TESTREPORT

Applicant Name :	Advanced Card Systems Limited
Address :	Units 4108 - 4110, 41st Floor, Manhattan Place, 23 Wang Tai Road, Kowloon Bay, Hong Kong
Report Number :	SZNS220809-36126E-RF-00D
FCC ID:	V5MACR350

Test Standard (s)

FCC PART 27; FCC PART 22H; FCC PART 24E

Sample Description

Product Type:	Bus Validator
Model No.:	ACR350
Multiple Model(s) No.:	N/A
Trade Mark:	acs
Date Received:	2022/08/09
Report Date:	2022/11/08

Test Result:	Pass*

* In the configuration tested, the EUT complied with the standards above.

Prepared andChecked By:

Roger Ling
EMC Engineer

Approved By:

Candy Li
EMC Engineer

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

Product Description for Equipment under Test (EUT)

Frequency Range	GSM 850: 824-849MHz(TX); 869-894MHz(RX) PCS 1900: 1850-1910MHz(TX); 1930-1990MHz(RX) WCDMA Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX) WCDMA Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX) WCDMA Band 5: 824-849MHz(TX); 869-894MHz(RX) LTE Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX) LTE Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX) LTE Band 5: 824-849MHz(TX); 869-894MHz(RX) LTE Band 12: 699-716MHz(TX); 729-746MHz(RX) LTE Band 38: 2570-2620MHz(TX/RX) LTE Band 41: 2496-2690MHz(TX/RX)
Modulation Technique	2G: GMSK, 8PSK 3G: BPSK, QPSK, 16QAM 4G: QPSK, 16QAM
Antenna Specification*	GSM850/WCDMA B5/LTE B5: 0.1dBi PCS 1900/WCDMA B2/LTE B2:2.9dBi WCDMA B4/LTE B4: 3.5dBi LTE B12: -0.7dBi, LTE 38: 2.7dBi, LTE B41: 3.0dBi (provided by the applicant)
Voltage Range	DC 9V-36 V
Sample serial number	SZNS220809-36126E-RF-S1 for Radiated Emissions Test SZNS220809-36126E-RF-S2 for RF Conducted Test (Assigned by ATC)
Sample/EUT Status	Good condition
Extreme condition*	L.V.: Low Voltage $9V_{DC}$ N.V.: Normal Voltage $24V_{DC}$ H.V.: High Voltage $36V_{DC}$ (provided by the applicant)

Objective

This test report is in accordance with Part 2-Subpart J, Part 22-Subpart H,Part24-Subpart E, and Subpart 27 of the Federal Communication Commission's 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 Shenzhen Accurate Technology Co., Ltd. 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
RF Frequency		$\pm 0.082*10^{-7}$
Emissions, Radiated	30MHz - 1GHz	±4.28dB
	1GHz - 18GHz	±4.98dB
	18GHz - 26.5GHz	±5.06dB
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 Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. 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.: 708358,the FCC Designation No.: CN1189. Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 429 7.01.

Listed by Innovation, Science and Economic Development Canada (ISEDC), the Registration Number is 5077A.

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 B12	1.4	699.7	707.5	715.3
	3	700.5	707.5	714.5
	5	701.5	707.5	713.5
	10	704.0	707.5	711

Frequency band	Bandwidth (MHz)	Test Frequency(MHz)		
		Low	Middle	High
LTE B38	5	2572.5	2595	2617.5
	10	2575	2595	2615
	15	2577.5	2595	2612.5
	20	2580	2595	2610
LTE B41	5	2498.5	2593	2687.5
	10	2501	2593	2685
	15	2503.5	2593	2682.5
	20	2506	2593	2680

Equipment Modifications

No modification was made to the EUT.

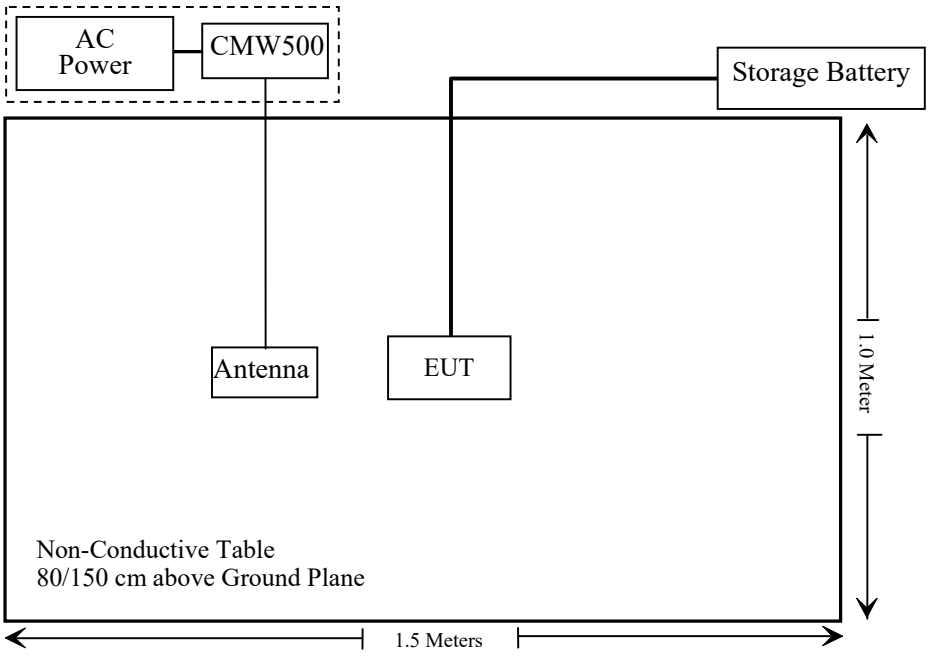
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606
Unknown	Storage Battery	Unknown	Unknown

Support Cable Description

Cable Description	Length (m)	From / Port	To
Unshielded Un-detachable AC cable	1.2	AC Power	CMW500
Un-shielding Detachable DC Cable	1.0	EUT	Storage Battery

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §1.1307(b) & 2.1091	MAXIMUM PERMISSIBLE EXPOSURE (MPE)	Compliant
§2.1046; § 22.913 (a) (d); § 24.232 (c) (d); §27.50(c) (d) (h);	RF Output Power	Compliant
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905; § 22.917; § 24.238; §27.53	Occupied Bandwidth	Compliant
§ 2.1051; §22.917 (a); § 24.238 (a); §27.53;	Spurious Emissions at Antenna Terminal	Compliant
§ 2.1053; § 22.917 (a); § 24.238 (a); §27.53	Field Strength of Spurious Radiation	Compliant
§ 22.917 (a); § 24.238 (a); §27.53 (h) (m)	Band Edge	Compliant
§ 2.1055; § 22.355; § 24.235; §27.54;	Frequency stability	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Rohde& Schwarz	Test Receiver	ESR	102725	2021/12/13	2022/12/12
Rohde&Schwarz	Spectrum Analyzer	FSV40	101949	2021/12/13	2022/12/12
SONOMA INSTRUMENT	Amplifier	310 N	186131	2021/11/09	2022/11/08
A.H. Systems, inc.	Preamplifier	PAM-0118P	135	2021/11/09	2022/11/08
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2021/11/11	2022/11/10
Radiated Emission Test Software: e3 19821b (V9)					
Unknown	RF Coaxial Cable	No.10	N050	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.11	N1000	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.12	N040	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.13	N300	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.14	N800	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.15	N600	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.16	N650	2021/12/14	2022/12/13
Schwarzbeck	Bilog Antenna	VULB9163	9163-194	2020/01/05	2023/01/04
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-655	2020/01/05	2023/01/04
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	2020/01/05	2023/01/04
PASTERNACK	Horn Antenn	PE9852/2F-20	1120 (ATC-BA-024-1)	2020/01/05	2023/01/04
PASTERNACK	Horn Antenn	PE9852/2F-20	1120 (ATC-BA-025-1)	2020/01/05	2023/01/04
Wainwright	High Pass Filter	WHKX3.6/18G-10SS	5	2021/12/14	2022/12/13
CD	High Pass Filter	HPM-1.2/18G-60	110	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.16	N200	2021/12/14	2022/12/13
Agilent	Signal Generator	N5183A	MY51040755	2021/12/13	2022/12/12

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	SPECTRUM ANALYZER	FSU26	200982	2022/07/06	2023/07/05
Rohde & Schwarz	Spectrum Analyzer	FSV-40	101590	2022/01/19	2023/01/18
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606	2021/12/13	2022/12/12
WEINSCHEL	10dB Attenuator	5324	AU 3842	2021/12/14	2022/12/13
Mini-Circuits	Power Splitter	DC-18000MHz	SF10944151S	2021/12/14	2022/12/13
Gongwen	Temp. & Humid. Chamber	HSD-500	109	2021/10/14	2022/10/13
Fluke	Multi Meter	45	7664009	2021/12/14	2022/12/13
Manson	DC Power Source	KPS-6604	ATCS-205	NCR	NCR
Unknown	RF Coaxial Cable	No.33	RF-03	Each time	

* Statement of Traceability: Shenzhen Accurate Technology Co., Ltd. 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) & 2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.247 (i) and subpart 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (Minutes)**
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

Result

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm^2)
P = power input to the antenna (in appropriate units, e.g., mW).
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Result

For worst case:

Mode	Frequency (MHz)	Antenna Gain		Tune up conducted power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
BT	2402-2480	1.6	1.45	-8.0	0.16	20	0.00005	1
BLE	2402-2480	1.6	1.45	-9.0	0.13	20	0.00004	1
Wi-Fi	2412-2462	2.2	1.66	11.0	12.59	20	0.004	1
GSM850*	824-849	0.5	1.12	25.0	316.23	20	0.071	0.549
PCS1900*	1850-1910	3.0	2.00	24.0	251.19	20	0.100	1
WCDMA Band 2	1850-1910	3.0	2.00	24.5	281.84	20	0.112	1
WCDMA Band 4	1710-1755	3.0	2.00	23.5	223.87	20	0.089	1
WCDMA Band 5	824-849	0.5	1.12	23.5	223.87	20	0.050	0.549
LTE Band 2	1850-1910	3.0	2.00	21.0	125.89	20	0.050	1
LTE Band 4	1710-1755	3.0	2.00	22.0	158.49	20	0.063	1
LTE Band 5	824-849	0.5	1.12	23.0	199.53	20	0.045	0.549
LTE Band 12	699-716	0.5	1.12	23.5	223.87	20	0.050	0.466
LTE Band 38	2570-2620	3.0	2.00	20.0	100.00	20	0.040	1
LTE Band 41	2496-2690	3.0	2.00	19.0	79.43	20	0.032	1

Note : The tune-up power and antenna gain was declared by the applicant.

Note*: It was the time average power according to the below duty cycle.

For SAR, the time based average power is relevant, the difference in between depends on the duty cycle of the TDMA signal.

Number of Time slot	1	2	3	4
Duty Cycle	1:8	1:4	1:2.66	1:2
Time based Ave. power compared to slotted Ave. power	-9 dB	-6 dB	-4.25 dB	-3 dB
Crest Factor	8	4	2.66	2

Simultaneous transmitting consideration (worst case):

The ratio=MPE_{BT}/limit $_{BT}$ + MPE $_{Wi-Fi}$/limit $_{Wi-Fi}$ + MPE_{GSM850}/limit $_{GSM850}$
= 0.00005/1+0.004/1+0.071/0.549=0.133＜1.0

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliant.

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) (d)&§ 24.232(c) (d); §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), Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP. And Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

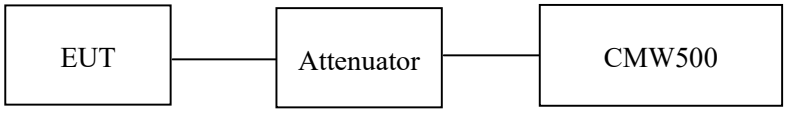
According to §27.50(d), Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

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

Test Procedure

Conducted method:

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



Test Data

Environmental Conditions

Temperature:	26.2 ℃
Relative Humidity:	56.2%
ATM Pressure:	101.0 kPa

The testing was performed by Roger Ling from 2022-09-01 to 2022-09-12.

Cellular Band (Part 22H)

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
GSM	128	824.2	32.51	**30.46**	38.45
	190	836.6	32.43	30.38	38.45
	251	848.8	32.47	30.42	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	31.96	30.29	28.55	26.50	29.91	28.24	26.50	24.45	38.45
	190	836.6	31.93	30.35	28.67	26.81	29.88	28.30	26.62	24.76	38.45
	251	848.8	31.95	30.43	28.51	26.77	29.90	28.38	26.46	24.72	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				ERP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
EGPRS	128	824.2	26.27	24.76	23.15	21.91	**24.22**	22.71	21.10	19.86	38.45
	190	836.6	26.20	24.83	23.17	21.92	24.15	22.78	21.12	19.87	38.45
	251	848.8	26.24	24.86	23.05	21.95	24.19	22.81	21.00	19.90	38.45

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 5)	RMC12.2k		23.07	23.04	22.98	**21.02**	20.99	20.93
	HSDPA	1	21.90	21.88	21.78	19.85	19.83	19.73
		2	21.88	21.78	21.59	19.83	19.73	19.54
		3	21.45	21.62	21.44	19.40	19.57	19.39
		4	21.63	21.48	21.35	19.58	19.43	19.30
	HSUPA	1	21.34	21.38	21.35	19.29	19.33	19.30
		2	21.22	21.18	21.28	19.17	19.13	19.23
		3	21.41	21.25	21.34	19.36	19.20	19.29
		4	21.35	21.11	21.29	19.30	19.06	19.24
		5	21.22	21.14	21.24	19.17	19.09	19.19
	HSPA+	1	21.18	21.22	21.34	19.13	19.17	19.29

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
For GSM850 / WCDMA Band5: Antenna Gain = 0.1dBi = -2.05dBd (0dBd=2.15dBi)
Limit: ERP≤38.45dBm

PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	EIRP(dBm)	Limit (dBm)
GSM	512	1850.2	29.40	32.30	33
	661	1880.0	29.48	**32.38**	33
	810	1909.8	29.34	32.24	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	29.44	28.40	27.94	25.04	32.34	31.30	30.84	27.94	33
	661	1880.0	29.47	28.94	28.12	25.22	32.37	31.84	31.02	28.12	33
	810	1909.8	29.22	28.95	27.90	24.97	32.12	31.85	30.80	27.87	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	24.25	23.51	22.02	20.78	27.15	26.41	24.92	23.68	33
	661	1880.0	24.53	23.72	22.25	20.86	27.43	26.62	25.15	23.76	33
	810	1909.8	24.83	23.80	22.22	20.78	**27.73**	26.70	25.12	23.68	33

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 2)	RMC12.2k		24.33	24.29	24.22	**27.23**	27.19	27.12
	HSDPA	1	23.18	23.22	23.21	26.08	26.12	26.11
		2	23.14	23.14	23.22	26.04	26.04	26.12
		3	23.22	23.16	23.14	26.12	26.06	26.04
		4	23.16	23.18	23.11	26.06	26.08	26.01
	HSUPA	1	22.54	22.64	22.74	25.44	25.54	25.64
		2	22.65	22.58	22.47	25.55	25.48	25.37
		3	22.54	22.49	22.35	25.44	25.39	25.25
		4	22.48	22.57	22.46	25.38	25.47	25.36
		5	22.63	22.51	22.41	25.53	25.41	25.31
	HSPA+	1	22.48	22.63	22.48	25.38	25.53	25.38

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For PCS1900 / WCDMA Band2: Antenna Gain = 2.9dBi
Limit: EIRP≤33dBm

AWS Band

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 4)	RMC12.2k		22.67	22.27	23.08	26.17	25.77	**26.58**
	HSDPA	1	21.56	21.25	21.79	25.06	24.75	25.29
		2	21.23	21.11	21.55	24.73	24.61	25.05
		3	21.44	21.15	21.48	24.94	24.65	24.98
		4	21.34	21.14	21.36	24.84	24.64	24.86
	HSUPA	1	21.03	20.83	21.34	24.53	24.33	24.84
		2	21.02	20.76	21.22	24.52	24.26	24.72
		3	21.01	20.64	21.32	24.51	24.14	24.82
		4	21.00	20.45	21.42	24.50	23.95	24.92
		5	21.03	20.78	21.26	24.53	24.28	24.76
	HSPA+	1	20.98	20.69	21.25	24.48	24.19	24.75

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band4: Antenna Gain = 3.5dBi
Limit: EIRP≤30dBm

LTE Band 2

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	19.35	19.61	19.44	22.25	22.51	22.34
		RB1#3	19.40	19.72	19.37	22.30	22.62	22.27
		RB1#5	19.42	19.60	19.21	22.32	22.50	22.11
		RB3#0	19.28	19.64	19.33	22.18	22.54	22.23
		RB3#3	19.34	19.56	19.25	22.24	22.46	22.15
		RB6#0	18.84	18.58	18.94	21.74	21.48	21.84
	16QAM	RB1#0	18.41	18.73	18.54	21.31	21.63	21.44
		RB1#3	18.53	19.01	18.51	21.43	21.91	21.41
		RB1#5	18.56	18.87	18.41	21.46	21.77	21.31
		RB3#0	18.56	18.46	18.60	21.46	21.36	21.50
		RB3#3	18.69	18.59	18.50	21.59	21.49	21.40
		RB6#0	18.02	17.86	17.90	20.92	20.76	20.80
3.0	QPSK	RB1#0	19.16	19.86	19.24	22.06	22.76	22.14
		RB1#8	19.47	20.04	19.24	22.37	22.94	22.14
		RB1#14	19.55	19.88	18.95	22.45	22.78	21.85
		RB6#0	18.94	18.66	18.80	21.84	21.56	21.70
		RB6#9	18.89	18.67	18.70	21.79	21.57	21.60
		RB15#0	18.81	18.71	18.67	21.71	21.61	21.57
	16QAM	RB1#0	18.28	19.16	18.39	21.18	22.06	21.29
		RB1#8	18.59	19.14	18.53	21.49	22.04	21.43
		RB1#14	18.70	19.17	18.24	21.60	22.07	21.14
		RB6#0	17.97	17.72	18.00	20.87	20.62	20.90
		RB6#9	17.74	17.68	18.04	20.64	20.58	20.94
		RB15#0	17.87	17.66	18.03	20.77	20.56	20.93

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	19.20	19.49	19.61	22.10	22.39	22.51
		RB1#13	19.66	19.54	19.93	22.56	22.44	22.83
		RB1#24	19.77	19.71	19.62	22.67	22.61	22.52
		RB15#0	18.98	18.58	19.45	21.88	21.48	22.35
		RB15#10	18.89	18.71	19.43	21.79	21.61	22.33
		RB25#0	18.92	18.56	19.39	21.82	21.46	22.29
	16QAM	RB1#0	18.23	18.26	18.94	21.13	21.16	21.84
		RB1#13	18.79	18.30	19.34	21.69	21.20	22.24
		RB1#24	18.92	18.34	19.04	21.82	21.24	21.94
		RB15#0	17.89	17.57	18.43	20.79	20.47	21.33
		RB15#10	17.91	17.69	18.33	20.81	20.59	21.23
		RB25#0	17.83	17.66	18.40	20.73	20.56	21.30
10.0	QPSK	RB1#0	18.46	19.61	18.47	21.36	22.51	21.37
		RB1#25	19.95	20.42	19.07	22.85	**23.32**	21.97
		RB1#49	19.42	19.62	18.43	22.32	22.52	21.33
		RB25#0	19.02	19.11	18.78	21.92	22.01	21.68
		RB25#25	18.82	19.04	19.00	21.72	21.94	21.90
		RB50#0	18.93	19.04	18.88	21.83	21.94	21.78
	16QAM	RB1#0	17.54	19.28	17.69	20.44	22.18	20.59
		RB1#25	19.07	20.16	18.36	21.97	**23.06**	21.26
		RB1#49	18.54	19.34	17.72	21.44	22.24	20.62
		RB25#0	18.20	18.17	18.00	21.10	21.07	20.90
		RB25#25	17.78	18.16	18.21	20.68	21.06	21.11
		RB50#0	17.87	18.05	17.96	20.77	20.95	20.86

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	18.80	19.88	18.96	21.70	22.78	21.86
		RB1#38	20.10	19.71	19.37	23.00	22.61	22.27
		RB1#74	19.61	19.85	18.83	22.51	22.75	21.73
		RB36#0	19.06	18.86	19.04	21.96	21.76	21.94
		RB36#39	18.83	18.91	19.00	21.73	21.81	21.90
		RB75#0	18.93	18.72	18.92	21.83	21.62	21.82
	16QAM	RB1#0	17.90	19.07	18.57	20.80	21.97	21.47
		RB1#38	19.51	18.98	19.01	22.41	21.88	21.91
		RB1#74	18.76	18.77	18.44	21.66	21.67	21.34
		RB36#0	17.97	17.81	18.02	20.87	20.71	20.92
		RB36#39	17.74	17.98	17.89	20.64	20.88	20.79
		RB75#0	18.03	17.74	17.89	20.93	20.64	20.79
20.0	QPSK	RB1#0	17.94	18.49	18.83	20.84	21.39	21.73
		RB1#50	19.64	19.57	19.55	**22.54**	22.47	22.45
		RB1#99	18.32	18.43	18.54	21.22	21.33	21.44
		RB50#0	19.00	18.46	18.96	21.90	21.36	21.86
		RB50#50	18.93	18.52	18.89	21.83	21.42	21.79
		RB100#0	18.87	18.37	18.87	21.77	21.27	21.77
	16QAM	RB1#0	17.34	17.80	18.14	20.24	20.70	21.04
		RB1#50	19.22	18.98	18.90	**22.12**	21.88	21.80
		RB1#99	17.93	17.85	17.88	20.83	20.75	20.78
		RB50#0	17.91	17.55	18.07	20.81	20.45	20.97
		RB50#50	17.71	17.54	17.93	20.61	20.44	20.83
		RB100#0	17.86	17.51	17.74	20.76	20.41	20.64

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band2: Antenna Gain = 2.9dBi
Limit: EIRP≤33dBm

LTE Band 4

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	21.13	20.11	20.89	24.63	23.61	24.39
		RB1#3	21.23	20.32	21.04	24.73	23.82	24.54
		RB1#5	21.13	20.18	21.12	24.63	23.68	24.62
		RB3#0	21.17	20.32	20.91	24.67	23.82	24.41
		RB3#3	21.26	20.18	20.81	24.76	23.68	24.31
		RB6#0	20.29	19.28	19.91	23.79	22.78	23.41
	16QAM	RB1#0	20.32	19.27	20.01	23.82	22.77	23.51
		RB1#3	20.74	19.16	20.23	24.24	22.66	23.73
		RB1#5	20.73	19.06	20.06	24.23	22.56	23.56
		RB3#0	20.46	19.56	19.92	23.96	23.06	23.42
		RB3#3	20.44	19.44	20.02	23.94	22.94	23.52
		RB6#0	19.68	18.22	19.00	23.18	21.72	22.50
3.0	QPSK	RB1#0	21.47	20.73	20.19	24.97	24.23	23.69
		RB1#8	21.25	20.61	20.18	24.75	24.11	23.68
		RB1#14	21.53	20.81	20.49	**25.03**	24.31	23.99
		RB6#0	20.50	19.67	19.22	24.00	23.17	22.72
		RB6#9	20.39	19.52	19.35	23.89	23.02	22.85
		RB15#0	20.44	19.57	19.34	23.94	23.07	22.84
	16QAM	RB1#0	20.83	19.69	19.54	**24.33**	23.19	23.04
		RB1#8	20.66	19.31	19.63	24.16	22.81	23.13
		RB1#14	20.62	19.45	19.72	24.12	22.95	23.22
		RB6#0	19.70	18.68	18.23	23.20	22.18	21.73
		RB6#9	19.62	18.57	18.29	23.12	22.07	21.79
		RB15#0	19.6	18.65	18.36	23.10	22.15	21.86

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	20.52	20.24	20.49	24.02	23.74	23.99
		RB1#13	20.51	20.32	20.59	24.01	23.82	24.09
		RB1#24	20.46	20.26	20.69	23.96	23.76	24.19
		RB15#0	19.83	19.45	19.89	23.33	22.95	23.39
		RB15#10	19.67	19.36	19.75	23.17	22.86	23.25
		RB25#0	19.71	19.43	19.74	23.21	22.93	23.24
	16QAM	RB1#0	20.10	19.58	19.41	23.60	23.08	22.91
		RB1#13	19.83	19.56	19.46	23.33	23.06	22.96
		RB1#24	20.02	19.26	19.30	23.52	22.76	22.80
		RB15#0	18.83	18.33	18.78	22.33	21.83	22.28
		RB15#10	18.52	18.26	18.78	22.02	21.76	22.28
		RB25#0	18.65	18.42	18.82	22.15	21.92	22.32
10.0	QPSK	RB1#0	20.82	20.29	20.73	24.32	23.79	24.23
		RB1#25	20.82	21.18	20.80	24.32	**24.68**	24.30
		RB1#49	20.25	20.63	20.80	23.75	24.13	24.30
		RB25#0	19.80	20.05	19.89	23.30	23.55	23.39
		RB25#25	19.68	19.99	19.94	23.18	23.49	23.44
		RB50#0	19.84	19.97	19.91	23.34	23.47	23.41
	16QAM	RB1#0	19.84	19.82	20.31	23.34	23.32	23.81
		RB1#25	19.65	20.21	21.13	23.15	23.71	**24.63**
		RB1#49	19.27	20.13	20.05	22.77	23.63	23.55
		RB25#0	18.91	19.02	19.05	22.41	22.52	22.55
		RB25#25	18.64	19.07	19.07	22.14	22.57	22.57
		RB50#0	18.66	19.01	18.88	22.16	22.51	22.38

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	20.45	19.01	19.73	23.95	22.51	23.23
		RB1#38	20.63	20.15	20.58	24.13	23.65	24.08
		RB1#74	19.44	19.71	19.57	22.94	23.21	23.07
		RB36#0	19.77	19.52	19.49	23.27	23.02	22.99
		RB36#39	19.62	19.47	19.54	23.12	22.97	23.04
		RB75#0	19.77	19.39	19.49	23.27	22.89	22.99
	16QAM	RB1#0	19.52	18.20	19.30	23.02	21.70	22.80
		RB1#38	19.79	19.44	19.81	23.29	22.94	23.31
		RB1#74	18.64	19.13	19.26	22.14	22.63	22.76
		RB36#0	18.92	18.61	18.49	22.42	22.11	21.99
		RB36#39	18.64	18.51	18.66	22.14	22.01	22.16
		RB75#0	18.86	18.43	18.43	22.36	21.93	21.93
20.0	QPSK	RB1#0	20.01	18.82	19.74	23.51	22.32	23.24
		RB1#50	20.34	20.25	21.19	23.84	23.75	**24.69**
		RB1#99	19.26	19.98	20.12	22.76	23.48	23.62
		RB50#0	19.88	19.69	20.21	23.38	23.19	23.71
		RB50#50	19.77	19.75	20.14	23.27	23.25	23.64
		RB100#0	19.83	19.68	20.09	23.33	23.18	23.59
	16QAM	RB1#0	19.15	18.46	19.13	22.65	21.96	22.63
		RB1#50	19.57	19.95	20.94	23.07	23.45	**24.44**
		RB1#99	18.52	19.65	19.56	22.02	23.15	23.06
		RB50#0	19.02	18.87	19.30	22.52	22.37	22.80
		RB50#50	18.65	18.62	19.24	22.15	22.12	22.74
		RB100#0	18.84	18.66	19.12	22.34	22.16	22.62

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band4: Antenna Gain = 3.5dBi
Limit: EIRP≤30dBm

LTE Band5

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	22.22	22.19	21.70	20.17	20.14	19.65
		RB1#3	22.21	22.21	21.46	20.16	20.16	19.41
		RB1#5	22.12	22.20	21.26	20.07	20.15	19.21
		RB3#0	22.23	22.15	21.57	20.18	20.10	19.52
		RB3#3	22.19	22.18	21.33	20.14	20.13	19.28
		RB6#0	21.81	21.12	21.44	19.76	19.07	19.39
	16QAM	RB1#0	21.50	21.33	20.97	19.45	19.28	18.92
		RB1#3	21.50	21.43	20.80	19.45	19.38	18.75
		RB1#5	21.44	21.18	20.60	19.39	19.13	18.55
		RB3#0	21.59	21.17	20.80	19.54	19.12	18.75
		RB3#3	21.52	21.18	20.57	19.47	19.13	18.52
		RB6#0	20.73	20.18	20.73	18.68	18.13	18.68
3.0	QPSK	RB1#0	22.46	22.44	22.48	20.41	20.39	20.43
		RB1#8	22.34	22.50	22.16	20.29	20.45	20.11
		RB1#14	22.08	22.39	21.59	20.03	20.34	19.54
		RB6#0	21.75	21.63	21.57	19.70	19.58	19.52
		RB6#9	21.54	21.55	21.66	19.49	19.50	19.61
		RB15#0	21.43	21.66	21.72	19.38	19.61	19.67
	16QAM	RB1#0	21.63	21.90	21.71	19.58	19.85	19.66
		RB1#8	21.51	21.77	18.71	19.46	19.72	16.66
		RB1#14	21.27	21.66	22.02	19.22	19.61	19.97
		RB6#0	20.81	20.48	20.02	18.76	18.43	17.97
		RB6#9	20.37	20.54	19.95	18.32	18.49	17.90
		RB15#0	20.32	20.73	19.95	18.27	18.68	17.90

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	21.87	22.20	21.72	19.82	20.15	19.67
		RB1#13	21.85	22.07	22.03	19.80	20.02	19.98
		RB1#24	21.80	21.94	21.33	19.75	19.89	19.28
		RB15#0	21.05	21.33	21.06	19.00	19.28	19.01
		RB15#10	21.00	21.27	21.12	18.95	19.22	19.07
		RB25#0	20.93	21.42	21.18	18.88	19.37	19.13
	16QAM	RB1#0	20.86	21.69	21.14	18.81	19.64	19.09
		RB1#13	20.66	21.90	21.03	18.61	19.85	18.98
		RB1#24	20.70	21.59	20.59	18.65	19.54	18.54
		RB15#0	19.91	20.25	20.01	17.86	18.20	17.96
		RB15#10	19.89	20.05	20.00	17.84	18.00	17.95
		RB25#0	20.17	20.34	20.07	18.12	18.29	18.02
10.0	QPSK	RB1#0	22.10	21.90	22.08	20.05	19.85	20.03
		RB1#25	22.30	22.95	22.09	20.25	**20.90**	20.04
		RB1#49	21.90	22.35	21.09	19.85	20.30	19.04
		RB25#0	21.49	21.63	21.24	19.44	19.58	19.19
		RB25#25	21.47	21.50	21.28	19.42	19.45	19.23
		RB50#0	21.38	21.58	21.15	19.33	19.53	19.10
	16QAM	RB1#0	21.19	21.52	21.52	19.14	19.47	19.47
		RB1#25	21.43	22.75	21.50	19.38	**20.70**	19.45
		RB1#49	21.04	21.91	20.43	18.99	19.86	18.38
		RB25#0	20.56	20.65	20.36	18.51	18.60	18.31
		RB25#25	20.53	20.46	20.38	18.48	18.41	18.33
		RB50#0	20.37	20.57	20.15	18.32	18.52	18.10

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
For Band5: Antenna Gain = 0.1dBi = -2.05dBd (0dBd=2.15dBi)
Limit: ERP≤38.45dBm

LTE Band 12

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	22.56	21.69	22.63	19.71	18.84	19.78
		RB1#3	22.63	21.86	22.86	19.78	19.01	20.01
		RB1#5	22.56	21.88	22.82	19.71	19.03	19.97
		RB3#0	22.93	21.80	22.48	**20.08**	18.95	19.63
		RB3#3	22.83	21.82	22.81	19.98	18.97	19.96
		RB6#0	21.79	21.04	21.54	18.94	18.19	18.69
	16QAM	RB1#0	22.30	20.72	21.91	19.45	17.87	19.06
		RB1#3	22.32	20.94	22.09	**19.47**	18.09	19.24
		RB1#5	21.93	20.74	21.76	19.08	17.89	18.91
		RB3#0	21.82	21.00	21.63	18.97	18.15	18.78
		RB3#3	21.47	21.10	21.70	18.62	18.25	18.85
		RB6#0	20.81	19.98	20.57	17.96	17.13	17.72
3.0	QPSK	RB1#0	22.37	22.26	22.62	19.52	19.41	19.77
		RB1#8	22.11	22.15	22.43	19.26	19.30	19.58
		RB1#14	22.27	22.19	22.60	19.42	19.34	19.75
		RB6#0	21.13	21.10	21.45	18.28	18.25	18.60
		RB6#9	21.15	21.20	21.44	18.30	18.35	18.59
		RB15#0	21.19	21.09	21.41	18.34	18.24	18.56
	16QAM	RB1#0	21.24	21.60	21.58	18.39	18.75	18.73
		RB1#8	20.75	21.50	21.72	17.90	18.65	18.87
		RB1#14	20.86	21.53	21.74	18.01	18.68	18.89
		RB6#0	20.63	20.28	20.46	17.78	17.43	17.61
		RB6#9	20.17	20.37	20.76	17.32	17.52	17.91
		RB15#0	20.48	20.34	20.34	17.63	17.49	17.49

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	22.15	22.60	22.09	19.30	19.75	19.24
		RB1#13	21.98	23.15	22.32	19.13	**20.30**	19.47
		RB1#24	22.07	22.79	22.06	19.22	19.94	19.21
		RB15#0	21.36	21.82	21.23	18.51	18.97	18.38
		RB15#10	21.37	21.85	21.28	18.52	19.00	18.43
		RB25#0	21.35	21.84	21.24	18.50	18.99	18.39
	16QAM	RB1#0	21.81	22.03	21.00	18.96	19.18	18.15
		RB1#13	21.83	21.66	20.65	18.98	18.81	17.80
		RB1#24	22.15	21.61	20.97	**19.30**	18.76	18.12
		RB15#0	20.33	20.82	20.30	17.48	17.97	17.45
		RB15#10	20.34	20.96	20.48	17.49	18.11	17.63
		RB25#0	20.49	20.83	20.33	17.64	17.98	17.48
10.0	QPSK	RB1#0	22.20	21.90	22.22	19.35	19.05	19.37
		RB1#25	22.30	22.07	22.24	19.45	19.22	19.39
		RB1#49	22.35	21.60	21.98	**19.50**	18.75	19.13
		RB25#0	21.18	20.79	21.38	18.33	17.94	18.53
		RB25#25	21.35	20.86	21.17	18.50	18.01	18.32
		RB50#0	21.30	20.83	21.29	18.45	17.98	18.44
	16QAM	RB1#0	21.32	21.26	21.47	18.47	18.41	18.62
		RB1#25	21.32	21.35	21.06	18.47	18.50	18.21
		RB1#49	21.73	21.26	20.91	**18.88**	18.41	18.06
		RB25#0	20.29	20.08	20.48	17.44	17.23	17.63
		RB25#25	20.50	19.88	20.26	17.65	17.03	17.41
		RB50#0	20.17	19.73	20.15	17.32	16.88	17.30

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd)
For Band12: Antenna Gain = -0.7dBi = -2.85dBd (0dBd=2.15dBi)
Limit: ERP≤34.77dBm

LTE Band 38

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	18.88	18.57	18.65	21.58	21.27	21.35
		RB1#13	19.58	18.59	18.70	**22.28**	21.29	21.40
		RB1#24	19.50	18.42	18.56	22.20	21.12	21.26
		RB15#0	18.83	17.75	17.85	21.53	20.45	20.55
		RB15#10	18.76	17.80	17.72	21.46	20.50	20.42
		RB25#0	18.76	17.89	17.81	21.46	20.59	20.51
	16QAM	RB1#0	18.57	17.95	18.02	21.27	20.65	20.72
		RB1#13	18.59	17.94	17.98	**21.29**	20.64	20.68
		RB1#24	18.45	17.88	18.04	21.15	20.58	20.74
		RB15#0	17.84	16.91	16.91	20.54	19.61	19.61
		RB15#10	17.85	16.85	16.63	20.55	19.55	19.33
		RB25#0	17.92	16.94	16.80	20.62	19.64	19.50
10.0	QPSK	RB1#0	18.98	19.27	18.54	21.68	**21.97**	21.24
		RB1#25	19.22	19.10	18.54	21.92	21.80	21.24
		RB1#49	18.96	18.99	18.33	21.66	21.69	21.03
		RB25#0	18.28	18.25	17.66	20.98	20.95	20.36
		RB25#25	18.17	18.28	17.46	20.87	20.98	20.16
		RB50#0	18.27	18.40	17.55	20.97	21.10	20.25
	16QAM	RB1#0	18.16	18.19	17.63	20.86	20.89	20.33
		RB1#25	19.02	18.43	18.15	**21.72**	21.13	20.85
		RB1#49	18.29	17.81	17.89	20.99	20.51	20.59
		RB25#0	17.57	17.26	16.78	20.27	19.96	19.48
		RB25#25	17.44	17.28	16.50	20.14	19.98	19.20
		RB50#0	17.24	17.33	16.51	19.94	20.03	19.21

