



ISED No: 9404A-AIM8IEM

Page: 1 / 59 Rev.: 00

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

Computer

IC Model No.: AIM8IEM

Trade Name: ADVANTECH

Issued to

Advantech Co.Ltd. No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 114, Taiwan, R.O.C.

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: January 3, 2019

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可部分複製。

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Page: 2/59 Rev.: 00

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	January 3, 2019	Initial Issue	ALL	Allison Chen



Page: 3 / 59 Rev.: 00

TABLE OF CONTENTS

1. TES	T RESULT CERTIFICATION	4
2. EUT	DESCRIPTION	.5
3. TES	T SUMMARY	.6
4. TEST	T METHODOLOGY	.7
4.1 4.2	EUT CONFIGURATION DESCRIPTION OF TEST MODES	
5. INST	RUMENT CALIBRATION	.8
5.1 5.2 5.3	MEASURING INSTRUMENT CALIBRATION MEASUREMENT EQUIPMENT USED MEASUREMENT UNCERTAINTY	.8
6. FAC	ILITIES AND ACCREDITATIONS1	-
6.1 6.2	FACILITIES	-
7. SETU	UP OF EQUIPMENT UNDER TEST1	1
7.1 7.2	SETUP CONFIGURATION OF EUT	
8. FCC	PART 22 & 24 REQUIREMENTS & INDUSTRY CANADA RSS-132 & RSS-133.1	2
8.1 8.2 8.3 8.4 8.5 8.6 8.7 8.8	AVERAGE POWER1ERP & EIRP MEASUREMENT1OCCUPIED BANDWIDTH MEASUREMENT1CONDUCTED BANDEDG MEASUREMENT2PEAK TO AVERAGE RATIO2CONDUCTED SPURIOUS EMISSIONS3SPURIOUS RADIATION MEASUREMENT3FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT5	4 7 25 30 35
APPEND	DIX-A PHOTOGRAPHS OF TEST SETUPA-	·1
APPEND	DIX 1 - PHOTOGRAPHS OF EUT	



Page: 4 / 59 Rev.: 00

1. TEST RESULT CERTIFICATION

Date of Test:	December 4 ~ 7, 2018
IC Model No.:	AIM8IEM
FCC Model No.:	AIM8IEM; AIM8IEMxxxxxxxxxxxx (where "x" may be any alphanumeric character, "-" or blank for marketing purpose and no impact safety related critical components and constructions)
Trade Name:	ADVANTECH
Equipment Under Test:	Computer
Manufacturer:	Advantech Co.Ltd. No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 114, Taiwan, R.O.C.
Applicant:	Advantech Co.Ltd. No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 114, Taiwan, R.O.C.

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				

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:

- Hern Cleang

Sam Chuang Manager Compliance Certification Services Inc.

Tested by:

Jerry Ching

Jerry Chuang Engineer Compliance Certification Services Inc.



2. EUT DESCRIPTION

Product	Computer		
FCC Model No.	AIM8IEM; AIM8IEMxxxxxxxxxxxxx (where "x" may be any alphanumeric character, "-" or blank for marketing purpose and no impact safety related critical components and constructions)		
IC Model No.	AIM8IEM		
Model Discrepancy	All the above models are identical except for the designation of model numbers. The suffix of (where "x" may be any alphanumeric character, "-" or blank for marketing purpose and no impact safety related critical components and constructions) on model number is just for marketing purpose only.		
Trade Name	ADVANTECH		
Received Date	November 23, 2018		
Power Supply	 VDC from Power Adapter Chicony / A16-018N1A I/P: 100-240Vac, 1A, 50-60Hz O/P: 5.15Vdc, 3A, 9.1Vdc, 2A, 18W Battery ADVANTECH / AIM-BAT-8 Rating: 3.8V, 4900, 18.62Wh 		
Frequency Range	WCDMA / HSDPA / HSUPA Band II: 1852.4 ~ 1907.6 MHz WCDMA / HSDPA / HSUPA Band V: 826.4 ~ 846.6MHz		
Transmit Power (ERP & EIRP Power)	WCDMA Band II: 27.62dBm WCDMA Band V: 16.68dBm		
Antenna Gain	PIFA Antenna WCDMA band II: -1.98 dBi WCDMA band V: -1.91 dBi		

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 and HSDPA 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	II	1852.4MHz ~1907.6MHz	4M15F9W	N/A	0.5781	
12.2K RMC	V	826.4MHz ~ 846.6MHz	4M15F9W	0.0466	N/A	



Page: 6 / 59 Rev.: 00

3. TEST SUMMARY

FCC Standard Section	IC Standard Section	Report Section	Test Item	Result
-	-	2	Antenna Requirement	Pass
2.1046	RSS-GEN 6.12	8.1	Average Power	Pass
22.913(a), 24.232(c)	RSS-132, section 5.4 RSS-133, section 6.4	8.2	ERP and EIRP Measurement	Pass
2.1049	RSS-GEN 6.7	8.3	Occupied Bandwidth Measurement	Pass
22.917(a),	RSS-132 section 5.5	8.4	Conducted Band Edge	Pass
24.238(a)	RSS-133 section 6.5	0.4	Conducted Band Edge	газэ
22.913(d),	RSS-132, section 5.4	8.5	Peak to Average Ratio	Pass
24.232(d)	RSS-133, section 6.4	0.5	Feak to Average Ratio	rass
22.917(a),	RSS-132 section 5.5	8.6	Conducted Spurious Emission	Page
24.238(a)	RSS-133 section 6.5	0.0	Conducted Spunous Emission	Pass
22.917(a),	RSS-132 section 5.5	8.7	Spurious Radiation	Pass
24.238(a)	RSS-133 section 6.5	0.7	Measurement	Fa55
2.1055, 22.355, 24.235	RSS-132 section 5.3 RSS-133 section 6.3	8.8	Frequency Stability v.s. temperature measurement	Pass



Page: 7 / 59 Rev.: 00

Report No.: T181123D04-RP2

4. TEST METHODOLOGY

Both conducted and radiated testing were performed according to TIA-603-E and FCC CFR 47, Part 2, Part 22 Subpart H and Part 24 Subpart E, KDB 971168 D01 Power Meas License Digital Systems.

4.1 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.

4.2 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.

After verification, all tests carried out are with the worst-case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode and receiving radiated spurious emission above 1GHz, which worst case was in CH Mid mode only.

WCDMA Band II:

Channel Low (CH9262), Channel Mid (CH9400) and Channel High (CH9538) were chosen for full testing.

WCDMA Band V:

Channel Low (CH4132), Channel Mid (CH4182) and Channel High (CH4233) were chosen for full testing.

4.2.1 The worst mode of measurement

Radiated Emission Measurement						
Test Condition	Emission for Unwanted and Fundamental					
Power supply Mode 1: EUT Power by Power Adapter Mode 2: EUT Power by battery.						
Worst Mode	st Mode 1 🗌 Mode 2 🗌 Mode 3 🗌 Mode 4					
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) 					

Remark:

1. The worst mode was record in this test report.

2. The EUT pre-scanned in three axis ,X,Y, Z and two polarity, Horizontal and Vertical for radiated measurement. The worst case (X-Plane) were recorded in this report.



