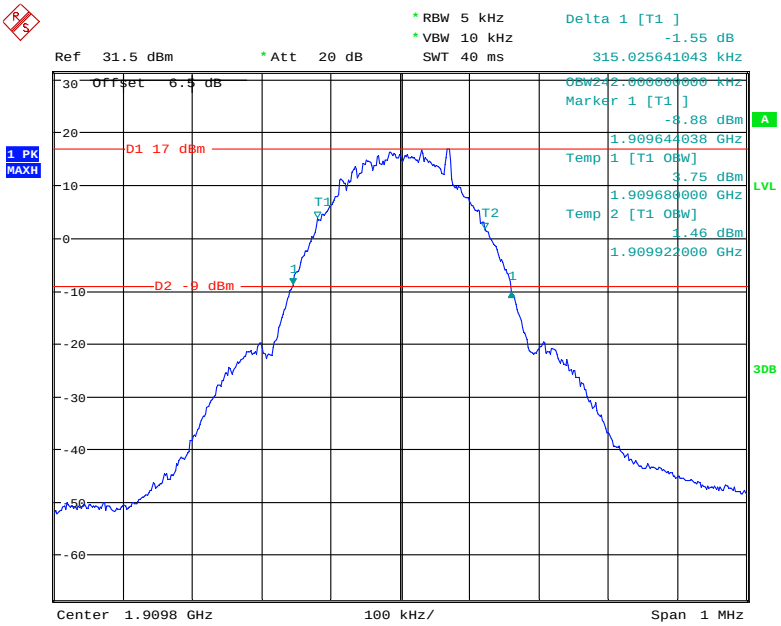
Date: 26.FEB.2021 15:25:59

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



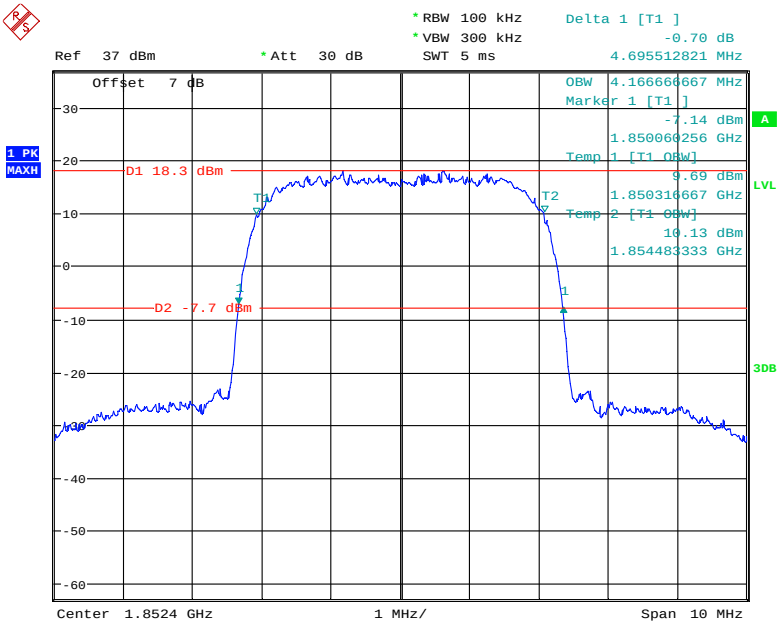
Date: 26.FEB.2021 14:36:53

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



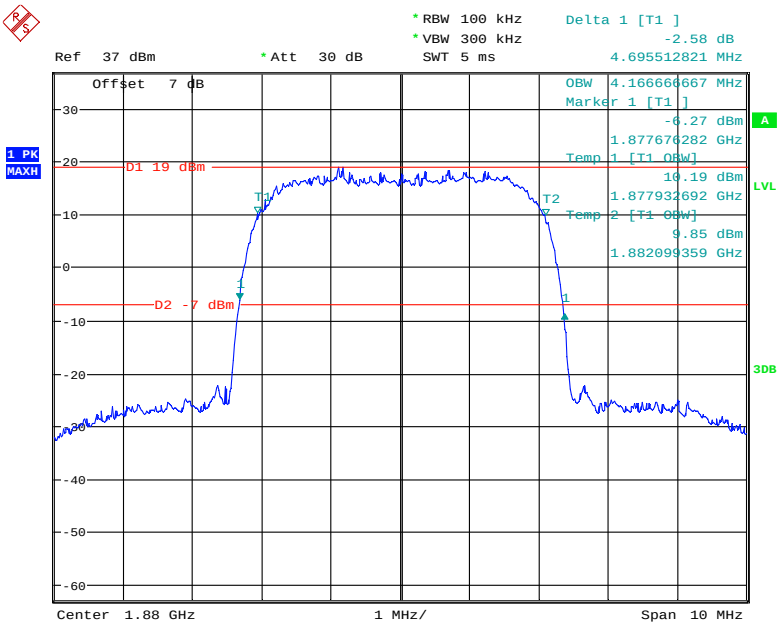
Date: 26.MAR.2021 18:26:01

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



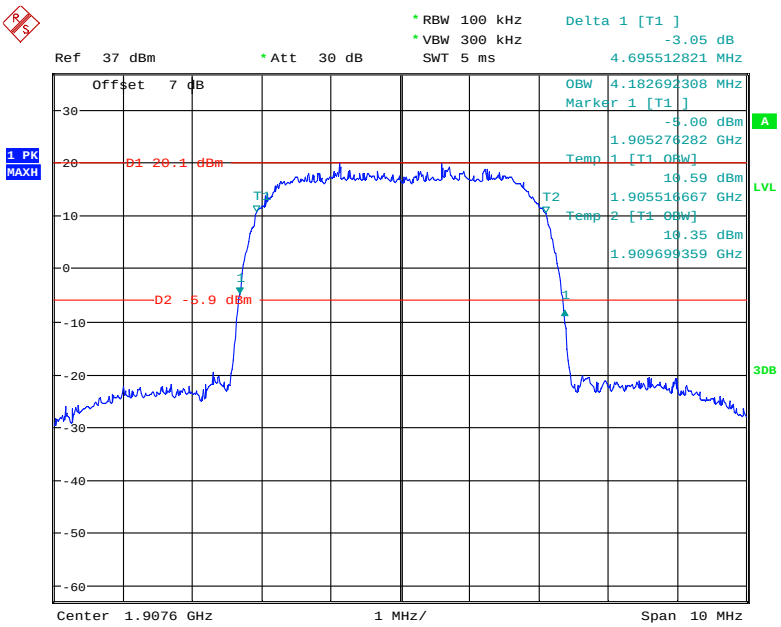
Date: 5.MAR.2021 14:52:53

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



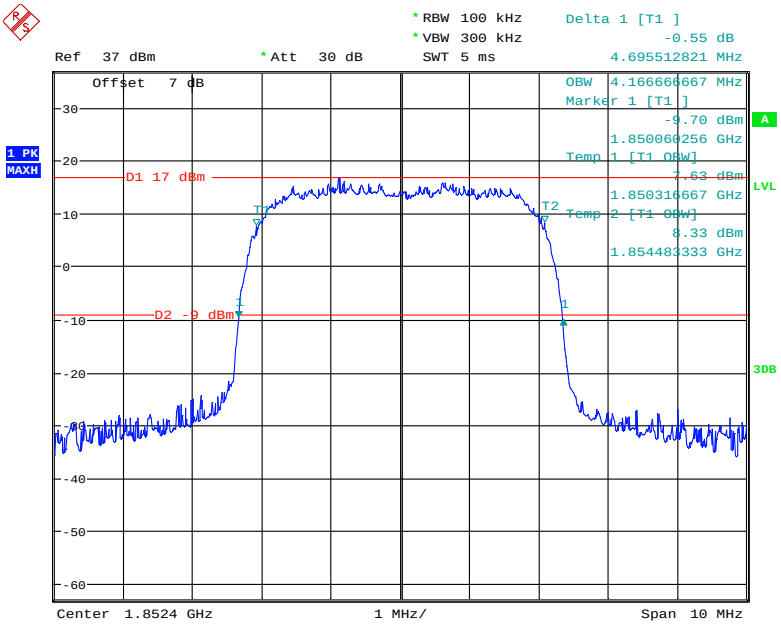
Date: 5.MAR.2021 14:51:27

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



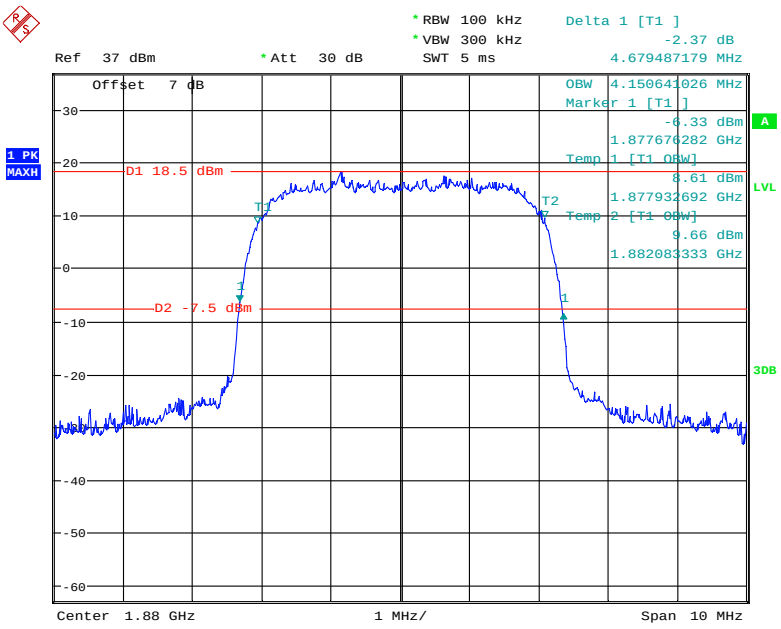
Date: 5.MAR.2021 14:50:01

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



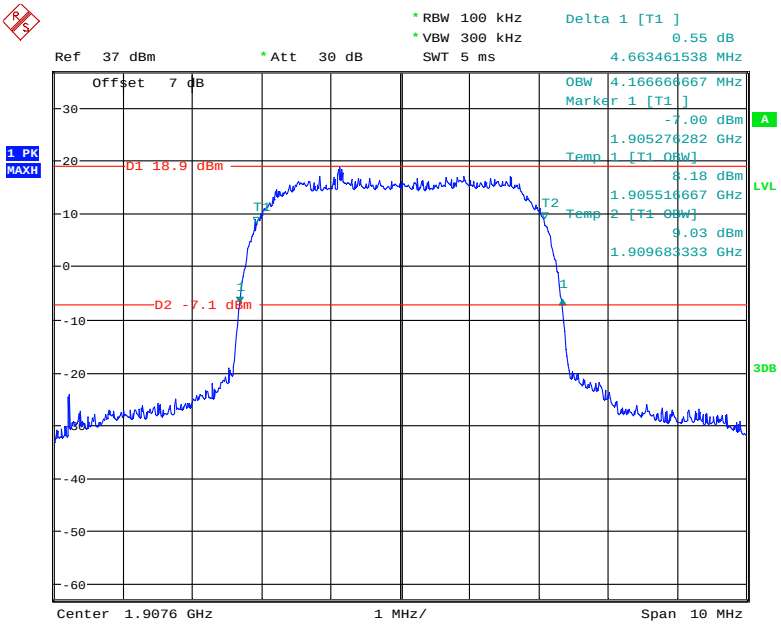
Date: 5.MAR.2021 15:12:10

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



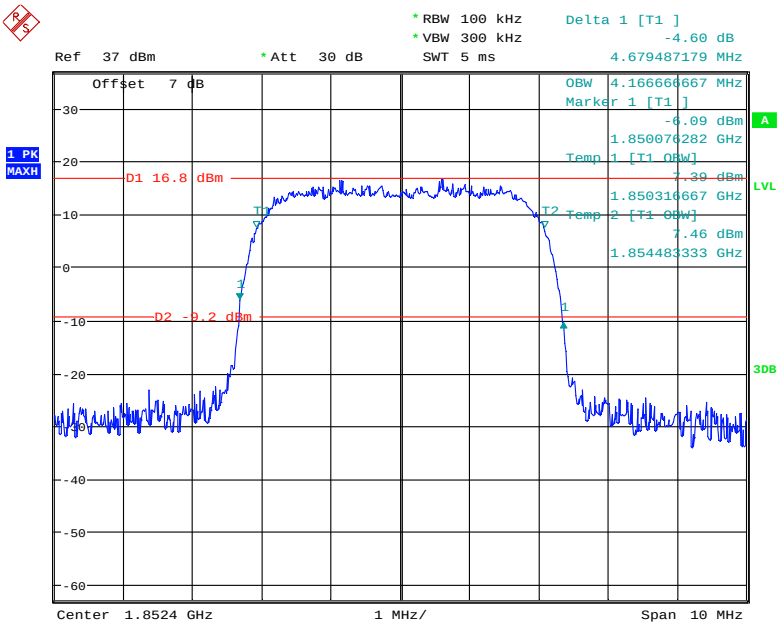
Date: 5.MAR.2021 15:10:33

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



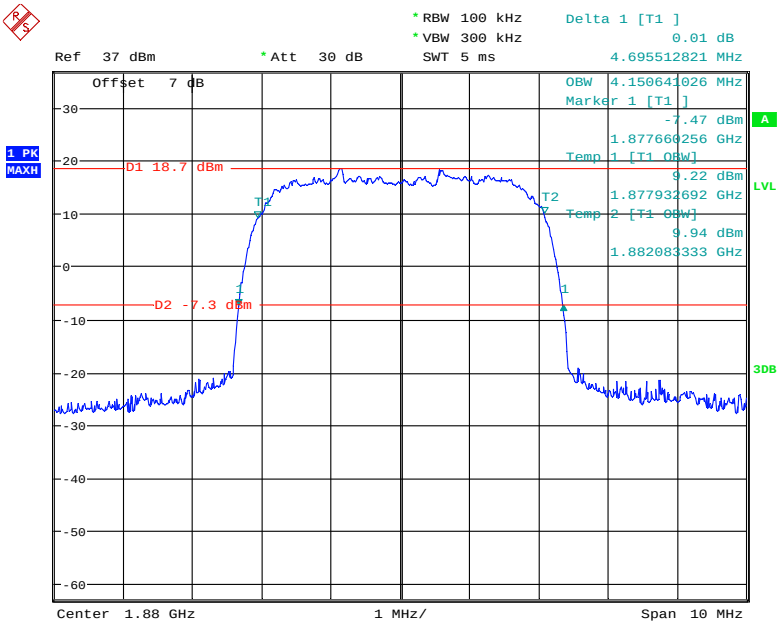
Date: 5.MAR.2021 15:09:45

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



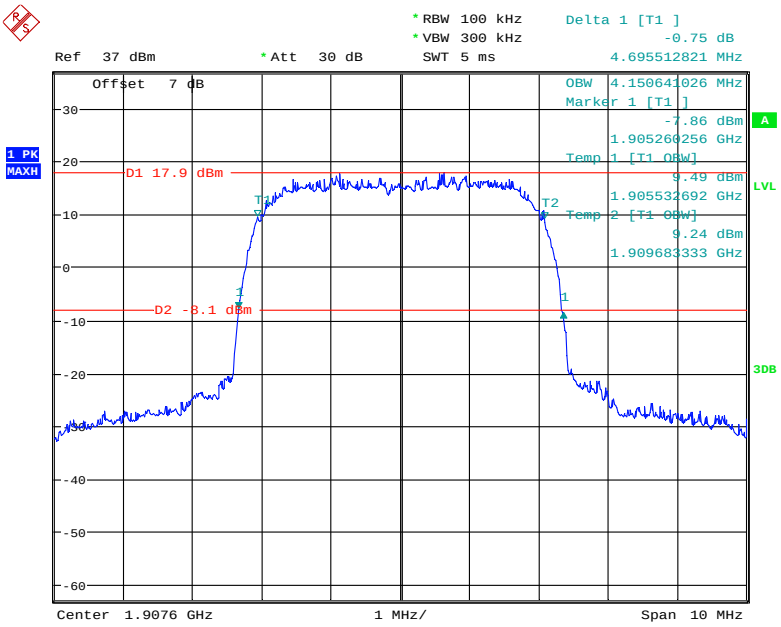
Date: 5.MAR.2021 15:00:06

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



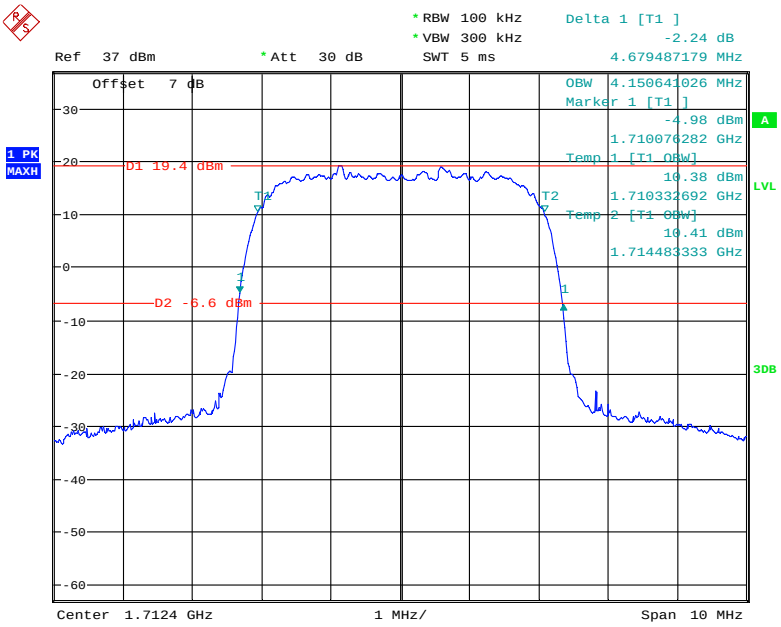
Date: 5.MAR.2021 15:07:24

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



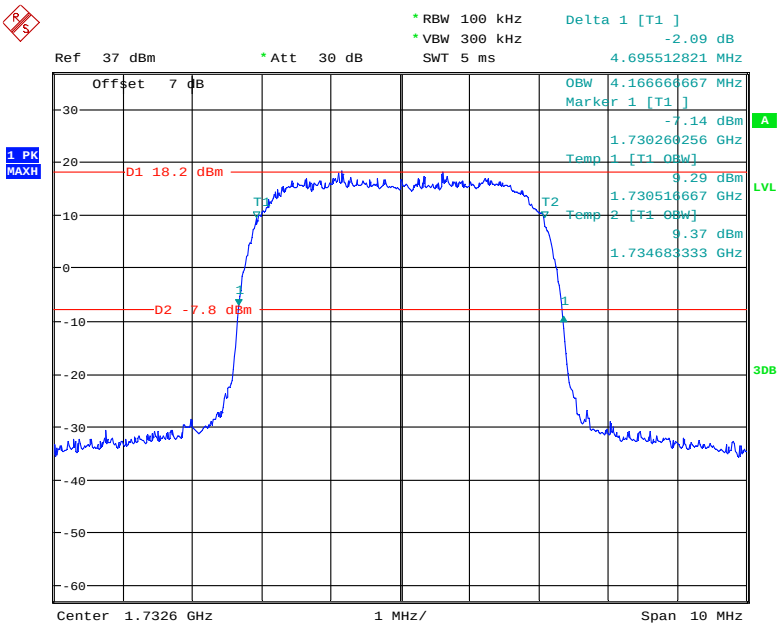
AWS Band (Part 27)

