FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

Guangdong Hybroad Vision Electronics Technology Company Ltd.

DIRECT VINA BOX

Model Number: A301

FCC ID: 2AGUQ-A301

Prepared for : Guangdong Hybroad Vision Electronics Technology Company Ltd.
NO. 2 & 4 Floor No.1 Factory BLDS, Yuxing Industrial Park,
Ranjiangdongsi Road, Torch Hi-Tech Industrial Development Zone,
Zhongshan Guangdong China

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
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Report Number	:	ACS-F16007
Date of Test	:	Jan.01~29, 2016
Date of Report	:	Feb.03, 2016

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TEST REPORT CERTIFICATION

Applicant : Guangdong Hybroad Vision Electronics Technology Company Ltd.

EUT Description : DIRECT VINA BOX

FCC ID : 2AGUQ-A301

(A) Model No. : A301
(B) Serial No. : N/A
(C) Test Voltage : DC 12V From Adapter Input AC 120V/60Hz

Tested for comply with:
FCC CFR 47 Part 15 Subpart C: 2014

Test procedure used:
ANSI C63.10: 2013
KDB558074 D01 v03r03

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to confirm comply with all the FCC Part 15 Subpart C requirements. The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC and IC requirements. This report contains data that are not covered by the NVLAP accreditation.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Jan.01~29, 2016 Report of date: Feb.03, 2016

Prepared by : Monica Liu
Monica Liu / Assistant

Reviewed by :
Sunny Lu / Assistant Manager

AUDIX® 信華科技（深圳）有限公司
Audix Technology (Shenzhen) Co., Ltd.
EMC 部門報告專用章
Stamp only for EMC Dept. Report
Signature: David Jin

Approved & Authorized Signer :
David Jin / Manager

1. SUMMARY OF STANDARDS AND RESULTS

1.1.Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	**Standard**	**Results**
Power Line Conducted Emission	FCC Part 15: 15.207	N/A
Radiated Emission	FCC Part 15: 15.209	PASS
Band Edge Compliance	FCC Part 15: 15.247	PASS
Conducted spurious emissions	FCC Part 15: 15.247	PASS
6dB Bandwidth	FCC Part 15: 15.247	PASS
Peak Output Power	FCC Part 15: 15.247	PASS
Power Spectral Density	FCC Part 15: 15.247	PASS
Antenna requirement	FCC Part 15: 15.203	PASS
N/A is an abbreviation for Not Applicable.		

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product Name	:	DIRECT VINA BOX
Model Number	:	A301
FCC ID	:	2AGUQ-A301
Radio	:	IEEE802.11 b/g/n
Operation Frequency	:	IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE802.11n HT20: 2412MHz—2462MHz IEEE802.11n HT40: 2422MHz—2452MHz
Modulation Technology	:	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM,QPSK,BPSK)
Antenna Assembly Gain	:	Wire Antenna, 2dBi gain
Applicant	:	Guangdong Hybroad Vision Electronics Technology Company Ltd. NO. 2 & 4 Floor No.1 Factory BLDS, Yuxing Industrial Park, Ranjiangdongsi Road, Torch Hi-Tech Industrial Development Zone, Zhongshan Guangdong China
Remote Controller	:	Manufacturer: Hybroad, M/N: N/A
Power Adapter	:	Manufacturer: Mass, M/N: WEF1200100A1BA DC Cable: Shielded, Undetachable, 1.5m
AV Cable	:	Shielded, Detachable, 1.0m
Date of Test	:	Jan.01~29, 2016
Date of Receipt	:	Dec.30, 2015

2.2.Test Information

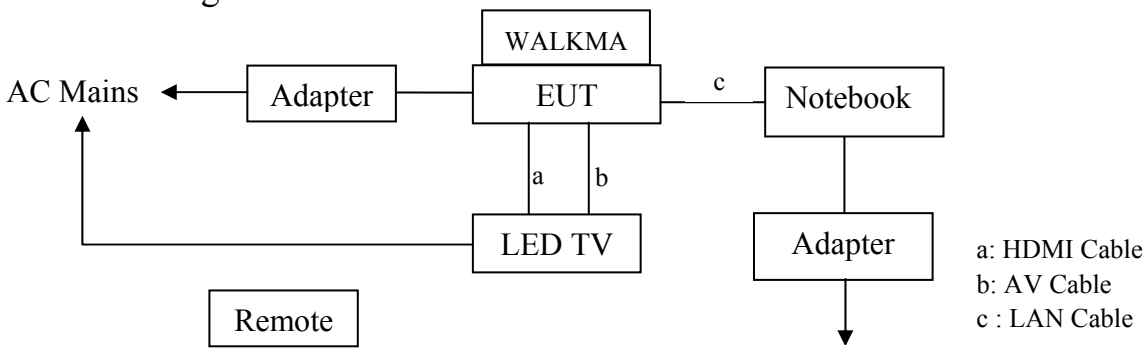
A special test software was used to control EUT work in Continuous TX mode(nearly 100% duty cycle), and select test channel, wireless mode and data rate.

Tested mode, channel, and data rate information			
Mode	data rate (Mpbs)(see Note)	Channel	Frequency (MHz)
IEEE 802.11b	1	Low :CH1	2412
	1	Middle: CH6	2437
	1	High: CH11	2462
IEEE 802.11g	6	Low :CH1	2412
	6	Middle: CH6	2437
	6	High: CH11	2462
IEEE 802.11n HT20	MCS0	Low :CH1	2412
	MCS0	Middle: CH6	2437
	MCS0	High: CH11	2462
IEEE 802.11n HT40	MCS0	Low :CH1	2422
	MCS0	Middle: CH4	2437
	MCS0	High: CH7	2452
Note: 1. According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.			

2.1.Tested Supporting System Details

No.	Description	ACS No.	Manufacturer	Model	Serial Number
1.	Notebook	---	LENOVO	E430C	---
		Power Adapter: Manufacturer: LENOVO, M/N: ADLX90NCT3A Power Cord: Unshielded, Detachable, 1.5m LAN Cable: Unshielded, Detachable, 1.5m			
2.	LED TV	---	KO	OLE 19250-B	---
		HDMI Cable: Shielded, Detectable, 1.5m			
3.	WALKMAN	---	SONY	NZW-S540	---

2.2. Block Diagram of connection between EUT and simulators



(EUT: DIRECT VINA BOX)

2.3. Test Facility

Site Description

Name of Firm	:	Audix Technology (Shenzhen) Co., Ltd. No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park,Nantou, Shenzhen, Guangdong, China
3m Anechoic Chamber	:	Certificated by FCC, USA Registration Number: 90454 Valid Date: Dec.30, 2017
3m & 10m Anechoic Chamber	:	Certificated by FCC, USA Registration Number: 794232 Valid Date: Jul.12, 2016
EMC Lab.	:	Certificated by Industry Canada Registration Number: IC 5183A-1 Valid Date: May.14, 2017
	:	Certificated by DAkkS, Germany Registration No: D-PL-12151-01-00 Valid Date: Dec.15, 2016
	:	Accredited by NVLAP, USA NVLAP Code: 200372-0 Valid Date: Mar.31, 2016

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

Test Item	Uncertainty
Uncertainty for Conduction emission test in No. 1 Conduction	3.4dB (150KHz to 30MHz)
Uncertainty for Radiation Emission test in 3m chamber	2.6 dB(30~200MHz, Polarization: H)
	2.6 dB(30~200MHz, Polarization: V)
	3.0 dB(200M~1GHz, Polarization: H)
	2.8 dB(200M~1GHz, Polarization: V)
Uncertainty for Radiation Emission test in 3m chamber (1GHz-18GHz)	6.3 dB (1~6GHz, Distance: 3m)
	5.7 dB (6~18GHz, Distance: 3m)
Uncertainty for Radiated Spurious Emission test in RF chamber	3.6 dB
Uncertainty for Conduction Spurious emission test	2.0 dB
Uncertainty for Output power test	0.8 dB
Uncertainty for Bandwidth test	83 kHz
Uncertainty for DC power test	0.1 %
Uncertainty for test site temperature and humidity	0.6℃
	3%

3. POWER LINE CONDUCTED EMISSION TEST

According to Paragraph (c) of FCC Part 15 section 15.207, Tests to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

4. RADIATED EMISSION TEST

4.1.Test Equipment

4.1.1.For frequency range 30MHz~1000MHz (In 3m Anechoic Chamber)

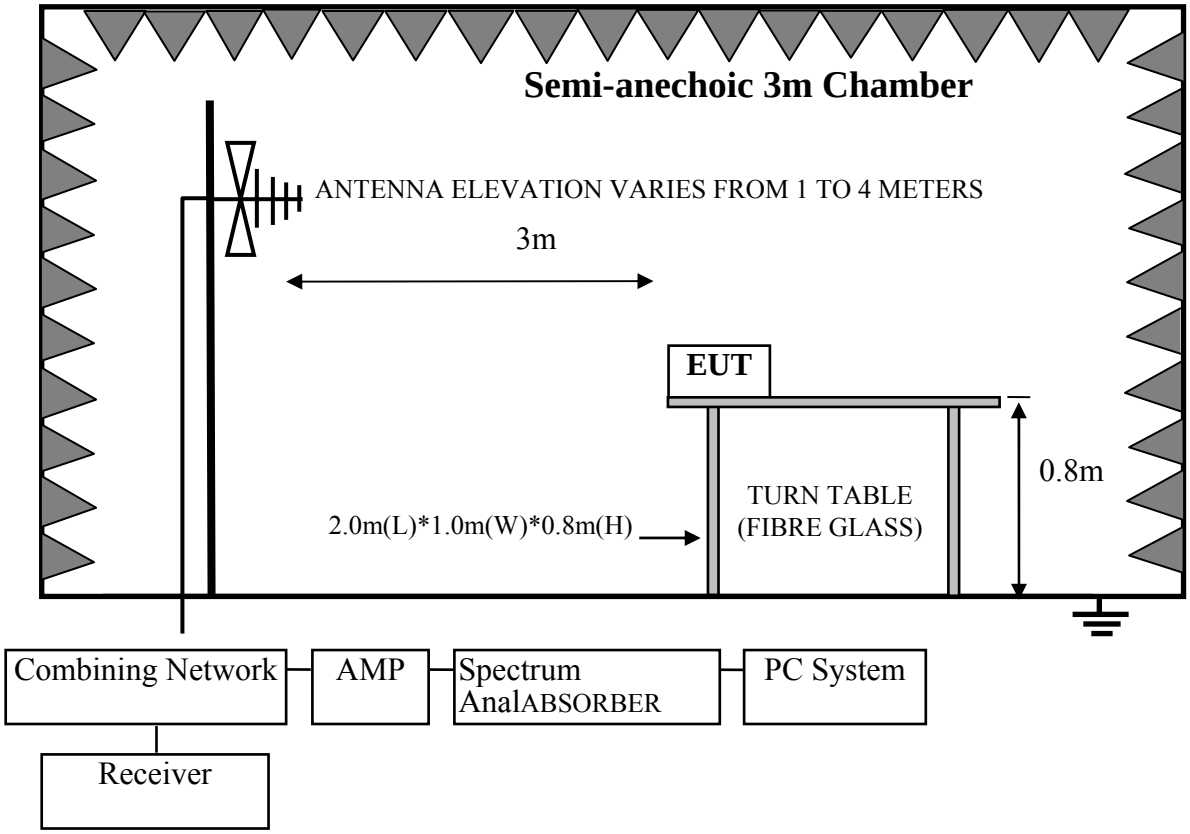
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Mar.28,15	1 Year
2.	EMI Spectrum	Agilent	E4407B	MY41440292	Apr.28,15	1 Year
3.	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	Apr.28,15	1 Year
4.	Amplifier	HP	8447D	2648A04738	Apr.28,15	1 Year
5.	Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-493	May.06,15	1 Year
6.	RF Cable	MIYAZAKI	CFD400-NW(3.5M)	No.3	Apr.28,15	1 Year
7.	RF Cable	MIYAZAKI	CFD400-LW(22M)	No.7	Apr.28,15	1 Year
8.	Coaxial Switch	Anritsu	MP59B	6201397222	Apr.28,15	1 Year
9.	Test Software	AUDIX	E3	6.2009-5-21a(n)	N/A	N/A

4.1.2.For frequency range 1GHz~40GHz (In 3m Anechoic Chamber)

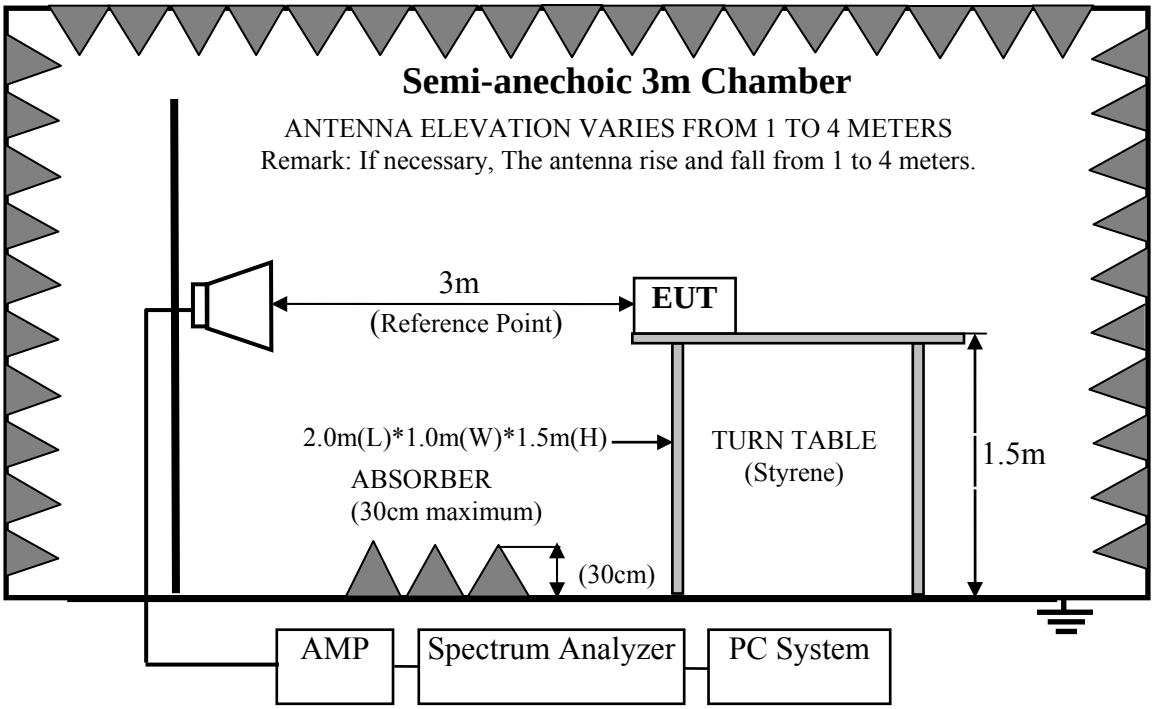
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	Apr.28,15	1 Year
2.	Horn Antenna	ETC	MCTD 1209	DRH15F03007	Feb.03,15	1 Year
3.	Amplifier	Agilent	8449B	3008A02495	Apr.28,15	1 Year
4.	RF Cable	Hubersuhner	SUCOFLEX106	77977/6	Apr.28,15	1 Year
5.	Horn Antenna	ETS	3116	00060088	Nov.18.15	1 Year
6.	Test Software	AUDIX	E3	6.2009-5-21a(n)	N/A	N/A

4.2.Block Diagram of Test Setup

For frequency range 30MHz-1000MHz



For frequency range 1GHz-25GHz



4.3.Radiated Emission Limit

4.3.1.15.247&209 limits

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Remark： (1) Emission level dBμV = 20 log Emission level μV/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.3.2.15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

4.4.EUT Configuration on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

4.4.1.DIRECT VINA BOX (EUT)

Model Number : A301
Serial Number : N/A

4.4.2.Support Equipment: As Tested Supporting System Details, in Section 2.2.

4.5.Operating Condition of EUT

4.5.1. Setup the EUT and simulator as shown as Section 4.2.

4.5.2. Turn on the power of all equipments.

4.5.3. Let EUT work in Tx(WiFi 2.4GHz) mode

4.6.Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground for frequency 30MHz~1000MHz, 1.5 meter high above ground for frequency above 1GHz and put the absorbing with 2.4m(L)*2.4m(W)*0.3m(H) on the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it.EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna for frequency 30MHz~1000MHz, and the Horm antenna is used as receiving antenna for frequency above 1GHz. Both horizontal and vertical polarization of the antenna are set on test.

This test was performed with EUT in X, Y, Z position, and the worse case was found when EUT in X position as test photo indicated.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

The frequency range from 30MHz to 10th harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25GHz, So the radiated emissions from 18GHz to 25GHz were not record.

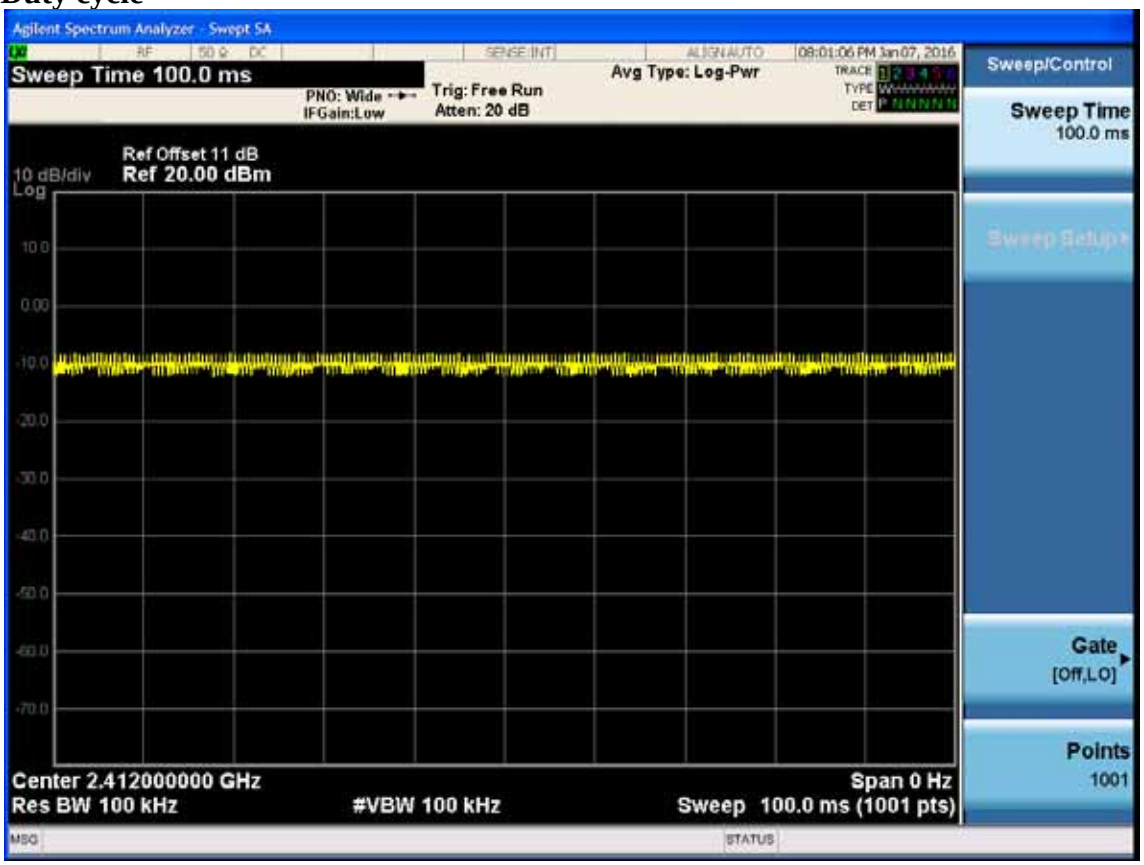
4.7.Radiated Emission Test Results

PASS.

All the emissions from 30MHz to 25 GHz were comply with 15.209 limits.

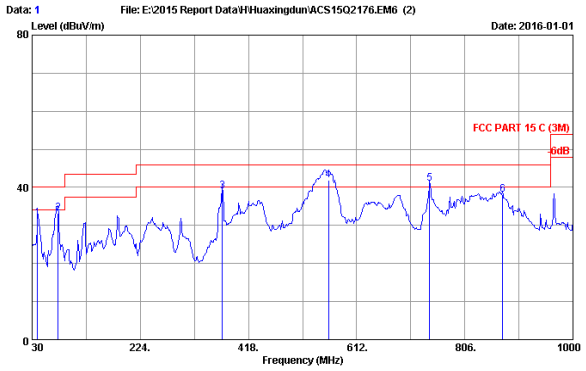
Note: For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

Duty cycle



Note: The Duty Cycle is close to 100%.