Page: 8 / 59 Rev.: 00

5. INSTRUMENT CALIBRATION

5.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

5.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Wugu fully Chamber							
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due		
Bilog Antenna	Sunol Sciences	JB1	A052609	03/14/2018	03/13/2019		
Cable	HUBER SUHNER	SUCOFLEX 104PEA	23452	06/29/2018	06/28/2019		
Cable	HUBER SUHNER	SUCOFLEX 104PEA	33960	06/29/2018	06/28/2019		
Digital Radio Communication Tester	R&S	CMU200	116604	07/19/2018	07/18/2019		
Digital Thermo-Hygro Meter	WISEWIND	1110	D06	02/08/2018	02/07/2019		
Horn Antenna	SCHWARZBE CK	BBHA 9120D	779	03/14/2018	03/13/2019		
Pre-Amplifier	Anritsu	MH648A	M89145	06/29/2018	06/28/2019		
Pre-Amplifier	EMEC	EM01G26G	060570	06/29/2018	06/28/2019		
Signal Analyzer	Agilent	N9010A	MY52220817	03/22/2018	03/21/2019		
Wideband Radio Communication Tester	R&S	CMW 500	116875	04/20/2018	04/19/2019		
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		

Conducted Emissions Test Site							
Name of Equipment	Manufacturer	Model	Serial Number	Cal Date	Cal Due		
Coaxial Cable	Woken	WC12	CC001	06/29/2018	06/28/2019		
Coaxial Cable	e Woken WC12		CC002	06/29/2018	06/28/2019		
Power Divider	Solvang Technology	STI08-0015	008	07/27/2018	07/26/2019		
Signal Analyzer	R&S	FSV 40	101073	09/27/2018	09/26/2019		
Wireless Communication Test Set	Agilent	8960/E5515C	MY48363204	07/23/2018	07/22/2019		



Page: 9/59 Rev.: 00

5.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683

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



Page: 10 / 59 Rev.: 00

6. FACILITIES AND ACCREDITATIONS

6.1 FACILITIES

No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan, R.O.C

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.

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."



Page: 11 / 59 Rev.: 00

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

I	٩N	Equipment	Brand	Model	Series No.	FCC ID	Data Cable
		N/A					

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.



Page: 12 / 59 Rev.: 00

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

8.1 AVERAGE POWER

Test Procedures

According to FCC Part 2.1046. According to RSS-GEN 6.12.

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

Band	Data Rate or Sub-test	UL/DL Channel No.	Frequency(MHz)	Average power(dBm)	Output Power (W)
WCDMA	RMC	9262/9662	1852.4	22.9	0.19498
Band II	12.2Kbps	9400/9800	1880.0	23.0	0.19724
Dallu II	12.2K0p5	9538/9938	1907.6	22.6	0.18323
	DMC	4132/4357	826.4	22.7	0.18793
WCDMA Band V	RMC 12.2Kbps	4183/4408	836.4	22.8	0.19099
Dana V	12.21005	4233/4458	846.6	22.7	0.18750



Page: 13 / 59 Rev.: 00

<u>HSUPA</u>

Band	Data Rate or Sub-test	UL/DL Channel No.	Frequency(MHz)	Average power(dBm)	Output Power (W)
		9262/9662	1852.4	20.7	0.11803
	1	9400/9800	1880.0	20.8	0.11912
		9538/9938	1907.0	20.5	0.11169
		9262/9662	1852.4	18.8	0.07516
	2	9400/9800	1880.0	18.8	0.07551
		9538/9938	1907.0	18.6	0.07178
		9262/9662	1852.4	20.6	0.11508
HSUPA II	3	9400/9800	1880.0	20.6	0.11535
		9538/9938	1907.0	20.4	0.11015
		9262/9662	1852.4	18.9	0.07780
	4	9400/9800	1880.0	19.0	0.07925
		9538/9938	1907.0	18.7	0.07345
		9262/9662	1852.4	21.5	0.14125
	5	9400/9800	1880.0	21.6	0.14289
		9538/9938	1907.0	19.1	0.08035
		4132/4357	826.4	20.4	0.11066
	1	4182/4407	836.4	20.5	0.11169
		4233/4458	846.6	20.4	0.11041
		4132/4357	826.4	18.5	0.06998
	2	4182/4407	836.4	18.5	0.07047
		4233/4458	846.6	18.6	0.07311
		4132/4357	826.4	20.0	0.09931
HSUPA V	3	4182/4407	836.4	20.1	0.10116
		4233/4458	846.6	20.6	0.11482
		4132/4357	826.4	18.9	0.07674
	4	4182/4407	836.4	18.9	0.07691
		4233/4458	846.6	18.9	0.07780
		4132/4357	826.4	21.0	0.12503
	5	4182/4407	836.4	21.4	0.13804
		4233/4458	846.6	21.6	0.14454



Page: 14 / 59 Rev.: 00

8.2 ERP & EIRP MEASUREMENT

<u>LIMIT</u>

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

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

RSS-132, section 5.4

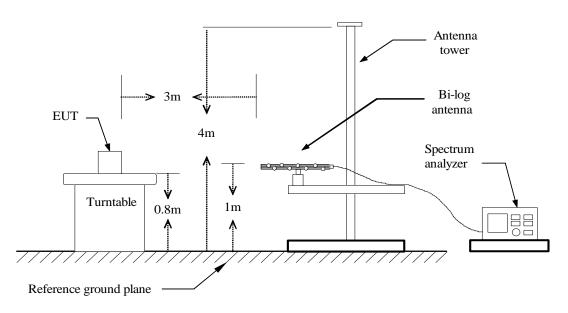
The transmitter output power shall be measured in terms of average power. The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts. Refer to SRSP-503 for base station e.i.r.p. limits.

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 Configuration

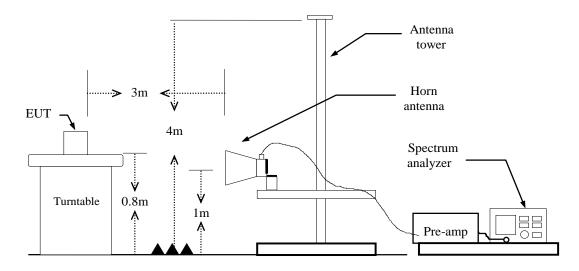
Below 1 GHz



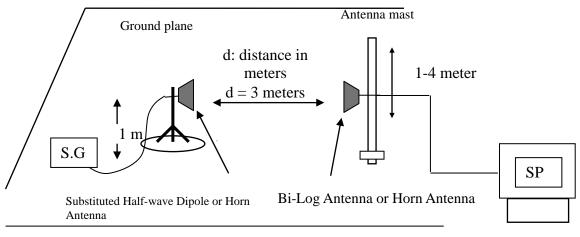


Page: 15 / 59 Rev.: 00

Above 1 GHz



For Substituted Method Test Set-UP





Page: 16 / 59 Rev.: 00

TEST PROCEDURE

1. The EUT was placed on a non-conductive rotating platform (0.8m for below 1G and above 1G) in a semi-chamber. The radiated emission at the fundamental frequency was measured at 3m and SA with RMS detector per section 5, KDB 971168 D01 Power Meas License Digital Systems.

2. During the measurement, the call box parameters were set to get the maximum output power of the EUT. The maximum emission was recorded from spectrum analyzer power level (LVL) from 360 degrees rotation of turntable and the test antenna raised and lowered over a range from 1m to 4m in both horizontally and vertically polarized orientations.

ERP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB) - 2.15 EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

TEST RESULTS

No non-compliance noted.