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15.0	QPSK	RB1#0	18.95	19.13	18.61	21.65	21.83	21.31
		RB1#38	19.31	18.87	18.53	22.01	21.57	21.23
		RB1#74	18.98	18.66	18.35	21.68	21.36	21.05
		RB36#0	18.22	17.93	17.51	20.92	20.63	20.21
		RB36#39	18.14	17.80	17.38	20.84	20.50	20.08
		RB75#0	18.15	17.97	17.45	20.85	20.67	20.15
	16QAM	RB1#0	18.20	18.07	18.08	20.90	20.77	20.78
		RB1#38	18.23	17.47	17.96	20.93	20.17	20.66
		RB1#74	18.07	17.32	17.85	20.77	20.02	20.55
		RB36#0	17.30	16.87	16.65	20.00	19.57	19.35
		RB36#39	17.18	16.74	16.52	19.88	19.44	19.22
		RB75#0	17.26	16.89	16.50	19.96	19.59	19.20
20.0	QPSK	RB1#0	18.75	18.75	18.76	21.45	21.45	21.46
		RB1#50	19.20	19.10	18.68	**21.90**	21.80	21.38
		RB1#99	18.61	18.54	18.35	21.31	21.24	21.05
		RB50#0	18.28	18.06	17.71	20.98	20.76	20.41
		RB50#50	18.12	17.74	17.50	20.82	20.44	20.20
		RB100#0	18.26	17.93	17.55	20.96	20.63	20.25
	16QAM	RB1#0	17.68	17.79	18.13	20.38	20.49	20.83
		RB1#50	18.73	17.74	18.30	**21.43**	20.44	21.00
		RB1#99	18.06	17.31	17.83	20.76	20.01	20.53
		RB50#0	17.59	17.06	16.70	20.29	19.76	19.40
		RB50#50	17.20	16.82	16.64	19.90	19.52	19.34
		RB100#0	17.27	16.94	16.66	19.97	19.64	19.36

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band38: Antenna Gain = 2.7 dBi
Limit: EIRP≤33dBm

LTE Band 41

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	18.26	17.90	17.49	21.26	20.90	20.49
		RB1#13	18.23	17.95	17.66	21.23	20.95	20.66
		RB1#24	18.06	17.78	17.26	21.06	20.78	20.26
		RB15#0	17.51	17.07	17.62	20.51	20.07	20.62
		RB15#10	17.55	17.08	17.22	20.55	20.08	20.22
		RB25#0	17.50	17.13	17.25	20.50	20.13	20.25
	16QAM	RB1#0	17.63	17.25	16.69	20.63	20.25	19.69
		RB1#13	17.63	17.56	16.88	20.63	20.56	19.88
		RB1#24	17.55	17.25	16.48	20.55	20.25	19.48
		RB15#0	16.41	16.13	16.39	19.41	19.13	19.39
		RB15#10	16.40	16.11	16.17	19.40	19.11	19.17
		RB25#0	16.52	16.12	16.40	19.52	19.12	19.40
10.0	QPSK	RB1#0	18.26	17.87	17.99	21.26	20.87	20.99
		RB1#25	18.34	18.00	18.48	21.34	21.00	21.48
		RB1#49	18.16	17.84	17.56	21.16	20.84	20.56
		RB25#0	17.53	17.20	18.23	20.53	20.20	21.23
		RB25#25	17.38	17.12	17.85	20.38	20.12	20.85
		RB50#0	17.52	17.14	17.96	20.52	20.14	20.96
	16QAM	RB1#0	17.76	16.90	17.08	20.76	19.90	20.08
		RB1#25	18.00	17.01	17.63	21.00	20.01	20.63
		RB1#49	17.51	16.81	16.69	20.51	19.81	19.69
		RB25#0	16.44	16.09	17.19	19.44	19.09	20.19
		RB25#25	16.51	16.11	16.85	19.51	19.11	19.85
		RB50#0	16.28	16.24	16.93	19.28	19.24	19.93

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	17.89	18.18	18.09	20.89	21.18	21.09
		RB1#38	17.92	18.37	18.52	20.92	21.37	21.52
		RB1#74	17.84	18.14	17.48	20.84	21.14	20.48
		RB36#0	17.19	17.29	17.99	20.19	20.29	20.99
		RB36#39	17.01	17.14	17.68	20.01	20.14	20.68
		RB75#0	17.15	17.21	17.80	20.15	20.21	20.80
	16QAM	RB1#0	17.28	17.24	17.11	20.28	20.24	20.11
		RB1#38	17.31	17.18	17.56	20.31	20.18	20.56
		RB1#74	17.28	16.99	16.58	20.28	19.99	19.58
		RB36#0	16.20	16.22	16.97	19.20	19.22	19.97
		RB36#39	16.20	16.10	16.76	19.20	19.10	19.76
		RB75#0	16.22	16.31	16.88	19.22	19.31	19.88
20.0	QPSK	RB1#0	18.00	18.30	18.05	21.00	21.30	21.05
		RB1#50	18.10	18.58	18.57	21.10	**21.58**	21.57
		RB1#99	18.03	18.22	17.34	21.03	21.22	20.34
		RB50#0	17.21	17.47	17.73	20.21	20.47	20.73
		RB50#50	17.08	17.55	17.64	20.08	20.55	20.64
		RB100#0	17.13	17.40	17.80	20.13	20.40	20.80
	16QAM	RB1#0	17.72	17.68	17.21	20.72	20.68	20.21
		RB1#50	17.74	18.27	17.76	20.74	**21.27**	20.76
		RB1#99	17.54	17.68	16.50	20.54	20.68	19.50
		RB50#0	16.32	16.80	16.86	19.32	19.80	19.86
		RB50#50	16.12	16.71	16.84	19.12	19.71	19.84
		RB100#0	16.14	16.59	16.76	19.14	19.59	19.76

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)
For Band41: Antenna Gain = 3.0 dBi
Limit: EIRP≤33dBm

Peak-to-average ratio (PAR)

Cellular Band

Mode	Channel	PAR (dB)	Limit(dB)
GSM	Low	3.64	13
	Middle	3.53	13
	High	3.42	13

Mode	Channel	PAR (dB)	Limit(dB)
EGPRS	Low	3.57	13
	Middle	3.42	13
	High	3.46	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.58	13
	Middle	3.45	13
	High	3.42	13
HSDPA (16QAM)	Low	3.55	13
	Middle	3.62	13
	High	3.63	13
HSUPA (BPSK)	Low	3.46	13
	Middle	3.47	13
	High	3.55	13
HSPA+	Low	3.52	13
	Middle	3.54	13
	High	3.56	13

PCS Band

Mode	Channel	PAR (dB)	Limit(dB)
GSM	Low	3.57	13
	Middle	3.56	13
	High	3.52	13

Mode	Channel	PAR (dB)	Limit(dB)
EGPRS	Low	3.56	13
	Middle	3.55	13
	High	3.47	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.47	13
	Middle	3.44	13
	High	3.46	13
HSDPA (16QAM)	Low	3.57	13
	Middle	3.55	13
	High	3.45	13
HSUPA (BPSK)	Low	3.43	13
	Middle	3.46	13
	High	3.47	13
HSPA+	Low	3.42	13
	Middle	3.54	13
	High	3.56	13

AWS Band

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.45	13
	Middle	3.47	13
	High	3.57	13
HSDPA (16QAM)	Low	3.52	13
	Middle	3.56	13
	High	3.55	13
HSUPA (BPSK)	Low	3.56	13
	Middle	3.54	13
	High	3.52	13
HSPA+	Low	3.54	13
	Middle	3.42	13
	High	3.44	13

LTE Band 2 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	7.25	7.26	7.19	13	Pass
QPSK (100RB Size)	6.54	6.66	6.29	13	Pass
16QAM (1RB Size)	5.25	5.17	5.36	13	Pass
16QAM (100RB Size)	4.76	4.85	4.93	13	Pass

LTE Band 4 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	3.36	3.95	3.75	13	Pass
QPSK (100RB Size)	5.16	6.35	5.38	13	Pass
16QAM (1RB Size)	4.29	4.65	4.78	13	Pass
16QAM (100RB Size)	5.72	6.27	6.88	13	Pass

LTE Band 5 10MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	7.37	6.91	8.75	13	Pass
QPSK (50RB Size)	5.16	5.35	8.36	13	Pass
16QAM (1RB Size)	4.29	6.85	5.72	13	Pass
16QAM (50RB Size)	7.13	6.89	7.77	13	Pass

LTE Band 12 10MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	8.15	8.75	8.76	13	Pass
QPSK (50RB Size)	9.12	9.14	9.55	13	Pass
16QAM (1RB Size)	7.10	7.26	7.38	13	Pass
16QAM (50RB Size)	9.85	9.62	9.64	13	Pass

LTE Band 38 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	7.49	10.51	6.07	13	Pass
QPSK (100RB Size)	8.65	8.67	7.38	13	Pass
16QAM (1RB Size)	7.16	6.41	5.07	13	Pass
16QAM (100RB Size)	8.64	8.86	8.58	13	Pass

LTE Band 41 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	7.12	7.33	7.28	13	Pass
QPSK (100RB Size)	7.25	7.24	7.36	13	Pass
16QAM (1RB Size)	8.69	8.26	8.14	13	Pass
16QAM (100RB Size)	9.64	9.55	9.42	13	Pass

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

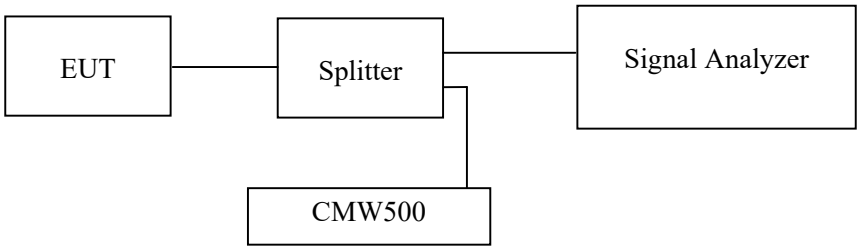
Applicable Standard

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:	26.2 ℃
Relative Humidity:	56.2%
ATM Pressure:	101.0 kPa

The testing was performed by Roger Ling from 2022-09-01to 2022-11-01.

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	238.00	317.00
	190	836.6	237.00	313.00
	251	848.8	239.00	315.00
EGPRS(8PSK)	128	824.2	246.00	311.00
	190	836.6	244.00	313.00
	251	848.8	244.00	314.00

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	826.4	4.14	4.76
	836.6	4.14	4.77
	846.6	4.14	4.77
HSDPA	826.4	4.14	4.70
	836.6	4.14	4.69
	846.6	4.16	4.70
HSUPA	826.4	4.14	4.68
	836.6	4.16	4.70
	846.6	4.16	4.71

PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	512	1850.2	239.00	318.00
	661	1880.0	240.00	316.00
	810	1909.8	241.00	319.00
EGPRS(8PSK)	512	1850.2	247.00	313.00
	661	1880.0	243.00	315.00
	810	1909.8	245.00	313.00

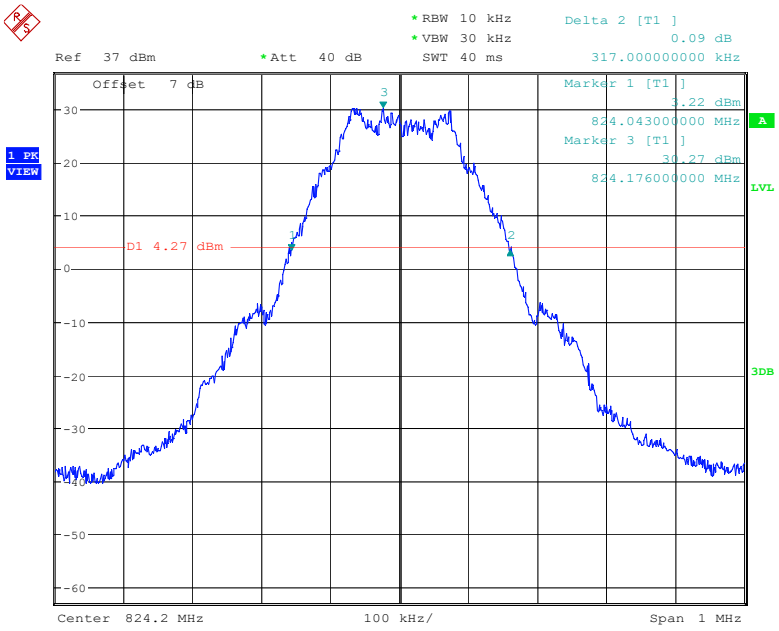
Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1852.4	4.13	4.73
	1880.0	4.13	4.76
	1907.6	4.13	4.74
HSDPA	1852.4	4.13	4.74
	1880.0	4.14	4.76
	1907.6	4.14	4.74
HSUPA	1852.4	4.14	4.74
	1880.0	4.13	4.74
	1907.6	4.13	4.74

AWS Band (Part 27)

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1712.4	4.14	4.76
	1732.6	4.13	4.76
	1752.6	4.14	4.77
HSDPA	1712.4	4.14	4.76
	1732.6	4.13	4.74
	1752.6	4.14	4.76
HSUPA	1712.4	4.14	4.76
	1732.6	4.14	4.76
	1752.6	4.14	4.74

Cellular Band (Part 22H)

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



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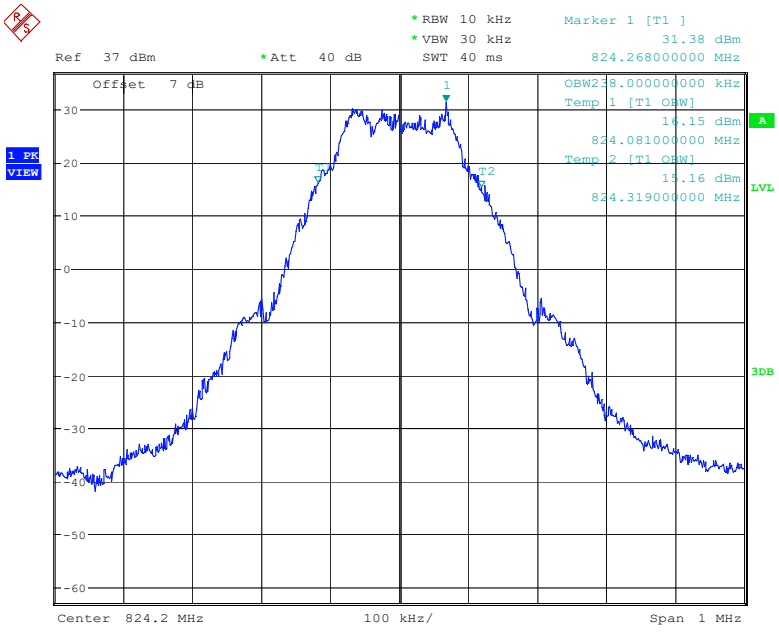

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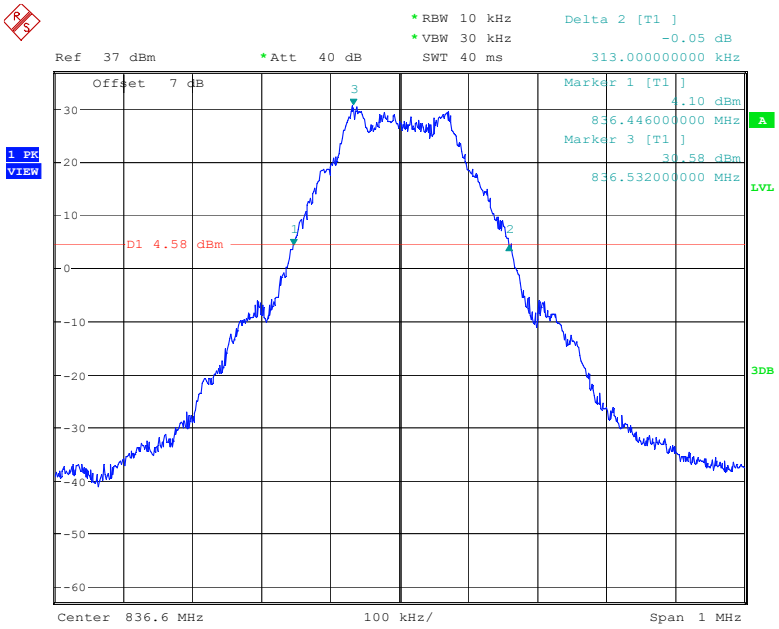
26 dB Emissions &99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel



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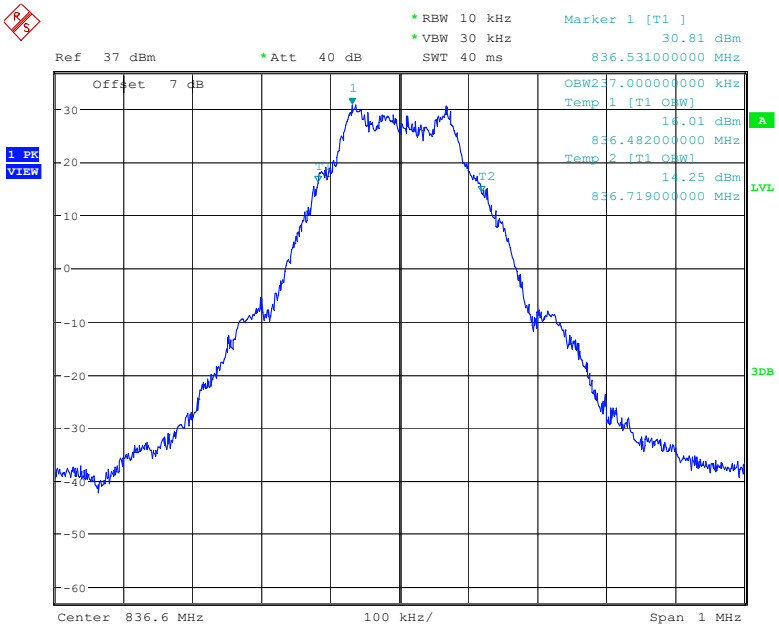

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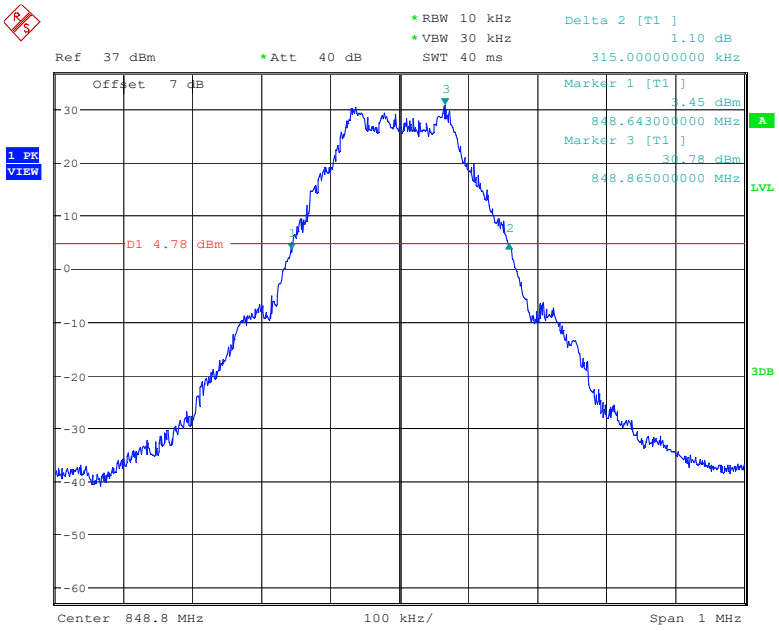
26 dB Emissions &99% Occupied Bandwidth for GSM (GMSK) Mode, High channel



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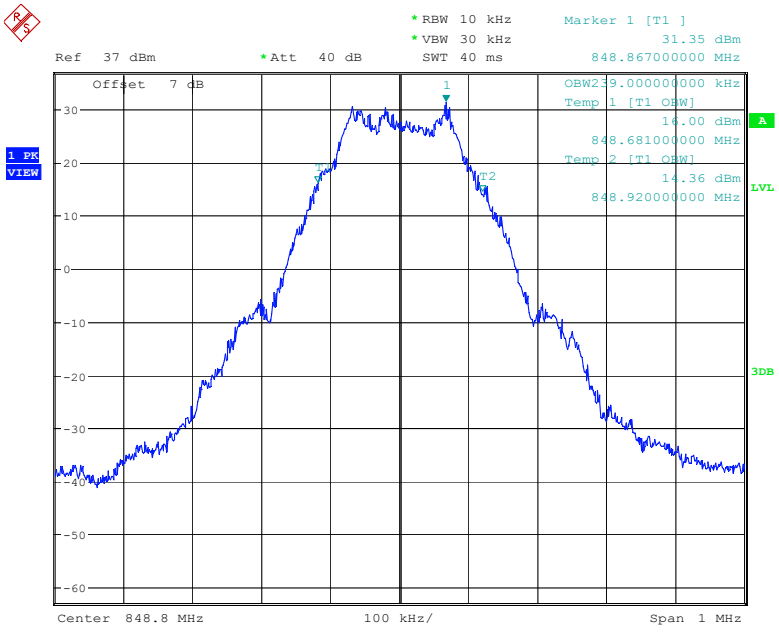
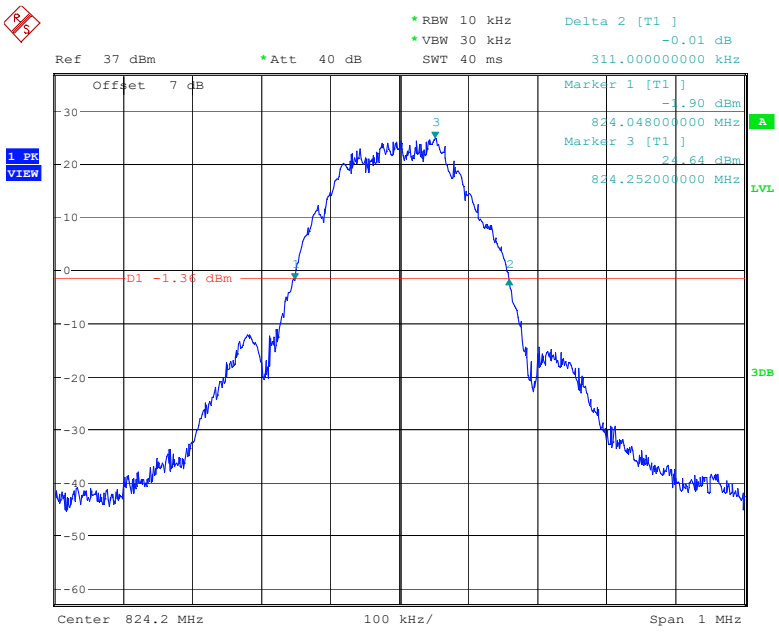


Date: 8.SEP.2022 20:07:17

26 dB Emission Bandwidth for GSM(8PSK) Mode, Low channel



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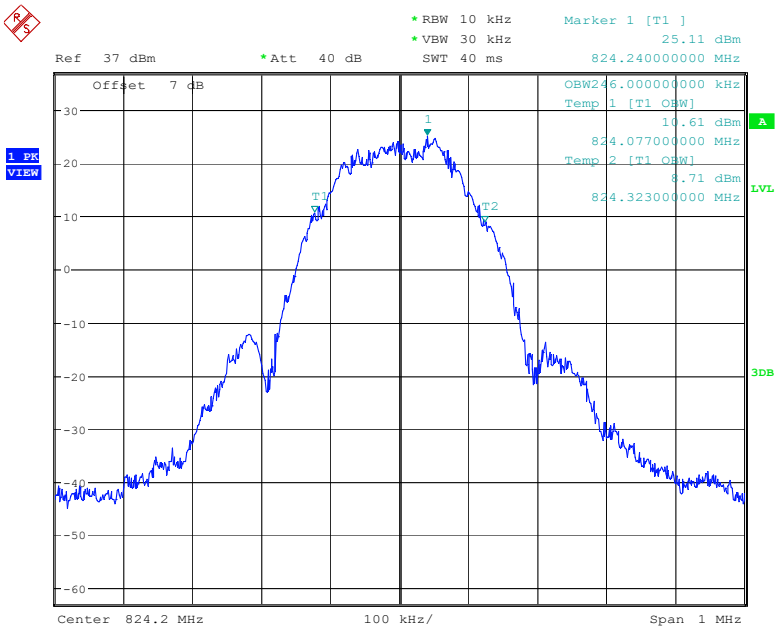
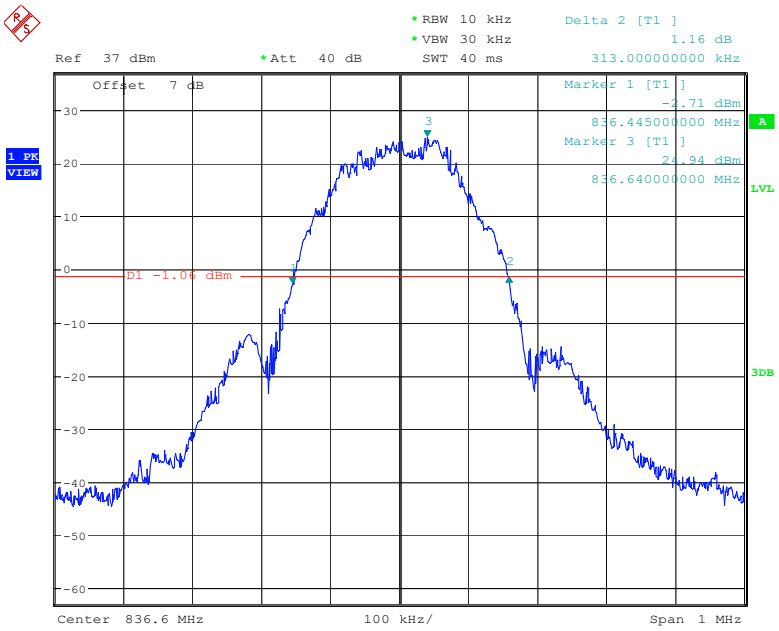
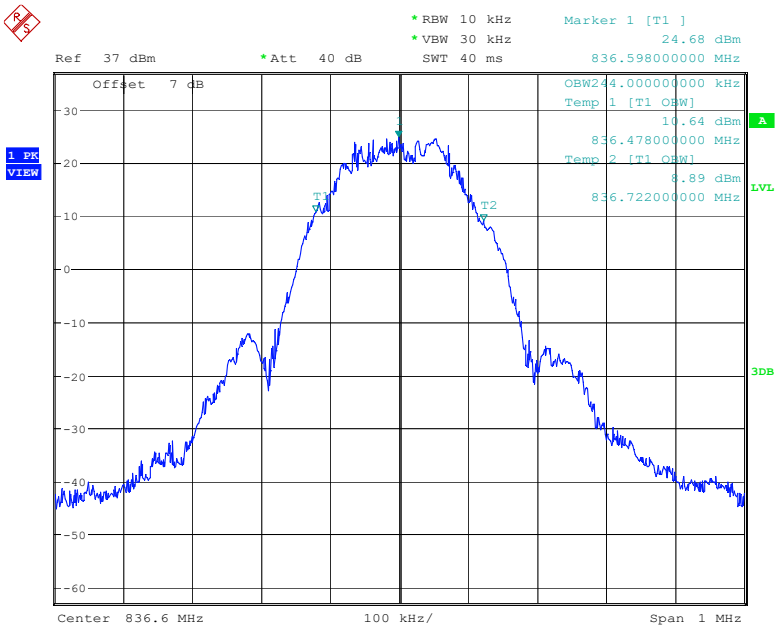


