TEST REPORT

FCC ID:V2V-2901

Applicant : **LigoWave LLC**

Address : **138 Mountain Brook Dr Canton, GA 30115 United States**

Equipment under Test (EUT):

Name : Broadband Digital Transmission System
Model : FWBD-2901

Standards : FCC PART 15, SUBPART C : 2015 (Section 15.407)
ANSI C63.4:2014 ; ANSI C63.10:2013

Report No. : T1860644 05

Date of Test : April 23, 2016- May 17, 2016

Date of Issue : May 18, 2016

Test Result :	**PASS ***

* In the configuration tested, the EUT complied with the standards specified above

Authorized Signature

(Mark Zhu)
General Manager

The manufacture should ensure that all the products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of Shenzhen Alpha Product Testing Co., Ltd. Or test done by Shenzhen Alpha Product Testing Co., Ltd. Approvals in connection with, distribution or use of the product described in this report must be approved by Shenzhen Alpha Product Testing Co., Ltd. Approvals in writing.

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TEST REPORT VERIFICATION

Applicant : LigoWave LLC
Manufacturer : LigoWave LLC
EUT Description : Broadband Digital Transmission System

(A) Model No. : FWBD-2901
(B) Trademark : N/A
(C) Ratings Supply : DC 48V Supply by POE adaptor with 120V/60Hz input
(D)Test Voltage : DC 48V Supply by POE adaptor with 120V/60Hz input

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart C 2015, ANSI C63.4-2014,ANSI C63.10-2013

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....…..: Eric Huang
Test Engineer

Approved by (name + signature)…....: Simple Guan
Project Manager

Date of issue…… ……..: May 18, 2016

1 General Information

1.1 Description of Device (EUT)

Trade Name	:	N/A
EUT	:	Broadband Digital Transmission System
Model No.		FWBD-2901
DIFF.	:	N/A
Operation Type	:	Point to Point, MIMO Tx mode
Antenna Type	:	20dBi panel antenna with two antennas, directional gain 23dBi. 17dBi sector antenna with two antennas, directional gain 20dBi. 27dBi dish antenna with two antennas, directional gain 30dBi
Operation Frequency	:	IEEE 802.11a:5180MHz-5240MHz, 5745MHz-5825MHz IEEE 802.11n HT20: 5180MHz-5240MHz,5745MHz-5825MHz IEEE 802.11n HT40: 5190MHz-5230MHz,5755MHz-5795MHz IEEE 802.11ac:5210MHz, 5775MHz
Channel number	:	IEEE 802.11n HT20 5.2GHz band: 4 Channels IEEE 802.11n HT20 5.8GHz band: 5 Channels IEEE 802.11n HT40 5.2GHz band: 2Channels IEEE 802.11n HT40 5.8GHz band: 2Channels IEEE 802.11a 5.2GHz band :4Channels IEEE 802.11a 5.8GHz band :5Channels IEEE 802.11ac:1channel for 5.2GHz and 5.8G band
Modulation type	:	IIEEE 802.11n :OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11a :OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM(256 QAM)
Power Supply	:	DC 48V Supply by POE adaptor with 120V/60Hz input
Adapter		Model No.: GRT-POE20-480050A, G0720-480-050
Applicant	:	LigoWave LLC
Address	:	138 Mountain Brook Dr Canton, GA 30115 United States
Manufacturer	:	LigoWave LLC
Address	:	138 Mountain Brook Dr Canton, GA 30115 United States

1.2 Description of Test Facility

Shenzhen Alpha Product Testing Co., Ltd
Building B, East Area of Nanchang Second, Industrial Zone, Gushu 2nd Road,
Bao'an, Shenzhen, China

March 25, 2015 File on Federal Communication Commission
Registration Number: 203110

July 18, 2014 Certificated by IC
Registration Number: 12135A

2 EMC Equipment List

Equipment	Manufacture	Model No.	Serial No.	Last cal. Due to	Cal Interval
3m Semi-Anechoic	CHENYU	N/A	N/A	2018.01.18	2Year
Spectrum analyzer	Agilent	E4407B	MY46185649	2017.01.16	1Year
Receiver	R&S	ESPI	101873	2017.01.16	1Year
Receiver	R&S	ESCI	101165	2017.01.16	1Year
Bilog Antenna	SCHWARZBECK	VULB 9168	VULB9168-438	2018.01.18	2Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D(1201)	2017.01.20	2Year
Cable	Resenberger	N/A	No.1	2017.01.16	1Year
Cable	SCHWARZBECK	N/A	No.2	2017.01.16	1Year
Cable	SCHWARZBECK	N/A	No.3	2017.01.16	1Year
Pre-amplifier	HP	HP8347A	2834A00455	2017.01.18	1Year
Pre-amplifier	Agilent	8449B	3008A02664	2017.01.18	1Year
vector Signal Generator	Agilent	N5182A	MY49060042	2016.11.16	1 Year
vector Signal Generator	Agilent	E4438C	US44271917	2016.11.16	1 Year
X-series USB Peak and Average Power Sensor	Agilent	U2021XA	MY54080020	2016.11.16	1 Year
X-series USB Peak and Average Power Sensor	Agilent	U2021XA	MY54110001	2016.11.16	1 Year

Signal Analyzer	Agilent	N9020A	MY48030494	2016.11.16	1 Year
L.I.S.N.#1	Schwarzbeck	NSLK8126	8126466	2017.01.16	1 Year
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	101043	2017.01.16	1 Year

3 Test Procedure

POWER LINE CONDUCTED INTERFERENCE: The test procedure used was ANSI Standard ANSI C63.4:2014 using a 50 u H LISN. Both Lines were observed. The bandwidth of the receiver was 10kHz with an appropriate sweep speed. The ambient temperature of the EUT was 25℃with a humidity of 58%.

RADIATION INTERFERENCE: The test procedure used was ANSI Standard ANSI C63.4:2014 using a ANRITSU spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a micro volt at the output of the antenna. The resolution bandwidth was 100kHz and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3MHz above 1 GHz. The ambient temperature of the EUT was 25℃with a humidity of 58%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer and cable loss. The antenna correction factors and cable loss are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.
Example:
Freq (MHz) METER READING + ACF + CABLE = FS
33.20 dBuV + 10.36 dB + 0.9 dB= 44.46 dBuV/m @ 3m
ANSI STANDARD ANSI C63.4:2014 10.1.7 MEASUREMENT PROCEDURES: The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes. The situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSI Standard ANSI C63.4:2014 10.1.7 with the EUT 40 cm from the vertical ground wall.

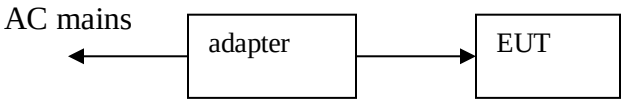
4 Summary of Measurement

4.1 Summary of test result

Test Item	Test Requirement	Standards Paragraph	Result
Spurious Emission	FCC PART 15 : 2015	Section 15.407(b)&15.209	Compliance
Conduction Emission	FCC PART 15 : 2015	Section 15.207	Compliance
Bandwidth Test	FCC PART 15 : 2015	Section 15.407(a)	Compliance
Peak Power	FCC PART 15 : 2015	Section 15.407(a)	Compliance
Power Density	FCC PART 15 : 2015	Section 15.407(a)	Compliance
Undesirable emission	FCC PART 15 : 2015	Section 15.407(b)	Compliance
Antenna Requirement	FCC PART 15 : 2015	Section 15.203	Compliance

Note: The EUT has been tested as an independent unit. And Continual Transmitting in maximum power (The adapter be used during Test)

4.2 Test connection



4.3 Assistant equipment used for test

Description	:	Adapter
Manufacturer	:	N/A
Model No.	:	GRT-POE20-480050A

Description	:	Adapter
Manufacturer	:	N/A
Model No.	:	G0720-480-050

4.4 Test mode

Dutycycle :100% Keeping MIMO TX mode			
Mode	Data rate (Mpbs) see Note	Channel	Frequency (MHz)
IEEE 802.11n HT20	6.5	CH36	5180
	6.5	CH40	5200
	6.5	CH48	5240
IEEE 802.11n HT40	13.5	CH38	5190
	13.5	CH46	5230
IEEE 802.11a	6	CH36	5180
	6	CH40	5200
	6	CH48	5240
IEEE 802.11ac	433.3	CH42	5210
Note: According exploratory test and product specification EUT will have maximum output power in those data rate, so those data rate were used for all test.			

Dutycycle :100% Keeping MIMO TX mode			
Mode	data rate (Mpbs)(see Note)	Channel	Frequency (MHz)
IEEE 802.11 n/HT20 with 5.8G	6.5	CH149	5745
	6.5	CH157	5785
	6.5	CH165	5825
IEEE 802.11 n/HT40 with 5.8G	13.5	CH151	5755
	13.5	CH159	5795
IEEE 802.11a with 5.8G	6	CH149	5745
	6	CH157	5785
	6	CH165	5825
IEEE 802.11ac with 5.8G	433.3	CH155	5775
Note: According exploratory test, EUT will have maximum output power in those data rate. so those data rate were used for all test.			

4.5 Channel list

For IEEE 802.11 a with 5.2G			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH36	5180	CH44	5220
CH40	5200	CH48	5240

For IEEE 802.11 n/HT20 with 5.2G			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH36	5180	CH44	5220
CH40	5200	CH48	5240

For IEEE 802.11 n/HT40 with 5.2G			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH38	5190	CH46	5230

For IEEE 802.11 ac with 5.2G			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH42	5210		

For IEEE 802.11 a with 5.8G					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH149	5745	CH157	5785	CH165	5825
CH153	5765	CH161	5805		

For IEEE 802.11n/HT20 with 5.8G					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH149	5745	CH157	5785	CH165	5825
CH153	5765	CH161	5805		

For IEEE 802.11n/HT40 with 5.8G					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH151	5755	CH159	5795		

For IEEE 802.11 ac with 5.8G					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH155	5775				

4.6 Test Conditions

Temperature range	21-25℃
Humidity range	40-75%
Pressure range	86-106kPa

4.7 Measurement Uncertainty (95% confidence levels, k=2)

Item	MU	Remark
Uncertainty for Power point Conducted Emissions Test	2.42dB	
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	2.13 dB	Polarize: V
	2.57dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.54dB	Polarize: V
	4.1dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber (above 1GHz)	2.08dB	Polarize: H
	2.56dB	Polarize: V
Uncertainty for radio frequency	1×10-9	
Uncertainty for conducted RF Power	0.65dB	
Uncertainty for temperature	0.2℃	
Uncertainty for humidity	1%	
Uncertainty for DC and low frequency voltages	0.06%	

5 Spurious Emission

5.1 Radiation Emission

5.1.1 Radiation Emission Limits(15.209)

Frequencies (MHz)	Field Strength (micorvolts/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	3
88~216	150	3
216~960	200	3
Above 960	500	3

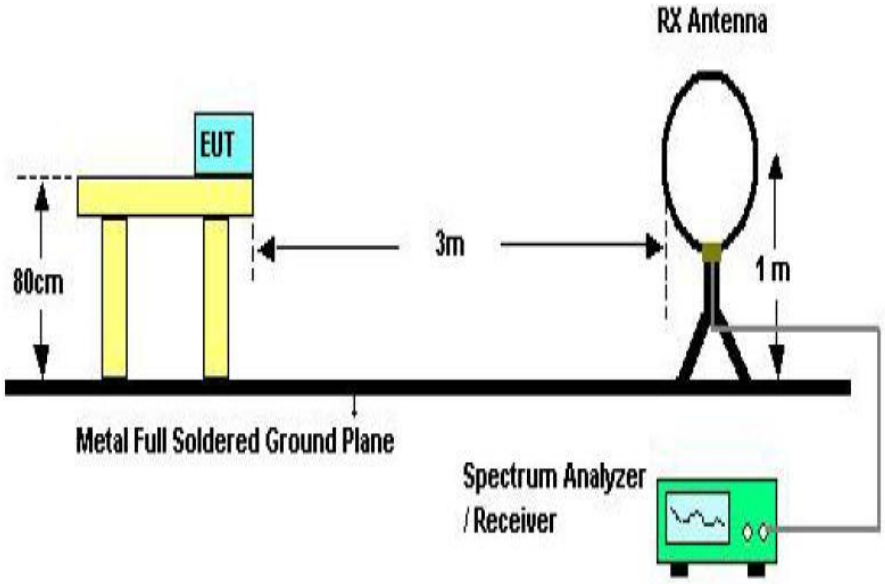
Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

NOTE:

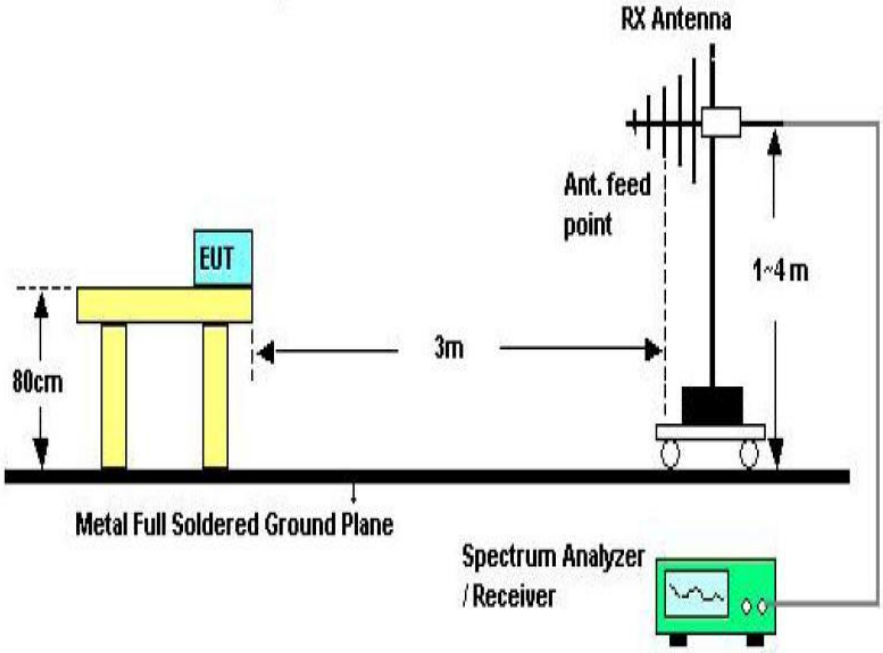
a) The tighter limit applies at the band edges.
b) Emission Level(dB uV/m)=20log Emission Level(Uv/m)

5.1.2 Test Setup

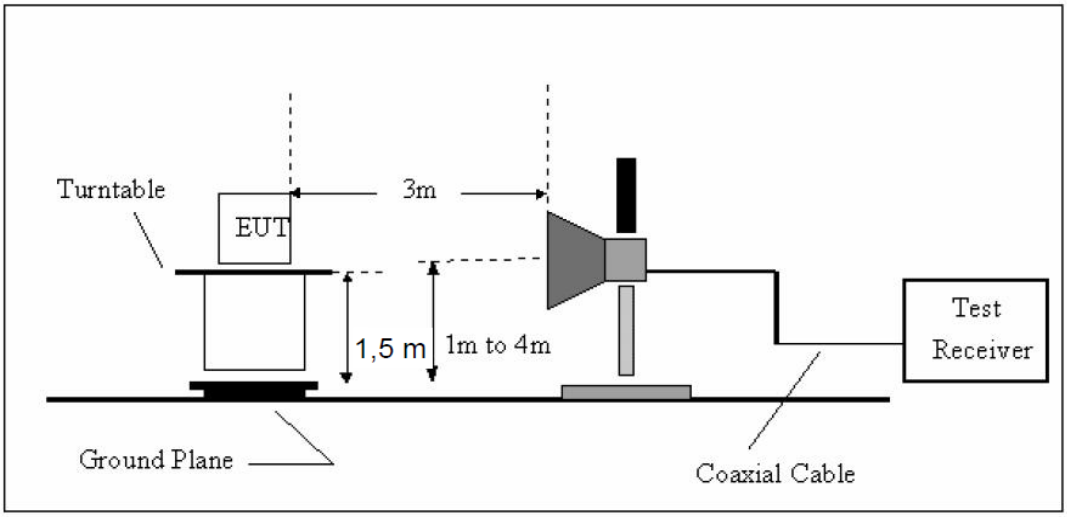
See the next page



Below 30MHz Test Setup



Above 30MHz Test Setup



Above 1GHz Test Setup

5.1.3 Test Procedure

a) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1GHz, The EUT was placed on a rotating 0.8 m high above ground, The table was rotated 360 degrees to determine the position of the highest radiation
b) The Test antenna shall vary between 1m and 4m,Both Horizontal and Vertical antenna are set of make measurement.
c) The initial step in collecting conducted emission data is a spectrum analyzer Peak detector mode pre-scanning the measurement frequency range. Significant Peaks are then marked. and then Qusia Peak Detector mode premeasured
d) If Peak value comply with QP limit Below 1GHz.The EUT deemed to comply with QP limit. But the Peak value and average value both need to comply with applicable limit above 1GHz.
e) For the actual test configuration, please see the test setup photo.