WCDMA 12.2K RMC

Test Mode	Channel	Vert	ical	Horizontal		
Test Wode	Channel	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)	
WCDMA 12.2K	Lowest	13.90	0.0245	26.95	0.4955	
RMC	Middle	14.58	0.0287	27.62	0.5781	
(Band II)	Highest	13.43	0.0220	26.43	0.4395	

Test Mode	Channal	Vert	tical	Horiz	ontal
Test wode	Channel	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
WCDMA 12.2K	Lowest	5.62	0.0036	14.03	0.0253
RMC	Middle	7.55	0.0057	16.68	0.0466
(Band V)	Highest	6.05	0.0040	14.48	0.0281



Page: 17 / 59 Rev.: 00

8.3 OCCUPIED BANDWIDTH MEASUREMENT

<u>Limits</u>

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 \geq 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max. hold

TEST RESULTS

No non-compliance noted

Test Mode	СН	Frequency (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)
WCDMA 12.2k	Lowest	1852.4	4.1389	4.718
RMC	Middle	1880.0	4.1534	4.703
(Band II)	Highest	1907.6	4.1534	4.703
WCDMA 12.2k	Lowest	826.4	4.1534	4.703
RMC	Middle	836.4	4.1389	4.718
(Band V)	Highest	846.6	4.1389	4.703

Test Data



Page: 18 / 59 Rev.: 00

Test Plot WCDMA 12.2k RMC (Band II) Low CH

Refle	evel	36.40 d	8m Off	fset 1	6.40 dB	BBW 100	kH7						
Att			dB . SW			VBW 300		Mode	Auto S	weep			
∋1Pk Vi	вw								110100	neep			
								DS	[1]				0.85 (
30 dBm						M1							4.7180 M
20 dBm·		1 20.90)0 dBm=			The second secon			C BW			4.138	8929088 MI
20 ubiii				Τ1	man	and the work	- mark		1 mar	T2			20.90 dB
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-30 dBm	<u> </u>		_				<u> </u>						_
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-40 dBm			_				+			_		<u> </u>	
							1						
-50 dBm	·			+			+					<u> </u>	
			F	1 I			1			F	2		
-60 dBm				Ī									
CF 1.8	524 G	HZ				693	l pts					Spa	an 10.0 MH
Marker													•
Туре	Ref	Trc		alue		Y-value		Funct	ion		Fun	ction Resu	ilt
M1 T1		1		35154 50330		20.90 d 11.70 d		0.	c Bw			4.120	929088 MH
T2		1		54469.		12.08 d		00	JC BW			+.138	929066 MH
M2		1		35004		-5.86 d							
D3	M2	1	1.0		3 MHz	0.85							
								·		-	0000		

Date: 4 DEC 2018 12:25:14

Mid CH

Spect	um												
	evel	36.40 d				👄 RBW 100							
Att		30	dB 👄 SW	/т	500 ms	👄 VBW 300	kHz	Mode	: Auto S	Sweep			
∎1Pk Vi	ew .												
30 dBm·								DS	3[1]				-2.70 d
SO UBIII						M1							4.7030 MH
20 d8m-		1 20.86	i0 dBm			T			cc Bw			4.153	400868 MH
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10 dBm-			_	7			<u> </u>			<u> </u>		1.8	791030 GH
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In			-5.140 dBn								¥.		
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20 d9 m		Lana A	. chart								N.4	Leslar	
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-30 dBm			_										
												1	
-40 dBm	-						-						
												1	
-50 dBm	-										-	-	
-60 dBm			F	1							2		
													10.0.1
CF 1.88	3 GHZ					691	pts					ъра	n 10.0 MHz
1arker	Def	Trc	ν.		-	Y-value	- 1	Func	lan I		Fue	ction Resu	•
Type M1	Ref	1		alue)3 GHz	20.86 dB	-	Func	tion		Fun	ction Resu	It
T1		1			51 GHz	11.09 dB		00	cc Bw			4.153	400868 MHz
T2		1			95 GHz	11.58 dB						1.100	100000 11112
M2		1			56 GHz	-2.92 dB							
D3	M2	1		4.70	3 MHz	-2.70 (зB						
	_	11					1	1		-		10.050	04.12.2010

Date: 4.DEC 2018 12:13:02



Page: 19 / 59 Rev.: 00

High CH

Spect	rum													[]
Ref L	evel	36.40 dBr	m Off	set	16.40 dB	•	RBW 100	kHz						
Att		30 d	B 👄 SW	т	500 ms	•	VBW 300	kHz	Mode	Auto	Sweep			
🔵 1Pk Vi	ew													
									D3	[1]				0.06 0
30 dBm							11							4.7030 MF
20 d8m-	<u> </u>	1 20.990	dBm				¥		00	c Bw_			4.15	3400868 MI
20 asm	-	20.550	1 III	T1	men	and the	muni	التجمي	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	frym.				20.99 dB
10 dBm				7	<i>p</i>						~~~~		1	.9067170 G
20 0000				1							- N		1	
0 dBm—	_		M	£		\rightarrow		<u> </u>				4		_
			.010 dBn	-		-						1		
-10 dBm			01			\rightarrow		<u> </u>				<u>1</u>	+	
	a da	ashin	maker									Longe		
-20 dBm	- <u>-</u> -					-							mer man	and the state
-30 dBm														
-30 abri														
-40 dBm	<u> </u>					_								
	.												1	
-50 dBm						\rightarrow		<u> </u>						
			F								F	2	1	
-60 dBm	∩——		- F	<u> </u>		-								
CF 1.9	076 G	Hz					691	pts					Sp	oan 10.0 MH
Marker														
Type	Ref	Trc	X-v	alue	.		Y-value	1	Funct	ion		Fun	ction Res	sult
M1		1	1.9	067	17 GHz		20.99 dE	3m						
Τ1		1	1.90	1551	61 GHz		10.88 dB	3m	Oc	c Bw			4.15	3400868 MH
T2		1			95 GHz		11.64 dE							
M2		1	1.9		41 GHz		-5.36 dB							
D3	M2	1		4.70	03 MHz		0.06	dB						

Date: 4.DEC 2018 12:41:14



Page: 20 / 59 Rev.: 00

WCDMA 12.2k RMC (Band V)

Low CH

Spectrum									
Ref Level 3	6.40 dBm	n Offset	16.40 dB	RBW 100 kH	z				
Att 🛛	30 dB	8 👄 SWT	500 ms	VBW 300 kH	z Mode Auto	Sweep			
∋1Pk View									
00.40					D3[1]				1.68 dB
30 dBm				M1					4.7030 MH
20 dBm 01	21,200	dBm			Occ Bw			4.153	400868 MH2
20 000		T1	mon	and work and	when the state of	hun T2			21.20 dBn
10 dBm		7	-			- Y		82	5.5170 MH
								1	
0 dBm		m ₂				d	3	-	
	-D2 -4.	800 dBn							
-10 dBm							Lu.		
-20 dBm	white	martin					- Ser	ملكان والمان والمان والمان	alle marchine
20 Pour when									
-30 dBm								L	
-40 dBm				+ +				-	
								1	
-50 dBm						E		-	
-60 dBm		F1				E Fa	ź.		
CF 826.4 MH	_			601					n 10.0 MHz
	2			691 pt	.5			əha	110.0 MHZ
Marker	T 1			M	L Europhan I	1	-		
Type Ref M1		X-value	17 MHz	Y-value 21.20 dBm	Function		Fun	ction Resu	t
T1	1	824.31		11.75 dBm	Occ Bw			4 153	100868 MHz
T2	1	828.469		11.92 dBm	JCC BW			4,133	100000 MH2
M2	1		41 MHz	-5.68 dBm					
D3 M2	1	4.70	D3 MHz	1.68 dB					
	(-	-	THE OWNER		

