



## Test Report

Product Name	ROS Home Center
Model No	ROS-2000
FCC ID	BJM-ROS2000

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

Date of Receipt	Aug. 11, 2008
Issued Date	Oct. 17, 2008
Report No.	088191R-RFUSP09V01
Version	V1.0

The test results relate only to the samples tested.


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# Test Report Certification

Issued Date: Oct. 17, 2008

Report No.: 088191R-RFUSP09V01



Product Name	ROS Home Center	
Applicant	TATUNG CO.	
Address	22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C.	
Manufacturer	TATUNG CO.	
Model No.	ROS-2000	
FCC ID.	BJM-ROS2000	
Rated Voltage	AC 120V/60Hz	
Working Voltage	DC 3.3V (via: Mini-PCI slot)	
Trade Name	PRODEA	
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2007 ANSI C63.4: 2003	 <small>NVLAP Lab Code: 200533-0</small>
Test Result	Complied	

The Test Results relate only to the samples tested.

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## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	ROS Home Center
Trade Name	PRODEA
FCC ID.	BJM-ROS2000
Model No.	ROS-2000
Frequency Range	5260-5320MHz and 5500-5700MHz
Number of Channels	802.11a/n-20MHz: 15,n-40MHz: 7
Data Speed	802.11a: 54Mbps, 802.11n: 300Mbps
Channel separation	802.11a/n-20MHz: 20MHz 802.11n-40MHz: 40MHz
Type of Modulation	802.11a/n: OFDM
Antenna Type	BPSK, QPSK, 16QAM, 64QAM
Type of Modulation	DSSS/ OFDM
Antenna type	PIFA
Antenna Gain	Refer to the table "Antenna List"
Power Adapter	MFR: HIPRO, M/N: HP-O2040D43 Cable out: No-Shielded, 1.5m with one ferrite core bonded. Power Cord: Shielded, 1.8m

#### Antenna List

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

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	5260 MHz	Channel 2:	5280 MHz	Channel 3:	5300 MHz	Channel 4:	5320 MHz
Channel 5:	5500 MHz	Channel 6:	5520 MHz	Channel 7:	5540 MHz	Channel 8:	5560 MHz
Channel 9:	5580 MHz	Channel 10:	5600 MHz	Channel 11:	5620 MHz	Channel 12:	5640 MHz
Channel 13:	5660 MHz	Channel 14:	5680 MHz	Channel 15:	5700 MHz		

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	5270 MHz	Channel 2:	5310 MHz	Channel 3:	5510 MHz	Channel 4:	5550 MHz
Channel 5:	5590 MHz	Channel 6:	5630 MHz	Channel 7:	5670 MHz		

## Note:

1. This device is a ROS Home Center with a built-in 5GHz WLAN card.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test. Only worst case is shown in the report.
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 Home Center with a built-in 5GHz WLAN card. 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).

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 Home Center, compliant with IEEE 802.11b and IEEE 802.11a/g/n, is a high-efficiency Wireless LAN adapter.

This device can operation in DFS band frequency is 5260-5320MHz and 5500-5700MHz.

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)
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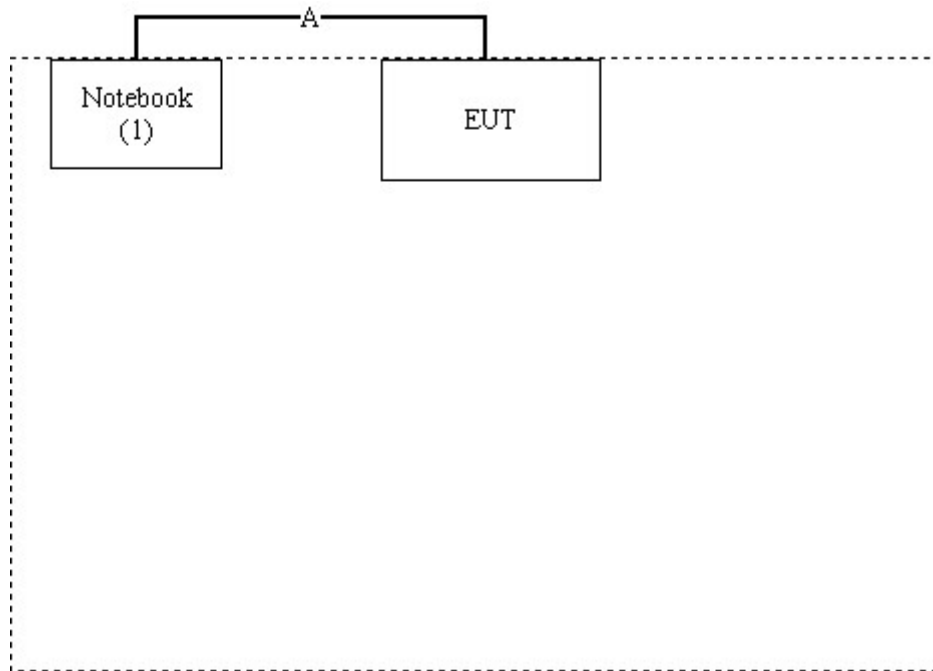
### 1.3. Tested System Details

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.	Power Cord
(1) Notebook PC	DELL	PP04X	2D2ZM1S	Non-Shielded, 0.8m

Signal Cable Type	Signal cable Description
A. LAN Cable	Non-Shielded, 3.0m

### 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



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FCC Accreditation Number: TW1014



**2. Conducted Emission**

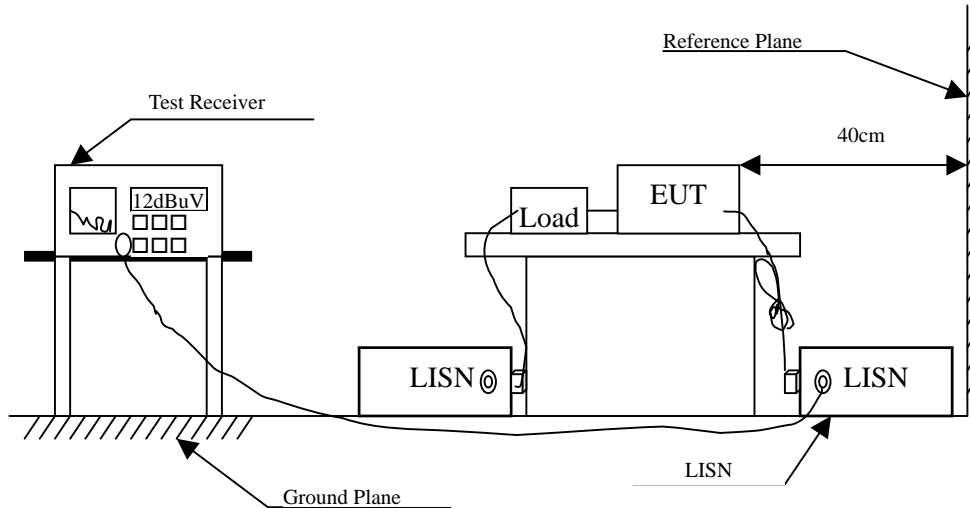
**2.1. Test Equipment**

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 investigated 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 Home Center  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 3: Transmitter 802.11n-40BW\_27Mbps(5G Band) (5310MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 1</b>					
<b>Quasi-Peak</b>					
0.158	9.810	45.120	54.930	-10.841	65.771
0.209	9.827	35.740	45.567	-18.747	64.314
0.263	9.830	32.450	42.280	-20.491	62.771
0.365	9.821	28.440	38.261	-21.596	59.857
0.525	9.820	24.140	33.960	-22.040	56.000
0.939	9.830	20.640	30.470	-25.530	56.000
<b>Average</b>					
0.158	9.810	36.540	46.350	-9.421	55.771
0.209	9.827	25.810	35.637	-18.677	54.314
0.263	9.830	26.130	35.960	-16.811	52.771
0.365	9.821	23.400	33.221	-16.636	49.857
0.525	9.820	21.920	31.740	-14.260	46.000
0.939	9.830	13.360	23.190	-22.810	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 Home Center  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 3: Transmitter 802.11n-40BW\_27Mbps(5G Band) (5310MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 2</b>					
<b>Quasi-Peak</b>					
0.158	9.871	44.650	54.521	-11.250	65.771
0.212	9.860	33.910	43.770	-20.459	64.229
0.263	9.855	31.680	41.535	-21.236	62.771
0.369	9.840	27.770	37.610	-22.133	59.743
0.423	9.840	24.900	34.740	-23.460	58.200
0.521	9.830	22.060	31.890	-24.110	56.000
<b>Average</b>					
0.158	9.871	36.190	46.061	-9.710	55.771
0.212	9.860	25.070	34.930	-19.299	54.229
0.263	9.855	25.100	34.955	-17.816	52.771
0.369	9.840	23.900	33.740	-16.003	49.743
0.423	9.840	20.810	30.650	-17.550	48.200
0.521	9.830	16.150	25.980	-20.020	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 Home Center  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 3: Transmitter 802.11n-40BW\_27Mbps(5G Band) (5590MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 1</b>					
<b>Quasi-Peak</b>					
0.154	9.810	40.790	50.600	-15.286	65.886
0.209	9.827	34.050	43.877	-20.437	64.314
0.263	9.830	31.680	41.510	-21.261	62.771
0.365	9.821	27.020	36.841	-23.016	59.857
0.474	9.820	21.800	31.620	-25.123	56.743
1.377	9.840	23.100	32.940	-23.060	56.000
<b>Average</b>					
0.154	9.810	31.060	40.870	-15.016	55.886
0.209	9.827	23.870	33.697	-20.617	54.314
0.263	9.830	25.760	35.590	-17.181	52.771
0.365	9.821	20.300	30.121	-19.736	49.857
0.474	9.820	19.010	28.830	-17.913	46.743
1.377	9.840	16.370	26.210	-19.790	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 Home Center  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 3: Transmitter 802.11n-40BW\_27Mbps(5G Band) (5590MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>LINE 2</b>					
<b>Quasi-Peak</b>					
0.158	9.871	43.680	53.551	-12.220	65.771
0.216	9.860	29.100	38.960	-25.154	64.114
0.263	9.855	30.770	40.625	-22.146	62.771
0.369	9.840	27.670	37.510	-22.233	59.743
0.423	9.840	25.200	35.040	-23.160	58.200
0.580	9.830	21.800	31.630	-24.370	56.000
<b>Average</b>					
0.158	9.871	35.300	45.171	-10.600	55.771
0.216	9.860	19.140	29.000	-25.114	54.114
0.263	9.855	24.520	34.375	-18.396	52.771
0.369	9.840	23.900	33.740	-16.003	49.743
0.423	9.840	21.430	31.270	-16.930	48.200
0.580	9.830	18.260	28.090	-17.910	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

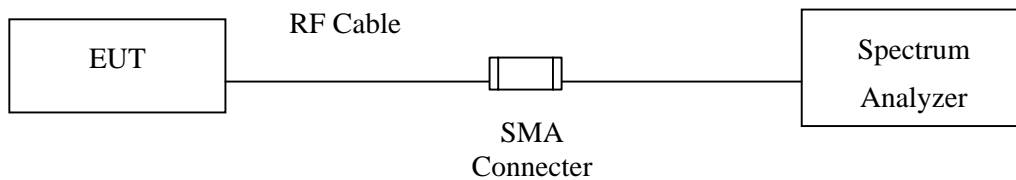
The following test equipments are used during the radiated emission tests:

	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

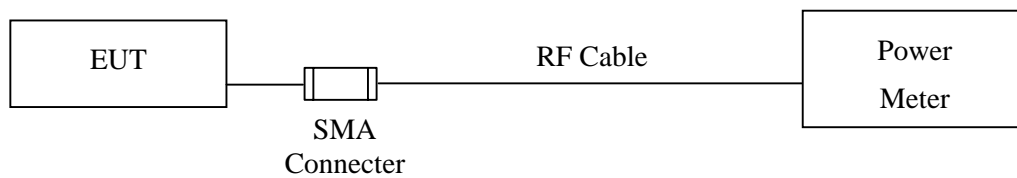
- Note:
1. All equipments are calibrated every one year.
  2. The test instruments marked by “X” are used to measure the final test results.

