



SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

588 West Jindu Road, Songjiang District, Shanghai, China

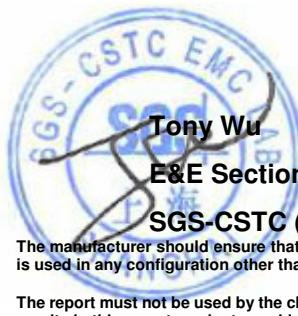
Telephone: +86 (0) 21 6191 5666
Fax: +86 (0) 21 6191 5678
ee.shanghai@sgs.com

Report No.: SHEM130300045305
Page 1 of 49

FCC Part 15E TEST REPORT

Application No. :	SHEM1303000453RF
Applicant:	Lenbrook Industries Limited
FCC ID:	SVC-USBDAC2TX
IC:	152A-USBDAC2TX
Equipment Under Test (EUT):	
NOTE: The following sample(s) submitted was/were identified on behalf of the client as	
Product Name:	Wireless USB DAC2
Brand Name:	NAD
Model:	Wireless USB DAC 2 Transmitter
Fundamental Frequency :	2.4GHz Band: 2412MHz to 2464MHz 5.2GHz Band: 5180MHz to 5240MHz 5.8GHz Band: 5736MHz to 5814MHz
Test Frequency:	5.2GHz Band: 5180MHz to 5240MHz
Standards:	FCC PART 15 SUBPART E, Section 15.407:2012 RSS-210 Issue 8 (December 2010) RSS-Gen Issue 3 (December 2010)
Date of Receipt:	March 26, 2013
Date of Test:	April 07, 2013 to April 10, 2013
Date of Issue:	May 21, 2013
Test Result :	PASS *

* In the configuration tested, the EUT (Equipment under test) complied with the standards specified above.



Tony Wu

E&E Section Manager

SGS-CSTC (Shanghai) Co., Ltd.

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. 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.

2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00	/	May 21, 2013	/	Original

Authorized for issue by:			
Engineer		Zenger Zhang	Zenger Zhang
		Print Name	
Clerk		Susie Liu	Susie Liu
		Print Name	
Reviewer		Keny Xu	Keny Xu
		Print Name	



3 Test Summary

TEST ITEM	FCC REFERANCE	IC REFERANCE	Test Procedure	RESULT
Power line conducted emission	15.407(b)(6) 15.207	RSS-Gen Issue 8 Clause 7.2.4	ANSI C63.4,2009 Clause 6.2	Pass
Peak Transmit Power	15.407(a)(1)	RSS-210 Issue 8 Annex 9	ANSI C63.4,2009 Clause 6.10.2	Pass
Peak Power Spectral Density	15.407(a)(1)	RSS-210 Issue 8 Annex 9	KDB 789033 D01	Pass
Peak Power Excursion	15.407(a)(6)	RSS-210 Issue 8 Annex 9	KDB 789033 D01	Pass
Electric Field Strength Spurious Emissions	15.407(b)(1)(6)(7) 15.205 15.209	RSS-210 Issue 8 Annex 9	KDB 789033 D01	Pass
Radiated Emission BandEdge	15.407(b)(5)(7) 15.205	---	KDB 789033 D01	Pass
Frequency stability	FCC Part15 407 (g)	---	KDB 789033 D01	Pass
Occupied bandwidth	---	RSS-Gen Issue 3 Clause 4.6.1	RSS-Gen Issue 3 Clause 4.6.1	Tested

4 Contents

	Page
1 COVER PAGE	1
2 VERSION	2
3 TEST SUMMARY	3
4 CONTENTS	4
5 GENERAL INFORMATION	5
5.1 CLIENT INFORMATION	5
5.2 DETAILS OF E.U.T.	5
5.3 DESCRIPTION OF SUPPORT UNITS	5
5.4 DETAILS OF TEST MODE	6
5.5 TEST LOCATION	6
5.6 TEST FACILITY	6
6 EQUIPMENTS USED DURING TEST	7
7 TEST RESULTS	9
7.1 E.U.T. OPERATION	9
7.2 CONDUCTED EMISSIONS ON MAINS TERMINALS	9
7.3 PEAK TRANSMIT POWER	13
7.4 PEAK POWER SPECTRAL DENSITY	17
7.5 PEAK POWER EXCURSION	21
7.6 ELECTRIC FIELD STRENGTH SPURIOUS EMISSIONS	25
7.7 RADIATED EMISSION BAND EDGE	33
7.8 FREQUENCY STABILITY	42
7.9 OCCUPIED BANDWIDTH TEST	44
8 TEST SETUP PHOTOGRAPHS	48
9 EUT CONSTRUCTIONAL DETAILS	48

5 General Information

5.1 Client Information

Applicant :	Lenbrook Industries Limited
Applicant Address:	633 Granite Court, Pickering Ontario, Toronto L1W 3K1, Canada
Manufacturer:	Lenbrook Industries Limited
Manufacturer Address:	633 Granite Court, Pickering Ontario, Toronto L1W 3K1, Canada
Factory:	Hansong (Nanjing) Technology Ltd.

5.2 Details of E.U.T.

EUT Name:	Wireless USB DAC2		
Brand Name:	NAD		
Model No:	Wireless USB DAC 2 Transmitter		
Power Supply:	DC 5V (USB Cable)		
Test Band and Channels :	5.2GHz Band Channel Description:		
	Channel of Transmitter	Frequency(MHz)	
	Low	5180	
	Mid	5210	
	High	5240	
Modulation Type:	QPSK		
Antenna Type:	Integral antenna(Antenna Gain 2.0dBi)		
USB Cable:	18cm		

5.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.	Supplied By
Leptop	Lenovo	L420	N/A	Supplied by SGS

5.4 Details of Test Mode

Test Mode	Description of Test Mode
Transmitting mode	Keep the EUT on continue transmitting mode.
Remark: N/A	

5.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
No.588 West Jindu Road, Songjiang District, Shanghai, China.201612.

Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2014-07-26.

- **FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2015-02-22.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2014-09-20.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868 and C-4336 respectively. Date of Registration: 2012-05-29. Date of Expiry: 2015-05-28.

6 Equipments Used during Test

Conducted Emission

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Due date
1	EMI test receiver	Rohde & Schwarz	ESCS30	100086	2014-02-22
2	Line impedance stabilization network	SCHWARZBECK	NSLK8127	8127-490	2014-02-22
3	Line impedance stabilization network	ETS	3816/2	00034161	2014-02-22

 RF Test

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Due date
1	EMI test receiver	Rohde & Schwarz	ESU40	100109	2014-02-22
2	Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-679	2014-03-06
3	Horn Antenna	Rohde & Schwarz	HF906	100284	2014-06-01
4	ANTENNA	SCHWARZBECK	VULB9168	9168-313	2014-03-06
5	Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170 373	2014-03-06
6	Ultra broadband antenna	Rohde & Schwarz	HL562	100227	2013-10-08
7	Atmosphere pressure meter	Shanghai ZhongXuan Electronic Co.;Ltd	BY 2009P	--	2013-10-08
8	CLAMP METER	FLUKE	316	86080010	2014-06-01
9	Thermo-Hygrometer	ZHICHEN	ZC1-2	01050033	2013-10-08

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. 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.



11	High-low temperature cabinet	Shanghai YuanZhen	GW2050	--	2014-06-01
12	Tunable Notch Filter	Wainwright instruments GmbH	WRCT180 0.0/ 2000.0- 0.2/40- 5SSK	11	2014-06-01
13	Tunable Notch Filter	Wainwright instruments GmbH	WRCT800. 0/880.0- 0.2/40- 5SSK	9	2014-06-01
14	High pass Filter	FSCW	HP 12/2800- 5AA2	19A45-02	2014-06-01
15	Low nosie amplifier	TESEQ	LNA6900	70133	2014-02-22
16	EMI test receiver	Rohde & Schwarz	ESCS30	100086	2014-02-22
17	Line impedance stabilization network	SCHWARZBECK	NSLK8127	8127-490	2014-02-22

7 Test Results

7.1 E.U.T. Operation

Input voltage: 5V DC(Supply by USB cable)

Operating Environment:

Temperature: 25.0 °C

Humidity: 45 % RH

Atmospheric Pressure: 1013 mbar

EUT Operation: The EUT has been tested under operating condition.

Test program was used to control the EUT for staying in continuous transmitting mode is programmed.

7.2 Conducted Emissions on Mains Terminals

Test Requirement: FCC Part 15E.407(b)(6) and 15.207

RSS-Gen Issue 8 Clause 7.2.4

Test Method: ANSI C63.4:2009 Section 6.2

Test Result: Pass

Test Voltage: AC 120V 60Hz

Frequency Range: 150 KHz to 30 MHz

Class/Severity: Class B

Test mode: Transmitting mode

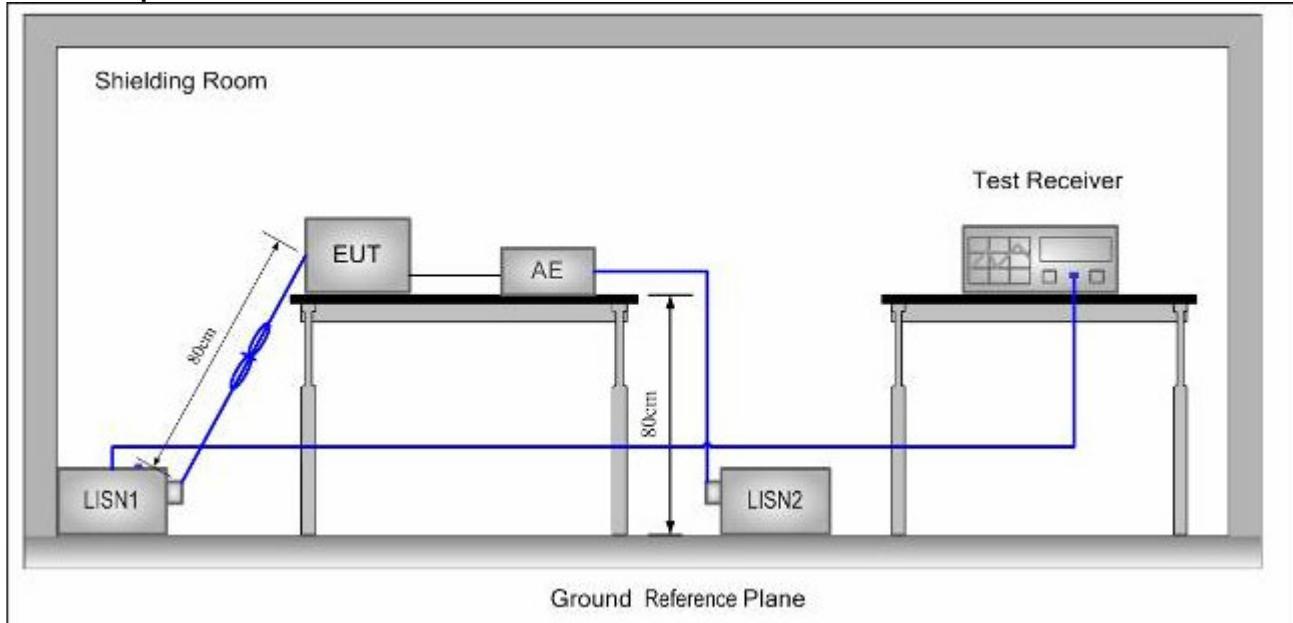
Limit:

Frequency range MHz	Class B Limits dB (µV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Note1: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50MHz.

Note2: The lower limit is applicable at the transition frequency.

Test Setup and Procedure



1. The mains terminal disturbance voltage was measured with the EUT in a shielded room.
2. The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H} + 5\Omega$ linear impedance. The power cables of all other units of the EUT was connected to a second LISN, which was bonded to the ground reference plane in the same way as the LISN for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded
3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance was between the closest points of the LISN and the EUT. The mains lead of EUT excess 0.8m was folded back and forth parallel to the lead so as to form a horizontal bundle with a length between 0.3m and 0.4m. All other units of the EUT and associated equipment was at least 0.8 m from the LISN.

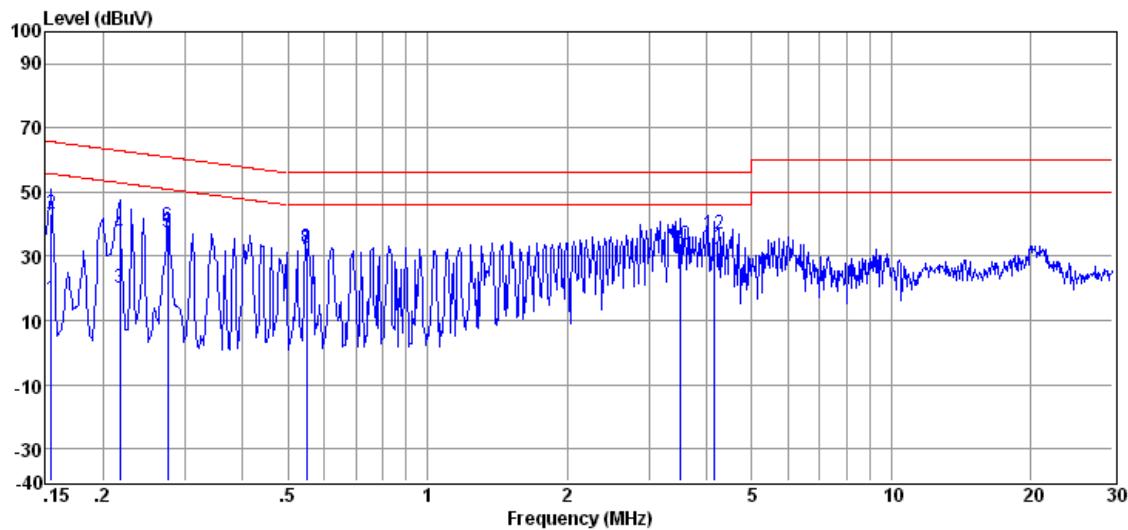
Measurement Result

Operation mode: Transmitter conducted to Receiver by wireless.

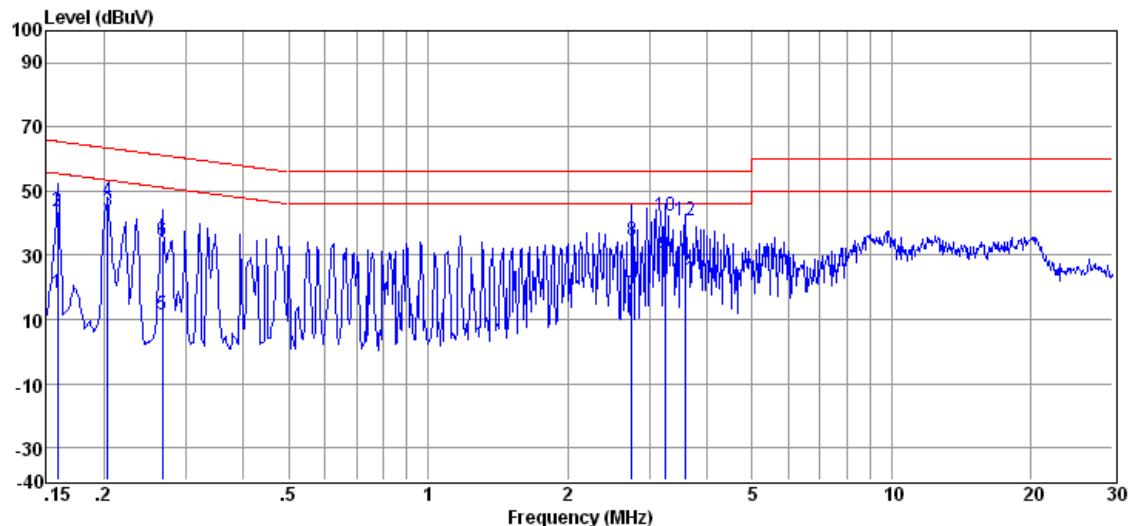
Pre-scan was performed with peak detected on all ports, Quasi-peak & average measurements were performed at the frequencies at which maximum peak emission level were detected.

Please see the attached Quasi-peak and Average test results.

Level = Read Level + LISN/ISN Factor + Cable Loss.

Test Mode: Transmitting mode**Test Port:** AC Live Line

Freq (MHz)	Read Level (dB μ V)	LISN Factor (dB)	Cable Loss (dB)	Level (dB μ V)	Limit Line (dB μ V)	Over Limit (dB)	Detector	Phase
0.155	16.29	0.19	0.10	16.58	55.74	-39.16	Average	Live
0.155	42.98	0.19	0.10	43.27	65.74	-22.47	QP	Live
0.217	19.93	0.11	0.10	20.14	52.92	-32.78	Average	Live
0.217	37.00	0.11	0.10	37.21	62.92	-25.71	QP	Live
0.276	37.35	0.13	0.10	37.58	50.94	-13.36	Average	Live
0.276	39.38	0.13	0.10	39.61	60.94	-21.33	QP	Live
0.549	31.65	0.20	0.10	31.95	46.00	-14.05	Average	Live
0.549	32.41	0.20	0.10	32.71	56.00	-23.29	QP	Live
3.509	29.68	0.30	0.15	30.13	46.00	-15.87	Average	Live
3.509	33.38	0.30	0.15	33.83	56.00	-22.17	QP	Live
4.136	32.56	0.30	0.17	33.03	46.00	-12.97	Average	Live
4.136	36.43	0.30	0.17	36.90	56.00	-19.10	QP	Live

Test Mode: Transmitting mode**Test Port:** AC Neutral Line

Freq (MHz)	Read Level (dB μ V)	LISN Factor (dB)	Cable Loss (dB)	Level (dB μ V)	Limit Line (dB μ V)	Over Limit (dB)	Detector	Phase
0.159	18.01	0.18	0.10	18.29	55.52	-37.23	Average	Neutral
0.159	43.40	0.18	0.10	43.68	65.52	-21.84	QP	Neutral
0.204	43.63	0.10	0.10	43.83	53.45	-9.62	Average	Neutral
0.204	46.67	0.10	0.10	46.87	63.45	-16.58	QP	Neutral
0.267	11.19	0.10	0.10	11.39	51.20	-39.81	Average	Neutral
0.267	34.20	0.10	0.10	34.40	61.20	-26.80	QP	Neutral
2.750	17.51	0.27	0.13	17.91	46.00	-28.09	Average	Neutral
2.750	34.01	0.27	0.13	34.41	56.00	-21.59	QP	Neutral
3.241	30.03	0.25	0.14	30.42	46.00	-15.58	Average	Neutral
3.241	41.72	0.25	0.14	42.11	56.00	-13.89	QP	Neutral
3.584	22.34	0.24	0.15	22.73	46.00	-23.27	Average	Neutral
3.584	40.23	0.24	0.15	40.62	56.00	-15.38	QP	Neutral

7.3 Peak Transmit Power

Test Requirement:	FCC Part 15 407 (a) (1) RSS-210 Issue 8 Annex 9
Standard Applicable:	According to section 15.407(a) (1) For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10log B, where B is the 26- dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
Measuremet Producet:	<ol style="list-style-type: none">1. Place the EUT on the table and set it in transmitting mode.2. Remove the antenna from the EUT and then connect a low loss RF calbe from the antenna port to the spectrum.3. Set the occur band to the entire emission bandwitdh of the signal.4. Record the max.channel power reading <p>Repeat above procedures until all the frequency measured were complete.</p>
Limit:	$\leq 16\text{dBm}$
	Note: For 5.15-5.25GHz band the Minimum 26BW is 16.70MHz. So the minimum limit is $4\text{dBm} + 10\log B = 16\text{dBm} < 17\text{dBm}$.

Measurement Result:

For Antenna A 5180-5240MHz Band:

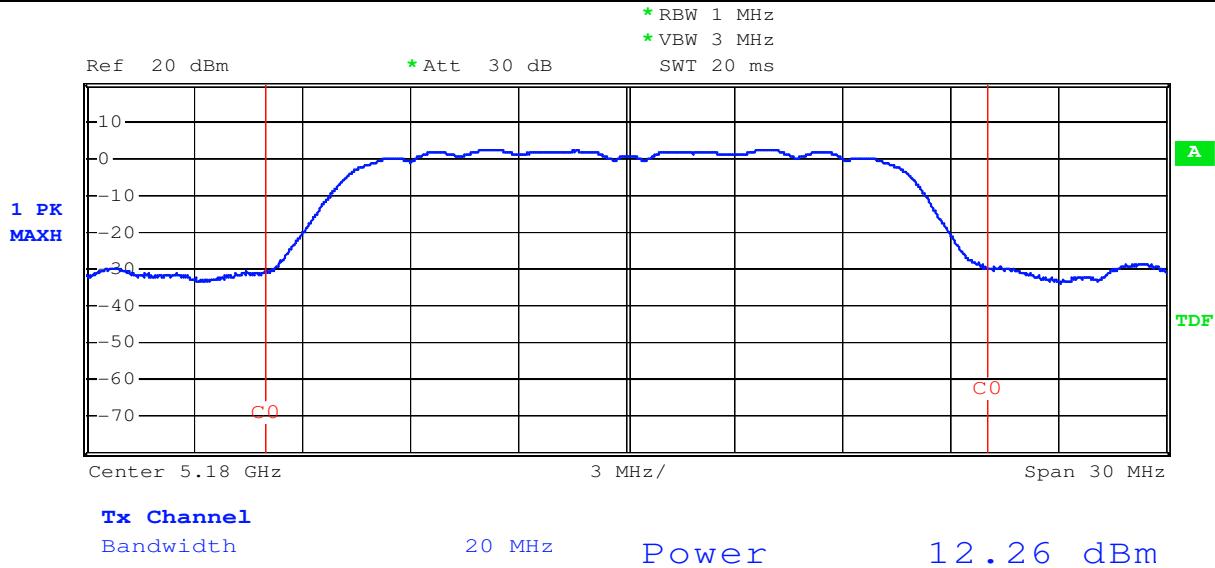
CH	Frequency (MHz)	Reading RMS Power (dBm)	Cable Loss (dB)	Output RMS Power (dBm)	PEAK POWER LIMIT (dBm)	Result
LOW	5180	12.26	1.9	14.16	16	PASS
MID	5210	12.52	1.9	14.42	16	PASS
HIGH	5240	12.18	1.9	14.08	16	PASS

For Antenna B 5180-5240MHz Band:

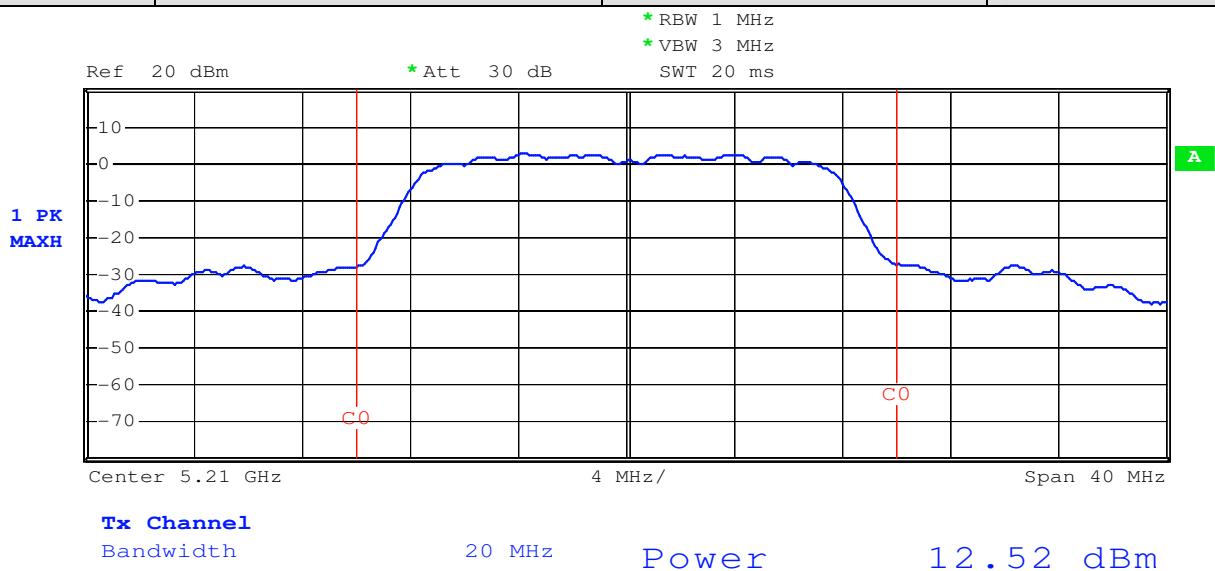
CH	Frequency (MHz)	Reading RMS Power (dBm)	Cable Loss (dB)	Output RMS Power (dBm)	PEAK POWER LIMIT (dBm)	Result
LOW	5180	12.28	1.9	14.18	16	PASS
MID	5210	11.66	1.9	13.56	16	PASS
HIGH	5240	11.71	1.9	13.61	16	PASS

Test plot as follows:

Test mode:	5.2GHz Band Antenna A	Test channel:	Low
------------	-----------------------	---------------	-----



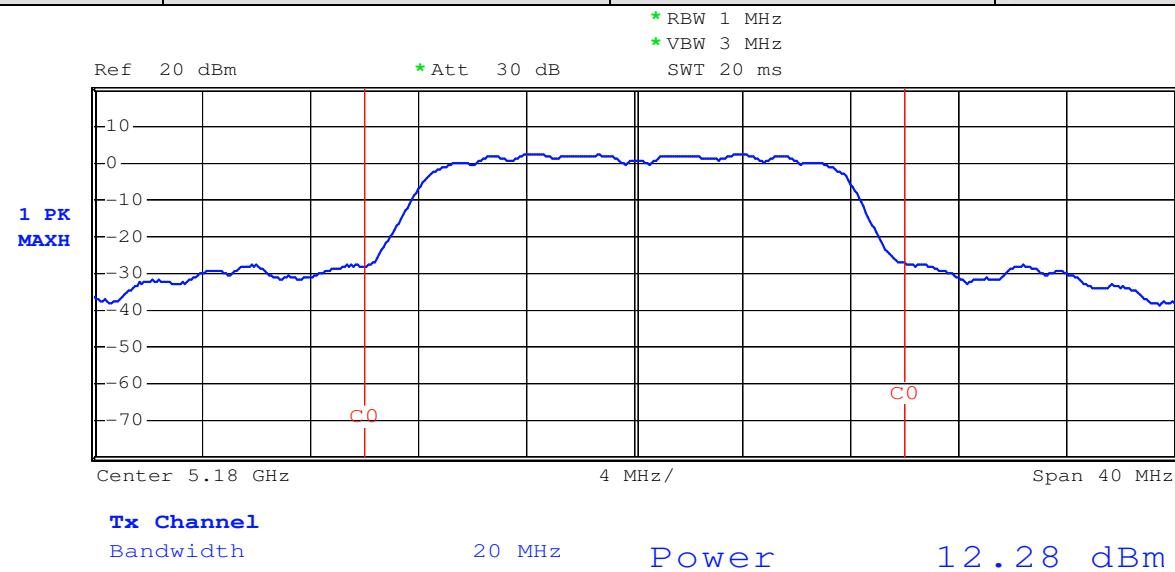
Test mode:	5.2GHz Band Antenna A	Test channel:	Middle
------------	-----------------------	---------------	--------



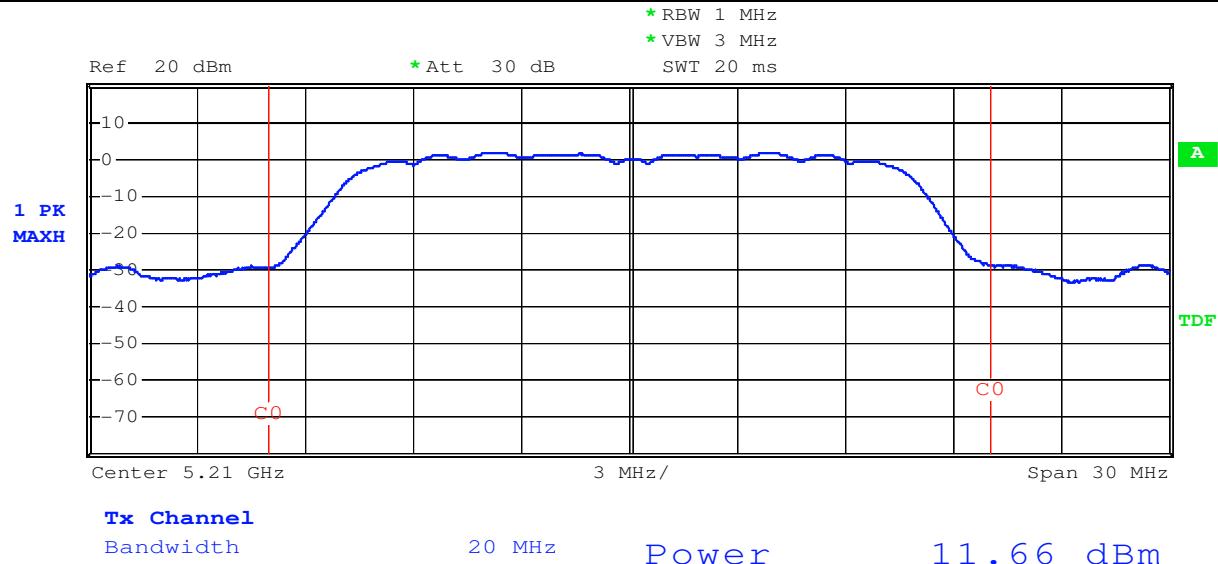
Test mode:	5.2GHz Band Antenna A	Test channel:	High
------------	-----------------------	---------------	------



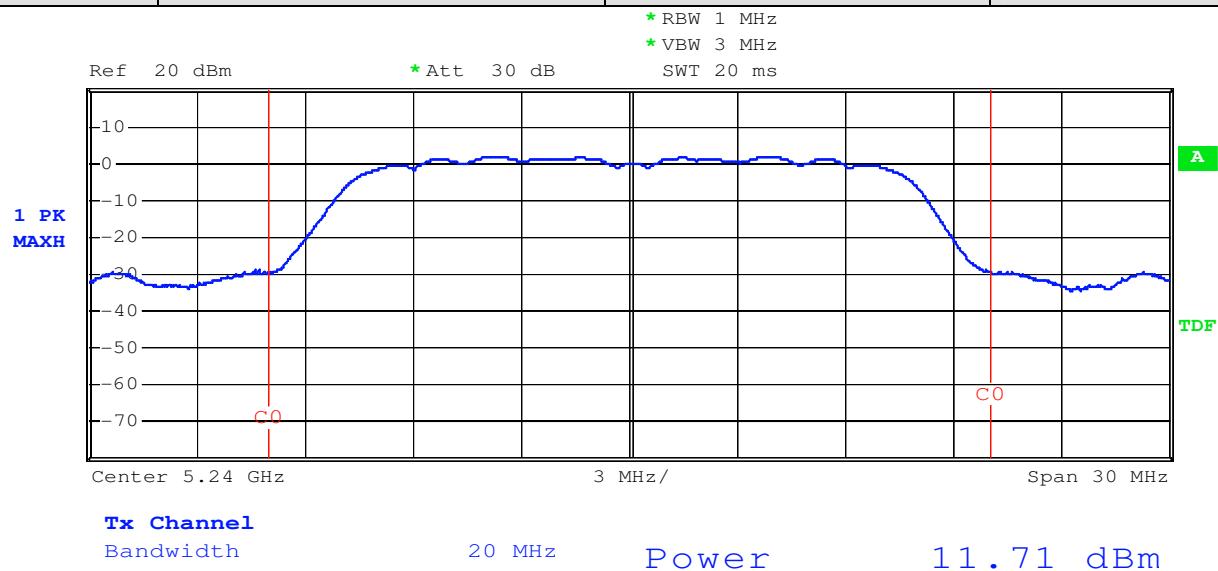
Test mode:	5.2GHz Band Antenna B	Test channel:	Low
------------	-----------------------	---------------	-----



Test mode:	5.2GHz Band Antenna B	Test channel:	Middle
------------	-----------------------	---------------	--------



Test mode:	5.2GHz Band Antenna B	Test channel:	High
------------	-----------------------	---------------	------



7.4 Peak Power Spectral Density

Test Requirement: FCC Part15 407(a)(1)

RSS-210 Issue 8 Annex 9

Standard Applicable: According to section 15.407(a),

(1) For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10\log B$, where B is the 26- dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Measurement Procedure: The EUT was tested according to UNII test procedure of KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

Set RBW=1MHz, Set VBW=3MHz, Span=50MHz, Sweep time=Auto, Set detector=Peak detector.

Measurement Result:

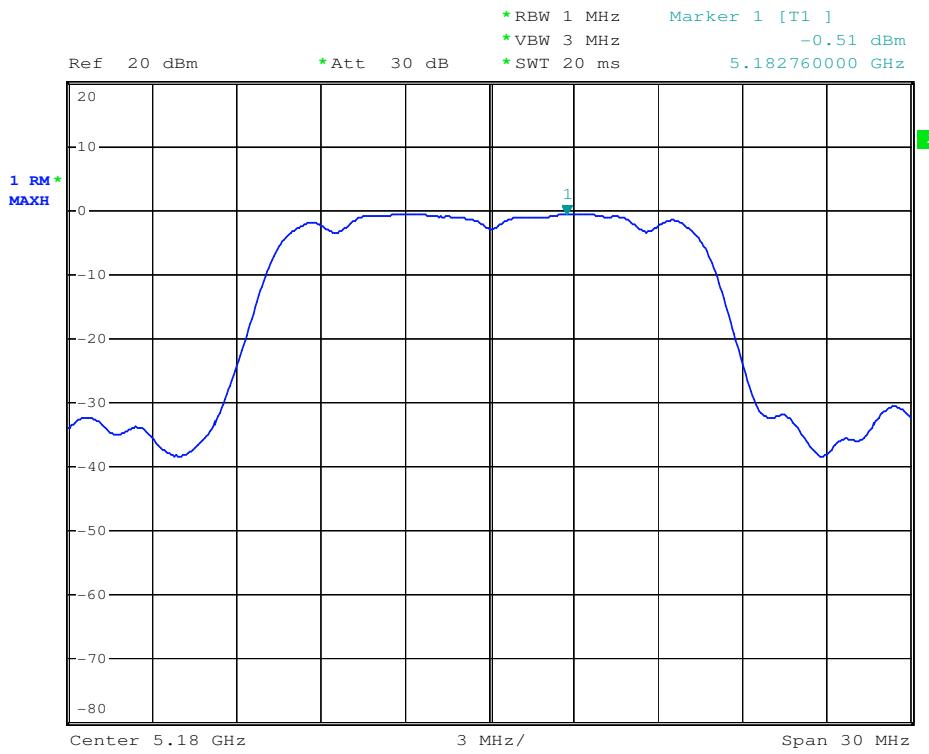
For Antenna A 5180-5240MHz Band:

CH	Frequency (MHz)	Reading (dBm)	Cable Loss (dB)	RF Power Density (dBm)	Limit (dBm)	Result
LOW	5180	-0.51	1.9	1.39	4	PASS
MID	5210	-1.50	1.9	0.40	4	PASS
HIGH	5240	-1.86	1.9	0.04	4	PASS

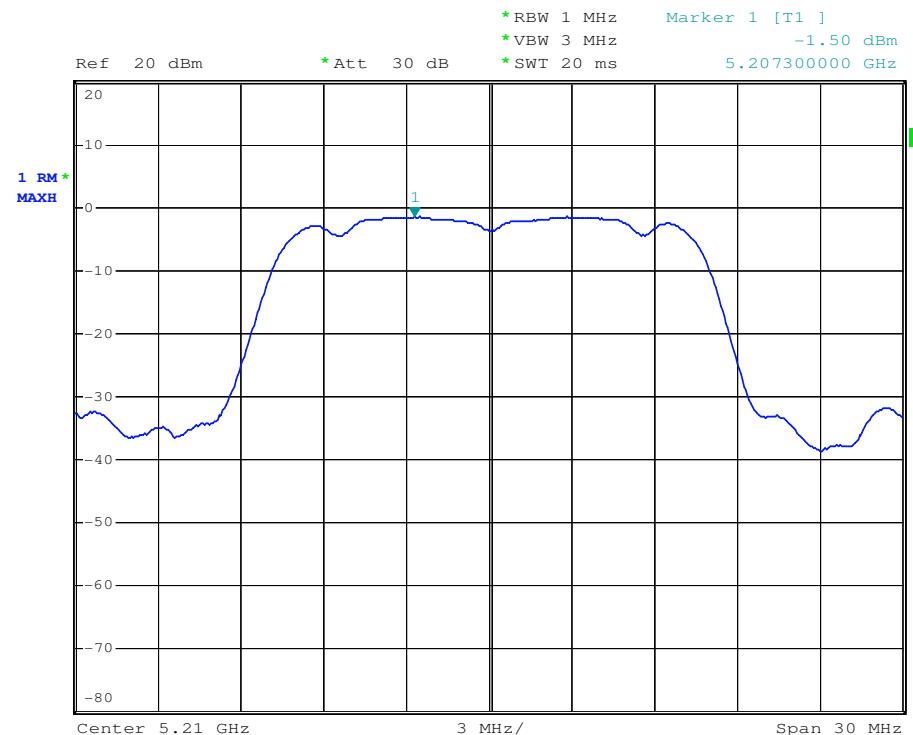
For Antenna B 5180-5240MHz Band:

CH	Frequency (MHz)	Reading (dBm)	Cable Loss (dB)	RF Power Density (dBm)	Limit (dBm)	Result
LOW	5180	-1.61	1.9	0.29	4	PASS
MID	5210	-2.65	1.9	-0.75	4	PASS
HIGH	5240	-3.55	1.9	-1.65	4	PASS

Test mode:	5.2GHz Band Antenna A	Test channel:	Low
------------	-----------------------	---------------	-----

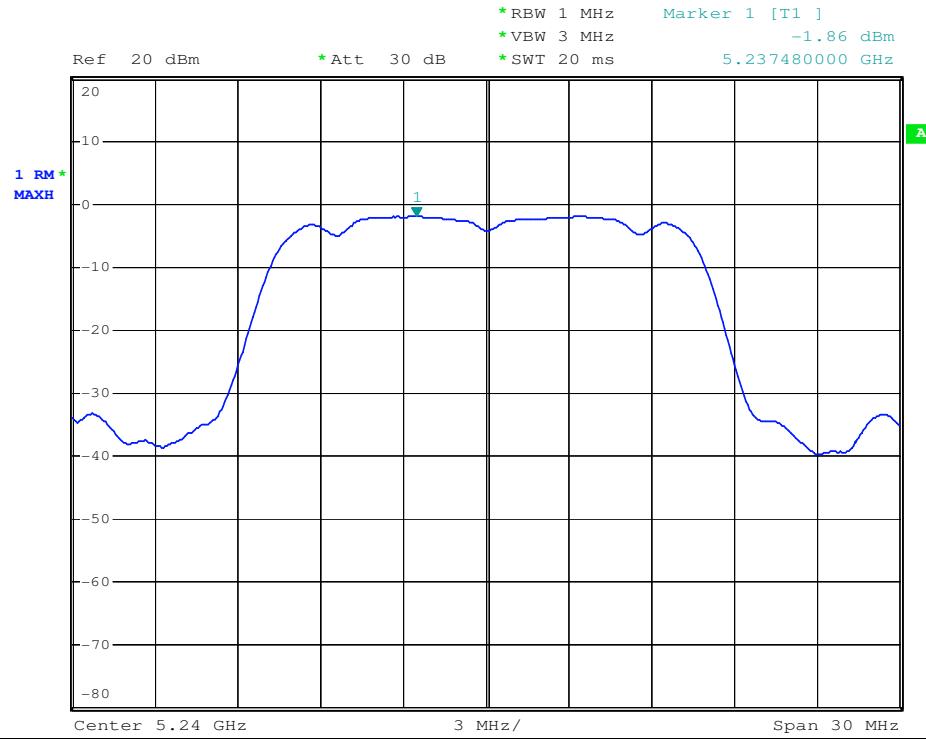


Test mode:	5.2GHz Band Antenna A	Test channel:	Middle
------------	-----------------------	---------------	--------

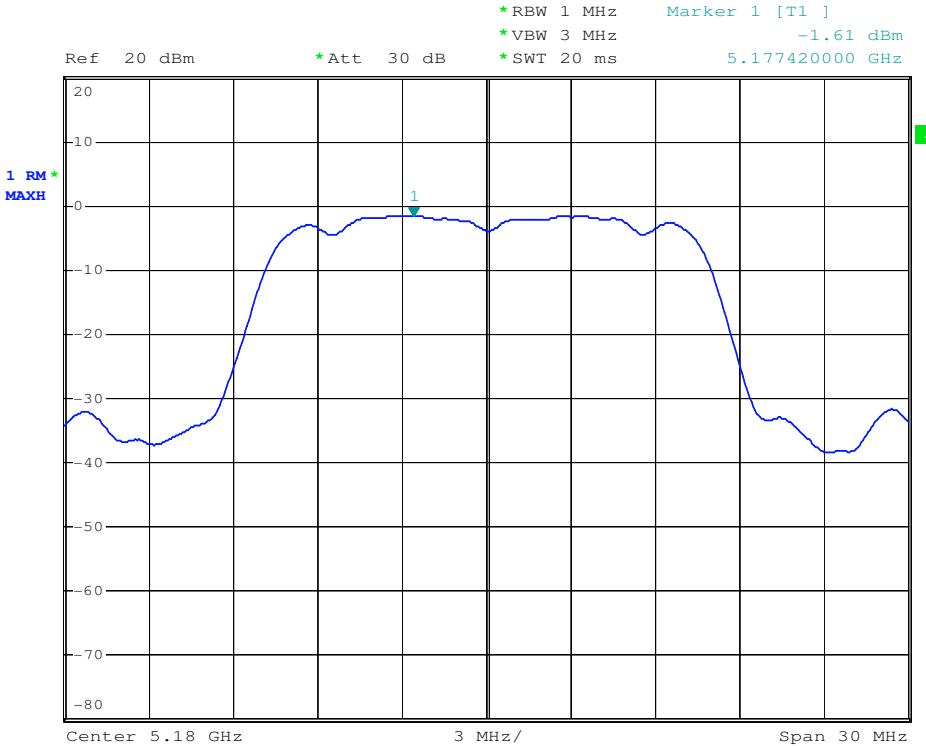


This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. 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

Test mode:	5.2GHz Band Antenna A	Test channel:	High
------------	-----------------------	---------------	------

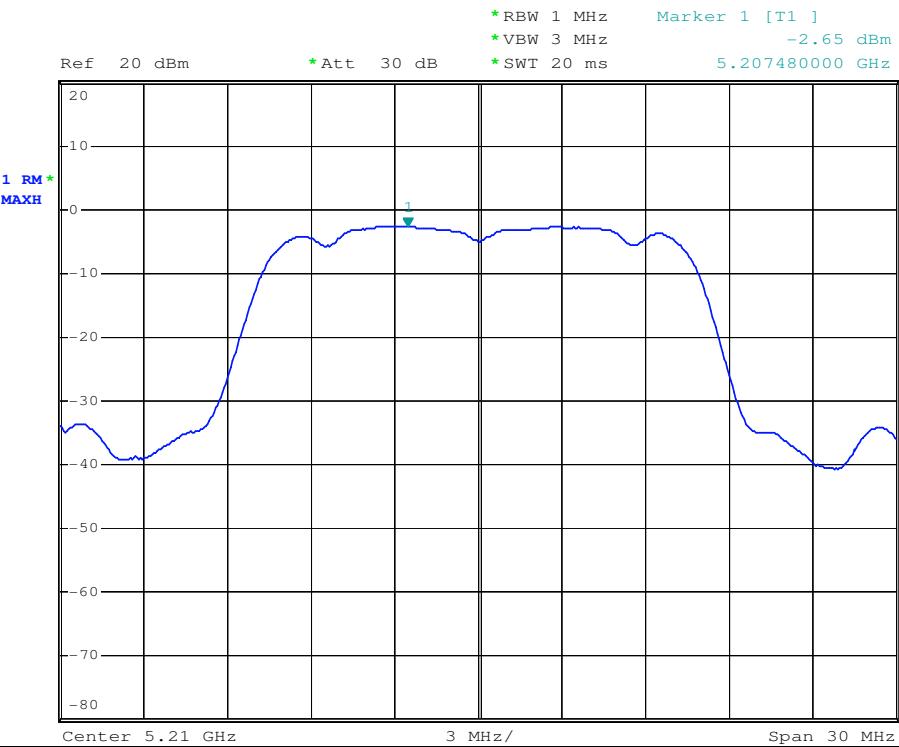


Test mode:	5.2GHz Band Antenna B	Test channel:	Low
------------	-----------------------	---------------	-----

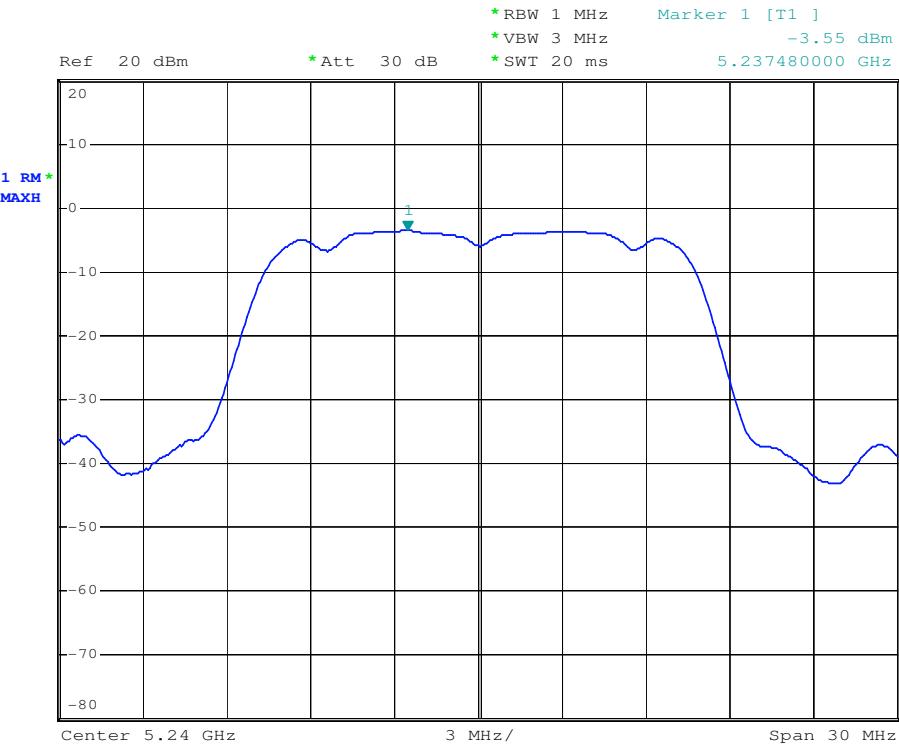


This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. 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.

Test mode:	5.2GHz Band Antenna B	Test channel:	Middle
------------	-----------------------	---------------	--------



Test mode:	5.2GHz Band Antenna B	Test channel:	High
------------	-----------------------	---------------	------



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. 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.

7.5 Peak Power Excursion

Test Requirement: FCC Part15 407(a)(6)
RSS-210 Issue 8 Annex 9

Standard Applicable: According to section 15.407(a) and KDB 789033

(6) The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Measurement Procedure:

1. The transmitter output was connected to the spectrum analyzer.
2. Set the spectrum analyzer span to view the entire emission bandwidth.
3. Find the maximum of the peak-max-hold spectrum.
set RBW=1MHz,VBW \geq 3MHz, Detector=peak, Trace mode=max-hold
4. Allow the sweeps to continue until the trace stabilizes.
5. Use the peak search function to find the peak of the spectrum.
6. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD

Note: PPSD reference section 6.3

Limit:	Frequency Band	Limit
	5.15 – 5.25 GHz	13dB

Measurement Result:

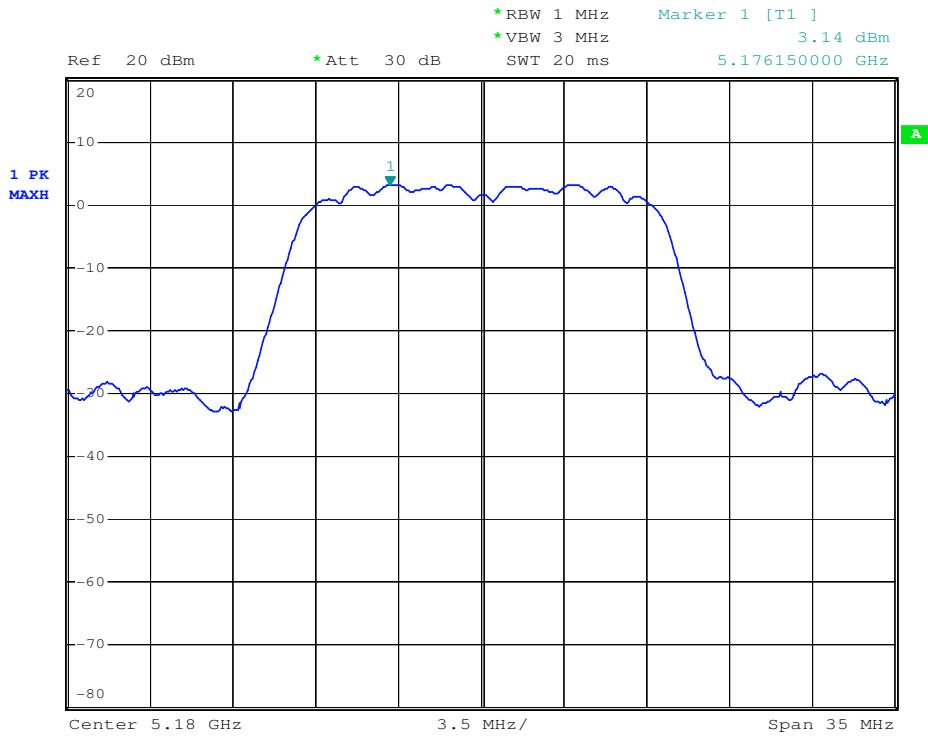
For Antenna A 5180-5240MHz Band:

CH	Frequency (MHz)	Measure Value (dBm)	PPSD (dBm)	Peak power excursion (dB)	Limit (dBm)	Result
LOW	5180	3.14	-0.51	3.65	13	PASS
MID	5210	2.03	-1.50	3.53	13	PASS
HIGH	5240	1.55	-1.86	3.41	13	PASS

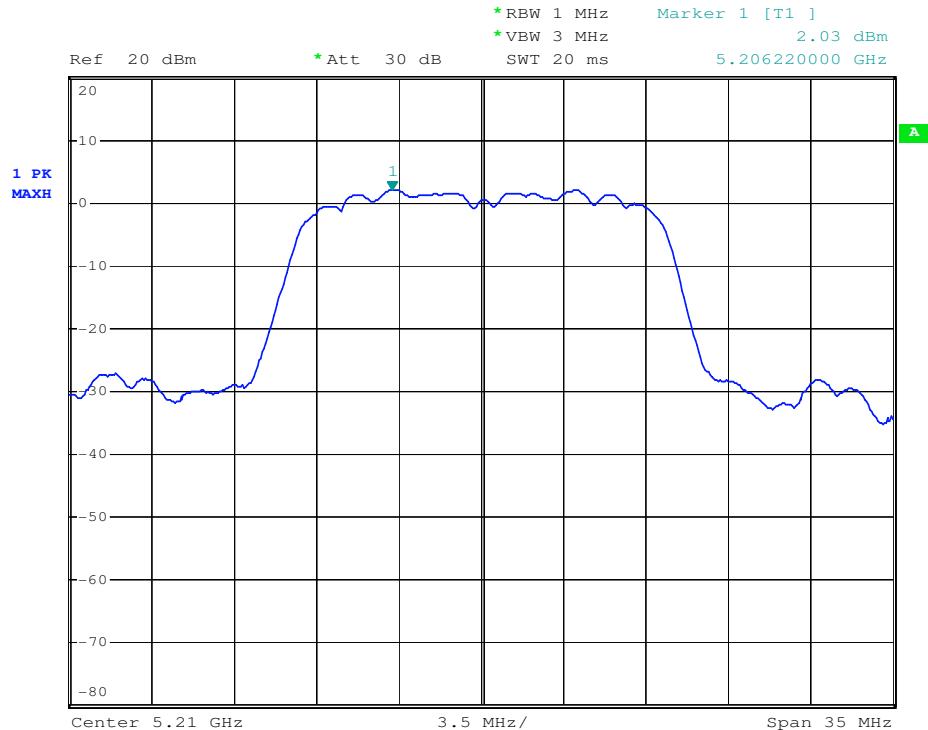
For Antenna B 5180-5240MHz Band:

CH	Frequency (MHz)	Measure Value (dBm)	PPSD (dBm)	Peak power excursion (dB)	Limit (dBm)	Result
LOW	5180	1.8	-1.61	3.41	13	PASS
MID	5210	1.03	-2.65	3.68	13	PASS
HIGH	5240	0.02	-3.55	3.57	13	PASS

Test mode:	5.2GHz Band Antenna A	Test channel:	Low
------------	-----------------------	---------------	-----

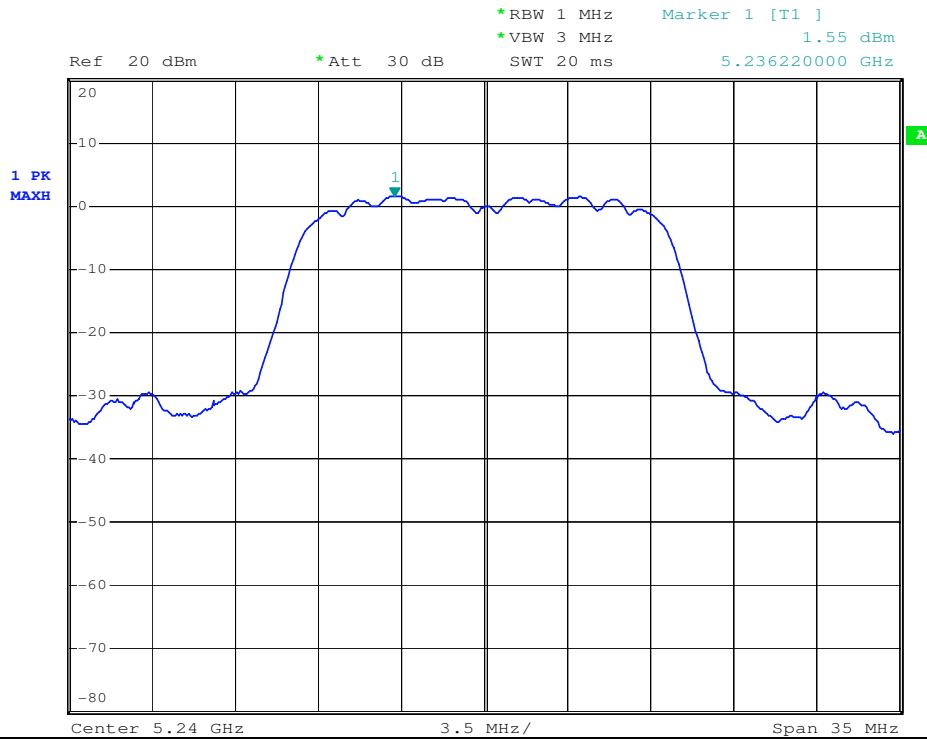


Test mode:	5.2GHz Band Antenna A	Test channel:	Middle
------------	-----------------------	---------------	--------

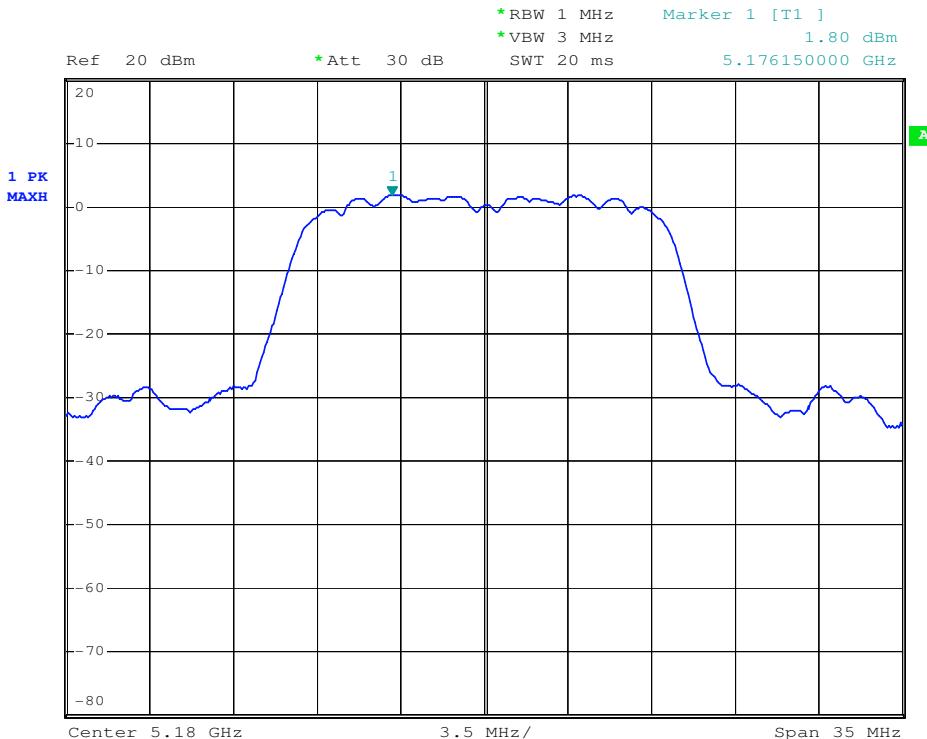


This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. 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.

Test mode:	5.2GHz Band Antenna A	Test channel:	High
------------	-----------------------	---------------	------

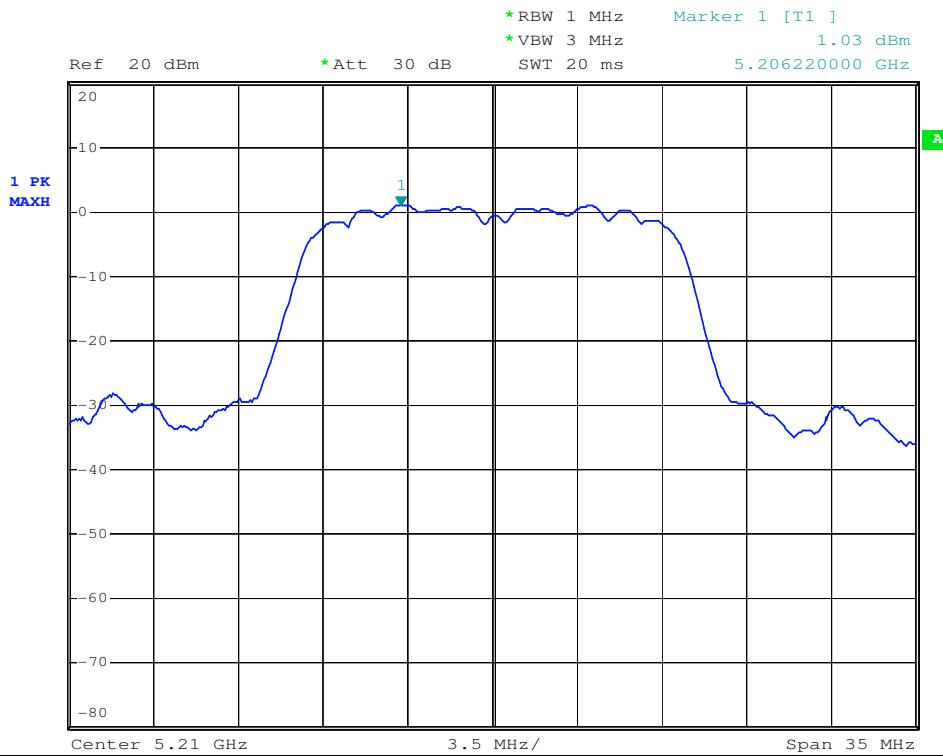


Test mode:	5.2GHz Band Antenna B	Test channel:	Low
------------	-----------------------	---------------	-----

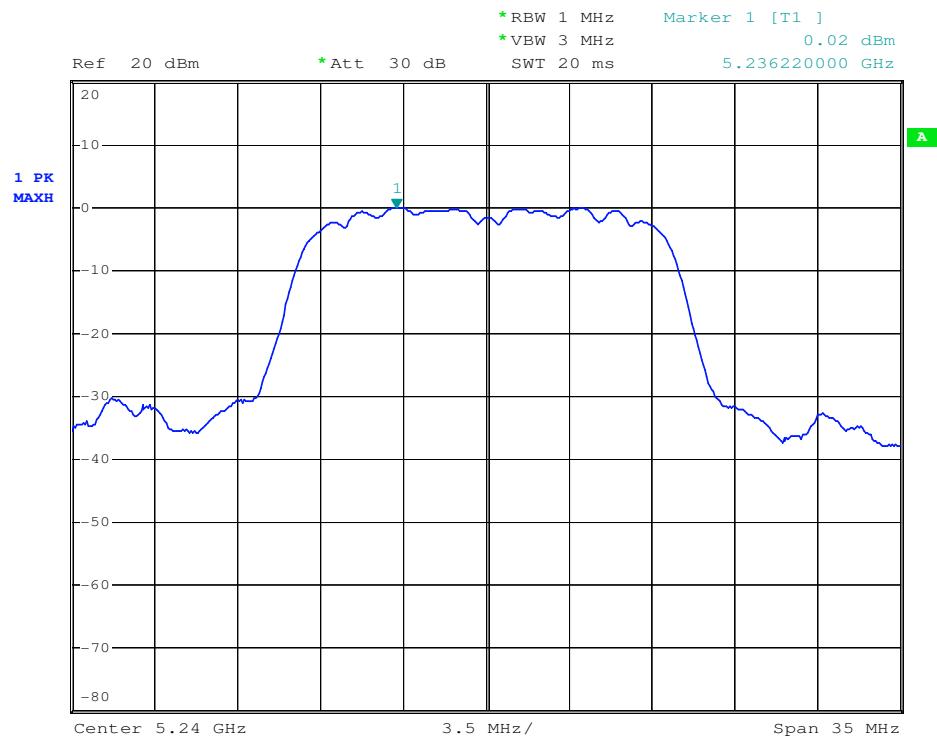


This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. 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.

Test mode:	5.2GHz Band Antenna B	Test channel:	Middle
------------	-----------------------	---------------	--------



Test mode:	5.2GHz Band Antenna B	Test channel:	High
------------	-----------------------	---------------	------



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. 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.

7.6 Electric Field Strength Spurious Emissions

Test Requirement: FCC Part15 407(b)(1)(6)(7) and FCC Part 15.209
RSS-210 Issue 8 Annex 9

Standard Applicable: According to section 15.407(b)

(1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Section 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in Section 15.207.

Measurement Procedure:

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Pre-test with the Horizontal, Vertical and other status towards to the test antenna. To find the worst status.
3. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
4. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
Test instrumentation resolution bandwidth 120 kHz and Quasi-Peak detector applies (30 MHz - 1000 MHz). 1MHz resolution bandwidth and Peak detector apply (1000 MHz – 25GHz)
Above 1GHz
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. Repeat above procedures until all frequency measured were complete.

Limit:

According to the general radiated limits in 15.209 as following

Frequency (MHz)	Field strength (microvolts/meter)	Field strength (dB _u V/m)	Measurement distance (meters)
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Limits of unwanted emission out of the restricted bands in 15.407

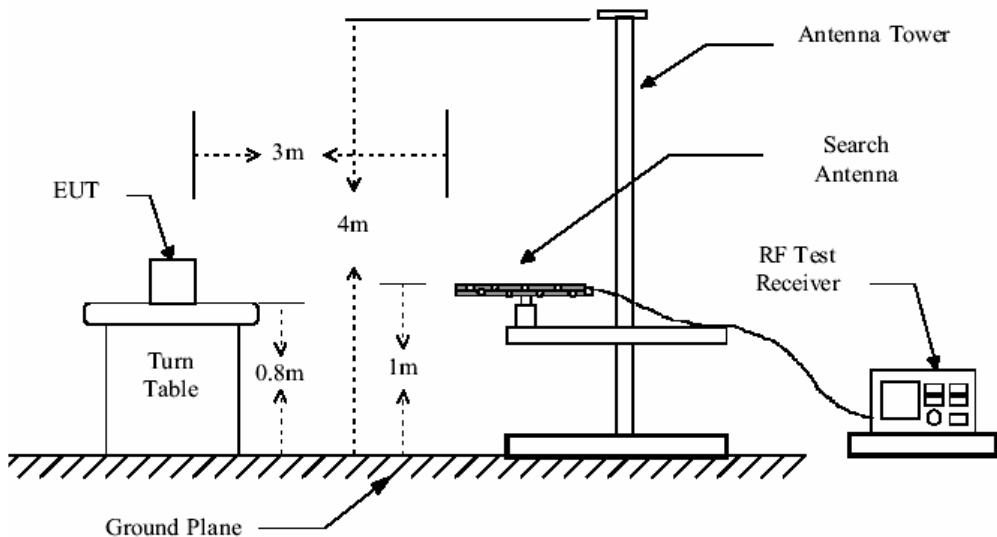
Operation Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dB _u V/m) *
5150-5250	-27	68.3

Note: 1. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength

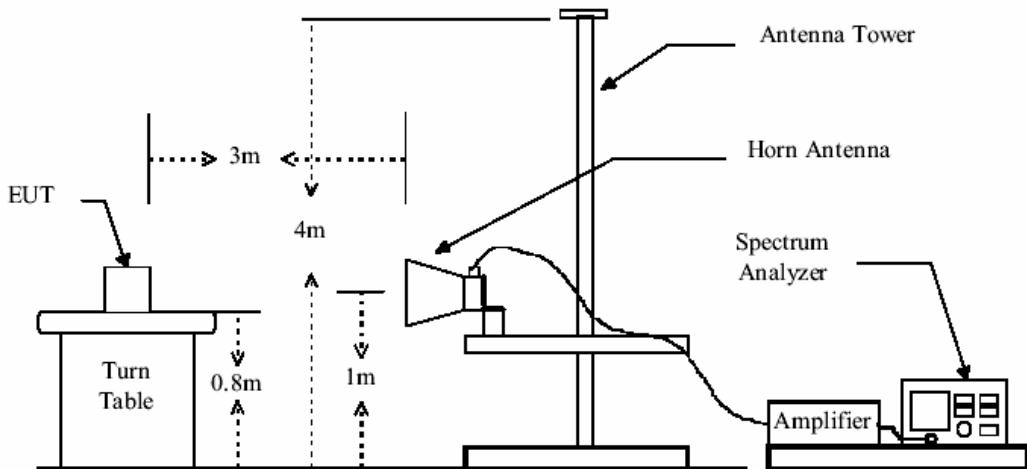
$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m}, \text{ where } P \text{ is the eirp (Watts)}$$

Radiated Test Set-up:

Radiated Emission Test Set-up, Frequency Below 1000MHz



Radiated Emission Test Set-up Frequency Over 1GHz



Low noise amplifier was used below 1GHz, High pass Filter was used above 1GHz.

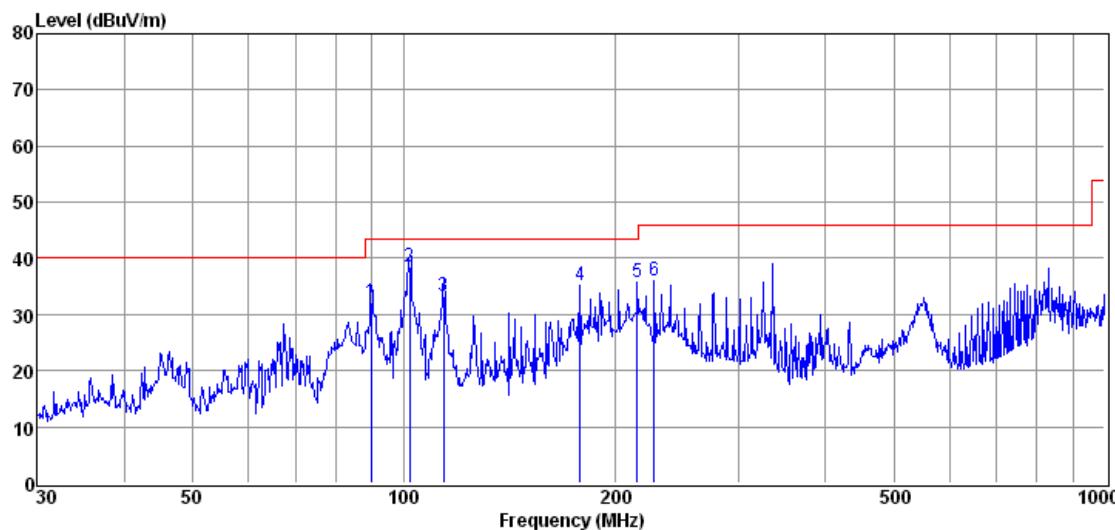
Tests results:

From the pre-test the worst status is the EUT Horizontal towards to the antenna. Below is the worst test results.

30MHz~1GHz Spurious Emissions

Quasi-Peak Measurement

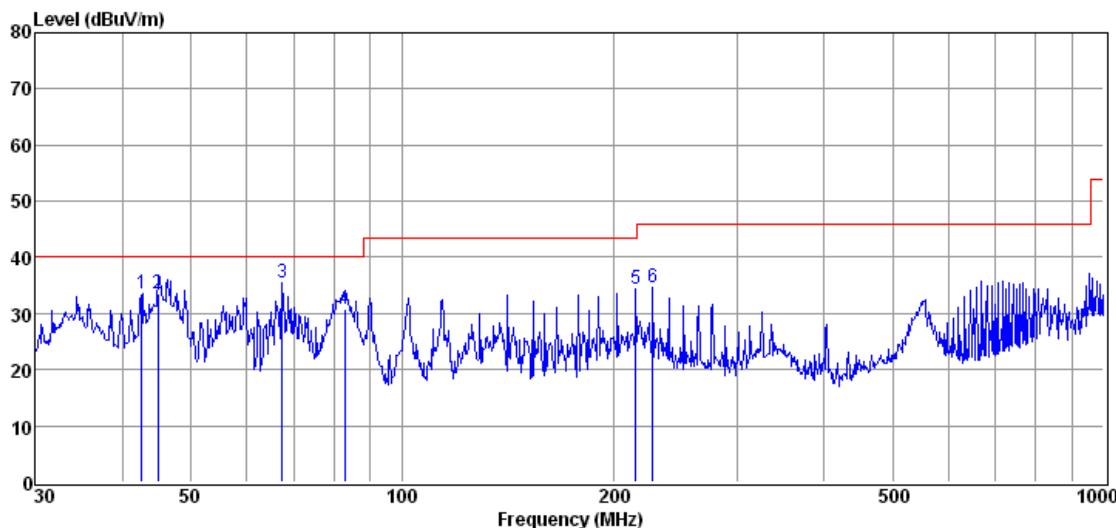
Antenna:Horizontal



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit
(Mark)	(MHz)	(dB μ V)	(dB/m)	(dB)	(dB)	(dB μ V/m)	(dBuV/m)	(dB)
1	89.92	47.49	8.50	24.70	0.95	32.24	43.50	-11.26
2	101.99	52.81	9.38	24.70	1.05	38.54	43.50	-4.96
3	114.06	46.42	10.55	24.70	1.11	33.38	43.50	-10.12
4	178.43	47.13	11.29	24.60	1.40	35.22	43.50	-8.28
5	215.50	49.65	9.14	24.60	1.58	35.77	43.50	-7.73
6	227.90	49.72	9.26	24.60	1.63	36.01	46.00	-9.99

Quasi-Peak Measurement

Antenna:Vertical



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit
(Mark)	(MHz)	(dB μ V)	(dB/m)	(dB)	(dB)	(dB μ V/m)	(dBuV/m)	(dB)
1	42.58	44.38	13.20	24.70	0.58	33.46	40.00	-6.54
2	44.85	44.66	13.11	24.70	0.60	33.67	40.00	-6.33
3	67.50	48.32	11.15	24.70	0.78	35.55	40.00	-4.45
4	82.81	45.91	8.72	24.70	0.89	30.82	40.00	-9.18
5	215.45	48.36	9.15	24.60	1.58	34.49	43.50	-9.01
6	227.73	48.45	9.25	24.60	1.63	34.73	46.00	-11.27

Above 1GHz Peak and Average Spurious Emissions Measurement

EUT mode: Antenna A
Test Antenna: Horizontal
Test Channel: Low

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
1	3232	39.74	6.17	45.91	54	-8.09	peak
2	10336	34.07	11.24	45.31	54	-8.69	peak
3	15736	40.42	10.79	51.21	54	-2.79	peak
4	20896	39.27	11.55	50.82	54	-3.18	peak

Test Antenna: Vertical
Test Channel: Low

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
1	2824	39.09	5.70	44.79	54	-9.21	peak
2	12112	36.18	11.44	47.62	54	-6.38	peak
3	17104	40.53	11.29	51.82	54	-2.18	peak
4	21136	41.08	11.57	52.65	54	-1.35	peak

Test Antenna: Horizontal
Test Channel: Middle

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
1	2320	37.34	5.42	42.76	54	-11.24	peak
2	10432	33.82	11.17	44.99	54	-9.01	peak
3	15640	41.94	10.71	52.65	54	-1.35	peak
4	20128	38.21	11.49	49.70	54	-4.30	peak

Test Antenna: Vertical
Test Channel: Middle

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
1	2776	36.94	5.68	42.62	54	-11.38	peak
2	10480	33.90	11.14	45.04	54	-8.96	peak
3	16048	41.16	11.02	52.18	54	-1.82	peak
4	20824	40.07	11.54	51.61	54	-2.39	peak

Test Antenna: Horizontal

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
1	2344	40.71	5.44	46.15	54	-7.85	peak
2	10456	36.38	11.16	47.54	54	-6.46	peak
3	15760	40.95	10.81	51.76	54	-2.24	peak
4	20800	40.47	11.54	52.01	54	-1.99	peak

Test Antenna: Vertical
Test Channel: High

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
1	2416	39.38	5.47	44.85	54	-9.15	peak
2	10384	34.91	11.21	46.12	54	-7.88	peak
3	15544	41.39	10.63	52.02	54	-1.98	peak
4	20848	39.83	11.55	51.38	54	-2.62	peak

EUT mode: Antenna B
Test Antenna: Horizontal
Test Channel: Low

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
1	3136	39.50	6.02	45.52	54	-8.48	peak
2	10360	37.19	11.22	48.41	54	-5.59	peak
3	15472	40.96	10.57	51.53	54	-2.47	peak
4	20368	40.07	11.51	51.58	54	-2.42	peak

Test Antenna: Vertical
Test Channel: Low

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
1	3184	39.97	6.10	46.07	54	-7.93	peak
2	10144	35.69	11.37	47.06	54	-6.94	peak
3	15256	42.99	10.39	53.38	54	-0.62	peak
4	20368	41.94	11.51	53.45	54	-0.55	peak

Test Antenna: Horizontal

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
1	3040	38.45	5.87	44.32	74	-29.68	peak
2	10456	34.77	11.16	45.93	74	-28.07	peak
3	15640	40.71	10.71	51.42	74	-22.58	peak
4	20800	40.12	11.54	51.66	74	-22.34	peak

Test Antenna: Vertical

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector
1	2848	36.90	5.72	42.62	54	-9.68	peak
2	10384	34.41	11.21	45.62	54	-8.07	peak
3	15544	41.12	10.63	51.75	54	-2.58	peak
4	20728	41.14	11.54	52.68	54	-2.34	peak

Test Antenna: Horizontal

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2368	36.39	5.45	41.84	54	-12.16	peak
2	10480	34.88	11.14	46.02	54	-7.98	peak
3	15640	40.47	10.71	51.18	54	-2.82	peak
4	20824	39.02	11.54	50.56	54	-3.44	peak

Test Antenna: Vertical

Mark	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2560	36.71	5.55	42.26	54	-11.74	peak
2	10384	33.92	11.21	45.13	54	-8.87	peak
3	15544	41.8	10.63	52.43	54	-1.57	peak
4	20728	40.06	11.54	51.60	54	-2.40	peak

Remark: No other radiation has been found

Test Level =Receiver Reading + Antenna Factor + Cable Loss –Preamplifier Factor.

Remark: No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be



reported unless specifically required elsewhere in this Part. Hence there no other emissions have been reported.

7.7 Radiated Emission Band Edge

Test Requirement: FCC Part15 407(b)(5)(7) and FCC Part 15.205

Standard Applicable: According to section 15.407(b)

(5) The above emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

Measurement Distance: 3m (Semi-Anechoic Chamber)

Limit: 40.0 dB μ V/m between 30MHz & 88MHz;

43.5 dB μ V/m between 88MHz & 216MHz;

46.0 dB μ V/m between 216MHz & 960MHz;

AV 54.0 dB μ V/m PK 74.0 dB μ V/m above 960MHz.

Measurement Procedure: The EUT was setup according to ANSI 63.10,2009 and tested according to DTS test procedure of KDB789033 for compliance to FCC 47 CFR 15.407 requirements. The EUT is placed on a turn table which is 0.8 m above ground. The turn table is rotated 360 degrees to determine to the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level

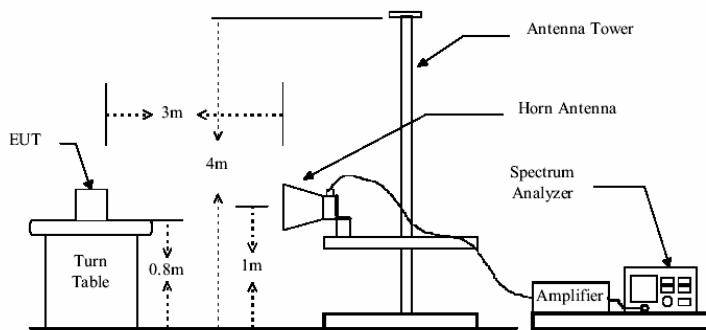
This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSIC 63.10:2009 on radiated measurement.

Spectrum analyzer parameters setting as shown below:

(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

Radiated Emission Test Set-up Frequency Over 1GHz

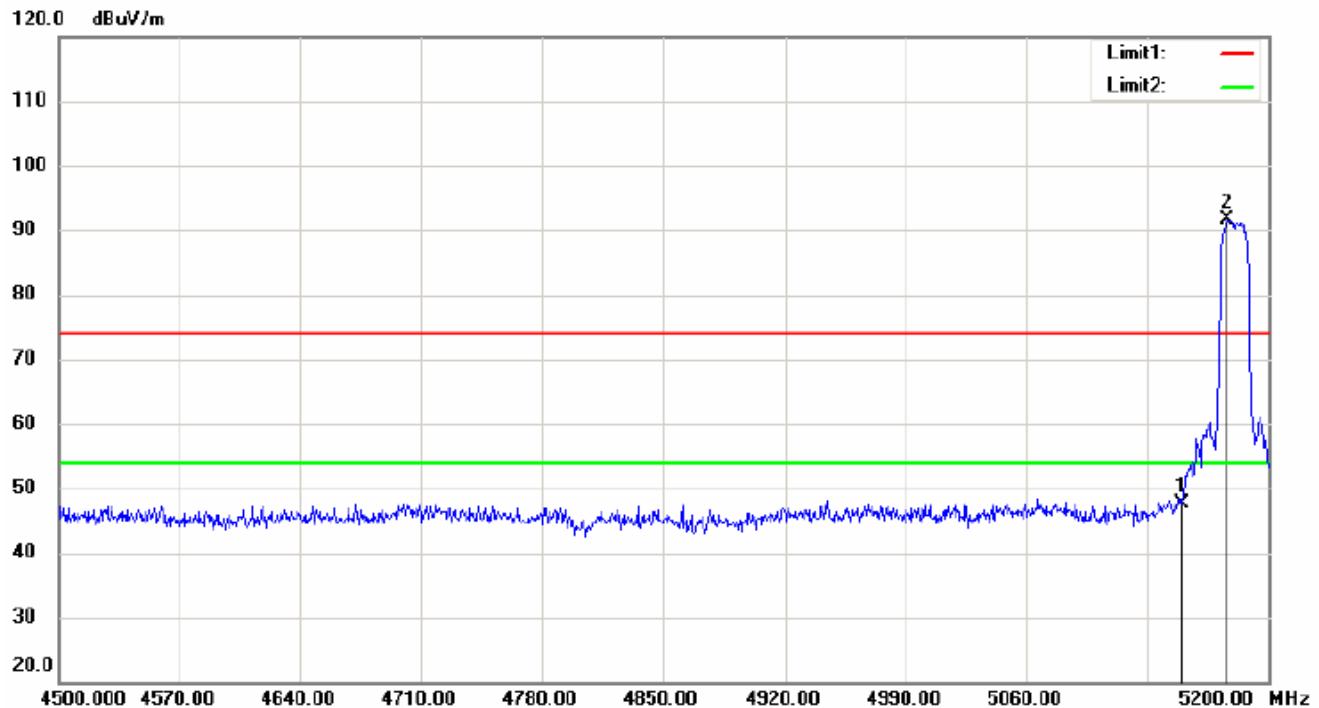


The field strength is calculated by adding the Antenna Factor, Preamplifier Factor & Cable Factor. The basic equation with a sample calculation is as follows:

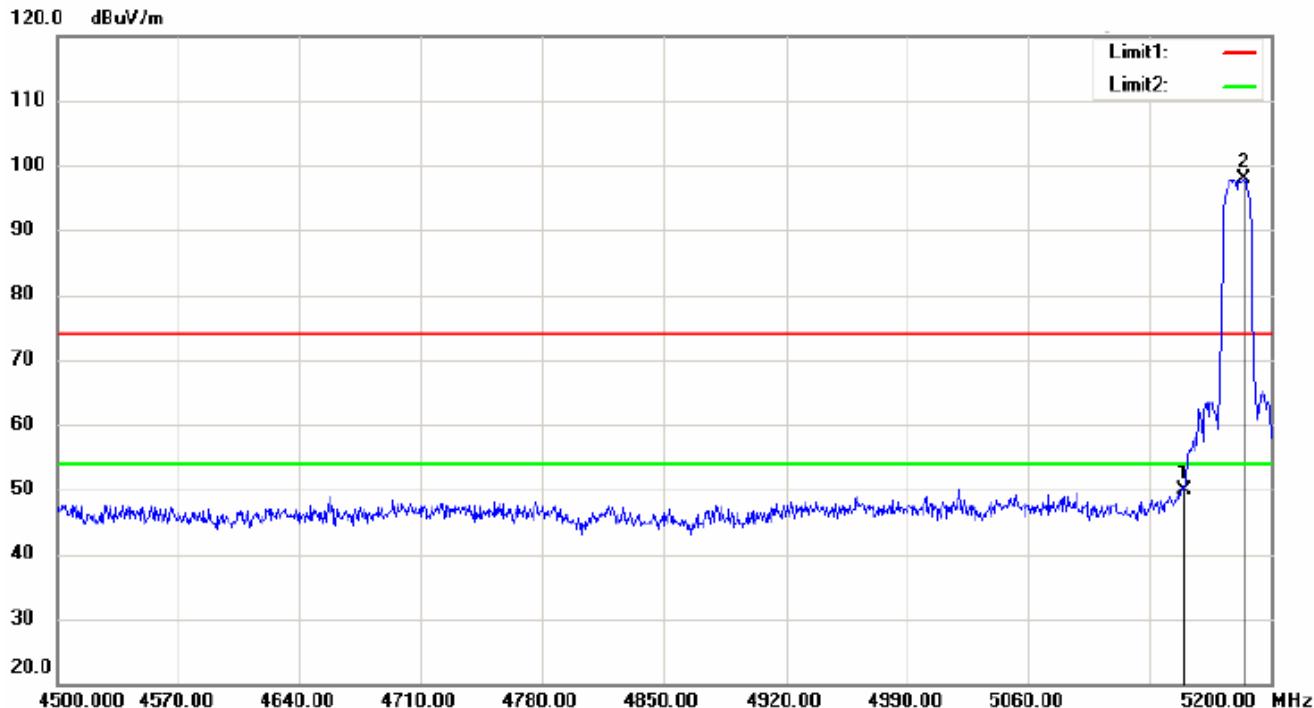
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

Radiated Bandedge Measurement Result:

Test mode:	5.2GHz Band Antenna A	Test channel:	Low
------------	-----------------------	---------------	-----

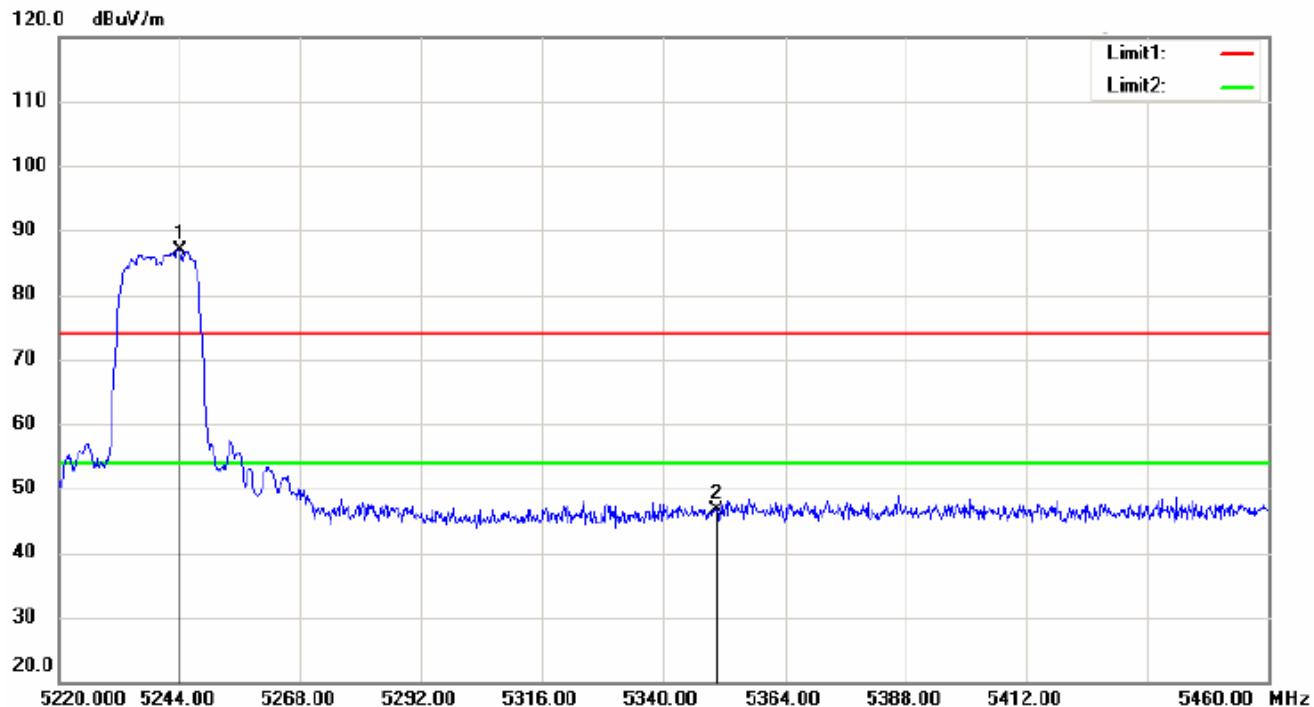
Horizontal, Peak Detector:

MK.	Frequency	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	5150.300	39.03	peak	8.61	47.64	54	6.36
2	5176.200	82.90	peak	8.63	91.53	54	-37.53

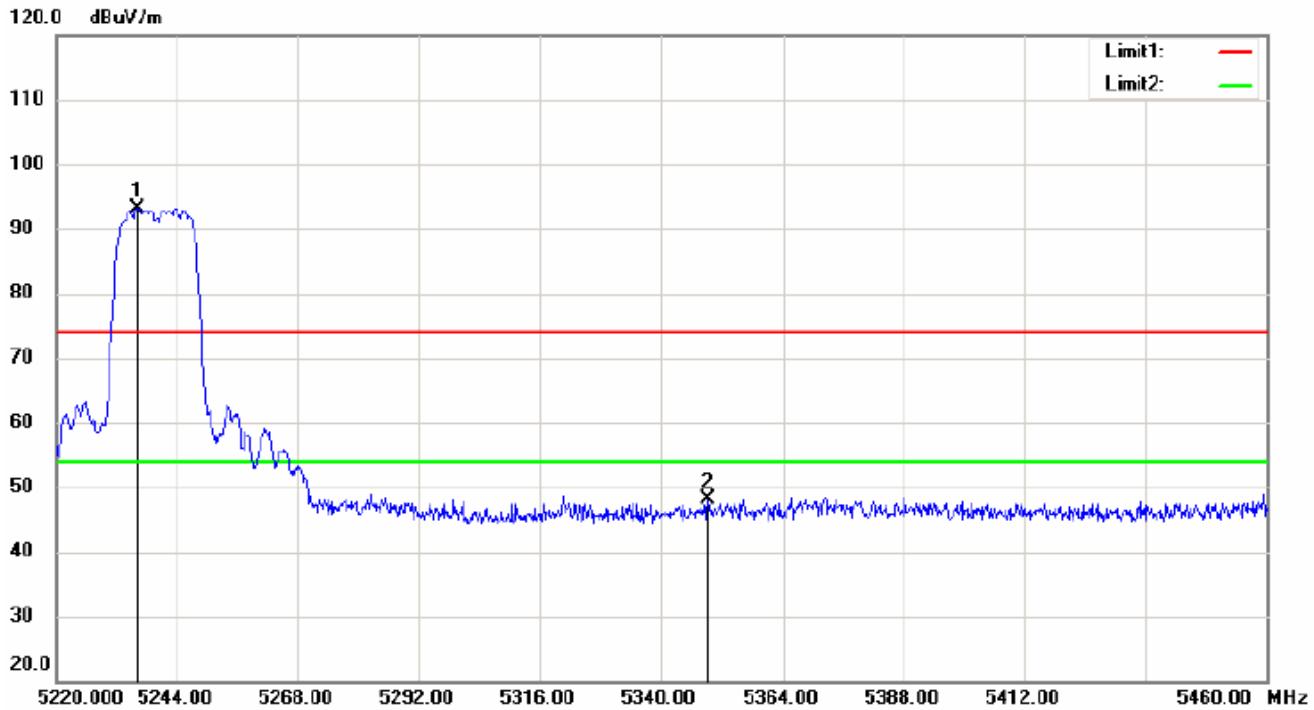
Vertical , Peak Detector:

MK.	Frequency	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	5150.300	41.31	peak	8.61	49.92	54	4.08
2	5184.600	89.23	peak	8.64	97.87	54	-43.87

Test mode:	5.2GHz Band Antenna A	Test channel:	High
------------	-----------------------	---------------	------

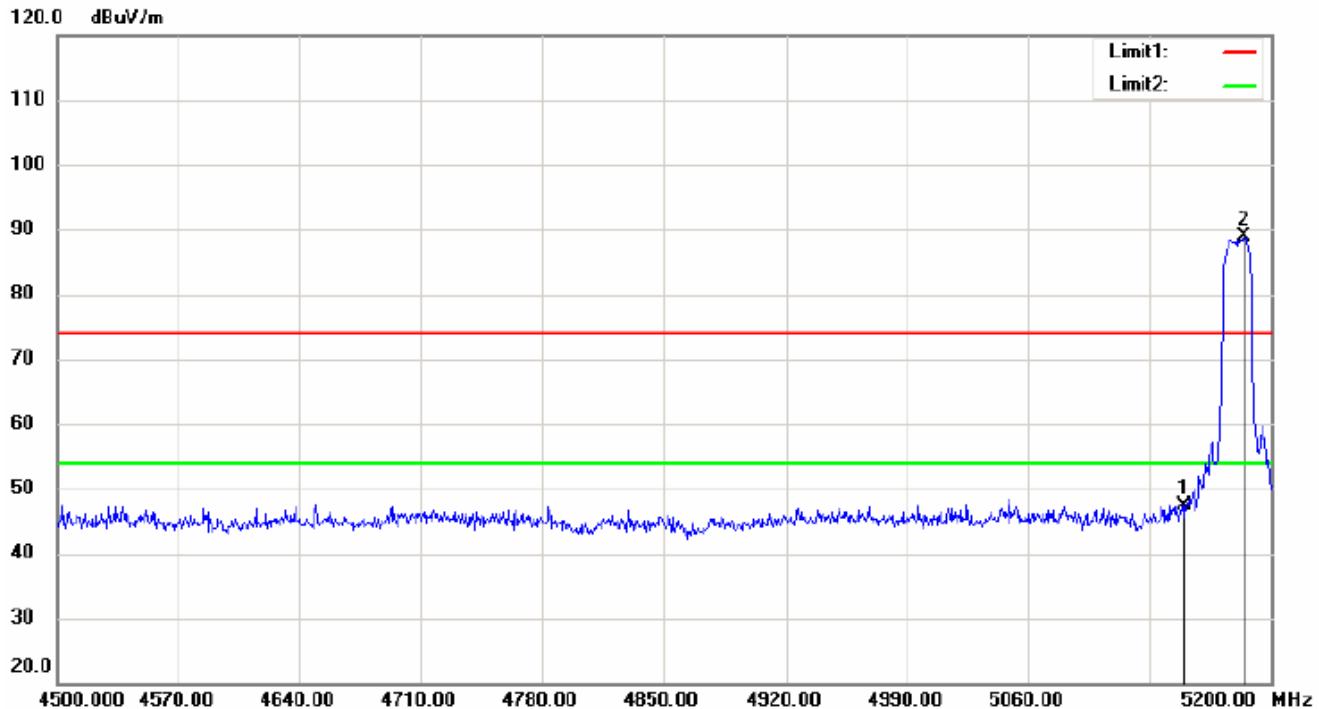
Horizontal, Peak Detector:

MK.	Frequency	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	5244.000	78.20	peak	8.68	86.88	54	-32.88
2	5350.320	37.85	peak	8.75	46.60	54	7.40

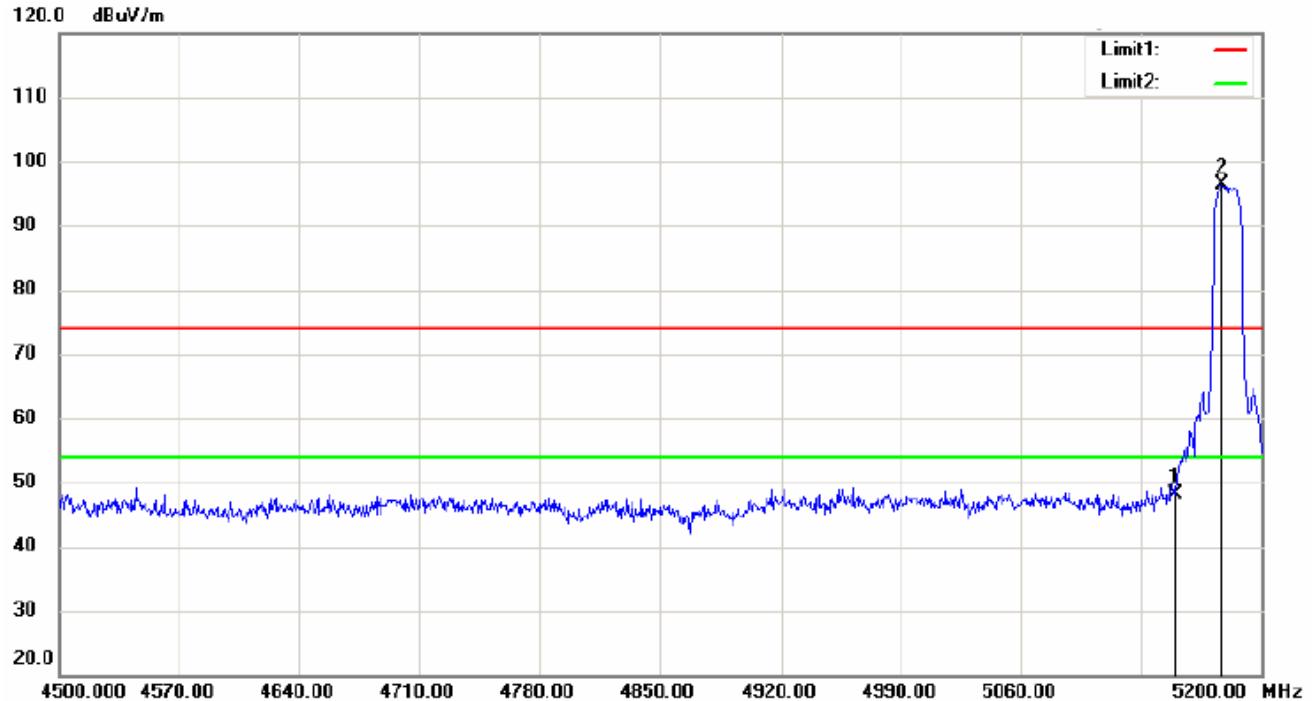
Vertical , Peak Detector:

MK.	Frequency	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	5236.080	84.48	peak	8.67	93.15	54	-39.15
2	5349.120	39.34	peak	8.75	48.09	54	5.91

Test mode:	5.2GHz Band Antenna B	Test channel:	Low
------------	-----------------------	---------------	-----

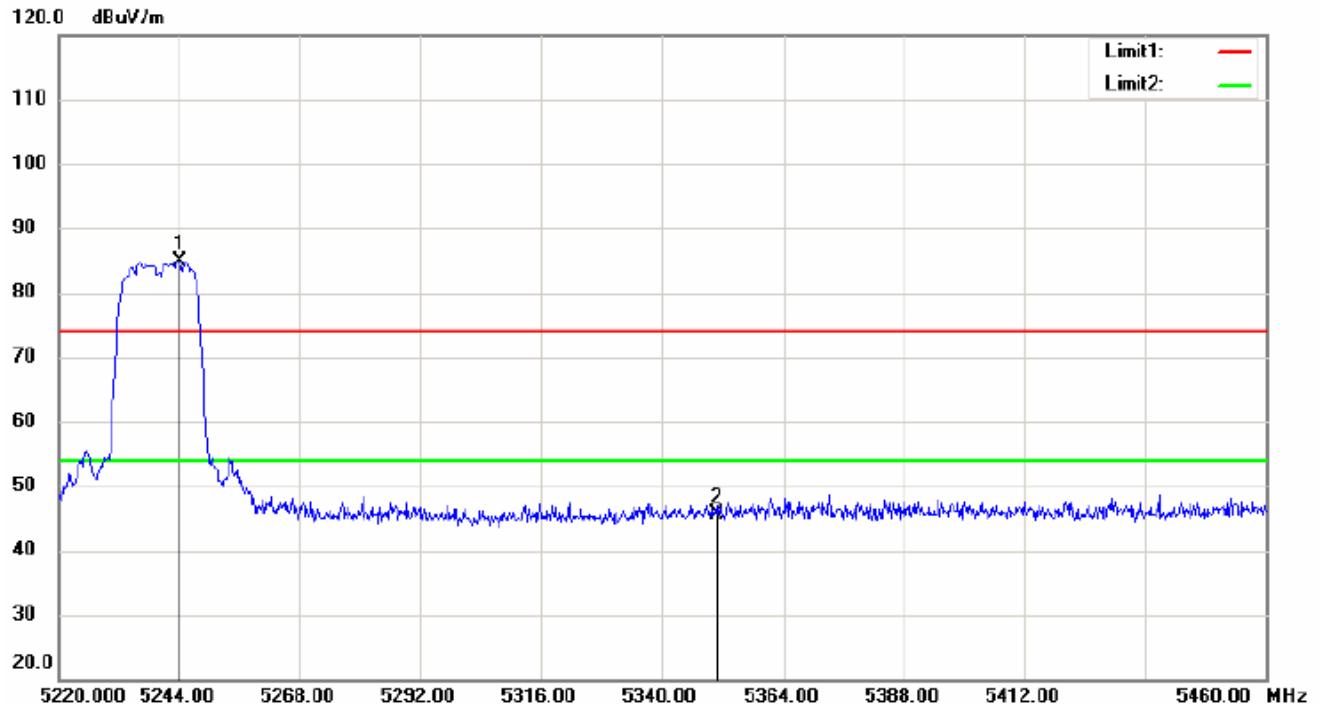
Horizontal, Peak Detector:

MK.	Frequency	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	5150.300	38.85	peak	8.61	47.46	54	6.54
2	5184.600	80.22	peak	8.64	88.86	54	-34.86

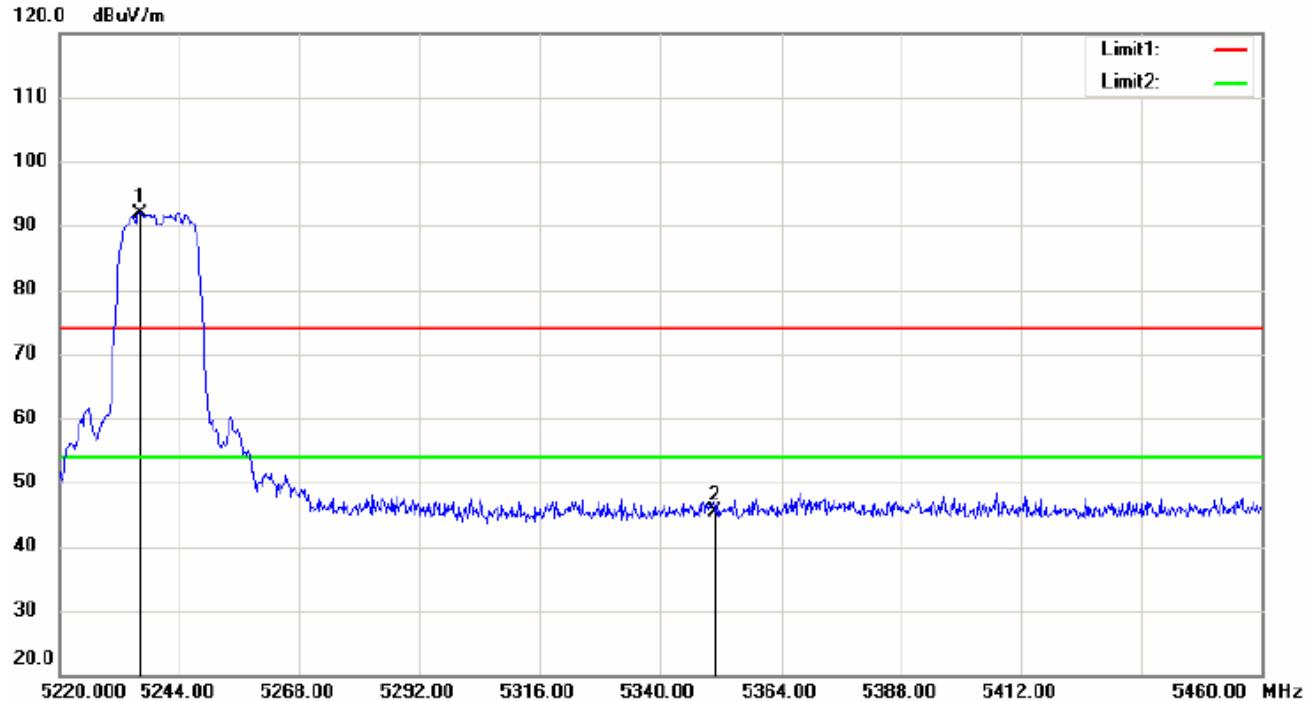
Vertical , Peak Detector:

MK.	Frequency	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	5150.300	39.49	peak	8.61	48.10	54	5.90
2	5176.900	87.71	peak	8.63	96.34	54	-42.34

Test mode:	5.2GHz Band Antenna B	Test channel:	High
------------	-----------------------	---------------	------

Horizontal, Peak Detector:

MK.	Frequency	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	5244.000	76.26	peak	8.68	84.94	54	-30.94
2	5350.800	36.78	peak	8.75	45.53	54	8.47

Vertical , Peak Detector:

MK.	Frequency	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	5236.080	83.33	peak	8.67	92.00	54	-38.00
2	5350.800	36.64	peak	8.75	45.39	54	8.61

Remark: No any other emission which fall in restricted bands can be detected and be reported.

Test Level = Receiver Reading + Antenna Factor + Cable Loss- Preamplifier Factor

All frequencies within the "Restricted bands" have been evaluated to compliance. Section 15.205 Restricted bands of operation.

7.8 Frequency stability

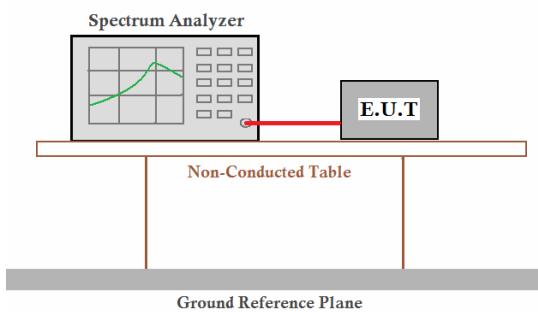
Test requirement: FCC Part15 407 (g)

Standard Applicable: According to section 15.407(g), the manufacturers of UNII devices are responsible for ensuing frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user manual.

Test Procedure:

- 1) Set up the EUT on lowest channel and the highest channel
- 2) Test the EUT in the lowest channel and the Highest channel ,
- 3) Select the lowest operating frequency of the equipment under test.
- 4) Connect EUT antenna terminal to the spectrum analyzer with a low loss cable.
- 5) Adjust the centre frequency of spectrum analyzer on any frequency be measured.
- 6) Measure the frequency range by spectrum analyzer Marker function. set the Spectrum Analyzer as below:
 - Span: Wide enough to capture the complete power envelope, including all side bands
 - RBW: 100KHz
 - VBW: 100KHz
 - Detector function: RMS average
 - Trace mode: Max Hold
 - Sweep time: 1minute
- 7) Using the marker of the spectrum analyzer, find the the lowest frequency of the spectrum envelope This frequency shall be recorded as FL.
- 8) Select the highest operating frequency of the equipment under test.
- 9) Using the same set as step 6), find the highest frequency of the spectrum envelope. This frequency shall be recorded as FH.
- 10) Pretest the EUT at different transmission rate and worst case data in the report.

Test setup:





**Test Data:
Antenna A**

Test Conditions		Nominal Frequency (MHz)	Measured Frequency (MHz)	Limit (MHz)	Result
Temp (°C)	Volt (V DC)				
$T_{\text{nom}} (25)$	$V_{\text{nom}} (5.0)$	5180	5169.42	$F_L > 5150$	Pass
		5240	5248.35	$F_H < 5250$	Pass
$T_{\text{min}} (-20)$	$V_{\text{min}} (5.5)$	5180	5171.26	$F_L > 5150$	Pass
		5240	5248.43	$F_H < 5250$	Pass
	$V_{\text{max}} (4.5)$	5180	5172.39	$F_L > 5150$	Pass
		5240	5248.41	$F_H < 5250$	Pass
$T_{\text{max}} (55)$	$V_{\text{min}} (5.5)$	5180	5175.51	$F_L > 5150$	Pass
		5240	5248.63	$F_H < 5250$	Pass
	$V_{\text{max}} (4.5)$	5180	5174.57	$F_L > 5150$	Pass
		5240	5248.49	$F_H < 5250$	Pass

Antenna B

Test Conditions		Nominal Frequency (MHz)	Measured Frequency (MHz)	Limit (MHz)	Result
Temp (°C)	Volt (V DC)				
$T_{\text{nom}} (25)$	$V_{\text{nom}} (5.0)$	5180	5174.27	$F_L > 5150$	Pass
		5240	5248.38	$F_H < 5250$	Pass
$T_{\text{min}} (-20)$	$V_{\text{min}} (5.5)$	5180	5175.33	$F_L > 5150$	Pass
		5240	5249.28	$F_H < 5250$	Pass
	$V_{\text{max}} (4.5)$	5180	5174.31	$F_L > 5150$	Pass
		5240	5248.45	$F_H < 5250$	Pass
$T_{\text{max}} (55)$	$V_{\text{min}} (5.5)$	5180	5174.72	$F_L > 5150$	Pass
		5240	5248.43	$F_H < 5250$	Pass
	$V_{\text{max}} (4.5)$	5180	5174.82	$F_L > 5150$	Pass
		5240	5248.63	$F_H < 5250$	Pass

7.9 Occupied Bandwidth Test

Test Requirement: RSS-Gen Issue 3 Clause 4.6.1

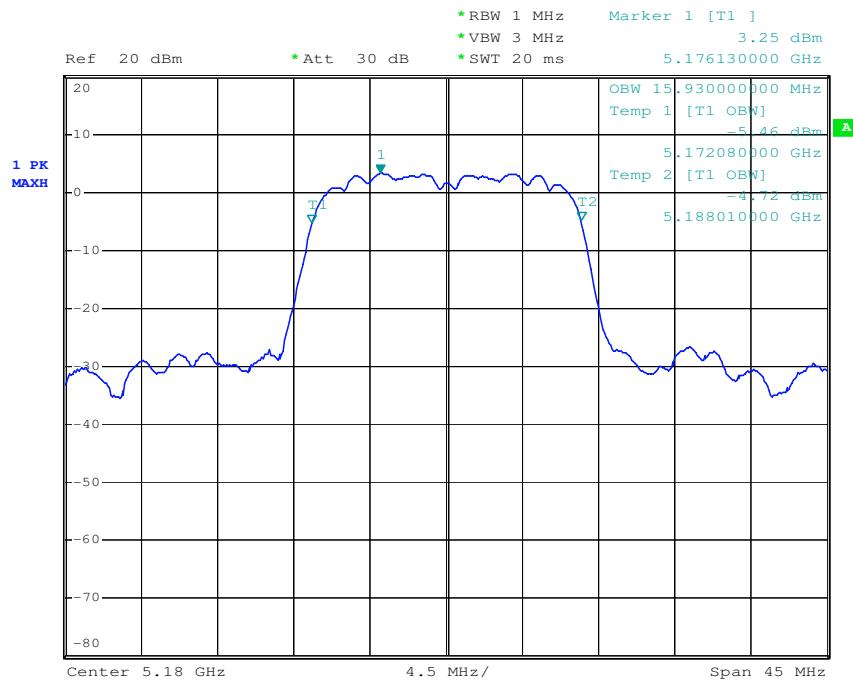
Standard Applicable According to the section RSS-Gen Issue 3 Clause 4.6.1

EUT Setup The occupied bandwidth per RSS-Gen Issue 3 Clause 4.6.1 was measured using the Spectrum Analyzer with the resolutions set at 100kHz, the video bandwidth set at 300kHz.

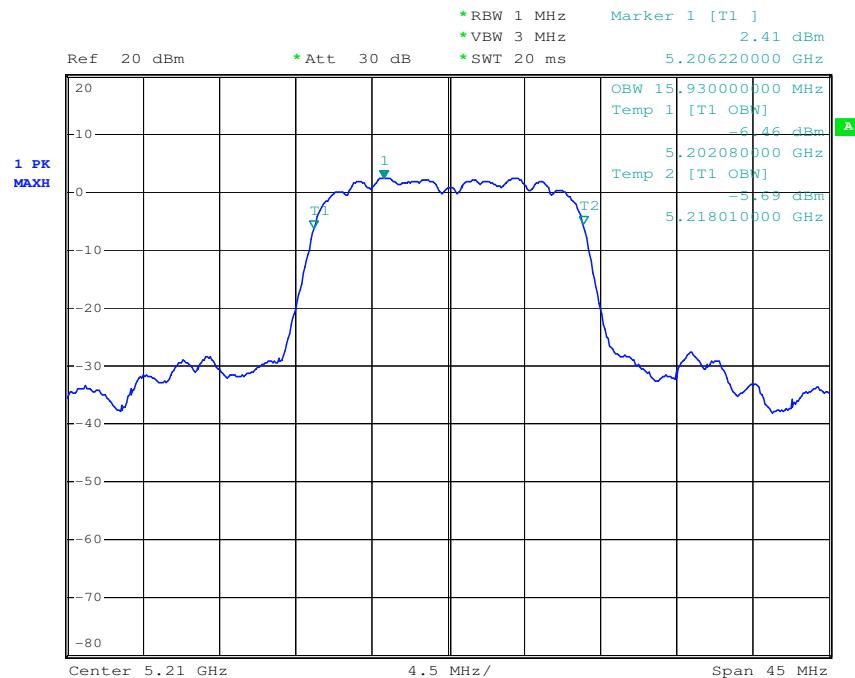
Measurement Result:

For 5180-5240MHz Band

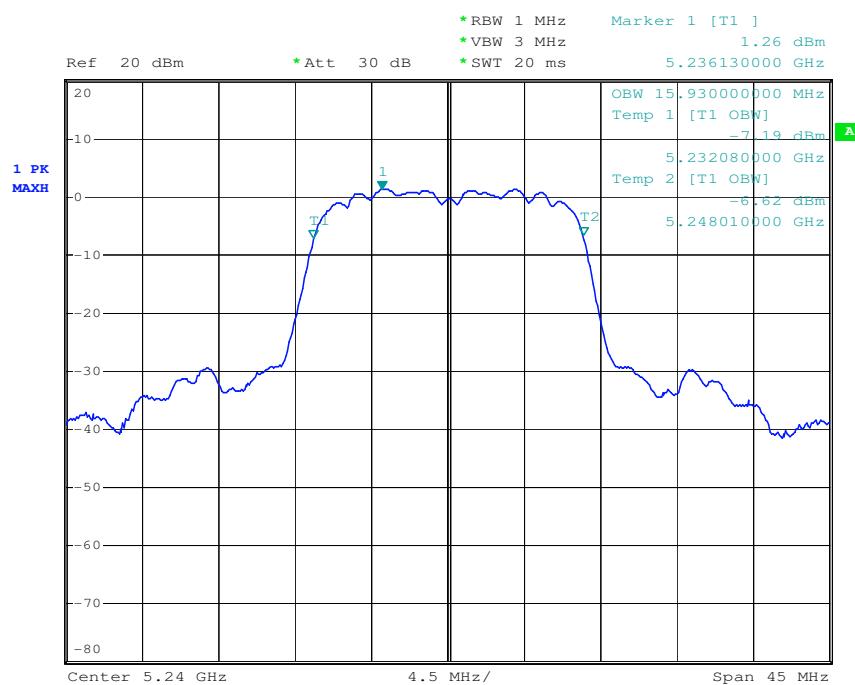
Test Mode	Channel	Frequency (MHz)	Bandwidth (MHz)
Antenna A	Low	5180	15.93
	Middle	5210	15.93
	High	5240	15.93
Antenna B	Low	5180	15.93
	Middle	5210	15.93
	High	5240	15.84
Test mode:	5.2GHz Band Antenna A	Test channel:	Low



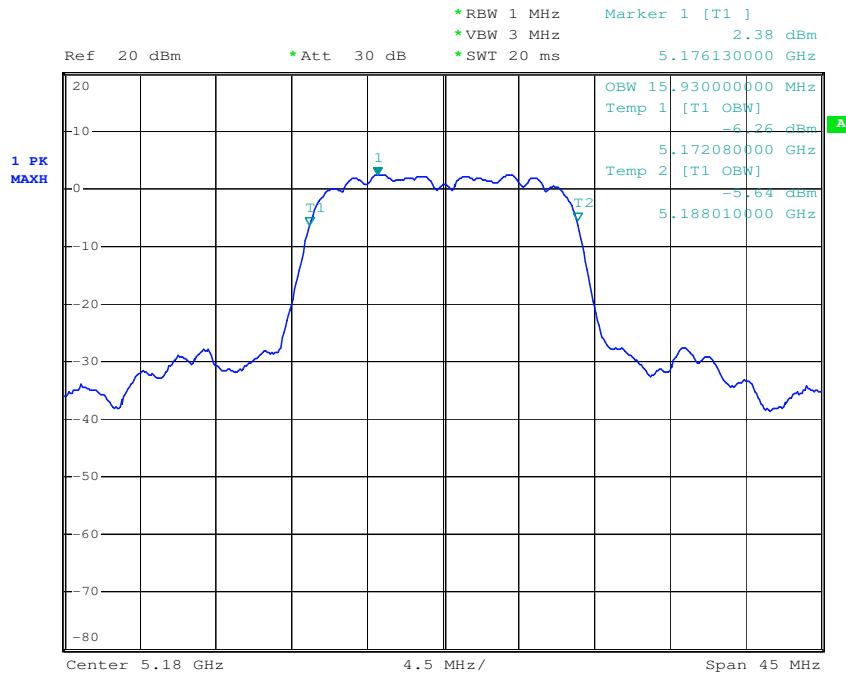
Test mode:	5.2GHz Band Antenna A	Test channel:	Middle
------------	-----------------------	---------------	--------



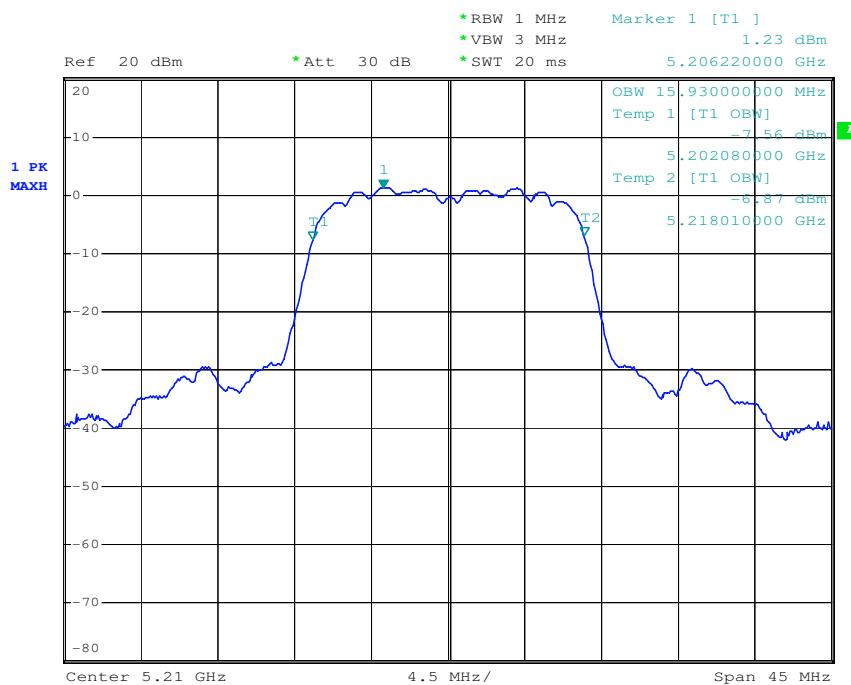
Test mode:	5.2GHz Band Antenna A	Test channel:	High
------------	-----------------------	---------------	------



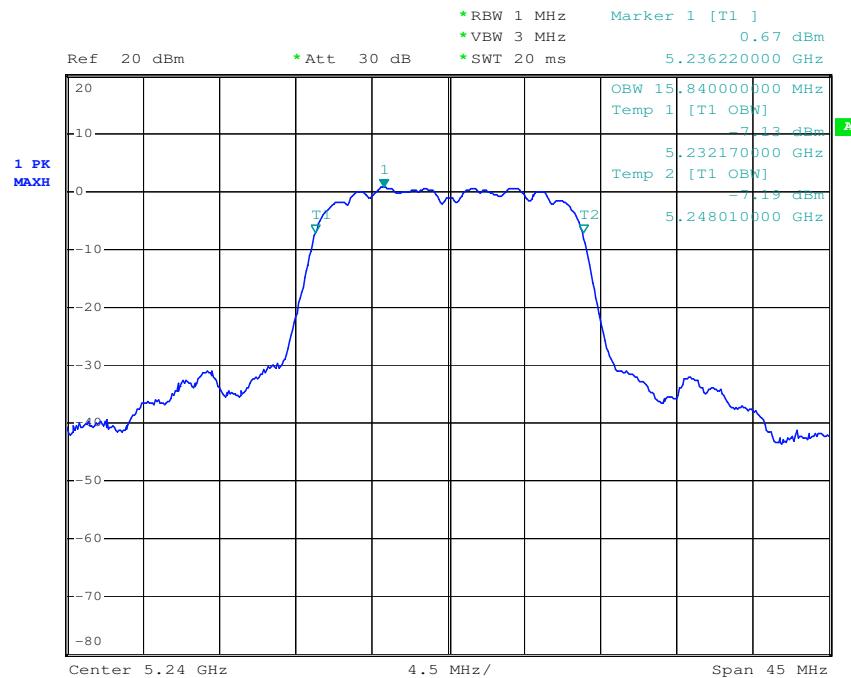
Test mode:	5.2GHz Band Antenna B	Test channel:	Low
------------	-----------------------	---------------	-----



Test mode:	5.2GHz Band Antenna B	Test channel:	Middle
------------	-----------------------	---------------	--------



Test mode:	5.2GHz Band Antenna B	Test channel:	High
------------	-----------------------	---------------	------





8 Test Setup Photographs

Refer to the < DAC2 _Test Setup photos>.

9 EUT Constructional Details

Refer to the < DAC2 _External Photos > & < DAC2 _Internal Photos >.

End of Report