Date: 8.SEP.2022 20:21:05

26 dB Emission Bandwidth for GSM(8PSK) Mode, Middle channel

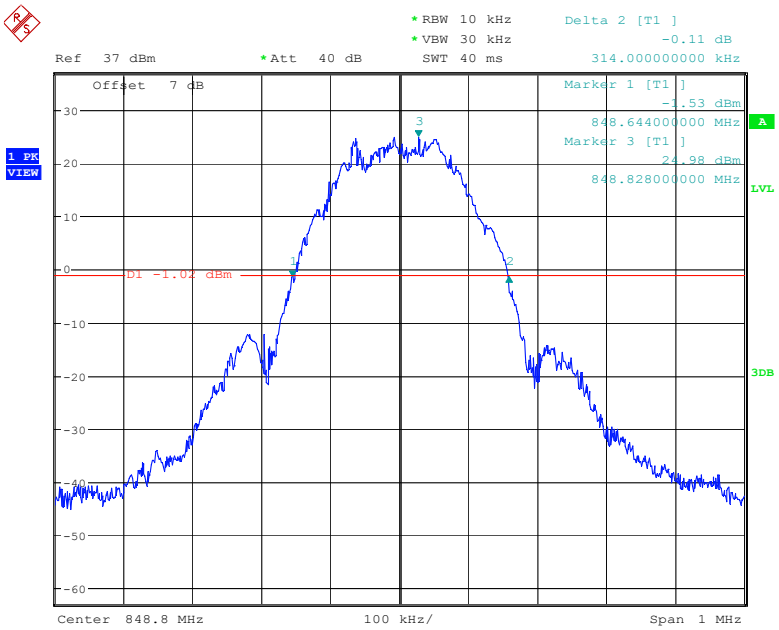


Date: 8.SEP.2022 20:18:29

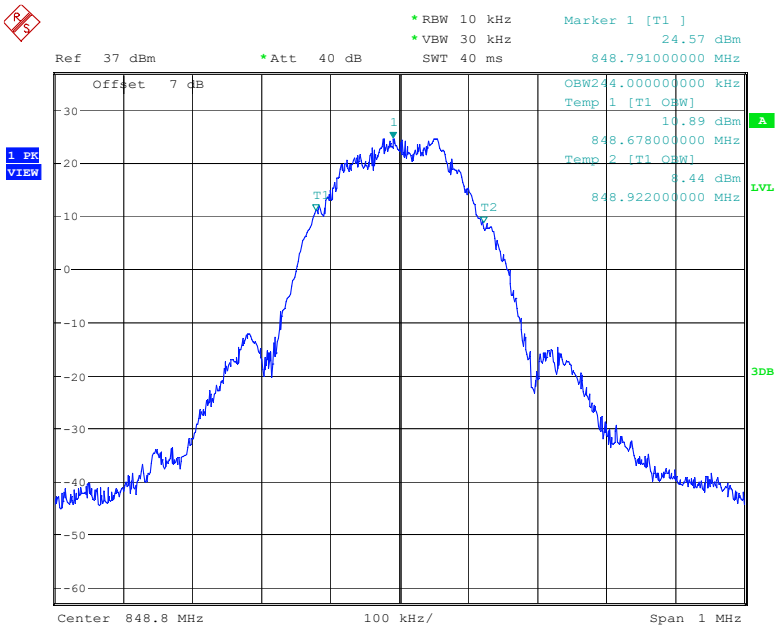


Date: 8.SEP.2022 20:17:52

26 dB Emission Bandwidth for GSM(8PSK) Mode, High channel

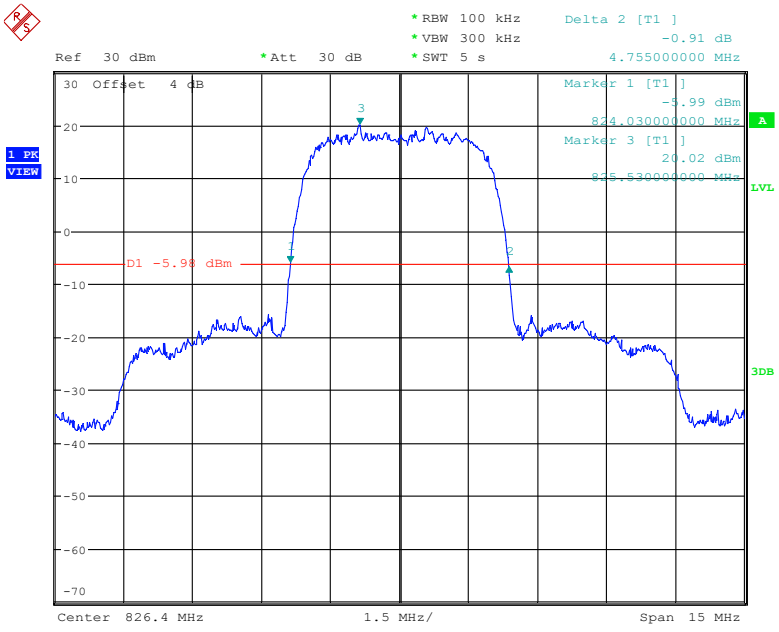


Date: 8.SEP.2022 20:13:26

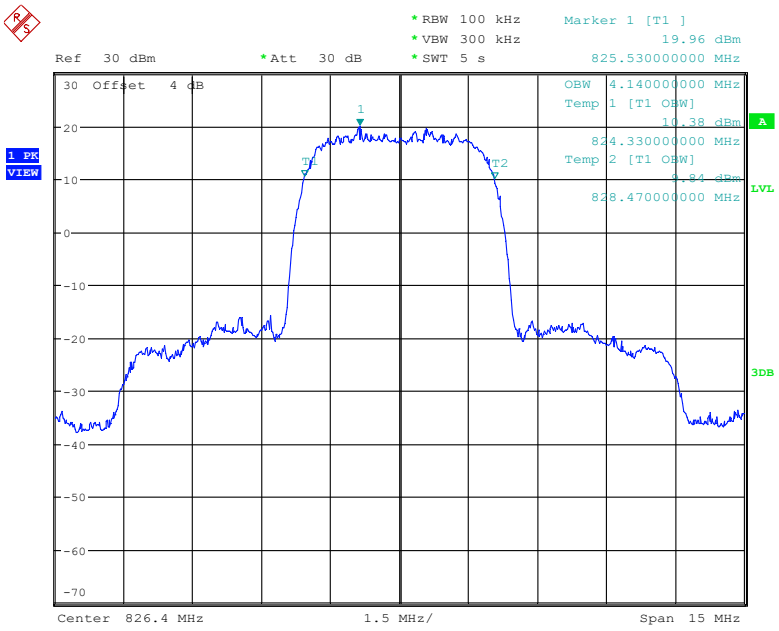


Date: 8.SEP.2022 20:12:50

26 dB Emission Bandwidth for RMC (BPSK) Mode, Low channel

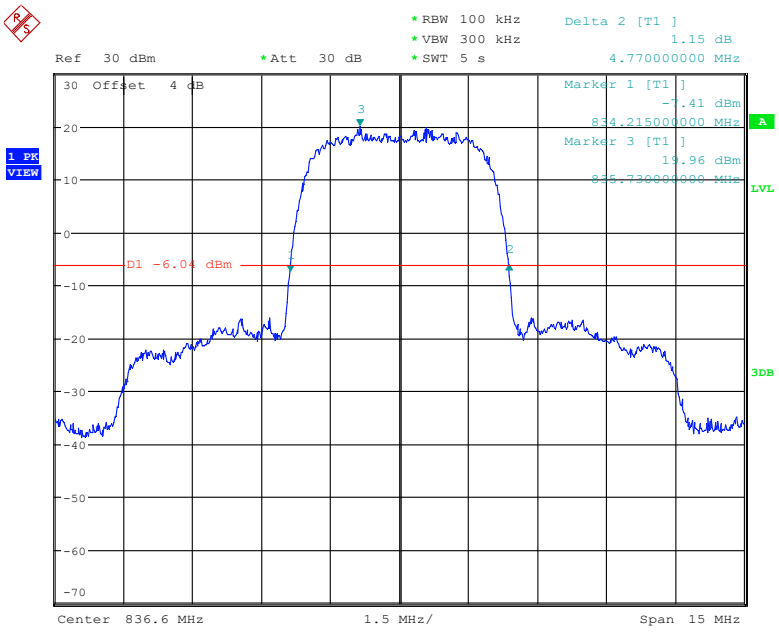


Date: 1.SEP.2022 11:38:45

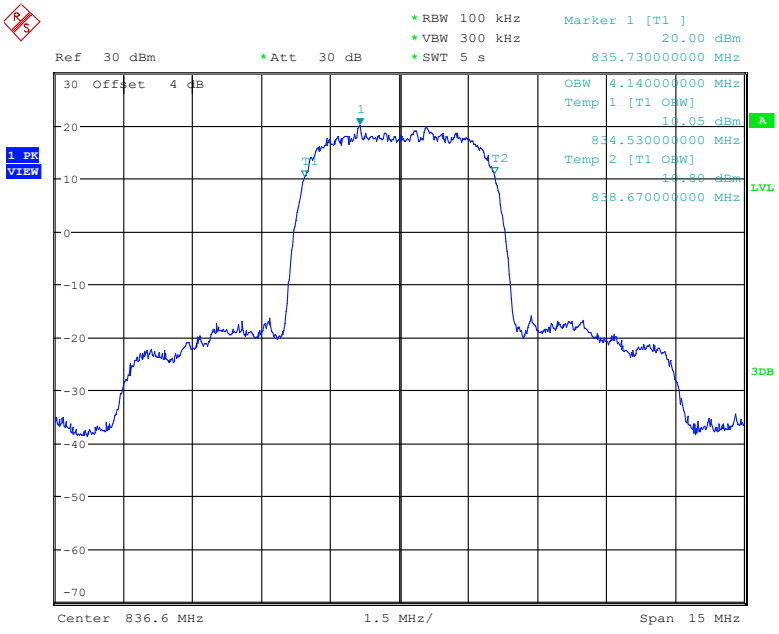


Date: 1.SEP.2022 11:38:08

26 dB Emission Bandwidth for RMC (BPSK) Mode, Middle channel

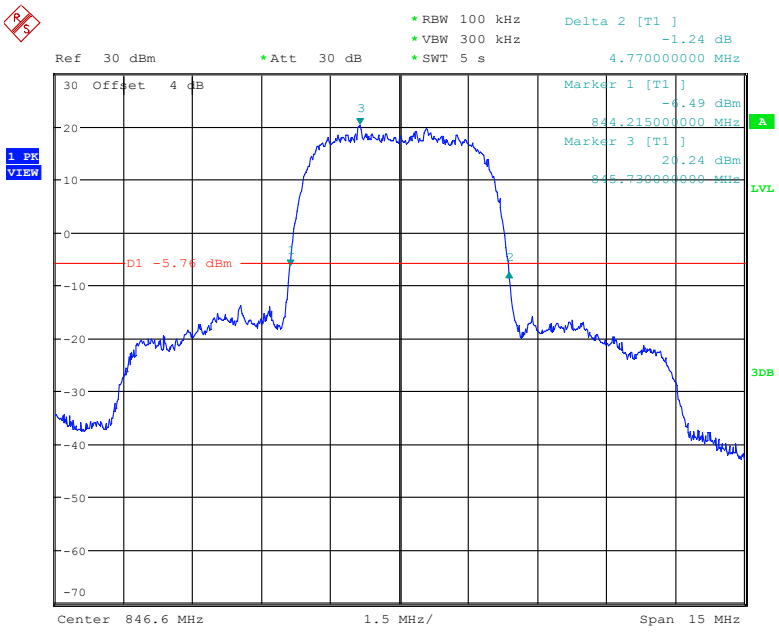


Date: 1.SEP.2022 11:42:23

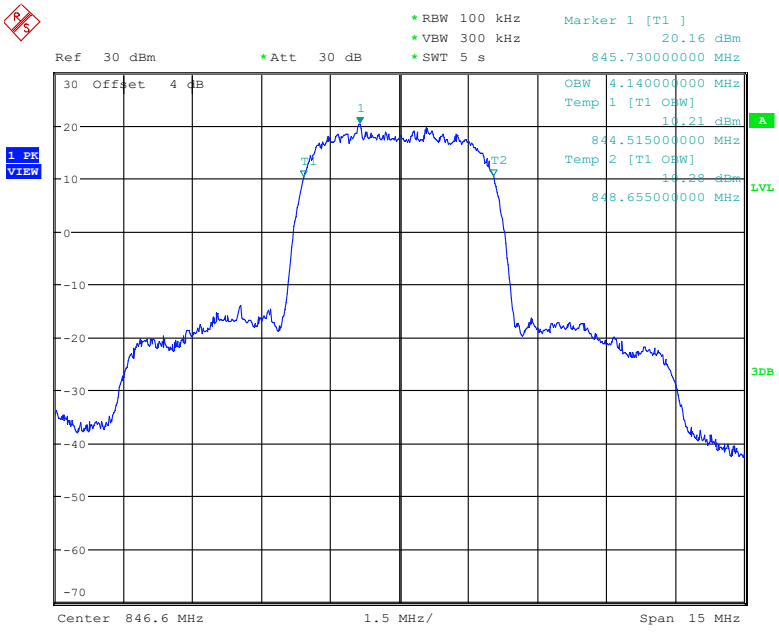


Date: 1.SEP.2022 11:41:45

26 dB Emission Bandwidth for RMC (BPSK) Mode, High channel

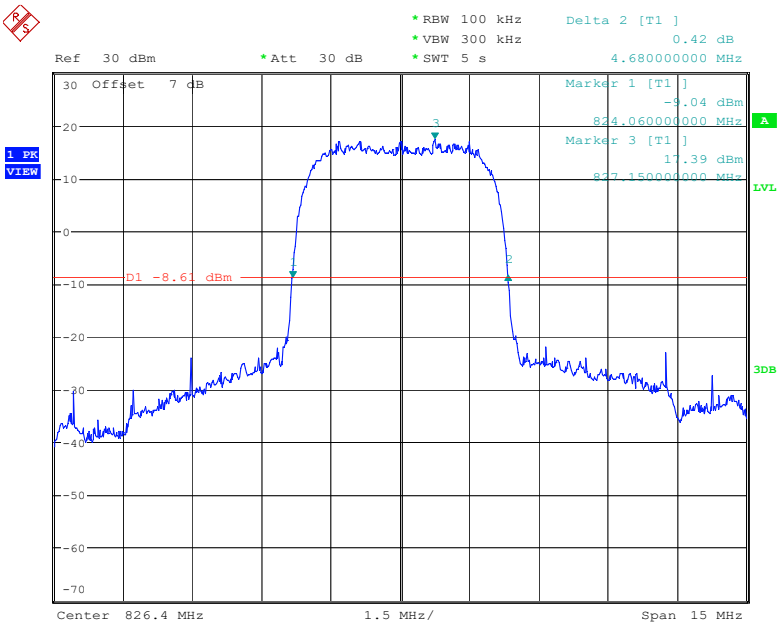


Date: 1.SEP.2022 11:45:12

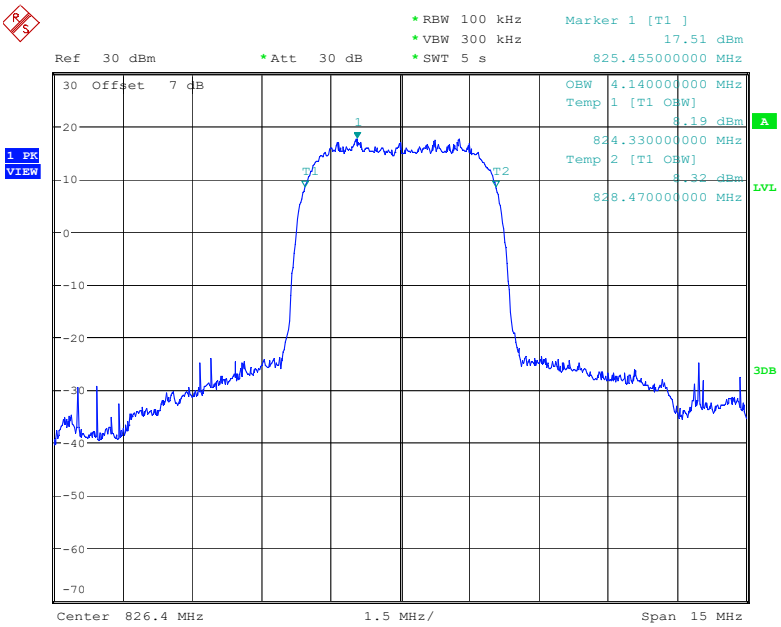


Date: 1.SEP.2022 11:44:33

26 dB Emission Bandwidth for HSUPA (QPSK) Mode, Low channel

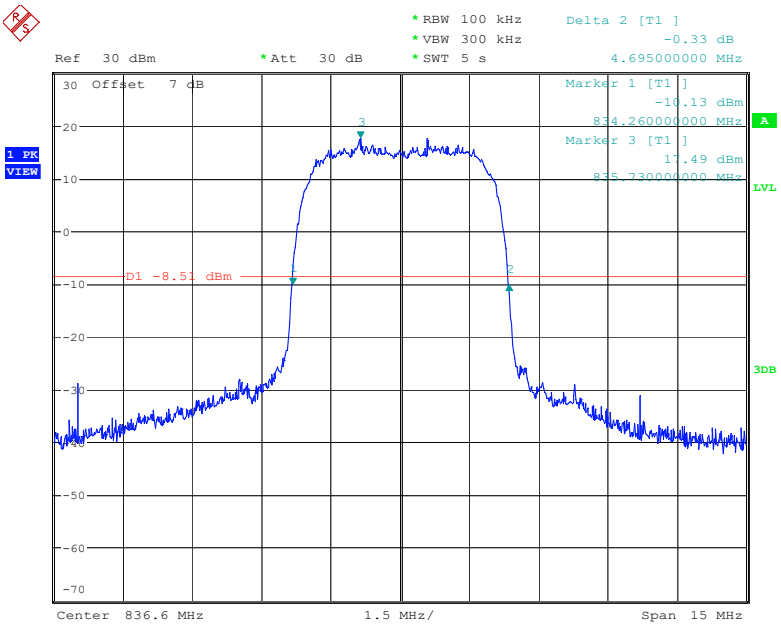


Date: 28.OCT.2022 21:57:35

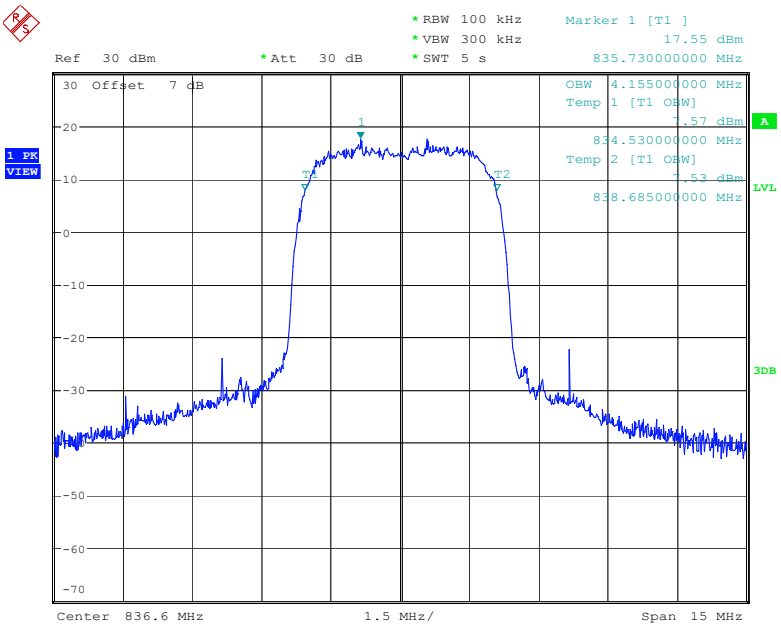


Date: 28.OCT.2022 21:56:56

26 dB Emission Bandwidth for HSUPA (QPSK) Mode, Middle channel

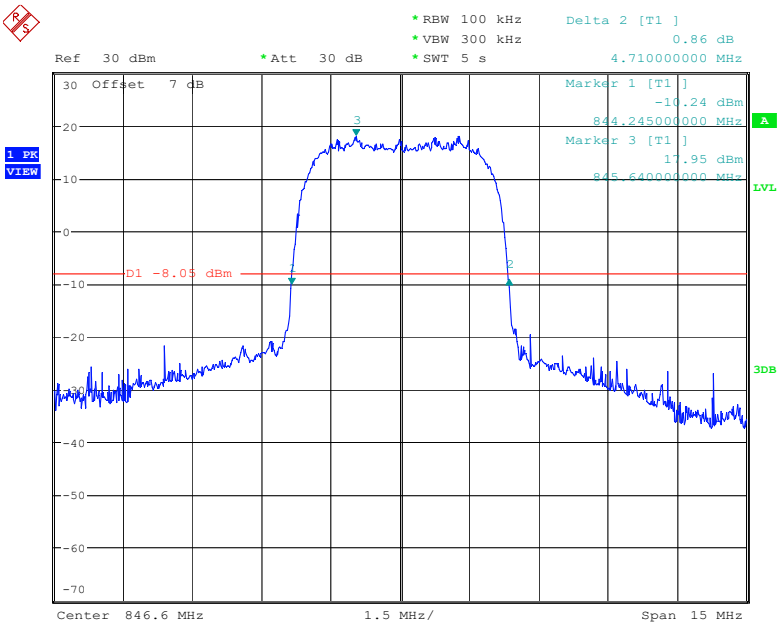


Date: 31.OCT.2022 20:36:44

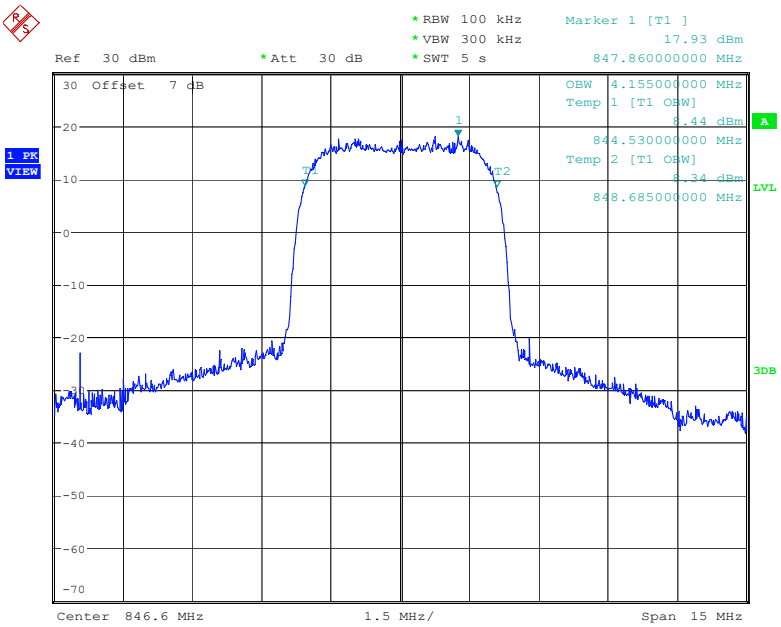


Date: 31.OCT.2022 20:36:04

26 dB Emission Bandwidth for HSUPA (QPSK) Mode, High channel

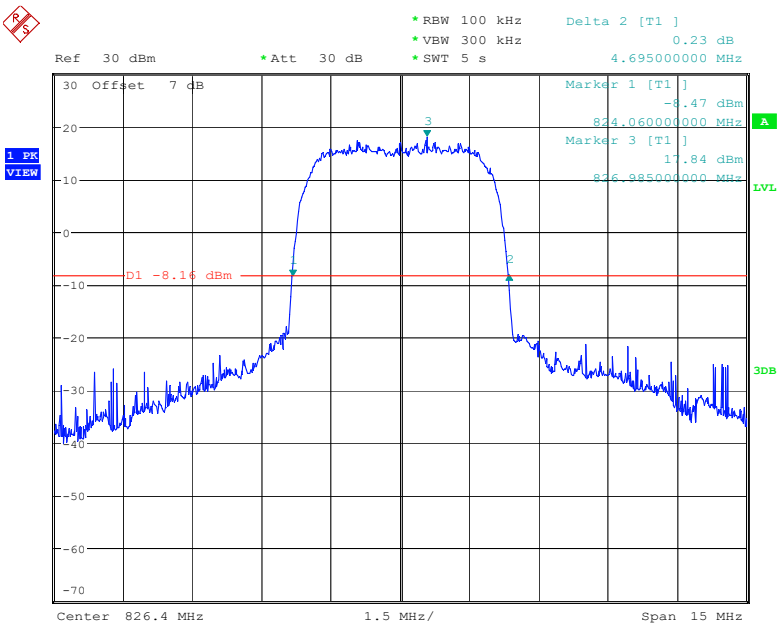


Date: 28.OCT.2022 21:53:57

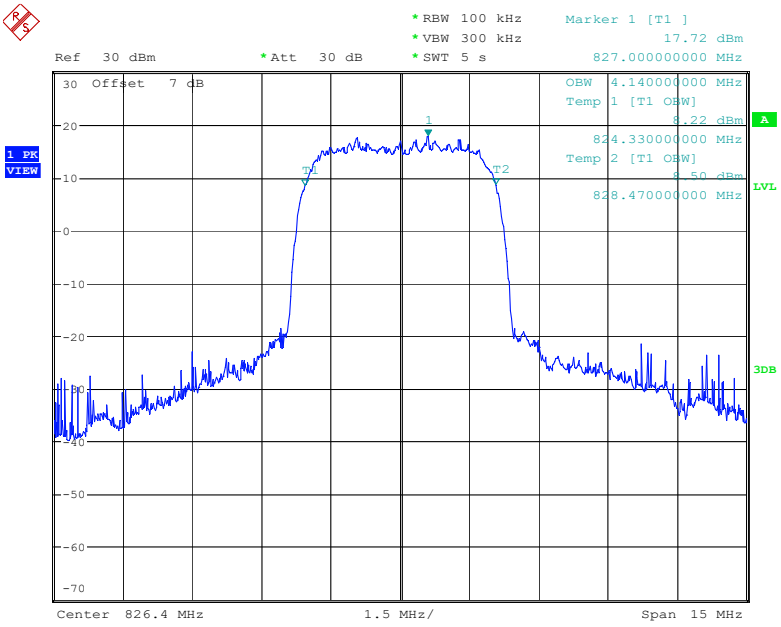


Date: 28.OCT.2022 21:53:18

26 dB Emission Bandwidth for HSDPA (16QAM) Mode, Low channel

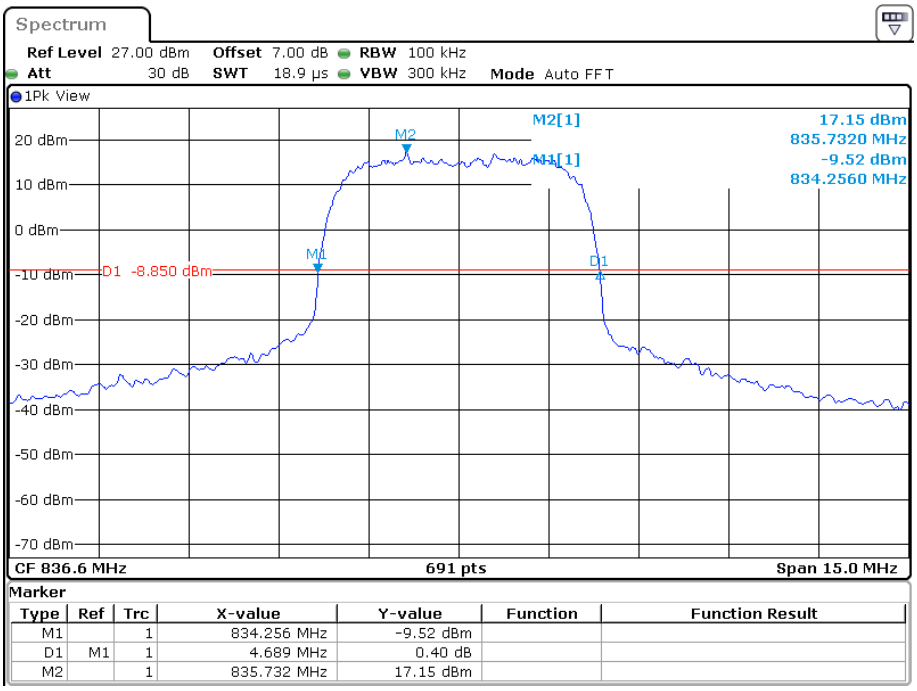


Date: 28.OCT.2022 21:43:36

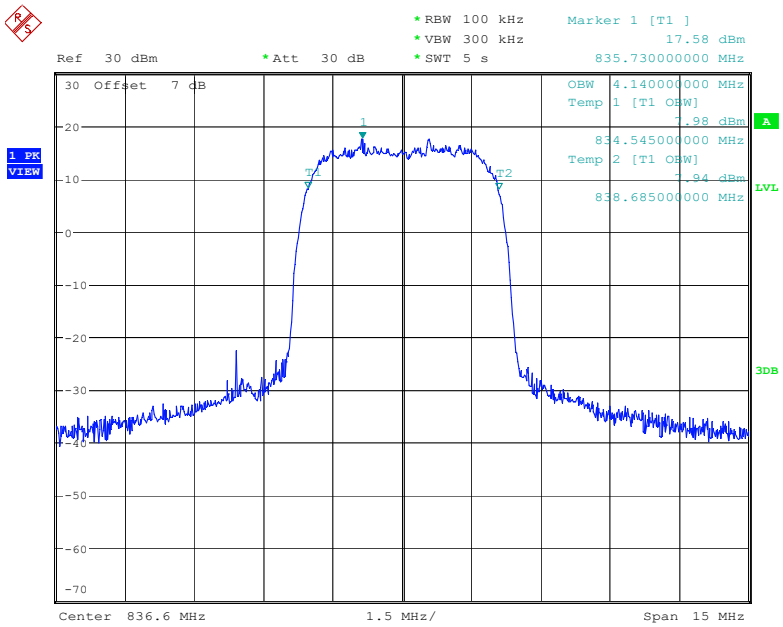


Date: 28.OCT.2022 21:42:59

26 dB Emission Bandwidth for HSDPA (16QAM) Mode, Middle channel

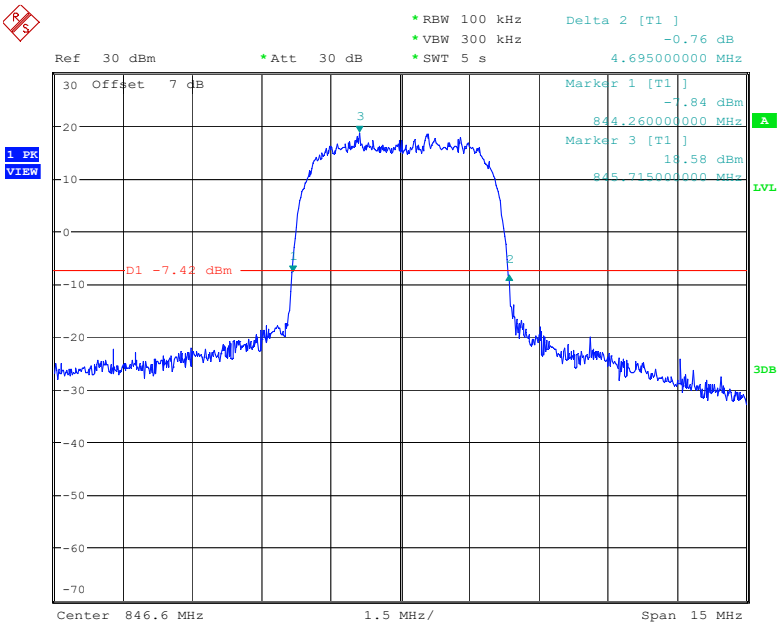


Date: 1.NOV.2022 13:33:19

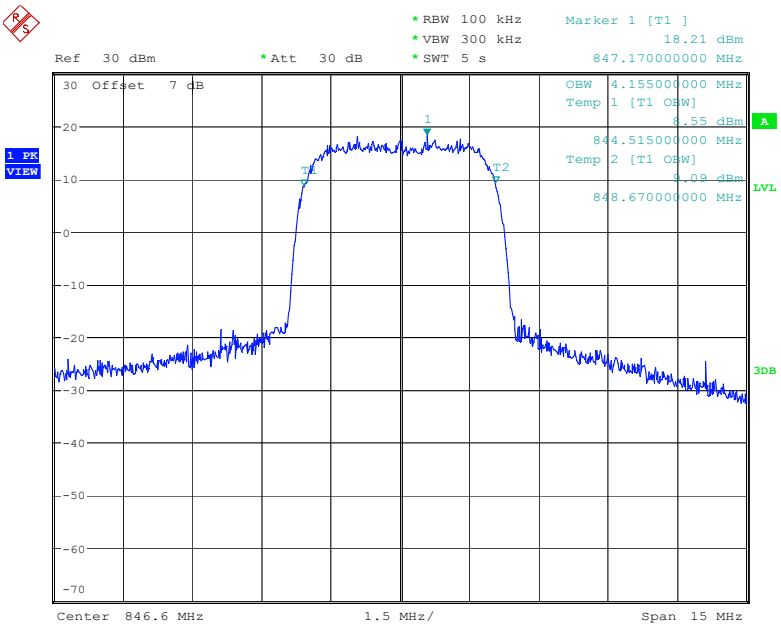


Date: 31.OCT.2022 20:30:21

26 dB Emission Bandwidth for HSDPA (16QAM) Mode, High channel



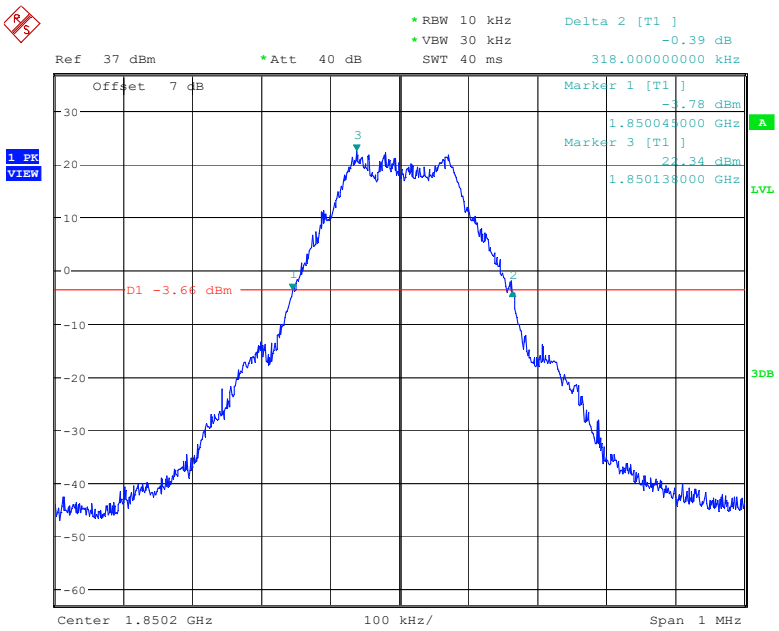
Date: 28.OCT.2022 21:49:50



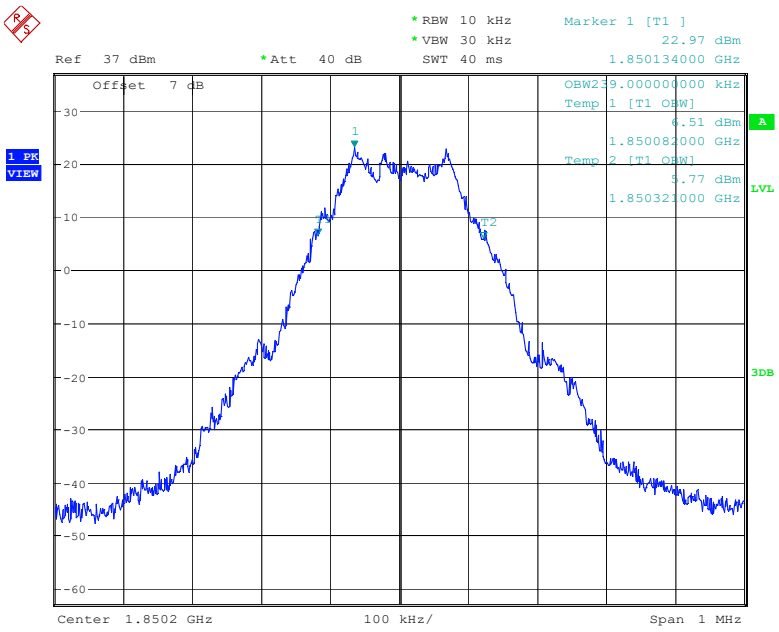
Date: 28.OCT.2022 21:49:11

PCS Band (Part 24E)