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



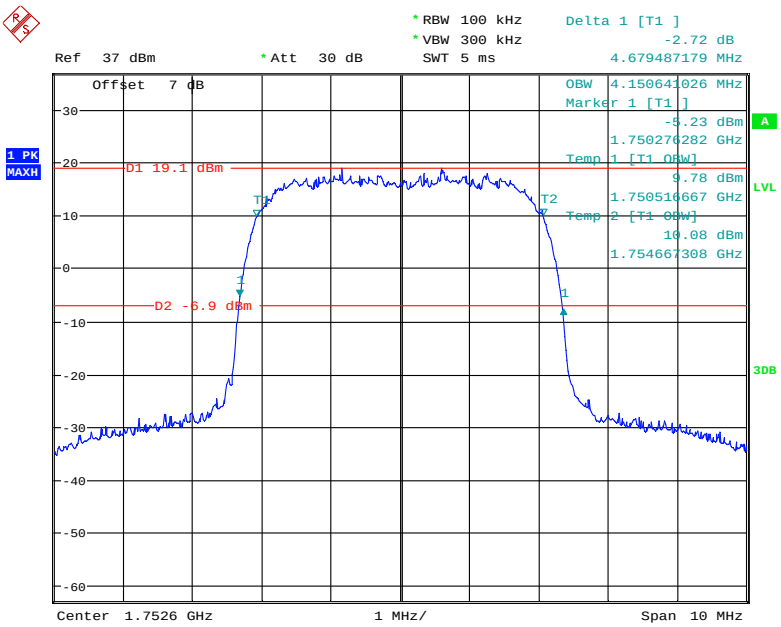
Date: 5.MAR.2021 16:06:18

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



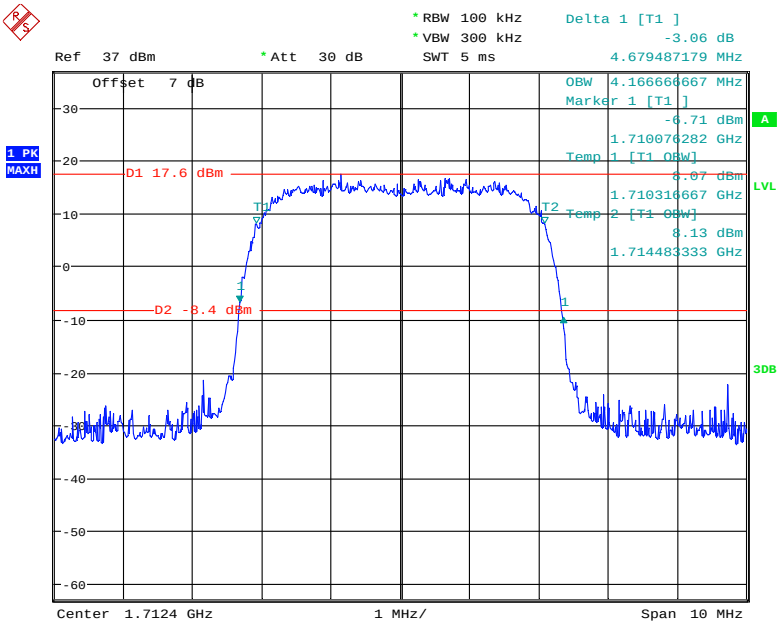
Date: 5.MAR.2021 16:08:33

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



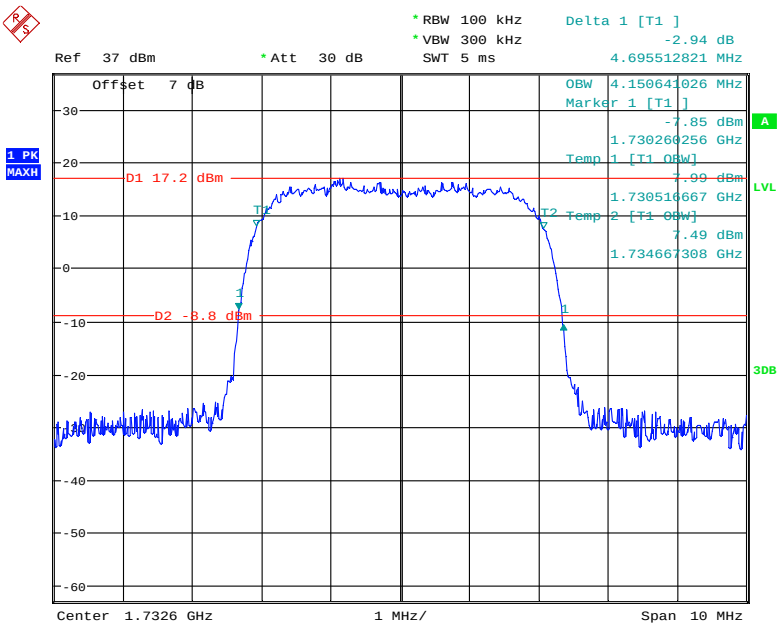
Date: 5.MAR.2021 16:09:36

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



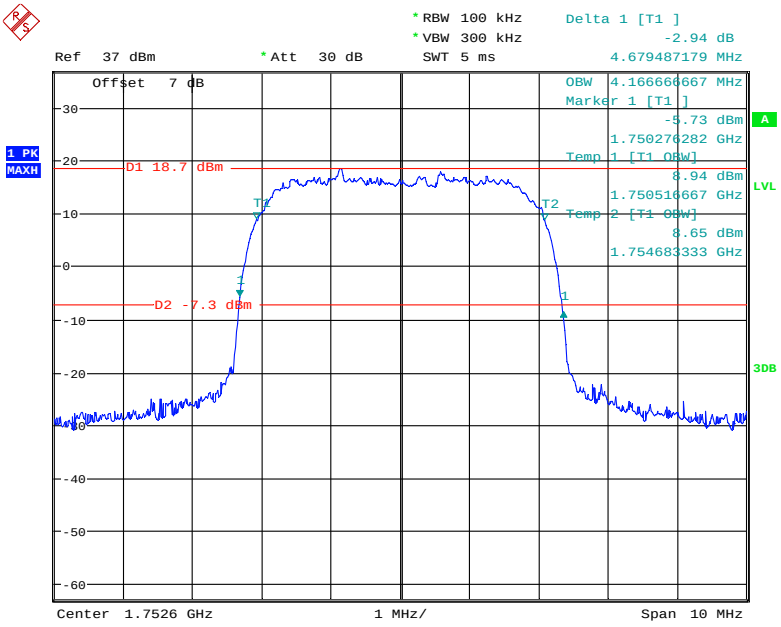
Date: 5.MAR.2021 16:15:13

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



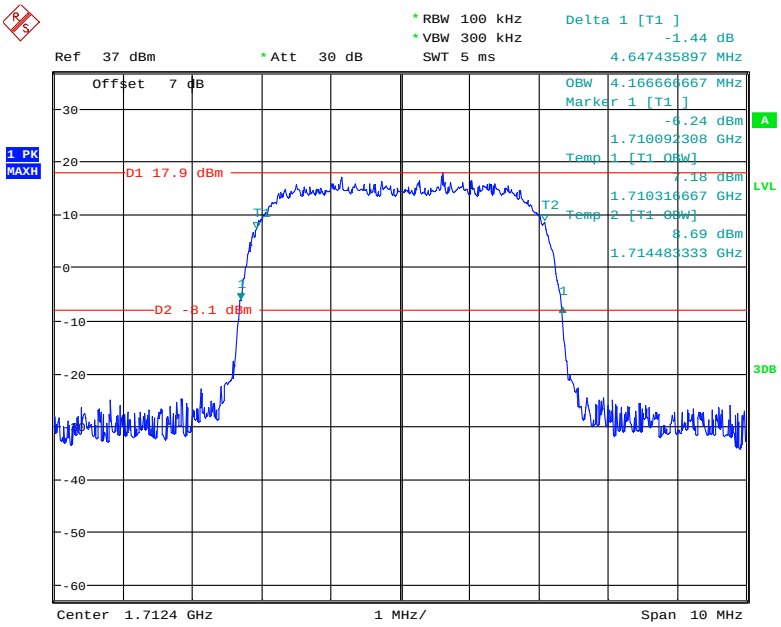
Date: 5.MAR.2021 16:14:28

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



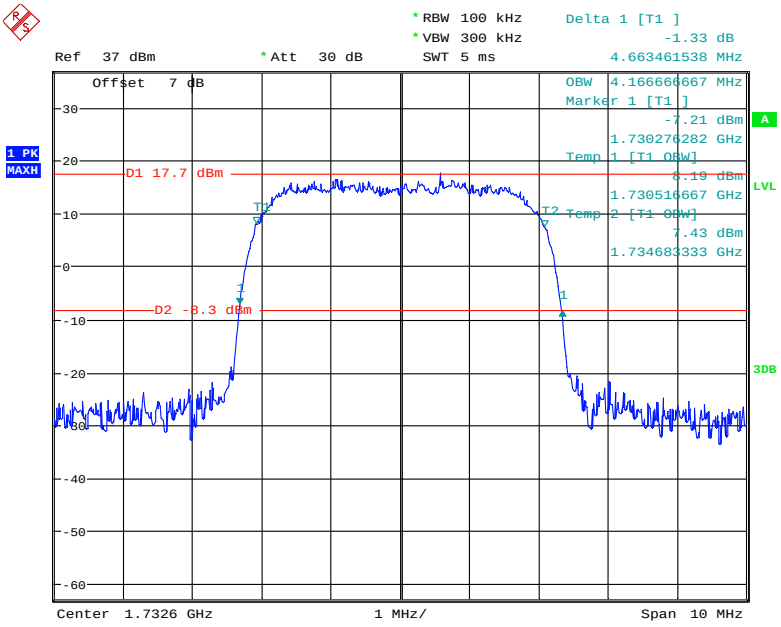
Date: 5.MAR.2021 16:13:33

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



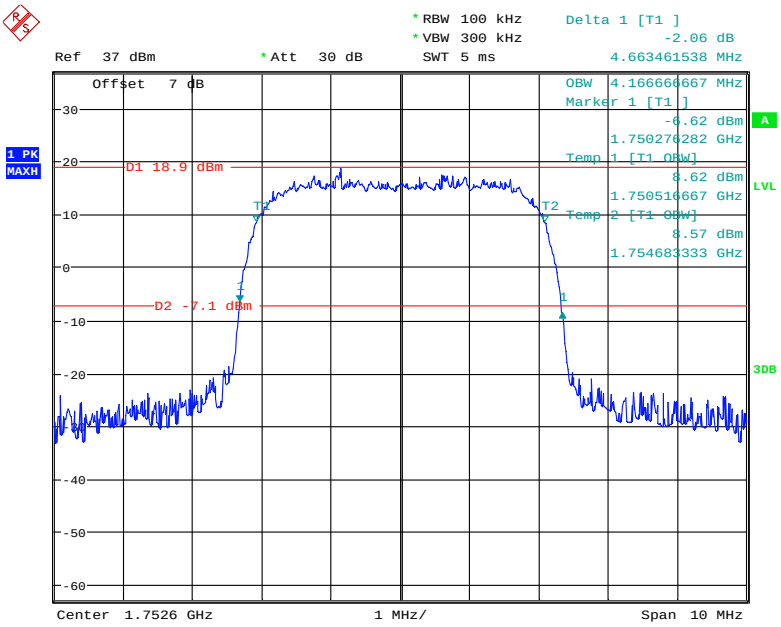
Date: 5.MAR.2021 16:18:09

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



Date: 5.MAR.2021 16:19:06

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



Date: 5.MAR.2021 16:20:24

LTE Band 2:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	Low	1.096	1.260
		Middle	1.102	1.260
		High	1.102	1.278
	16QAM	Low	1.096	1.260
		Middle	1.096	1.254
		High	1.102	1.254
3	QPSK	Low	2.695	2.892
		Middle	2.695	3.012
		High	2.695	3.012
	16QAM	Low	2.683	2.880
		Middle	2.683	2.868
		High	2.683	3.000
5	QPSK	Low	4.531	5.020
		Middle	4.511	5.000
		High	4.511	5.020
	16QAM	Low	4.531	5.000
		Middle	4.551	5.020
		High	4.551	5.020
10	QPSK	Low	8.942	9.680
		Middle	8.982	9.760
		High	8.942	9.800
	16QAM	Low	8.942	9.760
		Middle	8.982	9.800
		High	8.981	9.840
15	QPSK	Low	13.473	14.760
		Middle	13.473	14.880
		High	13.473	14.820
	16QAM	Low	13.533	14.700
		Middle	13.473	14.820
		High	13.533	14.820
20	QPSK	Low	17.964	19.600
		Middle	18.044	19.600
		High	17.964	19.680
	16QAM	Low	17.964	19.440
		Middle	17.964	19.760
		High	17.964	19.840

Band 4:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	Low	1.102	1.260
		Middle	1.102	1.254
		High	1.090	1.230
	16QAM	Low	1.090	1.248
		Middle	1.090	1.254
		High	1.090	1.248
3	QPSK	Low	2.695	3.000
		Middle	2.695	3.012
		High	2.695	3.012
	16QAM	Low	2.683	3.000
		Middle	2.683	3.000
		High	2.683	3.000
5	QPSK	Low	4.511	5.020
		Middle	4.511	5.000
		High	4.491	4.820
	16QAM	Low	4.531	5.020
		Middle	4.531	5.020
		High	4.531	5.000
10	QPSK	Low	8.942	9.760
		Middle	8.942	9.480
		High	8.942	9.760
	16QAM	Low	8.942	9.800
		Middle	8.942	9.800
		High	8.942	9.800
15	QPSK	Low	13.473	14.820
		Middle	13.473	14.700
		High	13.473	14.760
	16QAM	Low	13.533	14.760
		Middle	13.473	14.820
		High	13.533	14.820
20	QPSK	Low	17.964	19.600
		Middle	17.964	19.520
		High	18.044	19.680
	16QAM	Low	17.964	19.200
		Middle	17.964	19.680
		High	18.124	19.840

Band 5:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	Low	1.102	1.236
		Middle	1.102	1.260
		High	1.102	1.254
	16QAM	Low	1.090	1.248
		Middle	1.096	1.248
		High	1.090	1.248
3	QPSK	Low	2.695	2.880
		Middle	2.695	3.000
		High	2.688	2.875
	16QAM	Low	2.683	2.988
		Middle	2.695	3.000
		High	2.683	2.892
5	QPSK	Low	4.511	5.000
		Middle	4.511	5.020
		High	4.511	5.020
	16QAM	Low	4.531	5.020
		Middle	4.531	5.020
		High	4.531	5.000
10	QPSK	Low	8.942	9.760
		Middle	8.942	9.760
		High	8.942	9.760
	16QAM	Low	8.982	9.800
		Middle	8.942	9.800
		High	8.942	9.800

Band 7

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5	QPSK	Low	4.511	5.000
		Middle	4.531	5.020
		High	4.511	5.020
	16QAM	Low	4.511	5.020
		Middle	4.531	5.000
		High	4.531	5.000
10	QPSK	Low	8.942	9.320
		Middle	8.942	9.760
		High	8.942	9.800
	16QAM	Low	8.942	9.800
		Middle	8.942	9.800
		High	8.942	9.800
15	QPSK	Low	13.533	14.760
		Middle	13.473	14.760
		High	13.473	14.820
	16QAM	Low	13.533	14.880
		Middle	13.473	14.760
		High	13.533	14.820
20	QPSK	Low	17.964	19.600
		Middle	18.044	19.600
		High	17.964	19.520
	16QAM	Low	17.964	19.840
		Middle	17.964	19.920
		High	18.044	19.760

LTE Band 12:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
1.4	QPSK	Low	1.096	1.248
		Middle	1.102	1.248
		High	1.102	1.254
	16QAM	Low	1.090	1.248
		Middle	1.090	1.248
		High	1.090	1.224
3	QPSK	Low	2.695	3.000
		Middle	2.695	3.000
		High	2.695	3.000
	16QAM	Low	2.683	3.000
		Middle	2.683	3.000
		High	2.683	3.012
5	QPSK	Low	4.511	5.020
		Middle	4.511	5.020
		High	4.511	4.900
	16QAM	Low	4.551	5.020
		Middle	4.531	5.020
		High	4.531	5.020
10	QPSK	Low	8.942	9.720
		Middle	8.942	9.720
		High	8.942	9.800
	16QAM	Low	8.982	9.840
		Middle	8.942	9.800
		High	8.982	9.800

LTE Band 38:

Bandwidth (MHz)	Modulation	Channel	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
5	QPSK	Low	4.520	5.000
		Middle	4.520	4.980
		High	4.500	4.960
	16QAM	Low	4.500	4.980
		Middle	4.520	5.120
		High	4.500	4.980
10	QPSK	Low	9.000	9.800
		Middle	8.960	9.800
		High	8.960	9.720
	16QAM	Low	8.960	9.640
		Middle	8.960	9.720
		High	9.000	9.760
15	QPSK	Low	13.500	15.120
		Middle	13.500	15.060
		High	13.560	15.720
	16QAM	Low	13.560	15.060
		Middle	13.560	15.060
		High	13.620	15.060
20	QPSK	Low	18.000	19.520
		Middle	18.000	19.600
		High	18.000	19.840
	16QAM	Low	18.000	19.680
		Middle	18.080	19.600
		High	18.000	19.520

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

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

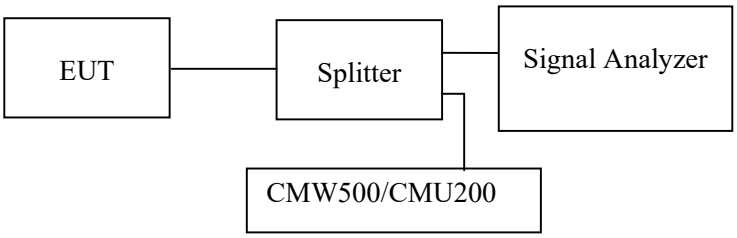
Applicable Standard

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:	25 ℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Coco Liu and Alan He from 2021-03-03 to 2021-03-24.

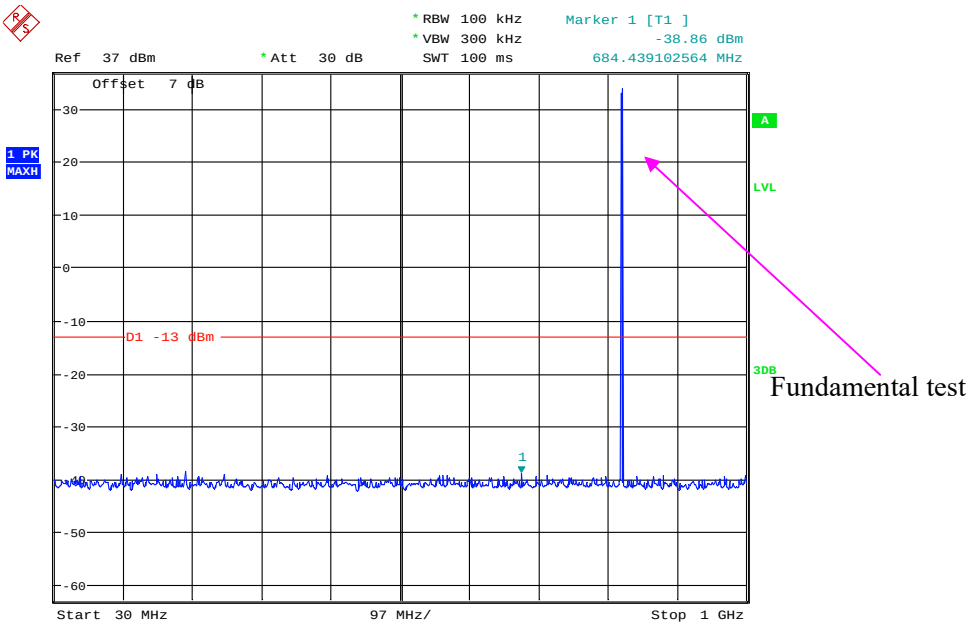
EUT operation mode: Transmitting

Test result: Pass

Please refer to the following plots.

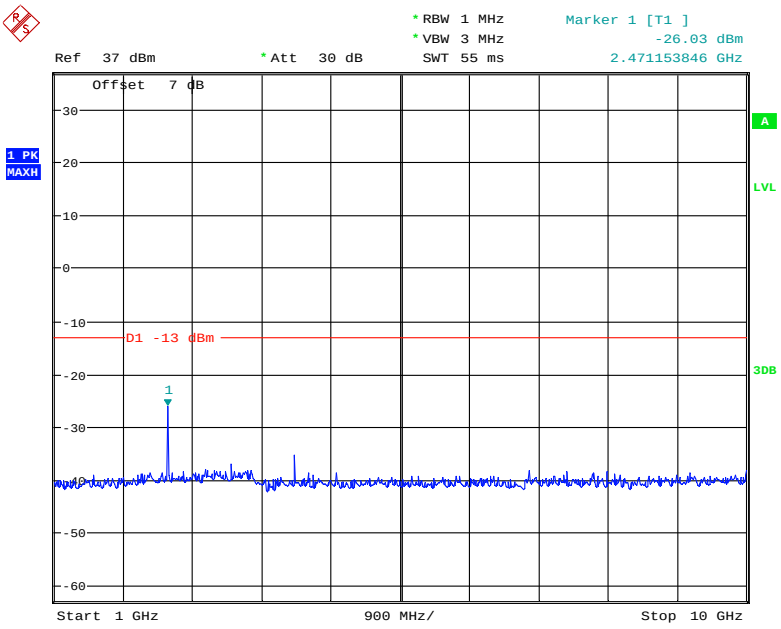
Cellular Band (Part 22H)
Low Channel:

30 MHz – 1 GHz (GSM Mode)



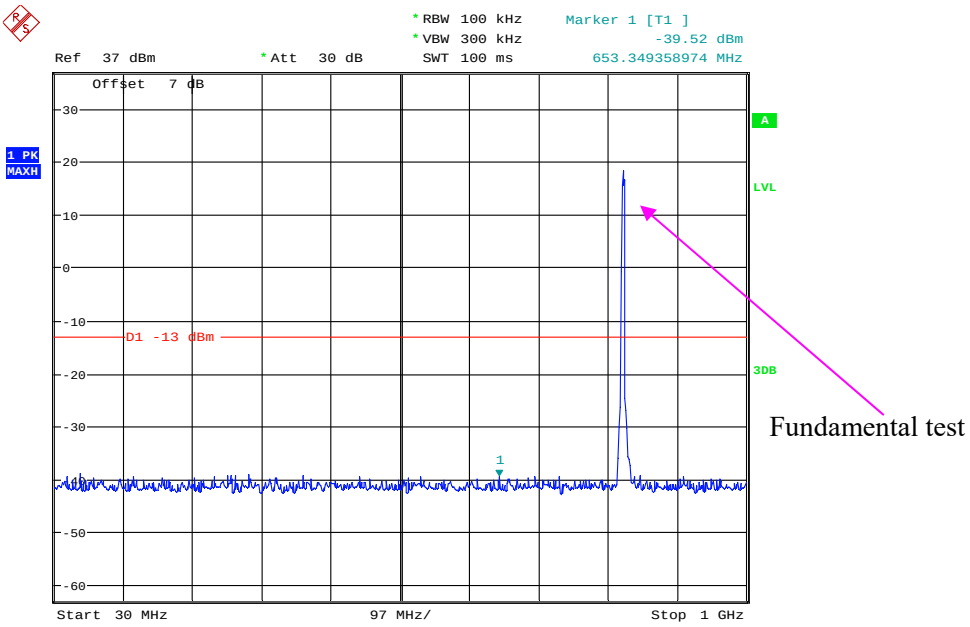
Date: 5.MAR.2021 14:15:39

1 GHz – 10 GHz (GSM Mode)



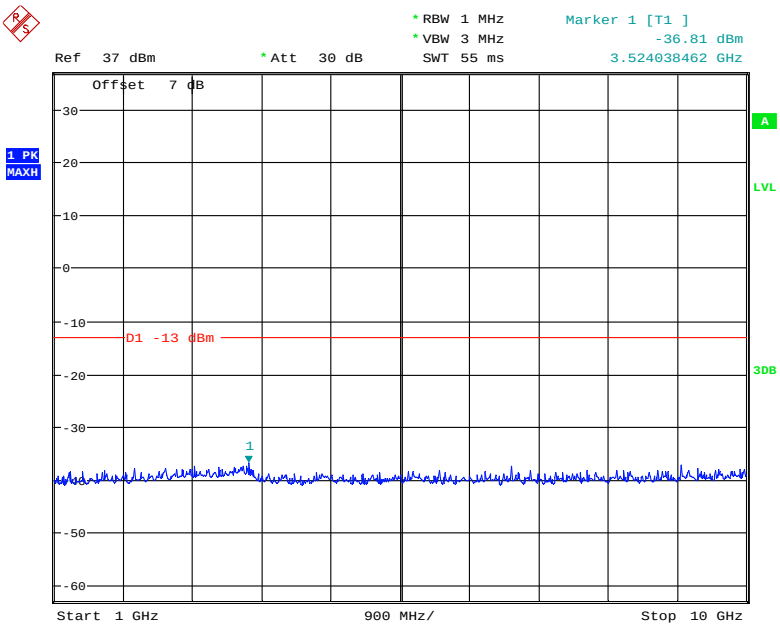
Date: 5.MAR.2021 14:16:11

30 MHz – 1 GHz (WCDMA Mode)



Date: 5.MAR.2021 16:28:39

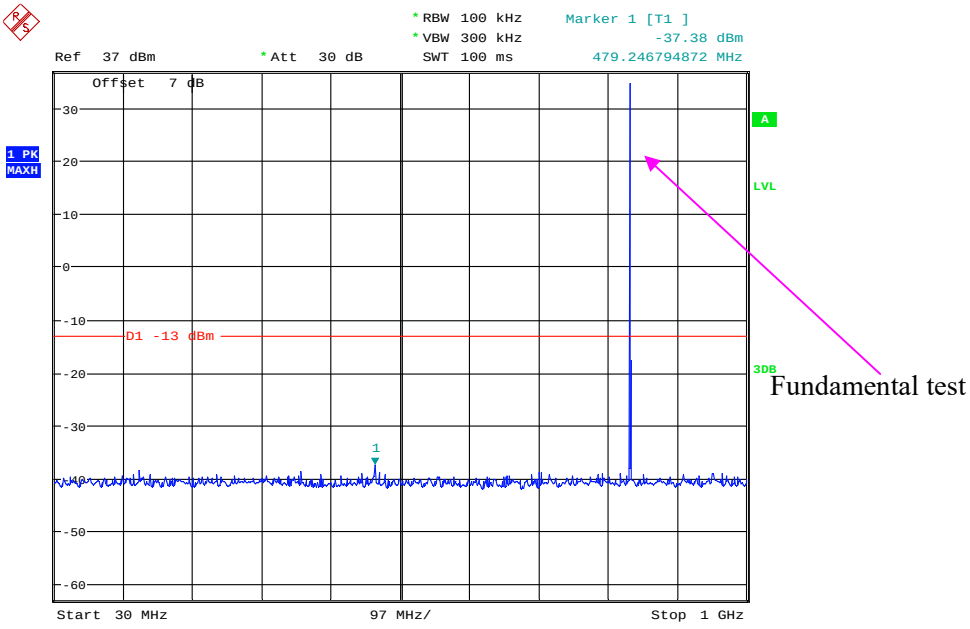
1 GHz – 10 GHz (WCDMA Mode)



Date: 5.MAR.2021 16:29:06

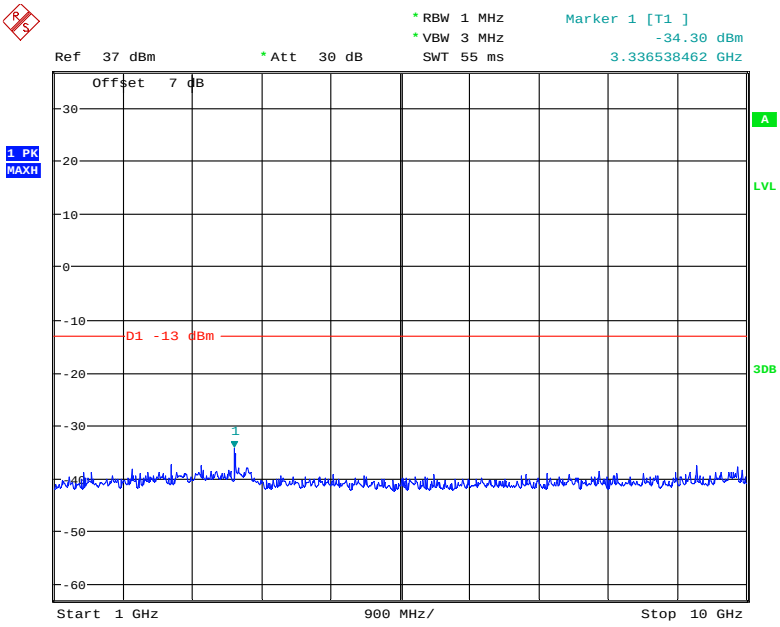
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



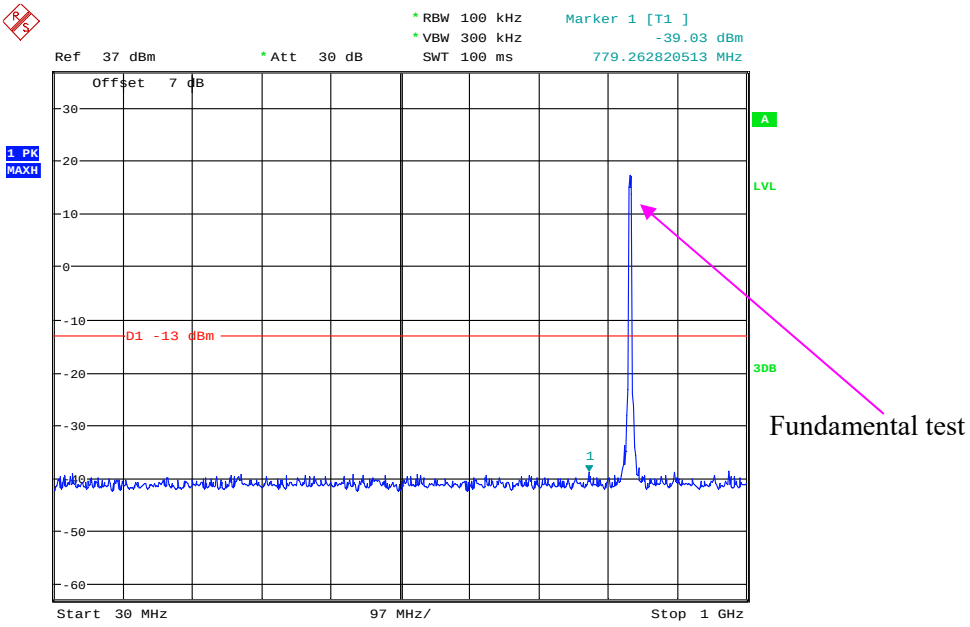
Date: 5.MAR.2021 14:15:16

1 GHz – 10 GHz (GSM Mode)



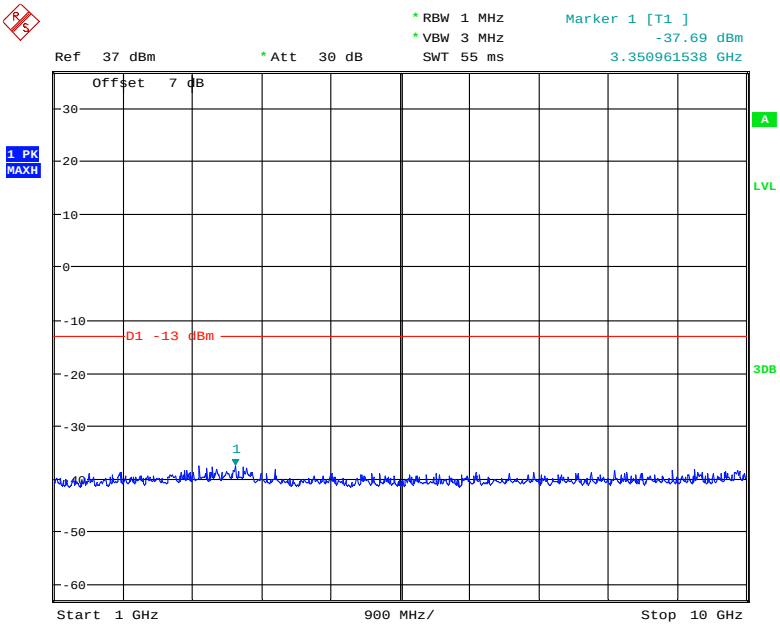
Date: 5.MAR.2021 14:16:23

30 MHz – 1 GHz (WCDMA Mode)



Date: 5.MAR.2021 16:28:23

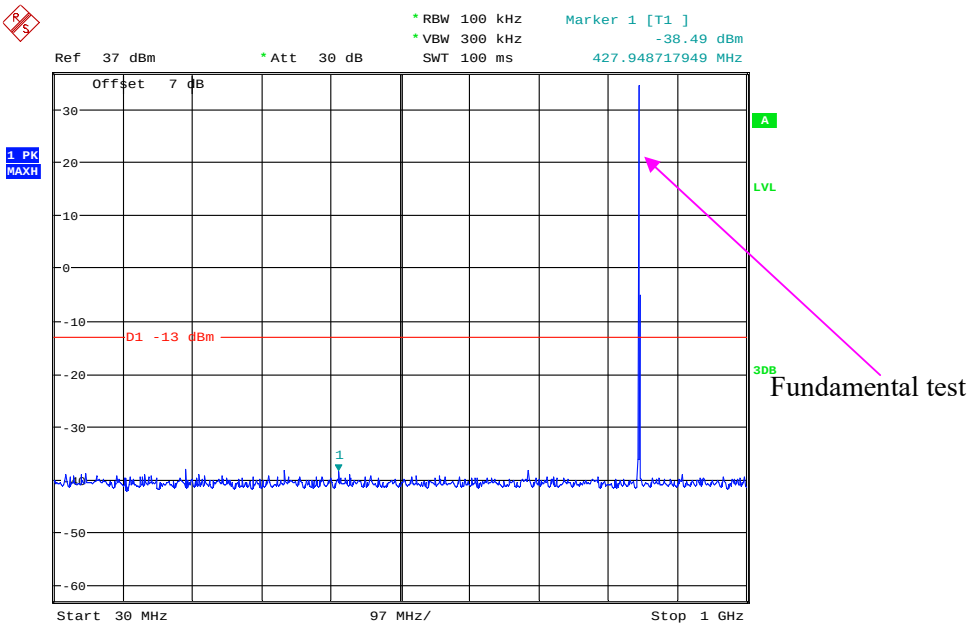
1 GHz – 10 GHz (WCDMA Mode)



Date: 5.MAR.2021 16:29:25

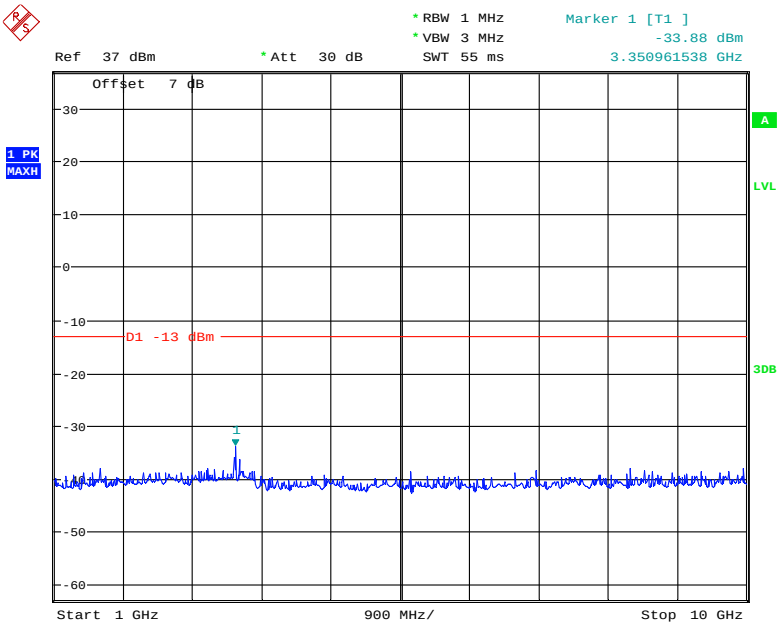
High Channel:

30 MHz – 1 GHz (GSM Mode)



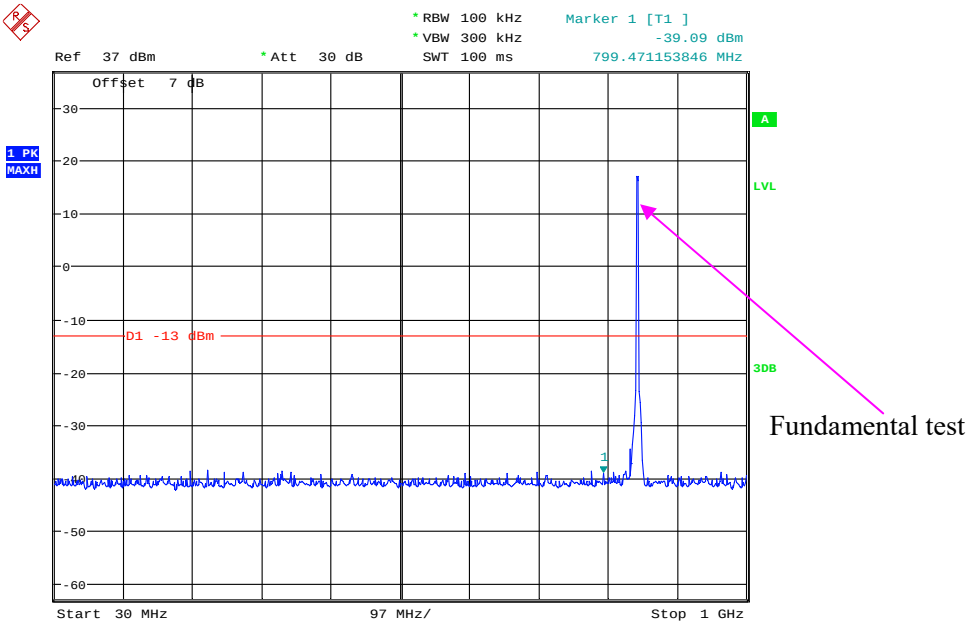
Date: 5.MAR.2021 14:14:52

1 GHz – 10 GHz (GSM Mode)



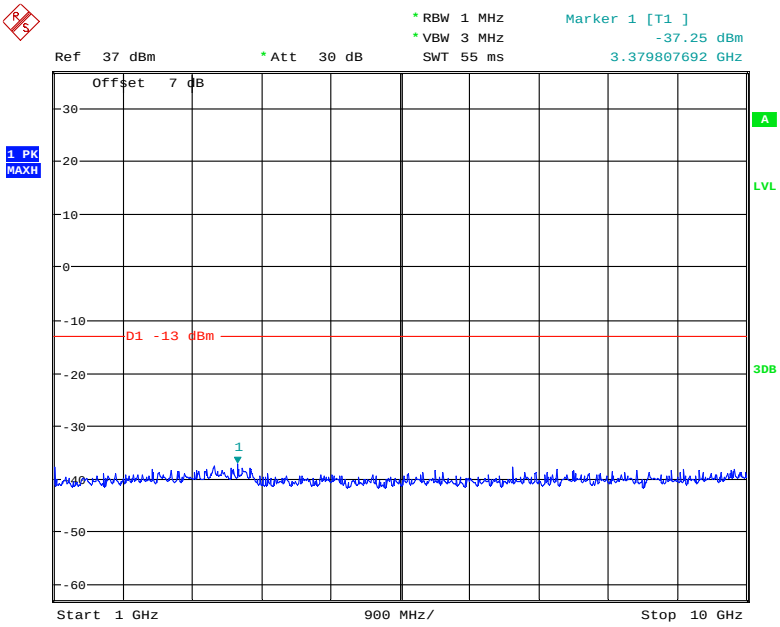
Date: 5.MAR.2021 14:16:35

30 MHz – 1 GHz (WCDMA Mode)



Date: 5.MAR.2021 16:27:54

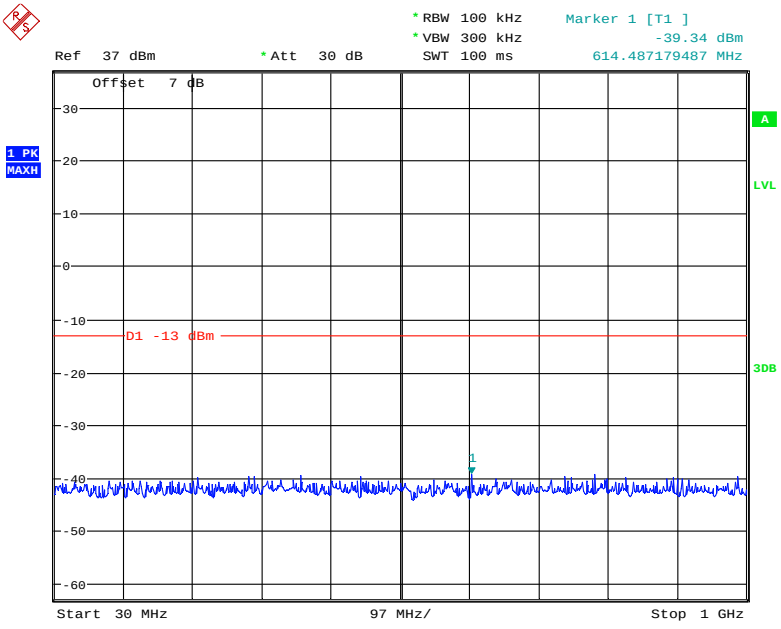
1 GHz – 10 GHz (WCDMA Mode)



Date: 5.MAR.2021 16:29:37

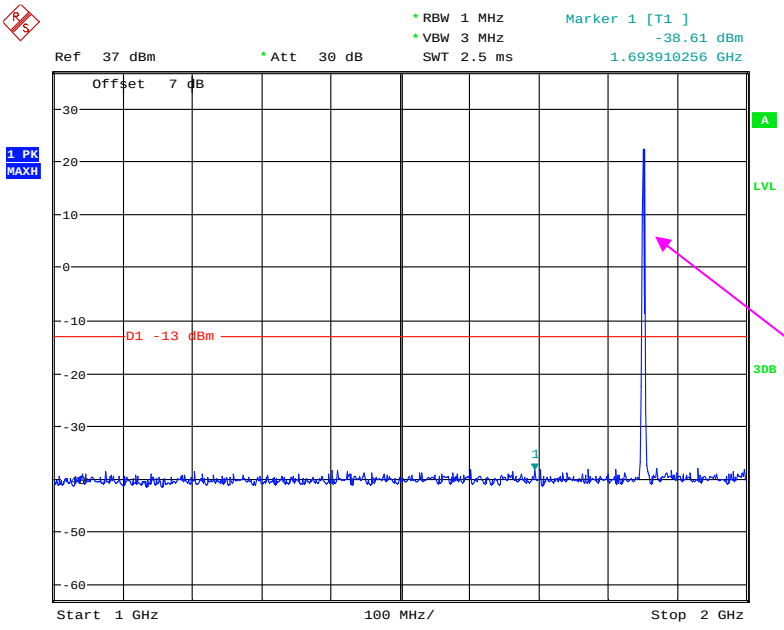
PCS Band (Part 24E) Low Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 5.MAR.2021 14:23:30

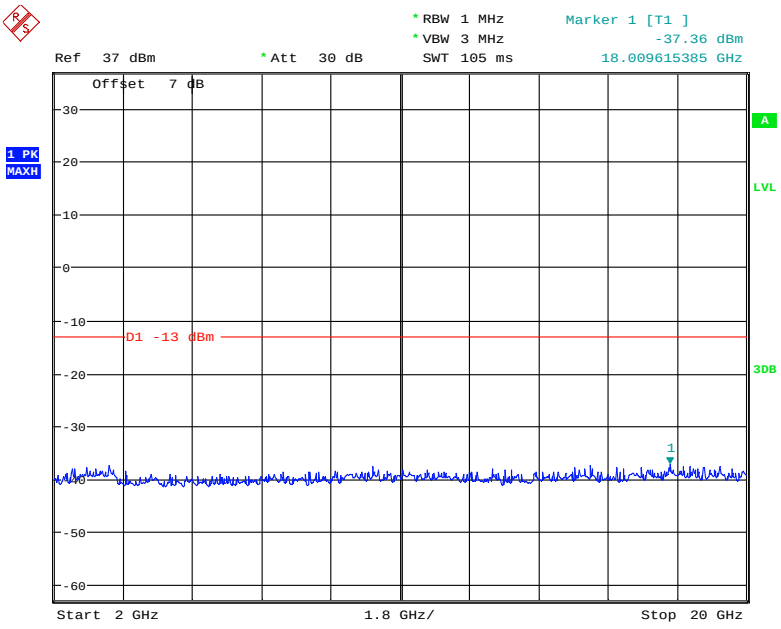
1 GHz – 2 GHz (GSM Mode)



