

FCC Test Report

Report No.: RF191031C13-1

FCC ID: RYK-WNFQ262ACNIBT

Test Model: WNFQ-262ACNI(BT)

Received Date: Oct. 31, 2019

Test Date: Nov. 07 ~ Dec. 19, 2019

Issued Date: Jan. 09, 2020

Applicant: SparkLAN Communications, Inc.

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



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Release Control Record

Issue No.	Description	Date Issued
RF191031C13-1	Original release	Jan. 09, 2020

1 Certificate of Conformity

Product: 802.11ac/b/g/n WiFi + Bluetooth M.2 Module

Brand: SparkLAN

Test Model: WNFQ-262ACNI(BT)

Sample Status: R&D Sample

Applicant: SparkLAN Communications, Inc.

Test Date: Nov. 07 ~ Dec. 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 : Celine Chou , **Date:** Jan. 09, 2020
Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Jan. 09, 2020
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 -9.98dB at 0.15000MHz.
15.407(b)(1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5150.00MHz and 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 RP-SMA 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	3.86 dB
	200MHz ~ 1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	802.11ac/b/g/n WiFi + Bluetooth M.2 Module
Brand	SparkLAN
Test Model	WNFQ-262ACNI(BT)
Sample Status	R&D Sample
Power Supply Rating	3.3Vdc (host equipment)
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: 181.672mW 5260 ~ 5320MHz: 175.226mW 5500 ~ 5720MHz: 202.094mW 5745 ~ 5825MHz: 175.635mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Antenna
Cable Supplied	NA

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 uses following antenna.

No.	Manufacturer	Model	Antenna Type	Antenna Connector	2.4G Gain (dBi)	5G Gain (dBi)
1	SparkLAN	AD-305N	Dipole	RP-SMA	5.00	5.53
2	SparkLAN	AD-300N	Dipole	RP-SMA	3.00	5.00
3	SparkLAN	AD-103AG	Dipole	RP-SMA	2.02	2.03
4	SparkLAN	AD-302N	Dipole	RP-SMA	3.00	2.00
5	SparkLAN	AD-303N	Dipole	RP-SMA	3.00	3.00

* The antenna 1 is the max. gain and chosen for final tests.

3. WLAN 2.4GHz & WLAN 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 had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-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)	5180-5240	38 to 46	110	OFDM	13.5
-	802.11n (HT40)	5260-5320	54 to 62		OFDM	13.5
-	802.11n (HT40)	5500-5720	102 to 142		OFDM	13.5
-	802.11n (HT40)	5745-5825	151 to 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)	5180-5240	38 to 46	110	OFDM	13.5
-	802.11n (HT40)	5260-5320	54 to 62		OFDM	13.5
-	802.11n (HT40)	5500-5720	102 to 142		OFDM	13.5
-	802.11n (HT40)	5745-5825	151 to 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≥1G	23 deg. C, 67% RH	120Vac, 60Hz (System)	Adair Peng
RE<1G	23 deg. C, 67% RH	120Vac, 60Hz (System)	Adair Peng
PLC	25 deg. C, 75% RH	120Vac, 60Hz (System)	Jones Chang
APCM	25 deg. C, 60% RH	3.3Vdc	Jisyong Wang

3.3 Duty Cycle of Test Signal

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

802.11a: Duty cycle = 2.060/2.190 = 0.941, Duty factor = $10 \cdot \log(1/0.941) = 0.27$

802.11n (HT20): Duty cycle = 1.922/2.015 = 0.954, Duty factor = $10 \cdot \log(1/0.954) = 0.21$

802.11n (HT40): Duty cycle = 0.945/1.065 = 0.887, Duty factor = $10 \cdot \log(1/0.887) = 0.52$

802.11ac (VHT80): Duty cycle = 0.461/0.561 = 0.822, Duty factor = $10 \cdot \log(1/0.822) = 0.85$



3.4 Description of Support Units

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

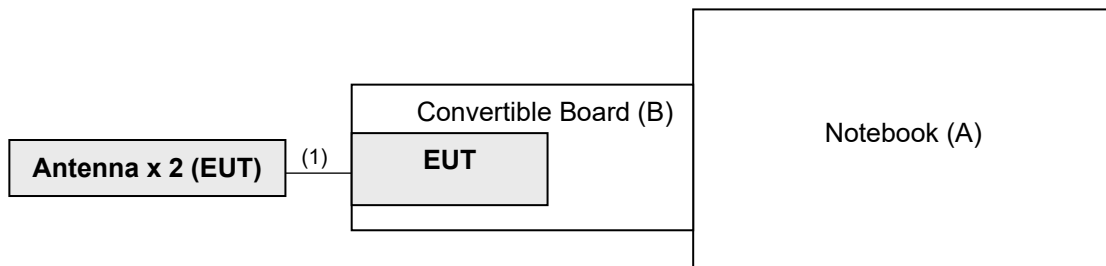
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5420	BPQ7MQ1	FCC DoC Approved	-
B.	Convertible Board	NA	NA	NA	NA	Provided by manufacturer

Note:

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

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Antenna cable	2	0.14	Y	0	Provided by manufacturer

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:

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:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 30, 2019	May 29, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 22, 2018	Nov. 21, 2019
			Nov. 11, 2019	Nov. 10, 2020
HORN Antenna SCHWARZBECK	9120D	209	Nov. 25, 2018	Nov. 24, 2019
			Nov. 24, 2019	Nov. 23, 2020
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
			Nov. 24, 2019	Nov. 23, 2020
Loop Antenna TESEQ	HLA 6121	45745	Jul. 01, 2019	Jun. 30, 2020
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 20, 2019	Aug. 19, 2020
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 27, 2019	Mar. 26, 2020
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Aug. 20, 2019	Aug. 19, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 20, 2019	Aug. 19, 2020
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM-S M-8000	Cable-CH3-03 (309224+170907)	Aug. 20, 2019	Aug. 19, 2020
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 05, 2019	Sep. 04, 2020
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519 0004/MY55190007/MY 55210005	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 3.

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:

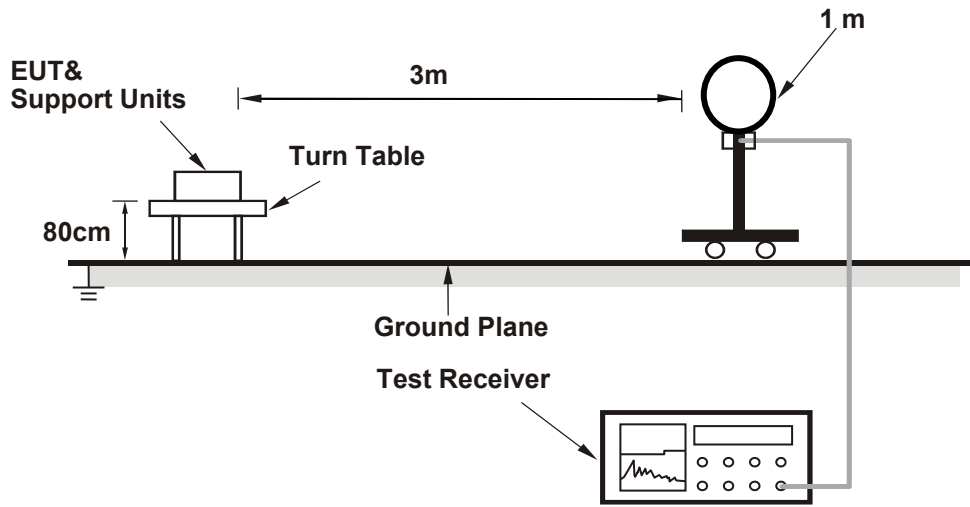
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

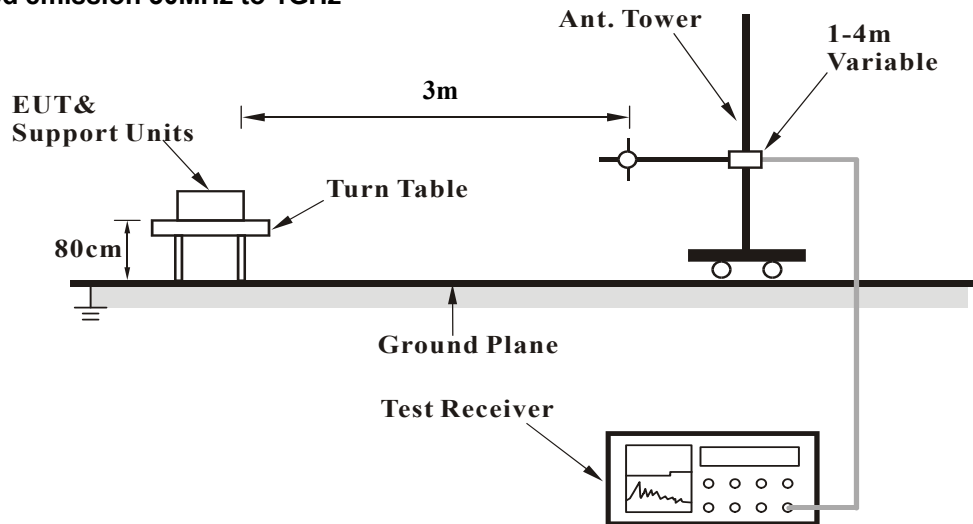
No deviation.

4.1.5 Test Setup

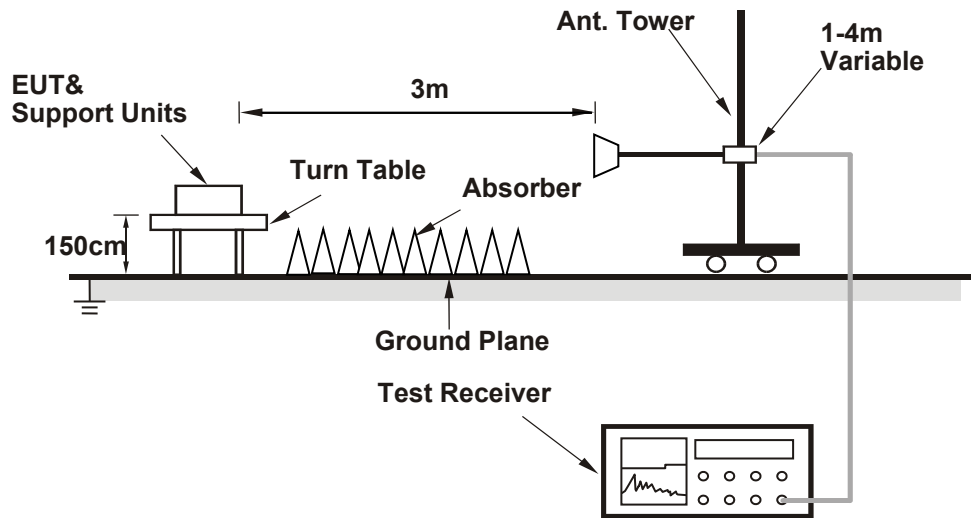
For Radiated emission below 30MHz



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 connected with notebook on the testing table.
- b. Set the EUT under transmission condition continuously at specific channel frequency.

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	58.2 PK	74.0	-15.8	2.01 H	177	54.1	4.1
2	5150.00	43.3 AV	54.0	-10.7	2.01 H	177	39.2	4.1
3	*5180.00	101.8 PK			2.15 H	166	62.5	39.3
4	*5180.00	91.6 AV			2.15 H	166	52.3	39.3
5	#10360.00	60.6 PK	68.2	-7.6	1.90 H	303	43.4	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	5150.00	68.0 PK	74.0	-6.0	1.62 V	28	63.8	4.2
2	5150.00	53.0 AV	54.0	-1.0	1.62 V	28	48.8	4.2
3	*5180.00	117.2 PK			1.64 V	28	77.8	39.4
4	*5180.00	107.1 AV			1.64 V	28	67.7	39.4
5	#10360.00	61.3 PK	68.2	-6.9	1.11 V	259	43.8	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 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	101.8 PK			2.13 H	170	62.5	39.3
2	*5200.00	91.8 AV			2.13 H	170	52.5	39.3
3	#10400.00	60.1 PK	68.2	-8.1	1.83 H	312	42.7	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	*5200.00	117.2 PK			1.81 V	45	77.9	39.3
2	*5200.00	107.3 AV			1.81 V	45	68.0	39.3
3	#10400.00	60.4 PK	68.2	-7.8	1.45 V	222	43.0	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 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	101.4 PK			2.13 H	171	62.3	39.1
2	*5240.00	91.6 AV			2.13 H	171	52.5	39.1
3	5350.00	56.2 PK	74.0	-17.8	2.01 H	163	52.1	4.1
4	5350.00	42.9 AV	54.0	-11.1	2.01 H	163	38.8	4.1
5	#10480.00	60.4 PK	68.2	-7.8	1.95 H	318	42.4	18.0

