FCC RF TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.

FOR

Mobile Phone

ISSUED TO
Shenzhen Huadoo Bright Group Limited

Room 13E, jinsong Buiding, Tai ran 4th Rood, chegong miao, Futian Distrct, Shenzhen

Prepared by: Zhang Yanqing
Zhang Yanqing
(Reporting Specialist)
Date May. 22, 2015

Approved by: Wei Yanquan
Wei Yanquan
(Chief Engineer)
Date May 22, 2015

Report No.:	BL-SZ1550013-604
EUT Type:	Mobile Phone
Model Name:	Huadoo HG04
Brand Name:	Huadoo
Test Standard:	47 CFR Part 2
	47 CFR Part 22 Subpart H
	47 CFR Part 24 Subpart E
	47 CFR Part 27 Subpart M
FCC ID:	2ACXS-HG04
Test conclusion:	Pass
Test Date:	May. 6, 2015 ~ May. 22, 2015
Date of Issue:	May. 22, 2015

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Revision History

Version	Issue Date	Revisions
Rev. 01	May. 22, 2015	Initial Issue

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1 ADMINISTRATIVE DATA (GENERAL INFORMATION)

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province,P. R. China
Phone Number	+86 755 6683 3402
Fax Number	+86 755 6182 4271

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province,P. R. China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1. The laboratory has been listed by US Federal Communications Commission to perform electromagnetic emission measurements. The recognition numbers of test site are 832625. The laboratory has met the requirements of the IAS Accreditation Criteria for Testing Laboratories (AC89), has demonstrated compliance with ISO/IEC Standard 17025:2005. The accreditation certificate number is TL-588. The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Announce

(1) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.

(2) The test report is invalid if there is any evidence and/or falsification.

(3) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.

(4) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.

(5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

2 PRODUCT INFORMATION

2.1 Applicant

Applicant	Shenzhen Huadoo Bright Group Limited
Address	Room 13E, jinsong Buiding, Tai ran 4th Rood,chegong miao, Futian Distrct, Shenzhen

2.2 Manufacturer

Manufacturer	Shenzhen Huadoo Bright Group Limited
Address	Room 13E, jinsong Buiding, Tai ran 4th Rood,chegong miao, Futian Distrct, Shenzhen

2.3 General Description for Equipment under Test (EUT)

EUT Type	Mobile Phone
Model Name	Huadoo HG04
Hardware Version	N/A
Software Version	Huadoo V1_Chinas_ENGLISH_13_V0.1_ V2_20140708
Network and Wireless connectivity	2G Network GSM/GPRS/EGPRS 850/1900 3G Network WCDMA/HSDPA/HSUPA Band 2/Band 5 4G Network LTE FDD Band 7 WIFI Bluetooth
About the Product	The equipment is mobile phone, intended for used with information technology equipment.

2.4 Technical Information

Frequency Bands	GSM/GPRS/EGPRS 850/1900 WCDMA/HSDPA/HSUPA Band 2/Band 5 LTE FDD Band 7	
Modulation Type	GSM	GMSK
	GPRS	GMSK
	EGPRS	8PSK
	WCDMA	QPSK
	HSDPA	QPSK
		16QAM
	HSUPA	QPSK
		16QAM
	LTE	QPSK
		16QAM
TX Frequency Range	GSM/GPRS/EGPRS 850: 824.20 - 848.80 MHz GSM/GPRS/EGPRS 1900: 1850.20 - 1909.80 MHz WCDMA/HSDPA/HSUPA Band 2: 1852.4 -1907.6 MHz WCDMA/HSDPA/HSUPA Band 5: 826.4 - 846.6 MHz LTE Band 7: 2500 - 2570 MHz	
Rx Frequency Range	GSM/GPRS/EGPRS 850: 869.20 - 893.80 MHz GSM/GPRS/EGPRS 1900: 1930.20 - 1989.80 MHz	

	WCDMA/HSDPA/HSUPA Band 2: 1932.4 - 1987.6 MHz WCDMA/HSDPA/HSUPA Band 5: 871.4 - 891.6 MHz LTE Band 7: 2620-2690 MHz
Power Class	GSM/GPRS 850: 4 GSM/GPRS 1900: 1 EGPRS 850: E2 EGPRS 1900: E2 WCDMA/HSDPA/HSUPA Band 2: 3 WCDMA/HSDPA/HSUPA Band 5: 3 LTE Band 7: 3
Multislot Class	GPRS: 12, EGPRS: 12
Antenna Type	PIFA Antenna
Antenna Gain	GSM/GPRS/EGPRS 850: 0.8 dBi GSM/GPRS/EGPRS 1900: 1.1 dBi WCDMA/HSDPA/HSUPA Band 2: 1.1 dBi WCDMA/HSDPA/HSUPA Band 5: 0.8 dBi LTE Band 7: 0.8 dBi

Note: The above EUT information in section 2.3 and 2.4 was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	N/A
	Model No.	HG04
	Serial No.	N/A
	Capacitance	3800 mAh
	Rated Voltage	3.8 V
	Extreme Voltage	Low: 3.3 V / High: 4.2 V
Ancillary Equipment 2	Charger	
	Model No	HJ-0501000
	Rated Input	~ 100-240 V, 0.15 A, 50/60 Hz
	Rated Output	⎓ 5 V, 1 A
Ancillary Equipment 3	USB Cable	
	Length	1.0 m

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2 (10–1–14 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 (10–1–14 Edition)	Public Mobile Services
3	47 CFR Part 24 (10–1–14 Edition)	Personal Communications Services
4	47 CFR Part 27 (10–1–14 Edition)	Miscellaneous Wireless Communications Services
5	TIA/EIA 603.D-2010	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
6	KDB 971168 D01 v02r02	Measurement Guidance For Certification of Licensed Digital Transmitters

3.2 Verdict

No.	Description	FCC Part No.	Test Result	Verdict
1	Conducted RF Output Power	2.1046	Reporting only (Show in ANNEX A.1)	Pass
2	Effective (Isotropic) Radiated Power	2.1046 22.913 24.232 27.50(h)	ANNEX A.1	Pass
3	Peak to average radio	2.0146 24.232	ANNEX A.2	Pass
4	Occupied Bandwidth	2.1049 22.917 24.238 27.53(m)	ANNEX A.3	Pass
5	Frequency Stability	2.1055 22.355 24.235 27.54	ANNEX A.4	Pass
6	Spurious Emission at Antenna Terminals	2.1051 22.917 24.238 27.53(m)	ANNEX A.5	Pass
7	Band Edge	2.1051 22.917 24.238 27.53(m)	ANNEX A.6	Pass

8	Field Strength of Spurious Radiation	2.1053 22.917 24.238 27.53(m)	ANNEX A.7	Pass

3.3 Table for Carrier Frequency

Band	GSM850			GSM1900		
Channel	128 (LCH)	190 (MCH)	251 (HCH)	512 (LCH)	661 (MCH)	810 (HCH)
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8

Band	GPRS850			GPRS1900		
Channel	128 (LCH)	190 (MCH)	251 (HCH)	512 (LCH)	661 (MCH)	810 (HCH)
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8

Band	EPRS850			EGPRS1900		
Channel	128 (LCH)	190 (MCH)	251 (HCH)	512 (LCH)	661 (MCH)	810 (HCH)
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8

Band	WCDMA850			WCDMA1900		
Channel	4132 (LCH)	4183 (MCH)	4233 (HCH)	9262 (LCH)	9400 (MCH)	9538 (HCH)
Frequency (MHz)	826.4	836.6	846.6	1852.4	1880.0	1907.6

Band	HSDPA850			HSDPA1900		
Channel	4132 (LCH)	4183 (MCH)	4233 (HCH)	9262 (LCH)	9400 (MCH)	9538 (HCH)
Frequency (MHz)	826.4	836.6	846.6	1852.4	1880.0	1907.6

Band	HSUPA850			HSUPA1900		
Channel	4132 (LCH)	4183 (MCH)	4233 (HCH)	9262 (LCH)	9400 (MCH)	9538 (HCH)
Frequency (MHz)	826.4	836.6	846.6	1852.4	1880.0	1907.6

Band	LTE Band7 5 MHz Bandwidth			LTE Band7 10 MHz Bandwidth		
Channel	20775 (LCH)	21100 (MCH)	21425 (HCH)	20800 (LCH)	21100 (MCH)	21400 (HCH)
Frequency (MHz)	2502.5	2535	2567.5	2505	2535	2565

Band	LTE Band7 15 MHz Bandwidth			LTE Band7 20 MHz Bandwidth		
Channel	20825 (LCH)	21100 (MCH)	21375 (HCH)	20850 (LCH)	21100 (MCH)	21350 (HCH)
Frequency (MHz)	2507.5	2535	2562.5	2510	2535	2560

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	45% - 55%	
Atmospheric Pressure	100 kPa -102 kPa	
Temperature	NT (Normal Temperature)	+22 to +25°C
Working Voltage of the EUT	NV (Normal Voltage)	3.8 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-30	103118	2014.07.10	2015.07.09
Vector Signal Generator	ROHDE&SCHWARZ	SMBV100A	177746	2014.07.09	2015.07.08
Signal Generator	ROHDE&SCHWARZ	SMB100A	260592	2014.07.21	2015.07.20
Switch Unit with OSP-B157	ROHDE&SCHWARZ	OSP120	101270	2014.07.23	2015.07.22
Spectrum Analyzer	AGILENT	E4440A	MY45304434	2014.10.18	2015.10.17
Universal Radio Communication Tester	ROHDE&SCHWARZ	CMU 200	123666	2014.10.18	2015.10.17
Wireless Communications Test Set	ROHDE&SCHWARZ	CMW 500	138884	2014.07.07	2015.07.06
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2014.07.07	2015.07.06
LISN	SCHWARZBECK	NSLK 8127	8127-687	2014.07.07	2015.07.06
Bluetooth Tester	ROHDE&SCHWARZ	CBT	101005	2014.07.07	2015.07.06
Power Splitter	KMW	DCPD-LDC	1305003215	2014.07.07	2015.07.06
Power Sensor	ROHDE&SCHWARZ	NRP-Z21	103971	2014.07.07	2015.07.06
Attenuator (20 dB)	KMW	ZA-S1-201	110617091	--	--
Attenuator (6 dB)	KMW	ZA-S1-61	1305003189	--	--
DC Power Supply	ROHDE&SCHWARZ	HMP2020	018141664	2014.07.09	2015.07.08
Temperature Chamber	ANGELANTIONI SCIENCE	NTH64-40A	1310	2014.07.07	2015.07.06
Test Antenna-Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519	1519-037	2013.07.02	2015.07.01
Test Antenna-Bi-Log(30 MHz-3 GHz)	SCHWARZBECK	VULB 9163	9163-624	2013.07.03	2015.07.02
Test Antenna-Horn(1-18 GHz)	SCHWARZBECK	BBHA 9120D	9120D-1148	2013.07.02	2015.07.01
Test Antenna-Horn(15-26.5 GHz)	SCHWARZBECK	BBHA 9170	9170-305	2013.07.02	2015.07.01
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2015.02.28	2016.02.27
Shielded Enclosure	ChangNing	CN-130701	130703	--	--

4.3 Test Configurations

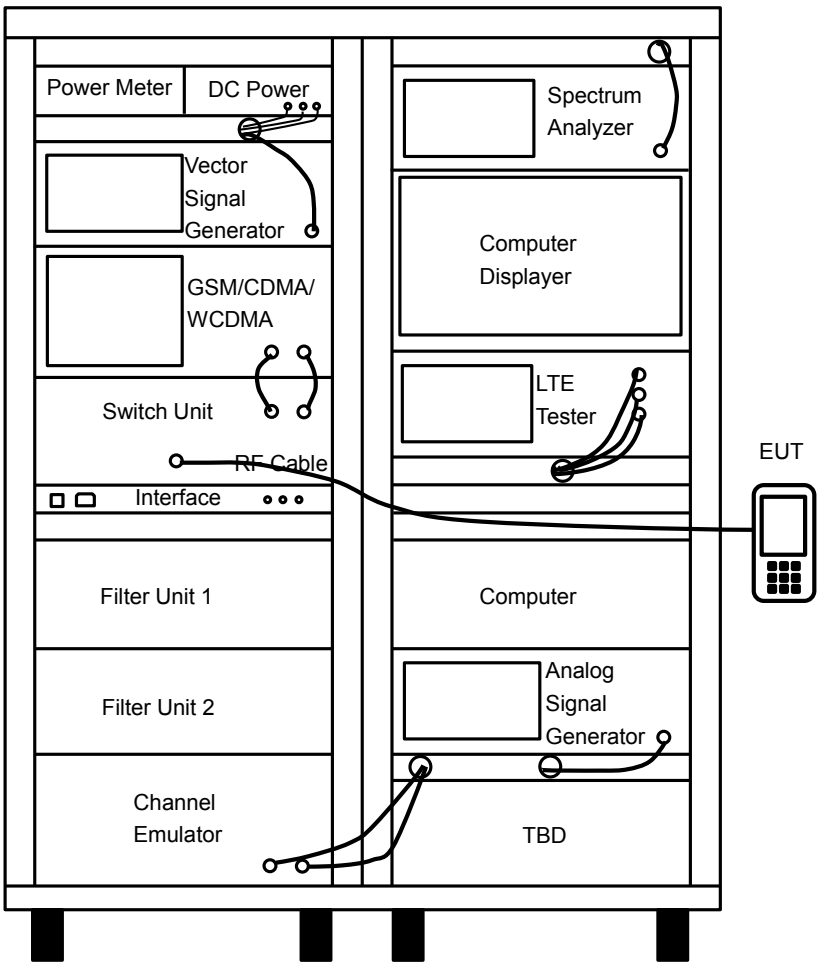
Test Items	Test Mode	Test Channel		
		LCH	MCH	HCH
E.R.P/E.I.R.P	GSM 850	v	v	v
	GSM 1900	v	v	v
	GPRS 850	v	v	v
	GPRS 1900	v	v	v
	EGPRS 850	v	v	v
	EGPRS 1900	v	v	v
	WCDMA Band 2	v	v	v
	WCDMA Band 5	v	v	v
	HSUPA Band 2	v	v	v
	HSUPA Band 5	v	v	v
	HSDPA Band 2	v	v	v
	HSDPA Band 5	v	v	v
Peak to Average Ratio	GSM 850	--	--	--
	GSM 1900	--	--	--
	GPRS 850	--	--	--
	GPRS 1900	--	--	--
	EGPRS 850	--	--	--
	EGPRS 1900	--	--	--
	WCDMA Band 2	v	v	v
	WCDMA Band 5	--	--	--
	HSUPA Band 2	--	--	--
	HSUPA Band 5	--	--	--
	HSDPA Band 2	--	--	--
	HSDPA Band 5	--	--	--
Occupied Bandwidth	GSM 850	v	v	v
	GSM 1900	v	v	v
	GPRS 850	--	--	--
	GPRS 1900	--	--	--
	EGPRS 850	v	v	v
	EGPRS 1900	v	v	v
	WCDMA Band 2	v	v	v
	WCDMA Band 5	v	v	v
	HSUPA Band 2	--	--	--
	HSUPA Band 5	--	--	--
	HSDPA Band 2	--	--	--
	HSDPA Band 5	--	--	--
Frequency Stability	GSM 850	v	v	v
	GSM 1900	v	v	v
	GPRS 850	v	v	v
	GPRS 1900	v	v	v
	EGPRS 850	v	v	v
	EGPRS 1900	v	v	v

Test Items	Test Mode	Test Channel		
		LCH	MCH	HCH
	WCDMA Band 2	v	v	v
	WCDMA Band 5	v	v	v
	HSUPA Band 2	--	--	--
	HSUPA Band 5	--	--	--
	HSDPA Band 2	--	--	--
	HSDPA Band 5	--	--	--
Spurious Emission at Antenna Terminals	GSM 850	v	v	v
	GSM 1900	v	v	v
	GPRS 850	v	v	v
	GPRS 1900	v	v	v
	EGPRS 850	v	v	v
	EGPRS 1900	v	v	v
	WCDMA Band 2	v	v	v
	WCDMA Band 5	v	v	v
	HSUPA Band 2	--	--	--
	HSUPA Band 5	--	--	--
	HSDPA Band 2	--	--	--
	HSDPA Band 5	--	--	--
Band Edge	GSM 850	v	--	v
	GSM 1900	v	--	v
	GPRS 850	--	--	--
	GPRS 1900	--	--	--
	EGPRS 850	v	--	v
	EGPRS 1900	v	--	v
	WCDMA Band 2	v	--	v
	WCDMA Band 5	v	--	v
	HSUPA Band 2	--	--	--
	HSUPA Band 5	--	--	--
	HSDPA Band 2	--	--	--
	HSDPA Band 5	--	--	--
Field Strength of Spurious Radiation	GSM 850	v	v	v
	GSM 1900	v	v	v
	GPRS 850	v	v	v
	GPRS 1900	v	v	v
	EGPRS 850	v	v	v
	EGPRS 1900	v	v	v
	WCDMA Band 2	v	v	v
	WCDMA Band 5	v	v	v
	HSUPA Band 2	--	--	--
	HSUPA Band 5	--	--	--
	HSDPA Band 2	--	--	--
	HSDPA Band 5	--	--	--
Note 1: The mark “v” means that this configuration is chosen for testing.				

Test Items	LTE Band	Bandwidth (MHz)						Modulation		RB#			Test Channel		
		1.4	3	5	10	15	20	QPSK	16-QAM	1	Half	Full	LCH	MCH	HCH
E.R.P/E.I.R.P	7	n	n	v	v	v	v	v	v	v	v	v	v	v	v
Peak to Average Ratio	7	n	n	--	--	--	v	--	v	v	--	v	v	v	v
Occupied Bandwidth	7	n	n	v	v	v	v	v	v	--	--	v	v	v	v
Frequency Stability	7	n	n	--	v	--	--	v	v	--	--	v	v	v	v
Spurious Emission at Antenna Terminals	7	n	n	v	v	v	v	v	v	v	--	--	v	v	v
Band Edge	7	n	n	v	v	v	v	v	v	v	--	v	v	--	v
Field Strength of Spurious Radiation	7	n	n	v	v	v	v	v	v	v	--	--	v	v	v
Note 1: The mark “v” means that this configuration is chosen for testing. Note 2: The mark “n” means that this bandwidth is not supported.															

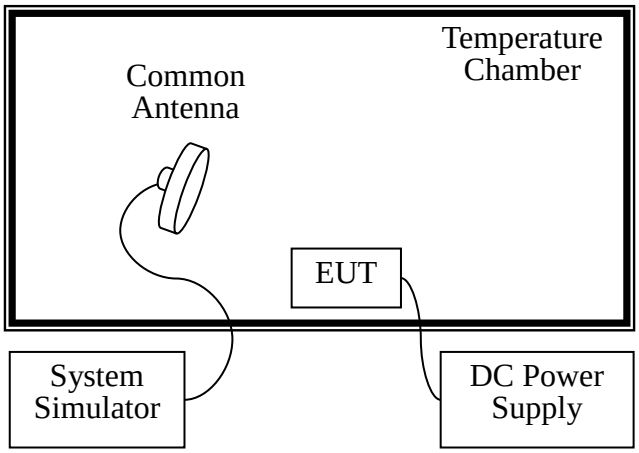
4.4 Description of Test Setup

4.4.1 For Antenna Port Test



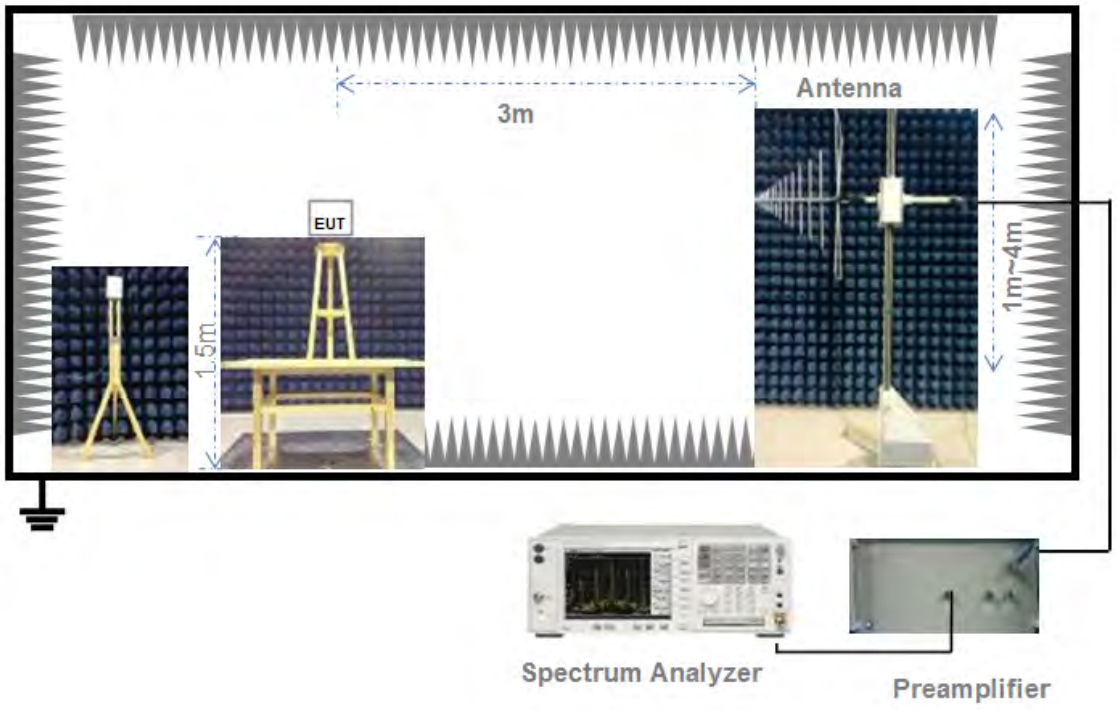
(Diagram 1)

4.4.2 For Frequency Stability Test



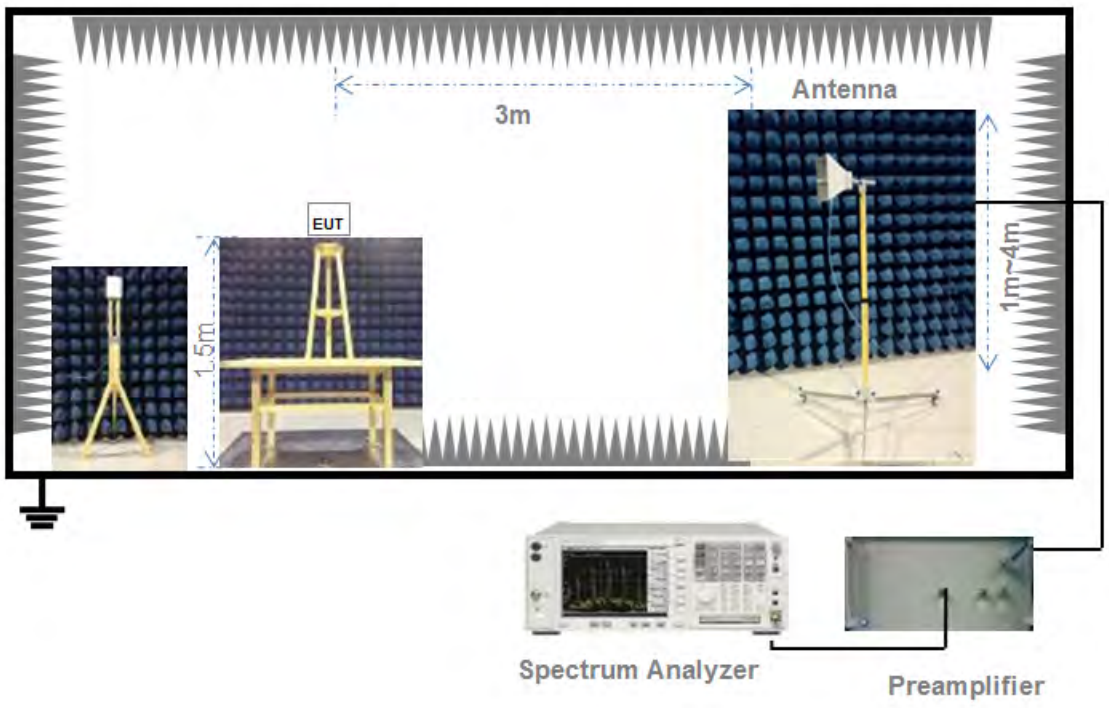
(Diagram 2)

4.4.3 For Radiated Test (30 MHz-1 GHz)



(Diagram 3)

4.4.4 For Radiated Test (Above 1 GHz)



(Diagram 4)

5 TEST ITEMS

5.1 Transmitter Radiated Power (EIRP/ERP)

5.1.1 Limit

FCC §2.1046(a) & 22.913 & 24.232 & 27.50(h)

According to FCC section 22.913, the Effective Radiated Power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts, FCC section 24.232, 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. FCC section 27.50(h) Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

5.1.2 Test Procedure

Description of the Conducted Output Power Measurement

A system simulator was used to estabilish communication with the EUT, Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output teminals shall be reported.
Note: Reference test setup 4.4.1 (Diagram 1)

Description of the Transmitter Radiated Power Measurement

In many cases, the RF output power limits for licensed digital transmission devices is specified in terms of effective radiated power (ERP) or equivalent isotropic radiated power (EIRP). Typically, ERP is specified when the operating frequency is less than or equal to 1 GHz and EIRP is specified when the operating frequency is greater than 1 GHz. Both are determined by adding the transmit antenna gain to the conducted RF output power with the primary difference between the two being that when determining the ERP, the transmit antenna gain is referenced to a dipole antenna (i.e., dBd) whereas when determining the EIRP, the transmit antenna gain is referenced to an isotropic antenna (dBi).

The relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP/EIRP = PMeas + GT − LC

where:

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);

PMeas = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

ERP (dBd) = EIRP (dBi) - 2.15

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

Note: Reference test setup 4.4.3 and 4.4.4 (Diagram 3, 4)

5.2 Peak to average ratio

5.2.1 Limit

FCC § 2.1046 & 24.232

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved verage power technique or in compliance with 24.232 (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of § 24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

5.2.2 Test Procedure

Here the lowest, middle and highest channels are selected to perform testing to verify the peak-to-average ratio.

Test procedures:

a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;

b) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

d) Set the measurement interval as follows:

1) for continuous transmissions, set to 1 ms,

2) for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.

e) Record the maximum PAPR level associated with a probability of 0.1%.

Use one of the procedures presented in 4.1 to measure the total peak power and record as PPk. Use one of the applicable procedures presented 4.2 to measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

PAPR (dB) = PPk (dBm) - PAvg (dBm).

Note: Reference test setup 4.4.1 (Diagram 1).

5.3 Occupied Bandwidth

5.3.1 Limit

FCC § 2.1049

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Occupied bandwidth is also known as the 99% emission bandwidth

5.3.2 Test Procedure

The following procedure shall be used for measuring (99 %) power bandwidth

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the OBW).

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.

d) NOTE—Steps a) through c) may require iteration to adjust within the specified tolerances.

e) Set the detection mode to peak, and the trace mode to max hold..

f) Use the 99 % power bandwidth function of the spectrum analyzer (if available) and report the measured bandwidth.

g) If the instrument does not have a 99 % power bandwidth function, the trace data points are to be recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99 % power bandwidth is the difference between these two frequencies.

h) The OBW shall be reported by providing plot(s) of the measuring instrument display. The frequency and amplitude axes and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Note: Reference test setup 4.4.1 (Diagram 1).

5.4 Frequency Stability

5.4.1 Limit

FCC § 2.1055 & 22.355 & 24.235 &27.54

§ 22.355

Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C-1 of this section.

Table C-1—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

& 24.235

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

&27.54

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

The test conditions are:

(a) The temperature is varied from -30°C to +50°C at intervals of not more than 10°C.

(b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

5.4.2 Test Procedure

1. The test is performed in a Temperature Chamber.
2. The EUT is configured as MS + DC Power Supply.

Note: Reference test setup 4.4.2 (Diagram 2).

5.5 Spurious Emission at Antenna Terminals

5.5.1 Limit

FCC §2.1051 & 22.917(a) & 24.238(a) & 27.53(m)

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10*log(P) dB. This calculated to be -13 dBm.

For mobile digital stations, 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. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

5.5.2 Test Procedure

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee’s frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

Note: Reference test setup 4.4.1 (Diagram 1).

5.6 Band Edge

5.6.1 Limit

FCC § 2.1051 & 22.917(b) & 24.238(b) & 27.53(m)
The power of any emission outside of the authorized operating frequency must be attenuated below the transmitting (P) by a factor of at least 43+10log(P) dB.
In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth (26 dB emission bandwidth) of the fundamental emission of the transmitter may be employed.

For mobile digital stations, 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. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

5.6.2 Test Procedure

The EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading.

1. The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.
2. The center of the spectrum analyzer was set to block edge frequency.

Note: Reference test setup 4.4.1 (Diagram 1).

5.7 Field Strength of Spurious Radiation

5.7.1 Limit

FCC § 2.1053 & 22.917 & 24.238 & 27.53(m)

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10*log(P) dB. This calculated to be -13 dBm.

For mobile digital stations, 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. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

5.7.2 Test Procedure

1. On a test site, the EUT shall be placed at 80cm height on a turn table, and in the position close to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond to the fundamental frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is used for the measurement.
4. During the measurement of the EUT, the resolution bandwidth was to 1 MHz and the average bandwidth was set to 1 MHz.
5. The transmitter shall be switched on; the measuring receiver shall be tuned to the frequency of the transmitter under test.
6. The test antenna shall be raised and lowered through the specified range of height until the maximum signal level is detected by the measuring receiver.
7. The transmitter shall be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
8. The test antenna shall be raised and lowered again through the specified range of height until the maximum signal level is detected by the measuring receiver.
9. The maximum signal level detected by the measuring receiver shall be noted.
10. The EUT was replaced by half-wave dipole (824 ~ 849 MHz) or horn antenna (1 850 ~ 1 910 MHz) connected to a signal generator.
11. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
12. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
13. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring received, which is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
14. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
15. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.

Note: Reference test setup 4.4.3 and 4.4.4 (Diagram 3, 4)

ANNEX A TEST RESULT

A.1 Transmitter Radiated Power (EIRP/ERP)

GSM Mode Test Data

Test Band	Test Channel	Conducted Output Peak Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
GSM 850	LCH	34.24	0.8	-1.35	32.89	1.95	7	Pass
	MCH	34.23	0.8	-1.35	32.88	1.94	7	Pass
	HCH	34.17	0.8	-1.35	32.82	1.91	7	Pass
GPRS 850	LCH	33.24	0.8	-1.35	31.89	1.55	7	Pass
	MCH	33.20	0.8	-1.35	31.85	1.53	7	Pass
	HCH	33.13	0.8	-1.35	31.78	1.51	7	Pass
EGPRS 850	LCH	30.88	0.8	-1.35	29.53	0.90	7	Pass
	MCH	30.78	0.8	-1.35	29.43	0.88	7	Pass
	HCH	30.64	0.8	-1.35	29.29	0.85	7	Pass

Test Band	Test Channel	Conducted Output Peak Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Verdict
GSM 1900	LCH	30.45	1.1	31.55	1.43	2	Pass
	MCH	30.14	1.1	31.24	1.33	2	Pass
	HCH	30.17	1.1	31.27	1.34	2	Pass
GPRS 1900	LCH	30.40	1.1	31.50	1.41	2	Pass
	MCH	30.32	1.1	31.42	1.39	2	Pass
	HCH	30.16	1.1	31.26	1.34	2	Pass
EGPRS 1900	LCH	29.52	1.1	30.62	1.15	2	Pass
	MCH	29.48	1.1	30.58	1.14	2	Pass
	HCH	29.44	1.1	30.54	1.13	2	Pass

Note 1: ERP is specified when the operating frequency below 1 GHz, ERP (dBd) = EIRP (dBi) - 2.15.

Note 2: For the GPRS and EGPRS mode, all the slots were tested and just the worst data was record in this table.

GPRS Conducted output power

Band	Channel	Conducted Output Peak Power (dBm)			
		Slot 1	Slot 2	Slot 3	Slot 4
GPRS 850	LCH	33.24	33.02	32.85	32.76
	MCH	33.20	32.94	32.77	32.65
	HCH	33.13	32.88	32.72	32.68
GPRS 1900	LCH	30.40	30.18	30.10	30.01
	MCH	30.32	30.13	29.97	29.59
	HCH	30.16	29.95	29.78	29.58

EGPRS Conducted output power

Band	Channel	Conducted Output Peak Power (dBm)			
		Slot 1	Slot 2	Slot 3	Slot 4
EGPRS 850	LCH	30.88	30.72	30.50	30.47
	MCH	30.78	30.47	30.30	30.21
	HCH	30.64	30.49	30.32	30.13
EGPRS 1900	LCH	29.52	29.29	29.21	29.14
	MCH	29.48	29.28	29.20	29.06
	HCH	29.44	29.37	29.28	29.15

WCDMA Mode Test data:

Test Band	Test Channel	Conducted Output Average Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Verdict
WCDMA Band 2	LCH	22.89	1.1	23.99	0.25	2	Pass
	MCH	22.87	1.1	23.97	0.25	2	Pass
	HCH	22.80	1.1	23.90	0.25	2	Pass
HSDPA Band 2	LCH	21.86	1.1	22.96	0.20	2	Pass
	MCH	21.86	1.1	22.96	0.20	2	Pass
	HCH	21.83	1.1	22.93	0.20	2	Pass
HSUPA Band 2	LCH	21.72	1.1	22.82	0.19	2	Pass
	MCH	21.97	1.1	23.07	0.20	2	Pass
	HCH	21.64	1.1	22.74	0.19	2	Pass

Test Band	Test Channel	Conducted Output Average Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (dBm)	Verdict
WCDMA Band 5	LCH	23.03	0.8	-1.35	21.68	0.15	7	Pass
	MCH	23.08	0.8	-1.35	21.73	0.15	7	Pass
	HCH	22.90	0.8	-1.35	21.55	0.14	7	Pass
HSDPA Band 5	LCH	21.99	0.8	-1.35	20.64	0.12	7	Pass
	MCH	21.99	0.8	-1.35	20.64	0.12	7	Pass
	HCH	21.84	0.8	-1.35	20.49	0.11	7	Pass
HSUPA Band 5	LCH	22.06	0.8	-1.35	20.71	0.12	7	Pass
	MCH	21.99	0.8	-1.35	20.64	0.12	7	Pass
	HCH	21.85	0.8	-1.35	20.50	0.11	7	Pass

Note 1: ERP is specified when the operating frequency below 1 GHz, ERP (dBd) = EIRP (dBi) - 2.15.

Note 2: For the HSDPA and HSUPA mode, all the subtests were tested and just the worst data was record in this table.

HSDPA Conducted output power

Band	Channel	Conducted Output Average Power (dBm)			
		Subtest 1	Subtest 2	Subtest 3	Subtest 4
HSDPA Band 2	LCH	21.86	21.71	21.37	21.35
	MCH	21.86	21.75	21.21	21.38
	HCH	21.83	21.85	21.16	21.35
HSDPA Band 5	LCH	21.99	22.07	21.38	21.56
	MCH	21.99	22.05	21.51	21.67
	HCH	21.84	21.95	21.23	21.43

HSUPA Conducted output power

Band	Channel	Conducted Output Average Power (dBm)				
		Subtest 1	Subtest 2	Subtest 3	Subtest 4	Subtest 5
HSUPA Band 2	LCH	21.72	20.42	20.80	20.84	21.58
	MCH	21.97	20.59	20.78	20.92	21.67
	HCH	21.64	20.32	20.80	21.17	21.63
HSUPA Band 5	LCH	22.06	21.03	21.20	21.27	21.93
	MCH	21.99	20.86	20.51	21.11	21.82
	HCH	21.85	20.31	20.57	21.14	21.78

LTE Mode Test data:

Test Band	Test Model	Test Bandwidth	Test Channel	Test RB (Size#Offset)	Conducted Output Average Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Verdict
Band 7	QPSK	5 MHz	LCH	RB1#0	22.70	0.8	**23.50**	**0.22**	2	Pass
				RB1#13	22.66	0.8	23.46	0.22	2	Pass
				RB1#24	22.57	0.8	23.37	0.22	2	Pass
				RB12#0	21.64	0.8	22.44	0.18	2	Pass
				RB12#6	21.64	0.8	22.44	0.18	2	Pass
				RB12#13	21.72	0.8	22.52	0.18	2	Pass
				RB25#0	21.58	0.8	22.38	0.17	2	Pass
			MCH	RB1#0	22.48	0.8	**23.28**	**0.21**	2	Pass
				RB1#13	22.46	0.8	23.26	0.21	2	Pass
				RB1#24	22.41	0.8	23.21	0.21	2	Pass
				RB12#0	21.54	0.8	22.34	0.17	2	Pass
				RB12#6	21.45	0.8	22.25	0.17	2	Pass
				RB12#13	21.44	0.8	22.24	0.17	2	Pass
				RB25#0	21.47	0.8	22.27	0.17	2	Pass
			HCH	RB1#0	22.39	0.8	23.19	0.21	2	Pass

Test Band	Test Model	Test Bandwidth	Test Channel	Test RB (Size#Offset)	Conducted Output Average Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Verdict
				RB1#13	22.45	0.8	**23.25**	**0.21**	2	Pass
				RB1#24	22.45	0.8	23.25	0.21	2	Pass
				RB12#0	21.50	0.8	22.30	0.17	2	Pass
				RB12#6	21.51	0.8	22.31	0.17	2	Pass
				RB12#13	21.49	0.8	22.29	0.17	2	Pass
				RB25#0	21.43	0.8	22.23	0.17	2	Pass
		10 MHz	LCH	RB1#0	22.65	0.8	**23.45**	**0.22**	2	Pass
				RB1#25	22.44	0.8	23.24	0.21	2	Pass
				RB1#49	22.24	0.8	23.04	0.20	2	Pass
				RB25#0	21.59	0.8	22.39	0.17	2	Pass
				RB25#13	21.59	0.8	22.39	0.17	2	Pass
				RB25#25	21.71	0.8	22.51	0.18	2	Pass
				RB50#0	21.67	0.8	22.47	0.18	2	Pass
			MCH	RB1#0	22.58	0.8	**23.38**	**0.22**	2	Pass
				RB1#25	22.45	0.8	23.25	0.21	2	Pass
				RB1#49	22.39	0.8	23.19	0.21	2	Pass
				RB25#0	21.57	0.8	22.37	0.17	2	Pass
				RB25#13	21.48	0.8	22.28	0.17	2	Pass
				RB25#25	21.39	0.8	22.19	0.17	2	Pass
				RB50#0	21.49	0.8	22.29	0.17	2	Pass
			HCH	RB1#0	22.26	0.8	23.06	0.20	2	Pass
				RB1#25	22.37	0.8	23.17	0.21	2	Pass
				RB1#49	22.48	0.8	**23.28**	**0.21**	2	Pass
				RB25#0	21.33	0.8	22.13	0.16	2	Pass
				RB25#13	21.45	0.8	22.25	0.17	2	Pass
				RB25#25	21.48	0.8	22.28	0.17	2	Pass
				RB50#0	21.46	0.8	22.26	0.17	2	Pass
		15 MHz	LCH	RB1#0	22.64	0.8	**23.44**	**0.22**	2	Pass
				RB1#38	22.62	0.8	23.42	0.22	2	Pass
				RB1#74	21.95	0.8	22.75	0.19	2	Pass
				RB36#0	21.60	0.8	22.40	0.17	2	Pass
				RB36#19	21.70	0.8	22.50	0.18	2	Pass
				RB36#39	21.66	0.8	22.46	0.18	2	Pass
				RB75#0	21.70	0.8	22.50	0.18	2	Pass
			MCH	RB1#0	22.61	0.8	**23.41**	**0.22**	2	Pass
				RB1#38	22.45	0.8	23.25	0.21	2	Pass
				RB1#74	22.29	0.8	23.09	0.20	2	Pass
				RB36#0	21.50	0.8	22.30	0.17	2	Pass
				RB36#19	21.45	0.8	22.25	0.17	2	Pass
				RB36#39	21.35	0.8	22.15	0.16	2	Pass

Test Band	Test Model	Test Bandwidth	Test Channel	Test RB (Size#Offset)	Conducted Output Average Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Verdict
				RB75#0	21.44	0.8	22.24	0.17	2	Pass
			HCH	RB1#0	21.83	0.8	22.63	0.18	2	Pass
				RB1#38	22.30	0.8	**23.10**	**0.20**	2	Pass
				RB1#74	22.30	0.8	23.10	0.20	2	Pass
				RB36#0	21.32	0.8	22.12	0.16	2	Pass
				RB36#19	21.40	0.8	22.20	0.17	2	Pass
				RB36#39	21.44	0.8	22.24	0.17	2	Pass
				RB75#0	21.42	0.8	22.22	0.17	2	Pass
		20 MHz	LCH	RB1#0	21.95	0.8	22.75	0.19	2	Pass
				RB1#50	22.63	0.8	**23.43**	**0.22**	2	Pass
				RB1#99	21.73	0.8	22.53	0.18	2	Pass
				RB50#0	21.64	0.8	22.44	0.18	2	Pass
				RB50#25	21.67	0.8	22.47	0.18	2	Pass
				RB50#50	21.55	0.8	22.35	0.17	2	Pass
				RB100#0	21.59	0.8	22.39	0.17	2	Pass
			MCH	RB1#0	22.54	0.8	**23.34**	**0.22**	2	Pass
				RB1#50	22.53	0.8	23.33	0.22	2	Pass
				RB1#99	21.59	0.8	22.39	0.17	2	Pass
				RB50#0	21.49	0.8	22.29	0.17	2	Pass
				RB50#25	21.43	0.8	22.23	0.17	2	Pass
				RB50#50	21.42	0.8	22.22	0.17	2	Pass
				RB100#0	21.45	0.8	22.25	0.17	2	Pass
			HCH	RB1#0	21.18	0.8	21.98	0.16	2	Pass
				RB1#50	22.36	0.8	**23.16**	**0.21**	2	Pass
				RB1#99	21.78	0.8	22.58	0.18	2	Pass
				RB50#0	21.33	0.8	22.13	0.16	2	Pass
				RB50#25	21.29	0.8	22.09	0.16	2	Pass
				RB50#50	21.39	0.8	22.19	0.17	2	Pass
				RB100#0	21.40	0.8	22.20	0.17	2	Pass
	16QAM	5 MHz	LCH	RB1#0	21.41	0.8	**22.21**	**0.17**	2	Pass
				RB1#13	21.36	0.8	22.16	0.16	2	Pass
				RB1#24	21.36	0.8	22.16	0.16	2	Pass
				RB12#0	20.64	0.8	21.44	0.14	2	Pass
				RB12#6	20.69	0.8	21.49	0.14	2	Pass
				RB12#13	20.56	0.8	21.36	0.14	2	Pass
				RB25#0	20.60	0.8	21.40	0.14	2	Pass
			MCH	RB1#0	21.38	0.8	**22.18**	**0.17**	2	Pass
				RB1#13	21.35	0.8	22.15	0.16	2	Pass
				RB1#24	21.32	0.8	22.12	0.16	2	Pass
				RB12#0	20.69	0.8	21.49	0.14	2	Pass

Test Band	Test Model	Test Bandwidth	Test Channel	Test RB (Size#Offset)	Conducted Output Average Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Verdict
				RB12#6	20.64	0.8	21.44	0.14	2	Pass
				RB12#13	20.59	0.8	21.39	0.14	2	Pass
				RB25#0	20.72	0.8	21.52	0.14	2	Pass
			HCH	RB1#0	21.25	0.8	**22.05**	**0.16**	2	Pass
				RB1#13	21.19	0.8	21.99	0.16	2	Pass
				RB1#24	21.22	0.8	22.02	0.16	2	Pass
				RB12#0	20.48	0.8	21.28	0.13	2	Pass
				RB12#6	20.53	0.8	21.33	0.14	2	Pass
				RB12#13	20.45	0.8	21.25	0.13	2	Pass
				RB25#0	20.58	0.8	21.38	0.14	2	Pass
		10 MHz	LCH	RB1#0	21.51	0.8	**22.31**	**0.17**	2	Pass
				RB1#25	21.41	0.8	22.21	0.17	2	Pass
				RB1#49	21.49	0.8	22.29	0.17	2	Pass
				RB25#0	20.53	0.8	21.33	0.14	2	Pass
				RB25#13	20.56	0.8	21.36	0.14	2	Pass
				RB25#13	20.65	0.8	21.45	0.14	2	Pass
				RB25#25	20.66	0.8	21.46	0.14	2	Pass
			MCH	RB1#0	21.52	0.8	**22.32**	**0.17**	2	Pass
				RB1#25	21.42	0.8	22.22	0.17	2	Pass
				RB1#49	21.38	0.8	22.18	0.17	2	Pass
				RB25#0	20.72	0.8	21.52	0.14	2	Pass
				RB25#13	20.65	0.8	21.45	0.14	2	Pass
				RB25#13	20.56	0.8	21.36	0.14	2	Pass
				RB25#25	20.66	0.8	21.46	0.14	2	Pass
			HCH	RB1#0	21.18	0.8	21.98	0.16	2	Pass
				RB1#25	21.24	0.8	22.04	0.16	2	Pass
				RB1#49	21.29	0.8	**22.09**	**0.16**	2	Pass
				RB25#0	20.48	0.8	21.28	0.13	2	Pass
				RB25#13	20.47	0.8	21.27	0.13	2	Pass
				RB25#13	20.48	0.8	21.28	0.13	2	Pass
				RB25#25	20.47	0.8	21.27	0.13	2	Pass
		15 MHz	LCH	RB1#0	21.57	0.8	**22.37**	**0.17**	2	Pass
				RB1#38	21.50	0.8	22.30	0.17	2	Pass
				RB1#74	21.72	0.8	22.52	0.18	2	Pass
				RB36#0	20.62	0.8	21.42	0.14	2	Pass
				RB36#19	20.64	0.8	21.44	0.14	2	Pass
				RB36#39	20.60	0.8	21.40	0.14	2	Pass
				RB75#0	20.63	0.8	21.43	0.14	2	Pass
			MCH	RB1#0	21.51	0.8	**22.31**	**0.17**	2	Pass
				RB1#38	21.40	0.8	22.20	0.17	2	Pass

Test Band	Test Model	Test Bandwidth	Test Channel	Test RB (Size#Offset)	Conducted Output Average Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Verdict
				RB1#74	21.31	0.8	22.11	0.16	2	Pass
				RB36#0	20.59	0.8	21.39	0.14	2	Pass
				RB36#19	20.58	0.8	21.38	0.14	2	Pass
				RB36#39	20.50	0.8	21.30	0.13	2	Pass
				RB75#0	20.66	0.8	21.46	0.14	2	Pass
				RB1#0	21.18	0.8	21.98	0.16	2	Pass
				RB1#38	21.16	0.8	21.96	0.16	2	Pass
				RB1#74	21.29	0.8	**22.09**	**0.16**	2	Pass
			HCH	RB36#0	20.34	0.8	21.14	0.13	2	Pass
				RB36#19	20.41	0.8	21.21	0.13	2	Pass
				RB36#39	20.50	0.8	21.30	0.13	2	Pass
				RB75#0	20.47	0.8	21.27	0.13	2	Pass
				RB1#0	21.90	0.8	**22.70**	**0.19**	2	Pass
				RB1#50	21.84	0.8	22.64	0.18	2	Pass
				RB1#99	21.73	0.8	22.53	0.18	2	Pass
			LCH	RB50#0	20.67	0.8	21.47	0.14	2	Pass
				RB50#25	20.56	0.8	21.36	0.14	2	Pass
				RB50#50	20.67	0.8	21.47	0.14	2	Pass
				RB100#0	20.60	0.8	21.40	0.14	2	Pass
				RB1#0	21.66	0.8	22.46	0.18	2	Pass
				RB1#50	21.70	0.8	**22.50**	**0.18**	2	Pass
				RB1#99	21.58	0.8	22.38	0.17	2	Pass
		20 MHz	MCH	RB50#0	20.69	0.8	21.49	0.14	2	Pass
				RB50#25	20.62	0.8	21.42	0.14	2	Pass
				RB50#50	20.67	0.8	21.47	0.14	2	Pass
				RB100#0	20.66	0.8	21.46	0.14	2	Pass
				RB1#0	21.35	0.8	22.15	0.16	2	Pass
				RB1#50	21.43	0.8	22.23	0.17	2	Pass
				RB1#99	21.54	0.8	**22.34**	**0.17**	2	Pass
			HCH	RB50#0	20.46	0.8	21.26	0.13	2	Pass
				RB50#25	20.43	0.8	21.23	0.13	2	Pass
				RB50#50	20.47	0.8	21.27	0.13	2	Pass
				RB100#0	20.49	0.8	21.29	0.13	2	Pass

A.2 Peak to Average Ratio

Note: In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB. For GSM 1900, GPRS 1900 and EGPRS 1900 were used peak power to demonstrate compliance, a PAPR measurement is not required.