26 dB Emission Bandwidth for GSM(GMSK) Mode, Low channel

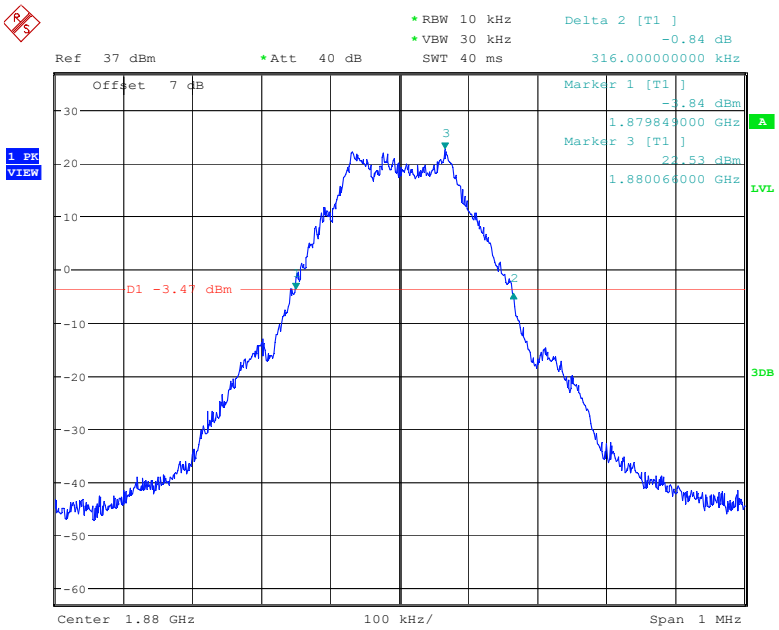


Date: 8.SEP.2022 20:29:11

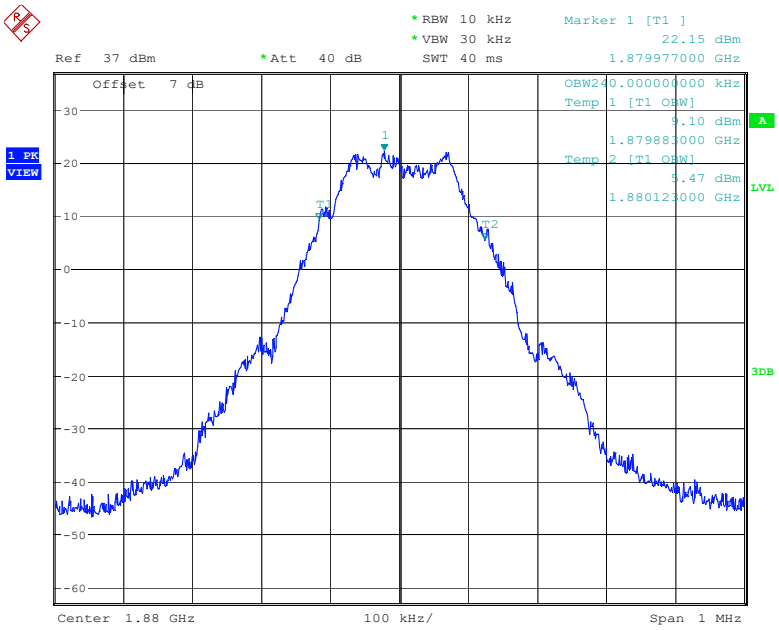


Date: 8.SEP.2022 20:28:35

26 dB Emission Bandwidth for GSM(GMSK) Mode, Middle channel

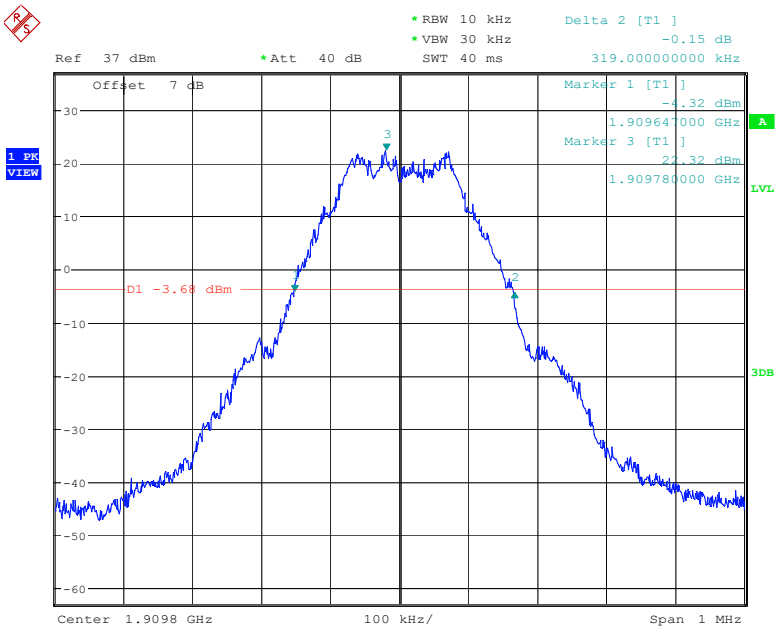


Date: 8.SEP.2022 20:35:00

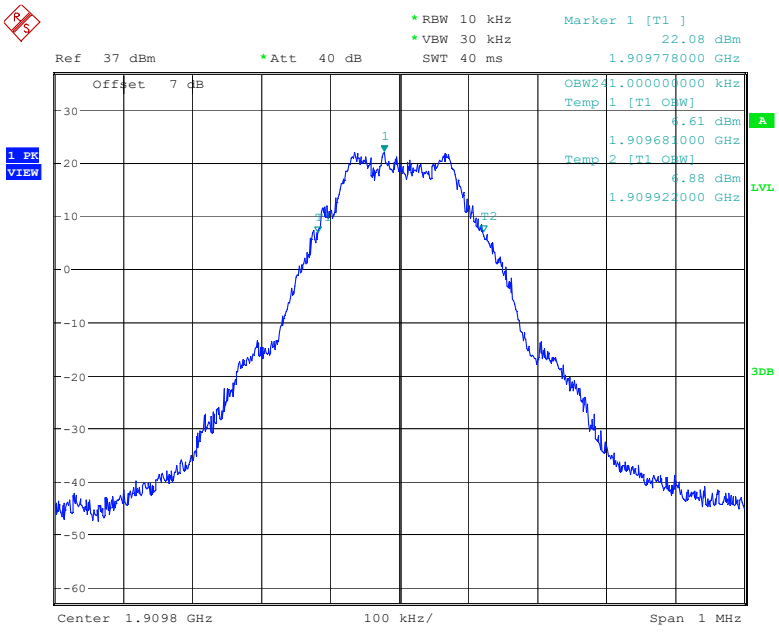


Date: 8.SEP.2022 20:34:23

26 dB Emission Bandwidth for GSM(GMSK) Mode, High channel

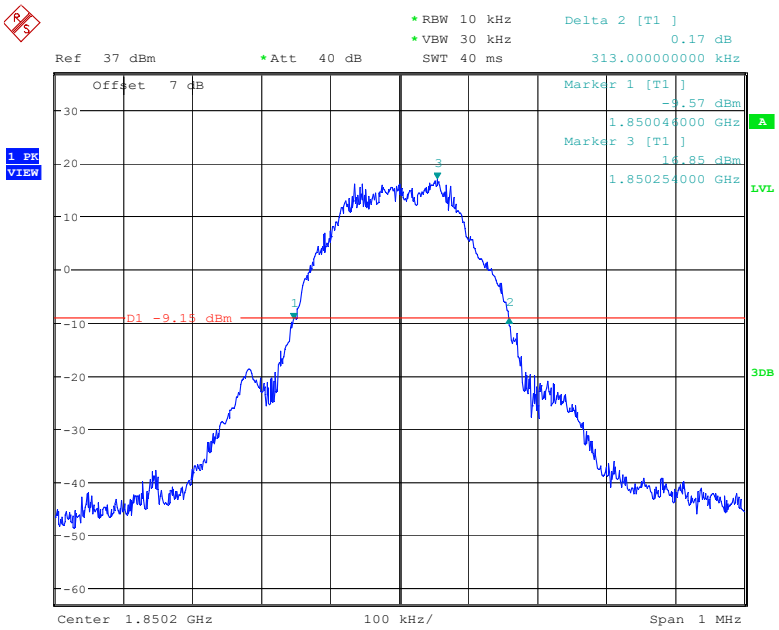


Date: 8.SEP.2022 20:39:44

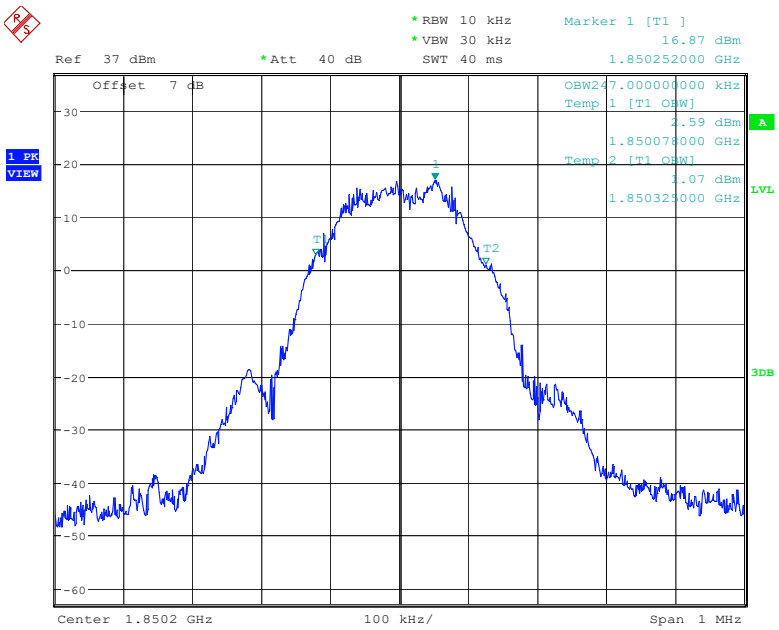


Date: 8.SEP.2022 20:39:06

26 dB Emission Bandwidth for GSM(8PSK) Mode, Low channel

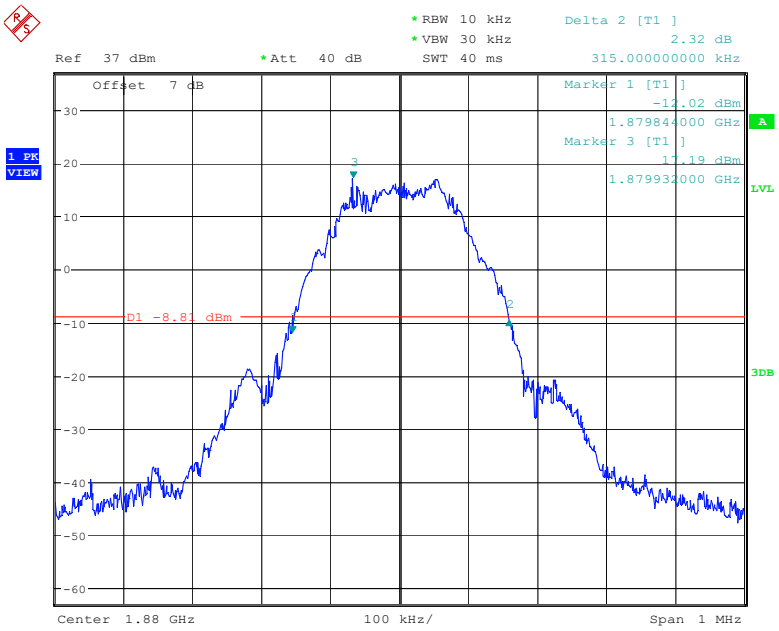


Date: 8.SEP.2022 20:57:44

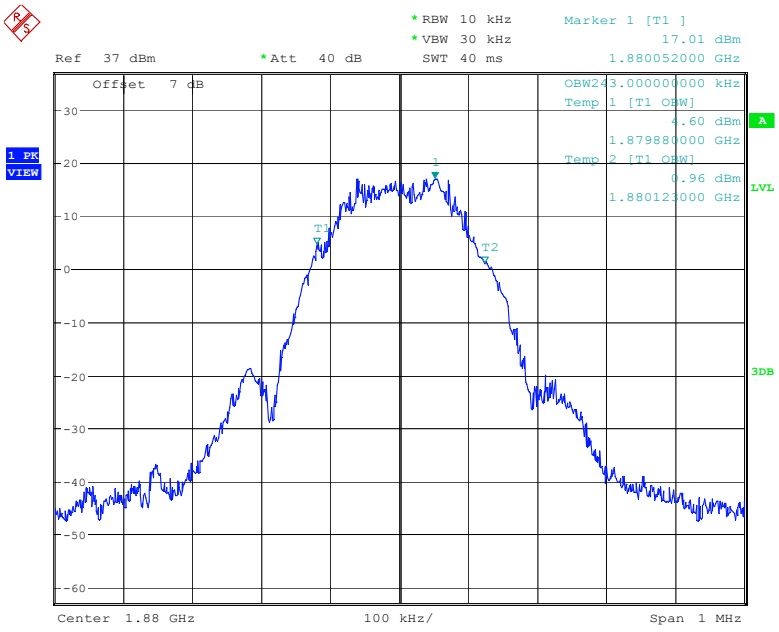


Date: 8.SEP.2022 20:57:07

26 dB Emission Bandwidth for GSM(8PSK) Mode, Middle channel

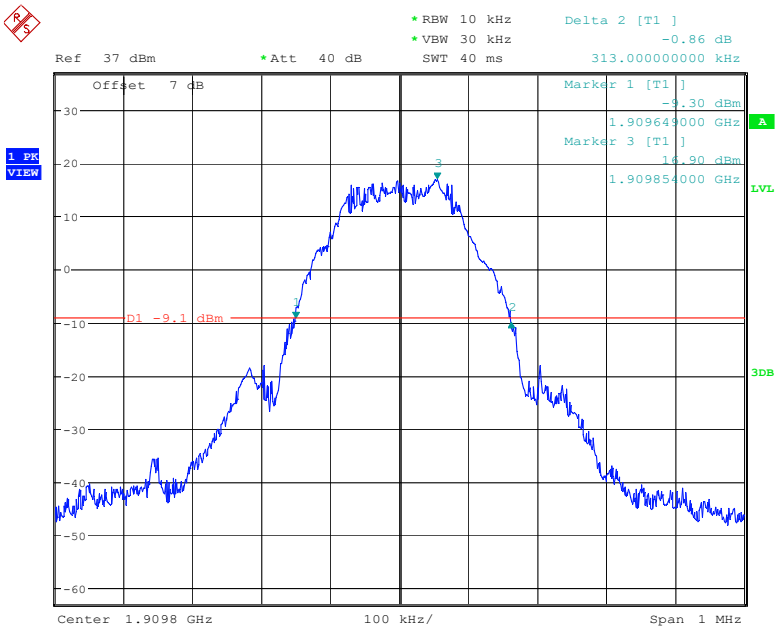


Date: 8.SEP.2022 20:53:25

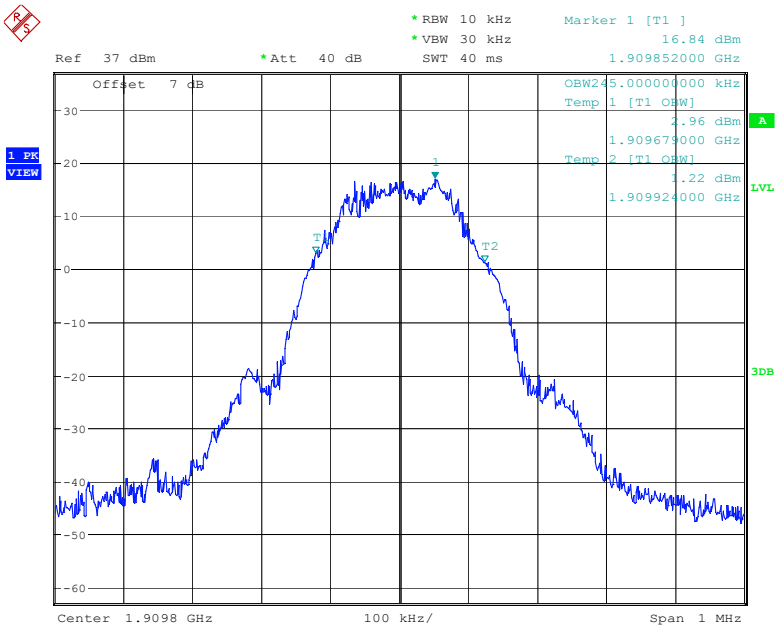


Date: 8.SEP.2022 20:52:49

26 dB Emission Bandwidth for GSM(8PSK) Mode, High channel

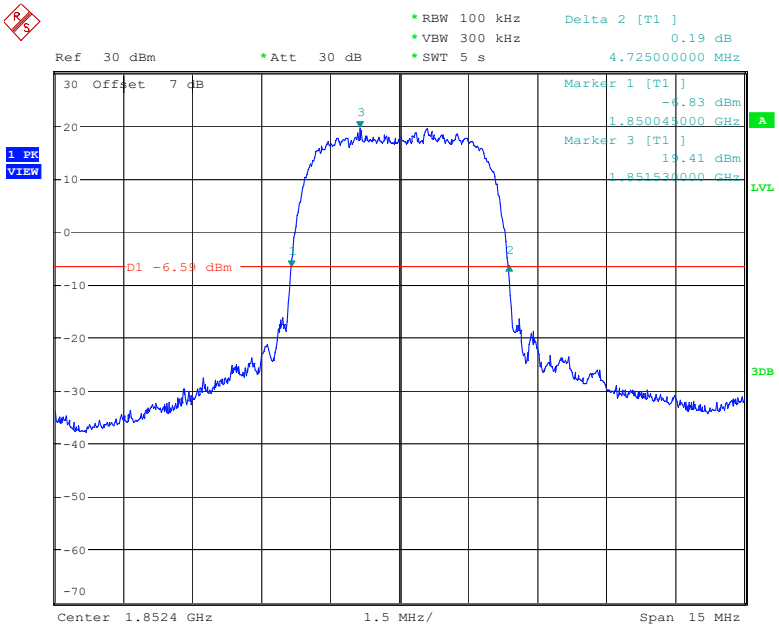


Date: 8.SEP.2022 20:47:49

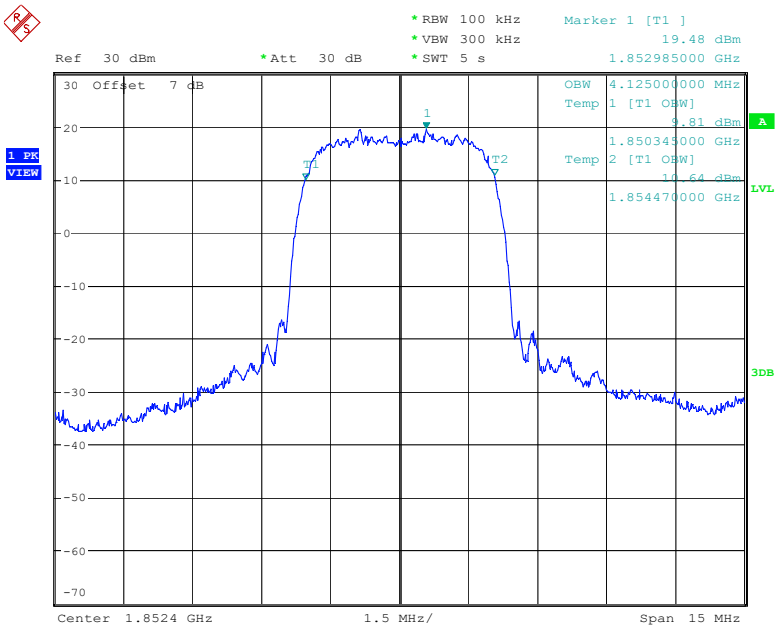


Date: 8.SEP.2022 20:47:12

26 dB Emission Bandwidth for RMC (BPSK) Mode, Low channel

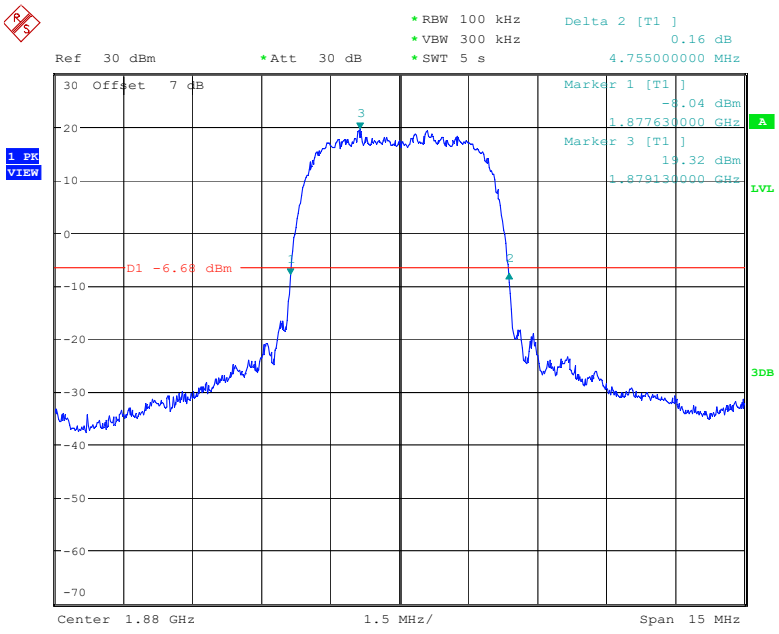


Date: 8.SEP.2022 18:53:14

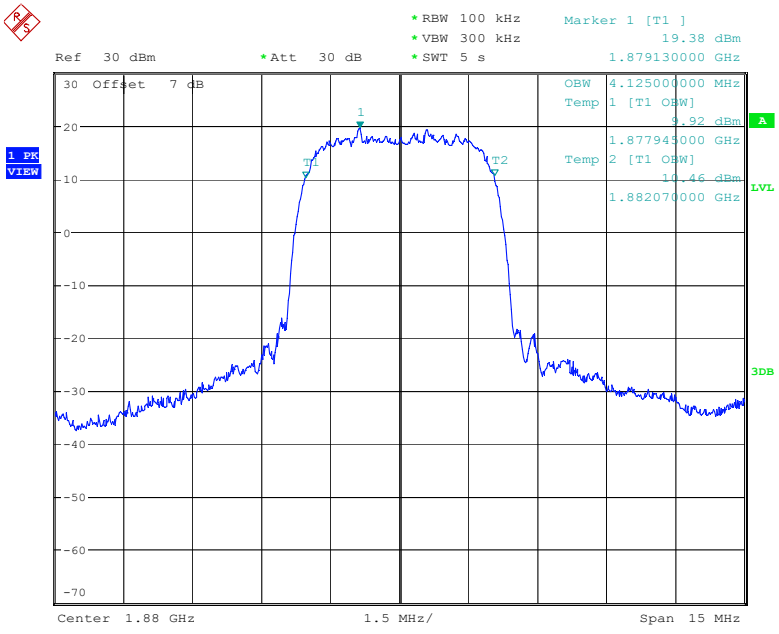


Date: 8.SEP.2022 18:52:36

26 dB Emission Bandwidth for RMC (BPSK) Mode, Middle channel

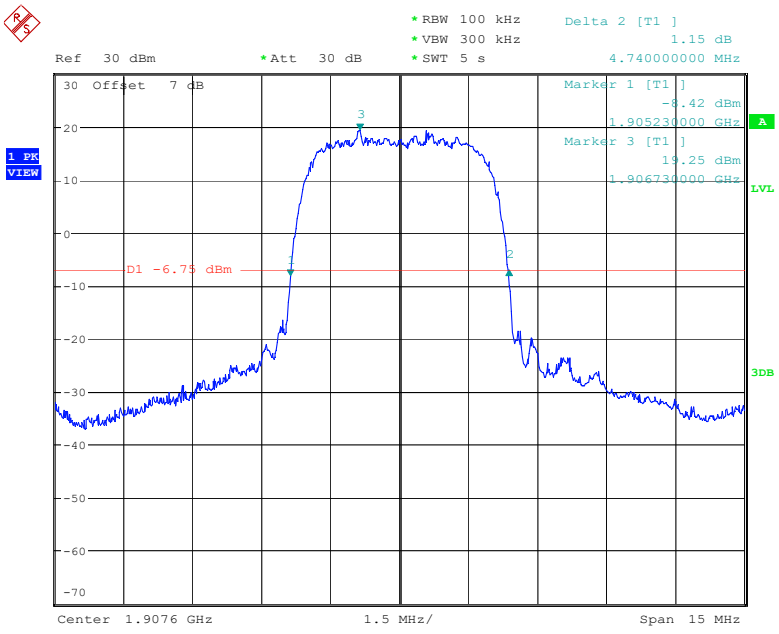


Date: 8.SEP.2022 18:57:22

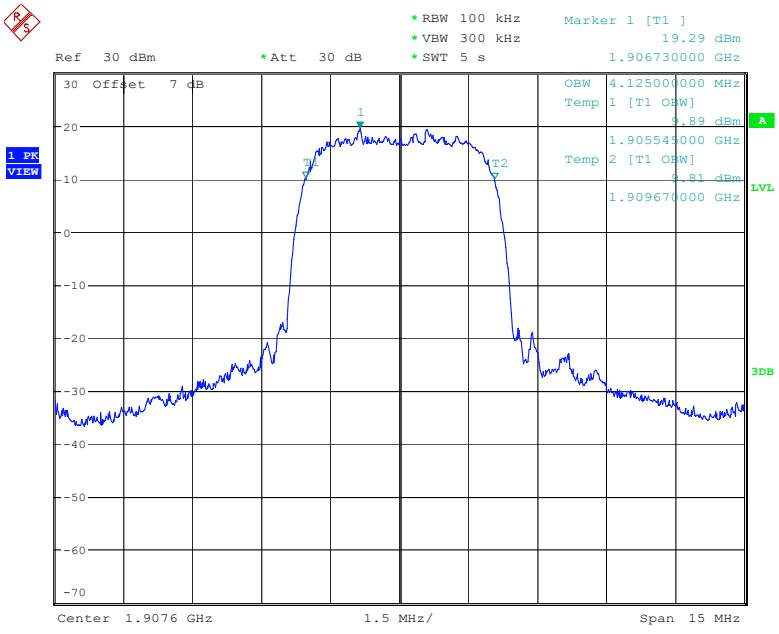


Date: 8.SEP.2022 18:56:45

26 dB Emission Bandwidth for RMC (BPSK) Mode, High channel

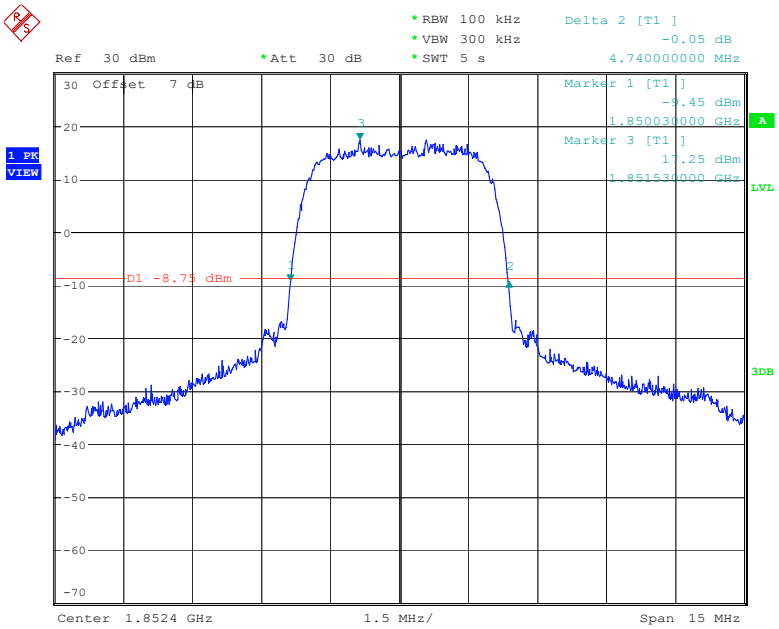


Date: 8.SEP.2022 19:00:35

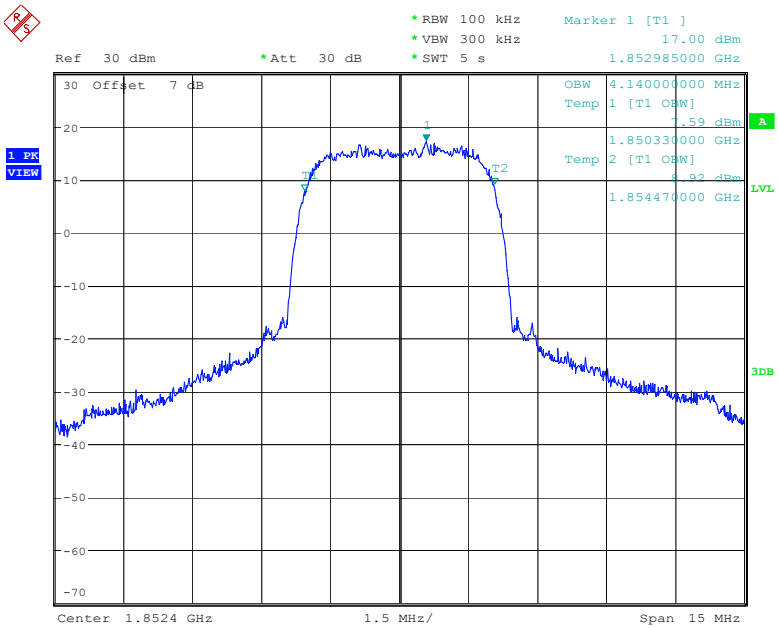


Date: 8.SEP.2022 18:59:58

26 dB Emission Bandwidth for HSUPA (QPSK) Mode, Low channel

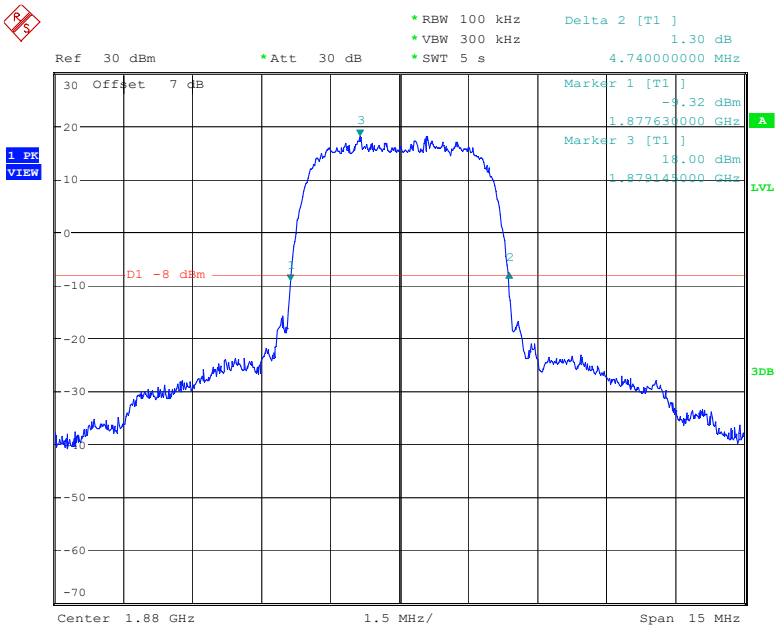


Date: 8.SEP.2022 19:41:20

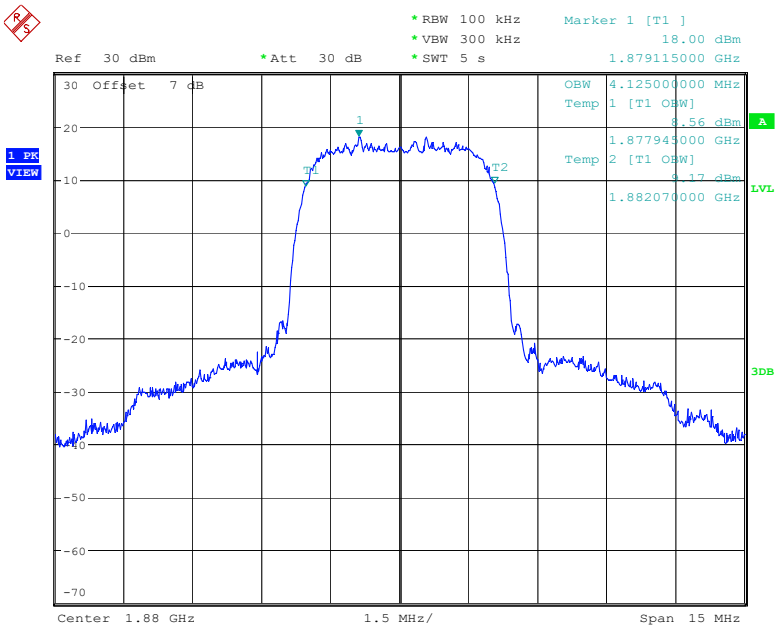


Date: 8.SEP.2022 19:40:42

26 dB Emission Bandwidth for HSUPA (QPSK) Mode, Middle channel

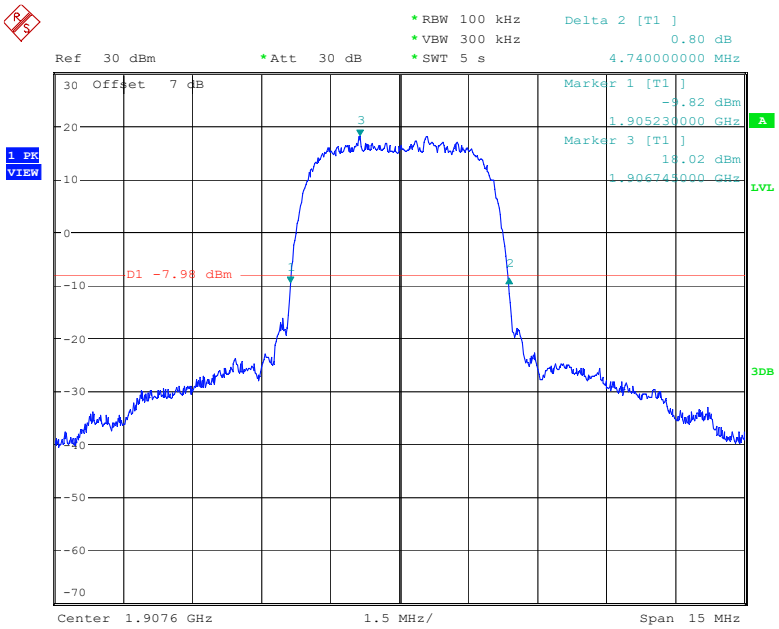


Date: 8.SEP.2022 19:45:17

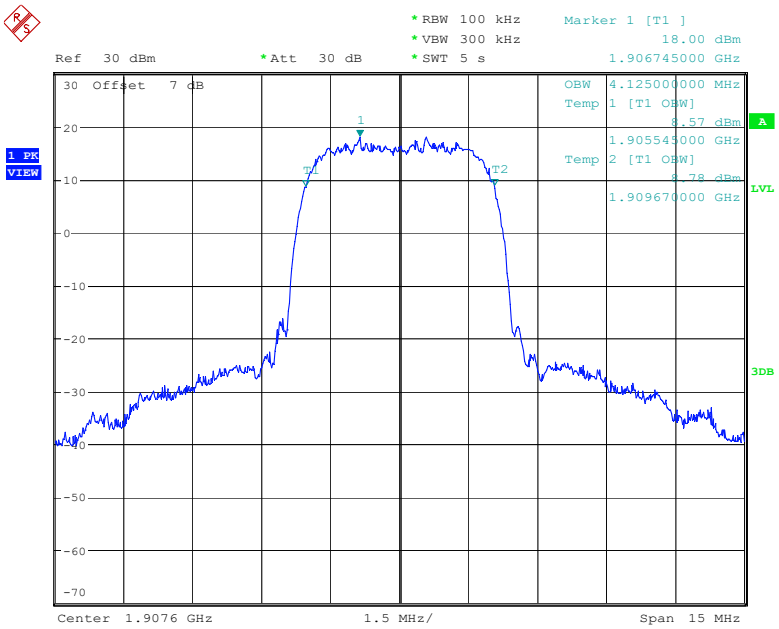


Date: 8.SEP.2022 19:44:40

26 dB Emission Bandwidth for HSUPA (QPSK) Mode, High channel

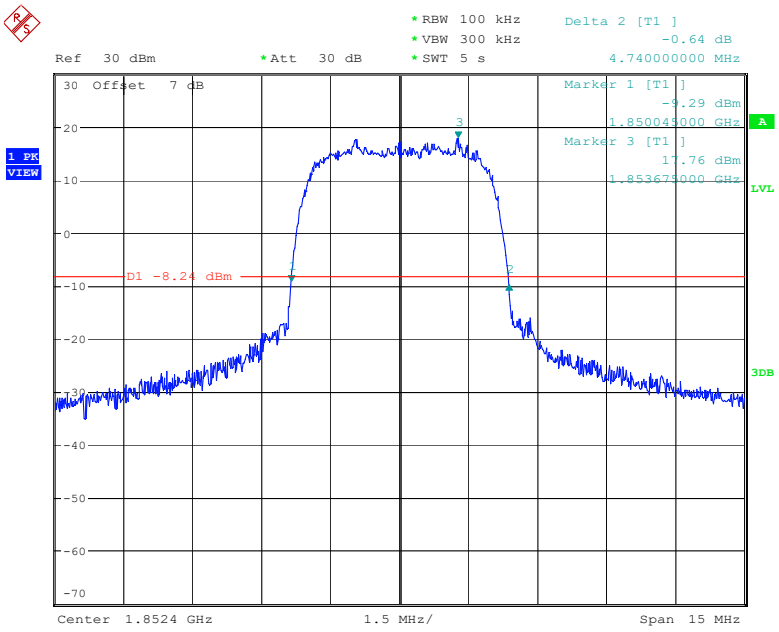


Date: 8.SEP.2022 19:48:45

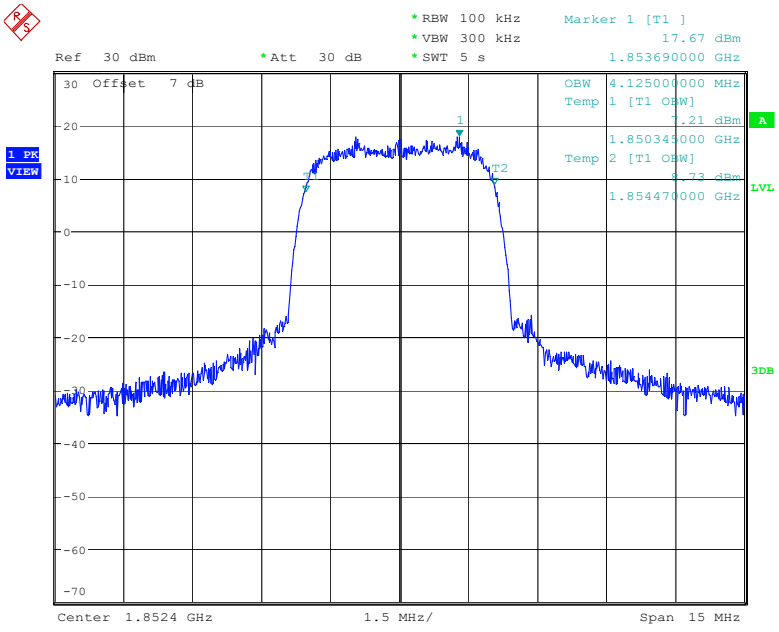


Date: 8.SEP.2022 19:48:08

26 dB Emission Bandwidth for HSDPA (16QAM) Mode, Low channel

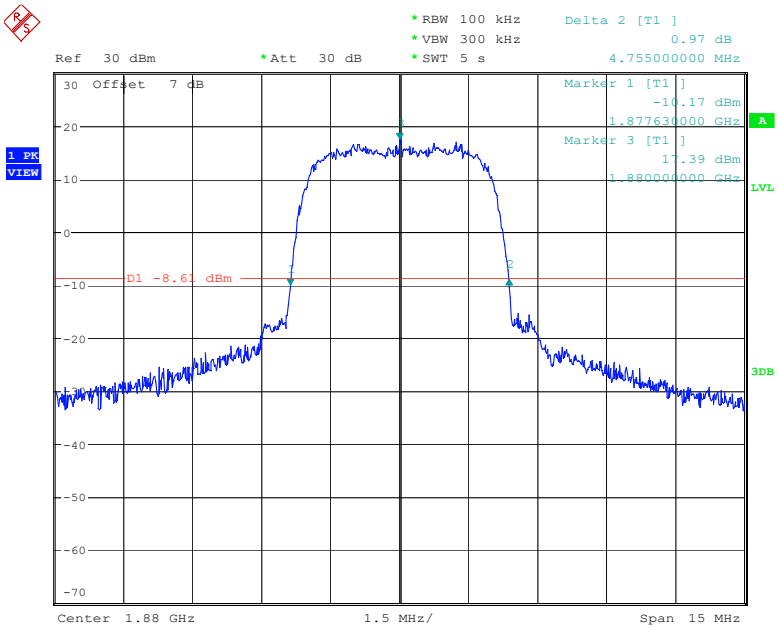


Date: 8.SEP.2022 19:32:50

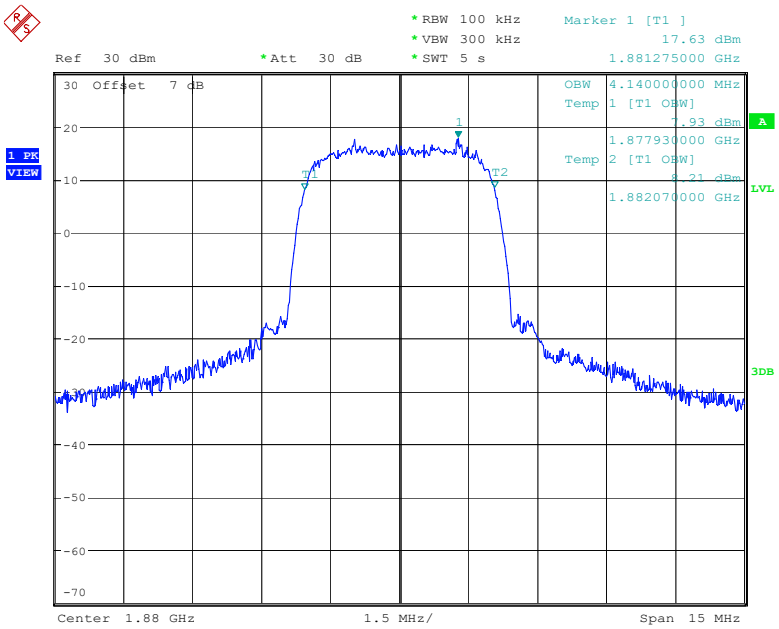


Date: 8.SEP.2022 19:32:13

26 dB Emission Bandwidth for HSDPA (16QAM) Mode, Middle channel

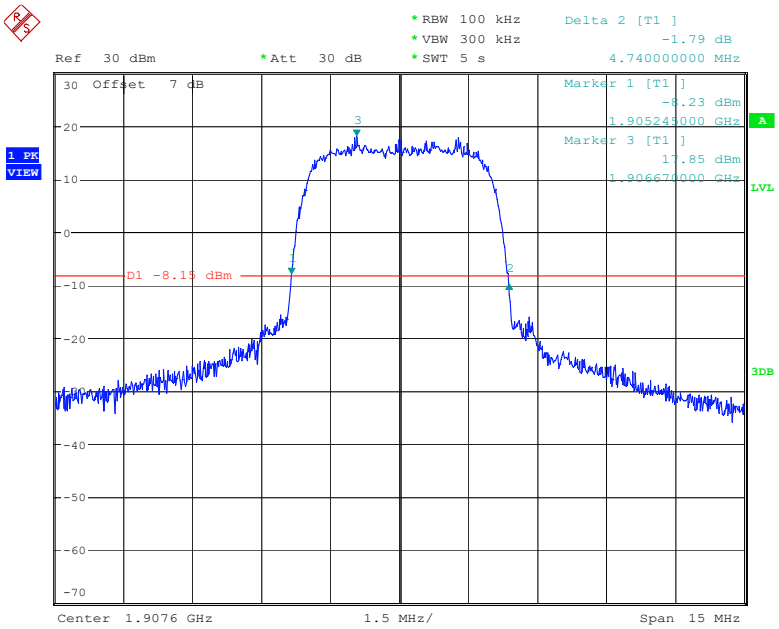


Date: 8.SEP.2022 19:29:23

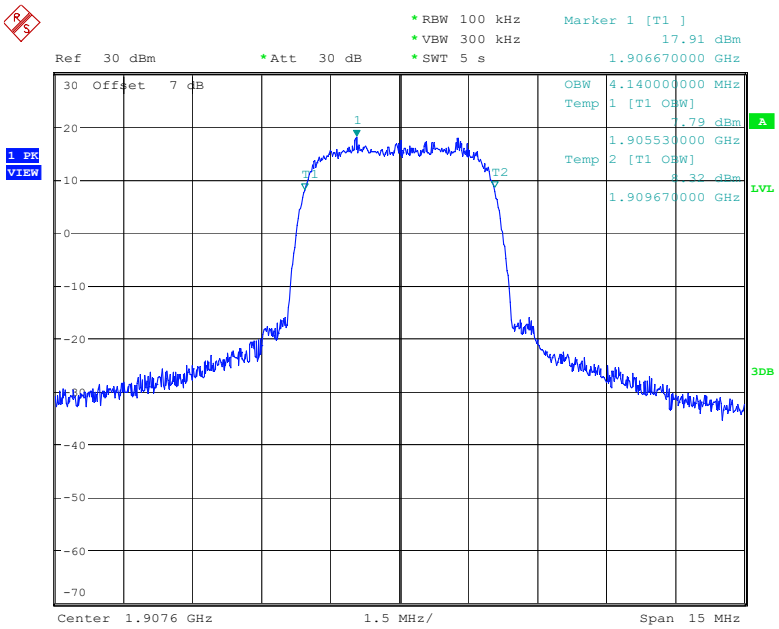


Date: 8.SEP.2022 19:28:46

26 dB Emission Bandwidth for HSDPA (16QAM) Mode, High channel



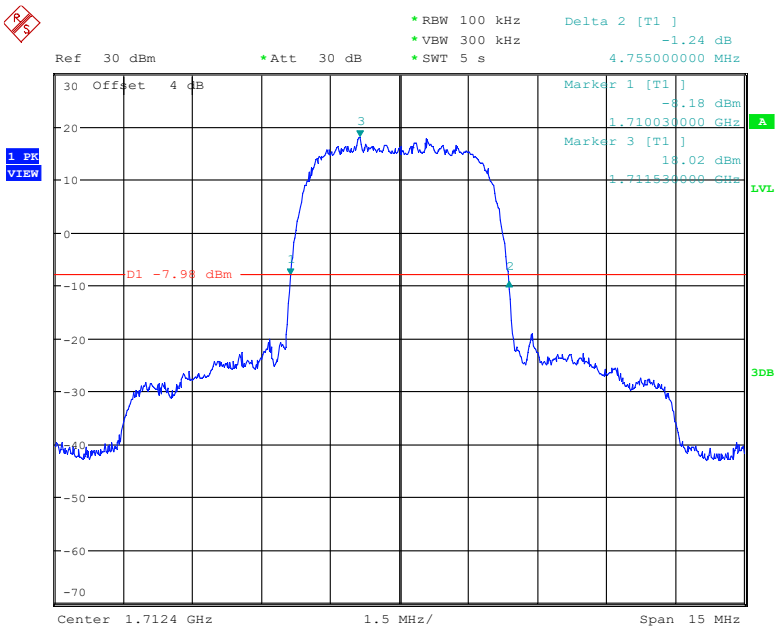
Date: 8.SEP.2022 19:04:51



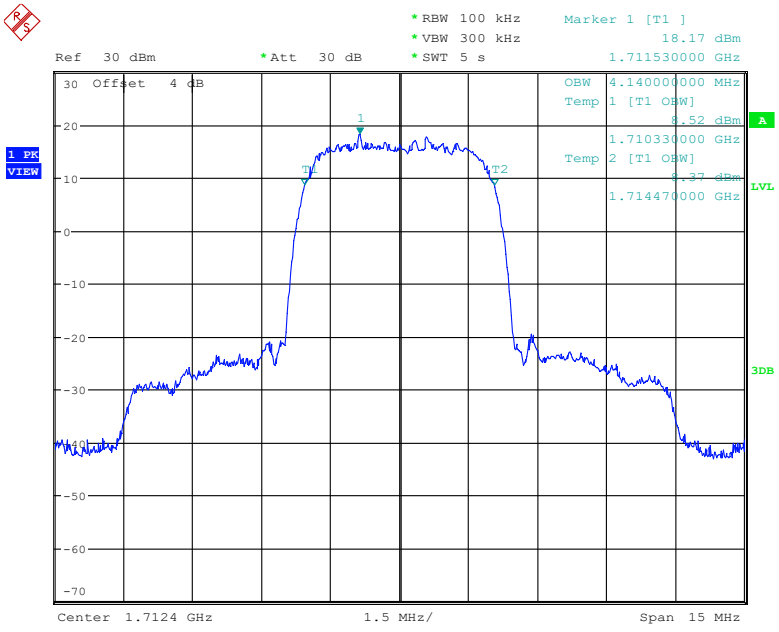
Date: 8.SEP.2022 19:04:13

AWS Band (Part 27)

