TESTREPORT

Applicant Name :	HONG KONG YO YOUNG INTELLIGENT CO.,LIMITED
Address :	19H MAXGRAND PLAZA NO.3 TAI YAU STREET SAN PO KONG, KOWLOON, HONGKONG
Report Number:	SZNS221017-47499E-RF-00F
FCC ID:	2A8X4-AIR1ULTRA

Test Standard (s)

FCC PART 27; FCC PART 22H; FCC PART 24E; FCC PART 90

Sample Description

Product Type:	Smart phone
Model No.:	Air1 Ultra
Multiple Model(s) No.:	Air1 Ultra+, Air2 Ultra, B1 Ultra
Trade Mark:	IIIF150
Date Received:	2022/10/17
Report Date:	2022/11/30

Test Result:	Pass*

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

Prepared and Checked By:

Nick Fang
EMC Engineer

Approved By:

Candy Li
EMC Engineer

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Smart phone
Tested Model	Air1 Ultra
Multiple Models	Air1 Ultra+, Air2 Ultra, B1 Ultra (model difference see product declaration letter of similarity)
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) CDMA BC0: 824-849MHz(TX); 869-894MHz(RX) LTE Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX) LTE Band 4: 1710-1755MHz(TX); 2110-2155MHz(RX) LTE Band 5: 824-849MHz(TX); 869-894MHz(RX) LTE Band 7: 2500-2570MHz(TX); 2620-2690MHz(RX) LTE Band 12: 699-716MHz(TX); 729-746MHz(RX) LTE Band 13: 777-787MHz(TX); 746-756MHz(RX) LTE Band 17: 704-716MHz(TX); 734-746MHz(RX) LTE Band 25: 1850-1915MHz(TX);1930-1995MHz(RX) LTE Band 26(Part 22): 824-849MHz(TX); 869-894MHz(RX) LTE Band 26(Part 90): 814-824MHz(TX); 859-869MHz(RX) LTE Band 66: 1710-1780MHz(TX); 2110-2180MHz(RX)
Modulation Technique	2G: GMSK, 8PSK 3G: BPSK, QPSK, 16QAM 4G: QPSK, 16QAM
Antenna Specification*	GSM850/WCDMA Band 5/CDMA BC0/ LTE Band 5/LTE Band26:-3.47dBi PCS1900/WCDMA Band 2/LTE Band 2/LTE Band25: -0.99dBi WCDMA B4/ LTE Band4: -0.39dBi, LTE Band 7: 3.23dBi LTE Band 12/Band 17:-3.55dBi, LTE Band13: -3.81dBi LTE Band66: 0.27 dBi (provided by the applicant)
Voltage Range	DC 3.85V from battery or DC 5V/9V/12V/15V/3.3-11V from adapter
Sample serial number	1MLU (Assigned by ATC)
Sample/EUT Status	Good condition
Extreme condition*	L.V.: Low Voltage 3.4V_{DC} N.V.: Normal Voltage 3.85V_{DC} H.V.: High Voltage 4.4V_{DC} (provided by the applicant)
Adapter information	Model: FC69U Input: AC 100-240V, 50/60Hz, 0.8A Max Output: QC: DC 5V, 3A/9V, 3A/12V, 2.5A PD: DC 5V, 3A/9V, 3A/12V, 2.5A/15V, 2A PPS: DC 3.3-11V, 2.72A

Objective

This test report is in accordance with Part 2-Subpart J, Part 22-Subpart H, Part24-Subpart E, Part 27, and Part 90 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
Part 90 – Private Land Mobile Radio 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.

Each test item follows test standards and with no deviation.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF output power, conducted		±0.73dB
Unwanted Emission, conducted		±1.6dB
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
PCS1900	0.25	1850.2	1880	1909.8
WCDMA B2	4.2	1852.4	1880	1907.6
WCDMA B4	4.2	1712.4	1732.6	1752.6
WCDMA B5	4.2	826.4	836.4	846.6
CDMA BC0	1.25	824.70	836.52	848.31
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& LTE B26(Part 22H)	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
	15(only for B26)	831.5	836.5	841.5
LTE B7	5	2502.5	2535	2567.5
	10	2505	2535	2565
	15	2507.5	2535	2562.5
	20	2510	2535	2560
LTE B12	1.4	699.7	707.5	715.3
	3	700.5	707.5	714.5
	5	701.5	707.5	713.5
	10	704	707.5	711
LTE B13	5	779.5	782	784.5
	10	/	782	/
LTE B17	5	706.5	710	713.5
	10	709	710	711

Frequency band	Bandwidth (MHz)	Test Frequency(MHz)		
		Low	Middle	High
LTE B25	1.4	1850.7	1882.5	1914.3
	3	1851.5	1882.5	1913.5
	5	1852.5	1882.5	1912.5
	10	1855	1882.5	1910
	15	1857.5	1882.5	1907.5
	20	1860	1882.5	1905
LTE B26(Part 90S)	1.4	814.7	819	823.3
	3	815.5	819	822.5
	5	816.5	819	821.5
	10	/	819	/
LTE B66	1.4	1710.7	1745	1779.3
	3	1711.5	1745	1778.5
	5	1712.5	1745	1777.5
	10	1715	1745	1775
	15	1717.5	1745	1772.5
	20	1720	1745	1770

Equipment Modifications

No modification was made to the EUT.

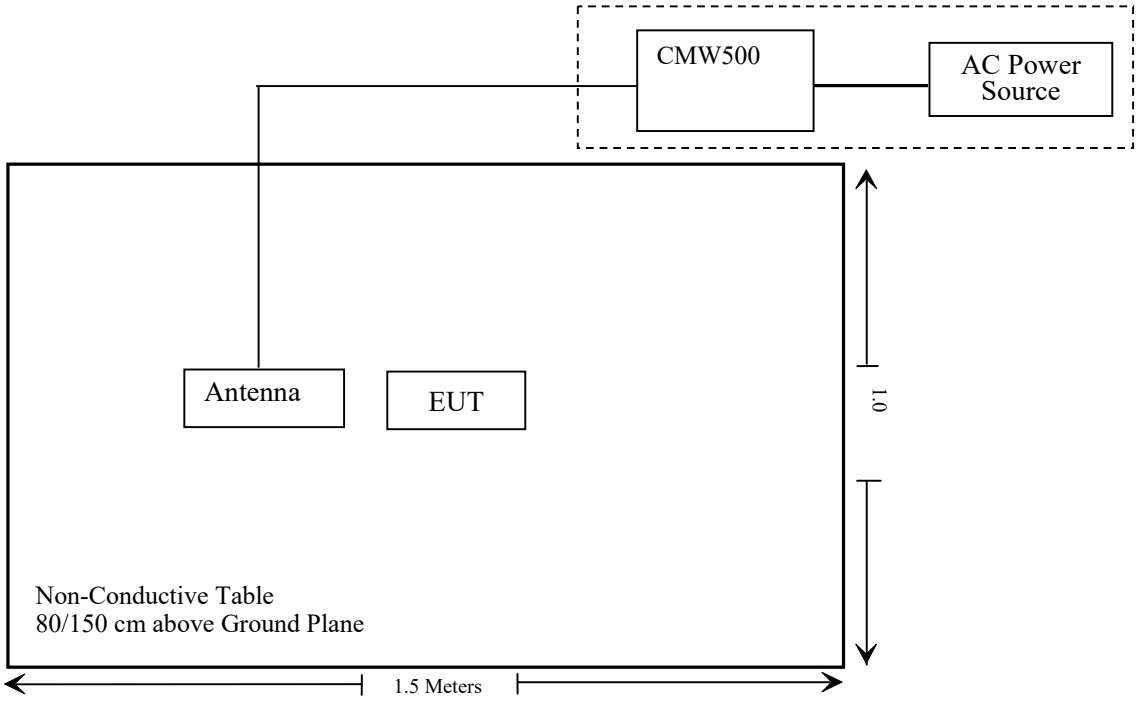
Support Equipment List and Details

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

Support Cable Description

Cable Description	Length (m)	From / Port	To
Unshielded Un-detachable AC cable	1.2	AC Power	CMW500

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§ 1.1307 ,§2.1093	RF Exposure (SAR)	Compliant*
§2.1046; § 22.913 (a) (d); § 24.232 (c) (d); §27.50(b)(c) (d) (h); §90.635	RF Output Power	Compliant
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905; § 22.917; § 24.238; §27.53 §90.209	Occupied Bandwidth	Compliant
§ 2.1051; §22.917 (a); § 24.238 (a); §27.53; §90.691	Spurious Emissions at Antenna Terminal	Compliant
§ 2.1053; § 22.917 (a); § 24.238 (a); §27.53 §90.691	Field Strength of Spurious Radiation	Compliant
§ 22.917 (a); § 24.238 (a); §27.53(c)(g) (h) (m) §90.691	Band Edge	Compliant
§ 2.1055; § 22.355; § 24.235; §27.54; §90.213	Frequency stability	Compliant

Note: * Please refer to SAR report number: CR221047499-20.

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	2022/11/08	2023/11/07
A.H. Systems, inc.	Preamplifier	PAM-0118P	135	2022/11/08	2023/11/07
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2022/11/08	2023/11/07
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					
SPECTRUM ANALYZER	Rohde & Schwarz	FSU26	200982	2022/07/04	2023/07/03
Rohde & Schwarz	Wideband Radio Communication Tester	CMW500	154606	2021/12/13	2022/12/12
Mini-Circuits	Power Splitter	DC-18000MHz	SF10944151S	2021/12/14	2022/12/13
REALE	Temp. & Humid. Chamber	RHP-800BT	R20170318310	2021/12/14	2022/12/13
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)&§2.1093 - RF EXPOSURE INFORMATION

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliant, please refer to the SAR report: CR221047499-20.

FCC§2.1047 - MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 22H & 24E& 27& 90, 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(b) (c)(d)(h); §90.635- 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(b), Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

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

According to §27.50(d), 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.

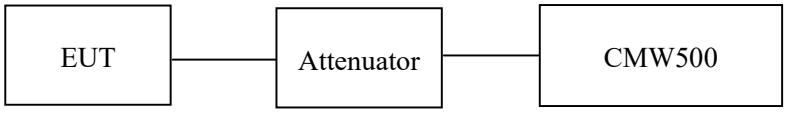
According to §27.50(h), the maximum EIRP must not exceed 2Watts (33dBm) for 2496-2690 MHz.

According to §90.635, the maximum ERP must not exceed 100Watts (50dBm) for 814-824MHz.

Test Procedure

Conducted method:

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



Note: the path loss (cable loss and attenuator) has included in the result.

Test Data

Environmental Conditions

Temperature:	17.5~25.7 ℃
Relative Humidity:	51~59 %
ATM Pressure:	101.0 kPa

The testing was performed by Cat Kang from 2022-10-21 to 2022-11-07.

Conducted Power

Cellular Band (Part 22H)

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
GSM	128	824.2	33.20	27.00	38.45
	190	836.6	33.30	**27.10**	38.45
	251	848.8	33.20	27.00	38.45

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				ERP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
GPRS	128	824.2	33.23	32.09	30.06	28.91	27.03	25.89	23.86	22.71	38.45
	190	836.6	33.28	32.19	30.13	29.04	27.08	25.99	23.93	22.84	38.45
	251	848.8	33.19	32.09	30.05	28.95	26.99	25.89	23.85	22.75	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	
EDGE	128	824.2	26.79	25.28	22.97	21.71	20.59	19.08	16.77	15.51	38.45
	190	836.6	26.85	25.36	23.07	21.73	20.65	19.16	16.87	15.53	38.45
	251	848.8	26.88	25.27	23.02	21.79	**20.68**	19.07	16.82	15.59	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		23.19	23.14	23.12	**16.99**	16.94	16.92
	HSDPA	1	22.12	22.07	22.03	15.92	15.87	15.83
		2	22.11	22.06	21.88	15.91	15.86	15.68
		3	22.05	22.04	21.89	15.85	15.84	15.69
		4	22.13	22.09	21.67	15.93	15.89	15.47
	HSUPA	1	21.82	21.78	21.81	15.62	15.58	15.61
		2	21.77	21.57	21.68	15.57	15.37	15.48
		3	21.89	21.64	21.49	15.69	15.44	15.29
		4	21.67	21.59	21.58	15.47	15.39	15.38
		5	21.74	21.77	21.69	15.54	15.57	15.49
	HSPA+	1	21.84	21.54	21.47	15.64	15.34	15.27

2G:

RC1+SO55:

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
CDMA 1*RTT (BC0)	1013	824.70	23.37	17.17	38.45
	384	836.52	23.81	**17.61**	38.45
	777	848.31	23.48	17.28	38.45

RC3+SO55:

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
CDMA 1*RTT (BC0)	1013	824.70	23.62	17.42	38.45
	384	836.52	23.55	17.35	38.45
	777	848.31	23.57	17.37	38.45

RC3+SO32(FCH):

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
CDMA 1*RTT (BC0)	1013	824.70	23.46	17.26	38.45
	384	836.52	23.59	17.39	38.45
	777	848.31	23.37	17.17	38.45

RC3+SO32(SCH):

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
CDMA 1*RTT (BC0)	1013	824.70	23.77	17.57	38.45
	384	836.52	23.28	17.08	38.45
	777	848.31	23.41	17.21	38.45

3G:

RTAP 153.6kbps Subtype 0:

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
CDMA EV-DO (BC0)	1013	824.70	23.70	**17.50**	38.45
	384	836.52	23.38	17.18	38.45
	777	848.31	23.26	17.06	38.45

RETAP 4096pbs Subtype 2:

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	ERP(dBm)	Limit (dBm)
CDMA EV-DO (BC0)	1013	824.70	23.55	17.35	38.45
	384	836.52	23.21	17.01	38.45
	777	848.31	23.24	17.04	38.45

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - L_C (dB)
For GSM850 / WCDMA Band5/CDMA BC0: Antenna Gain = -3.47dBi = -5.62 dBd (0dBd=2.15dBi)
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.58dB
Limit: ERP≤38.45dBm

PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)	EIRP(dBm)	Limit (dBm)
GSM	512	1850.2	30.50	28.67	33
	661	1880.0	30.70	28.87	33
	810	1909.8	30.90	**29.07**	33

Mode	Channel	Frequency (MHz)	Average Output Power (dBm)				EIRP(dBm)				Limit (dBm)
			1 slot	2 slots	3 slots	4 slots	1 slot	2 slots	3 slots	4 slots	
GPRS	512	1850.2	30.03	28.98	27.16	26.11	30.03	28.98	27.16	26.11	33
	661	1880.0	30.17	29.18	27.15	26.22	30.17	29.18	27.15	26.22	33
	810	1909.8	30.29	29.30	27.29	26.32	30.29	29.30	27.29	26.32	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	
EDGE	512	1850.2	26.25	25.08	23.25	22.11	**24.42**	23.25	21.42	20.28	33
	661	1880.0	26.04	24.79	23.01	21.89	24.21	22.96	21.18	20.06	33
	810	1909.8	25.75	24.54	22.57	21.49	23.92	22.71	20.74	19.66	33

Mode	Test Mode	3GPP Sub Test	Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
WCDMA (Band 2)	RMC12.2k		23.25	23.11	22.98	**21.42**	21.28	21.15
	HSDPA	1	22.21	22.03	21.88	20.38	20.20	20.05
		2	22.15	22.05	21.89	20.32	20.22	20.06
		3	22.17	22.06	21.97	20.34	20.23	20.14
		4	22.22	22.07	21.85	20.39	20.24	20.02
	HSUPA	1	21.74	21.60	21.49	19.91	19.77	19.66
		2	21.66	21.48	21.52	19.83	19.65	19.69
		3	21.59	21.37	21.47	19.76	19.54	19.64
		4	21.48	21.64	21.62	19.65	19.81	19.79
		5	21.67	21.28	21.52	19.84	19.45	19.69
	HSPA+	1	21.52	21.33	21.47	19.69	19.50	19.64

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - L_C (dB)
For PCS1900 / WCDMA Band2: Antenna Gain = -0.99dBi
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.84dB
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		23.36	23.35	23.50	22.13	22.12	**22.27**
	HSDPA	1	22.35	22.26	22.43	21.12	21.03	21.20
		2	22.28	22.17	22.15	21.05	20.94	20.92
		3	22.17	22.13	22.36	20.94	20.90	21.13
		4	22.16	22.21	22.24	20.93	20.98	21.01
	HSUPA	1	21.88	21.87	22.00	20.65	20.64	20.77
		2	21.72	21.73	22.05	20.49	20.50	20.82
		3	21.68	21.82	22.04	20.45	20.59	20.81
		4	21.58	21.69	22.03	20.35	20.46	20.80
		5	21.69	21.49	22.04	20.46	20.26	20.81
	HSPA+	1	21.44	21.39	22.11	20.21	20.16	20.88

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi)- L_C (dB)
For Band4: Antenna Gain = -0.39dBi
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.84dB
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	20.01	19.50	19.68	18.18	17.67	17.85
		RB1#3	20.09	19.52	19.75	18.26	17.69	17.92
		RB1#5	20.01	19.49	19.62	18.18	17.66	17.79
		RB3#0	20.14	19.60	19.78	18.31	17.77	17.95
		RB3#3	20.15	19.56	19.80	18.32	17.73	17.97
		RB6#0	19.22	18.65	18.83	17.39	16.82	17.00
	16QAM	RB1#0	19.09	18.62	18.65	17.26	16.79	16.82
		RB1#3	19.09	18.67	18.75	17.26	16.84	16.92
		RB1#5	19.02	18.58	18.66	17.19	16.75	16.83
		RB3#0	19.35	18.59	18.83	17.52	16.76	17.00
		RB3#3	19.35	18.61	18.83	17.52	16.78	17.00
		RB6#0	18.22	17.68	17.80	16.39	15.85	15.97
3.0	QPSK	RB1#0	19.88	19.33	18.90	18.05	17.50	17.07
		RB1#8	20.00	19.38	18.99	18.17	17.55	17.16
		RB1#14	19.89	19.28	18.85	18.06	17.45	17.02
		RB6#0	19.07	18.54	18.05	17.24	16.71	16.22
		RB6#9	19.13	18.47	18.03	17.30	16.64	16.20
		RB15#0	19.09	18.54	18.10	17.26	16.71	16.27
	16QAM	RB1#0	18.91	18.97	18.03	17.08	17.14	16.20
		RB1#8	18.99	19.03	18.09	17.16	17.20	16.26
		RB1#14	18.93	18.87	17.98	17.10	17.04	16.15
		RB6#0	18.08	17.64	17.08	16.25	15.81	15.25
		RB6#9	18.06	17.58	17.13	16.23	15.75	15.30
		RB15#0	18.17	17.58	17.01	16.34	15.75	15.18

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	20.14	20.01	19.64	18.31	18.18	17.81
		RB1#13	20.27	20.08	19.72	18.44	18.25	17.89
		RB1#24	20.10	19.94	19.54	18.27	18.11	17.71
		RB15#0	19.17	19.05	18.68	17.34	17.22	16.85
		RB15#10	19.26	18.95	18.59	17.43	17.12	16.76
		RB25#0	19.20	19.00	18.60	17.37	17.17	16.77
	16QAM	RB1#0	19.24	18.9	18.89	17.41	17.07	17.06
		RB1#13	19.33	18.98	18.98	17.50	17.15	17.15
		RB1#24	19.23	18.85	18.84	17.40	17.02	17.01
		RB15#0	18.20	18.10	17.63	16.37	16.27	15.80
		RB15#10	18.28	18.00	17.55	16.45	16.17	15.72
		RB25#0	18.29	18.08	17.64	16.46	16.25	15.81
10.0	QPSK	RB1#0	20.27	20.12	19.08	18.44	18.29	17.25
		RB1#25	20.29	20.13	19.11	18.46	18.30	17.28
		RB1#49	20.19	20.06	19.00	18.36	18.23	17.17
		RB25#0	19.07	19.15	18.24	17.24	17.32	16.41
		RB25#25	19.26	19.02	17.96	17.43	17.19	16.13
		RB50#0	19.22	19.09	18.11	17.39	17.26	16.28
	16QAM	RB1#0	19.39	19.13	18.69	17.56	17.30	16.86
		RB1#25	19.42	19.18	18.70	17.59	17.35	16.87
		RB1#49	19.36	19.03	18.58	17.53	17.20	16.75
		RB25#0	18.18	18.25	17.35	16.35	16.42	15.52
		RB25#25	18.36	18.14	17.03	16.53	16.31	15.20
		RB50#0	18.22	18.10	17.13	16.39	16.27	15.30

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	20.21	20.08	19.28	18.38	18.25	17.45
		RB1#38	20.23	20.12	19.32	**18.40**	18.29	17.49
		RB1#74	20.12	19.93	19.17	18.29	18.10	17.34
		RB36#0	19.12	19.12	18.32	17.29	17.29	16.49
		RB36#39	19.26	18.97	18.10	17.43	17.14	16.27
		RB75#0	19.25	19.06	18.28	17.42	17.23	16.45
	16QAM	RB1#0	19.80	19.20	18.68	17.97	17.37	16.85
		RB1#38	19.84	19.24	18.73	**18.01**	17.41	16.90
		RB1#74	19.70	19.05	18.55	17.87	17.22	16.72
		RB36#0	18.17	18.12	17.29	16.34	16.29	15.46
		RB36#39	18.25	17.99	17.11	16.42	16.16	15.28
		RB75#0	18.25	18.10	17.26	16.42	16.27	15.43
20.0	QPSK	RB1#0	20.15	19.45	19.60	18.32	17.62	17.77
		RB1#50	20.30	19.59	19.74	**18.47**	17.76	17.91
		RB1#99	20.02	19.33	19.48	18.19	17.50	17.65
		RB50#0	19.07	18.59	18.57	17.24	16.76	16.74
		RB50#50	19.25	18.42	18.32	17.42	16.59	16.49
		RB100#0	19.14	18.51	18.46	17.31	16.68	16.63
	16QAM	RB1#0	19.45	18.69	19.20	17.62	16.86	17.37
		RB1#50	19.57	18.79	19.33	**17.74**	16.96	17.50
		RB1#99	19.33	18.51	19.04	17.50	16.68	17.21
		RB50#0	18.02	17.60	17.53	16.19	15.77	15.70
		RB50#50	18.21	17.42	17.37	16.38	15.59	15.54
		RB100#0	18.17	17.51	17.47	16.34	15.68	15.64

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - L_C (dB)
For Band2: Antenna Gain = -0.99 dBi
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.84dB
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	20.27	20.13	20.47	19.04	18.90	19.24
		RB1#3	20.29	20.22	20.50	19.06	18.99	19.27
		RB1#5	20.26	20.16	20.45	19.03	18.93	19.22
		RB3#0	20.37	20.28	20.59	19.14	19.05	19.36
		RB3#3	20.32	20.30	20.58	19.09	19.07	19.35
		RB6#0	19.40	19.33	19.65	18.17	18.10	18.42
	16QAM	RB1#0	19.35	19.17	19.45	18.12	17.94	18.22
		RB1#3	19.43	19.22	19.53	18.20	17.99	18.30
		RB1#5	19.35	19.19	19.44	18.12	17.96	18.21
		RB3#0	19.34	19.41	19.75	18.11	18.18	18.52
		RB3#3	19.39	19.38	19.81	18.16	18.15	18.58
		RB6#0	18.54	18.33	18.71	17.31	17.10	17.48
3.0	QPSK	RB1#0	20.12	19.60	19.66	18.89	18.37	18.43
		RB1#8	20.16	19.70	19.77	18.93	18.47	18.54
		RB1#14	20.12	19.56	19.65	18.89	18.33	18.42
		RB6#0	19.31	18.70	18.88	18.08	17.47	17.65
		RB6#9	19.31	18.77	18.87	18.08	17.54	17.64
		RB15#0	19.35	18.75	18.87	18.12	17.52	17.64
	16QAM	RB1#0	19.82	18.70	18.69	18.59	17.47	17.46
		RB1#8	19.80	18.85	18.80	18.57	17.62	17.57
		RB1#14	19.72	18.73	18.74	18.49	17.50	17.51
		RB6#0	18.50	17.85	17.79	17.27	16.62	16.56
		RB6#9	18.47	17.90	17.83	17.24	16.67	16.60
		RB15#0	18.45	17.77	17.97	17.22	16.54	16.74

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	20.38	19.69	19.99	19.15	18.46	18.76
		RB1#13	20.52	19.81	20.04	19.29	18.58	18.81
		RB1#24	20.40	19.67	19.95	19.17	18.44	18.72
		RB15#0	19.41	18.69	18.98	18.18	17.46	17.75
		RB15#10	19.46	18.69	19.02	18.23	17.46	17.79
		RB25#0	19.44	18.68	19.00	18.21	17.45	17.77
	16QAM	RB1#0	19.51	18.57	19.27	18.28	17.34	18.04
		RB1#13	19.58	18.65	19.38	18.35	17.42	18.15
		RB1#24	19.49	18.60	19.27	18.26	17.37	18.04
		RB15#0	18.53	17.75	18.02	17.30	16.52	16.79
		RB15#10	18.58	17.83	17.99	17.35	16.60	16.76
		RB25#0	18.55	17.82	18.08	17.32	16.59	16.85
10.0	QPSK	RB1#0	20.49	19.92	20.15	19.26	18.69	18.92
		RB1#25	20.50	20.00	20.18	19.27	18.77	18.95
		RB1#49	20.48	19.91	20.13	19.25	18.68	18.90
		RB25#0	19.41	18.79	19.09	18.18	17.56	17.86
		RB25#25	19.50	18.96	19.10	18.27	17.73	17.87
		RB50#0	19.48	18.87	19.10	18.25	17.64	17.87
	16QAM	RB1#0	20.08	19.08	19.15	18.85	17.85	17.92
		RB1#25	20.16	19.16	19.20	18.93	17.93	17.97
		RB1#49	20.12	19.06	19.15	18.89	17.83	17.92
		RB25#0	18.52	17.96	18.21	17.29	16.73	16.98
		RB25#25	18.71	18.03	18.24	17.48	16.80	17.01
		RB50#0	18.58	17.98	18.13	17.35	16.75	16.90

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	20.39	19.91	20.27	19.16	18.68	19.04
		RB1#38	20.52	19.99	20.33	**19.29**	18.76	19.10
		RB1#74	20.45	19.85	20.25	19.22	18.62	19.02
		RB36#0	19.41	18.81	19.30	18.18	17.58	18.07
		RB36#39	19.51	18.91	19.25	18.28	17.68	18.02
		RB75#0	19.48	18.88	19.30	18.25	17.65	18.07
	16QAM	RB1#0	20.02	19.01	19.66	18.79	17.78	18.43
		RB1#38	20.20	19.15	19.75	**18.97**	17.92	18.52
		RB1#74	20.10	18.97	19.65	18.87	17.74	18.42
		RB36#0	18.52	17.95	18.29	17.29	16.72	17.06
		RB36#39	18.61	18.01	18.27	17.38	16.78	17.04
		RB75#0	18.58	17.98	18.29	17.35	16.75	17.06
20.0	QPSK	RB1#0	20.37	20.56	19.88	19.14	19.33	18.65
		RB1#50	20.61	20.81	20.05	19.38	**19.58**	18.82
		RB1#99	20.43	20.63	19.90	19.20	19.40	18.67
		RB50#0	19.39	19.61	18.99	18.16	18.38	17.76
		RB50#50	19.54	19.71	18.98	18.31	18.48	17.75
		RB100#0	19.48	19.64	18.97	18.25	18.41	17.74
	16QAM	RB1#0	19.67	19.77	19.49	18.44	18.54	18.26
		RB1#50	19.91	20.04	19.69	18.68	**18.81**	18.46
		RB1#99	19.76	19.82	19.50	18.53	18.59	18.27
		RB50#0	18.44	18.69	18.09	17.21	17.46	16.86
		RB50#50	18.61	18.79	18.01	17.38	17.56	16.78
		RB100#0	18.56	18.71	17.99	17.33	17.48	16.76

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - L_C (dB)
For Band4: Antenna Gain = -0.39dBi
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.84dB
Limit: EIRP≤30dBm

LTE Band 5 & Band 26(Part 22)

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	23.27	22.81	22.90	**17.07**	16.61	16.70
		RB1#3	22.90	22.82	22.97	16.70	16.62	16.77
		RB1#5	22.78	22.81	22.85	16.58	16.61	16.65
		RB3#0	22.94	22.92	23.08	16.74	16.72	16.88
		RB3#3	22.94	22.91	23.08	16.74	16.71	16.88
		RB6#0	22.01	21.99	22.10	15.81	15.79	15.90
	16QAM	RB1#0	21.80	21.86	22.07	15.60	15.66	15.87
		RB1#3	21.93	21.86	22.15	15.73	15.66	**15.95**
		RB1#5	21.82	21.80	22.02	15.62	15.60	15.82
		RB3#0	22.01	22.10	22.04	15.81	15.90	15.84
		RB3#3	21.99	22.14	22.07	15.79	15.94	15.87
		RB6#0	20.98	21.06	21.18	14.78	14.86	14.98
3	QPSK	RB1#0	22.65	22.73	22.79	16.45	16.53	16.59
		RB1#8	22.76	22.80	22.94	16.56	16.60	16.74
		RB1#14	22.74	22.74	22.80	16.54	16.54	16.60
		RB6#0	21.94	21.88	21.94	15.74	15.68	15.74
		RB6#9	21.92	21.93	21.98	15.72	15.73	15.78
		RB15#0	21.94	21.93	22.03	15.74	15.73	15.83
	16QAM	RB1#0	22.32	21.84	21.85	16.12	15.64	15.65
		RB1#8	22.36	21.92	21.97	16.16	15.72	15.77
		RB1#14	22.24	21.88	21.86	16.04	15.68	15.66
		RB6#0	21.01	20.93	20.97	14.81	14.73	14.77
		RB6#9	20.96	20.99	21.01	14.76	14.79	14.81
		RB15#0	20.98	20.87	21.08	14.78	14.67	14.88

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	22.93	22.98	23.07	16.73	16.78	16.87
		RB1#13	23.14	23.09	23.17	16.94	16.89	16.97
		RB1#24	22.99	23.00	23.03	16.79	16.80	16.83
		RB15#0	21.98	22.01	22.23	15.78	15.81	16.03
		RB15#10	22.00	21.99	22.09	15.80	15.79	15.89
		RB25#0	22.00	22.04	22.14	15.80	15.84	15.94
	16QAM	RB1#0	21.84	22.28	22.13	15.64	16.08	15.93
		RB1#13	22.03	22.42	22.27	15.83	16.22	16.07
		RB1#24	21.90	22.31	22.15	15.70	16.11	15.95
		RB15#0	21.02	20.98	21.27	14.82	14.78	15.07
		RB15#10	21.01	21.01	21.15	14.81	14.81	14.95
		RB25#0	21.09	21.06	21.21	14.89	14.86	15.01
10.0	QPSK	RB1#0	23.00	23.07	23.08	16.80	16.87	16.88
		RB1#25	23.01	23.05	23.18	16.81	16.85	**16.98**
		RB1#49	23.05	23.12	23.18	16.85	16.92	16.98
		RB25#0	21.96	22.08	22.10	15.76	15.88	15.90
		RB25#25	22.01	21.99	22.01	15.81	15.79	15.81
		RB50#0	22.01	22.04	22.04	15.81	15.84	15.84
	16QAM	RB1#0	22.59	22.19	22.05	16.39	15.99	15.85
		RB1#25	22.61	22.21	22.14	16.41	16.01	15.94
		RB1#49	22.61	22.25	22.17	**16.41**	16.05	15.97
		RB25#0	21.03	21.10	21.21	14.83	14.90	15.01
		RB25#25	21.08	21.09	21.17	14.88	14.89	14.97
		RB50#0	21.00	21.05	21.10	14.80	14.85	14.90
15.0	QPSK	RB1#0	22.81	22.84	22.87	16.61	16.64	16.67
		RB1#38	22.96	22.97	22.96	16.76	**16.77**	16.76
		RB1#74	22.84	22.89	22.91	16.64	16.69	16.71
		RB36#0	21.84	21.84	21.94	15.64	15.64	15.74
		RB36#39	21.91	21.87	21.85	15.71	15.67	15.65
		RB75#0	21.89	21.91	21.89	15.69	15.71	15.69
	16QAM	RB1#0	22.40	21.99	22.25	16.20	15.79	16.05
		RB1#38	22.60	22.12	22.42	**16.40**	15.92	16.22
		RB1#74	22.43	22.02	22.32	16.23	15.82	16.12
		RB36#0	20.88	20.88	20.94	14.68	14.68	14.74
		RB36#39	20.92	20.95	20.88	14.72	14.75	14.68
		RB75#0	20.91	20.90	20.91	14.71	14.70	14.71

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - L_C (dB)
For Band5: Antenna Gain = -3.47dBi=-5.62dBd (0dBd=2.15dBi)
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.58dB
Limit: ERP≤38.45dBm

LTE Band 7

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5.0	QPSK	RB1#0	17.19	17.74	16.96	19.58	20.13	19.35
		RB1#13	17.46	17.84	17.07	19.85	20.23	19.46
		RB1#24	17.37	17.72	16.93	19.76	20.11	19.32
		RB15#0	16.33	16.81	16.01	18.72	19.20	18.40
		RB15#10	16.38	16.80	16.01	18.77	19.19	18.40
		RB25#0	16.39	16.75	15.99	18.78	19.14	18.38
	16QAM	RB1#0	16.65	16.78	15.86	19.04	19.17	18.25
		RB1#13	16.76	16.92	15.98	19.15	19.31	18.37
		RB1#24	16.68	16.78	15.85	19.07	19.17	18.24
		RB15#0	15.34	15.81	15.11	17.73	18.20	17.50
		RB15#10	15.40	15.79	15.06	17.79	18.18	17.45
		RB25#0	15.40	15.82	15.09	17.79	18.21	17.48
10.0	QPSK	RB1#0	17.35	17.67	17.60	19.74	20.06	19.99
		RB1#25	17.43	17.72	17.64	19.82	20.11	20.03
		RB1#49	17.43	17.69	17.56	19.82	20.08	19.95
		RB25#0	16.31	16.67	16.62	18.70	19.06	19.01
		RB25#25	16.44	16.70	16.60	18.83	19.09	18.99
		RB50#0	16.44	16.71	16.63	18.83	19.10	19.02
	16QAM	RB1#0	17.00	16.87	16.66	19.39	19.26	19.05
		RB1#25	17.08	16.86	16.69	19.47	19.25	19.08
		RB1#49	17.05	16.83	16.60	19.44	19.22	18.99
		RB25#0	15.41	15.73	15.76	17.80	18.12	18.15
		RB25#25	15.57	15.74	15.73	17.96	18.13	18.12
		RB50#0	15.46	15.69	15.65	17.85	18.08	18.04

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	17.26	17.87	17.29	19.65	20.26	19.68
		RB1#38	17.43	17.96	17.31	19.82	**20.35**	19.70
		RB1#74	17.35	17.86	17.21	19.74	20.25	19.60
		RB36#0	16.26	16.80	16.25	18.65	19.19	18.64
		RB36#39	16.42	16.84	16.28	18.81	19.23	18.67
		RB75#0	16.40	16.88	16.31	18.79	19.27	18.70
	16QAM	RB1#0	16.91	17.02	16.72	19.30	19.41	19.11
		RB1#38	17.08	17.11	16.75	19.47	**19.50**	19.14
		RB1#74	17.03	16.95	16.63	19.42	19.34	19.02
		RB36#0	15.34	15.87	15.26	17.73	18.26	17.65
		RB36#39	15.43	15.87	15.28	17.82	18.26	17.67
		RB75#0	15.39	15.90	15.31	17.78	18.29	17.70
20.0	QPSK	RB1#0	17.24	17.39	17.22	19.63	19.78	19.61
		RB1#50	17.51	17.57	17.37	19.90	**19.96**	19.76
		RB1#99	17.35	17.37	17.19	19.74	19.76	19.58
		RB50#0	16.28	16.40	16.32	18.67	18.79	18.71
		RB50#50	16.53	16.42	16.29	18.92	18.81	18.68
		RB100#0	16.41	16.39	16.29	18.80	18.78	18.68
	16QAM	RB1#0	16.87	16.70	16.44	19.26	19.09	18.83
		RB1#50	17.16	16.91	16.61	**19.55**	19.30	19.00
		RB1#99	16.96	16.67	16.42	19.35	19.06	18.81
		RB50#0	15.30	15.42	15.29	17.69	17.81	17.68
		RB50#50	15.56	15.42	15.28	17.95	17.81	17.67
		RB100#0	15.44	15.41	15.32	17.83	17.80	17.71

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - L_C (dB)
For Band7: Antenna Gain = 3.23dBi
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.84dB
Limit: EIRP≤33dBm

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	22.31	22.24	22.25	16.03	15.96	15.97
		RB1#3	22.41	22.31	22.29	16.13	16.03	16.01
		RB1#5	22.34	22.29	22.29	16.06	16.01	16.01
		RB3#0	22.45	22.40	22.42	16.17	16.12	16.14
		RB3#3	22.50	22.47	22.47	16.22	16.19	16.19
		RB6#0	21.54	21.51	21.53	15.26	15.23	15.25
	16QAM	RB1#0	21.52	21.40	21.39	15.24	15.12	15.11
		RB1#3	21.63	21.43	21.45	15.35	15.15	15.17
		RB1#5	21.55	21.39	21.40	15.27	15.11	15.12
		RB3#0	21.55	21.63	21.71	15.27	15.35	15.43
		RB3#3	21.61	21.63	21.78	15.33	15.35	15.50
		RB6#0	20.62	20.51	20.63	14.34	14.23	14.35
3	QPSK	RB1#0	22.17	22.16	22.08	15.89	15.88	15.80
		RB1#8	22.29	22.22	22.20	16.01	15.94	15.92
		RB1#14	22.21	22.13	22.13	15.93	15.85	15.85
		RB6#0	21.43	21.40	21.41	15.15	15.12	15.13
		RB6#9	21.42	21.49	21.45	15.14	15.21	15.17
		RB15#0	21.52	21.49	21.47	15.24	15.21	15.19
	16QAM	RB1#0	21.41	21.30	21.87	15.13	15.02	15.59
		RB1#8	21.55	21.38	21.96	15.27	15.10	15.68
		RB1#14	21.44	21.32	21.77	15.16	15.04	15.49
		RB6#0	20.50	20.43	20.59	14.22	14.15	14.31
		RB6#9	20.57	20.48	20.57	14.29	14.20	14.29
		RB15#0	20.49	20.55	20.57	14.21	14.27	14.29

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			ERP(dBm)		
			Low	Mid	High	Low	Mid	High
5	QPSK	RB1#0	22.48	22.36	22.41	16.20	16.08	16.13
		RB1#13	22.65	22.56	22.56	**16.37**	16.28	16.28
		RB1#24	22.47	22.45	22.44	16.19	16.17	16.16
		RB15#0	21.53	21.59	21.49	15.25	15.31	15.21
		RB15#10	21.60	21.57	21.54	15.32	15.29	15.26
		RB25#0	21.57	21.53	21.55	15.29	15.25	15.27
	16QAM	RB1#0	21.90	21.62	21.42	15.62	15.34	15.14
		RB1#13	22.02	21.74	21.58	**15.74**	15.46	15.30
		RB1#24	21.91	21.66	21.46	15.63	15.38	15.18
		RB15#0	20.58	20.65	20.61	14.30	14.37	14.33
		RB15#10	20.64	20.65	20.61	14.36	14.37	14.33
		RB25#0	20.64	20.68	20.65	14.36	14.40	14.37
10	QPSK	RB1#0	22.50	22.49	22.45	16.22	16.21	16.17
		RB1#25	22.57	22.55	22.47	**16.29**	16.27	16.19
		RB1#49	22.52	22.46	22.52	16.24	16.18	16.24
		RB25#0	21.49	21.53	21.55	15.21	15.25	15.27
		RB25#25	21.48	21.56	21.55	15.20	15.28	15.27
		RB50#0	21.52	21.59	21.57	15.24	15.31	15.29
	16QAM	RB1#0	21.72	21.64	22.22	15.44	15.36	15.94
		RB1#25	21.77	21.67	22.29	15.49	15.39	**16.01**
		RB1#49	21.76	21.61	22.23	15.48	15.33	15.95
		RB25#0	20.58	20.69	20.65	14.30	14.41	14.37
		RB25#25	20.57	20.72	20.68	14.29	14.44	14.40
		RB50#0	20.56	20.61	20.63	14.28	14.33	14.35

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - L_C (dB)
For Band12: Antenna Gain = -3.55dBi =-5.70 dBd (0dBd=2.15dBi)
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.58dB
Limit: ERP≤34.77dBm

LTE Band 13

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	22.58	22.63	22.67	16.04	16.09	16.13
		RB1#13	22.79	22.82	22.86	16.25	16.28	**16.32**
		RB1#24	22.64	22.69	22.72	16.10	16.15	16.18
		RB15#0	21.65	21.72	21.73	15.11	15.18	15.19
		RB15#10	21.65	21.81	21.75	15.11	15.27	15.21
		RB25#0	21.67	21.73	21.71	15.13	15.19	15.17
	16QAM	RB1#0	21.89	21.70	21.58	15.35	15.16	15.04
		RB1#13	22.08	21.89	21.75	**15.54**	15.35	15.21
		RB1#24	21.96	21.79	21.66	15.42	15.25	15.12
		RB15#0	20.73	20.85	20.79	14.19	14.31	14.25
		RB15#10	20.73	20.90	20.75	14.19	14.36	14.21
		RB25#0	20.75	20.89	20.79	14.21	14.35	14.25
10.0	QPSK	RB1#0	/	22.66	/	/	16.12	/
		RB1#25	/	22.83	/	/	16.29	/
		RB1#49	/	22.84	/	/	**16.30**	/
		RB25#0	/	21.60	/	/	15.06	/
		RB25#25	/	21.79	/	/	15.25	/
		RB50#0	/	21.73	/	/	15.19	/
	16QAM	RB1#0	/	21.68	/	/	15.14	/
		RB1#25	/	21.86	/	/	**15.32**	/
		RB1#49	/	21.82	/	/	15.28	/
		RB25#0	/	20.82	/	/	14.28	/
		RB25#25	/	20.92	/	/	14.38	/
		RB50#0	/	20.87	/	/	14.33	/

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - L_C (dB)
For Band13: Antenna Gain = -3.81dBi = -5.96dBd (0dBd=2.15dBi)
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.58dB
Limit: ERP≤34.77dBm

LTE Band 17

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	22.53	22.51	22.48	16.25	16.23	16.20
		RB1#13	22.65	22.58	22.62	**16.37**	16.30	16.34
		RB1#24	22.54	22.48	22.48	16.26	16.20	16.20
		RB15#0	21.64	21.65	21.62	15.36	15.37	15.34
		RB15#10	21.61	21.69	21.62	15.33	15.41	15.34
		RB25#0	21.66	21.67	21.61	15.38	15.39	15.33
	16QAM	RB1#0	21.96	21.68	21.51	15.68	15.40	15.23
		RB1#13	22.11	21.77	21.62	**15.83**	15.49	15.34
		RB1#24	21.96	21.69	21.50	15.68	15.41	15.22
		RB15#0	20.66	20.71	20.68	14.38	14.43	14.40
		RB15#10	20.62	20.76	20.68	14.34	14.48	14.40
		RB25#0	20.72	20.74	20.71	14.44	14.46	14.43
10.0	QPSK	RB1#0	22.53	22.56	22.55	16.25	16.28	16.27
		RB1#25	22.56	22.59	22.59	16.28	**16.31**	16.31
		RB1#49	22.54	22.58	22.58	16.26	16.30	16.30
		RB25#0	21.66	21.65	21.65	15.38	15.37	15.37
		RB25#25	21.67	21.64	21.63	15.39	15.36	15.35
		RB50#0	21.69	21.66	21.65	15.41	15.38	15.37
	16QAM	RB1#0	22.30	21.81	21.73	16.02	15.53	15.45
		RB1#25	22.31	21.84	21.71	**16.03**	15.56	15.43
		RB1#49	22.28	21.80	21.71	16.00	15.52	15.43
		RB25#0	20.80	20.71	20.78	14.52	14.43	14.50
		RB25#25	20.80	20.75	20.82	14.52	14.47	14.54
		RB50#0	20.74	20.68	20.72	14.46	14.40	14.44

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - L_C (dB)
For Band17: Antenna Gain =-3.55 dBi = -5.70dBd (0dBd=2.15dBi)
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.58dB
Limit: ERP≤34.77dBm

