

FCC Test Report

Report No.: RF191021C12-1

FCC ID: M72-P018

Test Model: P018

Received Date: Oct. 21, 2019

Test Date: Nov. 05 ~ Nov. 19, 2019

Issued Date: Nov. 26, 2019

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**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RF191021C12-1	Original release	Nov. 26, 2019

1 Certificate of Conformity

Product: Poly Studio X30

Brand: Poly

Test Model: P018

Sample Status: Engineering sample

Applicant: Polycom Inc.

Test Date: Nov. 05 ~ Nov. 19, 2019

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 RF characteristics under the conditions specified in this report.

Prepared by : *Polly Chien* , **Date:** Nov. 26, 2019
Polly Chien / Specialist

Approved by : *Bruce Chen* , **Date:** Nov. 26, 2019
Bruce Chen / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -13.20dB at 0.43400MHz.
15.407(b)(1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.1dB at 5350.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
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(MHF) not a standard connector.

Note:

- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	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	Poly Studio X30
Brand	Poly
Test Model	P018
Sample Status	Engineering sample
Power Supply Rating	12Vdc (adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 867Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500 ~ 5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 12 802.11n (HT40), 802.11ac (VHT40): 6 802.11ac (VHT80): 3 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5180 ~ 5240MHz: 50.357mW 5260 ~ 5320MHz: 46.509mW 5500 ~ 5720MHz: 49.729mW 5745 ~ 5825MHz: 46.101mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter, Remote Controller (Brand: Poly, Model: BW7630UN)
Cable Supplied	1.75m shielded HDMI cable without core x2 4.55m shielded RJ45 cable without core

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 (VHT20)	2TX
802.11ac (VHT40)	2TX
802.11ac (VHT80)	2TX

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 802.11ac mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT consumes power from the following adapter.

Adapter	
Brand	FSP GROUP INC.
Model	FSP036-DHAN3
Input Power	100-240Vac, 50-60Hz, 1.2A
Output Power	12Vdc, 3.0A (36W Max.)
Power Line	2.65m non-shielded AC power core without core 1.45m DC power cable without core attached on adapter

3. The following antennas were provided to the EUT.

No.	Brand	Model	Antenna type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	Yageo	ANTA0ZZ11241WLAN1	Dipole	i-pex(MHF)	2.6	3.0
2	Yageo	ANTA0ZZ13651WLAN3	Dipole	i-pex(MHF)	2.6	3.0

4. 2.4GHz & 5GHz & BT technology cannot transmit at same time.

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 ~ 5720MHz:

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

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

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

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	122	5610 MHz
138	5690 MHz		

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	
-	√	√	√	√	-

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 was positioned on **X-plane**.
- Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst maximum power.

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	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

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	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11n (HT40)	38 to 46	38, 46	46	OFDM	13.5
-	802.11n (HT40)	54 to 62	54, 62		OFDM	13.5
-	802.11n (HT40)	102 to 142	102, 110, 134, 142		OFDM	13.5
-	802.11n (HT40)	151 to 159	151, 159		OFDM	13.5

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	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11n (HT40)	38 to 46	38, 46	46	OFDM	13.5
-	802.11n (HT40)	54 to 62	54, 62		OFDM	13.5
-	802.11n (HT40)	102 to 142	102, 110, 134, 142		OFDM	13.5
-	802.11n (HT40)	151 to 159	151, 159		OFDM	13.5

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	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE \geq 1G	22 deg. C, 68% RH 23 deg. C, 66% RH	120Vac, 60Hz	Greg Lin Han Wu
RE<1G	23 deg. C, 66% RH	120Vac, 60Hz	Titan Hsu
PLC	24 deg. C, 68% RH	120Vac, 60Hz	Willy Cheng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Leo Tsai

3.3 Duty Cycle of Test Signal

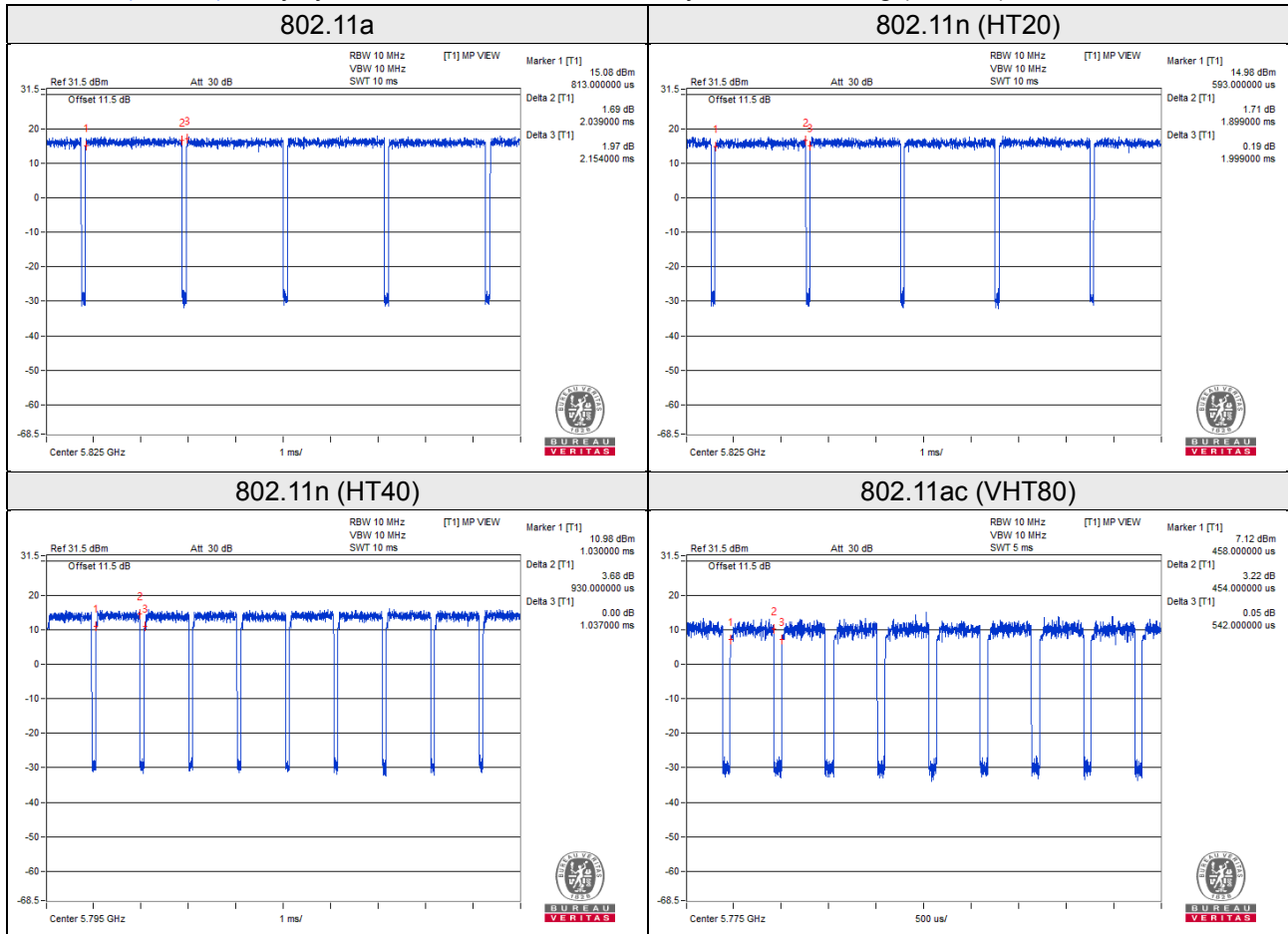
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = $2.039/2.154 = 0.947$, Duty factor = $10 * \log(1/0.947) = 0.24$

802.11n (HT20): Duty cycle = $1.899/1.999 = 0.950$, Duty factor = $10 * \log(1/0.950) = 0.22$

802.11n (HT40): Duty cycle = $0.930/1.037 = 0.897$, Duty factor = $10 * \log(1/0.897) = 0.47$

802.11ac (VHT80): Duty cycle = $0.454/0.542 = 0.838$, Duty factor = $10 * \log(1/0.838) = 0.77$



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.

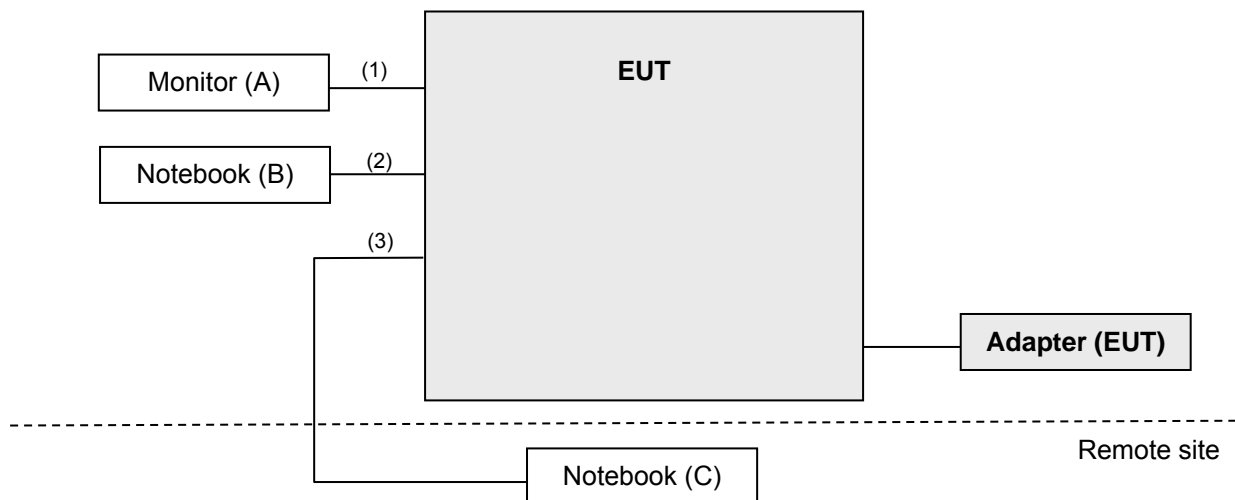
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Monitor	ViewSonic	VX2457-MHD	UG0182942330	FCC DoC Approved	-
B.	Notebook	DELL	E5420	33MJMQ1	FCC DoC Approved	-
C.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-

Note:

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

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	HDMI cable	1	1.75	Y	0	Accessory of EUT
2.	HDMI cable	1	1.75	Y	0	Accessory of EUT
3.	LAN cable	1	4.55	Y	0	Accessory of EUT RJ45, Cat5e

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10:2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK: 74 (dBuV/m)	AV: 54 (dBuV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2(dBuV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<input checked="" type="checkbox"/> 15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2(dBuV/m) ^{*1} PK: 105.2 (dBuV/m) ^{*2} PK: 110.8(dBuV/m) ^{*3} PK: 122.2 (dBuV/m) ^{*4}
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 15, 2019	Apr. 14, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2019	Jun. 11, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna TESEQ	HLA 6121	45745	Jul. 01, 2019	Jun. 30, 2020
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jul. 11, 2019	Jul. 10, 2020
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 19, 2019	Feb. 18, 2020
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM80 00	CABLE-CH9-02 (248780+171006)	Jan. 19, 2019	Jan. 18, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jul. 11, 2019	Jul. 10, 2020
RF signal cable Woken	8D-FB	Cable-CH9-01	Jul. 30, 2019	Jul. 29, 2020
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 05, 2019	Sep. 04, 2020
Peak Power Analyzer KEYSIGHT (Support 8TX and 160MHz Bandwidth)	8990B	MY51000485	Jan. 14, 2019	Jan. 13, 2020
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190 004/MY55190007/MY55 210005	Jul. 15, 2019	Jul. 14, 2020

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 9.

4.1.3 Test Procedures

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

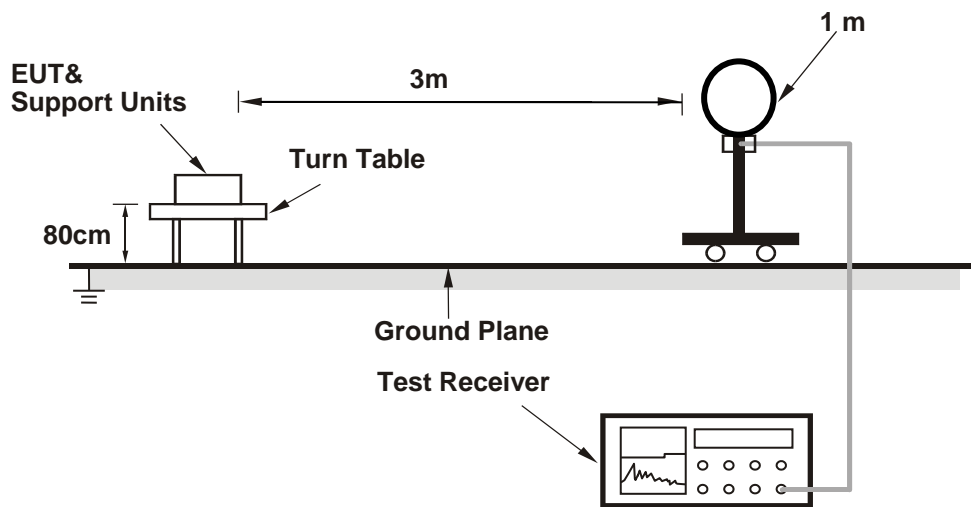
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz. (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11n (HT20): RBW = 1MHz, VBW = 1kHz; 802.11n (HT40): RBW = 1MHz, VBW = 3kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 3kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

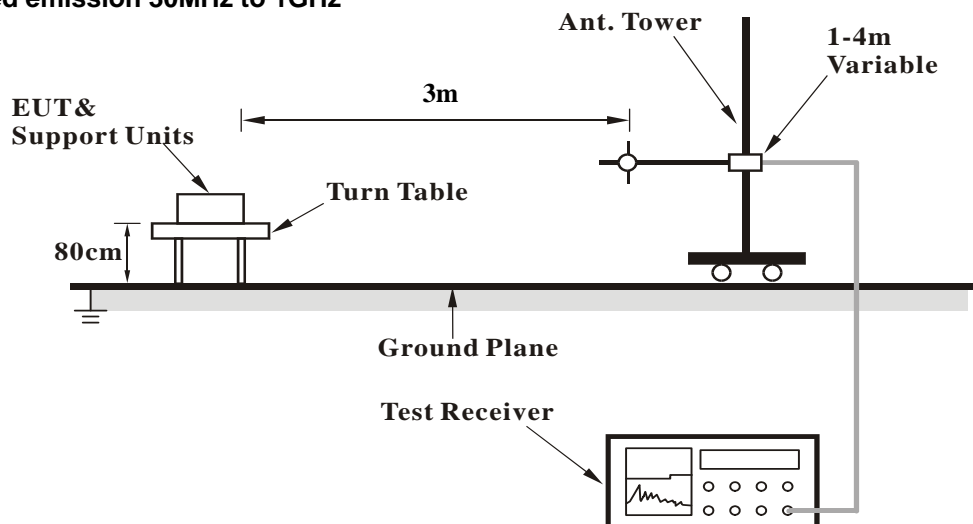
No deviation.

4.1.5 Test Setup

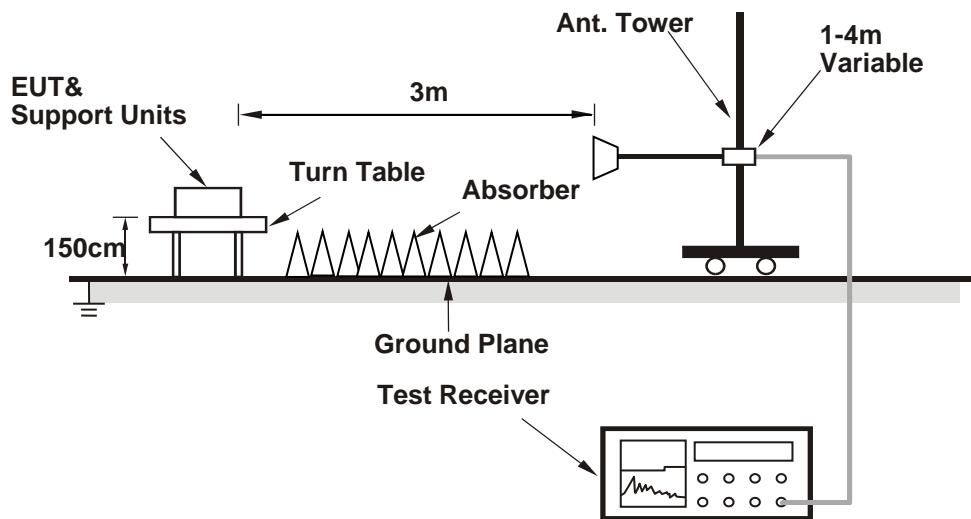
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- a. Placed the EUT on the testing table.
- b. Set the EUT under transmission condition continuously at specific channel frequency.
- c. The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz data:

802.11a

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

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	54.8 PK	74.0	-19.2	2.83 H	6	50.7	4.1
2	5150.00	43.0 AV	54.0	-11.0	2.83 H	6	38.9	4.1
3	*5180.00	108.9 PK			2.87 H	2	70.4	38.5
4	*5180.00	98.9 AV			2.87 H	2	60.4	38.5
5	#10360.00	57.8 PK	68.2	-10.4	1.83 H	114	41.3	16.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.7 PK	74.0	-18.3	2.07 V	284	51.6	4.1
2	5150.00	45.7 AV	54.0	-8.3	2.07 V	284	41.6	4.1
3	*5180.00	112.8 PK			2.12 V	292	74.3	38.5
4	*5180.00	102.7 AV			2.12 V	292	64.2	38.5
5	#10360.00	57.0 PK	68.2	-11.2	1.57 V	206	40.5	16.5

Remarks:

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

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

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	108.9 PK			2.89 H	6	70.5	38.4
2	*5200.00	98.9 AV			2.89 H	6	60.5	38.4
3	#10400.00	57.9 PK	68.2	-10.3	1.76 H	123	41.4	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	112.7 PK			2.18 V	297	74.3	38.4
2	*5200.00	102.7 AV			2.18 V	297	64.3	38.4
3	#10400.00	57.3 PK	68.2	-10.9	1.62 V	216	40.8	16.5

Remarks:

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

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

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	109.2 PK			2.79 H	5	70.9	38.3
2	*5240.00	99.2 AV			2.79 H	5	60.9	38.3
3	5350.00	54.1 PK	74.0	-19.9	2.73 H	11	50.2	3.9
4	5350.00	43.2 AV	54.0	-10.8	2.73 H	11	39.3	3.9
5	#10480.00	57.9 PK	68.2	-10.3	1.92 H	127	41.6	16.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	113.1 PK			2.09 V	293	74.8	38.3
2	*5240.00	103.1 AV			2.09 V	293	64.8	38.3
3	5350.00	54.7 PK	74.0	-19.3	2.03 V	286	50.8	3.9
4	5350.00	44.2 AV	54.0	-9.8	2.03 V	286	40.3	3.9
5	#10480.00	57.2 PK	68.2	-11.0	1.63 V	208	40.9	16.3

Remarks:

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

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	54.7 PK	74.0	-19.3	2.72 H	8	50.6	4.1
2	5150.00	44.4 AV	54.0	-9.6	2.72 H	8	40.3	4.1
3	*5260.00	109.3 PK			2.82 H	4	71.1	38.2
4	*5260.00	99.2 AV			2.82 H	4	61.0	38.2
5	#10520.00	57.9 PK	68.2	-10.3	1.76 H	106	41.6	16.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.7 PK	74.0	-18.3	1.93 V	284	51.6	4.1
2	5150.00	45.4 AV	54.0	-8.6	1.93 V	284	41.3	4.1
3	*5260.00	112.3 PK			2.06 V	287	74.1	38.2
4	*5260.00	102.2 AV			2.06 V	287	64.0	38.2
5	#10520.00	57.1 PK	68.2	-11.1	1.62 V	209	40.8	16.3

Remarks:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	109.3 PK			2.91 H	6	71.2	38.1
2	*5300.00	99.5 AV			2.91 H	6	61.4	38.1
3	10600.00	57.8 PK	74.0	-16.2	1.93 H	128	41.3	16.5
4	10600.00	43.7 AV	54.0	-10.3	1.93 H	128	27.2	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	112.9 PK			2.02 V	296	74.8	38.1
2	*5300.00	103.3 AV			2.02 V	296	65.2	38.1
3	10600.00	57.1 PK	74.0	-16.9	1.63 V	217	40.6	16.5
4	10600.00	43.3 AV	54.0	-10.7	1.63 V	217	26.8	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	109.4 PK			2.90 H	7	71.2	38.2
2	*5320.00	99.6 AV			2.90 H	7	61.4	38.2
3	5350.00	54.7 PK	74.0	-19.3	2.76 H	11	50.8	3.9
4	5350.00	44.5 AV	54.0	-9.5	2.76 H	11	40.6	3.9
5	10640.00	58.3 PK	74.0	-15.7	1.94 H	125	41.6	16.7
6	10640.00	44.0 AV	54.0	-10.0	1.94 H	125	27.3	16.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	113.3 PK			2.08 V	292	75.1	38.2
2	*5320.00	103.5 AV			2.08 V	292	65.3	38.2
3	5350.00	57.5 PK	74.0	-16.5	1.89 V	284	53.6	3.9
4	5350.00	46.4 AV	54.0	-7.6	1.89 V	284	42.5	3.9
5	10640.00	57.5 PK	74.0	-16.5	1.55 V	203	40.8	16.7
6	10640.00	43.4 AV	54.0	-10.6	1.55 V	203	26.7	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	55.2 PK	74.0	-18.8	2.74 H	18	50.8	4.4
2	5460.00	44.6 AV	54.0	-9.4	2.74 H	18	40.2	4.4
3	#5470.00	57.1 PK	68.2	-11.1	2.63 H	16	52.6	4.5
4	*5500.00	110.5 PK			2.93 H	15	71.7	38.8
5	*5500.00	100.4 AV			2.93 H	15	61.6	38.8
6	11000.00	59.3 PK	74.0	-14.7	1.83 H	114	40.9	18.4
7	11000.00	45.5 AV	54.0	-8.5	1.83 H	114	27.1	18.4

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	55.7 PK	74.0	-18.3	2.14 V	258	51.3	4.4
2	5460.00	44.7 AV	54.0	-9.3	2.14 V	258	40.3	4.4
3	#5470.00	57.9 PK	68.2	-10.3	2.11 V	268	53.4	4.5
4	*5500.00	111.4 PK			2.21 V	262	72.6	38.8
5	*5500.00	101.3 AV			2.21 V	262	62.5	38.8
6	11000.00	60.0 PK	74.0	-14.0	2.42 V	226	41.6	18.4
7	11000.00	46.0 AV	54.0	-8.0	2.42 V	226	27.6	18.4

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	111.0 PK			2.79 H	16	72.3	38.7
2	*5580.00	100.9 AV			2.79 H	16	62.2	38.7
3	11160.00	58.1 PK	74.0	-15.9	1.83 H	107	41.0	17.1
4	11160.00	44.2 AV	54.0	-9.8	1.83 H	107	27.1	17.1

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	111.7 PK			2.24 V	264	73.0	38.7
2	*5580.00	101.6 AV			2.24 V	264	62.9	38.7
3	11160.00	59.0 PK	74.0	-15.0	2.57 V	234	41.9	17.1
4	11160.00	44.8 AV	54.0	-9.2	2.57 V	234	27.7	17.1

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	110.6 PK			2.74 H	11	71.7	38.9
2	*5700.00	100.5 AV			2.74 H	11	61.6	38.9
3	#5725.00	56.4 PK	68.2	-11.8	2.87 H	19	51.8	4.6
4	11400.00	58.3 PK	74.0	-15.7	1.85 H	118	40.8	17.5
5	11400.00	44.4 AV	54.0	-9.6	1.85 H	118	26.9	17.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	111.3 PK			2.16 V	258	72.4	38.9
2	*5700.00	101.3 AV			2.16 V	258	62.4	38.9
3	#5725.00	57.0 PK	68.2	-11.2	2.26 V	270	52.4	4.6
4	11400.00	58.8 PK	74.0	-15.2	2.46 V	223	41.3	17.5
5	11400.00	45.0 AV	54.0	-9.0	2.46 V	223	27.5	17.5

Remarks:

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

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	54.7 PK	74.0	-19.3	2.87 H	15	50.3	4.4
2	5460.00	43.8 AV	54.0	-10.2	2.87 H	15	39.4	4.4
3	#5470.00	55.9 PK	68.2	-12.3	2.76 H	18	51.4	4.5
4	*5720.00	110.1 PK			2.83 H	13	71.2	38.9
5	*5720.00	100.3 AV			2.83 H	13	61.4	38.9
6	#5850.00	55.1 PK	68.2	-13.1	2.88 H	23	50.2	4.9
7	11440.00	57.7 PK	74.0	-16.3	1.84 H	112	40.5	17.2
8	11440.00	43.9 AV	54.0	-10.1	1.84 H	112	26.7	17.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	56.0 PK	74.0	-18.0	2.35 V	271	51.6	4.4
2	5460.00	44.7 AV	54.0	-9.3	2.35 V	271	40.3	4.4
3	#5470.00	57.3 PK	68.2	-10.9	2.16 V	257	52.8	4.5
4	*5720.00	111.0 PK			2.27 V	265	72.1	38.9
5	*5720.00	101.1 AV			2.27 V	265	62.2	38.9
6	#5850.00	55.6 PK	68.2	-12.6	2.12 V	253	50.7	4.9
7	11440.00	58.4 PK	74.0	-15.6	2.53 V	234	41.2	17.2
8	11440.00	44.7 AV	54.0	-9.3	2.53 V	234	27.5	17.2

Remarks:

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

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

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	#5601.60	56.1 PK	68.2	-12.1	2.74 H	16	51.7	4.4
2	*5745.00	110.4 PK			2.74 H	16	71.4	39.0
3	*5745.00	100.2 AV			2.74 H	16	61.2	39.0
4	#5953.60	56.9 PK	68.2	-11.3	2.74 H	16	51.6	5.3
5	11490.00	57.3 PK	74.0	-16.7	1.93 H	115	40.5	16.8
6	11490.00	43.5 AV	54.0	-10.5	1.93 H	115	26.7	16.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5625.60	56.7 PK	68.2	-11.5	2.08 V	265	52.2	4.5
2	*5745.00	110.7 PK			2.08 V	265	71.7	39.0
3	*5745.00	100.4 AV			2.08 V	265	61.4	39.0
4	#5948.00	56.7 PK	68.2	-11.5	2.08 V	265	51.4	5.3
5	11490.00	58.0 PK	74.0	-16.0	2.63 V	234	41.2	16.8
6	11490.00	44.1 AV	54.0	-9.9	2.63 V	234	27.3	16.8

Remarks:

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

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

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	#5622.40	55.4 PK	68.2	-12.8	2.78 H	17	50.9	4.5
2	*5785.00	109.8 PK			2.78 H	17	70.6	39.2
3	*5785.00	99.6 AV			2.78 H	17	60.4	39.2
4	#5979.20	57.6 PK	68.2	-10.6	2.78 H	17	52.3	5.3
5	11570.00	56.8 PK	74.0	-17.2	1.89 H	123	40.2	16.6
6	11570.00	43.3 AV	54.0	-10.7	1.89 H	123	26.7	16.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5612.00	55.3 PK	68.2	-12.9	2.11 V	269	50.9	4.4
2	*5785.00	111.0 PK			2.11 V	269	71.8	39.2
3	*5785.00	100.8 AV			2.11 V	269	61.6	39.2
4	#5929.60	56.2 PK	68.2	-12.0	2.11 V	269	50.9	5.3
5	11570.00	57.9 PK	74.0	-16.1	2.46 V	223	41.3	16.6
6	11570.00	44.0 AV	54.0	-10.0	2.46 V	223	27.4	16.6

Remarks:

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

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

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	#5618.40	55.9 PK	68.2	-12.3	2.79 H	13	51.4	4.5
2	*5825.00	109.9 PK			2.79 H	13	70.5	39.4
3	*5825.00	99.6 AV			2.79 H	13	60.2	39.4
4	#5968.80	56.5 PK	68.2	-11.7	2.79 H	13	51.1	5.4
5	11650.00	57.4 PK	74.0	-16.6	1.76 H	105	40.9	16.5
6	11650.00	43.5 AV	54.0	-10.5	1.76 H	105	27.0	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5616.80	55.9 PK	68.2	-12.3	2.16 V	264	51.4	4.5
2	*5825.00	110.7 PK			2.16 V	264	71.3	39.4
3	*5825.00	100.5 AV			2.16 V	264	61.1	39.4
4	#5988.80	57.6 PK	68.2	-10.6	2.16 V	264	52.3	5.3
5	11650.00	57.9 PK	74.0	-16.1	2.56 V	239	41.4	16.5
6	11650.00	44.0 AV	54.0	-10.0	2.56 V	239	27.5	16.5

Remarks:

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

802.11n (HT20)

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

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	54.4 PK	74.0	-19.6	2.76 H	16	50.3	4.1
2	5150.00	44.7 AV	54.0	-9.3	2.76 H	16	40.6	4.1
3	*5180.00	108.0 PK			2.81 H	13	69.5	38.5
4	*5180.00	97.8 AV			2.81 H	13	59.3	38.5
5	#10360.00	58.0 PK	68.2	-10.2	1.76 H	108	41.5	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.8 PK	74.0	-18.2	1.96 V	287	51.7	4.1
2	5150.00	45.6 AV	54.0	-8.4	1.96 V	287	41.5	4.1
3	*5180.00	111.7 PK			2.02 V	293	73.2	38.5
4	*5180.00	101.5 AV			2.02 V	293	63.0	38.5
5	#10360.00	57.3 PK	68.2	-10.9	1.62 V	202	40.8	16.5

Remarks:

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

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

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	108.6 PK			2.83 H	9	70.2	38.4
2	*5200.00	98.5 AV			2.83 H	9	60.1	38.4
3	#10400.00	58.3 PK	68.2	-9.9	1.92 H	122	41.8	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	112.5 PK			2.07 V	296	74.1	38.4
2	*5200.00	102.2 AV			2.07 V	296	63.8	38.4
3	#10400.00	57.7 PK	68.2	-10.5	1.53 V	201	41.2	16.5

Remarks:

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

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

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	108.9 PK			2.85 H	7	70.6	38.3
2	*5240.00	98.7 AV			2.85 H	7	60.4	38.3
3	5350.00	53.6 PK	74.0	-20.4	2.76 H	13	49.7	3.9
4	5350.00	43.5 AV	54.0	-10.5	2.76 H	13	39.6	3.9
5	#10480.00	58.0 PK	68.2	-10.2	1.91 H	116	41.7	16.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	112.7 PK			1.97 V	294	74.4	38.3
2	*5240.00	102.5 AV			1.97 V	294	64.2	38.3
3	5350.00	54.5 PK	74.0	-19.5	1.90 V	283	50.6	3.9
4	5350.00	44.1 AV	54.0	-9.9	1.90 V	283	40.2	3.9
5	#10480.00	57.1 PK	68.2	-11.1	1.57 V	211	40.8	16.3

Remarks:

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

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5260.00	108.8 PK			2.85 H	6	70.6	38.2
2	*5260.00	98.5 AV			2.85 H	6	60.3	38.2
3	5350.00	54.1 PK	74.0	-19.9	2.72 H	12	50.2	3.9
4	5350.00	43.6 AV	54.0	-10.4	2.72 H	12	39.7	3.9
5	#10520.00	57.6 PK	68.2	-10.6	1.90 H	126	41.3	16.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.9 PK	74.0	-19.1	1.91 V	284	50.8	4.1
2	5150.00	44.4 AV	54.0	-9.6	1.91 V	284	40.3	4.1
3	*5260.00	112.5 PK			1.98 V	296	74.3	38.2
4	*5260.00	102.3 AV			1.98 V	296	64.1	38.2
5	#10520.00	57.1 PK	68.2	-11.1	1.68 V	211	40.8	16.3

Remarks:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	109.2 PK			2.91 H	7	71.1	38.1
2	*5300.00	98.9 AV			2.91 H	7	60.8	38.1
3	10600.00	58.2 PK	74.0	-15.8	1.96 H	118	41.7	16.5
4	10600.00	43.9 AV	54.0	-10.1	1.96 H	118	27.4	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	112.9 PK			2.02 V	297	74.8	38.1
2	*5300.00	102.7 AV			2.02 V	297	64.6	38.1
3	10600.00	57.2 PK	74.0	-16.8	1.67 V	215	40.7	16.5
4	10600.00	43.3 AV	54.0	-10.7	1.67 V	215	26.8	16.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	108.6 PK			2.83 H	3	70.4	38.2
2	*5320.00	98.3 AV			2.83 H	3	60.1	38.2
3	5350.00	55.1 PK	74.0	-18.9	2.69 H	13	51.2	3.9
4	5350.00	44.5 AV	54.0	-9.5	2.69 H	13	40.6	3.9
5	10640.00	58.0 PK	74.0	-16.0	1.97 H	124	41.3	16.7
6	10640.00	43.8 AV	54.0	-10.2	1.97 H	124	27.1	16.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.2 PK			1.95 V	295	74.0	38.2
2	*5320.00	102.0 AV			1.95 V	295	63.8	38.2
3	5350.00	57.7 PK	74.0	-16.3	1.83 V	288	53.8	3.9
4	5350.00	45.5 AV	54.0	-8.5	1.83 V	288	41.6	3.9
5	10640.00	57.2 PK	74.0	-16.8	1.67 V	212	40.5	16.7
6	10640.00	43.3 AV	54.0	-10.7	1.67 V	212	26.6	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	55.0 PK	74.0	-19.0	2.74 H	18	50.6	4.4
2	5460.00	44.2 AV	54.0	-9.8	2.74 H	18	39.8	4.4
3	#5470.00	57.0 PK	68.2	-11.2	2.73 H	15	52.5	4.5
4	*5500.00	110.0 PK			2.85 H	11	71.2	38.8
5	*5500.00	99.8 AV			2.85 H	11	61.0	38.8
6	11000.00	58.6 PK	74.0	-15.4	1.73 H	104	40.2	18.4
7	11000.00	45.0 AV	54.0	-9.0	1.73 H	104	26.6	18.4

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	56.0 PK	74.0	-18.0	2.16 V	257	51.6	4.4
2	5460.00	44.7 AV	54.0	-9.3	2.16 V	257	40.3	4.4
3	#5470.00	57.8 PK	68.2	-10.4	2.14 V	255	53.3	4.5
4	*5500.00	110.7 PK			2.25 V	263	71.9	38.8
5	*5500.00	100.6 AV			2.25 V	263	61.8	38.8
6	11000.00	59.8 PK	74.0	-14.2	2.45 V	224	41.4	18.4
7	11000.00	45.7 AV	54.0	-8.3	2.45 V	224	27.3	18.4

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	110.2 PK			2.79 H	12	71.5	38.7
2	*5580.00	100.0 AV			2.79 H	12	61.3	38.7
3	11160.00	57.5 PK	74.0	-16.5	1.77 H	103	40.4	17.1
4	11160.00	43.9 AV	54.0	-10.1	1.77 H	103	26.8	17.1

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	111.1 PK			2.21 V	256	72.4	38.7
2	*5580.00	100.9 AV			2.21 V	256	62.2	38.7
3	11160.00	58.4 PK	74.0	-15.6	2.45 V	221	41.3	17.1
4	11160.00	44.5 AV	54.0	-9.5	2.45 V	221	27.4	17.1

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	110.2 PK			2.76 H	16	71.3	38.9
2	*5700.00	100.0 AV			2.76 H	16	61.1	38.9
3	#5725.00	59.8 PK	68.2	-8.4	2.84 H	21	55.2	4.6
4	11400.00	57.7 PK	74.0	-16.3	1.77 H	109	40.2	17.5
5	11400.00	43.9 AV	54.0	-10.1	1.77 H	109	26.4	17.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	111.2 PK			2.20 V	259	72.3	38.9
2	*5700.00	101.0 AV			2.20 V	259	62.1	38.9
3	#5725.00	60.4 PK	68.2	-7.8	2.31 V	267	55.8	4.6
4	11400.00	58.4 PK	74.0	-15.6	2.42 V	229	40.9	17.5
5	11400.00	44.8 AV	54.0	-9.2	2.42 V	229	27.3	17.5

Remarks:

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

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	54.5 PK	74.0	-19.5	2.64 H	27	50.1	4.4
2	5460.00	43.8 AV	54.0	-10.2	2.64 H	27	39.4	4.4
3	#5470.00	55.1 PK	68.2	-13.1	2.68 H	23	50.6	4.5
4	*5720.00	110.0 PK			2.79 H	14	71.1	38.9
5	*5720.00	99.7 AV			2.79 H	14	60.8	38.9
6	#5850.00	55.1 PK	68.2	-13.1	2.79 H	19	50.2	4.9
7	11440.00	57.3 PK	74.0	-16.7	1.71 H	102	40.1	17.2
8	11440.00	43.5 AV	54.0	-10.5	1.71 H	102	26.3	17.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.3 PK	74.0	-18.7	2.29 V	265	50.9	4.4
2	5460.00	44.7 AV	54.0	-9.3	2.29 V	265	40.3	4.4
3	#5470.00	55.8 PK	68.2	-12.4	2.33 V	271	51.3	4.5
4	*5720.00	110.8 PK			2.21 V	260	71.9	38.9
5	*5720.00	100.6 AV			2.21 V	260	61.7	38.9
6	#5850.00	55.6 PK	68.2	-12.6	2.16 V	253	50.7	4.9
7	11440.00	58.0 PK	74.0	-16.0	2.43 V	224	40.8	17.2
8	11440.00	44.4 AV	54.0	-9.6	2.43 V	224	27.2	17.2

Remarks:

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

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

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	#5608.80	53.9 PK	68.2	-14.3	2.81 H	12	49.5	4.4
2	*5745.00	108.9 PK			2.81 H	12	69.9	39.0
3	*5745.00	98.7 AV			2.81 H	12	59.7	39.0
4	#5996.80	56.1 PK	68.2	-12.1	2.81 H	12	50.8	5.3
5	11490.00	57.1 PK	74.0	-16.9	1.87 H	112	40.3	16.8
6	11490.00	43.6 AV	54.0	-10.4	1.87 H	112	26.8	16.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5604.00	55.0 PK	68.2	-13.2	2.14 V	267	50.6	4.4
2	*5745.00	110.1 PK			2.14 V	267	71.1	39.0
3	*5745.00	99.8 AV			2.14 V	267	60.8	39.0
4	#5952.00	55.2 PK	68.2	-13.0	2.14 V	267	49.9	5.3
5	11490.00	58.0 PK	74.0	-16.0	2.64 V	236	41.2	16.8
6	11490.00	44.1 AV	54.0	-9.9	2.64 V	236	27.3	16.8

Remarks:

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

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

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	#5621.60	55.5 PK	68.2	-12.7	2.79 H	13	51.0	4.5
2	*5785.00	109.4 PK			2.79 H	13	70.2	39.2
3	*5785.00	99.0 AV			2.79 H	13	59.8	39.2
4	#5993.60	57.1 PK	68.2	-11.1	2.79 H	13	51.8	5.3
5	11570.00	56.9 PK	74.0	-17.1	1.85 H	117	40.3	16.6
6	11570.00	43.3 AV	54.0	-10.7	1.85 H	117	26.7	16.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5647.20	55.6 PK	68.2	-12.6	2.18 V	269	51.0	4.6
2	*5785.00	110.6 PK			2.18 V	269	71.4	39.2
3	*5785.00	100.4 AV			2.18 V	269	61.2	39.2
4	#6000.00	57.7 PK	68.2	-10.5	2.18 V	269	52.4	5.3
5	11570.00	57.9 PK	74.0	-16.1	2.48 V	221	41.3	16.6
6	11570.00	44.1 AV	54.0	-9.9	2.48 V	221	27.5	16.6

Remarks:

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

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

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	#5645.60	54.6 PK	68.2	-13.6	2.84 H	15	50.0	4.6
2	*5825.00	108.9 PK			2.84 H	15	69.5	39.4
3	*5825.00	98.6 AV			2.84 H	15	59.2	39.4
4	#5985.60	56.1 PK	68.2	-12.1	2.84 H	15	50.8	5.3
5	11650.00	56.7 PK	74.0	-17.3	1.83 H	117	40.2	16.5
6	11650.00	42.8 AV	54.0	-11.2	1.83 H	117	26.3	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5647.20	55.5 PK	68.2	-12.7	2.12 V	271	50.9	4.6
2	*5825.00	110.0 PK			2.12 V	271	70.6	39.4
3	*5825.00	99.8 AV			2.12 V	271	60.4	39.4
4	#5947.20	57.4 PK	68.2	-10.8	2.12 V	271	52.1	5.3
5	11625.00	57.3 PK	74.0	-16.7	2.54 V	223	40.8	16.5
6	11625.00	43.7 AV	54.0	-10.3	2.54 V	223	27.2	16.5

Remarks:

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

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.0 PK	74.0	-12.0	2.46 H	5	57.9	4.1
2	5150.00	48.9 AV	54.0	-5.1	2.46 H	5	44.8	4.1
3	*5190.00	104.1 PK			2.98 H	3	65.7	38.4
4	*5190.00	94.3 AV			2.98 H	3	55.9	38.4
5	#10380.00	58.0 PK	74.0	-16.0	1.93 H	122	41.4	16.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.9 PK	74.0	-13.1	2.11 V	295	56.8	4.1
2	5150.00	49.0 AV	54.0	-5.0	2.11 V	295	44.9	4.1
3	*5190.00	107.7 PK			1.99 V	294	69.3	38.4
4	*5190.00	97.9 AV			1.99 V	294	59.5	38.4
5	#10380.00	57.2 PK	68.2	-11.0	1.54 V	215	40.6	16.6

Remarks:

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

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

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	107.5 PK			2.93 H	6	69.3	38.2
2	*5230.00	97.6 AV			2.93 H	6	59.4	38.2
3	5350.00	56.5 PK	74.0	-17.5	2.73 H	9	52.6	3.9
4	5350.00	45.7 AV	54.0	-8.3	2.73 H	9	41.8	3.9
5	#10460.00	57.9 PK	68.2	-10.3	1.93 H	128	41.6	16.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	111.0 PK			2.03 V	289	72.8	38.2
2	*5230.00	101.2 AV			2.03 V	289	63.0	38.2
3	5350.00	56.2 PK	74.0	-17.8	1.96 V	281	52.3	3.9
4	5350.00	45.5 AV	54.0	-8.5	1.96 V	281	41.6	3.9
5	#10460.00	57.0 PK	68.2	-11.2	1.66 V	217	40.7	16.3

Remarks:

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

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	54.9 PK	74.0	-19.1	2.73 H	8	50.8	4.1
2	5150.00	44.5 AV	54.0	-9.5	2.73 H	8	40.4	4.1
3	*5270.00	106.1 PK			2.89 H	4	67.9	38.2
4	*5270.00	96.1 AV			2.89 H	4	57.9	38.2
5	#10540.00	57.6 PK	68.2	-10.6	1.85 H	119	41.2	16.4

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	56.4 PK	74.0	-17.6	1.76 V	290	52.3	4.1
2	5150.00	45.9 AV	54.0	-8.1	1.76 V	290	41.8	4.1
3	*5270.00	109.8 PK			1.95 V	296	71.6	38.2
4	*5270.00	99.8 AV			1.95 V	296	61.6	38.2
5	#10540.00	57.0 PK	68.2	-11.2	1.69 V	210	40.6	16.4

Remarks:

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

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	103.5 PK			2.92 H	4	65.3	38.2
2	*5310.00	93.4 AV			2.92 H	4	55.2	38.2
3	5350.00	63.2 PK	74.0	-10.8	2.67 H	9	59.3	3.9
4	5350.00	48.1 AV	54.0	-5.9	2.67 H	9	44.2	3.9
5	10620.00	57.5 PK	74.0	-16.5	1.79 H	105	40.8	16.7
6	10620.00	43.4 AV	54.0	-10.6	1.79 H	105	26.7	16.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	106.8 PK			2.03 V	297	68.6	38.2
2	*5310.00	96.8 AV			2.03 V	297	58.6	38.2
3	5350.00	64.2 PK	74.0	-9.8	2.05 V	297	60.3	3.9
4	5350.00	50.7 AV	54.0	-3.3	2.05 V	297	46.8	3.9
5	10620.00	56.9 PK	74.0	-17.1	1.52 V	202	40.2	16.7
6	10620.00	43.1 AV	54.0	-10.9	1.52 V	202	26.4	16.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	2.77 H	21	53.8	4.4
2	5460.00	45.8 AV	54.0	-8.2	2.77 H	21	41.4	4.4
3	#5470.00	63.8 PK	68.2	-4.4	2.73 H	17	59.3	4.5
4	*5510.00	107.9 PK			2.76 H	15	69.1	38.8
5	*5510.00	97.6 AV			2.76 H	15	58.8	38.8
6	11020.00	58.9 PK	74.0	-15.1	1.73 H	112	40.8	18.1
7	11020.00	44.5 AV	54.0	-9.5	1.73 H	112	26.4	18.1

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	2.37 V	269	54.6	4.4
2	5460.00	45.7 AV	54.0	-8.3	2.37 V	269	41.3	4.4
3	#5470.00	64.2 PK	68.2	-4.0	2.33 V	267	59.7	4.5
4	*5510.00	108.3 PK			2.22 V	262	69.5	38.8
5	*5510.00	98.1 AV			2.22 V	262	59.3	38.8
6	11020.00	59.3 PK	74.0	-14.7	2.51 V	233	41.2	18.1
7	11020.00	45.1 AV	54.0	-8.9	2.51 V	233	27.0	18.1

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	73.0 PK			2.76 H	18	68.6	4.4
2	*5550.00	52.8 AV			2.76 H	18	48.4	4.4
3	11100.00	57.0 PK	74.0	-17.0	1.85 H	112	39.8	17.2
4	11100.00	43.5 AV	54.0	-10.5	1.85 H	112	26.3	17.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	108.5 PK			2.26 V	267	69.8	38.7
2	*5550.00	98.3 AV			2.26 V	267	59.6	38.7
3	11100.00	57.8 PK	74.0	-16.2	2.58 V	236	40.6	17.2
4	11100.00	44.2 AV	54.0	-9.8	2.58 V	236	27.0	17.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	107.3 PK			2.74 H	10	68.3	39.0
2	*5670.00	97.1 AV			2.74 H	10	58.1	39.0
3	#5725.00	61.7 PK	68.2	-6.5	2.84 H	18	57.1	4.6
4	11340.00	57.3 PK	74.0	-16.7	1.73 H	97	39.6	17.7
5	11340.00	43.9 AV	54.0	-10.1	1.73 H	97	26.2	17.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	107.8 PK			2.08 V	264	68.8	39.0
2	*5670.00	97.6 AV			2.08 V	264	58.6	39.0
3	#5725.00	62.2 PK	68.2	-6.0	2.15 V	253	57.6	4.6
4	11340.00	58.2 PK	74.0	-15.8	2.47 V	226	40.5	17.7
5	11340.00	44.9 AV	54.0	-9.1	2.47 V	226	27.2	17.7

Remarks:

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

CHANNEL	TX Channel 142	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	54.2 PK	74.0	-19.8	2.93 H	26	49.8	4.4
2	5460.00	43.7 AV	54.0	-10.3	2.93 H	26	39.3	4.4
3	#5470.00	56.3 PK	68.2	-11.9	2.86 H	23	51.8	4.5
4	*5710.00	107.5 PK			2.72 H	19	68.6	38.9
5	*5710.00	97.4 AV			2.72 H	19	58.5	38.9
6	#5850.00	57.7 PK	68.2	-10.5	2.64 H	6	52.8	4.9
7	11420.00	57.1 PK	74.0	-16.9	1.82 H	115	39.7	17.4
8	11420.00	43.7 AV	54.0	-10.3	1.82 H	115	26.3	17.4

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	55.0 PK	74.0	-19.0	2.11 V	273	50.6	4.4
2	5460.00	44.7 AV	54.0	-9.3	2.11 V	273	40.3	4.4
3	#5470.00	56.8 PK	68.2	-11.4	2.08 V	277	52.3	4.5
4	*5710.00	108.1 PK			2.19 V	266	69.2	38.9
5	*5710.00	98.0 AV			2.19 V	266	59.1	38.9
6	#5850.00	58.4 PK	68.2	-9.8	2.26 V	254	53.5	4.9
7	11420.00	57.6 PK	74.0	-16.4	2.59 V	223	40.2	17.4
8	11420.00	44.2 AV	54.0	-9.8	2.59 V	223	26.8	17.4

Remarks:

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

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

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	#5618.40	55.6 PK	68.2	-12.6	2.77 H	19	51.1	4.5
2	*5755.00	106.5 PK			2.77 H	19	67.4	39.1
3	*5755.00	96.4 AV			2.77 H	19	57.3	39.1
4	#5932.00	56.3 PK	68.2	-11.9	2.77 H	19	51.0	5.3
5	11510.00	56.5 PK	74.0	-17.5	1.86 H	114	39.7	16.8
6	11510.00	43.2 AV	54.0	-10.8	1.86 H	114	26.4	16.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5616.00	56.4 PK	68.2	-11.8	2.07 V	270	51.9	4.5
2	*5755.00	107.6 PK			2.07 V	270	68.5	39.1
3	*5755.00	97.6 AV			2.07 V	270	58.5	39.1
4	#5984.00	56.8 PK	68.2	-11.4	2.07 V	270	51.5	5.3
5	11510.00	57.5 PK	74.0	-16.5	2.67 V	233	40.7	16.8
6	11510.00	44.1 AV	54.0	-9.9	2.67 V	233	27.3	16.8

Remarks:

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

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

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	#5643.20	55.7 PK	68.2	-12.5	2.84 H	13	51.1	4.6
2	*5795.00	106.3 PK			2.84 H	13	67.1	39.2
3	*5795.00	96.2 AV			2.84 H	13	57.0	39.2
4	#6000.00	56.5 PK	68.2	-11.7	2.84 H	13	51.2	5.3
5	11590.00	56.1 PK	74.0	-17.9	1.85 H	118	39.6	16.5
6	11590.00	42.7 AV	54.0	-11.3	1.85 H	118	26.2	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5621.60	54.1 PK	68.2	-14.1	2.11 V	268	49.6	4.5
2	*5795.00	107.5 PK			2.11 V	268	68.3	39.2
3	*5795.00	97.5 AV			2.11 V	268	58.3	39.2
4	#5968.80	56.4 PK	68.2	-11.8	2.11 V	268	51.0	5.4
5	11590.00	57.3 PK	74.0	-16.7	2.49 V	225	40.8	16.5
6	11590.00	43.5 AV	54.0	-10.5	2.49 V	225	27.0	16.5

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.2 PK	74.0	-8.8	2.87 H	4	61.1	4.1
2	5150.00	52.8 AV	54.0	-1.2	2.87 H	4	48.7	4.1
3	*5210.00	100.8 PK			2.83 H	3	62.5	38.3
4	*5210.00	90.6 AV			2.83 H	3	52.3	38.3
5	#10420.00	57.3 PK	68.2	-10.9	1.78 H	106	40.8	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.2 PK	74.0	-8.8	2.11 V	296	61.1	4.1
2	5150.00	53.7 AV	54.0	-0.3	2.11 V	296	49.6	4.1
3	*5210.00	103.8 PK			1.98 V	294	65.5	38.3
4	*5210.00	93.3 AV			1.98 V	294	55.0	38.3
5	#10420.00	56.7 PK	68.2	-11.5	1.48 V	193	40.2	16.5

Remarks:

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

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	99.4 PK			2.86 H	5	61.3	38.1
2	*5290.00	89.3 AV			2.86 H	5	51.2	38.1
3	5350.00	63.9 PK	74.0	-10.1	2.73 H	8	60.0	3.9
4	5350.00	51.1 AV	54.0	-2.9	2.73 H	8	47.2	3.9
5	#10580.00	56.8 PK	68.2	-11.4	1.76 H	115	40.2	16.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	103.6 PK			1.89 V	296	65.5	38.1
2	*5290.00	92.7 AV			1.89 V	296	54.6	38.1
3	5350.00	66.6 PK	74.0	-7.4	2.03 V	296	62.7	3.9
4	5350.00	53.9 AV	54.0	-0.1	2.03 V	296	50.0	3.9
5	#10580.00	56.3 PK	68.2	-11.9	1.58 V	204	39.7	16.6

Remarks:

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

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	61.6 PK	74.0	-12.4	2.92 H	24	57.2	4.4
2	5460.00	49.4 AV	54.0	-4.6	2.92 H	24	45.0	4.4
3	#5470.00	63.2 PK	68.2	-5.0	2.86 H	19	58.7	4.5
4	*5530.00	103.2 PK			2.82 H	17	64.5	38.7
5	*5530.00	92.9 AV			2.82 H	17	54.2	38.7
6	#5725.00	56.4 PK	68.2	-11.8	2.71 H	4	51.8	4.6
7	11060.00	57.6 PK	74.0	-16.4	1.71 H	95	39.8	17.8
8	11060.00	44.2 AV	54.0	-9.8	1.71 H	95	26.4	17.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.0 PK	74.0	-12.0	2.11 V	272	57.6	4.4
2	5460.00	50.1 AV	54.0	-3.9	2.11 V	272	45.7	4.4
3	#5470.00	64.1 PK	68.2	-4.1	2.14 V	267	59.6	4.5
4	*5530.00	104.4 PK			2.10 V	265	65.7	38.7
5	*5530.00	93.6 AV			2.10 V	265	54.9	38.7
6	#5725.00	57.2 PK	68.2	-11.0	2.03 V	257	52.6	4.6
7	11060.00	58.2 PK	74.0	-15.8	2.46 V	223	40.4	17.8
8	11060.00	44.7 AV	54.0	-9.3	2.46 V	223	26.9	17.8

Remarks:

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

CHANNEL	TX Channel 122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	54.7 PK	74.0	-19.3	2.93 H	21	50.3	4.4
2	5460.00	44.1 AV	54.0	-9.9	2.93 H	21	39.7	4.4
3	#5470.00	57.1 PK	68.2	-11.1	2.87 H	18	52.6	4.5
4	*5610.00	103.5 PK			1.76 H	11	64.6	38.9
5	*5610.00	93.2 AV			1.76 H	11	54.3	38.9
6	#5725.00	56.1 PK	68.2	-12.1	2.64 H	4	51.5	4.6
7	11220.00	57.3 PK	74.0	-16.7	1.68 H	117	40.2	17.1
8	11220.00	43.5 AV	54.0	-10.5	1.68 H	117	26.4	17.1

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	55.7 PK	74.0	-18.3	2.24 V	269	51.3	4.4
2	5460.00	44.8 AV	54.0	-9.2	2.24 V	269	40.4	4.4
3	#5470.00	57.8 PK	68.2	-10.4	2.32 V	271	53.3	4.5
4	*5610.00	104.1 PK			2.15 V	260	65.2	38.9
5	*5610.00	93.9 AV			2.15 V	260	55.0	38.9
6	#5725.00	56.9 PK	68.2	-11.3	2.03 V	258	52.3	4.6
7	11220.00	57.6 PK	74.0	-16.4	2.62 V	241	40.5	17.1
8	11220.00	44.0 AV	54.0	-10.0	2.62 V	241	26.9	17.1

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	54.2 PK	74.0	-19.8	2.91 H	25	49.8	4.4
2	5460.00	43.8 AV	54.0	-10.2	2.91 H	25	39.4	4.4
3	#5470.00	56.8 PK	68.2	-11.4	2.89 H	23	52.3	4.5
4	*5690.00	102.7 PK			2.78 H	17	63.8	38.9
5	*5690.00	92.5 AV			2.78 H	17	53.6	38.9
6	#5850.00	57.2 PK	68.2	-11.0	2.66 H	9	52.3	4.9
7	11380.00	57.2 PK	74.0	-16.8	1.79 H	112	39.6	17.6
8	11380.00	43.9 AV	54.0	-10.1	1.79 H	112	26.3	17.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.6 PK	74.0	-18.4	2.27 V	271	51.2	4.4
2	5460.00	44.8 AV	54.0	-9.2	2.27 V	271	40.4	4.4
3	#5470.00	57.3 PK	68.2	-10.9	2.23 V	269	52.8	4.5
4	*5690.00	103.4 PK			2.14 V	262	64.5	38.9
5	*5690.00	93.2 AV			2.14 V	262	54.3	38.9
6	#5850.00	58.1 PK	68.2	-10.1	2.04 V	256	53.2	4.9
7	11380.00	58.2 PK	74.0	-15.8	2.53 V	226	40.6	17.6
8	11380.00	44.4 AV	54.0	-9.6	2.53 V	226	26.8	17.6

Remarks:

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

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

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	#5638.40	55.0 PK	68.2	-13.2	2.81 H	12	50.4	4.6
2	#5650.00	56.2 PK	68.2	-12.0	2.89 H	16	51.6	4.6
3	*5775.00	102.8 PK			2.81 H	12	63.7	39.1
4	*5775.00	92.4 AV			2.81 H	12	53.3	39.1
5	#5925.00	57.1 PK	68.2	-11.1	2.73 H	6	51.8	5.3
6	#5988.00	55.4 PK	68.2	-12.8	2.81 H	12	50.1	5.3
7	11550.00	56.2 PK	74.0	-17.8	1.83 H	107	39.5	16.7
8	11550.00	42.9 AV	54.0	-11.1	1.83 H	107	26.2	16.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5640.00	56.7 PK	68.2	-11.5	2.01 V	267	52.1	4.6
2	#5650.00	58.0 PK	68.2	-10.2	2.11 V	273	53.4	4.6
3	*5775.00	103.9 PK			2.01 V	267	64.8	39.1
4	*5775.00	93.4 AV			2.01 V	267	54.3	39.1
5	#5925.00	59.2 PK	68.2	-9.0	1.94 V	262	53.9	5.3
6	#5930.40	57.6 PK	68.2	-10.6	2.01 V	267	52.3	5.3
7	11550.00	57.1 PK	74.0	-16.9	2.51 V	230	40.4	16.7
8	11550.00	43.4 AV	54.0	-10.6	2.51 V	230	26.7	16.7

Remarks:

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

Below 1GHz Worst-Case Data:

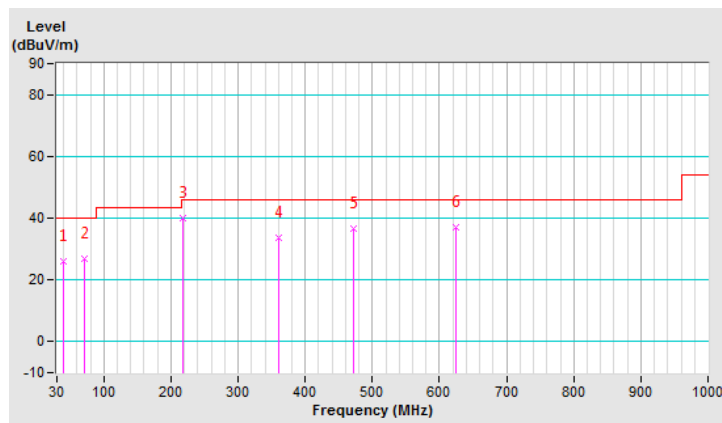
802.11n (HT40)

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	39.84	26.1 QP	40.0	-13.9	1.50 H	233	35.8	-9.7
2	70.77	27.0 QP	40.0	-13.0	1.00 H	242	38.2	-11.2
3	218.38	39.8 QP	46.0	-6.2	1.50 H	349	50.4	-10.6
4	360.36	33.8 QP	46.0	-12.2	1.50 H	3	39.7	-5.9
5	472.83	36.5 QP	46.0	-9.5	2.00 H	347	38.7	-2.2
6	624.65	36.9 QP	46.0	-9.1	1.00 H	208	35.5	1.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

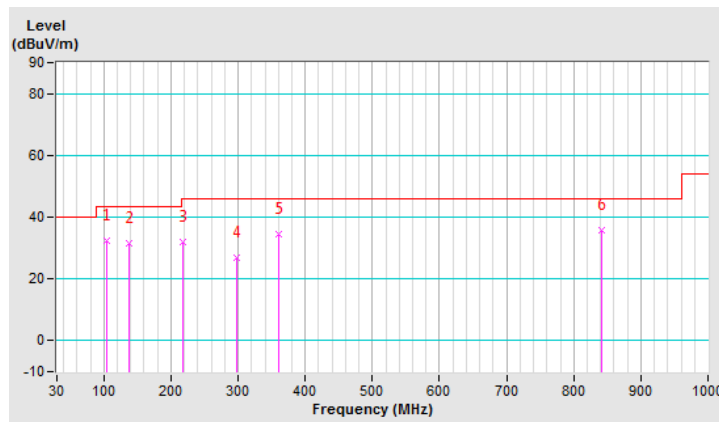


CHANNEL	TX Channel 46	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	104.51	32.2 QP	43.5	-11.3	1.49 V	196	44.6	-12.4
2	138.25	31.4 QP	43.5	-12.1	1.49 V	69	40.6	-9.2
3	218.38	31.9 QP	46.0	-14.1	1.49 V	231	42.5	-10.6
4	297.10	26.7 QP	46.0	-19.3	1.49 V	267	34.2	-7.5
5	360.36	34.6 QP	46.0	-11.4	1.49 V	31	40.5	-5.9
6	841.14	35.8 QP	46.0	-10.2	1.49 V	294	32.3	3.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



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	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2019	Sep. 04, 2020
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 22, 2019	Aug. 21, 2020
Software ADT	BV ADT_Cond_ V7.3.7.4	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-12040.

4.2.3 Test Procedures

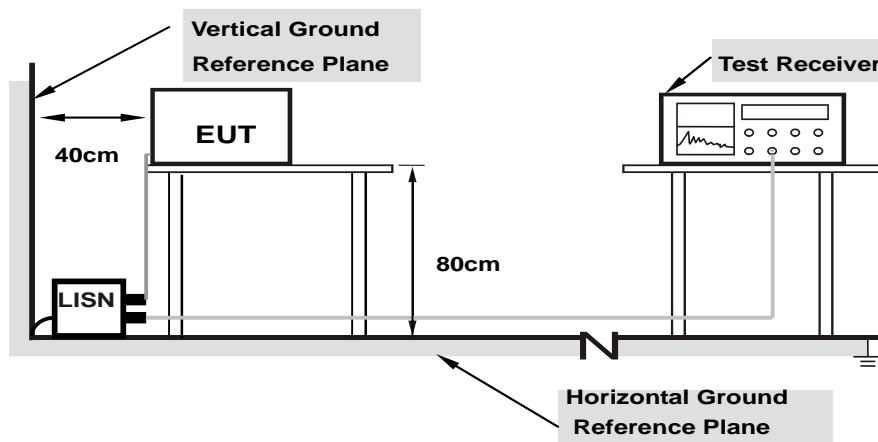
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

Worst-case data:

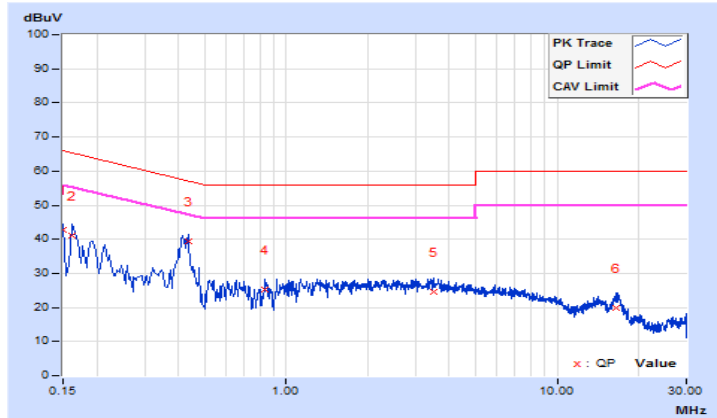
802.11n (HT40)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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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	0.15000	9.67	33.21	21.26	42.88	30.93	66.00
2	0.16200	9.67	31.53	20.14	41.20	29.81	65.36	55.36	-24.16	-25.55
3	0.43400	9.69	29.80	24.29	39.49	33.98	57.18	47.18	-17.69	-13.20
4	0.83798	9.72	15.68	6.91	25.40	16.63	56.00	46.00	-30.60	-29.37
5	3.50600	9.83	14.88	8.86	24.71	18.69	56.00	46.00	-31.29	-27.31
6	16.52200	9.97	9.85	3.67	19.82	13.64	60.00	50.00	-40.18	-36.36

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.