#### 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  $4 \text{ dBm} + 10\log B$ , 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  $11 \text{ dBm} + 10\log B$ , 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  $17 \text{ dBm} + 10\log B$ , 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

$\pm 1.27 \text{ dB}$

### 3.6. Test Result of Peak Transmit Power

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

Cable loss=1dB		Peak Power Output(dBm)								Required Limit
Channel No.	Frequency (MHz)	Data Rate(Mbps)								
		6	9	12	18	24	36	48	54	
01	5260.00	16.06	--	--	--	--	--	--	--	24dBm
03	5300.00	16.24	16.22	16.2	16.22	16.18	16.17	16.2	16.17	24dBm
04	5320.00	16.29	--	--	--	--	--	--	--	24dBm

Cable loss=1dB		Peak Power Output(dBm)								Required Limit
Channel No.	Frequency (MHz)	Data Rate(Mbps)								
		6	9	12	18	24	36	48	54	
05	5500.00	16.32	--	--	--	--	--	--	--	24dBm
10	5600.00	16.07	16.01	15.97	15.89	15.97	15.95	15.96	16.02	24dBm
15	5700.00	16.69	--	--	--	--	--	--	--	24dBm

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

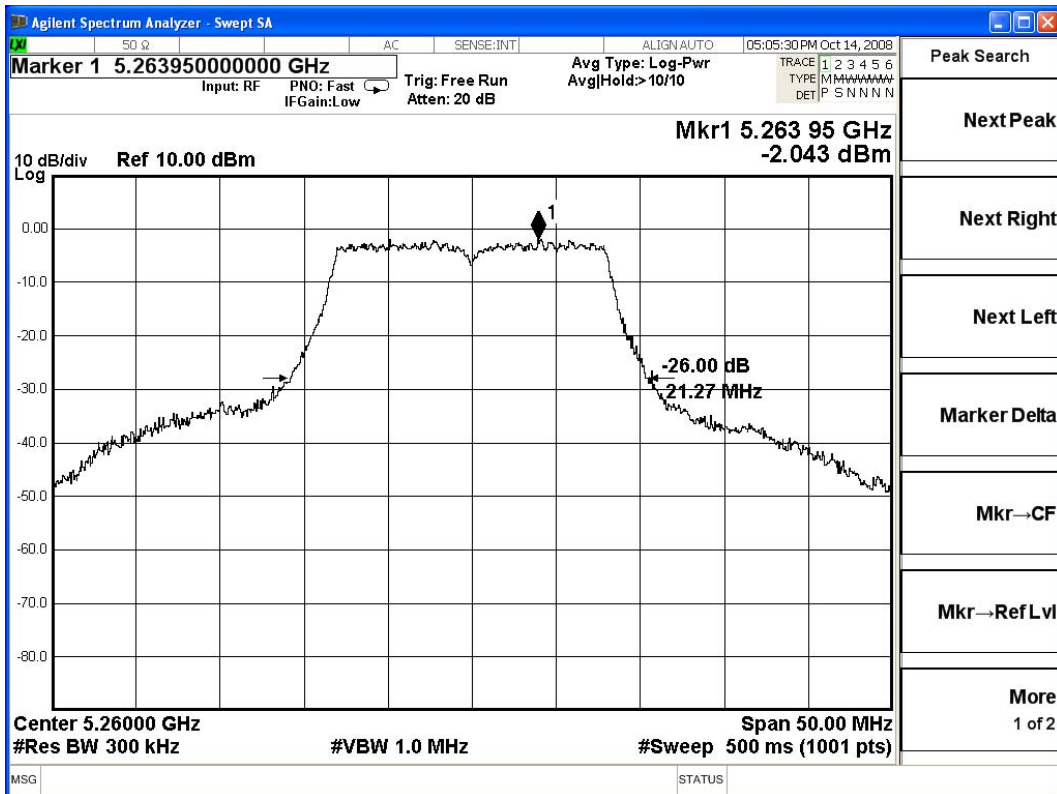
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
01	5260	21.27	16.06

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.27\text{MHz}) = 24.27\text{dBm}$	Pass

**26dBc Occupied Bandwidth:**

**Channel 01**



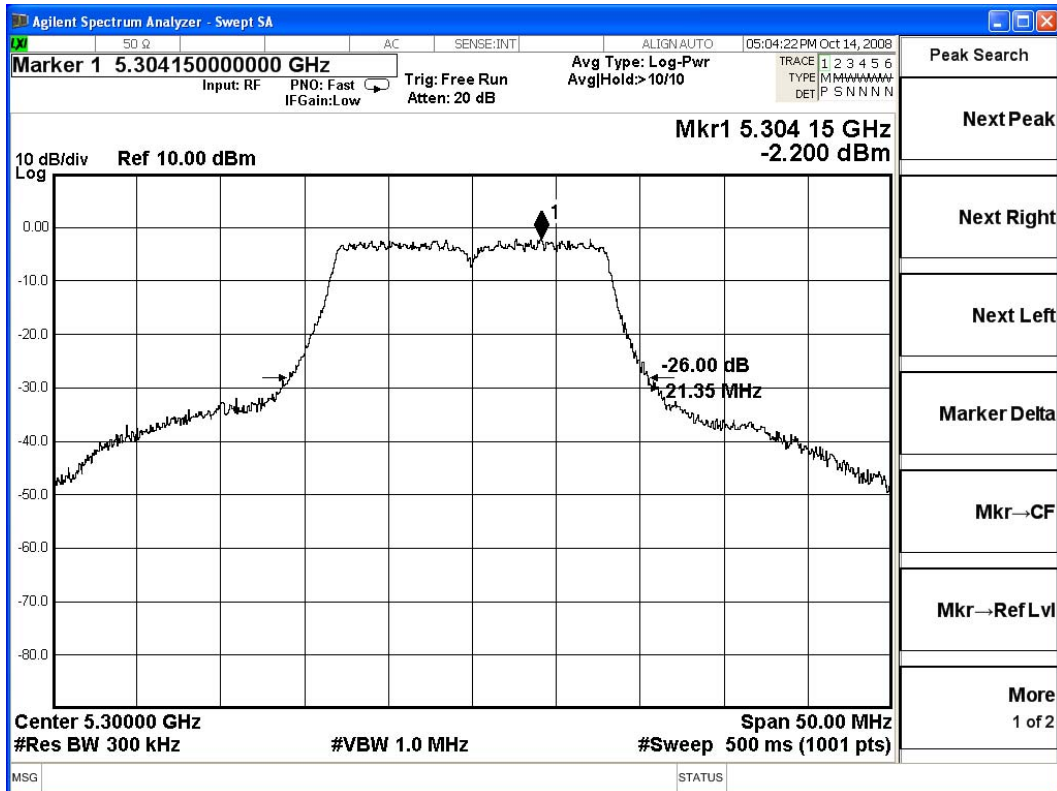
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
03	5300	21.35	16.24

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.35\text{MHz}) = 24.29\text{dBm}$	Pass

**26dBc Occupied Bandwidth:**

**Channel 03**



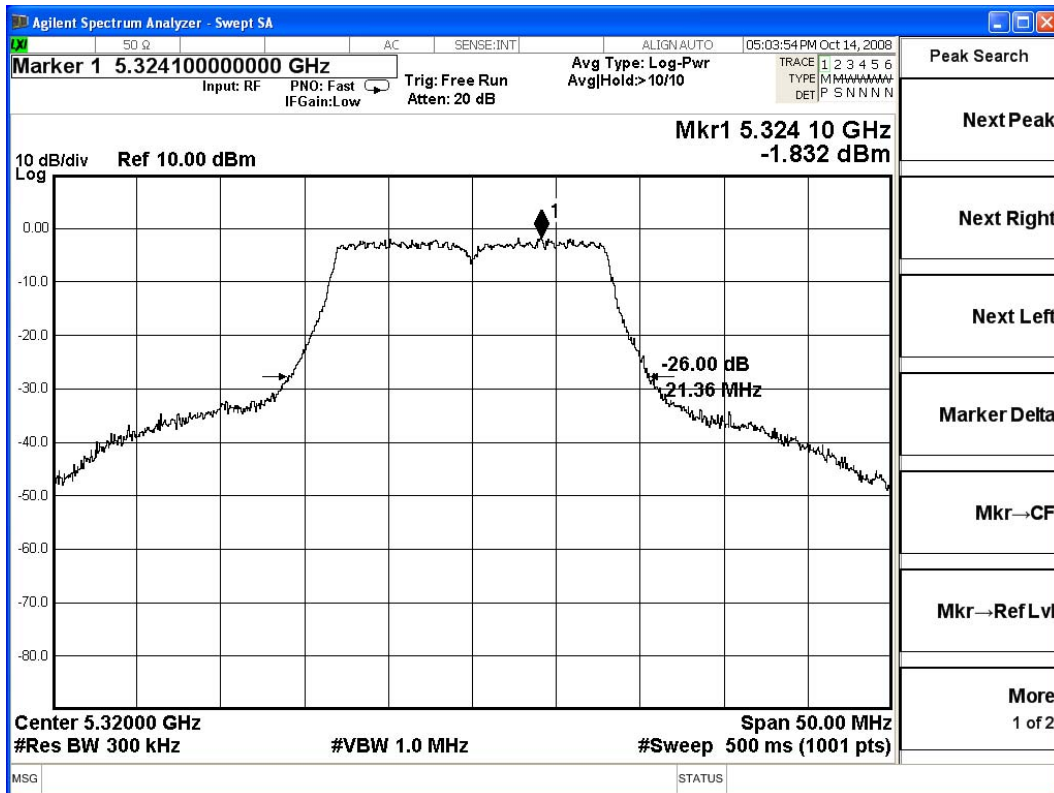
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
04	5320	21.36	16.29

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.36\text{MHz}) = 24.30\text{dBm}$	Pass

**26dBc Occupied Bandwidth:**

**Channel 04**



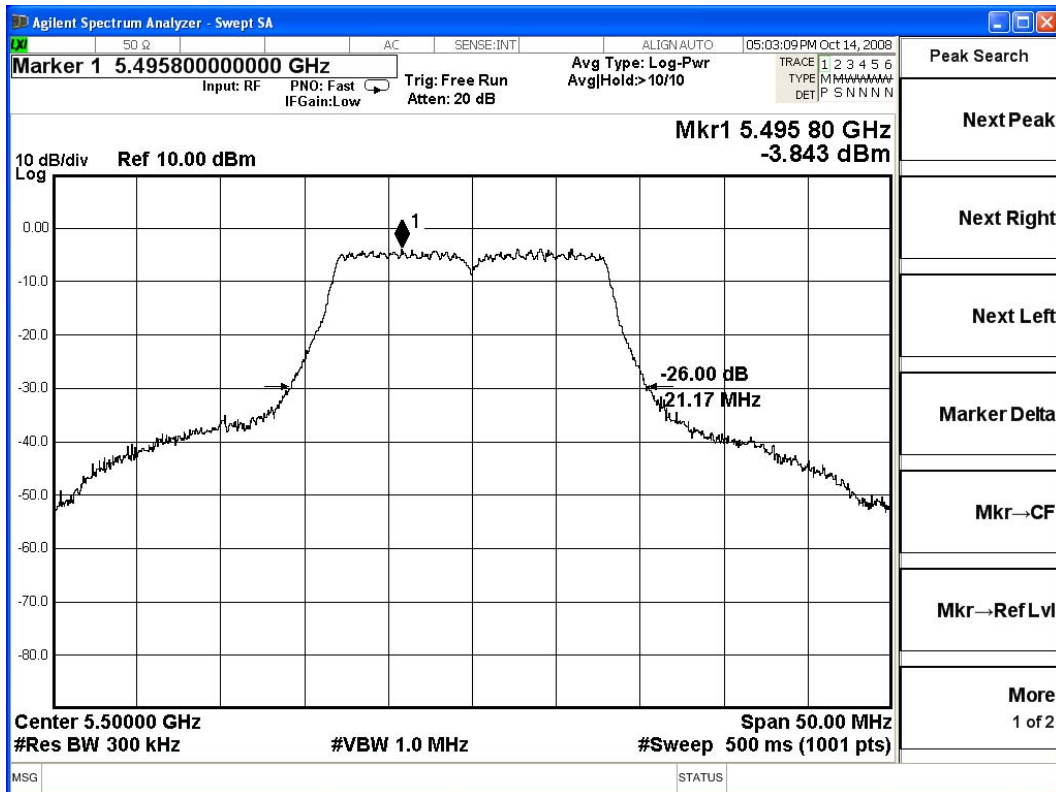
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
05	5500	21.27	16.32