5.1.4 Test Equipment Setting For emission test Result

9KHz~150KHz	RBW 200Hz	VBW1KHz
150KHz~30MHz	RBW 9KHz	VBW 30KHz
30MHZ~1GHz	RBW 120KHz	VBW 300KHz
Above 1GHz	RBW 1MHz	VBW 3MHz

5.1.5 Test Condition

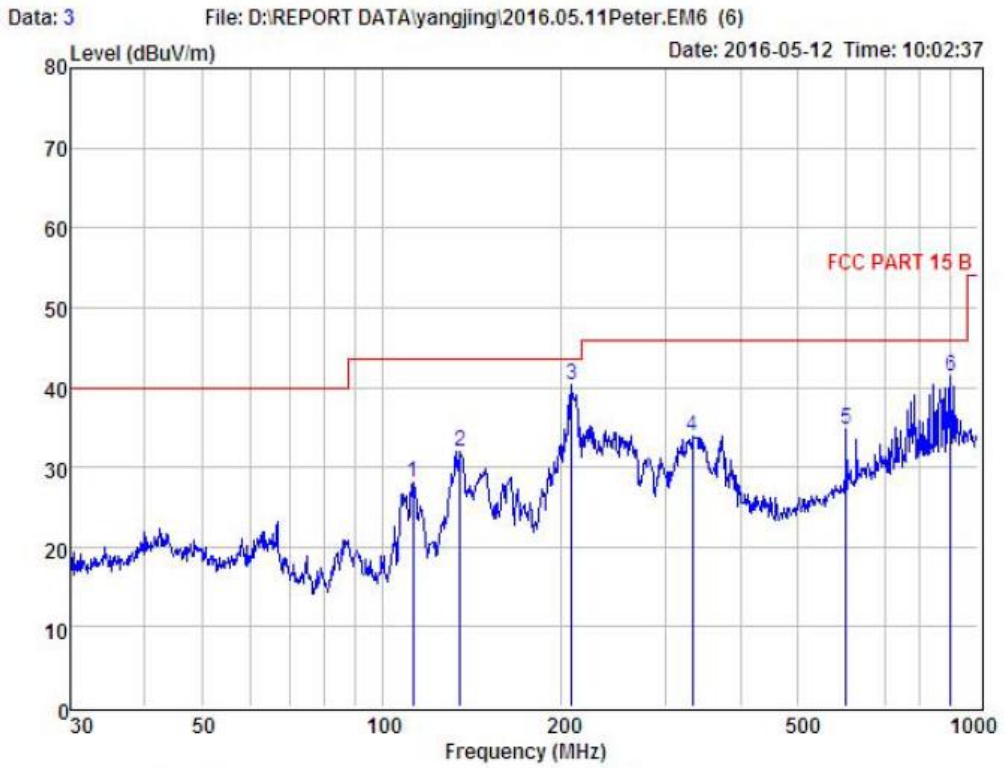
MIMO Continual Transmitting in maximum power.

5.1.6 Test Result

We have scanned the 9KHz from 25GHz to the EUT.
Detailed information please see the following page.

From 9KHz to 30MHz: Conclusion: PASS

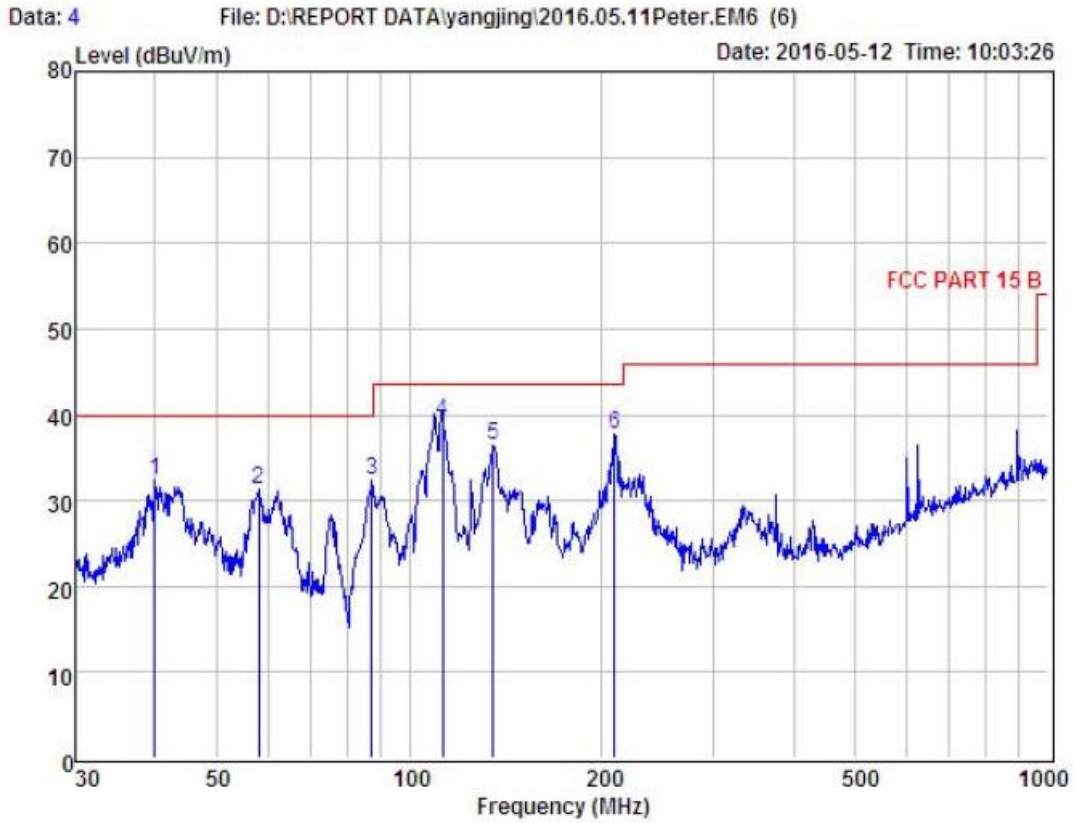
Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



Condition : FCC PART 15 B 3m POL: HORIZONTAL
EUT :
Model No :
Test Mode :
Power :
Test Engineer :
Remark :
Temp : 24.2℃
Hum : 54%

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	112.92	45.96	11.50	29.85	0.47	28.08	43.50	-15.42	Peak
2	135.51	47.92	13.08	29.41	0.45	32.04	43.50	-11.46	Peak
3	207.85	58.28	10.04	28.59	0.49	40.22	43.50	-3.28	Peak
4	332.52	47.49	13.55	27.84	0.79	33.99	46.00	-12.01	Peak
5	601.43	41.24	18.36	25.89	1.07	34.78	46.00	-11.22	Peak
6	900.15	43.58	21.67	25.12	1.31	41.44	46.00	-4.56	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



Condition : FCC PART 15 B 3m POL: VERTICAL
EUT :
Model No :
Test Mode :
Power :
Test Engineer :
Remark :
Temp : 24.2℃
Hum : 54%

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	39.99	49.05	14.07	30.85	0.17	32.44	40.00	-7.56	Peak
2	58.20	49.04	12.91	30.89	0.23	31.29	40.00	-8.71	Peak
3	87.42	52.76	9.41	30.19	0.32	32.30	40.00	-7.70	Peak
4	112.92	57.22	11.50	29.85	0.47	39.34	43.50	-4.16	QP
5	135.51	52.30	13.08	29.41	0.45	36.42	43.50	-7.08	Peak
6	209.31	55.51	10.07	28.59	0.65	37.64	43.50	-5.86	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

Remark1: All modes and channels have been tested and only worst data of 802.11a, 5180MHz are listed in this report.
Remark2: Two different PoE adapter were used during tests and only worst data listed in this report.

20dBi panel antenna with two antennas, directional gain 23dBi..
From 1G-25GHz
IEEE 802.11a with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15540	V	32.71	---	4.52	37.23	---	54	/	16.77	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m))				
15540	H	32.90	---	4.52	37.42	---	54	/	16.58	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15600	V	32.91	---	4.52	37.43	---	54	/	16.57	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15600	H	33.34	---	4.52	37.86	---	54	/	16.14	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15720	V	33.06	---	4.52	37.58	---	54	/	16.42	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15720	H	32.91	---	4.52	37.43	---	54	/	16.57	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT20 with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15540	V	33.26	---	4.52	37.78	---	54	/	16.22	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15540	H	33.33	---	4.52	37.85	---	54	/	16.15	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15600	V	33.06	---	4.52	37.58	---	54	/	16.42	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15600	H	33.85	---	4.52	38.37	---	54	/	15.63	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15720	V	33.8	---	4.52	38.32	---	54	/	15.68	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15720	H	32.81	---	4.52	37.33	---	54	/	16.67	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT40 with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15570	V	33.10	---	4.52	37.62	---	54	/	16.38	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15570	H	32.32	---	4.52	36.84	---	54	/	17.16	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15690	V	26.96	---	4.52	31.48	---	54	/	22.52	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15690	H	33.36	---	4.52	37.88	---	54	/	16.12	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11ac with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10460	V	48.26	---	2.42	50.85	---	54	/	3.15	Peak
15570	V	36.91	---	4.52	41.43	---	54	/	12.57	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10460	H	48.90	---	2.42	51.58	---	54	/	2.42	Peak
15570	H	36.33	---	4.52	40.67	---	54	/	13.33	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

From 1G-25GHz:
IEEE 802.11a with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17235	V	33.02	---	4.52	37.54	---	54	/	16.46	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17235	H	34.10	---	4.52	38.62	---	54	/	15.38	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17355	V	33.69	---	4.52	38.21	---	54	/	15.79	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17355	H	32.75	---	4.52	37.27	---	54	/	16.73	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17475	V	30.8	---	4.52	35.32	---	54	/	18.68	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17475	H	34.09	---	4.52	38.61	---	54	/	15.39	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT20 with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17235	V	34.20	---	4.52	38.72	---	54	/	15.28	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17235	H	34.22	---	4.52	38.74	---	54	/	15.26	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17355	V	33.95	---	4.52	38.47	---	54	/	15.53	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17355	H	34.06	---	4.52	38.58	---	54	/	15.25	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17475	V	33.81	---	4.52	38.33	---	54	/	15.67	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17475	H	32.91	---	4.52	37.43	---	54	/	16.57	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT40 with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17265	V	32.80	---	4.52	37.32	---	54	/	16.68	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17265	H	33.20	---	4.52	37.72	---	54	/	16.28	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17385	V	33.1	---	4.52	37.62	---	54	/	16.38	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17385	H	33.77	---	4.52	38.29	---	54	/	15.71	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11ac with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11550	V	50.23	---	2.38	52.55	---	54	/	1.45	Peak
17265	V	36.42	---	4.52	40.98	---	54	/	13.02	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11550	H	48.60	---	2.38	50.76	---	54	/	3.24	Peak
17265	H	36.21	---	4.52	40.83	---	54	/	13.17	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

17dBi sector antenna with two antennas, directional gain 20dBi
From 1G-25GHz
IEEE 802.11a with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10360	V	51.52	---	2.36	53.88	---	54	/	0.12	Peak
15540	V	32.91	---	4.52	37.43	---	54	/	16.57	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m))				
10360	H	50.96	---	2.36	53.32	---	54	/	0.68	Peak
15540	H	32.25	---	4.52	36.77	---	54	/	17.23	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10400	V	50.57	---	2.36	52.93	---	54	/	1.07	Peak
15600	V	32.02	---	4.52	36.54	---	54	/	17.46	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10400	H	51.36	---	2.36	53.72	---	54	/	0.28	Peak
15600	H	32.94	---	4.52	37.46	---	54	/	16.54	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10480	V	51.38	---	2.36	53.74	---	54	/	0.26	Peak
15720	V	32.16	---	4.52	36.68	---	54	/	17.32	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10480	H	51.38	---	2.36	53.74	---	54	/	0.26	Peak
15720	H	32.01	---	4.52	36.53	---	54	/	17.47	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT20 with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10360	V	51.00	---	2.36	53.36	---	54	/	0.64	Peak
15540	V	32.27	---	4.52	36.79	---	54	/	17.21	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10360	H	51.52	---	2.36	53.88	---	54	/	0.12	Peak
15540	H	32.21	---	4.52	36.73	---	54	/	17.27	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10400	V	51.48	---	2.36	53.84	---	54	/	0.16	Peak
15600	V	32.35	---	4.52	36.87	---	54	/	17.13	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10400	H	51.32	---	2.36	53.68	---	54	/	0.32	Peak
15600	H	32.02	---	4.52	36.54	---	54	/	17.46	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10480	V	50.93	---	2.36	53.29	---	54	/	0.71	Peak
15720	V	33.39	---	4.52	37.91	---	54	/	16.09	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10480	H	51.02	---	2.36	53.38	---	54	/	0.62	Peak
15720	H	31.91	---	4.52	36.43	---	54	/	17.57	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT40 with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10380	V	51.52	---	2.36	53.88	---	54	/	0.12	Peak
15570	V	31.99	---	4.52	36.51	---	54	/	17.49	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10380	H	51.18	---	2.36	53.54	---	54	/	0.46	Peak
15570	H	32.13	---	4.52	36.65	---	54	/	17.35	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10460	V	51.48	---	2.36	53.84	---	54	/	0.16	Peak
15690	V	32.09	---	4.52	36.61	---	54	/	17.39	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10460	H	51.59	---	2.36	53.95	---	54	/	0.05	Peak
15690	H	32.10	---	4.52	36.62	---	54	/	17.38	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11ac with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10460	V	48.26	---	2.42	50.78	---	54	/	3.22	Peak
15570	V	36.91	---	4.52	41.59	---	54	/	12.41	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10460	H	48.90	---	2.42	51.62	---	54	/	2.38	Peak
15570	H	36.33	---	4.52	40.43	---	54	/	13.57	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