Test Data

Band	Test Channel	Peak to Average ratio (dBm)	Limit (dBm)	Verdict
WCDMA 1900	LCH	2.99	13	Pass
	MCH	3.13	13	Pass
	HCH	2.99	13	Pass

Test Band	Test Model	Test Bandwidth	Test Channel	Test RB(Size#Offset)	Peak to Average ratio (dBm)	Limit (dBm)	Verdict
Band 7	16-QAM	20 MHz	LCH	RB1#0	6.35	13	Pass
				RB100#0	5.97	13	Pass
			MCH	RB1#0	4.72	13	Pass
				RB100#0	5.80	13	Pass
			HCH	RB1#0	6.78	13	Pass
				RB100#0	5.68	13	Pass

Test Plots

WCDMA 1900 MHz LCH

WCDMA 1900 MHz MCH

WCDMA 1900 MHz HCH

Date: 21.MAY.2015 14:42:59

LTE Band 7 16-QAM 20 MHz LCH RB1#0

Date: 21.MAY.2015 10:39:24

LTE Band 7 16-QAM 20 MHz MCH RB1#0

Date: 21.MAY.2015 10:37:48

LTE Band 7 16-QAM 20 MHz HCHRB1#0

Date: 21.MAY.2015 10:35:44

LTE Band 7 16-QAM 20 MHz LCH RB100#0

Date: 21.MAY.2015 10:39:01

LTE Band 7 16-QAM 20 MHz MCH RB100#0

Date: 21.MAY.2015 10:38:07

LTE Band 7 16-QAM 20 MHz HCH RB100#0

Date: 21.MAY.2015 10:35:04

A.3 Occupied Bandwidth

GSM Mode Test Data

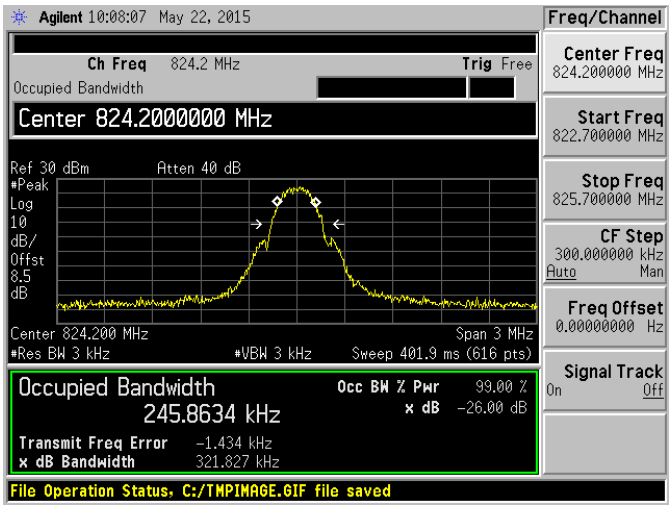
Test Band	Test Channel	Measured 99% Occupied Bandwidth (kHz)	Measured -26 dB Occupied Bandwidth (kHz)
GSM 850	LCH	245.8634	321.827
	MCH	243.5341	317.080
	HCH	246.1070	310.378
GSM 1900	LCH	248.3165	315.621
	MCH	243.6605	316.725
	HCH	244.9232	314.033
EGPRS 850	LCH	244.8242	321.121
	MCH	246.8001	316.487
	HCH	250.0411	316.633
EGPRS 1900	LCH	241.7358	313.042
	MCH	247.3037	315.589
	HCH	241.6304	314.583
WCDMA 850	LCH	4180.000	4628.000
	MCH	4152.000	4623.000
	HCH	4176.300	4620.000
WCDMA 1900	LCH	4174.400	4636.000
	MCH	4172.300	4634.000
	HCH	4147.300	4623.000

LTE Mode Test Data

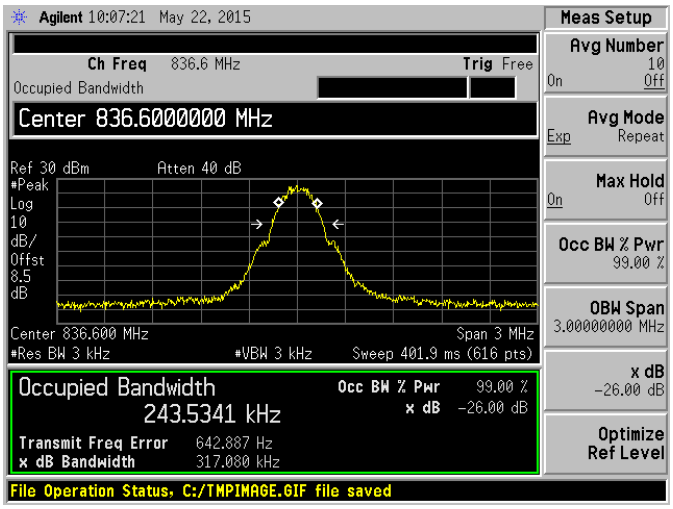
Test Band	Test Mode	Test Bandwidth	Test Channel	Test RB(Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)
Band 7	QPSK	5 MHz	LCH	RB25#0	4.4972	4.857
			MCH	RB25#0	4.4965	4.861
			HCH	RB25#0	4.4869	4.852
		10 MHz	LCH	RB50#0	8.9670	9.563
			MCH	RB50#0	8.9588	9.577
			HCH	RB50#0	8.9475	9.538
		15 MHz	LCH	RB75#0	13.4541	14.271
			MCH	RB75#0	13.4169	14.314
			HCH	RB75#0	13.3844	14.259
		20 MHz	LCH	RB100#0	17.8836	18.988
			MCH	RB100#0	17.8399	18.932
			HCH	RB100#0	17.7917	18.947
	16-QAM	5 MHz	LCH	RB25#0	4.4893	4.843
			MCH	RB25#0	4.4852	4.845
			HCH	RB25#0	4.4813	4.861
		10 MHz	LCH	RB50#0	8.9665	9.576
			MCH	RB50#0	8.9439	9.548
			HCH	RB50#0	8.9439	9.521
		15 MHz	LCH	RB75#0	13.4340	14.274
			MCH	RB75#0	13.4018	14.243
			HCH	RB75#0	13.3822	14.266
		20 MHz	LCH	RB100#0	17.8795	18.986
			MCH	RB100#0	17.8074	18.914
			HCH	RB100#0	17.8089	18.961

GSM Mode Test Plots

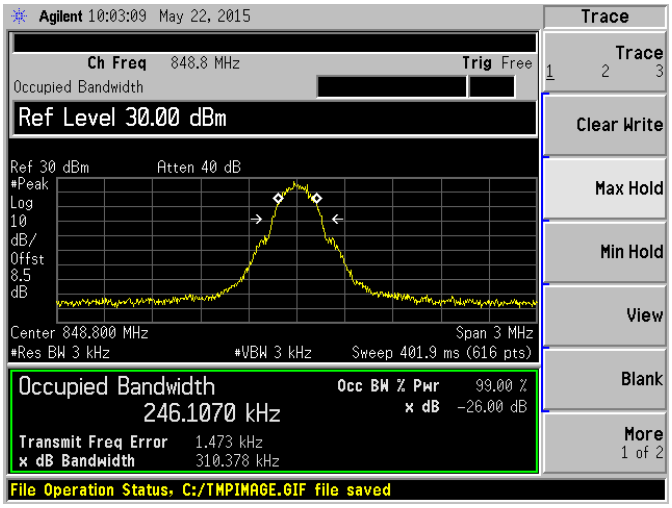
GSM 850 MHz LCH



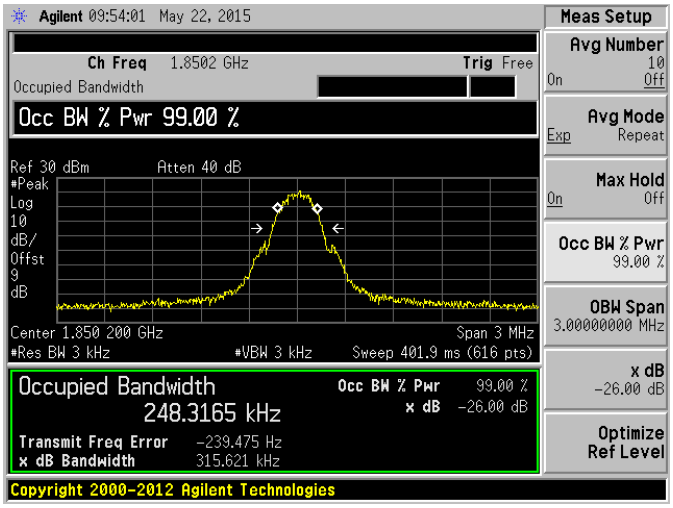
GSM 850 MHz MCH



GSM 850 MHz HCH



GSM 1900 MHz LCH



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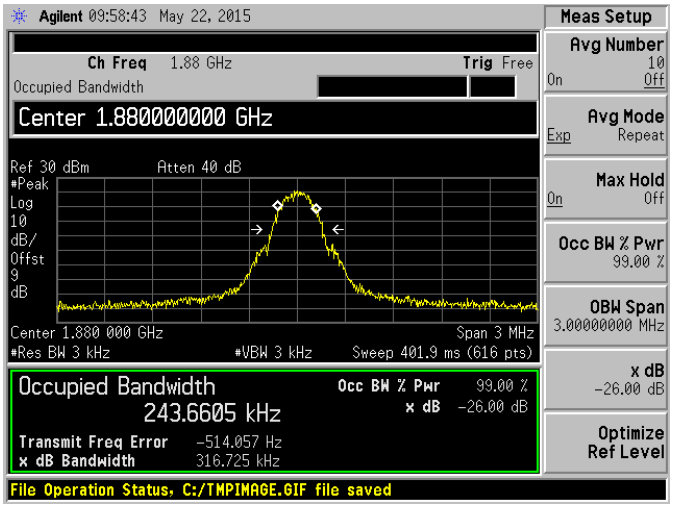

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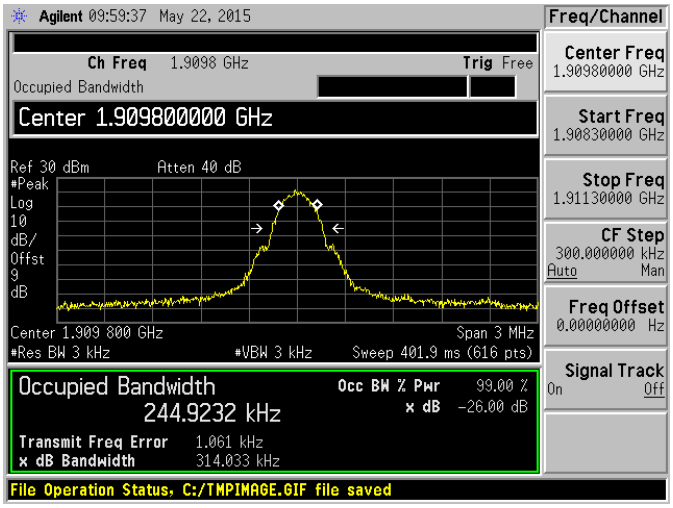
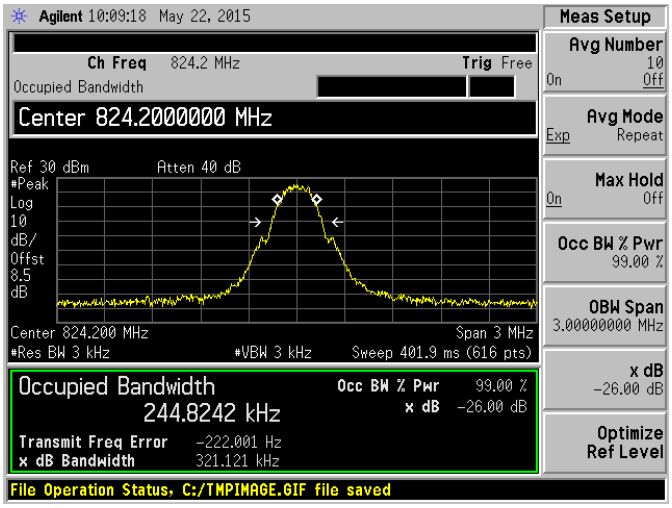


EGPRS 850 MHz LCH



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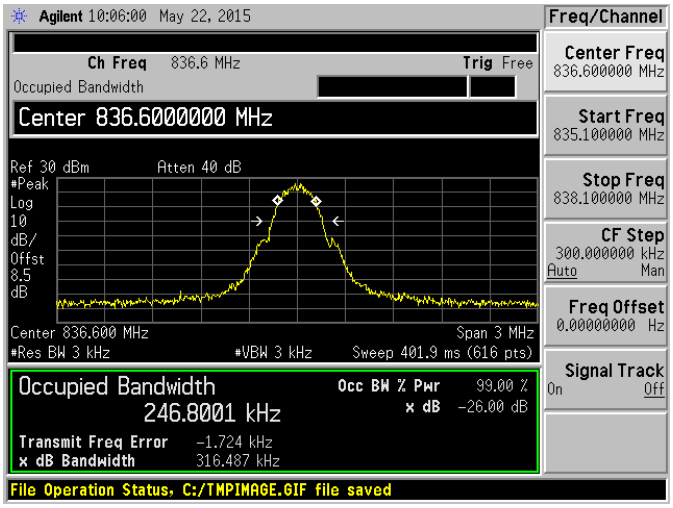

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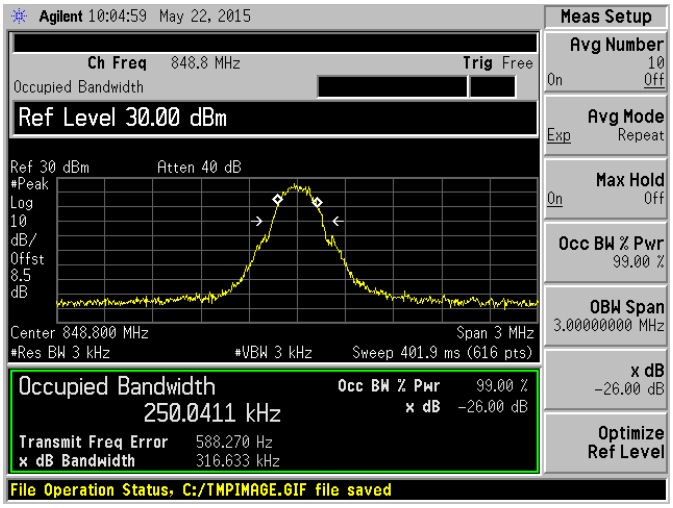

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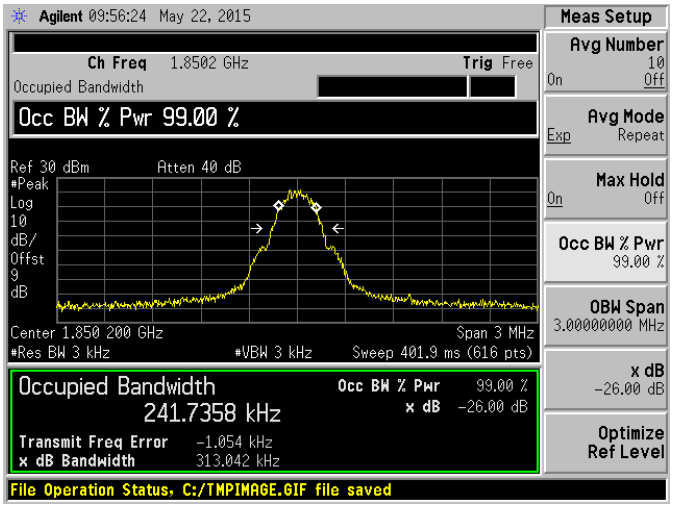

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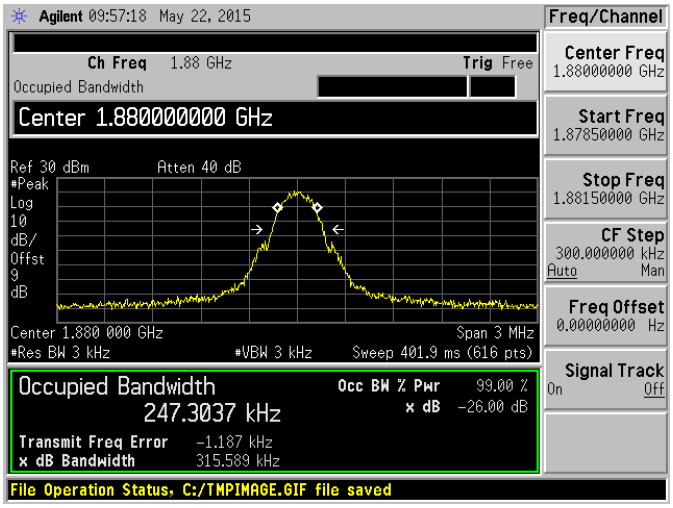

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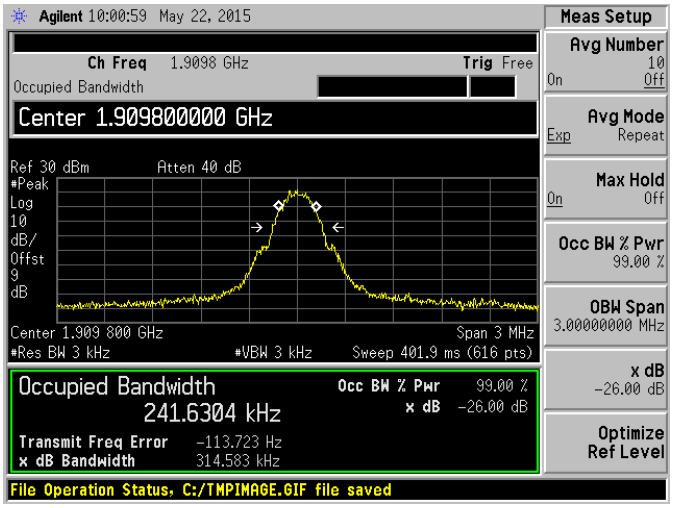
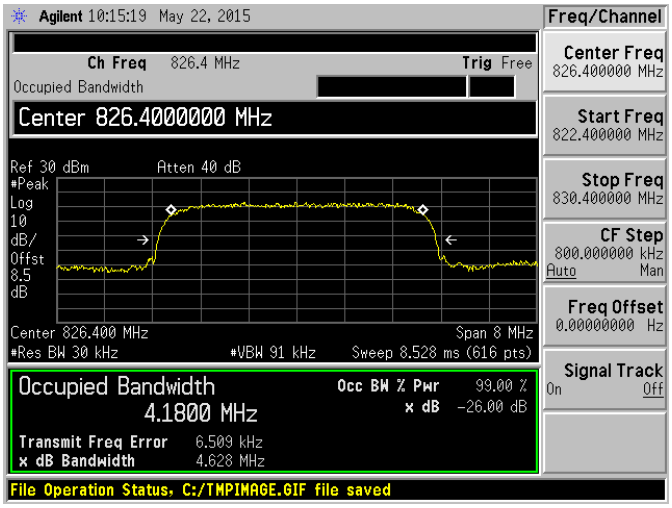
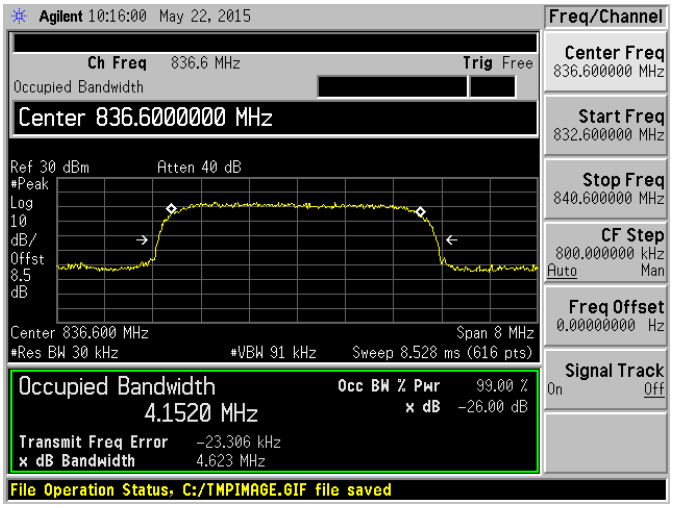


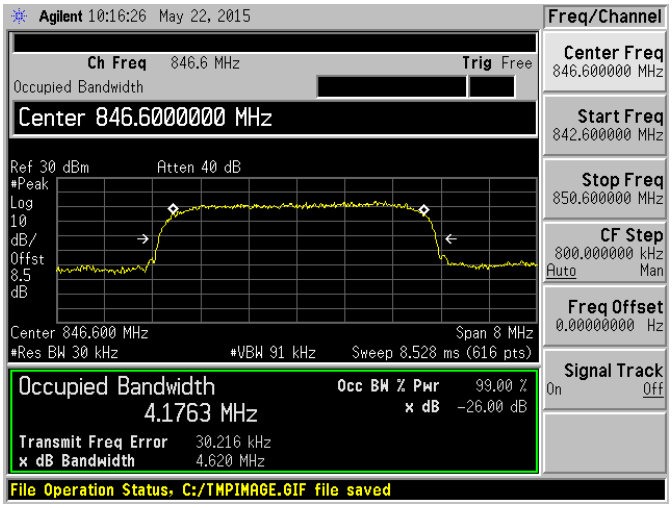
WCDMA 850 MHz LCH



WCDMA 850 MHz MCH



WCDMA 850 MHz HCH



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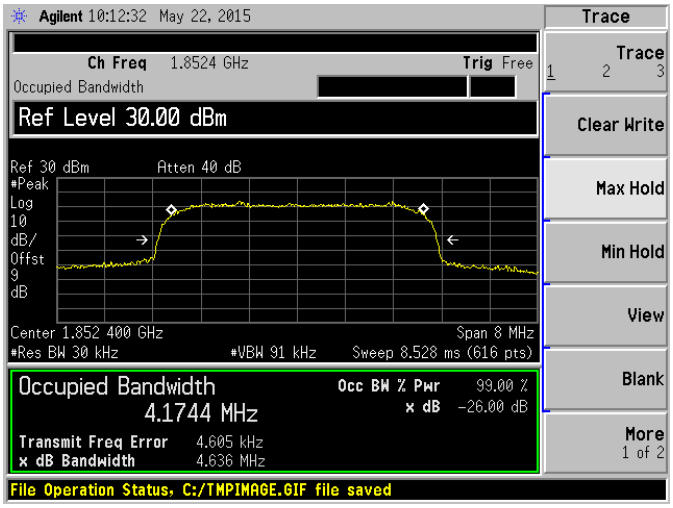
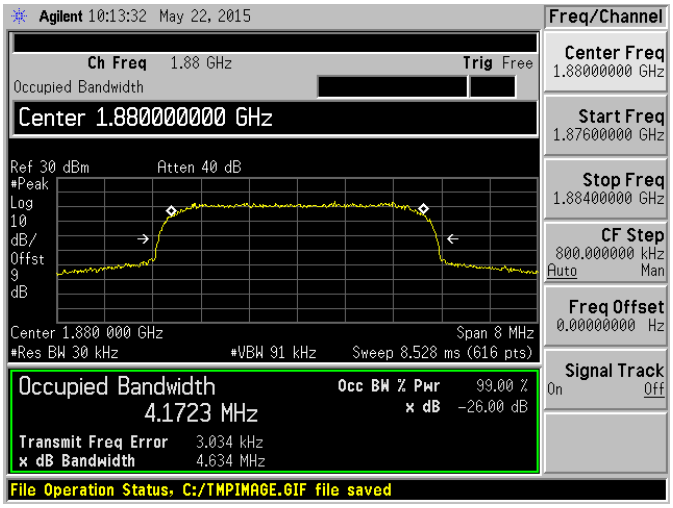
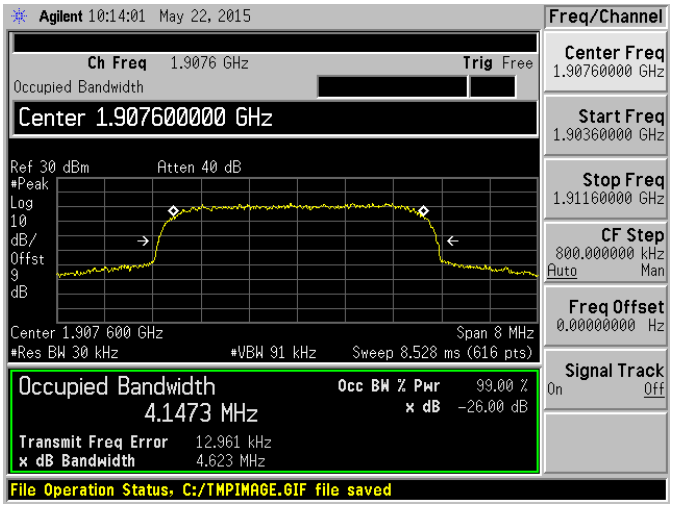


WCDMA 1900 MHz MCH

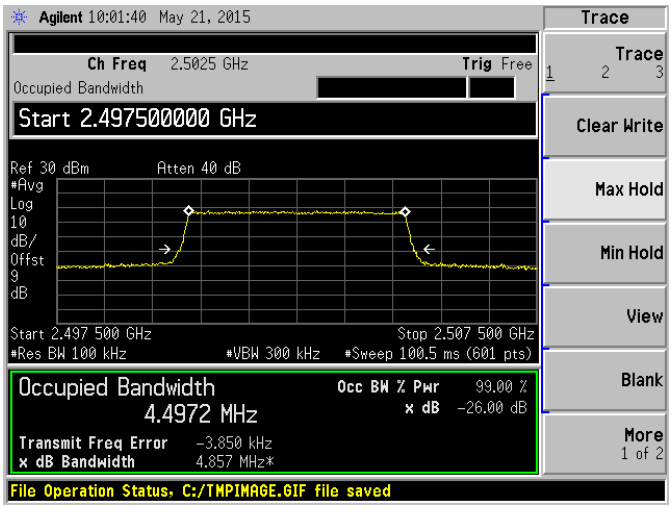


WCDMA 1900 MHz HCH

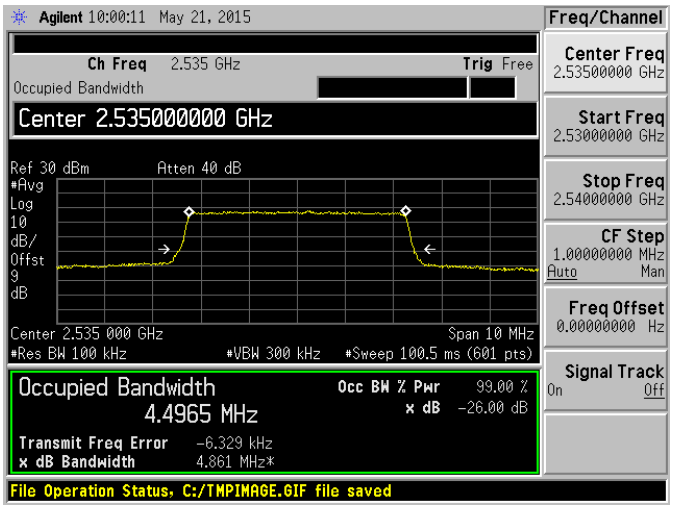


LTE Mode Test Plots

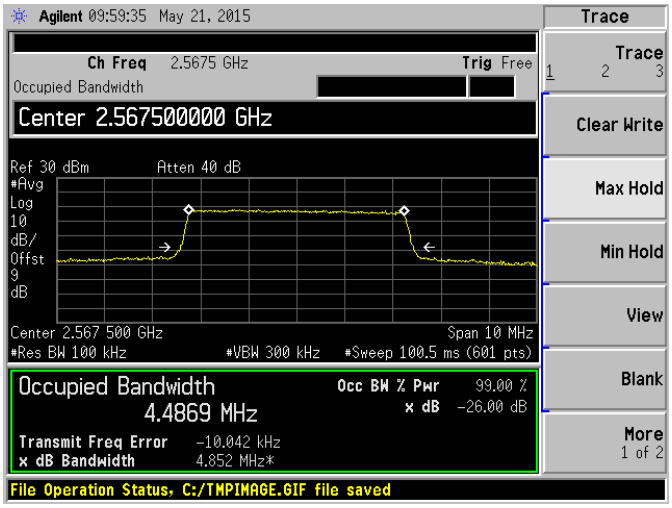
Band 7 QPSK 5 MHz Bandwidth RB6#0 LCH



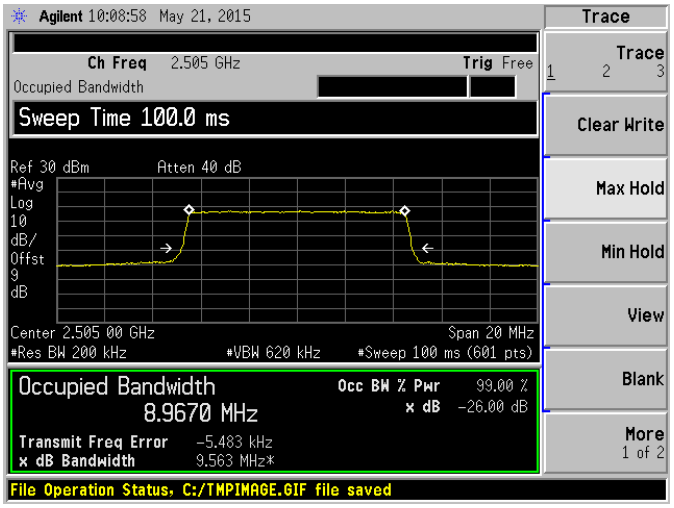
Band 7 QPSK 5 MHz Bandwidth RB6#0 MCH



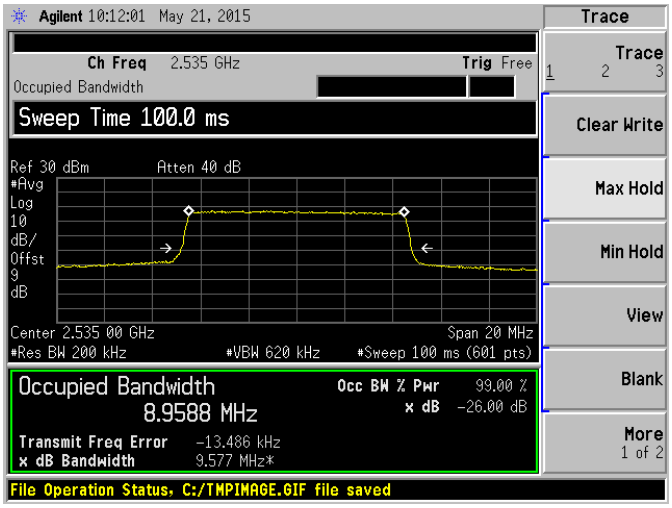
Band 7 QPSK 5 MHz Bandwidth RB6#0 HCH



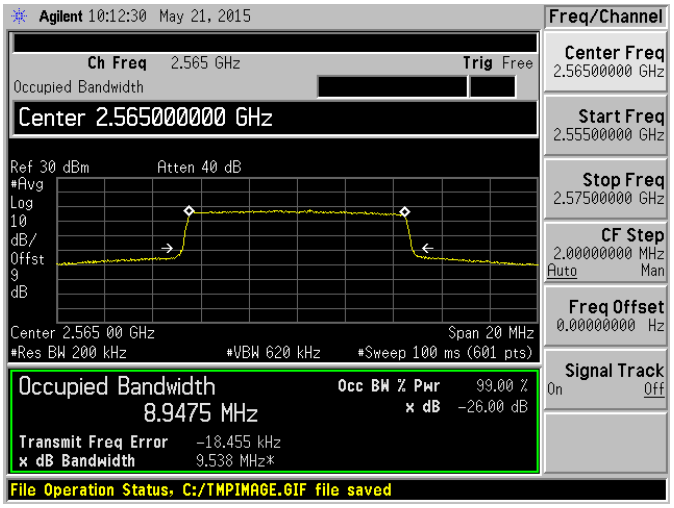
Band 7 QPSK 10 MHz Bandwidth RB6#0 LCH



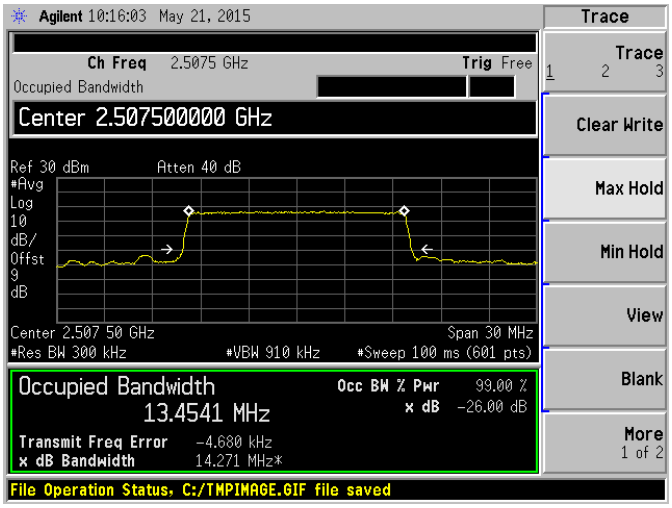
Band 7 QPSK 10 MHz Bandwidth RB6#0 MCH



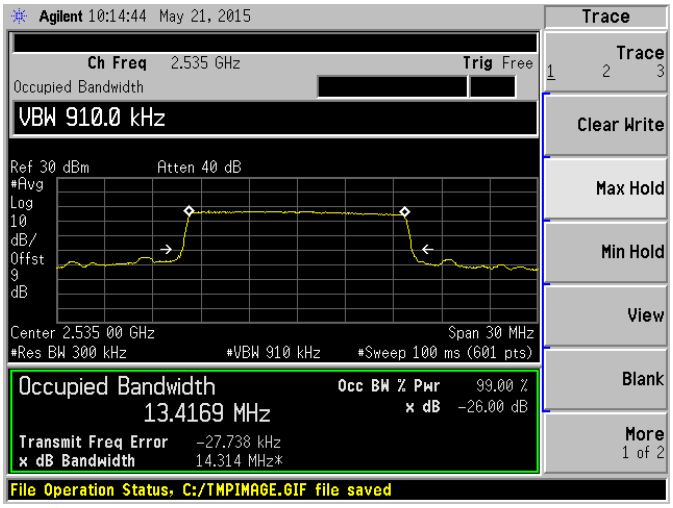
Band 7 QPSK 10 MHz Bandwidth RB6#0 HCH



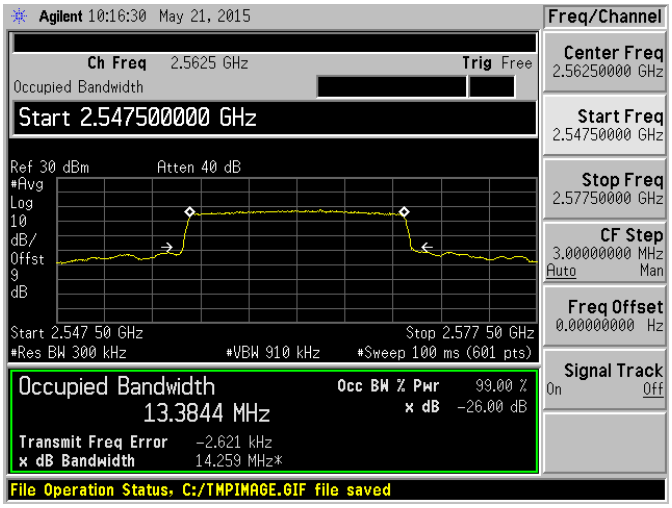
Band 7 QPSK 15 MHz Bandwidth RB6#0 LCH



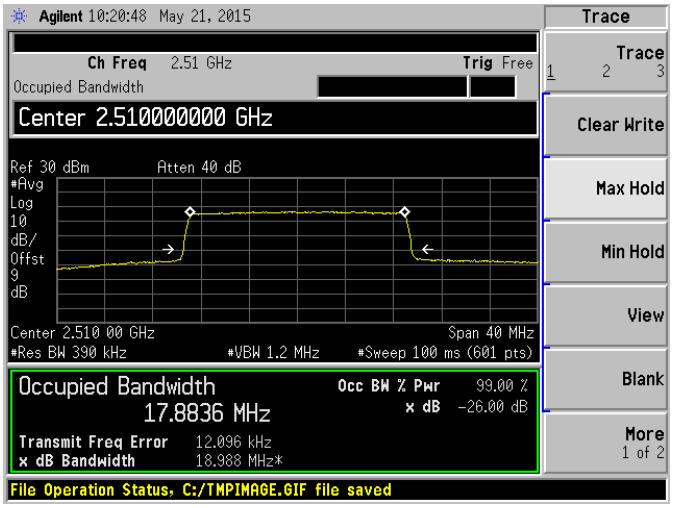
Band 7 QPSK 15 MHz Bandwidth RB6#0 MCH



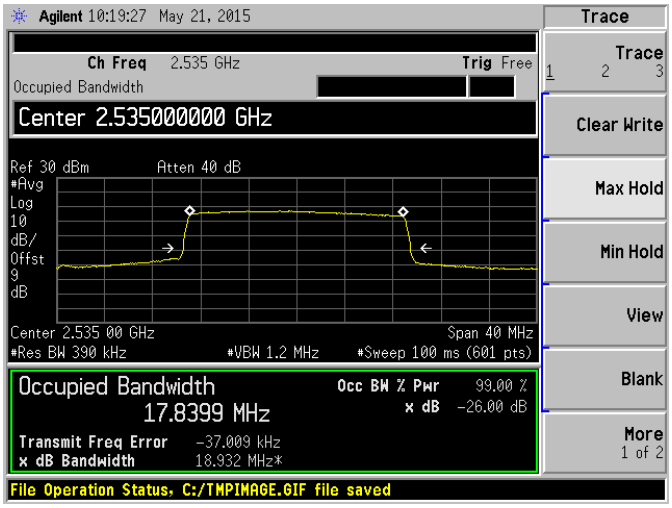
Band 7 QPSK 15 MHz Bandwidth RB6#0 HCH



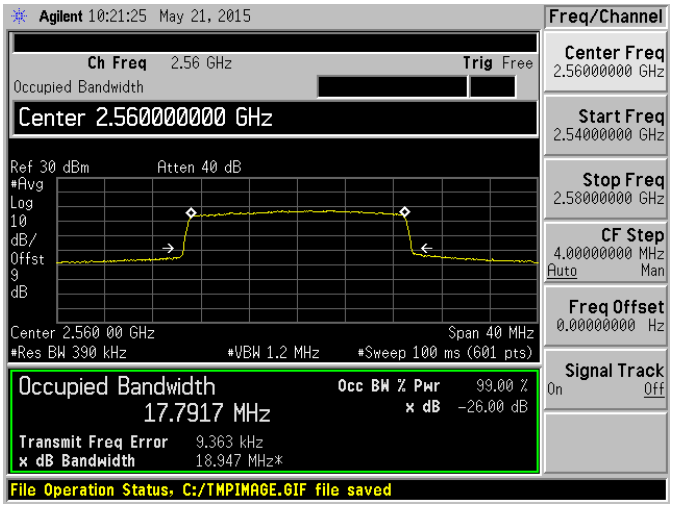
Band 7 QPSK 20 MHz Bandwidth RB6#0 LCH



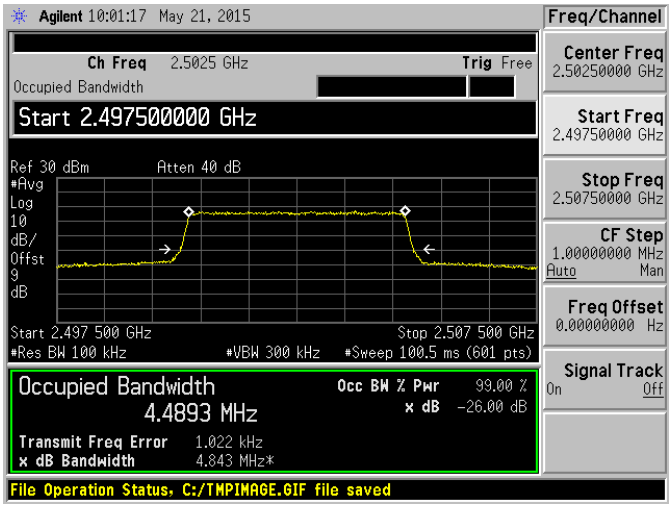
Band 7 QPSK 20 MHz Bandwidth RB6#0 MCH



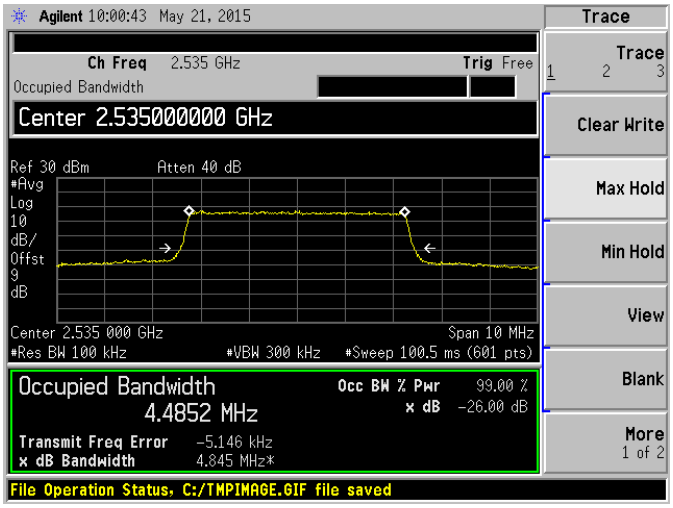
Band 7 QPSK 20 MHz Bandwidth RB6#0 HCH



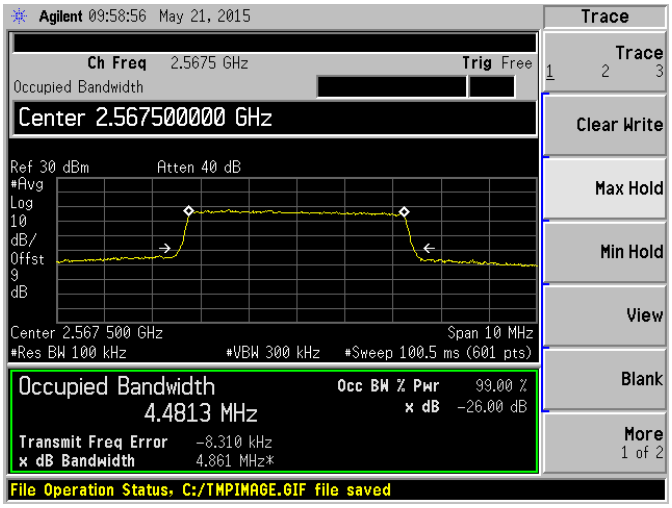
Band 7 16-QAM 5 MHz Bandwidth RB6#0 LCH



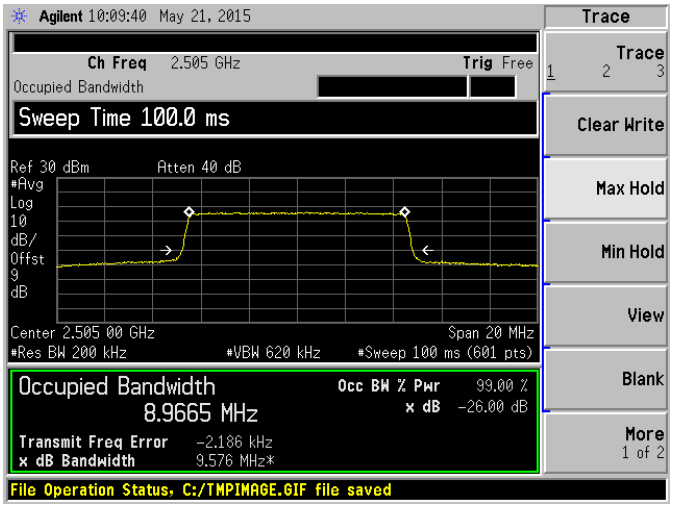
Band 7 16-QAM 5 MHz Bandwidth RB6#0 MCH



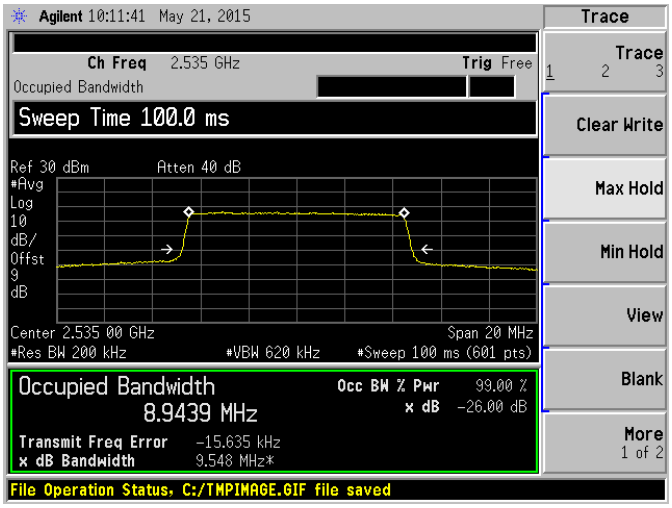
Band 7 16-QAM 5 MHz Bandwidth RB6#0 HCH



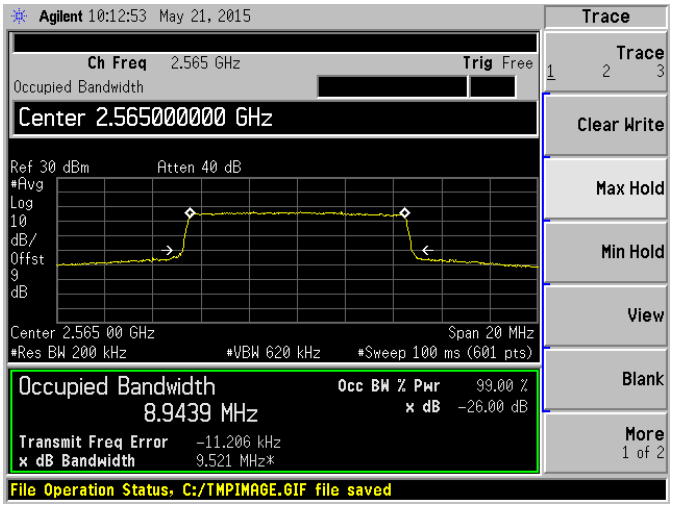
Band 7 16-QAM 10 MHz Bandwidth RB6#0 LCH



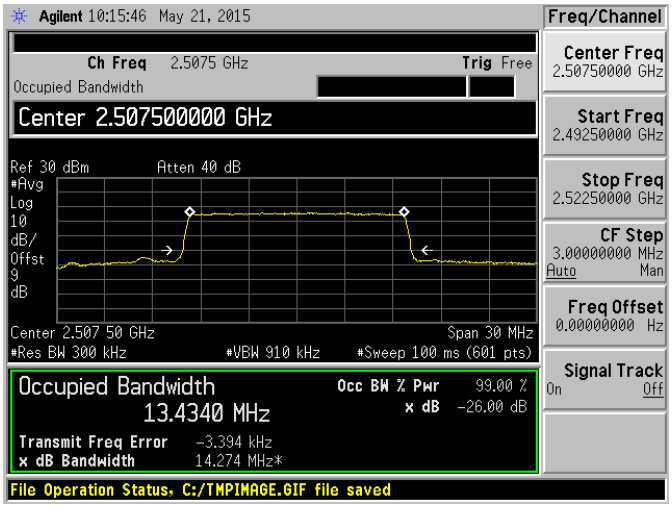
Band 7 16-QAM 10 MHz Bandwidth RB6#0 MCH



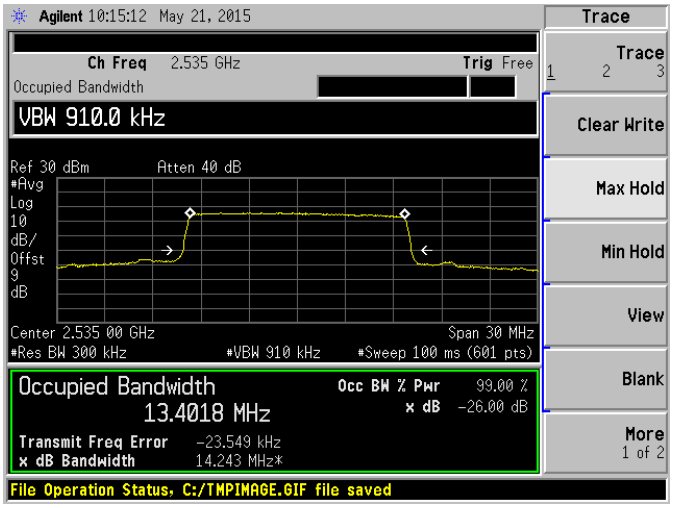
Band 7 16-QAM 10 MHz Bandwidth RB6#0 HCH



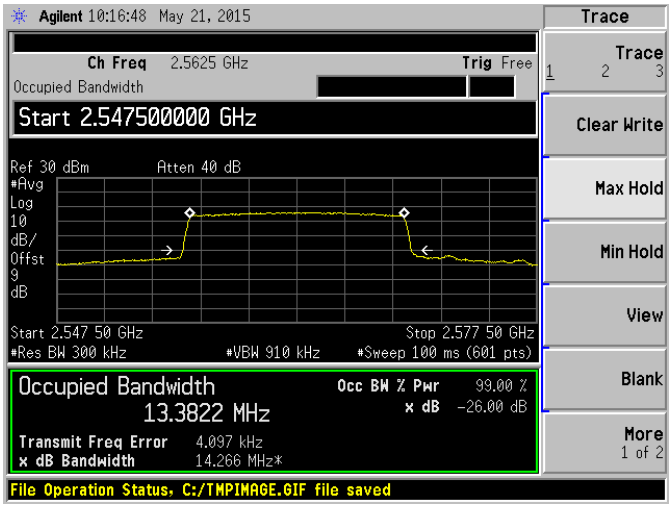
Band 7 16-QAM 15 MHz Bandwidth RB6#0 LCH



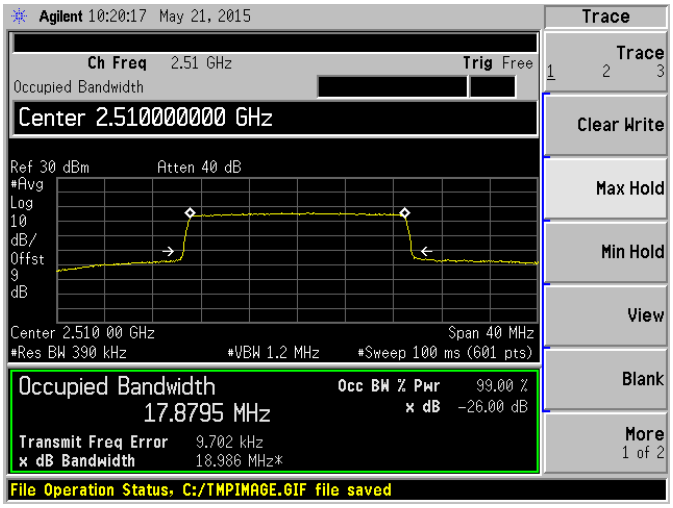
Band 7 16-QAM 15 MHz Bandwidth RB6#0 MCH



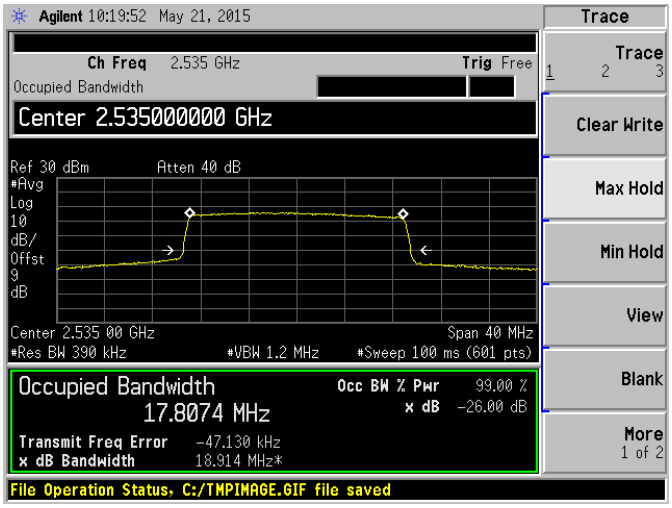
Band 7 16-QAM 15 MHz Bandwidth RB6#0 HCH



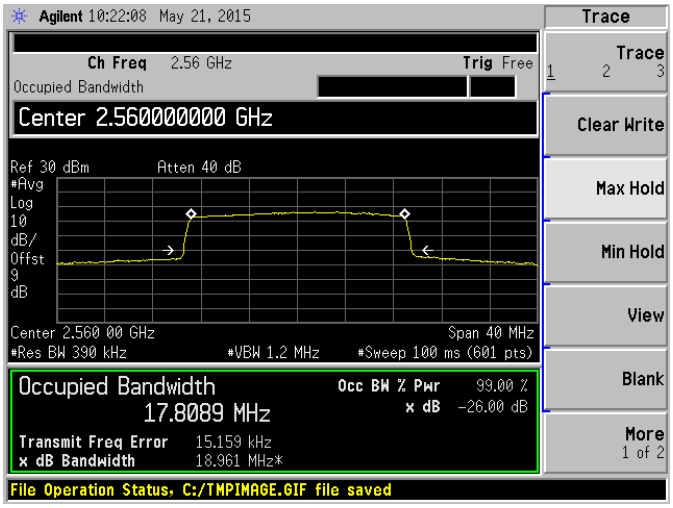
Band 7 16-QAM 20 MHz Bandwidth RB6#0 LCH