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log(B = 21.27\text{MHz}) = 24.26\text{dBm}$	Pass

**26dBc Occupied Bandwidth:**

**Channel 05**



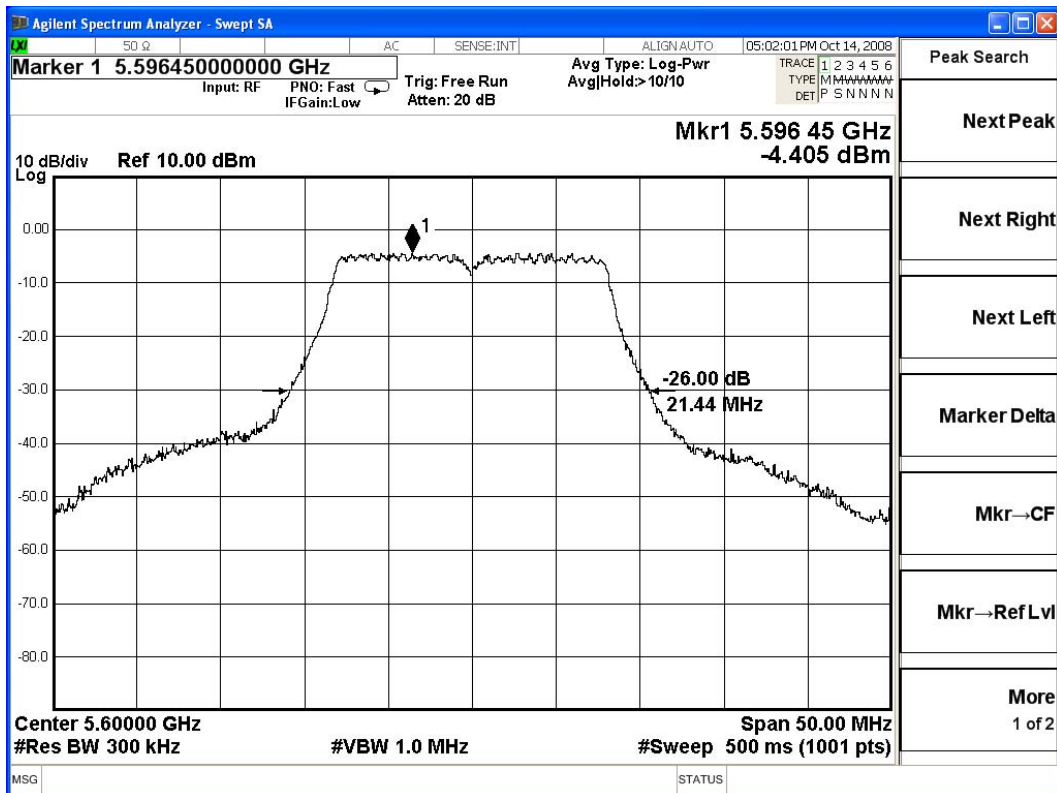
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
10	5600	21.44	16.07

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.44\text{MHz}) = 24.31\text{dBm}$	Pass

**26dBc Occupied Bandwidth:**

**Channel 10**



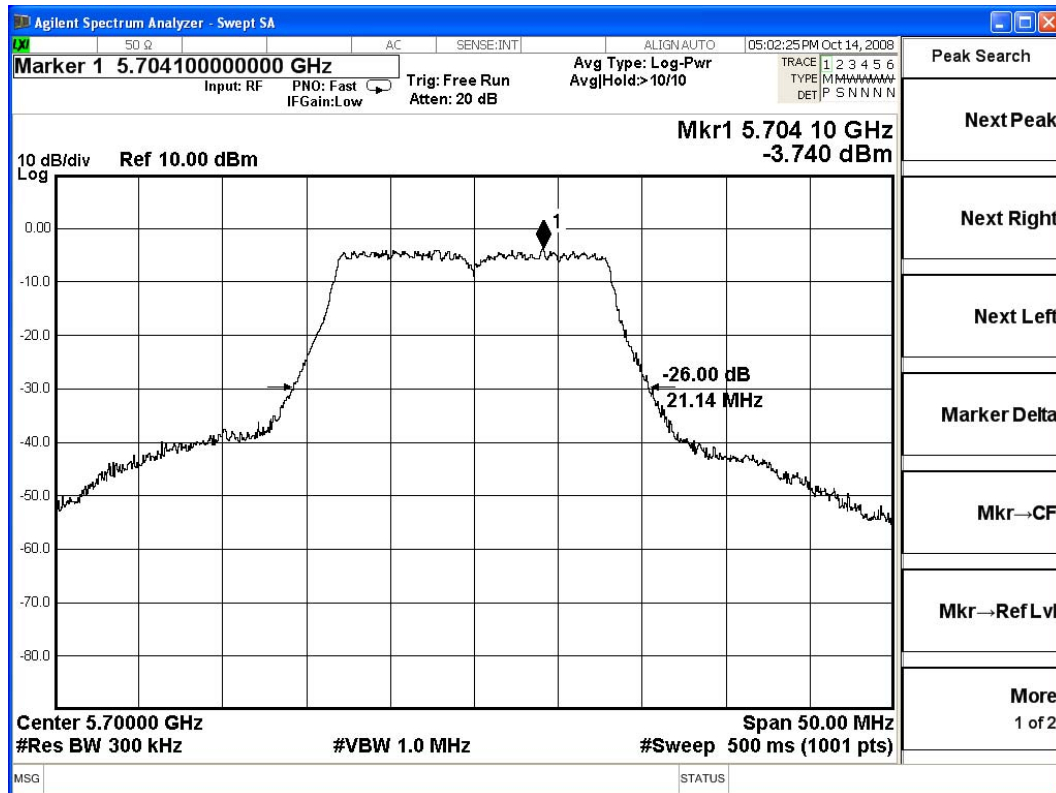
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
15	5700	21.14	16.39

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.14\text{MHz}) = 24.25\text{dBm}$	Pass

**26dBc Occupied Bandwidth:**

**Channel 15**





Product : ROS Home Center  
 Test Item : Peak Transmit Power  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter 802.11n-20BW\_13.5Mbps(5G Band)

## Ant A

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		13	26	39	52	78	104	117	130	
01	5260.00	13.12	--	--	--	--	--	--	--	--
03	5300.00	13.03	13	13	12.97	13	12.87	12.9	12.97	--
04	5320.00	13.14	--	--	--	--	--	--	--	--

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

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		13	26	39	52	78	104	117	130	
05	5500.00	13.16	--	--	--	--	--	--	--	--
10	5600.00	13.04	13	13.01	12.97	12.97	12.87	12.91	12.96	--
15	5700.00	13.08	--	--	--	--	--	--	--	--

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

## Ant B

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		13	26	39	52	78	104	117	130	
01	5260.00	13.14	--	--	--	--	--	--	--	--
03	5300.00	13.09	13.05	13.02	12.98	12.99	13.04	13	12.9	--
04	5320.00	13.16	--	--	--	--	--	--	--	--

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

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		13	26	39	52	78	104	117	130	
05	5500.00	13.18	--	--	--	--	--	--	--	--
10	5600.00	13.07	13.02	13	12.94	12.94	13	13.04	13.05	--
15	5700.00	13.11	--	--	--	--	--	--	--	--

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

## Ant A+B

Peak Power Output										
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		13	26	39	52	78	104	117	130	
01	5260.00	16.14	--	--	--	--	--	--	--	24dBm
03	5300.00	16.07	16.04	16.02	15.99	16.01	15.97	15.96	15.95	24dBm
04	5320.00	16.16	--	--	--	--	--	--	--	24dBm

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

Peak Power Output										
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		13	26	39	52	78	104	117	130	
05	5500.00	16.18	--	--	--	--	--	--	--	24dBm
10	5600.00	16.07	16.02	16.02	15.97	15.97	15.95	15.99	16.02	24dBm
15	5700.00	16.11	--	--	--	--	--	--	--	24dBm

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

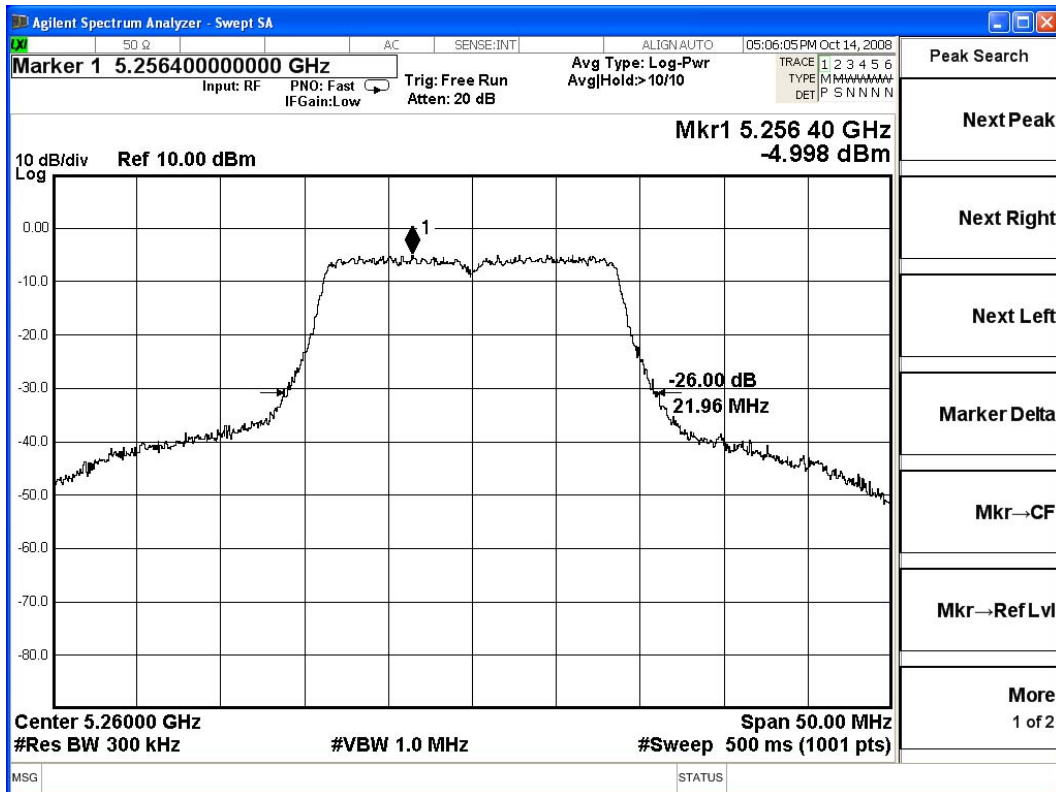
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
01	5260	21.96	13.12

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log(B = 21.96\text{MHz}) = 24.42\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 01**



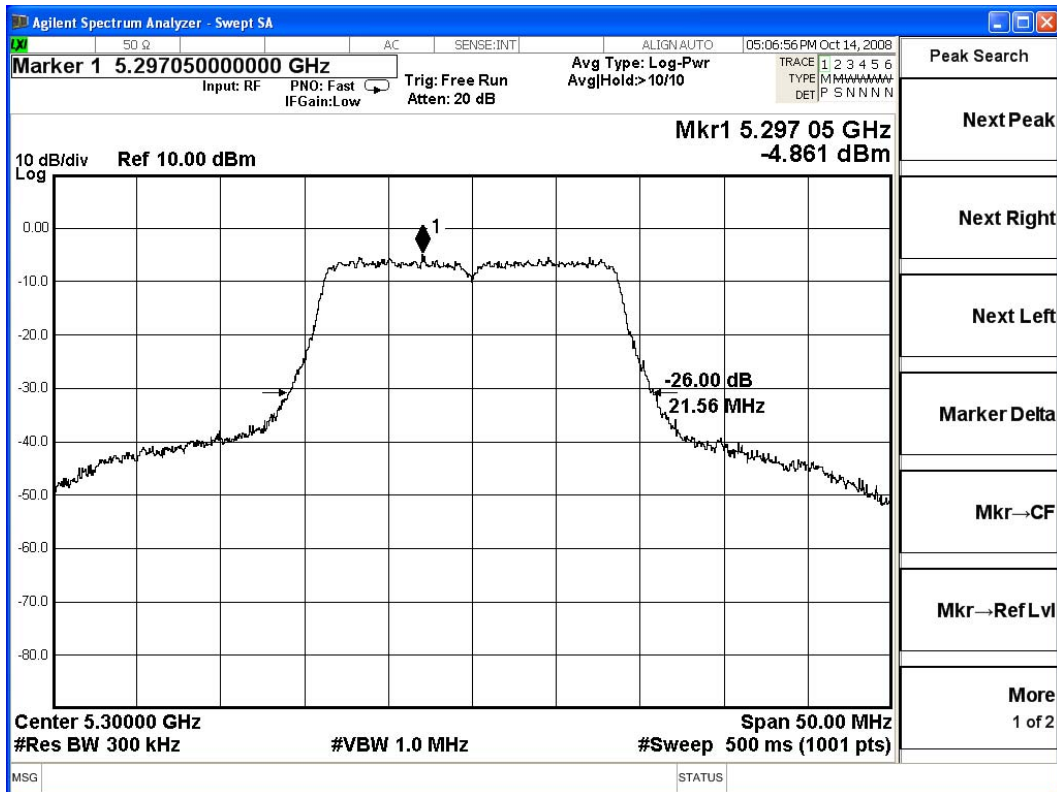
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
03	5300	21.56	13.03

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.56\text{MHz}) = 24.34\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 03**



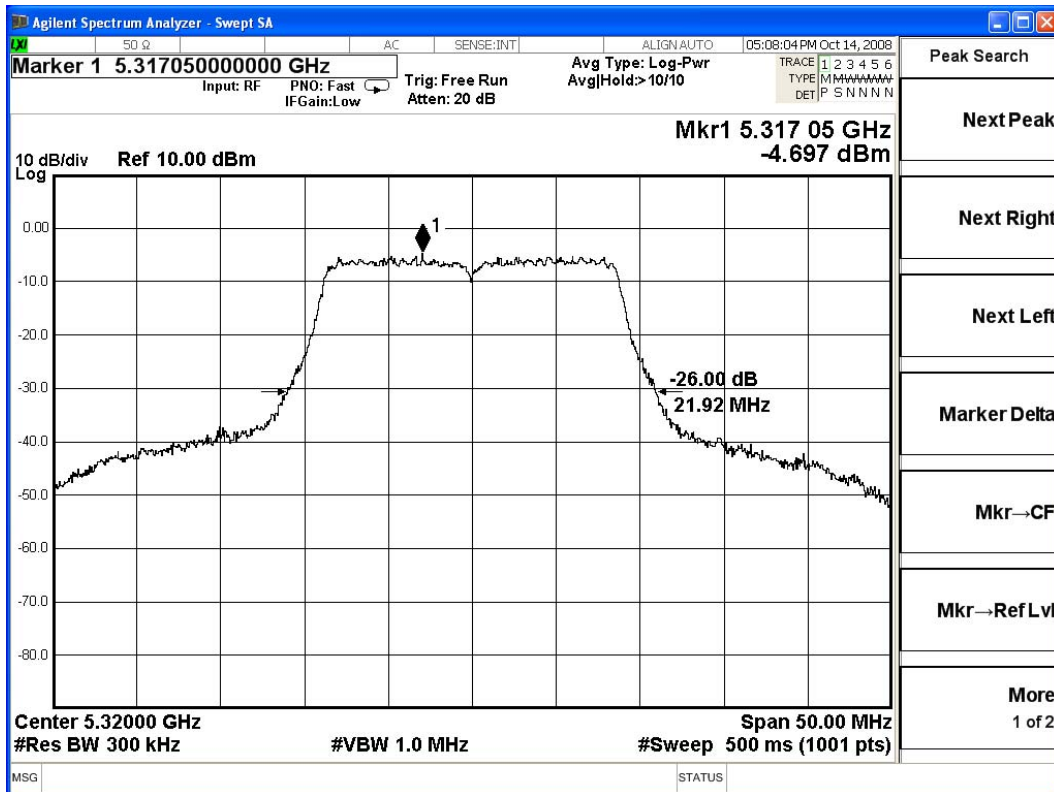
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
04	5320	21.92	13.14

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.92\text{MHz}) = 24.41\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 04**



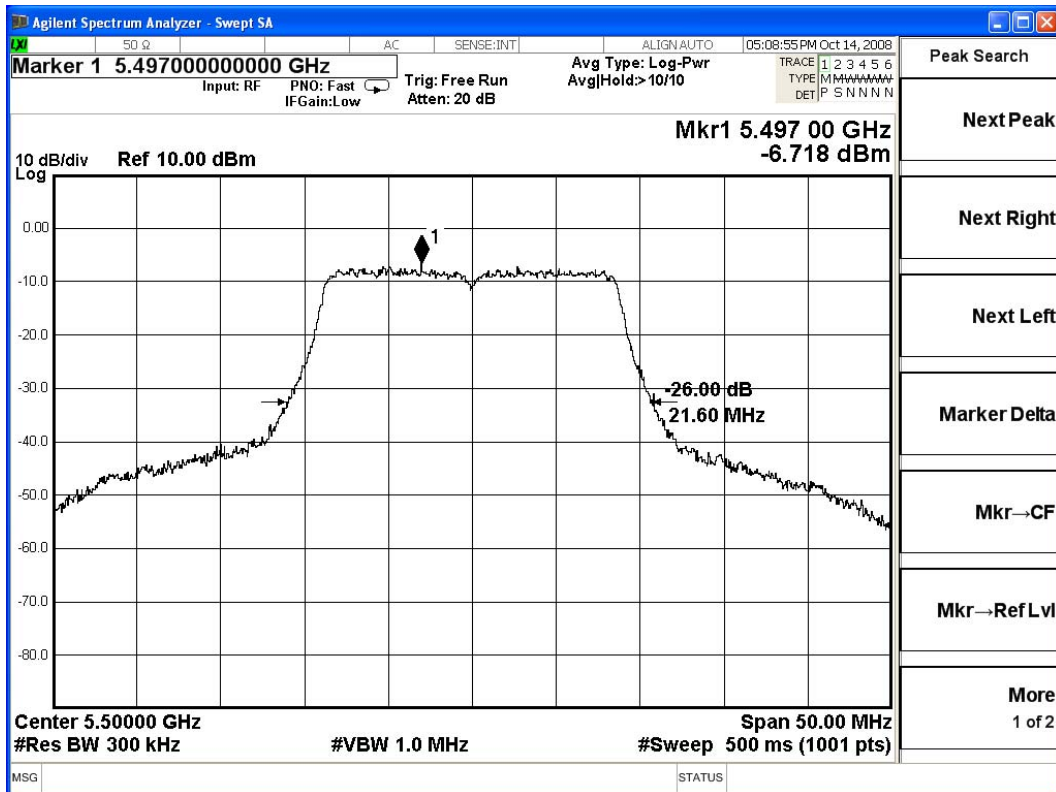
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
05	5500	21.60	13.16

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.60\text{MHz}) = 24.34\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 05**



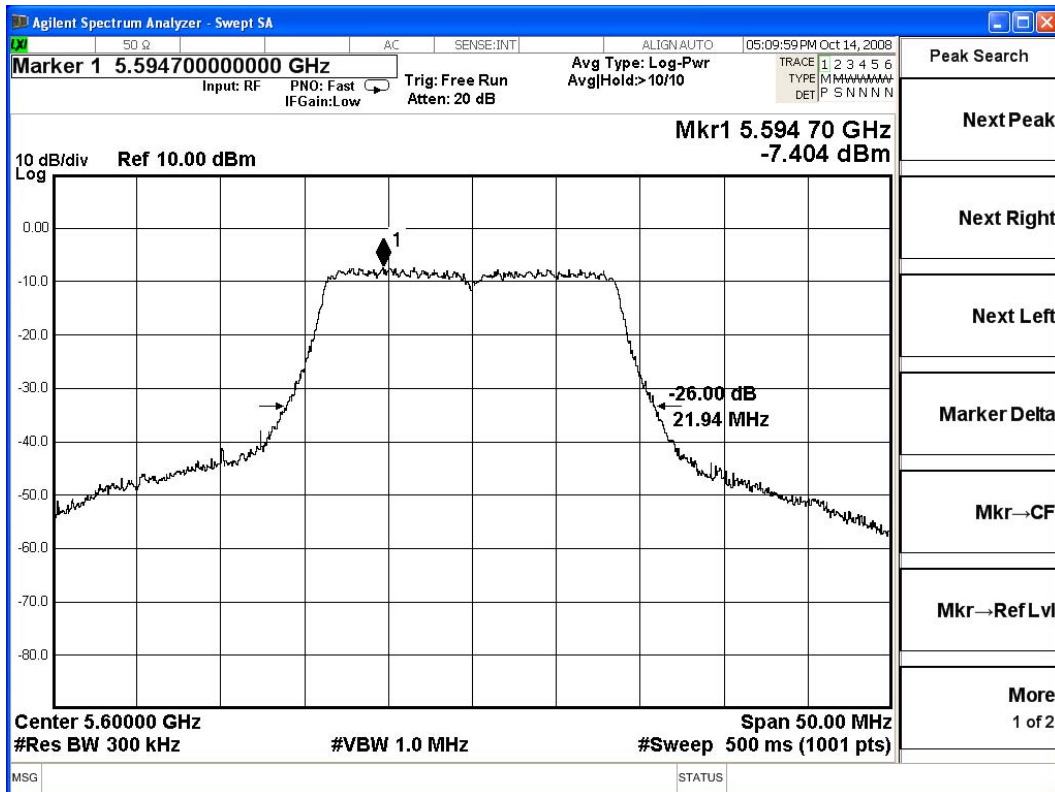
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
10	5600	21.94	13.04

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.94\text{MHz}) = 24.41\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 10**