Date: 4.DEC.2018 13:46:57

Mid CH

Spectrum)					
Ref Level 36.4	0 dBm Off 30 dB 🕳 SW		dB 😑 RBW 100 ki ms 😑 VBW 300 ki		Sweep	(
1Pk View						
30 dBm				D3[1]		-1.52 (4.7180 Mi
20 dBm 01 10	3.070 dBm		M1	Occ Bw		4.138929088 MI 18.07 dB
10 d8m		TIM	mummer	and the second	~~_T2	835.5170 M
0 d8m		1			×	
		<u>.</u>			29	
-10 dBm)2 -7.930 dBm					
-20 dBm	wenner				\~	UNIOMERS .
-30 dBm						UNIN WILLIAM CONTRACTOR
-40 dBm						
-50 dBm			_			
-60 dBm	F	1			F2	
CF 836.4 MHz			691 p	its		Span 10.0 MH
1arker						
Type Ref Tr	= <u>x-v</u>	alue	Y-value	Function		Function Result
		35.517 MHz	18.07 dBn			
T1		4.3305 MHz	7.95 dBn			4.138929088 MH
T2		8.4695 MHz	8.04 dBn			
M2 D3 M2	1 83 1	34.041 MHz 4.718 MHz	-7.45 dBn -1.52 dB			
1 10	*	111 20 10112	1.02 00	· · · ·		04.12.2010

Date: 4 DEC 2018 15:19:22



Page: 21 / 59 Rev.: 00

High CH

Spectrum					Ę
Ref Level 36.40 dB		RBW 100 kHz			(
		RBW 100 kHz	Mada Juta C		
1Pk View	15 - 3WI 300 IIIS	- YDW 300 KH2	Mode Auto Sv	меер	
JIPK VIEW			D3[1]		0.93 d
30 dBm			Da[1]		4.7030 MF
		MI	Occ Bw		4.138929088 MF
20 dBm D1 21.370) dBm	mound		ъ. Т О	21.37 dB
10 dBm				N P	845.7320 MH
10 dBm					
0 d8m	Ma				
D2 -4	1.630 dBm				
-10 dBm				- h	+
an inchar outlean	Anne -			~	handren when the
-20.dBm					
-30 dBm					
-40 dBm	+ + +				+ +
-50 dBm					
-60 dBm	F1			F2	
					Span 10.0 MH;
CF 846.6 MHz		691 pts			Span 10.0 MH.
Aarker	M surface and	M control of	Europhian 1	-	
Type Ref Trc M1 1	X-value 845.732 MHz	21.37 dBm	Function	Fur	nction Result
T1 1	844.5305 MHz	11.47 dBm	Occ Bw		4.138929088 MH:
T2 1	848.6695 MHz	11.53 dBm	000 80		T.100929000 MH.
M2 1	844.241 MHz	-5.04 dBm			
D3 M2 1	4.703 MHz	0.93 dB			
				COLUMN 1	04.12.2010

Date: 4 DEC 2018 14:09:34



Page: 22 / 59 Rev.: 00

8.4 CONDUCTED BANDEDG MEASUREMENT

<u>Limit</u>

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.



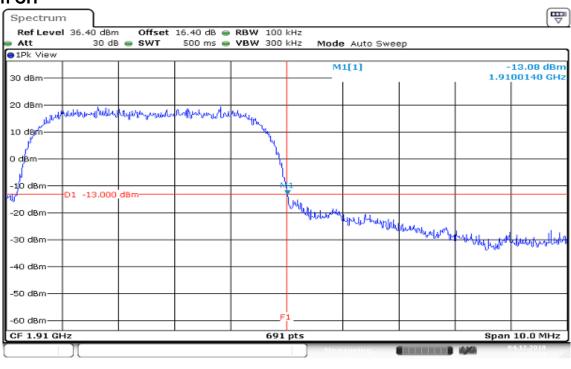
Page: 23 / 59 Rev.: 00

Test Data WCDMA 12.2k RMC (Band II) Low CH

B Spectrum Ref Level 36.40 dBm Offset 16.40 dB
RBW 100 kHz 500 ms 👄 VBW 300 kHz Att 30 dB 👄 SWT Mode Auto Sweep 1Pk View M1[1] -13.91 dBm 1.8499860 GHz 30 dBm 20 dBm-10 dBm· 0 dBm--10 d8m-D1 -13.000 dBm -20 dBm \wedge -30 dBm 40 dBm -50 dBm--60 dBm-Span 10.0 MHz CF 1.85 GHz 691 pts

Date: 4 DEC 2018 12:32:43

High CH



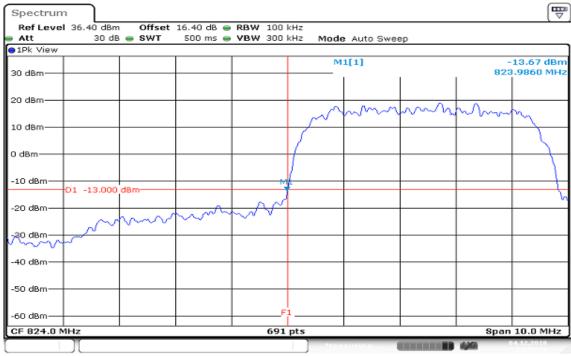
Date: 4.DEC 2018 12:57:38



Page: 24 / 59 Rev.: 00

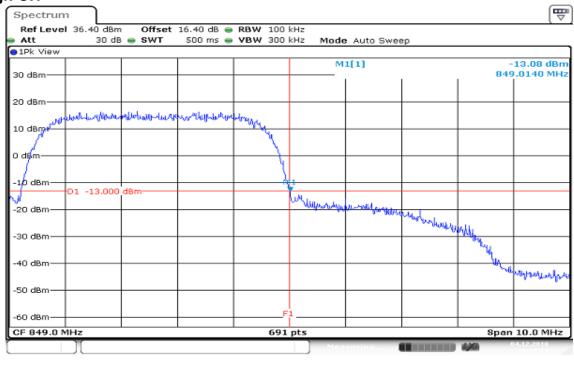
WCDMA 12.2k RMC (Band V)

Low CH



Date: 4 DEC 2018 13:50:27

High CH



Date: 4 DEC 2018 14:17:28



Page: 25 / 59 Rev.: 00

8.5 PEAK TO AVERAGE RATIO

<u>Limit</u>

FCC §22.913(d), Band V

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 II

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

According to KDB 971168 D01.

- 1. Set resolution/measurement bandwidth \geq 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%.

Channel	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
Low CH	1852.4	3.22
Mid CH	1880.0	3.22
High CH	1907.6	3.45

WCDMA 12.2k RMC (Band II)

WCDMA 12.2k RMC (Band V)

Channel	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
Low CH	826.4	3.19
Mid CH	836.4	3.30
High CH	846.6	3.28



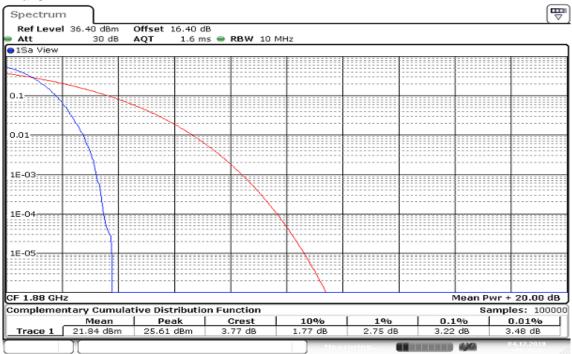
Page: 26 / 59 Rev.: 00

Test Data WCDMA 12.2k RMC (Band II) Low CH

B Spectrum Ref Level 36.40 dBm Offset 16.40 dB 1.6 ms 👄 RBW 10 MHz Att 30 dB AQT ●1Sa View 0.10.01 1E-03: 1E-04; 1E-05: CE 1.8524 GHz Mean Pwr + 20.00 dB Complementary Cumulative Distribution Function Samples: 100000 Mean Peak Crest 10% 1% 0.1% 0.01% 25.53 dBm 2.72 dB Trace 1 21.94 dBm 3.59 dB 1.77 dB 3.22 dB 3.48 dB 10.42

