FCC PART 15.407
TEST AND MEASUREMENT REPORT

For

Cisco Systems, Inc.

170 West Tasman Drive,

San Jose, CA 95134, USA

FCC ID: LDK102074P

Report Type:	**Product Type:**
CIIIPC Report	Aireonet 802.11n Dual Band Mesh Access Points

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Report Number:	R1511202-407
Report Date:	2016-02-23
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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R1511202-407	Original	2016-02-23

1 General Description

1.1 Product Description for Equipment under Test (EUT)

This test and measurement report has been compiled on behalf of *Cisco Systems, Inc.* and their product, model name: *AP1552*, which henceforth is referred to as the EUT (Equipment Under Test.) The EUT is an Access Point with 2.4 GHz Wifi and 5 GHz Wifi.

1.2 Mechanical Description of EUT

The EUT measures approximately 16.3 cm (H) x 31.2 cm (W) x 22.9 cm (L) and weighs approximately 8 kg.

The data gathered are from a typical production sample provided by the manufacturer with serial number: R1511202-1, assigned by BACL.

1.3 Objective

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

The objective is to determine compliance with FCC Part 15.407 for Output Power, Antenna Requirements, Bandwidth, and power spectral density, Band Edges Measurement, 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 C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

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 C63.10-2013 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 for each mode based upon investigation by measuring the average power, peak power and PPSD across all data rates bandwidths, and modulations.

2.2 EUT Exercise Software

The test software used was Putty, used to access IOS and perform commands to control the radio.

2.3 Equipment Modifications

No modifications were made to the EUT.

2.4 Local Support Equipment

Manufacturer	Description	Model No.	Serial No.
DELL	Laptop	Latitude E6530	-
BK Precision	Source, DC	1621A	D185052265

2.5 EUT Internal Configuration Details

Manufacturer	Description	Model
Cisco	Main Board 1	800-34840-02 A0
Cisco	Main Board 2	800-34839-02 A0

2.6 Power Supply and Line Filter

N/A

2.7 Interface Ports and Cabling

Cable Description	Length (m)	To	From
RF Cable	< 1m	PSA	EUT
Micro USB Cable	< 1m	EUT	Laptop

2.8 Antenna Ports and Power Setting

Note: The EUT has two TX antenna ports. Left antenna port is referred as "Antenna Port 0", and right antenna port is referred as "Antenna Port 1".

Power settings used in the software for each configuration in the measurement are shown below,

Antenna Gain (dBi)	Mode	Power Setting
4	Non HT20 Single Port (6 to 54 MB/s)	25
	Non HT20 Dual Port (6 to 54 MB/s)	25
	Non HT20 Beam Forming (6 to 54 MB/s)	24
	Non HT40 Single Port (6 to 54 MB/s)	22
	Non HT40 Dual Port (6 to 54 MB/s)	21
	HT 20 Single Port (M0 to M7)	25
	HT 20 Dual Port (M0 to M7)	25
	HT 20 Dual Port (M8 to M15)	25
	HT 40 Single Port (M0 to M7)	23
	HT 40 Dual Port (M0 to M7)	21
	HT 40 Dual Port (M8 to M15)	21

Antenna Gain (dBi)	Mode	Power Setting
7	Non HT20 Single Port (6 to 54 MB/s)	25
	Non HT20 Dual Port (6 to 54 MB/s)	24
	Non HT20 Beam Forming (6 to 54 MB/s)	22
	Non HT40 Single Port (6 to 54 MB/s)	21
	Non HT40 Dual Port (6 to 54 MB/s)	20
	HT 20 Single Port (M0 to M7)	25
	HT 20 Dual Port (M0 to M7)	25
	HT 20 Dual Port (M8 to M15)	25
	HT 40 Single Port (M0 to M7)	21
	HT 40 Dual Port (M0 to M7)	20
	HT 40 Dual Port (M8 to M15)	20

Antenna Gain (dBi)	Mode	Power Setting
8	Non HT20 Single Port (6 to 54 MB/s)	25
	Non HT20 Dual Port (6 to 54 MB/s)	24
	Non HT20 Beam Forming (6 to 54 MB/s)	21
	Non HT40 Single Port (6 to 54 MB/s)	21
	Non HT40 Dual Port (6 to 54 MB/s)	19
	HT 20 Single Port (M0 to M7)	25
	HT 20 Dual Port (M0 to M7)	22
	HT 20 Dual Port (M8 to M15)	22
	HT 40 Single Port (M0 to M7)	21
	HT 40 Dual Port (M0 to M7)	19
	HT 40 Dual Port (M8 to M15)	19

Antenna Gain (dBi)	Mode	Power Setting
14	Non HT20 Single Port (6 to 54 MB/s)	21
	Non HT20 Dual Port (6 to 54 MB/s)	16
	Non HT20 Beam Forming (6 to 54 MB/s)	14
	Non HT40 Single Port (6 to 54 MB/s)	17
	Non HT40 Dual Port (6 to 54 MB/s)	14
	HT 20 Single Port (M0 to M7)	20
	HT 20 Dual Port (M0 to M7)	18
	HT 20 Dual Port (M8 to M15)	18
	HT 40 Single Port (M0 to M7)	17
	HT 40 Dual Port (M0 to M7)	14
	HT 40 Dual Port (M8 to M15)	14

Both antenna ports and all three channels have the same power setting for each mode.

3 Summary of Test Results

Results reported relate only to the product tested.

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	N/A
§15.407(a)	Peak Output Power Measurement	Compliant
§15.407(e)	Emission Bandwidth	Compliant
§2.1051, §15.205, §15.209(a), 15.407(b)	Radiated Spuious Emissions	Compliant
§2.1051, §15.407(b)	Spurious Emissions at Antenna Terminals	Compliant
§15.407(a)	Power Spectral Density	Compliant

Note[1]: The EUT does not have an AC adapter.

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

5.8 GHz Band：

Antenna gain = 4 dBi
HT20 Dual Antenna (Data Rate: M8)

Maximum peak output power at antenna input terminal (dBm):	26.04
Maximum peak output power at antenna input terminal (mW):	401.79
Prediction distance (cm):	20
Prediction frequency (MHz):	5825
Maximum Antenna Gain, typical (dBi):	4
Maximum Antenna Gain (numeric):	2.512
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.2
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 0.2 mW/cm^2. Limit is 1.0 mW/cm^2.

Antenna gain = 7 dBi
HT20 Dual Antenna (Data Rate: M8)

Maximum peak output power at antenna input terminal (dBm):	26.04
Maximum peak output power at antenna input terminal (mW):	401.79
Prediction distance (cm):	20
Prediction frequency (MHz):	5825
Maximum Antenna Gain, typical (dBi):	7
Maximum Antenna Gain (numeric):	5.012
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.4
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 0.4 mW/cm^2. Limit is 1.0 mW/cm^2.

Antenna gain = 8 dBi
Non HT20 Dual Antenna

Maximum peak output power at antenna input terminal (dBm):	24.61
Maximum peak output power at antenna input terminal (mW):	289.07
Prediction distance (cm):	20
Prediction frequency (MHz):	5825
Maximum Antenna Gain, typical (dBi):	8
Maximum Antenna Gain (numeric):	6.31
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.363
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 0.363 mW/cm^2. Limit is 1.0 mW/cm^2.

Antenna gain = 14 dBi
HT20 Dual Antenna (Data Rate: M0)

Maximum peak output power at antenna input terminal (dBm):	18.81
Maximum peak output power at antenna input terminal (mW):	76.033
Prediction distance (cm):	20
Prediction frequency (MHz):	5745
Maximum Antenna Gain, typical (dBi):	14
Maximum Antenna Gain (numeric):	25.119
Power density of prediction frequency at 20.0 cm (mW/cm^2):	0.38
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 0.38 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 List and Details

Antenna Part Number	Antenna Type	Antenna Gain (dBi) @ 5.8 GHz
-	Integrated Dual Band Omnidirctional Antenna	4
AIR-ANT5140V-N	External Single Band Omnidirectional Antenna	4
AIR-ANT2547V-N	External Dual-Band Omnidirectional Antenna	7
AIR-ANT5175V-N	External Single Band Omnidirectional Antenna	7.5
AIR-ANT2588P3M-N	External Dual-Band Directional Antenna	8
AIR-ANT5180V-N	External Single Band Omnidirectional Antenna	8
AIR-ANT5114P-N	External Single Band Patch Antenna	14
AIR-ANT5114P2M-N	External Single Band Dual Polarized Patch Antenna	14

Note: For the Antenna directional gain greater than 6 dBi, the limit for output power and power density will be reduced by certain amount.

6 FCC §15.407(a) – Maximum Conducted Output Power

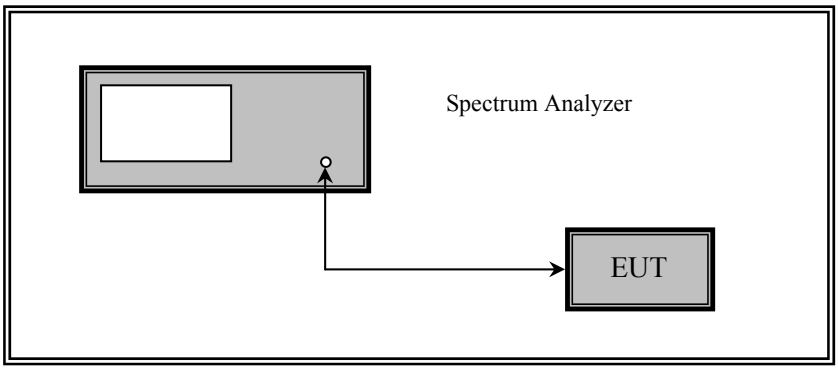
6.1 Applicable Standards

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. 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.

6.2 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



6.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde & Schwarz	Spectrum Analyzer	FSQ	1155.5001.26	2015-03-09	1 year
-	SMA Cable	-	C0001	Each Time[1]	N/A
-	20dBm Attenuator	BW-S10W5	1419	Each Time[1]	N/A

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

Note[1]: cable and attenuator included in the test set-up will be checked each time before testing.

6.4 Test Environmental Conditions

Temperature:	25º C
Relative Humidity:	43 %
ATM Pressure:	102.1 kPa

The testing was performed by Jason Qian from 2015-12-22 at RF site

6.5 Test Results

Note[1]: Per FCC, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For example: if directional antenna gain is 7 dBi, the conducted output power limit = 30 dBm - (7 dBi – 6 dBi) = 29 dBm.

Note[2]: Beam Forming antenna directional gain =G_{Ant} + 10log(N_{Ant})
G_{Ant}: Antenna Gain
N_{Ant}: Number of Antennas, N_{Ant} = 2.
Therefore, beam forming antenna directional gain ≈ G_{Ant} + 3.

5.8 GHz Band
Antenna gain=4 dBi

Frequency (MHz)	Power Setting	Conducted Output Power (dBm)			Directional Antenna Gain (dBi)	Limit (dBm)	Margin (dB)
		Antenna Port 0	Antenna Port 1	Combined			
Non HT20 Single Antenna							
5745	25	22.35	22.41	N/A	4	30	-7.65
5785	25	22.53	22.38	N/A	4	30	-7.62
5825	25	22.68	22.66	N/A	4	30	-7.34
Non HT20 Dual Antenna							
5745	25	22.35	22.41	25.39	4	30	-4.61
5785	25	22.53	22.38	25.47	4	30	-4.53
5825	25	22.68	22.66	25.68	4	30	-4.32
Non HT20 Beam Forming							
5745	24	21.15	21.21	24.19	7	29	-4.81
5785	24	21.44	21.27	24.37	7	29	-4.63
5825	24	21.64	21.56	24.61	7	29	-4.39
Non HT40 Single Antenna							
5755	22	20.12	19.96	N/A	4	30	-9.88
5795	22	20.19	19.87	N/A	4	30	-9.81
Non HT40 Dual Antenna							
5755	21	19.11	18.57	21.86	4	30	-8.14
5795	21	19.23	18.84	22.05	4	30	-7.95

5.8 GHz Band
Antenna gain=4 dBi

Frequency (MHz)	Power Setting	Conducted Output Power (dBm)			Directional Antenna Gain (dBi)	Limit (dBm)	Margin (dB)
		Antenna Port 0	Antenna Port 1	Combined			
HT20 Single Antenna							
5745	25	22.52	22.51	N/A	4	30	-7.48
5785	25	22.92	22.42	N/A	4	30	-7.08
5825	25	22.83	22.68	N/A	4	30	-7.17
HT20 Dual Antenna (Data Rate: M0)							
5745	25	22.52	22.51	25.53	4	30	-4.47
5785	25	22.92	22.42	25.69	4	30	-4.31
5825	25	22.83	22.68	25.77	4	30	-4.23
HT20 Dual Antenna (Data Rate: M8)							
5745	25	22.77	22.70	25.75	4	30	-4.25
5785	25	23.03	22.83	25.94	4	30	-4.06
5825	25	23.20	22.86	26.04	4	30	-3.94
HT40 Single Antenna							
5755	23	20.83	20.71	N/A	4	30	-9.17
5795	23	21.17	20.70	N/A	4	30	-8.83
HT40 Dual Antenna (Data Rate: M0)							
5755	21	18.71	18.60	21.67	4	30	-8.33
5795	21	19.13	18.75	21.95	4	30	-8.05
HT40 Dual Antenna (Data Rate: M8)							
5755	21	19.01	19.16	22.10	4	30	-7.90
5795	21	18.90	18.73	21.83	4	30	-8.17

5.8 GHz Band
Antenna gain=7 dBi

Frequency (MHz)	Power Setting	Conducted Output Power (dBm)			Directional Antenna Gain (dBi)	Limit (dBm)	Margin (dB)
		Antenna Port 0	Antenna Port 1	Combined			
Non HT20 Single Antenna							
5745	25	22.35	22.41	N/A	7	29	-6.59
5785	25	22.53	22.38	N/A	7	29	-6.47
5825	25	22.68	22.66	N/A	7	29	-6.32
Non HT20 Dual Antenna							
5745	24	21.15	21.21	24.19	7	29	-4.81
5785	24	21.44	21.27	24.37	7	29	-4.63
5825	24	21.64	21.56	24.61	7	29	-4.39
Non HT20 Beam Forming							
5745	22	19.99	20.13	23.07	10	26	-2.93
5785	22	19.65	19.47	22.57	10	26	-3.43
5825	22	19.79	19.77	22.79	10	26	-3.21
Non HT40 Single Antenna							
5755	21	19.11	18.57	N/A	7	29	-9.89
5795	21	19.23	18.84	N/A	7	29	-9.77
Non HT40 Dual Antenna							
5755	20	17.89	17.55	20.73	7	29	-8.27
5795	20	18.12	17.65	20.90	7	29	-8.10

5.8 GHz Band
Antenna gain=7 dBi

Frequency (MHz)	Power Setting	Conducted Output Power (dBm)			Directional Antenna Gain (dBi)	Limit (dBm)	Margin (dB)
		Antenna Port 0	Antenna Port 1	Combined			
HT20 Single Antenna							
5745	25	22.52	22.51	N/A	7	29	-6.48
5785	25	22.92	22.42	N/A	7	29	-6.08
5825	25	22.83	22.68	N/A	7	29	-6.17
HT20 Dual Antenna (Data Rate: M0)							
5745	25	22.52	22.51	25.53	7	29	-3.47
5785	25	22.92	22.42	25.69	7	29	-3.31
5825	25	22.83	22.68	25.77	7	29	-3.23
HT20 Dual Antenna (Data Rate: M8)							
5745	25	22.77	22.70	25.75	7	29	-3.25
5785	25	23.03	22.83	25.94	7	29	-3.06
5825	25	23.20	22.86	26.04	7	29	-2.94
HT40 Single Antenna							
5755	21	18.71	18.60	N/A	7	29	-10.29
5795	21	19.13	18.75	N/A	7	29	-9.87
HT40 Dual Antenna (Data Rate: M0)							
5755	20	18.00	17.58	20.81	7	29	-8.19
5795	20	18.55	18.09	21.34	7	29	-7.66
HT40 Dual Antenna (Data Rate: M8)							
5755	20	18.22	17.59	20.93	7	29	-8.07
5795	20	18.21	18.03	21.13	7	29	-7.87

5.8 GHz Band
Antenna gain=8 dBi

Frequency (MHz)	Power Setting	Conducted Output Power (dBm)			Directional Antenna Gain (dBi)	Limit (dBm)	Margin (dB)
		Antenna Port 0	Antenna Port 1	Combined			
Non HT20 Single Antenna							
5745	25	22.35	22.41	N/A	8	29	-6.59
5785	25	22.53	22.38	N/A	8	29	-6.47
5825	25	22.68	22.66	N/A	8	29	-6.32
Non HT20 Dual Antenna							
5745	24	21.15	21.21	24.19	8	28	-3.81
5785	24	21.44	21.27	24.37	8	28	-3.63
5825	24	21.64	21.56	24.61	8	28	-3.39
Non HT20 Beam Forming							
5745	21	18.5	18.46	21.49	11	25	-3.51
5785	21	19.17	18.81	22.00	11	25	-3.00
5825	21	18.63	18.59	21.62	11	25	-3.38
Non HT40 Single Antenna							
5755	21	19.11	18.57	N/A	8	28	-8.89
5795	21	19.23	18.84	N/A	8	28	-8.77
Non HT40 Dual Antenna							
5755	19	16.77	16.62	19.71	8	28	-8.29
5795	19	17.31	16.70	20.03	8	28	-7.97

5.8 GHz Band
Antenna gain=8 dBi

Frequency (MHz)	Power Setting	Conducted Output Power (dBm)			Directional Antenna Gain (dBi)	Limit (dBm)	Margin (dB)
		Antenna Port 0	Antenna Port 1	Combined			
HT20 Single Antenna							
5745	25	22.52	22.51	N/A	8	28	-5.48
5785	25	22.92	22.42	N/A	8	28	-5.08
5825	25	22.83	22.68	N/A	8	28	-5.17
HT20 Dual Antenna (Data Rate: M0)							
5745	22	20.16	19.82	23.00	8	28	-5.00
5785	22	19.93	19.47	22.72	8	28	-5.28
5825	22	20.08	19.87	22.99	8	28	-5.01
HT20 Dual Antenna (Data Rate: M8)							
5745	22	20.01	19.88	22.96	8	28	-5.04
5785	22	19.93	19.87	22.91	8	28	-5.09
5825	22	20.08	19.96	23.03	8	28	-4.97
HT40 Single Antenna							
5755	21	18.71	18.60	N/A	8	28	-9.29
5795	21	19.13	18.75	N/A	8	28	-8.87
HT40 Dual Antenna (Data Rate: M0)							
5755	19	16.80	16.41	19.62	8	28	-8.38
5795	19	17.02	18.71	20.96	8	28	-7.04
HT40 Dual Antenna (Data Rate: M8)							
5755	19	16.87	17.03	19.96	8	28	-8.04
5795	19	17.25	16.95	20.11	8	28	-7.89

5.8 GHz Band
Antenna gain=14 dBi

Frequency (MHz)	Power Setting	Conducted Output Power (dBm)			Directional Antenna Gain (dBi)	Limit (dBm)	Margin (dB)
		Antenna Port 0	Antenna Port 1	Combined			
Non HT20 Single Antenna							
5745	21	18.50	18.46	N/A	14	22	-3.54
5785	21	19.17	18.81	N/A	14	22	-2.83
5825	21	18.63	18.59	N/A	14	22	-3.37
Non HT20 Dual Antenna							
5745	16	14.08	13.47	16.80	14	22	-5.20
5785	16	14.19	13.51	16.87	14	22	-5.13
5825	16	14.17	13.48	16.85	14	22	-5.15
Non HT20 Beam Forming							
5745	14	11.38	11.18	14.29	17	19	-4.71
5785	14	11.44	11.20	14.33	17	19	-4.67
5825	14	11.55	11.45	14.51	17	19	-4.49
Non HT40 Single Antenna							
5755	17	15.35	14.70	N/A	14	22	-6.65
5795	17	15.39	14.70	N/A	14	22	-6.61
Non HT40 Dual Antenna							
5755	14	11.64	11.08	14.38	14	22	-7.62
5795	14	11.91	11.31	14.63	14	22	-7.37

5.8 GHz Band
Antenna gain=14 dBi

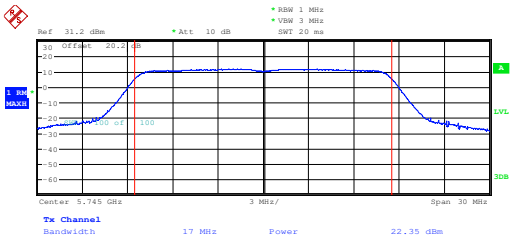
Frequency (MHz)	Power Setting	Conducted Output Power (dBm)			Directional Antenna Gain (dBi)	Limit (dBm)	Margin (dB)
		Antenna Port 0	Antenna Port 1	Combined			
HT20 Single Antenna							
5745	20	17.82	17.54	N/A	14	22	-4.18
5785	20	17.88	17.54	N/A	14	22	-4.12
5825	20	18.04	17.56	N/A	14	22	-3.96
HT20 Dual Antenna (Data Rate: M0)							
5745	18	16.03	15.56	18.81	14	22	-3.19
5785	18	16.01	15.39	18.72	14	22	-3.28
5825	18	16.02	15.52	18.79	14	22	-3.21
HT20 Dual Antenna (Data Rate: M8)							
5745	18	15.96	15.40	18.70	14	22	-3.30
5785	18	16.07	15.36	18.74	14	22	-3.26
5825	18	16.02	15.52	18.79	14	22	-3.21
HT40 Single Antenna							
5755	17	14.94	14.55	N/A	14	22	-7.06
5795	17	15.97	15.52	N/A	14	22	-6.03
HT40 Dual Antenna (Data Rate: M0)							
5755	14	11.93	11.23	14.60	14	22	-7.40
5795	14	11.97	11.32	14.67	14	22	-7.33
HT40 Dual Antenna (Data Rate: M8)							
5755	14	11.91	11.29	14.62	14	22	-7.38
5795	14	11.91	11.32	14.64	14	22	-7.36

Please refer to the following plots.

Note: The cable loss and attenuation have been included in the measuring offset.

