

FCC Test Report

Report No.: RF150911C33-1

FCC ID: PD5-WAP361

Test Model: WAP361

Received Date: Sep. 10, 2015

Test Date: Sep. 23 ~ Oct. 07, 2015

Issued Date: Oct. 14, 2015

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Table of Contents

Release Control Record	4
1 Certificate of Conformity.....	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Modification Record	6
3 General Information.....	7
3.1 General Description of EUT	7
3.2 Description of Test Modes	9
3.2.1 Test Mode Applicability and Tested Channel Detail	11
3.3 Duty Cycle of Test Signal	14
3.4 Description of Support Units	15
3.4.1 Configuration of System under Test	16
3.5 General Description of Applied Standards	16
4 Test Types and Results	18
4.1 Radiated Emission and Bandedge Measurement.....	18
4.1.1 Limits of Radiated Emission and Bandedge Measurement	18
4.1.2 Test Instruments	19
4.1.3 Test Procedures.....	20
4.1.4 Deviation from Test Standard	20
4.1.5 Test Set Up	21
4.1.6 EUT Operating Conditions.....	21
4.1.7 Test Results	22
4.2 Conducted Emission Measurement	61
4.2.1 Limits of Conducted Emission Measurement	61
4.2.2 Test Instruments	61
4.2.3 Test Procedures.....	62
4.2.4 Deviation from Test Standard	62
4.2.5 Test Setup.....	62
4.2.6 EUT Operating Conditions.....	62
4.2.7 Test Results	63
4.3 Transmit Power Measurement	67
4.3.1 Limits of Transmit Power Measurement	67
4.3.2 Test Setup.....	67
4.3.3 Test Instruments	67
4.3.4 Test Procedure	68
4.3.5 Deviation from Test Standard	68
4.3.6 EUT Operating Conditions.....	68
4.3.7 Test Result.....	69
4.4 Peak Power Spectral Density Measurement	79
4.4.1 Limits of Peak Power Spectral Density Measurement	79
4.4.2 Test Setup.....	79
4.4.3 Test Instruments	79
4.4.4 Test Procedures.....	79
4.4.5 Deviation from Test Standard	80
4.4.6 EUT Operating Conditions.....	80
4.4.7 Test Results	81
4.5 Frequency Stability.....	88
4.5.1 Limits of Frequency Stability Measurement	88
4.5.2 Test Setup.....	88
4.5.3 Test Instruments	88
4.5.4 Test Procedure	88
4.5.5 Deviation from Test Standard	88
4.5.6 EUT Operating Condition	88

4.5.7 Test Results	89
4.6 6dB Bandwidth Measurement.....	90
4.6.1 Limits of 6dB Bandwidth Measurement.....	90
4.6.2 Test Setup.....	90
4.6.3 Test Instruments	90
4.6.4 Test Procedure	90
4.6.5 Deviation from Test Standard	90
4.6.6 EUT Operating Condition	90
4.6.7 Test Results	91
5 Pictures of Test Arrangements.....	93
Appendix – Information on the Testing Laboratories	94



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Release Control Record

Issue No.	Description	Date Issued
RF150911C33-1	Original release.	Oct. 14, 2015

1 Certificate of Conformity

Product: Wireless-AC/N Dual Radio Wall Plate Access Point with PoE

Brand: Cisco

Test Model: WAP361

Sample Status: Engineering sample

Applicant: Delta Networks, Inc.

Test Date: Sep. 23 ~ Oct. 07, 2015

Standards: 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 : Celine Chou , **Date:** Oct. 14, 2015
Celine Chou / Specialist

Approved by : Ken Liu , **Date:** Oct. 14, 2015
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
15.207 15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -14.50dB at 0.28685MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.1dB at 5350.00MHz.
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 I-PEX not a standard connector.

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	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 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	Wireless-AC/N Dual Radio Wall Plate Access Point with PoE
Brand	Cisco
Test Model	WAP361
Status of EUT	Engineering sample
Power Supply Rating	48Vdc from adapter 48-56Vdc from 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 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz & 5745 ~ 5825MHz
Number of Channel	5180MHz ~ 5240MHz 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260MHz ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4, 802.11n (HT40), 802.11ac (VHT40): 2, 802.11ac (VHT80): 1 5500MHz ~ 5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 8, 802.11n (HT40), 802.11ac (VHT40): 3, 802.11ac (VHT80): 1 5745MHz ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5, 802.11n (HT40), 802.11ac (VHT40): 2, 802.11ac (VHT80): 1
Output Power	5180MHz ~ 5240MHz: 21.431mW 5260MHz ~ 5320MHz: 79.997mW 5500MHz ~ 5700MHz: 101.671mW 5745MHz ~ 5825MHz: 80.215mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter
Data Cable Supplied	N/A

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX Function
802.11a	2TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX
802.11ac (VHT80)	2TX

* 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)

2. The EUT consumes power from the following adapters and POE. (POE for support unit only)

Adapter 1	
Brand	LEADER ELECTRONICS INC.
Model	NU60-U480125-I1
Input Power	100-240Vac, 50/60Hz, 1.4A
Output Power	48Vdc, 1.25A
Power Line	1.8m power cable with one core attached on adapter

Adapter 2	
Brand	DELTA Electronics, INC.
Model	ADP-48DR BL
Input Power	100-240Vac, 50-60Hz, 1.5A
Output Power	48Vdc, 1.25A
Power Line	1.8m power cable without core attached on adapter

POE	
Brand	N/A
Model	LM-GP201XRA
Input Power	100-240Vac
Output Power	56Vdc

3. The EUT with follow antennas gain is listed as table below.

No.	Ant. Type	Connector	Gain(dBi)							
			2400MHz	2450MHz	2500MHz	5150MHz	5250MHz	5350MHz	5725MHz	5825MHz
1	PIFA	I-PEX	4.14	4.35	4.04	3.58	3.23	3.64	3.67	3.81
2			3.08	3.76	4.19	3.68	3.48	3.96	3.92	3.95

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 (VHT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

For 5260 ~ 5320MHz

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

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

For 5500 ~ 5700MHz

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

Channel	Frequency	Channel	Frequency
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

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

Channel	Frequency	Channel	Frequency
102	5510 MHz	134	5670 MHz
110	5550 MHz		

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
106	5530MHz

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 $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	√	Powered by adapter
B	-	√	√	-	Powered by POE

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz & Bandedge Measurement
RE<1G: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission
APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

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)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
A	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
A	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
A	802.11ac (VHT80)		42	42	OFDM	BPSK	65.0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
A	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
A	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	15.0
A	802.11ac (VHT80)		58	58	OFDM	BPSK	65.0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
A	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
A	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
A	802.11ac (VHT80)		106	106	OFDM	BPSK	65.0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2
A	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0
A	802.11ac (VHT80)		155	155	OFDM	BPSK	65.0

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	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0
	802.11a	5260-5320	52 to 64		OFDM	BPSK	6.0
	802.11a	5500-5700	100 to 140		OFDM	BPSK	6.0
	802.11a	5745-5825	149 to 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	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0
	802.11a	5260-5320	52 to 64		OFDM	BPSK	6.0
	802.11a	5500-5700	100 to 140		OFDM	BPSK	6.0
	802.11a	5745-5825	149 to 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)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
A	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
A	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
A	802.11ac (VHT80)		42	42	OFDM	BPSK	65.0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
A	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
A	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	15.0
A	802.11ac (VHT80)		58	58	OFDM	BPSK	65.0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
A	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
A	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
A	802.11ac (VHT80)		106	106	OFDM	BPSK	65.0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2
A	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0
A	802.11ac (VHT80)		155	155	OFDM	BPSK	65.0

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	25deg. C, 63%RH	120Vac, 60Hz	Alan Wu
RE<1G	27deg. C, 65%RH	120Vac, 60Hz 56Vdc	Alan Wu
PLC	25deg. C, 65%RH	120Vac, 60Hz 56Vdc	Chris Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Nick Hsu

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98 %, duty factor shall be considered.

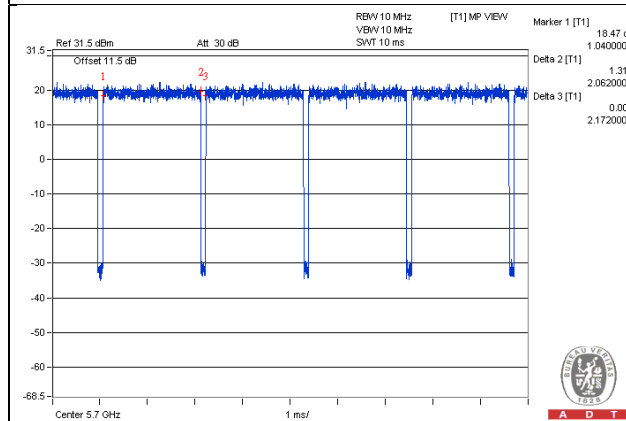
802.11a: Duty cycle = $2.062/2.172 = 0.949$, Duty factor = $10 * \log(1/0.949) = 0.23$

802.11n (HT20): Duty cycle = $1.915/2.035 = 0.941$, Duty factor = $10 * \log(1/0.941) = 0.26$

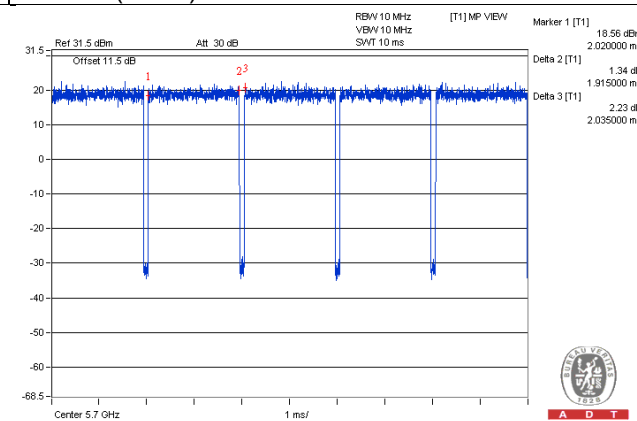
802.11n (HT40): Duty cycle = $0.940/1.052 = 0.894$, Duty factor = $10 * \log(1/0.894) = 0.49$

802.11ac (VHT80): Duty cycle = $0.458/0.490 = 0.935$, Duty factor = $10 * \log(1/0.935) = 0.29$

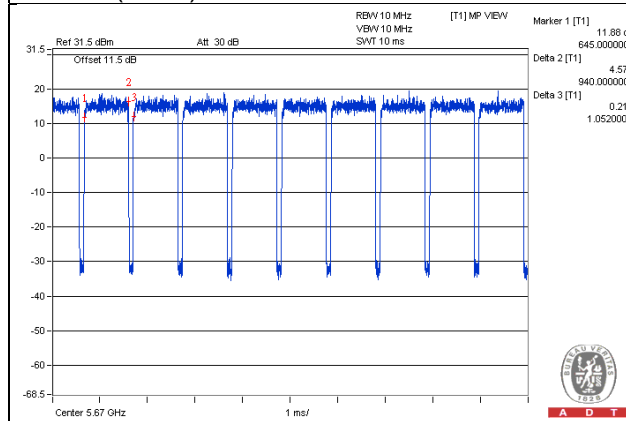
802.11a



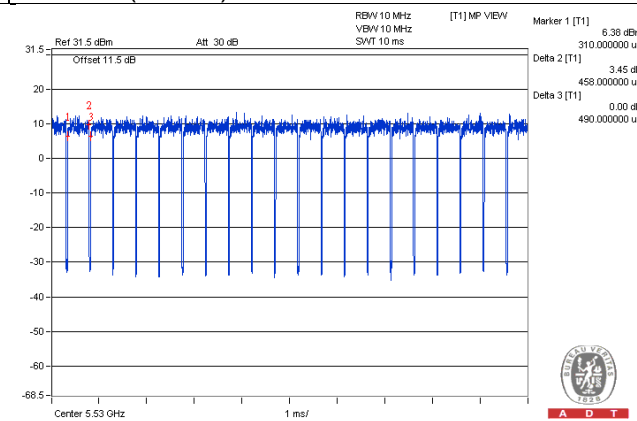
802.11n (HT20)



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	E5430	2RL3YW1	FCC DoC Approved	-
B.	Load	NA	NA	NA	NA	-
C.	POE	N/A	LM-GP201XRA	NA	NA	Provided by manufacturer For test mode B

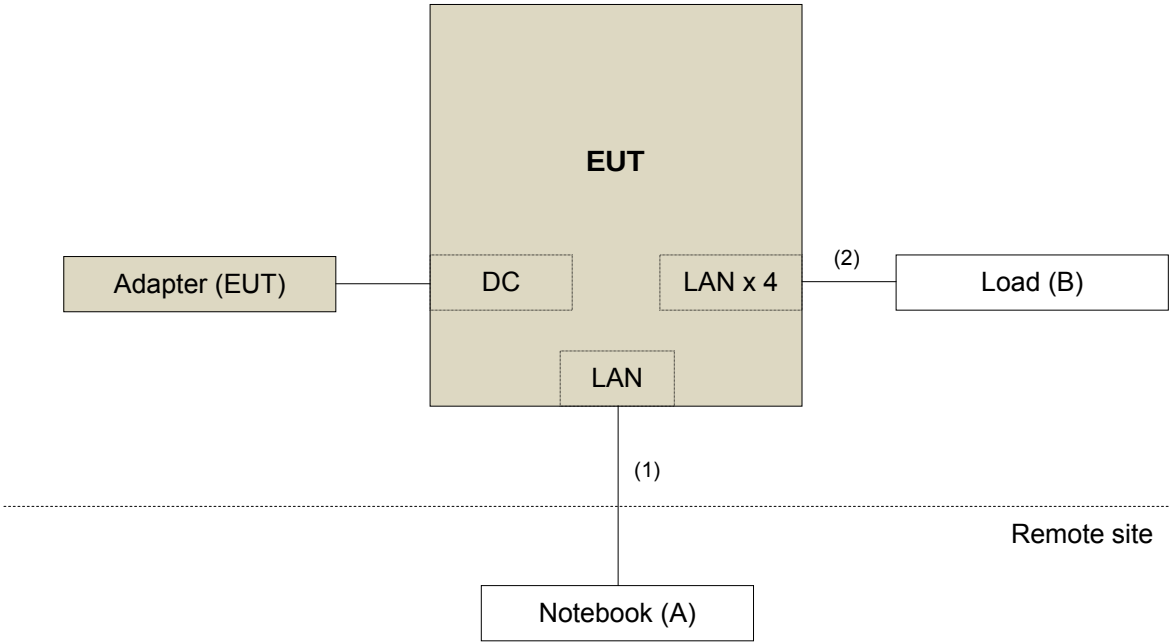
Note:

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

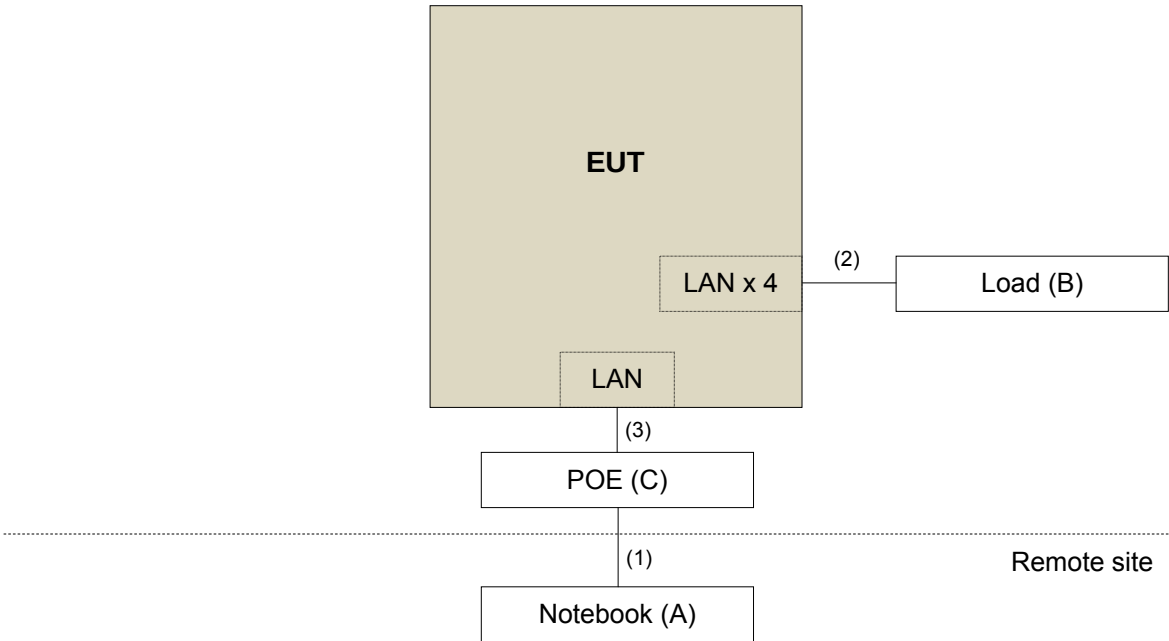
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	3	N	0	-
2.	LAN cable	4	1.8	N	0	-
3.	LAN cable	1	1.8	N	0	For test mode B

3.4.1 Configuration of System under Test

Test Mode A



Test Mode B



3.5 General Description of Applied Standards

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)

789033 D02 General UNII Test Procedure New Rules v01

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 is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It 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 Procedures New Rules v01	FIELD STRENGTH AT 3m	
	PK:74 (dBuV/m)	AV:54 (dBuV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK:-27 (dBm/MHz) ^{*1} PK:-17 (dBm/MHz) ^{*2}	PK: 68.2(dBuV/m) ^{*1} PK:78.2 (dBuV/m) ^{*2}

Note: ^{*1} beyond 10MHz of the band edge ^{*2} within 10 MHz of band edge

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 06, 2014	Oct. 05, 2015
			Oct. 06, 2015	Oct. 05, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Jul. 08, 2015	Jul. 07, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Feb. 06, 2015	Feb. 05, 2016
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Feb. 05, 2015	Feb. 04, 2016
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Feb. 09, 2015	Feb. 08, 2016
Preamplifier Agilent	8449B	3008A01960	Aug. 09, 2015	Aug. 08, 2016
Preamplifier Agilent	8447D	2944A10631	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-02(295012+309220)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03(250724)	Aug. 09, 2015	Aug. 08, 2016
Software BV ADT	ADT_Radiated_V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100.	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2014	Oct. 17, 2015
High Speed Peak Power Meter	ML2495A	0824011	Jul. 09, 2015	Jul. 08, 2016
Power Sensor	MA2411B	0738171	Jul. 09, 2015	Jul. 08, 2016
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 08, 2015	Jun. 07, 2016

- 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 4.
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 460141.
5. The IC Site Registration No. is IC7450F-4.

4.1.3 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 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:

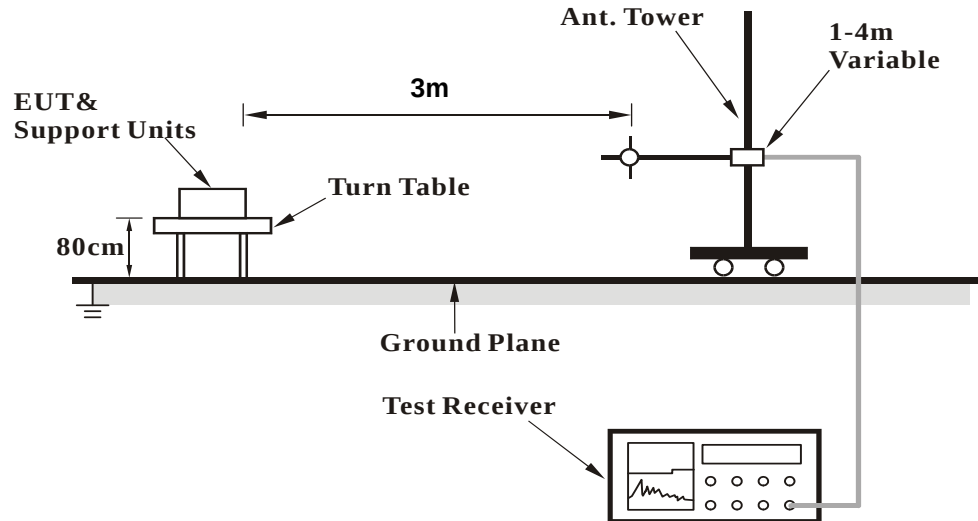
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

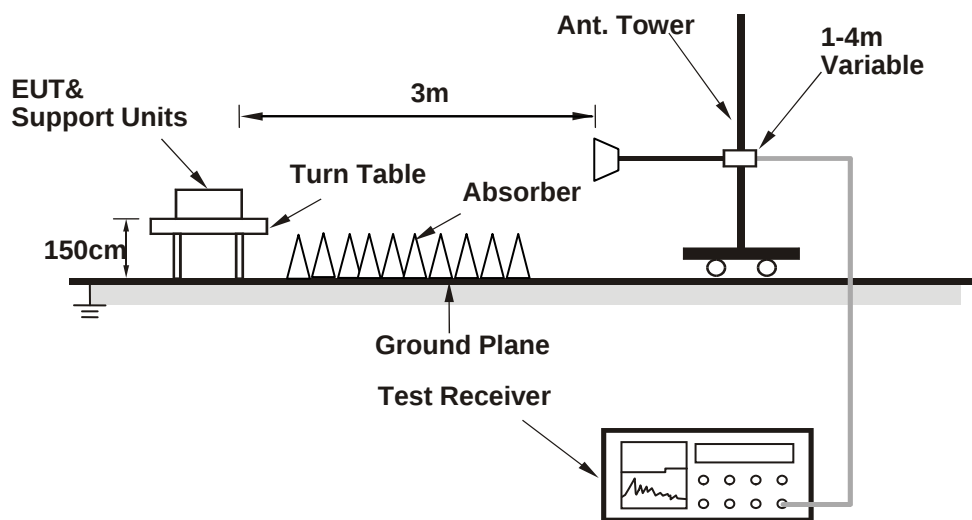
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1GHz>



<Frequency Range 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 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".
- The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz worst-case Data:

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	5150.00	57.8 PK	74.0	-16.2	1.00 H	153	52.80	5.00
2	5150.00	45.2 AV	54.0	-8.8	1.00 H	153	40.20	5.00
3	*5180.00	96.5 PK			1.00 H	151	57.40	39.10
4	*5180.00	86.8 AV			1.00 H	151	47.70	39.10
5	#10360.00	60.0 PK	74.0	-14.0	1.00 H	83	42.90	17.10
6	#10360.00	46.5 AV	54.0	-7.5	1.00 H	83	29.40	17.10
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	1.39 V	172	53.00	5.00
2	5150.00	45.6 AV	54.0	-8.4	1.39 V	172	40.60	5.00
3	*5180.00	105.2 PK			1.38 V	173	66.10	39.10
4	*5180.00	95.6 AV			1.38 V	173	56.50	39.10
5	#10360.00	60.3 PK	74.0	-13.7	1.00 V	317	43.20	17.10
6	#10360.00	47.1 AV	54.0	-6.9	1.00 V	317	30.00	17.10

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	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	*5200.00	95.7 PK			1.06 H	148	56.50	39.20
2	*5200.00	86.3 AV			1.06 H	148	47.10	39.20
3	#10400.00	60.2 PK	74.0	-13.8	1.00 H	82	42.90	17.30
4	#10400.00	46.8 AV	54.0	-7.2	1.00 H	82	29.50	17.30
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	*5200.00	105.8 PK			1.60 V	173	66.60	39.20
2	*5200.00	96.4 AV			1.60 V	173	57.20	39.20
3	#10400.00	60.5 PK	74.0	-13.5	1.00 V	313	43.20	17.30
4	#10400.00	47.3 AV	54.0	-6.7	1.00 V	313	30.00	17.30

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	95.0 PK			1.20 H	147	55.80	39.20
2	*5240.00	85.5 AV			1.20 H	147	46.30	39.20
3	5350.00	57.3 PK	74.0	-16.7	1.16 H	141	51.90	5.40
4	5350.00	44.2 AV	54.0	-9.8	1.16 H	141	38.80	5.40
5	#10480.00	60.2 PK	74.0	-13.8	1.00 H	87	42.90	17.30
6	#10480.00	46.9 AV	54.0	-7.1	1.00 H	87	29.60	17.30
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	105.8 PK			1.66 V	174	66.60	39.20
2	*5240.00	96.5 AV			1.66 V	174	57.30	39.20
3	5350.00	57.5 PK	74.0	-16.5	1.64 V	174	52.10	5.40
4	5350.00	44.7 AV	54.0	-9.3	1.64 V	174	39.30	5.40
5	#10480.00	60.4 PK	74.0	-13.6	1.00 V	310	43.10	17.30
6	#10480.00	47.8 AV	54.0	-6.2	1.00 V	310	30.50	17.30

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 52	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	55.6 PK	74.0	-18.4	1.26 H	80	50.60	5.00
2	5150.00	44.0 AV	54.0	-10.0	1.26 H	80	39.00	5.00
3	*5260.00	98.0 PK			1.13 H	71	58.80	39.20
4	*5260.00	87.7 AV			1.13 H	71	48.50	39.20
5	#10520.00	57.6 PK	74.0	-16.4	1.39 H	74	40.30	17.30
6	#10520.00	45.7 AV	54.0	-8.3	1.39 H	74	28.40	17.30
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	56.0 PK	74.0	-18.0	1.20 V	89	51.00	5.00
2	5150.00	43.3 AV	54.0	-10.7	1.20 V	89	38.30	5.00
3	*5260.00	109.8 PK			1.08 V	76	70.60	39.20
4	*5260.00	99.2 AV			1.01 V	68	60.00	39.20
5	#10520.00	59.6 PK	74.0	-14.4	1.36 V	98	42.30	17.30
6	#10520.00	46.0 AV	54.0	-8.0	1.36 V	98	28.70	17.30

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 60	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	*5300.00	98.2 PK			1.34 H	73	58.90	39.30
2	*5300.00	87.4 AV			1.34 H	73	48.10	39.30
3	10600.00	60.1 PK	74.0	-13.9	1.52 H	96	42.30	17.80
4	10600.00	45.9 AV	54.0	-8.1	1.52 H	96	28.10	17.80
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	*5300.00	108.3 PK			1.14 V	71	69.00	39.30
2	*5300.00	98.8 AV			1.14 V	71	59.50	39.30
3	10600.00	59.6 PK	74.0	-14.4	1.36 V	41	41.80	17.80
4	10600.00	46.8 AV	54.0	-7.2	1.36 V	41	29.00	17.80

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.

CHANNEL	TX Channel 64	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	*5320.00	97.9 PK			1.00 H	48	58.50	39.40
2	*5320.00	87.8 AV			1.00 H	48	48.40	39.40
3	5350.00	55.7 PK	74.0	-18.3	1.10 H	56	50.30	5.40
4	5350.00	45.7 AV	54.0	-8.3	1.10 H	56	40.30	5.40
5	10620.00	59.2 PK	74.0	-14.8	1.34 H	65	41.50	17.70
6	10620.00	45.3 AV	54.0	-8.7	1.34 H	65	27.60	17.70
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	*5320.00	109.7 PK			1.77 V	19	70.30	39.40
2	*5320.00	100.3 AV			1.77 V	19	60.90	39.40
3	5350.00	57.8 PK	74.0	-16.2	1.92 V	10	52.40	5.40
4	5350.00	47.1 AV	54.0	-6.9	1.92 V	10	41.70	5.40
5	10640.00	59.0 PK	74.0	-15.0	1.39 V	41	41.50	17.50
6	10640.00	46.0 AV	54.0	-8.0	1.39 V	41	28.50	17.50

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.

CHANNEL	TX Channel 100	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	5460.00	58.2 PK	74.0	-15.8	1.56 H	179	52.60	5.60
2	5460.00	44.4 AV	54.0	-9.6	1.56 H	179	38.80	5.60
3	#5470.00	64.1 PK	74.0	-9.9	1.56 H	179	58.40	5.70
4	#5470.00	46.1 AV	54.0	-7.9	1.56 H	179	40.40	5.70
5	*5500.00	102.2 PK			1.51 H	172	62.50	39.70
6	*5500.00	92.6 AV			1.51 H	172	52.90	39.70
7	11000.00	61.7 PK	74.0	-12.3	1.00 H	85	43.20	18.50
8	11000.00	48.7 AV	54.0	-5.3	1.00 H	85	30.20	18.50
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	5460.00	58.4 PK	74.0	-15.6	1.57 V	188	52.80	5.60
2	5460.00	44.5 AV	54.0	-9.5	1.57 V	188	38.90	5.60
3	#5470.00	64.7 PK	74.0	-9.3	1.57 V	188	59.00	5.70
4	#5470.00	46.4 AV	54.0	-7.6	1.57 V	188	40.70	5.70
5	*5500.00	111.3 PK			1.55 V	182	71.60	39.70
6	*5500.00	100.9 AV			1.55 V	182	61.20	39.70
7	11000.00	62.3 PK	74.0	-11.7	1.01 V	125	43.80	18.50
8	11000.00	49.2 AV	54.0	-4.8	1.01 V	125	30.70	18.50

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 116	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	*5580.00	102.3 PK			1.46 H	173	62.60	39.70
2	*5580.00	92.8 AV			1.46 H	173	53.10	39.70
3	11160.00	61.9 PK	74.0	-12.1	1.00 H	82	43.90	18.00
4	11160.00	48.9 AV	54.0	-5.1	1.00 H	82	30.90	18.00
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	110.5 PK			1.35 V	98	70.80	39.70
2	*5580.00	100.6 AV			1.35 V	98	60.90	39.70
3	11160.00	62.5 PK	74.0	-11.5	1.05 V	120	44.50	18.00
4	11160.00	49.4 AV	54.0	-4.6	1.05 V	120	31.40	18.00

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.

CHANNEL	TX Channel 140	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	*5700.00	102.5 PK			1.38 H	169	62.40	40.10
2	*5700.00	92.9 AV			1.38 H	169	52.80	40.10
3	#5725.00	62.0 PK	74.0	-12.0	1.32 H	166	55.90	6.10
4	#5725.00	46.0 AV	54.0	-8.0	1.32 H	166	39.90	6.10
5	11400.00	61.6 PK	74.0	-12.4	1.00 H	84	43.40	18.20
6	11400.00	48.7 AV	54.0	-5.3	1.00 H	84	30.50	18.20
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	*5700.00	112.1 PK			1.87 V	186	72.00	40.10
2	*5700.00	101.9 AV			1.87 V	186	61.80	40.10
3	#5725.00	62.5 PK	74.0	-11.5	1.82 V	188	56.40	6.10
4	#5725.00	46.4 AV	54.0	-7.6	1.82 V	188	40.30	6.10
5	11400.00	62.2 PK	74.0	-11.8	1.04 V	128	44.00	18.20
6	11400.00	48.9 AV	54.0	-5.1	1.04 V	128	30.70	18.20

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	#5665.00	57.8 PK	74.0	-16.2	1.38 H	164	51.80	6.00
2	#5665.00	45.2 AV	54.0	-8.8	1.38 H	164	39.20	6.00
3	#5722.90	63.6 PK	78.2	-14.6	1.38 H	164	57.50	6.10
4	#5725.00	45.7 PK	78.2	-32.5	1.38 H	164	39.60	6.10
5	*5745.00	102.6 PK			1.37 H	167	62.30	40.30
6	*5745.00	92.1 AV			1.37 H	167	51.80	40.30
7	11490.00	60.7 PK	74.0	-13.3	1.00 H	82	43.10	17.60
8	11490.00	47.3 AV	54.0	-6.7	1.00 H	82	29.70	17.60
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	#5665.00	60.8 PK	74.0	-13.2	1.64 V	186	54.80	6.00
2	#5665.00	49.3 AV	54.0	-4.7	1.64 V	186	43.30	6.00
3	#5722.90	64.2 PK	78.2	-14.0	1.68 V	185	58.10	6.10
4	#5725.00	46.1 PK	78.2	-32.1	1.68 V	185	40.00	6.10
5	*5745.00	111.1 PK			1.68 V	185	70.80	40.30
6	*5745.00	101.3 AV			1.68 V	185	61.00	40.30
7	11490.00	61.1 PK	74.0	-12.9	1.00 V	90	43.50	17.60
8	11490.00	48.0 AV	54.0	-6.0	1.00 V	90	30.40	17.60

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	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	*5785.00	102.2 PK			1.57 H	168	61.90	40.30
2	*5785.00	92.6 AV			1.57 H	168	52.30	40.30
3	11570.00	60.9 PK	74.0	-13.1	1.00 H	80	43.40	17.50
4	11570.00	47.9 AV	54.0	-6.1	1.00 H	80	30.40	17.50
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	*5785.00	111.3 PK			1.46 V	184	71.00	40.30
2	*5785.00	101.7 AV			1.46 V	184	61.40	40.30
3	11570.00	61.2 PK	74.0	-12.8	1.00 V	96	43.70	17.50
4	11570.00	48.3 AV	54.0	-5.7	1.00 V	96	30.80	17.50

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.

CHANNEL	TX Channel 165	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	*5825.00	102.0 PK			1.34 H	169	61.60	40.40
2	*5825.00	92.3 AV			1.34 H	169	51.90	40.40
3	#5850.00	38.8 PK	78.2	-39.4	1.37 H	166	32.40	6.40
4	#5852.10	58.0 PK	78.2	-20.2	1.37 H	166	51.60	6.40
5	#5905.00	58.2 PK	74.0	-15.8	1.37 H	166	51.70	6.50
6	#5905.00	45.6 AV	54.0	-8.4	1.37 H	166	39.10	6.50
7	11650.00	60.6 PK	74.0	-13.4	1.00 H	83	43.30	17.30
8	11650.00	47.4 AV	54.0	-6.6	1.00 H	83	30.10	17.30
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	*5825.00	111.2 PK			1.60 V	187	70.80	40.40
2	*5825.00	101.6 AV			1.60 V	187	61.20	40.40
3	#5850.00	39.1 PK	78.2	-39.1	1.58 V	167	32.70	6.40
4	#5852.10	58.7 PK	78.2	-19.5	1.58 V	167	52.30	6.40
5	#5905.00	62.4 PK	74.0	-11.6	1.58 V	167	55.90	6.50
6	#5905.00	50.7 AV	54.0	-3.3	1.58 V	167	44.20	6.50
7	11650.00	61.0 PK	74.0	-13.0	1.00 V	98	43.70	17.30
8	11650.00	47.8 AV	54.0	-6.2	1.00 V	98	30.50	17.30

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	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	57.2 PK	74.0	-16.8	1.00 H	155	52.20	5.00
2	5150.00	44.9 AV	54.0	-9.1	1.00 H	155	39.90	5.00
3	*5180.00	95.6 PK			1.00 H	152	56.50	39.10
4	*5180.00	86.5 AV			1.00 H	152	47.40	39.10
5	#10360.00	59.1 PK	74.0	-14.9	1.00 H	85	42.00	17.10
6	#10360.00	46.0 AV	54.0	-8.0	1.00 H	85	28.90	17.10
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	57.5 PK	74.0	-16.5	1.30 V	172	52.50	5.00
2	5150.00	45.4 AV	54.0	-8.6	1.30 V	172	40.40	5.00
3	*5180.00	105.5 PK			1.38 V	175	66.40	39.10
4	*5180.00	95.8 AV			1.38 V	175	56.70	39.10
5	#10360.00	59.9 PK	74.0	-14.1	1.00 V	312	42.80	17.10
6	#10360.00	46.5 AV	54.0	-7.5	1.00 V	312	29.40	17.10

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	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	*5200.00	95.0 PK			1.00 H	152	55.80	39.20
2	*5200.00	85.5 AV			1.00 H	152	46.30	39.20
3	#10400.00	59.8 PK	74.0	-14.2	1.00 H	81	42.50	17.30
4	#10400.00	46.8 AV	54.0	-7.2	1.00 H	81	29.50	17.30
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	*5200.00	105.2 PK			1.38 V	174	66.00	39.20
2	*5200.00	95.5 AV			1.38 V	174	56.30	39.20
3	#10400.00	60.2 PK	74.0	-13.8	1.00 V	317	42.90	17.30
4	#10400.00	46.9 AV	54.0	-7.1	1.00 V	317	29.60	17.30

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	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	*5240.00	95.2 PK			1.54 H	148	56.00	39.20
2	*5240.00	85.5 AV			1.54 H	148	46.30	39.20
3	5350.00	56.6 PK	74.0	-17.4	1.50 H	146	51.20	5.40
4	5350.00	43.7 AV	54.0	-10.3	1.50 H	146	38.30	5.40
5	#10480.00	59.6 PK	74.0	-14.4	1.00 H	86	42.30	17.30
6	#10480.00	46.8 AV	54.0	-7.2	1.00 H	86	29.50	17.30
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	105.4 PK			1.44 V	176	66.20	39.20
2	*5240.00	95.6 AV			1.44 V	176	56.40	39.20
3	5350.00	56.9 PK	74.0	-17.1	1.46 V	171	51.50	5.40
4	5350.00	44.3 AV	54.0	-9.7	1.46 V	171	38.90	5.40
5	#10480.00	59.8 PK	74.0	-14.2	1.00 V	315	42.50	17.30
6	#10480.00	47.0 AV	54.0	-7.0	1.00 V	315	29.70	17.30

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 52	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	55.1 PK	74.0	-18.9	1.10 H	100	50.10	5.00
2	5150.00	43.5 AV	54.0	-10.5	1.10 H	100	38.50	5.00
3	*5260.00	97.1 PK			1.00 H	76	57.90	39.20
4	*5260.00	87.1 AV			1.00 H	76	47.90	39.20
5	#10520.00	59.0 PK	74.0	-15.0	1.28 H	147	41.70	17.30
6	#10520.00	45.6 AV	54.0	-8.4	1.28 H	147	28.30	17.30
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	57.3 PK	74.0	-16.7	1.16 V	300	52.30	5.00
2	5150.00	46.2 AV	54.0	-7.8	1.16 V	300	41.20	5.00
3	*5260.00	109.3 PK			1.06 V	292	70.10	39.20
4	*5260.00	98.5 AV			1.06 V	292	59.30	39.20
5	#10520.00	59.2 PK	74.0	-14.8	1.63 V	87	41.90	17.30
6	#10520.00	45.7 AV	54.0	-8.3	1.63 V	87	28.40	17.30

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 60	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	*5300.00	97.5 PK			2.35 H	45	58.20	39.30
2	*5300.00	87.5 AV			2.35 H	45	48.20	39.30
3	10600.00	57.8 PK	74.0	-16.2	1.19 H	204	40.00	17.80
4	10600.00	46.0 AV	54.0	-8.0	1.19 H	204	28.20	17.80
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	*5300.00	110.1 PK			1.77 V	19	70.80	39.30
2	*5300.00	100.4 AV			1.77 V	19	61.10	39.30
3	10600.00	59.0 PK	74.0	-15.0	1.26 V	301	41.20	17.80
4	10600.00	46.3 AV	54.0	-7.7	1.26 V	301	28.50	17.80

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.

CHANNEL	TX Channel 64	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	*5320.00	98.2 PK			1.57 H	49	58.80	39.40
2	*5320.00	88.9 AV			1.57 H	49	49.50	39.40
3	5350.00	55.4 PK	74.0	-18.6	1.65 H	56	50.00	5.40
4	5350.00	44.1 AV	54.0	-9.9	1.65 H	56	38.70	5.40
5	10640.00	59.1 PK	74.0	-14.9	1.25 H	68	41.60	17.50
6	10640.00	45.6 AV	54.0	-8.4	1.25 H	68	28.10	17.50
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	*5320.00	107.2 PK			1.22 V	75	67.80	39.40
2	*5320.00	98.8 AV			1.22 V	75	59.40	39.40
3	5350.00	58.0 PK	74.0	-16.0	1.32 V	80	52.60	5.40
4	5350.00	46.9 AV	54.0	-7.1	1.32 V	80	41.50	5.40
5	10640.00	59.0 PK	74.0	-15.0	1.38 V	22	41.50	17.50
6	10640.00	45.6 AV	54.0	-8.4	1.38 V	22	28.10	17.50

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.

CHANNEL	TX Channel 100	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	5460.00	58.4 PK	74.0	-15.6	1.45 H	174	52.80	5.60
2	5460.00	44.7 AV	54.0	-9.3	1.45 H	174	39.10	5.60
3	#5470.00	64.3 PK	74.0	-9.7	1.45 H	174	58.60	5.70
4	#5470.00	46.8 AV	54.0	-7.2	1.45 H	174	41.10	5.70
5	*5500.00	101.9 PK			1.49 H	171	62.20	39.70
6	*5500.00	91.5 AV			1.49 H	171	51.80	39.70
7	11000.00	61.3 PK	74.0	-12.7	1.00 H	89	42.80	18.50
8	11000.00	48.6 AV	54.0	-5.4	1.00 H	89	30.10	18.50
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	5460.00	59.0 PK	74.0	-15.0	1.68 V	184	53.40	5.60
2	5460.00	45.2 AV	54.0	-8.8	1.68 V	184	39.60	5.60
3	#5470.00	65.5 PK	74.0	-8.5	1.68 V	184	59.80	5.70
4	#5470.00	47.4 AV	54.0	-6.6	1.68 V	184	41.70	5.70
5	*5500.00	111.6 PK			1.62 V	183	71.90	39.70
6	*5500.00	101.7 AV			1.62 V	183	62.00	39.70
7	11000.00	61.9 PK	74.0	-12.1	1.02 V	124	43.40	18.50
8	11000.00	49.1 AV	54.0	-4.9	1.02 V	124	30.60	18.50

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 116	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	*5580.00	102.3 PK			1.34 H	170	62.60	39.70
2	*5580.00	92.6 AV			1.34 H	170	52.90	39.70
3	11160.00	61.7 PK	74.0	-12.3	1.00 H	80	43.70	18.00
4	11160.00	48.7 AV	54.0	-5.3	1.00 H	80	30.70	18.00
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	110.9 PK			1.35 V	98	71.20	39.70
2	*5580.00	101.0 AV			1.35 V	98	61.30	39.70
3	11160.00	62.2 PK	74.0	-11.8	1.03 V	125	44.20	18.00
4	11160.00	49.3 AV	54.0	-4.7	1.03 V	125	31.30	18.00

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.

CHANNEL	TX Channel 140	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	*5700.00	102.7 PK			1.40 H	168	62.60	40.10
2	*5700.00	92.8 AV			1.40 H	168	52.70	40.10
3	#5725.00	62.7 PK	74.0	-11.3	1.42 H	161	56.60	6.10
4	#5725.00	46.2 AV	54.0	-7.8	1.42 H	161	40.10	6.10
5	11400.00	61.3 PK	74.0	-12.7	1.00 H	83	43.10	18.20
6	11400.00	47.9 AV	54.0	-6.1	1.00 H	83	29.70	18.20
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	*5700.00	112.1 PK			1.64 V	186	72.00	40.10
2	*5700.00	102.3 AV			1.64 V	186	62.20	40.10
3	#5725.00	62.9 PK	74.0	-11.1	1.67 V	188	56.80	6.10
4	#5725.00	46.6 AV	54.0	-7.4	1.67 V	188	40.50	6.10
5	11400.00	62.1 PK	74.0	-11.9	1.01 V	125	43.90	18.20
6	11400.00	48.5 AV	54.0	-5.5	1.01 V	125	30.30	18.20

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	#5665.00	57.6 PK	74.0	-16.4	1.31 H	161	51.60	6.00
2	#5665.00	44.8 AV	54.0	-9.2	1.31 H	161	38.80	6.00
3	#5722.90	64.3 PK	78.2	-13.9	1.31 H	161	58.20	6.10
4	#5725.00	46.4 PK	78.2	-31.8	1.31 H	161	40.30	6.10
5	*5745.00	102.4 PK			1.38 H	168	62.10	40.30
6	*5745.00	92.2 AV			1.38 H	168	51.90	40.30
7	11490.00	60.5 PK	74.0	-13.5	1.00 H	80	42.90	17.60
8	11490.00	47.1 AV	54.0	-6.9	1.00 H	80	29.50	17.60
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	#5665.00	59.8 PK	74.0	-14.2	1.66 V	186	53.80	6.00
2	#5665.00	48.6 AV	54.0	-5.4	1.66 V	186	42.60	6.00
3	#5722.90	69.7 PK	78.2	-8.5	1.66 V	186	63.60	6.10
4	#5725.00	49.5 PK	78.2	-28.7	1.66 V	186	43.40	6.10
5	*5745.00	110.6 PK			1.70 V	188	70.30	40.30
6	*5745.00	101.1 AV			1.70 V	188	60.80	40.30
7	11490.00	60.9 PK	74.0	-13.1	1.00 V	92	43.30	17.60
8	11490.00	47.7 AV	54.0	-6.3	1.00 V	92	30.10	17.60

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	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	*5785.00	101.9 PK			1.57 H	169	61.60	40.30
2	*5785.00	91.8 AV			1.57 H	169	51.50	40.30
3	11570.00	60.6 PK	74.0	-13.4	1.00 H	88	43.10	17.50
4	11570.00	47.5 AV	54.0	-6.5	1.00 H	88	30.00	17.50
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	*5785.00	110.8 PK			1.69 V	187	70.50	40.30
2	*5785.00	101.0 AV			1.69 V	187	60.70	40.30
3	11570.00	60.7 PK	74.0	-13.3	1.00 V	95	43.20	17.50
4	11570.00	48.0 AV	54.0	-6.0	1.00 V	95	30.50	17.50

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.

CHANNEL	TX Channel 165	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	*5825.00	102.2 PK			1.34 H	169	61.80	40.40
2	*5825.00	92.0 AV			1.34 H	169	51.60	40.40
3	#5850.00	39.2 PK	78.2	-39.0	1.34 H	160	32.80	6.40
4	#5852.10	58.7 PK	78.2	-19.5	1.34 H	160	52.30	6.40
5	#5905.00	57.9 PK	74.0	-16.1	1.34 H	160	51.40	6.50
6	#5905.00	45.0 AV	54.0	-9.0	1.34 H	160	38.50	6.50
7	11650.00	60.3 PK	74.0	-13.7	1.00 H	84	43.00	17.30
8	11650.00	47.1 AV	54.0	-6.9	1.00 H	84	29.80	17.30
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	*5825.00	110.5 PK			1.60 V	185	70.10	40.40
2	*5825.00	100.6 AV			1.60 V	185	60.20	40.40
3	#5850.00	40.2 PK	78.2	-38.0	1.55 V	189	33.80	6.40
4	#5852.10	59.8 PK	78.2	-18.4	1.55 V	189	53.40	6.40
5	#5905.00	61.7 PK	74.0	-12.3	1.55 V	189	55.20	6.50
6	#5905.00	50.0 AV	54.0	-4.0	1.55 V	189	43.50	6.50
7	11650.00	60.6 PK	74.0	-13.4	1.00 V	94	43.30	17.30
8	11650.00	47.5 AV	54.0	-6.5	1.00 V	94	30.20	17.30

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	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	56.4 PK	74.0	-17.6	1.10 H	90	51.40	5.00
2	5150.00	45.1 AV	54.0	-8.9	1.10 H	90	40.10	5.00
3	*5190.00	88.4 PK			1.01 H	85	49.30	39.10
4	*5190.00	78.7 AV			1.01 H	85	39.60	39.10
5	#10380.00	57.8 PK	74.0	-16.2	1.18 H	25	40.60	17.20
6	#10380.00	45.9 AV	54.0	-8.1	1.18 H	25	28.70	17.20
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	57.6 PK	74.0	-16.4	1.10 V	290	52.60	5.00
2	5150.00	46.6 AV	54.0	-7.4	1.10 V	290	41.60	5.00
3	*5190.00	100.4 PK			1.01 V	285	61.30	39.10
4	*5190.00	90.0 AV			1.01 V	285	50.90	39.10
5	#10380.00	59.8 PK	74.0	-14.2	1.18 V	64	42.60	17.20
6	#10380.00	46.0 AV	54.0	-8.0	1.18 V	64	28.80	17.20

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	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	*5230.00	86.3 PK			1.22 H	94	47.10	39.20
2	*5230.00	76.5 AV			1.22 H	94	37.30	39.20
3	5350.00	55.5 PK	74.0	-18.5	1.30 H	100	50.10	5.40
4	5350.00	45.4 AV	54.0	-8.6	1.30 H	100	40.00	5.40
5	#10460.00	58.7 PK	74.0	-15.3	1.36 H	47	41.50	17.20
6	#10460.00	45.4 AV	54.0	-8.6	1.36 H	47	28.20	17.20
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	*5230.00	98.9 PK			1.00 V	286	59.70	39.20
2	*5230.00	88.2 AV			1.00 V	286	49.00	39.20
3	5350.00	57.4 PK	74.0	-16.6	1.10 V	290	52.00	5.40
4	5350.00	47.7 AV	54.0	-6.3	1.10 V	290	42.30	5.40
5	#10460.00	59.8 PK	74.0	-14.2	1.69 V	133	42.60	17.20
6	#10460.00	45.6 AV	54.0	-8.4	1.69 V	133	28.40	17.20

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 54	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	58.7 PK	74.0	-15.3	1.00 H	151	53.70	5.00
2	5150.00	44.6 AV	54.0	-9.4	1.00 H	151	39.60	5.00
3	*5270.00	93.3 PK			1.00 H	153	54.10	39.20
4	*5270.00	82.5 AV			1.00 H	153	43.30	39.20
5	#10540.00	58.5 PK	74.0	-15.5	1.00 H	88	41.00	17.50
6	#10540.00	45.8 AV	54.0	-8.2	1.00 H	88	28.30	17.50
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	59.8 PK	74.0	-14.2	1.66 V	186	54.80	5.00
2	5150.00	45.6 AV	54.0	-8.4	1.66 V	186	40.60	5.00
3	*5270.00	107.6 PK			1.62 V	187	68.40	39.20
4	*5270.00	97.8 AV			1.62 V	187	58.60	39.20
5	#10540.00	59.0 PK	74.0	-15.0	1.00 V	310	41.50	17.50
6	#10540.00	46.3 AV	54.0	-7.7	1.00 V	310	28.80	17.50

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 62	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	*5310.00	92.8 PK			1.00 H	167	53.50	39.30
2	*5310.00	82.7 AV			1.00 H	167	43.40	39.30
3	5350.00	59.1 PK	74.0	-14.9	1.00 H	164	53.70	5.40
4	5350.00	45.1 AV	54.0	-8.9	1.00 H	164	39.70	5.40
5	10620.00	58.7 PK	74.0	-15.3	1.00 H	80	41.00	17.70
6	10620.00	45.1 AV	54.0	-8.9	1.00 H	80	27.40	17.70
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	*5310.00	108.4 PK			1.37 V	184	69.10	39.30
2	*5310.00	98.4 AV			1.37 V	184	59.10	39.30
3	5350.00	69.3 PK	74.0	-4.7	1.34 V	181	63.90	5.40
4	5350.00	50.2 AV	54.0	-3.8	1.34 V	181	44.80	5.40
5	10620.00	58.9 PK	74.0	-15.1	1.00 V	313	41.20	17.70
6	10620.00	45.5 AV	54.0	-8.5	1.00 V	313	27.80	17.70

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.

CHANNEL	TX Channel 102	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	5460.00	58.6 PK	74.0	-15.4	1.31 H	165	53.00	5.60
2	5460.00	44.5 AV	54.0	-9.5	1.31 H	165	38.90	5.60
3	#5470.00	62.2 PK	74.0	-11.8	1.31 H	165	56.50	5.70
4	#5470.00	46.4 AV	54.0	-7.6	1.31 H	165	40.70	5.70
5	*5510.00	97.4 PK			1.33 H	170	57.70	39.70
6	*5510.00	87.7 AV			1.33 H	170	48.00	39.70
7	11020.00	61.1 PK	74.0	-12.9	1.00 H	84	42.60	18.50
8	11020.00	48.3 AV	54.0	-5.7	1.00 H	84	29.80	18.50
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	5460.00	62.1 PK	74.0	-11.9	1.72 V	184	56.50	5.60
2	5460.00	46.9 AV	54.0	-7.1	1.72 V	184	41.30	5.60
3	#5470.00	70.4 PK	74.0	-3.6	1.72 V	184	64.70	5.70
4	#5470.00	52.8 AV	54.0	-1.2	1.72 V	184	47.10	5.70
5	*5510.00	109.1 PK			1.61 V	187	69.40	39.70
6	*5510.00	99.4 AV			1.61 V	187	59.70	39.70
7	11020.00	61.5 PK	74.0	-12.5	1.04 V	128	43.00	18.50
8	11020.00	48.5 AV	54.0	-5.5	1.04 V	128	30.00	18.50

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 110	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	*5550.00	98.5 PK			1.28 H	168	58.70	39.80
2	*5550.00	87.7 AV			1.28 H	168	47.90	39.80
3	11100.00	61.4 PK	74.0	-12.6	1.00 H	87	43.00	18.40
4	11100.00	48.6 AV	54.0	-5.4	1.00 H	87	30.20	18.40
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	109.6 PK			1.77 V	187	69.80	39.80
2	*5550.00	99.8 AV			1.77 V	187	60.00	39.80
3	11100.00	61.6 PK	74.0	-12.4	1.04 V	124	43.20	18.40
4	11100.00	48.9 AV	54.0	-5.1	1.04 V	124	30.50	18.40

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.

CHANNEL	TX Channel 134	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	*5670.00	99.1 PK			1.44 H	172	59.00	40.10
2	*5670.00	89.7 AV			1.44 H	172	49.60	40.10
3	#5725.00	59.6 PK	74.0	-14.4	1.46 H	170	53.50	6.10
4	#5725.00	47.9 AV	54.0	-6.1	1.46 H	170	41.80	6.10
5	11340.00	60.9 PK	74.0	-13.1	1.00 H	86	42.30	18.60
6	11340.00	47.5 AV	54.0	-6.5	1.00 H	86	28.90	18.60
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	*5670.00	108.7 PK			1.65 V	189	68.60	40.10
2	*5670.00	98.9 AV			1.65 V	189	58.80	40.10
3	#5725.00	60.3 PK	74.0	-13.7	1.68 V	188	54.20	6.10
4	#5725.00	48.8 AV	54.0	-5.2	1.68 V	188	42.70	6.10
5	11340.00	61.4 PK	74.0	-12.6	1.00 V	126	42.80	18.60
6	11340.00	47.7 AV	54.0	-6.3	1.00 V	126	29.10	18.60

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	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	#5714.90	58.4 PK	74.0	-15.6	1.33 H	160	52.40	6.00
2	#5714.90	45.2 AV	54.0	-8.8	1.33 H	160	39.20	6.00
3	#5722.90	60.9 PK	78.2	-17.3	1.33 H	160	54.80	6.10
4	#5725.00	39.2 PK	78.2	-39.0	1.33 H	160	33.10	6.10
5	*5755.00	98.6 PK			1.37 H	169	58.30	40.30
6	*5755.00	88.5 AV			1.37 H	169	48.20	40.30
7	11510.00	59.9 PK	74.0	-14.1	1.00 H	83	42.50	17.40
8	11510.00	46.7 AV	54.0	-7.3	1.00 H	83	29.30	17.40
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	#5714.90	63.1 PK	74.0	-10.9	1.65 V	189	57.10	6.00
2	#5714.90	48.5 AV	54.0	-5.5	1.65 V	189	42.50	6.00
3	#5722.90	67.7 PK	78.2	-10.5	1.65 V	189	61.60	6.10
4	#5725.00	45.1 PK	78.2	-33.1	1.65 V	189	39.00	6.10
5	*5755.00	106.9 PK			1.69 V	184	66.60	40.30
6	*5755.00	96.7 AV			1.69 V	184	56.40	40.30
7	11510.00	60.1 PK	74.0	-13.9	1.00 V	94	42.70	17.40
8	11510.00	46.9 AV	54.0	-7.1	1.00 V	94	29.50	17.40

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	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	*5795.00	98.2 PK			1.28 H	169	57.90	40.30
2	*5795.00	88.2 AV			1.28 H	169	47.90	40.30
3	#5850.00	38.2 PK	78.2	-40.0	1.20 H	163	31.80	6.40
4	#5852.10	60.4 PK	78.2	-17.8	1.20 H	163	54.00	6.40
5	#5860.10	57.5 PK	74.0	-16.5	1.20 H	163	51.10	6.40
6	#5860.10	44.8 AV	54.0	-9.2	1.20 H	163	38.40	6.40
7	11590.00	60.1 PK	74.0	-13.9	1.00 H	83	42.80	17.30
8	11590.00	46.9 AV	54.0	-7.1	1.00 H	83	29.60	17.30
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	*5795.00	106.8 PK			1.67 V	186	66.50	40.30
2	*5795.00	96.0 AV			1.67 V	186	55.70	40.30
3	#5850.00	38.8 PK	78.2	-39.4	1.62 V	180	32.40	6.40
4	#5852.10	61.3 PK	78.2	-16.9	1.62 V	180	54.90	6.40
5	#5860.10	63.2 PK	74.0	-10.8	1.62 V	180	56.80	6.40
6	#5860.10	48.1 AV	54.0	-5.9	1.62 V	180	41.70	6.40
7	11590.00	60.3 PK	74.0	-13.7	1.00 V	92	43.00	17.30
8	11590.00	47.2 AV	54.0	-6.8	1.00 V	92	29.90	17.30

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 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	55.3 PK	74.0	-18.7	1.18 H	90	50.30	5.00
2	5150.00	42.9 AV	54.0	-11.1	1.18 H	90	37.90	5.00
3	*5210.00	87.1 PK			1.00 H	85	47.90	39.20
4	*5210.00	77.5 AV			1.00 H	85	38.30	39.20
5	#10420.00	58.9 PK	74.0	-15.1	1.28 H	66	41.60	17.30
6	#10420.00	46.1 AV	54.0	-7.9	1.28 H	66	28.80	17.30
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	56.6 PK	74.0	-17.4	1.16 V	300	51.60	5.00
2	5150.00	45.6 AV	54.0	-8.4	1.16 V	300	40.60	5.00
3	*5210.00	97.8 PK			1.09 V	292	58.60	39.20
4	*5210.00	87.7 AV			1.09 V	292	48.50	39.20
5	#10420.00	59.9 PK	74.0	-14.1	1.52 V	71	42.60	17.30
6	#10420.00	47.1 AV	54.0	-6.9	1.52 V	71	29.80	17.30

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 58	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	*5290.00	91.0 PK			1.00 H	170	51.80	39.20
2	*5290.00	81.0 AV			1.00 H	170	41.80	39.20
3	5350.00	59.3 PK	74.0	-14.7	1.00 H	179	53.90	5.40
4	5350.00	45.2 AV	54.0	-8.8	1.00 H	179	39.80	5.40
5	#10580.00	58.0 PK	74.0	-16.0	1.00 H	88	40.40	17.60
6	#10580.00	44.8 AV	54.0	-9.2	1.00 H	88	27.20	17.60
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	*5290.00	104.4 PK			1.54 V	190	65.20	39.20
2	*5290.00	94.2 AV			1.54 V	190	55.00	39.20
3	5350.00	69.8 PK	74.0	-4.2	1.53 V	185	64.40	5.40
4	5350.00	52.9 AV	54.0	-1.1	1.53 V	185	47.50	5.40
5	#10580.00	58.7 PK	74.0	-15.3	1.00 V	314	41.10	17.60
6	#10580.00	45.4 AV	54.0	-8.6	1.00 V	314	27.80	17.60

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 106	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	5460.00	56.4 PK	74.0	-17.6	1.40 H	169	50.80	5.60
2	5460.00	44.3 AV	54.0	-9.7	1.40 H	169	38.70	5.60
3	#5470.00	58.2 PK	74.0	-15.8	1.40 H	169	52.50	5.70
4	#5470.00	46.0 AV	54.0	-8.0	1.40 H	169	40.30	5.70
5	*5530.00	93.2 PK			1.43 H	170	53.40	39.80
6	*5530.00	83.3 AV			1.43 H	170	43.50	39.80
7	11060.00	60.5 PK	74.0	-13.5	1.00 H	89	42.10	18.40
8	11060.00	47.8 AV	54.0	-6.2	1.00 H	89	29.40	18.40
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	5460.00	66.7 PK	74.0	-7.3	1.56 V	185	61.10	5.60
2	5460.00	51.7 AV	54.0	-2.3	1.56 V	185	46.10	5.60
3	#5470.00	68.2 PK	74.0	-5.8	1.56 V	185	62.50	5.70
4	#5470.00	52.8 AV	54.0	-1.2	1.56 V	185	47.10	5.70
5	*5530.00	104.2 PK			1.53 V	188	64.40	39.80
6	*5530.00	93.0 AV			1.53 V	188	53.20	39.80
7	11060.00	60.8 PK	74.0	-13.2	1.01 V	127	42.40	18.40
8	11060.00	48.3 AV	54.0	-5.7	1.01 V	127	29.90	18.40

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	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	#5714.90	60.4 PK	74.0	-13.6	1.30 H	161	54.40	6.00
2	#5714.90	46.2 AV	54.0	-7.8	1.30 H	161	40.20	6.00
3	#5722.90	62.7 PK	78.2	-15.5	1.30 H	161	56.60	6.10
4	#5725.00	38.6 PK	78.2	-39.6	1.30 H	161	32.50	6.10
5	*5775.00	96.0 PK			1.36 H	168	55.70	40.30
6	*5775.00	86.8 AV			1.36 H	168	46.50	40.30
7	11550.00	59.5 PK	74.0	-14.5	1.00 H	81	42.10	17.40
8	11550.00	46.2 AV	54.0	-7.8	1.00 H	81	28.80	17.40
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	#5714.90	66.3 PK	74.0	-7.7	1.68 V	188	60.30	6.00
2	#5714.90	51.8 AV	54.0	-2.2	1.68 V	188	45.80	6.00
3	#5722.90	70.6 PK	78.2	-7.6	1.68 V	188	64.50	6.10
4	#5725.00	47.8 PK	78.2	-30.4	1.68 V	188	41.70	6.10
5	*5775.00	104.6 PK			1.62 V	185	64.30	40.30
6	*5775.00	94.5 AV			1.62 V	185	54.20	40.30
7	11550.00	59.9 PK	74.0	-14.1	1.00 V	96	42.50	17.40
8	11550.00	46.5 AV	54.0	-7.5	1.00 V	96	29.10	17.40

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 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	37.66	30.4 QP	40.0	-9.6	1.00 H	86	45.00	-14.60
2	91.99	36.3 QP	43.5	-7.2	1.99 H	131	55.70	-19.40
3	144.38	37.4 QP	43.5	-6.1	1.24 H	260	51.30	-13.90
4	222.00	35.9 QP	46.0	-10.1	1.49 H	267	52.50	-16.60
5	400.52	31.4 QP	46.0	-14.6	1.99 H	163	42.60	-11.20
6	499.48	38.0 QP	46.0	-8.0	1.49 H	143	47.30	-9.30
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	37.66	36.2 QP	40.0	-3.8	1.24 V	220	50.80	-14.60
2	60.95	36.1 QP	40.0	-3.9	1.00 V	5	50.70	-14.60
3	146.32	34.8 QP	43.5	-8.7	1.24 V	130	48.70	-13.90
4	216.18	32.8 QP	46.0	-13.2	1.00 V	352	49.40	-16.60
5	499.48	36.1 QP	46.0	-9.9	1.00 V	303	45.40	-9.30
6	794.42	35.5 QP	46.0	-10.5	1.24 V	28	38.60	-3.10

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 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	72.59	32.9 QP	40.0	-7.1	1.00 H	253	49.30	-16.40
2	150.20	34.9 QP	43.5	-8.6	1.51 H	13	48.60	-13.70
3	336.48	28.5 QP	46.0	-17.5	1.00 H	235	40.50	-12.00
4	499.48	36.5 QP	46.0	-9.5	1.51 H	133	45.80	-9.30
5	736.21	36.7 QP	46.0	-9.3	2.00 H	7	40.70	-4.00
6	889.50	34.1 QP	46.0	-11.9	1.51 H	163	35.80	-1.70
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	33.78	36.8 QP	40.0	-3.2	1.00 V	278	52.00	-15.20
2	64.43	34.9 QP	40.0	-5.1	1.00 V	0	49.70	-14.80
3	148.26	28.6 QP	43.5	-14.9	1.99 V	263	42.30	-13.70
4	499.48	35.7 QP	46.0	-10.3	1.00 V	227	45.00	-9.30
5	736.21	29.7 QP	46.0	-16.3	1.49 V	202	33.70	-4.00
6	905.02	33.1 QP	46.0	-12.9	1.49 V	180	34.20	-1.10

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	ESCI	100613	Nov. 11, 2014	Nov. 10, 2015
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2014	Dec. 25, 2015
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2015	Feb. 25, 2016
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 24, 2015	Jul. 23, 2016
Software ADT	BV ADT_Conc_ 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 1.

3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

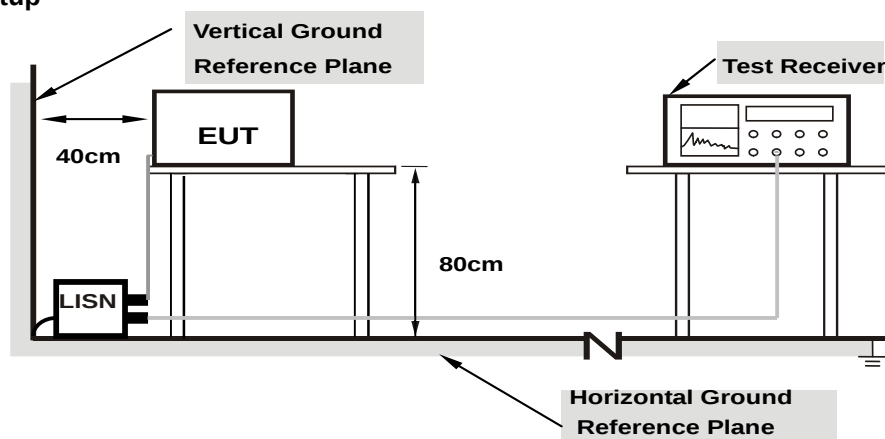
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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.

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.

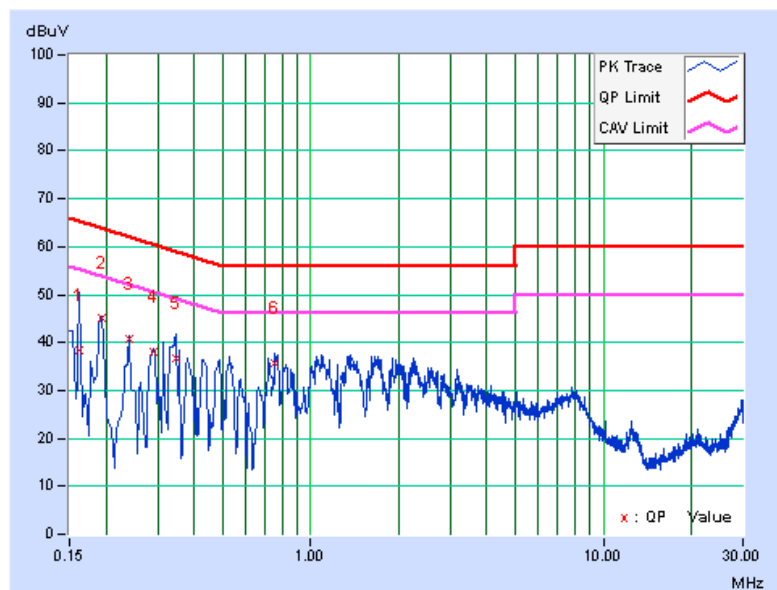
4.2.7 Test Results

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

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16173	9.82	28.60	7.93	38.42	17.75	65.37	55.37	-26.95	-37.62
2	0.19305	9.84	35.42	26.18	45.26	36.02	63.90	53.90	-18.65	-17.89
3	0.23993	9.85	30.80	22.02	40.65	31.87	62.10	52.10	-21.45	-20.23
4	0.28967	9.86	28.20	25.53	38.06	35.39	60.53	50.53	-22.48	-15.15
5	0.34550	9.87	26.85	16.33	36.72	26.20	59.07	49.07	-22.35	-22.87
6	0.75605	9.91	25.81	16.71	35.72	26.62	56.00	46.00	-20.28	-19.38

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.

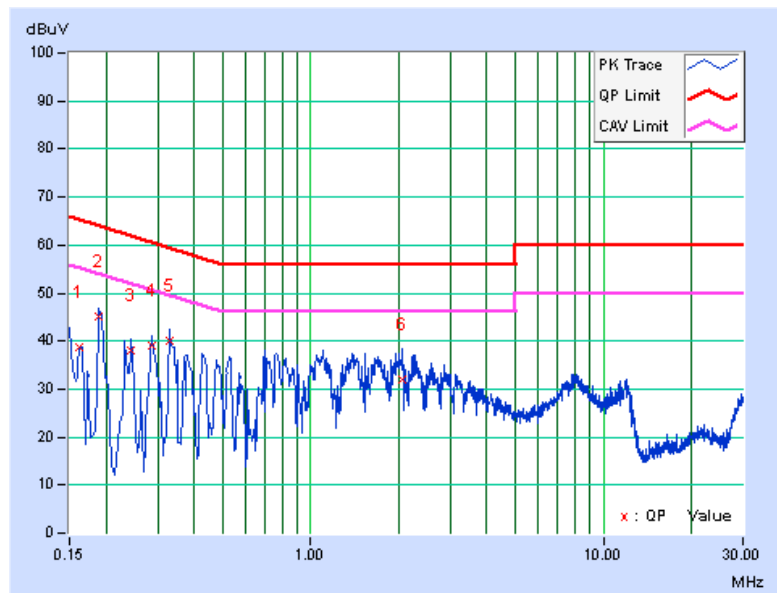


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16181	9.82	28.87	6.29	38.69	16.11	65.37	55.37	-26.68	-39.26
2	0.18910	9.83	35.41	25.01	45.24	34.84	64.08	54.08	-18.84	-19.24
3	0.24407	9.84	28.34	19.30	38.18	29.14	61.96	51.96	-23.78	-22.82
4	0.28685	9.85	29.29	26.26	39.14	36.11	60.62	50.62	-21.47	-14.50
5	0.32986	9.86	30.14	22.35	40.00	32.21	59.45	49.45	-19.45	-17.24
6	2.06199	9.99	21.87	15.14	31.86	25.13	56.00	46.00	-24.14	-20.87

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.

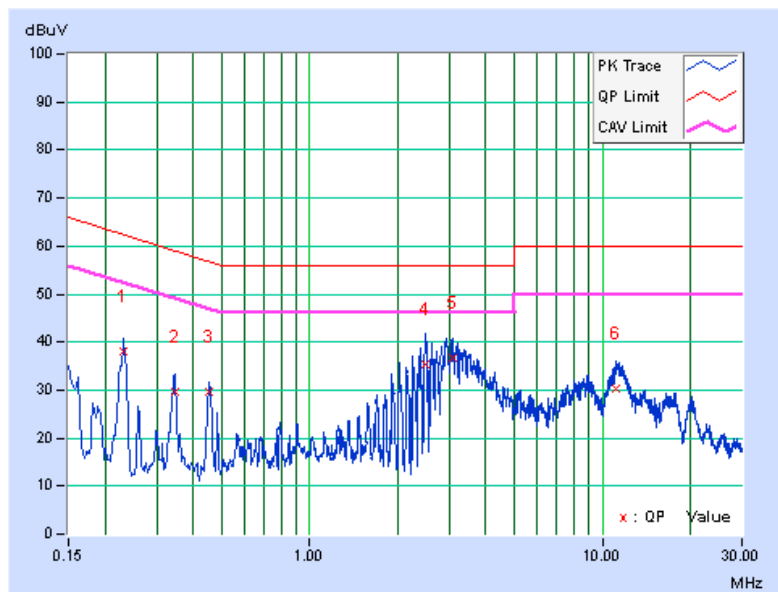


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23216	9.85	28.12	16.92	37.97	26.77	62.37	52.37	-24.41	-25.61
2	0.34560	9.87	19.88	10.73	29.75	20.60	59.07	49.07	-29.32	-28.47
3	0.45498	9.88	19.60	16.32	29.48	26.20	56.78	46.78	-27.30	-20.58
4	2.49991	10.03	25.35	15.08	35.38	25.11	56.00	46.00	-20.62	-20.89
5	3.07863	10.07	26.78	16.32	36.85	26.39	56.00	46.00	-19.15	-19.61
6	11.12928	10.58	19.70	12.64	30.28	23.22	60.00	50.00	-29.72	-26.78

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.

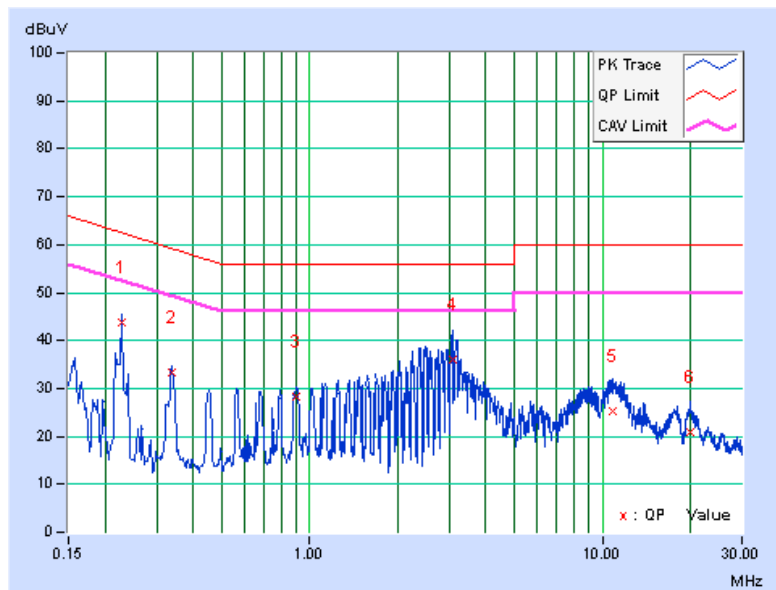


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22820	9.84	34.00	24.08	43.84	33.92	62.51	52.51	-18.68	-18.60
2	0.33750	9.86	23.39	18.10	33.25	27.96	59.26	49.26	-26.01	-21.30
3	0.90417	9.92	18.50	14.60	28.42	24.52	56.00	46.00	-27.58	-21.48
4	3.07863	10.07	25.93	10.70	36.00	20.77	56.00	46.00	-20.00	-25.23
5	10.83212	10.52	14.72	7.38	25.24	17.90	60.00	50.00	-34.76	-32.10
6	20.00107	10.92	9.87	4.82	20.79	15.74	60.00	50.00	-39.21	-34.26

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

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 $N_{ANT} \leq 4$;

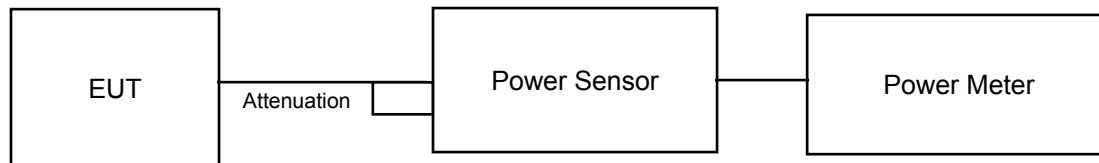
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

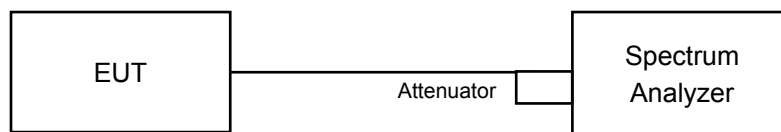
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

For Power Output Measurement



For 26dB and Occupied 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)

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

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:

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	10.40	10.10	21.198	13.26	30	Pass
40	5200	10.27	10.32	21.406	13.31	30	Pass
48	5240	10.27	10.26	21.258	13.28	30	Pass
52	5260	15.86	16.07	79.006	18.98	24	Pass
60	5300	15.99	16.03	79.806	19.02	24	Pass
64	5320	15.96	16.05	79.718	19.02	24	Pass
100	5500	17.02	17.08	101.400	20.06	24	Pass
116	5580	16.94	17.18	101.671	20.07	24	Pass
140	5700	16.98	17.12	101.411	20.06	24	Pass
149	5745	15.92	16.10	79.822	19.02	30	Pass
157	5785	15.89	16.17	80.215	19.04	30	Pass
165	5825	15.93	16.11	80.006	19.03	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log (20.57) = 24.13 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (20.66) = 24.15 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (20.48) = 24.11 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (20.77) = 24.17 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (20.91) = 24.20 > 24\text{dBm}$
6. $11\text{dBm} + 10\log (20.74) = 24.17 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log (20.47) = 24.11 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (20.51) = 24.12 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (20.41) = 24.10 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (20.56) = 24.13 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (20.47) = 24.11 > 24\text{dBm}$
6. $11\text{dBm} + 10\log (20.60) = 24.14 > 24\text{dBm}$

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	10.16	10.41	21.365	13.30	30	Pass
40	5200	10.27	10.28	21.307	13.29	30	Pass
48	5240	10.13	10.44	21.370	13.30	30	Pass
52	5260	15.99	16.03	79.806	19.02	24	Pass
60	5300	15.96	16.08	79.997	19.03	24	Pass
64	5320	15.95	16.05	79.627	19.01	24	Pass
100	5500	16.91	17.15	100.971	20.04	24	Pass
116	5580	16.97	17.13	101.416	20.06	24	Pass
140	5700	16.95	17.13	101.187	20.05	24	Pass
149	5745	15.88	16.15	79.936	19.03	30	Pass
157	5785	15.92	16.13	80.104	19.04	30	Pass
165	5825	15.91	16.12	79.920	19.03	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log (20.88) = 24.20 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (22.13) = 24.45 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (21.01) = 24.22 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (21.72) = 24.37 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (22.63) = 24.55 > 24\text{dBm}$
6. $11\text{dBm} + 10\log (22.16) = 24.46 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log (20.41) = 24.10 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (20.52) = 24.12 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (20.57) = 24.13 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (20.76) = 24.17 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (20.87) = 24.20 > 24\text{dBm}$
6. $11\text{dBm} + 10\log (20.72) = 24.16 > 24\text{dBm}$

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	10.24	10.31	21.308	13.29	30	Pass
46	5230	10.28	10.32	21.431	13.31	30	Pass
54	5270	15.96	16.05	79.718	19.02	24	Pass
62	5310	15.97	16.03	79.624	19.01	24	Pass
102	5510	16.93	17.15	101.197	20.05	24	Pass
110	5550	16.97	17.14	101.535	20.07	24	Pass
134	5670	16.91	17.18	101.331	20.06	24	Pass
151	5755	15.92	16.11	79.916	19.03	30	Pass
159	5795	15.87	16.16	79.942	19.03	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log (41.72) = 27.20 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (43.47) = 27.38 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (45.42) = 27.57 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (45.25) = 27.56 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (47.76) = 27.79 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log (41.77) = 27.21 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (43.73) = 27.41 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (42.13) = 27.25 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (41.42) = 27.17 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (47.14) = 27.73 > 24\text{dBm}$

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	10.21	10.36	21.359	13.30	30	Pass
58	5290	15.98	16.06	79.993	19.03	24	Pass
106	5530	14.34	14.12	52.987	17.24	24	Pass
155	5775	15.97	16.08	80.088	19.04	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log (84.18) = 30.25 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (83.00) = 30.19 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log (82.73) = 30.18 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (82.81) = 30.18 > 24\text{dBm}$

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.41	20.31	Pass
40	5200	20.49	20.46	Pass
48	5240	20.41	20.44	Pass
52	5260	20.57	20.47	Pass
60	5300	20.66	20.51	Pass
64	5320	20.48	20.41	Pass
100	5500	20.77	20.56	Pass
116	5580	20.91	20.47	Pass
140	5700	20.74	20.60	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.94	20.57	Pass
40	5200	20.79	20.60	Pass
48	5240	20.70	20.70	Pass
52	5260	20.88	20.41	Pass
60	5300	22.13	20.52	Pass
64	5320	21.01	20.57	Pass
100	5500	21.72	20.76	Pass
116	5580	22.63	20.87	Pass
140	5700	22.16	20.72	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	41.75	41.23	Pass
46	5230	41.52	41.18	Pass
54	5270	41.72	41.77	Pass
62	5310	43.47	43.73	Pass
102	5510	45.42	42.13	Pass
110	5550	45.25	41.42	Pass
134	5670	47.76	47.14	Pass

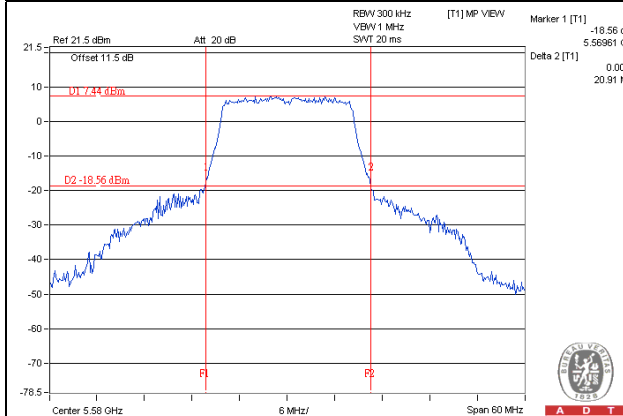
802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	83.59	82.89	Pass
58	5290	84.18	82.73	Pass
106	5530	83.00	82.81	Pass

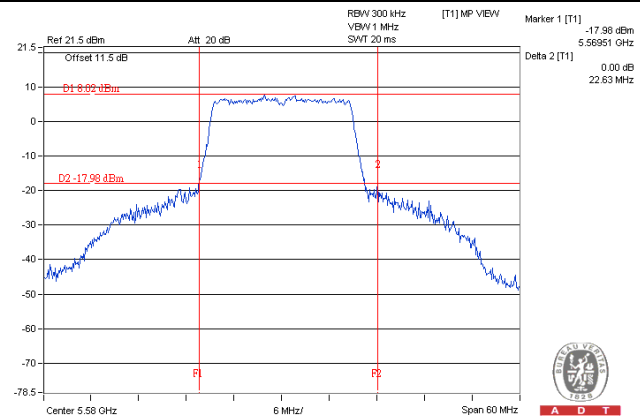
Spectrum Plot of Worst Value

802.11a

802.11n (HT20)



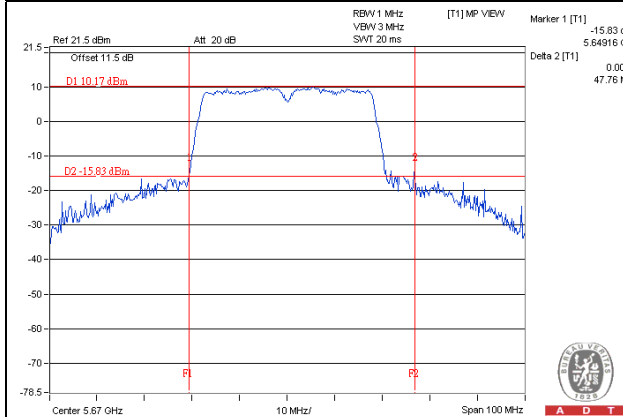
A D T



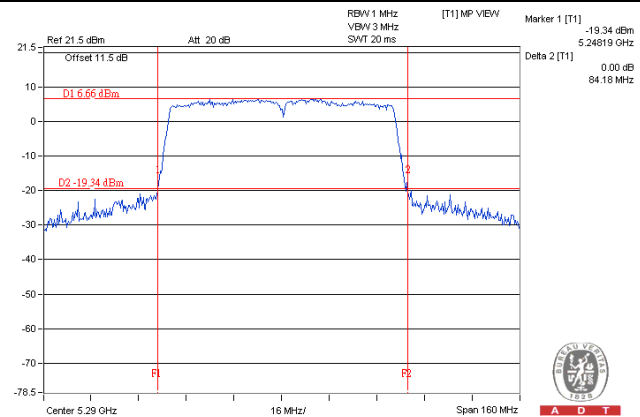
A D T

802.11n (HT40)

802.11ac (VHT80)



A D T



A D T

Occupied Bandwidth:

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.92	16.80
40	5200	16.92	16.80
48	5240	16.92	16.80
52	5260	16.80	16.80
60	5300	16.80	16.68
64	5320	16.80	16.92
100	5500	16.92	16.80
116	5580	16.92	16.92
140	5700	16.92	16.80
149	5745	16.92	16.92
157	5785	16.80	16.80
165	5825	16.92	16.80

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.88	17.88
40	5200	17.88	17.88
48	5240	17.88	17.88
52	5260	17.88	17.88
60	5300	17.88	17.88
64	5320	17.88	17.88
100	5500	17.88	17.88
116	5580	18.12	17.88
140	5700	17.88	17.88
149	5745	17.88	17.88
157	5785	17.88	17.76
165	5825	17.88	17.88

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.72	36.48
46	5230	36.60	36.60
54	5270	36.60	36.72
62	5310	36.60	36.60
102	5510	36.84	36.72
110	5550	36.60	36.60
134	5670	36.72	36.72
151	5755	36.72	36.48
159	5795	36.60	36.60

802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.60	75.60
58	5290	75.88	75.88
106	5530	75.88	75.60
155	5775	75.88	75.88

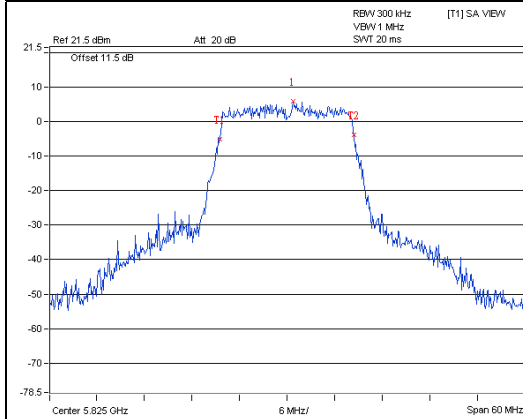


A D T

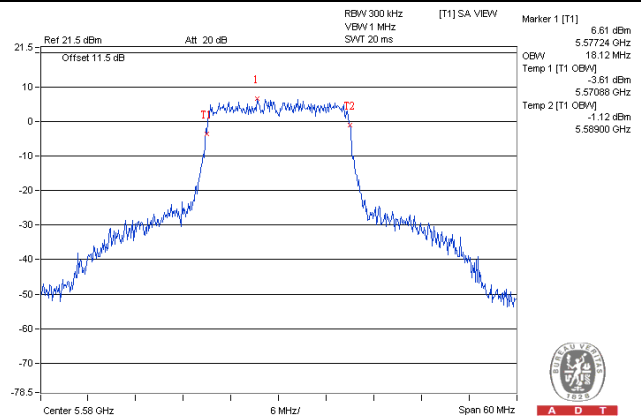
Spectrum Plot of Worst Value

802.11a

802.11n (HT20)



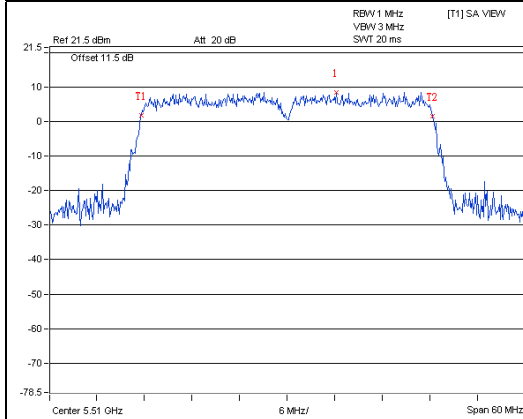
A D T



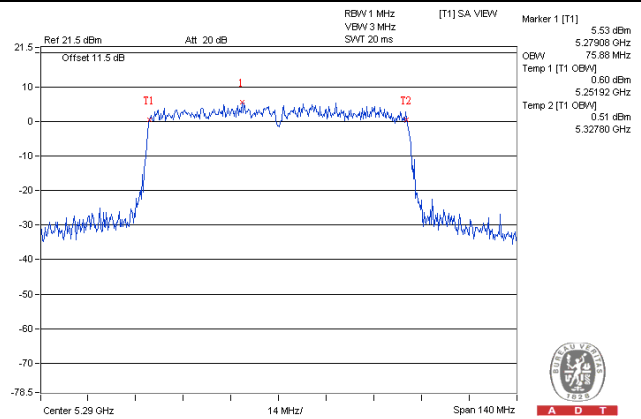
A D T

802.11n (HT40)

802.11ac (VHT80)



A D T



A D T

EUT MAXIMUM CONDUCTED POWER

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	79.806	19.02
5470~5725	101.671	20.07

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	79.997	19.03
5470~5725	101.416	20.06

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	79.718	19.02
5470~5725	101.535	20.07

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	79.993	19.03
5470~5725	52.987	17.24

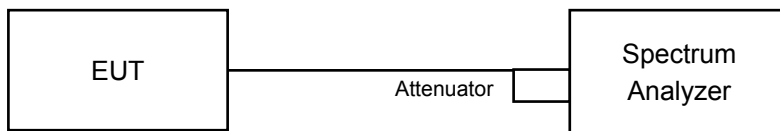
Note: Manufacturer provides Transmit Power Control description to meet this requirement.

4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

For U-NII-1, U-NII-2A, U-NII-2C band:

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- 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 $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Record the max value and add 10 log (1/duty cycle)

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

For U-NII-1, U-NII-2A, U-NII-2C Band

802.11a

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	-3.71	-3.68	-0.69	0.23	-0.46	16.36	Pass
40	5200	-3.67	-3.46	-0.56	0.23	-0.33	16.36	Pass
48	5240	-3.40	-3.13	-0.26	0.23	-0.03	16.36	Pass
52	5260	2.27	2.87	5.59	0.23	5.82	10.19	Pass
60	5300	2.23	2.60	5.43	0.23	5.66	10.19	Pass
64	5320	2.28	2.38	5.34	0.23	5.57	10.19	Pass
100	5500	2.73	3.31	6.04	0.23	6.27	10.19	Pass
116	5580	2.77	3.27	6.03	0.23	6.26	10.19	Pass
140	5700	2.88	3.70	6.32	0.23	6.55	10.19	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.
- U-NII-1: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.64 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.64-6) = 16.36\text{dBm}$.
 U-NII-2A: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.81 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.81-6) = 10.19\text{dBm}$.
 U-NII-2C: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.81 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.81-6) = 10.19\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

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	-4.14	-3.88	-0.99	0.26	-0.73	16.36	Pass
40	5200	-4.03	-3.79	-0.89	0.26	-0.63	16.36	Pass
48	5240	-3.64	-3.65	-0.63	0.26	-0.37	16.36	Pass
52	5260	1.88	2.29	5.1	0.26	5.36	10.19	Pass
60	5300	1.42	2.20	4.84	0.26	5.10	10.19	Pass
64	5320	1.59	2.11	4.87	0.26	5.13	10.19	Pass
100	5500	2.27	2.92	5.62	0.26	5.88	10.19	Pass
116	5580	2.35	2.97	5.69	0.26	5.95	10.19	Pass
140	5700	2.49	3.23	5.89	0.26	6.15	10.19	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.
- U-NII-1: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.64 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.64-6) = 16.36\text{dBm}$.
 U-NII-2A: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.81 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.81-6) = 10.19\text{dBm}$.
 U-NII-2C: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.81 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.81-6) = 10.19\text{dBm}$.
- 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	-7.40	-7.19	-4.29	0.49	-3.80	16.36	Pass
46	5230	-7.16	-7.27	-4.21	0.49	-3.72	16.36	Pass
54	5270	-1.86	-1.15	1.52	0.49	2.01	10.19	Pass
62	5310	-2.25	-1.45	1.18	0.49	1.67	10.19	Pass
102	5510	-1.34	-0.34	2.20	0.49	2.69	10.19	Pass
110	5550	-1.06	-0.38	2.30	0.49	2.79	10.19	Pass
134	5670	-1.42	0.04	2.38	0.49	2.87	10.19	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.
- U-NII-1: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.64 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (6.64 - 6) = 16.36 \text{ dBm}$.
 U-NII-2A: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.81 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (6.81 - 6) = 10.19 \text{ dBm}$.
 U-NII-2C: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.81 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (6.81 - 6) = 10.19 \text{ dBm}$.
- 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	-9.87	-9.51	-6.68	0.29	-6.39	16.36	Pass
58	5290	-4.39	-3.85	-1.10	0.29	-0.81	10.19	Pass
106	5530	-6.76	-6.02	-3.36	0.29	-3.07	10.19	Pass

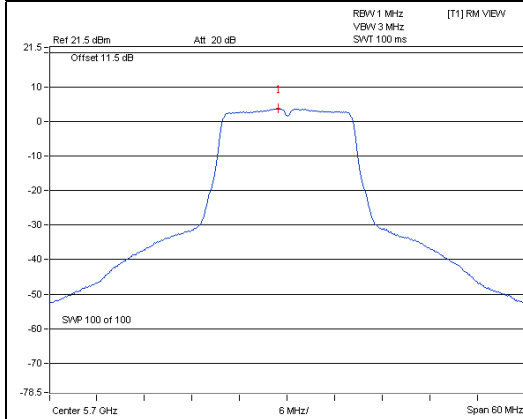
Note:

- 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.
- U-NII-1: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.64 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (6.64 - 6) = 16.36 \text{ dBm}$.
 U-NII-2A: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.81 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (6.81 - 6) = 10.19 \text{ dBm}$.
 U-NII-2C: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.81 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (6.81 - 6) = 10.19 \text{ dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

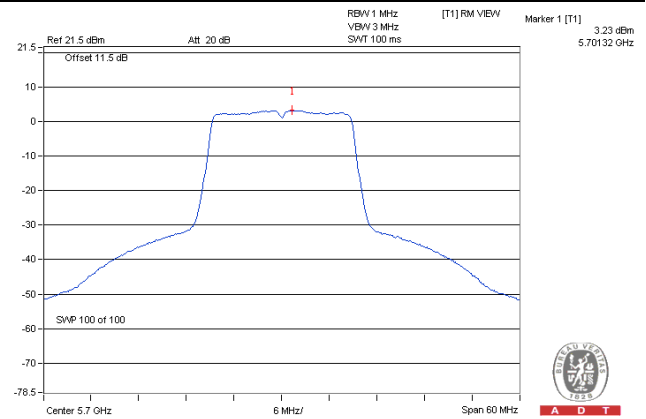
Spectrum Plot of Worst Value

802.11a / Chain 0 / CH 140

802.11n (HT20) / Chain 0 / CH 140



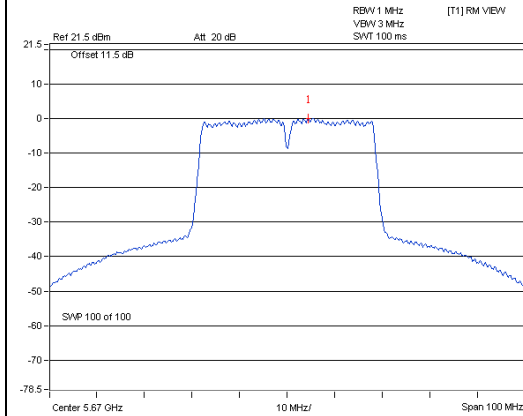
A D T



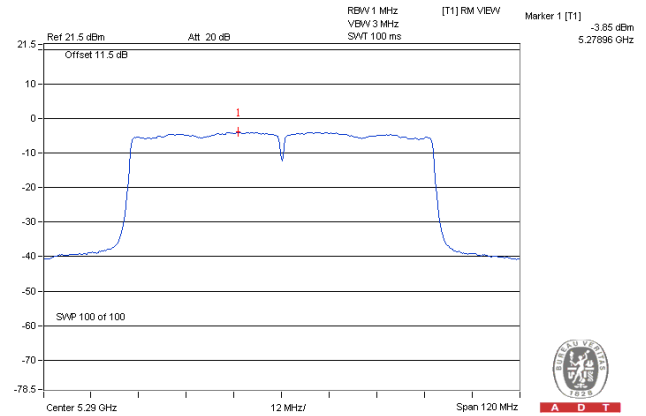
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802.11n (HT40) / Chain 0 / CH 134

802.11ac (VHT80) / Chain 0 / CH 58



A D T



A D T

For U-NII-3 Band

802.11a

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-5.93	-3.71	3.01	0.23	-0.47	29.11	Pass
	157	5785	-6.06	-3.84	3.01	0.23	-0.60	29.11	Pass
	165	5825	-6.26	-4.04	3.01	0.23	-0.80	29.11	Pass
1	149	5745	-5.48	-3.26	3.01	0.23	-0.02	29.11	Pass
	157	5785	-5.86	-3.64	3.01	0.23	-0.40	29.11	Pass
	165	5825	-5.90	-3.68	3.01	0.23	-0.44	29.11	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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.89 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (6.89 - 6) = 29.11 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-6.67	-4.45	3.01	0.26	-1.18	29.11	Pass
	157	5785	-6.42	-4.20	3.01	0.26	-0.93	29.11	Pass
	165	5825	-6.42	-4.20	3.01	0.26	-0.93	29.11	Pass
1	149	5745	-6.23	-4.01	3.01	0.26	-0.74	29.11	Pass
	157	5785	-6.33	-4.11	3.01	0.26	-0.84	29.11	Pass
	165	5825	-6.37	-4.15	3.01	0.26	-0.88	29.11	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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.89 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (6.89 - 6) = 29.11 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-10.11	-7.89	3.01	0.49	-4.39	29.11	Pass
	159	5795	-10.36	-8.14	3.01	0.49	-4.64	29.11	Pass
1	151	5755	-9.75	-7.53	3.01	0.49	-4.03	29.11	Pass
	159	5795	-10.03	-7.81	3.01	0.49	-4.31	29.11	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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.89 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (6.89 - 6) = 29.11 \text{ dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-12.87	-10.65	3.01	0.29	-7.35	29.11	Pass
1	155	5775	-12.62	-10.40	3.01	0.29	-7.10	29.11	Pass

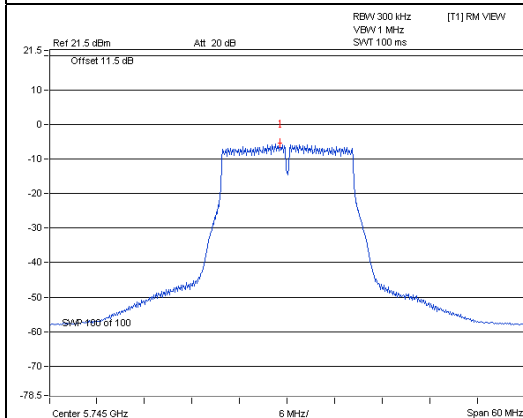
Note:

- 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 = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.89 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (6.89 - 6) = 29.11 \text{ dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

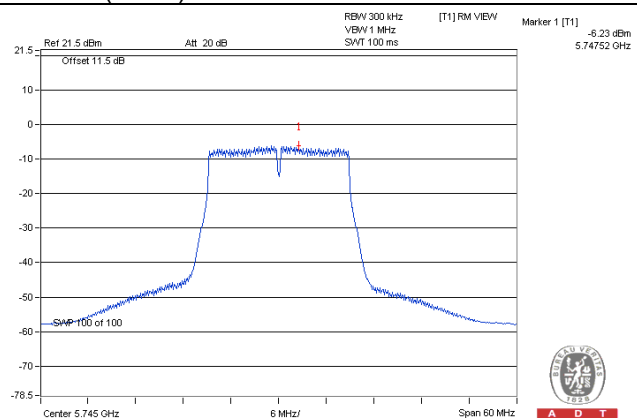
Spectrum Plot of Worst Value

802.11a

802.11n (HT20)



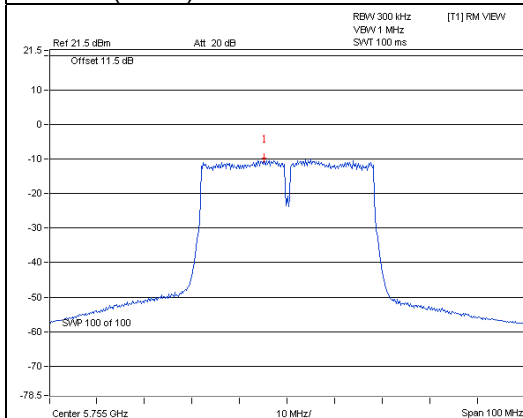
A D T



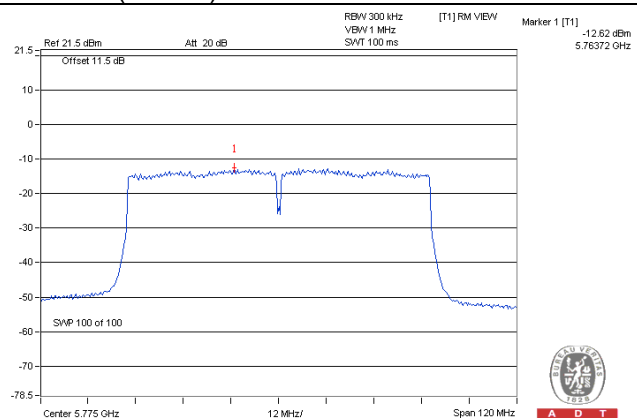
A D T

802.11n (HT40)

802.11ac (VHT80)



A D T



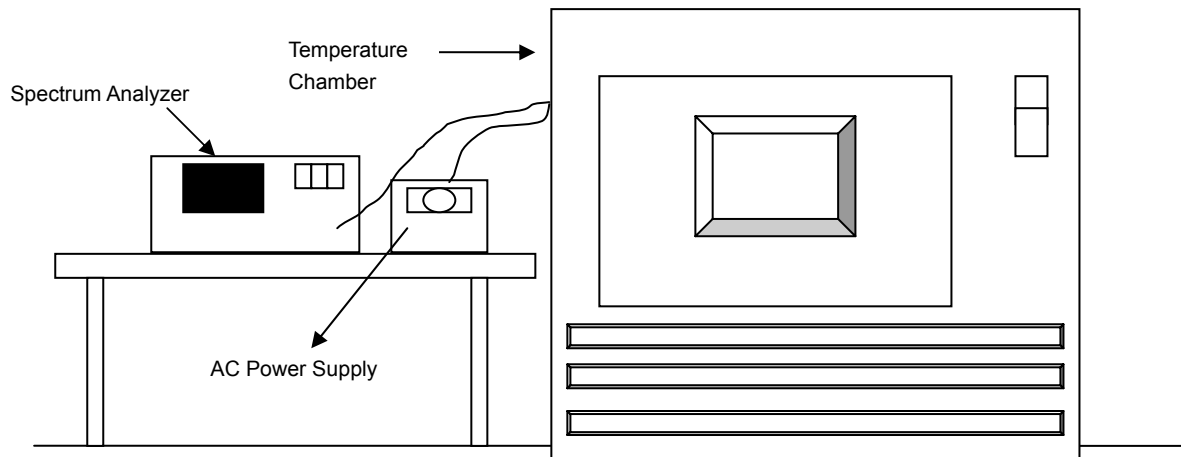
A D T

4.5 Frequency Stability

4.5.1 Limits of Frequency Stability Measurement

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

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

- 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.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
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	5179.9952	-0.00009	5179.9925	-0.00014	5179.9912	-0.00017	5179.991	-0.00017
40	120	5180.0008	0.00002	5180.0009	0.00002	5180.0026	0.00005	5180.0019	0.00004
30	120	5180.0064	0.00012	5180.0084	0.00016	5180.008	0.00015	5180.0087	0.00017
20	120	5179.9751	-0.00048	5179.9776	-0.00043	5179.9754	-0.00047	5179.979	-0.00041
10	120	5179.989	-0.00021	5179.9866	-0.00026	5179.9872	-0.00025	5179.9885	-0.00022
0	120	5179.9772	-0.00044	5179.976	-0.00046	5179.9732	-0.00052	5179.9747	-0.00049
-10	120	5180.0109	0.00021	5180.0092	0.00018	5180.0119	0.00023	5180.0073	0.00014
-20	120	5179.9789	-0.00041	5179.9778	-0.00043	5179.9795	-0.00040	5179.9816	-0.00036
-30	120	5179.9835	-0.00032	5179.98	-0.00039	5179.9836	-0.00032	5179.9814	-0.00036

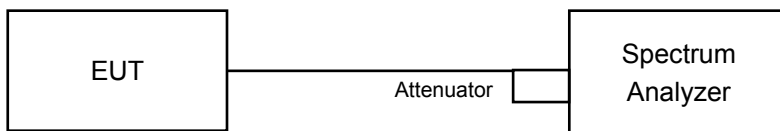
Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5179.9753	-0.00048	5179.977	-0.00044	5179.9755	-0.00047	5179.9786	-0.00041
	120	5179.9751	-0.00048	5179.9776	-0.00043	5179.9754	-0.00047	5179.979	-0.00041
	102	5179.9757	-0.00047	5179.9777	-0.00043	5179.9759	-0.00047	5179.9796	-0.00039

4.6 6dB Bandwidth Measurement

4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

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

MEASUREMENT PROCEDURE REF

- 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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.41	16.41	0.5	Pass
157	5785	16.44	16.43	0.5	Pass
165	5825	16.40	16.44	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	17.66	0.5	Pass
157	5785	17.63	17.67	0.5	Pass
165	5825	17.61	17.65	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.29	36.45	0.5	Pass
159	5795	36.42	36.47	0.5	Pass

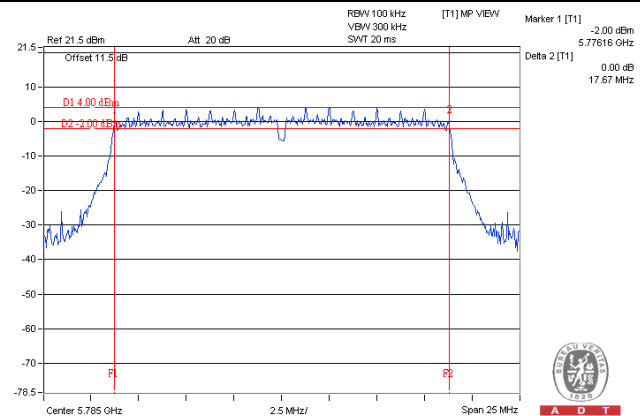
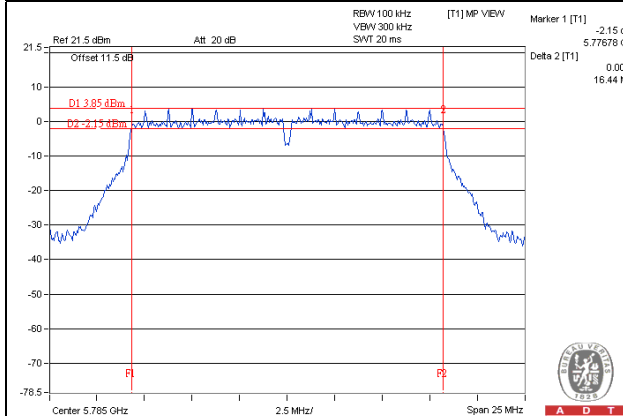
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.76	76.26	0.5	Pass

Spectrum Plot of Worst Value

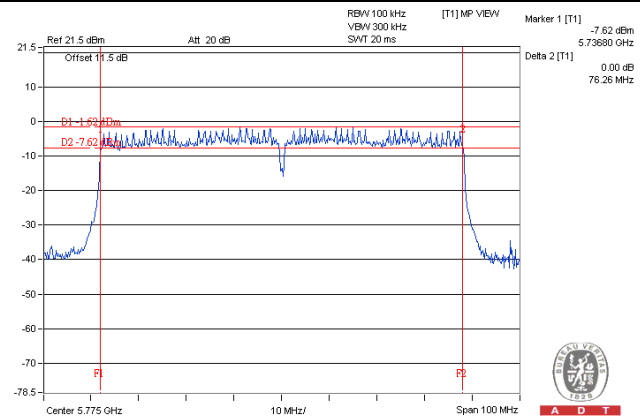
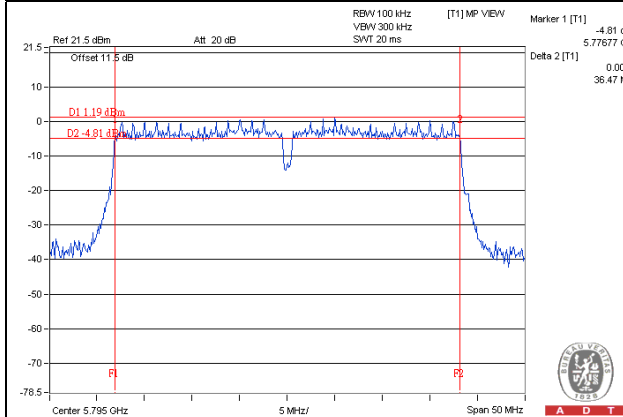
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



5 Pictures of Test Arrangements

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

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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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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