Date: 4.DEC 2018 15:44:28

Mid CH

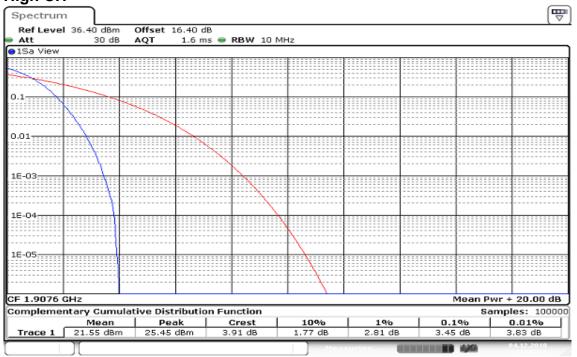


Date: 4 DEC 2018 15:45:42



Page: 27 / 59 Rev.: 00

High CH

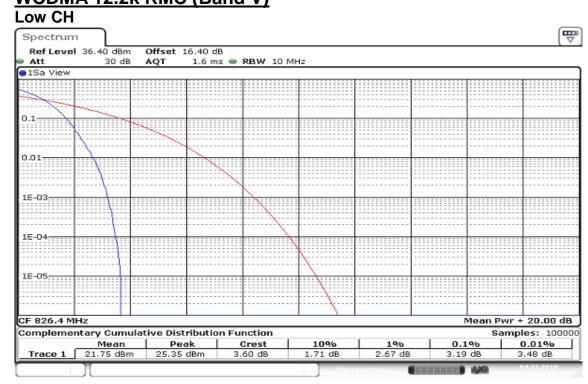


Date: 4.DEC 2018 15:46:43



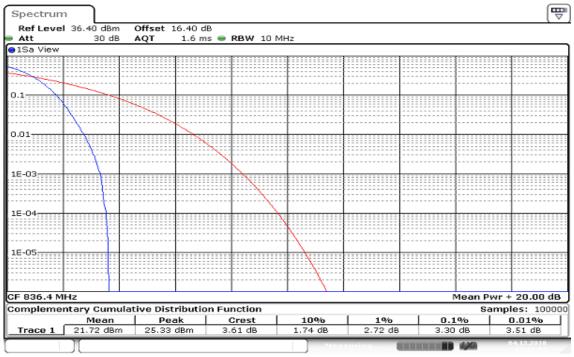
Page: 28 / 59 Rev.: 00

WCDMA 12.2k RMC (Band V)



Date: 4DEC 2018 15:25:39

Mid CH

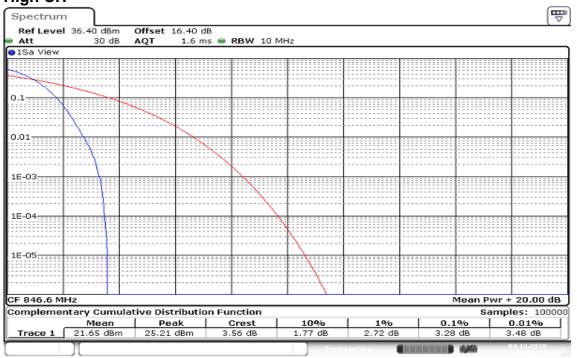


Date: 4 DEC 2018 15:11:52



Page: 29 / 59 Rev.: 00

High CH



Date: 4 DEC 2018 15:29:09



Page: 30 / 59 Rev.: 00

8.6 CONDUCTED SPURIOUS EMISSIONS

<u>Limit</u>

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 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.



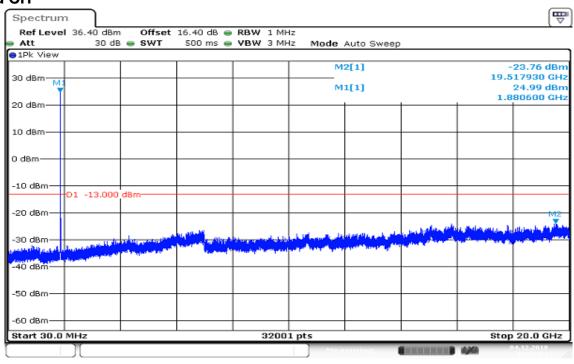
Page: 31 / 59 Rev.: 00

Test Data WCDMA 12.2k RMC (Band II) Low CH

B Spectrum Ref Level 36.40 dBm Offset 16.40 dB 👄 RBW 1 MHz Att 30 dB 👄 SWT 500 ms 👄 VBW 3 MHz Mode Auto Sweep 1Pk View M2[1] -23.81 dBm 17.208970 GHz 30 dBm-M1[1] 24.96 dBm 1.853140 GHz 20 dBm 10 dBm· 0 dBm -10 dBm--D1 -13.000 dBm -20 dBm -30 dBm -40 dBm--50 dBm--60 dBm-Stop 20.0 GHz 32001 pts Start 30.0 MHz

Date: 4 DEC 2018 12:35:11

Mid CH



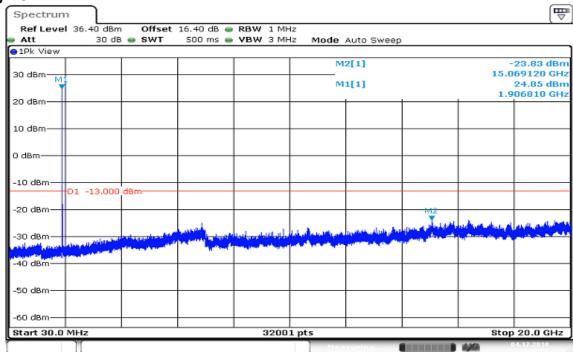
Date: 4 DEC 2018 12:16:54

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Page: 32 / 59 Rev.: 00

High CH



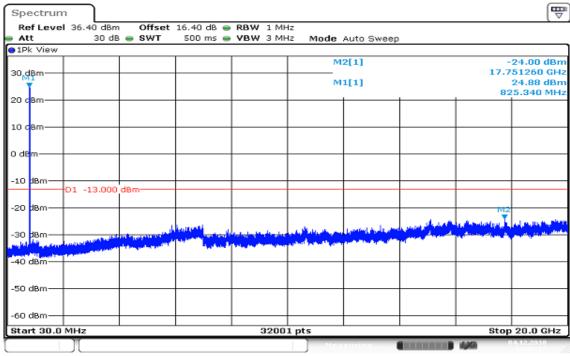
Date: 4 DEC 2018 13:02:52



Page: 33 / 59 Rev.: 00

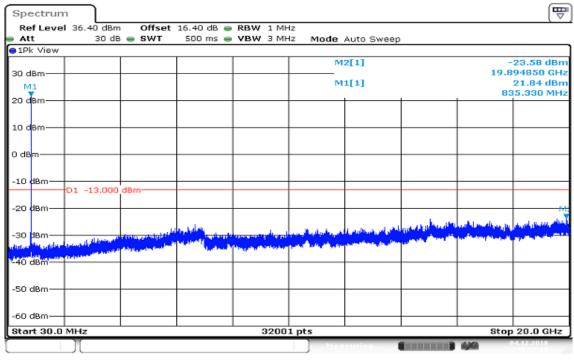
WCDMA 12.2k RMC (Band V)