LTE Band 25

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	19.89	19.58	19.28	18.06	17.75	17.45
		RB1#3	19.91	19.64	19.31	18.08	17.81	17.48
		RB1#5	19.88	19.54	19.30	18.05	17.71	17.47
		RB3#0	19.98	19.66	19.36	18.15	17.83	17.53
		RB3#3	19.95	19.69	19.37	18.12	17.86	17.54
		RB6#0	18.98	18.67	18.39	17.15	16.84	16.56
	16QAM	RB1#0	18.98	18.54	18.25	17.15	16.71	16.42
		RB1#3	19.04	18.67	18.31	17.21	16.84	16.48
		RB1#5	18.93	18.61	18.25	17.10	16.78	16.42
		RB3#0	18.96	18.77	18.52	17.13	16.94	16.69
		RB3#3	18.95	18.77	18.52	17.12	16.94	16.69
		RB6#0	18.04	17.69	17.45	16.21	15.86	15.62
3.0	QPSK	RB1#0	20.10	19.74	19.49	18.27	17.91	17.66
		RB1#8	20.17	19.79	19.58	18.34	17.96	17.75
		RB1#14	20.06	19.67	19.50	18.23	17.84	17.67
		RB6#0	19.21	18.87	18.66	17.38	17.04	16.83
		RB6#9	19.22	18.88	18.65	17.39	17.05	16.82
		RB15#0	19.25	18.90	18.67	17.42	17.07	16.84
	16QAM	RB1#0	19.18	18.73	19.06	17.35	16.90	17.23
		RB1#8	19.27	18.80	19.06	17.44	16.97	17.23
		RB1#14	19.17	18.71	18.94	17.34	16.88	17.11
		RB6#0	18.28	17.86	17.74	16.45	16.03	15.91
		RB6#9	18.28	17.86	17.72	16.45	16.03	15.89
		RB15#0	18.22	17.96	17.70	16.39	16.13	15.87

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	20.35	20.19	19.38	18.52	18.36	17.55
		RB1#13	20.44	20.29	19.49	**18.61**	18.46	17.66
		RB1#24	20.28	20.11	19.34	18.45	18.28	17.51
		RB15#0	19.27	19.22	18.26	17.44	17.39	16.43
		RB15#10	19.36	19.14	18.40	17.53	17.31	16.57
		RB25#0	19.31	19.19	18.32	17.48	17.36	16.49
	16QAM	RB1#0	19.35	19.06	18.64	17.52	17.23	16.81
		RB1#13	19.47	19.15	18.73	**17.64**	17.32	16.90
		RB1#24	19.29	19.04	18.56	17.46	17.21	16.73
		RB15#0	18.31	18.28	17.22	16.48	16.45	15.39
		RB15#10	18.41	18.19	17.38	16.58	16.36	15.55
		RB25#0	18.37	18.26	17.37	16.54	16.43	15.54
10.0	QPSK	RB1#0	20.33	19.46	19.90	18.50	17.63	18.07
		RB1#25	20.36	19.47	19.90	18.53	17.64	18.07
		RB1#49	20.24	19.40	19.80	18.41	17.57	17.97
		RB25#0	19.17	18.45	18.87	17.34	16.62	17.04
		RB25#25	19.37	18.35	18.94	17.54	16.52	17.11
		RB50#0	19.27	18.42	18.92	17.44	16.59	17.09
	16QAM	RB1#0	19.93	18.60	18.92	18.10	16.77	17.09
		RB1#25	19.92	18.60	18.91	18.09	16.77	17.08
		RB1#49	19.85	18.50	18.75	18.02	16.67	16.92
		RB25#0	18.26	17.51	17.97	16.43	15.68	16.14
		RB25#25	18.45	17.41	18.05	16.62	15.58	16.22
		RB50#0	18.35	17.45	17.95	16.52	15.62	16.12

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	20.34	20.12	19.39	18.51	18.29	17.56
		RB1#38	20.36	20.18	19.40	**18.53**	18.35	17.57
		RB1#74	20.19	20.02	19.20	18.36	18.19	17.37
		RB36#0	19.24	19.09	18.48	17.41	17.26	16.65
		RB36#39	19.30	19.03	18.44	17.47	17.20	16.61
		RB75#0	19.32	19.09	18.51	17.49	17.26	16.68
	16QAM	RB1#0	19.89	19.27	18.80	18.06	17.44	16.97
		RB1#38	19.94	19.30	18.77	**18.11**	17.47	16.94
		RB1#74	19.76	19.14	18.51	17.93	17.31	16.68
		RB36#0	18.23	18.18	17.47	16.40	16.35	15.64
		RB36#39	18.35	18.10	17.44	16.52	16.27	15.61
		RB75#0	18.32	18.11	17.48	16.49	16.28	15.65
20.0	QPSK	RB1#0	20.24	20.23	19.30	18.41	18.40	17.47
		RB1#50	20.32	20.30	19.37	**18.49**	18.47	17.54
		RB1#99	20.09	20.04	19.12	18.26	18.21	17.29
		RB50#0	19.14	19.30	18.51	17.31	17.47	16.68
		RB50#50	19.34	19.21	18.40	17.51	17.38	16.57
		RB100#0	19.24	19.25	18.47	17.41	17.42	16.64
	16QAM	RB1#0	19.76	19.48	18.47	17.93	17.65	16.64
		RB1#50	19.91	19.57	18.59	**18.08**	17.74	16.76
		RB1#99	19.64	19.32	18.24	17.81	17.49	16.41
		RB50#0	18.11	18.28	17.51	16.28	16.45	15.68
		RB50#50	18.30	18.20	17.41	16.47	16.37	15.58
		RB100#0	18.22	18.27	17.46	16.39	16.44	15.63

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - L_C (dB)
For Band25: Antenna Gain = -0.99dBi
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.84dB
Limit: EIRP≤33dBm

LTE Band 66

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
1.4	QPSK	RB1#0	20.39	20.34	20.35	19.82	19.77	19.78
		RB1#3	20.42	20.42	20.41	19.85	19.85	19.84
		RB1#5	20.39	20.35	20.42	19.82	19.78	19.85
		RB3#0	20.48	20.44	20.49	19.91	19.87	19.92
		RB3#3	20.49	20.49	20.51	19.92	19.92	19.94
		RB6#0	19.53	19.53	19.55	18.96	18.96	18.98
	16QAM	RB1#0	19.50	19.34	19.40	18.93	18.77	18.83
		RB1#3	19.56	19.41	19.41	18.99	18.84	18.84
		RB1#5	19.47	19.33	19.35	18.90	18.76	18.78
		RB3#0	19.49	19.52	19.69	18.92	18.95	19.12
		RB3#3	19.52	19.52	19.70	18.95	18.95	19.13
		RB6#0	18.66	18.43	18.61	18.09	17.86	18.04
3	QPSK	RB1#0	20.16	20.36	19.52	19.59	19.79	18.95
		RB1#8	20.28	20.49	19.66	19.71	19.92	19.09
		RB1#14	20.21	20.33	19.59	19.64	19.76	19.02
		RB6#0	19.36	19.59	18.73	18.79	19.02	18.16
		RB6#9	19.44	19.59	18.73	18.87	19.02	18.16
		RB15#0	19.37	19.61	18.76	18.80	19.04	18.19
	16QAM	RB1#0	19.23	20.01	18.67	18.66	19.44	18.10
		RB1#8	19.30	20.09	18.78	18.73	19.52	18.21
		RB1#14	19.22	19.92	18.69	18.65	19.35	18.12
		RB6#0	18.41	18.73	17.77	17.84	18.16	17.20
		RB6#9	18.39	18.68	17.81	17.82	18.11	17.24
		RB15#0	18.52	18.70	17.69	17.95	18.13	17.12

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
5	QPSK	RB1#0	20.47	20.66	20.29	19.90	20.09	19.72
		RB1#13	20.66	20.82	20.41	20.09	**20.25**	19.84
		RB1#24	20.47	20.65	20.33	19.90	20.08	19.76
		RB15#0	19.47	19.72	19.38	18.90	19.15	18.81
		RB15#10	19.52	19.69	19.29	18.95	19.12	18.72
		RB25#0	19.50	19.68	19.35	18.93	19.11	18.78
	16QAM	RB1#0	19.54	19.52	19.61	18.97	18.95	19.04
		RB1#13	19.70	19.68	19.74	19.13	19.11	**19.17**
		RB1#24	19.56	19.56	19.58	18.99	18.99	19.01
		RB15#0	18.54	18.81	18.39	17.97	18.24	17.82
		RB15#10	18.67	18.76	18.32	18.10	18.19	17.75
		RB25#0	18.61	18.80	18.43	18.04	18.23	17.86
10	QPSK	RB1#0	20.51	20.31	20.56	19.94	19.74	19.99
		RB1#25	20.60	20.35	20.55	20.03	19.78	19.98
		RB1#49	20.57	20.27	20.55	20.00	19.70	19.98
		RB25#0	19.44	19.26	19.55	18.87	18.69	18.98
		RB25#25	19.53	19.29	19.48	18.96	18.72	18.91
		RB50#0	19.52	19.27	19.50	18.95	18.70	18.93
	16QAM	RB1#0	19.56	19.91	19.71	18.99	19.34	19.14
		RB1#25	19.63	19.95	19.74	19.06	19.38	19.17
		RB1#49	19.55	19.89	19.68	18.98	19.32	19.11
		RB25#0	18.63	18.42	18.60	18.06	17.85	18.03
		RB25#25	18.71	18.37	18.51	18.14	17.80	17.94
		RB50#0	18.64	18.33	18.54	18.07	17.76	17.97

Bandwidth (MHz)	Modulation	RB size/ RB Offset	Conducted Average Output Power (dBm)			EIRP(dBm)		
			Low	Mid	High	Low	Mid	High
15	QPSK	RB1#0	20.46	20.54	20.02	19.89	19.97	19.45
		RB1#13	20.65	20.69	20.16	20.08	**20.12**	19.59
		RB1#24	20.50	20.51	20.03	19.93	19.94	19.46
		RB15#0	19.43	19.60	19.14	18.86	19.03	18.57
		RB15#10	19.52	19.59	19.03	18.95	19.02	18.46
		RB25#0	19.53	19.59	19.08	18.96	19.02	18.51
	16QAM	RB1#0	19.90	20.13	19.20	19.33	19.56	18.63
		RB1#13	20.04	20.29	19.29	19.47	**19.72**	18.72
		RB1#24	19.93	20.13	19.15	19.36	19.56	18.58
		RB15#0	18.50	18.67	18.14	17.93	18.10	17.57
		RB15#10	18.61	18.56	18.04	18.04	17.99	17.47
		RB25#0	18.57	18.67	18.10	18.00	18.10	17.53
20	QPSK	RB1#0	20.39	20.53	20.14	19.82	19.96	19.57
		RB1#25	20.63	20.75	20.33	20.06	**20.18**	19.76
		RB1#49	20.48	20.57	20.12	19.91	20.00	19.55
		RB25#0	19.45	19.61	19.34	18.88	19.04	18.77
		RB25#25	19.61	19.56	19.17	19.04	18.99	18.60
		RB50#0	19.50	19.54	19.26	18.93	18.97	18.69
	16QAM	RB1#0	19.73	19.72	19.75	19.16	19.15	19.18
		RB1#25	19.94	19.97	19.92	19.37	**19.40**	19.35
		RB1#49	19.77	19.75	19.75	19.20	19.18	19.18
		RB25#0	18.50	18.63	18.34	17.93	18.06	17.77
		RB25#25	18.65	18.54	18.13	18.08	17.97	17.56
		RB50#0	18.59	18.63	18.25	18.02	18.06	17.68

Note: EIRP(dBm) = Conducted Power(dBm) + Antenna Gain(dBi) - L_C (dB)
For Band66: Antenna Gain = 0.27dBi
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.84dB
Limit: ERP≤30dBm

LTE Band 26 (Part 90S)

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	22.72	22.68	22.74	16.52	16.48	16.54
		RB1#3	22.79	22.79	22.75	16.59	16.59	16.55
		RB1#5	22.72	22.70	22.70	16.52	16.50	16.50
		RB3#0	22.83	22.83	22.90	16.63	16.63	16.70
		RB3#3	22.84	22.88	22.86	16.64	16.68	16.66
		RB6#0	21.91	21.90	21.94	15.71	15.70	15.74
	16QAM	RB1#0	21.81	21.71	21.75	15.61	15.51	15.55
		RB1#3	21.92	21.79	21.79	15.72	15.59	15.59
		RB1#5	21.82	21.75	21.72	15.62	15.55	15.52
		RB3#0	21.79	21.93	22.06	15.59	15.73	15.86
		RB3#3	21.82	21.93	22.09	15.62	15.73	15.89
		RB6#0	20.97	20.87	21.00	14.77	14.67	14.80
3.0	QPSK	RB1#0	22.61	22.55	22.64	16.41	16.35	16.44
		RB1#8	22.65	22.67	22.69	16.45	16.47	16.49
		RB1#14	22.58	22.57	22.63	16.38	16.37	16.43
		RB6#0	21.77	21.79	21.77	15.57	15.59	15.57
		RB6#9	21.77	21.79	21.81	15.57	15.59	15.61
		RB15#0	21.82	21.79	21.84	15.62	15.59	15.64
	16QAM	RB1#0	21.58	22.12	21.74	15.38	15.92	15.54
		RB1#8	21.70	22.22	21.89	15.50	16.02	15.69
		RB1#14	21.61	22.08	21.73	15.41	15.88	15.53
		RB6#0	20.75	20.91	20.86	14.55	14.71	14.66
		RB6#9	20.74	20.85	20.92	14.54	14.65	14.72
		RB15#0	20.82	20.86	20.78	14.62	14.66	14.58

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	22.85	22.85	22.84	16.65	16.65	16.64
		RB1#13	23.00	22.99	23.00	**16.80**	16.79	16.80
		RB1#24	22.87	22.86	22.88	16.67	16.66	16.68
		RB15#0	21.85	21.91	22.01	15.65	15.71	15.81
		RB15#10	21.88	21.88	21.90	15.68	15.68	15.70
		RB25#0	21.89	21.86	21.94	15.69	15.66	15.74
	16QAM	RB1#0	22.12	21.94	21.77	15.92	15.74	15.57
		RB1#13	22.25	22.05	21.92	**16.05**	15.85	15.72
		RB1#24	22.18	21.92	21.77	15.98	15.72	15.57
		RB15#0	20.85	20.95	21.07	14.65	14.75	14.87
		RB15#10	20.85	20.91	20.92	14.65	14.71	14.72
		RB25#0	20.89	20.92	21.09	14.69	14.72	14.89
10.0	QPSK	RB1#0	22.90	22.90	22.91	16.70	16.70	16.71
		RB1#25	22.93	22.94	22.90	16.73	**16.74**	16.70
		RB1#49	22.89	22.91	22.93	16.69	16.71	16.73
		RB25#0	21.83	21.81	21.94	15.63	15.61	15.74
		RB25#25	21.88	21.87	21.79	15.68	15.67	15.59
		RB50#0	21.86	21.9	21.89	15.66	15.70	15.69
	16QAM	RB1#0	22.46	22.02	21.94	16.26	15.82	15.74
		RB1#25	22.52	22.07	21.94	**16.32**	15.87	15.74
		RB1#49	22.49	22.05	21.96	16.29	15.85	15.76
		RB25#0	20.89	20.86	21.04	14.69	14.66	14.84
		RB25#25	20.94	20.89	20.93	14.74	14.69	14.73
		RB50#0	20.87	20.86	20.92	14.67	14.66	14.72

Note: ERP(dBm) = Conducted Power(dBm) + Antenna Gain(dBd) - L_C(dB)
For Band26: Antenna Gain = -3.47dBi =-5.62dBd (0dBd=2.15dBi)
L_C = signal attenuation in the connecting cable between the transmitter and antenna in 0.58dB
Limit: EIRP≤50dBm

Peak-to-average ratio (PAR)

Cellular Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.66	13
	Middle	3.87	13
	High	3.74	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	3.12	13
	Middle	3.27	13
	High	3.31	13

Mode	Channel	PAR (dB)	Limit (dB)
CDMA 1*RTT (BC0)	Low	1.48	13
	Middle	1.66	13
	High	1.57	13

Mode	Channel	PAR (dB)	Limit (dB)
CDMA EV-DO (BC0)	Low	1.62	13
	Middle	1.53	13
	High	1.38	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	4.55	13
	Middle	4.83	13
	High	4.72	13
HSDPA (16QAM)	Low	4.84	13
	Middle	4.43	13
	High	4.28	13
HSUPA (BPSK)	Low	4.63	13
	Middle	4.15	13
	High	4.14	13
HSPA+	Low	4.87	13
	Middle	4.62	13
	High	4.26	13

PCS Band

Mode	Channel	PAR (dB)	Limit (dB)
GSM	Low	3.85	13
	Middle	3.74	13
	High	4.23	13

Mode	Channel	PAR (dB)	Limit (dB)
EGPRS	Low	3.27	13
	Middle	3.24	13
	High	3.45	13

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	4.43	13
	Middle	4.87	13
	High	4.54	13
HSDPA (16QAM)	Low	4.34	13
	Middle	4.45	13
	High	4.56	13
HSUPA (BPSK)	Low	4.32	13
	Middle	4.27	13
	High	4.27	13
HSPA+	Low	4.42	13
	Middle	4.32	13
	High	4.57	13

AWS Band

Mode	Channel	PAR (dB)	Limit (dB)
RMC (BPSK)	Low	3.18	13
	Middle	3.27	13
	High	3.33	13
HSDPA (16QAM)	Low	3.39	13
	Middle	3.29	13
	High	3.36	13
HSUPA (BPSK)	Low	3.44	13
	Middle	3.46	13
	High	3.71	13
HSPA+	Low	3.46	13
	Middle	3.42	13

LTE Band 2 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.72	5.75	7.24	13	Pass
QPSK (100RB Size)	5.57	5.25	6.32	13	Pass
16QAM (1RB Size)	6.75	7.34	7.14	13	Pass
16QAM (100RB Size)	6.57	6.88	6.45	13	Pass

LTE Band 4 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.52	6.24	6.24	13	Pass
QPSK (100RB Size)	5.25	5.65	5.63	13	Pass
16QAM (1RB Size)	6.47	6.52	7.27	13	Pass
16QAM (100RB Size)	6.52	6.27	6.52	13	Pass

LTE Band 5 10MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	4.21	3.32	3.72	13	Pass
QPSK (50RB Size)	4.37	4.72	4.54	13	Pass
16QAM (1RB Size)	4.25	4.25	4.72	13	Pass
16QAM (50RB Size)	4.74	6.13	5.64	13	Pass

LTE Band 7 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.84	5.71	6.24	13	Pass
QPSK (100RB Size)	5.45	5.53	5.62	13	Pass
16QAM (1RB Size)	6.36	7.52	7.65	13	Pass
16QAM (100RB Size)	6.43	7.17	7.34	13	Pass

LTE Band 12 10MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	3.83	3.54	3.65	13	Pass
QPSK (50RB Size)	3.82	3.92	3.87	13	Pass
16QAM (1RB Size)	3.53	3.67	3.62	13	Pass
16QAM (50RB Size)	4.57	4.97	4.84	13	Pass

LTE Band 13 10MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	/	5.42	/	13	Pass
QPSK (50RB Size)	/	5.52	/	13	Pass
16QAM (1RB Size)	/	5.17	/	13	Pass
16QAM (50RB Size)	/	6.33	/	13	Pass

LTE Band 17 10MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.71	5.74	5.77	13	Pass
QPSK (50RB Size)	5.52	5.73	5.32	13	Pass
16QAM (1RB Size)	6.77	7.53	7.52	13	Pass
16QAM (50RB Size)	6.45	6.14	6.52	13	Pass

LTE Band 25 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.74	5.72	5.87	13	Pass
QPSK (100RB Size)	5.52	5.72	5.74	13	Pass
16QAM (1RB Size)	6.91	7.54	7.53	13	Pass
16QAM (100RB Size)	6.42	6.51	6.86	13	Pass

LTE Band 26 15MHz Bandwidth (Part 22H)

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.73	5.66	5.85	13	Pass
QPSK (75RB Size)	5.56	5.73	5.42	13	Pass
16QAM (1RB Size)	6.22	5.14	4.15	13	Pass
16QAM (75RB Size)	5.98	6.55	6.33	13	Pass

LTE Band 26 10MHz Bandwidth (Part 90S)

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	/	4.22	/	13	Pass
QPSK (50RB Size)	/	4.18	/	13	Pass
16QAM (1RB Size)	/	4.56	/	13	Pass
16QAM (50RB Size)	/	4.72	/	13	Pass

LTE Band 66 20MHz Bandwidth

Modulation	Low channel (dB)	Middle channel (dB)	High channel (dB)	PAR Limit (dB)	Result
QPSK (1RB Size)	5.33	5.75	5.45	13	Pass
QPSK (100RB Size)	5.17	5.66	5.36	13	Pass
16QAM (1RB Size)	6.26	7.42	7.27	13	Pass
16QAM (100RB Size)	6.47	6.38	6.52	13	Pass

FCC §2.1049, §22.917, §22.905 & §24.238&§27.53 &§90.209 - OCCUPIED BANDWIDTH

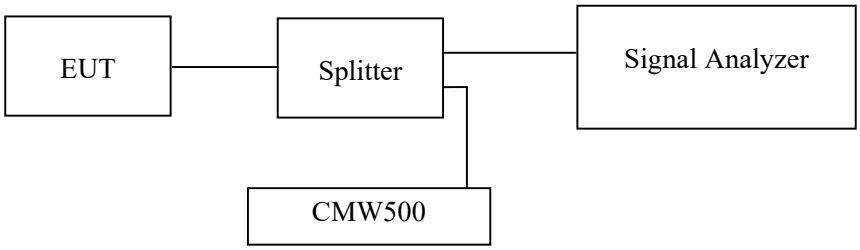
Applicable Standard

FCC 47 §2.1049, §22.917, §22.905, §24.238,§27.53 and §90.209.

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.



Note: the worst path loss (cable loss and splitter inset loss) among the test frequency range has included in plot.

Test Data

Environmental Conditions

Temperature:	17.5~25.7 ℃
Relative Humidity:	51~59 %
ATM Pressure:	101.0 kPa

The testing was performed by Cat Kang from 2022-10-21 to 2022-11-07.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables and plots.

Cellular Band (Part 22H)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	128	824.2	243.00	324.00
	190	836.6	244.00	318.00
	251	848.8	243.00	319.00
EGPRS(8PSK)	128	824.2	247.00	318.00
	190	836.6	248.00	319.00
	251	848.8	249.00	320.00

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	826.4	4.16	4.73
	836.4	4.17	4.73
	846.6	4.16	4.71
HSDPA	826.4	4.20	4.71
	836.4	4.19	4.73
	846.6	4.19	4.71
HSUPA	826.4	4.22	4.71
	836.4	4.20	4.73
	846.6	4.19	4.71

Mode	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26 dB Emission Bandwidth (MHz)
CDMA (1*RTT) BC0	824.70	1.278	1.458
CDMA (1*RTT) BC0	836.52	1.278	1.436
CDMA (1*RTT) BC0	848.31	1.272	1.450
CDMA (EV-DO) BC0	824.70	1.284	1.452
CDMA (EV-DO) BC0	836.52	1.284	1.462
CDMA (EV-DO) BC0	848.31	1.290	1.459

PCS Band (Part 24E)

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM(GMSK)	512	1850.2	244.00	316.00
	661	1880.0	245.00	312.00
	810	1909.8	246.00	319.00
EGPRS(8PSK)	512	1850.2	249.00	323.00
	661	1880.0	248.00	318.00
	810	1909.8	247.00	317.00

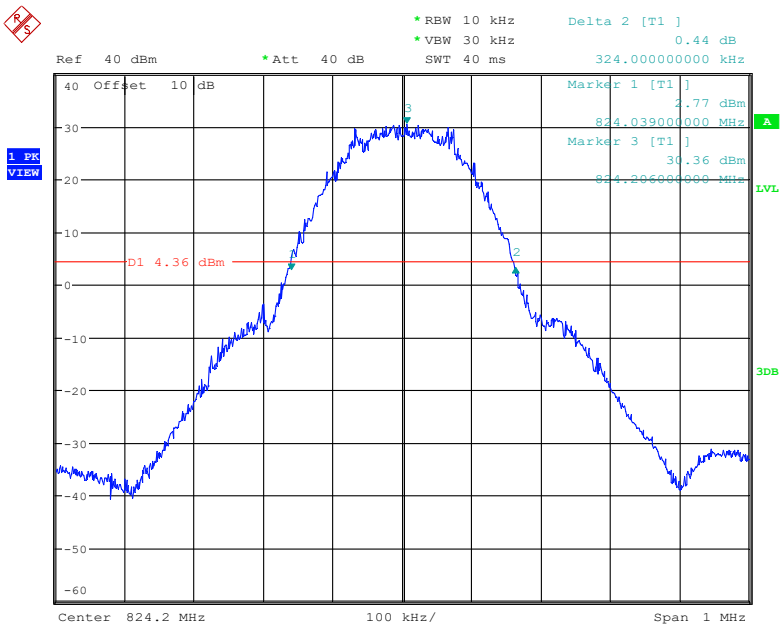
Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1852.4	4.16	4.73
	1880.0	4.17	4.71
	1907.6	4.16	4.71
HSDPA	1852.4	4.19	4.71
	1880.0	4.22	4.73
	1907.6	4.19	4.71
HSUPA	1852.4	4.20	4.70
	1880.0	4.20	4.71
	1907.6	4.20	4.71

AWS Band (Part 27)

Frequency (MHz)		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)
RMC	1712.4	4.16	4.71
	1732.6	4.16	4.71
	1752.6	4.14	4.73
HSDPA	1712.4	4.20	4.73
	1732.6	4.19	4.71
	1752.6	4.19	4.73
HSUPA	1712.4	4.20	4.73
	1732.6	4.17	4.73
	1752.6	4.20	4.71

Cellular Band (Part 22H)

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



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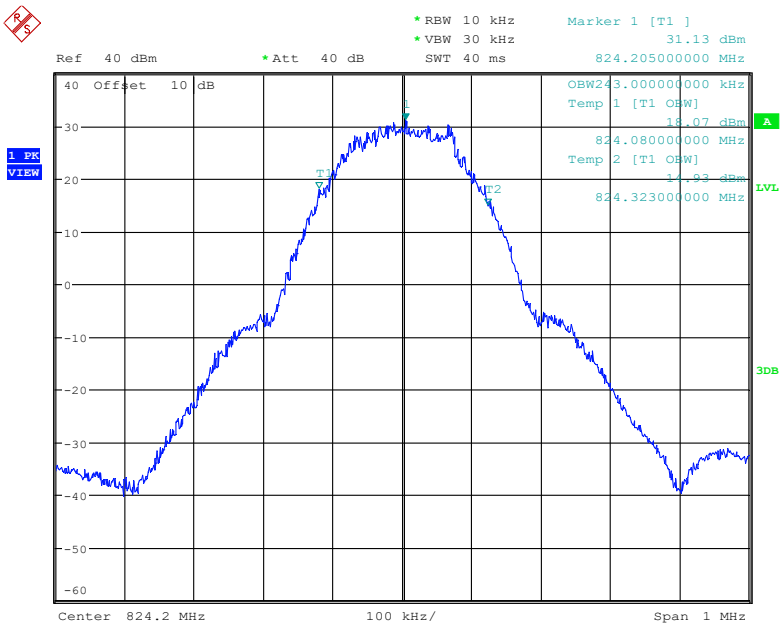

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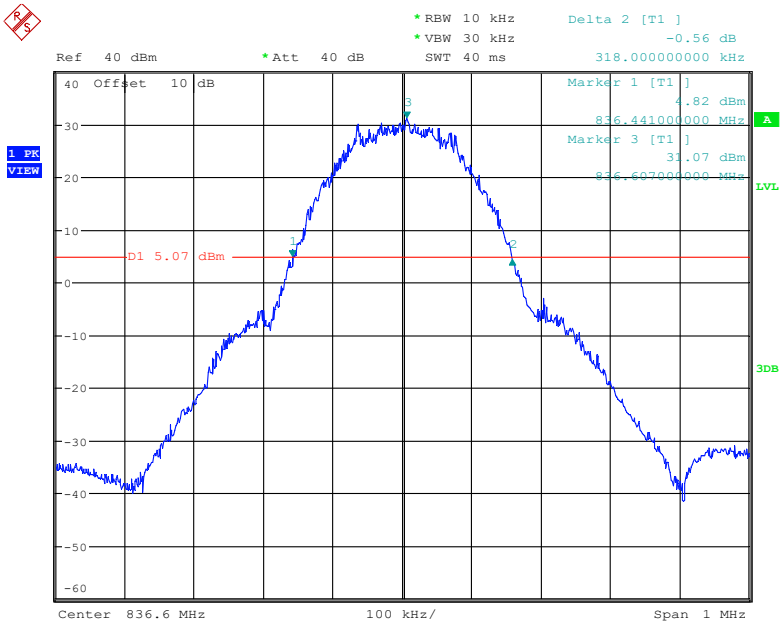
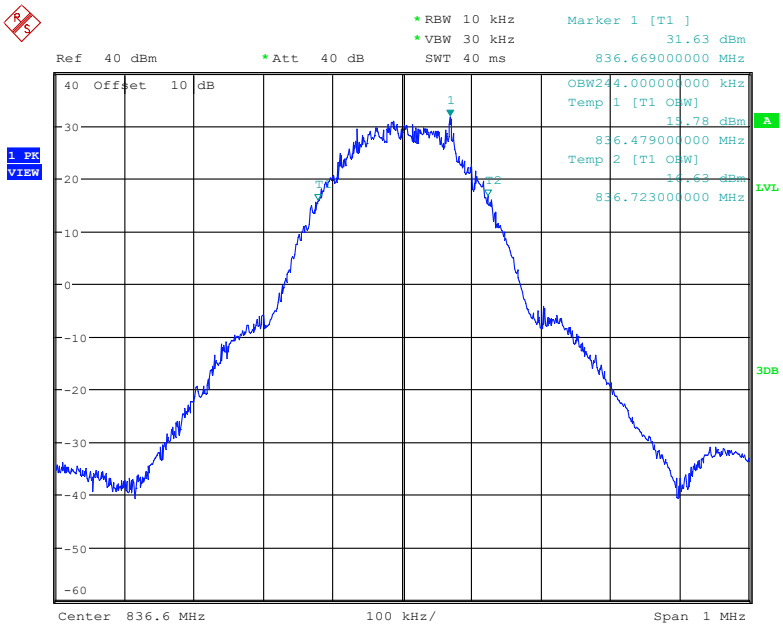
26 dB Emissions &99% Occupied Bandwidth for GSM (GMSK) Mode, Middle channel