Band 7 16-QAM 20 MHz Bandwidth RB6#0 MCH



Band 7 16-QAM 20 MHz Bandwidth RB6#0 HCH



A.4 Frequency Stability

GSM 850 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 824.2 MHz		MCH 836.6 MHz		HCH 848.8 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	24.89	±2060.5	4.43	±2091.5	5.30	±2122	Pass
	-20	38.66		-15.01		37.67		
	-10	41.47		34.03		-12.80		
	0	13.21		44.86		39.77		
	+10	10.35		51.87		45.48		
	+20	-12.03		51.00		9.68		
	+30	21.03		38.12		-12.23		
	+40	25.80		17.07		5.04		
	+50	27.93		29.71		2.61		
4.2	+25	3.71		42.55		42.18		
3.3	+25	25.57		53.57		48.27		

GSM 1900 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 1850.2 MHz		MCH 1880 MHz		HCH 1909.8 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	63.12	±4625.5	26.32	±4700.0	18.24	±4774.5	Pass
	-20	75.27		49.22		48.85		
	-10	30.81		0.87		42.82		
	0	54.90		74.76		67.61		
	+10	-5.95		41.21		74.98		
	+20	30.97		53.40		37.51		
	+30	38.53		33.93		24.02		
	+40	28.67		16.43		-2.96		
	+50	14.09		80.68		-2.48		
4.2	+25	27.35		25.06		36.37		
3.3	+25	6.10		34.97		15.30		

GPRS 850 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 824.2 MHz		MCH 836.6 MHz		HCH 848.8 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	-4.32	±2060.5	27.18	±2091.5	5.05	±2122	Pass
	-20	35.25		30.07		7.49		
	-10	-19.21		5.48		0.19		
	0	27.75		-1.82		34.30		
	+10	-13.73		19.02		45.99		
	+20	-6.95		44.78		-16.51		
	+30	48.07		21.99		19.46		
	+40	42.00		17.67		-6.80		
	+50	38.85		-19.44		7.58		
4.2	+25	31.42		-6.76		3.11		
3.3	+25	4.49		14.09		-4.93		

GPRS 1900 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 1850.2 MHz		MCH 1880 MHz		HCH 1909.8 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	40.74	±4625.5	39.64	±4700.0	4.24	±4774.5	Pass
	-20	44.81		36.49		50.42		
	-10	-2.51		7.98		23.49		
	0	7.95		-3.94		25.50		
	+10	29.51		-9.04		-15.21		
	+20	29.84		45.91		30.37		
	+30	13.40		-5.29		18.94		
	+40	56.48		40.47		9.91		
	+50	18.09		22.99		32.97		
4.2	+25	-17.00		30.91		50.69		
3.3	+25	6.75		-10.79		13.44		

EGPRS 850 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 824.2 MHz		MCH 836.6 MHz		HCH 848.8 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	20.79	±2060.5	46.68	±2091.5	22.69	±2122	Pass
	-20	44.54		28.10		2.39		
	-10	10.45		-4.27		64.53		
	0	10.88		36.69		12.66		
	+10	54.76		13.61		50.37		
	+20	2.46		12.15		-5.39		
	+30	27.07		23.94		35.13		
	+40	-8.66		13.56		-0.53		
	+50	14.23		47.64		37.40		
4.2	+25	63.35		52.86		31.75		
3.3	+25	35.82		3.68		58.60		

EGPRS 1900 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 1850.2 MHz		MCH 1880 MHz		HCH 1909.8 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	-3.51	±4625.5	16.52	±4700.0	16.62	±4774.5	Pass
	-20	43.61		39.74		-4.70		
	-10	31.83		29.21		5.59		
	0	20.08		11.20		11.51		
	+10	-12.32		42.22		-9.42		
	+20	17.45		23.45		-13.86		
	+30	21.45		27.13		29.87		
	+40	7.14		-15.60		11.59		
	+50	16.48		-17.11		5.90		
4.2	+25	-13.29		-11.48		-0.49		
3.3	+25	43.61		18.41		-3.07		

WCDMA 850 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 826.4 MHz		MCH 836.6 MHz		HCH 846.6 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	54.22	±2066	23.41	±2091.5	7.86	±2116.5	Pass
	-20	42.78		37.93		29.51		
	-10	47.18		58.18		-7.86		
	0	0.81		-4.56		-9.17		
	+10	37.41		76.18		7.31		
	+20	18.65		69.90		31.29		
	+30	7.86		66.07		-7.54		
	+40	-1.46		76.85		64.57		
	+50	63.59		79.91		8.53		
4.2	+25	48.45		44.99		77.46		
3.3	+25	25.64		-8.66		68.75		

WCDMA 1900 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 1852.4 MHz		MCH 1880 MHz		HCH 1907.6 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	1.63	±4631	-5.89	±4700	13.97	±4769	Pass
	-20	9.34		17.78		-19.32		
	-10	11.71		6.33		18.71		
	0	14.68		11.88		11.82		
	+10	-3.31		9.90		1.23		
	+20	-18.77		-11.42		-3.60		
	+30	17.72		16.32		-7.78		
	+40	21.28		-1.84		22.21		
	+50	-4.65		11.96		-11.57		
4.2	+25	-23.06		16.99		1.97		
3.3	+25	16.09		13.49		11.40		

LTE Band 7 QPSK 5 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 2502.5 MHz		MCH 2535 MHz		HCH 2567.5 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	73.22	±6256.25	1.31	±6337.5	91.33	±6418.75	Pass
	-20	94.63		64.25		64.18		
	-10	14.52		14.06		91.40		
	0	64.87		83.44		9.42		
	+10	11.69		23.36		0.08		
	+20	28.65		85.07		20.40		
	+30	65.45		78.14		5.49		
	+40	76.92		76.35		16.75		
	+50	7.15		57.93		4.40		
4.2	+25	57.82		42.07		89.09		
3.3	+25	15.84		26.08		56.26		

LTE Band 7 QPSK 10 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 2505 MHz		MCH 2535 MHz		HCH 2565 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	-28.69	±6262.5	-27.66	±6337.5	-28.33	±6412.5	Pass
	-20	-28.75		-28.57		-27.88		
	-10	-27.72		-28.62		-28.48		
	0	-27.70		-27.71		-28.38		
	+10	-28.11		-28.72		-27.59		
	+20	-28.61		-28.97		-28.52		
	+30	-28.10		-28.43		-28.04		
	+40	-27.89		-27.93		-28.72		
	+50	-28.91		-28.63		-28.70		
4.2	+25	-27.54		-28.73		-28.02		
3.3	+25	-27.64		-28.59		-28.62		

LTE Band 7 QPSK 15 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 2507.5 MHz		MCH 2535 MHz		HCH 2562.5 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	33.26	±6268.75	15.73	±6337.5	52.17	±6406.25	Pass
	-20	42.12		-8.20		28.14		
	-10	-0.56		43.40		33.27		
	0	8.20		-13.79		24.72		
	+10	-13.04		28.82		1.91		
	+20	-14.56		25.83		19.59		
	+30	21.86		41.20		48.08		
	+40	-5.39		-10.03		31.98		
	+50	38.99		2.69		41.83		
4.2	+25	36.56		7.29		22.23		
3.3	+25	6.44		17.60		14.12		

LTE Band 7 QPSK 20 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 2510 MHz		MCH 2535 MHz		HCH 2560 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	10.18	±6275	32.40	±6337.5	54.99	±6400	Pass
	-20	17.26		81.16		8.14		
	-10	52.17		-4.35		72.77		
	0	-3.90		36.41		35.10		
	+10	1.23		0.23		25.05		
	+20	-3.96		80.93		83.67		
	+30	44.64		-8.53		48.78		
	+40	60.84		27.32		44.00		
	+50	6.25		53.44		10.77		
4.2	+25	46.42		70.62		42.44		
3.3	+25	81.29		25.90		49.46		

LTE Band 7 16-QAM 5 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 2502.5 MHz		MCH 2535 MHz		HCH 2567.5 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	-12.20	±6256.25	-10.04	±6337.5	-10.79	±6418.75	Pass
	-20	-12.90		-18.28		-15.81		
	-10	-13.91		-20.99		-20.39		
	0	-9.01		-18.53		-9.98		
	+10	-14.09		-19.29		-10.15		
	+20	-19.08		-17.78		-21.35		
	+30	-15.87		-17.48		-13.50		
	+40	-16.91		-9.19		-11.97		
	+50	-21.13		-17.33		-16.75		
4.2	+25	-14.18		-18.60		-9.21		
3.3	+25	-16.30		-18.12		-9.32		

LTE Band 7 16-QAM 10 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 2505 MHz		MCH 2535 MHz		HCH 2565 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	2.43	±6262.5	-3.41	±6337.5	43.07	±6412.5	Pass
	-20	20.89		19.91		13.23		
	-10	-5.88		52.80		28.86		
	0	8.65		21.06		12.39		
	+10	44.84		36.30		47.66		
	+20	4.30		-1.87		21.07		
	+30	-1.03		1.12		23.00		
	+40	44.55		34.58		40.56		
	+50	-5.68		5.73		29.13		
4.2	+25	54.31		41.00		2.35		
3.3	+25	29.72		33.14		50.52		

LTE Band 7 16-QAM 15 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 2507.5 MHz		MCH 2535 MHz		HCH 2562.5 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	24.89	±6268.75	4.43	±6337.5	5.30	±6406.25	Pass
	-20	38.66		-15.01		37.67		
	-10	41.47		34.03		-12.80		
	0	13.21		44.86		39.77		
	+10	10.35		51.87		45.48		
	+20	-12.03		51.00		9.68		
	+30	21.03		38.12		-12.23		
	+40	25.80		17.07		5.04		
	+50	27.93		29.71		2.61		
4.2	+25	3.71		42.55		42.18		
3.3	+25	25.57		53.57		48.27		

LTE Band 7 16-QAM 20 MHz

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 2510 MHz		MCH 2535 MHz		HCH 2560 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.8	-30	12.88	±6275	10.40	±6337.5	5.34	±6400	Pass
	-20	13.06		-1.64		9.28		
	-10	0.06		11.39		12.40		
	0	20.68		10.04		4.00		
	+10	22.80		6.25		9.20		
	+20	21.00		8.93		17.03		
	+30	1.07		3.79		17.94		
	+40	0.00		3.61		-0.77		
	+50	3.85		7.77		15.54		
4.2	+25	12.71		20.25		17.61		
3.3	+25	13.62		16.31		22.17		

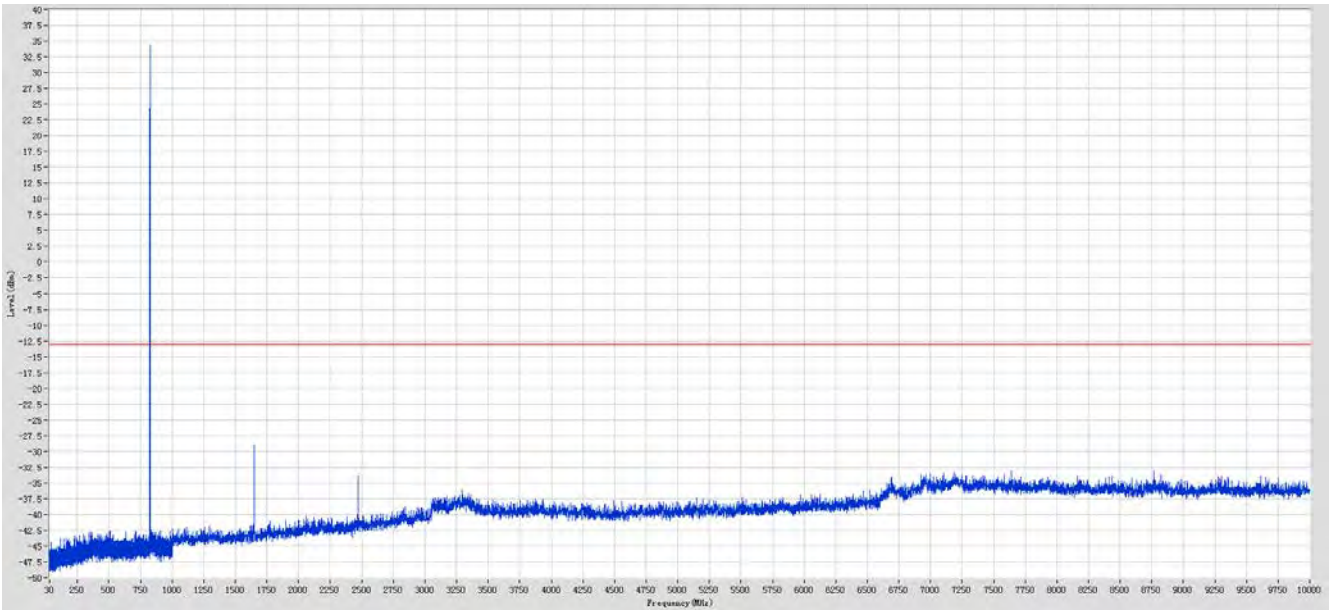
A.5 Spurious Emission at Antenna Terminals

Note 1: GSM and GPRS, EGPRS modes have been verified, Only the worst data with different data bandwidth show here.

Note 2: This frequency which near test frequency with circle should be ignored because they are MS carrier frequency

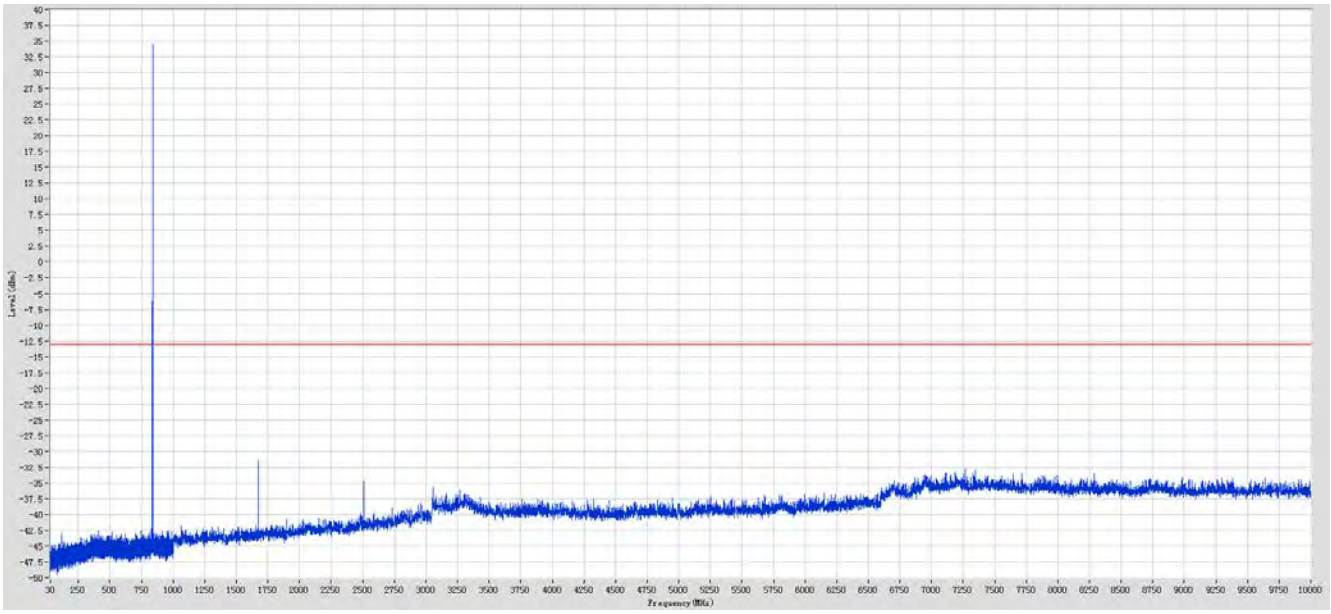
Test Data

GSM 850 MHz LCH



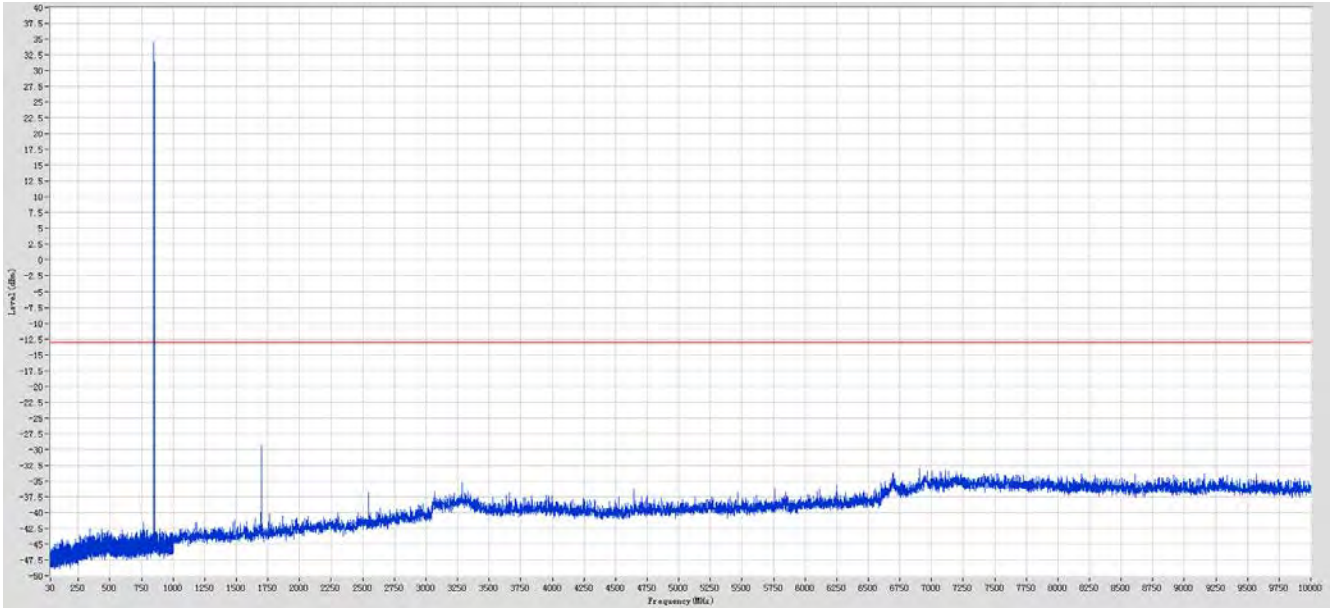
Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	500	0.1	Peak	350.9683	-42.7537	-13	29.7537	Pass
500	1000	0.1	Peak	824.1648	34.3196	N/A	N/A	N/A
1000	10000	1	Peak	1648.079	-29.0754	-13	16.0754	Pass

GSM 850 MHz MCH



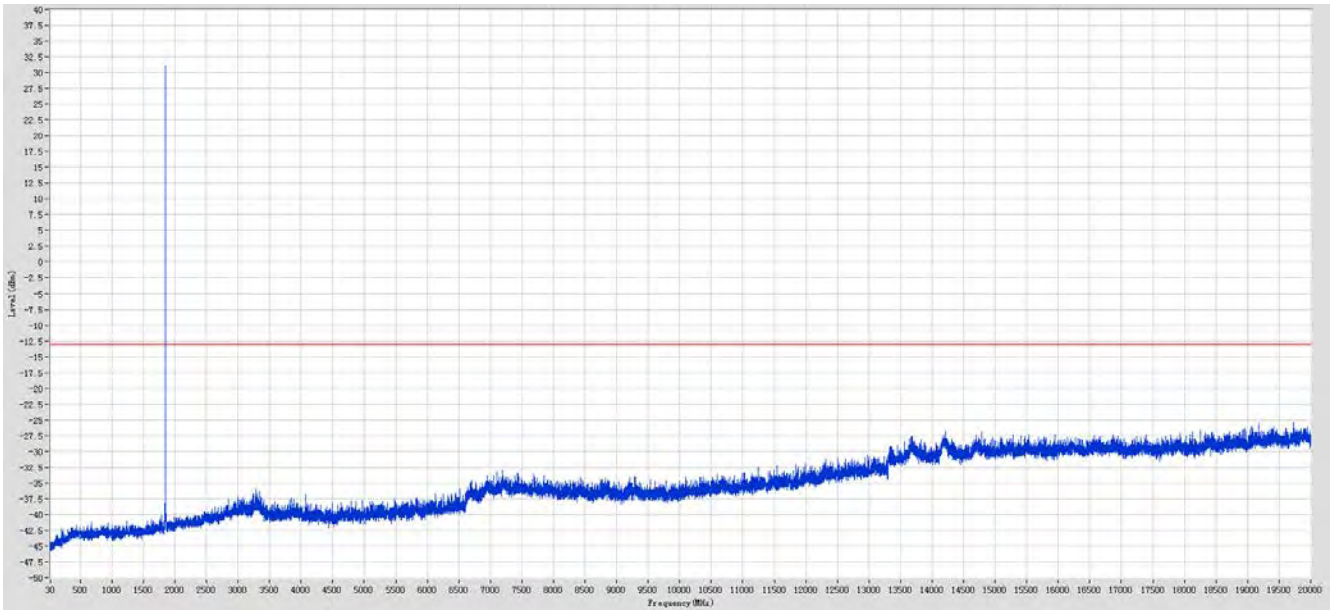
Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	500	0.1	Peak	408.7806	-42.4586	-13	29.4586	Pass
500	1000	0.1	Peak	836.6673	34.5523	N/A	N/A	N/A
1000	10000	1	Peak	1674.082	-31.4659	-13	18.4659	Pass

GSM 850 MHz HCH



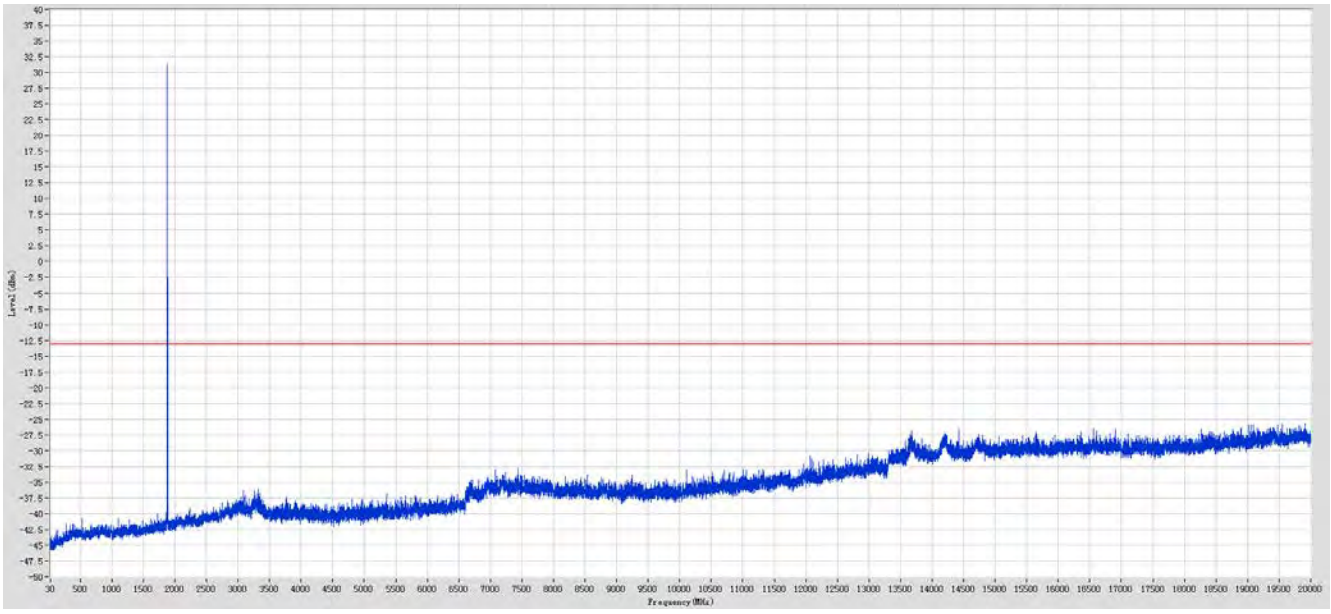
Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	500	0.1	Peak	343.0666	-42.5297	-13	29.5297	Pass
500	1000	0.1	Peak	848.7698	34.45024	N/A	N/A	N/A
1000	10000	1	Peak	1698.085	-29.4391	-13	16.4391	Pass

GSM 1900 MHz LCH



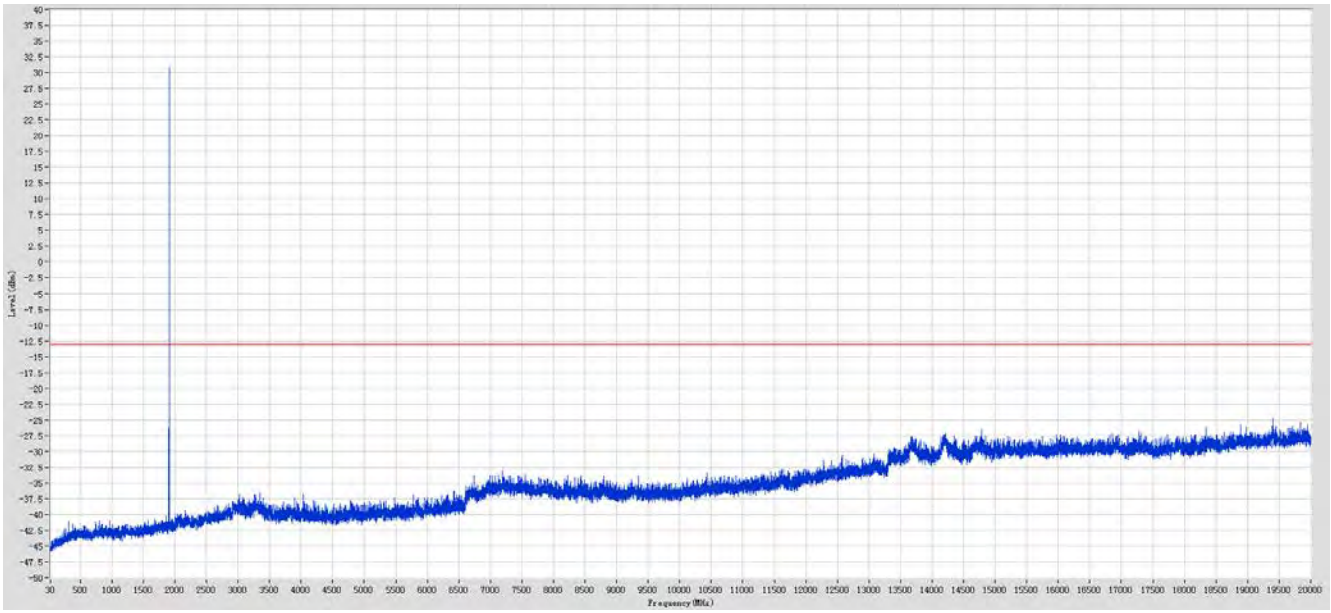
Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1000	1	Peak	675.6656	-41.3197	-13	28.3197	Pass
1000	3000	1	Peak	1850.425	31.10522	N/A	N/A	N/A
3000	20000	1	Peak	19725.55	-25.4635	-13	12.4635	Pass

GSM 1900 MHz MCH



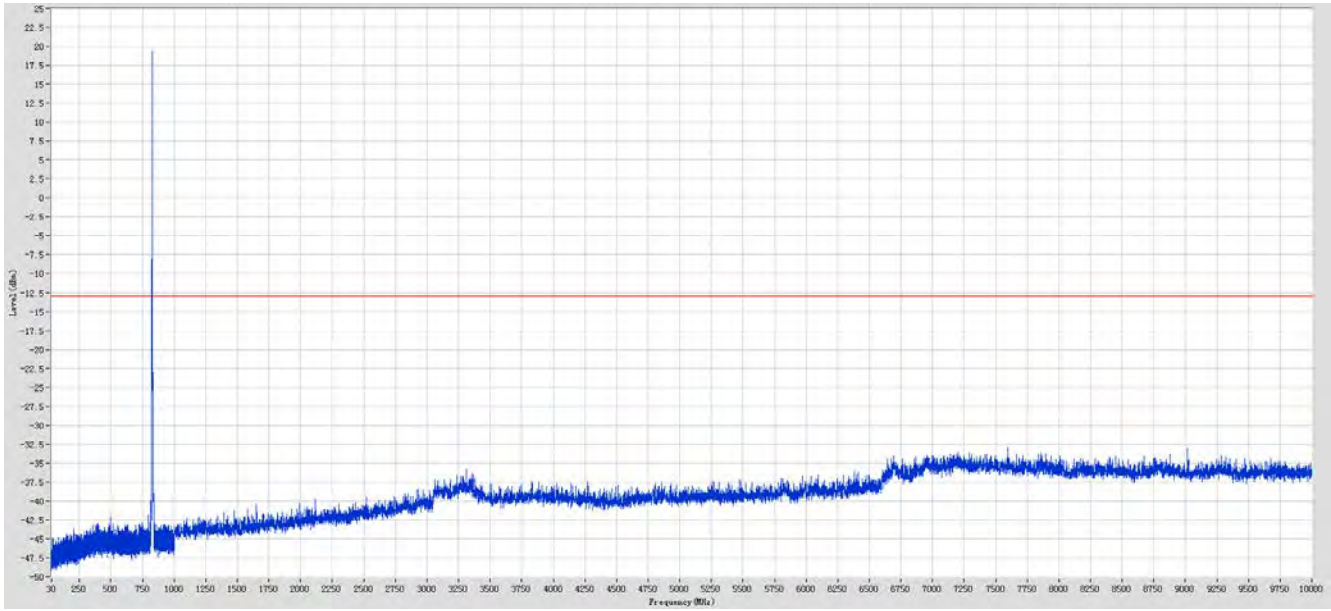
Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1000	1	Peak	530.516	-40.7737	-13	27.7737	Pass
1000	3000	1	Peak	1880.44	31.25481	N/A	N/A	N/A
3000	20000	1	Peak	19912.86	-25.6916	-13	12.6916	Pass

GSM 1900 MHz HCH



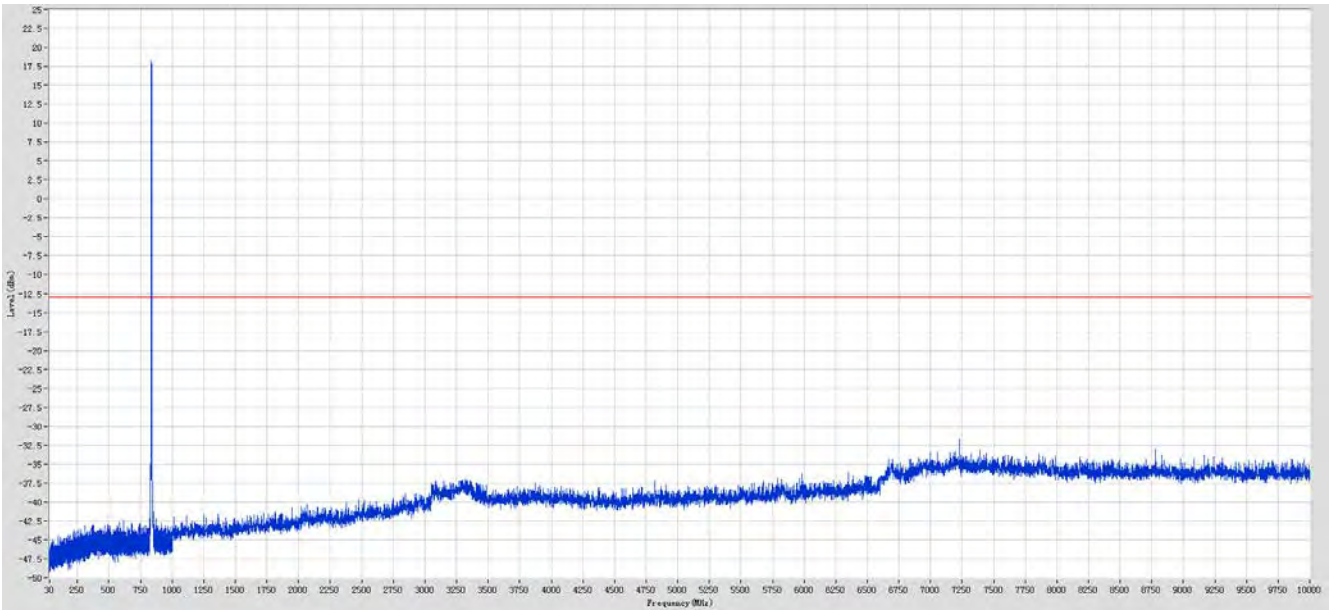
Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1000	1	Peak	804.7988	-40.9669	-13	27.96692	Pass
1000	3000	1	Peak	1909.455	30.89079	N/A	N/A	N/A
3000	20000	1	Peak	19401.03	-24.8247	-13	11.82469	Pass

WCDMA 850 MHz LCH



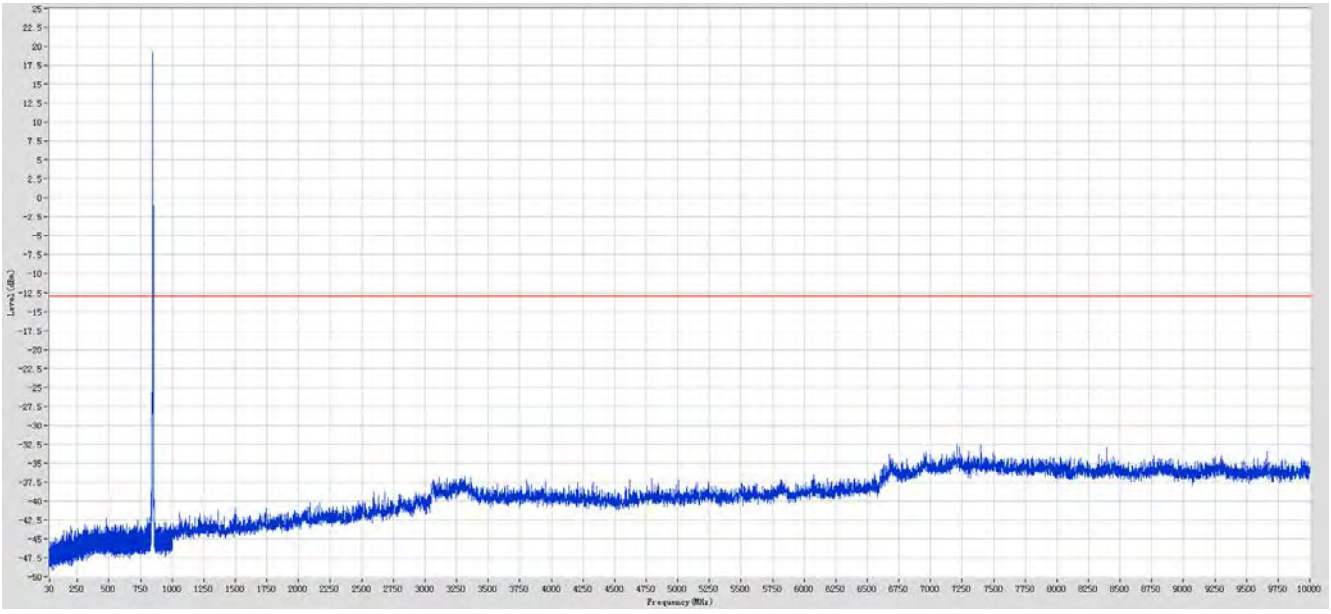
Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	500	0.1	Peak	499.6999	-42.0975	-13	29.09751	Pass
500	1000	0.1	Peak	826.9654	19.37764	N/A	N/A	N/A
1000	10000	1	Peak	7593.805	-32.9599	-13	19.95987	Pass

WCDMA 850 MHz MCH



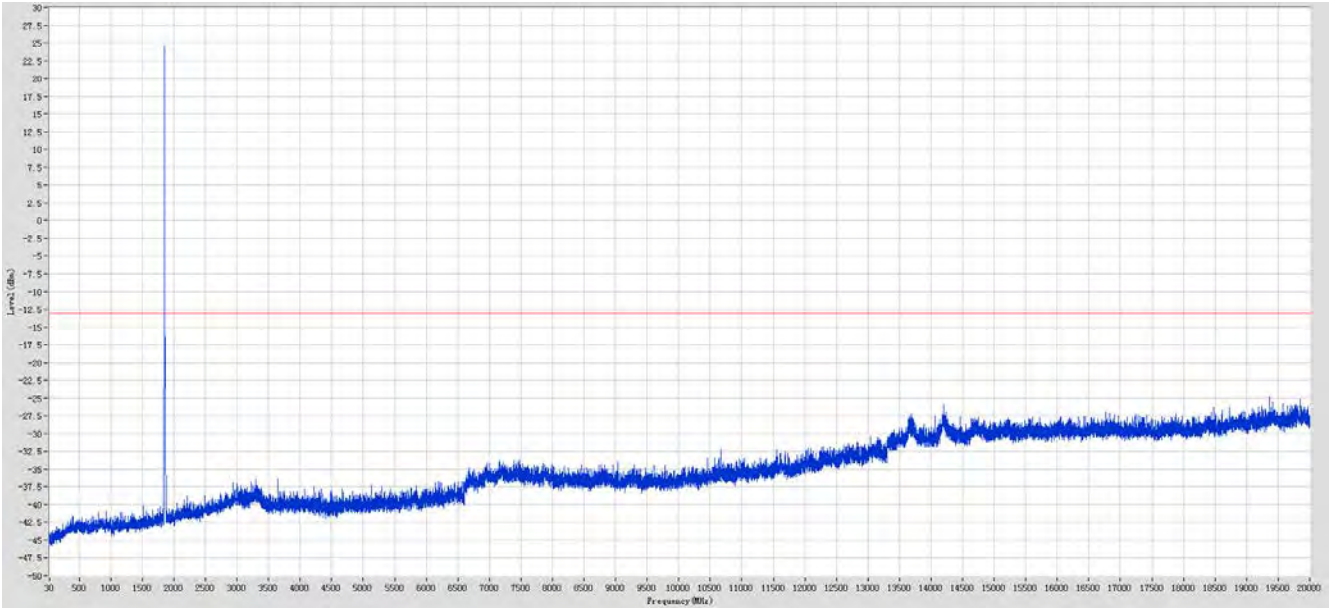
Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	500	0.1	Peak	375.8736	-43.0266	-13	30.0266	Pass
500	1000	0.1	Peak	835.7672	18.2603	N/A	N/A	N/A
1000	10000	1	Peak	7228.76	-31.7429	-13	18.7429	Pass

WCDMA 850 MHz HCH



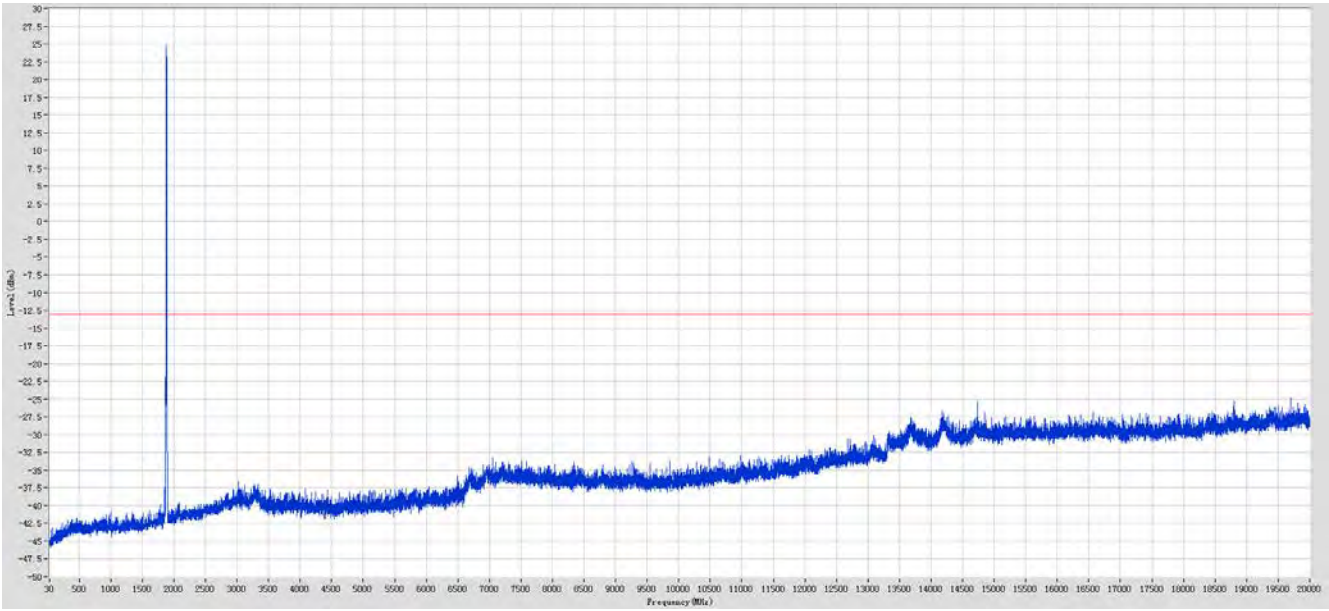
Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	500	0.1	Peak	477.6953	-42.3230	-13	29.3230	Pass
500	1000	0.1	Peak	846.9694	19.3287	N/A	N/A	N/A
1000	10000	1	Peak	7211.758	-32.5403	-13	19.5403	Pass

WCDMA 1900 MHz LCH



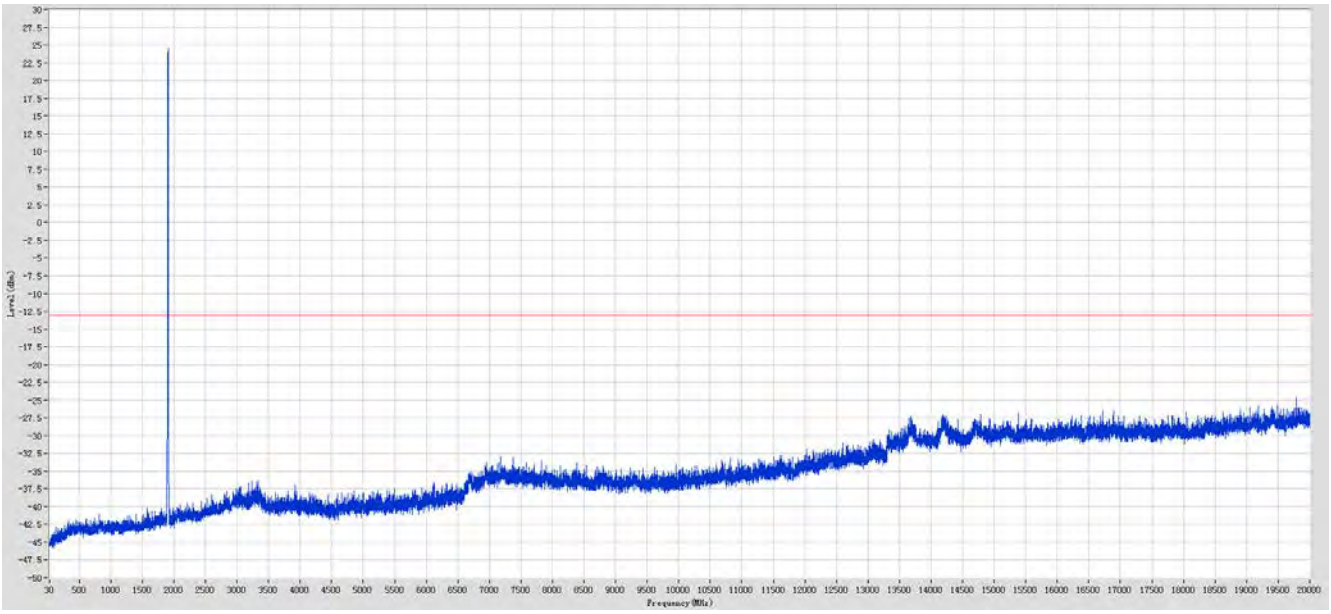
Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1000	1	Peak	924.9226	-40.8701	-13	27.8701	Pass
1000	3000	1	Peak	1853.427	24.6944	N/A	N/A	N/A
3000	20000	1	Peak	19361	-24.8303	-13	11.8303	Pass

WCDMA 1900 MHz MCH



Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1000	1	Peak	983.9835	-41.2950	-13	28.2950	Pass
1000	3000	1	Peak	1881.441	24.7416	N/A	N/A	N/A
3000	20000	1	Peak	19705.52	-24.8308	-13	11.8308	Pass

WCDMA 1900 MHz HCH



Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1000	1	Peak	810.805	-41.0760	-13	28.0760	Pass
1000	3000	1	Peak	1908.454	24.5598	N/A	N/A	N/A
3000	20000	1	Peak	19788.66	-24.5708	-13	11.5708	Pass

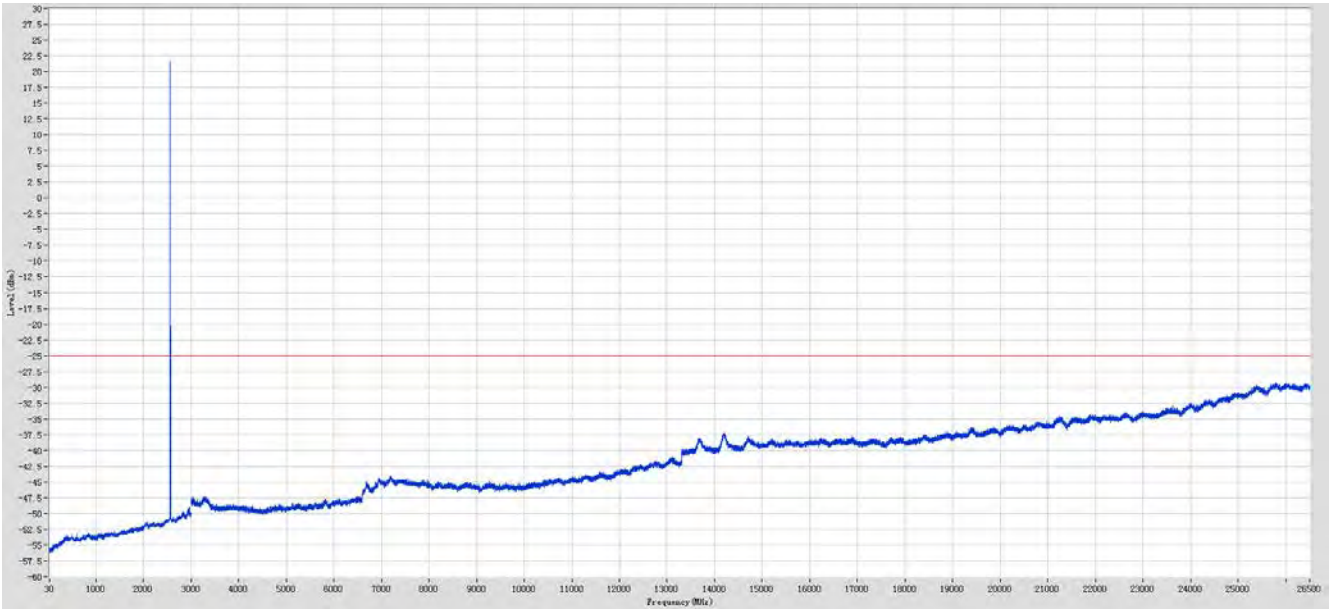
LTE Band 7 QPSK 5 MHz LCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1237.822	-52.7859	-25	27.7859	Pass
1500	3000	1	RMS	2500.667	21.51233	N/A	N/A	N/A
3000	26500	1	RMS	25812.9	-29.3677	-25	4.36767	Pass

LTE Band 7 QPSK 5 MHz MCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1336.889	-52.7936	-25	27.7936	Pass
1500	3000	1	RMS	2532.688	22.3669	N/A	N/A	N/A
3000	26500	1	RMS	26406.99	-29.2641	-25	4.2641	Pass

LTE Band 7 QPSK 5 MHz HCH



Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1382.92	-52.9160	-25	27.9160	Pass
1500	3000	1	RMS	2565.71	21.5782	N/A	N/A	N/A
3000	26500	1	RMS	25794.9	-29.2717	-25	4.2717	Pass

LTE Band 7 QPSK 10 MHz LCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1335.888	-52.7813	-25	27.7813	Pass
1500	3000	1	RMS	2500.667	21.7553	N/A	N/A	N/A
3000	26500	1	RMS	26030.93	-29.3249	-25	4.3249	Pass

LTE Band 7 QPSK 10 MHz MCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1335.888	-53.0713	-25	28.0713	Pass
1500	3000	1	RMS	2530.687	22.1146	N/A	N/A	N/A
3000	26500	1	RMS	25407.85	-29.2633	-25	4.2633	Pass

LTE Band 7 QPSK 10 MHz HCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1334.888	-53.1840	-25	28.1840	Pass
1500	3000	1	RMS	2560.707	22.6322	N/A	N/A	N/A
3000	26500	1	RMS	25767.9	-29.4173	-25	4.4173	Pass

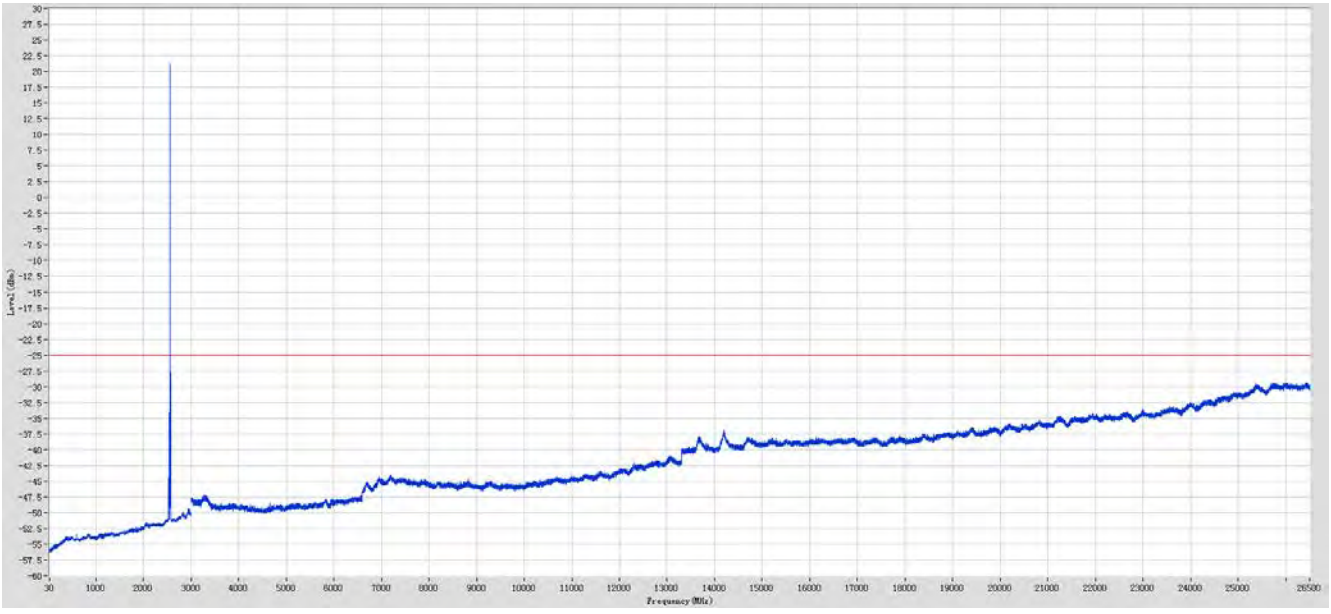
LTE Band 7 QPSK 15 MHz LCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1334.888	-53.0660	-25	28.0660	Pass
1500	3000	1	RMS	2500.667	21.3133	N/A	N/A	N/A
3000	26500	1	RMS	25801.9	-29.3544	-25	4.3544	Pass

LTE Band 7 QPSK 15 MHz MCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1332.886	-53.1517	-25	28.1517	Pass
1500	3000	1	RMS	2528.686	21.7641	N/A	N/A	N/A
3000	26500	1	RMS	25780.9	-29.3333	-25	4.3333	Pass

LTE Band 7 QPSK 15 MHz HCH



Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1331.886	-53.0503	-25	28.0503	Pass
1500	3000	1	RMS	2555.704	21.2894	N/A	N/A	N/A
3000	26500	1	RMS	26041.94	-29.3891	-25	4.3891	Pass

LTE Band 7 QPSK 20 MHz LCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1336.889	-53.0346	-25	28.0346	Pass
1500	3000	1	RMS	2500.667	19.5933	N/A	N/A	N/A
3000	26500	1	RMS	26397.99	-28.8816	-25	3.8816	Pass

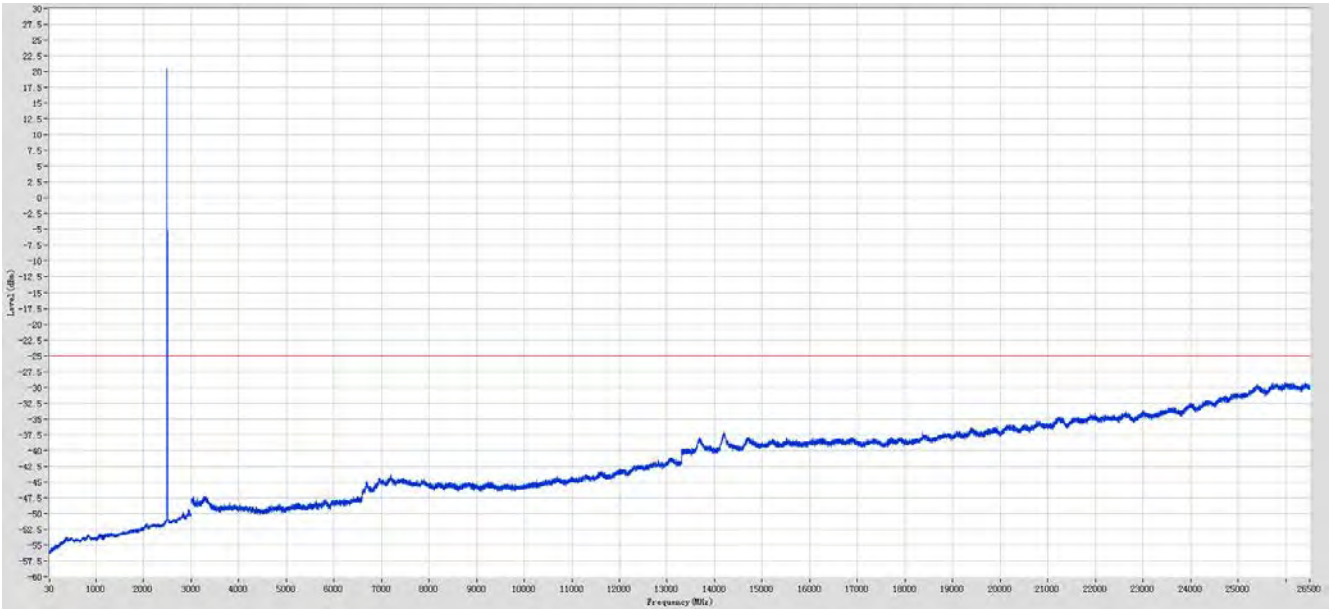
LTE Band 7 QPSK 20 MHz MCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1321.879	-53.0974	-25	28.0974	Pass
1500	3000	1	RMS	2525.684	21.3508	N/A	N/A	N/A
3000	26500	1	RMS	25779.9	-29.2799	-25	4.2799	Pass

LTE Band 7 QPSK 20 MHz HCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1334.888	-53.1030	-25	28.1030	Pass
1500	3000	1	RMS	2550.7	18.8031	N/A	N/A	N/A
3000	26500	1	RMS	26002.93	-29.3111	-25	4.3111	Pass

LTE Band 7 16-QAM 5 MHz LCH



Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1335.888	-53.0403	-25	28.0403	Pass
1500	3000	1	RMS	2500.667	20.5553	N/A	N/A	N/A
3000	26500	1	RMS	25986.93	-29.2319	-25	4.2319	Pass

LTE Band 7 16-QAM 5 MHz MCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1319.877	-53.1068	-25	28.1068	Pass
1500	3000	1	RMS	2532.688	21.5689	N/A	N/A	N/A
3000	26500	1	RMS	26439.99	-29.1568	-25	4.1568	Pass

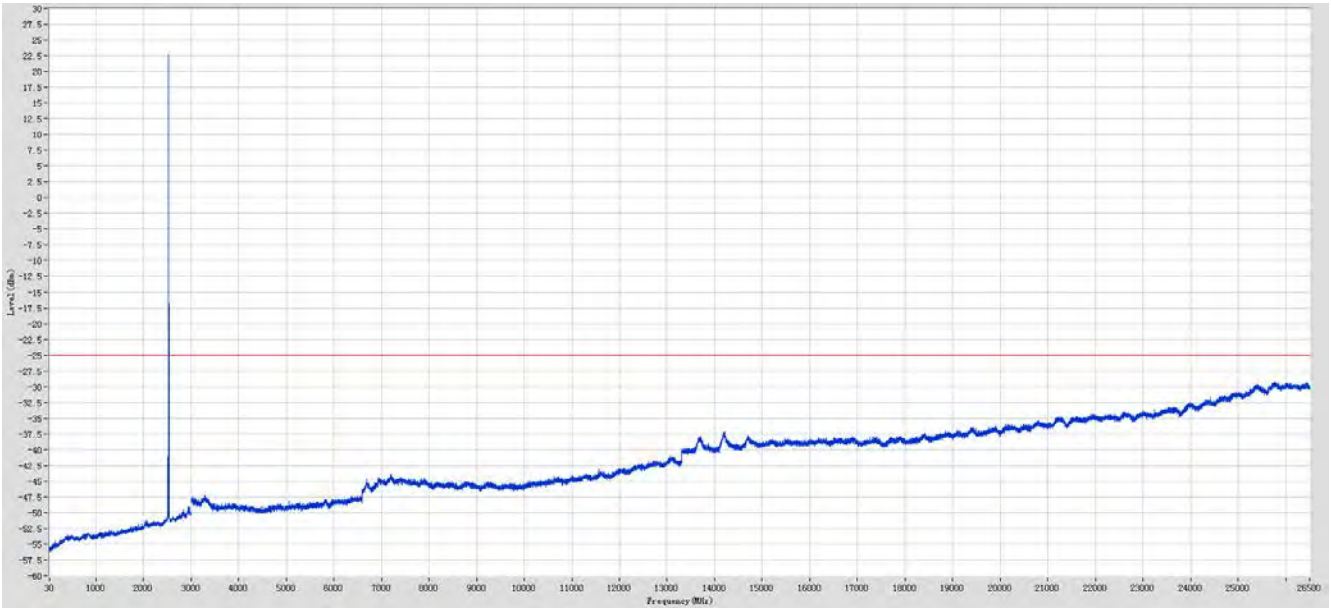
LTE Band 7 16-QAM 5 MHz HCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1336.889	-53.0766	-25	28.0766	Pass
1500	3000	1	RMS	2565.71	20.9342	N/A	N/A	N/A
3000	26500	1	RMS	25777.9	-29.1892	-25	4.1892	Pass

LTE Band 7 16-QAM 10 MHz LCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1321.879	-53.0934	-25	28.0934	Pass
1500	3000	1	RMS	2500.667	21.1023	N/A	N/A	N/A
3000	26500	1	RMS	25999.93	-29.2119	-25	4.2119	Pass

LTE Band 7 16-QAM 10 MHz MCH



Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1319.877	-52.8588	-25	27.8588	Pass
1500	3000	1	RMS	2530.687	22.6486	N/A	N/A	N/A
3000	26500	1	RMS	25772.9	-29.1432	-25	4.1432	Pass

LTE Band 7 16-QAM 10 MHz HCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1320.878	-53.0748	-25	28.0748	Pass
1500	3000	1	RMS	2560.707	21.9502	N/A	N/A	N/A
3000	26500	1	RMS	26173.95	-29.2531	-25	4.2531	Pass

LTE Band 7 16-QAM 15 MHz LCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1458.972	-53.1095	-25	28.1095	Pass
1500	3000	1	RMS	2500.667	20.9043	N/A	N/A	N/A
3000	26500	1	RMS	25819.9	-29.2144	-25	4.2144	Pass

LTE Band 7 16-QAM 15 MHz MCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1335.888	-52.9773	-25	27.9773	Pass
1500	3000	1	RMS	2528.686	20.6701	N/A	N/A	N/A
3000	26500	1	RMS	26419.99	-29.3251	-25	4.3251	Pass

LTE Band 7 16-QAM 15 MHz HCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1320.878	-53.1268	-25	28.1268	Pass
1500	3000	1	RMS	2555.704	20.3424	N/A	N/A	N/A
3000	26500	1	RMS	26020.93	-29.2430	-25	4.2430	Pass

LTE Band 7 16-QAM 20 MHz LCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1335.888	-53.0573	-25	28.0573	Pass
1500	3000	1	RMS	2500.667	18.9913	N/A	N/A	N/A
3000	26500	1	RMS	26362.98	-29.2301	-25	4.2301	Pass

LTE Band 7 16-QAM 20 MHz MCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1207.801	-53.0343	-25	28.0343	Pass
1500	3000	1	RMS	2525.684	20.5918	N/A	N/A	N/A
3000	26500	1	RMS	25807.9	-29.2527	-25	4.2527	Pass

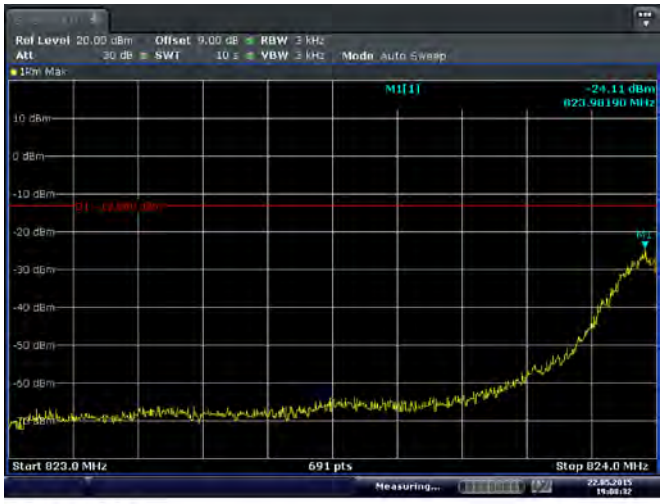
LTE Band 7 16-QAM 20 MHz HCH

Start Frequency[MHz]	Stop Frequency[MHz]	RBW [MHz]	Detector	Frequency [MHz]	Emission[dBm]	Limit [dBm]	Margin [dB]	Verdict
30	1500	1	RMS	1335.888	-53.1243	-25	28.1243	Pass
1500	3000	1	RMS	2550.7	18.3291	N/A	N/A	N/A
3000	26500	1	RMS	26418.99	-29.2007	-25	4.2007	Pass

A.6 Band Edge

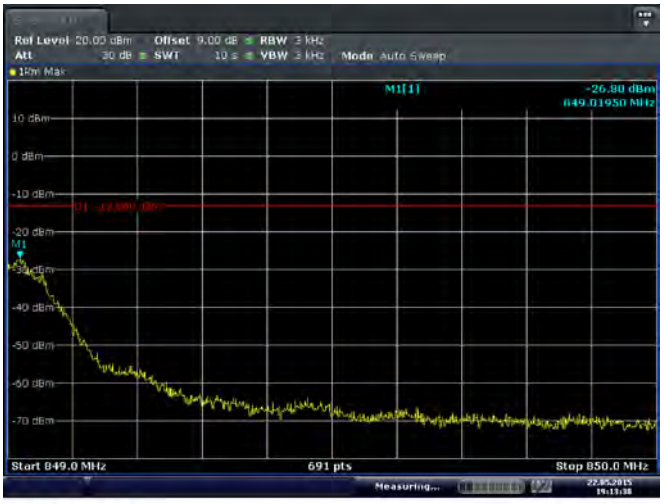
Test Resutl of Plots

GSM 850 MHz LCH



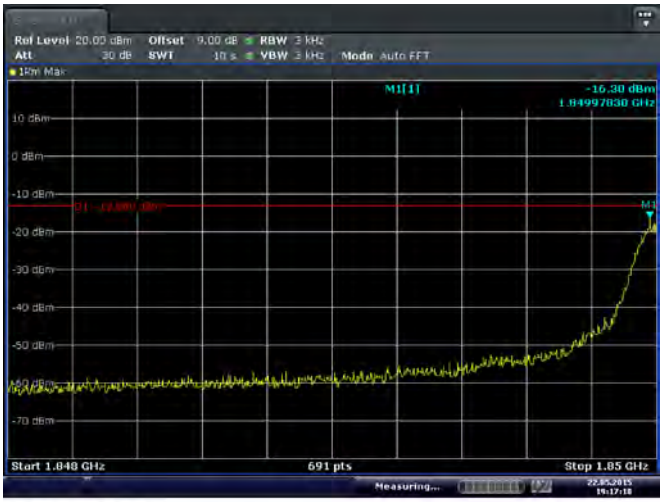
Date: 22.MAY.2015 19:08:32

GSM 850 MHz HCH



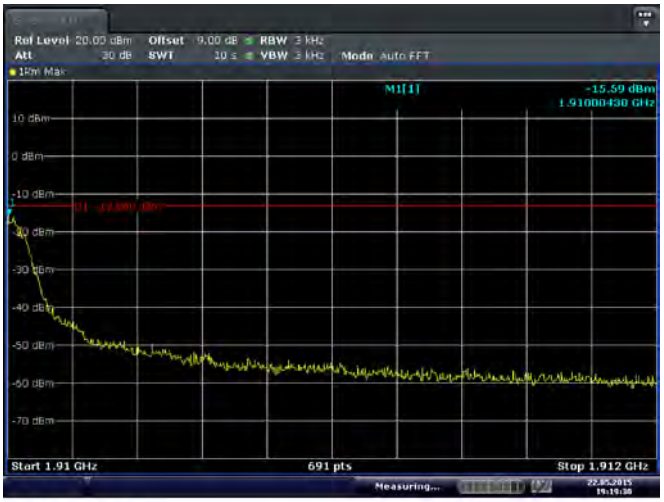
Date: 22.MAY.2015 19:13:39

GSM 1900 MHz LCH



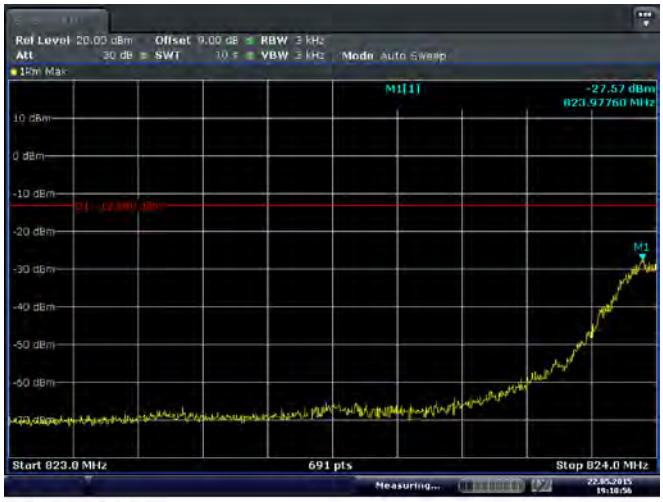
Date: 22.MAY.2015 19:17:18

GSM 1900 MHz HCH



Date: 22.MAY.2015 19:19:31

EGPRS 850 MHz LCH

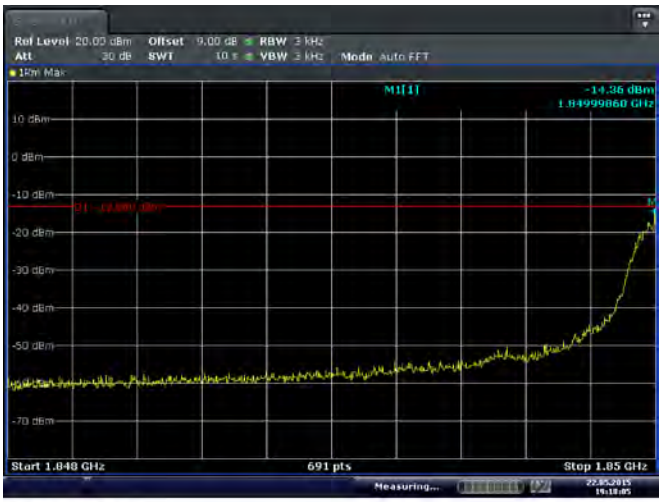


Date: 22.MAY.2015 19:10:56

EGPRS 850 MHz HCH

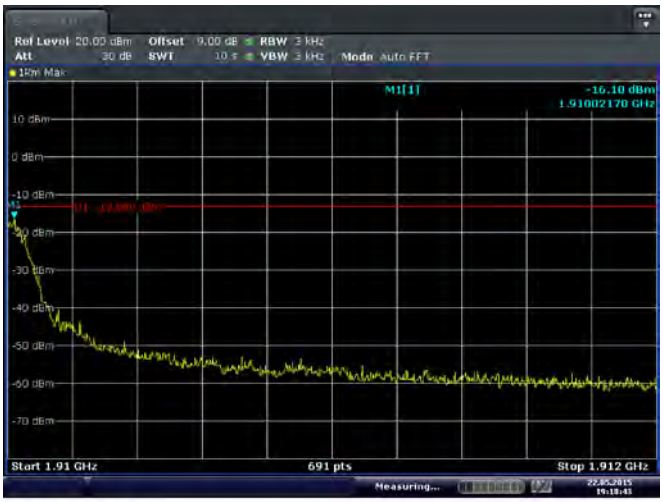
Date: 22.MAY.2015 19:12:12

EGPRS 1900 MHz LCH



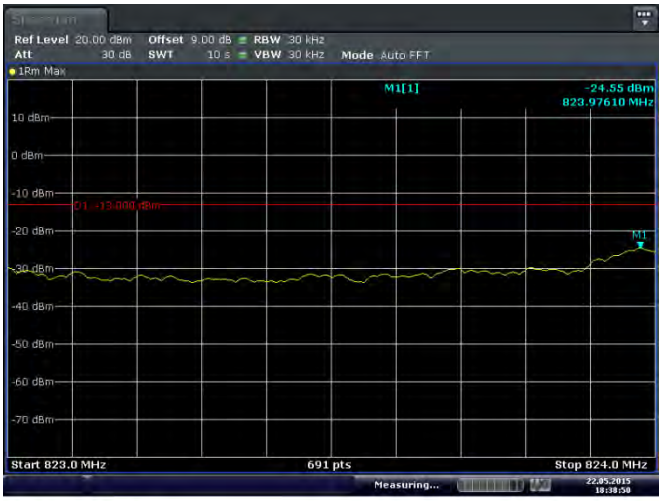
Date: 22.MAY.2015 19:18:05

EGPRS 1900 MHz HCH



Date: 22.MAY.2015 19:18:44

WCDMA 850 MHz LCH



Date: 22.MAY.2015 18:38:50

WCDMA 850 MHz HCH

Date: 22.MAY.2015 18:40:49

WCDMA 1900 MHz LCH

Date: 22.MAY.2015 18:21:32

WCDMA 1900 MHz HCH

Date: 22.MAY.2015 18:36:52

LTE Test Plots

Band 7 QPSK 5 MHz RB1#0 LCH

Date: 21.MAY.2015 10:44:27

Band 7 QPSK 5 MHz RB1#24 HCH

Date: 21.MAY.2015 14:15:15

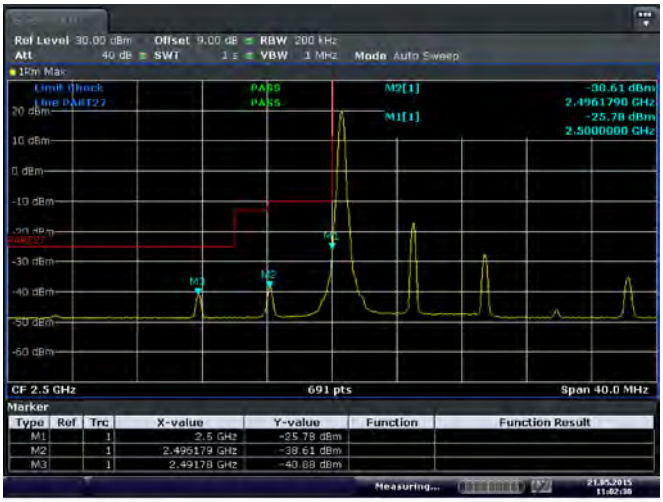
Band 7 QPSK 5 MHz RB25#0 LCH

Date: 21.MAY.2015 10:47:42

Band 7 QPSK 5 MHz RB25#0 HCH

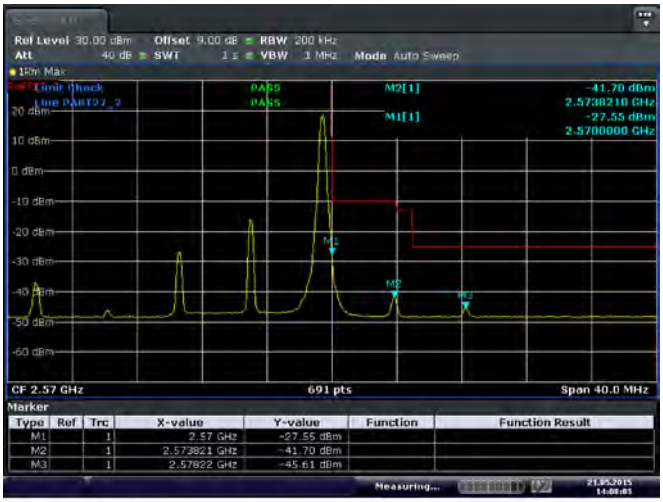
Date: 21.MAY.2015 14:13:37

Band 7 QPSK 10 MHz RB1#0 LCH



Date: 21.MAY.2015 11:02:30

Band 7 QPSK 10 MHz RB1#49 HCH



Date: 21.MAY.2015 14:08:03

Band 7 QPSK 10 MHz RB50#0 LCH

Date: 21.MAY.2015 11:01:27

Band 7 QPSK 10 MHz RB50#0 HCH

Date: 21.MAY.2015 14:11:02

Band 7 QPSK 15 MHz RB1#0 LCH

Date: 21.MAY.2015 11:31:46

Band 7 QPSK 15 MHz RB1#74 HCH

Date: 21.MAY.2015 13:59:22

Band 7 QPSK 15 MHz RB75#0 LCH

Date: 21.MAY.2015 11:30:53

Band 7 QPSK 15 MHz RB75#0 HCH

Date: 21.MAY.2015 13:57:32

Band 7 QPSK 20 MHz RB1#0 LCH

Date: 21.MAY.2015 13:45:38

Band 7 QPSK 20 MHz RB1#99 HCH

Date: 21.MAY.2015 13:52:47

Band 7 QPSK 20 MHz RB100#0 LCH

Date: 21.MAY.2015 13:43:57

Band 7 QPSK 20 MHz RB100#0 HCH

Date: 21.MAY.2015 13:50:27

Band 7 16-QAM 5 MHz RB1#0 LCH

Date: 21.MAY.2015 10:58:40

Band 7 16-QAM 5 MHz RB1#24 HCH

Date: 21.MAY.2015 14:15:45

Band 7 16-QAM 5 MHz RB25#0 LCH

Date: 21.MAY.2015 10:59:10

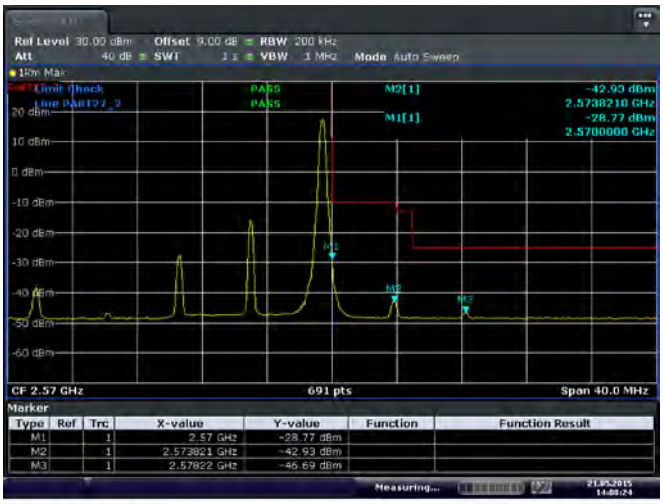
Band 7 16-QAM 5 MHz RB25#0 HCH

Date: 21.MAY.2015 14:14:03

Band 7 16-QAM 10 MHz RB1#0 LCH

Date: 21.MAY.2015 11:04:35

Band 7 16-QAM 10 MHz RB1#49 HCH



Date: 21.MAY.2015 14:08:24

Band 7 16-QAM 10 MHz RB50#0 LCH

Date: 21.MAY.2015 11:05:09

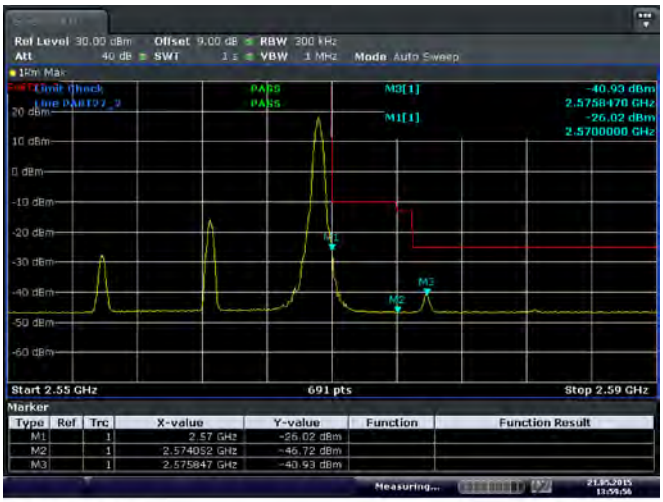
Band 7 16-QAM 10 MHz RB50#0 HCH

Date: 21.MAY.2015 14:10:40

Band 7 16-QAM 15 MHz RB1#0 LCH

Date: 21.MAY.2015 13:40:29

Band 7 16-QAM 15 MHz RB1#74 HCH



Date: 21.MAY.2015 13:59:56

Band 7 16-QAM 15 MHz RB75#0 LCH

Date: 21.MAY.2015 13:41:01

Band 7 16-QAM 15 MHz RB75#0 HCH

Date: 21.MAY.2015 13:58:10

Band 7 16-QAM 20 MHz RB1#0 LCH

Date: 21.MAY.2015 13:45:16

Band 7 16-QAM 20 MHz RB1#99 HCH

Date: 21.MAY.2015 13:52:11

Band 7 16-QAM 20 MHz RB100#0 LCH

Date: 21.MAY.2015 13:44:47

Band 7 16-QAM 20 MHz RB100#0 HCH

Date: 21.MAY.2015 13:51:19

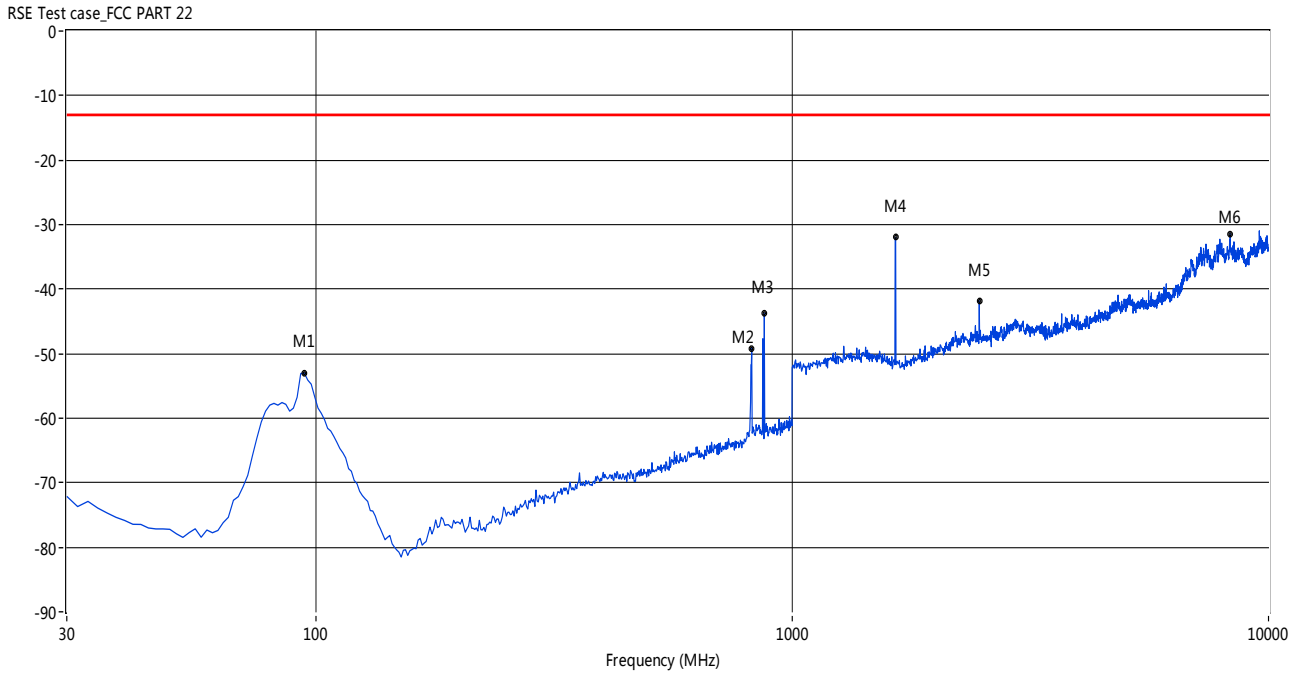
A.7 Field Strength of Spurious Radiation

Note 1: GSM and GPRS, EGPRS modes have been verified, only the worst data with different data bandwidth show here.

Note 2: This frequency which near test frequency with circle should be ignored because they are MS and SS carrier frequency

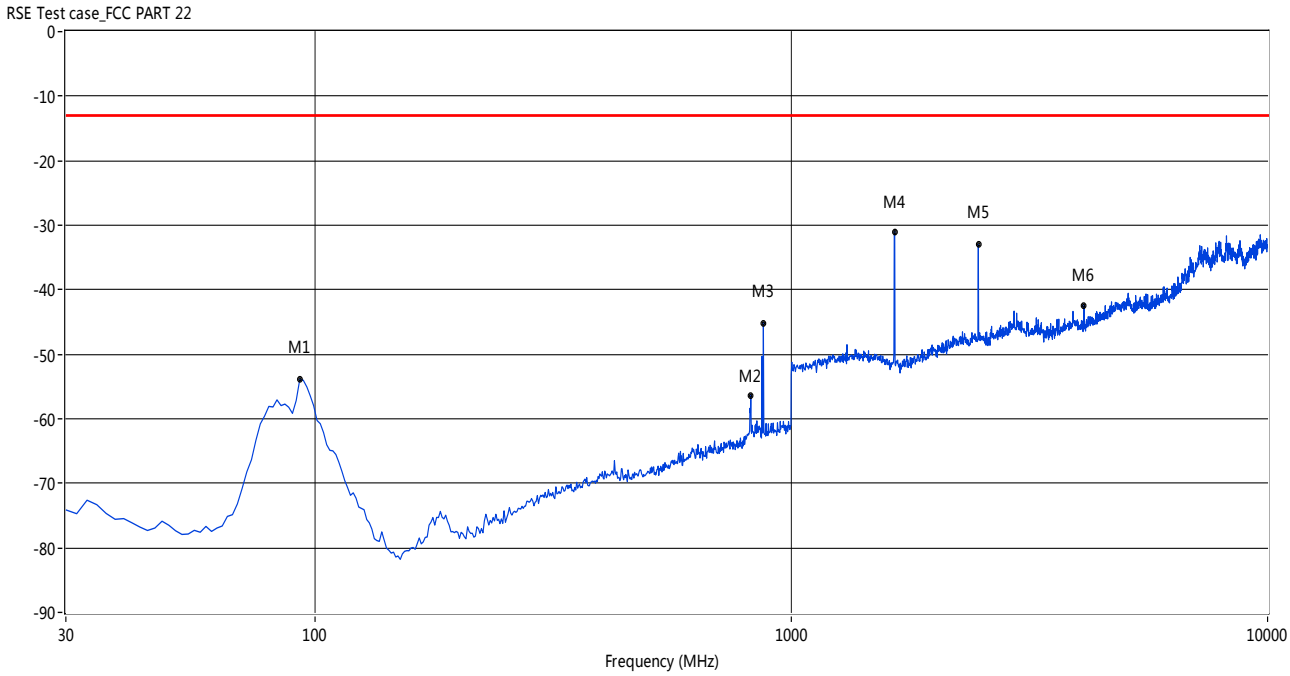
Test Data

GSM 850 MHz LCH, ANT V



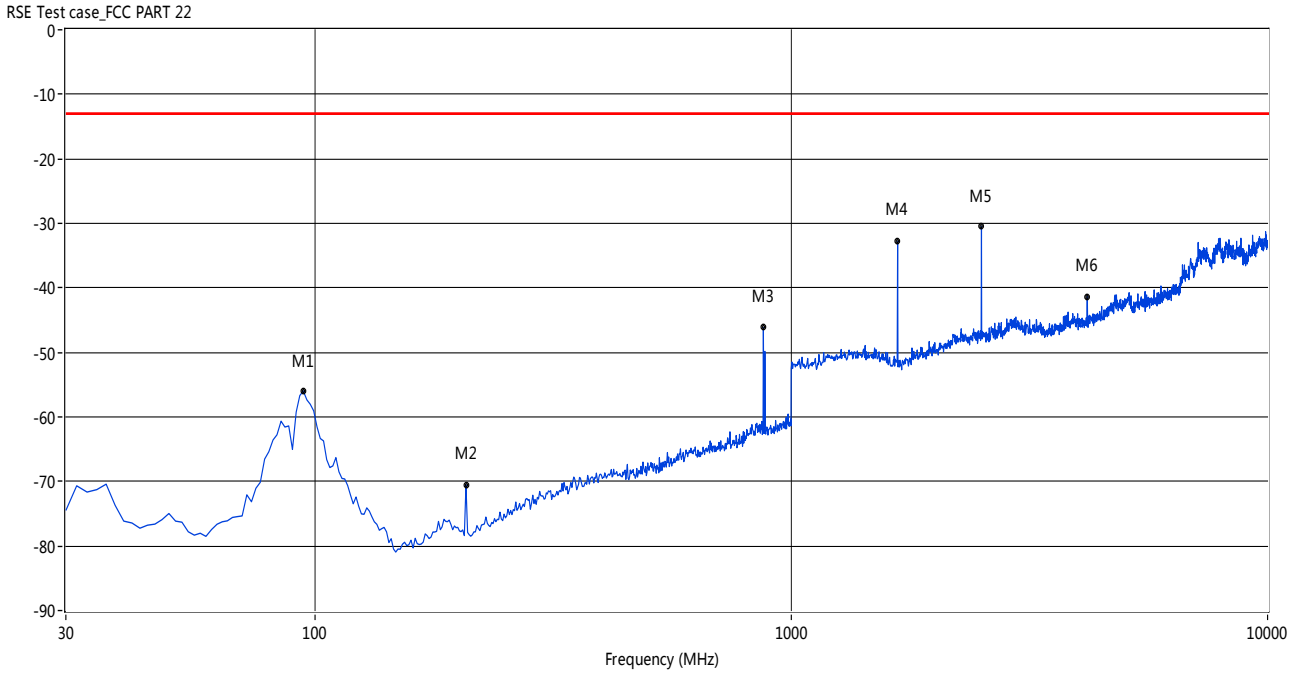
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-53.00	-3.03	-13.0	40.00	277.10	Vertical	Pass
822.46	-49.13	5.21	-13.0	36.13	53.50	Vertical	N/A
874.11	-43.79	5.34	-13.0	30.79	310.90	Vertical	N/A
1648.92	-31.96	8.86	-13.0	18.96	191.50	Vertical	Pass
2470.88	-41.82	13.05	-13.0	28.82	327.10	Vertical	Pass
8309.48	-31.41	35.82	-13.0	18.41	79.50	Vertical	Pass

GSM 850 MHz LCH, ANT H



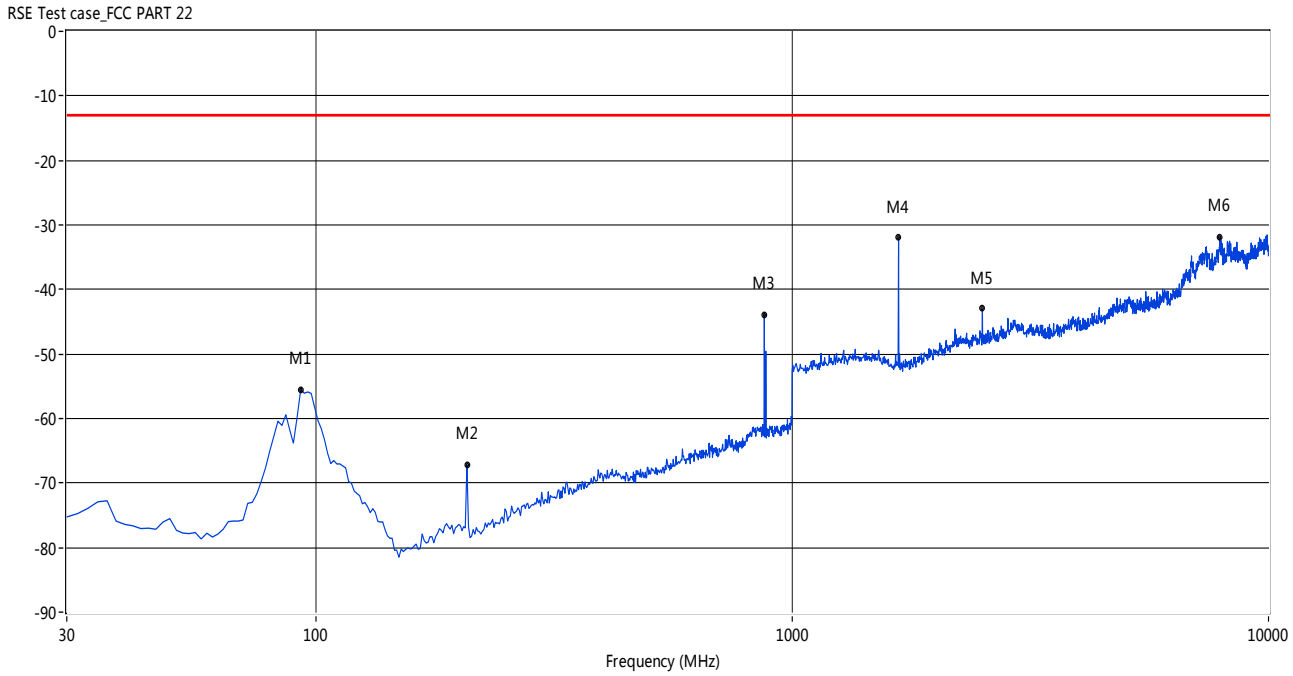
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-53.87	-2.71	-13.0	40.87	274.90	Horizontal	Pass
822.46	-56.31	5.21	-13.0	43.31	171.00	Horizontal	N/A
874.11	-45.12	5.34	-13.0	32.12	134.70	Horizontal	N/A
1648.92	-31.14	8.86	-13.0	18.14	352.70	Horizontal	Pass
2470.88	-33.09	13.05	-13.0	20.09	306.50	Horizontal	Pass
4118.14	-42.40	24.21	-13.0	29.40	123.50	Horizontal	Pass

GSM 850 MHz MCH, ANT V



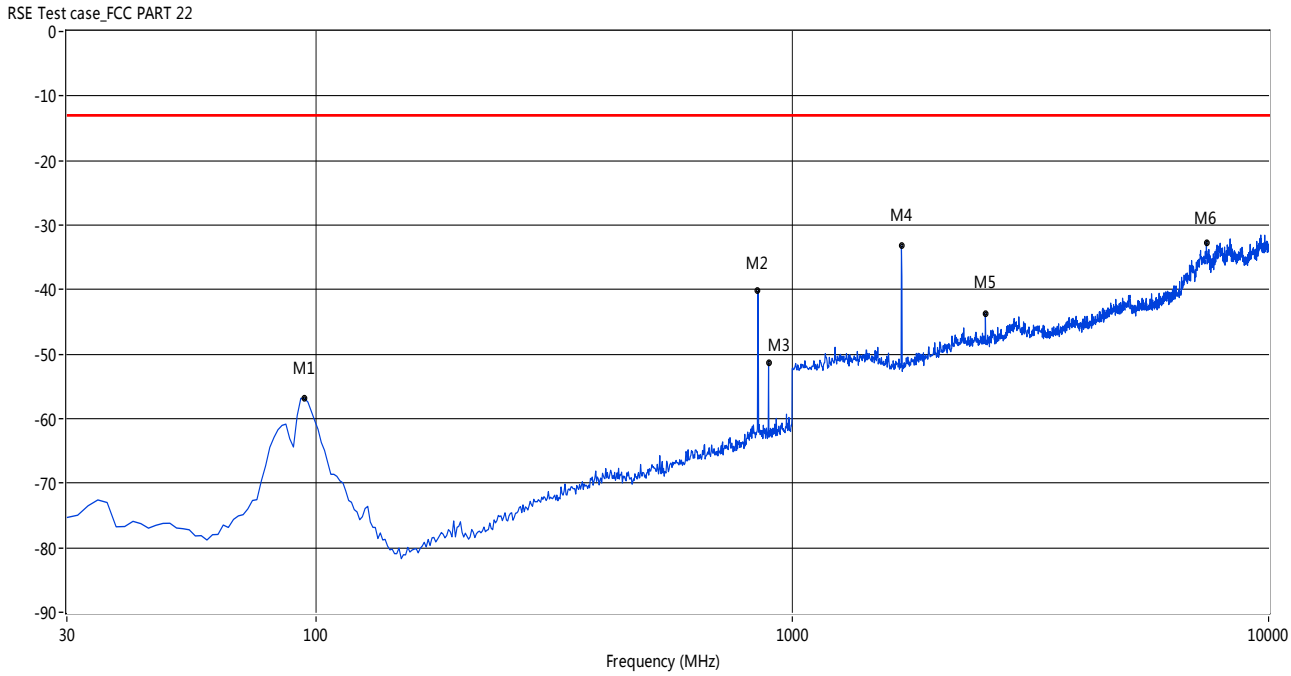
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-55.99	-3.03	-13.0	42.99	300.20	Vertical	Pass
207.54	-70.51	-11.70	-13.0	57.51	64.20	Vertical	Pass
874.11	-46.16	5.34	-13.0	33.16	125.40	Vertical	N/A
1672.21	-32.76	8.78	-13.0	19.76	185.60	Vertical	Pass
2507.49	-30.50	13.34	-13.0	17.50	293.90	Vertical	Pass
4183.03	-41.33	24.33	-13.0	28.33	223.10	Vertical	Pass

GSM 850 MHz MCH, ANT H



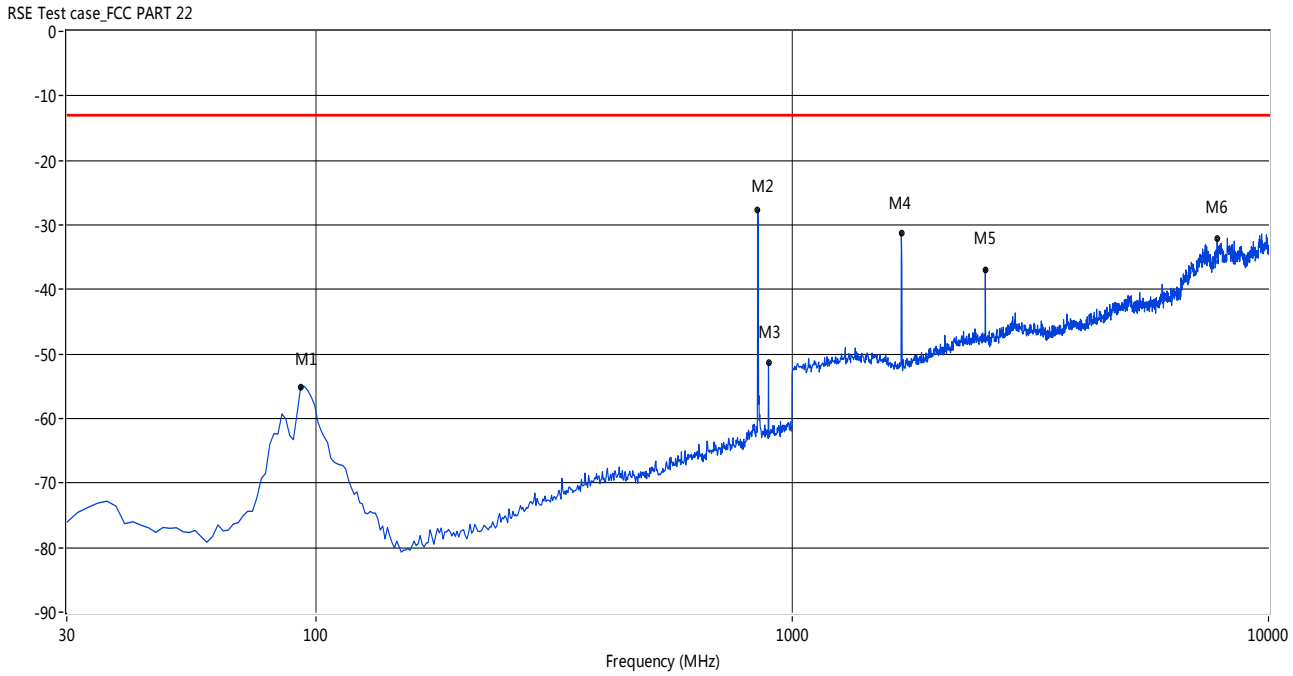
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-55.52	-2.71	-13.0	42.52	292.80	Horizontal	Pass
207.54	-67.17	-11.70	-13.0	54.17	174.90	Horizontal	Pass
874.11	-43.88	5.34	-13.0	30.88	-0.70	Horizontal	N/A
1672.21	-31.96	8.78	-13.0	18.96	187.60	Horizontal	Pass
2507.49	-42.98	13.34	-13.0	29.98	192.80	Horizontal	Pass
7896.84	-31.86	35.80	-13.0	18.86	21.90	Horizontal	Pass

GSM 850 MHz HCH, ANT V



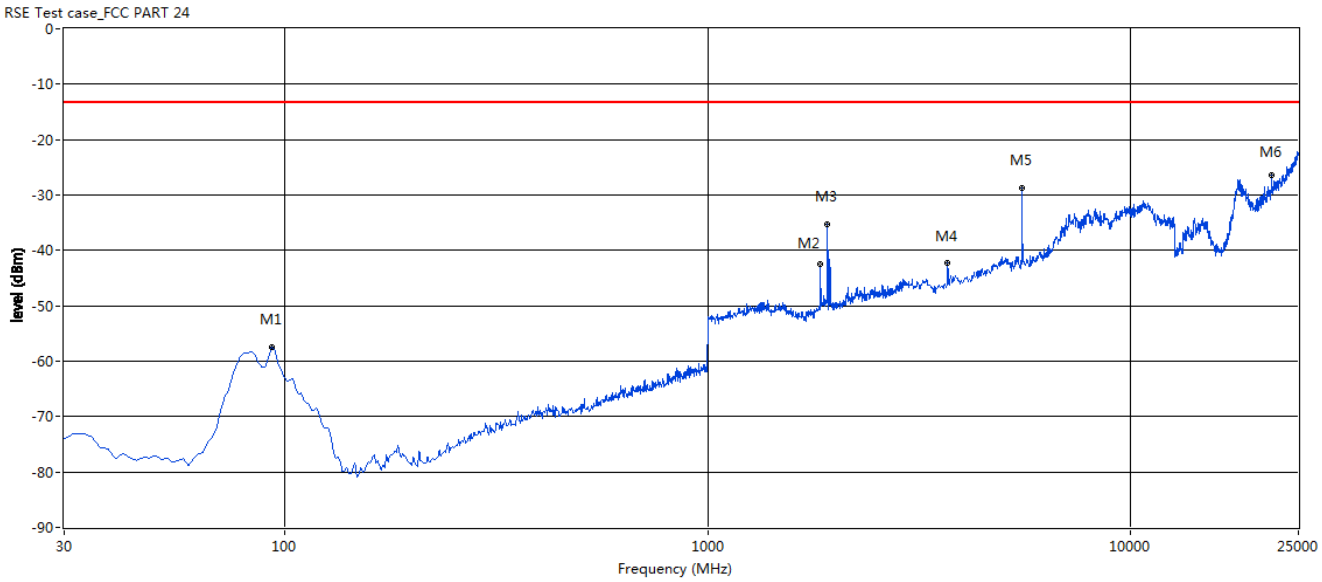
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-56.86	-3.03	-13.0	43.86	330.00	Vertical	Pass
846.67	-40.20	5.60	-13.0	27.20	32.40	Vertical	N/A
891.86	-51.26	5.59	-13.0	38.26	309.20	Vertical	N/A
1695.51	-33.23	8.81	-13.0	20.23	171.40	Vertical	Pass
2544.09	-43.74	13.41	-13.0	30.74	359.80	Vertical	Pass
7404.33	-32.72	33.95	-13.0	19.72	67.90	Vertical	Pass

