FCC 47 CFR PART 15 SUBPART C AND ANSI C63.10:2013 TEST REPORT

Report No.: T151020D04-RP1-1

For

PANEL PC

Model: VT1020-ABCXXXXXX

(A for power input voltage: can be "L" or "H", B for touch screen type: can be "R" or blank, C for defrost function: can be "D" or blank, X for marketing used only: can be alphanumeric or blank)

Trade Name: Ubiqconn

Issued for

Ubiqconn Technology, Inc.

8F, No. 300, Yang Guang St., NeiHu. Taipei, Taiwan, 11491

Issued by

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Issued Date: December 08, 2015



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Revision History

Report No.: T151020D04-RP1-1

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	12/08/2015	Initial Issue	All Page 162	Gloria Chang

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1. TEST REPORT CERTIFICATION

Applicant : Ubiqconn Technology, Inc.

Address: 8F, No. 300, Yang Guang St., NeiHu. Taipei, Taiwan,

11491

Equipment Under Test: PANEL PC

Model : VT1020-ABCXXXXXX

(A for power input voltage: can be "L" or "H", B for touch screen type: can be "R" or blank, C for defrost function: can be "D" or blank, X for marketing used only: can be alphanumeric or blank)

Report No.: T151020D04-RP1-1

Trade Name : Ubiqconn

Tested Date : October 20 ~ November 20, 2015

APPLICABLE STANDARD		
Standard	Test Result	
FCC Part 15 Subpart C AND	PASS	
ANSI C63.10:2013	PASS	

WE HEREBY CERTIFY THAT: The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved by:

Sb. Lu

Sr. Engineer

Reviewed by:

Gundam Lin Sr. Engineer

2. EUT DESCRIPTION

Product Name	PANEL PC	
	VT1020-ABCXXXXXX	
Model Number	(A for power input voltage: can be "L" or "H", B for touch screen type: can be "R" or blank, C for defrost function: can be "D" or blank, X for marketing used only: can be alphanumeric or blank)	
Identify Number	T151020D04	
Received Date	October 20, 2015	
Frequency Range	IEEE 802.11b/g, 802.11gn HT20: 2412MHz ~ 2462MHz IEEE 802.11gn HT40: 2422MHz ~ 2452MHz Bluetooth 4.0 mode: 2402MHz ~ 2480MHz	
	IEEE 802.11b mode: 18.46 dBm (0.0701 W)	
	IEEE 802.11g mode: 20.50dBm (0.1122 W)	
Transmit Power	IEEE 802.11gn HT20 mode: 23.24 dBm (0.2109 W)	
	IEEE 802.11gn HT40 mode: 18.98 dBm (0.0791 W)	
	Bluetooth 4.0 mode: 5.47 dBm (0.0035W)	
Channel Spacing	IEEE 802.11b/g, 802.11gn HT20/HT40: 5MHz	
Channel Spacing	Bluetooth 4.0 mode: 2MHz	
	IEEE 802.11b/g, 802.11gn HT20: 11 Channels	
Channel Number	IEEE 802.11gn HT40: 7 Channels	
	Bluetooth 4.0: 40 Channels	
	IEEE 802.11b mode: up to 11 Mbps IEEE 802.11g mode: up to 54 Mbps	
	IEEE 802.11g mode: up to 34 mbps IEEE 802.11gn HT20 mode (800ns GI): up to 130.00 Mbps	
Transmit Data Rate	IEEE 802.11gn HT20 mode (400ns GI): up to 144.40 Mbps	
	IEEE 802.11gn HT40 mode (800ns GI): up to 270.00 Mbps	
	IEEE 802.11gn HT40 mode (400ns Gl): up to 300.00 Mbps	
	Bluetooth 4.0 mode: 1Mbps	
	IEEE 802.11b mode: DSSS (CCK, DQPSK, DBPSK)	
	IEEE 802.11g mode: OFDM (64QAM, 16QAM, QPSK, BPSK)	
Type of Modulation	IEEE 802.11gn HT20/40 mode:	
	OFDM (64QAM, 16QAM, QPSK, BPSK)	
	Bluetooth 4.0 mode: GFSK Dipole Antenna × 2 (External),	
	Antenna 1(Chain A), Antenna Gain : 5 dBi	
	Antenna 2(Chain B), Antenna Gain : 5 dBi	
Antenna Type	PCB Antenna × 2 (Internal),	
	Antenna 1(Chain A), Antenna Gain : 3.17 dBi	
	Antenna 2(Chain B), Antenna Gain : 3.21 dBi	

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Power Rating

VT1020-HRD: 18-60Vdc, 4.5A

VT1020-LRD: 9-32Vdc, 9A

7.50Vdc, 2900mAh, 21.75Wh (For Battery)

Test Voltage

120Vac, 60Hz

Non-shielded cable, 0.8 m × 1 (Detachable)

Audio In Port × 1, Audio Out Port × 1, RJ-45 Port × 2, USB(RS232) Port × 1, Expansion Port × 1, Canbus Port × 2, COM Port × 2, DIO Port × 1, Power Port × 1

Signal Cable

Shielded RS232 to USB cable, 0.15 m × 1 (Detachable)

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The difference of the series model

Model Number	Difference
VT1020-ABCXXXXXX	1. A for power input voltage: can be "L" or "H", B for touch screen type: can be "R" or blank, C for defrost function: can be "D" or blank, X for marketing used only: can be alphanumeric or blank
	2. The different models as for the marketing purpose.

Remark:

- 1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
- 2. For more details, please refer to the User's manual of the EUT.
- 3. The difference between VT1020-HRD and VT1020-LRD is power rating, it would not influence the RF characteristics, therefore the model VT1020-HRD was considered the main model for testing.
- 4. This submittal(s) (test report) is intended for FCC ID: ZWM-VT-1020 filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.

3. DESCRIPTION OF TEST MODES

The EUT is a 802.11n + Bluetooth transceiver in PANEL PC.

For IEEE 802.11b/g mode: (1TX / 1RX): Chain A (Ant 1) transmit/receive.

For IEEE 802.11gn HT20/HT40 mode (2TX / 2RX) :

Chain A (Ant 1) & Chain B (Ant 2) transmit/receive.

For Bluetooth: Chain B (Ant 2) transmit/receive.

			Antenna Gain (dBi)		Test item	
No.	Antenna Position	Antenna Type			Spurious	O a sa des a ta al
		. 7	1	2	emissions	Conducted
1	External	Dipole	5	5	V	V
2	Internal	PCB	3.17	3.21	V	

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Conducted Emission / Radiated Emission Test (Below 1 GHz)

1. The following test modes were scanned during the preliminary test:

No.	Pre-Test mode
1	TX Mode / External Antenna
2	TX Mode / Internal Antenna

2. After the preliminary scan, the following test mode was found to produce the highest emission level.

Final Test mode			
	Radiated Emission	Mode 1	
Emission		Mode 2	
	Conducted Emission	Mode 1	

Remark: Then, the above highest emission mode of the configuration of the EUT and cable was chosen for all final test items.

Conducted / Radiated Emission Test (Above 1 GHz)

For WiFi mode:

IEEE 802.11b/g, 802.11gn HT20 mode:

The EUT had been tested under operating condition.

There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2412
Middle	2437
High	2462

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IEEE 802.11b mode: 1Mbps data rate (worst case) was chosen for full testing.

IEEE 802.11g mode: 6Mbps data rate (worst case) was chosen for full testing.

IEEE 802.11gn HT20 mode: 6.5Mbps data rate (worst case) was chosen for full testing.

IEEE 802.11gn HT40 mode:

The EUT had been tested under operating condition.

There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2422
Middle	2437
High	2452

IEEE 802.11gn HT40 mode: 13.5Mbps data rate (worst case) was chosen for full testing.

For Bluetooth 4.0 mode:

The EUT had been tested under operating condition.

There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2402
Middle	2440
High	2480

4. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10:2013 and FCC CFR 47, 15.207, 15.209 and 15.247.

5. FACILITIES AND ACCREDITATION

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

No.989-1, Wenshan Rd., Shangshan Village,

Qionglin Township, Hsinchu County 30741, Taiwan (R.O.C.)

The sites are constructed in conformance with the requirements of ANSI C63.10:2013 and CISPR 22. All receiving equipment conforms to CISPR 16-1-1, CISPR 16-1-2, CISPR 16-1-3, CISPR 16-1-4 and CISPR 16-1-5.

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5.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

Taiwan TAF

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada INDUSTRY CANADA
Japan VCCI
Taiwan BSMI
USA FCC MRA

Copies of granted accreditation certificates are available for downloading from our web site, http:///www.ccsrf.com

Remark: FCC Designation Number TW1027.

5.3 MEASUREMENT UNCERTAINTY

The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4-2.

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PARAMETER	UNCERTAINTY
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 30 to 1000 MHz	+/- 3.97
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 1 to 18GHz	+/- 3.58
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 18 to 26 GHz	+/- 3.59
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 26 to 40 GHz	+/- 3.81
Conducted Emission (Mains Terminals), 9kHz to 30MHz	+/- 2.48

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Consistent with industry standard (e.g. CISPR 22, clause 11, Measurement Uncertainty) determining compliance with the limits shall be base on the results of the compliance measurement. Consequently the measure emissions being less than the maximum allowed emission result in this be a compliant test or passing test.

The acceptable measurement uncertainty value without requiring revision of the compliance statement is base on conducted and radiated emissions being less than U_{CISPR} which is 3.6dB and 5.2dB respectively. CCS values (called U_{Lab} in CISPR 16-4-2) is less than U_{CISPR} as shown in the table above. Therefore, MU need not be considered for compliance.

6. SETUP OF EQUIPMENT UNDER TEST

SUPPORT EQUIPMENT

No.	Product	Manufacturer	Model No.	Serial No.	
1	Notebook PC	HP	ProBook 4421s	CNF03242PJ	

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Power Adapter:

No.	Manufacturer	Model No.	Power Input	Power Output
1	MEAN WELL	DRP-240-24	100-240Vac, 3.5A, 50/60Hz	24Vdc 10A

١	lo.	Signal Cable Description
	1	Shielded RJ-45 cable, 12m x 1

SETUP DIAGRAM FOR TESTS

EUT & peripherals setup diagram is shown in appendix setup photos.

EUT OPERATING CONDITION

For WiFi mode:

- 1. EUT & peripherals setup diagram is shown in appendix setup photos.
- 2. TX mode:

⇒ **TX Data Rate:** 1Mbps Bandwidth 20 (IEEE 802.11b mode)

6Mbps Bandwidth 20 (IEEE 802.11g mode)

6.5Mbps Bandwidth 20 (IEEE 802.11gn HT20 mode)

13.5Mbps Bandwidth 40 (IEEE 802.11gn HT40 mode)

⇒ Power control

IEEE 802.11b Channel Low (2412MHz) Chain A Power set 19

IEEE 802.11b Channel Mid (2437MHz) Chain A Power set 19

IEEE 802.11b Channel High (2462MHz) Chain A Power set 17

IEEE 802.11g Channel Low (2412MHz) Chain A Power set 16

IEEE 802.11g Channel Mid (2437MHz) Chain A Power set 19

IEEE 802.11g Channel High (2462MHz) Chain A Power set 16

IEEE 802.11gn HT20 Channel Low (2412MHz) Chain A/B Power set 13

IEEE 802.11gn HT20 Channel Mid (2437MHz) Chain A/B Power set 18.5

IEEE 802.11gn HT20 Channel High (2462MHz) Chain A/B Power set 12.5

IEEE 802.11gn HT40 Channel Low (2422MHz) Chain A/B Power set 12

IEEE 802.11gn HT40 Channel Mid (2437MHz) Chain A/B Power set 13.5

IEEE 802.11gn HT40 Channel High (2452MHz) ChainA/B Power set 12.5

- 3. All of the functions are under run.
- 4. Start test.

For Bluetooth 4.0 mode:

1. EUT & peripherals setup diagram is shown in appendix setup photos.

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- 2. TX mode:
 - **⇒** Power control:

Channel Low (2402MHz) Power set Default.

Channel Mid (2440MHz) Power set Default.

Channel High (2480MHz) Power set Default.

- 3. All of the functions are under run.
- 4. Start test

7. FCC PART 15.247 REQUIREMENTS

7.1 6dB BANDWIDTH

LIMITS

§ 15.247(a) (2) For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz.

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TEST EQUIPMENT

Name of Equipment	of Equipment Manufacturer		Serial Number	Calibration Due
EXA Signal Analyzer	Agilent	N9010A	MY52220817	03/19/2016

Remark: Each piece of equipment is scheduled for calibration once a year.

TEST SETUP



TEST PROCEDURE

- 1. The transmitter output was connected to a spectrum analyzer.
- 2. Set RBW = 100 kHz.
- 3. Set the video bandwidth (VBW) \geq 3 x RBW.
- 4. Detector = Peak.
- 5. Trace mode = max hold.
- 6. Sweep = auto couple.
- 7. Allow the trace to stabilize.
- 8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

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TEST RESULTS

For WiFi mode:

IEEE 802.11b mode

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz) Chain A	Minimum Limit (kHz)	Pass / Fail
Low	2412	11.0600	500	PASS
Middle	2437	11.1000	500	PASS
High	2462	10.1500	500	PASS

IEEE 802.11amode

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz) Chain A	Minimum Limit (kHz)	Pass / Fail
Low	2412	16.3500	500	PASS
Middle	2437	16.3600	500	PASS
High	2462	16.3500	500	PASS

IEEE 802.11an HT20 mode (2TX)

Channel	Channel Frequency 6dB Bandwidth (MHz)		IVIINIM		Pass / Fail	
	(MHz)	Chain A	Chain B	(kHz)		
Low	2412	17.5500	17.5900	500	PASS	
Middle	2437	17.5500	17.6000	500	PASS	
High	2462	17.5900	17.5700	500	PASS	

IEEE 802 11an HT40 mode (2TY)

Channel	Channel Frequency		dB Bandwidth Mir (MHz) L		Pass / Fail	
	(MHz)	Chain A	Chain B	(kHz)		
Low	2422	35.0700	33.7800	500	PASS	
Middle	2437	35.0600	32.5600	500	PASS	
High	2452	35.0700	35.0500	500	PASS	

For Bluetooth 4.0 mode:

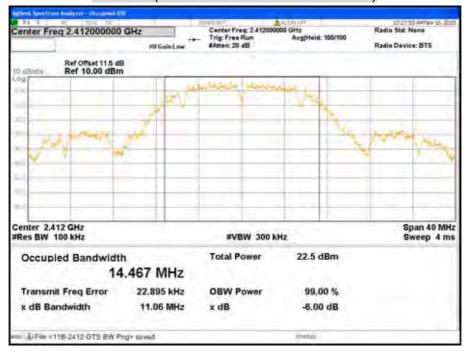
Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz) Chain B	Minimum Limit (kHz)	Pass / Fail
Low	2402	0.6461	500	PASS
Middle	2440	0.6444	500	PASS
High	2480	0.6568	500	PASS

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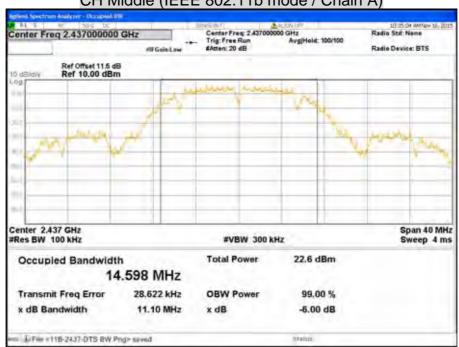


6dB BANDWIDTH

CH Low (IEEE 802.11b mode / Chain A)

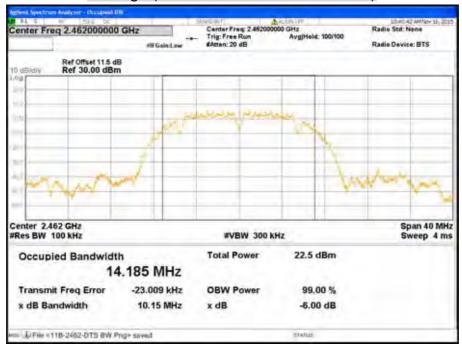


CH Middle (IEEE 802.11b mode / Chain A)

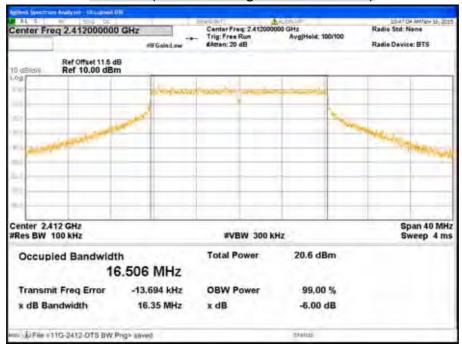




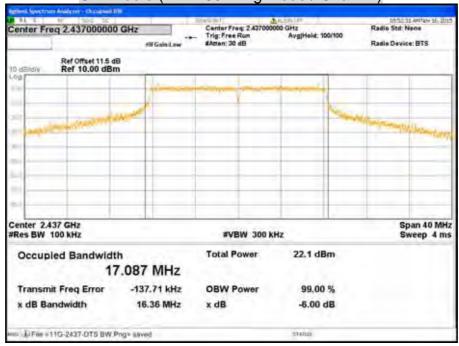
CH High (IEEE 802.11b mode / Chain A)



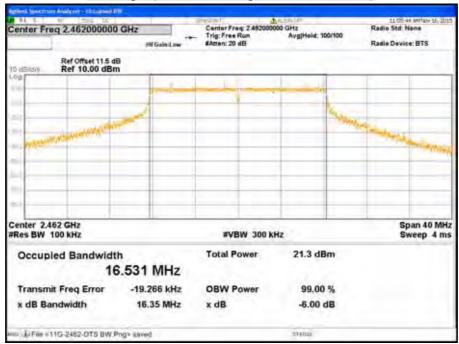
CH Low (IEEE 802.11g mode / Chain A)



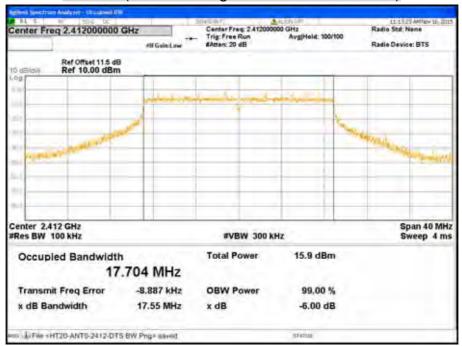
CH Middle (IEEE 802.11g mode / Chain A)



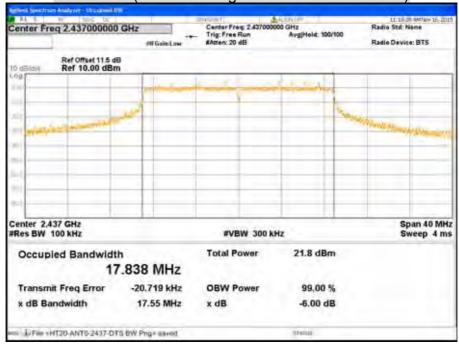
CH High (IEEE 802.11g mode / Chain A)



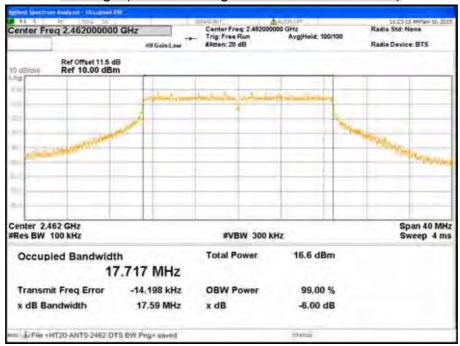
CH Low (IEEE 802.11gn HT20 mode / Chain A)



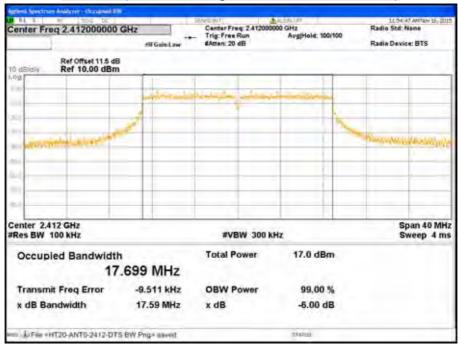
CH Middle (IEEE 802.11gn HT20 mode / Chain A)



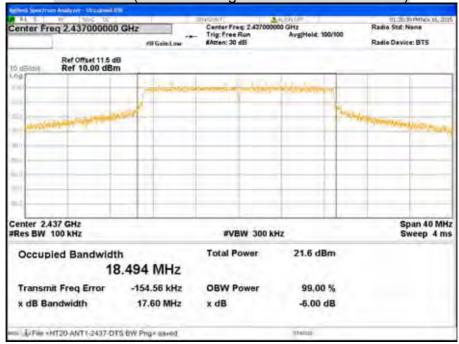
CH High (IEEE 802.11gn HT20 mode / Chain A)



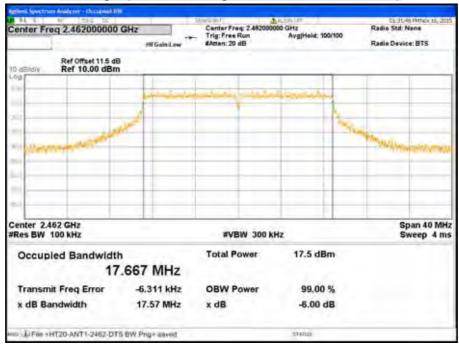
CH Low (IEEE 802.11gn HT20 mode / Chain B)



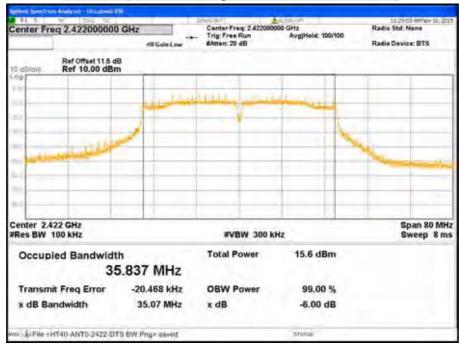
CH Middle (IEEE 802.11gn HT20 mode / Chain B)



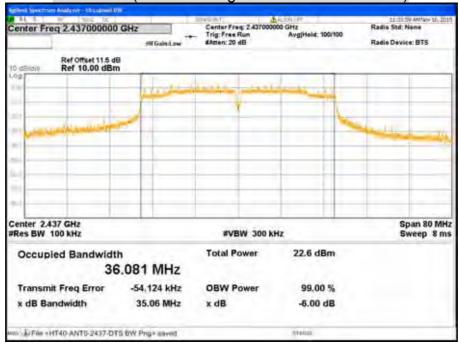
CH High (IEEE 802.11gn HT20 mode / Chain B)



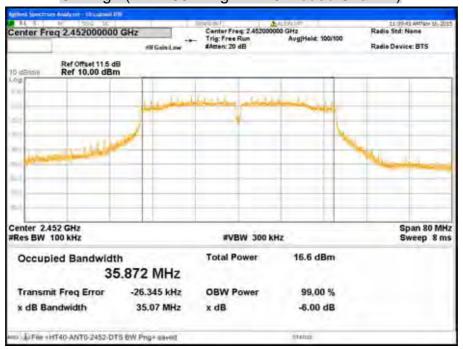
CH Low (IEEE 802.11gn HT40 mode / Chain A)



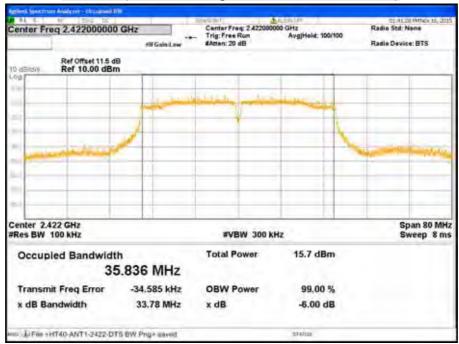
CH Middle (IEEE 802.11gn HT40 mode / Chain A)



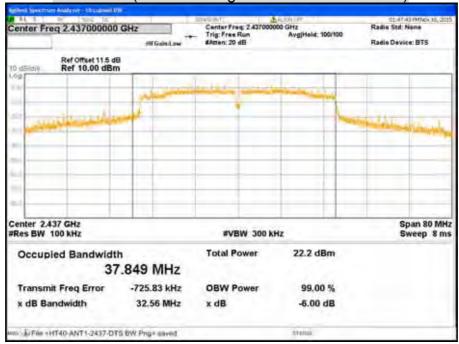
CH High (IEEE 802.11gn HT40 mode / Chain A)



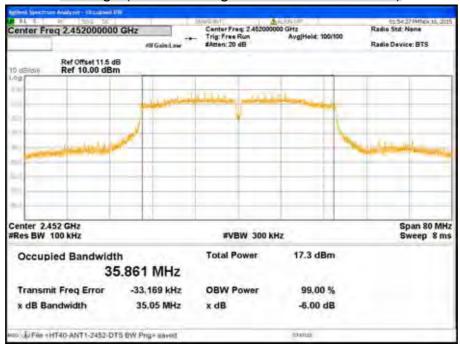
CH Low (IEEE 802.11gn HT40 mode / Chain B)



CH Middle (IEEE 802.11gn HT40 mode / Chain B)



CH High (IEEE 802.11gn HT40 mode / Chain B)





CH Low (Bluetooth 4.0 / Chain B)



CH Middle (Bluetooth 4.0 / Chain B)



CH High (Bluetooth 4.0 / Chain B)



7.2 MAXIMUM PEAK OUTPUT POWER

LIMITS

§ 15.247(b) The maximum peak output power of the intentional radiator shall not exceed the following:

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§ 15.247(b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 watt.

§ 15.247(b) (4) Except as shown in paragraphs (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

§ KDB 662911: For power measurements on IEEE 802.11 devices

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \le 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

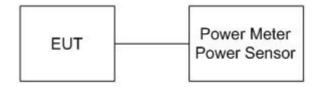
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \ge 5$.

TEST EQUIPMENT

Name of Equipment	t Manufacturer Mode		Serial Number	Calibration Due
Power Meter	Anritsu	ML2495A	1149001	12/11/2015
Power Sensor	Anritsu	MA2411B	1126148	12/11/2015

Remark: Each piece of equipment is scheduled for calibration once a year.

TEST SETUP



TEST PROCEDURE

The transmitter output is connected to the power meter. The power meter is set to the peak power detection.

TEST RESULTS

IEEE 802.11b mode

Channel	Channel Frequency		Power in A	Peak Power Limit		Pass / Fail	
	(MHz)	(dBm)	(W)	(dBm)	(W)		
Low	2412	17.77	0.0598	30	1	PASS	
Middle	2437	18.00	0.0631	30	1	PASS	
High	2462	18.46	0.0701	30	1	PASS	

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Remark:

- 1. At finial test to get the worst-case emission at 1Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

IEEE 802.11g mode

	Channel	Peak l	Power	Peak Power Limit		
Channel	Frequency	Chain A		reak row	Pass / Fail	
	(MHz)	(dBm)	(W)	(dBm)	(W)	
Low	2412	19.73	0.0940	30	1	PASS
Middle	2437	20.50	0.1122	30	1	PASS
High	2462	20.11	0.1026	30	1	PASS

Remark:

- 1. At finial test to get the worst-case emission at 6Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

IEEE 802.11an HT20 mode (2TX)

Channel	Channel Frequency	Peak I	Power	Peak To	Power tal	Peak I Lir		Pass / Fail
	(MHz)	Chain A	Chain B	(dBm)	(W)	(dBm)	(W)	
Low	2412	16.18	17.17	19.71	0.0935	30	1	PASS
Middle	2437	20.80	19.58	23.24	0.2109	30	1	PASS
High	2462	16.23	16.96	19.62	0.0916	30	1	PASS

Remark:

- 1. At finial test to get the worst-case emission at 6.5Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.
- 3. Array gain = 0 dB for $N_{ANT} \le 4$, power limit do not reduce.
- 4. Total power = Chain A + Chain B.

FCC ID: ZWM-VT-1020

IEEE 802.11gn HT40 mode (2TX)

Channel	Channel Frequency	Peak I	Power	Peak To	Power tal	Peak I Lir		Pass / Fail
	(MHz)	Chain A	Chain B	(dBm)	(W)	(dBm)	(W)	
Low	2422	14.82	15.76	18.33	0.0681	30	1	PASS
Middle	2437	15.70	14.43	18.12	0.0649	30	1	PASS
High	2452	15.37	16.50	18.98	0.0791	30	1	PASS

Report No.: T151020D04-RP1-1

Remark:

- 1. At finial test to get the worst-case emission at 13.5Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.
- 3. Array gain = 0 dB for $N_{ANT} \le 4$, power limit do not reduce.
- 4. Total power = Chain A + Chain B.

Bluetooth 4.0 mode:

	Channel	Peak Power		Peak Pov		
Channel	Frequency	Cha	in B	reak PO	Pass / Fail	
	(MHz)	(dBm)	(W)	(dBm) (W)		
Low	2402	5.00	0.0032	30	1	PASS
Middle	2440	5.42	0.0035	30	1	PASS
High	2480	5.47	0.0035	30	1	PASS

Remark: The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

7.3 AVERAGE POWER

LIMITS

None: For reporting purposes only.

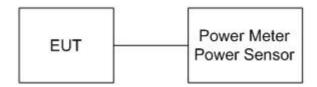
TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Power Meter	Anritsu	ML2495A	1149001	12/11/2015
Power Sensor	Anritsu	MA2411B	1126148	12/11/2015

Report No.: T151020D04-RP1-1

Remark: Each piece of equipment is scheduled for calibration once a year.

TEST SETUP



TEST PROCEDURE

The transmitter output is connected to the power meter. The power meter is set to the average power detection.

TEST RESULTS

IEEE 802.11b mode

Channel	Channel Frequency (MHz)	Average Power (dBm) Chain A
Low	2412	15.79
Middle	2437	16.06
High	2462	16.19

Report No.: T151020D04-RP1-1

Remark:

- 1. At finial test to get the worst-case emission at 1Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.

IEEE 802.11g mode

Channel	Channel Frequency (MHz)	Average Power (dBm) Chain A	
Low	2412	14.88	
Middle	2437	16.12	
High	2462	15.10	

Remark:

- 1. At finial test to get the worst-case emission at 6Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.

IEEE 802.11gn HT20 mode

Channel	Channel Frequency	Average Power (dBm)		
	(MHz)	Chain A	Chain B	
Low	2412	10.32	11.11	
Middle	2437	16.03	15.84	
High	2462	10.57	10.94	

Remark:

- 1. At finial test to get the worst-case emission at 6.5Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.

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IEEE 802.11gn HT40 mode

Channel	Channel Frequency	Average Power (dBm)		
	(MHz)	Chain A	Chain B	
Low	2422	9.63	10.11	
Middle	2437	11.50	11.30	
High	2452	10.90	11.12	

Remark:

- 1. At finial test to get the worst-case emission at 13.5Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.

Bluetooth 4.0 mode:

Channel	Channel Frequency (MHz)	Average Power (dBm)	
Low	2422	4.89	
Middle	2437	5.22	
High	2452	5.29	

Remark: The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.

7.4 POWER SPECTRAL DENSITY

LIMITS

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

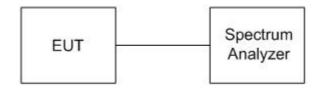
Report No.: T151020D04-RP1-1

TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EXA Signal Analyzer	Agilent	N9010A	MY52220817	03/19/2016

Remark: Each piece of equipment is scheduled for calibration once a year.

TEST SETUP



TEST PROCEDURE

- 1. The transmitter output was connected to the spectrum analyzer.
- 2. Set analyzer center frequency to DTS channel center frequency.
- 3. Set the span to 1.5 times the DTS channel bandwidth.
- 4. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- 5. Set the VBW \geq 3 x RBW.
- 6. Detector = peak.
- 7. Sweep time = auto couple.
- 8. Trace mode = max hold.
- 9. Allow trace to fully stabilize.
- 10. Use the peak marker function to determine the maximum amplitude level within the RBW.
- 11. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

CC ID: ZWM-VT-1020 Report No.: T151020D04-RP1-1

TEST RESULTS

IEEE 802.11b mode

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm) Chain A	Minimum Limit (dBm)	Pass / Fail
Low	2412	-0.3450	8	PASS
Middle	2437	-0.0210	8	PASS
High	2462	-0.3080	8	PASS

Remark:

- 1. At finial test to get the worst-case emission at 1Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.

IEEE 802.11g mode

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm) Chain A	Minimum Limit (dBm)	Pass / Fail
Low	2412	-5.2960	8	PASS
Middle	2437	-3.7000	8	PASS
High	2462	-4.5590	8	PASS

Remark:

- 1. At finial test to get the worst-case emission at 6Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.

IEEE 802.11an HT20 mode (2TX)

Channel	Channel Frequency	Final RF Power Level in 3KHz BW (dBm)		PSD Total	Minimum Limit	Pass / Fail	
	(MHz)	Chain A	Chain B	(dBm)	(dBm)		
Low	2412	-10.26	-8.95	-6.54	5.99	PASS	
Middle	2437	-5.08	-3.93	-1.46	5.99	PASS	
High	2462	-10.12	-7.58	-5.65	5.99	PASS	

Remark:

- 1. At finial test to get the worst-case emission at 6.5Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.
- 3. The maximum antenna gain is 8.01 dBi which is more than 6dBi, the limit should be 5.99 dBm.
- 4. Total power spectral density = Chain A + Chain B.

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IEEE 802.11gn HT40 mode (2TX)

Channel	Channel Frequency	Final RF Power Level in 3KHz BW (dBm)		PSD Total	Minimum Limit	Pass / Fail
C.I.M.III.C.I	(MHz)	Chain A	Chain B	(dBm)	(dBm)	
Low	2422	-12.78	-11.93	-9.32	5.99	PASS
Middle	2437	-11.63	-9.36	-7.34	5.99	PASS
High	2452	-11.58	-9.92	-7.66	5.99	PASS

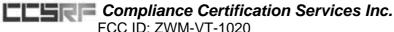
Remark:

- 1. At finial test to get the worst-case emission at 13.5Mbps.
- 2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.
- 3. The maximum antenna gain is 8.01 dBi which is more than 6dBi, the limit should be 5.99 dBm.
- 4. Total power spectral density = Chain A + Chain B.

Bluetooth 4.0 mode

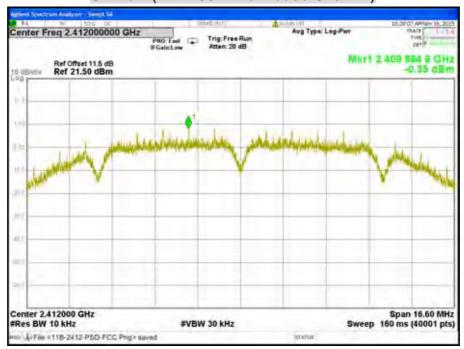
Channel	Channel Frequency	Final RF Power Level in 3KHz BW (dBm)	Minimum Limit (dBm)	Pass / Fail	
	(MHz)	Chain B	(0.2)		
Low	2402	-2.75	8	PASS	
Middle	2440	-2.77	8	PASS	
High	2480	-3.21	8	PASS	

Remark: The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.

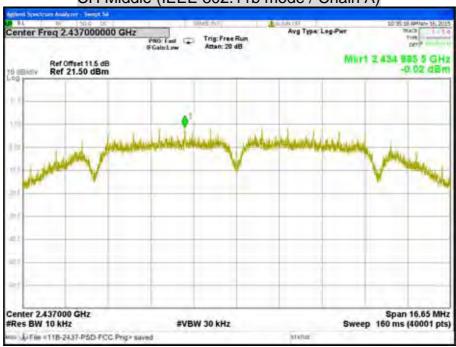


POWER SPECTRAL DENSITY

CH Low (IEEE 802.11b mode / Chain A)



CH Middle (IEEE 802.11b mode / Chain A)



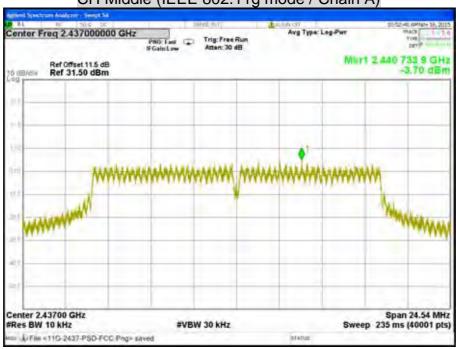
CH High (IEEE 802.11b mode / Chain A)



CH Low (IEEE 802.11g mode / Chain A)



CH Middle (IEEE 802.11g mode / Chain A)



CH High (IEEE 802.11g mode / Chain A)



CH Low (IEEE 802.11gn HT20 mode / Chain A)



CH Middle (IEEE 802.11gn HT20 mode / Chain A)



CH High (IEEE 802.11gn HT20 mode / Chain A)



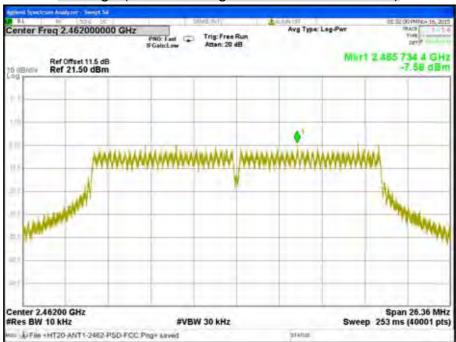
CH Low (IEEE 802.11gn HT20 mode / Chain B)



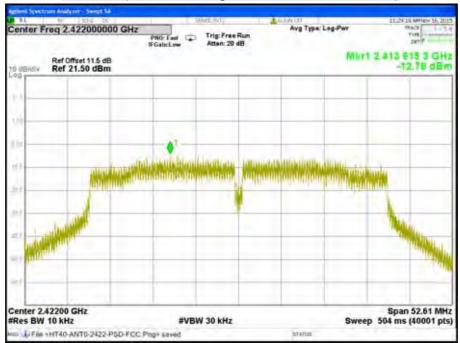
CH Middle (IEEE 802.11gn HT20 mode / Chain B)



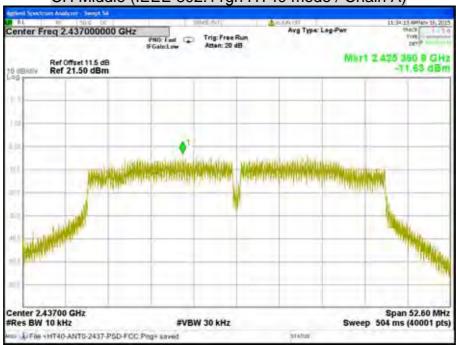
CH High (IEEE 802.11gn HT20 mode / Chain B)



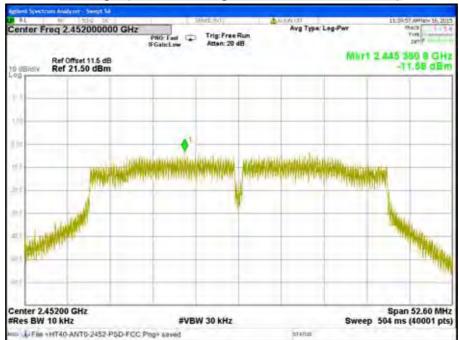
CH Low (IEEE 802.11gn HT40 mode / Chain A)



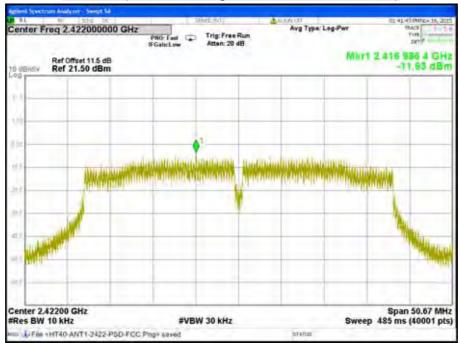
CH Middle (IEEE 802.11gn HT40 mode / Chain A)



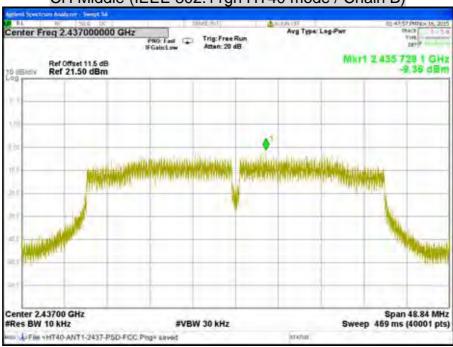
CH High (IEEE 802.11gn HT40 mode / Chain A)



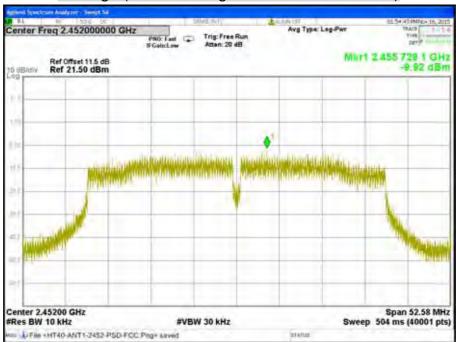
CH Low (IEEE 802.11gn HT40 mode / Chain B)



CH Middle (IEEE 802.11gn HT40 mode / Chain B)



CH High (IEEE 802.11gn HT40 mode / Chain B)



CH Low (Bluetooth 4.0 / Chain B)



CH Middle (Bluetooth 4.0 / Chain B)



CH High (Bluetooth 4.0 / Chain B)



7.5 CONDUCTED SPURIOUS EMISSION

LIMITS

§ 15.247(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the and that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

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TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EXA Signal Analyzer	Agilent	N9010A	MY52220817	03/19/2016

Remark: Each piece of equipment is scheduled for calibration once a year.

TEST SETUP



TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

The spectrum from 30 MHz to 26.5 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.



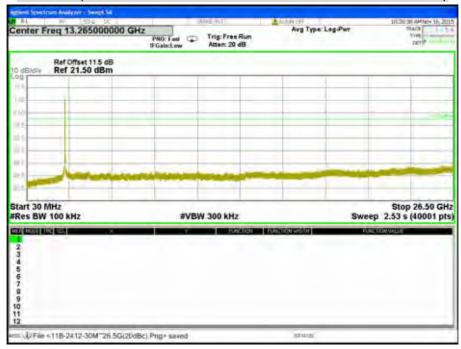
TEST RESULTS

OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

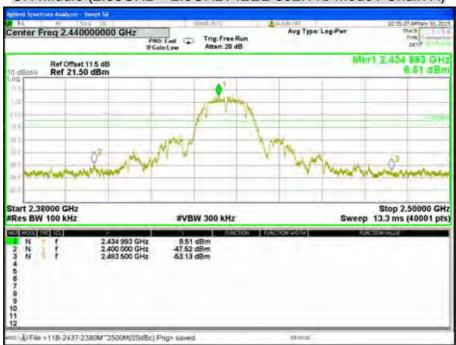
CH Low (2.38GHz ~ 2.5GHz / IEEE 802.11b mode / Chain A)



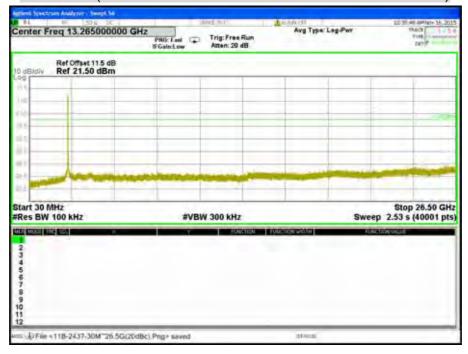
CH Low (30MHz ~ 26.5GHz / IEEE 802.11b mode / Chain A)



CH Middle (2.38GHz ~ 2.5GHz / IEEE 802.11b mode / Chain A)



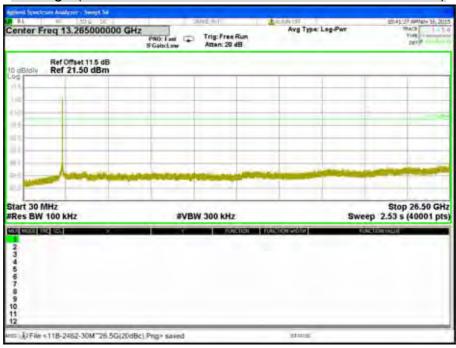
CH Middle (30MHz ~ 26.5GHz / IEEE 802.11b mode / Chain A)



CH High (2.38GHz ~ 2.5GHz / IEEE 802.11b mode / Chain A)



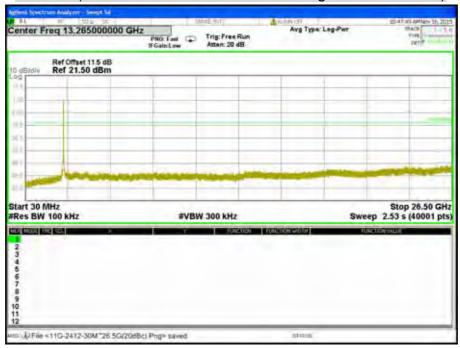
CH High (30MHz ~ 26.5GHz / IEEE 802.11b mode / Chain A)



CH Low (2.38GHz ~ 2.5GHz / IEEE 802.11g mode / Chain A)



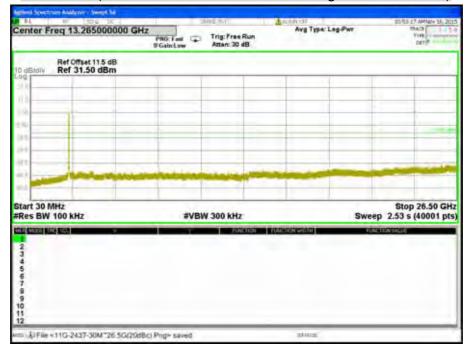
CH Low (30MHz ~ 26.5GHz / IEEE 802.11g mode / Chain A)



CH Middle (2.38GHz ~ 2.5GHz / IEEE 802.11g mode / Chain A)



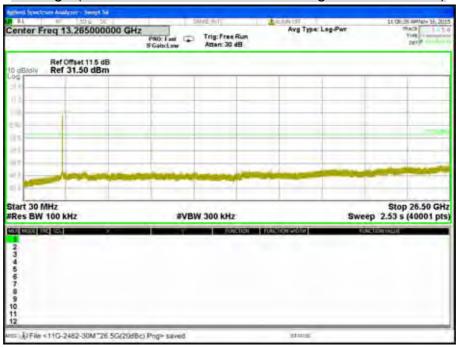
CH Middle (30MHz ~ 26.5GHz / IEEE 802.11g mode / Chain A)



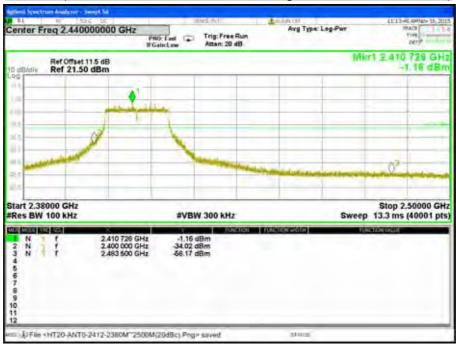
CH High (2.38GHz ~ 2.5GHz / IEEE 802.11g mode / Chain A)



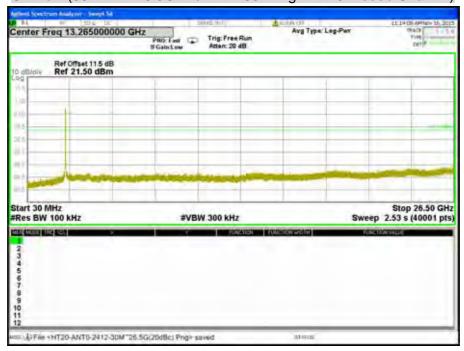
CH High (30MHz ~ 26.5GHz / IEEE 802.11g mode / Chain A)



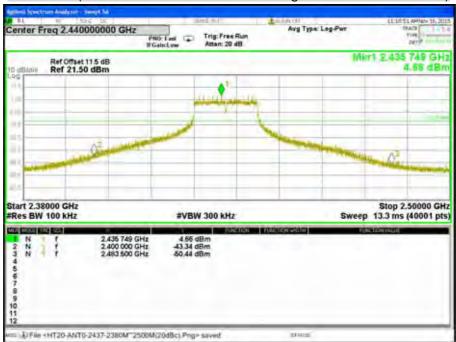
CH Low (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT20 mode / Chain A)



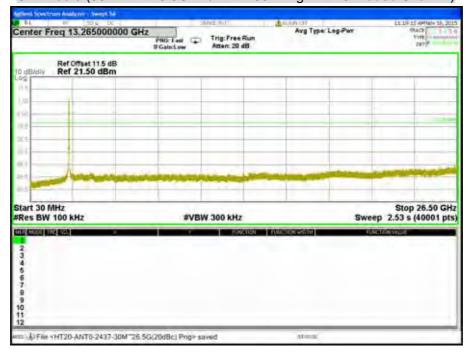
CH Low (30MHz ~ 26.5GHz / IEEE 802.11gn HT20 mode / Chain A)



CH Middle (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT20 mode / Chain A)



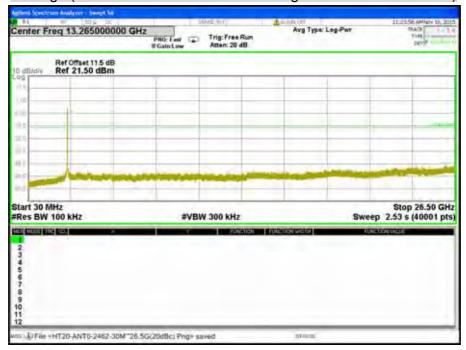
CH Middle (30MHz ~ 26.5GHz / IEEE 802.11gn HT20 mode / Chain A)



CH High (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT20 mode / Chain A)



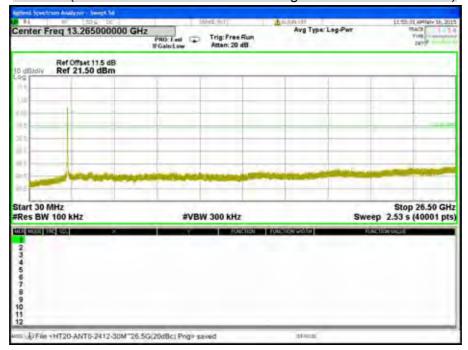
CH High (30MHz ~ 26.5GHz / IEEE 802.11gn HT20 mode / Chain A)



CH Low (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT20 mode / Chain B)



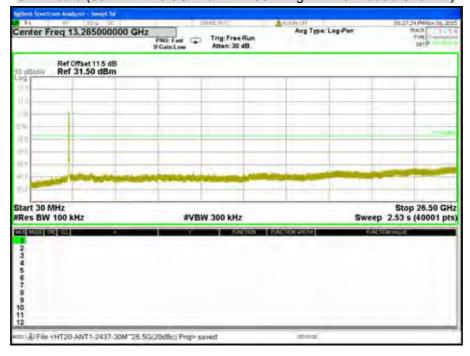
CH Low (30MHz ~ 26.5GHz / IEEE 802.11gn HT20 mode / Chain B)



CH Middle (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT20 mode / Chain B)



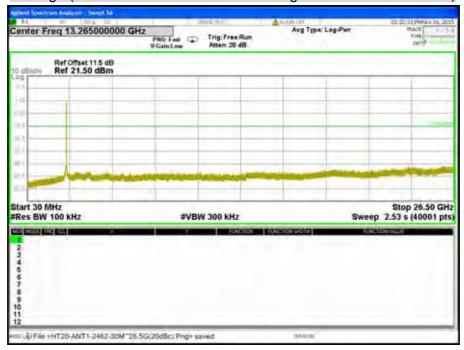
CH Middle (30MHz ~ 26.5GHz / IEEE 802.11gn HT20 mode / Chain B)



CH High (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT20 mode / Chain B)



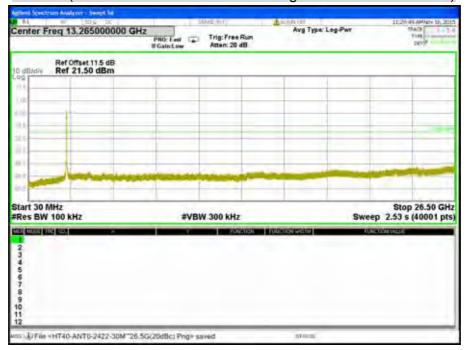
CH High (30MHz ~ 26.5GHz / IEEE 802.11gn HT20 mode / Chain B)



CH Low (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT40 mode / Chain A)



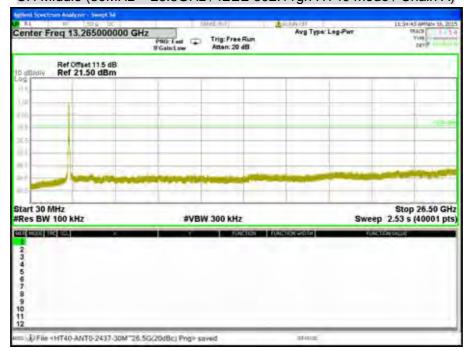
CH Low (30MHz ~ 26.5GHz / IEEE 802.11gn HT40 mode / Chain A)



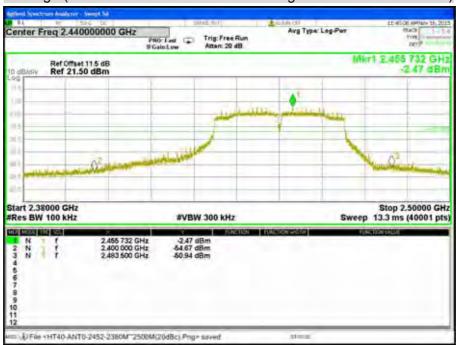
CH Middle (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT40 mode / Chain A)



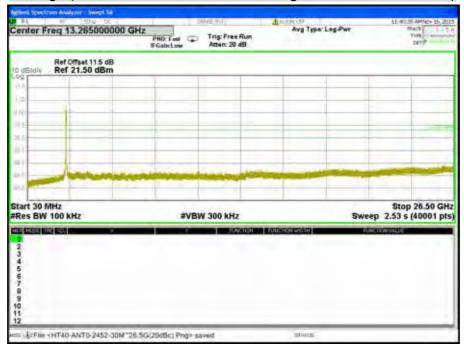
CH Middle (30MHz ~ 26.5GHz / IEEE 802.11gn HT40 mode / Chain A)



CH High (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT40 mode / Chain A)



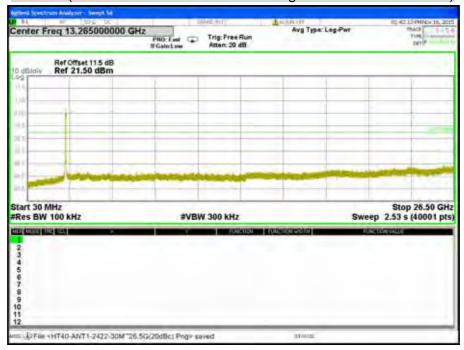
CH High (30MHz ~ 26.5GHz / IEEE 802.11gn HT40 mode / Chain A)



CH Low (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT40 mode / Chain B)



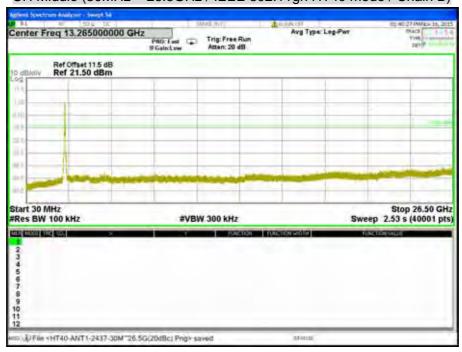
CH Low (30MHz ~ 26.5GHz / IEEE 802.11gn HT40 mode / Chain B)



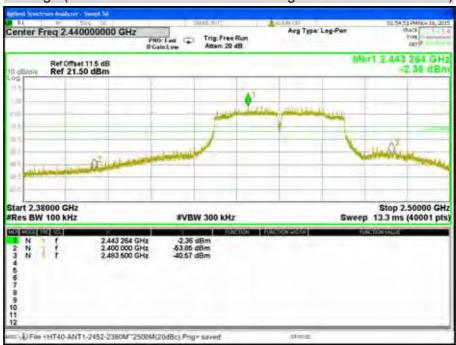
CH Middle (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT40 mode / Chain B)



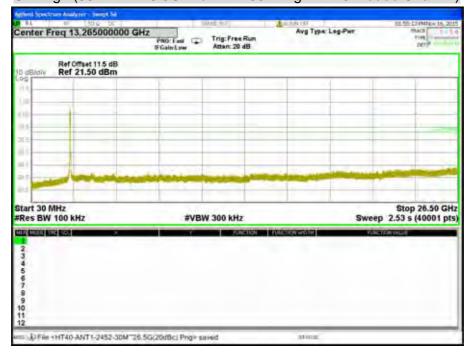
CH Middle (30MHz ~ 26.5GHz / IEEE 802.11gn HT40 mode / Chain B)



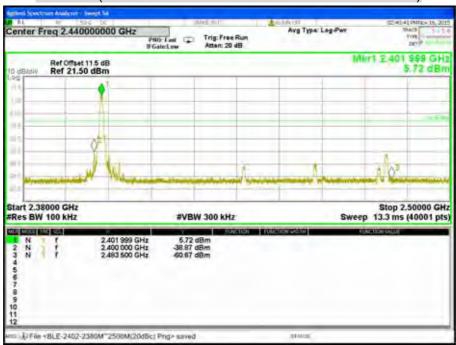
CH High (2.38GHz ~ 2.5GHz / IEEE 802.11gn HT40 mode / Chain B)



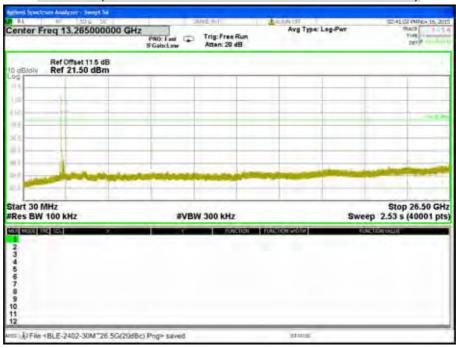
CH High (30MHz ~ 26.5GHz / IEEE 802.11gn HT40 mode / Chain B)



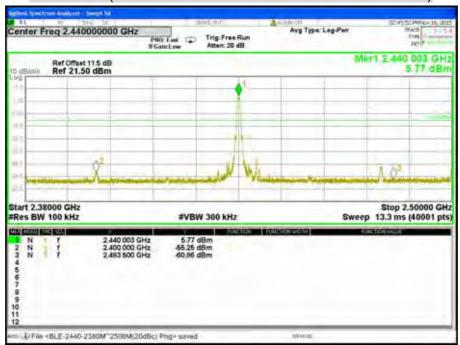
CH Low (2.38GHz ~ 2.5GHz / Bluetooth 4.0 / Chain B)



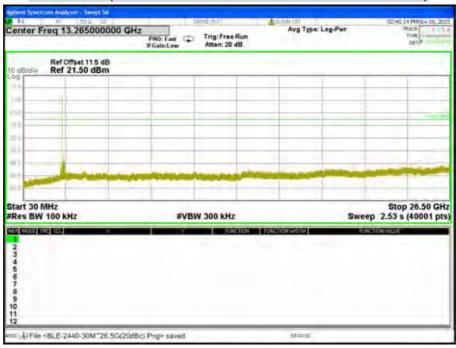
CH Low (30MHz ~ 26.5GHz / Bluetooth 4.0 / Chain B)



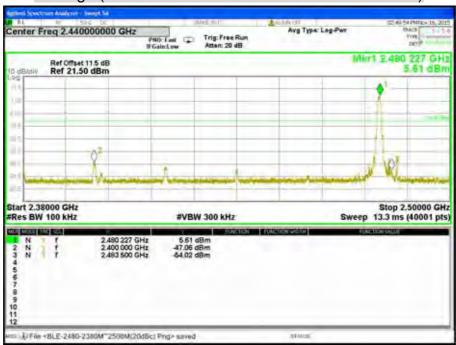
CH Middle (2.38GHz ~ 2.5GHz / Bluetooth 4.0 / Chain B)



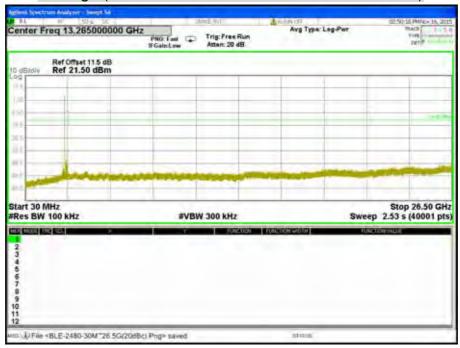
CH Middle (30MHz ~ 26.5GHz / Bluetooth 4.0 / Chain B)



CH High (2.38GHz ~ 2.5GHz / Bluetooth 4.0 / Chain B)



CH High (30MHz ~ 26.5GHz / Bluetooth 4.0 / Chain B)



7.6 RADIATED EMISSION

LIMITS

(1) According to § 15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

Report No.: T151020D04-RP1-1

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	2655 - 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 - 3338	36.43 - 36.5
12.57675 - 12.57725	322 -335.4	3600 - 4400	(²)
13.36 - 13.41			

- 1. 1 Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
- 2. ² Above 38.6
- (2) According to § 15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown is Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

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(3) According to § 15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(KHz)	300
0.490 – 1.705	24000/F(KHz)	30
1.705 – 30.0	30	30
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

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

(4) According to § 15.209 (b) In the emission table above, the tighter limit applies at the band edges.

TEST EQUIPMENT

Radiated Emission / 966Chamber_B

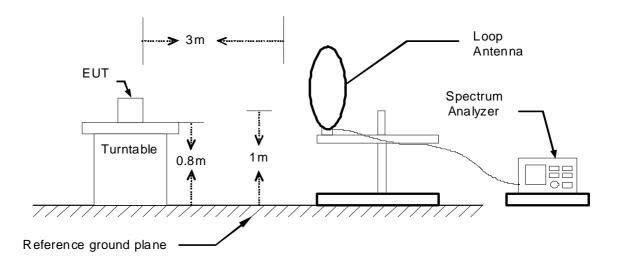
Name of Equipment	Manufacture	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY46180323	04/14/2016
EMI Test Receiver	Rohde & Schwarz	ESCI	100221	04/22/2016
Bi-log Antenna	TESEQ	CBL6112D	35403	08/04/2016
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-778	08/09/2016
Double-Ridged Waveguide Horn	ETS-LINDGREN	3117	00078733	12/02/2015
Horn Antenna	COM-POWER	AH-840	03077	12/17/2015
Pre-Amplifier	Agilent	8447D	2944A10052	07/14/2016
Pre-Amplifier	Agilent	8449B	3008A01916	07/14/2016
LOOP Antenna	COM-POWER	AL-130	121060	05/24/2016

Remark: Each piece of equipment is scheduled for calibration once a year.

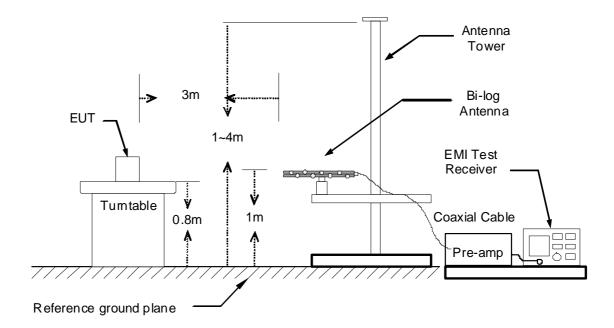
TEST SETUP

The diagram below shows the test setup that is utilized to make the measurements for emission below 1GHz.

9kHz ~ 30MHz

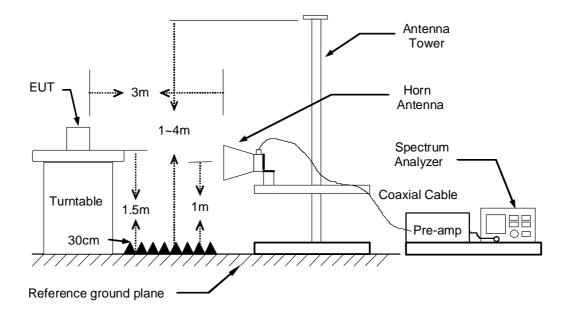


30MHz ~ 1GHz



EST Compliance Certification Services Inc.

The diagram below shows the test setup that is utilized to make the measurements for emission above 1GHz.



TEST PROCEDURE

1. The EUT was placed on the top of a rotating table 0.8 and 1.5 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.

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- 2. While measuring the radiated emission below 1GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. While measuring the radiated emission above 1GHz, the EUT was set 3 meters away from the interference-receiving antenna.
- 3. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarization of the antenna are set to make the measurement.
- 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold mode.
- 6. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection and frequency above 1GHz.
- 3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

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TEST RESULTS

Below 1 GHz (9kHz ~ 30MHz)

No emission found between lowest internal used/generated frequency to 30MHz.

Below 1 GHz (30MHz ~ 1GHz)

Product Name	PANEL PC	Test By	Waternil Guan
Test Model	VT1020-HRD	Test Date	2015/11/15
Test mode	WiFi / Mode 1	Temp. & Humidity	24.3°C, 42%

966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBu∀/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
=======		=======				=======		=======
30.97	38.70	-8.70	30.00	40.00	-10.00	282	200	Peak
103.72	46.31	-15.35	30.96	43.50	-12.54	125	200	Peak
169.68	47.71	-16.31	31.40	43.50	-12.10	285	100	Peak
386.96	45.80	-9.40	36.40	46.00	-9.60	322	200	Peak
404.42	46.66	-9.07	37.59	46.00	-8.41	22	200	Peak
447.10	45.90	-8.73	37.17	46.00	-8.83	185	200	Peak
600.36	42.12	-6.78	35.34	46.00	-10.66	9	100	Peak
749.74	39.26	-4.99	34.27	46.00	-11.73	142	100	Peak

966Chamber_B at 3Meter / Vertical

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
45.52	48,74	-17.37	31.37	40.00	-8.63	281	100	Peak
161.92	50.13	-16.07	34.06	43.50	-9.44	238	100	Peak
289.96	48.56	-11.77	36.79	46.00	-9.21	290	100	Peak
312.27	49.05	-11.20	37.85	46.00	-8.15	237	200	Peak
400.54	46.28	-9.11	37.17	46.00	-8.83	332	100	Peak
433.52	46.28	-8.84	37.44	46.00	-8.56	140	200	Peak
519.85	40.98	-7.80	33.18	46.00	-12.82	0	100	Peak
600.36	43.69	-6.78	36.91	46.00	-9.09	ø	100	Peak

- 1. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
- 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) PreAmp.Gain (dB)
- 3. Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m)
- 4. Margin (dB) = Remark result (dBuV/m) Quasi-peak limit (dBuV/m).



Product Name	PANEL PC	Test By	Waternil Guan
Test Model	VT1020-HRD	Test Date	2015/11/15
Test mode	WiFi / Mode 2	Temp. & Humidity	24.3°C, 42%

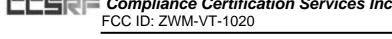
966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
		=======						=======
78.50	53.46	-19.87	33.59	40.00	-6.41	259	200	Peak
100.81	54.30	-15.55	38.75	43.50	-4.75	242	200	Peak
239.52	48.35	-13.65	34.70	46.00	-11.30	32	100	Peak
380.17	46.36	-9.55	36.81	46.00	-9.19	9	200	Peak
399.57	44.75	-9.12	35.63	46.00	-10.37	45	100	Peak
134.49	43.38	-8.83	34.55	46.00	-11.45	318	100	Peak
500.36	42.03	-6.78	35.25	46.00	-10.75	358	100	Peak
791.45	38.18	-4.34	33.84	46.00	-12.16	162	100	Peak

966Chamber_B at 3Meter / Vertical

Freq. MHz	Reading dBu√	C.F. dB/m	Result dBuV/m	Limit dBu√/m	Margin dB	Azimuth deg	Height cm	Remark
62.98	56.70	-20.88	35.82	40.00	-4.18	358	200	Peak
100.81	53.51	-15.55	37.96	43.50	-5.54	360	200	Peak
269.59	45.35	-11.88	33.47	46.00	-12.53	81	100	Peak
298.69	46.97	-11.55	35.42	46.00	-10.58	288	100	Peak
390.84	45.51	-9.32	36.19	46.00	-9.81	137	100	Peak
600.36	42.38	-6.78	35.60	46.00	-10.40	360	100	Peak
700.27	41.93	-5.75	36.18	46.00	-9.82	169	100	Peak
757.50	39.12	-4.87	34.25	46.00	-11.75	159	100	Peak

- 1. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
- 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) PreAmp.Gain (dB)
- 3. Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m)
- 4. Margin (dB) = Remark result (dBuV/m) Quasi-peak limit (dBuV/m).



Product Name	PANEL PC	Test By	Waternil Guan
Test Model	VT1020-HRD	Test Date	2015/11/15
Test mode	Bluetooth 4.0 / Mode 1	Temp. & Humidity	24.3°C, 42%

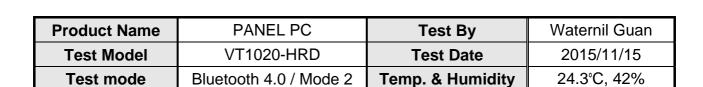
966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBu√	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
======	=======	=======		.======	=======	=======	=======	======
39.70	47.81	-13.65	34.16	40.00	-5.84	268	200	Peak
104.69	44.16	-15.28	28.88	43.50	-14.62	284	200	Peak
165.80	43.69	-16.19	27.50	43.50	-16.00	255	100	Peak
305.48	44.01	-11.38	32.63	46.00	-13.37	311	100	Peak
383.08	46.27	-9.49	36.78	46.00	-9.22	24	200	Peak
439.34	43.05	-8.80	34.25	46.00	-11.75	237	100	Peak
600.36	41.10	-6.78	34.32	46.00	-11.68	Ø	100	Peak
749.74	38.24	-4.99	33.25	46.00	-12.75	140	100	Peak

966Chamber_B at 3Meter / Vertical

Freq. MHz	Reading dBu√	C.F. dB/m	Result dBu√/m	Limit dBu√/m	Margin dB	Azimuth deg	Height cm	Remark
46.49	52.36	-17.75	34.61	40.00	-5.39	360	100	Peak
120.21	43.75	-14.21	29.54	43.50	-13.96	172	100	Peak
235.64	48.67	-14.00	34.67	46.00	-11.33	94	200	Peak
266.68	46.35	-11.85	34.50	46.00	-11.50	265	100	Peak
397.63	43.23	-9.16	34.07	46.00	-11.93	257	200	Peak
457.77	41.98	-8.62	33.36	46.00	-12.64	324	200	Peak
519.85	40.53	-7.80	32.73	46.00	-13.27	2	100	Peak
600.36	43.37	-6.78	36.59	46.00	-9.41	9	100	Peak

- 1. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
- 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) PreAmp.Gain (dB)
- 3. Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m)
- 4. Margin (dB) = Remark result (dBuV/m) Quasi-peak limit (dBuV/m).



966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
======						=======		======
31.94	44.60	-9.24	35.36	40.00	-4.64	246	100	Peak
101.78	46.03	-15.48	30.55	43.50	-12.95	262	200	Peak
363.68	45.16	-9.92	35.24	46.00	-10.76	17	200	Peak
390.84	45.66	-9.32	36.34	46.00	-9.66	266	200	Peak
401.51	48.13	-9.10	39.03	46.00	-6.97	331	200	Peak
600.36	41.97	-6.78	35.19	46.00	-10.81	5	100	Peak
676.99	41.39	-5.92	35.47	46.00	-10.53	227	100	Peak
807.94	39.44	-4.09	35.35	46.00	-10.65	155	100	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
======		======				=======		=======
50.37	51.19	-19.19	32.00	40.00	-8.00	86	100	Peak
171.62	55.20	-16.38	38.82	43.50	-4.68	324	200	Peak
224.00	53.44	-15.06	38.38	46.00	-7.62	95	100	Peak
277.35	48.33	-11.99	36.34	46.00	-9.66	324	100	Peak
377.26	47.50	-9.62	37.88	46.00	-8.12	17	100	Peak
579.02	40.89	-6.99	33.90	46.00	-12.10	90	100	Peak
500.36	41.75	-6.78	34.97	46.00	-11.03	350	100	Peak
668.26	48.64	-5.98	42.66	46.00	-3.34	270	100	Peak

- 1. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
- 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) PreAmp.Gain (dB)
- 3. Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m)
- 4. Margin (dB) = Remark result (dBuV/m) Quasi-peak limit (dBuV/m).

Above 1 GHz

Product Name	PANEL PC	Test By	Davis Tseng
Test Model	VT1020-HRD	Test Date	2015/11/12
Test mode	IEEE 802.11b TX / CH Low / External Antenna	Temp. & Humidity	25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu√/m	Margin dB	Azimuth deg	Height cm	Remark
2140.00	47.72	2.11	49.83	74.00	-24.17	298	200	Peak
2484.00	47.39	3.10	50.49	74.00	-23.51	293	100	Peak
2650.00	47.33	3.45	50.78	74.00	-23.22	11	200	Peak
4020.00	39.84	6.47	46.31	74.00	-27.69	82	200	Peak
4890.00	38.21	8.56	46.77	74.00	-27.23	26	100	Peak
5640.00	37.98	10.06	48.04	74.00	-25.96	0	200	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
						======		
2176.00	47.89	2.21	50.10	74.00	-23.90	360	200	Peak
2480.00	41.82	3.09	44.91	54.00	-9.09	190	100	Average
2480.00	50.30	3.09	53.39	74.00	-20.61	190	100	Peak
2994.00	47.35	4.13	51.48	74.00	-22.52	278	200	Peak
4185.00	39.73	6.88	46.61	74.00	-27.39	278	100	Peak
4905.00	38.69	8.60	47.29	74.00	-26.71	360	100	Peak
5715.00	37.76	10.23	47.99	74.00	-26.01	Ø	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



PANEL PC **Product Name Test By** Davis Tseng VT1020-HRD 2015/11/12 **Test Model Test Date** IEEE 802.11b TX / CH Middle 25°C, 50% Test mode Temp. & Humidity / External Antenna

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Reading dBuV	C.F. dB/m	Result dBu∀/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
========					=======		=======
48.19	2.65	50.84	74.00	-23.16	170	100	Peak
38.63	2.78	41.41	54.00	-12.59	152	106	Average
48.58	2.78	51.36	74.00	-22.64	152	106	Peak
46.86	3.10	49.96	74.00	-24.04	226	200	Peak
40.16	6.47	46.63	74.00	-27.37	262	200	Peak
39.04	8.39	47.43	74.00	-26.57	314	100	Peak
38.50	9.67	48.17	74.00	-25.83	ø	200	Peak
	48.19 38.63 48.58 46.86 40.16 39.04	dBu√ dB/m 48.19 2.65 38.63 2.78 48.58 2.78 46.86 3.10 40.16 6.47 39.04 8.39	dBu√ dB/m dBu√/m 48.19 2.65 50.84 38.63 2.78 41.41 48.58 2.78 51.36 46.86 3.10 49.96 40.16 6.47 46.63 39.04 8.39 47.43	dBu√ dB/m dBu√/m dBu√/m 48.19 2.65 50.84 74.00 38.63 2.78 41.41 54.00 48.58 2.78 51.36 74.00 46.86 3.10 49.96 74.00 40.16 6.47 46.63 74.00 39.04 8.39 47.43 74.00	dBu√ dB/m dBu√/m dBu√/m dB 48.19 2.65 50.84 74.00 -23.16 38.63 2.78 41.41 54.00 -12.59 48.58 2.78 51.36 74.00 -22.64 46.86 3.10 49.96 74.00 -24.04 40.16 6.47 46.63 74.00 -27.37 39.04 8.39 47.43 74.00 -26.57	dBu√ dB/m dBu√/m dBu√/m dB deg 48.19 2.65 50.84 74.00 -23.16 170 38.63 2.78 41.41 54.00 -12.59 152 48.58 2.78 51.36 74.00 -22.64 152 46.86 3.10 49.96 74.00 -24.04 226 40.16 6.47 46.63 74.00 -27.37 262 39.04 8.39 47.43 74.00 -26.57 314	dBu√ dB/m dBu√/m dBu√/m dB deg cm 48.19 2.65 50.84 74.00 -23.16 170 100 38.63 2.78 41.41 54.00 -12.59 152 106 48.58 2.78 51.36 74.00 -22.64 152 106 46.86 3.10 49.96 74.00 -24.04 226 200 40.16 6.47 46.63 74.00 -27.37 262 200 39.04 8.39 47.43 74.00 -26.57 314 100

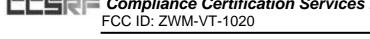
966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
	47.03			74.00		350		
2324.00	47.83	2.64	50.47	74.00	-23.53	360	200	Peak
2380.00	41.32	2.80	44.12	54.00	-9.88	98	200	Average
2380.00	50.06	2.80	52.86	74.00	-21.14	98	200	Peak
2486.00	40.33	3.11	43.44	54.00	-10.56	190	100	Average
2486.00	48.52	3.11	51.63	74.00	-22.37	190	100	Peak
3960.00	39.74	6.28	46.02	74.00	-27.98	360	100	Peak
1875.00	39.31	8.53	47.84	74.00	-26.16	262	200	Peak
5760.00	37.29	10.33	47.62	74.00	-26.38	313	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor Margin = Result Limit

Remark Peak = Result(PK) - Limit(PK)



Product Name	PANEL PC	Test By	Davis Tseng
Test Model	VT1020-HRD	Test Date	2015/11/12
Test mode	IEEE 802.11b TX / CH High / External Antenna	Temp. & Humidity	25°C, 50%

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
=======						=======	=======	=======
2270.00	47.92	2.48	50.40	74.00	-23.60	262	200	Peak
2338.00	47.55	2.68	50.23	74.00	-23.77	313	100	Peak
2666.00	46.86	3.48	50.34	74.00	-23.66	83	200	Peak
3210.00	41.07	4.34	45.41	74.00	-28.59	0	200	Peak
4440.00	38.73	7.50	46.23	74.00	-27.77	298	200	Peak
4905.00	38.54	8.60	47.14	74.00	-26.86	360	100	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
						======		.======
2354.00	39.22	2.73	41.95	54.00	-12.05	190	100	Average
2354.00	49.58	2.73	52.31	74.00	-21.69	190	100	Peak
2390.00	47.84	2.83	50.67	74.00	-23.33	313	200	Peak
2612.00	38.28	3.37	41.65	54.00	-12.35	66	100	Average
2612.00	48.30	3.37	51.67	74.00	-22.33	66	100	Peak
1230.00	39.02	6.99	46.01	74.00	-27.99	350	100	Peak
1920.00	39.70	8.63	48.33	74.00	-25.67	262	200	Peak
5460.00	38.44	9.67	48.11	74.00	-25.89	206	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

 Product Name
 PANEL PC
 Test By
 Davis Tseng

 Test Model
 VT1020-HRD
 Test Date
 2015/11/12

 Test mode
 IEEE 802.11g TX / CH Low / External Antenna
 Temp. & Humidity
 25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2200.00	47.26	2.28	49.54	74.00	-24.46	242	200	Peak
2500.00	46.86	3.15	50.01	74.00	-23.99	45	100	Peak
2892.00	46.28	3.93	50.21	74.00	-23.79	26	200	Peak
4560.00	40.03	7.79	47.82	74.00	-26.18	278	100	Peak
4830.00	39.18	8.42	47.60	74.00	-26.40	334	200	Peak
5895.00	37.68	10.63	48.31	74.00	-25.69	262	200	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2032.00	48.81	1.79	50.60	74.00	-23.40	10	100	Peak
2480.00	40.16	3.09	43.25	54.00	-10.75	242	200	Average
2480.00	49.76	3.09	52.85	74.00	-21.15	242	200	Peak
2820.00	46.79	3.78	50.57	74.00	-23.43	360	200	Peak
3930.00	39.59	6.17	45.76	74.00	-28.24	0	200	Peak
1845.00	37.61	8.46	46.07	74.00	-27.93	360	100	Peak
5670.00	38.21	10.12	48.33	74.00	-25.67	314	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



PANEL PC **Product Name Test By** Davis Tseng VT1020-HRD 2015/11/12 **Test Model Test Date** IEEE 802.11g TX / CH Middle 25°C, 50% Test mode Temp. & Humidity / External Antenna

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
						=======		
2360.00	39.52	2.74	42.26	54.00	-11.74	226	100	Average
2360.00	48.77	2.74	51.51	74.00	-22.49	226	100	Peak
2624.00	38.63	3.40	42.03	54.00	-11.97	82	100	Average
2624.00	47.95	3.40	51.35	74.00	-22.65	82	100	Peak
2908.00	46.73	3.96	50.69	74.00	-23.31	134	200	Peak
3885.00	39.74	6.01	45.75	74.00	-28.25	83	200	Peak
4965.00	38.89	8.74	47.63	74.00	-26.37	242	100	Peak
6525.00	37.66	11.77	49.43	74.00	-24.57	62	100	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2278.00	47.84	2.51	50.35	74.00	-23.65	360	100	Peak
2384.00	42.67	2.81	45.48	54.00	-8.52	190	200	Average
2384.00	51.24	2.81	54.05	74.00	-19.95	190	200	Peak
2566.00	39.19	3.28	42.47	54.00	-11.53	182	200	Average
2566.00	48.83	3.28	52.11	74.00	-21.89	182	200	Peak
1050.00	40.08	6.54	46.62	74.00	-27.38	26	100	Peak
1920.00	39.26	8.63	47.89	74.00	-26.11	360	100	Peak
5610.00	37.49	9.99	47.48	74.00	-26.52	83	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



PANEL PC **Product Name Test By** Davis Tseng VT1020-HRD 2015/11/12 **Test Model Test Date** IEEE 802.11g TX / CH High 25°C, 50% Test mode Temp. & Humidity / External Antenna

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBu∨/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
1928.00	49.18	1.08	50.26	74.00	-23.74	242	100	Peak
2364.00	47.17	2.76	49.93	74.00	-24.07	360	100	Peak
2698.00	46.92	3.54	50.46	74.00	-23.54	62	100	Peak
4020.00	40.20	6.47	46.67	74.00	-27.33	206	100	Peak
4995.00	38.42	8.81	47.23	74.00	-26.77	190	200	Peak
5730.00	37.55	10.26	47.81	74.00	-26.19	298	200	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBu∀/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2248.00	47.83	2.42	50.25	74.00	-23.75	206	100	Peak
2376.00	39.94	2.79	42.73	54.00	-11.27	33	200	Average
2376.00	48.51	2.79	51.30	74.00	-22.70	33	200	Peak
2594.00	39.00	3.34	42.34	54.00	-11.66	190	200	Average
2594.00	49.00	3.34	52.34	74.00	-21.66	190	200	Peak
3795.00	39.33	5.68	45.01	74.00	-28.99	0	200	Peak
1455.00	39.12	7.54	46.66	74.00	-27.34	241	100	Peak
1965.00	38.55	8.74	47.29	74.00	-26.71	190	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



PANEL PC **Product Name Test By** Davis Tseng VT1020-HRD 2015/11/12 **Test Model Test Date** IEEE 802.11gn HT20 TX / 25°C, 50% Test mode Temp. & Humidity CH Low / External Antenna

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBu∨/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
						=======		
2348.00	47.30	2.71	50.01	74.00	-23.99	0	100	Peak
2498.00	45.88	3.14	49.02	74.00	-24.98	360	200	Peak
2530.00	46.75	3.21	49.96	74.00	-24.04	226	100	Peak
3960.00	39.84	6.28	46.12	74.00	-27.88	360	100	Peak
4920.00	39.05	8.63	47.68	74.00	-26.32	278	100	Peak
5610.00	38.27	9.99	48.26	74.00	-25.74	262	200	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBu∀/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark	
rin 2 				=========	ub 				
2246.00	46.93	2.41	49.34	74.00	-24.66	314	200	Peak	
2484.00	38.11	3.10	41.21	54.00	-12.79	242	200	Average	
2484.00	48.11	3.10	51.21	74.00	-22.79	242	200	Peak	
2626.00	39.42	3.40	42.82	54.00	-11.18	134	200	Average	
2626.00	48.78	3.40	52.18	74.00	-21.82	134	200	Peak	
1125.00	39.72	6.73	46.45	74.00	-27.55	241	100	Peak	
1845.00	38.90	8.46	47.36	74.00	-26.64	82	200	Peak	
5745.00	36.96	10.29	47.25	74.00	-26.75	62	100	Peak	

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



PANEL PC **Product Name Test By** Davis Tseng VT1020-HRD 2015/11/12 **Test Model Test Date** IEEE 802.11gn HT20 TX / 25°C, 50% Test mode Temp. & Humidity CH Middle / External Antenna

Report No.: T151020D04-RP1-1

966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Azimuth deg	Height cm	Remark
2390.00	44.91	2.83	47.74	54.00	-6.26	242	100	Average
2390.00	57.99	2.83	60.82	74.00	-13.18	242	100	Peak
2484.00	42.21	3.10	45.31	54.00	-8.69	241	100	Average
2484.00	54.58	3.10	57.68	74.00	-16.32	241	100	Peak
2816.00	47.19	3.78	50.97	74.00	-23.03	0	200	Peak
4215.00	39.53	6.95	46.48	74.00	-27.52	118	200	Peak
1875.00	38.93	8.53	47.46	74.00	-26.54	350	100	Peak
5520.00	37.15	9.79	46.94	74.00	-27.06	118	200	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
	========		========	=======				
2388.00	50.56	2.83	53.39	54.00	-0.61	206	100	Average
2388.00	62.53	2.83	65.36	74.00	-8.64	206	100	Peak
2484.00	49.30	3.10	52.40	54.00	-1.60	3	200	Average
2484.00	58.30	3.10	61.40	74.00	-12.60	3	200	Peak
2880.00	47.30	3.90	51.20	74.00	-22.80	166	200	Peak
3945.00	39.82	6.22	46.04	74.00	-27.96	0	200	Peak
1875.00	38.45	8.53	46.98	74.00	-27.02	190	200	Peak
5460.00	37.84	9.67	47.51	74.00	-26.49	314	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



PANEL PC **Product Name Test By** Davis Tseng VT1020-HRD 2015/11/12 **Test Model Test Date** IEEE 802.11gn HT20 TX / 25°C, 50% Test mode Temp. & Humidity CH High / External Antenna

Report No.: T151020D04-RP1-1

966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
						=======		
2234.00	38.69	2.38	41.07	54.00	-12.93	2	100	Average
2234.00	48.69	2.38	51.07	74.00	-22.93	2	100	Peak
2390.00	38.57	2.83	41.40	54.00	-12.60	242	200	Average
2390.00	48.57	2.83	51.40	74.00	-22.60	242	200	Peak
2830.00	47.03	3.80	50.83	74.00	-23.17	334	100	Peak
3870.00	40.51	5.95	46.46	74.00	-27.54	Ø	200	Peak
1950.00	38.81	8.70	47.51	74.00	-26.49	154	200	Peak
5805.00	37.16	10.43	47.59	74.00	-26.41	62	100	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2116.00	47.53	2.04	49.57	74.00	-24.43	118	200	Peak
2390.00	40.40	2.83	43.23	54.00	-10.77	118	200	Average
2390.00	49.40	2.83	52.23	74.00	-21.77	118	200	Peak
2586.00	39.15	3.32	42.47	54.00	-11.53	190	200	Average
2586.00	48.24	3.32	51.56	74.00	-22.44	190	200	Peak
1470.00	38.91	7.58	46.49	74.00	-27.51	47	200	Peak
1935.00	38.52	8.67	47.19	74.00	-26.81	262	200	Peak
5730.00	37.57	10.26	47.83	74.00	-26.17	83	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

 Product Name
 PANEL PC
 Test By
 Davis Tseng

 Test Model
 VT1020-HRD
 Test Date
 2015/11/12

 Test mode
 IEEE 802.11gn HT40 TX / CH Low / External Antenna
 Temp. & Humidity
 25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∀	C.F. dB/m	Result dBu∀/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
=======	.=======					=======		:=======
1412.00	50.24	-2.73	47.51	74.00	-26.49	136	200	Peak
2212.00	47.76	2.31	50.07	74.00	-23.93	83	100	Peak
2624.00	47.34	3.40	50.74	74.00	-23.26	70	200	Peak
4155.00	40.07	6.80	46.87	74.00	-27.13	154	200	Peak
4905.00	39.37	8.60	47.97	74.00	-26.03	360	100	Peak
5550.00	38.24	9.85	48.09	74.00	-25.91	154	200	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
======						======		:======
1444.00	49.62	-2.69	46.93	74.00	-27.07	147	100	Peak
1834.00	48.67	0.26	48.93	74.00	-25.07	76	200	Peak
2736.00	47.84	3.62	51.46	74.00	-22.54	232	200	Peak
4170.00	39.61	6.84	46.45	74.00	-27.55	314	100	Peak
4845.00	38.54	8.46	47.00	74.00	-27.00	62	100	Peak
5535.00	38.40	9.82	48.22	74.00	-25.78	350	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



PANEL PC **Product Name Test By** Davis Tseng VT1020-HRD 2015/11/12 **Test Model Test Date** IEEE 802.11gn HT40 TX / 25°C, 50% Test mode Temp. & Humidity CH Middle / External Antenna

Report No.: T151020D04-RP1-1

966Chamber B at 3Meter / Horizontal

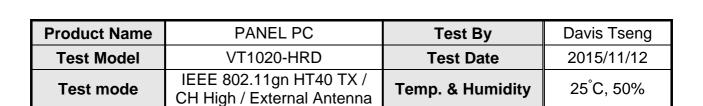
Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
3140.00	40.65	2 42	FO 70	74.00	22.22	1.50	200	Dl-
2148.00	48.65	2.13	50.78	74.00	-23.22	160	200	Peak
2390.00	41.82	2.83	44.65	54.00	-9.35	236	100	Average
2390.00	53.46	2.83	56.29	74.00	-17.71	236	100	Peak
2483.50	39.77	3.10	42.87	54.00	-11.13	258	100	Average
2483.50	53.88	3.10	56.98	74.00	-17.02	258	100	Peak
4080.00	39.70	6.62	46.32	74.00	-27.68	360	100	Peak
4575.00	38.94	7.83	46.77	74.00	-27.23	134	100	Peak
5580.00	38.17	9.92	48.09	74.00	-25.91	360	100	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBu∀/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
390.00	46.80	2.83	49.63	54.00	-4.37	8	200	Average
390.00	59.40	2.83	62.23	74.00	-11.77	8	200	Peak
483.50	46.11	3.10	49.21	54.00	-4.79	128	200	Average
483.50	61.67	3.10	64.77	74.00	-9.23	128	200	Peak
732.00	48.42	3.61	52.03	74.00	-21.97	352	100	Peak
960.00	40.01	6.28	46.29	74.00	-27.71	226	200	Peak
950.00	38.67	8.70	47.37	74.00	-26.63	98	100	Peak
745.00	37.69	10.29	47.98	74.00	-26.02	170	100	Peak

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu√	C.F. dB/m	Result dBuV/m	Limit dBu∨/m	Margin dB	Azimuth deg	Height cm	Remark
1726.00	48.73	-0.68	48.05	74.00	-25.95	348	100	Peak
2390.00	46.81	2.83	49.64	74.00	-24.36	313	200	Peak
2570.00	47.13	3.29	50.42	74.00	-23.58	309	200	Peak
4230.00	39.31	6.99	46.30	74.00	-27.70	26	100	Peak
4980.00	39.01	8.77	47.78	74.00	-26.22	205	100	Peak
5535.00	38.29	9.82	48.11	74.00	-25.89	277	100	Peak

966Chamber_B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2000.00	47.66	1.70	49.36	74.00	-24.64	13	100	Peak
2256.00	49.39	2.44	51.83	74.00	-22.17	268	200	Peak
2390.00	41.55	2.83	44.38	54.00	-9.62	205	200	Average
2390.00	54.17	2.83	57.00	74.00	-17.00	205	200	Peak
3945.00	40.09	6.22	46.31	74.00	-27.69	98	100	Peak
4890.00	38.44	8.56	47.00	74.00	-27.00	Ø	200	Peak
5520.00	38.56	9.79	48.35	74.00	-25.65	349	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



PANEL PC **Product Name Test By** Davis Tseng VT1020-HRD 2015/11/12 **Test Model Test Date** Bluetooth 4.0 / TX mode / 25°C, 50% Test mode Temp. & Humidity CH Low / External Antenna

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu√	C.F. dB/m	Result dBuV/m	Limit dBu∨/m	Margin dB	Azimuth deg	Height cm	Remark
2122.00	47.61	2.05	49.66	74.00	-24.34	13	200	Peak
2482.00	48.63	3.10	51.73	74.00	-22.27	94	100	Peak
2522.00	48.19	3.19	51.38	74.00	-22.62	267	200	Peak
3900.00	40.77	6.06	46.83	74.00	-27.17	ø	200	Peak
4815.00	38.32	8.39	46.71	74.00	-27.29	ø	200	Peak
5655.00	38.08	10.09	48.17	74.00	-25.83	314	100	Peak

966Chamber_B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
	47.60	2.40	F0.70	F4 00		345	200	
2482.00	47.62	3.10	50.72	54.00	-3.28	345	200	Average
2482.00	57.95	3.10	61.05	74.00	-12.95	345	200	Peak
2502.00	44.33	3.15	47.48	54.00	-6.52	181	200	Average
2502.00	54.78	3.15	57.93	74.00	-16.07	181	200	Peak
2562.00	44.88	3.27	48.15	54.00	-5.85	120	200	Average
2562.00	55.23	3.27	58.50	74.00	-15.50	120	200	Peak
3915.00	40.13	6.11	46.24	74.00	-27.76	0	100	Peak
4815.00	39.13	8.39	47.52	74.00	-26.48	62	200	Peak
5490.00	38.10	9.72	47.82	74.00	-26.18	9	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

Product Name	PANEL PC	Test By	Davis Tseng
Test Model	VT1020-HRD	Test Date	2015/11/12
Test mode	Bluetooth 4.0 / TX mode / CH Middle / External Antenna	Temp. & Humidity	25°C, 50%

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu√	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
1918.00	48.11	0.99	49.10	74.00	-24.90	141	100	Peak
2520.00	47.93	3.19	51.12	74.00	-22.88	248	100	Peak
2600.00	47.85	3.35	51.20	74.00	-22.80	221	100	Peak
4020.00	40.33	6.47	46.80	74.00	-27.20	26	100	Peak
4500.00	39.42	7.65	47.07	74.00	-26.93	154	200	Peak
4950.00	38.71	8.70	47.41	74.00	-26.59	62	100	Peak

966Chamber_B at 3Meter / Vertical

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
======								
2520.00	47.55	3.19	50.74	54.00	-3.26	238	200	Average
2520.00	58.42	3.19	61.61	74.00	-12.39	238	200	Peak
2540.00	45.16	3.23	48.39	54.00	-5.61	247	200	Average
2540.00	56.94	3.23	60.17	74.00	-13.83	247	200	Peak
2600.00	44.79	3.35	48.14	54.00	-5.86	198	200	Average
2600.00	54.90	3.35	58.25	74.00	-15.75	198	200	Peak
3840.00	40.55	5.84	46.39	74.00	-27.61	ø	200	Peak
4935.00	38.29	8.67	46.96	74.00	-27.04	360	100	Peak
5475.00	38.10	9.69	47.79	74.00	-26.21	Ø	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

Product Name	PANEL PC	Test By	Davis Tseng
Test Model	VT1020-HRD	Test Date	2015/11/12
Test mode	Bluetooth 4.0 / TX mode /	Temp. & Humidity	25°C, 50%

CH High / External Antenna

Report No.: T151020D04-RP1-1

966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∨/m	Margin dB	Azimuth deg	Height cm	Remark
								======
214.00	48.13	2.32	50.45	74.00	-23.55	77	200	Peak
560.00	48.65	3.27	51.92	74.00	-22.08	217	200	Peak
704.00	47.87	3.55	51.42	74.00	-22.58	247	200	Peak
3585.00	42.33	4.93	47.26	74.00	-26.74	360	100	Peak
1935.00	38.95	8.67	47.62	74.00	-26.38	10	200	Peak
460.00	37.95	9.67	47.62	74.00	-26.38	315	100	Peak
745.00	38.13	10.29	48.42	74.00	-25.58	98	100	Peak

966Chamber_B at 3Meter / Vertical

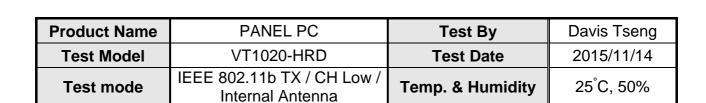
Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2560.00	46.48	3.27	49.75	54.00	-4.25	251	200	Average
2560.00	55.58	3.27	58.85	74.00	-15.15	251	200	Peak
2580.00	44.72	3.31	48.03	54.00	-5.97	229	200	Average
2580.00	54.95	3.31	58.26	74.00	-15.74	229	200	Peak
2600.00	44.79	3.35	48.14	54.00	-5.86	216	200	Average
2600.00	53.39	3.35	56.74	74.00	-17.26	216	200	Peak
3255.00	41.89	4.38	46.27	74.00	-27.73	226	200	Peak
4965.00	39.01	8.74	47.75	74.00	-26.25	243	100	Peak
5730.00	37.61	10.26	47.87	74.00	-26.13	315	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
						=======		
2348.00	45.34	2.71	48.05	74.00	-25.95	203	200	Peak
2484.00	43.70	3.10	46.80	74.00	-27.20	226	100	Peak
2908.00	43.14	3.96	47.10	74.00	-26.90	253	100	Peak
4815.00	38.57	8.39	46.96	74.00	-27.04	360	100	Peak
5475.00	37.42	9.69	47.11	74.00	-26.89	165	200	Peak
7380.00	37.59	12.35	49.94	74.00	-24.06	360	100	Peak
8175.00	36.77	13.11	49.88	74.00	-24.12	225	100	Peak

966Chamber B at 3Meter / Vertical

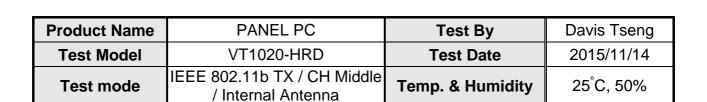
Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2236.00	43.68	2.38	46.06	74.00	-27.94	214	100	Peak
2484.00	43.42	3.10	46.52	74.00	-27.48	66	200	Peak
2782.00	41.97	3.71	45.68	74.00	-28.32	157	100	Peak
1395.00	39.48	7.39	46.87	74.00	-27.13	120	100	Peak
475.00	37.14	9.69	46.83	74.00	-27.17	21	100	Peak
5420.00	37.22	11.60	48.82	74.00	-25.18	13	100	Peak
7770.00	37.18	12.75	49.93	74.00	-24.07	74	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Azimuth deg	Height cm	Remark
======						=======		
2390.00	45.85	2.83	48.68	74.00	-25.32	173	200	Peak
2492.00	45.22	3.13	48.35	74.00	-25.65	207	200	Peak
2512.00	45.55	3.17	48.72	74.00	-25.28	190	200	Peak
4920.00	39.38	8.63	48.01	74.00	-25.99	58	100	Peak
6015.00	37.17	10.90	48.07	74.00	-25.93	9	100	Peak
6330.00	37.85	11.44	49.29	74.00	-24.71	250	100	Peak
8625.00	36.19	13.21	49.40	74.00	-24.60	160	200	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
======		=======				=======	=======	:======:
2362.00	44.56	2.75	47.31	74.00	-26.69	258	200	Peak
2390.00	43.09	2.83	45.92	74.00	-28.08	65	200	Peak
2490.00	43.79	3.12	46.91	74.00	-27.09	59	200	Peak
4935.00	39.61	8.67	48.28	74.00	-25.72	176	100	Peak
5580.00	38.06	9.92	47.98	74.00	-26.02	12	100	Peak
6300.00	37.85	11.39	49.24	74.00	-24.76	148	200	Peak
8190.00	36.05	13.11	49.16	74.00	-24.84	116	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



PANEL PC **Product Name Test By** Davis Tseng VT1020-HRD 2015/11/14 **Test Model Test Date** IEEE 802.11b TX / CH High / 25°C, 50% Test mode Temp. & Humidity Internal Antenna

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
======								
2306.00	42.05	2.59	44.64	74.00	-29.36	242	200	Peak
2390.00	44.92	2.83	47.75	74.00	-26.25	184	200	Peak
2796.00	42.10	3.74	45.84	74.00	-28.16	248	100	Peak
4935.00	37.57	8.67	46.24	74.00	-27.76	169	100	Peak
5760.00	37.38	10.33	47.71	74.00	-26.29	70	200	Peak
7200.00	36.91	12.30	49.21	74.00	-24.79	204	200	Peak
8385.00	35.84	13.17	49.01	74.00	-24.99	359	100	Peak

966Chamber_B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu√/m	Margin dB	Azimuth deg	Height cm	Remark
2134.00	43.82	2.09	45.91	74.00	-28.09	232	100	Peak
2390.00	43.38	2.83	46.21	74.00	-27.79	78	200	Peak
2814.00	41.33	3.77	45.10	74.00	-28.90	94	200	Peak
4050.00	39.46	6.54	46.00	74.00	-28.00	360	200	Peak
4920.00	36.87	8.63	45.50	74.00	-28.50	211	200	Peak
6510.00	37.22	11.75	48.97	74.00	-25.03	26	200	Peak
6885.00	37.79	12.13	49.92	74.00	-24.08	90	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

Product NamePANEL PCTest ByDavis TsengTest ModelVT1020-HRDTest Date2015/11/14Test modeIEEE 802.11g TX / CH Low / Internal AntennaTemp. & Humidity25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBu∨/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2318.00	43.78	2.62	46.40	74.00	-27.60	235	100	Peak
2486.00	43.85	3.11	46.96	74.00	-27.04	181	100	Peak
2890.00	41.45	3.92	45.37	74.00	-28.63	357	200	Peak
3165.00	40.59	4.30	44.89	74.00	-29.11	94	100	Peak
5715.00	38.34	10.23	48.57	74.00	-25.43	244	100	Peak
8040.00	36.48	13.07	49.55	74.00	-24.45	64	100	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu√/m	Margin dB	Azimuth deg	Height cm	Remark
324.00	43.64	2.64	46.28	74.00	-27.72	272	200	Peak
484.00	42.47	3.10	45.57	74.00	-28.43	274	200	Peak
2816.00	41.61	3.78	45.39	74.00	-28.61	56	200	Peak
1410.00	38.82	7.43	46.25	74.00	-27.75	173	100	Peak
5450.00	36.83	11.65	48.48	74.00	-25.52	229	100	Peak
7770.00	37.66	12.75	50.41	74.00	-23.59	28	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

PANEL PC **Product Name Test By** Davis Tseng VT1020-HRD 2015/11/14 **Test Model Test Date** IEEE 802.11g TX / CH Middle 25°C, 50% Test mode Temp. & Humidity / Internal Antenna

Report No.: T151020D04-RP1-1

966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Azimuth deg	Height cm	Remark
2372.00	39.63	2.78	42.41	54.00	-11.59	236	100	Average
2372.00	48.65	2.78	51.43	74.00	-22.57	236	100	Peak
2390.00	41.29	2.83	44.12	54.00	-9.88	191	200	Average
2390.00	49.22	2.83	52.05	74.00	-21.95	191	200	Peak
2484.00	48.48	3.10	51.58	74.00	-22.42	253	100	Peak
4020.00	39.77	6.47	46.24	74.00	-27.76	360	100	Peak
5580.00	38.37	9.92	48.29	74.00	-25.71	156	200	Peak
7965.00	37.06	13.01	50.07	74.00	-23.93	127	100	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∀	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
						=======		=======
2376.00	42.44	2.79	45.23	54.00	-8.77	118	200	Average
2376.00	48.51	2.79	51.30	74.00	-22.70	118	200	Peak
2390.00	47.58	2.83	50.41	74.00	-23.59	62	200	Peak
2484.00	47.38	3.10	50.48	74.00	-23.52	271	200	Peak
3885.00	39.66	6.01	45.67	74.00	-28.33	229	200	Peak
430.00	38.20	9.61	47.81	74.00	-26.19	Ø	100	Peak
7260.00	37.30	12.32	49.62	74.00	-24.38	184	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

Product Name	PANEL PC	Test By	Davis Tseng
Test Model	VT1020-HRD	Test Date	2015/11/14
Test mode	IEEE 802.11g TX / CH High / Internal Antenna	Temp. & Humidity	25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBu∀/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
=======						======		
1778.00	44.75	-0.23	44.52	74.00	-29.48	198	200	Peak
2358.00	44.81	2.74	47.55	74.00	-26.45	234	200	Peak
2390.00	44.01	2.83	46.84	74.00	-27.16	167	200	Peak
2782.00	41.73	3.71	45.44	74.00	-28.56	221	200	Peak
4155.00	38.89	6.80	45.69	74.00	-28.31	360	100	Peak
6525.00	37.75	11.77	49.52	74.00	-24.48	279	200	Peak
7755.00	37.42	12.73	50.15	74.00	-23.85	32	200	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu√	C.F. dB/m	Result dBuV/m	Limit dBu√/m	Margin dB	Azimuth deg	Height cm	Remark
2316.00	42.34	2.62	44.96	74.00	-29.04	351	100	Peak
2390.00	42.58	2.83	45.41	74.00	-28.59	92	200	Peak
2534.00	44.56	3.22	47.78	74.00	-26.22	31	100	Peak
3780.00	40.41	5.63	46.04	74.00	-27.96	152	200	Peak
520.00	38.75	9.79	48.54	74.00	-25.46	297	100	Peak
7905.00	37.25	12.93	50.18	74.00	-23.82	13	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor
 Margin = Result Limit

Remark Peak = Result(PK) - Limit(PK)

Product NamePANEL PCTest ByDavis TsengTest ModelVT1020-HRDTest Date2015/11/14Test modeIEEE 802.11gn HT20 TX / CH Low / Internal AntennaTemp. & Humidity25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2484.00	42.98	3.10	46.08	74.00	-27.92	110	100	Peak
2500.00	43.91	3.15	47.06	74.00	-26.94	183	200	Peak
2730.00	41.76	3.61	45.37	74.00	-28.63	274	200	Peak
3705.00	39.86	5.36	45.22	74.00	-28.78	112	200	Peak
5580.00	38.31	9.92	48.23	74.00	-25.77	173	200	Peak
7200.00	37.29	12.30	49.59	74.00	-24.41	292	100	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu√	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2484.00	41.99	3.10	45.09	74.00	-28.91	338	200	Peak
2500.00	42.85	3.15	46.00	74.00	-28.00	344	200	Peak
2762.00	42.15	3.67	45.82	74.00	-28.18	355	100	Peak
3765.00	39.06	5.57	44.63	74.00	-29.37	349	100	Peak
5715.00	37.43	10.23	47.66	74.00	-26.34	115	200	Peak
5975.00	37.27	12.22	49.49	74.00	-24.51	333	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

Product Name	PANEL PC	Test By	Davis Tseng
Test Model	VT1020-HRD	Test Date	2015/11/14
Test mode	IEEE 802.11gn HT20 TX / CH Middle / Internal Antenna	Temp. & Humidity	25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
						=======		
2390.00	44.17	2.83	47.00	54.00	-7.00	158	100	Average
2390.00	54.22	2.83	57.05	74.00	-16.95	158	100	Peak
2484.00	44.58	3.10	47.68	54.00	-6.32	202	200	Average
2484.00	60.42	3.10	63.52	74.00	-10.48	202	200	Peak
2770.00	42.16	3.68	45.84	74.00	-28.16	116	200	Peak
3195.00	40.18	4.33	44.51	74.00	-29.49	98	100	Peak
1755.00	38.80	8.25	47.05	74.00	-26.95	294	100	Peak
7770.00	36.32	12.75	49.07	74.00	-24.93	25	100	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2390.00	45.31	2.83	48.14	54.00	-5.86	276	200	Average
2390.00	55.34	2.83	58.17	74.00	-15.83	276	200	Peak
2484.00	45.47	3.10	48.57	54.00	-5.43	330	200	Average
2484.00	54.54	3.10	57.64	74.00	-16.36	330	200	Peak
2970.00	43.23	4.08	47.31	74.00	-26.69	194	100	Peak
3855.00	39.56	5.90	45.46	74.00	-28.54	264	200	Peak
5595.00	38.16	9.95	48.11	74.00	-25.89	0	100	Peak
7380.00	37.79	12.35	50.14	74.00	-23.86	128	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

Product Name	PANEL PC	Test By	Davis Tseng
Test Model	VT1020-HRD	Test Date	2015/11/14
Test mode	IEEE 802.11gn HT20 TX / CH High / Internal Antenna	Temp. & Humidity	25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBu√/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2174 00	41.80	2 20	44.00	74.00	30.01	144	100	Dl-
2174.00 2390.00	41.89 43.20	2.20 2.83	44.09 46.03	74.00 74.00	-29.91 -27.97	144 180	100 200	Peak Peak
2604.00	42.02	3.36	45.38	74.00	-28.62	67	200	Peak
3240.00	40.63	4.37	45.00	74.00	-29.00	273	100	Peak
4830.00	38.69	8.42	47.11	74.00	-26.89	190	100	Peak
7215.00	37.11	12.31	49.42	74.00	-24.58	32	200	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨ 	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2282.00	46.01	2.52	48.53	74.00	-25.47	337	100	Peak
2390.00	46.84	2.83	49.67	74.00	-24.33	192	100	Peak
2524.00	44.62	3.20	47.82	74.00	-26.18	266	200	Peak
3285.00	40.36	4.41	44.77	74.00	-29.23	221	100	Peak
1215.00	39.09	6.95	46.04	74.00	-27.96	52	200	Peak
5630.00	36.41	11.87	48.28	74.00	-25.72	136	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

 Product Name
 PANEL PC
 Test By
 Davis Tseng

 Test Model
 VT1020-HRD
 Test Date
 2015/11/14

 Test mode
 IEEE 802.11gn HT40 TX / CH Low / Internal Antenna
 Temp. & Humidity
 25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu√/m	Margin dB	Azimuth deg	Height cm	Remark
41.94	2.02	43.96	74.00	-30.04	201	100	Peak
43.17	3.10	46.27	74.00	-27.73	208	100	Peak
41.89	3.82	45.71	74.00	-28.29	53	100	Peak
38.96	6.65	45.61	74.00	-28.39	20	100	Peak
37.86	9.99	47.85	74.00	-26.15	290	200	Peak
36.27	13.05	49.32	74.00	-24.68	257	100	Peak
	dBu√ 41.94 43.17 41.89 38.96 37.86	dBuV dB/m 41.94 2.02 43.17 3.10 41.89 3.82 38.96 6.65 37.86 9.99	dBuV dB/m dBuV/m 41.94 2.02 43.96 43.17 3.10 46.27 41.89 3.82 45.71 38.96 6.65 45.61 37.86 9.99 47.85	dBuV dB/m dBuV/m dBuV/m 41.94 2.02 43.96 74.00 43.17 3.10 46.27 74.00 41.89 3.82 45.71 74.00 38.96 6.65 45.61 74.00 37.86 9.99 47.85 74.00	dBuV dB/m dBuV/m dBuV/m dB 41.94 2.02 43.96 74.00 -30.04 43.17 3.10 46.27 74.00 -27.73 41.89 3.82 45.71 74.00 -28.29 38.96 6.65 45.61 74.00 -28.39 37.86 9.99 47.85 74.00 -26.15	dBuV dB/m dBuV/m dBuV/m dB deg 41.94 2.02 43.96 74.00 -30.04 201 43.17 3.10 46.27 74.00 -27.73 208 41.89 3.82 45.71 74.00 -28.29 53 38.96 6.65 45.61 74.00 -28.39 20 37.86 9.99 47.85 74.00 -26.15 290	dBuV dB/m dBuV/m dBuV/m dB deg cm 41.94 2.02 43.96 74.00 -30.04 201 100 43.17 3.10 46.27 74.00 -27.73 208 100 41.89 3.82 45.71 74.00 -28.29 53 100 38.96 6.65 45.61 74.00 -28.39 20 100 37.86 9.99 47.85 74.00 -26.15 290 200

966Chamber_B at 3Meter / Vertical

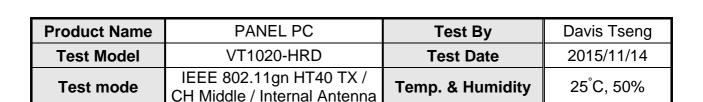
Freq. MHz	Reading dBu√	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
176.00	42.11	2.21	44.32	74.00	-29.68	268	200	Peak
484.00	43.07	3.10	46.17	74.00	-27.83	283	200	Peak
498.00	43.84	3.14	46.98	74.00	-27.02	274	200	Peak
3990.00	39.25	6.38	45.63	74.00	-28.37	213	200	Peak
625.00	38.02	10.02	48.04	74.00	-25.96	238	200	Peak
065.00	36.87	12.27	49.14	74.00	-24.86	206	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



Report No.: T151020D04-RP1-1

966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
						=======		=======
2390.00	40.22	2.83	43.05	54.00	-10.95	179	200	Average
2390.00	49.53	2.83	52.36	74.00	-21.64	179	200	Peak
2484.00	41.58	3.10	44.68	54.00	-9.32	257	200	Average
2484.00	49.40	3.10	52.50	74.00	-21.50	257	200	Peak
2558.00	42.97	3.26	46.23	74.00	-27.77	165	200	Peak
3225.00	41.08	4.36	45.44	74.00	-28.56	50	100	Peak
5400.00	37.42	9.56	46.98	74.00	-27.02	132	100	Peak
7110.00	37.33	12.28	49.61	74.00	-24.39	232	100	Peak

966Chamber B at 3Meter / Vertical

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2144.00	43.91	2.12	46.03	74.00	-27.97	84	200	Peak
2390.00	42.08	2.83	44.91	54.00	-9.09	274	200	Average
2390.00	52.82	2.83	55.65	74.00	-18.35	274	200	Peak
2484.00	42.41	3.10	45.51	54.00	-8.49	264	200	Average
2484.00	52.49	3.10	55.59	74.00	-18.41	264	200	Peak
1035.00	39.62	6.51	46.13	74.00	-27.87	77	100	Peak
5525.00	37.10	11.77	48.87	74.00	-25.13	107	100	Peak
7995.00	35.92	13.05	48.97	74.00	-25.03	315	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)

FCC ID: ZWM-VT-1020

 Product Name
 PANEL PC
 Test By
 Davis Tseng

 Test Model
 VT1020-HRD
 Test Date
 2015/11/14

 Test mode
 IEEE 802.11gn HT40 TX / CH High / Internal Antenna
 Temp. & Humidity
 25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber B at 3Meter / Horizontal

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
.======						======		=======
2066.00	42.29	1.89	44.18	74.00	-29.82	82	200	Peak
2390.00	45.18	2.83	48.01	74.00	-25.99	249	200	Peak
966.00	41.59	4.07	45.66	74.00	-28.34	179	100	Peak
125.00	40.85	6.73	47.58	74.00	-26.42	358	200	Peak
475.00	37.97	9.69	47.66	74.00	-26.34	192	100	Peak
7755.00	36.34	12.73	49.07	74.00	-24.93	122	200	Peak

966Chamber B at 3Meter / Vertical

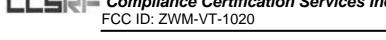
Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2022.00	42.40	1.76	44.16	74.00	-29.84	351	100	Peak
2390.00	44.26	2.83	47.09	74.00	-26.91	274	100	Peak
2634.00	42.01	3.42	45.43	74.00	-28.57	345	200	Peak
5025.00	38.42	8.87	47.29	74.00	-26.71	137	200	Peak
6885.00	37.37	12.13	49.50	74.00	-24.50	247	100	Peak
8685.00	36.71	13.22	49.93	74.00	-24.07	132	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result – Limit

Remark Peak = Result(PK) - Limit(PK)



Product Name	PANEL PC	Test By	Davis Tseng
Test Model	VT1020-HRD	Test Date	2015/11/14
Test mode	Bluetooth 4.0 / TX mode / CH Low / Internal Antenna	Temp. & Humidity	25°C, 50%

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2322.00	42.94	2.63	45.57	74.00	-28.43	125	100	Peak
2484.00	40.35	3.10	43.45	74.00	-30.55	64	200	Peak
2562.00	45.63	3.27	48.90	74.00	-25.10	119	100	Peak
3990.00	39.96	6.38	46.34	74.00	-27.66	317	200	Peak
5955.00	37.22	10.77	47.99	74.00	-26.01	163	100	Peak
7770.00	37.09	12.75	49.84	74.00	-24.16	94	100	Peak

966Chamber B at 3Meter / Vertical

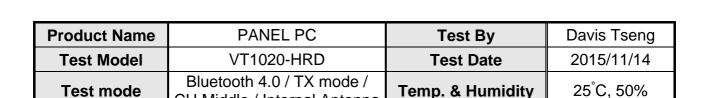
Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
						=======		=======
2140.00	47.39	2.11	49.50	74.00	-24.50	92	100	Peak
2484.00	40.88	3.10	43.98	74.00	-30.02	322	100	Peak
2502.00	47.37	3.15	50.52	74.00	-23.48	294	200	Peak
1050.00	38.78	6.54	45.32	74.00	-28.68	22	100	Peak
5060.00	38.50	10.97	49.47	74.00	-24.53	256	100	Peak
7110.00	37.82	12.28	50.10	74.00	-23.90	98	200	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



CH Middle / Internal Antenna

Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBuV	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
2342.00	42.15	2.69	44.84	74.00	-29.16	62	100	Peak
2500.00	43.97	3.15	47.12	74.00	-26.88	204	200	Peak
2520.00	43.63	3.19	46.82	54.00	-7.18	175	200	Average
2520.00	48.58	3.19	51.77	74.00	-22.23	175	200	Peak
3930.00	40.09	6.17	46.26	74.00	-27.74	178	100	Peak
6270.00	38.89	11.34	50.23	74.00	-23.77	314	200	Peak
8685.00	36.36	13.22	49.58	74.00	-24.42	248	100	Peak

966Chamber_B at 3Meter / Vertical

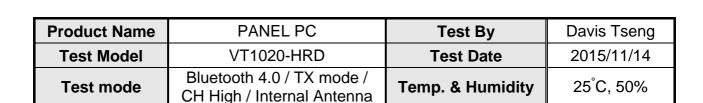
Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
1555.00	40.20		46.45					n
1556.00	48.30	-2.15	46.15	74.00	-27.85	90	200	Peak
2358.00	43.73	2.74	46.47	74.00	-27.53	102	100	Peak
2540.00	46.98	3.23	50.21	74.00	-23.79	301	200	Peak
4140.00	39.99	6.76	46.75	74.00	-27.25	69	100	Peak
6435.00	37.57	11.63	49.20	74.00	-24.80	43	100	Peak
8790.00	36.57	13.23	49.80	74.00	-24.20	90	100	Peak

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(PK)



Report No.: T151020D04-RP1-1

966Chamber_B at 3Meter / Horizontal

Freq. MHz	Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
1732.00	45.66	-0.63	45.03	74.00	-28.97	310	200	Peak
2400.00	41.02	2.86	43.88	74.00	-30.12	321	100	Peak
2560.00	45.89	3.27	49.16	74.00	-24.84	111	100	Peak
3390.00	40.87	4.51	45.38	74.00	-28.62	89	200	Peak
5550.00	37.59	9.85	47.44	74.00	-26.56	348	100	Peak
7785.00	36.89	12.77	49.66	74.00	-24.34	275	100	Peak

966Chamber_B at 3Meter / Vertical

Reading dBu∨	C.F. dB/m	Result dBuV/m	Limit dBu∀/m	Margin dB	Azimuth deg	Height cm	Remark
48.07	2.47	50.54	74.00	-23.46	94	100	Peak
43.46	2.86	46.32	74.00	-27.68	185	200	Peak
46.56	3.27	49.83	74.00	-24.17	264	100	Peak
39.39	6.84	46.23	74.00	-27.77	110	100	Peak
37.80	11.55	49.35	74.00	-24.65	141	200	Peak
36.48	13.20	49.68	74.00	-24.32	323	200	Peak
	48.07 43.46 46.56 39.39 37.80	48.07 2.47 43.46 2.86 46.56 3.27 39.39 6.84 37.80 11.55	dBuV dB/m dBuV/m 48.07 2.47 50.54 43.46 2.86 46.32 46.56 3.27 49.83 39.39 6.84 46.23 37.80 11.55 49.35	dBuV dB/m dBuV/m dBuV/m 48.07 2.47 50.54 74.00 43.46 2.86 46.32 74.00 46.56 3.27 49.83 74.00 39.39 6.84 46.23 74.00 37.80 11.55 49.35 74.00	dBuV dB/m dBuV/m dBuV/m dB 48.07 2.47 50.54 74.00 -23.46 43.46 2.86 46.32 74.00 -27.68 46.56 3.27 49.83 74.00 -24.17 39.39 6.84 46.23 74.00 -27.77 37.80 11.55 49.35 74.00 -24.65	dBu√ dB/m dBu√/m dBu√/m dB deg 48.07 2.47 50.54 74.00 -23.46 94 43.46 2.86 46.32 74.00 -27.68 185 46.56 3.27 49.83 74.00 -24.17 264 39.39 6.84 46.23 74.00 -27.77 110 37.80 11.55 49.35 74.00 -24.65 141	dBuV dB/m dBuV/m dBuV/m dB deg cm 48.07 2.47 50.54 74.00 -23.46 94 100 43.46 2.86 46.32 74.00 -27.68 185 200 46.56 3.27 49.83 74.00 -24.17 264 100 39.39 6.84 46.23 74.00 -27.77 110 100 37.80 11.55 49.35 74.00 -24.65 141 200

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Average test would be performed if the peak result were greater than the average limit.
- 3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 4. Result = Reading + Correction Factor

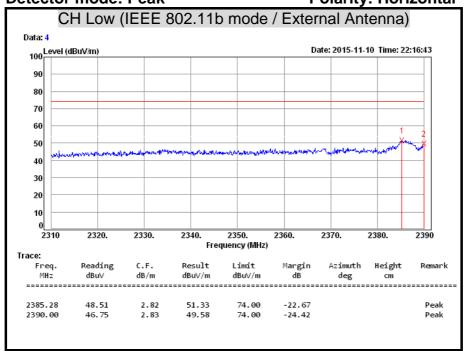
Margin = Result – Limit

Remark Peak = Result(PK) - Limit(PK)

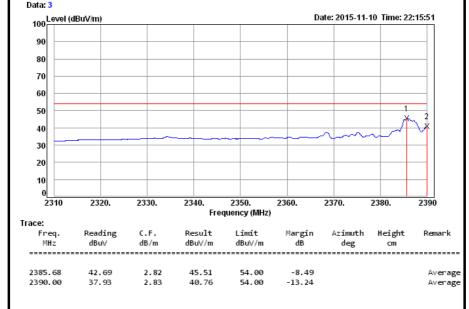


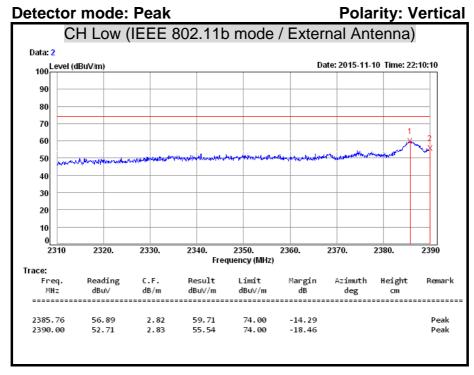
Restricted Band Edges

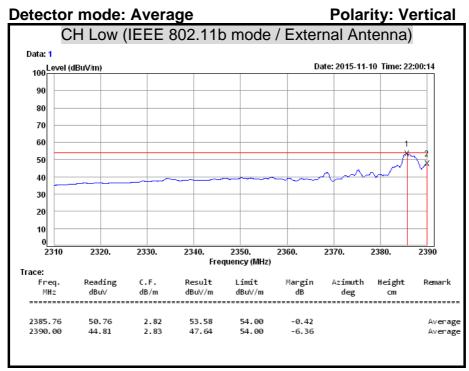
Detector mode: Peak Polarity: Horizontal

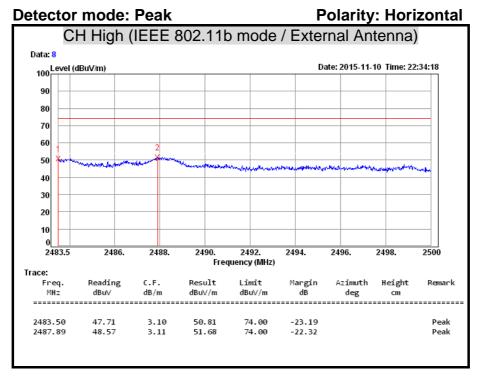


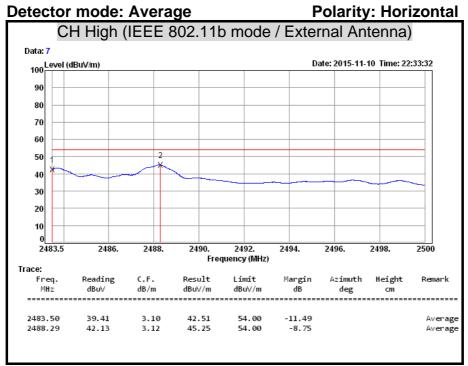
Detector mode: Average Polarity: Horizontal CH Low (IEEE 802.11b mode / External Antenna) Data: 3 100 Level (dBuV/m) Date: 2015-11-10 Time: 22:15:51

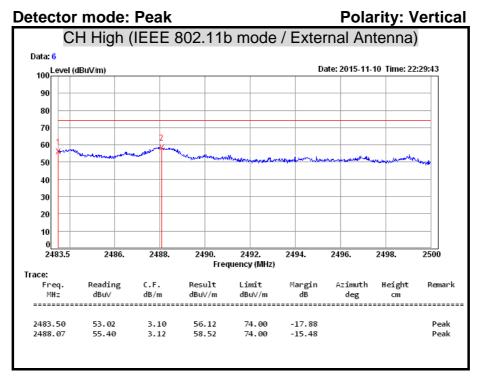


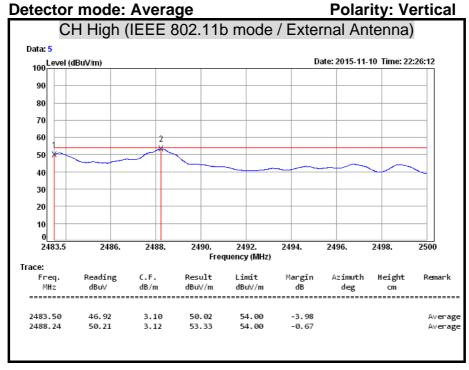


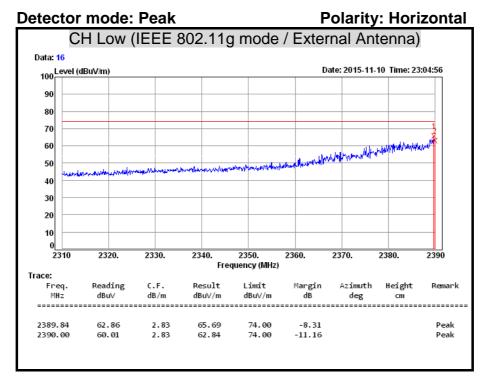


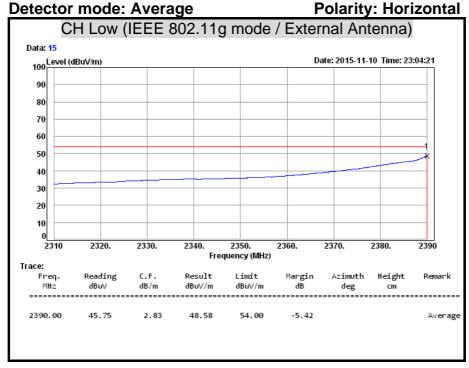


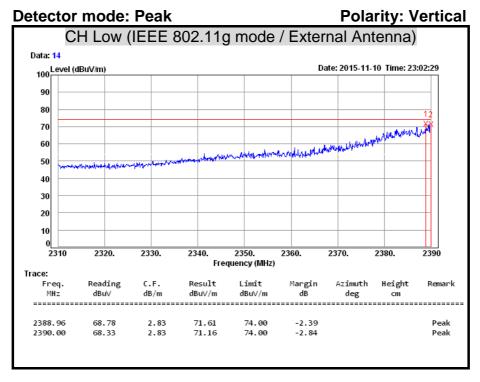


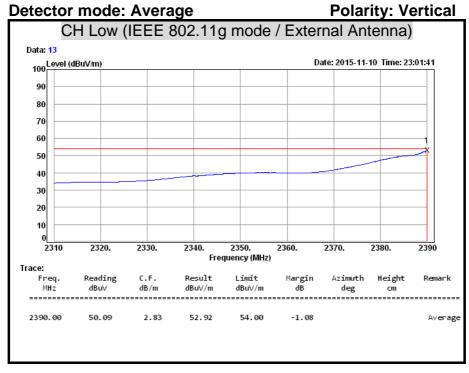


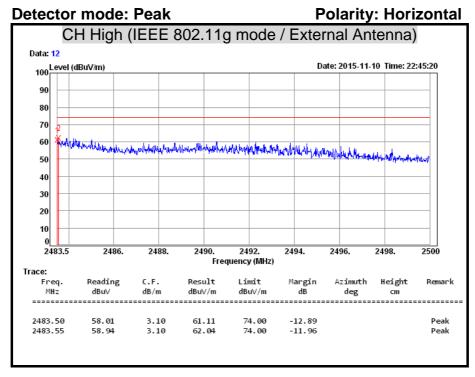


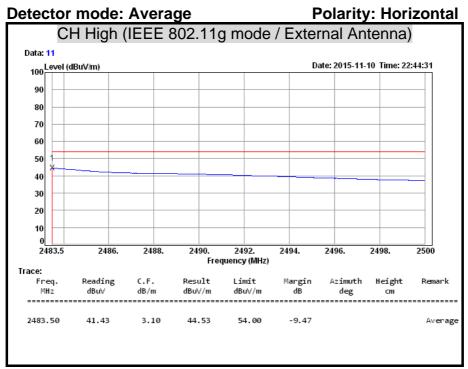


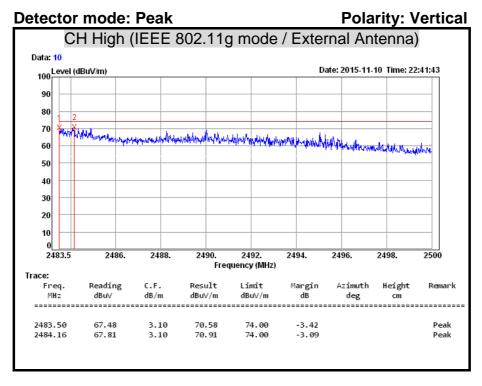


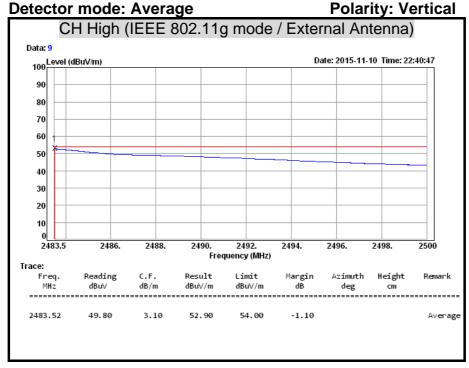


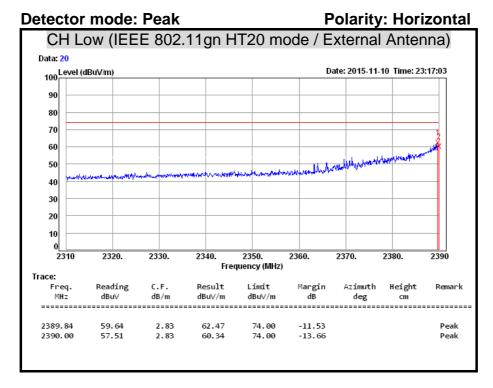


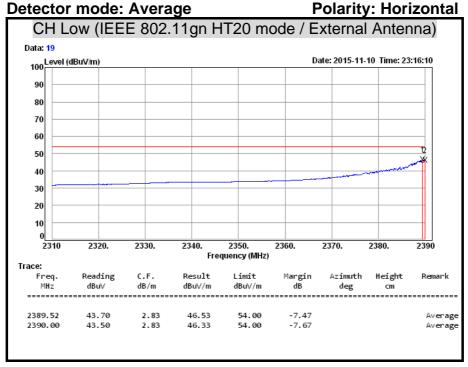


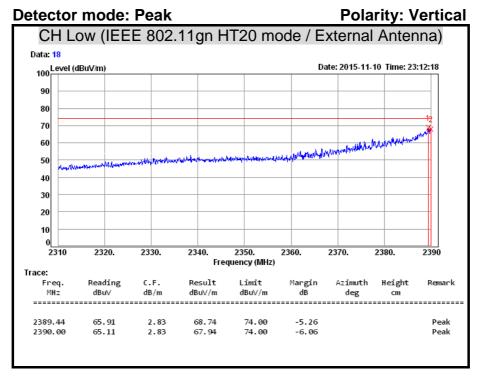


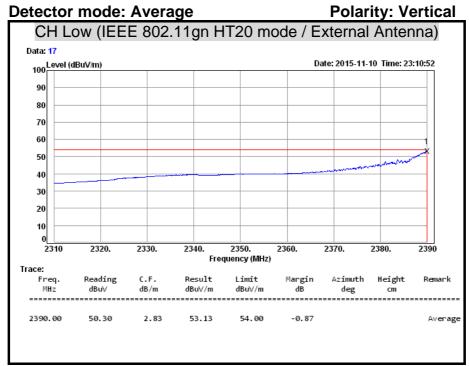


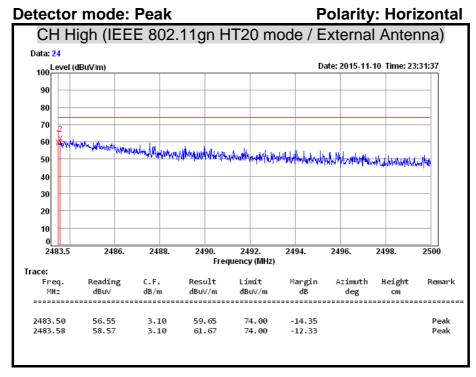


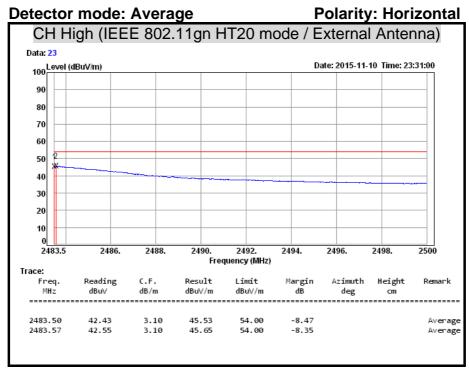


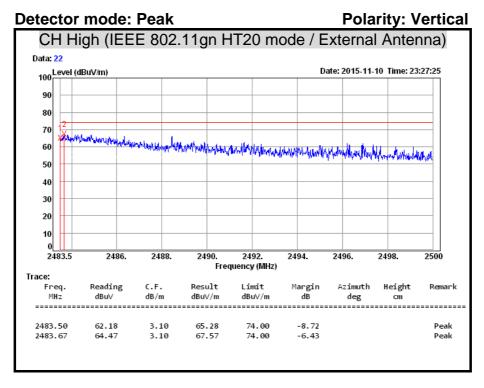


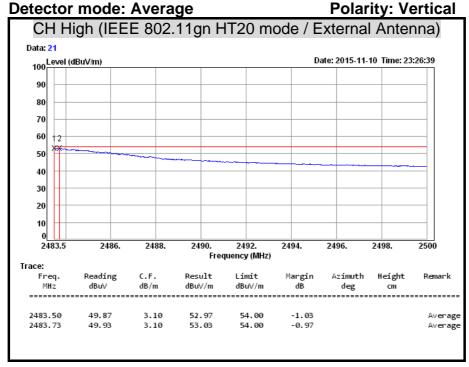


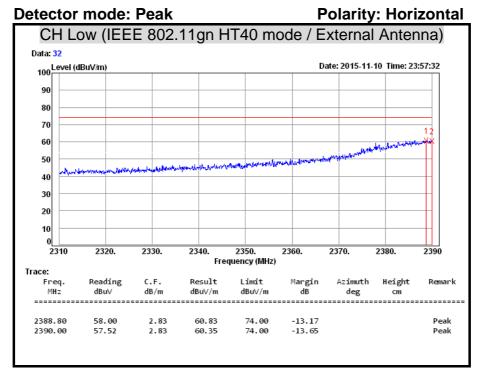


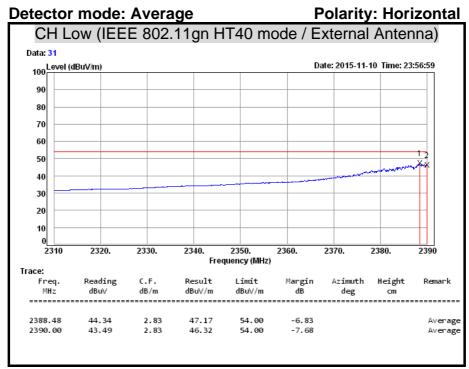


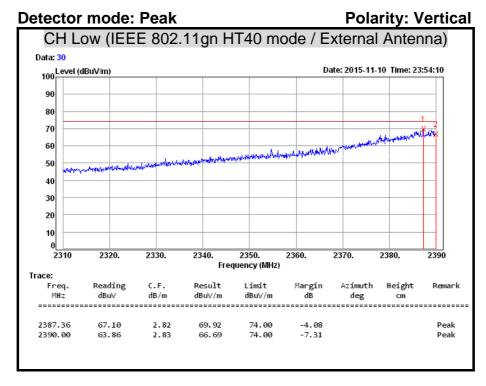


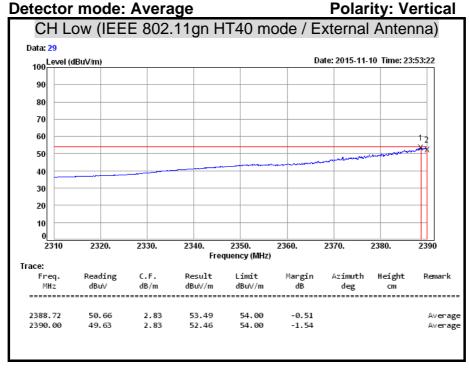


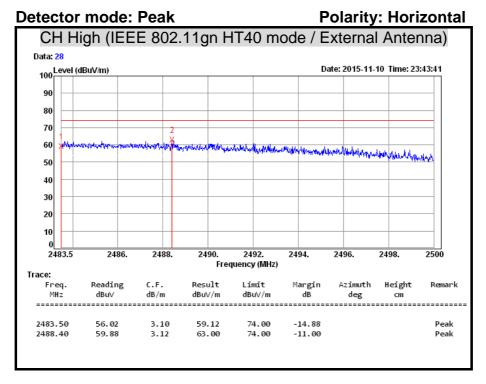


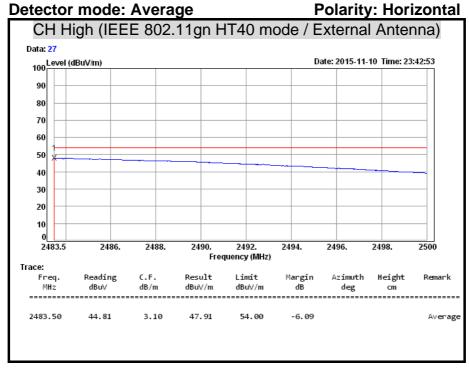


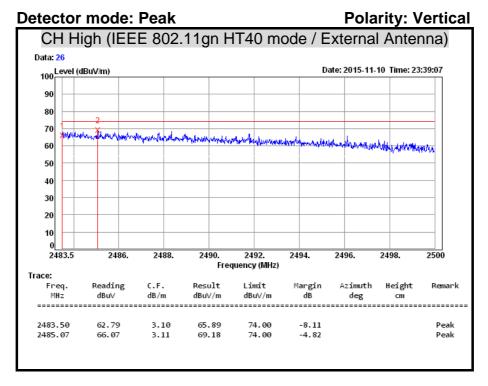


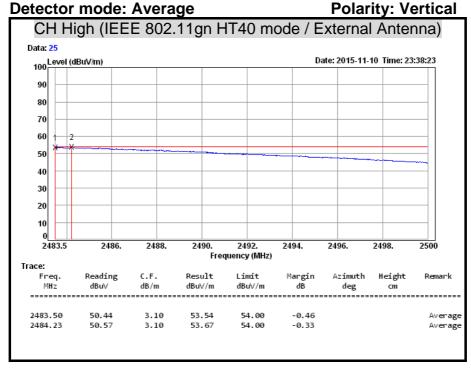


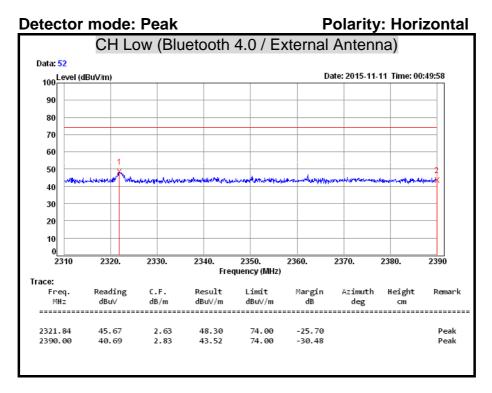


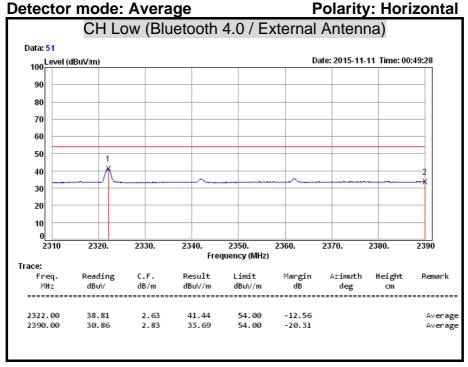


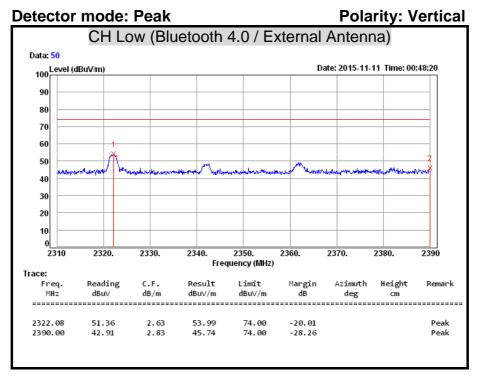


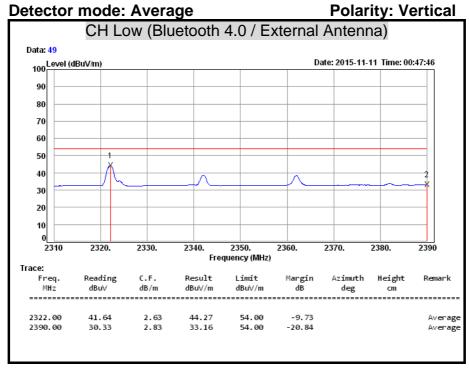


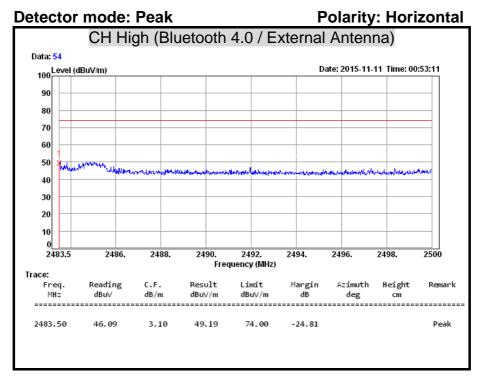


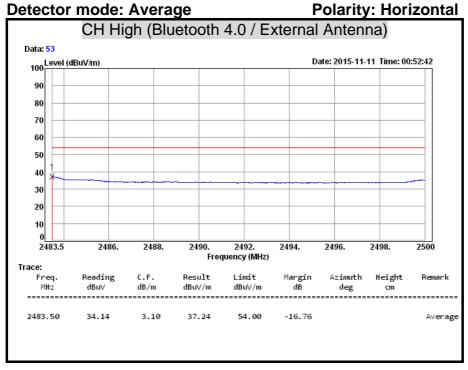


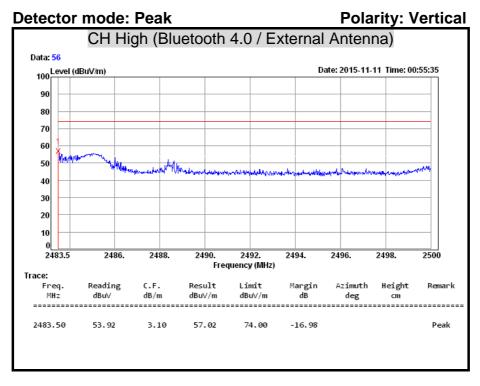


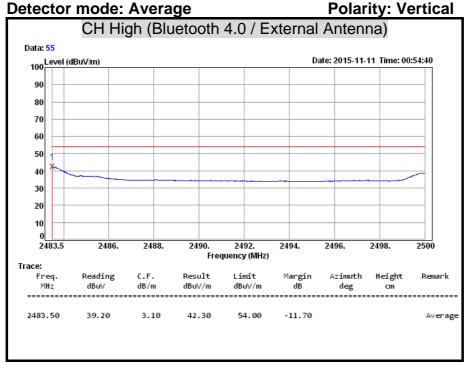


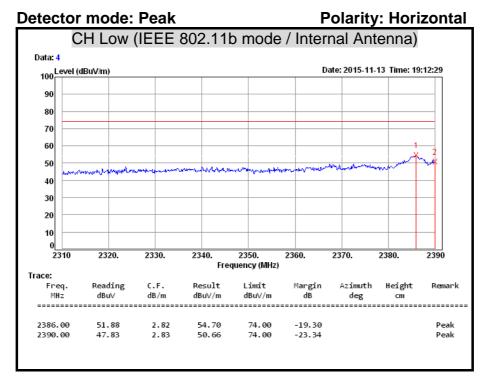


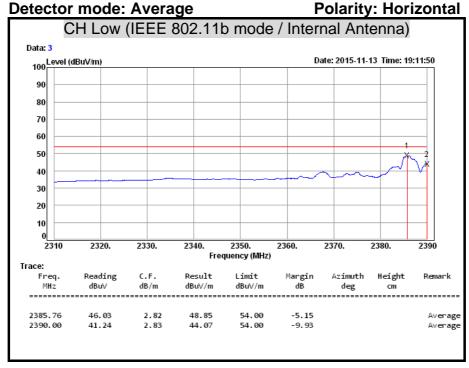


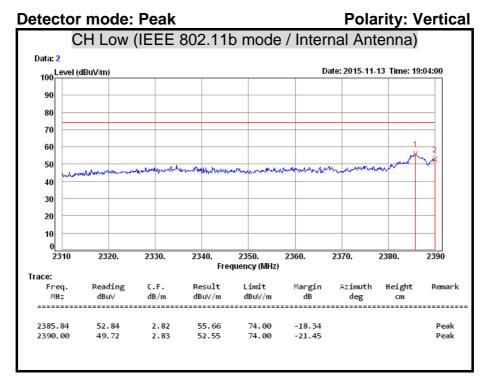


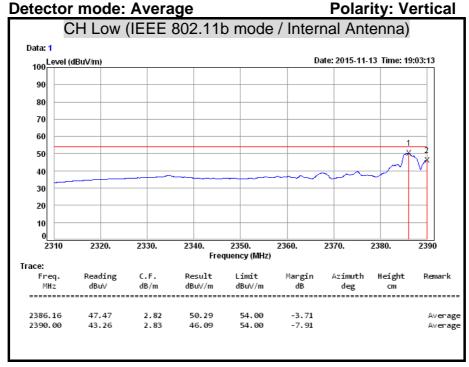


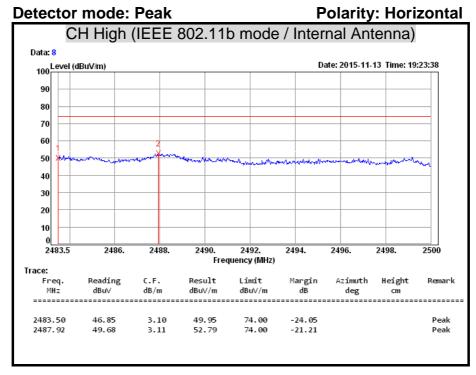


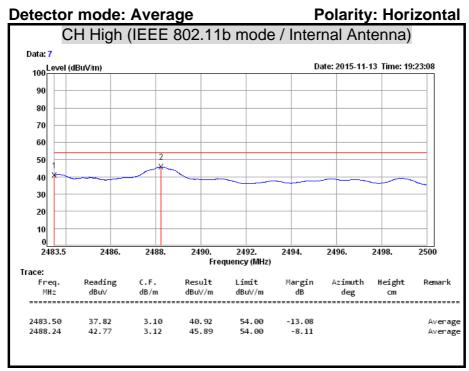


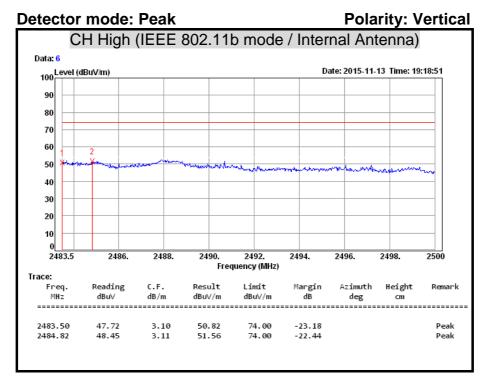


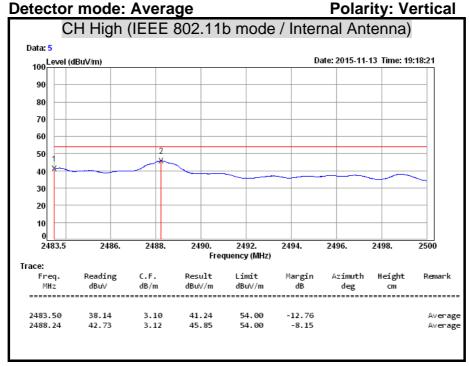


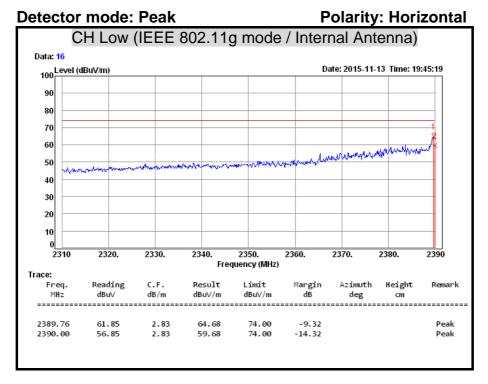


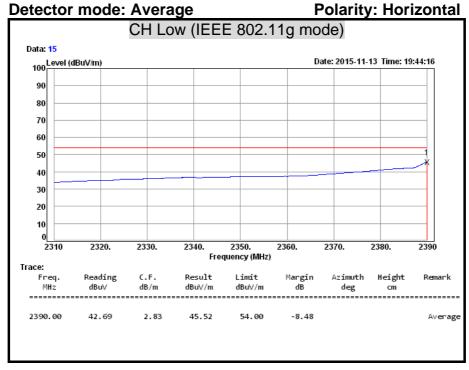


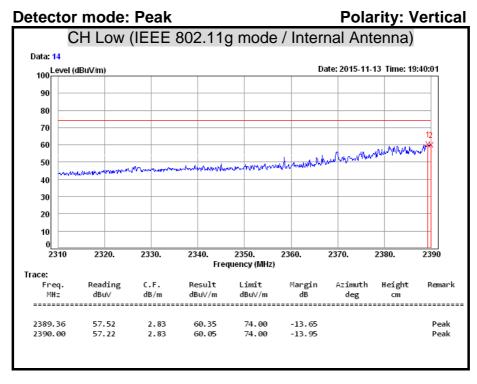


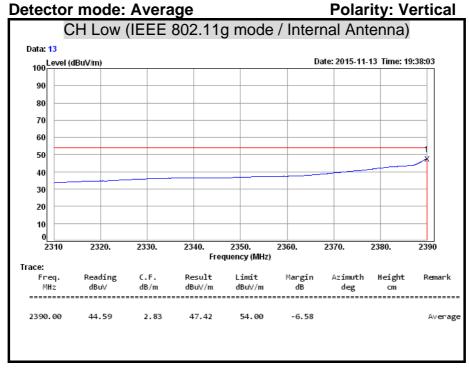


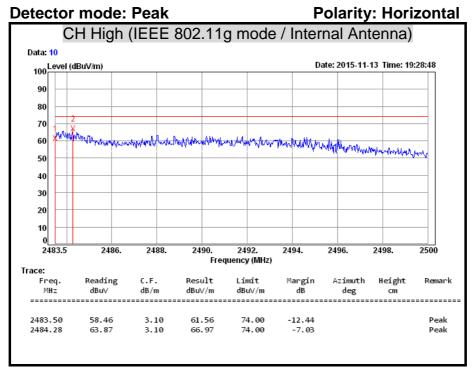


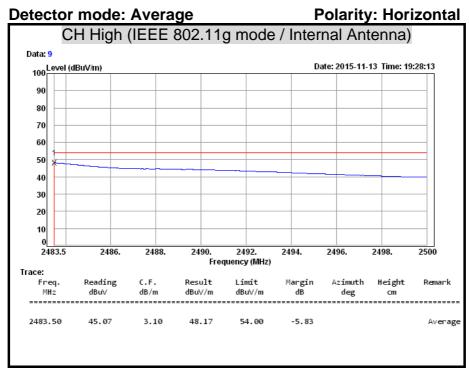


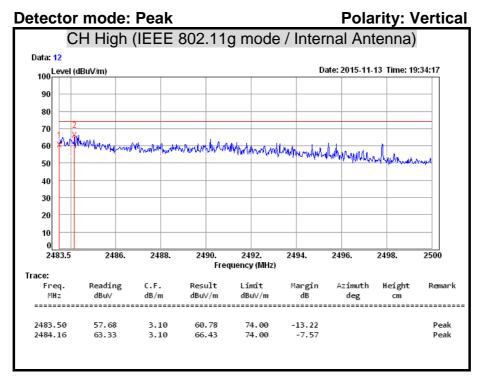


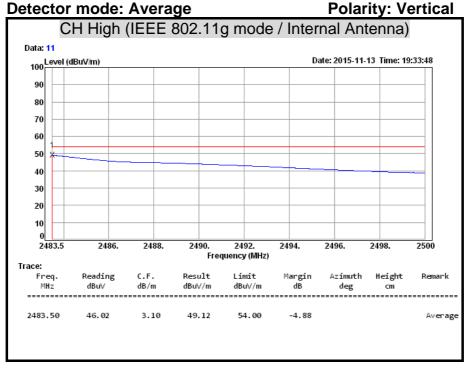


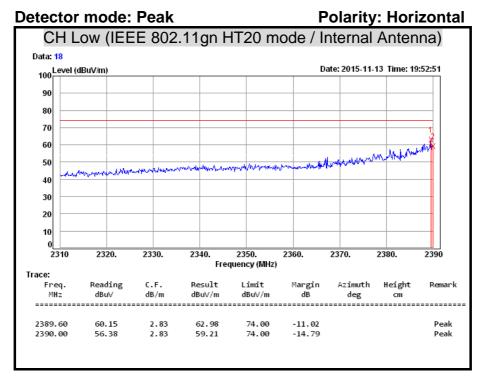


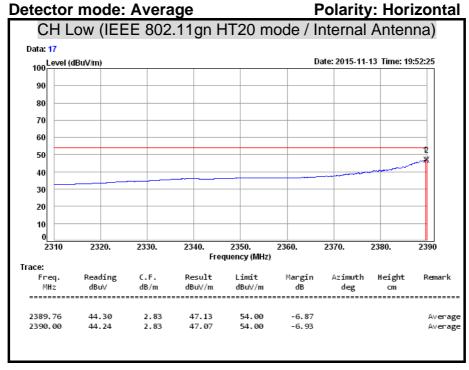


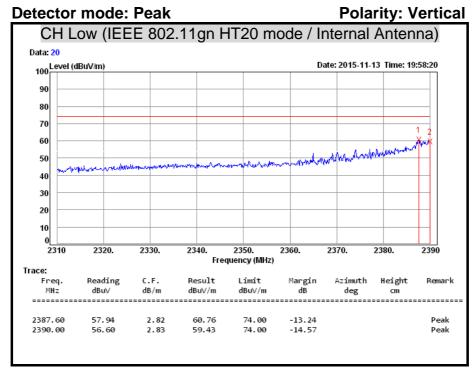


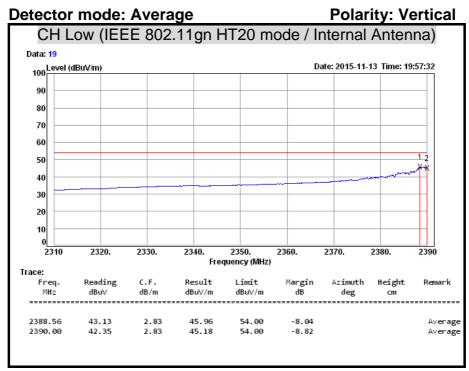


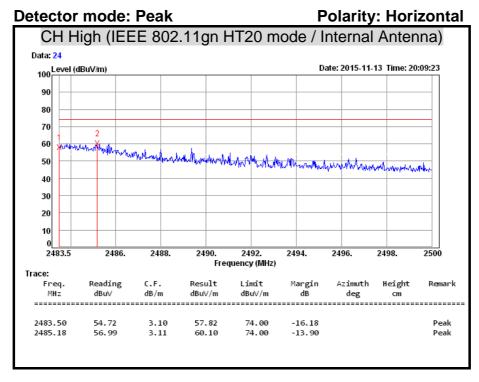


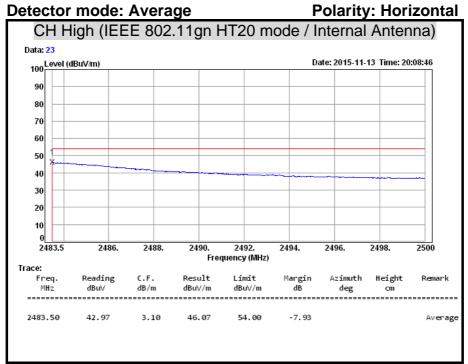


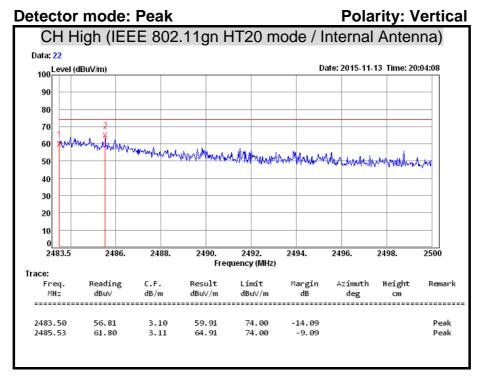


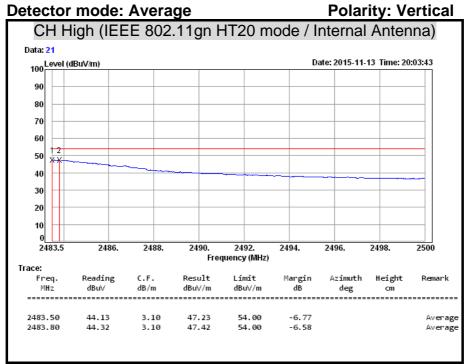


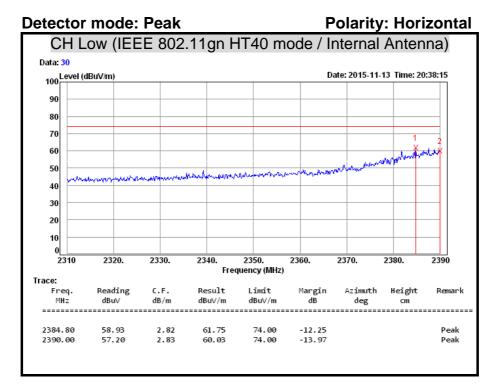


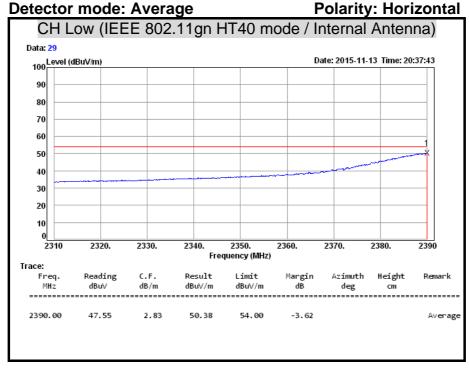


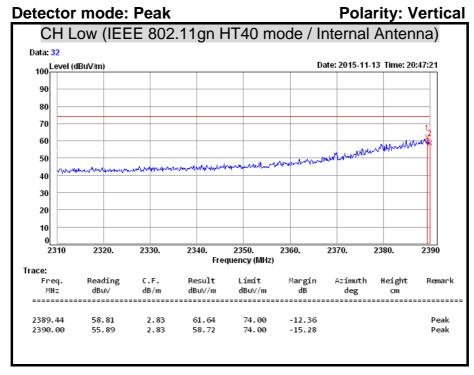


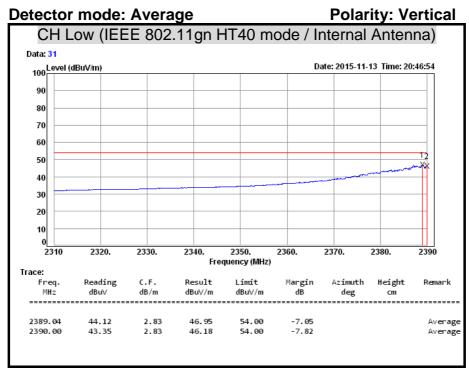


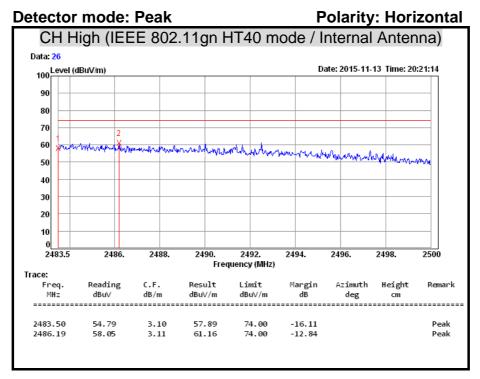


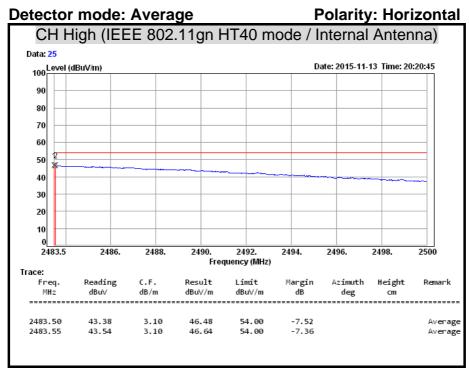


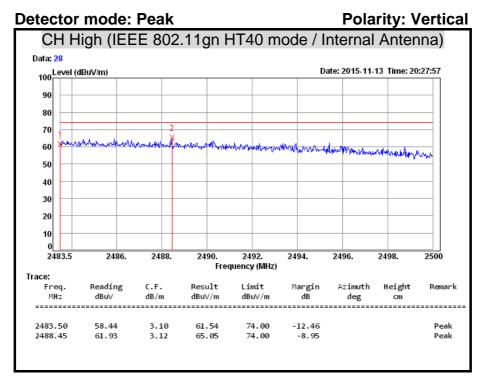


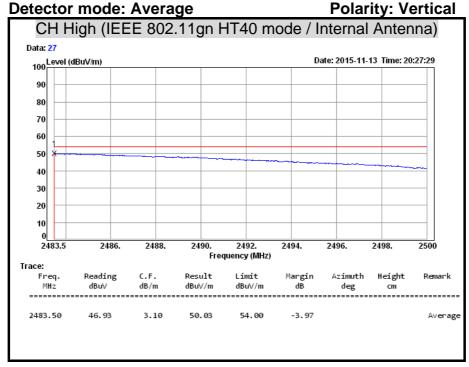


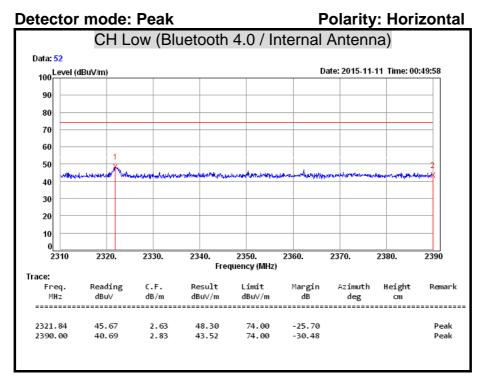


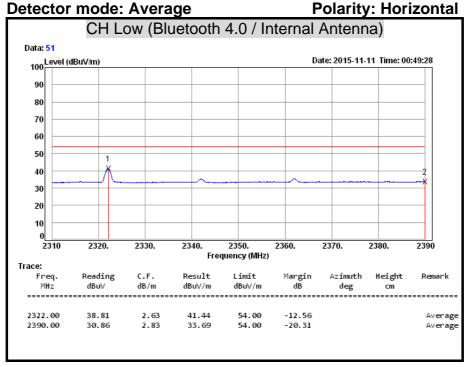


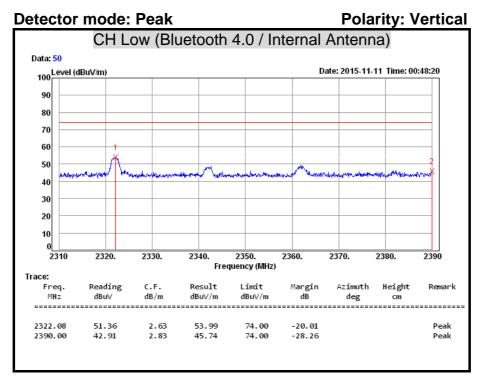


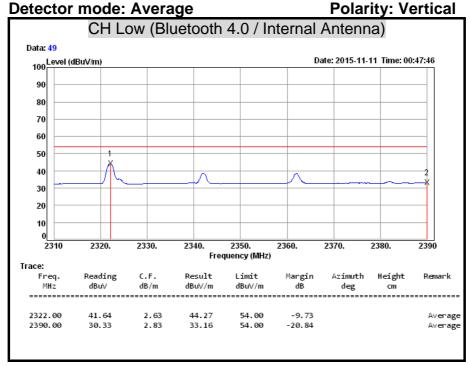


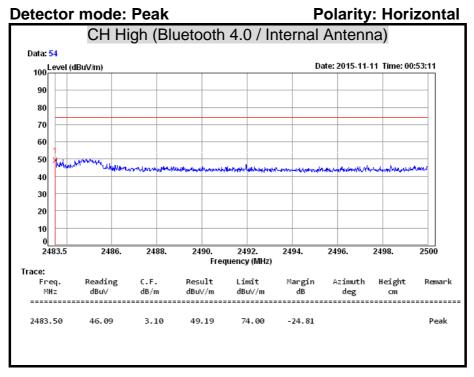


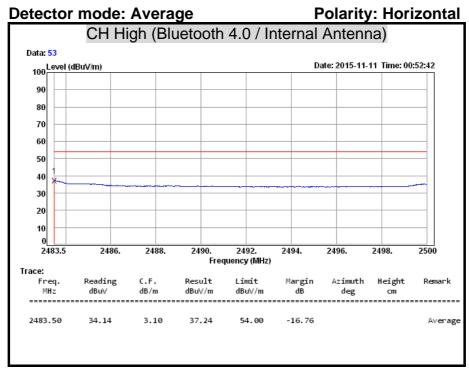


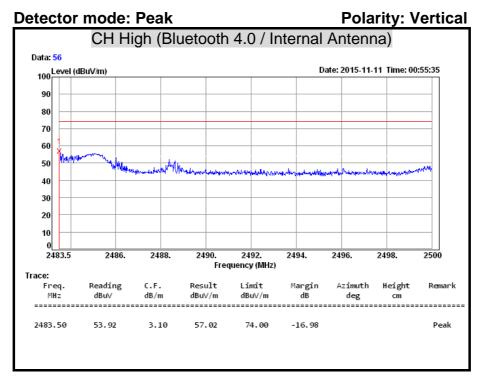


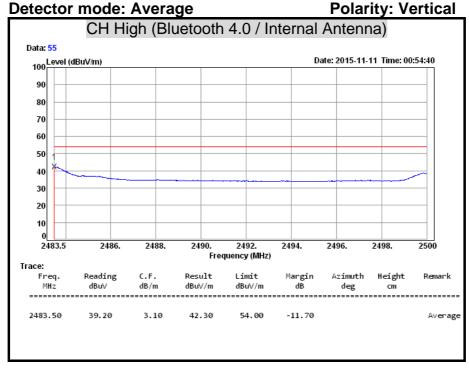












7.7 CONDUCTED EMISSION

LIMITS

§ 15.207 (a) Except as shown in paragraph (b) and (c) this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

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The lower limit applies at the boundary between the frequency ranges.

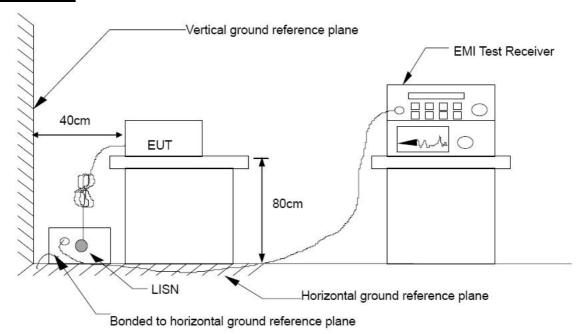
Frequency Range	Conducted Limit (dBµv)		
(MHz)	Quasi-peak	Average	
0.15 - 0.50	66 to 56	56 to 46	
0.50 - 5.00	56	46	
5.00 - 30.0	60	50	

TEST EQUIPMENT

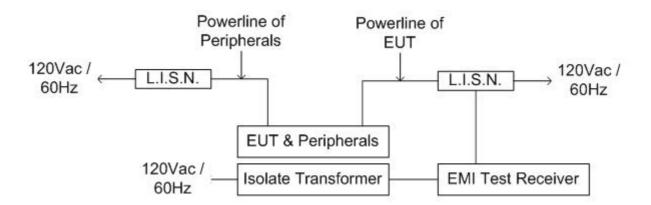
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
L.I.S.N	Schwarzbeck	NSLK 8127	8127465	08/05/2016
L.I.S.N	Schwarzbeck	NSLK 8127	8127473	03/09/2016
EMI Test Receiver	Rohde & Schwarz	ESHS 30	838550/003	10/31/2016
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100111	06/28/2016

Remark: Each piece of equipment is scheduled for calibration once a year.

TEST SETUP



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TEST PROCEDURE

The basic test procedure was in accordance with ANSI C63.10:2013.

The test procedure is performed in a 4m × 3m × 2.4m (L×W×H) shielded room.

The EUT along with its peripherals were placed on a 1.0m (W) \times 1.5m (L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.

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The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.

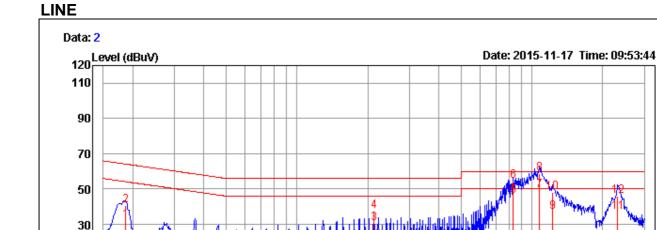
The EUT was located so that the distance between the boundary of the EUT and the closest surface of the LISN is 0.8 m. Where a mains flexible cord was provided by the manufacturer shall be 1 m long, or if in excess of 1 m, the excess cable was folded back and forth as far as possible so as to form a bundle not exceeding 0.4 m in length.

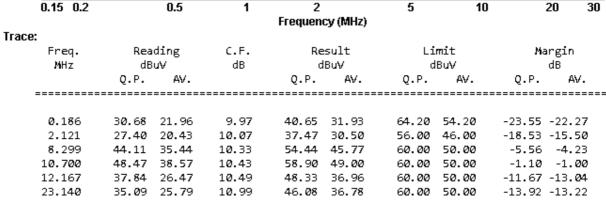
FCC ID: ZWM-VT-1020

TEST RESULTS

Product Name	PANEL PC	Test By	Waternil Guan
Test Model	VT1020-HRD	Test Date	2015/11/17
Test mode	Mode 1	Temp. & Humidity	26°C, 58%

Report No.: T151020D04-RP1-1





Remark:

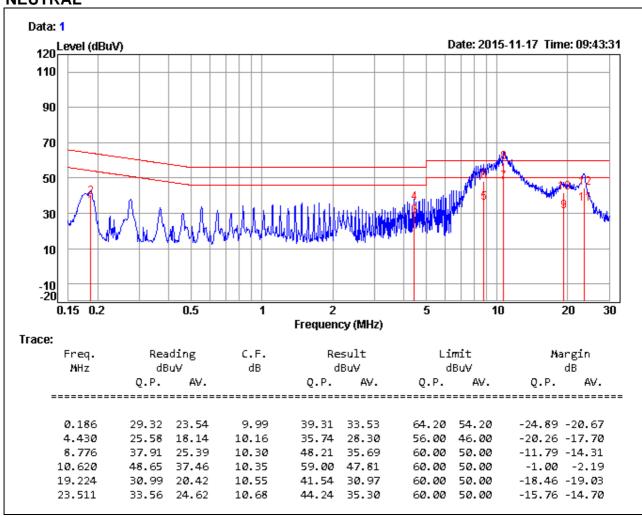
10

- 1. Correction Factor = Insertion loss + Cable loss
- 2. Result level = Reading Value + Correction factor
- 3. Margin value = Result level Limit value



Product Name	PANEL PC	Test By	Waternil Guan
Test Model	VT1020-HRD	Test Date	2015/11/17
Test mode	Mode 1	Temp. & Humidity	26°C, 58%





Remark:

- 1. Correction Factor = Insertion loss + Cable loss
- 2. Result level = Reading Value + Correction factor
- 3. Margin value = Result level Limit value