Low CH



Date: 4.DEC 2018 13:53:27

Mid CH

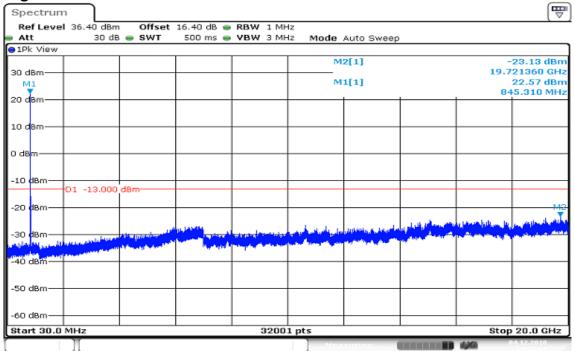


Date: 4DEC 2018 15:03:19



Page: 34 / 59 Rev.: 00

High CH



Date: 4.DEC 2018 14:19:50



Page: 35 / 59 Rev.: 00

8.7 SPURIOUS RADIATION MEASUREMENT

<u>Limit</u>

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

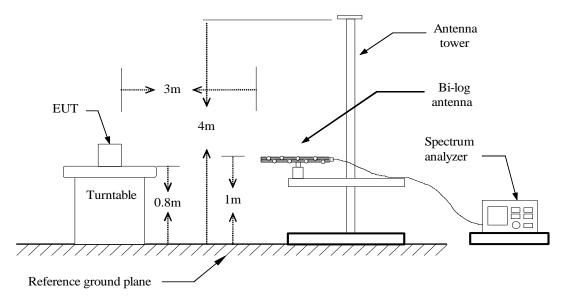
For operations in the 1850-1910 and 1930-1950 MHz band, out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

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 Configuration

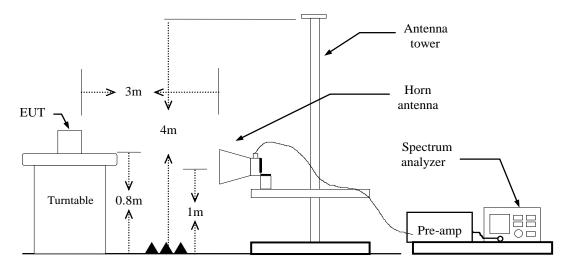
Below 1 GHz



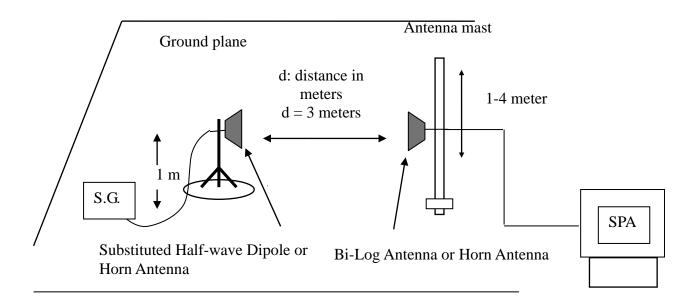


Page: 36 / 59 Rev.: 00

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 : 0.8m
 - (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 (dBi) – Cable (dB) - 2.15

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

For test result, the S.G. value is including antenna gain and cable loss.

TEST RESULTS

Refer to the attached tabular data sheets.

Page: 37 / 59 Rev.: 00

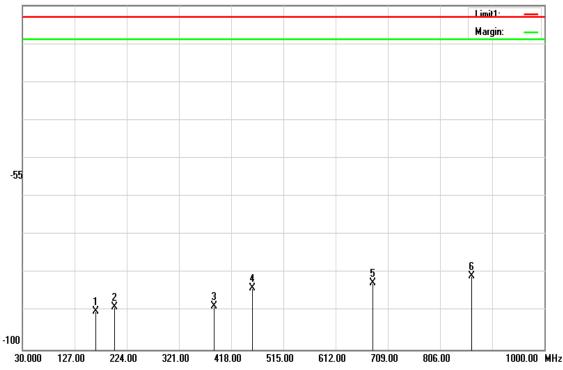


Page: 38 / 59 Rev.: 00

Radiated Spurious Emission Measurement Result / Below 1GHz

Operation Mode:	WCDMA 12.2k RMC Band II / TX /Mid CH	Test Date:	December 6, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Ver.

-10.0 dBm

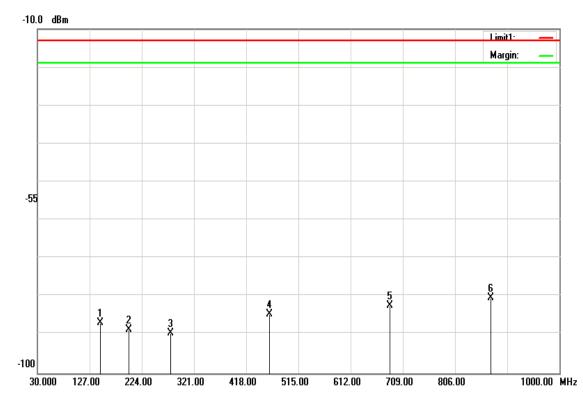


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
166.7700	-86.55	1.28	-89.98	-13.00	-76.98	V
201.6900	-85.2	1.41	-88.76	-13.00	-75.76	V
385.9900	-84.62	1.97	-88.74	-13.00	-75.74	V
458.2550	-79.67	2.15	-83.97	-13.00	-70.97	V
680.8700	-77.7	2.64	-82.49	-13.00	-69.49	V
865.1700	-75.72	3	-80.87	-13.00	-67.87	V



Page: 39 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band II / TX /Mid CH	Test Date:	December 6, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
147.8550	-83.51	1.2	-86.86	-13.00	-73.86	Н
199.7500	-85.01	1.4	-88.56	-13.00	-75.56	Н
277.3500	-85.66	1.65	-89.46	-13.00	-76.46	Н
462.1350	-80.21	2.16	-84.52	-13.00	-71.52	Н
685.2350	-77.6	2.65	-82.40	-13.00	-69.40	Н
872.9300	-75.23	3.01	-80.39	-13.00	-67.39	Н



Page: 40 / 59 Rev.: 00

Report No.: T181123D04-RP2

Above 1GHz

peration Mode:	Mode: WCDMA 12.2k RMC Band II / TX / Low CH		December 7, 207	
mperature:	22°C	Tested by:	Jerry Chuang	
U midity: 0.0 dBm	48 % RH	Polarity:	Ver.	
			Limit1: — Margin: —	
-45				
Į				
	2×			
-90				

Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3705.500	-54.09	6.63	-60.72	-13.00	-47.72	V
5553.500	-58.15	8.29	-66.44	-13.00	-53.44	V
N/A						

Remark:



Page: 41 / 59 Rev.: 00

peration Mode:	WCDMA 12.2k RMC Band II / TX / Low CH		December 7, 201	
mperature:	22°C	Tested by:	Jerry Chuang	
Umidity: 0.0 dBm	48 % RH	Polarity:	Hor.	
			Limit1: — Margin: —	
-45				
1				
	2 X			
-90				

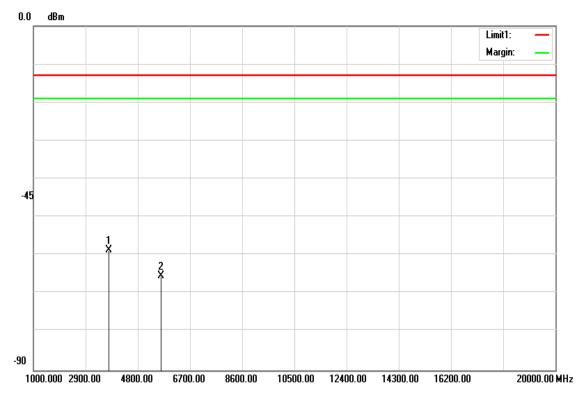
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3702.000	-51.05	6.63	-57.68	-13.00	-44.68	Н
5553.500	-58.91	8.29	-67.20	-13.00	-54.20	Н
N/A						

Remark:



Page: 42 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band II / TX / Mid CH	Test Date:	December 7, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Ver.