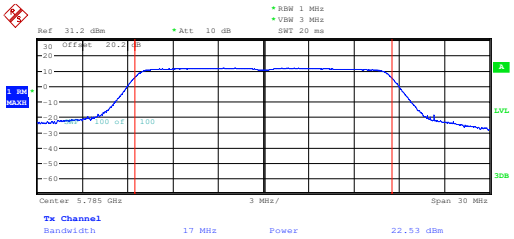
Antenna Port 0
Non HT20 Mode
Power Setting 25

5745 MHz



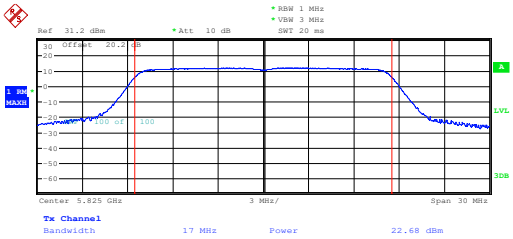
Date: 4.DEC.2015 14:38:19

5785 MHz



Date: 4.DEC.2015 14:43:03

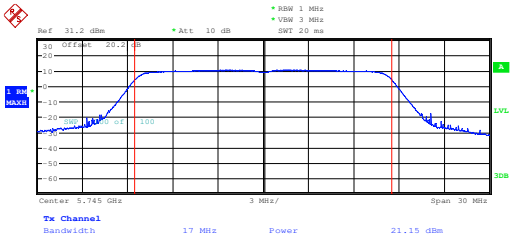
5825 MHz



Date: 4.DEC.2015 14:43:37

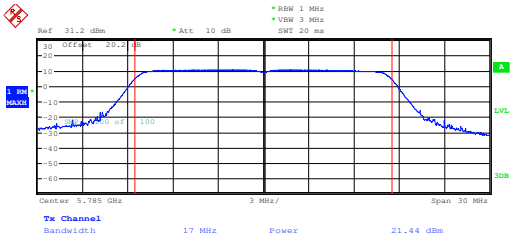
Antenna Port 0
Non HT20 Mode
Power Setting 24

5745 MHz



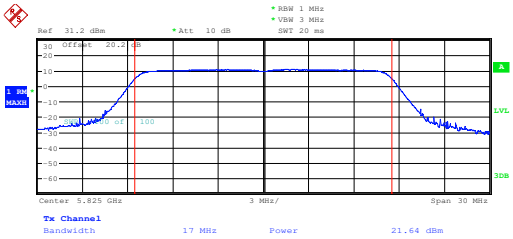
Date: 4.DEC.2015 14:38:53

5785 MHz



Date: 4.DEC.2015 14:42:45

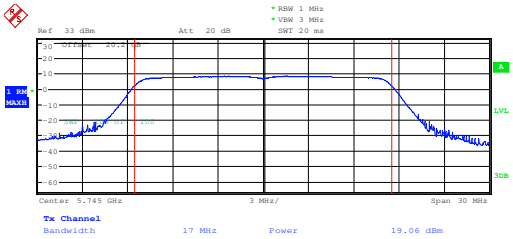
5825 MHz



Date: 4.DEC.2015 14:44:05

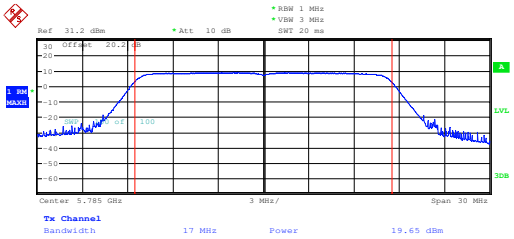
Antenna Port 0
Non HT20 Mode
Power Setting 22

5745 MHz



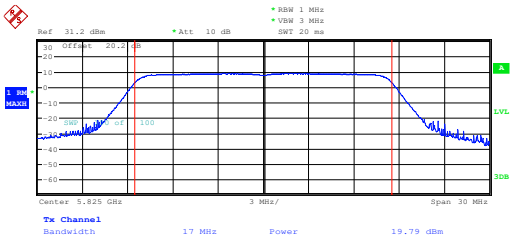
Date: 26.JAN.2016 13:46:44

5785 MHz



Date: 4.DEC.2015 14:42:10

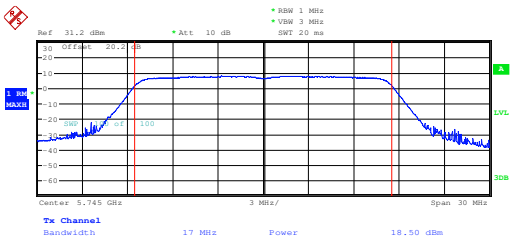
5825 MHz



Date: 4.DEC.2015 14:44:49

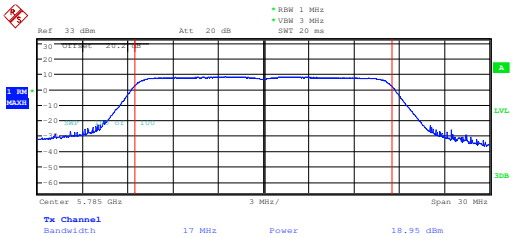
Antenna Port 0
Non HT20 Mode
Power Setting 21

5745 MHz



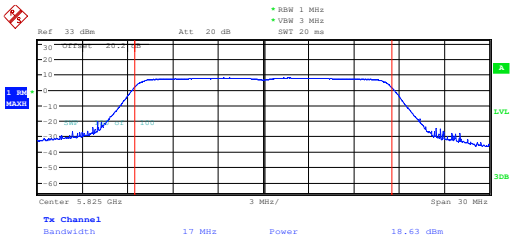
Date: 4.DEC.2015 14:39:43

5785 MHz



Date: 26.JAN.2016 14:18:10

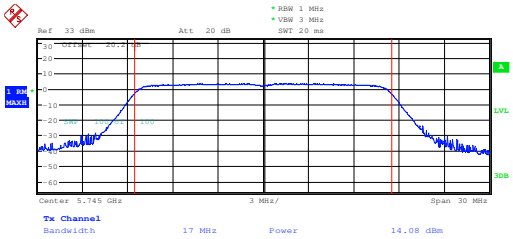
5825 MHz



Date: 26.JAN.2016 14:18:56

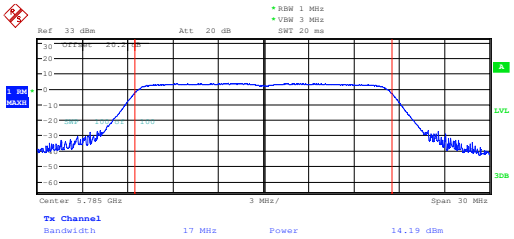
Antenna Port 0
Non HT20 Mode
Power Setting 16

5745 MHz



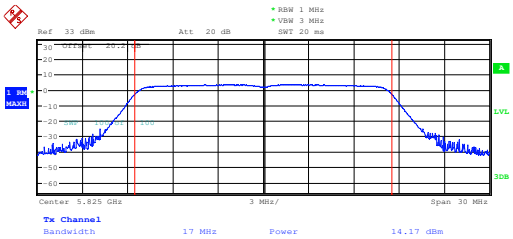
Date: 26.JAN.2016 14:01:41

5785 MHz



Date: 26.JAN.2016 14:02:16

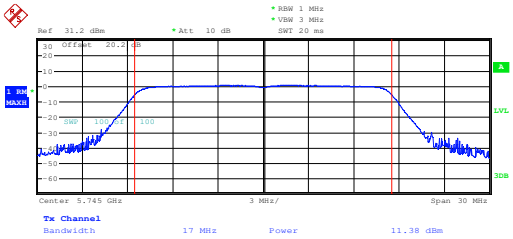
5825 MHz



Date: 26.JAN.2016 14:02:43

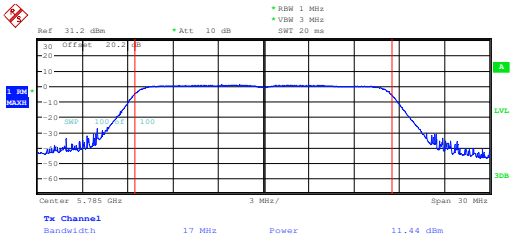
Antenna Port 0
Non HT20 Mode
Power Setting 14

5745 MHz



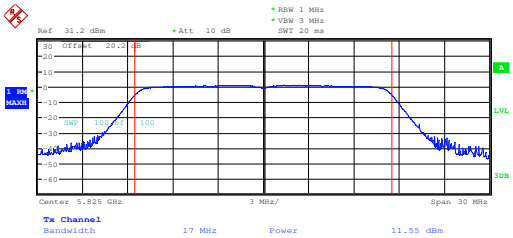
Date: 4.DEC.2015 14:40:42

5785 MHz



Date: 4.DEC.2015 14:41:10

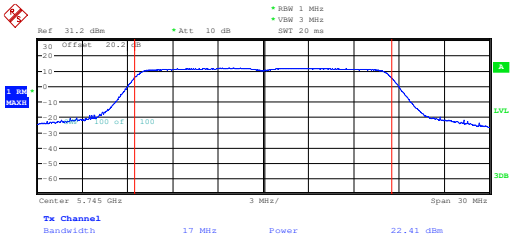
5825 MHz



Date: 4.DEC.2015 14:45:29

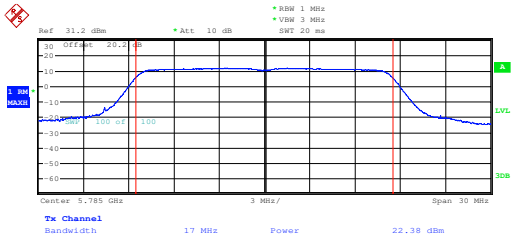
Antenna Port 1
Non HT20 Mode
Power Setting 25

5745 MHz



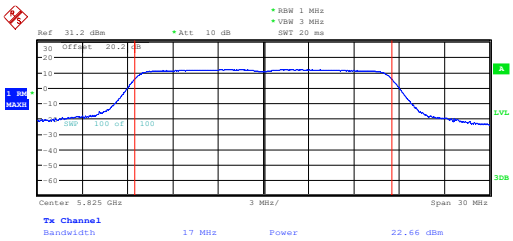
Date: 4.DEC.2015 12:13:09

5785 MHz



Date: 4.DEC.2015 12:21:07

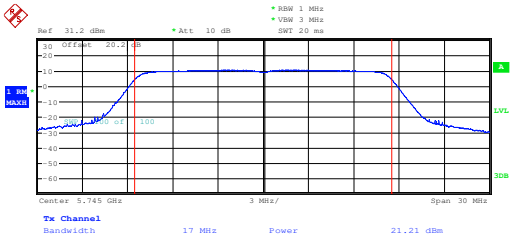
5825 MHz



Date: 4.DEC.2015 12:21:48

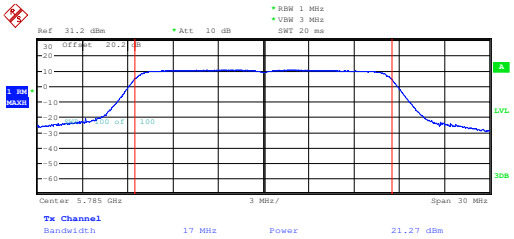
Antenna Port 1
Non HT20 Mode
Power Setting 24

5745 MHz



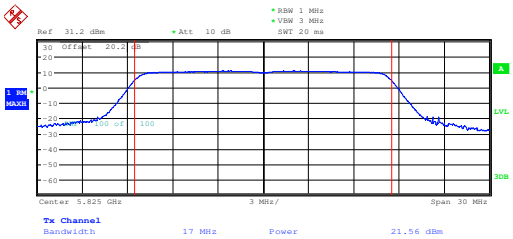
Date: 4.DEC.2015 12:14:47

5785 MHz



Date: 4.DEC.2015 12:20:49

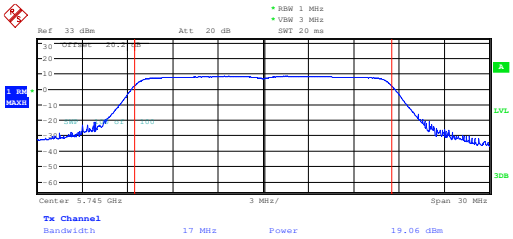
5825 MHz



Date: 4.DEC.2015 12:22:16

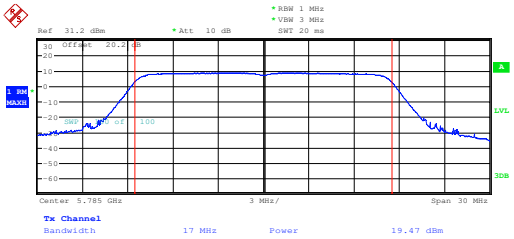
Antenna Port 1
Non HT20 Mode
Power Setting 22

5745 MHz



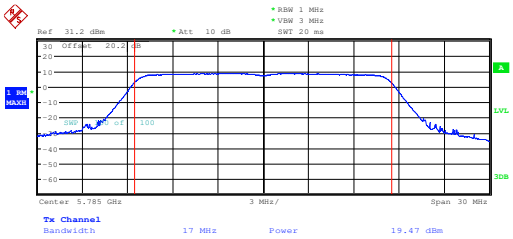
Date: 26.JAN.2016 13:46:44

5785 MHz



Date: 4.DEC.2015 12:20:06

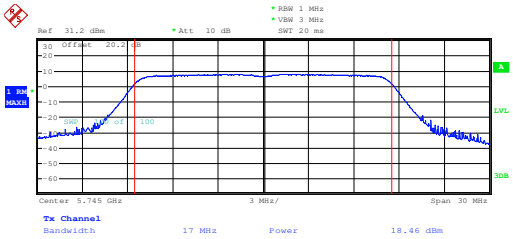
5825 MHz



Date: 4.DEC.2015 12:20:06

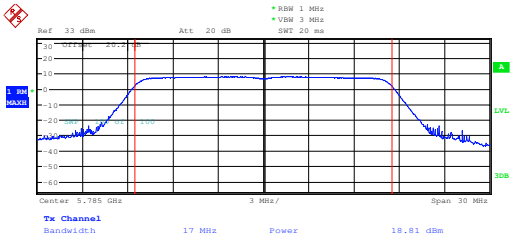
Antenna Port 1
Non HT20 Mode
Power Setting 21

5745 MHz



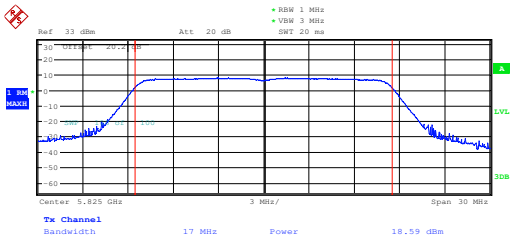
Date: 4.DEC.2015 12:16:04

5785 MHz



Date: 26.JAN.2016 14:25:54

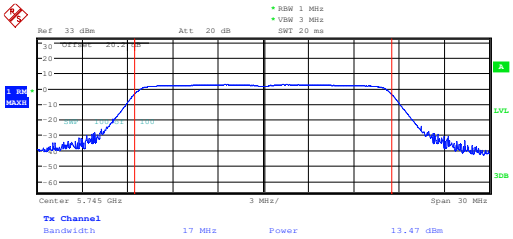
5825 MHz



Date: 26.JAN.2016 14:26:27

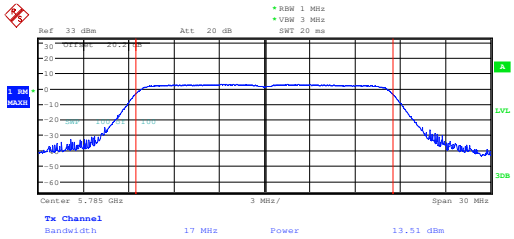
Antenna Port 1
Non HT20 Mode
Power Setting 16

5745 MHz



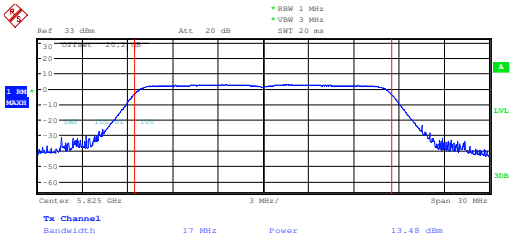
Date: 26.JAN.2016 14:27:53

5785 MHz



Date: 26.JAN.2016 14:27:26

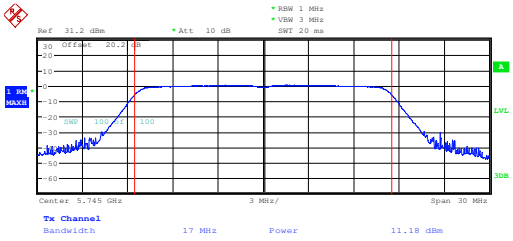
5825 MHz



Date: 26.JAN.2016 14:27:01

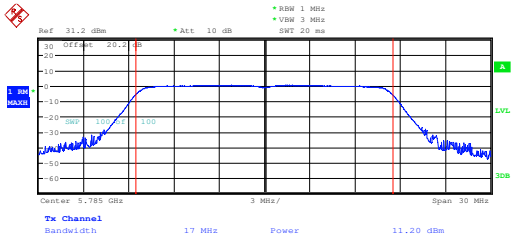
Antenna Port 1
Non HT20 Mode
Power Setting 14

5745 MHz



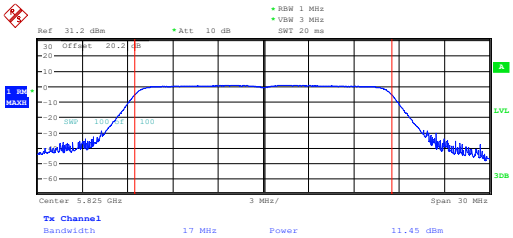
Date: 4.DEC.2015 12:17:30

5785 MHz



Date: 4.DEC.2015 12:18:22

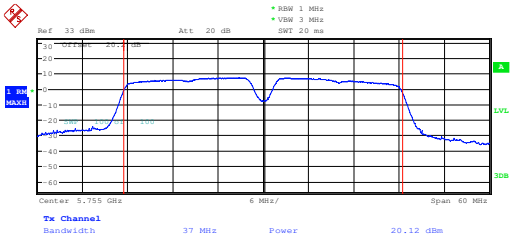
5825 MHz



Date: 4.DEC.2015 12:24:18

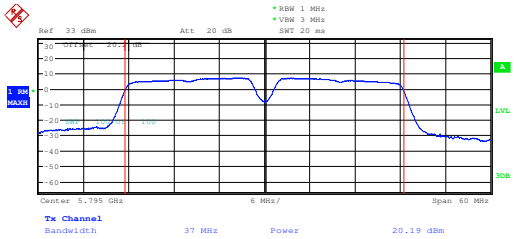
Antenna Port 0
Non HT40 Mode
Power Setting 22

5755 MHz



Date: 26.JAN.2016 11:57:52

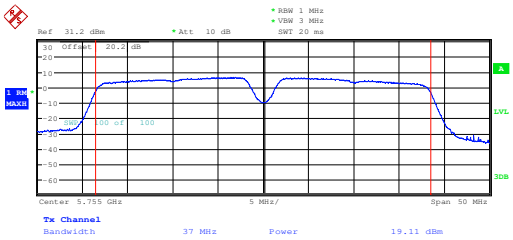
5795 MHz



Date: 26.JAN.2016 11:57:25

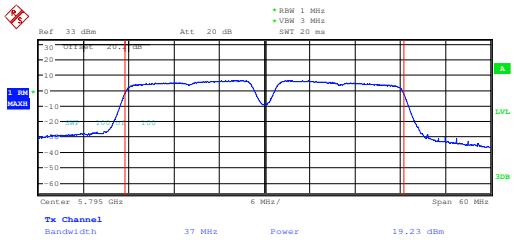
Power Setting 21

5755 MHz



Date: 4.DEC.2015 14:48:42

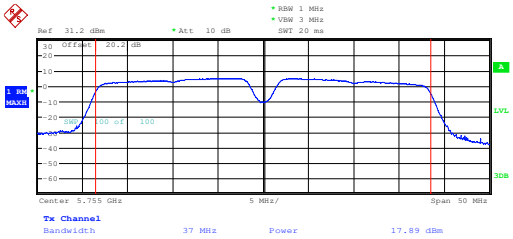
5795 MHz



Date: 26.JAN.2016 11:56:42

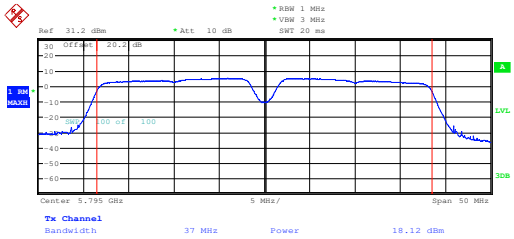
Antenna Port 0
Non HT40 Mode
Power Setting 20

5755 MHz



Date: 4.DEC.2015 14:48:22

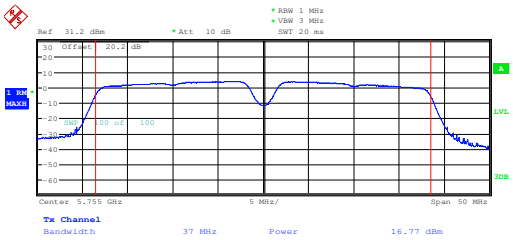
5795 MHz



Date: 4.DEC.2015 14:50:16

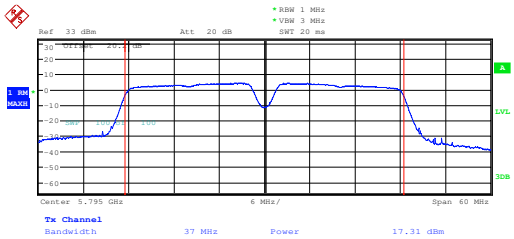
Power Setting 19

5755 MHz



Date: 4.DEC.2015 14:48:00

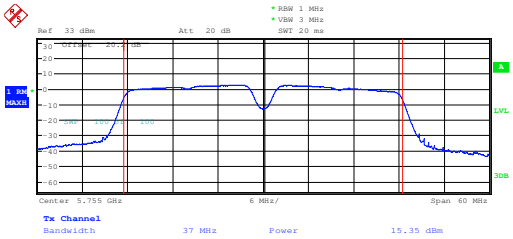
5795 MHz



Date: 26.JAN.2016 13:50:33

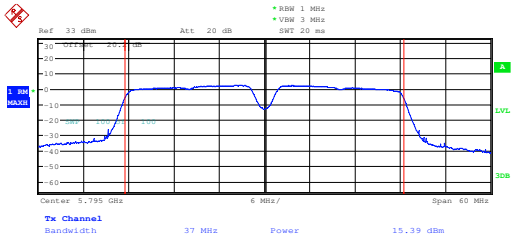
Antenna Port 0
Non HT40 Mode
Power Setting 17

5755 MHz



Date: 26.JAN.2016 14:03:38

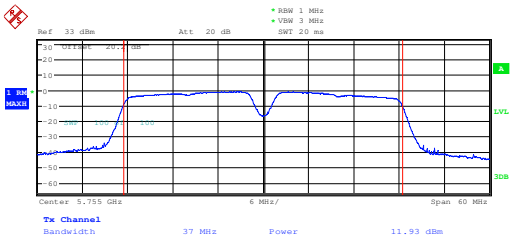
5795 MHz



Date: 26.JAN.2016 14:04:13

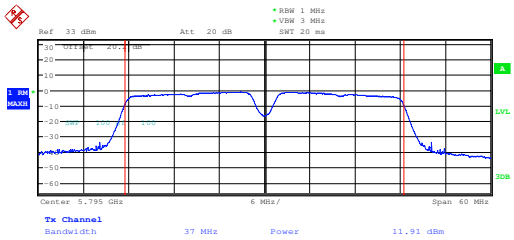
Power Setting 14

5755 MHz



Date: 26.JAN.2016 14:05:02

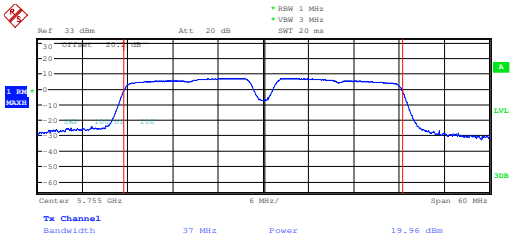
5795 MHz



Date: 26.JAN.2016 14:04:38

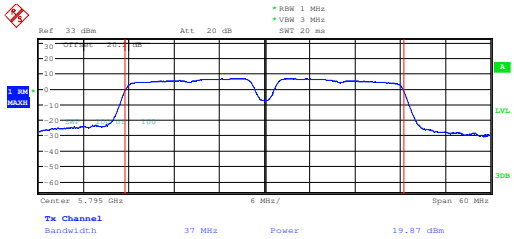
Antenna Port 1
Non HT40 Mode
Power Setting 22

5755 MHz



Date: 26.JAN.2016 11:42:48

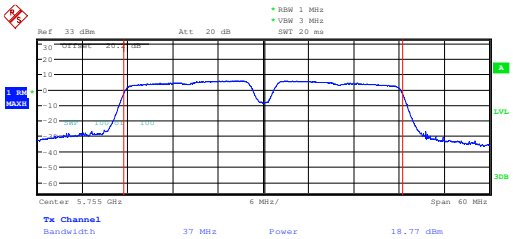
5795 MHz



Date: 26.JAN.2016 11:45:13

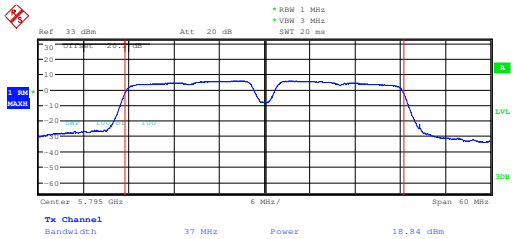
Power Setting 21

5755 MHz



Date: 26.JAN.2016 11:44:07

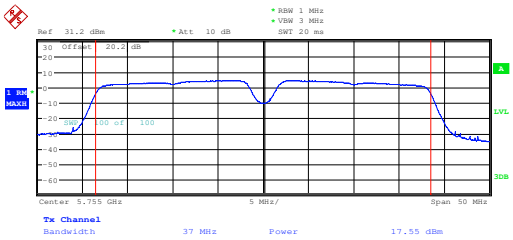
5795 MHz



Date: 26.JAN.2016 11:44:53

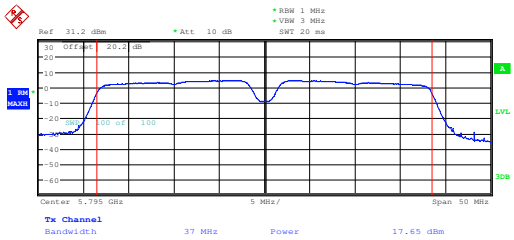
Antenna Port 1
Non HT40 Mode
Power Setting 20

5755 MHz



Date: 4.DEC.2015 13:48:45

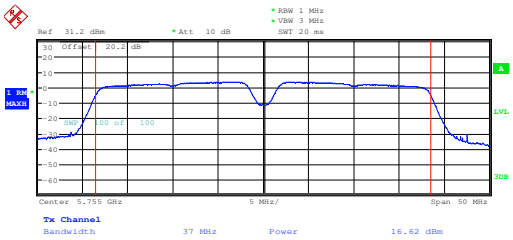
5795 MHz



Date: 4.DEC.2015 13:52:26

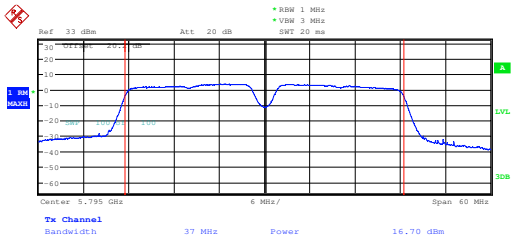
Power Setting 19

5755 MHz



Date: 4.DEC.2015 13:49:29

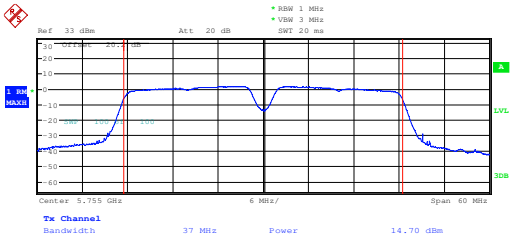
5795 MHz



Date: 26.JAN.2016 14:21:31

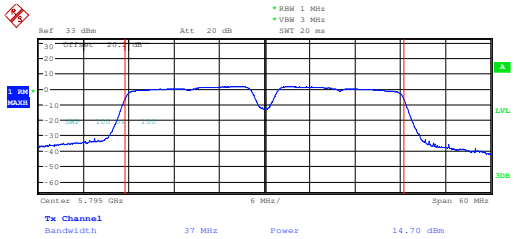
Antenna Port 1
Non HT40 Mode
Power Setting 17