From 1G-25GHz:
IEEE 802.11a with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11490	V	51.18	---	2.36	53.54	---	54	/	0.46	Peak
17235	V	32.95	---	4.52	37.47	---	54	/	16.53	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11490	H	51.26	---	2.36	53.62	---	54	/	0.38	Peak
17235	H	32.19	---	4.52	36.71	---	54	/	17.29	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11570	V	51.48	---	2.36	53.84	---	54	/	0.16	Peak
17355	V	31.65	---	4.52	36.17	---	54	/	17.83	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11570	H	51.38	---	2.36	53.74	---	54	/	0.26	Peak
17355	H	31.71	---	4.52	36.23	---	54	/	17.77	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11650	V	51.01	---	2.36	53.37	---	54	/	0.63	Peak
17475	V	33.01	---	4.52	37.53	---	54	/	16.47	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17475	H	33.21	---	4.52	37.73	---	54	/	16.27	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT20 with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11490	V	50.87	---	2.36	53.23	---	54	/	0.77	Peak
17235	V	31.67	---	4.52	36.19	---	54	/	17.81	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11490	H	51.07	---	2.36	53.43	---	54	/	0.57	Peak
17235	H	33.06	---	4.52	37.58	---	54	/	16.42	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11570	V	51.06	---	2.36	53.42	---	54	/	0.58	Peak
17355	V	32.32	---	4.52	36.84	---	54	/	17.16	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11570	H	51.38	---	2.36	53.74	---	54	/	0.26	Peak
17355	H	31.71	---	4.52	36.23	---	54	/	17.77	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11650	V	51.49	---	2.36	53.85	---	54	/	0.15	Peak
17475	V	32.06	---	4.52	36.58	---	54	/	17.42	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11650	H	51.07	---	2.36	53.43	---	54	/	0.57	Peak
17475	H	31.85	---	4.52	36.37	---	54	/	17.63	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT40 with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11510	V	51.59	---	2.36	53.95	---	54	/	0.05	Peak
17265	V	32.37	---	4.52	36.89	---	54	/	17.11	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11510	H	51.22	---	2.36	53.58	---	54	/	0.42	Peak
17265	H	31.10	---	4.52	35.62	---	54	/	18.38	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11590	V	51.07	---	2.36	53.43	---	54	/	0.57	Peak
17385	V	30.85	---	4.52	35.37	---	54	/	18.63	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11590	H	50.48	---	2.36	52.84	---	54	/	1.16	Peak
17385	H	31.91	---	4.52	36.43	---	54	/	17.57	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11ac with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11550	V	50.23	---	2.38	52.65	---	54	/	1.35	Peak
17265	V	36.42	---	4.52	40.83	---	54	/	13.17	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11550	H	48.60	---	2.38	50.67	---	54	/	3.33	Peak
17265	H	36.21	---	4.52	40.91	---	54	/	13.09	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

27dBi dish antenna with two antennas, directional gain 30dBi.
From 1G-25GHz
IEEE 802.11a with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15540	V	32.25	---	4.52	36.77	---	54	/	17.23	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m))				
15540	H	31.73	---	4.52	36.25	---	54	/	17.75	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15600	V	31.93	---	4.52	36.45	---	54	/	17.55	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15600	H	32.34	---	4.52	36.86	---	54	/	17.14	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15720	V	32.86	---	4.52	37.38	---	54	/	16.62	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15720	H	31.91	---	4.52	36.43	---	54	/	17.57	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT20 with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15540	V	33.47	---	4.52	37.99	---	54	/	16.01	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15540	H	33.03	---	4.52	37.55	---	54	/	16.45	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15600	V	32.71	---	4.52	37.23	---	54	/	16.77	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15600	H	34.02	---	4.52	38.54	---	54	/	15.46	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15720	V	34.01	---	4.52	38.53	---	54	/	15.47	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15720	H	32.77	---	4.52	37.29	---	54	/	16.71	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT40 with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15570	V	33.06	---	4.52	37.58	---	54	/	16.42	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15570	H	31.79	---	4.52	36.31	---	54	/	17.69	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15690	V	26.91	---	4.52	31.43	---	54	/	22.57	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
15690	H	33.34	---	4.52	37.86	---	54	/	16.14	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11ac with 5.2G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10460	V	48.26	---	2.42	50.75	---	54	/	3.25	Peak
15570	V	36.91	---	4.52	41.65	---	54	/	12.35	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
10460	H	48.90	---	2.42	51.82	---	54	/	2.18	Peak
15570	H	36.33	---	4.52	40.76	---	54	/	13.24	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

From 1G-25GHz:
IEEE 802.11a with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17235	V	33.05	---	4.52	37.57	---	54	/	16.43	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17235	H	34.12	---	4.52	38.64	---	54	/	15.36	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17355	V	34.21	---	4.52	38.73	---	54	/	15.27	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17355	H	33.32	---	4.52	37.58	---	54	/	16.42	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17475	V	34.34	---	4.52	38.86	---	54	/	15.14	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17475	H	34.11	---	4.52	38.63	---	54	/	15.37	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT20 with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17235	V	34.02	---	4.52	38.54	---	54	/	15.46	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17235	H	34.05	---	4.52	38.57	---	54	/	15.43	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17355	V	34.12	---	4.52	38.64	---	54	/	15.36	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Mid		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17355	H	34.32	---	4.52	38.84	---	54	/	15.16	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17475	V	34.17	---	4.52	38.69	---	54	/	15.31	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17475	H	32.71	---	4.52	37.23	---	54	/	16.77	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11n/HT40 with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17265	V	33.24	---	4.52	37.76	---	54	/	16.24	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX Low		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17265	H	32.83	---	4.52	37.35	---	54	/	16.65	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17385	V	33.04	---	4.52	37.56	---	54	/	16.44	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26ºC	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX High		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
17385	H	33.87	---	4.52	38.39	---	54	/	15.61	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

IEEE 802.11ac with 5.8G

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11550	V	50.23	---	2.38	52.76	---	54	/	1.24	Peak
17265	V	36.42	---	4.52	40.84	---	54	/	13.16	Peak
N/A										

EUT	Broadband Digital Transmission System	**Model Name**	FWBD-2901
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 48V From adapter
Test Mode	MIMO TX		

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV/m)	AV Reading (dBuV/m)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
11550	H	48.60	---	2.38	50.86	---	54	/	3.14	Peak
17265	H	36.21	---	4.52	40.68	---	54	/	13.32	Peak
N/A										

Notes: AV Means AV detector test data, Peak Means Peak detector test data.
Emissions attenuated more than 20 dB below the permissible value are not reported.

6 POWER LINE CONDUCTED EMISSION

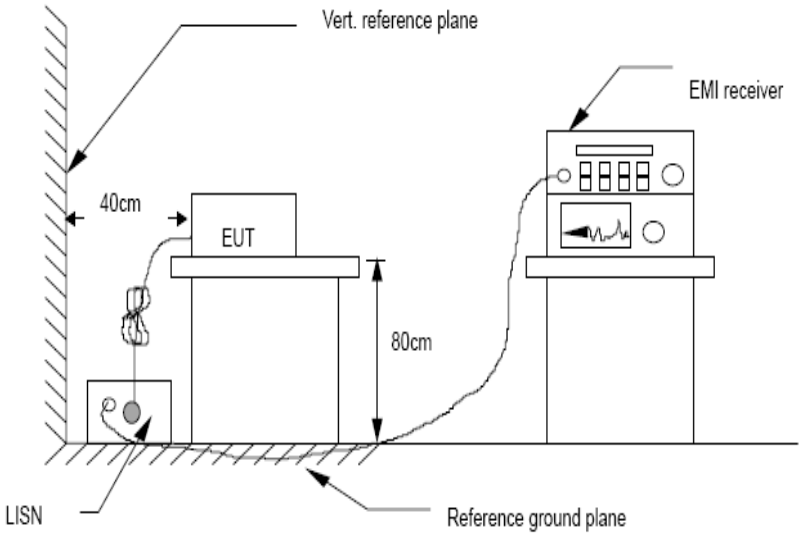
6.1 Conducted Emission Limits(15.207)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 -0.50	66 -56*	56 - 46*
0.50 -5.00	56	46
5.00 -30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.The limit decreases in line with the logarithm of the frequency in the rang of 0.15 to 0.50 MHz.

6.2 Test Setup



6.3 Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI ANSI C63.4:2014 on Conducted Emission Measurement. The bandwidth of test receiver is set at 9 kHz.

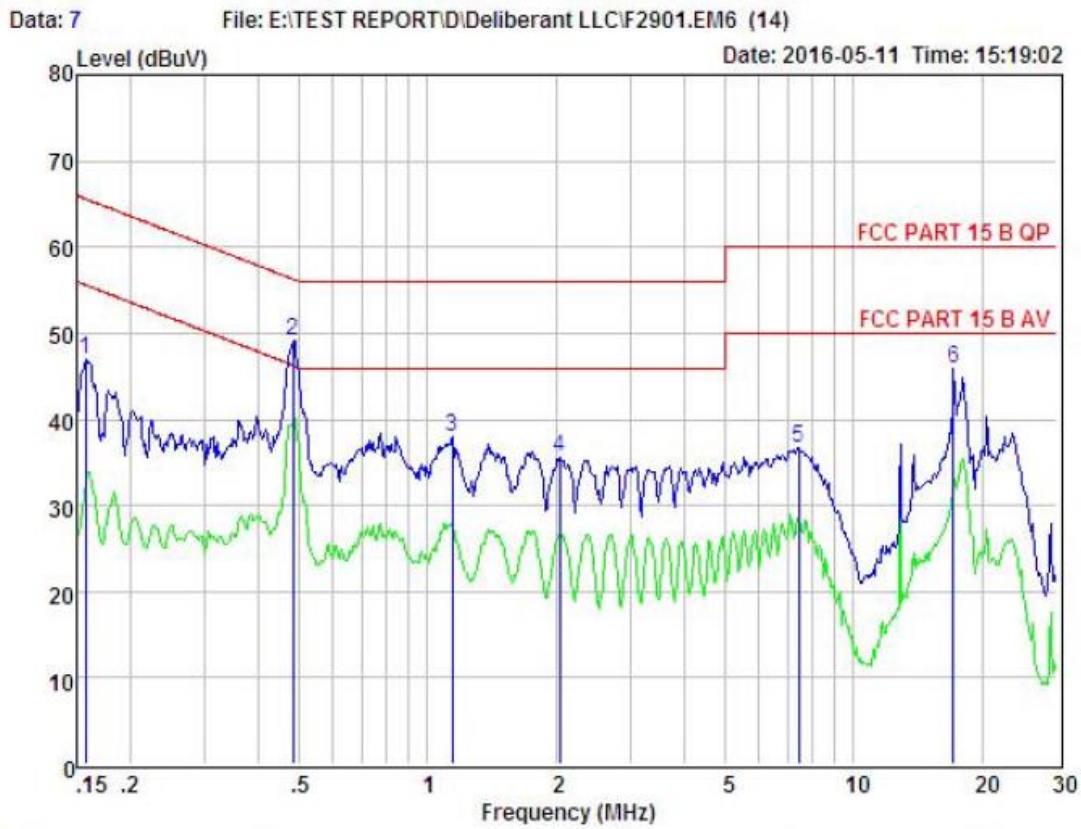
6.4 Test Results

MIMO TX MODE

Worse case is reported only

PASS

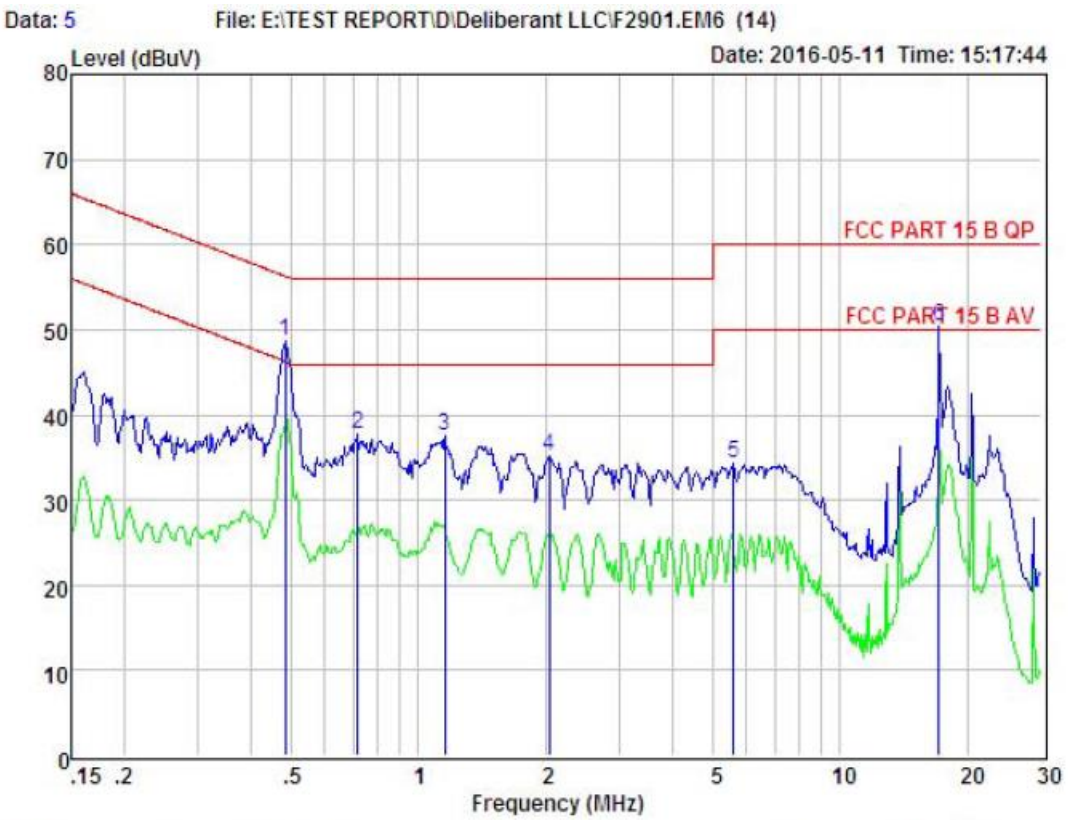
Detailed information please see the following page.