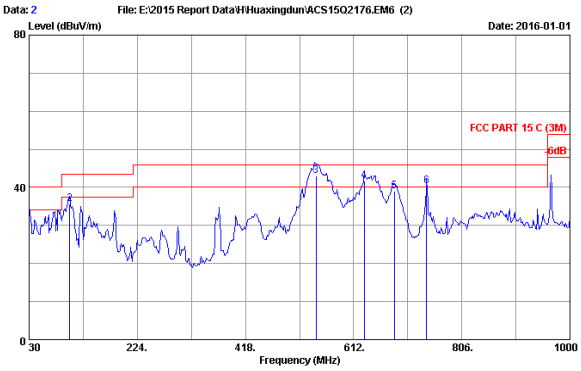
Frequency: 30MHz~1GHz



Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2015 CBL6112D 35375 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 22.1°C/50% Engineer : Leo-Li
EUT : DIRECT VINA BOX M/N:A301
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	39.700	14.28	0.71	16.94	31.93	40.00	8.07	QP
2	76.560	7.46	0.98	24.71	33.15	40.00	6.85	QP
3	371.440	15.85	2.12	21.06	39.03	46.00	6.97	QP
4	561.570	19.11	2.67	20.09	41.87	46.00	4.13	QP
5	742.950	20.53	3.12	17.34	40.99	46.00	5.01	QP
6	873.900	21.73	3.43	12.90	38.06	46.00	7.94	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

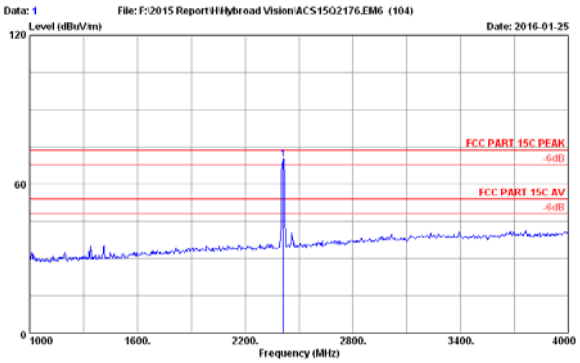


Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2015 CBL6112D 35375 Ant. pol. : VERTICAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 22.1°C/50% Engineer : Leo-Li
EUT : DIRECT VINA BOX M/N:A301
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	30.000	20.30	0.51	11.65	32.46	40.00	7.54	QP
2	102.750	11.74	1.13	22.76	35.63	43.50	7.87	QP
3	544.900	18.72	2.63	21.58	42.93	46.00	3.07	QP
4	631.400	19.81	2.84	18.92	41.57	46.00	4.43	QP
5	684.750	20.10	2.98	15.87	38.95	46.00	7.05	QP
6	742.950	20.53	3.12	16.65	40.30	46.00	5.70	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

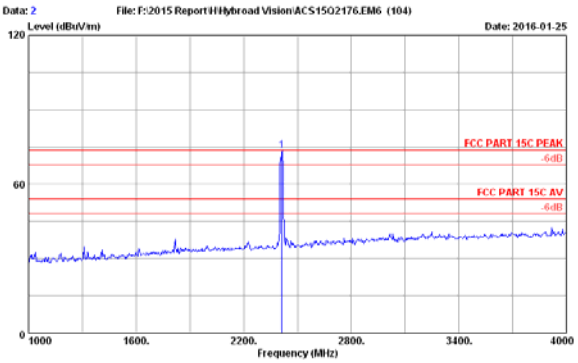
Frequency: 1GHz~18GHz



Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.000	28.29	7.35	36.62	70.95	69.97	74.00	4.03	Peak

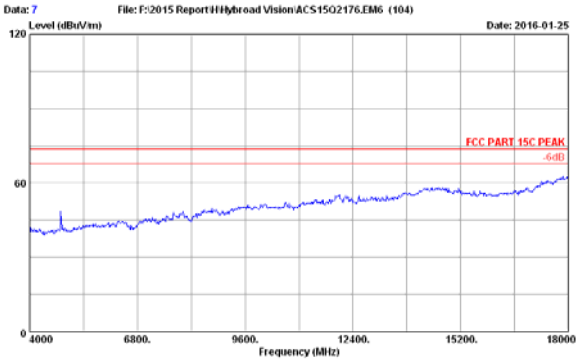
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



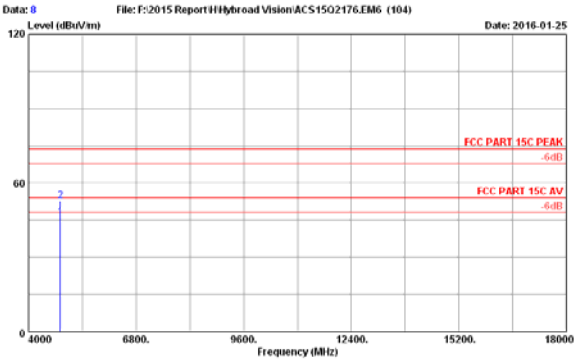
Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.000	28.29	7.35	36.62	74.36	73.38	74.00	0.62	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 7
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
A301

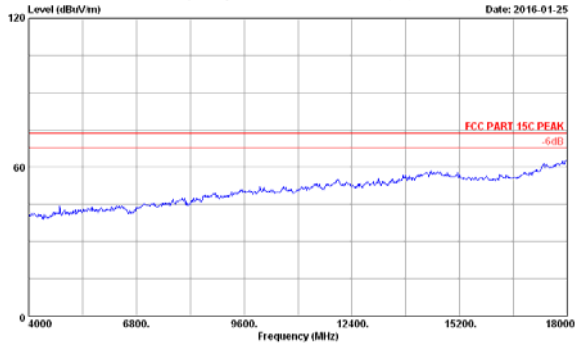


Site no. : 3m Chamber Data no. : 8
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.000	33.15	9.46	35.53	39.01	46.09	54.00	7.91	Average
2	4824.000	33.15	9.46	35.53	45.81	52.89	74.00	21.11	Peak

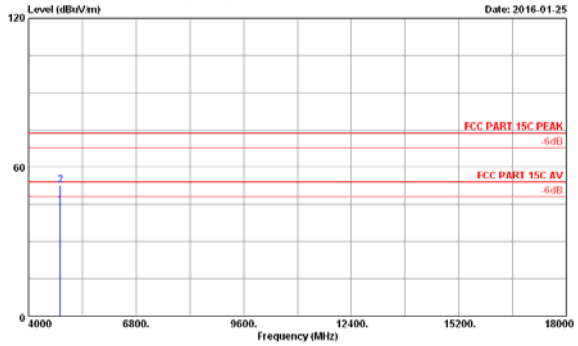
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 9 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)




```
Site no.      : 3m Chamber                    Data no.  : 9
Dis. / Ant.   : 3m   2015 3115-4877        Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : 23.9°C/52.8%
Engineer      : Leo-Li
EUT           : DIRECT VINA BOX
Power rating  : DC 12V From Adapter Input AC 120V/60Hz
Test Mode     : IEEE802.11b  2412MHz  Tx
                A301
```

Data: 10 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

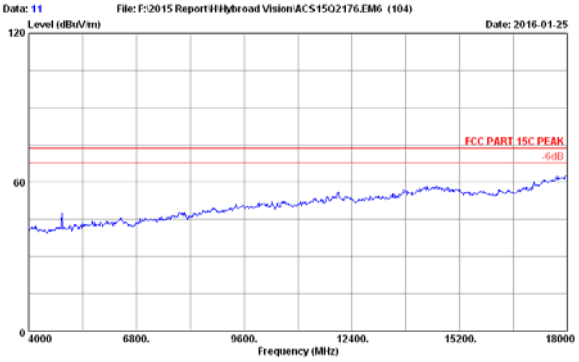



```
Site no.      : 3m Chamber                    Data no.  : 10
Dis. / Ant.   : 3m   2015 3115-4877        Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : 23.9°C/52.8%
Engineer      : Leo-Li
EUT           : DIRECT VINA BOX
Power rating  : DC 12V From Adapter Input AC 120V/60Hz
Test Mode     : IEEE802.11b  2412MHz  Tx
                A301
```

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.000	33.15	9.46	35.53	37.49	44.57	54.00	9.43	Average
2	4824.000	33.15	9.46	35.53	45.86	52.94	74.00	21.06	Peak

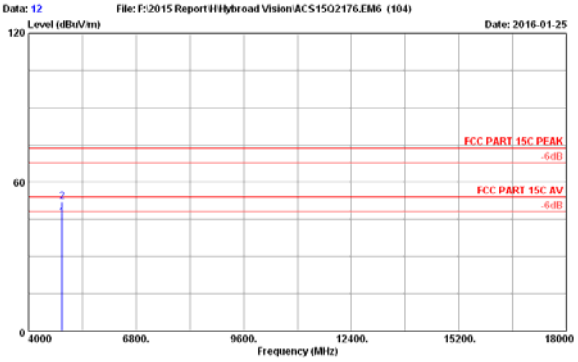
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 11 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)




```
Site no.      : 3m Chamber                    Data no.  : 11
Dis. / Ant.   : 3m   2015 3115-4877        Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : 23.9°C/52.8%
Engineer      : Leo-Li
EUT           : DIRECT VINA BOX
Power rating  : DC 12V From Adapter Input AC 120V/60Hz
Test Mode     : IEEE802.11b  2437MHz  Tx
                A301
```

Data: 12 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

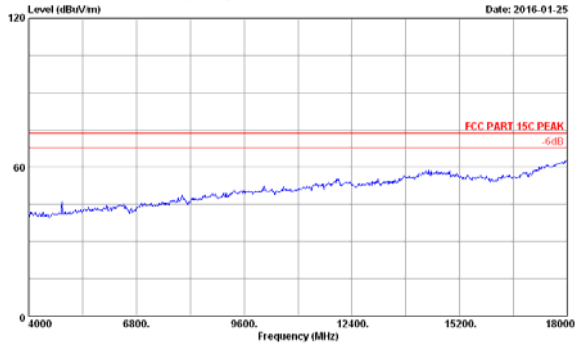



```
Site no.      : 3m Chamber                    Data no.  : 12
Dis. / Ant.   : 3m   2015 3115-4877        Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : 23.9°C/52.8%
Engineer      : Leo-Li
EUT           : DIRECT VINA BOX
Power rating  : DC 12V From Adapter Input AC 120V/60Hz
Test Mode     : IEEE802.11b  2437MHz  Tx
                A301
```

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.000	33.25	9.49	35.51	38.51	45.74	54.00	8.26	Average
2	4874.000	33.25	9.49	35.51	45.01	52.24	74.00	21.76	Peak

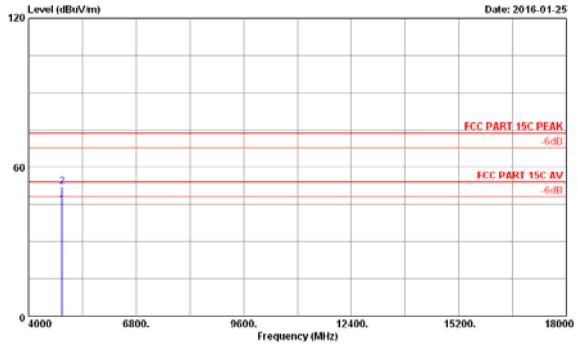
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 13 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 13
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2437MHz Tx
A301

Data: 14 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

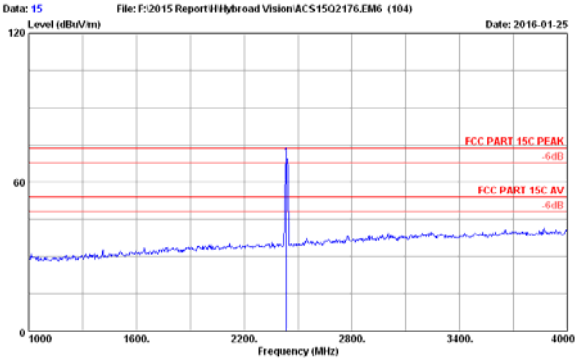


Site no. : 3m Chamber Data no. : 14
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.000	33.25	9.49	35.51	37.42	44.65	54.00	9.35	Average
2	4874.000	33.25	9.49	35.51	44.85	52.08	74.00	21.92	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 15 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

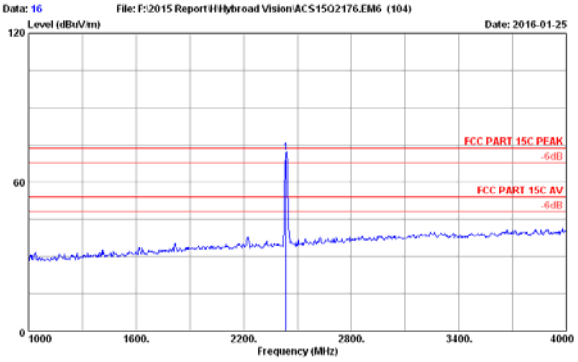


Site no. : 3m Chamber Data no. : 15
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.000	28.32	7.39	36.61	70.81	69.91	74.00	4.09	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 16 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

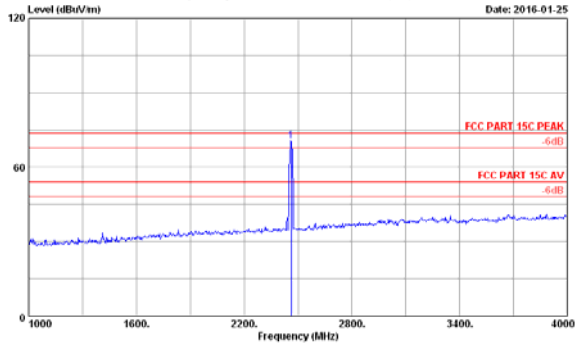


Site no. : 3m Chamber Data no. : 16
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.000	28.32	7.39	36.61	72.64	71.74	74.00	2.26	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 17 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

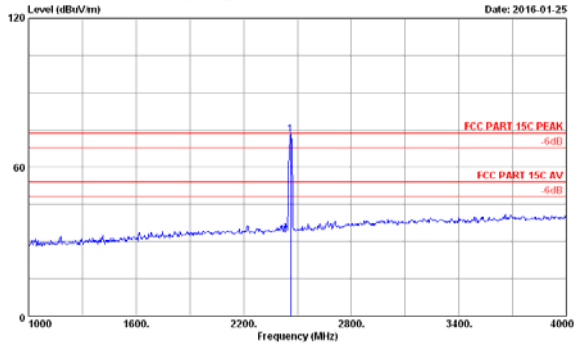


Site no. : 3m Chamber Data no. : 17
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.000	28.35	7.43	36.60	71.25	70.43	74.00	3.57	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 18 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

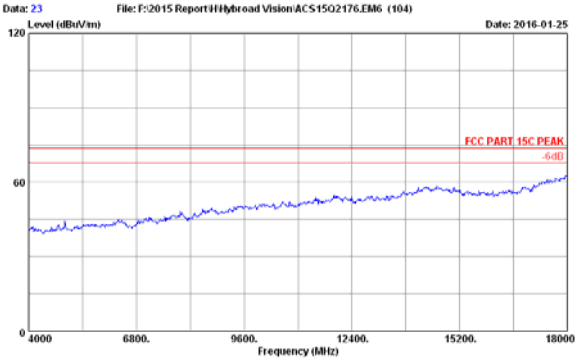


Site no. : 3m Chamber Data no. : 18
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.000	28.35	7.43	36.60	74.13	73.31	74.00	0.69	Peak

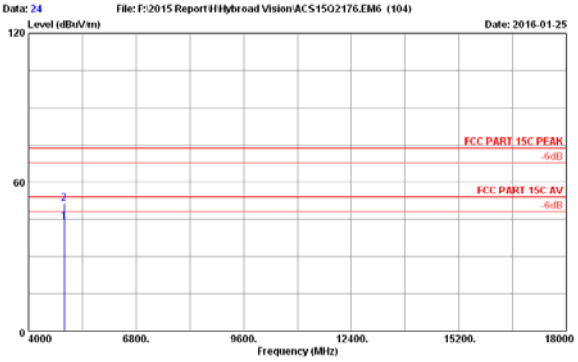
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 23 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 23
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
A301

Data: 24 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

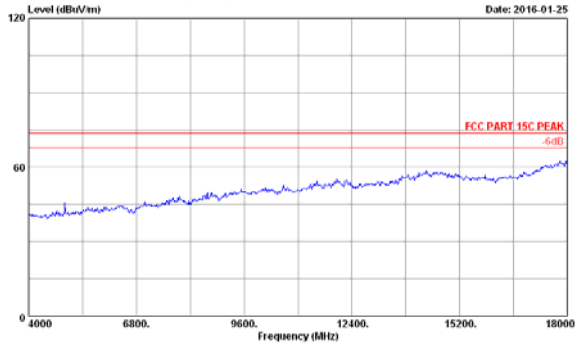


Site no. : 3m Chamber Data no. : 24
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	33.35	9.51	35.48	36.74	44.12	54.00	9.88	Average
2	4924.000	33.35	9.51	35.48	44.24	51.62	74.00	22.38	Peak

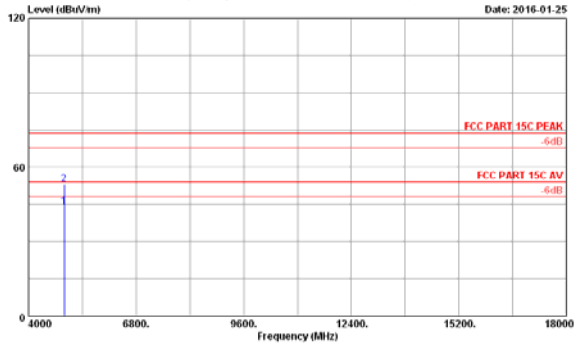
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 25 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 25
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
A301

Data: 26 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

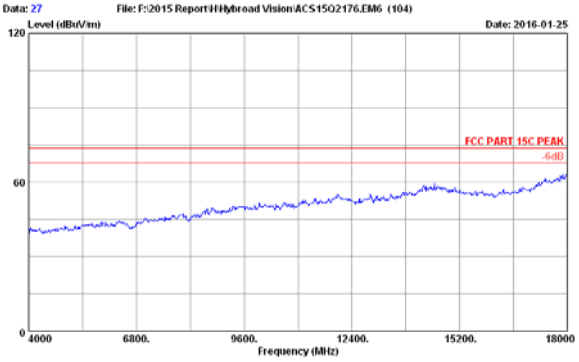


Site no. : 3m Chamber Data no. : 26
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	33.35	9.51	35.48	36.67	44.05	54.00	9.95	Average
2	4924.000	33.35	9.51	35.48	45.84	53.22	74.00	20.78	Peak

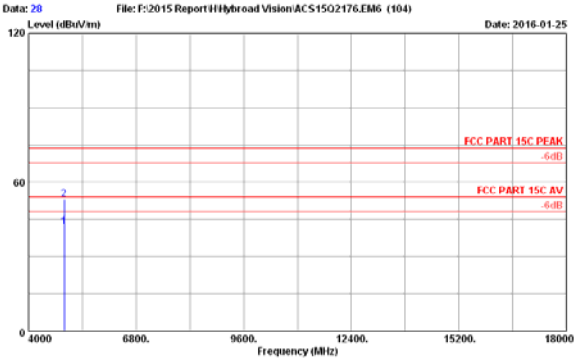
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 27 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 27
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
A301

Data: 28 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

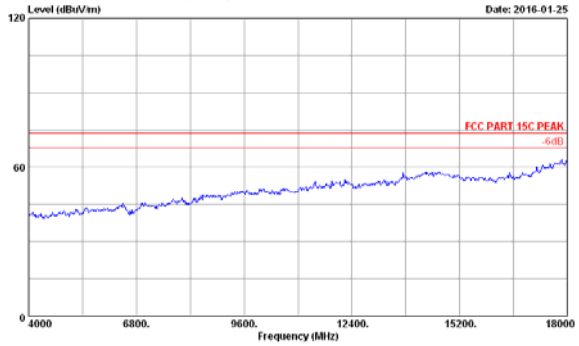


Site no. : 3m Chamber Data no. : 28
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	33.35	9.51	35.48	34.61	41.99	54.00	12.01	Average
2	4924.000	33.35	9.51	35.48	45.67	53.05	74.00	20.95	Peak

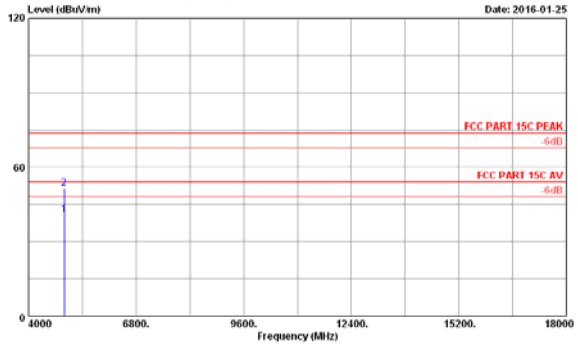
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 29 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 29
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
A301

Data: 30 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

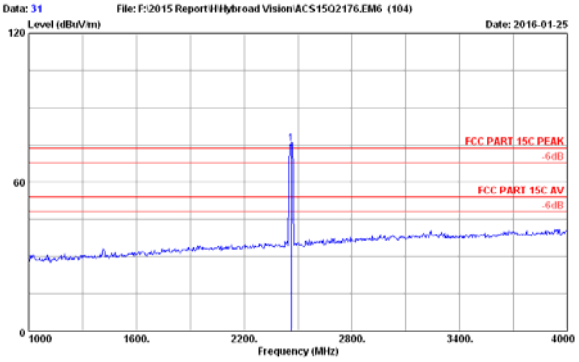


Site no. : 3m Chamber Data no. : 30
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	33.35	9.51	35.48	33.56	40.94	54.00	13.06	Average
2	4924.000	33.35	9.51	35.48	44.11	51.49	74.00	22.51	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 31 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

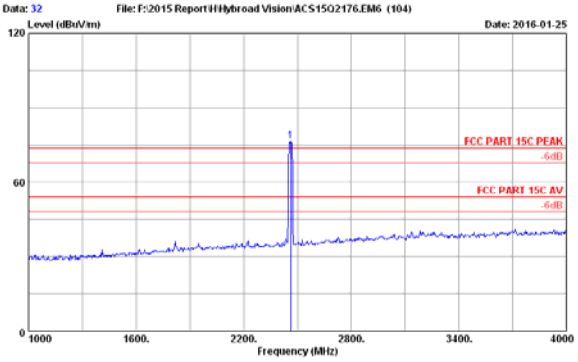


Site no. : 3m Chamber Data no. : 31
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.000	28.35	7.43	36.60	76.36	75.54	74.00	-1.54	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 32 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

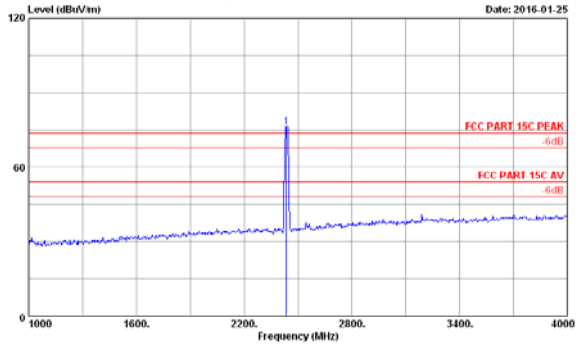


Site no. : 3m Chamber Data no. : 32
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.000	28.35	7.43	36.60	77.24	76.42	74.00	-2.42	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 37 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

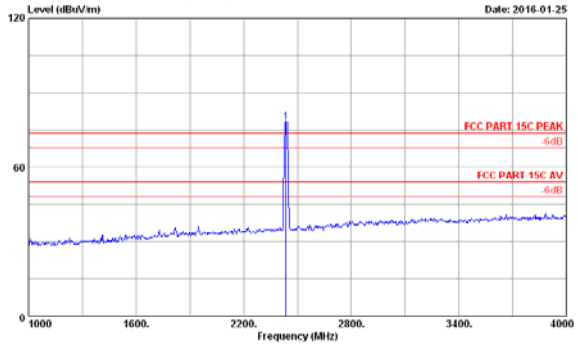


Site no. : 3m Chamber Data no. : 37
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.000	28.32	7.39	36.61	77.27	76.37	74.00	-2.37	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 38 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

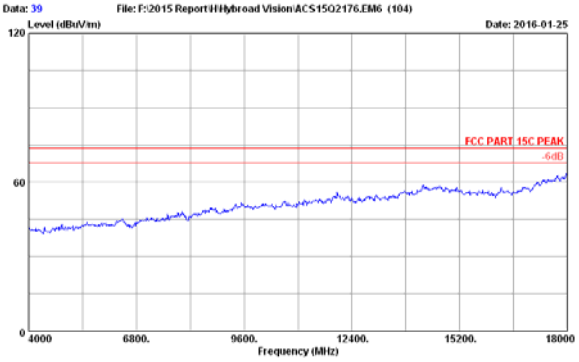


Site no. : 3m Chamber Data no. : 38
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.000	28.32	7.39	36.61	79.27	78.37	74.00	-4.37	Peak

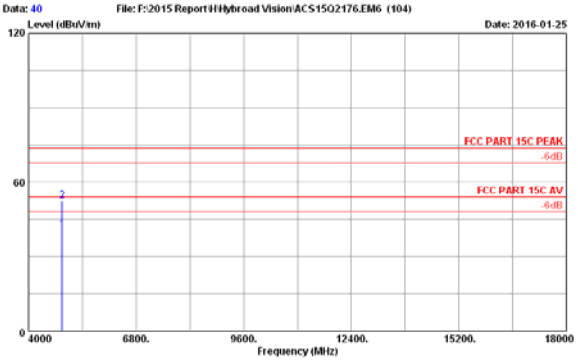
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 39 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 39
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2437MHz Tx
A301

Data: 40 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

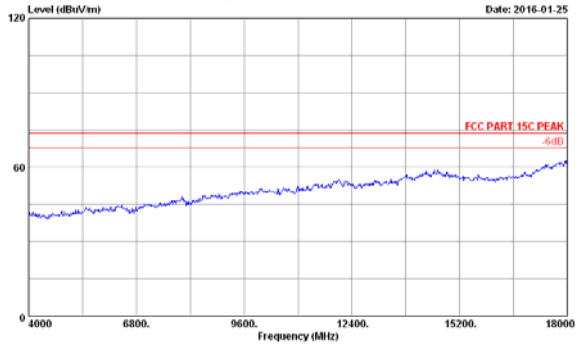


Site no. : 3m Chamber Data no. : 40
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.000	33.25	9.49	35.51	33.68	40.91	54.00	13.09	Average
2	4874.000	33.25	9.49	35.51	45.26	52.49	74.00	21.51	Peak