Fundamental test

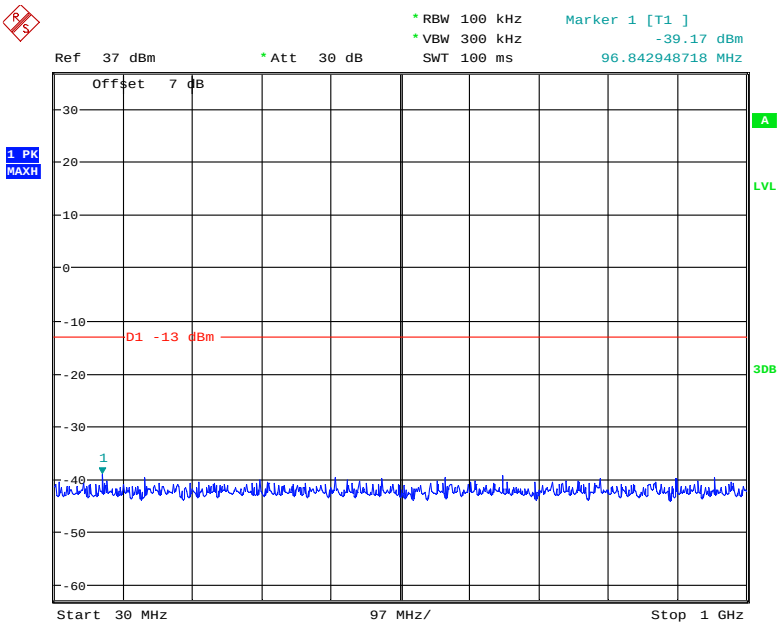
Date: 5.MAR.2021 14:21:21

2 GHz – 2 0GHz (GSM Mode)



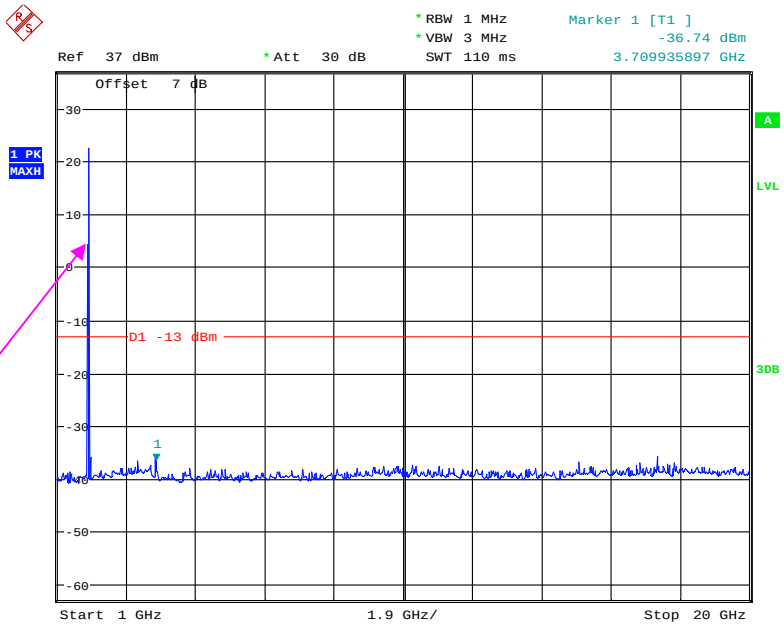
Date: 5.MAR.2021 14:23:08

30 MHz – 1 GHz (WCDMA Mode)



Date: 5.MAR.2021 14:55:21

1 GHz – 20 GHz (WCDMA Mode)

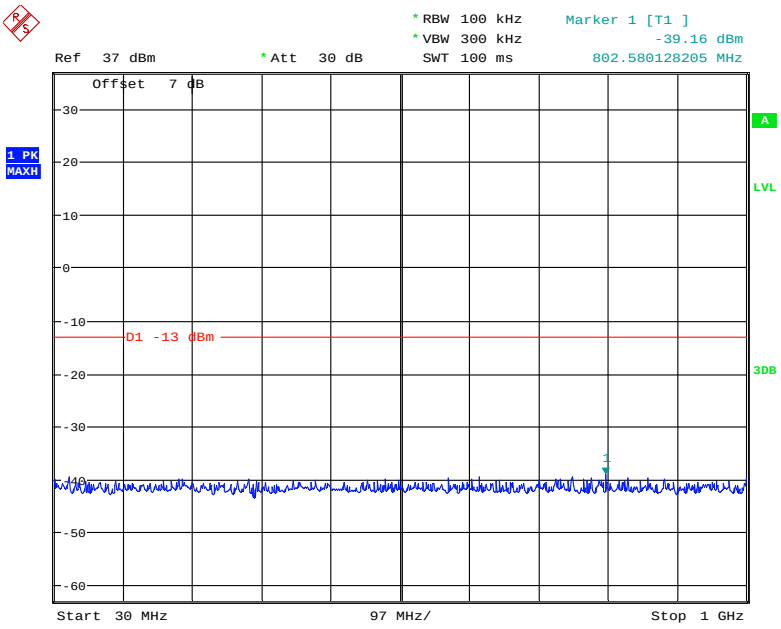


Fundamental test

Date: 5.MAR.2021 14:55:45

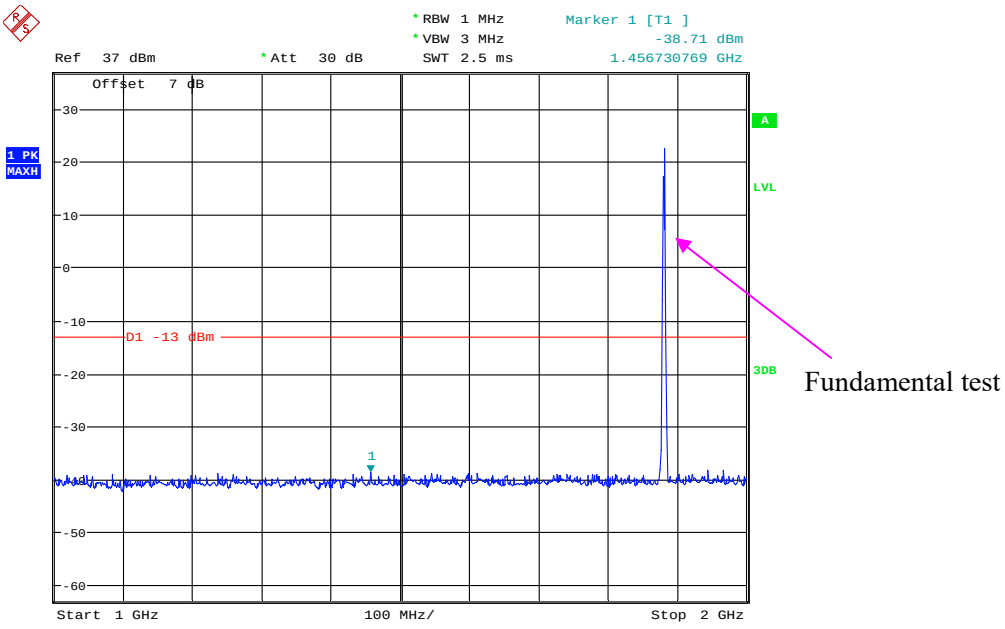
Middle Channel:

30 MHz – 1 GHz (GSM Mode)



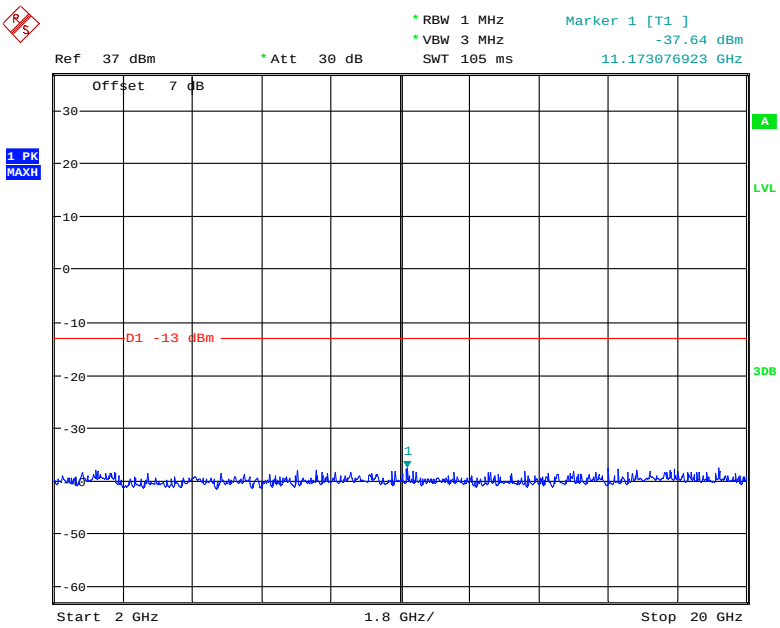
Date: 5.MAR.2021 14:23:48

1 GHz – 2 GHz (GSM Mode)



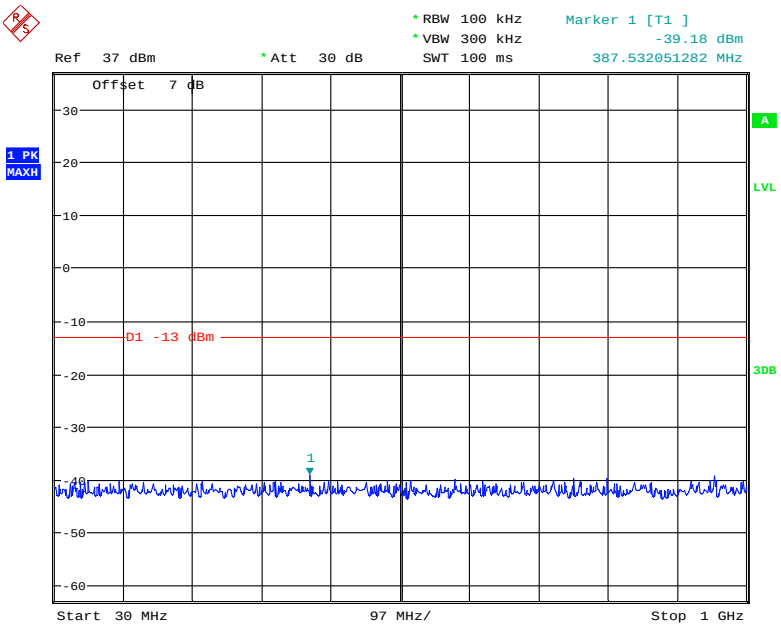
Date: 5.MAR.2021 14:21:55

2 GHz – 20GHz (GSM Mode)



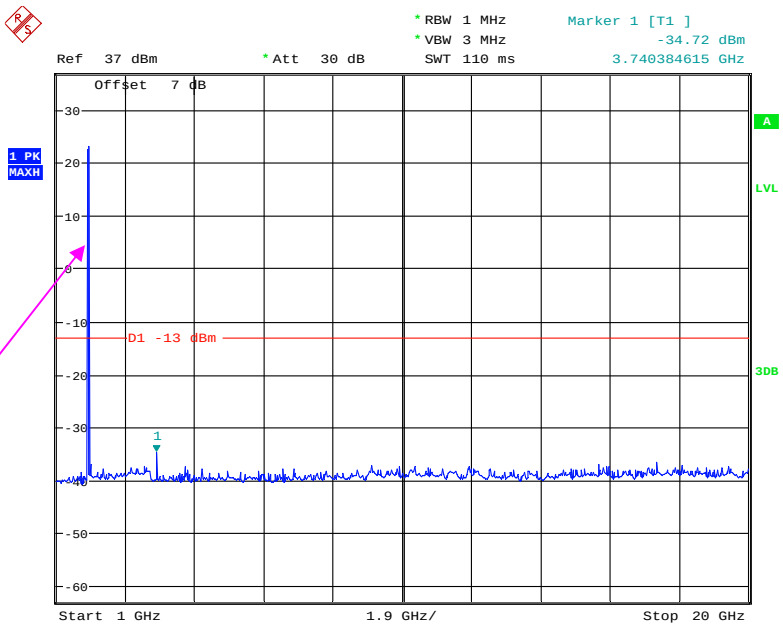
Date: 5.MAR.2021 14:22:47

30 MHz – 1 GHz (WCDMA Mode)



Date: 5.MAR.2021 14:55:10

1 GHz – 20 GHz (WCDMA Mode)

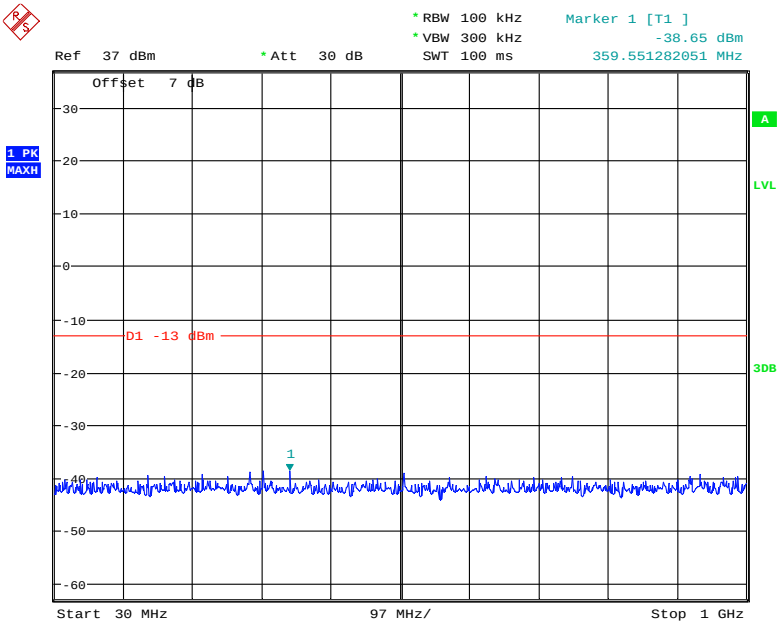


Fundamental test

Date: 5.MAR.2021 14:56:10

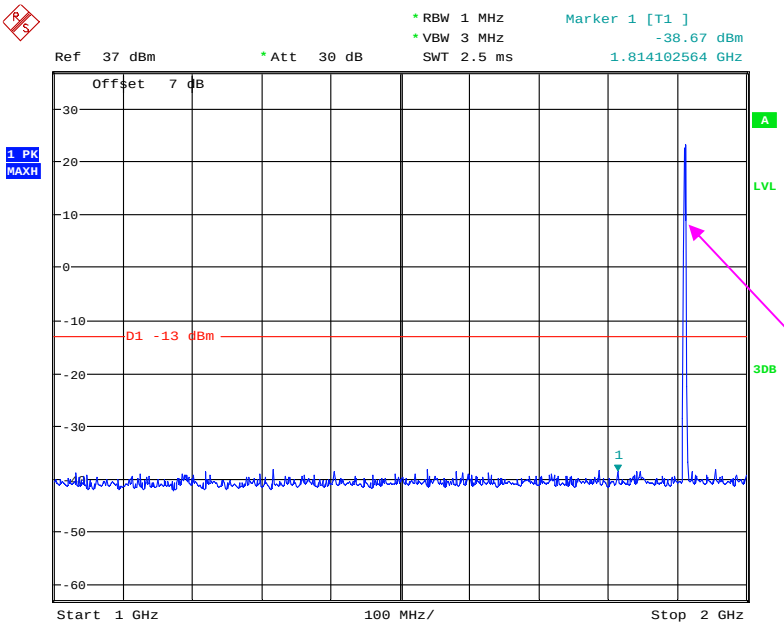
High Channel:

30 MHz – 1 GHz (GSM Mode)



Date: 5.MAR.2021 14:24:03

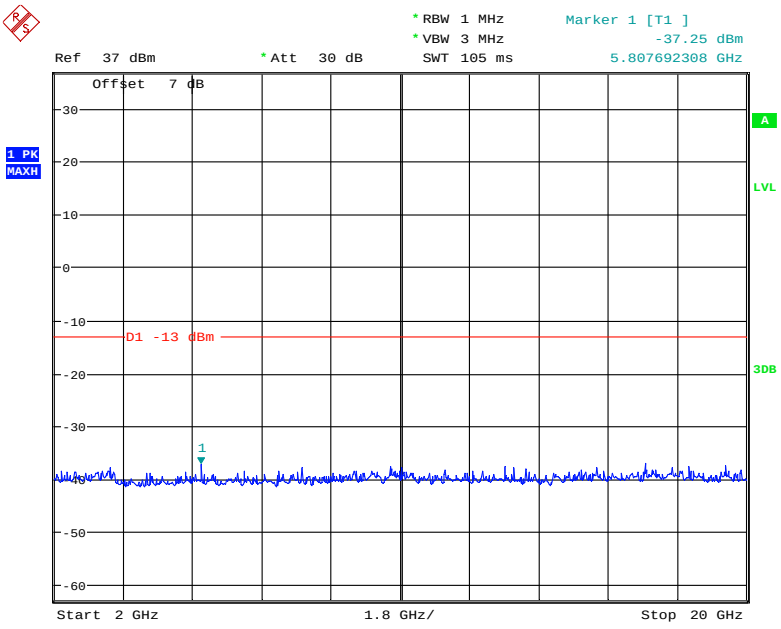
1 GHz – 2 GHz (GSM Mode)



