Test Report

Product Name	ROS Video DMA
Model No	ROS-1000
FCC ID	BJM-ROS1000

Applicant	TATUNG CO.
Address	22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C.

Date of Receipt	Aug. 01, 2008
Issued Date	Aug. 13, 2008
Report No.	088064R-RFUSP08V01
Version	V1.0

Test Report Certification

Issued Date: Aug. 13, 2008
Report No.: 088064R-RFUSP08V01

Product Name	ROS Video DMA
Applicant	TATUNG CO.
Address	22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C.
Manufacturer	TATUNG CO.
Model No.	ROS-1000
FCC ID.	BJM-ROS1000
Rated Voltage	AC 120V/60Hz
Working Voltage	AC 120V/60Hz
Trade Name	PRODEA
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2007 ANSI C63.4: 2003 NVLAP Lab Code: 200533-0
Test Result	Complied

The Test Results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By : Leven Huang
(Adm. Specialist / Leven Huang)

Tested By : Johnson Liao
(Assistant Engineer / Johnson Liao)

Approved By :
(Manager / Vincent Lin)

Testing Laboratory
0914

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	ROS Video DMA
Trade Name	PRODEA
FCC ID.	BJM-ROS1000
Model No.	ROS-1000
Frequency Range	2412-2472MHz, 5180-5240MHz and 5745-5825MHz
Number of Channels	802.11b/g/n-20MHz/n-40MHz: 11, 802.11a/n-20MHz: 9 802.11n-40MHz: 11
Data Speed	802.11b: 11Mbps, 802.11a/g: 54Mbps, 802.11n: 300Mbps
Channel separation	802.11b/g/n-20MHz: 5 MHz, 802.11a/n-20MHz: 20MHz 802.11n-40MHz: 40MHz
Type of Modulation	802.11b:DSSS DBPSK, DQPSK, CCK 802.11a/g/n: OFDM BPSK, QPSK, 16QAM, 64QAM
Antenna type	PIFA
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
Power Adapter	MFR: UMEC, M/N: UP0251P-12PA Power Cord: Non-Shielded, 1.8m

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	FAVORTRON	E773700186	2.84dBi in 2.4 GHz
		E773700180	1.15dBi in 5GHz
		E773700185	

802.11a/n-20MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	5180 MHz	Channel 2:	5200 MHz	Channel 3:	5220 MHz	Channel 4:	5240 MHz

802.11n-40MHz (5G Band) Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	5190 MHz	Channel 2:	5230 MHz				

Note:

1. This device is a ROS Video DMA with a built-in 802.11a/b/g/n WLAN card.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps, 802.11n(20BW) is 13.5Mbps and 802.11n(40BW) are 27Mbps)
3. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.

1.2. Operational Description

The EUT is a ROS Video DMA with a built-in 802.11a/b/g/n WLAN card. This device provided four kinds of transmitting speed 1, 2, 5.5 and 11Mbps and the device of RF carrier is DBPSK, DQPSK and CCK (IEEE 802.11b). The device provided of eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11a/g).

The device provided of eight kinds of transmitting speed 13.5,26,39,52,78,104,117 and 130Mbps in 802.11n(20BW) mode and 27,54,81,108,162,216,243 and 270Mbps(40BW) the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11n).

The device adapts direct sequence spread spectrum modulation. The antenna provides diversity function to improve the receiving function.

This ROS Video DMA, compliant with IEEE 802.11b and IEEE 802.11a/g/n, is a high-efficiency Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direst Sequence Spread Spectrum (DSSS) radio transmission, the ROS Video DMA Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11b and IEEE 802.11a/g/n network.

Test Mode	Mode 1: Transmitter 802.11a Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band)

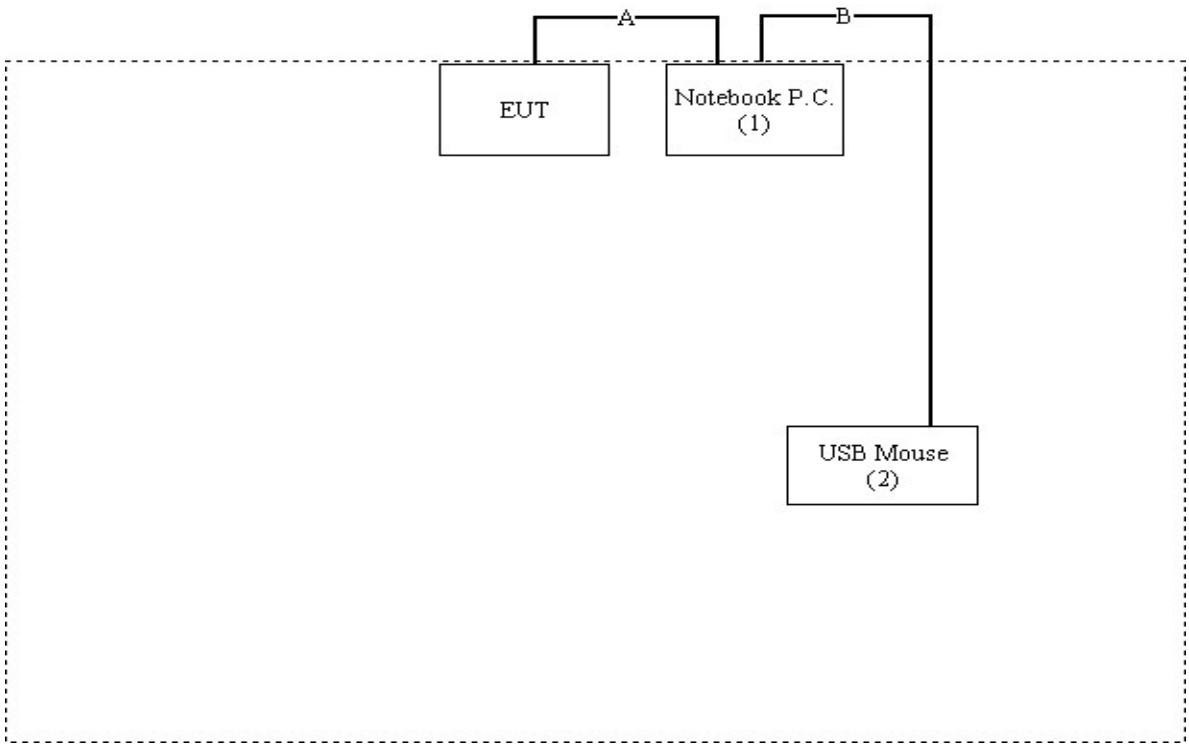
1.3. Tested System Datails

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1.	Notebook P.C.	TATUNG	TTAB-B12D	437TNF01T002	DoC	Non-Shielded, 1.8m
2.	USB Mouse	Logitech	M-BZ96C	HS72916	DoC	N/A

Signal Cable Type		Signal cable Description
A.	LAN Cable	Non-Shielded, 1m
B.	USB Mouse Cable	Non-Shielded, 1.8m

1.4. Configuration of tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown in Section 1.4

(2) Execute “Dut Gut.exe” on the EUT.

(3) Configure the test mode, the test channel, and the data rate.

(4) Press “OK” to start the continuous receiver.

(5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

Site Name: Quietek Corporation
Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
Lin-Kou Shiang, Taipei,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

Testing Laboratory
0914

2. Conducted Emission

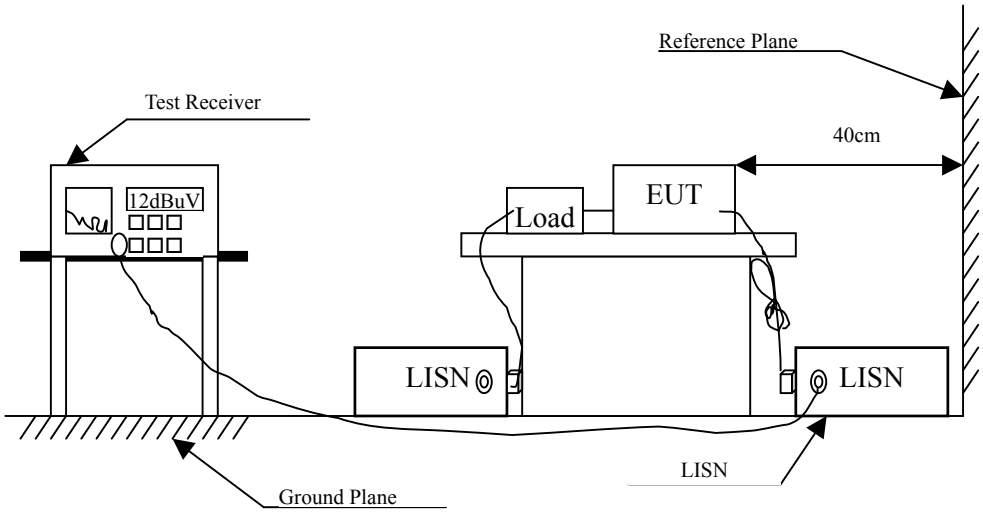
2.1. Test Equipment

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2008	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2008	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2008	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2008	
5	No.1 Shielded Room			N/A	

Note: All equipments are calibrated every one year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks : In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.
The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Aug 2002 DA 02-2138 for compliance to FCC 47CFR Subpart E requirements.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : ROS Video DMA
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5190MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.189	9.850	35.910	45.760	-19.126	64.886
0.239	9.850	28.720	38.570	-24.887	63.457
0.329	9.840	24.680	34.520	-26.366	60.886
0.389	9.840	26.890	36.730	-22.441	59.171
0.429	9.830	29.220	39.050	-18.979	58.029
1.611	9.840	25.570	35.410	-20.590	56.000
Average					
0.189	9.850	26.890	36.740	-18.146	54.886
0.239	9.850	20.480	30.330	-23.127	53.457
0.329	9.840	20.670	30.510	-20.376	50.886
0.389	9.840	19.480	29.320	-19.851	49.171
0.429	9.830	27.430	37.260	-10.769	48.029
1.611	9.840	20.240	30.080	-15.920	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, antenna ports (if EUT with antenna diversity architecture), and data rate.
5. Only worst case is shown in the test mode.

Product : ROS Video DMA
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5190MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.185	9.861	32.680	42.541	-22.459	65.000
0.235	9.860	30.250	40.110	-23.461	63.571
0.335	9.850	24.480	34.330	-26.384	60.714
0.385	9.840	25.760	35.600	-23.686	59.286
0.425	9.840	29.770	39.610	-18.533	58.143
2.099	9.840	25.210	35.050	-20.950	56.000
Average					
0.185	9.861	22.470	32.331	-22.669	55.000
0.235	9.860	21.480	31.340	-22.231	53.571
0.335	9.850	19.650	29.500	-21.214	50.714
0.385	9.840	18.890	28.730	-20.556	49.286
0.425	9.840	28.900	38.740	-9.403	48.143
2.099	9.840	14.730	24.570	-21.430	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, antenna ports (if EUT with antenna diversity architecture), and data rate.
5. Only worst case is shown in the test mode.

3. Peak Transmit Power

3.1. Test Equipment

The following test equipments are used during the radiated emission tests:

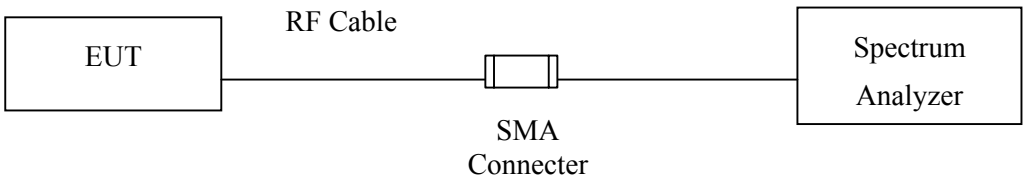
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2008
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2008
X	Power Sensor	Anritsu	MA2491A/034457	May, 2008

Note: 1. All equipments are calibrated every one year.

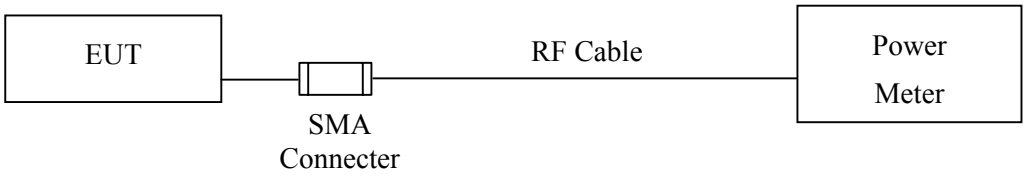
2. The test instruments marked by "X" are used to measure the final test results.

3.2. Test Setup

26dBc Occupied Bandwidth



Conduction Power Measurement



3.3. Limits

(1) For the band 5.15-5.25 GHz, the peak transmit 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. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(2) For the band 5.25-5.35 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.825 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 1W or 17 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

3.4. Test Procedur

As an alternative to DA 02-2138, the EUT peak power was measured with a peak power meter employing a video bandwidth greater than 6dB BW of the emission under test. Peak output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of DA 02-2138, and provides more accurate measurements.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Peak Transmit Power

Product : ROS Video DMA
Test Item : Peak Transmit Power
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a

Cable loss=1dB		Peak Power Output(dBm)								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
01	5180.00	16.52	--	--	--	--	--	--	--	17dBm
03	5220.00	16.28	16.11	16.25	16.05	15.98	16	16.21	16.16	17dBm
04	5240.00	16.04	--	--	--	--	--	--	--	17dBm

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

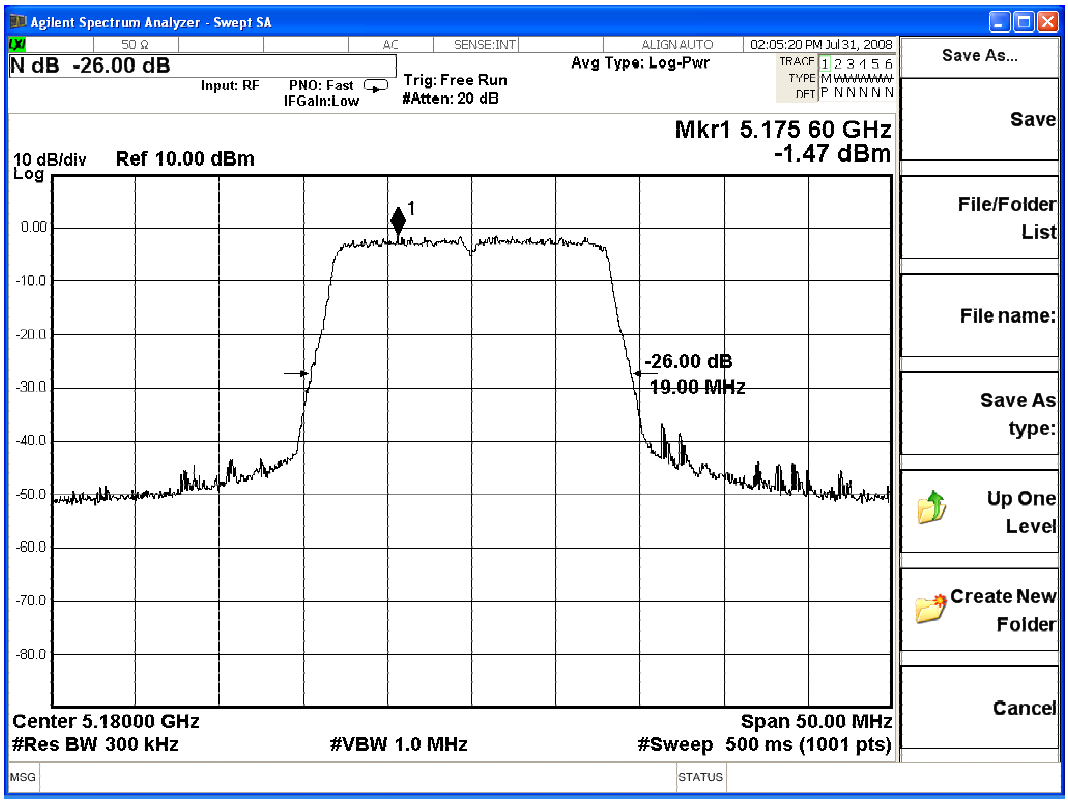
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
01	5180	19.00	16.52

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 19.00MHz)=16.79dBm	Pass

26dBc Occupied Bandwidth:

Channel 01



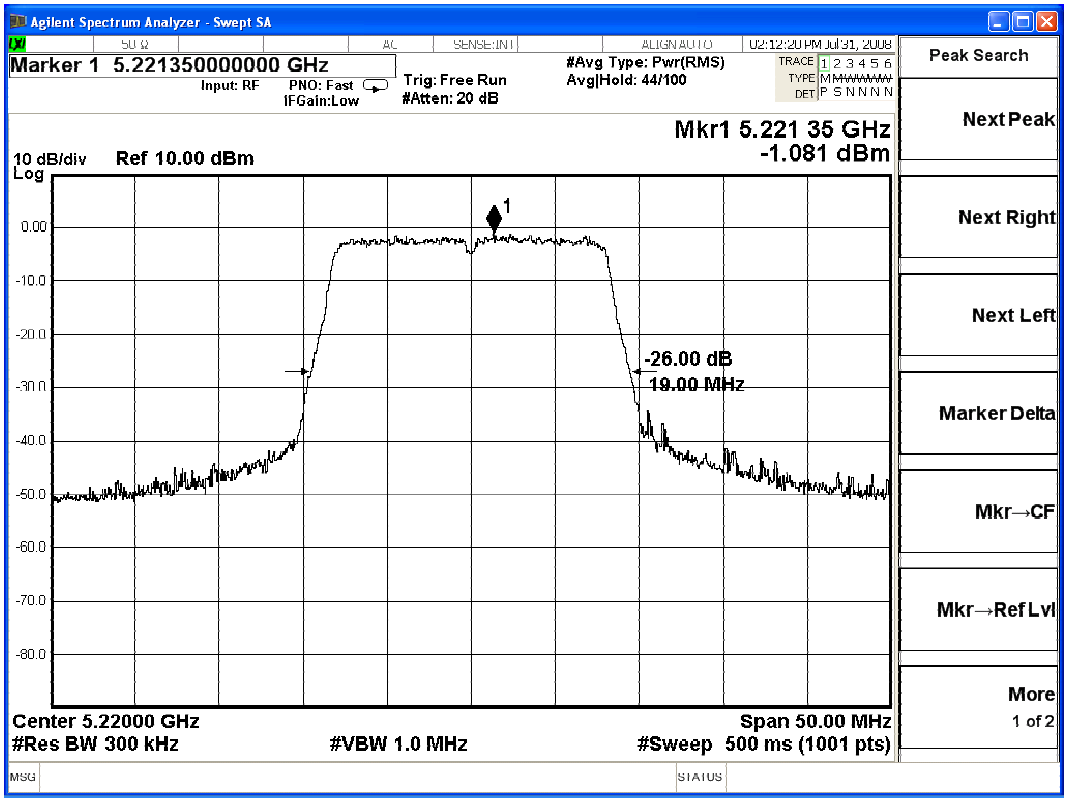
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
03	5220	19.00	16.28

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 19.00MHz)=16.79dBm	Pass

26dBc Occupied Bandwidth:

Channel 03



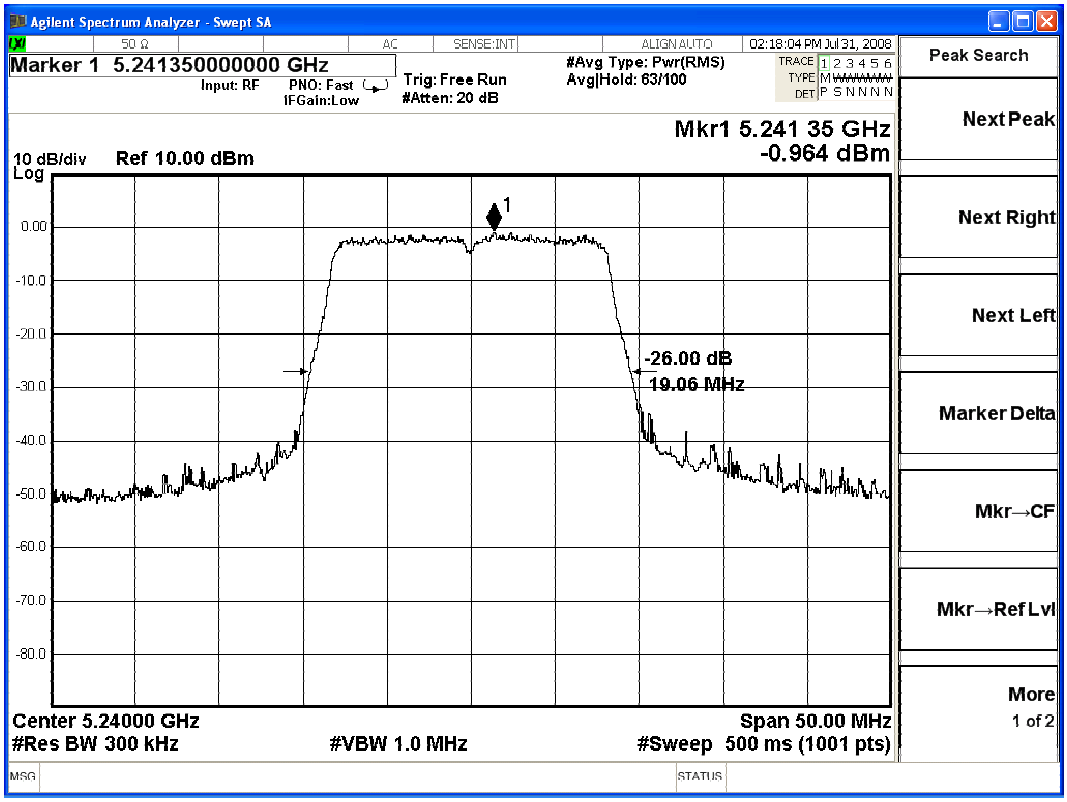
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
04	5240	19.06	16.04

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 19.06MHz)=16.8dBm	Pass

26dBc Occupied Bandwidth:

Channel 04



Product : ROS Video DMA
Test Item : Peak Transmit Power
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band)

Antenna A

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		13.5	26	39	52	78	104	117	130	
01	5180.00	12.91	--	--	--	--	--	--	--	--
03	5220.00	10.06	10.02	10	9.98	10	9.97	9.99	10	--
04	5240.00	10.05	--	--	--	--	--	--	--	--

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Antenna B

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		13.5	26	39	52	78	104	117	130	
01	5180.00	13.33	--	--	--	--	--	--	--	--
03	5220.00	12.36	12.1	12.15	12.26	12.3	12.25	12.33	12.26	--
04	5240.00	13.61	--	--	--	--	--	--	--	--

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Antenna A+B

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		13.5	26	39	52	78	104	117	130	
01	5180.00	16.14	--	--	--	--	--	--	--	17dBm
03	5220.00	14.37	14.19	14.22	14.28	14.31	14.27	14.33	14.29	17dBm
04	5240.00	15.20	--	--	--	--	--	--	--	17dBm

Note: Peak Power Output Value =Antenna A + Antenna B

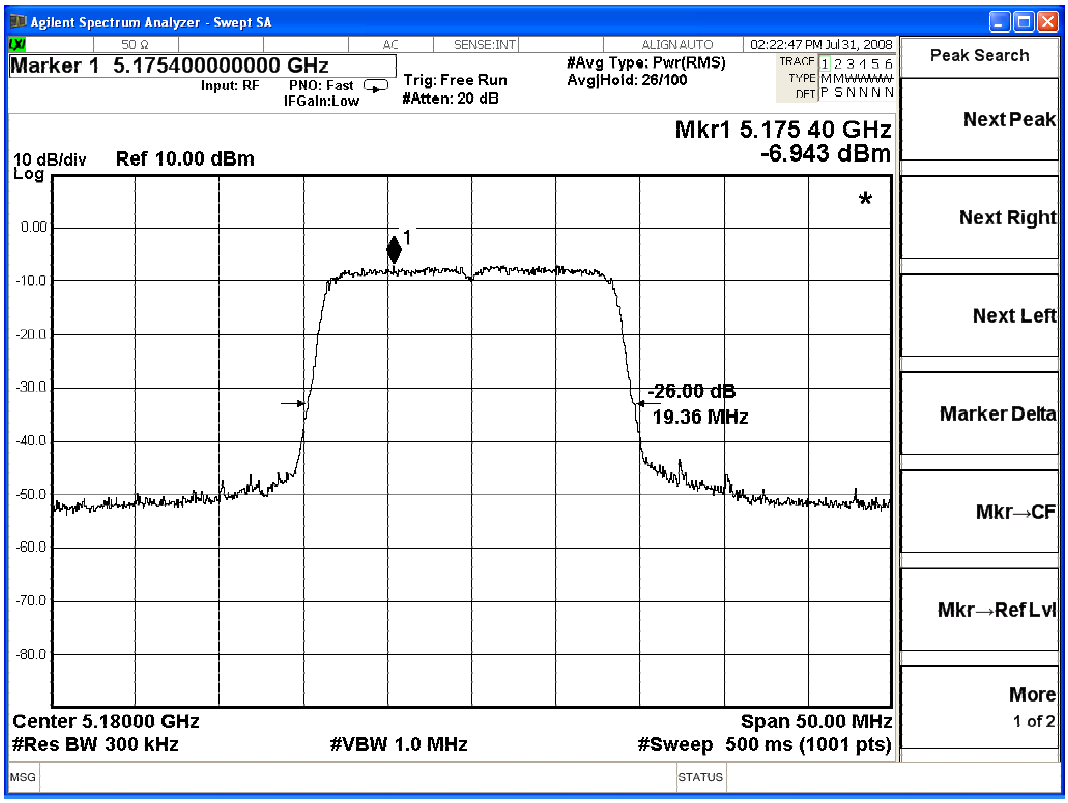
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
01	5180	19.36	12.91

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 19.36MHz)=16.87dBm	Pass

26dBc Occupied Bandwidth-Antenna A:

Channel 01



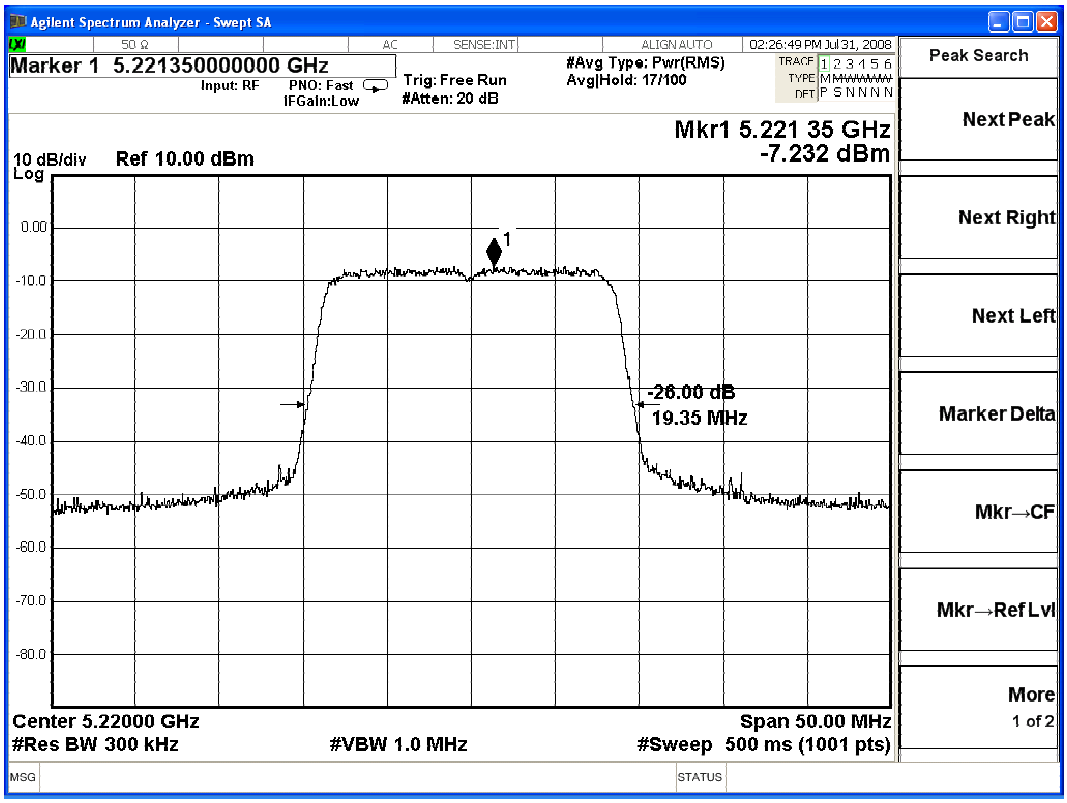
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
03	5220	19.35	10.06

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 19.35MHz)=16.87dBm	Pass

26dBc Occupied Bandwidth-Antenna A:

Channel 03



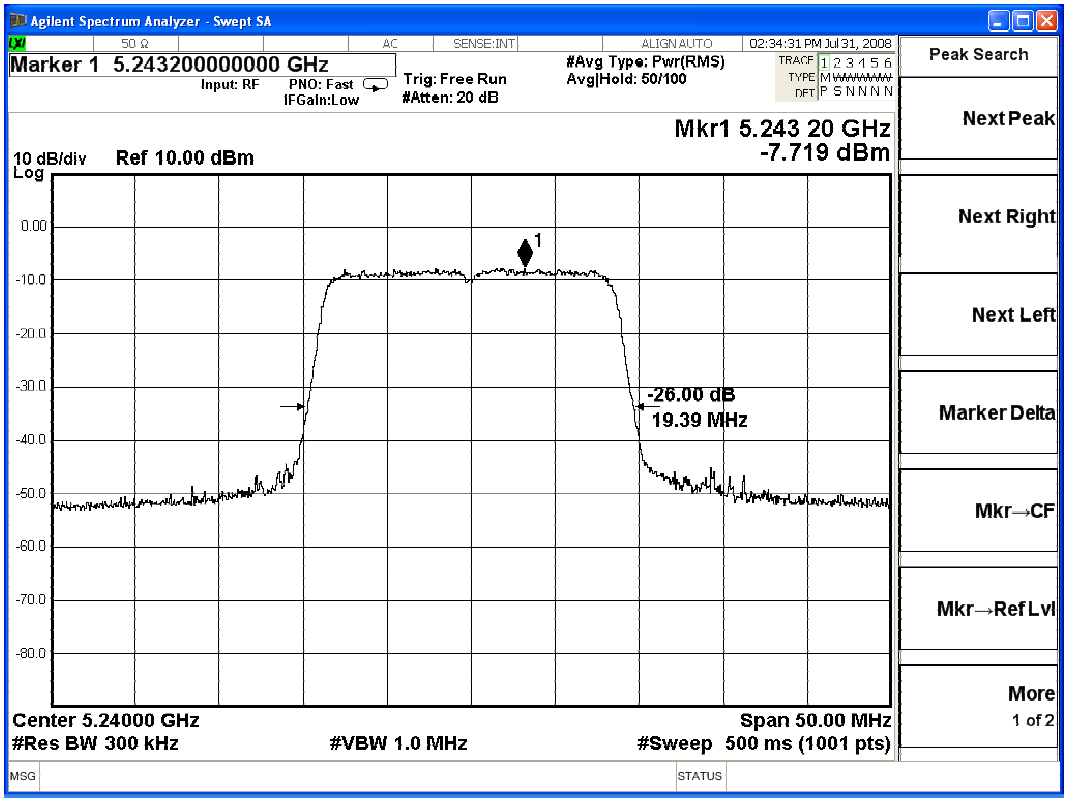
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
04	5240	19.39	10.05

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 19.39MHz)=16.88dBm	Pass

26dBc Occupied Bandwidth-Antenna A:

Channel 04



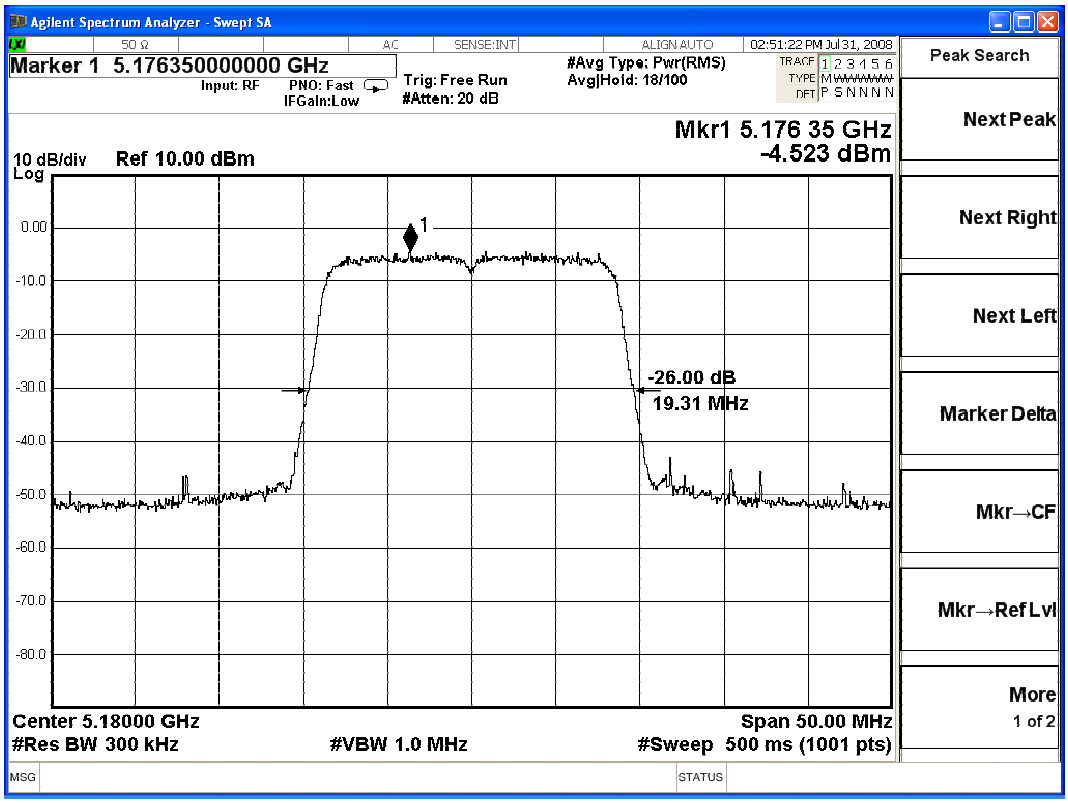
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
01	5180	19.31	12.33

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 19.31MHz)=16.86dBm	Pass

26dBc Occupied Bandwidth-Antenna B:

Channel 01



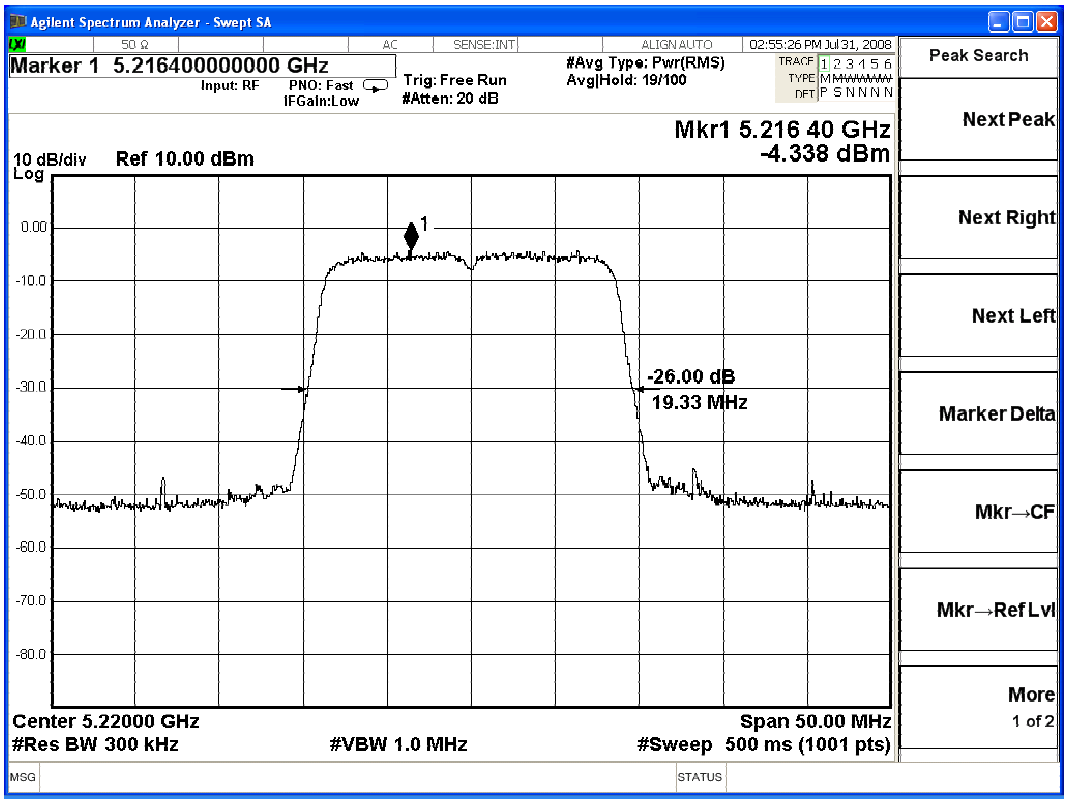
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
03	5220	19.33	12.36

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 19.33MHz)=16.86dBm	Pass

26dBc Occupied Bandwidth-Antenna B:

Channel 03



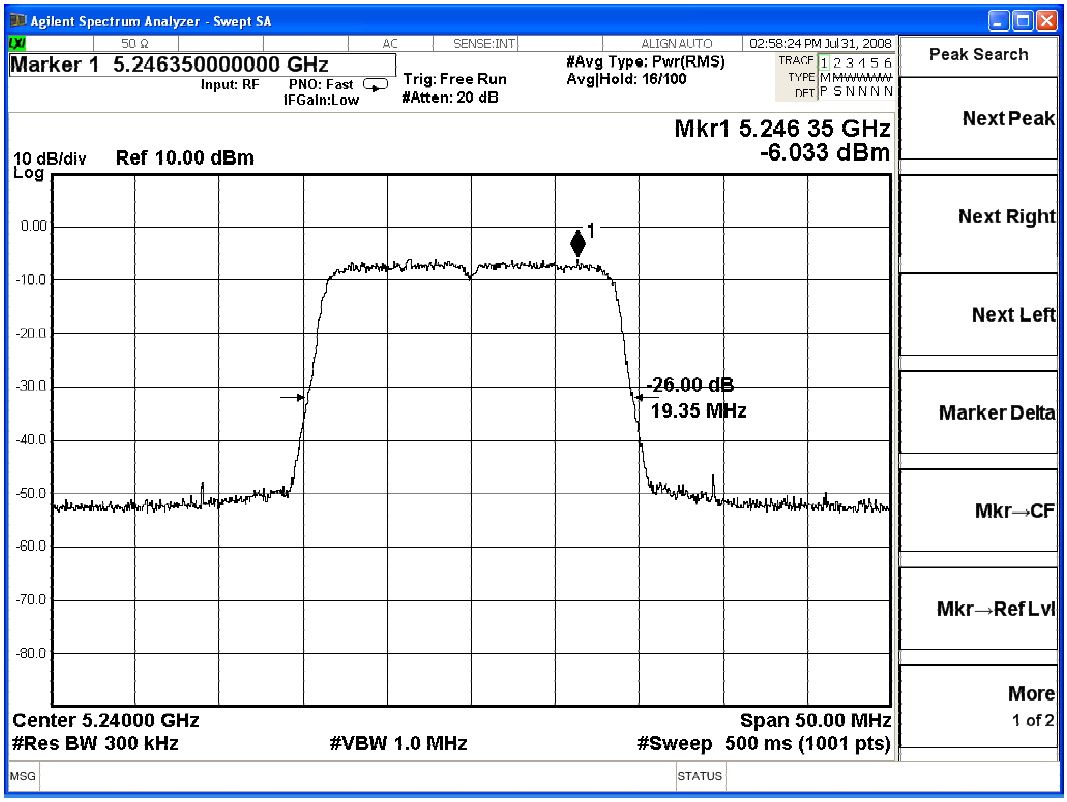
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
04	5240	19.35	13.61

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 19.35MHz)=16.87dBm	Pass

26dBc Occupied Bandwidth-Antenna B:

Channel 04



Product : ROS Video DMA
Test Item : Peak Transmit Power
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band)

Antenna A

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		27	54	81	108	162	216	243	270	
01	5190.00	13.7	--	--	--	--	--	--	--	--
02	5230.00	13.61	13.55	13.58	13.49	13.55	13.5	13.54	13.54	--

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Antenna B

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		27	54	81	108	162	216	243	270	
01	5190.00	12.8	--	--	--	--	--	--	--	--
02	5230.00	12.8	12.71	12.76	12.72	12.68	12.68	12.7	12.72	--

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Antenna A + B

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		27	54	81	108	162	216	243	270	
01	5190.00	16.28	--	--	--	--	--	--	--	17dBm
02	5230.00	16.23	16.16	16.20	16.13	16.15	16.12	16.15	16.16	17dBm

Note: Peak Power Output Value = Antenna A + Antenna B

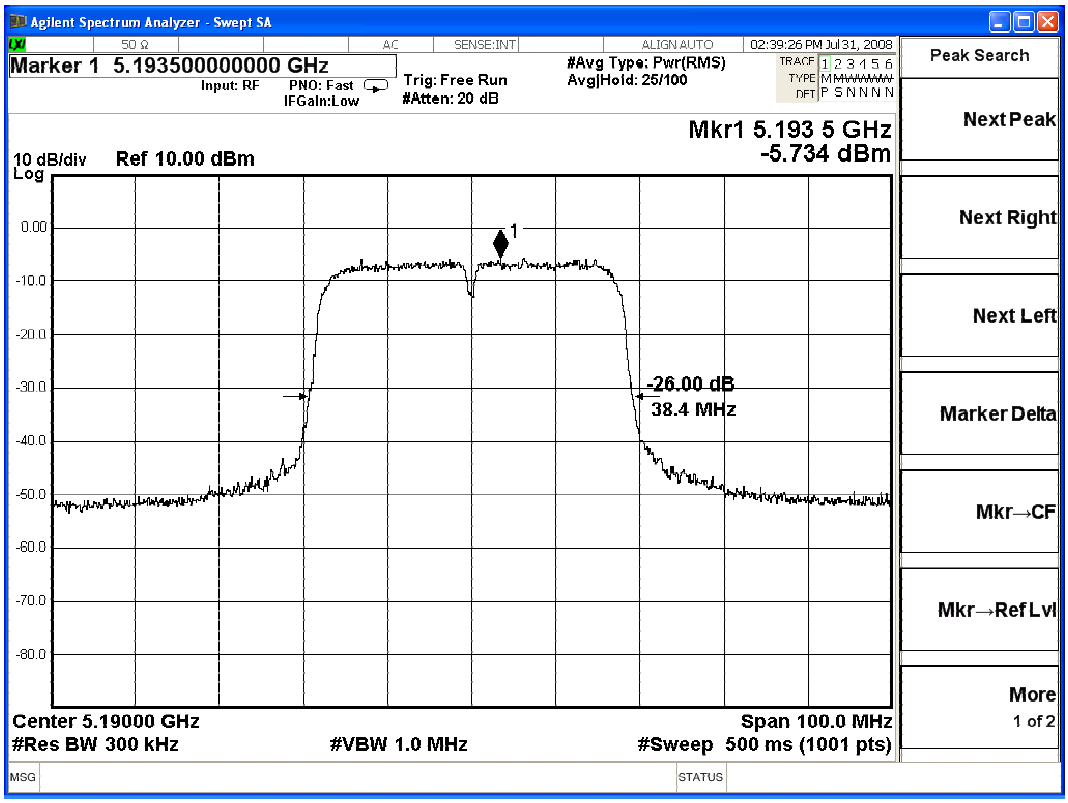
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
01	5190	38.40	13.7

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 38.40MHz)=19.84dBm	Pass

26dBc Occupied Bandwidth-Antenna A:

Channel 01



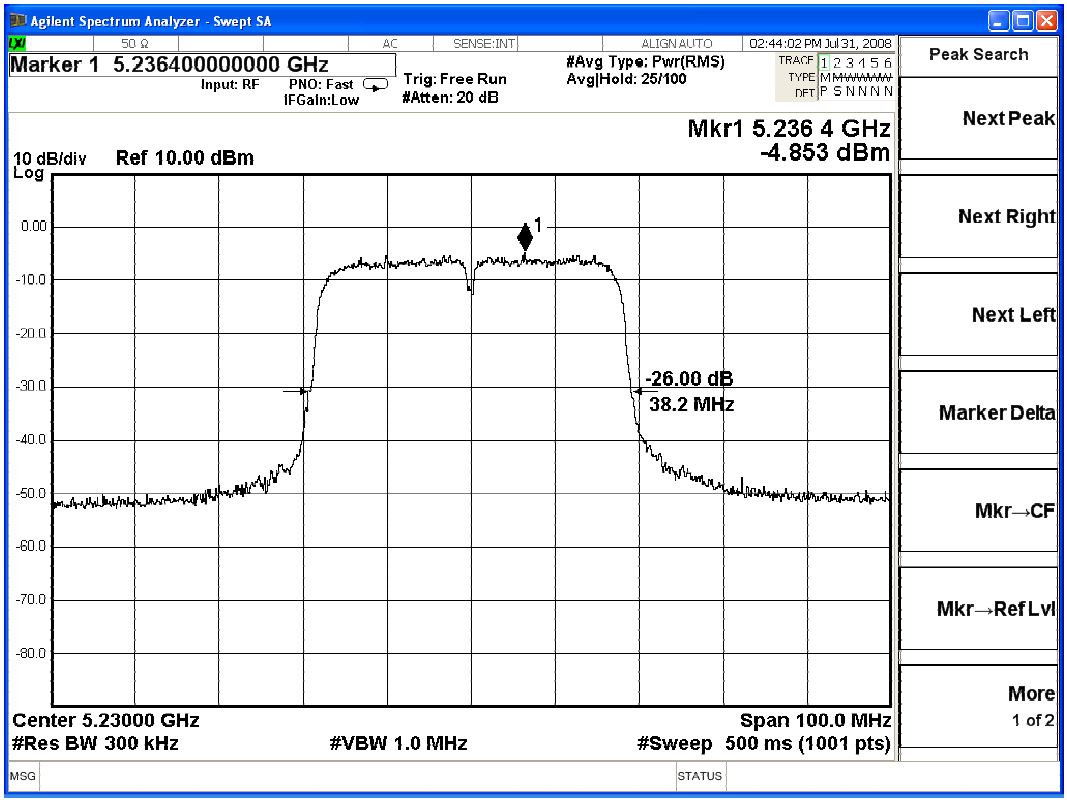
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
02	5230	38.20	13.61

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 38.20MHz)=19.82dBm	Pass

26dBc Occupied Bandwidth-Antenna A:

Channel 02



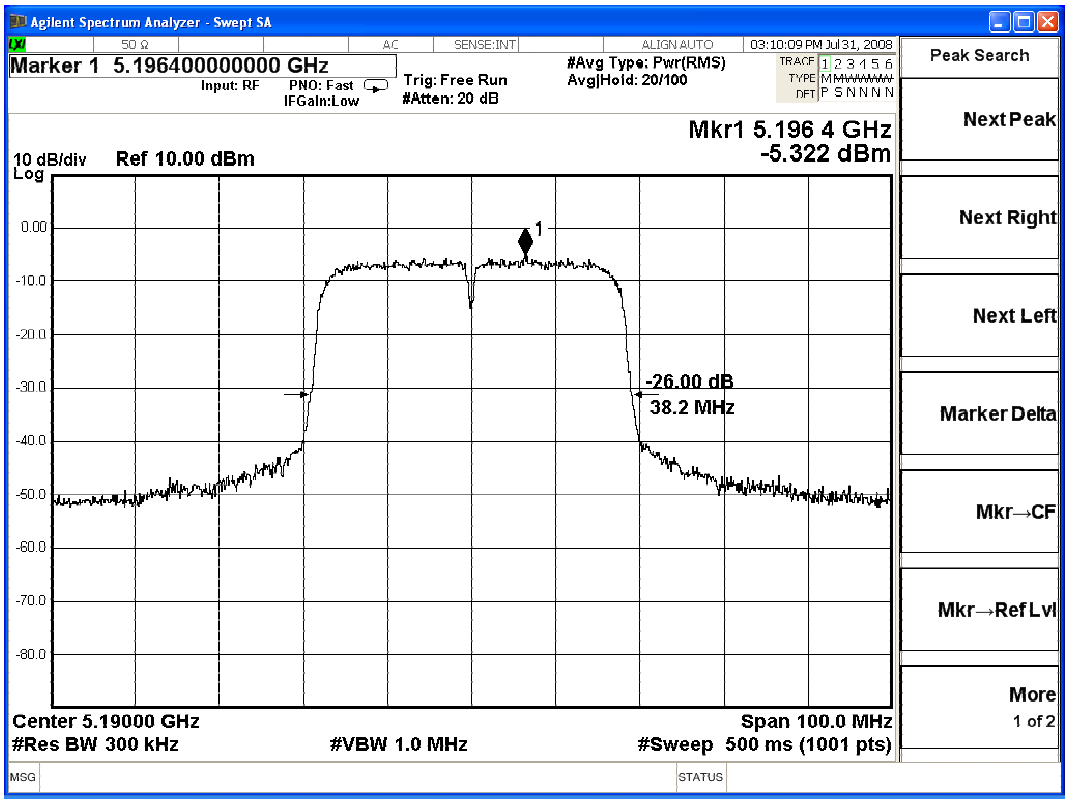
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
01	5190	38.20	12.8

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 38.20MHz)=19.82dBm	Pass

26dBc Occupied Bandwidth-Antenna B:

Channel 01



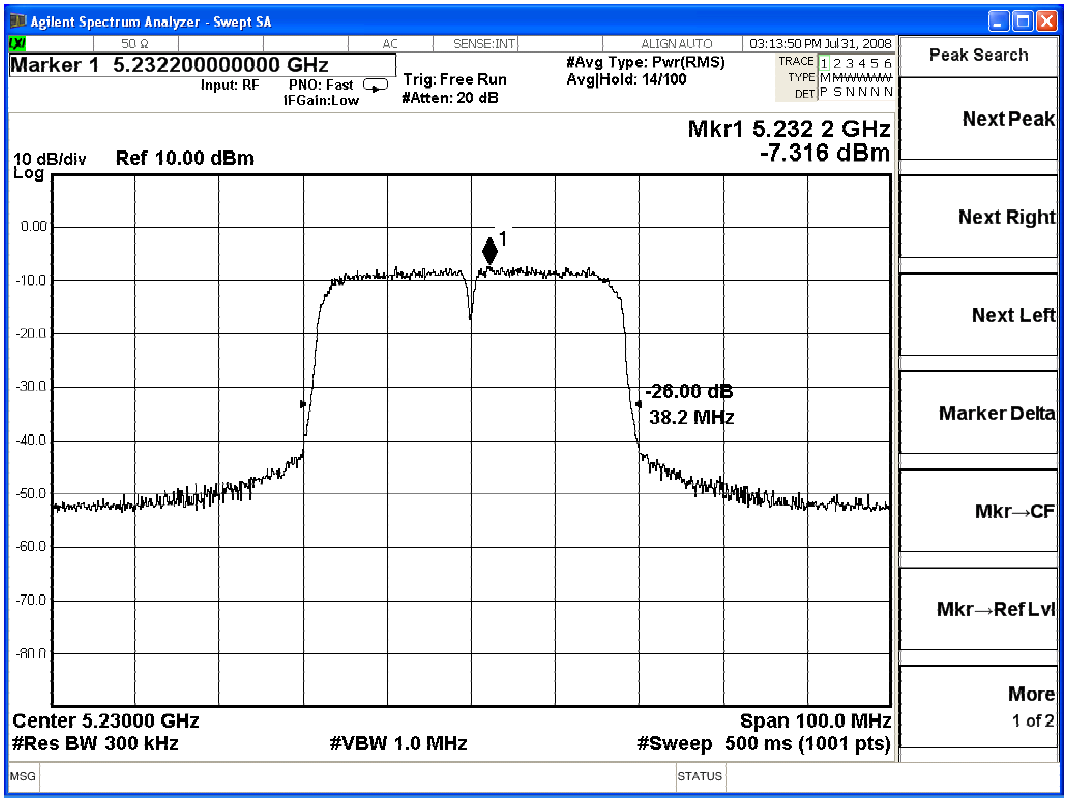
Peak Transmit Power Measurement:

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
02	5230	38.20	12.8

Limits (dBm)	Result
50mW (17dBm) or 4dBm+10 log (B= 38.20MHz)=19.82dBm	Pass

26dBc Occupied Bandwidth-Antenna B:

Channel 02



4. Peak Power Spectral Density

4.1. Test Equipment

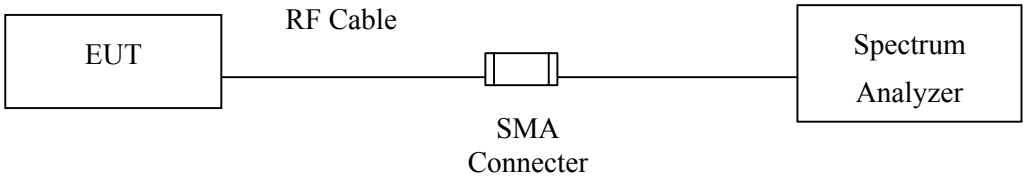
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2008

Note: 1. All equipments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

4.2. Test Setup



4.3. Limits

(4) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(5) For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(6) For the band 5.725-5.825 GHz, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

4.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Aug 2002 DA 02-2138 for compliance to FCC 47CFR Subpart E requirements.

4.5. Uncertainty

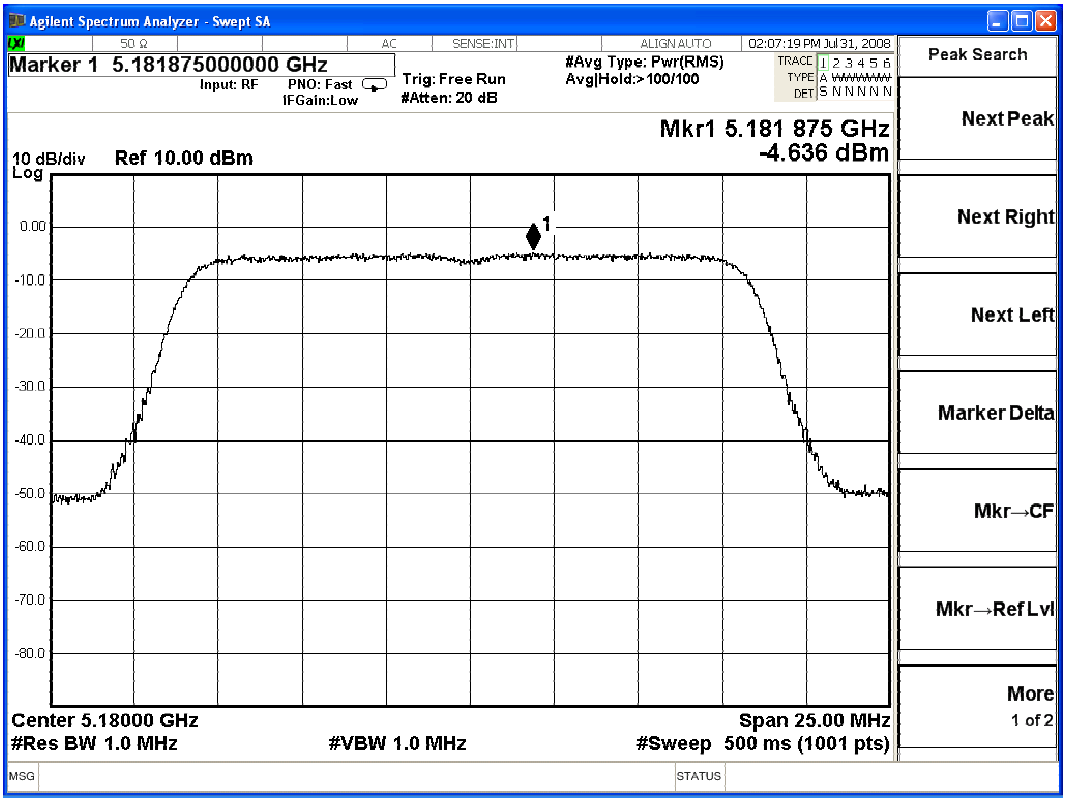
± 1.27 dB

4.6. Test Result of Peak Power Spectral Density

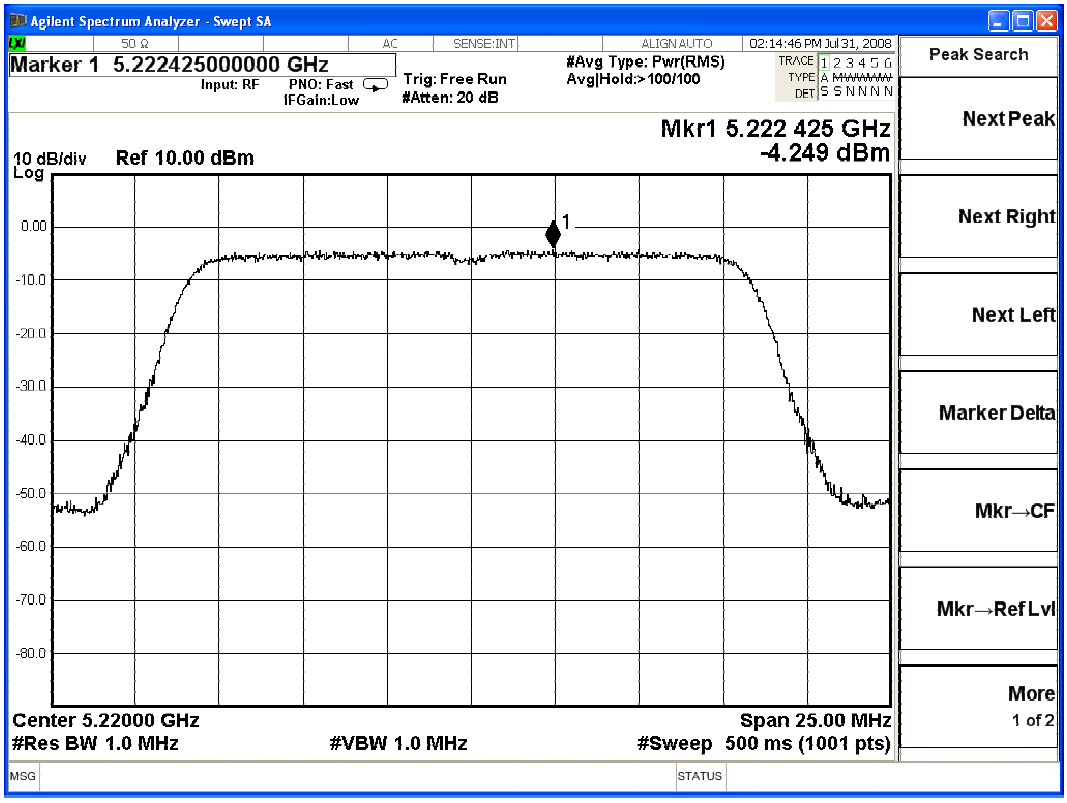
Product : ROS Video DMA
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
01	5180.00	-4.636	< 4	Pass
03	5220.00	-4.249	< 4	Pass
04	5240.00	-4.311	<4	Pass

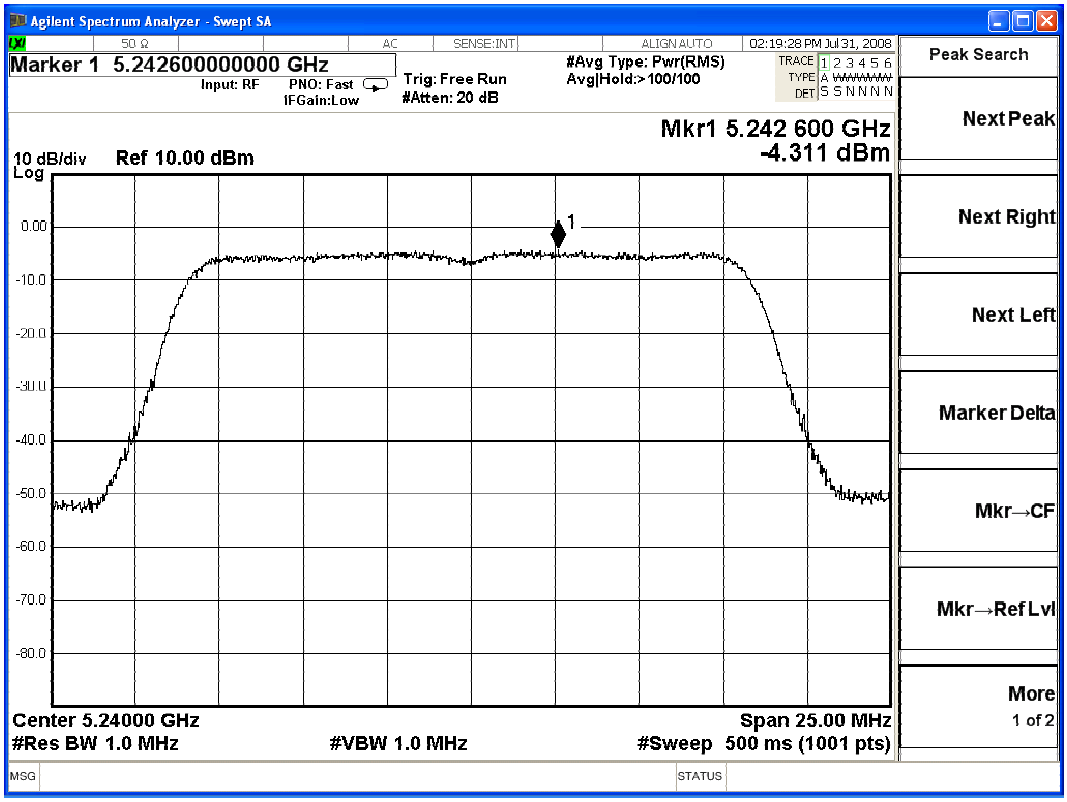
Channel 01:



Channel 03:



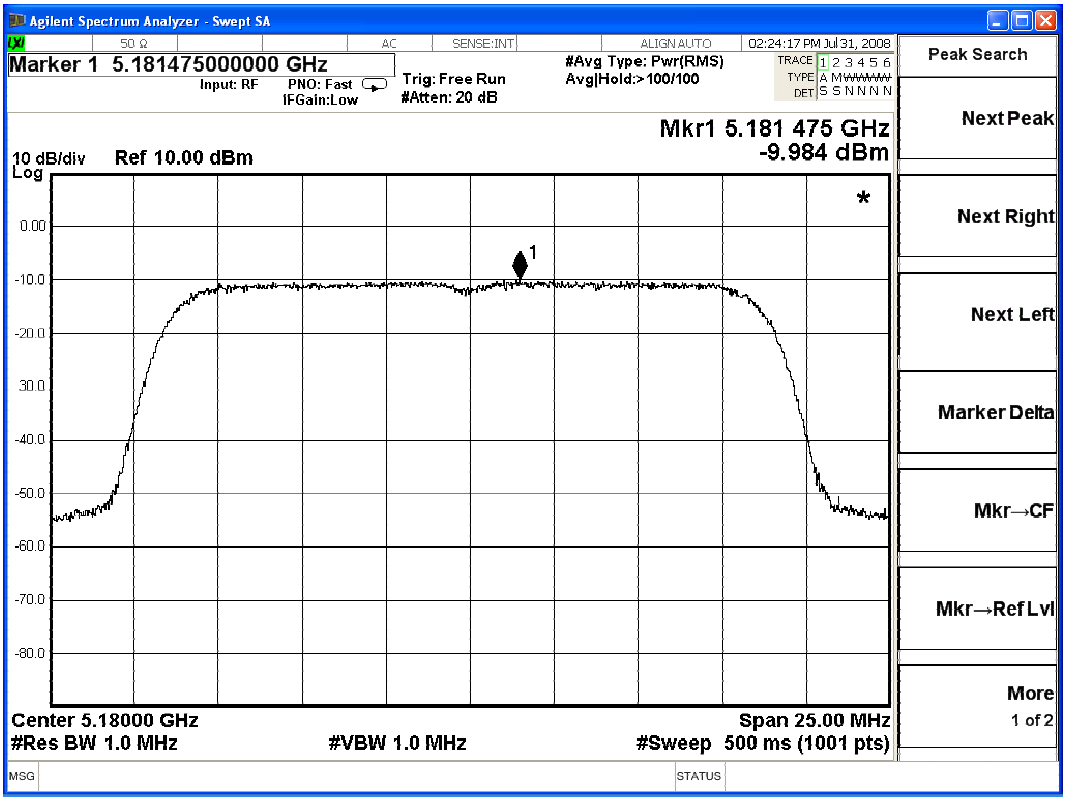
Channel 04:



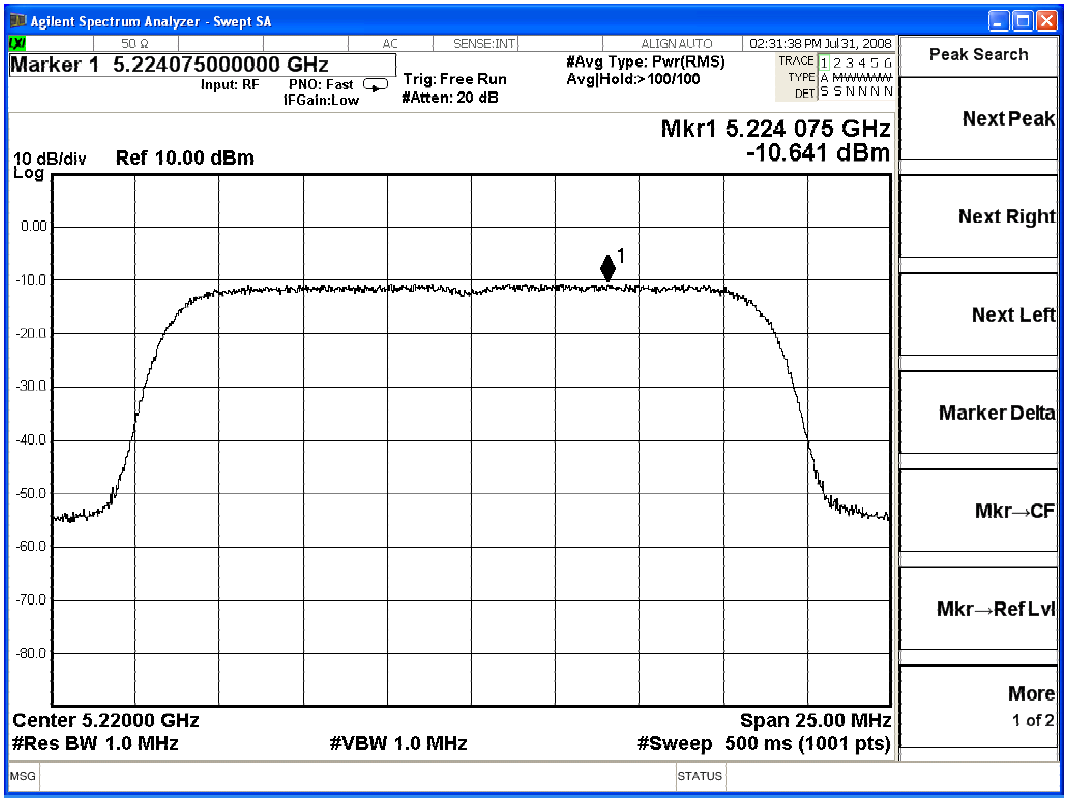
Product : ROS Video DMA
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band)-Antenna A

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
01	5180.00	-9.984	< 4	Pass
03	5220.00	-10.641	< 4	Pass
04	5240.00	-10.704	< 4	Pass

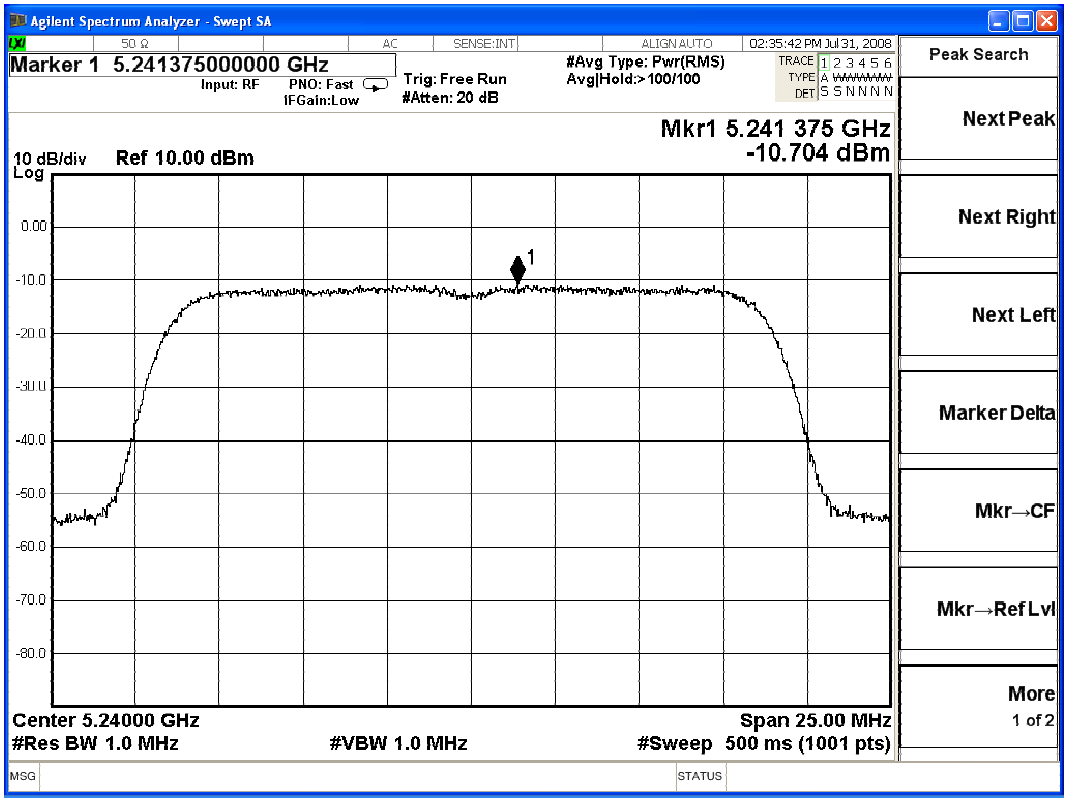
Channel 01:



Channel 03:



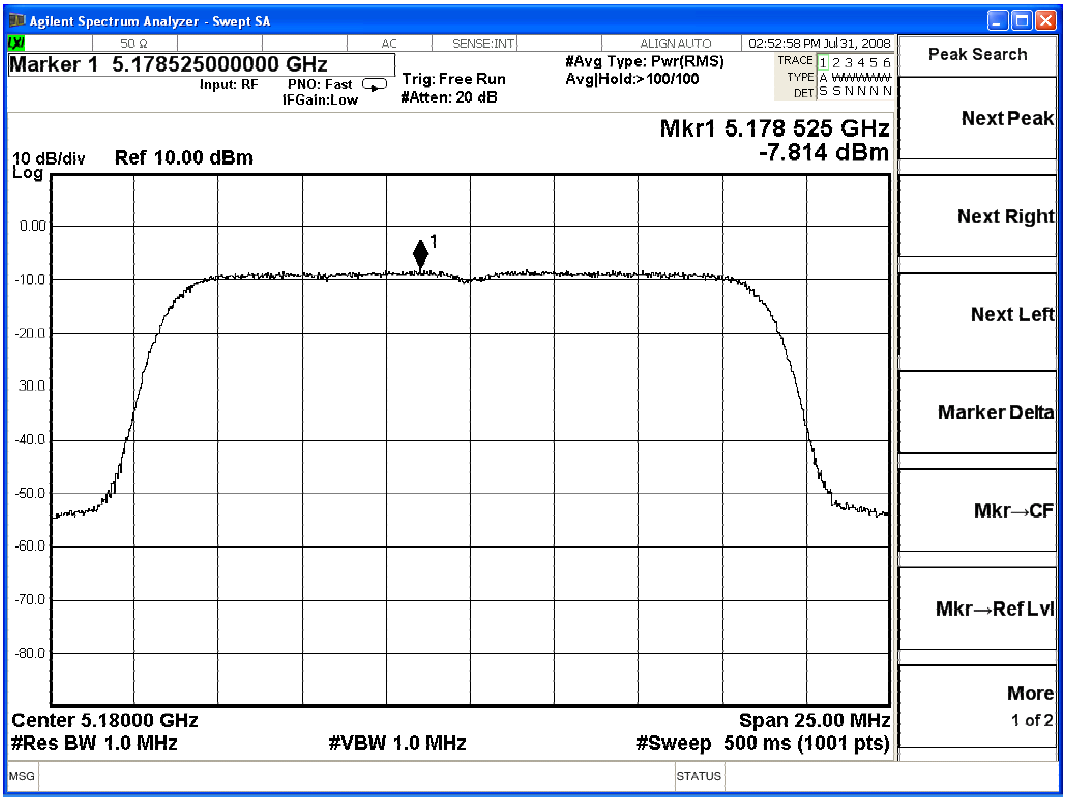
Channel 04:



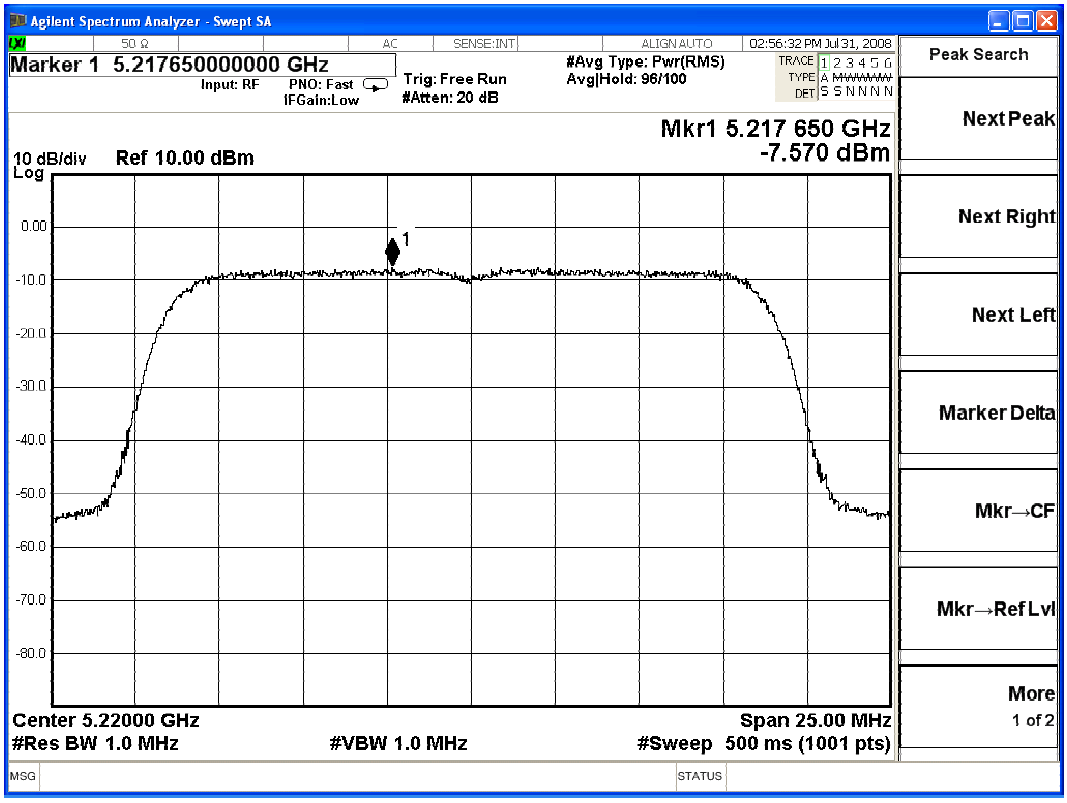
Product : ROS Video DMA
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band)-Antenna B

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
01	5180.00	-7.814	< 4	Pass
03	5220.00	-7.570	< 4	Pass
04	5240.00	-9.016	< 4	Pass

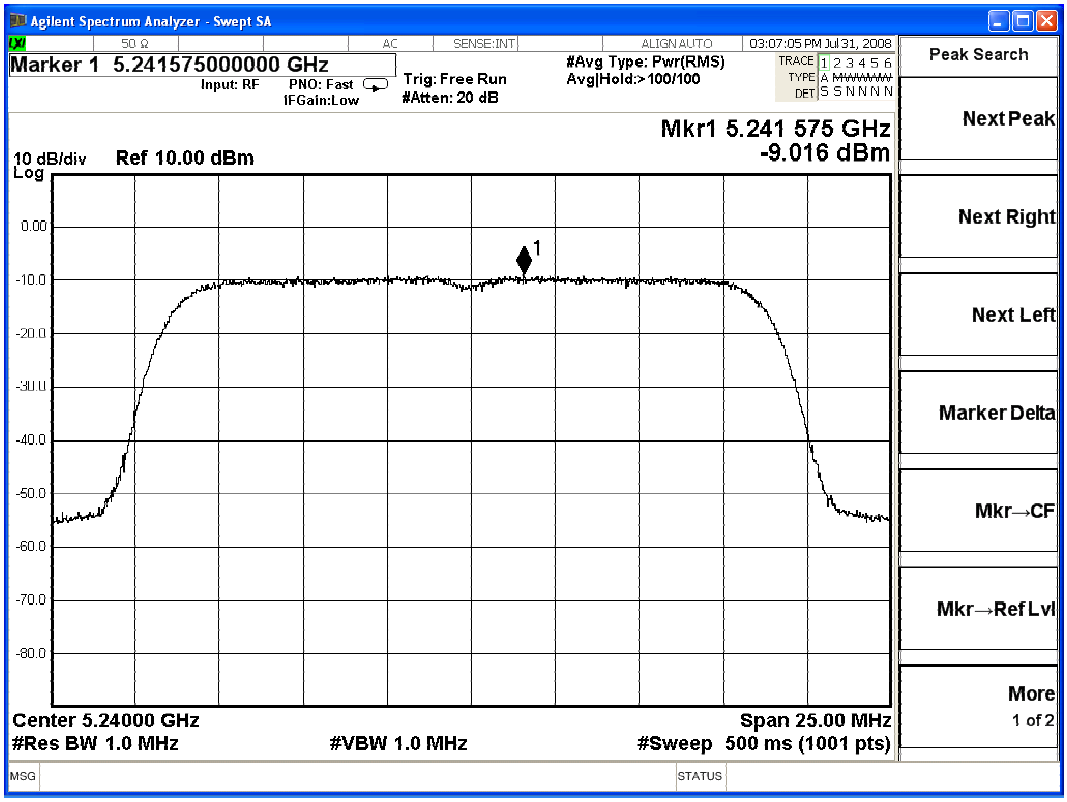
Channel 01:



Channel 03:



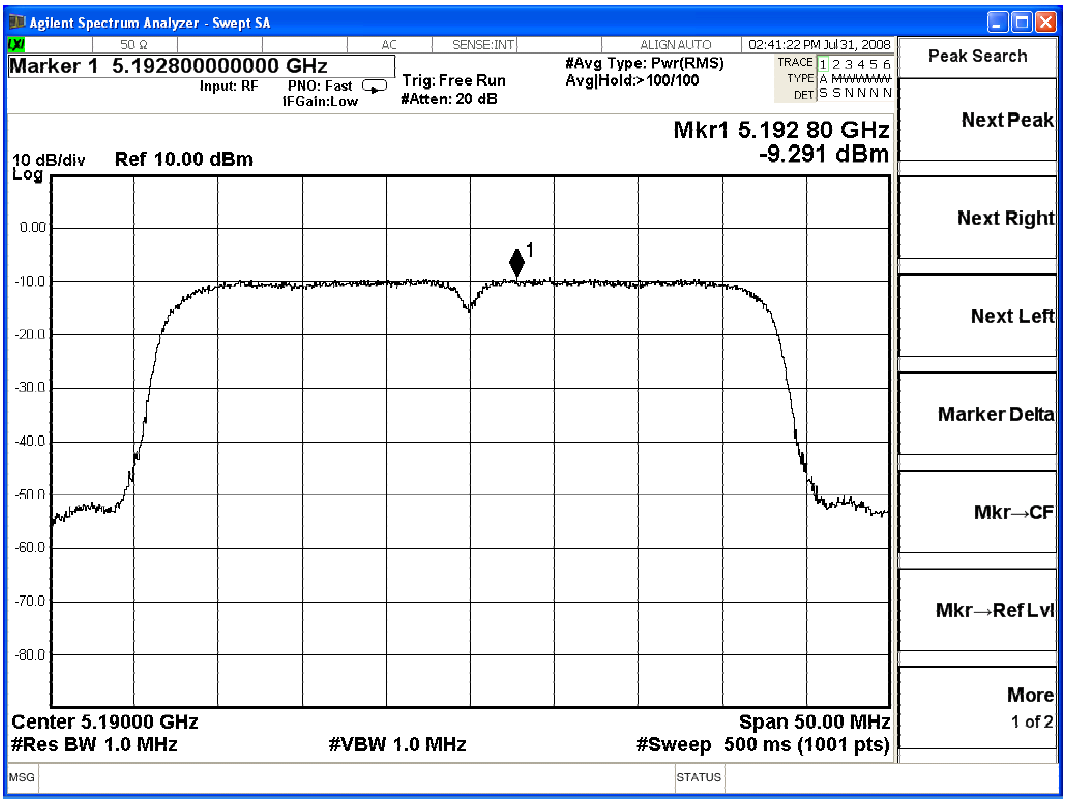
Channel 04:



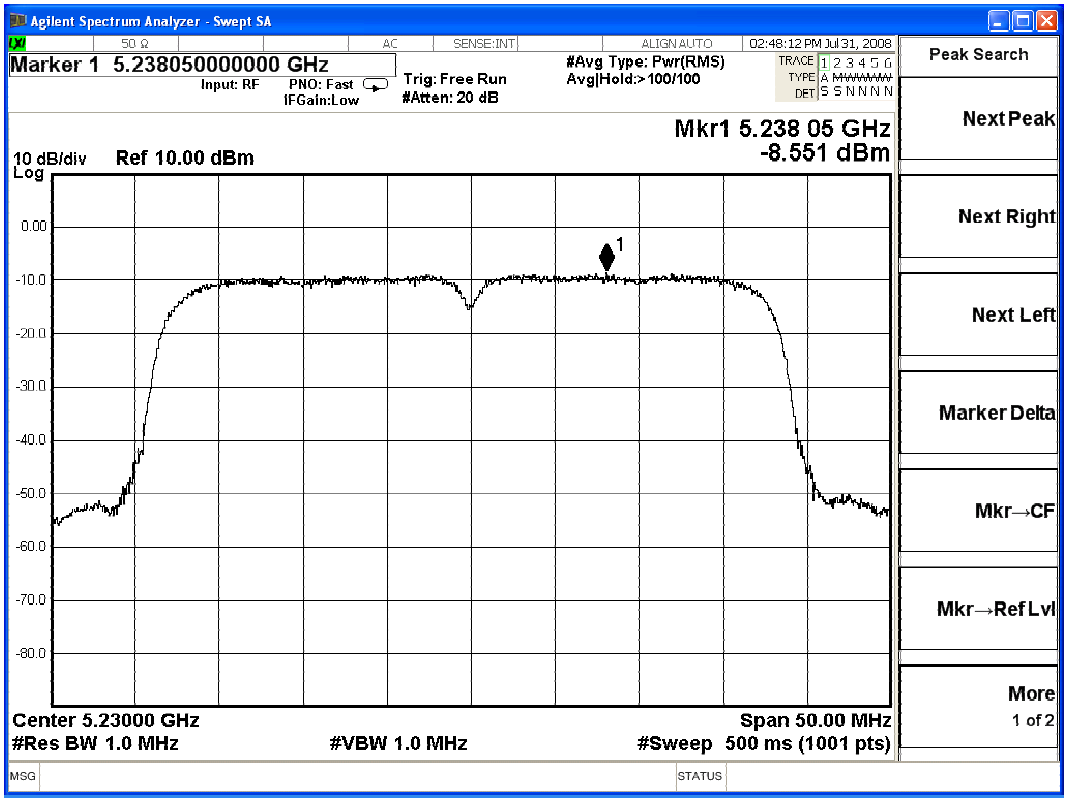
Product : ROS Video DMA
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band)-Antenna A

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
01	5190.00	-9.291	< 4	Pass
02	5230.00	-8.551	< 4	Pass

Ant A-Channel 01:



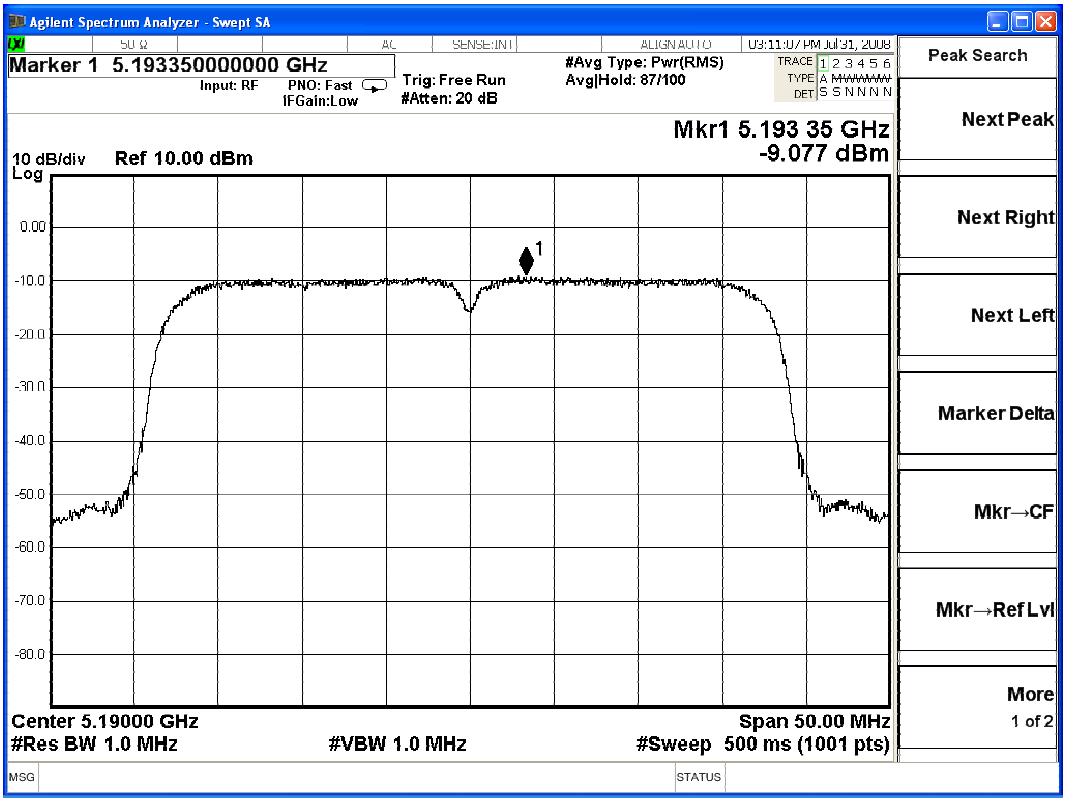
Ant A-Channel 02:



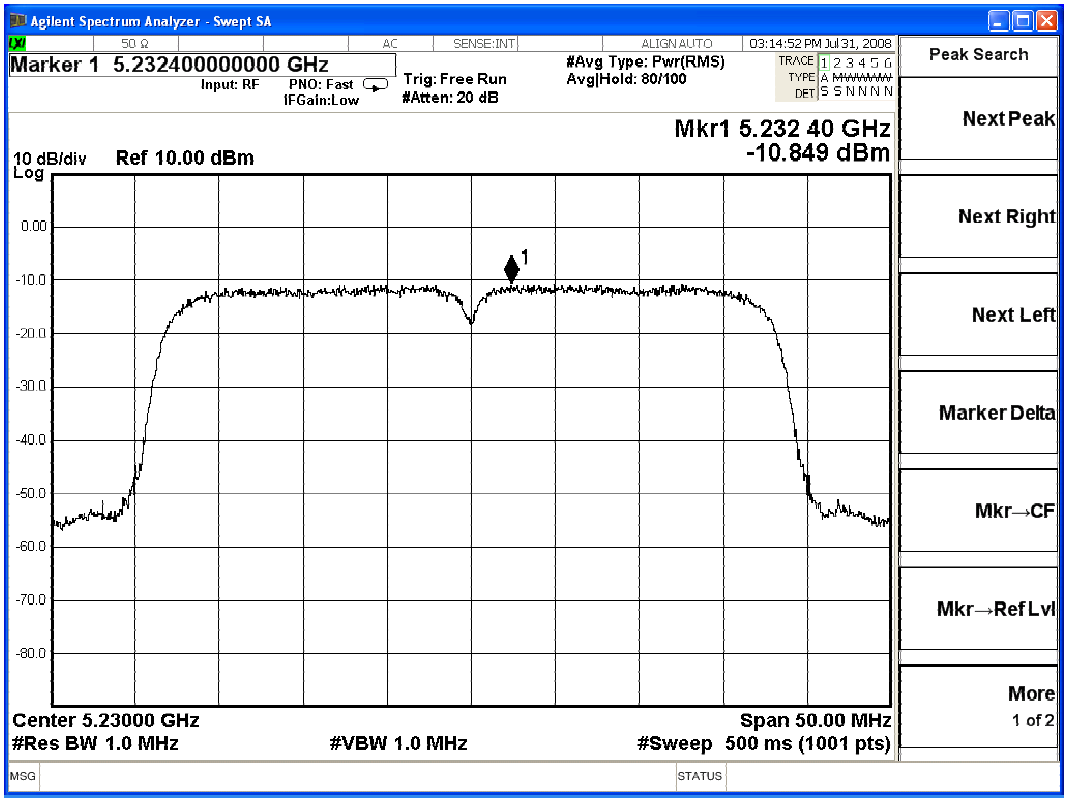
Product : ROS Video DMA
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band)-Antenna B

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
01	5190.00	-9.007	< 4	Pass
02	5230.00	-10.849	< 4	Pass

Ant B-Channel 01:



Ant B-Channel 02:



5. Peak Excursion

5.1. Test Equipment

The following test equipments are used during the radiated emission tests:

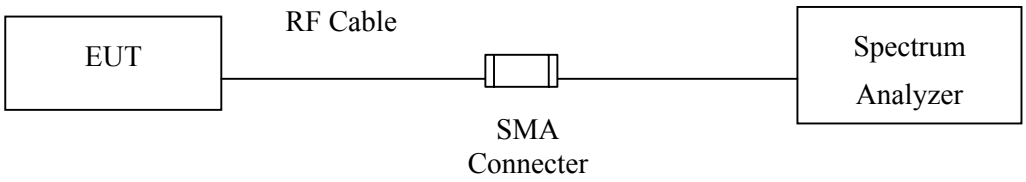
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2008

Note: 1. All equipments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

5.2. Test Setup

Conduction Power Measurement



5.3. Limits

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

5.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Aug 2002 DA 02-2138 for compliance to FCC 47CFR Subpart E requirements.

5.5. Uncertainty

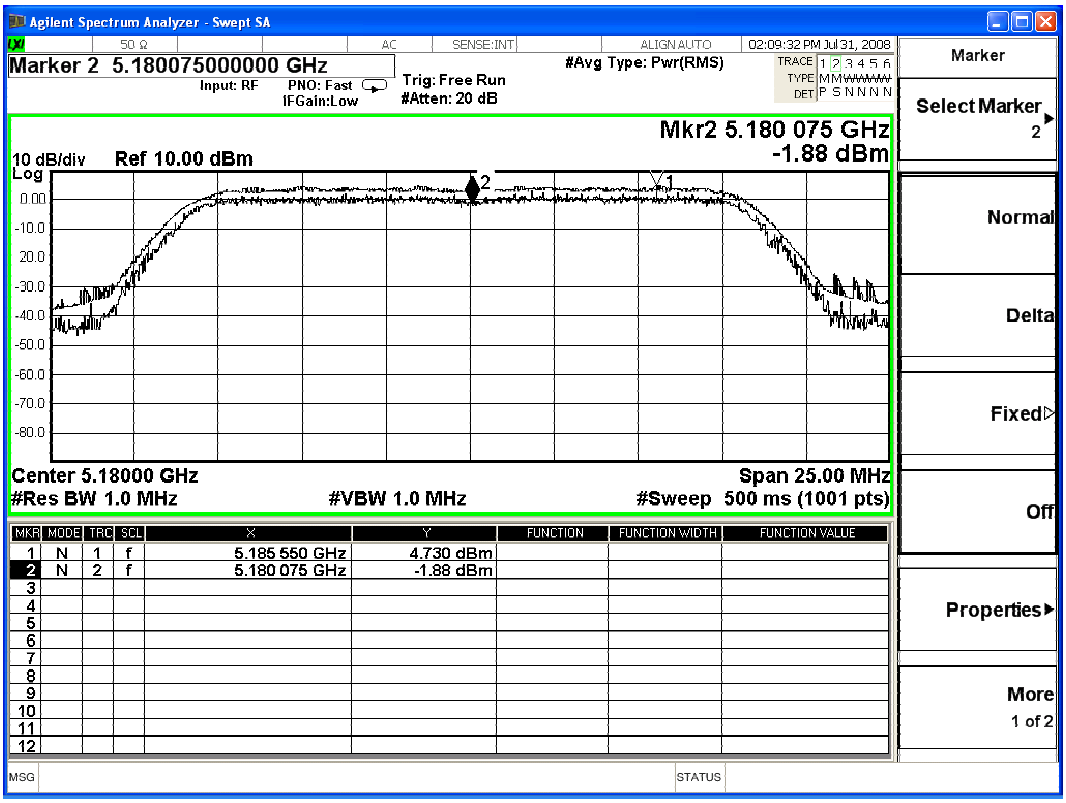
± 1.27 dB

5.6. Test Result of Peak Excursion

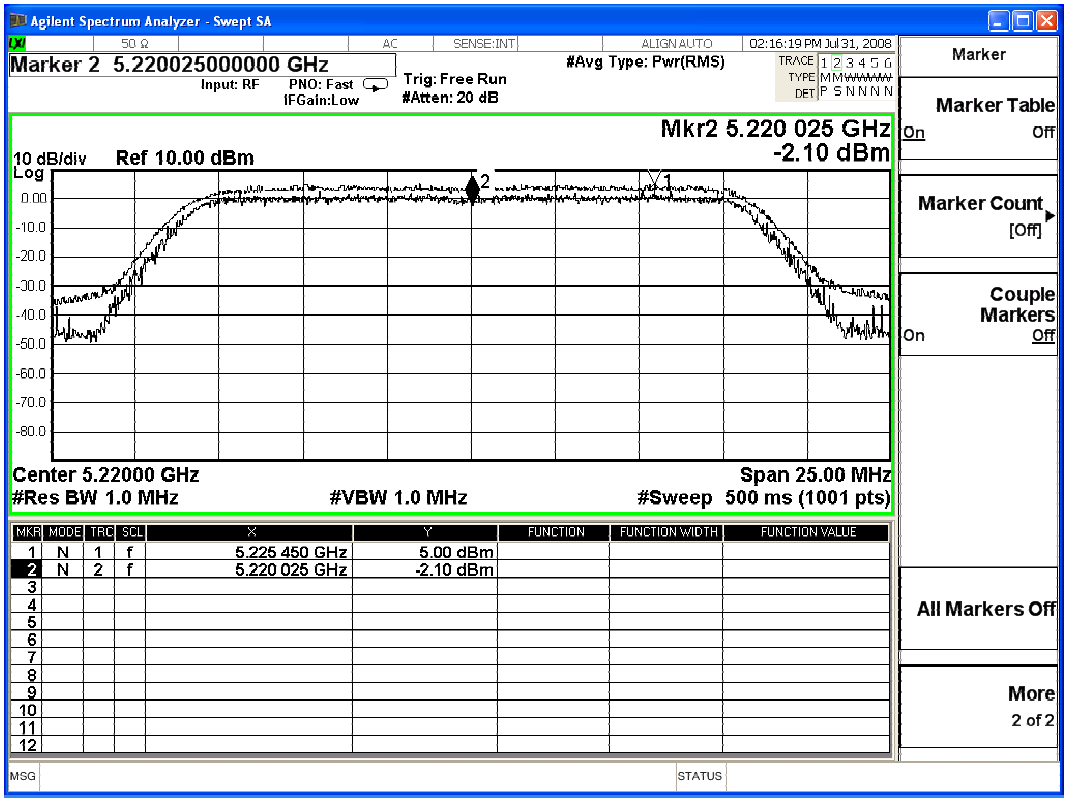
Product : ROS Video DMA
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
01	5180.00	6.61	≦ 13	Pass
03	5220.00	7.10	≦ 13	Pass
04	5240.00	7.359	≦ 13	Pass

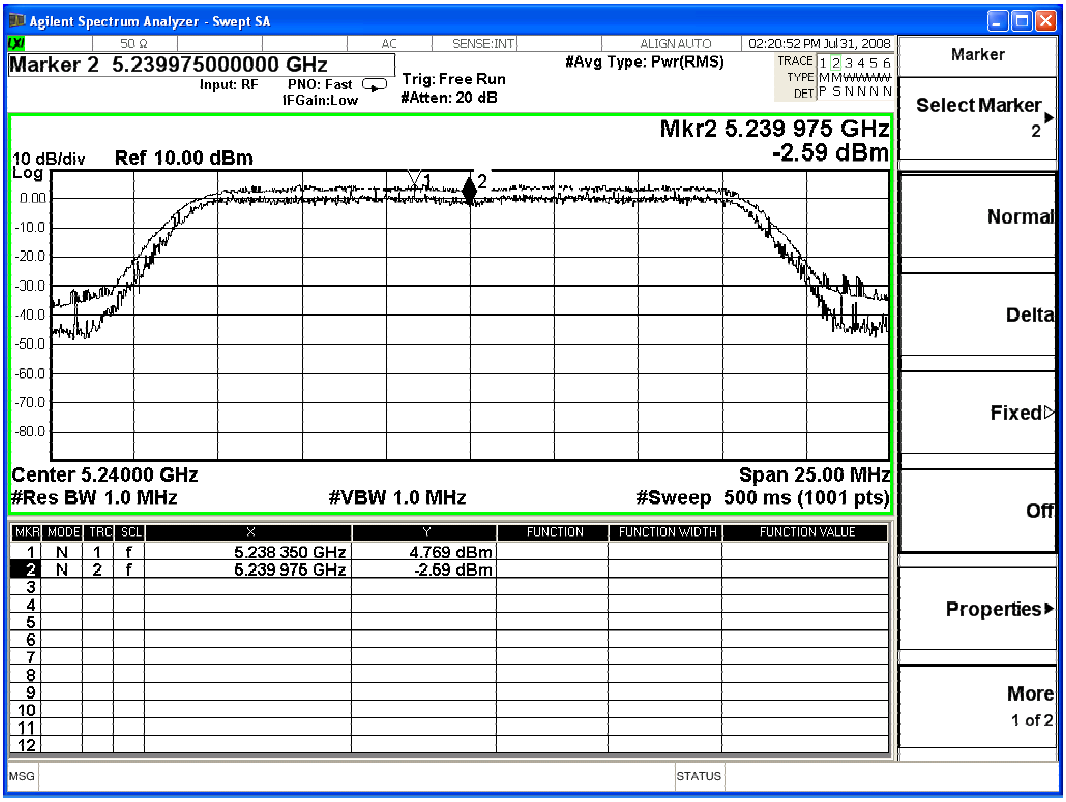
Channel 01:



Channel 03:



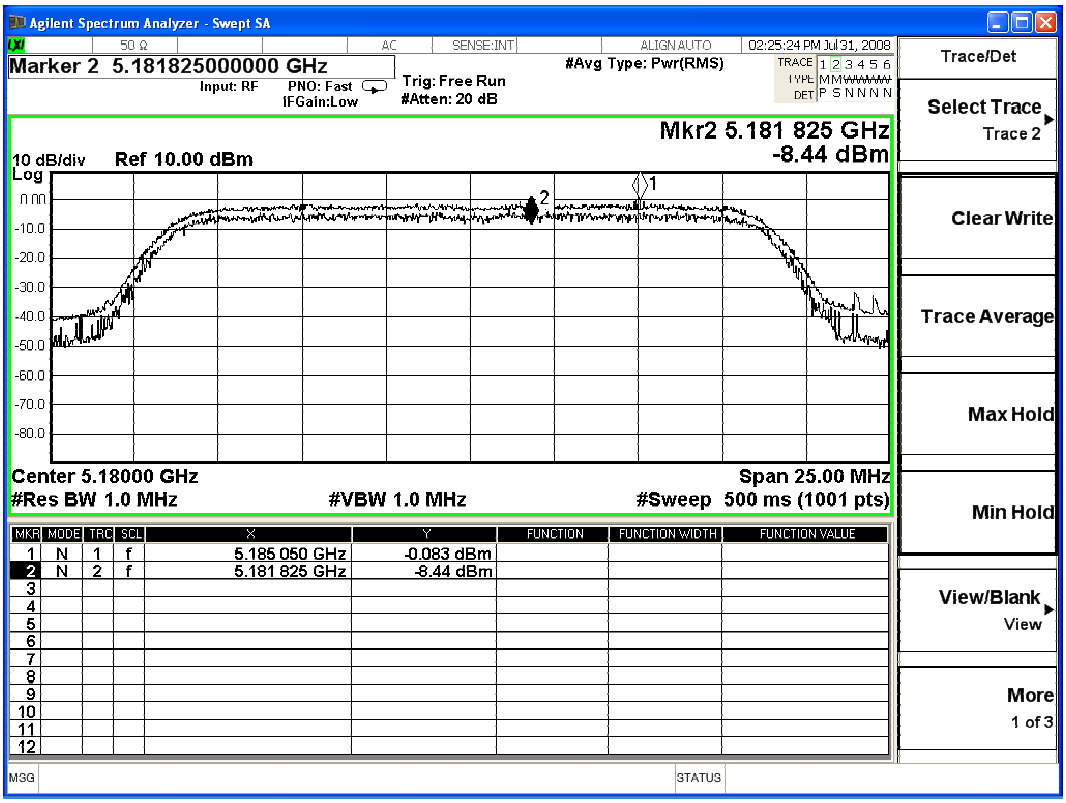
Channel 04:



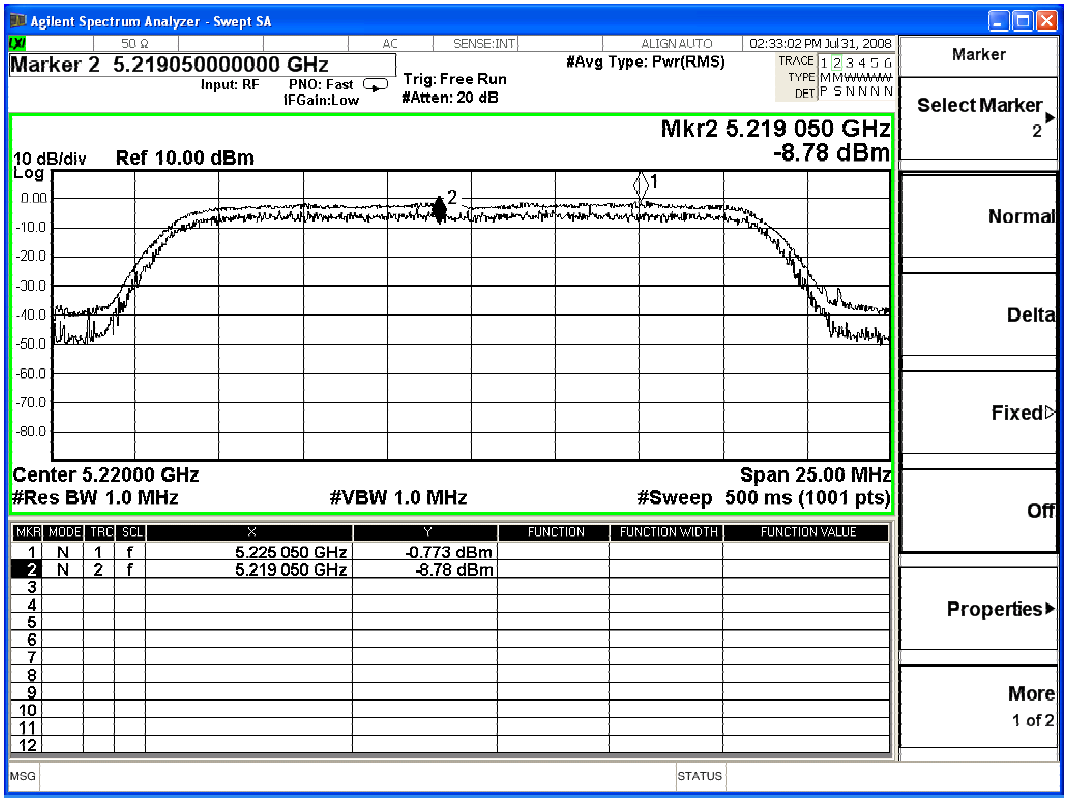
Product : ROS Video DMA
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band)-Antenna A

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
01	5180.00	8.523	≦ 13	Pass
03	5220.00	9.553	≦ 13	Pass
04	5240.00	10.06	≦ 13	Pass

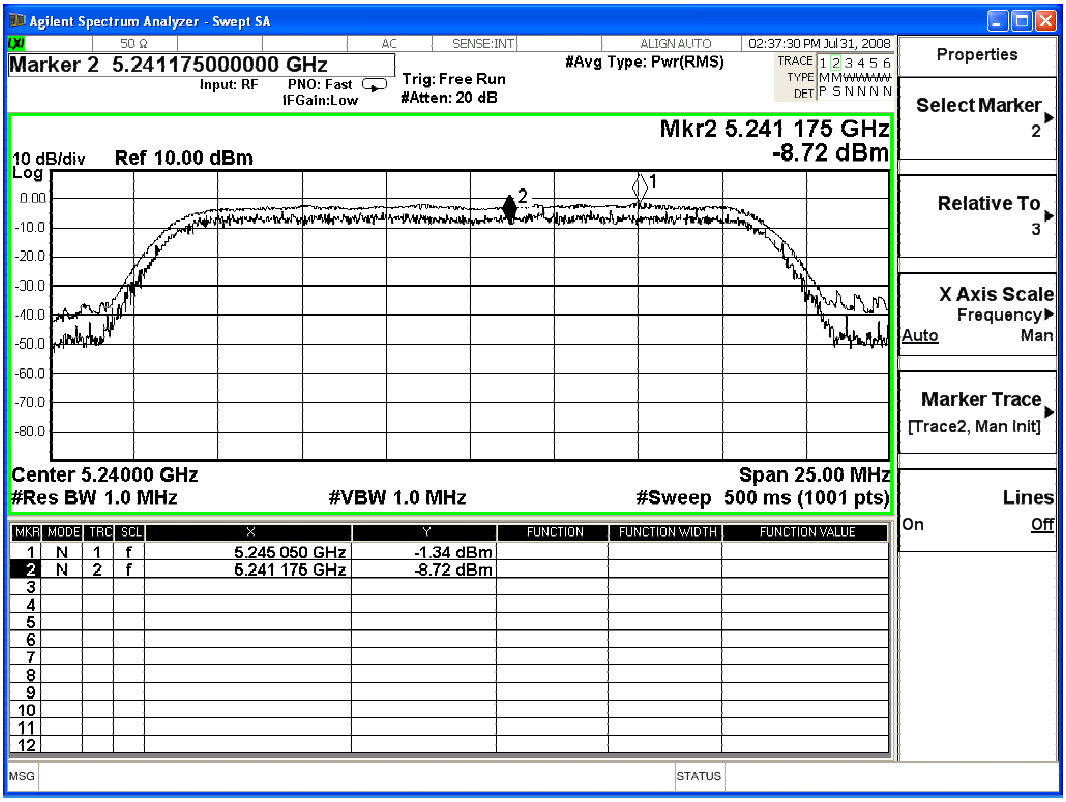
Ant A-Channel 01:



Ant A-Channel 03:



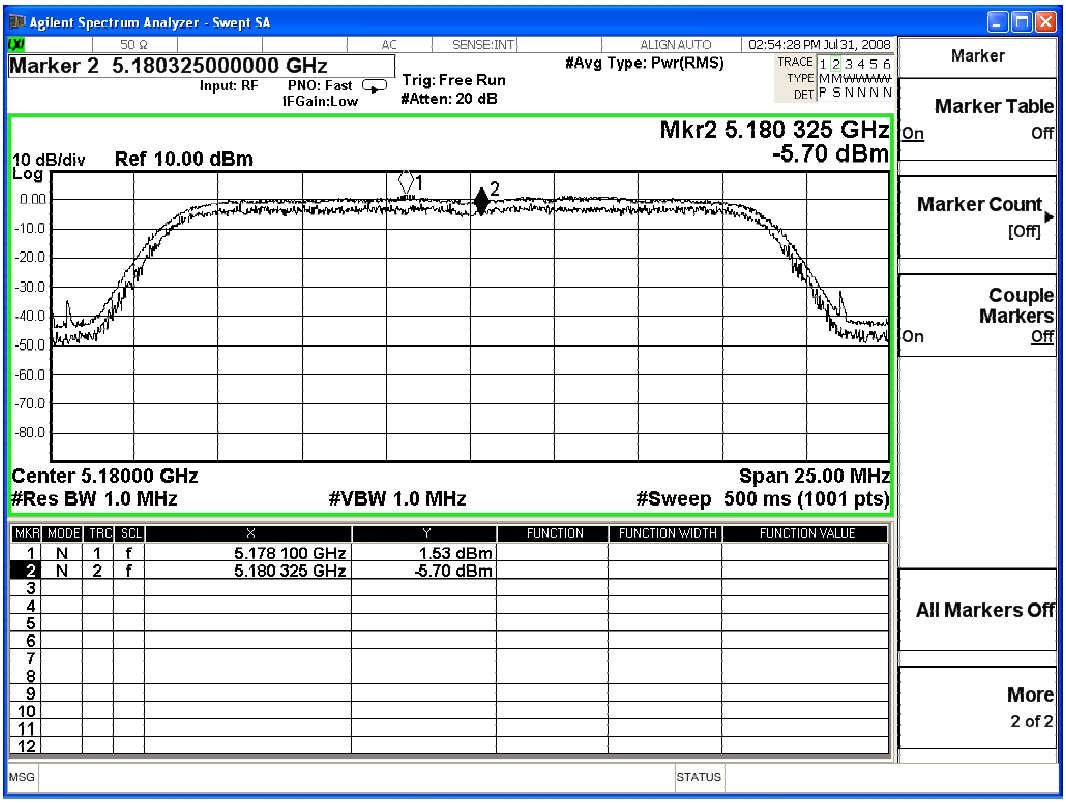
Ant A-Channel 04:



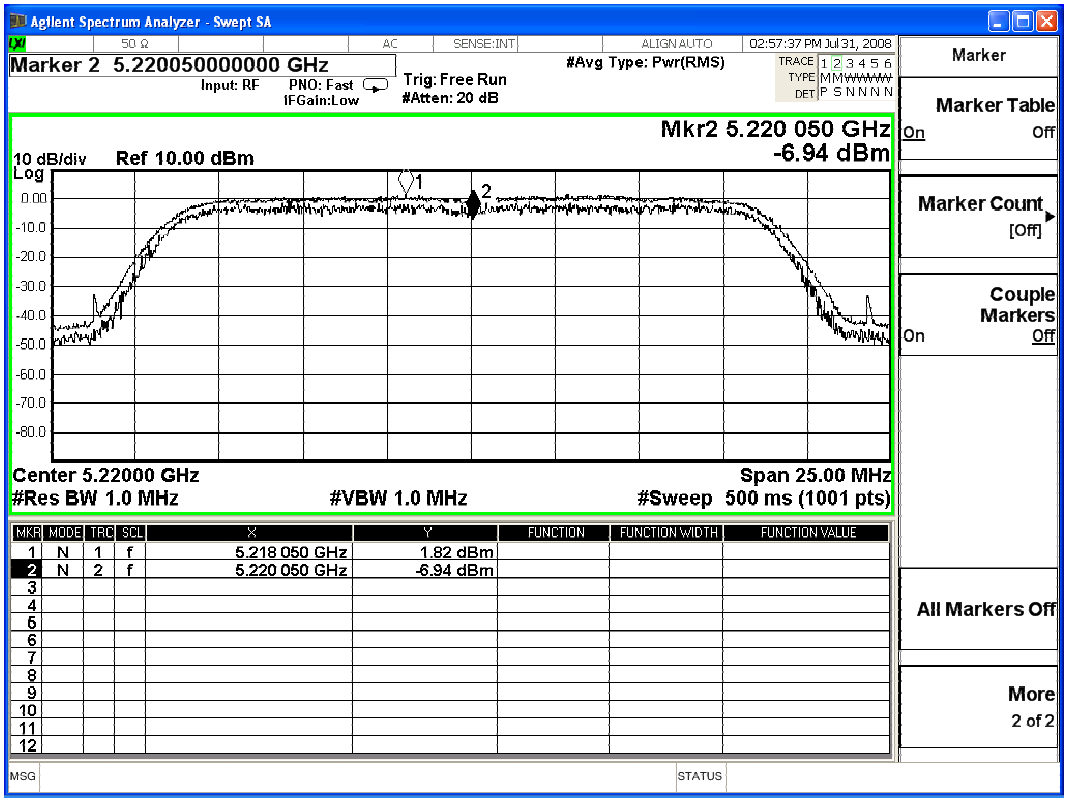
Product : ROS Video DMA
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band)-Antenna B

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
01	5180.00	7.23	≦ 13	Pass
03	5220.00	8.76	≦ 13	Pass
04	5240.00	7.43	≦ 13	Pass

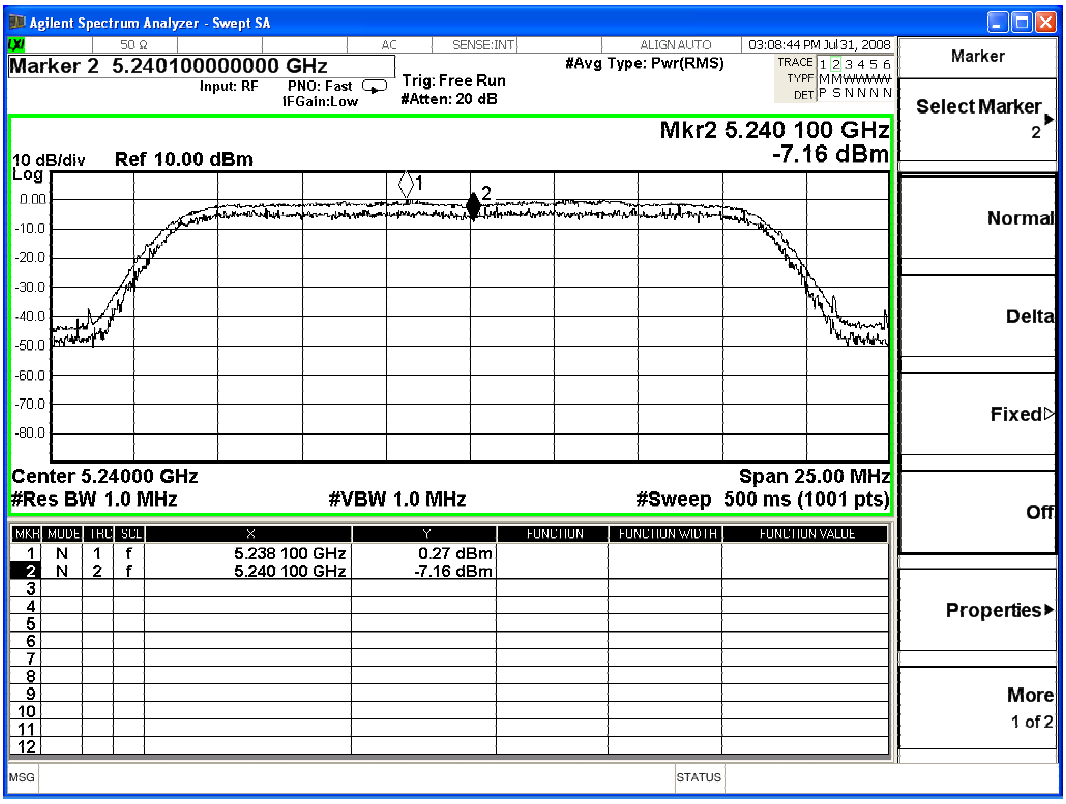
Ant B-Channel 01:



Ant B-Channel 03:



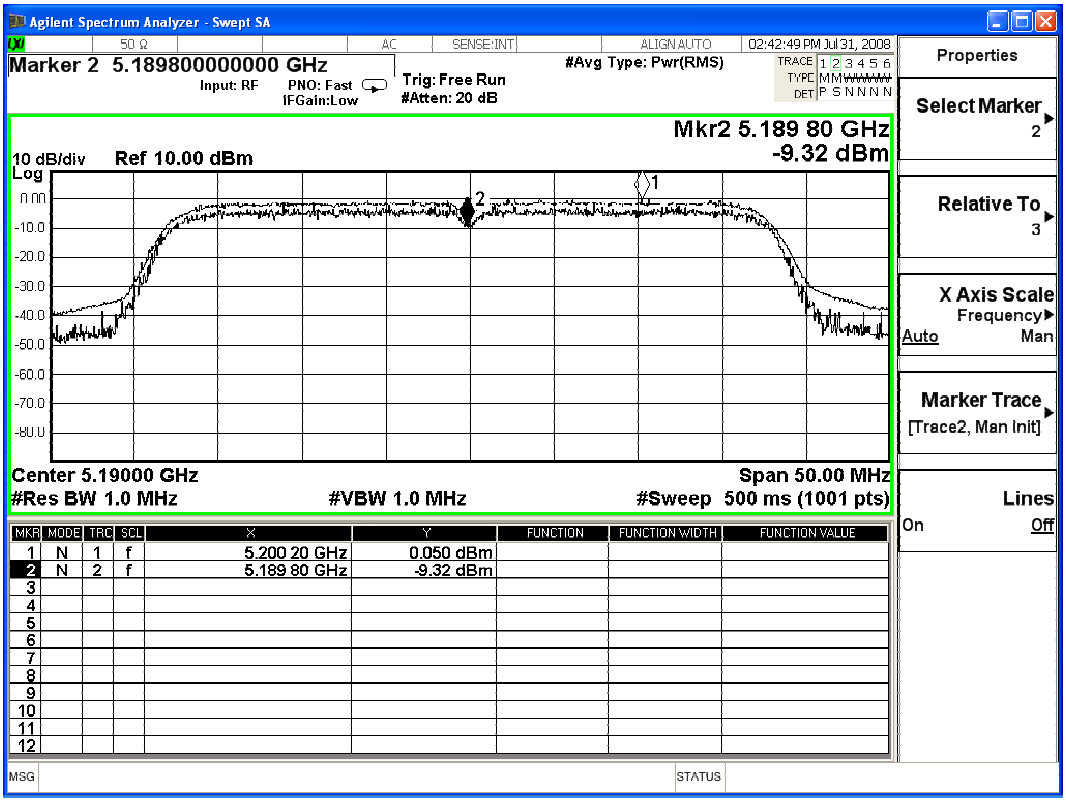
Ant B-Channel 04:



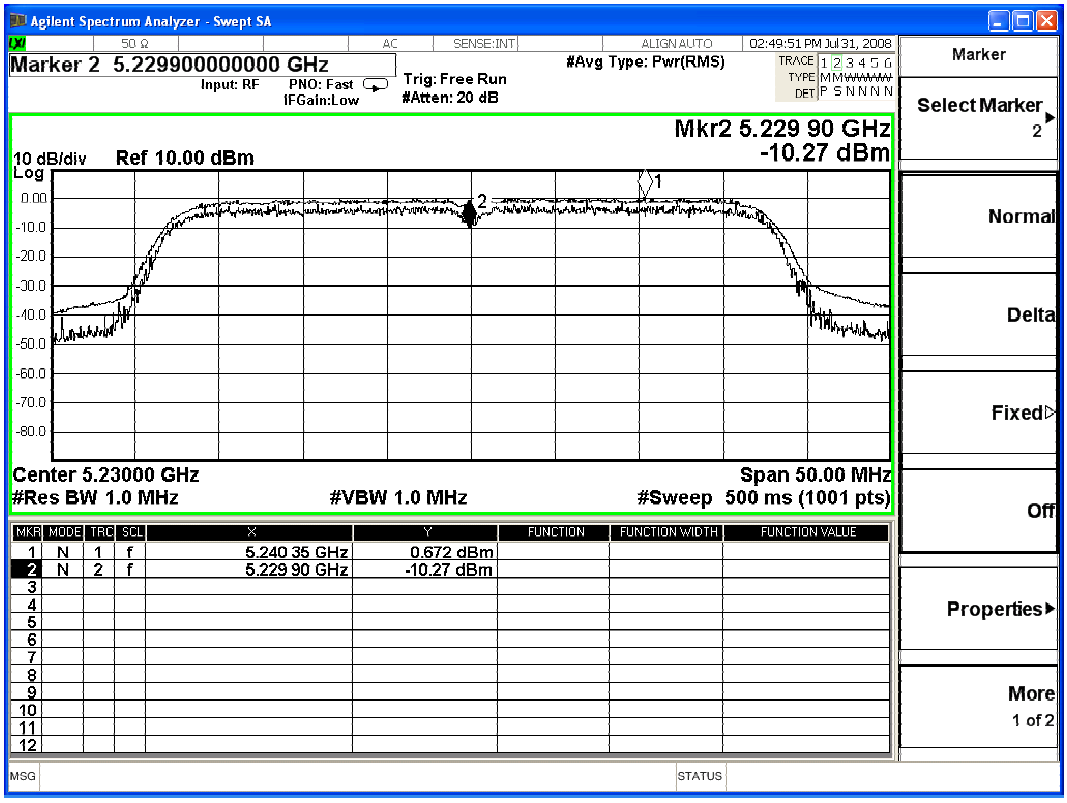
Product : ROS Video DMA
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band)-Antenna A

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
01	5190.00	9.37	≦ 13	Pass
02	5230.00	10.942	≦ 13	Pass

Ant A-Channel 01:



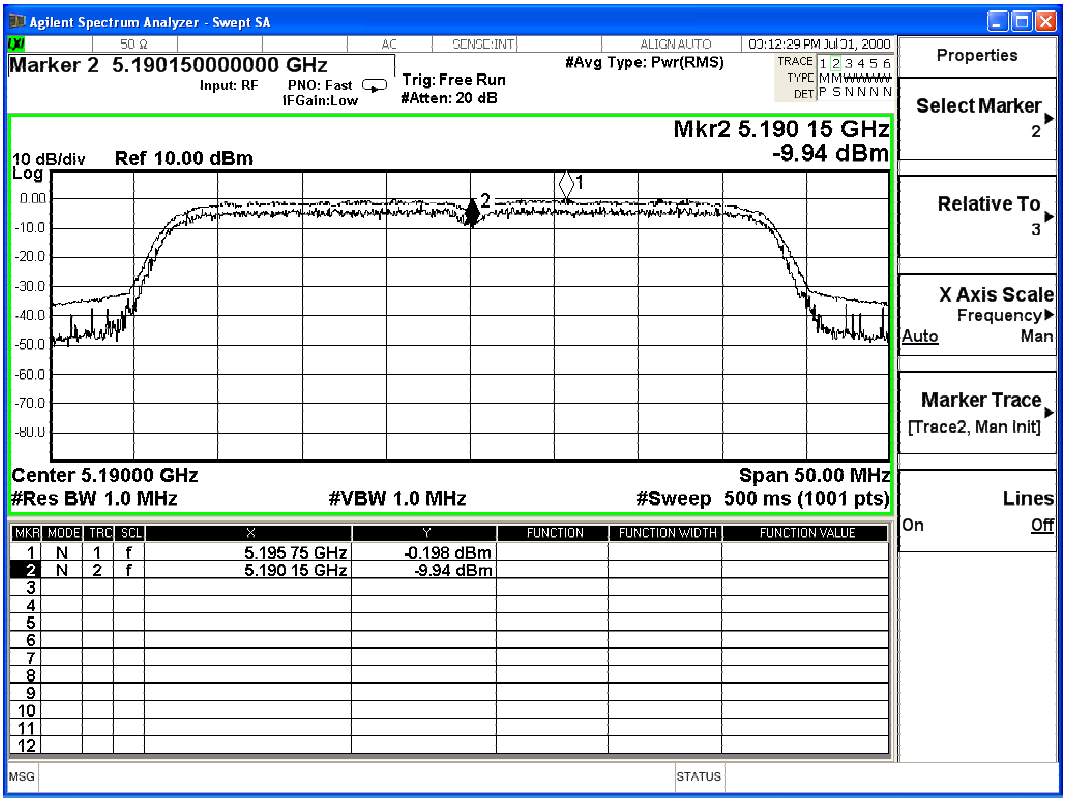
Ant A-Channel 02:



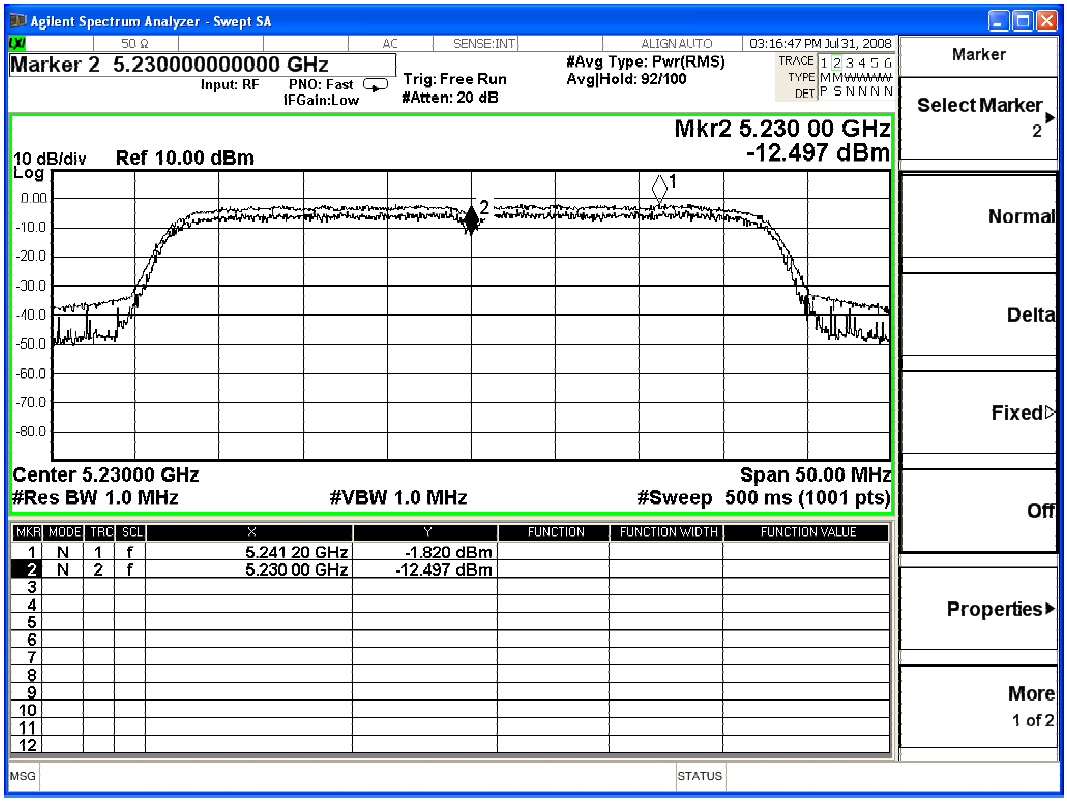
Product : ROS Video DMA
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band)-Antenna B

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
01	5190.00	10.138	≦ 13	Pass
02	5230.00	10.677	≦ 13	Pass

Ant B-Channel 01:



Ant B-Channel 02:



6. Undesirable Emission

6.1. Test Equipment

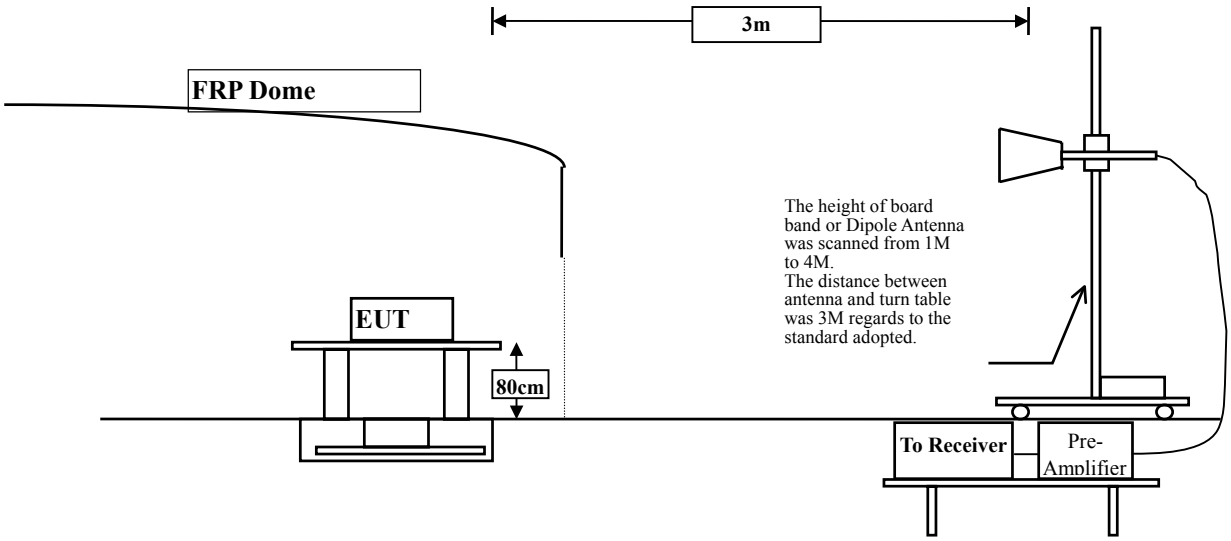
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2008
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2008
	X	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2008
	X	Horn Antenna	ETS	3115 / 0005-6160	July, 2008
	X	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2008

Note: 1. All equipments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

6.2. Test Setup



6.3. Limits

Inside of the restricted band(section 15.205): Apply to 15.209 limit.

Outside of the restricted band (section 15.407):

5 .15GHz - 5.35 GHz < -27 dBm/MHz EIRP,

5.47GHz - 5.725 GHz < -27 dBm/MHz EIRP,

5.725GHz - 5.825 GHz < -27 dBm/MHz EIRP,

<-17 dBm/MHz EIRP (all emission within the frequency range from the band edge to 10 MHz above or below the band edge).

6.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to FCC Public Notice DA 02-2138 test procedure for compliance to FCC 47CFR 15. 407 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine 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 ANSI C63.4:2003 on radiated measurement.

6.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

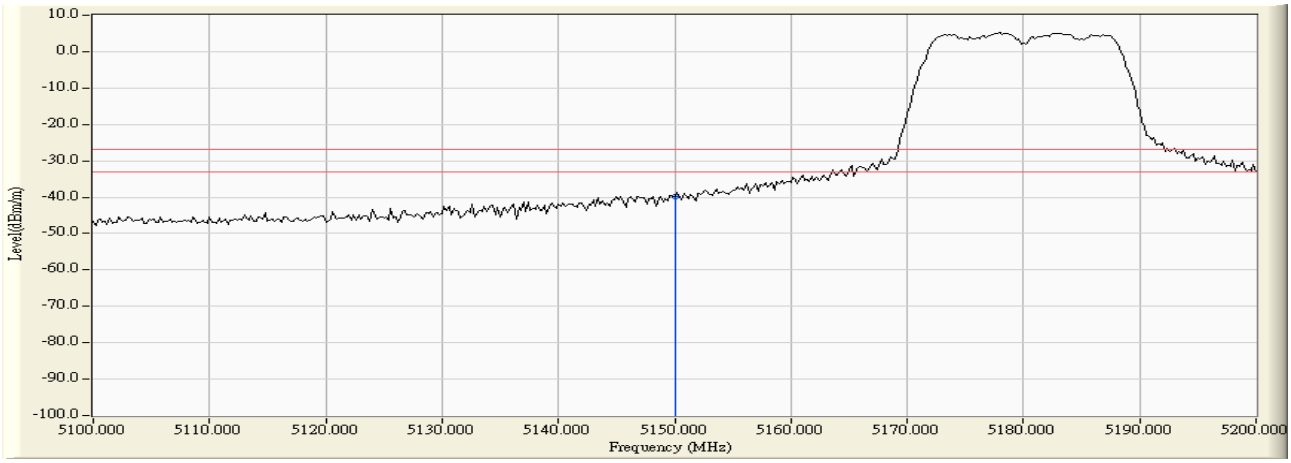
6.6. Test Result of Undesirable Emission

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5180MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
1 (Peak)	5150.000	14.272	-54.247	-39.975	-12.975	-27.000	Pass

Figure Channel 1: Horizontal (Peak)



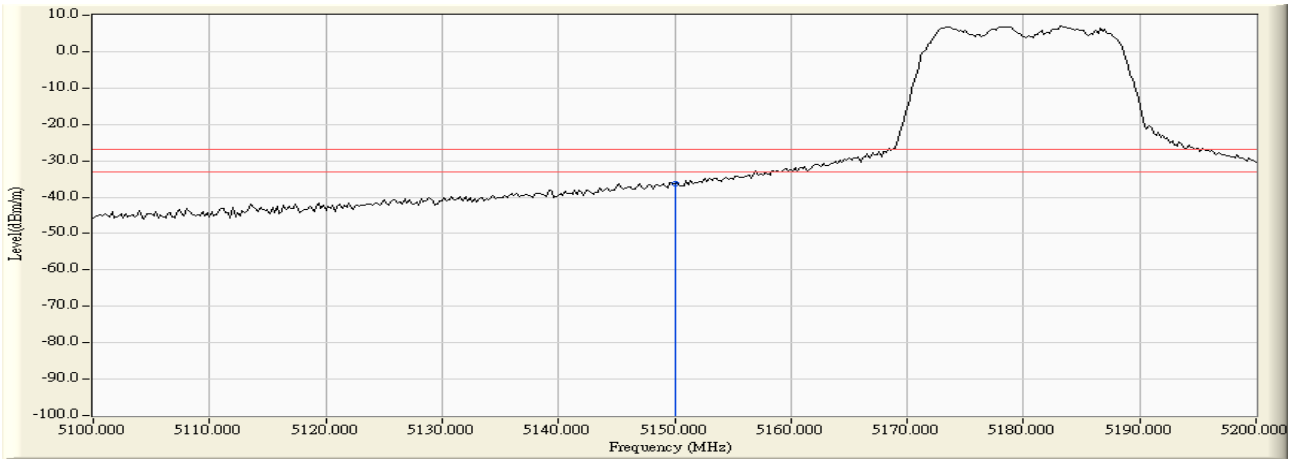
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5180MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
1 (Peak)	5150.000	14.631	-50.811	-36.180	-9.180	-27.000	Pass

Figure Channel 1: Vertical (Peak)



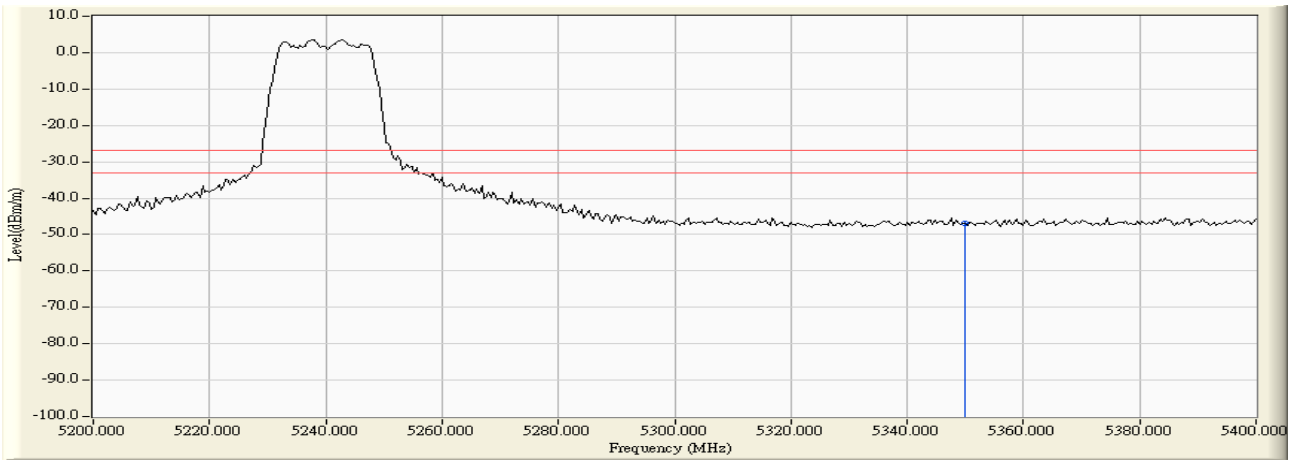
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5240MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
4 (Peak)	5350.000	14.464	-61.517	-47.053	-20.053	-27.000	Pass

Figure Channel 4: Horizontal (Peak)



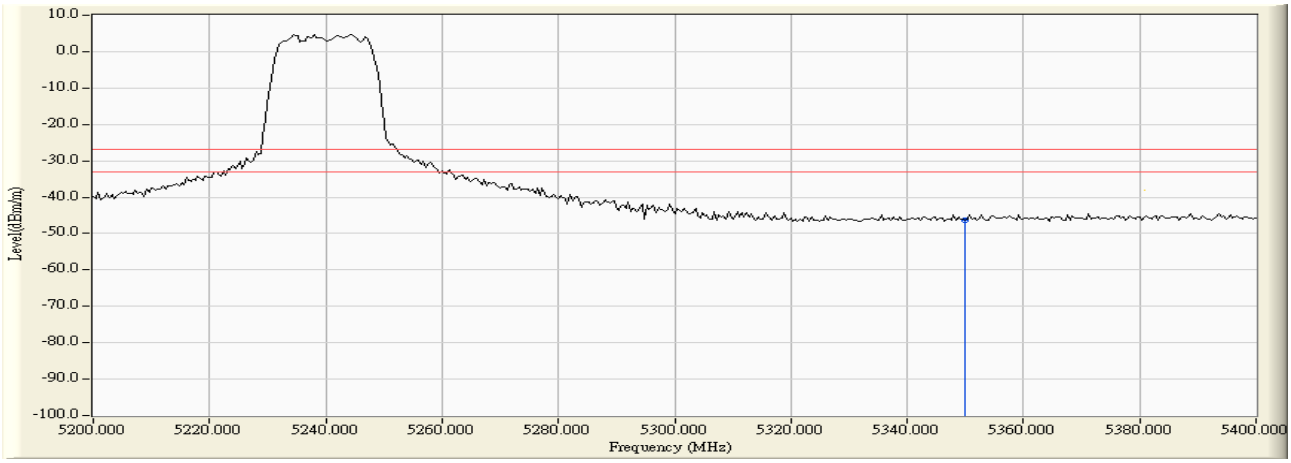
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5240MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
4 (Peak)	5350.000	14.773	-60.997	-46.224	-19.224	-27.000	Pass

Figure Channel 4: Vertical (Peak)



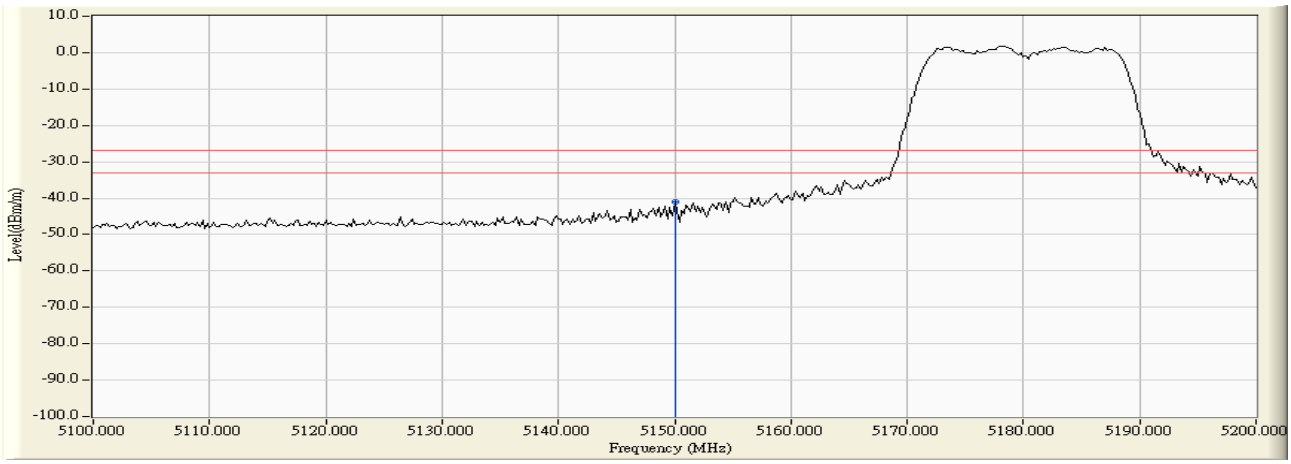
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5180MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
1 (Peak)	5150.000	14.272	-55.209	-40.937	-13.937	-27.000	Pass

Figure Channel 1: Horizontal (Peak)



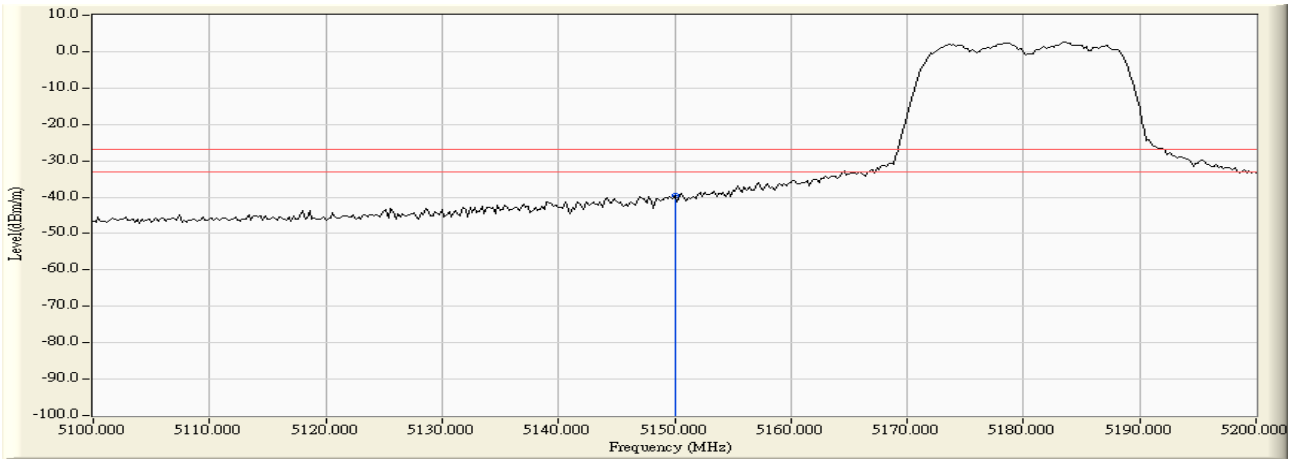
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5180MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
1 (Peak)	5150.000	14.631	-54.143	-39.512	-12.512	-27.000	Pass

Figure Channel 1: Vertical (Peak)



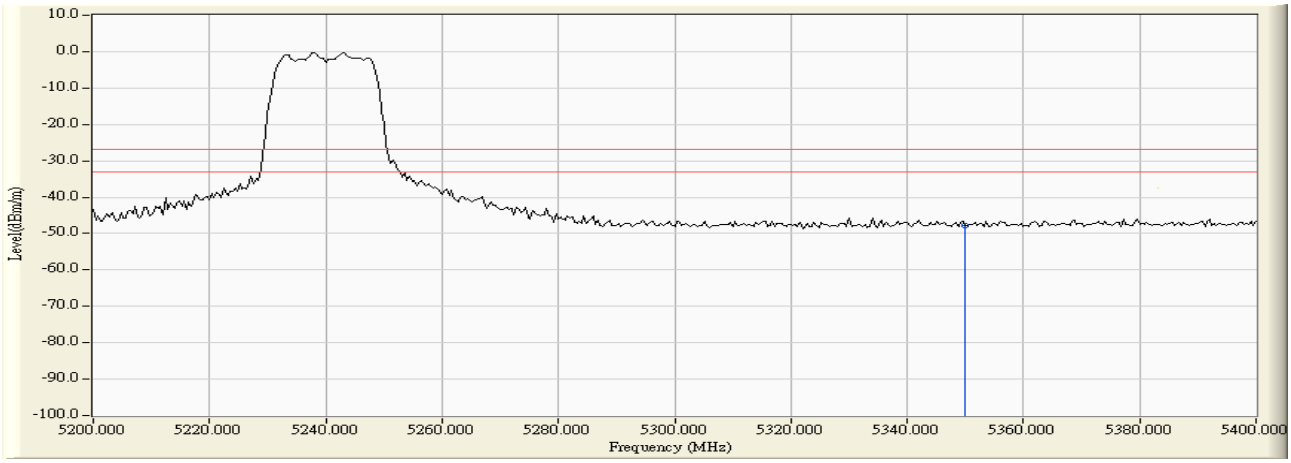
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5240MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
4 (Peak)	5350.000	14.464	-62.128	-47.664	-20.664	-27.000	Pass

Figure Channel 4: Horizontal (Peak)



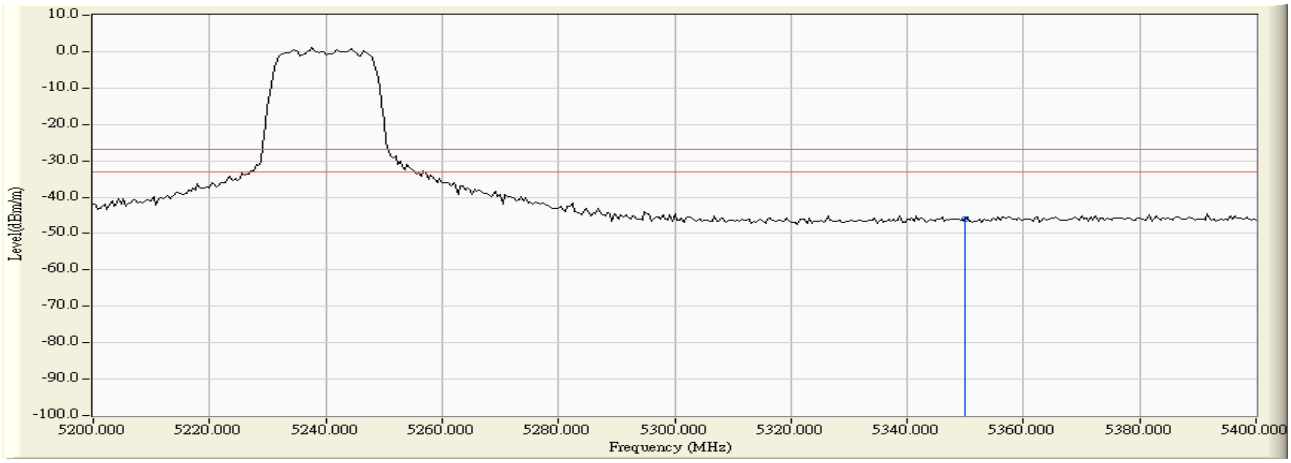
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5240MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
4 (Peak)	5350.000	14.773	-60.859	-46.086	-19.086	-27.000	Pass

Figure Channel 4: Vertical (Peak)



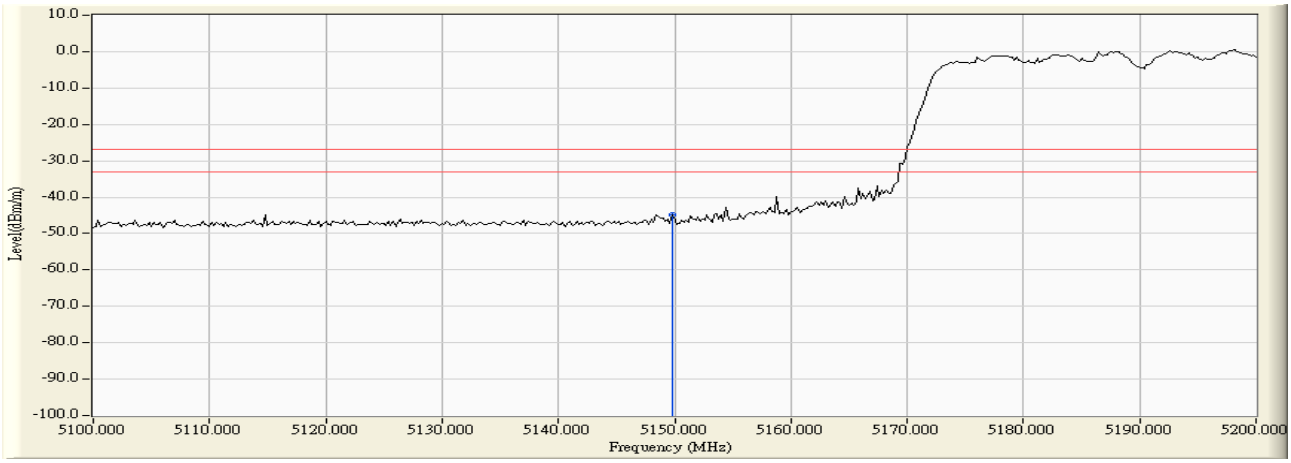
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5190MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
1 (Peak)	5149.800	14.273	-59.015	-44.743	-17.743	-27.000	Pass

Figure Channel 1: Horizontal (Peak)



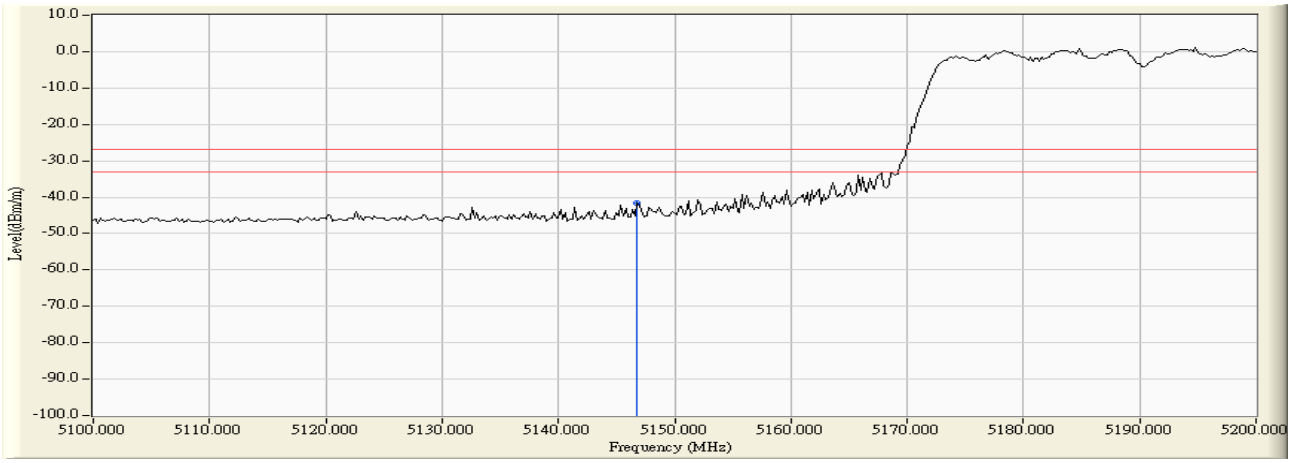
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5190MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
1 (Peak)	5146.800	14.636	-56.139	-41.503	-14.503	-27.000	Pass

Figure Channel 1: Vertical (Peak)



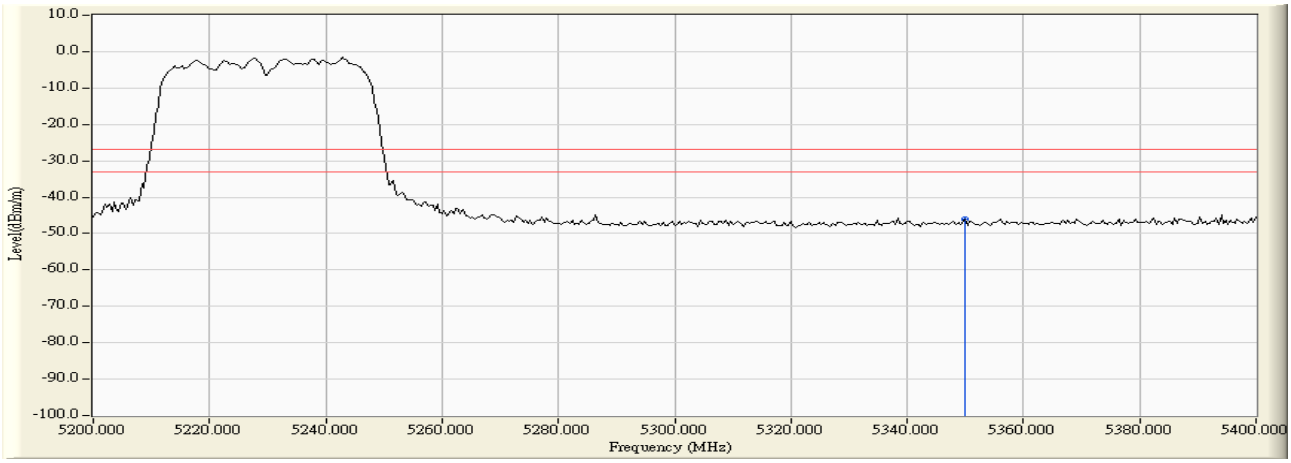
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5230MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
4 (Peak)	5350.000	14.464	-60.403	-45.939	-18.939	-27.000	Pass

Figure Channel 4: Horizontal (Peak)



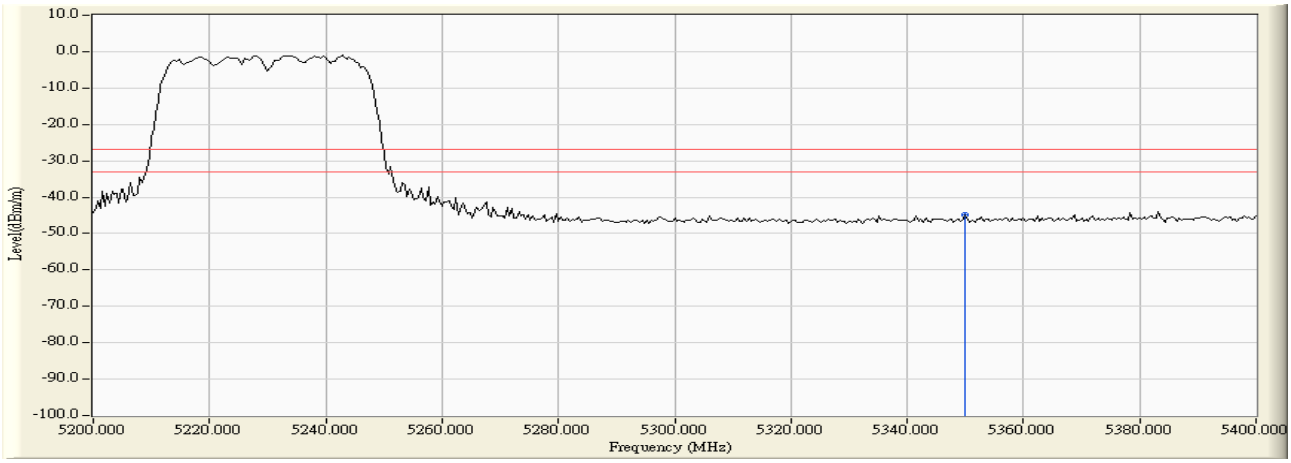
Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

Product : ROS Video DMA
Test Item : Undesirable Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5230MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
4 (Peak)	5350.000	14.773	-59.541	-44.768	-17.768	-27.000	Pass

Figure Channel 4: Vertical (Peak)



Note: Spectrum setting: Detector=Peak detector and maximum hold, RBW= 1MHz, VBW=3 MHz.

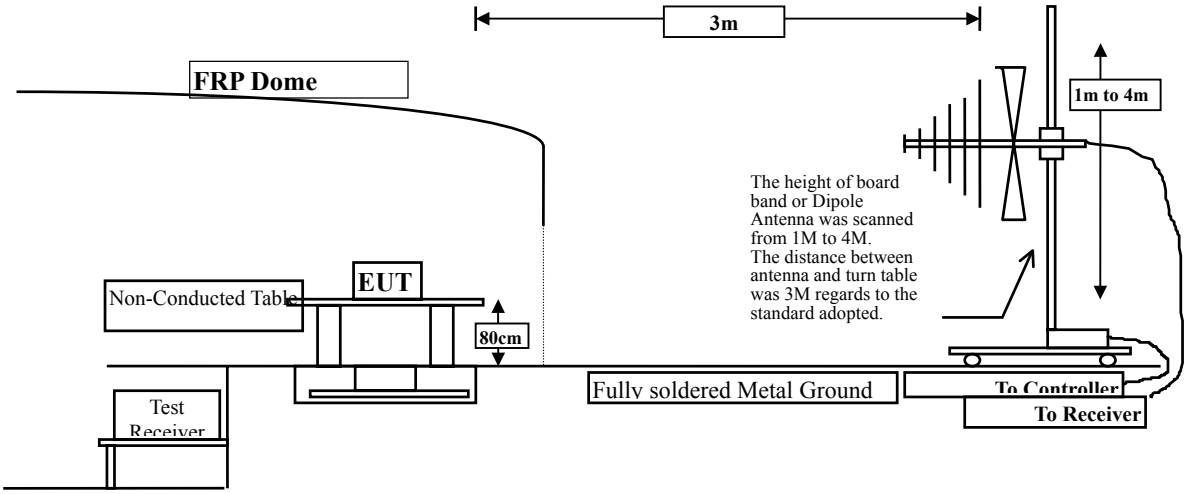
7. Radiated Emission

7.1. Test Equipment

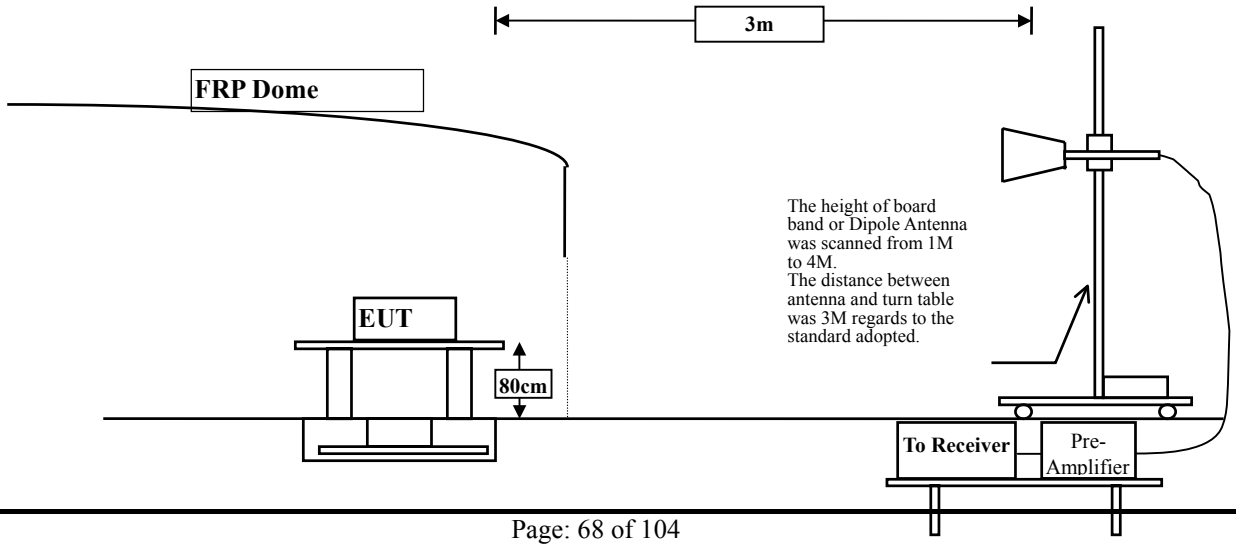
The following test equipments are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2008
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2008
	X	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2008
	X	Horn Antenna	ETS	3115 / 0005-6160	July, 2008
	X	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2008

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.



7.2. Test Setup



7.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

7.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to FCC Public Notice DA 02-2138 test procedure for compliance to FCC 47CFR 15. 407 requirements.
The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated measurement.
The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.
Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.
The measurement is divided into the Preliminary Measurement and the Final Measurement.
The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB beamwidth of the antenna.
The worst radiated emission is measured on the Final Measurement.
The frequency range from 30MHz to 10th harminics is checked.

7.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

7.6. Test Result of Radiated Emission

Product : ROS Video DMA
Test Item : Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5180MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
10360.000	12.977	34.450	47.427	-26.573	74.000
15540.000	15.276	37.400	52.675	-21.325	74.000
Average Detector					
--					
Vertical					
Peak Detector					
10360.000	12.977	34.820	47.797	-26.203	74.000
15540.000	15.276	37.250	52.525	-21.475	74.000
Average Detector					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Measurement Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : ROS Video DMA
Test Item : Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
10440.000	13.218	34.570	47.788	-26.212	74.000
15660.000	14.994	37.190	52.184	-21.816	74.000
Average Detector					
--					
Vertical					
Peak Detector					
10440.000	13.218	34.740	47.958	-26.042	74.000
15660.000	14.994	37.860	52.854	-21.146	74.000
Average Detector					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Measurement Level = Reading Level + Correct Factor..
5. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : ROS Video DMA
Test Item : Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5240MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
10480.000	13.343	34.380	47.723	-26.277	74.000
15720.000	14.730	37.140	51.869	-22.131	74.000
Average Detector					
--					
Vertical					
Peak Detector					
10480.000	13.343	34.380	47.723	-26.277	74.000
15720.000	14.730	37.440	52.169	-21.831	74.000
Average Detector					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Measurement Level = Reading Level + Correct Factor..
5. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : ROS Video DMA
Test Item : Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5180MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
10360.000	12.977	34.850	47.827	-26.173	74.000
15540.000	15.276	37.150	52.425	-21.575	74.000
Average Detector					
--					
Vertical					
Peak Detector					
10360.000	12.977	34.880	47.857	-26.143	74.000
15540.000	15.276	37.930	53.205	-20.795	74.000
Average Detector					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz。
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz。
4. Measurement Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : ROS Video DMA
Test Item : Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
10440.000	13.218	34.320	47.538	-26.462	74.000
15660.000	14.994	37.580	52.574	-21.426	74.000
Average Detector					
--					
Vertical					
Peak Detector					
10440.000	13.218	34.750	47.968	-26.032	74.000
15660.000	14.994	37.350	52.344	-21.656	74.000
Average Detector					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Measurement Level = Reading Level + Correct Factor..
5. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : ROS Video DMA
Test Item : Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5240MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
10480.000	13.343	34.660	48.003	-25.997	74.000
15720.000	14.730	37.490	52.219	-21.781	74.000
Average Detector					
--					
Vertical					
Peak Detector					
10480.000	13.343	34.660	48.003	-25.997	74.000
15720.000	14.730	37.810	52.539	-21.461	74.000
Average Detector					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Measurement Level = Reading Level + Correct Factor..
5. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : ROS Video DMA
Test Item : Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5190MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
10380.000	13.040	34.720	47.759	-26.241	74.000
15570.000	15.264	37.530	52.794	-21.206	74.000
Average Detector					
--					
Vertical					
Peak Detector					
10380.000	13.040	34.960	47.999	-26.001	74.000
15570.000	15.264	37.283	52.547	-21.453	74.000
Average Detector					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Measurement Level = Reading Level + Correct Factor..
5. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : ROS Video DMA
Test Item : Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5230MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
10460.000	13.281	34.230	47.511	-26.489	74.000
15690.000	14.863	37.140	52.003	-21.997	74.000
Average Detector					
--					
Vertical					
Peak Detector					
10460.000	13.281	34.330	47.611	-26.389	74.000
15690.000	14.863	37.480	52.343	-21.657	74.000
Average Detector					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Measurement Level = Reading Level + Correct Factor..
5. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : ROS Video DMA
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
198.780	9.569	15.988	25.557	-17.943	43.500
499.480	18.228	17.286	35.514	-10.486	46.000
637.220	20.989	13.879	34.868	-11.132	46.000
747.800	21.019	18.156	39.175	-6.825	46.000
792.420	22.104	9.651	31.755	-14.245	46.000
996.123	23.460	22.261	45.721	-8.279	54.000
Vertical					
Peak Detector					
198.780	9.588	13.756	23.344	-20.156	43.500
499.480	18.429	9.655	28.084	-17.916	46.000
697.360	20.635	3.416	24.051	-21.949	46.000
749.740	23.178	14.481	37.659	-8.341	46.000
901.060	23.650	6.337	29.987	-16.013	46.000
996.120	22.660	22.363	45.023	-8.977	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

Product : ROS Video DMA
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
249.220	13.141	12.213	25.354	-20.646	46.000
299.660	14.132	9.685	23.817	-22.183	46.000
499.480	18.228	18.629	36.857	-9.143	46.000
637.220	20.989	11.871	32.860	-13.140	46.000
747.800	21.019	18.159	39.178	-6.822	46.000
996.120	23.460	20.336	43.796	-10.204	54.000
Vertical					
Peak Detector					
497.540	18.301	9.864	28.165	-17.835	46.000
641.100	20.339	8.590	28.929	-17.071	46.000
749.740	23.178	4.999	28.177	-17.823	46.000
901.060	23.650	5.978	29.628	-16.372	46.000
961.200	23.009	9.266	32.275	-21.725	54.000
996.120	22.660	21.553	44.213	-9.787	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

Product : ROS Video DMA
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5190MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
299.660	14.132	10.655	24.787	-21.213	46.000
497.540	18.401	18.223	36.624	-9.376	46.000
637.220	20.989	15.641	36.630	-9.370	46.000
747.800	21.019	17.562	38.581	-7.419	46.000
792.420	22.104	9.491	31.595	-14.405	46.000
996.120	23.460	22.456	45.916	-8.084	54.000
Vertical					
Peak Detector					
198.780	9.588	13.981	23.569	-19.931	43.500
499.480	18.429	11.876	30.305	-15.695	46.000
641.100	20.339	9.285	29.624	-16.376	46.000
749.740	23.178	15.476	38.654	-7.346	46.000
901.060	23.650	6.528	30.178	-15.822	46.000
996.120	22.660	20.375	43.035	-10.965	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

8. Band Edge

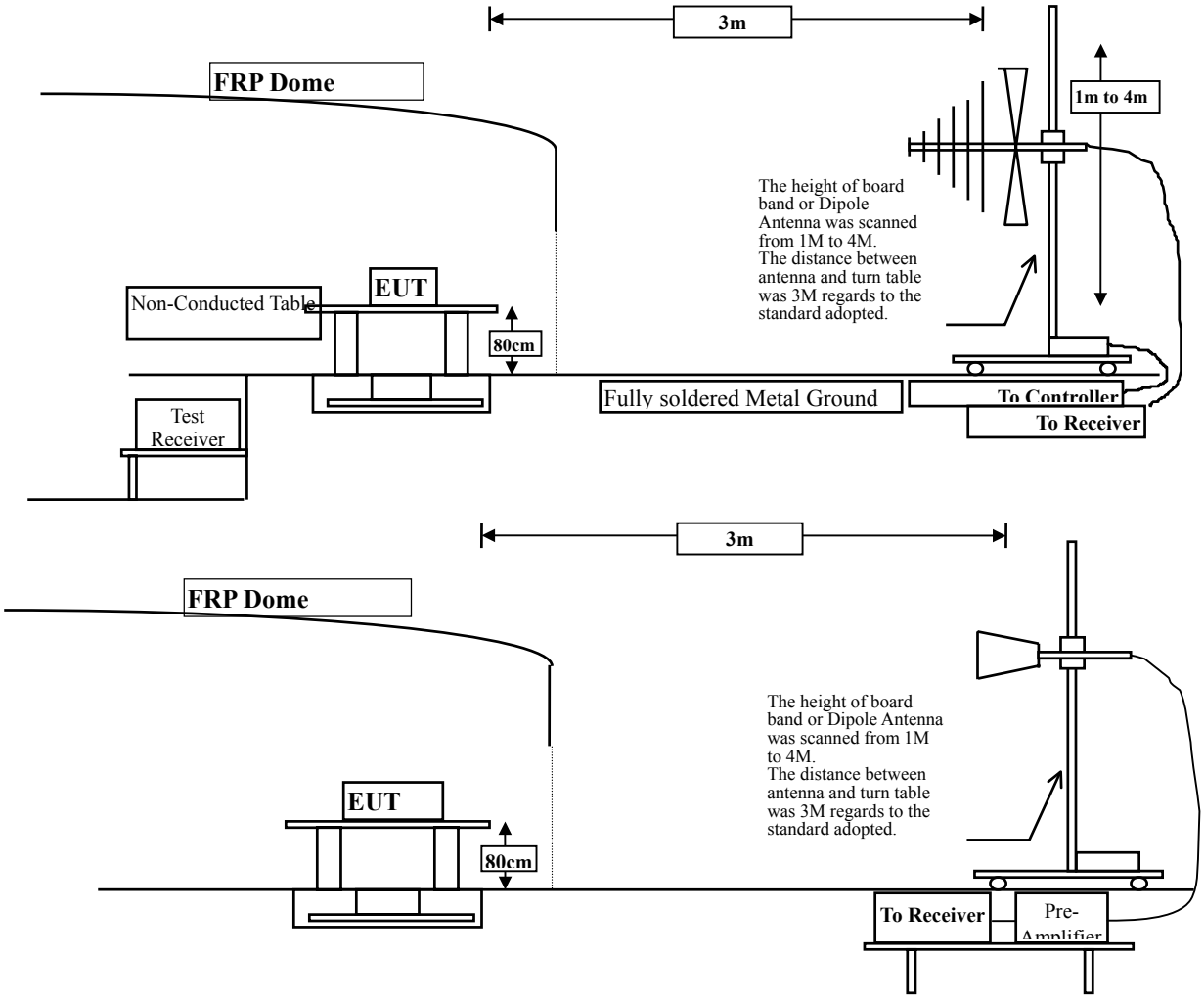
8.1. Test Equipment

The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2008
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2008
	X	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2008
	X	Horn Antenna	ETS	3115 / 0005-6160	July, 2008
	X	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2008

8.2. Test Setup

RF Radiated Measurement:



8.3. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

8.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine 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 can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz.

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Aug 2002 DA 02-2138 for compliance to FCC 47CFR Subpart E requirements.

8.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

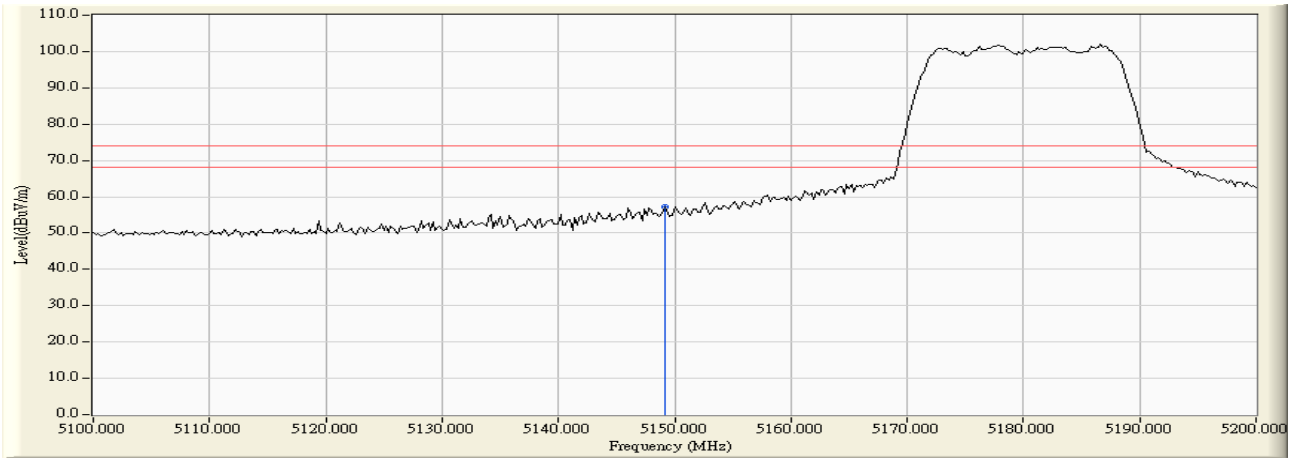
8.6. Test Result of Band Edge

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5180MHz)

RF Radiated Measurement (Horizontal):

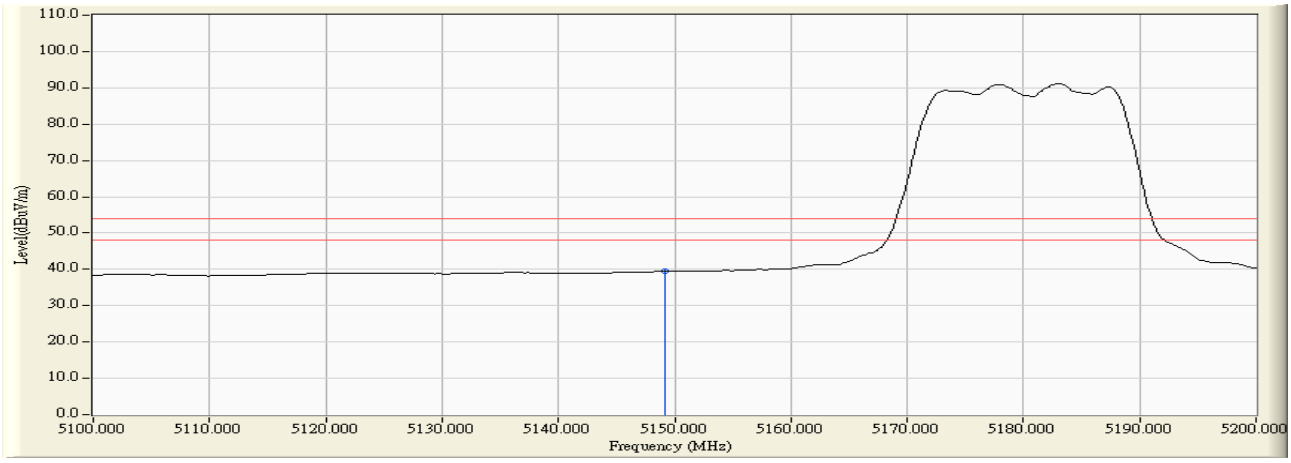
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	5149.200	4.306	52.960	57.265	74.00	54.00	Pass
01 (Average)	5149.200	4.306	35.297	39.602	74.00	54.00	Pass

Figure Channel 01: Horizontal (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Figure Channel 01: Horizontal (Average)



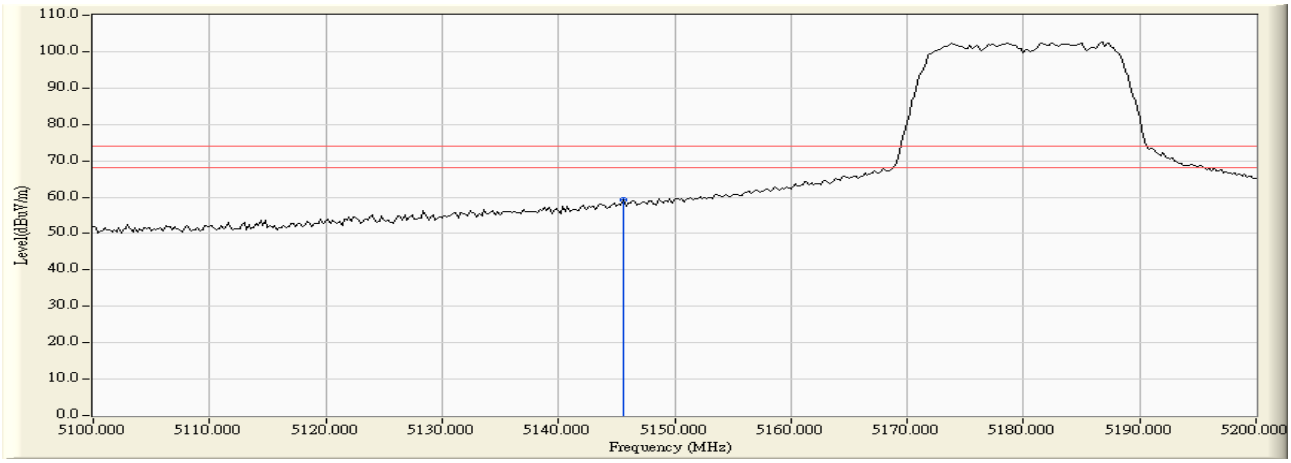
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5180MHz)

RF Radiated Measurement (Vertical):

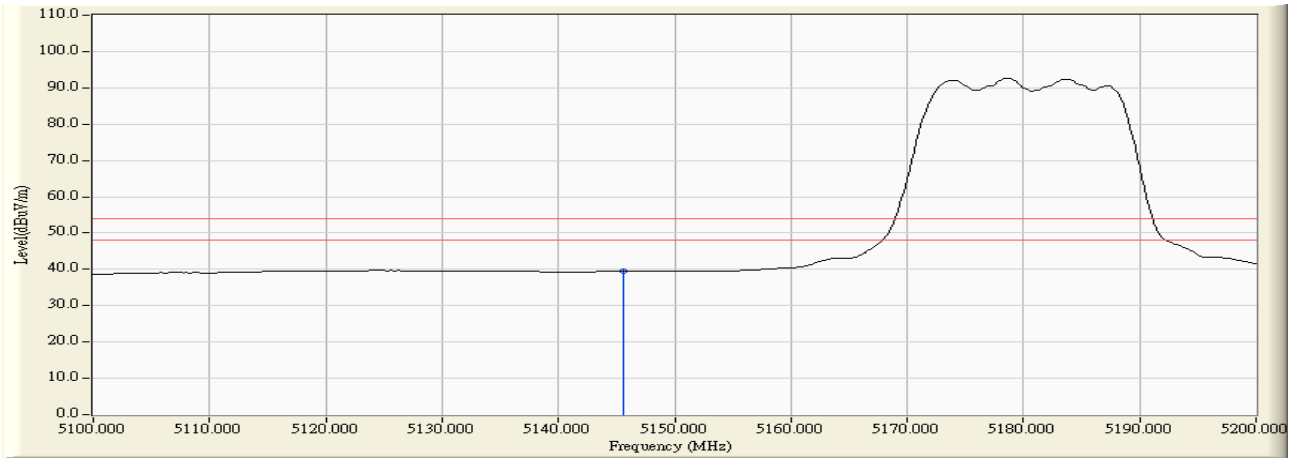
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	5145.600	4.304	55.110	59.414	74.00	54.00	Pass
01 (Average)	5145.600	4.304	35.212	39.516	74.00	54.00	Pass

Figure Channel 01: Vertical (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Figure Channel 01: Vertical (Average)



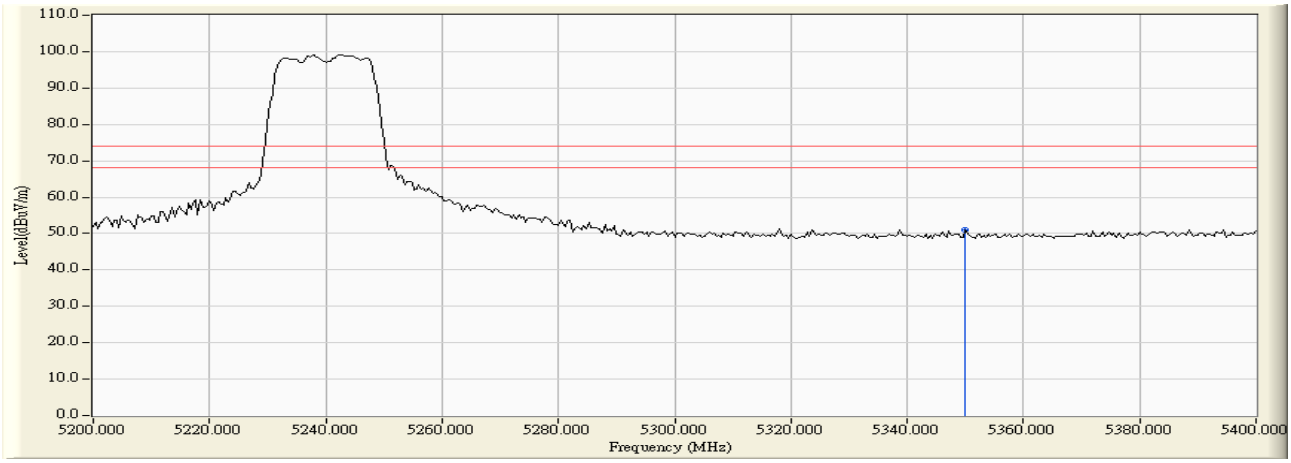
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5240MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
04 (Peak)	5350.000	4.446	46.442	50.888	74.00	54.00	Pass
04 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 04: Horizontal (Peak)



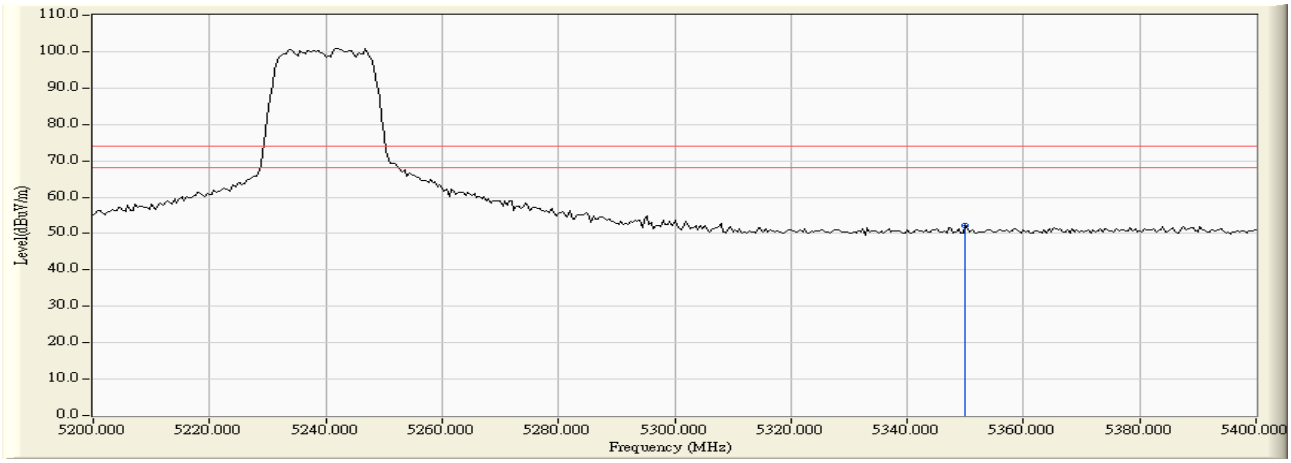
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter 802.11a (5240MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
04 (Peak)	5350.000	4.446	47.612	52.058	74.00	54.00	Pass
04 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 04: Vertical (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

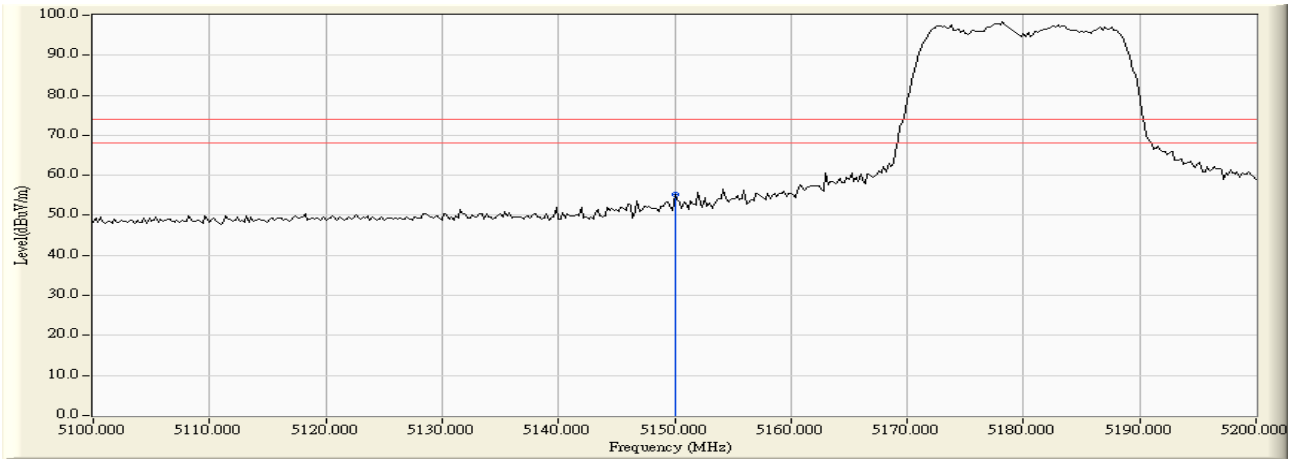
Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5180MHz)

RF Radiated Measurement (Horizontal):

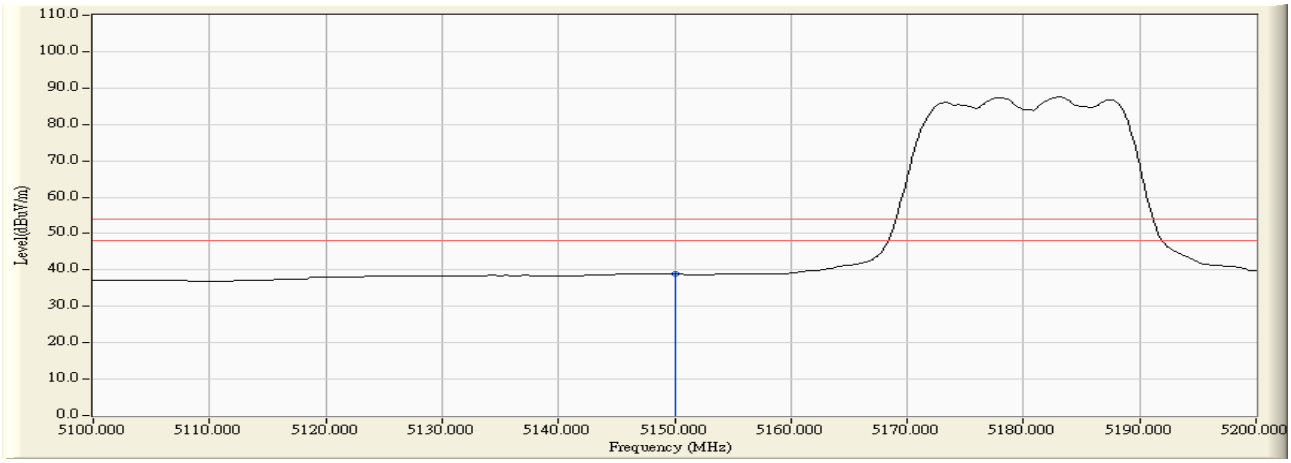
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	5150.000	4.305	51.027	55.332	74.00	54.00	Pass
01 (Average)	5150.000	4.305	34.563	38.868	74.00	54.00	Pass

Figure Channel 01: Horizontal (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Figure Channel 01: Horizontal (Average)



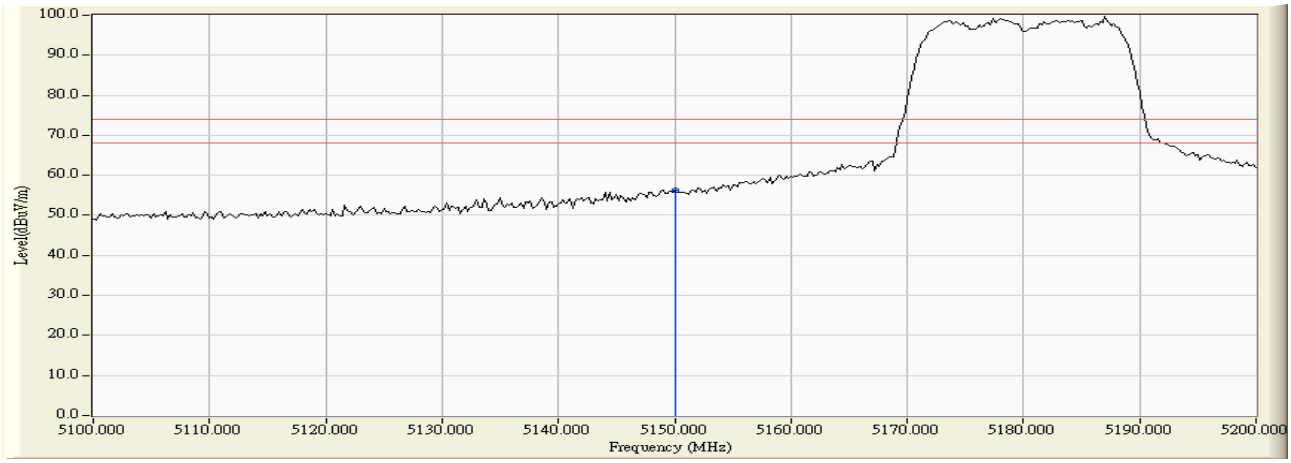
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5180MHz)

RF Radiated Measurement (Vertical):

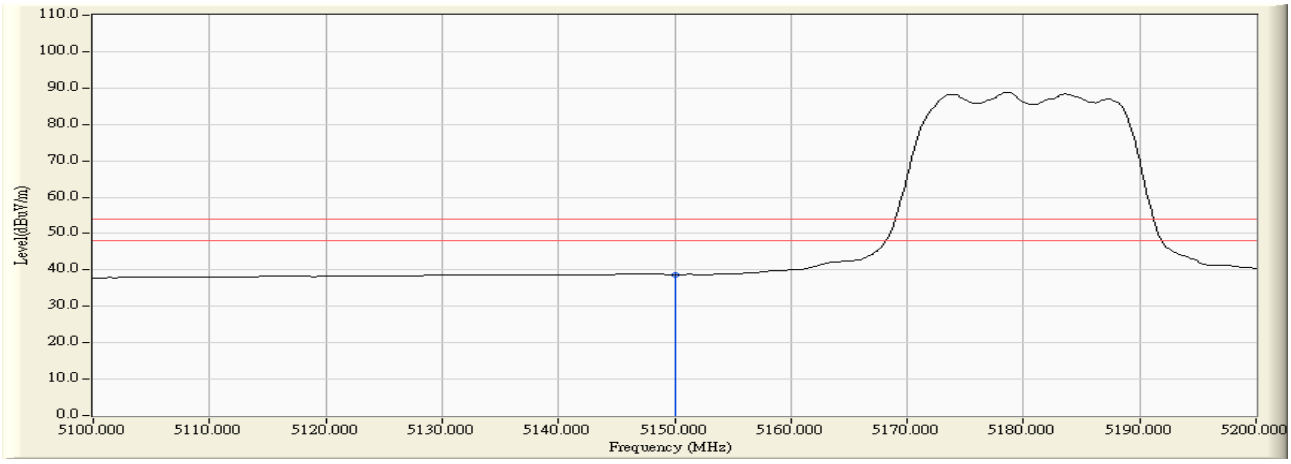
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	5150.000	4.305	51.935	56.240	74.00	54.00	Pass
01 (Average)	5150.000	4.305	34.442	38.747	74.00	54.00	Pass

Figure Channel 01: Vertical (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Figure Channel 01: Vertical (Average)



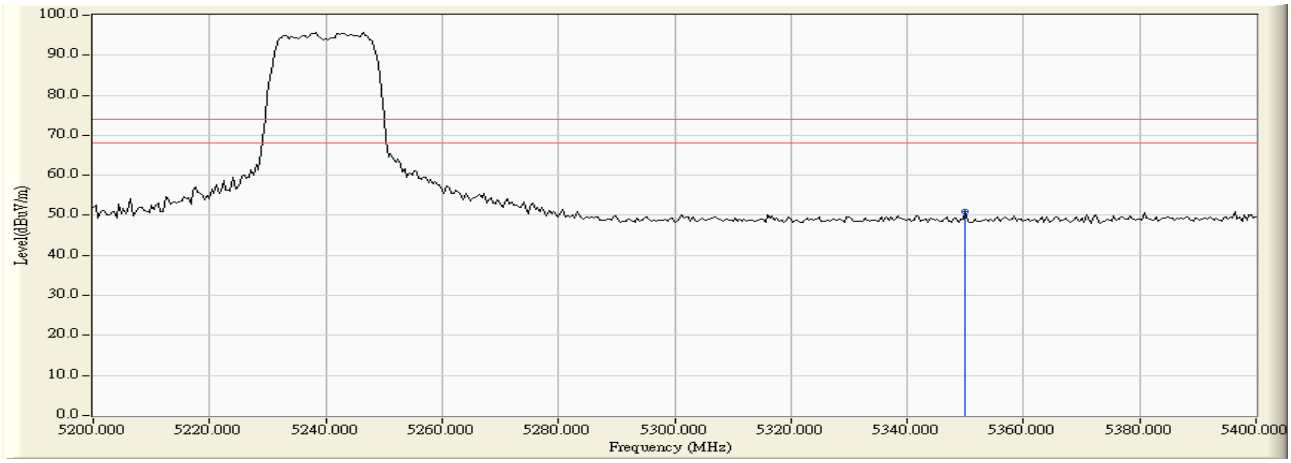
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5240MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
04 (Peak)	5350.000	4.446	46.551	50.997	74.00	54.00	Pass
04 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 04: Horizontal (Peak)



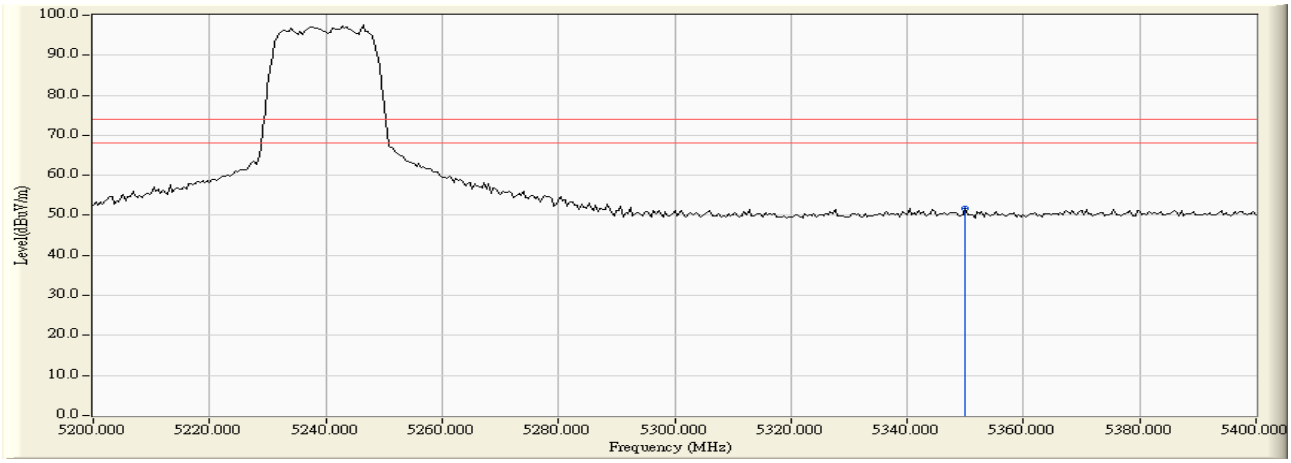
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band) (5240MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
04 (Peak)	5350.000	4.446	47.298	51.744	74.00	54.00	Pass
04 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 04: Vertical (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

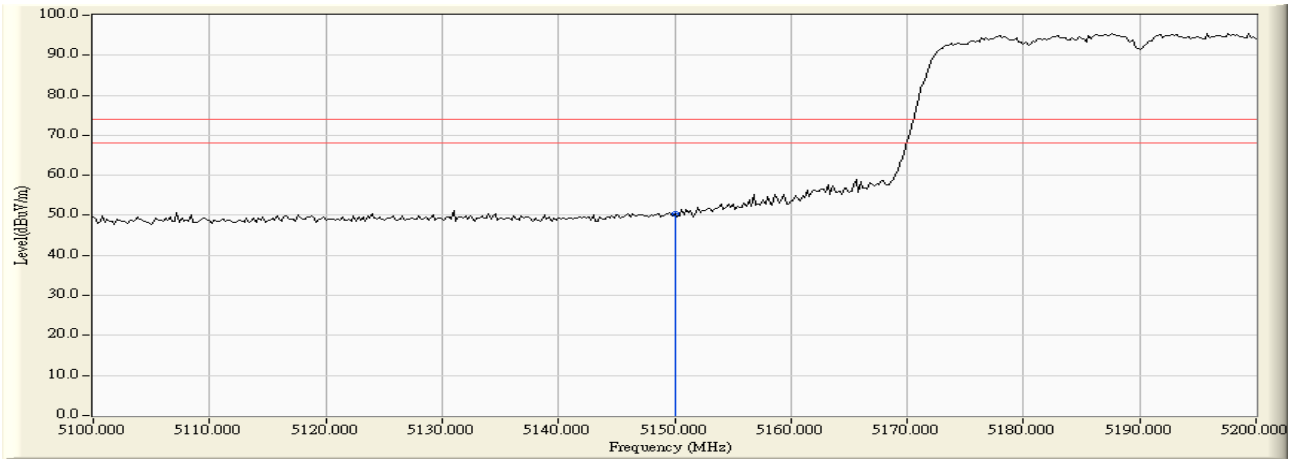
Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5190MHz)

RF Radiated Measurement (Horizontal):

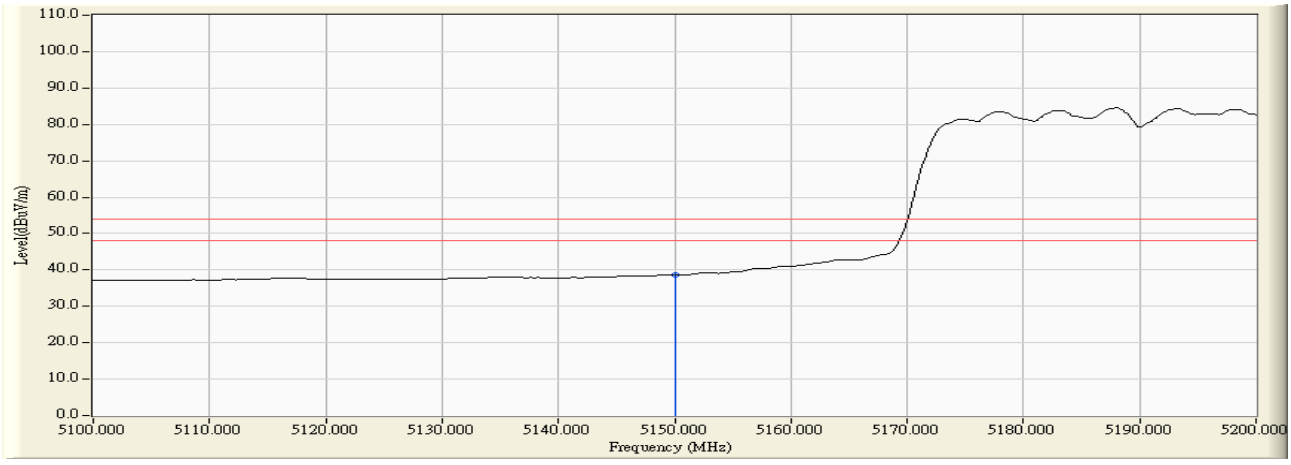
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	5150.000	4.305	46.104	50.409	74.00	54.00	Pass
01 (Average)	5150.000	4.305	34.253	38.558	74.00	54.00	Pass

Figure Channel 01: Horizontal (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Figure Channel 01: Horizontal (Average)



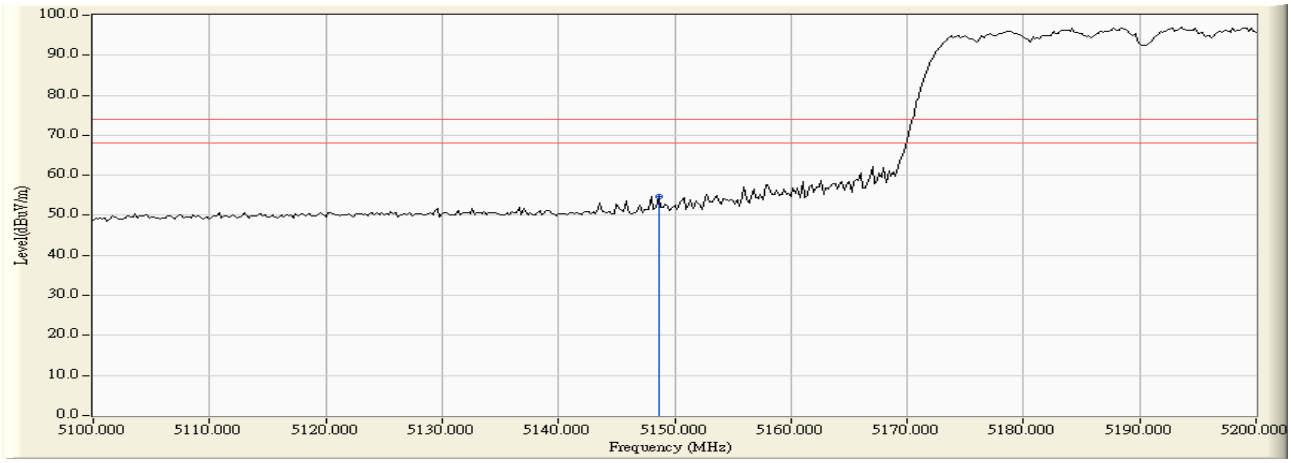
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5190MHz)

RF Radiated Measurement (Vertical):

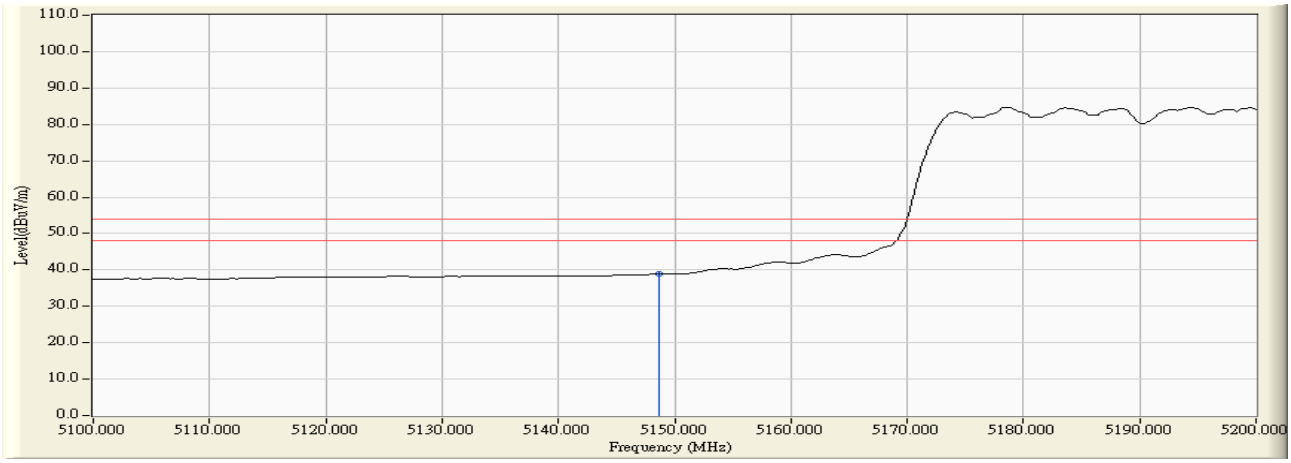
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	5148.600	4.304	50.499	54.804	74.00	54.00	Pass
01 (Average)	5148.600	4.304	34.652	38.957	74.00	54.00	Pass

Figure Channel 01: Vertical (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Figure Channel 01: Vertical (Average)



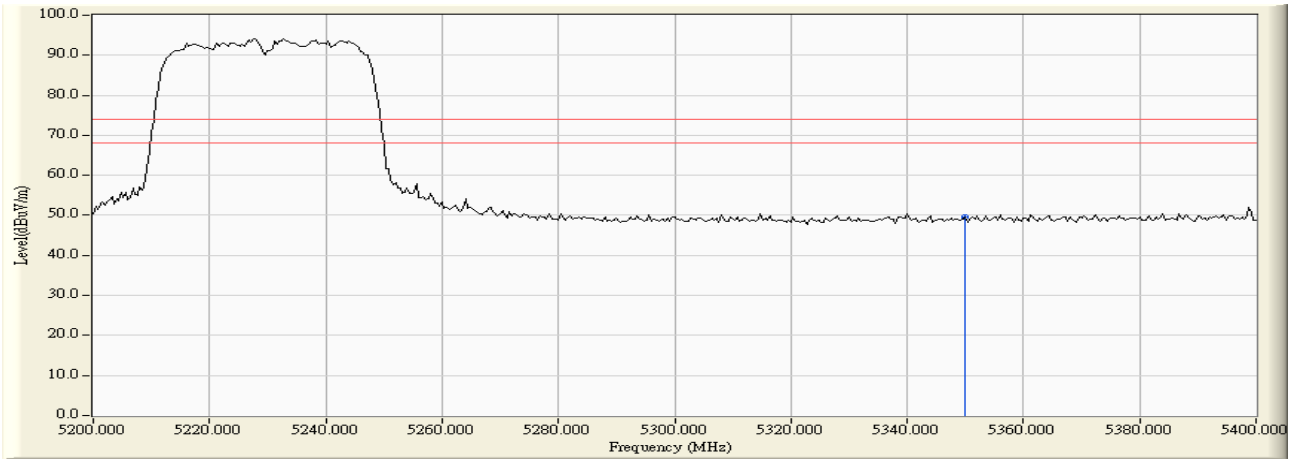
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5230MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
04 (Peak)	5350.000	4.446	45.027	49.473	74.00	54.00	Pass
04 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 04: Horizontal (Peak)



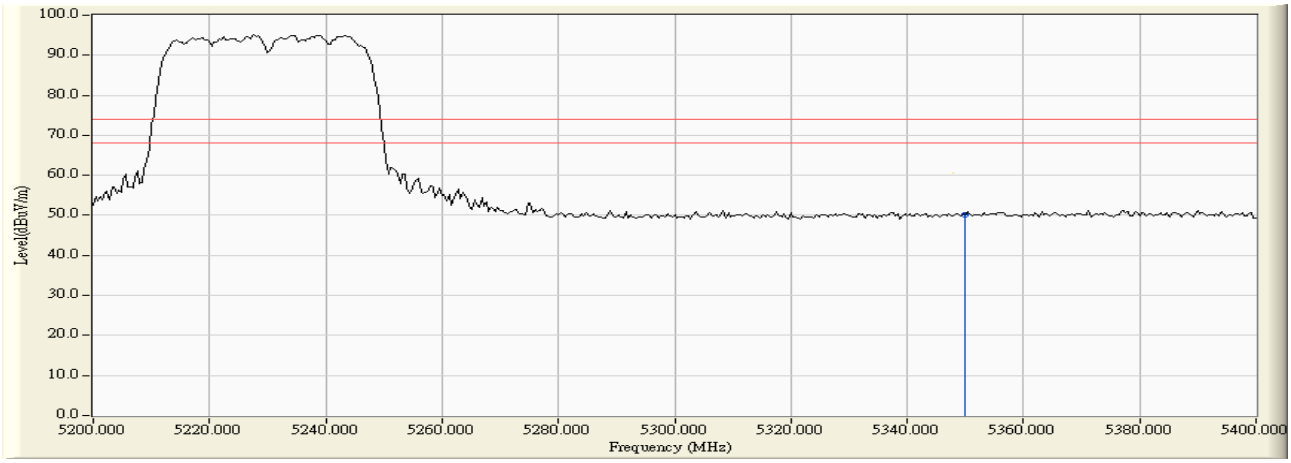
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : ROS Video DMA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band) (5230MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
04 (Peak)	5350.000	4.446	45.688	50.134	74.00	54.00	Pass
04 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 04: Vertical (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

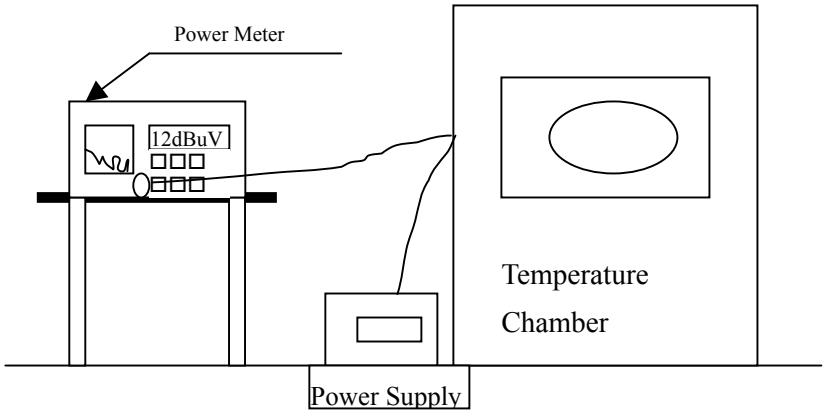
9. Frequency Stability

9.1. Test Equipment

Equipment	Manufacturer	Model No./Serial No.	Last Cal.	Remark
Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008	
Temperature Chamber	WIT GROUP	TH-1S-B / WIT-02121901	June, 2008	

Note: All equipments are calibrated every one year.

9.2. Test Setup



9.3. Limits

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified

9.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Aug 2002 DA 02-2138 for compliance to FCC 47CFR Subpart E requirements.

9.5. Uncertainty

± 150 Hz

9.6. Test Result of Frequency Stability

Product : ROS Video DMA
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Mode 1: Transmitter 802.11a

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (50) °C	Vnom (138)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (50) °C	Vnom (102)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (0) °C	Vnom (138)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (0) °C	Vnom (102)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00

Product : ROS Video DMA
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band)-Antenna A

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (50) °C	Vnom (138)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (50) °C	Vnom (102)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (0) °C	Vnom (138)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (0) °C	Vnom (102)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00

Product : ROS Video DMA
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Mode 2: Transmitter 802.11n-20BW_13.5Mbps(5G Band)-Antenna B

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (50) °C	Vnom (138)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (50) °C	Vnom (102)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (0) °C	Vnom (138)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00
Tnom (0) °C	Vnom (102)V	01	5180.00	5180.00	0.00
		03	5220.00	5220.00	0.00
		04	5240.00	5240.00	0.00

Product : ROS Video DMA
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band)-Antenna A

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	01	5190.00	5190.00	0.00
		02	5230.00	5230.00	0.00
Tnom (50) °C	Vnom (138)V	01	5190.00	5190.00	0.00
		02	5230.00	5230.00	0.00
Tnom (50) °C	Vnom (102)V	01	5190.00	5190.00	0.00
		02	5230.00	5230.00	0.00
Tnom (0) °C	Vnom (138)V	01	5190.00	5190.00	0.00
		02	5230.00	5230.00	0.00
Tnom (0) °C	Vnom (102)V	01	5190.00	5190.00	0.00
		02	5230.00	5230.00	0.00

Product : ROS Video DMA
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Mode 3: Transmitter 802.11n-40BW_27Mbps(5G Band)-Antenna B

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	01	5190.00	5190.00	0.00
		02	5230.00	5230.00	0.00
Tnom (50) °C	Vnom (138)V	01	5190.00	5190.00	0.00
		02	5230.00	5230.00	0.00
Tnom (50) °C	Vnom (102)V	01	5190.00	5190.00	0.00
		02	5230.00	5230.00	0.00
Tnom (0) °C	Vnom (138)V	01	5190.00	5190.00	0.00
		02	5230.00	5230.00	0.00
Tnom (0) °C	Vnom (102)V	01	5190.00	5190.00	0.00
		02	5230.00	5230.00	0.00

10. EMI Reduction Method During Compliance Testing

No modification was made during testing.