GSM 850 MHz HCH, ANT H



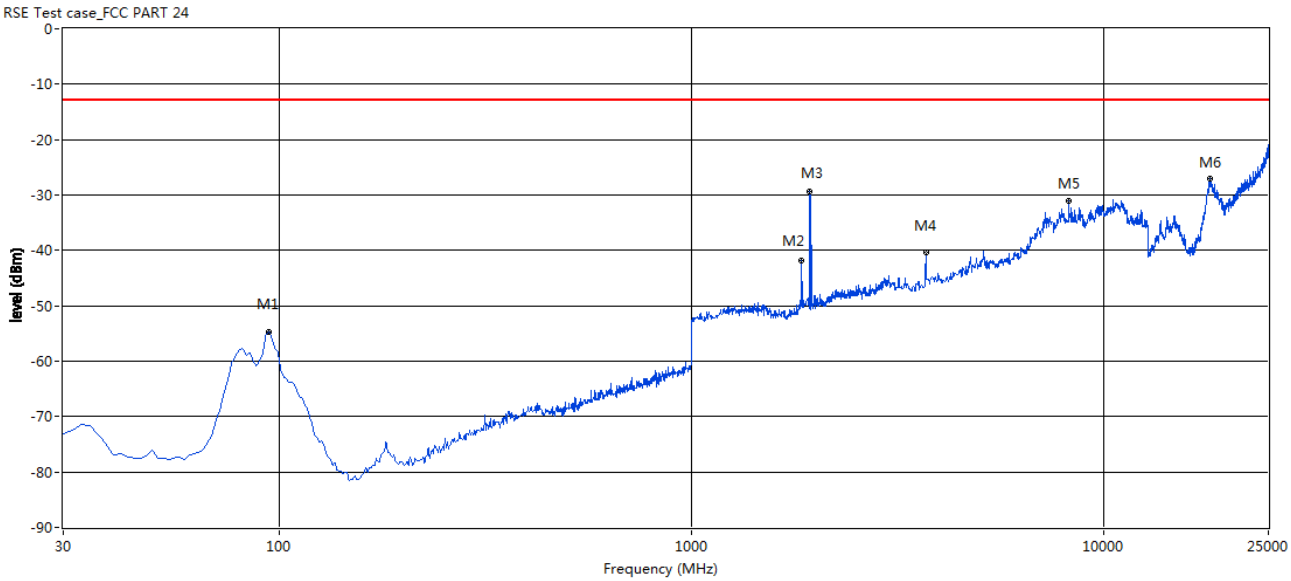
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-55.08	-2.71	-13.0	42.08	327.00	Horizontal	Pass
846.67	-27.67	5.60	-13.0	14.67	120.00	Horizontal	N/A
891.86	-51.25	5.59	-13.0	38.25	228.00	Horizontal	N/A
1695.51	-31.32	8.81	-13.0	18.32	313.00	Horizontal	Pass
2544.09	-36.88	13.41	-13.0	23.88	53.00	Horizontal	Pass
7803.66	-32.21	35.13	-13.0	19.21	214.00	Horizontal	Pass

GSM 1900 MHz LCH, ANT V



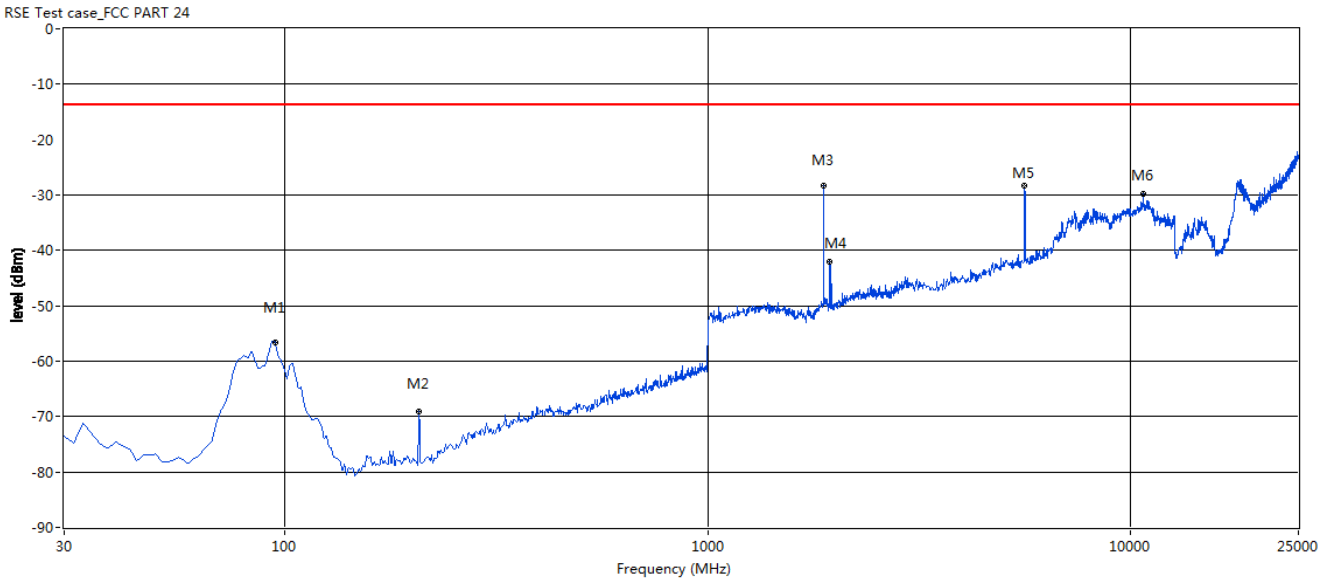
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-57.39	-2.94	-13.0	44.39	287.20	Vertical	Pass
1848.59	-42.54	10.96	-13.0	29.54	306.50	Vertical	N/A
1921.80	-35.25	10.73	-13.0	22.25	108.60	Vertical	N/A
3697.59	-42.23	23.12	-13.0	29.23	266.80	Vertical	Pass
5547.00	-28.70	27.79	-13.0	15.70	344.50	Vertical	Pass
21636.86	-26.31	38.81	-13.0	13.31	246.60	Vertical	Pass

GSM 1900 MHz LCH, ANT H



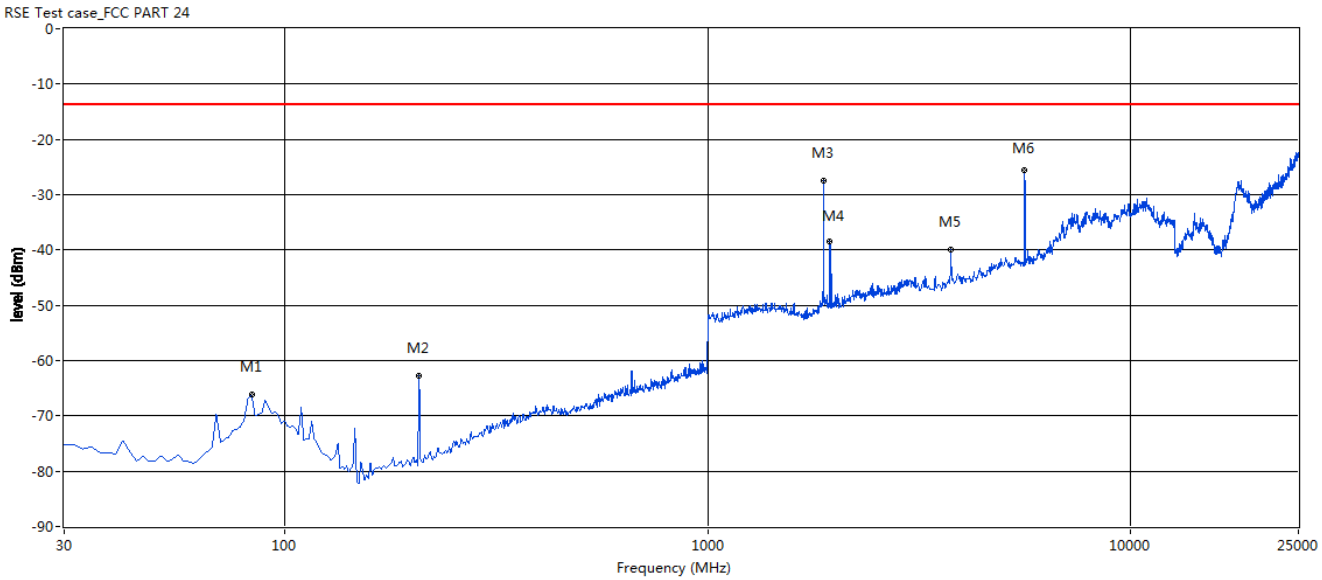
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-54.72	-3.17	-13.0	41.72	257.80	Horizontal	Pass
1848.59	-41.77	10.96	-13.0	28.77	337.90	Horizontal	N/A
1928.45	-29.42	10.61	-13.0	16.42	258.60	Horizontal	N/A
3697.59	-40.40	23.12	-13.0	27.40	210.90	Horizontal	Pass
8191.35	-31.06	35.95	-13.0	18.06	360.70	Horizontal	Pass
18049.50	-26.95	40.92	-13.0	13.95	0.90	Horizontal	Pass

GSM 1900 MHz MCH, ANT V



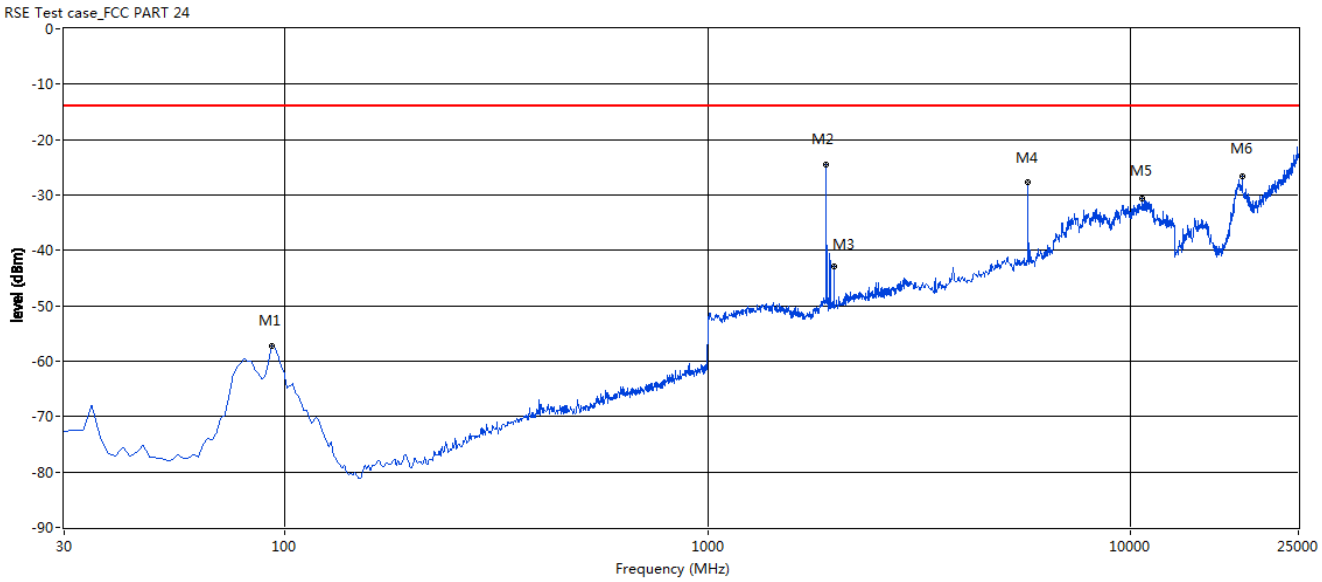
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-56.56	-3.17	-13.0	43.56	272.90	Vertical	Pass
207.54	-69.02	-11.76	-13.0	56.02	94.10	Vertical	Pass
1878.54	-28.26	11.47	-13.0	15.26	301.30	Vertical	N/A
1945.09	-42.01	10.95	-13.0	29.01	224.20	Vertical	N/A
5628.12	-28.34	27.79	-13.0	15.34	33.30	Vertical	Pass
10722.13	-29.83	37.81	-13.0	16.83	360.30	Vertical	Pass

GSM 1900 MHz MCH, ANT H



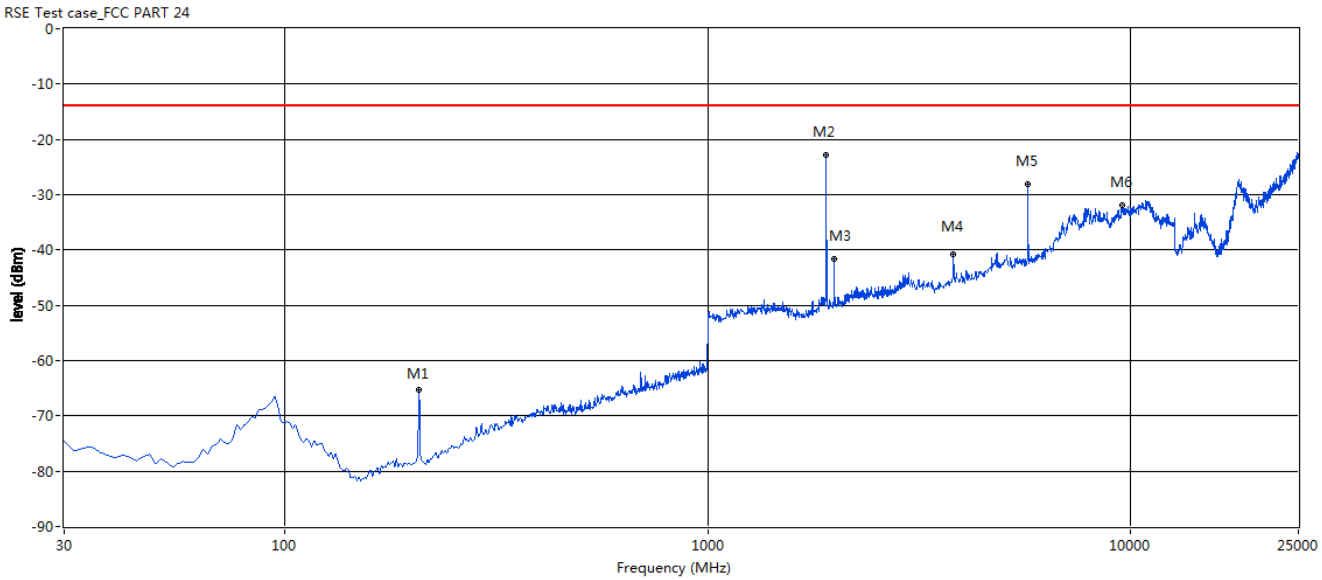
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
83.26	-66.15	-4.35	-13.0	53.15	183.20	Horizontal	Pass
207.54	-62.75	-11.76	-13.0	49.75	46.10	Horizontal	Pass
1878.54	-27.44	11.47	-13.0	14.44	320.10	Horizontal	N/A
1945.09	-38.44	10.95	-13.0	25.44	24.40	Horizontal	N/A
3762.48	-39.94	23.30	-13.0	26.94	257.40	Horizontal	Pass
5628.12	-25.64	27.79	-13.0	12.64	340.00	Horizontal	Pass

GSM 1900 MHz HCH, ANT V



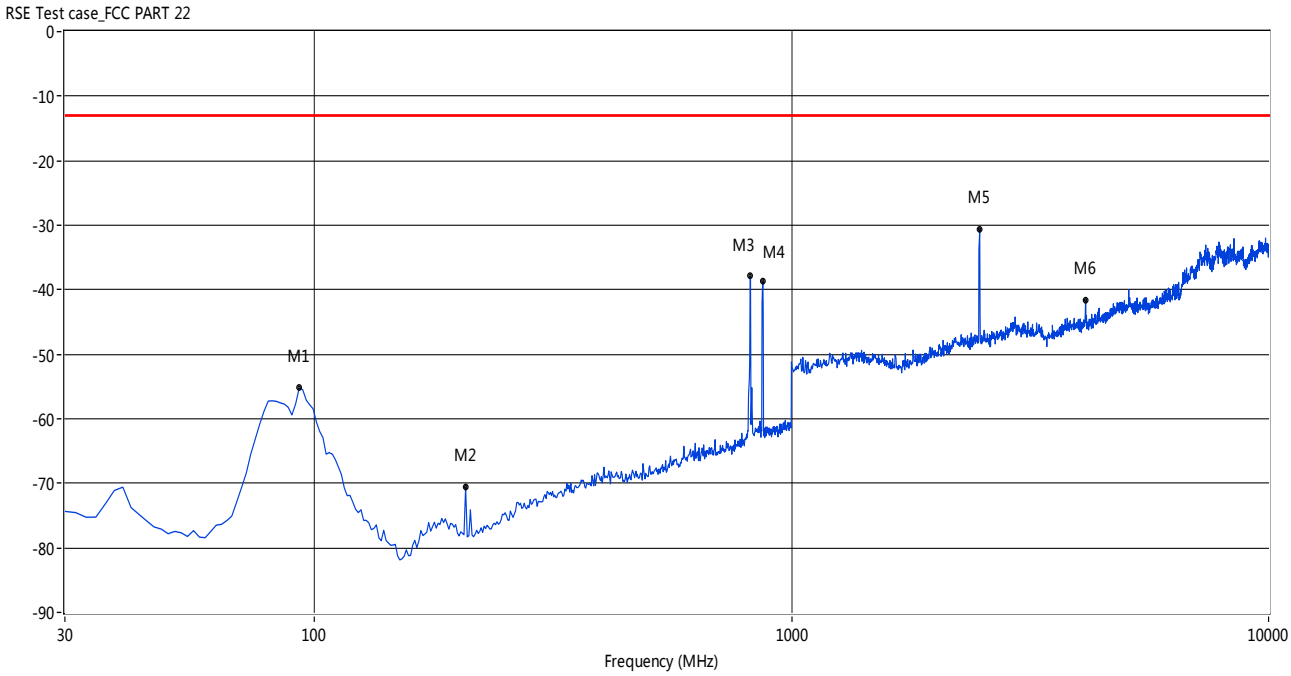
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-57.25	-2.94	-13.0	44.25	280.80	Vertical	Pass
1908.49	-24.49	12.02	-13.0	11.49	311.40	Vertical	N/A
1988.35	-42.92	10.97	-13.0	29.92	4.20	Vertical	N/A
5725.46	-29.34	28.14	-13.0	16.34	313.10	Vertical	Pass
10673.46	-30.63	37.75	-13.0	17.63	180.90	Vertical	Pass
18457.15	-26.62	39.30	-13.0	13.62	358.40	Vertical	Pass

GSM 1900 MHz HCH, ANT H



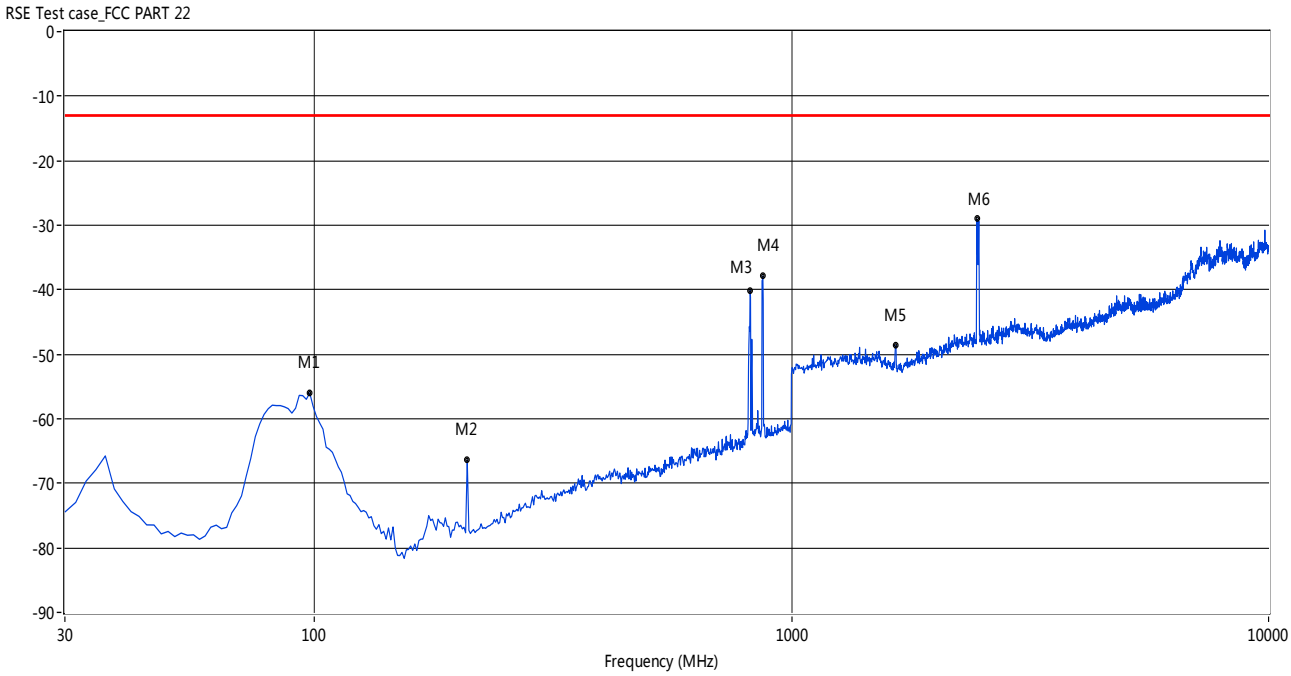
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
207.54	-65.23	-11.76	-13.0	52.23	122.00	Horizontal	Pass
1908.49	-22.79	12.02	-13.0	9.79	123.00	Horizontal	N/A
1988.35	-41.57	10.97	-13.0	28.57	118.00	Horizontal	N/A
3811.15	-40.70	23.49	-13.0	27.70	260.00	Horizontal	Pass
5725.46	-28.06	28.14	-13.0	15.06	170.00	Horizontal	Pass
9554.08	-31.99	36.94	-13.0	18.99	312.00	Horizontal	Pass

WCDMA 850 MHz LCH, ANT V



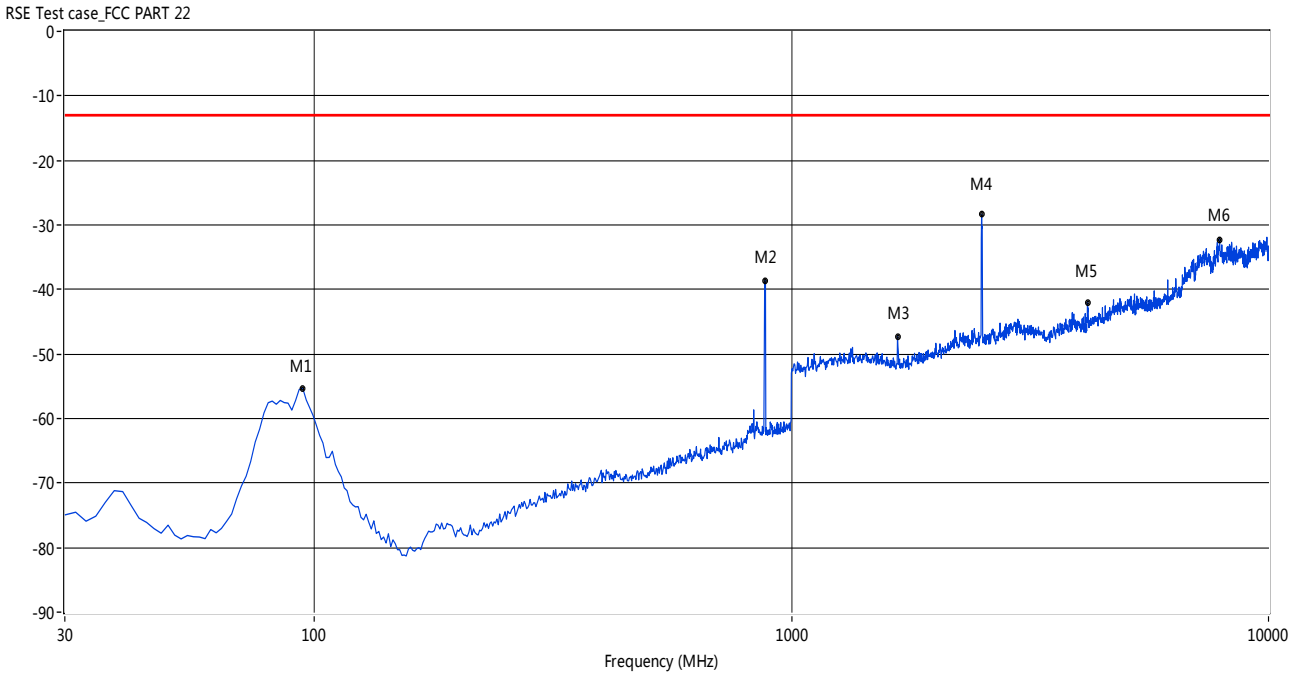
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-55.22	-2.71	-13.0	42.22	265.40	Vertical	Pass
207.54	-70.58	-11.70	-13.0	57.58	293.20	Vertical	Pass
819.23	-37.87	5.16	-13.0	24.87	126.70	Vertical	N/A
870.88	-38.66	5.35	-13.0	25.66	117.40	Vertical	N/A
2480.87	-30.56	13.43	-13.0	17.56	301.60	Vertical	Pass
4138.10	-41.63	24.22	-13.0	28.63	307.10	Vertical	Pass

WCDMA 850 MHz LCH, ANT H



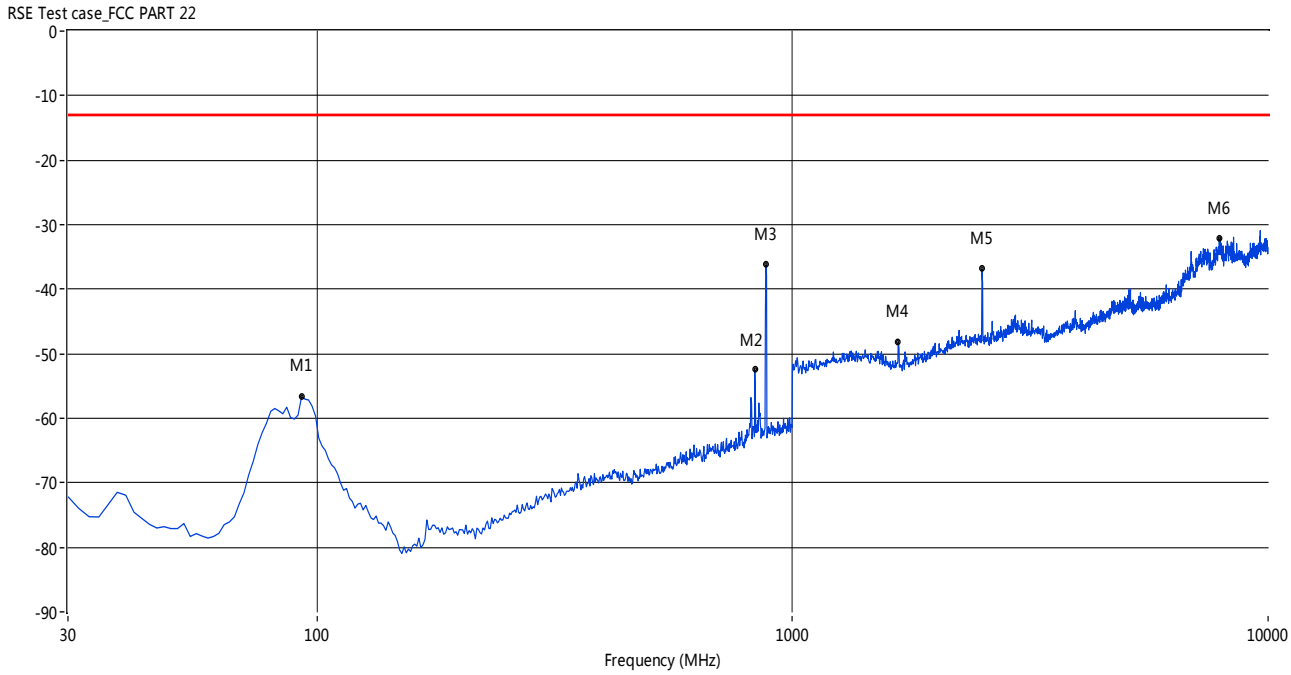
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
97.79	-56.00	-4.03	-13.0	43.00	286.00	Horizontal	Pass
209.15	-66.39	-11.72	-13.0	53.39	42.40	Horizontal	Pass
819.23	-40.09	5.16	-13.0	27.09	134.20	Horizontal	N/A
870.88	-37.86	5.35	-13.0	24.86	55.80	Horizontal	N/A
1655.57	-48.63	8.89	-13.0	35.63	-0.30	Horizontal	Pass
2447.59	-29.04	12.73	-13.0	16.04	89.00	Horizontal	Pass

WCDMA 850 MHz MCH, ANT V



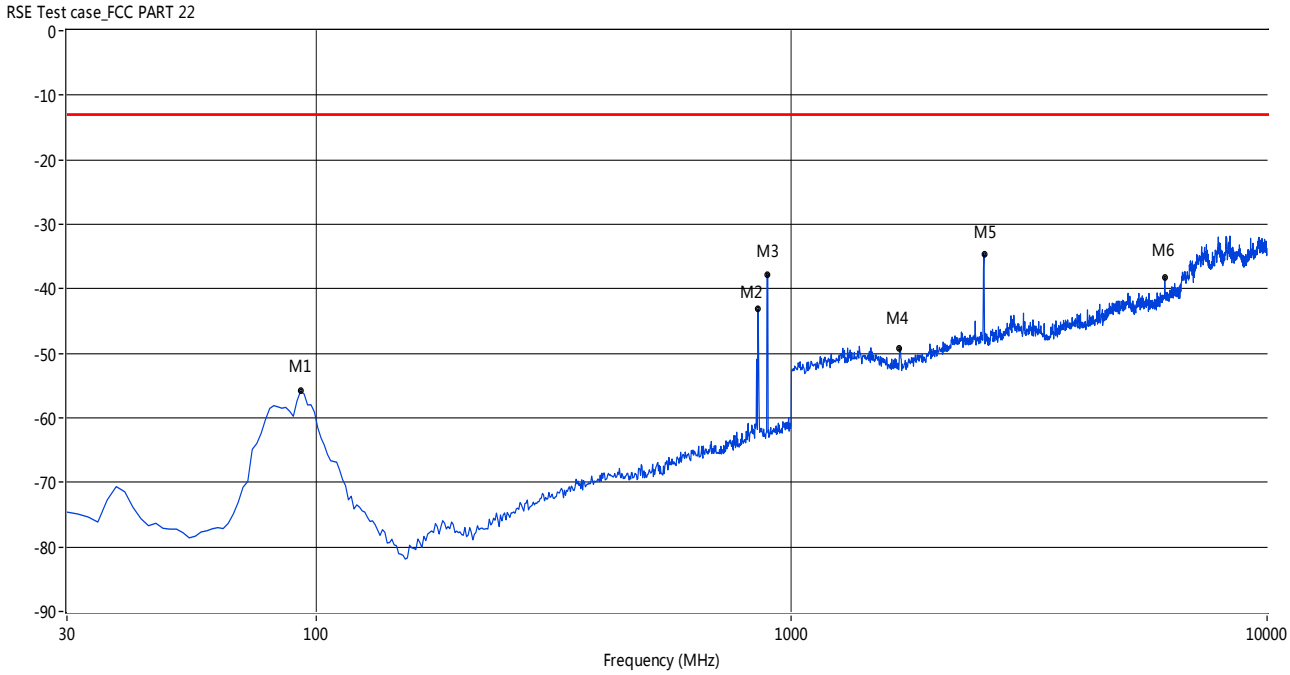
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-55.27	-3.03	-13.0	42.27	267.10	Vertical	Pass
878.95	-38.65	5.42	-13.0	25.65	230.10	Vertical	N/A
1668.89	-49.24	8.76	-13.0	36.24	4.40	Vertical	Pass
2504.16	-33.45	13.29	-13.0	20.45	29.60	Vertical	Pass
4173.04	-42.02	24.38	-13.0	29.02	307.50	Vertical	Pass
7896.84	-32.22	35.80	-13.0	19.22	335.70	Vertical	Pass

WCDMA 850 MHz MCH, ANT H



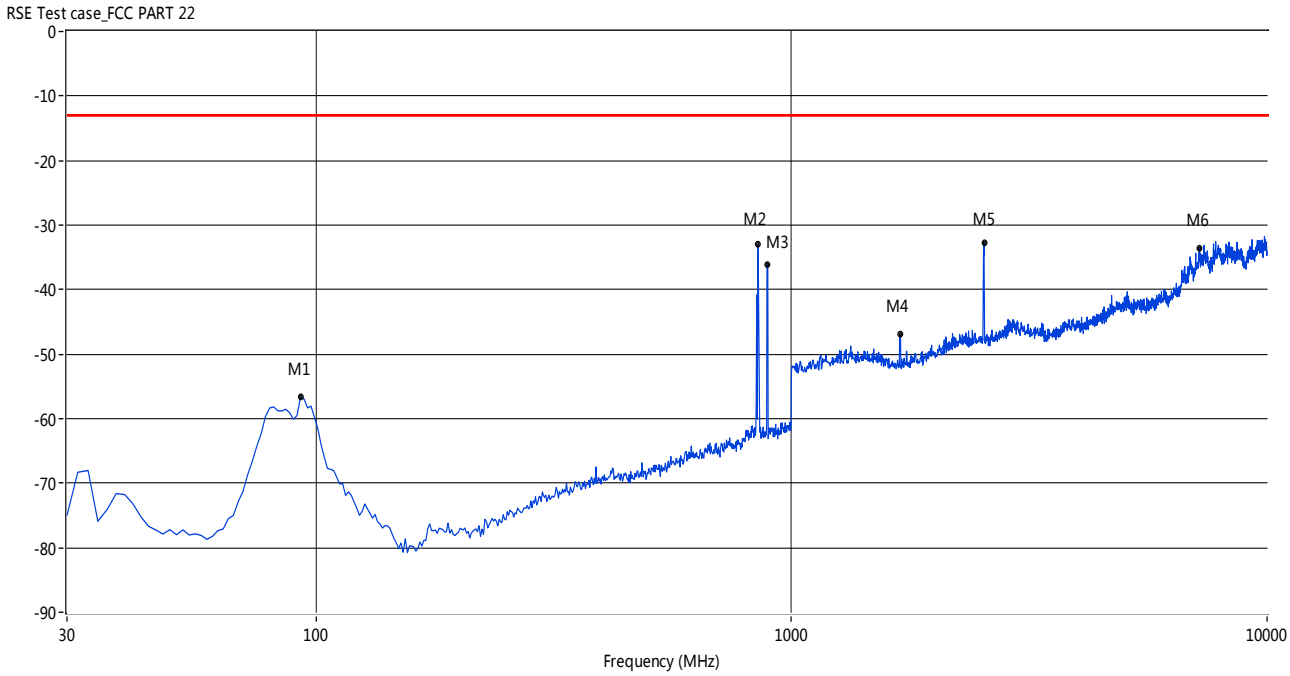
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-56.65	-2.71	-13.0	43.65	271.60	Horizontal	Pass
833.76	-52.45	5.40	-13.0	39.45	317.90	Horizontal	N/A
880.57	-36.22	5.42	-13.0	23.22	231.20	Horizontal	N/A
1668.89	-48.23	8.76	-13.0	35.23	212.90	Horizontal	Pass
2504.16	-36.85	13.29	-13.0	23.85	208.10	Horizontal	Pass
7896.84	-32.13	35.80	-13.0	19.13	122.60	Horizontal	Pass

WCDMA 850 MHz HCH, ANT V



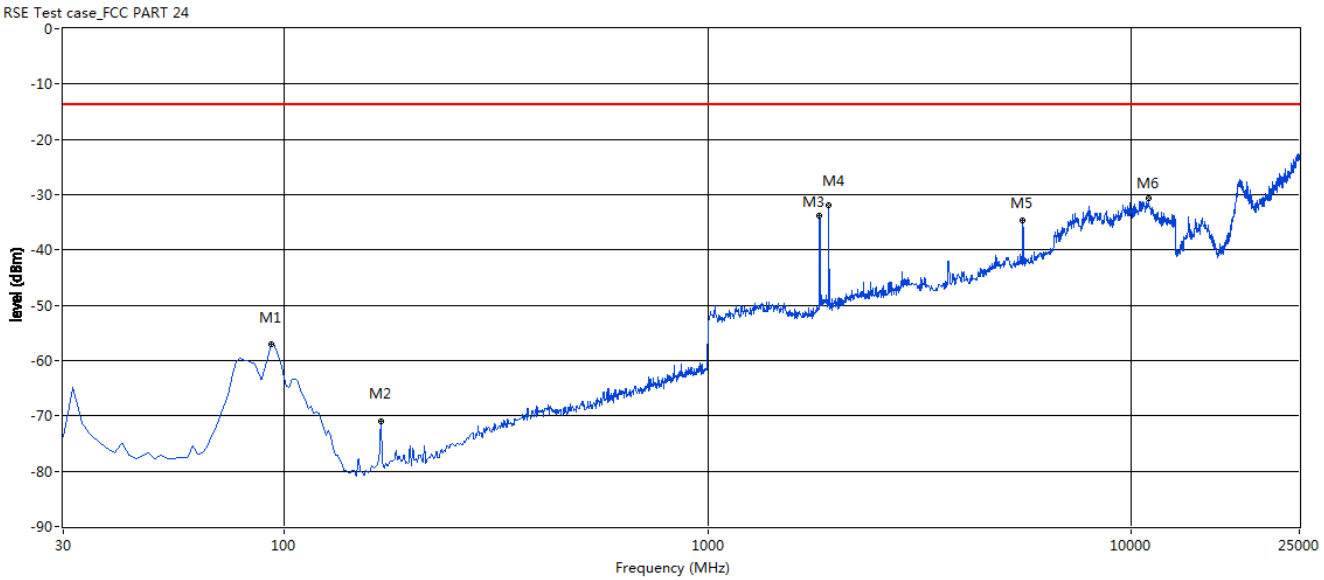
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-55.86	-2.71	-13.0	42.86	259.30	Vertical	Pass
851.51	-43.15	5.68	-13.0	30.15	118.60	Vertical	N/A
888.64	-37.77	5.56	-13.0	24.77	231.90	Vertical	N/A
1688.85	-49.14	8.72	-13.0	36.14	305.40	Vertical	Pass
2540.77	-34.66	13.42	-13.0	21.66	-0.70	Vertical	Pass
6093.18	-38.16	29.41	-13.0	25.16	220.60	Vertical	Pass

WCDMA 850 MHz HCH, ANT H



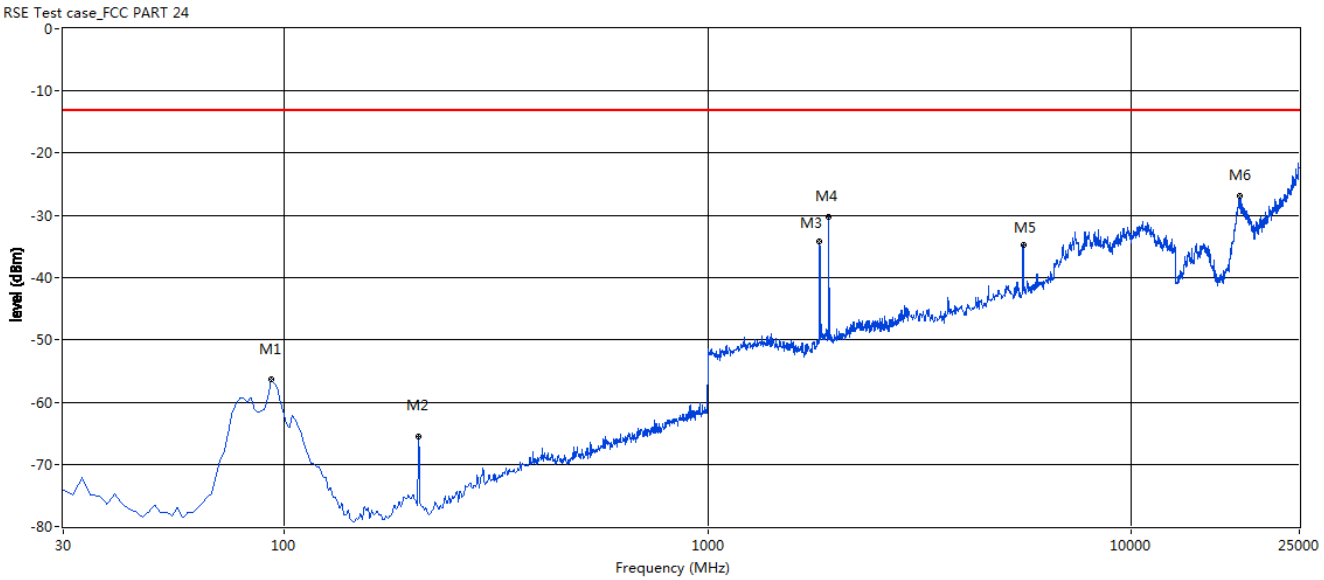
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-56.64	-2.71	-13.0	43.64	281.50	Horizontal	Pass
851.51	-33.00	5.68	-13.0	20.00	327.80	Horizontal	N/A
888.64	-36.16	5.56	-13.0	23.16	62.40	Horizontal	N/A
1695.51	-46.99	8.81	-13.0	33.99	6.40	Horizontal	Pass
2540.77	-32.73	13.42	-13.0	19.73	148.30	Horizontal	Pass
7211.31	-33.52	32.86	-13.0	20.52	26.20	Horizontal	Pass

WCDMA 1900 MHz LCH, ANT V



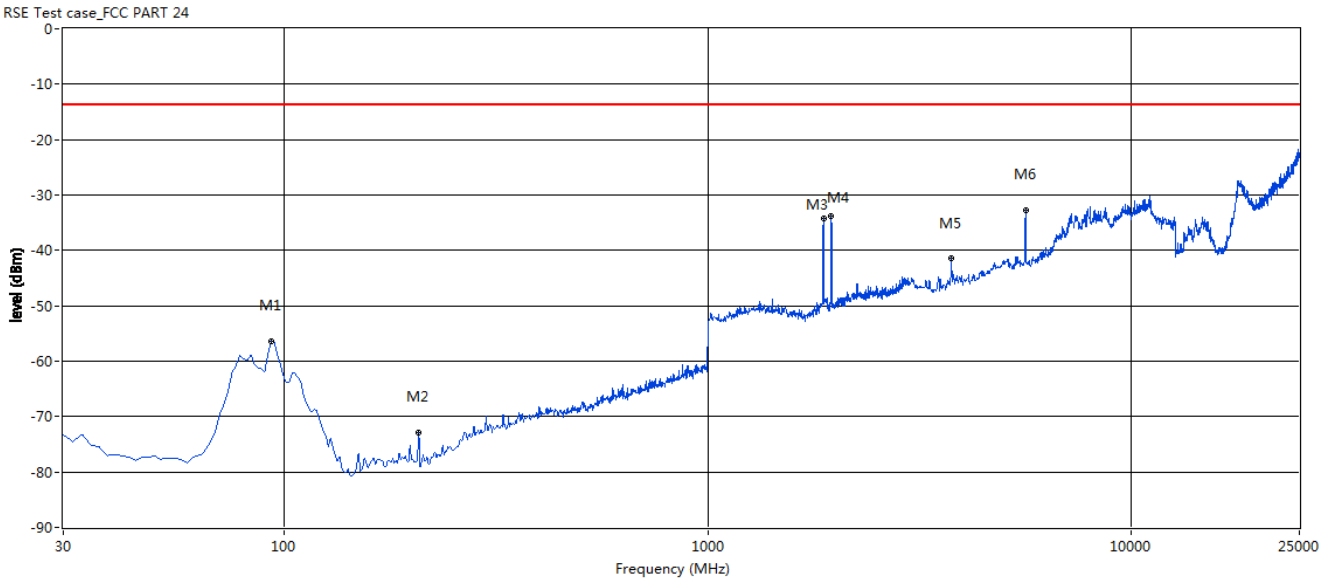
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-56.95	-2.94	-13.0	43.95	268.90	Vertical	Pass
168.80	-71.00	-12.94	-13.0	58.00	-0.00	Vertical	Pass
1838.60	-33.78	10.56	-13.0	20.78	300.60	Vertical	N/A
1931.78	-32.00	10.68	-13.0	19.00	6.40	Vertical	N/A
5547.00	-34.63	27.79	-13.0	21.63	330.80	Vertical	Pass
10997.92	-30.73	38.14	-13.0	17.73	344.50	Vertical	Pass

WCDMA 1900 MHz LCH, ANT H



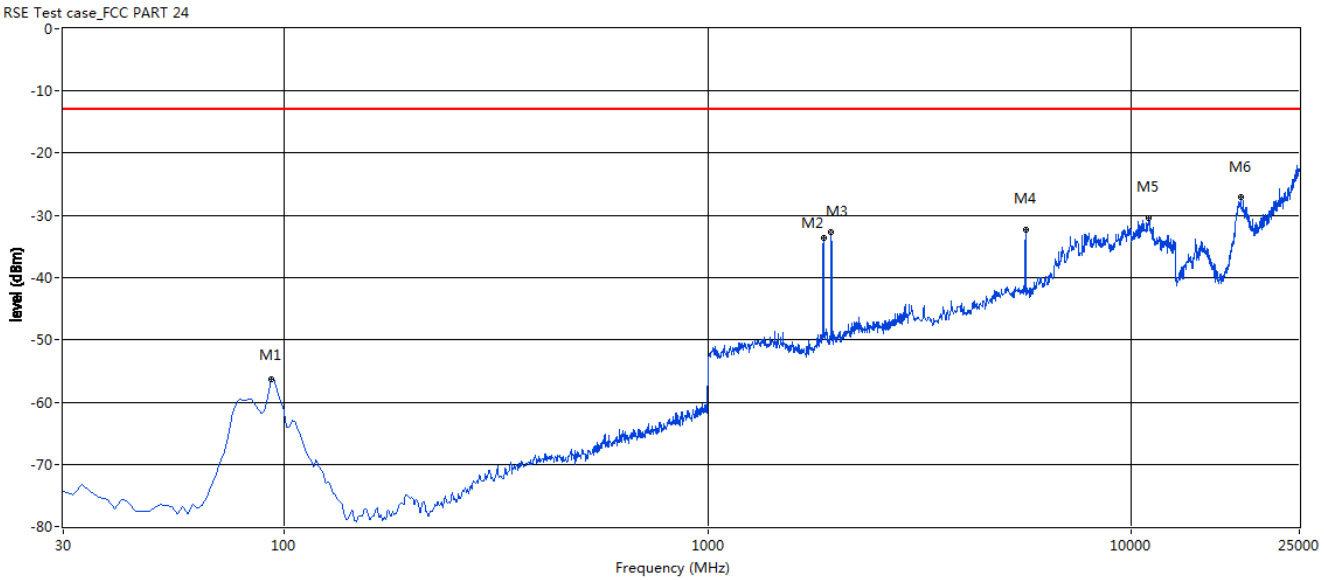
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-56.43	-2.94	-13.0	43.43	284.20	Horizontal	Pass
207.54	-65.47	-11.76	-13.0	52.47	36.90	Horizontal	Pass
1838.60	-34.26	10.56	-13.0	21.26	220.80	Horizontal	N/A
1931.78	-30.27	10.68	-13.0	17.27	-0.70	Horizontal	N/A
5563.23	-34.67	27.76	-13.0	21.67	339.70	Horizontal	Pass
18029.12	-26.89	41.00	-13.0	13.89	0.50	Horizontal	Pass

WCDMA 1900 MHz MCH, ANT V



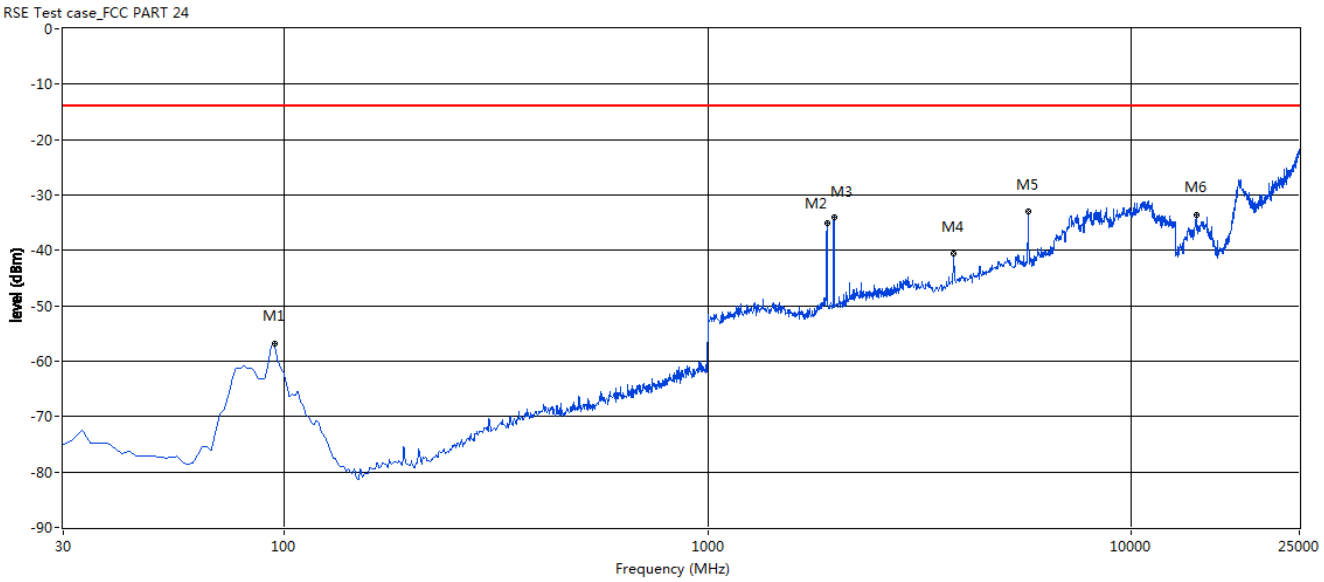
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-56.40	-2.94	-13.0	43.40	258.60	Vertical	Pass
207.54	-72.88	-11.76	-13.0	59.88	254.20	Vertical	Pass
1878.54	-34.24	11.47	-13.0	21.24	305.10	Vertical	N/A
1958.40	-33.72	11.20	-13.0	20.72	14.40	Vertical	N/A
3762.48	-41.39	23.30	-13.0	28.39	308.60	Vertical	Pass
5644.34	-32.76	27.81	-13.0	19.76	321.90	Vertical	Pass

WCDMA 1900 MHz MCH, ANT H



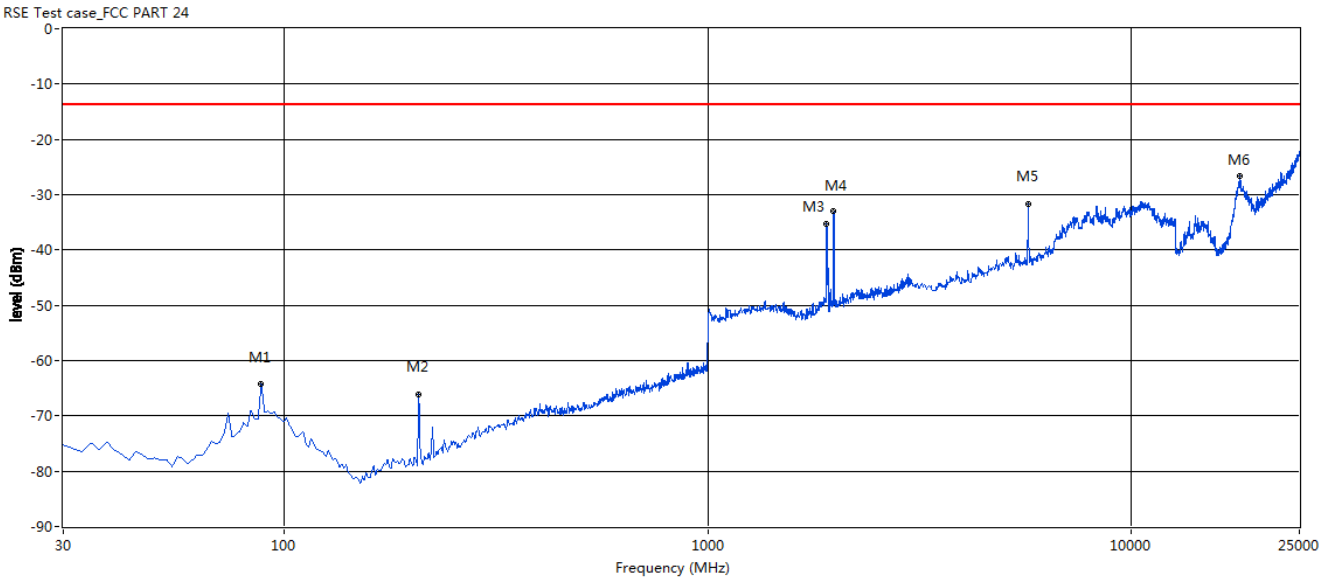
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-56.34	-2.94	-13.0	43.34	283.60	Horizontal	Pass
1878.54	-33.52	11.47	-13.0	20.52	325.90	Horizontal	N/A
1958.40	-32.71	11.20	-13.0	19.71	39.30	Horizontal	N/A
5644.34	-32.31	27.81	-13.0	19.31	340.40	Horizontal	Pass
11014.14	-30.39	38.06	-13.0	17.39	0.60	Horizontal	Pass
18192.18	-27.07	40.35	-13.0	14.07	0.10	Horizontal	Pass