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

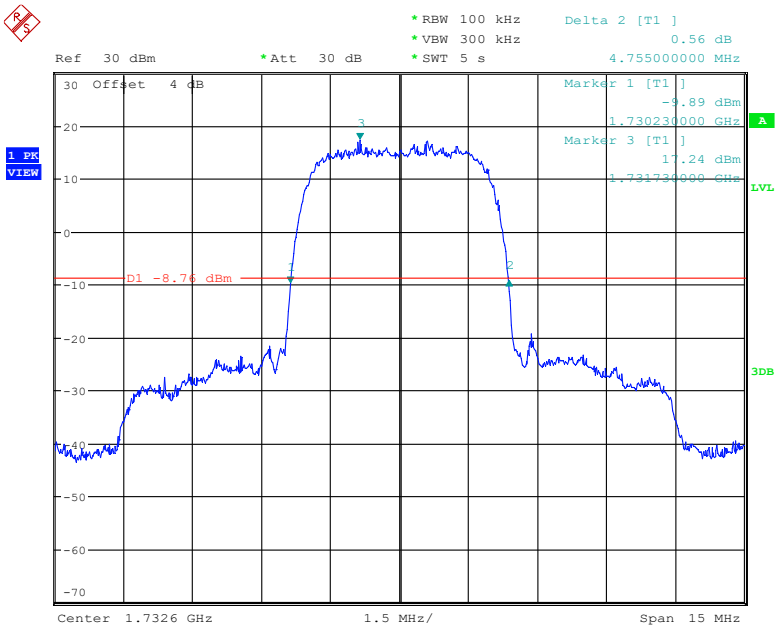


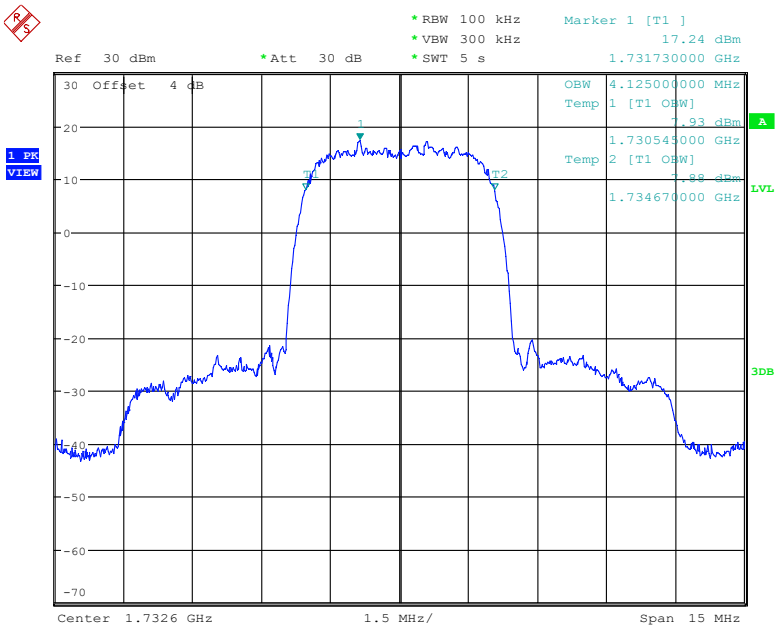
Date: 1.SEP.2022 11:51:25



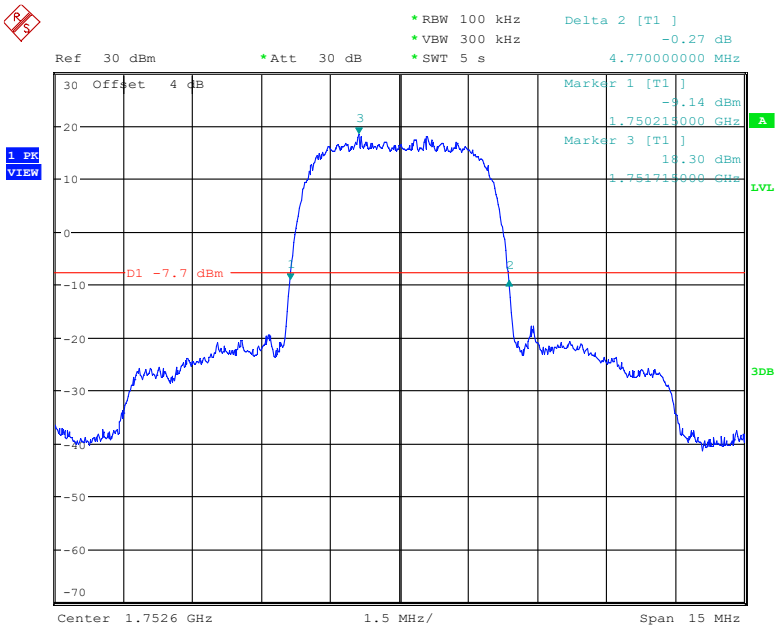
Date: 1.SEP.2022 11:50:48

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

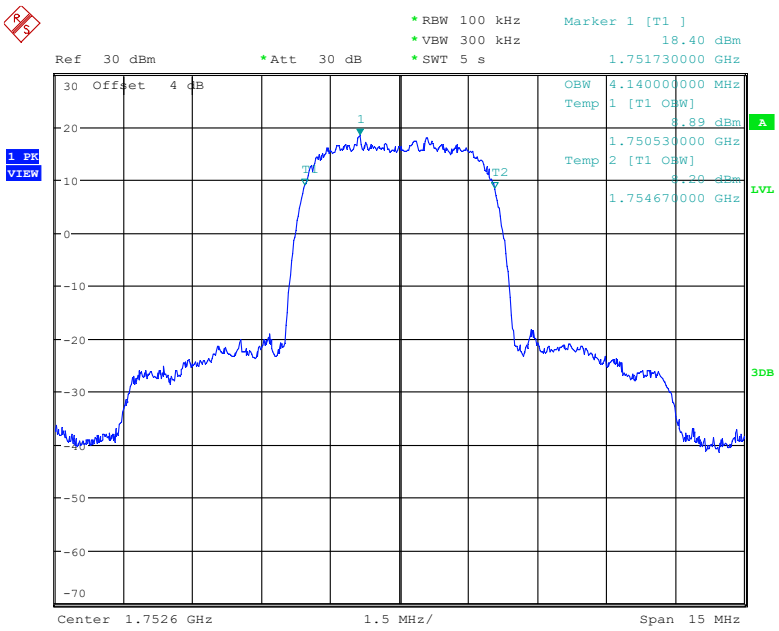




26 dB Emissions &99% Occupied Bandwidth for RMC (BPSK) Mode, High channel

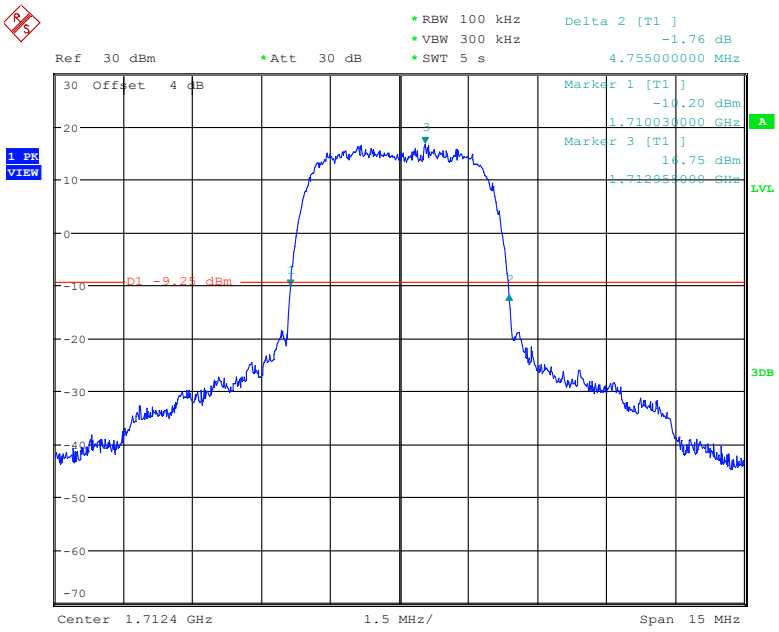


Date: 1.SEP.2022 11:58:23

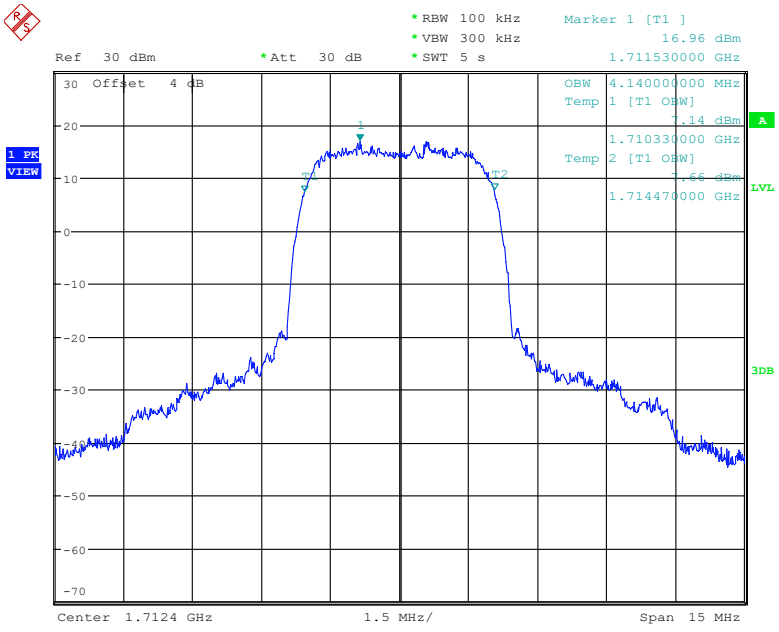


Date: 1.SEP.2022 11:57:46

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

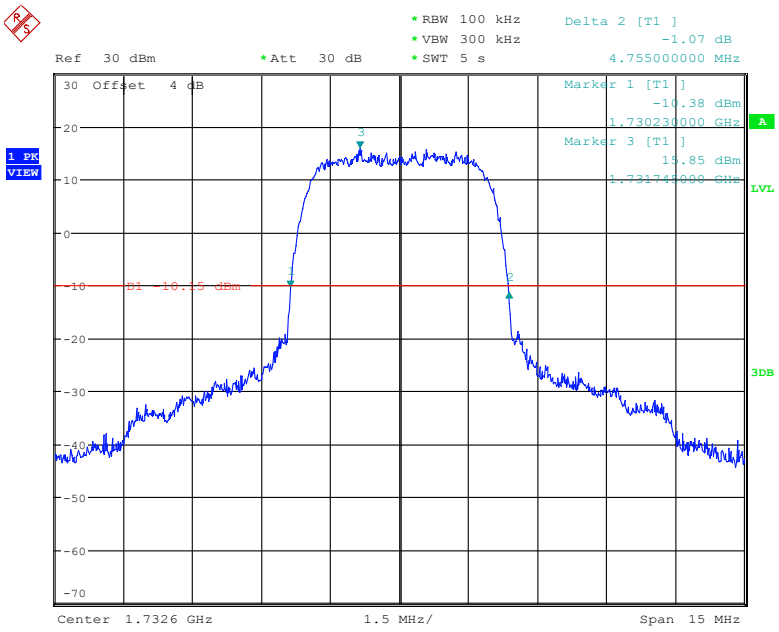


Date: 1.SEP.2022 13:25:26

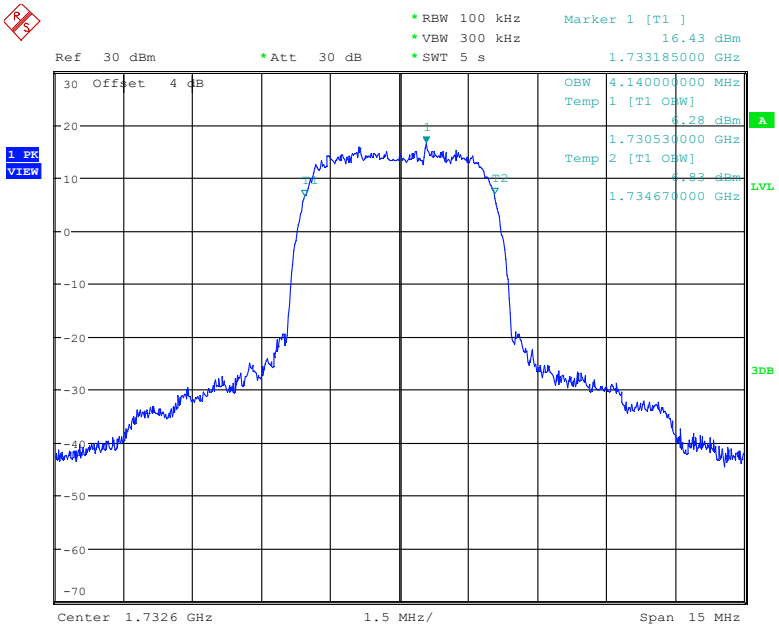


Date: 1.SEP.2022 13:24:49

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

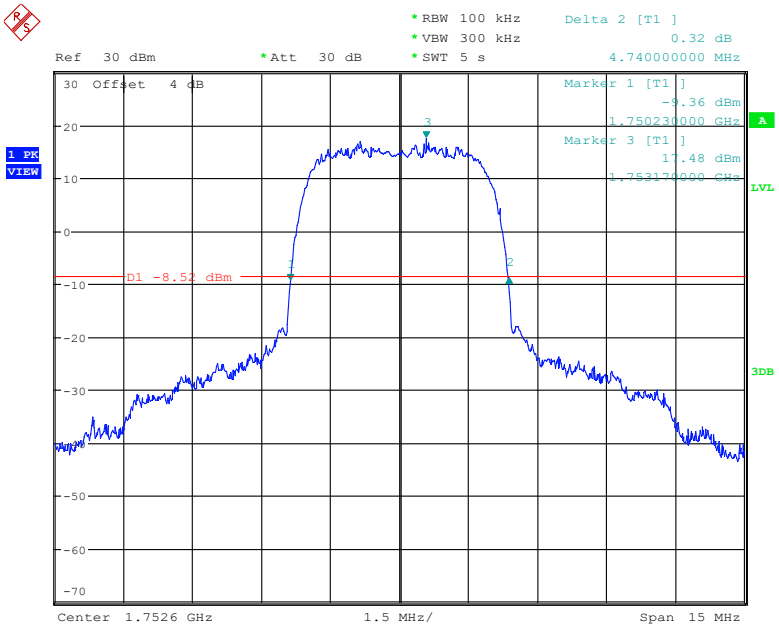


Date: 1.SEP.2022 13:29:59

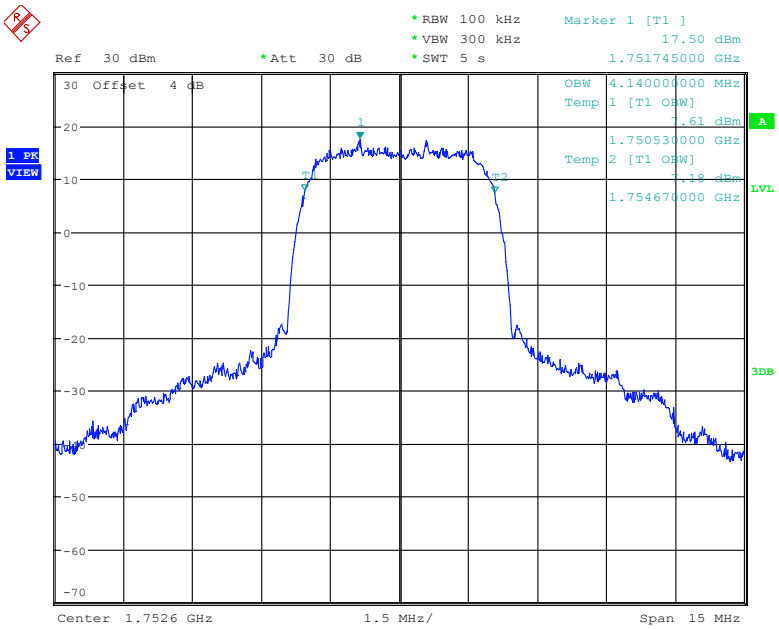


Date: 1.SEP.2022 13:29:22

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

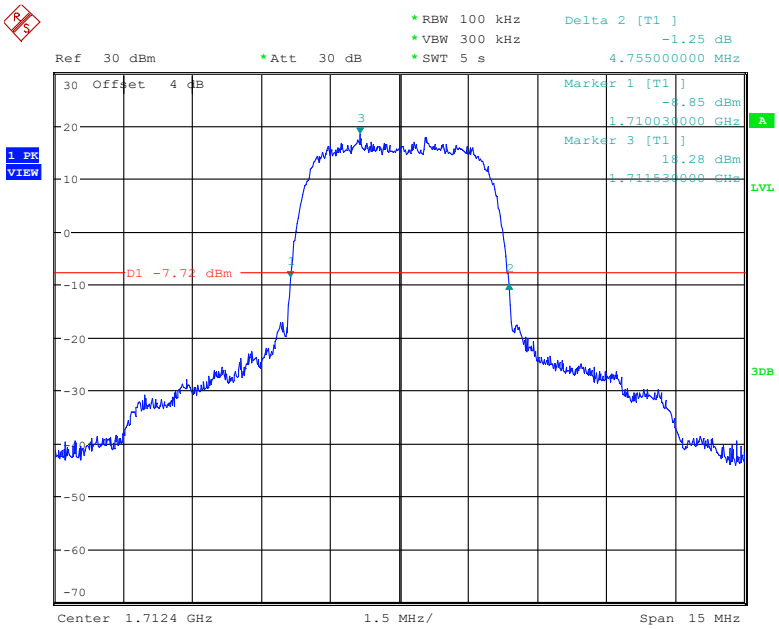


Date: 1.SEP.2022 13:33:38



Date: 1.SEP.2022 13:33:01

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



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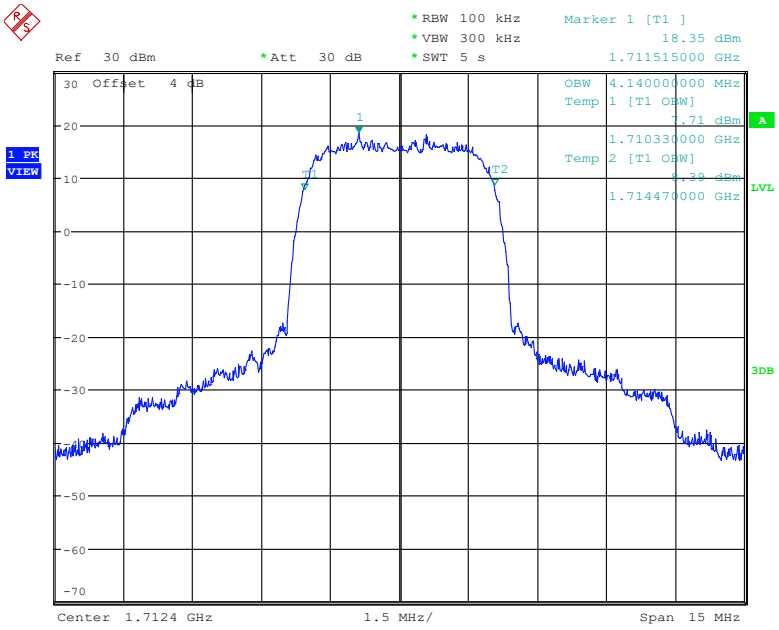
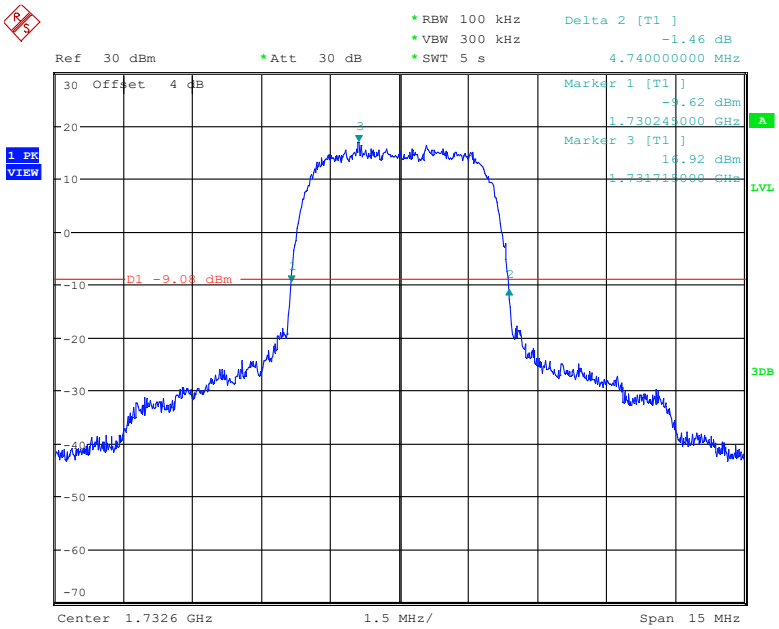
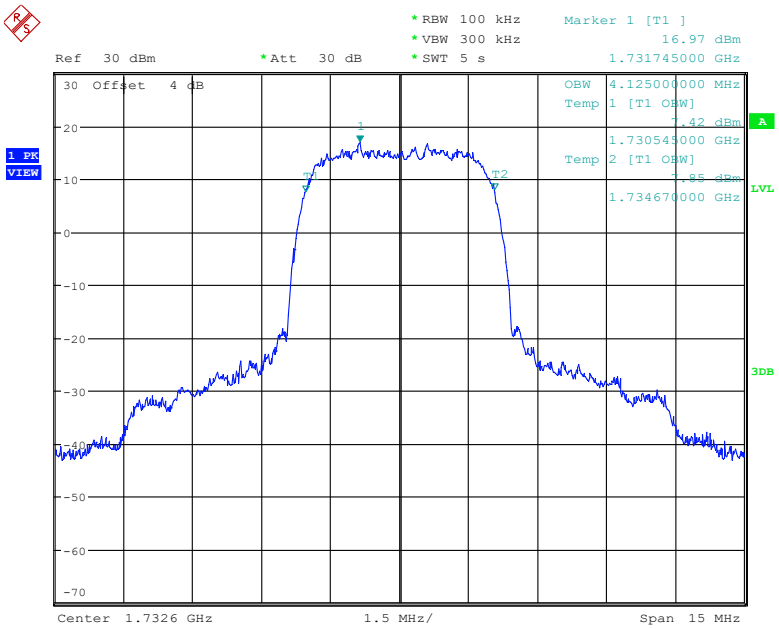


Date: 1.SEP.2022 13:09:27

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

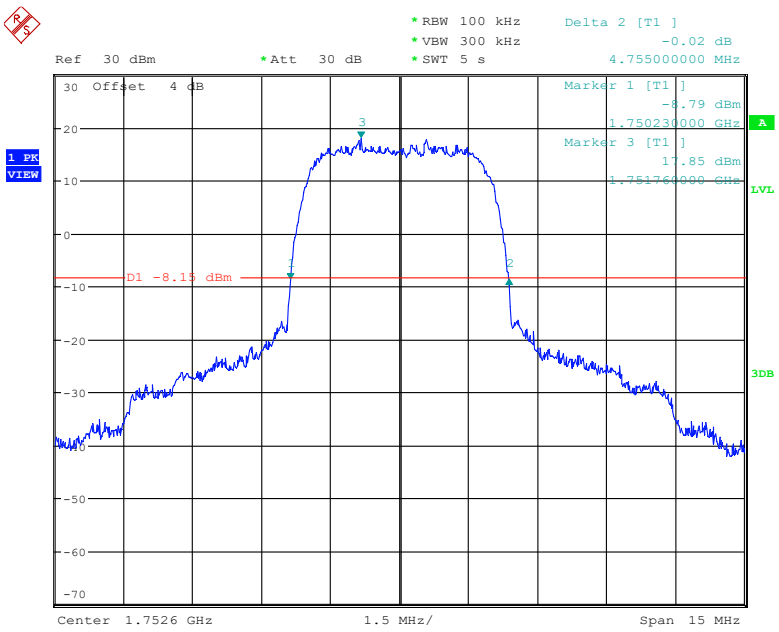


Date: 1.SEP.2022 13:14:07

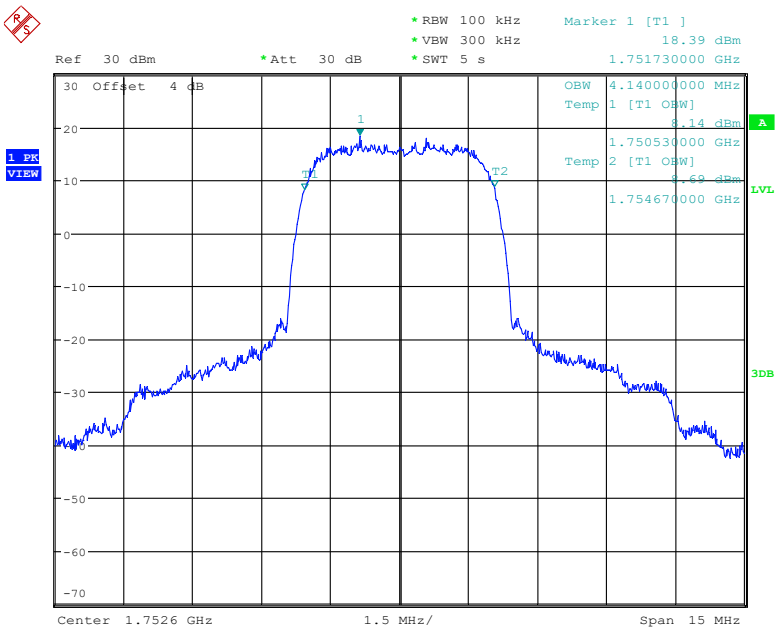


Date: 1.SEP.2022 13:13:29

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



Date: 1.SEP.2022 13:17:28



Date: 1.SEP.2022 13:16:51

LTE Band 2:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.110	1.296	1.104	1.308	1.110	1.326
	16QAM	1.104	1.314	1.104	1.320	1.104	1.296
3 MHz	QPSK	2.700	2.964	2.700	2.964	2.700	2.940
	16QAM	2.688	2.952	2.700	2.928	2.688	2.940
5 MHz	QPSK	4.540	5.000	4.520	5.000	4.520	5.000
	16QAM	4.500	4.940	4.520	5.060	4.520	5.060
10 MHz	QPSK	8.960	9.640	8.960	9.720	8.960	9.640
	16QAM	8.920	9.640	8.960	9.720	8.920	9.640
15 MHz	QPSK	13.500	14.700	13.500	14.820	13.500	14.820
	16QAM	13.500	14.820	13.500	14.760	13.500	14.760
20 MHz	QPSK	17.920	19.440	17.840	19.360	17.920	19.440
	16QAM	17.920	19.280	17.920	19.440	17.920	19.520

LTE Band 4:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.110	1.326	1.110	1.296	1.110	1.338
	16QAM	1.104	1.296	1.098	1.332	1.110	1.332
3 MHz	QPSK	2.700	2.952	2.688	2.940	2.688	2.952
	16QAM	2.688	2.952	2.700	2.964	2.688	2.964
5 MHz	QPSK	4.520	5.020	4.540	5.040	4.520	5.020
	16QAM	4.520	5.040	4.520	5.000	4.560	5.060
10 MHz	QPSK	8.960	9.640	8.960	9.800	8.960	9.680
	16QAM	8.960	9.680	8.960	9.640	8.960	9.800
15 MHz	QPSK	13.560	14.940	13.440	14.760	13.500	14.820
	16QAM	13.500	14.820	13.500	14.820	13.500	14.820
20 MHz	QPSK	17.920	19.600	17.920	19.280	17.920	19.200
	16QAM	18.000	19.440	17.920	19.520	17.840	19.440

LTE Band 5:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.110	1.326	1.104	1.338	1.104	1.380
	16QAM	1.104	1.302	1.110	1.332	1.098	1.296
3 MHz	QPSK	2.700	2.928	2.700	2.976	2.688	2.964
	16QAM	2.688	2.964	2.688	2.964	2.688	2.964
5 MHz	QPSK	4.540	5.040	4.520	5.040	4.520	5.060
	16QAM	4.520	5.000	4.520	5.040	4.520	5.040
10 MHz	QPSK	8.960	9.800	8.960	9.800	8.920	9.560
	16QAM	8.960	9.720	8.960	9.760	8.920	9.680

LTE Band 12:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.104	1.302	1.110	1.296	1.104	1.314
	16QAM	1.098	1.296	1.104	1.314	1.110	1.308
3 MHz	QPSK	2.688	2.952	2.700	2.964	2.700	2.964
	16QAM	2.688	2.952	2.688	2.964	2.700	2.964
5 MHz	QPSK	4.520	5.000	4.540	5.020	4.520	5.040
	16QAM	4.520	5.040	4.500	5.020	4.560	5.000
10 MHz	QPSK	8.960	9.720	8.920	9.720	8.960	9.640
	16QAM	8.960	9.800	8.920	9.680	8.960	9.480

LTE Band 38

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.520	4.980	4.520	5.000	4.520	4.960
	16QAM	4.520	5.020	4.500	5.000	4.520	5.280
10 MHz	QPSK	8.960	9.800	8.960	9.720	8.960	10.000
	16QAM	8.960	9.640	8.960	9.680	8.960	9.880
15 MHz	QPSK	13.500	16.800	13.560	16.320	13.560	15.180
	16QAM	13.560	15.000	13.560	16.500	13.560	16.080
20 MHz	QPSK	17.920	20.000	17.920	19.520	17.920	19.360
	16QAM	17.920	20.000	17.920	19.920	17.920	20.720

LTE Band 41

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.520	5.000	4.500	5.000	4.540	5.000
	16QAM	4.520	5.140	4.520	5.040	4.520	5.040
10 MHz	QPSK	8.960	9.680	8.960	10.320	8.960	9.880
	16QAM	8.960	9.680	8.960	9.840	8.960	9.680
15 MHz	QPSK	13.500	15.780	13.560	16.500	13.560	16.500
	16QAM	13.560	15.060	13.560	15.420	13.500	16.500
20 MHz	QPSK	17.920	19.360	18.000	19.760	18.000	19.440
	16QAM	17.920	20.880	17.920	20.000	17.920	19.920

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

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

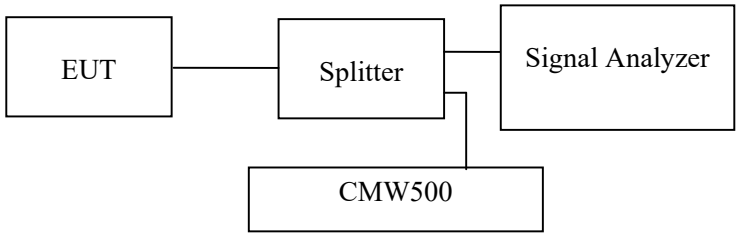
Applicable Standard

FCC §2.1051, §22.917(a) & §24.238(a)&§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.



Note: the worst path loss (cable loss and splitter inset loss) among the test frequency range was added into plots.

Test Data

Environmental Conditions

Temperature:	27.6 ℃
Relative Humidity:	58 %
ATM Pressure:	101.0 kPa

The testing was performed by Roger Ling from 2022-09-01to 2022-10-18.

EUT operation mode: Transmitting

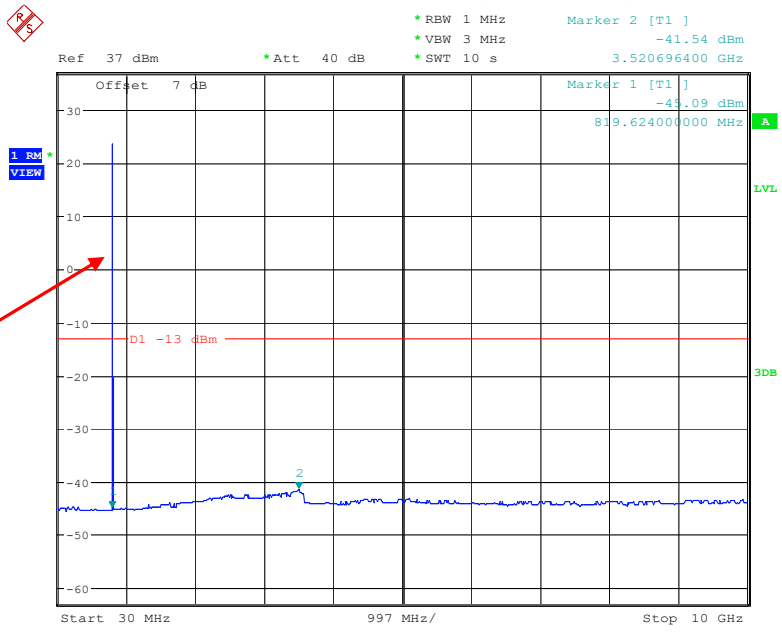
Test result: Pass

Please refer to the following plots.

Cellular Band (Part 22H)

Low Channel:

30 MHz – 10GHz (GSM Mode)

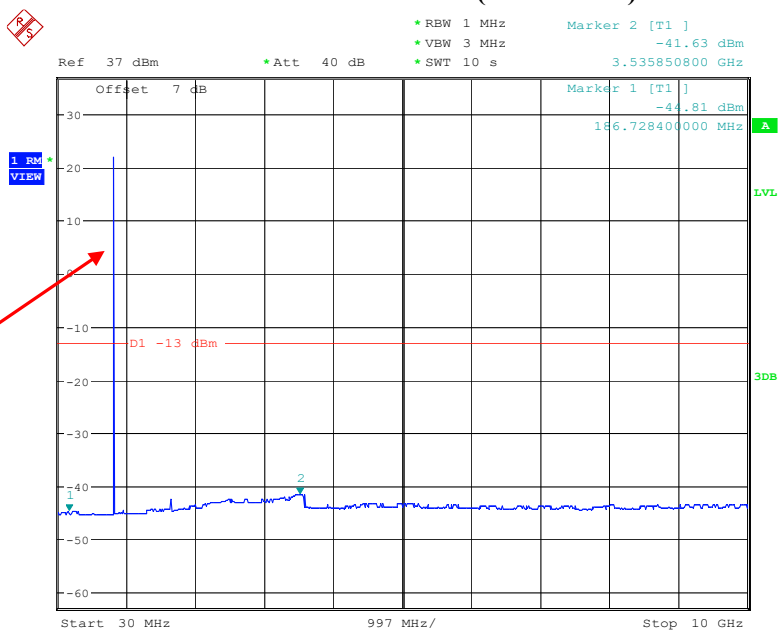


Fundamental test

Date: 8.SEP.2022 20:02:01

Middle Channel:

30 MHz – 10GHz (GSM Mode)

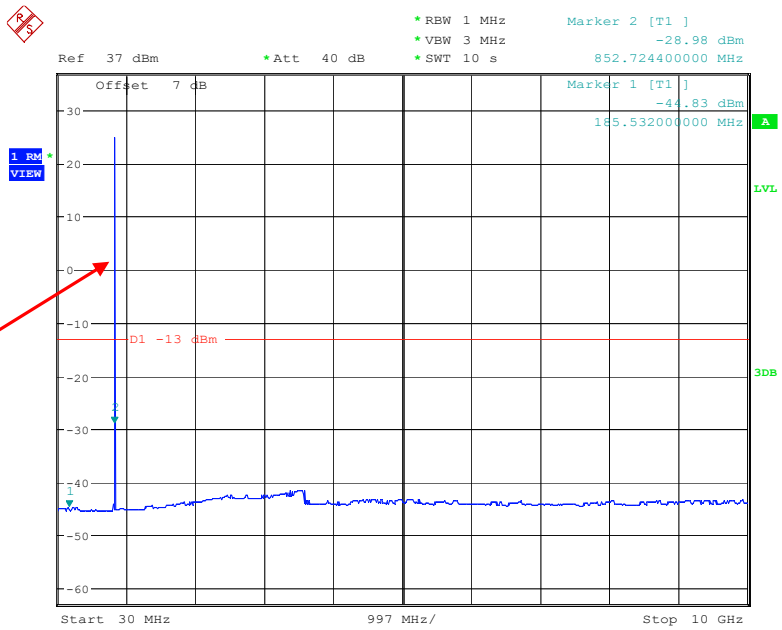


Fundamental test

Date: 8.SEP.2022 20:05:34

High Channel:

30 MHz – 10GHz (GSM Mode)

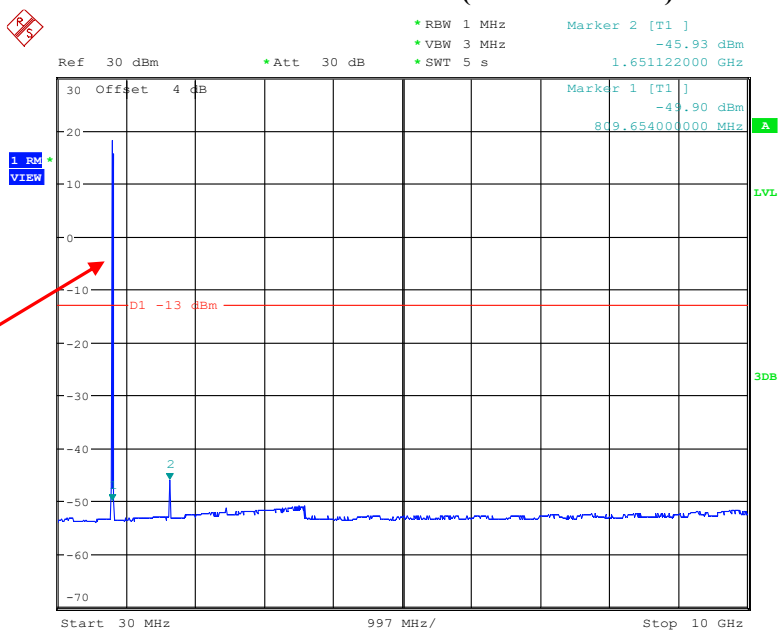


Fundamental test

Date: 8.SEP.2022 20:10:30

Low Channel:

30 MHz – 10GHz (WCDMA Mode)

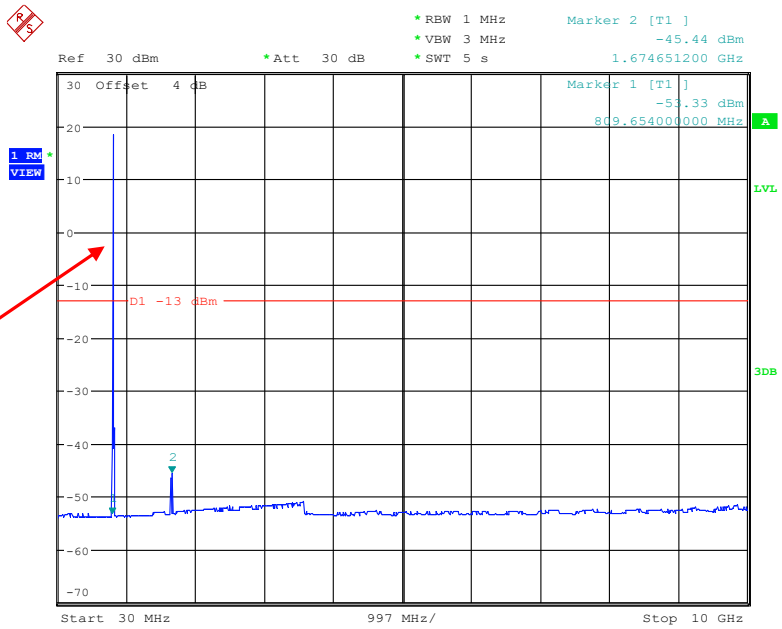


Fundamental test

Date: 1.SEP.2022 11:40:03

Middle Channel:

30 MHz – 10GHz (WCDMA Mode)

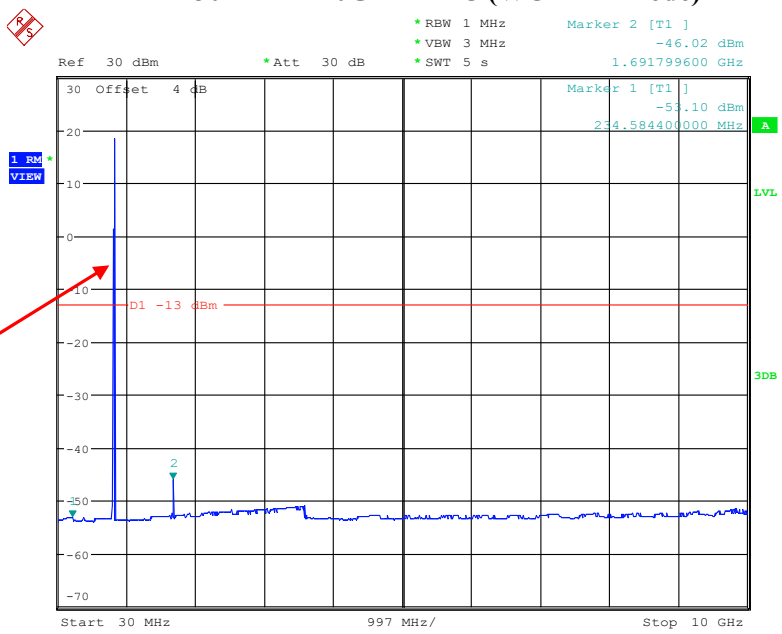


Fundamental test

Date: 1.SEP.2022 11:43:02

High Channel:

30 MHz – 10GHz RMC (WCDMA Mode)



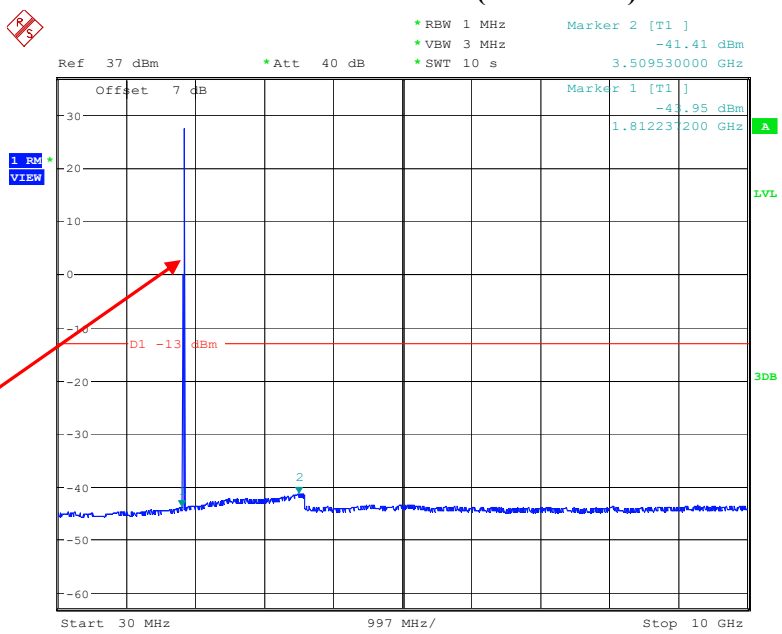
Fundamental test

Date: 1.SEP.2022 11:46:28

PCS Band (Part 24E)

Low Channel:

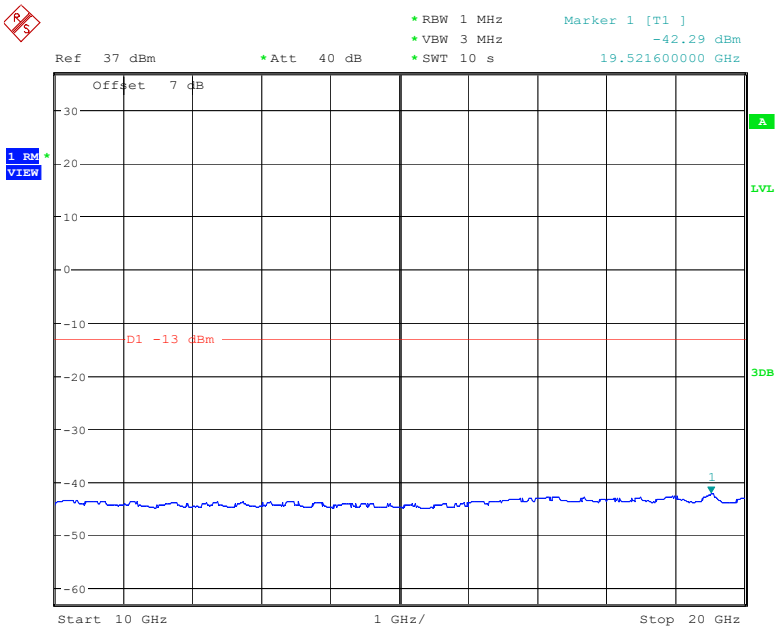
30 MHz – 10GHz (GSM Mode)



Fundamental test

Date: 18.OCT.2022 13:13:46

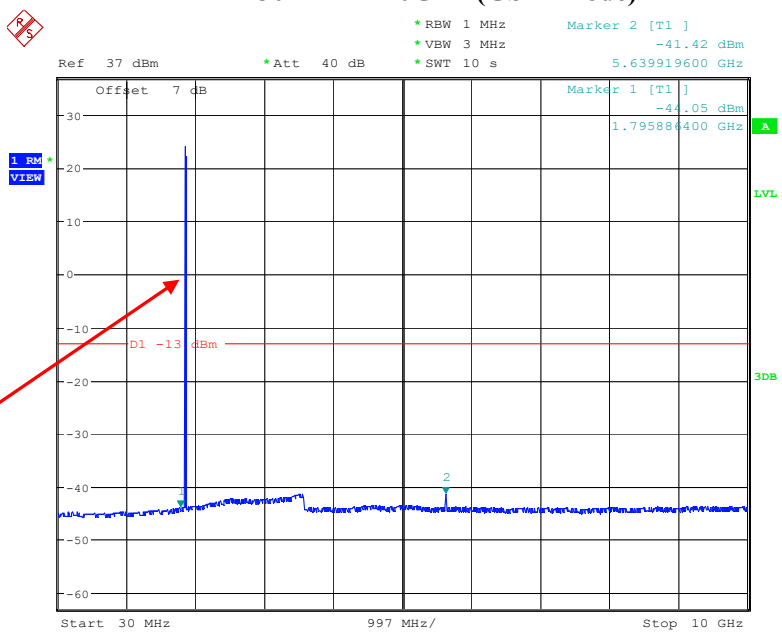
10 GHz – 20GHz (GSM Mode)



Date: 18.OCT.2022 13:14:57

Middle Channel:

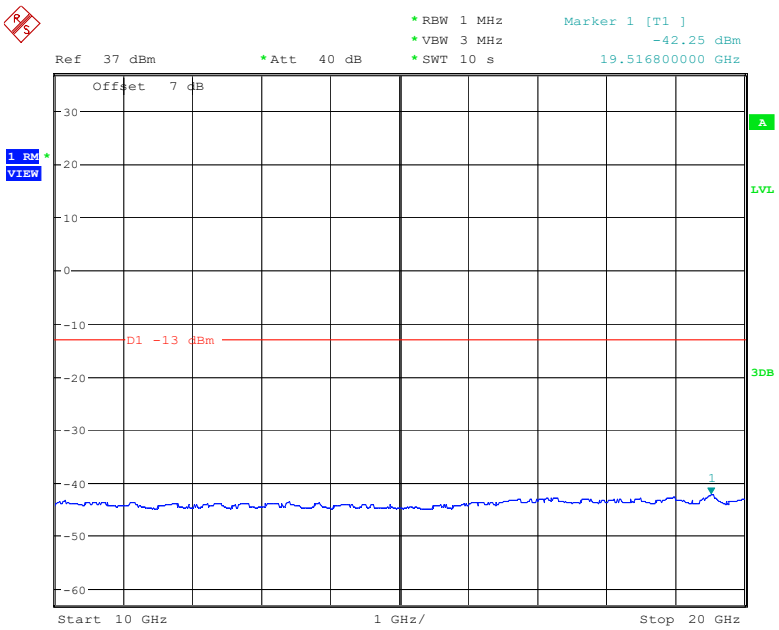
30 MHz – 10GHz (GSM Mode)



Fundamental test

Date: 18.OCT.2022 13:29:10

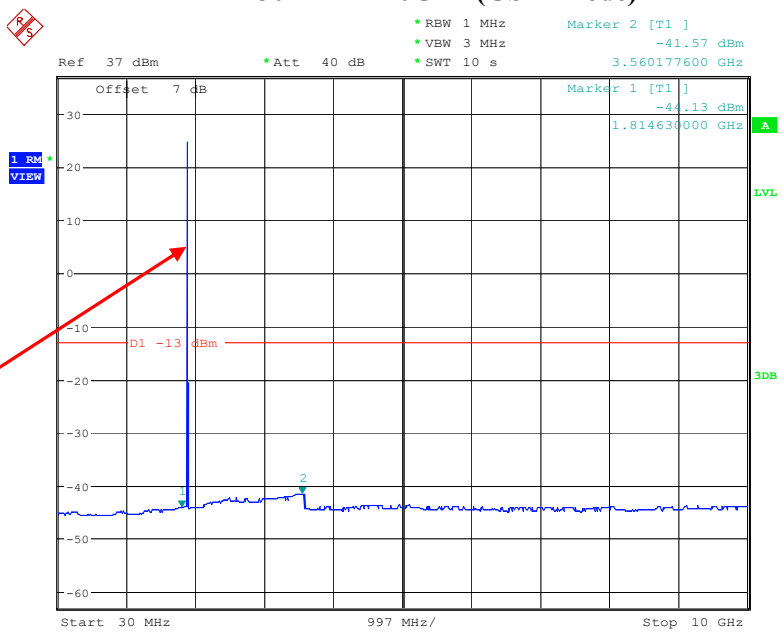
10 GHz – 20GHz (GSM Mode)



Date: 18.OCT.2022 13:24:18

High Channel:

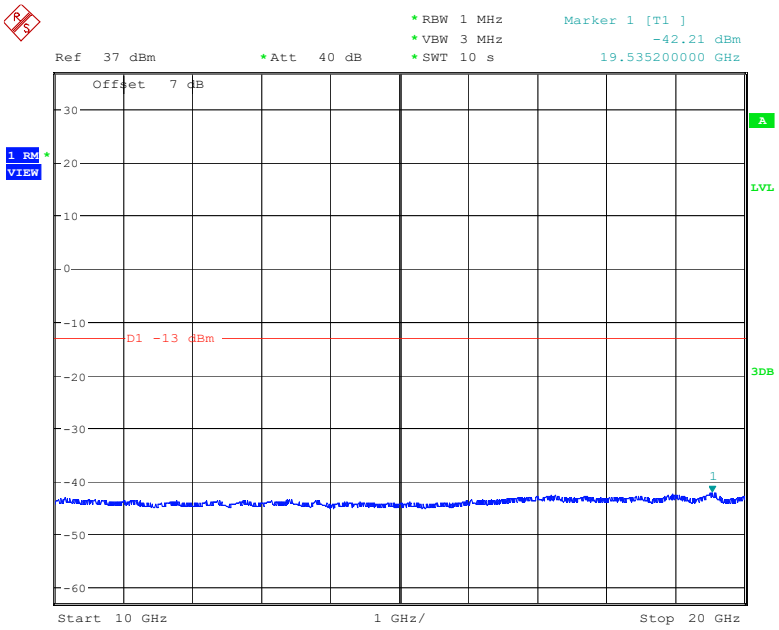
30 MHz – 10GHz (GSM Mode)



Fundamental test

Date: 18.OCT.2022 13:33:20

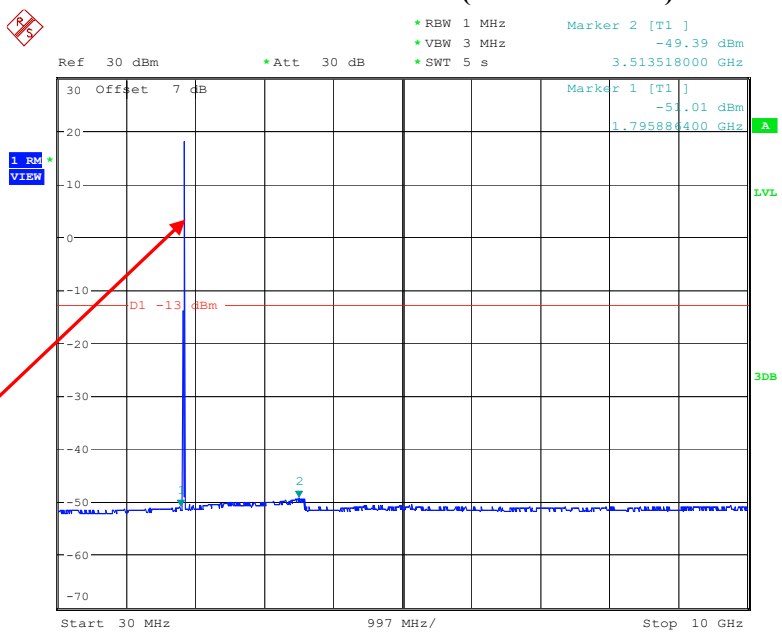
10 GHz – 20GHz (GSM Mode)



Date: 18.OCT.2022 13:26:43

Low Channel:

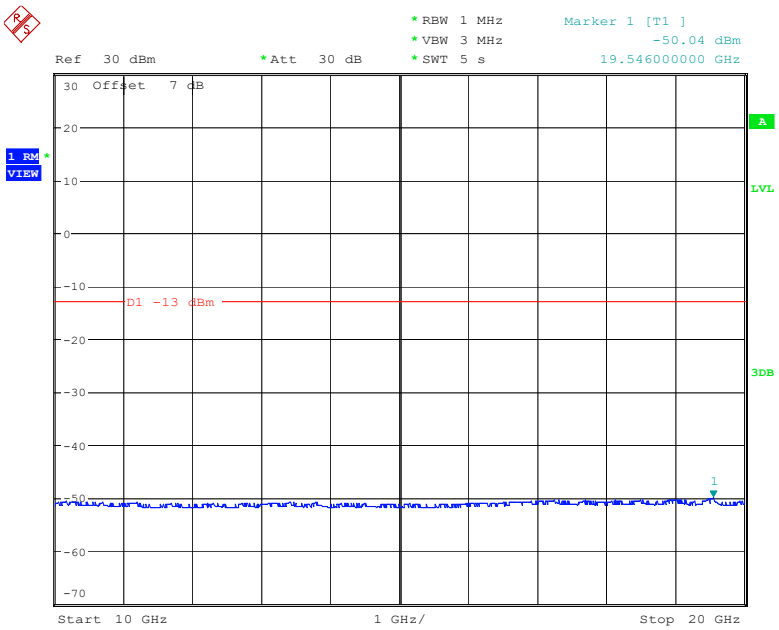
30 MHz – 10GHz (WCDMA Mode)



Fundamental test

Date: 8.SEP.2022 18:54:30

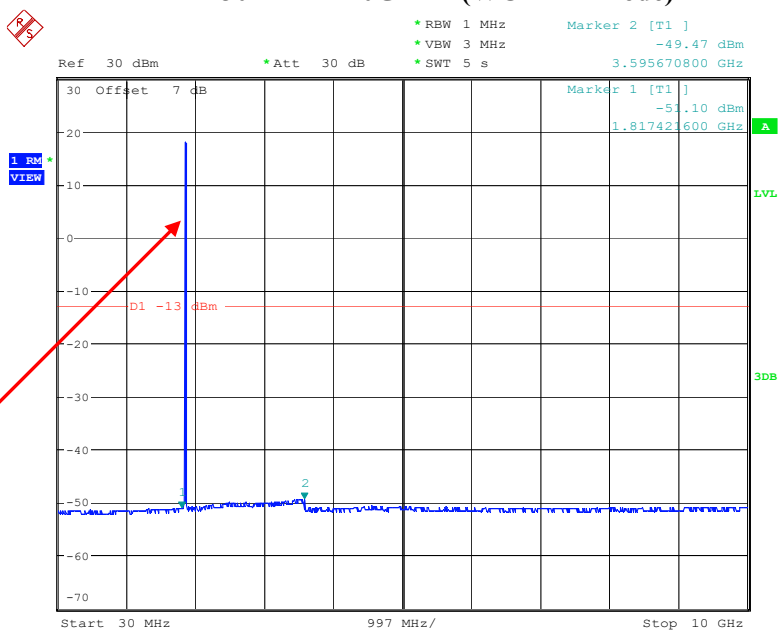
10 GHz – 20GHz (WCDMA Mode)



Date: 8.SEP.2022 18:55:08

Middle Channel:

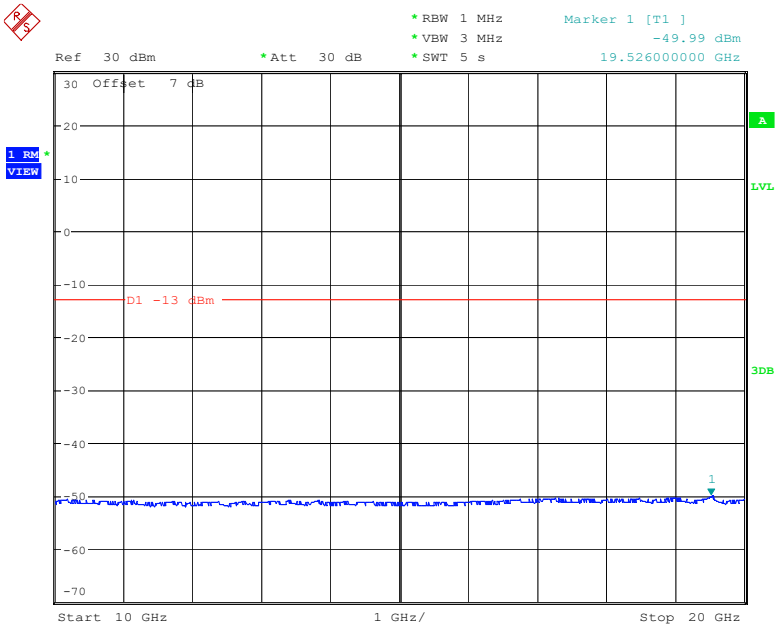
30 MHz – 10GHz (WCDMA Mode)



Fundamental test

Date: 8.SEP.2022 18:58:00

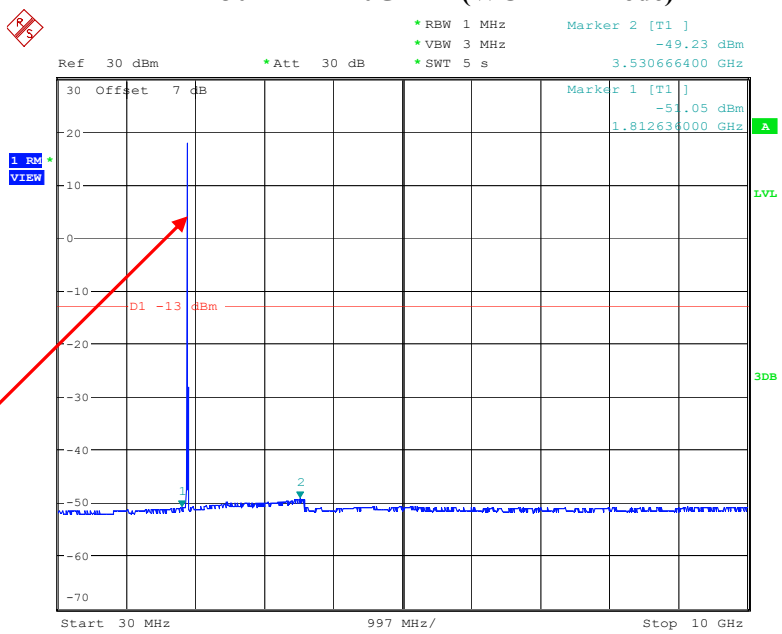
10 GHz – 20GHz (WCDMA Mode)



Date: 8.SEP.2022 18:58:39

High Channel:

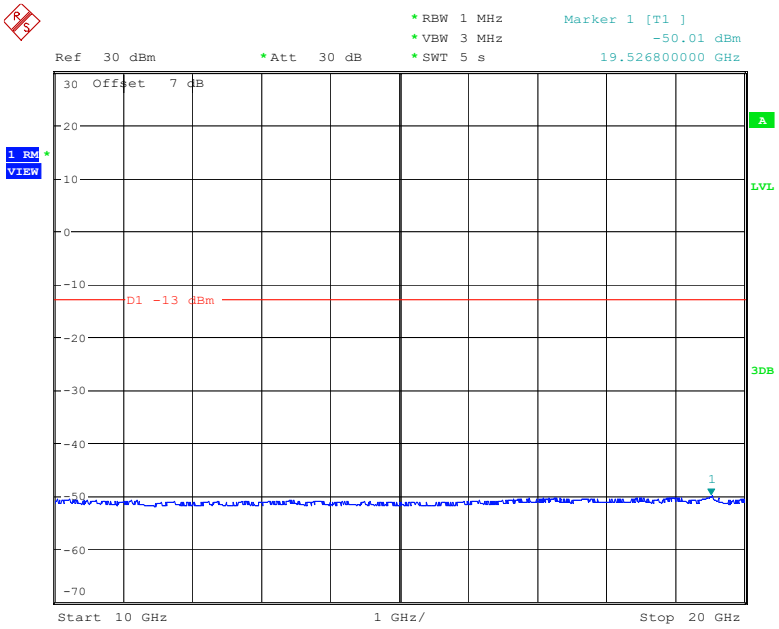
30 MHz – 10GHz (WCDMA Mode)



Fundamental test

Date: 8.SEP.2022 19:01:51

10 GHz – 20GHz (WCDMA Mode)

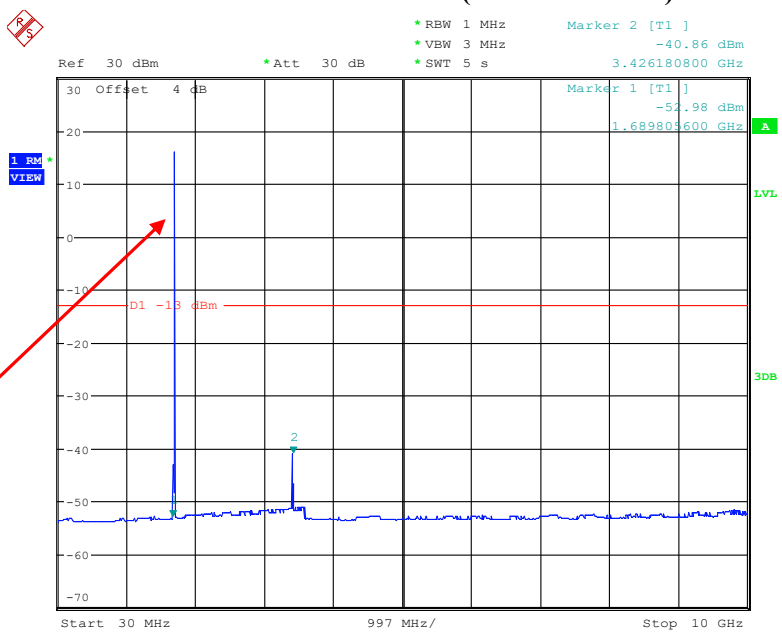


Date: 8.SEP.2022 19:02:30

AWS Band (Part 27)

Low Channel:

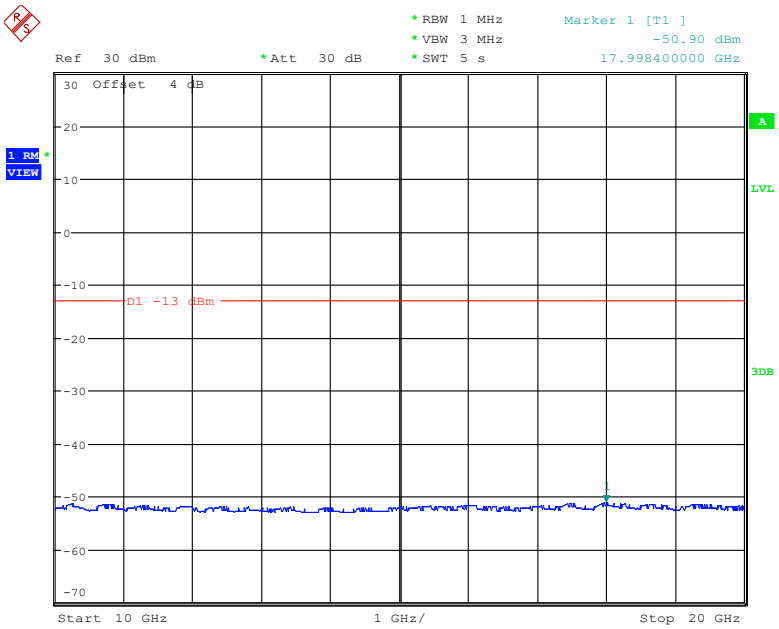
30 MHz – 10GHz (WCDMA Mode)



Fundamental test

Date: 1.SEP.2022 11:52:43

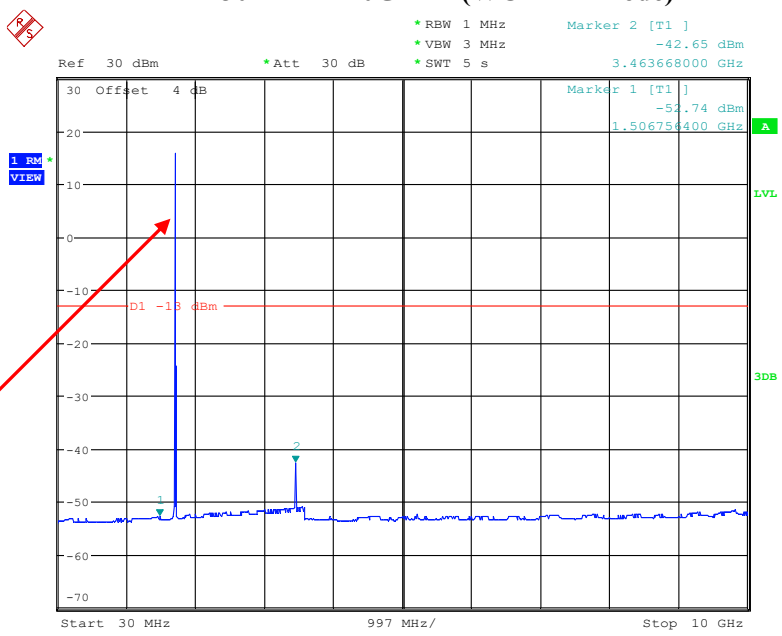
10 GHz – 20GHz (WCDMA Mode)



Date: 1.SEP.2022 11:53:22

Middle Channel:

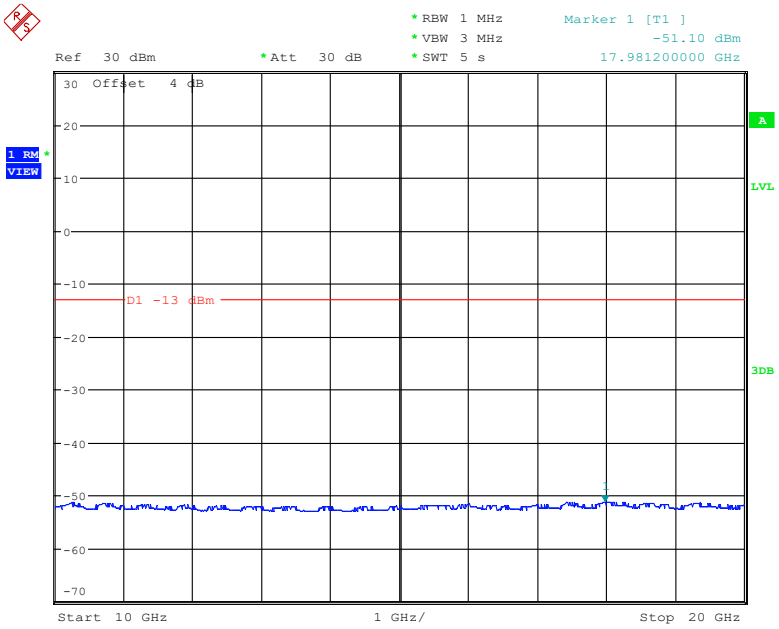
30 MHz – 10GHz (WCDMA Mode)



Fundamental test

Date: 1.SEP.2022 11:55:50

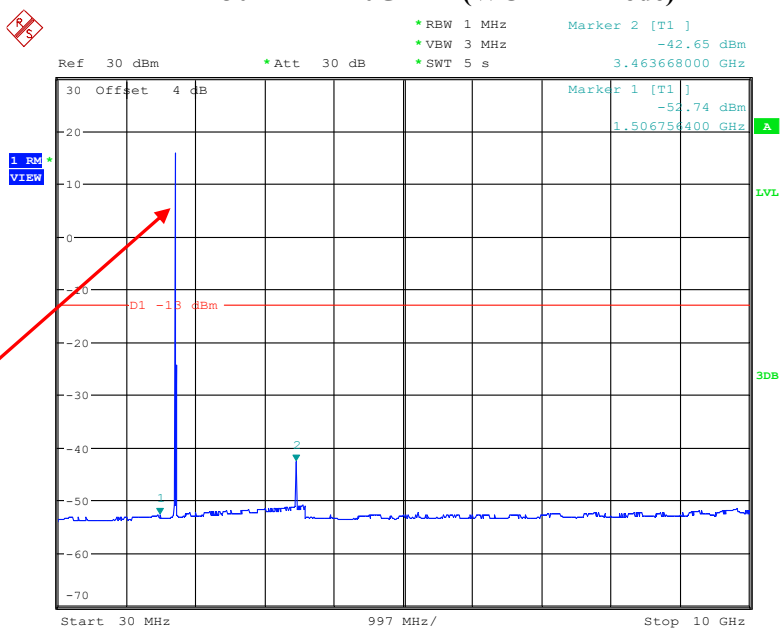
10 GHz – 20GHz (WCDMA Mode)



Date: 1.SEP.2022 11:56:29

High Channel:

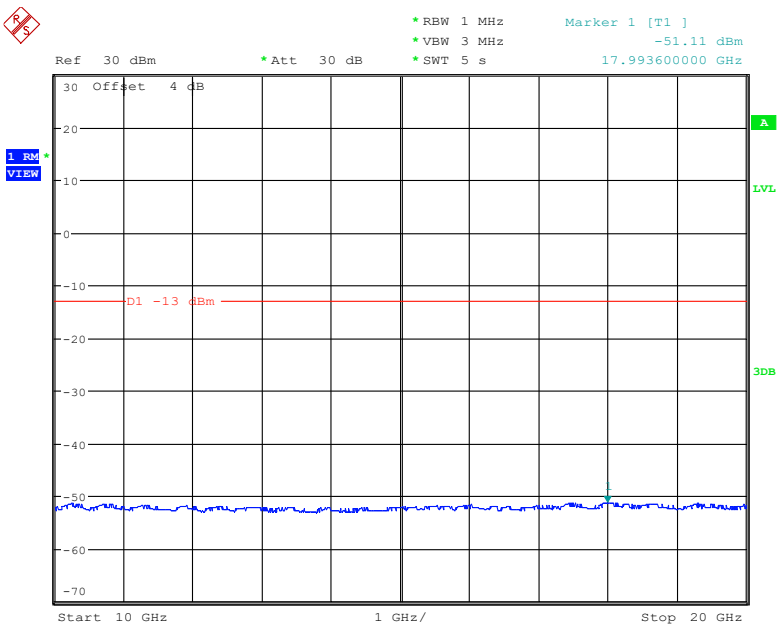
30 MHz – 10GHz (WCDMA Mode)



Fundamental test

Date: 1.SEP.2022 11:55:50

10 GHz – 20GHz (WCDMA Mode)



Date: 1.SEP.2022 12:00:20

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)& § 24.238(a) &§ 27.53.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Test Data

Environmental Conditions

Temperature:	25.6℃
Relative Humidity:	55%
ATM Pressure:	101.0kPa

The testing was performed by Zeki Ma on 2022-08-28.