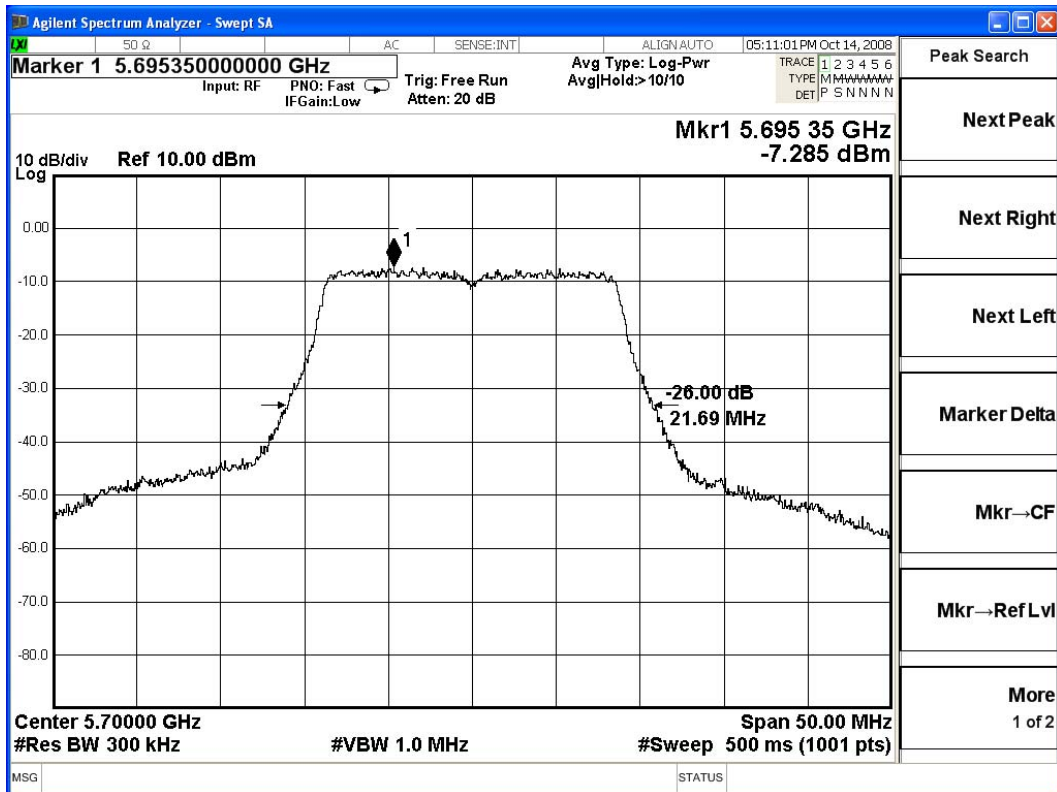
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
15	5700	21.69	13.08

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.69\text{MHz}) = 24.36\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 15**





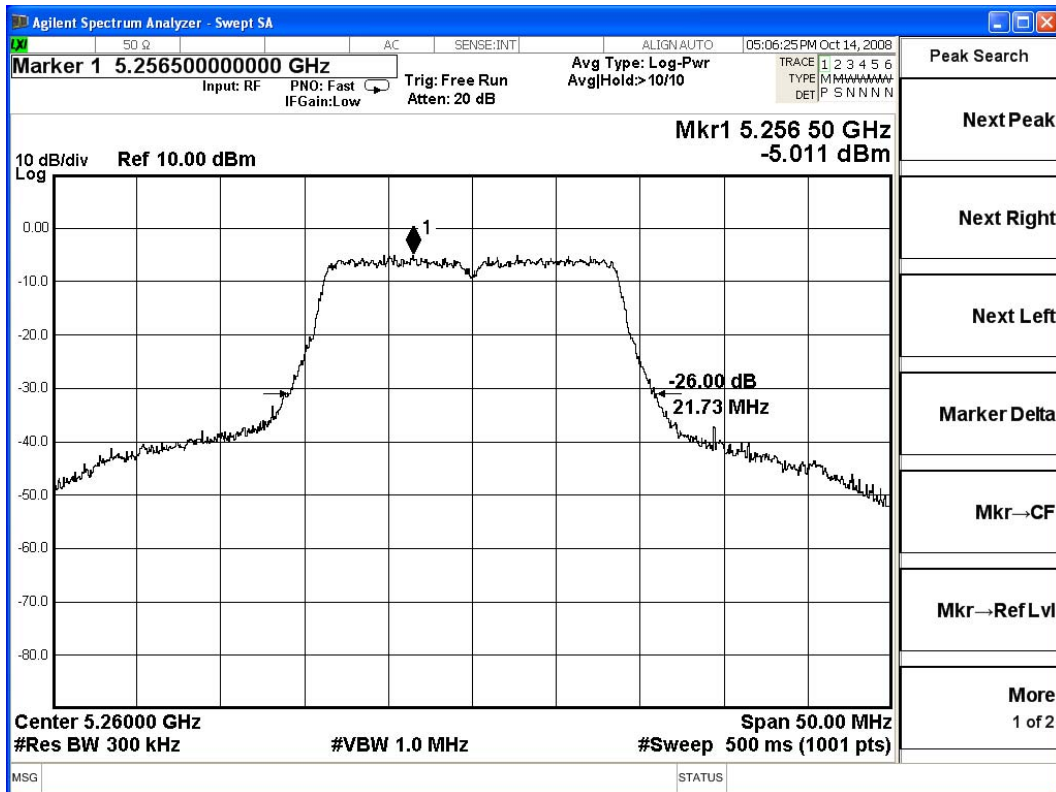
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
01	5260	21.73	13.14

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log(B = 21.73\text{MHz}) = 24.37\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 01**



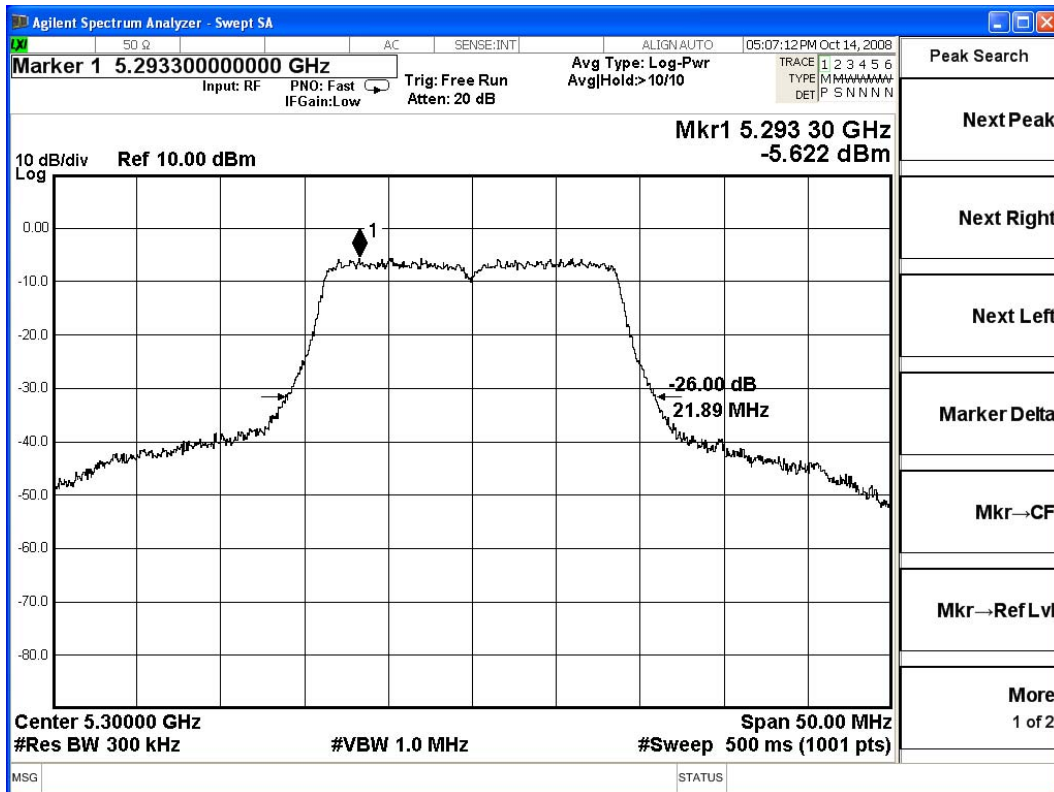
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
03	5300	21.89	13.09

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.89\text{MHz}) = 24.40\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 03**



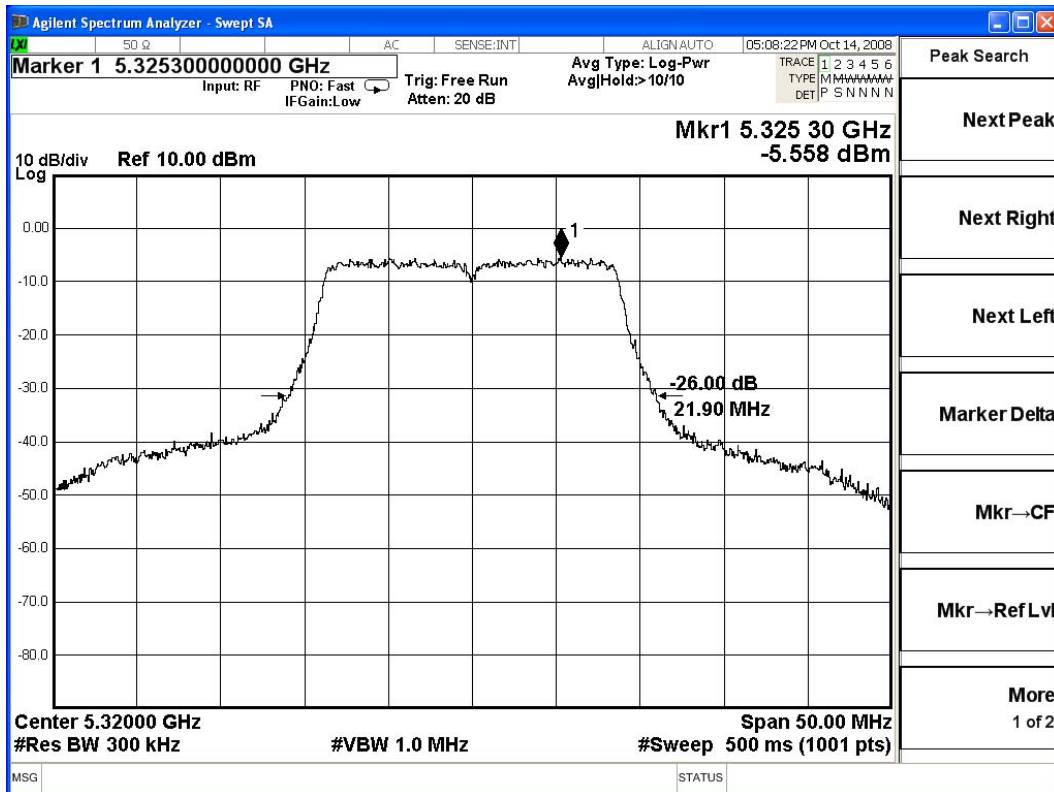
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
04	5320	21.90	13.16

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.90\text{MHz}) = 24.40\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 04**