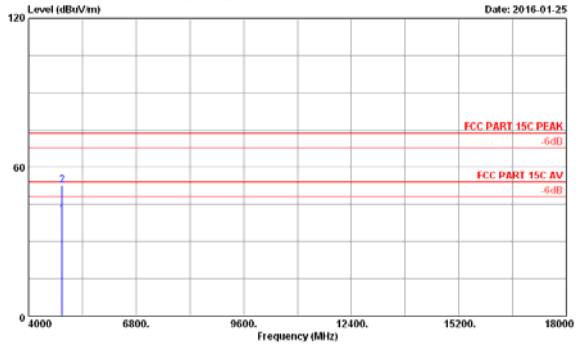
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 41 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 41
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2437MHz Tx
A301

Data: 42 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

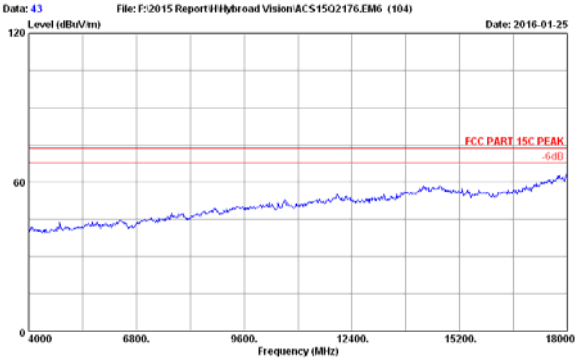


Site no. : 3m Chamber Data no. : 42
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.000	33.25	9.49	35.51	33.65	40.88	54.00	13.12	Average
2	4874.000	33.25	9.49	35.51	45.51	52.74	74.00	21.26	Peak

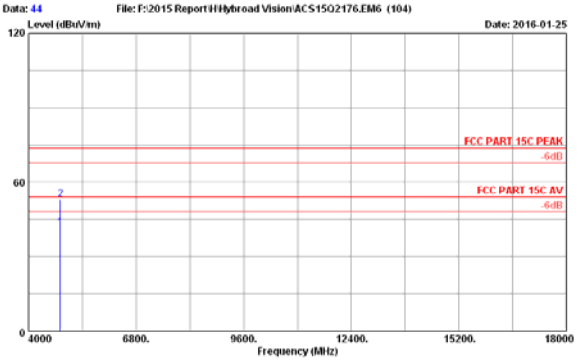
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 43 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 43
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
A301

Data: 44 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

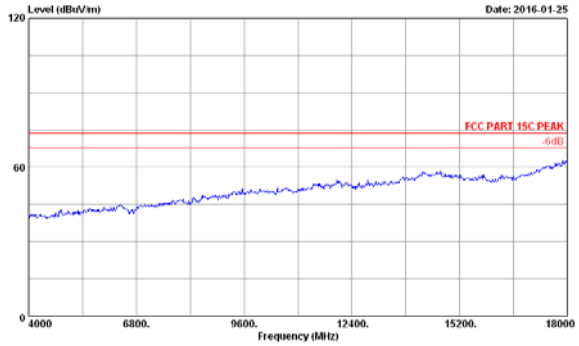


Site no. : 3m Chamber Data no. : 44
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.000	33.15	9.46	35.53	34.56	41.64	54.00	12.36	Average
2	4824.000	33.15	9.46	35.53	46.02	53.10	74.00	20.90	Peak

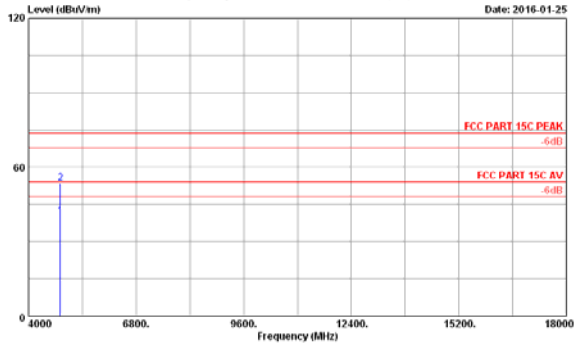
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 45 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 45
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
A301

Data: 46 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

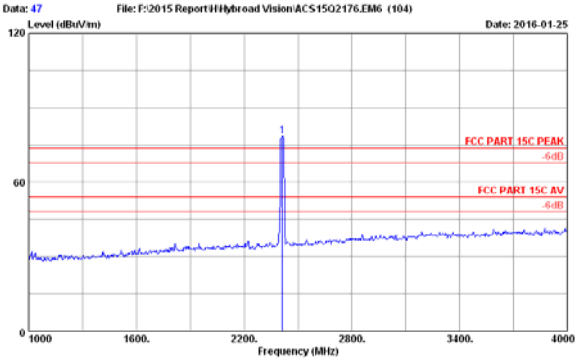


Site no. : 3m Chamber Data no. : 46
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.000	33.15	9.46	35.53	33.01	40.09	54.00	13.91	Average
2	4824.000	33.15	9.46	35.53	46.26	53.34	74.00	20.66	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 47 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

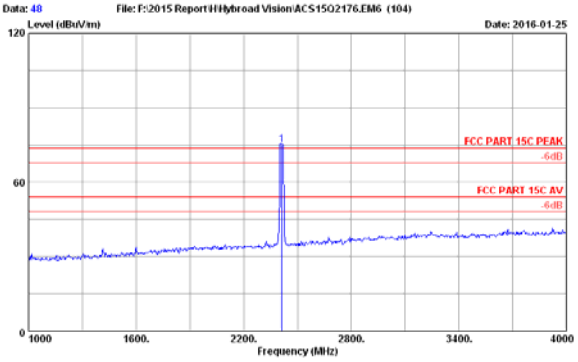


Site no. : 3m Chamber Data no. : 47
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.000	28.29	7.35	36.62	79.57	78.59	74.00	-4.59	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 48 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

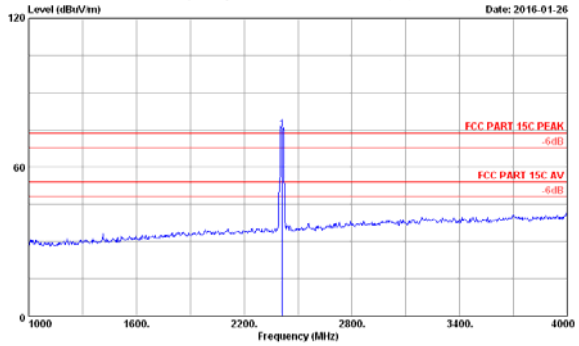


Site no. : 3m Chamber Data no. : 48
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.000	28.29	7.35	36.62	76.27	75.29	74.00	-1.29	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 53 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

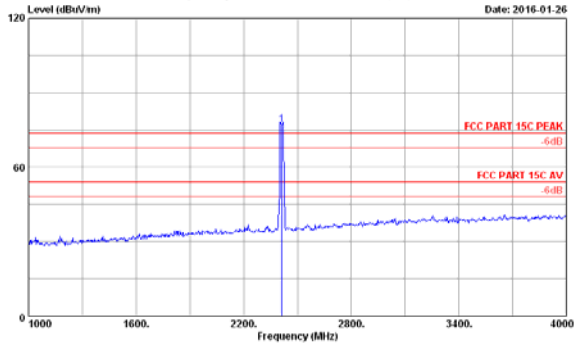


Site no. : 3m Chamber Data no. : 53
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.000	28.29	7.35	36.62	76.22	75.24	74.00	-1.24	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 54 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

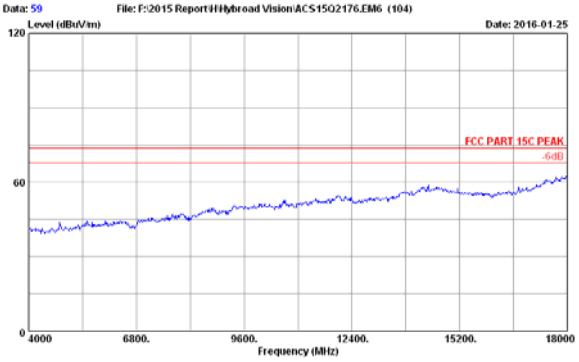


Site no. : 3m Chamber Data no. : 54
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.000	28.29	7.35	36.62	78.24	77.26	74.00	-3.26	Peak

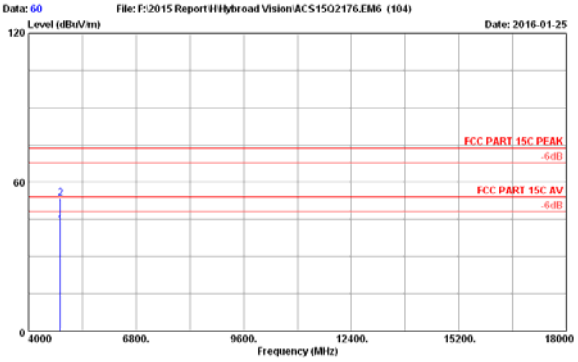
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 59 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 59
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
A301

Data: 60 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

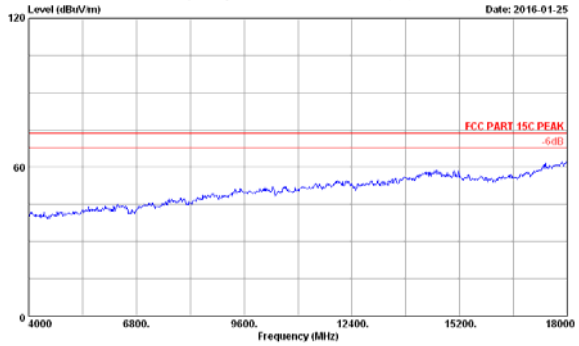


Site no. : 3m Chamber Data no. : 60
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.000	33.15	9.46	35.53	35.57	42.65	54.00	11.35	Average
2	4824.000	33.15	9.46	35.53	46.56	53.64	74.00	20.36	Peak

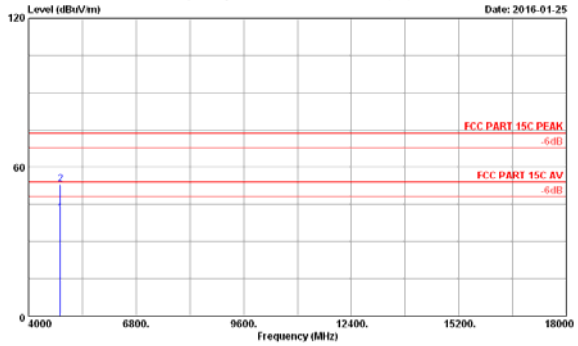
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 61 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)




```
Site no.      : 3m Chamber                    Data no.  : 61
Dis. / Ant.   : 3m   2015 3115-4877        Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : 23.9°C/52.8%
Engineer      : Leo-Li
EUT           : DIRECT VINA BOX
Power rating  : DC 12V From Adapter Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT20  2412MHz  Tx
                A301
```

Data: 62 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

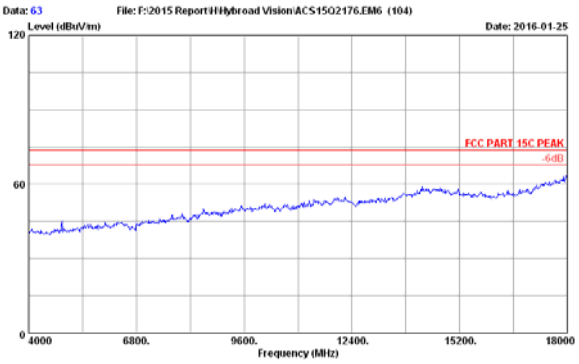



```
Site no.      : 3m Chamber                    Data no.  : 62
Dis. / Ant.   : 3m   2015 3115-4877        Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : 23.9°C/52.8%
Engineer      : Leo-Li
EUT           : DIRECT VINA BOX
Power rating  : DC 12V From Adapter Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT20  2412MHz  Tx
                A301
```

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.000	33.15	9.46	35.53	34.29	41.37	54.00	12.63	Average
2	4824.000	33.15	9.46	35.53	46.01	53.09	74.00	20.91	Peak

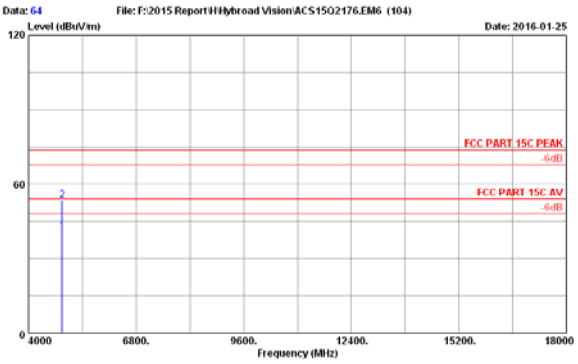
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 63 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)




```
Site no.      : 3m Chamber                    Data no.  : 63
Dis. / Ant.   : 3m   2015 3115-4877        Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : 23.9°C/52.8%
Engineer      : Leo-Li
EUT           : DIRECT VINA BOX
Power rating  : DC 12V From Adapter Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT20  2437MHz  Tx
                A301
```

Data: 64 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

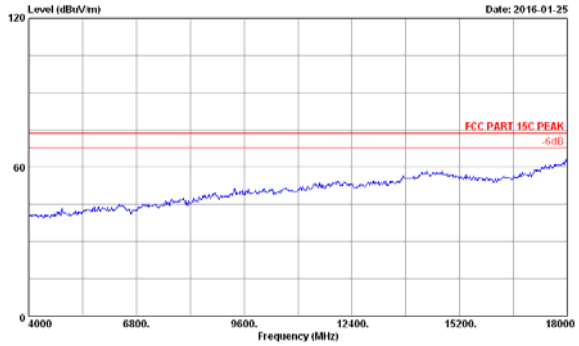



```
Site no.      : 3m Chamber                    Data no.  : 64
Dis. / Ant.   : 3m   2015 3115-4877        Ant. pol. : VERTICAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : 23.9°C/52.8%
Engineer      : Leo-Li
EUT           : DIRECT VINA BOX
Power rating  : DC 12V From Adapter Input AC 120V/60Hz
Test Mode     : IEEE802.11nHT20  2437MHz  Tx
                A301
```

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.000	33.25	9.49	35.51	33.70	40.93	54.00	13.07	Average
2	4874.000	33.25	9.49	35.51	46.25	53.48	74.00	20.52	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 65 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

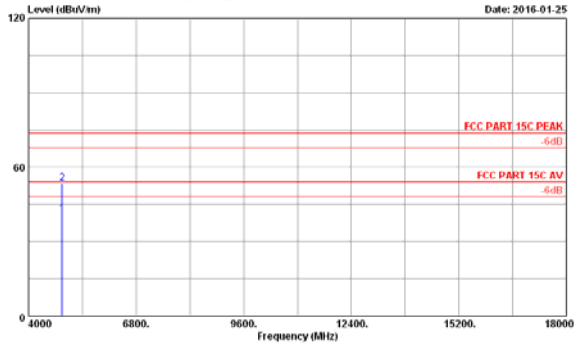


Site no. : 3m Chamber Data no. : 65
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 66 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

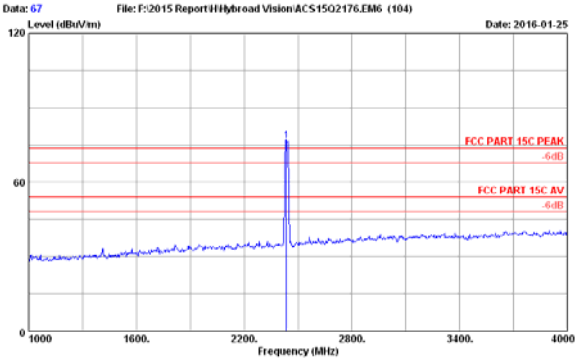


Site no. : 3m Chamber Data no. : 66
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.000	33.25	9.49	35.51	33.80	41.03	54.00	12.97	Average
2	4874.000	33.25	9.49	35.51	46.23	53.46	74.00	20.54	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 67 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

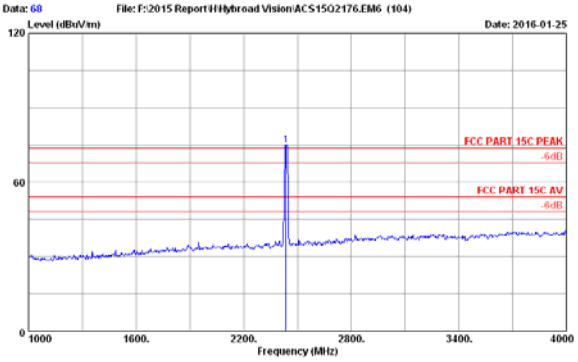


Site no. : 3m Chamber Data no. : 67
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.000	28.32	7.39	36.61	77.40	76.50	74.00	-2.50	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 68 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

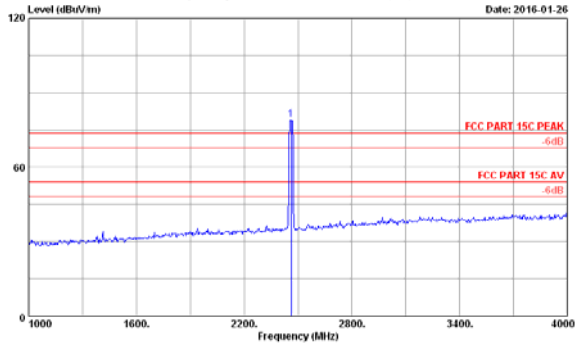


Site no. : 3m Chamber Data no. : 68
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.000	28.32	7.39	36.61	75.73	74.83	74.00	-0.83	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 69 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

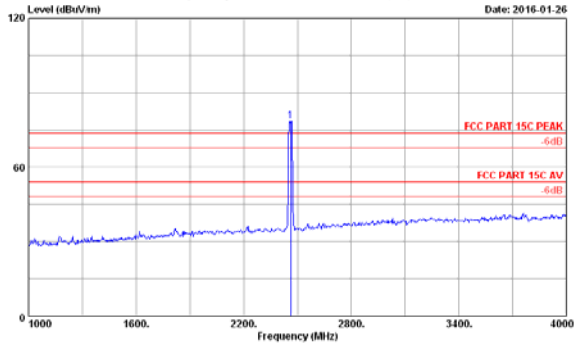


Site no. : 3m Chamber Data no. : 69
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.000	28.35	7.43	36.60	80.04	79.22	74.00	-5.22	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 70 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

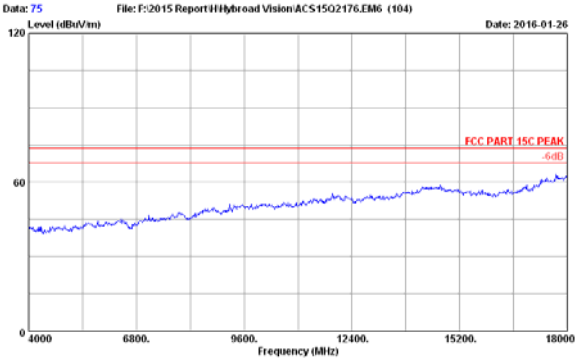


Site no. : 3m Chamber Data no. : 70
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.000	28.35	7.43	36.60	79.53	78.71	74.00	-4.71	Peak

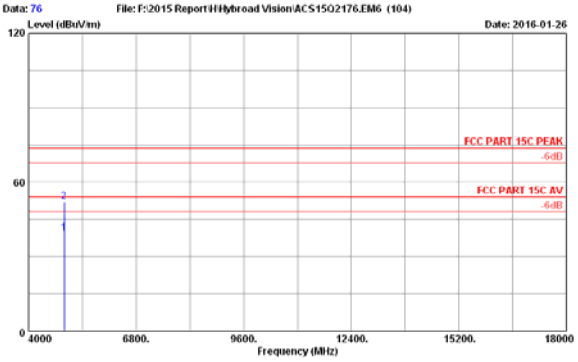
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 75 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 75
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
A301

Data: 76 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

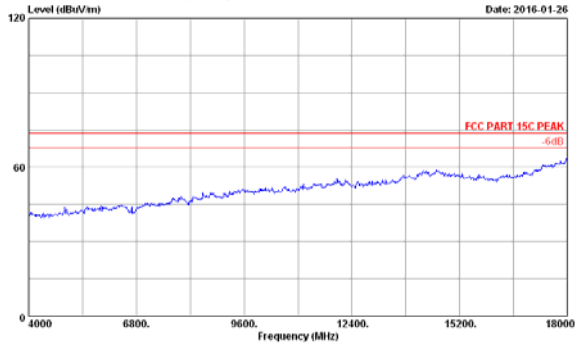


Site no. : 3m Chamber Data no. : 76
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	33.35	9.51	35.48	32.17	39.55	54.00	14.45	Average
2	4924.000	33.35	9.51	35.48	44.67	52.05	74.00	21.95	Peak

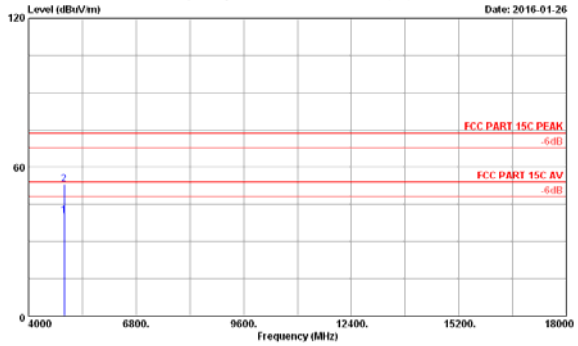
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 77 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 77
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
A301

Data: 78 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

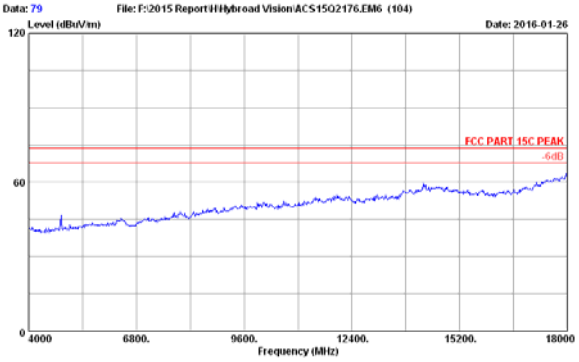


Site no. : 3m Chamber Data no. : 78
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.000	33.35	9.51	35.48	32.97	40.35	54.00	13.65	Average
2	4924.000	33.35	9.51	35.48	45.88	53.26	74.00	20.74	Peak

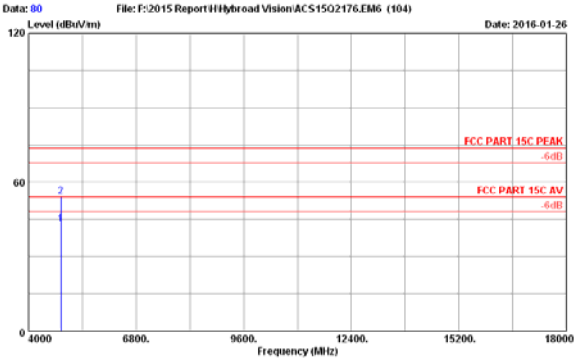
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 79 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 79
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
A301

Data: 80 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

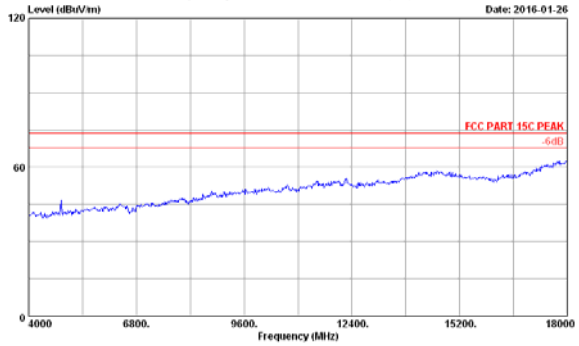


Site no. : 3m Chamber Data no. : 80
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4844.000	33.19	9.47	35.52	36.05	43.19	54.00	10.81	Average
2	4844.000	33.19	9.47	35.52	46.89	54.03	74.00	19.97	Peak