Test mode: Transmitting (Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)

The worst case is as below:

30MHz-10GHz:

Cellular Band (Part 22H)

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
GSM850								
Low Channel								
952.44	-71.16	202	1.2	H	10.0	-61.16	-13	48.16
952.44	-77.51	227	1.5	V	11.7	-65.81	-13	52.81
1648.4	-58.5	82	1.9	H	3.5	-55	-13	42.0
1648.4	-56.6	199	1.2	V	3.1	-53.5	-13	40.5
2472.6	-45.7	202	1.2	H	6.6	-39.1	-13	26.1
2472.6	-43.4	351	2.0	V	5.8	-37.6	-13	24.6
3296.8	-52.1	291	1.2	H	6.4	-45.7	-13	32.7
3296.8	-51.6	188	2.5	V	5.7	-45.9	-13	32.9
Middle Channel								
956.35	-71.71	358	1.2	H	10.0	-61.71	-13	48.71
956.35	-77.24	348	1.2	V	11.7	-65.54	-13	52.54
1673.2	-50.5	90	1.4	H	3.8	-46.7	-13	33.7
1673.2	-54.1	210	2.4	V	3.1	-51	-13	38.0
2509.8	-56.2	209	2.1	H	6.2	-50	-13	37.0
2509.8	-54.8	63	2.3	V	5.5	-49.3	-13	36.3
3346.4	-52.5	247	1.2	H	6.6	-45.9	-13	32.9
3346.4	-51.6	58	1.4	V	5.4	-46.2	-13	33.2
High Channel								
954.99	-71.08	181	1.3	H	10.0	-61.08	-13	48.08
954.99	-77.65	211	1.4	V	11.7	-65.95	-13	52.95
1697.6	-56.2	225	1.6	H	4.1	-52.1	-13	39.1
1697.6	-53.0	194	2.2	V	3.1	-49.9	-13	36.9
2546.4	-56.0	158	1.2	H	6.1	-49.9	-13	36.9
2546.4	-55.4	299	2.1	V	5.8	-49.6	-13	36.6
3395.2	-51.9	283	1.3	H	6.2	-45.7	-13	32.7
3395.2	-51.5	349	1.4	V	5.4	-46.1	-13	33.1

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
WCDMA Band 5								
Low Channel								
956.90	-70.21	256	1.4	H	10.0	-60.21	-13	47.21
956.90	-75.11	132	2.4	V	11.7	-63.41	-13	50.41
1652.8	-49.5	65	1.9	H	3.5	-46	-13	33.0
1652.8	-50.9	54	2.1	V	3.1	-47.8	-13	34.8
2479.2	-36.5	4	1.2	H	6.6	-29.9	-13	16.9
2479.2	-34.7	62	1.3	V	5.8	-28.9	-13	15.9
3305.6	-52.1	221	2.4	H	6.4	-45.7	-13	32.7
3305.6	-51.4	151	1.3	V	5.7	-45.7	-13	32.7
Middle Channel								
951.27	-72.58	107	2.5	H	10.0	-62.58	-13	49.58
951.27	-76.19	152	1.0	V	11.7	-64.49	-13	51.49
1673.2	-47.0	321	1.3	H	3.5	-43.5	-13	30.5
1673.2	-44.6	327	2.1	V	3.1	-41.5	-13	28.5
2509.8	-52.2	14	2.4	H	6.6	-45.6	-13	32.6
2509.8	-54.1	83	1.7	V	5.8	-48.3	-13	35.3
3346.4	-51.8	163	1.0	H	6.4	-45.4	-13	32.4
3346.4	-50.9	111	2.1	V	5.7	-45.2	-13	32.2
High Channel								
950.56	-71.93	156	1.3	H	10.0	-61.93	-13	48.93
950.56	-76.59	345	2.0	V	11.7	-64.89	-13	51.89
1693.2	-43.8	171	2.4	H	4.1	-39.7	-13	26.7
1693.2	-38.8	163	1.5	V	3.1	-35.7	-13	22.7
2539.8	-48.1	77	1.0	H	6.1	-42.0	-13	29.0
2539.8	-49.8	224	2.5	V	5.8	-44.0	-13	31.0
3386.4	-51.8	256	2.0	H	6.2	-45.6	-13	32.6
3386.4	-50.9	158	1.1	V	5.4	-45.5	-13	32.5

30MHz-20GHz:

PCS Band (Part 24E)

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
GSM 1900								
Low Channel								
950.06	-71.68	309	1.6	H	10.0	-61.68	-13	48.68
950.06	-75.51	359	1.5	V	11.7	-63.81	-13	50.81
3700.4	-54.4	52	1.0	H	8.1	-46.3	-13	33.3
3700.4	-52.7	67	1.2	V	7.6	-45.1	-13	32.1
5550.6	-54.0	213	2.4	H	9.6	-44.4	-13	31.4
5550.6	-53.0	201	1.2	V	9.1	-43.9	-13	30.9
Middle Channel								
950.21	-70.91	17	1.3	H	10.0	-60.91	-13	47.91
950.21	-77.32	277	1.3	V	11.7	-65.62	-13	52.62
3760	-56.1	140	1.2	H	8.8	-47.3	-13	34.3
3760	-54.4	254	1.8	V	8	-46.4	-13	33.4
5640	-55.4	174	1.6	H	10.2	-45.2	-13	32.2
5640	-53.8	131	2.3	V	9.5	-44.3	-13	31.3
High Channel								
955.59	-71.79	52	2.1	H	10.0	-61.79	-13	48.79
955.59	-77.03	249	1.2	V	11.7	-65.33	-13	52.33
3819.6	-55.8	78	2.4	H	8.7	-47.1	-13	34.1
3819.6	-54.3	4	1.3	V	8	-46.3	-13	33.3
5729.4	-56.3	197	1.9	H	10.8	-45.5	-13	32.5
5729.4	-54.6	222	1.5	V	10.4	-44.2	-13	31.2

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
WCDMA Band 2								
Low Channel								
954.98	-72.10	276	1.4	H	10.0	-62.10	-13	49.10
954.98	-76.25	41	1.7	V	11.7	-64.55	-13	51.55
3704.8	-55.1	325	2.0	H	8.1	-47	-13	34.0
3704.8	-53.5	258	1.9	V	7.6	-45.9	-13	32.9
5557.2	-51.2	96	1.8	H	9.6	-41.6	-13	28.6
5557.2	-48.0	334	1.4	V	9.1	-38.9	-13	25.9
Middle Channel								
951.46	-72.74	359	2.0	H	10.0	-62.74	-13	49.74
951.46	-74.76	50	1.3	V	11.7	-63.06	-13	50.06
3760	-56.9	207	1.8	H	8.8	-48.1	-13	35.1
3760	-55.2	26	1.6	V	8	-47.2	-13	34.2
5640	-52.6	152	1.7	H	10.2	-42.4	-13	29.4
5640	-50.4	126	1.8	V	9.5	-40.9	-13	27.9
High Channel								
950.50	-70.40	39	2.4	H	10.0	-60.40	-13	47.40
950.50	-76.95	163	1.5	V	11.7	-65.25	-13	52.25
3815.2	-56.7	58	2.5	H	8.7	-48	-13	35.0
3815.2	-54.8	114	1.6	V	8	-46.8	-13	33.8
5722.8	-53.9	128	2.4	H	10.4	-43.5	-13	30.5
5722.8	-52.5	257	1.8	V	9.9	-42.6	-13	29.6

30MHz-20GHz:

AWS Band (Part 27E)

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
WCDMA Band 4								
Low Channel								
951.63	-71.35	112	1.6	H	10.0	-61.35	-13	48.35
951.63	-75.13	13	1.0	V	11.7	-63.43	-13	50.43
3424.8	-48.9	129	1.7	H	6.4	-42.5	-13	29.5
3424.8	-47.2	36	2.0	V	5.7	-41.5	-13	28.5
5137.2	-56.6	36	1.3	H	11.3	-45.3	-13	32.3
5137.2	-54.4	37	1.5	V	10.8	-43.6	-13	30.6
Middle Channel								
955.50	-71.94	216	2.5	H	10.0	-61.94	-13	48.94
955.50	-76.58	99	2.4	V	11.7	-64.88	-13	51.88
3465.2	-46.3	256	1.4	H	7	-39.3	-13	26.3
3465.2	-45.3	322	1.7	V	6.2	-39.1	-13	26.1
5197.8	-53.7	306	1.2	H	10.4	-43.3	-13	30.3
5197.8	-51.9	182	1.5	V	9.8	-42.1	-13	29.1
High Channel								
953.45	-70.57	301	1.8	H	10.0	-60.57	-13	47.57
953.45	-76.89	143	2.4	V	11.7	-65.19	-13	52.19
3505.2	-50.4	233	2.2	H	7.8	-42.6	-13	29.6
3505.2	-49.1	317	1.6	V	6.6	-42.5	-13	29.5
5257.8	-51.6	183	1.6	H	9.5	-42.1	-13	29.1
5257.8	-50.0	304	1.9	V	8.9	-41.1	-13	28.1

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

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 2								
Test frequency range: 30MHz-20GHz								
1.4MHz bandwidth, Low Channel								
952.54	-70.21	233	1.0	H	10.0	-60.21	-13	47.21
952.54	-75.31	264	1.5	V	11.7	-63.61	-13	50.61
3701.4	-53.2	171	2.3	H	8.1	-45.1	-13	32.1
3701.4	-51.4	133	2.5	V	7.6	-43.8	-13	30.8
5552.1	-46.3	289	2.0	H	9.6	-36.7	-13	23.7
5552.1	-41.6	67	1.3	V	9.1	-32.5	-13	19.5
1.4MHz bandwidth, Middle Channel								
955.14	-71.31	99	1.7	H	10.0	-61.31	-13	48.31
955.14	-76.55	244	1.9	V	11.7	-64.85	-13	51.85
3760	-51.6	332	1.6	H	8.8	-42.8	-13	29.8
3760	-49.9	149	1.8	V	8	-41.9	-13	28.9
5640	-48.5	133	2.3	H	10.2	-38.3	-13	25.3
5640	-45.4	339	1.8	V	9.5	-35.9	-13	22.9
1.4MHz bandwidth, High Channel								
954.82	-72.75	242	1.4	H	10.0	-62.75	-13	49.75
954.82	-76.55	217	1.6	V	11.7	-64.85	-13	51.85
3818.6	-53.0	231	1.7	H	8.7	-44.3	-13	31.3
3818.6	-48.6	148	1.9	V	8	-40.6	-13	27.6
5727.9	-48.9	348	1.7	H	10.6	-38.3	-13	25.3
5727.9	-46.6	95	2.0	V	10.2	-36.4	-13	23.4

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 4								
Test frequency range: 30MHz-20GHz								
1.4MHz bandwidth, Low Channel								
950.80	-70.61	237	1.8	H	10.0	-60.61	-13	47.61
950.80	-74.71	153	1.0	V	11.7	-63.01	-13	50.01
3421.4	-46.6	239	2.2	H	6.4	-40.2	-13	27.2
3421.4	-48.2	254	2.3	V	5.7	-42.5	-13	29.5
5132.1	-49.6	327	2.3	H	11.3	-38.3	-13	25.3
5132.1	-48.0	152	1.4	V	10.8	-37.2	-13	24.2
1.4MHz bandwidth, Middle Channel								
952.02	-70.45	319	2.2	H	10.0	-60.45	-13	47.45
952.02	-76.64	296	1.1	V	11.7	-64.94	-13	51.94
3465	-47.1	322	2.0	H	7	-40.1	-13	27.1
3465	-47.4	327	2.1	V	6.2	-41.2	-13	28.2
5197.5	-45.5	190	2.5	H	10.4	-35.1	-13	22.1
5197.5	-42.9	91	1.4	V	9.8	-33.1	-13	20.1
1.4MHz bandwidth, High Channel								
955.93	-70.20	173	1.9	H	10.0	-60.20	-13	47.20
955.93	-75.57	279	1.2	V	11.7	-63.87	-13	50.87
3508.6	-48.4	215	2.0	H	7.8	-40.6	-13	27.6
3508.6	-48.3	245	1.1	V	6.6	-41.7	-13	28.7
5262.9	-44.8	67	2.3	H	9.5	-35.3	-13	22.3
5262.9	-41.3	51	1.7	V	8.9	-32.4	-13	19.4

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 5								
Test frequency range: 30MHz-10GHz								
1.4MHz bandwidth, Low Channel								
951.03	-70.05	237	1.5	H	10.0	-60.05	-13	47.05
951.03	-74.83	334	2.4	V	11.7	-63.13	-13	50.13
1649.4	-50.9	116	1.2	H	3.5	-47.4	-13	34.4
1649.4	-50.9	133	1.1	V	3.1	-47.8	-13	34.8
2474.1	-36.7	262	2.3	H	6.6	-30.1	-13	17.1
2474.1	-35.4	210	1.4	V	5.8	-29.6	-13	16.6
3298.8	-52.3	145	2.2	H	6.4	-45.9	-13	32.9
3298.8	-51.4	97	2.1	V	5.7	-45.7	-13	32.7
1.4MHz bandwidth, Middle Channel								
956.74	-71.03	6	1.9	H	10.0	-61.03	-13	48.03
956.74	-77.53	278	1.3	V	11.7	-65.83	-13	52.83
1673	-43.3	83	1.3	H	3.8	-39.5	-13	26.5
1673	-39.6	281	2.4	V	3.1	-36.5	-13	23.5
2509.5	-48.4	350	1.6	H	6.2	-42.2	-13	29.2
2509.5	-50.8	114	1.8	V	5.5	-45.3	-13	32.3
3346	-51.7	67	1.5	H	6.6	-45.1	-13	32.1
3346	-50.4	239	1.2	V	5.4	-45.0	-13	32.0
1.4MHz bandwidth, High Channel								
953.21	-70.03	332	1.7	H	10.0	-60.03	-13	47.03
953.21	-76.61	130	1.5	V	11.7	-64.91	-13	51.91
1696.6	-41.3	160	1.5	H	4.1	-37.2	-13	24.2
1696.6	-37.5	326	2.2	V	3.1	-34.4	-13	21.4
2544.9	-45.0	284	1.0	H	6.1	-38.9	-13	25.9
2544.9	-47.5	263	1.4	V	5.8	-41.7	-13	28.7
3393.2	-51.9	119	2.4	H	6.2	-45.7	-13	32.7
3393.2	-50.7	351	2.1	V	5.4	-45.3	-13	32.3

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 12								
Test frequency range: 30MHz-26.5GHz								
1.4MHz bandwidth, Low Channel								
951.07	-62.62	85	2.1	H	-0.2	-62.82	-13	49.82
951.07	-68.38	211	2.2	V	3.1	-65.28	-13	52.28
1399.4	-40.9	282	2.5	H	5.9	-35.0	-13	22.0
1399.4	-40.4	46	1.4	V	5.9	-34.5	-13	21.5
2099.1	-35.6	356	1.4	H	6.3	-29.3	-13	16.3
2099.1	-35.6	226	1.1	V	5.1	-30.5	-13	17.5
1.4MHz bandwidth, Middle Channel								
956.69	-60.96	23	2.0	H	-0.2	-61.16	-13	48.16
956.69	-70.85	181	1.2	V	3.1	-67.75	-13	54.75
1415	-39.3	350	1.7	H	5.7	-33.6	-13	20.6
1415	-39.1	192	1.7	V	5.4	-33.7	-13	20.7
2122.5	-36.7	340	1.7	H	6.7	-30.0	-13	17.0
2122.5	-36.1	194	1.3	V	5.8	-30.3	-13	17.3
1.4MHz bandwidth, High Channel								
952.19	-62.98	308	2.3	H	-0.2	-63.18	-13	50.18
952.19	-68.52	159	1.5	V	3.1	-65.42	-13	52.42
1430.6	-39.1	176	1.2	H	5.4	-33.7	-13	20.7
1430.6	-40.2	66	1.2	V	4.8	-35.4	-13	22.4
2145.9	-36.9	30	1.4	H	7	-29.9	-13	16.9
2145.9	-36.9	117	2.2	V	6.6	-30.3	-13	17.3

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 38								
Test frequency range: 30MHz-26.5GHz								
5MHz, Low Channel								
956.66	-71.02	80	1.4	H	10.0	-61.02	-25	36.02
956.66	-76.96	345	2.0	V	11.7	-65.26	-25	40.26
5145	-45.4	210	1.5	H	11.4	-34.0	-25	9.0
5145	-44.2	90	1.6	V	10.7	-33.5	-25	8.5
7717.5	-65.5	160	2.1	H	20.6	-44.9	-25	19.9
7717.5	-64.7	182	2.5	V	20.4	-44.3	-25	19.3
5MHz, Middle Channel								
952.50	-84.42	212	1.3	H	10.0	-74.42	-25	49.42
952.50	-87.92	275	1.2	V	11.7	-76.22	-25	51.22
5190	-53.3	137	2.0	H	10.5	-42.8	-25	17.20
5190	-52.2	77	1.1	V	10	-42.2	-25	18.30
7785	-61.6	214	2.0	H	18.3	-43.3	-25	18.80
7785	-61.8	60	2.4	V	18	-43.8	-25	17.20
5MHz, High Channel								
954.98	-70.34	333	1.7	H	10.0	-60.34	-25	35.34
954.98	-76.38	140	1.1	V	11.7	-64.68	-25	39.68
5235	-39.8	326	2.4	H	9.7	-30.1	-25	5.1
5235	-40.0	256	1.4	V	9.3	-30.7	-25	5.7
7852.5	-61.6	159	1.2	H	18.2	-43.4	-25	18.4
7852.5	-60.4	189	1.9	V	17.6	-42.8	-25	17.8

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
Band 41								
Test frequency range: 30MHz-26.5GHz								
5MHz, Low Channel								
951.93	-71.56	357	1.6	H	10.0	-61.56	-25	36.56
951.93	-75.89	104	1.8	V	11.7	-64.19	-25	39.19
4997	-51.8	228	2.2	H	10.75	-41	-25	16.0
4997	-49.9	164	2.4	V	10.04	-39.9	-25	14.9
7495.5	-64.8	5	1.5	H	20.25	-44.5	-25	19.5
7495.5	-63.9	30	1.2	V	19.93	-44	-25	19.0
5MHz bandwidth, Middle Channel								
954.14	-72.04	116	2.2	H	10.0	-62.04	-25	37.04
954.14	-75.16	232	1.6	V	11.7	-63.46	-25	38.46
5186	-43.2	116	1.5	H	10.61	-32.6	-25	7.6
5186	-42.5	0	1.0	V	10.05	-32.4	-25	7.4
7779	-61.0	196	2.5	H	18.40	-42.6	-25	17.6
7779	-60.5	58	1.9	V	18.15	-42.3	-25	17.3
5MHz bandwidth, High Channel								
950.62	-72.15	137	1.2	H	10.0	-62.15	-25	37.15
950.62	-77.62	10	2.1	V	11.7	-65.92	-25	40.92
5375	-42.1	157	1.4	H	9.50	-32.6	-25	7.6
5375	-39.7	140	1.3	V	8.85	-30.8	-25	5.8
8062.5	-64.3	187	1.2	H	19.53	-44.8	-25	19.8
8062.5	-63.3	189	1.5	V	18.83	-44.5	-25	19.5

Note:
Absolute Level = Reading Level + Substituted Factor
Substituted Factor contains: SG Level - Cable loss+ Antenna Gain
Margin = Limit- Absolute Level

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.

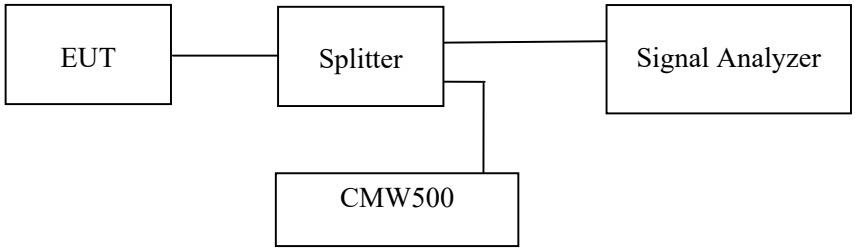
According to FCC §27.53 (g)(h), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to FCC §27.53 (m), the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz.

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:	26.2 ℃
Relative Humidity:	56.2%
ATM Pressure:	101.0 kPa

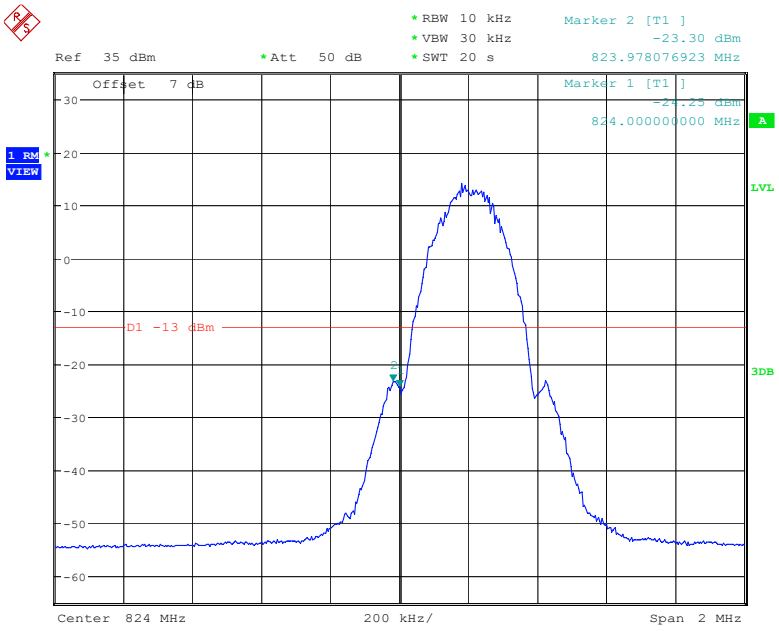
The testing was performed by Roger Ling from 2022-09-01to 2022-10-18.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

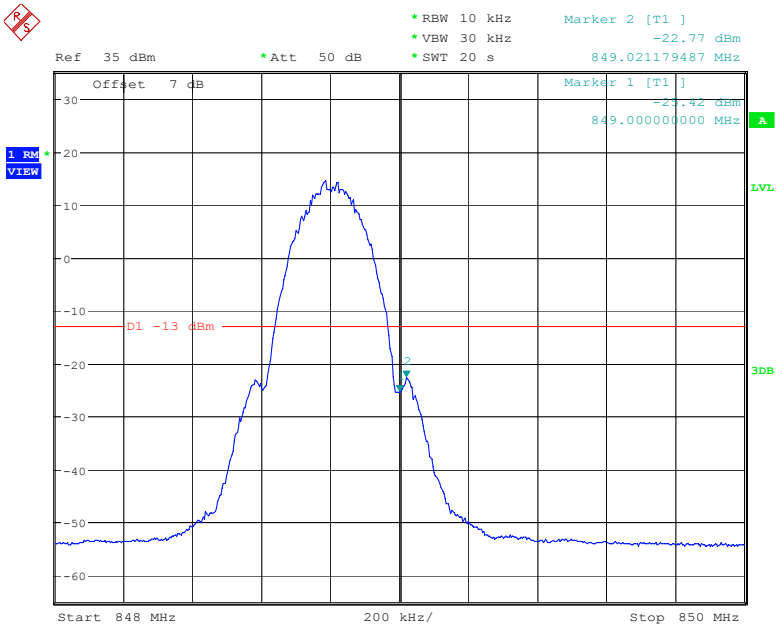
Please refer to the following plots.