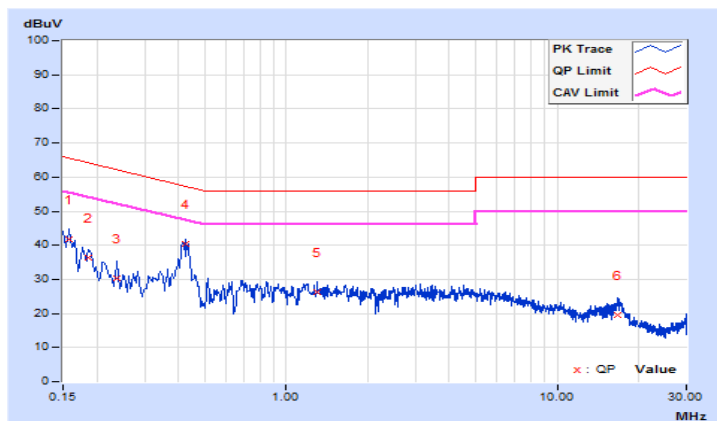


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15800	9.64	32.19	21.85	41.83	31.49	65.57
2	0.18600	9.64	26.61	17.72	36.25	27.36	64.21	54.21	-27.96	-26.85
3	0.23785	9.64	20.74	13.49	30.38	23.13	62.17	52.17	-31.79	-29.04
4	0.42600	9.66	30.83	24.40	40.49	34.06	57.33	47.33	-16.84	-13.27
5	1.29800	9.71	16.48	9.04	26.19	18.75	56.00	46.00	-29.81	-27.25
6	16.71800	10.01	9.37	3.67	19.38	13.68	60.00	50.00	-40.62	-36.32

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 $N_{ANT} \leq 4$;

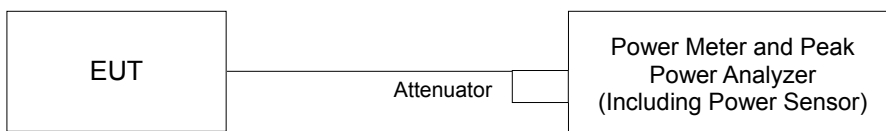
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

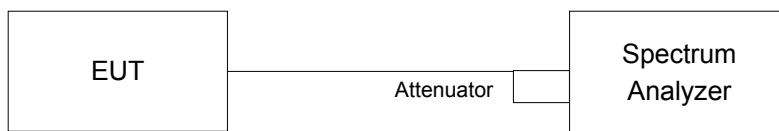
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

For Power Output



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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 and set the detector to average. Duty factor is not added to measured value.

For 26dB Bandwidth

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
- f. For channel aggregation (channel 138, 142, 144) measurement refer to KDB 789033 D02 Section III. CHANNEL AGGREGATION.

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	14.00	13.68	48.454	16.85	24.00	Pass
40	5200	13.79	13.61	46.894	16.71	24.00	Pass
48	5240	13.40	13.56	44.577	16.49	24.00	Pass
52	5260	13.47	13.75	45.947	16.62	24.00	Pass
60	5300	13.68	13.65	46.509	16.68	24.00	Pass
64	5320	13.72	13.53	46.092	16.64	24.00	Pass
100	5500	13.40	13.46	44.060	16.44	24.00	Pass
116	5580	13.33	13.24	42.614	16.30	24.00	Pass
140	5700	13.27	13.12	41.744	16.21	24.00	Pass
144	5720 (For U-NII-2C)	11.59	11.84	29.697	14.73	23.28	Pass
144	5720 (For U-NII-3)	7.84	7.72	11.997	10.79	30.00	Pass
149	5745	13.11	13.28	41.745	16.21	30.00	Pass
157	5785	13.10	13.24	41.503	16.18	30.00	Pass
165	5825	13.75	13.50	46.101	16.64	30.00	Pass

Note:

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

1. $11\text{dBm} + 10\log(25.36) = 25.04 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(25.13) = 25.00 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(23.76) = 24.75 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(25.23) = 25.01 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(25.29) = 25.02 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(25.24) = 25.02 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5708.09) = 23.28 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(23.91) = 24.78 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(24.07) = 24.81 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(24.00) = 24.80 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(23.93) = 24.78 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(23.19) = 24.65 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(23.58) = 24.72 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5707.51) = 23.42 < 24\text{dBm}$

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	13.13	13.38	42.336	16.27	24.00	Pass
40	5200	13.52	13.34	44.068	16.44	24.00	Pass
48	5240	13.43	13.18	42.826	16.32	24.00	Pass
52	5260	13.20	13.33	42.421	16.28	24.00	Pass
60	5300	13.13	13.34	42.136	16.25	24.00	Pass
64	5320	13.59	13.48	45.140	16.55	24.00	Pass
100	5500	13.17	13.63	43.816	16.42	24.00	Pass
116	5580	13.14	13.12	41.118	16.14	24.00	Pass
140	5700	13.13	13.25	41.694	16.20	24.00	Pass
144	5720 (For U-NII-2C)	11.54	11.51	28.414	14.54	23.30	Pass
144	5720 (For U-NII-3)	7.84	7.70	11.969	10.78	30.00	Pass
149	5745	13.08	12.96	40.094	16.03	30.00	Pass
157	5785	13.45	13.41	44.059	16.44	30.00	Pass
165	5825	13.33	13.45	43.659	16.40	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(24.46) = 24.88 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(26.08) = 25.16 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(24.81) = 24.94 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(24.98) = 24.97 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(25.60) = 25.08 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(24.57) = 24.90 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5707.73) = 23.37 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(24.35) = 24.86 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(24.70) = 24.92 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(24.69) = 24.92 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(24.76) = 24.93 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(24.46) = 24.88 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(24.74) = 24.93 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5707.98) = 23.30 < 24\text{dBm}$

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	10.43	10.06	21.180	13.26	24.00	Pass
46	5230	13.79	14.22	50.357	17.02	24.00	Pass
54	5270	13.41	13.76	45.696	16.60	24.00	Pass
62	5310	10.59	10.62	22.990	13.62	24.00	Pass
102	5510	13.63	13.80	47.055	16.73	24.00	Pass
110	5550	14.05	13.41	47.338	16.75	24.00	Pass
134	5670	14.04	13.87	49.729	16.97	24.00	Pass
142	5710 (For U-NII-2C)	12.46	13.09	37.990	15.80	24.00	Pass
142	5710 (For U-NII-3)	4.77	5.44	6.498	8.13	30.00	Pass
151	5755	13.22	13.03	41.080	16.14	30.00	Pass
159	5795	12.95	13.15	40.378	16.06	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(42.12) = 27.24 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.56) = 27.29 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(42.41) = 27.27 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(42.77) = 27.31 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(42.56) = 27.29 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(5725.00 - 5688.91) = 26.57 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(42.50) = 27.28 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.27) = 27.26 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(42.41) = 27.27 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(42.36) = 27.26 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(42.21) = 27.25 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(5725.00 - 5688.88) = 26.57 > 24\text{dBm}$

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	10.09	20.704	13.16	24.00	Pass
58	5290	10.20	10.19	20.918	13.21	24.00	Pass
106	5530	13.03	13.02	40.136	16.04	24.00	Pass
122	5610	12.88	13.05	39.593	15.98	24.00	Pass
138	5690 (For U-NII-2C)	12.52	12.56	35.895	15.55	24.00	Pass
138	5690 (For U-NII-3)	2.33	2.39	3.444	5.37	30.00	Pass
155	5775	13.14	13.64	43.727	16.41	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(84.34) = 30.26 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(84.67) = 30.27 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(84.35) = 30.26 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5648.03) = 29.86 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(84.88) = 30.28 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(84.51) = 30.26 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(84.49) = 30.26 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5648.08) = 29.86 > 24\text{dBm}$

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	25.36	23.91
60	5300	25.13	24.07
64	5320	23.76	24.00
100	5500	25.23	23.93
116	5580	25.29	23.19
140	5700	25.24	23.58
144	5720 (For U-NII-2C)	16.91	17.49
144	5720 (For U-NII-3)	7.12	6.77

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	24.46	24.35
60	5300	26.08	24.70
64	5320	24.81	24.69
100	5500	24.98	24.76
116	5580	25.60	24.46
140	5700	24.57	24.74
144	5720 (For U-NII-2C)	17.27	17.02
144	5720 (For U-NII-3)	7.37	7.09

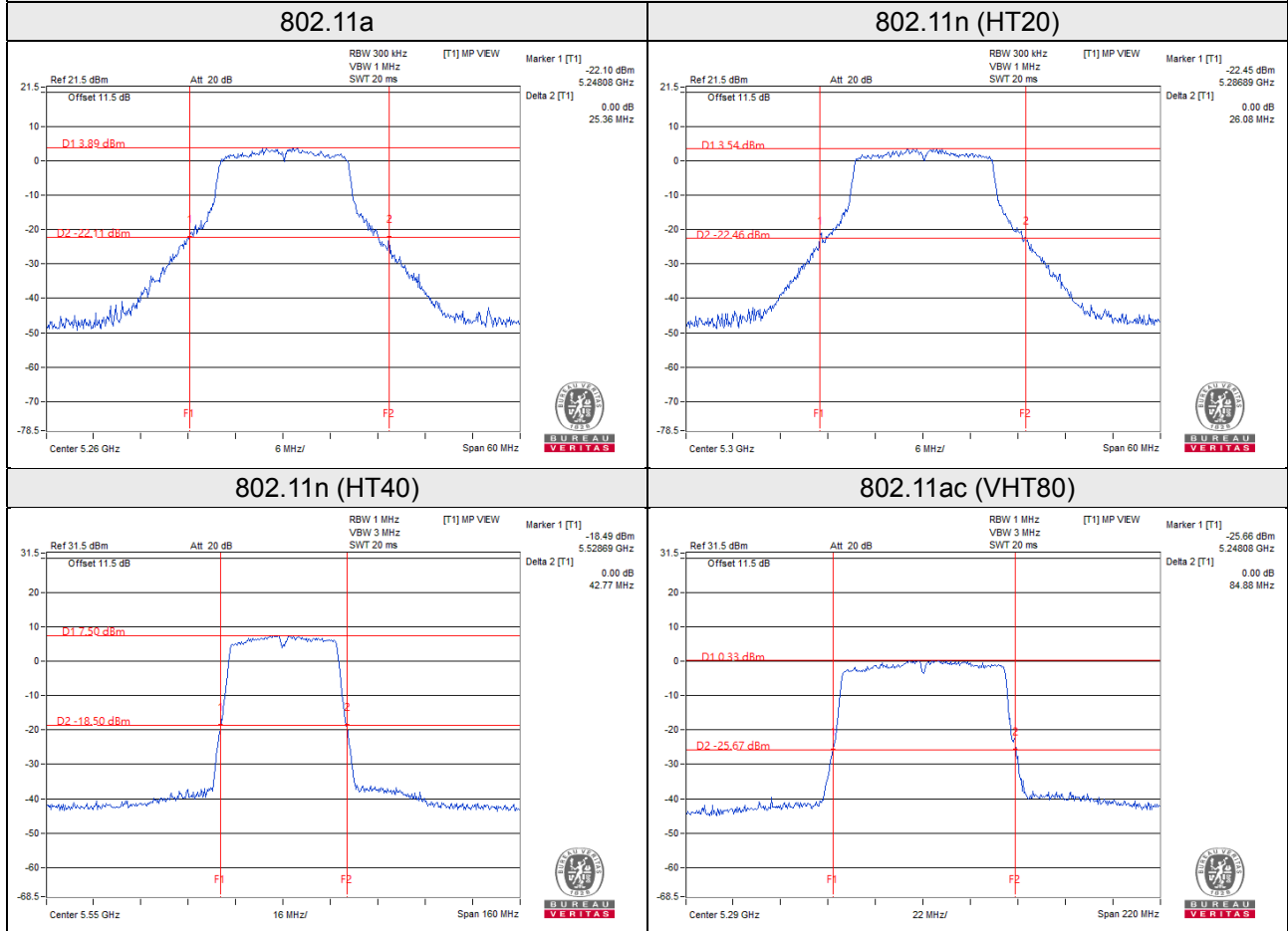
802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	42.12	42.50
62	5310	42.56	42.27
102	5510	42.41	42.41
110	5550	42.77	42.36
134	5670	42.56	42.21
142	5710 (For U-NII-2C)	36.09	36.12
142	5710 (For U-NII-3)	6.15	6.20

802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	84.34	84.88
106	5530	84.67	84.51
122	5610	84.35	84.49
138	5690 (For U-NII-2C)	76.97	76.92
138	5690 (For U-NII-3)	7.36	7.39

Spectrum Plot of Worst Value



EUT Maximum Conducted Power

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.68	46.509
5470~5725	16.44	44.060

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.55	45.140
5470~5725	16.42	43.816

802.11n (HT40)

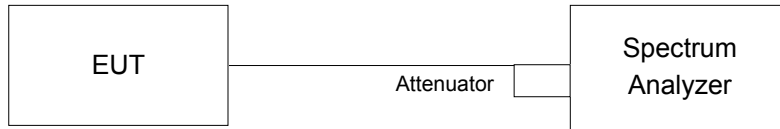
Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.60	45.696
5470~5725	16.97	49.729

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	13.21	20.918
5470~5725	16.04	40.136

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Result

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.80	16.68
40	5200	16.68	16.80
48	5240	16.92	16.68
52	5260	16.80	16.68
60	5300	16.92	16.68
64	5320	16.68	16.68
100	5500	16.80	16.80
116	5580	16.92	16.80
140	5700	16.80	16.80
144	5720 (For U-NII-2C)	13.28	13.28
144	5720 (For U-NII-3)	3.28	3.28
149	5745	16.92	16.68
157	5785	16.92	16.68
165	5825	16.92	16.68

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.88	17.88
40	5200	17.88	18.00
48	5240	18.00	17.88
52	5260	18.00	17.88
60	5300	17.88	17.88
64	5320	17.88	18.00
100	5500	17.88	17.88
116	5580	17.88	17.88
140	5700	17.88	17.88
144	5720 (For U-NII-2C)	13.88	13.76
144	5720 (For U-NII-3)	3.88	3.88
149	5745	18.00	17.88
157	5785	18.00	17.88
165	5825	17.88	17.88

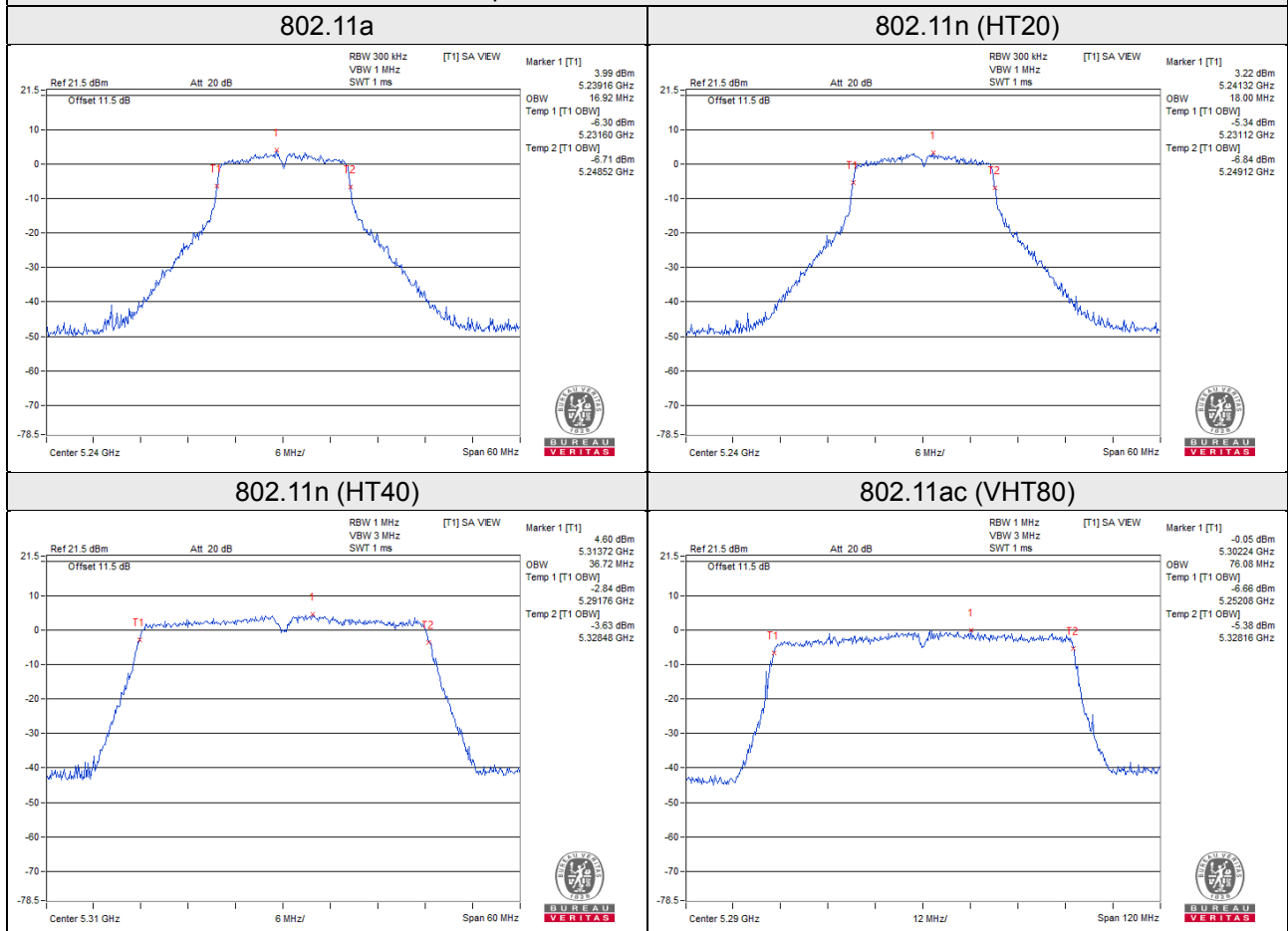
802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.60	36.48
46	5230	36.60	36.72
54	5270	36.48	36.60
62	5310	36.72	36.60
102	5510	36.60	36.60
110	5550	36.60	36.72
134	5670	36.60	36.48
142	5710 (For U-NII-2C)	33.24	33.24
142	5710 (For U-NII-3)	3.48	3.36
151	5755	36.72	36.48
159	5795	36.48	36.60

802.11ac (VHT80)

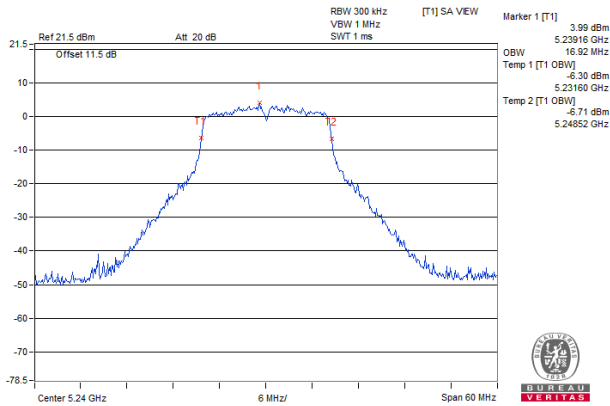
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	75.84
58	5290	75.60	76.08
106	5530	75.84	75.84
122	5610	75.60	76.08
138	5690 (For U-NII-2C)	72.68	72.92
138	5690 (For U-NII-3)	2.92	3.16
155	5775	75.60	76.08

Spectrum Plot of Worst Value

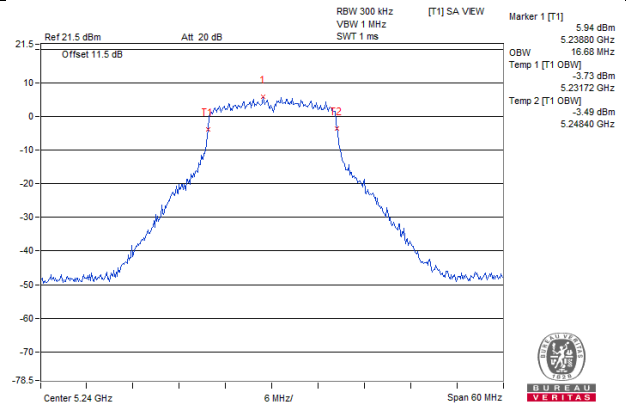


Spectrum Plot for near By DFS Band

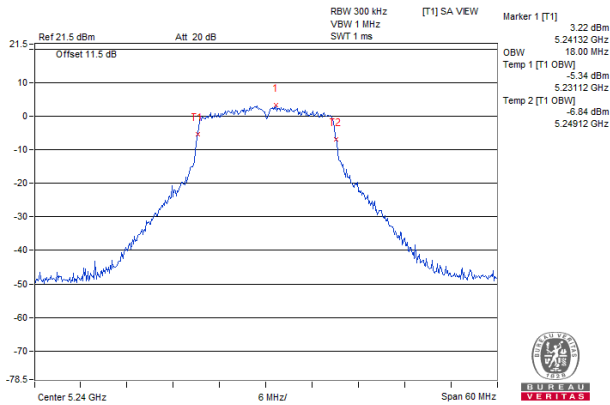
802.11a / Chain 0 / CH 48



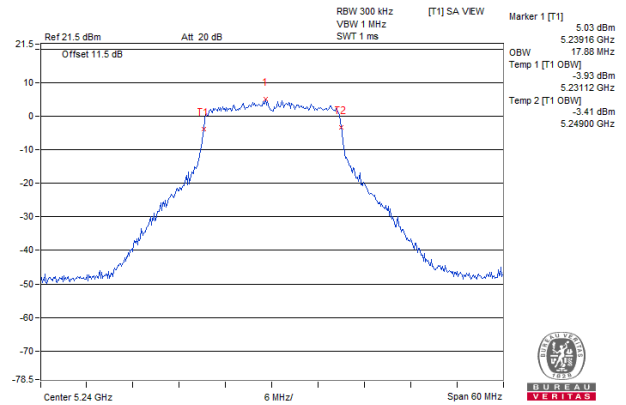
802.11a / Chain 1 / CH 48



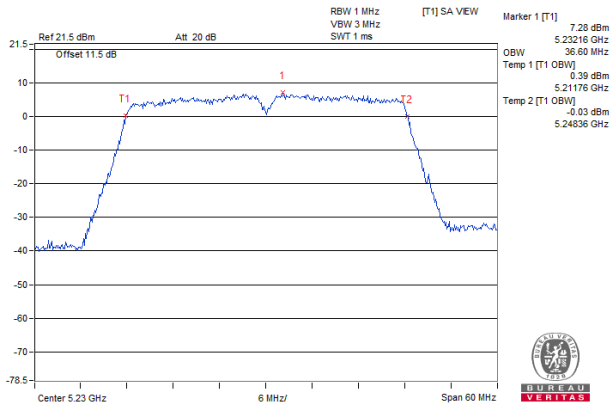
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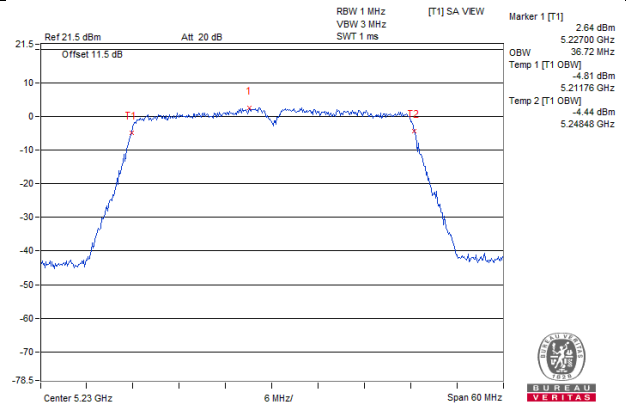
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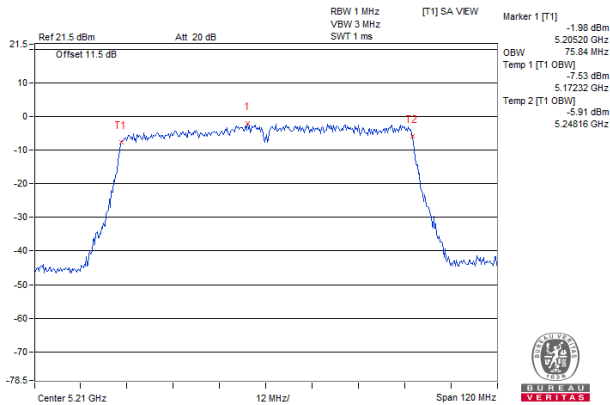
802.11n (HT40) / Chain 0 / CH 46



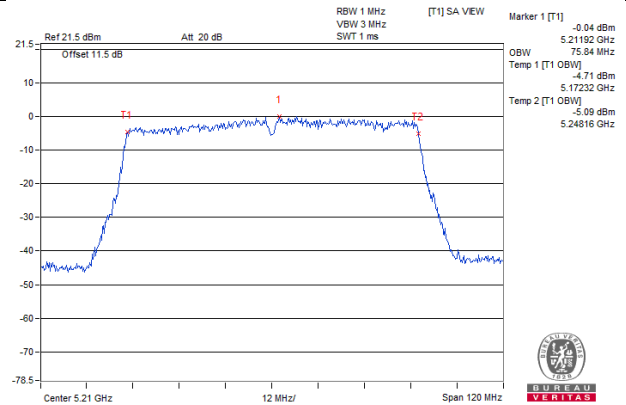
802.11n (HT40) / Chain 1 / CH 46



802.11ac (VHT80) / Chain 0 / CH 42

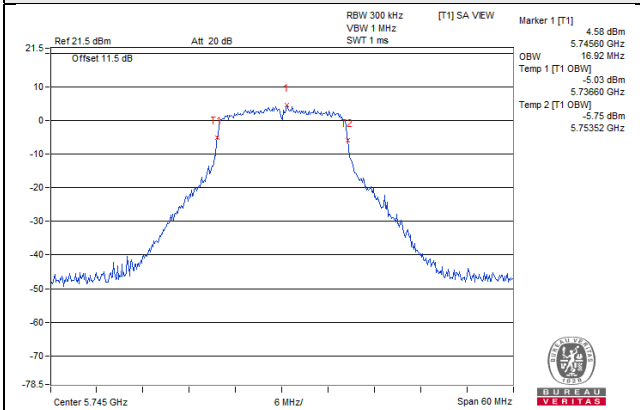


802.11ac (VHT80) / Chain 1 / CH 42

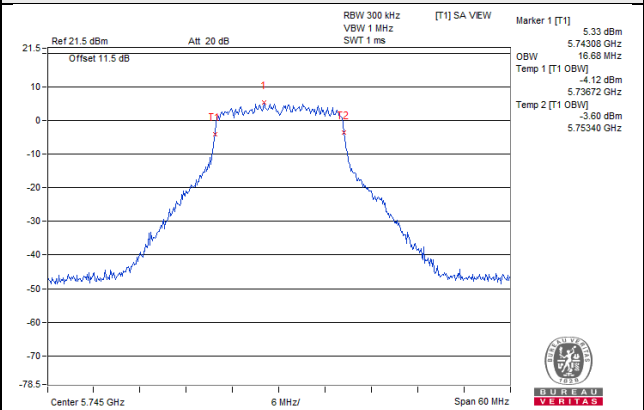


Spectrum Plot for near By DFS Band

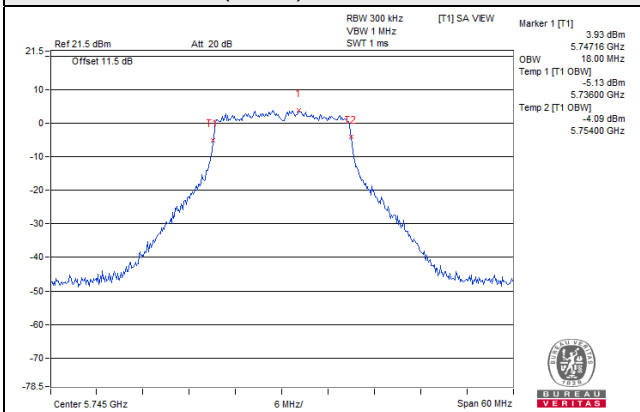
802.11a / Chain 0 / CH 149



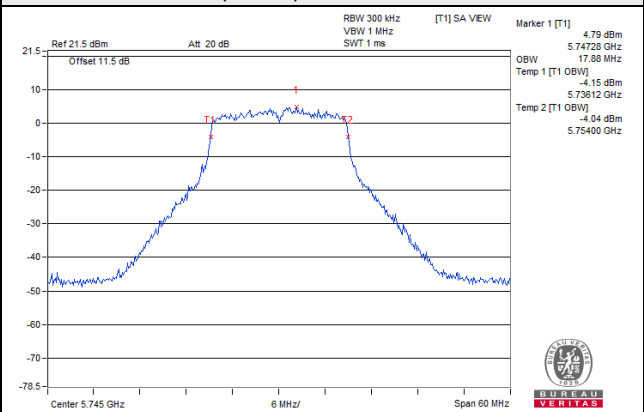
802.11a / Chain 1 / CH 149



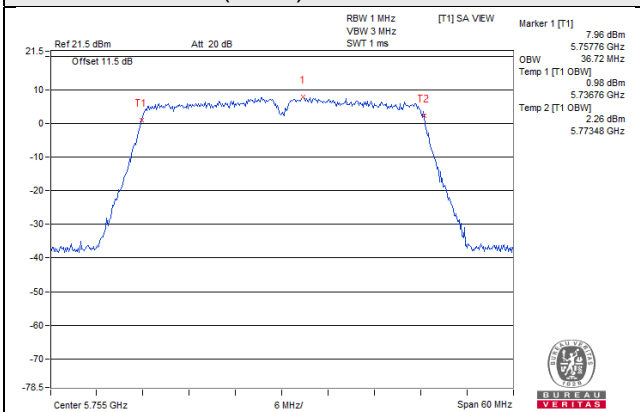
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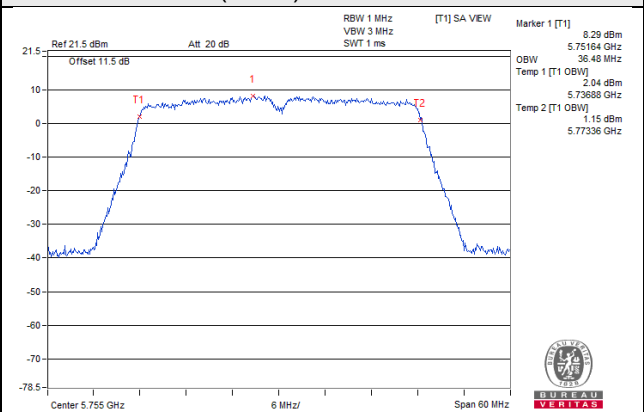
802.11n (HT20) / Chain 1 / CH 149



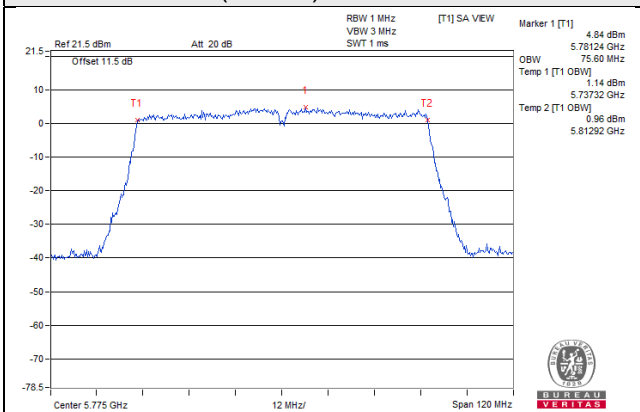
802.11n (HT40) / Chain 0 / CH 151



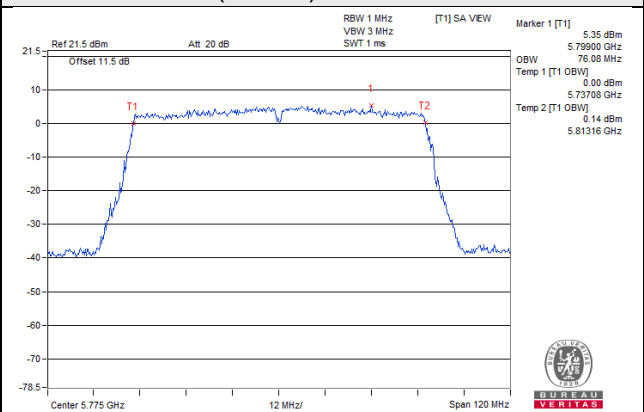
802.11n (HT40) / Chain 1 / CH 151



802.11ac (VHT80) / Chain 0 / CH 155



802.11ac (VHT80) / Chain 1 / CH 155

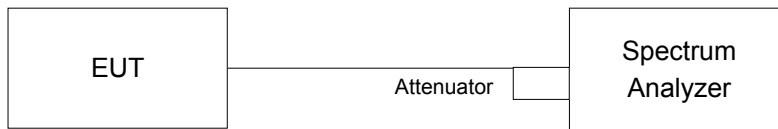


4.5 Peak Power Spectral Density Measurement

4.5.1 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	
	√	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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

Using method SA-2

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1MHz, Set VBW \geq 3 MHz, Detector = RMS
- Set Channel power measure = 1MHz
- 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)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-1.31	0.95	0.24	3.22	10.99	Pass
40	5200	-0.93	0.88	0.24	3.32	10.99	Pass
48	5240	-0.80	1.00	0.24	3.44	10.99	Pass
52	5260	-0.83	1.12	0.24	3.50	10.99	Pass
60	5300	-0.48	1.38	0.24	3.80	10.99	Pass
64	5320	-0.01	1.35	0.24	3.97	10.99	Pass
100	5500	-0.40	0.94	0.24	3.57	10.99	Pass
116	5580	-0.31	0.69	0.24	3.47	10.99	Pass
140	5700	0.06	1.05	0.24	3.83	10.99	Pass
144	5720	0.18	1.01	0.24	3.87	10.99	Pass

Note:

- Method E) 2) a) 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 = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.01 - 6) = 10.99\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-1.38	0.16	0.22	2.69	10.99	Pass
40	5200	-1.34	0.23	0.22	2.75	10.99	Pass
48	5240	-1.00	0.33	0.22	2.95	10.99	Pass
52	5260	-1.47	0.44	0.22	2.82	10.99	Pass
60	5300	-1.09	0.56	0.22	3.04	10.99	Pass
64	5320	-0.78	0.50	0.22	3.14	10.99	Pass
100	5500	-1.07	0.56	0.22	3.05	10.99	Pass
116	5580	-0.79	-0.12	0.22	2.79	10.99	Pass
140	5700	-0.54	0.38	0.22	3.17	10.99	Pass
144	5720	-0.15	0.40	0.22	3.36	10.99	Pass

Note:

- Method E) 2) a) 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 = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.01 - 6) = 10.99\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-6.86	-6.96	0.47	-3.43	10.99	Pass
46	5230	-3.48	-4.57	0.47	-0.51	10.99	Pass
54	5270	-3.52	-1.83	0.47	0.89	10.99	Pass
62	5310	-6.68	-6.39	0.47	-3.05	10.99	Pass
102	5510	-2.64	-1.86	0.47	1.25	10.99	Pass
110	5550	-2.99	-2.44	0.47	0.77	10.99	Pass
134	5670	-2.37	-2.01	0.47	1.29	10.99	Pass
142	5710	-2.35	-1.84	0.47	1.39	10.99	Pass

Note:

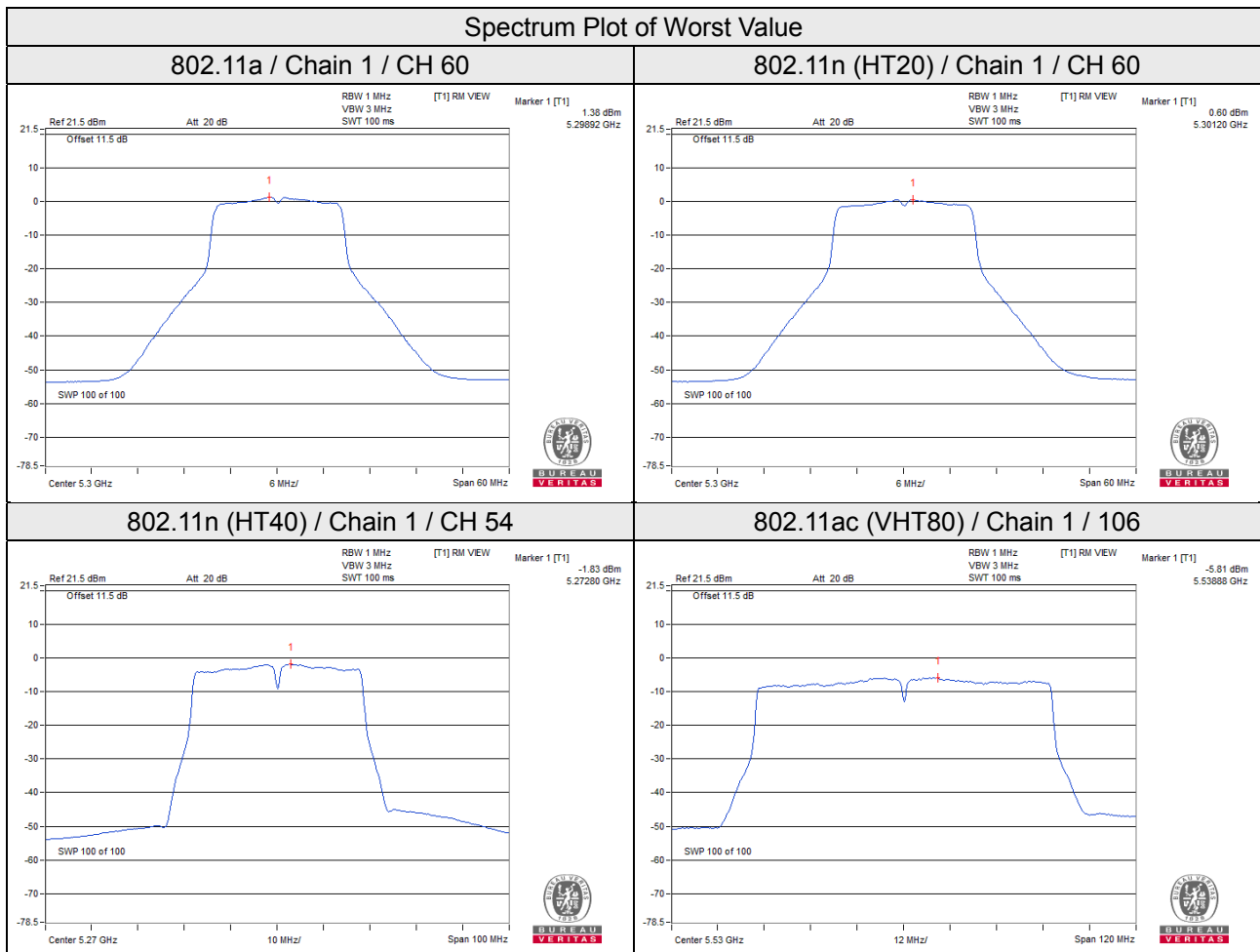
- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.01 - 6) = 10.99\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-9.90	-10.15	0.77	-6.54	10.99	Pass
58	5290	-10.33	-10.16	0.77	-6.76	10.99	Pass
106	5530	-6.72	-5.81	0.77	-2.76	10.99	Pass
122	5610	-6.64	-5.95	0.77	-2.80	10.99	Pass
138	5690	-6.21	-5.88	0.77	-2.56	10.99	Pass

Note:

- Method E) 2) a) 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 = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power density limit shall be reduced to 11 - (6.01 - 6) = 10.99dBi.
- Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720	-9.45	-7.23	3.01	0.24	-3.98	29.99	Pass
	149	5745	-8.04	-5.82	3.01	0.24	-2.57	29.99	Pass
	157	5785	-7.86	-5.64	3.01	0.24	-2.39	29.99	Pass
	165	5825	-7.34	-5.12	3.01	0.24	-1.87	29.99	Pass
1	144	5720	-8.92	-6.70	3.01	0.24	-3.45	29.99	Pass
	149	5745	-7.33	-5.11	3.01	0.24	-1.86	29.99	Pass
	157	5785	-7.22	-5.00	3.01	0.24	-1.75	29.99	Pass
	165	5825	-6.97	-4.75	3.01	0.24	-1.50	29.99	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (6.01 - 6) = 29.99\text{dBi}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720	-9.99	-7.77	3.01	0.22	-4.54	29.99	Pass
	149	5745	-8.71	-6.49	3.01	0.22	-3.26	29.99	Pass
	157	5785	-8.29	-6.07	3.01	0.22	-2.84	29.99	Pass
	165	5825	-7.71	-5.49	3.01	0.22	-2.26	29.99	Pass
1	144	5720	-9.59	-7.37	3.01	0.22	-4.14	29.99	Pass
	149	5745	-7.87	-5.65	3.01	0.22	-2.42	29.99	Pass
	157	5785	-7.57	-5.35	3.01	0.22	-2.12	29.99	Pass
	165	5825	-7.41	-5.19	3.01	0.22	-1.96	29.99	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (6.01 - 6) = 29.99\text{dBi}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142	5710	-12.50	-10.28	3.01	0.47	-6.80	29.99	Pass
	151	5755	-10.91	-8.69	3.01	0.47	-5.21	29.99	Pass
	159	5795	-10.95	-8.73	3.01	0.47	-5.25	29.99	Pass
1	142	5710	-12.40	-10.18	3.01	0.47	-6.70	29.99	Pass
	151	5755	-10.72	-8.50	3.01	0.47	-5.02	29.99	Pass
	159	5795	-10.35	-8.13	3.01	0.47	-4.65	29.99	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log(N_{ANT})$ dB.
- Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (6.01 - 6) = 29.99\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

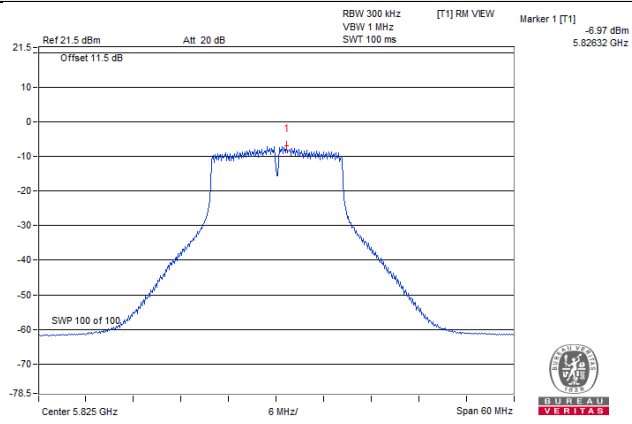
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690	-16.80	-14.58	3.01	0.77	-10.80	29.99	Pass
	155	5775	-14.70	-12.48	3.01	0.77	-8.70	29.99	Pass
1	138	5690	-15.86	-13.64	3.01	0.77	-9.86	29.99	Pass
	155	5775	-14.22	-12.00	3.01	0.77	-8.22	29.99	Pass

Note:

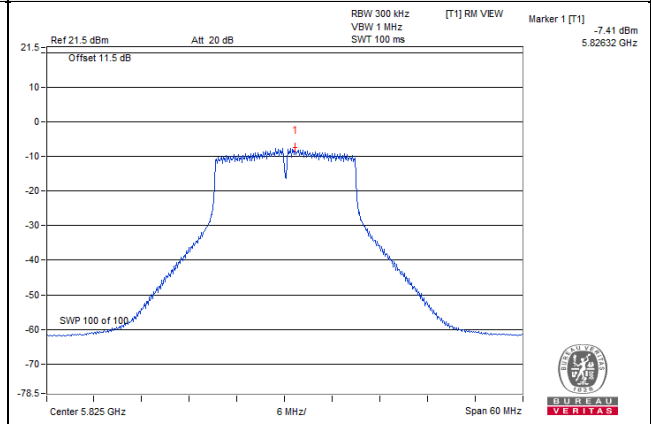
- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log(N_{ANT})$ dB.
- Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (6.01 - 6) = 29.99\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

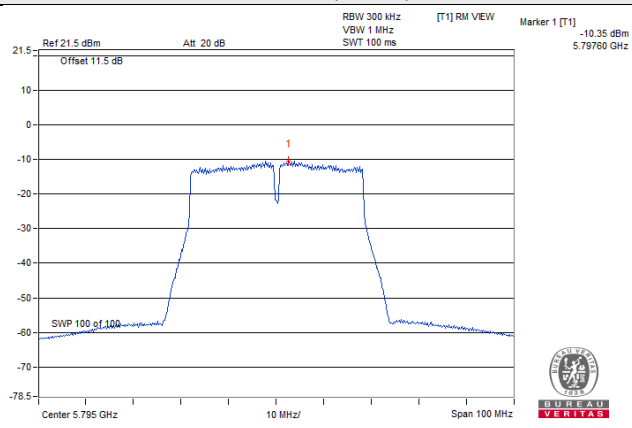
802.11a



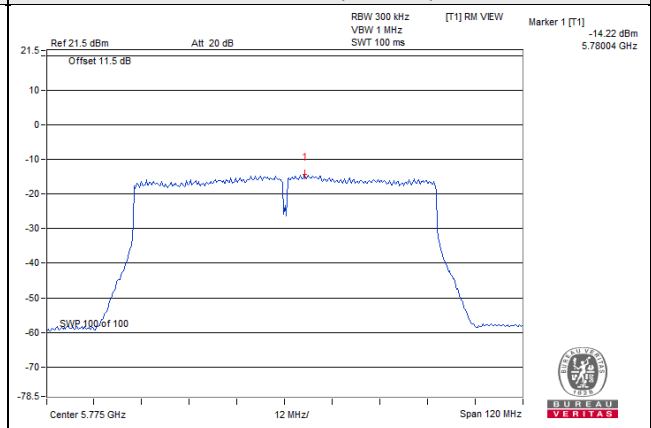
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

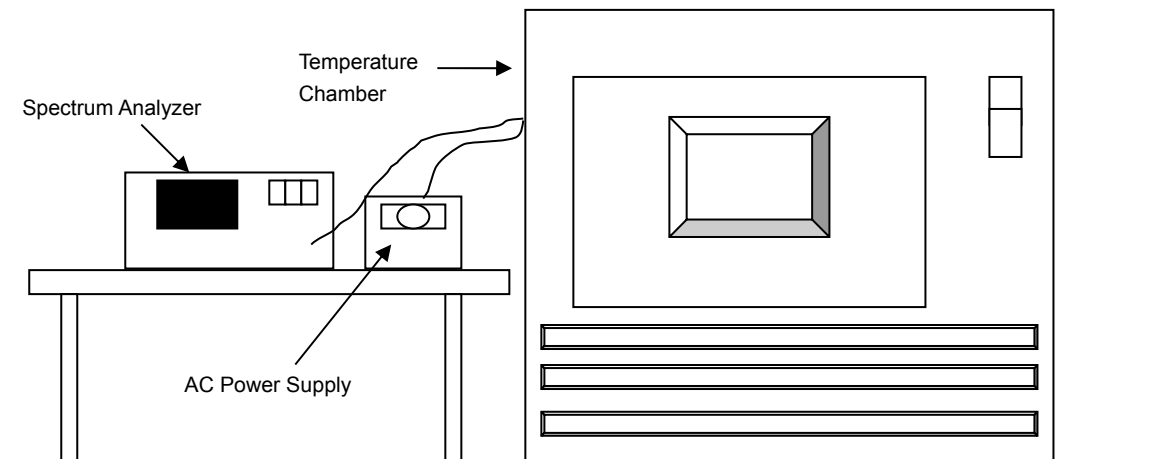


4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 23, 2019	Sep. 22, 2020
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 03, 2019	Jun. 02, 2020
Digital Multimeter Fluke	87-III	70360742	Jun. 28, 2019	Jun. 27, 2020
AC Power Supply Extech	CFW-105	E000603	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.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
40	120	5179.9986	Pass	5179.9983	Pass	5179.9961	Pass	5180.001	Pass
30	120	5179.9887	Pass	5179.9908	Pass	5179.9893	Pass	5179.9912	Pass
20	120	5180.014	Pass	5180.0138	Pass	5180.012	Pass	5180.0109	Pass
10	120	5179.9989	Pass	5180.0023	Pass	5179.9973	Pass	5180.000	Pass
0	120	5179.9758	Pass	5179.9766	Pass	5179.9731	Pass	5179.9758	Pass

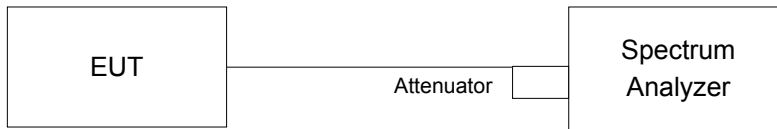
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0148	Pass	5180.013	Pass	5180.011	Pass	5180.0103	Pass
	120	5180.014	Pass	5180.0138	Pass	5180.012	Pass	5180.0109	Pass
	102	5180.0141	Pass	5180.0138	Pass	5180.0115	Pass	5180.0114	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (For U-NII-3)	5720	2.67	3.23	0.5	Pass
149	5745	15.57	16.29	0.5	Pass
157	5785	16.05	15.74	0.5	Pass
165	5825	15.74	16.08	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (For U-NII-3)	5720	3.22	3.45	0.5	Pass
149	5745	16.57	16.07	0.5	Pass
157	5785	16.59	16.60	0.5	Pass
165	5825	15.76	16.31	0.5	Pass

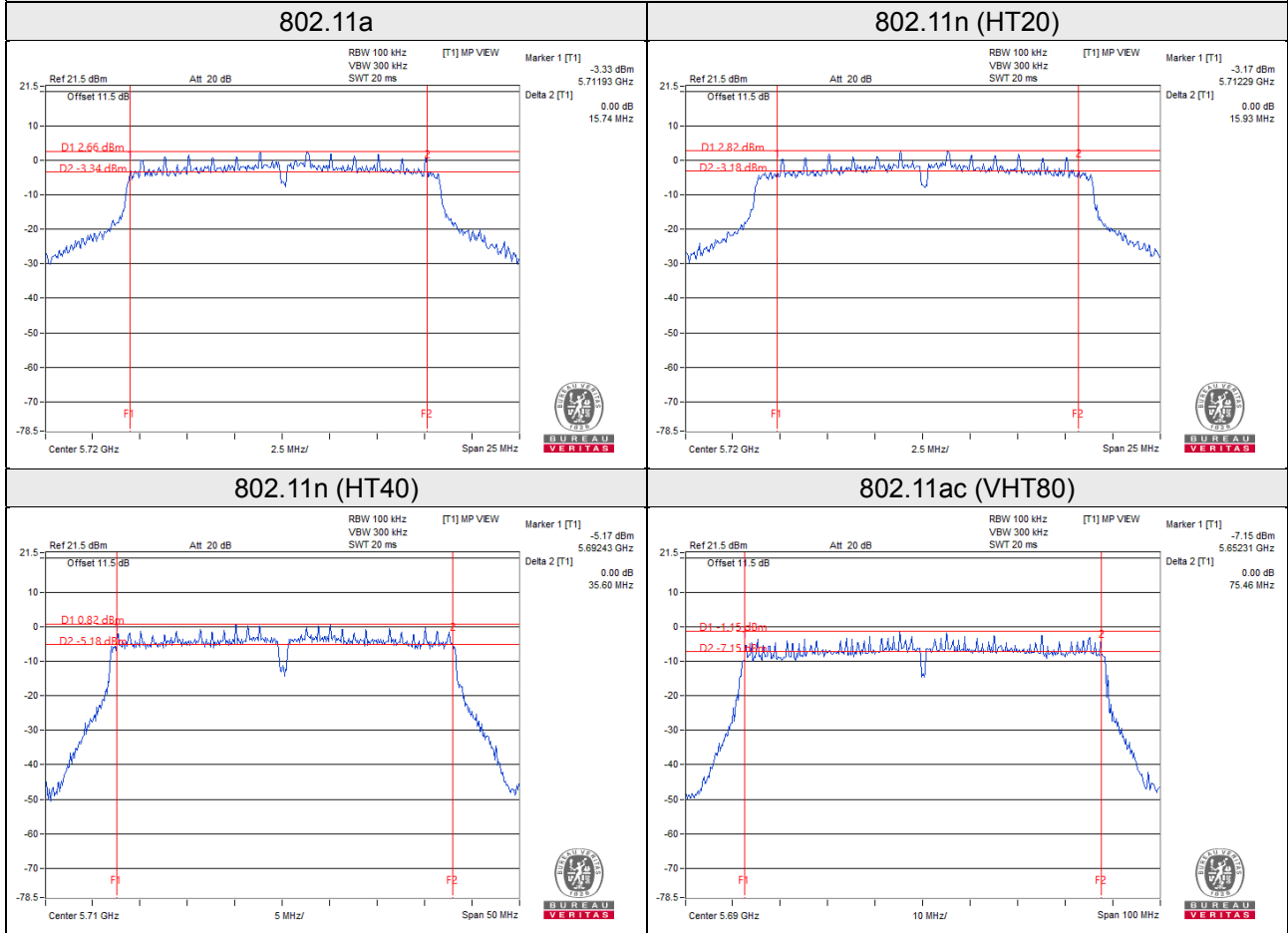
802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142 (For U-NII-3)	5710	3.21	3.03	0.5	Pass
151	5755	35.57	35.85	0.5	Pass
159	5795	35.81	36.13	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138 (For U-NII-3)	5690	2.89	2.77	0.5	Pass
155	5775	75.67	75.47	0.5	Pass

Spectrum Plot of Worst Value



Note:

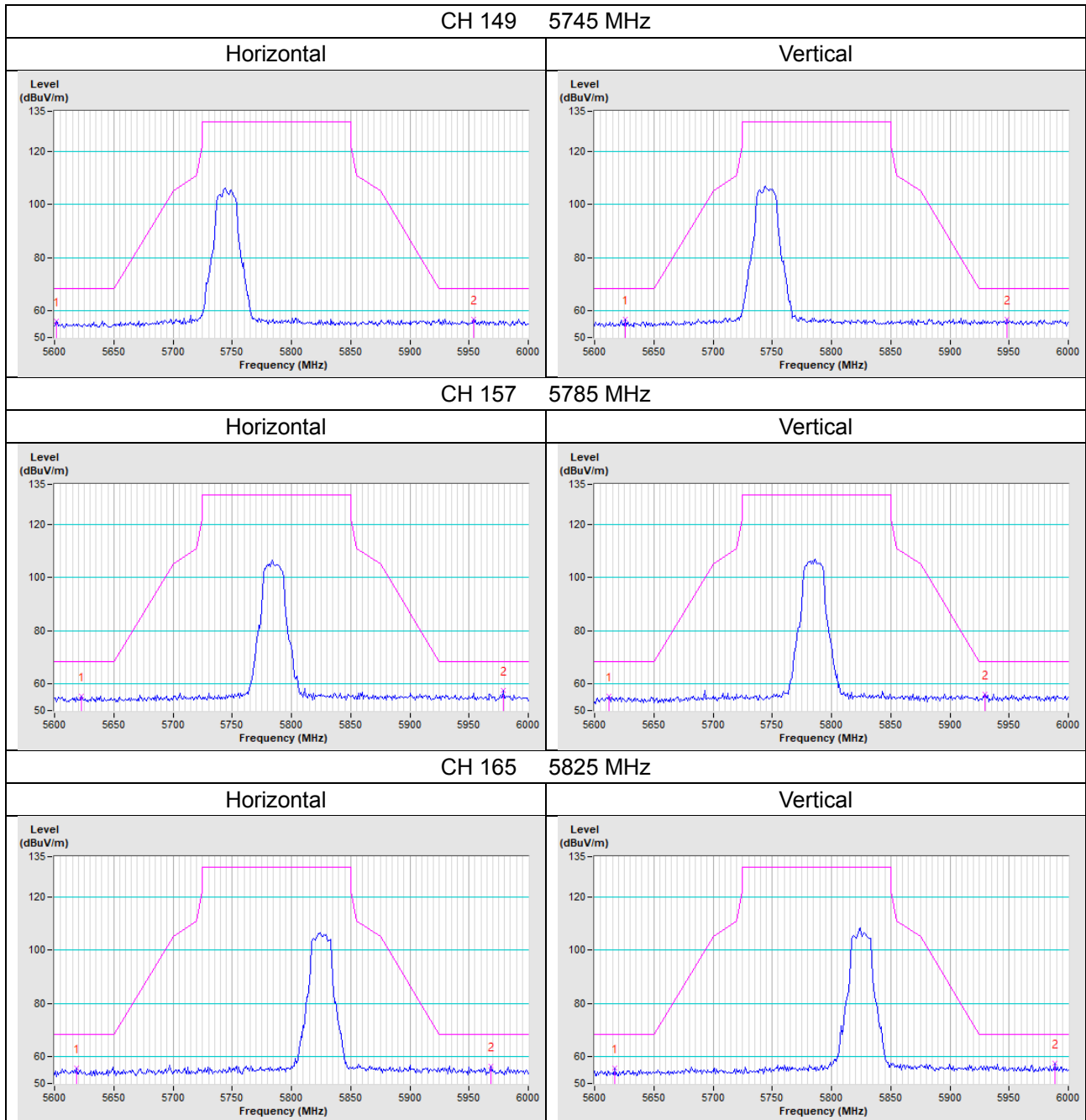
- For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz
- For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz
- For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

5 Pictures of Test Arrangements

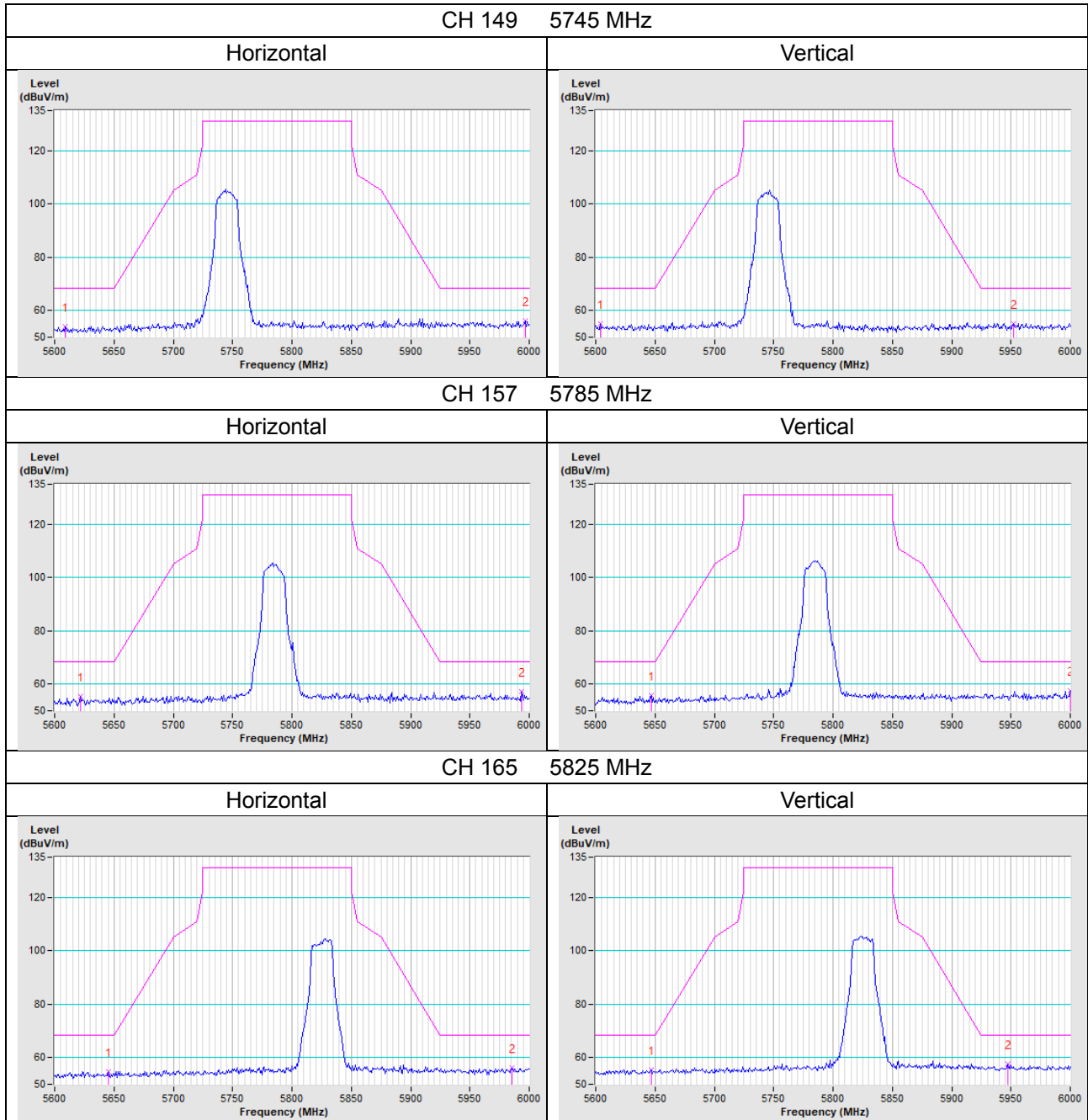
Please refer to the attached file (Test Setup Photo).

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

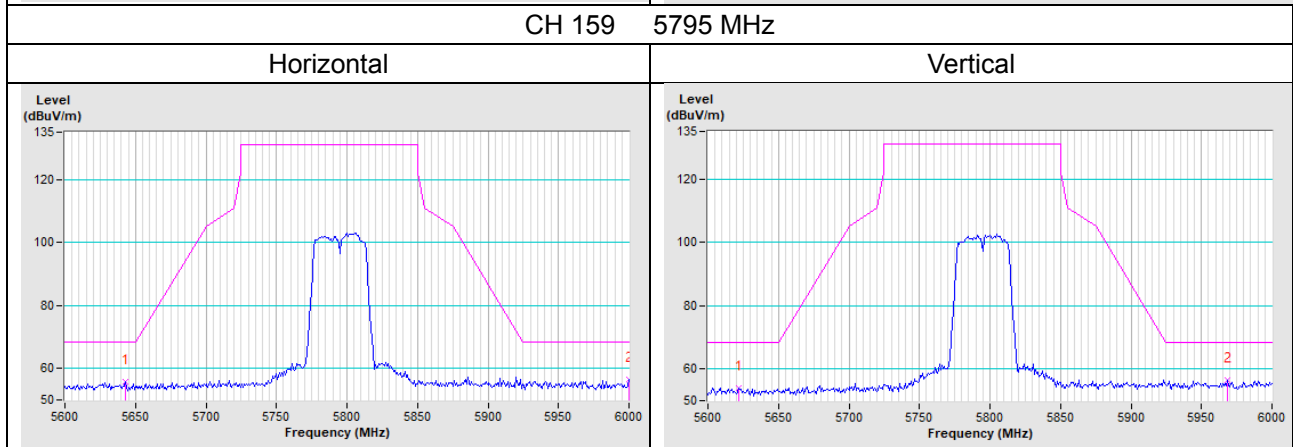
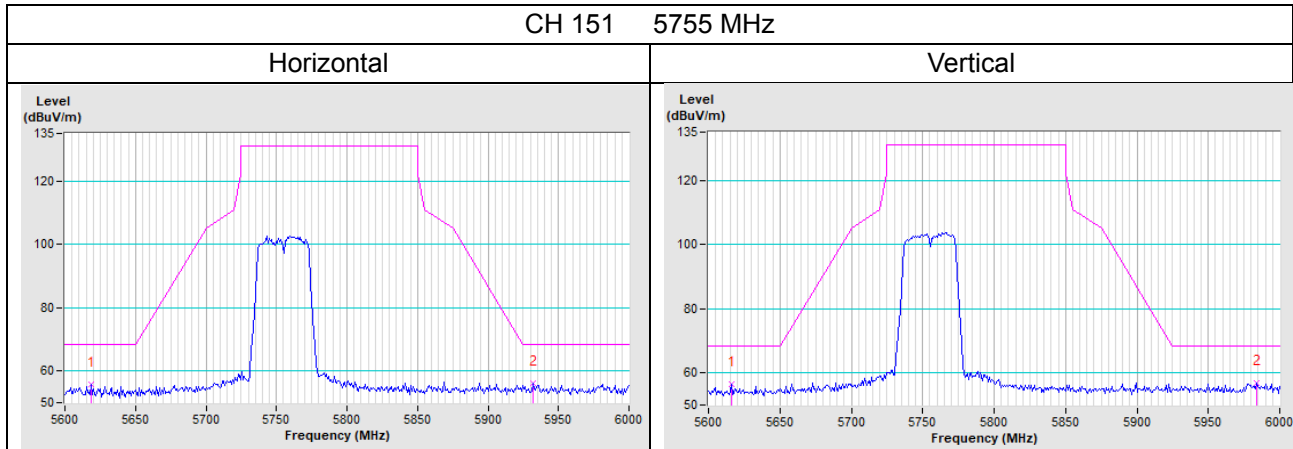
802.11a



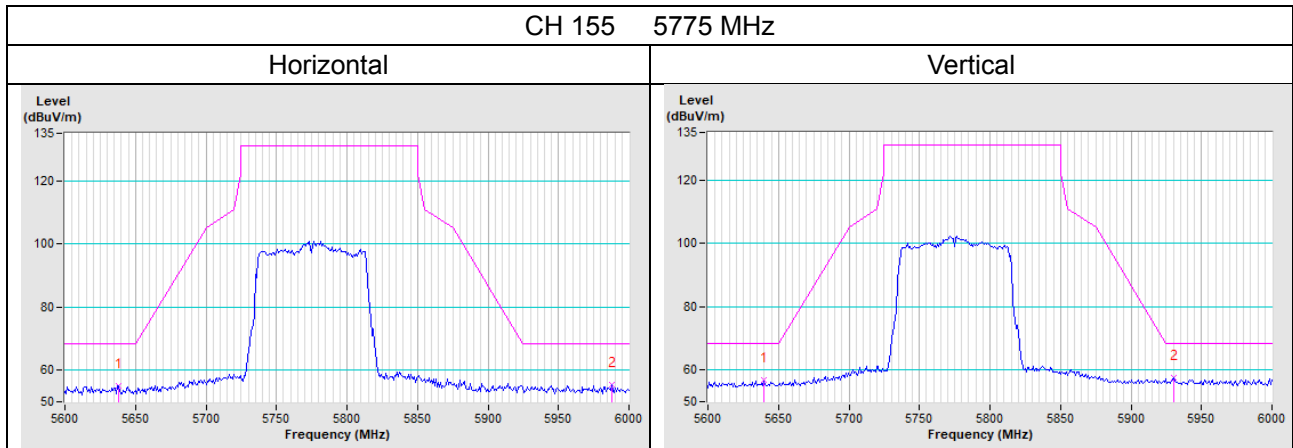
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Appendix – Information of 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 FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

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Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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