5755 MHz



Date: 26.JAN.2016 14:28:48

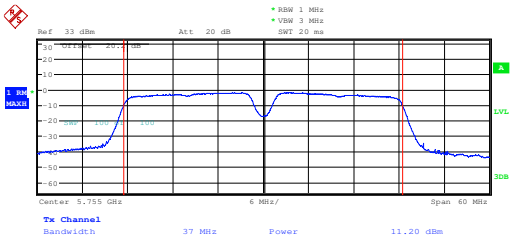
5795 MHz



Date: 26.JAN.2016 14:29:19

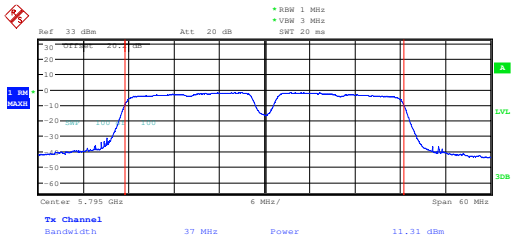
Power Setting 14

5755 MHz



Date: 26.JAN.2016 14:30:09

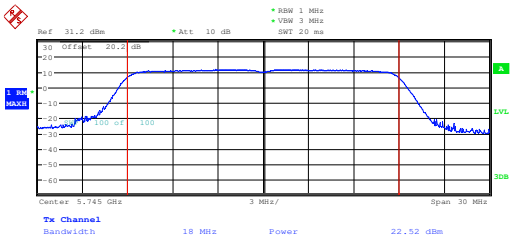
5795 MHz



Date: 26.JAN.2016 14:29:43

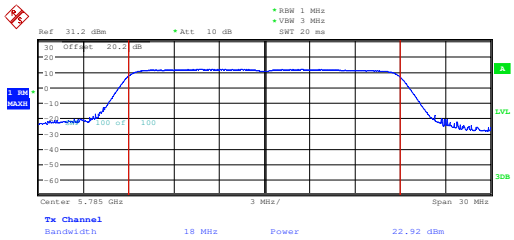
Antenna Port 0
HT20 Mode (M0)
Power Setting 25

5745 MHz



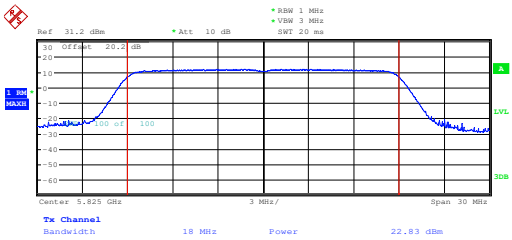
Date: 4.DEC.2015 15:03:49

5785 MHz



Date: 4.DEC.2015 15:04:21

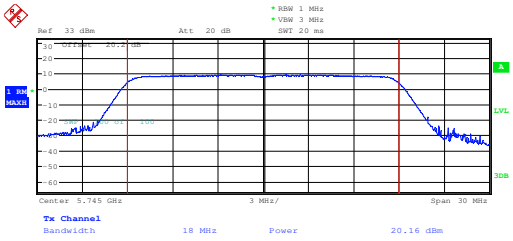
5825 MHz



Date: 4.DEC.2015 15:08:04

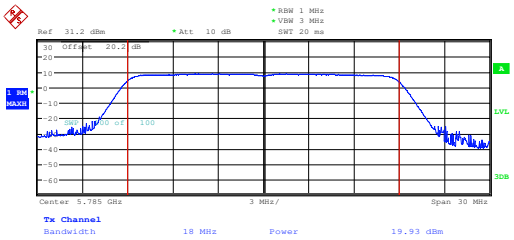
Antenna Port 0
HT20 Mode (M0)
Power Setting 22

5745 MHz



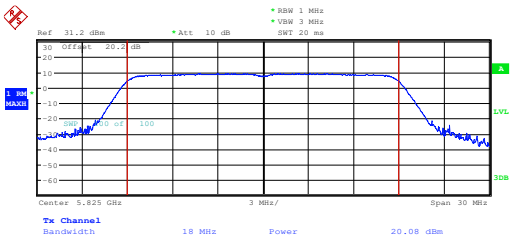
Date: 26.JAN.2016 13:57:30

5785 MHz



Date: 4.DEC.2015 15:05:22

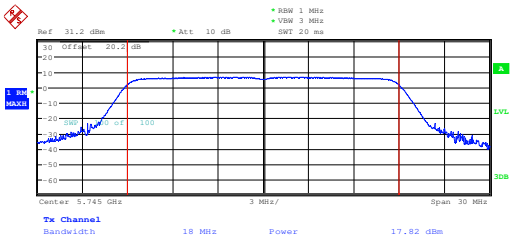
5825 MHz



Date: 4.DEC.2015 15:07:35

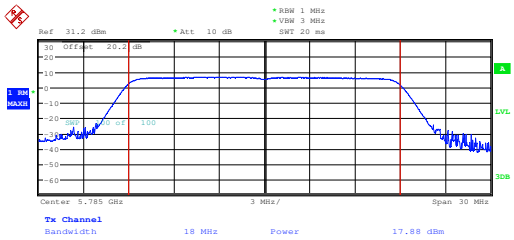
Antenna Port 0
Non HT20 Mode (M0)
Power Setting 20

5745 MHz



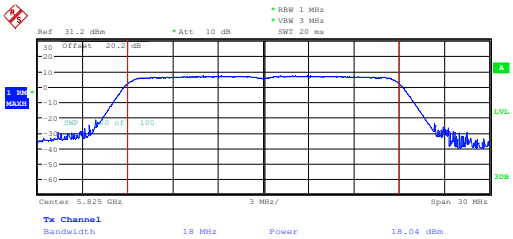
Date: 4.DEC.2015 15:02:54

5785 MHz



Date: 4.DEC.2015 15:05:46

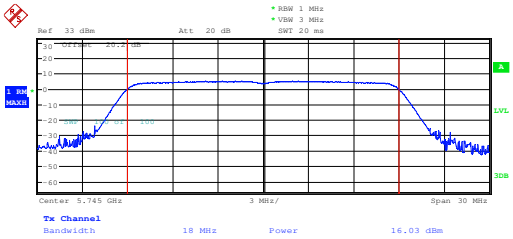
5825 MHz



Date: 4.DEC.2015 15:07:09

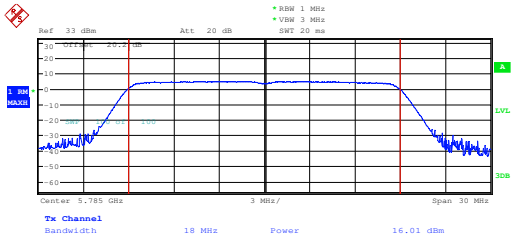
Antenna Port 0
HT20 Mode (M0)
Power Setting 18

5745 MHz



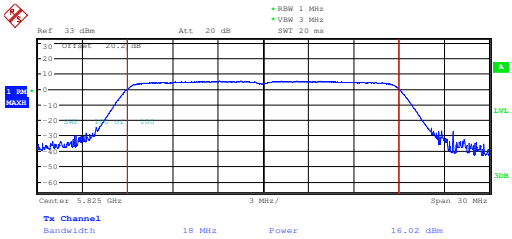
Date: 26.JAN.2016 14:06:16

5785 MHz



Date: 26.JAN.2016 14:06:46

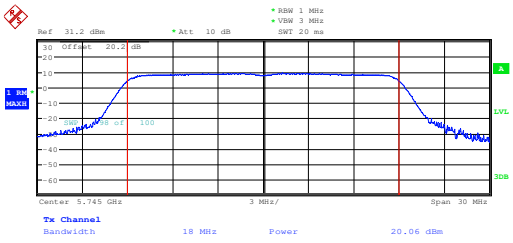
5825 MHz



Date: 26.JAN.2016 14:07:12

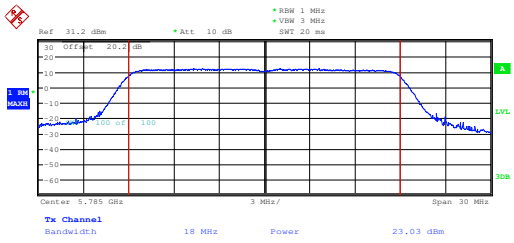
Antenna Port 0
HT20 Mode (M8)
Power Setting 25

5745 MHz



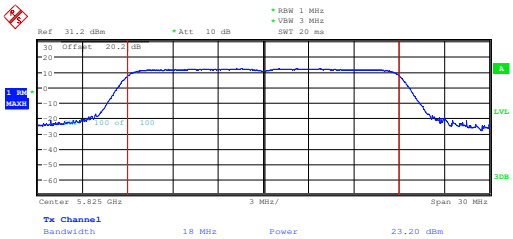
Date: 4.DEC.2015 15:13:15

5785 MHz



Date: 4.DEC.2015 15:12:19

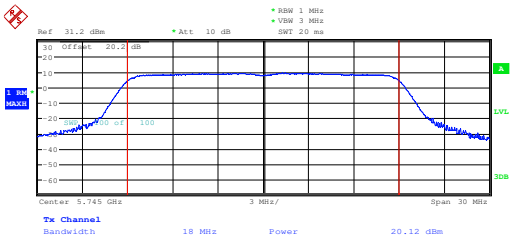
5825 MHz



Date: 4.DEC.2015 15:09:14

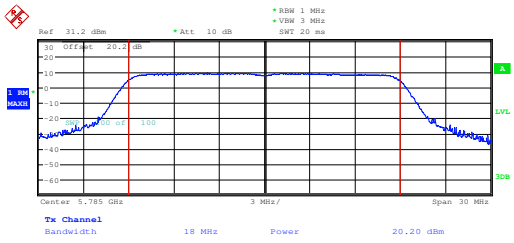
Antenna Port 0
Non HT20 Mode (M8)
Power Setting 22

5745 MHz



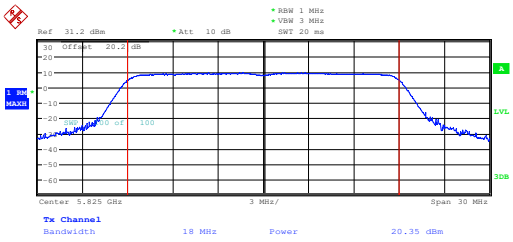
Date: 4.DEC.2015 15:13:20

5785 MHz



Date: 4.DEC.2015 15:11:54

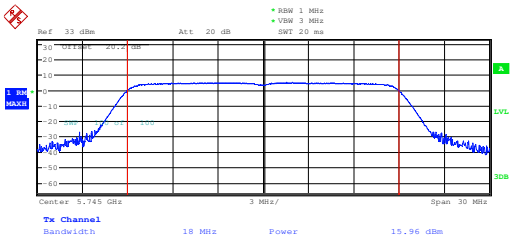
5825 MHz



Date: 4.DEC.2015 15:10:35

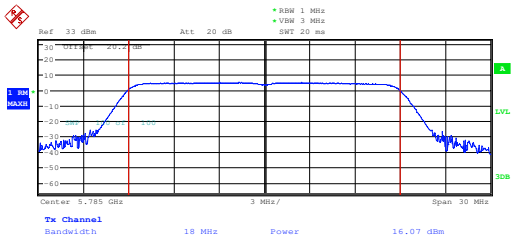
Antenna Port 0
HT20 Mode (M8)
Power Setting 18

5745 MHz



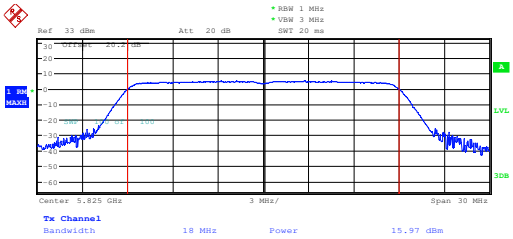
Date: 26.JAN.2016 14:08:42

5785 MHz



Date: 26.JAN.2016 14:08:15

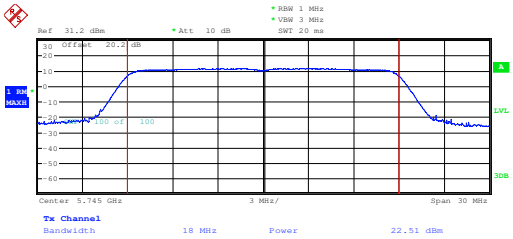
5825 MHz



Date: 26.JAN.2016 14:07:46

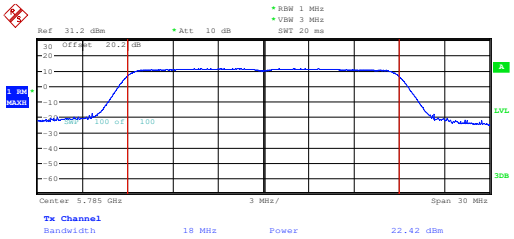
Antenna Port 1
HT20 Mode (M0)
Power Setting 25

5745 MHz



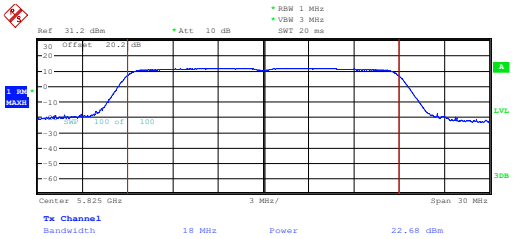
Date: 4.DEC.2015 14:05:15

5785 MHz



Date: 4.DEC.2015 14:10:08

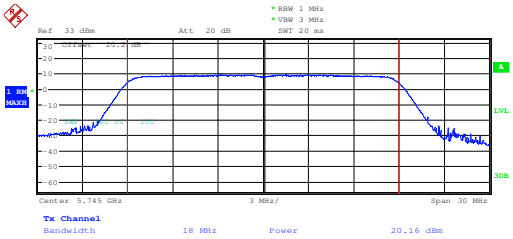
5825 MHz



Date: 4.DEC.2015 14:11:11

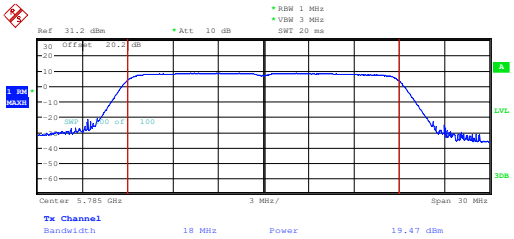
Antenna Port 1
HT20 Mode (M0)
Power Setting 22

5745 MHz



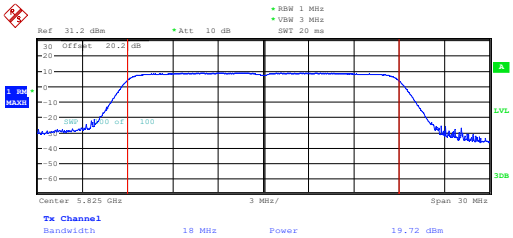
Date: 26.JAN.2016 13:57:30

5785 MHz



Date: 4.DEC.2015 14:09:16

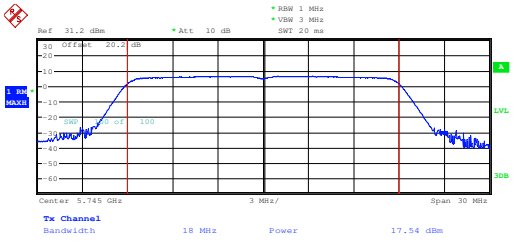
5825 MHz



Date: 4.DEC.2015 14:12:01

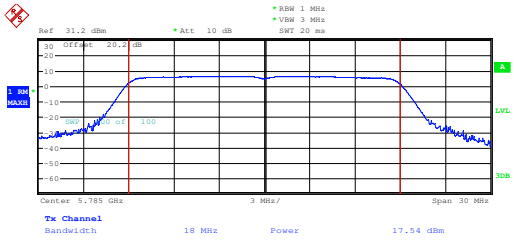
Antenna Port 1
HT20 Mode (M0)
Power Setting 20

5745 MHz



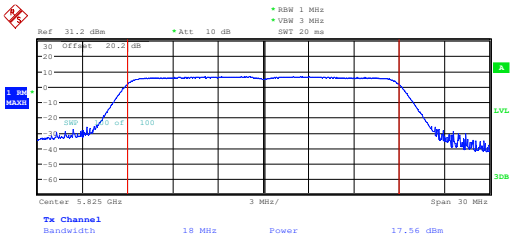
Date: 4.DEC.2015 14:06:35

5785 MHz



Date: 4.DEC.2015 14:08:47

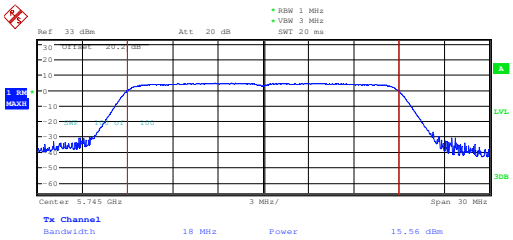
5825 MHz



Date: 4.DEC.2015 14:12:24

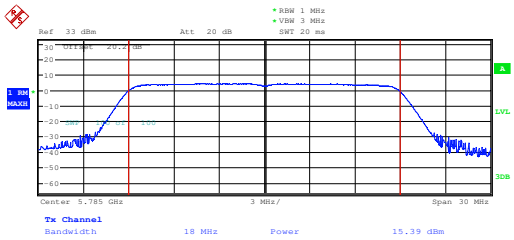
Antenna Port 1
HT20 Mode (M0)
Power Setting 18

5745 MHz



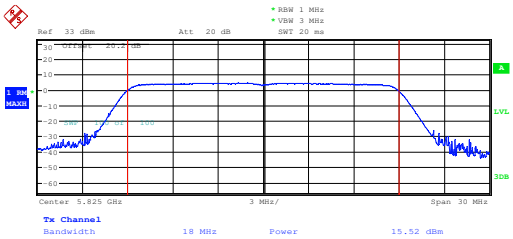
Date: 26.JAN.2016 14:31:12

5785 MHz



Date: 26.JAN.2016 14:31:40

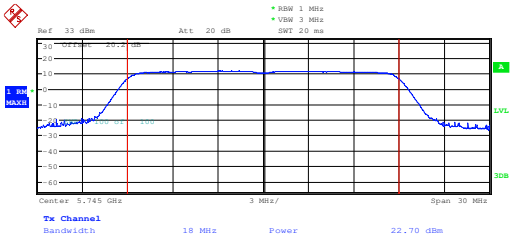
5825 MHz



Date: 26.JAN.2016 14:32:05

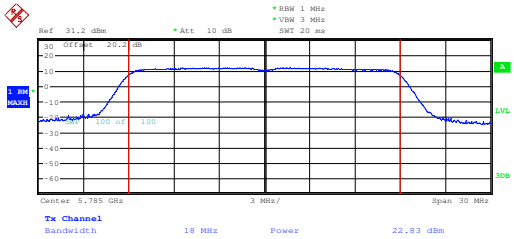
Antenna Port 1
HT20 Mode (M8)
Power Setting 25

5745 MHz



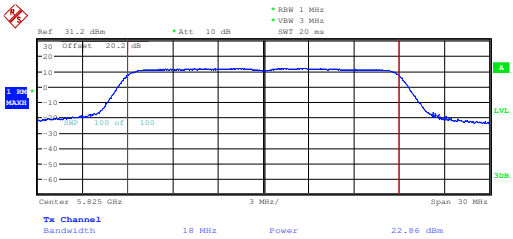
Date: 26.JAN.2016 11:47:08

5785 MHz



Date: 4.DEC.2015 14:15:17

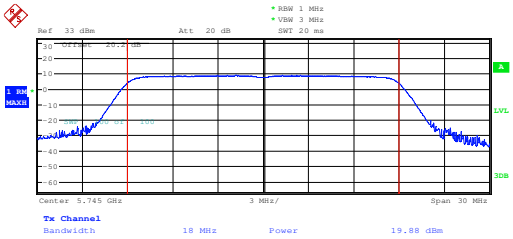
5825 MHz



Date: 4.DEC.2015 14:14:41

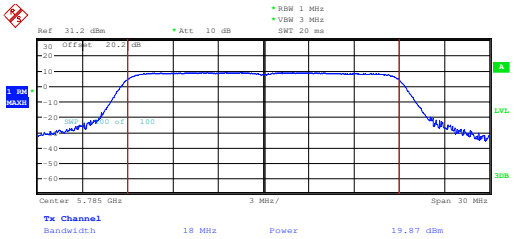
Antenna Port 1
HT20 Mode (M8)
Power Setting 22

5745 MHz



Date: 26.JAN.2016 14:23:12

5785 MHz



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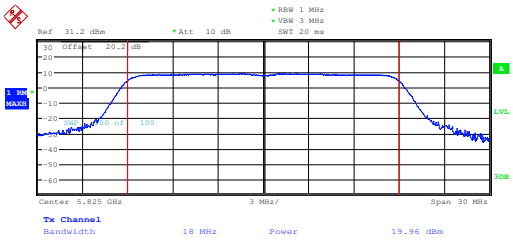
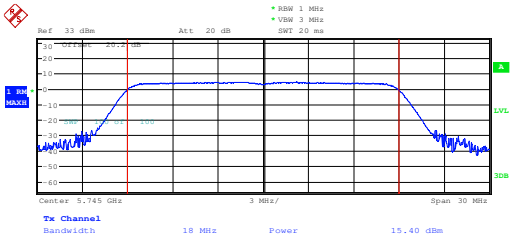
5825 MHz



Date: 4.DEC.2015 14:14:07

Antenna Port 1
HT20 Mode (M8)
Power Setting 18

5745 MHz



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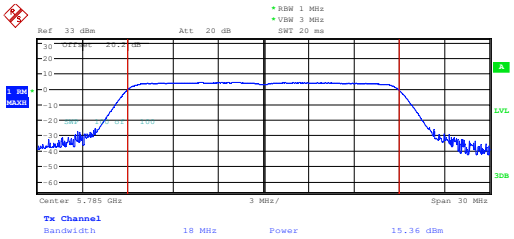
5785 MHz



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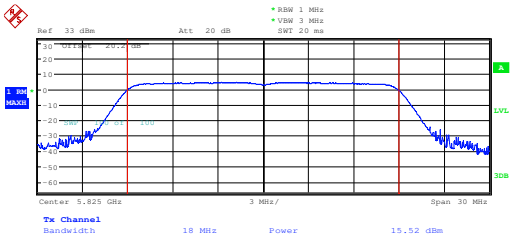
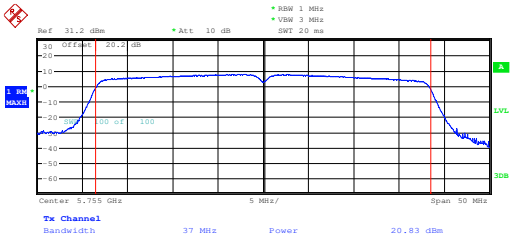
5825 MHz



Date: 26.JAN.2016 14:32:27

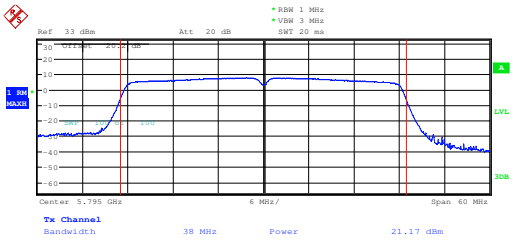
Antenna Port 0
HT40 Mode (M0)
Power Setting 23

5755 MHz



Date: 4.DEC.2015 14:59:02

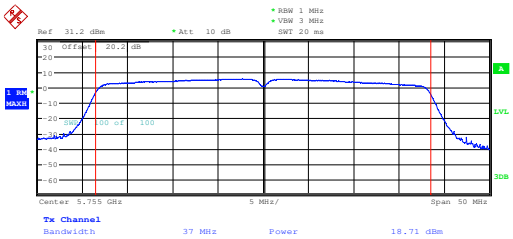
5795 MHz



Date: 26.JAN.2016 12:18:54

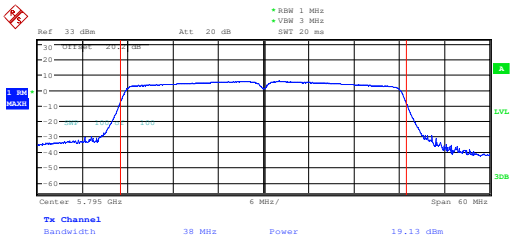
Power Setting 21

5755 MHz



Date: 4.DEC.2015 14:58:43

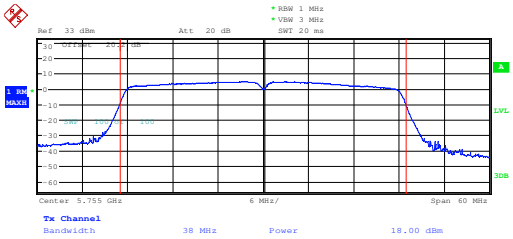
5795 MHz



Date: 26.JAN.2016 11:55:51

Antenna Port 0
HT40 Mode (M0)
Power Setting 20

5755 MHz



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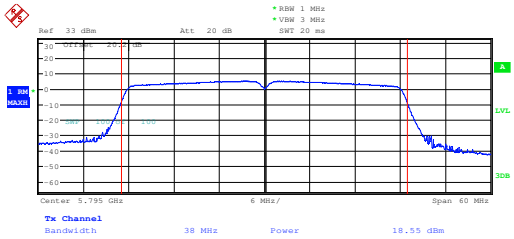
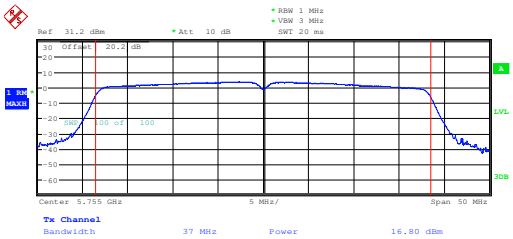
5795 MHz