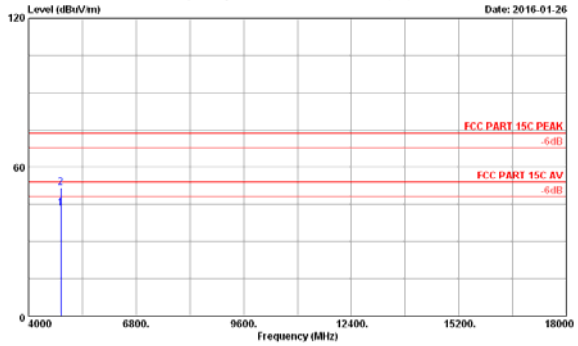
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 81 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 81
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
A301

Data: 82 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

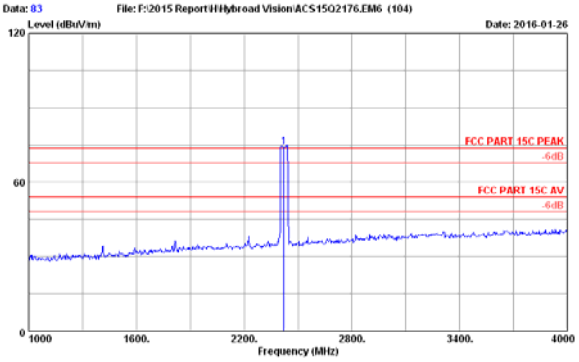


Site no. : 3m Chamber Data no. : 82
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4844.000	33.19	9.47	35.52	36.32	43.46	54.00	10.54	Average
2	4844.000	33.19	9.47	35.52	44.63	51.77	74.00	22.23	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 83 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

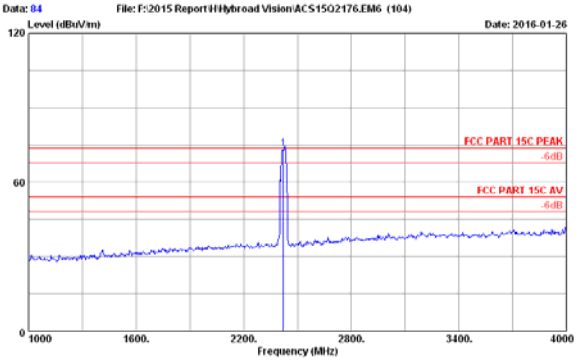


Site no. : 3m Chamber Data no. : 83
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2422.000	28.31	7.35	36.61	75.13	74.18	74.00	-0.18	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 84 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

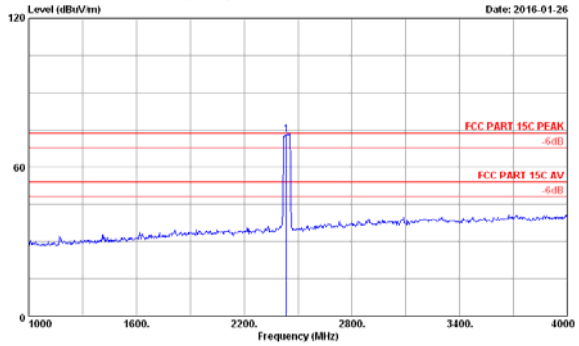


Site no. : 3m Chamber Data no. : 84
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2422.000	28.31	7.35	36.61	74.64	73.69	74.00	0.31	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 89 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

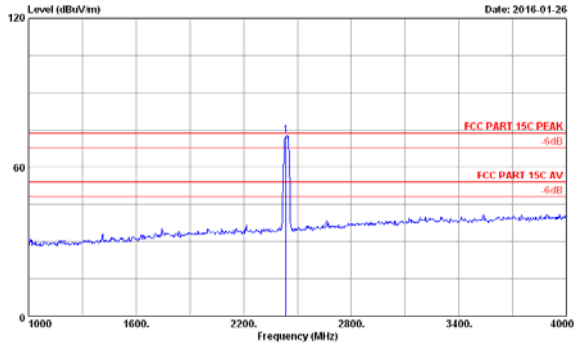


Site no. : 3m Chamber Data no. : 89
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.000	28.32	7.39	36.61	74.19	73.29	74.00	0.71	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 90 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

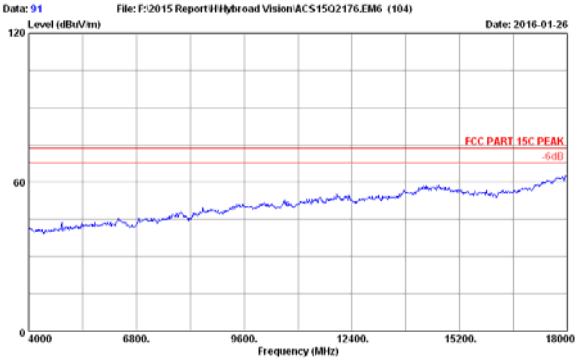


Site no. : 3m Chamber Data no. : 90
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.000	28.32	7.39	36.61	73.71	72.81	74.00	1.19	Peak

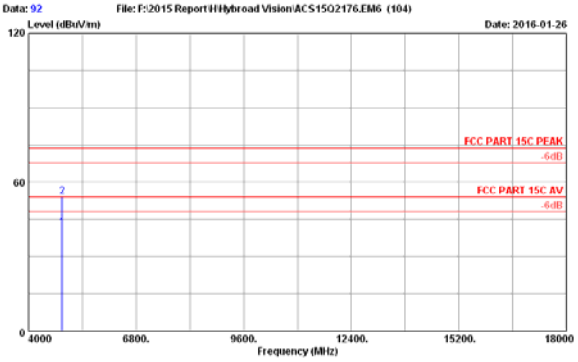
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 91 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 91
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2437MHz Tx
A301

Data: 92 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

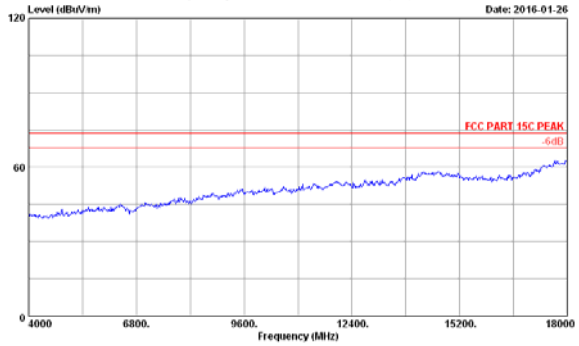


Site no. : 3m Chamber Data no. : 92
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.000	33.25	9.49	35.51	34.57	41.80	54.00	12.20	Average
2	4874.000	33.25	9.49	35.51	46.86	54.09	74.00	19.91	Peak

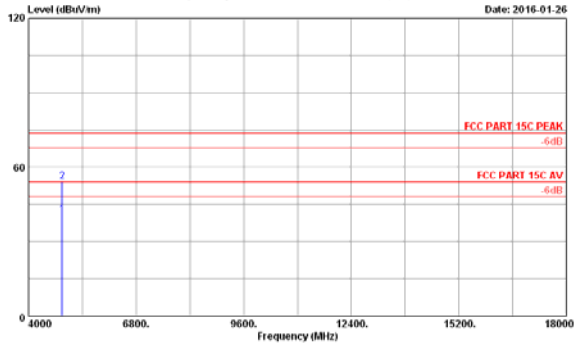
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 93 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 93
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2437MHz Tx
A301

Data: 94 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

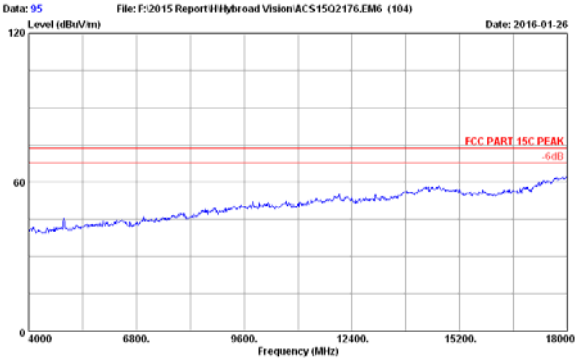


Site no. : 3m Chamber Data no. : 94
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2437MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.000	33.25	9.49	35.51	33.67	40.90	54.00	13.10	Average
2	4874.000	33.25	9.49	35.51	47.04	54.27	74.00	19.73	Peak

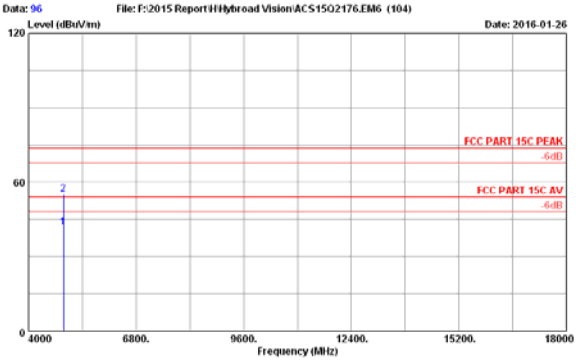
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 95 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)



Site no. : 3m Chamber Data no. : 95
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
A301

Data: 96 File: F:\2015 Report\Hybroad Vision\ACS15\2176.EM6 (104)

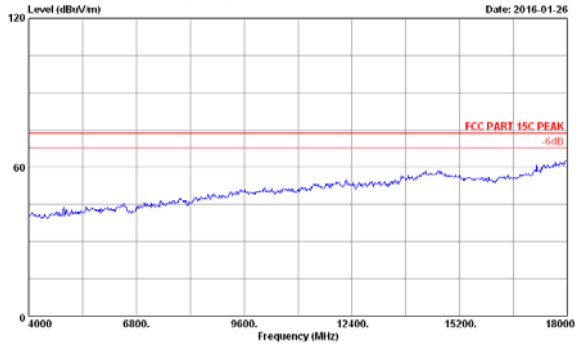


Site no. : 3m Chamber Data no. : 96
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4904.000	33.31	9.50	35.50	34.57	41.88	54.00	12.12	Average
2	4904.000	33.31	9.50	35.50	47.89	55.20	74.00	18.80	Peak

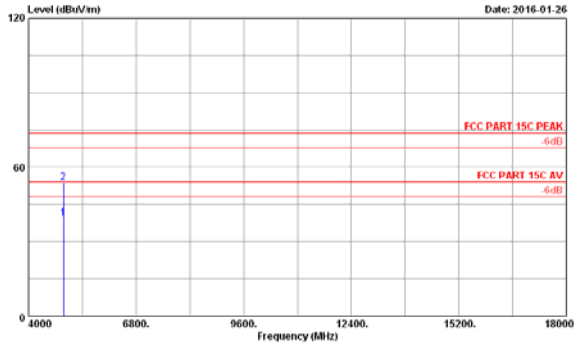
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 97 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)



Site no. : 3m Chamber Data no. : 97
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
A301

Data: 98 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

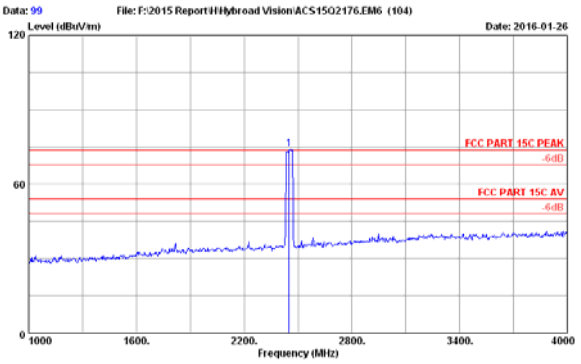


Site no. : 3m Chamber Data no. : 98
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4904.000	33.31	9.50	35.50	32.26	39.57	54.00	14.43	Average
2	4904.000	33.31	9.50	35.50	46.63	53.94	74.00	20.06	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 99 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

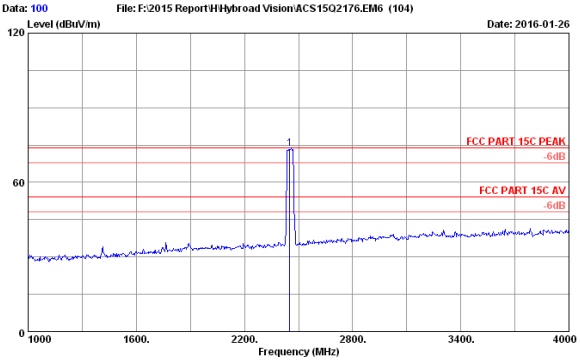


Site no. : 3m Chamber Data no. : 99
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2452.000	28.34	7.43	36.60	75.13	74.30	74.00	-0.30	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 100 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)



Site no. : 3m Chamber Data no. : 100
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2452.000	28.34	7.43	36.60	74.36	73.53	74.00	0.47	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

5. CONDUCTED SPURIOUS EMISSIONS

5.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	N9030A	MY51380221	Oct.17,15	1Year
2.	Attenuator	Agilent	8491B	MY39262165	Apr.28,15	1 Year
3.	RF Cable	Marvelous Microwave Inc	SFL402105FLEX	NO.1	Oct.17,15	1 Year

5.2.Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

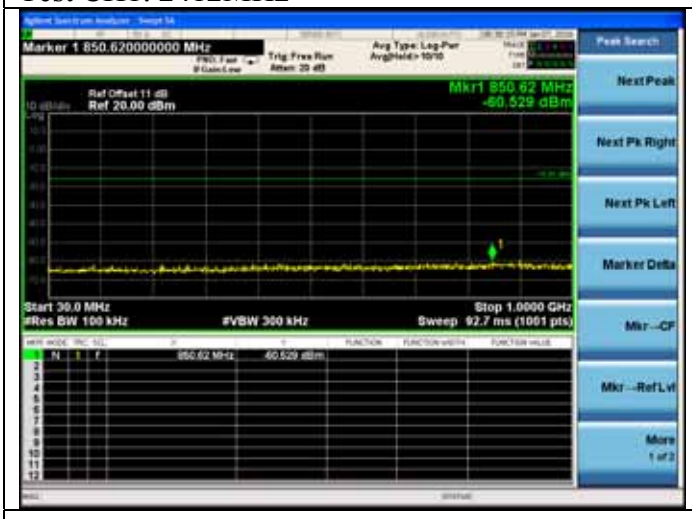
5.3.Test Procedure

The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions with peak detector.

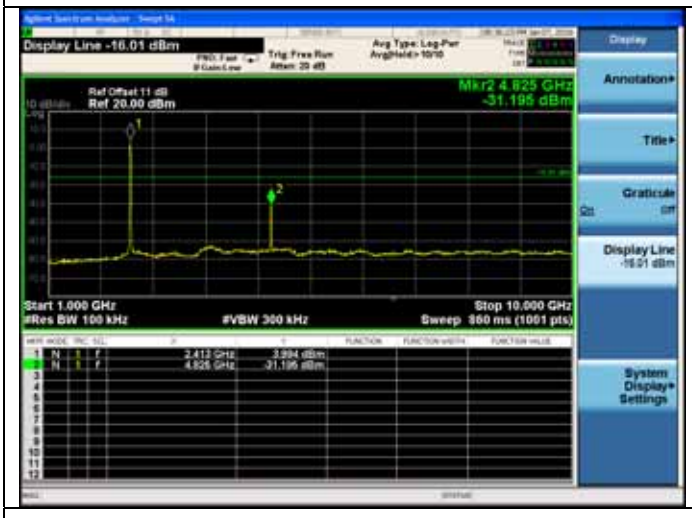
5.4.Test result

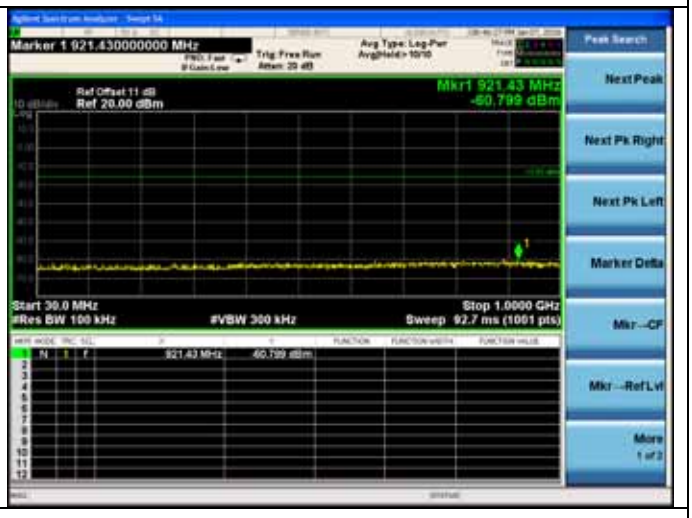
PASS (The testing data was attached in the next pages.)

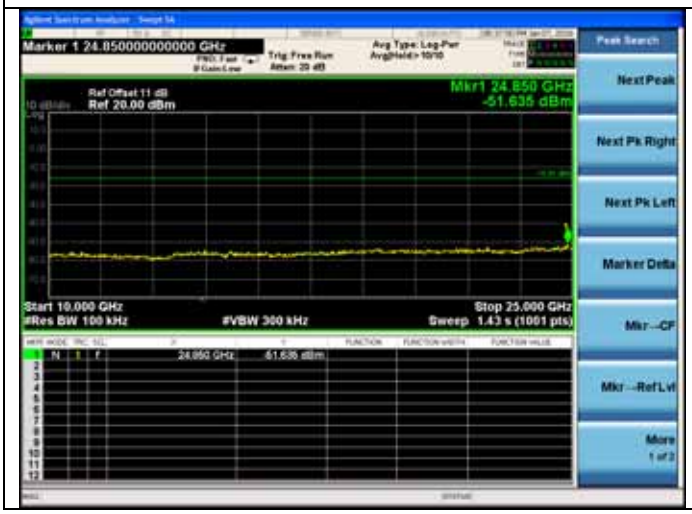
Test Mode: IEEE 802.11b
Test CH1: 2412MHz

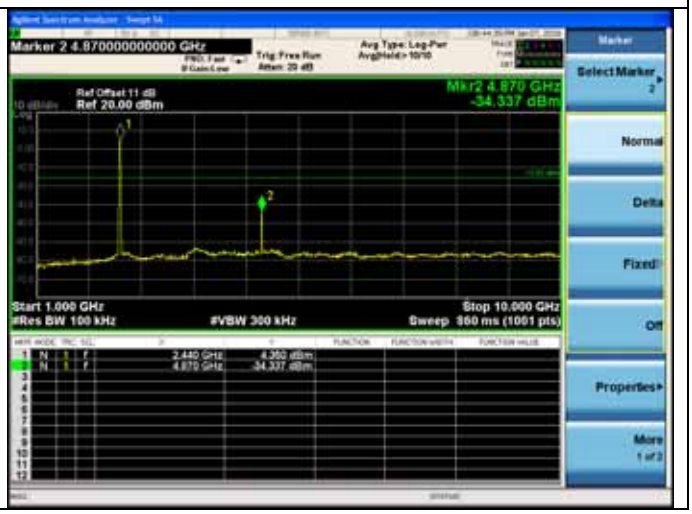


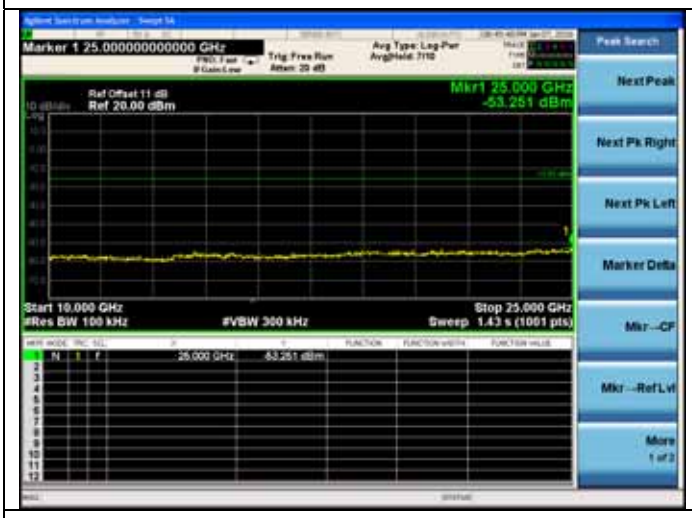
Test CH6: 2437MHz

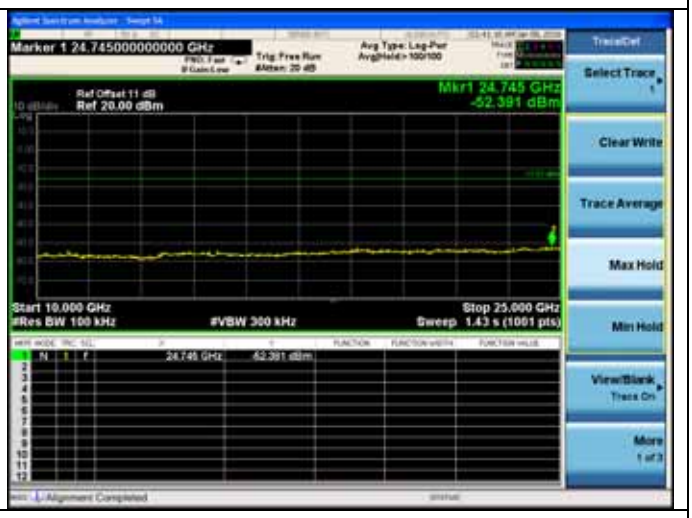




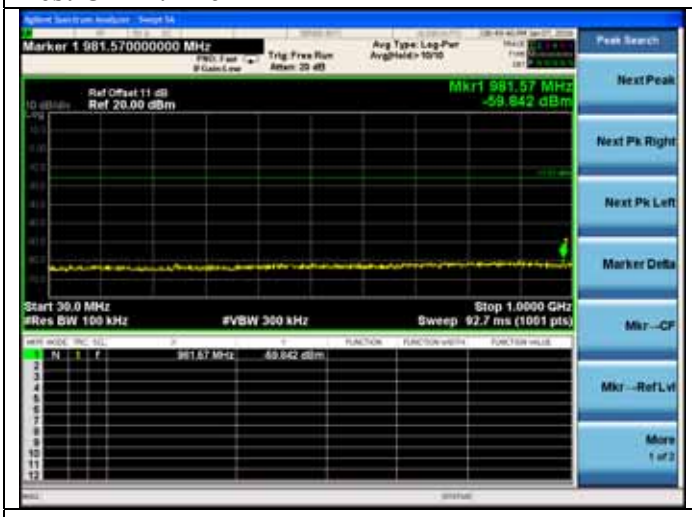




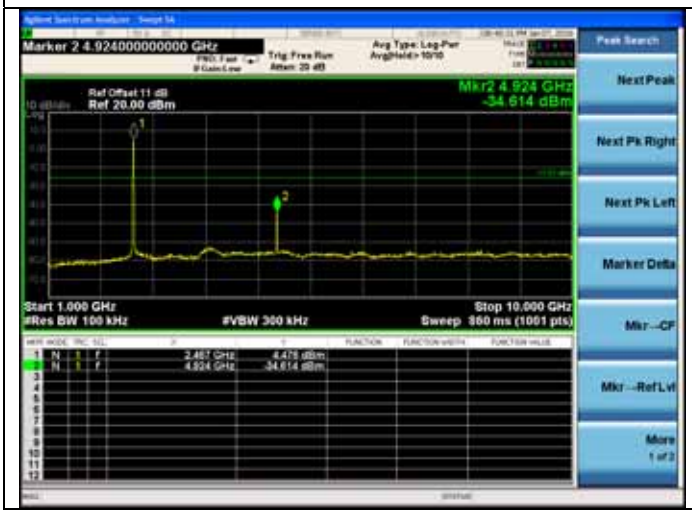




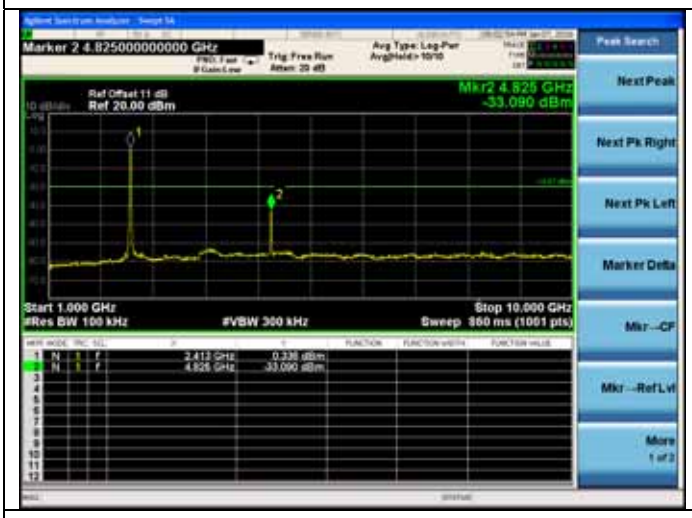
Test CH11: 2462MHz

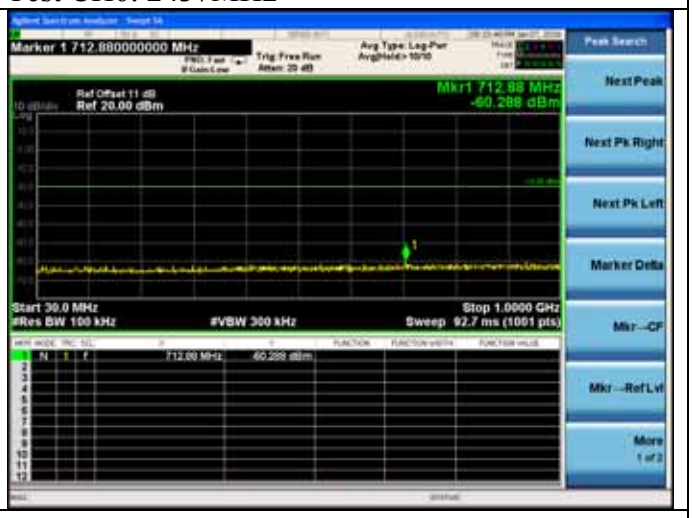


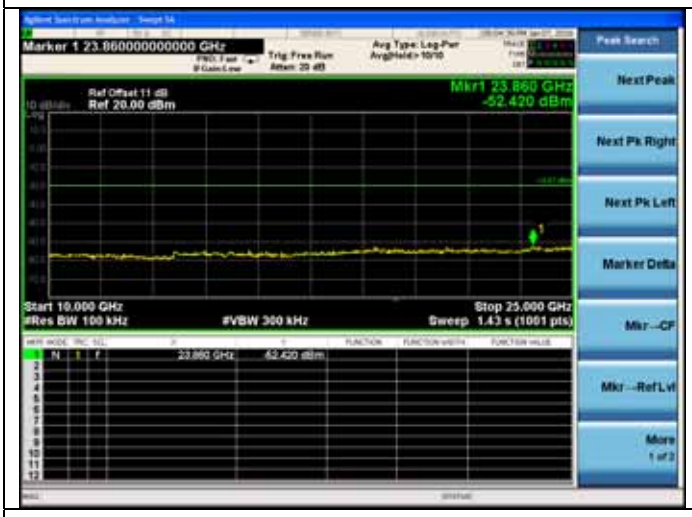
Test Mode: IEEE 802.11g
Test CH1: 2412MHz

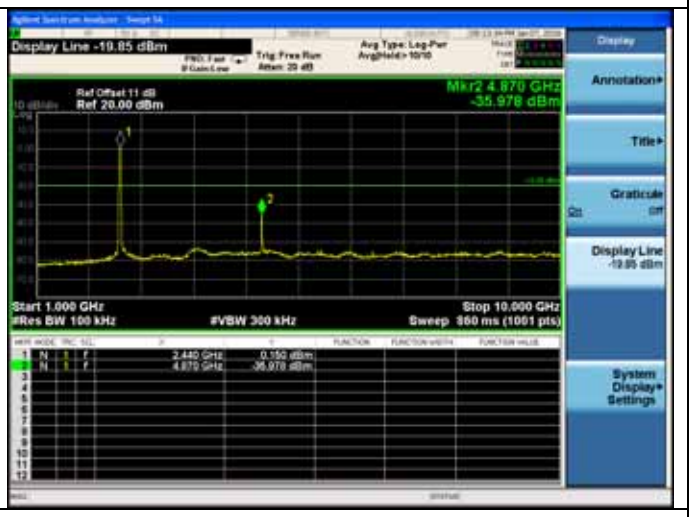


Test CH6: 2437MHz

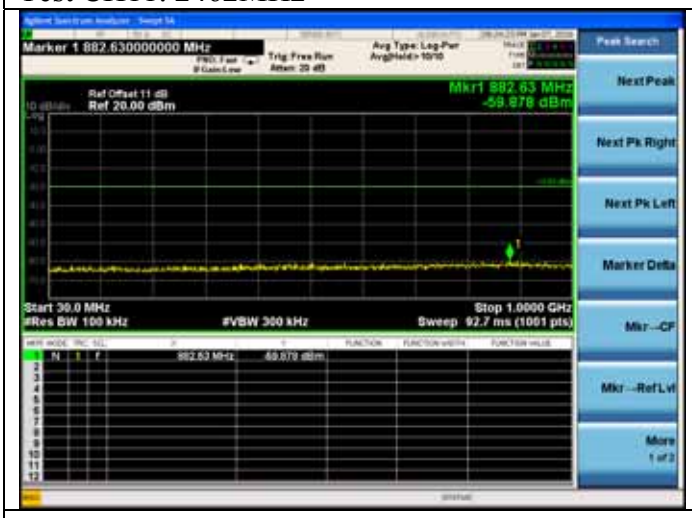




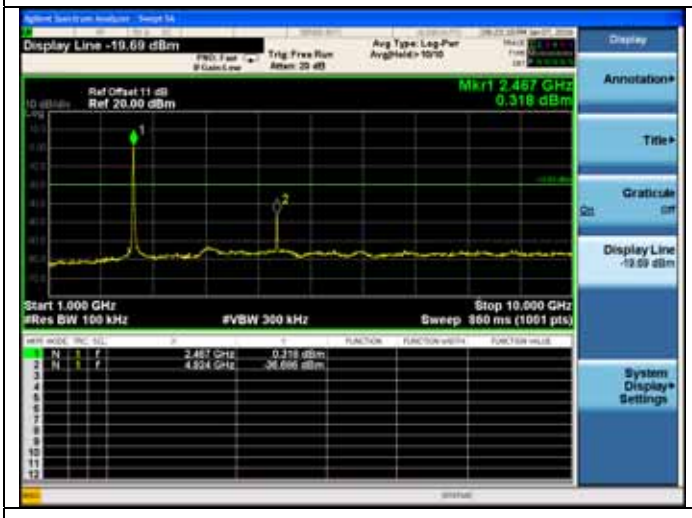


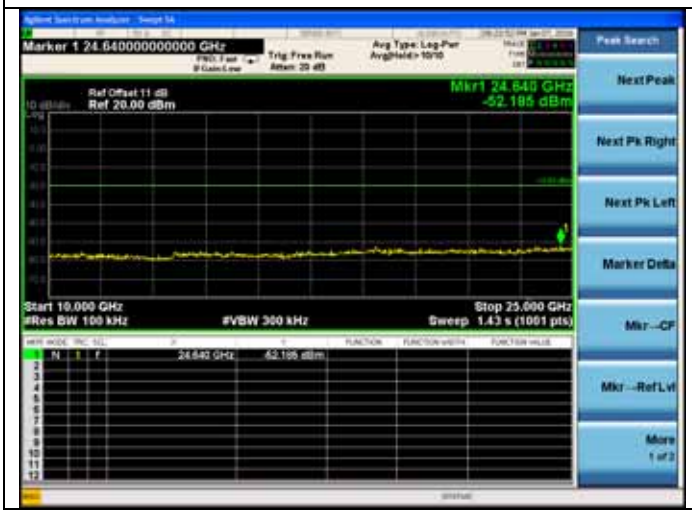


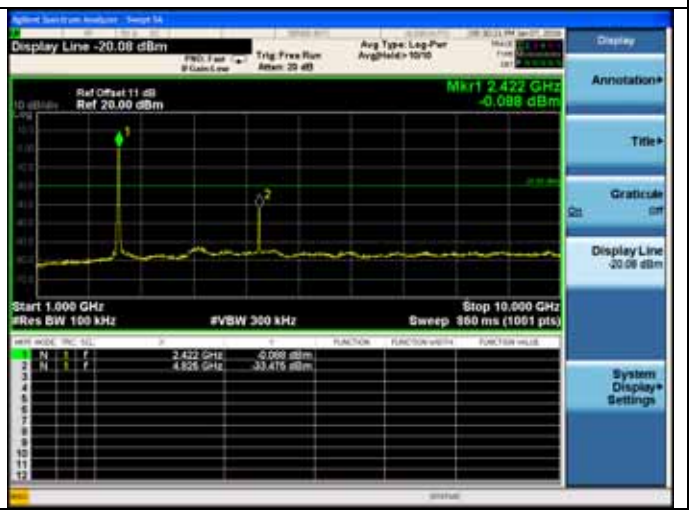
Test CH11: 2462MHz

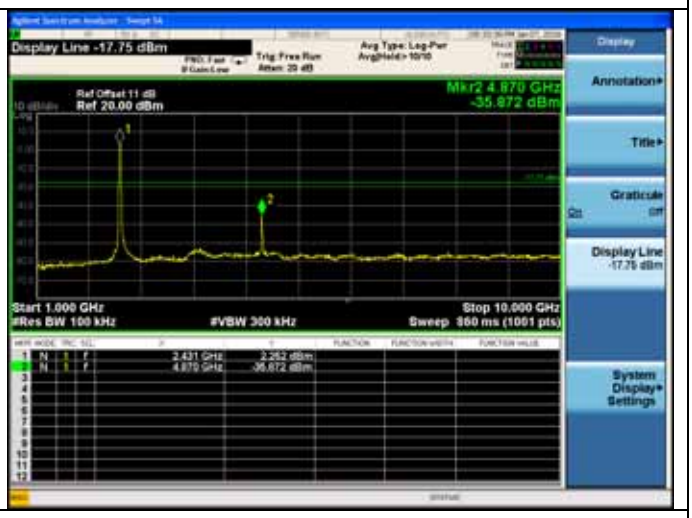


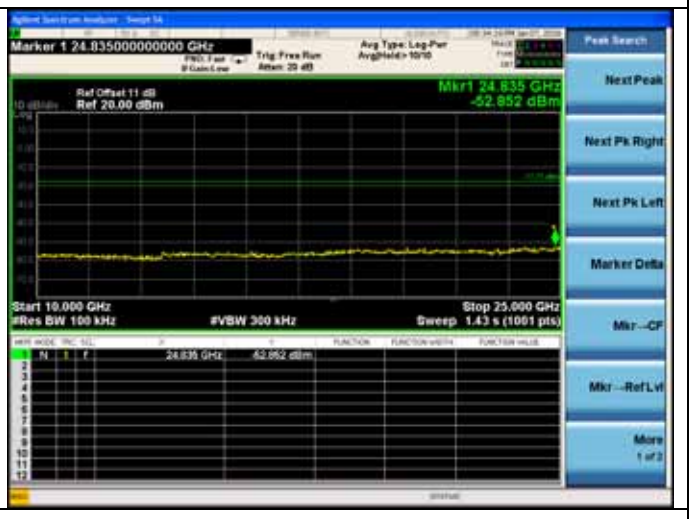
Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz



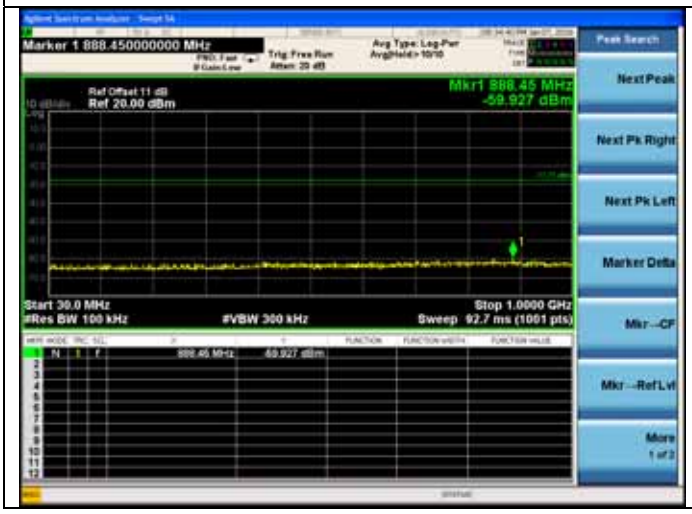






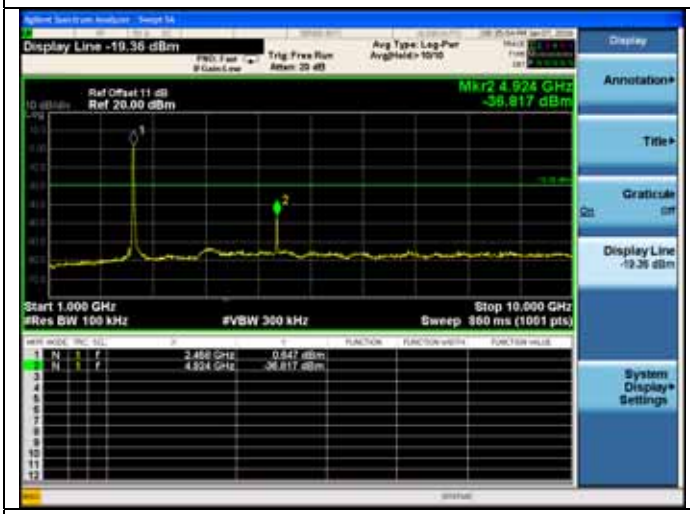


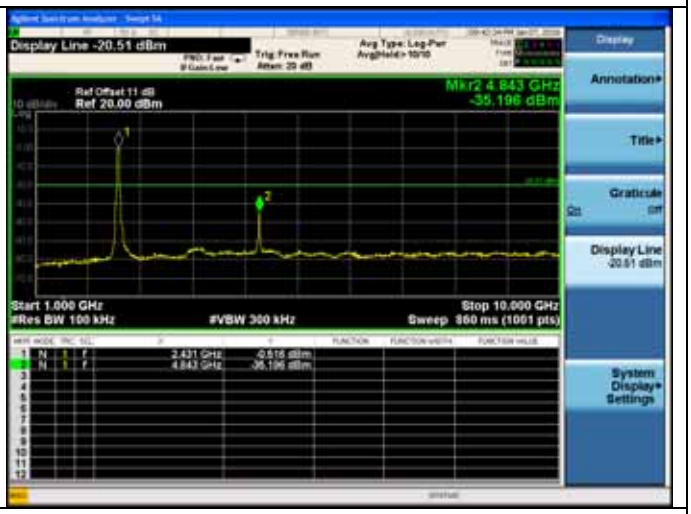
Test CH6: 2437MHz



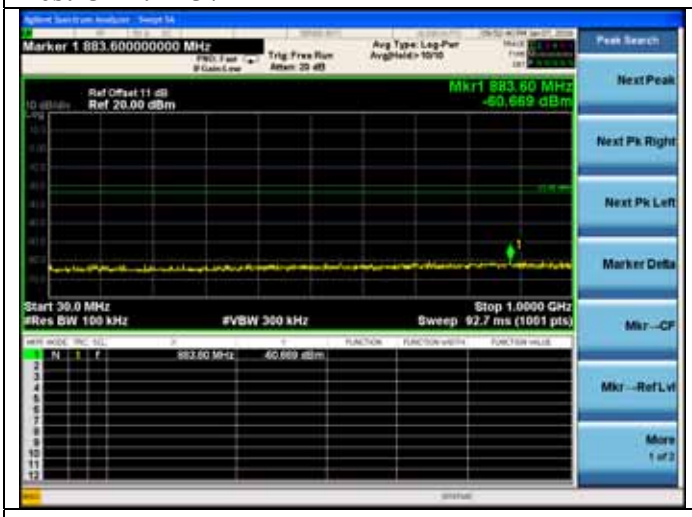
Test CH11: 2462MHz

Test Mode: IEEE 802.11n HT40
Test CH1: 2422MHz

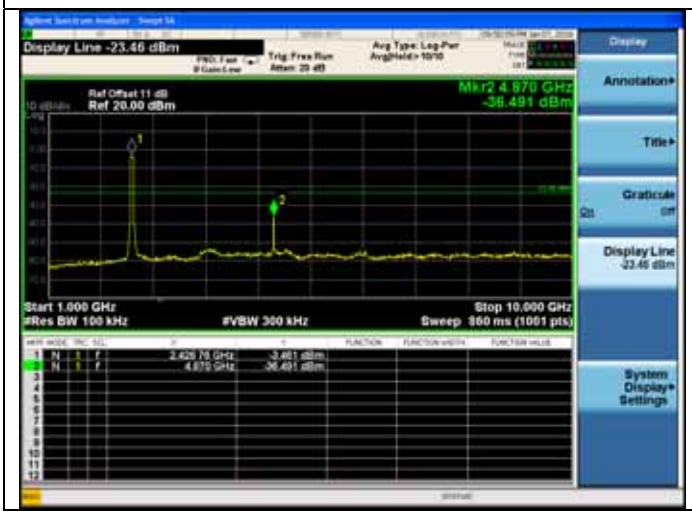


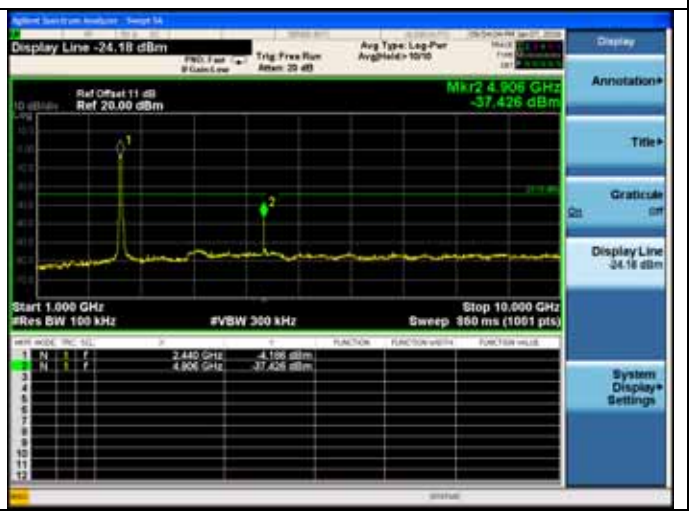


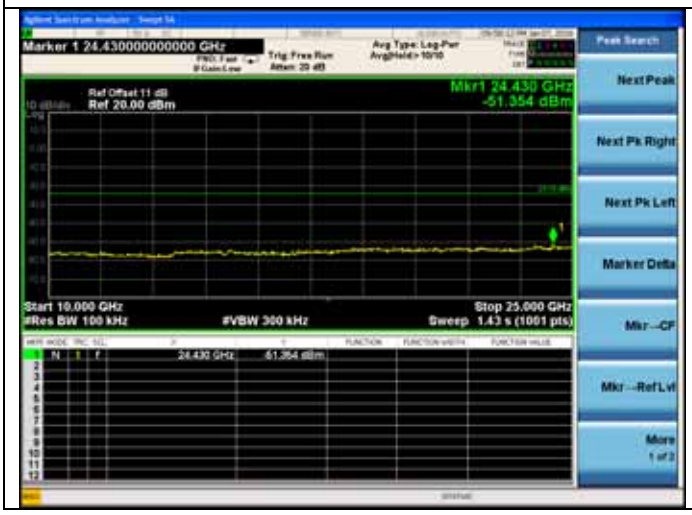
Test CH4: 2437MHz



Test CH7: 2452MHz





Marker 1 24.430000000000 GHz
Ref Offset 11 dB
Ref 20.00 dBm
Mkr1 24.430 GHz
-51.354 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 1.43 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

Display Line -23.20 dBm
Ref Offset 11 dB
Ref 20.00 dBm
Mkr1 2.481 635 GHz
-3.205 dBm
Start 2.42500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.51000 GHz
Sweep 8.13 ms (1001 pts)
Display
Annotation
Title
Graticule
Display Line
System Display Settings

6. BAND EDGE COMPLIANCE TEST

6.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	Apr.28,15	1 Year
2.	Amp	HP	8449B	3008A02495	Apr.28,15	1 Year
3.	Horn Antenna	ETC	MCTD 1209	DRH15F03007	Feb.03,15	1 Year
4.	HF Cable	Hubersuhner	Sucoflex104	274094/4	Apr.28,15	1 Year

6.2.Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

6.3.Test Produce

1. The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.

2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.

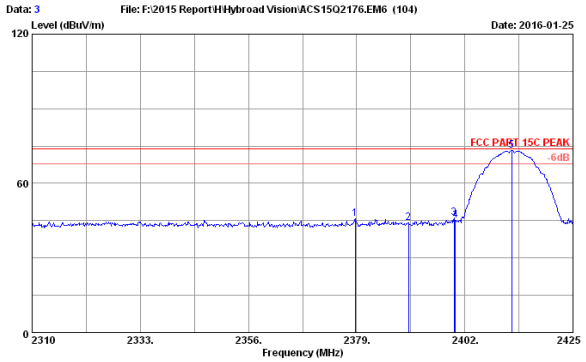
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

(a) PEAK: RBW=1MHz; VBW=3MHz; Sweep=AUTO
(b) AVERAGE: RBW=1MHz; VBW=10Hz; Sweep=AUTO

6.4.Test Results

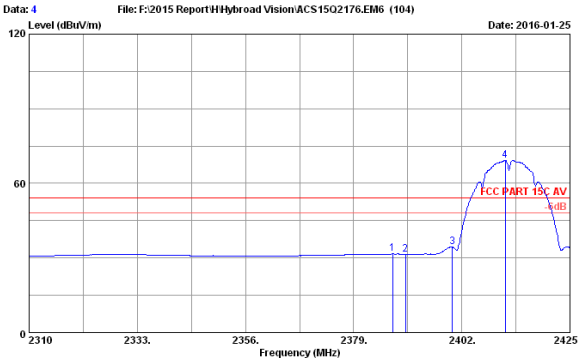
Pass (The testing data was attached in the next pages.)



Site no. : 3m Chamber Data no. : 3
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2378.655	28.25	7.28	36.63	46.78	45.68	74.00	28.32	Peak
2	2390.000	28.27	7.28	36.62	45.09	44.02	74.00	29.98	Peak
3	2399.700	28.28	7.32	36.62	47.14	46.12	74.00	27.88	Peak
4	2400.000	28.28	7.32	36.62	46.09	45.07	74.00	28.93	Peak
5	2412.005	28.29	7.35	36.62	74.29	73.31	74.00	0.69	Peak

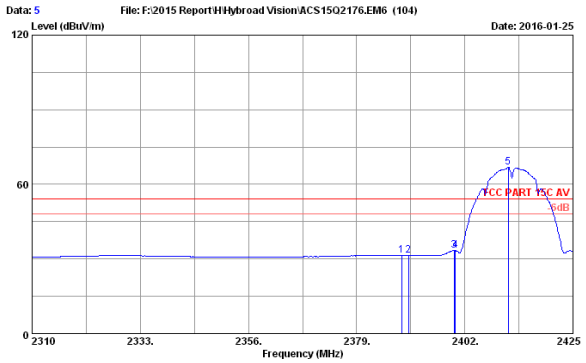
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2387.280	28.26	7.28	36.63	32.70	31.61	54.00	22.39	Average
2	2390.000	28.27	7.28	36.62	32.63	31.56	54.00	22.44	Average
3	2400.000	28.28	7.32	36.62	35.34	34.32	54.00	19.68	Average
4	2411.200	28.29	7.35	36.62	70.31	69.33	54.00	-15.33	Average

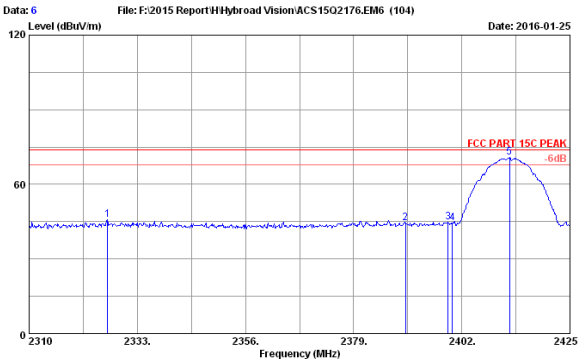
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 5
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2388.545	28.27	7.28	36.62	32.65	31.58	54.00	22.42	Average
2	2390.000	28.27	7.28	36.62	32.61	31.54	54.00	22.46	Average
3	2399.700	28.28	7.32	36.62	34.37	33.35	54.00	20.65	Average
4	2400.000	28.28	7.32	36.62	34.31	33.29	54.00	20.71	Average
5	2411.200	28.29	7.35	36.62	67.78	66.80	54.00	-12.80	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

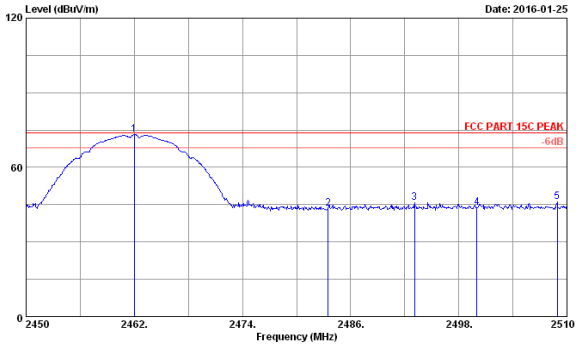


Site no. : 3m Chamber Data no. : 6
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2326.675	28.19	7.16	36.65	46.93	45.63	74.00	28.37	Peak
2	2390.000	28.27	7.28	36.62	45.68	44.61	74.00	29.39	Peak
3	2399.125	28.28	7.32	36.62	45.80	44.78	74.00	29.22	Peak
4	2400.000	28.28	7.32	36.62	45.49	44.47	74.00	29.53	Peak
5	2412.120	28.29	7.35	36.62	71.70	70.72	74.00	3.28	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 19 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

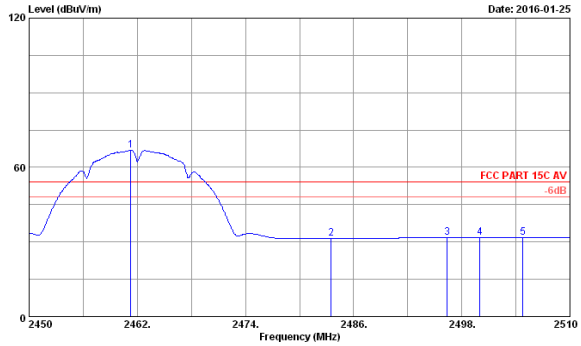


Site no. : 3m Chamber Data no. : 19
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.000	28.35	7.43	36.60	74.07	73.25	74.00	0.75	Peak
2	2483.500	28.38	7.51	36.59	44.27	43.57	74.00	30.43	Peak
3	2493.080	28.39	7.51	36.58	46.64	45.96	74.00	28.04	Peak
4	2500.000	28.40	7.51	36.58	44.50	43.83	74.00	30.17	Peak
5	2508.920	28.43	7.55	36.58	46.64	46.04	74.00	27.96	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 20 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

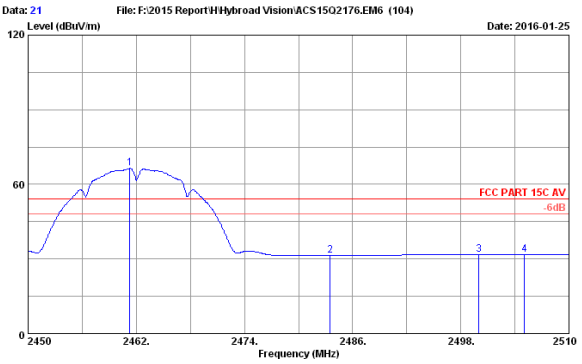


Site no. : 3m Chamber Data no. : 20
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.280	28.35	7.43	36.60	67.78	66.96	54.00	-12.96	Average
2	2483.500	28.38	7.51	36.59	32.17	31.47	54.00	22.53	Average
3	2496.380	28.40	7.51	36.58	32.45	31.78	54.00	22.22	Average
4	2500.000	28.40	7.51	36.58	32.42	31.75	54.00	22.25	Average
5	2504.780	28.42	7.55	36.58	32.48	31.87	54.00	22.13	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 21 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

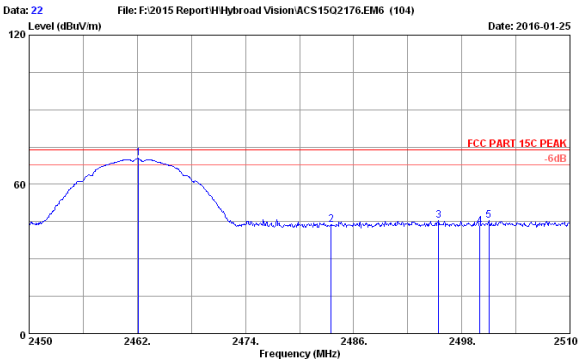


Site no. : 3m Chamber Data no. : 21
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.280	28.35	7.43	36.60	67.22	66.40	54.00	-12.40	Average
2	2483.500	28.38	7.51	36.59	32.16	31.46	54.00	22.54	Average
3	2500.000	28.40	7.51	36.58	32.45	31.78	54.00	22.22	Average
4	2505.080	28.42	7.55	36.58	32.46	31.85	54.00	22.15	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 22 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

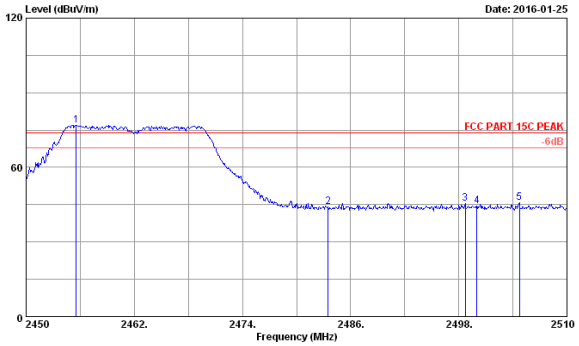


Site no. : 3m Chamber Data no. : 22
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11b 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.120	28.35	7.43	36.60	71.27	70.45	74.00	3.55	Peak
2	2483.500	28.38	7.51	36.59	44.62	43.92	74.00	30.08	Peak
3	2495.420	28.39	7.51	36.58	45.99	45.31	74.00	28.69	Peak
4	2500.000	28.40	7.51	36.58	43.83	43.16	74.00	30.84	Peak
5	2501.000	28.40	7.55	36.58	45.92	45.29	74.00	28.71	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 33 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

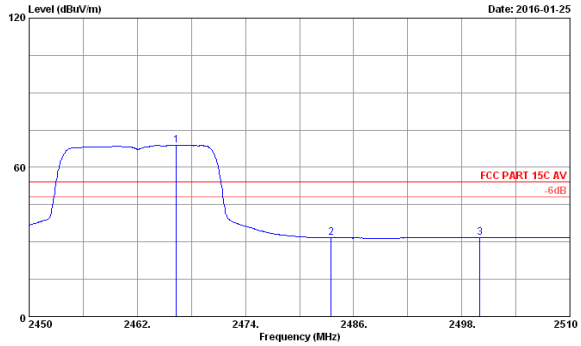


Site no. : 3m Chamber Data no. : 33
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2455.580	28.35	7.43	36.60	77.74	76.92	74.00	-2.92	Peak
2	2483.500	28.38	7.51	36.59	44.82	44.12	74.00	29.88	Peak
3	2498.720	28.40	7.51	36.58	46.22	45.55	74.00	28.45	Peak
4	2500.000	28.40	7.51	36.58	45.27	44.60	74.00	29.40	Peak
5	2504.720	28.42	7.55	36.58	46.28	45.67	74.00	28.33	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 34 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

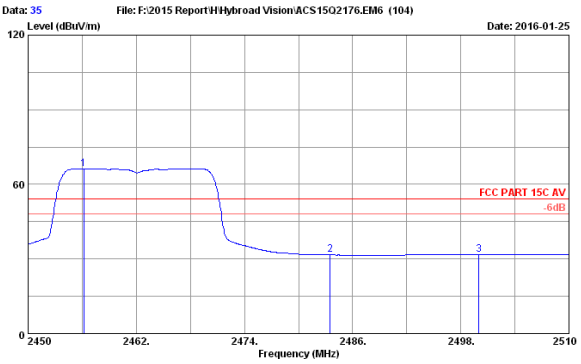


Site no. : 3m Chamber Data no. : 34
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2466.320	28.36	7.47	36.59	69.58	68.82	54.00	-14.82	Average
2	2483.500	28.38	7.51	36.59	32.43	31.73	54.00	22.27	Average
3	2500.000	28.40	7.51	36.58	32.38	31.71	54.00	22.29	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 35 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

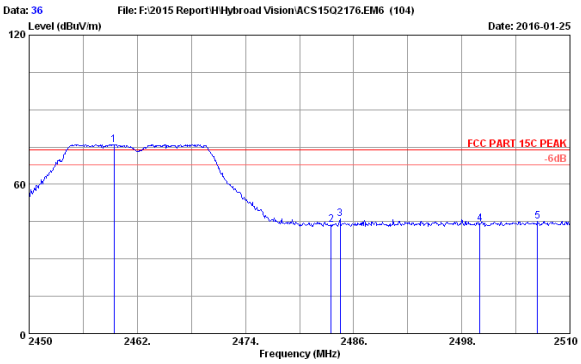


Site no. : 3m Chamber Data no. : 35
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2456.180	28.35	7.43	36.60	66.99	66.17	54.00	-12.17	Average
2	2483.500	28.38	7.51	36.59	32.30	31.60	54.00	22.40	Average
3	2500.000	28.40	7.51	36.58	32.38	31.71	54.00	22.29	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 36 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

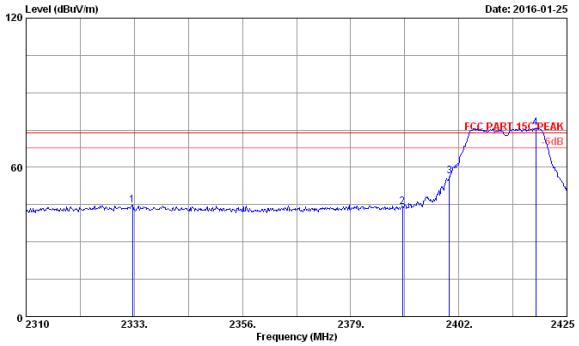


Site no. : 3m Chamber Data no. : 36
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2459.420	28.35	7.43	36.60	76.84	76.02	74.00	-2.02	Peak
2	2483.500	28.38	7.51	36.59	44.60	43.90	74.00	30.10	Peak
3	2484.500	28.38	7.51	36.59	46.82	46.12	74.00	27.88	Peak
4	2500.000	28.40	7.51	36.58	44.89	44.22	74.00	29.78	Peak
5	2506.400	28.42	7.55	36.58	45.79	45.18	74.00	28.82	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 49 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

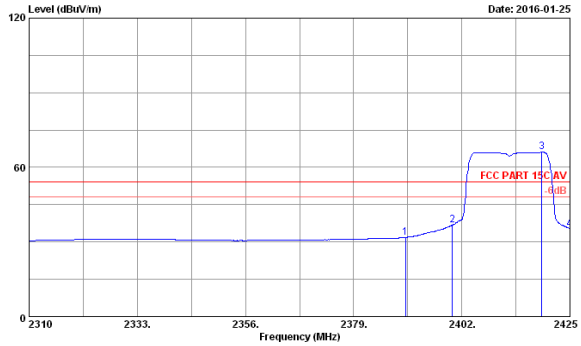


Site no. : 3m Chamber Data no. : 49
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2332.655	28.20	7.16	36.65	46.04	44.75	74.00	29.25	Peak
2	2390.000	28.27	7.28	36.62	45.03	43.96	74.00	30.04	Peak
3	2400.000	28.28	7.32	36.62	57.45	56.43	74.00	17.57	Peak
4	2418.330	28.30	7.35	36.61	76.82	75.86	74.00	-1.86	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 50 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

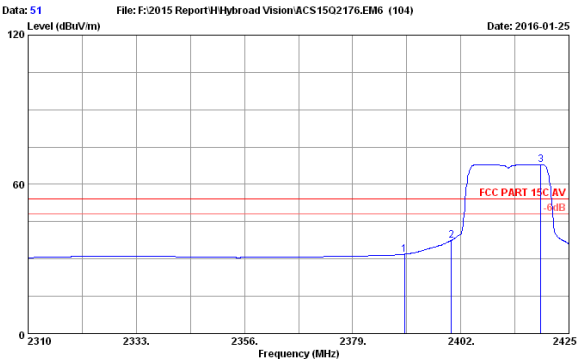


Site no. : 3m Chamber Data no. : 50
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.27	7.28	36.62	32.90	31.83	54.00	22.17	Average
2	2400.000	28.28	7.32	36.62	37.87	36.85	54.00	17.15	Average
3	2419.020	28.30	7.35	36.61	67.04	66.08	54.00	-12.08	Average
4	2425.000	28.31	7.35	36.61	36.15	35.20	54.00	18.80	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 51 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

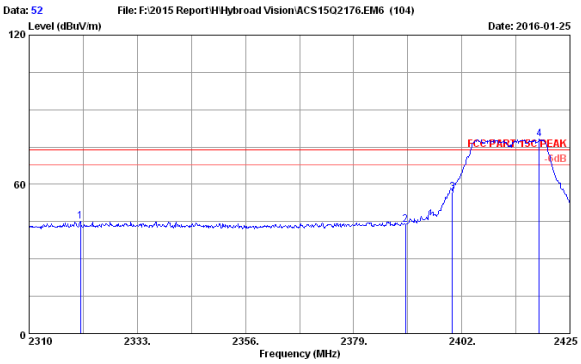


Site no. : 3m Chamber Data no. : 51
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.27	7.28	36.62	32.98	31.91	54.00	22.09	Average
2	2400.000	28.28	7.32	36.62	38.57	37.55	54.00	16.45	Average
3	2419.020	28.30	7.35	36.61	68.91	67.95	54.00	-13.95	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 52 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

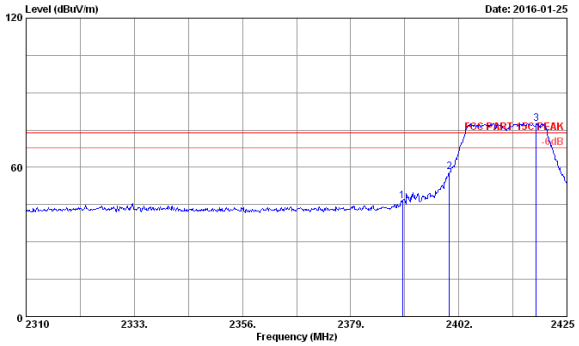


Site no. : 3m Chamber Data no. : 52
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11g 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2320.925	28.19	7.12	36.65	46.35	45.01	74.00	28.99	Peak
2	2390.000	28.27	7.28	36.62	44.95	43.88	74.00	30.12	Peak
3	2400.000	28.28	7.32	36.62	57.71	56.69	74.00	17.31	Peak
4	2418.445	28.30	7.35	36.61	79.20	78.24	74.00	-4.24	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 55 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

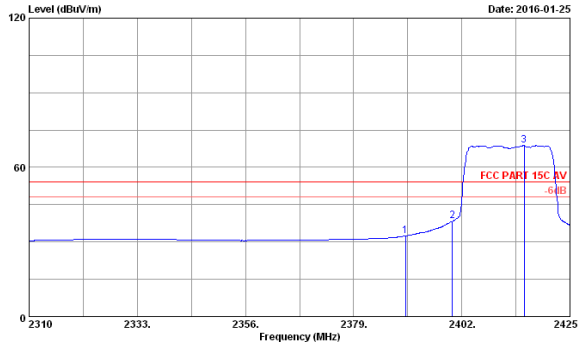


Site no. : 3m Chamber Data no. : 55
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.27	7.28	36.62	47.57	46.50	74.00	27.50	Peak
2	2400.000	28.28	7.32	36.62	59.26	58.24	74.00	15.76	Peak
3	2418.445	28.30	7.35	36.61	78.58	77.62	74.00	-3.62	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 56 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

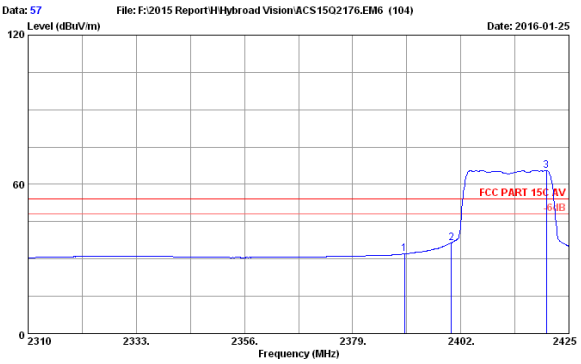


Site no. : 3m Chamber Data no. : 56
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.27	7.28	36.62	33.54	32.47	54.00	21.53	Average
2	2400.000	28.28	7.32	36.62	39.40	38.38	54.00	15.62	Average
3	2415.225	28.30	7.35	36.61	69.68	68.72	54.00	-14.72	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 57 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

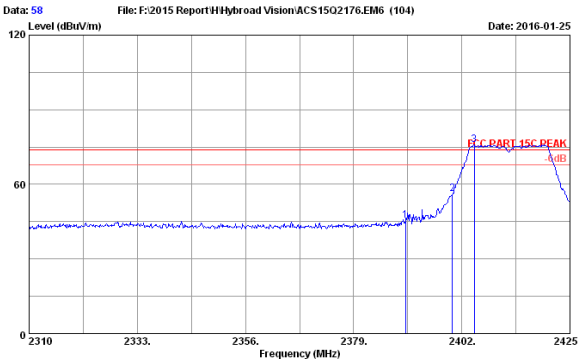


Site no. : 3m Chamber Data no. : 57
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.27	7.28	36.62	33.10	32.03	54.00	21.97	Average
2	2400.000	28.28	7.32	36.62	37.62	36.60	54.00	17.40	Average
3	2420.170	28.30	7.35	36.61	66.56	65.60	54.00	-11.60	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 58 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

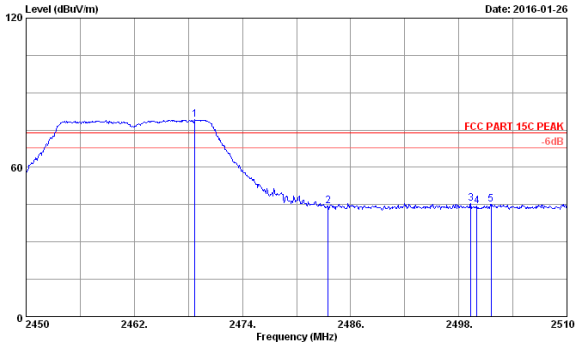


Site no. : 3m Chamber Data no. : 58
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2412MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.27	7.28	36.62	46.50	45.43	74.00	28.57	Peak
2	2400.000	28.28	7.32	36.62	57.34	56.32	74.00	17.68	Peak
3	2404.645	28.29	7.32	36.62	76.82	75.81	74.00	-1.81	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 71 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

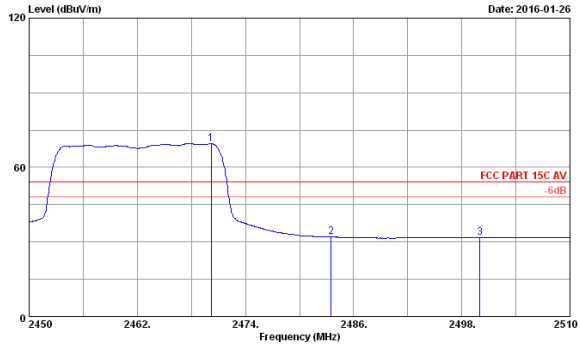


Site no. : 3m Chamber Data no. : 71
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2468.720	28.36	7.47	36.59	79.83	79.07	74.00	-5.07	Peak
2	2483.500	28.38	7.51	36.59	45.20	44.50	74.00	29.50	Peak
3	2499.320	28.40	7.51	36.58	46.16	45.49	74.00	28.51	Peak
4	2500.000	28.40	7.51	36.58	45.05	44.38	74.00	29.62	Peak
5	2501.600	28.41	7.55	36.58	45.66	45.04	74.00	28.96	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 72 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

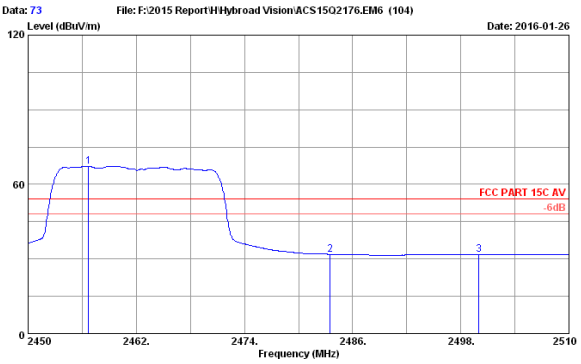


Site no. : 3m Chamber Data no. : 72
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2470.220	28.36	7.47	36.59	70.25	69.49	54.00	-15.49	Average
2	2483.500	28.38	7.51	36.59	32.72	32.02	54.00	21.98	Average
3	2500.000	28.40	7.51	36.58	32.38	31.71	54.00	22.29	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 73 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

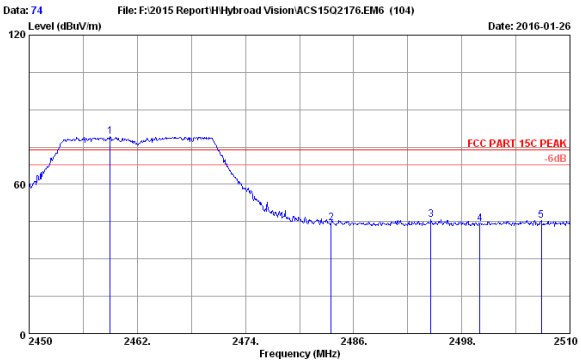


Site no. : 3m Chamber Data no. : 73
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2456.720	28.35	7.43	36.60	68.04	67.22	54.00	-13.22	Average
2	2483.500	28.38	7.51	36.59	32.62	31.92	54.00	22.08	Average
3	2500.000	28.40	7.51	36.58	32.36	31.69	54.00	22.31	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 74 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