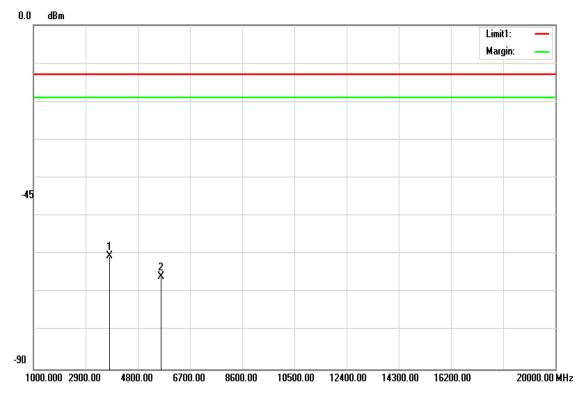
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3758.000	-51.97	6.68	-58.65	-13.00	-45.65	V
5637.500	-57.08	8.36	-65.44	-13.00	-52.44	V
N/A						

Remark:



Page: 43 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band II / TX / Mid CH	Test Date:	December 7, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Hor.



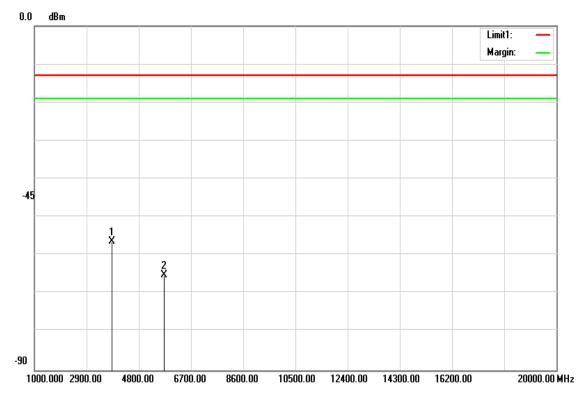
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3761.500	-53.62	6.69	-60.31	-13.00	-47.31	Н
5637.500	-57.4	8.36	-65.76	-13.00	-52.76	Н
N/A						

Remark:



Page: 44 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band II / TX / High CH	December 7, 2018	
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Ver.



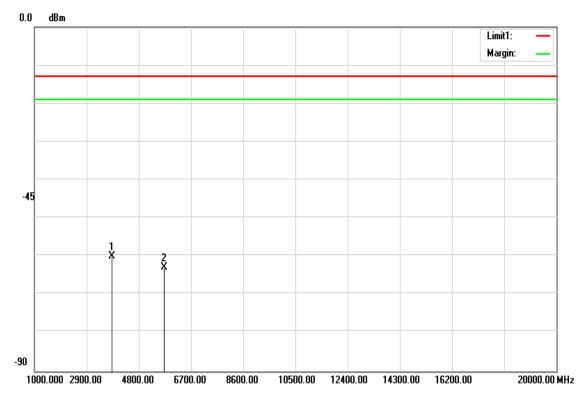
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3814.000	-49.69	6.74	-56.43	-13.00	-43.43	V
5721.500	-56.7	8.44	-65.14	-13.00	-52.14	V
N/A						

Remark:



Page: 45 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band II / TX / High CH	December 7, 2018	
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3817.500	-53.3	6.74	-60.04	-13.00	-47.04	Н
5721.500	-54.37	8.44	-62.81	-13.00	-49.81	Н
N/A						

Remark:

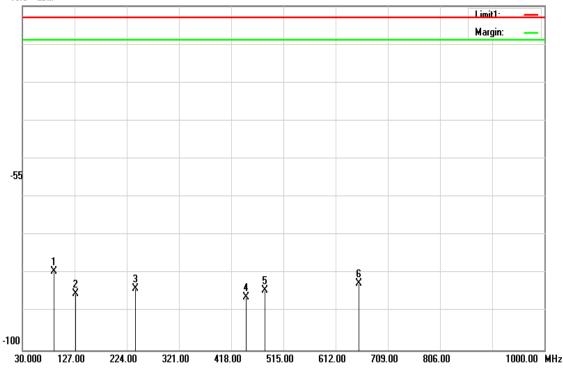


Page: 46 / 59 Rev.: 00

Radiated Spurious Emission Measurement Result / Below 1GHz

Operation Mode:	WCDMA 12.2k RMC Band V / TX /Mid CH	Test Date:	December 3, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Ver.

-10.0 dBm

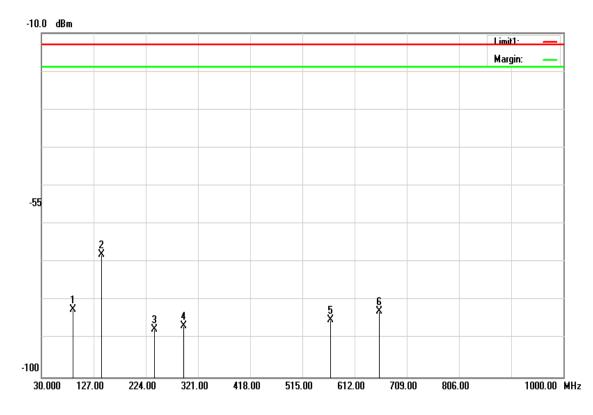


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
89.6550	-76.39	0.93	-79.47	-13.00	-66.47	V
128.9400	-82.06	1.13	-85.34	-13.00	-72.34	V
240.4900	-80.31	1.53	-83.99	-13.00	-70.99	V
446.6150	-81.79	2.12	-86.06	-13.00	-73.06	V
481.0500	-80.02	2.2	-84.37	-13.00	-71.37	V
655.1650	-77.86	2.58	-82.59	-13.00	-69.59	V



Page: 47 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band V / TX /Mid CH	Test Date:	December 3, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
89.6550	-79.17	0.93	-82.25	-13.00	-69.25	Н
141.5500	-64.58	1.18	-67.91	-13.00	-54.91	Н
240.4900	-83.8	1.53	-87.48	-13.00	-74.48	Н
295.2950	-82.71	1.71	-86.57	-13.00	-73.57	Н
567.8650	-80.57	2.4	-85.12	-13.00	-72.12	Н
657.5900	-78.07	2.59	-82.81	-13.00	-69.81	Н



Page: 48 / 59 Rev.: 00

Report No.: T181123D04-RP2

Above 1GHz

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Low CH		December 7, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Ver.

0.0 dBm Limit1: Margin: -45 2 1 -90 1000.000 2900.00 4800.00 6700.00 8600.00 10500.00 12400.00 14300.00 16200.00 20000.00 MHz

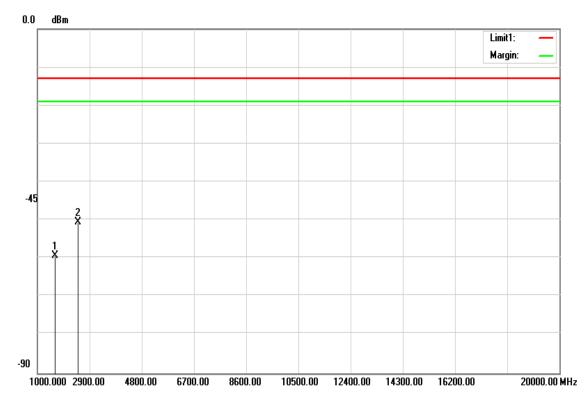
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.000	-61.28	4.2	-65.48	-13.00	-52.48	V
2477.000	-55.09	5.3	-60.39	-13.00	-47.39	V
N/A						

Remark:



Page: 49 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Low CH		December 7, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Hor.



