FCC 47 CFR PART 22 SUBPART H AND PART 24 SUBPART E
&
INDUSTRY CANADA RSS-132 & RSS-133

TEST REPORT

For

TEST REPORT

For

GUARDIAN SYSTEM LTE

FCC Model No.: G2-SY-CON2
IC Model No.: G2-SY-CON2-1002244

Trade Name: GUARDIAN

Issued to

FCC:	**Seeing Machines Pty Ltd** **80 Mildura Street, Fyshwick, ACT , Canberra 2609 Australia**
IC:	**Seeing Machines Ltd.** **80 Mildura Street Fyshwick ACT 2609 Australia**

Issued by

Compliance Certification Services Inc.
Wugu Laboratory
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)
Issued Date: June 20, 2020

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	January 22, 2020	Initial Issue	ALL	Doris Chu
01	April 22, 2020	See the following Note Rev.(01)	P.6, P.11, P.13, P.16, P.28, P.39-40, P.45, P.53-58, P.19	Doris Chu
02	April 28, 2020	See the following Note Rev.(02)	P.6, P.16, P.19	Doris Chu
03	June 6, 2020	See the following Note Rev.(03)	P.6	Allison Chen
04	June 20, 2020	See the following Note Rev.(04)	P.1, P.4, P.6	Allison Chen

Rev.(01)
1. Added HSPA+ in Frequency Range.
2. Revised Antenna type.
3. Revised Emission Designator.
4. Revised section 5.2 DC Power Supplies Cal Due date indication.
5. Added section 6.3.
6. Revised section 8.1 test data.
7. Added test results in section 8.4.
8. Revised section 8.6 Test Configuration and test procedure.
9. Added Antenna Polarization.
10. Revised section 8.7 Test Procedure and Test Results.
11. Added HSPA+ test data.
Rev.(02)
1. Revised section 2 power supply and Emission Designator.
2. Revised section 8.1 Band V power.
Rev.(03)
1. Revised section 2: Emission Designator and Transmit Power.
Rev.(04)
1. Modify IC Model No.: G2-SY-CON2-1002244.

TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION

FCC Applicant:	Seeing Machines Pty Ltd 80 Mildura Street, Fyshwick, ACT , Canberra 2609 Australia
IC Applicant:	Seeing Machines Ltd. 80 Mildura Street Fyshwick ACT 2609 Australia
Manufacturer:	ADLINK TECHNOLOGY INC. 9F, No. 166, Jian Yi Rd., Zhonghe Dist., New Taipei City, 235 Taiwan
Equipment Under Test:	GUARDIAN SYSTEM LTE
Trade Name:	GUARDIAN
FCC Model No.:	G2-SY-CON2
IC Model No.:	G2-SY-CON2-1002244
Date of Test:	December 23, 2019 ~ January 8, 2020

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 22 Subpart H & Part 24 Subpart E & IC RSS-132 Issue 3: January, 2013 and IC RSS-133 Issue 6: January, 2018	No non-compliance noted
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule FCC PART 22 Subpart H and PART 24 Subpart E

The test results of this report relate only to the tested sample identified in this report.

Approved by:

Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	GUARDIAN SYSTEM LTE
FCC Model No.	G2-SY-CON2
IC Model No.	G2-SY-CON2-1002244
Model Discrepancy	N/A
Trade	GUARDIAN
Received Date	November 20, 2019
Power Supply	Powered from DC supply: DC 12V.
Frequency Range	WCDMA / HSDPA / HSUPA / HSPA+ Band II: 1852.4 ~ 1907.6 MHz WCDMA / HSDPA / HSUPA / HSPA+ Band V: 826.4 ~ 846.6MHz
Transmit Power (ERP & EIRP Power)	WCDMA Band II: 22.0 dBm WCDMA Band V: 24.9 dBm
Antenna Gain	Dipole Antenna WCDMA Band II Antenna gain: 1.2 dBi WCDMA Band V Antenna gain: -0.1 dBi
HW Version	V1
SW Version	V9

Remark:

1. *The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*
2. *For test mode WCDMA, HSUPA ,HSDPA and HSPA+ were pretest. The worst case was WCDMA in this test report*

Emission Designator					
System	**Band**	**Frequency Range(MHz)**	**Emission Designator (99% OBW)**	**Maximum ERP (W)**	**Maximum EIRP (W)**
WCDMA 12.2K RMC	**II**	**1852.4MHz ~1907.6MHz**	**4M12F9W**	**0.1584**	**N/A**
	V	**826.4MHz ~ 846.6MHz**	**4M14F9W**	**0.1905**	**0.3090**

3. TEST METHODOLOGY

Both conducted and radiated testing were performed according to FCC CFR 47, Part 2, Part 22 Subpart H and Part 24 Subpart E

The tests documented in this report were performed in accordance with IC RSS-132, SPSR503, RSS-133, SPSR510 and ANSI C63.26: 2015.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 DESCRIPTION OF TEST MODES

The EUT had been tested under operating condition.

The EUT be set in maximum power transmission via call box during testing.

3.2.1 The worst mode of measurement

Radiated Emission Measurement Above 1G	
Test Condition	**Radiated Emission Above 1G**
Power supply Mode	**Mode 1: EUT power by Power supply**
Worst Mode	☒ **Mode 1** ☐ **Mode 2** ☐ **Mode 3** ☐ **Mode 4**
Worst Position	☐ **Placed in fixed position.** ☒ **Placed in fixed position at X-Plane (E2-Plane)** ☐ **Placed in fixed position at Y-Plane (E1-Plane)** ☐ **Placed in fixed position at Z-Plane (H-Plane)**

Radiated Emission Measurement Below 1G	
Test Condition	**Radiated Emission Below 1G**
Power supply Mode	**Mode 1: EUT power by Power supply**
Worst Mode	☒ **Mode 1** ☐ **Mode 2** ☐ **Mode 3** ☐ **Mode 4**

Remark:
1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(X-Plane) were recorded in this report

4. TEST SUMMERY

FCC Standard Section	IC Standard Secction	Report Section	Test Item	Result
-	-	2	Antenna Requirement	Pass
22.913(a), 24.232(c)	RSS-132, section 5.4 RSS-133, section 6.4	8.1	ERP and EIRP Measurement	Pass
2.1049	RSS-GEN 6.7	8.2	Occupied Bandwidth Measurement	N/A
22.917(a), 24.238(a)	RSS-132 section 5.5 RSS-133 section 6.5	8.3	Conducted Band Edge	N/A
22.913(d), 24.232(d)	RSS-132, section 5.4 RSS-133, section 6.4	8.4	Peak to Average Ratio	N/A
22.917(a), 24.238(a)	RSS-132 section 5.5 RSS-133 section 6.5	8.5	Conducted Spurious Emission	N/A
22.917(a), 24.238(a)	RSS-132 section 5.5 RSS-133 section 6.5	8.6	Spurious Radiation Measurement	Pass
2.1055, 22.355, 24.235	RSS-132 section 5.3 RSS-133 section 6.3	8.7	Frequency Stability v.s. temperature measurement	N/A

5. INSTRUMENT CALIBRATION

5.1 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at *No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)*

Test site	Test Engineer	Remark
Radiation	Jerry Chang	-
RF Conducted	Dally Hong	-

Remark: *The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.*

5.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: *Each piece of equipment is scheduled for calibration once a year.*

RF Conducted Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Coaxial Cable	Woken	WC12	CC001	06/28/2019	06/27/2020
Coaxial Cable	Woken	WC12	CC003	06/28/2019	06/27/2020
Power Divider	Solvang Technology	STI08-0015	008	08/06/2019	08/05/2020
Signal Analyzer	R&S	FSV 40	101073	09/25/2019	09/24/2020
Wideband Radio Communication Tester	R&S	CMW 500	116875	07/29/2019	07/28/2020
DC Power Supplies	GW Instek	SPS-3610	GPE880163	01/14/2019	01/13/2020
Software	N/A				

3M 966 Chamber Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Band Reject Filters	MICRO TRONICS	BRM 50702	120	02/26/2019	02/25/2020
Bilog Antenna	Sunol Sciences	JB3	A030105	07/26/2019	07/25/2020
Coaxial Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/26/2019	02/25/2020
Coaxial Cable	EMCI	EMC105	190914+25111	09/20/2019	09/19/2020
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/30/2019	01/29/2020
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	10/04/2019	10/03/2020
Loop Ant	COM-POWER	AL-130	121051	03/22/2019	03/21/2020
Pre-Amplifier	EMEC	EM330	060609	02/26/2019	02/25/2020
Pre-Amplifier	HP	8449B	3008A00965	02/26/2019	02/25/2020
Wideband Radio Communication Tester	R&S	CMW 500	116875	07/29/2019	07/28/2020
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	05/29/2019	05/28/2020
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Software	e3 6.11-20180413				

5.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
3M Semi Anechoic Chamber / 30M~200M	+/- 4.12
3M Semi Anechoic Chamber / 200M~1000M	+/- 4.68
3M Semi Anechoic Chamber / 1G~8G	+/- 5.18
3M Semi Anechoic Chamber / 8G~18G	+/- 5.47
3M Semi Anechoic Chamber / 18G~26G	+/- 3.81
3M Semi Anechoic Chamber / 26G~40G	+/- 3.87

***Remark**: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.*

6. FACILITIES AND ACCREDITATIONS

6.1 FACILITIES

☐ No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.
Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

6.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

6.3 LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 0824-01 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, ISED#: 2324G.

7. SETUP OF EQUIPMENT UNDER TEST

7.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix A for the actual connections between EUT and support equipment.

7.2 SUPPORT EQUIPMENT

No.	Equipment	Brand	Model	Series No.	FCC ID	IC ID
1	NB(J)	TOSHIBA	PT345T-00L002	N/A	PD97260H	1000M-7260H

Remark:

1. *All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*
2. *Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

8. FCC PART 22 & 24 REQUIREMENTS & INDUSTRY CANADA RSS-132 & RSS-133

8.1 ERP & EIRP MEASUREMENT

LIMIT

According to FCC 22.913(a): The Effective Radiated Power (ERP) of mobile transmitters must not exceed 7 Watts.

According to FCC 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

RSS-132, section 5.4

The transmitter output power shall be measured in terms of average power. The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts. Refer to SRSP-503 for base station e.i.r.p. limits.

RSS-133, section 6.4

The equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510. Moreover, base station transmitters operating in the band 1930-1995 MHz shall not have output power exceeding 100 watts.

TEST PROCEDURES

CONDUCTED POWER MEASUREMENT:

1. The transmitter output power was connected to the call box.
2. Set EUT at maximum output power via call box.
3. Set Call box at lowest, middle and highest channels for each band and modulation.

TEST RESULTS

No non-compliance noted.

Test Data

WCDMA 12.2K RMC

Band	Mode	Frequency(MHz)	CH	Average power(dBm)	ERP (dBm)
WCDMA Band II	WCDMA 12.2K RMC	1852.40	9262	23.4	21.9
		1880.00	9400	23.4	22.0
		1907.60	9538	23.3	21.9

Band	Mode	Frequency(MHz)	CH	Average power(dBm)	EIRP (dBm)	ERP (dBm)
WCDMA Band V	WCDMA 12.2K RMC	826.40	4132	24.2	24.9	22.8
		836.40	4183	24.0	24.7	22.5
		846.60	4233	23.9	24.6	22.4

HSDPA

Band II

Band	Mode	Frequency(MHz)	CH	Average power(dBm)	Output Power (W)
Band II	Subtest 1	1852.40	9262	22.20	0.16596
		1880.00	9400	22.30	0.16982
		1907.60	9538	21.90	0.15488
	Subtest 2	1852.40	9262	21.60	0.14454
		1880.00	9400	21.50	0.14125
		1907.60	9538	21.90	0.15488
	Subtest 3	1852.40	9262	22.10	0.16218
		1880.00	9400	22.20	0.16596
		1907.60	9538	22.10	0.16218
	Subtest 4	1852.40	9262	22.10	0.16218
		1880.00	9400	22.30	0.16982
		1907.60	9538	21.90	0.15488

Band V

Band	Mode	Frequency(MHz)	CH	Average power(dBm)	Output Power (W)
Band V	Subtest 1	826.40	4132	22.40	0.17378
		836.40	4182	22.80	0.19055
		846.60	4233	22.70	0.18621
	Subtest 2	826.40	4132	22.20	0.16596
		836.40	4182	22.60	0.18197
		846.60	4233	22.70	0.18621
	Subtest 3	826.40	4132	22.40	0.17378
		836.40	4182	22.90	0.19498
		846.60	4233	22.80	0.19055
	Subtest 4	826.40	4132	22.30	0.16982
		836.40	4182	22.70	0.18621
		846.60	4233	22.80	0.19055

HSUPA

Band II

Band	Mode	Frequency(MHz)	CH	Average power(dBm)	Output Power (W)
Band II	Subtest 1	1852.40	9262	23.40	0.21878
		1880.00	9400	23.10	0.20417
		1907.60	9538	23.20	0.20893
	Subtest 2	1852.40	9262	23.00	0.19953
		1880.00	9400	23.60	0.22909
		1907.60	9538	23.20	0.20893
	Subtest 3	1852.40	9262	23.40	0.21878
		1880.00	9400	23.20	0.20893
		1907.60	9538	23.20	0.20893
	Subtest 4	1852.40	9262	23.60	0.22909
		1880.00	9400	23.10	0.20417
		1907.60	9538	23.10	0.20417
	Subtest 5	1852.40	9262	22.90	0.19498
		1880.00	9400	22.80	0.19055
		1907.60	9538	22.60	0.18197

Band V

Band	Mode	Frequency(MHz)	CH	Average power(dBm)	Output Power (W)
Band V	Subtest 1	826.40	4132	23.30	0.21380
		836.40	4182	23.30	0.21380
		846.60	4233	23.20	0.20893
	Subtest 2	826.40	4132	23.00	0.19953
		836.40	4182	23.00	0.19953
		846.60	4233	23.10	0.20417
	Subtest 3	826.40	4132	23.20	0.20893
		836.40	4182	23.20	0.20893
		846.60	4233	23.10	0.20417
	Subtest 4	826.40	4132	23.10	0.20417
		836.40	4182	23.00	0.19953
		846.60	4233	23.00	0.19953
	Subtest 5	826.40	4132	23.10	0.20417
		836.40	4182	23.20	0.20893
		846.60	4233	23.30	0.21380

HSPA+

Band	Mode	Frequency(MHz)	CH	Average power(dBm)	ERP (dBm)
WCDMA Band II	RMC 12.2Kbps	1852.4	9262	23.2	21.7
		1880.0	9400	23.2	21.8
		1907.6	9538	23.1	21.7

Band	Mode	Frequency(MHz)	CH	Average power(dBm)	EIRP (dBm)	ERP (dBm)
WCDMA Band V	RMC 12.2Kbps	826.4	4132	24.2	24.9	22.7
		836.4	4183	23.9	24.6	22.4
		846.6	4233	23.8	24.5	22.3

8.2 OCCUPIED BANDWIDTH MEASUREMENT

Limits

For Reporting purpose only.

TEST PROCEDURES

KDB 971168 D01

1. The occupied bandwidth was measured with the spectrum analyzer at the lowest, middle and highest channels in each band and different modulation. The 99% and -26dB bandwidth was measured and recorded.
2. RBW = 1-5% of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max. hold

TEST RESULTS

No non-compliance noted

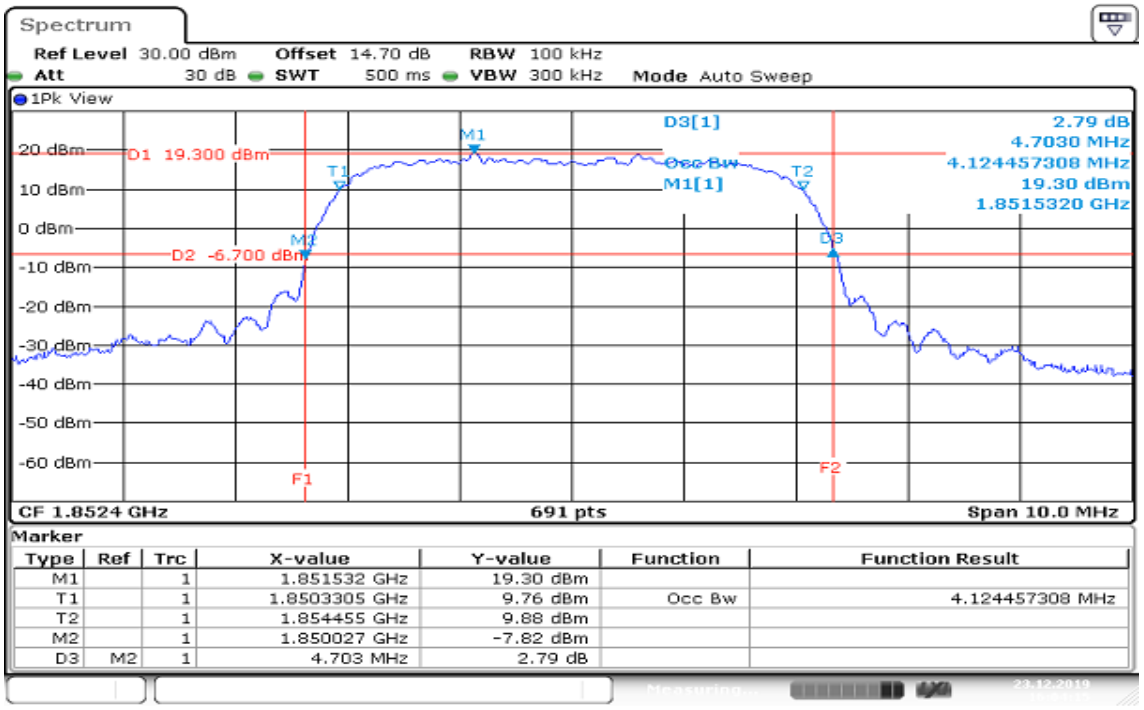
Test Data

Test Mode	CH	Frequency (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)
WCDMA 12.2k RMC (Band II)	Lowest	1852.4	4.1245	4.7030
	Middle	1880.0	4.1245	4.7030
	Highest	1907.6	4.1100	4.6740
WCDMA 12.2k RMC (Band V)	Lowest	826.4	4.1389	4.7180
	Middle	836.4	4.1245	4.6890
	Highest	846.6	4.1245	4.7030

Test Plot

WCDMA 12.2k RMC (Band II)

Low CH



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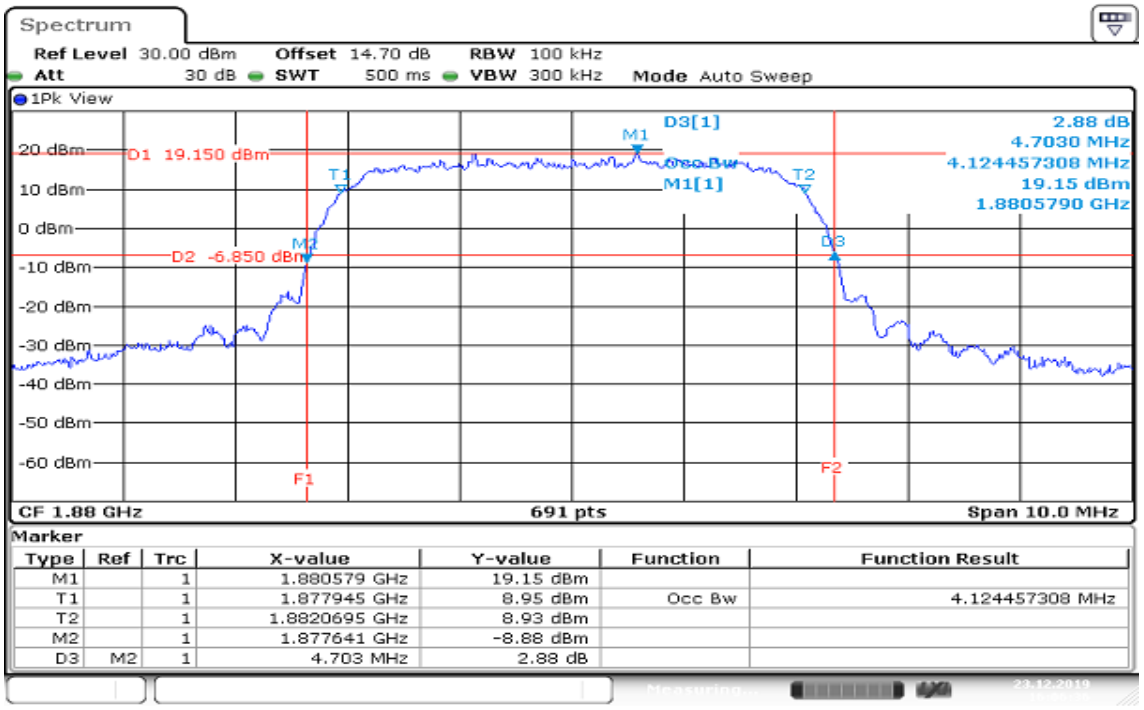
Mid CH



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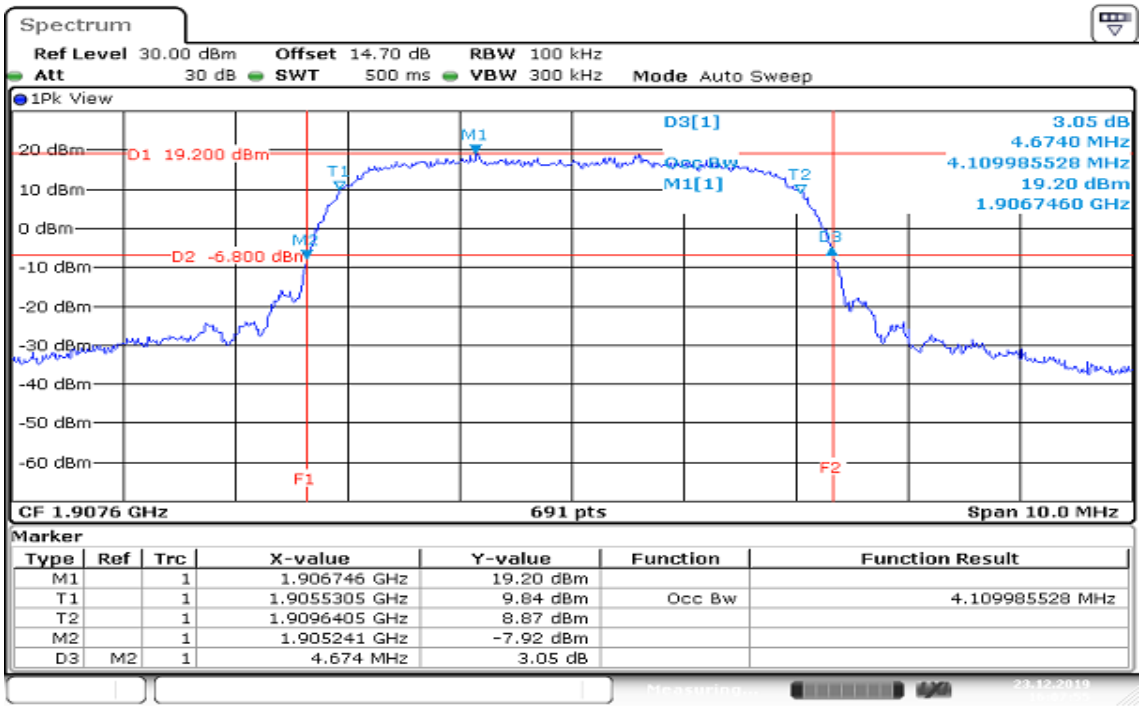
High CH



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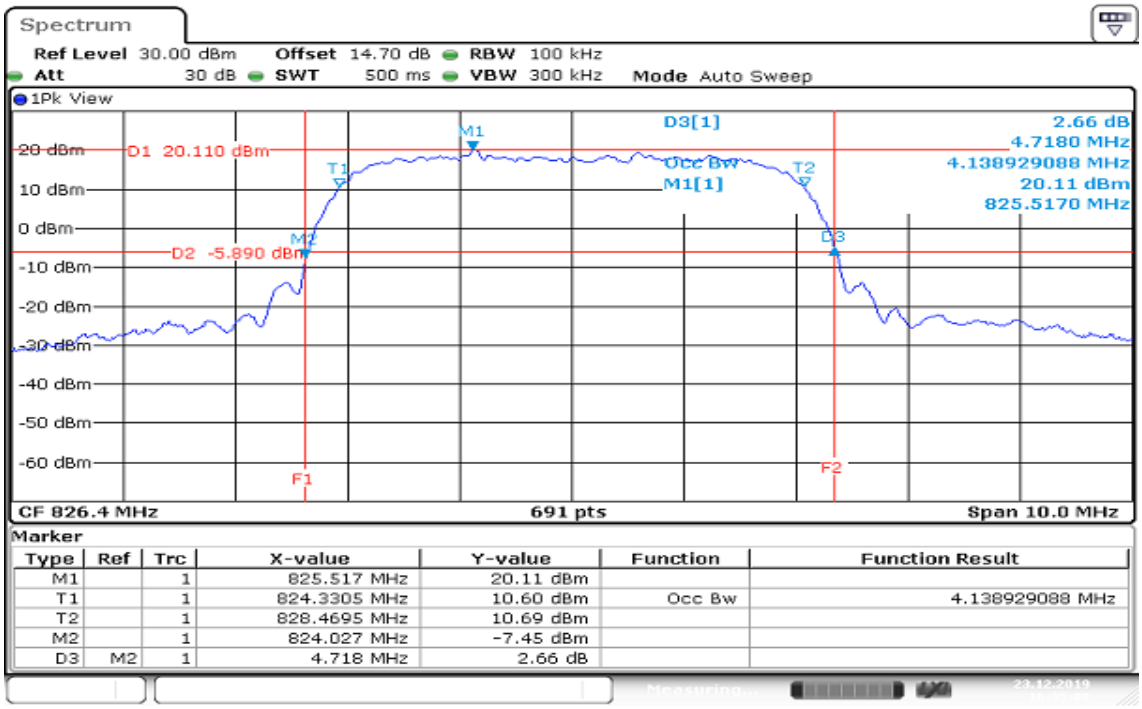
WCDMA 12.2k RMC (Band V)

Low CH

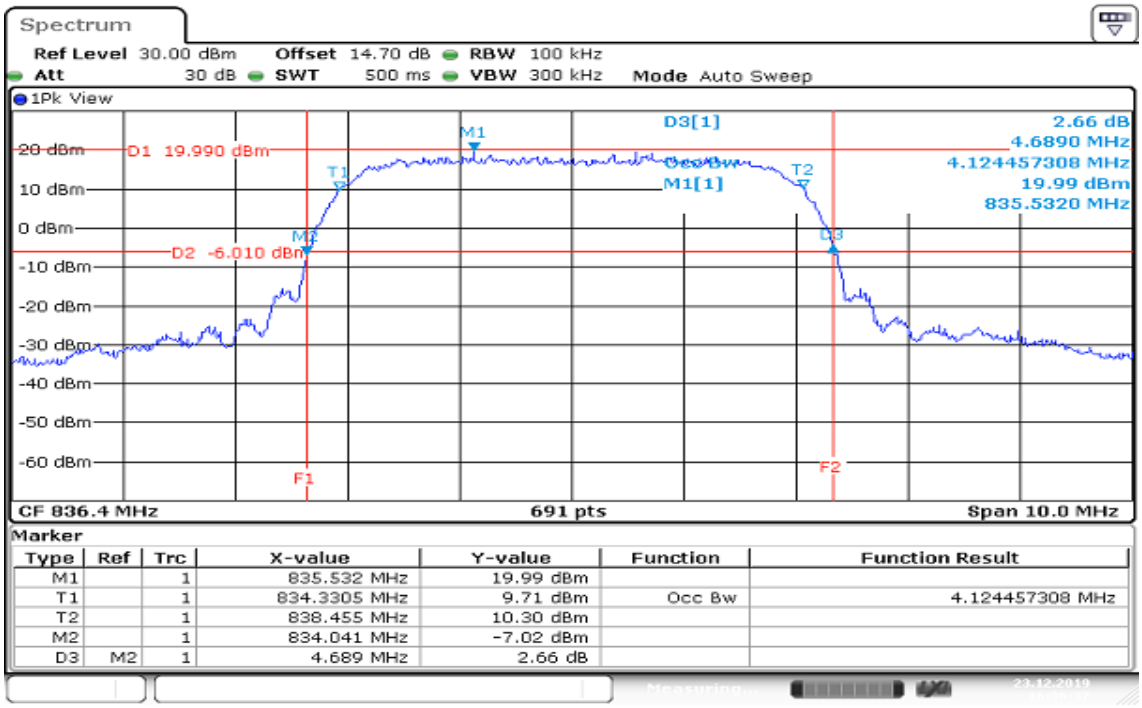


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	825.517 MHz	20.11 dBm		
T1		1	824.3305 MHz	10.60 dBm	Occ Bw	4.138929088 MHz
T2		1	828.4695 MHz	10.69 dBm		
M2		1	824.027 MHz	-7.45 dBm		
D3	M2	1	4.718 MHz	2.66 dB		

Date: 23.DEC.2019 16:35:09

Mid CH

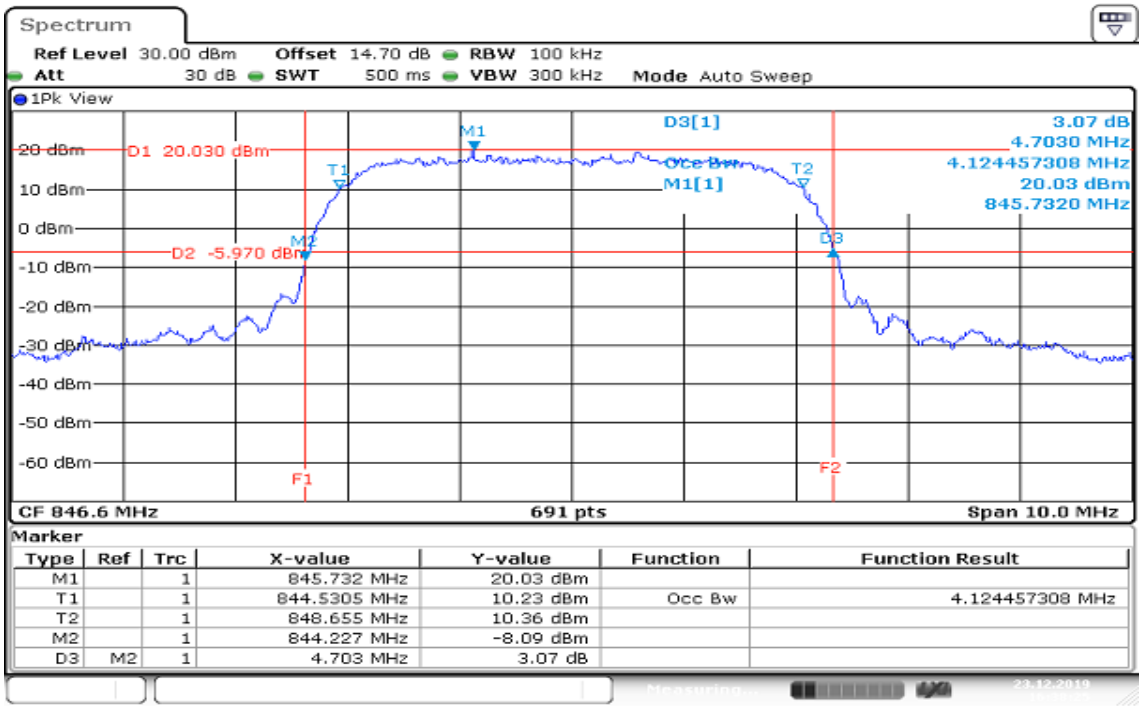


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	835.532 MHz	19.99 dBm		
T1		1	834.3305 MHz	9.71 dBm	Occ Bw	4.124457308 MHz
T2		1	838.455 MHz	10.30 dBm		
M2		1	834.041 MHz	-7.02 dBm		
D3	M2	1	4.689 MHz	2.66 dB		

Date: 23.DEC.2019 16:36:37

High CH



Date: 23.DEC.2019 16:38:25

8.3 CONDUCTED BANDEDG MEASUREMENT

Limit

FCC §22.917(a), Band V

For operations in the 824-849 MHz band, out of band emissions. 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.

FCC §24.238(a), Band II

For operations in the 1850-1910 and 1930-1950 MHz band, out of band emissions. 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.

RSS-132 section 5.5 and RSS-133 section 6.5

In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p (watts).

TEST PROCEDURE

According to KDB 971168 D01,

1. The EUT was connected to spectrum analyzer and call box.
2. The RF output of EUT was connected to the spectrum analyzer.
3. Start and stop frequency were set such that the band edge would be placed in the center of the plot
4. Span was set large enough so as to capture all out of band emissions near the band edge
5. Set the spectrum analyzer, RBW=100kHz, VBW=300kHz.
6. Record the Band edge emission.

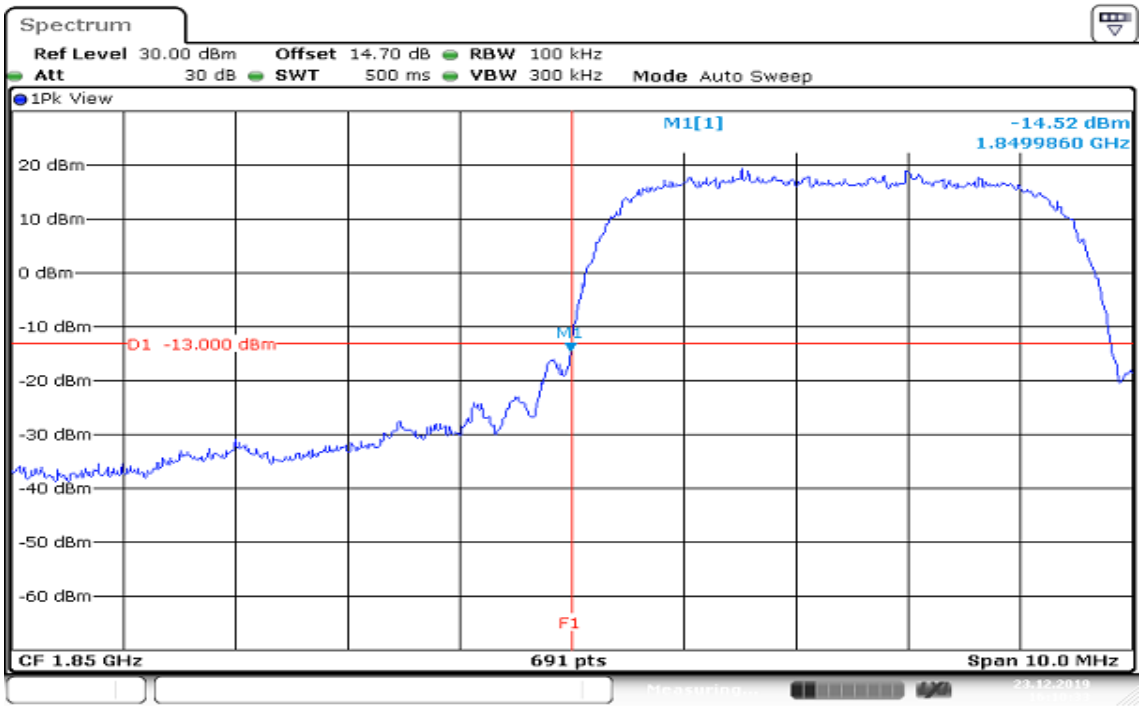
TEST RESULTS

No non-compliance noted.

Test Data

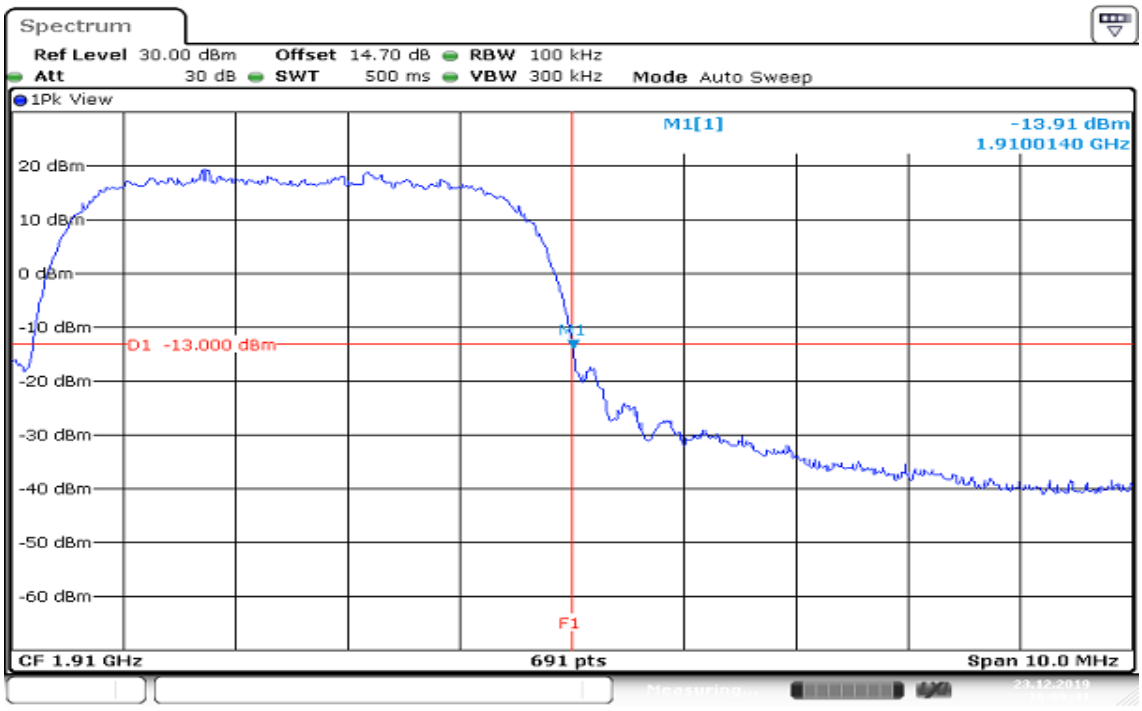
WCDMA 12.2k RMC (Band II)

Low CH



Date: 23.DEC.2019 16:10:33

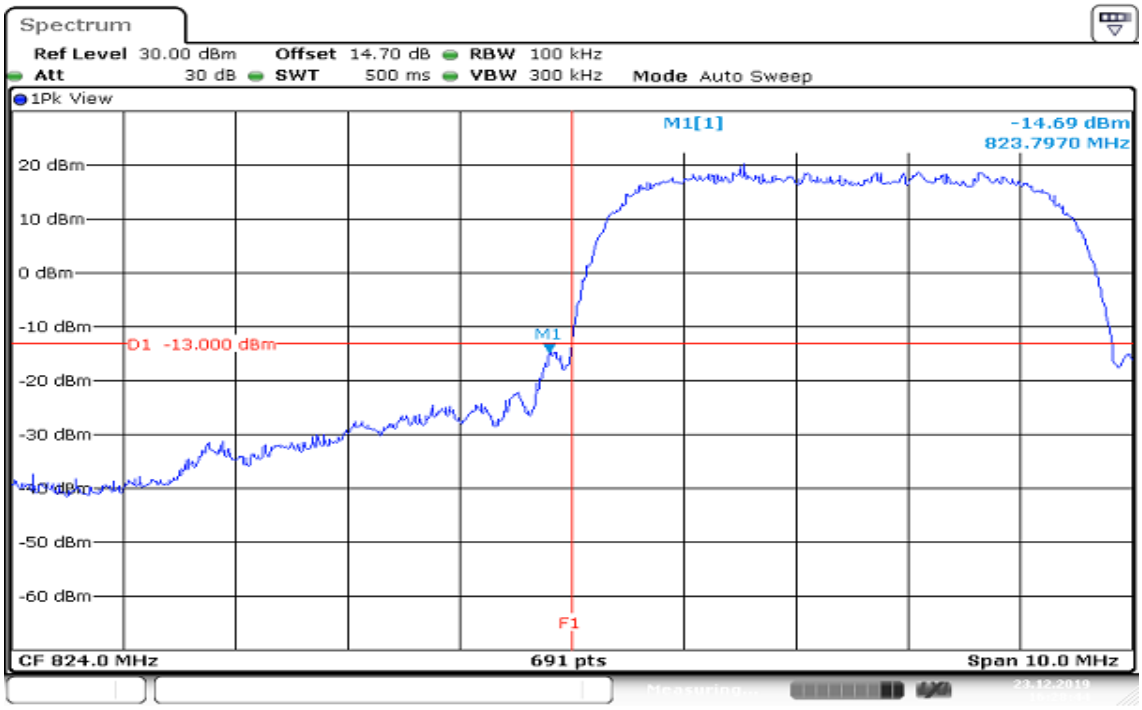
High CH



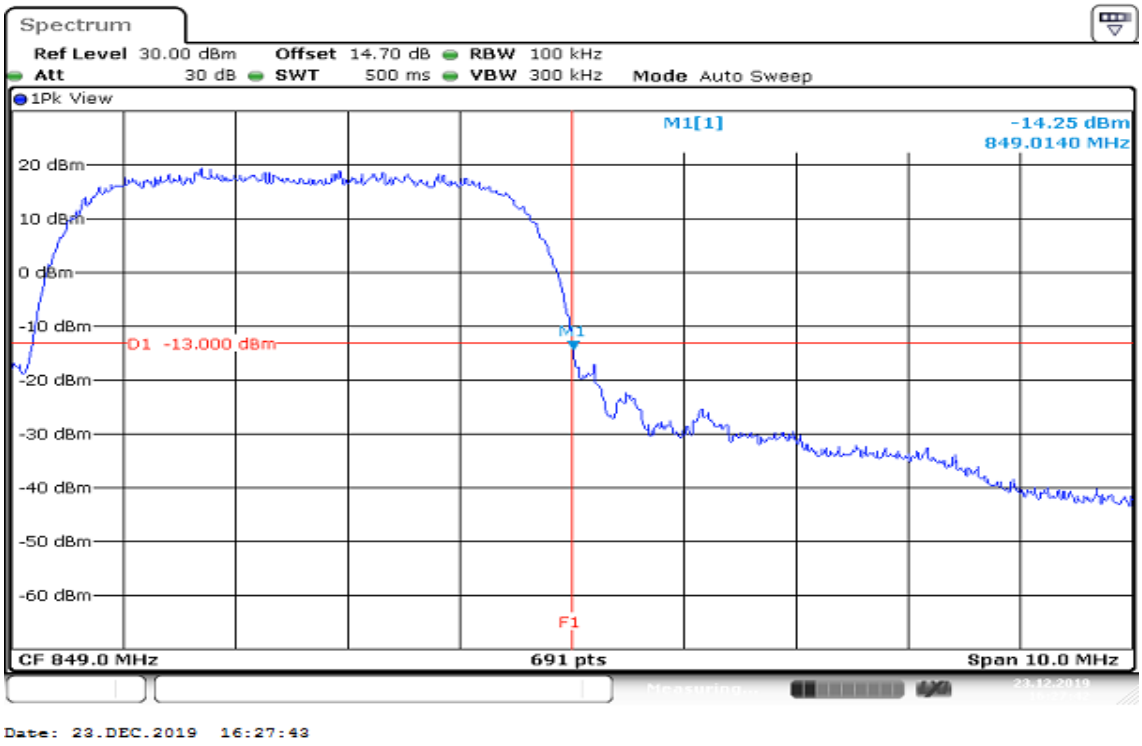
Date: 23.DEC.2019 16:09:42

WCDMA 12.2k RMC (Band V)

Low CH



High CH



8.4 PEAK TO AVERAGE RATIO

Limit

FCC §22.913(d), Band 5

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

FCC §24.232(d), Band 2

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

RSS-132 section 5.4 and RSS-133 section 6.4

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.

Test Procedures

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

TEST RESULTS

WCDMA 12.2K RMC (Band II)

	0.1% (dB)
CH Low	3.13
CH Mid	3.16
CH High	3.19

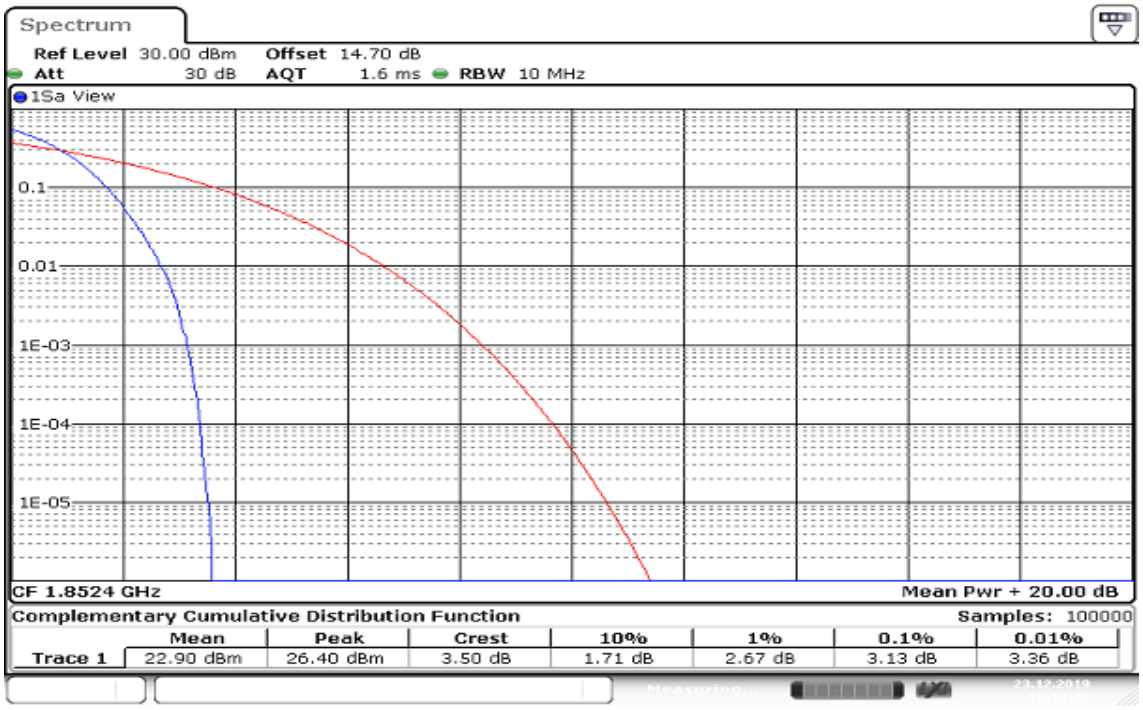
WCDMA 12.2K RMC (Band V)

	0.1% (dB)
CH Low	3.28
CH Mid	3.13
CH High	2.96

Test Data

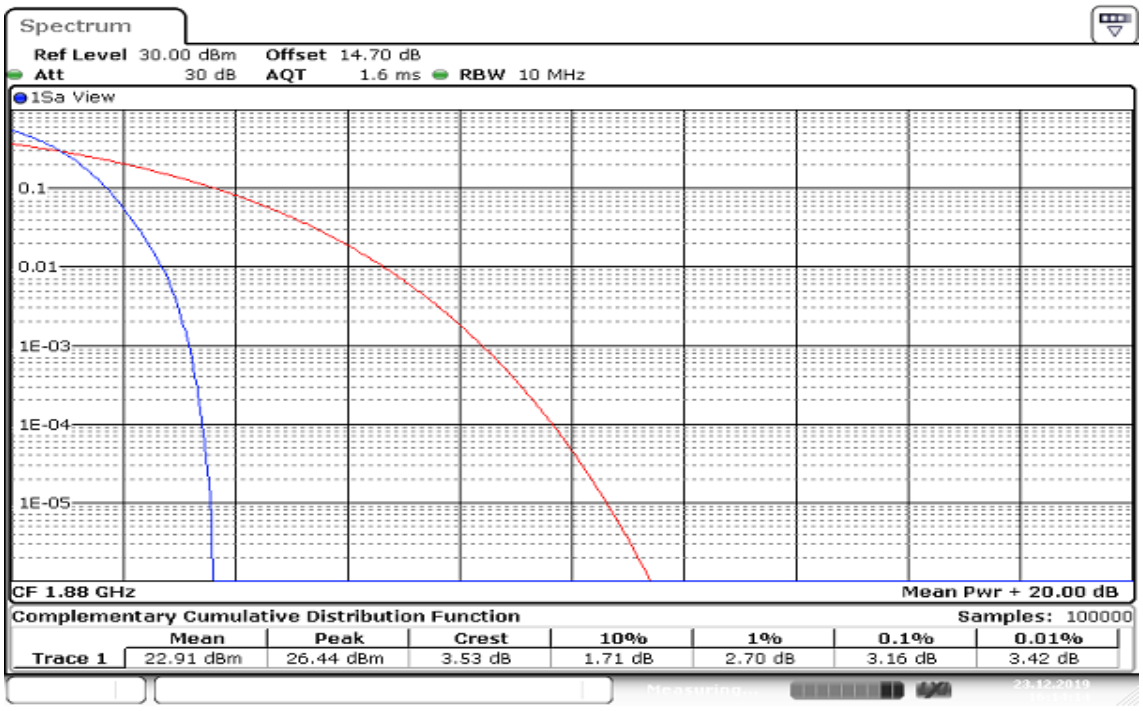
WCDMA 12.2k RMC (Band II)

Low CH



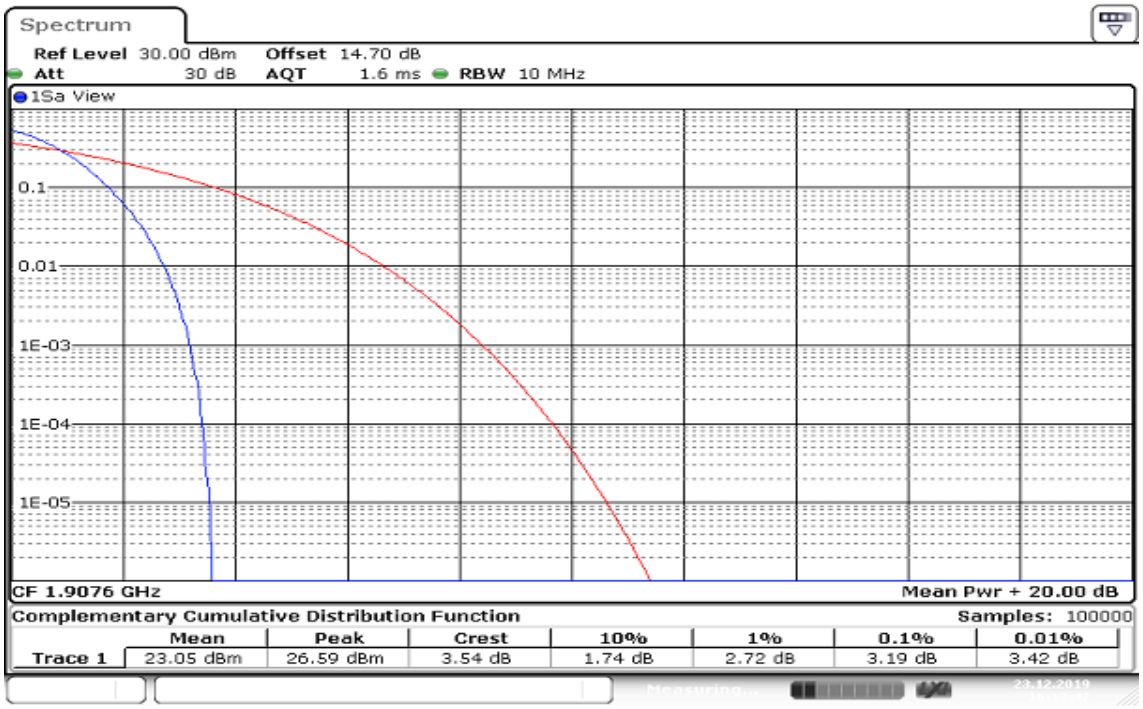
Date: 23.DEC.2019 16:14:43

Mid CH



Date: 23.DEC.2019 16:14:14

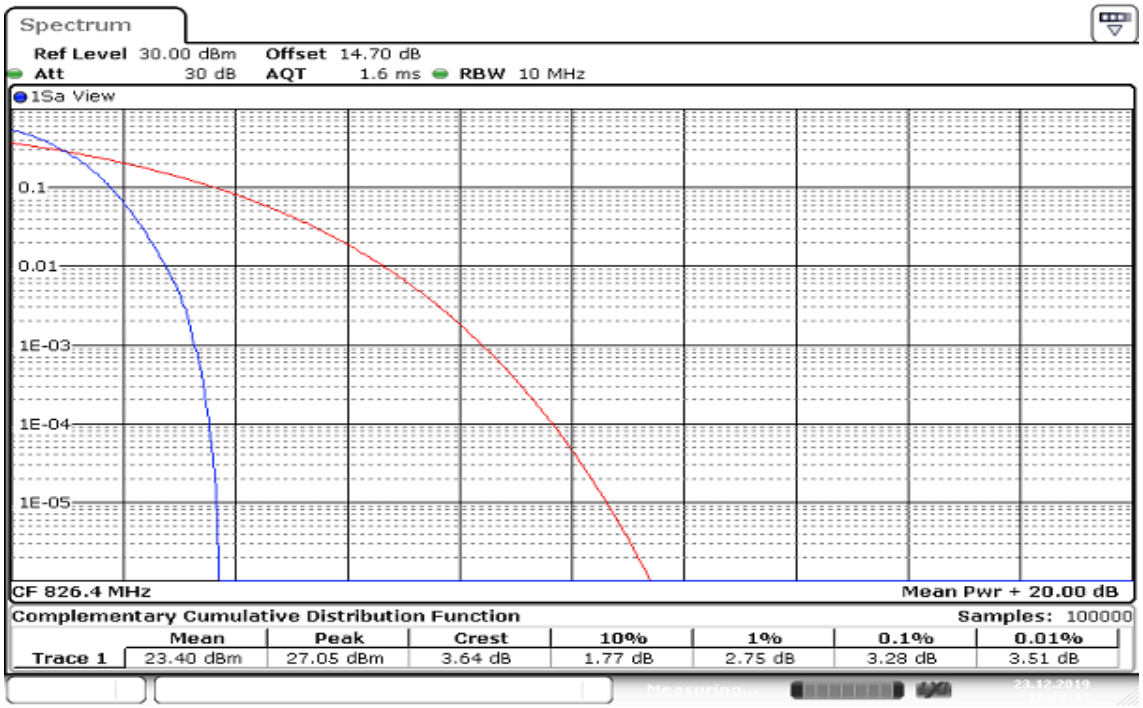
High CH



Date: 23.DEC.2019 16:13:43

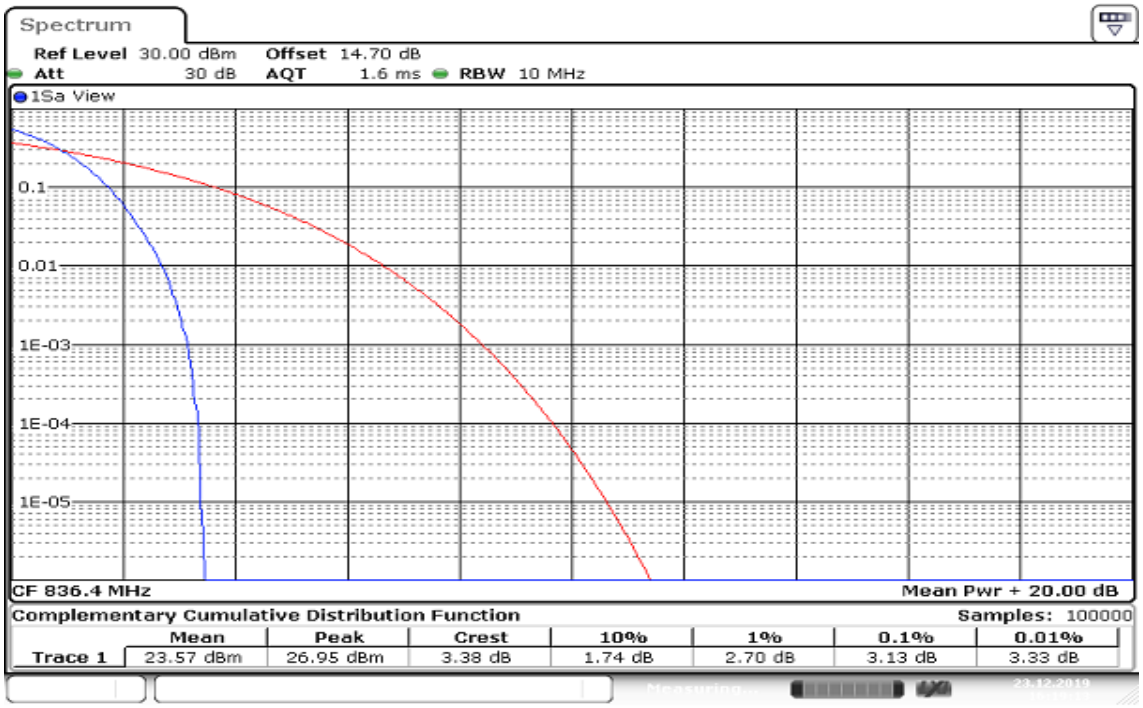
WCDMA 12.2k RMC (Band V)

Low CH



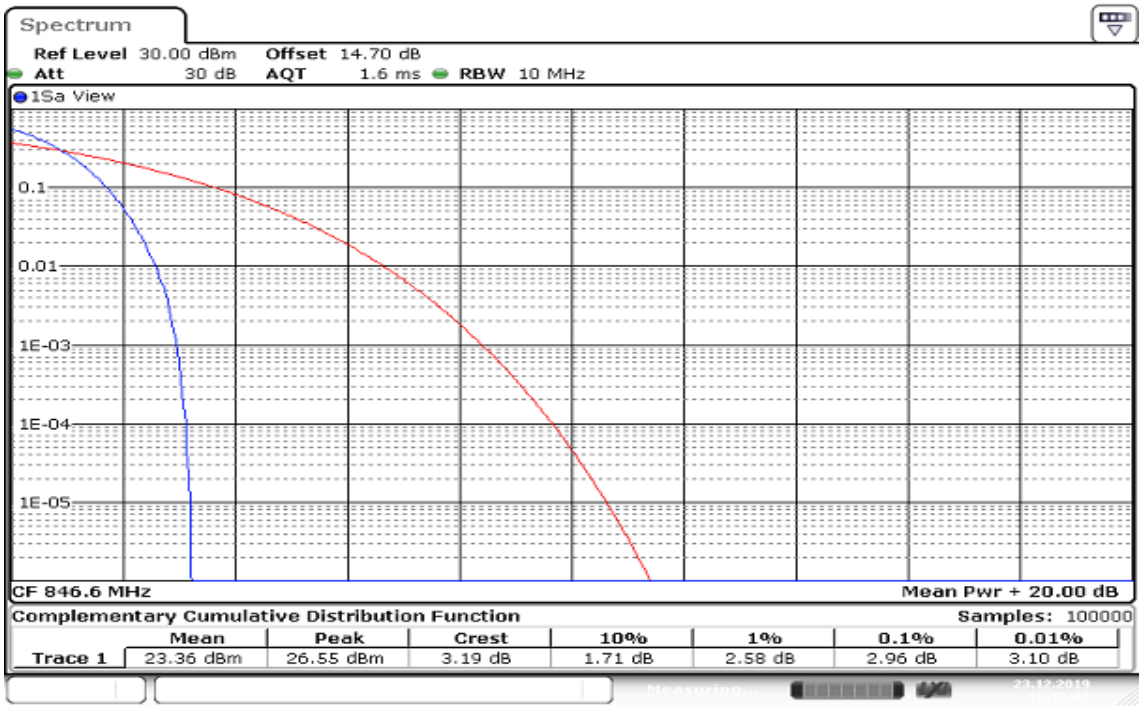
Date: 23.DEC.2019 16:20:33

Mid CH



Date: 23.DEC.2019 16:19:13

High CH



Date: 23.DEC.2019 16:18:09

8.5 CONDUCTED SPURIOUS EMISSIONS

Limit

FCC §22.917(a), Band 5

For operations in the 824-849 MHz band, out of band emissions. 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.

FCC §24.238(a), Band 2

For operations in the 1850-1910 and 1930-1950 MHz band, out of band emissions. 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.

RSS-132 section 5.5 and RSS-133 section 6.5

In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p (watts).

Test Procedures

According to KDB 971168 D01,

1. The EUT was connected to spectrum analyzer and call box.
2. The RF output of EUT was connected to the spectrum analyzer.
3. Set the spectrum analyzer, RBW=1MHz, VBW=3MHz.
4. Record the maximum spurious emission.
5. The fundamental frequency should be excluded against the limit in operating band.

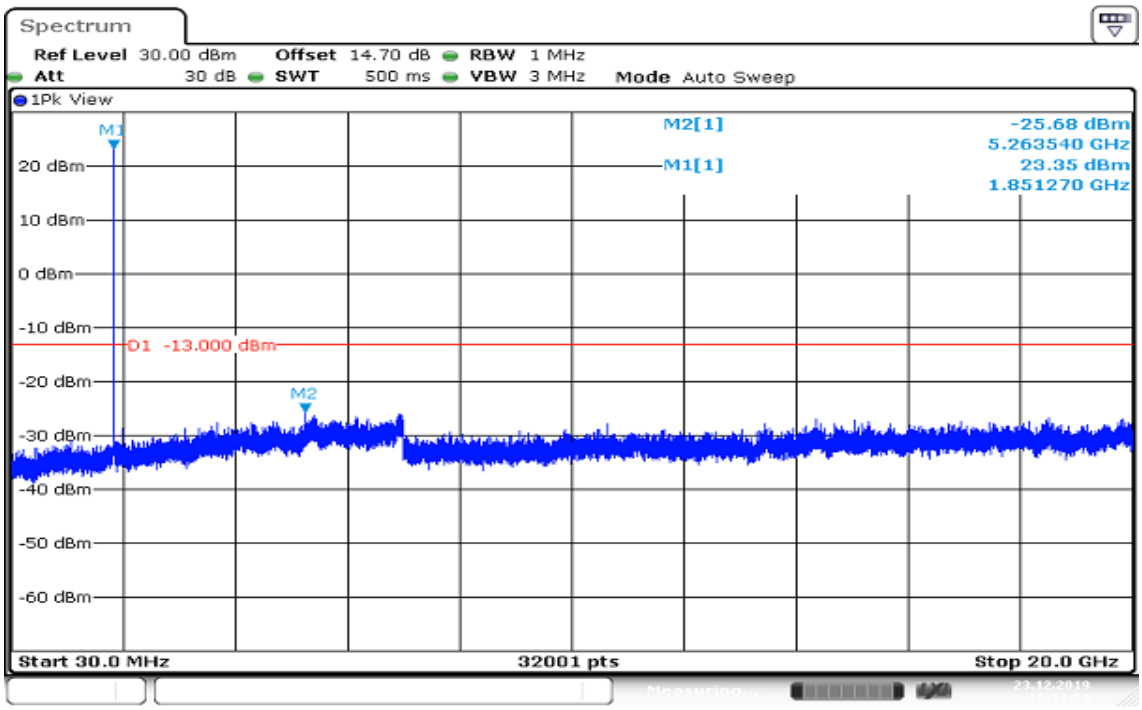
TEST RESULTS

No non-compliance noted

Test Data

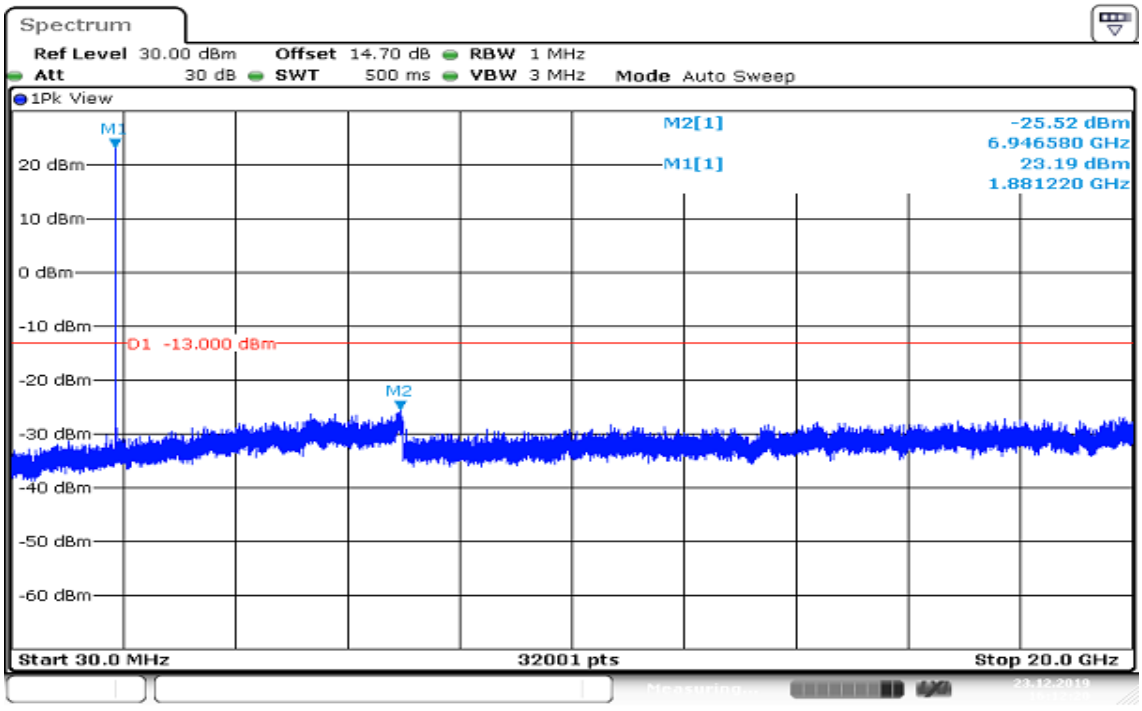
WCDMA 12.2k RMC (Band II)

Low CH



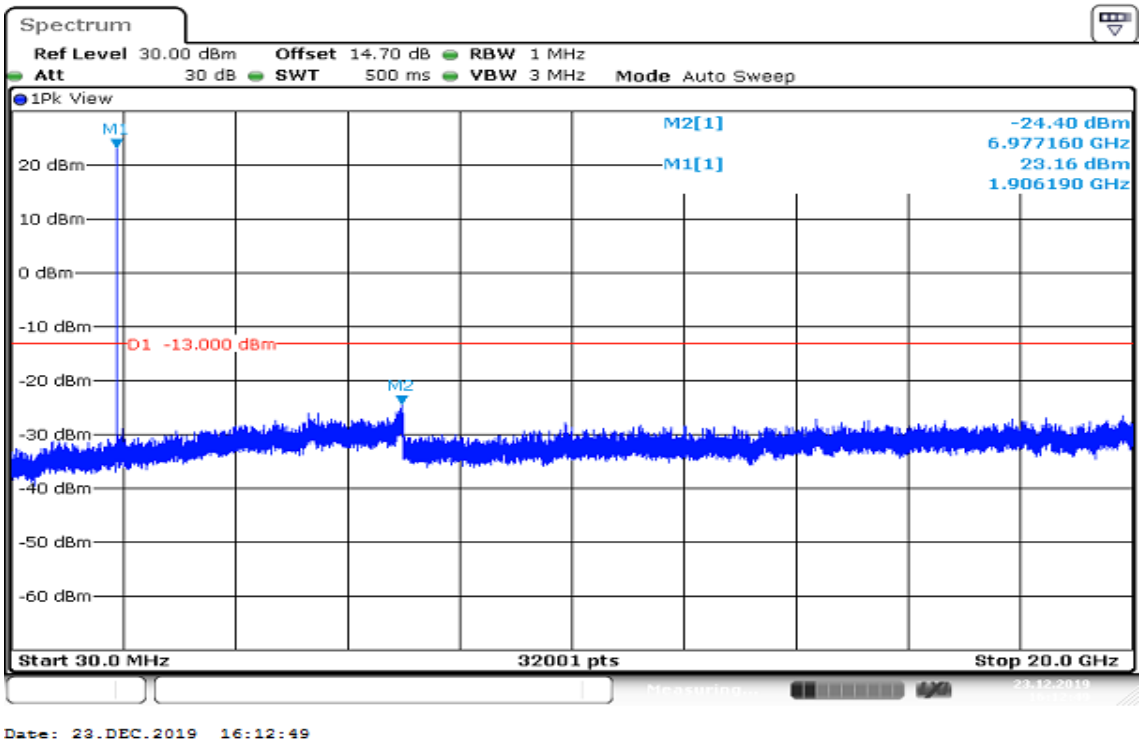
Date: 23.DEC.2019 16:11:54

Mid CH



Date: 23.DEC.2019 16:12:21

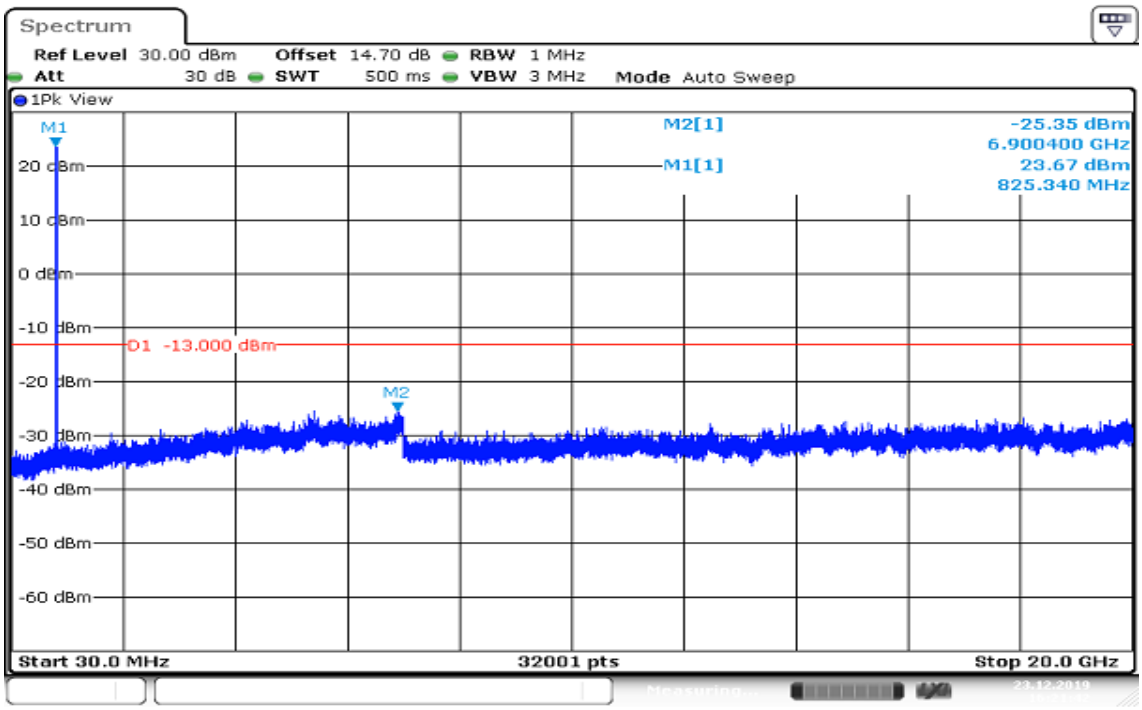
High CH



Date: 23.DEC.2019 16:12:49

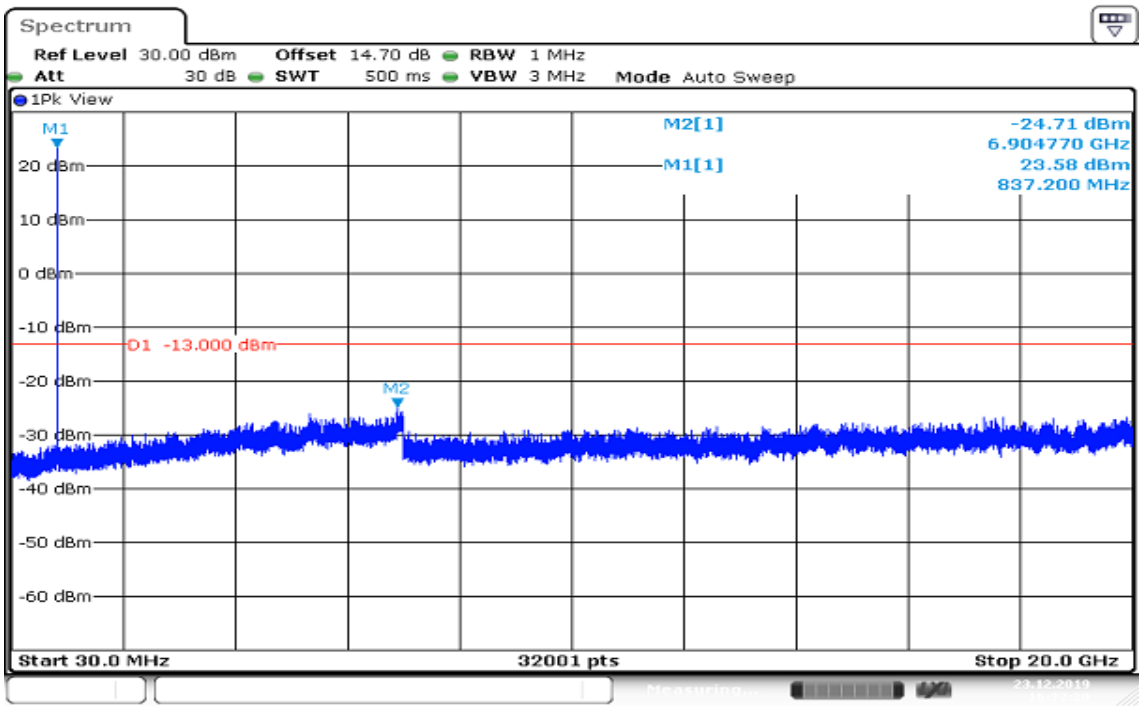
WCDMA 12.2k RMC (Band V)

Low CH



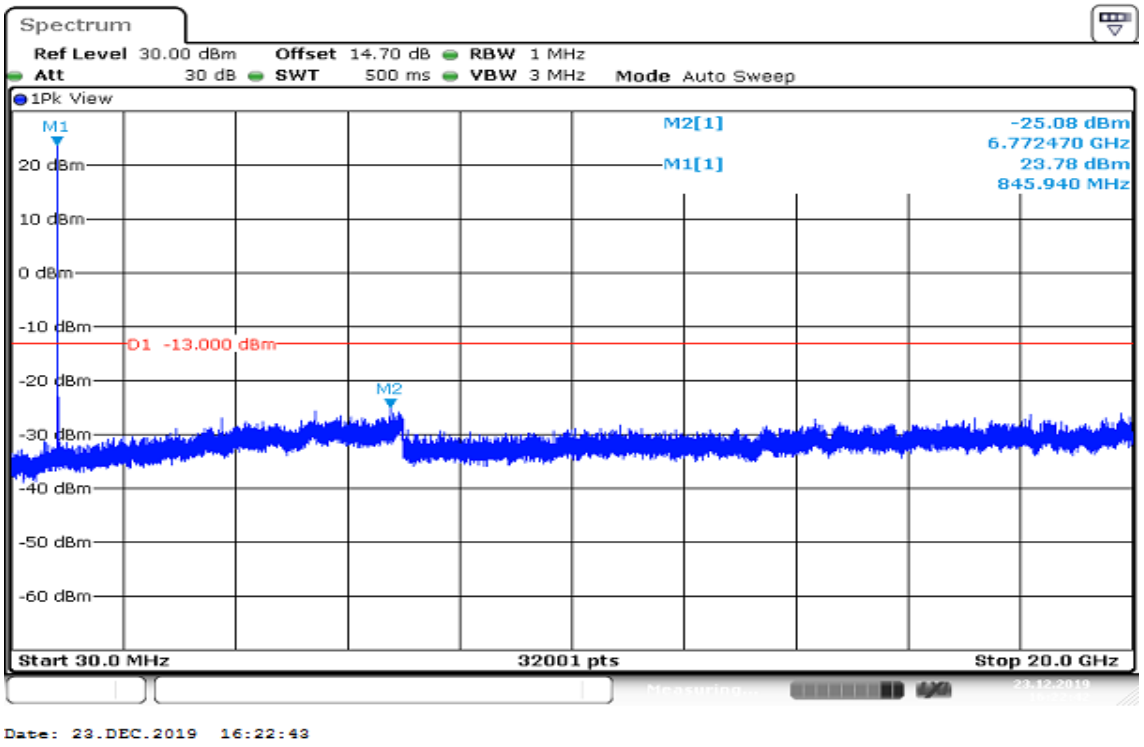
Date: 23.DEC.2019 16:21:42

Mid CH



Date: 23.DEC.2019 16:22:21

High CH



8.6 SPURIOUS RADIATION MEASUREMENT

Limit

FCC §22.917(a), Band 5

For operations in the 824-849 MHz band, out of band emissions. 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.

FCC §24.238(a), Band 2

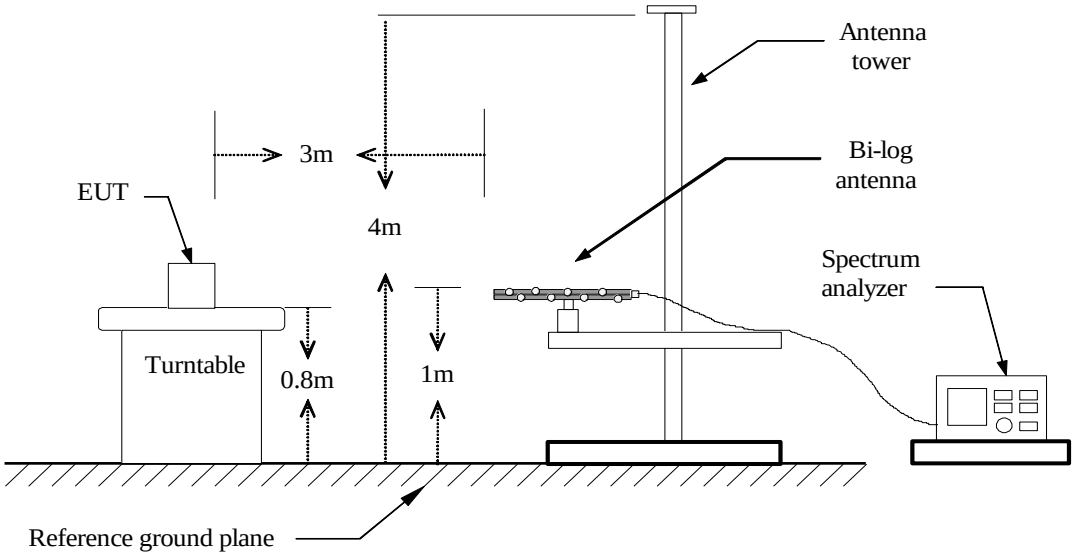
For operations in the 1850-1910 and 1930-1950 MHz band, out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

RSS-132 section 5.5 and RSS-133 section 6.5

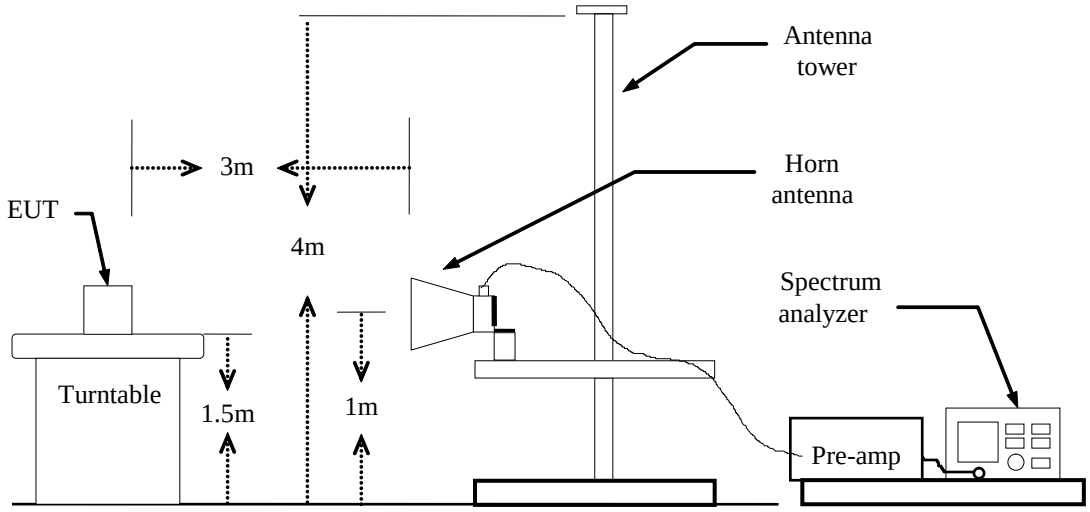
In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10 p (watts).

Test Configuration

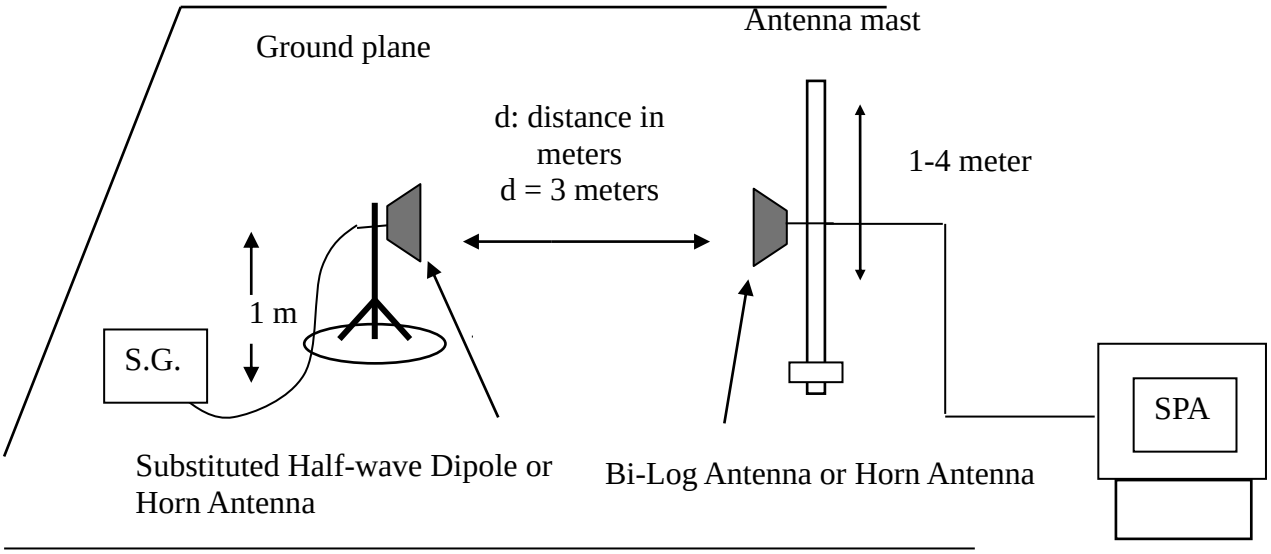
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURE

1. According to KDB 971168 D01.
2. The EUT was placed on a turntable
   (1) Below 1G : 0.8m
   (2) Above 1G : 1.5m
   (3) EUT set 3m from the receiving antenna
   (4) The table was rotated 360 degrees of the highest spurious emission to determine the position.
3. Set the spectrum analyzer , RBW=1MHz, VBW=3MHz.
4. A horn antenna was driven by a signal generator.
5. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

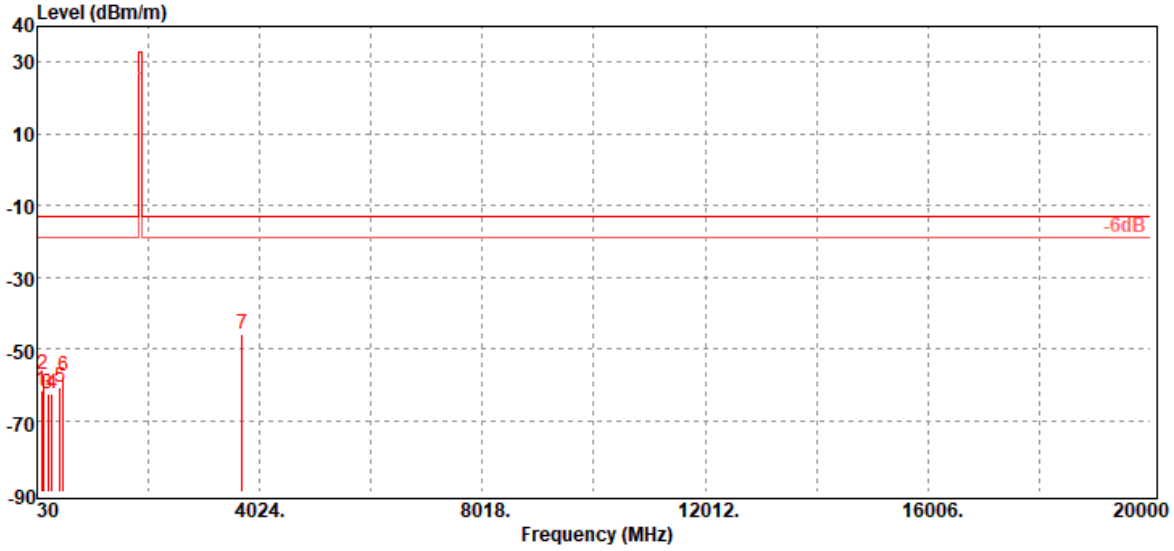
EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

TEST RESULTS

Refer to the attached tabular data sheets.

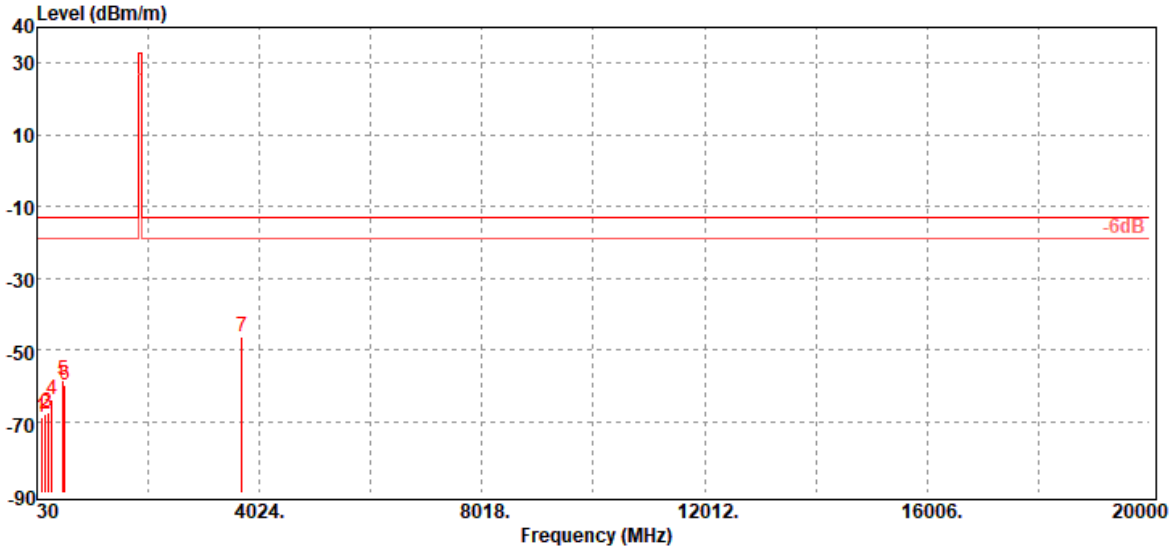
Radiated Spurious Emission Measurement Result

Operation Mode:	WCDMA 12.2k RMC Band II / TX /Low CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Ver.



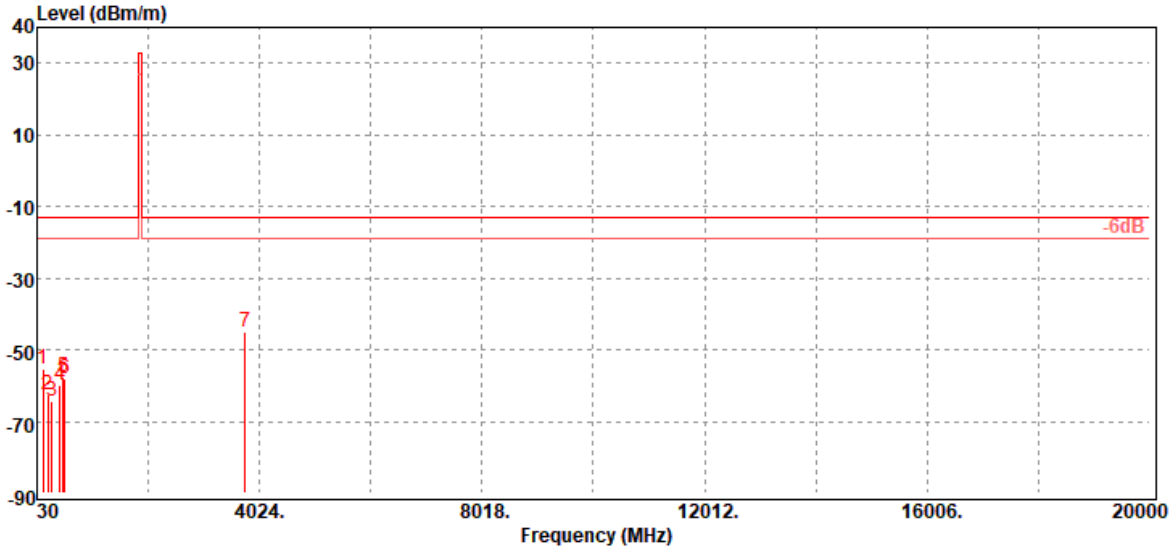
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
105.66	-61.70	-51.49	-9.37	-0.84	-13.00	-48.70	V
134.76	-57.27	-46.97	-9.35	-0.95	-13.00	-44.27	V
225.94	-62.34	-59.17	-1.94	-1.23	-13.00	-49.34	V
299.66	-62.46	-59.02	-2.01	-1.43	-13.00	-49.46	V
445.16	-60.60	-56.75	-2.10	-1.75	-13.00	-47.60	V
500.45	-57.62	-53.76	-1.99	-1.87	-13.00	-44.62	V
3704.80	-46.11	-52.88	12.49	-5.72	-13.00	-33.11	V

Operation Mode:	WCDMA 12.2k RMC Band II / TX /Low CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Hor.



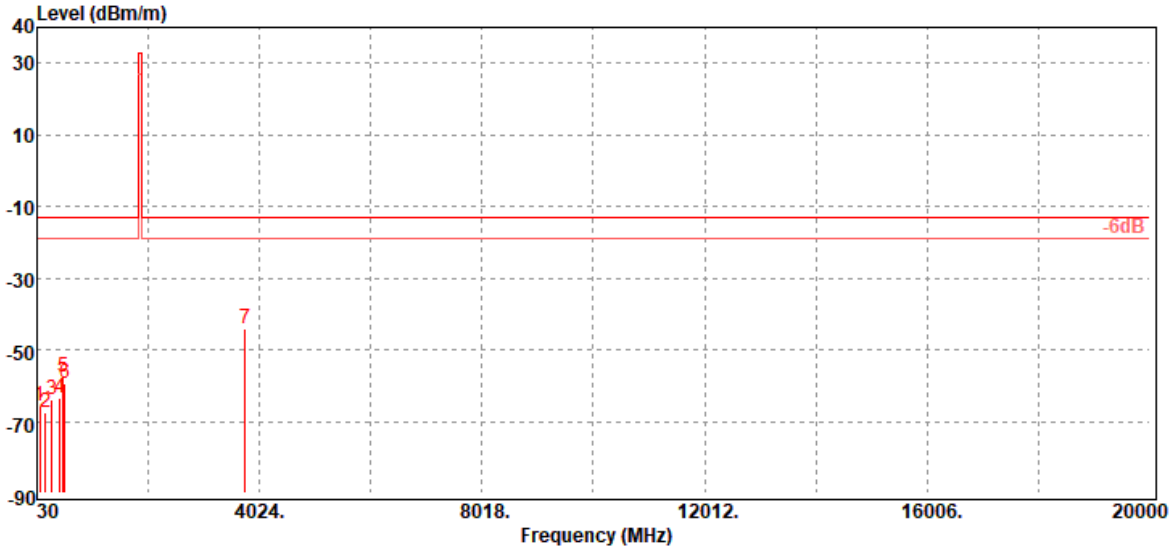
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
105.66	-68.74	-58.53	-9.37	-0.84	-13.00	-55.74	H
177.44	-67.77	-62.02	-4.66	-1.09	-13.00	-54.77	H
224.00	-67.38	-64.23	-1.92	-1.23	-13.00	-54.38	H
299.66	-63.70	-60.26	-2.01	-1.43	-13.00	-50.70	H
500.45	-58.50	-54.64	-1.99	-1.87	-13.00	-45.50	H
529.55	-59.92	-56.7	-1.30	-1.92	-13.00	-46.92	H
3704.80	-46.16	-52.93	12.49	-5.72	-13.00	-33.16	H

Operation Mode:	WCDMA 12.2k RMC Band II / TX /Mid CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Ver.



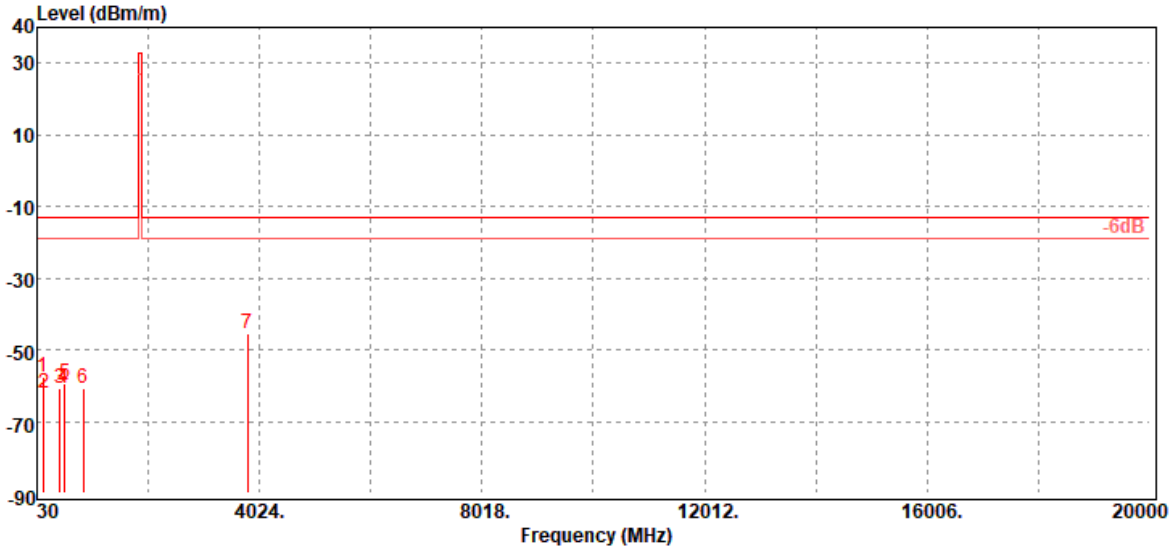
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
133.79	-55.44	-44.97	-9.52	-0.95	-13.00	-42.44	V
228.85	-62.40	-59.11	-2.05	-1.24	-13.00	-49.40	V
299.66	-64.36	-60.92	-2.01	-1.43	-13.00	-51.36	V
444.19	-59.72	-55.87	-2.10	-1.75	-13.00	-46.72	V
500.45	-57.48	-53.62	-1.99	-1.87	-13.00	-44.48	V
529.55	-57.85	-54.63	-1.30	-1.92	-13.00	-44.85	V
3760.00	-45.02	-51.68	12.42	-5.76	-13.00	-32.02	V

Operation Mode:	WCDMA 12.2k RMC Band II / TX /Mid CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Hor.



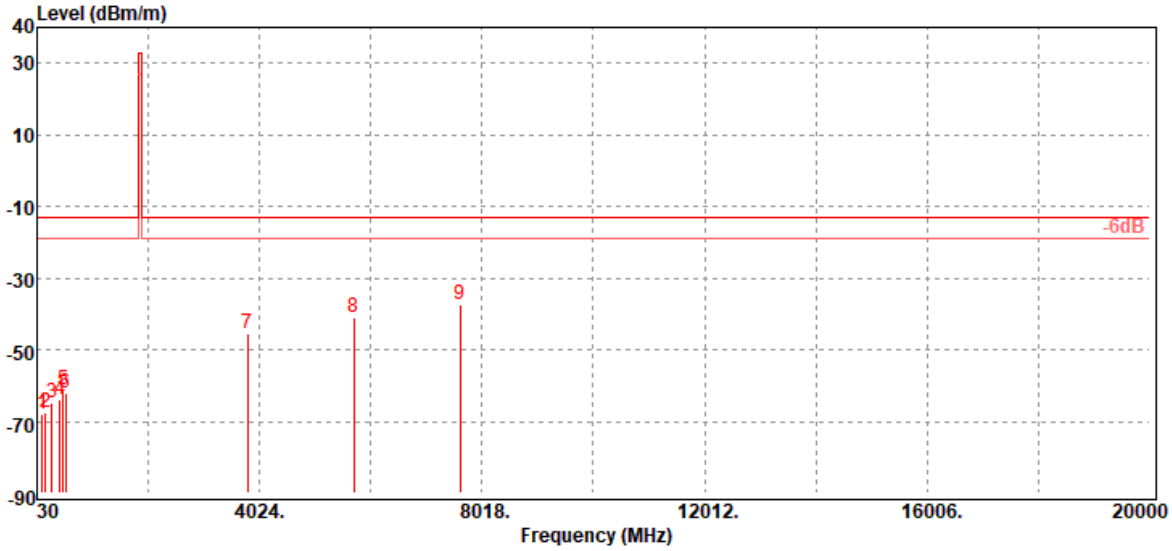
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
73.65	-65.72	-55.92	-9.10	-0.70	-13.00	-52.72	H
180.35	-67.53	-62.07	-4.36	-1.10	-13.00	-54.53	H
299.66	-63.82	-60.38	-2.01	-1.43	-13.00	-50.82	H
444.19	-63.46	-59.61	-2.10	-1.75	-13.00	-50.46	H
500.45	-57.81	-53.95	-1.99	-1.87	-13.00	-44.81	H
531.49	-59.49	-56.27	-1.30	-1.92	-13.00	-46.49	H
3760.00	-44.23	-50.89	12.42	-5.76	-13.00	-31.23	H

Operation Mode:	WCDMA 12.2k RMC Band II / TX /High CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Ver.



Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
133.79	-57.40	-46.93	-9.52	-0.95	-13.00	-44.40	V
159.01	-62.16	-54.72	-6.40	-1.04	-13.00	-49.16	V
444.19	-60.61	-56.76	-2.10	-1.75	-13.00	-47.61	V
519.85	-60.55	-57.24	-1.40	-1.91	-13.00	-47.55	V
527.61	-59.54	-56.32	-1.30	-1.92	-13.00	-46.54	V
859.35	-60.60	-56.83	-1.30	-2.47	-13.00	-47.60	V
3815.20	-45.37	-52.04	12.47	-5.80	-13.00	-32.37	V

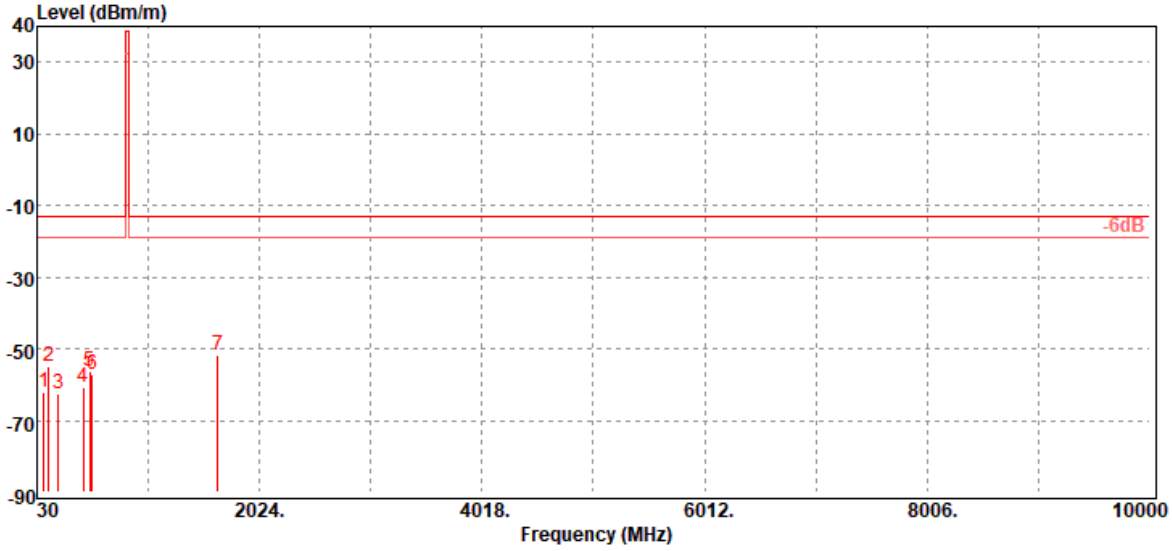
Operation Mode:	WCDMA 12.2k RMC Band II / TX / High CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Hor.



Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
124.09	-68.10	-56.69	-10.50	-0.91	-13.00	-55.10	H
177.44	-67.61	-61.86	-4.66	-1.09	-13.00	-54.61	H
299.66	-64.66	-61.22	-2.01	-1.43	-13.00	-51.66	H
444.19	-64.00	-60.15	-2.10	-1.75	-13.00	-51.00	H
500.45	-61.12	-57.26	-1.99	-1.87	-13.00	-48.12	H
546.04	-61.94	-58.8	-1.20	-1.94	-13.00	-48.94	H
3815.20	-45.36	-52.03	12.47	-5.80	-13.00	-32.36	H
5722.80	-40.91	-46.82	13.10	-7.19	-13.00	-27.91	H
7630.40	-37.41	-40.44	11.20	-8.17	-13.00	-24.41	H

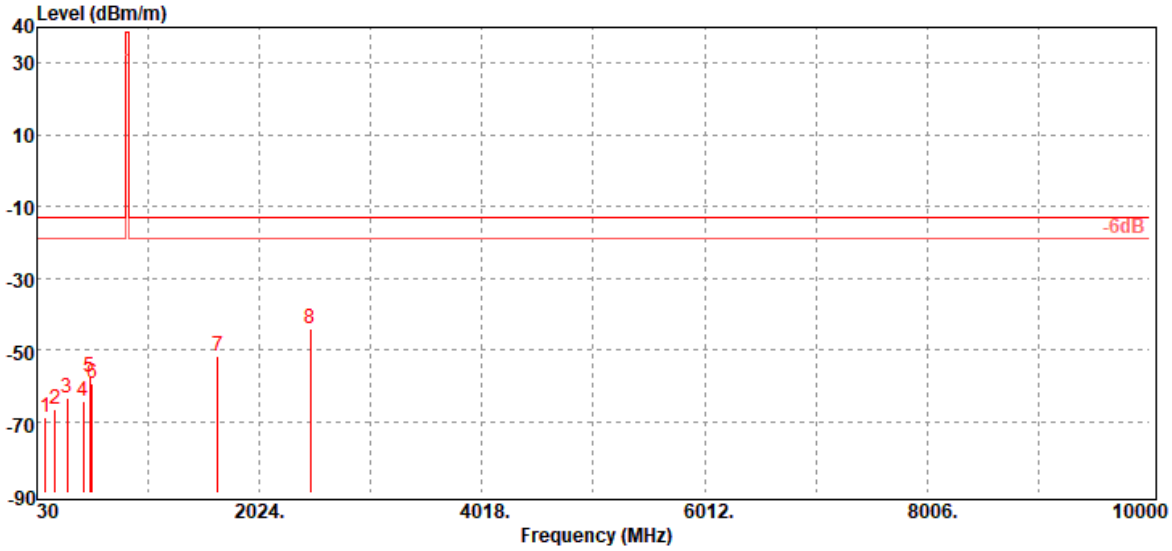
Radiated Spurious Emission Measurement Result

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Low CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Ver.



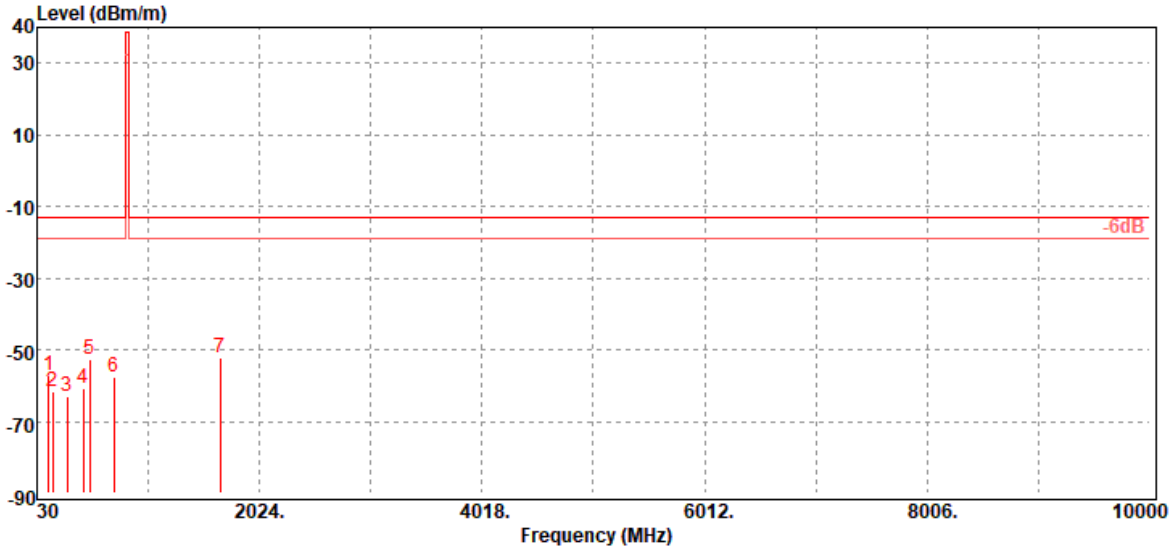
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
88.20	-61.91	-53.98	-7.16	-0.77	-13.00	-48.91	V
134.76	-54.79	-44.49	-9.35	-0.95	-13.00	-41.79	V
221.09	-62.65	-59.45	-1.98	-1.22	-13.00	-49.65	V
444.19	-60.76	-56.91	-2.10	-1.75	-13.00	-47.76	V
500.45	-56.13	-52.27	-1.99	-1.87	-13.00	-43.13	V
527.61	-57.04	-53.82	-1.30	-1.92	-13.00	-44.04	V
1652.80	-51.63	-57.8	9.72	-3.55	-13.00	-38.63	V

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Low CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Hor.



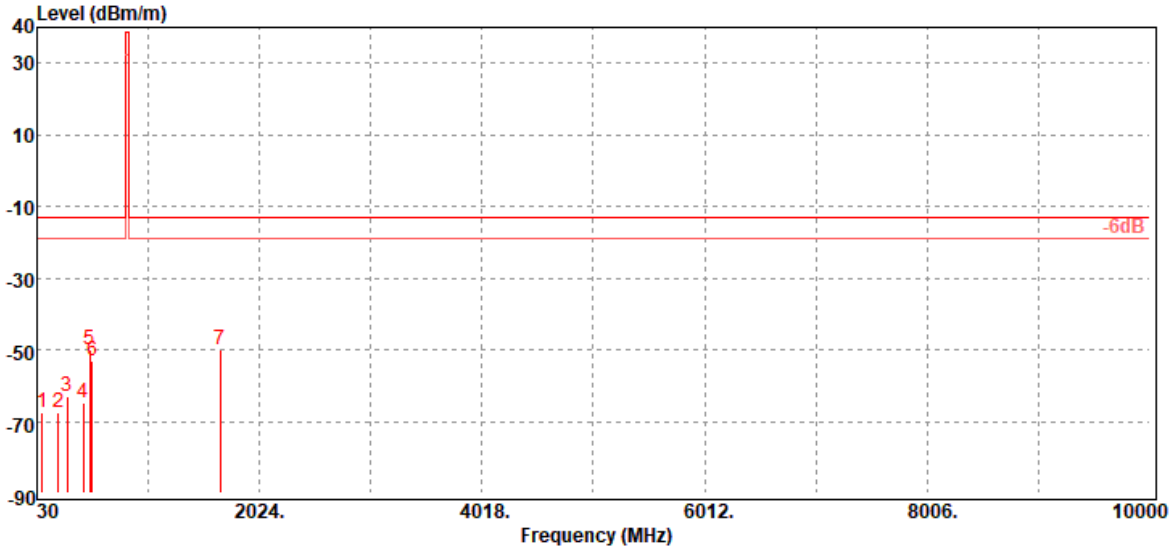
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
105.66	-68.67	-58.46	-9.37	-0.84	-13.00	-55.67	H
192.96	-66.48	-61.24	-4.10	-1.14	-13.00	-53.48	H
299.66	-63.24	-59.8	-2.01	-1.43	-13.00	-50.24	H
444.19	-64.46	-60.61	-2.10	-1.75	-13.00	-51.46	H
500.45	-57.56	-53.7	-1.99	-1.87	-13.00	-44.56	H
524.70	-59.22	-56	-1.31	-1.91	-13.00	-46.22	H
1652.80	-51.80	-57.97	9.72	-3.55	-13.00	-38.80	H
2479.20	-44.03	-50.2	10.72	-4.55	-13.00	-31.03	H

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Mid CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Ver.



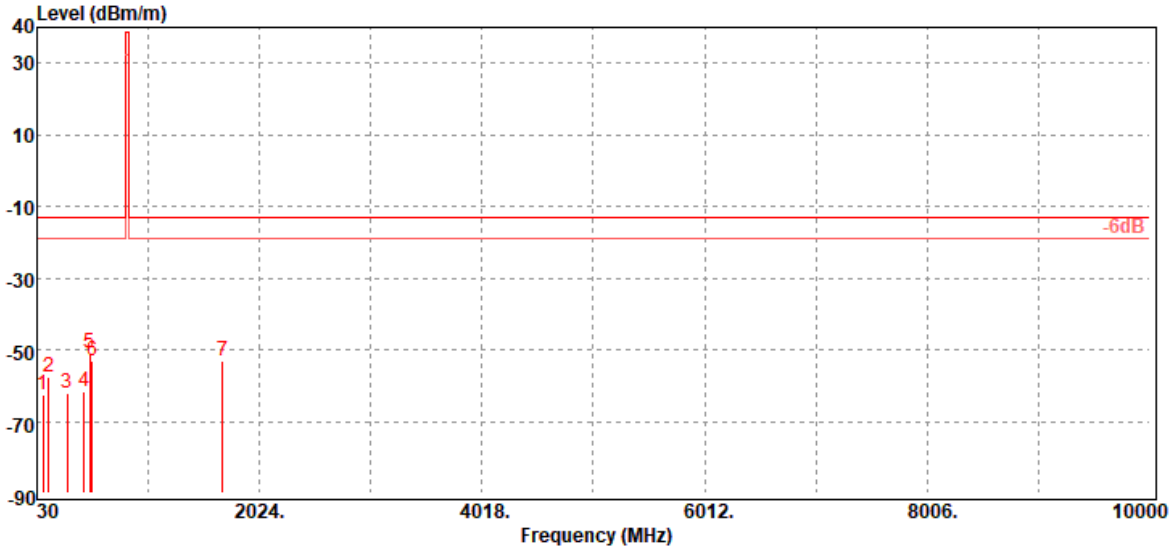
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
136.70	-56.97	-46.95	-9.06	-0.96	-13.00	-43.97	V
168.71	-61.64	-55.14	-5.43	-1.07	-13.00	-48.64	V
299.66	-62.83	-59.39	-2.01	-1.43	-13.00	-49.83	V
444.19	-60.82	-56.97	-2.10	-1.75	-13.00	-47.82	V
500.45	-52.54	-48.68	-1.99	-1.87	-13.00	-39.54	V
721.61	-57.51	-53.85	-1.40	-2.26	-13.00	-44.51	V
1672.80	-52.04	-58.3	9.84	-3.58	-13.00	-39.04	V

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Mid CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Hor.



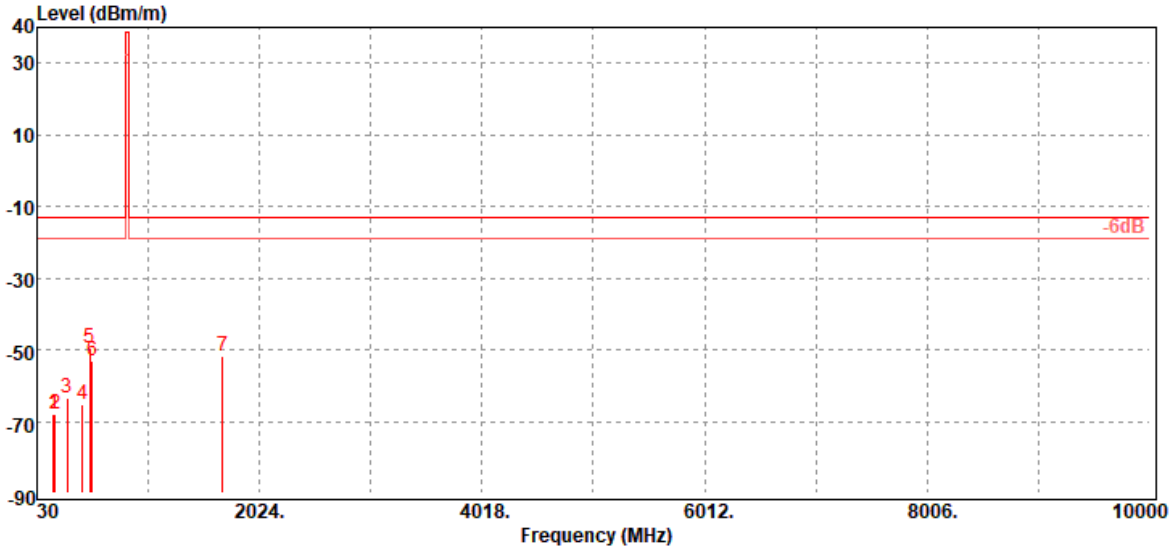
Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
73.65	-67.72	-57.92	-9.10	-0.70	-13.00	-54.72	H
222.06	-67.66	-64.48	-1.96	-1.22	-13.00	-54.66	H
299.66	-63.22	-59.78	-2.01	-1.43	-13.00	-50.22	H
445.16	-64.93	-61.08	-2.10	-1.75	-13.00	-51.93	H
500.45	-49.92	-46.06	-1.99	-1.87	-13.00	-36.92	H
524.70	-53.08	-49.86	-1.31	-1.91	-13.00	-40.08	H
1672.80	-49.92	-56.18	9.84	-3.58	-13.00	-36.92	H

Operation Mode:	WCDMA 12.2k RMC Band V / TX / High CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Ver.



Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
85.29	-62.50	-53.94	-7.81	-0.75	-13.00	-49.50	V
133.79	-57.70	-47.23	-9.52	-0.95	-13.00	-44.70	V
299.66	-62.12	-58.68	-2.01	-1.43	-13.00	-49.12	V
449.04	-61.85	-57.99	-2.10	-1.76	-13.00	-48.85	V
500.45	-50.76	-46.9	-1.99	-1.87	-13.00	-37.76	V
527.61	-53.03	-49.81	-1.30	-1.92	-13.00	-40.03	V
1693.20	-53.04	-59.4	9.96	-3.60	-13.00	-40.04	V

Operation Mode:	WCDMA 12.2k RMC Band V / TX / High CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59 % RH	**Polarity:**	Hor.



Freq. (MHz)	ERP/EIRP (dBm)	SG Output Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
177.44	-67.84	-62.09	-4.66	-1.09	-13.00	-54.84	H
192.96	-67.81	-62.57	-4.10	-1.14	-13.00	-54.81	H
299.66	-63.31	-59.87	-2.01	-1.43	-13.00	-50.31	H
439.34	-65.45	-61.62	-2.09	-1.74	-13.00	-52.45	H
500.45	-49.64	-45.78	-1.99	-1.87	-13.00	-36.64	H
526.64	-53.15	-49.93	-1.30	-1.92	-13.00	-40.15	H
1693.20	-51.61	-57.97	9.96	-3.60	-13.00	-38.61	H

8.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

LIMIT

According to FCC §2.1055, FCC §22.355, .FCC §24.235.
According to RSS-132 (5.3) & RSS-133 (6.3).

Test Procedure

Use Anritsu 8820 with frequency Error measurement capability.

Temp = -40℃ to +65℃

Voltage= 85% to 115% of the nominal value.

The Worst case: DC 12V

NOTE: *The frequency error was recorded frequency error from the communication simulator.*

TEST RESULTS

No non-compliance noted.

Reference Frequency: WCDMA 12.2k RMC Band II Low Channel 1852.4 MHz				
Limit: 2.5 ppm = 4631 Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
12	65	1.00	0.0005	+/- 2.5
12	50	0.00	0.0000	
12	40	0.00	0.0000	
12	30	1.00	0.0005	
12	20	0.00	0.0000	
12	10	1.00	0.0005	
12	0	0.00	0.0000	
12	-10	-1.00	-0.0005	
12	-20	-1.00	-0.0005	
12	-30	0.00	0.0000	
12	-40	-2.00	-0.0011	

Reference Frequency: WCDMA 12.2k RMC Band II Mid Channel 1880 MHz				
Limit: 2.5 ppm = 4700 Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
12	65	1.00	0.0005	+/- 2.5
12	50	2.00	0.0011	
12	40	0.00	0.0000	
12	30	-1.00	-0.0005	
12	20	0.00	0.0000	
12	10	0.00	0.0000	
12	0	-1.00	-0.0005	
12	-10	1.00	0.0005	
12	-20	1.00	0.0005	
12	-30	1.00	0.0005	
12	-40	-1.00	-0.0005	

Reference Frequency: WCDMA 12.2k RMC Band II High Channel 1907.6 MHz				
Limit: 2.5 ppm = 4769 Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
12	65	0.00	0.0000	+/- 2.5
12	50	1.00	0.0005	
12	40	-1.00	-0.0005	
12	30	1.00	0.0005	
12	20	0.00	0.0000	
12	10	-2.00	-0.0010	
12	0	1.00	0.0005	
12	-10	0.00	0.0000	
12	-20	-1.00	-0.0005	
12	-30	-2.00	-0.0010	
12	-40	0.00	0.0000	

Reference Frequency: WCDMA 12.2k RMC Band V Low Channel 826.4 MHz				
Limit: 2.5 ppm = 2066 Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
12	65	0.00	0.0000	+/- 2.5
12	50	-2.00	-0.0024	
12	40	-1.00	-0.0012	
12	30	-1.00	-0.0012	
12	20	0.00	0.0000	
12	10	1.00	0.0012	
12	0	-1.00	-0.0012	
12	-10	0.00	0.0000	
12	-20	1.00	0.0012	
12	-30	2.00	0.0024	
12	-40	1.00	0.0012	

Reference Frequency: WCDMA 12.2k RMC Band V Mid Channel 836.6 MHz				
Limit: 2.5 ppm = 2091.5 Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
12	65	-2.00	-0.0024	+/- 2.5
12	50	-1.00	-0.0012	
12	40	0.00	0.0000	
12	30	1.00	0.0012	
12	20	0.00	0.0000	
12	10	0.00	0.0000	
12	0	1.00	0.0012	
12	-10	-1.00	-0.0012	
12	-20	0.00	0.0000	
12	-30	1.00	0.0012	
12	-40	-1.00	-0.0012	

Reference Frequency: WCDMA 12.2k RMC Band V High Channel 846.6 MHz				
Limit: 2.5 ppm = 2116.5 Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
12	65	-1.00	-0.0012	+/- 2.5
12	50	1.00	0.0012	
12	40	0.00	0.0000	
12	30	1.00	0.0012	
12	20	0.00	0.0000	
12	10	2.00	0.0024	
12	0	-1.00	-0.0012	
12	-10	1.00	0.0012	
12	-20	1.00	0.0012	
12	-30	0.00	0.0000	
12	-40	-1.00	-0.0012	

FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT:

Reference Frequency: WCDMA 12.2k RMC Band II Low Channel 1852.4 MHz				
Limit: 2.5 ppm = 4631Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
10.2	20	-1.00	-0.0005	+/- 2.5
12		0.00	0.0000	
13.8		1.00	0.0005	

Reference Frequency: WCDMA 12.2k RMC Band II Mid Channel 1880 MHz				
Limit: 2.5 ppm = 4700Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
10.2	20	0.00	0.0000	+/- 2.5
12		0.00	0.0000	
13.8		-1.00	-0.0005	

Reference Frequency: WCDMA 12.2k RMC Band II High Channel 1907.6 MHz				
Limit: 2.5 ppm = 4769Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
10.2	20	-1.00	-0.0005	+/- 2.5
12		0.00	0.0000	
13.8		1.00	0.0005	

Reference Frequency: WCDMA 12.2k RMC Band V Mid Channel 826.4 MHz				
Limit: 2.5 ppm = 2066Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
10.2	20	1.00	0.0012	+/- 2.5
12		0.00	0.0000	
13.8		-1.00	-0.0012	

Reference Frequency: WCDMA 12.2k RMC Band V Mid Channel 836.6 MHz				
Limit: 2.5 ppm = 2091.5Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
10.2	20	0.00	0.0000	+/- 2.5
12		0.00	0.0000	
13.8		1.00	0.0012	

Reference Frequency: WCDMA 12.2k RMC Band V Mid Channel 846.6 MHz				
Limit: 2.5 ppm = 2116.5Hz				
Power Supply (Vac)	Environment Temperature (°C)	Frequency Error(Hz)	Frequency Error (ppm)	Limit (ppm)
10.2	20	1.00	0.0012	+/- 2.5
12		0.00	0.0000	
13.8		-1.00	-0.0012	

- End of Test Report -