Date: 26.JAN.2016 11:54:17

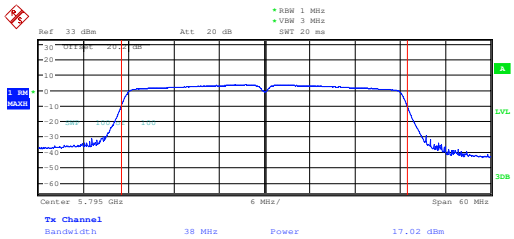
Power Setting 19

5755 MHz



Date: 4.DEC.2015 14:58:26

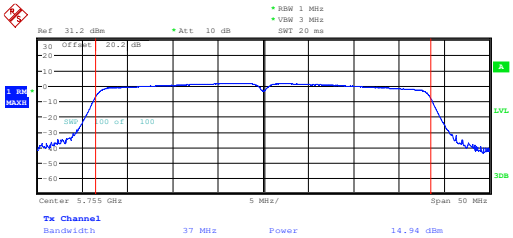
5795 MHz



Date: 26.JAN.2016 14:00:12

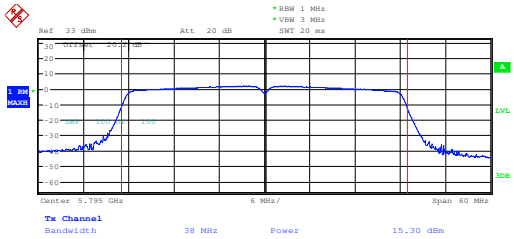
Antenna Port 0
HT40 Mode (M0)
Power Setting 17

5755 MHz



Date: 4.DEC.2015 14:58:08

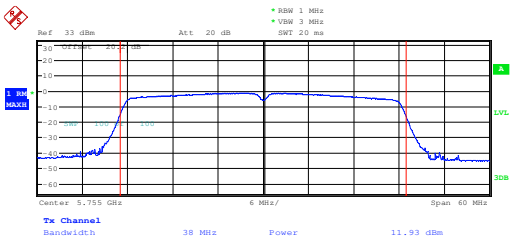
5795 MHz



Date: 26.JAN.2016 14:11:19

Power Setting 14

5755 MHz



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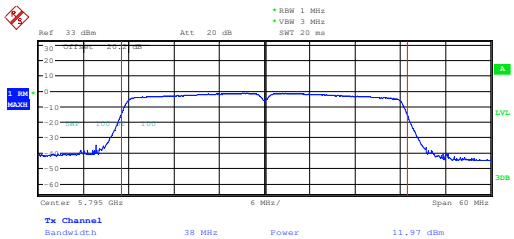
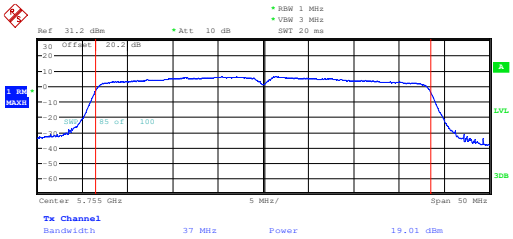
5795 MHz



Date: 26.JAN.2016 14:10:21

Antenna Port 0
HT40 Mode (M8)
Power Setting 21

5755 MHz



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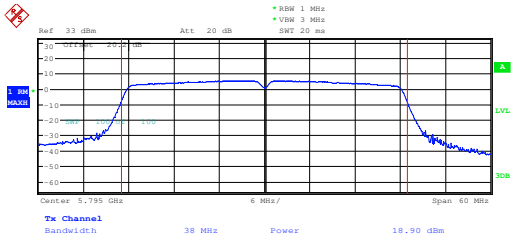
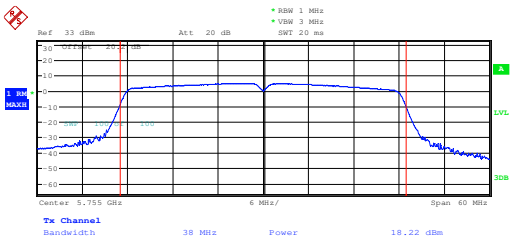
5795 MHz



Date: 26.JAN.2016 12:19:35

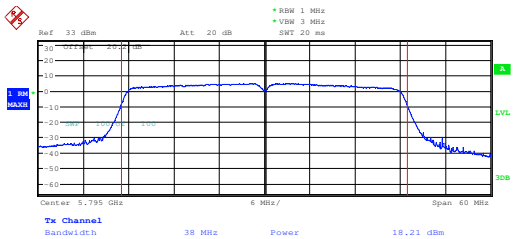
Power Setting 20

5755 MHz



Date: 26.JAN.2016 11:53:17

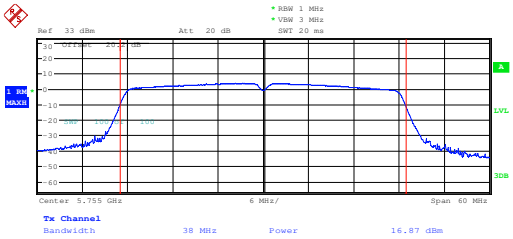
5795 MHz



Date: 26.JAN.2016 11:53:52

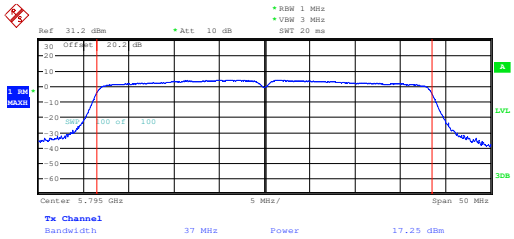
Antenna Port 1
HT40 Mode (M8)
Power Setting 19

5755 MHz



Date: 26.JAN.2016 13:59:23

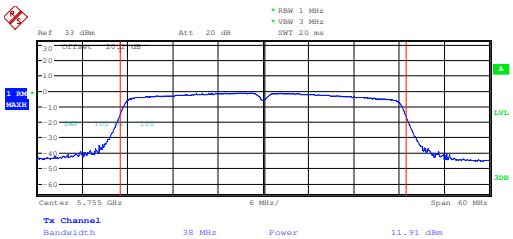
5795 MHz



Date: 4.DEC.2015 14:56:51

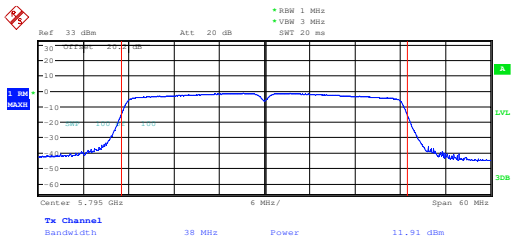
Power Setting 14

5755 MHz



Date: 26.JAN.2016 14:09:31

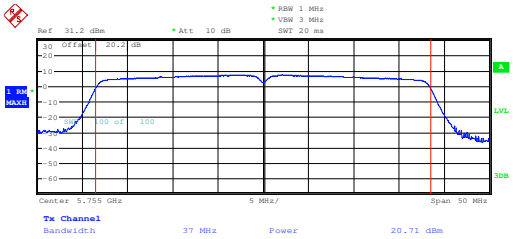
5795 MHz



Date: 26.JAN.2016 14:09:56

Antenna Port 1
HT40 Mode (M0)
Power Setting 23

5755 MHz



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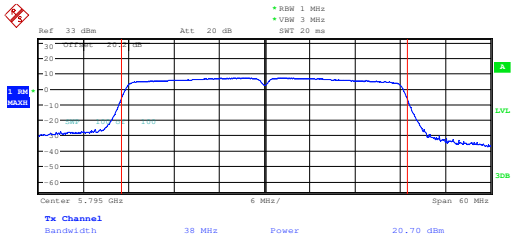
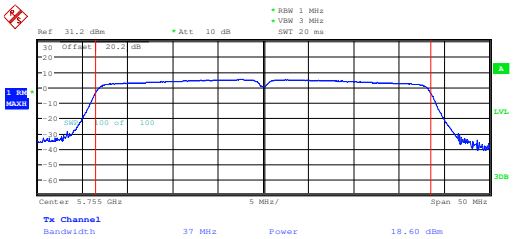
5795 MHz



Date: 26.JAN.2016 11:48:29

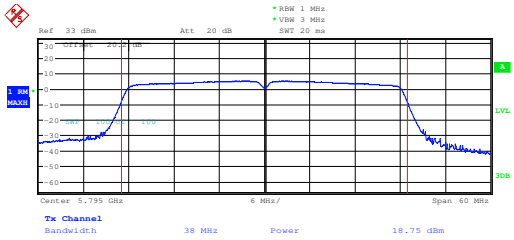
Power Setting 21

5755 MHz



Date: 4.DEC.2015 14:02:54

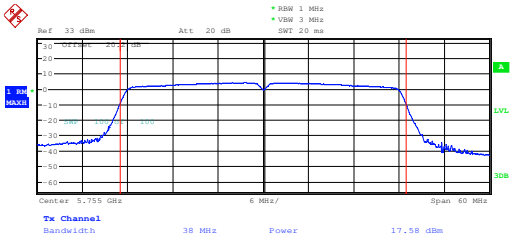
5795 MHz



Date: 26.JAN.2016 11:48:57

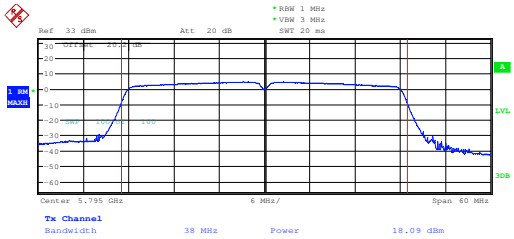
Antenna Port 1
HT40 Mode (M0)
Power Setting 20

5755 MHz



Date: 26.JAN.2016 11:51:09

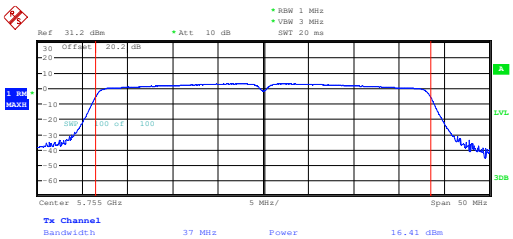
5795 MHz



Date: 26.JAN.2016 11:50:33

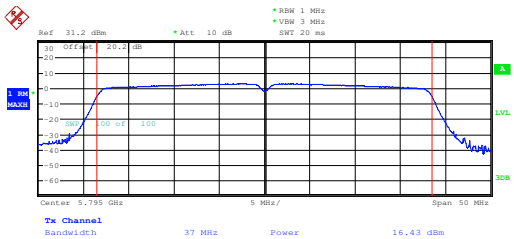
Power Setting 19

5755 MHz



Date: 4.DEC.2015 14:02:26

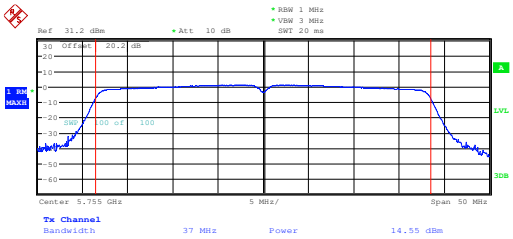
5795 MHz



Date: 4.DEC.2015 13:56:13

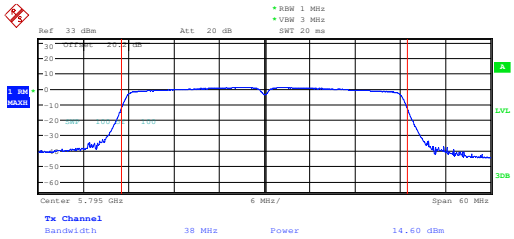
Antenna Port 1
HT40 Mode (M0)
Power Setting 17

5755 MHz



Date: 4.DEC.2015 14:02:05

5795 MHz



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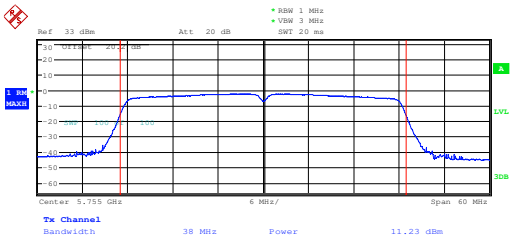
Power Setting 14

5755 MHz



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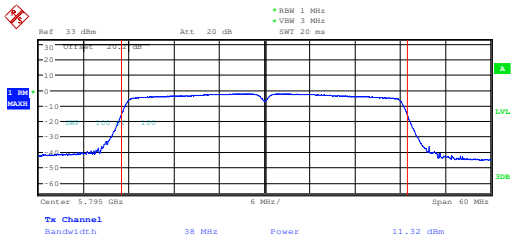
5795 MHz



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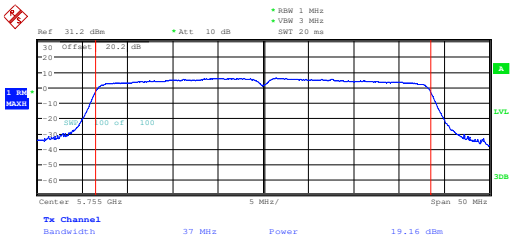
Antenna Port 1
HT40 Mode (M8)
Power Setting 21

5755 MHz



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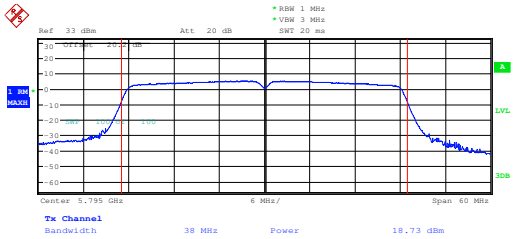
5795 MHz



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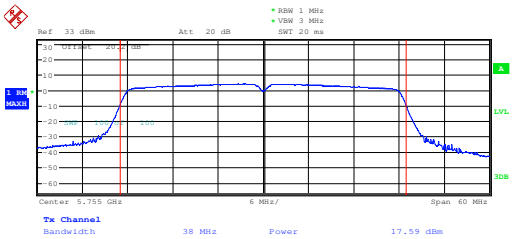
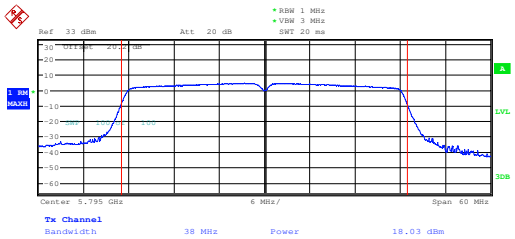
Power Setting 20

5755 MHz



Date: 26.JAN.2016 11:51:41

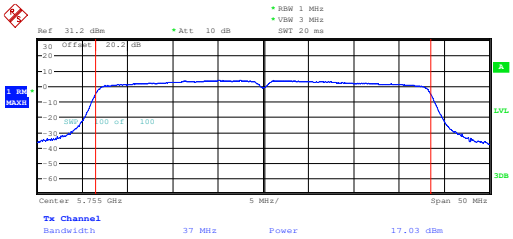
5795 MHz



Date: 26.JAN.2016 11:50:05

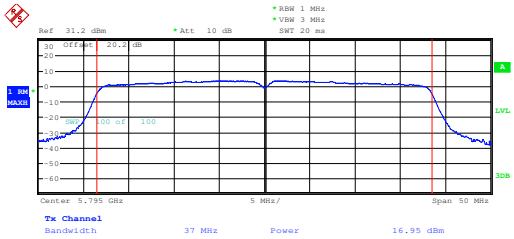
Antenna Port 1
HT40 Mode (M8)
Power Setting 19

5755 MHz



Date: 4.DEC.2015 13:59:32

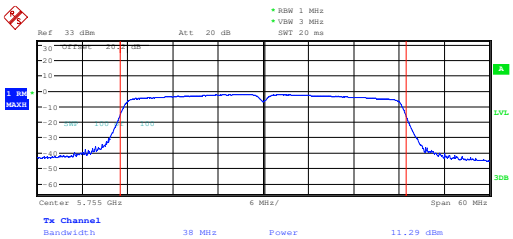
5795 MHz



Date: 4.DEC.2015 13:56:54

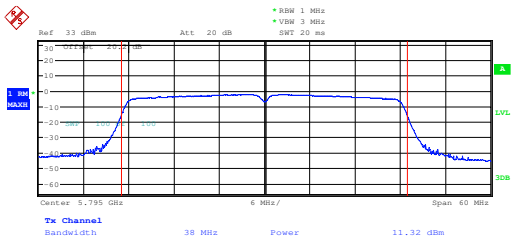
Power Setting 14

5755 MHz



Date: 26.JAN.2016 14:34:05

5795 MHz



Date: 26.JAN.2016 14:34:39

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

7.1 Applicable Standards

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.

7.2 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 Percent Occupied Bandwidth

7.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Agilent	Spectrum Analyzer	E4440A	MY44303352	2015-06-22	1 year
-	SMA Cable	-	C0001	Each Time[1]	N/A
Mini-Circuits	20dBm Attenuator	BW-S10W5	1419	Each Time[1]	N/A

Statement of Traceability: BACL Corp. *attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.*
Note[1]: cable and attenuator included in the test set-up will be checked each time before testing.

7.4 Test Environmental Conditions

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

The testing was performed by Jason Qian on 2015-12-02 at RF site.

7.5 Test Results

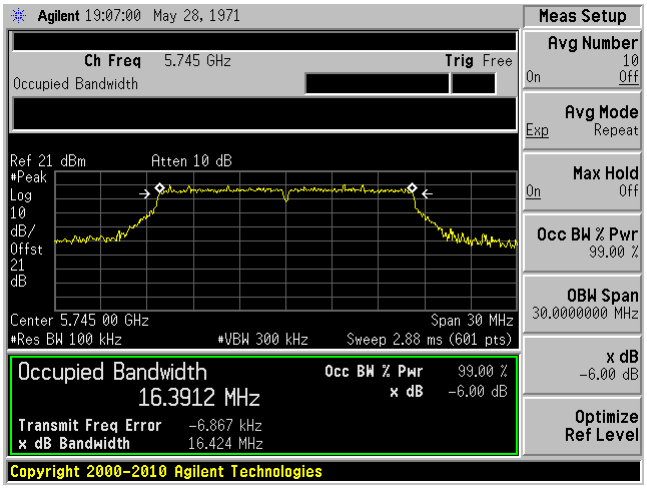
5.8GHz Band

Channel	Frequency (MHz)	99% OBW (MHz)		26 dB OBW (MHz)		6 dB OBW (MHz)		6 dB OBW Limit (kHz)
		Antenna Port 0	Antenna Port 1	Antenna Port 0	Antenna Port 1	Antenna Port 0	Antenna Port 1	
Non HT20								
Low	5745	16.39	16.38	18.98	18.86	16.42	16.37	500
Middle	5785	16.39	16.40	18.83	19.53	16.41	16.42	500
High	5825	16.39	16.40	18.67	18.76	16.42	16.39	500
Non HT40								
Low	5755	35.98	36.05	38.43	38.43	33.57	35.32	500
High	5795	36.05	36.08	38.55	39.19	32.72	35.47	500
HT20 (Data Rate M0)								
Low	5745	17.61	17.60	19.61	19.70	17.65	17.65	500
Middle	5785	17.62	17.62	19.58	19.63	17.64	17.64	500
High	5825	17.61	17.62	19.55	19.46	17.65	17.65	500
HT20 (Data Rate M8)								
Low	5745	17.60	17.60	19.58	19.45	17.64	17.65	500
Middle	5785	17.60	17.60	19.41	19.64	17.26	17.60	500
High	5825	17.59	17.61	19.60	19.60	17.58	17.59	500
HT40 (Data Rate M0)								
Low	5755	35.83	35.94	38.30	38.41	35.41	35.27	500
High	5795	36.04	35.94	38.33	38.29	35.32	35.31	500
HT40 (Data Rate M8)								
Low	5755	35.78	35.87	38.25	38.20	35.17	35.10	500
High	5795	35.95	35.95	38.47	38.40	33.90	35.09	500

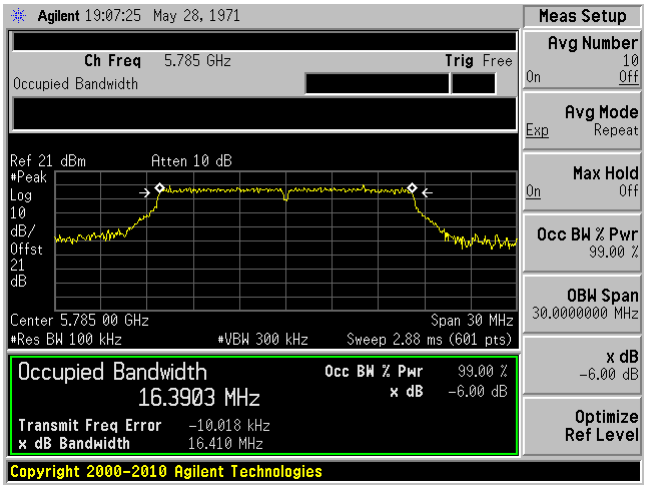
Please refer to the following plots
Note: The cable loss and attenuation have been included in the measuring offset.

99% Bandwidth & -6 dB Bandwidth
Antenna Port 0
Non HT 20

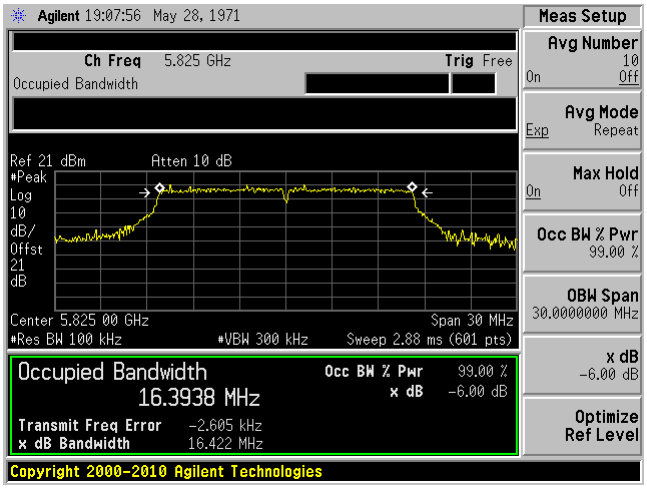
5745 MHz



5785 MHz

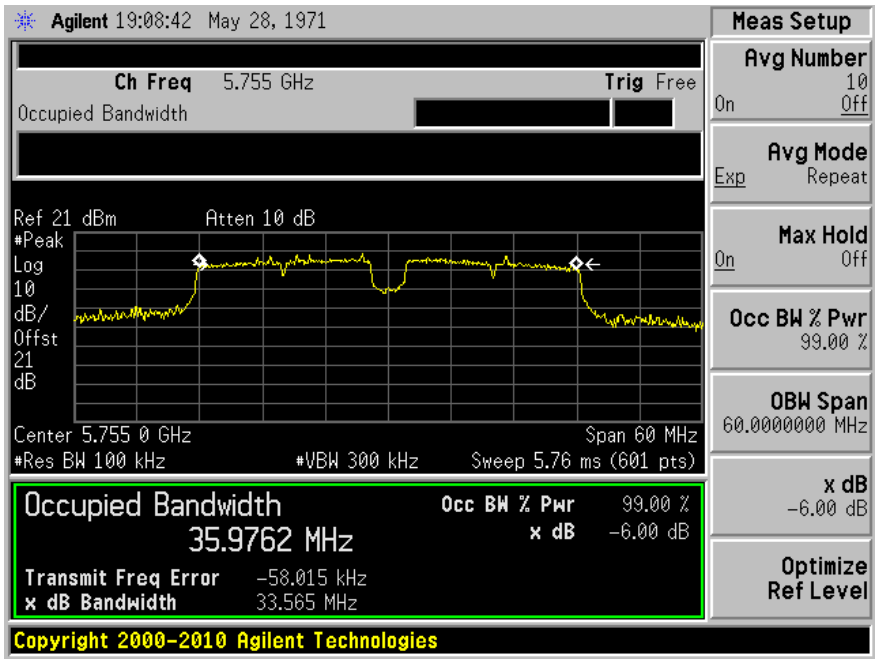


5825 MHz

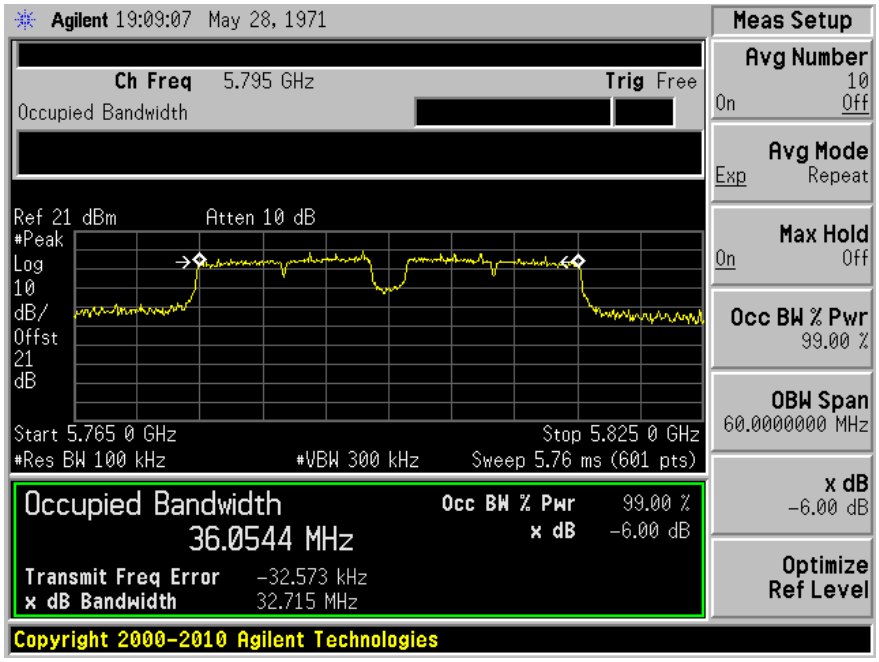


Antenna Port 0
Non HT 40

5755 MHz

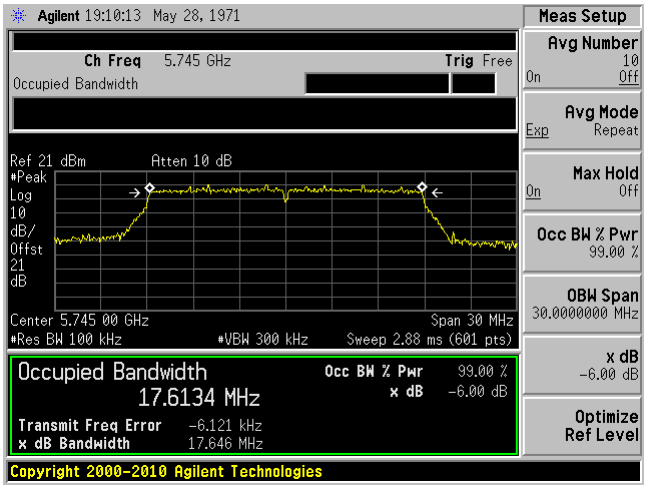


5795 MHz



Antenna Port 0
HT 20 (Data Rate: M0)