WCDMA 1900 MHz HCH, ANT V



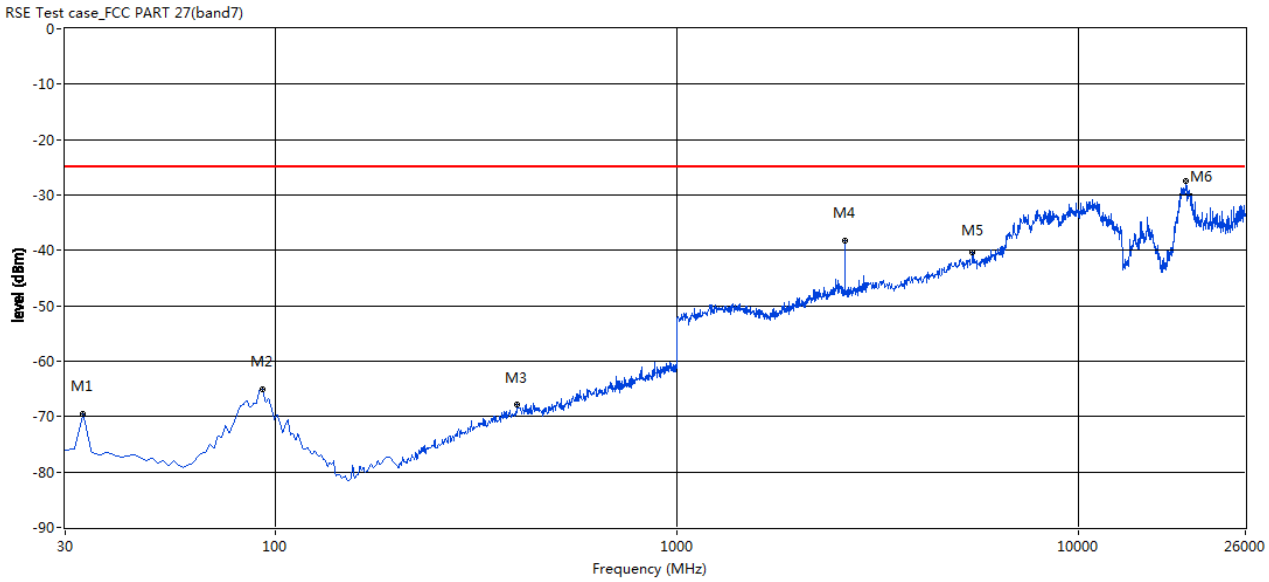
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-56.84	-3.17	-13.0	43.84	283.60	Vertical	Pass
1918.47	-35.05	11.44	-13.0	22.05	3.70	Vertical	N/A
1988.35	-33.96	10.97	-13.0	20.96	360.00	Vertical	N/A
3811.15	-40.66	23.49	-13.0	27.66	326.80	Vertical	Pass
5725.46	-33.06	28.14	-13.0	20.06	24.30	Vertical	Pass
14258.32	-33.60	30.75	-13.0	20.60	39.60	Vertical	Pass

WCDMA 1900 MHz HCH, ANT H



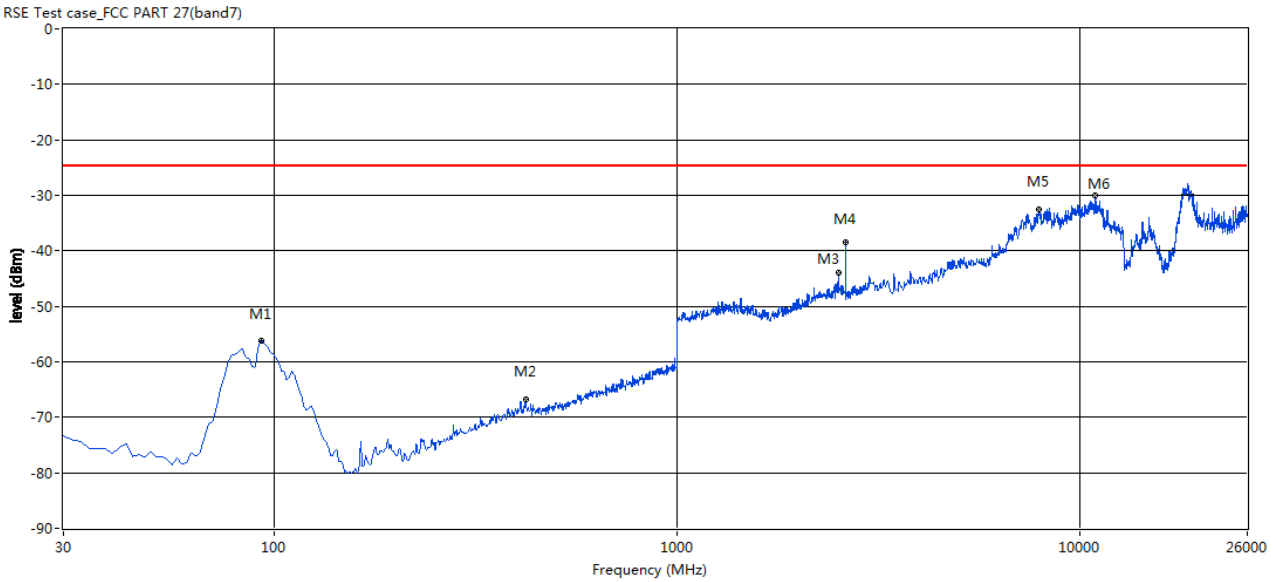
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
88.10	-64.16	-2.80	-13.0	51.16	206.00	Horizontal	Pass
207.54	-66.04	-11.76	-13.0	53.04	64.00	Horizontal	Pass
1908.49	-35.25	12.02	-13.0	22.25	247.00	Horizontal	N/A
1985.02	-33.03	10.95	-13.0	20.03	232.00	Horizontal	N/A
5725.46	-31.62	28.14	-13.0	18.62	294.00	Horizontal	Pass
18049.50	-26.61	40.92	-13.0	13.61	16.00	Horizontal	Pass

LTE Band 7 QPSK 5 MHz LCH, ANT V



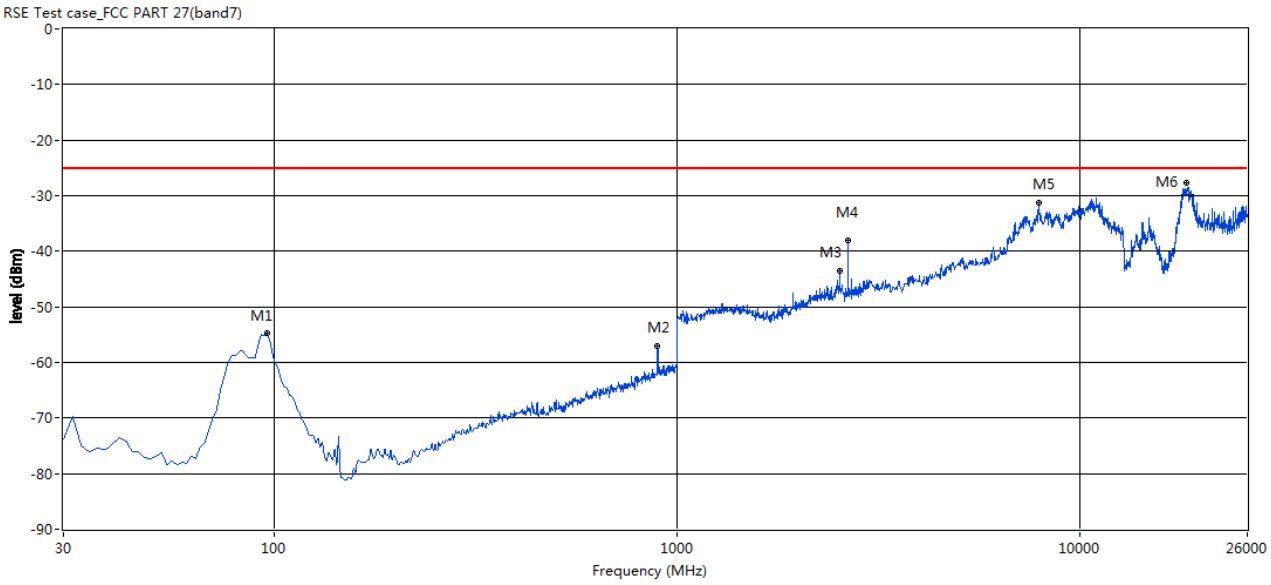
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
33.23	-69.44	-9.83	-25.0	44.44	61.80	Vertical	Pass
92.95	-64.99	-3.01	-25.0	39.99	254.70	Vertical	Pass
399.60	-67.82	-2.35	-25.0	42.82	94.00	Vertical	Pass
2617.30	-38.34	13.57	-25.0	13.34	337.20	Vertical	N/A
5449.67	-40.29	27.69	-25.0	15.29	359.20	Vertical	Pass
17997.09	-26.69	41.08	-25.0	1.69	225.10	Vertical	Pass

LTE Band 7 QPSK 5 MHz LCH, ANT H



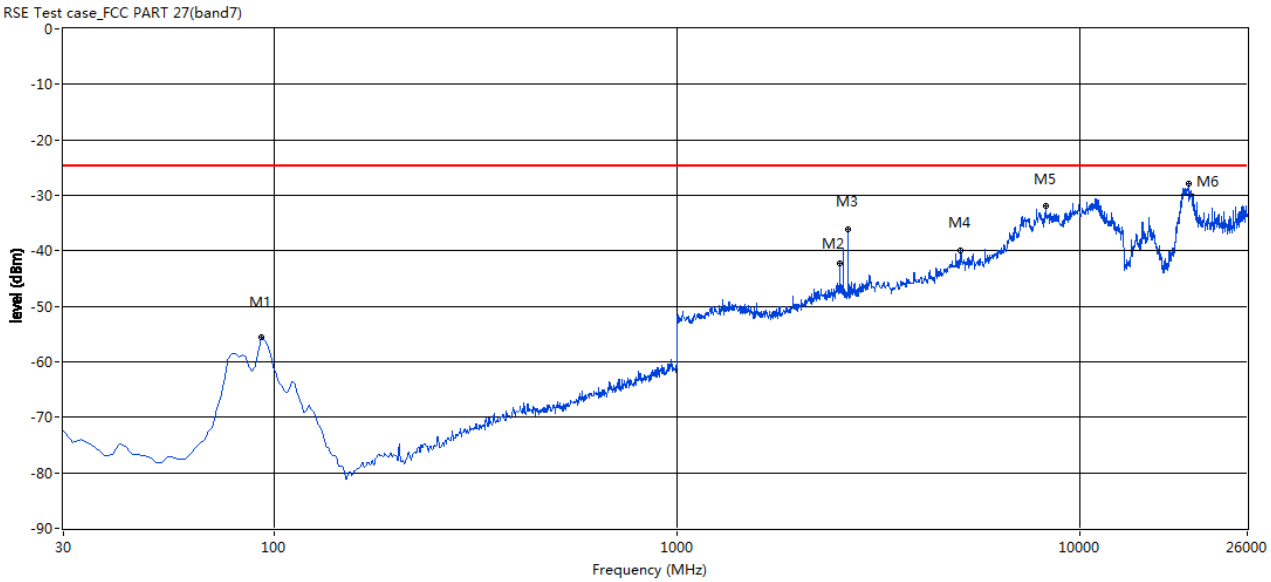
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-56.11	-3.01	-25.0	31.11	290.80	Horizontal	Pass
420.58	-66.78	-2.39	-25.0	41.78	245.30	Horizontal	Pass
2514.14	-44.03	14.57	-25.0	19.03	4.40	Horizontal	N/A
2617.30	-38.54	13.57	-25.0	13.54	296.80	Horizontal	N/A
7883.11	-32.59	35.31	-25.0	7.59	319.60	Horizontal	Pass
13129.37	-31.12	40.60	-25.0	6.12	300.90	Horizontal	Pass

LTE Band 7 QPSK 5 MHz MCH, ANT V



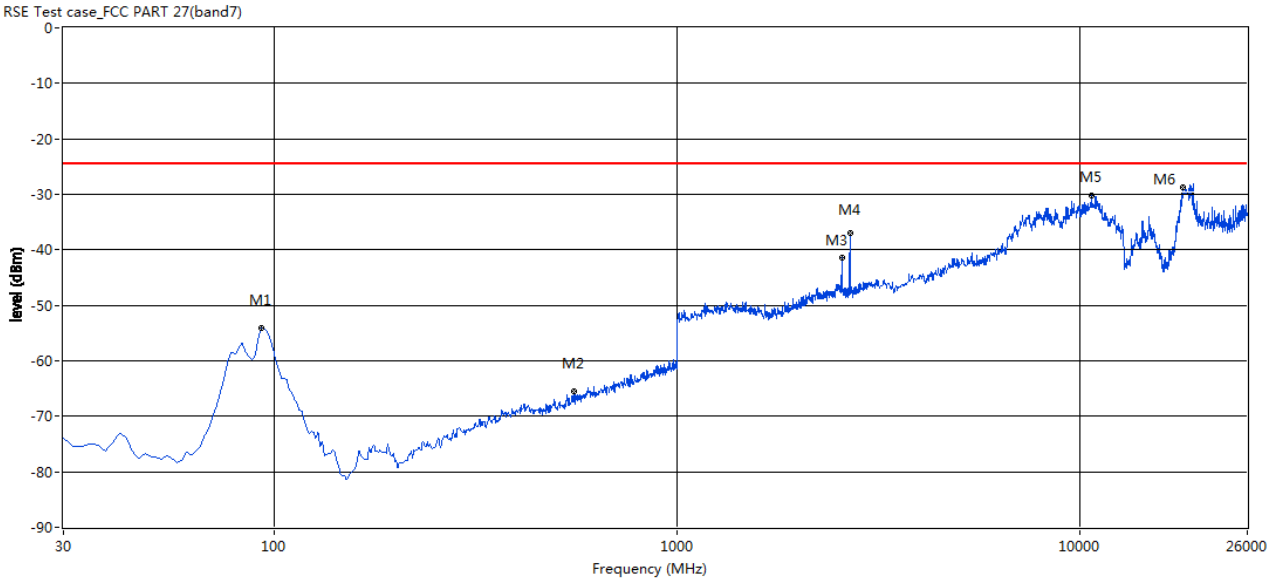
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-54.80	-3.69	-25.0	29.80	287.80	Vertical	Pass
893.48	-57.09	5.71	-25.0	32.09	63.10	Vertical	Pass
2530.78	-43.46	14.49	-25.0	18.46	147.90	Vertical	N/A
2650.58	-38.02	13.57	-25.0	13.02	143.10	Vertical	N/A
7899.33	-31.28	35.76	-25.0	6.28	114.30	Vertical	Pass
18019.13	-27.01	41.04	-25.0	2.01	176.80	Vertical	Pass

LTE Band 7 QPSK 5 MHz MCH, ANT H



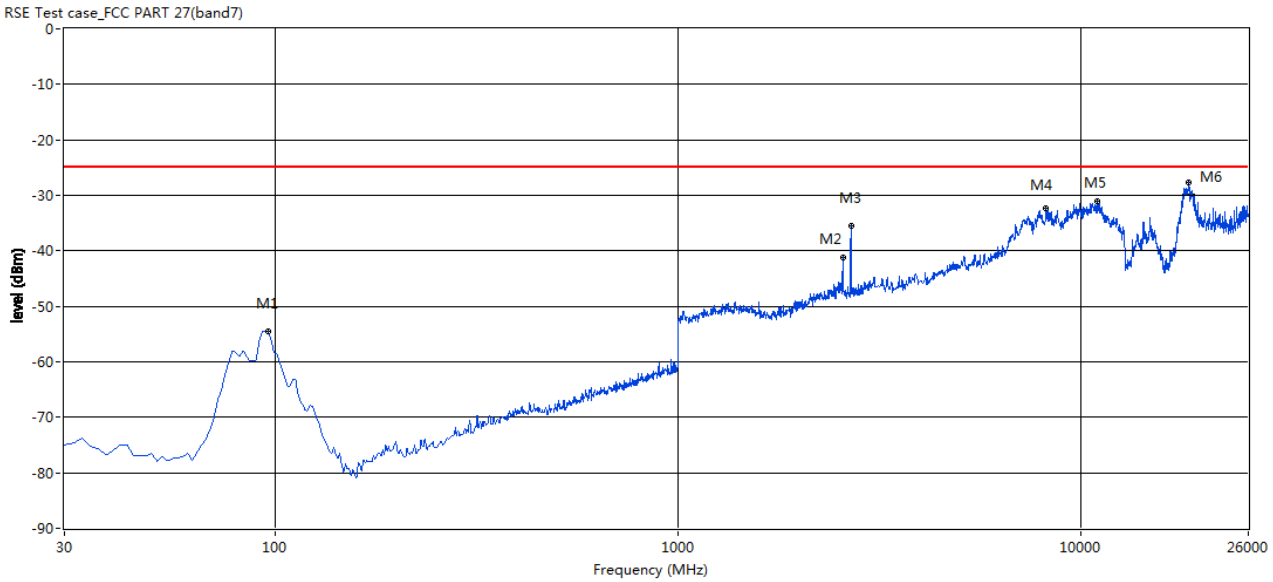
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-55.66	-3.01	-25.0	30.66	313.40	Horizontal	Pass
2530.78	-42.25	14.49	-25.0	17.25	173.00	Horizontal	N/A
2653.91	-36.06	13.70	-25.0	11.06	326.90	Horizontal	N/A
5060.32	-39.87	27.99	-25.0	14.87	123.20	Horizontal	Pass
8223.79	-32.00	35.66	-25.0	7.00	201.60	Horizontal	Pass
18019.13	-27.34	41.04	-25.0	2.34	230.00	Horizontal	Pass

LTE Band 7 QPSK 5 MHz HCH, ANT V



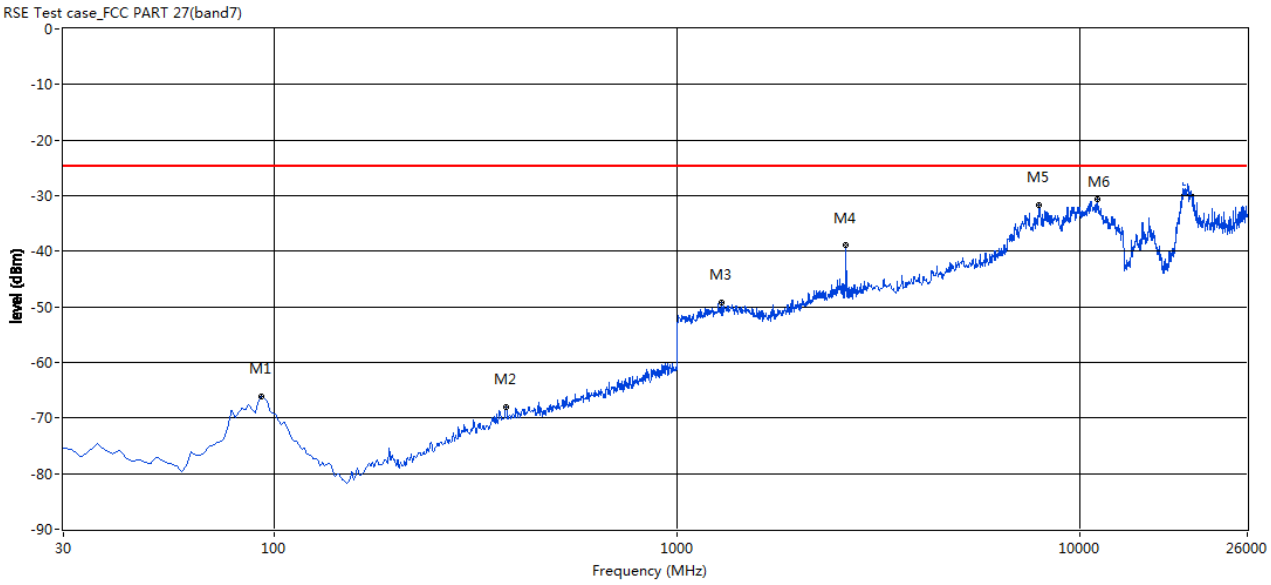
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-54.03	-3.01	-25.0	29.03	278.30	Vertical	Pass
556.16	-65.59	-0.49	-25.0	40.59	222.50	Vertical	Pass
2564.06	-41.32	14.34	-25.0	16.32	153.10	Vertical	N/A
2683.86	-37.00	13.99	-25.0	12.00	298.10	Vertical	N/A
10689.68	-30.22	37.77	-25.0	5.22	243.20	Vertical	Pass
17568.64	-27.55	38.71	-25.0	2.55	345.60	Vertical	Pass

LTE Band 7 QPSK 5 MHz HCH, ANT H



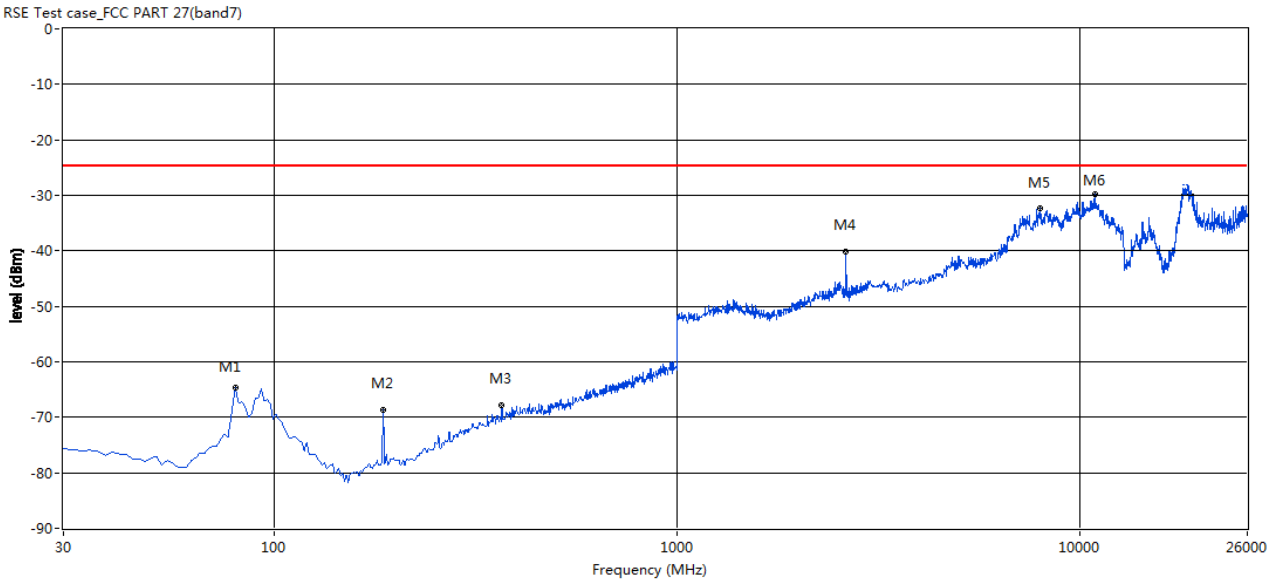
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-54.55	-3.69	-25.0	29.55	142.00	Horizontal	Pass
2564.06	-41.20	14.34	-25.0	16.20	222.00	Horizontal	N/A
2683.86	-35.47	13.99	-25.0	10.47	348.80	Horizontal	N/A
8191.35	-32.24	35.95	-25.0	7.24	265.70	Horizontal	Pass
10997.92	-30.96	38.14	-25.0	5.96	58.10	Horizontal	Pass
18019.13	-26.42	41.04	-25.0	1.42	-0.70	Horizontal	Pass

LTE Band 7 QPSK 10 MHz LCH, ANT V



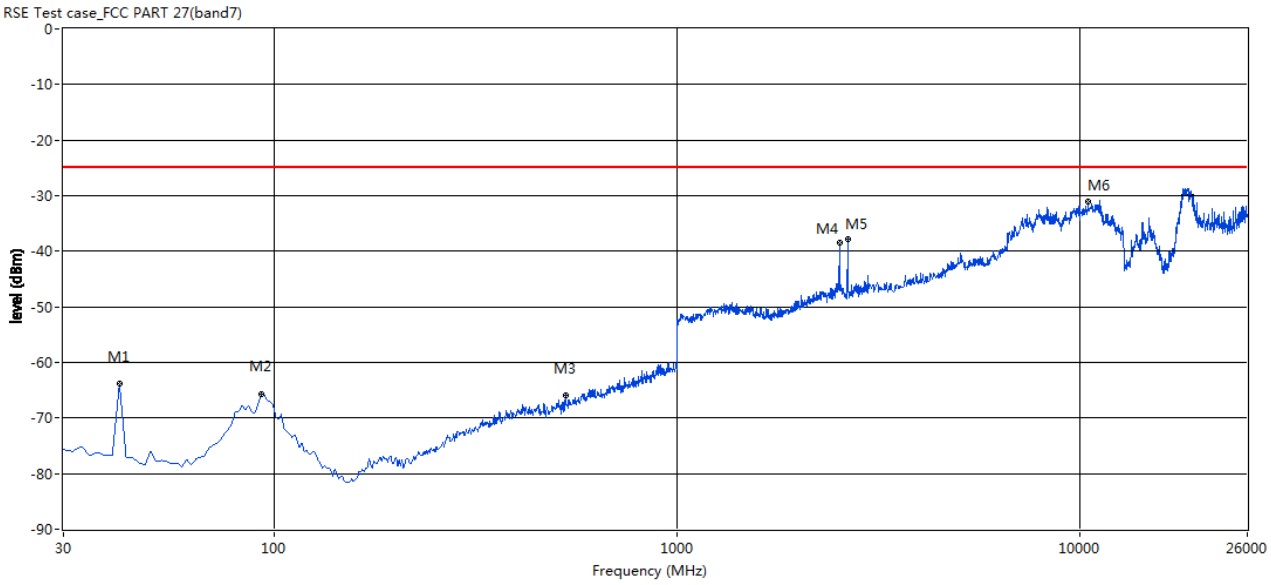
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-66.04	-3.01	-25.0	41.04	304.60	Vertical	Pass
375.39	-68.05	-3.28	-25.0	43.05	353.40	Vertical	Pass
1286.19	-49.26	8.87	-25.0	24.26	199.50	Vertical	Pass
2627.29	-38.97	13.46	-25.0	13.97	337.80	Vertical	N/A
7899.33	-31.60	35.76	-25.0	6.60	165.50	Vertical	Pass
11030.37	-30.67	37.97	-25.0	5.67	303.40	Vertical	Pass

LTE Band 7 QPSK 10 MHz LCH, ANT H



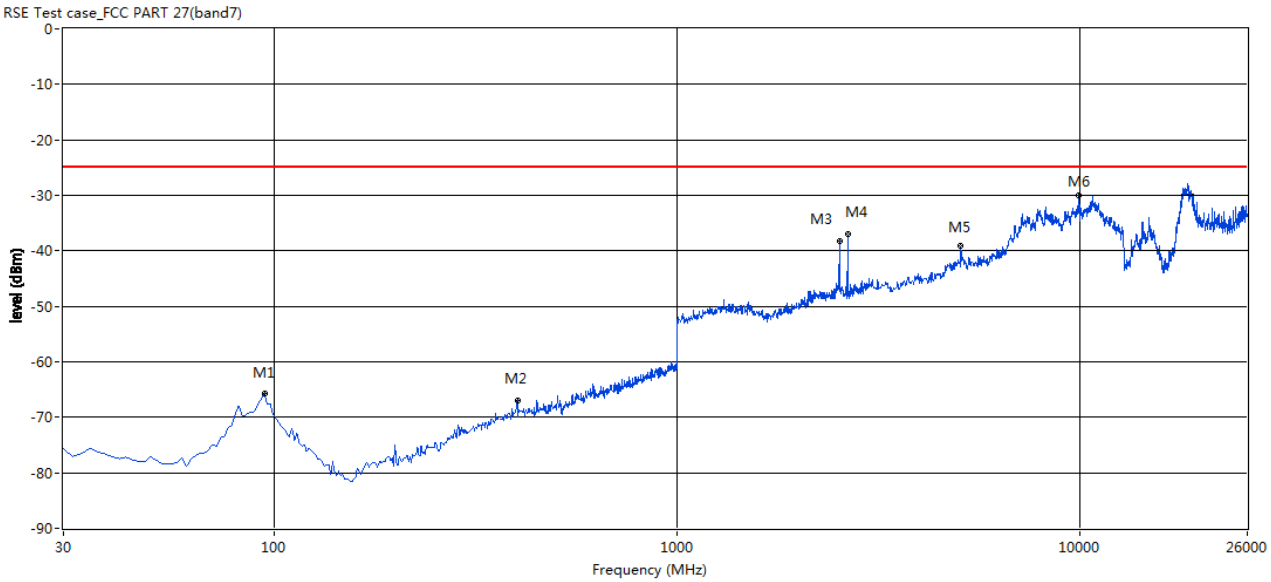
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
80.03	-64.62	-5.39	-25.0	39.62	248.00	Horizontal	Pass
186.56	-68.70	-11.59	-25.0	43.70	248.00	Horizontal	Pass
367.32	-67.92	-3.67	-25.0	42.92	143.10	Horizontal	Pass
2617.30	-40.23	13.57	-25.0	15.23	59.40	Horizontal	N/A
7948.00	-32.24	34.98	-25.0	7.24	360.00	Horizontal	Pass
10868.14	-29.76	37.98	-25.0	4.76	88.20	Horizontal	Pass

LTE Band 7 QPSK 10 MHz MCH, ANT V



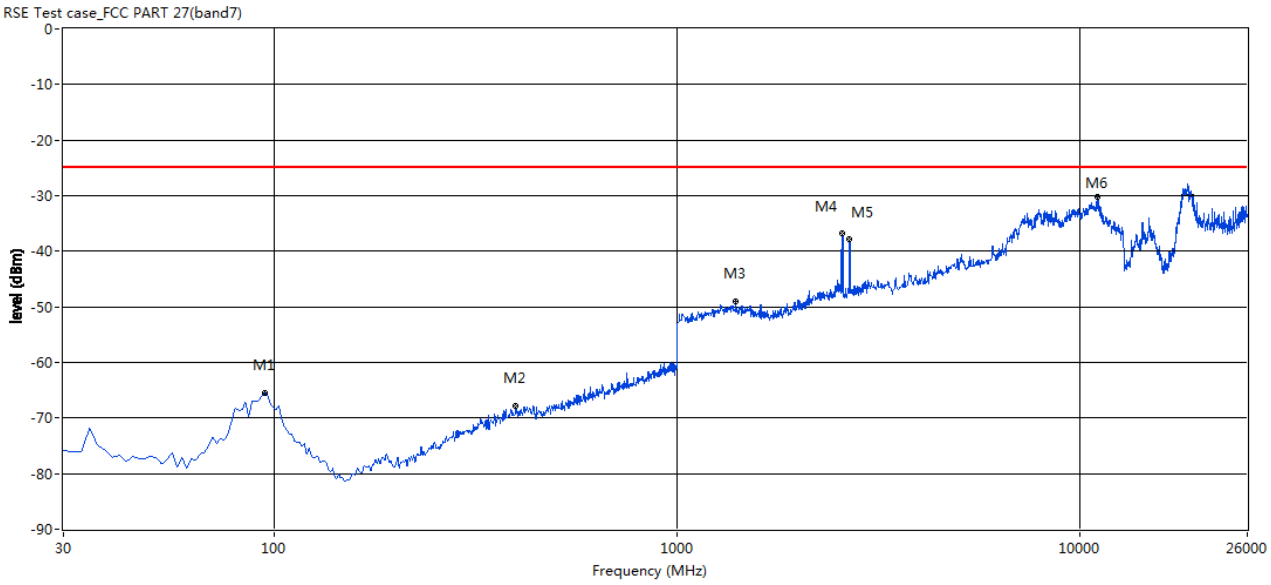
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
41.30	-63.87	-10.43	-25.0	38.87	245.30	Vertical	Pass
92.95	-65.62	-3.01	-25.0	40.62	304.50	Vertical	Pass
528.72	-65.97	-1.21	-25.0	40.97	357.00	Vertical	Pass
2527.45	-38.53	14.51	-25.0	13.53	313.50	Vertical	N/A
2653.91	-37.72	13.70	-25.0	12.72	239.30	Vertical	N/A
10478.79	-31.11	37.51	-25.0	6.11	41.60	Vertical	Pass

LTE Band 7 QPSK 10 MHz MCH, ANT H



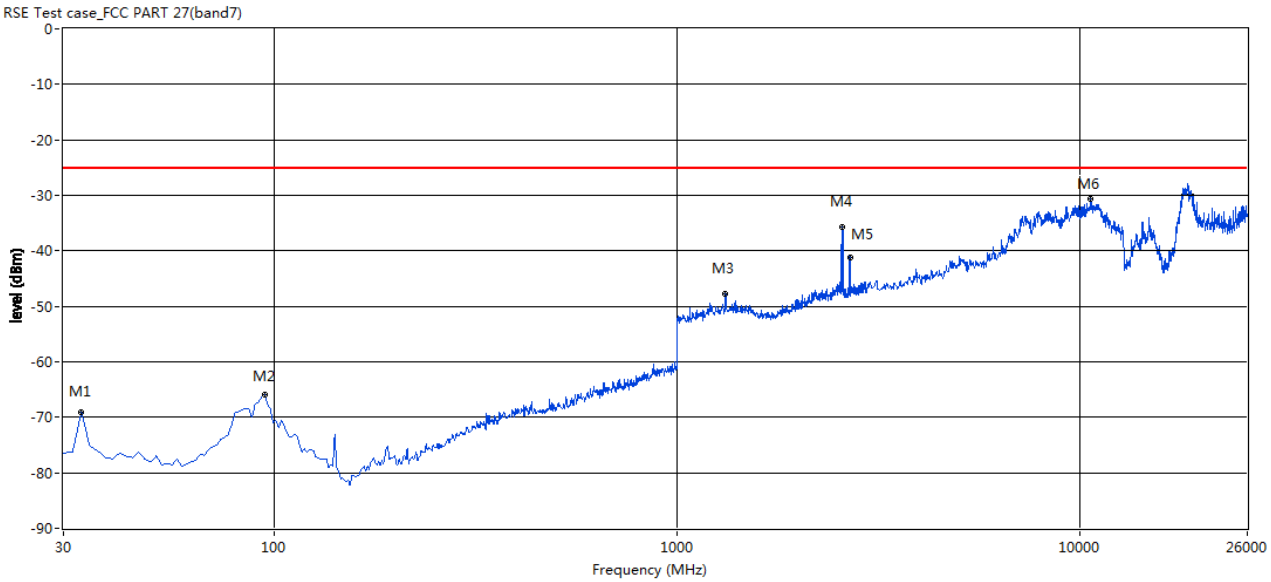
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-65.67	-3.36	-25.0	40.67	318.60	Horizontal	Pass
401.21	-66.97	-2.34	-25.0	41.97	110.40	Horizontal	Pass
2527.45	-38.20	14.51	-25.0	13.20	169.90	Horizontal	N/A
2653.91	-37.07	13.70	-25.0	12.07	356.90	Horizontal	N/A
5060.32	-39.15	27.99	-25.0	14.15	138.70	Horizontal	Pass
9910.98	-30.00	37.68	-25.0	5.00	360.60	Horizontal	Pass

LTE Band 7 QPSK 10 MHz HCH, ANT V



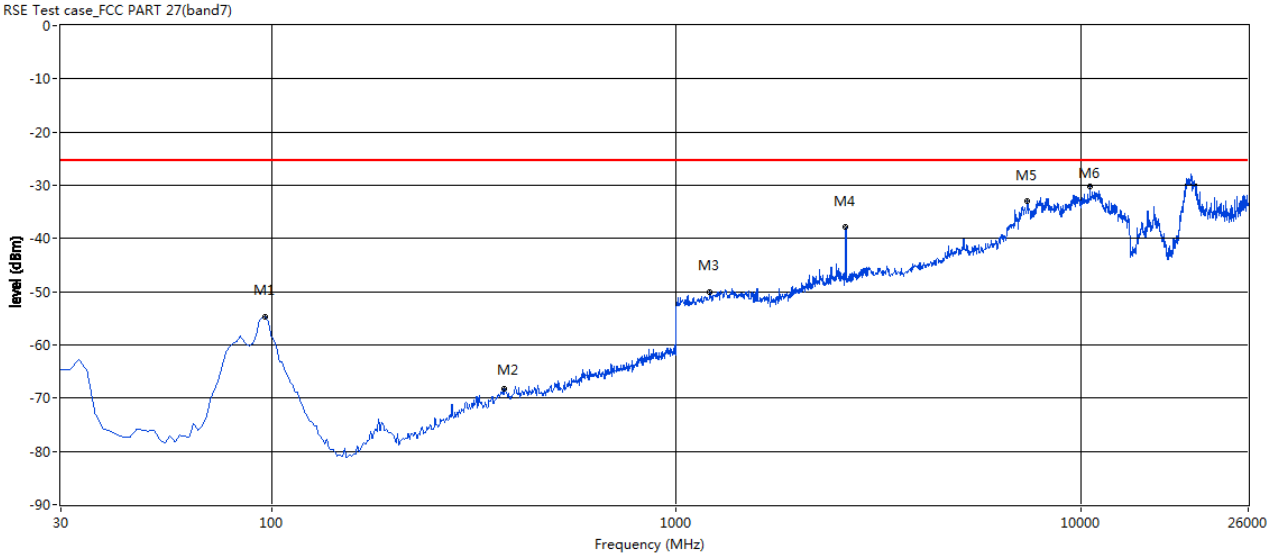
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-65.52	-3.36	-25.0	40.52	277.40	Vertical	Pass
397.99	-67.90	-2.46	-25.0	42.90	286.20	Vertical	Pass
1399.33	-49.02	9.38	-25.0	24.02	238.00	Vertical	Pass
2574.04	-36.83	14.29	-25.0	11.83	337.70	Vertical	N/A
2680.53	-37.84	13.85	-25.0	12.84	332.80	Vertical	N/A
11030.37	-30.23	37.97	-25.0	5.23	0.20	Vertical	Pass

LTE Band 7 QPSK 10 MHz HCH, ANT H



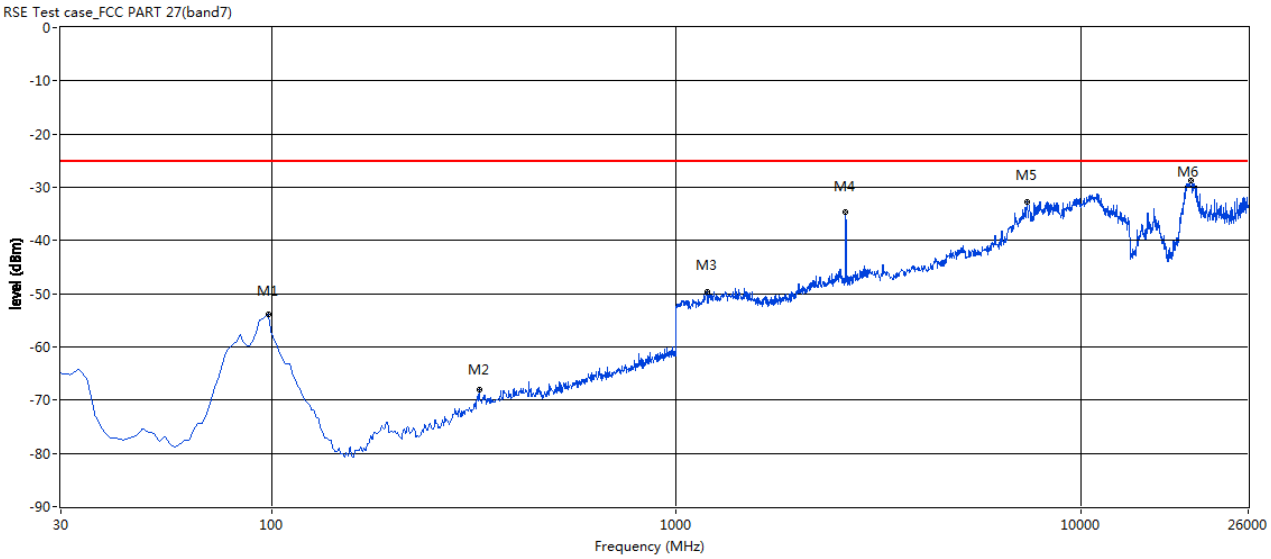
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
33.23	-69.03	-9.83	-25.0	44.03	183.90	Horizontal	Pass
94.56	-65.82	-3.36	-25.0	40.82	319.50	Horizontal	Pass
1319.47	-47.68	9.16	-25.0	22.68	-0.70	Horizontal	Pass
2574.04	-35.67	14.29	-25.0	10.67	177.30	Horizontal	N/A
2687.19	-41.09	14.20	-25.0	16.09	197.20	Horizontal	N/A
10608.57	-30.61	37.68	-25.0	5.61	355.00	Horizontal	Pass

LTE Band 7 QPSK 15 MHz LCH, ANT V



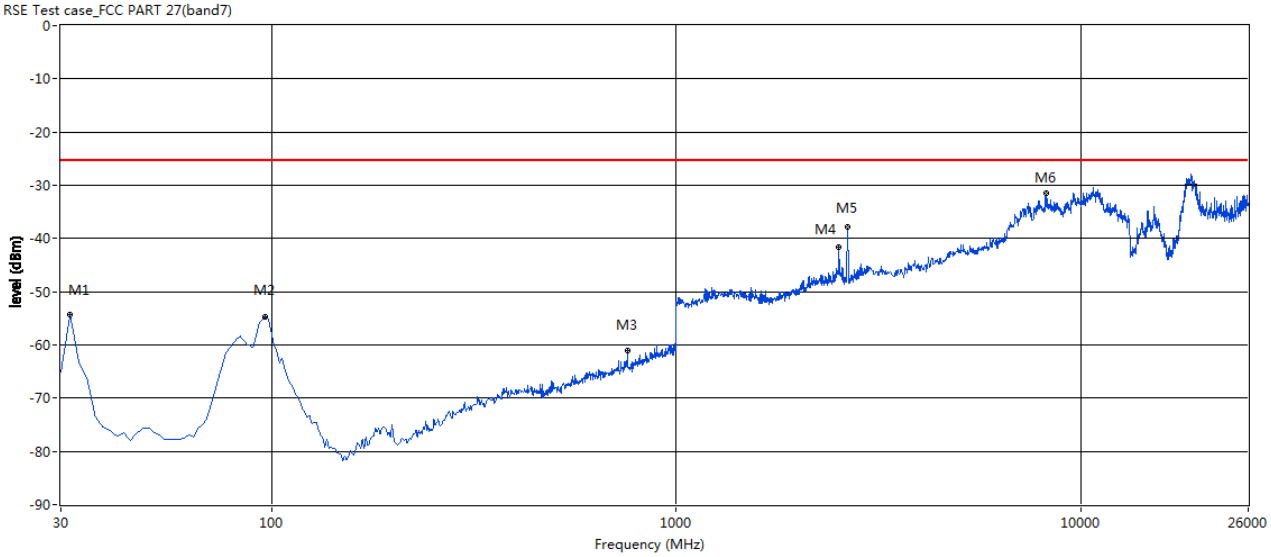
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-54.67	-3.69	-25.0	29.67	222.00	Vertical	Pass
375.39	-68.23	-3.28	-25.0	43.23	61.00	Vertical	Pass
1209.65	-50.14	8.20	-25.0	25.14	85.00	Vertical	Pass
2620.63	-37.91	13.46	-25.0	12.91	284.00	Vertical	N/A
7396.42	-32.96	33.93	-25.0	7.96	300.00	Vertical	Pass
10559.90	-30.26	37.62	-25.0	5.26	320.00	Vertical	Pass

LTE Band 7 QPSK 15 MHz LCH, ANT H



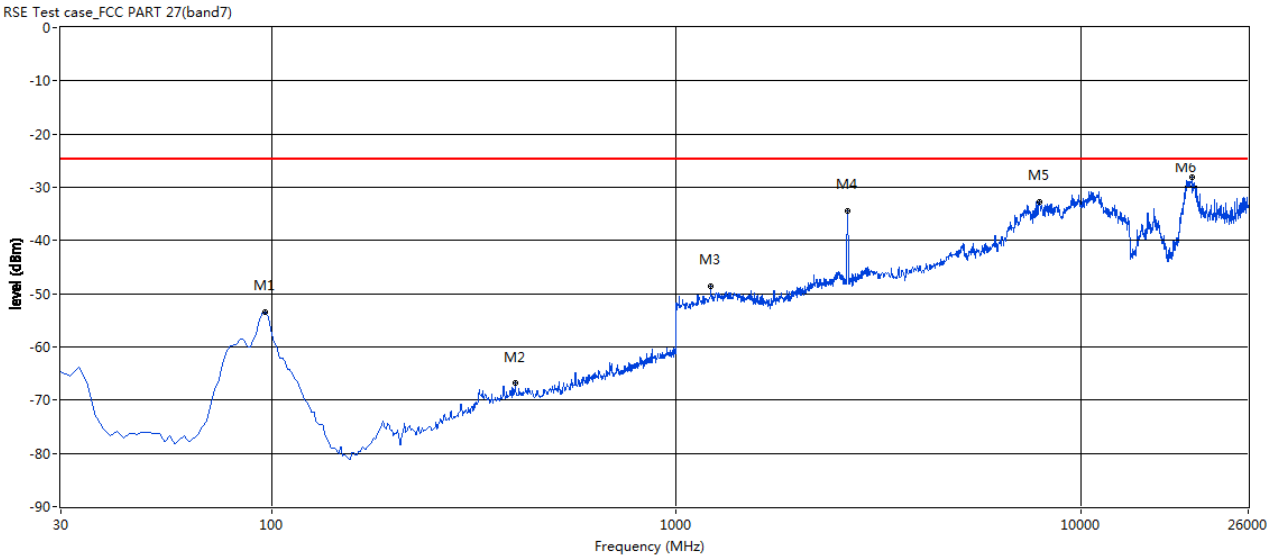
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
97.79	-53.87	-4.09	-25.0	28.87	296.30	Horizontal	Pass
325.36	-67.96	-4.85	-25.0	42.96	50.20	Horizontal	Pass
1189.68	-49.58	8.01	-25.0	24.58	161.60	Horizontal	Pass
2620.63	-34.74	13.46	-25.0	9.74	43.30	Horizontal	N/A
7380.20	-32.82	33.98	-25.0	7.82	242.40	Horizontal	Pass
18085.27	-26.93	40.78	-25.0	1.93	357.20	Horizontal	Pass

LTE Band 7 QPSK 15 MHz MCH, ANT V



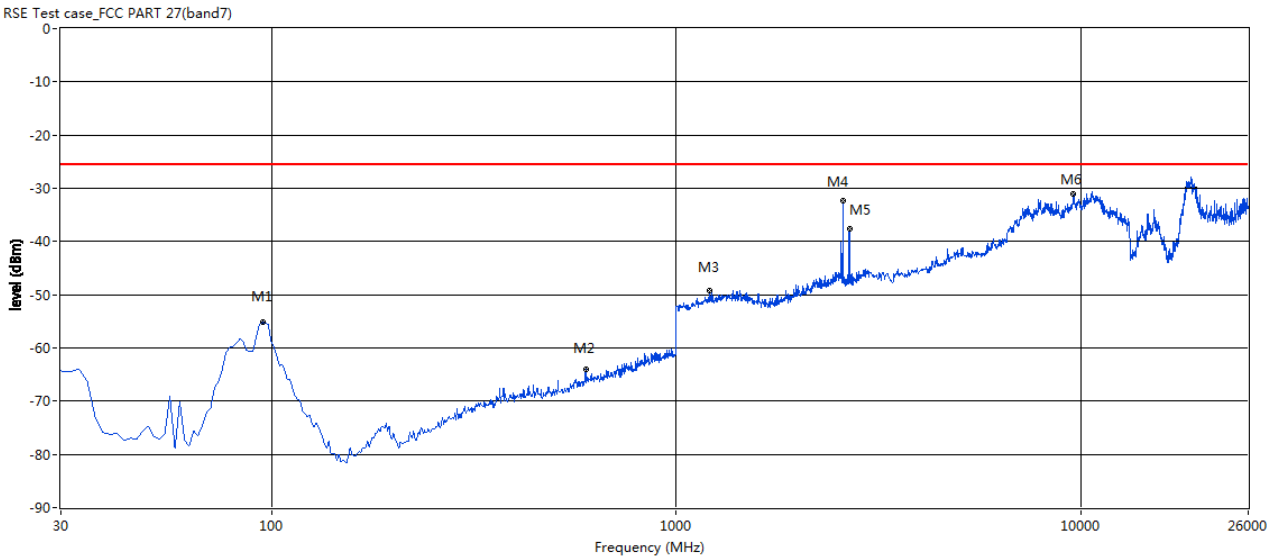
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
31.61	-54.29	-9.69	-25.0	29.29	257.20	Vertical	Pass
96.17	-54.74	-3.69	-25.0	29.74	293.40	Vertical	Pass
756.29	-61.00	3.11	-25.0	36.00	124.30	Vertical	Pass
2524.13	-41.58	14.53	-25.0	16.58	230.80	Vertical	N/A
2657.24	-37.88	13.96	-25.0	12.88	68.60	Vertical	N/A
8207.57	-31.56	35.70	-25.0	6.56	134.70	Vertical	Pass

LTE Band 7 QPSK 15 MHz MCH, ANT H



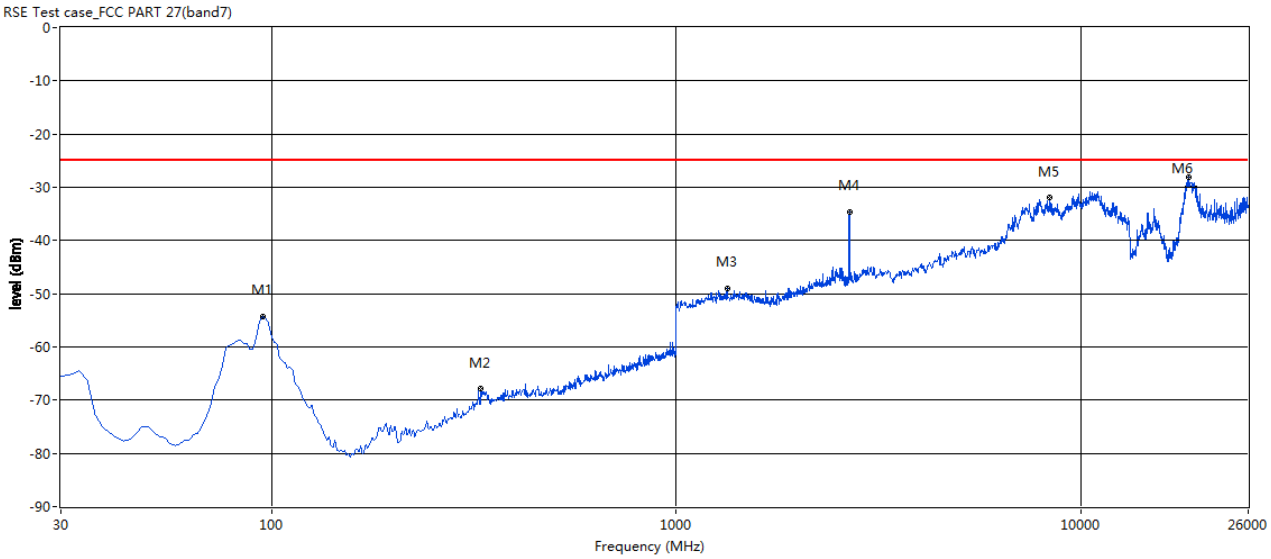
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-53.54	-3.69	-25.0	28.54	291.70	Horizontal	Pass
399.60	-66.70	-2.35	-25.0	41.70	218.70	Horizontal	Pass
1216.31	-48.50	8.32	-25.0	23.50	48.80	Horizontal	Pass
2647.25	-34.46	13.67	-25.0	9.46	44.00	Horizontal	N/A
7915.56	-32.71	34.79	-25.0	7.71	267.00	Horizontal	Pass
18349.83	-27.32	39.73	-25.0	2.32	107.80	Horizontal	Pass

LTE Band 7 QPSK 15 MHz HCH, ANT V



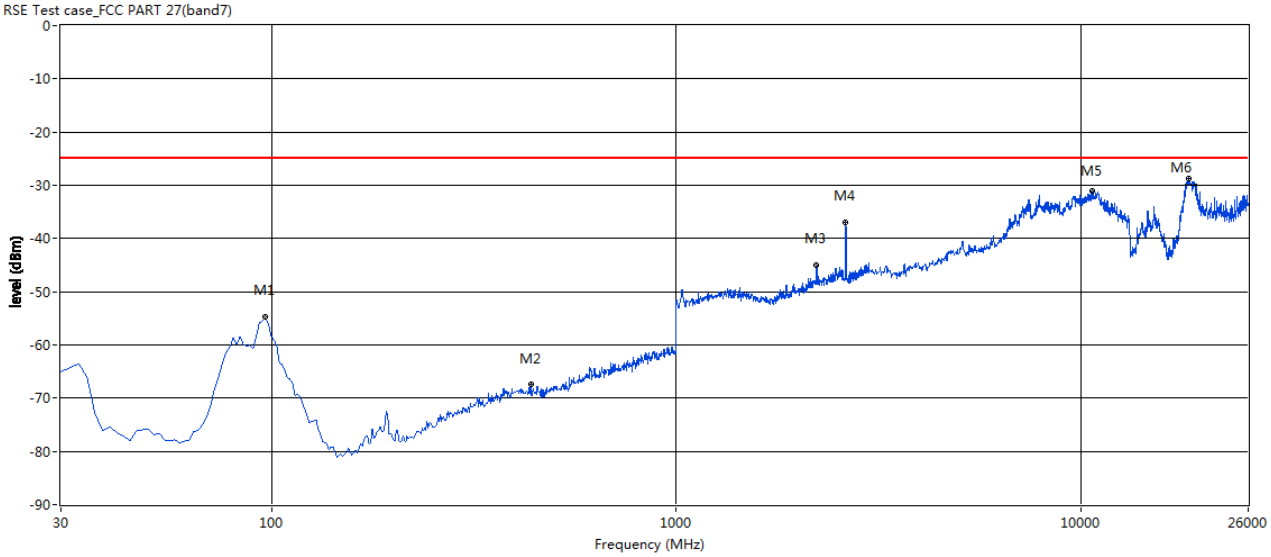
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-55.20	-3.36	-25.0	30.20	285.80	Vertical	Pass
596.51	-63.93	0.73	-25.0	38.93	217.70	Vertical	Pass
1209.65	-49.30	8.20	-25.0	24.30	103.10	Vertical	Pass
2580.70	-32.36	14.26	-25.0	7.36	0.10	Vertical	N/A
2683.86	-37.69	13.99	-25.0	12.69	319.90	Vertical	N/A
9618.97	-31.11	37.29	-25.0	6.11	208.20	Vertical	Pass

LTE Band 7 QPSK 15 MHz, ANT H



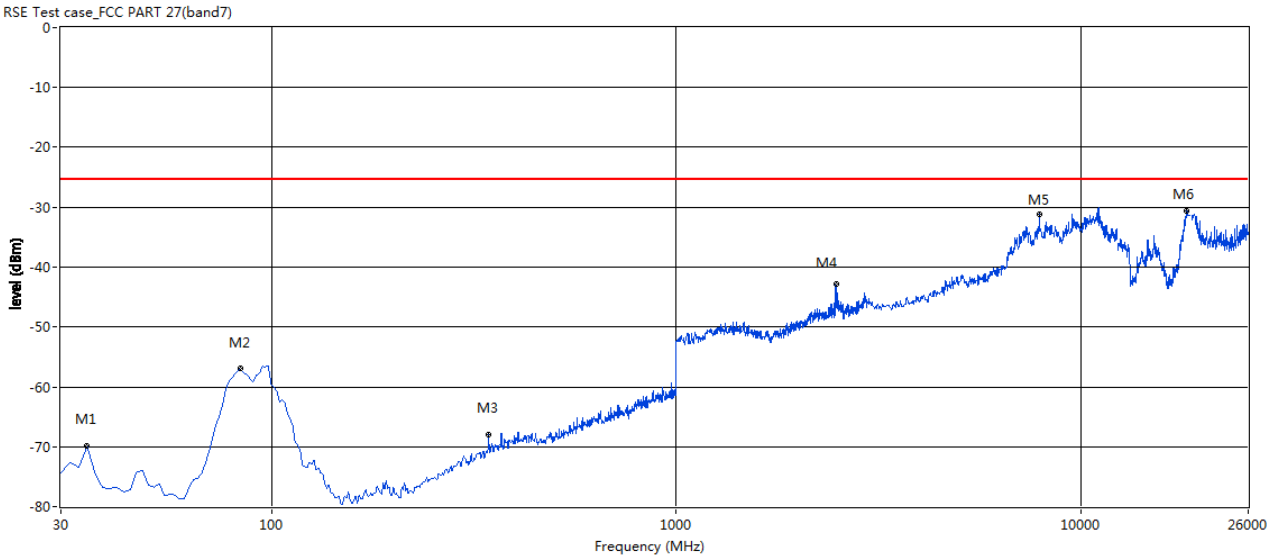
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-54.25	-3.36	-25.0	29.25	32.00	Horizontal	Pass
328.59	-67.88	-4.82	-25.0	42.88	177.00	Horizontal	Pass
1339.43	-48.93	9.03	-25.0	23.93	225.00	Horizontal	Pass
2680.53	-34.71	13.85	-25.0	9.71	52.00	Horizontal	N/A
8369.80	-31.95	35.58	-25.0	6.95	317.00	Horizontal	Pass
17908.90	-27.56	40.03	-25.0	2.56	172.00	Horizontal	Pass

LTE Band 7 QPSK 20 MHz LCH, ANT V



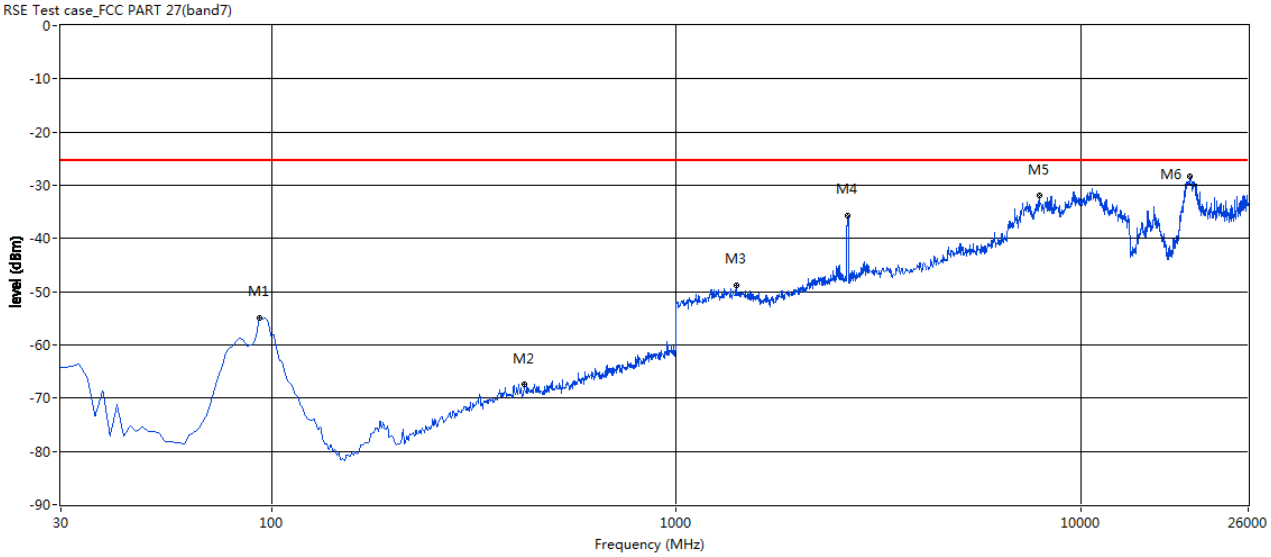
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-54.80	-3.69	-25.0	29.80	299.20	Vertical	Pass
436.72	-67.42	-2.41	-25.0	42.42	249.60	Vertical	Pass
2224.63	-45.03	12.56	-25.0	20.03	14.50	Vertical	Pass
2623.96	-36.95	13.44	-25.0	11.95	69.50	Vertical	N/A
10705.91	-31.15	37.79	-25.0	6.15	196.50	Vertical	Pass
18019.13	-26.63	41.04	-25.0	1.63	292.40	Vertical	Pass

LTE Band 7 QPSK 20 MHz LCH, ANT H



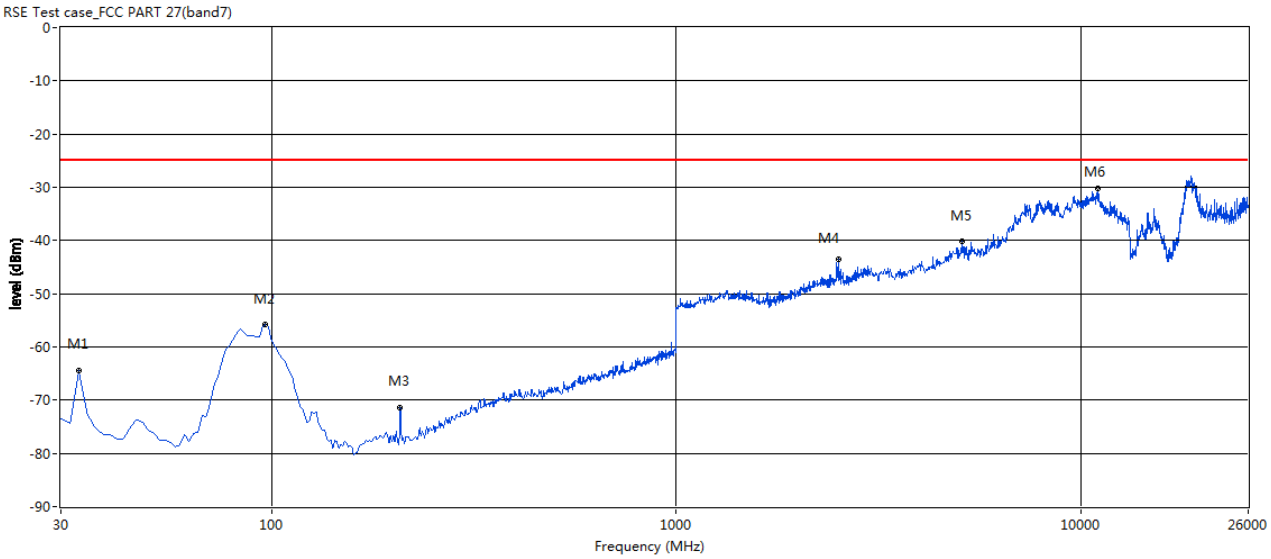
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
34.84	-69.92	-9.95	-25.0	44.92	309.80	Horizontal	Pass
83.26	-56.95	-4.36	-25.0	31.95	104.00	Horizontal	Pass
343.11	-68.00	-4.39	-25.0	43.00	131.50	Horizontal	Pass
2480.86	-42.91	13.97	-25.0	17.91	202.80	Horizontal	Pass
7915.56	-31.08	34.79	-25.0	6.08	327.00	Horizontal	Pass
17997.09	-26.39	41.08	-25.0	1.39	-0.30	Horizontal	Pass

LTE Band 7 QPSK 20 MHz MCH, ANT V



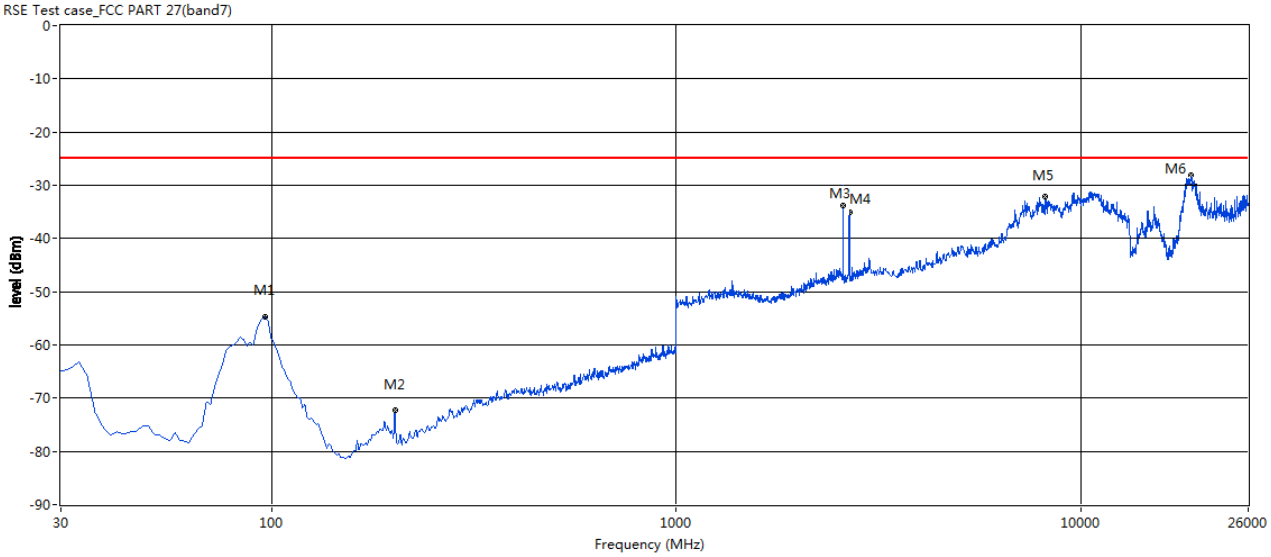
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.94	-54.94	-3.01	-25.0	29.94	276.80	Vertical	Pass
420.58	-67.31	-2.39	-25.0	42.31	36.40	Vertical	Pass
1405.99	-48.76	9.43	-25.0	23.76	229.60	Vertical	Pass
2660.57	-35.72	14.11	-25.0	10.72	63.70	Vertical	N/A
7899.33	-32.01	35.76	-25.0	7.01	290.10	Vertical	Pass
18371.88	-27.36	39.64	-25.0	2.36	43.80	Vertical	Pass

LTE Band 7 QPSK 20 MHz MCH, ANT H



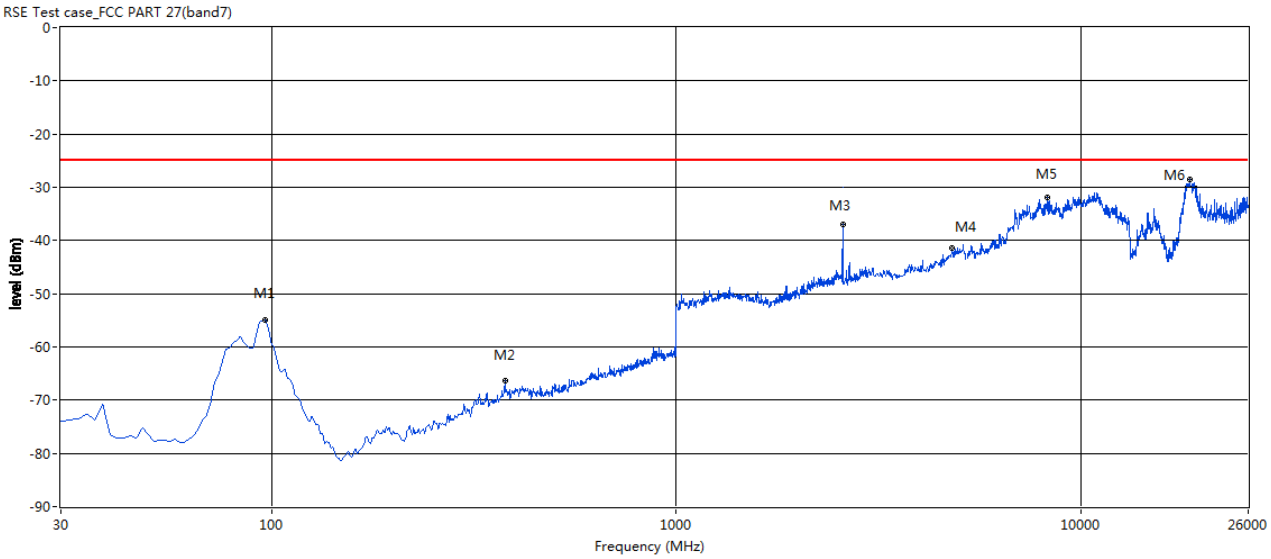
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
33.23	-64.54	-9.83	-25.0	39.54	346.30	Horizontal	Pass
96.17	-55.78	-3.69	-25.0	30.78	277.90	Horizontal	Pass
207.54	-71.33	-11.82	-25.0	46.33	300.80	Horizontal	Pass
2524.13	-43.47	14.53	-25.0	18.47	177.50	Horizontal	Pass
5092.76	-40.22	28.28	-25.0	15.22	135.00	Horizontal	Pass
11014.14	-30.29	38.06	-25.0	5.29	249.10	Horizontal	Pass

LTE Band 7 QPSK 20 MHz HCH, ANT V



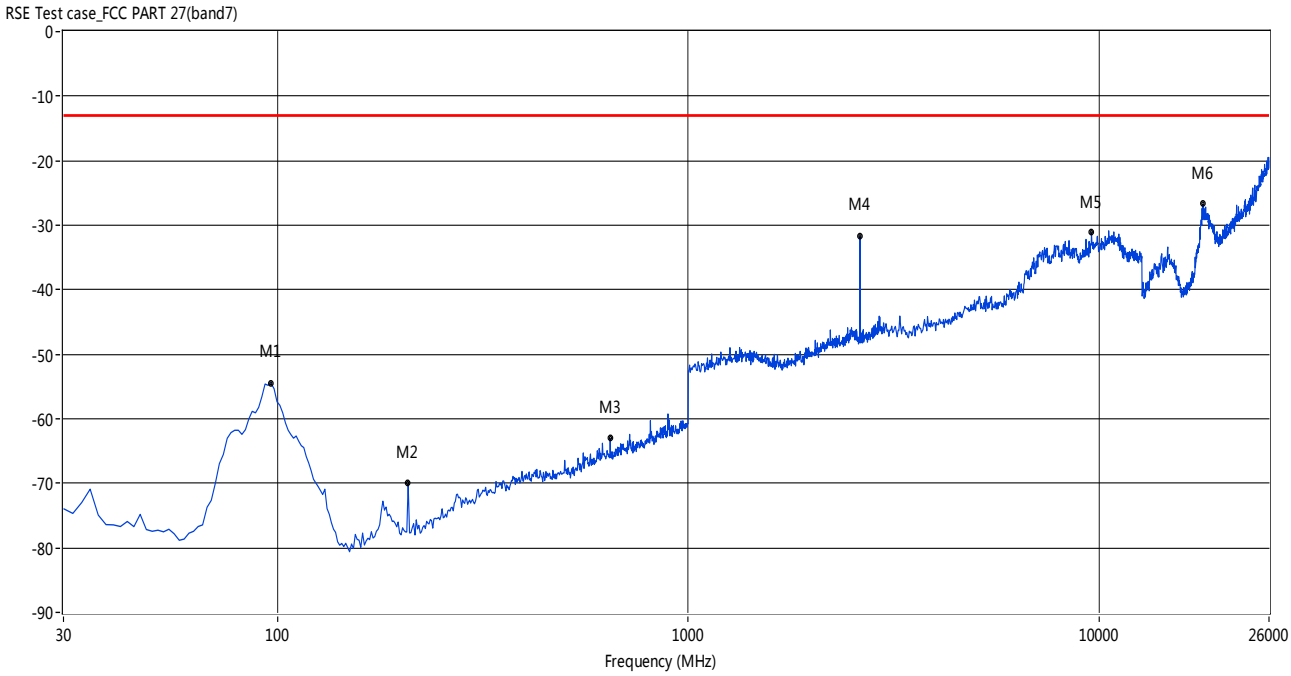
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-54.80	-3.69	-25.0	29.80	299.20	Vertical	Pass
201.08	-72.30	-11.85	-25.0	47.30	296.80	Vertical	Pass
2584.03	-36.32	14.21	-25.0	11.32	294.00	Vertical	N/A
2680.53	-35.07	13.85	-25.0	10.07	78.40	Vertical	N/A
8191.35	-32.18	35.95	-25.0	7.18	344.50	Vertical	Pass
17952.99	-26.95	40.56	-25.0	1.95	194.20	Vertical	Pass

LTE Band 7 QPSK 20 MHz HCH, ANT H



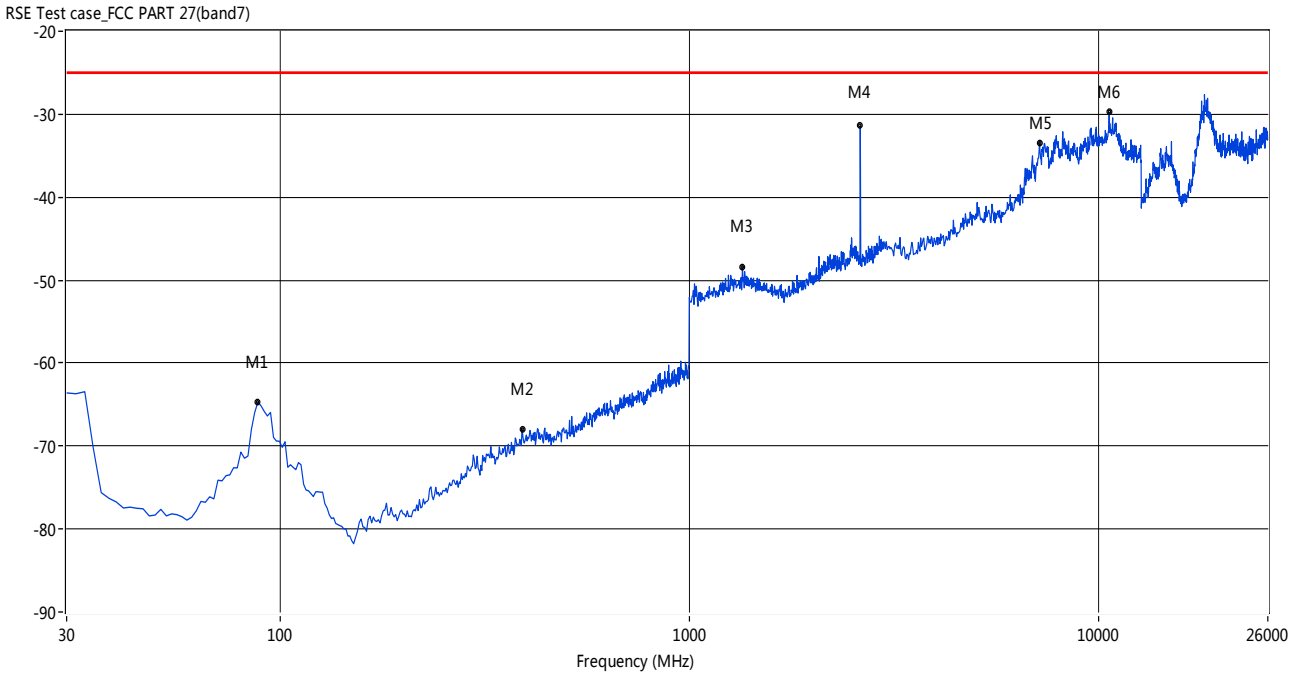
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-54.91	-3.69	-25.0	29.91	286.60	Horizontal	Pass
377.00	-66.24	-3.21	-25.0	41.24	113.00	Horizontal	Pass
2584.03	-34.92	14.21	-25.0	9.92	294.00	Horizontal	Pass
4816.97	-41.45	27.38	-25.0	16.45	51.70	Horizontal	Pass
8272.46	-31.82	35.38	-25.0	6.82	0.80	Horizontal	Pass
17908.90	-27.34	40.03	-25.0	2.34	143.80	Horizontal	Pass

LTE Band 7 16-QAM 5 MHz LCH, ANT V



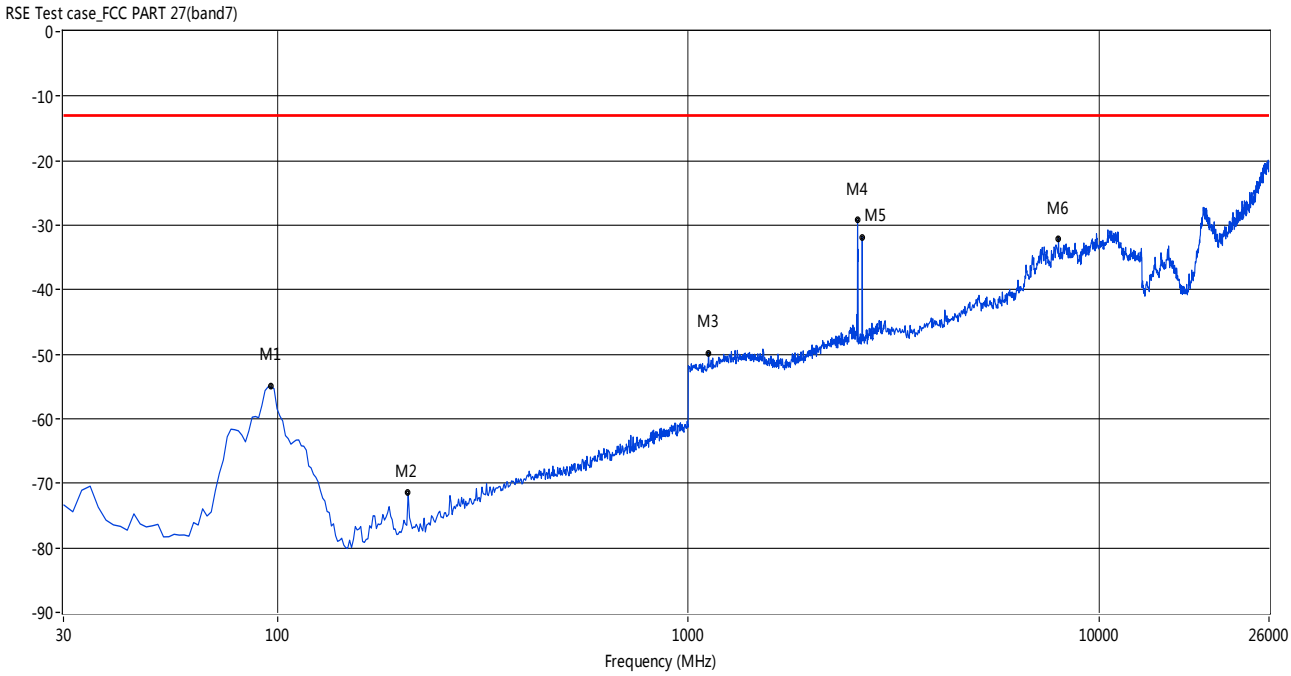
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-54.53	-3.69	-13.0	41.53	271.00	Vertical	Pass
207.54	-70.02	-11.83	-13.0	57.02	321.00	Vertical	Pass
644.93	-63.06	1.43	-13.0	50.06	210.00	Vertical	Pass
2620.63	-31.68	13.46	-13.0	18.68	290.00	Vertical	N/A
9602.75	-31.13	37.36	-13.0	18.13	95.00	Vertical	Pass
17953.00	-26.71	40.56	-13.0	13.71	246.00	Vertical	Pass

LTE Band 7 16-QAM 5 MHz LCH, ANT H



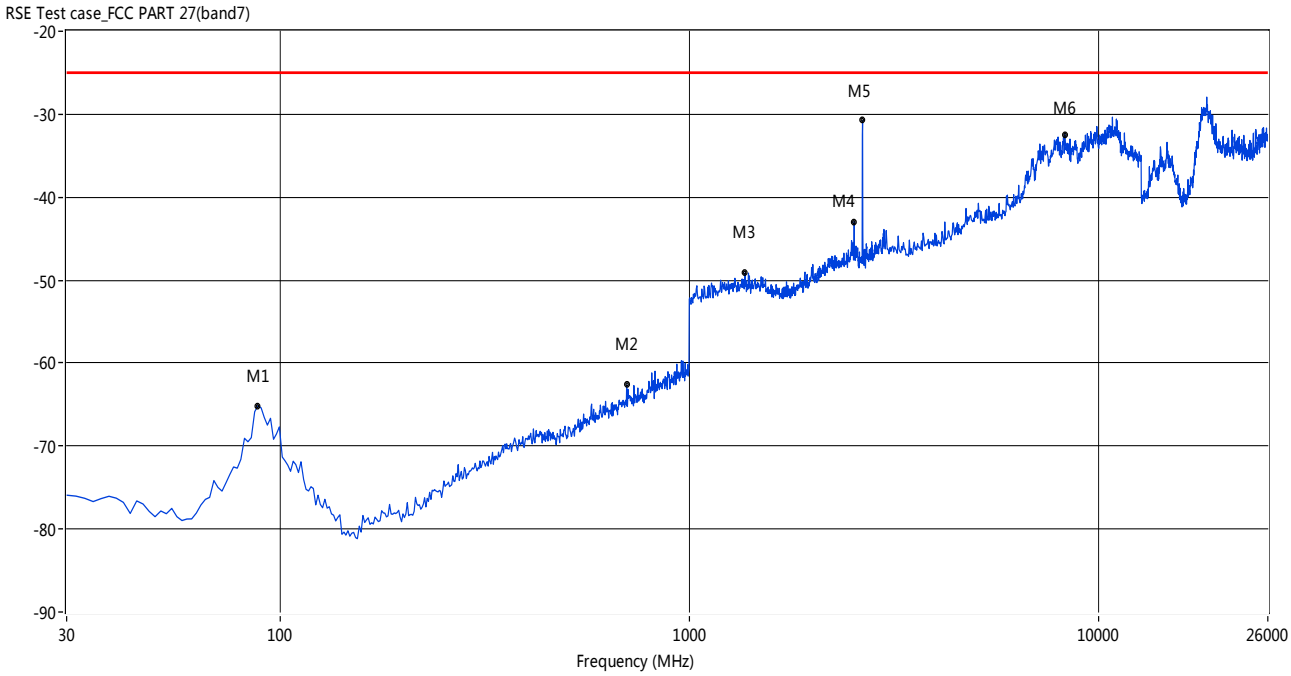
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
88.10	-64.70	-2.85	-25.0	39.70	306.20	Horizontal	Pass
389.92	-67.95	-2.82	-25.0	42.95	34.80	Horizontal	Pass
1349.42	-48.36	9.18	-25.0	23.36	25.00	Horizontal	Pass
2617.30	-31.41	13.57	-25.0	6.41	25.00	Horizontal	N/A
7185.52	-33.45	33.04	-25.0	8.45	355.00	Horizontal	Pass
10641.01	-29.77	37.71	-25.0	4.77	303.70	Horizontal	Pass

LTE Band 7 16-QAM 5 MHz MCH, ANT V



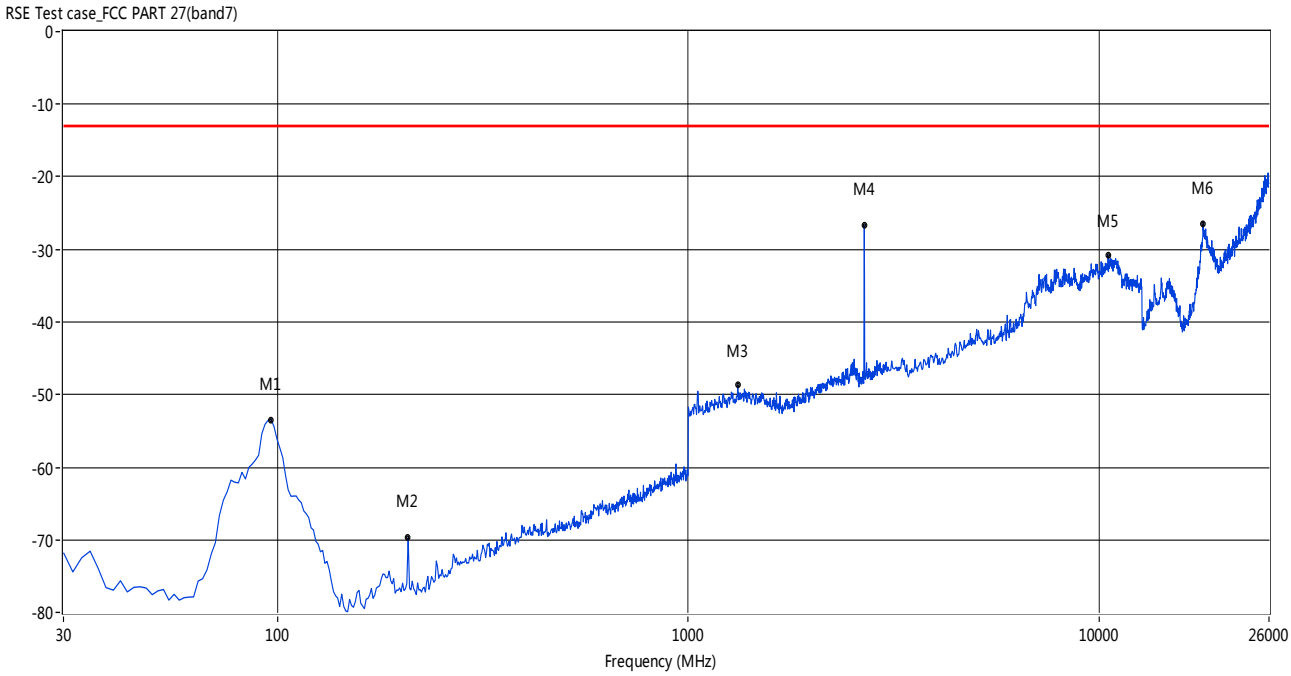
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-55.03	-3.69	-13.0	42.03	288.20	Vertical	Pass
207.54	-71.51	-11.83	-13.0	58.51	119.80	Vertical	Pass
1119.80	-49.78	7.08	-13.0	36.78	359.40	Vertical	Pass
2584.03	-29.23	14.21	-13.0	16.23	168.70	Vertical	N/A
2650.58	-31.87	13.57	-13.0	18.87	188.00	Vertical	N/A
7980.45	-32.01	35.20	-13.0	19.01	-0.70	Vertical	Pass

LTE Band 7 16-QAM 5 MHz MCH, ANT H



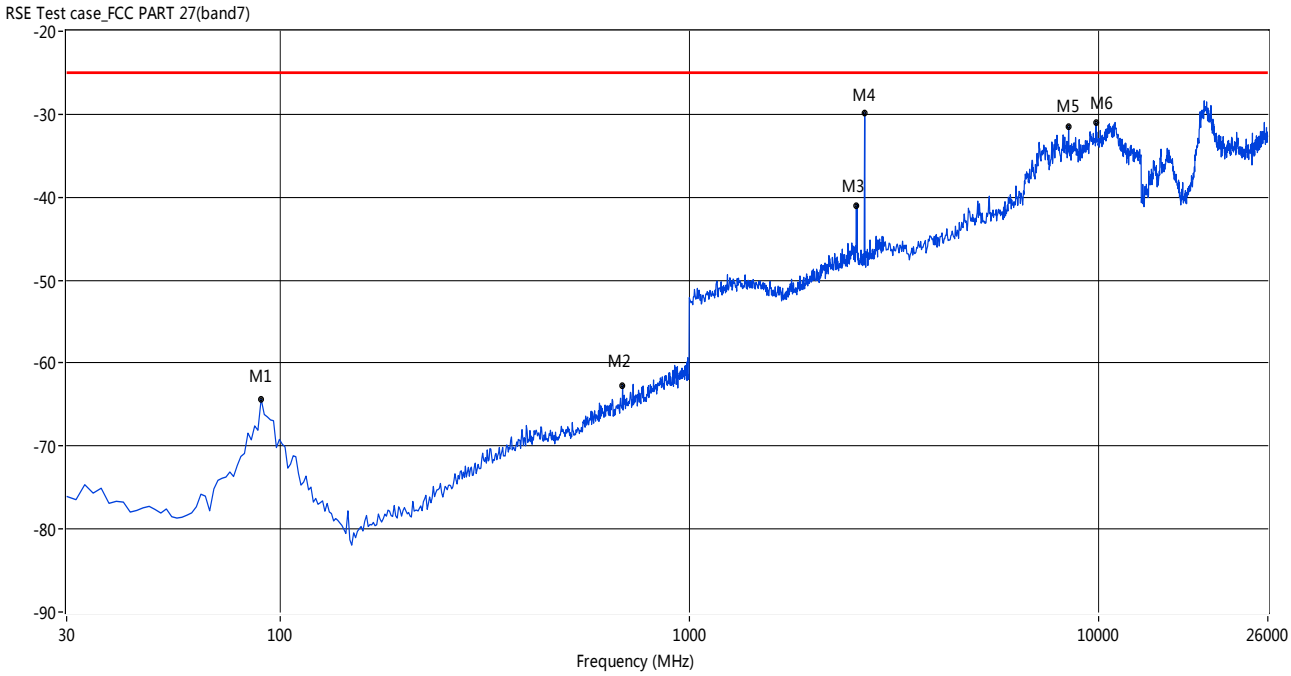
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
88.10	-65.14	-2.85	-25.0	40.14	291.60	Horizontal	Pass
703.03	-62.62	2.38	-25.0	37.62	19.20	Horizontal	Pass
1369.38	-49.12	9.37	-25.0	24.12	54.10	Horizontal	Pass
2530.78	-42.95	14.49	-25.0	17.95	211.90	Horizontal	N/A
2653.91	-30.76	13.70	-25.0	5.76	19.50	Horizontal	N/A
8288.69	-32.43	36.32	-25.0	7.43	0.00	Horizontal	Pass

LTE Band 7 16-QAM 5 MHz HCH, ANT V



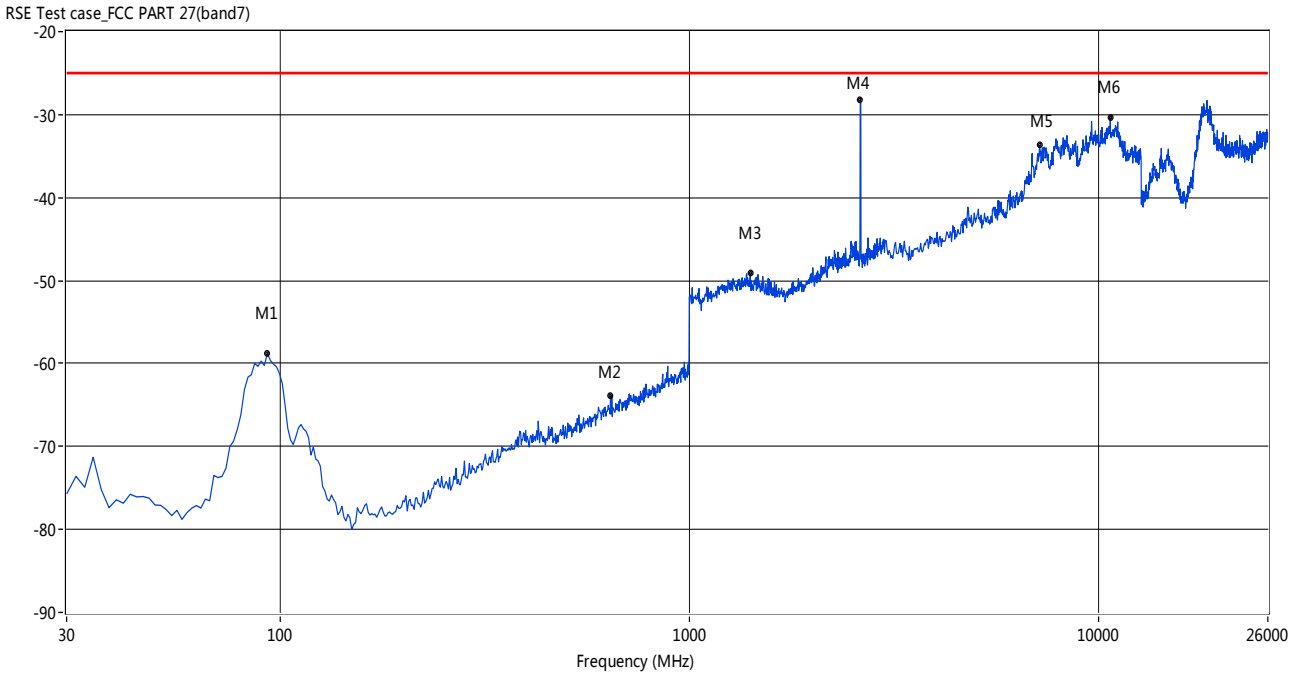
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-53.85	-3.69	-13.0	40.85	277.70	Vertical	Pass
207.54	-69.69	-11.83	-13.0	56.69	122.50	Vertical	Pass
1319.47	-48.65	9.16	-13.0	35.65	315.90	Vertical	Pass
2683.86	-26.66	13.99	-13.0	13.66	276.60	Vertical	N/A
10543.68	-30.83	37.60	-13.0	17.83	0.80	Vertical	Pass
17953.00	-26.42	40.56	-13.0	13.42	212.40	Vertical	Pass

LTE Band 7 16-QAM 5 MHz HCH, ANT H



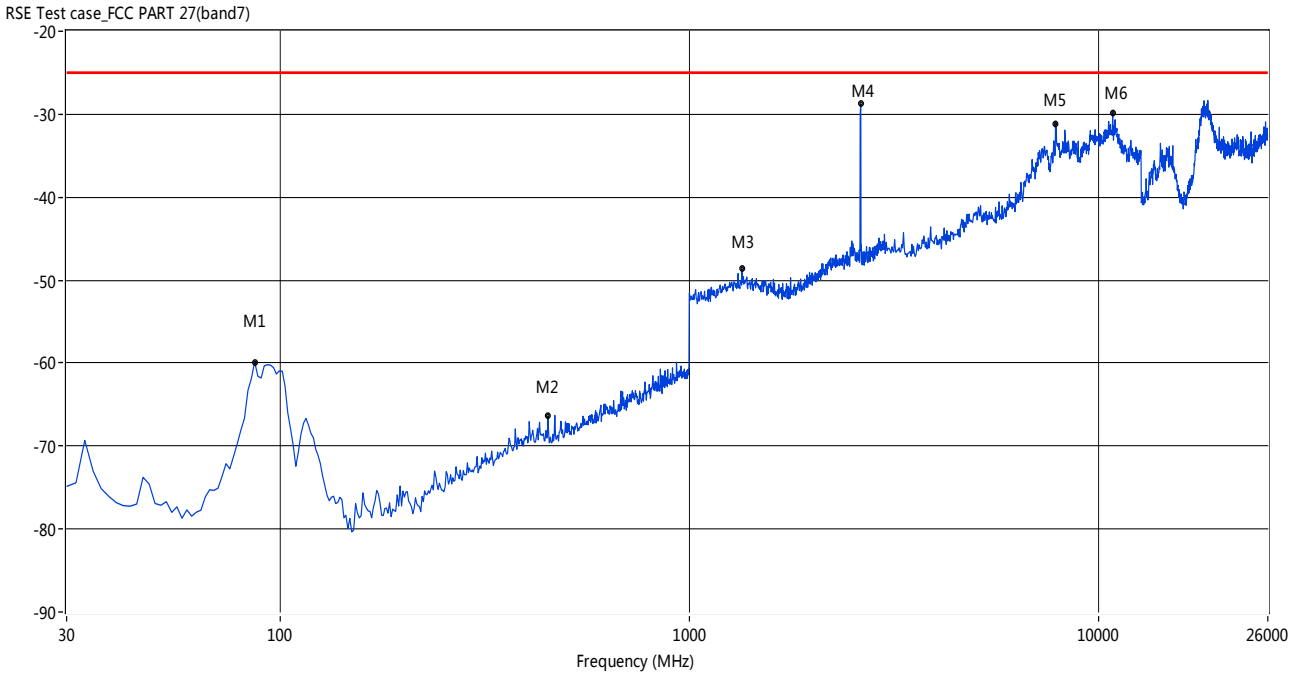
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
89.72	-64.33	-2.34	-25.0	39.33	276.00	Horizontal	Pass
686.89	-62.66	2.10	-25.0	37.66	114.00	Horizontal	Pass
2564.06	-41.03	14.34	-25.0	16.03	173.80	Horizontal	N/A
2683.86	-29.85	13.99	-25.0	4.85	306.80	Horizontal	N/A
8467.14	-31.52	36.00	-25.0	6.52	359.20	Horizontal	Pass
9878.54	-31.03	37.68	-25.0	6.03	234.30	Horizontal	Pass

LTE Band 7 16-QAM 10 MHz LCH, ANT V



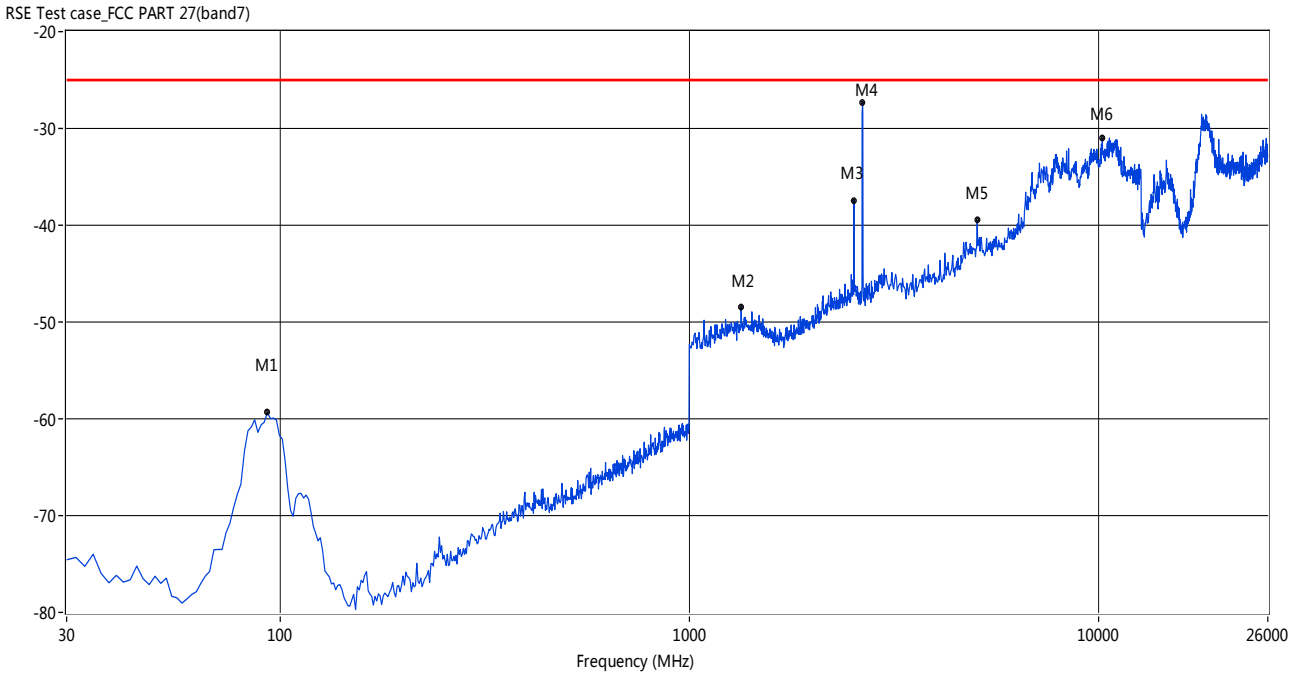
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-58.81	-3.01	-25.0	33.81	279.10	Vertical	Pass
641.70	-63.89	1.38	-25.0	38.89	229.60	Vertical	Pass
1409.32	-49.10	9.34	-25.0	24.10	32.70	Vertical	Pass
2620.63	-28.24	13.46	-25.0	3.24	23.10	Vertical	N/A
7201.75	-33.71	32.86	-25.0	8.71	44.60	Vertical	Pass
10705.91	-30.31	37.79	-25.0	5.31	44.60	Vertical	Pass