Condition : FCC PART 15 B QP POL: LINE Temp: 24 ℃ Hum: 56 %
EUT :
Model No : F2901
Test Mode :
Power : DC 48V From POE
Test Engineer :
Remark :

Item	Freq MHz	Read Level dBuV	LISN Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	0.157	37.33	0.03	-9.52	0.10	46.98	65.60	-18.62	Peak
2	0.484	39.45	0.03	-9.58	0.10	49.16	56.27	-7.11	Peak
3	1.141	28.08	0.04	-9.64	0.10	37.86	56.00	-18.14	Peak
4	2.044	25.78	0.06	-9.72	0.10	35.66	56.00	-20.34	Peak
5	7.446	26.47	0.14	-9.96	0.15	36.72	60.00	-23.28	Peak
6	17.199	35.40	0.27	-9.82	0.30	45.79	60.00	-14.21	Peak

Remark: Level = Read Level + LISN Factor - Preamp Factor + Cable Loss



Condition : FCC PART 15 B QP POL: NEUTRAL Temp: 24 ℃ Hum: 56 %
EUT :
Model No : F2901
Test Mode :
Power : DC 48V From POE
Test Engineer :
Remark :

Item	Freq MHz	Read Level dBuV	LISN Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	0.484	38.95	0.03	-9.58	0.10	48.66	56.27	-7.61	Peak
2	0.716	27.98	0.04	-9.59	0.10	37.71	56.00	-18.29	Peak
3	1.153	27.76	0.04	-9.65	0.10	37.55	56.00	-18.45	Peak
4	2.044	25.32	0.06	-9.72	0.10	35.20	56.00	-20.80	Peak
5	5.594	24.05	0.10	-9.96	0.13	34.24	60.00	-25.76	Peak
6	17.199	40.02	0.27	-9.82	0.30	50.41	60.00	-9.59	Peak

Remark: Level = Read Level + LISN Factor - Preamp Factor + Cable Loss

Note: Green curve is AV result and much lower than AV limit

7 Conducted Maximum Output Power

7.1 Test limit

For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

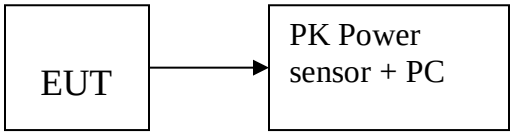
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

7.2 Test Procedure

Details see the KDB558074 Meas Guidance V03

7.2.1 Place the EUT on the table and set it in transmitting mode.
7.2.2 Connected the EUT's antenna port to peak power meter by 20dB attenuator.
7.2.3 Measure out each mode and each bands peak output power of EUT.
Note: The cable loss and attenuator loss were offset into measure device as amplitude offset. Details see the KDB558074 DTS Meas Guidance V03

7.3 Test Setup



7.4 Test Results

PASS

Detailed information please see the following page.

EUT: Broadband Digital Transmission System			M/N: FWBD-2901			
Test date: 2016-05-05		Test site: RF site		Tested by: Simple Guan		
Mode	Frequency (MHz)	Ant Port	PK Output power(dBm)		Limit (dBm)	Margin (dB)
IEEE 802.11 a with 5.2G	CH36:5180	0	16.32	19.46	23	3.54
		1	16.57			
	CH40:5200	0	16.03	19.45	23	3.55
		1	16.82			
	CH48:5240	0	16.91	19.65	23	3.45
		1	16.35			
IEEE 802.11 n/HT20 with 5.2G	CH36:5180	0	16.69	19.53	23	3.47
		1	16.35			
	CH40:5200	0	16.59	19.72	23	3.28
		1	16.82			
	CH48:5240	0	16.38	19.57	23	3.43
		1	16.73			
IEEE 802.11 n/HT40 with 5.2G	CH38:5190	0	16.68	19.73	23	3.27
		1	16.75			
	CH46:5230	0	16.89	19.67	23	3.33
		1	16.41			
IEEE 802.11 ac with 5.2G	CH42:5210	0	16.63	19.68	23	3.32
		1	16.71			
Conclusion: PASS						

EUT: Broadband Digital Transmission System M/N: FWBD-2901						
Test date: 2016-05-05 Test site: RF site Tested by: Simple Guan						
Mode	Frequency (MHz)	Ant Port	PK Output powe(dBm)		Limit (dBm)	Margin (dB)
IEEE 802.11 a with 5.8G	CH149:5745	0	21.06	24.31	30	5.69
		1	21.52			
	CH157:5785	0	26.12	29.31	30	0.69
		1	26.47			
	CH165:5825	0	21.23	24.33	30	5.67
		1	21.41			
IEEE 802.11 n/HT20 with 5.8G	CH149:5745	0	21.06	24.22	30	5.78
		1	21.35			
	CH157:5785	0	25.97	29.21	30	0.79
		1	26.42			
	CH165:5825	0	21.06	24.23	30	5.77
		1	21.38			
IEEE 802.11 n/HT40 with 5.8G	CH151:5755	0	21.57	24.64	30	5.36
		1	21.68			
	CH159:5795	0	21.72	24.66	30	5.34
		1	21.57			
IEEE 802.11 ac with 5.8G	CH155:5775	0	21.52	24.62	30	5.38
		1	21.69			
Conclusion: PASS						

8 PEAK POWER SPECTRAL DENSITY

8.1 Test limit

For the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.
For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

8.2 Method of measurement

Details see the KDB558074 DTS Meas Guidance V03

8.2.1 Place the EUT on the table and set it in transmitting mode.

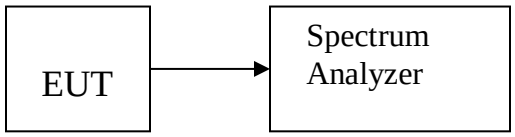
8.2.2 Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

8.2.3 Set the spectrum analyzer as RBW = 3kHz, VBW = 10kHz, span=5-30%EBW, detail see the test plot.

8.2.4 Record the max reading.

8.2.5 Repeat the above procedure until the measurements for all frequencies are completed.

8.3 Test Setup



8.4 Test Results

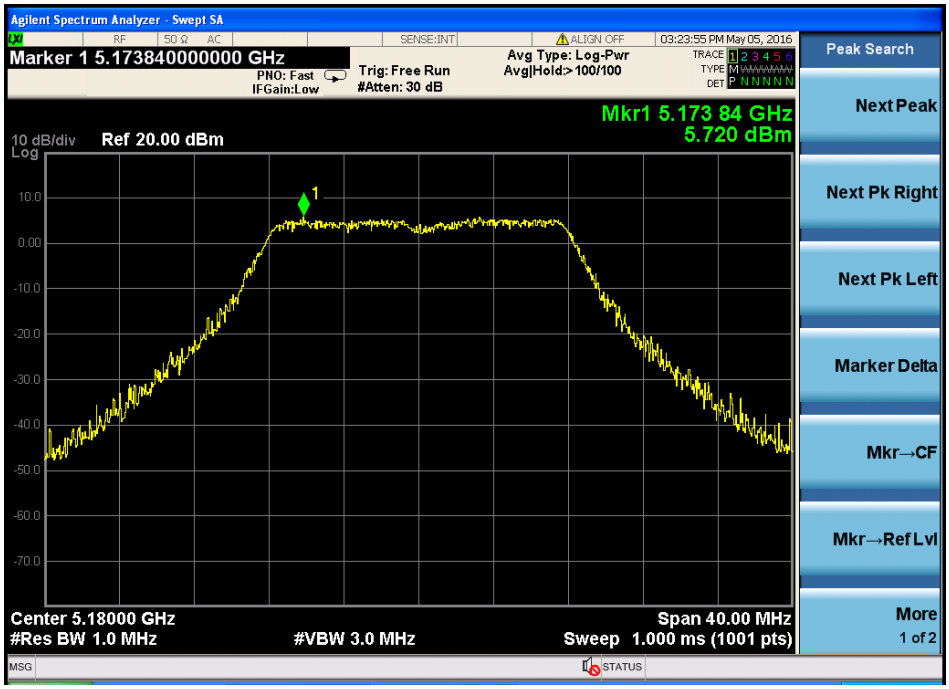
PASS.

Detailed information please see the following page.

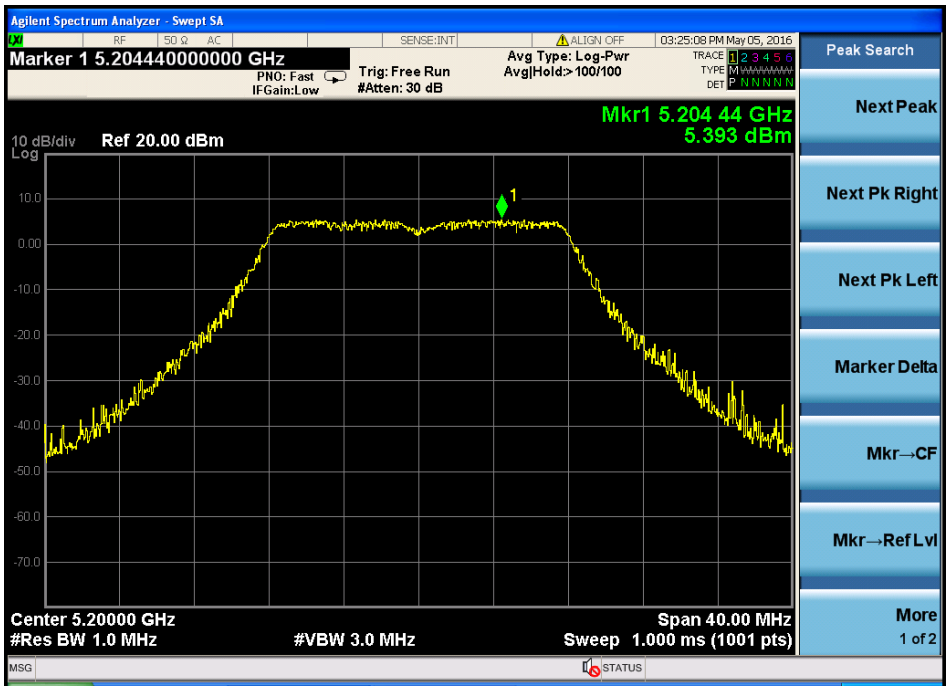
EUT: Broadband Digital Transmission System M/N: FWBD-2901						
Test date: 2016-05-05 Test site: RF site Tested by: Simple Guan						
Mode	Frequency (MHz)	Ant Port	PK Output power(dBm)		Limit (dBm)	Result
IEEE 802.11 a with 5.2G	CH36:5180	0	5.720	8.852	10	Pass
		1	5.961			
	CH40:5200	0	5.393	8.484	10	Pass
		1	5.553			
	CH48:5240	0	4.430	7.565	10	Pass
		1	4.676			
IEEE 802.11 n/HT20 with 5.2G	CH36:5180	0	5.552	8.503	10	Pass
		1	5.433			
	CH40:5200	0	5.358	8.289	10	Pass
		1	5.197			
	CH48:5240	0	4.110	7.158	10	Pass
		1	4.185			
IEEE 802.11 n/HT40 with 5.2G	CH38:5190	0	2.617	5.685	10	Pass
		1	2.731			
	CH46:5230	0	1.351	4.312	10	Pass
		1	1.251			
IEEE 802.11 ac with 5.2G	CH42:5210	0	6.026	8.638	10	Pass
		1	5.190			
Conclusion: PASS						

EUT: Broadband Digital Transmission System			M/N: FWBD-2901			
Test date: 2016-05-05		Test site: RF site		Tested by: Simple Guan		
Mode	Frequency (MHz)	Ant Port	PK Output power(dBm)		Limit (dBm)	Result
IEEE 802.11 a with 5.8G	CH149:5745	0	6.818	9.683	30	Pass
		1	6.523			
	CH157:5785	0	12.860	15.667	30	Pass
		1	12.444			
	CH165:5825	0	5.302	8.319	30	Pass
		1	5.316			
IEEE 802.11 n/HT20 with 5.8G	CH149:5745	0	6.817	9.813	30	Pass
		1	6.788			
	CH157:5785	0	11.244	14.221	30	Pass
		1	11.178			
	CH165:5825	0	4.666	8.069	30	Pass
		1	5.418			
IEEE 802.11 n/HT40 with 5.8G	CH151:5755	0	6.035	8.918	30	Pass
		1	5.777			
	CH159:5795	0	5.889	8.871	30	Pass
		1	5.833			
IEEE 802.11 ac with 5.8G	CH155:5755	0	4.980	7.651	30	Pass
		1	4.273			
Conclusion: PASS						

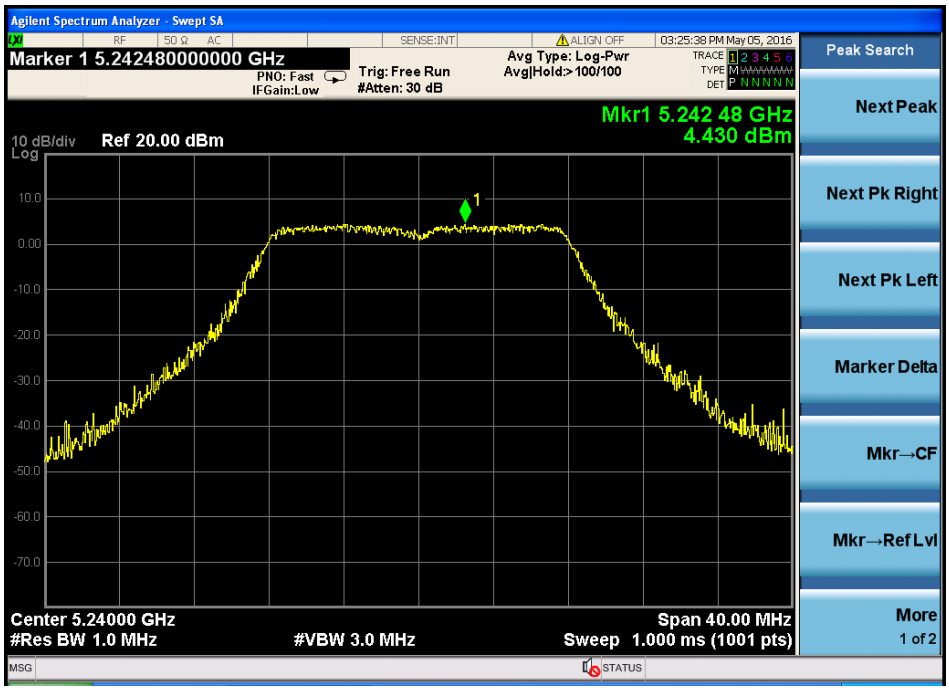
Port 0 antenna with5.2G
IEEE 802.11a :
CH Low :



CH Mid:

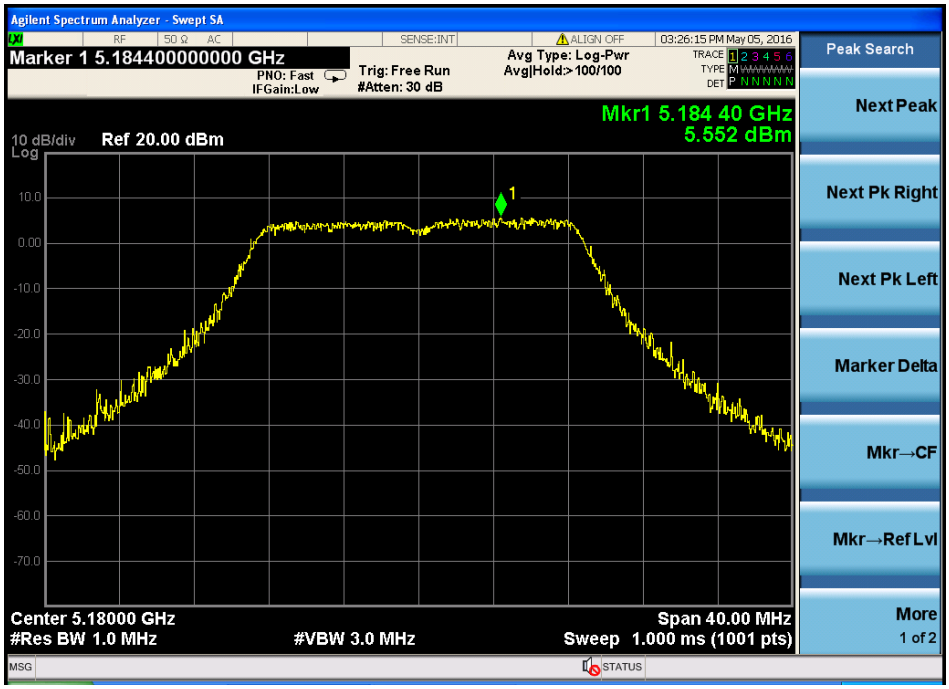


CH Hig:

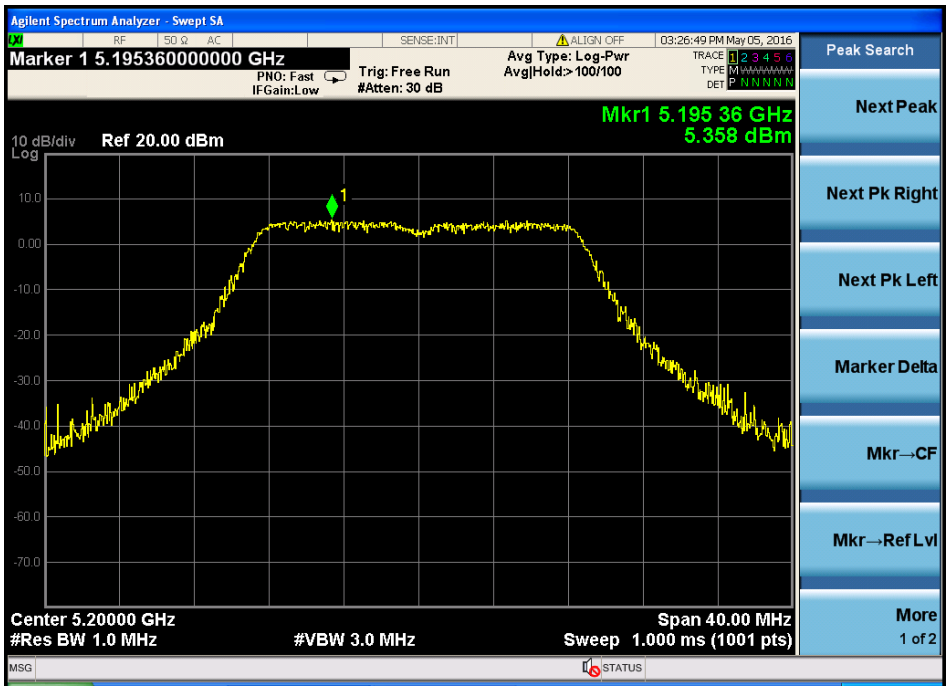


IEEE 802.11n HT20 :

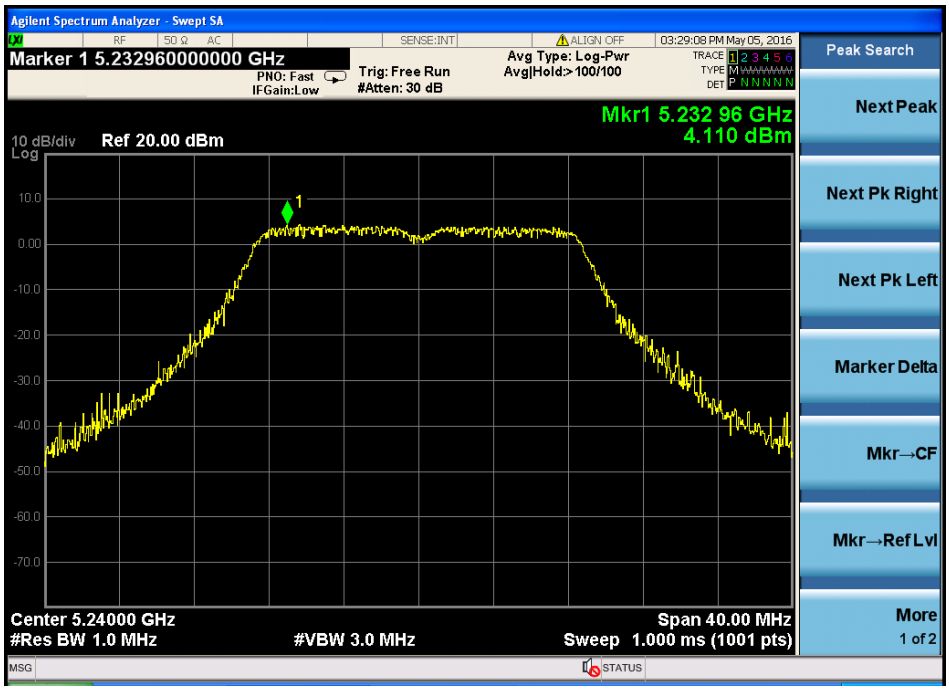
CH Low :



CH Mid:

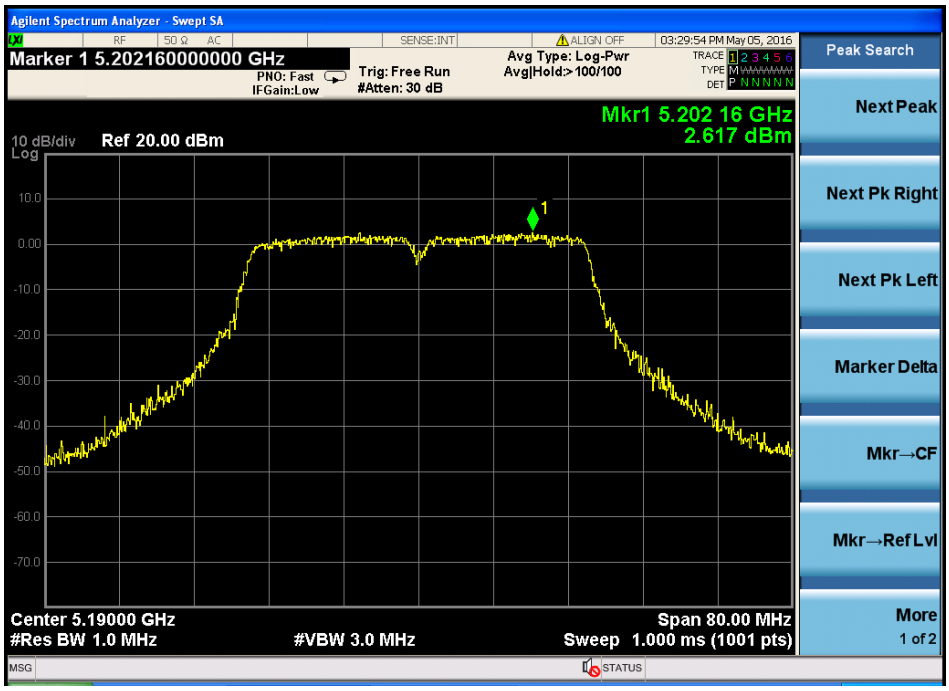

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.195360000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
03:26:49 PM May 05, 2016
Mkr1 5.195 36 GHz
5.358 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 5.20000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 40.00 MHz
Sweep 1.000 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

CH Hig:

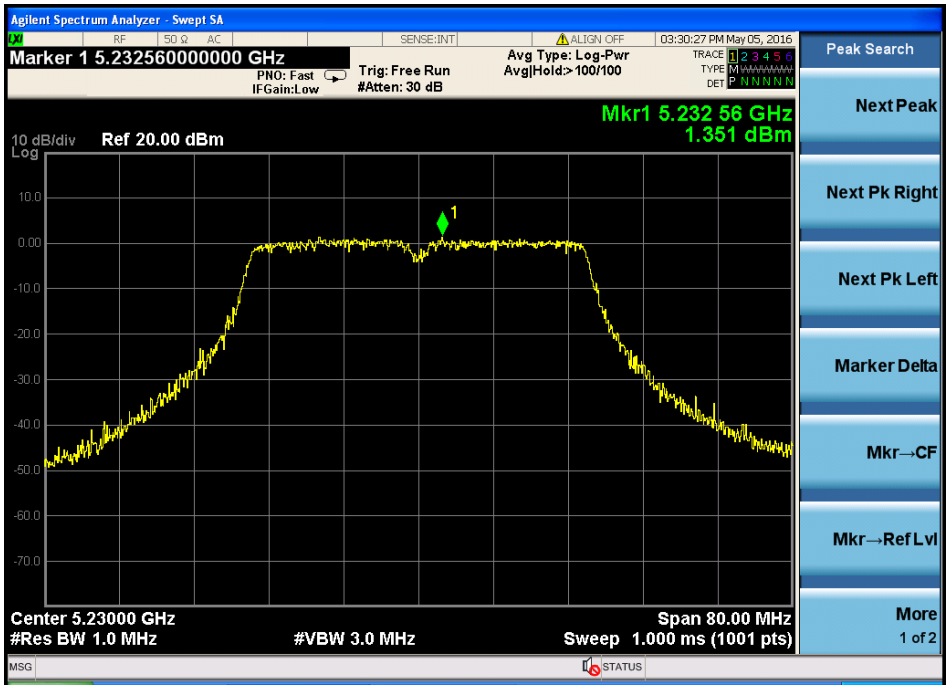

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.232960000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
03:29:08 PM May 05, 2016
Mkr1 5.232 96 GHz
4.110 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 5.24000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 40.00 MHz
Sweep 1.000 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

IEEE 802.11n HT40 :

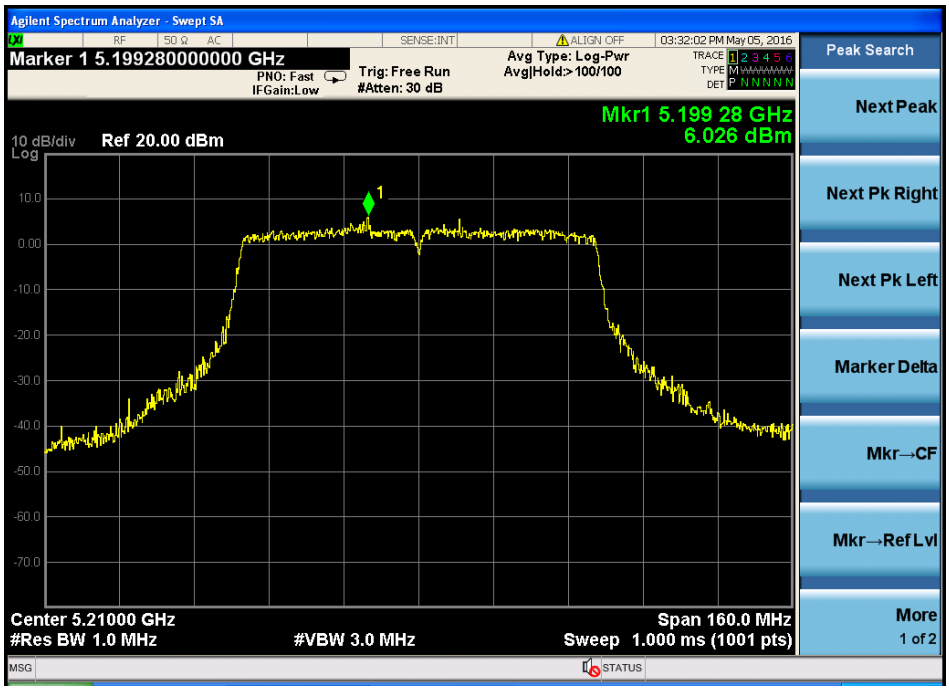
CH Low :



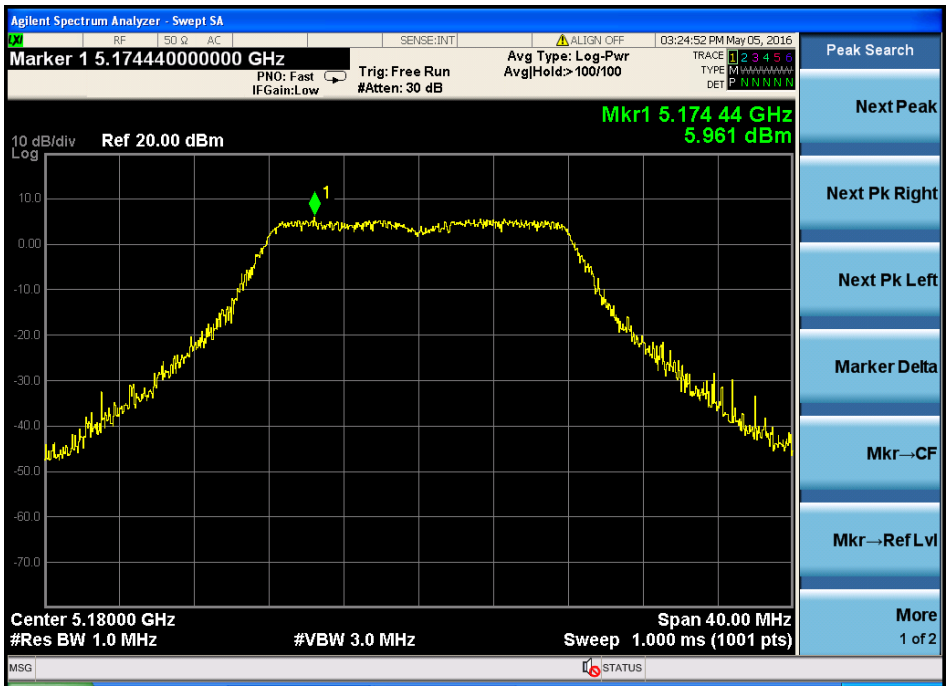
CH Hig:



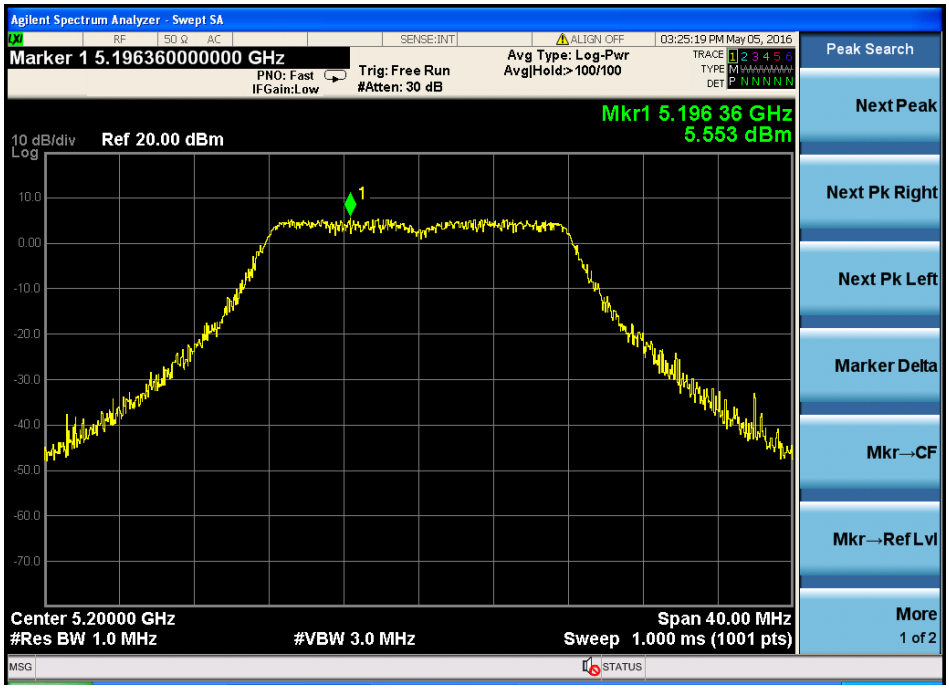
IEEE 802.11ac :