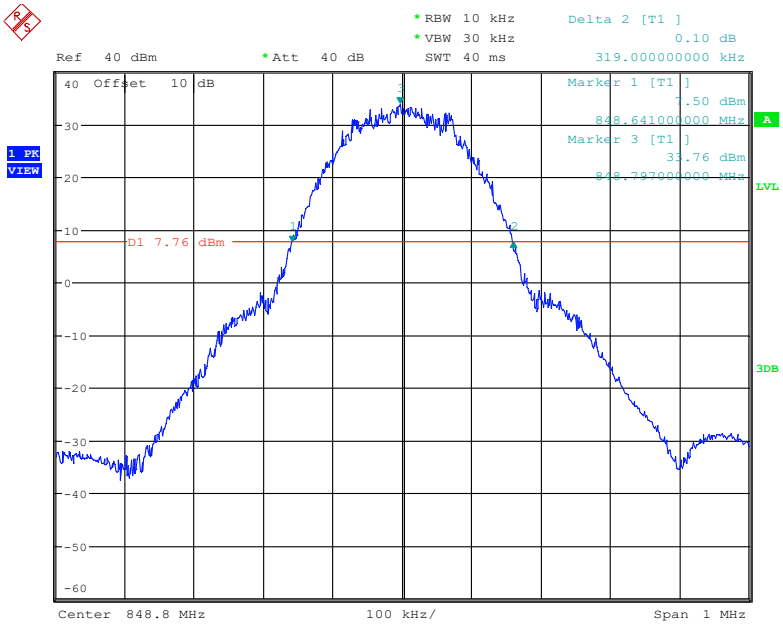


Date: 22.OCT.2022 16:09:36

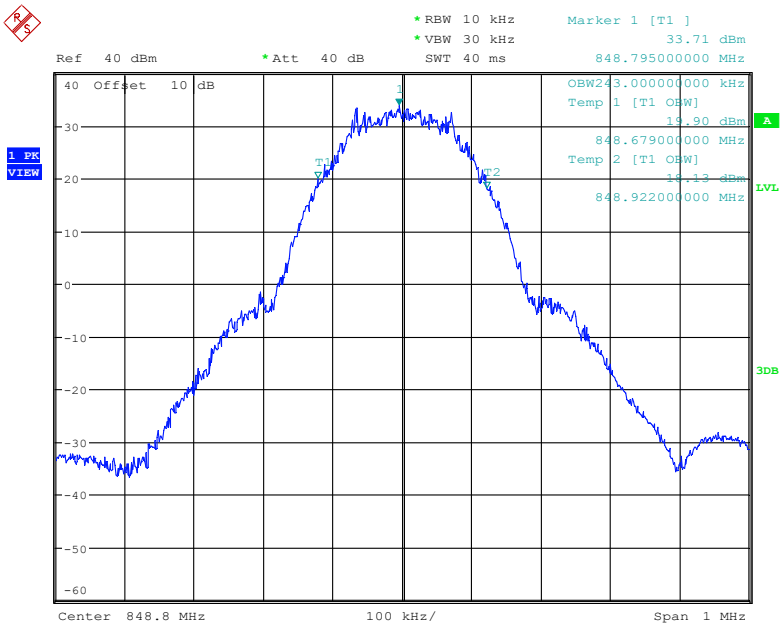


Date: 22.OCT.2022 16:08:56

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

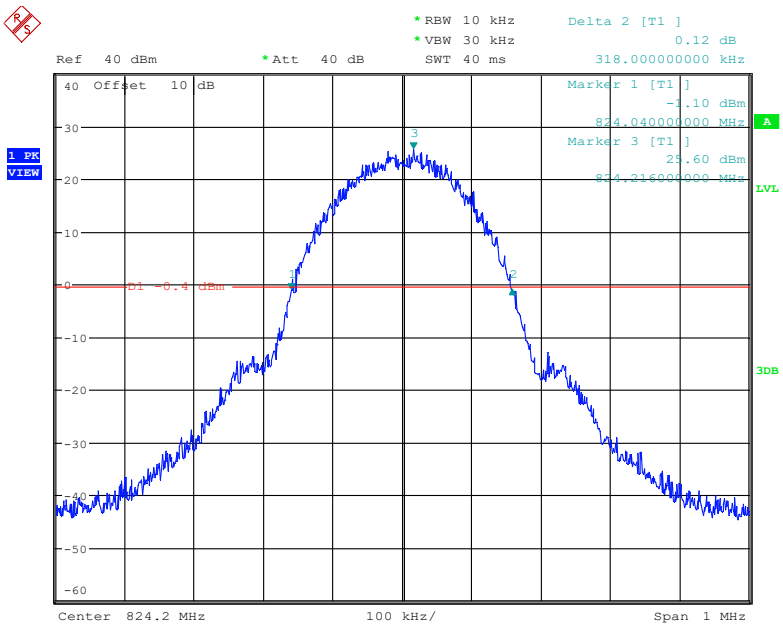


Date: 22.OCT.2022 16:13:11

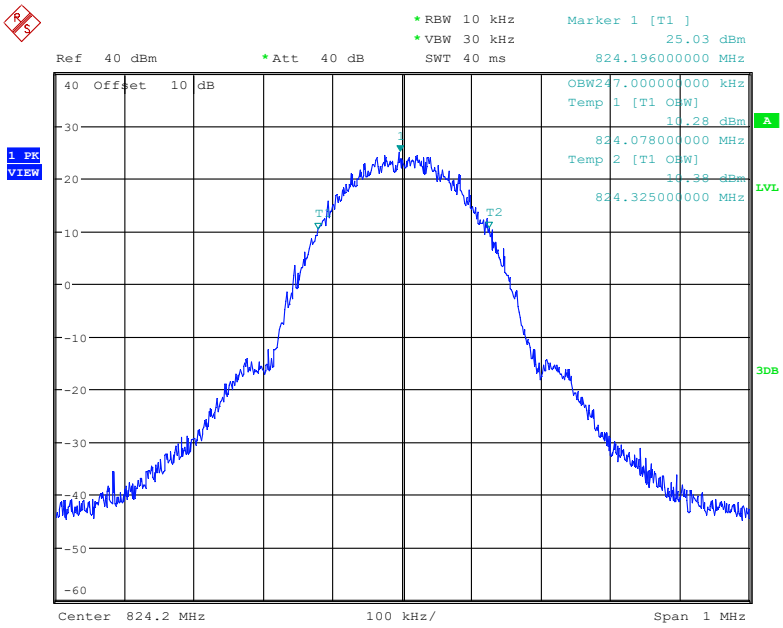


Date: 22.OCT.2022 16:12:31

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

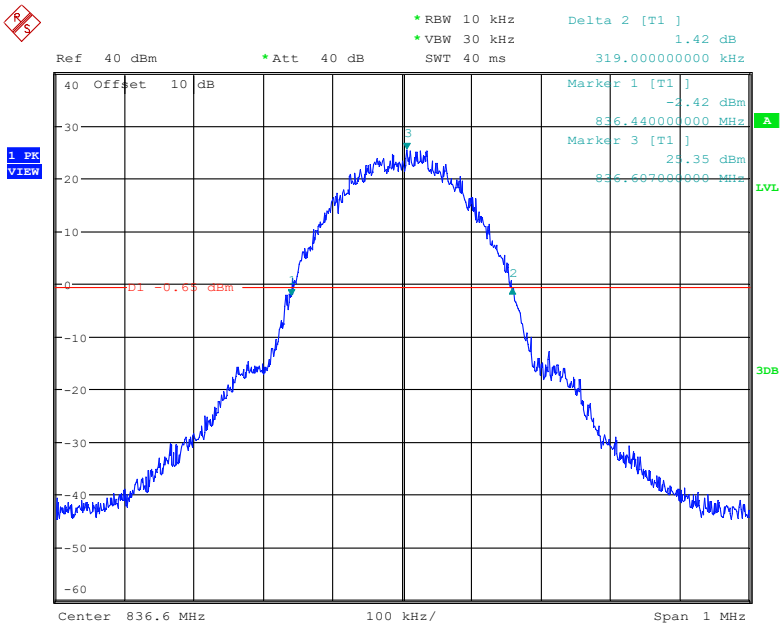


Date: 22.OCT.2022 16:21:08

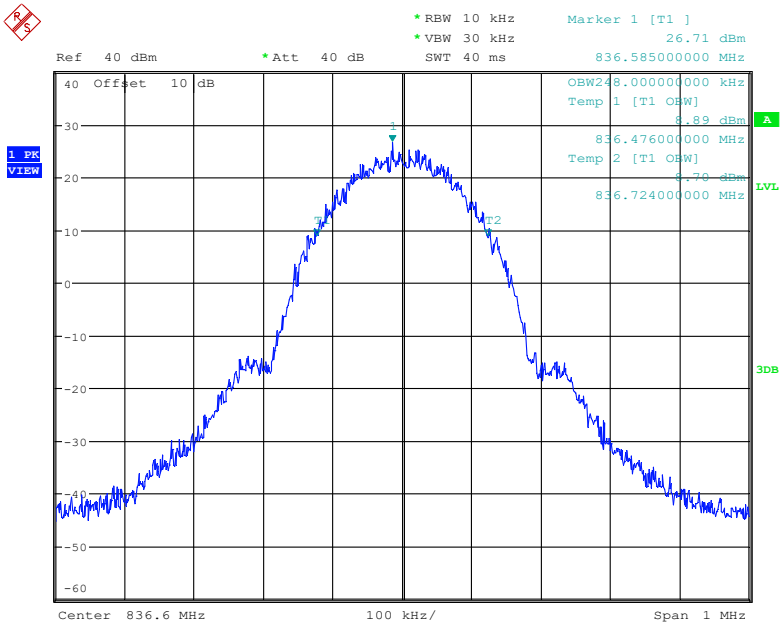


Date: 22.OCT.2022 16:20:28

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

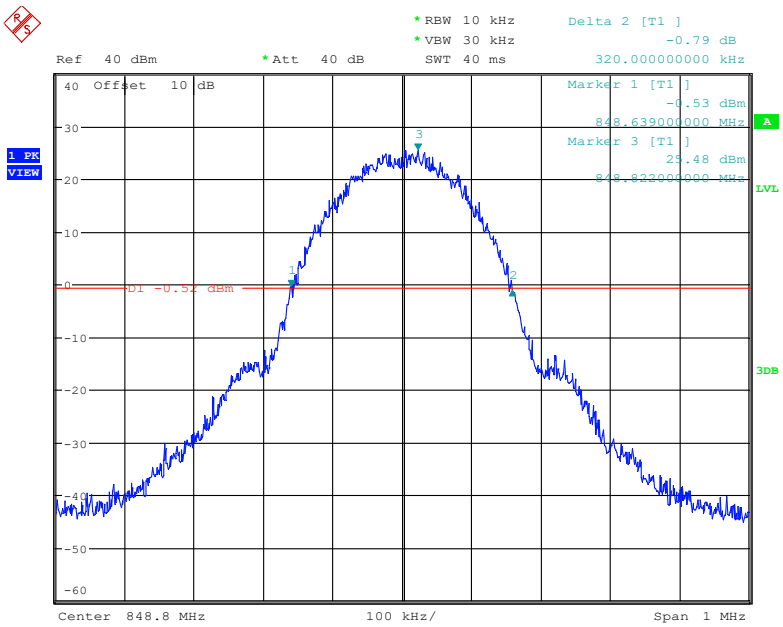


Date: 22.OCT.2022 16:26:07

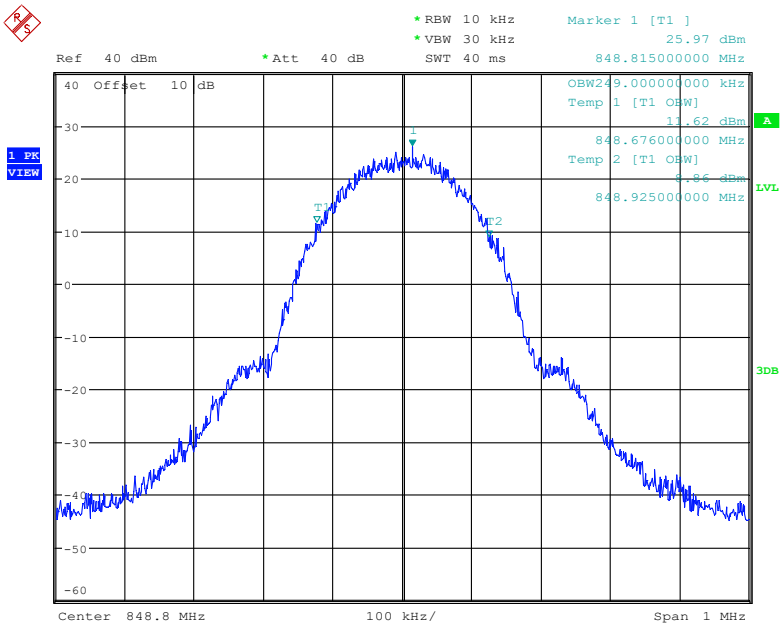


Date: 22.OCT.2022 16:25:27

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

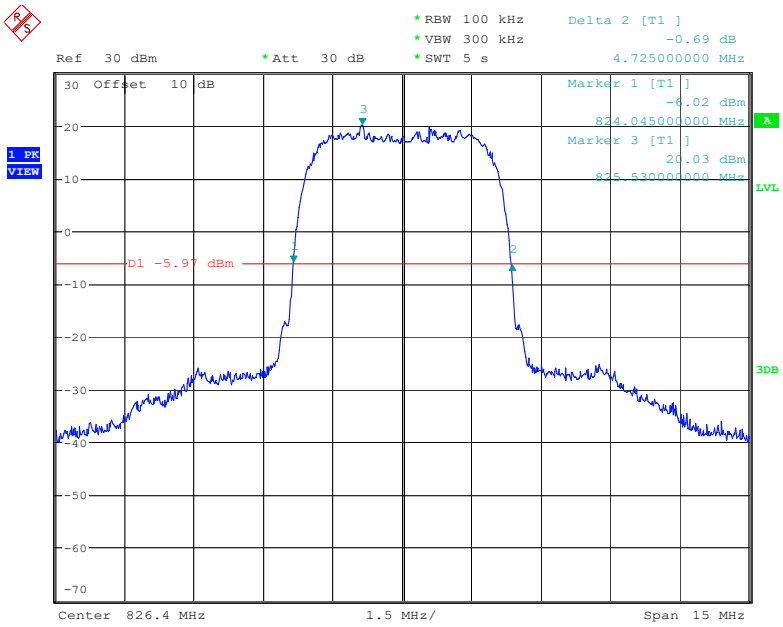


Date: 22.OCT.2022 16:30:53

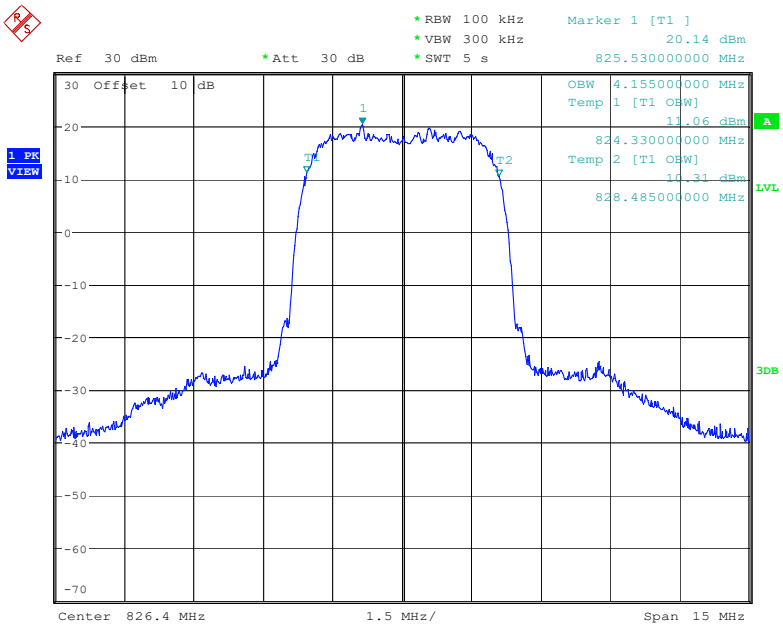


Date: 22.OCT.2022 16:30:13

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

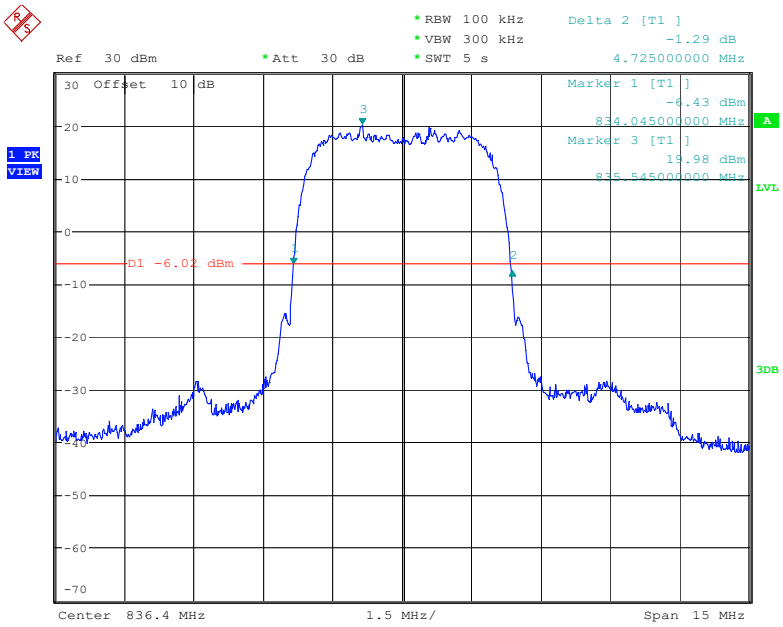


Date: 22.OCT.2022 17:45:53

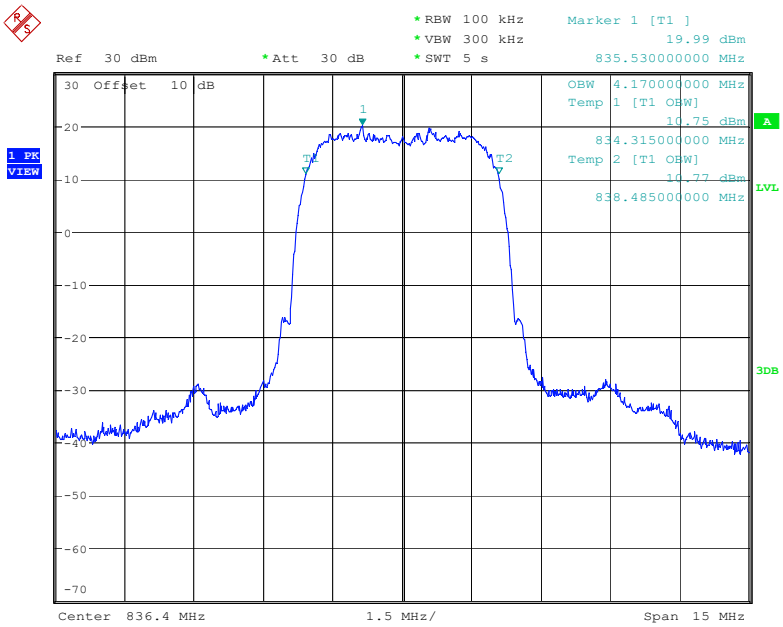


Date: 22.OCT.2022 17:45:13

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

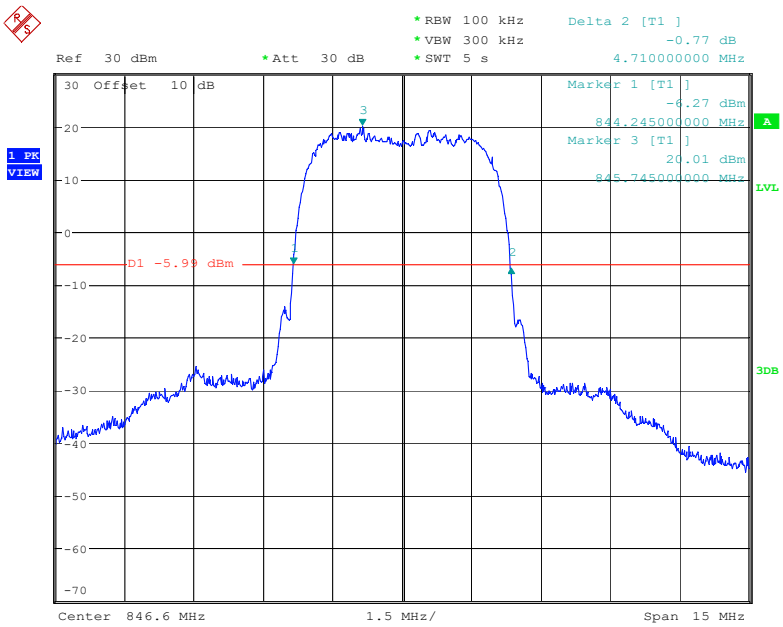


Date: 22.OCT.2022 17:51:07

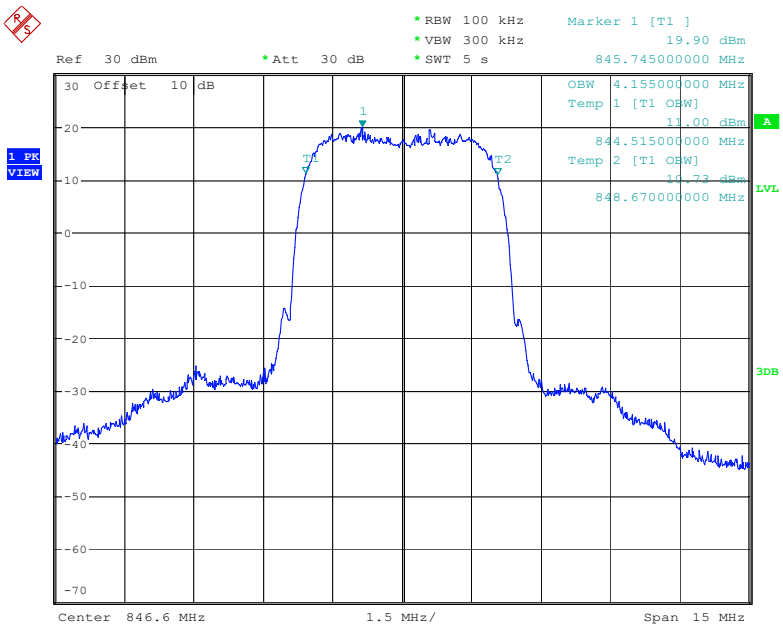


Date: 22.OCT.2022 17:50:28

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

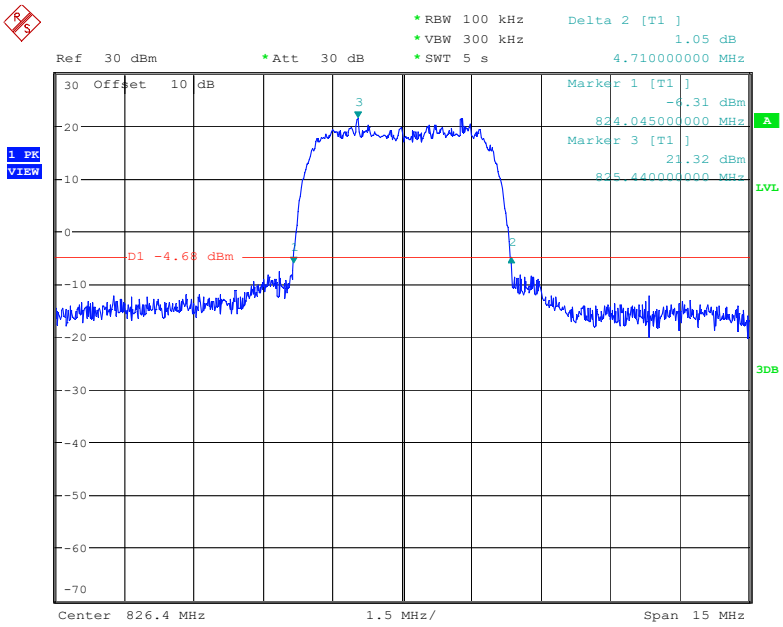


Date: 22.OCT.2022 17:56:33

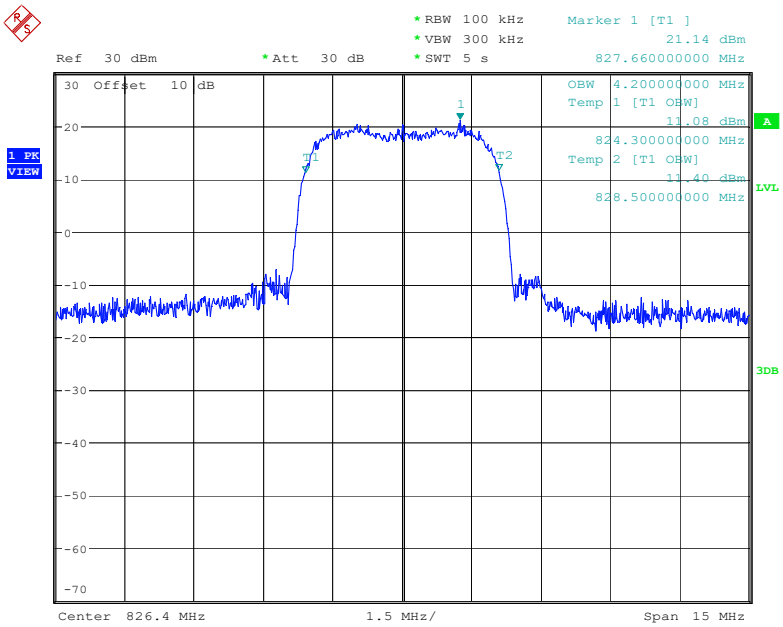


Date: 22.OCT.2022 17:55:53

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

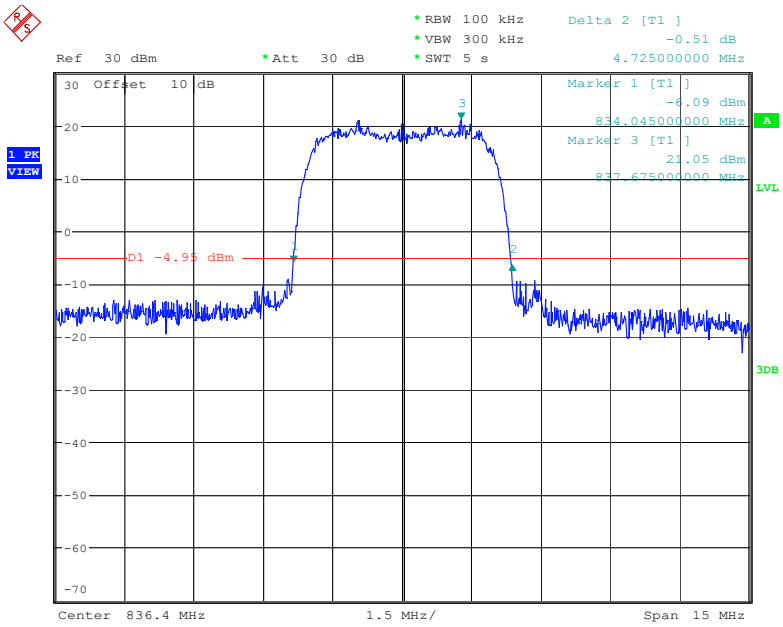


Date: 22.OCT.2022 18:12:37

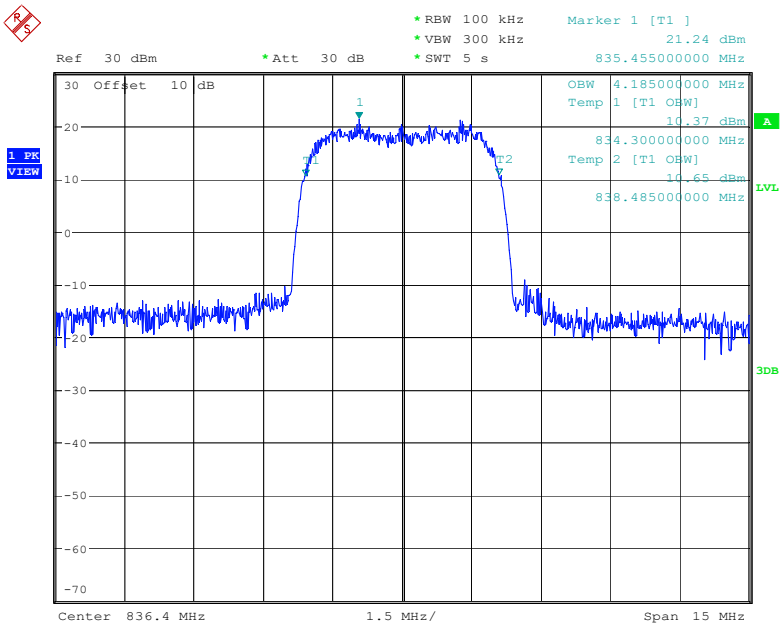


Date: 22.OCT.2022 18:11:58

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

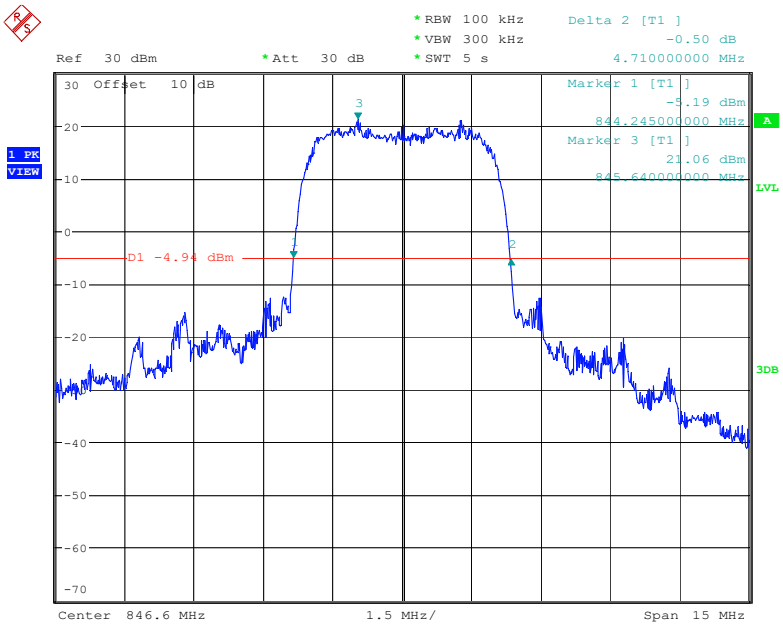


Date: 22.OCT.2022 18:09:45

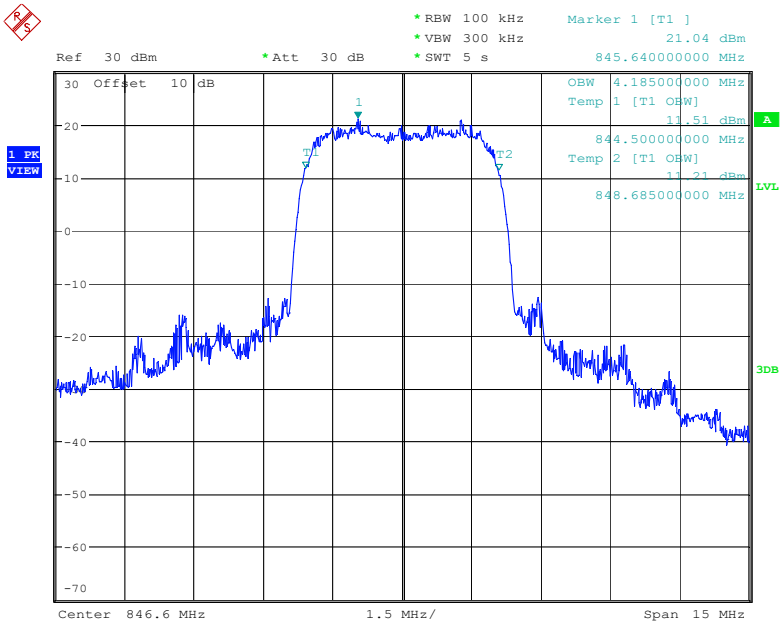


Date: 22.OCT.2022 18:09:06

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

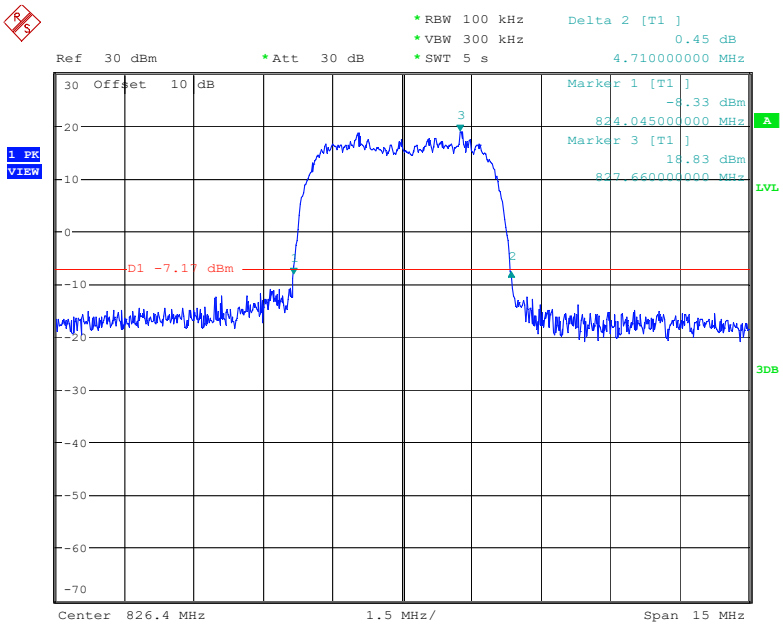


Date: 22.OCT.2022 18:06:23

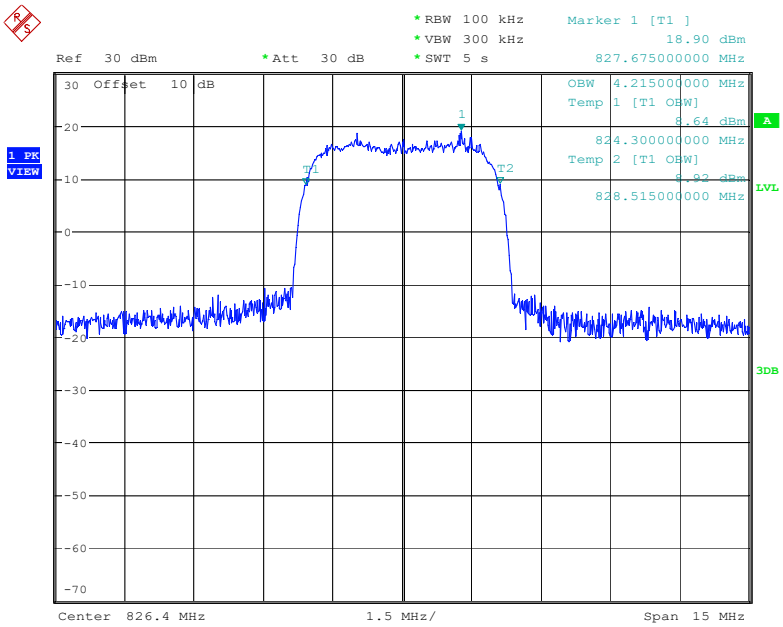


Date: 22.OCT.2022 18:05:43

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

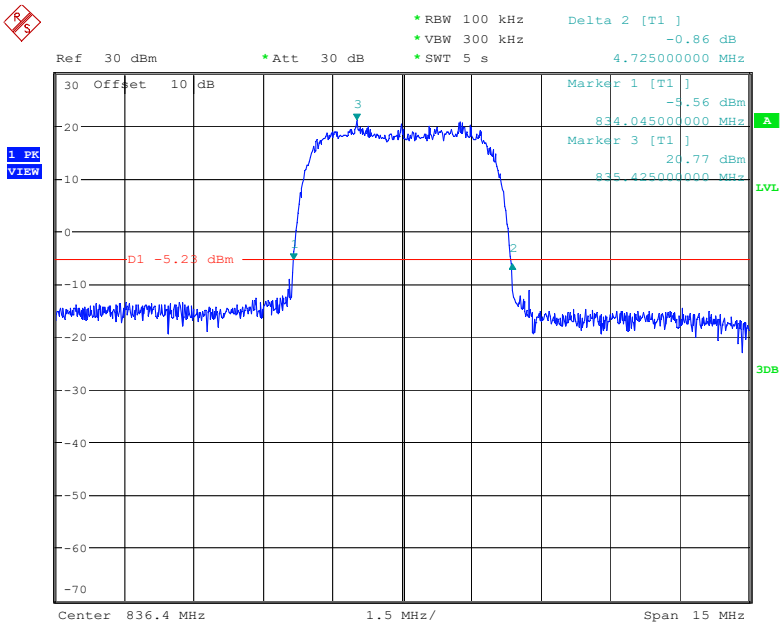


Date: 22.OCT.2022 19:23:50

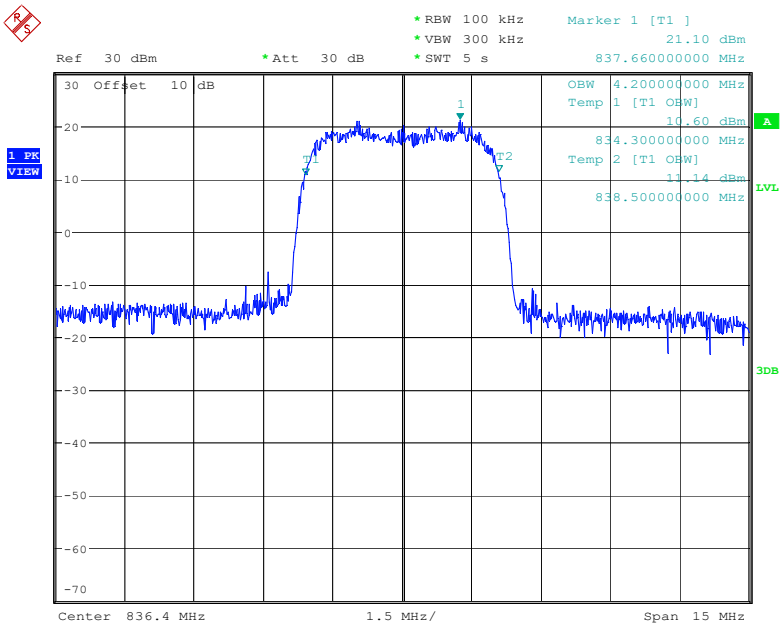


Date: 22.OCT.2022 19:23:11

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

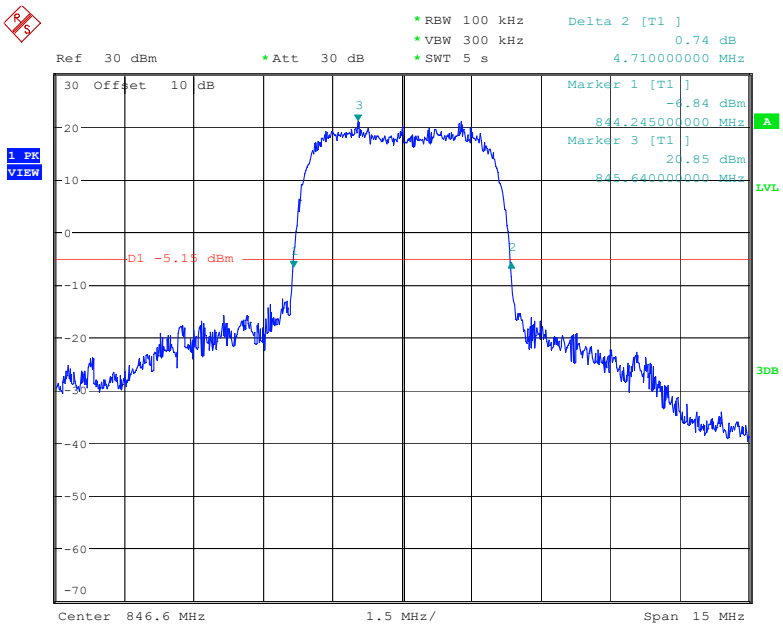


Date: 22.OCT.2022 19:26:59

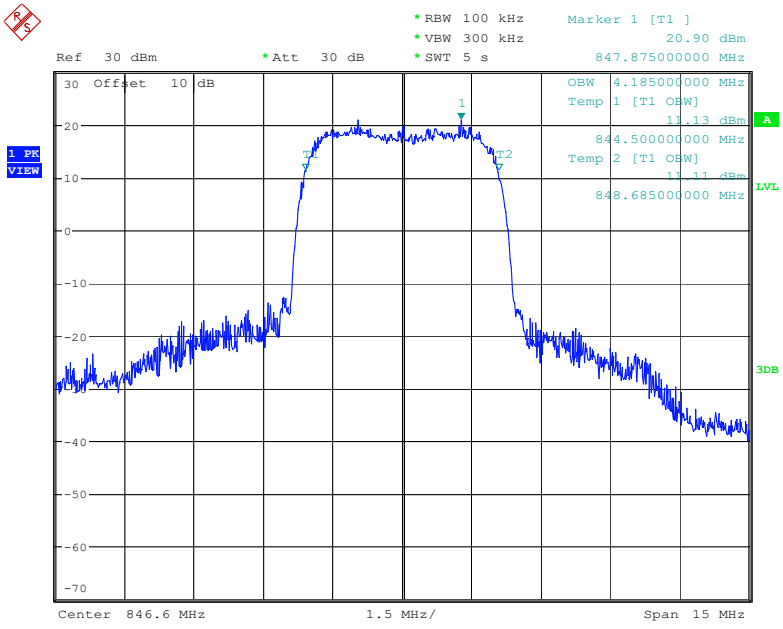


Date: 22.OCT.2022 19:26:20

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

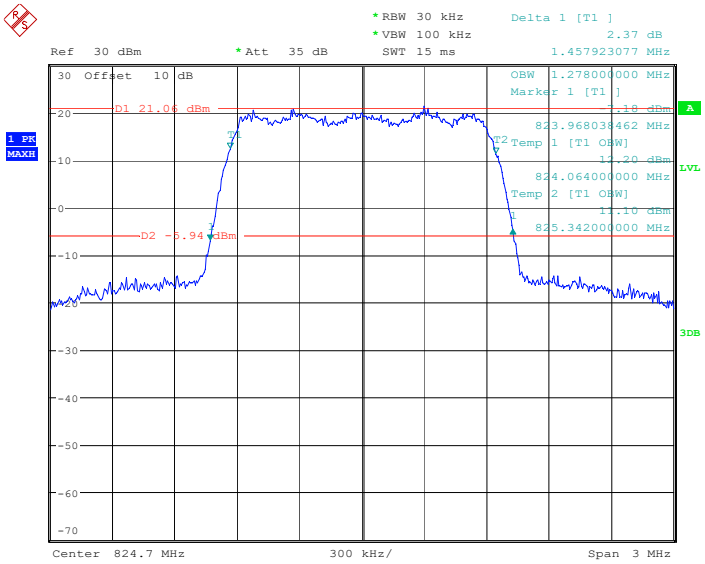


Date: 22.OCT.2022 19:29:16



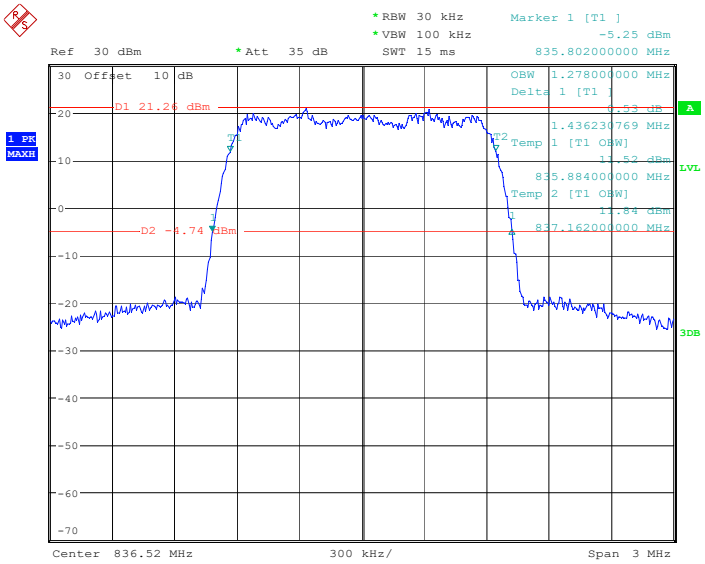
Date: 22.OCT.2022 19:28:37

26 dB Emissions &99% Occupied Bandwidth for CDMA (1*RTT, BC0) Mode, Low Channel



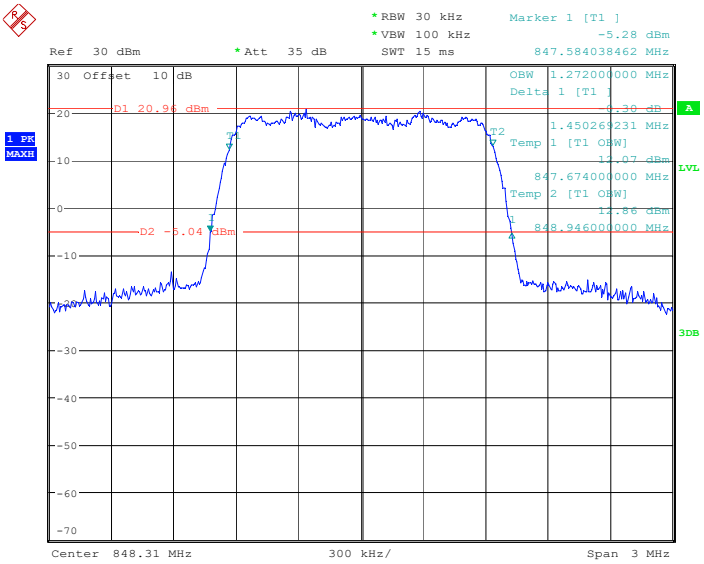
Date: 25.OCT.2022 08:51:34

26 dB Emissions &99% Occupied Bandwidth for CDMA (1*RTT, BC0) Mode, Middle Channel



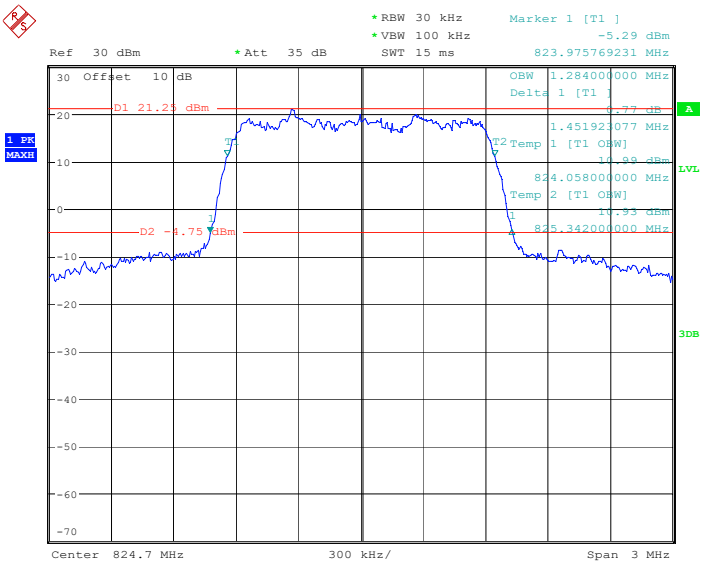
Date: 25.OCT.2022 08:50:02

26 dB Emissions &99% Occupied Bandwidth for CDMA (1*RTT, BC0) Mode, High Channel



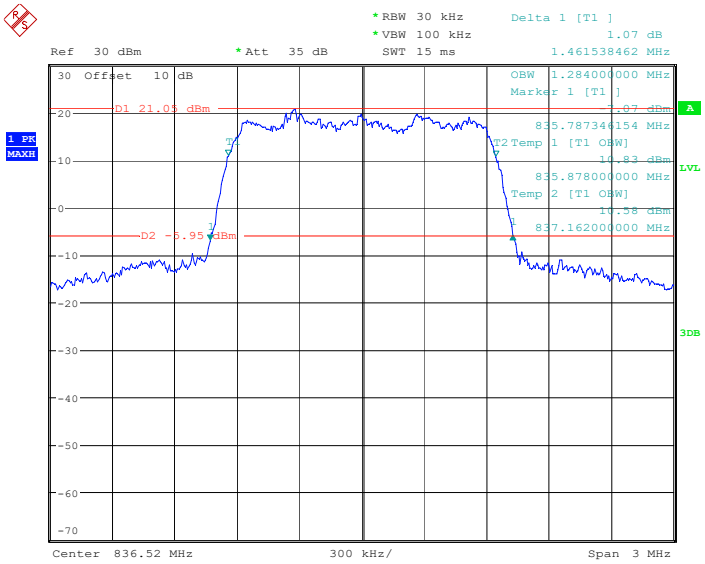
Date: 25.OCT.2022 08:53:10

26 dB Emissions &99% Occupied Bandwidth for CDMA (EV-DO, BC0) Mode, Low Channel



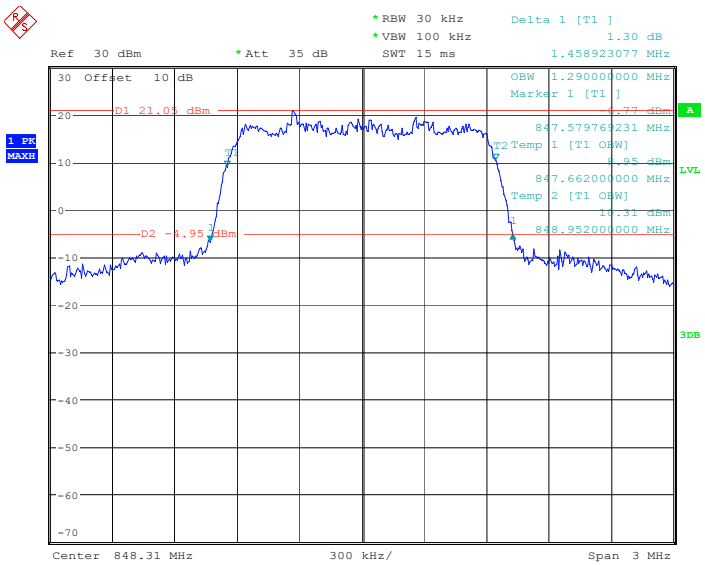
Date: 25.OCT.2022 09:19:31

26 dB Emissions &99% Occupied Bandwidth for CDMA (EV-DO, BC0) Mode, Middle Channel



Date: 25.OCT.2022 09:21:51

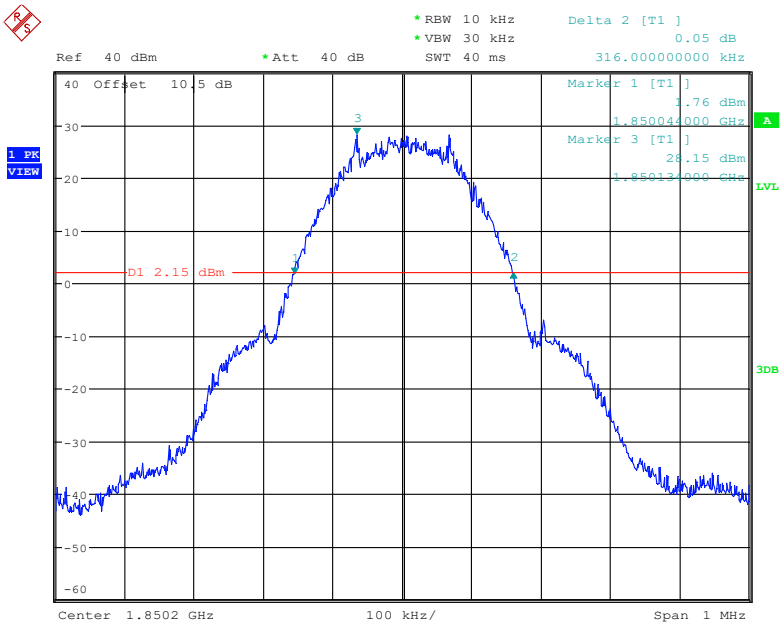
26 dB Emissions &99% Occupied Bandwidth for CDMA (EV-DO, BC0) Mode, High Channel



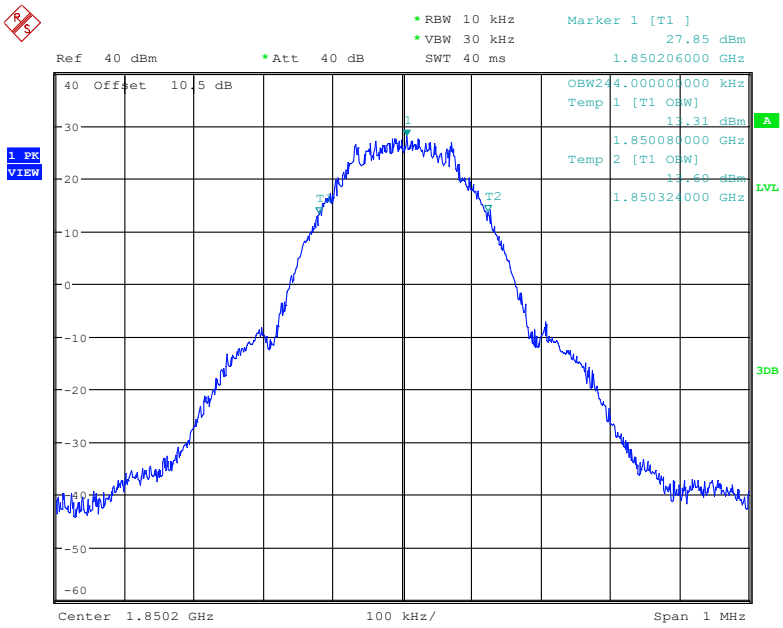
Date: 25.OCT.2022 09:22:56

PCS Band (Part 24E)