Fundamental test

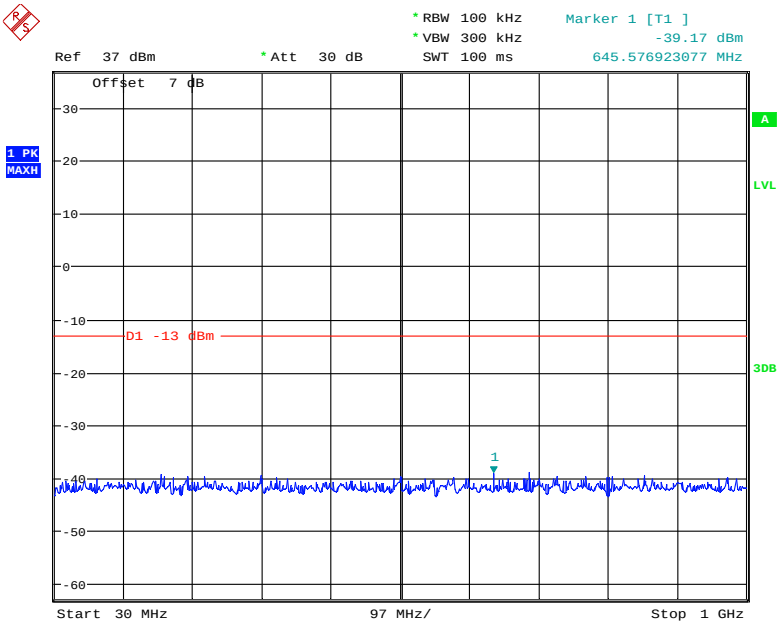
Date: 5.MAR.2021 14:22:14

2 GHz – 20GHz (GSM Mode)



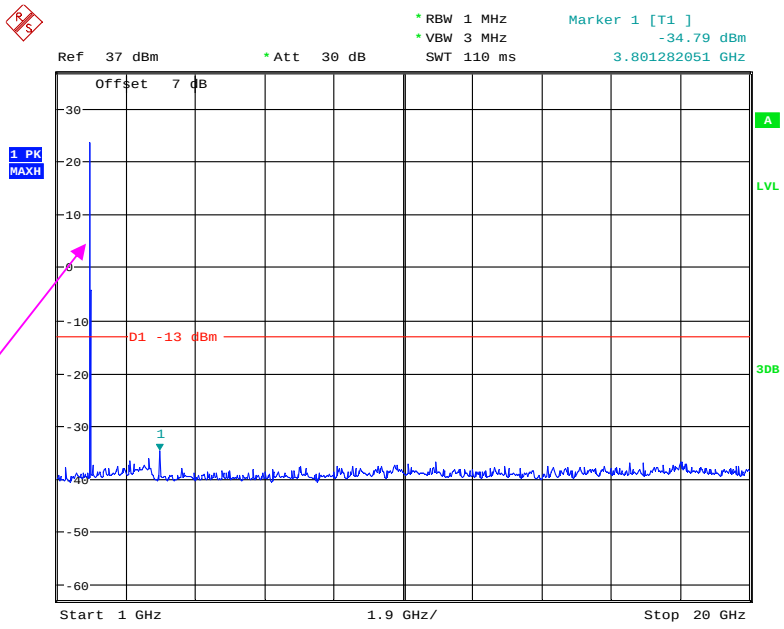
Date: 5.MAR.2021 14:22:28

30 MHz – 1 GHz (WCDMA Mode)



Date: 5.MAR.2021 14:54:44

1 GHz – 20 GHz (WCDMA Mode)

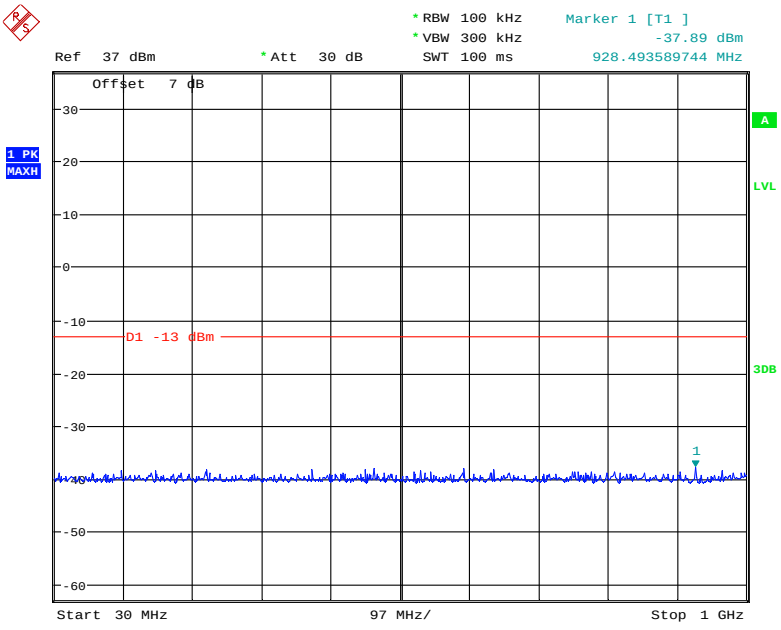


Fundamental test

Date: 5.MAR.2021 14:56:30

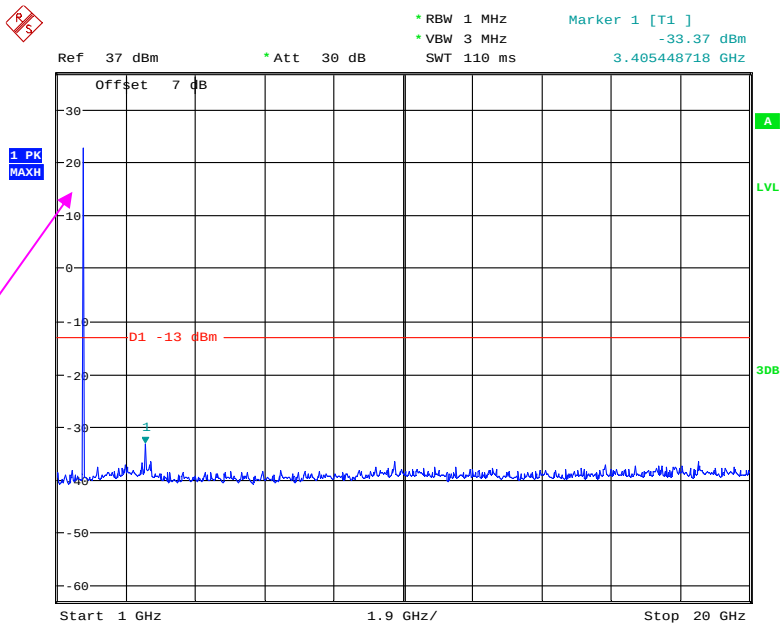
AWS Band (Part 27)
Low Channel:

30 MHz – 1 GHz (WCDMA Mode)



Date: 5.MAR.2021 15:25:16

1 GHz – 20 GHz (WCDMA Mode)

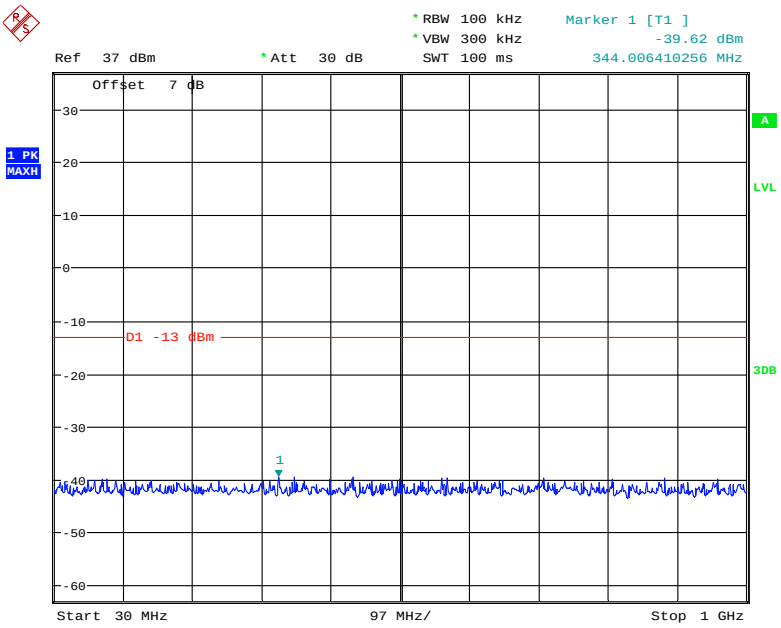


Fundamental test

Date: 5.MAR.2021 15:27:18

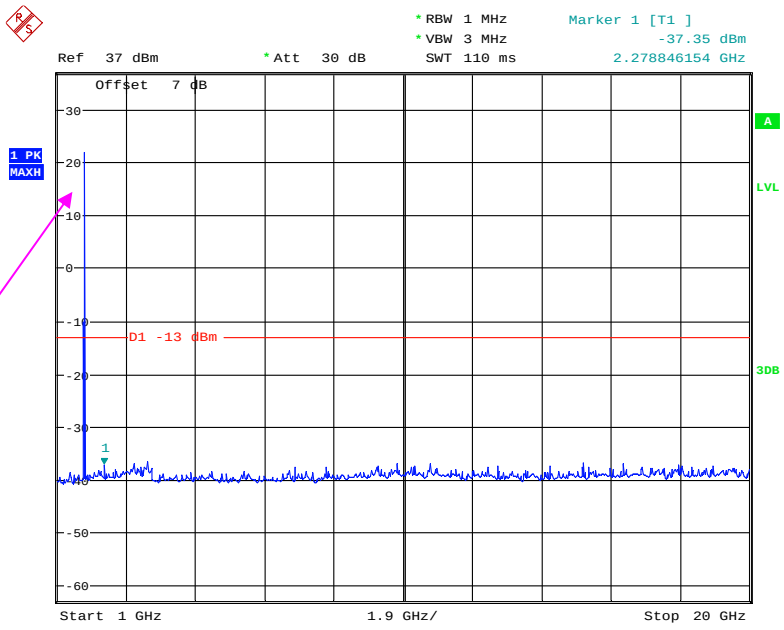
Middle Channel

30 MHz – 1 GHz (WCDMA Mode)



Date: 5.MAR.2021 15:25:48

1 GHz – 20 GHz (WCDMA Mode)

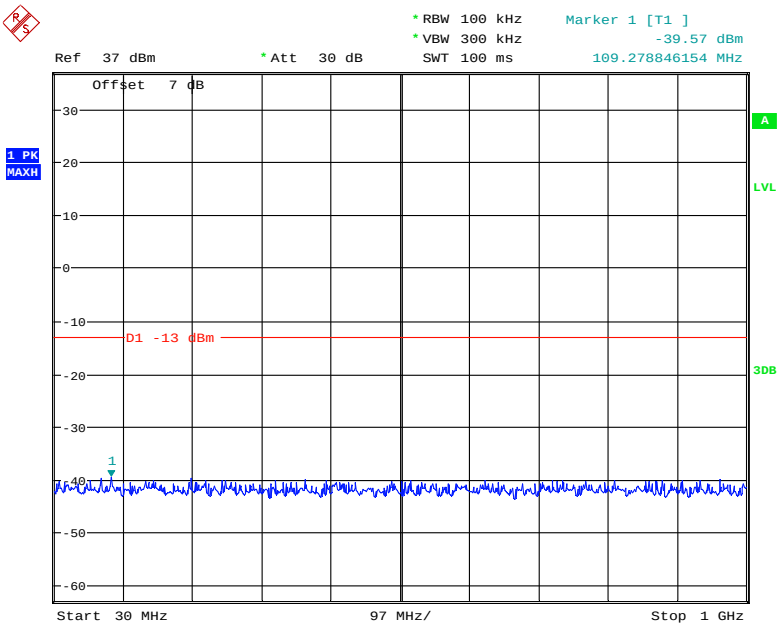


Fundamental test

Date: 5.MAR.2021 15:26:56

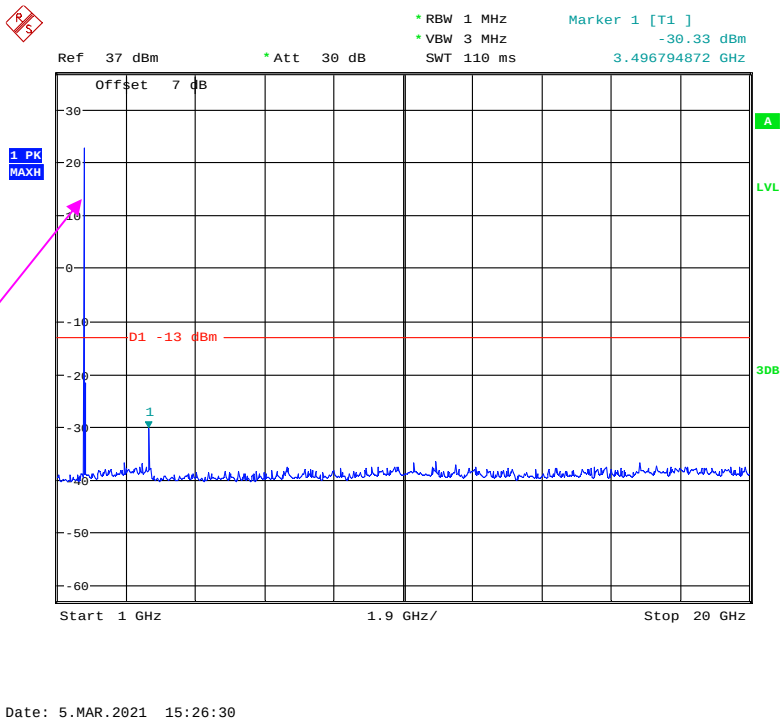
High Channel:

30 MHz – 1 GHz (WCDMA Mode)



Date: 5.MAR.2021 15:26:05

1 GHz – 20 GHz (WCDMA Mode)



Fundamental test

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:	24~25.3 ℃
Relative Humidity:	46~58 %
ATM Pressure:	101.0~101.1 kPa

The testing was performed by Kilroy Deng on 2021-03-11 for below 1GHz and Troy Wang on 2021-03-14 for above 1GHz.

EUT operation mode: Transmitting

30 MHz ~ 10 GHz:

Cellular Band (Part 22H)

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 22H	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
GSM Mode										
Low channel										
967.4	32.12	86	2.2	H	-64.4	1.36	0.0	-65.76	-13	52.76
967.4	33.35	269	2.4	V	-60.7	1.36	0.0	-62.06	-13	49.06
1648.40	55.74	62	1.9	H	-52.3	1.40	8.70	-45.00	-13	32.00
1648.40	58.55	335	1.5	V	-49.3	1.40	8.70	-42.00	-13	29.00
2472.60	61.67	69	2.4	H	-41.7	2.60	10.20	-34.10	-13	21.10
2472.60	63.55	52	2.3	V	-39.2	2.60	10.20	-31.60	-13	18.60
3296.80	44.31	78	1.8	H	-56.6	1.50	11.70	-46.40	-13	33.40
3296.80	46.35	356	1.2	V	-54.6	1.50	11.70	-44.40	-13	31.40
4121.00	45.37	294	1.2	H	-56.8	1.40	12.20	-46.00	-13	33.00
4121.00	47.46	37	2.3	V	-53.6	1.40	12.20	-42.80	-13	29.80
Middle channel										
962.1	32.16	75	2.3	H	-64.3	1.36	0.0	-65.66	-13	52.66
962.1	33.39	289	1.1	V	-60.7	1.36	0.0	-62.06	-13	49.06
1673.20	55.62	186	2.1	H	-50.7	1.30	8.90	-43.10	-13	30.10
1673.20	58.41	131	1.3	V	-47.3	1.30	8.90	-39.70	-13	26.70
2509.80	61.83	87	2.0	H	-41.5	2.60	10.20	-33.90	-13	20.90
2509.80	63.04	89	1.0	V	-39.7	2.60	10.20	-32.10	-13	19.10
3346.40	44.38	235	2.4	H	-56.5	1.50	11.70	-46.30	-13	33.30
3346.40	46.25	278	2.1	V	-54.7	1.50	11.70	-44.50	-13	31.50
4183.00	45.32	272	2.3	H	-56.6	1.50	11.80	-46.30	-13	33.30
4183.00	47.66	144	2.3	V	-53.5	1.50	11.80	-43.20	-13	30.20
High channel										
961.8	32.23	219	1.7	H	-64.3	1.36	0.0	-65.66	-13	52.66
961.8	33.45	186	1.2	V	-60.6	1.36	0.0	-61.96	-13	48.96
1697.60	54.87	202	1.1	H	-51.5	1.30	8.90	-43.90	-13	30.90
1697.60	58.35	19	1.9	V	-47.4	1.30	8.90	-39.80	-13	26.80
2546.40	61.05	47	2.4	H	-42.3	2.60	10.20	-34.70	-13	21.70
2546.40	63.71	167	1.8	V	-39.0	2.60	10.20	-31.40	-13	18.40
3395.20	44.56	172	2.2	H	-56.7	1.40	11.80	-46.30	-13	33.30
3395.20	46.18	95	2.3	V	-54.9	1.40	11.80	-44.50	-13	31.50
4244.00	45.31	35	1.8	H	-56.6	1.50	11.80	-46.30	-13	33.30
4244.00	47.52	142	2.2	V	-53.6	1.50	11.80	-43.30	-13	30.30

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 22H	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
WCDMA Mode										
Low channel										
958.7	32.38	6	1.0	H	-64.1	1.36	0.0	-65.46	-13	52.46
958.7	33.55	203	1.8	V	-60.5	1.36	0.0	-61.86	-13	48.86
1652.80	43.85	289	1.9	H	-62.5	1.30	8.90	-54.90	-13	41.90
1652.80	44.68	260	2.4	V	-61.1	1.30	8.90	-53.50	-13	40.50
2479.20	43.52	290	1.5	H	-59.8	2.60	10.20	-52.20	-13	39.20
2479.20	44.61	228	1.4	V	-58.1	2.60	10.20	-50.50	-13	37.50
3305.60	44.12	89	2.5	H	-56.8	1.50	11.70	-46.60	-13	33.60
1652.80	43.85	289	1.9	H	-62.5	1.30	8.90	-54.90	-13	41.90
Middle channel										
963.4	32.41	143	1.6	H	-64.1	1.36	0.0	-65.46	-13	52.46
963.4	33.58	243	1.0	V	-60.5	1.36	0.0	-61.86	-13	48.86
1673.20	43.76	203	2.3	H	-62.6	1.30	8.90	-55.00	-13	42.00
1673.20	44.69	4	1.8	V	-61.0	1.30	8.90	-53.40	-13	40.40
2509.80	43.48	39	2.4	H	-59.9	2.60	10.20	-52.30	-13	39.30
2509.80	44.65	191	1.3	V	-58.1	2.60	10.20	-50.50	-13	37.50
3346.40	44.17	52	2.2	H	-56.7	1.50	11.70	-46.50	-13	33.50
3346.40	44.83	71	1.2	V	-56.1	1.50	11.70	-45.90	-13	32.90
High channel										
965.3	32.44	347	2.0	H	-64.1	1.36	0.0	-65.46	-13	52.46
965.3	33.60	27	1.7	V	-60.5	1.36	0.0	-61.86	-13	48.86
1693.20	43.71	109	2.0	H	-62.6	1.30	8.90	-55.00	-13	42.00
1693.20	44.68	82	1.3	V	-61.1	1.30	8.90	-53.50	-13	40.50
2539.80	43.52	348	2.4	H	-59.8	2.60	10.20	-52.20	-13	39.20
2539.80	44.71	70	2.0	V	-58.0	2.60	10.20	-50.40	-13	37.40
3386.40	44.23	190	2.3	H	-57.0	1.40	11.80	-46.60	-13	33.60
3386.40	44.89	313	1.8	V	-56.2	1.40	11.80	-45.80	-13	32.80

30 MHz ~ 20 GHz:

PCS Band (Part 24E)

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 24E	
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)		Limit (dBm)	Margin (dB)
GSM Mode										
Low channel										
957.7	32.35	62	1.8	H	-64.2	1.36	0.0	-65.56	-13	52.56
957.7	33.52	50	1.4	V	-60.5	1.36	0.0	-61.86	-13	48.86
3700.40	44.73	243	1.3	H	-57.1	1.60	11.90	-46.80	-13	33.80
3700.40	45.47	68	2.4	V	-55.8	1.60	11.90	-45.50	-13	32.50
Middle channel										
960.6	32.42	355	1.9	H	-64.1	1.36	0.0	-65.46	-13	52.46
960.6	33.63	330	1.6	V	-60.4	1.36	0.0	-61.76	-13	48.76
3760.00	44.68	357	1.9	H	-57.4	1.50	11.80	-47.10	-13	34.10
3760.00	45.82	232	2.0	V	-55.8	1.50	11.80	-45.50	-13	32.50
High channel										
958.4	32.32	241	2.2	H	-64.2	1.36	0.0	-65.56	-13	52.56
958.4	38.49	36	1.8	V	-55.6	1.36	0.0	-56.96	-13	43.96
3819.60	44.35	211	1.1	H	-57.7	1.50	11.80	-47.40	-13	34.40
3819.60	45.69	359	1.9	V	-55.9	1.50	11.80	-45.60	-13	32.60

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)
WCDMA Mode										
Low channel										
948.8	32.02	111	2.3	H	-64.5	1.36	0.0	-65.86	-13	52.86
948.8	38.16	75	1.5	V	-55.9	1.36	0.0	-57.26	-13	44.26
3704.80	43.64	37	1.9	H	-58.2	1.60	11.90	-47.90	-13	34.90
3704.80	44.52	199	1.2	V	-56.7	1.60	11.90	-46.40	-13	33.40
Middle channel										
951.7	32.08	123	1.9	H	-64.4	1.36	0.0	-65.76	-13	52.76
951.7	38.13	172	2.1	V	-55.9	1.36	0.0	-57.26	-13	44.26
3760.00	43.58	21	2.4	H	-58.5	1.50	11.80	-48.20	-13	35.20
3760.00	44.37	241	1.8	V	-57.2	1.50	11.80	-46.90	-13	33.90
High channel										
955.2	32.13	100	1.5	H	-64.4	1.36	0.0	-65.76	-13	52.76
955.2	38.24	305	1.3	V	-55.8	1.36	0.0	-57.16	-13	44.16
3815.20	43.71	340	2.2	H	-58.3	1.50	11.80	-48.00	-13	35.00
3815.20	44.58	253	1.4	V	-57.0	1.50	11.80	-46.70	-13	33.70

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										
956.9	32.26	143	1.2	H	-64.2	1.36	0.0	-65.56	-13	52.56
956.9	33.37	249	1.4	V	-60.7	1.36	0.0	-62.06	-13	49.06
3424.80	43.85	338	1.8	H	-56.9	1.40	11.80	-46.50	-13	33.50
3424.80	44.67	30	2.1	V	-55.9	1.40	11.80	-45.50	-13	32.50
Middle channel										
959.2	32.23	170	2.2	H	-64.3	1.36	0.0	-65.66	-13	52.66
959.2	33.35	107	2.2	V	-60.7	1.36	0.0	-62.06	-13	49.06
3465.20	43.92	306	1.3	H	-56.8	1.50	12.00	-46.30	-13	33.30
3465.20	44.81	163	1.6	V	-56.7	1.50	12.00	-46.20	-13	33.20
High channel										
962.8	32.33	197	1.7	H	-64.2	1.36	0.0	-65.56	-13	52.56
962.8	33.48	44	1.6	V	-60.6	1.36	0.0	-61.96	-13	48.96
3505.20	43.89	136	1.7	H	-56.9	1.50	12.00	-46.40	-13	33.40
3505.20	44.85	58	1.0	V	-56.7	1.50	12.00	-46.20	-13	33.20

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

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBµV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 2										
Test frequency range: 30 MHz ~ 20 GHz										
1.4 MHz, Low channel										
954.3	32.61	84	1.1	H	-63.9	1.36	0.0	-65.26	-13	52.26
954.3	33.73	52	2.1	V	-60.3	1.36	0.0	-61.66	-13	48.66
3701.40	52.42	68	2.1	H	-49.4	1.60	11.90	-39.10	-13	26.10
3701.40	54.57	183	1.8	V	-46.7	1.60	11.90	-36.40	-13	23.40
5552.10	49.92	94	2.3	H	-49.8	1.70	12.40	-39.10	-13	26.10
5552.10	50.58	206	1.2	V	-48.8	1.70	12.40	-38.10	-13	25.10
1.4 MHz, Middle channel										
959.6	32.65	224	1.7	H	-63.9	1.36	0.0	-65.26	-13	52.26
959.6	33.78	63	1.6	V	-60.3	1.36	0.0	-61.66	-13	48.66
3760.00	52.39	242	1.5	H	-49.7	1.50	11.80	-39.40	-13	26.40
3760.00	54.45	11	2.2	V	-47.1	1.50	11.80	-36.80	-13	23.80
5640.00	49.97	179	1.1	H	-49.7	1.70	12.40	-39.00	-13	26.00
5640.00	50.65	136	2.1	V	-48.7	1.70	12.40	-38.00	-13	25.00
1.4 MHz, High channel										
963.3	32.68	99	1.0	H	-63.8	1.36	0.0	-65.16	-13	52.16
963.3	33.81	274	2.0	V	-60.2	1.36	0.0	-61.56	-13	48.56
3818.60	53.05	97	1.8	H	-49.0	1.50	11.80	-38.70	-13	25.70
3818.60	54.87	104	1.6	V	-46.7	1.50	11.80	-36.40	-13	23.40
5727.90	49.91	126	1.1	H	-49.9	1.60	12.10	-39.40	-13	26.40
5727.90	50.65	270	1.1	V	-48.6	1.60	12.10	-38.10	-13	25.10

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 4										
Test frequency range:30 MHz ~ 20 GHz										
1.4MHz, Low channel										
948.6	32.71	157	1.7	H	-63.8	1.36	0.0	-65.16	-13	52.16
948.6	33.84	36	1.1	V	-60.2	1.36	0.0	-61.56	-13	48.56
3421.40	44.23	45	1.3	H	-56.6	1.40	11.80	-46.20	-13	33.20
3421.40	44.85	347	1.8	V	-55.8	1.40	11.80	-45.40	-13	32.40
1.4MHz, Middle channel										
955.1	32.58	217	2.1	H	-63.9	1.36	0.0	-65.26	-13	52.26
955.1	33.75	138	1.2	V	-60.3	1.36	0.0	-61.66	-13	48.66
3465.00	44.16	53	2.0	H	-56.6	1.50	12.00	-46.10	-13	33.10
3465.00	44.78	70	2.1	V	-56.7	1.50	12.00	-46.20	-13	33.20
1.4MHz, High channel										
958.0	32.78	10	1.1	H	-63.7	1.36	0.0	-65.06	-13	52.06
958.0	33.90	102	1.5	V	-60.2	1.36	0.0	-61.56	-13	48.56
3508.60	44.25	42	1.4	H	-56.5	1.50	12.00	-46.00	-13	33.00
3508.60	44.77	138	1.4	V	-56.7	1.50	12.00	-46.20	-13	33.20

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 5										
Test frequency range:30 MHz ~ 10 GHz										
1.4MHz, Low channel										
960.7	32.45	342	1.1	H	-64.1	1.36	0.0	-65.46	-13	52.46
960.7	33.56	107	2.2	V	-60.5	1.36	0.0	-61.86	-13	48.86
1649.40	44.61	72	2.3	H	-63.5	1.40	8.70	-56.20	-13	43.20
1649.40	46.15	332	2.2	V	-61.7	1.40	8.70	-54.40	-13	41.40
2474.10	48.31	310	2.2	H	-55.0	2.60	10.20	-47.40	-13	34.40
2474.10	53.68	52	1.9	V	-49.1	2.60	10.20	-41.50	-13	28.50
3298.80	45.29	323	2.2	H	-55.6	1.50	11.70	-45.40	-13	32.40
3298.80	49.83	357	1.5	V	-51.1	1.50	11.70	-40.90	-13	27.90
1.4MHz, Middle channel										
963.5	32.48	231	2.1	H	-64.0	1.36	0.0	-65.36	-13	52.36
963.5	33.63	157	1.7	V	-60.4	1.36	0.0	-61.76	-13	48.76
1673.00	44.49	234	2.0	H	-61.8	1.30	8.90	-54.20	-13	41.20
1673.00	45.95	243	2.0	V	-59.8	1.30	8.90	-52.20	-13	39.20
2509.50	48.67	15	1.7	H	-54.7	2.60	10.20	-47.10	-13	34.10
2509.50	53.31	52	1.3	V	-49.4	2.60	10.20	-41.80	-13	28.80
3346.00	45.37	212	2.1	H	-55.5	1.50	11.70	-45.30	-13	32.30
3346.00	49.17	259	2.0	V	-51.8	1.50	11.70	-41.60	-13	28.60
1.4MHz, High channel										
966.0	32.60	290	2.1	H	-63.9	1.36	0.0	-65.26	-13	52.26
966.0	33.69	168	1.8	V	-60.4	1.36	0.0	-61.76	-13	48.76
1696.60	44.57	179	2.1	H	-61.8	1.30	8.90	-54.20	-13	41.20
1696.60	45.92	88	2.0	V	-59.8	1.30	8.90	-52.20	-13	39.20
2544.90	48.38	183	2.0	H	-55.0	2.60	10.20	-47.40	-13	34.40
2544.90	53.45	115	1.0	V	-49.3	2.60	10.20	-41.70	-13	28.70
3393.20	45.32	319	1.3	H	-55.9	1.40	11.80	-45.50	-13	32.50
3393.20	49.51	32	2.2	V	-51.5	1.40	11.80	-41.10	-13	28.10
Band 7										
Test frequency range: 30 MHz ~ 26.5 GHz										
5MHz, Low channel										
952.5	32.37	31	1.2	H	-64.1	1.36	0.0	-65.46	-25	40.46
952.5	33.43	155	1.6	V	-60.6	1.36	0.0	-61.96	-25	36.96
5005.00	47.82	121	2.4	H	-52.8	1.70	12.00	-42.50	-25	17.50
5005.00	50.14	78	2.1	V	-49.9	1.70	12.00	-39.60	-25	14.60
5MHz, Middle channel										
954.1	32.41	299	1.7	H	-64.1	1.36	0.0	-65.46	-25	40.46
954.1	33.34	262	1.6	V	-60.7	1.36	0.0	-62.06	-25	37.06
5070.00	47.56	291	2.4	H	-52.4	1.60	12.10	-41.90	-25	16.90
5070.00	49.52	249	2.0	V	-50.5	1.60	12.10	-40.00	-25	15.00
5MHz, High channel										
958.8	32.24	243	1.2	H	-64.3	1.36	0.0	-65.66	-25	40.66
958.8	33.30	54	2.0	V	-60.8	1.36	0.0	-62.16	-25	37.16
5135.00	47.51	256	1.2	H	-52.5	1.60	12.10	-42.00	-25	17.00
5135.00	50.07	245	1.4	V	-49.9	1.60	12.10	-39.40	-25	14.40

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 12										
Test frequency range: 30 MHz ~10GHz										
1.4MHz, Low channel										
963.5	32.29	216	1.7	H	-64.2	1.36	0.0	-65.56	-13	52.56
963.5	33.36	140	1.6	V	-60.7	1.36	0.0	-62.06	-13	49.06
1399.40	43.47	80	1.2	H	-64.7	1.60	7.90	-58.40	-13	45.40
1399.40	44.26	325	1.1	V	-64.2	1.60	7.90	-57.90	-13	44.90
2099.10	43.18	118	1.9	H	-57.9	1.30	9.70	-49.50	-13	36.50
2099.10	44.23	247	1.5	V	-57.7	1.30	9.70	-49.30	-13	36.30
2798.80	45.19	156	2.1	H	-58.8	1.80	10.50	-50.10	-13	37.10
2798.80	46.25	279	2.4	V	-57.4	1.80	10.50	-48.70	-13	35.70
3498.50	60.11	94	1.1	H	-40.8	1.50	12.00	-30.30	-13	17.30
3498.50	62.34	155	2.4	V	-39.3	1.50	12.00	-28.80	-13	15.80
1.4MHz, Middle channel										
964.9	32.51	90	2.2	H	-64.0	1.36	0.0	-65.36	-13	52.36
964.9	33.48	243	1.7	V	-60.6	1.36	0.0	-61.96	-13	48.96
1415.00	43.51	227	1.0	H	-64.7	1.60	7.90	-58.40	-13	45.40
1415.00	44.25	355	2.5	V	-64.2	1.60	7.90	-57.90	-13	44.90
2122.50	43.42	332	2.0	H	-57.7	1.30	9.70	-49.30	-13	36.30
2122.50	44.18	229	2.4	V	-57.8	1.30	9.70	-49.40	-13	36.40
2830.00	45.17	43	2.2	H	-58.8	1.80	10.50	-50.10	-13	37.10
2830.00	46.15	344	2.4	V	-57.5	1.80	10.50	-48.80	-13	35.80
3537.50	60.17	30	1.0	H	-40.7	1.50	12.00	-30.20	-13	17.20
3537.50	62.05	228	2.2	V	-39.6	1.50	12.00	-29.10	-13	16.10
1.4MHz, High channel										
967.8	32.63	319	2.2	H	-63.9	1.36	0.0	-65.26	-13	52.26
967.8	33.65	316	1.3	V	-60.4	1.36	0.0	-61.76	-13	48.76
1430.60	43.12	19	1.2	H	-65.1	1.60	7.90	-58.80	-13	45.80
1430.60	44.52	144	2.1	V	-63.9	1.60	7.90	-57.60	-13	44.60
2145.90	43.10	260	1.0	H	-58.0	1.30	9.70	-49.60	-13	36.60
2145.90	44.31	97	1.4	V	-57.6	1.30	9.70	-49.20	-13	36.20
2861.20	45.15	200	2.0	H	-59.5	1.70	10.70	-50.50	-13	37.50
2861.20	46.34	78	2.1	V	-58.4	1.70	10.70	-49.40	-13	36.40
3576.50	60.07	339	1.5	H	-41.6	1.50	12.10	-31.00	-13	18.00
3576.50	62.42	173	2.4	V	-38.8	1.50	12.10	-28.20	-13	15.20

Frequency	Receiver	Turntable	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
(MHz)	Reading (dBμV)	Angle Degree	Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Band 38										
Test frequency range: 30 MHz ~10GHz										
5MHz, Low channel										
962.8	32.44	285	1.2	H	-64.1	1.36	0.0	-65.46	-25	40.46
962.8	33.76	235	1.7	V	-60.3	1.36	0.0	-61.66	-25	36.66
5145.00	45.67	132	2.5	H	-54.3	1.60	12.10	-43.80	-25	18.80
5145.00	45.35	328	1.1	V	-54.7	1.60	12.10	-44.20	-25	19.20
5MHz, Middle channel										
963.1	32.34	347	2.1	H	-64.2	1.36	0.0	-65.56	-25	40.56
963.1	33.71	266	1.2	V	-60.3	1.36	0.0	-61.66	-25	36.66
5190.00	45.82	121	1.3	H	-54.3	1.60	12.10	-43.80	-25	18.80
5190.00	45.24	119	2.0	V	-54.4	1.60	12.10	-43.90	-25	18.90
5MHz, High channel										
960.5	32.36	203	2.1	H	-64.1	1.36	0.0	-65.46	-25	40.46
960.5	33.68	251	1.7	V	-60.4	1.36	0.0	-61.76	-25	36.76
5235.00	45.81	335	1.4	H	-54.3	1.60	12.10	-43.80	-25	18.80
5235.00	45.43	275	1.8	V	-54.2	1.60	12.10	-43.70	-25	18.70

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(g) (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.

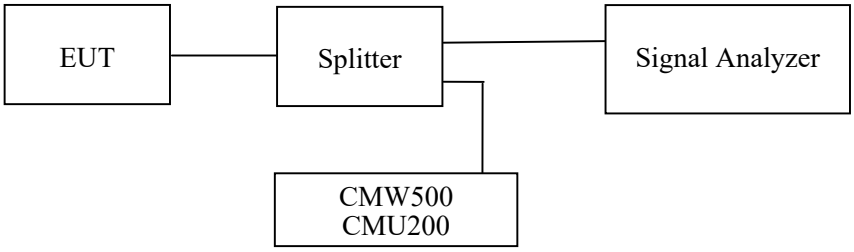
According to FCC §27.53 (g), For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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

Test Procedure

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

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



Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

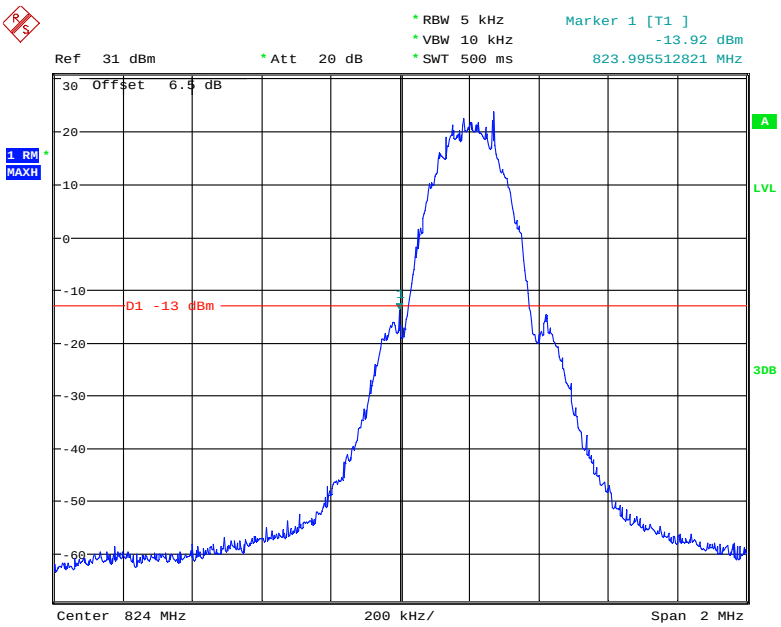
The testing was performed by Coco Liu and Alan He from 2021-02-26 to 2021-03-24.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

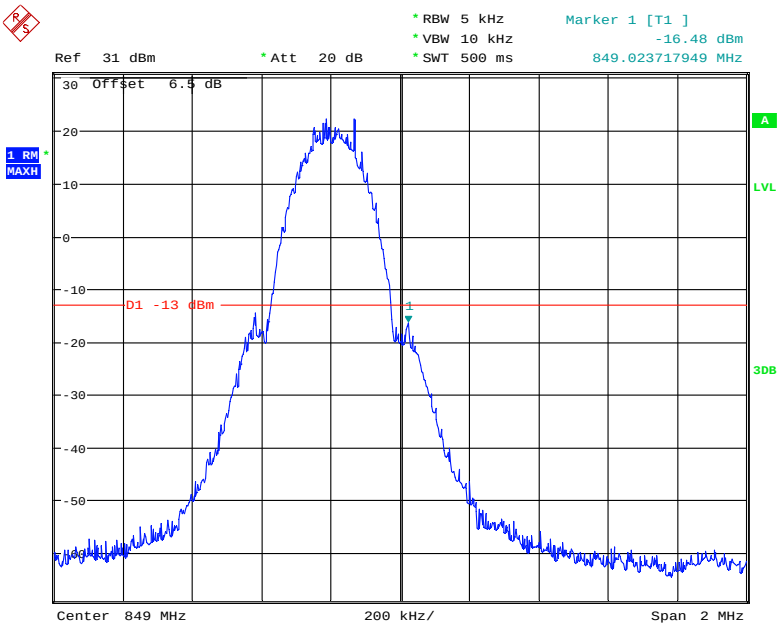
Please refer to the following plots.