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



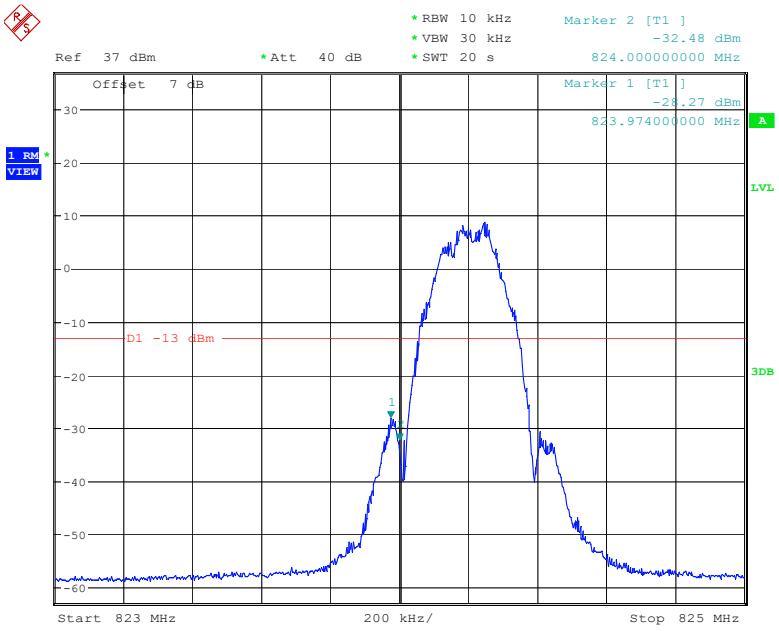
Date: 9.SEP.2022 09:04:49

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



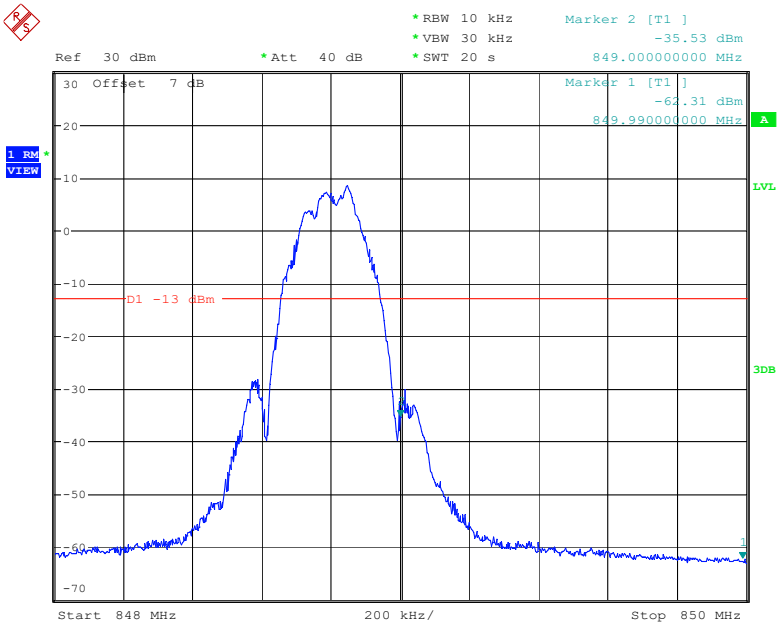
Date: 9.SEP.2022 09:09:23

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



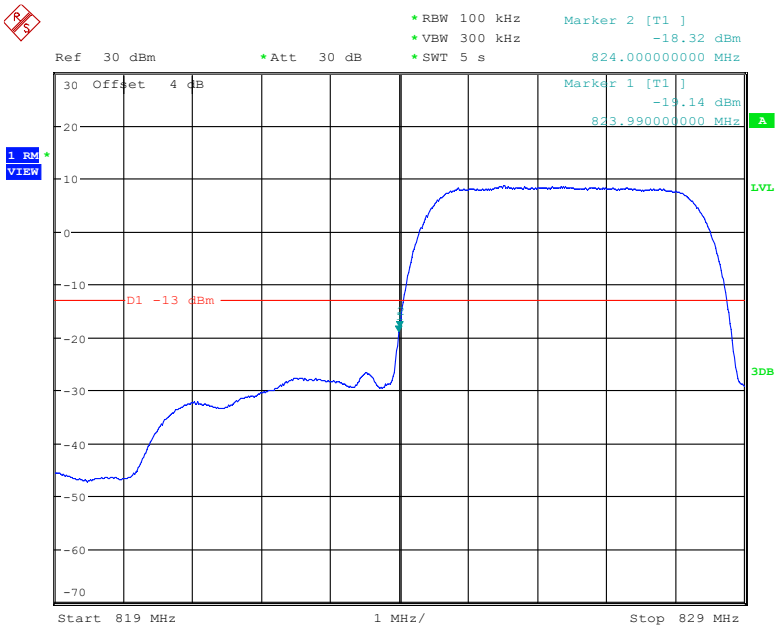
Date: 8.SEP.2022 20:23:12

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



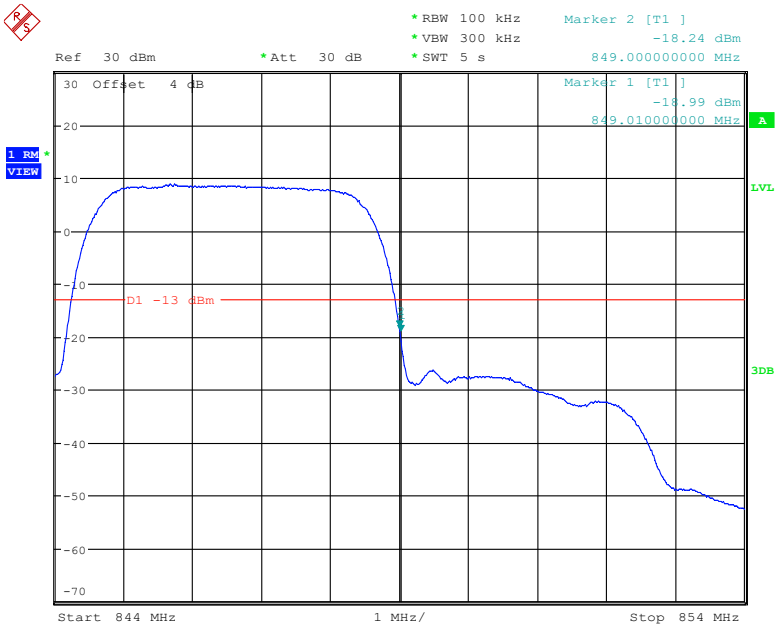
Date: 8.SEP.2022 20:14:55

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



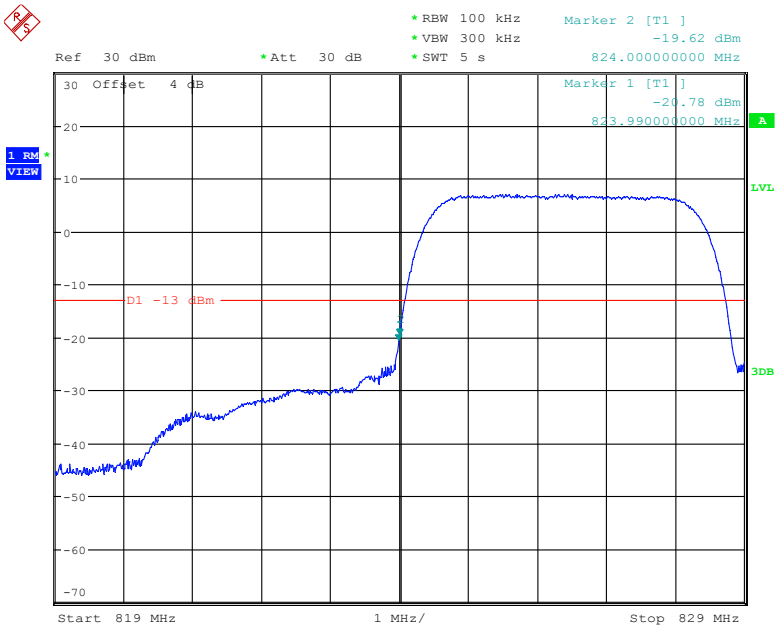
Date: 1.SEP.2022 11:39:24

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



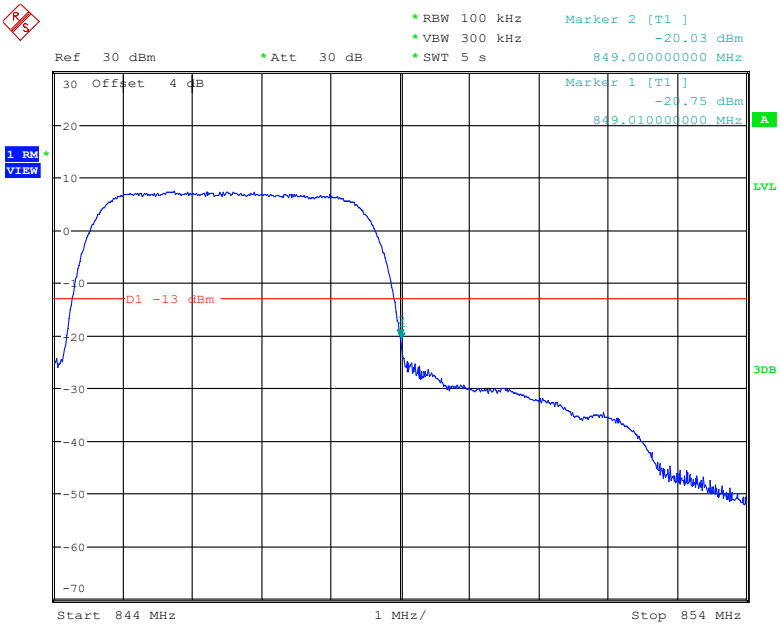
Date: 1.SEP.2022 11:45:49

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



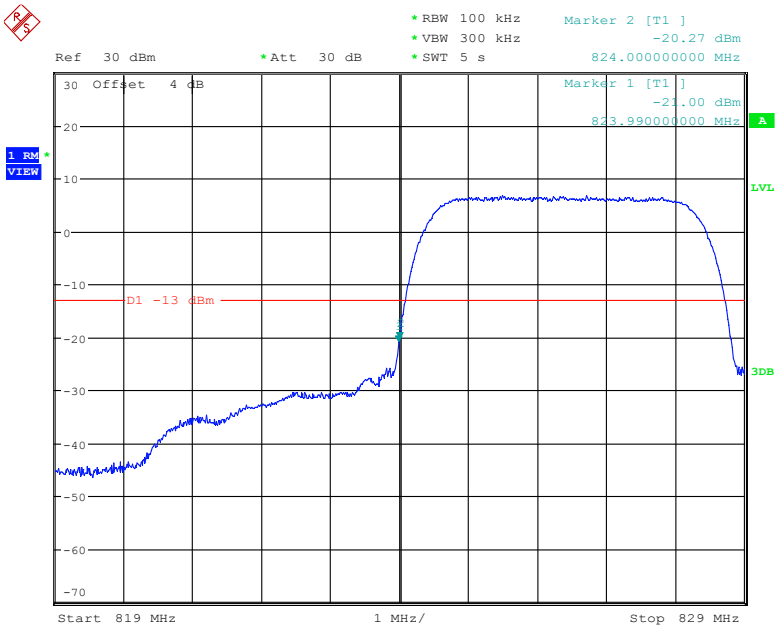
Date: 1.SEP.2022 11:24:40

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



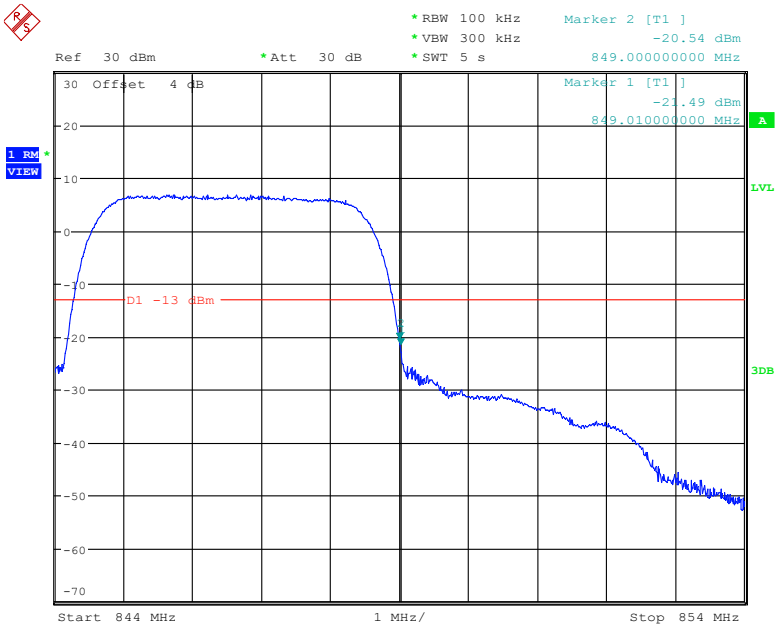
Date: 1.SEP.2022 11:31:27

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



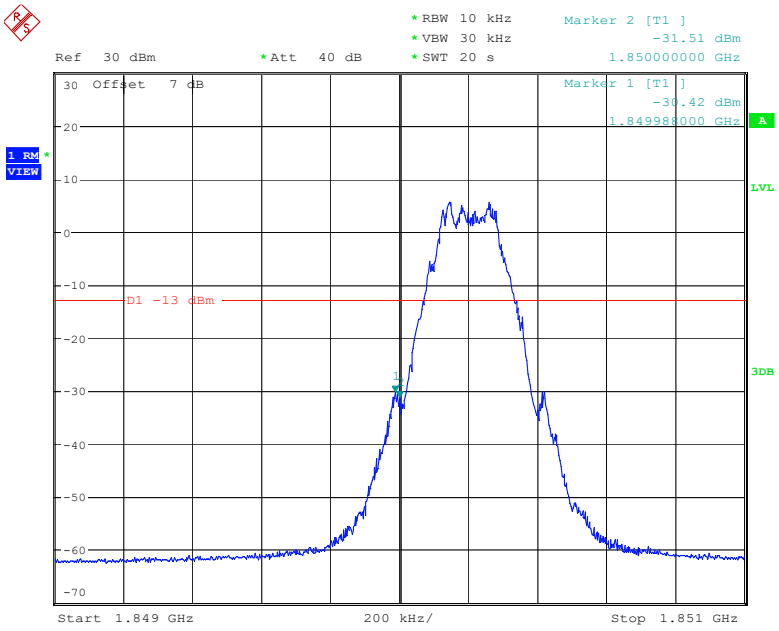
Date: 1.SEP.2022 11:08:49

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



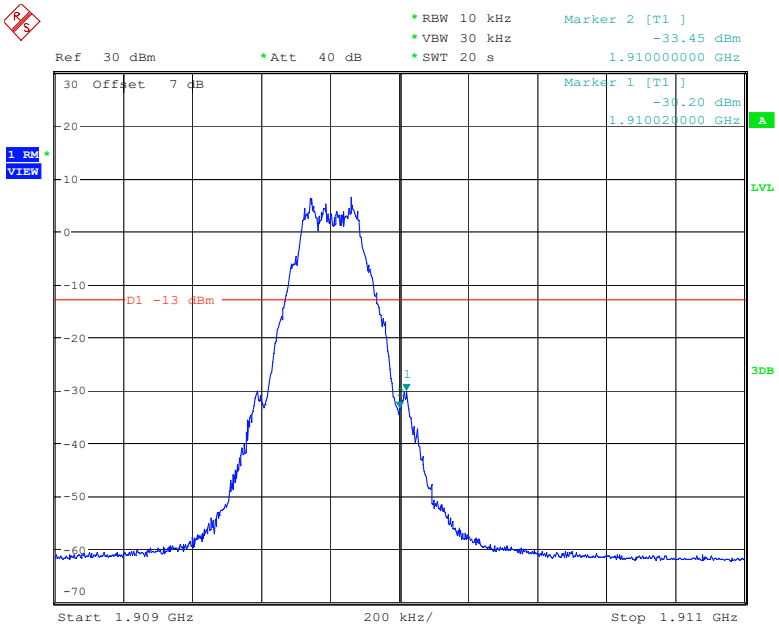
Date: 1.SEP.2022 11:14:45

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



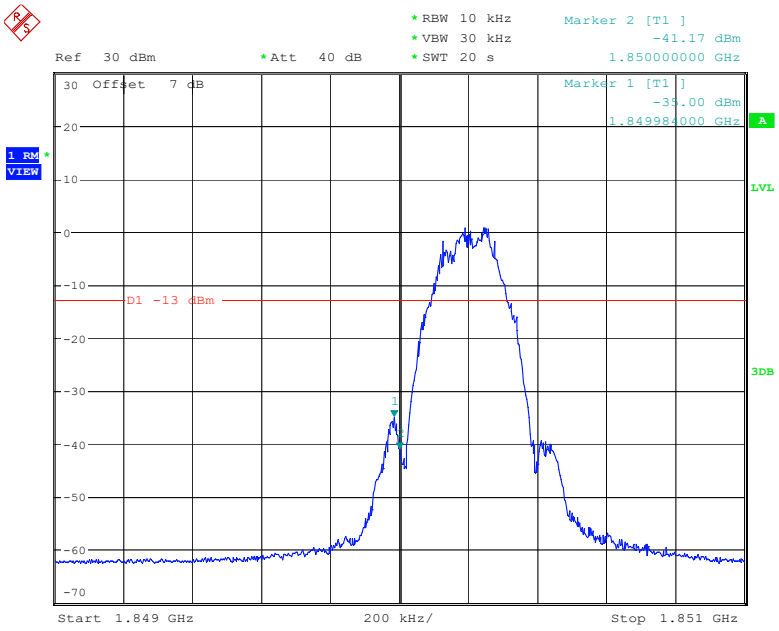
Date: 8.SEP.2022 20:30:41

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



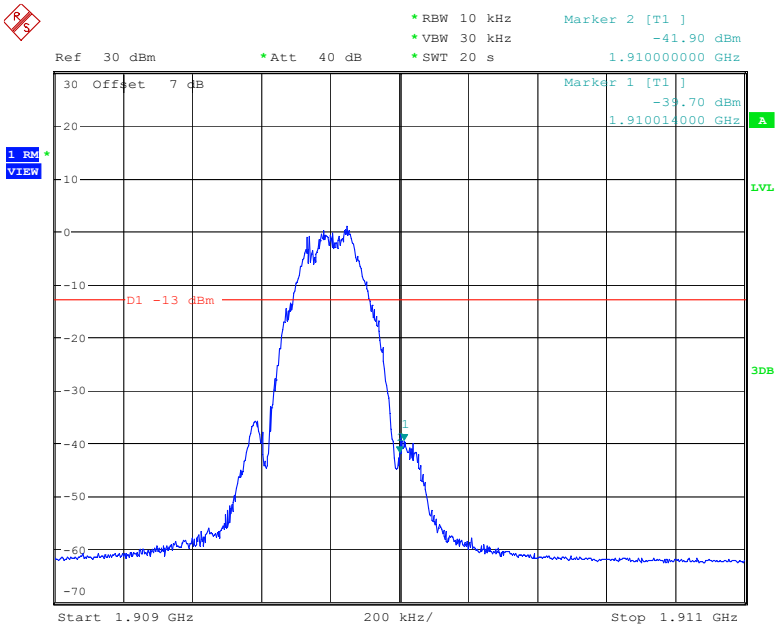
Date: 8.SEP.2022 20:41:12

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



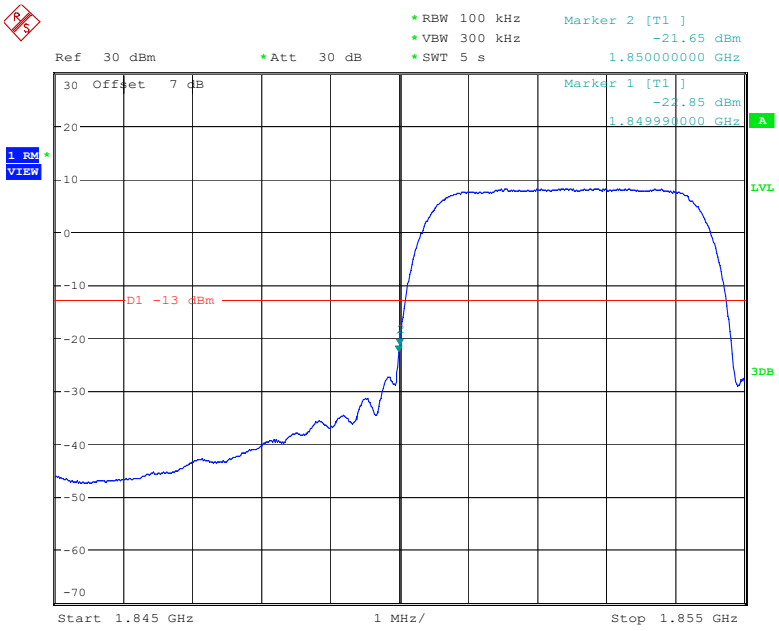
Date: 8.SEP.2022 20:59:12

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



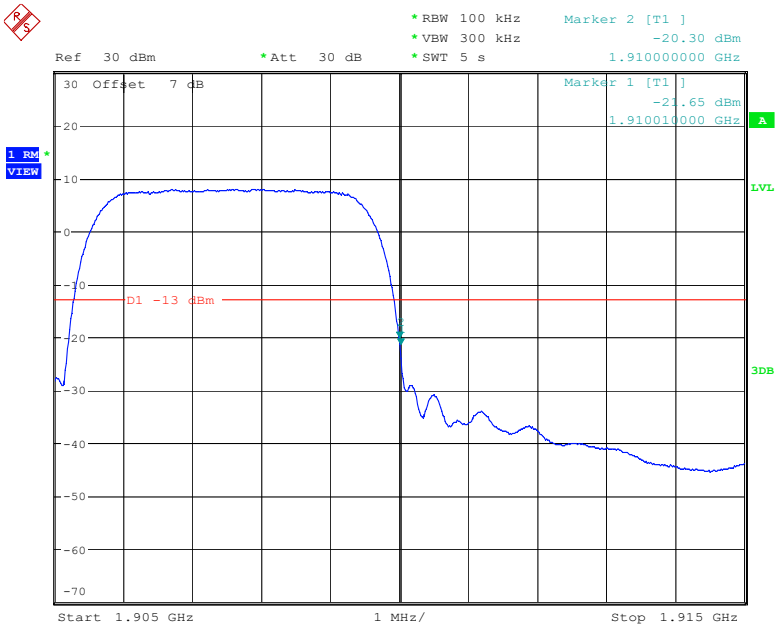
Date: 8.SEP.2022 20:49:18

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



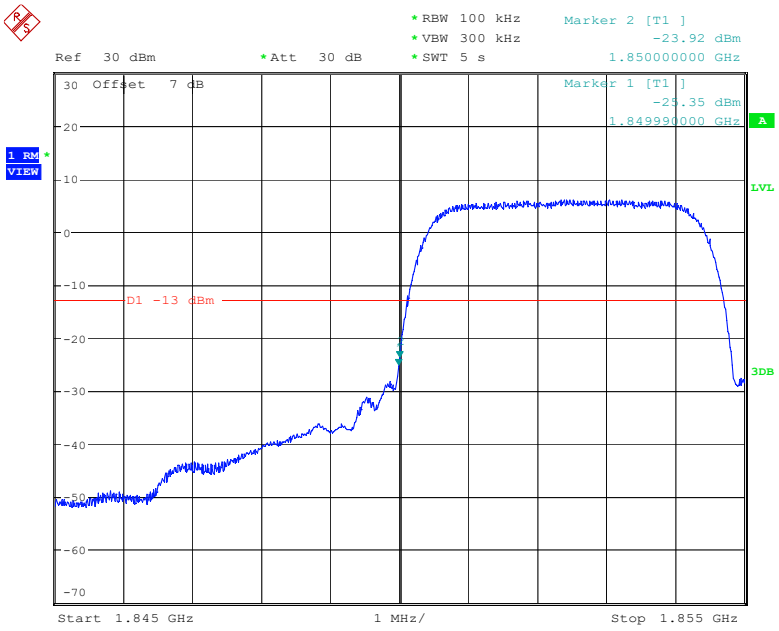
Date: 8.SEP.2022 18:53:52

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



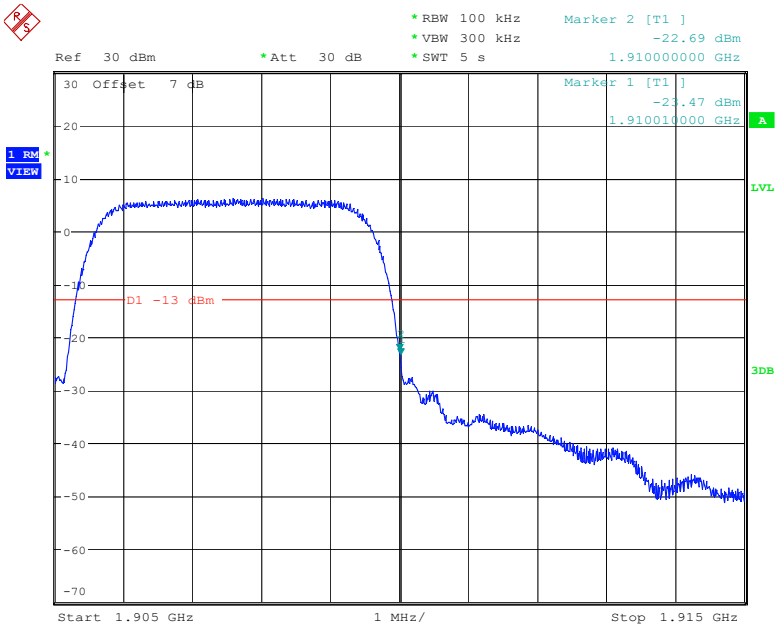
Date: 8.SEP.2022 19:01:13

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



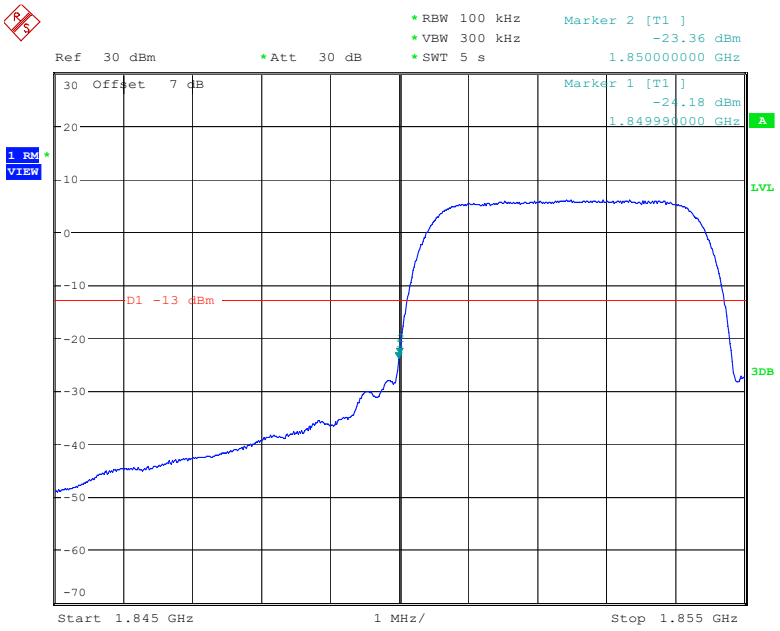
Date: 8.SEP.2022 19:33:28

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



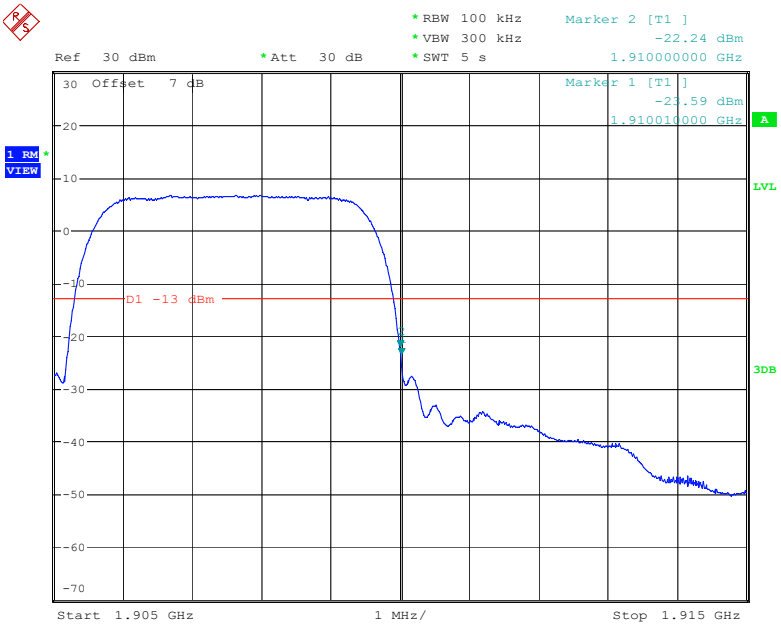
Date: 8.SEP.2022 19:05:29

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



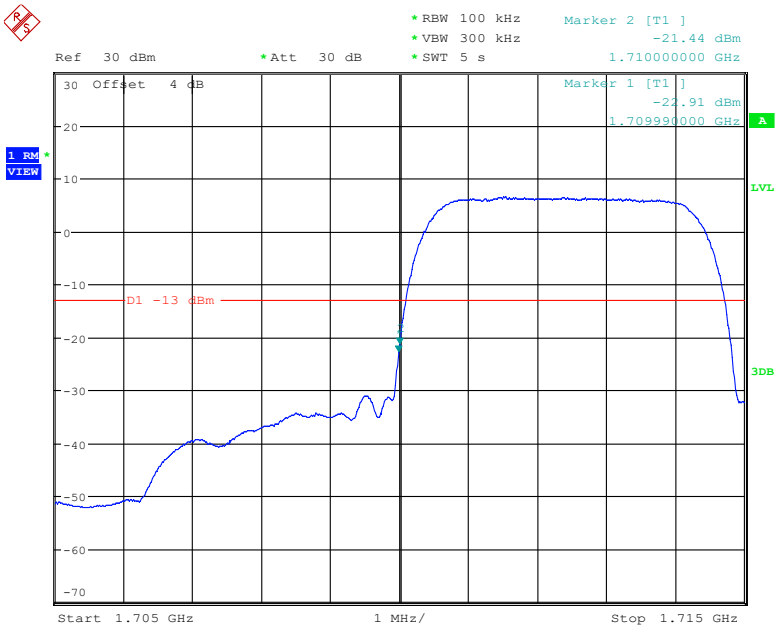
Date: 8.SEP.2022 19:41:58

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



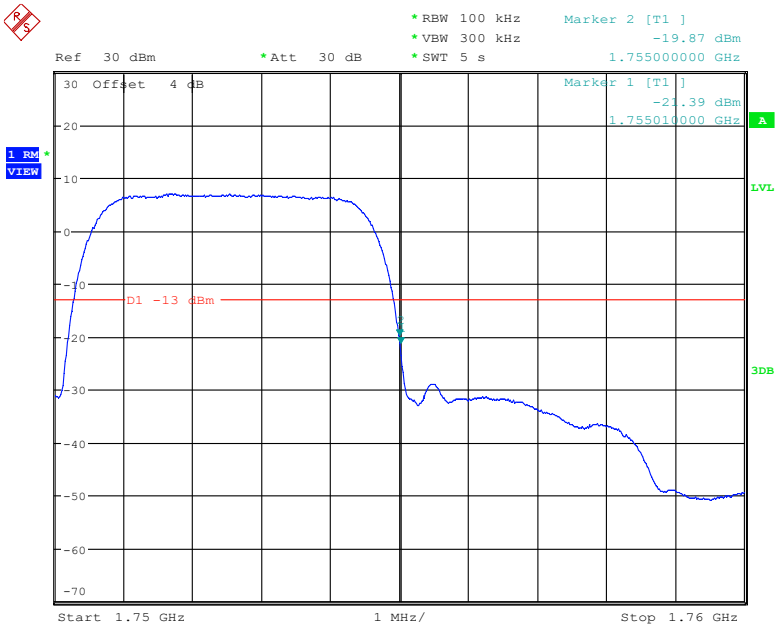
Date: 8.SEP.2022 19:49:23

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



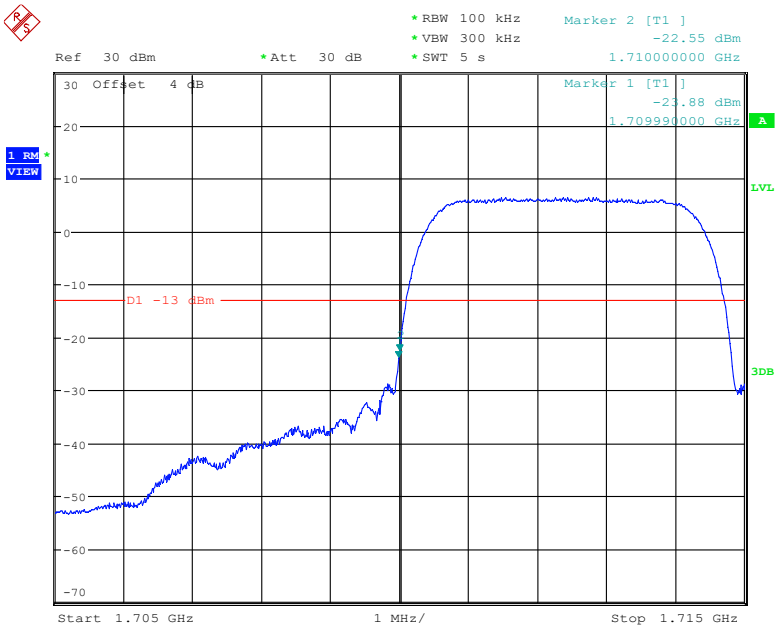
Date: 1.SEP.2022 11:52:03

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



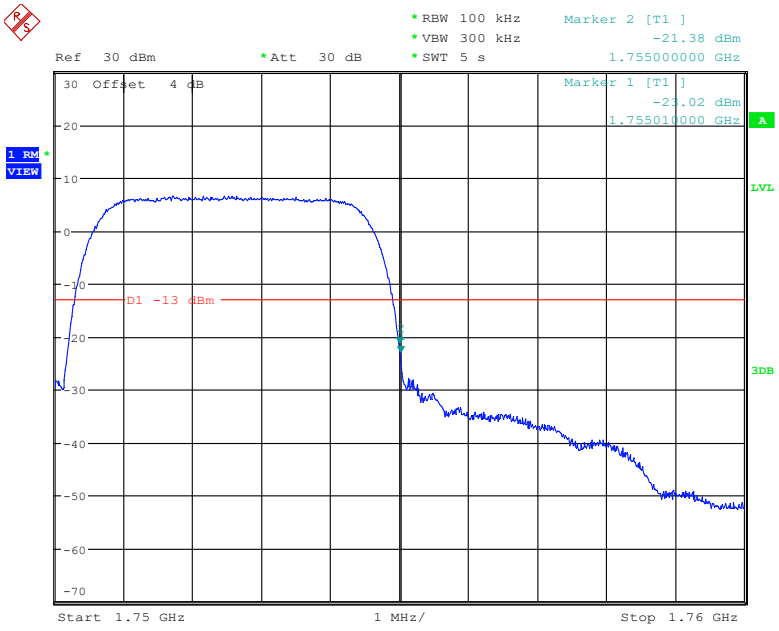
Date: 1.SEP.2022 11:59:02

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



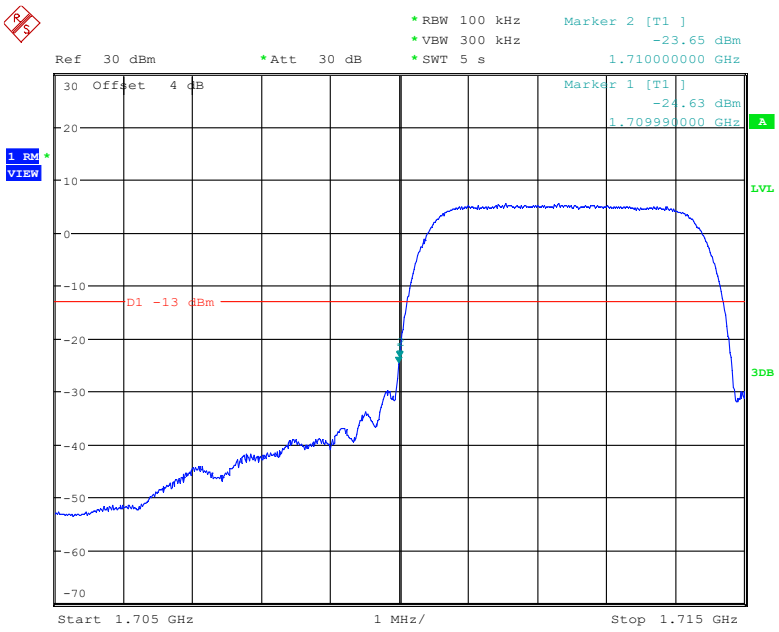
Date: 1.SEP.2022 13:10:44

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



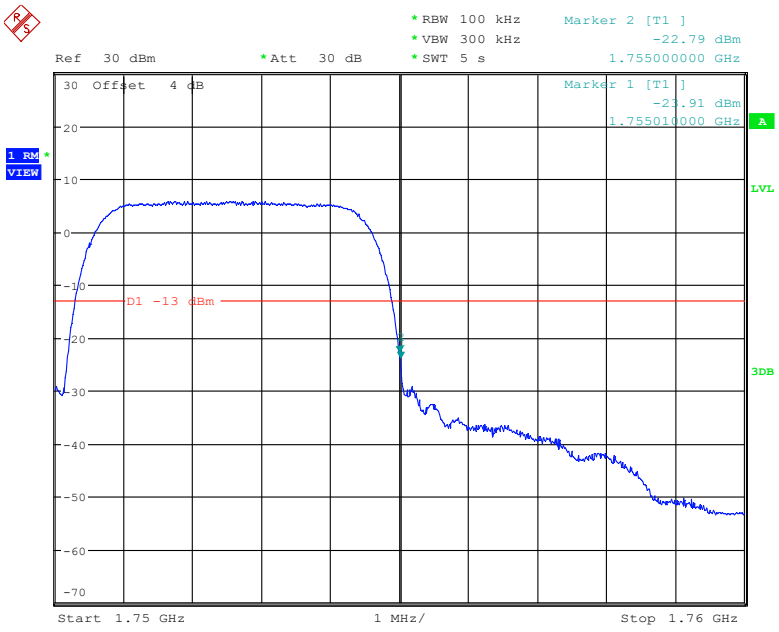
Date: 1.SEP.2022 13:18:07

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



Date: 1.SEP.2022 13:26:04

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



Date: 1.SEP.2022 13:34:16

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

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

Applicable Standard

FCC § 2.1055, §22.355, §24.235&§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

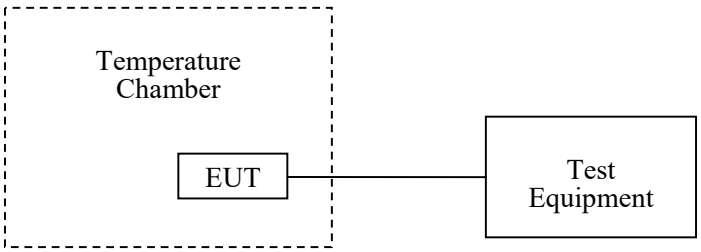
According to §24.235&§27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

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 DsC 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:	26.2 ℃
Relative Humidity:	56.2%
ATM Pressure:	101.0 kPa

The testing was performed by Roger Ling from 2022-09-01to 2022-09-12.

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	N.V.	13	0.0155	2.5
-20		11	0.0131	2.5
-10		7	0.0084	2.5
0		4	0.0048	2.5
10		18	0.0215	2.5
20		22	0.0263	2.5
30		12	0.0143	2.5
40		10	0.0120	2.5
50		16	0.0191	2.5
20	L.V.	14	0.0167	2.5
	H.V.	11	0.0131	2.5

EDGE Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	N.V.	12	0.0143	2.5
-20		15	0.0179	2.5
-10		14	0.0167	2.5
0		12	0.0143	2.5
10		13	0.0155	2.5
20		17	0.0203	2.5
30		14	0.0167	2.5
40		13	0.0155	2.5
50		11	0.0131	2.5
20	L.V.	12	0.0143	2.5
	H.V.	13	0.0155	2.5

WCDMA Mode

Middle Channel, f_o =836.6MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	N.V.	2.05	0.0025	2.5
-20		2.31	0.0028	2.5
-10		2.04	0.0024	2.5
0		2.01	0.0024	2.5
10		1.06	0.0013	2.5
20		1.02	0.0012	2.5
30		2.11	0.0025	2.5
40		2.06	0.0025	2.5
50		2.12	0.0025	2.5
20	L.V.	2.31	0.0028	2.5
	H.V.	2.34	0.0028	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	N.V.	10	0.0053	pass
-20		13	0.0069	pass
-10		12	0.0064	pass
0		14	0.0074	pass
10		5	0.0027	pass
20		17	0.0090	pass
30		11	0.0059	pass
40		8	0.0043	pass
50		14	0.0074	pass
20	L.V.	6	0.0032	pass
	H.V.	5	0.0027	pass

EDGE Mode

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

WCDMA Mode

Middle Channel, f_o =1880.0 MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	N.V.	1.54	0.0008	pass
-20		1.38	0.0007	pass
-10		1.29	0.0007	pass
0		1.33	0.0007	pass
10		1.52	0.0008	pass
20		1.48	0.0008	pass
30		1.69	0.0009	pass
40		1.29	0.0007	pass
50		2.11	0.0011	pass
20	L.V.	2.28	0.0012	pass
	H.V.	1.78	0.0009	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	N.V.	1710.0172	1754.9728	1710	1755
-20		1710.0169	1754.9726	1710	1755
-10		1710.0158	1754.9727	1710	1755
0		1710.0159	1754.9733	1710	1755
10		1710.0138	1754.9736	1710	1755
20		1710.0139	1754.9729	1710	1755
30		1710.0137	1754.9725	1710	1755
40		1710.0128	1754.9735	1710	1755
50		1710.0125	1754.9736	1710	1755
20	L.V.	1710.0136	1754.9728	1710	1755
	H.V.	1710.0144	1754.9729	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	N.V.	-3.81	-0.0020	pass
-20		9.73	0.0052	pass
-10		-7.83	-0.0042	pass
0		5.65	0.0030	pass
10		9.94	0.0053	pass
20		6.09	0.0032	pass
30		-9.57	-0.0051	pass
40		8.75	0.0047	pass
50		-8.81	-0.0047	pass
20	L.V.	7.37	0.0039	pass
	H.V.	-8.80	-0.0047	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	N.V.	1710.1166	1754.8738	1710	1755
-20		1710.1158	1754.8736	1710	1755
-10		1710.1152	1754.8737	1710	1755
0		1710.1154	1754.8738	1710	1755
10		1710.1147	1754.8757	1710	1755
20		1710.1142	1754.8755	1710	1755
30		1710.1139	1754.8754	1710	1755
40		1710.1130	1754.8756	1710	1755
50		1710.1129	1754.8749	1710	1755
20	L.V.	1710.1128	1754.8748	1710	1755
	H.V.	1710.1024	1754.8742	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	N.V.	-0.54	-0.0006	2.5
-20		-5.14	-0.0061	2.5
-10		-8.56	-0.0102	2.5
0		-5.69	-0.0068	2.5
10		-7.37	-0.0088	2.5
20		7.85	0.0094	2.5
30		-5.86	-0.0070	2.5
40		-6.76	-0.0081	2.5
50		7.69	0.0092	2.5
20	L.V.	-9.02	-0.0108	2.5
	H.V.	-6.87	-0.0082	2.5

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	N.V.	699.4405	715.5257	699	716
-20		699.4438	715.5316	699	716
-10		699.4452	715.5318	699	716
0		699.4413	715.5273	699	716
10		699.4421	715.5284	699	716
20		699.4393	715.5275	699	716
30		699.4421	715.5263	699	716
40		699.4404	715.5278	699	716
50		699.4444	715.5299	699	716
20	L.V.	699.4421	715.5308	699	716
	H.V.	699.4423	715.5300	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	N.V.	2570.5048	2619.4429	2570	2620
-20		2570.5034	2619.4398	2570	2620
-10		2570.5077	2619.4411	2570	2620
0		2570.5076	2619.4445	2570	2620
10		2570.5056	2619.4425	2570	2620
20		2570.5065	2619.4461	2570	2620
30		2570.5061	2619.4422	2570	2620
40		2570.5089	2619.4446	2570	2620
50		2570.5033	2619.4398	2570	2620
20	L.V.	2570.5077	2619.4464	2570	2620
	H.V.	2570.5075	2619.4422	2570	2620

Band 41:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	N.V.	2496.4275	2689.5468	2496	2690
-20		2496.4244	2689.5472	2496	2690
-10		2496.4272	2689.5453	2496	2690
0		2496.4208	2689.5419	2496	2690
10		2496.4228	2689.5438	2496	2690
20		2496.4213	2689.5409	2496	2690
30		2496.4223	2689.5450	2496	2690
40		2496.4253	2689.5437	2496	2690
50		2496.4278	2689.5485	2496	2690
20	L.V.	2496.4227	2689.5460	2496	2690
	H.V.	2496.4265	2689.5458	2496	2690

Band 2:

10.0 MHz Middle Channel, f_o=1880MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	N.V.	-3.63	-0.0019	pass
-20		-7.85	-0.0042	pass
-10		-9.08	-0.0048	pass
0		-5.65	-0.0030	pass
10		-7.76	-0.0041	pass
20		5.71	0.0030	pass
30		-8.72	-0.0046	pass
40		9.73	0.0052	pass
50		-8.59	-0.0046	pass
20	L.V.	8.26	0.0044	pass
	H.V.	-6.09	-0.0032	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	N.V.	1710.2966	1754.7672	1710	1755
-20		1710.2958	1754.7562	1710	1755
-10		1710.2751	1754.7672	1710	1755
0		1710.2652	1754.7452	1710	1755
10		1710.2633	1754.7435	1710	1755
20		1710.2643	1754.7626	1710	1755
30		1710.2572	1754.7625	1710	1755
40		1710.2658	1754.7652	1710	1755
50		1710.2636	1754.7752	1710	1755
20	L.V.	1710.2621	1754.7536	1710	1755
	H.V.	1710.2715	1754.7524	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	N.V.	0.24	0.0003	2.5
-20		-5.22	-0.0062	2.5
-10		-7.30	-0.0087	2.5
0		-7.13	-0.0085	2.5
10		7.96	0.0095	2.5
20		-6.10	-0.0073	2.5
30		8.02	0.0096	2.5
40		5.52	0.0066	2.5
50		-7.77	-0.0093	2.5
20	L.V.	-6.78	-0.0081	2.5
	H.V.	-5.44	-0.0065	2.5

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	N.V.	699.4432	715.5281	699	716
-20		699.4423	715.5326	699	716
-10		699.4454	715.5301	699	716
0		699.4426	715.5328	699	716
10		699.4468	715.5297	699	716
20		699.4459	715.5295	699	716
30		699.4462	715.5300	699	716
40		699.4469	715.5314	699	716
50		699.4395	715.5273	699	716
20	L.V.	699.4398	715.5324	699	716
	H.V.	699.4409	715.5286	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	N.V.	2570.4569	2619.5331	2570	2620
-20		2570.4556	2619.5372	2570	2620
-10		2570.4501	2619.5360	2570	2620
0		2570.4531	2619.5327	2570	2620
10		2570.4526	2619.5345	2570	2620
20		2570.4503	2619.5388	2570	2620
30		2570.4521	2619.5374	2570	2620
40		2570.4519	2619.5388	2570	2620
50		2570.4541	2619.5329	2570	2620
20	L.V.	2570.4530	2619.5369	2570	2620
	H.V.	2570.4553	2619.5381	2570	2620

Band 41:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	N.V.	2496.4227	2689.5488	2496	2690
-20		2496.4268	2689.5472	2496	2690
-10		2496.4235	2689.5423	2496	2690
0		2496.4268	2689.5479	2496	2690
10		2496.4234	2689.5419	2496	2690
20		2496.4223	2689.5468	2496	2690
30		2496.4253	2689.5450	2496	2690
40		2496.4205	2689.5478	2496	2690
50		2496.4271	2689.5450	2496	2690
20	L.V.	2496.4278	2689.5444	2496	2690
	H.V.	2496.4233	2689.5421	2496	2690

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