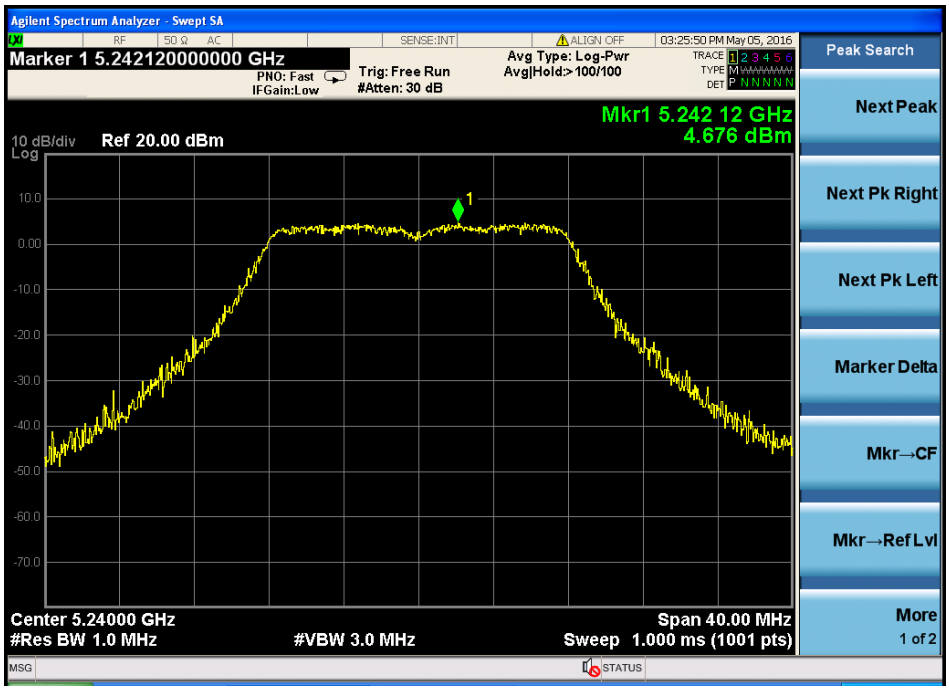
port 1 antenna with 5.2G
IEEE 802.11a :
CH Low :



CH Mid:

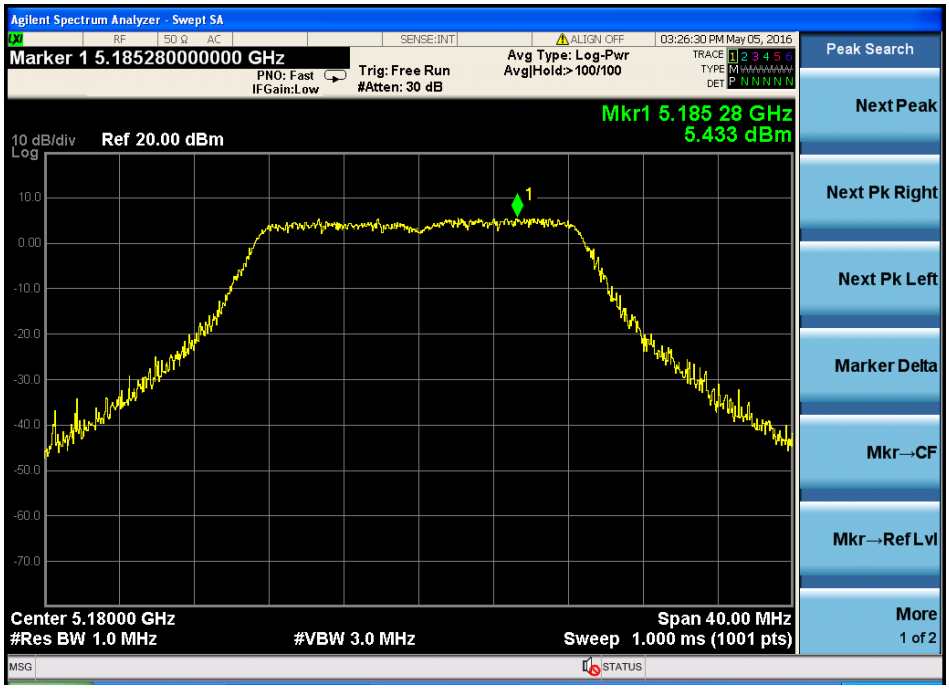


CH Hig:

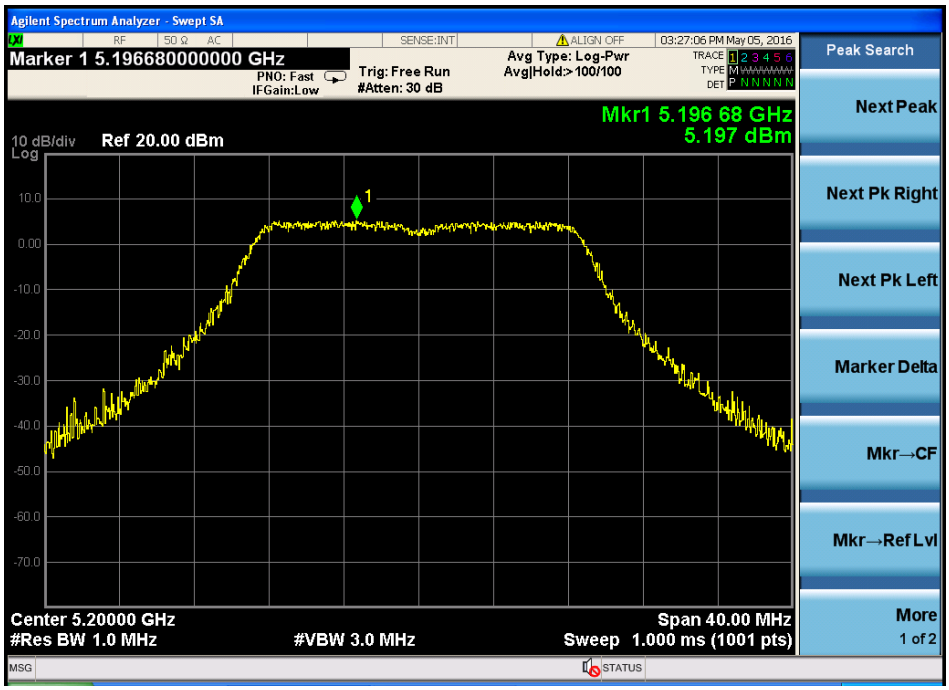


IEEE 802.11n HT20 :

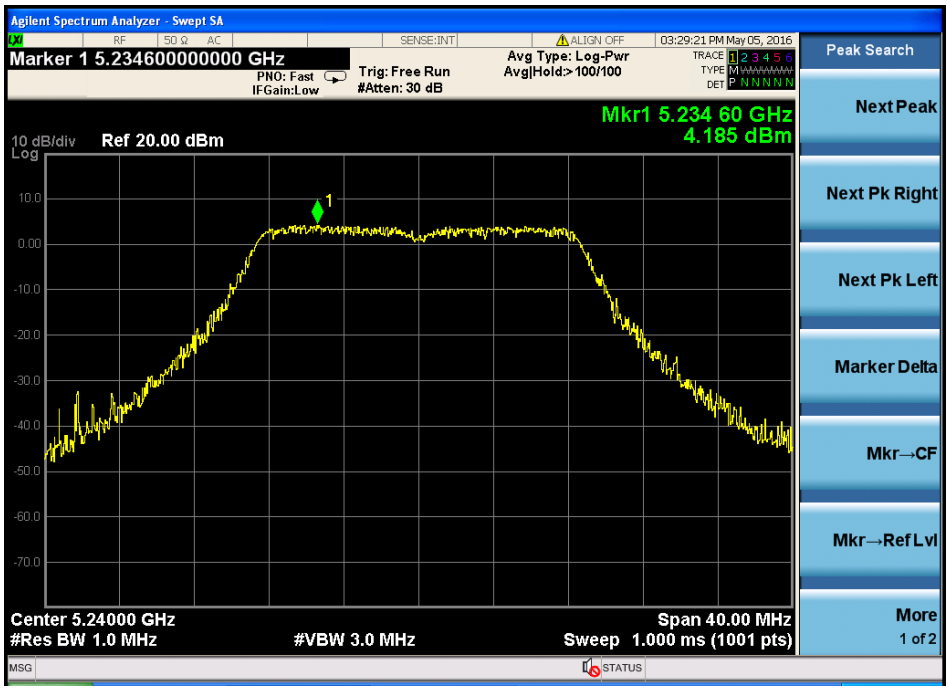
CH Low :



CH Mid:

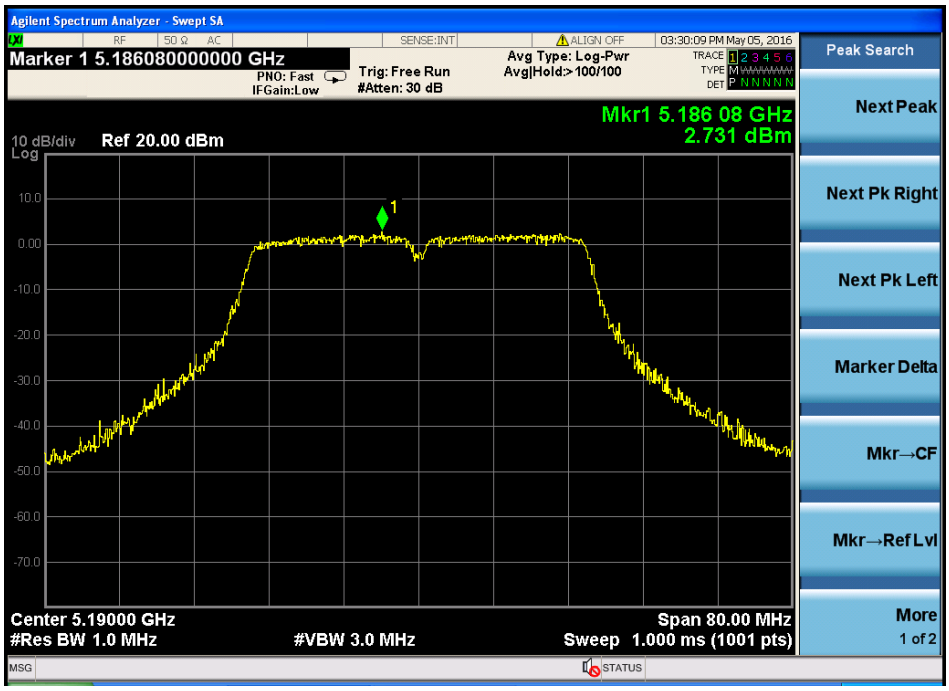

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.196680000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
03:27:06 PM May 05, 2016
Mkr1 5.196 68 GHz
5.197 dBm
10 dB/div
Ref 20.00 dBm
Log
Center 5.20000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 40.00 MHz
Sweep 1.000 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

CH Hig:

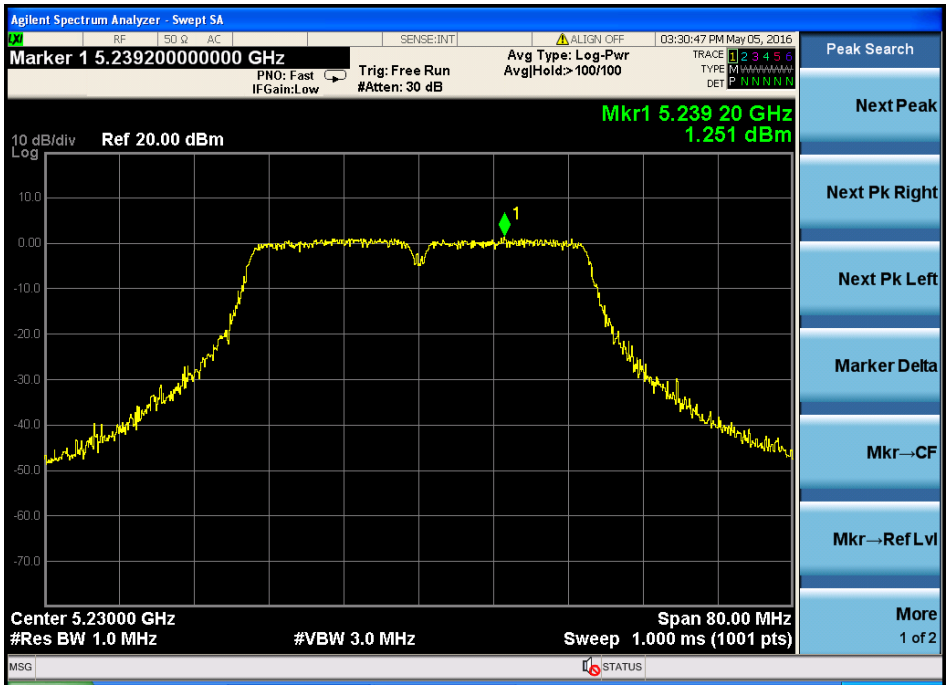

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.234600000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
03:29:21 PM May 05, 2016
Mkr1 5.234 60 GHz
4.185 dBm
10 dB/div
Ref 20.00 dBm
Log
Center 5.24000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 40.00 MHz
Sweep 1.000 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

IEEE 802.11n HT40 :

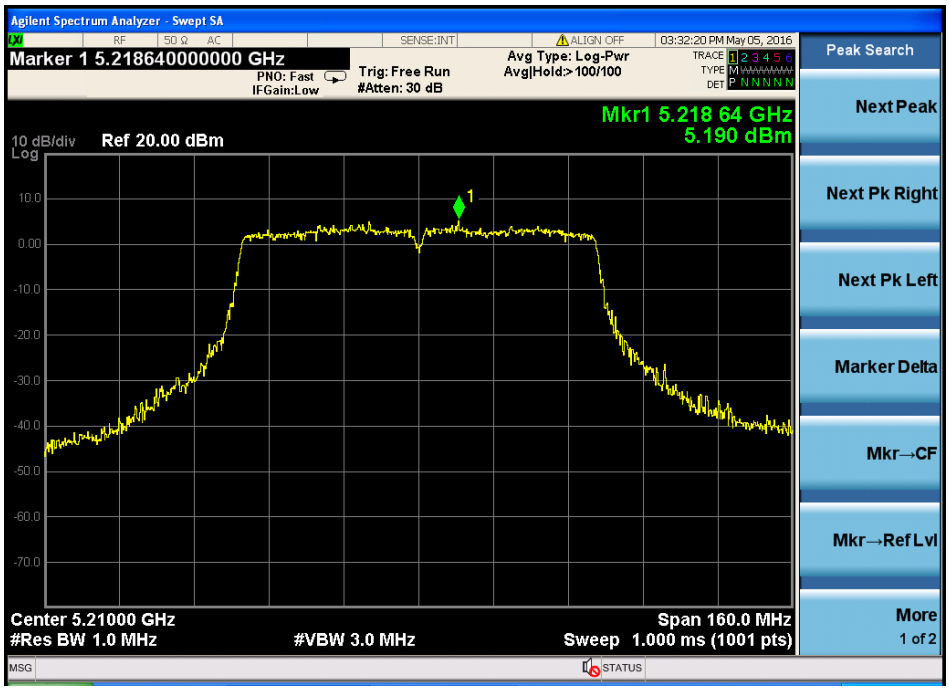
CH Low :