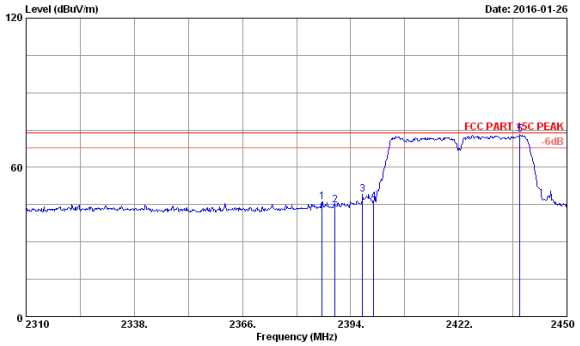


Site no. : 3m Chamber Data no. : 74
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT20 2462MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2459.000	28.35	7.43	36.60	80.10	79.28	74.00	-5.28	Peak
2	2483.500	28.38	7.51	36.59	45.16	44.46	74.00	29.54	Peak
3	2494.580	28.39	7.51	36.58	46.51	45.83	74.00	28.17	Peak
4	2500.000	28.40	7.51	36.58	44.86	44.19	74.00	29.81	Peak
5	2506.820	28.42	7.55	36.58	46.20	45.59	74.00	28.41	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 85 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

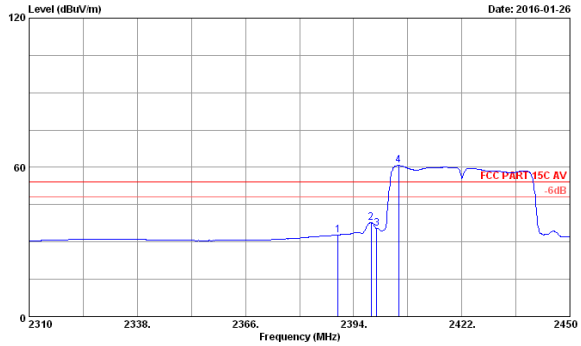


Site no. : 3m Chamber Data no. : 85
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2386.580	28.26	7.28	36.63	47.21	46.12	74.00	27.88	Peak
2	2390.000	28.27	7.28	36.62	45.96	44.89	74.00	29.11	Peak
3	2397.080	28.28	7.32	36.62	50.18	49.16	74.00	24.84	Peak
4	2400.000	28.28	7.32	36.62	47.30	46.28	74.00	27.72	Peak
5	2437.820	28.33	7.39	36.60	74.16	73.28	74.00	0.72	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 86 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

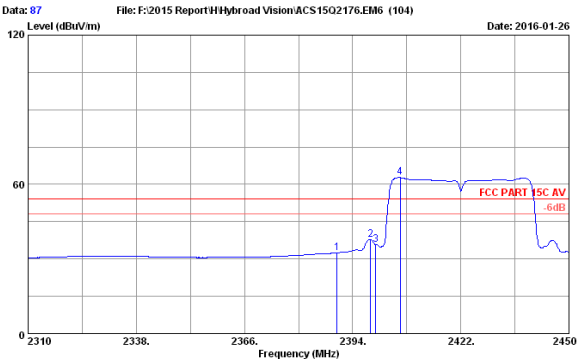


Site no. : 3m Chamber Data no. : 86
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.000	28.27	7.28	36.62	33.88	32.81	54.00	21.19	Peak
2	2398.480	28.28	7.32	36.62	38.73	37.71	54.00	16.29	Peak
3	2400.000	28.28	7.32	36.62	36.38	35.36	54.00	18.64	Peak
4	2405.620	28.29	7.32	36.62	61.72	60.71	54.00	-6.71	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 87 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

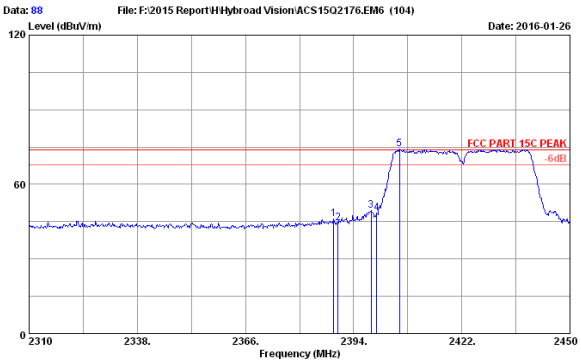


Site no. : 3m Chamber Data no. : 87
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.940	28.27	7.28	36.62	33.52	32.45	54.00	21.55	Average
2	2398.620	28.28	7.32	36.62	38.87	37.85	54.00	16.15	Average
3	2400.000	28.28	7.32	36.62	36.73	35.71	54.00	18.29	Average
4	2406.320	28.29	7.32	36.62	63.71	62.70	54.00	-8.70	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 88 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

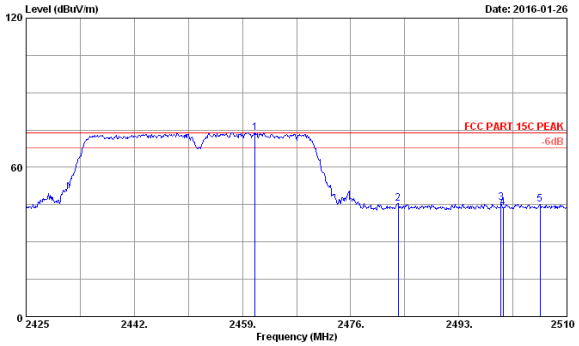


Site no. : 3m Chamber Data no. : 88
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2422MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2388.820	28.27	7.28	36.62	47.32	46.25	74.00	27.75	Peak
2	2390.000	28.27	7.28	36.62	45.60	44.53	74.00	29.47	Peak
3	2398.480	28.28	7.32	36.62	50.52	49.50	74.00	24.50	Peak
4	2400.000	28.28	7.32	36.62	49.45	48.43	74.00	25.57	Peak
5	2405.900	28.29	7.32	36.62	75.15	74.14	74.00	-0.14	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 101 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

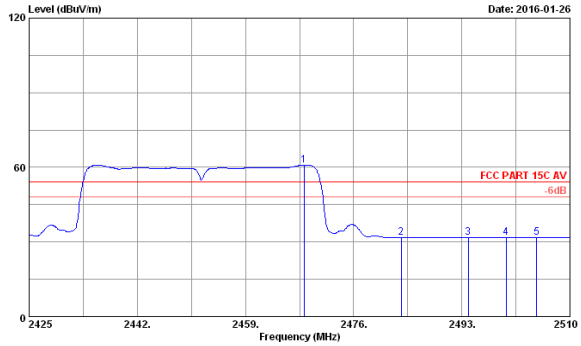


Site no. : 3m Chamber Data no. : 101
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.955	28.35	7.43	36.60	74.85	74.03	74.00	-0.03	Peak
2	2483.500	28.38	7.51	36.59	46.25	45.55	74.00	28.45	Peak
3	2499.630	28.40	7.51	36.58	46.31	45.64	74.00	28.36	Peak
4	2500.000	28.40	7.51	36.58	44.57	43.90	74.00	30.10	Peak
5	2505.750	28.42	7.55	36.58	45.80	45.19	74.00	28.81	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 102 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

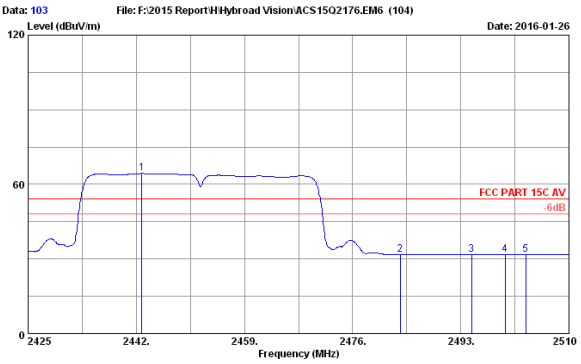


Site no. : 3m Chamber Data no. : 102
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2468.180	28.36	7.47	36.59	61.66	60.90	54.00	-6.90	Average
2	2483.500	28.38	7.51	36.59	32.43	31.73	54.00	22.27	Average
3	2494.020	28.39	7.51	36.58	32.44	31.76	54.00	22.24	Average
4	2500.000	28.40	7.51	36.58	32.36	31.69	54.00	22.31	Average
5	2504.730	28.42	7.55	36.58	32.42	31.81	54.00	22.19	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 103 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)

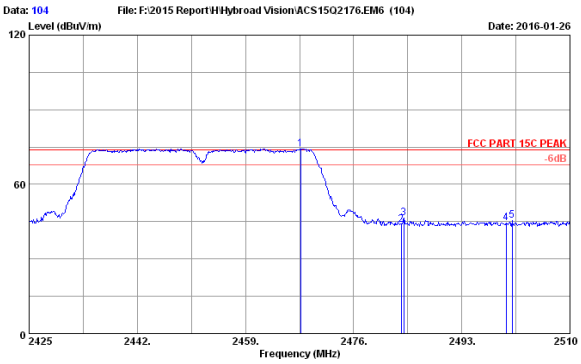


Site no. : 3m Chamber Data no. : 103
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2442.850	28.33	7.39	36.60	65.24	64.36	54.00	-10.36	Average
2	2483.500	28.38	7.51	36.59	32.46	31.76	54.00	22.24	Average
3	2494.700	28.39	7.51	36.58	32.46	31.78	54.00	22.22	Average
4	2500.000	28.40	7.51	36.58	32.37	31.70	54.00	22.30	Average
5	2503.200	28.41	7.55	36.58	32.48	31.86	54.00	22.14	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Data: 104 File: F:\2015 Report\H\Hybroad Vision\ACS15Q2176.EM6 (104)



Site no. : 3m Chamber Data no. : 104
Dis. / Ant. : 3m 2015 3115-4877 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23.9°C/52.8%
Engineer : Leo-Li
EUT : DIRECT VINA BOX
Power rating : DC 12V From Adapter Input AC 120V/60Hz
Test Mode : IEEE802.11nHT40 2452MHz Tx
A301

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2467.670	28.36	7.47	36.59	75.09	74.33	74.00	-0.33	Peak
2	2483.500	28.38	7.51	36.59	44.66	43.96	74.00	30.04	Peak
3	2483.905	28.38	7.51	36.59	47.05	46.35	74.00	27.65	Peak
4	2500.000	28.40	7.51	36.58	45.06	44.39	74.00	29.61	Peak
5	2500.905	28.40	7.55	36.58	46.25	45.62	74.00	28.38	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

7. 6dB Bandwidth Test

7.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	Apr.28,15	1 Year
2.	Spectrum	Agilent	N9030A	MY51380221	Oct.18,15	1Year
3.	Attenuator	Agilent	8491B	MY39262165	Apr.28,15	1 Year
4.	RF Cable	Marvelous Microwave Inc	SFL402105FLEX	NO.1	Oct.17.15	1 Year

7.2.Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

7.3.Test Procedure

The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

7.4.Test Results

EUT：DIRECT VINA BOX		
M/N：A301		
Test date: 2016-01-10	Pressure: 101.6±1.0 kpa	Humidity: 51.4±3.0%
Tested by: Leo_Li	Test site: RF site	Temperature:22.4±0.6 ℃

Test Mode	CH	6dB bandwidth (MHz)	Limit (KHz)
11b	CH1	10.10	>500
	CH6	10.10	>500
	CH11	10.09	>500
11g	CH1	16.61	>500
	CH6	16.61	>500
	CH11	16.61	>500
11n HT20	CH1	17.86	>500
	CH6	17.86	>500
	CH11	17.86	>500
11n HT40	CH1	36.50	>500
	CH4	36.54	>500
	CH7	36.52	>500
Conclusion：PASS			

Test Mode: IEEE 802.11b
Test CH1: 2412MHz

Test Mode: IEEE 802.11g
Test CH1: 2412MHz

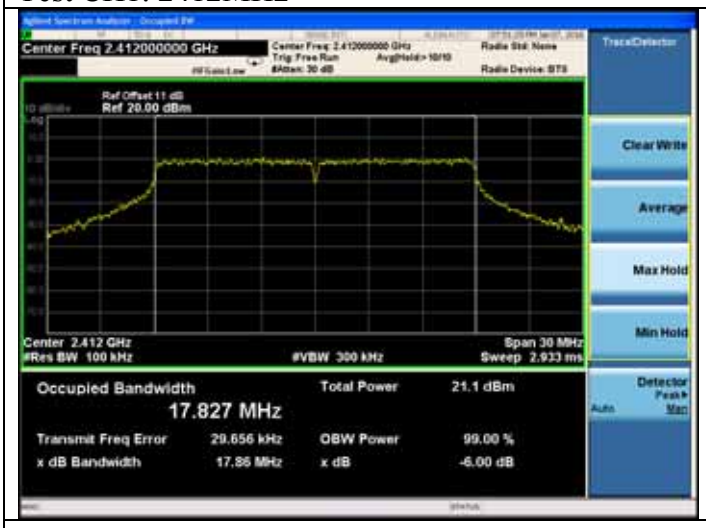
Test CH6: 2437MHz

Test CH6: 2437MHz

Test CH11: 2462MHz

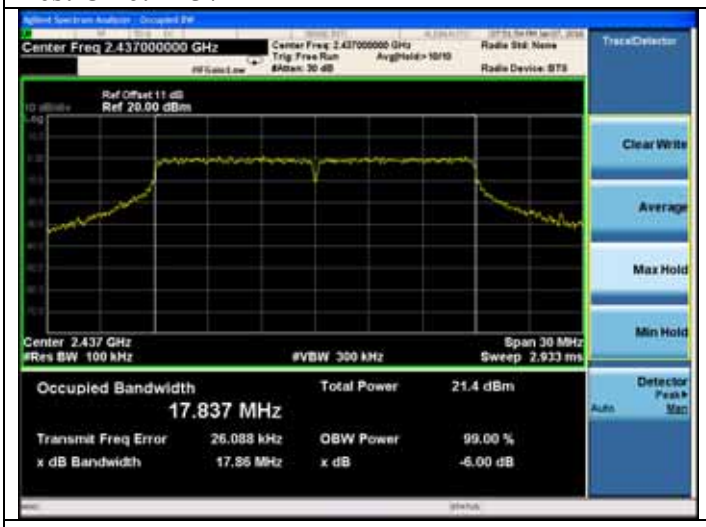
Test CH11: 2462MHz

Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz

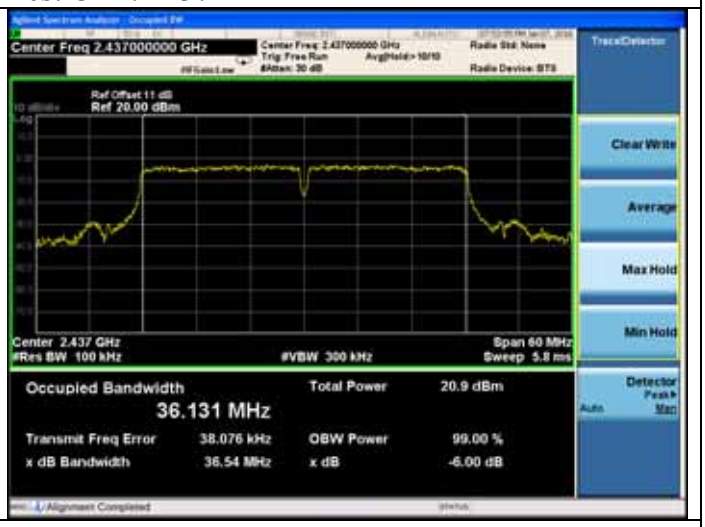


Test Mode: IEEE 802.11n HT40
Test CH1: 2422MHz

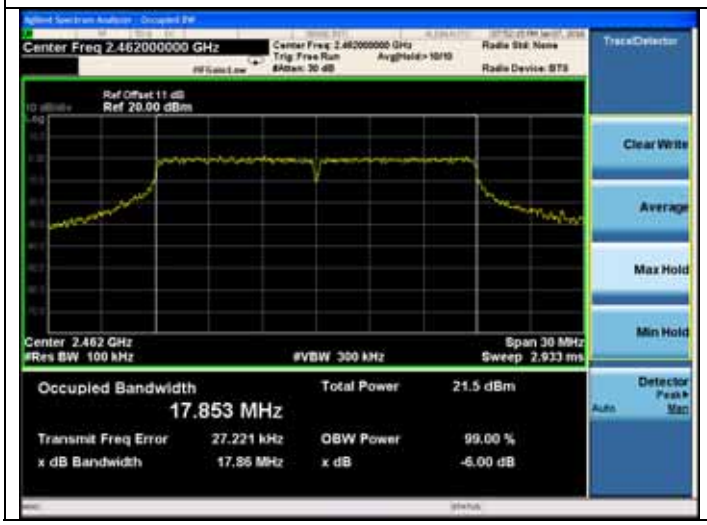
Test CH6: 2437MHz



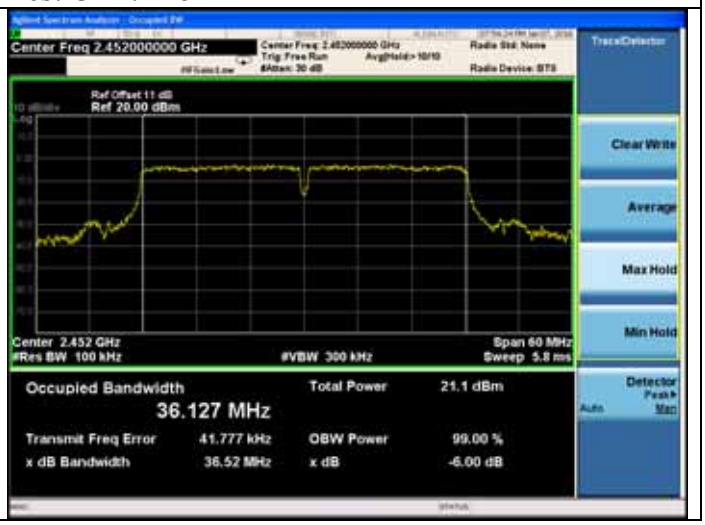
Test CH4: 2437MHz



Test CH11: 2462MHz



Test CH4: 2452MHz



8. OUTPUT POWER TEST

8.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	Apr.28,15	1 Year
2.	Spectrum	Agilent	N9030A	MY51380221	Oct.18,15	1Year
3.	Power meter	Anritsu	ML2487A	6K00002472	Aug.21,15	1Year
4.	Power sensor	Anritsu	MA2491A	0033005	Aug.21,15	1Year
5.	Attenuator (20dB)	Agilent	8491B	MY39262165	Apr.28,15	1 Year
6.	RF Cable	Marvelous Microwave Inc	SFL402105FLEX	NO.1	Oct.17,15	1 Year

8.2.Limit (FCC Part 15C 15.247 b(3))

For systems using digital modulation in the 2400—2483.5MHz, The Peak output Power shall not exceed 1W(30dBm), As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level.

8.3.Test Procedure

1, Connected the EUT's antenna port to measure device by 26dB attenuator.

2, For IEEE 802.11b/g and IEEE802.11n HT20 modes, use a power meter which bandwidth is 20MHz, above the bandwidth of signals, to measure out output power in each mode.

3, For IEEE802.11n HT40 mode, since the signal bandwidth is nearly 40MHz, which is above 20MHz bandwidth of power sensor of ML2491A. use the test method descried in KDB558074 clause 9.2.2.

1) Set the RBW=1MHz and VBW =3MHz
2) Set the span at least 1.5 times the OBW
3) Detector = RMS
4) Sweep time = auto couple
5) allow trace to fully stabilize
6) use the spectrum amalyser's integrated band power measurement function with band limits set equal to the EBW band edges.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

8.4.Test Results

EUT：DIRECT VINA BOX			
M/N：A301			
Test date: 2016-01-29	Pressure: 101.1±1.0 kpa		Humidity: 53.4±3.0%
Tested by: Leo-Li	Test site: RF site		Temperature:22.2±0.6 ℃
Test Mode	CH	output Power (dBm)	Limit (dBm)
11b	CH1	8.87	30
	CH6	8.52	30
	CH11	8.24	30
11g	CH1	14.79	30
	CH6	15.18	30
	CH11	15.39	30
11n HT20	CH1	14.64	30
	CH6	15.02	30
	CH11	15.27	30
11n HT40	CH1	14.25	30
	CH4	14.62	30
	CH7	14.84	30
Conclusion：PASS			

9. POWER SPECTRAL DENSITY TEST

9.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	Apr.28,15	1 Year
2.	Spectrum	Agilent	N9030A	MY51380221	Oct.18,15	1Year
3.	Attenuator	Agilent	8491B	MY39262165	Apr.28,15	1 Year
4.	RF Cable	Marvelous Microwave Inc	SFL402105FLEX	NO.1	Oct.17,15	1 Year

9.2.Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

9.3.Test Procedure

1. Connected the EUT's antenna port to spectrum analyzer device by 20dB attenuator.

2. Set span to 1.5 times the DTS Bandwidth.

3. Set the RBW=3KHz, VBW=10KHz.

4. Detector=peak, Sweep time=Auto, Trace mode=max Hold

5. All the trace to fully stabilize.

6. Use the peak marker function to determine the maximum amplitude level with in the RBW.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude

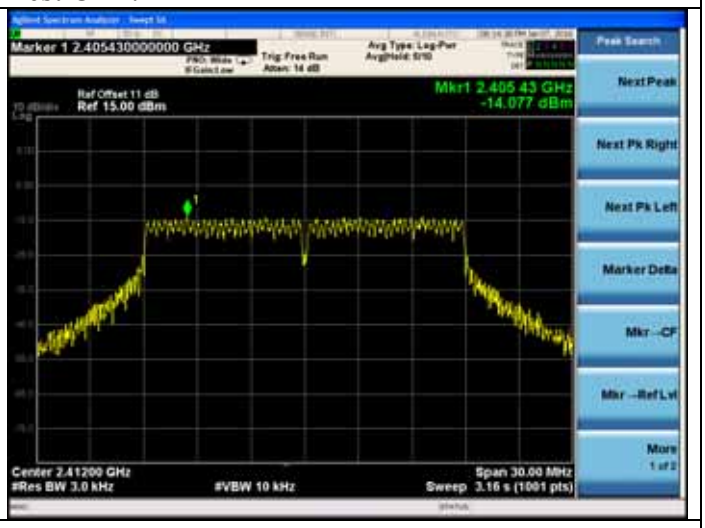
9.4.Test Results

EUT: DIRECT VINA BOX		
M/N: A301		
Test date: 2016-01-29	Pressure: 102.1±1.0 kpa	Humidity: 51.8±3.0%
Tested by: Leo-Li	Test site: RF site	Temperature:22.9±0.6 ℃

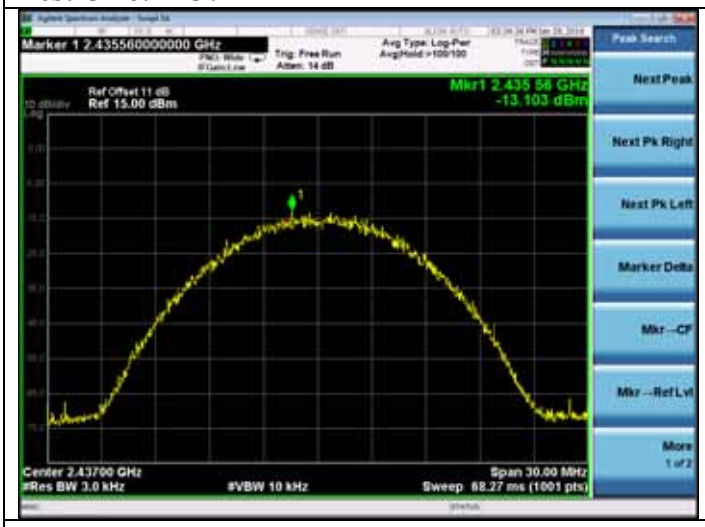
Test Mode	CH	Power Density (dBm/3KHz)	Limit (dBm/3KHz)
11b	CH1	-11.293	8
	CH6	-13.103	8
	CH11	-11.007	8
11g	CH1	-14.077	8
	CH6	-13.908	8
	CH11	-13.851	8
11n HT20	CH1	-14.155	8
	CH6	-10.372	8
	CH11	-10.024	8
11n HT40	CH1	-12.683	8
	CH4	-14.863	8
	CH7	-15.765	8
Conclusion: PASS			

Test Mode: IEEE 802.11b
Test CH1: 2412MHz

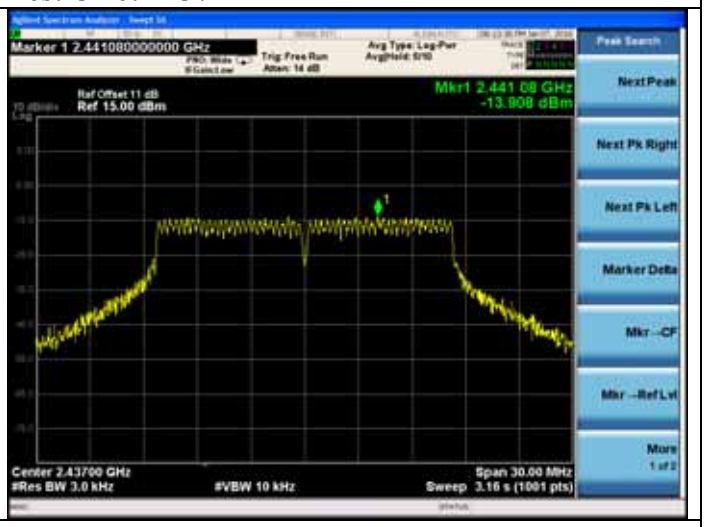
Test Mode: IEEE 802.11g
Test CH1: 2412MHz



Test CH6: 2437MHz

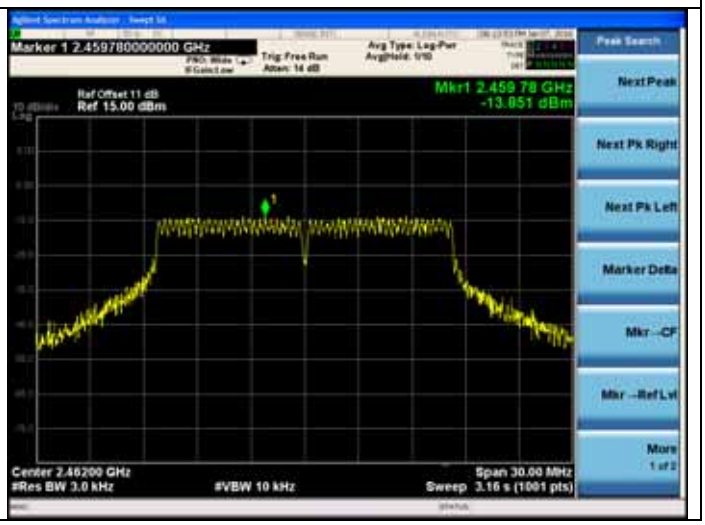


Test CH6: 2437MHz

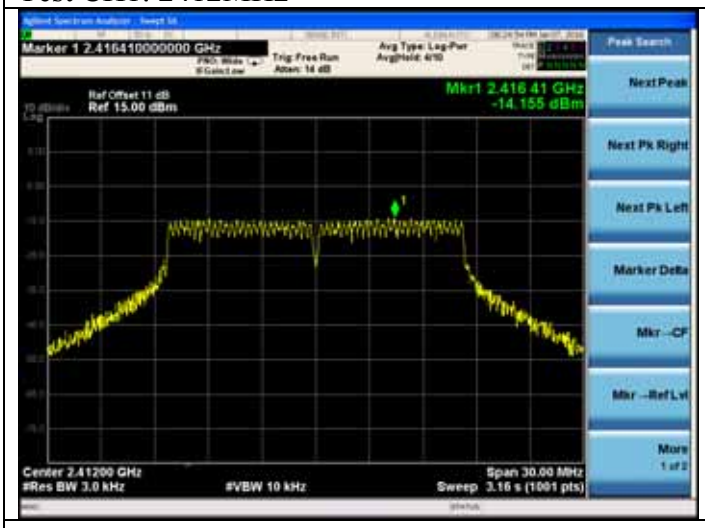


Test CH11: 2462MHz

Test CH11: 2462MHz

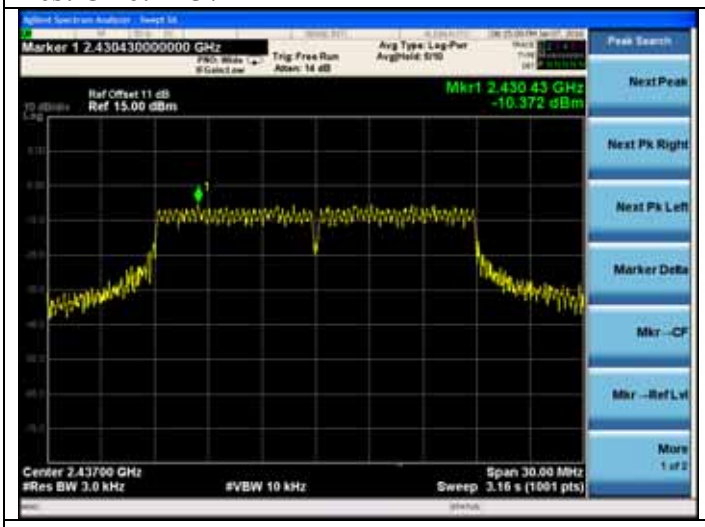


Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz



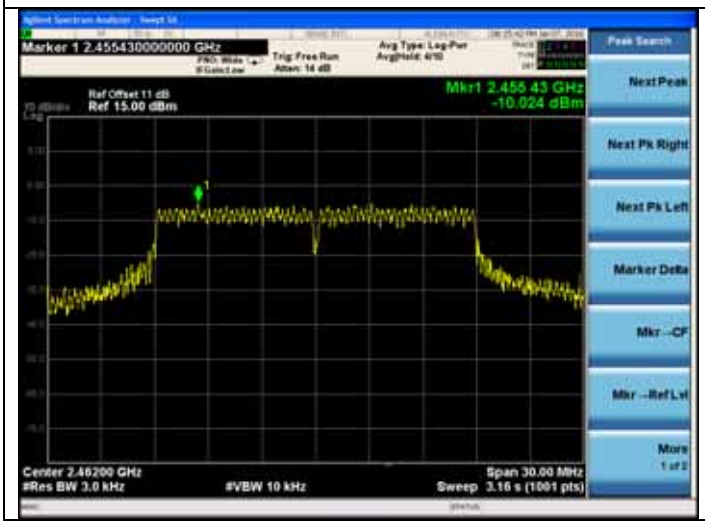
Test Mode: IEEE 802.11n HT40
Test CH1: 2422MHz

Test CH6: 2437MHz



Test CH4: 2437MHz

Test CH11: 2462MHz



Test CH7: 2452MHz

10.MPE ESTIMATION

10.1.Limit for General Population/ Uncontrolled Exposures

Frequency	**Power density (mW/ cm^2)**	**Averaging time(minutes)**
300MHz----1.5GHz	F/1500	30
1.5GHz---100GHz	1.0	30

Frequency(MHz)	**Power density (mW/ cm^2)**	**Averaging time(minutes)**
2412	1	30
2437	1	30
2462	1	30

Note: F= Frequency in MHz

10.2. Estimation Result

EUT：DIRECT VINA BOX		
M/N：A301		
Test date: 2016-01-29	Pressure: 101.2±1.0 kpa	Humidity: 52.8±3.0%
Tested by: Leo_Li	Test site: RF site	Temperature:23.6±0.6 ℃

Test Mode	CH	Frequency (MHz)	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11b	CH1	2412	8.87	7.71	2	1.58	0.0024
	CH6	2437	8.52	7.11	2	1.58	0.0022
	CH11	2462	8.24	6.67	2	1.58	0.0021
11g	CH1	2412	14.79	30.13	2	1.58	0.0095
	CH6	2437	15.18	32.96	2	1.58	0.0104
	CH11	2462	15.39	34.59	2	1.58	0.0109
11n HT20	CH1	2412	14.64	29.11	2	1.58	0.0092
	CH6	2437	15.02	31.77	2	1.58	0.0100
	CH11	2462	15.27	33.65	2	1.58	0.0106
11n HT40	CH3	2422	14.25	26.61	2	1.58	0.0084
	CH6	2437	14.62	28.97	2	1.58	0.0091
	CH9	2452	14.84	30.48	2	1.58	0.0096

$$MPE=\frac{PG}{4\pi R^2} \quad (R=20\ cm)$$

11. ANTENNA REQUIREMENT

11.1. Standard Applicable

For intentional device, according to FCC CFR 47 Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC CFR 47 Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2. Antenna Connected Construction

The antenna used for this product are Integrated F and it connector is designed with permanent attachment that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 2.4dBi.

12. DEVIATION TO TEST SPECIFICATIONS

[NONE]

13. PHOTOGRAPH OF TEST

13.1. Photos of Radiated Emission Test

30-1000MHz

Above 1000MHz

14. PHOTOS OF THE EUT

Figure1
General Appearance of the EUT

Figure 2
General Appearance of the EUT

Figure 3
General Appearance of the EUT

Figure 4
General Appearance of the EUT

Figure 5
General Appearance of the EUT

Figure 6
General Appearance of the EUT

Figure 7
General Appearance of the EUT

Figure 8
General Appearance of the EUT

Figure 9
Inside of the EUT

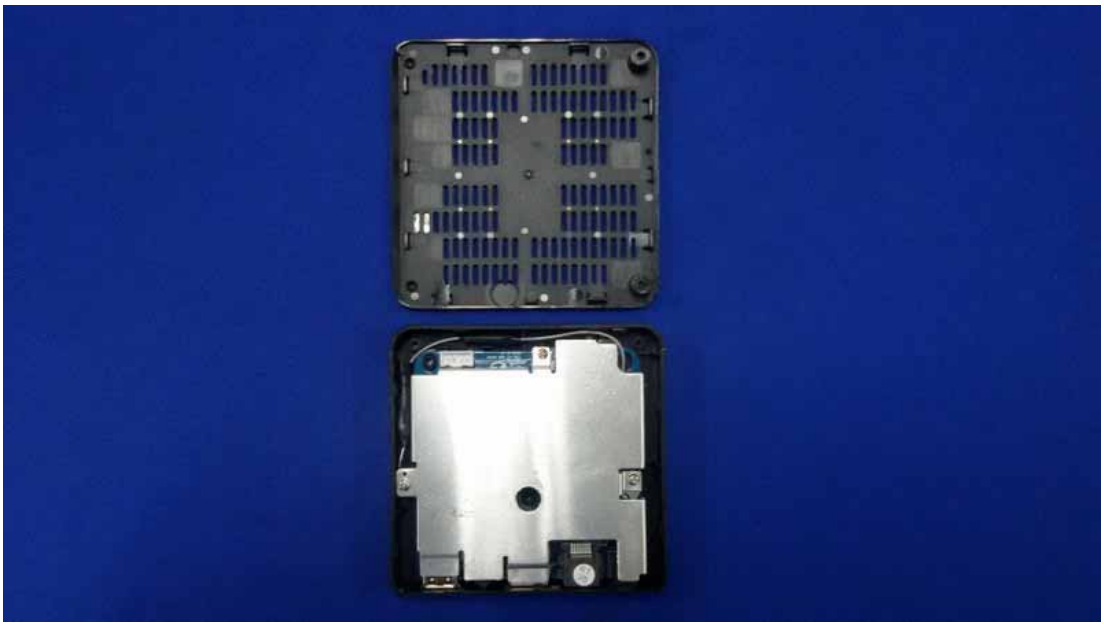


Figure 10
Inside of the EUT

Figure 11
Inside of the EUT

Figure 12
Inside of the EUT

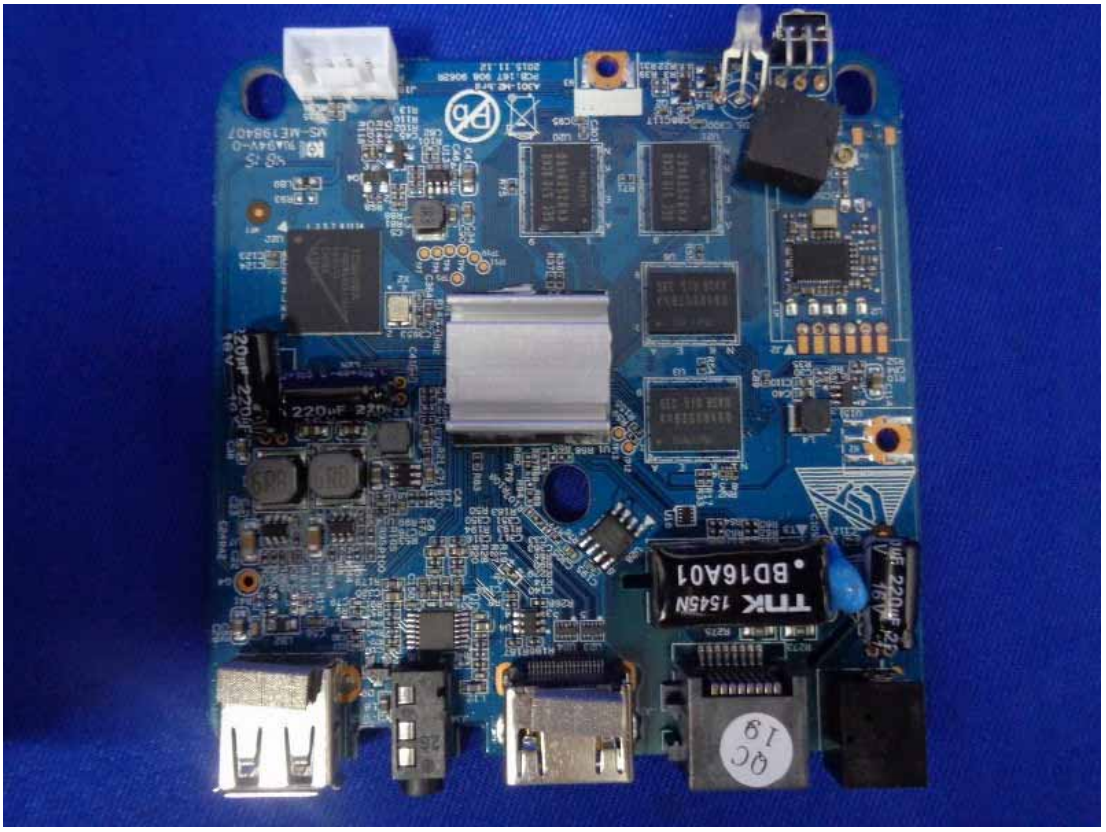


Figure 13
Inside of the EUT

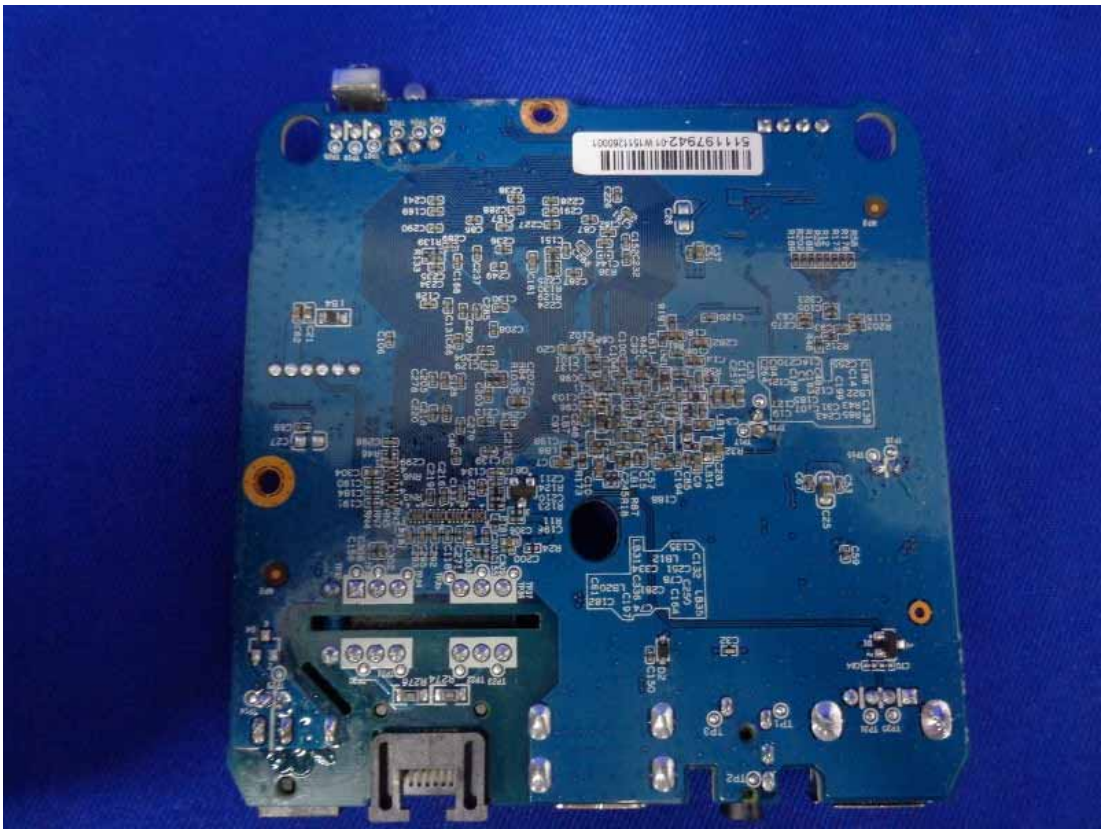


Figure 14
Inside of the EUT

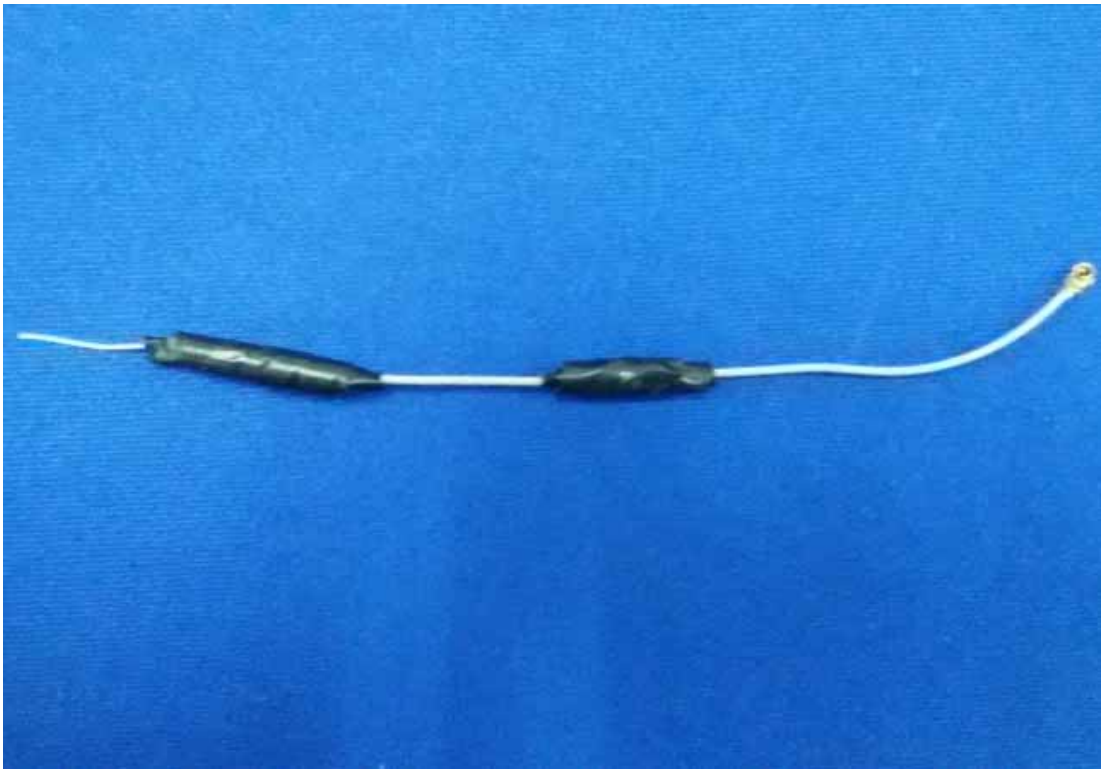


Figure 15
Inside of the EUT

Figure16
Inside of the EUT

Figure 17
Inside of the EUT

Figure 18
Power Adapter

Figure 19
Power Adapter

Figure 20
Remote Controller

Figure 21
Remote Controller

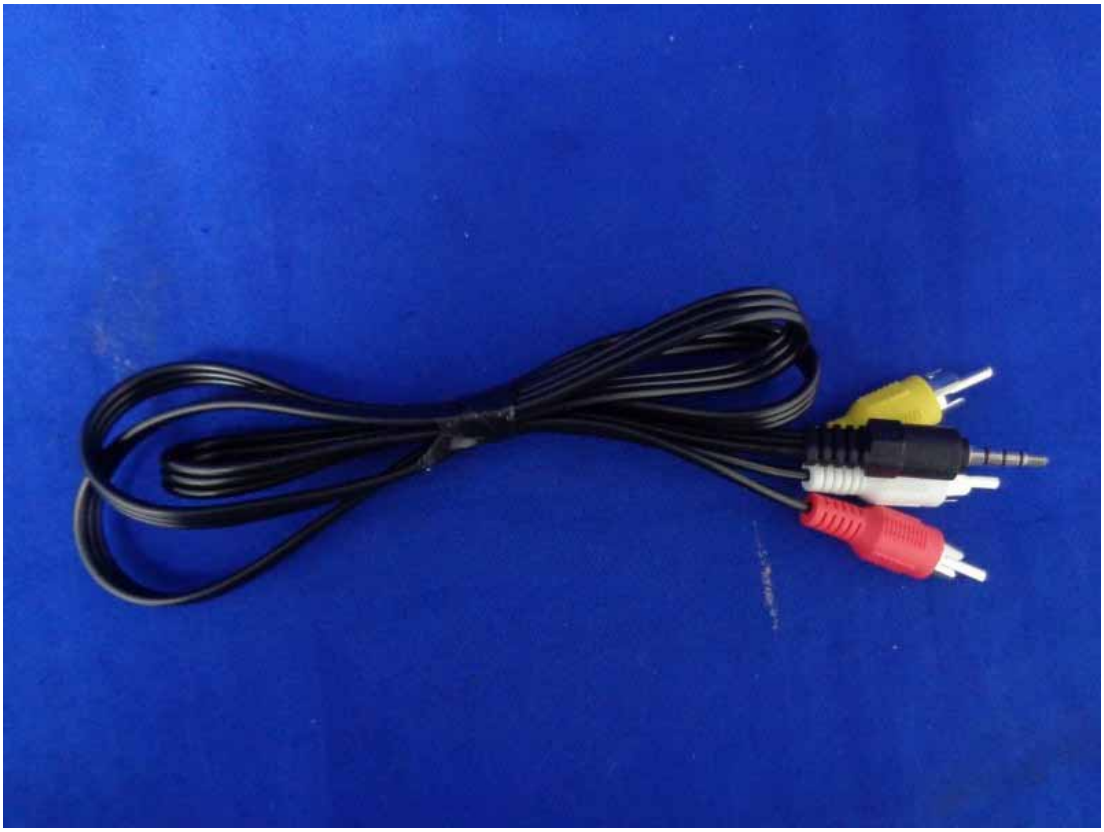



Figure 22
AV Cable