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

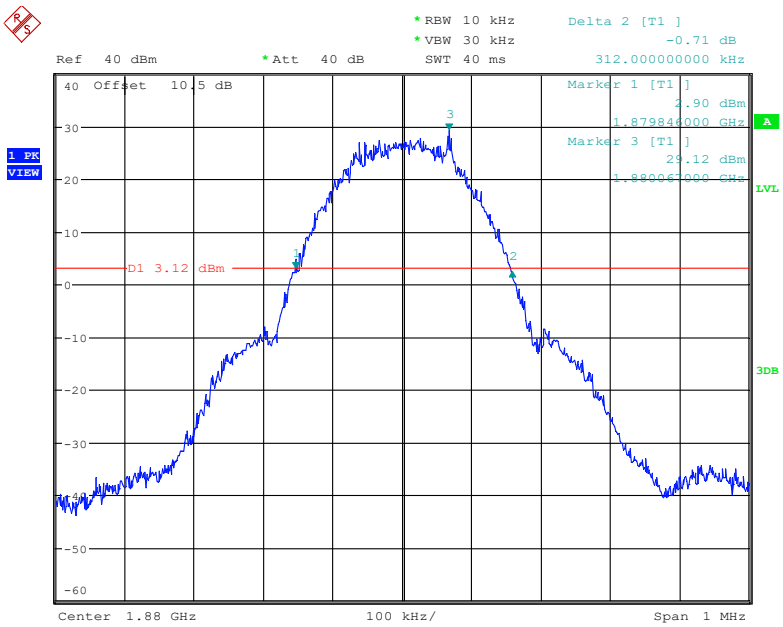


Date: 22.OCT.2022 16:37:37

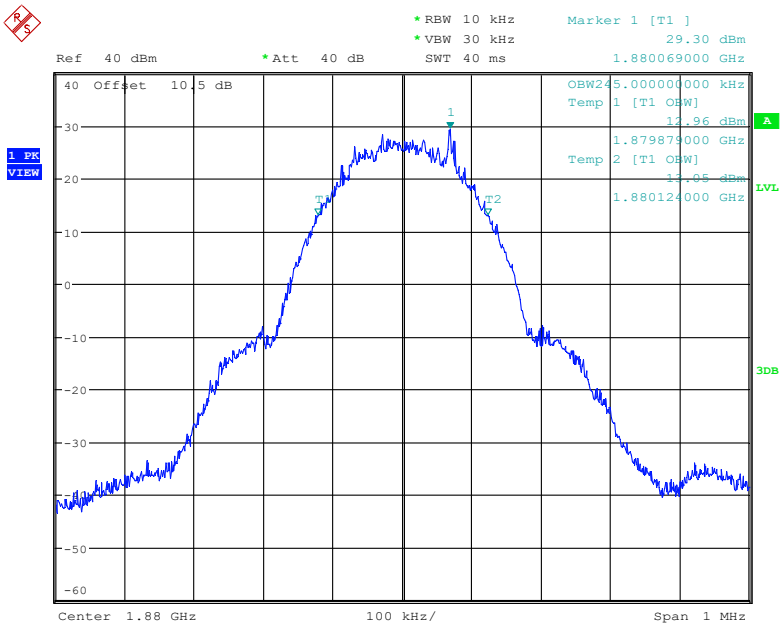


Date: 22.OCT.2022 16:36:56

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

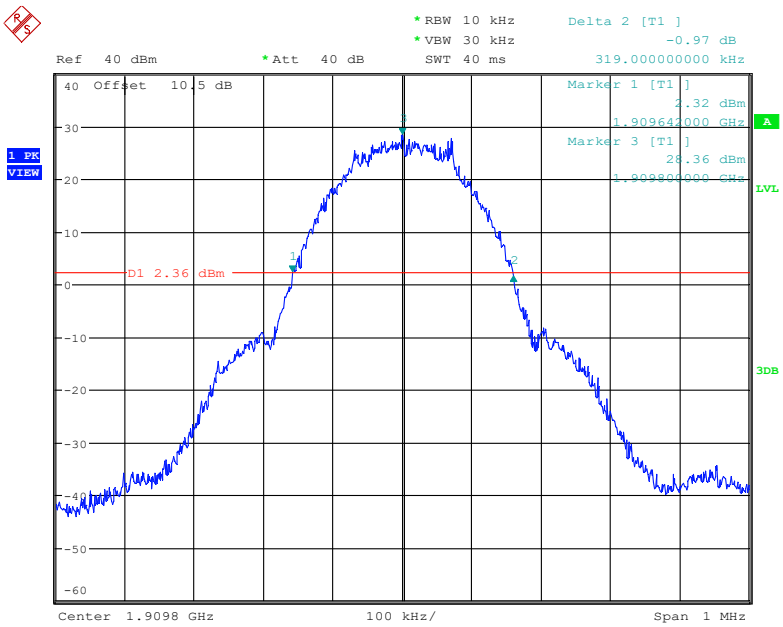


Date: 22.OCT.2022 16:43:45

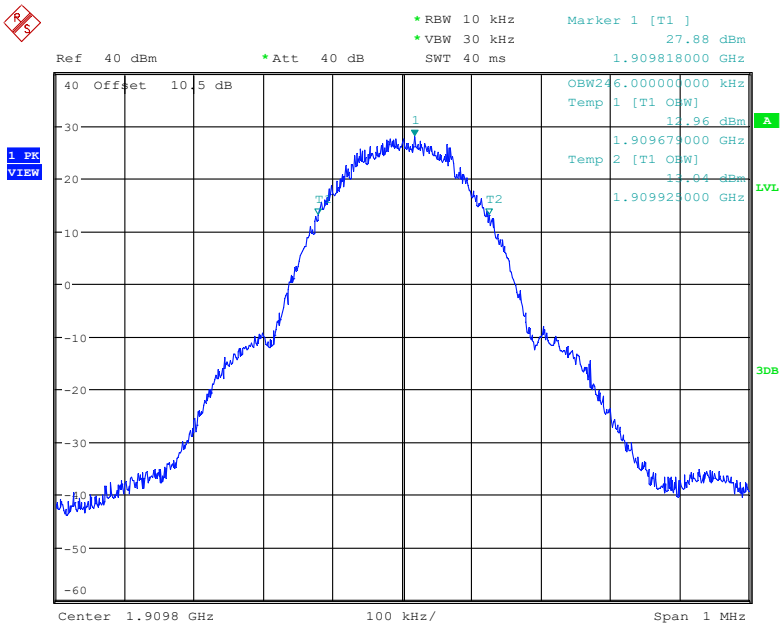


Date: 22.OCT.2022 16:43:05

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

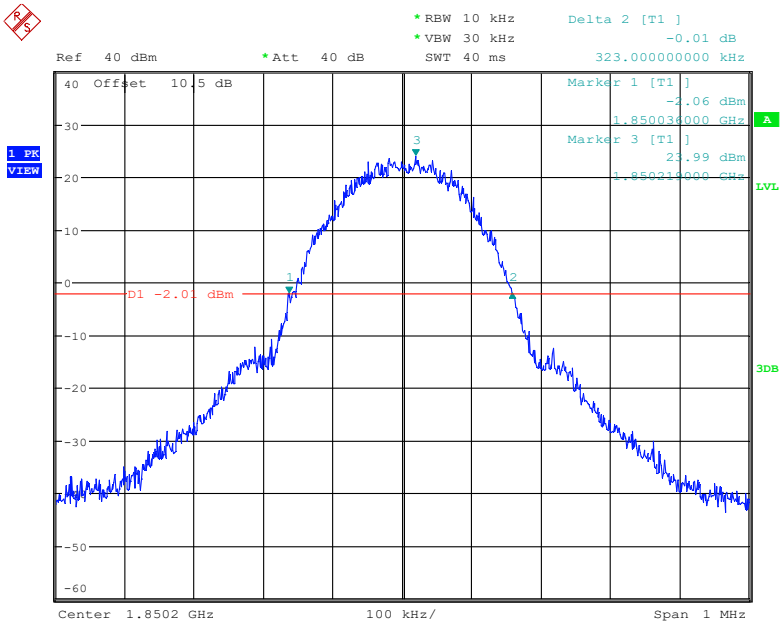


Date: 22.OCT.2022 16:48:09

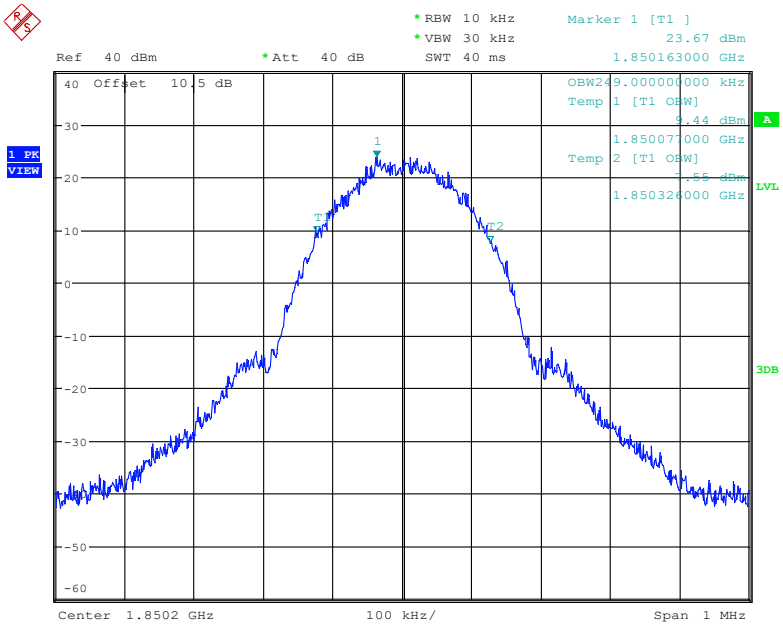


Date: 22.OCT.2022 16:47:29

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

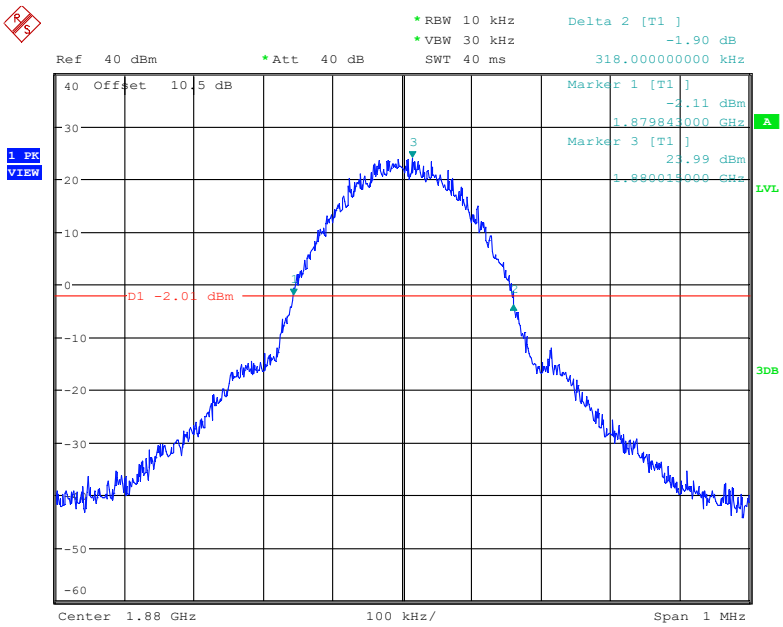


Date: 22.OCT.2022 16:55:48

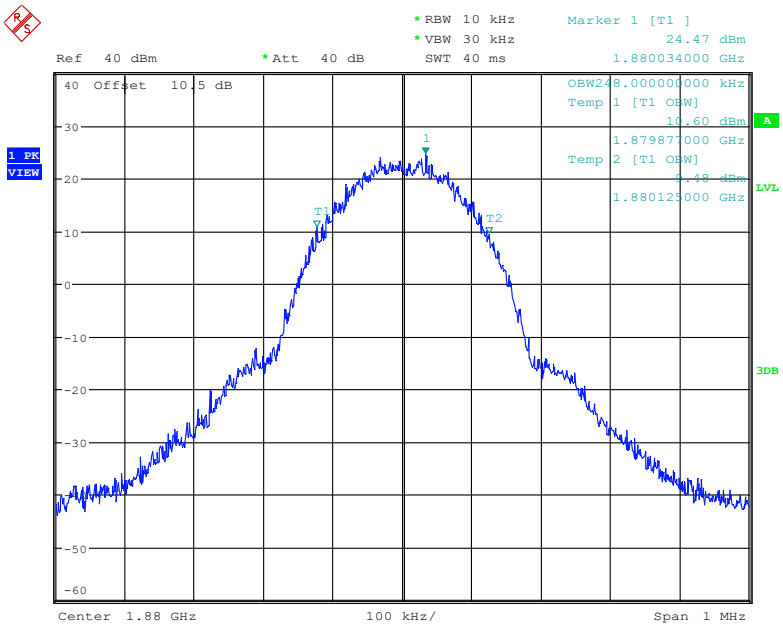


Date: 22.OCT.2022 16:55:08

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

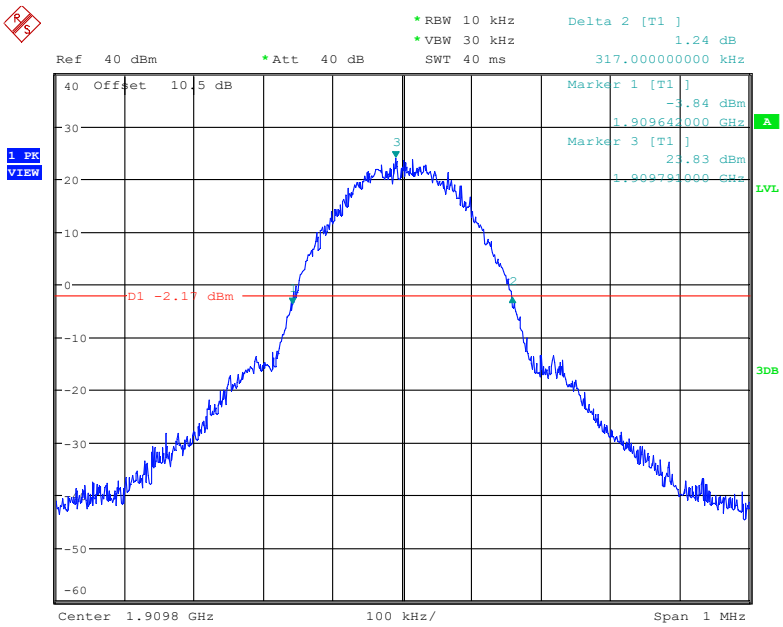


Date: 22.OCT.2022 17:01:50

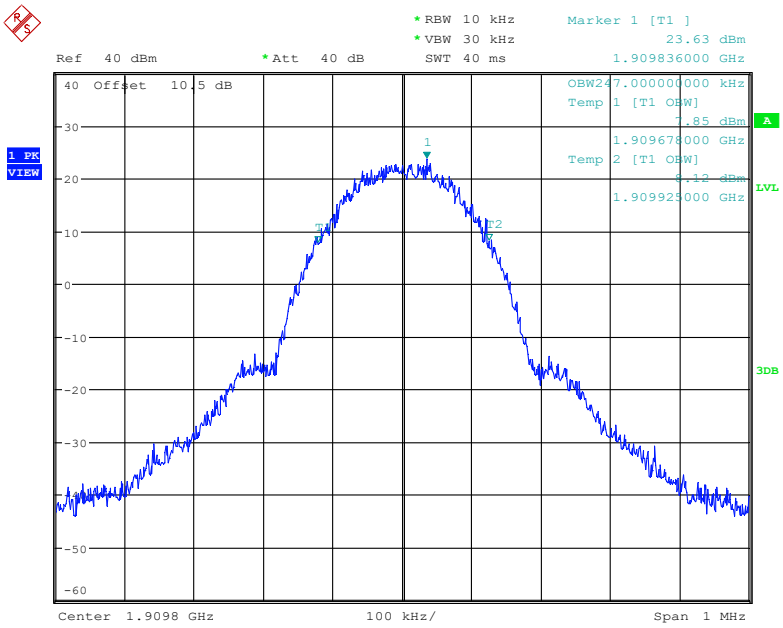


Date: 22.OCT.2022 17:01:10

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

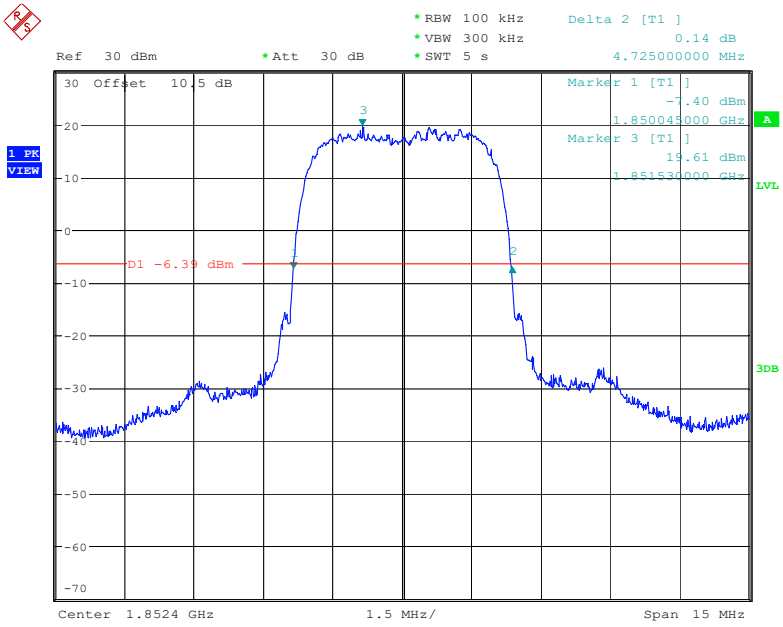


Date: 22.OCT.2022 17:05:39

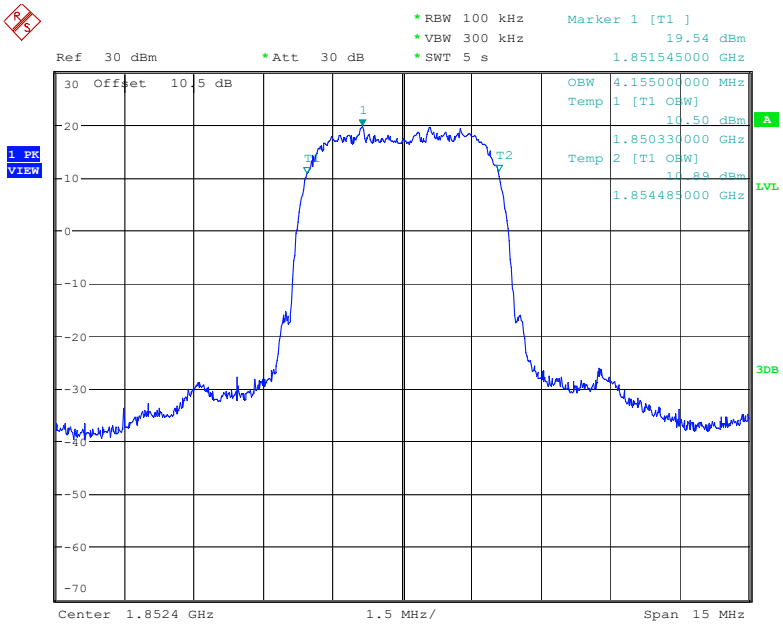


Date: 22.OCT.2022 17:04:57

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

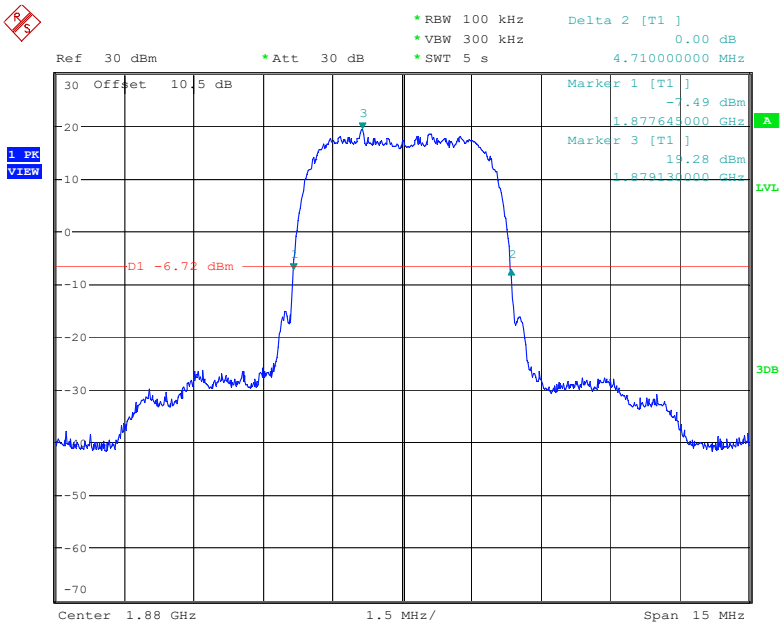


Date: 22.OCT.2022 17:16:41

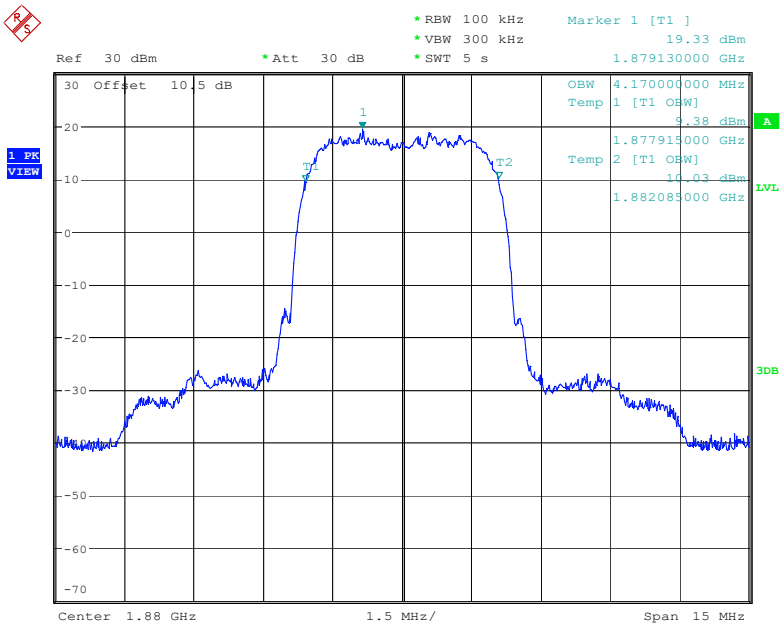


Date: 22.OCT.2022 17:16:01

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

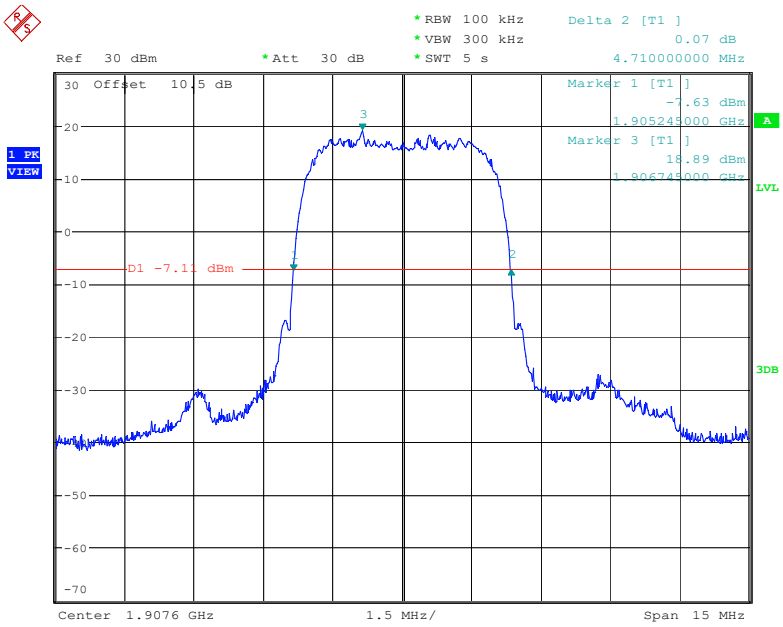


Date: 22.OCT.2022 17:20:47

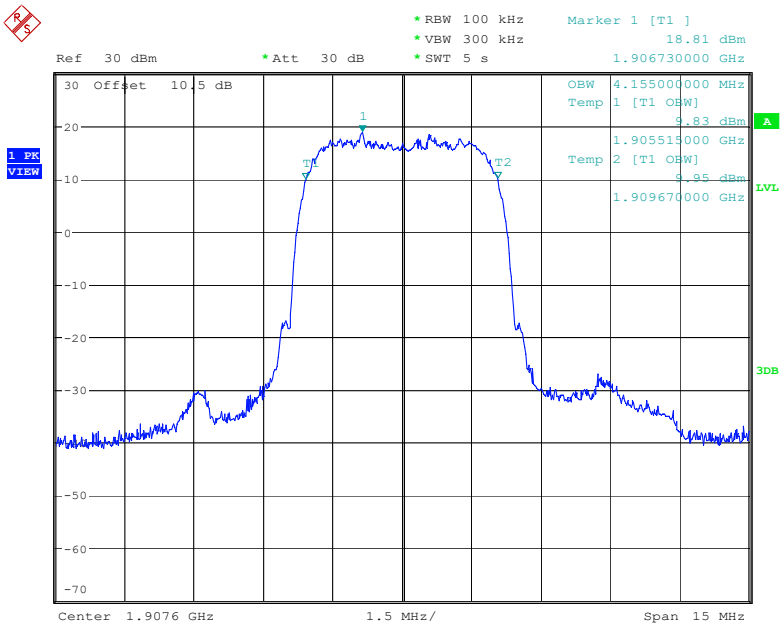


Date: 22.OCT.2022 17:20:08

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

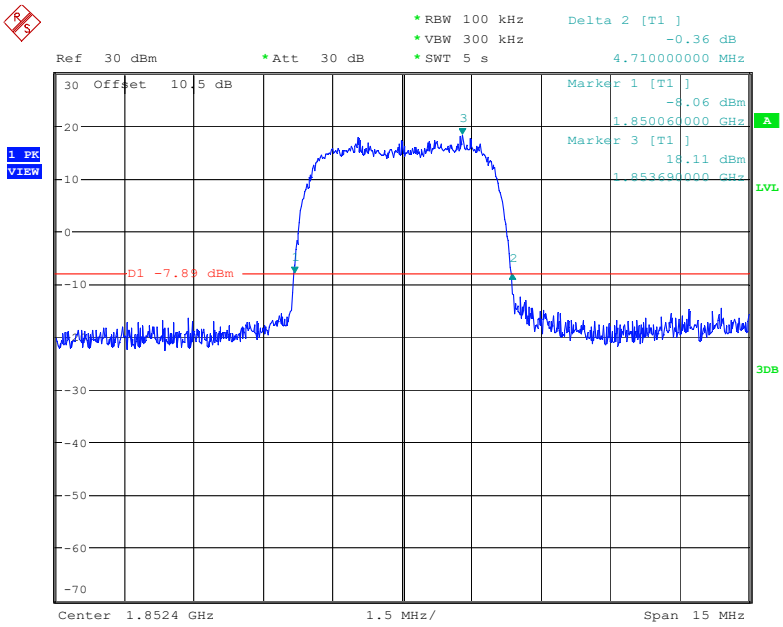


Date: 22.OCT.2022 17:23:59



Date: 22.OCT.2022 17:23:19

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



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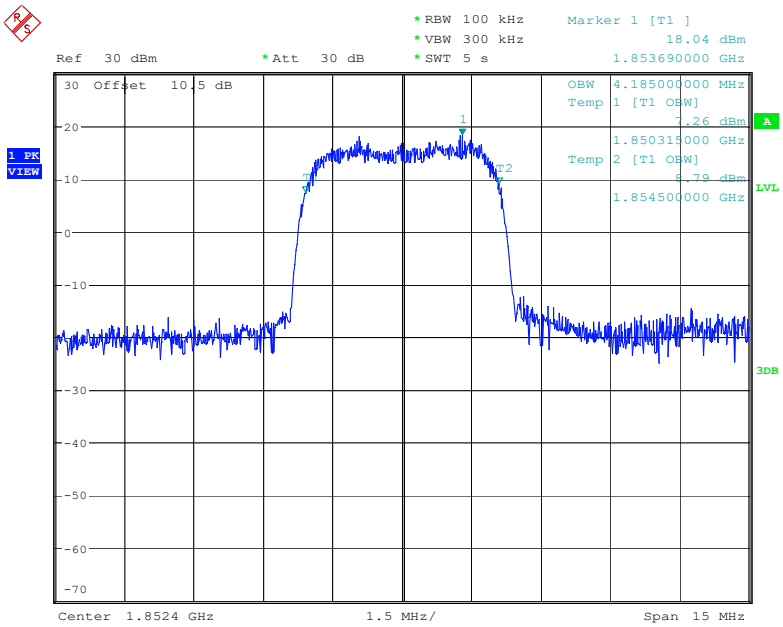
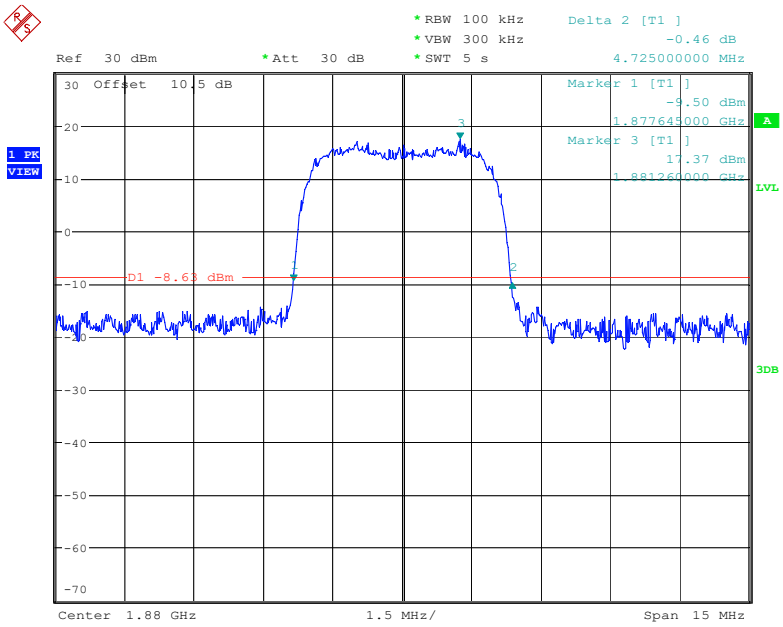


Date: 22.OCT.2022 18:27:55

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



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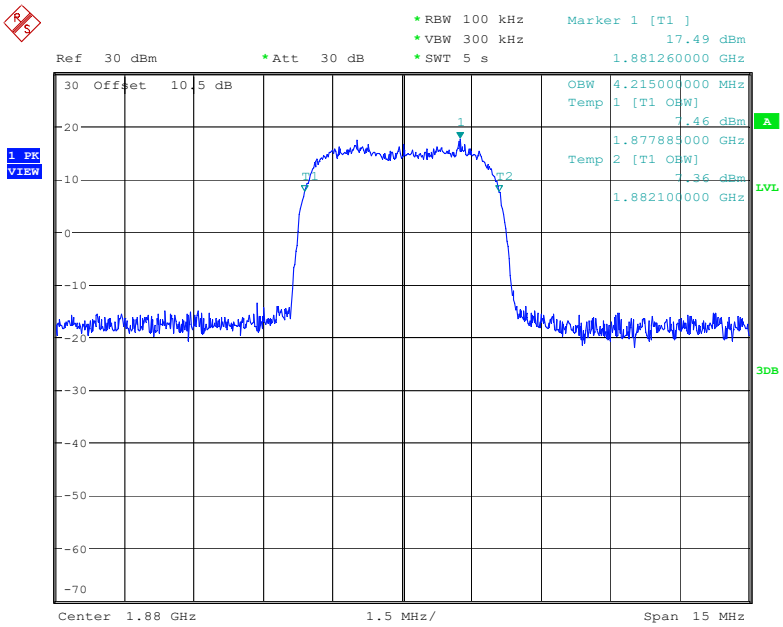
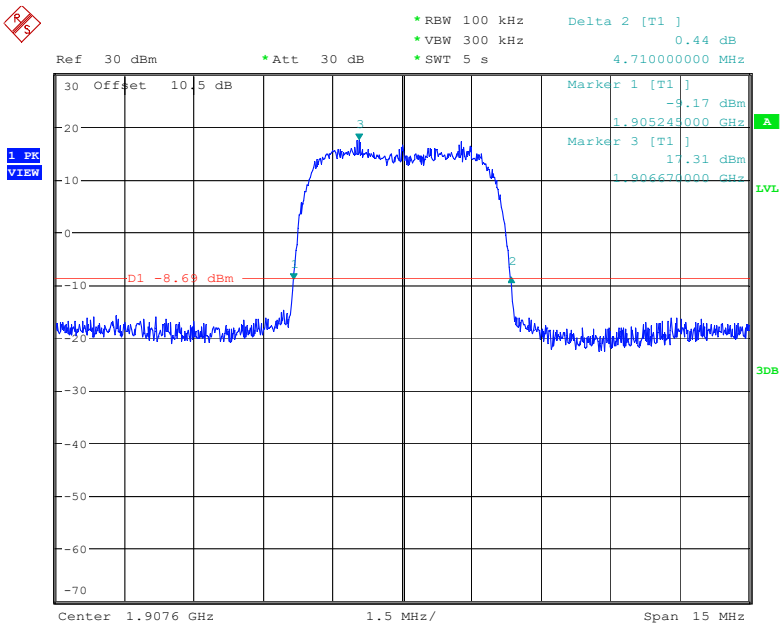


Date: 22.OCT.2022 18:31:47

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



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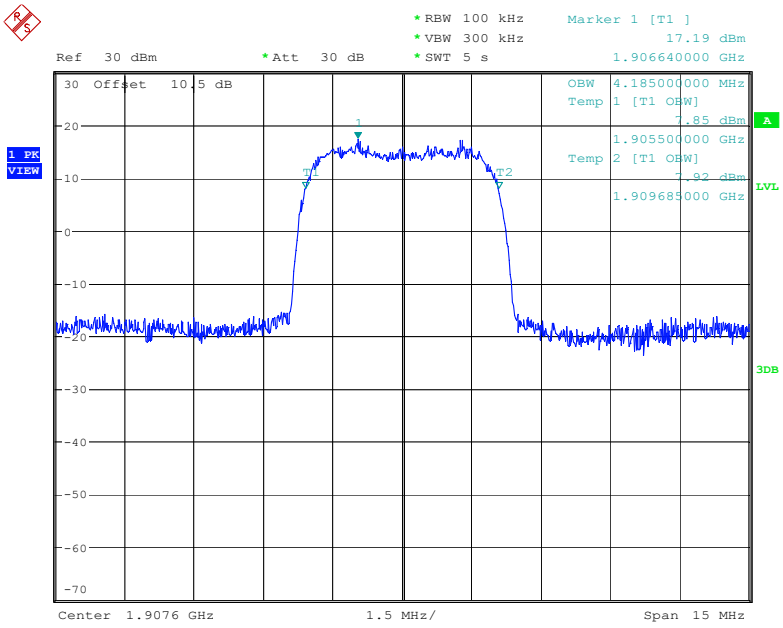
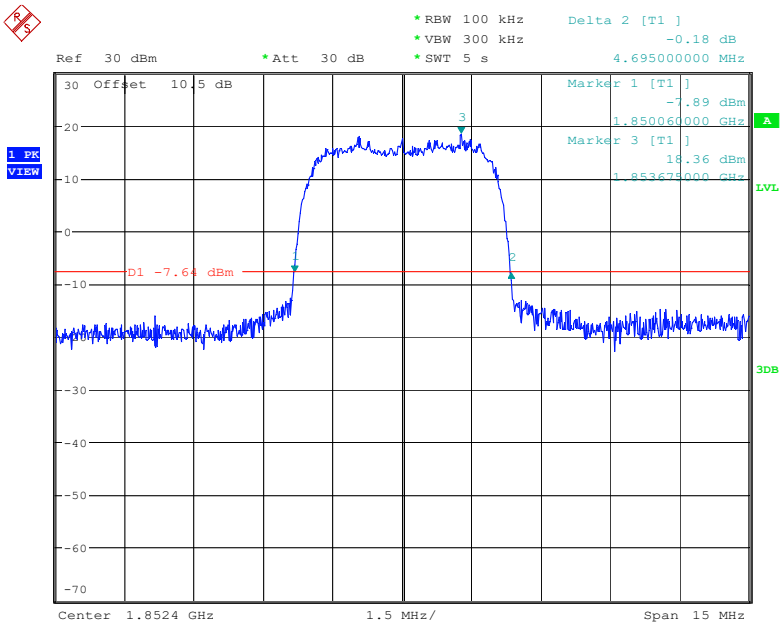


Date: 22.OCT.2022 18:36:48

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



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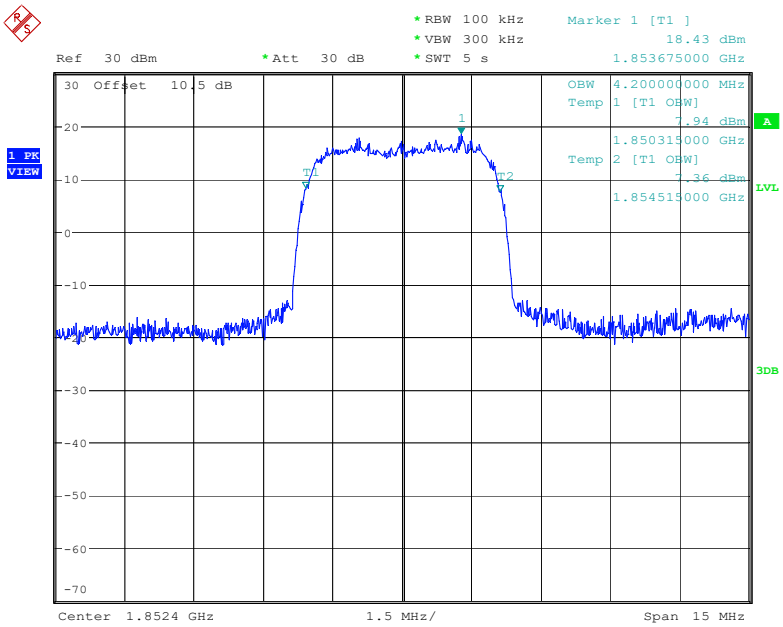
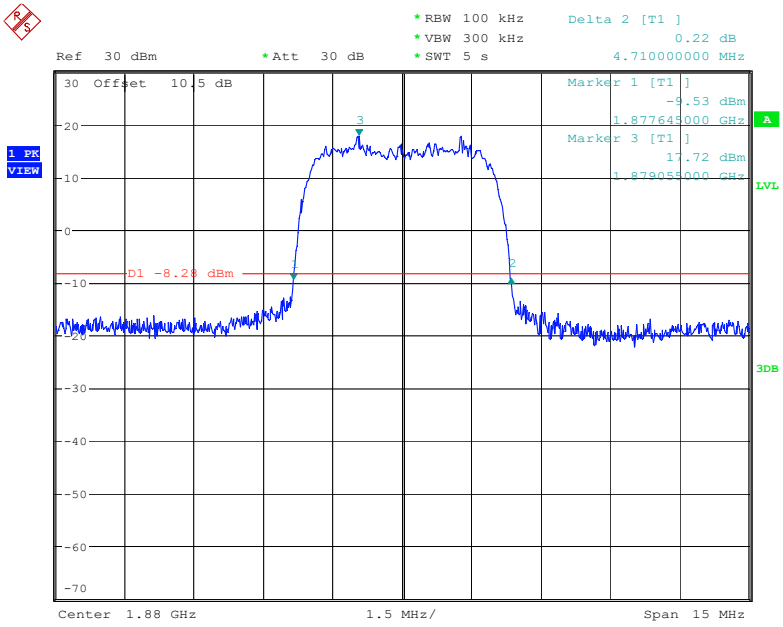
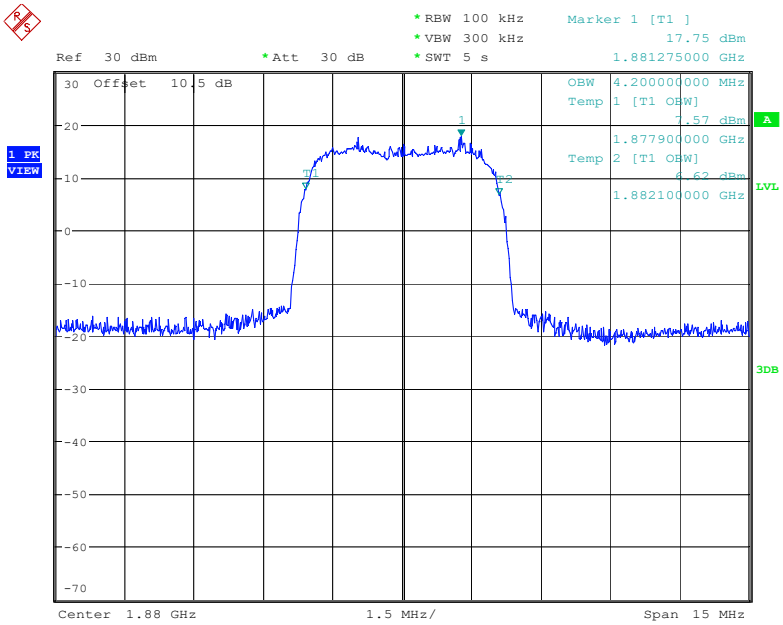