5745 MHz



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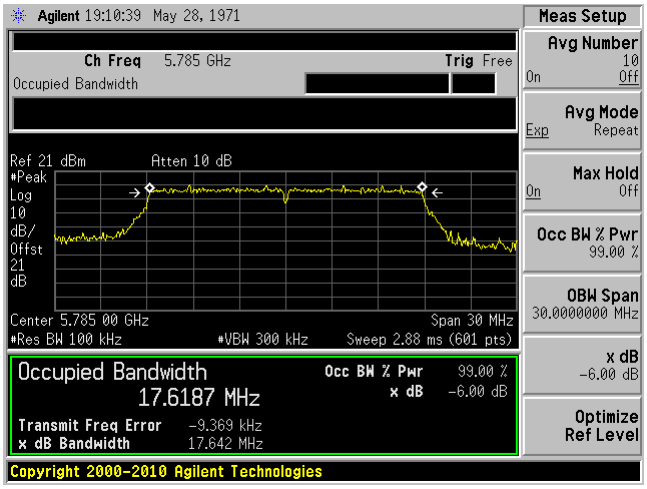

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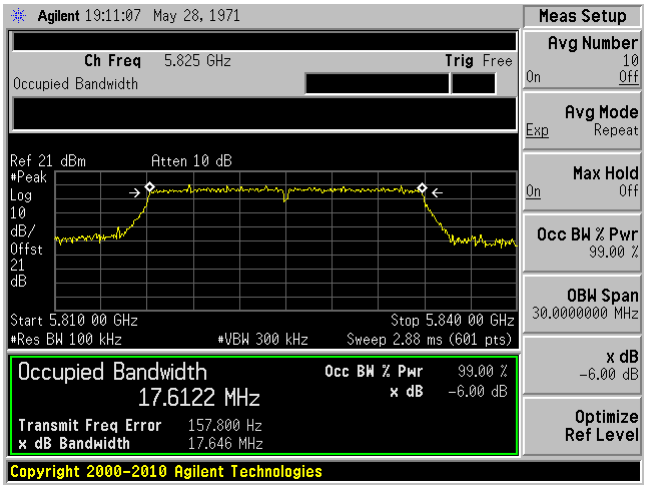
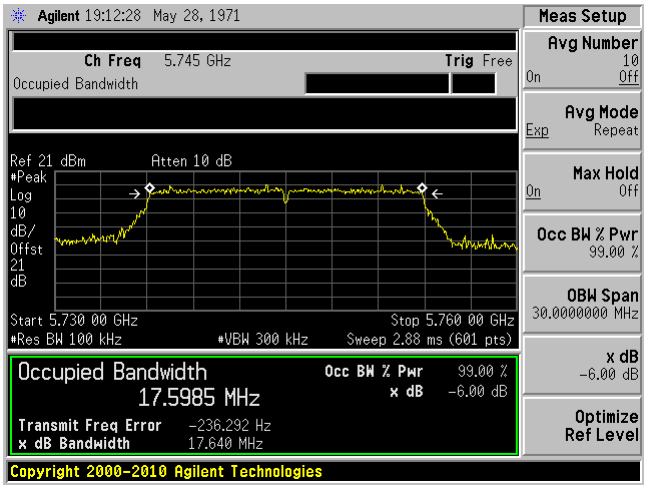


Antenna Port 0
HT 20 (Data Rate: M8)

5745 MHz



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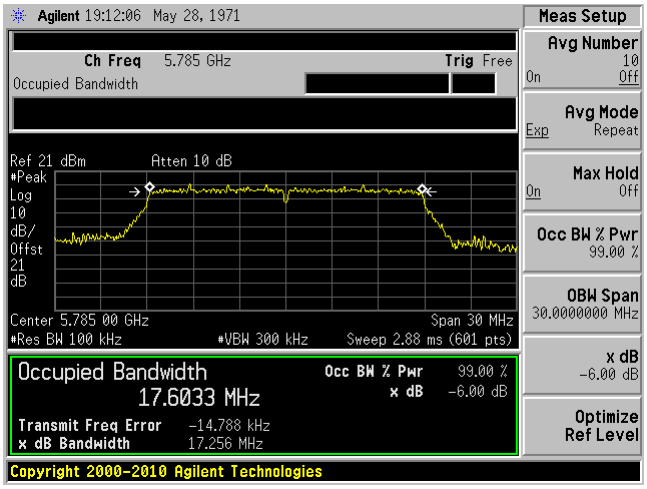

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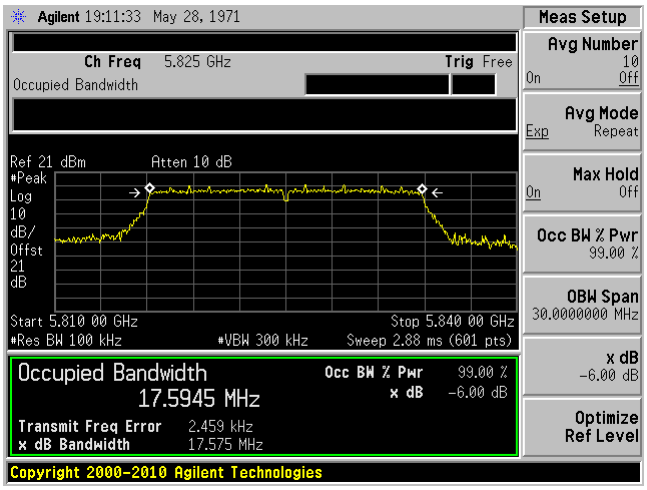
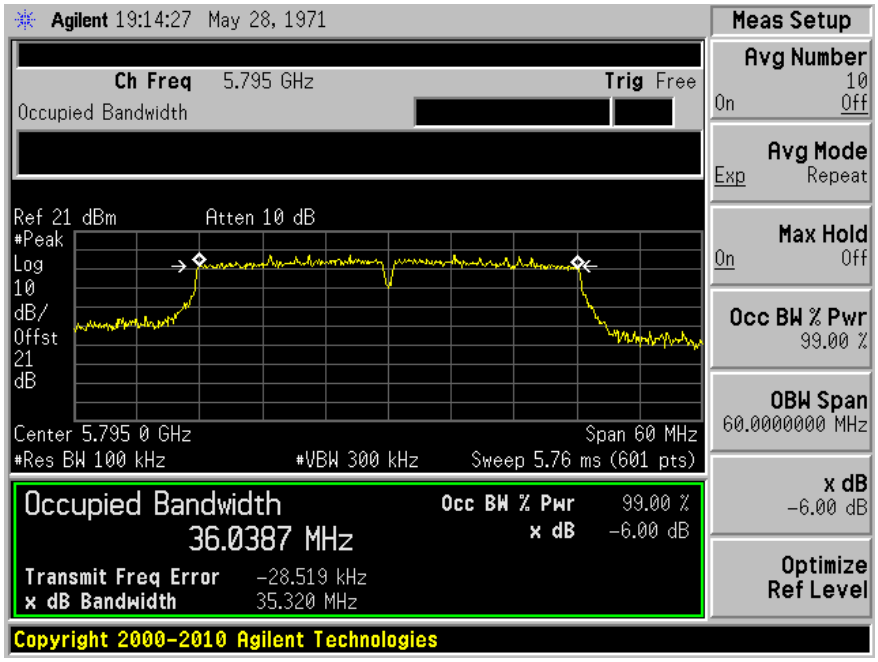
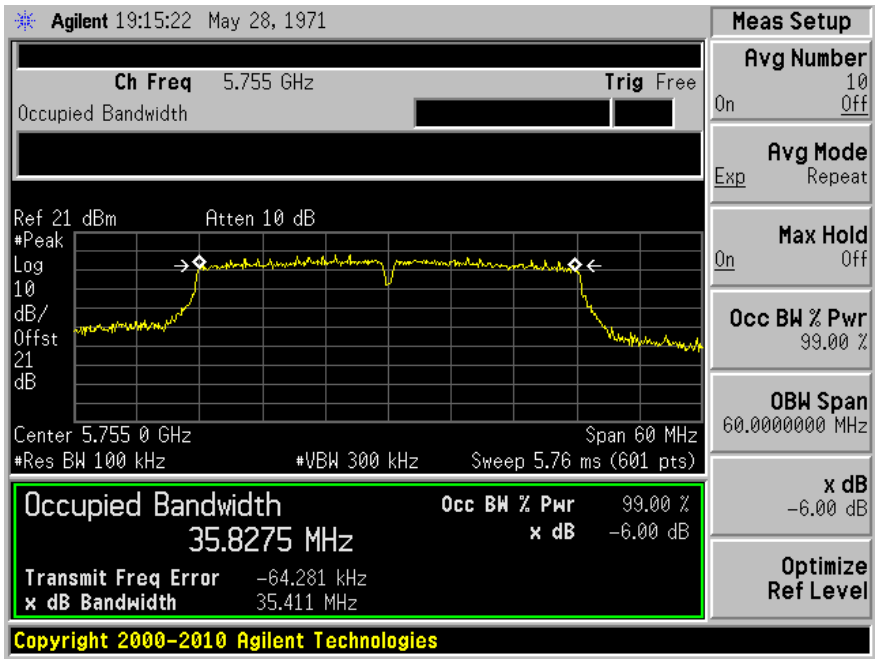


Antenna Port 0
HT 40 (Data Rate: M0)

5755 MHz

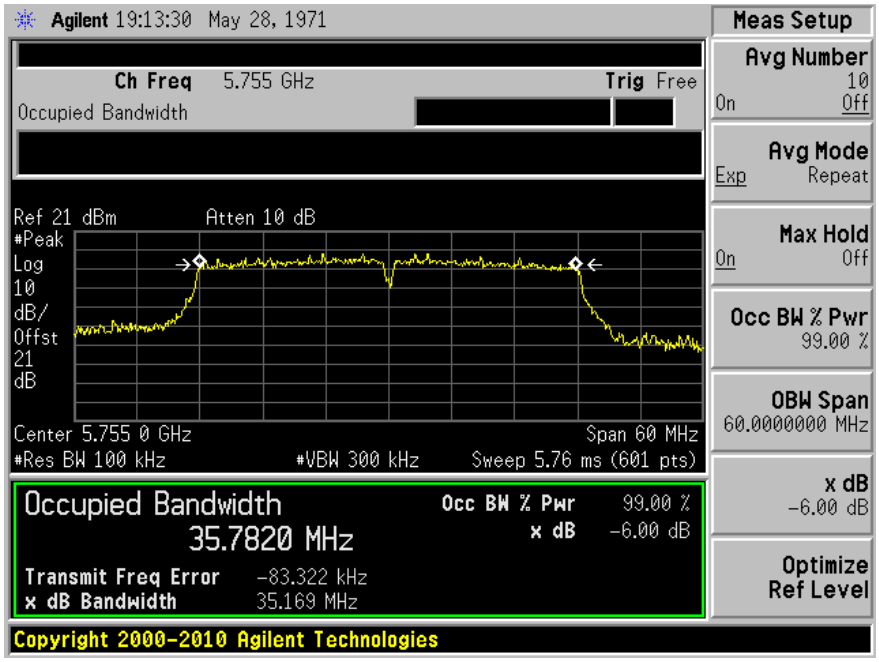


5795 MHz

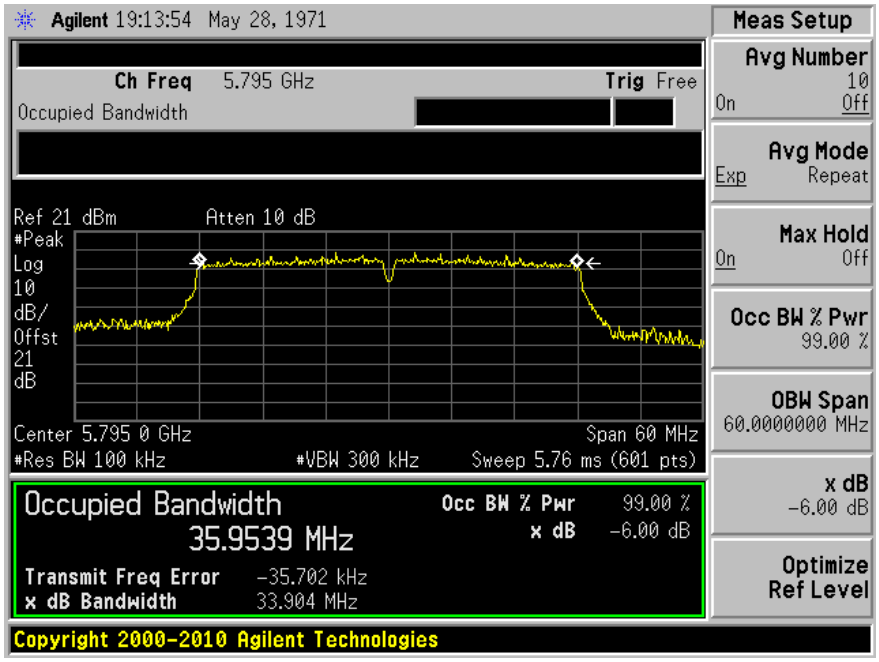


Antenna Port 0
HT 40 (Data Rate: M8)

5755 MHz

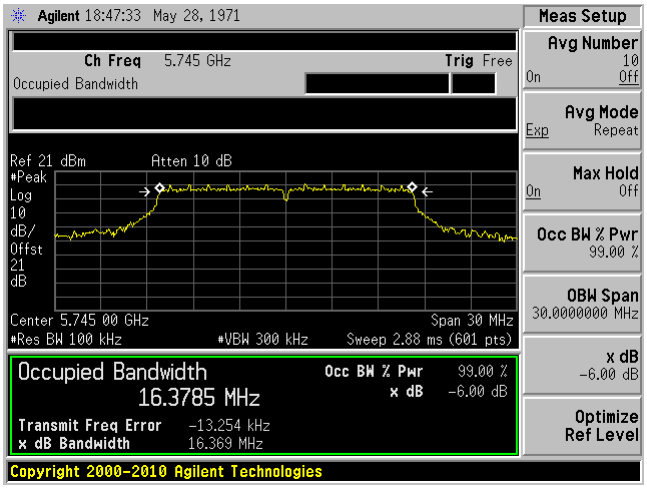


5795 MHz



99% Bandwidth & -6 dB Bandwidth
Antenna Port 1
Non HT 20

5745 MHz



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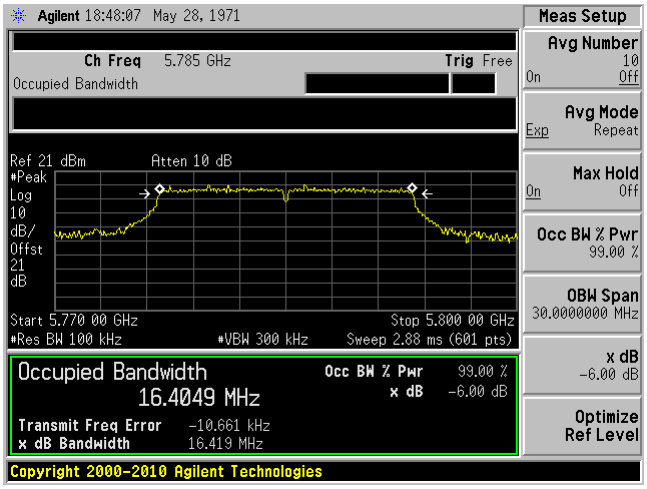

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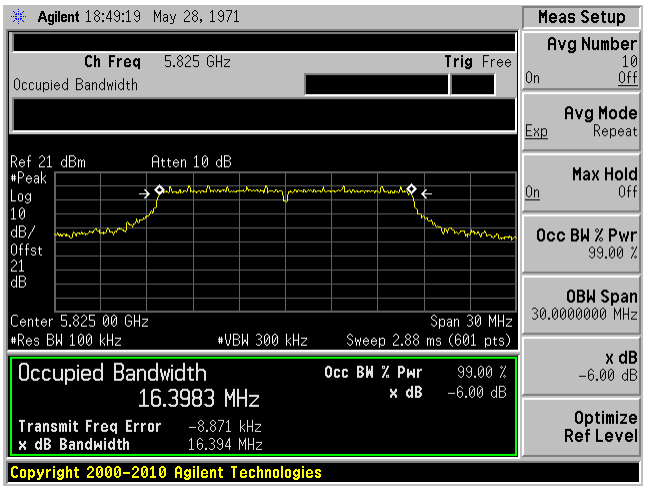
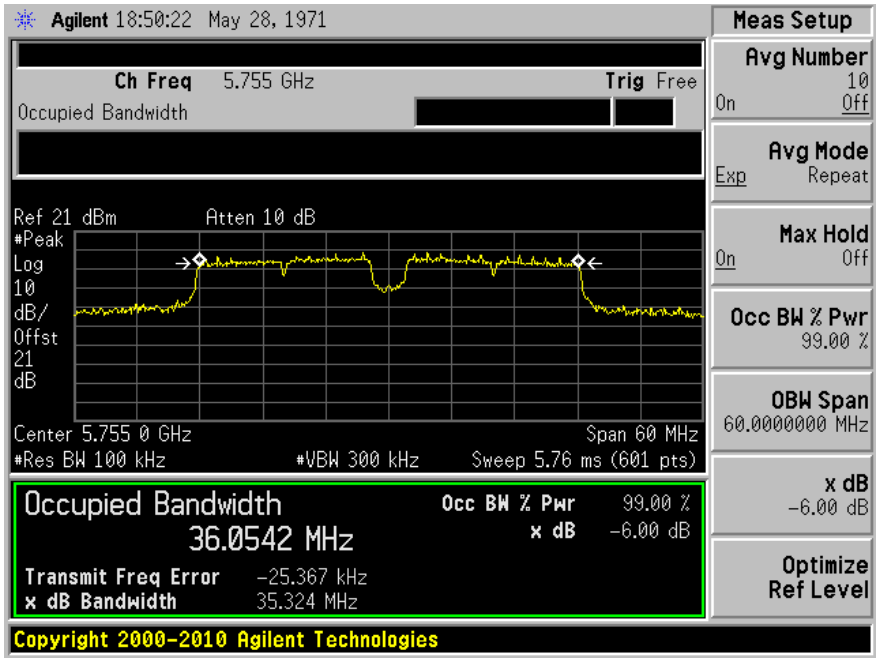


Antenna Port 1
Non HT 40

5755 MHz



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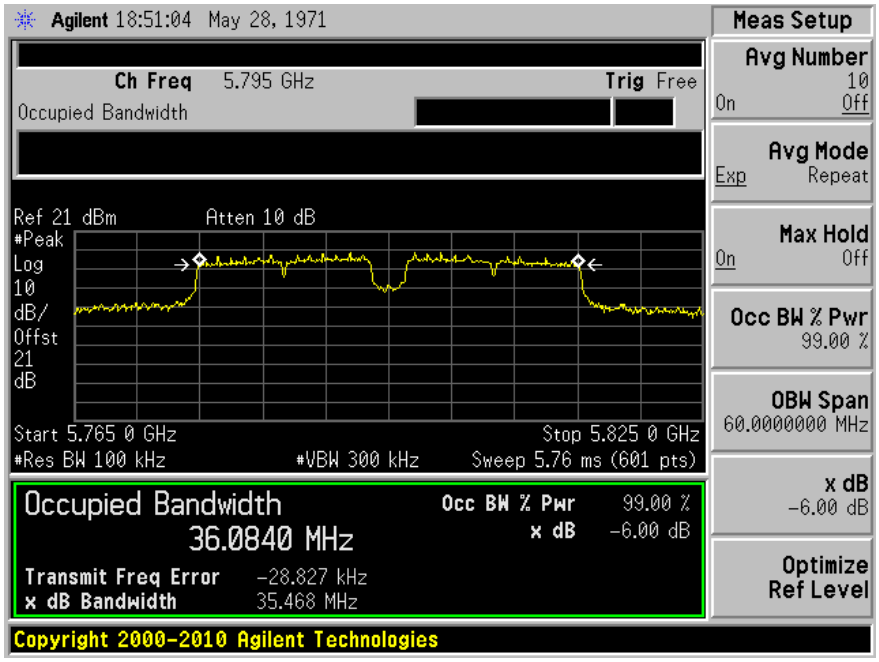
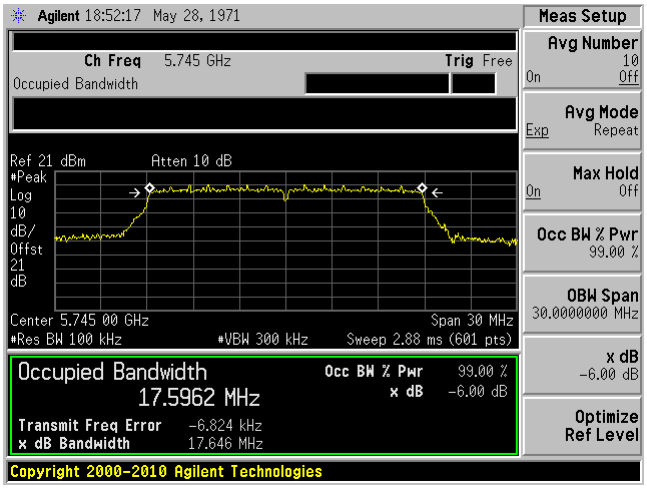


Antenna Port 1
HT 20 (Data Rate: M0)

5745 MHz



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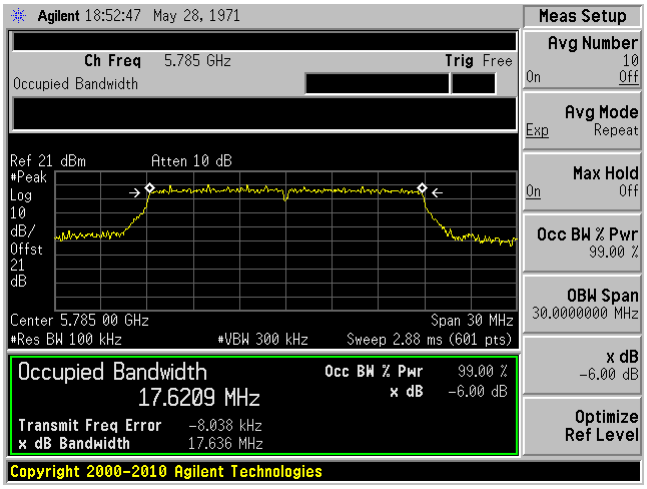

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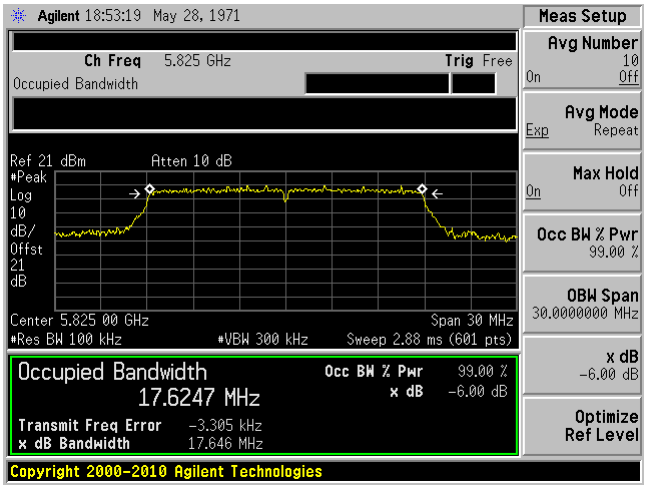
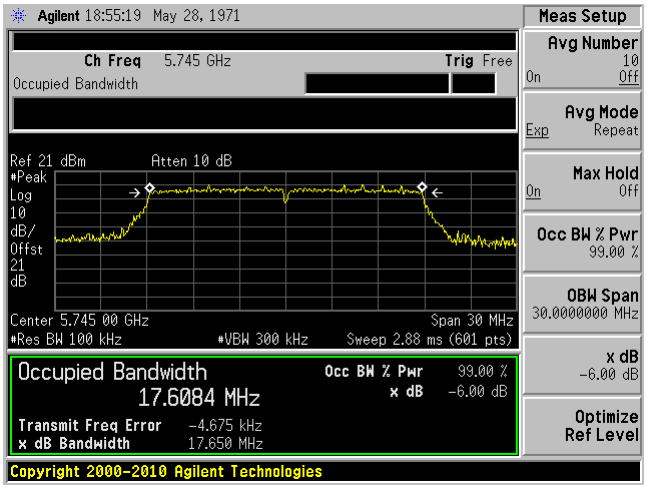


Antenna Port 1
HT 20 (Data Rate: M8)