LTE Band 7 16-QAM 10 MHz LCH, ANT H



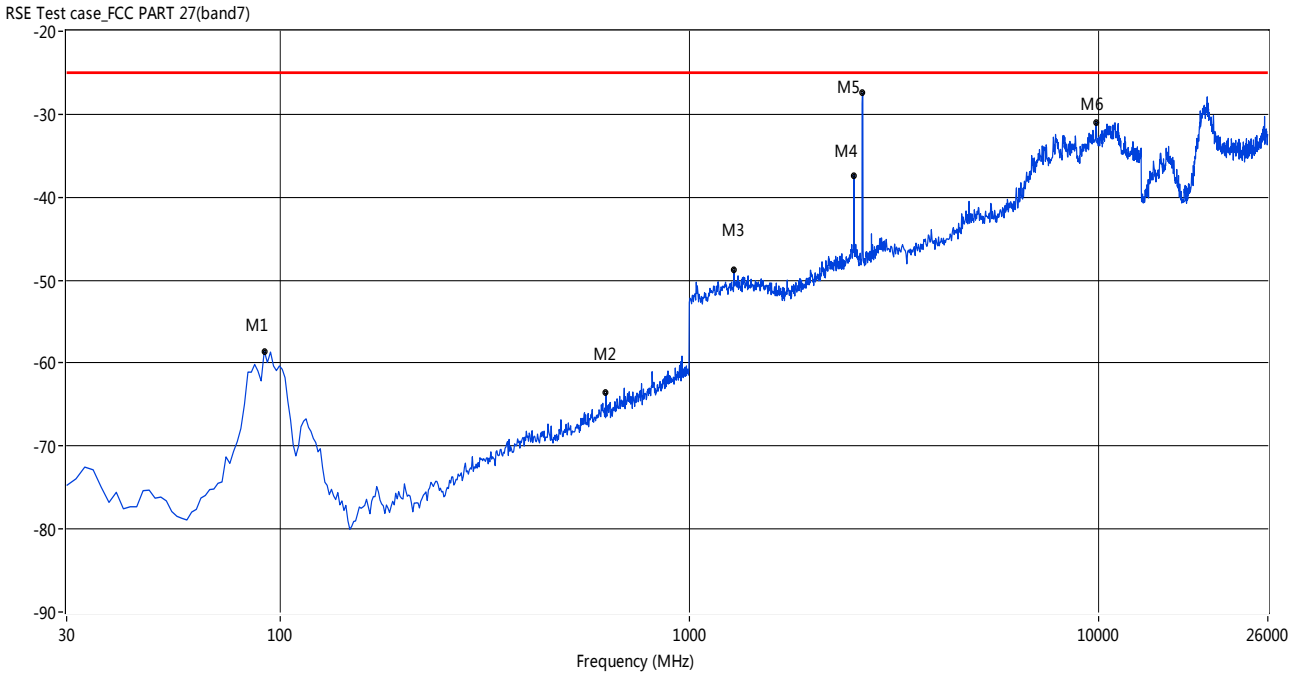
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
86.49	-59.86	-3.36	-25.0	34.86	303.30	Horizontal	Pass
451.25	-66.39	-2.27	-25.0	41.39	94.40	Horizontal	Pass
1346.09	-48.64	9.13	-25.0	23.64	92.60	Horizontal	Pass
2627.29	-28.76	13.46	-25.0	3.76	23.80	Horizontal	N/A
7866.89	-31.14	35.20	-25.0	6.14	239.20	Horizontal	Pass
10851.91	-29.82	37.96	-25.0	4.82	-0.00	Horizontal	Pass

LTE Band 7 16-QAM 10 MHz MCH, ANT V



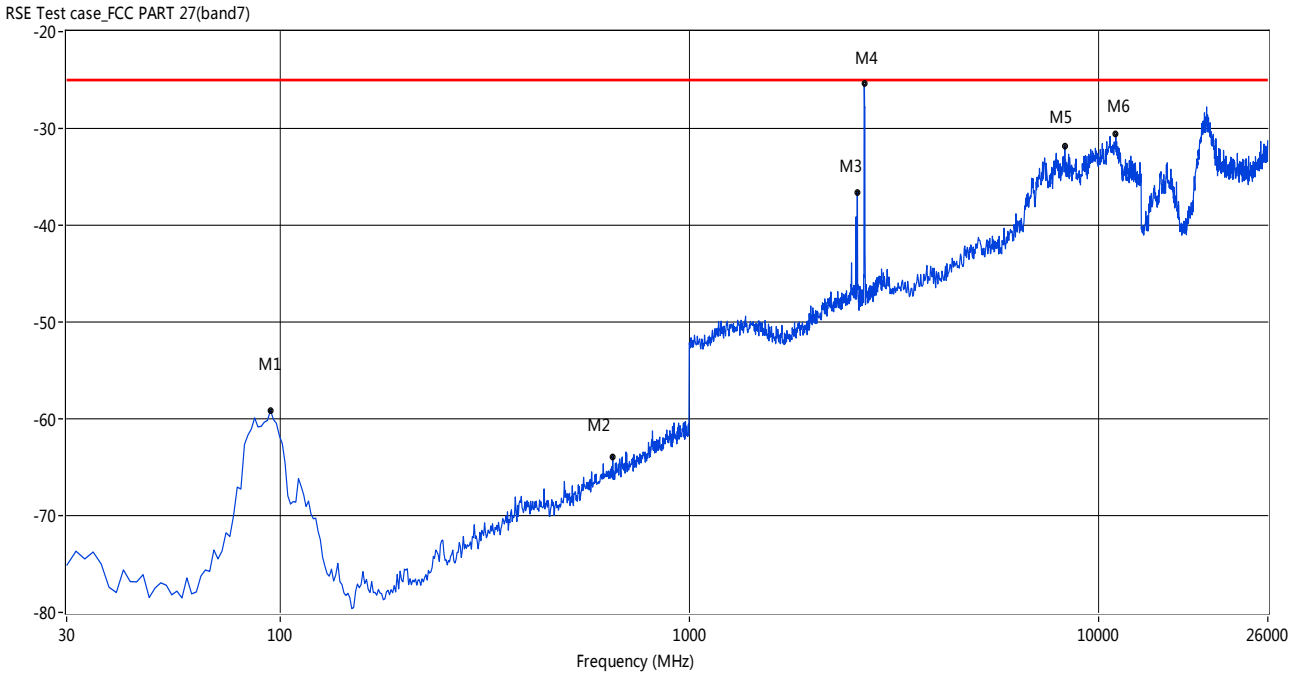
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-59.34	-3.01	-25.0	34.34	296.70	Vertical	Pass
1339.43	-48.39	9.03	-25.0	23.39	282.90	Vertical	Pass
2527.45	-37.40	14.51	-25.0	12.40	307.50	Vertical	N/A
2653.91	-27.28	13.70	-25.0	2.28	23.60	Vertical	N/A
5060.32	-39.47	27.99	-25.0	14.47	1.00	Vertical	Pass
10235.44	-31.01	37.08	-25.0	6.01	108.60	Vertical	Pass

LTE Band 7 16-QAM 10 MHz MCH, ANT H



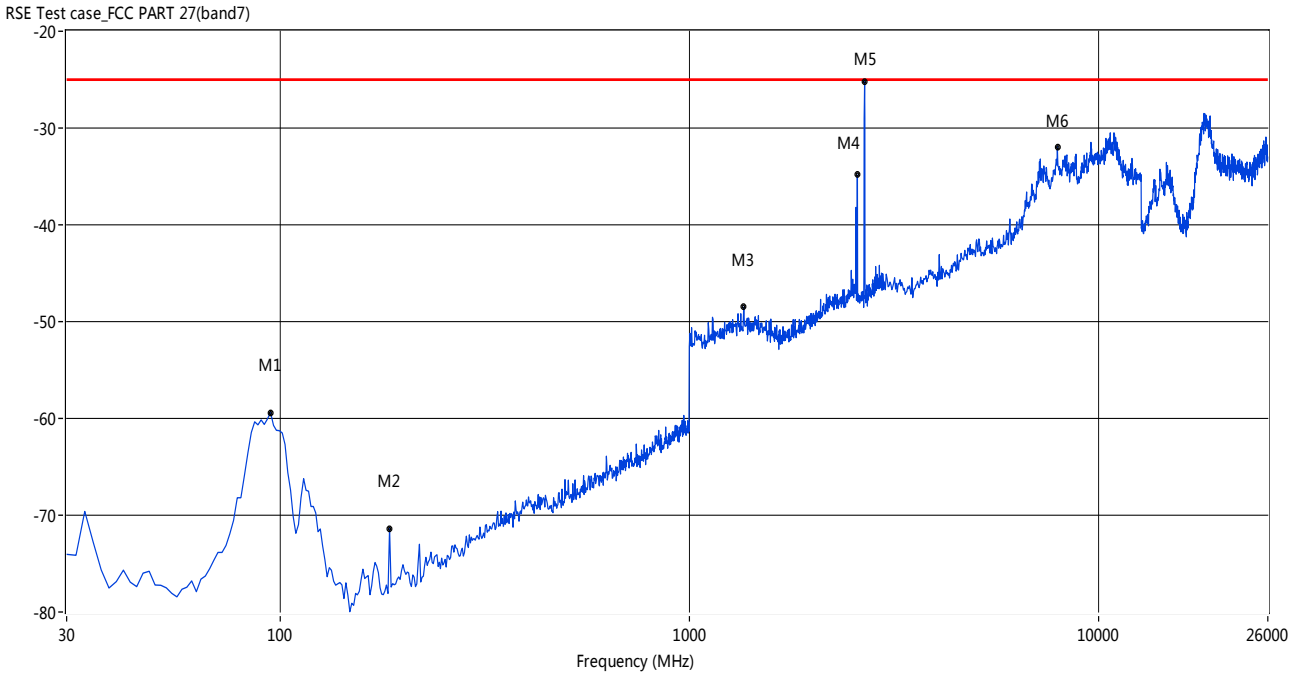
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
91.33	-58.53	-2.57	-25.0	33.53	296.30	Horizontal	Pass
625.56	-63.61	1.11	-25.0	38.61	150.40	Horizontal	Pass
1286.19	-48.77	8.87	-25.0	23.77	0.50	Horizontal	Pass
2527.45	-37.36	14.51	-25.0	12.36	206.40	Horizontal	N/A
2657.24	-27.42	13.96	-25.0	2.42	19.00	Horizontal	N/A
9894.76	-31.00	37.78	-25.0	6.00	355.20	Horizontal	Pass

LTE Band 7 16-QAM 10 MHz HCH, ANT V



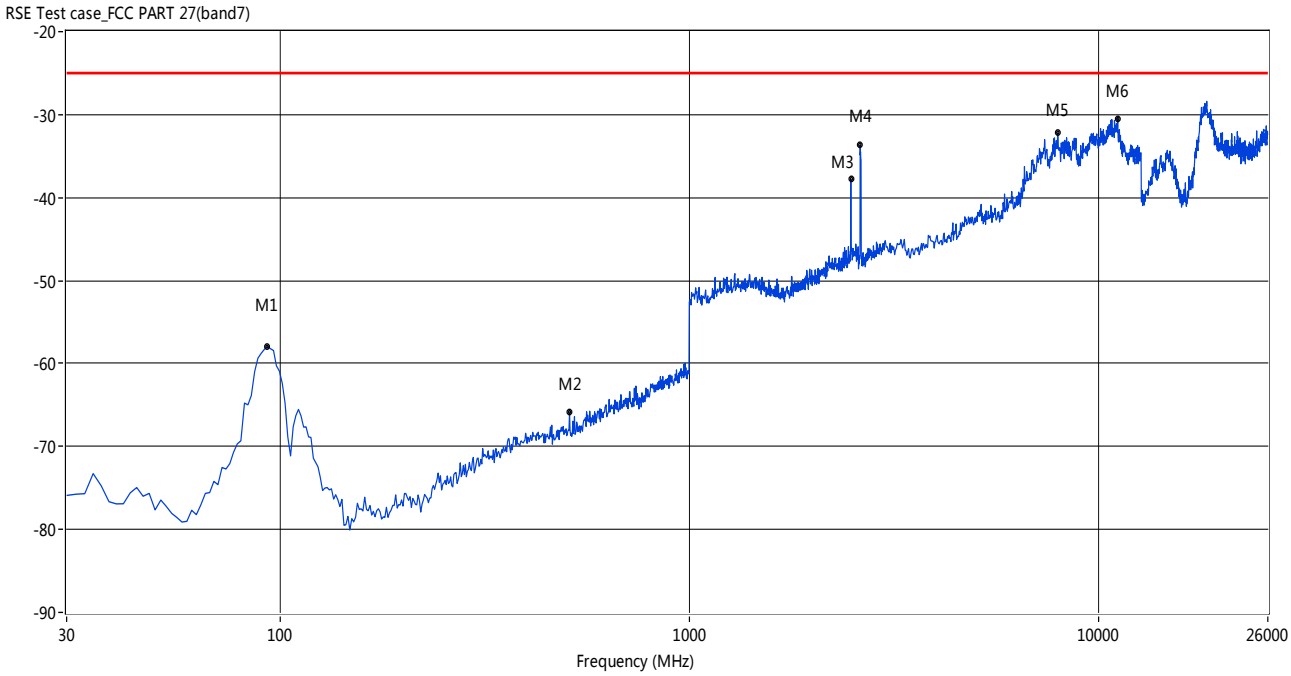
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-59.14	-3.36	-25.0	34.14	278.50	Vertical	Pass
649.77	-63.91	1.54	-25.0	38.91	242.20	Vertical	Pass
2574.04	-36.57	14.29	-25.0	11.57	334.60	Vertical	N/A
2677.20	-25.42	13.73	-25.0	0.42	24.30	Vertical	N/A
8288.69	-31.79	36.32	-25.0	6.79	356.80	Vertical	Pass
11046.59	-30.60	37.87	-25.0	5.60	263.00	Vertical	Pass

LTE Band 7 16-QAM 10 MHz HCH, ANT H



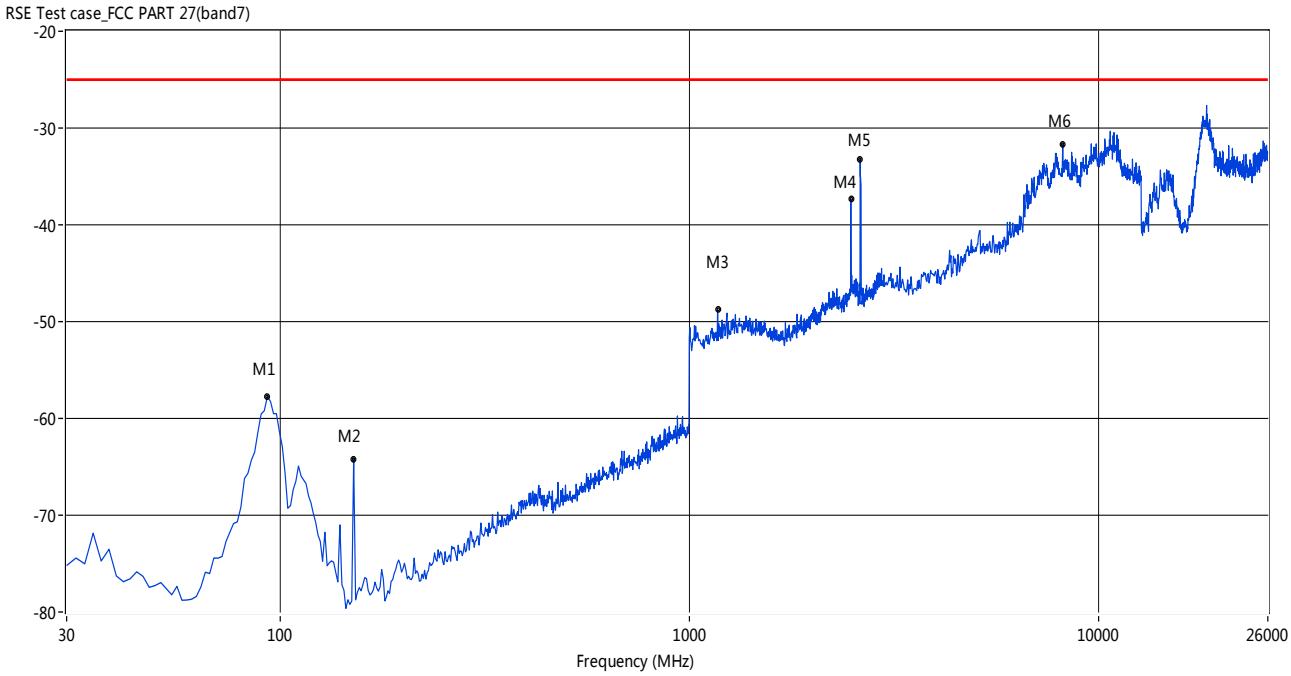
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-59.38	-3.36	-25.0	34.38	287.20	Horizontal	Pass
184.94	-71.36	-11.57	-25.0	46.36	142.80	Horizontal	Pass
1359.40	-48.50	9.19	-25.0	23.50	240.20	Horizontal	Pass
2577.37	-34.86	14.27	-25.0	9.86	205.60	Horizontal	N/A
2683.86	-25.19	13.99	-25.0	0.19	23.70	Horizontal	N/A
7948.00	-31.93	34.98	-25.0	6.93	355.00	Horizontal	Pass

LTE Band 7 16-QAM 15 MHz LCH, ANT V



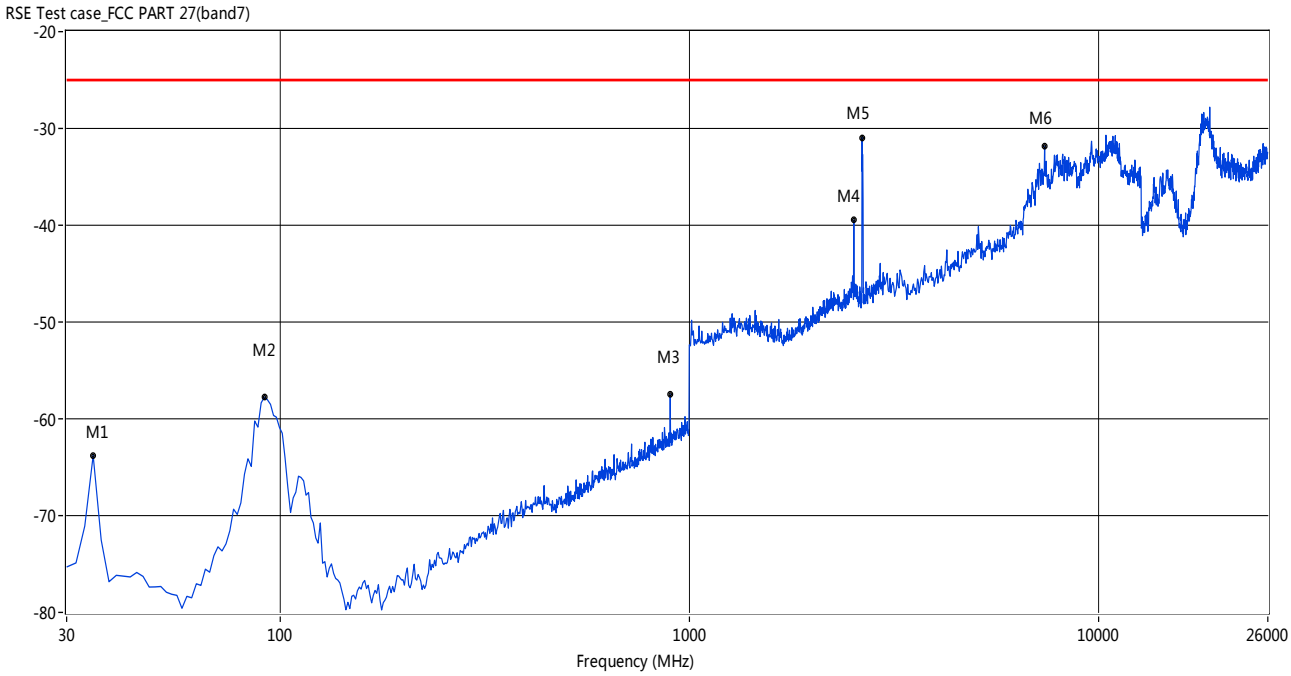
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-57.92	-3.01	-25.0	32.92	283.30	Vertical	Pass
509.35	-65.85	-1.48	-25.0	40.85	353.30	Vertical	Pass
2484.19	-37.79	14.49	-25.0	12.79	196.90	Vertical	N/A
2617.30	-33.65	13.57	-25.0	8.65	221.60	Vertical	N/A
7964.23	-32.19	34.90	-25.0	7.19	304.80	Vertical	Pass
11160.15	-30.46	37.23	-25.0	5.46	1.10	Vertical	Pass

LTE Band 7 16-QAM 15 MHz LCH, ANT H



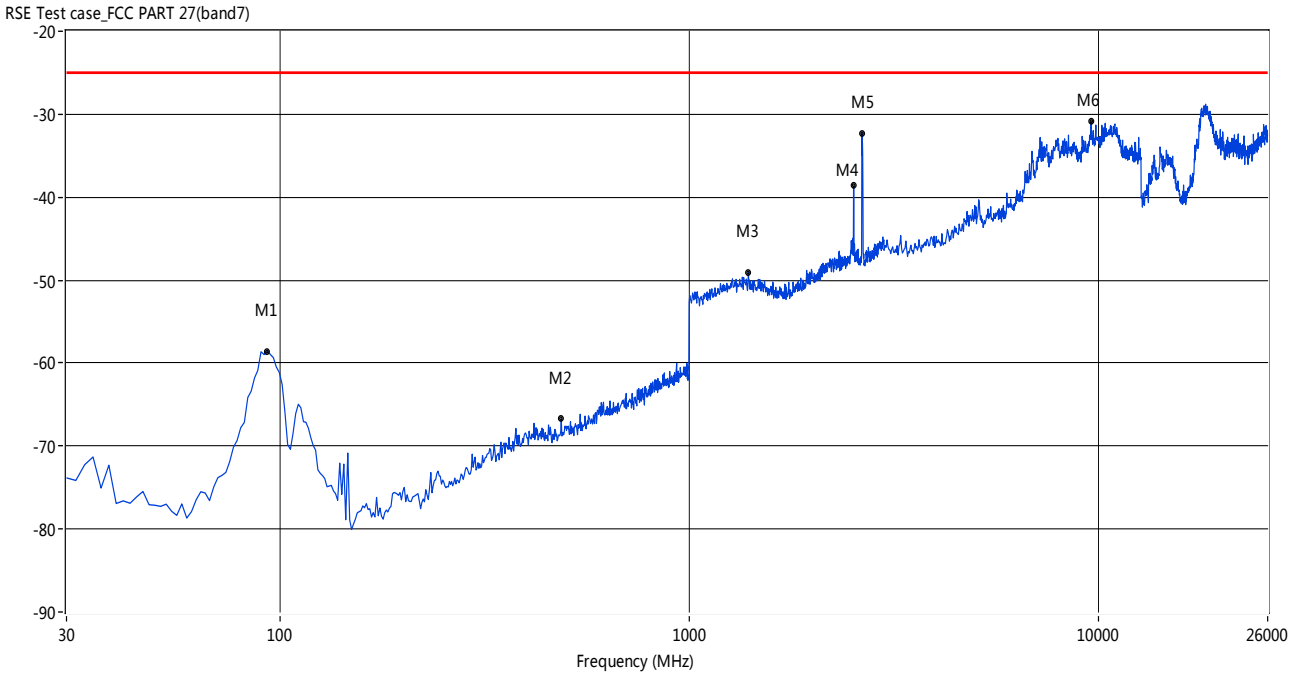
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-57.73	-3.01	-25.0	32.73	292.20	Horizontal	Pass
151.05	-64.16	-14.89	-25.0	39.16	237.20	Horizontal	Pass
1173.04	-48.79	7.78	-25.0	23.79	295.10	Horizontal	Pass
2484.19	-37.37	14.49	-25.0	12.37	310.20	Horizontal	N/A
2617.30	-33.19	13.57	-25.0	8.19	305.00	Horizontal	N/A
8191.35	-31.72	35.95	-25.0	6.72	52.30	Horizontal	Pass

LTE Band 7 16-QAM 15 MHz MCH, ANT V



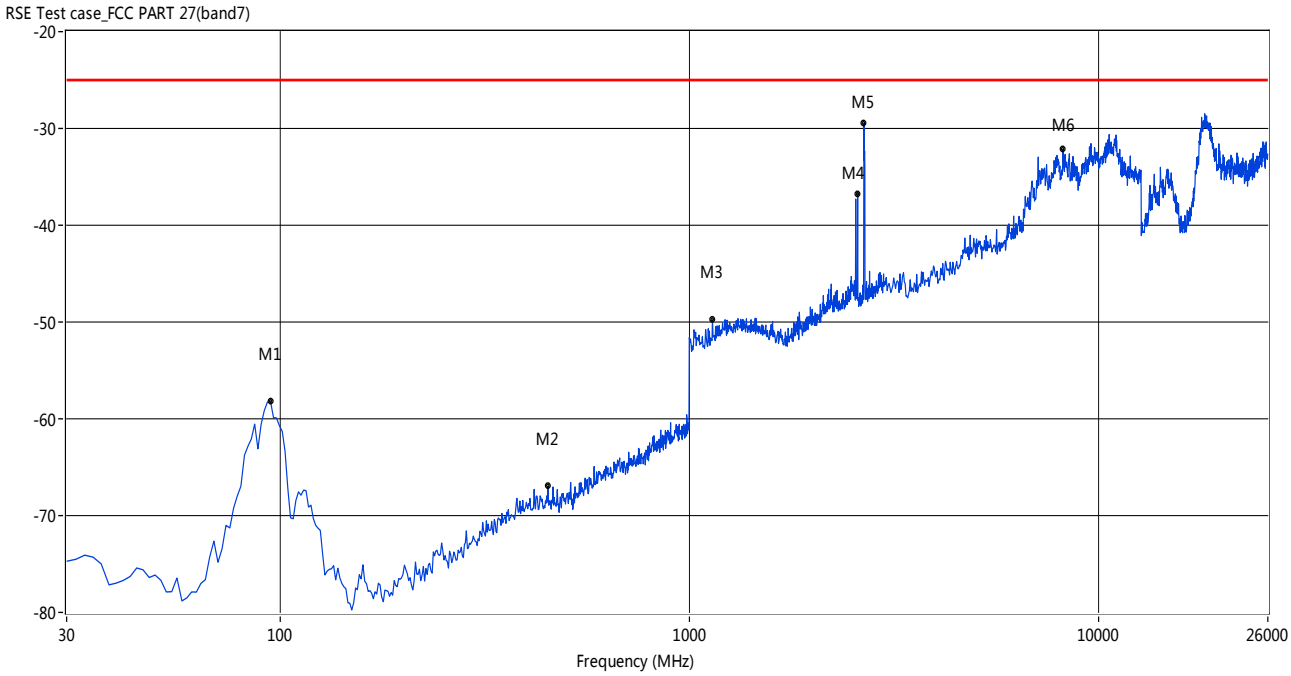
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
34.84	-63.79	-9.95	-25.0	38.79	0.70	Vertical	Pass
91.33	-57.75	-2.57	-25.0	32.75	291.10	Vertical	Pass
898.32	-57.51	5.65	-25.0	32.51	291.10	Vertical	Pass
2527.45	-39.45	14.51	-25.0	14.45	296.20	Vertical	N/A
2647.25	-30.92	13.67	-25.0	5.92	20.10	Vertical	N/A
7396.42	-31.86	33.93	-25.0	6.86	0.90	Vertical	Pass

LTE Band 7 16-QAM 15 MHz MCH, ANT H



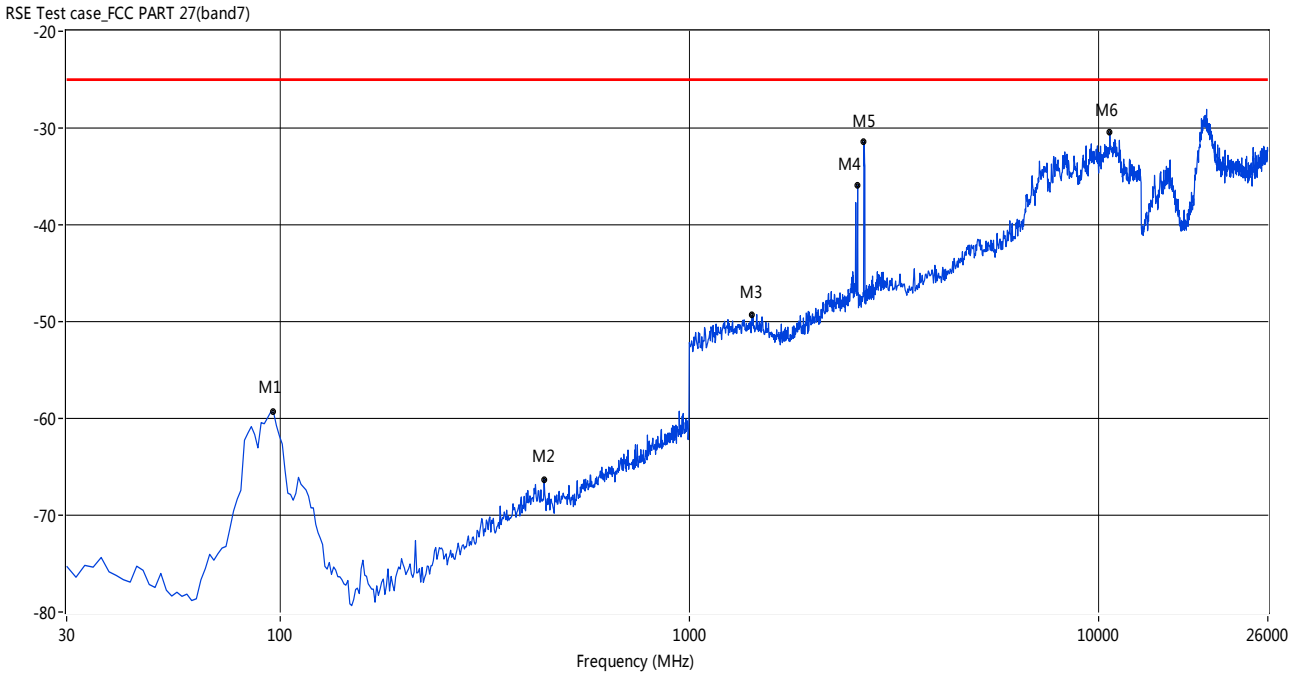
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-58.54	-3.01	-25.0	33.54	306.00	Horizontal	Pass
486.76	-66.69	-1.91	-25.0	41.69	93.40	Horizontal	Pass
1396.01	-49.04	9.28	-25.0	24.04	313.50	Horizontal	Pass
2524.13	-38.64	14.53	-25.0	13.64	181.40	Horizontal	N/A
2647.25	-32.26	13.67	-25.0	7.26	19.90	Horizontal	N/A
9618.97	-30.86	37.29	-25.0	5.86	251.90	Horizontal	Pass

LTE Band 7 16-QAM 15 MHz HCH, ANT V



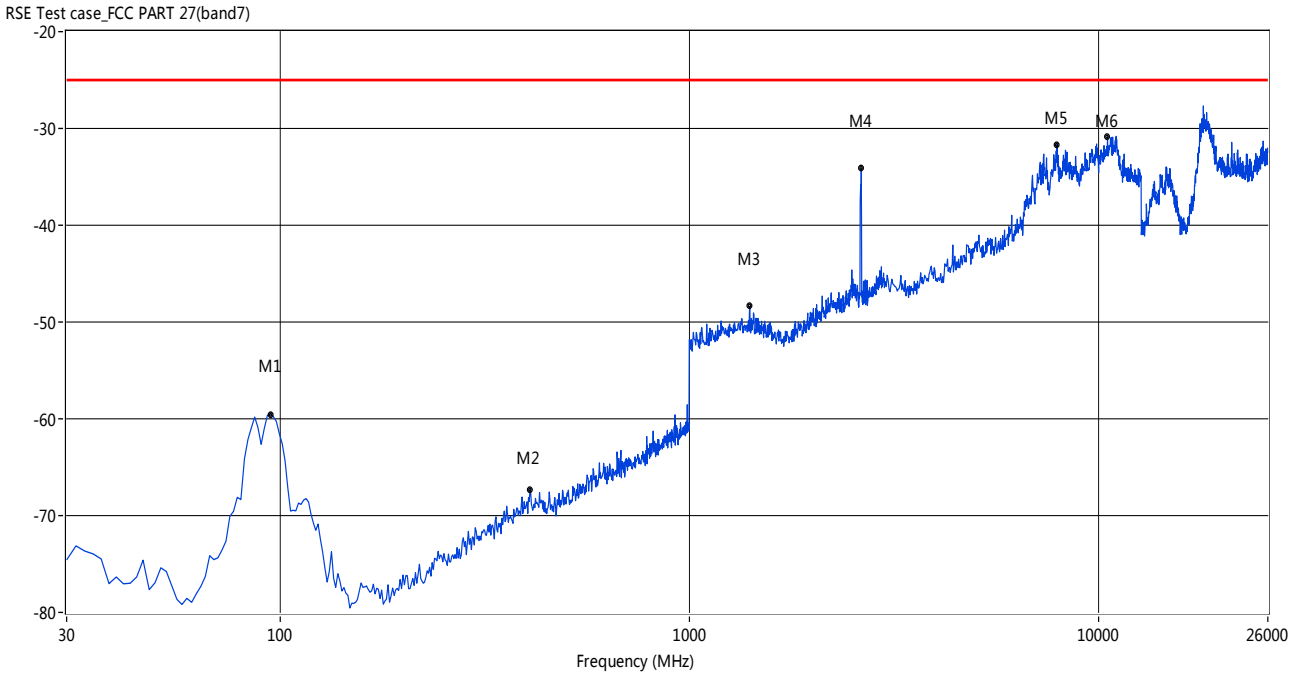
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-58.19	-3.36	-25.0	33.19	269.20	Vertical	Pass
451.25	-66.94	-2.27	-25.0	41.94	187.30	Vertical	Pass
1139.77	-49.78	7.37	-25.0	24.78	77.60	Vertical	Pass
2580.70	-36.71	14.26	-25.0	11.71	312.40	Vertical	N/A
2673.88	-29.49	13.69	-25.0	4.49	307.70	Vertical	N/A
8207.57	-32.13	35.70	-25.0	7.13	129.90	Vertical	Pass

LTE Band 7 16-QAM 15 MHz HCH, ANT H



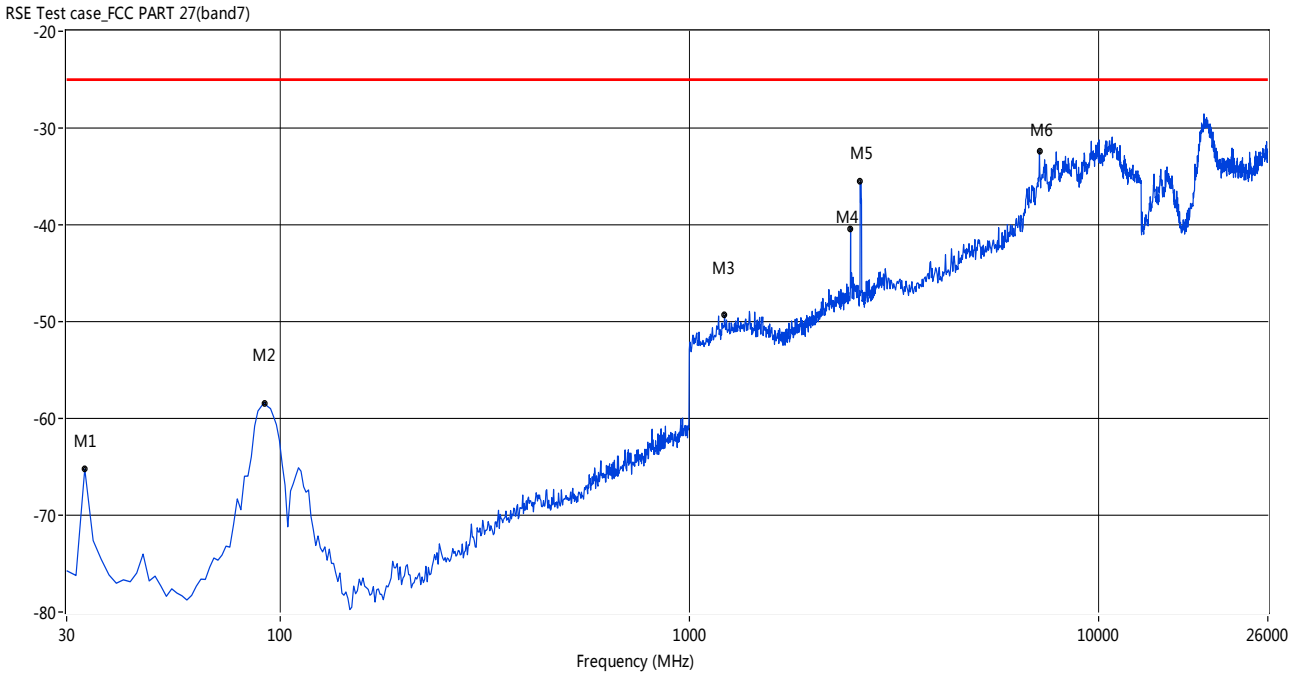
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
96.17	-59.36	-3.69	-25.0	34.36	305.20	Horizontal	Pass
441.56	-66.28	-2.44	-25.0	41.28	47.10	Horizontal	Pass
1425.96	-49.30	9.29	-25.0	24.30	194.70	Horizontal	Pass
2580.70	-35.91	14.26	-25.0	10.91	189.90	Horizontal	N/A
2673.88	-31.43	13.69	-25.0	6.43	18.80	Horizontal	N/A
10673.46	-30.42	37.75	-25.0	5.42	211.90	Horizontal	Pass

LTE Band 7 16-QAM 20 MHz LCH, ANT V



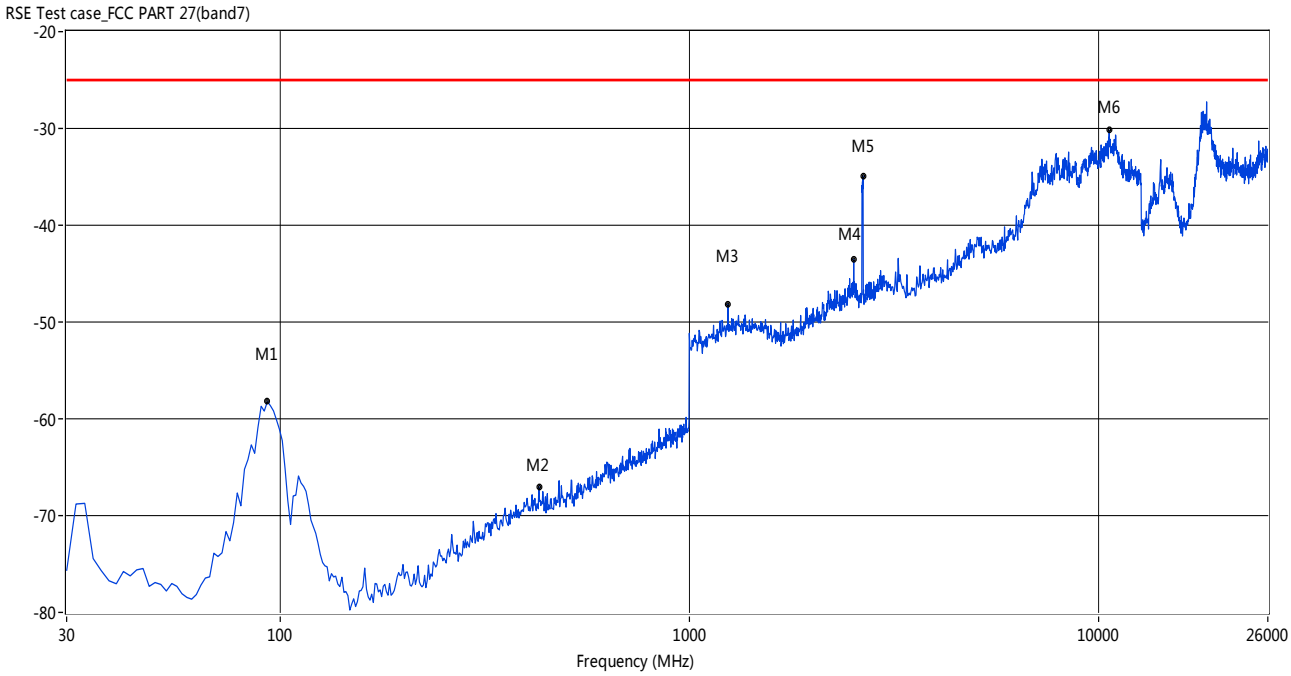
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
94.56	-59.52	-3.36	-25.0	34.52	296.30	Vertical	Pass
407.67	-67.32	-2.34	-25.0	42.32	351.10	Vertical	Pass
1405.99	-48.38	9.43	-25.0	23.38	40.20	Vertical	Pass
2633.94	-34.10	13.61	-25.0	9.10	311.00	Vertical	N/A
7931.78	-31.66	34.89	-25.0	6.66	92.50	Vertical	Pass
10543.68	-30.84	37.60	-25.0	5.84	6.60	Vertical	Pass

LTE Band 7 16-QAM 20 MHz LCH, ANT H



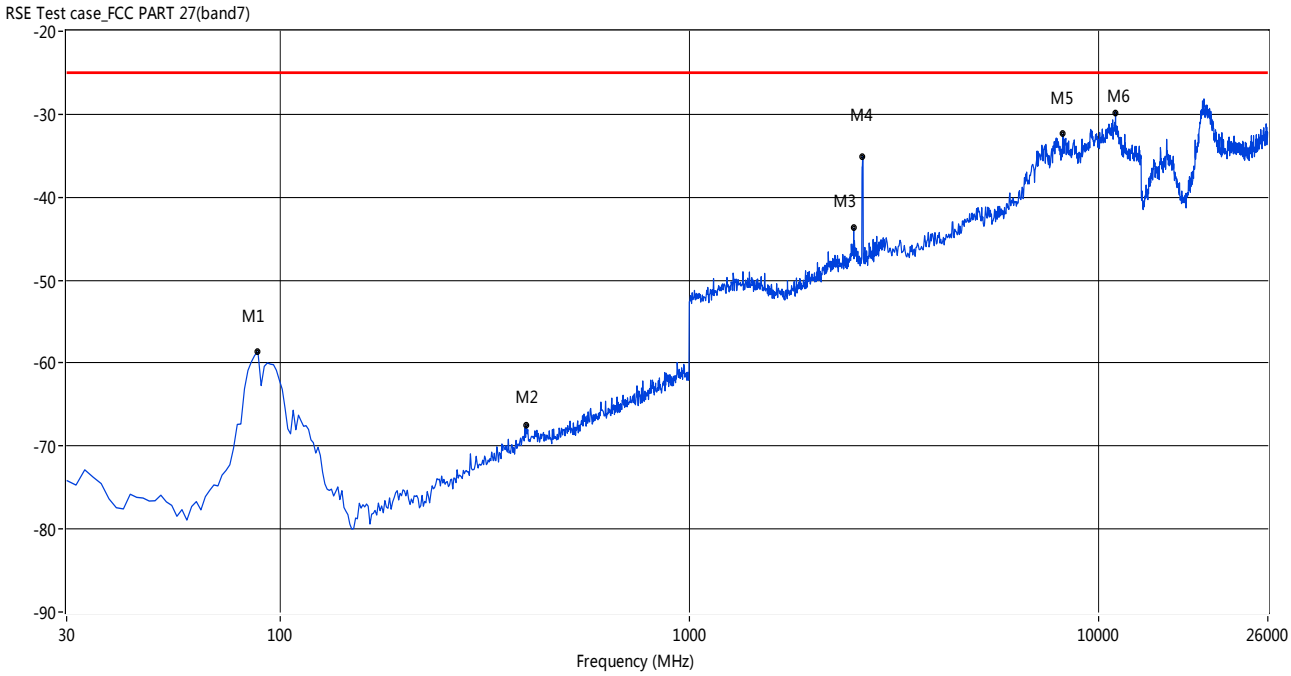
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
33.23	-65.23	-9.83	-25.0	40.23	168.50	Horizontal	Pass
91.33	-58.38	-2.57	-25.0	33.38	285.60	Horizontal	Pass
1219.63	-49.33	8.35	-25.0	24.33	305.50	Horizontal	Pass
2480.87	-40.37	13.97	-25.0	15.37	193.30	Horizontal	N/A
2620.63	-35.55	13.46	-25.0	10.55	19.00	Horizontal	N/A
7185.52	-32.40	33.04	-25.0	7.40	198.80	Horizontal	Pass

LTE Band 7 16-QAM 20 MHz MCH, ANT V



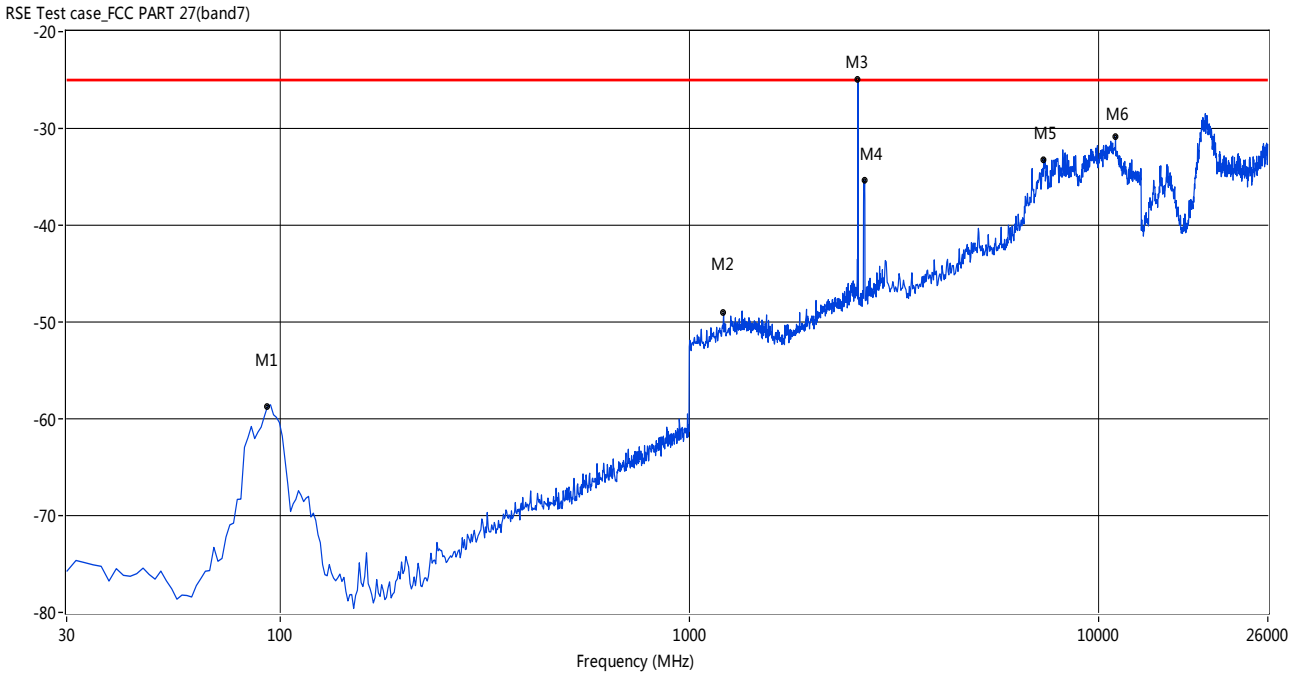
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-58.22	-3.01	-25.0	33.22	287.90	Vertical	Pass
428.65	-67.00	-2.40	-25.0	42.00	169.60	Vertical	Pass
1242.93	-48.15	8.48	-25.0	23.15	127.20	Vertical	Pass
2524.13	-43.55	14.53	-25.0	18.55	319.40	Vertical	N/A
2660.57	-34.93	14.11	-25.0	9.93	19.20	Vertical	N/A
10641.01	-30.18	37.71	-25.0	5.18	165.90	Vertical	Pass

LTE Band 7 16-QAM 20 MHz MCH, ANT H



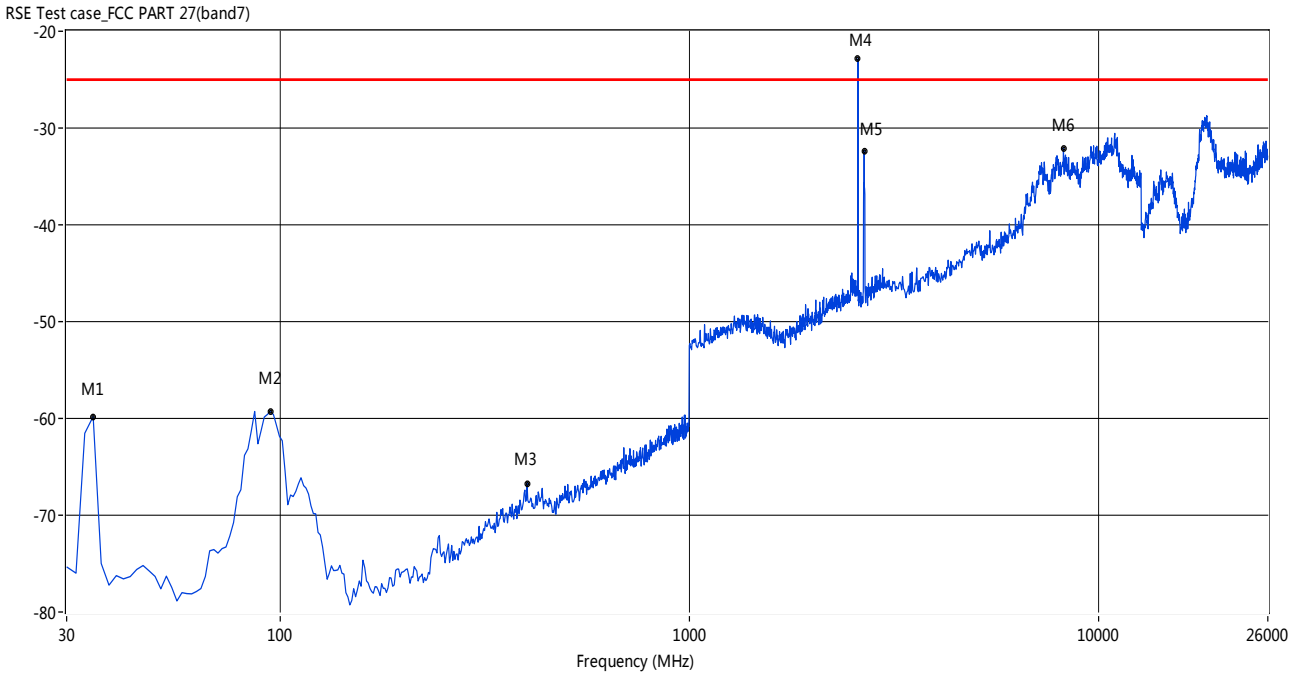
Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
88.10	-58.64	-2.85	-25.0	33.64	305.90	Horizontal	Pass
399.60	-67.50	-2.35	-25.0	42.50	99.60	Horizontal	Pass
2524.13	-43.72	14.53	-25.0	18.72	205.90	Horizontal	N/A
2657.24	-35.08	13.96	-25.0	10.08	24.20	Horizontal	N/A
8191.35	-32.39	35.95	-25.0	7.39	138.30	Horizontal	Pass
11030.37	-29.79	37.97	-25.0	4.79	46.80	Horizontal	Pass

LTE Band 7 16-QAM 20 MHz HCH, ANT V



Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
92.95	-58.76	-3.01	-25.0	33.76	296.30	Vertical	Pass
1212.98	-49.05	8.27	-25.0	24.05	349.40	Vertical	Pass
2584.03	-24.99	14.21	-25.0	-0.01	295.20	Vertical	N/A
2683.86	-35.35	13.99	-25.0	10.35	24.30	Vertical	N/A
7363.98	-33.19	34.01	-25.0	8.19	280.80	Vertical	Pass
11030.37	-30.87	37.97	-25.0	5.87	356.30	Vertical	Pass

LTE Band 7 16-QAM 20 MHz HCH, ANT H



Frequency (MHz)	Result (dBm)	Factor (dB)	PK Limit (dBm)	Margin (dB)	Table (o)	ANT	Verdict
34.84	-59.81	-9.95	-25.0	34.81	261.20	Horizontal	Pass
94.56	-59.26	-3.36	-25.0	34.26	288.40	Horizontal	Pass
401.21	-66.71	-2.34	-25.0	41.71	333.30	Horizontal	Pass
2584.03	-22.85	14.21	-25.0	-2.15	102.70	Horizontal	N/A
2677.20	-32.33	13.73	-25.0	7.33	18.60	Horizontal	N/A
8223.79	-32.10	35.66	-25.0	7.10	277.00	Horizontal	Pass

--END OF REPORT--