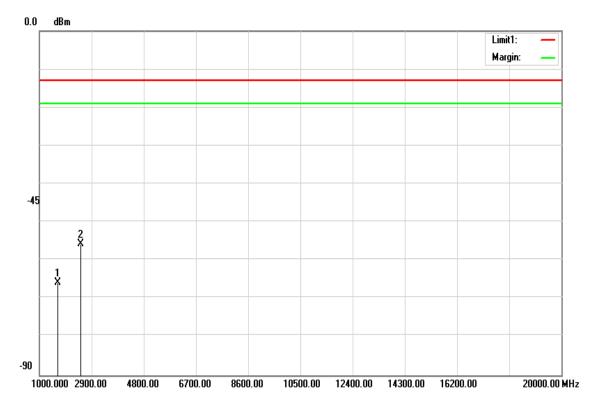
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.000	-55.13	4.2	-59.33	-13.00	-46.33	Н
2484.000	-45.3	5.31	-50.61	-13.00	-37.61	Н
N/A						

Remark:



Page: 50 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Mid CH	Test Date:	December 7, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1672.000	-61.52	4.23	-65.75	-13.00	-52.75	V
2505.000	-50.38	5.34	-55.72	-13.00	-42.72	V
N/A						

Remark:



Page: 51 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band V / TX / Mid CH 4182	Test Date:	December 7, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Hor.



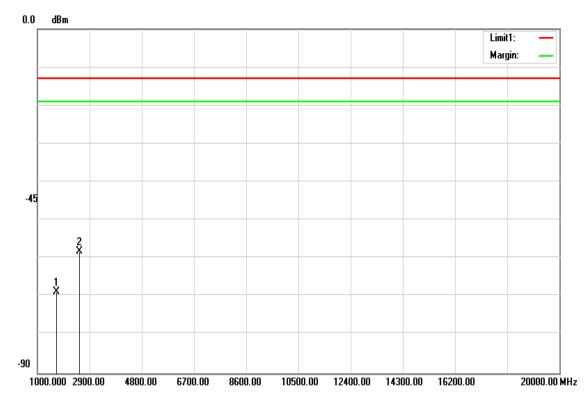
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1672.000	-53.85	4.23	-58.08	-13.00	-45.08	Н
2505.000	-43.57	5.34	-48.91	-13.00	-35.91	Н
N/A						

Remark:



Page: 52 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band V / TX /High CH	Test Date:	December 7, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1693.000	-64.56	4.26	-68.82	-13.00	-55.82	V
2536.500	-52.86	5.37	-58.23	-13.00	-45.23	V
N/A						

Remark:



Page: 53 / 59 Rev.: 00

Operation Mode:	WCDMA 12.2k RMC Band V / TX /High CH	<mark>⊣</mark> Test Date:	December 7, 2018
Temperature:	22°C	Tested by:	Jerry Chuang
Humidity:	48 % RH	Polarity:	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1693.000	-58.03	4.26	-62.29	-13.00	-49.29	Н
2536.500	-44.99	5.37	-50.36	-13.00	-37.36	Н
N/A						

Remark:



Page: 54 / 59 Rev.: 00

8.8 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

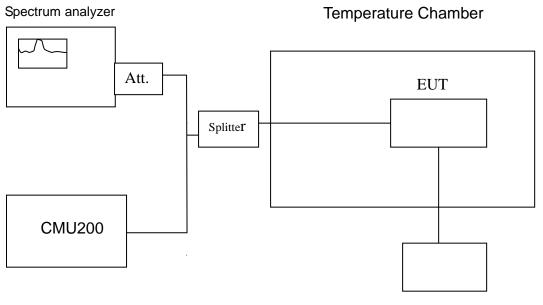
<u>LIMIT</u>

According to FCC §2.1055, FCC §22.355, FCC §24.235.

According to IC RSS-132 §5.3, IC RSS-133 §6.3.

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

Test Configuration



Variable Power Supply

Remark: Measurement setup for testing on Antenna con

TEST PROCEDURE

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

TEST RESULTS

No non-compliance noted.



TEST RESULTS

FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT:

Reference Frequency: WCDMA 12.2k RMC Band II Low Channel 1852.4 MHz			
L	imit: 1852.4 ~ 1907.6 M	Hz	
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)	
120	50	1.00	
120	40	-1.00	
120	30	1.00	
120	20	0.00	
120	10	-1.00	
120	0	1.00	
120	-10	-1.00	
120	-20	2.00	

Reference Frequency: WCDMA 12.2k RMC Band II Mid Channel 1880 MHz			
L	imit: 1852.4 ~ 1907.6 M	Hz	
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)	
120	50	-2.00	
120	40	-1.00	
120	30	0.00	
120	20	1.00	
120	10	-2.00	
120	0	1.00	
120	-10	1.00	
120	-20	1.00	

Page: 55 / 59 Rev.: 00



Page: 56 / 59 Rev.: 00

Reference Frequency: WCDMA 12.2k RMC Band II High Channel 1907.6 MHz			
L	imit: 1852.4 ~ 1907.6 M	Hz	
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)	
120	50	2.00	
120	40	-1.00	
120	30	2.00	
120	20	0.00	
120	10	-3.00	
120	0	-1.00	
120	-10	-2.00	
120	-20	-4.00	

Reference Frequency: WCDMA 12.2k RMC Band V Low Channel 826.4 MHz			
	Limit: 826.4 ~ 846.6MH	Z	
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)	
120	50	-3.00	
120	40	-2.00	
120	30	1.00	
120	20	-1.00	
120	10	0.00	
120	0	-1.00	
120	-10	1.00	
120	-20	-2.00	



Page: 57 / 59 Rev.: 00

Reference Frequency: WCDMA 12.2k RMC Band V Mid Channel 836.6 MHz		
Limit: 826.4 ~ 846.6MHz		
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)
120	50	-3.00
120	40	2.00
120	30	-1.00
120	20	0.00
120	10	-2.00
120	0	-1.00
120	-10	1.00
120	-20	-1.00

Reference Frequency: WCDMA 12.2k RMC Band V High Channel 846.6 MHz		
Limit: 826.4 ~ 846.6MHz		
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)
120	50	2.00
120	40	-2.00
120	30	3.00
120	20	0.00
120	10	1.00
120	0	1.00
120	-10	-2.00
120	-20	1.00



Page: 58 / 59 Rev.: 00

FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT:

Reference Frequency: WCDMA 12.2k RMC Band II Low Channel 1852.4 MHz		
Limit: 1852.4 ~ 1907.6 MHz		
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)
102		1.00
120	20	0.00
138		-1.00

Reference Frequency: WCDMA 12.2k RMC Band II Mid Channel 1880 MHz		
Limit: 1852.4 ~ 1907.6 MHz		
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)
102	20	-6.00
120		-7.00
138		-7.00

Reference Frequency: WCDMA 12.2k RMC Band II High Channel 1907.6 MHz		
Limit: 1852.4 ~ 1907.6 MHz		
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)
102	20	-12.00
120		-10.00
138		-10.00



Page: 59 / 59 Rev.: 00

Reference Frequency: WCDMA 12.2k RMC Band V Mid Channel 826.4 MHz		
Limit: 826.4 ~ 846.6MHz		
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)
102		2.00
120	20	1.00
138		2.00

Reference Frequency: WCDMA 12.2k RMC Band V Mid Channel 836.6 MHz		
Limit: 826.4 ~ 846.6MHz		
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)
102		1.00
120	20	0.00
138		2.00

Reference Frequency: WCDMA 12.2k RMC Band V Mid Channel 846.6 MHz		
Limit: 826.4 ~ 846.6MHz		
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Error(Hz)
102		1.00
120	20	2.00
138		-1.00

-- End of Test Report --