5745 MHz



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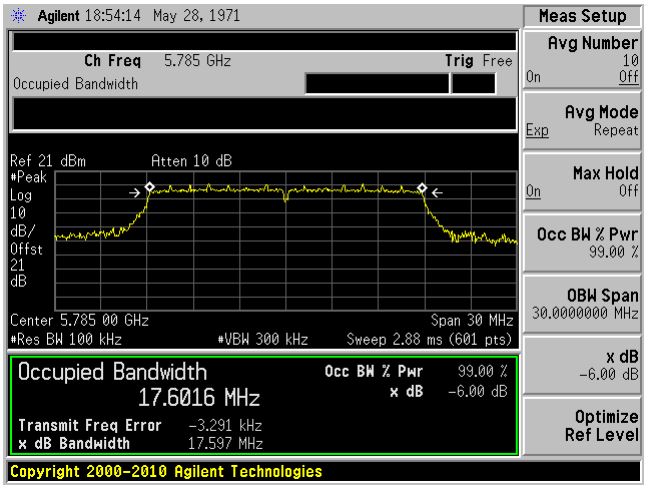

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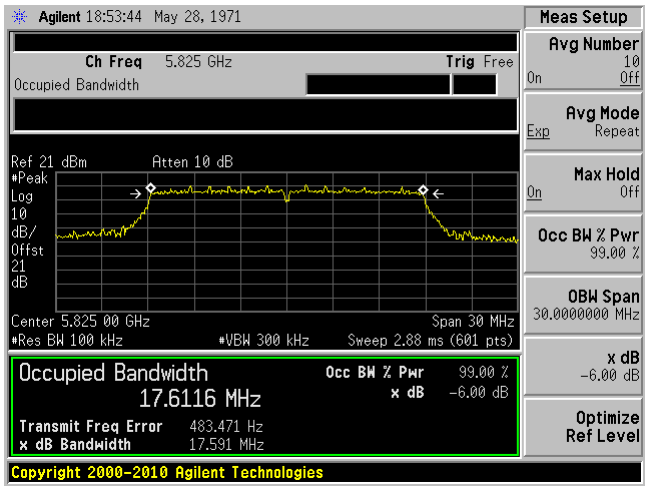
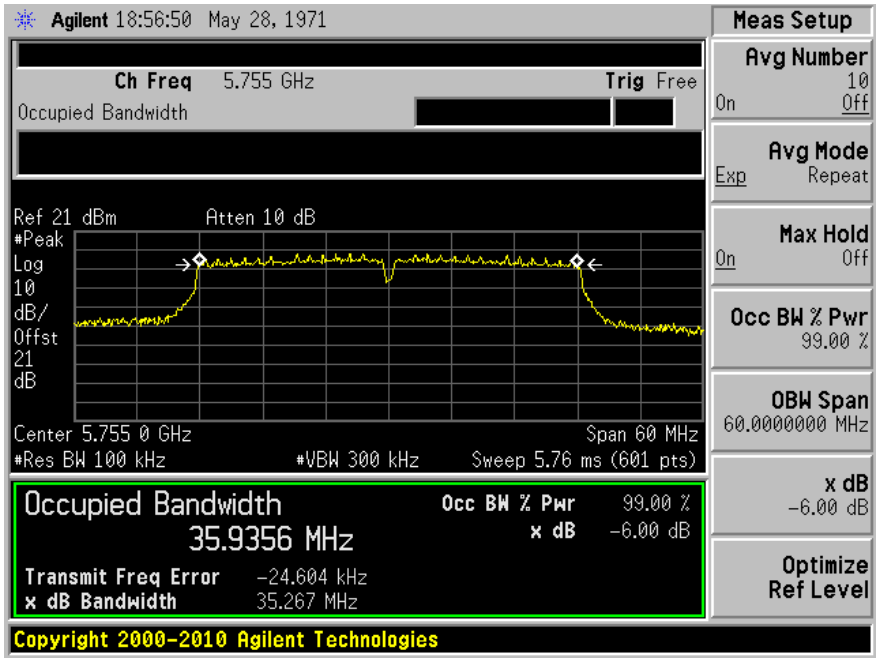


Antenna Port 0
HT 40 (Data Rate: M0)

5755 MHz



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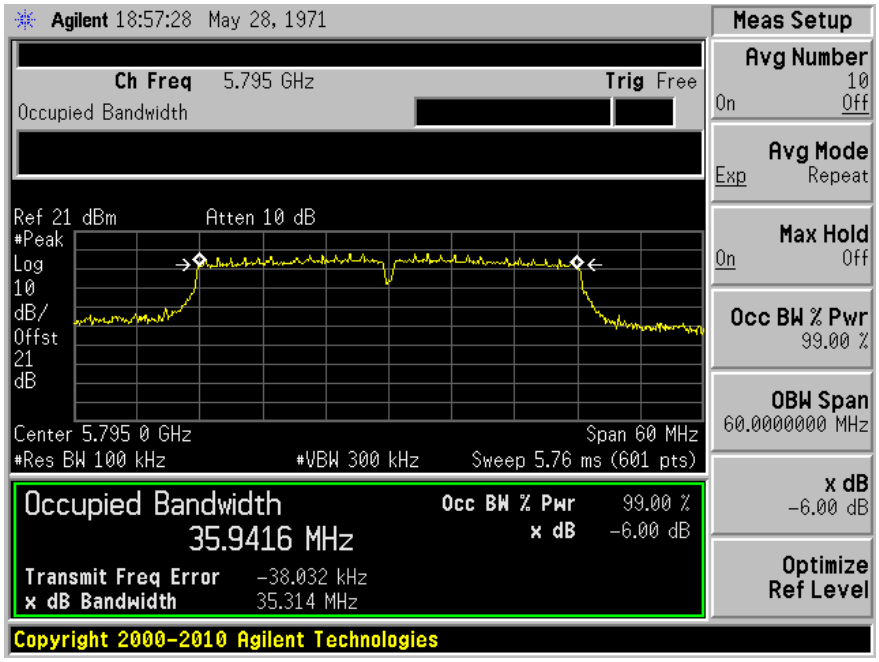
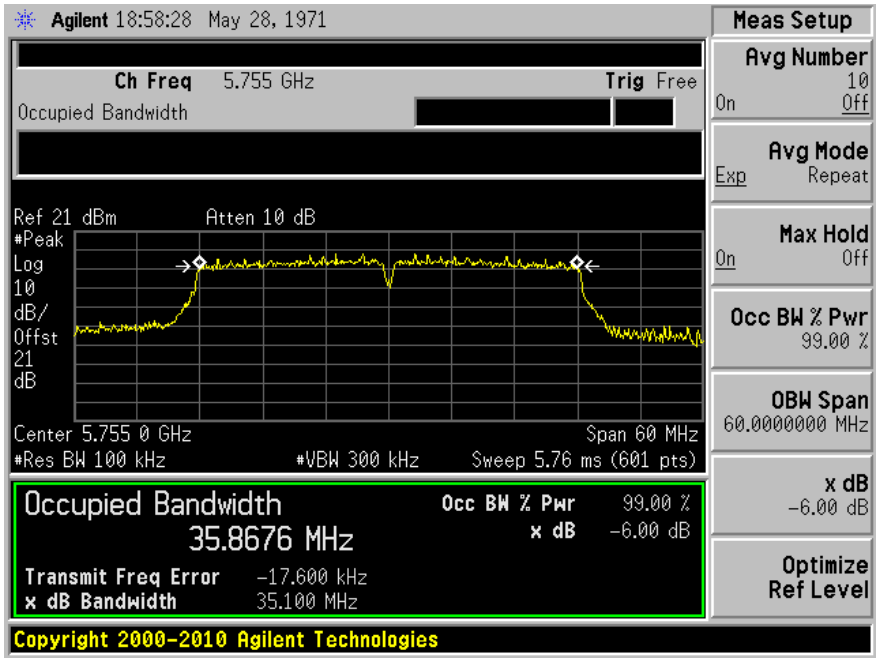
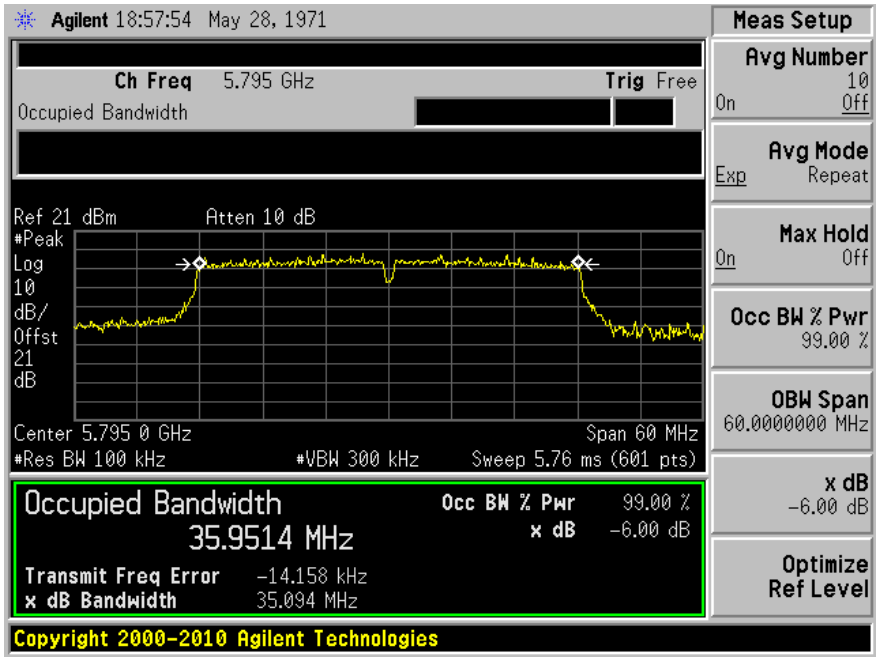


Antenna Port 1
HT 40 (Data Rate: M8)

5755 MHz

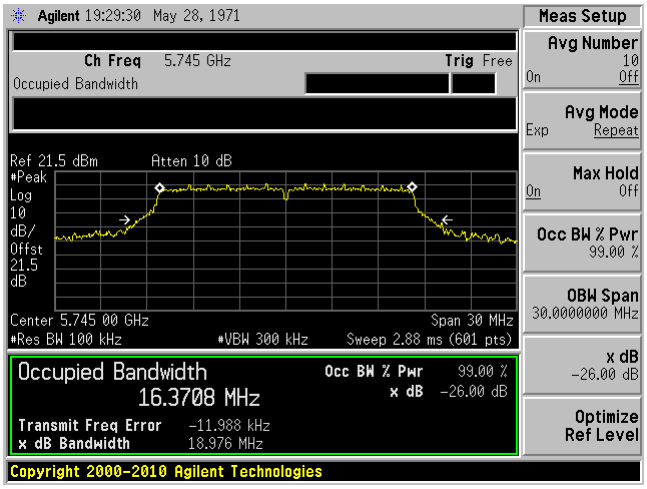


5795 MHz

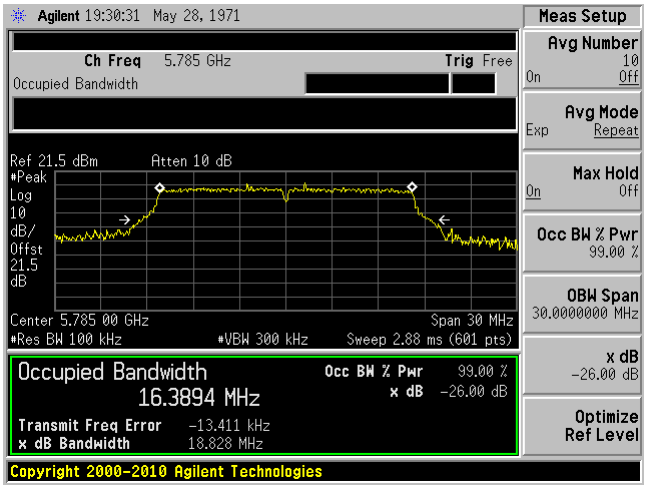


-26 dB Bandwidth
Antenna Port 0
Non HT 20

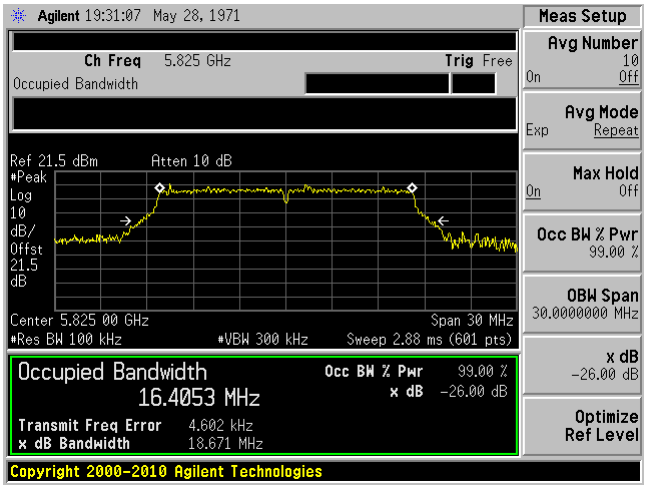
5745 MHz



5785 MHz

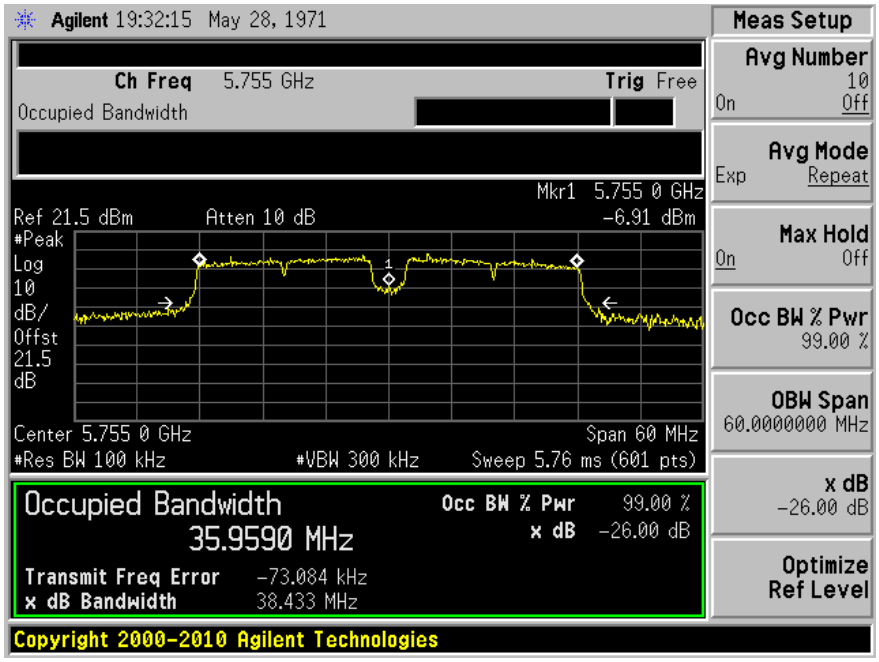


5825 MHz

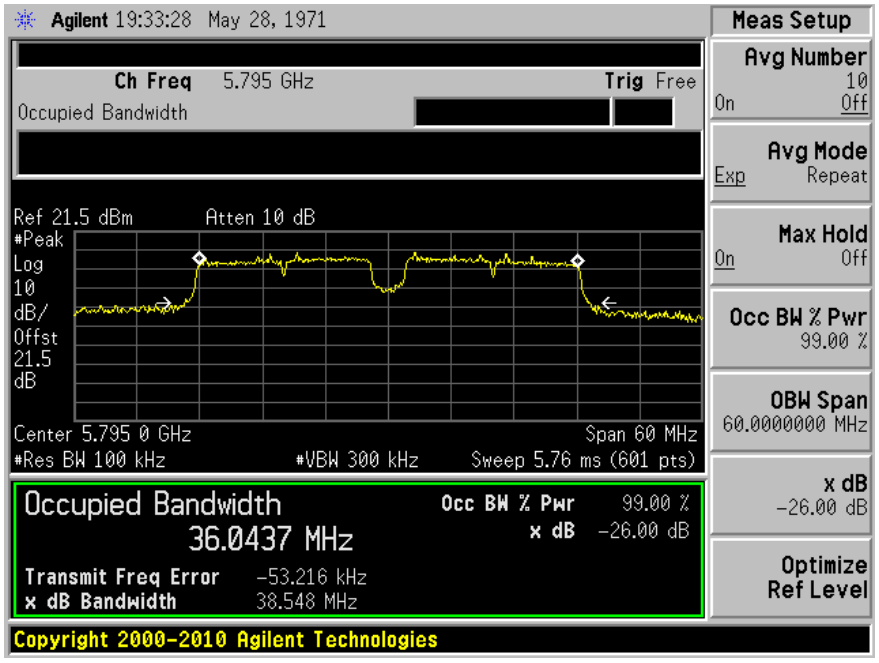


Antenna Port 0
Non HT 40

5755 MHz

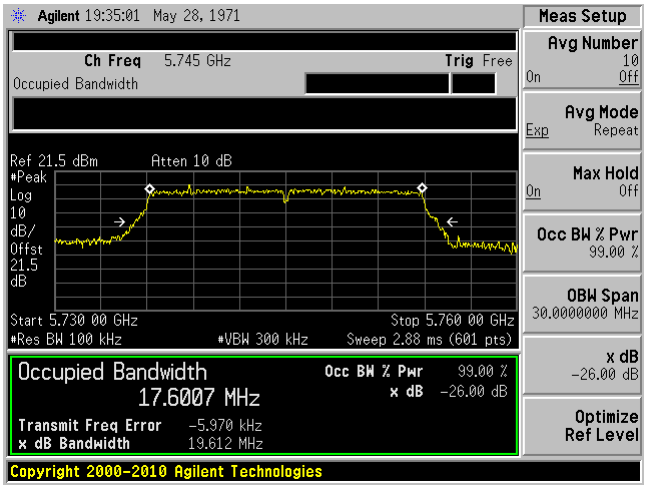


5795 MHz

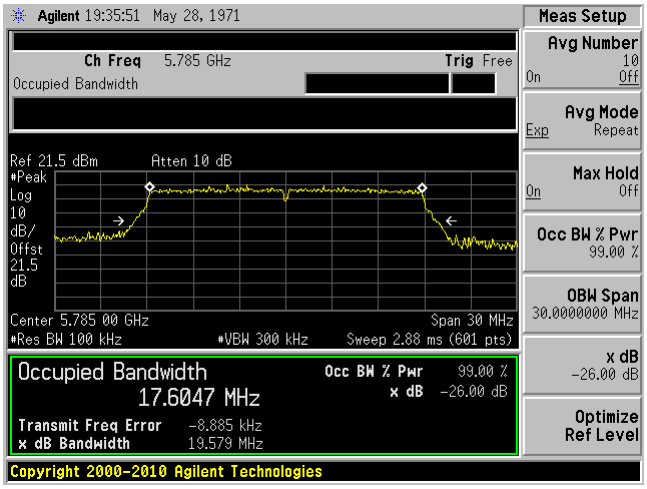


Antenna Port 0
HT 20 (Data Rate: M0)

5745 MHz



5785 MHz



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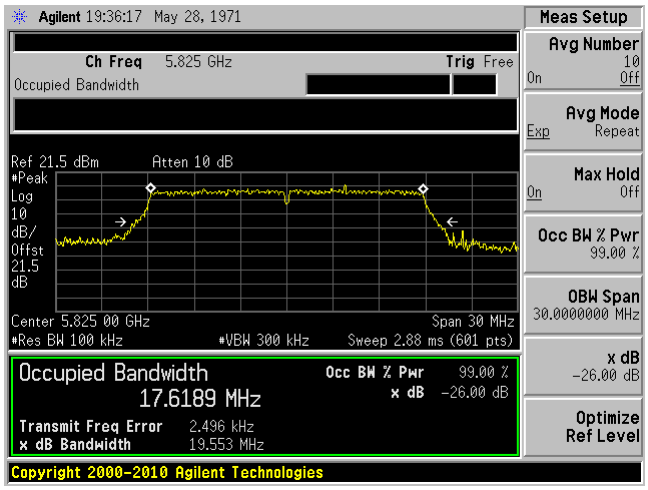
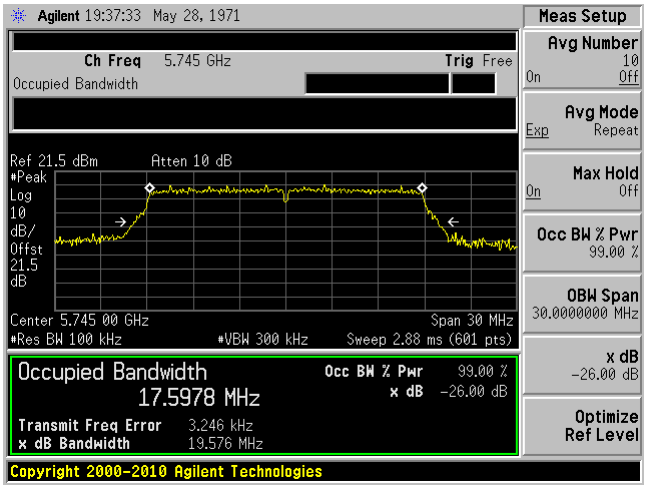


Antenna Port 0
HT 20 (Data Rate: M8)

5745 MHz



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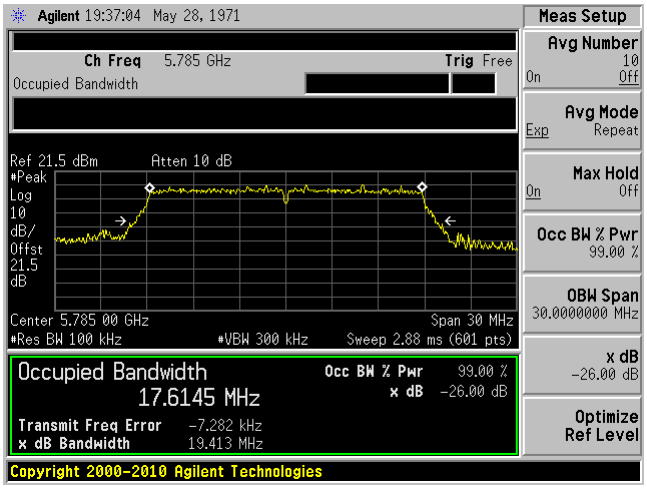

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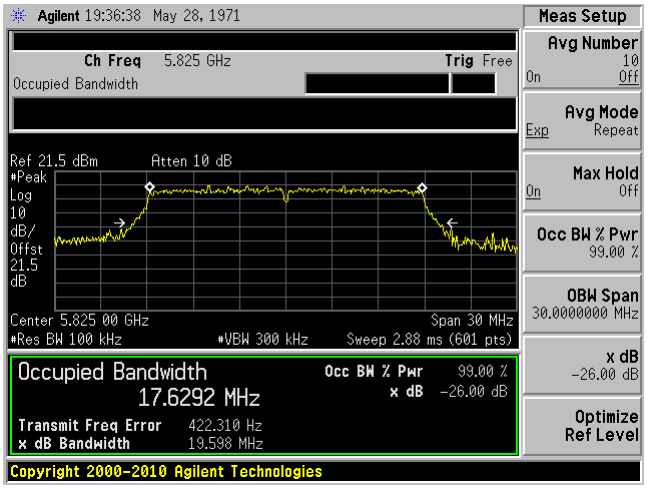
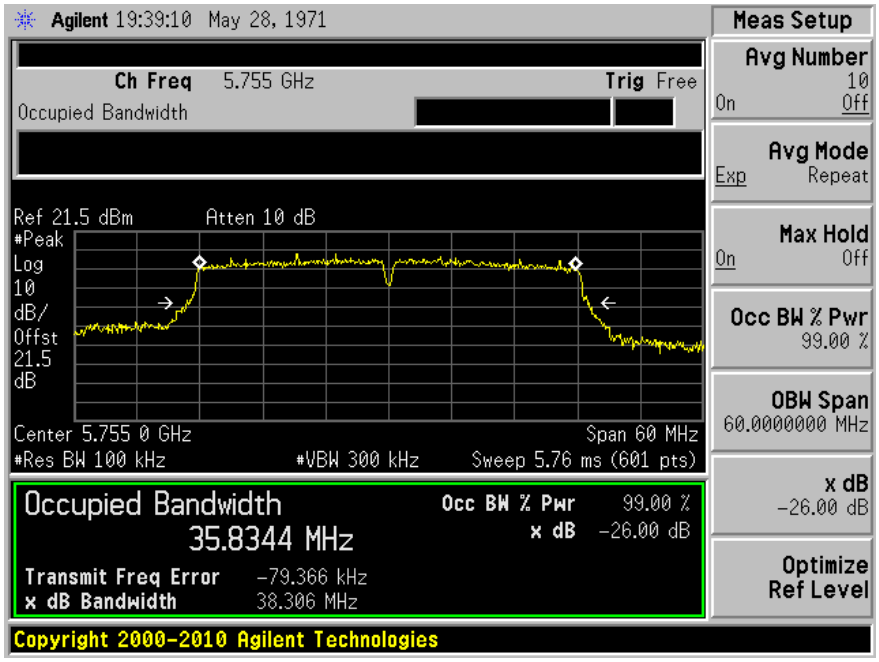


Antenna Port 0
HT 40 (Data Rate: M0)