Date: 22.OCT.2022 18:46:36

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

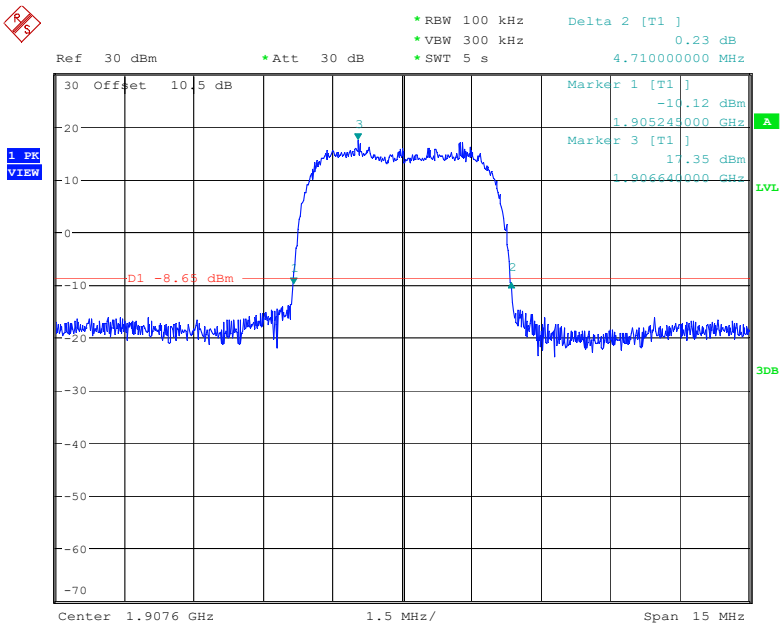


Date: 22.OCT.2022 19:04:08

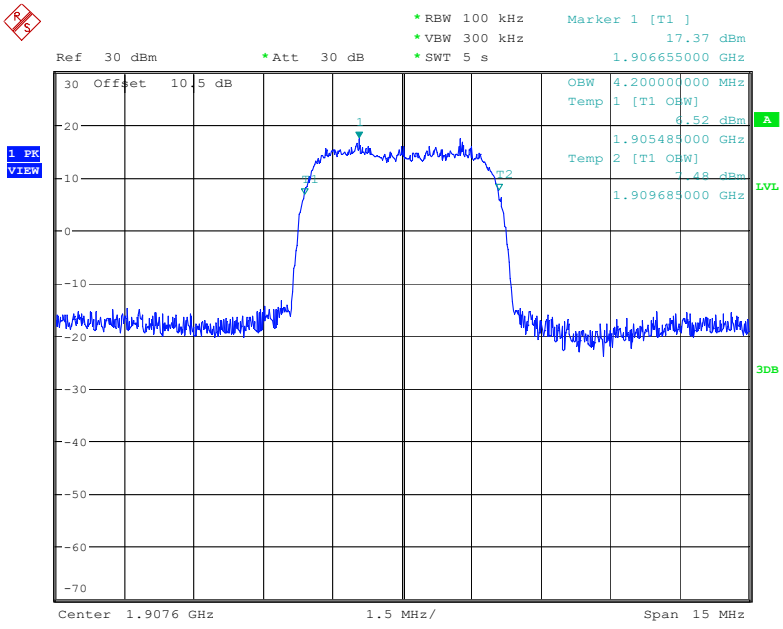


Date: 22.OCT.2022 19:03:29

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



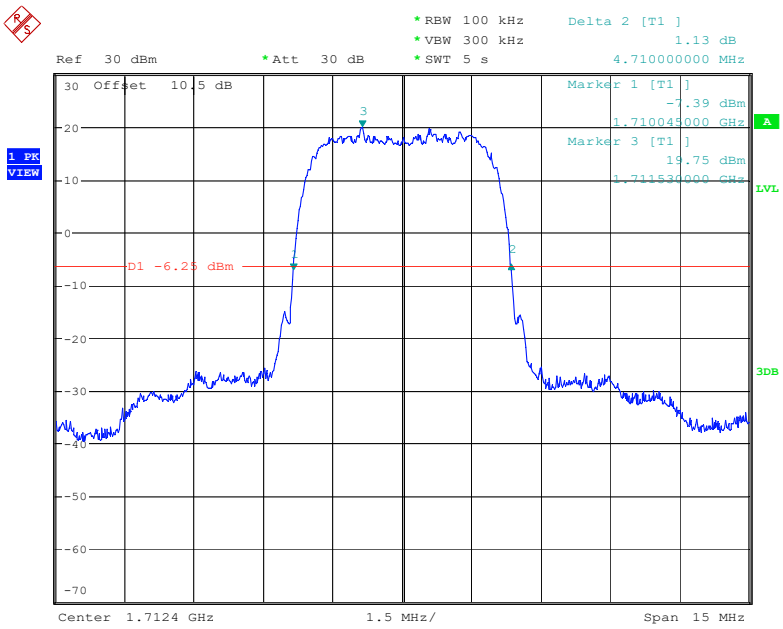
Date: 22.OCT.2022 19:00:19



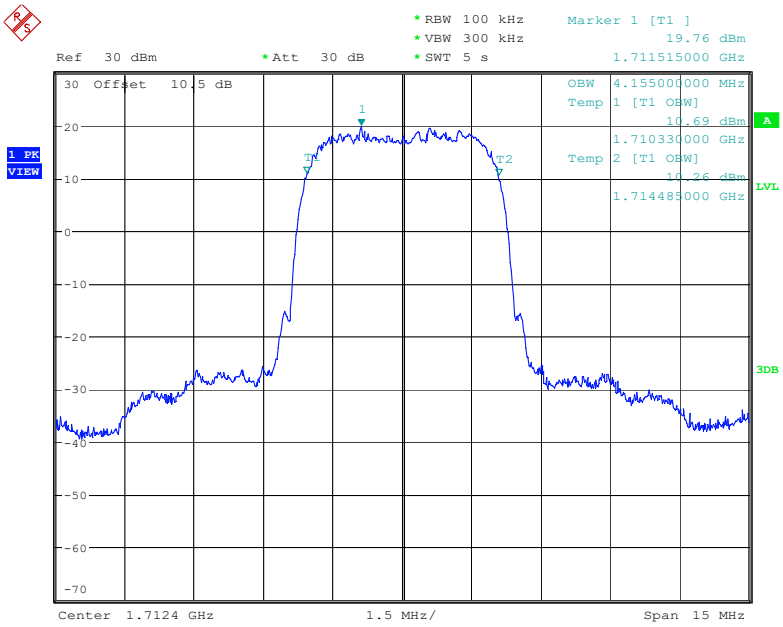
Date: 22.OCT.2022 18:59:40

AWS Band

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

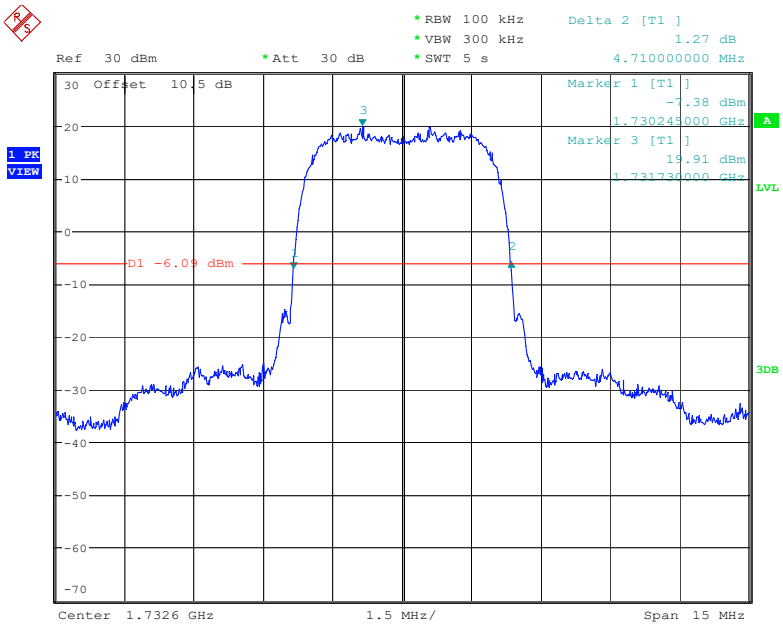


Date: 22.OCT.2022 17:35:41

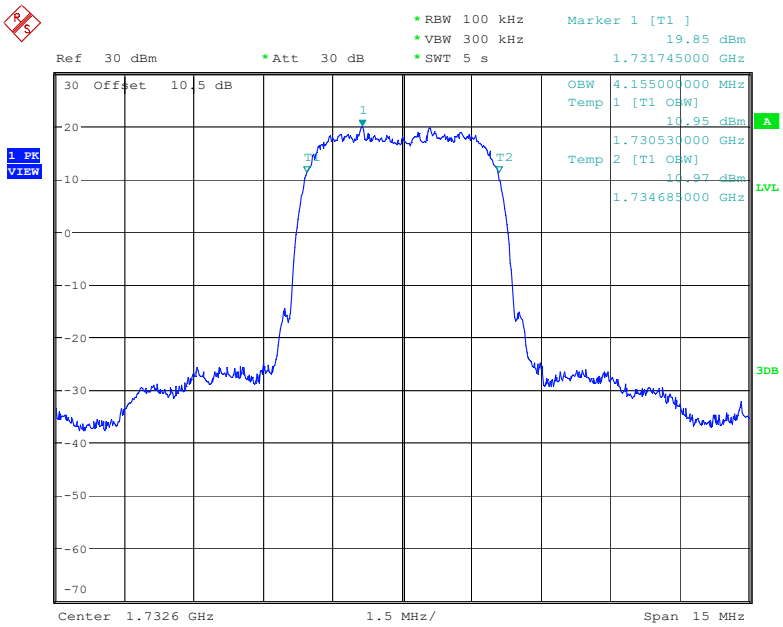


Date: 22.OCT.2022 17:34:59

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

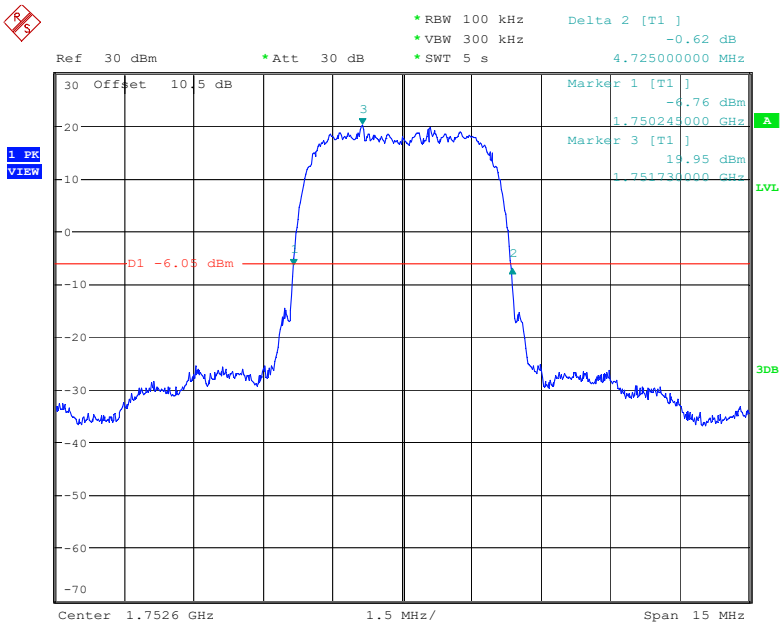


Date: 22.OCT.2022 17:38:57

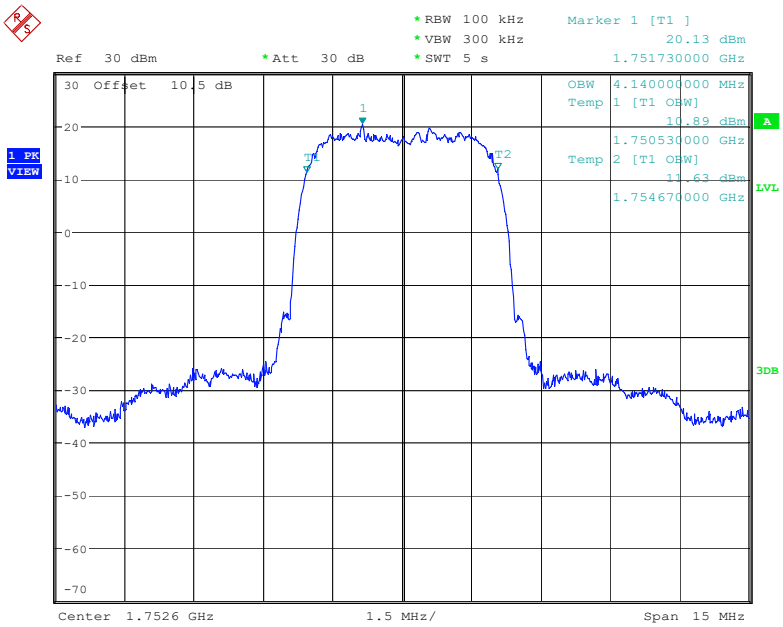


Date: 22.OCT.2022 17:38:16

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

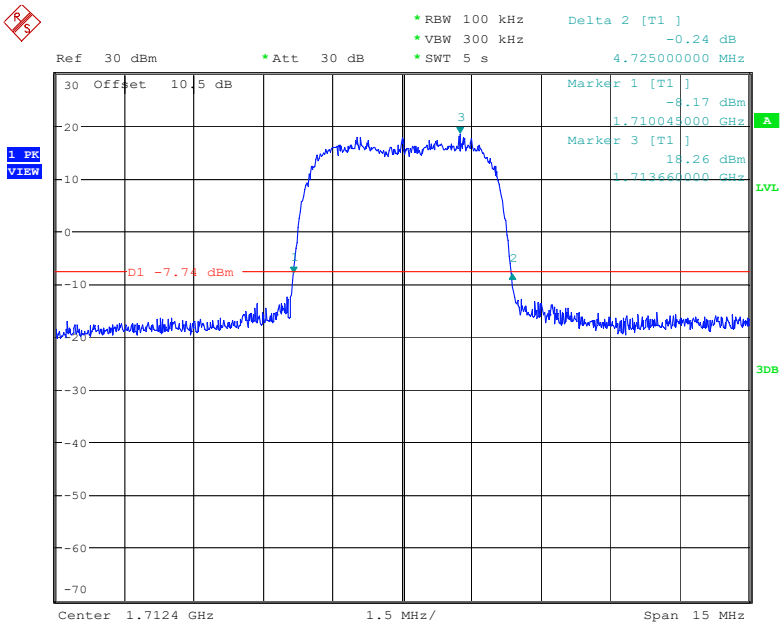


Date: 22.OCT.2022 17:41:49



Date: 22.OCT.2022 17:41:09

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



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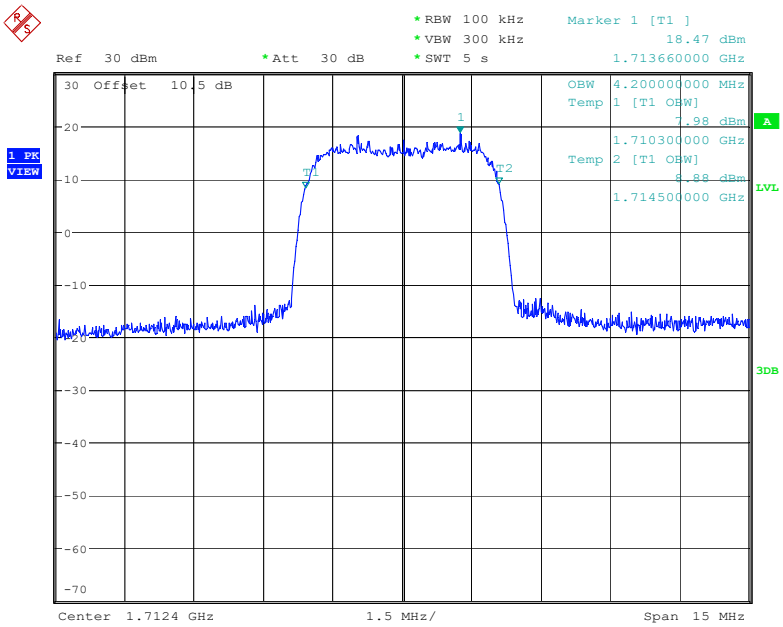
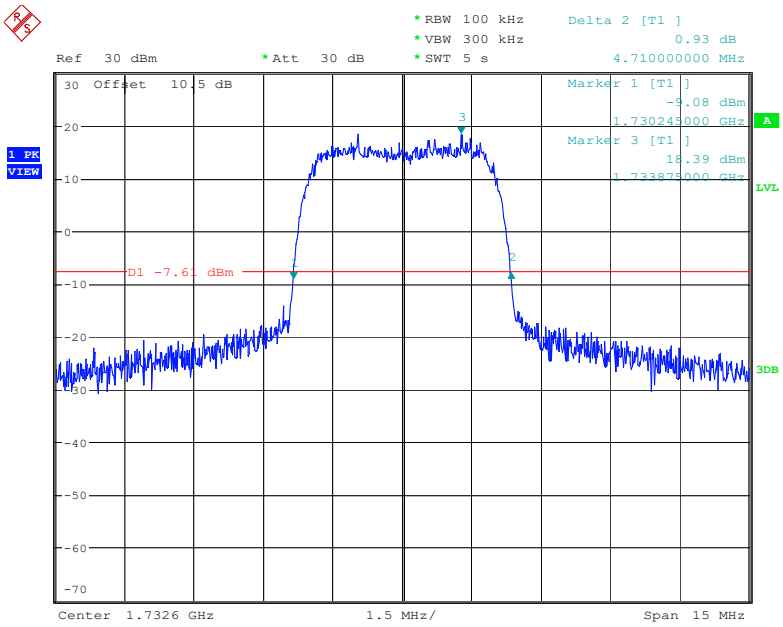
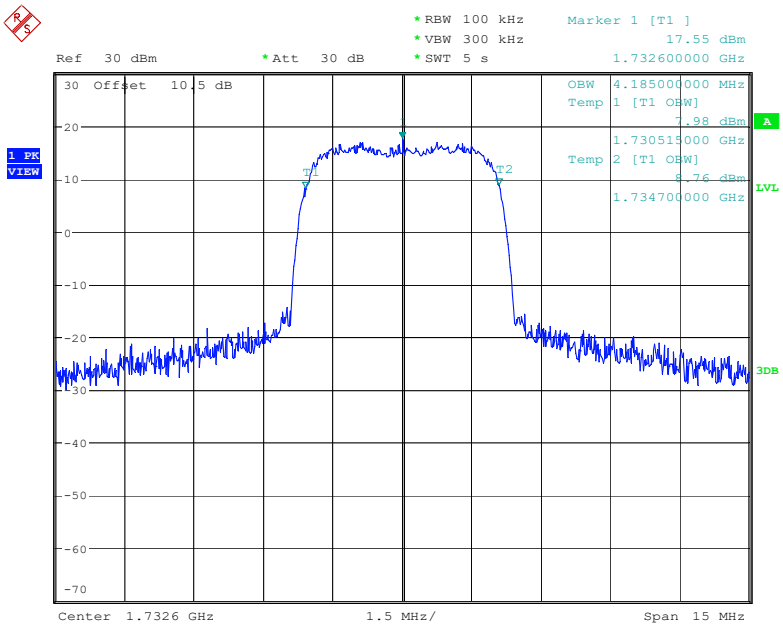


Date: 22.OCT.2022 18:15:37

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

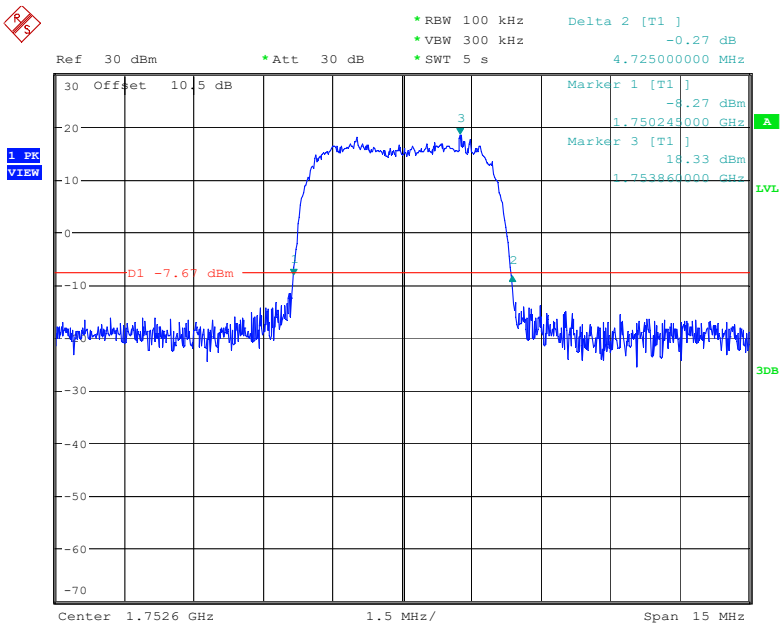


Date: 22.OCT.2022 18:20:04

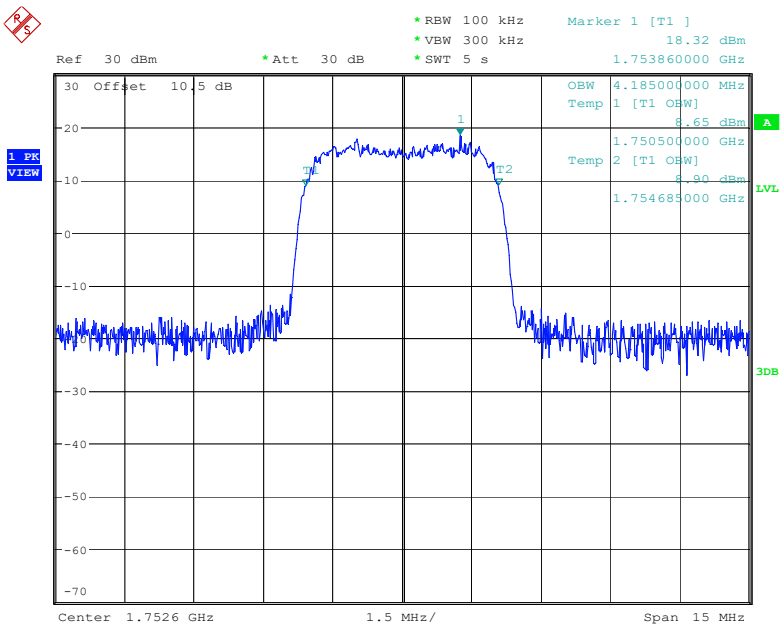


Date: 22.OCT.2022 18:19:25

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

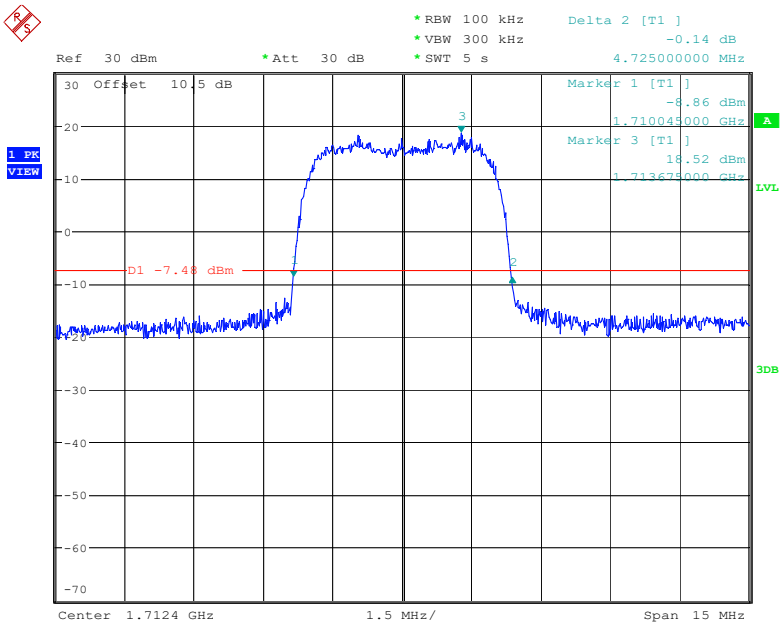


Date: 22.OCT.2022 18:24:18

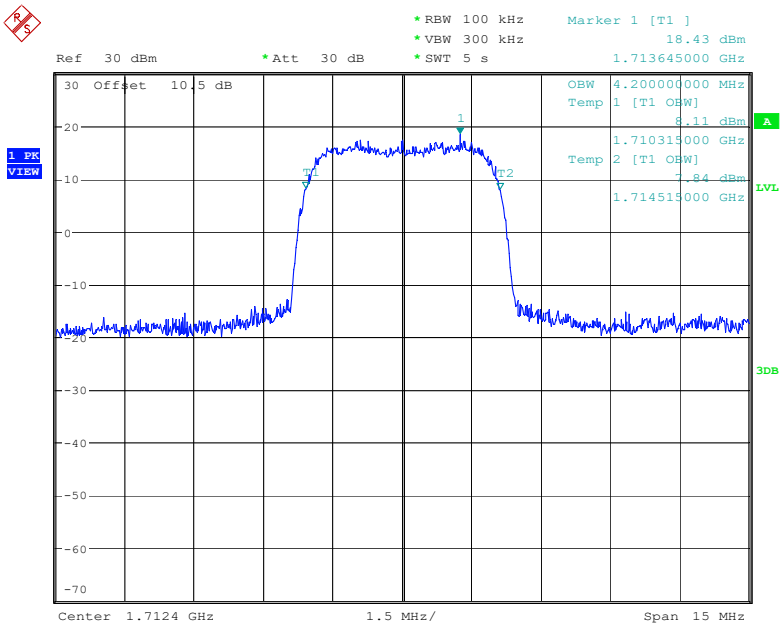


Date: 22.OCT.2022 18:23:39

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

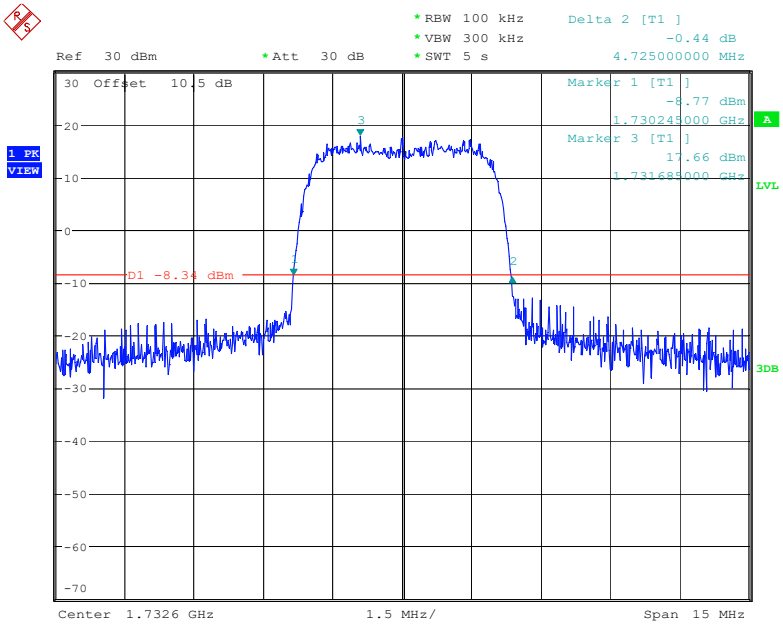


Date: 22.OCT.2022 19:10:00

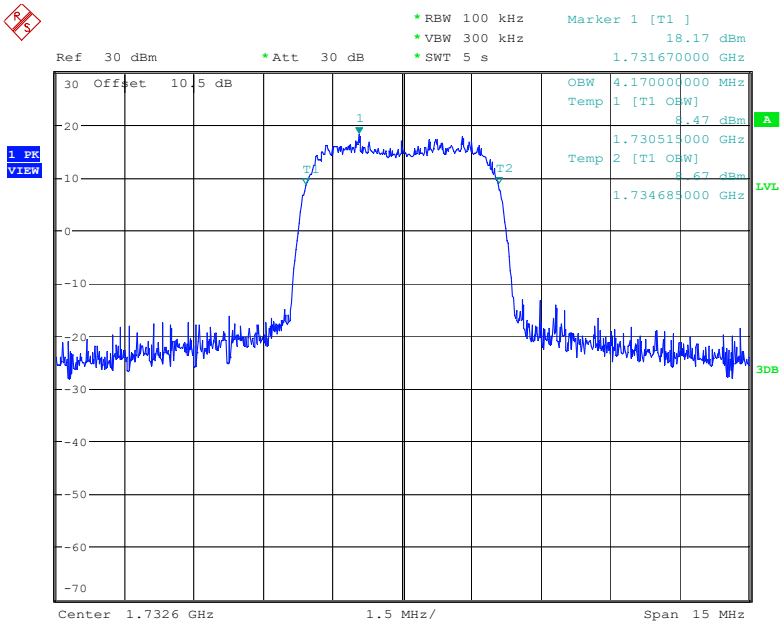


Date: 22.OCT.2022 19:09:22

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

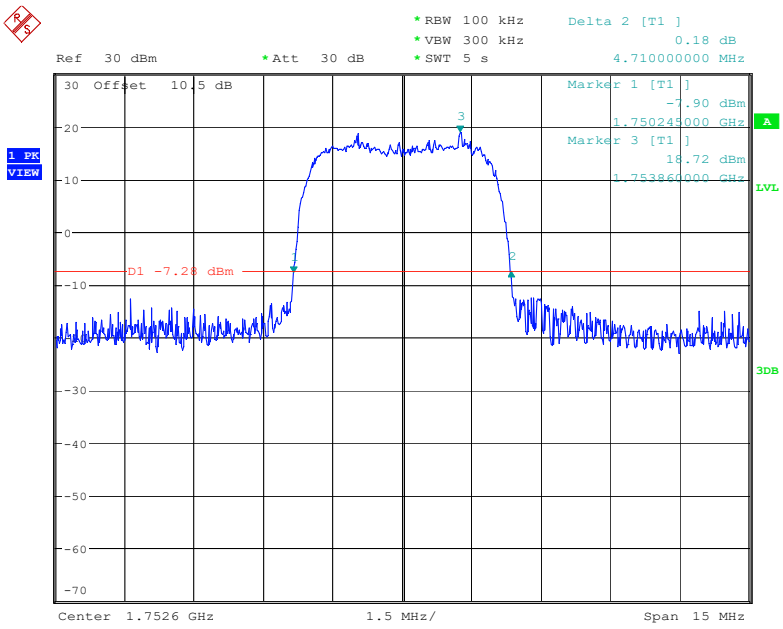


Date: 22.OCT.2022 19:14:12

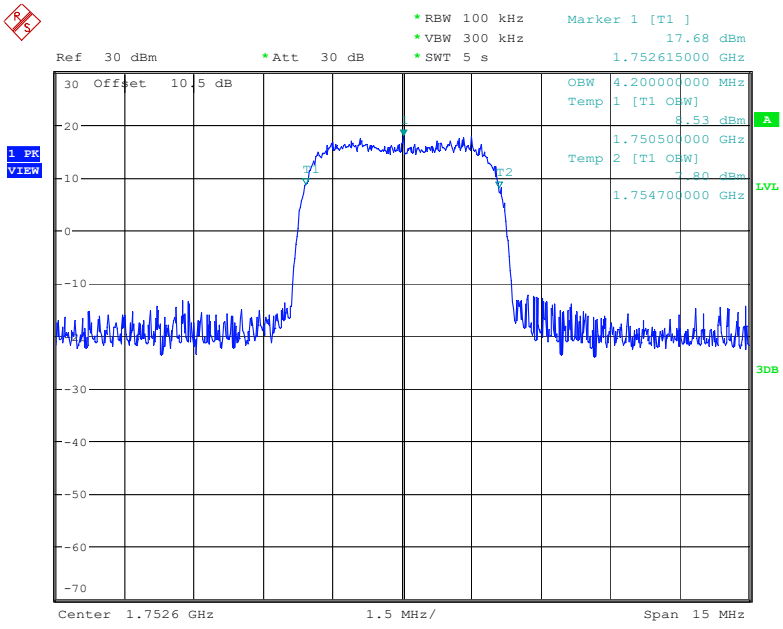


Date: 22.OCT.2022 19:13:33

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



Date: 22.OCT.2022 19:19:00



Date: 22.OCT.2022 19:18:20

LTE Band 2:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
1.4 MHz	QPSK	1.104	1.308	1.110	1.278	1.104	1.296
	16QAM	1.098	1.284	1.098	1.296	1.110	1.314
3 MHz	QPSK	2.700	2.928	2.688	2.916	2.688	2.928
	16QAM	2.676	2.928	2.676	2.940	2.688	2.940
5 MHz	QPSK	4.520	5.040	4.520	4.940	4.520	4.920
	16QAM	4.520	4.940	4.520	4.920	4.520	4.920
10 MHz	QPSK	8.960	9.680	8.960	9.600	8.960	9.680
	16QAM	8.960	9.600	8.960	9.600	9.000	9.560
15 MHz	QPSK	13.500	14.760	13.560	14.880	13.440	14.640
	16QAM	13.560	14.700	13.560	14.760	13.560	14.700
20 MHz	QPSK	18.000	19.520	18.000	19.360	17.840	19.280
	16QAM	18.000	19.360	18.080	19.440	17.920	19.200

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	1.308	1.110	1.284	1.098	1.290
	16QAM	1.098	1.290	1.098	1.296	1.110	1.308
3 MHz	QPSK	2.676	2.940	2.700	2.940	2.676	2.928
	16QAM	2.688	2.964	2.688	2.928	2.676	2.928
5 MHz	QPSK	4.520	4.940	4.500	4.920	4.500	4.940
	16QAM	4.500	4.900	4.540	4.940	4.540	5.160
10 MHz	QPSK	8.920	9.600	8.960	9.640	8.960	9.640
	16QAM	8.960	9.600	8.960	9.600	8.960	9.560
15 MHz	QPSK	13.500	14.700	13.560	14.760	13.500	14.700
	16QAM	13.500	14.700	13.560	14.760	13.500	14.760
20 MHz	QPSK	18.000	19.360	18.000	19.280	17.920	19.280
	16QAM	18.000	19.360	17.920	19.440	17.920	19.280

LTE Band 5& LTE Band 26 (Part 22H):

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	1.272	1.110	1.278	1.104	1.284
	16QAM	1.092	1.278	1.098	1.284	1.104	1.308
3 MHz	QPSK	2.688	2.916	2.688	2.916	2.688	2.940
	16QAM	2.688	2.952	2.688	2.952	2.688	2.940
5 MHz	QPSK	4.540	4.940	4.520	4.920	4.500	4.920
	16QAM	4.500	4.920	4.540	4.940	4.520	4.960
10 MHz	QPSK	8.960	9.640	8.960	9.600	9.000	9.600
	16QAM	8.920	9.520	8.960	9.560	8.960	9.600
15 MHz	QPSK	13.440	14.940	13.560	15.060	13.560	14.940
	16QAM	13.560	14.880	13.560	14.940	13.500	15.000

LTE Band 7:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.520	4.940	4.500	4.920	4.540	4.940
	16QAM	4.520	4.920	4.540	4.940	4.500	4.940
10 MHz	QPSK	9.000	9.680	8.960	9.640	8.960	9.640
	16QAM	8.960	9.560	9.000	9.680	8.960	9.600
15 MHz	QPSK	13.560	14.760	13.500	14.700	13.500	14.760
	16QAM	13.560	14.760	13.500	14.760	13.500	14.820
20 MHz	QPSK	18.000	19.520	18.000	19.280	17.840	19.280
	16QAM	17.920	19.520	18.000	19.360	18.000	19.440

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	1.110	1.314	1.104	1.278	1.104	1.296
	16QAM	1.098	1.278	1.104	1.284	1.110	1.308
3 MHz	QPSK	2.688	2.916	2.688	2.952	2.688	2.940
	16QAM	2.676	2.952	2.688	2.940	2.688	2.928
5 MHz	QPSK	4.520	4.940	4.520	4.920	4.500	4.920
	16QAM	4.500	4.920	4.540	4.940	4.520	4.940
10 MHz	QPSK	8.920	9.600	8.960	9.640	8.960	9.600
	16QAM	8.960	9.520	8.960	9.600	8.960	9.640

LTE Band 13:

Bandwidth	Modulation	Low channel		Middle channel		High channel	
		OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)	OBW (MHz)	26dB EBW (MHz)
5 MHz	QPSK	4.520	4.940	4.500	4.920	4.520	4.920
	16QAM	4.520	4.960	4.540	4.960	4.500	4.900
10 MHz	QPSK	/	/	8.960	9.520	/	/
	16QAM	/	/	8.960	9.560	/	/

LTE Band 17:

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	4.920	4.520	4.920	4.520	4.940
	16QAM	4.520	4.920	4.540	4.940	4.520	4.920
10 MHz	QPSK	8.960	9.680	8.960	9.600	8.960	9.640
	16QAM	8.960	9.560	8.960	9.600	8.960	9.600

LTE Band 25

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	1.308	1.110	1.278	1.098	1.296
	16QAM	1.098	1.284	1.098	1.290	1.110	1.296
3 MHz	QPSK	2.676	2.928	2.676	2.940	2.676	2.904
	16QAM	2.688	2.952	2.676	2.928	2.688	2.928
5 MHz	QPSK	4.520	4.900	4.520	4.940	4.520	4.900
	16QAM	4.520	4.960	4.520	4.920	4.520	4.920
10 MHz	QPSK	9.000	9.640	9.000	9.600	8.960	9.560
	16QAM	8.960	9.480	8.960	9.560	9.000	9.640
15 MHz	QPSK	13.560	14.760	13.620	14.880	13.620	14.820
	16QAM	13.560	14.640	13.500	14.820	13.620	14.760
20 MHz	QPSK	17.840	19.280	18.000	19.520	18.080	19.280
	16QAM	17.920	19.280	18.000	19.360	18.080	19.360

LTE Band 26 (Part 90S):

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	1.260	1.104	1.248	1.110	1.254
	16QAM	1.116	1.260	1.098	1.248	1.104	1.260
3 MHz	QPSK	2.700	3.012	2.700	3.012	2.700	2.988
	16QAM	2.688	3.000	2.700	3.024	2.700	3.000
5 MHz	QPSK	4.520	5.020	4.520	4.960	4.540	5.000
	16QAM	4.560	5.020	4.520	5.000	4.520	4.980
10 MHz	QPSK	/	/	8.960	9.720	/	/
	16QAM	/	/	8.960	9.800	/	/

LTE Band 66

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	1.104	1.278	1.104	1.290
	16QAM	1.098	1.278	1.098	1.290	1.104	1.296
3 MHz	QPSK	2.688	2.940	2.688	2.940	2.688	2.916
	16QAM	2.688	2.952	2.688	2.928	2.676	2.952
5 MHz	QPSK	4.520	4.920	4.520	4.920	4.500	4.900
	16QAM	4.500	4.940	4.520	4.920	4.520	4.920
10 MHz	QPSK	8.960	9.640	8.960	9.680	8.960	9.520
	16QAM	8.920	9.600	8.920	9.640	8.960	9.640
15 MHz	QPSK	13.560	14.820	13.500	14.700	13.560	14.820
	16QAM	13.500	14.760	13.500	14.760	13.500	14.700
20 MHz	QPSK	18.000	19.440	18.000	19.280	18.000	19.200
	16QAM	17.920	19.280	18.000	19.280	17.920	19.280

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

FCC §2.1051, §22.917(a) & §24.238(a)& §27.53 & §90.691- SPURIOUS EMISSIONS AT ANTENNA TERMINALS

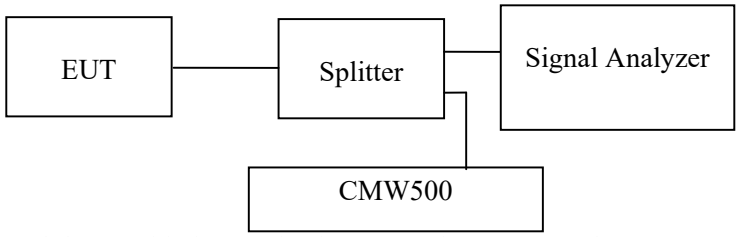
Applicable Standard

FCC §2.1051, §22.917(a) & §24.238(a), §27.53 and §90.691.

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 has included in plot.

Test Data

Environmental Conditions

Temperature:	17.5~25.7 ℃
Relative Humidity:	51~59 %
ATM Pressure:	101.0 kPa

The testing was performed by Cat Kang from 2022-10-21 to 2022-11-25.

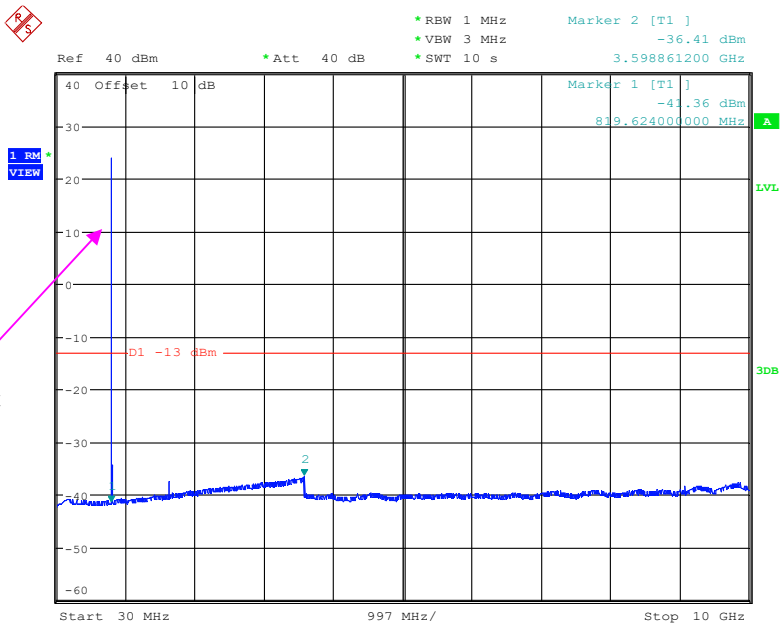
EUT operation mode: Transmitting

Test result: Pass

Please refer to the following plots.

Cellular Band (Part 22H)
Low Channel:

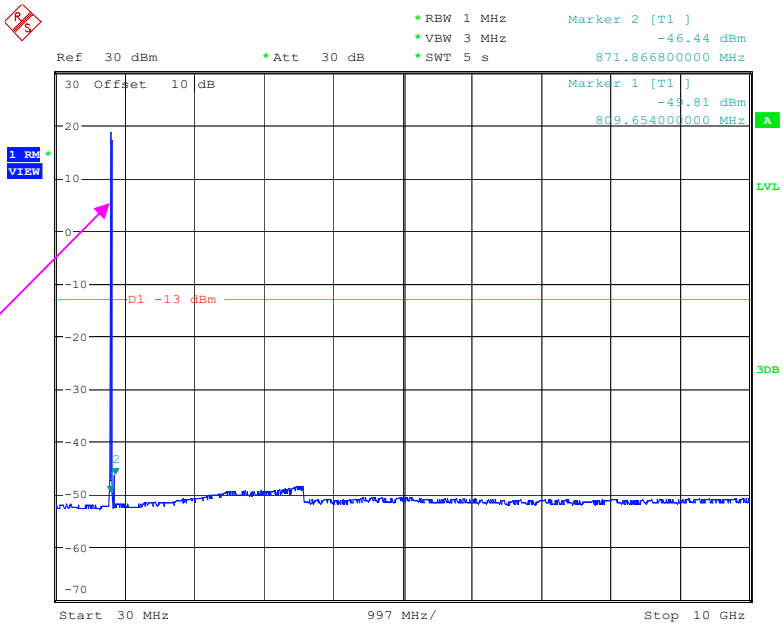
30 MHz – 10 GHz (GSM Mode)



Fundamental test

Date: 25.NOV.2022 13:55:25

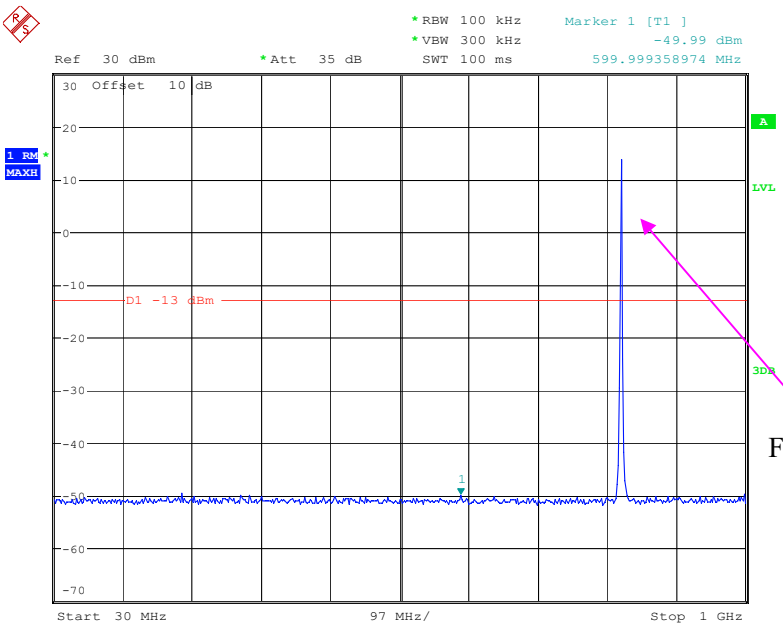
30 MHz – 10 GHz (WCDMA Mode)



Fundamental test

Date: 22.OCT.2022 17:47:11

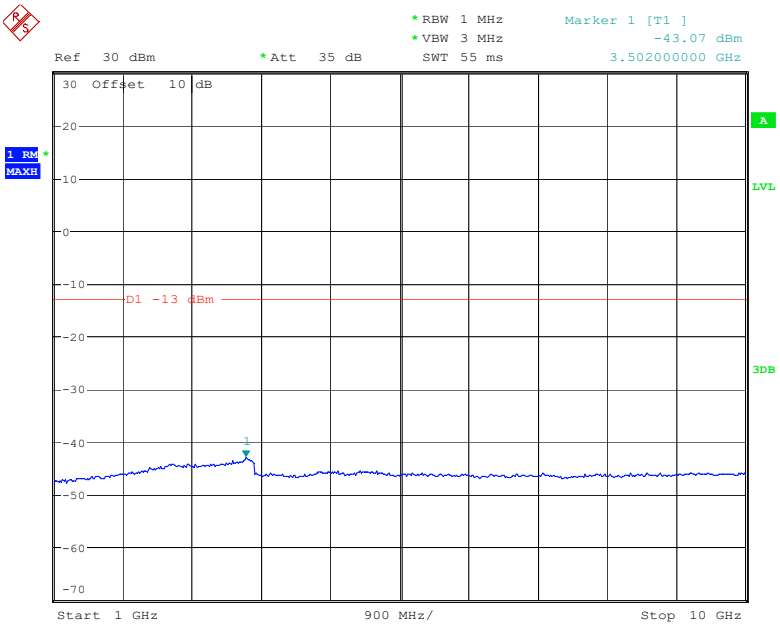
30 MHz – 1 GHz CDMA (1*RTT BC 0)



Fundamental test

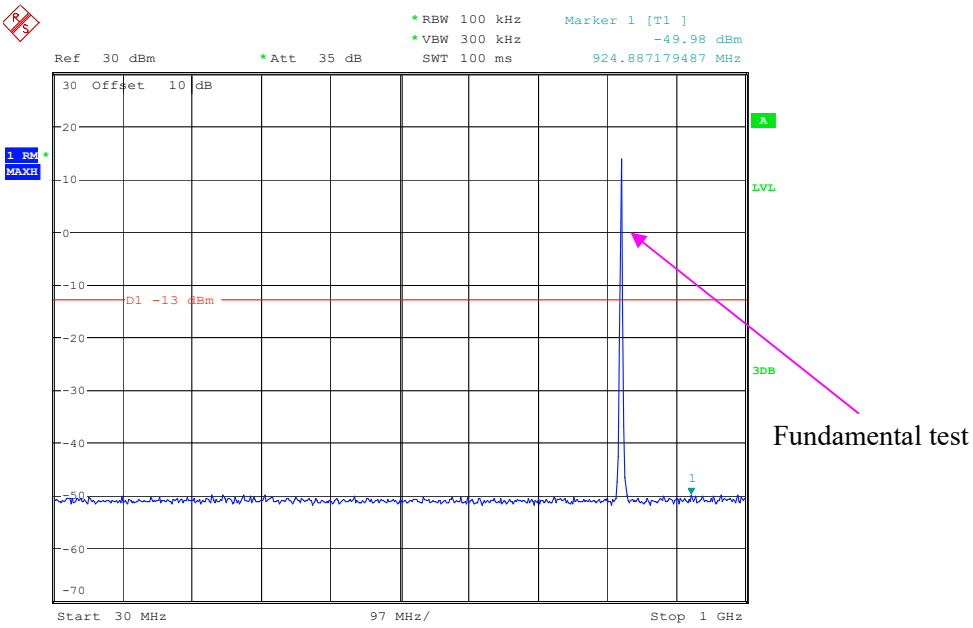
Date: 25.OCT.2022 08:58:03

1 GHz – 10 GHz CDMA (1*RTT BC 0)



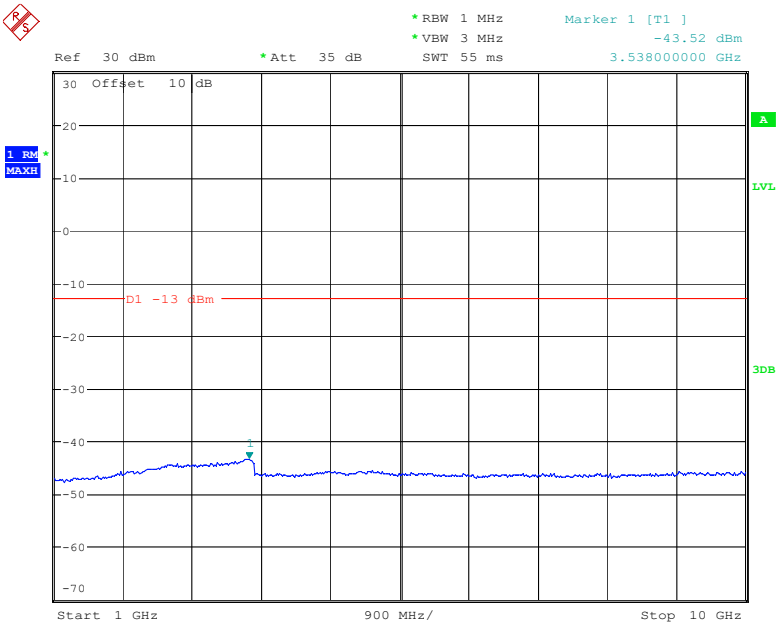
Date: 25.OCT.2022 09:01:37

30 MHz – 1 GHz CDMA (EV-DO, BC0)



Date: 25.OCT.2022 09:10:54

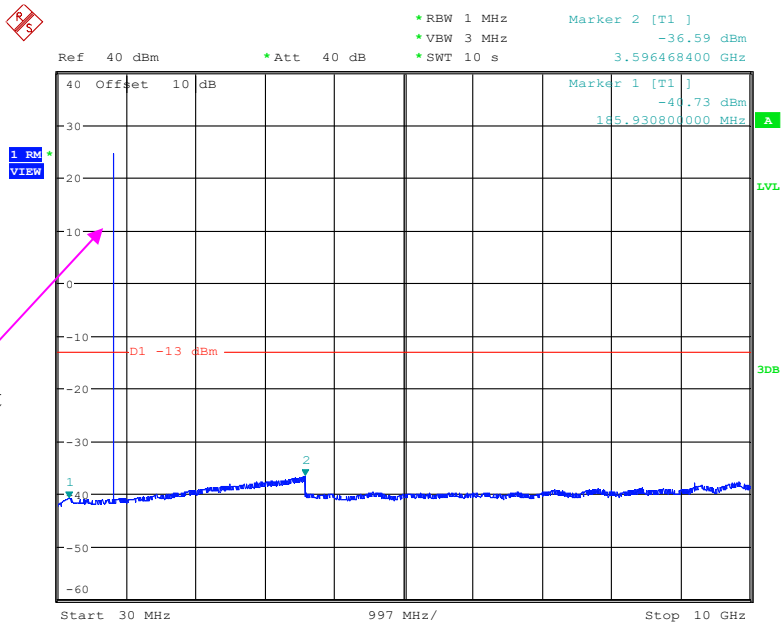
1 GHz – 10 GHz CDMA (EV-DO, BC0)



Date: 25.OCT.2022 09:09:57

Middle Channel:

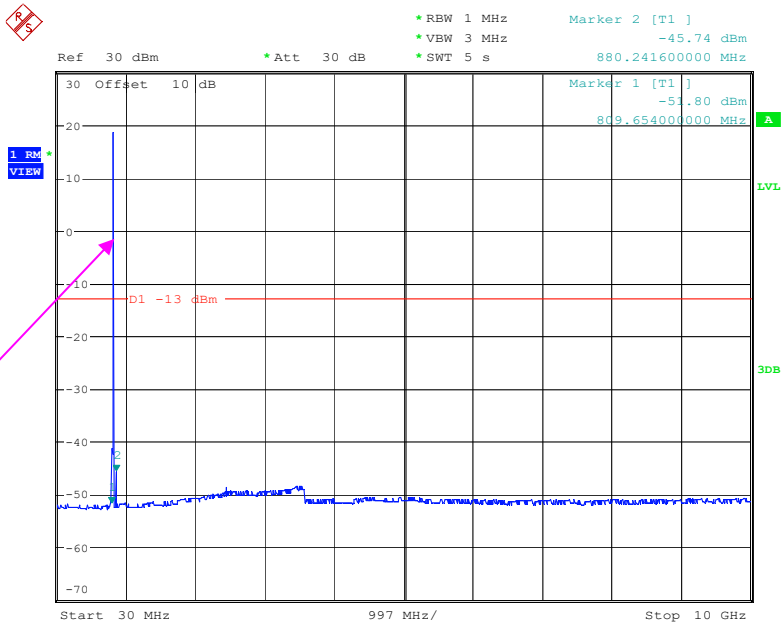
30 MHz – 10 GHz (GSM Mode)



Fundamental test

Date: 25.NOV.2022 13:56:38

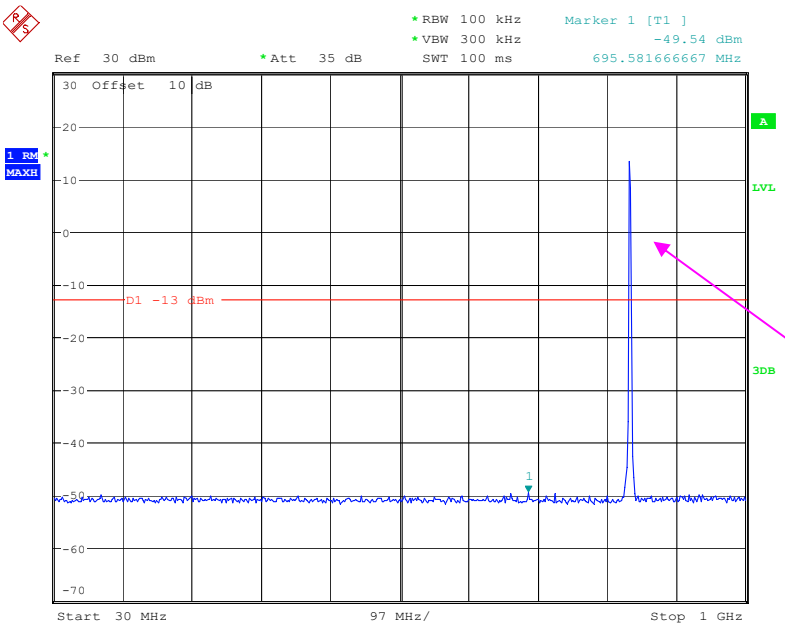
30 MHz – 10 GHz (WCDMA Mode)