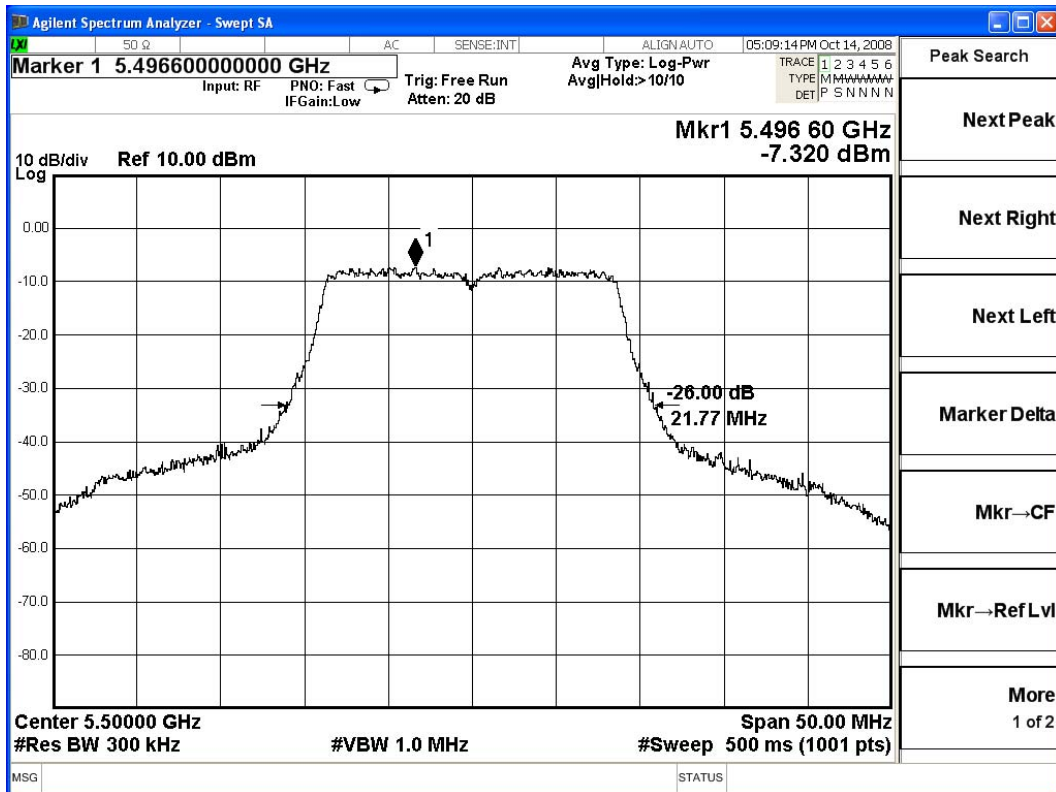
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
05	5500	21.77	13.18

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.77\text{MHz}) = 24.38\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 05**



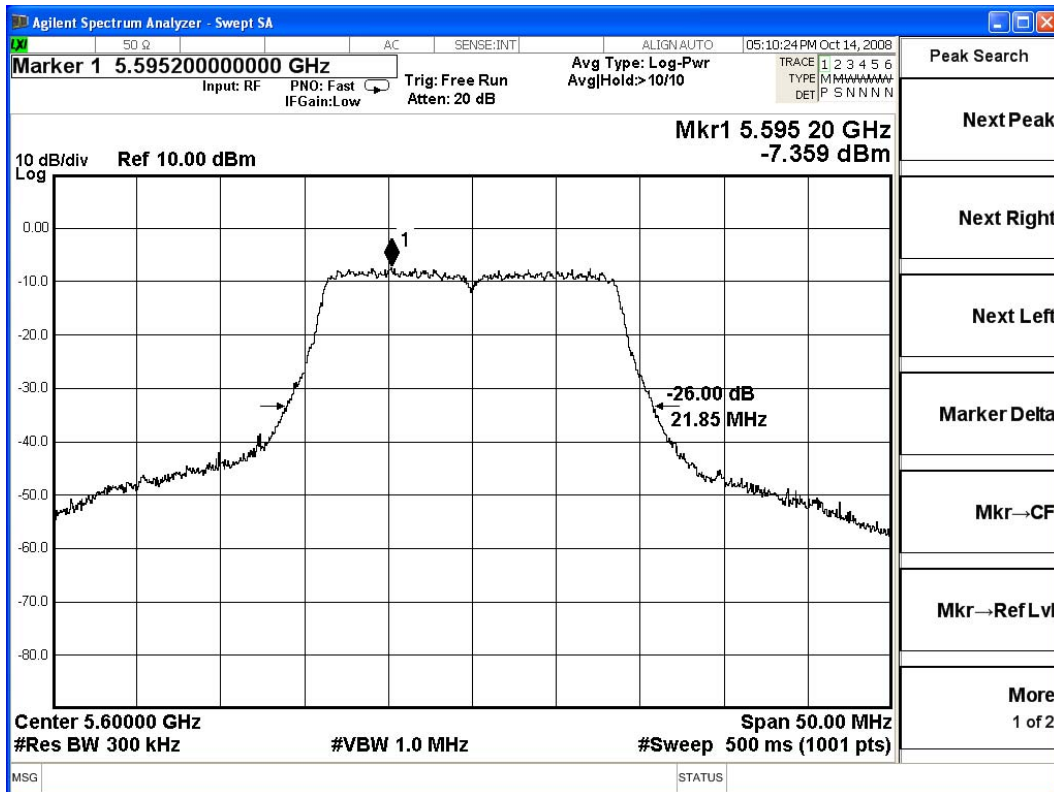
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
10	5600	21.85	13.07

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.85\text{MHz}) = 24.39\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 10**



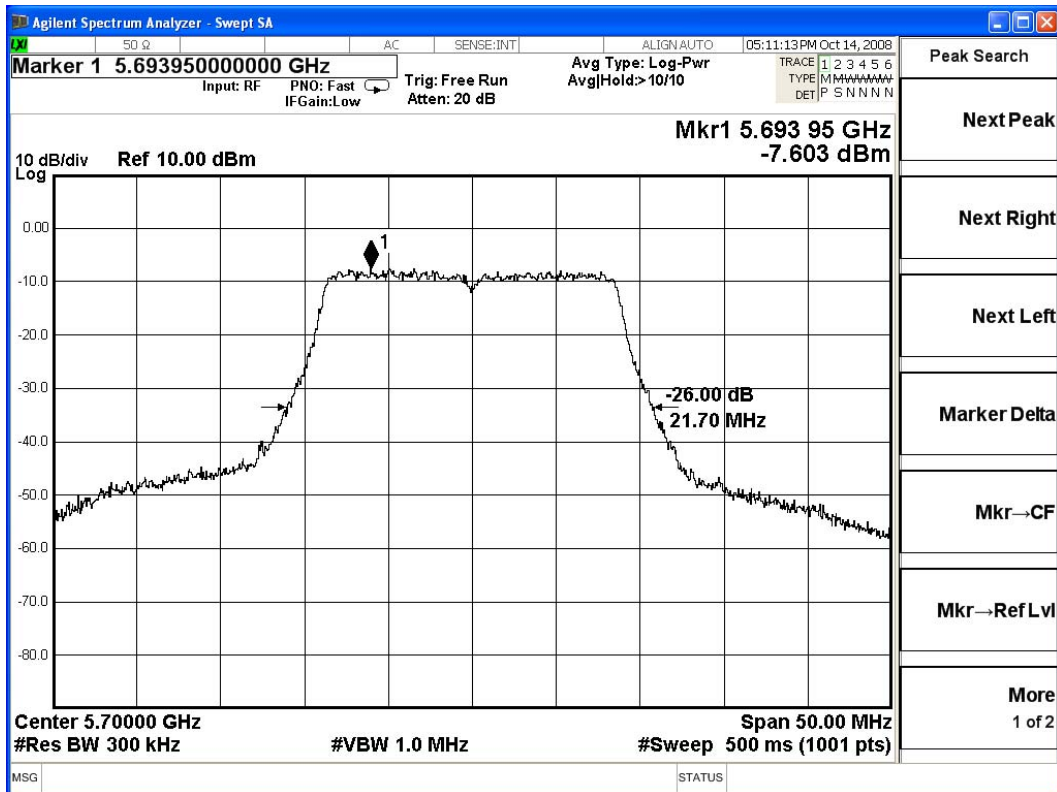
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
15	5700	21.70	13.11

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 21.70\text{MHz}) = 24.36\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 15**



Product : ROS Home Center  
 Test Item : Peak Transmit Power  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter 802.11n-40BW\_27Mbps(5G Band)

## Ant A

Cable loss=1dB		Peak Power Output								Required Limit
Channel No.	Frequency (MHz)	Data Rate(Mbps)								
		27	54	81	108	162	216	243	270	
01	5270.00	13.14	--	--	--	--	--	--	--	--
02	5310.00	13.16	13.15	13.11	13.1	13.15	13.12	13	13.08	--

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

Cable loss=1dB		Peak Power Output								Required Limit
Channel No.	Frequency (MHz)	Data Rate(Mbps)								
		27	54	81	108	162	216	243	270	
03	5510.00	13.11	--	--	--	--	--	--	--	--
05	5590.00	13.05	13.02	13	12.96	12.95	13.02	12.97	13.02	--
07	5670.00	13.13	--	--	--	--	--	--	--	--

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

## Ant B

Cable loss=1dB		Peak Power Output								Required Limit
Channel No.	Frequency (MHz)	Data Rate(Mbps)								
		27	54	81	108	162	216	243	270	
01	5270.00	13.17	--	--	--	--	--	--	--	--
02	5310.00	13.21	13.18	13.15	13.14	13.17	13.18	13.1	13.12	--

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

Cable loss=1dB		Peak Power Output								Required Limit
Channel No.	Frequency (MHz)	Data Rate(Mbps)								
		27	54	81	108	162	216	243	270	
03	5510.00	13.14	--	--	--	--	--	--	--	--
05	5590.00	13.09	13.05	13	12.94	13	13.05	13	13.02	--
07	5670.00	13.19	--	--	--	--	--	--	--	--

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

## Ant A+B

Peak Power Output										
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		27	54	81	108	162	216	243	270	
01	5270.00	16.17	--	--	--	--	--	--	--	24dBm
02	5310.00	16.20	16.18	16.14	16.13	16.17	16.16	16.06	16.11	24dBm

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

Peak Power Output										
Channel No.	Frequency (MHz)	Data Rate(Mbps)								Required Limit
		27	54	81	108	162	216	243	270	
03	5510.00	16.14	--	--	--	--	--	--	--	24dBm
05	5590.00	16.08	16.05	16.01	15.96	15.99	16.05	16.00	16.03	24dBm
07	5670.00	16.17	--	--	--	--	--	--	--	24dBm

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



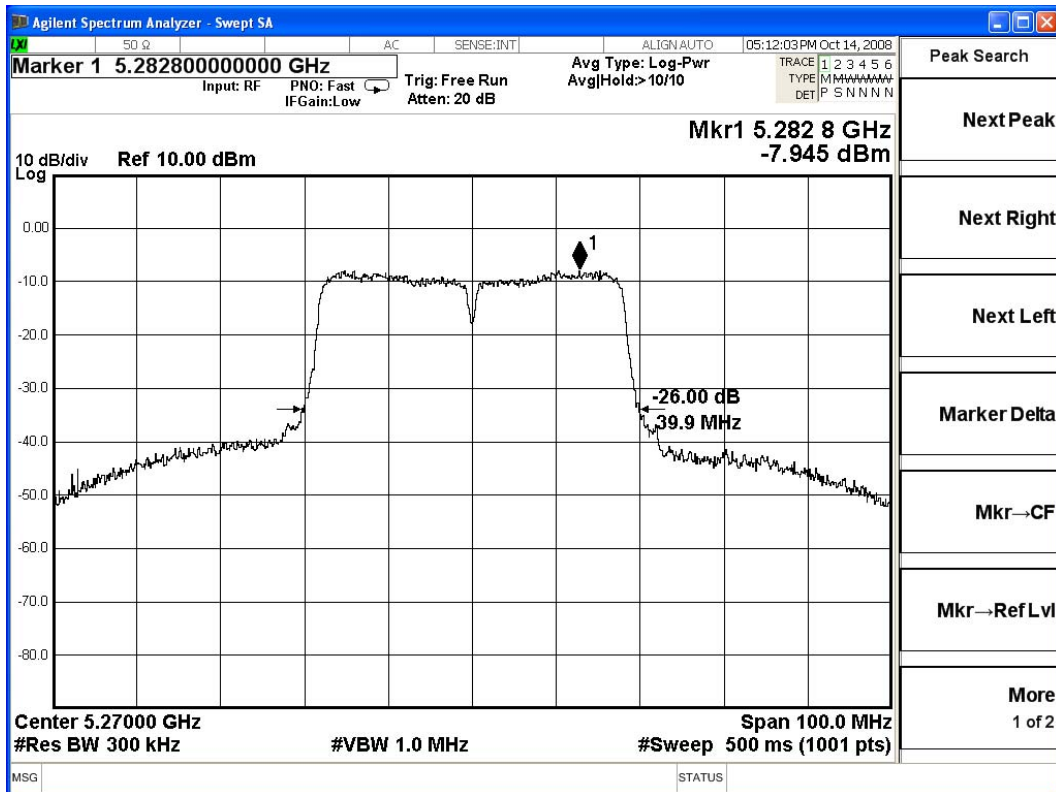
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
01	5270	39.90	13.14

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 39.90\text{MHz}) = 27.01\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 01**



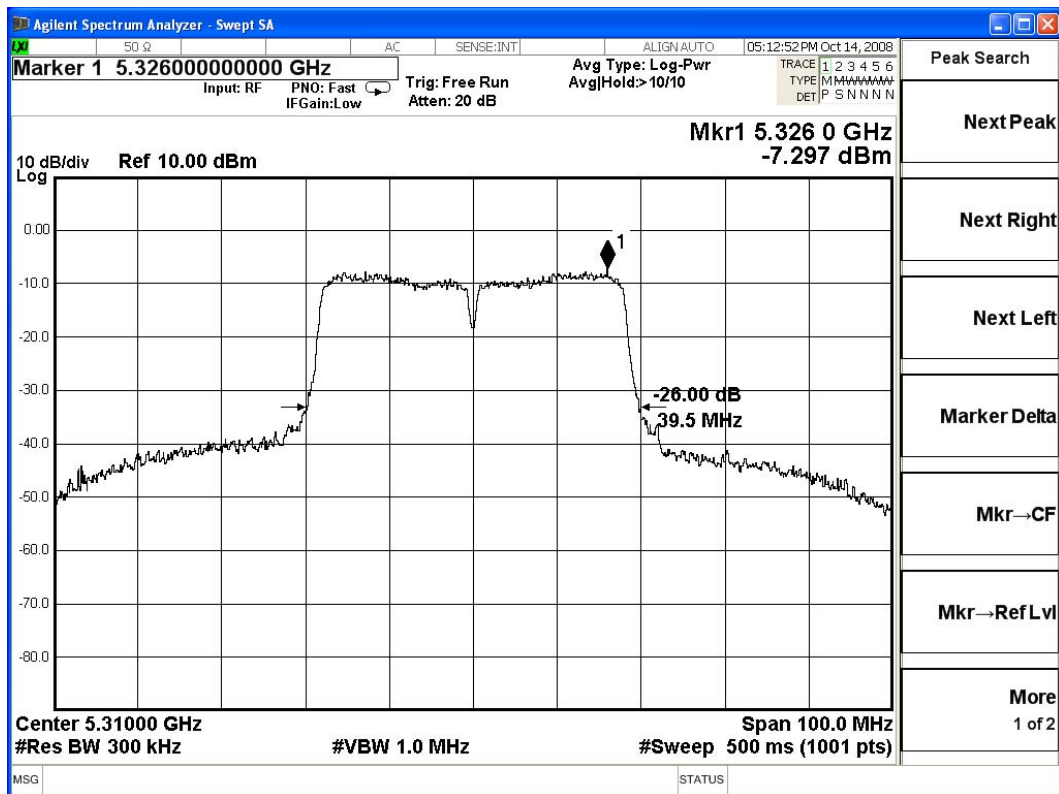
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
02	5310	39.50	13.16

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 39.50\text{MHz}) = 26.97\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 02**



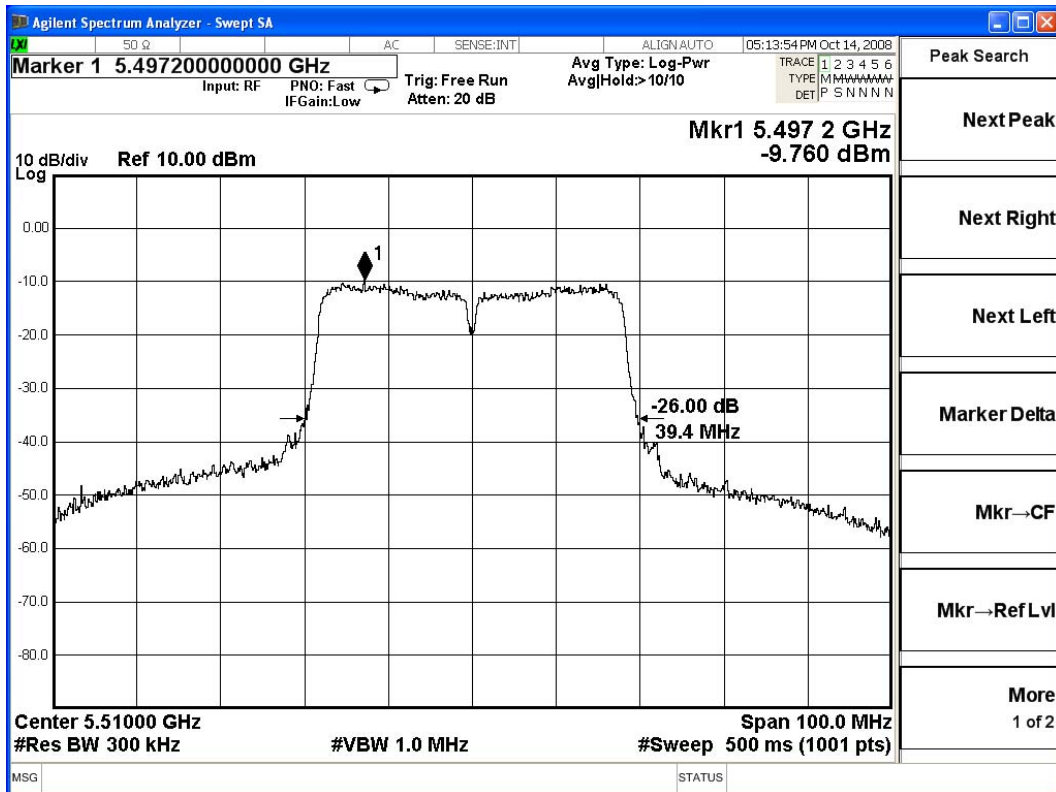
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
03	5510	39.40	13.11

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log(B = 39.40\text{MHz}) = 26.95\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 03**



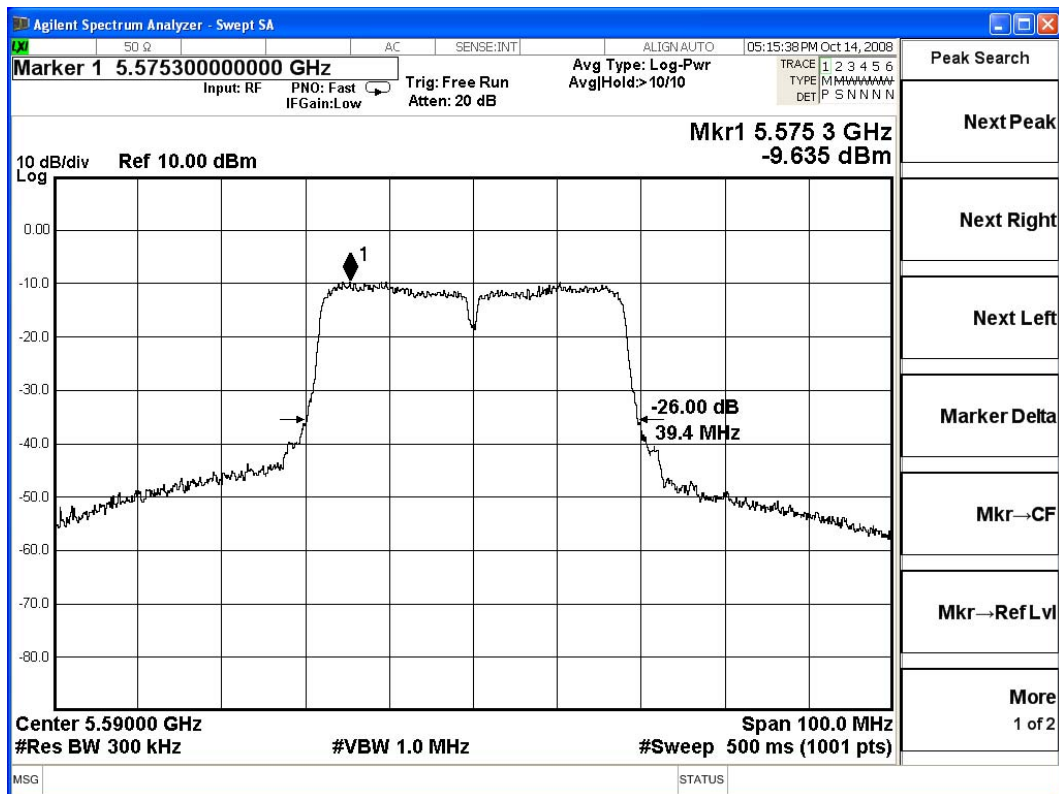
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
05	5590	39.40	13.05

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 39.40\text{MHz}) = 26.95\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 05**



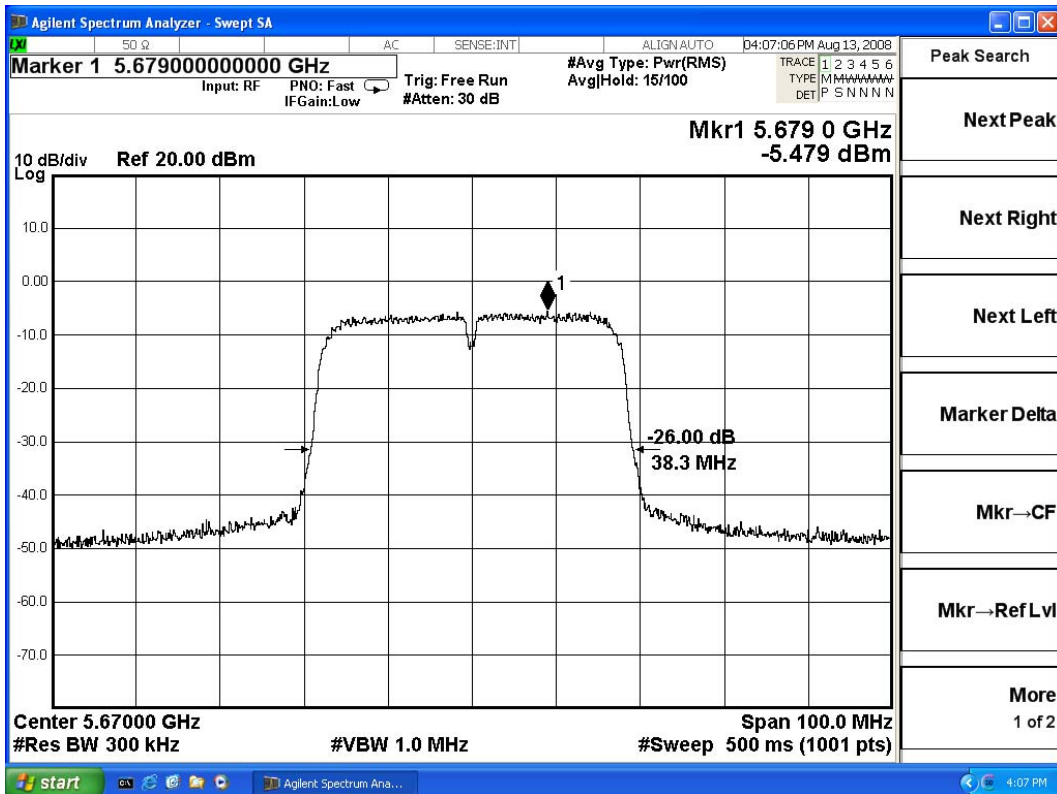
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
07	5670	39.30	13.13