5755 MHz



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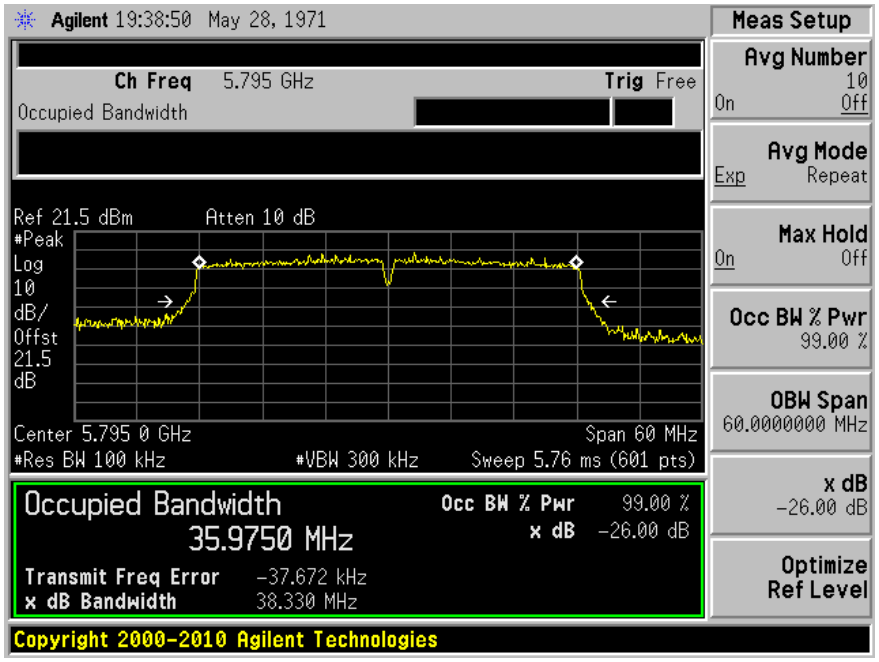
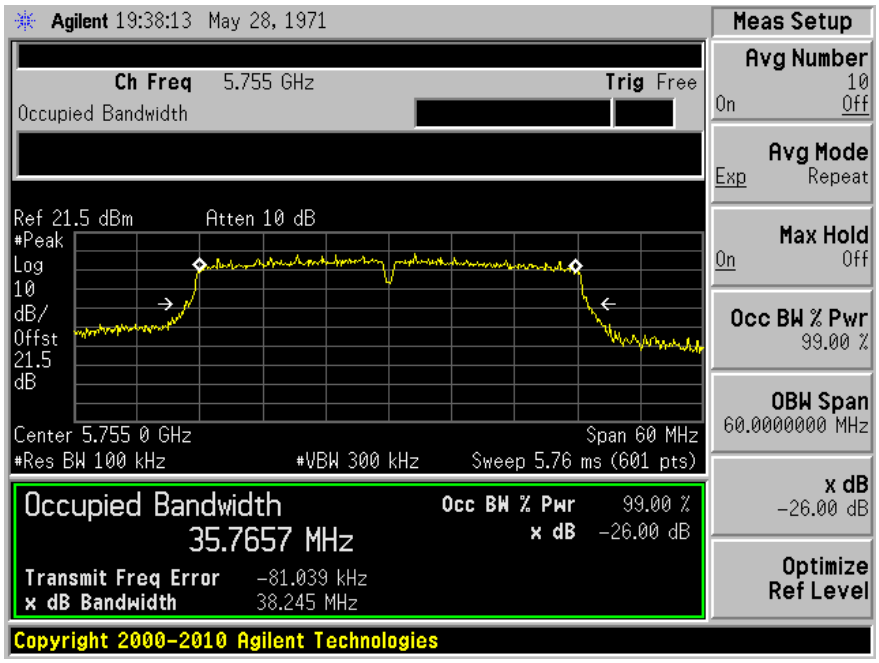


Antenna Port 0
HT 40 (Data Rate: M8)

5755 MHz



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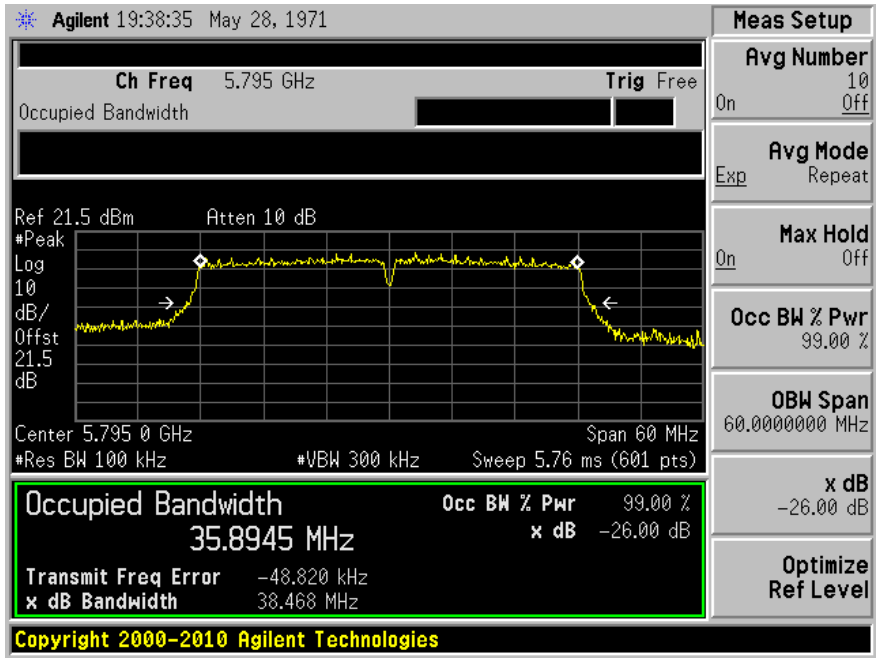
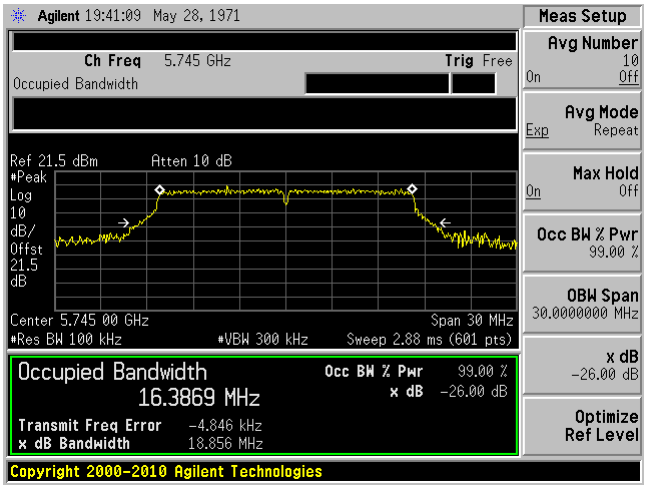
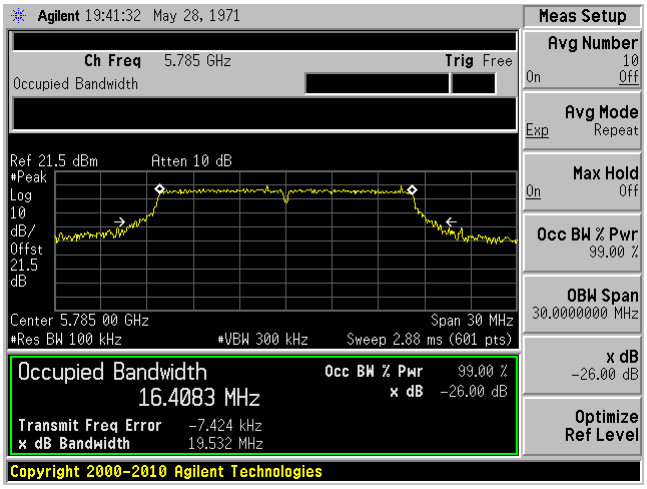


-26 dB Bandwidth
Antenna Port 1
Non HT 20

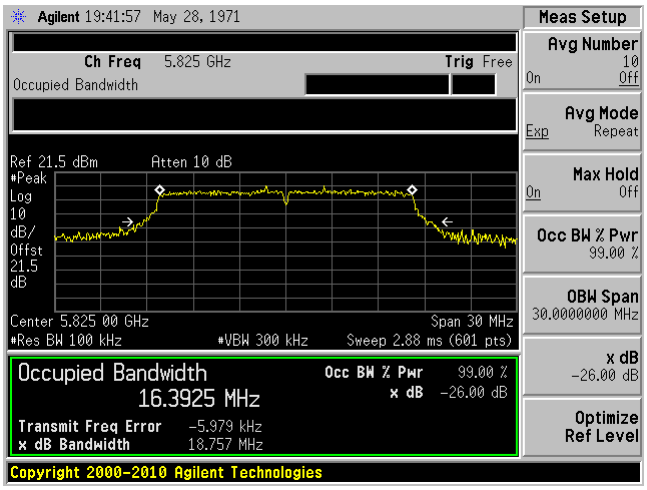
5745 MHz



5785 MHz

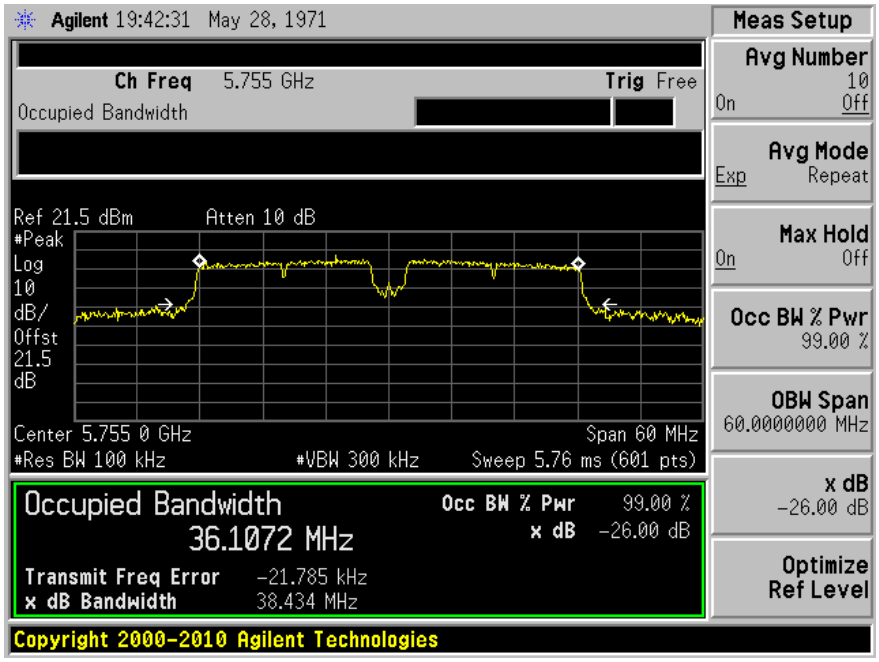


5825 MHz

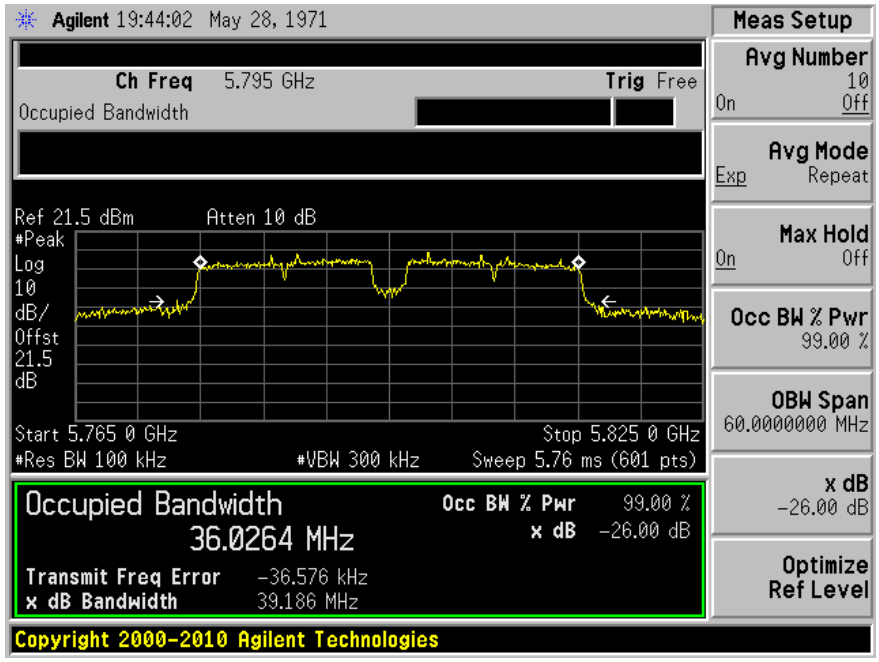


Antenna Port 1
Non HT 40

5755 MHz

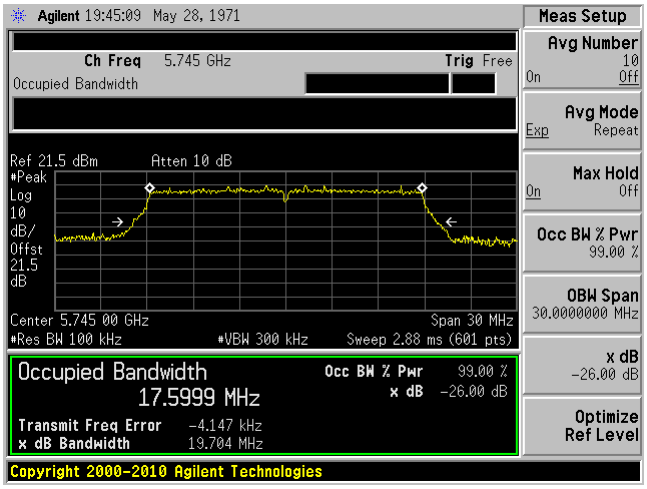


5795 MHz

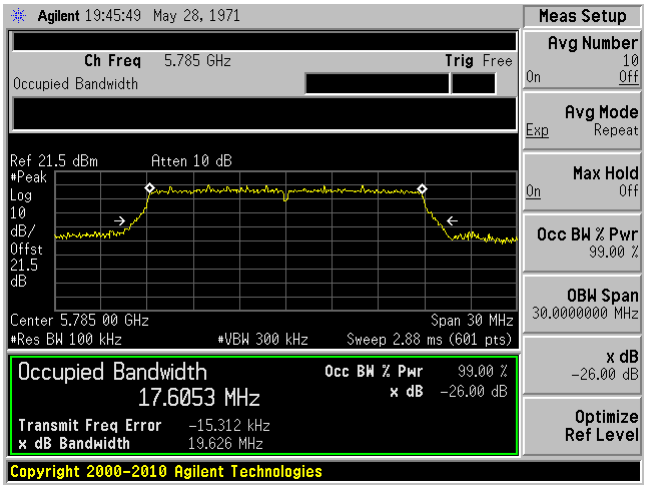


Antenna Port 1
HT 20 (Data Rate: M0)

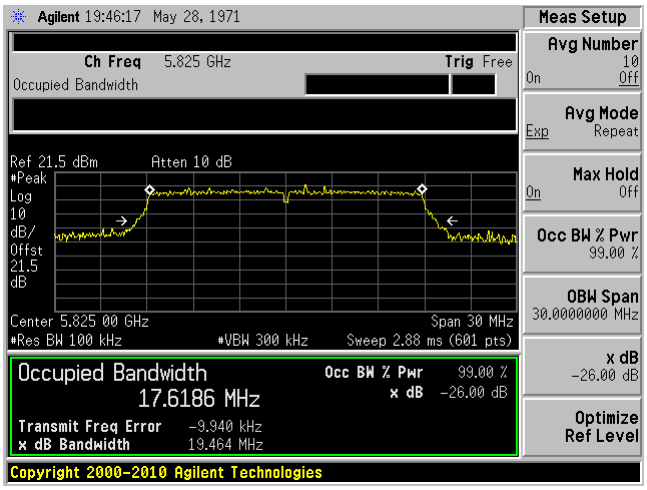
5745 MHz



5785 MHz

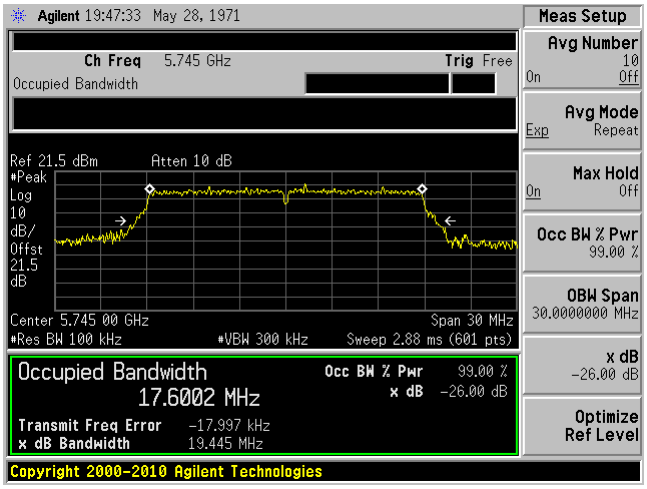


5825 MHz

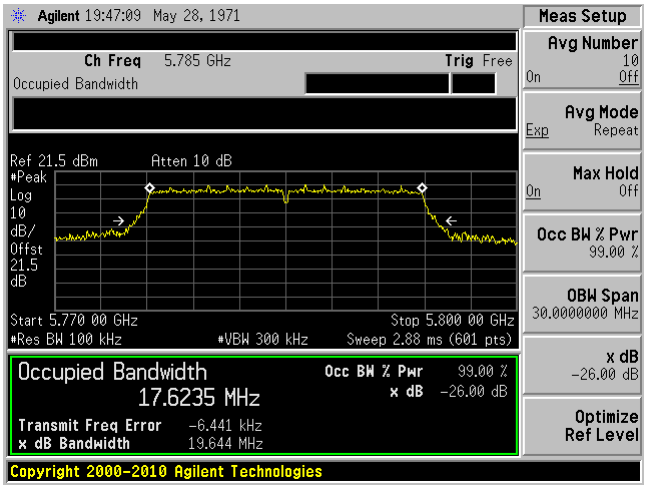


Antenna Port 1
HT 20 (Data Rate: M8)

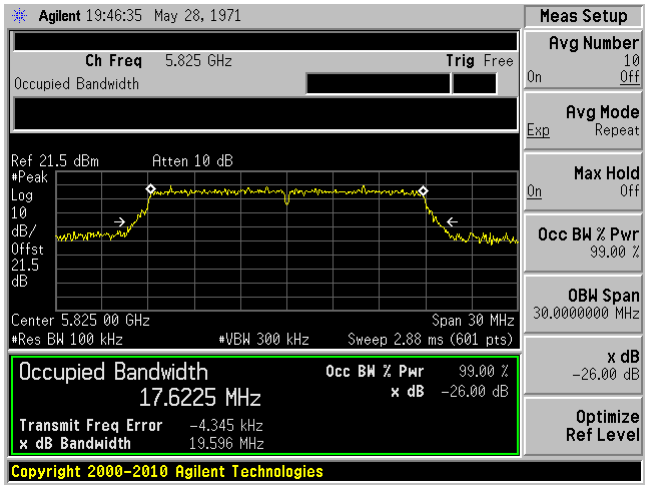
5745 MHz



5785 MHz

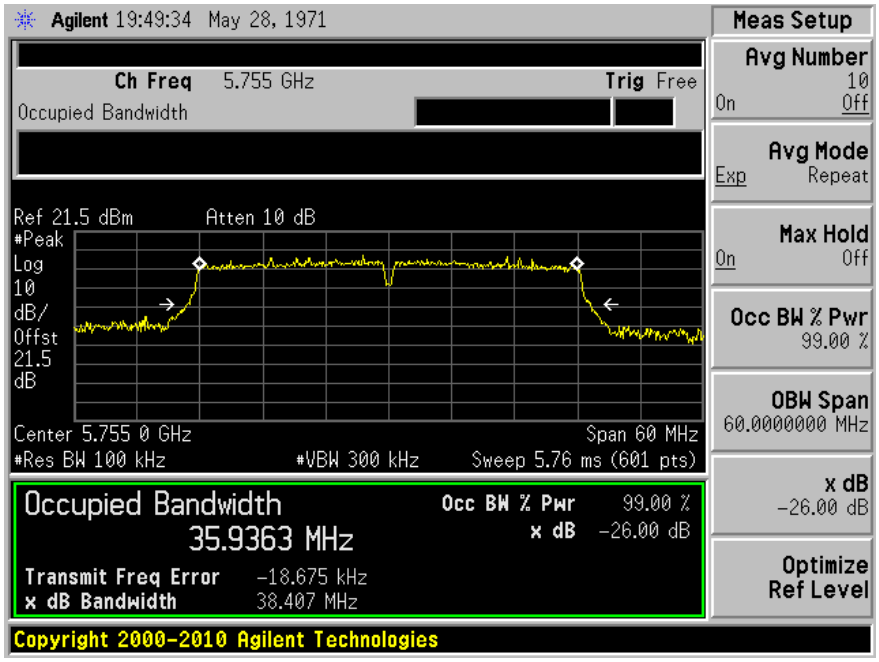


5825 MHz

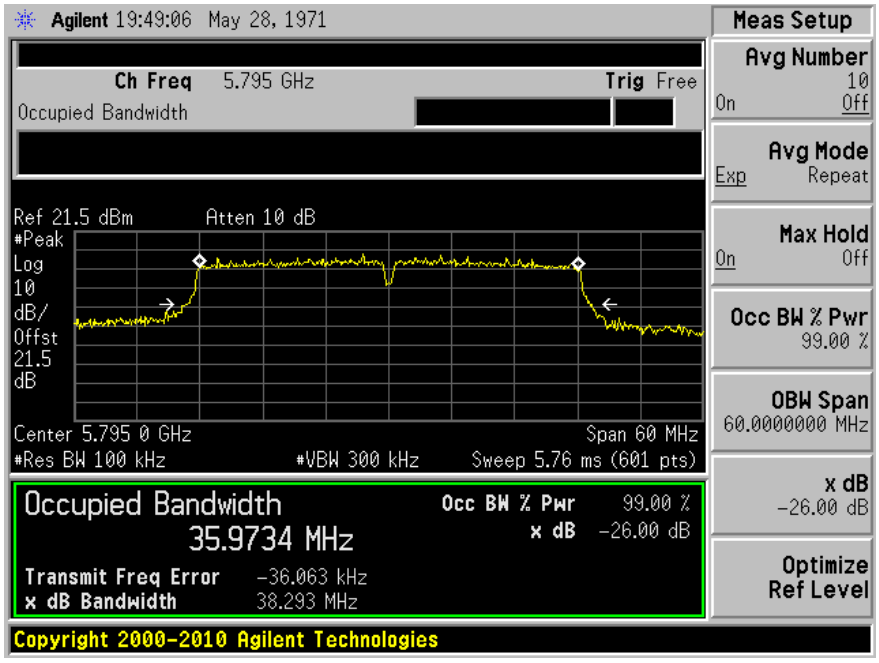


Antenna Port 0
HT 40 (Data Rate: M0)

5755 MHz

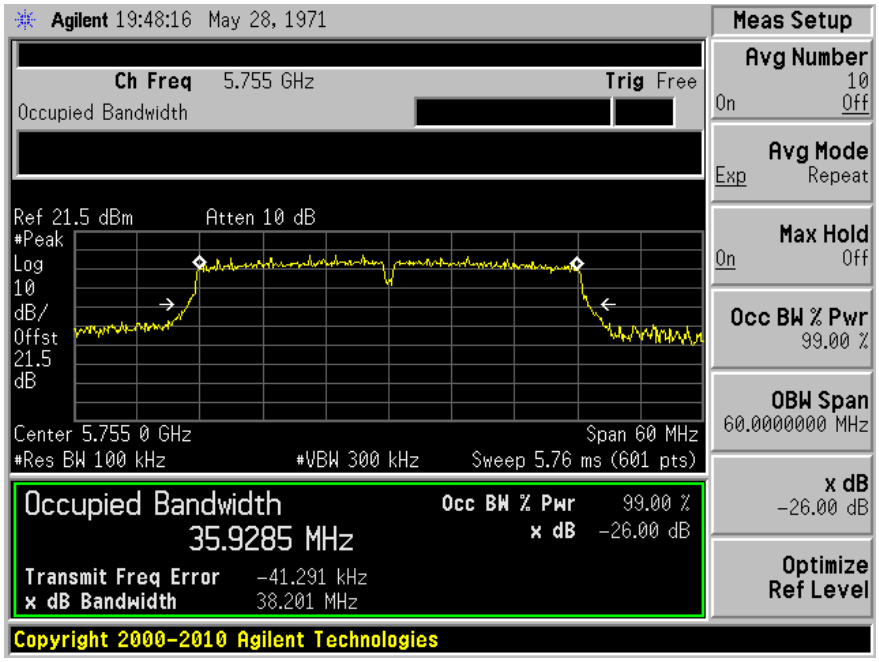


5795 MHz

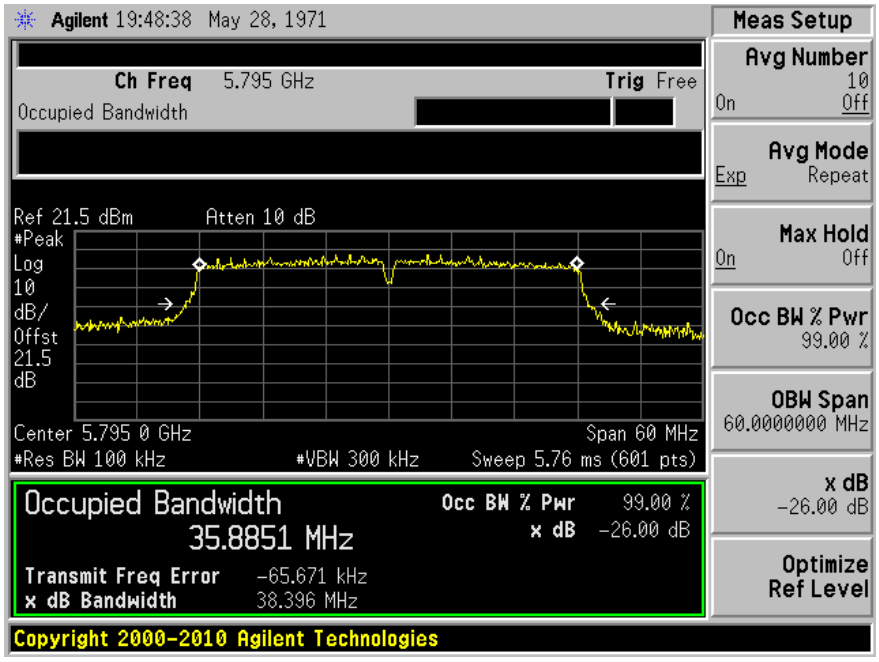


Antenna Port 1
HT 40 (Data Rate: M8)

5755 MHz



5795 MHz



8 FCC §15.209 & §15.407(b) & §15.205 & §2.1053 - Spurious Radiated Emissions

8.1 Applicable Standard

As per FCC §15.209(a):

Except as provided elsewhere in this subpart, 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.

As per FCC Part 2.1053

(a) Measurements shall be made to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power leads, or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emission. For this test, single sideband, independent sideband, and controlled carrier transmitters shall be modulated under the conditions specified in paragraph (c) of §2.1049, as appropriate. For equipment operating on frequencies below 890 MHz, an open field test is normally required, with the measuring instrument antenna located in the far-field at all test frequencies. In the event it is either impractical or impossible to make open field measurements (e.g. a broadcast transmitter installed in a building) measurements will be accepted of the equipment as installed. Such measurements must be accompanied by a description of the site where the measurements were made showing the location of any possible source of reflections which might distort the field strength measurements. Information submitted shall include the relative radiated power of each spurious emission with reference to the rated power output of the transmitter, assuming all emissions are radiated from halfwave dipole antennas.

(b) The measurements specified in paragraph (a) of this section shall be made for the following equipment:

(1) Those in which the spurious emissions are required to be 60 dB or more below the mean power of the transmitter.

(2) All equipment operating on frequencies higher than 25 MHz.

(3) All equipment where the antenna is an integral part of, and attached directly to the transmitter.

(4) Other types of equipment as required, when deemed necessary by the Commission.

8.2 Test Setup

The radiated emissions tests were performed in the 5-meter Chamber, using the setup in accordance with ANSI C63.10-2014 ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices . 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.

8.3 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

8.4 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

8.5 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde & Schwarz	EMI Test Receiver	ESCI 1166.5950K03	100338	2014-01-20	2 years
Agilent	Spectrum Analyzer	E4440A	MY44303352	2015-06-22	1 year
Sunol Science Corp	System Controller	SC99V	011003-1	N/R	N/R
Sunol Sciences	Antenna, Biconi-Log	JB1	A013105-3	2015-07-11	2 years
A.R.A	Antenna, Horn	DRG-118/A	1132	2015-09-21	2 years
HP	Pre-Amplifier	8447D	2944A06639	2015-06-08	1 year
Wisewave	Horn Antenna	ARH-4223-02	10555-01	2013-09-20	3 years
Wisewave	Low Noise Amplifier	ALN-22093530-01	12263-01	2015-04-28	1 year
Suirong	30 ft conductive emission cable	LMR 400	-	2015-03-05	1 year
-	SMA cable	-	C0001	Each time[1]	N/A
IW Microwave	High Frequency Cable	DC-1531	KPS-1501A3960KPS	2015-08-10	1 year
Agilent	Pre-Amplifier	8449B	3008A01978	2015-09-02	1year

Note[1]: cable and attenuator included in the test set-up will be checked each time before testing.

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

8.6 Test Environmental Conditions

Temperature:	25º C
Relative Humidity:	42 %
ATM Pressure:	104.7 kPa

The testing was performed by Jason Qian on 2016-01-05 in 5m chamber3.

8.7 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:

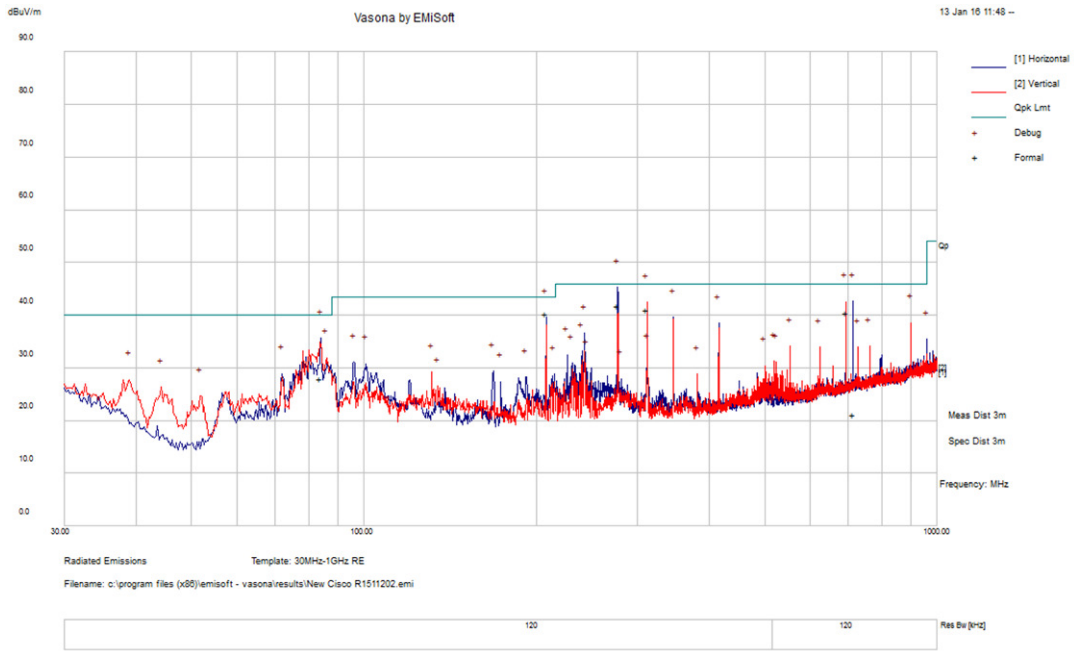
Mode: Transmitting			
Margin (dB)	**Frequency (MHz)**	**Polarization (Horizontal/Vertical)**	**Range**
-3.12	207.86	Horizontal	30 MHz to 1 GHz,

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

8.8 Radiated Emissions Test Result Data

1) 30 MHz – 1 GHz

Worst Case: Co-location 2.4 GHz Wifi and 5.8 GHz Wifi



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comments
277.142	41.96	127	H	261	46	-4.04	QP
713.1838	21.25	229	H	119	46	-24.75	QP
692.8438	40.58	114	V	221	46	-5.42	QP
311.784	41.04	116	V	174	46	-4.96	QP
207.86	40.38	114	H	250	43.5	-3.12	QP
83.90075	28.11	183	H	123	40	-11.89	QP

2) 1–40 GHz

Antenna-port conducted measurement is used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. And the radiated emission was measured with cabinet method; the EUT was terminated with a 50 ohms load.

5.8 GHz Band

20 MHz Bandwidth
Worst Case: Non HT20; Power Setting 25; Single Antenna

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5745 MHz, measured at 3 meters											
11490	41.93	0	100	V	38.253	11.8	36.5	55.483	74	-18.517	Peak
11490	41.67	0	100	H	38.253	11.8	36.5	55.223	74	-18.777	Peak
11490	29.22	0	100	V	38.253	11.8	36.5	42.773	54	-11.227	Ave
11490	29.27	0	100	H	38.253	11.8	36.5	42.823	54	-11.177	Ave
17235	41.87	0	100	V	37.444	15	36.08	58.234	74	-15.766	Peak
17235	40.73	0	100	H	37.639	15	36.08	57.289	74	-16.711	Peak
17235	26.6	0	100	V	37.444	15	36.08	42.964	54	-11.036	Ave
17235	26.72	0	100	H	37.639	15	36.08	43.279	54	-10.721	Ave
22980	37.3	0	100	V	34.6	17.45	36	53.35	74	-20.65	Peak
22980	37.29	0	100	H	34.6	17.45	36	53.34	74	-20.66	Peak
22980	23.72	0	100	V	34.6	17.45	36	39.77	54	-14.23	Ave
22980	23.09	0	100	H	34.6	17.45	36	39.14	54	-14.86	Ave
Middle Channel 5785 MHz, measured at 3 meters											
11570	42.62	0	100	V	38.253	11.8	36.5	56.17	74	-17.83	Peak
11570	42.22	0	100	H	38.253	11.8	36.5	55.77	74	-18.23	Peak
11570	29.38	0	100	V	38.253	11.8	36.5	42.93	54	-11.07	Ave
11570	29.08	0	100	H	38.253	11.8	36.5	42.63	54	-11.37	Ave
17355	40.00	0	100	V	37.444	15	36.08	56.36	74	-17.64	Peak
17355	41.30	0	100	H	37.639	15	36.08	57.86	74	-16.14	Peak
17355	26.26	0	100	V	37.444	15	36.08	42.62	54	-11.38	Ave
17355	26.48	0	100	H	37.639	15	36.08	43.04	54	-10.96	Ave
23140	37.81	0	100	V	34.6	17.45	36	53.86	74	-20.14	Peak
23140	37.16	0	100	H	34.6	17.45	36	53.21	74	-20.79	Peak
23140	24.00	0	100	V	34.6	17.45	36	40.05	54	-13.95	Ave
23140	23.91	0	100	H	34.6	17.45	36	39.96	54	-14.04	Ave
High Channel 5825 MHz, measured at 3 meters											
11650	41.48	0	100	V	38.253	11.8	36.5	55.03	74	-18.97	Peak
11650	40.82	0	100	H	38.253	11.8	36.5	54.37	74	-19.63	Peak
11650	29.78	0	100	V	38.253	11.8	36.5	43.33	54	-10.67	Ave
11650	30.09	0	100	H	38.253	11.8	36.5	43.64	54	-10.36	Ave
17475	37.05	0	100	V	37.444	15	36.08	53.41	74	-20.59	Peak
17475	36.14	0	100	H	37.639	15	36.08	52.70	74	-21.30	Peak
17475	27.40	0	100	V	37.444	15	36.08	43.76	54	-10.24	Ave
17475	27.25	0	100	H	37.639	15	36.08	43.81	54	-10.19	Ave
23300	35.57	0	100	V	34.6	17.45	36	51.62	74	-22.38	Peak
23300	35.46	0	100	H	34.6	17.45	36	51.51	74	-22.49	Peak
23300	25.11	0	100	V	34.6	17.45	36	41.16	54	-12.84	Ave
23300	25.30	0	100	H	34.6	17.45	36	41.35	54	-12.65	Ave

40 MHz Bandwidth
Worst Case: HT40; Power Setting 23; Single Antenna

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5755 MHz, measured at 3 meters											
11510	44.26	0	100	V	38.253	11.8	36.5	57.813	74	-16.187	Peak
11510	43.33	0	100	H	38.253	11.8	36.5	56.883	74	-17.117	Peak
11510	29.77	0	100	V	38.253	11.8	36.5	43.32	54	-10.68	Ave
11510	29.48	0	100	H	38.253	11.8	36.5	43.03	54	-10.97	Ave
17265	40.89	0	100	V	37.444	15	36.08	57.254	74	-16.746	Peak
17265	39.92	0	100	H	37.639	15	36.08	56.479	74	-17.521	Peak
17265	26.75	0	100	V	37.444	15	36.08	43.11	54	-10.89	Ave
17265	26.91	0	100	H	37.639	15	36.08	43.47	54	-10.53	Ave
23020	37.59	0	100	V	34.6	17.45	36	53.64	74	-20.36	Peak
23020	37.67	0	100	H	34.6	17.45	36	53.72	74	-20.28	Peak
23020	24.47	0	100	V	34.6	17.45	36	40.52	54	-13.48	Ave
23020	24.70	0	100	H	34.6	17.45	36	40.75	54	-13.25	Ave
High Channel 5795 MHz, measured at 3 meters											
11590	42.61	0	100	V	38.253	11.8	36.5	56.16	74	-17.84	Peak
11590	42.47	0	100	H	38.253	11.8	36.5	56.02	74	-17.98	Peak
11590	27.45	0	100	V	38.253	11.8	36.5	41.00	54	-13.00	Ave
11590	28.12	0	100	H	38.253	11.8	36.5	41.67	54	-12.33	Ave
17385	40.25	0	100	V	37.444	15	36.08	56.61	74	-17.39	Peak
17385	39.98	0	100	H	37.639	15	36.08	56.54	74	-17.46	Peak
17385	25.57	0	100	V	37.444	15	36.08	41.93	54	-12.07	Ave
17385	26.08	0	100	H	37.639	15	36.08	42.64	54	-11.36	Ave
23180	38.51	0	100	V	34.6	17.45	36	54.56	74	-19.44	Peak
23180	38.41	0	100	H	34.6	17.45	36	54.46	74	-19.54	Peak
23180	25.55	0	100	V	34.6	17.45	36	41.60	54	-12.40	Ave
23180	25.06	0	100	H	34.6	17.45	36	41.11	54	-12.89	Ave

Co-location 2.4 GHz & 5.8 GHz Wifi
20 MHz Bandwidth
Worst Case: 802.11b mode & Non HT20; Power Setting 25; Single Antenna

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 2412 MHz & 5745 MHz, measured at 3 meters											
4824	44.93	0	100	V	38.253	11.8	36.5	58.48	74	-15.52	Peak
4824	45.06	0	100	H	38.253	11.8	36.5	58.61	74	-15.39	Peak
4824	30.89	0	100	V	38.253	11.8	36.5	44.44	54	-9.56	Ave
4824	30.90	0	100	H	38.253	11.8	36.5	44.45	54	-9.55	Ave
11490	43.38	0	100	V	33.869	8.07	36.5	48.819	74	-25.181	Peak
11490	42.39	0	100	H	33.869	8.07	36.5	47.829	74	-26.171	Peak
11490	29.04	0	100	V	33.869	8.07	36.5	34.479	54	-19.521	Ave
11490	28.89	0	100	H	33.869	8.07	36.5	34.329	54	-19.671	Ave
17235	40.83	0	100	V	33.869	8.07	36.5	46.269	74	-27.731	Peak
17235	40.28	0	100	H	33.869	8.07	36.5	45.719	74	-28.281	Peak
17235	26.61	0	100	V	33.869	8.07	36.5	32.049	54	-21.951	Ave
17235	27.6	0	100	H	33.869	8.07	36.5	33.039	54	-20.961	Ave
Middle Channel 2437MHz & 5785 MHz, measured at 3 meters											
11570	41.57	0	100	V	38.253	11.8	36.5	55.12	74	-18.88	Peak
11570	41.78	0	100	H	38.253	11.8	36.5	55.33	74	-18.67	Peak
11570	30.23	0	100	V	38.253	11.8	36.5	43.78	54	-10.22	Ave
11570	30.16	0	100	H	38.253	11.8	36.5	43.71	54	-10.29	Ave
17355	40.59	0	100	V	37.444	15	36.08	56.95	74	-17.05	Peak
17355	41.27	0	100	H	37.639	15	36.08	57.83	74	-16.17	Peak
17355	25.48	0	100	V	37.444	15	36.08	41.84	54	-12.16	Ave
17355	25.73	0	100	H	37.639	15	36.08	42.29	54	-11.71	Ave
23140	38.19	0	100	V	34.6	17.45	36	54.24	74	-19.76	Peak
23140	37.66	0	100	H	34.6	17.45	36	53.71	74	-20.29	Peak
23140	23.88	0	100	V	34.6	17.45	36	39.93	54	-14.07	Ave
23140	23.90	0	100	H	34.6	17.45	36	39.95	54	-14.05	Ave
High Channel 2462 MHz & 5825 MHz, measured at 3 meters											
11650	40.99	0	100	V	38.253	11.8	36.5	54.54	11650	40.99	Peak
11650	40.88	0	100	H	38.253	11.8	36.5	54.43	11650	40.88	Peak
11650	29.57	0	100	V	38.253	11.8	36.5	43.12	11650	29.57	Ave
11650	30.12	0	100	H	38.253	11.8	36.5	43.67	11650	30.12	Ave
17475	38.59	0	100	V	37.444	15	36.08	54.95	17475	38.59	Peak
17475	36.83	0	100	H	37.639	15	36.08	53.39	17475	36.83	Peak
17475	27.04	0	100	V	37.444	15	36.08	43.40	17475	27.04	Ave
17475	26.99	0	100	H	37.639	15	36.08	43.55	17475	26.99	Ave
4924	35.31	0	100	V	32.108	9.19	35.59	41.02	4924	35.31	Peak
4924	35.45	0	100	H	32.108	9.19	35.59	41.16	4924	35.45	Peak
4924	25.38	0	100	V	32.108	9.19	35.59	31.09	4924	25.38	Ave
4924	25.69	0	100	H	32.108	9.19	35.59	31.40	4924	25.69	Ave

Co-location 2.4 GHz & 5.8 GHz Wifi
40 MHz Bandwidth
Worst Case: 802.11n40 mode & HT40; Power Setting 25; Single Antenna

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5755 MHz, measured at 3 meters											
11510	40.26	0	100	V	38.253	11.8	36.5	53.81	74	-20.19	Peak
11510	41.85	0	100	H	38.253	11.8	36.5	55.40	74	-18.60	Peak
11510	29.74	0	100	V	38.253	11.8	36.5	43.29	54	-10.71	Ave
11510	30.12	0	100	H	38.253	11.8	36.5	43.67	54	-10.33	Ave
17265	40.99	0	100	V	37.444	15	36.08	57.35	74	-16.65	Peak
17265	41.57	0	100	H	37.639	15	36.08	58.13	74	-15.87	Peak
17265	26.89	0	100	V	37.444	15	36.08	43.25	54	-10.75	Ave
17265	26.12	0	100	H	37.639	15	36.08	42.68	54	-11.32	Ave
23020	37.96	0	100	V	34.6	17.45	36	54.01	74	-19.99	Peak
23020	38.43	0	100	H	34.6	17.45	36	54.48	74	-19.52	Peak
23020	22.90	0	100	V	34.6	17.45	36	38.95	54	-15.05	Ave
23020	23.14	0	100	H	34.6	17.45	36	39.19	54	-14.81	Ave
High Channel 5795 MHz, measured at 3 meters											
11590	39.09	0	100	V	38.253	11.8	36.5	52.64	74	-21.36	Peak
11590	39.38	0	100	H	38.253	11.8	36.5	52.93	74	-21.07	Peak
11590	30.07	0	100	V	38.253	11.8	36.5	43.62	54	-10.38	Ave
11590	31.29	0	100	H	38.253	11.8	36.5	44.84	54	-9.16	Ave
17385	39.47	0	100	V	37.444	15	36.08	55.83	74	-18.17	Peak
17385	38.55	0	100	H	37.639	15	36.08	55.11	74	-18.89	Peak
17385	26.54	0	100	V	37.444	15	36.08	42.90	54	-11.10	Ave
17385	26.85	0	100	H	37.639	15	36.08	43.41	54	-10.59	Ave
4924	33.48	0	100	V	32.108	9.19	35.59	39.19	74	-34.81	Peak
4924	35.12	0	100	H	32.108	9.19	35.59	40.83	74	-33.17	Peak
4924	26.06	0	100	V	32.108	9.19	35.59	31.77	54	-22.23	Ave
4924	26.09	0	100	H	32.108	9.19	35.59	31.80	54	-22.20	Ave

20 MHz Bandwidth
Worst Case: Non HT20; Power Setting 25; Dual Antenna

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5745 MHz, measured at 3 meters											
11490	42.17	0	100	V	38.253	11.8	36.5	55.723	74	-18.277	Peak
11490	42.13	0	100	H	38.253	11.8	36.5	55.683	74	-18.317	Peak
11490	29.26	0	100	V	38.253	11.8	36.5	42.813	54	-11.187	Ave
11490	29.48	0	100	H	38.253	11.8	36.5	43.033	54	-10.967	Ave
17235	41.57	0	100	V	37.444	15	36.08	57.934	74	-16.066	Peak
17235	40.99	0	100	H	37.639	15	36.08	57.549	74	-16.451	Peak
17235	27.41	0	100	V	37.444	15	36.08	43.774	54	-10.226	Ave
17235	26.85	0	100	H	37.639	15	36.08	43.409	54	-10.591	Ave
22980	38.91	0	100	V	34.6	17.45	36	54.96	74	-19.04	Peak
22980	38.11	0	100	H	34.6	17.45	36	54.16	74	-19.84	Peak
22980	24.07	0	100	V	34.6	17.45	36	40.12	54	-13.88	Ave
22980	23.59	0	100	H	34.6	17.45	36	39.64	54	-14.36	Ave
Middle Channel 5785 MHz, measured at 3 meters											
11510	41.96	0	100	V	38.253	11.8	36.5	55.51	74	-18.49	Peak
11510	41.59	0	100	H	38.253	11.8	36.5	55.14	74	-18.86	Peak
11510	30.04	0	100	V	38.253	11.8	36.5	43.59	54	-10.41	Ave
11510	30.34	0	100	H	38.253	11.8	36.5	43.89	54	-10.11	Ave
17265	40.11	0	100	V	37.444	15	36.08	56.47	74	-17.53	Peak
17265	41.69	0	100	H	37.639	15	36.08	58.25	74	-15.75	Peak
17265	28.91	0	100	V	37.444	15	36.08	45.27	54	-8.73	Ave
17265	27.48	0	100	H	37.639	15	36.08	44.04	54	-9.96	Ave
23020	35.66	0	100	V	34.6	17.45	36	51.71	74	-22.29	Peak
23020	37.20	0	100	H	34.6	17.45	36	53.25	74	-20.75	Peak
23020	23.08	0	100	V	34.6	17.45	36	39.13	54	-14.87	Ave
23020	23.11	0	100	H	34.6	17.45	36	39.16	54	-14.84	Ave
High Channel 5825 MHz, measured at 3 meters											
11590	40.26	0	100	V	38.253	11.8	36.5	53.81	74	-20.19	Peak
11590	41.47	0	100	H	38.253	11.8	36.5	55.02	74	-18.98	Peak
11590	33.62	0	100	V	38.253	11.8	36.5	47.17	54	-6.83	Ave
11590	32.87	0	100	H	38.253	11.8	36.5	46.42	54	-7.58	Ave
17385	40.15	0	100	V	37.444	15	36.08	56.51	74	-17.49	Peak
17385	39.21	0	100	H	37.639	15	36.08	55.77	74	-18.23	Peak
17385	27.92	0	100	V	37.444	15	36.08	44.28	54	-9.72	Ave
17385	26.55	0	100	H	37.639	15	36.08	43.11	54	-10.89	Ave
23300	34.89	0	100	V	32.108	17.45	35.59	40.60	74	-33.40	Peak
23300	35.02	0	100	H	32.108	17.45	35.59	40.73	74	-33.27	Peak
23300	26.66	0	100	V	32.108	17.45	35.59	32.37	54	-21.63	Ave
23300	26.19	0	100	H	32.108	17.45	35.59	31.90	54	-22.10	Ave

40 MHz Bandwidth
Worst Case: HT40; Power Setting 25; Dual Antenna

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC		Comments
			Heigh (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5755 MHz, measured at 3 meters											
11510	44.26	0	150	V	38.253	11.8	36.5	57.813	74	-16.187	Peak
11510	43.33	0	150	H	38.253	11.8	36.5	56.883	74	-17.117	Peak
11510	29.77	0	150	V	38.253	11.8	36.5	43.32	54	-10.68	Ave
11510	29.48	0	150	H	38.253	11.8	36.5	43.03	54	-10.97	Ave
17265	40.89	0	150	V	37.444	15	36.08	57.254	74	-16.746	Peak
17265	39.92	0	150	H	37.639	15	36.08	56.479	74	-17.521	Peak
17265	26.75	0	150	V	37.444	15	36.08	43.11	54	-10.89	Ave
17265	26.91	0	150	H	37.639	15	36.08	43.47	54	-10.53	Ave
23020	37.59	0	150	V	34.6	17.45	36	53.64	74	-20.36	Peak
23020	37.67	0	150	H	34.6	17.45	36	53.72	74	-20.28	Peak
23020	24.47	0	150	V	34.6	17.45	36	40.52	54	-13.48	Ave
23020	24.70	0	150	H	34.6	17.45	36	40.75	54	-13.25	Ave
High Channel 5795 MHz, measured at 3 meters											
11590	42.61	0	100	V	38.253	11.8	36.5	56.16	74	-17.84	Peak
11590	42.47	0	100	H	38.253	11.8	36.5	56.02	74	-17.98	Peak
11590	27.45	0	150	V	38.253	11.8	36.5	41.00	54	-13.00	Ave
11590	28.12	0	150	H	38.253	11.8	36.5	41.67	54	-12.33	Ave
17385	40.25	0	100	V	37.444	15	36.08	56.61	74	-17.39	Peak
17385	39.98	0	100	H	37.639	15	36.08	56.54	74	-17.46	Peak
17385	25.57	0	150	V	37.444	15	36.08	41.93	54	-12.07	Ave
17385	26.08	0	150	H	37.639	15	36.08	42.64	54	-11.36	Ave
23180	38.51	0	100	V	34.6	17.45	36	54.56	74	-19.44	Peak
23180	38.41	0	100	H	34.6	17.45	36	54.46	74	-19.54	Peak
23180	25.55	0	150	V	34.6	17.45	36	41.60	54	-12.40	Ave
23180	25.06	0	150	H	34.6	17.45	36	41.11	54	-12.89	Ave