Fundamental test

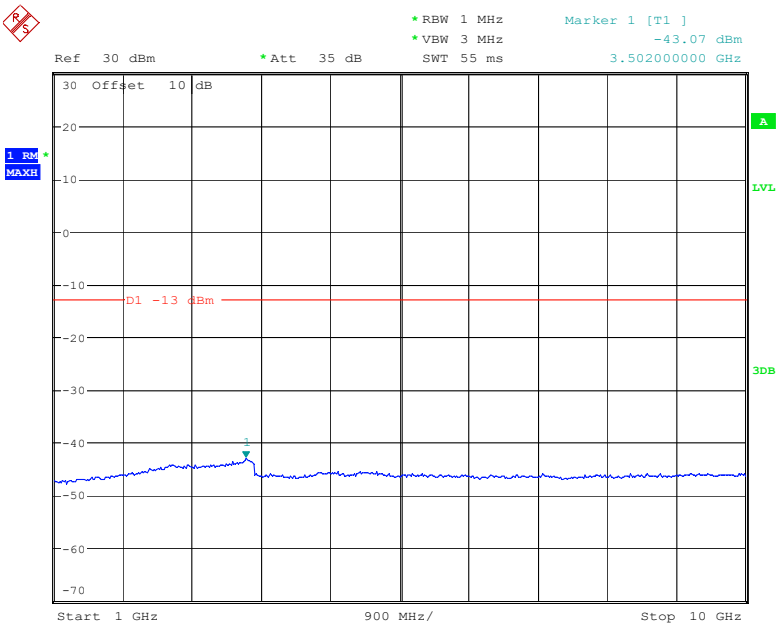
Date: 22.OCT.2022 17:51:47

30 MHz – 1 GHz CDMA (1*RTT BC 0)



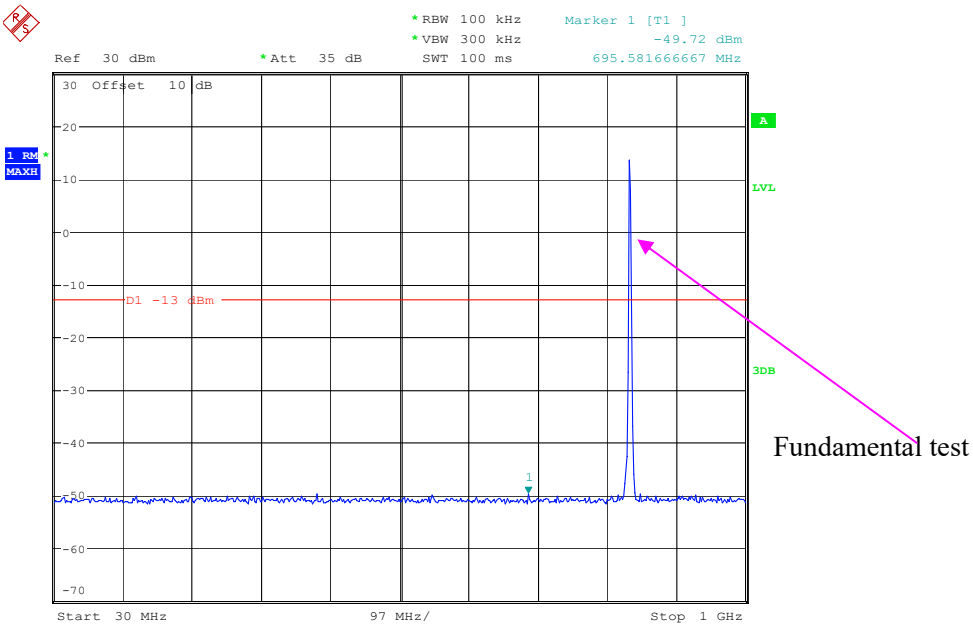
Date: 25.OCT.2022 08:59:46

1 GHz – 10 GHz CDMA (1*RTT BC 0)



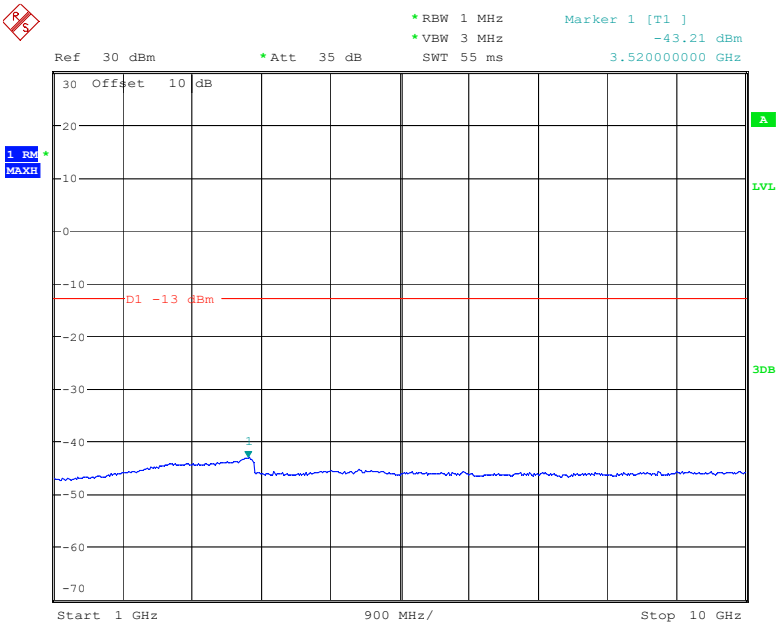
Date: 25.OCT.2022 09:01:37

30 MHz – 1 GHz CDMA (EV-DO, BC0)



Date: 25.OCT.2022 09:11:47

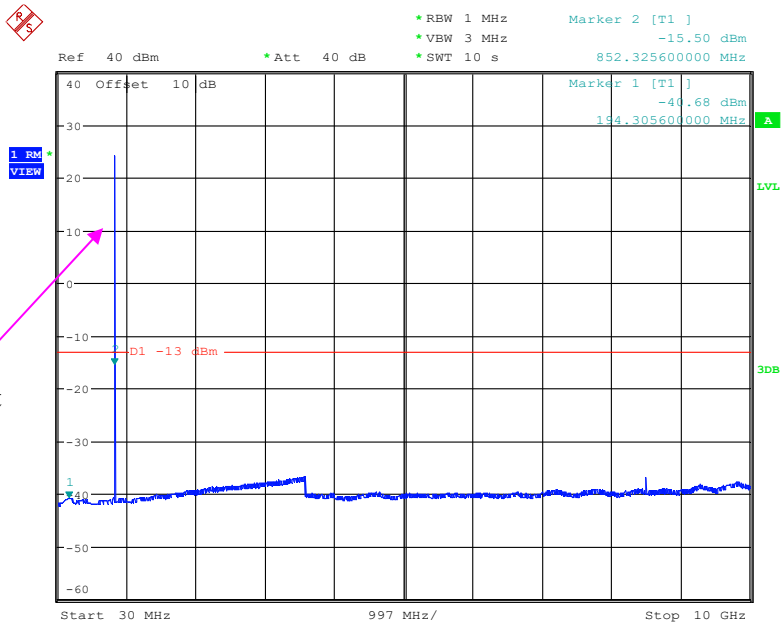
1 GHz – 10 GHz CDMA (EV-DO, BC0)



Date: 25.OCT.2022 09:09:04

High Channel:

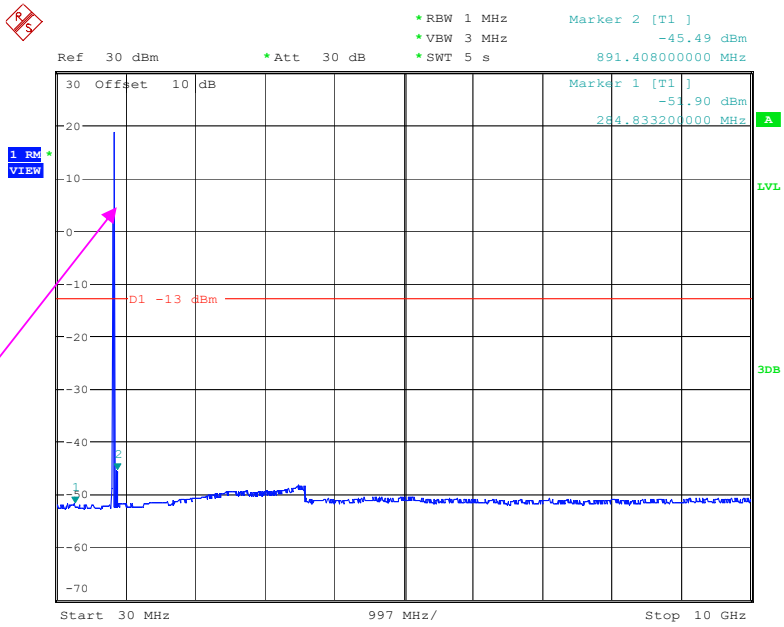
30 MHz – 10 GHz (GSM Mode)



Fundamental test

Date: 25.NOV.2022 13:59:27

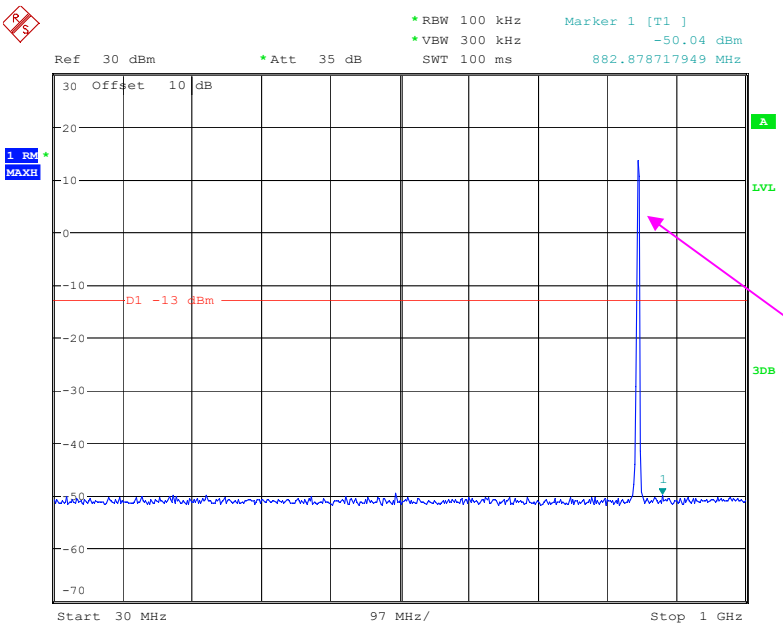
30 MHz – 10 GHz (WCDMA Mode)



Fundamental test

Date: 22.OCT.2022 17:57:52

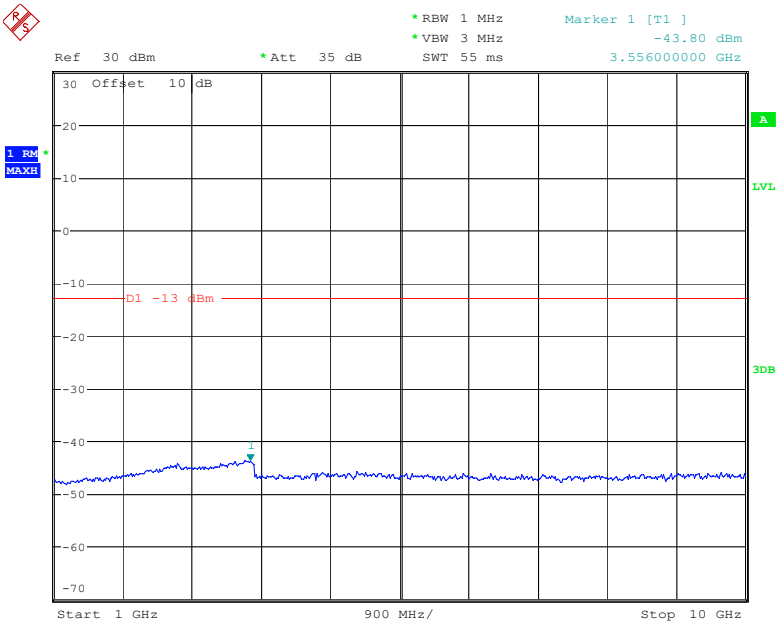
30 MHz – 1 GHz CDMA (1*RTT BC0)



Fundamental test

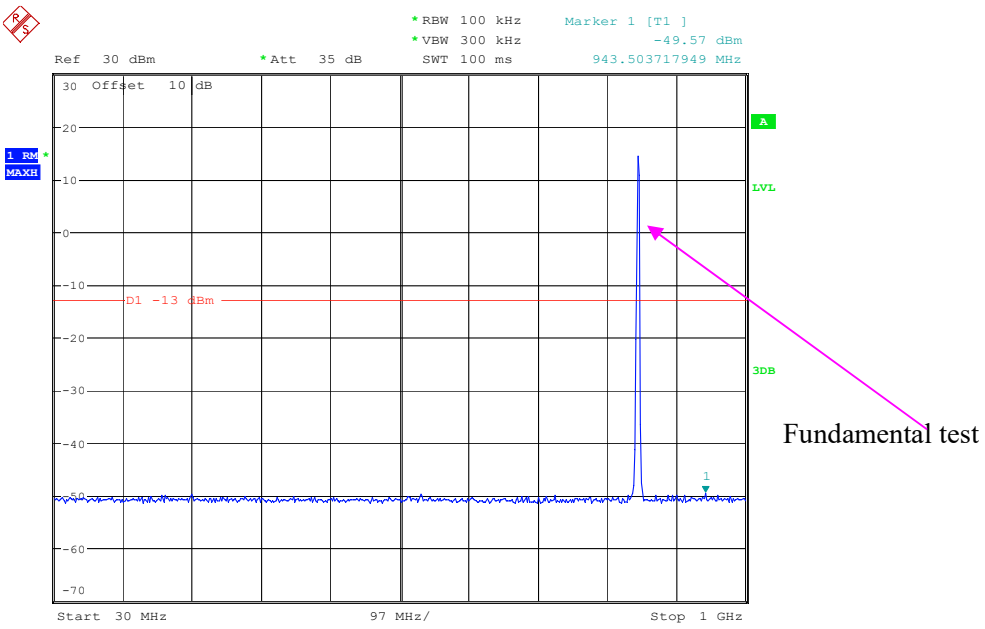
Date: 25.OCT.2022 09:00:36

1 GHz – 10 GHz CDMA (1*RTT BC0)



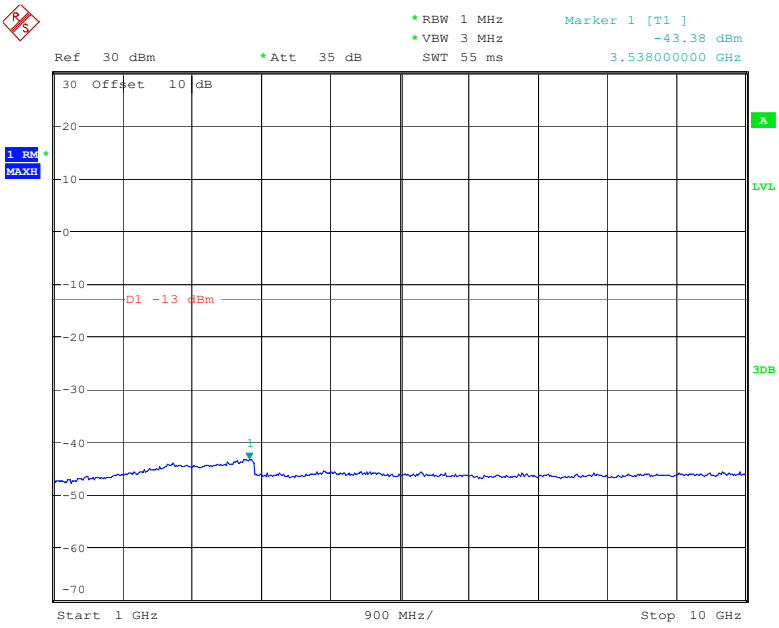
Date: 25.OCT.2022 09:01:05

30 MHz – 1 GHz CDMA (EV-DO, BC0)



Date: 25.OCT.2022 09:12:58

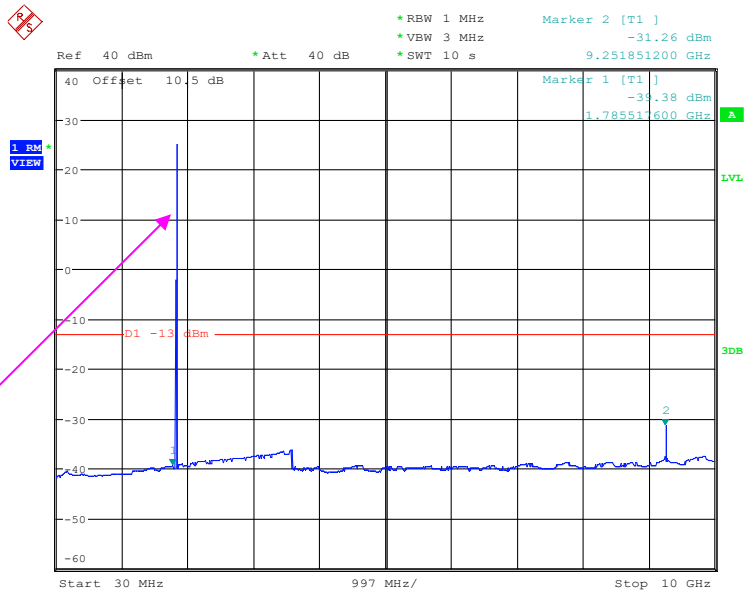
1 GHz – 10 GHz CDMA (EV-DO, BC0)



Date: 25.OCT.2022 09:09:38

PCS Band (Part 24E)
Low Channel:

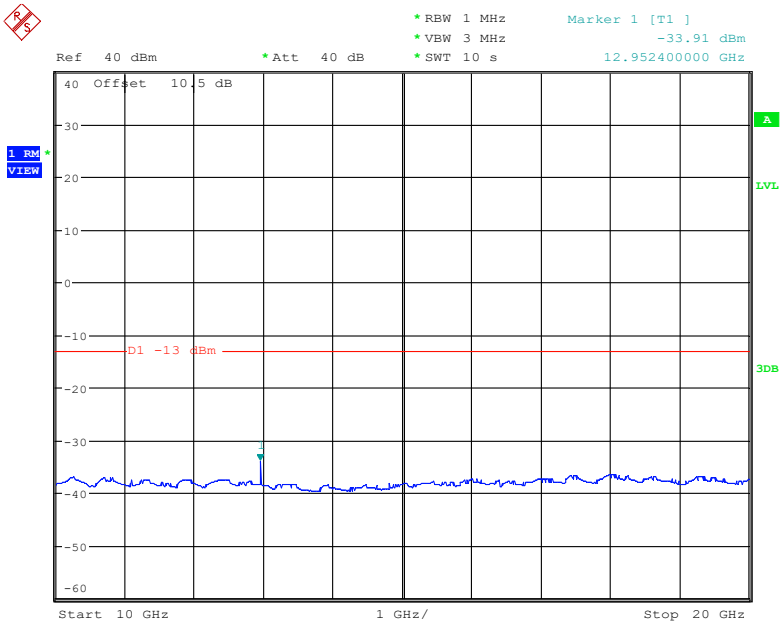
30 MHz – 10 GHz (GSM Mode)



Fundamental test

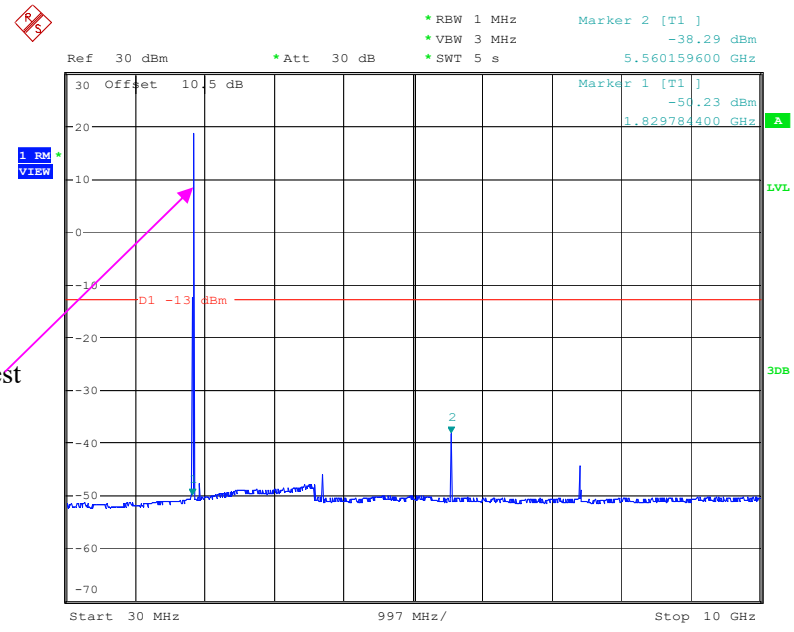
Date: 22.OCT.2022 16:40:19

10 GHz – 20 GHz (GSM Mode)



Date: 22.OCT.2022 16:41:32

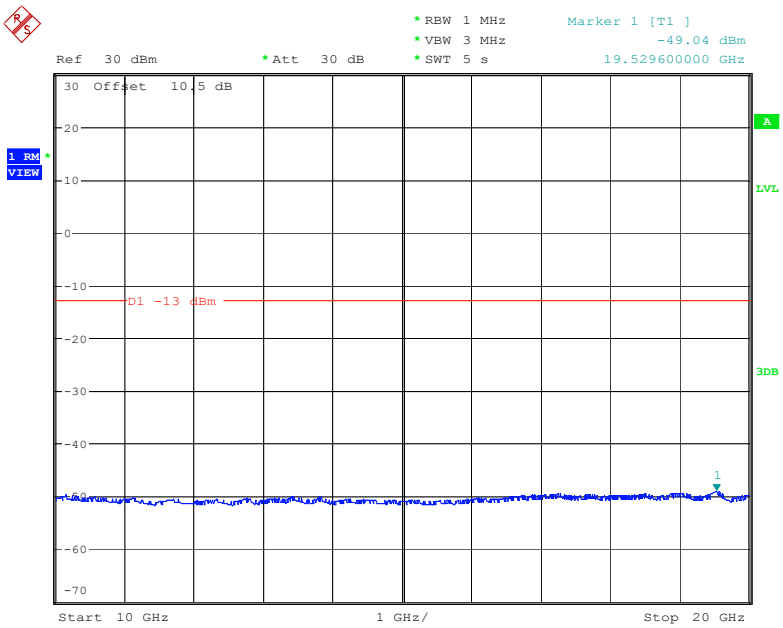
30 MHz – 10 GHz (WCDMA Mode)



Fundamental test

Date: 22.OCT.2022 17:18:00

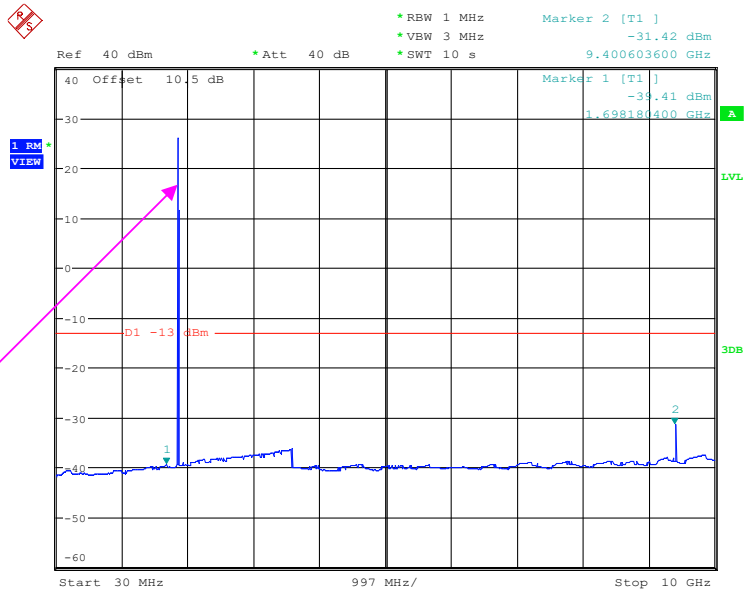
10 GHz – 20 GHz (WCDMA Mode)



Date: 22.OCT.2022 17:18:41

Middle Channel:

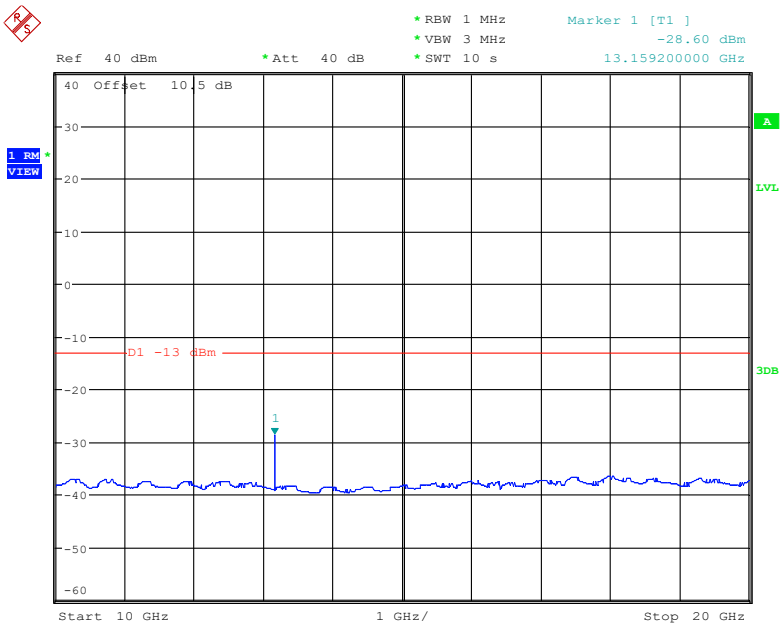
30 MHz – 10 GHz (GSM Mode)



Fundamental test

Date: 22.OCT.2022 16:44:57

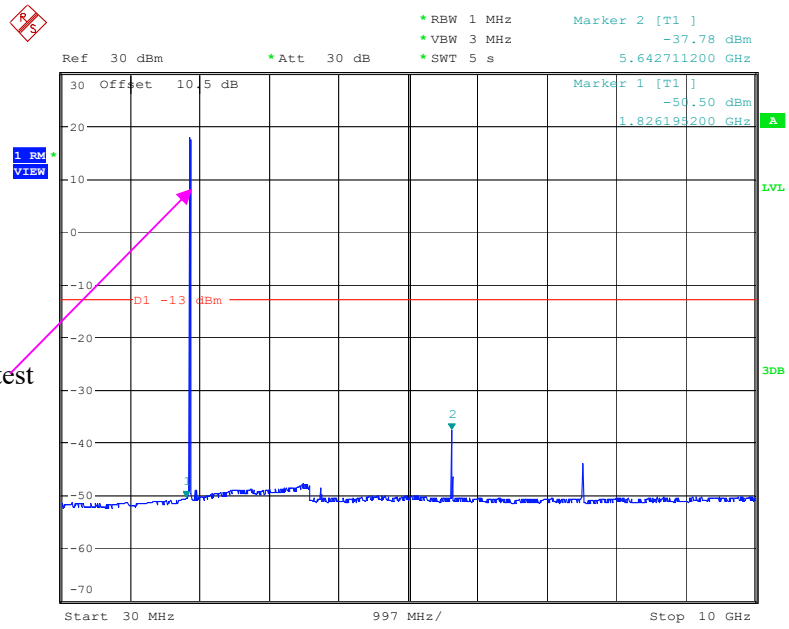
10 GHz – 20 GHz (GSM Mode)



Date: 22.OCT.2022 16:46:10

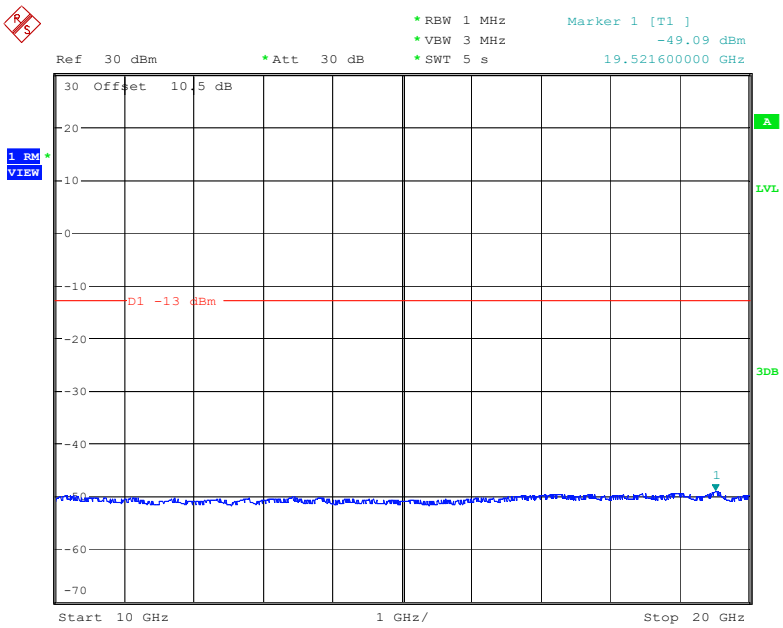
30 MHz – 10 GHz (WCDMA Mode)

Fundamental test



Date: 22.OCT.2022 17:21:27

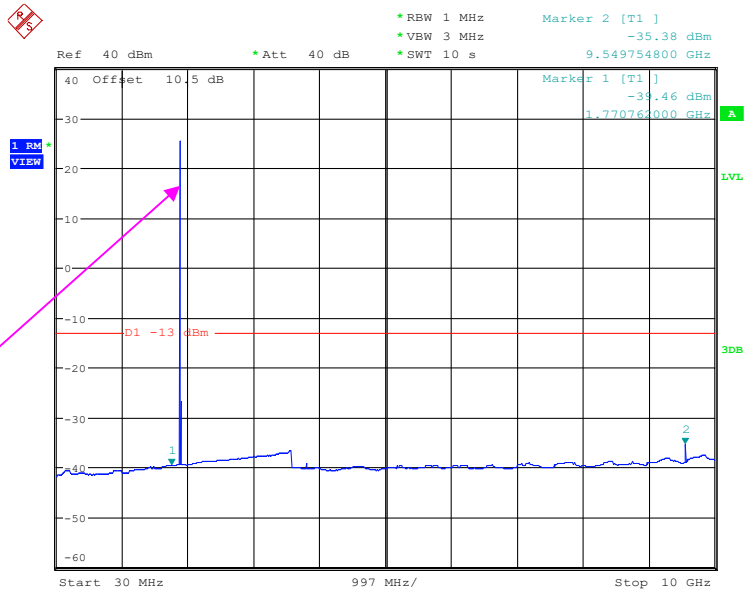
10 GHz – 20 GHz (WCDMA Mode)



Date: 22.OCT.2022 17:22:07

High Channel:

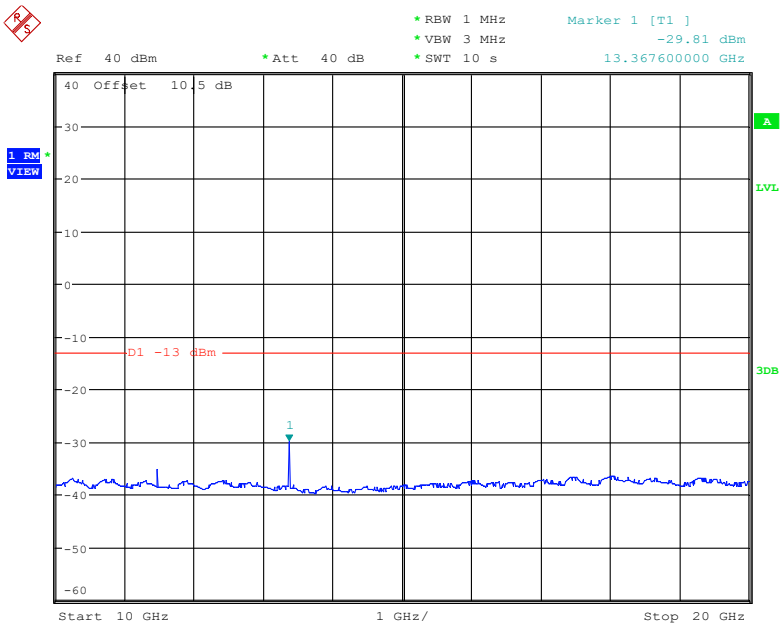
30 MHz – 10 GHz (GSM Mode)



Fundamental test

Date: 22.OCT.2022 16:51:33

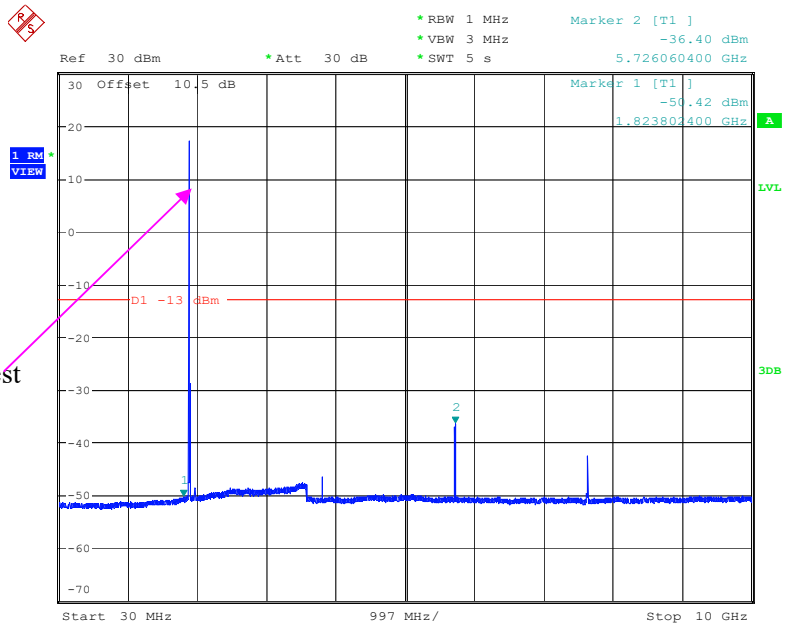
10 GHz – 20 GHz (GSM Mode)



Date: 22.OCT.2022 16:52:36

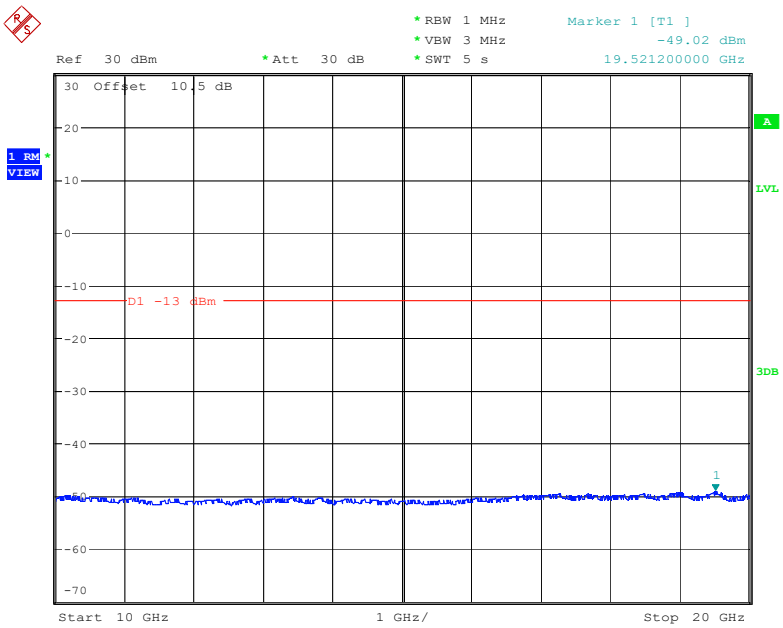
30 MHz – 10 GHz (WCDMA Mode)

Fundamental test



Date: 22.OCT.2022 17:24:57

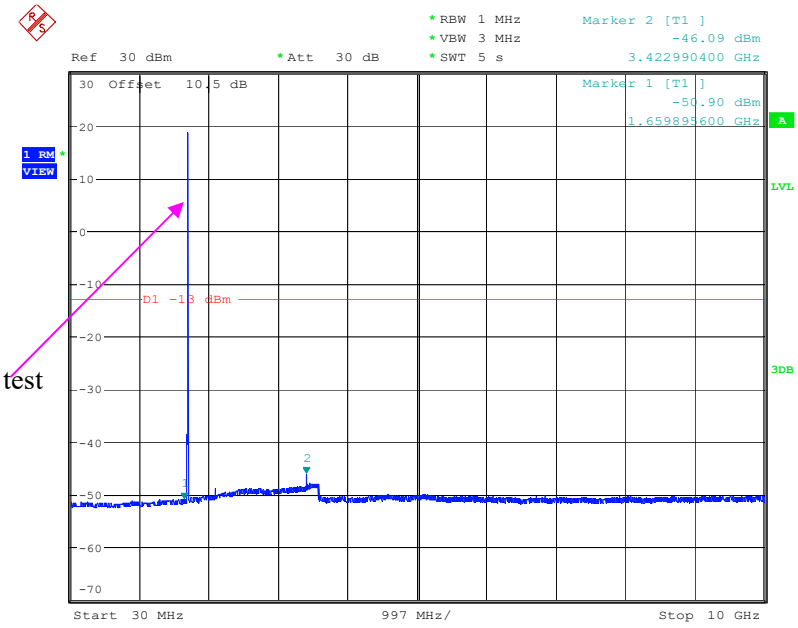
10 GHz – 20 GHz (WCDMA Mode)



Date: 22.OCT.2022 17:25:37

AWS BAND
Low Channel:

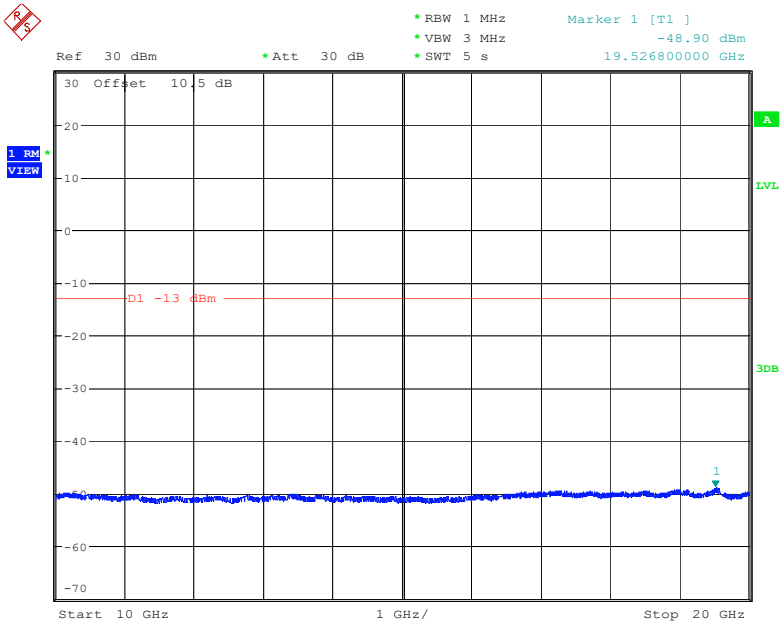
30 MHz – 10 GHz (WCDMA Mode)



Fundamental test

Date: 22.OCT.2022 17:36:31

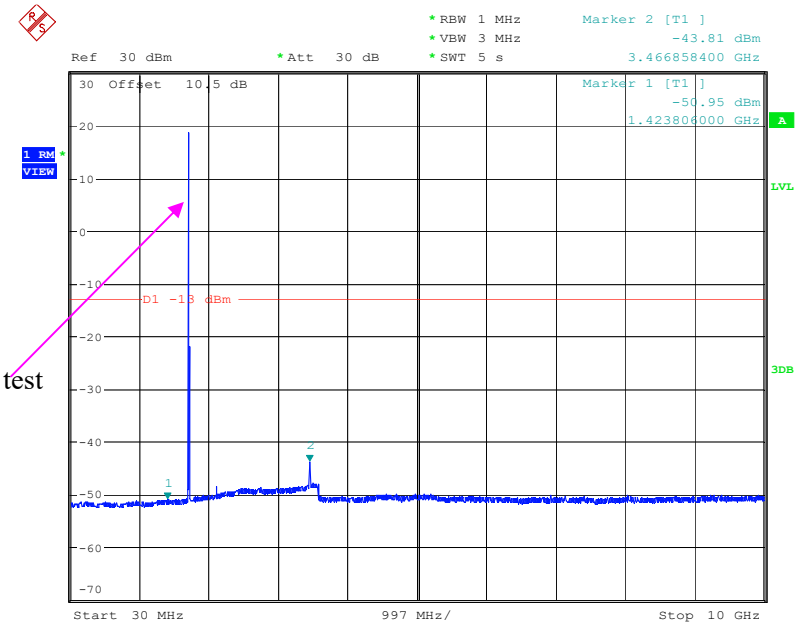
10 GHz – 20 GHz (WCDMA Mode)



Date: 22.OCT.2022 17:36:58

Middle Channel:

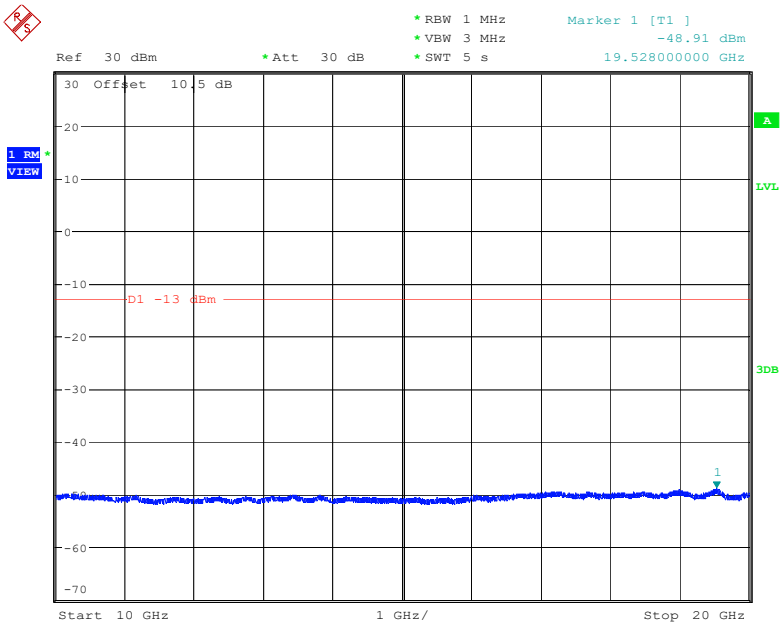
30 MHz – 10 GHz (WCDMA Mode)



Fundamental test

Date: 22.OCT.2022 17:39:22

10 GHz – 20 GHz (WCDMA Mode)

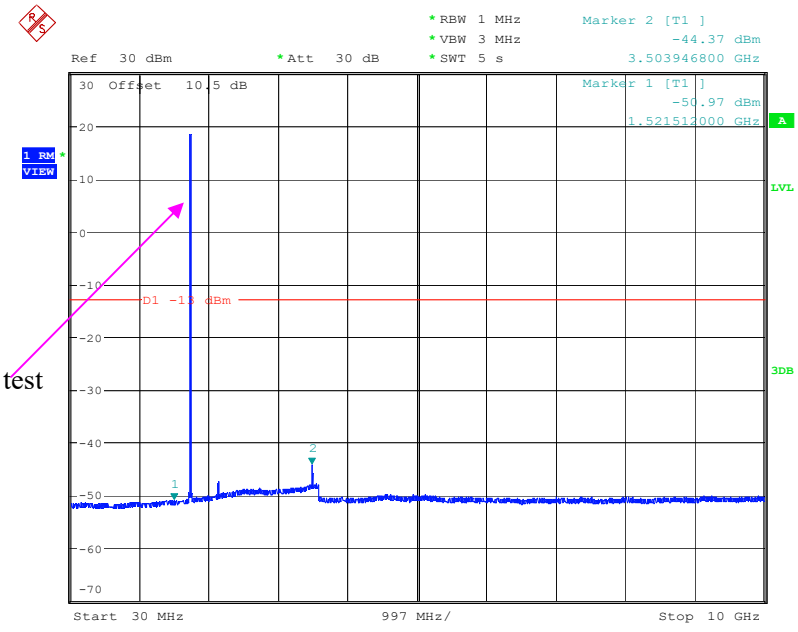


Date: 22.OCT.2022 17:39:49

High Channel:

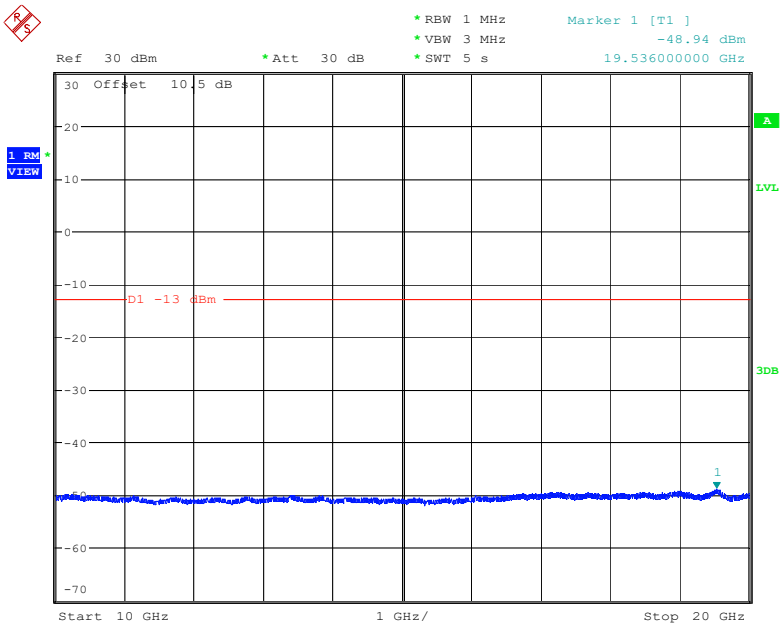
30 MHz – 10 GHz (WCDMA Mode)

Fundamental test



Date: 22.OCT.2022 17:42:39

10 GHz – 20 GHz (WCDMA Mode)



Date: 22.OCT.2022 17:43:06

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

FCC § 2.1053; § 22.917 (a);§ 24.238 (a); §27.53; §90.691- SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053, §22.917(a) & § 24.238(a) &§ 27.53&§90.691.