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



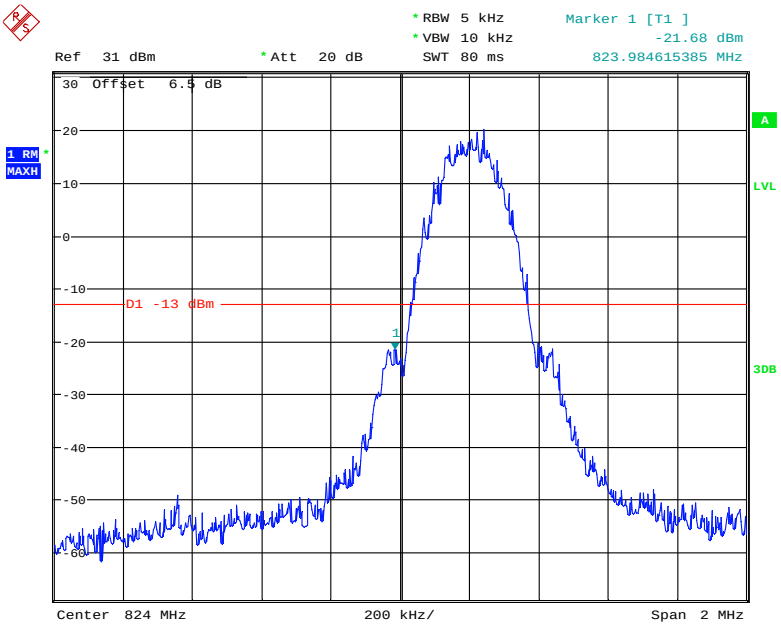
Date: 26.FEB.2021 13:54:28

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



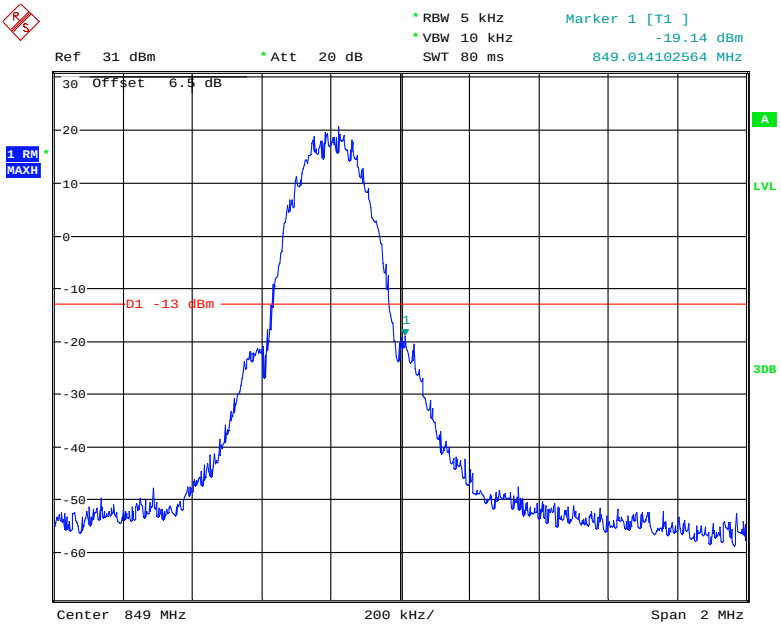
Date: 26.FEB.2021 13:57:32

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



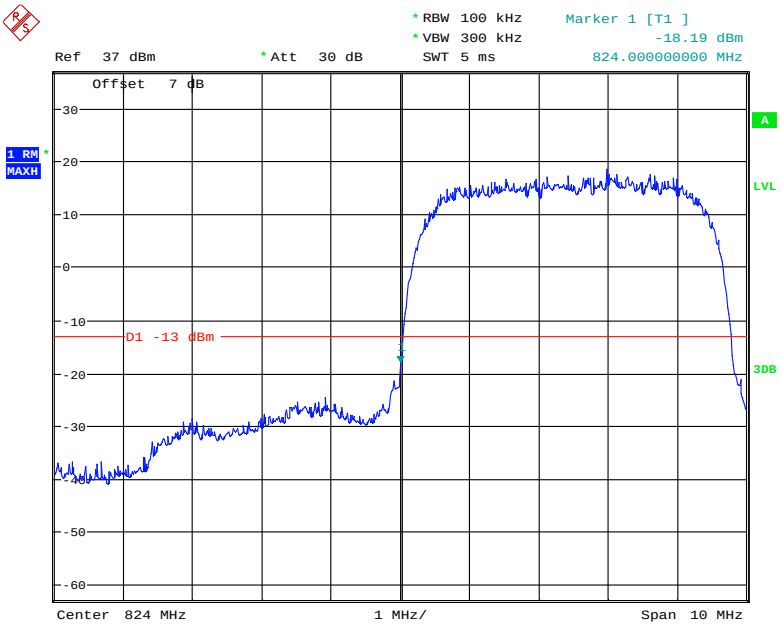
Date: 26.FEB.2021 14:16:16

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



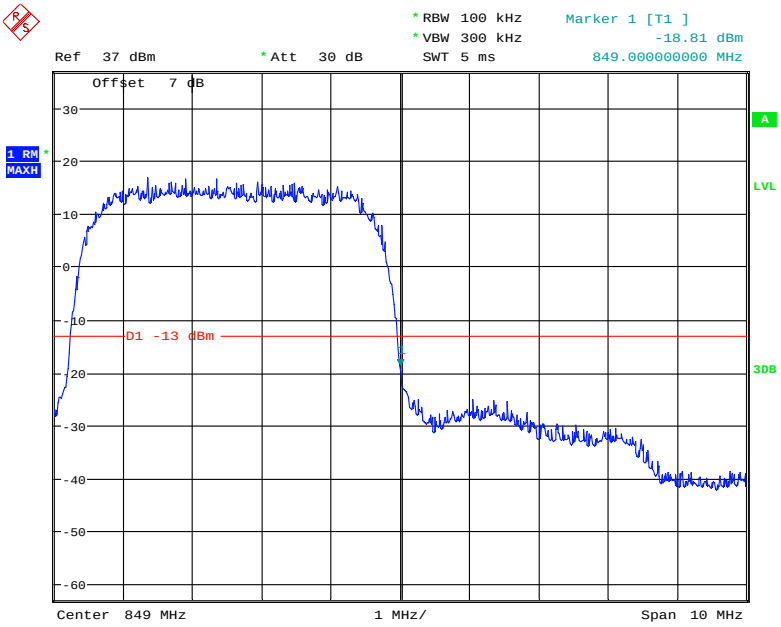
Date: 26.FEB.2021 14:15:03

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



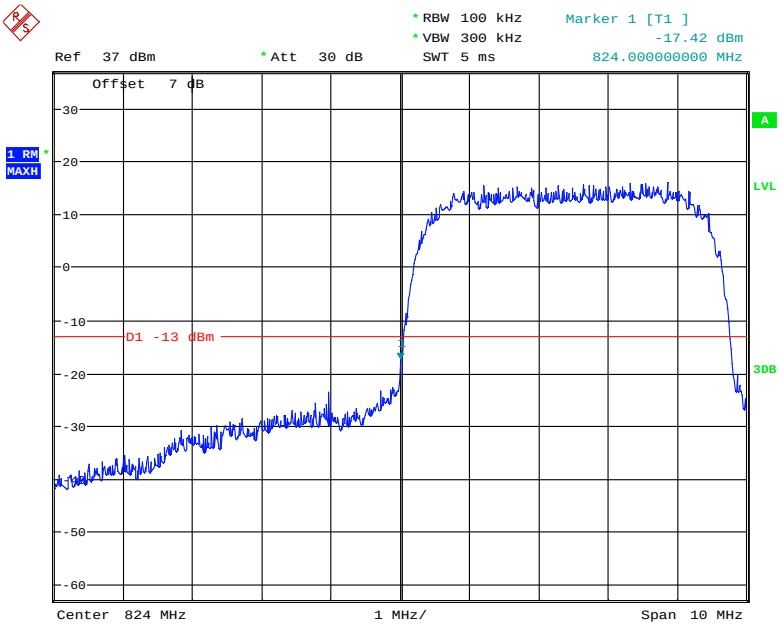
Date: 5.MAR.2021 16:26:52

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



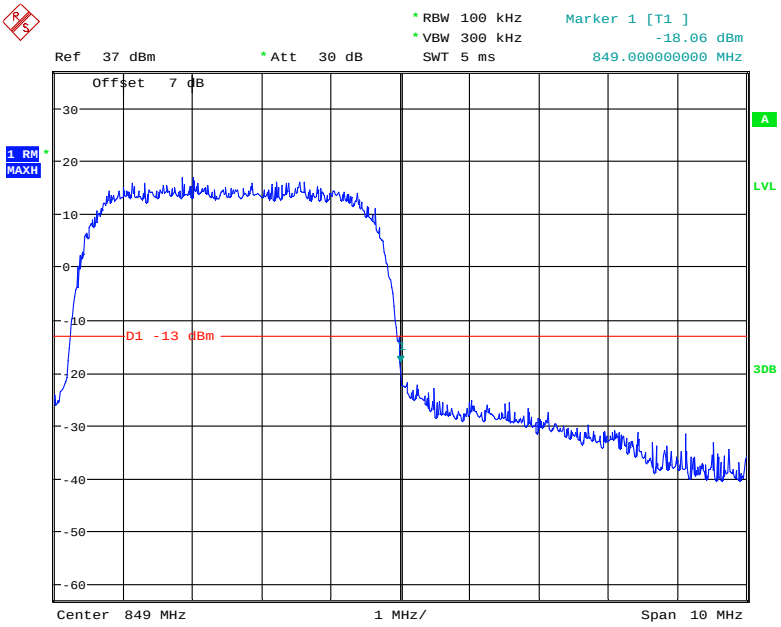
Date: 5.MAR.2021 16:27:22

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



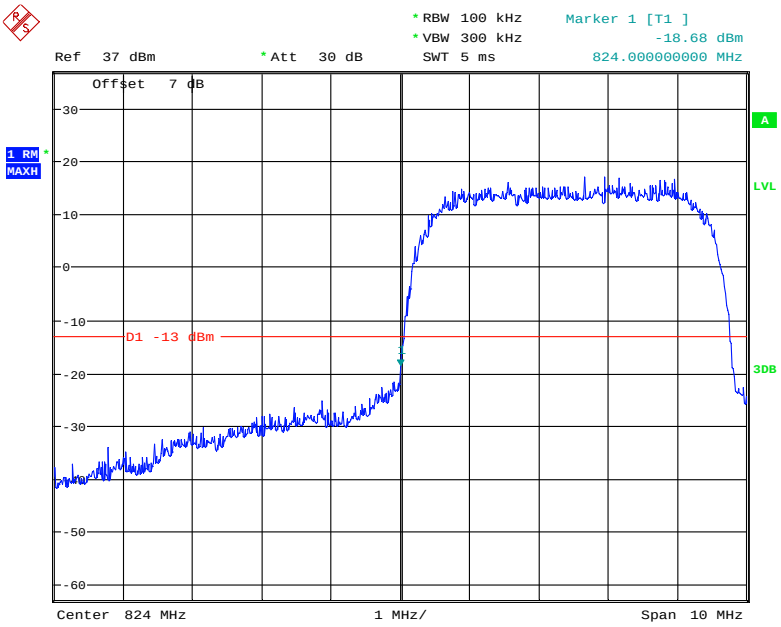
Date: 5.MAR.2021 16:30:59

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



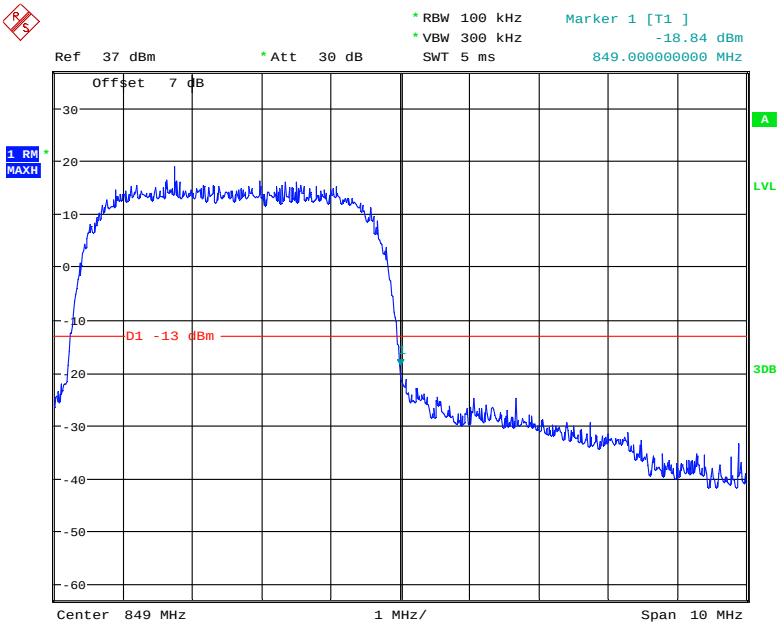
Date: 5.MAR.2021 16:30:33

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



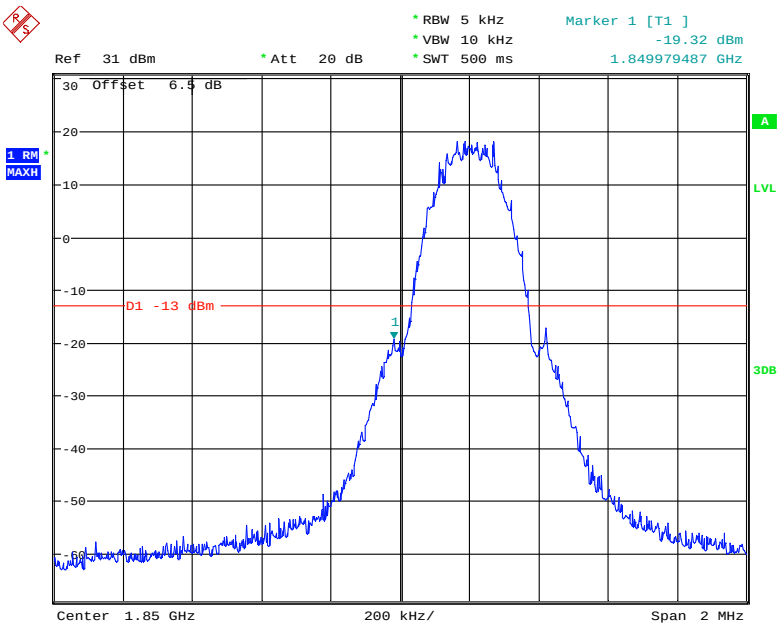
Date: 5.MAR.2021 16:39:00

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



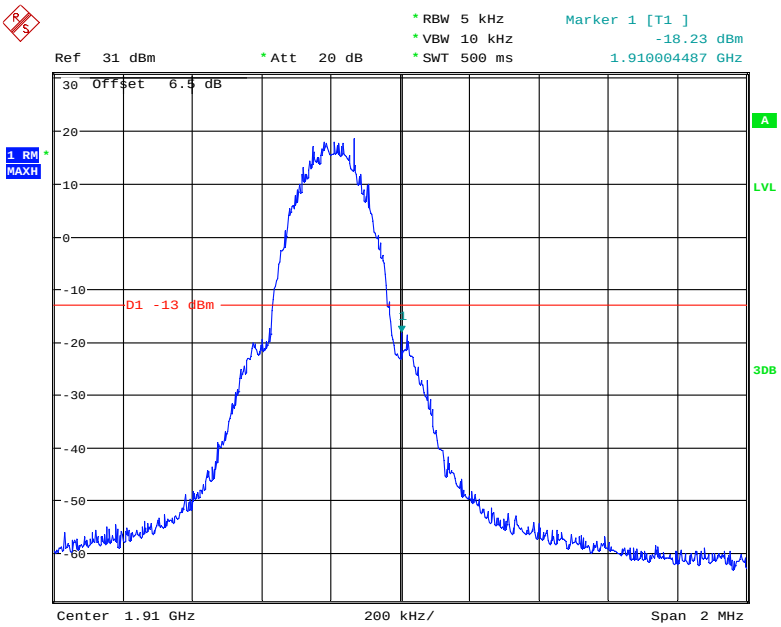
Date: 5.MAR.2021 16:39:18

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



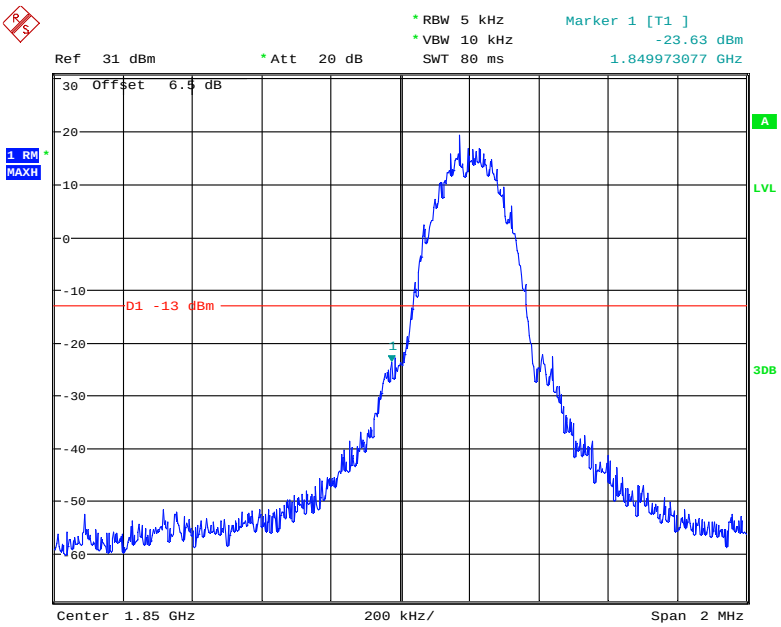
Date: 26.FEB.2021 14:02:27

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



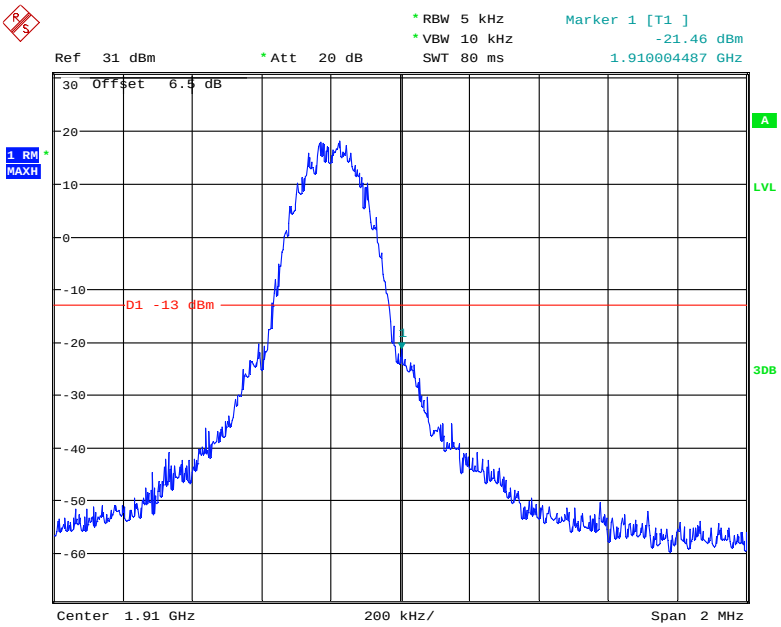
Date: 26.FEB.2021 14:04:17

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



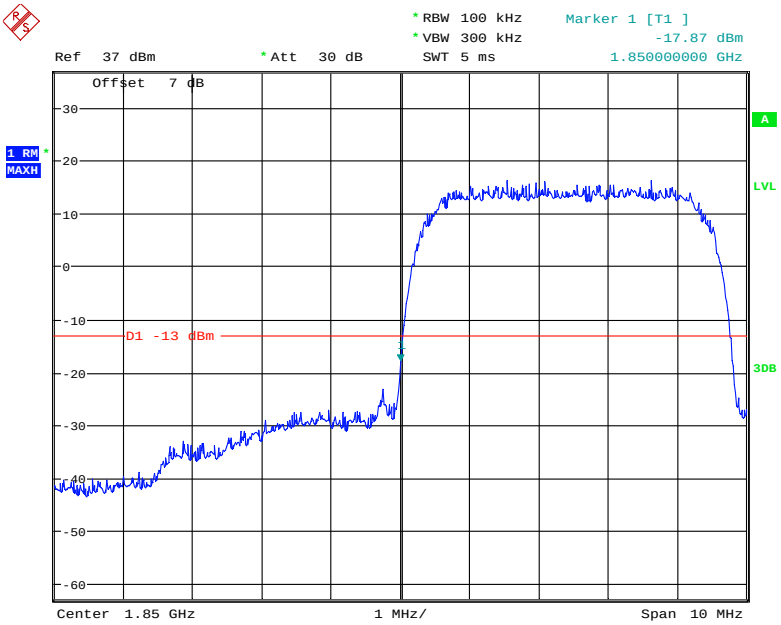
Date: 26.FEB.2021 14:28:10

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



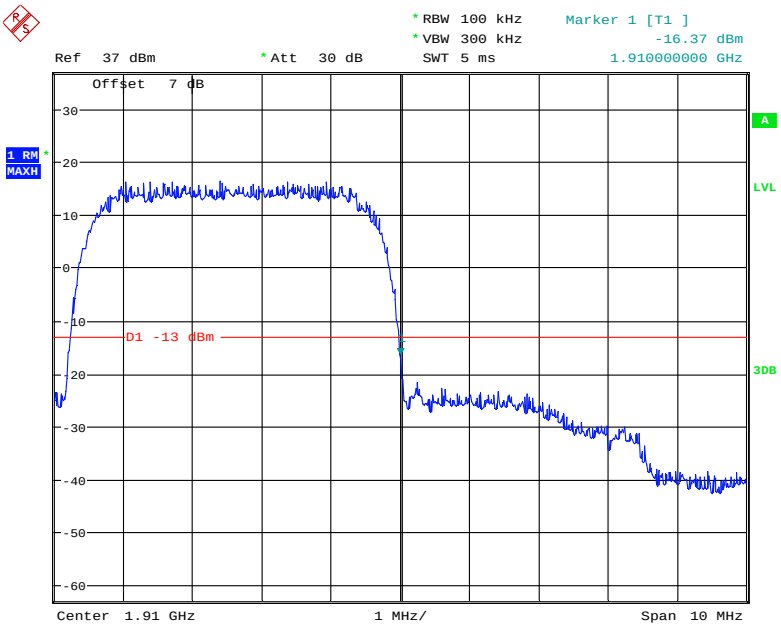
Date: 26.FEB.2021 14:29:12

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



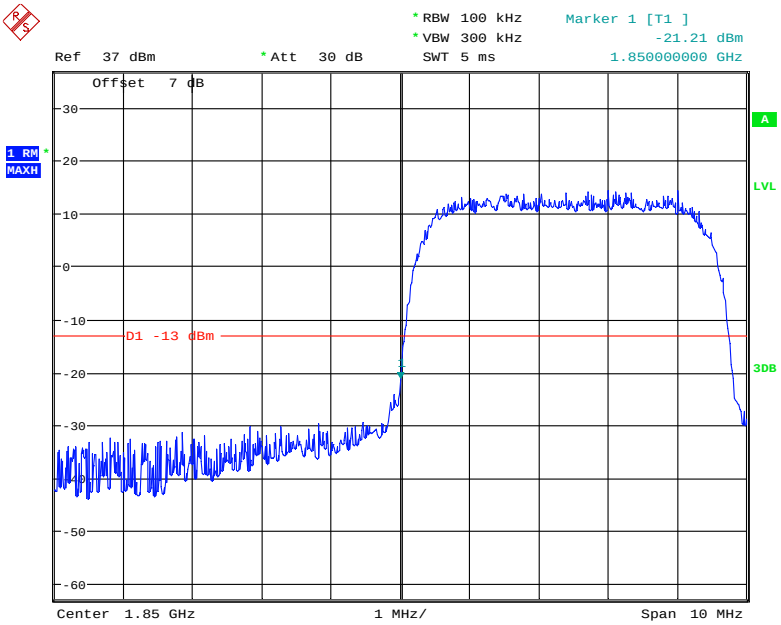
Date: 5.MAR.2021 14:53:34

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



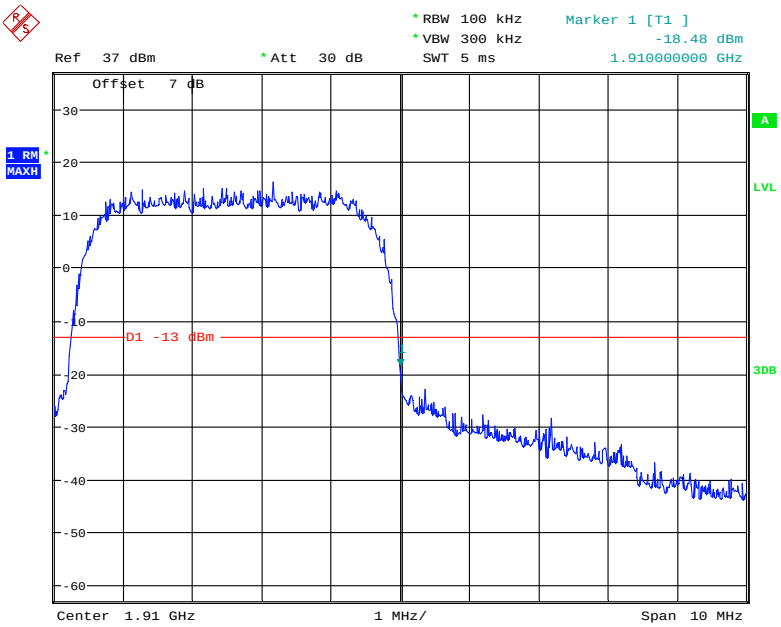
Date: 5.MAR.2021 14:54:13

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



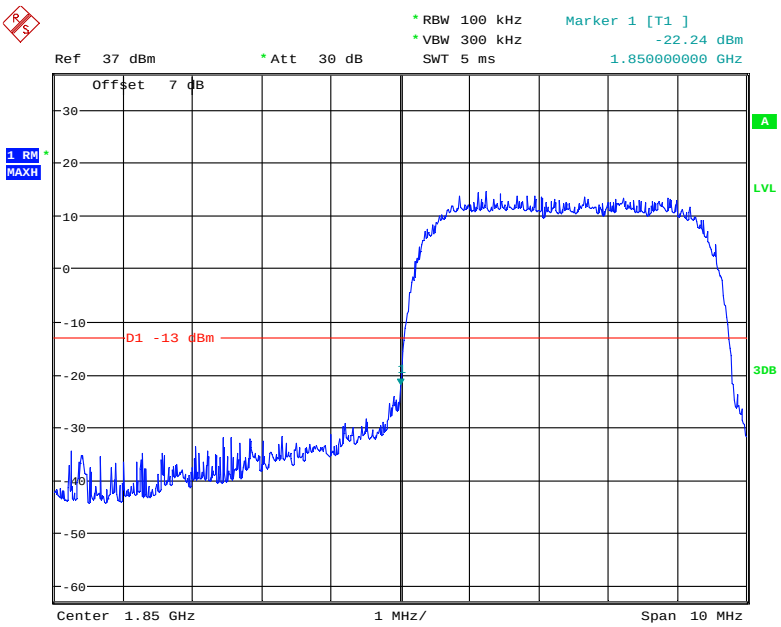
Date: 5.MAR.2021 14:58:49

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



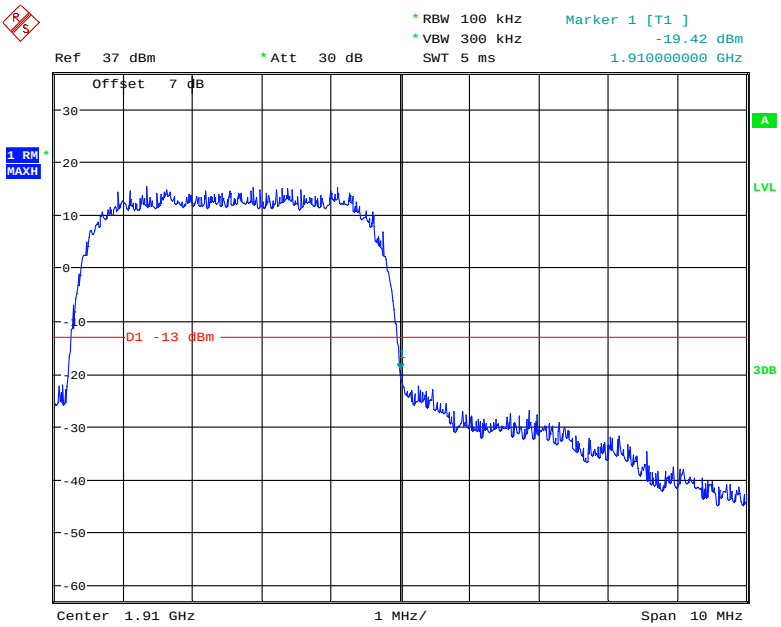
Date: 5.MAR.2021 14:58:10

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



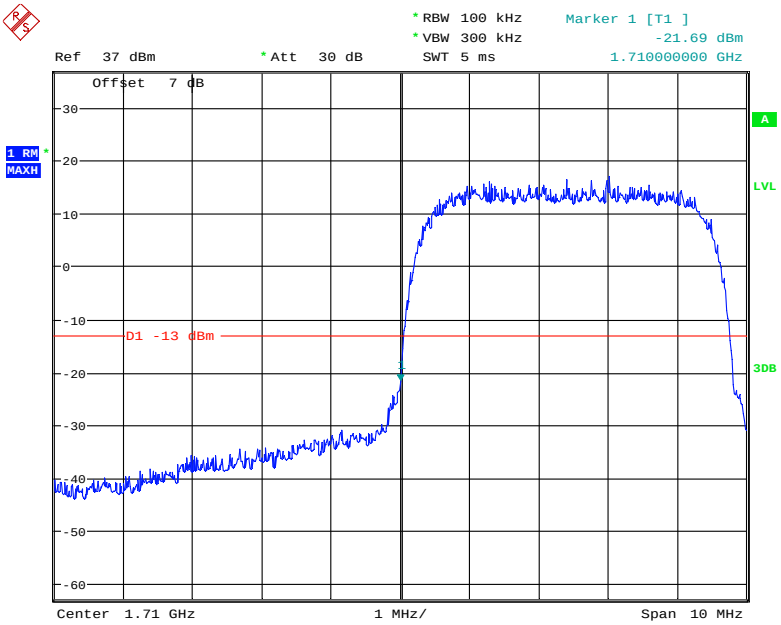
Date: 5.MAR.2021 15:12:43

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



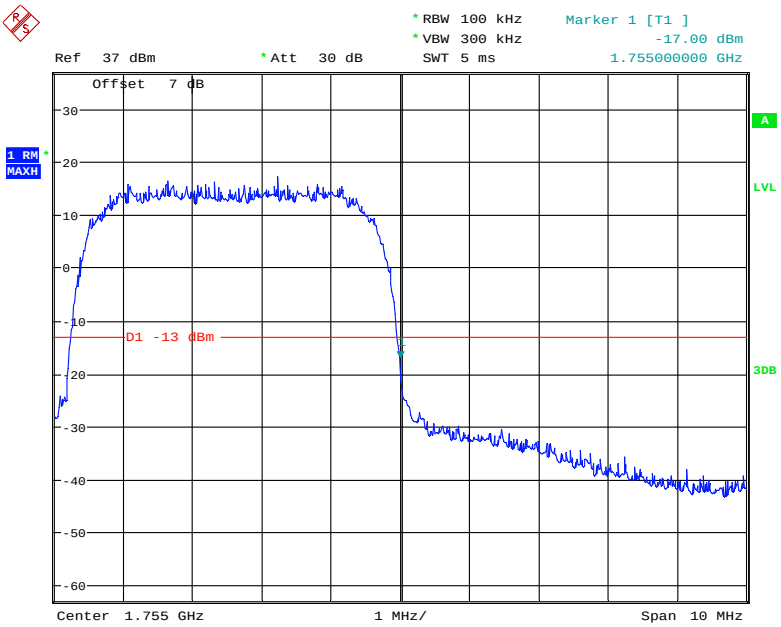
Date: 5.MAR.2021 15:13:00

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



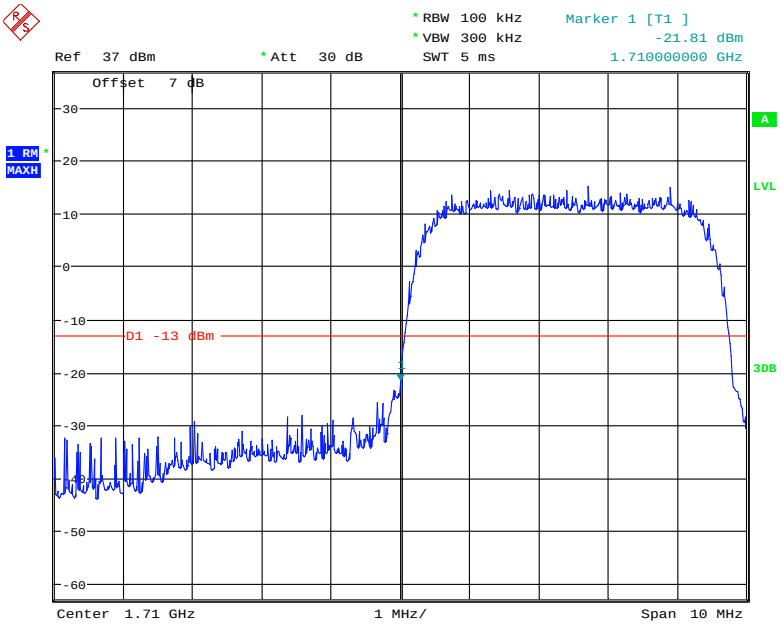
Date: 5.MAR.2021 15:23:41

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



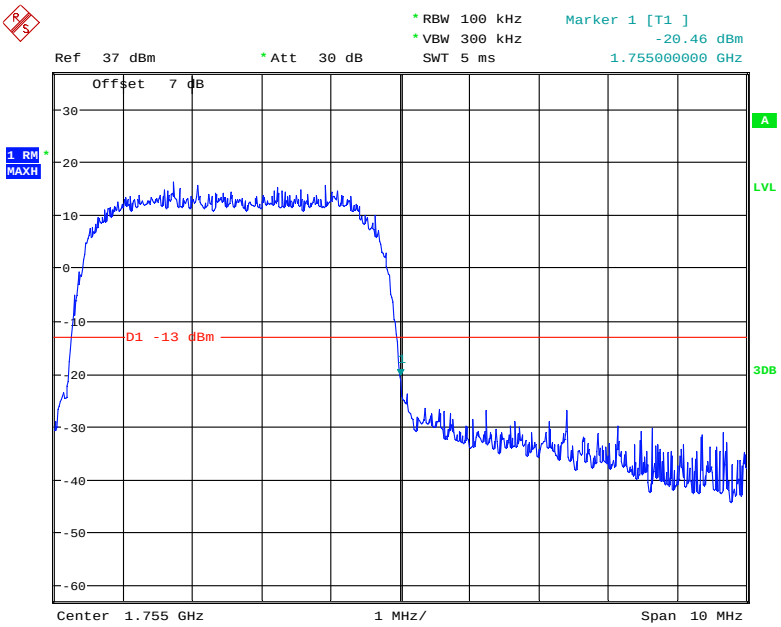
Date: 5.MAR.2021 15:22:57

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



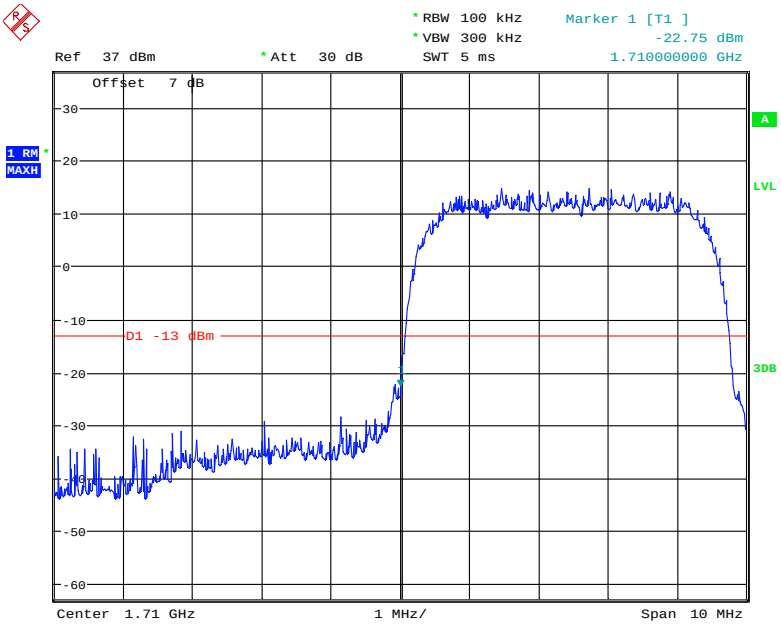
Date: 5.MAR.2021 16:17:08

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

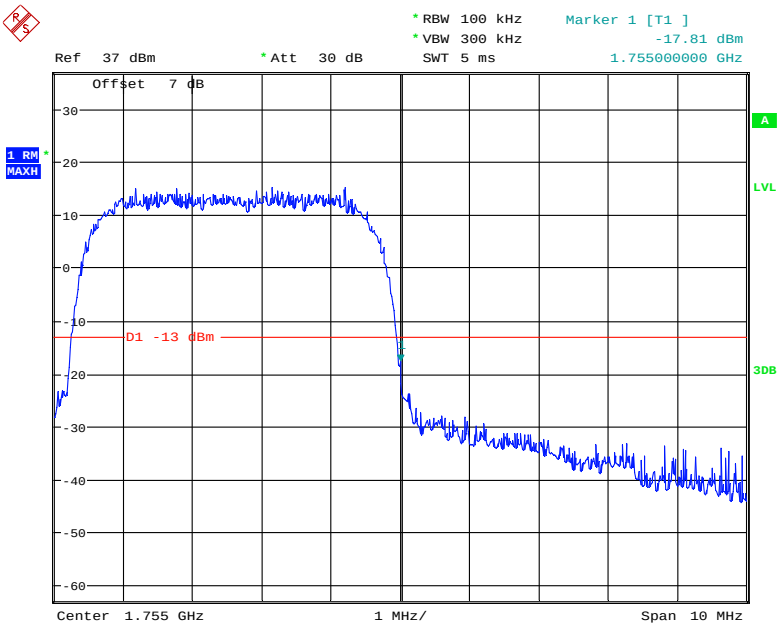


Date: 5.MAR.2021 16:16:51

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



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



The test plot of LTE band please refer to the Appendix A.

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

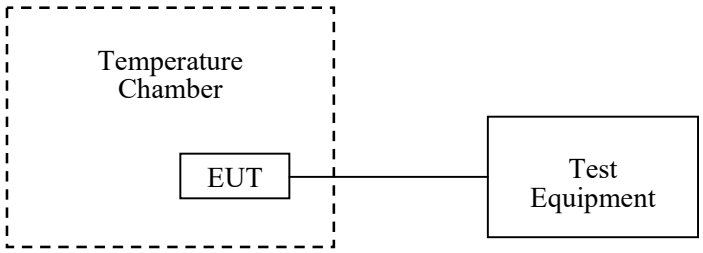
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

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:	25 ℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Coco Liu and Alan He from 2021-03-05 to 2021-03-24.

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	3.8	-1	-0.0012	2.5
-20		7	0.0084	2.5
-10		-2	-0.0024	2.5
0		-3	-0.0036	2.5
10		4	0.0048	2.5
20		-1	-0.0012	2.5
30		9	0.0108	2.5
40		2	0.0024	2.5
50		0	0	2.5
20	V min.= 3.4	6	0.0072	2.5
	V max.= 4.35	-1	-0.0012	2.5

EDGE Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.8	-3	-0.0036	2.5
-20		4	0.0048	2.5
-10		-1	-0.0012	2.5
0		9	0.0108	2.5
10		-4	-0.0048	2.5
20		2	0.0024	2.5
30		6	0.0072	2.5
40		-4	-0.0048	2.5
50		-1	-0.0012	2.5
20	V min.= 3.4	8	0.0096	2.5
	V max.= 4.35	1	0.0012	2.5

WCDMA Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	3.8	4	0.0048	2.5
-20		2	0.0024	2.5
-10		1	0.0012	2.5
0		-1	-0.0012	2.5
10		8	0.0096	2.5
20		2	0.0024	2.5
30		2	0.0024	2.5
40		4	0.0048	2.5
50		3	0.0036	2.5
20	V min.= 3.4	2	0.0024	2.5
	V max.= 4.35	6	0.0072	2.5

PCS Band (Part 24E)

GSM Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	9	0.0048	pass
-20		7	0.0037	pass
-10		5	0.0027	pass
0		5	0.0027	pass
10		-1	-0.0005	pass
20		-1	-0.0005	pass
30		8	0.0043	pass
40		5	0.0027	pass
50		2	0.0011	pass
20	V min.= 3.4	8	0.0043	pass
	V max.= 4.35	4	0.0021	pass

EDGE Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	8	0.0043	pass
-20		-3	-0.0016	pass
-10		-3	-0.0016	pass
0		-5	-0.0027	pass
10		5	0.0027	pass
20		7	0.0037	pass
30		5	0.0027	pass
40		4	0.0021	pass
50		-5	-0.0027	pass
20	V min.= 3.4	2	0.0011	pass
	V max.= 4.35	4	0.0021	pass

WCDMA Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	4	0.0021	pass
-20		6	0.0032	pass
-10		2	0.0011	pass
0		7	0.0037	pass
10		6	0.0032	pass
20		2	0.0011	pass
30		-5	-0.0027	pass
40		8	0.0043	pass
50		8	0.0043	pass
20	V min.= 3.4	2	0.0011	pass
	V max.= 4.35	5	0.0027	pass

AWS Band (Part 27)

Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.8	1710.0598	1754.9331	1710	1755
-20		1710.0624	1754.9353	1710	1755
-10		1710.0601	1754.9344	1710	1755
0		1710.0664	1754.9321	1710	1755
10		1710.0623	1754.9327	1710	1755
20		1710.0613	1754.9310	1710	1755
30		1710.0637	1754.9353	1710	1755
40		1710.0614	1754.9377	1710	1755
50		1710.0661	1754.9305	1710	1755
20	V min.= 3.4	1710.0633	1754.9366	1710	1755
	V max.= 4.35	1710.0654	1754.9340	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	3.8	10	0.0053	pass
-20		5	0.0027	pass
-10		-7	-0.0037	pass
0		-8	-0.0043	pass
10		6	0.0032	pass
20		7	0.0037	pass
30		6	0.0032	pass
40		-7	-0.0037	pass
50		-8	-0.0043	pass
20	V min.= 3.4	-12	-0.0064	pass
	V max.= 4.35	-9	-0.0048	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	3.8	1710.0022	1754.6103	1710	1755
-20		1710.002	1754.7710	1710	1755
-10		1710.0524	1754.6784	1710	1755
0		1710.0172	1754.6688	1710	1755
10		1710.2147	1754.6749	1710	1755
20		1710.2256	1754.6994	1710	1755
30		1710.0554	1754.6929	1710	1755
40		1710.0340	1754.5737	1710	1755
50		1710.0765	1754.5323	1710	1755
20	V min.= 3.4	1710.1506	1754.5370	1710	1755
	V max.= 4.35	1710.0794	1754.7825	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	3.8	5	0.0060	2.5
-20		-7	-0.0084	2.5
-10		-9	-0.0108	2.5
0		-7	-0.0084	2.5
10		5	0.0060	2.5
20		2	0.0024	2.5
30		6	0.0072	2.5
40		-3	-0.0036	2.5
50		-10	-0.0120	2.5
20	V min.= 3.4	-8	-0.0096	2.5
	V max.= 4.35	-7	-0.0084	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	3.8	2500.1189	2569.5312	2500	2570
-20		2500.1469	2569.5767	2500	2570
-10		2500.1952	2569.5762	2500	2570
0		2500.1420	2569.5614	2500	2570
10		2500.2691	2569.6706	2500	2570
20		2500.0683	2569.5827	2500	2570
30		2500.2353	2569.7850	2500	2570
40		2500.1550	2569.7575	2500	2570
50		2500.0193	2569.6615	2500	2570
20	V min.= 3.4	2500.0886	2569.6132	2500	2570
	V max.= 4.35	2500.0629	2569.5260	2500	2570

Band 12:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.8	699.1962	715.7431	699	716
-20		699.1036	715.5340	699	716
-10		699.2206	715.5661	699	716
0		699.2503	715.6337	699	716
10		699.2484	715.5311	699	716
20		699.2909	715.7553	699	716
30		699.2551	715.7377	699	716
40		699.2281	715.6597	699	716
50		699.2195	715.7513	699	716
20	V min.= 3.4	699.0238	715.6175	699	716
	V max.= 4.35	699.0240	715.6342	699	716

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	3.8	2570.0563	2619.9128	2570	2620
-20		2570.1925	2619.9191	2570	2620
-10		2570.1582	2619.9162	2570	2620
0		2570.023	2619.9020	2570	2620
10		2570.1503	2619.9587	2570	2620
20		2570.2968	2619.9033	2570	2620
30		2570.1859	2619.9339	2570	2620
40		2570.2587	2619.9974	2570	2620
50		2570.0073	2619.9454	2570	2620
20	V min.= 3.4	2570.2768	2619.9021	2570	2620
	V max.= 4.35	2570.1549	2619.9819	2570	2620

16QAM:

Band 2:

10.0 MHz Middle Channel, f_o =1880MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	3.8	-7	-0.0037	pass
-20		-9	-0.0048	pass
-10		6	0.0032	pass
0		-6	-0.0032	pass
10		-10	-0.0053	pass
20		-5	-0.0027	pass
30		-9	-0.0048	pass
40		-7	-0.0037	pass
50		10	0.0053	pass
20	V min.= 3.4	-8	-0.0043	pass
	V max.= 4.35	-10	-0.0053	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	3.8	1710.0003	1754.7635	1710	1755
-20		1710.0213	1754.5550	1710	1755
-10		1710.0747	1754.6860	1710	1755
0		1710.0849	1754.5774	1710	1755
10		1710.0397	1754.5439	1710	1755
20		1710.1142	1754.5819	1710	1755
30		1710.0502	1754.5957	1710	1755
40		1710.1399	1754.5751	1710	1755
50		1710.0947	1754.5503	1710	1755
20	V min.= 3.4	1710.2353	1754.7363	1710	1755
	V max.= 4.35	1710.1865	1754.5186	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	3.8	8	0.0096	2.5
-20		6	0.0072	2.5
-10		-3	-0.0036	2.5
0		-5	-0.0060	2.5
10		-6	-0.0072	2.5
20		-7	-0.0084	2.5
30		-8	-0.0096	2.5
40		8	0.0096	2.5
50		-9	-0.0108	2.5
20	V min.= 3.4	9	0.0108	2.5
	V max.= 4.35	-7	-0.0084	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	3.8	2500.1535	2569.6534	2500	2570
-20		2500.1819	2569.7708	2500	2570
-10		2500.0372	2569.6791	2500	2570
0		2500.2103	2569.7374	2500	2570
10		2500.1056	2569.5718	2500	2570
20		2500.1053	2569.7383	2500	2570
30		2500.1011	2569.7244	2500	2570
40		2500.1148	2569.6617	2500	2570
50		2500.1198	2569.6384	2500	2570
20	V min.= 3.4	2500.0107	2569.7816	2500	2570
	V max.= 4.35	2500.1235	2569.5157	2500	2570

Band 12:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	3.8	699.0196	715.7680	699	716
-20		699.2963	715.6654	699	716
-10		699.0254	715.7560	699	716
0		699.0355	715.7297	699	716
10		699.2983	715.6822	699	716
20		699.1518	715.7310	699	716
30		699.2525	715.7390	699	716
40		699.1649	715.6567	699	716
50		699.1844	715.6423	699	716
20	V min.= 3.4	699.1038	715.6851	699	716
	V max.= 4.35	699.1538	715.6770	699	716

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	3.8	2570.0984	2619.9323	2570	2620
-20		2570.2351	2619.9335	2570	2620
-10		2570.2091	2619.9347	2570	2620
0		2570.2247	2619.9336	2570	2620
10		2570.0303	2619.9316	2570	2620
20		2570.2329	2619.9351	2570	2620
30		2570.0085	2619.9293	2570	2620
40		2570.2606	2619.9305	2570	2620
50		2570.0127	2619.9319	2570	2620
20	V min.= 3.4	2570.2189	2619.9361	2570	2620
	V max.= 4.35	2570.1006	2619.9343	2570	2620

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