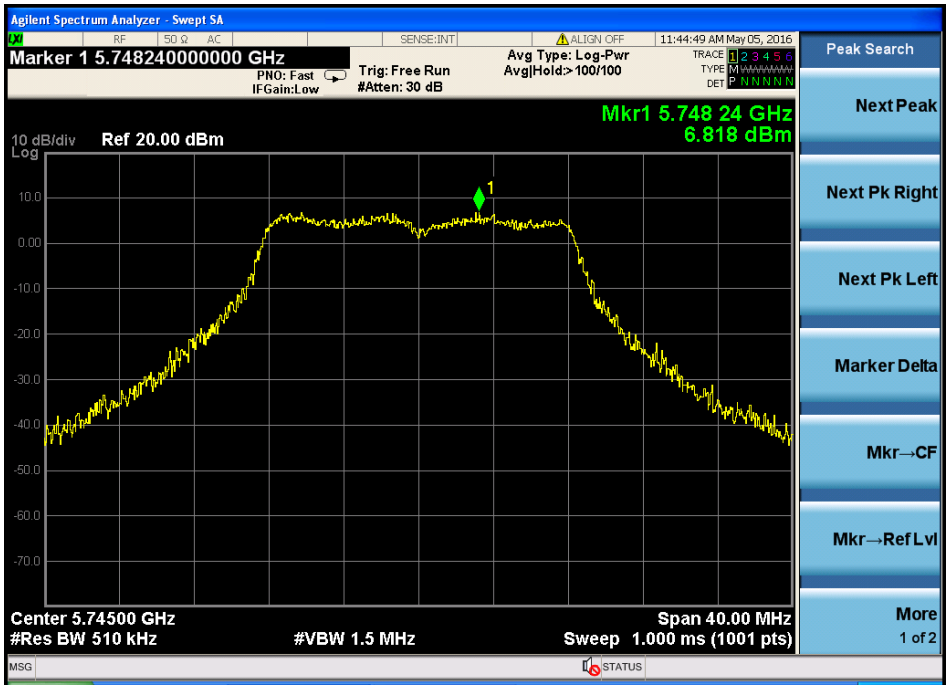
CH Hig:



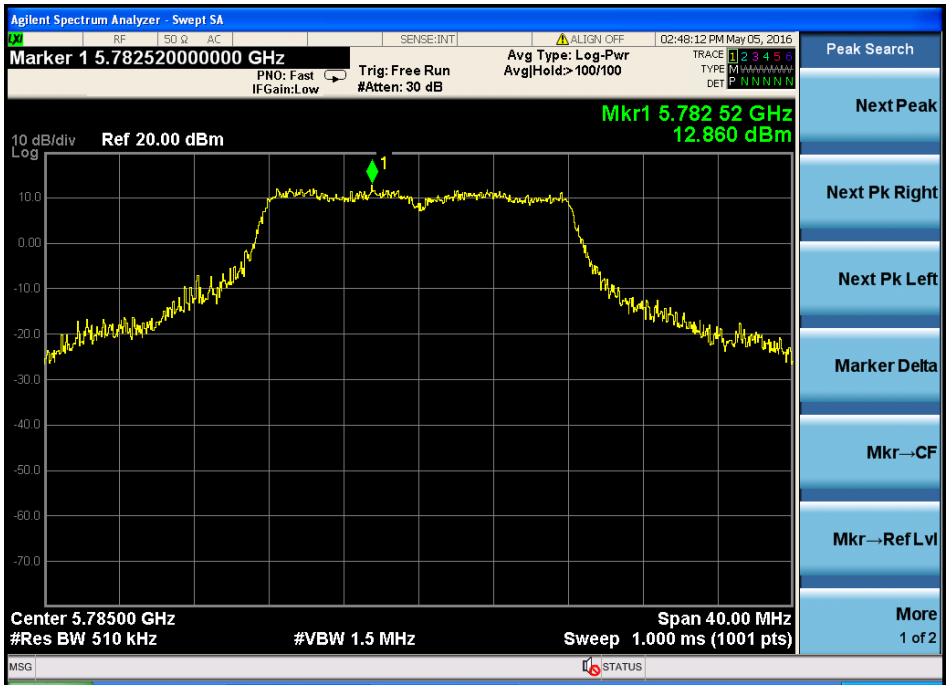
IEEE 802.11ac :



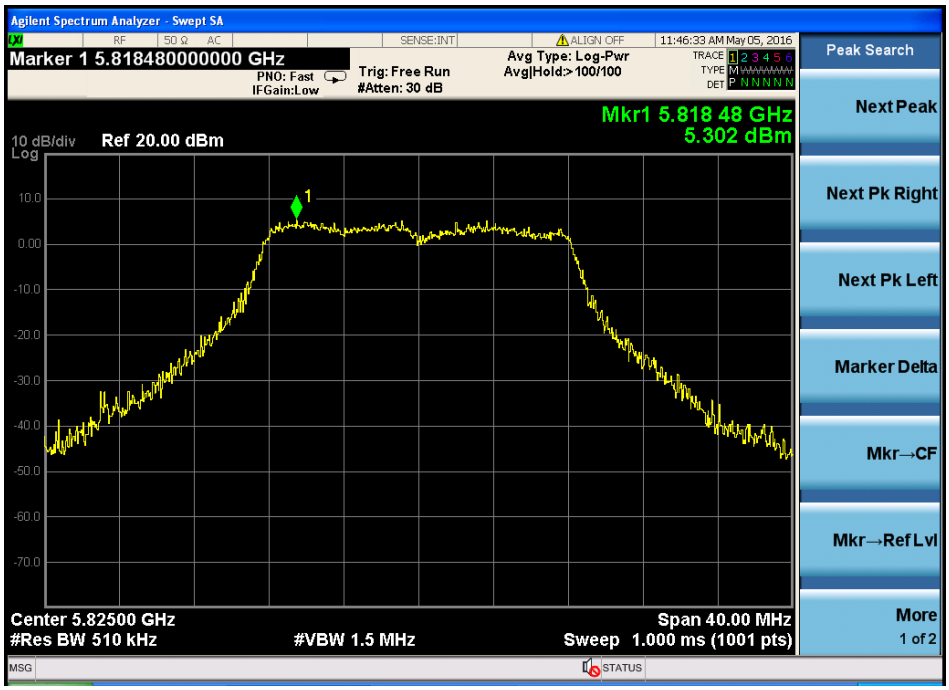
port 0 with 5.8G
IEEE 802.11a:
CH Low :



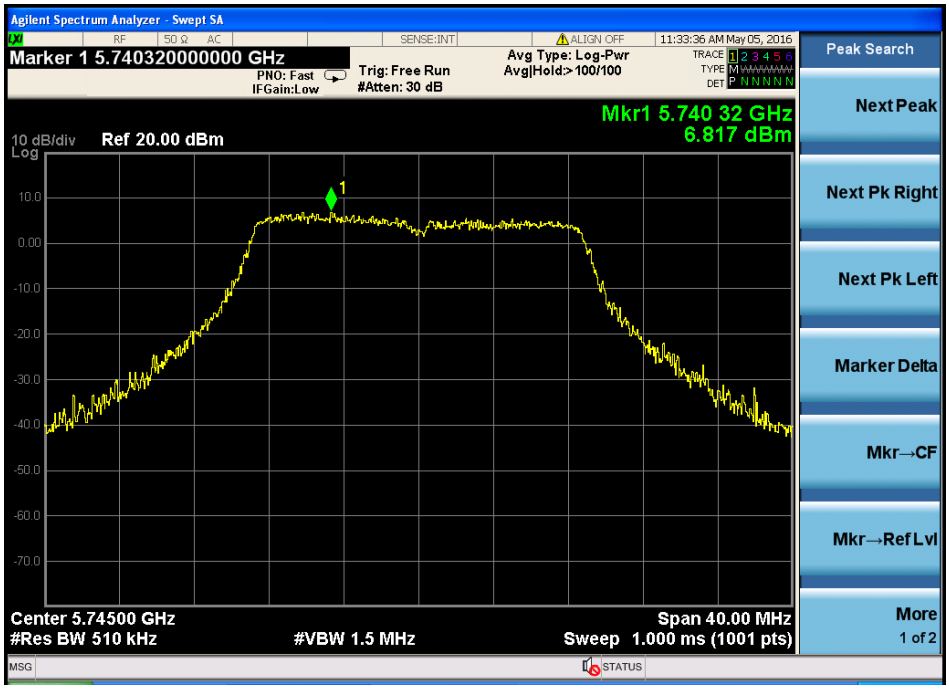
CH Mid:



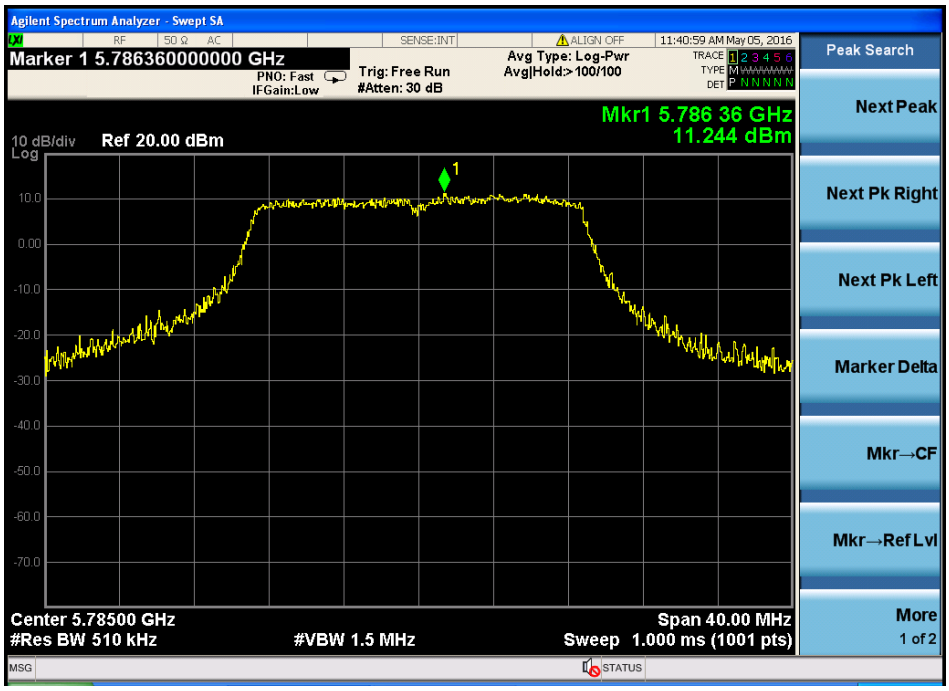
CH Hig:



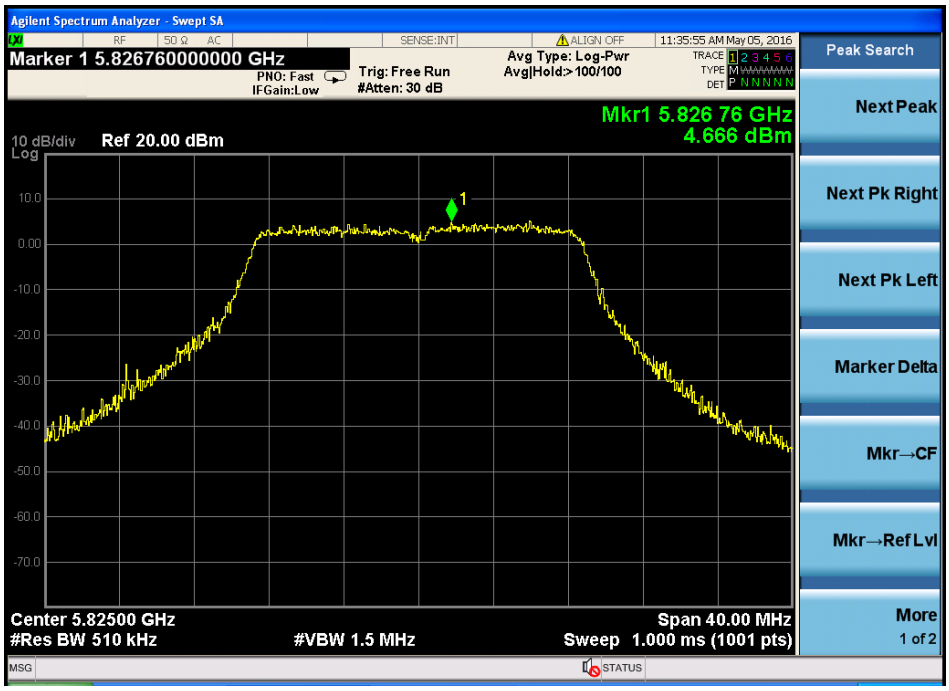
IEEE 802.11n HT20 with 5.8G:
CH Low :



CH Mid:

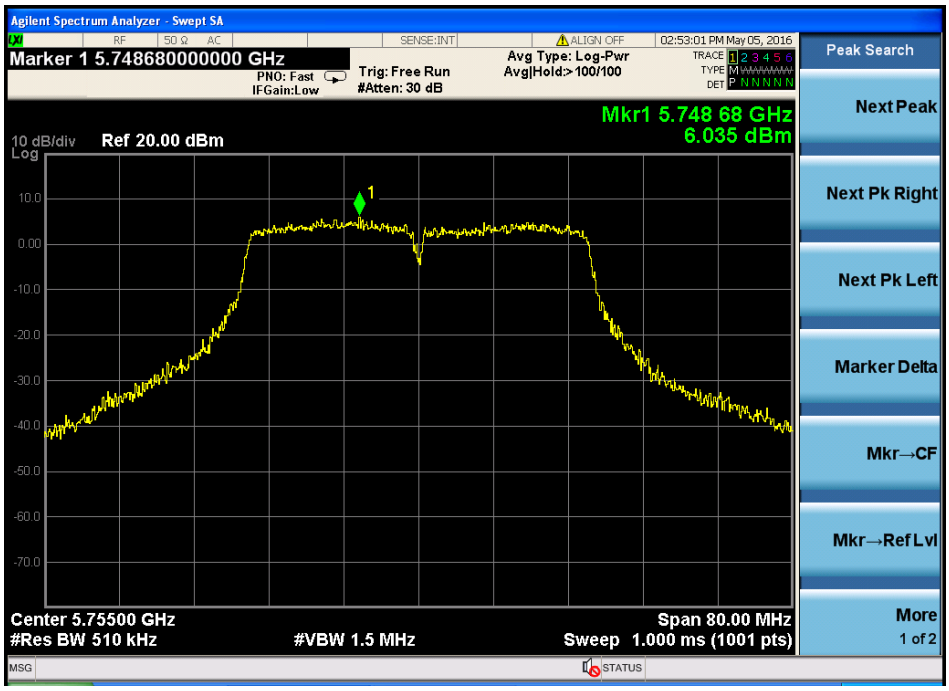

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.786360000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
11:40:59 AM May 05, 2016
Mkr1 5.786 36 GHz
11.244 dBm
10 dB/div
Ref 20.00 dBm
Log
Center 5.78500 GHz
#Res BW 510 kHz
#VBW 1.5 MHz
Span 40.00 MHz
Sweep 1.000 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

CH Hig:


Agilent Spectrum Analyzer - Swept SA
Marker 1 5.826760000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
11:35:55 AM May 05, 2016
Mkr1 5.826 76 GHz
4.666 dBm
10 dB/div
Ref 20.00 dBm
Log
Center 5.82500 GHz
#Res BW 510 kHz
#VBW 1.5 MHz
Span 40.00 MHz
Sweep 1.000 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

IEEE 802.11n HT40 with 5.8G:

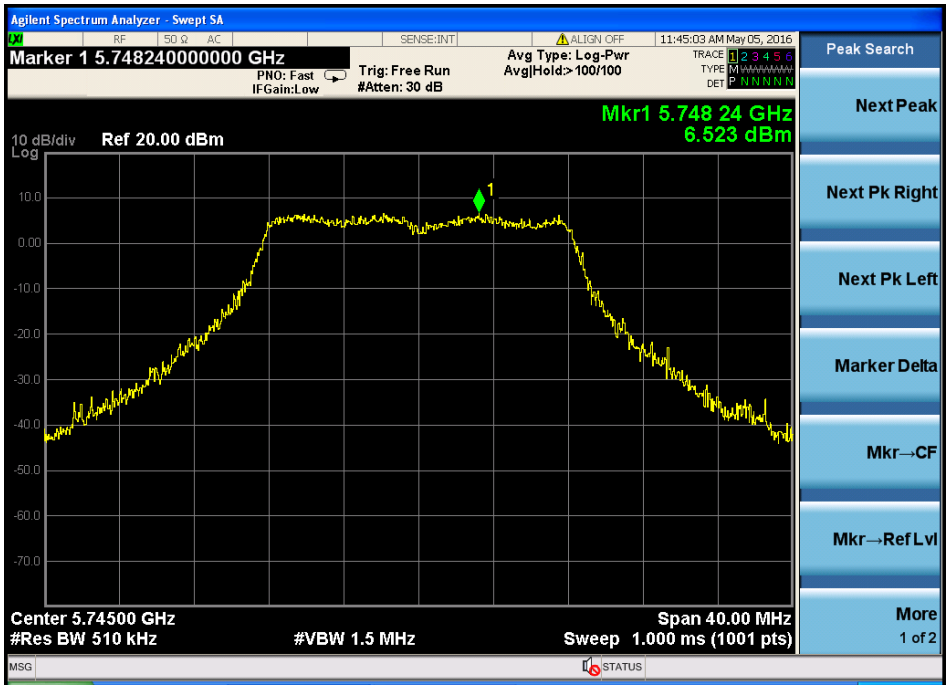
CH Low :



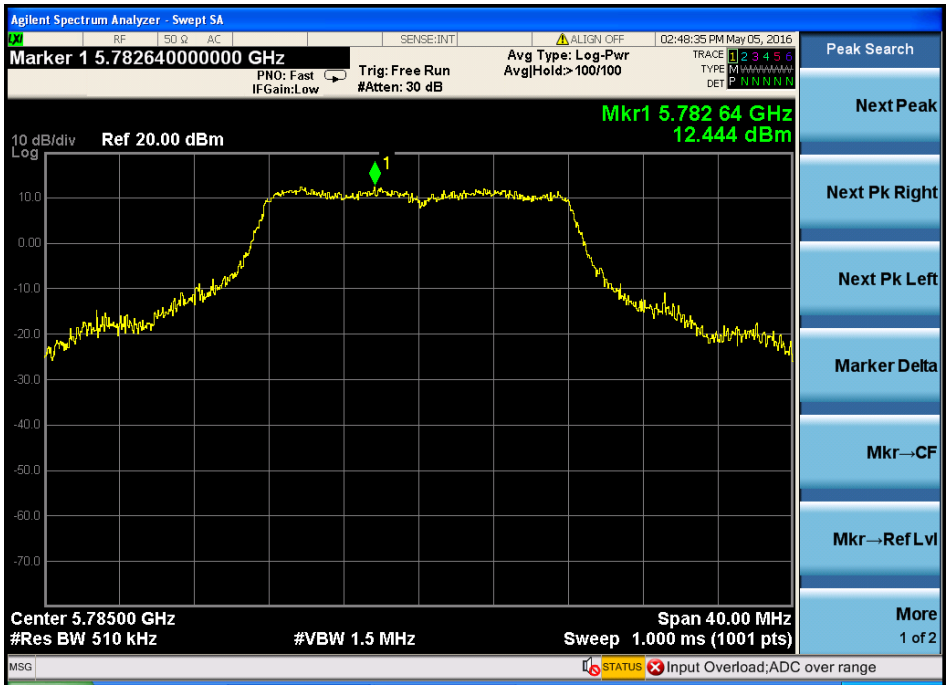
CH Hig:

IEEE 802.11ac with 5.8G:

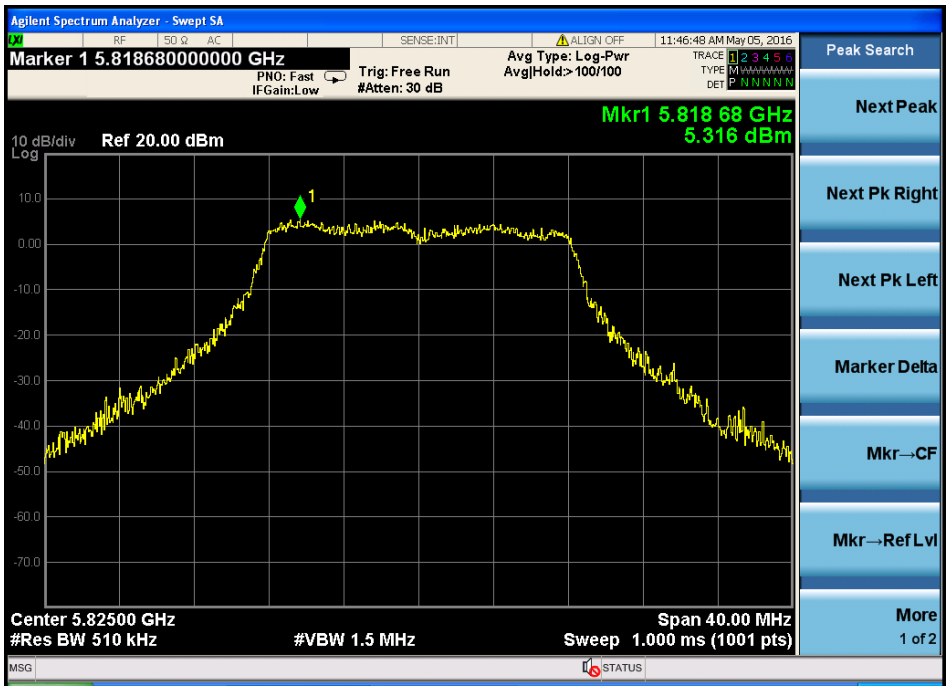
port 1 antenna with 5.8G
IEEE 802.11a:
CH Low :



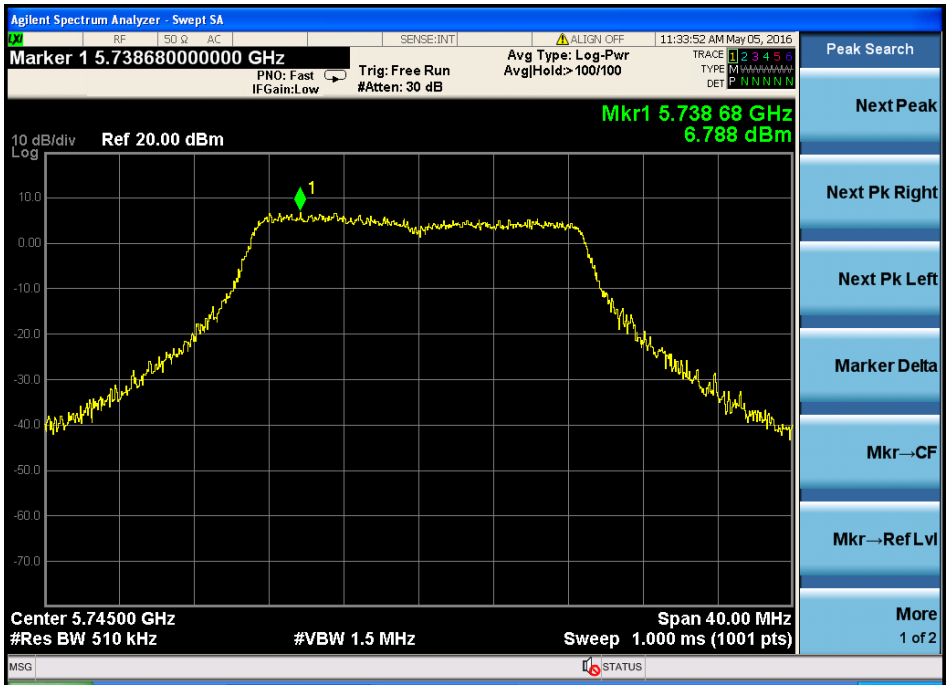
CH Mid:



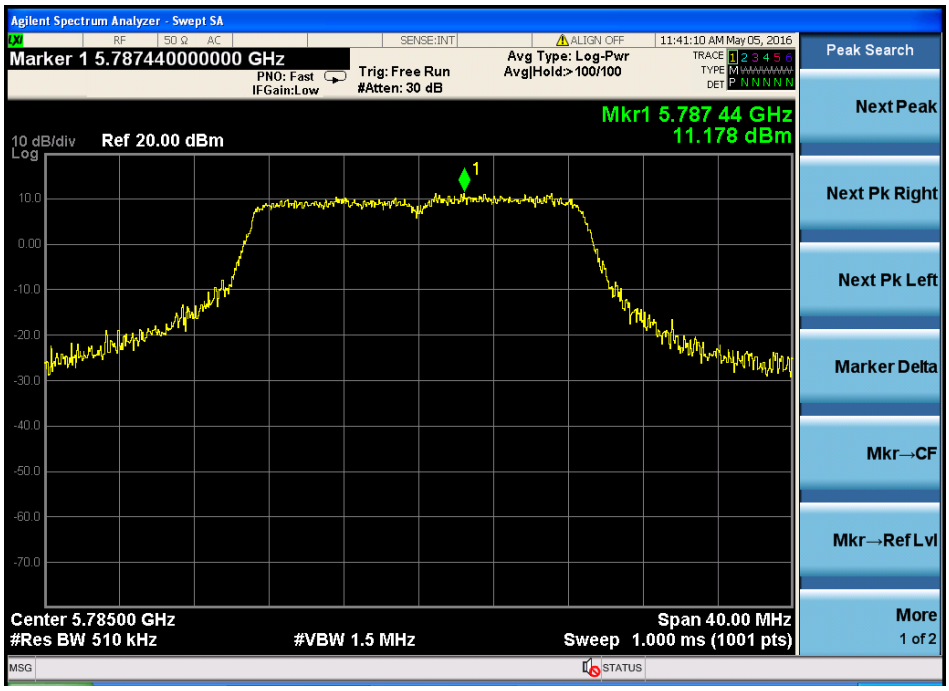
CH Hig:



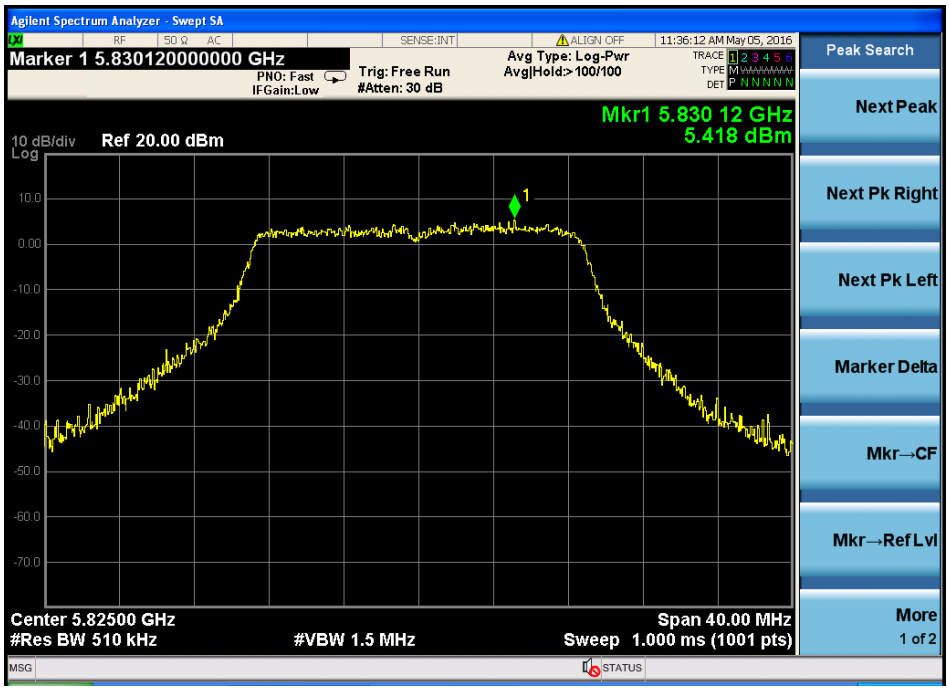
IEEE 802.11n HT20 with 5.8G:
CH Low :



CH Mid:

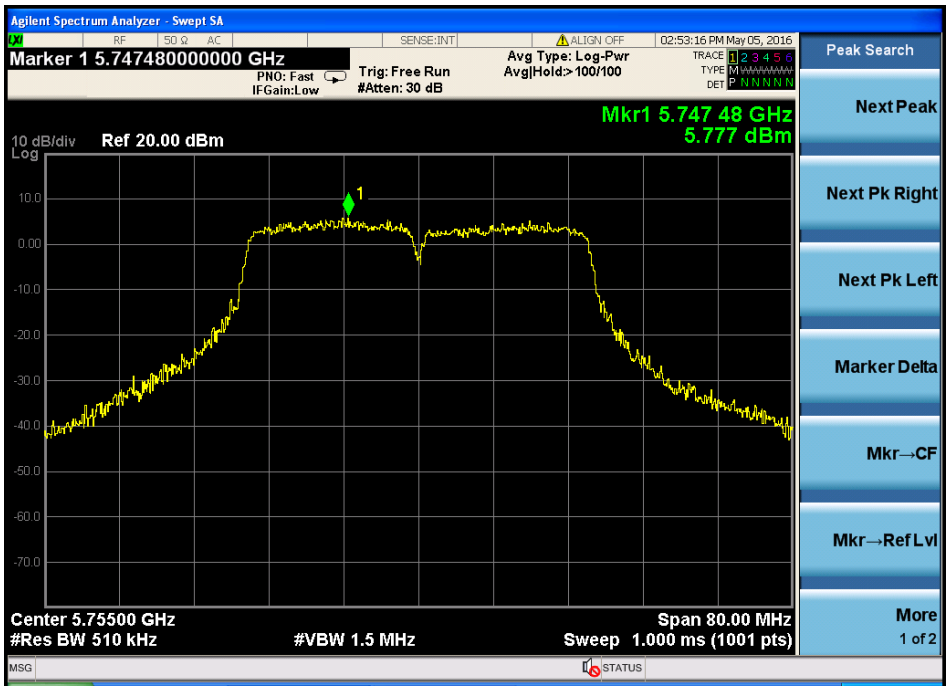

Agilent Spectrum Analyzer - Swept SA
Marker 1 5.787440000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
11:41:10 AM May 05, 2016
Mkr1 5.787 44 GHz
11.178 dBm
10 dB/div
Ref 20.00 dBm
Log
Center 5.78500 GHz
#Res BW 510 kHz
#VBW 1.5 MHz
Span 40.00 MHz
Sweep 1.000 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

CH Hig:


Agilent Spectrum Analyzer - Swept SA
Marker 1 5.830120000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
11:36:12 AM May 05, 2016
Mkr1 5.830 12 GHz
5.418 dBm
10 dB/div
Ref 20.00 dBm
Log
Center 5.82500 GHz
#Res BW 510 kHz
#VBW 1.5 MHz
Span 40.00 MHz
Sweep 1.000 ms (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

IEEE 802.11n HT40 with 5.8G:

CH Low :



CH Hig: