

FCC Test Report

(For 5.18 ~ 5.24GHz, 5.745 ~ 5.825GHz)

Report No.: RF150709C20D-1

FCC ID: RSL-TQ4400E

Test Model: AT-TQ4400e

Received Date: Jul. 09, 2015

Test Date: Aug. 01 ~ Oct. 17, 2016

Issued Date: Nov. 02, 2016

Applicant: Allied Telesis K.K.

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Release Control Record

Issue No.	Description	Date Issued
RF150709C20D-1	Original release.	Nov. 02, 2016

1 Certificate of Conformity

Product: Outdoor Wireless Access Point

Brand:



Test Model: AT-TQ4400e

Sample Status: Engineering sample

Applicant: Allied Telesis K.K.

Test Date: Aug. 01 ~ Oct. 17, 2016

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the Conditions specified in this report.

Prepared by :



Date:

Nov. 02, 2016

Pettie Chen / Senior Specialist

Approved by :



Date:

Nov. 02, 2016

Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -16.32dB at 0.16562MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5120.00MHz & 5788.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is N-Type. (The device is professionally installed)

*For U-NII-3 band compliance with rule part 15.407(b)(i), the OOB test plots were recorded in Annex A.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.86 dB
	200MHz ~ 1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Outdoor Wireless Access Point
Brand	
Test Model	AT-TQ4400e
Status of EUT	Engineering sample
Power Supply Rating	48Vdc (POE)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps 802.11ac: up to 867.0Mbps
Operating Frequency	5180 ~ 5240MHz & 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	5180 ~ 5240MHz: 125.859mW 5745 ~ 5825MHz: 608.888mW
Antenna Type	Refer to Note 4
Antenna Connector	Refer to Note 4
Accessory Device	N/A
Data Cable Supplied	1.75m non-shielded ground line without core

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report of the original report no.: RF150709C20-1. The differences compared with the original report are adding 3 antennas and antenna cable and updating standard to new rule version. Therefore, all tests for new antennas had been tested.
2. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	Data Rate (MCS)	TX & RX Function	
802.11a	6 ~ 54Mbps	2TX (CDD)	2RX
802.11n (HT20)	MCS 0 ~ 15	2TX (CDD)	2RX
802.11n (HT40)	MCS 0 ~ 15	2TX (CDD)	2RX
802.11ac (VHT20)	MCS 0 ~ 8	2TX (CDD)	2RX
802.11ac (VHT40)	MCS 0 ~ 9	2TX (CDD)	2RX
802.11ac (VHT80)	MCS 0 ~ 9	2TX (CDD)	2RX

*The modulation and bandwidth are similar for 802.11n mode for 20MHz/40MHz and 802.11ac mode for 20MHz/40MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

3. The EUT uses following adapter and PoE.

Adapter of PoE (Support unit only)	
Brand	Powertron Electronics Corp.
Model	PA1024-4DU
Input Power	100-240Vac, 50-60Hz, 0.6A
Output Power	48Vdc, 0.38A, 18.24W Max
Power Line	1.8m power cable with 1 core attached on adapter

PoE (Support unit only)	
Brand	EnGenius
Model	EPE-24GR
Power Rating	48Vdc

4. The following antennas are provided to the EUT. (Item1-3 are new antennas)

Item	Model Number	Description	Band	Type	Gain (dBi)	Connector	Supplier's model name
1	AT-AN5158-19DP	5GHz, 19dBi gain, dual polarity, panel antenna	5GHz	Panel	19	N type, 2 feed	HG4958-19DP
2	AT-AN5158-16DP	5GHz, 16dBi gain, dual polarity, 120° sector antenna	5GHz	Sector	16	N type, 2 feed	HG5158-16DP-120
3	AT-AN2458-10DP	2.4/5GHz, 10dBi gain, dual polarity, panel antenna	2.4GHz/5GHz	Panel	8dBi/10dBi	N type, 2 feed	HG2458-10DP
4	98615MNXX003	Outdoor 2.4GHz dipole	2.4GHz	Dipole	5	N type	N/A
5	98615UNXX005	Outdoor 5GHz dipole	5GHz	Dipole	7	N type	N/A

5. EUT Category: The EUT could be outdoor product & indoor product.

FCC	5GHz	5GHz
	U-NII-1	U-NII-3
AT-AN5158-19DP	-	indoor/outdoor
AT-AN5158-16DP	indoor/outdoor	indoor/outdoor
AT-AN2458-10DP	indoor/outdoor	indoor/outdoor

6. The following antenna cables are provided to the EUT.

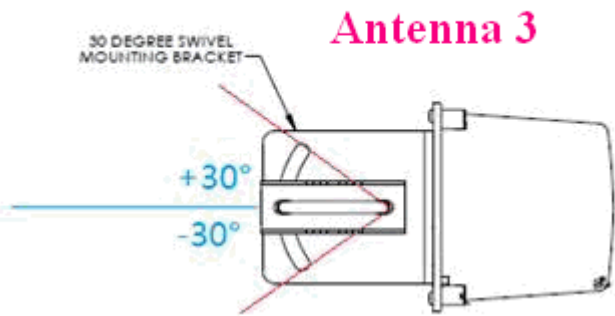
Item	Model Number	Description	Cable Dia.	Length	Cable loss(dBi)		Supplier's model name
					2.4G	5G	
1	AT-AN0001	RF coaxial cable, 1.2m, N-male to N-male connector	0.240 in. (6.1mm)	4.0ft (1.2m)	-1.62	-3.18	CA-NMNMT004
2	AT-AN0002	RF coaxial cable, 3.0m, N-male to N-male connector	0.405 in. (10.3mm)	10.0ft (3.0m)	-1.82	-2.96	CA3N010
3	AT-AN0003	RF coaxial cable, 6.1m, N-male to N-male connector	0.405 in. (10.3mm)	20.0ft (6.1m)	-2.35	-3.56	CA3N020

*For 5GHz Band: Model: AT-AN0002 was the worst for the final test.

7. The EUT will install at outdoor area, the highest antenna gain from the horizon above 30 degrees as below, for more detail information please refer to antenna specification and user manual

Antenna Model	Antenna gain	Antenna install degree
AT-AN5158-16DP	3.81 dBi	 Antenna 2 0~17°

Due to device will restricted installation position as above photo, thus consider to above 30 degrees highest antenna gain are chosen from YZ-Plane V (antenna specification of 30~167°)

AT-AN2458-10DP	10dBi	 Antenna 3 30 DEGREE SWIVEL MOUNTING BRACKET +30° -30°
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Due to device will restricted installation position as above photo, thus consider to above 30 degrees highest antenna gain are chosen from Max Gain

8. Spurious emission of the simultaneous operation (2.4GHz and 5GHz) has been evaluated and no non-compliance was found.
9. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (40MHz):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	EUT with antenna 1
B	√	√	√	√	EUT with antenna 2
C	√	√	√	√	EUT with antenna 3

Where **RE≥1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM**: Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B, C	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
B, C	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
B, C	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
B, C	802.11ac (VHT80)		42	42	OFDM	BPSK	97.5
A, B, C	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A, B, C	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2
A, B, C	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0
B, C	802.11ac (VHT80)		155	155	OFDM	BPSK	97.5

Radiated Emission Test (Below 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B, C	802.11a	5180-5320 5745-5825	36 to 64 149 to 165	165	OFDM	BPSK	6.0

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B, C	802.11a	5180-5320 5745-5825	36 to 64 149 to 165	165	OFDM	BPSK	6.0

Antenna Port Conducted Measurement:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B, C	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
B, C	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
B, C	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
B, C	802.11ac (VHT80)		42	42	OFDM	BPSK	97.5
A, B, C	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A, B, C	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2
A, B, C	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0
B, C	802.11ac (VHT80)		155	155	OFDM	BPSK	97.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (POE)	TESTED BY
RE $\geq$ 1G	19deg. C, 70%RH	48Vdc	Jones Chang
RE<1G	19deg. C, 70%RH	48Vdc	Jones Chang
PLC	20deg. C, 70%RH	48Vdc	Jones Chang
APCM	25deg. C, 60%RH	48Vdc	Ted Chang

3.3 Duty Cycle of Test Signal

Test Mode A:

U-NII-3 Band

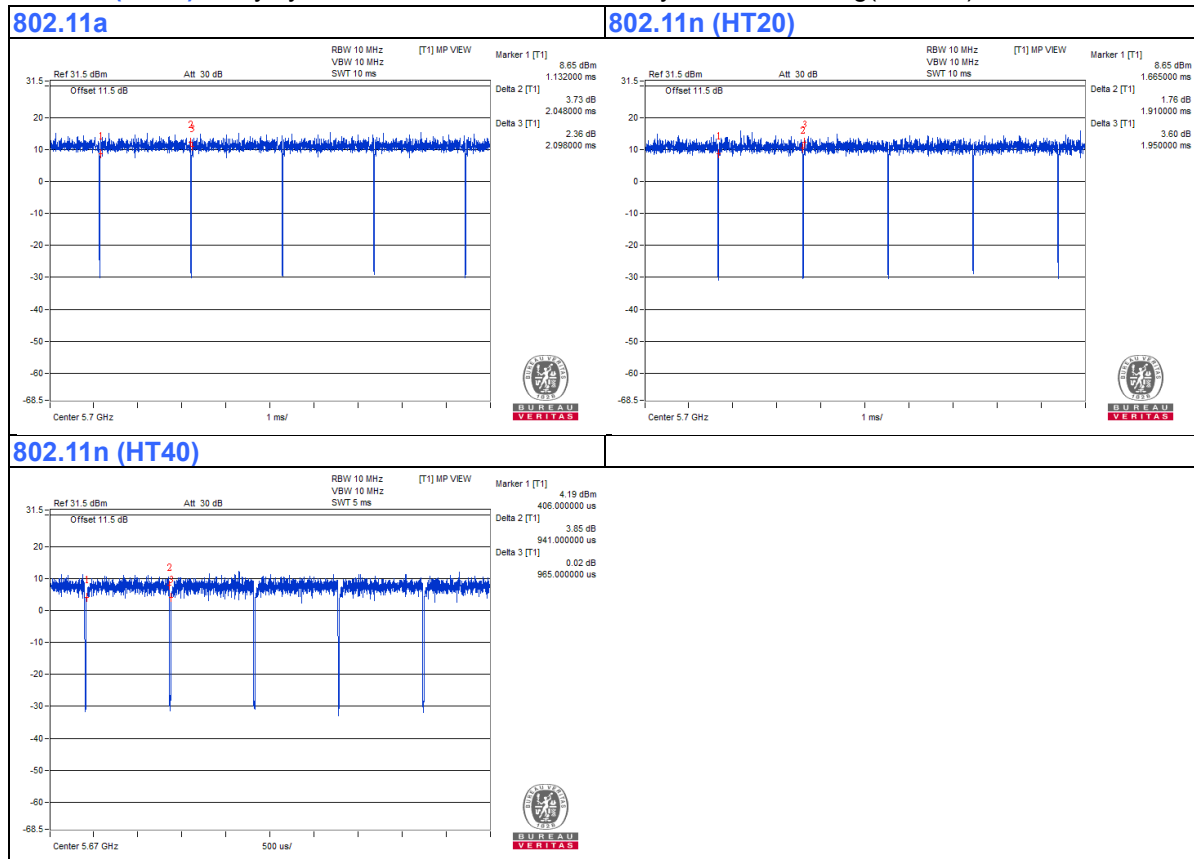
Duty cycle of test signal is $\geq 98\%$, duty factor is not required.

Duty cycle of test signal is $< 98\%$, duty factor is required

802.11a: Duty cycle = $2.048/2.098 = 0.976$, Duty factor = $10 * \log(1/0.976) = 0.10$

802.11n (HT20): Duty cycle = $1.912/1.947 = 0.982$

802.11n (HT40): Duty cycle = $0.941/0.965 = 0.975$, Duty factor = $10 * \log(1/0.975) = 0.11$



Test Mode B:

U-NII-1 Band (Outdoor AP Mode):

Duty cycle of test signal is $\geq 98\%$, duty factor is not required.

Duty cycle of test signal is $< 98\%$, duty factor is required

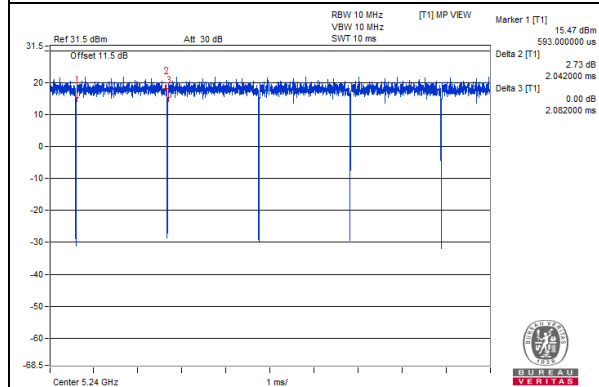
802.11a: Duty cycle = $2.042/2.082 = 0.981$

802.11n (HT20): Duty cycle = $1.907/1.947 = 0.979$, Duty factor = $10 * \log(1/0.979) = 0.09$

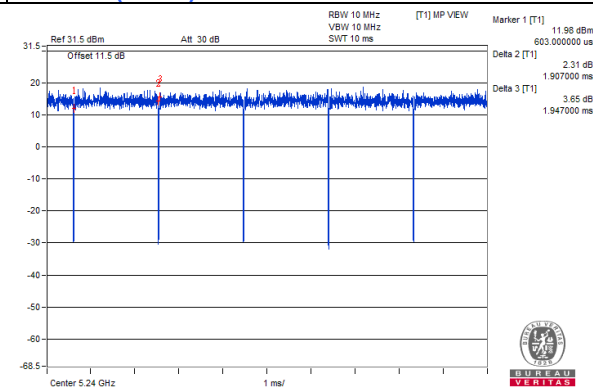
802.11n (HT40): Duty cycle = $0.940/0.965 = 0.974$, Duty factor = $10 * \log(1/0.974) = 0.11$

802.11ac (VHT80): Duty cycle = $0.455/0.493 = 0.923$, Duty factor = $10 * \log(1/0.923) = 0.35$

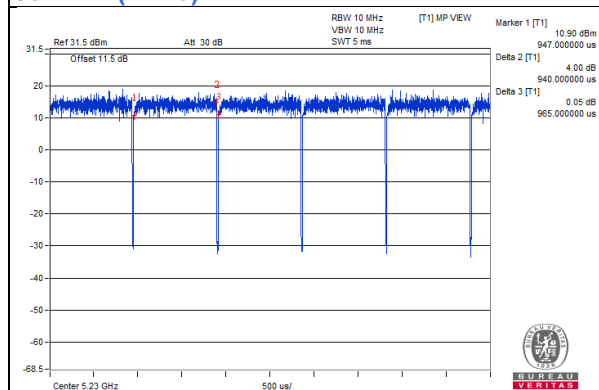
802.11a



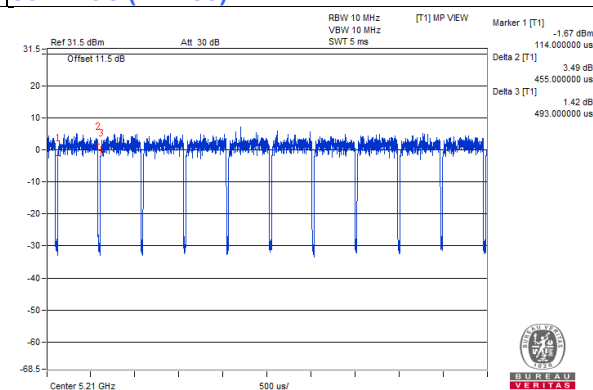
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode B:

U-NII-1 Band (Indoor AP Mode) & U-NII-3 Band:

Duty cycle of test signal is $\geq 98\%$, duty factor is not required.

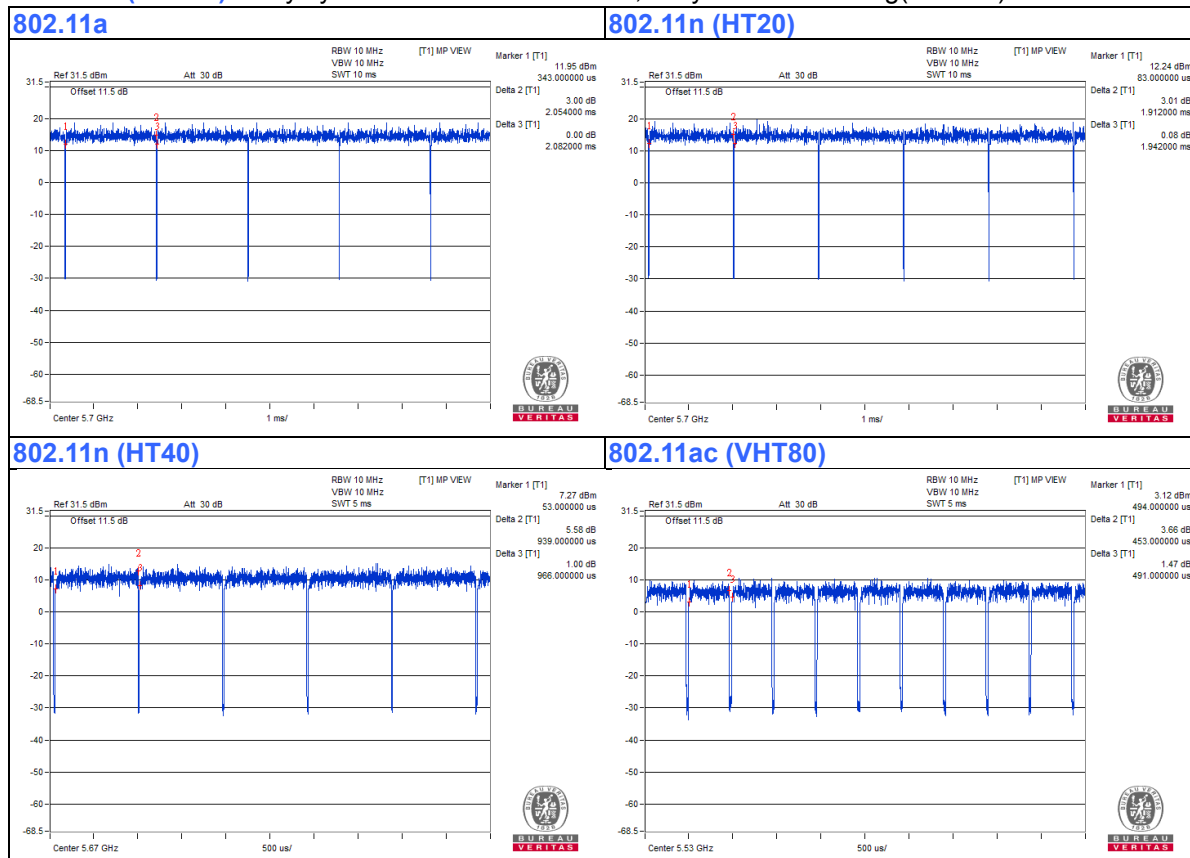
Duty cycle of test signal is $< 98\%$, duty factor is required

802.11a: Duty cycle = $2.054/2.082 = 0.987$

802.11n (HT20): Duty cycle = $1.912/1.942 = 0.985$

802.11n (HT40): Duty cycle = $0.939/0.966 = 0.972$, Duty factor = $10 * \log(1/0.972) = 0.12$

802.11ac (VHT80): Duty cycle = $0.453/0.491 = 0.923$, Duty factor = $10 * \log(1/0.923) = 0.35$



Test Mode C:

U-NII-1 Band (Outdoor AP Mode):

Duty cycle of test signal is $\geq 98\%$, duty factor is not required.

Duty cycle of test signal is $< 98\%$, duty factor is required

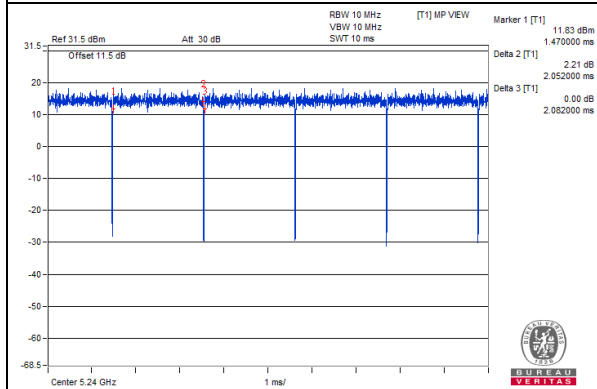
802.11a: Duty cycle = $2.052/2.082 = 0.986$

802.11n (HT20): Duty cycle = $1.910/1.938 = 0.986$

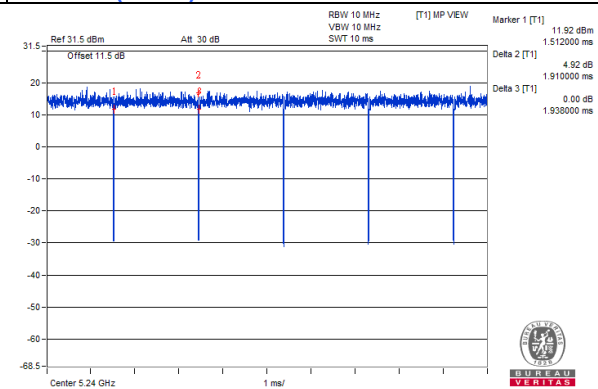
802.11n (HT40): Duty cycle = $0.940/0.964 = 0.975$, Duty factor = $10 * \log(1/0.975) = 0.11$

802.11ac (VHT80): Duty cycle = $0.459/0.491 = 0.935$, Duty factor = $10 * \log(1/0.935) = 0.29$

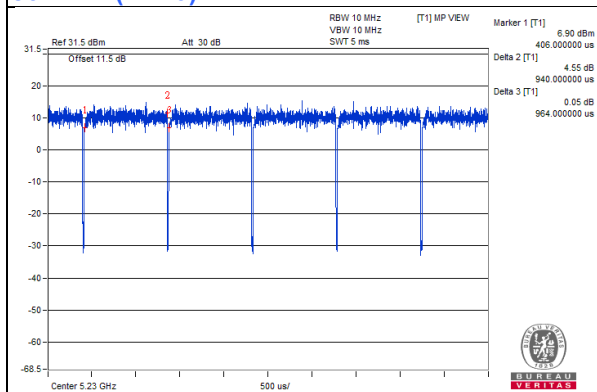
802.11a



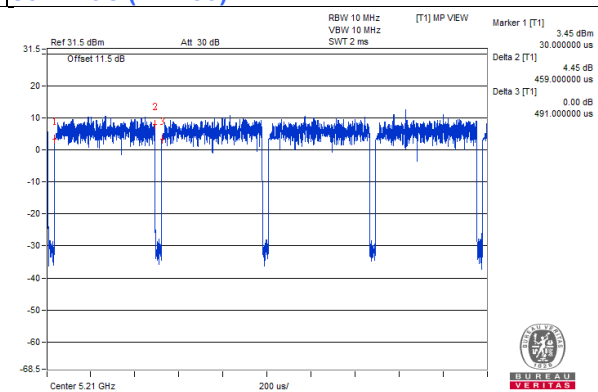
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode C:

U-NII-1 Band (Indoor AP Mode) & U-NII-3 Band:

Duty cycle of test signal is $\geq 98\%$, duty factor is not required.

Duty cycle of test signal is $< 98\%$, duty factor is required

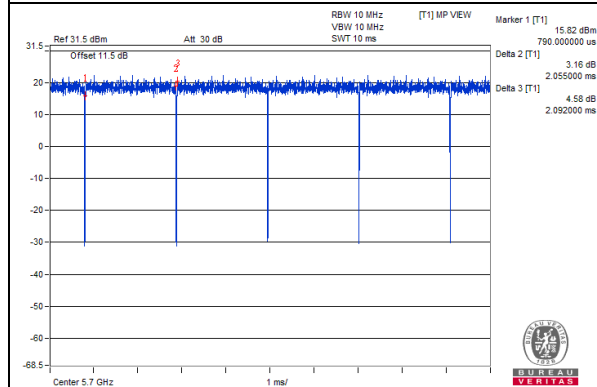
802.11a: Duty cycle = $2.055/2.092 = 0.982$

802.11n (HT20): Duty cycle = $1.910/1.953 = 0.978$, Duty factor = $10 * \log(1/0.978) = 0.10$

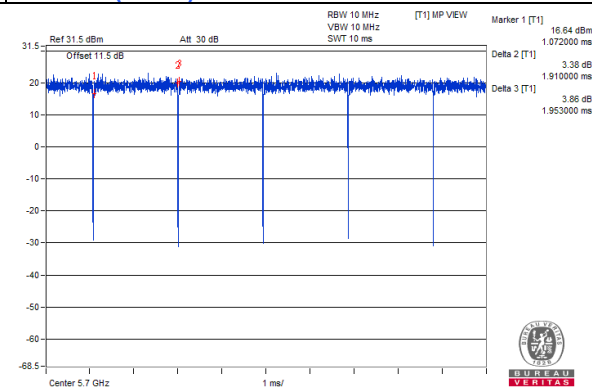
802.11n (HT40): Duty cycle = $0.940/0.965 = 0.974$, Duty factor = $10 * \log(1/0.974) = 0.11$

802.11ac (VHT80): Duty cycle = $0.453/0.486 = 0.932$, Duty factor = $10 * \log(1/0.932) = 0.31$

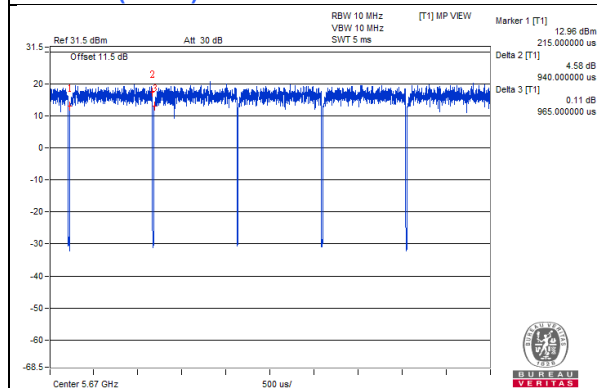
802.11a



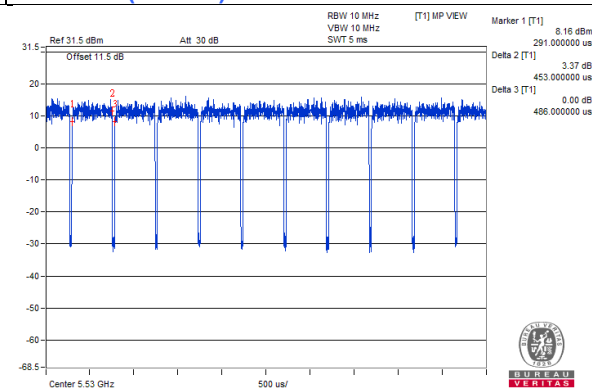
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

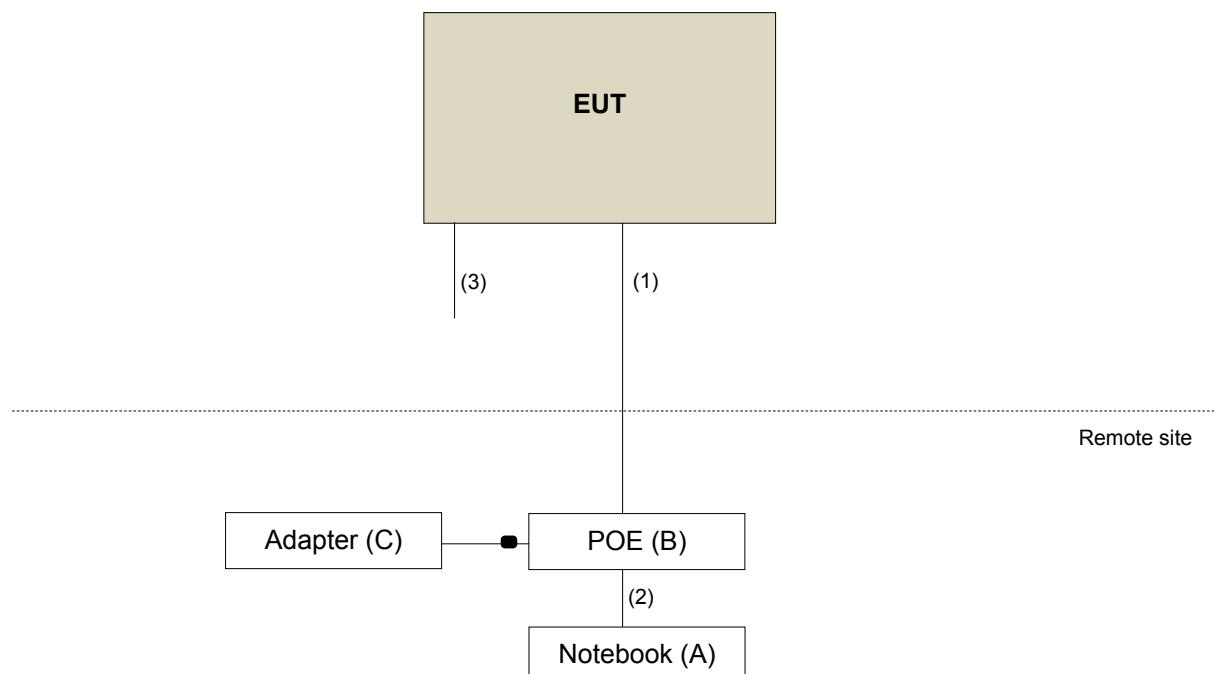
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	C654YM1	FCC DoC Approved	-
B.	PoE	EnGenius	EPE-24GR	NA	NA	Provided by the manufacturer
C.	Adapter	Powertron Electronics Corp.	PA1024-4DU	NA	NA	Provided by the manufacturer

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 cable	1	5	N	0	-
2.	RJ45 cable	1	1.8	N	0	-
3.	Ground line	1	1.75	N	0	Accessory

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)

KDB 789033 D02 General UNII Test Procedure New Rules v01r03

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any Condition of modulation.

Limits of Unwanted Emission Out of the Restricted Bands

Applicable To			Limit	
789033 D02 General UNII Test Procedure New Rules v01r03			Field Strength at 3m	
			PK:74 (dBµV/m)	AV:54 (dBµV/m)
Frequency Band	Applicable To		EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)		PK:-27 (dBm/MHz)	PK:68.2(dBµV/m)
5250~5350 MHz	15.407(b)(2)			
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	☒	15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2(dBµV/m) ^{*1} PK:105.2 (dBµV/m) ^{*2} PK: 110.8(dBµV/m) ^{*3} PK:122.2 (dBµV/m) ^{*4}
	☐	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.			^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.			^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000 \sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Apr. 18, 2016	Apr. 17, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Jul. 08, 2015 Aug. 16, 2016	Jul. 07, 2016 Aug. 15, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna SCHWARZBECK	9120D	209	Jan. 20, 2016	Jan. 19, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Loop Antenna	EM-6879	269	Aug. 05, 2015 Aug. 11, 2016	Aug. 04, 2016 Aug. 10, 2017
Preamplifier Agilent	8447D	2944A10738	Aug. 18, 2015 Aug. 22, 2016	Aug. 17, 2016 Aug. 21, 2017
Preamplifier Agilent	8449B	3008A01964	Aug. 22, 2015 Aug. 22, 2016	Aug. 21, 2016 Aug. 21, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (214378)	Aug. 22, 2015 Aug. 22, 2016	Aug. 21, 2016 Aug. 21, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 106	Cable-CH3-03 (309224+12738)	Aug. 22, 2015 Aug. 22, 2016	Aug. 21, 2016 Aug. 21, 2017
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2015 Oct. 17, 2016	Oct. 17, 2016 Oct. 16, 2017
High Speed Peak Power Meter	ML2495A	0842014	Apr. 28, 2016	Apr. 27, 2017
Power Sensor	MA2411B	0738171	Jul. 09, 2015 Aug. 11, 2016	Jul. 08, 2016 Aug. 10, 2017

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 988962.
5. The IC Site Registration No. is IC 7450F-3.

4.1.3 Test Procedure

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Both X and Y axes of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. 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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

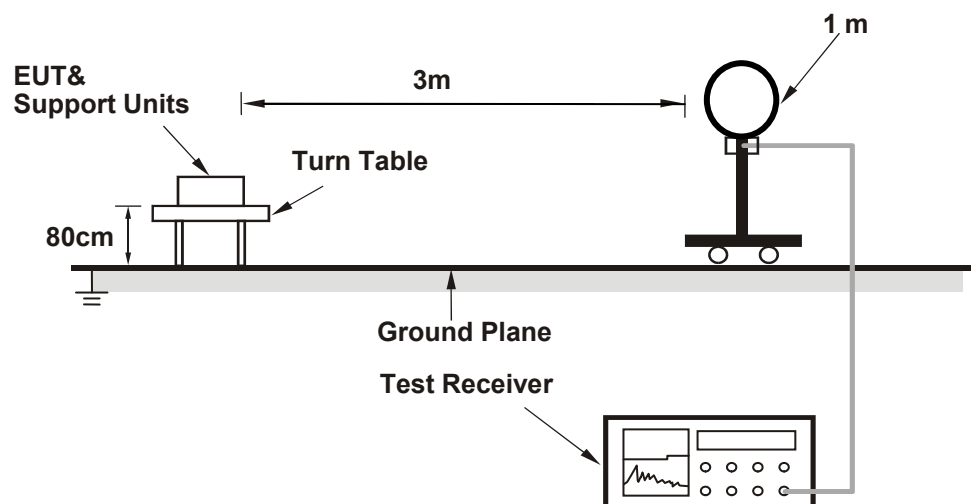
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

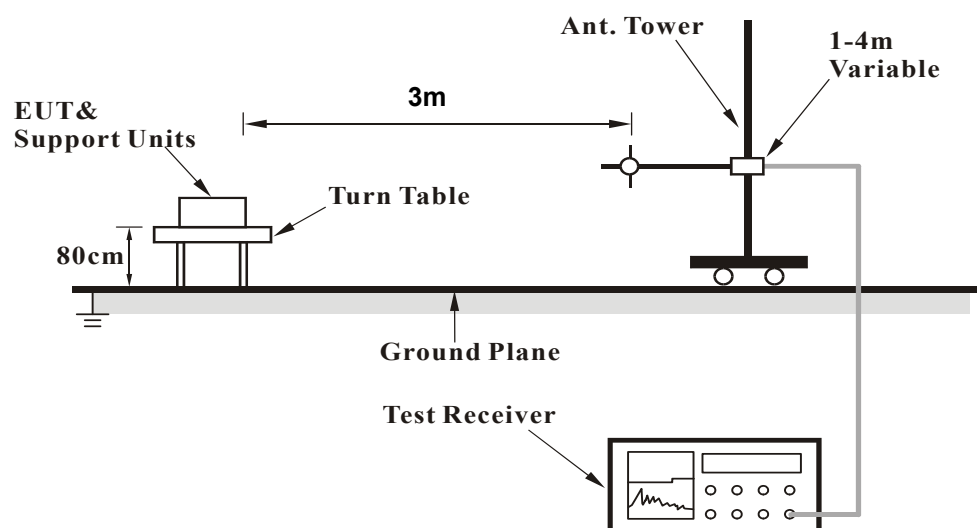
No deviation.

4.1.5 Test Setup

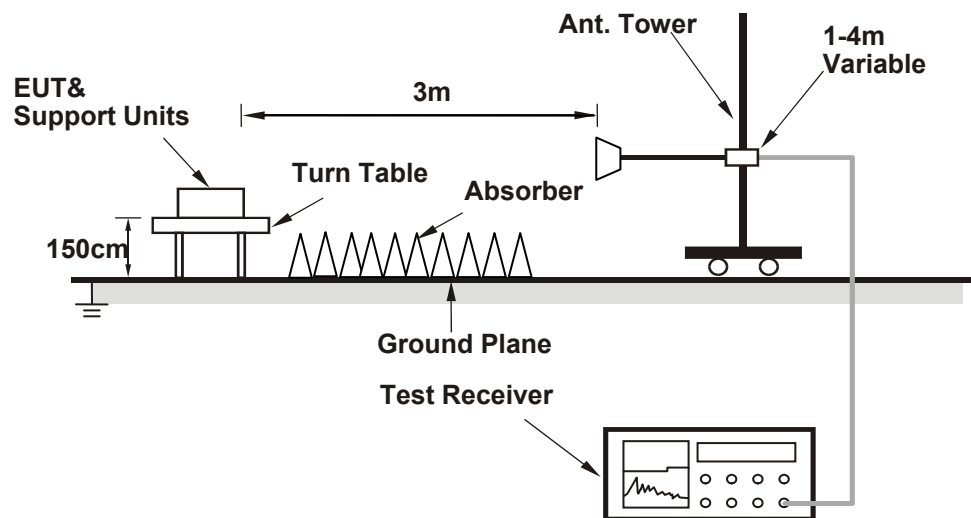
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Prepared notebook to act as a communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The communication partner sent data to EUT by command "PING".

4.1.7 Test Results

ABOVE 1GHz DATA :

Test Mode A:

802.11a

CHANNEL	TX Channel 149	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5586.00	66.5 PK	68.2	-1.7	1.55 H	353	60.4	6.1
2	#5660.00	69.8 PK	75.6	-5.8	1.64 H	353	63.7	6.1
3	*5745.00	121.7 PK			1.64 H	353	81.7	40.0
4	*5745.00	110.7 AV			1.64 H	353	70.7	40.0
5	#5984.00	62.4 PK	68.2	-5.8	1.64 H	353	55.7	6.7
6	11490.00	59.8 PK	74.0	-14.2	1.51 H	334	40.5	19.3
7	11490.00	47.0 AV	54.0	-7.0	1.51 H	334	27.7	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5586.00	63.6 PK	68.2	-4.6	1.46 V	349	57.5	6.1
2	#5658.40	67.9 PK	74.4	-6.5	1.48 V	349	61.8	6.1
3	*5745.00	119.3 PK			1.48 V	349	79.3	40.0
4	*5745.00	109.2 AV			1.48 V	349	69.2	40.0
5	#5988.00	61.6 PK	68.2	-6.6	1.48 V	349	54.9	6.7
6	11490.00	60.4 PK	74.0	-13.6	1.37 V	341	41.1	19.3
7	11490.00	47.2 AV	54.0	-6.8	1.37 V	341	27.9	19.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5625.00	66.6 PK	68.2	-1.6	1.68 H	353	60.5	6.1
2	#5631.20	64.1 PK	68.2	-4.1	1.66 H	355	58.0	6.1
3	*5785.00	121.2 PK			1.76 H	352	81.1	40.1
4	*5785.00	110.7 AV			1.76 H	352	70.6	40.1
5	#5937.60	62.6 PK	68.2	-5.6	1.66 H	355	56.0	6.6
6	11570.00	61.7 PK	74.0	-12.3	1.64 H	338	42.5	19.2
7	11570.00	48.9 AV	54.0	-5.1	1.64 H	338	29.7	19.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5625.00	63.5 PK	68.2	-4.7	1.48 V	348	57.4	6.1
2	#5632.00	61.4 PK	68.2	-6.8	1.47 V	349	55.3	6.1
3	*5785.00	119.1 PK			1.47 V	349	79.0	40.1
4	*5785.00	108.9 AV			1.47 V	349	68.8	40.1
5	#5944.00	61.8 PK	68.2	-6.4	1.47 V	349	55.2	6.6
6	11570.00	61.3 PK	74.0	-12.7	1.41 V	329	42.1	19.2
7	11570.00	48.9 AV	54.0	-5.1	1.41 V	329	29.7	19.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5580.00	66.4 PK	68.2	-1.8	1.74 H	353	60.3	6.1
2	#5618.40	59.7 PK	68.2	-8.5	1.65 H	356	53.6	6.1
3	*5825.00	121.2 PK			1.71 H	354	81.1	40.1
4	*5825.00	110.5 AV			1.71 H	354	70.4	40.1
5	#5990.40	63.3 PK	68.2	-4.9	1.65 H	356	56.6	6.7
6	11650.00	60.4 PK	74.0	-13.6	1.64 H	332	41.1	19.3
7	11650.00	47.1 AV	54.0	-6.9	1.64 H	332	27.8	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5580.00	64.1 PK	68.2	-4.1	1.56 V	348	58.0	6.1
2	#5609.60	59.4 PK	68.2	-8.8	1.50 V	350	53.3	6.1
3	*5825.00	118.2 PK			1.50 V	350	78.1	40.1
4	*5825.00	107.9 AV			1.50 V	350	67.8	40.1
5	#5983.20	62.2 PK	68.2	-6.0	1.50 V	350	55.5	6.7
6	11650.00	60.2 PK	74.0	-13.8	1.47 V	330	40.9	19.3
7	11650.00	47.3 AV	54.0	-6.7	1.47 V	330	28.0	19.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT20)

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5580.00	66.4 PK	68.2	-1.8	1.74 H	354	60.3	6.1
2	#5660.80	69.9 PK	76.2	-6.3	1.61 H	353	63.8	6.1
3	*5745.00	121.9 PK			1.69 H	355	81.9	40.0
4	*5745.00	111.1 AV			1.69 H	355	71.1	40.0
5	#5980.00	62.9 PK	68.2	-5.3	1.61 H	353	56.2	6.7
6	11490.00	59.7 PK	74.0	-14.3	1.65 H	342	40.4	19.3
7	11490.00	47.3 AV	54.0	-6.7	1.65 H	342	28.0	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5580.00	63.6 PK	68.2	-4.6	1.42 V	348	57.5	6.1
2	#5657.60	67.4 PK	73.8	-6.4	1.42 V	347	61.3	6.1
3	*5745.00	119.2 PK			1.42 V	347	79.2	40.0
4	*5745.00	109.3 AV			1.42 V	347	69.3	40.0
5	#5988.80	61.6 PK	68.2	-6.6	1.42 V	347	54.9	6.7
6	11490.00	59.5 PK	74.0	-14.5	1.47 V	336	40.2	19.3
7	11490.00	47.0 AV	54.0	-7.0	1.47 V	336	27.7	19.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5624.00	64.7 PK	68.2	-3.5	1.62 H	354	58.6	6.1
2	#5625.00	66.4 PK	68.2	-1.8	1.63 H	354	60.3	6.1
3	*5785.00	121.5 PK			1.67 H	355	81.4	40.1
4	*5785.00	111.1 AV			1.67 H	355	71.0	40.1
5	#5942.40	63.5 PK	68.2	-4.7	1.62 H	354	56.9	6.6
6	11570.00	60.5 PK	74.0	-13.5	1.54 H	343	41.3	19.2
7	11570.00	47.2 AV	54.0	-6.8	1.54 H	343	28.0	19.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5625.00	63.2 PK	68.2	-5.0	1.50 V	348	57.1	6.1
2	#5628.80	61.6 PK	68.2	-6.6	1.56 V	349	55.5	6.1
3	*5785.00	119.2 PK			1.56 V	349	79.1	40.1
4	*5785.00	109.1 AV			1.56 V	349	69.0	40.1
5	#5942.40	61.6 PK	68.2	-6.6	1.56 V	349	55.0	6.6
6	11570.00	59.7 PK	74.0	-14.3	1.41 V	339	40.5	19.2
7	11570.00	47.5 AV	54.0	-6.5	1.41 V	339	28.3	19.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5580.00	66.4 PK	68.2	-1.8	1.63 H	352	60.3	6.1
2	#5635.20	59.6 PK	68.2	-8.6	1.69 H	354	53.5	6.1
3	*5825.00	121.6 PK			1.63 H	356	81.5	40.1
4	*5825.00	110.8 AV			1.63 H	356	70.7	40.1
5	#5987.20	63.5 PK	68.2	-4.7	1.69 H	354	56.8	6.7
6	11650.00	60.2 PK	74.0	-13.8	1.58 H	344	40.9	19.3
7	11650.00	47.6 AV	54.0	-6.4	1.58 H	344	28.3	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5580.00	64.2 PK	68.2	-4.0	1.53 V	348	58.1	6.1
2	#5620.80	59.3 PK	68.2	-8.9	1.61 V	350	53.2	6.1
3	*5825.00	118.0 PK			1.61 V	350	77.9	40.1
4	*5825.00	107.9 AV			1.61 V	350	67.8	40.1
5	#5987.20	62.4 PK	68.2	-5.8	1.61 V	350	55.7	6.7
6	11650.00	59.9 PK	74.0	-14.1	1.61 V	340	40.6	19.3
7	11650.00	47.4 AV	54.0	-6.6	1.61 V	340	28.1	19.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5600.00	66.5 PK	68.2	-1.7	1.70 H	352	60.4	6.1
2	#5600.80	66.2 PK	68.2	-2.0	1.75 H	353	60.1	6.1
3	*5755.00	121.0 PK			1.68 H	352	81.0	40.0
4	*5755.00	108.5 AV			1.68 H	352	68.5	40.0
5	#5992.00	62.9 PK	68.2	-5.3	1.75 H	353	56.2	6.7
6	11510.00	59.8 PK	74.0	-14.2	1.60 H	341	40.5	19.3
7	11510.00	47.0 AV	54.0	-7.0	1.60 H	341	27.7	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5600.00	61.5 PK	68.2	-6.7	1.58 V	349	55.4	6.1
2	#5612.80	60.8 PK	68.2	-7.4	1.45 V	349	54.7	6.1
3	*5755.00	117.4 PK			1.44 V	349	77.4	40.0
4	*5755.00	106.8 AV			1.44 V	349	66.8	40.0
5	#5932.00	60.9 PK	68.2	-7.3	1.45 V	349	54.3	6.6
6	11510.00	60.1 PK	74.0	-13.9	1.52 V	337	40.8	19.3
7	11510.00	47.0 AV	54.0	-7.0	1.52 V	337	27.7	19.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5550.00	62.8 PK	68.2	-5.4	1.71 H	354	56.9	5.9
2	#5637.60	64.3 PK	68.2	-3.9	1.65 H	352	58.2	6.1
3	*5795.00	120.9 PK			1.71 H	354	80.8	40.1
4	*5795.00	108.5 AV			1.71 H	354	68.4	40.1
5	#5945.60	62.0 PK	68.2	-6.2	1.65 H	352	55.4	6.6
6	11590.00	60.6 PK	74.0	-13.4	1.60 H	347	41.4	19.2
7	11590.00	47.7 AV	54.0	-6.3	1.60 H	347	28.5	19.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5550.00	61.4 PK	68.2	-6.8	1.50 V	350	55.5	5.9
2	#5639.20	61.3 PK	68.2	-6.9	1.46 V	348	55.2	6.1
3	*5795.00	117.0 PK			1.46 V	348	76.9	40.1
4	*5795.00	105.7 AV			1.46 V	348	65.6	40.1
5	#5941.60	60.7 PK	68.2	-7.5	1.46 V	348	54.1	6.6
6	11590.00	60.0 PK	74.0	-14.0	1.40 V	339	40.8	19.2
7	11590.00	47.4 AV	54.0	-6.6	1.40 V	339	28.2	19.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Test Mode B:

802.11a

CHANNEL	TX Channel 36	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5100.00	65.0 PK	74.0	-9.0	1.97 H	352	59.2	5.8
2	5100.00	52.9 AV	54.0	-1.1	1.97 H	352	47.1	5.8
3	*5180.00	116.4 PK			1.98 H	3	77.0	39.4
4	*5180.00	105.5 AV			1.98 H	3	66.1	39.4
5	#10360.00	60.2 PK	74.0	-13.8	1.85 H	312	42.4	17.8
6	#10360.00	47.3 AV	54.0	-6.7	1.85 H	312	29.5	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5100.00	64.1 PK	74.0	-9.9	2.16 V	359	58.3	5.8
2	5100.00	52.8 AV	54.0	-1.2	2.16 V	359	47.0	5.8
3	*5180.00	114.4 PK			2.13 V	353	75.0	39.4
4	*5180.00	104.3 AV			2.13 V	353	64.9	39.4
5	#10360.00	60.0 PK	74.0	-14.0	2.30 V	22	42.2	17.8
6	#10360.00	46.9 AV	54.0	-7.1	2.30 V	22	29.1	17.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	66.3 PK	74.0	-7.7	2.02 H	342	60.3	6.0
2	5120.00	53.0 AV	54.0	-1.0	2.02 H	342	47.0	6.0
3	*5200.00	114.9 PK			2.00 H	352	75.4	39.5
4	*5200.00	104.7 AV			2.00 H	352	65.2	39.5
5	#10400.00	58.7 PK	74.0	-15.3	1.72 H	11	41.0	17.7
6	#10400.00	45.9 AV	54.0	-8.1	1.72 H	11	28.2	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	62.0 PK	74.0	-12.0	2.20 V	352	56.0	6.0
2	5120.00	51.6 AV	54.0	-2.4	2.20 V	352	45.6	6.0
3	*5200.00	110.7 PK			2.19 V	339	71.2	39.5
4	*5200.00	101.5 AV			2.19 V	339	62.0	39.5
5	#10400.00	58.4 PK	74.0	-15.6	1.78 V	39	40.7	17.7
6	#10400.00	45.4 AV	54.0	-8.6	1.78 V	39	27.7	17.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5080.00	62.9 PK	74.0	-11.1	2.03 H	341	57.1	5.8
2	5080.00	51.4 AV	54.0	-2.6	2.03 H	341	45.6	5.8
3	*5240.00	120.6 PK			2.03 H	352	81.0	39.6
4	*5240.00	110.3 AV			2.03 H	352	70.7	39.6
5	5400.00	63.3 PK	74.0	-10.7	1.92 H	357	56.6	6.7
6	5400.00	52.5 AV	54.0	-1.5	1.92 H	357	45.8	6.7
7	#10480.00	61.5 PK	74.0	-12.5	1.91 H	277	42.8	18.7
8	#10480.00	48.3 AV	54.0	-5.7	1.91 H	277	29.6	18.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5080.00	61.5 PK	74.0	-12.5	2.22 V	339	55.7	5.8
2	5080.00	49.7 AV	54.0	-4.3	2.22 V	339	43.9	5.8
3	*5240.00	117.5 PK			2.18 V	354	77.9	39.6
4	*5240.00	107.7 AV			2.18 V	354	68.1	39.6
5	5400.00	62.8 PK	74.0	-11.2	2.20 V	345	56.1	6.7
6	5400.00	51.4 AV	54.0	-2.6	2.20 V	345	44.7	6.7
7	#10480.00	60.3 PK	74.0	-13.7	1.88 V	270	41.6	18.7
8	#10480.00	47.3 AV	54.0	-6.7	1.88 V	270	28.6	18.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5585.00	65.4 PK	68.2	-2.8	1.76 H	328	59.3	6.1
2	#5621.00	64.9 PK	68.2	-3.3	1.77 H	322	58.8	6.1
3	#5625.60	63.3 PK	68.2	-4.9	1.85 H	323	57.2	6.1
4	#5656.80	72.1 PK	73.3	-1.2	1.80 H	324	66.0	6.1
5	#5658.40	69.5 PK	74.4	-4.9	1.85 H	323	63.4	6.1
6	*5745.00	122.6 PK			1.85 H	323	82.6	40.0
7	*5745.00	111.8 AV			1.85 H	323	71.8	40.0
8	#5983.20	64.4 PK	68.2	-3.8	1.85 H	323	57.7	6.7
9	#5985.00	64.9 PK	68.2	-3.3	1.81 H	328	58.2	6.7
10	#6220.00	56.9 PK	68.2	-11.3	1.86 H	334	47.2	9.7
11	11490.00	60.7 PK	74.0	-13.3	2.64 H	158	41.4	19.3
12	11490.00	47.9 AV	54.0	-6.1	2.64 H	158	28.6	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5585.00	62.7 PK	68.2	-5.5	2.09 V	345	56.6	6.1
2	#5621.00	63.0 PK	68.2	-5.2	2.18 V	345	56.9	6.1
3	#5627.20	63.9 PK	68.2	-4.3	1.80 V	326	57.8	6.1
4	#5656.00	71.1 PK	73.3	-2.2	2.13 V	352	65.0	6.1
5	#5656.80	70.4 PK	73.3	-2.9	1.80 V	326	64.3	6.1
6	*5745.00	120.4 PK			2.09 V	346	80.4	40.0
7	*5745.00	110.4 AV			2.09 V	346	70.4	40.0
8	#5985.00	63.8 PK	68.2	-4.4	2.03 V	325	57.1	6.7
9	#5985.60	64.3 PK	68.2	-3.9	1.80 V	326	57.6	6.7
10	#6220.00	62.4 PK	68.2	-5.8	2.07 V	321	52.7	9.7
11	11490.00	60.3 PK	74.0	-13.7	1.70 V	189	41.0	19.3
12	11490.00	47.4 AV	54.0	-6.6	1.70 V	189	28.1	19.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5544.00	66.2 PK	68.2	-2.0	1.79 H	324	60.3	5.9
2	#5623.20	65.4 PK	68.2	-2.8	1.80 H	325	59.3	6.1
3	#5626.00	66.5 PK	68.2	-1.7	1.76 H	326	60.4	6.1
4	*5785.00	123.8 PK			1.80 H	325	83.7	40.1
5	*5785.00	113.1 AV			1.80 H	325	73.0	40.1
6	#5944.00	64.5 PK	68.2	-3.7	1.77 H	325	57.9	6.6
7	#5947.20	64.5 PK	68.2	-3.7	1.80 H	325	57.9	6.6
8	#6025.00	54.8 PK	68.2	-13.4	1.82 H	327	48.0	6.8
9	11570.00	60.4 PK	74.0	-13.6	2.96 H	221	41.2	19.2
10	11570.00	47.7 AV	54.0	-6.3	2.96 H	221	28.5	19.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5544.00	63.4 PK	68.2	-4.8	2.12 V	358	57.5	5.9
2	#5624.00	62.4 PK	68.2	-5.8	2.10 V	0	56.3	6.1
3	#5625.00	62.1 PK	68.2	-6.1	2.08 V	355	56.0	6.1
4	*5785.00	121.2 PK			2.10 V	0	81.1	40.1
5	*5785.00	111.1 AV			2.10 V	0	71.0	40.1
6	#5945.00	63.1 PK	68.2	-5.1	2.04 V	7	56.5	6.6
7	#5948.80	62.8 PK	68.2	-5.4	2.10 V	0	56.2	6.6
8	#6025.00	52.8 PK	68.2	-15.4	2.03 V	11	46.0	6.8
9	11570.00	61.3 PK	74.0	-12.7	2.80 V	310	42.1	19.2
10	11570.00	47.9 AV	54.0	-6.1	2.80 V	310	28.7	19.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5584.00	63.7 PK	68.2	-4.5	1.76 H	323	57.6	6.1
2	#5644.80	59.9 PK	68.2	-8.3	1.80 H	325	53.8	6.1
3	*5825.00	123.4 PK			1.80 H	325	83.3	40.1
4	*5825.00	112.7 AV			1.80 H	325	72.6	40.1
5	#5983.00	64.5 PK	68.2	-3.7	1.84 H	334	57.8	6.7
6	#5983.20	64.1 PK	68.2	-4.1	1.80 H	325	57.4	6.7
7	#6065.00	56.3 PK	68.2	-11.9	1.84 H	331	49.4	6.9
8	11650.00	60.9 PK	74.0	-13.1	1.27 H	196	41.6	19.3
9	11650.00	47.8 AV	54.0	-6.2	1.27 H	196	28.5	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5584.00	62.8 PK	68.2	-5.4	2.14 V	356	56.7	6.1
2	#5644.00	59.4 PK	68.2	-8.8	2.10 V	334	53.3	6.1
3	*5825.00	119.9 PK			2.10 V	334	79.8	40.1
4	*5825.00	110.4 AV			2.10 V	334	70.3	40.1
5	#5982.40	62.7 PK	68.2	-5.5	2.10 V	334	56.0	6.7
6	#5985.00	63.5 PK	68.2	-4.7	2.05 V	320	56.8	6.7
7	#6065.00	56.1 PK	68.2	-12.1	2.04 V	320	49.2	6.9
8	11650.00	60.1 PK	74.0	-13.9	2.37 V	291	40.8	19.3
9	11650.00	47.8 AV	54.0	-6.2	2.37 V	291	28.5	19.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT20)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5100.00	64.1 PK	74.0	-9.9	1.95 H	327	58.3	5.8
2	5100.00	52.7 AV	54.0	-1.3	1.95 H	327	46.9	5.8
3	*5180.00	116.5 PK			1.94 H	357	77.1	39.4
4	*5180.00	106.0 AV			1.94 H	357	66.6	39.4
5	#10360.00	59.8 PK	74.0	-14.2	1.80 H	300	42.0	17.8
6	#10360.00	47.0 AV	54.0	-7.0	1.80 H	300	29.2	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5100.00	61.4 PK	74.0	-12.6	2.18 V	0	55.6	5.8
2	5100.00	50.9 AV	54.0	-3.1	2.18 V	0	45.1	5.8
3	*5180.00	114.1 PK			2.17 V	358	74.7	39.4
4	*5180.00	104.1 AV			2.17 V	358	64.7	39.4
5	#10360.00	59.2 PK	74.0	-14.8	1.97 V	9	41.4	17.8
6	#10360.00	46.3 AV	54.0	-7.7	1.97 V	9	28.5	17.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	64.3 PK	74.0	-9.7	1.99 H	343	58.3	6.0
2	5120.00	52.8 AV	54.0	-1.2	1.99 H	343	46.8	6.0
3	*5200.00	114.7 PK			2.00 H	354	75.2	39.5
4	*5200.00	104.0 AV			2.00 H	354	64.5	39.5
5	#10400.00	58.5 PK	74.0	-15.5	1.50 H	54	40.8	17.7
6	#10400.00	45.7 AV	54.0	-8.3	1.50 H	54	28.0	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	61.5 PK	74.0	-12.5	2.17 V	343	55.5	6.0
2	5120.00	50.6 AV	54.0	-3.4	2.17 V	343	44.6	6.0
3	*5200.00	110.5 PK			2.15 V	1	71.0	39.5
4	*5200.00	100.8 AV			2.15 V	1	61.3	39.5
5	#10400.00	58.4 PK	74.0	-15.6	2.27 V	30	40.7	17.7
6	#10400.00	45.1 AV	54.0	-8.9	2.27 V	30	27.4	17.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5080.00	62.5 PK	74.0	-11.5	1.96 H	325	56.7	5.8
2	5080.00	51.1 AV	54.0	-2.9	1.96 H	325	45.3	5.8
3	*5240.00	121.1 PK			1.96 H	356	81.5	39.6
4	*5240.00	110.4 AV			1.96 H	356	70.8	39.6
5	5400.00	64.2 PK	74.0	-9.8	1.97 H	357	57.5	6.7
6	5400.00	52.4 AV	54.0	-1.6	1.97 H	357	45.7	6.7
7	#10480.00	61.2 PK	74.0	-12.8	2.01 H	290	42.5	18.7
8	#10480.00	48.1 AV	54.0	-5.9	2.01 H	290	29.4	18.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5080.00	60.0 PK	74.0	-14.0	2.22 V	345	54.2	5.8
2	5080.00	49.0 AV	54.0	-5.0	2.22 V	345	43.2	5.8
3	*5240.00	117.1 PK			2.13 V	0	77.5	39.6
4	*5240.00	107.2 AV			2.13 V	0	67.6	39.6
5	5400.00	60.9 PK	74.0	-13.1	2.29 V	349	54.2	6.7
6	5400.00	51.3 AV	54.0	-2.7	2.29 V	349	44.6	6.7
7	#10480.00	60.7 PK	74.0	-13.3	2.43 V	19	42.0	18.7
8	#10480.00	47.6 AV	54.0	-6.4	2.43 V	19	28.9	18.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5585.00	66.6 PK	68.2	-1.6	1.77 H	324	60.5	6.1
2	#5618.40	61.9 PK	68.2	-6.3	1.73 H	322	55.8	6.1
3	#5621.00	63.8 PK	68.2	-4.4	1.77 H	323	57.7	6.1
4	#5665.00	73.6 PK	79.1	-5.5	1.81 H	312	67.5	6.1
5	#5665.60	71.0 PK	79.8	-8.8	1.73 H	322	64.9	6.1
6	*5745.00	123.9 PK			1.73 H	322	83.9	40.0
7	*5745.00	111.9 AV			1.73 H	322	71.9	40.0
8	#5983.20	63.8 PK	68.2	-4.4	1.73 H	322	57.1	6.7
9	#5985.00	65.2 PK	68.2	-3.0	1.80 H	319	58.5	6.7
10	11490.00	61.3 PK	74.0	-12.7	1.90 H	20	42.0	19.3
11	11490.00	48.2 AV	54.0	-5.8	1.90 H	20	28.9	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5585.00	61.3 PK	68.2	-6.9	2.14 V	337	55.2	6.1
2	#5621.00	61.7 PK	68.2	-6.5	2.14 V	337	55.6	6.1
3	#5622.40	59.4 PK	68.2	-8.8	1.94 V	335	53.3	6.1
4	#5656.80	66.3 PK	73.3	-7.0	1.94 V	335	60.2	6.1
5	#5665.00	70.0 PK	79.1	-9.1	1.95 V	346	63.9	6.1
6	*5745.00	119.5 PK			1.94 V	335	79.5	40.0
7	*5745.00	109.1 AV			1.94 V	335	69.1	40.0
8	#5985.00	62.4 PK	68.2	-5.8	1.90 V	340	55.7	6.7
9	#5988.80	59.2 PK	68.2	-9.0	1.94 V	335	52.5	6.7
10	11490.00	60.6 PK	74.0	-13.4	1.74 V	299	41.3	19.3
11	11490.00	47.6 AV	54.0	-6.4	1.74 V	299	28.3	19.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5544.00	65.2 PK	68.2	-3.0	1.73 H	328	59.3	5.9
2	#5625.00	66.7 PK	68.2	-1.5	1.74 H	328	60.6	6.1
3	#5631.20	64.6 PK	68.2	-3.6	1.71 H	321	58.5	6.1
4	*5785.00	123.6 PK			1.71 H	321	83.5	40.1
5	*5785.00	111.9 AV			1.71 H	321	71.8	40.1
6	#5944.00	64.9 PK	68.2	-3.3	1.75 H	342	58.3	6.6
7	#5944.00	63.8 PK	68.2	-4.4	1.71 H	321	57.2	6.6
8	11570.00	60.2 PK	74.0	-13.8	2.77 H	21	41.0	19.2
9	11570.00	47.4 AV	54.0	-6.6	2.77 H	21	28.2	19.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5544.00	62.7 PK	68.2	-5.5	2.02 V	351	56.8	5.9
2	#5625.00	61.8 PK	68.2	-6.4	2.00 V	347	55.7	6.1
3	#5627.20	59.9 PK	68.2	-8.3	1.93 V	354	53.8	6.1
4	*5785.00	120.6 PK			1.93 V	354	80.5	40.1
5	*5785.00	109.5 AV			1.93 V	354	69.4	40.1
6	#5944.00	63.6 PK	68.2	-4.6	2.02 V	322	57.0	6.6
7	#5944.00	60.6 PK	68.2	-7.6	1.93 V	354	54.0	6.6
8	11570.00	60.1 PK	74.0	-13.9	1.72 V	299	40.9	19.2
9	11570.00	47.2 AV	54.0	-6.8	1.72 V	299	28.0	19.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5585.00	64.6 PK	68.2	-3.6	1.74 H	321	58.5	6.1
2	#5601.60	59.6 PK	68.2	-8.6	1.68 H	325	53.5	6.1
3	#5668.00	65.6 PK	81.6	-16.0	1.68 H	325	59.5	6.1
4	*5825.00	123.5 PK			1.68 H	325	83.4	40.1
5	*5825.00	111.9 AV			1.68 H	325	71.8	40.1
6	#5977.60	63.9 PK	68.2	-4.3	1.68 H	325	57.2	6.7
7	#5983.00	64.7 PK	68.2	-3.5	1.67 H	326	58.0	6.7
8	11650.00	60.6 PK	74.0	-13.4	1.39 H	211	41.3	19.3
9	11650.00	47.5 AV	54.0	-6.5	1.39 H	211	28.2	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5585.00	62.7 PK	68.2	-5.5	2.02 V	343	56.6	6.1
2	#5604.80	58.7 PK	68.2	-9.5	1.99 V	322	52.6	6.1
3	*5825.00	119.6 PK			1.99 V	322	79.5	40.1
4	*5825.00	108.6 AV			1.99 V	322	68.5	40.1
5	#5983.00	62.4 PK	68.2	-5.8	1.99 V	343	55.7	6.7
6	#5984.00	60.5 PK	68.2	-7.7	1.99 V	322	53.8	6.7
7	11650.00	60.1 PK	74.0	-13.9	1.45 V	301	40.8	19.3
8	11650.00	47.1 AV	54.0	-6.9	1.45 V	301	27.8	19.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.8 PK	74.0	-8.2	1.99 H	350	59.8	6.0
2	5150.00	52.7 AV	54.0	-1.3	1.99 H	350	46.7	6.0
3	*5190.00	113.2 PK			1.92 H	346	73.8	39.4
4	*5190.00	101.8 AV			1.92 H	346	62.4	39.4
5	#10380.00	58.2 PK	74.0	-15.8	1.77 H	46	40.5	17.7
6	#10380.00	45.2 AV	54.0	-8.8	1.77 H	46	27.5	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.3 PK	74.0	-9.7	2.15 V	344	58.3	6.0
2	5150.00	50.7 AV	54.0	-3.3	2.15 V	344	44.7	6.0
3	*5190.00	110.0 PK			2.16 V	347	70.6	39.4
4	*5190.00	100.0 AV			2.16 V	347	60.6	39.4
5	#10380.00	58.3 PK	74.0	-15.7	2.22 V	33	40.6	17.7
6	#10380.00	44.9 AV	54.0	-9.1	2.22 V	33	27.2	17.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.8 PK	74.0	-20.2	2.00 H	343	47.8	6.0
2	5150.00	52.9 AV	54.0	-1.1	2.00 H	343	46.9	6.0
3	*5230.00	115.3 PK			2.00 H	356	75.7	39.6
4	*5230.00	104.1 AV			2.00 H	356	64.5	39.6
5	#10460.00	60.3 PK	74.0	-13.7	2.11 H	156	41.8	18.5
6	#10460.00	47.3 AV	54.0	-6.7	2.11 H	156	28.8	18.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.5 PK	74.0	-10.5	2.16 V	348	57.5	6.0
2	5150.00	51.6 AV	54.0	-2.4	2.16 V	348	45.6	6.0
3	*5230.00	111.3 PK			2.09 V	356	71.7	39.6
4	*5230.00	101.4 AV			2.09 V	356	61.8	39.6
5	#10460.00	59.3 PK	74.0	-14.7	2.29 V	57	40.8	18.5
6	#10460.00	46.5 AV	54.0	-7.5	2.29 V	57	28.0	18.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5600.00	62.5 PK	68.2	-5.7	1.31 H	330	56.4	6.1
2	#5650.00	66.5 PK	68.2	-1.7	1.58 H	330	60.4	6.1
3	#5676.00	74.0 PK	87.5	-13.5	1.31 H	330	67.9	6.1
4	*5755.00	122.6 PK			1.31 H	330	82.6	40.0
5	*5755.00	110.1 AV			1.31 H	330	70.1	40.0
6	#5925.00	63.6 PK	68.2	-4.6	1.49 H	320	57.0	6.6
7	#5978.40	62.6 PK	68.2	-5.6	1.31 H	330	55.9	6.7
8	11510.00	60.2 PK	74.0	-13.8	1.62 H	189	40.9	19.3
9	11510.00	47.1 AV	54.0	-6.9	1.62 H	189	27.8	19.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5646.40	63.4 PK	68.2	-4.8	2.21 V	349	57.3	6.1
2	#5650.00	64.1 PK	68.2	-4.1	2.19 V	335	58.0	6.1
3	#5652.80	67.5 PK	70.3	-2.8	2.21 V	349	61.4	6.1
4	*5755.00	117.9 PK			2.21 V	349	77.9	40.0
5	*5755.00	108.1 AV			2.21 V	349	68.1	40.0
6	#5925.00	62.8 PK	68.2	-5.4	2.14 V	350	56.2	6.6
7	#5981.60	60.6 PK	68.2	-7.6	2.21 V	349	53.9	6.7
8	11510.00	59.6 PK	74.0	-14.4	1.34 V	35	40.3	19.3
9	11510.00	46.5 AV	54.0	-7.5	1.34 V	35	27.2	19.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5635.00	63.6 PK	68.2	-4.6	1.33 H	316	57.5	6.1
2	#5637.60	64.0 PK	68.2	-4.2	1.13 H	332	57.9	6.1
3	*5795.00	121.5 PK			1.13 H	332	81.4	40.1
4	*5795.00	109.8 AV			1.13 H	332	69.7	40.1
5	#5942.40	63.5 PK	68.2	-4.7	1.13 H	332	56.9	6.6
6	#5955.00	64.3 PK	68.2	-3.9	1.18 H	325	57.7	6.6
7	11590.00	60.0 PK	74.0	-14.0	1.70 H	1	40.8	19.2
8	11590.00	47.2 AV	54.0	-6.8	1.70 H	1	28.0	19.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5626.40	60.0 PK	68.2	-8.2	2.19 V	333	53.9	6.1
2	#5635.00	63.1 PK	68.2	-5.1	1.33 V	316	57.0	6.1
3	*5795.00	117.4 PK			2.19 V	333	77.3	40.1
4	*5795.00	107.7 AV			2.19 V	333	67.6	40.1
5	#5925.00	63.2 PK	68.2	-5.0	2.08 V	336	56.6	6.6
6	#5962.40	61.1 PK	68.2	-7.1	2.19 V	333	54.4	6.7
7	11590.00	59.9 PK	74.0	-14.1	1.92 V	30	40.7	19.2
8	11590.00	46.5 AV	54.0	-7.5	1.92 V	30	27.3	19.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

CHANNEL	TX Channel 42	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.4 PK	74.0	-11.6	2.00 H	353	56.4	6.0
2	5150.00	48.0 AV	54.0	-6.0	2.00 H	353	42.0	6.0
3	*5210.00	102.4 PK			1.96 H	353	62.9	39.5
4	*5210.00	91.8 AV			1.96 H	353	52.3	39.5
5	#5788.00	67.2 PK	68.2	-1.0	1.85 H	325	59.7	7.5
6	#10420.00	58.9 PK	74.0	-15.1	1.86 H	53	41.0	17.9
7	#10420.00	45.8 AV	54.0	-8.2	1.86 H	53	27.9	17.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.0 PK	74.0	-16.0	2.16 V	347	52.0	6.0
2	5150.00	46.3 AV	54.0	-7.7	2.16 V	347	40.3	6.0
3	*5210.00	98.0 PK			2.15 V	359	58.5	39.5
4	*5210.00	89.0 AV			2.15 V	359	49.5	39.5
5	#5788.00	63.2 PK	68.2	-5.0	2.16 V	11	55.7	7.5
6	#10420.00	58.4 PK	74.0	-15.6	2.33 V	36	40.5	17.9
7	#10420.00	45.4 AV	54.0	-8.6	2.33 V	36	27.5	17.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5630.40	66.4 PK	74.0	-7.6	1.87 H	320	60.3	6.1
2	#5650.00	67.0 PK	74.0	-7.0	1.93 H	324	60.9	6.1
3	#5650.00	52.4 AV	54.0	-1.6	1.93 H	324	46.3	6.1
4	*5775.00	115.1 PK			1.87 H	320	75.1	40.0
5	*5775.00	103.9 AV			1.87 H	320	63.9	40.0
6	#5925.00	65.5 PK	68.2	-2.7	1.91 H	317	58.9	6.6
7	#5946.40	62.4 PK	74.0	-11.6	1.87 H	320	55.8	6.6
8	11550.00	60.1 PK	74.0	-13.9	2.22 H	122	40.9	19.2
9	11550.00	47.3 AV	54.0	-6.7	2.22 H	122	28.1	19.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5629.60	65.5 PK	74.0	-8.5	2.13 V	322	59.4	6.1
2	#5650.00	67.2 PK	74.0	-6.8	2.20 V	354	61.1	6.1
3	#5650.00	50.5 AV	54.0	-3.5	2.20 V	354	44.4	6.1
4	*5775.00	112.3 PK			2.13 V	322	72.3	40.0
5	*5775.00	101.3 AV			2.13 V	322	61.3	40.0
6	#5925.00	59.8 PK	68.2	-8.4	1.97 V	321	53.2	6.6
7	#5932.80	61.7 PK	74.0	-12.3	2.13 V	322	55.1	6.6
8	11550.00	59.8 PK	74.0	-14.2	1.42 V	1	40.6	19.2
9	11550.00	46.6 AV	54.0	-7.4	1.42 V	1	27.4	19.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Test Mode C:

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5100.00	64.1 PK	74.0	-9.9	2.88 H	353	58.3	5.8
2	5100.00	52.5 AV	54.0	-1.5	2.88 H	353	46.7	5.8
3	*5180.00	115.0 PK			3.43 H	349	75.6	39.4
4	*5180.00	105.2 AV			3.43 H	349	65.8	39.4
5	#6906.00	59.0 PK	68.2	-9.2	3.37 H	359	46.1	12.9
6	#10360.00	60.0 PK	74.0	-14.0	2.35 H	281	42.2	17.8
7	#10360.00	46.5 AV	54.0	-7.5	2.35 H	281	28.7	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5100.00	64.1 PK	74.0	-9.9	1.77 V	321	58.3	5.8
2	5100.00	52.4 AV	54.0	-1.6	1.77 V	321	46.6	5.8
3	*5180.00	115.0 PK			1.63 V	322	75.6	39.4
4	*5180.00	105.4 AV			1.63 V	322	66.0	39.4
5	#6906.00	58.3 PK	68.2	-9.9	2.13 V	310	45.4	12.9
6	#10360.00	59.1 PK	74.0	-14.9	1.58 V	162	41.3	17.8
7	#10360.00	46.4 AV	54.0	-7.6	1.58 V	162	28.6	17.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	64.0 PK	74.0	-10.0	3.50 H	354	58.0	6.0
2	5120.00	52.5 AV	54.0	-1.5	3.50 H	354	46.5	6.0
3	*5200.00	113.4 PK			3.76 H	348	73.9	39.5
4	*5200.00	103.8 AV			3.76 H	348	64.3	39.5
5	#6933.00	59.5 PK	68.2	-8.7	3.73 H	356	46.4	13.1
6	#10400.00	59.8 PK	74.0	-14.2	2.41 H	286	42.1	17.7
7	#10400.00	46.2 AV	54.0	-7.8	2.41 H	286	28.5	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	63.6 PK	74.0	-10.4	1.90 V	322	57.6	6.0
2	5120.00	52.6 AV	54.0	-1.4	1.90 V	322	46.6	6.0
3	*5200.00	113.4 PK			1.82 V	323	73.9	39.5
4	*5200.00	104.0 AV			1.82 V	323	64.5	39.5
5	#6933.00	58.0 PK	68.2	-10.2	2.04 V	308	44.9	13.1
6	#10400.00	58.4 PK	74.0	-15.6	1.68 V	342	40.7	17.7
7	#10400.00	46.1 AV	54.0	-7.9	1.68 V	342	28.4	17.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	119.6 PK			3.50 H	348	80.0	39.6
2	*5240.00	109.7 AV			3.50 H	348	70.1	39.6
3	5400.00	62.2 PK	74.0	-11.8	3.57 H	353	55.5	6.7
4	5400.00	51.2 AV	54.0	-2.8	3.57 H	353	44.5	6.7
5	#6986.00	59.8 PK	68.2	-8.4	3.28 H	355	46.3	13.5
6	#10480.00	59.6 PK	74.0	-14.4	2.86 H	302	40.9	18.7
7	#10480.00	47.2 AV	54.0	-6.8	2.86 H	302	28.5	18.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	119.6 PK			1.50 V	326	80.0	39.6
2	*5240.00	110.0 AV			1.50 V	326	70.4	39.6
3	5400.00	64.1 PK	74.0	-9.9	1.26 V	329	57.4	6.7
4	5400.00	52.6 AV	54.0	-1.4	1.26 V	329	45.9	6.7
5	#6986.00	59.5 PK	68.2	-8.7	2.20 V	308	46.0	13.5
6	#10480.00	60.8 PK	74.0	-13.2	1.86 V	243	42.1	18.7
7	#10480.00	47.3 AV	54.0	-6.7	1.86 V	243	28.6	18.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5263.00	61.5 PK	68.2	-6.7	3.02 H	312	55.2	6.3
2	#5503.00	65.6 PK	68.2	-2.6	3.10 H	332	58.6	7.0
3	#5656.00	72.0 PK	73.3	-1.3	2.92 H	344	64.9	7.1
4	#5657.60	69.4 PK	73.8	-4.4	3.35 H	346	62.3	7.1
5	*5745.00	121.7 PK			3.35 H	346	81.2	40.5
6	*5745.00	111.8 AV			3.35 H	346	71.3	40.5
7	#5983.20	65.5 PK	68.2	-2.7	3.35 H	346	57.6	7.9
8	#5988.00	64.9 PK	68.2	-3.3	3.38 H	338	57.0	7.9
9	#6225.00	58.4 PK	68.2	-9.8	2.77 H	341	47.4	11.0
10	11490.00	60.9 PK	74.0	-13.1	2.98 H	292	42.2	18.7
11	11490.00	47.0 AV	54.0	-7.0	2.98 H	292	28.3	18.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5266.00	61.2 PK	68.2	-7.0	1.08 V	333	54.9	6.3
2	#5506.00	64.2 PK	68.2	-4.0	1.11 V	330	57.2	7.0
3	#5586.00	64.6 PK	68.2	-3.6	1.03 V	329	57.5	7.1
4	#5657.00	70.1 PK	73.8	-3.7	1.05 V	332	63.0	7.1
5	#5657.60	70.4 PK	73.8	-3.4	1.03 V	333	63.3	7.1
6	*5745.00	122.1 PK			1.03 V	333	81.6	40.5
7	*5745.00	112.4 AV			1.03 V	333	71.9	40.5
8	#5986.40	61.7 PK	68.2	-6.5	1.03 V	333	53.8	7.9
9	#6226.00	58.2 PK	68.2	-10.0	1.00 V	321	47.2	11.0
10	11490.00	59.5 PK	74.0	-14.5	1.62 V	352	40.8	18.7
11	11490.00	46.6 AV	54.0	-7.4	1.62 V	352	27.9	18.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5304.00	60.4 PK	68.2	-7.8	3.02 H	315	54.0	6.4
2	#5542.00	64.6 PK	68.2	-3.6	3.20 H	333	57.6	7.0
3	#5622.40	65.5 PK	68.2	-2.7	3.33 H	345	58.4	7.1
4	#5626.00	67.0 PK	68.2	-1.2	3.07 H	338	59.9	7.1
5	*5785.00	122.4 PK			3.33 H	345	81.8	40.6
6	*5785.00	112.3 AV			3.33 H	345	71.7	40.6
7	#5945.60	65.6 PK	68.2	-2.6	3.33 H	345	57.9	7.7
8	#5946.00	66.1 PK	68.2	-2.1	3.02 H	346	58.4	7.7
9	#6024.00	57.7 PK	68.2	-10.5	3.33 H	342	49.7	8.0
10	#6266.00	58.5 PK	68.2	-9.7	3.24 H	347	47.5	11.0
11	11570.00	60.3 PK	74.0	-13.7	2.78 H	293	41.6	18.7
12	11570.00	47.1 AV	54.0	-6.9	2.78 H	293	28.4	18.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5304.00	60.8 PK	68.2	-7.4	1.17 V	324	54.4	6.4
2	#5546.00	65.5 PK	68.2	-2.7	1.01 V	329	58.5	7.0
3	#5625.00	67.1 PK	68.2	-1.1	1.00 V	328	60.0	7.1
4	#5625.60	64.4 PK	68.2	-3.8	1.00 V	324	57.3	7.1
5	*5785.00	122.5 PK			1.00 V	324	81.9	40.6
6	*5785.00	112.6 AV			1.00 V	324	72.0	40.6
7	#5937.60	65.0 PK	68.2	-3.2	1.00 V	324	57.3	7.7
8	#5946.00	65.4 PK	68.2	-2.8	1.14 V	328	57.7	7.7
9	#6024.00	56.3 PK	68.2	-11.9	1.02 V	324	48.3	8.0
10	#6264.00	57.8 PK	68.2	-10.4	1.13 V	321	46.8	11.0
11	11570.00	59.8 PK	74.0	-14.2	1.42 V	62	41.1	18.7
12	11570.00	46.9 AV	54.0	-7.1	1.42 V	62	28.2	18.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5612.80	60.5 PK	68.2	-7.7	3.12 H	346	53.4	7.1
2	*5825.00	122.2 PK			3.12 H	345	81.6	40.6
3	*5825.00	111.9 AV			3.12 H	345	71.3	40.6
4	#5932.00	66.6 PK	68.2	-1.6	3.02 H	343	58.9	7.7
5	#5991.00	66.6 PK	68.2	-1.6	2.95 H	339	58.7	7.9
6	#5991.20	65.3 PK	68.2	-2.9	3.12 H	346	57.4	7.9
7	11650.00	60.7 PK	74.0	-13.3	2.54 H	333	41.5	19.2
8	11650.00	47.8 AV	54.0	-6.2	2.54 H	333	28.6	19.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5636.80	59.6 PK	68.2	-8.6	1.00 V	328	52.5	7.1
2	*5825.00	122.2 PK			1.00 V	328	81.6	40.6
3	*5825.00	112.4 AV			1.00 V	328	71.8	40.6
4	#5986.00	65.4 PK	68.2	-2.8	1.00 V	324	57.5	7.9
5	#5992.00	65.6 PK	68.2	-2.6	1.00 V	328	57.7	7.9
6	#6064.00	60.9 PK	68.2	-7.3	1.00 V	319	52.8	8.1
7	#6302.00	58.8 PK	68.2	-9.4	1.28 V	319	47.9	10.9
8	11650.00	60.0 PK	74.0	-14.0	1.98 V	301	40.8	19.2
9	11650.00	47.3 AV	54.0	-6.7	1.98 V	301	28.1	19.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT20)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5100.00	63.6 PK	74.0	-10.4	3.52 H	347	57.8	5.8
2	5100.00	52.6 AV	54.0	-1.4	3.52 H	347	46.8	5.8
3	*5180.00	116.0 PK			2.57 H	347	76.6	39.4
4	*5180.00	105.1 AV			2.57 H	347	65.7	39.4
5	#10360.00	60.0 PK	74.0	-14.0	2.33 H	290	42.2	17.8
6	#10360.00	47.0 AV	54.0	-7.0	2.33 H	290	29.2	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5100.00	63.5 PK	74.0	-10.5	2.37 V	313	57.7	5.8
2	5100.00	52.6 AV	54.0	-1.4	2.37 V	313	46.8	5.8
3	*5180.00	114.7 PK			1.87 V	321	75.3	39.4
4	*5180.00	105.3 AV			1.87 V	321	65.9	39.4
5	#10360.00	60.0 PK	74.0	-14.0	2.07 V	300	42.2	17.8
6	#10360.00	46.9 AV	54.0	-7.1	2.07 V	300	29.1	17.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	64.0 PK	74.0	-10.0	3.50 H	346	58.0	6.0
2	5120.00	52.7 AV	54.0	-1.3	3.50 H	346	46.7	6.0
3	*5200.00	114.4 PK			2.79 H	346	74.9	39.5
4	*5200.00	103.8 AV			2.79 H	346	64.3	39.5
5	#10400.00	58.6 PK	74.0	-15.4	2.44 H	296	40.9	17.7
6	#10400.00	45.4 AV	54.0	-8.6	2.44 H	296	27.7	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	63.4 PK	74.0	-10.6	1.73 V	325	57.4	6.0
2	5120.00	52.4 AV	54.0	-1.6	1.73 V	325	46.4	6.0
3	*5200.00	112.2 PK			1.98 V	326	72.7	39.5
4	*5200.00	103.4 AV			1.98 V	326	63.9	39.5
5	#10400.00	58.8 PK	74.0	-15.2	1.70 V	344	41.1	17.7
6	#10400.00	45.9 AV	54.0	-8.1	1.70 V	344	28.2	17.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	118.8 PK			3.49 H	345	79.2	39.6
2	*5240.00	108.5 AV			3.49 H	345	68.9	39.6
3	5400.00	62.9 PK	74.0	-11.1	3.46 H	347	56.2	6.7
4	5400.00	51.4 AV	54.0	-2.6	3.46 H	347	44.7	6.7
5	#10480.00	59.8 PK	74.0	-14.2	2.77 H	312	41.1	18.7
6	#10480.00	46.7 AV	54.0	-7.3	2.77 H	312	28.0	18.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	117.8 PK			1.53 V	330	78.2	39.6
2	*5240.00	108.2 AV			1.53 V	330	68.6	39.6
3	5400.00	63.5 PK	74.0	-10.5	1.19 V	328	56.8	6.7
4	5400.00	52.4 AV	54.0	-1.6	1.19 V	328	45.7	6.7
5	#10480.00	59.8 PK	74.0	-14.2	1.80 V	222	41.1	18.7
6	#10480.00	47.0 AV	54.0	-7.0	1.80 V	222	28.3	18.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5265.00	59.8 PK	68.2	-8.4	2.99 H	346	53.5	6.3
2	#5505.00	63.4 PK	68.2	-4.8	3.00 H	339	56.4	7.0
3	#5586.00	64.9 PK	68.2	-3.3	3.10 H	342	57.8	7.1
4	#5656.00	70.9 PK	72.7	-1.8	3.04 H	337	63.8	7.1
5	*5745.00	122.6 PK			2.93 H	343	82.1	40.5
6	*5745.00	111.5 AV			2.93 H	343	71.0	40.5
7	#5981.60	63.1 PK	68.2	-5.1	2.93 H	343	55.2	7.9
8	#5985.00	64.0 PK	68.2	-4.2	3.04 H	343	56.1	7.9
9	#6223.00	57.6 PK	68.2	-10.6	3.03 H	343	46.6	11.0
10	11490.00	60.0 PK	74.0	-14.0	2.78 H	298	41.3	18.7
11	11490.00	47.1 AV	54.0	-6.9	2.78 H	298	28.4	18.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5265.00	61.8 PK	68.2	-6.4	1.08 V	326	55.5	6.3
2	#5504.00	64.2 PK	68.2	-4.0	1.02 V	326	57.2	7.0
3	#5584.00	64.9 PK	68.2	-3.3	1.01 V	325	57.8	7.1
4	#5649.00	65.9 PK	68.2	-2.3	1.00 V	326	58.8	7.1
5	#5649.60	64.9 PK	68.2	-3.3	1.00 V	328	57.8	7.1
6	*5745.00	122.3 PK			1.00 V	328	81.8	40.5
7	*5745.00	111.9 AV			1.00 V	328	71.4	40.5
8	#5981.60	62.0 PK	68.2	-6.2	1.00 V	328	54.1	7.9
9	#6223.00	57.5 PK	68.2	-10.7	1.01 V	319	46.5	11.0
10	11490.00	59.7 PK	74.0	-14.3	1.26 V	301	41.0	18.7
11	11490.00	47.2 AV	54.0	-6.8	1.26 V	301	28.5	18.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5301.00	59.1 PK	68.2	-9.1	2.96 H	346	52.7	6.4
2	#5543.00	64.2 PK	68.2	-4.0	2.86 H	343	57.2	7.0
3	#5624.00	66.2 PK	68.2	-2.0	3.05 H	342	59.1	7.1
4	#5745.00	64.4 PK	68.2	-3.8	3.02 H	345	57.0	7.4
5	*5785.00	121.9 PK			2.91 H	343	81.3	40.6
6	*5785.00	111.4 AV			2.91 H	343	70.8	40.6
7	#5947.20	64.7 PK	68.2	-3.5	2.91 H	343	57.0	7.7
8	#6025.00	56.2 PK	68.2	-12.0	3.07 H	342	48.2	8.0
9	11570.00	59.8 PK	74.0	-14.2	2.98 H	275	41.1	18.7
10	11570.00	47.0 AV	54.0	-7.0	2.98 H	275	28.3	18.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5302.00	60.0 PK	68.2	-8.2	1.07 V	325	53.6	6.4
2	#5544.00	63.8 PK	68.2	-4.4	1.01 V	322	56.8	7.0
3	#5625.00	65.4 PK	68.2	-2.8	1.00 V	326	58.3	7.1
4	#5631.20	64.2 PK	68.2	-4.0	1.00 V	331	57.1	7.1
5	*5785.00	122.6 PK			1.00 V	331	82.0	40.6
6	*5785.00	112.0 AV			1.00 V	331	71.4	40.6
7	#5948.00	64.6 PK	68.2	-3.6	1.01 V	324	56.9	7.7
8	#5948.80	64.0 PK	68.2	-4.2	1.00 V	331	56.3	7.7
9	#6025.00	56.0 PK	68.2	-12.2	1.09 V	324	48.0	8.0
10	11570.00	60.2 PK	74.0	-13.8	1.54 V	254	41.5	18.7
11	11570.00	47.0 AV	54.0	-7.0	1.54 V	254	28.3	18.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5339.00	59.7 PK	68.2	-8.5	3.08 H	347	53.3	6.4
2	#5585.00	64.0 PK	68.2	-4.2	3.10 H	343	56.9	7.1
3	#5629.60	60.1 PK	68.2	-8.1	3.00 H	343	53.0	7.1
4	*5825.00	122.8 PK			3.00 H	343	82.2	40.6
5	*5825.00	111.9 AV			3.00 H	343	71.3	40.6
6	#5978.40	63.9 PK	68.2	-4.3	3.00 H	343	56.0	7.9
7	#5984.00	66.4 PK	68.2	-1.8	3.09 H	348	58.5	7.9
8	#6065.00	58.6 PK	68.2	-9.6	3.00 H	334	50.5	8.1
9	#6310.00	58.0 PK	68.2	-10.2	3.05 H	335	47.2	10.8
10	11650.00	59.8 PK	74.0	-14.2	2.78 H	269	40.6	19.2
11	11650.00	47.2 AV	54.0	-6.8	2.78 H	269	28.0	19.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5338.00	60.9 PK	68.2	-7.3	1.03 V	332	54.5	6.4
2	#5585.00	63.7 PK	68.2	-4.5	1.03 V	327	56.6	7.1
3	#5636.00	59.2 PK	68.2	-9.0	1.00 V	325	52.1	7.1
4	*5825.00	122.6 PK			1.00 V	325	82.0	40.6
5	*5825.00	112.1 AV			1.00 V	325	71.5	40.6
6	#5985.00	64.1 PK	68.2	-4.1	1.04 V	325	56.2	7.9
7	#5988.80	63.7 PK	68.2	-4.5	1.00 V	325	55.8	7.9
8	#6065.00	58.2 PK	68.2	-10.0	1.04 V	319	50.1	8.1
9	#6310.00	57.0 PK	68.2	-11.2	1.03 V	321	46.2	10.8
10	11650.00	60.4 PK	74.0	-13.6	1.15 V	284	41.2	19.2
11	11650.00	47.4 AV	54.0	-6.6	1.15 V	284	28.2	19.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.0 PK	74.0	-9.0	2.51 H	345	59.0	6.0
2	5150.00	51.6 AV	54.0	-2.4	2.51 H	345	45.6	6.0
3	*5190.00	109.9 PK			2.81 H	345	70.5	39.4
4	*5190.00	99.8 AV			2.81 H	345	60.4	39.4
5	#10380.00	59.2 PK	74.0	-14.8	2.20 H	289	41.5	17.7
6	#10380.00	46.4 AV	54.0	-7.6	2.20 H	289	28.7	17.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.6 PK	74.0	-4.4	1.94 V	325	63.6	6.0
2	5150.00	52.5 AV	54.0	-1.5	1.94 V	325	46.5	6.0
3	*5190.00	109.7 PK			1.74 V	329	70.3	39.4
4	*5190.00	100.5 AV			1.74 V	329	61.1	39.4
5	#10380.00	59.0 PK	74.0	-15.0	2.45 V	0	41.3	17.7
6	#10380.00	46.1 AV	54.0	-7.9	2.45 V	0	28.4	17.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.3 PK	74.0	-10.7	2.62 H	351	57.3	6.0
2	5150.00	52.2 AV	54.0	-1.8	2.62 H	351	46.2	6.0
3	*5230.00	112.2 PK			3.36 H	348	72.6	39.6
4	*5230.00	102.5 AV			3.36 H	348	62.9	39.6
5	#10460.00	59.5 PK	74.0	-14.5	2.54 H	355	41.0	18.5
6	#10460.00	46.8 AV	54.0	-7.2	2.54 H	355	28.3	18.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.5 PK	74.0	-9.5	2.09 V	324	58.5	6.0
2	5150.00	52.4 AV	54.0	-1.6	2.09 V	324	46.4	6.0
3	*5230.00	112.2 PK			1.51 V	326	72.6	39.6
4	*5230.00	102.7 AV			1.51 V	326	63.1	39.6
5	#10460.00	60.6 PK	74.0	-13.4	2.34 V	22	42.1	18.5
6	#10460.00	47.5 AV	54.0	-6.5	2.34 V	22	29.0	18.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5580.00	61.3 PK	68.2	-6.9	3.11 H	342	54.2	7.1
2	#5640.80	65.8 PK	68.2	-2.4	3.05 H	341	58.7	7.1
3	#5647.00	65.7 PK	68.2	-2.5	3.06 H	343	58.6	7.1
4	*5755.00	114.6 PK			3.05 H	341	74.0	40.6
5	*5755.00	104.7 AV			3.05 H	341	64.1	40.6
6	#5928.00	62.8 PK	68.2	-5.4	3.05 H	341	55.1	7.7
7	#6008.00	51.7 PK	68.2	-16.5	3.10 H	340	43.8	7.9
8	11510.00	59.6 PK	74.0	-14.4	2.94 H	229	40.9	18.7
9	11510.00	46.9 AV	54.0	-7.1	2.94 H	229	28.2	18.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5580.00	60.7 PK	68.2	-7.5	1.00 V	327	53.6	7.1
2	#5646.40	64.9 PK	68.2	-3.3	1.00 V	330	57.8	7.1
3	#5647.00	66.7 PK	68.2	-1.5	1.11 V	329	59.6	7.1
4	*5755.00	115.8 PK			1.00 V	330	75.2	40.6
5	*5755.00	105.2 AV			1.00 V	330	64.6	40.6
6	#5999.20	61.4 PK	68.2	-6.8	1.00 V	330	53.5	7.9
7	#6002.00	50.9 PK	68.2	-17.3	1.00 V	322	43.0	7.9
8	11510.00	60.1 PK	74.0	-13.9	1.58 V	300	41.4	18.7
9	11510.00	47.0 AV	54.0	-7.0	1.58 V	300	28.3	18.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5556.00	60.6 PK	68.2	-7.6	3.14 H	341	53.6	7.0
2	#5630.40	61.2 PK	68.2	-7.0	3.15 H	341	54.1	7.1
3	*5795.00	117.6 PK			3.15 H	341	77.0	40.6
4	*5795.00	106.9 AV			3.15 H	341	66.3	40.6
5	#5928.00	66.8 PK	68.2	-1.4	3.01 H	336	59.1	7.7
6	#5928.80	63.7 PK	68.2	-4.5	3.15 H	341	56.0	7.7
7	#6036.00	53.2 PK	68.2	-15.0	3.11 H	328	45.2	8.0
8	11590.00	60.1 PK	74.0	-13.9	2.85 H	310	41.3	18.8
9	11590.00	47.0 AV	54.0	-7.0	2.85 H	310	28.2	18.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5633.00	64.6 PK	68.2	-3.6	1.00 V	331	57.5	7.1
2	#5649.60	63.1 PK	68.2	-5.1	1.00 V	326	56.0	7.1
3	*5795.00	117.1 PK			1.00 V	326	76.5	40.6
4	*5795.00	106.9 AV			1.00 V	326	66.3	40.6
5	#5964.00	63.8 PK	68.2	-4.4	1.00 V	326	56.0	7.8
6	#6034.00	53.0 PK	68.2	-15.2	1.02 V	318	45.0	8.0
7	11590.00	59.6 PK	74.0	-14.4	1.54 V	265	40.8	18.8
8	11590.00	47.1 AV	54.0	-6.9	1.54 V	265	28.3	18.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

CHANNEL	TX Channel 42	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.6 PK	74.0	-6.4	2.14 H	342	61.6	6.0
2	5150.00	52.5 AV	54.0	-1.5	2.14 H	342	46.5	6.0
3	*5210.00	105.8 PK			3.04 H	345	66.3	39.5
4	*5210.00	95.9 AV			3.04 H	345	56.4	39.5
5	#5788.00	65.1 PK	68.2	-3.1	1.50 H	340	57.6	7.5
6	#10420.00	59.9 PK	74.0	-14.1	1.25 H	279	42.0	17.9
7	#10420.00	47.1 AV	54.0	-6.9	1.25 H	279	29.2	17.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.1 PK	74.0	-4.9	1.26 V	322	63.1	6.0
2	5150.00	52.3 AV	54.0	-1.7	1.26 V	322	46.3	6.0
3	*5210.00	104.4 PK			1.92 V	327	64.9	39.5
4	*5210.00	95.8 AV			1.92 V	327	56.3	39.5
5	#5788.00	64.9 PK	68.2	-3.3	1.83 V	311	57.4	7.5
6	#10420.00	60.3 PK	74.0	-13.7	2.40 V	20	42.4	17.9
7	#10420.00	47.5 AV	54.0	-6.5	2.40 V	20	29.6	17.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.00	66.4 PK	68.2	-1.8	3.17 H	340	59.3	7.1
2	#5648.80	65.7 PK	68.2	-2.5	3.19 H	347	58.6	7.1
3	*5775.00	110.4 PK			3.19 H	347	69.8	40.6
4	*5775.00	99.9 AV			3.19 H	347	59.3	40.6
5	#5932.80	62.5 PK	68.2	-5.7	3.19 H	347	54.8	7.7
6	11550.00	61.1 PK	74.0	-12.9	3.00 H	312	42.5	18.6
7	11550.00	46.6 AV	54.0	-7.4	3.00 H	312	28.0	18.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5645.00	66.9 PK	68.2	-1.3	1.12 V	322	59.8	7.1
2	#5648.80	64.5 PK	68.2	-3.7	1.00 V	325	57.4	7.1
3	*5775.00	109.3 PK			1.00 V	325	68.7	40.6
4	*5775.00	99.6 AV			1.00 V	325	59.0	40.6
5	#5928.00	61.1 PK	68.2	-7.1	1.00 V	325	53.4	7.7
6	11550.00	59.6 PK	74.0	-14.4	1.65 V	298	41.0	18.6
7	11550.00	46.8 AV	54.0	-7.2	1.65 V	298	28.2	18.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Below 1GHz Worst-Case Data: 802.11a

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	41.57	25.9 QP	40.0	-14.1	2.00 H	128	41.0	-15.1
2	57.12	31.8 QP	40.0	-8.2	2.00 H	91	46.4	-14.6
3	76.56	28.1 QP	40.0	-11.9	1.51 H	246	46.0	-17.9
4	148.50	30.9 QP	43.5	-12.6	2.00 H	268	44.6	-13.7
5	166.00	31.3 QP	43.5	-12.2	1.51 H	267	45.2	-13.9
6	204.89	26.9 QP	43.5	-16.6	1.00 H	68	43.4	-16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	41.57	37.3 QP	40.0	-2.7	1.00 V	12	52.4	-15.1
2	57.12	33.8 QP	40.0	-6.2	1.50 V	14	48.4	-14.6
3	68.79	33.6 QP	40.0	-6.4	1.50 V	14	49.8	-16.2
4	76.56	32.9 QP	40.0	-7.1	1.99 V	199	50.8	-17.9
5	148.50	29.1 QP	43.5	-14.4	1.00 V	193	42.8	-13.7
6	272.94	22.3 QP	46.0	-23.7	1.50 V	173	35.2	-12.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	57.12	29.9 QP	40.0	-10.1	1.99 H	166	44.5	-14.6
2	78.51	29.4 QP	40.0	-10.6	1.99 H	252	47.7	-18.3
3	148.50	31.7 QP	43.5	-11.8	1.50 H	270	45.4	-13.7
4	166.00	31.1 QP	43.5	-12.4	1.99 H	276	45.0	-13.9
5	204.89	28.6 QP	43.5	-14.9	1.50 H	77	45.1	-16.5
6	897.05	41.8 QP	46.0	-4.2	1.99 H	245	41.0	0.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	37.68	37.6 QP	40.0	-2.4	1.00 V	295	52.9	-15.3
2	55.18	36.8 QP	40.0	-3.2	1.00 V	11	51.2	-14.4
3	68.79	33.6 QP	40.0	-6.4	1.00 V	1	49.8	-16.2
4	109.62	27.5 QP	43.5	-16.0	1.00 V	242	44.9	-17.4
5	150.45	30.1 QP	43.5	-13.4	1.00 V	213	43.8	-13.7
6	204.89	24.8 QP	43.5	-18.7	1.51 V	241	41.3	-16.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	57.12	30.5 QP	40.0	-9.5	1.99 H	11	45.1	-14.6
2	103.78	30.4 QP	43.5	-13.1	1.50 H	215	48.5	-18.1
3	166.00	26.4 QP	43.5	-17.1	1.50 H	269	40.3	-13.9
4	269.05	24.7 QP	46.0	-21.3	1.00 H	245	37.9	-13.2
5	313.77	26.5 QP	46.0	-19.5	1.00 H	94	38.2	-11.7
6	339.04	25.4 QP	46.0	-20.6	1.00 H	203	36.7	-11.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	41.57	36.3 QP	40.0	-3.7	1.00 V	238	51.4	-15.1
2	55.18	36.2 QP	40.0	-3.8	1.00 V	16	50.6	-14.4
3	84.34	31.5 QP	40.0	-8.5	2.00 V	140	50.8	-19.3
4	148.50	30.2 QP	43.5	-13.3	1.00 V	187	43.9	-13.7
5	278.77	22.9 QP	46.0	-23.1	1.50 V	55	35.6	-12.7
6	473.20	23.8 QP	46.0	-22.2	2.00 V	8	32.2	-8.4

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Dec. 23, 2015	Dec. 22, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 11, 2016	Jan. 10, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 26, 2016	Jul. 25, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 2.

3. The VCCI Site Registration No. is C-2047.

4.2.3 Test Procedure

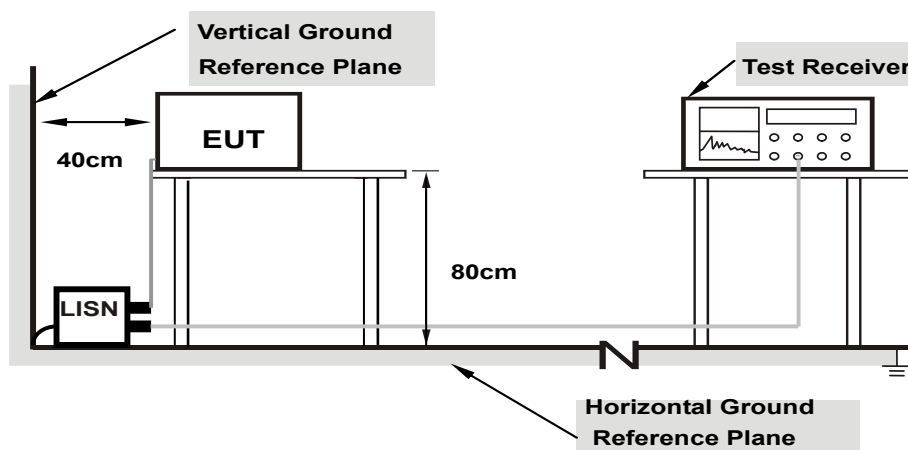
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT Operating Conditions

Same as 4.1.6.

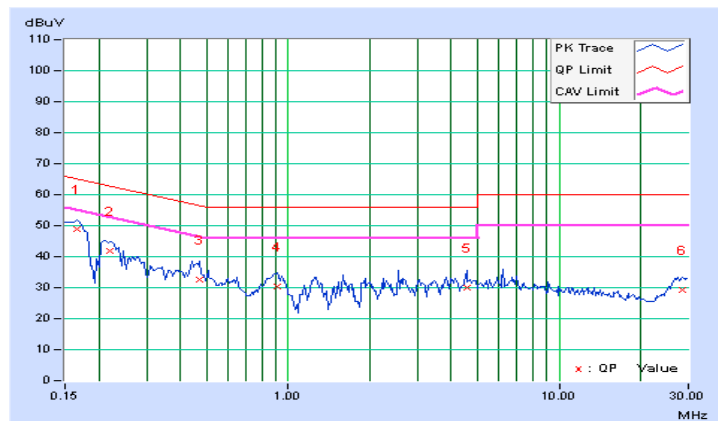
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	10.19	38.67	25.79	48.86	35.98	65.18	55.18	-16.32	-19.20
2	0.22031	10.21	31.72	17.84	41.93	28.05	62.81	52.81	-20.88	-24.76
3	0.47031	10.25	22.25	13.80	32.50	24.05	56.51	46.51	-24.01	-22.46
4	0.91172	10.30	20.20	13.88	30.50	24.18	56.00	46.00	-25.50	-21.82
5	4.57031	10.42	19.51	12.42	29.93	22.84	56.00	46.00	-26.07	-23.16
6	28.41406	10.51	18.92	13.52	29.43	24.03	60.00	50.00	-30.57	-25.97

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

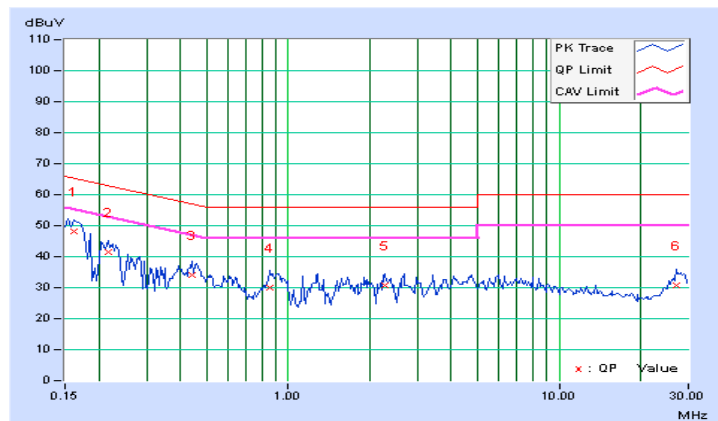


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	10.19	38.10	23.52	48.29	33.71	65.38	55.38	-17.09	-21.67
2	0.21641	10.21	31.28	16.52	41.49	26.73	62.96	52.96	-21.47	-26.23
3	0.43906	10.30	23.83	16.00	34.13	26.30	57.08	47.08	-22.95	-20.78
4	0.85313	10.29	19.81	12.81	30.10	23.10	56.00	46.00	-25.90	-22.90
5	2.28516	10.43	20.37	14.10	30.80	24.53	56.00	46.00	-25.20	-21.47
6	27.26953	10.71	20.21	14.91	30.92	25.62	60.00	50.00	-29.08	-24.38

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

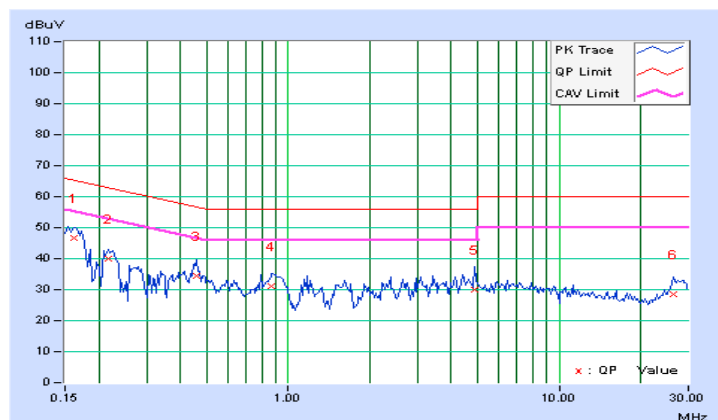


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	10.19	36.52	22.77	46.71	32.96	65.38	55.38	-18.67	-22.42
2	0.21641	10.21	29.64	15.40	39.85	25.61	62.96	52.96	-23.11	-27.35
3	0.45859	10.25	24.10	15.59	34.35	25.84	56.72	46.72	-22.37	-20.88
4	0.86484	10.29	20.73	13.38	31.02	23.67	56.00	46.00	-24.98	-22.33
5	4.85547	10.43	19.71	13.07	30.14	23.50	56.00	46.00	-25.86	-22.50
6	26.48438	10.55	18.12	12.90	28.67	23.45	60.00	50.00	-31.33	-26.55

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

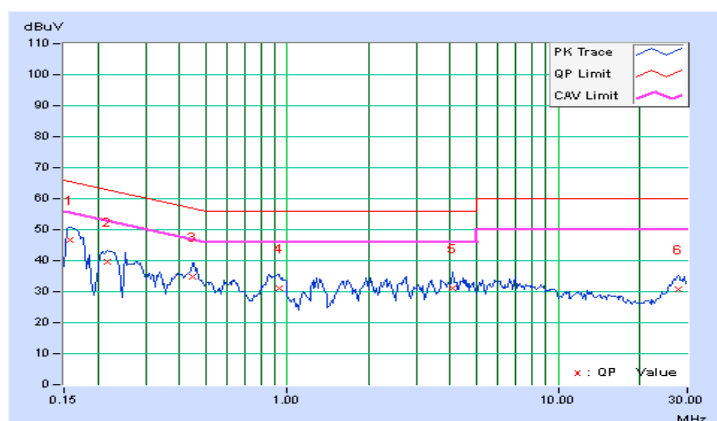


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	10.19	36.46	19.85	46.65	30.04	65.58	55.58	-18.93	-25.54
2	0.21641	10.21	29.34	15.44	39.55	25.65	62.96	52.96	-23.41	-27.31
3	0.44688	10.30	24.48	17.89	34.78	28.19	56.93	46.93	-22.15	-18.74
4	0.93125	10.29	20.66	13.92	30.95	24.21	56.00	46.00	-25.05	-21.79
5	4.07422	10.55	20.68	14.01	31.23	24.56	56.00	46.00	-24.77	-21.44
6	27.64063	10.70	20.16	14.82	30.86	25.52	60.00	50.00	-29.14	-24.48

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

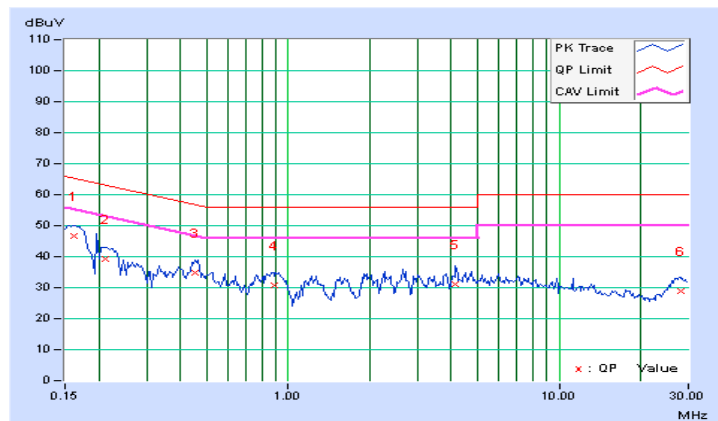


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]	(dB)	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	10.19	36.32	22.28	46.51	32.47	65.38	55.38	-18.87	-22.91
2	0.21250	10.21	29.17	13.15	39.38	23.36	63.11	53.11	-23.73	-29.75
3	0.45078	10.25	24.52	17.28	34.77	27.53	56.86	46.86	-22.09	-19.33
4	0.88438	10.30	20.54	14.35	30.84	24.65	56.00	46.00	-25.16	-21.35
5	4.12500	10.41	20.63	14.12	31.04	24.53	56.00	46.00	-24.96	-21.47
6	28.03125	10.52	18.43	13.26	28.95	23.78	60.00	50.00	-31.05	-26.22

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

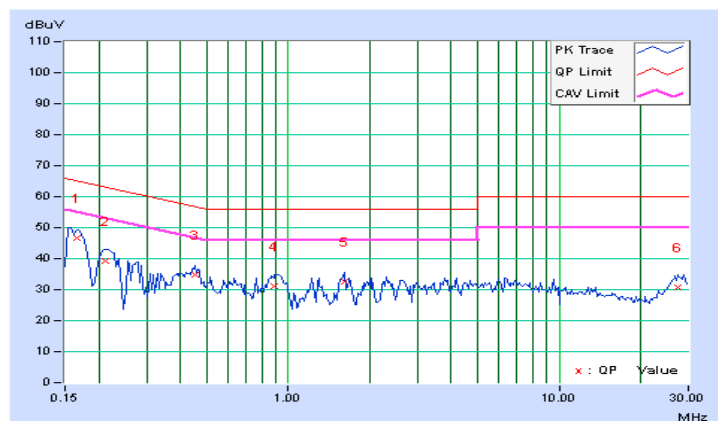


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	10.19	36.38	23.32	46.57	33.51	65.18	55.18	-18.61	-21.67
2	0.21250	10.21	29.07	12.99	39.28	23.20	63.11	53.11	-23.83	-29.91
3	0.45078	10.30	24.54	17.63	34.84	27.93	56.86	46.86	-22.02	-18.93
4	0.88828	10.29	20.85	14.63	31.14	24.92	56.00	46.00	-24.86	-21.08
5	1.62109	10.36	22.08	15.60	32.44	25.96	56.00	46.00	-23.56	-20.04
6	27.44531	10.70	20.10	14.63	30.80	25.33	60.00	50.00	-29.20	-24.67

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Test Mode A:

Operation Band	EUT Category		LIMIT
U-NII-1	---	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	---	Fixed point-to-point Access Point	1 Watt (30 dBm)
	---	Indoor Access Point	1 Watt (30 dBm)
	---	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	---		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	---		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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

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 $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

Test Mode B, C: Outdoor AP mode

Operation Band	EUT Category		LIMIT
U-NII-1	√	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≤ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	---	Fixed point-to-point Access Point	1 Watt (30 dBm)
	---	Indoor Access Point	1 Watt (30 dBm)
	---	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	---		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	---		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

Test Mode B, C: Indoor AP mode

Operation Band	EUT Category		LIMIT
U-NII-1	---	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≤ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	---	Fixed point-to-point Access Point	1 Watt (30 dBm)
	√	Indoor Access Point	1 Watt (30 dBm)
	---	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	---		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	---		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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

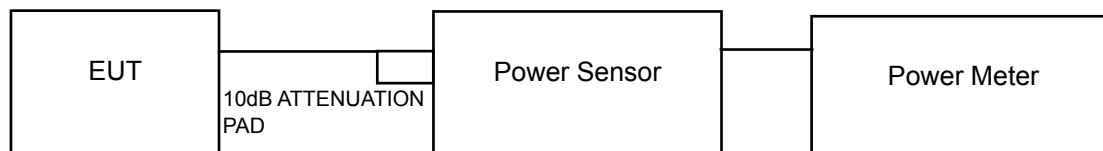
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

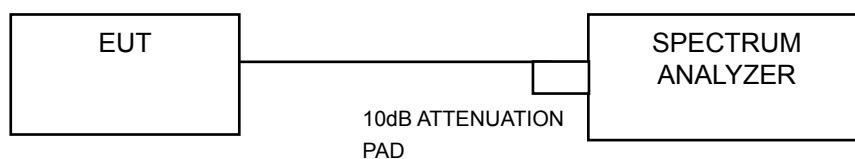
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

For Power Output Measurement



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR AVERAGE POWER MEASUREMENT

For 802.11a, 802.11n (HT20), 802.11n (HT40)

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

For 802.11ac (VHT80)

- 1) Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- 2) Set sweep trigger to "free run".
- 3) Set RBW = 1 MHz
- 4) Set VBW $\geq$ 3 MHz
- 5) Number of points in sweep $\geq$ 2 Span / RBW.
- 6) Sweep time $\leq$ (number of points in sweep) * T
- 7) Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- 8) Detector = RMS.
- 9) Trace mode = max hold.
- 10) Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

FOR 26dB BANDWIDTH

- 1) Set RBW = approximately 1% of the emission bandwidth.
- 2) Set the VBW > RBW.
- 3) Detector = Peak.
- 4) Trace mode = max hold.
- 5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission Condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Result

POWER OUTPUT:

Test Mode A:

For U-NII-3 Band

802.11a

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	16.58	16.14	86.614	19.38	19.96	Pass
157	5785	16.60	16.12	86.635	19.38	19.96	Pass
165	5825	16.57	16.10	86.132	19.35	19.96	Pass

Note: Gain=19dBi+Cable loss(-2.96)=16.04dBi>6dBi, so the power limit shall be reduced to 30-(16.04-6) = 19.96dBm.

802.11n (HT20)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	16.64	16.26	88.399	19.46	19.96	Pass
157	5785	16.52	16.11	85.707	19.33	19.96	Pass
165	5825	16.51	16.12	85.697	19.33	19.96	Pass

Note: Gain=19dBi+Cable loss(-2.96)=16.04dBi>6dBi, so the power limit shall be reduced to 30-(16.04-6) = 19.96dBm.

802.11n (HT40)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
151	5755	16.88	16.26	91.020	19.59	19.96	Pass
159	5795	16.82	16.29	90.644	19.57	19.96	Pass

Note: Gain=19dBi+Cable loss(-2.96)=16.04dBi>6dBi, so the power limit shall be reduced to 30-(16.04-6) = 19.96dBm.

Test Mode B:

For U-NII-1 Band (Outdoor Access Point Mode)

802.11a

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1						
36	5180	14.00	13.95	49.950	16.99	3.81	20.80	21.00	Pass
40	5200	11.63	12.32	31.616	15.00	3.81	18.81	21.00	Pass
48	5240	13.74	13.92	48.319	16.84	3.81	20.65	21.00	Pass

Note:

Gain = 3.81dBi (above 30 degrees from the horizon),

EIRP = conducted power +(3.81dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11n (HT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1						
36	5180	13.90	14.04	49.898	16.98	3.81	20.79	21.00	Pass
40	5200	11.35	11.78	28.712	14.58	3.81	18.39	21.00	Pass
48	5240	13.75	13.98	48.717	16.88	3.81	20.69	21.00	Pass

Note:

Gain = 3.81dBi (above 30 degrees from the horizon),

EIRP = conducted power +(3.81dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11n (HT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1						
38	5190	13.90	14.04	49.898	16.98	3.81	20.79	21.00	Pass
46	5230	11.35	11.78	28.712	14.58	3.81	18.39	21.00	Pass

Note:

Gain = 3.81dBi (above 30 degrees from the horizon),

EIRP = conducted power +(3.81dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1						
42	5210	4.03	5.53	6.102	7.85	3.81	11.66	21.00	Pass

Note:

Gain = 3.81dBi (above 30 degrees from the horizon),

EIRP = conducted power +(3.81dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

Test Mode B:

For U-NII-1 Band (Indoor Access Point Mode) & U-NII-3 Band

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.16	14.74	55.847	17.47	22.96	Pass
40	5200	11.63	12.32	31.616	15.00	22.96	Pass
48	5240	15.94	16.17	80.664	19.07	22.96	Pass
149	5745	19.38	18.94	165.039	22.18	22.96	Pass
157	5785	19.64	19.10	173.328	22.39	22.96	Pass
165	5825	19.86	19.28	181.551	22.59	22.96	Pass

Note: Gain=16dBi+Cable loss(-2.96)=13.04dBi>6dBi, so the power limit shall be reduced to 30-(13.04-6) = 22.96dBm.

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.12	14.67	55.132	17.41	22.96	Pass
40	5200	11.35	11.78	28.712	14.58	22.96	Pass
48	5240	15.85	16.12	79.385	19.00	22.96	Pass
149	5745	19.16	18.97	161.300	22.08	22.96	Pass
157	5785	19.39	18.93	165.059	22.18	22.96	Pass
165	5825	19.81	19.28	180.442	22.56	22.96	Pass

Note: Gain=16dBi+Cable loss(-2.96)=13.04dBi>6dBi, so the power limit shall be reduced to 30-(13.04-6) = 22.96dBm.

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	13.15	13.59	43.510	16.39	22.96	Pass
46	5230	14.88	15.12	63.270	18.01	22.96	Pass
151	5755	19.38	18.94	165.039	22.18	22.96	Pass
159	5795	19.64	19.10	173.328	22.39	22.96	Pass

Note: Gain=16dBi+Cable loss(-2.96)=13.04dBi>6dBi, so the power limit shall be reduced to 30-(13.04-6) = 22.96dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	4.03	5.53	6.102	7.85	22.96	Pass
155	5775	16.83	16.93	97.512	19.89	22.96	Pass

Note: Gain=16dBi+Cable loss(-2.96)=13.04dBi>6dBi, so the power limit shall be reduced to 30-(13.04-6) = 22.96dBm.

Test Mode C:

For U-NII-1 Band (Outdoor Access Point Mode)

802.11a

Chan .	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1						
36	5180	10.36	10.64	22.452	13.51	7.04	20.55	21.00	Pass
40	5200	10.60	10.69	23.204	13.66	7.04	20.70	21.00	Pass
48	5240	10.60	10.71	23.258	13.67	7.04	20.71	21.00	Pass

Note: Gain=10dBi+Cable loss(-2.96)=7.04dBi

802.11n (HT20)

Chan .	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1						
36	5180	10.70	10.78	23.716	13.75	7.04	20.79	21.00	Pass
40	5200	10.72	10.61	23.311	13.68	7.04	20.72	21.00	Pass
48	5240	10.86	10.60	23.672	13.74	7.04	20.78	21.00	Pass

Note: Gain=10dBi+Cable loss(-2.96)=7.04dBi

802.11n (HT40)

Chan .	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1						
38	5190	10.60	10.68	23.177	13.65	7.04	20.69	21.00	Pass
46	5230	10.63	10.79	23.556	13.72	7.04	20.76	21.00	Pass

Note: Gain=10dBi+Cable loss(-2.96)=7.04dBi

802.11ac (VHT80)

Chan .	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1						
42	5210	10.44	10.92	23.425	13.70	7.04	20.74	21.00	Pass

Note: Gain=10dBi+Cable loss(-2.96)=7.04dBi

Test Mode C:

For U-NII-1 Band (Indoor Access Point Mode) & U-NII-3 Band

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	17.24	17.66	111.311	20.47	28.96	Pass
40	5200	16.02	15.98	79.622	19.01	28.96	Pass
48	5240	15.94	16.17	80.664	19.07	28.96	Pass
149	5745	23.00	22.90	394.510	25.96	28.96	Pass
157	5785	24.14	24.39	534.207	27.28	28.96	Pass
165	5825	24.53	24.91	593.534	27.73	28.96	Pass

Note: Gain=10dBi+Cable loss(-2.96)=7.04dBi>6dBi, so the power limit shall be reduced to 30-(7.04-6) = 28.96dBm.

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	18.16	17.81	125.859	21.00	28.96	Pass
40	5200	15.96	15.81	77.553	18.90	28.96	Pass
48	5240	15.85	16.12	79.385	19.00	28.96	Pass
149	5745	23.84	24.15	502.119	27.01	28.96	Pass
157	5785	24.33	24.65	562.762	27.50	28.96	Pass
165	5825	24.62	25.04	608.888	27.85	28.96	Pass

Note: Gain=10dBi+Cable loss(-2.96)=7.04dBi>6dBi, so the power limit shall be reduced to 30-(7.04-6) = 28.96dBm.

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	15.80	15.40	72.693	18.61	28.96	Pass
46	5230	17.39	17.24	107.794	20.33	28.96	Pass
151	5755	20.46	19.82	207.113	23.16	28.96	Pass
159	5795	22.50	22.00	336.317	25.27	28.96	Pass

Note: Gain=10dBi+Cable loss(-2.96)=7.04dBi>6dBi, so the power limit shall be reduced to 30-(7.04-6) = 28.96dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	13.46	14.07	47.709	16.79	28.96	Pass
155	5775	17.86	17.72	120.250	20.80	28.96	Pass

Note: Gain=10dBi+Cable loss(-2.96)=7.04dBi>6dBi, so the power limit shall be reduced to 30-(7.04-6) = 28.96dBm.

26dB BANDWIDTH:

Test Mode B:

Outdoor Access Point Mode

802.11a

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.43	20.47	Pass
40	5200	20.48	20.46	Pass
48	5240	20.40	20.49	Pass

802.11n (HT20)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.74	20.52	Pass
40	5200	20.87	20.50	Pass
48	5240	20.84	20.54	Pass

802.11n (HT40)

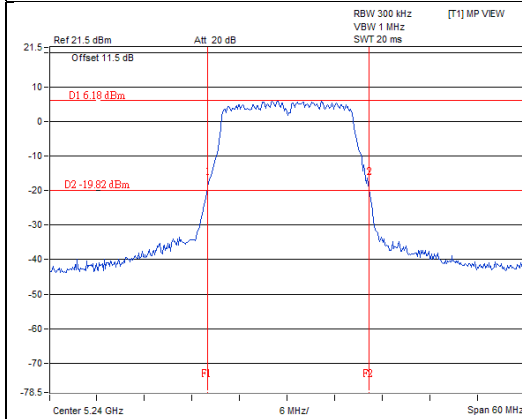
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	41.31	40.58	Pass
46	5230	41.10	40.94	Pass

802.11ac (VHT80)

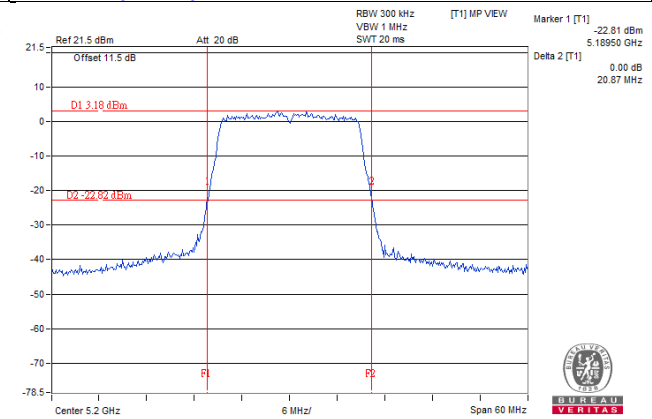
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	82.78	82.87	Pass

SPECTRUM PLOT OF WORST VALUE

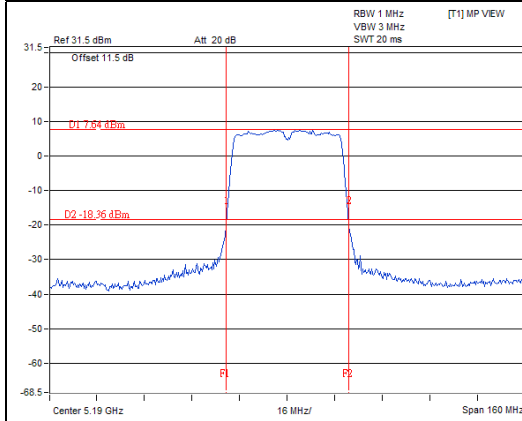
802.11a



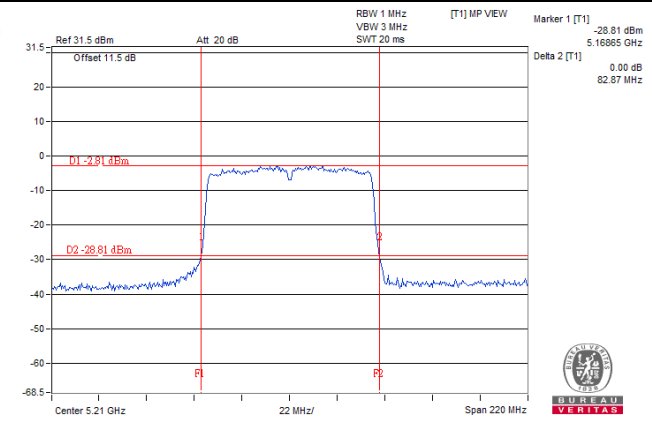
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Indoor Access Point Mode

802.11a

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.46	20.56	Pass
40	5200	20.35	20.51	Pass
48	5240	20.49	20.54	Pass

802.11n (HT20)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.83	20.58	Pass
40	5200	20.77	20.52	Pass
48	5240	21.77	20.58	Pass

802.11n (HT40)

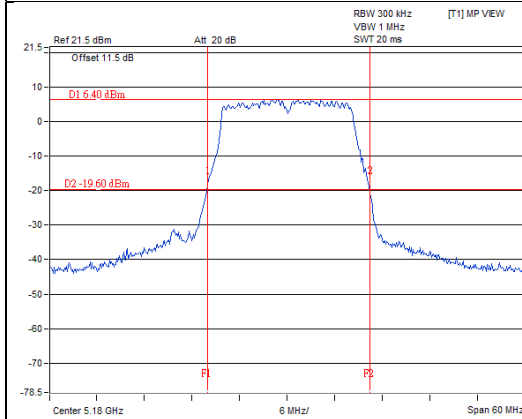
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	41.32	40.80	Pass
46	5230	41.10	40.70	Pass

802.11ac (VHT80)

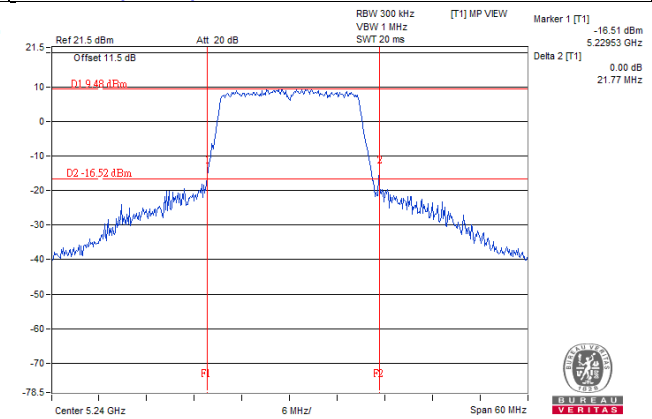
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	84.14	82.76	Pass

SPECTRUM PLOT OF WORST VALUE

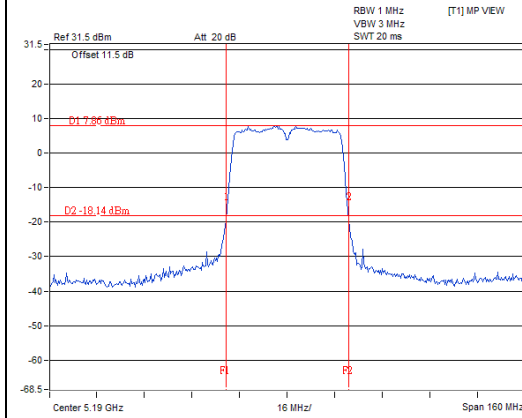
802.11a



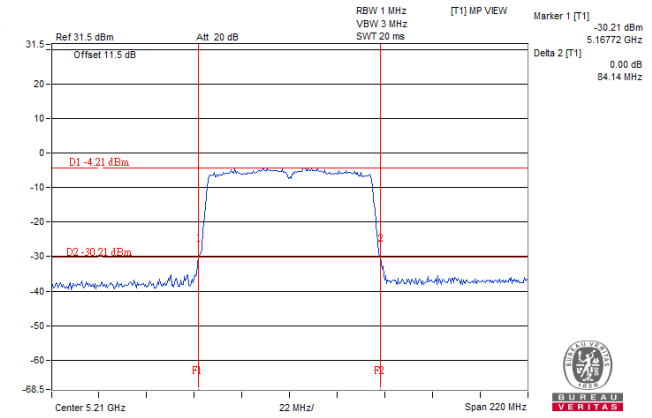
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode C:

Outdoor Access Point Mode

802.11a

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.38	20.55	Pass
40	5200	20.44	20.45	Pass
48	5240	20.45	20.50	Pass

802.11n (HT20)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.67	20.74	Pass
40	5200	20.89	20.46	Pass
48	5240	20.81	20.60	Pass

802.11n (HT40)

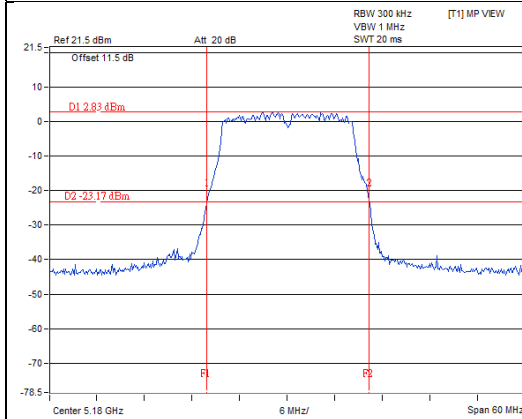
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	41.22	40.90	Pass
46	5230	41.25	40.84	Pass

802.11ac (VHT80)

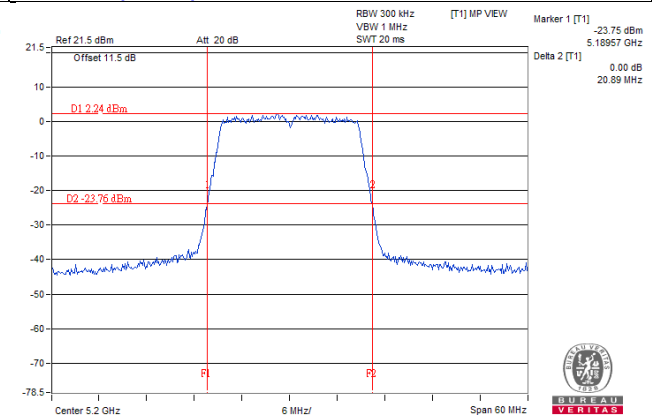
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	82.95	82.96	Pass

SPECTRUM PLOT OF WORST VALUE

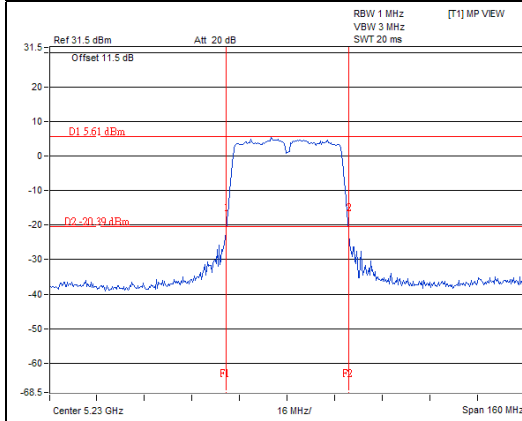
802.11a



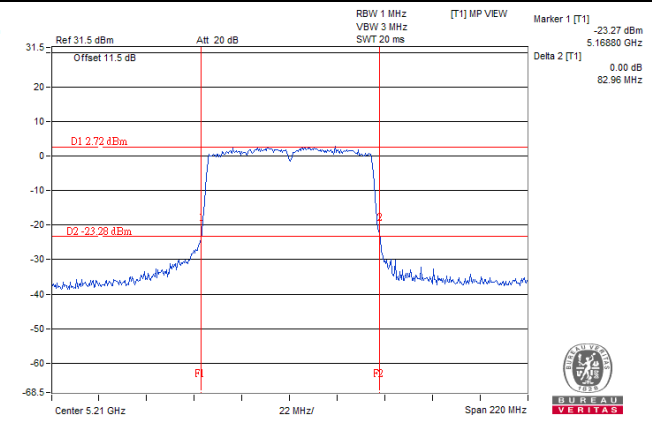
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Indoor Access Point Mode

802.11a

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.52	20.59	Pass
40	5200	20.55	20.55	Pass
48	5240	20.49	20.54	Pass

802.11n (HT20)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.74	20.56	Pass
40	5200	20.76	20.55	Pass
48	5240	21.77	20.58	Pass

802.11n (HT40)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	41.36	41.08	Pass
46	5230	43.21	40.84	Pass

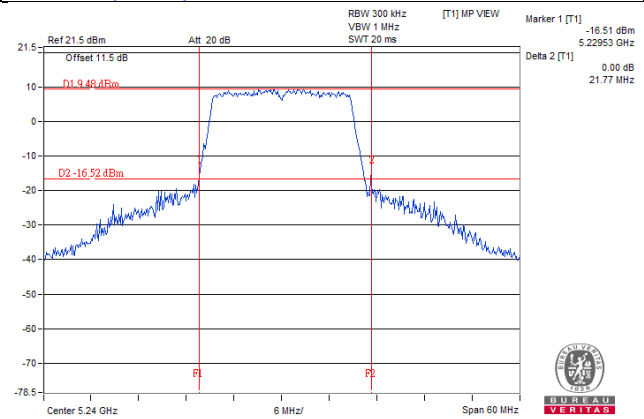
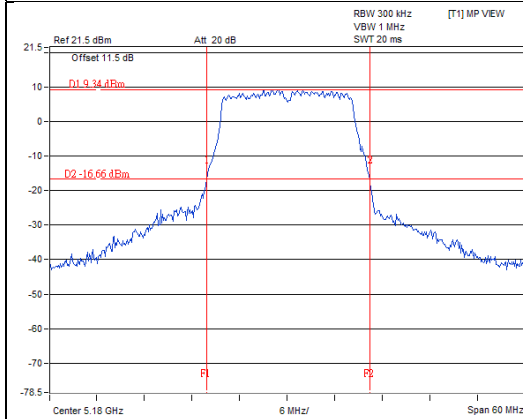
802.11ac (VHT80)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	82.83	82.90	Pass

SPECTRUM PLOT OF WORST VALUE

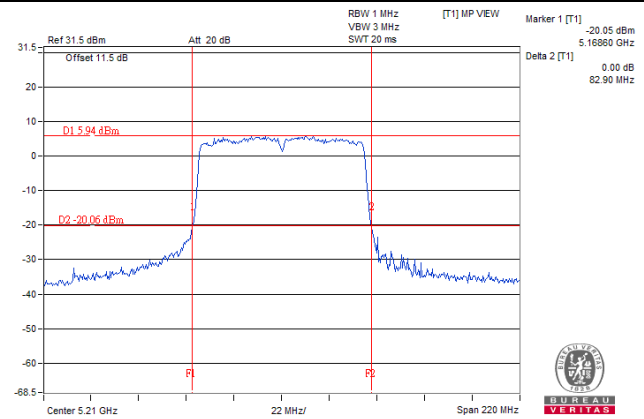
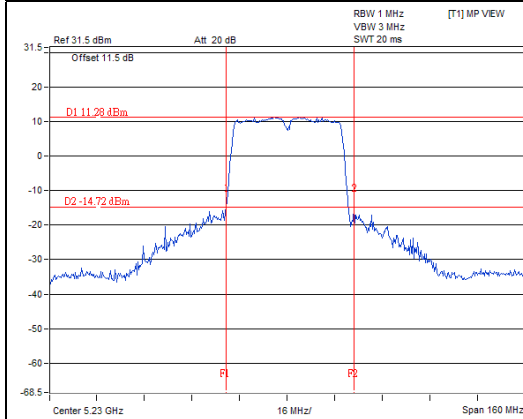
802.11a

802.11n (HT20)



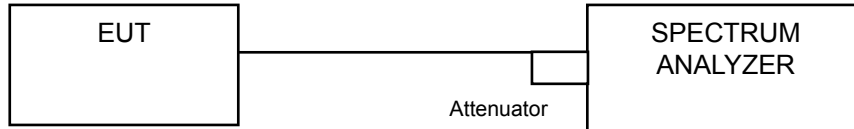
802.11n (HT40)

802.11ac (VHT80)



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to SAMPLE. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.4.4 Test Results

Test Mode A:

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
149	5745	16.86	16.78	Pass
157	5785	16.92	16.80	Pass
165	5825	16.92	16.80	Pass

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
149	5745	18.00	17.76	Pass
157	5785	18.00	17.76	Pass
165	5825	17.88	17.76	Pass

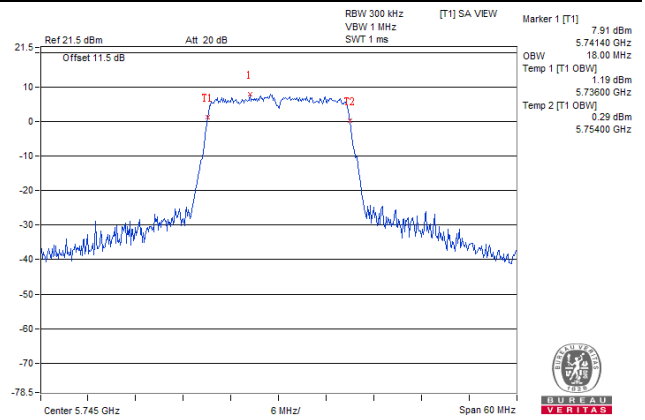
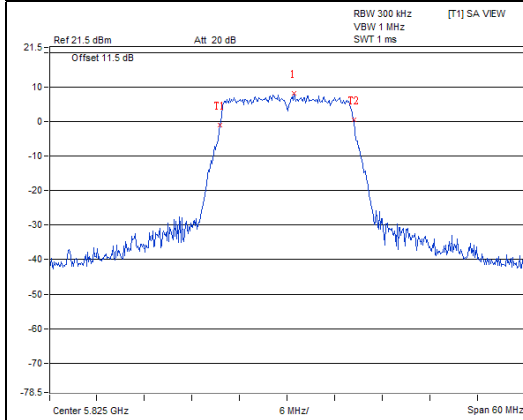
802.11n (HT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
151	5755	36.72	36.60	Pass
159	5795	36.72	36.48	Pass

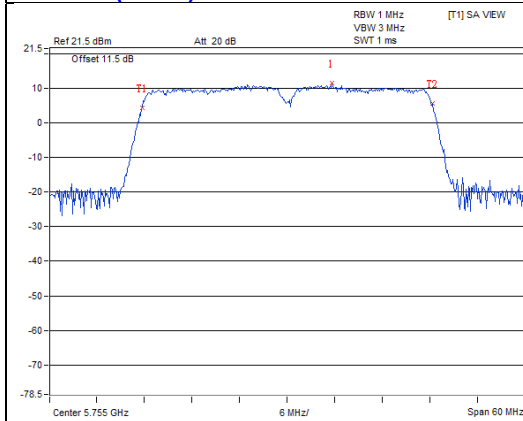
SPECTRUM PLOT OF WORST VALUE

802.11a

802.11n (HT20)



802.11n (HT40)



Test Mode B:

Outdoor Access Point Mode

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	16.80	16.80	Pass
40	5200	16.80	16.80	Pass
48	5240	16.80	16.80	Pass

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	18.00	17.76	Pass
40	5200	17.88	17.76	Pass
48	5240	17.88	17.76	Pass

802.11n (HT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	36.72	36.48	Pass
46	5230	36.72	36.72	Pass

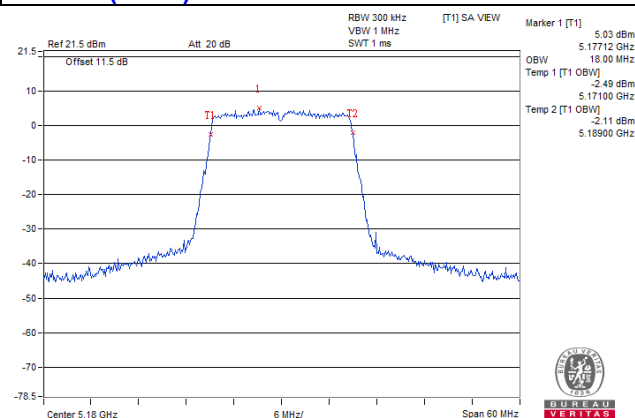
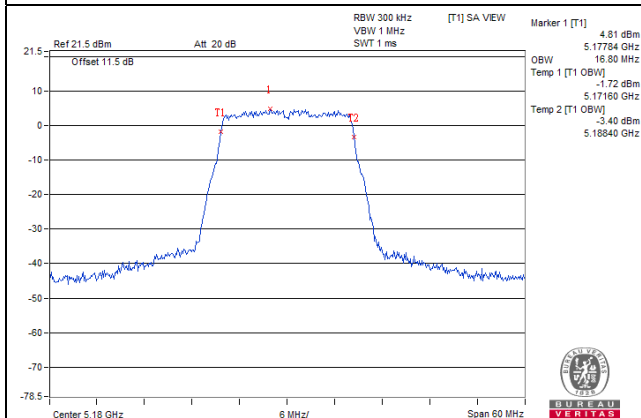
802.11ac (VHT80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	75.84	75.84	Pass

SPECTRUM PLOT OF WORST VALUE

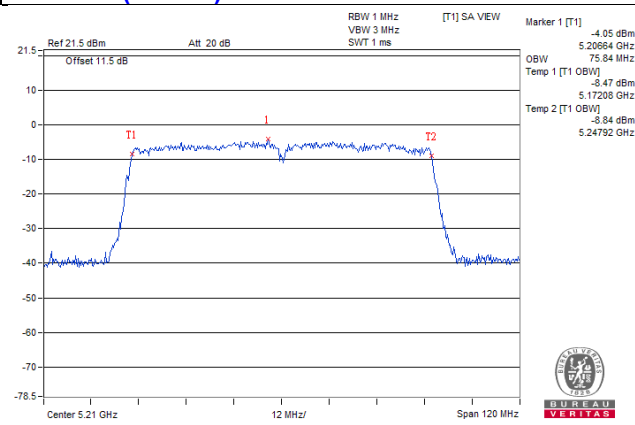
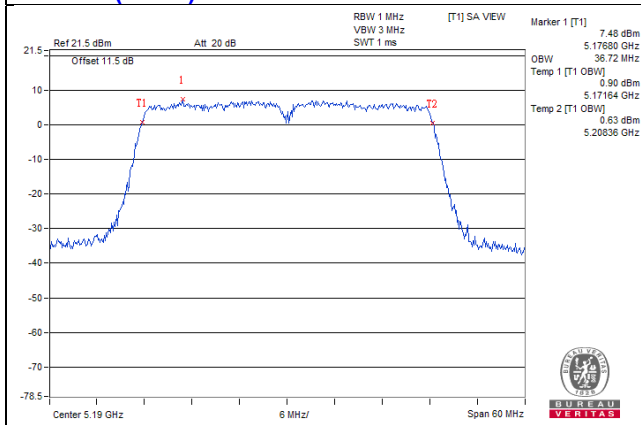
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



Test Mode B:

Indoor Access Point Mode

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	16.80	16.80	Pass
40	5200	16.80	16.80	Pass
48	5240	16.92	16.92	Pass
149	5745	17.13	16.78	Pass
157	5785	17.16	16.92	Pass
165	5825	17.16	16.80	Pass

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	17.88	17.76	Pass
40	5200	17.88	17.76	Pass
48	5240	18.00	17.76	Pass
149	5745	18.12	17.88	Pass
157	5785	18.12	17.88	Pass
165	5825	18.00	17.88	Pass

802.11n (HT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	36.72	36.48	Pass
46	5230	36.60	36.60	Pass
151	5755	37.20	36.72	Pass
159	5795	37.08	36.72	Pass

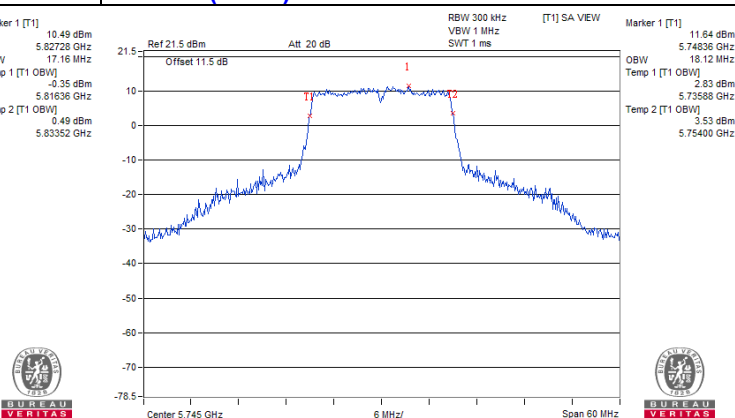
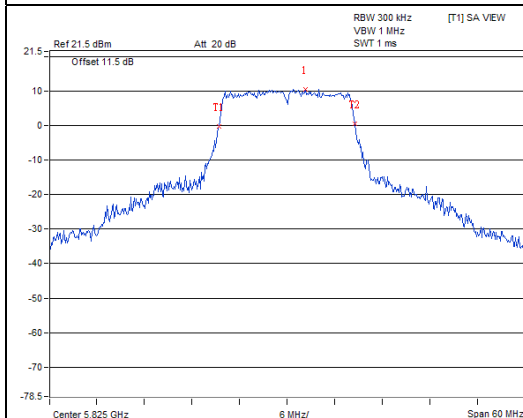
802.11ac (VHT80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	75.84	75.84	Pass
155	5775	75.84	75.84	Pass

SPECTRUM PLOT OF WORST VALUE

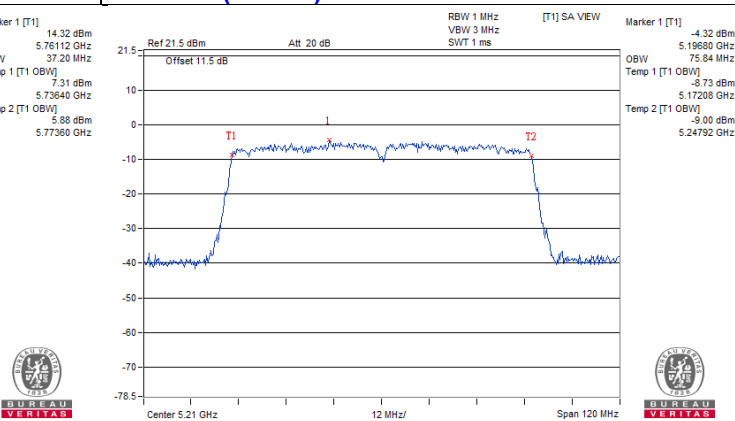
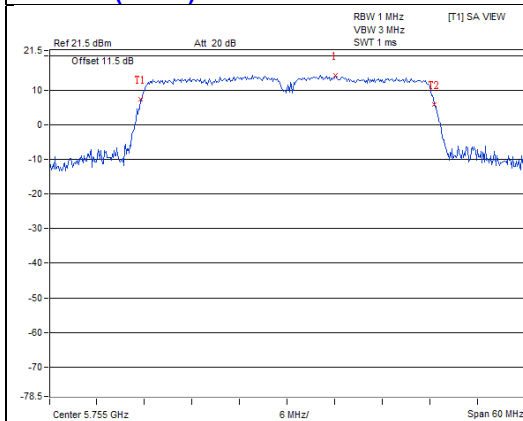
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



Test Mode C:

Outdoor Access Point Mode

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	16.92	16.80	Pass
40	5200	16.92	16.80	Pass
48	5240	16.80	16.80	Pass

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	17.88	17.76	Pass
40	5200	17.88	17.88	Pass
48	5240	17.88	17.76	Pass

802.11n (HT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	36.72	36.60	Pass
46	5230	36.60	36.60	Pass

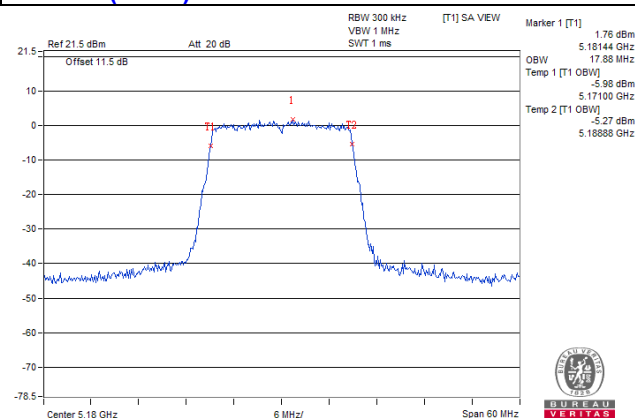
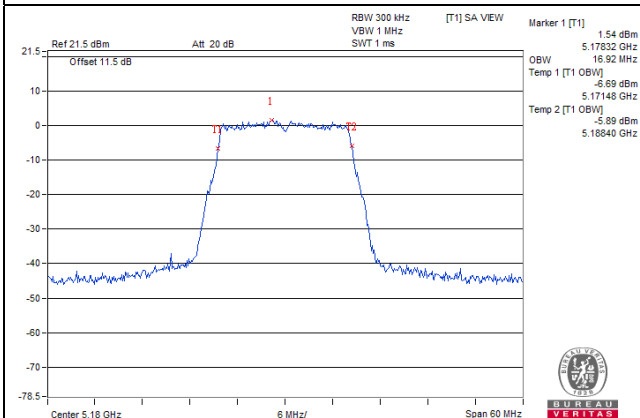
802.11ac (VHT80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	75.84	75.84	Pass

SPECTRUM PLOT OF WORST VALUE

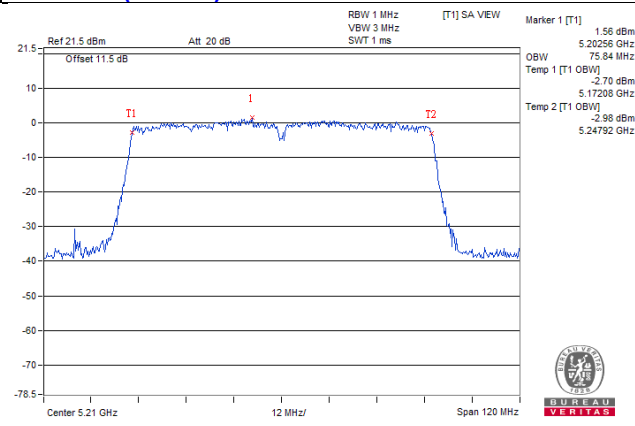
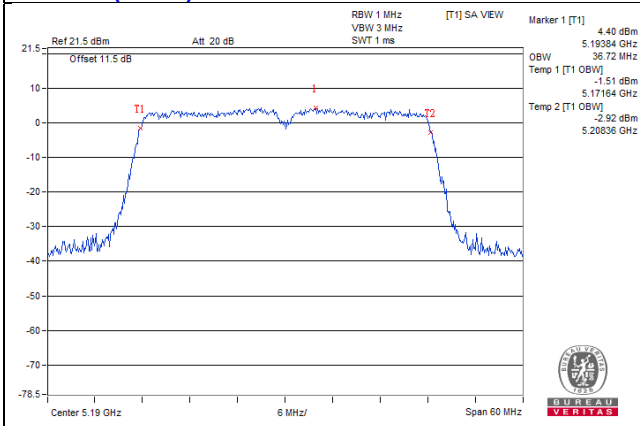
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



Test Mode C:

Indoor Access Point Mode

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	16.92	16.80	Pass
40	5200	16.92	16.80	Pass
48	5240	16.92	16.92	Pass
149	5745	30.95	27.04	Pass
157	5785	35.04	33.12	Pass
165	5825	34.08	33.60	Pass

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	17.88	17.88	Pass
40	5200	17.88	17.76	Pass
48	5240	18.00	17.76	Pass
149	5745	37.20	36.43	Pass
157	5785	36.96	36.60	Pass
165	5825	36.00	35.40	Pass

802.11n (HT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	36.60	36.48	Pass
46	5230	36.72	36.60	Pass
151	5755	37.20	36.84	Pass
159	5795	42.12	38.04	Pass

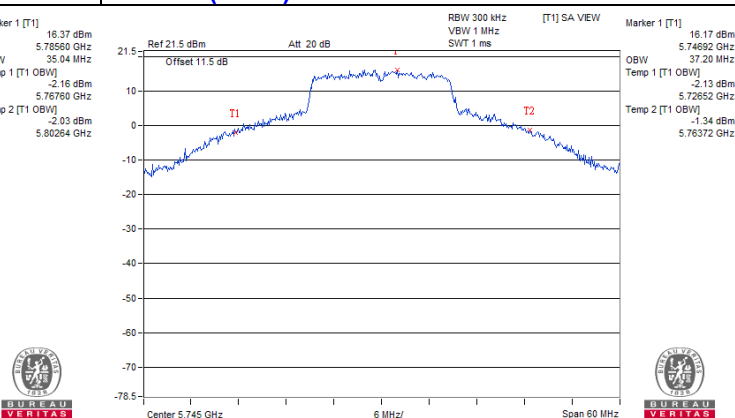
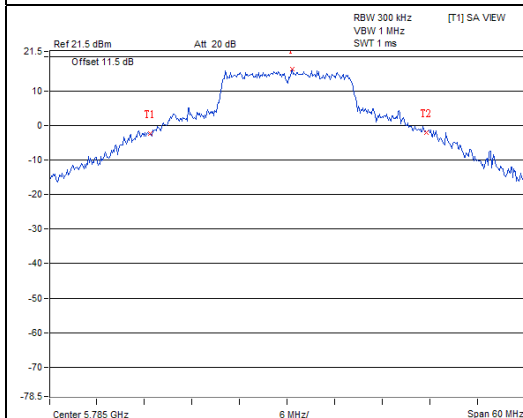
802.11ac (VHT80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	75.84	75.84	Pass
155	5775	75.84	75.84	Pass

SPECTRUM PLOT OF WORST VALUE

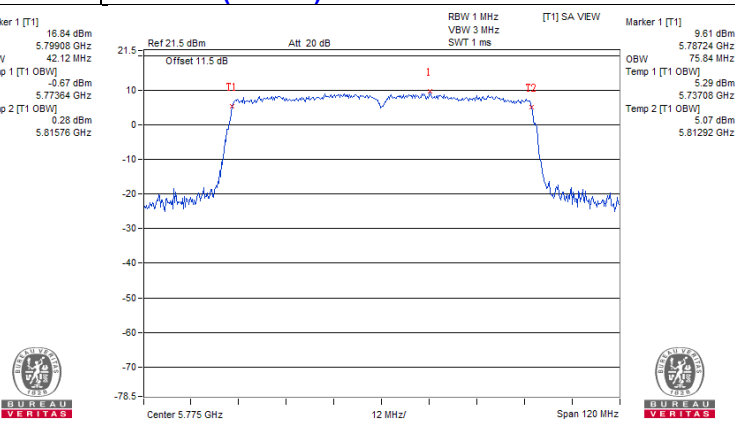
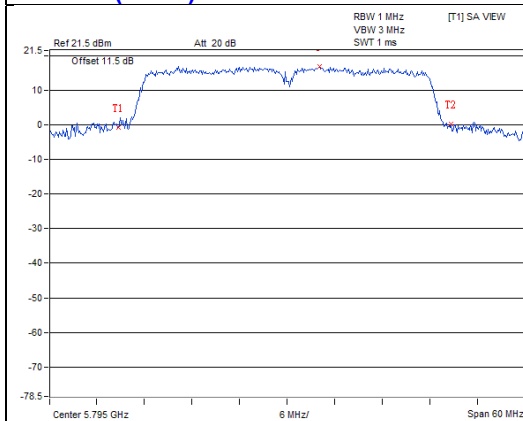
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

Test Mode A:

Operation Band	EUT Category		LIMIT
U-NII-1	---	Outdoor Access Point	17dBm/ MHz
	---	Fixed point-to-point Access Point	
	---	Indoor Access Point	
	---	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	---		11dBm/ MHz
U-NII-2C	---		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

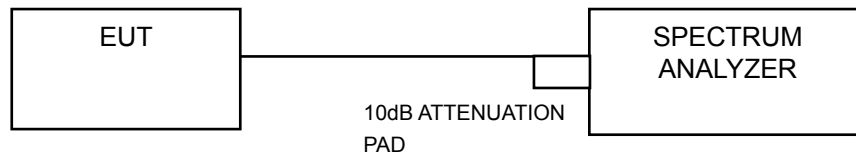
Test Mode B, C: Outdoor Access Point mode

Operation Band	EUT Category		LIMIT
U-NII-1	√	Outdoor Access Point	17dBm/ MHz
	---	Fixed point-to-point Access Point	
	---	Indoor Access Point	
	---	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	---		11dBm/ MHz
U-NII-2C	---		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

Test Mode B, C: Indoor Access Point mode

Operation Band	EUT Category		LIMIT
U-NII-1	---	Outdoor Access Point	17dBm/ MHz
	---	Fixed point-to-point Access Point	
	√	Indoor Access Point	
	---	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	---		11dBm/ MHz
U-NII-2C	---		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

For U-NII-1 band:

Duty cycle of test signal is $\geq 98\%$

Using method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 30 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3. Set Channel power measure = 1MHz
4. Sweep time = auto, trigger set to "free run".
5. Trace average at least 100 traces in power averaging mode.
6. Record the max value

Duty cycle of test signal is $< 98\%$

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 30 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3. Set Channel power measure = 1MHz
4. Sweep time = auto, trigger set to "free run".
5. Trace average at least 100 traces in power averaging mode.
6. Record the max value and add $10 \log (1/\text{duty cycle})$

For U-NII-3 band:

Duty cycle of test signal is $\geq 98\%$

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $\text{BWCF} = 10 \log(500 \text{ kHz}/300 \text{ kHz})$
5. Sweep time = auto, trigger set to "free run".
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value

Duty cycle of test signal is $< 98\%$

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $\text{BWCF} = 10 \log(500 \text{ kHz}/300 \text{ kHz})$
5. Sweep time = auto, trigger set to "free run".
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value and add $10 \log (1/\text{duty cycle})$

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

Test Mode A:

For U-NII-3 Band

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-4.16	-1.94	3.01	0.10	1.17	16.95	Pass
	157	5785	-3.95	-1.73	3.01	0.10	1.38	16.95	Pass
	165	5825	-4.06	-1.84	3.01	0.10	1.27	16.95	Pass
1	149	5745	-4.48	-2.26	3.01	0.10	0.85	16.95	Pass
	157	5785	-4.26	-2.04	3.01	0.10	1.07	16.95	Pass
	165	5825	-4.35	-2.13	3.01	0.10	0.98	16.95	Pass

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = 19dBi+Cable loss(-2.96) + 10log(2)=19.05dBi > 6dBi, so the power density limit shall be reduced to 30-(19.05-6) = 16.95dBm.

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-4.64	-2.42	3.01	0.68	16.95	Pass
	157	5785	-4.33	-2.11	3.01	0.99	16.95	Pass
	165	5825	-4.59	-2.37	3.01	0.73	16.95	Pass
1	149	5745	-5.00	-2.78	3.01	0.32	16.95	Pass
	157	5785	-5.03	-2.81	3.01	0.29	16.95	Pass
	165	5825	-4.93	-2.71	3.01	0.39	16.95	Pass

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = 19dBi+Cable loss(-2.96) + 10log(2)=19.05dBi > 6dBi, so the power density limit shall be reduced to 30-(19.05-6) = 16.95dBm.

802.11n (HT40)

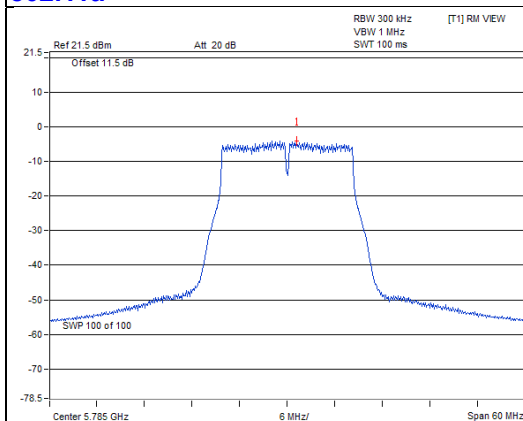
TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	151	5755	-7.35	-5.13	3.01	0.11	-2.01	16.95	Pass
	159	5795	-7.35	-5.13	3.01	0.11	-2.01	16.95	Pass
1	151	5755	-7.88	-5.66	3.01	0.11	-2.54	16.95	Pass
	159	5795	-7.79	-5.57	3.01	0.11	-2.45	16.95	Pass

NOTE:

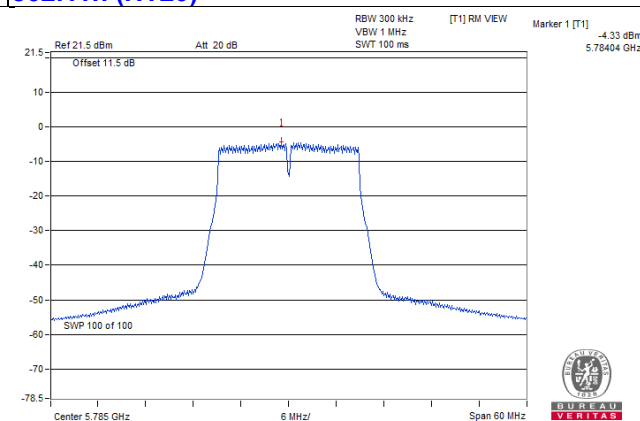
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = 19dBi+Cable loss(-2.96) + 10log(2)=19.05dBi > 6dBi, so the power density limit shall be reduced to 30-(19.05-6) = 16.95dBm.
- Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

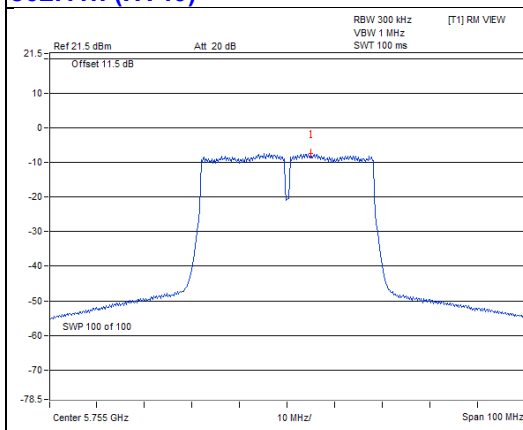
802.11a



802.11n (HT20)



802.11n (HT40)



Test Mode B:

For U-NII-1 Band (Outdoor Access Point Mode)

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	1.31	1.79	4.57	6.95	Pass
40	5200	-0.70	-0.21	2.56	6.95	Pass
48	5240	1.23	1.64	4.45	6.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 17-(16.05-6) = 6.95dBm.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	1.13	1.24	4.20	0.09	4.29	6.95	Pass
40	5200	-1.42	-1.07	1.77	0.09	1.86	6.95	Pass
48	5240	0.98	1.14	4.07	0.09	4.16	6.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 17-(16.05-6) = 6.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-2.56	-2.14	0.67	0.11	0.78	6.95	Pass
46	5230	-2.07	-1.77	1.10	0.11	1.21	6.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 17-(16.05-6) = 6.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-14.48	-13.79	-11.11	0.35	-10.76	6.95	Pass

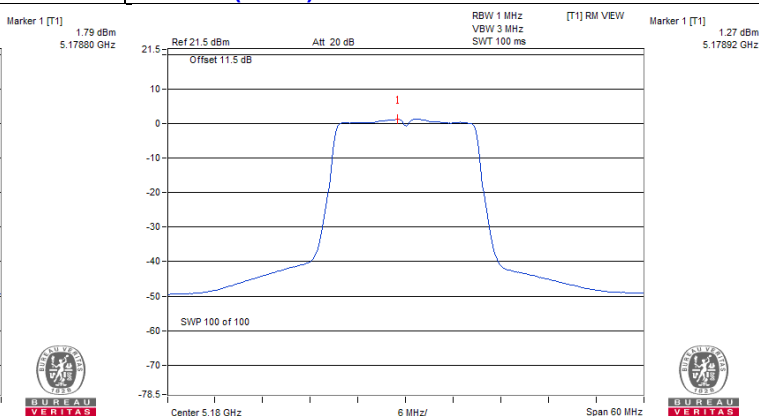
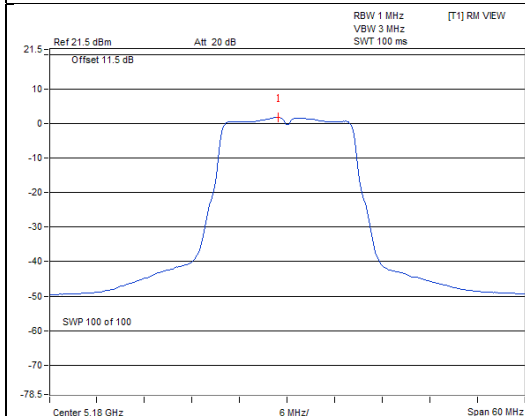
NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 17-(16.05-6) = 6.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

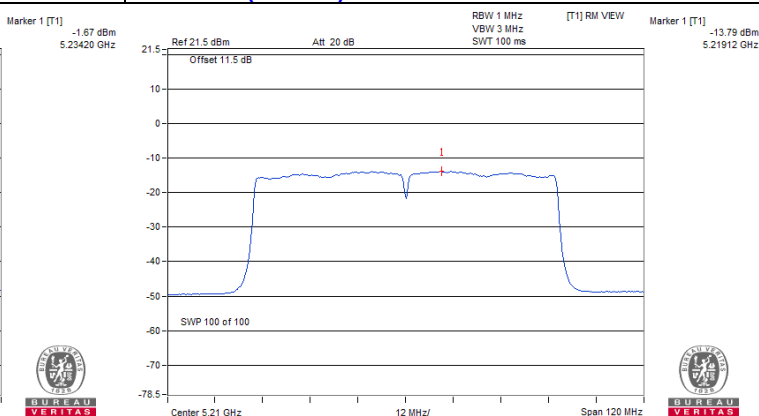
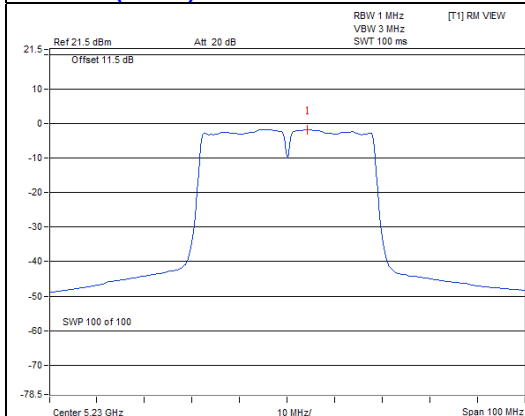
802.11a / CH 36 / Chain 1

802.11n (HT20) / CH 36 / Chain 1



802.11n (HT40) / CH 46 / Chain 1

802.11ac (VHT80) / CH 42 / Chain 1



Test Mode B:

For U-NII-1 Band (Indoor Access Point Mode)

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	1.94	2.26	5.11	6.95	Pass
40	5200	-0.66	-0.05	2.67	6.95	Pass
48	5240	3.39	3.70	6.56	6.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 17-(16.05-6) = 6.95dBm.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	1.67	1.92	4.81	6.95	Pass
40	5200	-1.27	-1.08	1.84	6.95	Pass
48	5240	3.04	3.13	6.10	6.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 17-(16.05-6) = 6.95dBm.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-2.45	-1.97	0.81	0.12	0.93	6.95	Pass
46	5230	-0.92	-0.82	2.14	0.12	2.26	6.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 17-(16.05-6) = 6.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-14.68	-13.83	-11.23	0.35	-10.88	6.95	Pass

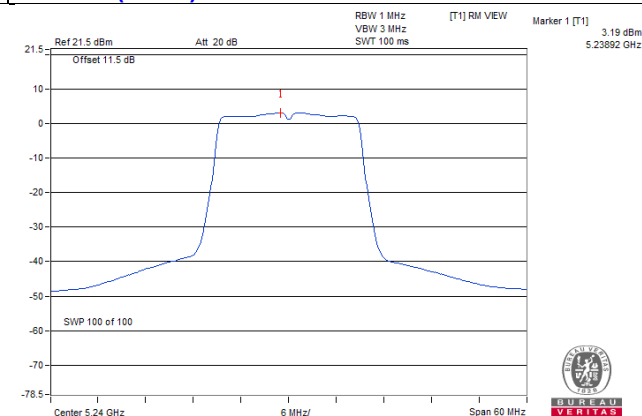
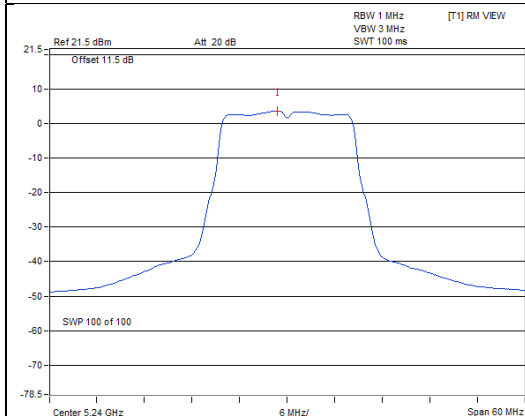
NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 17-(16.05-6) = 6.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

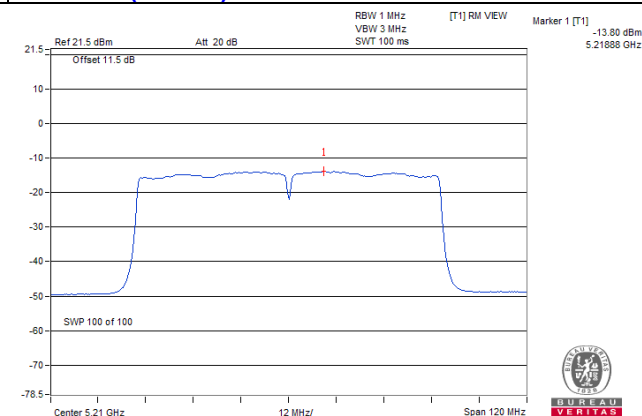
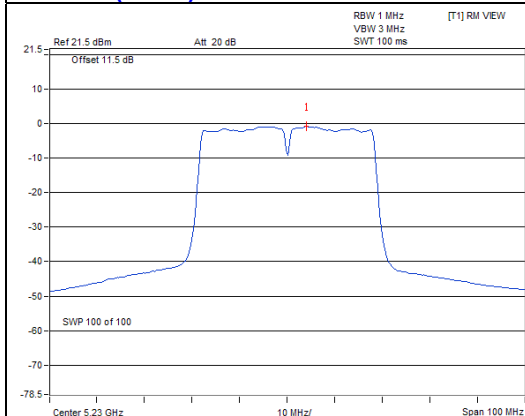
802.11a / CH 48 / Chain 1

802.11n (HT20) / CH 48 / Chain 1



802.11n (HT40) / CH 46 / Chain 1

802.11ac (VHT80) / CH 42 / Chain 1



Test Mode B:
For U-NII-3 Band

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-0.81	1.41	3.01	4.42	19.95	Pass
	157	5785	-0.70	1.52	3.01	4.53	19.95	Pass
	165	5825	-0.83	1.39	3.01	4.40	19.95	Pass
1	149	5745	-1.00	1.22	3.01	4.23	19.95	Pass
	157	5785	-1.00	1.22	3.01	4.23	19.95	Pass
	165	5825	-0.89	1.33	3.01	4.34	19.95	Pass

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 30-(16.05-6) = 19.95dBm.

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-1.07	1.15	3.01	4.16	19.95	Pass
	157	5785	-1.11	1.11	3.01	4.12	19.95	Pass
	165	5825	-1.44	0.78	3.01	3.79	19.95	Pass
1	149	5745	-1.52	0.70	3.01	3.71	19.95	Pass
	157	5785	-1.24	0.98	3.01	3.99	19.95	Pass
	165	5825	-1.32	0.90	3.01	3.91	19.95	Pass

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 30-(16.05-6) = 19.95dBm.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	151	5755	-4.16	-1.94	3.01	0.12	1.19	19.95	Pass
	159	5795	-4.28	-2.06	3.01	0.12	1.07	19.95	Pass
1	151	5755	-4.40	-2.18	3.01	0.12	0.95	19.95	Pass
	159	5795	-4.38	-2.16	3.01	0.12	0.97	19.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 30-(16.05-6) = 19.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	155	5775	-10.01	-7.79	3.01	0.35	-4.43	19.95	Pass
1	155	5775	-9.83	-7.61	3.01	0.35	-4.25	19.95	Pass

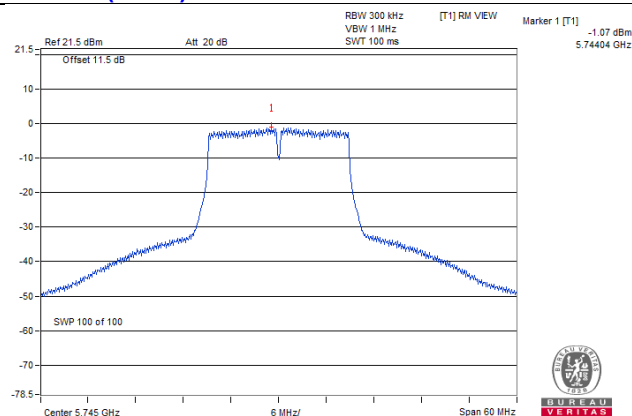
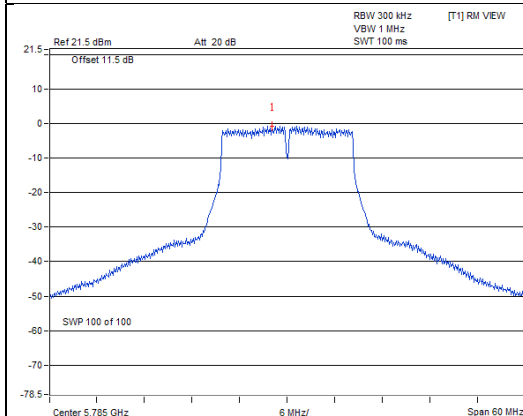
NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 16dBi+Cable loss(-2.96)+10log(2)=16.05dBi > 6dBi, so the power density limit shall be reduced to 30-(16.05-6) = 19.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

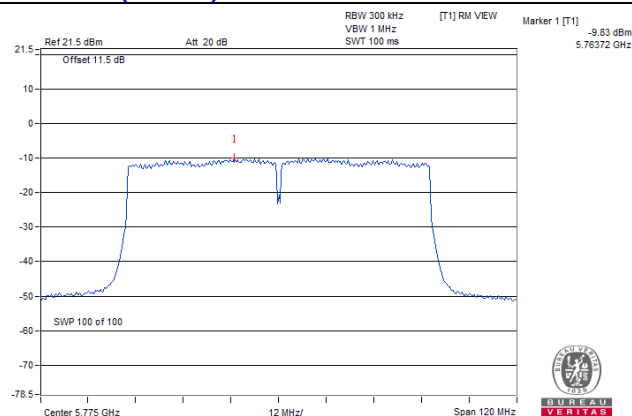
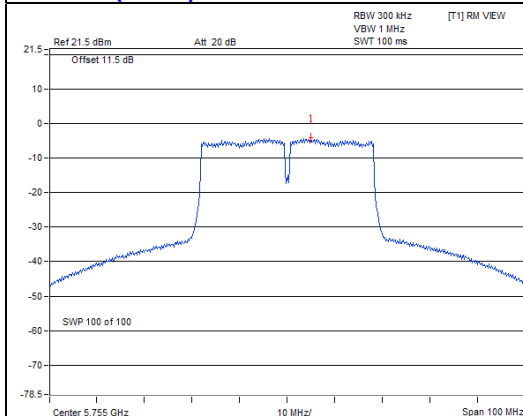
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



Test Mode C:

For U-NII-1 Band (Outdoor Access Point Mode)

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	-2.19	-1.70	1.07	12.95	Pass
40	5200	-2.39	-1.44	1.12	12.95	Pass
48	5240	-2.13	-1.76	1.07	12.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 17-(10.05-6) = 12.95dBm.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	-2.27	-2.07	0.84	12.95	Pass
40	5200	-2.46	-1.94	0.82	12.95	Pass
48	5240	-2.16	-2.14	0.86	12.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 17-(10.05-6) = 12.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-5.47	-5.23	-2.34	0.11	-2.23	12.95	Pass
46	5230	-5.41	-5.15	-2.27	0.11	-2.16	12.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 17-(10.05-6) = 12.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

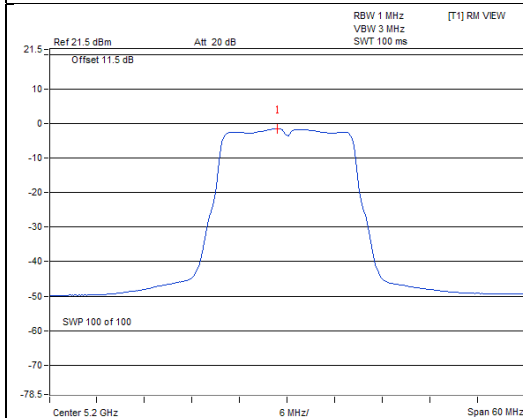
Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-8.79	-8.36	-5.65	0.29	-5.36	12.95	Pass

NOTE:

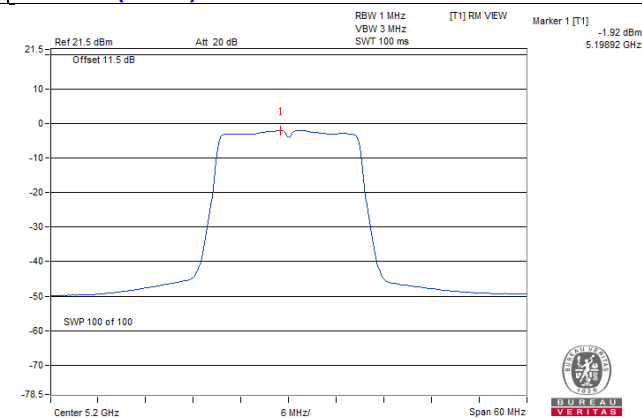
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 17-(10.05-6) = 12.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

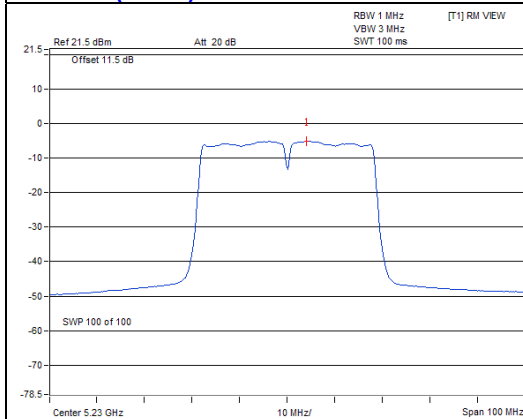
802.11a / CH 40 / Chain 1



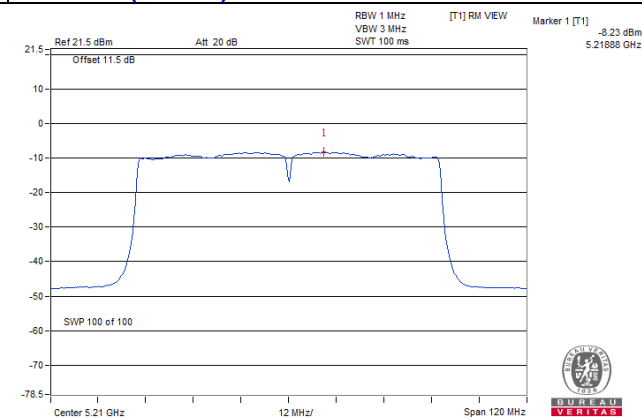
802.11n (HT20) / CH 40 / Chain 1



802.11n (HT40) / CH 46 / Chain 1



802.11ac (VHT80) / CH 42 / Chain 1



Test Mode C:

For U-NII-1 Band (Indoor Access Point Mode)

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	4.61	5.17	7.91	12.95	Pass
40	5200	3.06	3.30	6.19	12.95	Pass
48	5240	8.16	8.40	11.29	12.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 17-(10.05-6) = 12.95dBm.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	5.18	5.27	8.23	0.10	8.33	12.95	12.95
40	5200	2.70	2.93	5.82	0.10	5.92	12.95	12.95
48	5240	3.04	3.13	6.09	0.10	6.19	12.95	12.95

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 17-(10.05-6) = 12.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-0.24	-0.32	2.73	0.11	2.84	12.95	Pass
46	5230	1.29	1.12	4.22	0.11	4.33	12.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 17-(10.05-6) = 12.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-5.87	-5.18	-2.51	0.31	-2.20	12.95	Pass

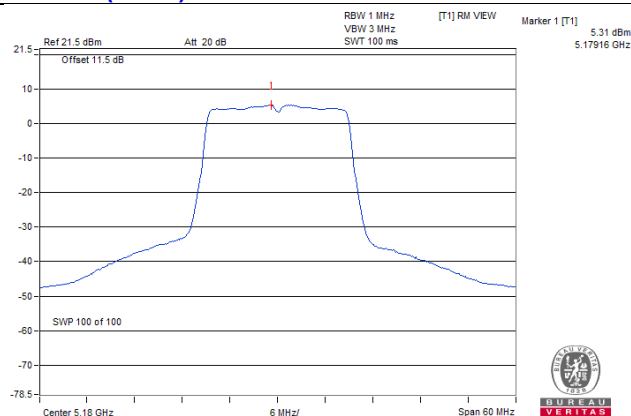
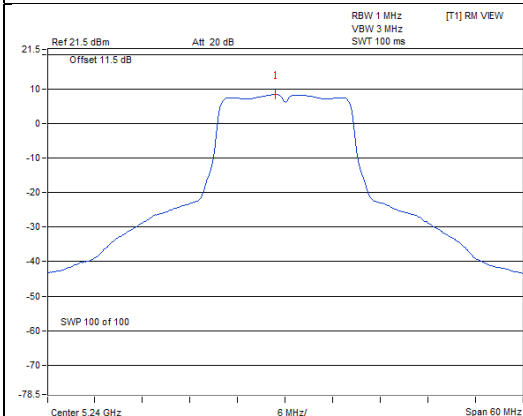
NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 17-(10.05-6) = 12.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

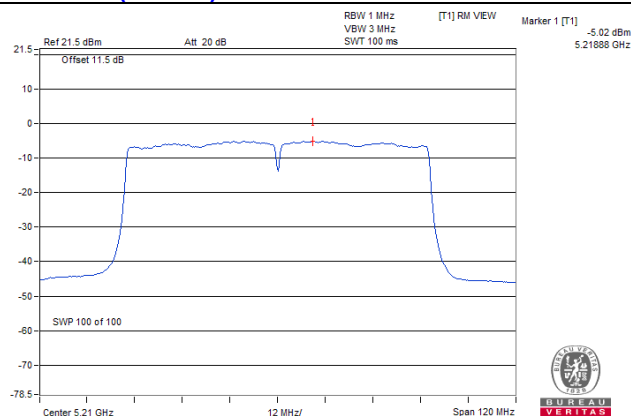
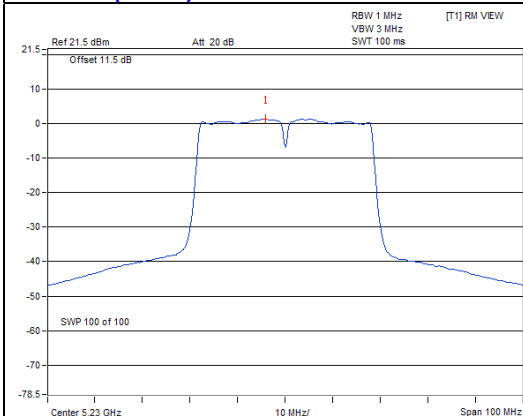
802.11a / CH 48 / Chain 1

802.11n (HT20) / CH 36 / Chain 1



802.11n (HT40) / CH 46 / Chain 0

802.11ac (VHT80) / CH 42 / Chain 1



Test Mode C:
For U-NII-3 Band
802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	2.80	5.02	3.01	8.03	25.95	Pass
	157	5785	3.43	5.65	3.01	8.66	25.95	Pass
	165	5825	3.19	5.41	3.01	8.42	25.95	Pass
1	149	5745	2.85	5.07	3.01	8.08	25.95	Pass
	157	5785	4.21	6.43	3.01	9.44	25.95	Pass
	165	5825	4.06	6.28	3.01	9.29	25.95	Pass

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 30-(10.05-6) = 25.95dBm.

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	3.10	5.32	3.01	0.10	8.43	25.95	Pass
	157	5785	3.16	5.38	3.01	0.10	8.49	25.95	Pass
	165	5825	2.75	4.97	3.01	0.10	8.08	25.95	Pass
1	149	5745	3.60	5.82	3.01	0.10	8.93	25.95	Pass
	157	5785	0.80	3.02	3.01	0.10	6.13	25.95	Pass
	165	5825	3.28	5.50	3.01	0.10	8.61	25.95	Pass

NOTE:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 30-(10.05-6) = 25.95dBm.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	151	5755	-3.66	-1.44	3.01	0.11	1.68	25.95	Pass
	159	5795	-1.67	0.55	3.01	0.11	3.67	25.95	Pass
1	151	5755	-3.95	-1.73	3.01	0.11	1.39	25.95	Pass
	159	5795	-1.81	0.41	3.01	0.11	3.53	25.95	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 30-(10.05-6) = 25.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	155	5775	-9.46	-7.24	3.01	0.31	-3.92	25.95	Pass
1	155	5775	-9.31	-7.09	3.01	0.31	-3.77	25.95	Pass

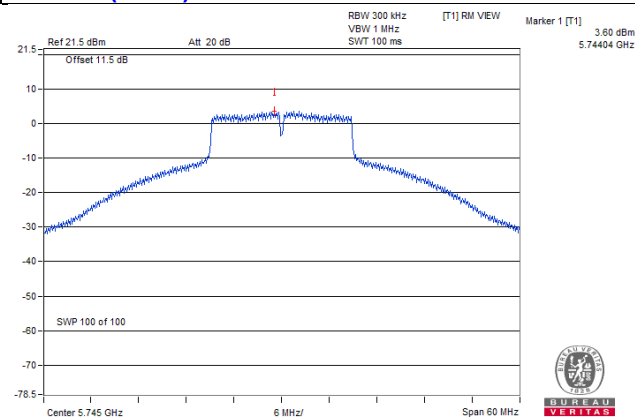
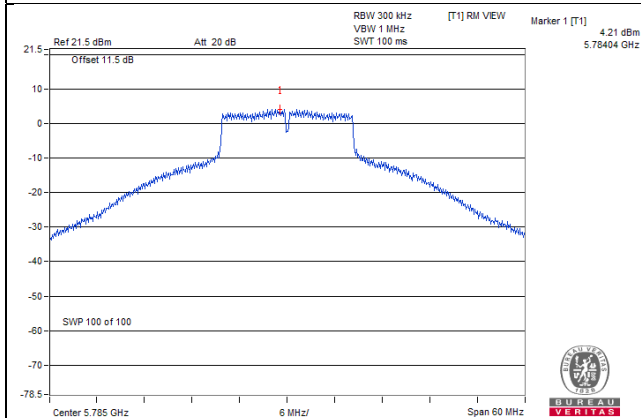
NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi+Cable loss(-2.96)+10log(2)=10.05dBi > 6dBi, so the power density limit shall be reduced to 30-(10.05-6) = 25.95dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

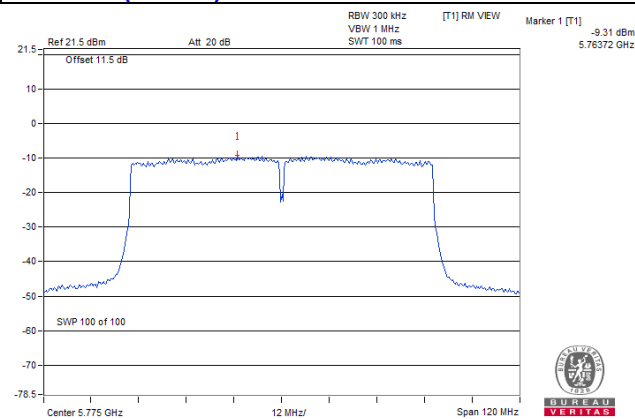
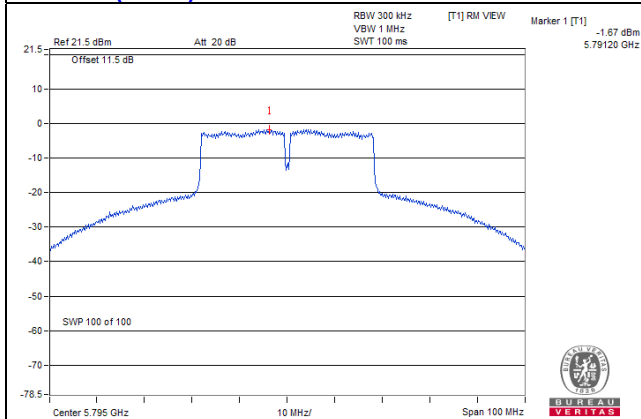
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)

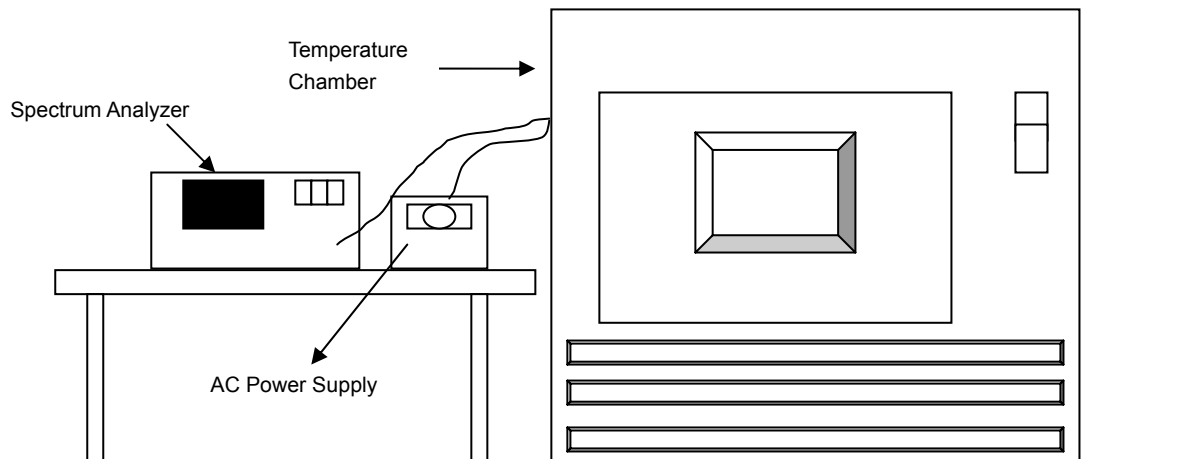


4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.7 Test Results

Test Mode A:

Frequency Stability Versus Temp.									
Operating Frequency: 5745MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5745.0229	0.00040	5745.0225	0.00039	5745.0188	0.00033	5745.0230	0.00040
40	120	5745.0132	0.00023	5745.0077	0.00013	5745.0100	0.00017	5745.0082	0.00014
30	120	5744.9779	-0.00038	5744.9780	-0.00038	5744.9737	-0.00046	5744.9735	-0.00046
20	120	5744.9735	-0.00046	5744.9736	-0.00046	5744.9710	-0.00050	5744.9741	-0.00045
10	120	5745.0154	0.00027	5745.0124	0.00022	5745.0168	0.00029	5745.0131	0.00023
0	120	5745.0038	0.00007	5745.0069	0.00012	5745.0052	0.00009	5745.0074	0.00013
-10	120	5745.0180	0.00031	5745.0218	0.00038	5745.0215	0.00037	5745.0222	0.00039
-20	120	5744.9951	-0.00009	5744.9958	-0.00007	5744.9968	-0.00006	5744.9951	-0.00009
-30	120	5744.9691	-0.00054	5744.9720	-0.00049	5744.9721	-0.00049	5744.9698	-0.00053

Frequency Stability Versus Voltage									
Operating Frequency: 5745MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5744.9744	-0.00045	5744.9742	-0.00045	5744.9705	-0.00051	5744.9745	-0.00044
	120	5744.9735	-0.00046	5744.9736	-0.00046	5744.9710	-0.00050	5744.9741	-0.00045
	102	5744.9730	-0.00047	5744.9731	-0.00047	5744.9708	-0.00051	5744.9732	-0.00047

Test Mode B:

Frequency Stability Versus Temp.									
Operating Frequency: 5745MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5745.0214	0.00037	5745.0234	0.00041	5745.0213	0.00037	5745.0202	0.00035
40	120	5745.0155	0.00027	5745.0162	0.00028	5745.0149	0.00026	5745.016	0.00028
30	120	5744.9976	-0.00004	5744.9991	-0.00002	5744.9979	-0.00004	5744.9984	-0.00003
20	120	5745.0000	0.00000	5745.0033	0.00006	5745.0032	0.00006	5744.9998	0.00000
10	120	5745.0075	0.00013	5745.0060	0.00010	5745.0099	0.00017	5745.0098	0.00017
0	120	5745.0152	0.00026	5745.0121	0.00021	5745.0115	0.00020	5745.0139	0.00024
-10	120	5744.9764	-0.00041	5744.9764	-0.00041	5744.9794	-0.00036	5744.9792	-0.00036
-20	120	5745.0018	0.00003	5745.0017	0.00003	5745.0048	0.00008	5745.0012	0.00002
-30	120	5745.0101	0.00018	5745.0061	0.00011	5745.0083	0.00014	5745.0065	0.00011

Frequency Stability Versus Voltage									
Operating Frequency: 5745MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5745.0004	0.00001	5745.0041	0.00007	5745.0042	0.00007	5745.0000	0.00000
	120	5745.0000	0.00000	5745.0033	0.00006	5745.0032	0.00006	5744.9998	0.00000
	102	5745.0006	0.00001	5745.0028	0.00005	5745.0023	0.00004	5745.0007	0.00001

Test Mode C:

Frequency Stability Versus Temp.									
Operating Frequency: 5745MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5744.9753	-0.00043	5744.9736	-0.00046	5744.9754	-0.00043	5744.9751	-0.00043
40	120	5745.0069	0.00012	5745.0070	0.00012	5745.0042	0.00007	5745.0051	0.00009
30	120	5745.0162	0.00028	5745.0182	0.00032	5745.0129	0.00022	5745.0133	0.00023
20	120	5745.0225	0.00039	5745.0193	0.00034	5745.0242	0.00042	5745.0240	0.00042
10	120	5745.0060	0.00010	5745.0082	0.00014	5745.0100	0.00017	5745.0090	0.00016
0	120	5744.9920	-0.00014	5744.9923	-0.00013	5744.9935	-0.00011	5744.9918	-0.00014
-10	120	5745.0191	0.00033	5745.0177	0.00031	5745.0203	0.00035	5745.0156	0.00027
-20	120	5745.0201	0.00035	5745.0220	0.00038	5745.0229	0.00040	5745.0231	0.00040
-30	120	5745.0021	0.00004	5745.0028	0.00005	5745.0052	0.00009	5745.0023	0.00004

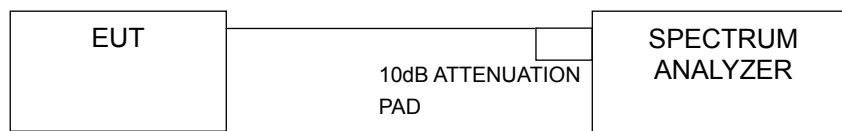
Frequency Stability Versus Voltage									
Operating Frequency: 5745MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5745.0216	0.00038	5745.0201	0.00035	5745.0242	0.00042	5745.0231	0.00040
	120	5745.0225	0.00039	5745.0193	0.00034	5745.0242	0.00042	5745.0240	0.00042
	102	5745.0231	0.00040	5745.0197	0.00034	5745.0246	0.00043	5745.0231	0.00040

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission Condition continuously at lowest, middle and highest channel frequencies individually.

4.7.7 Test Results

Test Mode A:

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.40	16.41	0.5	Pass
157	5785	16.42	16.44	0.5	Pass
165	5825	16.42	16.42	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.65	17.68	0.5	Pass
157	5785	17.67	17.68	0.5	Pass
165	5825	17.66	17.67	0.5	Pass

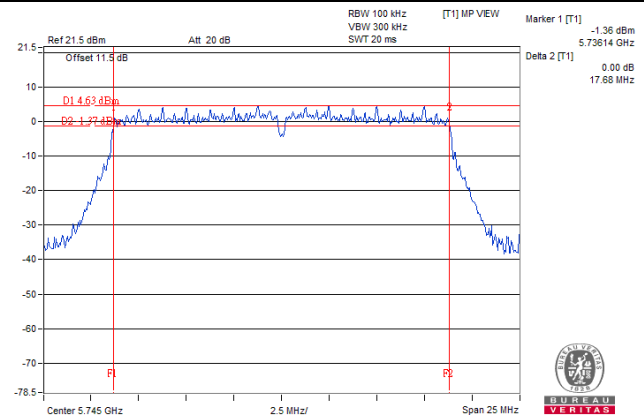
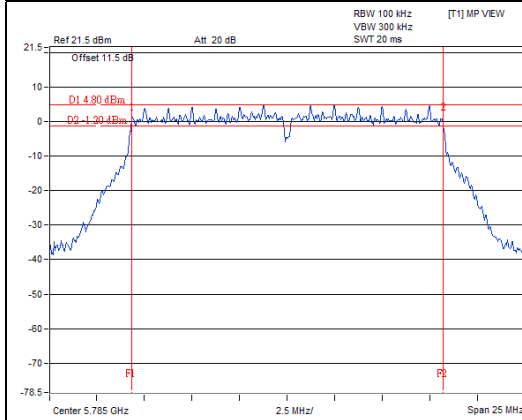
802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.45	36.47	0.5	Pass
159	5795	36.43	36.46	0.5	Pass

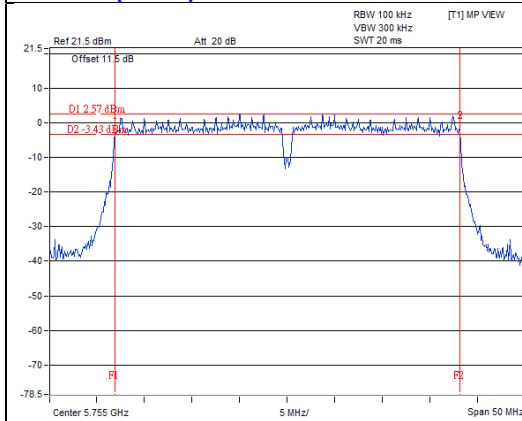
SPECTRUM PLOT OF WORST VALUE

802.11a

802.11n (HT20)



802.11n (HT40)



Test Mode B:

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.38	16.41	0.5	Pass
157	5785	16.41	16.43	0.5	Pass
165	5825	16.41	16.42	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.63	17.68	0.5	Pass
157	5785	17.65	17.67	0.5	Pass
165	5825	17.64	17.66	0.5	Pass

802.11n (HT40)

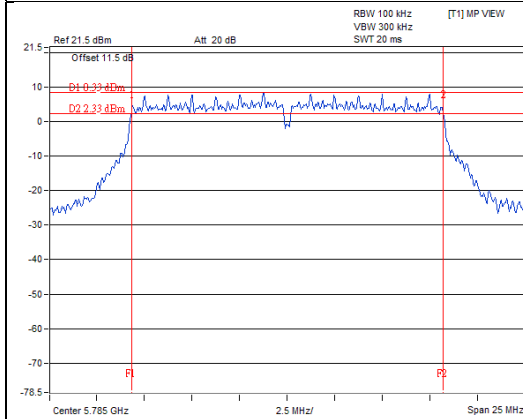
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.43	36.45	0.5	Pass
159	5795	36.43	36.47	0.5	Pass

802.11ac (VHT80)

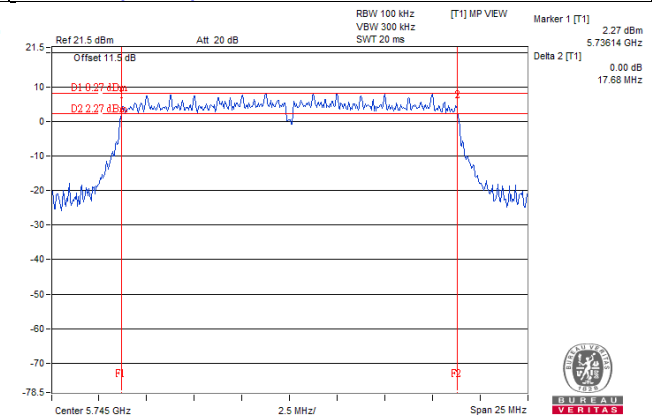
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.66	76.45	0.5	Pass

SPECTRUM PLOT OF WORST VALUE

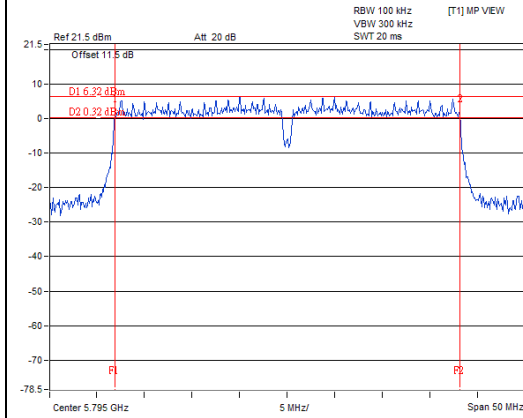
802.11a



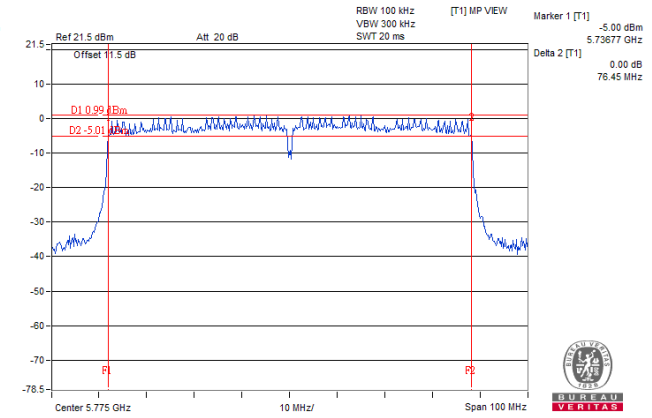
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode C:

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.37	16.39	0.5	Pass
157	5785	16.41	16.41	0.5	Pass
165	5825	16.42	16.41	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.66	17.62	0.5	Pass
157	5785	17.61	17.63	0.5	Pass
165	5825	17.62	17.67	0.5	Pass

802.11n (HT40)

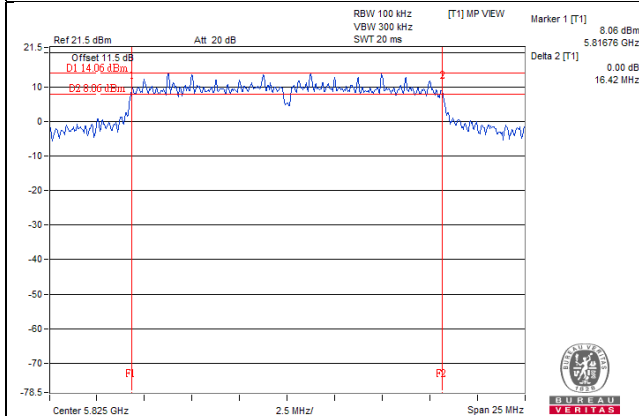
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.46	36.47	0.5	Pass
159	5795	36.42	36.47	0.5	Pass

802.11ac (VHT80)

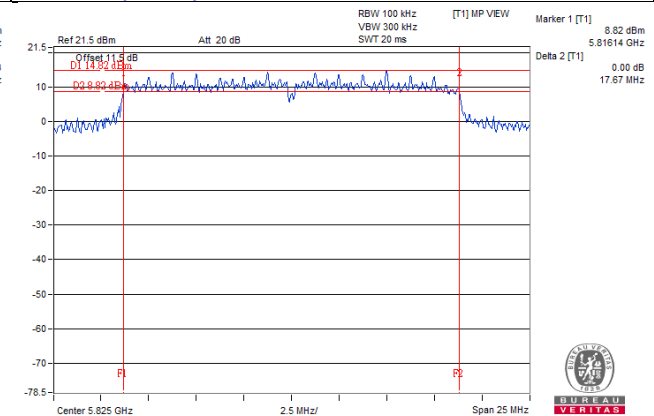
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.91	76.46	0.5	Pass

SPECTRUM PLOT OF WORST VALUE

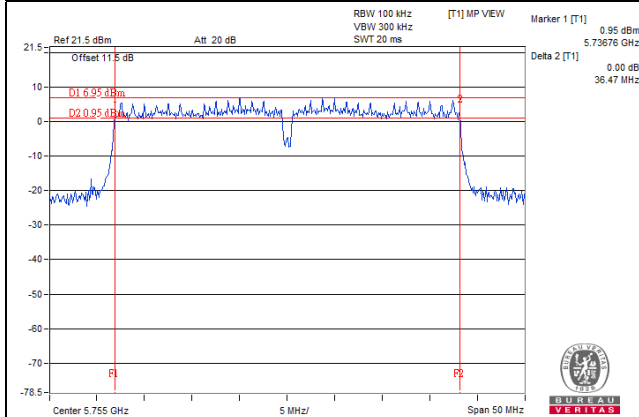
802.11a



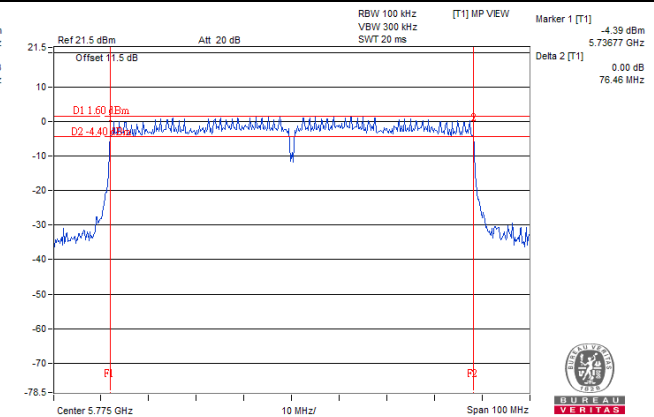
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

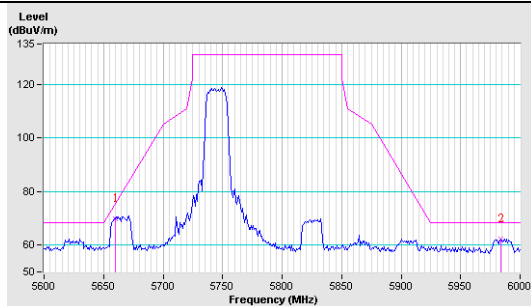
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

Test Mode A:

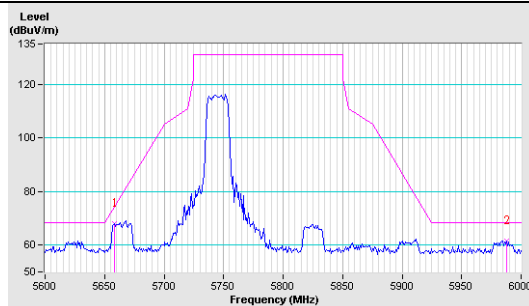
802.11a

CH149

Horizontal

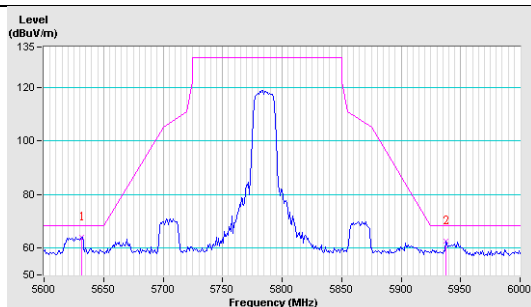


Vertical

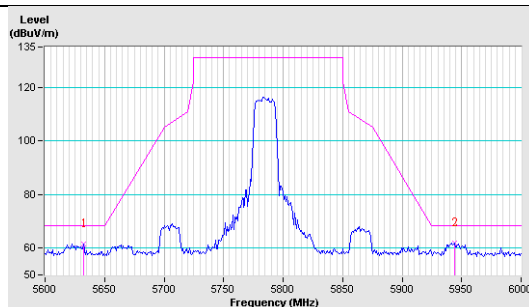


CH157

Horizontal

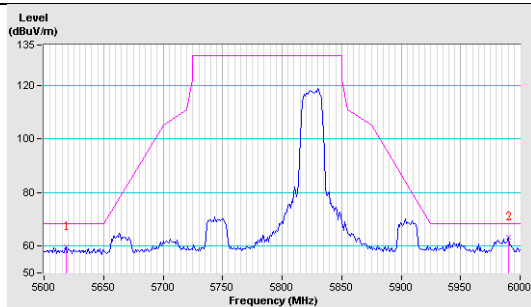


Vertical

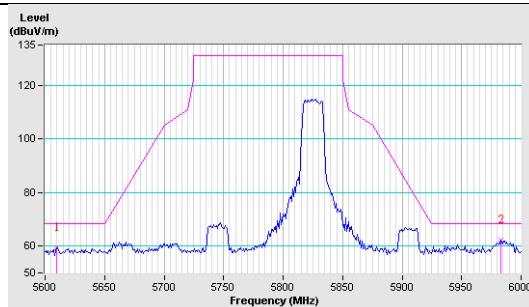


CH165

Horizontal



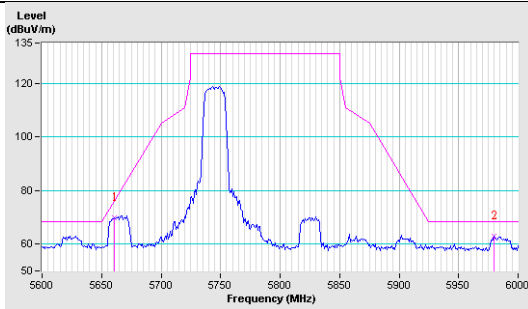
Vertical



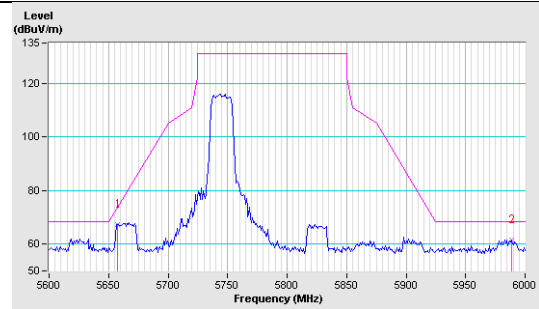
802.11n (HT20)

CH149

Horizontal

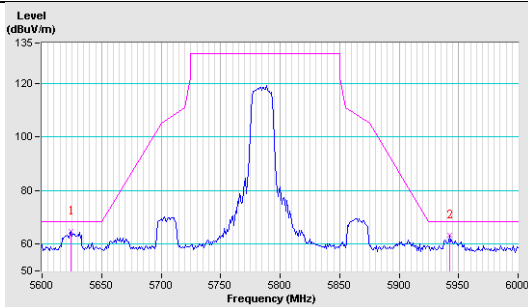


Vertical

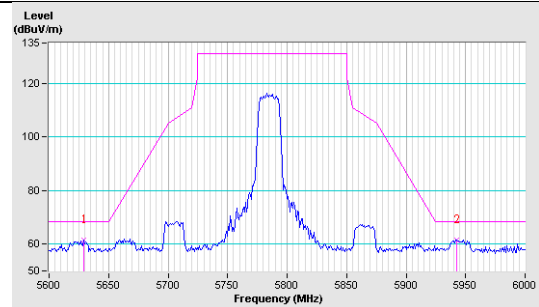


CH157

Horizontal

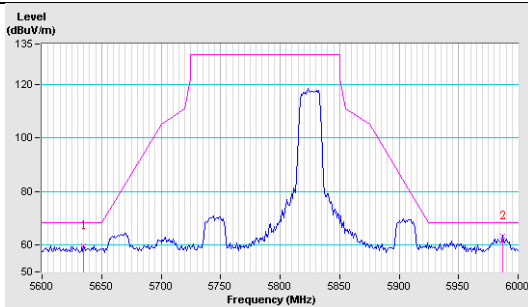


Vertical

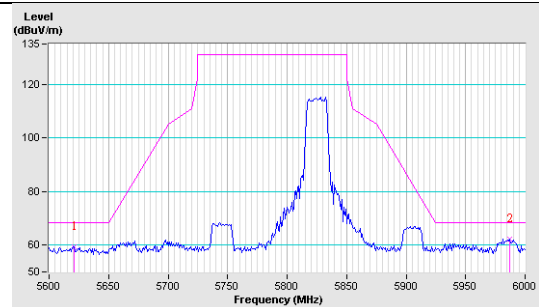


CH165

Horizontal



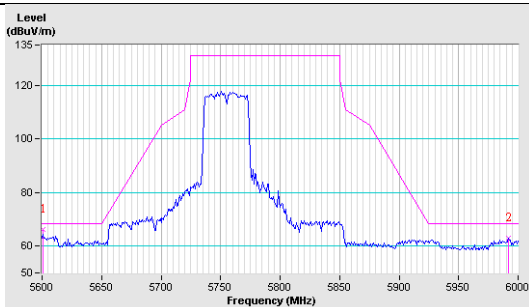
Vertical



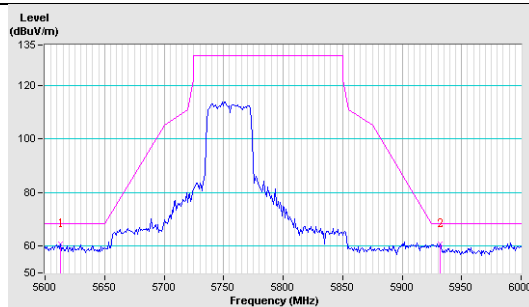
802.11n (HT40)

CH151

Horizontal

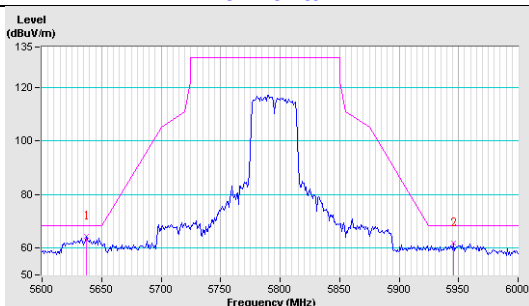


Vertical

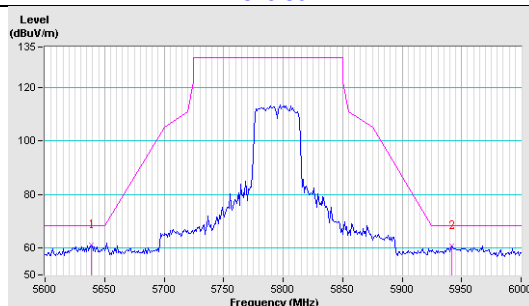


CH159

Horizontal

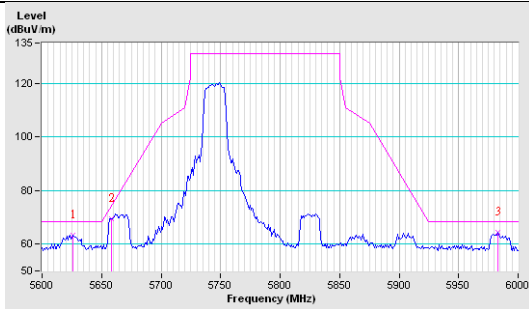


Vertical

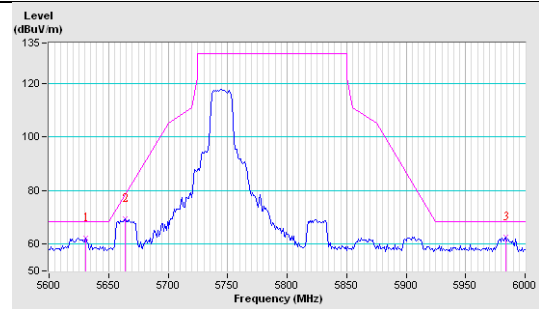


Test Mode B:
802.11a
CH149

Horizontal

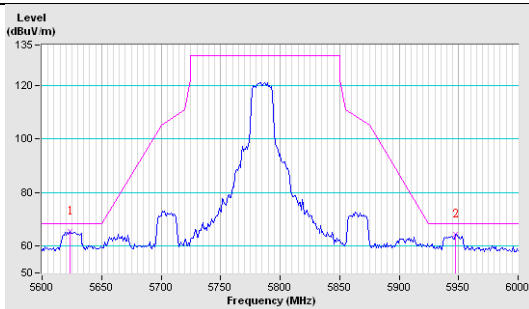


Vertical

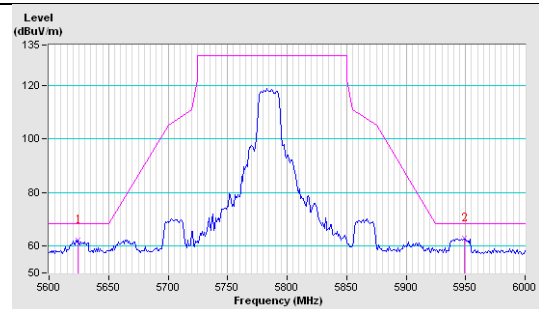


CH157

Horizontal

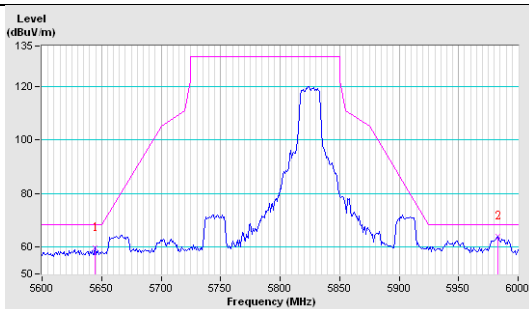


Vertical

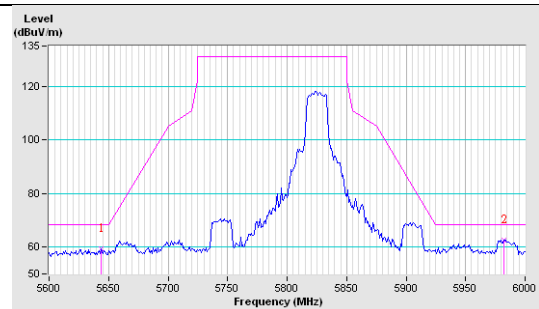


CH165

Horizontal



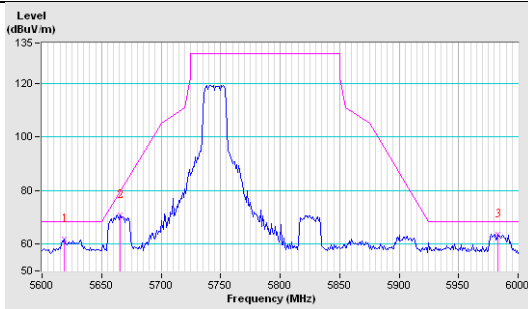
Vertical



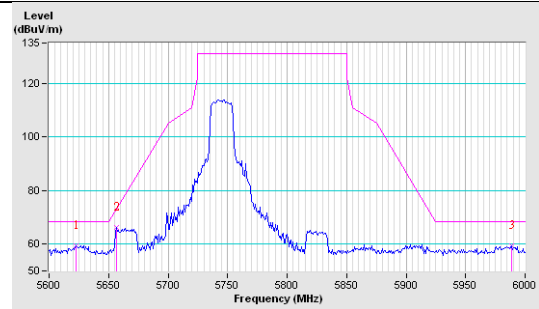
802.11n (HT20)

CH149

Horizontal

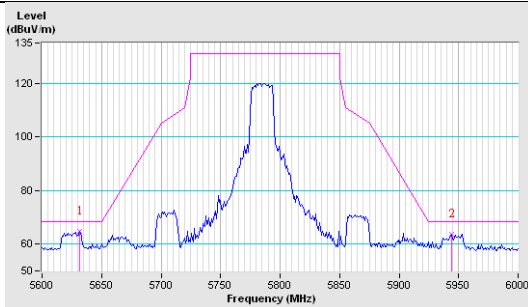


Vertical

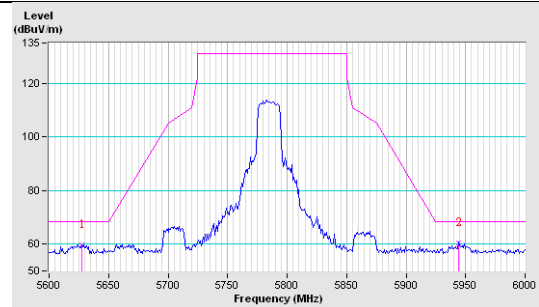


CH157

Horizontal

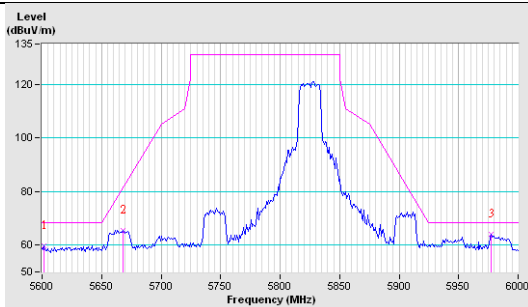


Vertical

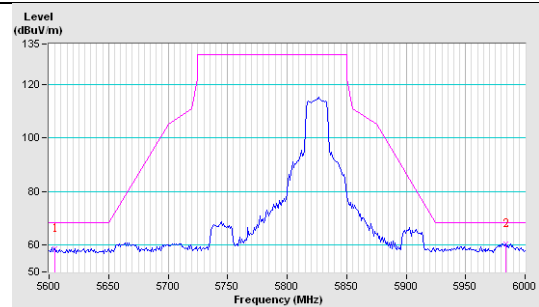


CH165

Horizontal



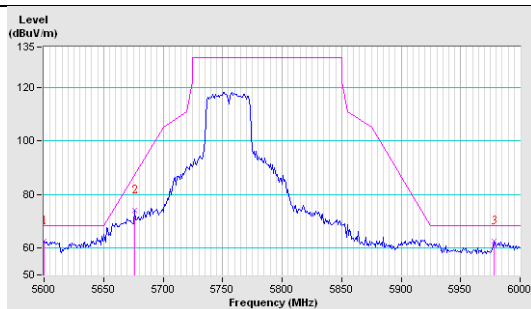
Vertical



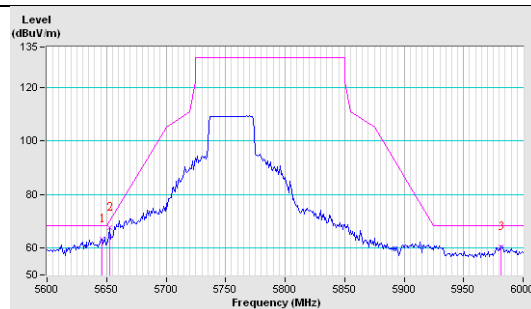
802.11n (HT40)

CH151

Horizontal

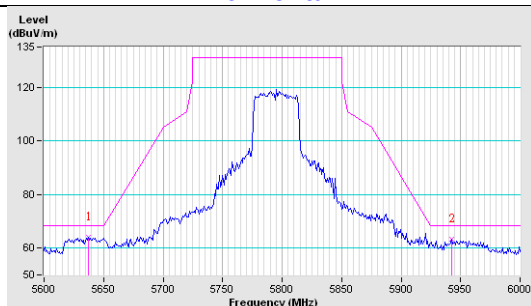


Vertical

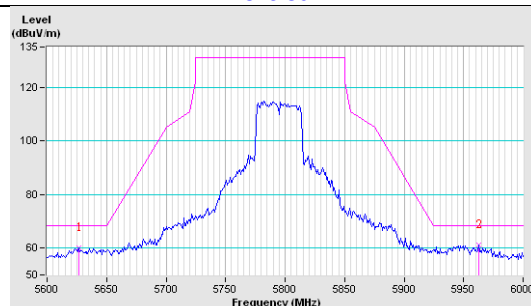


CH159

Horizontal



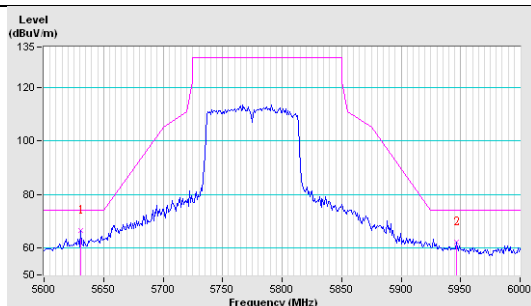
Vertical



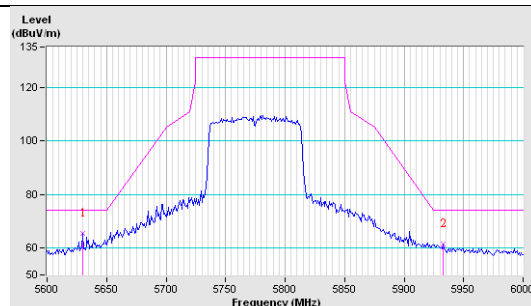
802.11ac (VHT80)

CH155

Horizontal

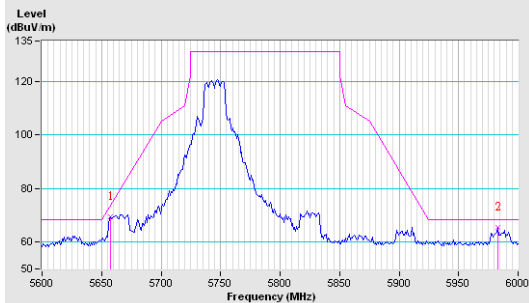


Vertical

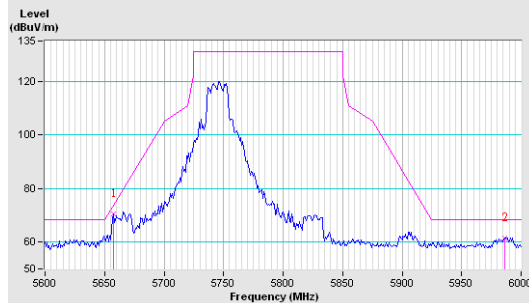


Test Mode C:
802.11a
CH149

Horizontal

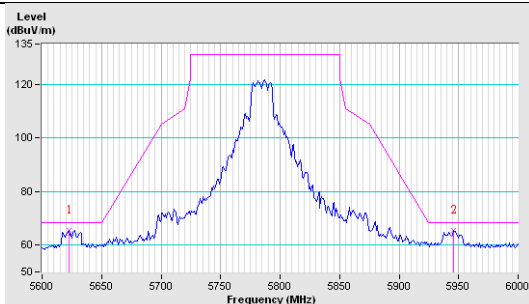


Vertical

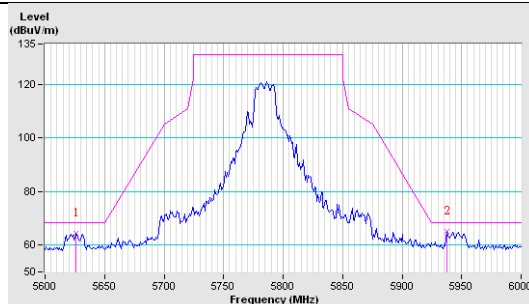


CH157

Horizontal

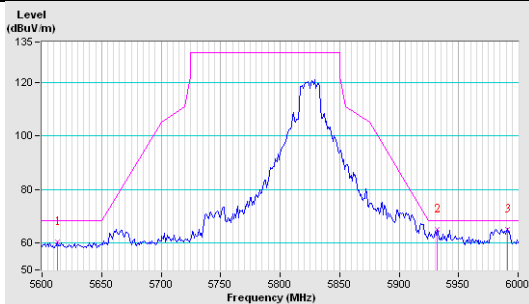


Vertical

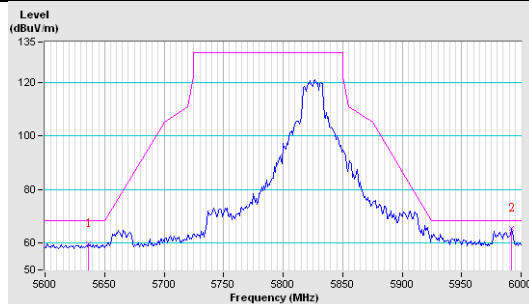


CH165

Horizontal



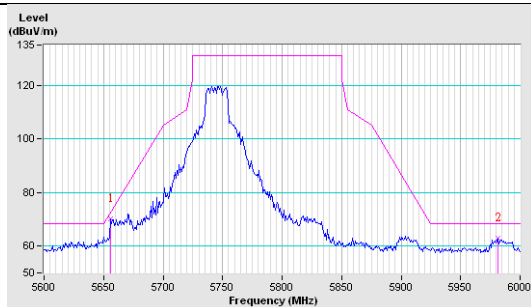
Vertical



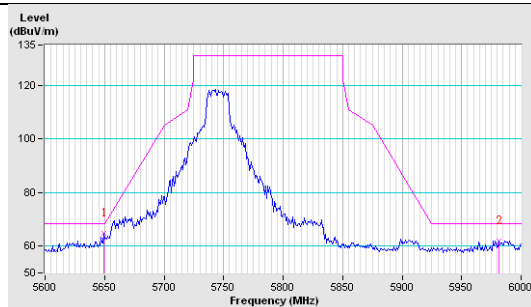
802.11n (HT20)

CH149

Horizontal

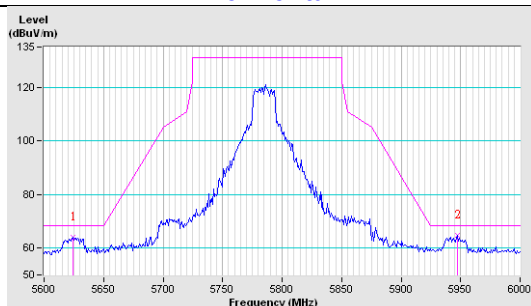


Vertical

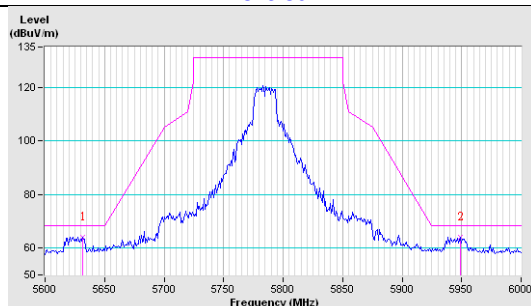


CH157

Horizontal

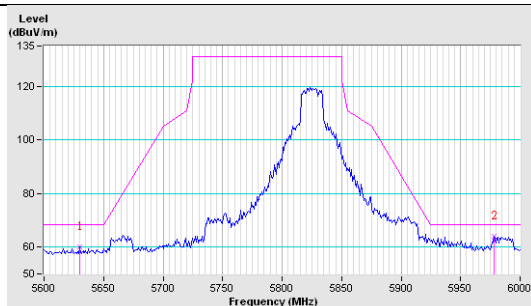


Vertical

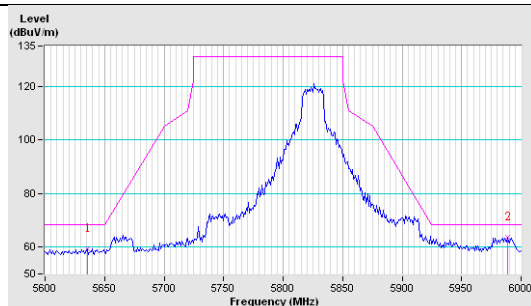


CH165

Horizontal



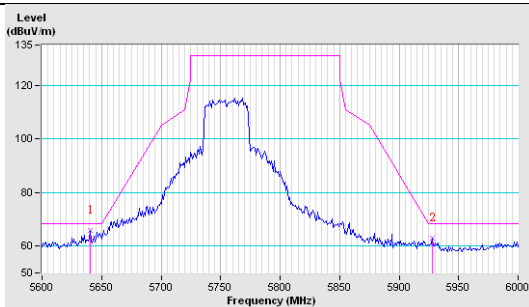
Vertical



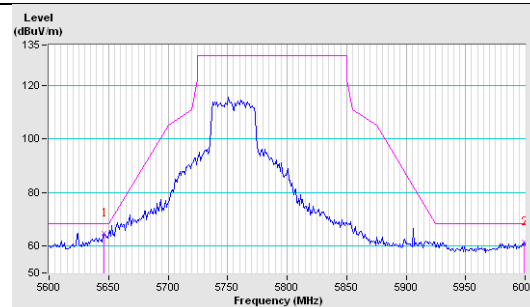
802.11n (HT40)

CH151

Horizontal

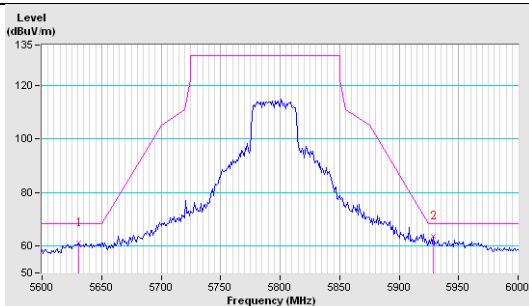


Vertical

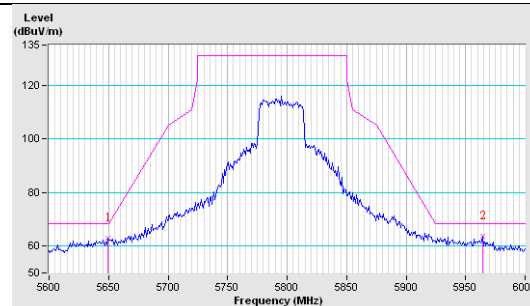


CH159

Horizontal



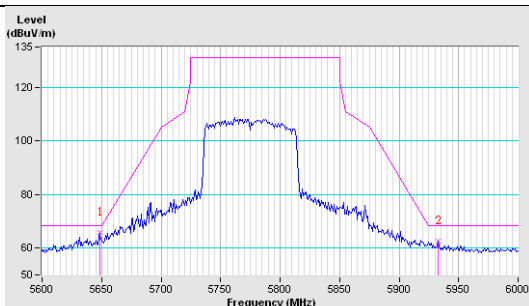
Vertical



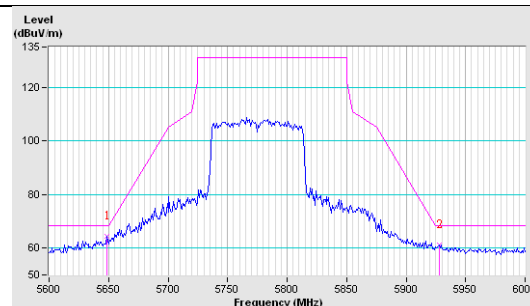
802.11ac (VHT80)

CH155

Horizontal



Vertical



Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Tel: 886-2-26052180

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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