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 39.30\text{MHz}) = 26.94\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna A:**

**Channel 07**



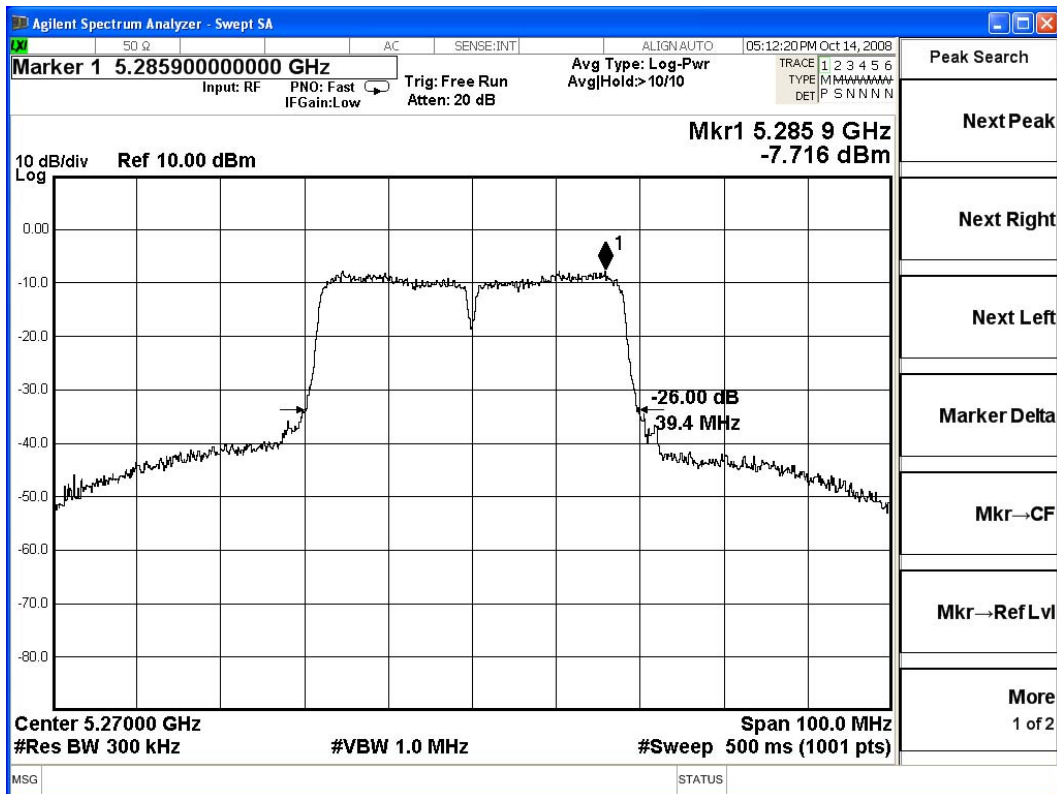
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
01	5270	39.40	13.17

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 39.40\text{MHz}) = 26.95\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 01**



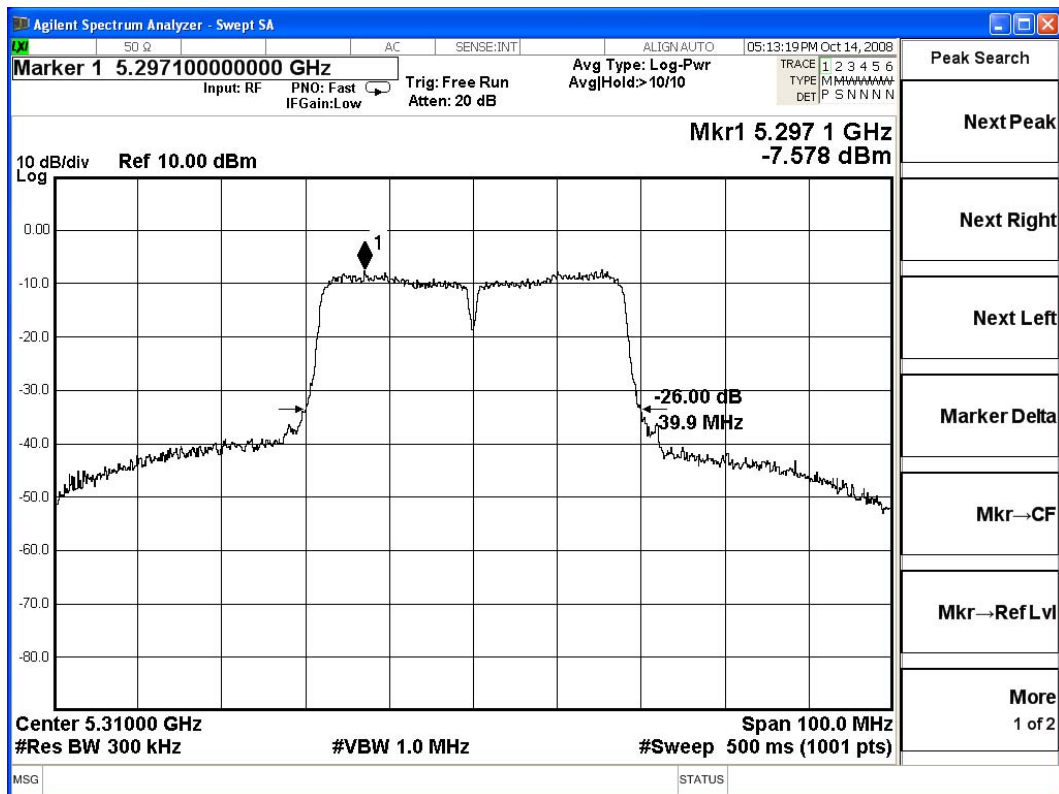
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
02	5310	39.90	13.21

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 39.90\text{MHz}) = 27.01\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 02**



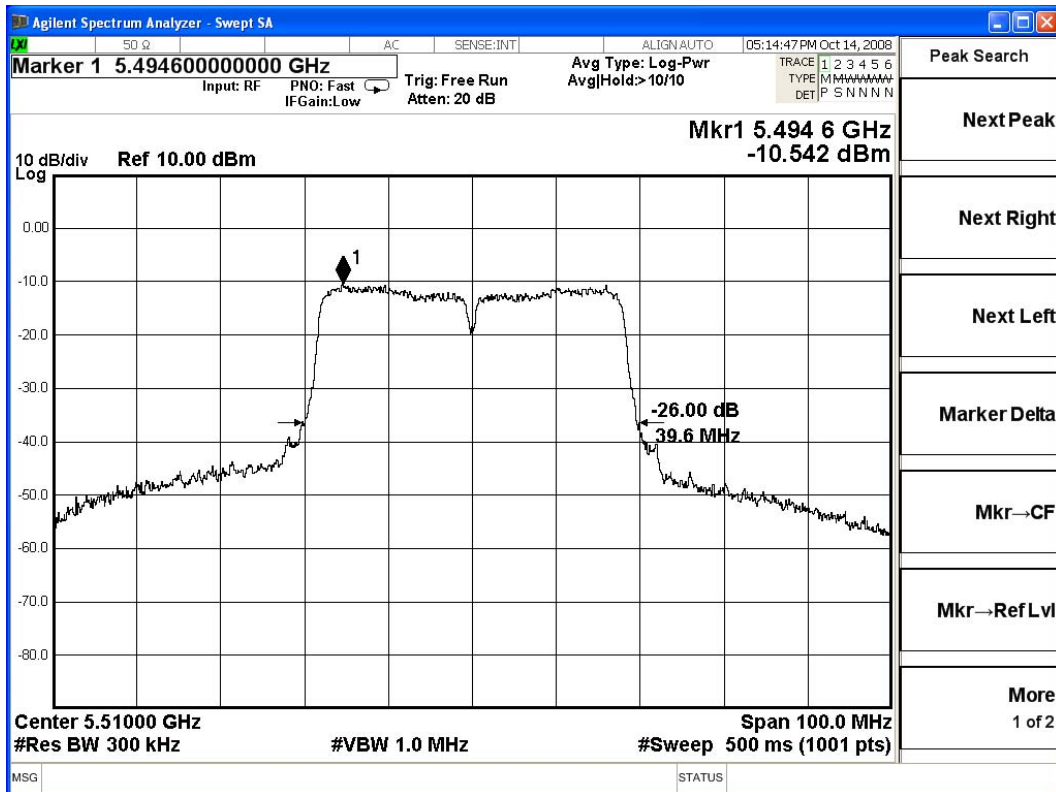
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
03	5510	39.60	13.14

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 39.60\text{MHz}) = 26.98\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 03**





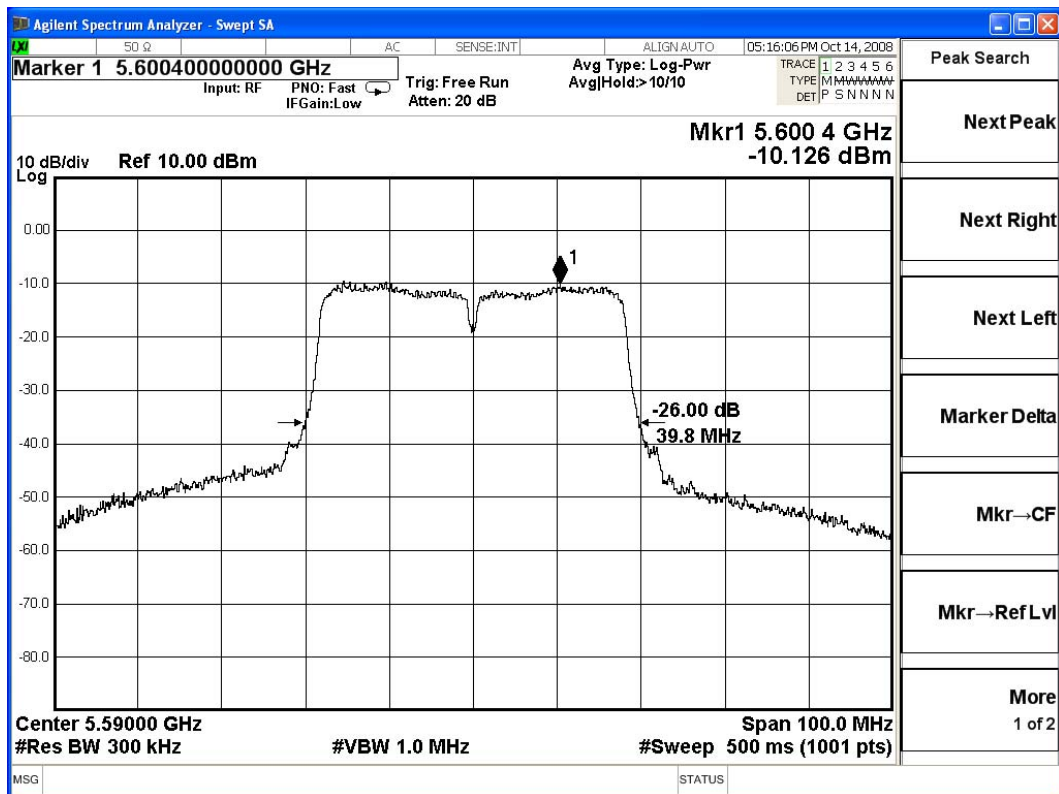
**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
05	5590	39.80	13.09

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 39.80\text{MHz}) = 27.00\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 05**



**Peak Transmit Power Measurement:**

Channel No.	Frequency (MHz)	26dBc Occupied Bandwidth (MHz)	Measurement Level (dBm)
07	5670	39.30	13.19

Limits (dBm)	Result
250mW (24dBm) or $11\text{dBm} + 10 \log (B = 39.30\text{MHz}) = 26.94\text{dBm}$	Pass

**26dBc Occupied Bandwidth-Antenna B:**

**Channel 07**

