FCC PART 15.407
TEST AND MEASUREMENT REPORT

For

Ubiquiti Networks, Inc.

2580 Orchard Parkway,

San Jose, CA 95131, USA

FCC ID: SWX-R5MU

Report Type:	Product Type:
Original Report	Outdoor Fixed Wireless Access

Prepared By:	Ronak Patel Test Engineer
Report Number:	R1506114-407 W58
Report Date:	2015-08-11
Reviewed By:	Bo Li RF Lead

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R1506114-407 W58	Original Report	2015-08-11

1 General Description

1.1 Product Description for Equipment under Test (EUT)

This test and measurement report has been compiled on behalf of *Ubiquiti Networks, Inc.*. And their product, *FCC ID: SWX-R5MU,* model number: *R5MU*, which henceforth is referred to as the EUT (Equipment Under Test.) The EUT is an Outdoor fixed wireless access point.

1.2 Mechanical Description of EUT

The EUT measures approximately 162mm (L) x 84mm (W) x 36mm (H), weight is 0.5 lb.

The data gathered are from a typical production sample provided by the manufacturer with serial number: R1506114-01, assigned by BACL.

1.3 Objective

This report is prepared on behalf of *Ubiquiti Networks, Inc.* in accordance with FCC CFR47 §15.407.

The objective is to determine compliance with FCC Part 15.407 for Output Power, Antenna Requirements, AC Line Conducted Emissions, Bandwidth, and power spectral density, Band Edges Measurement, Spurious Emissions, Conducted and Radiated Spurious Emissions.

1.4 Related Submittal(s)/Grant(s)

N/A

1.5 Test Methodology

All measurements contained in this report were conducted in accordance with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

1.6 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR16-4-2:2011, The Treatment of Uncertainty in EMC Measurements, the values ranging from $\pm$2.0 dB for Conducted Emissions tests and $\pm$4.0 dB for Radiated Emissions tests are the most accurate estimates pertaining to uncertainty of EMC measurements at BACL Corp.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratory, Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

1.7 Test Facility

Bay area compliance Laboratories Corp. (BACL) is:
1- An independent Commercial Test Laboratory accredited to **ISO 17025: 2005** by **A2LA**, in the fields of: Electromagnetic Compatibility & Telecommunications covering Emissions, Immunity, Radio, RF Exposure, Safety and Telecom. This includes NEBS (Network Equipment Building System), Wireless RF, Telecommunications Terminal Equipment (TTE); Network Equipment; Information Technology Equipment (ITE); Medical Electrical Equipment; Industrial, Commercial, and Medical Test Equipment; Professional Audio and Video Equipment; Electronic (Digital) Products; Industrial and Scientific Instruments; Cabled Distribution Systems and Energy Efficiency Lighting.

2- An ENERGY STAR Recognized Laboratory, for the LM80 Testing, a wide variety of Luminares and Computers.

3- A NIST Designated Phase-I and Phase-II CAB including: ACMA (Australian Communication and Media Authority), BSMI (Bureau of Standards, Metrology and Inspection of Taiwan), IDA (Infocomm Development Authority of Singapore), IC(Industry Canada), Korea (Ministry of Communications Radio Research Laboratory), NCC (Formerly DGT; Directorate General of Telecommunication of Chinese Taipei) OFTA (Office of the Telecommunications Authority of Hong Kong), Vietnam, VCCI - Voluntary Control Council for Interference of Japan and a designated EU CAB (Conformity Assessment Body) (Notified Body) for the EMC and R&TTE Directives.

4- A Product Certification Body accredited to **ISO Guide 65: 1996** by **A2LA** to certify:
.
2. Radio Standards Specifications (RSS) in the Category I Equipment Standards List and All Broadcasting Technical Standards (BETS) in Category I Equipment Standards List for Industry Canada.
3. Radio Communication Equipment for Singapore.
4. Radio Equipment Specifications, GMDSS Marine Radio Equipment Specifications, and Fixed Network Equipment Specifications for Hong Kong.
5. Japan MIC Telecommunication Business Law (A1, A2) and Radio Law (B1, B2 and B3).
6. Audio/Video, Battery Charging Systems, Computers, Displays, Enterprise Servers, Imaging Equipment, Set-Top Boxes, Telephony, Televisions, Ceiling Fans, CFLs (Including GU24s),Decorative Light Strings, Integral LED Lamps, Luminaires, Residential Ventilating Fans.

The test site used by BACL Corp. to collect radiated and conducted emissions measurement data is located at its facility in Sunnyvale, California, USA.

The test site at BACL Corp. has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997, and Article 8 of the VCCI regulations on December 25, 1997. The test site also complies with the test methods and procedures set forth in CISPR 22:2008 §10.4 for measurements below 1 GHz and §10.6 for measurements above 1 GHz as well as ANSI C63.4-2014, ANSI C63.4-2014, TIA/EIA-603 & CISPR 24:2010.

The Federal Communications Commission and Voluntary Control Council for Interference have the reports on file and they are listed under FCC registration number: 90464 and VCCI Registration No.: A-0027. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL Corp. is an American Association for Laboratory Accreditation (A2LA) accredited laboratory (Lab Code 3297-02). The current scope of accreditations can be found at

http://www.a2la.org/scopepdf/3297-02.pdf?CFID=1132286&CFTOKEN=e42a3240dac3f6ba-6DE17DCB-1851-9E57-477422F667031258&jsessionid=8430d44f1f47cf2996124343c704b367816b

2 EUT Test Configuration

2.1 Justification

The EUT was configured for testing according to ANSI C63.4-2014 and KDB-789033 D02 General UNII Test Procedures New Rules v01

The EUT was tested in a testing mode to represent worst-case results during the final qualification test.

The worst-case data rates are determined to be as follows for each mode based upon investigation by measuring the average power, peak power and PPSD across all data rates bandwidths, and modulations.

The Channel list for different bandwidth listed below

Channel Bandwidth (MHz)	Low CH (MHz)	Middle CH (MHz)	High CH (MHz)
10	5735	5785	5840
20	5740	5785	5835
30	5745	5785	5830
40	5750	5785	5825

The power setting used for this unit was listed below

Power Setting	Covered Antenna
1	Omni, Sector
2	Dish

2.2 EUT Exercise Software

The test software used was ART, it was been verified by Bo Li.

2.3 Special Equipment

N/A

2.4 Equipment Modifications

No modifications were made to the EUT.

2.5 Local Support Equipment

Manufacturer	Description	Model No.	Serial No.
DELL	Laptop	Latitude E6530	-

2.6 EUT Internal Configuration Details

Manufacturer	Description	Model
Ubiquiti Networks	PCB	Rocket5

2.7 Interface Ports and Cables

Cable Description	Length (m)	To	From
RF Cable	< 1 m	PSA	EUT
Ethernet cable	> 1 m	POE	Laptop
Ethernet cable	> 1 m	POE	EUT

2.8 Power Supply List and Details

Manufacturer	Description	Model	Serial Number
Ubiquiti Networks	POE	GP-A240-050G	1441-002419

3 Summary of Test Results

FCC Rules	Description of Test	Result
§15.407(f), §2.1091	RF Exposure	Compliant
§15.203	Antenna Requirement	Compliant
§15.207	AC Power Line Conducted Emissions	Compliant
§15.209(a), 15.407(b)	Spurious Radiated Emissions	Compliant
§15.407(a)	Emission Bandwidth	Compliant
§15.407(a)	Peak Output Power Measurement	Compliant
§15.407(a)	Power Spectral Density	Compliant
§2.1051, §15.407(b)	Spurious Emissions at Antenna Terminals	Compliant
§15.407(h)	Dynamic Frequency Selection (DFS)	N/A

4 FCC §2.1091 & §15.407(f) - RF Exposure

4.1 Applicable Standard

According to FCC §15.407(f) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	* (100)	30
1.34-30	824/f	2.19/f	* ($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

4.2 MPE Prediction

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S = power density
P = power input to antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

4.3 MPE Results

Power Setting 1 – Omni Antenna, Sector Antenna

Maximum peak output power at antenna input terminal (dBm):	22.17
Maximum peak output power at antenna input terminal (mW):	164.82
Prediction distance (cm):	20
Prediction frequency (MHz):	5785
Maximum Antenna Gain, typical (dBi):	13.8
Maximum Antenna Gain (numeric):	23.99
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.787
MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	1.0

The device is compliant with the requirement MPE limit for uncontrolled exposure. The maximum power density at the distance of 20 cm is 0.787 mW/cm^2. Limit is 1.0 mW/cm^2.

Power Setting 2 - Dish Antenna

Maximum peak output power at antenna input terminal (dBm):	5.55
Maximum peak output power at antenna input terminal (mW):	3.585
Prediction distance (cm):	20
Prediction frequency (MHz):	5735
Maximum Antenna Gain, typical (dBi):	29.5
Maximum Antenna Gain (numeric):	891.25
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.636
MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	1.0

The device is compliant with the requirement MPE limit for uncontrolled exposure. The maximum power density at the distance of 20 cm is 0.636 mW/cm^2. Limit is 1.0 mW/cm^2.

5 FCC §15.203 – Antenna Requirements

5.1 Applicable Standard

According to FCC §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

5.2 Antenna Description

Antenna Type	Maximum Antenna Gain (dBi) in 5 GHz Bands	Antenna Gain (dBi) @ 5.8 GHz Band
Dish	31	29.5
Sector	16	13.8
Omni-directional	13	13

Note: For those three antennas, the manufacture will use two power setting to cover all three antennas. One power setting for dish antenna, one power setting for sector and omnidirectional.

6 FCC §15.207 - AC Power Line Conducted Emissions

6.1 Applicable Standards

As per FCC §15.207 Conducted limits:

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequencies ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 Note 1	56 to 46 Note 1
0.5-5	56	46
5-30	60	50

Note 1 Decreases with the logarithm of the frequency.

6.2 Test Setup

The measurement was performed at shield room, using the setup per ANSI C63.4-2014 measurement procedure. The specification used was FCC §15.207 limits.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The AC/DC power adapter of the EUT was connected with LISN-1 which provided 120 V / 60 Hz AC power.

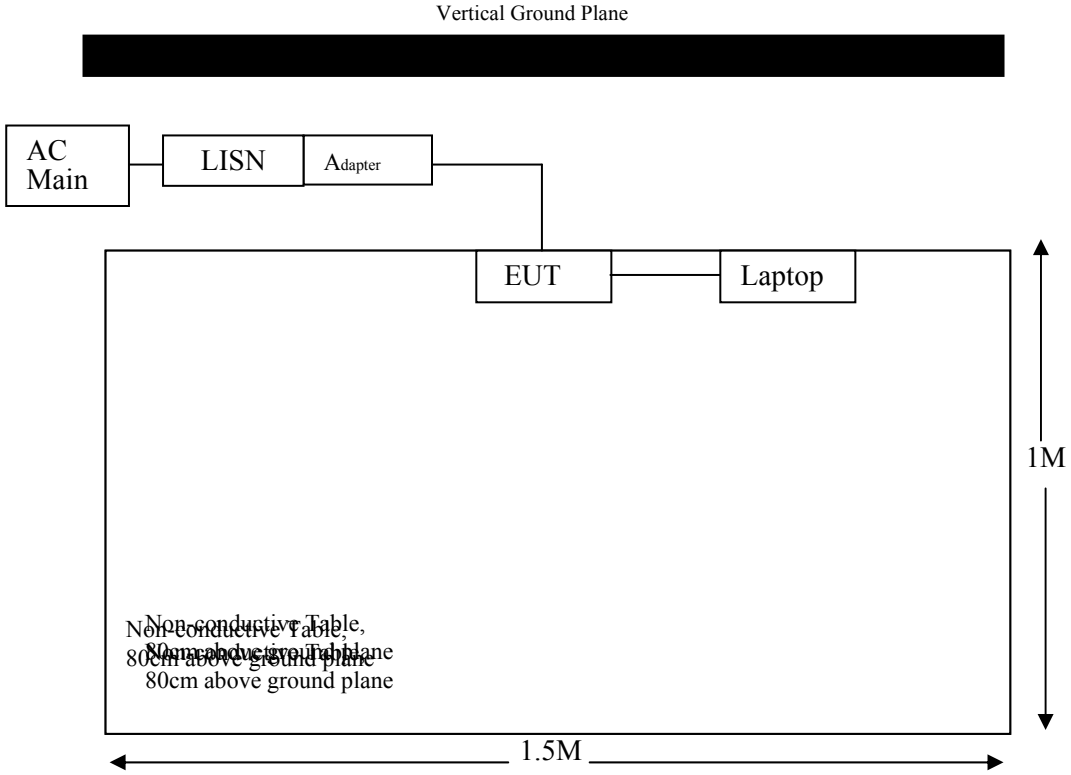
6.3 Test Procedure

During the conducted emissions test, the power cord of the EUT host system was connected to the mains outlet of the LISN-1 and the power cord of the support equipment was connected to LISN-2.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the peak detection mode, quasi-peak and average. Quasi-Peak readings are distinguished with a “QP.” Average readings are distinguished with an “Ave”.

6.4 Test Setup Block Diagram



6.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude (CA) is calculated by adding the Cable Loss (CL), the Attenuator Factor (Atten) to indicated Amplitude (Ai) reading. The basic equation is as follows:

CA = Ai + CL + Atten

For example, a corrected amplitude of 46.2 dBuV = Indicated Reading (32.5 dBuV) + Cable Loss (3.7 dB) + Attenuator (10 dB)

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit. The equation for margin calculation is as follows:

Margin = Corrected Amplitude - Limit

6.6 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde & Schwarz	EMI Test Receiver	ESCI 1166.5950K03	100337	2014-09-28	1 year
Solar Electronics	LISN	9252-50-R-24-N	511205	2014-06-25	1 year
TTE	Filter, High Pass	H962-150k-50-21378	K7133	2015-01-30	1 year
Suirong	30 ft conductive emission cable	LMR 400	-	2015-03-05	1 year
Hewlett-Packard	5 ft N-type RF cable	-	1268	2014-07-24	1 year

Statement of Traceability: BACL Corp. *attests that all calibrations have been performed per the A2LA requirements, traceable to the NIST.*

6.7 Test Environmental Conditions

Temperature:	22 ºC
Relative Humidity:	47 %
ATM Pressure:	103.24 kPa

The testing was performed by Jin Yang on 2015-07-18 in 5m chamber3.

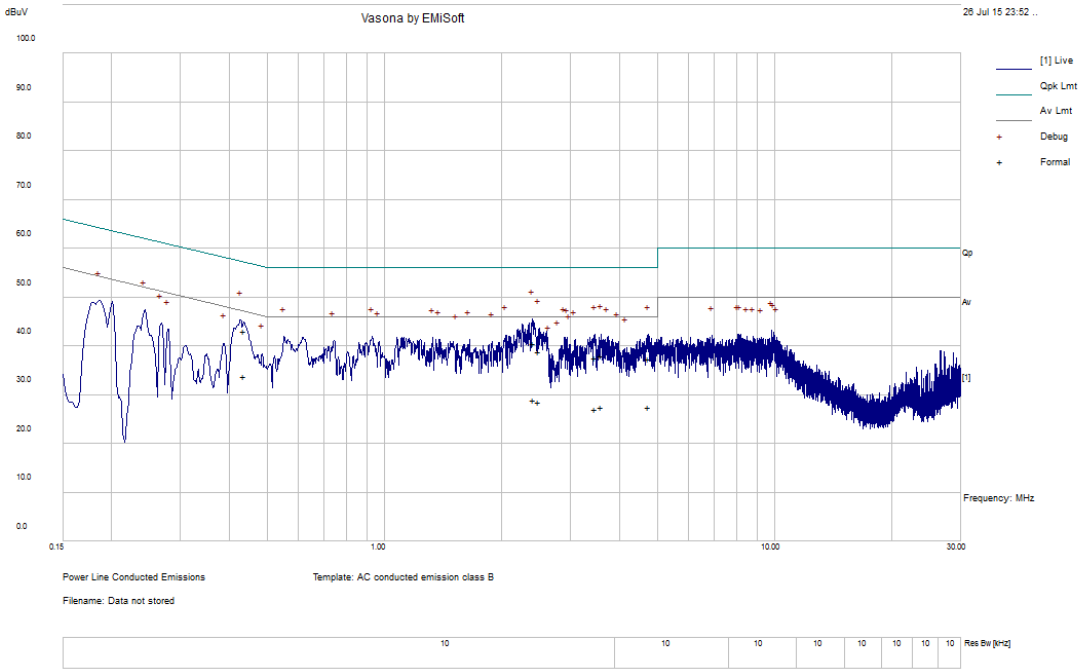
6.8 Summary of Test Results

According to the recorded data in following table, the EUT complied with the FCC 15C standard's conducted emissions limits, with the margin reading of:

Connection: AC/DC adapter connected to 120 V/60 Hz, AC			
Margin (dB)	**Frequency (MHz)**	**Conductor Mode (Line/Neutral)**	**Range (MHz)**
-13.22	0.435556	Line	0.15-30

6.9 Conducted Emissions Test Plots and Data

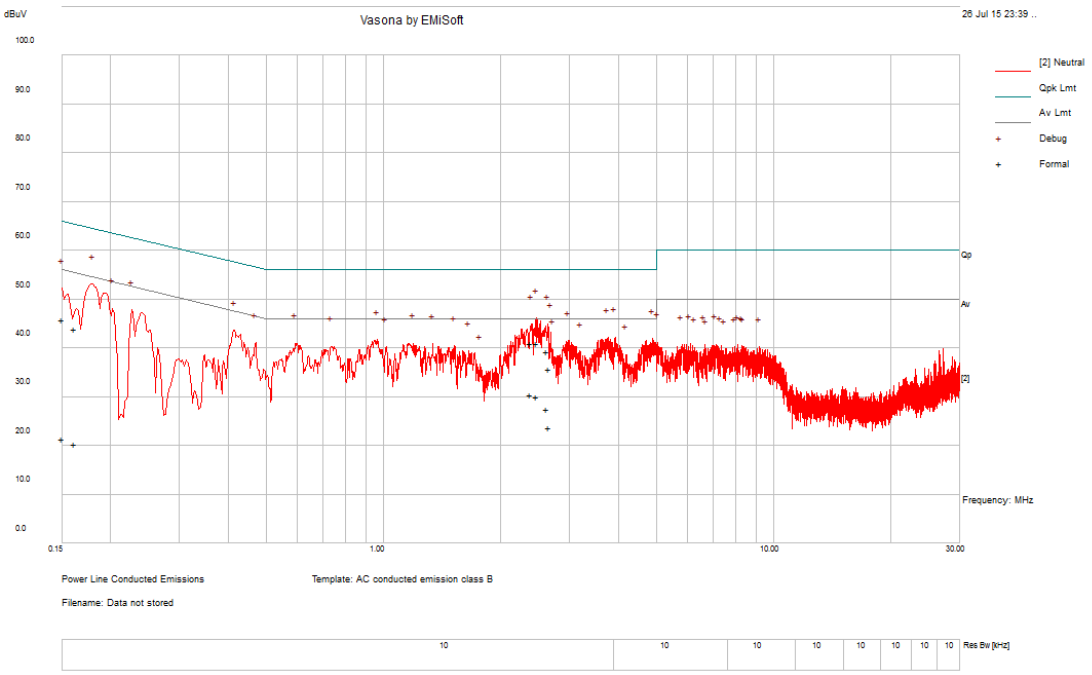
120 V, 60 Hz – Line



Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/Neutral)	Limit (dBµV)	Margin (dB)	Detector (QP/Ave.)
2.405866	40.69	Line	56	-15.31	QP
0.435556	43.28	Line	57.15	-13.87	QP
2.484351	38.92	Line	56	-17.08	QP
3.592723	38.07	Line	56	-17.93	QP
3.471762	37.78	Line	56	-18.22	QP
4.765772	37.54	Line	56	-18.46	QP

Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/Neutral)	Limit (dBµV)	Margin (dB)	Detector (QP/Ave.)
2.405866	29.07	Line	46	-16.93	Ave.
0.435556	33.93	Line	47.15	-13.22	Ave.
2.484351	28.59	Line	46	-17.41	Ave.
3.592723	27.54	Line	46	-18.46	Ave.
3.471762	27.15	Line	46	-18.85	Ave.
4.765772	27.64	Line	46	-18.36	Ave.

120 V, 60 Hz – Neutral



Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/Neutral)	Limit (dBµV)	Margin (dB)	Detector (QP/Ave.)
2.474456	41.16	Neutral	56	-14.84	QP
2.620986	39.46	Neutral	56	-16.54	QP
2.382952	41.17	Neutral	56	-14.83	QP
0.161884	44.1	Neutral	65.37	-21.27	QP
2.66505	35.88	Neutral	56	-20.12	QP
0.150006	46.01	Neutral	66	-19.99	QP

Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/Neutral)	Limit (dBµV)	Margin (dB)	Detector (QP/Ave.)
2.474456	30.05	Neutral	46	-15.95	Ave.
2.620986	27.57	Neutral	46	-18.43	Ave.
2.382952	30.51	Neutral	46	-15.49	Ave.
0.161884	20.51	Neutral	55.37	-34.85	Ave.
2.66505	23.71	Neutral	46	-22.29	Ave.
0.150006	21.42	Neutral	56	-34.58	Ave.

7 FCC §15.209 & §15.407(b) - Spurious Radiated Emissions

7.1 Applicable Standard

As per FCC §15.35(d): Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz.

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table

Frequency (MHz)	Field Strength (micro volts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100 Note 1	3
88 - 216	150 Note 1	3
216 - 960	200 Note 1	3
Above 960	500	3

Note 1: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

As Per FCC §15.205(a) except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	960 – 1240	4. 5 – 5. 15
0.495 – 0.505	16.69475 – 16.69525	1300 – 1427	5. 35 – 5. 46
2.1735 – 2.1905	25.5 – 25.67	1435 – 1626.5	7.25 – 7.75
4.125 – 4.128	37.5 – 38.25	1645.5 – 1646.5	8.025 – 8.5
4.17725 – 4.17775	73 – 74.6	1660 – 1710	9.0 – 9.2
4.20725 – 4.20775	74.8 – 75.2	1718.8 – 1722.2	9.3 – 9.5
6.215 – 6.218	108 – 121.94	2200 – 2300	10.6 – 12.7
6.26775 – 6.26825	123 – 138	2310 – 2390	13.25 – 13.4
6.31175 – 6.31225	149.9 – 150.05	2483.5 – 2500	14.47 – 14.5
8.291 – 8.294	156.52475 – 156.52525	2690 – 2900	15.35 – 16.2
8.362 – 8.366	156.7 – 156.9	3260 – 3267	17.7 – 21.4
8.37625 – 8.38675	162.0125 –167.17	3.332 – 3.339	22.01 – 23.12
8.41425 – 8.41475	167.72 – 173.2	3 3458 – 3 358	23.6 – 24.0
12.29 – 12.293	240 – 285	3.600 – 4.400	31.2 – 31.8
12.51975 – 12.52025	322 – 335.4		36.43 – 36.5
12.57675 – 12.57725	399.9 – 410		Above 38.6
13.36 – 13.41	608 – 614		

As per FCC Part 15.407 (b)

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of −27 dBm/MHz.

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

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

7.2 Test Setup

The radiated emissions tests were performed in the 5-meter Chamber, using the setup in accordance with ANSI C63.4-2014. The specification used was the FCC 15E limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

7.3 Test Procedure

For the radiated emissions test, the EUT host, and all support equipment power cords were connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The EUT is set 3 meter away from the testing antenna, which is varied from 1-4 meter, and the EUT is placed on a turntable, which is 0.8 meter above ground plane, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

The spectrum analyzer or receiver is set as:

Below 1000 MHz:

RBW = 100 kHz / VBW = 300 kHz / Sweep = Auto

Above 1000 MHz:

(1) Peak: RBW = 1MHz / VBW = 1MHz / Sweep = Auto
(2) Average: RBW = 1MHz / VBW = 10Hz / Sweep = Auto

7.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude (CA) is calculated by adding the Antenna Factor (AF), the Cable Loss (CL), the Attenuator Factor (Atten) and subtracting the Amplifier Gain (Ga) to indicated Amplitude (Ai) reading. The basic equation is as follows:

CA = Ai + AF + CL + Atten – Ga

For example, a corrected amplitude of 40.3 dBuV/m = Indicated Reading (32.5 dBuV) + Antenna Factor (+23.5dB) + Cable Loss (3.7 dB) + Attenuator (10 dB) - Amplifier Gain (29.4 dB)

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit for Class A. The equation for margin calculation is as follows:

Margin = Corrected Amplitude - Limit

7.5 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde & Schwarz	EMI Test Receiver	ESCI 1166.5950K03	100337	2014-09-28	1 year
Agilent	Spectrum Analyzer	E4440A	MY44303352	2014-10-16	1 year
Sunol Science Corp	System Controller	SC99V	011003-1	N/R	N/R
Sunol Science Corp	Combination Antenna	JB3	A020106-3	2014-09-18	1 year
EMCO	Horn Antenna	3115	9511-4627	2014-10-17	1 year
Hewlett Packard	Pre-amplifier	8447D	2944A10187	2014-08-08	1 year
WiseWave	Horn Antenna	ARH-4223-02	10555-01	2014-08-09	3 Years
Suirong	30 ft conductive emission cable	LMR 400	-	2015-03-05	1 year
-	SMA cable	-	C0002	Each time[1]	N/A
IW Microwave	High Frequency Cable	DC-1438	SPS-2303-3840-SPS	2014-09-23	1 year
Suirong	30 ft conductive emission cable	LMR 400	-	2015-03-05	1 year
Hewlett-Packard	5 ft N-type RF cable	-	1268	2014-07-24	1 year
Agilent	Pre-Amplifier	8449B	3008A01978	2015-03-11	1year

Statement of Traceability: BACL *attests that all calibrations have been performed per the A2LA requirements, traceable to NIST.*

7.6 Test Environmental Conditions

Temperature:	23 ºC
Relative Humidity:	47 %
ATM Pressure:	103.7 kPa

The testing was performed by Jin Yang on 2015-07-22 in 5m chamber3.

7.7 Summary of Test Results

According to the data hereinafter, the EUT complied with the FCC Part 15.205, 15.209 and 15.407 standard's radiated emissions limits, and had the worst margin of:

Mode: Transmitting			
Margin (dB)	**Frequency (MHz)**	**Polarization (Horizontal/Vertical)**	**Range**
0.41	17945.172	Vertical	30 MHz to 40 GHz

Please refer to the following table and plots for specific test result details

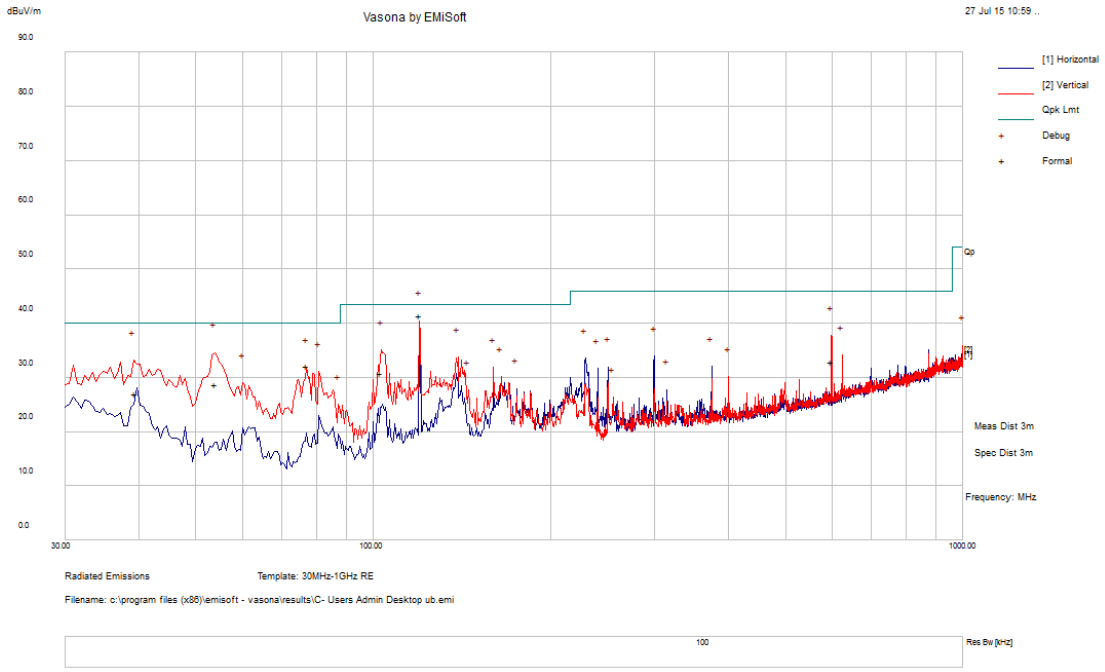
Note: The Omni and sector antennas share the same power setting; only the worst case (sector antenna) was reported.

7.8 Radiated Emissions Test Result Data

1) 30 MHz – 1 GHz

Power Setting 1 – for Omni and Sector Antenna

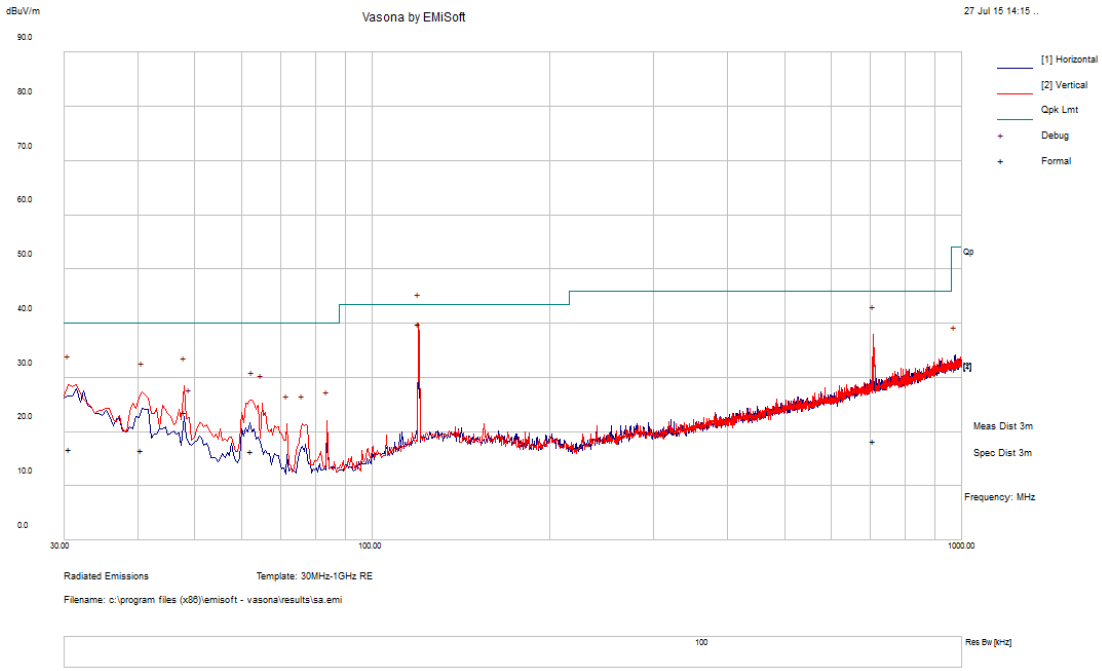
Worst case



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments (PK/QP/Ave.)
120.0055	41.44	100	V	30	43.5	-2.06	QP
53.86075	28.83	113	V	122	40	-11.17	QP
39.5165	27.17	108	H	265	40	-12.83	QP
77.19325	32.18	103	H	185	40	-7.82	QP
597.633	33.02	103	V	0	46	-12.98	QP
103.08025	30.89	114	H	182	43.5	-12.61	QP

Power Setting 2 – for Dish Antenna

Worst case



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments (PK/QP/Ave.)
120.01625	39.98	100	V	8	43.5	-3.52	QP
707.26375	18.35	139	V	337	46	-27.65	QP
30.643	16.9	226	H	44	40	-23.1	QP
47.99925	23.61	100	H	263	40	-16.39	QP
40.5745	16.76	252	V	270	40	-23.24	QP
62.3335	16.5	108	H	337	40	-23.5	QP

2) 1–40 GHz

Note: The limit for Fudamental is calculated followed by
E[dBµV/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77
where E = field strength and d = distance at which field strength limit is specified in the rules
The EIRP limit is -27 dBm, therefore the filed strength limit is 68.23 dBµV/m.
For the emissions which are fall into the resctricted band, the limit for peak is 74 dBµV/m, average is 54 dBµV/m

Power Setting 1 – for Omni and Sector Antenna

10 MHz Bandwidth

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments
Low Channel, 5735 MHz							
13929.753	63.87	V	172	187	68.23	-4.36	Peak
2462.3375	43.01	H	212	325	68.23	-25.22	Peak
5574.7225	55.06	V	138	180	68.23	-13.17	Peak
13929.753	53.15	V	172	187	54	-0.85	Ave.
2462.3375	32.18	H	212	325	54	-21.82	Ave.
5574.7225	45.06	V	138	180	54	-8.94	Ave.
Middle Channel, 5785 MHz							
14147.413	63.54	V	211	118	68.23	-4.69	Peak
7713.505	58.02	V	165	312	74	-15.98	Peak
5387.415	51.2	H	135	163	74	-22.8	Peak
14147.413	53.17	V	211	118	54	-0.83	Ave.
7713.505	53.37	V	165	312	54	-0.63	Ave.
5387.415	40.68	H	135	163	54	-13.32	Ave.
High Channel, 5840 MHz							
2415.7812	42.06	H	200	60	68.23	-26.17	Peak
2453.6012	43.09	H	130	204	68.23	-25.14	Peak
17945.172	64.74	V	281	118	74	-9.26	Peak
2478.4938	43.2	H	231	122	68.23	-25.03	Peak
2415.7812	31.82	H	200	60	54	-22.18	Ave.
2453.6012	50.33	H	130	204	54	-3.67	Ave.
17945.172	53.59	V	281	118	54	-0.41	Ave.
2478.4938	32.74	H	231	122	54	-21.26	Ave.

20 MHz Bandwidth

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments
Low Channel 5740 MHz							
14370.434	58.68	H	237	151	68.23	-9.55	Peak
5577.405	52.34	H	163	16	68.23	-15.89	Peak
9447.7362	52.29	V	151	137	74	-21.71	Peak
5496.3512	48.16	V	166	19	68.23	-20.07	Peak
7653.0188	51.27	H	168	105	74	-22.73	Peak
1969.8362	35.76	V	144	290	68.23	-32.47	Peak
1398.0925	33.27	V	230	155	74	-40.73	Peak
14370.434	48.37	H	237	151	54	-5.63	Ave.
5577.405	43.14	H	163	16	54	-10.86	Ave.
9447.7362	41.89	V	151	137	54	-12.11	Ave.
5496.3512	38.39	V	166	19	54	-15.61	Ave.
7653.0188	43.69	H	168	105	54	-10.31	Ave.
5736.6312	36.79	V	181	13	54	-17.21	Ave.
1969.8362	25.32	V	144	290	54	-28.68	Ave.
1398.0925	22.92	V	230	155	54	-31.08	Ave.
Middle Channel 5785 MHz							
14224.896	59.21	H	301	332	68.23	-9.02	Peak
7666.9325	54.89	H	148	93	74	-19.11	Peak
5504.27	51.28	H	151	4	68.23	-16.95	Peak
14224.896	48.59	H	301	332	54	-5.41	Ave.
7666.9325	50.27	H	148	93	54	-3.73	Ave.
5504.27	40.19	H	151	4	54	-13.81	Ave.
5755.02	41.15	H	159	352	54	-12.85	Ave.
High Channel 5835 MHz							
2481.3038	43.28	H	136	146	68.23	-24.95	Peak
14210.501	62.94	V	142	358	68.23	-5.29	Peak
2402.07	42.9	H	246	93	68.23	-25.33	Peak
5179.0012	46.22	V	128	305	68.23	-22.01	Peak
2539.9088	43.6	V	284	108	68.23	-24.63	Peak
5569.7525	46.27	V	261	93	68.23	-21.96	Peak
2481.3038	32.88	H	136	146	54	-21.12	Ave.
14210.501	53.05	V	142	358	54	-0.95	Ave.
2402.07	35.41	H	246	93	54	-18.59	Ave.
5179.0012	36.63	V	128	305	54	-17.37	Ave.
2539.9088	33.24	V	284	108	54	-20.76	Ave.
5569.7525	35.85	V	261	93	54	-18.15	Ave.

30 MHz Bandwidth

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments
Low Channel 5745 MHz							
14669.63	61.04	H	290	90	68.23	-7.19	Peak
16940.89	58.13	V	135	142	68.23	-10.1	Peak
15311.503	55.79	V	236	48	68.23	-12.44	Peak
1031.36	33.84	V	268	279	74	-40.16	Peak
14669.63	49.86	H	290	90	54	-4.14	Ave.
16940.89	47.73	V	135	142	54	-6.27	Ave.
15311.503	45.28	V	236	48	54	-8.72	Ave.
1031.36	23.93	V	268	279	54	-30.07	Ave.
Middle Channel 5785 MHz							
14611.915	60.19	V	135	352	68.23	-8.04	Peak
16911.148	57.83	V	143	32	68.23	-10.4	Peak
15318.248	56.91	H	248	325	68.23	-11.32	Peak
1728.35	36.49	V	168	206	68.23	-31.74	Peak
1229.8025	35.44	V	238	199	74	-38.56	Peak
14611.915	50.1	V	135	352	54	-3.9	Ave.
16911.148	47.61	V	143	32	54	-6.39	Ave.
15318.248	45.7	H	248	325	54	-8.3	Ave.
1728.35	26.05	V	168	206	54	-27.95	Ave.
1229.8025	25.03	V	238	199	54	-28.97	Ave.
High Channel 5830 MHz							
14149.459	62.97	H	207	291	68.23	-5.26	Peak
2400.7825	42.93	H	165	331	68.23	-25.3	Peak
2446.8675	42.01	V	136	195	68.23	-26.22	Peak
1973.26	64.95	H	175	218	68.23	-3.28	Peak
14149.459	52.84	H	207	291	54	-1.16	Ave.
2400.7825	33.01	H	165	331	54	-20.99	Ave.
2446.8675	31.45	V	136	195	54	-22.55	Ave.
1973.26	52.4	H	175	218	54	-1.6	Ave.

40 MHz Bandwidth

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments
Low Channel 5750 MHz							
13993.315	63.65	H	289	358	68.23	-4.58	Peak
5400.3887	50.86	H	141	167	74	-23.14	Peak
2426.7638	43.41	V	101	152	68.23	-24.82	Peak
13993.315	53.35	H	289	358	54	-0.65	Ave.
5400.3887	41.74	H	141	167	54	-12.26	Ave.
2426.7638	33.67	V	101	152	54	-20.33	Ave.
Middle Channel 5785 MHz							
13905.917	63.42	V	122	74	68.23	-4.81	Peak
7713.3738	57.37	V	146	312	74	-16.63	Peak
5384.2237	48.77	H	136	146	74	-25.23	Peak
2980.3575	44.45	H	248	34	68.23	-23.78	Peak
13905.917	53.06	V	122	74	54	-0.94	Ave.
7713.3738	52.82	V	146	312	54	-1.18	Ave.
5384.2237	38.83	H	136	146	54	-15.17	Ave.
2980.3575	33.47	H	248	34	54	-20.53	Ave.
High Channel 5825 MHz							
14062.644	63.47	H	294	259	68.23	-4.76	Peak
2452.065	43.52	V	235	211	68.23	-24.71	Peak
5481.1212	49.5	V	119	180	68.23	-18.73	Peak
2404.1712	43.14	V	101	28	68.23	-25.09	Peak
14062.644	53.15	H	294	259	54	-0.85	Ave.
2452.065	32.53	V	235	211	54	-21.47	Ave.
5481.1212	38.75	V	119	180	54	-15.25	Ave.
2404.1712	32.52	V	101	28	54	-21.48	Ave.

Power Setting 2 – for Dish Antenna

10 MHz Bandwidth

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments
Low Channel, 5735 MHz							
14441.13	59.27	H	227	337	68.23	-8.96	Peak
16959.48	57.93	V	189	264	68.23	-10.3	Peak
1000	38.01	H	146	15	74	-35.99	Peak
14441.13	48.95	H	227	337	54	-5.05	Ave.
16959.48	47.19	V	189	264	54	-6.81	Ave.
1000	36.07	H	146	15	54	-17.93	Ave.
Middle Channel, 5785 MHz							
14789.693	59.57	V	265	243	68.23	-8.66	Peak
17000.385	57.89	V	289	318	68.23	-10.34	Peak
14789.693	48.94	V	265	243	54	-5.06	Ave.
17000.385	47.48	V	289	318	54	-6.52	Ave.
High Channel, 5840 MHz							
14731.915	60.25	V	161	277	68.23	-7.98	Peak
16889.753	56.9	V	270	230	68.23	-11.33	Peak
1000.025	41.8	H	100	7	74	-32.2	Peak
14731.915	49.12	V	161	277	54	-4.88	Ave.
16889.753	46.66	V	270	230	54	-7.34	Ave.
1000.025	34.23	H	100	7	54	-19.77	Ave.

20 MHz Bandwidth

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments
Low Channel 5740 MHz							
14620.2	59.8	V	242	257	68.23	-8.43	Peak
16991.28	57.57	V	140	352	68.23	-10.66	Peak
15288.62	55.57	V	191	301	68.23	-12.66	Peak
1000.0075	42.68	H	162	21	74	-31.32	Peak
14620.2	49.17	V	242	257	54	-4.83	Ave.
16991.28	47.25	V	140	352	54	-6.75	Ave.
15288.62	45.49	V	191	301	54	-8.51	Ave.
1000.0075	34.74	H	162	21	54	-19.26	Ave.
Middle Channel 5785 MHz							
14661.925	59.81	V	168	96	68.23	-8.42	Peak
1000.055	36.08	H	165	45	74	-37.92	Peak
14661.925	49.41	V	168	96	54	-4.59	Ave.
1000.055	23.61	H	165	45	54	-30.39	Ave.
High Channel 5835 MHz							
14221.128	60.07	V	161	233	68.23	-8.16	Peak
16951.715	57.81	V	247	275	68.23	-10.42	Peak
1000.005	44.04	H	149	21	74	-29.96	Peak
14221.128	48.75	V	161	233	54	-5.25	Ave.
16951.715	47.16	V	247	275	54	-6.84	Ave.
1000.005	36.23	H	149	21	54	-17.77	Ave.

30 MHz Bandwidth

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments
Low Channel 5745 MHz							
14689.31	59.61	H	178	36	68.23	-8.62	Peak
16998.03	57.66	V	281	345	68.23	-10.57	Peak
1000.00	38.51	H	144	28	74	-35.49	Peak
14689.31	49.28	H	178	36	54	-4.72	Ave.
16998.03	47.45	V	281	345	54	-6.55	Ave.
1000.00	36.20	H	144	28	54	-17.80	Ave.
Middle Channel 5785 MHz							
14589.46	59.43	H	186	132	68.23	-8.80	Peak
16921.89	56.54	H	301	111	68.23	-11.69	Peak
1000.00	38.11	H	157	27	74	-35.89	Peak
14589.46	49.18	H	186	132	54	-4.82	Ave.
16921.89	46.58	H	301	111	54	-7.42	Ave.
1000.00	35.25	H	157	27	54	-18.75	Ave.
High Channel 5830 MHz							
14728.00	60.55	V	166	45	68.23	-7.68	Peak
17000.18	58.79	H	121	156	68.23	-9.44	Peak
1000.00	38.72	H	146	23	74	-35.28	Peak
14728.00	49.09	V	166	45	54	-4.91	Ave.
17000.18	47.53	H	121	156	54	-6.47	Ave.
1000.00	36.16	H	146	23	54	-17.84	Ave.

40 MHz Bandwidth

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments
Low Channel 5750 MHz							
16979.868	59.51	H	198	29	68.23	-8.72	Peak
14840.783	59.54	H	143	43	68.23	-8.69	Peak
16979.868	49.15	H	198	29	54	-4.85	Ave.
14840.783	48.49	H	143	43	54	-5.51	Ave.
Middle Channel 5785 MHz							
14320.7	60.34	V	275	98	68.23	-7.89	Peak
16928.2	57.59	V	130	248	68.23	-10.64	Peak
1000.08	44.26	H	102	55	74	-29.74	Peak
14320.7	48.82	V	275	98	54	-5.18	Ave.
16928.2	46.67	V	130	248	54	-7.33	Ave.
1000.08	35.64	H	102	55	54	-18.36	Ave.
High Channel 5825 MHz							
14849.793	60.05	H	133	0	68.23	-8.18	Peak
16978.335	59.44	H	215	27	68.23	-8.79	Peak
7769.205	49.77	V	226	221	68.23	-18.46	Peak
14849.793	48.38	H	133	0	54	-5.62	Ave.
16978.335	48.98	H	215	27	54	-5.02	Ave.
7769.205	39.63	V	226	221	54	-14.37	Ave.

8 FCC §15.407(a) & §15.407(e) – Emission Bandwidth

8.1 Applicable Standards

According to FCC §15.407(e)
Within the 5.725-5.85 GHz band, the minimum 6 dB Bandwidth of U-NII devices shall be at least 500 kHz.

8.2 Measurement Procedure

The measurements are base on FCC KDB 789033 D02 General UNII Test Procedures New Rules v01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices section C: Emission bandwidth and section D: 99 % Occupied Bandwidth

8.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Agilent	Spectrum Analyzer	E4446A	MY48250238	2014-09-03	1 year

Statement of Traceability: BACL Corp. *attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.*

8.4 Test Environmental Conditions

Temperature:	21º C
Relative Humidity:	43 %
ATM Pressure:	105.2 kPa

The testing was performed by Ronak Patel from 07/22/2015 at RF site.

8.5 Test Results

Please refer to the following tables and plots.

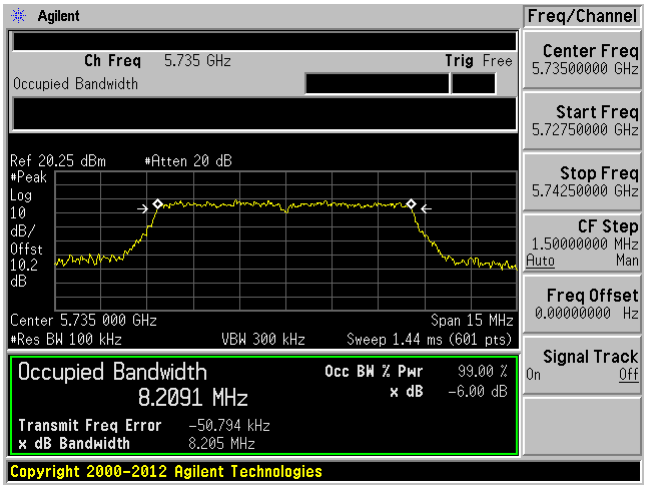
Power Setting 1 – for Omni and Sector Antenna

Channel	Frequency (MHz)	99% OBW (MHz)		6 dB OBW (MHz)	
		Antenna 0	Antenna 1	Antenna 0	Antenna 1
10 MHz Bandwidth					
Low	5735	8.2091	8.1758	8.205	8.122
Middle	5785	8.2125	8.1583	8.198	8.063
High	5840	8.1775	8.1784	8.194	8.169
20 MHz Bandwidth					
Low	5740	16.3273	16.3759	15.128	16.440
Middle	5785	16.4896	16.4189	16.511	16.398
High	5835	16.3990	16.3559	16.483	16.395
30 MHz Bandwidth					
Low	5745	24.5976	24.500	24.475	24.514
Middle	5785	24.5588	24.5589	24.512	24.593
High	5830	24.5417	24.5166	24.579	24.560
40 MHz Bandwidth					
Low	5750	35.9554	36.0782	16.327	28.844
Middle	5785	36.1351	36.0928	33.879	33.040
High	5825	36.1061	35.0843	35.062	35.495

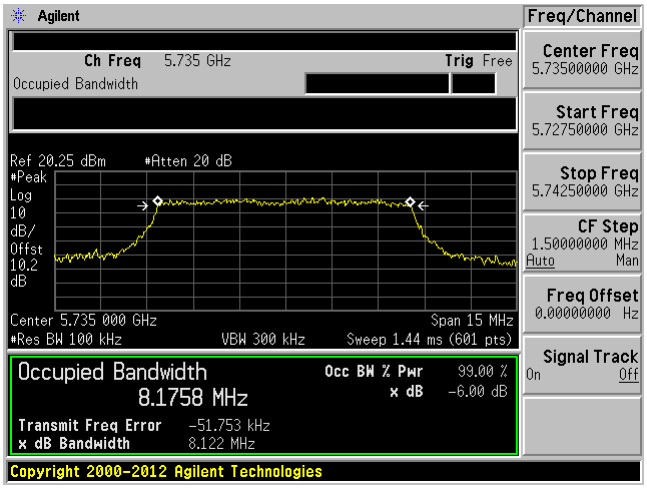
99% & 6 dB Emission Bandwidth

10 MHz Bandwidth

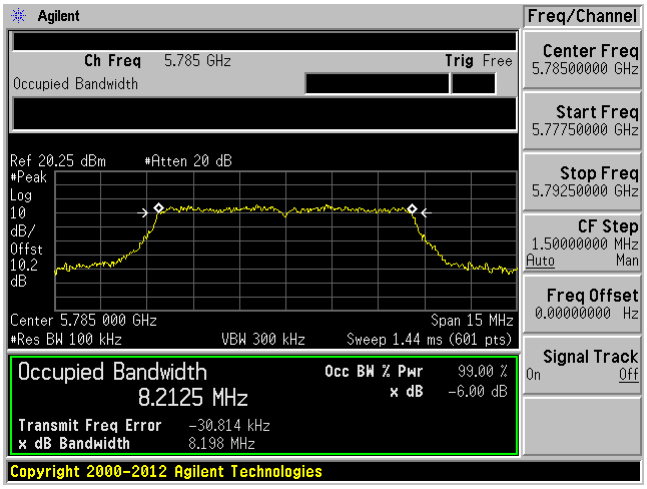
Chain 0 Low channel: 5735 MHz



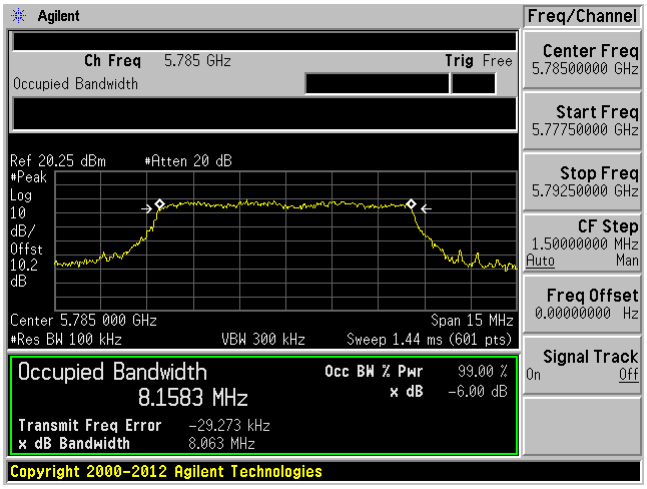
Chain 1 Low channel: 5735 MHz



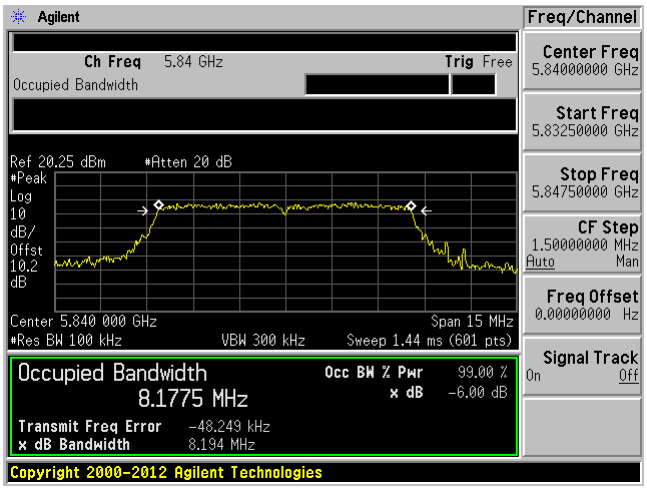
Chain 0 Middle channel: 5785 MHz



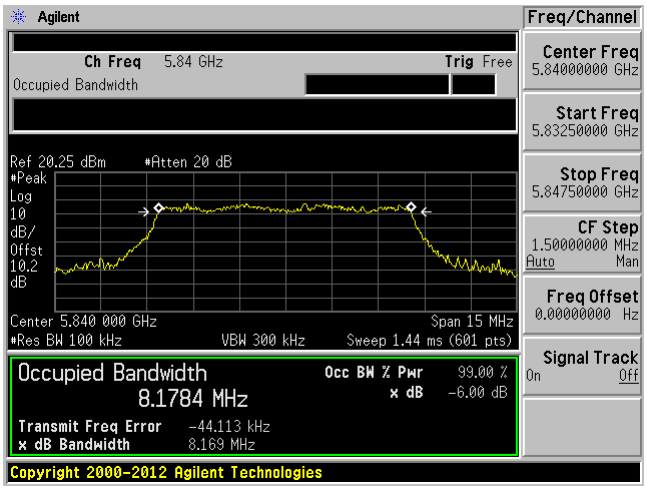
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5840 MHz

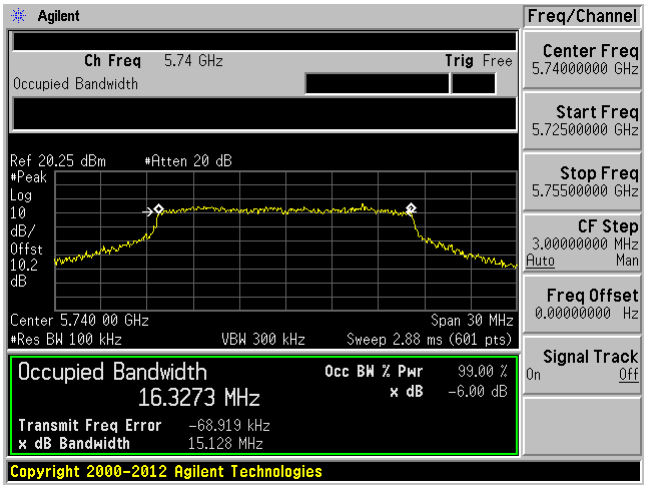


Chain 1 High channel: 5840 MHz

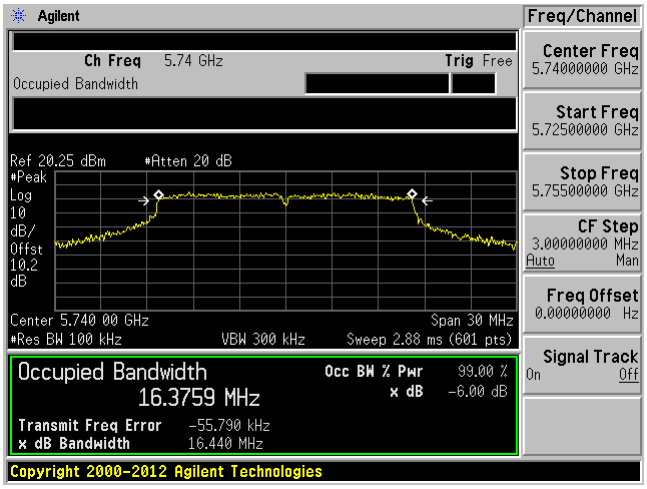


20 MHz Bandwidth

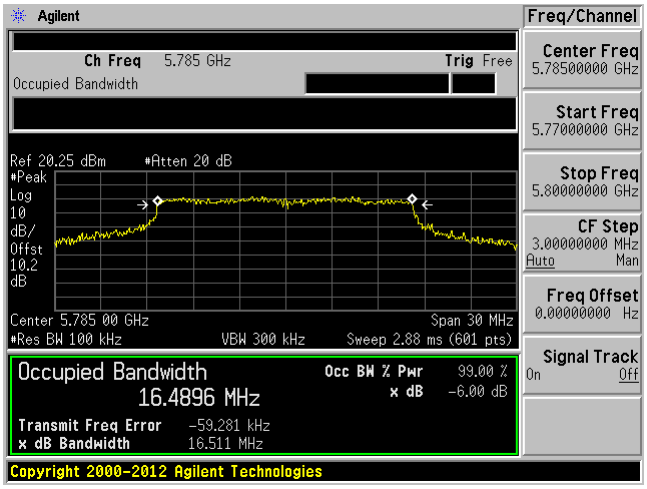
Chain 0 Low channel: 5740 MHz



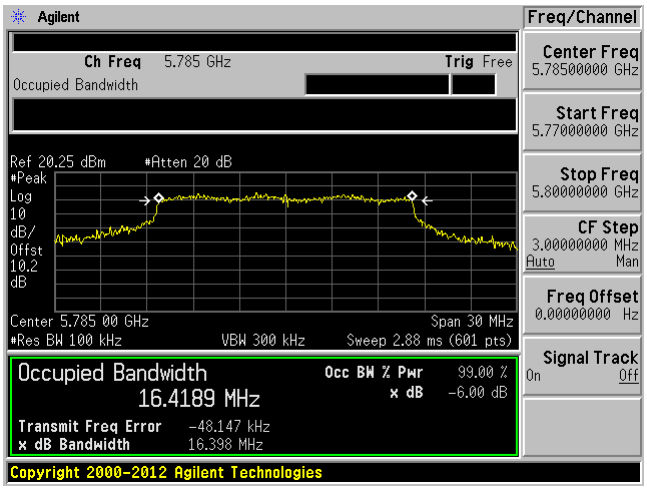
Chain 1 Low channel: 5740 MHz



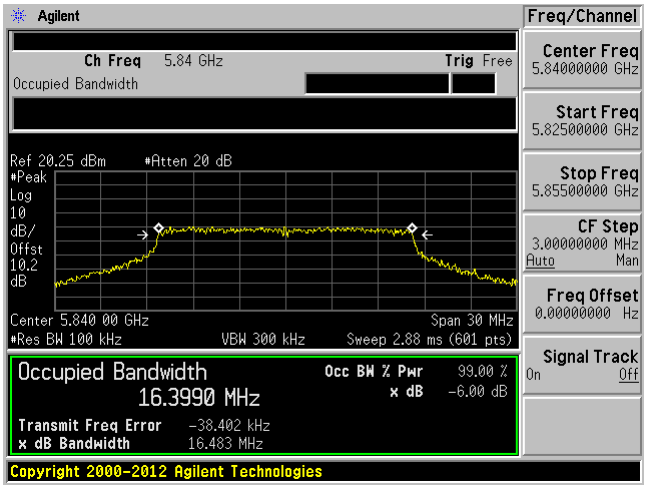
Chain 0 Middle channel: 5785 MHz



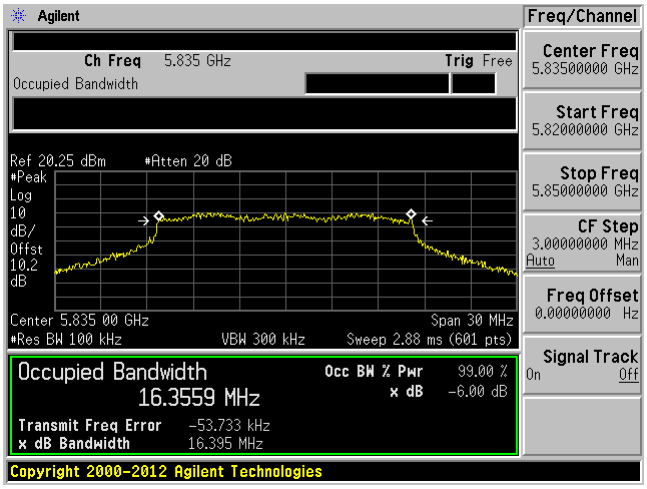
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5835 MHz

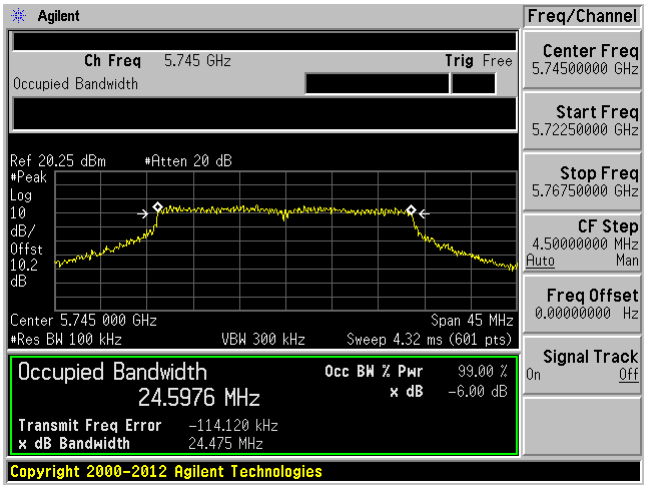


Chain 1 High channel: 5835 MHz

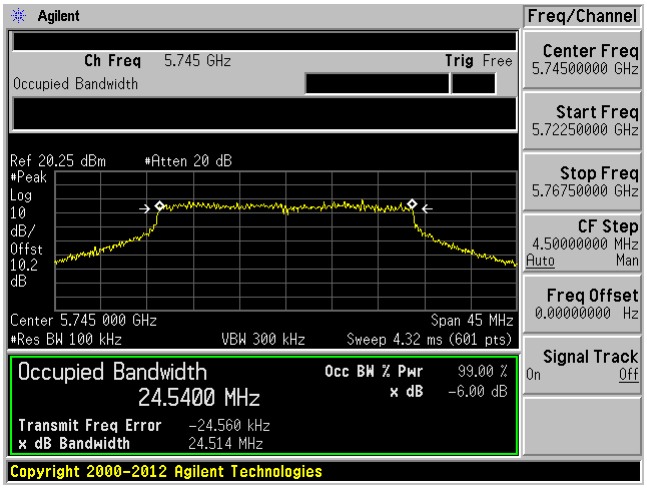


30 MHz Bandwidth

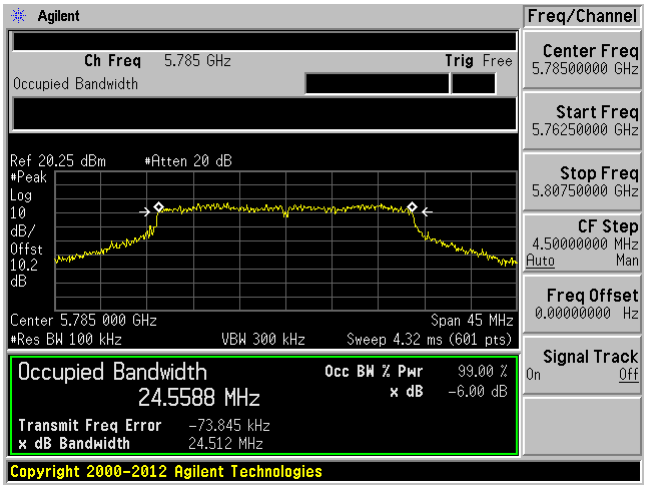
Chain 0 Low channel: 5745 MHz



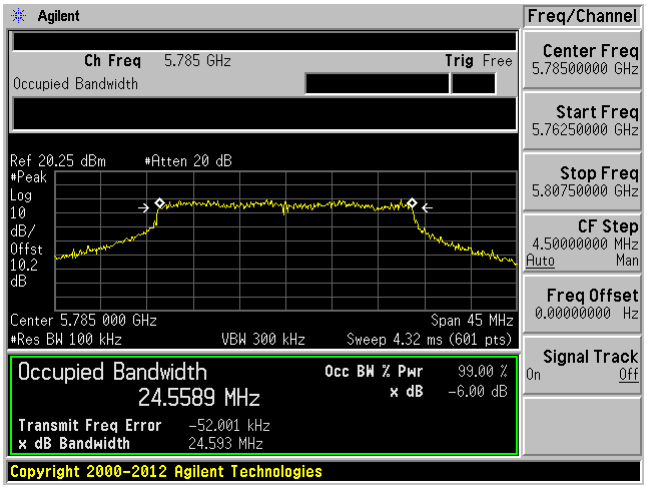
Chain 1 Low channel: 5745 MHz



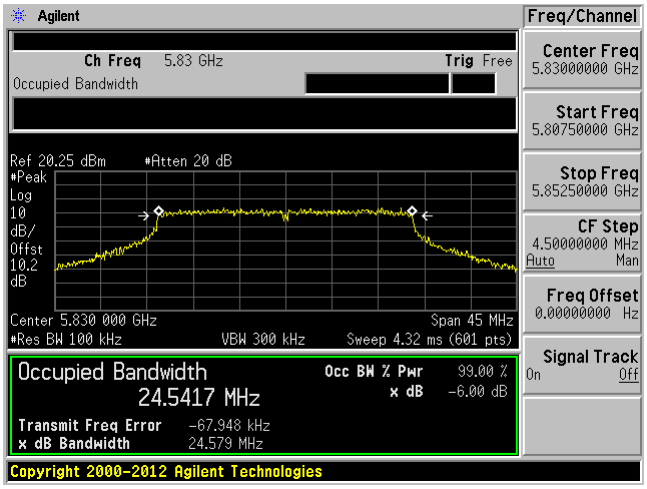
Chain 0 Middle channel: 5785 MHz



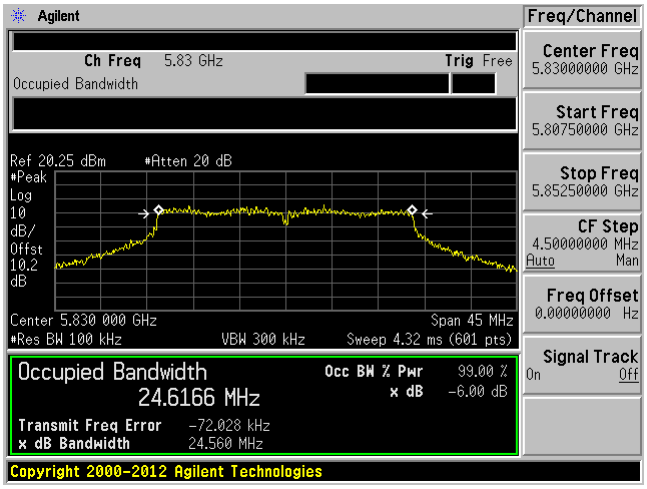
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5830 MHz

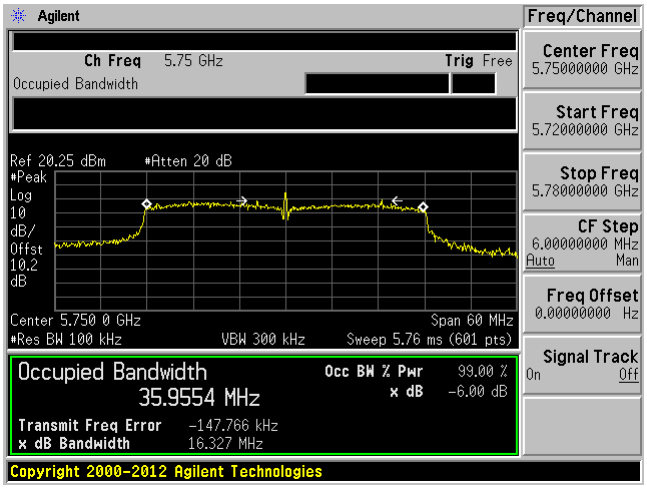


Chain 1 High channel: 5830 MHz

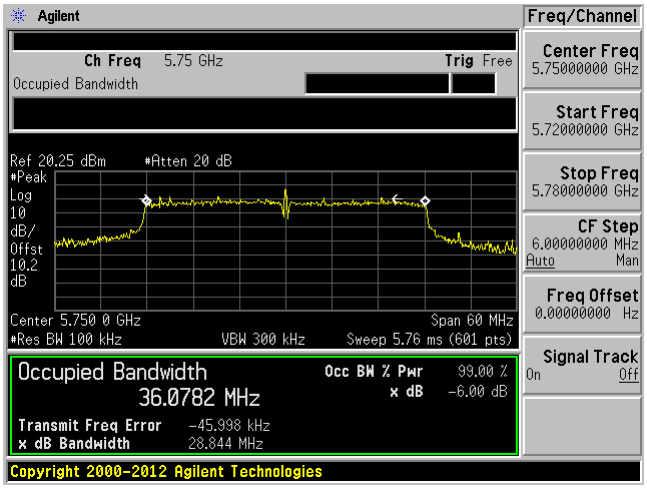


40 MHz Bandwidth

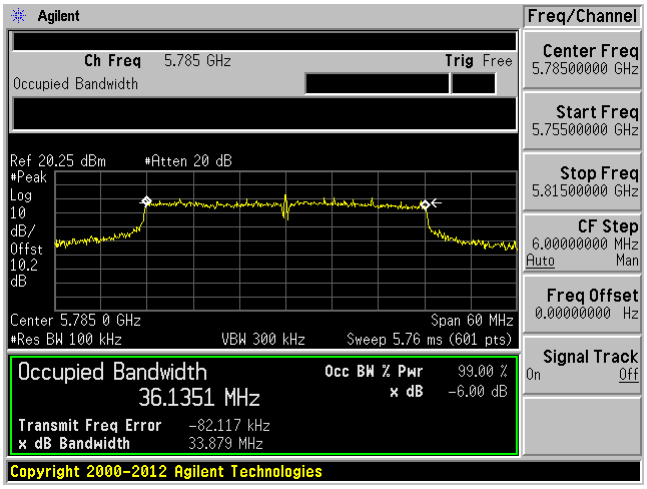
Chain 0 Low channel: 5750 MHz



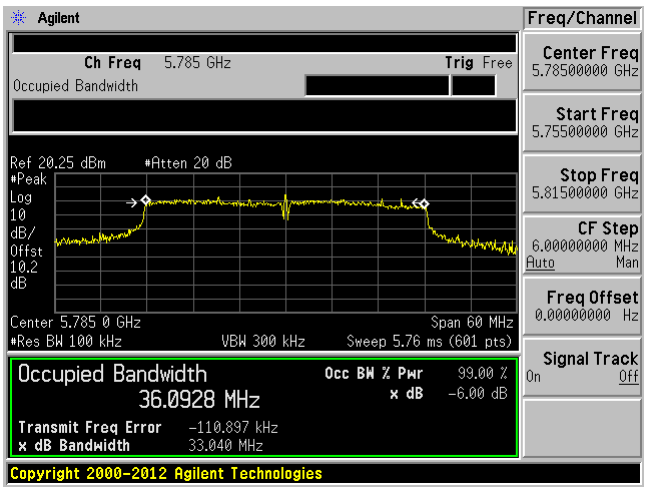
Chain 1 Low channel: 5750 MHz



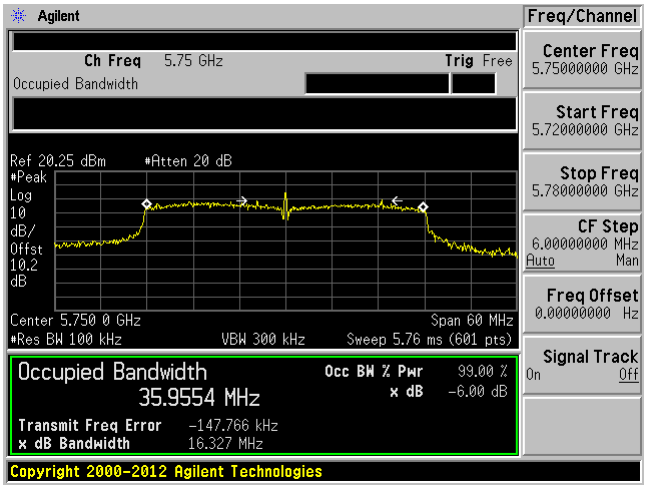
Chain 0 Middle channel: 5785 MHz



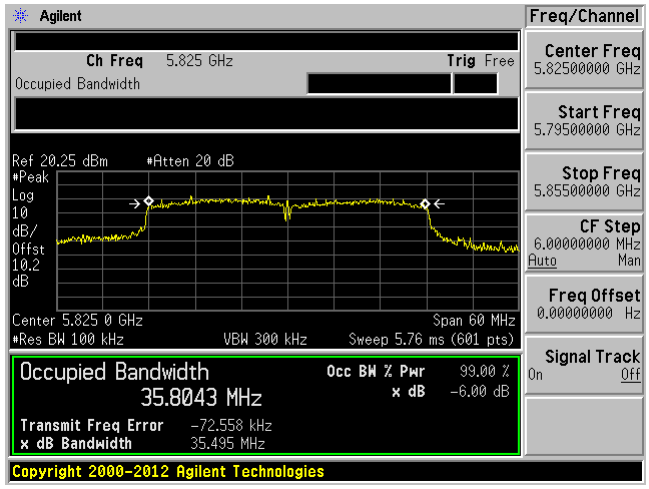
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5825 MHz



Chain 1 High channel: 5825 MHz



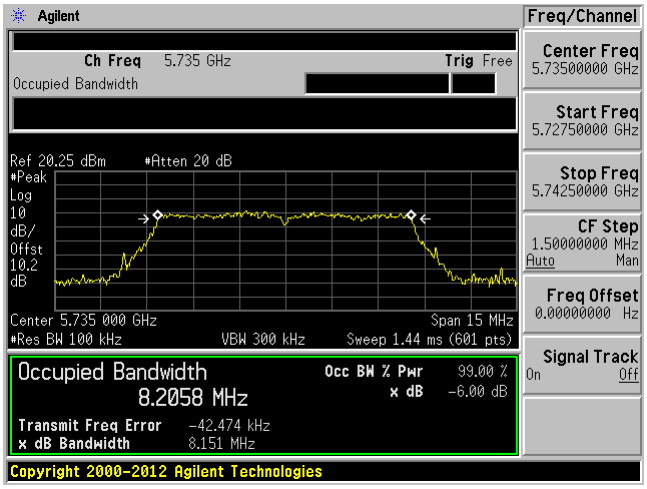
Power Setting 2 – for Dish Antenna

Channel	Frequency (MHz)	99% OBW (MHz)		6 dB OBW (MHz)	
		Antenna 0	Antenna 1	Antenna 0	Antenna 1
10 MHz Bandwidth					
Low	5735	8.2058	8.1987	8.151	8.222
Middle	5785	8.1991	8.1503	8.207	7.995
High	5840	8.1815	8.2151	8.199	8.248
20 MHz Bandwidth					
Low	5740	16.4501	16.4085	16.347	16.382
Middle	5785	16.3616	16.4283	16.345	16.483
High	5835	16.4460	16.4398	16.370	16.366
30 MHz Bandwidth					
Low	5745	24.5639	24.5834	24.547	24.612
Middle	5785	24.6684	24.6234	24.602	24.608
High	5830	24.6437	24.5157	24.827	24.571
40 MHz Bandwidth					
Low	5750	35.9265	36.0097	35.059	34.018
Middle	5785	36.0598	36.0435	35.205	35.482
High	5825	36.0905	36.1125	36.1125	34.148

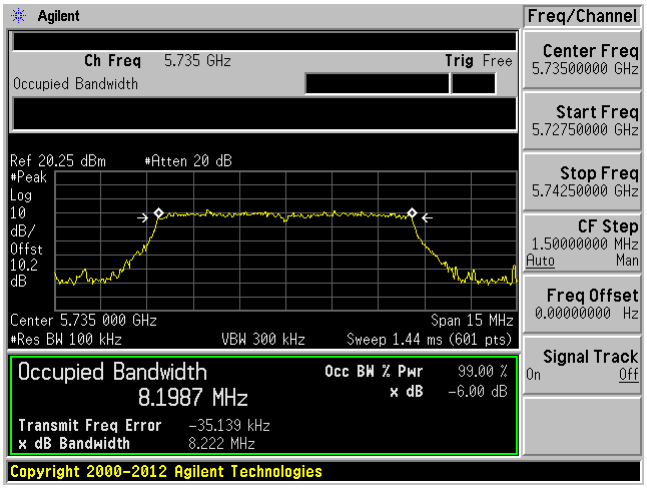
99% & 6 dB Emission Bandwidth

10 MHz Bandwidth

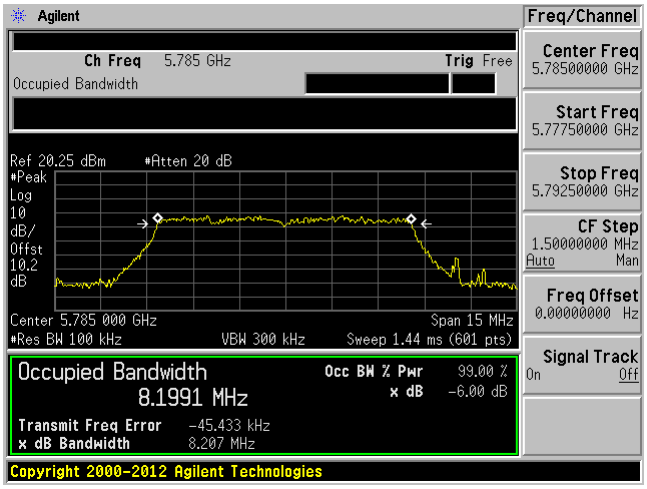
Chain 0 Low channel: 5735 MHz



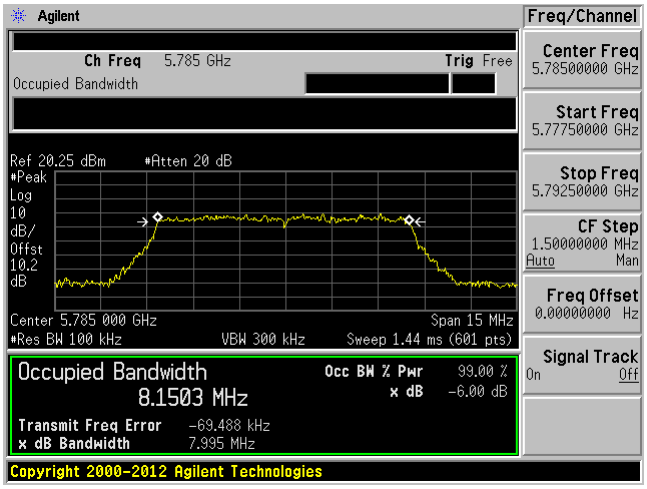
Chain 1 Low channel: 5735 MHz



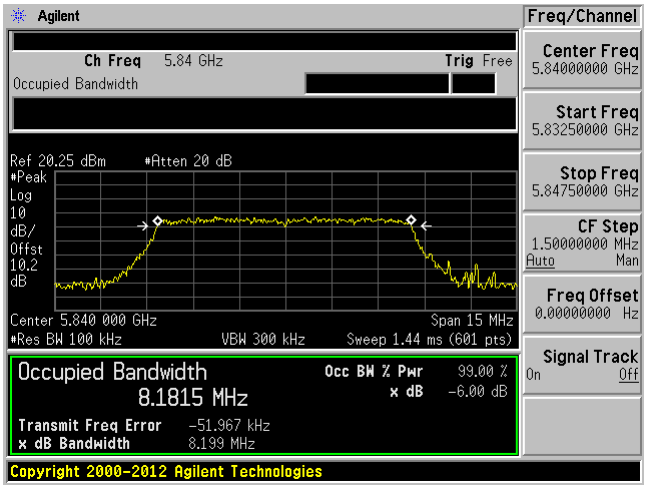
Chain 0 Middle channel: 5785 MHz



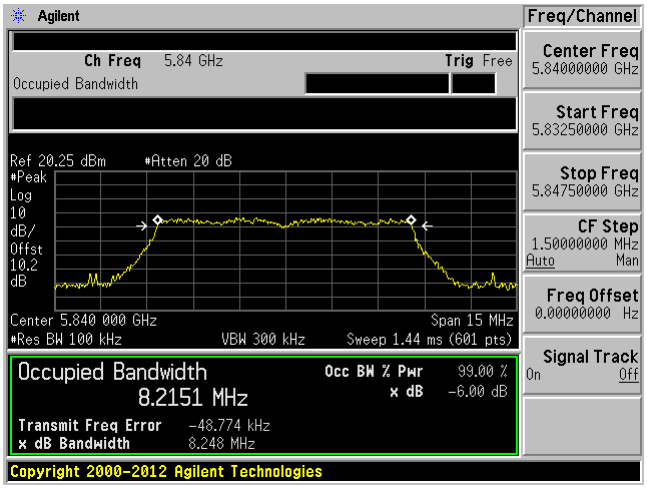
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5840 MHz

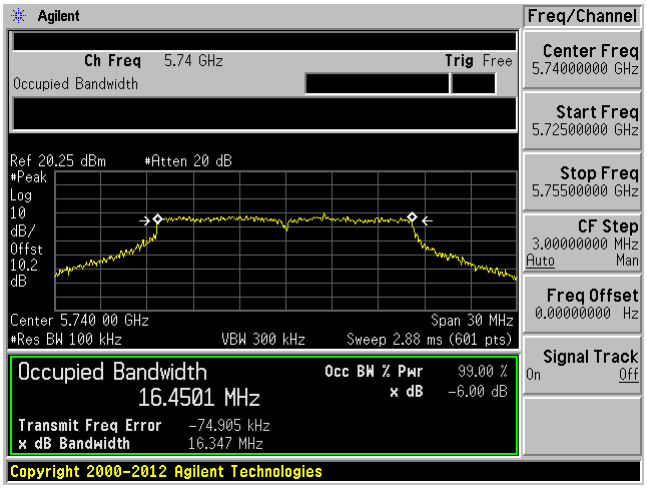


Chain 1 High channel: 5840 MHz

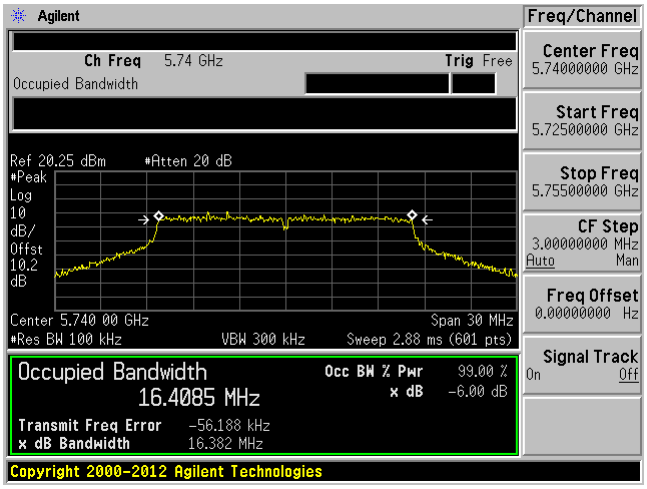


20 MHz Bandwidth

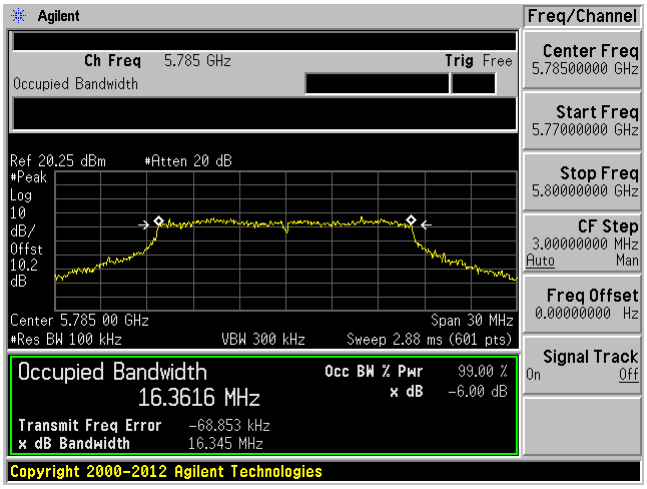
Chain 0 Low channel: 5740 MHz



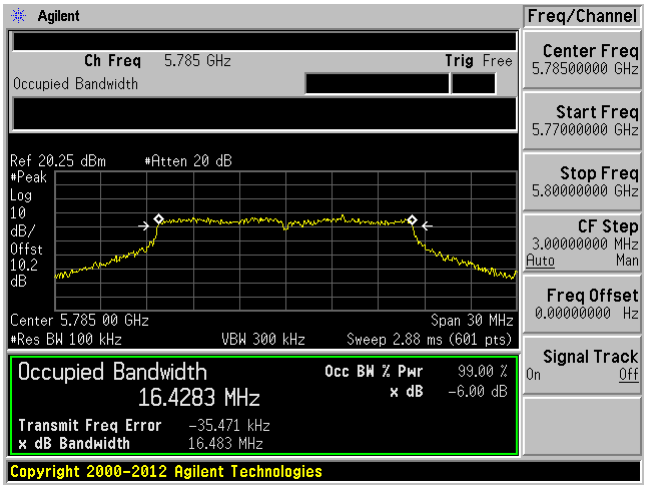
Chain 1 Low channel: 5740 MHz



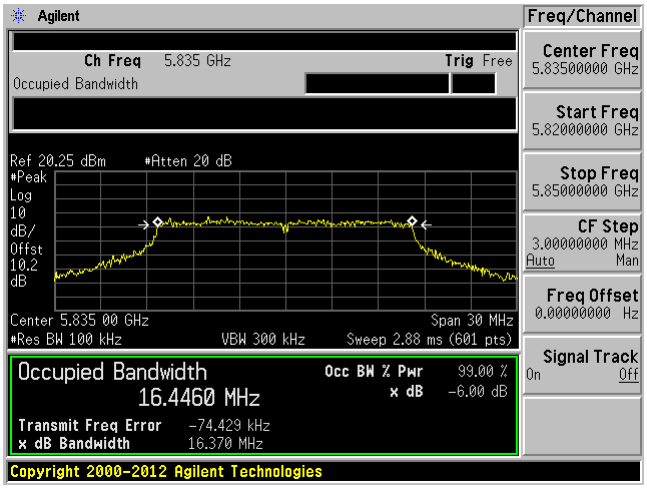
Chain 0 Middle channel: 5785 MHz



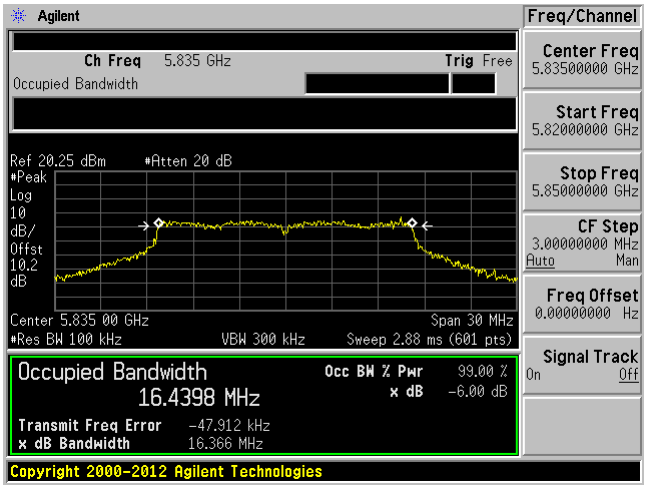
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5835 MHz

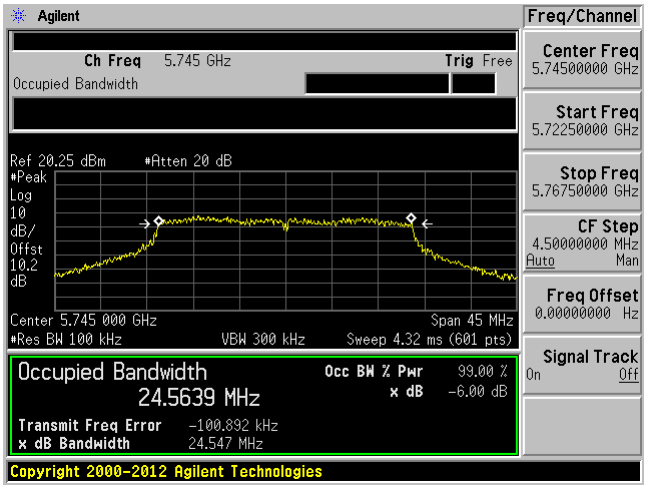


Chain 1 High channel: 5835 MHz

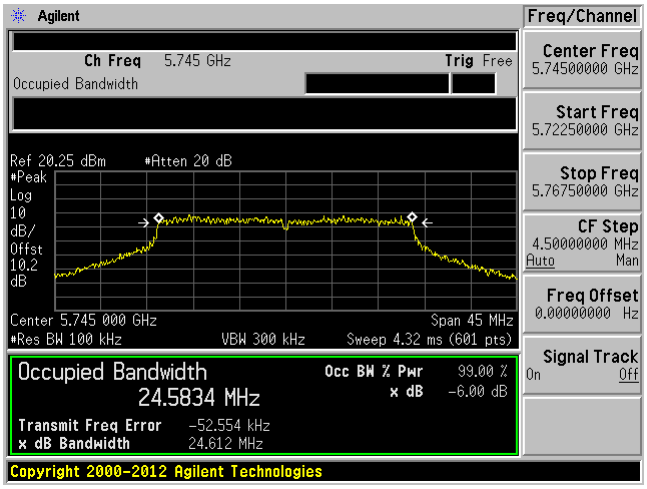


30 MHz Bandwidth

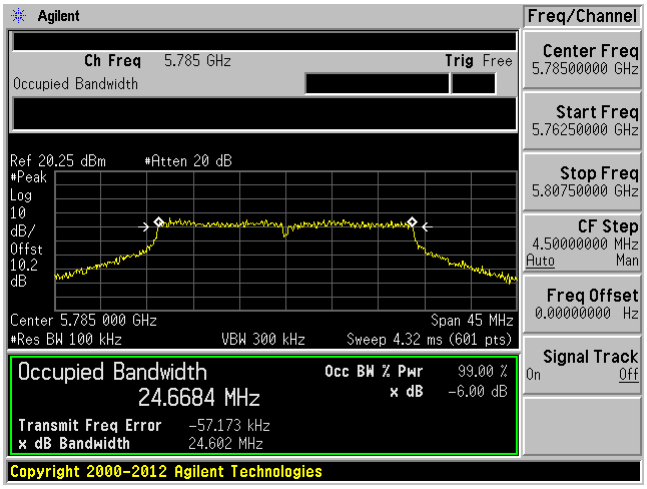
Chain 0 Low channel: 5745 MHz



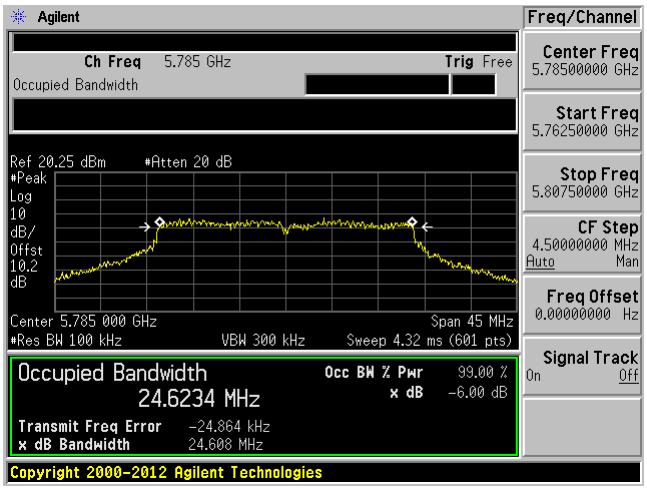
Chain 1 Low channel: 5745 MHz



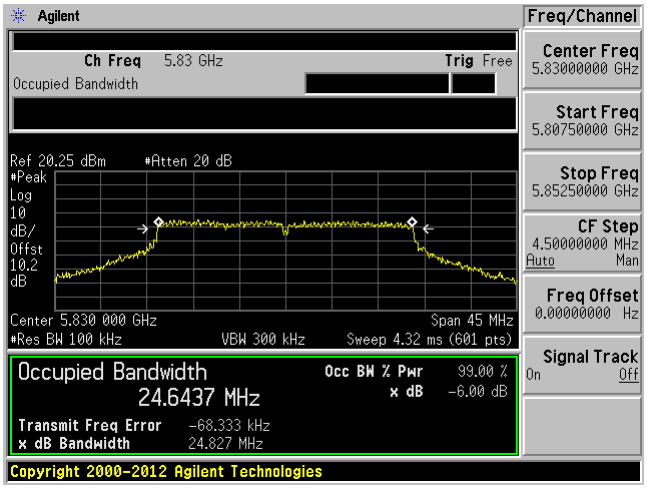
Chain 0 Middle channel: 5785 MHz



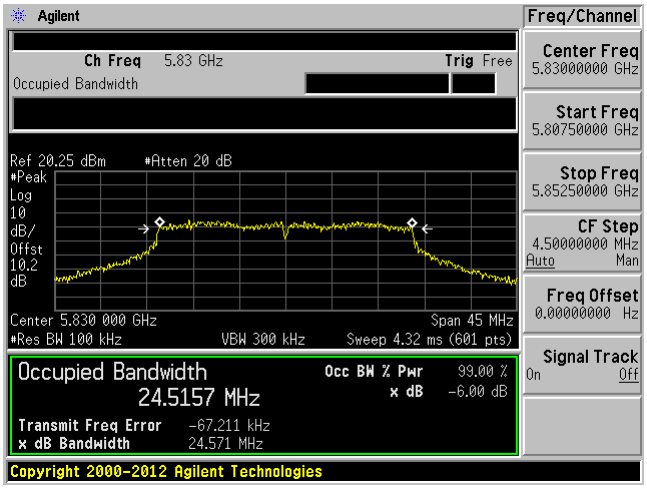
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5830 MHz

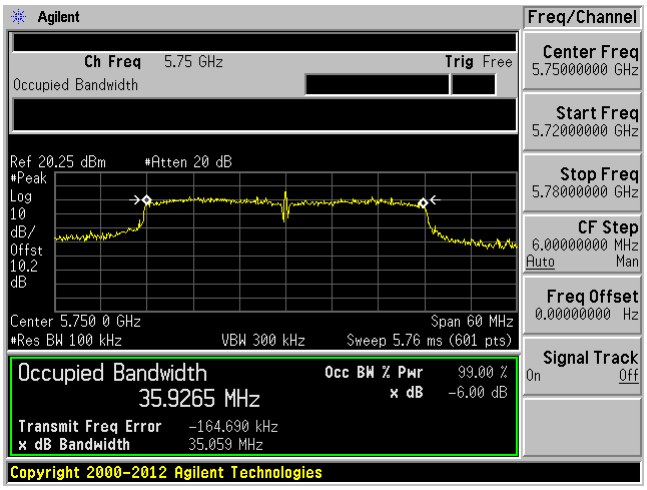


Chain 1 High channel: 5830 MHz

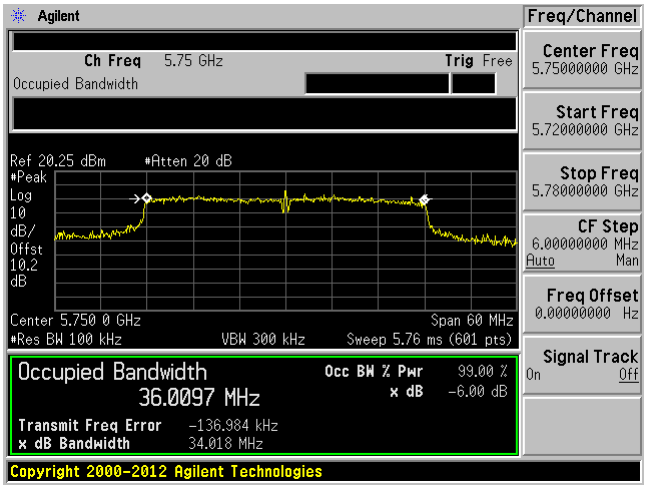


40 MHz Bandwidth

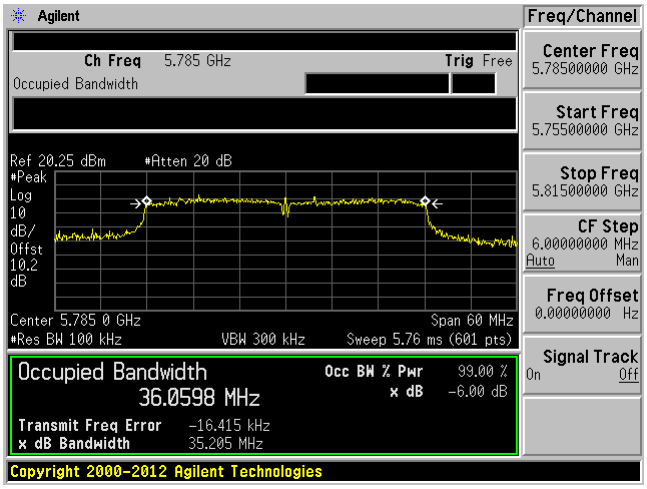
Chain 0 Low channel: 5750 MHz



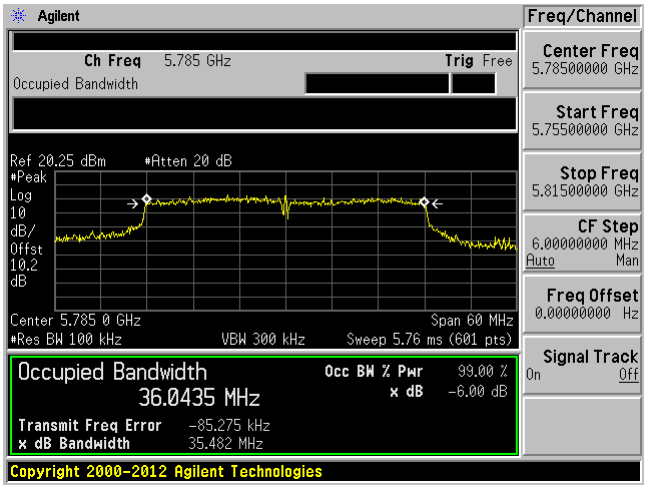
Chain 1 Low channel: 5750 MHz



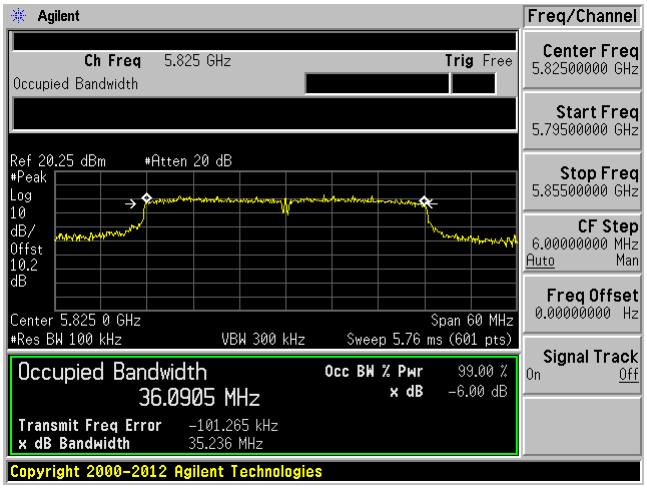
Chain 0 Middle channel: 5785 MHz



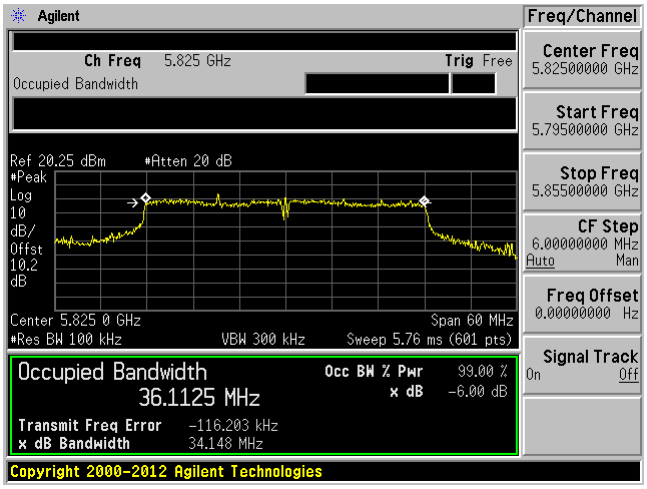
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5825 MHz



Chain 1 High channel: 5825 MHz



9 FCC §407(a) – Maximum Conducted Output Power

9.1 Applicable Standards

According to FCC §15.407(a),

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

9.2 Measurement Procedure

Test measurements are based on FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORAMTION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPART E

9.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Agilent	Spectrum Analyzer	E4446A	MY48250238	2014-09-03	1 year

Statement of Traceability: BACL Corp. *attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.*

9.4 Test Environmental Conditions

Temperature:	22-25º C
Relative Humidity:	40-43 %
ATM Pressure:	102.1-104.4 kPa

The testing was performed by Ronak Patel on 2015-07-22 to 2015-07-26 at RF site.

9.5 Test Results

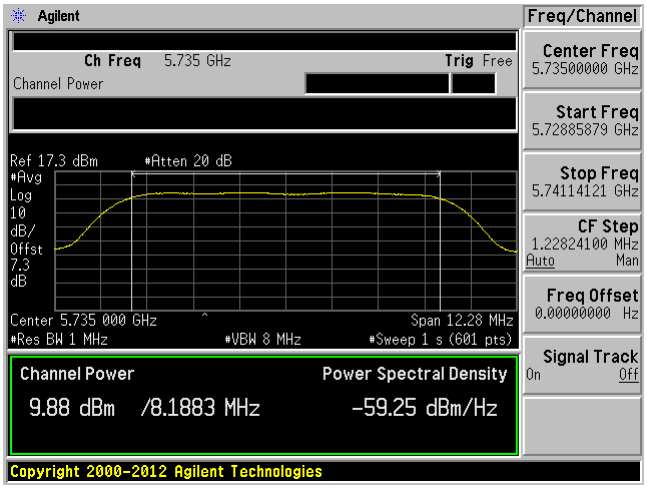
Power Setting 1 – for Omni and Sector Antenna

Channel	Frequency (MHz)	Conducted Output Power (dBm)			Limit P-t-P (dBm)	Limit P-t-MP (dBm)	Result
		Chain 0	Chain 1	Combined			
10 MHz Bandwidth							
Low	5735	9.88	8.98	12.46	30	22.2	Pass
Middle	5785	15.09	13.7	17.46	30	22.2	Pass
High	5840	9.26	9.34	12.31	30	22.2	Pass
20 MHz Bandwidth							
Low	5740	12.78	11.38	15.15	30	22.2	Pass
Middle	5785	19.59	18.69	22.17	30	22.2	Pass
High	5835	5.27	4.86	8.08	30	22.2	Pass
30 MHz Bandwidth							
Low	5745	10.29	9.62	12.98	30	22.2	Pass
Middle	5785	15.91	14.45	18.25	30	22.2	Pass
High	5830	8.09	7.78	10.95	30	22.2	Pass
40 MHz Bandwidth							
Low	5750	13.57	13.0	16.30	30	22.2	Pass
Middle	5785	15.23	13.98	17.66	30	22.2	Pass
High	5825	-0.23	0.82	3.34	30	22.2	Pass

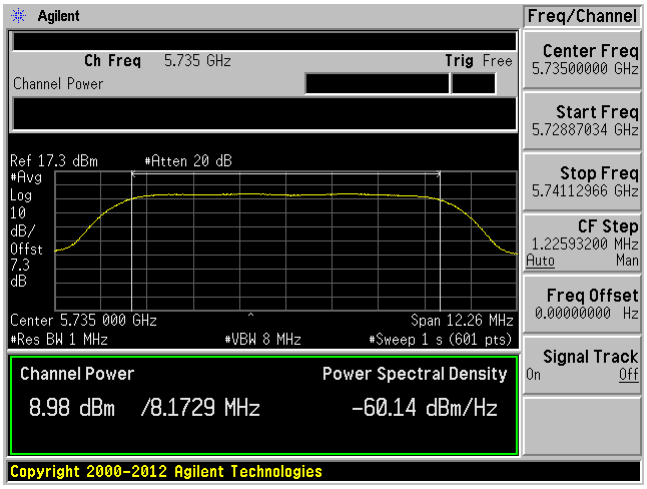
Note: (1) When the device operates as a fixed point to point (sector antenna), the output power reduction of the amount in dB that exceeds 6 dBi is not needed.
(2) When the device operates as a fixed point to multi point (Omni and sector antenna), the output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi, i.e. 22.2 dBm.
of the amount in dB that exceeds 6 dBi shall be s not needed.

10 MHz Bandwidth

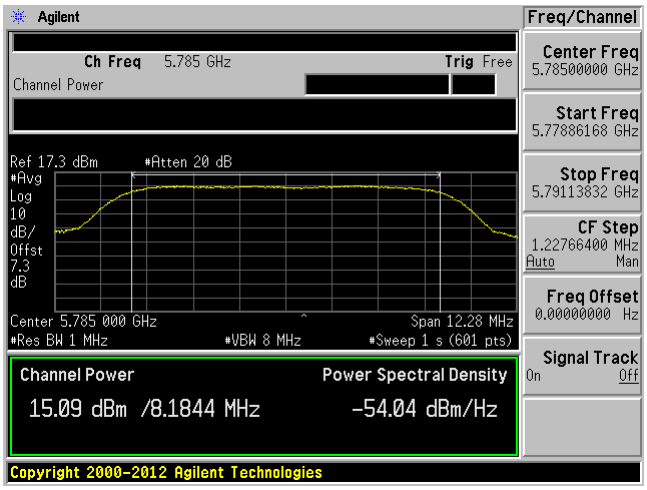
Chain 0 Low channel: 5735 MHz



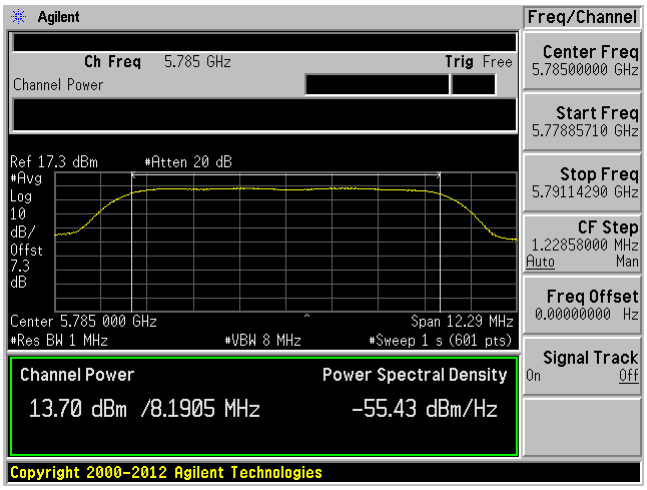
Chain 1 Low channel: 5735 MHz



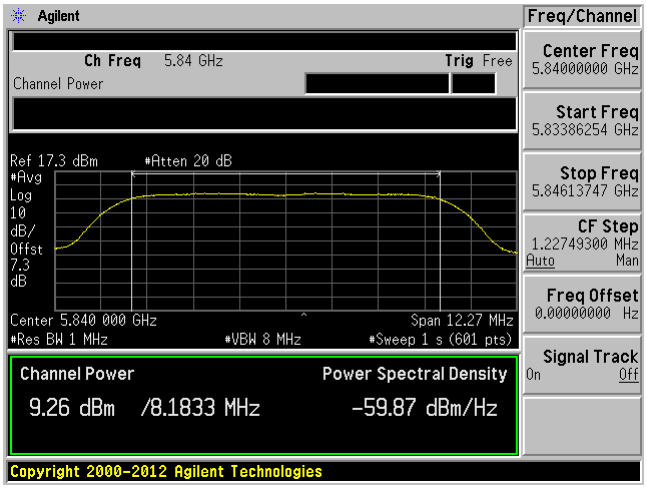
Chain 0 Middle channel: 5785 MHz



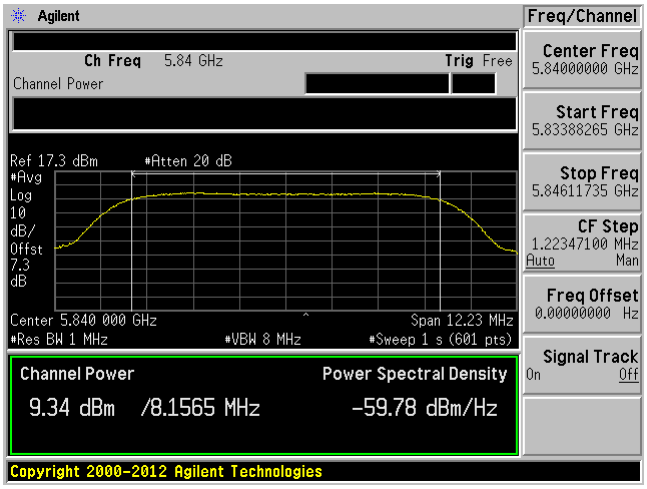
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5840 MHz

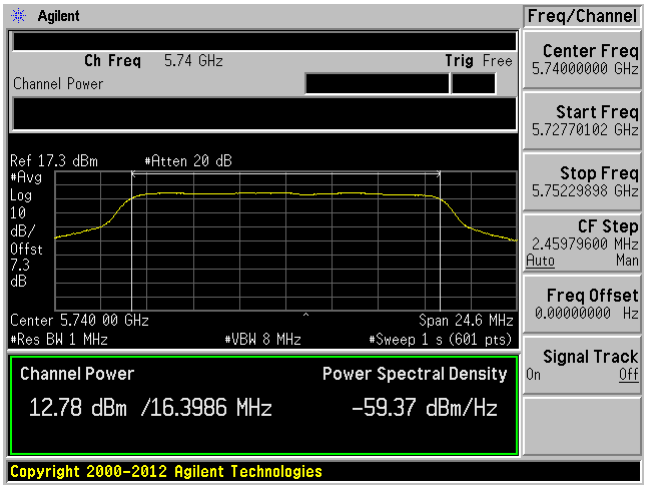


Chain 1 High channel: 5840 MHz

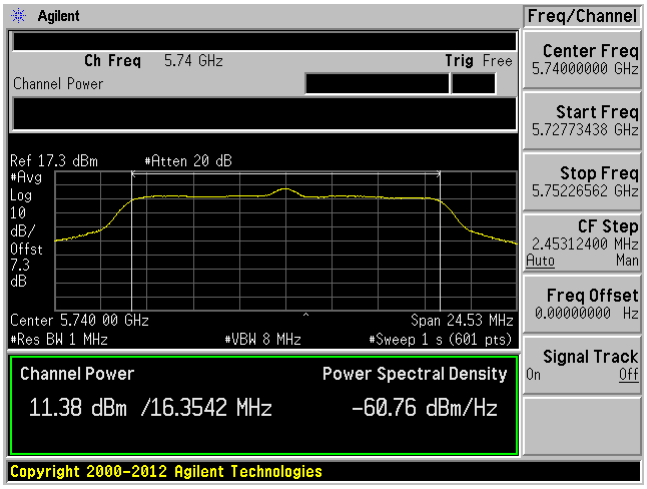


20 MHz Bandwidth

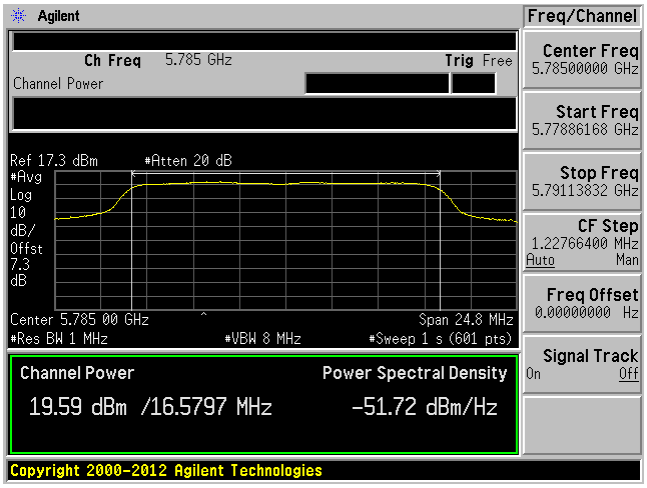
Chain 0 Low channel: 5740 MHz



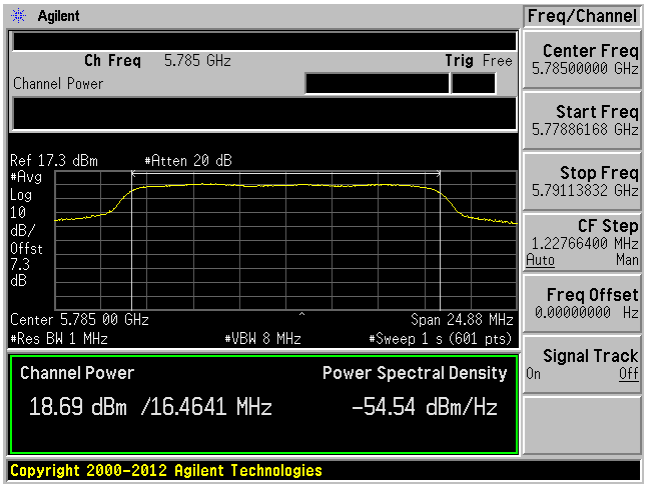
Chain 1 Low channel: 5740 MHz



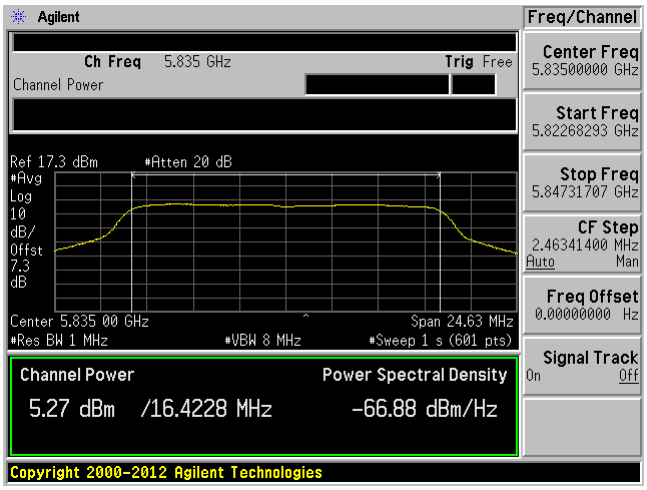
Chain 0 Middle channel: 5785 MHz



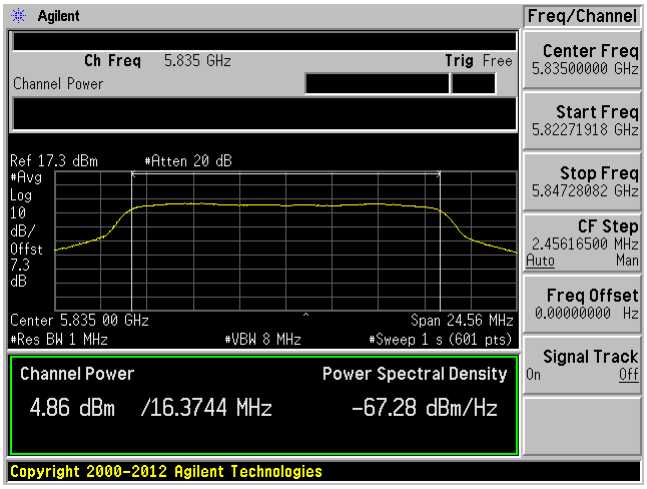
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5835 MHz

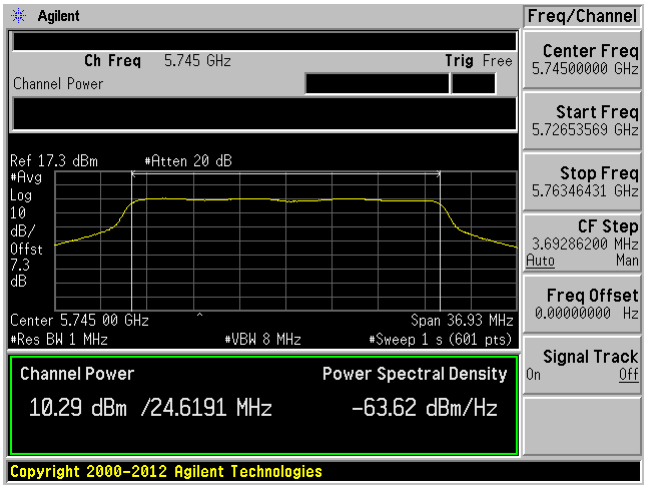


Chain 1 High channel: 5835 MHz

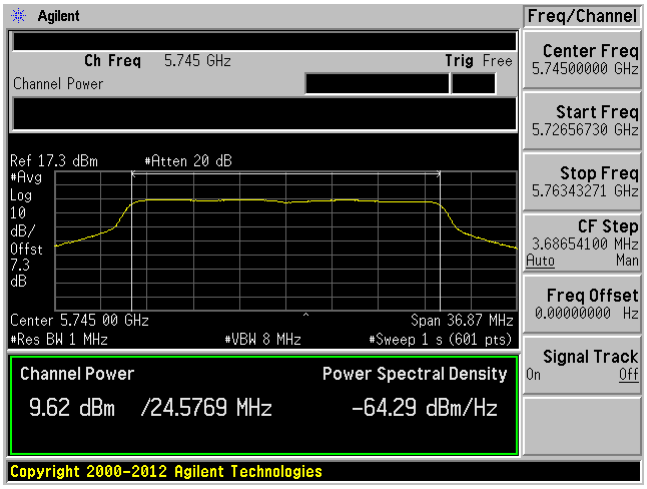


30 MHz Bandwidth

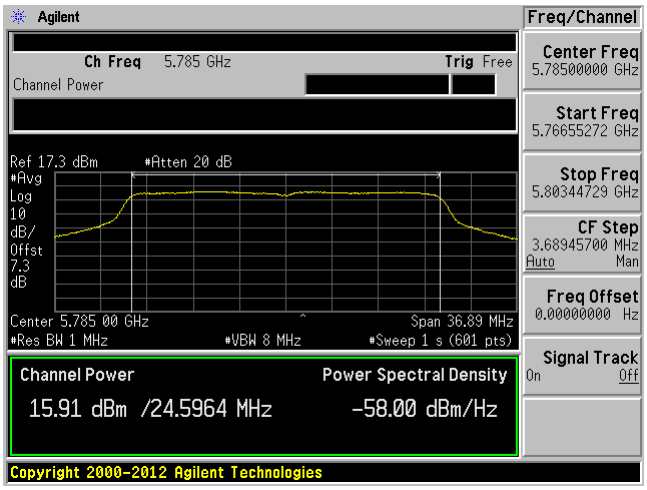
Chain 0 Low channel: 5745 MHz



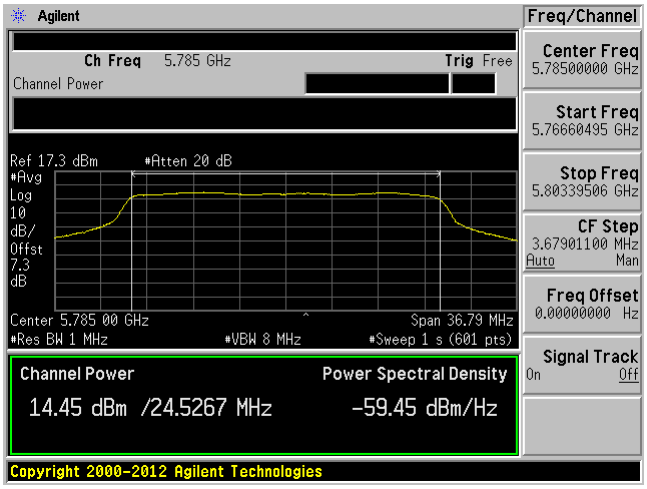
Chain 1 Low channel: 5745 MHz



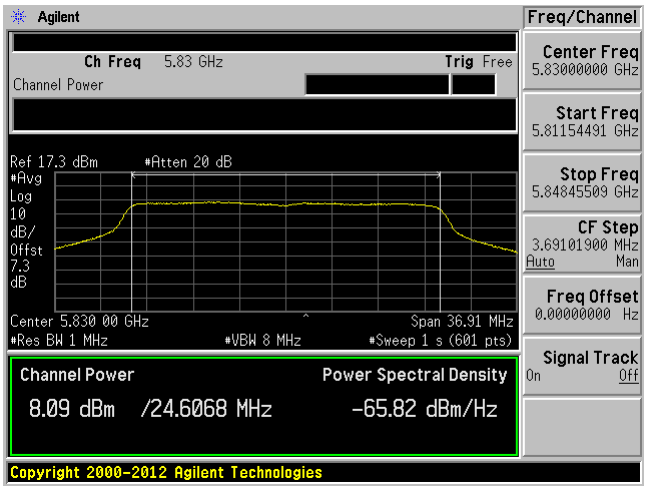
Chain 0 Middle channel: 5785 MHz



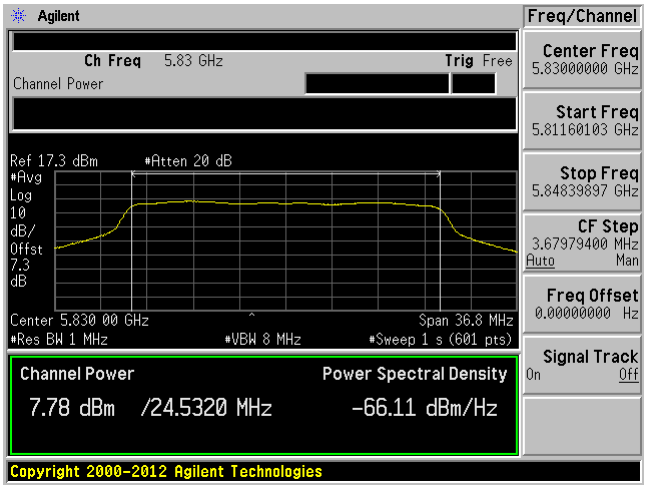
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5830 MHz

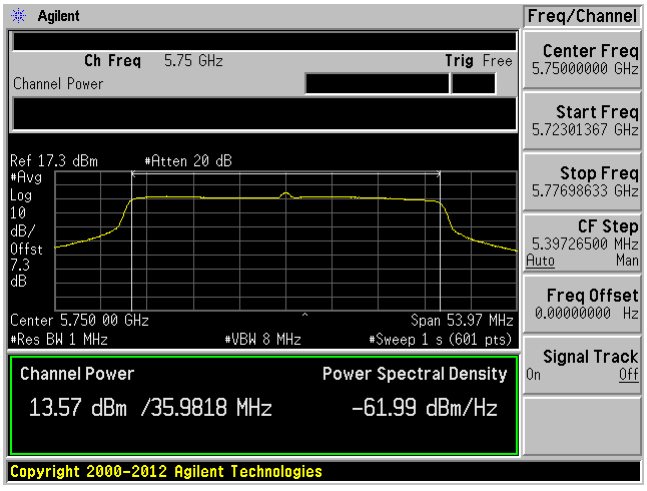


Chain 1 High channel: 5830 MHz

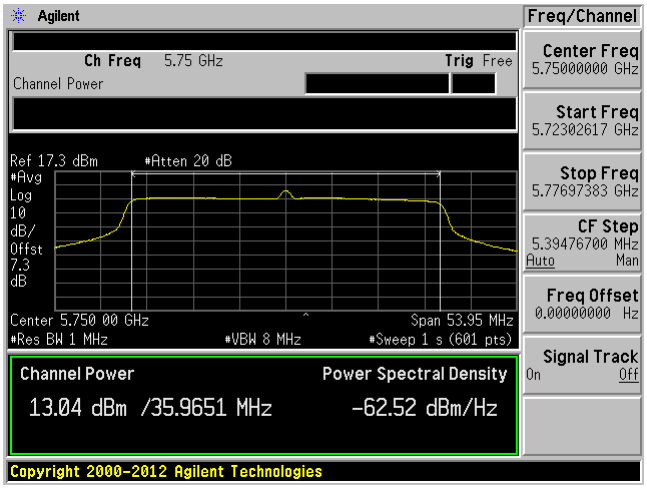


40 MHz Bandwidth

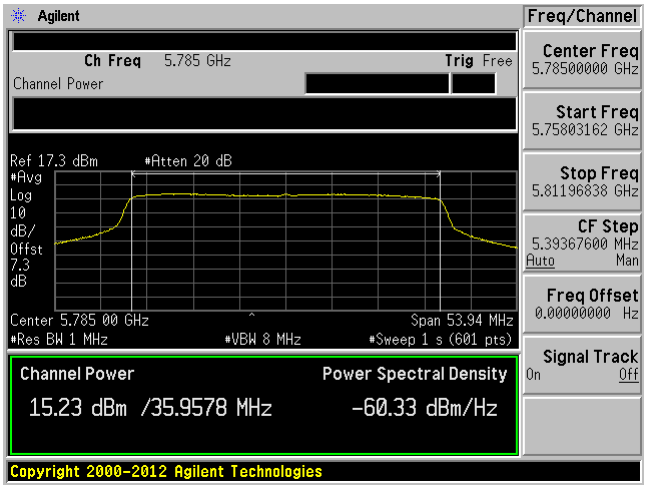
Chain 0 Low channel: 5750 MHz



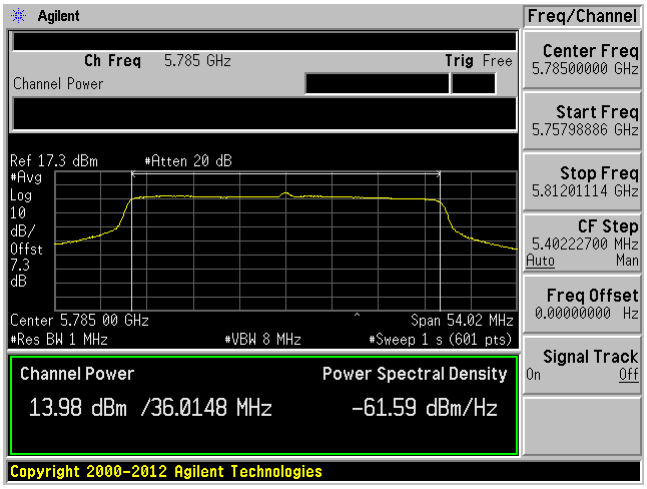
Chain 1 Low channel: 5750 MHz



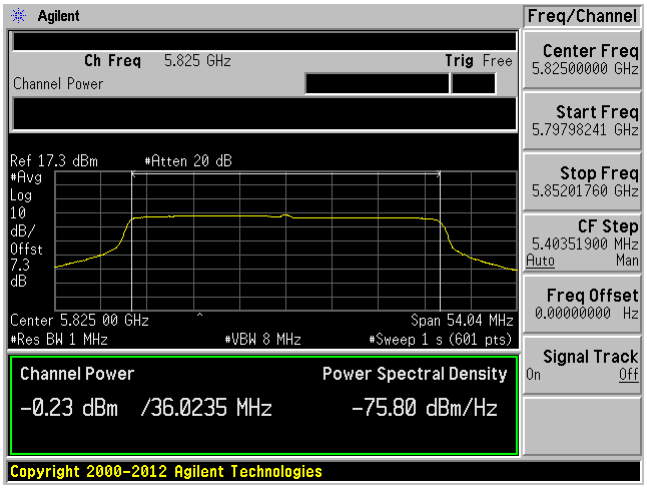
Chain 0 Middle channel: 5785 MHz



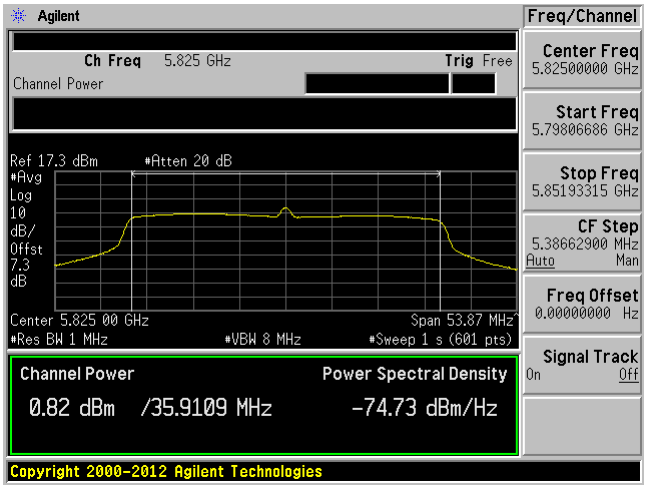
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5825 MHz



Chain 1 High channel: 5825 MHz



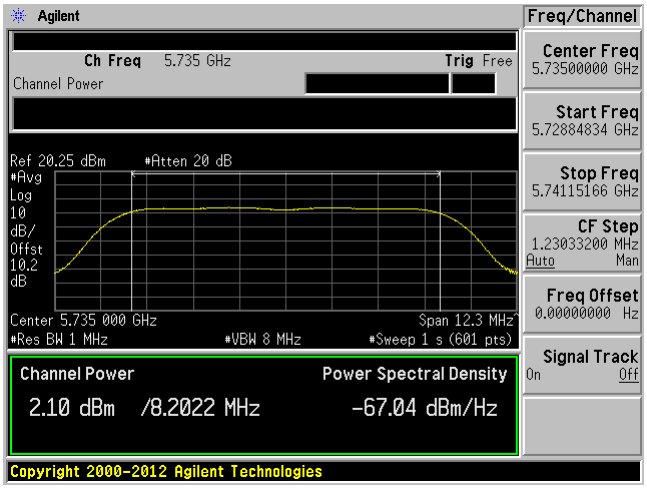
Power Setting 2 - for Dish Antenna

Channel	Frequency (MHz)	Conducted Output Power (dBm)			Limit (dBm)	Result
		Chain 0	Chain 1	Combined		
10 MHz Bandwidth						
Low	5735	2.10	2.93	5.55	30	Pass
Middle	5785	-0.72	0.28	2.82	30	Pass
High	5840	-1.19	-1.88	1.49	30	Pass
20 MHz Bandwidth						
Low	5740	1.96	2.39	5.19	30	Pass
Middle	5785	-0.37	0.62	3.33	30	Pass
High	5835	-0.44	-1.378	2.13	30	Pass
30 MHz Bandwidth						
Low	5745	2.04	2.39	5.23	30	Pass
Middle	5785	-0.10	0.62	3.29	30	Pass
High	5830	-0.12	-1.38	2.31	30	Pass
40 MHz Bandwidth						
Low	5750	-3.29	-3.26	-0.26	30	Pass
Middle	5785	-4.16	-4.64	-1.38	30	Pass
High	5825	-5.51	-5.78	-2.63	30	Pass

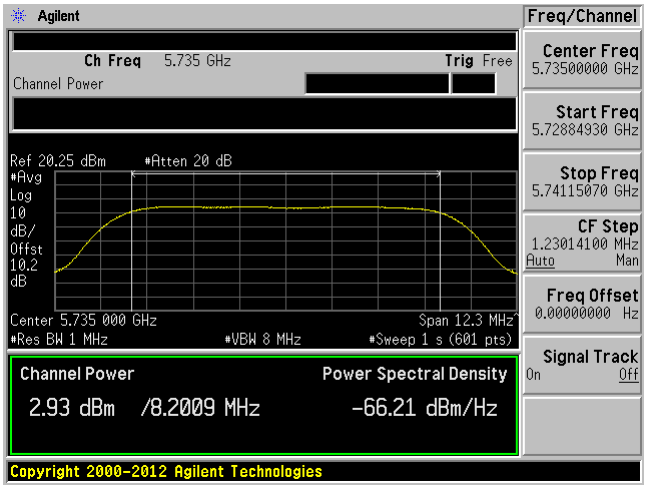
Note: When the device operates as a fixed point to point (sector antenna), the output power reduction of the amount in dB that exceeds 6 dBi is not needed.

10 MHz Bandwidth

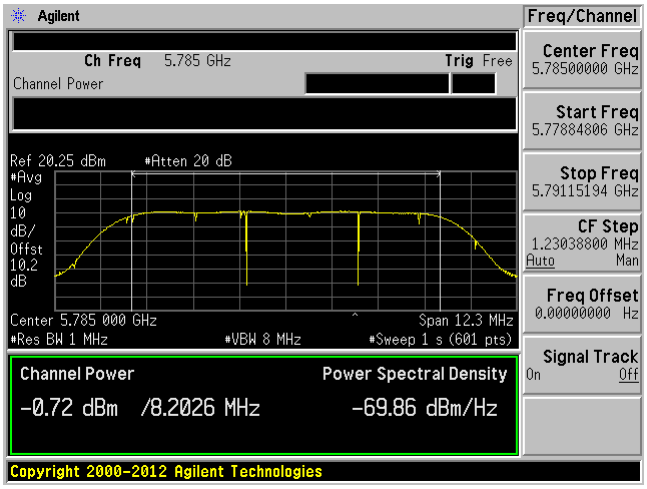
Chain 0 Low channel: 5735 MHz



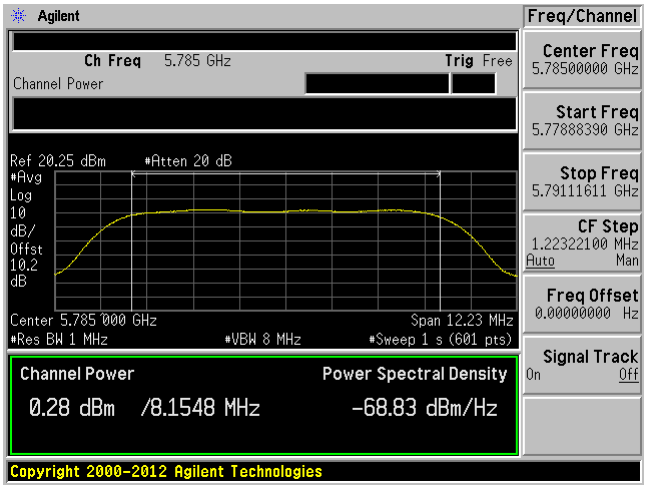
Chain 1 Low channel: 5735 MHz



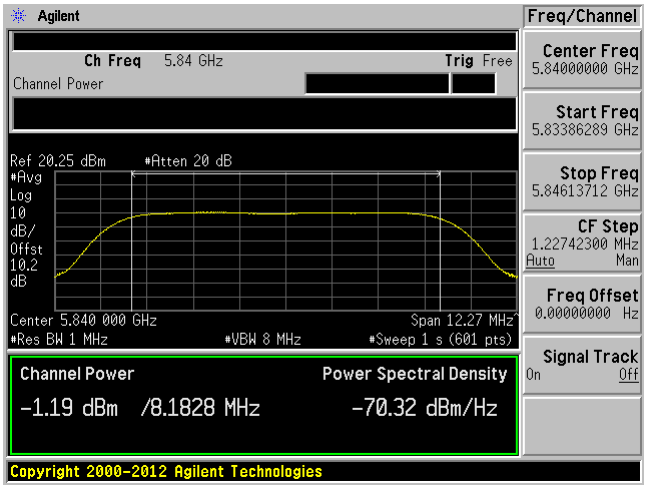
Chain 0 Middle channel: 5785 MHz



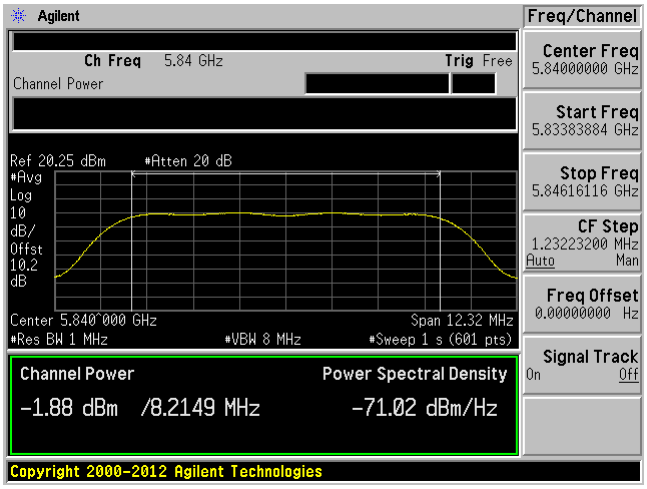
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5840 MHz

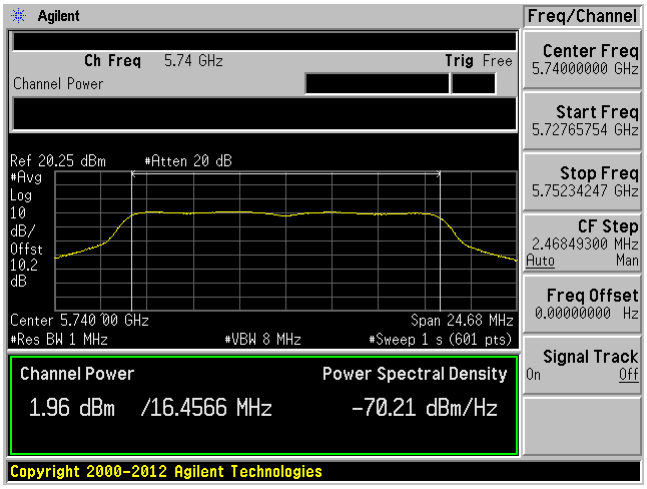


Chain 1 High channel: 5840 MHz

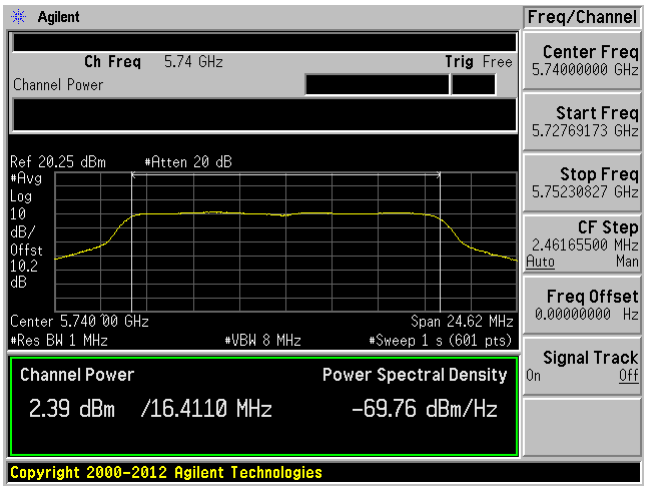


20 MHz Bandwidth

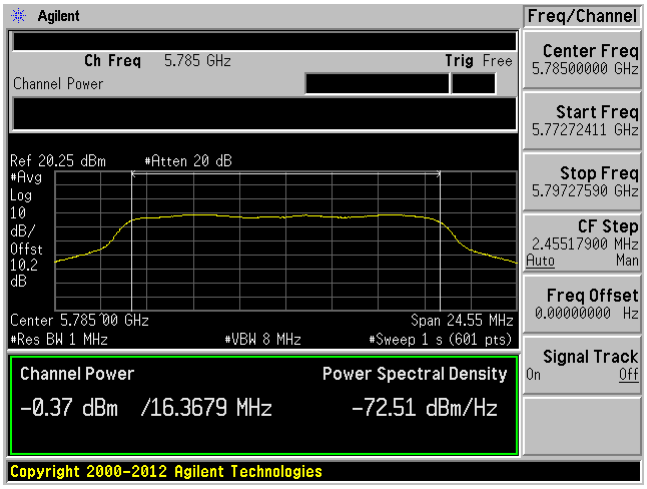
Chain 0 Low channel: 5740 MHz



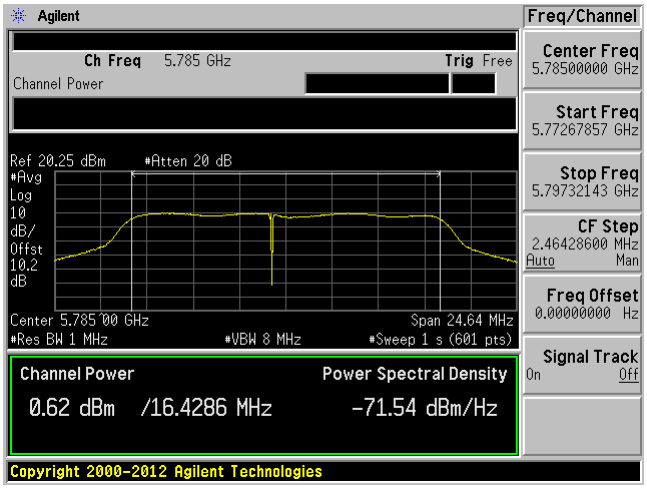
Chain 1 Low channel: 5740 MHz



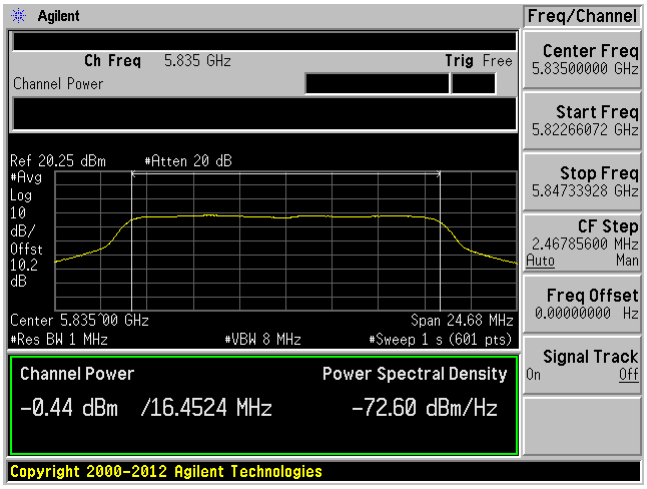
Chain 0 Middle channel: 5785 MHz



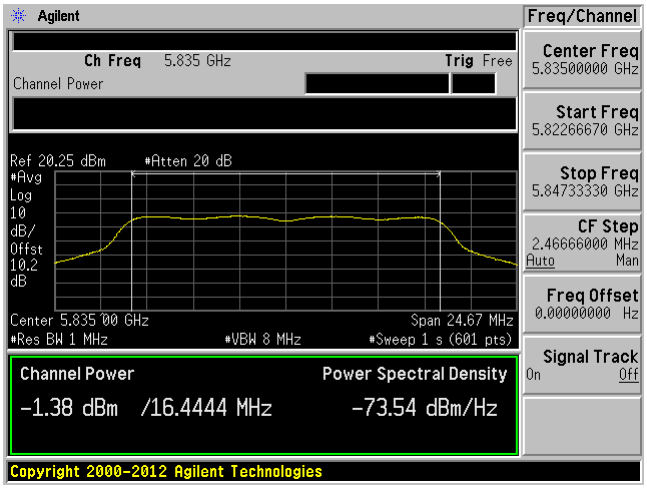
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5835 MHz

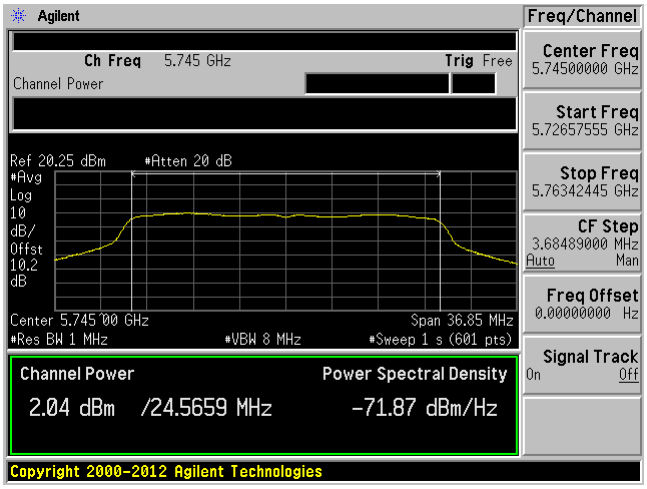


Chain 1 High channel: 5835 MHz

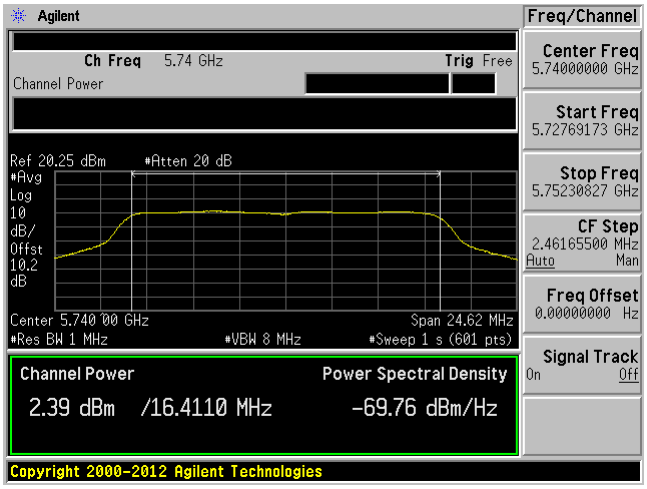


30 MHz Bandwidth

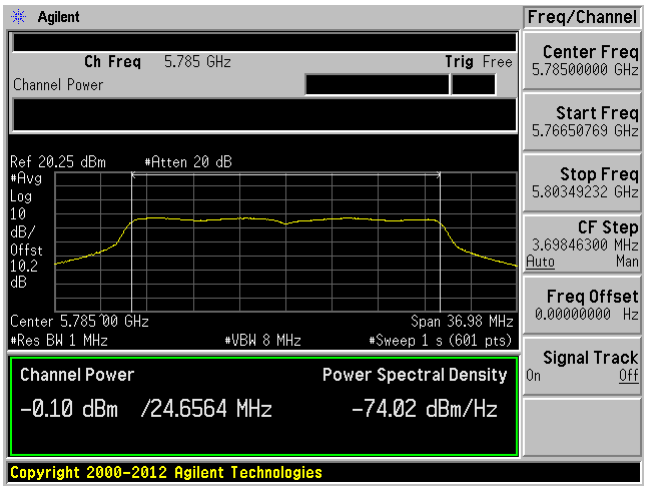
Chain 0 Low channel: 5745 MHz



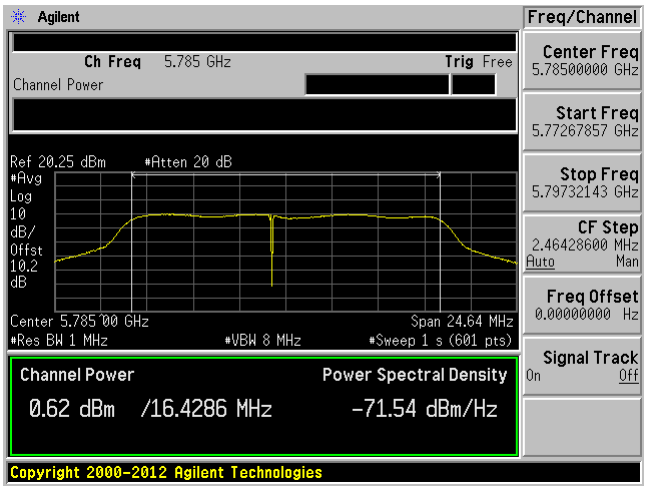
Chain 1 Low channel: 5745 MHz



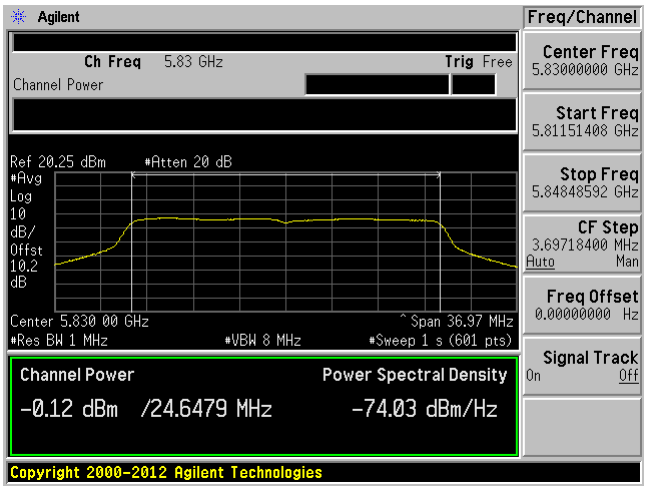
Chain 0 Middle channel: 5785 MHz



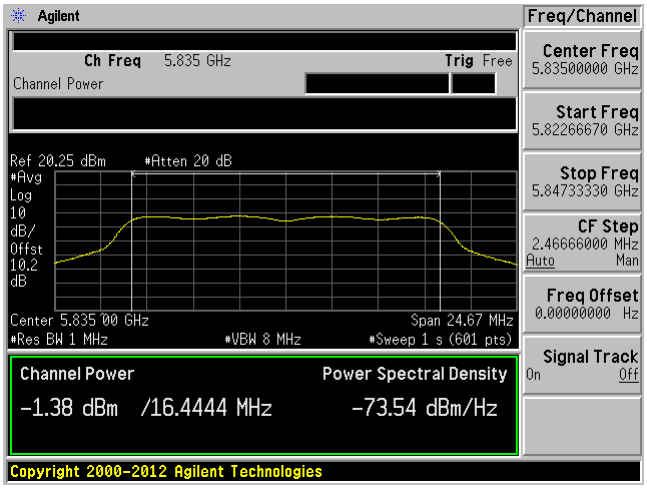
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5830 MHz

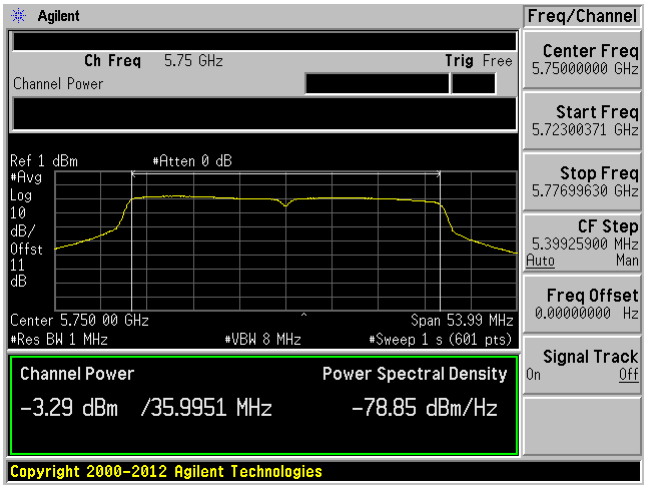


Chain 1 High channel: 5830 MHz

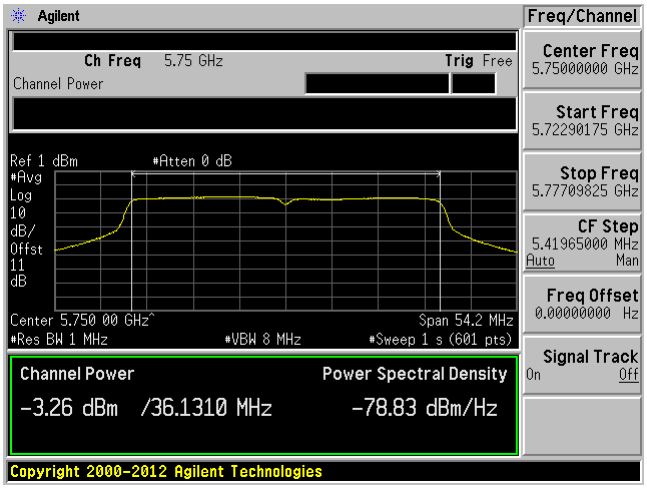


40 MHz Bandwidth

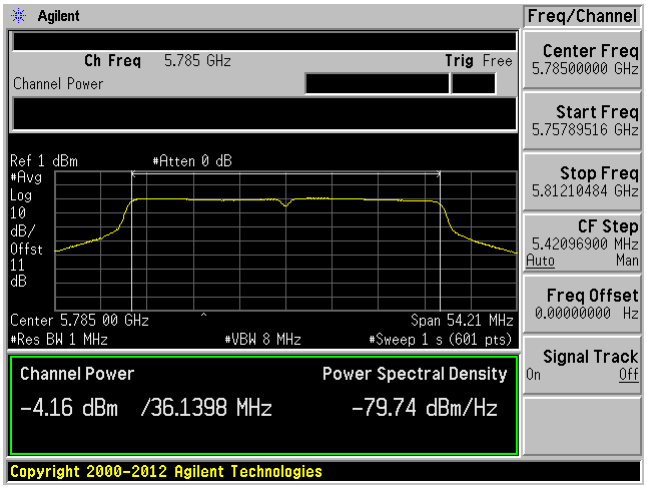
Chain 0 Low channel: 5750 MHz



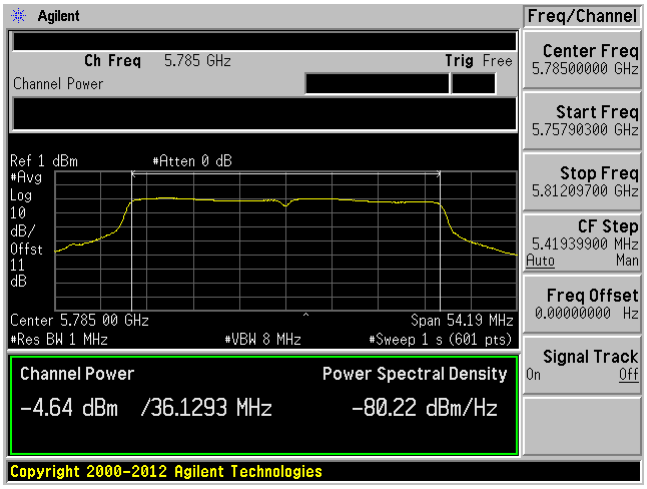
Chain 1 Low channel: 5750 MHz



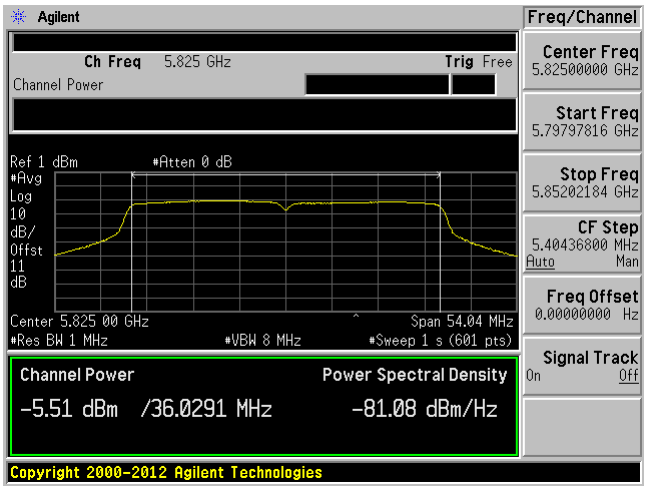
Chain 0 Middle channel: 5785 MHz



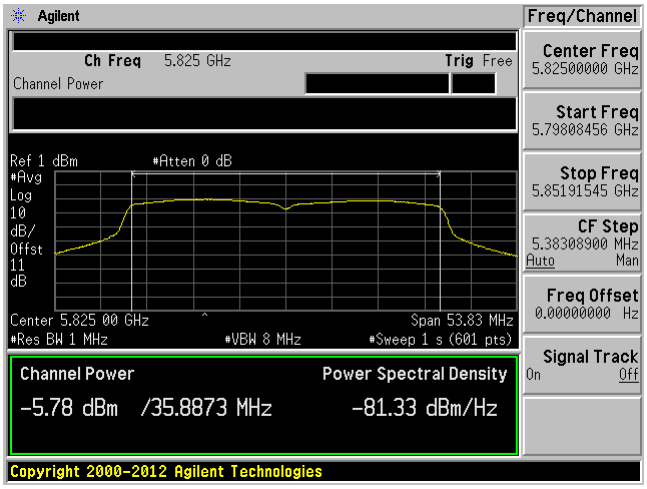
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5825 MHz



Chain 1 High channel: 5825 MHz



10 FCC §407(b) – Band Edge

10.1 Applicable Standards

According to FCC §15.407(b)

b(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of −27 dBm/MHz.

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

10.2 Measurement Procedure

Test measurements are based on FCC KDB 789033 D02 General UNII Test Procedures New Rules v01, GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORAMTION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPART E

10.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Agilent	Spectrum Analyzer	E4446A	MY48250238	2014-09-03	1 year

Statement of Traceability: BACL Corp. *attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.*

10.4 Test Environmental Conditions

Temperature:	22-25º C
Relative Humidity:	40-43 %
ATM Pressure:	102.1-104.4 kPa

The testing was performed by Ronak Patel on 2015-07-22 at RF site.

10.5 Test Results

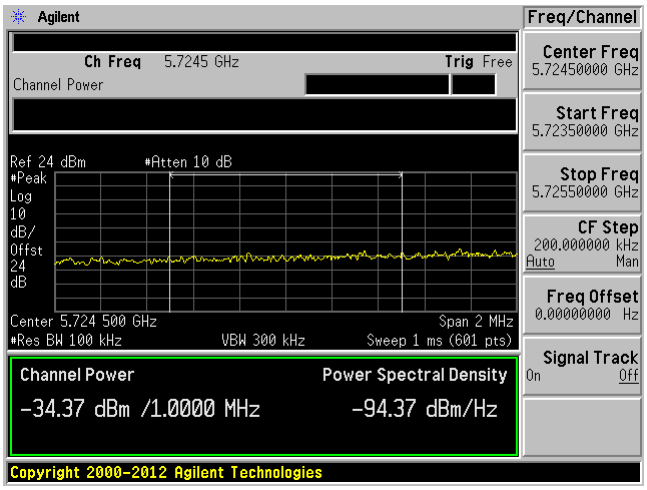
Please refer to the following tables and plots.

Note: The offset include the Antenna gain and cable loss.

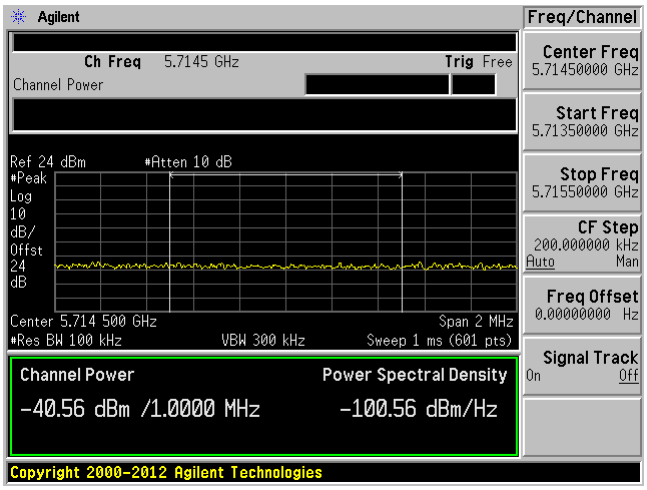
Band Edge (Sector Antenna)

Chain 0, 10 MHz Bandwidth

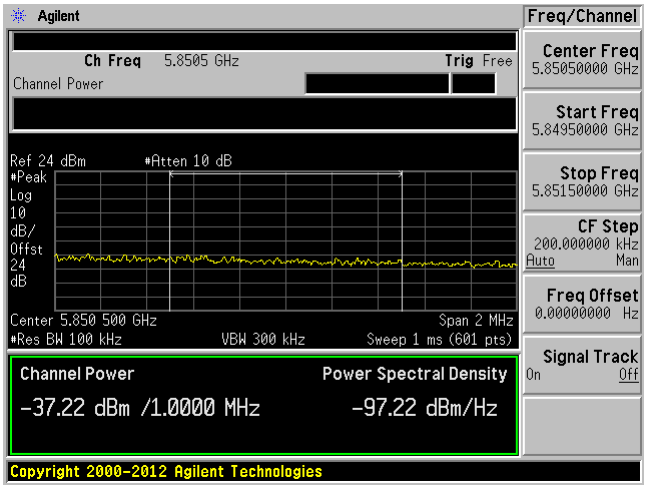
Chain 0 Low: 5735 MHz (High BE)



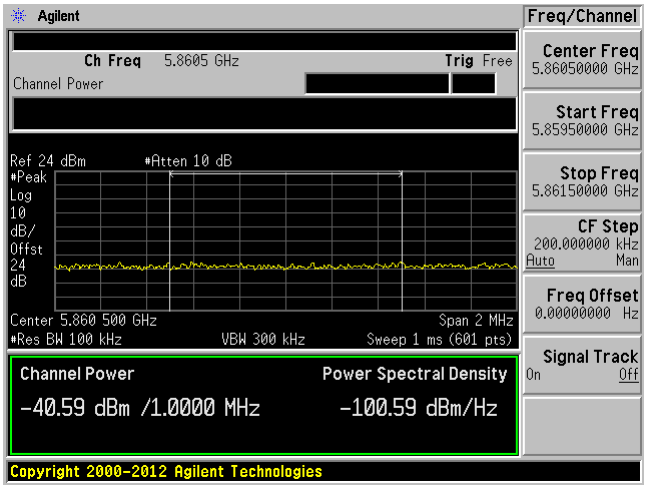
Chain 0 Low: 5735 MHz (Low BE)



Chain 0 high: 5840 MHz (High BE)

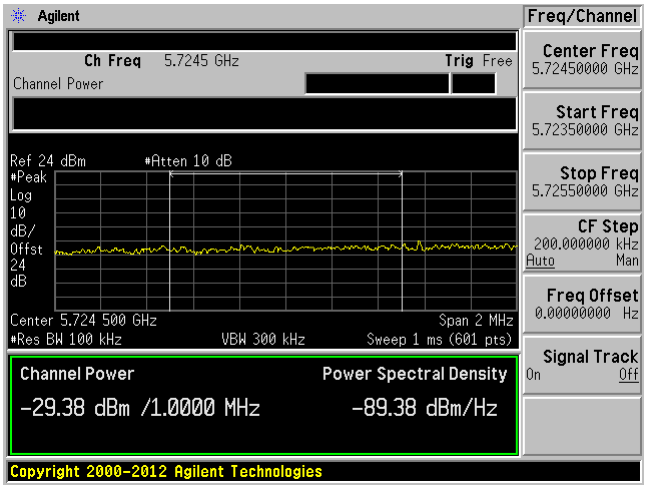


Chain 0 high: 5840 MHz (Low BE)

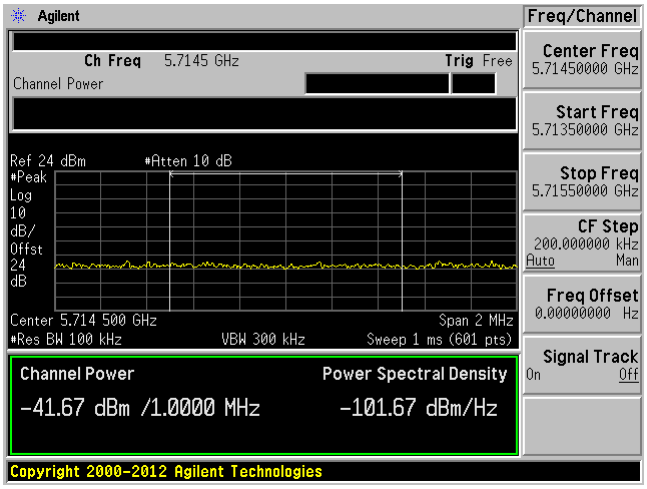


Chain 0, 20 MHz Bandwidth

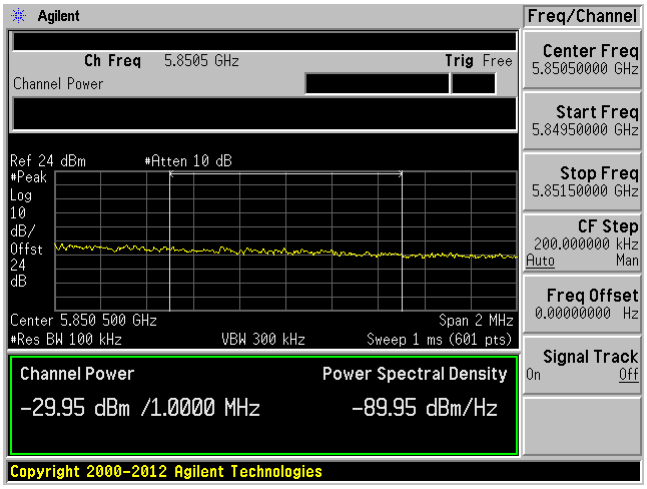
Chain 0 Low: 5740 MHz (High BE)



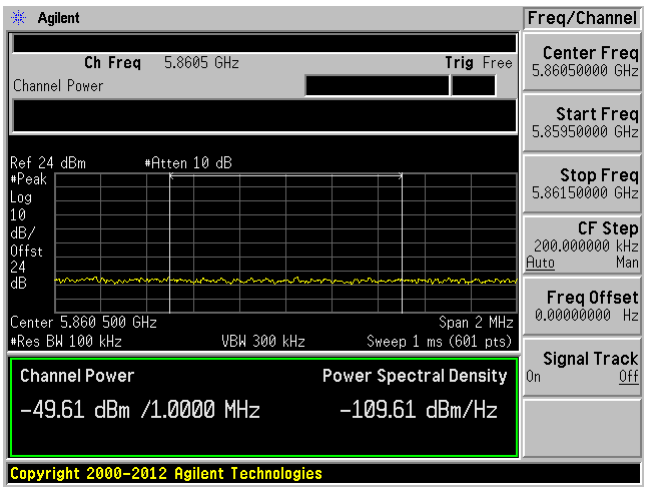
Chain 0 Low: 5740 MHz (Low BE)



Chain 0 high: 5835 MHz (High BE)

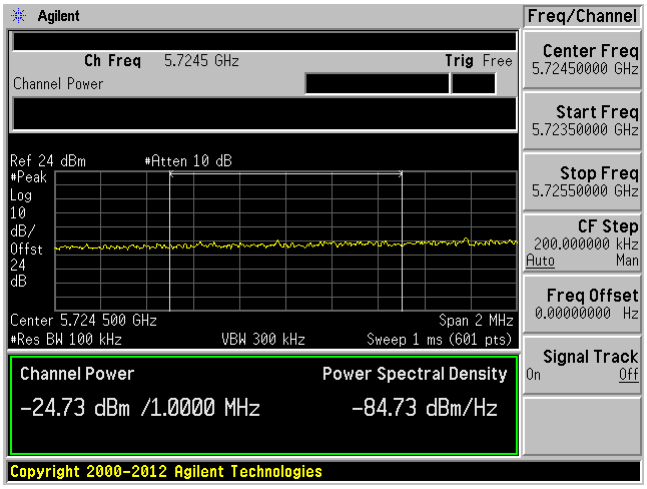


Chain 0 high: 5835 MHz (Low BE)

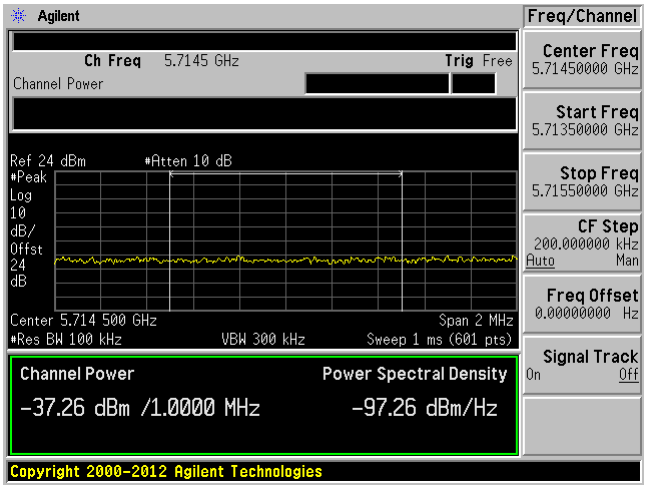


Chain 0, 30 MHz Bandwidth

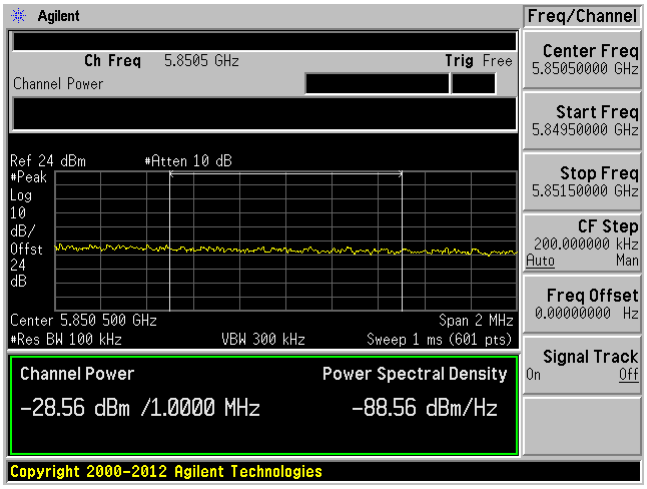
Chain 0 Low: 5745 MHz (High BE)



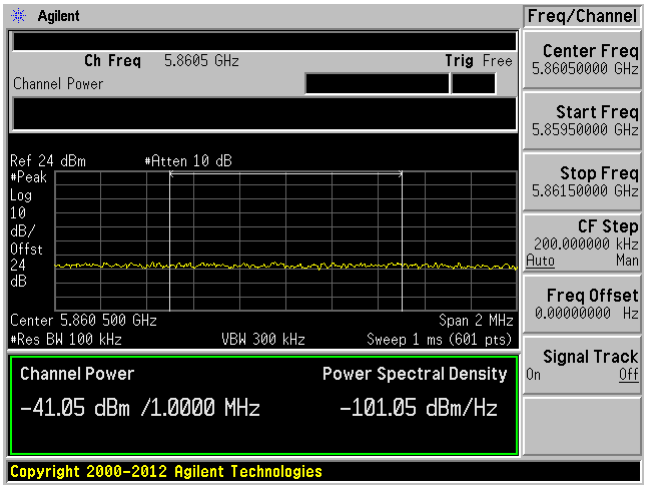
Chain 0 Low: 5745 MHz (Low BE)



Chain 0 high: 5830 MHz (High BE)

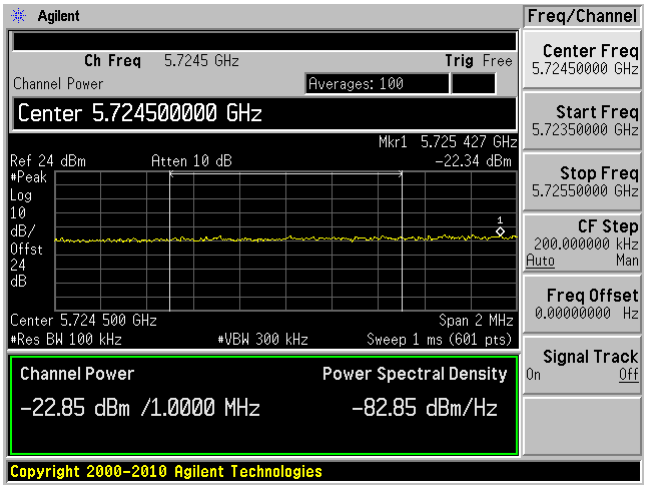


Chain 0 high: 5830 MHz (Low BE)

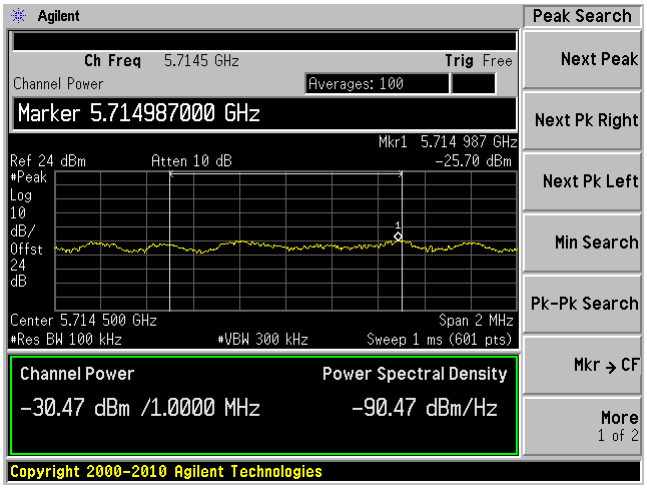


Chain 0, 40 MHz Bandwidth

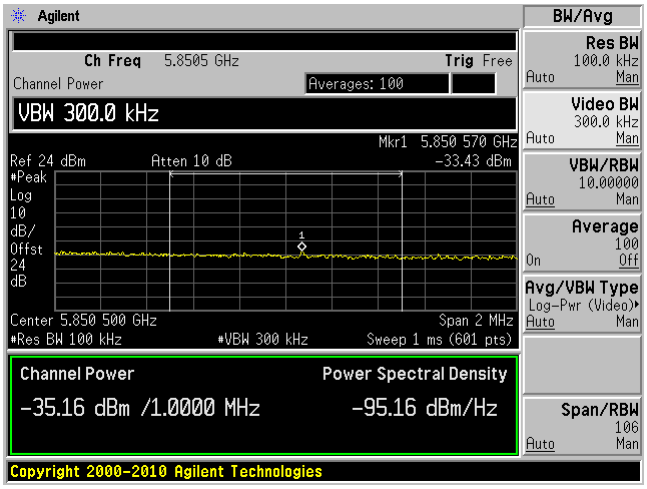
Chain 0 Low: 5750 MHz (High BE)



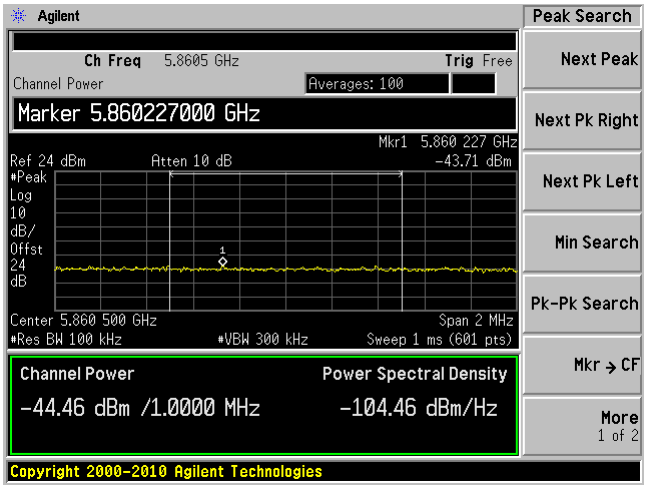
Chain 0 Low: 5750 MHz (Low BE)



Chain 0 high: 5825 MHz (High BE)

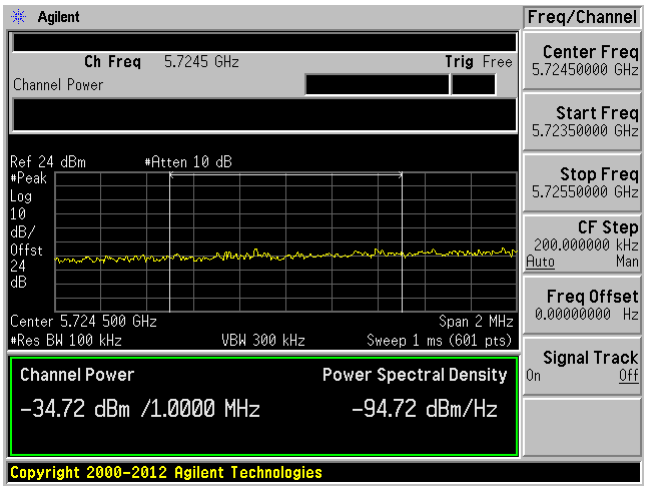


Chain 0 high: 5825 MHz (Low BE)

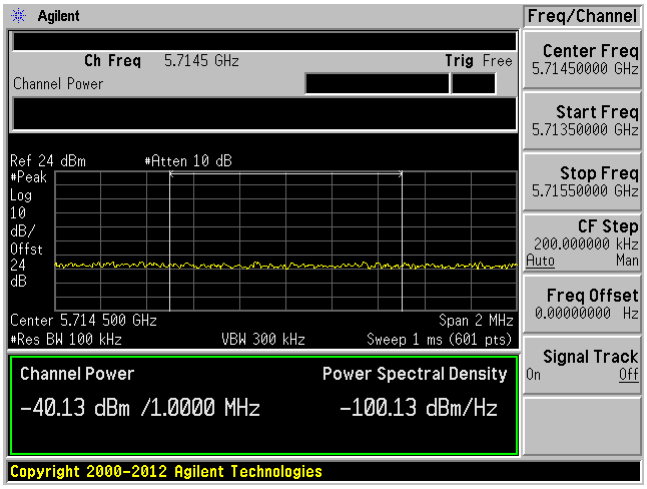


Chain 1, 10 MHz Bandwidth

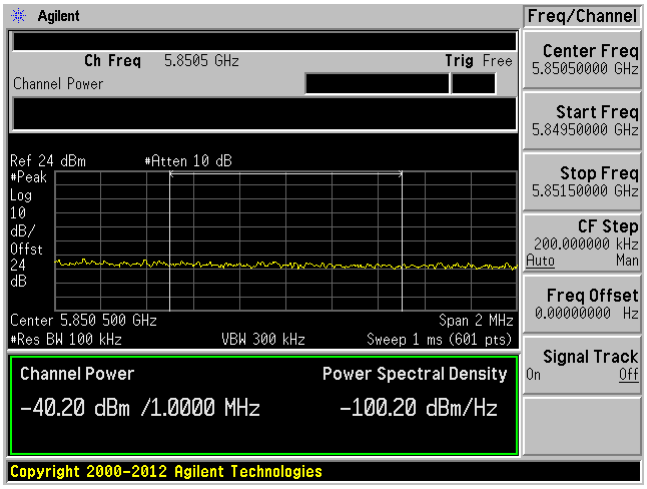
Low Channel: 5735 MHz (High BE)



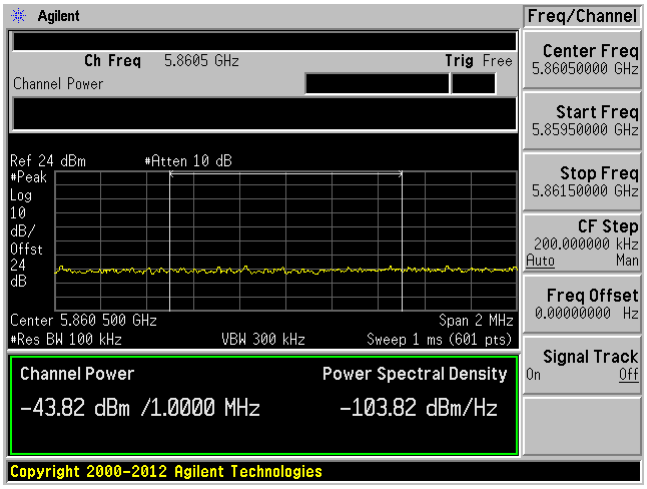
Low Channel: 5735 MHz (Low BE)



High Channel: 5840 MHz (High BE)

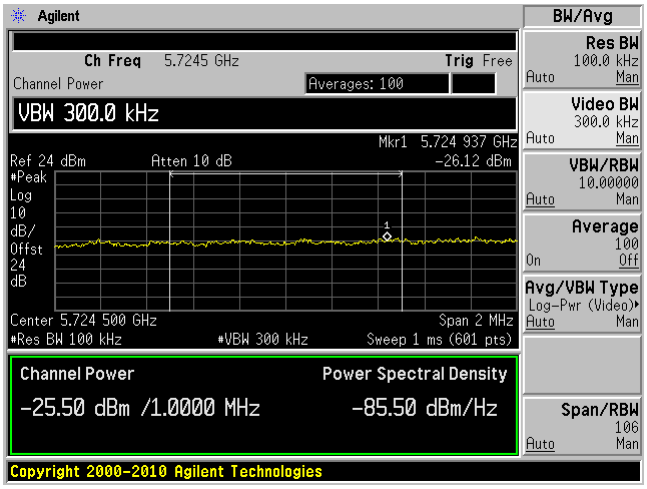


High Channel: 5840 MHz (Low BE)

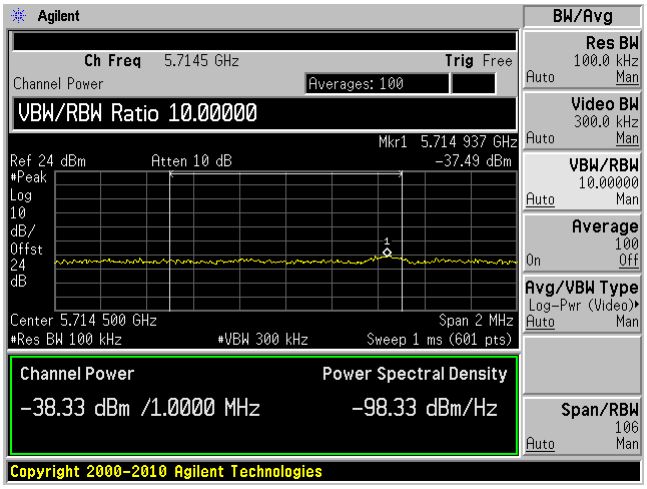


Chain 1, 20 MHz Bandwidth

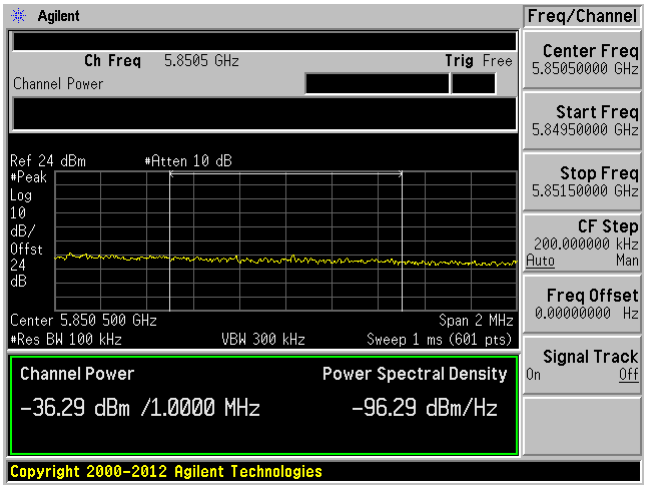
Low Channel: 5740 MHz (High BE)



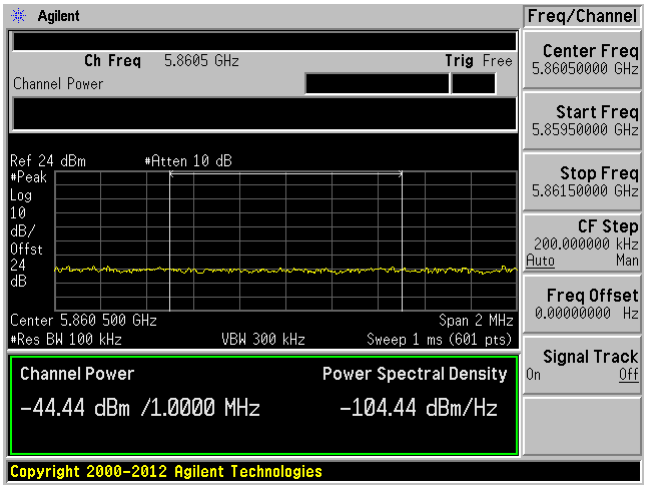
Low Channel: 5740 MHz (Low BE)



High Channel: 5835 MHz (High BE)

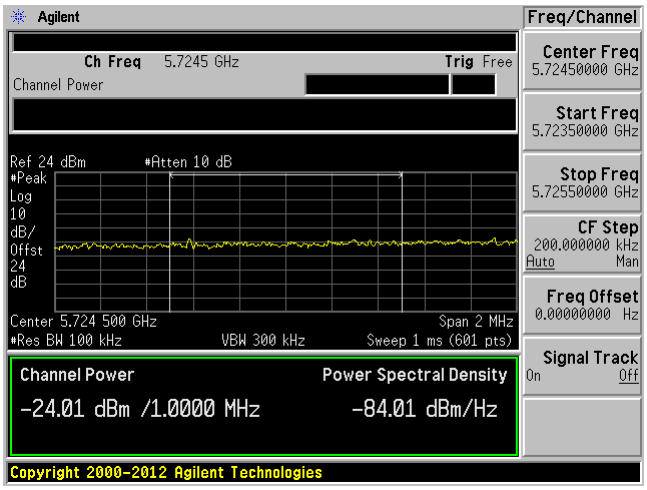


High Channel: 5835 MHz (Low BE)

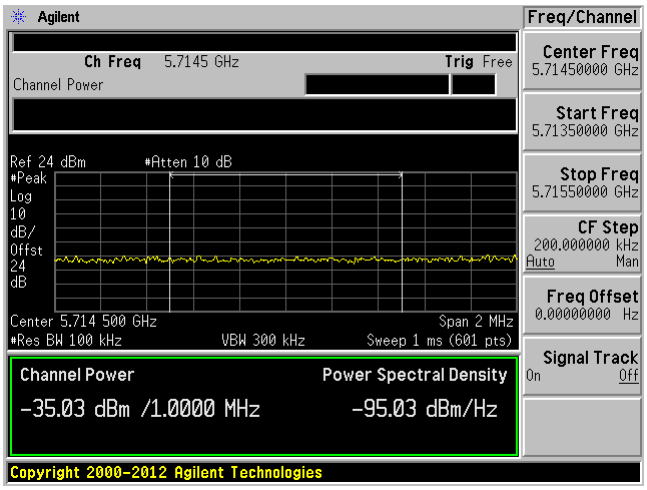


Chain 1, 30 MHz Bandwidth

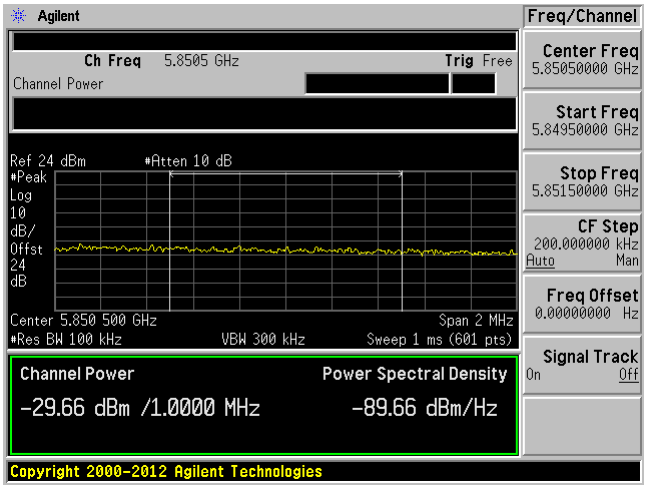
Low Channel: 5745 MHz (High BE)



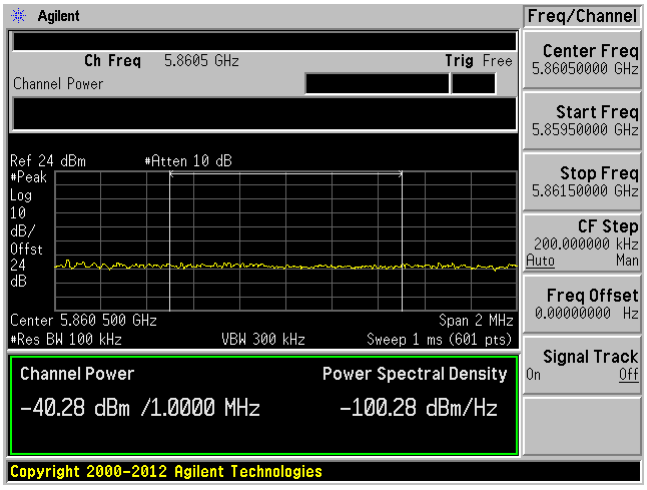
Low Channel: 5745 MHz (Low BE)



High Channel: 5830 MHz (High BE)

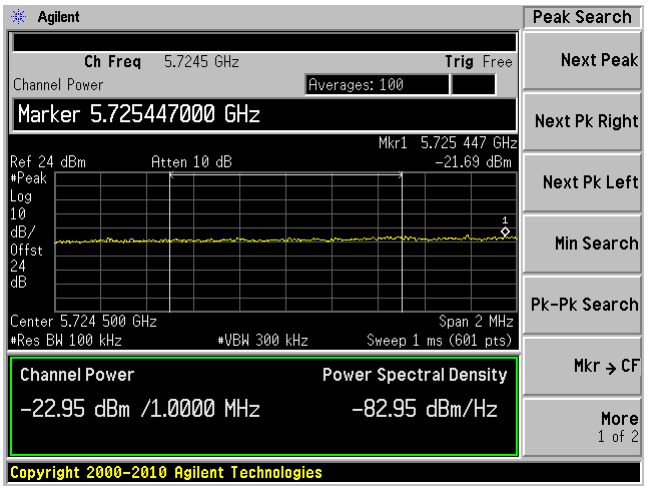


High Channel: 5830 MHz (Low BE)

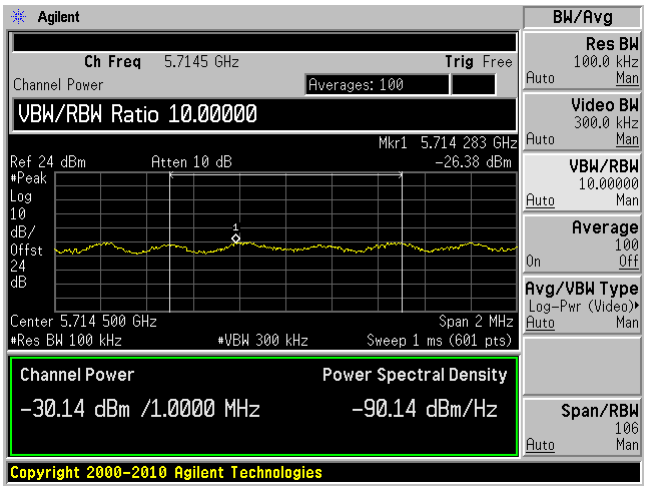


Chain 1, 40 MHz Bandwidth

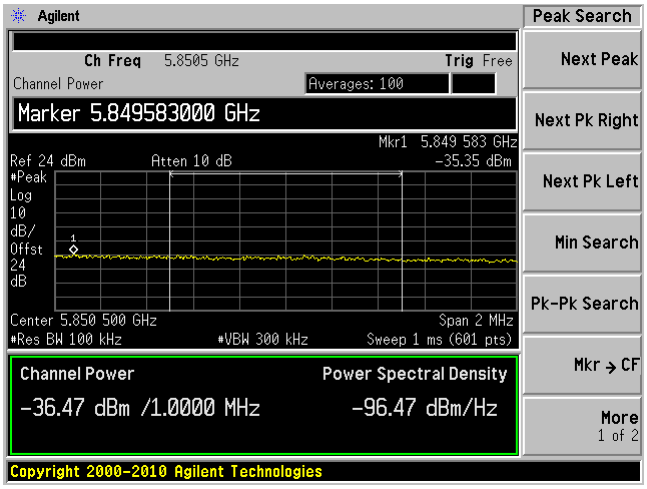
Low Channel: 5750 MHz (High BE)



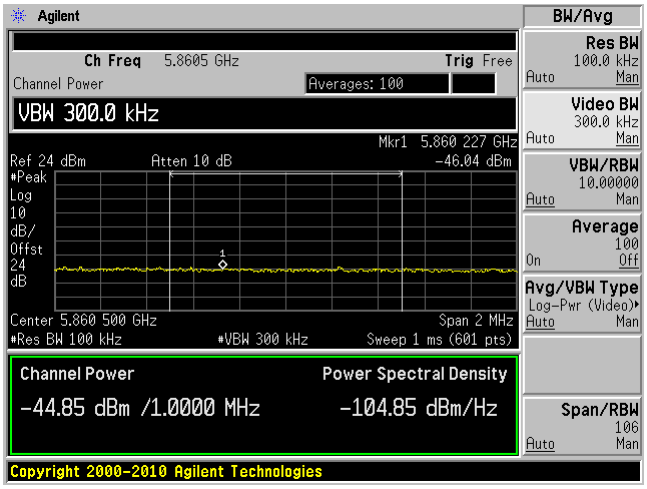
Low Channel: 5750 MHz (Low BE)



High Channel: 5825 MHz (High BE)



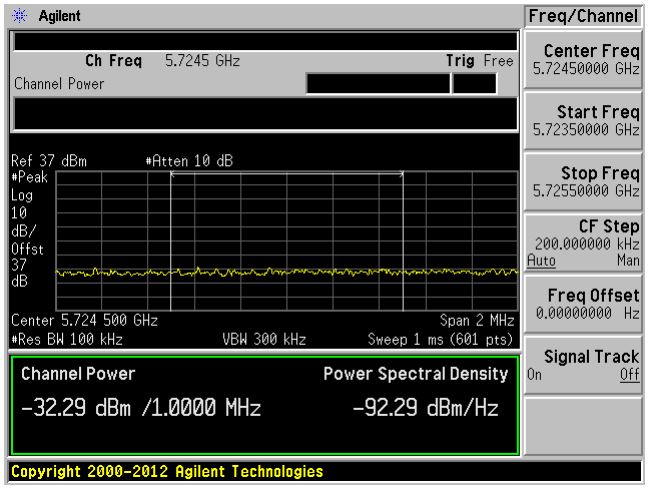
High Channel: 5825 MHz (Low BE)



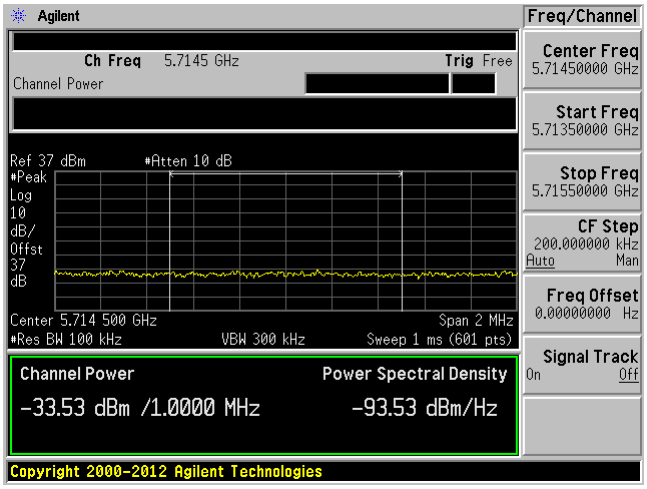
Band Edge (Dish Antenna)

Chain 0, 10 MHz Bandwidth

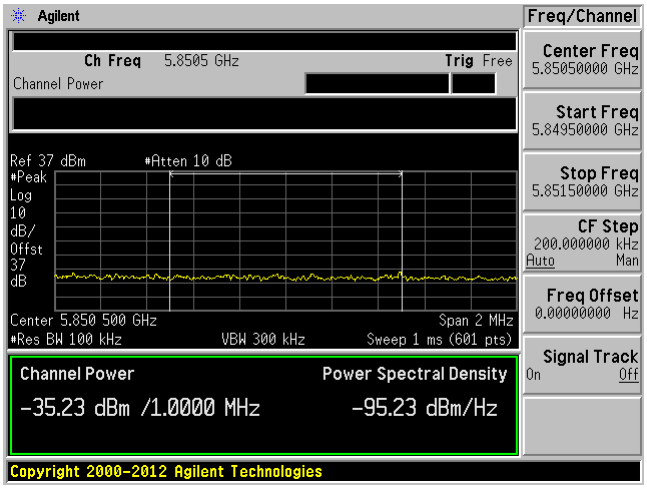
Low Channel: 5735 MHz (High BE)



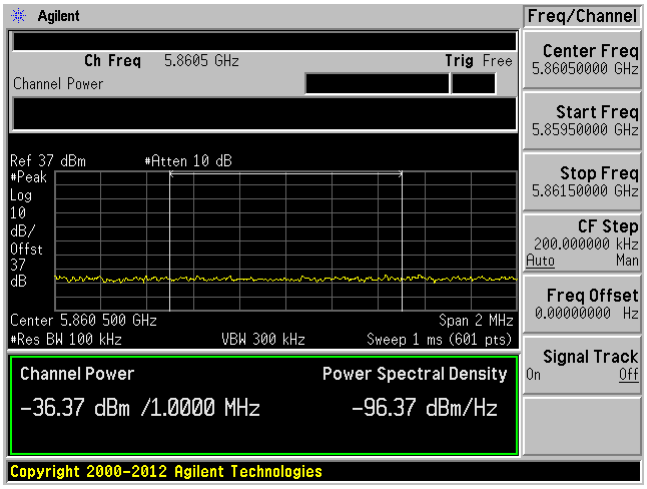
Low Channel: 5735 MHz (Low BE)



High Channel: 5840 MHz (High BE)

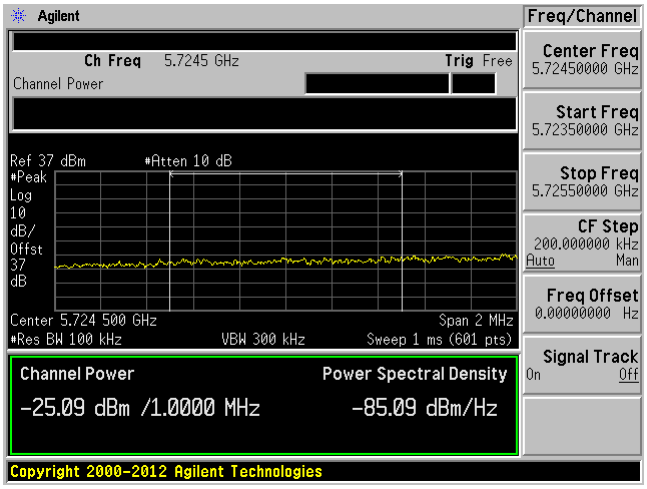


High Channel: 5840 MHz (Low BE)

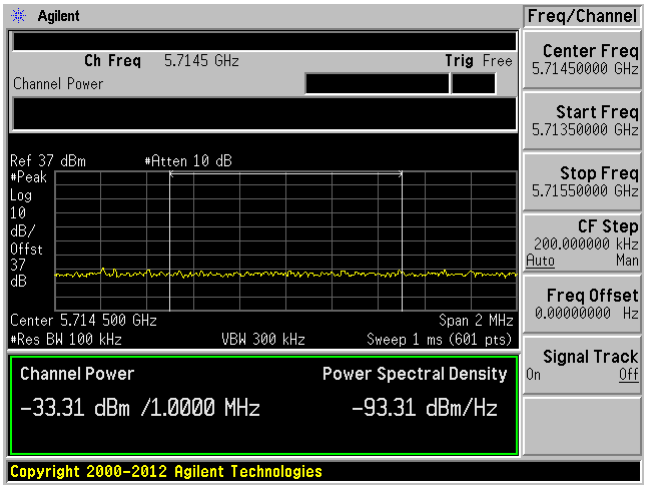


Chain0, 20 MHz Bandwidth

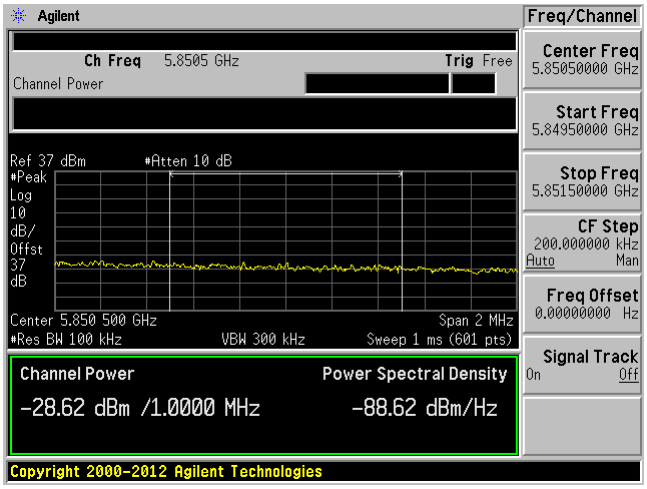
Low Channel: 5740 MHz (High BE)



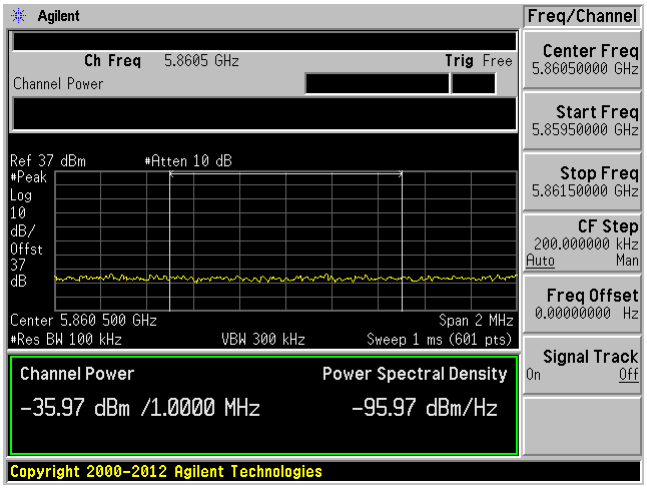
Low Channel: 5740 MHz (Low BE)



High Channel: 5835 MHz (High BE)

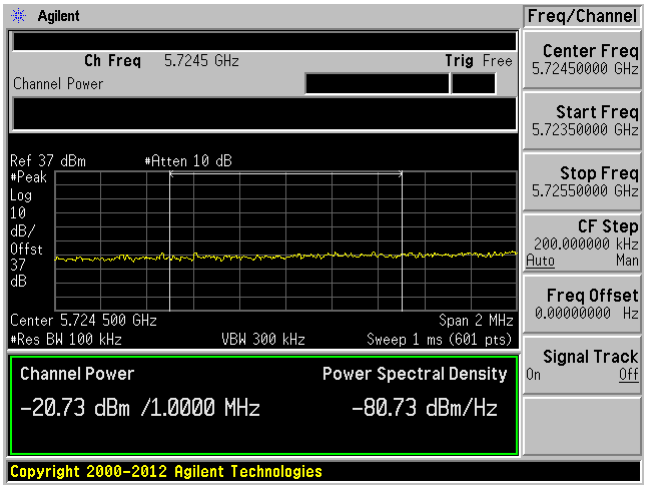


High Channel: 5835 MHz (Low BE)

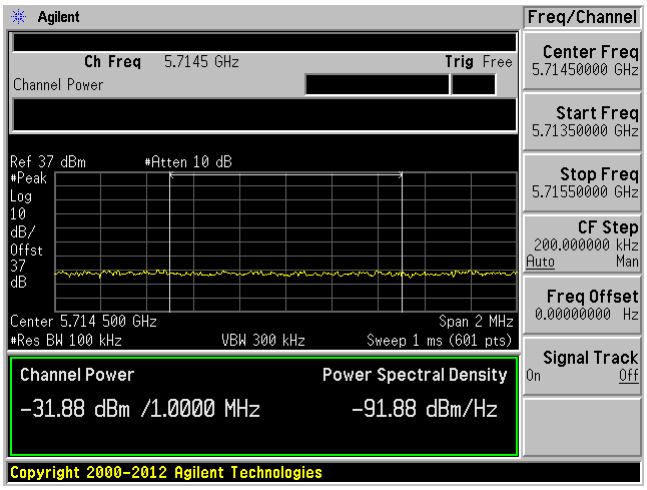


Chain 0, 30 MHz Bandwidth

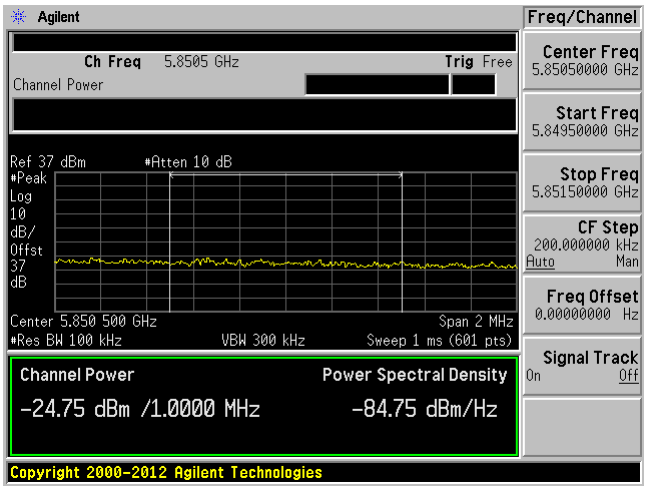
Low Channel: 5740 MHz (High BE)



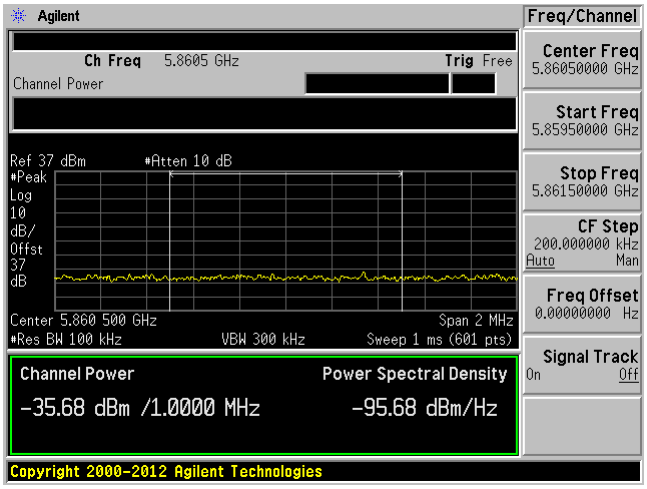
Low Channel: 5740 MHz (Low BE)



High Channel: 5830 MHz (High BE)

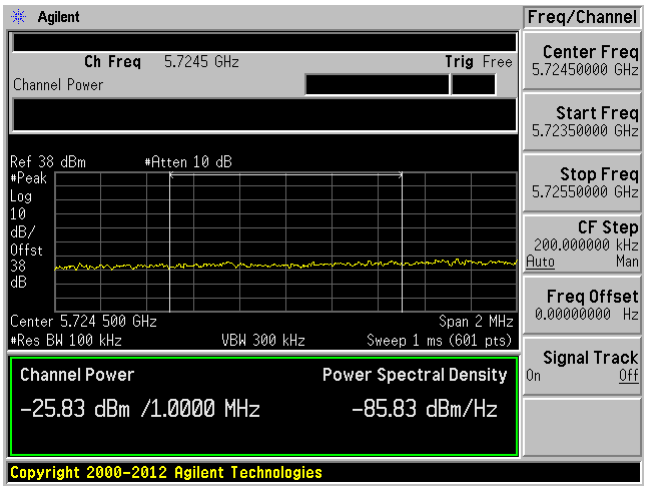


High Channel: 5830 MHz (Low BE)

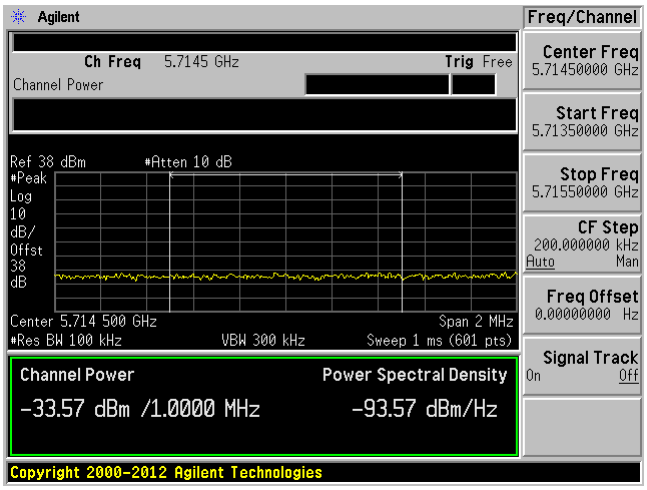


Chain 0, 40 MHz Bandwidth

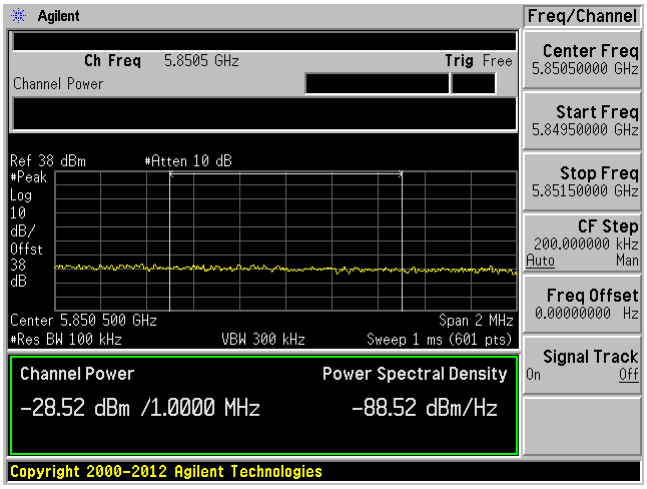
Low Channel: 5750 MHz (High BE)



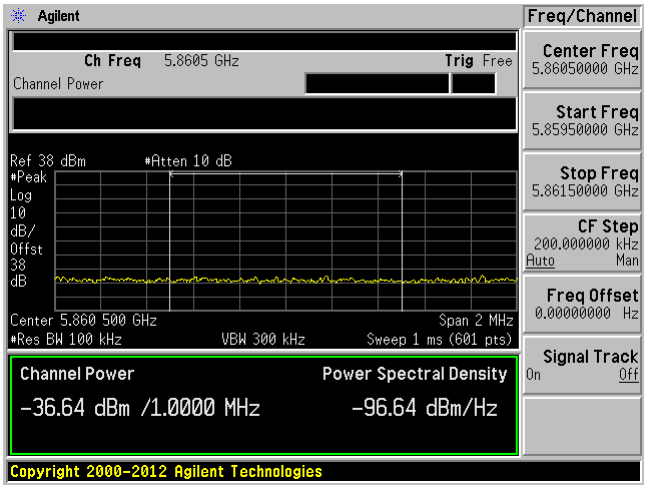
Low Channel: 5750 MHz (Low BE)



High Channel: 5825 MHz (High BE)

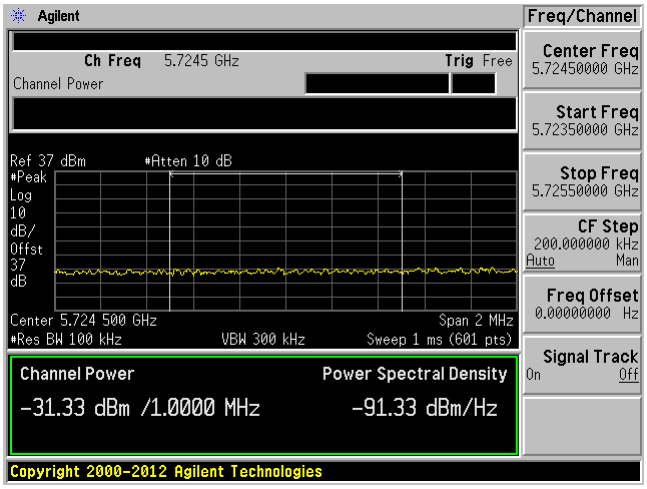


High Channel: 5825 MHz (Low BE)

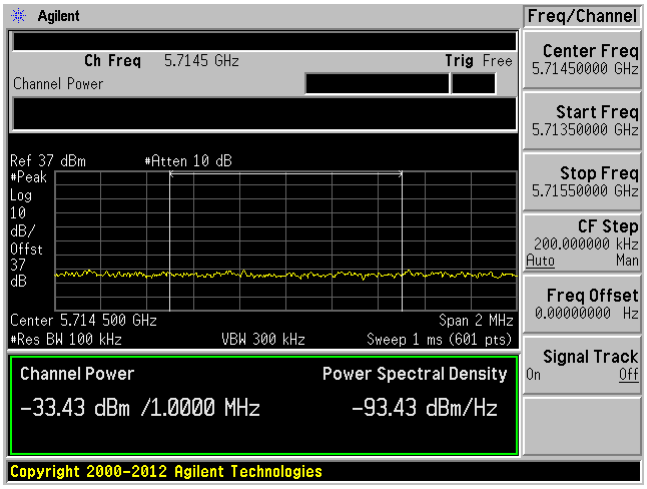


Chain 1, 10 MHz Bandwidth

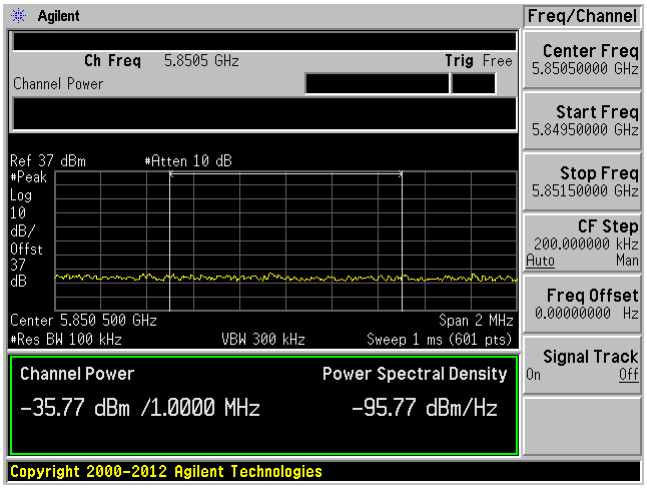
Low Channel: 5735 MHz (High BE)



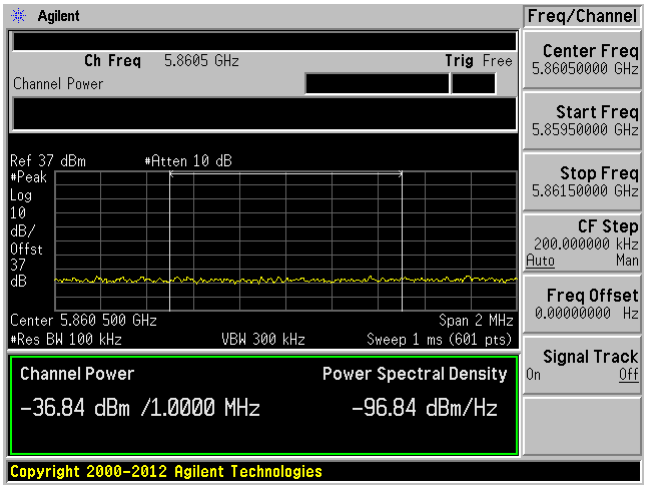
Low Channel: 5735 MHz (Low BE)



High Channel: 5840 MHz (High BE)

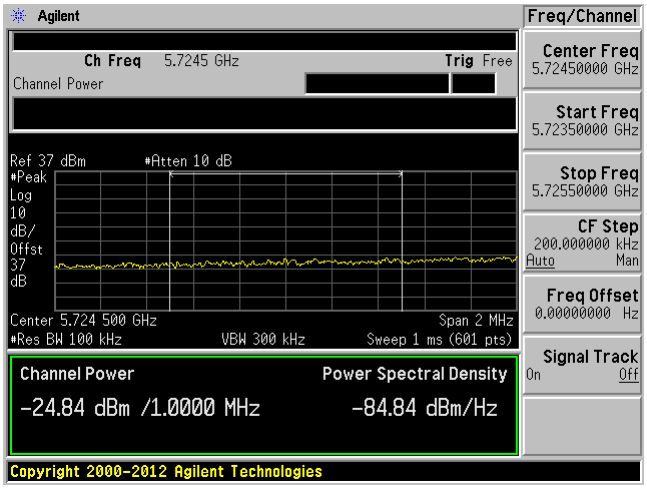


High Channel: 5840 MHz (Low BE)

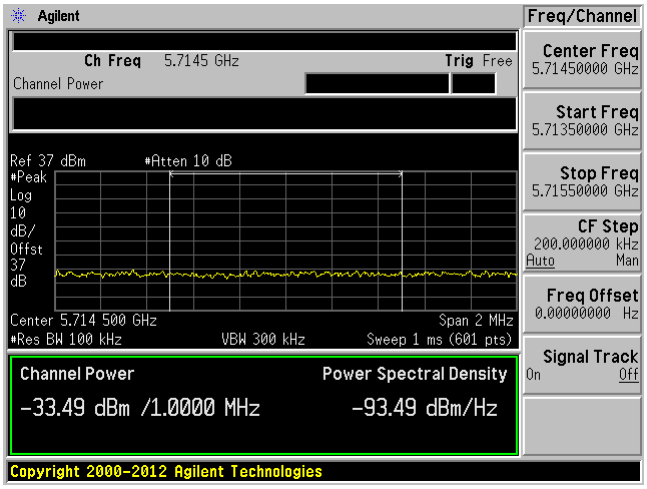


Chain 1, 20 MHz Bandwidth

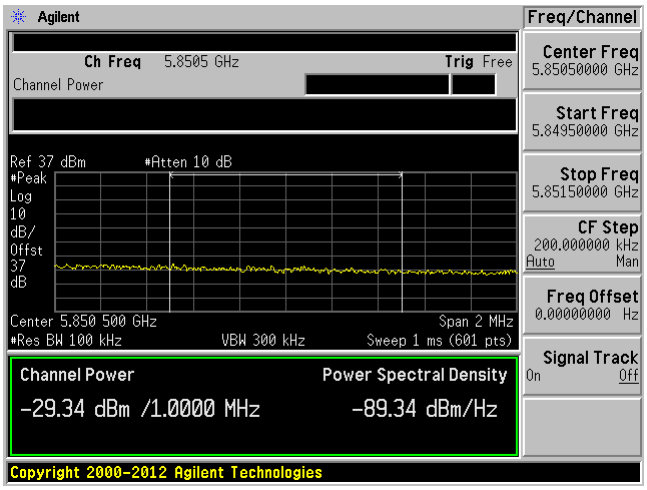
Low Channel: 5740 MHz (High BE)



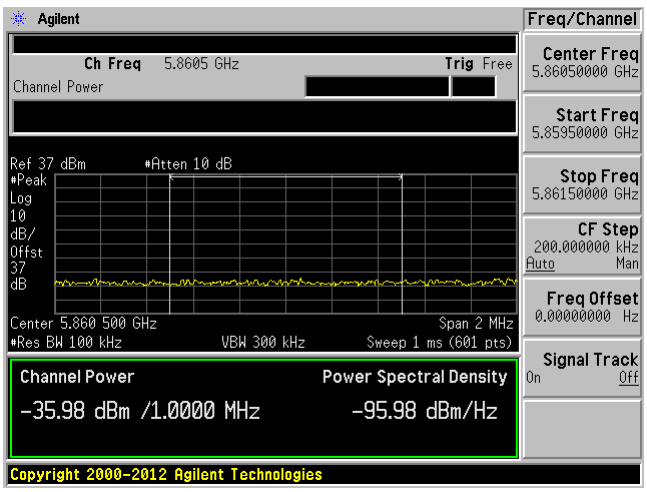
Low Channel: 5740 MHz (Low BE)



High Channel: 5835 MHz (High BE)

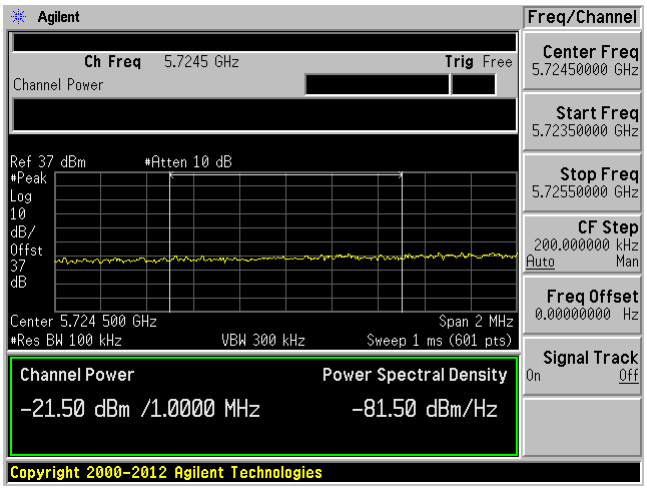


High Channel: 5835 MHz (Low BE)

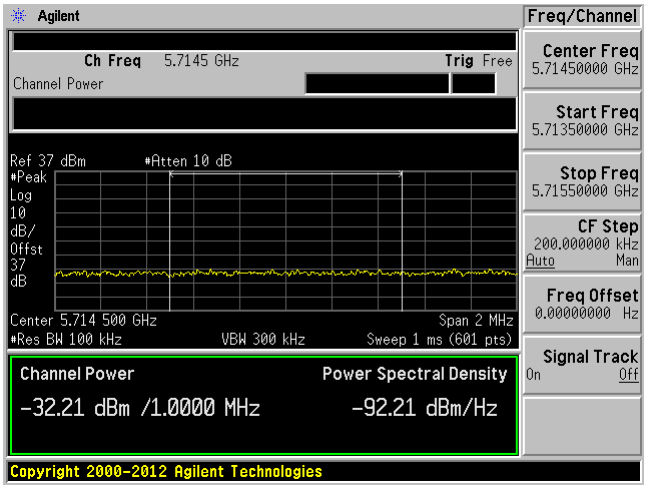


Chain 1, 30 MHz Bandwidth

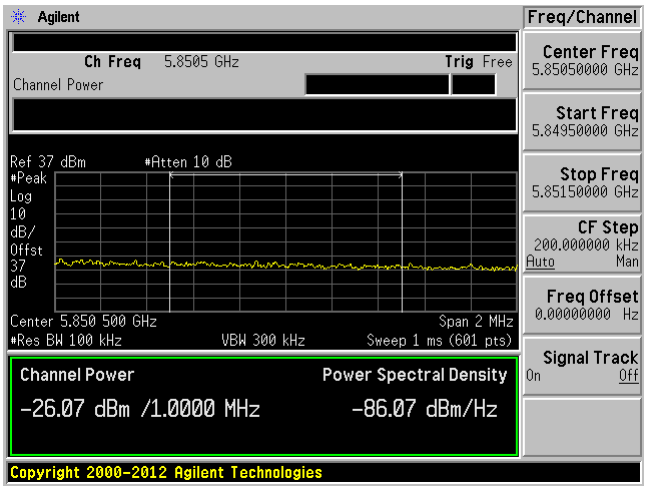
Low Channel: 5745 MHz (High BE)



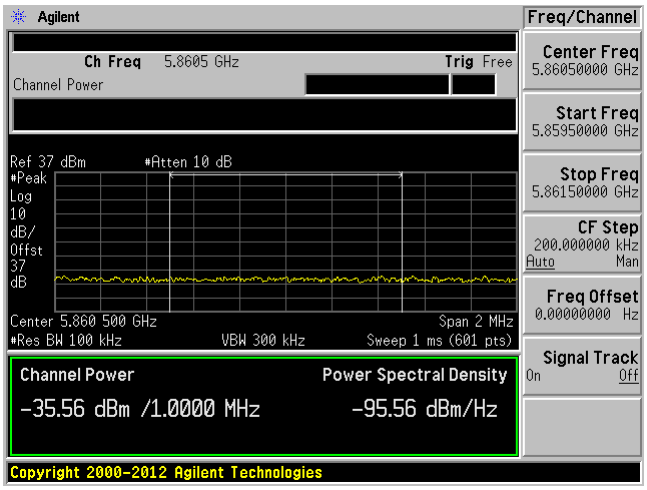
Low Channel: 5745 MHz (Low BE)



High Channel: 5830 MHz (High BE)

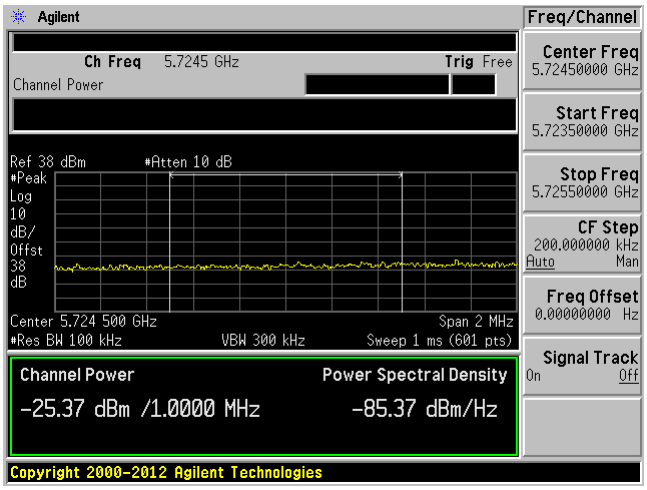


High Channel: 5830 MHz (Low BE)

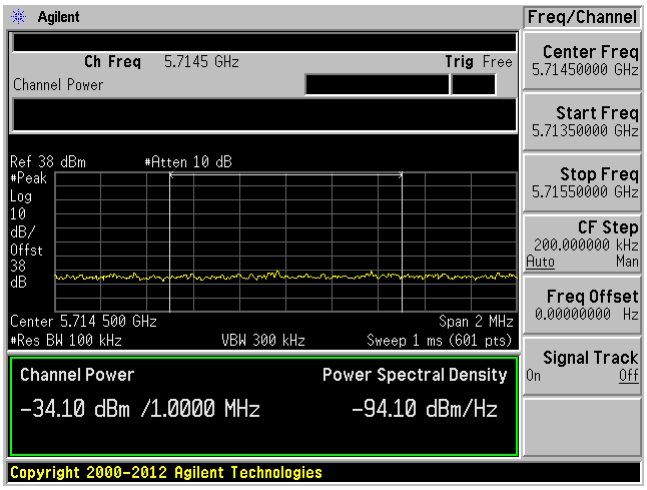


Chain 1, 40 MHz Bandwidth

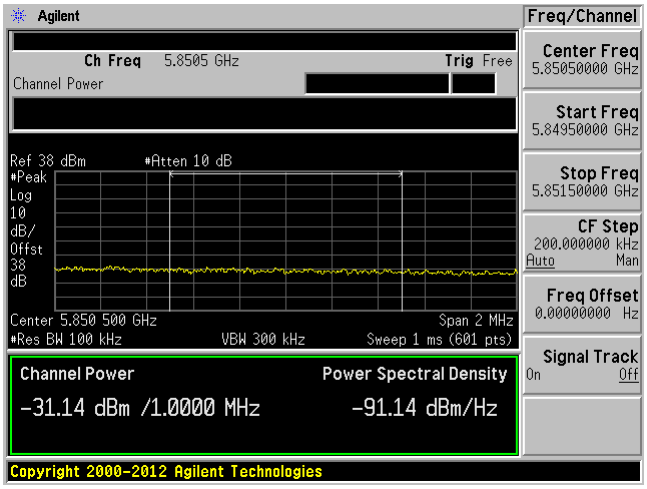
Low Channel: 5750 MHz (High BE)



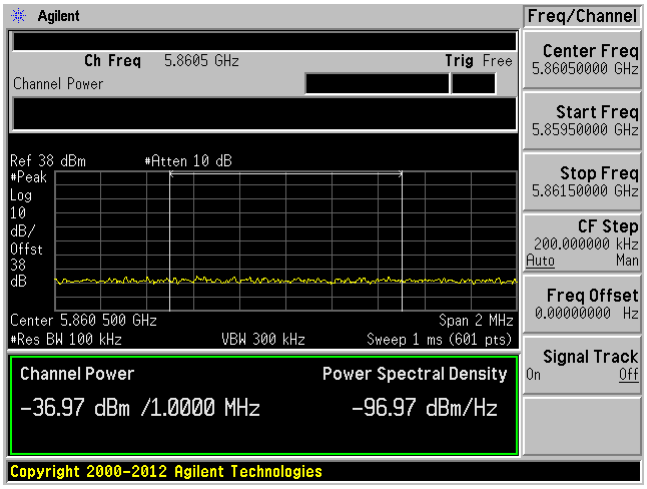
Low Channel: 5750 MHz (Low BE)



High Channel: 5825 MHz (High BE)



High Channel: 5825 MHz (Low BE)



11 FCC §15.407(a) - Power Spectral Density

11.1 Applicable Standards

According to FCC §15.407(a)

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

11.2 Measurement Procedure

The measurements are base on FCC KDB 789033 D02 General UNII Test Procedures New Rules v01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices section F: Peak power spectral density (PPSD)

11.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Agilent	Spectrum Analyzer	E4446A	MY48250238	2014-09-03	1 year

Statement of Traceability: BACL Corp. *attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.*

11.4 Test Environmental Conditions

Temperature:	23 ºC
Relative Humidity:	42 %
ATM Pressure:	102.5 kPa

The testing was performed by Ronak Patel from 2015-07-22 to 2015-07-26 at RF site.

11.5 Test Results

Please refer to the following tables and plots.

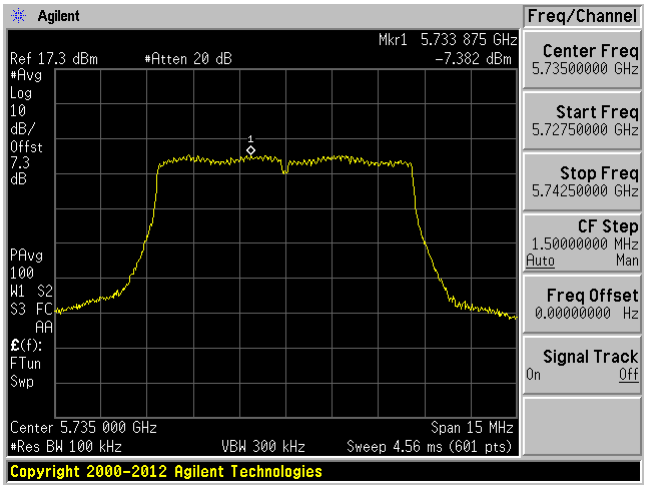
Power Setting 1 – for Omni and Sector Antenna

Channel	Frequency (MHz)	Power Spectral Density (dBm)			RBW Factor (dB)	Max PSD (dBm)	Limit P-t-P (dBm)	Limit P-t-MP (dBm)	Result
		Chain 0	Chain 1	Combined					
10 MHz Bandwidth									
Low	5735	-7.382	-8.718	-4.99	6.99	2	30	22.2	Pass
Middle	5785	-2.42	-3.599	0.04	6.99	7.03	30	22.2	Pass
High	5840	-8.191	-7.624	-4.89	6.99	2.1	30	22.2	Pass
20 MHz Bandwidth									
Low	5740	-2.156	3.347	4.42	6.99	11.41	30	22.2	Pass
Middle	5785	0.402	-1.009	2.76	6.99	9.75	30	22.2	Pass
High	5835	-14.596	-14.687	-11.63	6.99	-4.64	30	22.2	Pass
30 MHz Bandwidth									
Low	5745	-10.79	-11.607	-8.17	6.99	-1.18	30	22.2	Pass
Middle	5785	-5.355	-6.218	-2.75	6.99	4.24	30	22.2	Pass
High	5830	-13.372	-13.203	-10.28	6.99	-3.29	30	22.2	Pass
40 MHz Bandwidth									
Low	5750	-1.625	0.386	2.51	6.99	9.5	30	22.2	Pass
Middle	5785	-3.45	-2.07	0.30	6.99	7.29	30	22.2	Pass
High	5825	-17.394	-12.154	-11.02	6.99	-4.03	30	22.2	Pass

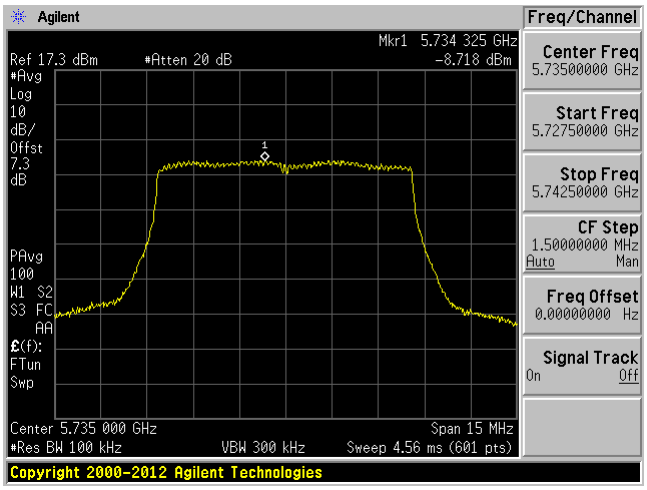
Note: (1) The PSA's RBW=100 kHz and a 10*log(5) factor is added to compare the limit as 30 dBm/500 kHz
(2) When the device operates as a fixed point to point (sector antenna), the PSD reduction of the amount in dB that exceeds 6 dBi is not needed.
(3) When the device operates as a fixed point to multi point (Omni and sector antenna), the PSD shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi, i.e. 22.2 dBm.

10 MHz Bandwidth

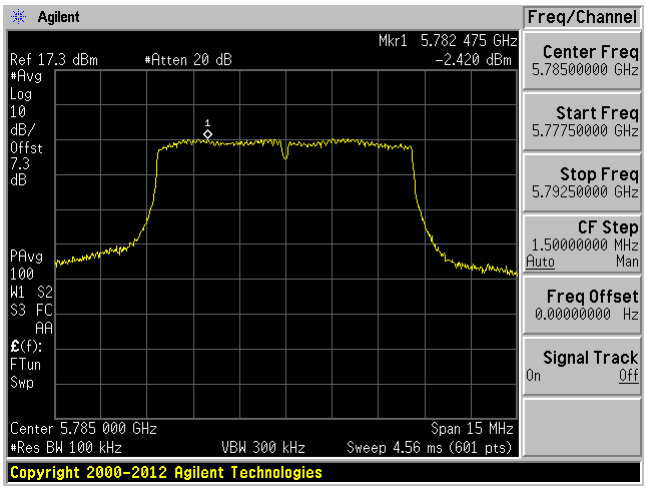
Chain 0 Low channel: 5735 MHz



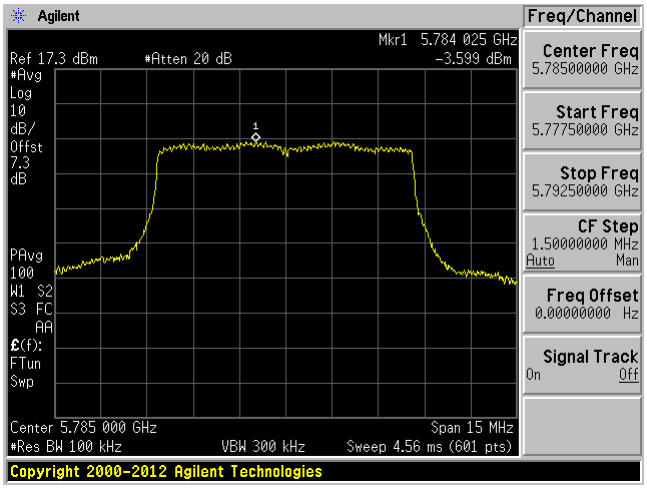
Chain 1 Low channel: 5735 MHz



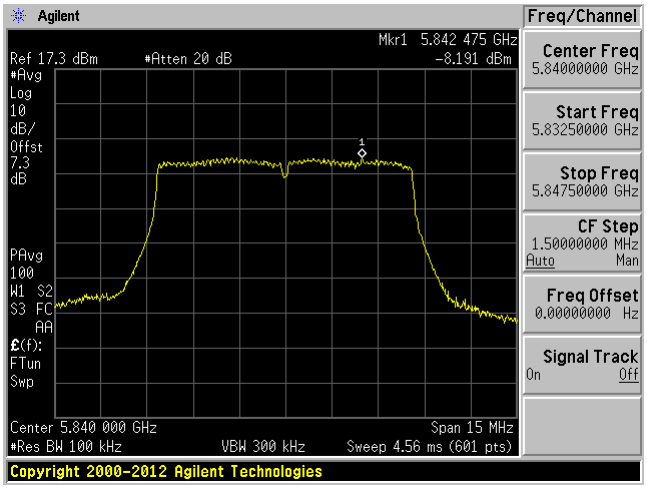
Chain 0 Middle channel: 5785 MHz



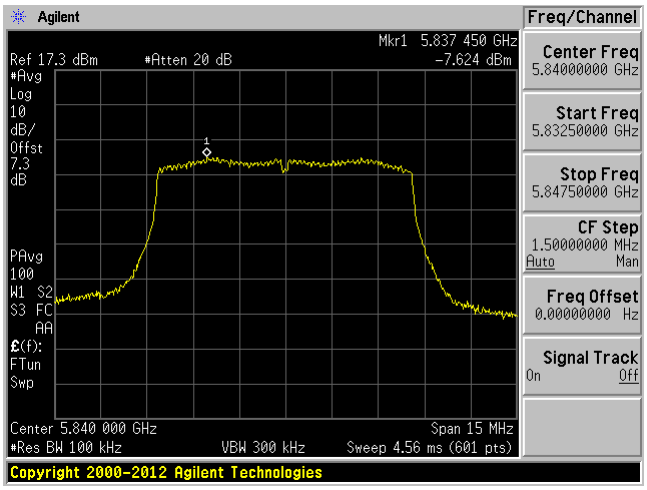
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5840 MHz

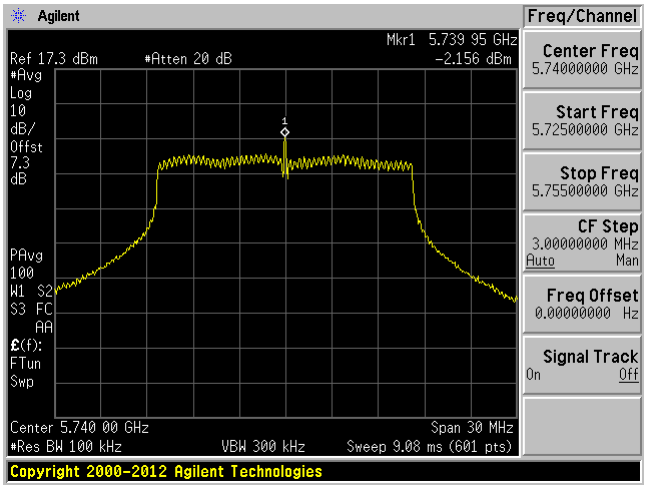


Chain 1 High channel: 5840 MHz

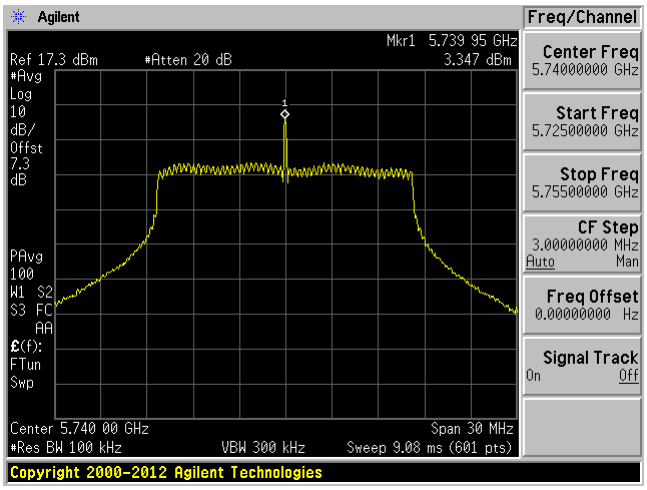


20 MHz Bandwidth

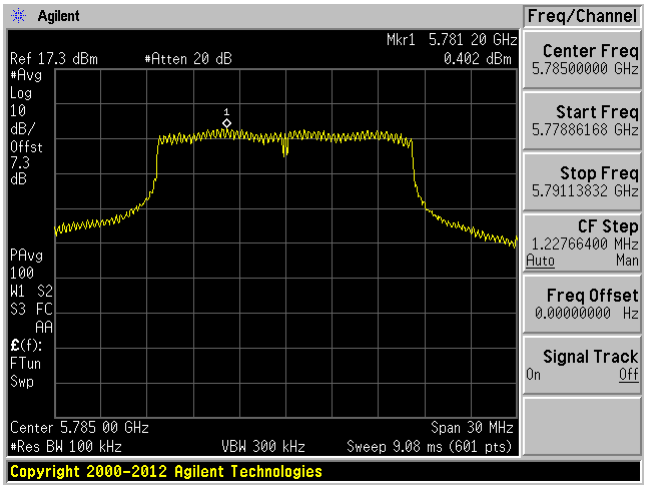
Chain 0 Low channel: 5740 MHz



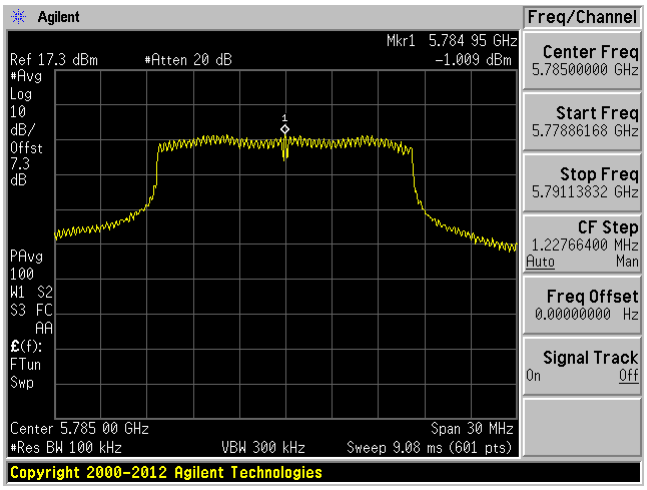
Chain 1 Low channel: 5740 MHz



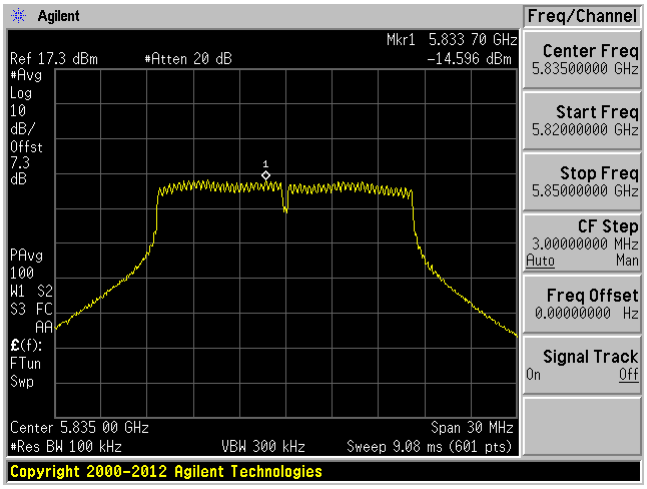
Chain 0 Middle channel: 5785 MHz



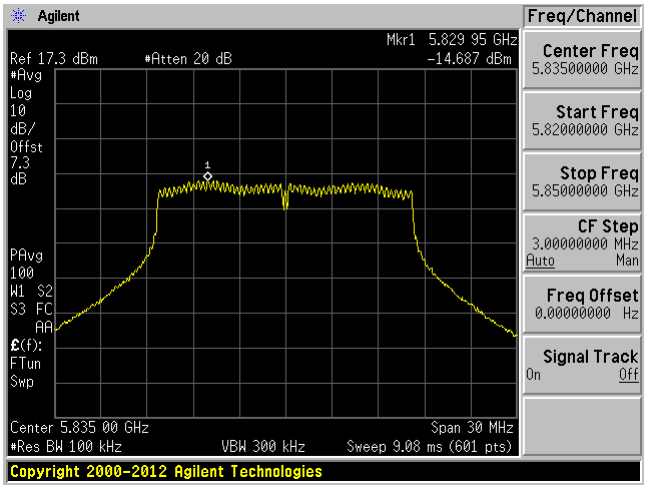
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5835 MHz

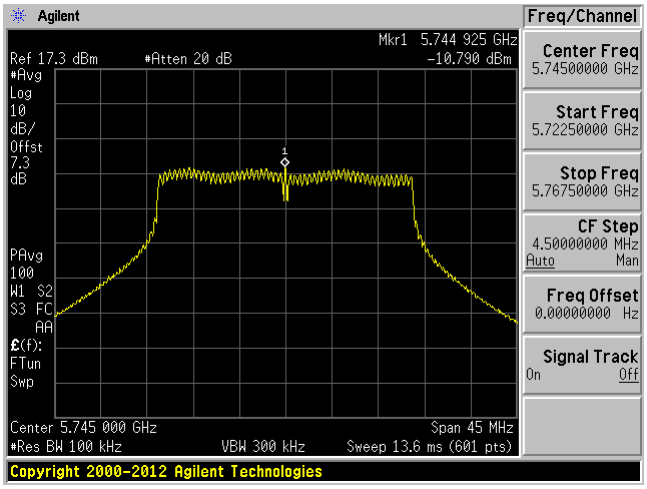


Chain 1 High channel: 5835 MHz

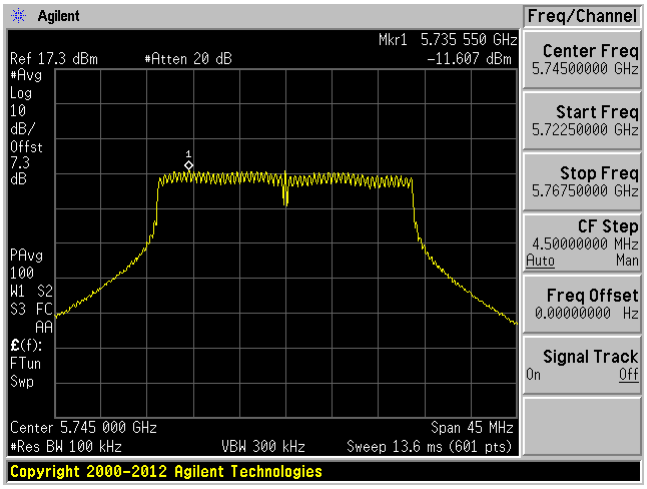


30 MHz Bandwidth

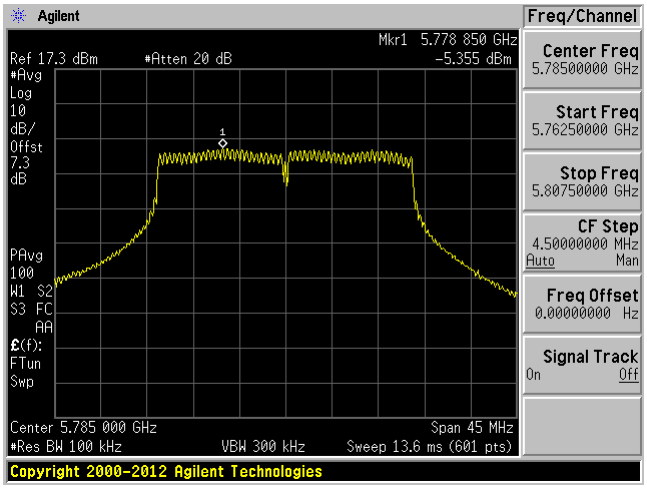
Chain 0 Low channel: 5745 MHz



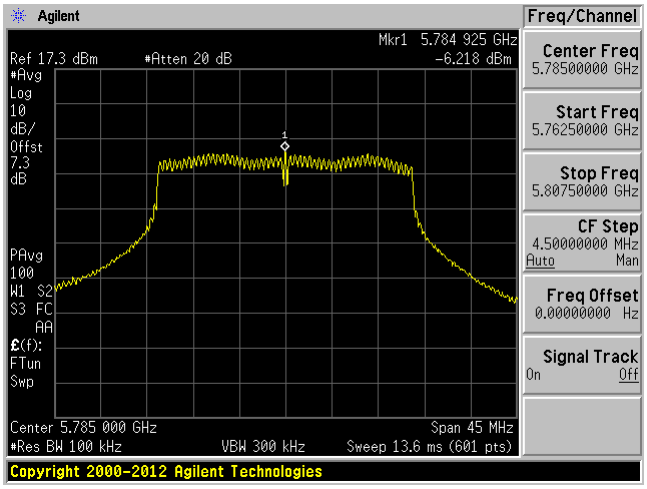
Chain 1 Low channel: 5745 MHz



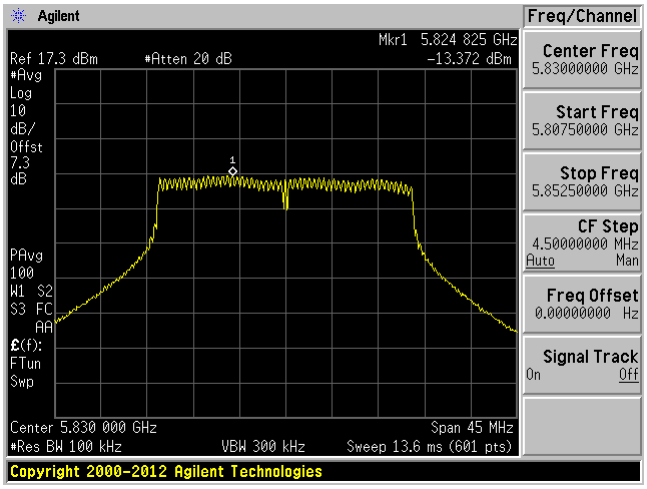
Chain 0 Middle channel: 5785 MHz



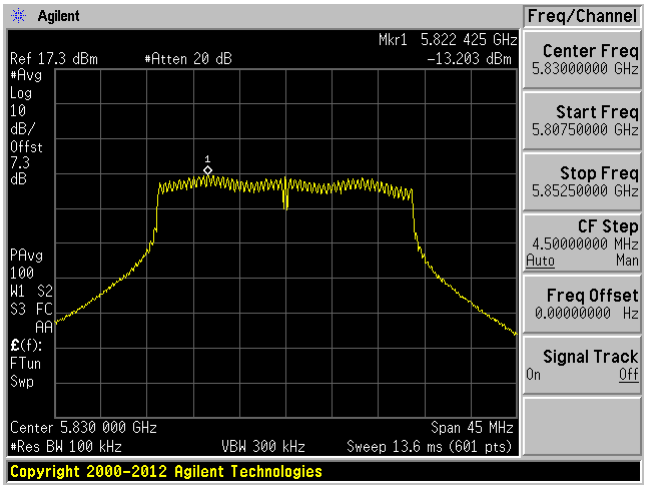
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5830 MHz

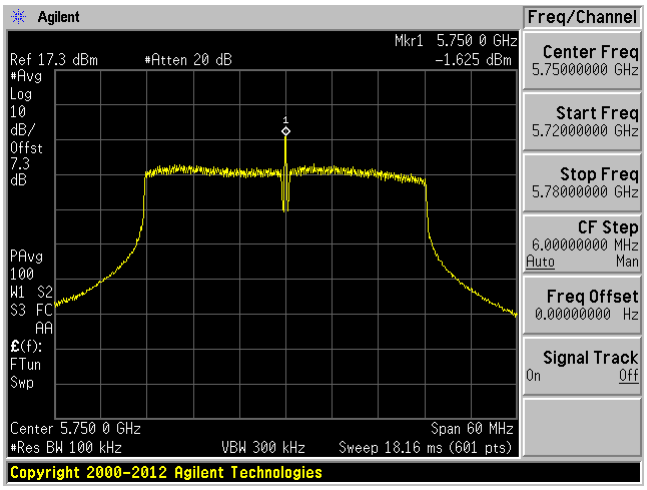


Chain 1 High channel: 5830 MHz

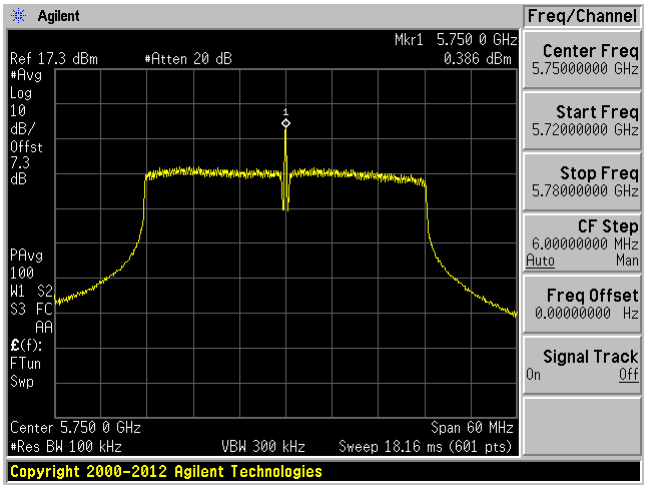


40 MHz Bandwidth

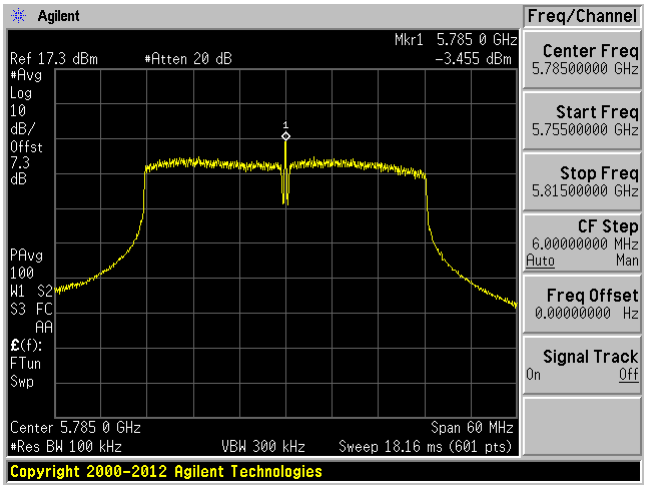
Chain 0 Low channel: 5750 MHz



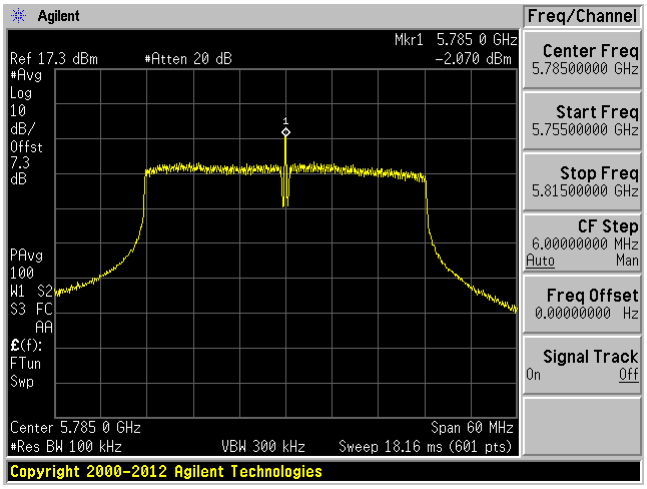
Chain 1 Low channel: 5750 MHz



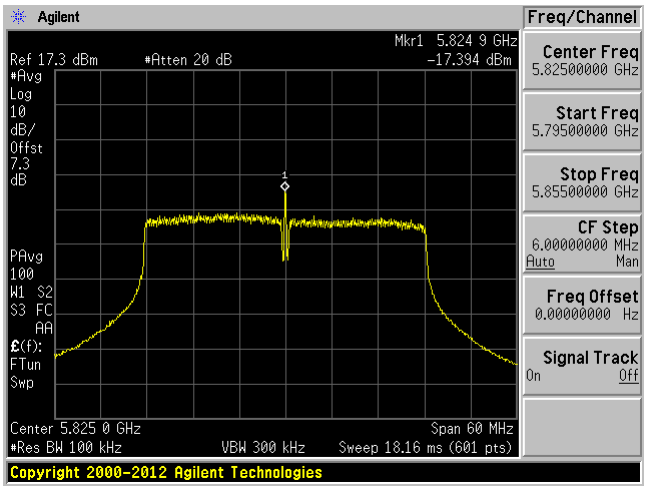
Chain 0 Middle channel: 5785 MHz



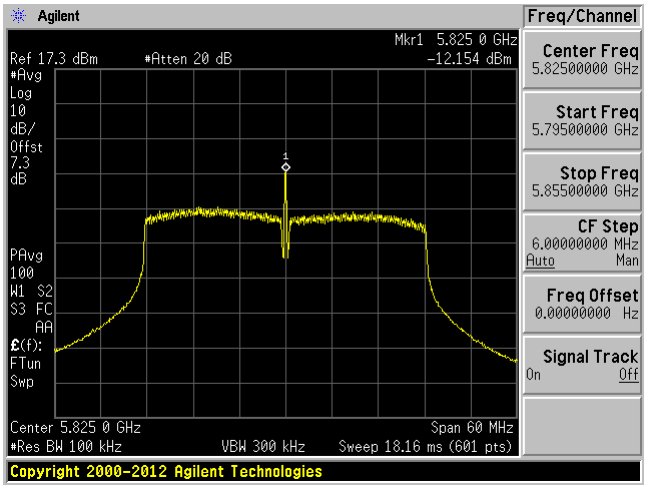
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5825 MHz



Chain 1 High channel: 5825 MHz



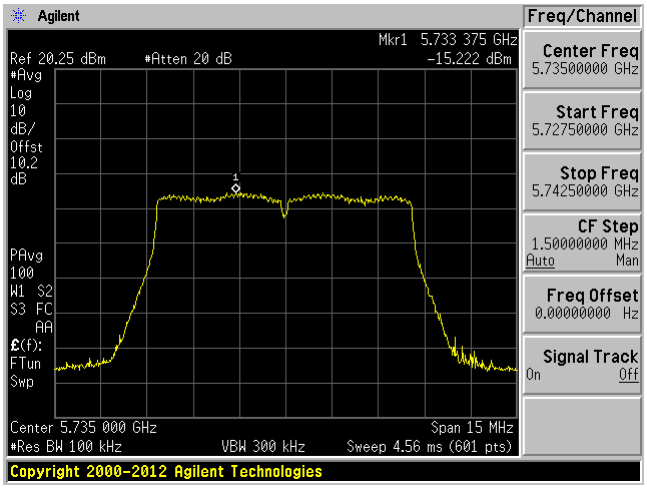
Power Setting 2 - for Dish Antenna

Channel	Frequency (MHz)	Power Spectral Density (dBm)			RBW Factor (dB)	Max PSD (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1	Combined				
10 MHz Bandwidth								
Low	5735	-15.222	-14.748	-11.97	6.99	-4.98	30	Pass
Middle	5785	-17.891	-16.497	-14.13	6.99	-7.14	30	Pass
High	5840	-18.5	-18.847	-15.66	6.99	-8.67	30	Pass
20 MHz Bandwidth								
Low	5740	-17.771	-17.312	-14.53	6.99	-7.54	30	Pass
Middle	5785	-19.608	-19.002	-16.28	6.99	-9.29	30	Pass
High	5835	-20.205	-20.969	-17.56	6.99	-10.57	30	Pass
30 MHz Bandwidth								
Low	5745	-18.965	-19.059	-16.00	6.99	-9.01	30	Pass
Middle	5785	-21.556	-20.367	-17.91	6.99	-10.92	30	Pass
High	5830	-21.47	-21.842	-18.64	6.99	-11.65	30	Pass
40 MHz Bandwidth								
Low	5750	-25.991	-26.318	-23.14	6.99	-16.15	30	Pass
Middle	5785	-27.438	-27.169	-24.29	6.99	-17.3	30	Pass
High	5825	-28.606	-28.379	-25.48	6.99	-18.49	30	Pass

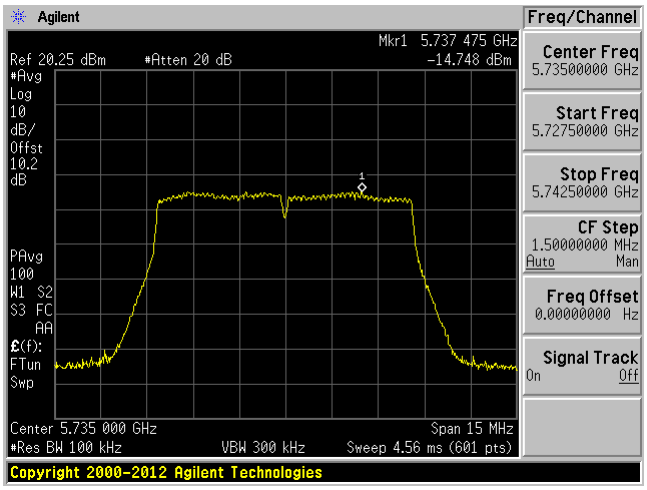
Note: (1) The PSA's RBW=100 kHz and a 10*log(5) factor is added to compare the limit as 30 dBm/500 kHz
(2) When the device operates as a fixed point to point, the PSD reduction of the amount in dB that exceeds 6 dBi is not needed.

10 MHz Bandwidth

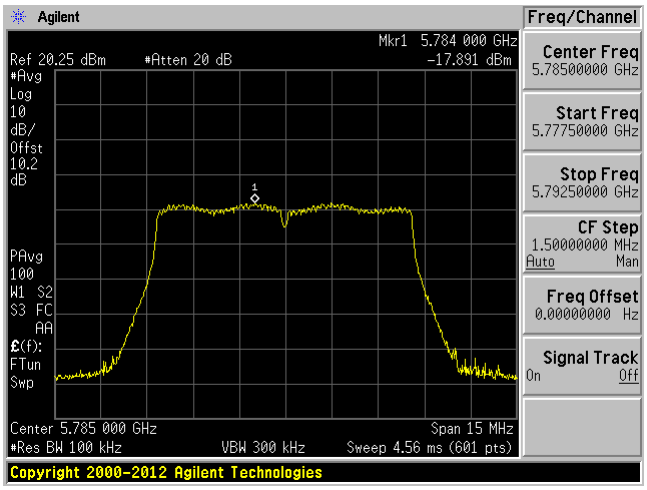
Chain 0 Low channel: 5735 MHz



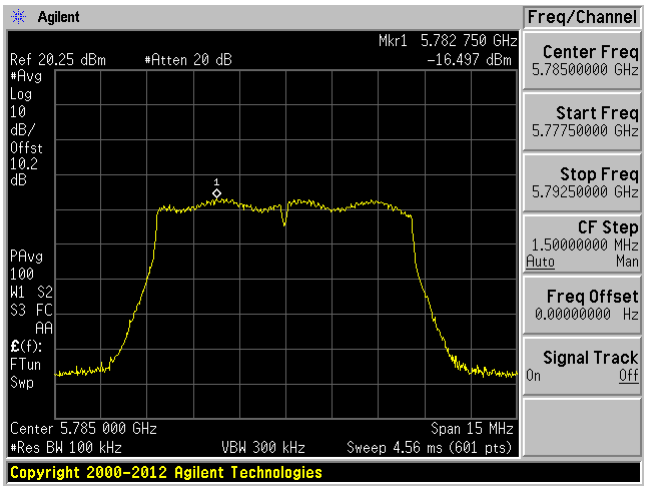
Chain 1 Low channel: 5735 MHz



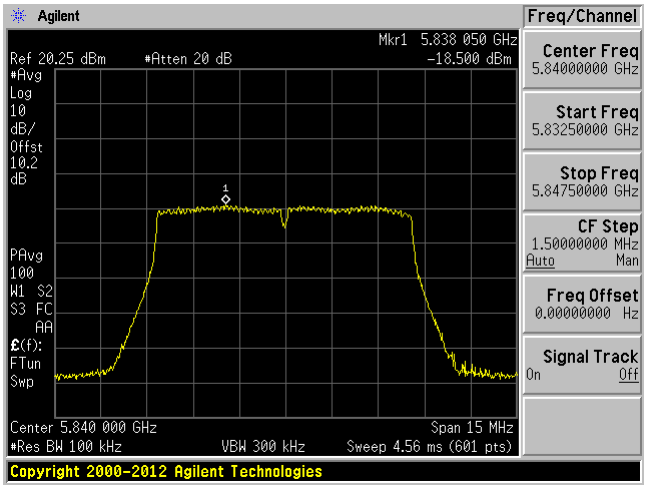
Chain 0 Middle channel: 5785 MHz



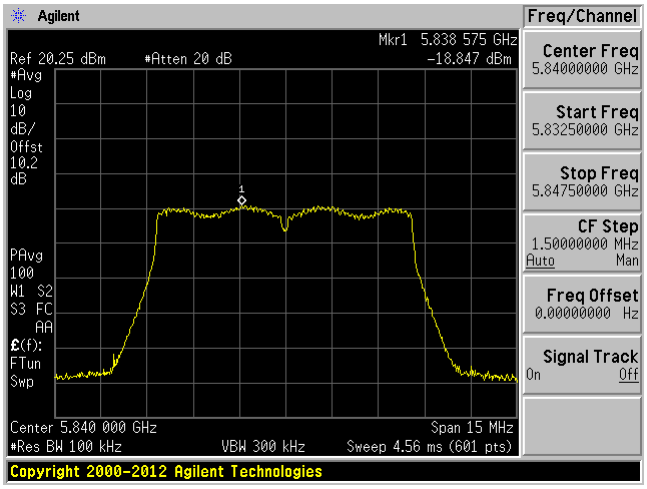
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5840 MHz

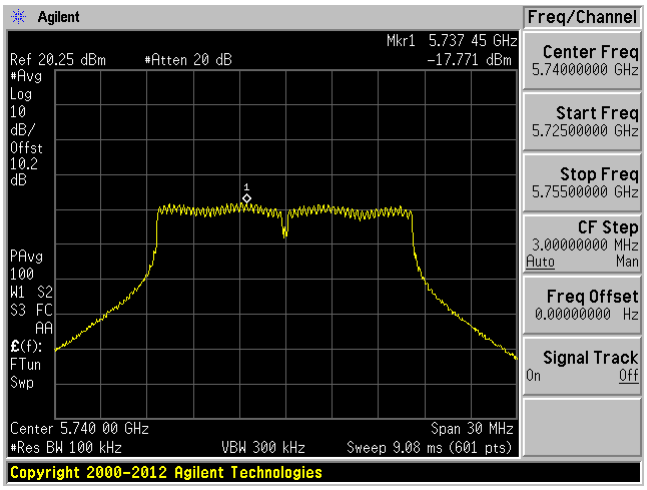


Chain 1 High channel: 5840 MHz

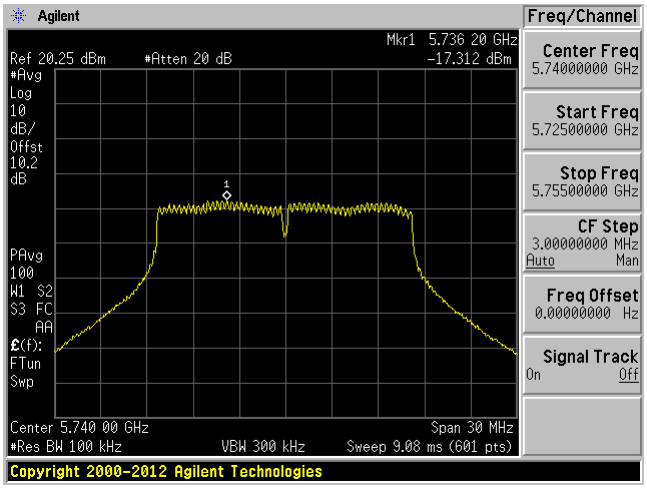


20 MHz Bandwidth

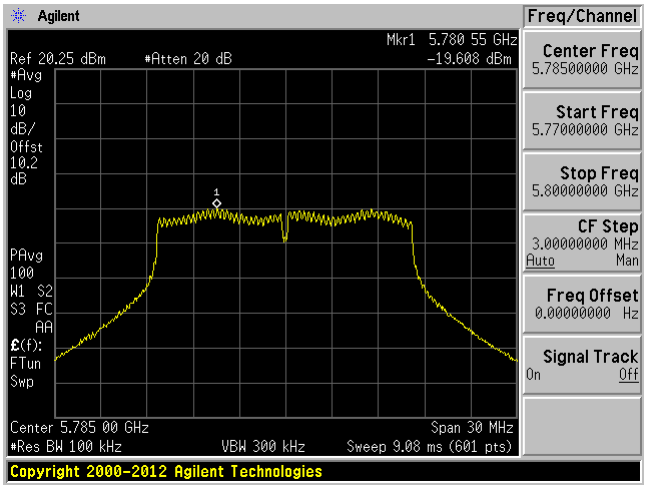
Chain 0 Low channel: 5740 MHz



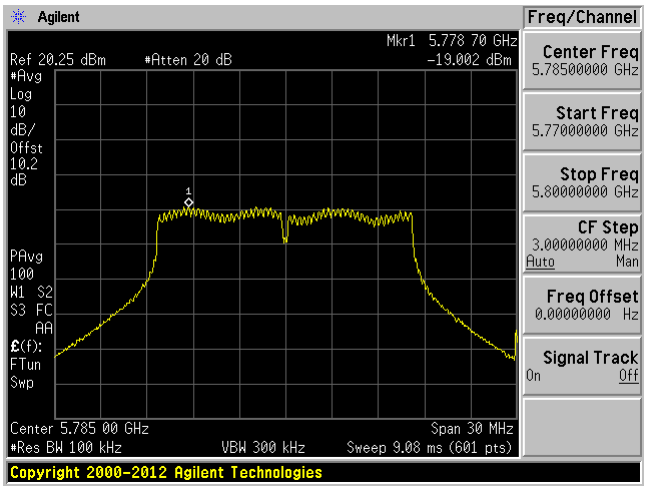
Chain 1 Low channel: 5740 MHz



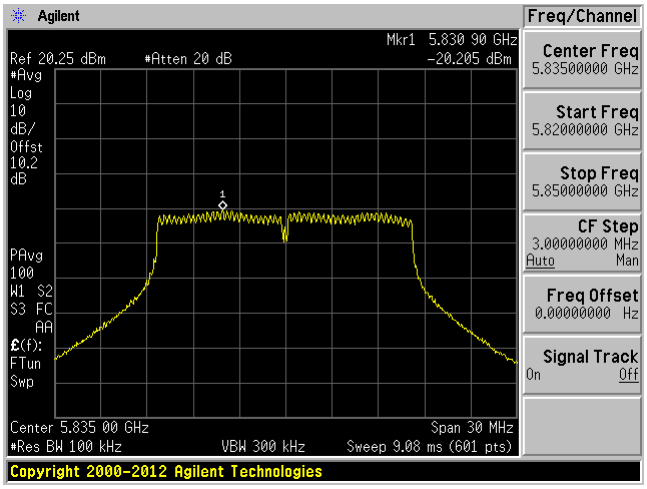
Chain 0 Middle channel: 5785 MHz



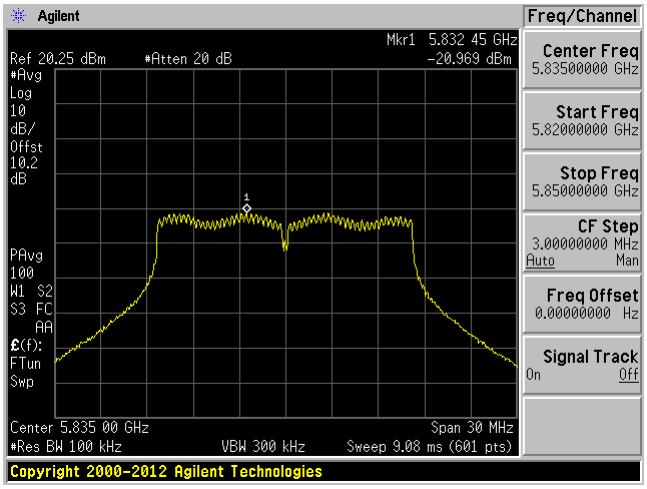
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5835 MHz

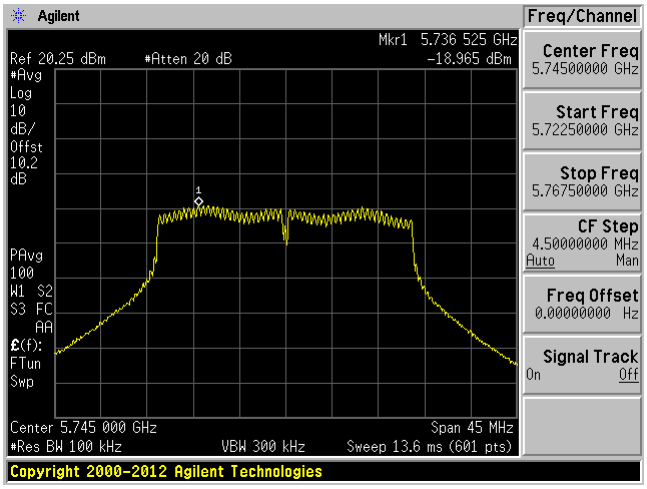


Chain 1 High channel: 5835 MHz

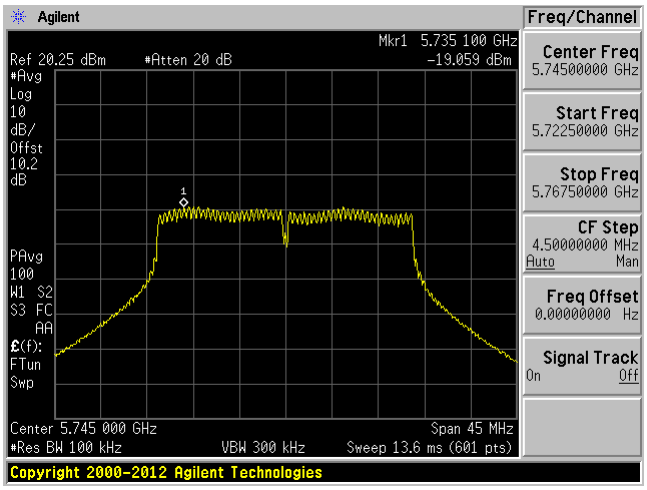


30 MHz Bandwidth

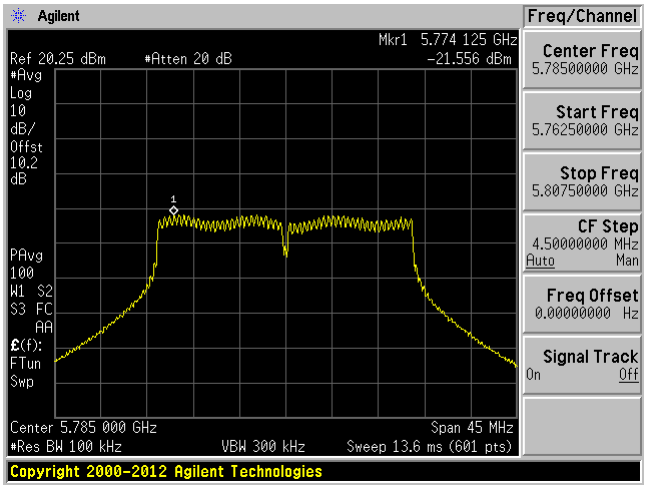
Chain 0 Low channel: 5745 MHz



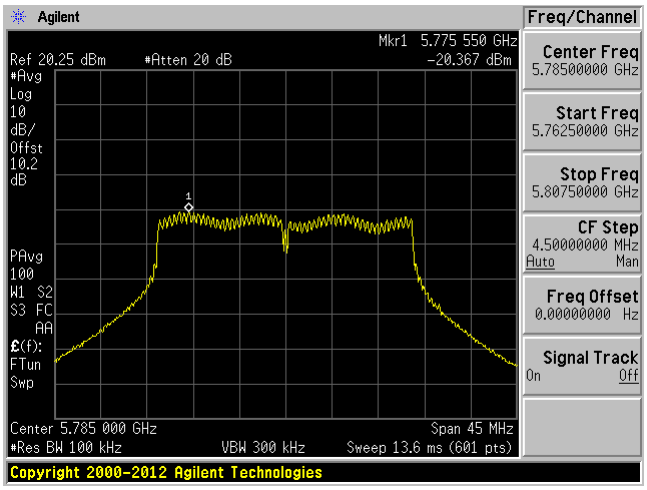
Chain 1 Low channel: 5745 MHz



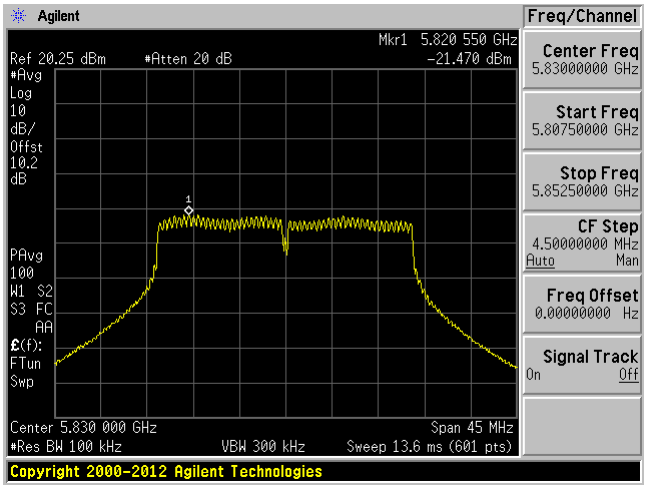
Chain 0 Middle channel: 5785 MHz



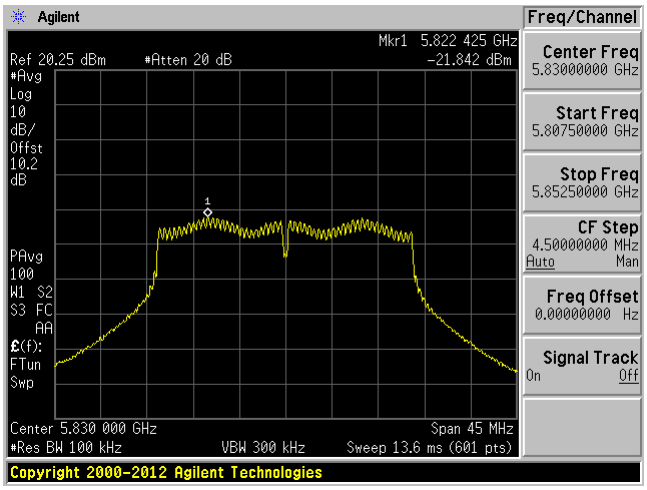
Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5830 MHz

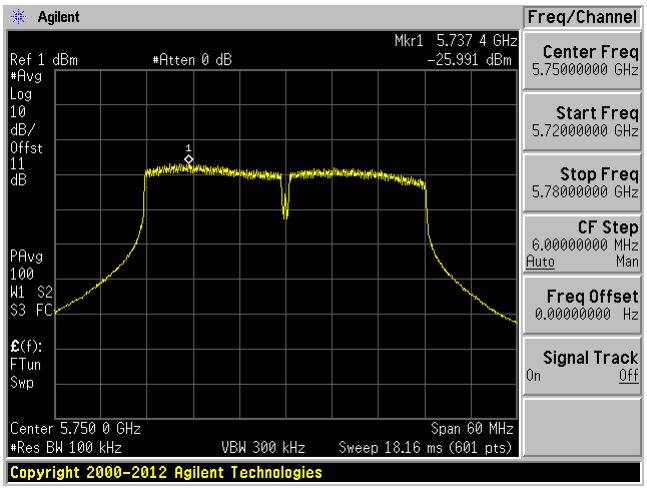


Chain 1 High channel: 5830 MHz

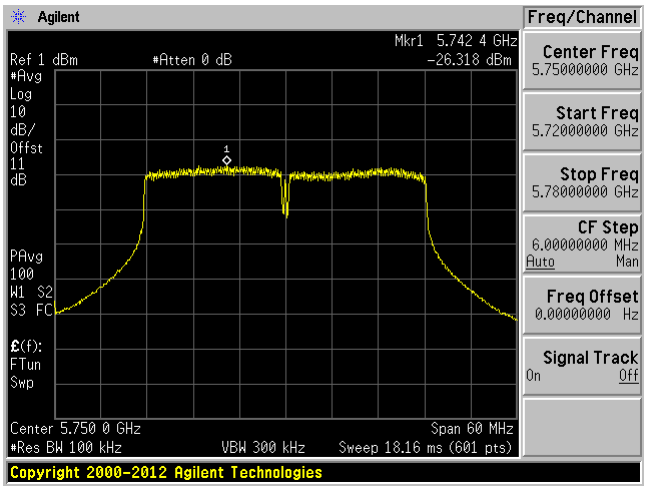


40 MHz Bandwidth

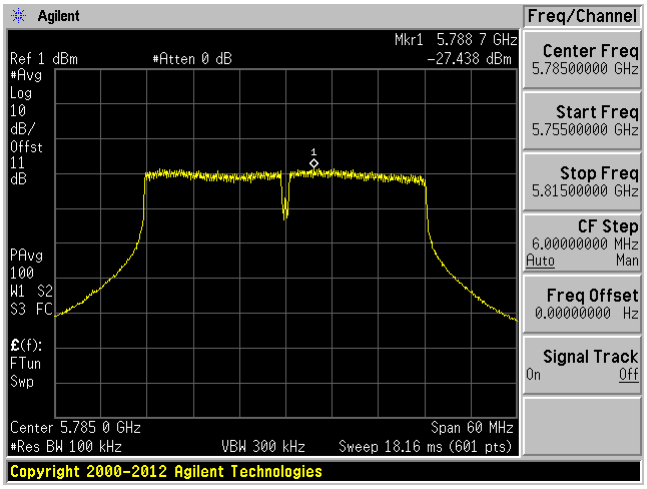
Chain 0 Low channel: 5750 MHz



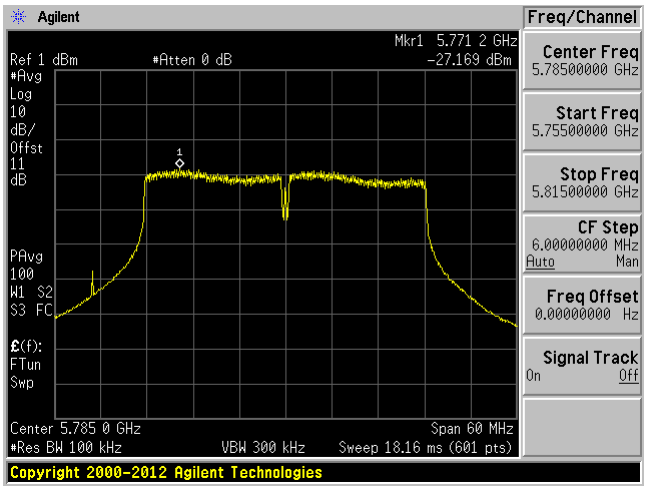
Chain 1 Low channel: 5750 MHz



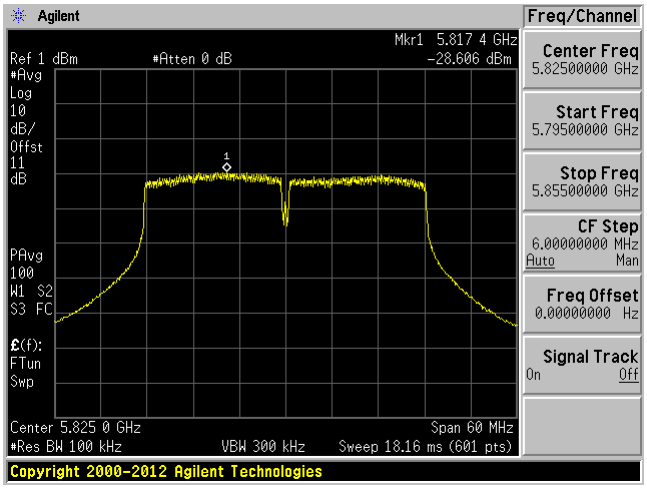
Chain 0 Middle channel: 5785 MHz



Chain 1 Middle channel: 5785 MHz



Chain 0 High channel: 5825 MHz



Chain 1 High channel: 5825 MHz