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:	27.6 ℃
Relative Humidity:	62 %
ATM Pressure:	101.0 kPa

The testing was performed by Lee Li on 2022-11-16.

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, 824.2MHz								
1648.4	-56.30	232	1.1	H	3.5	-52.80	-13	-39.80
1648.4	-55.60	7	1.5	V	3.1	-52.50	-13	-39.50
2472.6	-54.60	292	1.6	H	6.6	-48.00	-13	-35.00
2472.6	-53.70	340	1.1	V	5.8	-47.90	-13	-34.90
3296.8	-49.00	32	2.4	H	6.4	-42.60	-13	-29.60
3296.8	-48.50	290	2.4	V	5.7	-42.80	-13	-29.80
GSM850, 836.6MHz								
1673.2	-55.10	108	1.7	H	3.8	-51.30	-13	-38.30
1673.2	-53.20	184	2.1	V	3.1	-50.10	-13	-37.10
2509.8	-54.90	177	1.1	H	6.2	-48.70	-13	-35.70
2509.8	-53.50	102	2.4	V	5.6	-47.90	-13	-34.90
3346.4	-49.80	4	2	H	6.6	-43.20	-13	-30.20
3346.4	-48.60	31	1.5	V	5.4	-43.20	-13	-30.20
GSM850, 848.8MHz								
1697.2	-55.10	290	1.5	H	4.1	-51.00	-13	-38.00
1697.2	-53.60	278	2.2	V	3.1	-50.50	-13	-37.50
2545.8	-55.00	141	1.3	H	6.1	-48.90	-13	-35.90
2545.8	-53.60	322	1.8	V	5.8	-47.80	-13	-34.80
3394.4	-49.70	26	1.9	H	6.2	-43.50	-13	-30.50
3394.4	-48.40	214	2.4	V	5.4	-43.00	-13	-30.00

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
CDMA 1*RTT (BC0), 824.70MHz								
1649.4	-54.9	252	2.4	H	3.5	-51.4	-13	-38.4
1649.4	-57.6	312	1.9	V	3.1	-54.5	-13	-41.5
2474.1	-52.4	276	1.3	H	6.6	-45.8	-13	-32.8
2474.1	-51.8	99	1.2	V	5.8	-46.0	-13	-33.0
3298.8	-52.4	91	1.5	H	6.4	-46.0	-13	-33.0
3298.8	-51.5	50	1.6	V	5.7	-45.8	-13	-32.8
CDMA 1*RTT (BC0), 836.52MHz								
1673.04	-57.5	155	2.3	H	3.8	-53.7	-13	-40.7
1673.04	-56.7	50	1.1	V	3.1	-53.6	-13	-40.6
2509.56	-49.9	319	1.3	H	6.2	-43.7	-13	-30.7
2509.56	-48.7	148	1.5	V	5.5	-43.2	-13	-30.2
3346.08	-52.6	281	1.8	H	6.6	-46.0	-13	-33.0
3346.08	-52.4	345	2.1	V	5.4	-47.0	-13	-34.0
CDMA 1*RTT (BC0), 848.31MHz								
1696.62	-59.4	256	1.3	H	4.1	-55.3	-13	-42.3
1696.62	-55.6	290	2.1	V	3.1	-52.5	-13	-39.5
2544.93	-49.5	322	2.3	H	6.1	-43.4	-13	-30.4
2544.93	-52.0	302	2.3	V	5.8	-46.2	-13	-33.2
3393.24	-50.8	260	1.6	H	6.2	-44.6	-13	-31.6
3393.24	-51.0	98	2.2	V	5.4	-45.6	-13	-32.6

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
CDMA EV-DO (BC0),824.7MHz								
1649.4	-57.0	311	1.9	H	3.5	-53.5	-13	-40.5
1649.4	-57.3	313	1.1	V	3.1	-54.2	-13	-41.2
2474.1	-51.1	337	1.6	H	6.6	-44.5	-13	-31.5
2474.1	-50.0	81	1.9	V	5.8	-44.2	-13	-31.2
3298.8	-53.9	250	1.9	H	6.4	-47.5	-13	-34.5
3298.8	-50.8	203	2.1	V	5.7	-45.1	-13	-32.1
CDMA EV-DO (BC0),836.52MHz								
1673.04	-56.6	30	1.6	H	3.8	-52.8	-13	-39.8
1673.04	-57.1	13	2.1	V	3.1	-54.0	-13	-41.0
2509.56	-49.8	252	1.5	H	6.2	-43.6	-13	-30.6
2509.56	-48.2	287	1.3	V	5.5	-42.7	-13	-29.7
3346.08	-53.0	86	2.2	H	6.6	-46.4	-13	-33.4
3346.08	-51.4	149	1.8	V	5.4	-46.0	-13	-33.0
CDMA EV-DO (BC0),848.31MHz								
1696.62	-55.4	270	2.2	H	4.1	-51.3	-13	-38.3
1696.62	-50.4	347	1.4	V	3.1	-47.3	-13	-34.3
2544.93	-50.0	98	1.4	H	6.1	-43.9	-13	-30.9
2544.93	-49.1	148	2.3	V	5.8	-43.3	-13	-30.3
3393.24	-53.1	26	1.3	H	6.2	-46.9	-13	-33.9
3393.24	-52.0	78	1.0	V	5.4	-46.6	-13	-33.6

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 Band5,826.4MHz								
1652.8	-54.40	120	1.9	H	3.5	-50.90	-13	-37.90
1652.8	-53.20	288	2.2	V	3.1	-50.10	-13	-37.10
2479.2	-57.20	78	2.1	H	6.6	-50.60	-13	-37.60
2479.2	-55.30	178	2.3	V	5.8	-49.50	-13	-36.50
3305.6	-51.50	37	2.1	H	6.4	-45.10	-13	-32.10
3305.6	-50.40	187	2.1	V	5.7	-44.70	-13	-31.70
WCDMA Band5,836.4MHz								
1672.8	-54.50	286	2.2	H	3.8	-50.70	-13	-37.70
1672.8	-54.00	129	2.5	V	3.1	-50.90	-13	-37.90
2509.2	-56.70	153	1.1	H	6.2	-50.50	-13	-37.50
2509.2	-55.60	311	2.1	V	5.6	-50.00	-13	-37.00
3345.6	-51.20	98	1.2	H	6.6	-44.60	-13	-31.60
3345.6	-49.90	167	1.2	V	5.4	-44.50	-13	-31.50
WCDMA Band5,846.6MHz								
1693.2	-55.00	332	1.5	H	4.1	-50.90	-13	-37.90
1693.2	-53.80	311	2.0	V	3.1	-50.70	-13	-37.70
2539.8	-56.70	164	1.8	H	6.1	-50.60	-13	-37.60
2539.8	-55.20	41	2.0	V	5.8	-49.40	-13	-36.40
3386.4	-51.40	334	2.0	H	6.2	-45.20	-13	-32.20
3386.4	-50.80	316	1.1	V	5.4	-45.40	-13	-32.40

30MHz-20GHz:

Cellular 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, 1850.2MHz								
3700.4	-49.40	223	1.5	H	8.1	-41.30	-13	-28.30
3700.4	-50.50	281	2.1	V	7.6	-42.90	-13	-29.90
GSM1900, 1880MHz								
3760	-51.10	249	1.4	H	8.8	-42.30	-13	-29.30
3760	-51.20	173	1.4	V	8	-43.20	-13	-30.20
GSM 1900, 1909.8MHz								
3819.6	-50.30	357	1.3	H	8.7	-41.60	-13	-28.60
3819.6	-51.10	223	1.4	V	7.9	-43.20	-13	-30.20
WCDMA Band2,1852.4MHz								
3704.8	-52.70	172	2.3	H	8.1	-44.60	-13	-31.60
3704.8	-51.80	275	1.6	V	7.6	-44.20	-13	-31.20
WCDMA Band2,1880MHz								
3760	-53.40	91	1	H	8.8	-44.60	-13	-31.60
3760	-52.20	222	1.3	V	8	-44.20	-13	-31.20
WCDMA Band2,1907.6MHz								
3815.2	-53.70	104	1.7	H	8.7	-45.00	-13	-32.00
3815.2	-51.90	220	1.3	V	7.9	-44.00	-13	-31.00

AWS Band (Part 27)

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 Band4, 1712.4MHz								
3424.8	-49.50	95	1.3	H	6.4	-43.10	-13	-30.10
3424.8	-48.40	252	1.1	V	5.8	-42.60	-13	-29.60
WCDMA Band4, 1732.6MHz								
3465.2	-49.9	335	2.2	H	7	-42.90	-13	-29.90
3465.2	-49.9	185	2	V	6.2	-43.70	-13	-30.70
WCDMA Band4, 1752.6MHz								
3505.2	-50.90	183	1.4	H	7.8	-43.10	-13	-30.10
3505.2	-50.30	138	1.4	V	6.5	-43.80	-13	-30.80

LTE Band: (Pre-scan all bandwidth/modulation, the 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)				
LTE Band 2								
Test frequency range: 30MHz-20GHz								
1.4MHz bandwidth, QPSK, Low channel								
3701.4	-49.60	303	2.1	H	8.1	-41.50	-13	-28.50
3701.4	-48.90	207	1.4	V	7.6	-41.30	-13	-28.30
5552.1	-48.00	119	1.4	H	9.6	-38.40	-13	-25.40
5552.1	-47.20	46	2.0	V	9.1	-38.10	-13	-25.10
1.4MHz bandwidth, QPSK, Middle channel								
3760	-52.30	255	2.1	H	8.8	-43.50	-13	-30.50
3760	-50.40	337	1.3	V	8	-42.40	-13	-29.40
5640	-49.10	42	1.5	H	10.2	-38.90	-13	-25.90
5640	-47.70	17	1.3	V	9.4	-38.30	-13	-25.30
1.4MHz bandwidth, QPSK, High channel								
3818.6	-44.20	102	1.2	H	8.7	-35.50	-13	-22.50
3818.6	-47.60	115	2.3	V	7.9	-39.70	-13	-26.70
5727.9	-49.30	346	2	H	10.6	-38.70	-13	-25.70
5727.9	-47.80	80	2.4	V	10.2	-37.60	-13	-24.60

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
LTE Band 4								
Test frequency range: 30MHz-20GHz								
1.4MHz bandwidth, QPSK, Low channel								
3421.4	-48.00	69	2.4	H	6.4	-41.60	-13	-28.60
3421.4	-48.00	275	1	V	5.8	-42.20	-13	-29.20
1.4MHz bandwidth, QPSK, Middle channel								
3465	-48.8	179	1.2	H	7	-41.80	-13	-28.80
3465	-48.6	347	2.4	V	6.2	-42.40	-13	-29.40
1.4MHz bandwidth, QPSK, High channel								
3508.6	-50.30	347	1.3	H	7.8	-42.50	-13	-29.50
3508.6	-49.10	130	2.3	V	6.5	-42.60	-13	-29.60

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
LTE Band 5								
Test frequency range: 30MHz-10GHz								
1.4MHz bandwidth, QPSK, Low channel								
1649.4	-56.90	275	1.1	H	3.5	-53.40	-13	-40.40
1649.4	-56.20	97	2.2	V	3.1	-53.10	-13	-40.10
2474.1	-55.00	49	1.1	H	6.6	-48.40	-13	-35.40
2474.1	-53.60	317	2.3	V	5.8	-47.80	-13	-34.80
3298.8	-50.50	158	1.2	H	6.4	-44.10	-13	-31.10
3298.8	-49.40	223	2	V	5.7	-43.70	-13	-30.70
1.4MHz bandwidth, QPSK, Middle channel								
1673.0	-54.70	328	1.1	H	3.8	-50.90	-13	-37.90
1673.0	-53.80	108	1.3	V	3.1	-50.70	-13	-37.70
2509.5	-55.10	62	1.3	H	6.2	-48.90	-13	-35.90
2509.5	-53.30	110	1.7	V	5.6	-47.70	-13	-34.70
3346.0	-50.50	78	1.9	H	6.6	-43.90	-13	-30.90
3346.0	-49.20	182	1.9	V	5.4	-43.80	-13	-30.80
1.4MHz bandwidth, QPSK, High channel								
1696.6	-55.40	254	1.9	H	4.1	-51.30	-13	-38.30
1696.6	-53.80	173	2.1	V	3.1	-50.70	-13	-37.70
2544.9	-54.30	242	2.0	H	6.1	-48.20	-13	-35.20
2544.9	-53.90	183	2.2	V	5.8	-48.10	-13	-35.10
3393.2	-50.50	304	1.4	H	6.2	-44.30	-13	-31.30
3393.2	-49.10	88	1.4	V	5.4	-43.70	-13	-30.70

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
LTE Band 7								
Test frequency range: 30MHz-26.5GHz								
5MHz bandwidth, QPSK, Low channel								
5005	-54.40	112	2.1	H	10.8	-43.60	-25	-18.60
5005	-53.20	200	1.6	V	10.2	-43.00	-25	-18.00
5MHz bandwidth, QPSK, Middle channel								
5070	-53.00	223	1.3	H	11.1	-41.90	-25	-16.90
5070	-53.50	234	1.3	V	10.8	-42.70	-25	-17.70
5MHz bandwidth, QPSK, High channel								
5135	-53.90	131	1.1	H	11.3	-42.60	-25	-17.60
5135	-53.20	270	1.5	V	10.8	-42.40	-25	-17.40

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
LTE Band 12								
Test frequency range: 30MHz-10GHz								
1.4MHz bandwidth, QPSK, Low channel								
1399.4	-60.7	113	1.8	H	6.3	-54.40	-13	-41.40
1399.4	-60	18	1.1	V	5.7	-54.30	-13	-41.30
2099.1	-49.8	299	2.1	H	4.9	-44.90	-13	-31.90
2099.1	-50.2	131	1.7	V	3.9	-46.30	-13	-33.30
2798.8	-55.2	287	2	H	6.6	-48.60	-13	-35.60
2798.8	-54.6	250	1.4	V	6	-48.60	-13	-35.60
1.4MHz bandwidth, QPSK, Middle channel								
1415	-59.6	313	1.9	H	5.9	-53.70	-13	-40.70
1415	-60.1	254	1.7	V	5.9	-54.20	-13	-41.20
2122.5	-51.7	69	2	H	6.3	-45.40	-13	-32.40
2122.5	-50.8	23	2	V	5.1	-45.70	-13	-32.70
2830	-55.8	303	1.4	H	6.7	-49.10	-13	-36.10
2830	-55.3	123	2.2	V	6.7	-48.60	-13	-35.60
1.4MHz bandwidth, QPSK, High channel								
1430.6	-59.7	138	2	H	5.9	-53.80	-13	-40.80
1430.6	-60.6	5	2	V	5.9	-54.70	-13	-41.70
2145.9	-51.2	213	1.9	H	6.3	-44.90	-13	-31.90
2145.9	-50.9	206	2.3	V	5.1	-45.80	-13	-32.80
2861.2	-55.4	3	1.4	H	6.7	-48.70	-13	-35.70
2861.2	-55.9	350	1.5	V	6.7	-49.20	-13	-36.20

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
LTE Band 13								
Test frequency range: 30MHz-10GHz								
5MHz bandwidth, QPSK, Low channel								
1559.0	-56.80	82	1.3	H	4.2	-52.60	-40	-12.60
1559.0	-55.80	95	1.3	V	3.3	-52.50	-40	-12.50
2338.5	-56.70	58	1.1	H	7.3	-49.40	-13	-36.40
2338.5	-55.80	278	1	V	6.4	-49.40	-13	-36.40
3118.0	-52.90	313	1.9	H	7.3	-45.60	-13	-32.60
3118.0	-51.40	226	1.7	V	6.5	-44.90	-13	-31.90
5MHz bandwidth, QPSK, Middle channel								
1564.0	-57.20	315	1.2	H	4.2	-53.00	-40	-13.00
1564.0	-55.60	187	1.3	V	3.3	-52.30	-40	-12.30
2346.0	-56.90	240	1.8	H	7.3	-49.60	-13	-36.60
2346.0	-55.80	337	1.2	V	6.4	-49.40	-13	-36.40
3128.0	-52.60	175	2.3	H	7.3	-45.30	-13	-32.30
3128.0	-52.30	243	2.4	V	6.5	-45.80	-13	-32.80
5MHz bandwidth, QPSK, High channel								
1569	-57.40	284	1.6	H	4.2	-53.20	-40	-13.20
1569	-56.50	222	1.8	V	3.3	-53.20	-40	-13.20
2353.5	-56.20	107	2.2	H	7.3	-48.90	-13	-35.90
2353.5	-54.40	318	1.2	V	6.4	-48.00	-13	-35.00
3138	-52.70	40	2.5	H	7.3	-45.40	-13	-32.40
3138	-51.50	360	1.5	V	6.5	-45.00	-13	-32.00

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
LTE Band 17								
Test frequency range: 30MHz-10GHz								
5MHz bandwidth, QPSK, Low channel								
1413	-59.9	200	1.7	H	5.8	-54.10	-13	-41.10
1413	-59.8	196	1.4	V	5.1	-54.70	-13	-41.70
2119.5	-51.5	130	1.4	H	6.5	-45.00	-13	-32.00
2119.5	-52.1	23	1.3	V	5.7	-46.40	-13	-33.40
2826	-55.8	138	2.3	H	7.1	-48.70	-13	-35.70
2826	-54.5	240	2	V	6.5	-48.00	-13	-35.00
5MHz bandwidth, QPSK, Middle channel								
1420	-59.4	26	2.2	H	5.8	-53.60	-13	-40.60
1420	-59.7	39	2	V	5.1	-54.60	-13	-41.60
2130	-51.4	31	1.5	H	6.5	-44.90	-13	-31.90
2130	-52.2	86	1.4	V	5.7	-46.50	-13	-33.50
2840	-55.5	267	1.5	H	7.1	-48.40	-13	-35.40
2840	-54.7	10	1.5	V	6.5	-48.20	-13	-35.20
5MHz bandwidth, QPSK, High channel								
1427	-59.4	191	1.3	H	5.8	-53.60	-13	-40.60
1427	-58.9	345	1.4	V	5.1	-53.80	-13	-40.80
2140.5	-51.4	168	1.6	H	6.5	-44.90	-13	-31.90
2140.5	-51.5	263	1.4	V	5.7	-45.80	-13	-32.80
2854	-55.9	49	2.4	H	7.1	-48.80	-13	-35.80
2854	-55.8	53	1.8	V	6.5	-49.30	-13	-36.30

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
LTE Band 25								
Test frequency range: 30MHz-20GHz								
1.4MHz bandwidth, QPSK, Low channel								
3701.4	-46.70	161	2.2	H	8.1	-38.60	-13	-25.60
3701.4	-47.00	330	1.3	V	7.6	-39.40	-13	-26.40
1.4MHz bandwidth, QPSK, Middle channel								
3765.0	-48.40	109	1.7	H	8.8	-39.60	-13	-26.60
3765.0	-47.40	351	1.8	V	8	-39.40	-13	-26.40
1.4MHz bandwidth, QPSK, High channel								
3828.6	-48.10	297	1.5	H	8.7	-39.40	-13	-26.40
3828.6	-47.90	245	1.1	V	7.9	-40.00	-13	-27.00

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
LTE Band 26								
Test frequency range: 30MHz-10GHz								
1.4MHz bandwidth, QPSK, Low channel								
1629.4	-56.70	45	1.8	H	3.5	-53.20	-13	-40.20
1629.4	-56.40	51	2.1	V	3.1	-53.30	-13	-40.30
2444.1	-56.20	78	1.2	H	6.6	-49.60	-13	-36.60
2444.1	-54.10	57	1.5	V	5.8	-48.30	-13	-35.30
3258.8	-51.00	284	1.7	H	6.4	-44.60	-13	-31.60
3258.8	-50.80	41	1.3	V	5.7	-45.10	-13	-32.10
1.4MHz bandwidth, QPSK, Middle channel								
1638.0	-54.50	132	1.1	H	3.5	-51.00	-13	-38.00
1638.0	-53.20	232	1.6	V	3.1	-50.10	-13	-37.10
2457.0	-55.40	91	1.4	H	6.6	-48.80	-13	-35.80
2457.0	-53.20	237	1.5	V	5.8	-47.40	-13	-34.40
3276.0	-51.40	195	1.2	H	6.4	-45.00	-13	-32.00
3276.0	-50.00	118	1.9	V	5.7	-44.30	-13	-31.30
1.4MHz bandwidth, QPSK, High channel								
1646.6	-54.50	19	1.2	H	3.8	-50.70	-13	-37.70
1646.6	-53.60	149	1.5	V	3.1	-50.50	-13	-37.50
2469.9	-54.80	177	1.0	H	6.2	-48.60	-13	-35.60
2469.9	-53.30	65	1.4	V	5.6	-47.70	-13	-34.70
3293.2	-51.80	327	1.9	H	6.6	-45.20	-13	-32.20
3293.2	-50.00	325	1.7	V	5.4	-44.60	-13	-31.60

Frequency (MHz)	Receiver Reading (dBm)	Turntable Degree	Rx Antenna		Substituted Factor (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)				
LTE Band 66								
Test frequency range: 30MHz-20GHz								
1.4MHz bandwidth, QPSK, Low channel								
3421.4	-49.40	252	2.1	H	6.4	-43.00	-13	-30.00
3421.4	-48.80	272	1.9	V	5.7	-43.10	-13	-30.10
1.4MHz bandwidth, QPSK, Middle channel								
3490.0	-50.40	58	2.1	H	7.6	-42.80	-13	-29.80
3490.0	-50.30	333	2.4	V	6.4	-43.90	-13	-30.90
1.4MHz bandwidth, QPSK, High channel								
3558.6	-51.50	297	2.3	H	7.8	-43.70	-13	-30.70
3558.6	-50.70	78	1.8	V	7	-43.70	-13	-30.70

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

FCC§ 22.917 (a);§ 24.238 (a); §27.53(c) (g) (h)(m); §90.691 - BAND EDGES

Applicable Standard

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

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

According to FCC §27.53 (c), For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:
(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

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.

According to § 90.691, (a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

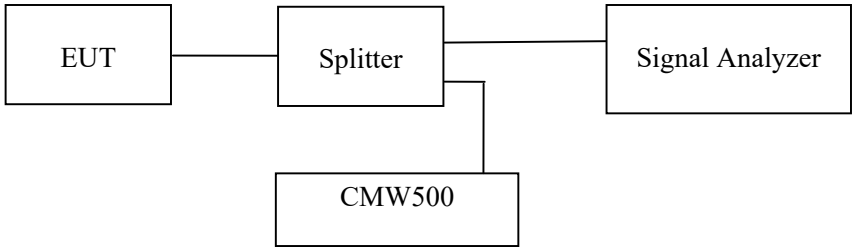
(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section

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



Note: the worst path loss (cable loss and splitter inset loss) among the test frequency range has included in plot.

Test Data

Environmental Conditions

Temperature:	17.5~25.7 ℃
Relative Humidity:	51~59 %
ATM Pressure:	101.0 kPa

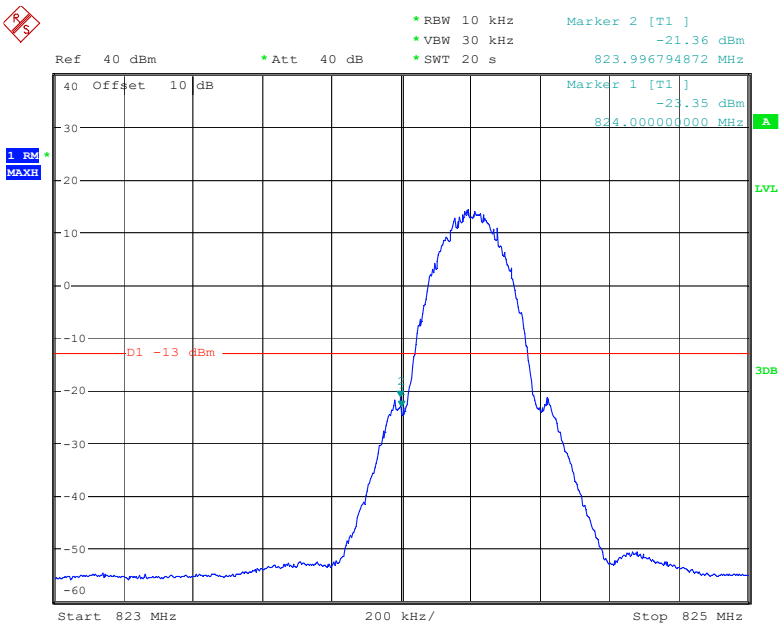
The testing was performed by Cat Kang from 2022-10-21 to 2022-11-25.

EUT operation mode: Transmitting (Worst case)

Test Result: Pass

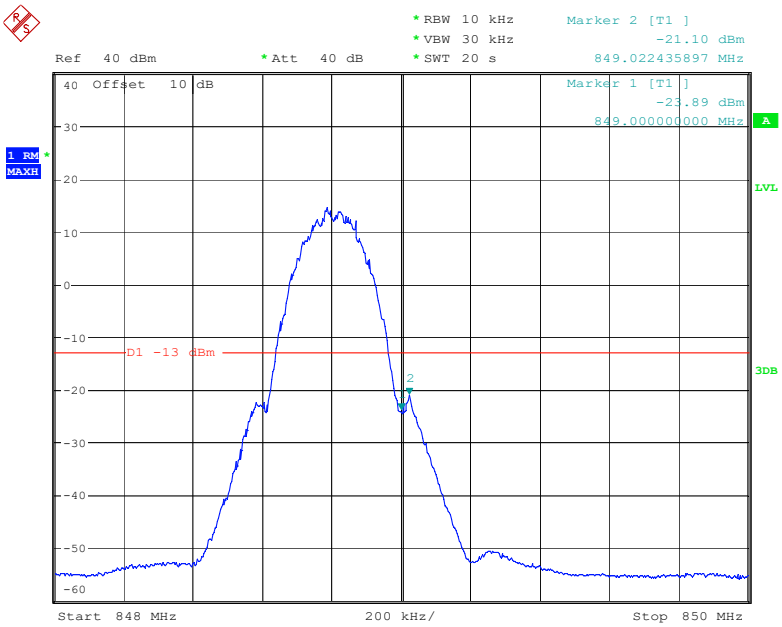
Please refer to the following plots.

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



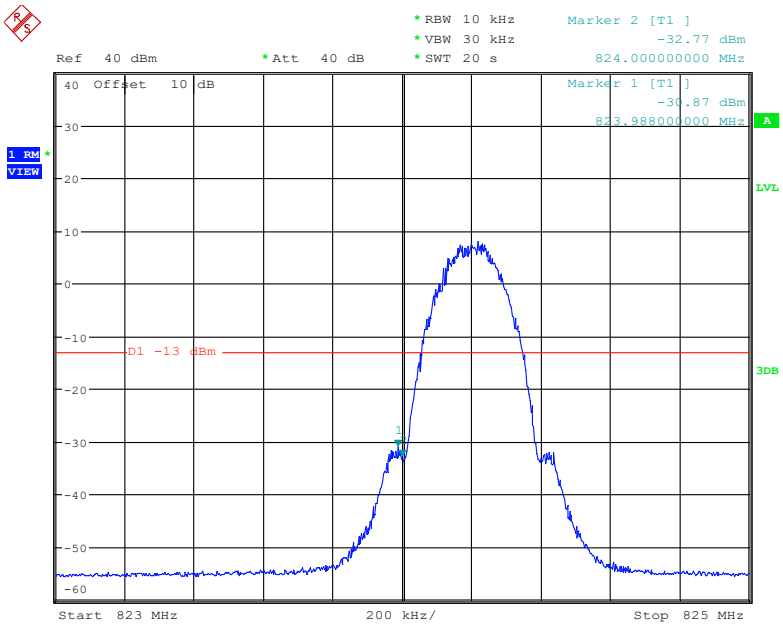
Date: 24.OCT.2022 11:57:29

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

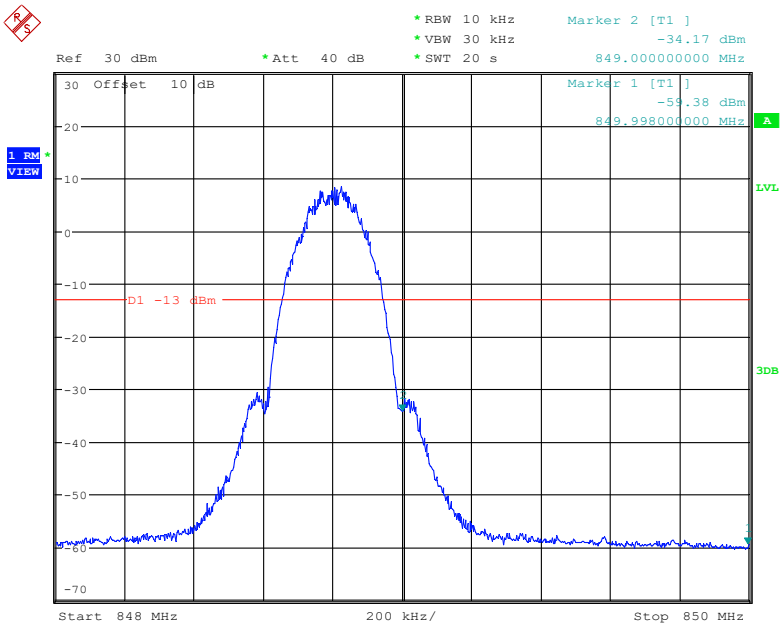


Date: 24.OCT.2022 11:59:34

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

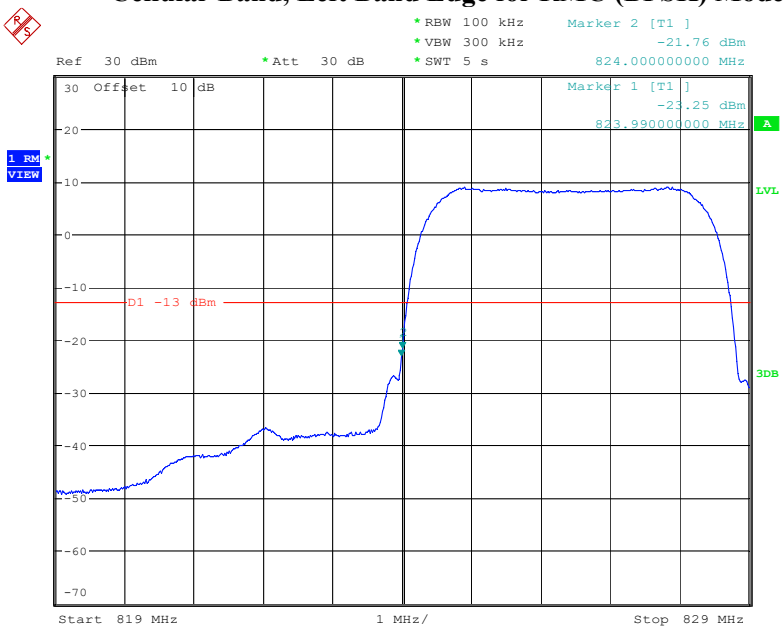


Cellular Band, Right Band Edge for EGPRS (8PSK) Mode



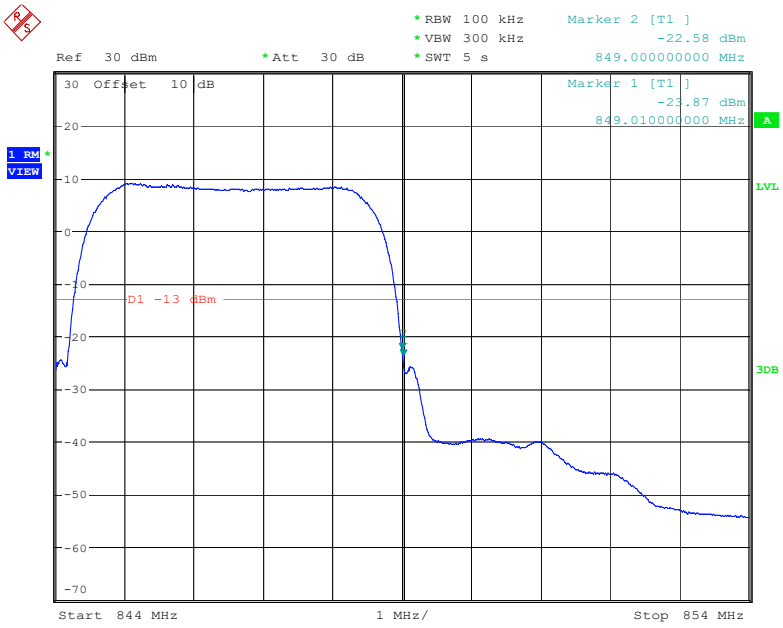
Date: 22.OCT.2022 16:32:25

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



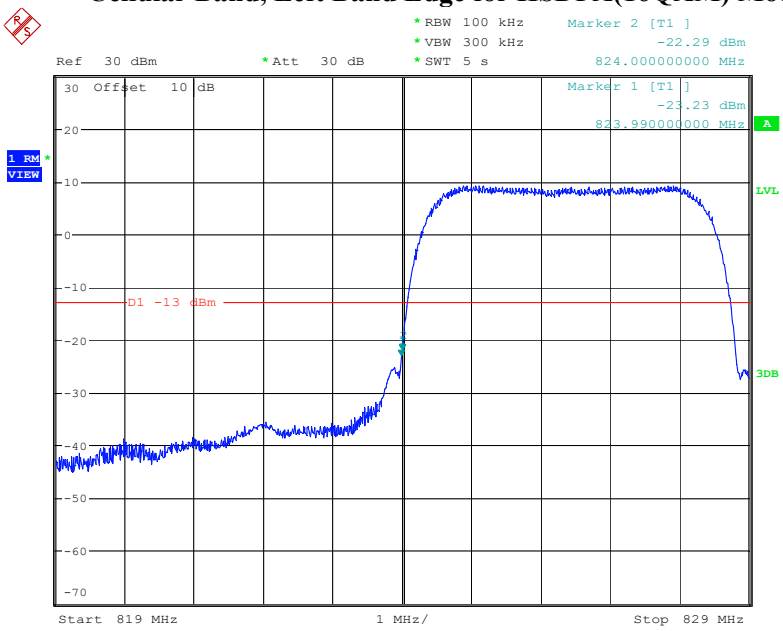
Date: 22.OCT.2022 17:46:31

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



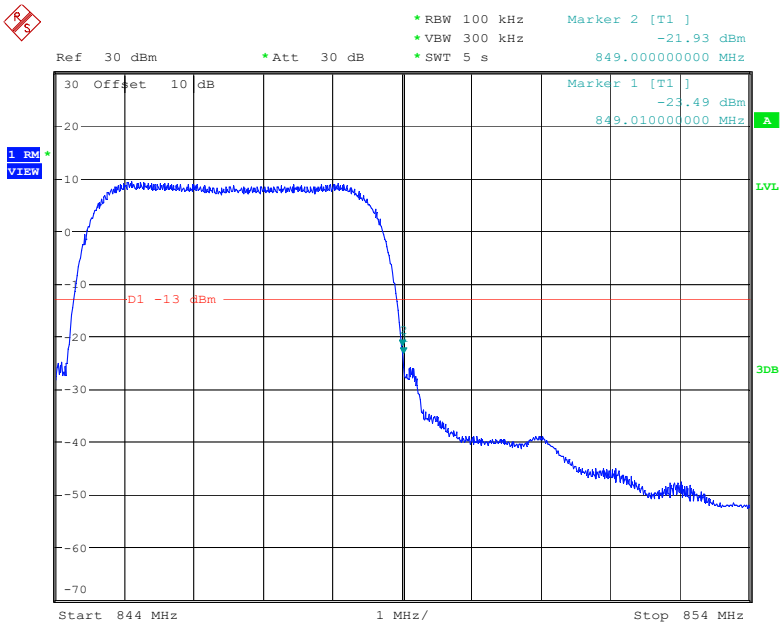
Date: 22.OCT.2022 17:57:12

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



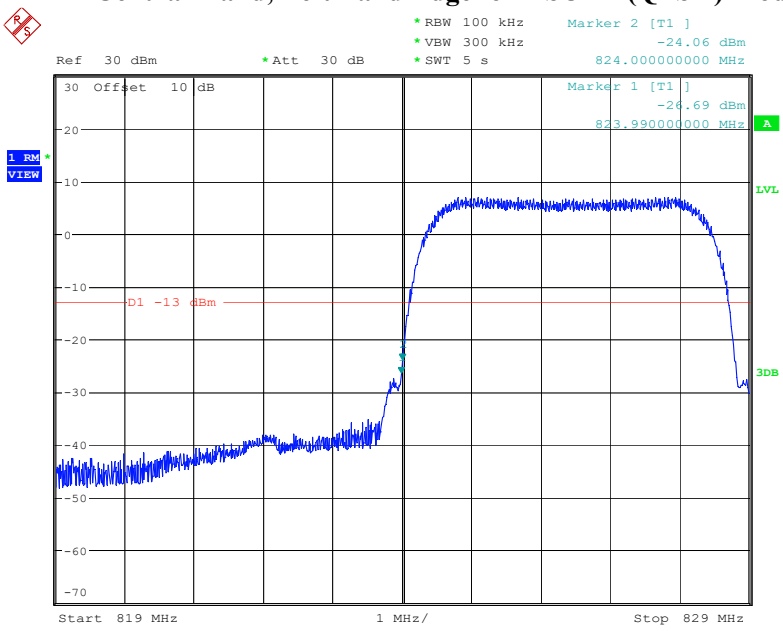
Date: 22.OCT.2022 18:13:17

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



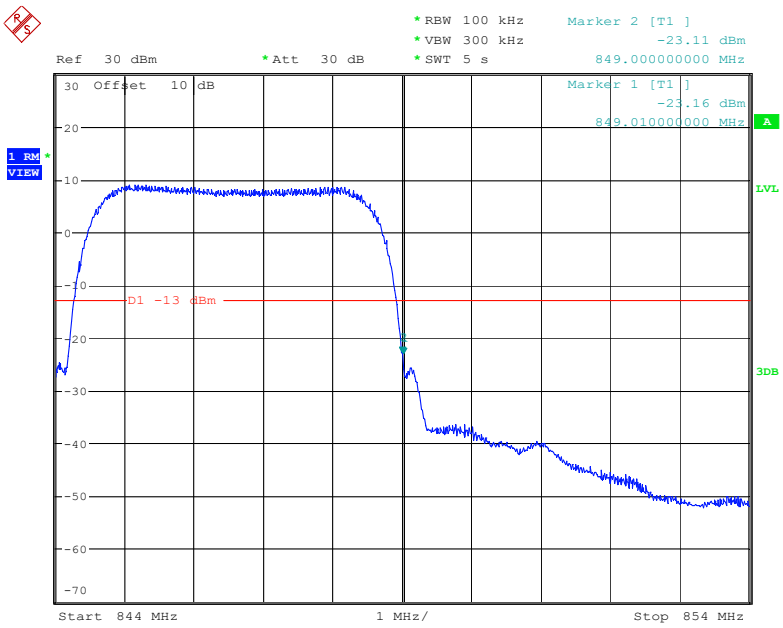
Date: 22.OCT.2022 18:07:02

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



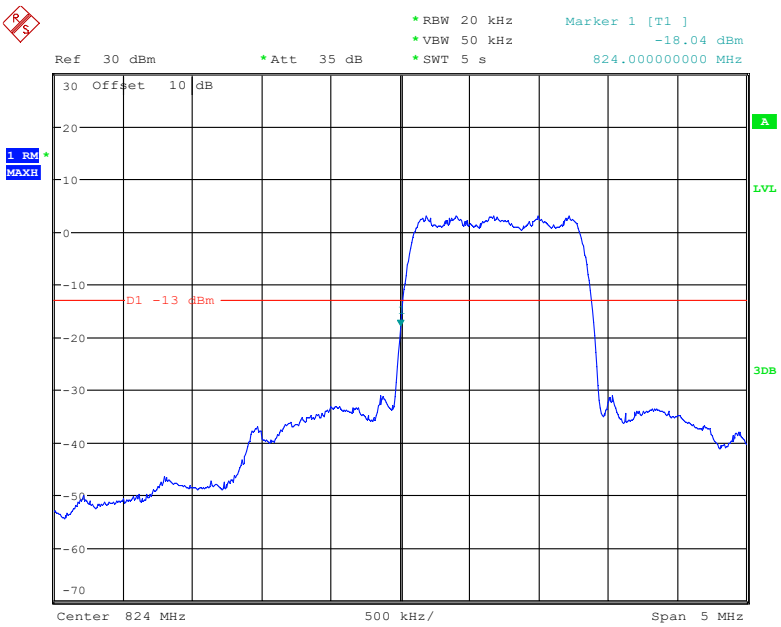
Date: 22.OCT.2022 19:24:09

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



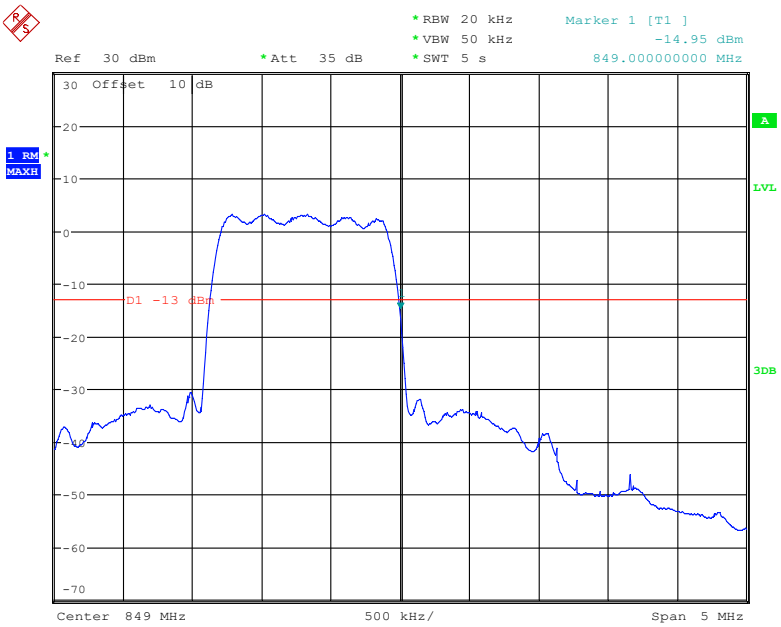
Date: 22.OCT.2022 19:29:55

Cellular Band, Left Band Edge for CDMA (1*RTT, BC0) Mode



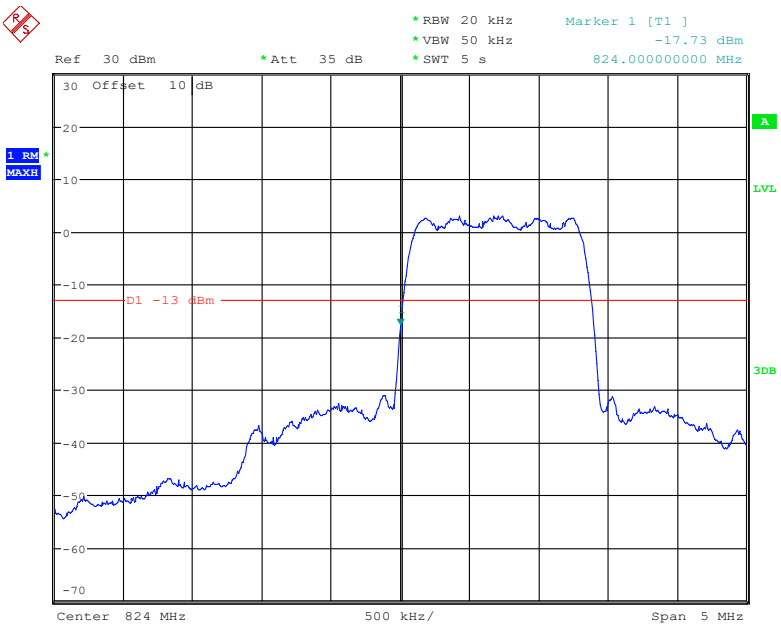
Date: 25.NOV.2022 15:19:12

Cellular Band, Right Band Edge for CDMA (1*RTT, BC0) Mode



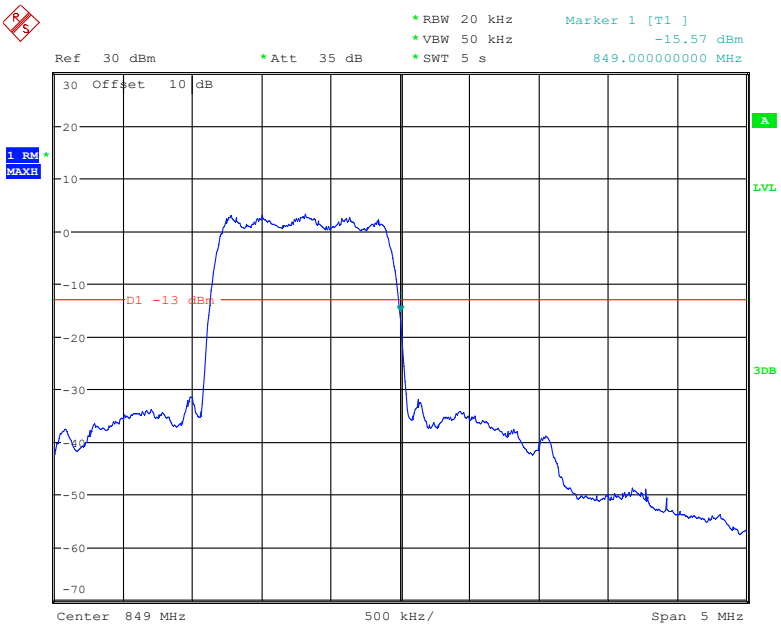
Date: 25.NOV.2022 15:16:59

Cellular Band, Left Band Edge for CDMA (EV-DO, BC0) Mode



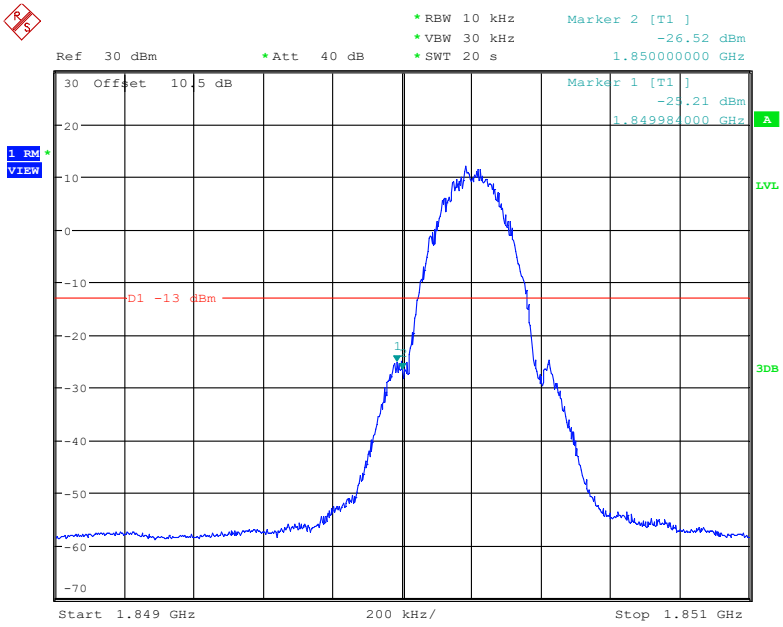
Date: 25.NOV.2022 15:03:54

Cellular Band, Right Band Edge for CDMA (EV-DO, BC0) Mode



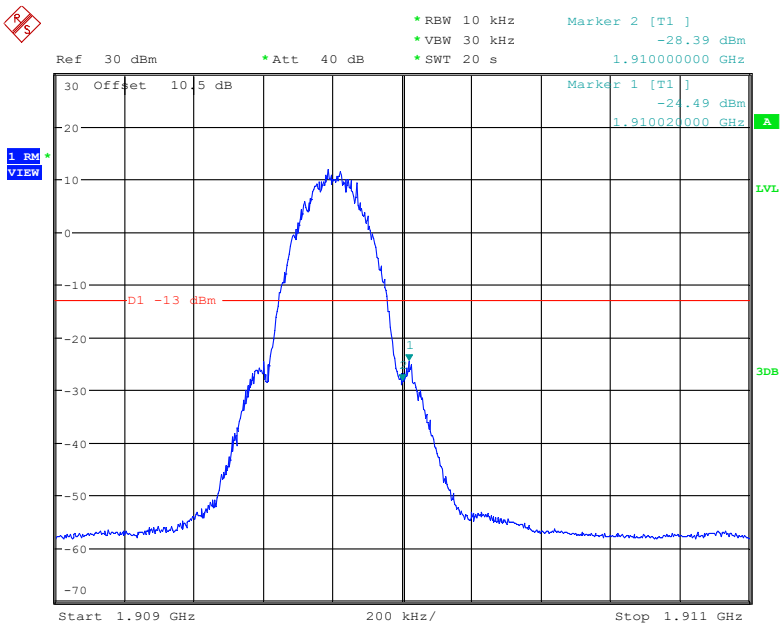
Date: 25.NOV.2022 15:04:34

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



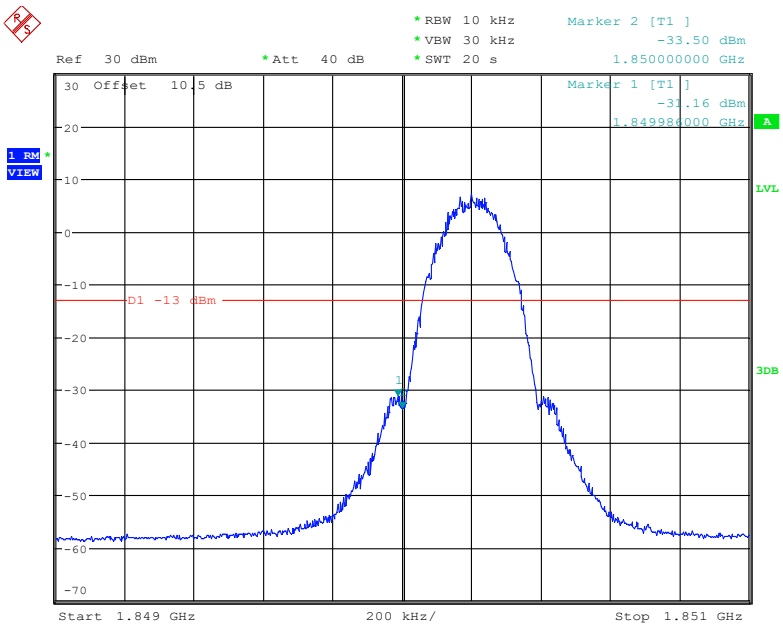
Date: 22.OCT.2022 16:39:09

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



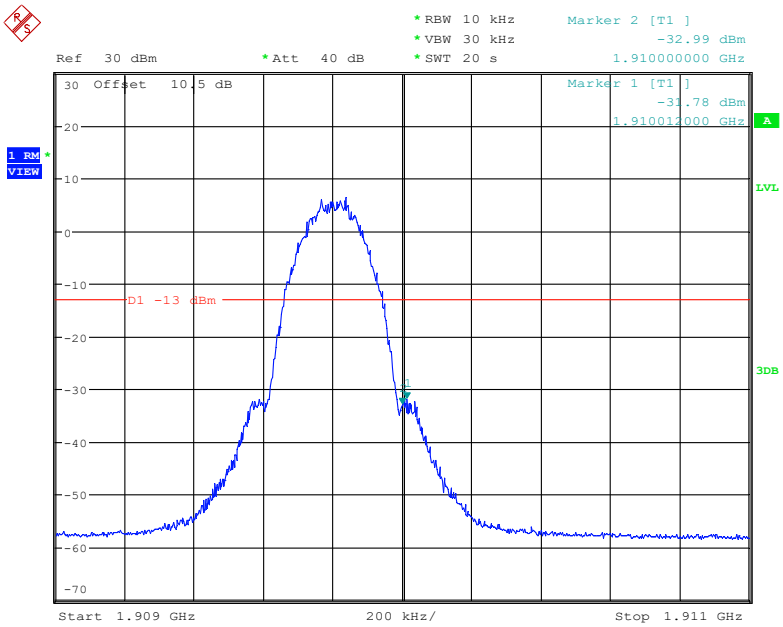
Date: 22.OCT.2022 16:49:37

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



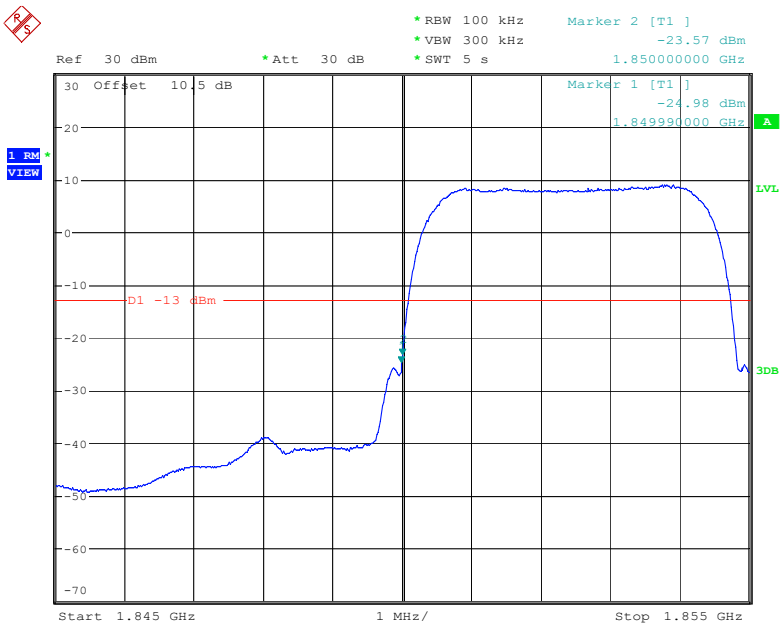
Date: 22.OCT.2022 16:57:18

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



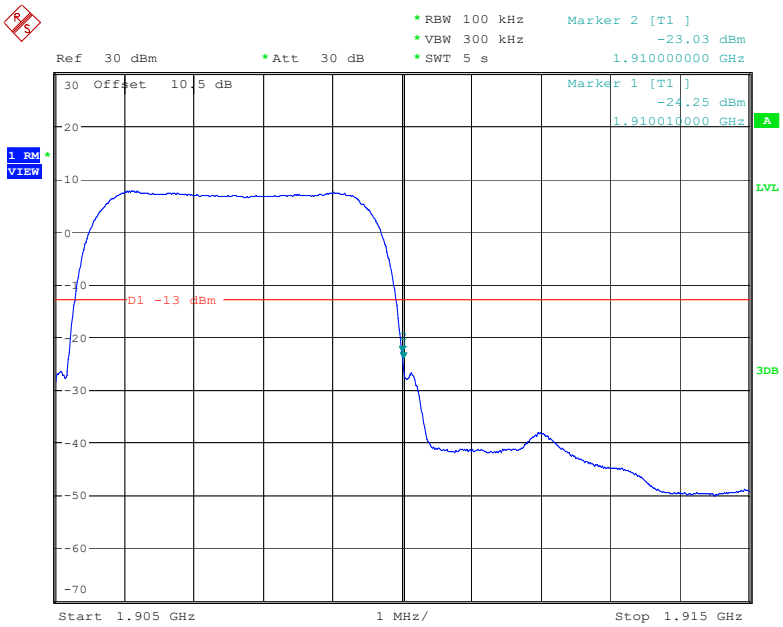
Date: 22.OCT.2022 17:07:09

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



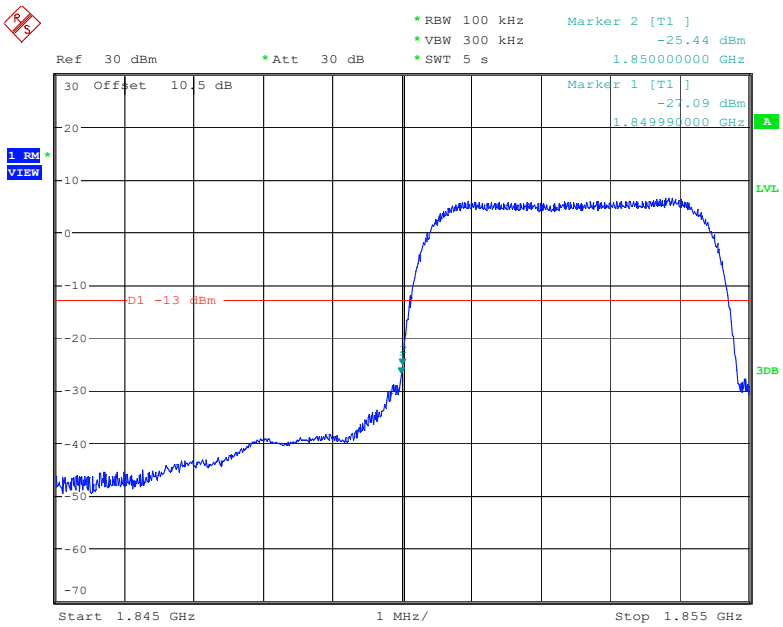
Date: 22.OCT.2022 17:17:20

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



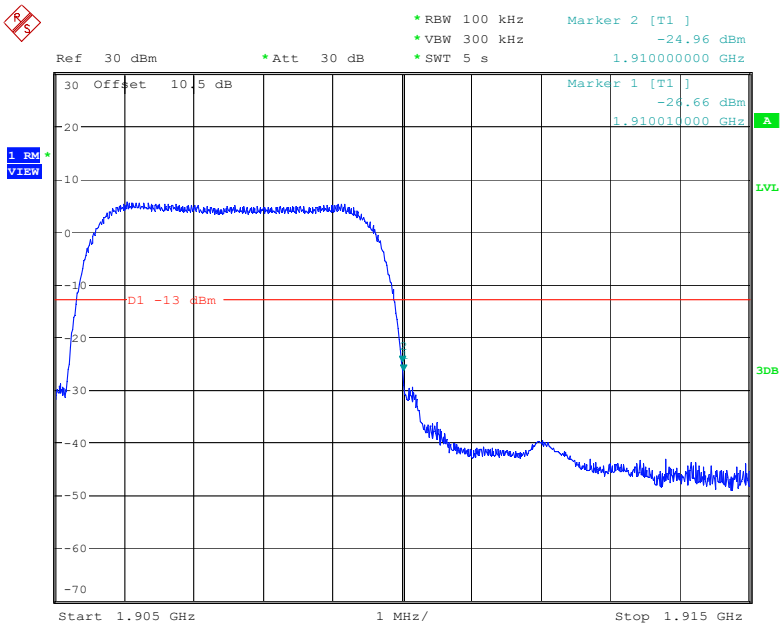
Date: 22.OCT.2022 17:24:38

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



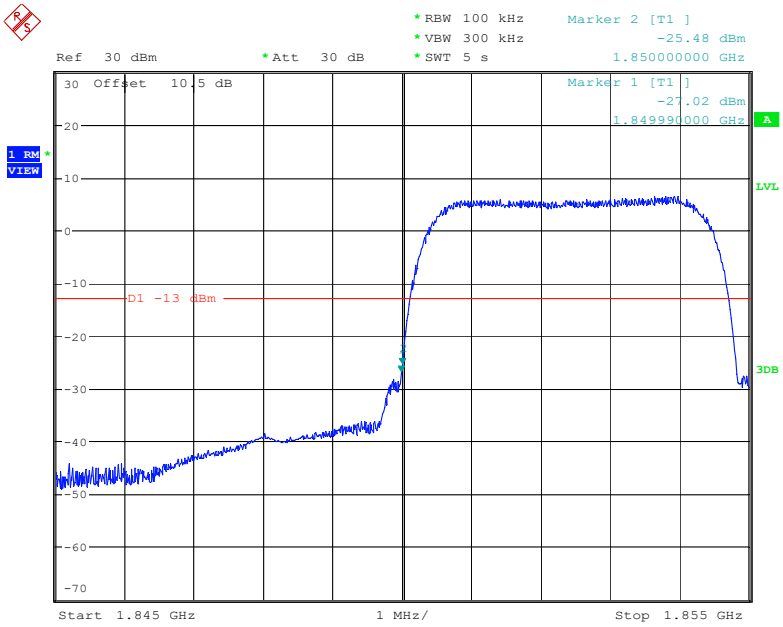
Date: 22.OCT.2022 18:29:13

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



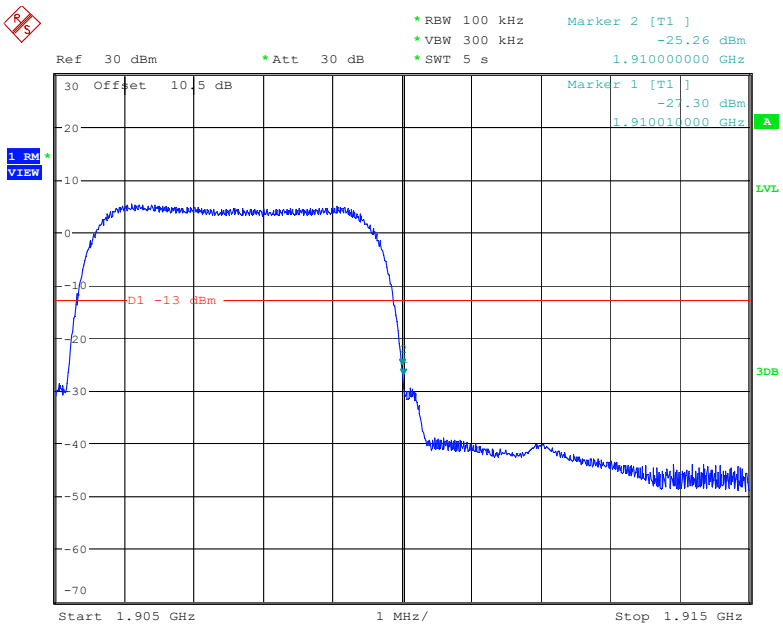
Date: 22.OCT.2022 18:38:07

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



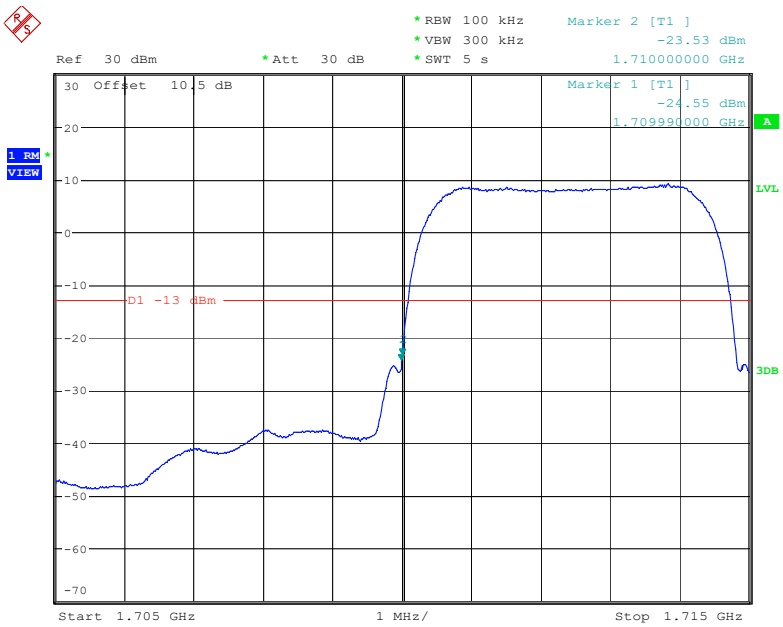
Date: 22.OCT.2022 18:47:54

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



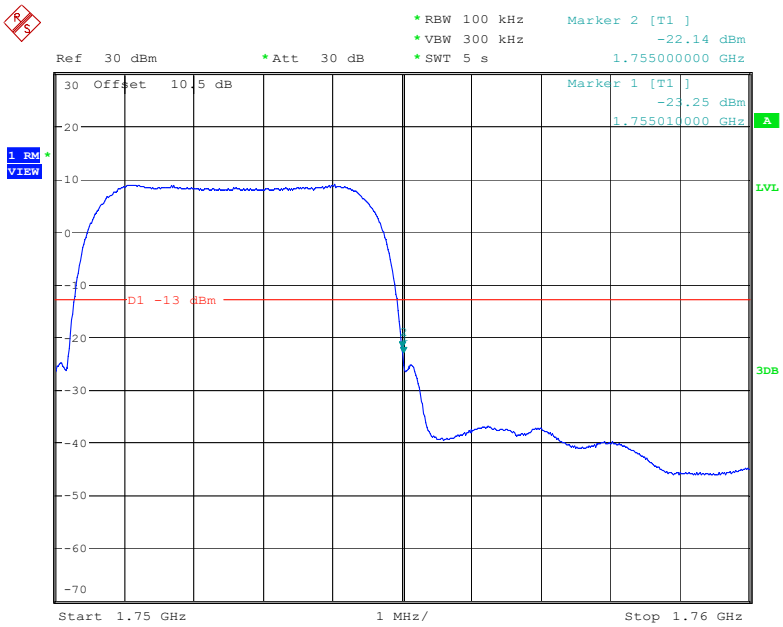
Date: 22.OCT.2022 19:00:59

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



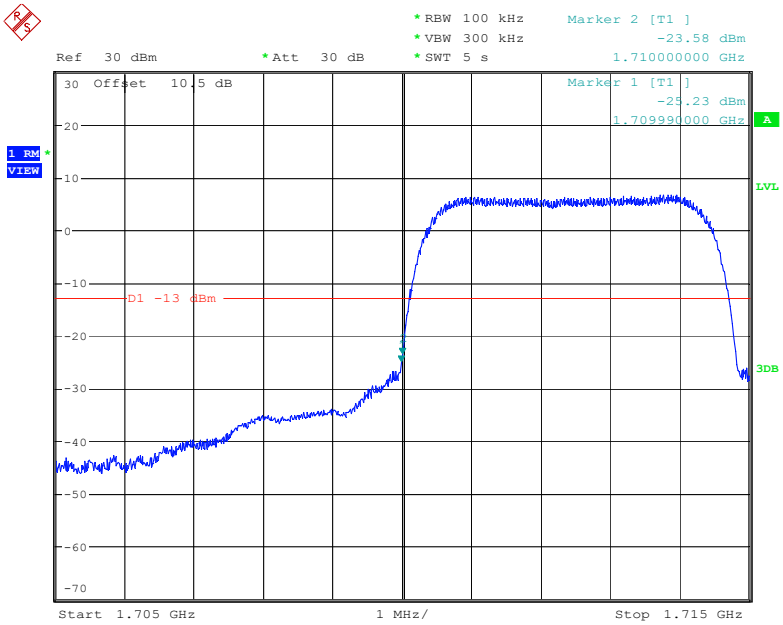
Date: 22.OCT.2022 17:36:06

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



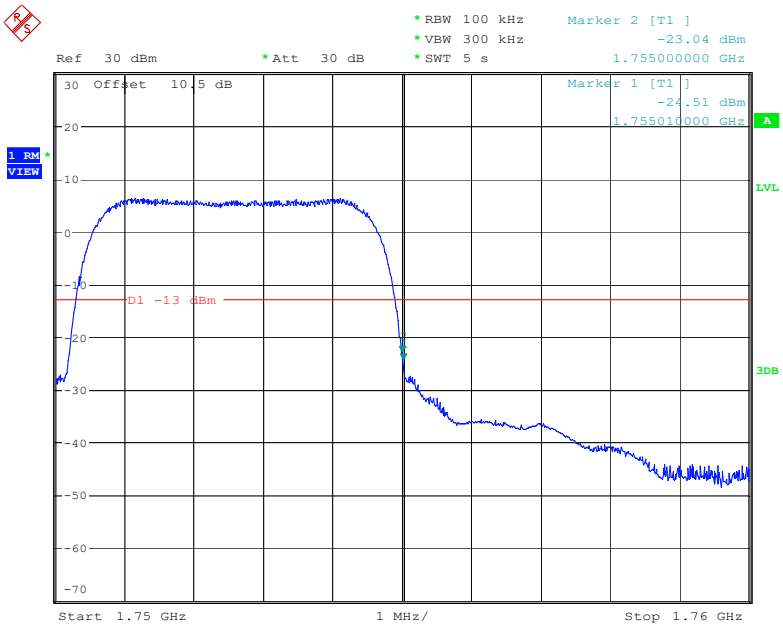
Date: 22.OCT.2022 17:42:14

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



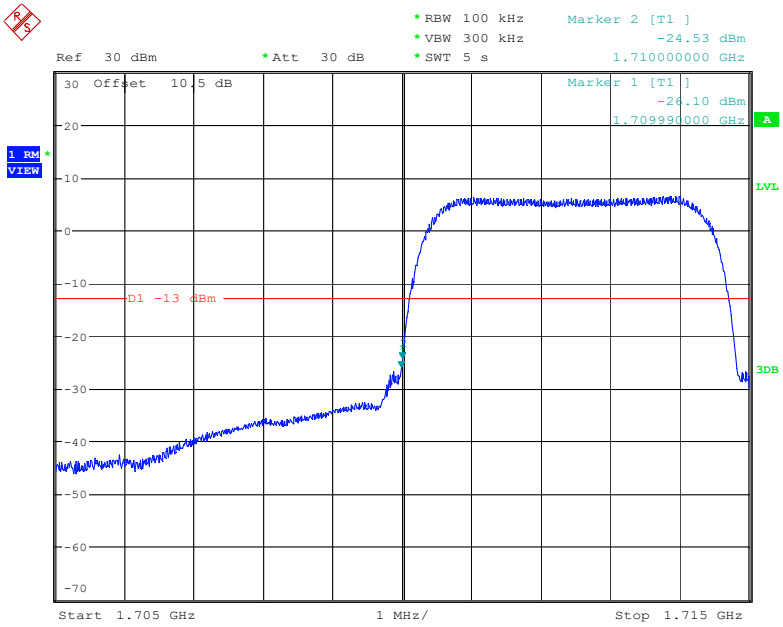
Date: 22.OCT.2022 18:16:56

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



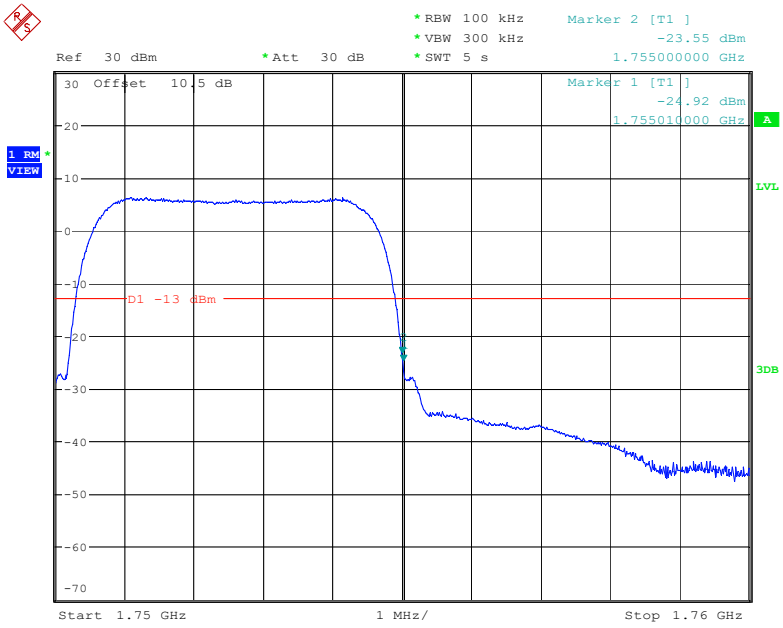
Date: 22.OCT.2022 18:24:58

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



Date: 22.OCT.2022 19:10:39

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



Date: 22.OCT.2022 19:19:39

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

FCC § 2.1055; § 22.355; § 24.235; §27.54; §90.213- FREQUENCY STABILITY

Applicable Standard

FCC § 2.1055, §22.355, §24.235&§27.54§90.213.

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.

According to §90.213, unless noted elsewhere, transmitters used in the services governed by this part must have a minimum frequency stability as specified in the following table:

TABLE 1 TO §90.213(a)—MINIMUM FREQUENCY STABILITY

[Parts per million (ppm)]

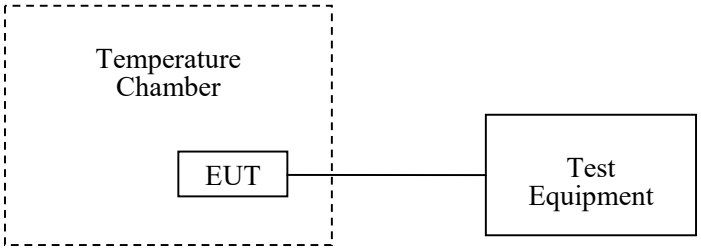
Frequency range (MHz)	Fixed and base stations	Mobile stations	
		Over 2 watts output power	2 watts or less output power
Below 25	[1][2][3]100	100	200
25-50	20	20	50
72-76	5		50
150-174	[5][11]5	[6]5	[4][6]50
216-220	1.0		1.0
220-222[12]	0.1	1.5	1.5
421-512	[7][11][14]2.5	[8]5	[8]5
806-809	[14]1.0	1.5	1.5
809-824	[14]1.5	2.5	2.5
851-854	1.0	1.5	1.5
854-869	1.5	2.5	2.5
896-901	[14]0.1	1.5	1.5
902-928	2.5	2.5	2.5
902-928[13]	2.5	2.5	2.5
929-930	1.5		
935-940	0.1	1.5	1.5
1427-1435	[9]300	300	300
Above 2450[10]			

Test Procedure

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

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

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



Test Data

Environmental Conditions

Temperature:	17.5~25.7 ℃
Relative Humidity:	51~59 %
ATM Pressure:	101.0 kPa

The testing was performed by Cat Kang from 2022-10-21 to 2022-11-07.

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.	5	0.0060	2.5
-20		8	0.0096	2.5
-10		7	0.0084	2.5
0		4	0.0048	2.5
10		3	0.0036	2.5
20		6	0.0072	2.5
30		3	0.0036	2.5
40		2	0.0024	2.5
50		4	0.0048	2.5
20	L.V.	6	0.0072	2.5
	H.V.	9	0.0108	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.	5	0.0060	2.5
-20		8	0.0096	2.5
-10		7	0.0084	2.5
0		4	0.0048	2.5
10		3	0.0036	2.5
20		2	0.0024	2.5
30		6	0.0072	2.5
40		4	0.0048	2.5
50		7	0.0084	2.5
20	L.V.	3	0.0036	2.5
	H.V.	4	0.0048	2.5

WCDMA Mode

Middle Channel, f_o=836.4MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	N.V.	1.83	0.0022	2.5
-20		1.72	0.0021	2.5
-10		1.89	0.0023	2.5
0		1.68	0.0020	2.5
10		1.55	0.0019	2.5
20		1.45	0.0017	2.5
30		1.55	0.0019	2.5
40		1.34	0.0016	2.5
50		1.46	0.0017	2.5
20	L.V.	1.54	0.0018	2.5
	H.V.	1.63	0.0019	2.5

CDMA (1*RTT, BC0) Mode

Middle Channel, f_o=836.52MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	N.V.	1.81	0.0022	2.5
-20		1.69	0.0020	2.5
-10		1.55	0.0019	2.5
0		1.28	0.0015	2.5
10		1.37	0.0016	2.5
20		0.80	0.0010	2.5
30		1.55	0.0019	2.5
40		0.97	0.0012	2.5
50		0.92	0.0011	2.5
20	L.V.	1.12	0.0013	2.5
	H.V.	1.13	0.0014	2.5

CDMA (EV-DO, BC0) Mode

Middle Channel, f_o =836.52MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	N.V.	2.34	0.0028	2.5
-20		2.16	0.0026	2.5
-10		2.84	0.0034	2.5
0		2.63	0.0031	2.5
10		2.34	0.0028	2.5
20		2.20	0.0026	2.5
30		2.26	0.0027	2.5
40		2.31	0.0028	2.5
50		2.41	0.0029	2.5
20	L.V.	2.33	0.0028	2.5
	H.V.	2.17	0.0026	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.	9	0.0048	pass
-20		3	0.0016	pass
-10		8	0.0043	pass
0		5	0.0027	pass
10		7	0.0037	pass
20		0	0.0000	pass
30		2	0.0011	pass
40		4	0.0021	pass
50		3	0.0016	pass
20	L.V.	1	0.0005	pass
	H.V.	2	0.0011	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.	3.21	0.0017	pass
-20		2.51	0.0013	pass
-10		3.22	0.0017	pass
0		4.24	0.0023	pass
10		2.30	0.0012	pass
20		2.10	0.0011	pass
30		3.14	0.0017	pass
40		2.33	0.0012	pass
50		2.53	0.0013	pass
20	L.V.	2.61	0.0014	pass
	H.V.	2.42	0.0013	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.	1.63	0.0009	pass
-20		1.69	0.0009	pass
-10		1.34	0.0007	pass
0		1.64	0.0009	pass
10		1.58	0.0008	pass
20		1.55	0.0008	pass
30		1.42	0.0008	pass
40		1.63	0.0009	pass
50		1.52	0.0008	pass
20	L.V.	1.48	0.0008	pass
	H.V.	1.49	0.0008	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.	1710.0135	1754.9844	1710	1755
-20		1710.0156	1754.9812	1710	1755
-10		1710.0130	1754.9846	1710	1755
0		1710.0166	1754.9826	1710	1755
10		1710.0126	1754.9813	1710	1755
20		1710.0128	1754.9837	1710	1755
30		1710.0158	1754.9798	1710	1755
40		1710.0162	1754.9787	1710	1755
50		1710.0135	1754.9833	1710	1755
20	L.V.	1710.0163	1754.9832	1710	1755
	H.V.	1710.0118	1754.9809	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.	-1.59	-0.0008	pass
-20		-5.78	-0.0031	pass
-10		5.82	0.0031	pass
0		9.52	0.0051	pass
10		6.79	0.0036	pass
20		7.64	0.0041	pass
30		-9.21	-0.0049	pass
40		9.46	0.0050	pass
50		8.18	0.0044	pass
20	L.V.	6.40	0.0034	pass
	H.V.	-6.05	-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.	1710.5637	1754.4236	1710	1755
-20		1710.5752	1754.4262	1710	1755
-10		1710.5716	1754.4275	1710	1755
0		1710.5742	1754.4325	1710	1755
10		1710.5725	1754.4287	1710	1755
20		1710.5736	1754.4233	1710	1755
30		1710.5712	1754.4252	1710	1755
40		1710.5726	1754.4256	1710	1755
50		1710.5715	1754.4317	1710	1755
20	L.V.	1710.5647	1754.4337	1710	1755
	H.V.	1710.5685	1754.4324	1710	1755

Band 5& Band 26(Part 22H):

10.0 MHz Middle Channel, f_o=836.5MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	N.V.	-2.92	-0.0035	pass
-20		-5.65	-0.0068	pass
-10		9.33	0.0112	pass
0		8.60	0.0103	pass
10		-7.73	-0.0092	pass
20		8.91	0.0107	pass
30		-7.58	-0.0091	pass
40		-6.55	-0.0078	pass
50		-5.28	-0.0063	pass
20	L.V.	8.10	0.0097	pass
	H.V.	-7.29	-0.0087	pass

Band 7:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	N.V.	2500.4024	2569.6955	2500	2570
-20		2500.4043	2569.7042	2500	2570
-10		2500.3925	2569.6913	2500	2570
0		2500.3933	2569.6814	2500	2570
10		2500.4020	2569.6955	2500	2570
20		2500.3912	2569.6535	2500	2570
30		2500.3835	2569.6614	2500	2570
40		2500.3634	2569.6921	2500	2570
50		2500.3611	2569.6913	2500	2570
20	L.V.	2500.4515	2569.6823	2500	2570
	H.V.	2500.3634	2569.6746	2500	2570

Band 12:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	N.V.	699.0933	715.9075	699	716
-20		699.0908	715.9066	699	716
-10		699.0913	715.9123	699	716
0		699.0854	715.9114	699	716
10		699.0873	715.9076	699	716
20		699.0931	715.9125	699	716
30		699.0925	715.9116	699	716
40		699.0916	715.9143	699	716
50		699.0914	715.9125	699	716
20	L.V.	699.0865	715.9131	699	716
	H.V.	699.0924	715.9072	699	716

Band 13:

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.	777.1296	786.8446	777	787
-20		777.1235	786.8435	777	787
-10		777.1274	786.8422	777	787
0		777.1213	786.8417	777	787
10		777.1248	786.8454	777	787
20		777.1286	786.8463	777	787
30		777.1252	786.8447	777	787
40		777.1284	786.8455	777	787
50		777.1265	786.8412	777	787
20	L.V.	777.1213	786.8453	777	787
	H.V.	777.1266	786.8443	777	787

Band 17:

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.	704.1242	715.8334	704	716
-20		704.1236	715.8432	704	716
-10		704.1275	715.8421	704	716
0		704.1216	715.8415	704	716
10		704.1248	715.8452	704	716
20		704.1286	715.8461	704	716
30		704.1254	715.8447	704	716
40		704.1282	715.8456	704	716
50		704.1263	715.8417	704	716
20	L.V.	704.1216	715.8456	704	716
	H.V.	704.1254	715.8441	704	716

Band 25:

10.0 MHz Middle Channel, f_o =1882.5MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	N.V.	3.15	0.0017	pass
-20		2.43	0.0013	pass
-10		2.55	0.0014	pass
0		2.38	0.0013	pass
10		1.53	0.0008	pass
20		1.47	0.0008	pass
30		2.22	0.0012	pass
40		2.65	0.0014	pass
50		2.48	0.0013	pass
20	L.V.	2.22	0.0012	pass
	H.V.	2.59	0.0014	pass

Band 26(Part 90S):

10.0 MHz Middle Channel, f_o=819MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	N.V.	-2.67	-0.0033	2.5
-20		-5.88	-0.0072	2.5
-10		6.33	0.0077	2.5
0		4.67	0.0057	2.5
10		-5.33	-0.0065	2.5
20		6.42	0.0078	2.5
30		-7.58	-0.0093	2.5
40		-6.33	-0.0077	2.5
50		-5.27	-0.0064	2.5
20	L.V.	7.39	0.0090	2.5
	H.V.	-7.25	-0.0089	2.5

Band 66:

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.	1710.1473	1779.8525	1710	1780
-20		1710.1464	1779.8541	1710	1780
-10		1710.1475	1779.8563	1710	1780
0		1710.1416	1779.8568	1710	1780
10		1710.1458	1779.8554	1710	1780
20		1710.1477	1779.8552	1710	1780
30		1710.1453	1779.8533	1710	1780
40		1710.1472	1779.8542	1710	1780
50		1710.1434	1779.8551	1710	1780
20	L.V.	1710.1428	1779.8562	1710	1780
	H.V.	1710.1466	1779.8555	1710	1780

16QAM:

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.	1.57	0.0008	pass
-20		-9.89	-0.0053	pass
-10		-8.22	-0.0044	pass
0		-6.67	-0.0035	pass
10		-5.12	-0.0027	pass
20		-8.48	-0.0045	pass
30		-7.13	-0.0038	pass
40		8.80	0.0047	pass
50		-5.46	-0.0029	pass
20	L.V.	8.86	0.0047	pass
	H.V.	6.14	0.0033	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.	1710.5911	1754.5652	1710	1755
-20		1710.5922	1754.5672	1710	1755
-10		1710.5887	1754.5743	1710	1755
0		1710.5943	1754.5687	1710	1755
10		1710.5954	1754.5683	1710	1755
20		1710.5932	1754.5742	1710	1755
30		1710.5947	1754.5673	1710	1755
40		1710.5858	1754.5665	1710	1755
50		1710.5927	1754.5714	1710	1755
20	L.V.	1710.5954	1754.5672	1710	1755
	H.V.	1710.5926	1754.5661	1710	1755

Band 5& Band 26(Part 22H):

10.0 MHz Middle Channel, f_o=836.5MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	N.V.	-2.93	-0.0035	pass
-20		7.31	0.0087	pass
-10		-5.22	-0.0062	pass
0		6.00	0.0072	pass
10		-7.88	-0.0094	pass
20		9.86	0.0118	pass
30		8.14	0.0097	pass
40		-8.99	-0.0107	pass
50		6.99	0.0084	pass
20	L.V.	5.45	0.0065	pass
	H.V.	-8.30	-0.0099	pass

Band 7:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	N.V.	2500.5625	2569.3615	2500	2570
-20		2500.6541	2569.3647	2500	2570
-10		2500.6518	2569.3522	2500	2570
0		2500.6433	2569.3625	2500	2570
10		2500.6546	2569.4336	2500	2570
20		2500.6412	2569.3972	2500	2570
30		2500.6527	2569.3955	2500	2570
40		2500.6515	2569.3532	2500	2570
50		2500.6513	2569.3527	2500	2570
20	L.V.	2500.6425	2569.4415	2500	2570
	H.V.	2500.5612	2569.4362	2500	2570

Band 12:

10 MHz Bandwidth					
Temperature (℃)	**Power Supplied (V_{DC})**	**F_L (MHz)**	**F_H (MHz)**	**F_L Limit (MHz)**	**F_H Limit (MHz)**
-30	N.V.	699.2932	715.8958	699	716
-20		699.2954	715.8864	699	716
-10		699.2946	715.8871	699	716
0		699.2952	715.8833	699	716
10		699.2923	715.8902	699	716
20		699.2926	715.8875	699	716
30		699.2962	715.8917	699	716
40		699.2907	715.8866	699	716
50		699.2965	715.8884	699	716
20	L.V.	699.2954	715.8876	699	716
	H.V.	699.2963	715.8912	699	716

Band 13:

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.	777.0317	786.9261	777	787
-20		777.0323	786.9242	777	787
-10		777.0322	786.9252	777	787
0		777.0333	786.9256	777	787
10		777.0312	786.9231	777	787
20		777.0326	786.9243	777	787
30		777.0311	786.9216	777	787
40		777.0315	786.9234	777	787
50		777.0297	786.9243	777	787
20	L.V.	777.0352	786.9253	777	787
	H.V.	777.0342	786.9212	777	787

Band 17:

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.	704.1272	715.8440	704	716
-20		704.1232	715.8433	704	716
-10		704.1256	715.8425	704	716
0		704.1212	715.8412	704	716
10		704.1244	715.8453	704	716
20		704.1282	715.8412	704	716
30		704.1256	715.8422	704	716
40		704.1285	715.8452	704	716
50		704.1264	715.8414	704	716
20	L.V.	704.1211	715.8425	704	716
	H.V.	704.1262	715.8443	704	716

Band 25:

10.0 MHz Middle Channel, f_o =1882.5MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	N.V.	2.32	0.0012	pass
-20		2.14	0.0011	pass
-10		2.41	0.0013	pass
0		2.39	0.0013	pass
10		2.57	0.0014	pass
20		2.41	0.0013	pass
30		2.33	0.0012	pass
40		2.69	0.0014	pass
50		2.58	0.0014	pass
20	L.V.	2.48	0.0013	pass
	H.V.	2.47	0.0013	pass

Band 26 (Part 90S):

10.0 MHz Middle Channel, f_o=819MHz				
Temperature (℃)	**Voltage Supplied (V_{DC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Result**
-30	N.V.	-3.55	-0.0043	pass
-20		4.26	0.0052	pass
-10		-5.16	-0.0063	pass
0		5.33	0.0065	pass
10		-7.82	-0.0095	pass
20		8.64	0.0105	pass
30		7.42	0.0091	pass
40		-8.52	-0.0104	pass
50		4.68	0.0057	pass
20	L.V.	5.48	0.0067	pass
	H.V.	-8.37	-0.0102	pass

Band 66:

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.	1710.1451	1779.8542	1710	1780
-20		1710.1464	1779.8553	1710	1780
-10		1710.1463	1779.8537	1710	1780
0		1710.1426	1779.8562	1710	1780
10		1710.1442	1779.8551	1710	1780
20		1710.1481	1779.8575	1710	1780
30		1710.1433	1779.8564	1710	1780
40		1710.1454	1779.8592	1710	1780
50		1710.1434	1779.8557	1710	1780
20	L.V.	1710.1458	1779.8582	1710	1780
	H.V.	1710.1456	1779.8542	1710	1780

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