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	116.8 PK			1.76 V	37	77.7	39.1
2	*5240.00	106.9 AV			1.76 V	37	67.8	39.1
3	5350.00	57.0 PK	74.0	-17.0	1.61 V	29	52.9	4.1
4	5350.00	43.2 AV	54.0	-10.8	1.61 V	29	39.1	4.1
5	#10480.00	61.3 PK	68.2	-6.9	1.21 V	241	42.9	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 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	100.4 PK			1.28 H	318	61.3	39.1
2	*5260.00	90.1 AV			1.28 H	318	51.0	39.1
3	5350.00	54.4 PK	74.0	-19.6	1.32 H	322	50.3	4.1
4	5350.00	42.1 AV	54.0	-11.9	1.32 H	322	38.0	4.1
5	#10520.00	59.7 PK	68.2	-8.5	2.01 H	313	41.0	18.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	119.1 PK			1.80 V	35	80.0	39.1
2	*5260.00	108.8 AV			1.80 V	35	69.7	39.1
3	5350.00	56.4 PK	74.0	-17.6	1.63 V	43	52.3	4.1
4	5350.00	43.0 AV	54.0	-11.0	1.63 V	43	38.9	4.1
5	#10520.00	61.2 PK	68.2	-7.0	1.19 V	256	42.5	18.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	100.6 PK			1.42 H	322	61.5	39.1
2	*5300.00	90.3 AV			1.42 H	322	51.2	39.1
3	10600.00	60.3 PK	74.0	-13.7	2.03 H	319	41.2	19.1
4	10600.00	46.2 AV	54.0	-7.8	2.03 H	319	27.1	19.1

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	*5300.00	117.2 PK			1.86 V	51	78.1	39.1
2	*5300.00	106.4 AV			1.86 V	51	67.3	39.1
3	10600.00	60.4 PK	74.0	-13.6	1.32 V	261	41.5	18.9
4	10600.00	45.9 AV	54.0	-8.1	1.32 V	261	27.0	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	100.2 PK			1.51 H	319	61.0	39.2
2	*5320.00	90.0 AV			1.51 H	319	50.8	39.2
3	5350.00	55.1 PK	74.0	-18.9	1.53 H	321	51.0	4.1
4	5350.00	42.3 AV	54.0	-11.7	1.53 H	321	38.2	4.1
5	10640.00	60.2 PK	74.0	-13.8	2.06 H	321	41.3	18.9
6	10640.00	46.4 AV	54.0	-7.6	2.06 H	321	27.5	18.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	118.3 PK			1.98 V	37	79.1	39.2
2	*5320.00	108.2 AV			1.98 V	37	69.0	39.2
3	5350.00	68.9 PK	74.0	-5.1	2.10 V	36	64.8	4.1
4	5350.00	53.0 AV	54.0	-1.0	2.10 V	36	48.9	4.1
5	10640.00	60.8 PK	74.0	-13.2	1.35 V	269	41.9	18.9
6	10640.00	47.0 AV	54.0	-7.0	1.35 V	269	28.1	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	54.7 PK	74.0	-19.3	1.15 H	32	50.2	4.5
2	5460.00	43.1 AV	54.0	-10.9	1.15 H	32	38.6	4.5
3	#5470.00	54.9 PK	68.2	-13.3	1.16 H	33	50.4	4.5
4	*5500.00	99.8 PK			1.13 H	30	60.0	39.8
5	*5500.00	90.0 AV			1.13 H	30	50.2	39.8
6	11000.00	60.3 PK	74.0	-13.7	2.13 H	326	40.3	20.0
7	11000.00	47.0 AV	54.0	-7.0	2.13 H	326	27.0	20.0

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	59.4 PK	74.0	-14.6	1.79 V	47	54.9	4.5
2	5460.00	45.0 AV	54.0	-9.0	1.79 V	47	40.5	4.5
3	#5470.00	67.0 PK	68.2	-1.2	1.95 V	39	62.5	4.5
4	*5500.00	117.2 PK			2.20 V	37	77.4	39.8
5	*5500.00	106.7 AV			2.20 V	37	66.9	39.8
6	11000.00	61.1 PK	74.0	-12.9	1.34 V	261	41.1	20.0
7	11000.00	47.8 AV	54.0	-6.2	1.34 V	261	27.8	20.0

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	101.7 PK			1.23 H	35	62.0	39.7
2	*5580.00	91.0 AV			1.23 H	35	51.3	39.7
3	11160.00	59.7 PK	74.0	-14.3	2.16 H	329	40.5	19.2
4	11160.00	46.3 AV	54.0	-7.7	2.16 H	329	27.1	19.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	115.8 PK			1.76 V	114	76.1	39.7
2	*5580.00	105.9 AV			1.76 V	114	66.2	39.7
3	11160.00	59.1 PK	74.0	-14.9	1.36 V	271	40.5	18.6
4	11160.00	45.6 AV	54.0	-8.4	1.36 V	271	27.0	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	100.3 PK			1.16 H	39	60.5	39.8
2	*5700.00	91.1 AV			1.16 H	39	51.3	39.8
3	#5725.00	55.3 PK	68.2	-12.9	1.20 H	41	50.6	4.7
4	11400.00	59.7 PK	74.0	-14.3	2.16 H	329	40.6	19.1
5	11400.00	46.2 AV	54.0	-7.8	2.16 H	329	27.1	19.1

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	*5700.00	115.2 PK			1.77 V	222	75.4	39.8
2	*5700.00	104.8 AV			1.77 V	222	65.0	39.8
3	#5725.00	66.7 PK	68.2	-1.5	1.59 V	220	62.0	4.7
4	11400.00	60.8 PK	74.0	-13.2	1.19 V	253	41.7	19.1
5	11400.00	47.2 AV	54.0	-6.8	1.19 V	253	28.1	19.1

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 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	55.2 PK	74.0	-18.8	1.45 H	40	50.7	4.5
2	5460.00	44.7 AV	54.0	-9.3	1.45 H	40	40.2	4.5
3	#5470.00	55.3 PK	68.2	-12.9	1.46 H	42	50.8	4.5
4	*5720.00	101.5 PK			1.43 H	38	61.5	40.0
5	*5720.00	91.3 AV			1.43 H	38	51.3	40.0
6	#5850.00	56.0 PK	68.2	-12.2	1.51 H	44	50.7	5.3
7	11440.00	59.7 PK	74.0	-14.3	2.03 H	315	40.5	19.2
8	11440.00	46.5 AV	54.0	-7.5	2.03 H	315	27.3	19.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.0 PK	74.0	-19.0	1.86 V	56	50.5	4.5
2	5460.00	44.0 AV	54.0	-10.0	1.86 V	56	39.5	4.5
3	#5470.00	55.2 PK	68.2	-13.0	1.88 V	57	50.7	4.5
4	*5720.00	116.1 PK			1.84 V	54	76.1	40.0
5	*5720.00	105.6 AV			1.84 V	54	65.6	40.0
6	#5850.00	55.9 PK	68.2	-12.3	1.90 V	59	50.6	5.3
7	11440.00	58.6 PK	74.0	-15.4	1.42 V	275	40.0	18.6
8	11440.00	45.1 AV	54.0	-8.9	1.42 V	275	26.5	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	#5610.40	55.3 PK	68.2	-12.9	1.95 H	125	50.8	4.5
2	*5745.00	101.4 PK			1.95 H	125	61.3	40.1
3	*5745.00	94.4 AV			1.95 H	125	54.3	40.1
4	#5928.80	56.2 PK	68.2	-12.0	1.95 H	125	50.8	5.4
5	11490.00	60.3 PK	74.0	-13.7	1.95 H	302	41.0	19.3
6	11490.00	46.5 AV	54.0	-7.5	1.95 H	302	27.2	19.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5612.00	57.5 PK	68.2	-10.7	1.86 V	215	53.0	4.5
2	*5745.00	116.1 PK			1.86 V	215	76.0	40.1
3	*5745.00	105.5 AV			1.86 V	215	65.4	40.1
4	#5960.00	58.0 PK	68.2	-10.2	1.86 V	215	52.6	5.4
5	11490.00	60.6 PK	74.0	-13.4	1.25 V	240	41.3	19.3
6	11490.00	47.4 AV	54.0	-6.6	1.25 V	240	28.1	19.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	#5632.00	55.9 PK	68.2	-12.3	1.96 H	126	51.5	4.4
2	*5785.00	104.0 PK			1.96 H	126	63.7	40.3
3	*5785.00	94.1 AV			1.96 H	126	53.8	40.3
4	#5928.80	56.5 PK	68.2	-11.7	1.96 H	126	51.1	5.4
5	11570.00	60.1 PK	74.0	-13.9	1.99 H	311	41.1	19.0
6	11570.00	46.3 AV	54.0	-7.7	1.99 H	311	27.3	19.0

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	#5607.20	55.9 PK	68.2	-12.3	2.00 V	47	51.4	4.5
2	*5785.00	114.6 PK			2.00 V	47	74.4	40.2
3	*5785.00	105.0 AV			2.00 V	47	64.8	40.2
4	#5949.60	55.6 PK	68.2	-12.6	2.00 V	47	50.3	5.3
5	11570.00	59.5 PK	74.0	-14.5	1.32 V	244	41.0	18.5
6	11570.00	45.6 AV	54.0	-8.4	1.32 V	244	27.1	18.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	#5614.40	54.7 PK	68.2	-13.5	1.94 H	127	50.2	4.5
2	*5825.00	103.6 PK			1.94 H	127	63.2	40.4
3	*5825.00	93.7 AV			1.94 H	127	53.3	40.4
4	#5934.40	56.7 PK	68.2	-11.5	1.94 H	127	51.3	5.4
5	11650.00	60.4 PK	74.0	-13.6	2.01 H	313	41.5	18.9
6	11650.00	46.4 AV	54.0	-7.6	2.01 H	313	27.5	18.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5628.00	57.9 PK	68.2	-10.3	1.85 V	214	53.5	4.4
2	*5825.00	115.4 PK			1.85 V	214	75.0	40.4
3	*5825.00	105.2 AV			1.85 V	214	64.8	40.4
4	#5940.80	57.8 PK	68.2	-10.4	1.85 V	214	52.4	5.4
5	11650.00	61.1 PK	74.0	-12.9	1.24 V	254	42.2	18.9
6	11650.00	47.3 AV	54.0	-6.7	1.24 V	254	28.4	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	58.3 PK	74.0	-15.7	1.93 H	188	54.2	4.1
2	5150.00	43.4 AV	54.0	-10.6	1.93 H	188	39.3	4.1
3	*5180.00	101.5 PK			2.10 H	175	62.2	39.3
4	*5180.00	90.8 AV			2.10 H	175	51.5	39.3
5	#10360.00	60.5 PK	68.2	-7.7	1.87 H	289	43.3	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	5150.00	67.4 PK	74.0	-6.6	1.70 V	42	63.2	4.2
2	5150.00	52.6 AV	54.0	-1.4	1.70 V	42	48.4	4.2
3	*5180.00	117.1 PK			1.67 V	35	77.7	39.4
4	*5180.00	106.5 AV			1.67 V	35	67.1	39.4
5	#10360.00	61.4 PK	68.2	-6.8	1.20 V	254	43.9	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 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	102.0 PK			2.14 H	177	62.7	39.3
2	*5200.00	91.6 AV			2.14 H	177	52.3	39.3
3	#10400.00	60.2 PK	68.2	-8.0	1.99 H	293	42.8	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	*5200.00	117.4 PK			1.81 V	35	78.1	39.3
2	*5200.00	106.9 AV			1.81 V	35	67.6	39.3
3	#10400.00	60.6 PK	68.2	-7.6	1.23 V	239	43.2	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 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	101.6 PK			2.21 H	171	62.5	39.1
2	*5240.00	91.1 AV			2.21 H	171	52.0	39.1
3	5350.00	55.4 PK	74.0	-18.6	2.01 H	163	51.3	4.1
4	5350.00	42.4 AV	54.0	-11.6	2.01 H	163	38.3	4.1
5	#10480.00	60.6 PK	68.2	-7.6	2.03 H	310	42.6	18.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	117.0 PK			1.73 V	34	77.9	39.1
2	*5240.00	106.5 AV			1.73 V	34	67.4	39.1
3	5350.00	57.2 PK	74.0	-16.8	1.80 V	49	53.1	4.1
4	5350.00	43.3 AV	54.0	-10.7	1.80 V	49	39.2	4.1
5	#10480.00	61.4 PK	68.2	-6.8	1.19 V	249	43.0	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 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	100.2 PK			1.32 H	315	61.1	39.1
2	*5260.00	89.9 AV			1.32 H	315	50.8	39.1
3	5350.00	54.6 PK	74.0	-19.4	1.35 H	316	50.5	4.1
4	5350.00	42.2 AV	54.0	-11.8	1.35 H	316	38.1	4.1
5	#10520.00	59.9 PK	68.2	-8.3	2.06 H	309	41.2	18.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	118.7 PK			1.74 V	40	79.6	39.1
2	*5260.00	108.2 AV			1.74 V	40	69.1	39.1
3	5350.00	56.5 PK	74.0	-17.5	1.66 V	39	52.4	4.1
4	5350.00	43.1 AV	54.0	-10.9	1.66 V	39	39.0	4.1
5	#10520.00	61.0 PK	68.2	-7.2	1.27 V	267	42.3	18.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	100.7 PK			1.45 H	324	61.6	39.1
2	*5300.00	90.5 AV			1.45 H	324	51.4	39.1
3	10600.00	60.6 PK	74.0	-13.4	2.06 H	321	41.5	19.1
4	10600.00	46.7 AV	54.0	-7.3	2.06 H	321	27.6	19.1

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	*5300.00	117.1 PK			1.88 V	57	78.0	39.1
2	*5300.00	106.8 AV			1.88 V	57	67.7	39.1
3	10600.00	60.2 PK	74.0	-13.8	1.35 V	264	41.3	18.9
4	10600.00	46.0 AV	54.0	-8.0	1.35 V	264	27.1	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	100.6 PK			1.53 H	324	61.4	39.2
2	*5320.00	90.5 AV			1.53 H	324	51.3	39.2
3	5350.00	55.2 PK	74.0	-18.8	1.51 H	322	51.1	4.1
4	5350.00	42.6 AV	54.0	-11.4	1.51 H	322	38.5	4.1
5	10640.00	60.4 PK	74.0	-13.6	2.09 H	318	41.5	18.9
6	10640.00	46.7 AV	54.0	-7.3	2.09 H	318	27.8	18.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	118.5 PK			1.87 V	37	79.3	39.2
2	*5320.00	107.7 AV			1.87 V	37	68.5	39.2
3	5350.00	66.5 PK	74.0	-7.5	1.89 V	44	62.4	4.1
4	5350.00	52.6 AV	54.0	-1.4	1.89 V	44	48.5	4.1
5	10640.00	60.9 PK	74.0	-13.1	1.23 V	257	42.0	18.9
6	10640.00	47.1 AV	54.0	-6.9	1.23 V	257	28.2	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	55.4 PK	74.0	-18.6	1.35 H	40	50.9	4.5
2	5460.00	44.7 AV	54.0	-9.3	1.35 H	40	40.2	4.5
3	#5470.00	55.5 PK	68.2	-12.7	1.37 H	41	51.0	4.5
4	*5500.00	101.0 PK			1.32 H	36	61.2	39.8
5	*5500.00	91.9 AV			1.32 H	36	52.1	39.8
6	11000.00	60.5 PK	74.0	-13.5	2.23 H	324	40.5	20.0
7	11000.00	47.2 AV	54.0	-6.8	2.23 H	324	27.2	20.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.6 PK	74.0	-15.4	1.91 V	45	54.1	4.5
2	5460.00	45.2 AV	54.0	-8.8	1.91 V	45	40.7	4.5
3	#5470.00	66.5 PK	68.2	-1.7	2.00 V	39	62.0	4.5
4	*5500.00	115.8 PK			2.04 V	42	76.0	39.8
5	*5500.00	105.8 AV			2.04 V	42	66.0	39.8
6	11000.00	60.8 PK	74.0	-13.2	1.27 V	257	40.8	20.0
7	11000.00	47.7 AV	54.0	-6.3	1.27 V	257	27.7	20.0

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	101.8 PK			1.31 H	39	62.1	39.7
2	*5580.00	92.0 AV			1.31 H	39	52.3	39.7
3	11160.00	59.8 PK	74.0	-14.2	2.23 H	331	40.6	19.2
4	11160.00	46.5 AV	54.0	-7.5	2.23 H	331	27.3	19.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	115.4 PK			1.88 V	116	75.7	39.7
2	*5580.00	105.7 AV			1.88 V	116	66.0	39.7
3	11160.00	59.2 PK	74.0	-14.8	1.39 V	273	40.6	18.6
4	11160.00	45.5 AV	54.0	-8.5	1.39 V	273	26.9	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	101.4 PK			1.26 H	41	61.6	39.8
2	*5700.00	90.7 AV			1.26 H	41	50.9	39.8
3	#5725.00	55.2 PK	68.2	-13.0	1.29 H	43	50.5	4.7
4	11400.00	60.0 PK	74.0	-14.0	2.19 H	325	40.9	19.1
5	11400.00	46.4 AV	54.0	-7.6	2.19 H	325	27.3	19.1

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	*5700.00	114.3 PK			1.82 V	220	74.5	39.8
2	*5700.00	104.1 AV			1.82 V	220	64.3	39.8
3	#5725.00	66.6 PK	68.2	-1.6	1.74 V	215	61.9	4.7
4	11400.00	60.8 PK	74.0	-13.2	1.24 V	260	41.7	19.1
5	11400.00	47.0 AV	54.0	-7.0	1.24 V	260	27.9	19.1

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 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	55.3 PK	74.0	-18.7	1.48 H	44	50.8	4.5
2	5460.00	44.8 AV	54.0	-9.2	1.48 H	44	40.3	4.5
3	#5470.00	55.5 PK	68.2	-12.7	1.51 H	45	51.0	4.5
4	*5720.00	102.1 PK			1.46 H	41	62.1	40.0
5	*5720.00	92.0 AV			1.46 H	41	52.0	40.0
6	#5850.00	56.2 PK	68.2	-12.0	1.52 H	48	50.9	5.3
7	11440.00	60.3 PK	74.0	-13.7	2.09 H	317	41.1	19.2
8	11440.00	46.7 AV	54.0	-7.3	2.09 H	317	27.5	19.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.9 PK	74.0	-19.1	1.85 V	52	50.4	4.5
2	5460.00	44.1 AV	54.0	-9.9	1.85 V	52	39.6	4.5
3	#5470.00	55.1 PK	68.2	-13.1	1.86 V	54	50.6	4.5
4	*5720.00	115.6 PK			1.83 V	50	75.6	40.0
5	*5720.00	105.4 AV			1.83 V	50	65.4	40.0
6	#5850.00	56.0 PK	68.2	-12.2	1.89 V	59	50.7	5.3
7	11440.00	58.9 PK	74.0	-15.1	1.45 V	278	40.3	18.6
8	11440.00	45.2 AV	54.0	-8.8	1.45 V	278	26.6	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	#5626.40	55.1 PK	68.2	-13.1	2.01 H	127	50.7	4.4
2	*5745.00	104.0 PK			2.01 H	127	63.9	40.1
3	*5745.00	94.8 AV			2.01 H	127	54.7	40.1
4	#5953.60	55.5 PK	68.2	-12.7	2.01 H	127	50.1	5.4
5	11490.00	60.3 PK	74.0	-13.7	2.03 H	309	41.0	19.3
6	11490.00	46.9 AV	54.0	-7.1	2.03 H	309	27.6	19.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5616.00	57.8 PK	68.2	-10.4	1.91 V	209	53.3	4.5
2	*5745.00	115.7 PK			1.91 V	209	75.6	40.1
3	*5745.00	100.3 AV			1.91 V	209	60.2	40.1
4	#5970.40	57.4 PK	68.2	-10.8	1.91 V	209	52.0	5.4
5	11490.00	60.5 PK	74.0	-13.5	1.27 V	253	41.2	19.3
6	11490.00	47.2 AV	54.0	-6.8	1.27 V	253	27.9	19.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	#5600.00	54.9 PK	68.2	-13.3	1.97 H	128	50.4	4.5
2	*5785.00	103.8 PK			1.97 H	128	63.5	40.3
3	*5785.00	93.6 AV			1.97 H	128	53.3	40.3
4	#5944.80	55.4 PK	68.2	-12.8	1.97 H	128	50.0	5.4
5	11570.00	59.9 PK	74.0	-14.1	2.06 H	313	40.9	19.0
6	11570.00	46.0 AV	54.0	-8.0	2.06 H	313	27.0	19.0

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	#5617.60	55.6 PK	68.2	-12.6	2.06 V	57	51.1	4.5
2	*5785.00	115.3 PK			2.06 V	57	75.0	40.3
3	*5785.00	104.9 AV			2.06 V	57	64.6	40.3
4	#5938.40	57.1 PK	68.2	-11.1	2.06 V	57	51.7	5.4
5	11570.00	60.1 PK	74.0	-13.9	1.31 V	256	41.1	19.0
6	11570.00	46.1 AV	54.0	-7.9	1.31 V	256	27.1	19.0

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	#5612.80	55.1 PK	68.2	-13.1	1.95 H	126	50.6	4.5
2	*5825.00	103.8 PK			1.95 H	126	63.4	40.4
3	*5825.00	93.6 AV			1.95 H	126	53.2	40.4
4	#5968.00	56.1 PK	68.2	-12.1	1.95 H	126	50.7	5.4
5	11650.00	60.2 PK	74.0	-13.8	2.03 H	307	41.3	18.9
6	11650.00	46.5 AV	54.0	-7.5	2.03 H	307	27.6	18.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5635.20	57.7 PK	68.2	-10.5	1.70 V	219	53.3	4.4
2	*5825.00	115.0 PK			1.70 V	219	74.6	40.4
3	*5825.00	104.5 AV			1.70 V	219	64.1	40.4
4	#5992.80	58.4 PK	68.2	-9.8	1.70 V	219	52.9	5.5
5	11650.00	61.0 PK	74.0	-13.0	1.31 V	261	42.1	18.9
6	11650.00	47.1 AV	54.0	-6.9	1.31 V	261	28.2	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	58.2 PK	74.0	-15.8	2.01 H	166	54.1	4.1
2	5150.00	42.4 AV	54.0	-11.6	2.01 H	166	38.3	4.1
3	*5190.00	94.1 PK			2.15 H	180	54.8	39.3
4	*5190.00	84.1 AV			2.15 H	180	44.8	39.3
5	#10380.00	59.6 PK	68.2	-8.6	1.94 H	310	42.2	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	5150.00	69.4 PK	74.0	-4.6	1.68 V	33	65.2	4.2
2	5150.00	53.0 AV	54.0	-1.0	1.68 V	33	48.8	4.2
3	*5190.00	109.8 PK			1.61 V	60	70.5	39.3
4	*5190.00	99.3 AV			1.61 V	60	60.0	39.3
5	#10380.00	60.4 PK	68.2	-7.8	1.20 V	263	42.7	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	5150.00	57.4 PK	74.0	-16.6	2.03 H	185	53.3	4.1
2	5150.00	42.4 AV	54.0	-11.6	2.03 H	185	38.3	4.1
3	*5230.00	98.2 PK			2.15 H	178	59.1	39.1
4	*5230.00	88.1 AV			2.15 H	178	49.0	39.1
5	5350.00	56.5 PK	74.0	-17.5	2.13 H	169	52.4	4.1
6	5350.00	42.1 AV	54.0	-11.9	2.13 H	169	38.0	4.1
7	#10460.00	60.5 PK	68.2	-7.7	1.89 H	296	42.7	17.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.3 PK	74.0	-7.7	1.60 V	36	62.1	4.2
2	5150.00	49.9 AV	54.0	-4.1	1.60 V	36	45.7	4.2
3	*5230.00	113.6 PK			1.85 V	34	74.5	39.1
4	*5230.00	103.5 AV			1.85 V	34	64.4	39.1
5	5350.00	61.0 PK	74.0	-13.0	1.53 V	49	56.9	4.1
6	5350.00	43.9 AV	54.0	-10.1	1.53 V	49	39.8	4.1
7	#10460.00	61.3 PK	68.2	-6.9	1.23 V	253	43.1	18.2

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 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	*5270.00	99.6 PK			1.35 H	310	60.5	39.1
2	*5270.00	89.4 AV			1.35 H	310	50.3	39.1
3	5350.00	55.7 PK	74.0	-18.3	1.38 H	311	51.6	4.1
4	5350.00	42.5 AV	54.0	-11.5	1.38 H	311	38.4	4.1
5	#10540.00	60.8 PK	68.2	-7.4	2.21 H	320	42.0	18.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	117.0 PK			1.89 V	35	77.9	39.1
2	*5270.00	106.4 AV			1.89 V	35	67.3	39.1
3	5350.00	65.2 PK	74.0	-8.8	1.67 V	43	61.1	4.1
4	5350.00	51.6 AV	54.0	-2.4	1.67 V	43	47.5	4.1
5	#10540.00	63.7 PK	68.2	-4.5	1.24 V	260	44.9	18.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	95.3 PK			1.53 H	318	56.1	39.2
2	*5310.00	86.2 AV			1.53 H	318	47.0	39.2
3	5350.00	55.7 PK	74.0	-18.3	1.55 H	320	51.6	4.1
4	5350.00	43.0 AV	54.0	-11.0	1.55 H	320	38.9	4.1
5	10620.00	60.8 PK	74.0	-13.2	2.11 H	332	41.8	19.0
6	10620.00	46.9 AV	54.0	-7.1	2.11 H	332	27.9	19.0

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	111.9 PK			1.91 V	37	72.7	39.2
2	*5310.00	102.1 AV			1.91 V	37	62.9	39.2
3	5350.00	67.2 PK	74.0	-6.8	1.92 V	60	63.1	4.1
4	5350.00	52.8 AV	54.0	-1.2	1.92 V	60	48.7	4.1
5	10620.00	61.9 PK	74.0	-12.1	1.30 V	249	42.9	19.0
6	10620.00	47.7 AV	54.0	-6.3	1.30 V	249	28.7	19.0

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	54.9 PK	74.0	-19.1	1.32 H	50	50.4	4.5
2	5460.00	44.7 AV	54.0	-9.3	1.32 H	50	40.2	4.5
3	#5470.00	55.1 PK	68.2	-13.1	1.35 H	51	50.6	4.5
4	*5510.00	96.4 PK			1.26 H	42	56.6	39.8
5	*5510.00	86.0 AV			1.26 H	42	46.2	39.8
6	11020.00	60.4 PK	74.0	-13.6	2.21 H	319	40.6	19.8
7	11020.00	46.9 AV	54.0	-7.1	2.21 H	319	27.1	19.8

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	65.0 PK	74.0	-9.0	1.97 V	101	60.5	4.5
2	5460.00	46.8 AV	54.0	-7.2	1.97 V	101	42.3	4.5
3	#5470.00	66.6 PK	68.2	-1.6	2.08 V	98	62.1	4.5
4	*5510.00	108.2 PK			2.04 V	99	68.4	39.8
5	*5510.00	97.8 AV			2.04 V	99	58.0	39.8
6	11020.00	61.3 PK	74.0	-12.7	1.24 V	250	41.5	19.8
7	11020.00	48.0 AV	54.0	-6.0	1.24 V	250	28.2	19.8

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 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	101.3 PK			1.36 H	46	61.6	39.7
2	*5550.00	91.3 AV			1.36 H	46	51.6	39.7
3	11100.00	59.3 PK	74.0	-14.7	2.23 H	332	40.7	18.6
4	11100.00	45.8 AV	54.0	-8.2	2.23 H	332	27.2	18.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	113.4 PK			1.96 V	109	73.7	39.7
2	*5550.00	103.3 AV			1.96 V	109	63.6	39.7
3	11100.00	59.2 PK	74.0	-14.8	1.32 V	263	40.6	18.6
4	11100.00	44.9 AV	54.0	-9.1	1.32 V	263	26.3	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	102.3 PK			1.36 H	42	62.5	39.8
2	*5670.00	91.9 AV			1.36 H	42	52.1	39.8
3	#5725.00	55.6 PK	68.2	-12.6	1.42 H	45	50.9	4.7
4	11340.00	59.7 PK	74.0	-14.3	2.09 H	305	41.0	18.7
5	11340.00	46.2 AV	54.0	-7.8	2.09 H	305	27.5	18.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	112.4 PK			2.05 V	98	72.7	39.7
2	*5670.00	102.1 AV			2.05 V	98	62.4	39.7
3	#5725.00	66.7 PK	68.2	-1.5	2.09 V	98	62.0	4.7
4	11340.00	61.3 PK	74.0	-12.7	1.21 V	249	42.0	19.3
5	11340.00	48.1 AV	54.0	-5.9	1.21 V	249	28.8	19.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	55.0 PK	74.0	-19.0	1.55 H	50	50.5	4.5
2	5460.00	44.7 AV	54.0	-9.3	1.55 H	50	40.2	4.5
3	#5470.00	55.2 PK	68.2	-13.0	1.57 H	51	50.7	4.5
4	*5710.00	102.8 PK			1.52 H	46	62.8	40.0
5	*5710.00	92.6 AV			1.52 H	46	52.6	40.0
6	#5850.00	56.2 PK	68.2	-12.0	1.59 H	52	50.9	5.3
7	11420.00	59.1 PK	74.0	-14.9	2.16 H	319	40.6	18.5
8	11420.00	45.6 AV	54.0	-8.4	2.16 H	319	27.1	18.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.8 PK	74.0	-19.2	1.95 V	116	50.3	4.5
2	5460.00	44.6 AV	54.0	-9.4	1.95 V	116	40.1	4.5
3	#5470.00	55.0 PK	68.2	-13.2	1.97 V	118	50.5	4.5
4	*5710.00	112.5 PK			1.92 V	115	72.5	40.0
5	*5710.00	102.5 AV			1.92 V	115	62.5	40.0
6	#5850.00	55.9 PK	68.2	-12.3	2.00 V	120	50.6	5.3
7	11420.00	58.7 PK	74.0	-15.3	1.36 V	265	40.2	18.5
8	11420.00	44.1 AV	54.0	-9.9	1.36 V	265	25.6	18.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	#5615.20	54.8 PK	68.2	-13.4	1.82 H	126	50.3	4.5
2	*5755.00	100.8 PK			1.82 H	126	60.7	40.1
3	*5755.00	91.4 AV			1.82 H	126	51.3	40.1
4	#5964.00	55.3 PK	68.2	-12.9	1.82 H	126	49.9	5.4
5	11510.00	60.9 PK	74.0	-13.1	2.02 H	314	41.5	19.4
6	11510.00	47.0 AV	54.0	-7.0	2.02 H	314	27.6	19.4

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	#5648.80	60.9 PK	68.2	-7.3	1.81 V	221	56.5	4.4
2	*5755.00	112.7 PK			1.81 V	221	72.6	40.1
3	*5755.00	102.6 AV			1.81 V	221	62.5	40.1
4	#5963.20	58.4 PK	68.2	-9.8	1.81 V	221	53.0	5.4
5	11510.00	61.5 PK	74.0	-12.5	1.31 V	254	42.1	19.4
6	11510.00	47.7 AV	54.0	-6.3	1.31 V	254	28.3	19.4

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 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	#5633.60	56.3 PK	68.2	-11.9	1.97 H	125	51.9	4.4
2	*5795.00	100.1 PK			1.97 H	125	59.7	40.4
3	*5795.00	90.4 AV			1.97 H	125	50.0	40.4
4	#5968.00	55.8 PK	68.2	-12.4	1.97 H	125	50.4	5.4
5	11590.00	60.5 PK	74.0	-13.5	2.09 H	319	41.6	18.9
6	11590.00	46.7 AV	54.0	-7.3	2.09 H	319	27.8	18.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5616.80	61.5 PK	68.2	-6.7	1.74 V	220	57.0	4.5
2	*5795.00	112.2 PK			1.74 V	220	71.8	40.4
3	*5795.00	102.3 AV			1.74 V	220	61.9	40.4
4	#5927.20	59.5 PK	68.2	-8.7	1.74 V	220	54.1	5.4
5	11590.00	60.9 PK	74.0	-13.1	1.28 V	257	42.0	18.9
6	11590.00	47.0 AV	54.0	-7.0	1.28 V	257	28.1	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	57.9 PK	74.0	-16.1	2.05 H	163	53.8	4.1
2	5150.00	42.6 AV	54.0	-11.4	2.05 H	163	38.5	4.1
3	*5210.00	89.5 PK			2.20 H	179	50.3	39.2
4	*5210.00	80.3 AV			2.20 H	179	41.1	39.2
5	5350.00	56.6 PK	74.0	-17.4	2.15 H	170	52.5	4.1
6	5350.00	42.2 AV	54.0	-11.8	2.15 H	170	38.1	4.1
7	#10420.00	59.5 PK	68.2	-8.7	2.10 H	313	41.9	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	5150.00	65.1 PK	74.0	-8.9	1.64 V	35	60.9	4.2
2	5150.00	52.8 AV	54.0	-1.2	1.64 V	35	48.6	4.2
3	*5210.00	104.9 PK			1.67 V	61	65.7	39.2
4	*5210.00	95.8 AV			1.67 V	61	56.6	39.2
5	5350.00	57.0 PK	74.0	-17.0	1.75 V	39	52.9	4.1
6	5350.00	45.6 AV	54.0	-8.4	1.75 V	39	41.5	4.1
7	#10420.00	60.2 PK	68.2	-8.0	1.30 V	255	42.3	17.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	5150.00	55.7 PK	74.0	-18.3	1.48 H	320	51.5	4.2
2	5150.00	42.4 AV	54.0	-11.6	1.48 H	320	38.2	4.2
3	*5290.00	91.2 PK			1.44 H	317	52.1	39.1
4	*5290.00	81.4 AV			1.44 H	317	42.3	39.1
5	5350.00	56.0 PK	74.0	-18.0	1.46 H	318	51.9	4.1
6	5350.00	44.1 AV	54.0	-9.9	1.46 H	318	40.0	4.1
7	#10580.00	60.6 PK	68.2	-7.6	2.26 H	325	41.6	19.0

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	56.2 PK	74.0	-17.8	1.70 V	36	52.0	4.2
2	5150.00	44.1 AV	54.0	-9.9	1.70 V	36	39.9	4.2
3	*5290.00	106.0 PK			1.83 V	36	66.9	39.1
4	*5290.00	96.2 AV			1.83 V	36	57.1	39.1
5	5350.00	66.7 PK	74.0	-7.3	1.86 V	45	62.6	4.1
6	5350.00	53.0 AV	54.0	-1.0	1.86 V	45	48.9	4.1
7	#10580.00	61.8 PK	68.2	-6.4	1.28 V	251	42.8	19.0

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	55.1 PK	74.0	-18.9	1.35 H	51	50.6	4.5
2	5460.00	45.0 AV	54.0	-9.0	1.35 H	51	40.5	4.5
3	#5470.00	55.3 PK	68.2	-12.9	1.39 H	55	50.8	4.5
4	*5530.00	92.1 PK			1.31 H	45	52.3	39.8
5	*5530.00	86.0 AV			1.31 H	45	46.2	39.8
6	#5725.00	55.6 PK	68.2	-12.6	1.42 H	56	50.9	4.7
7	11060.00	60.4 PK	74.0	-13.6	2.23 H	316	40.9	19.5
8	11060.00	46.7 AV	54.0	-7.3	2.23 H	316	27.2	19.5

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	5460.00	65.6 PK	74.0	-8.4	1.94 V	103	61.1	4.5
2	5460.00	52.6 AV	54.0	-1.4	1.94 V	103	48.1	4.5
3	#5470.00	66.6 PK	68.2	-1.6	2.06 V	97	62.1	4.5
4	*5530.00	106.4 PK			1.98 V	105	66.6	39.8
5	*5530.00	96.8 AV			1.98 V	105	57.0	39.8
6	#5725.00	55.8 PK	68.2	-12.4	2.13 V	92	51.1	4.7
7	11060.00	61.4 PK	74.0	-12.6	1.35 V	267	41.9	19.5
8	11060.00	49.3 AV	54.0	-4.7	1.35 V	267	29.8	19.5

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 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	55.1 PK	74.0	-18.9	1.36 H	47	50.6	4.5
2	5460.00	44.7 AV	54.0	-9.3	1.36 H	47	40.2	4.5
3	#5470.00	55.4 PK	68.2	-12.8	1.39 H	50	50.9	4.5
4	*5610.00	97.7 PK			1.33 H	41	57.9	39.8
5	*5610.00	88.6 AV			1.33 H	41	48.8	39.8
6	#5725.00	55.5 PK	68.2	-12.7	1.42 H	52	50.8	4.7
7	11220.00	60.3 PK	74.0	-13.7	2.23 H	319	41.0	19.3
8	11220.00	46.5 AV	54.0	-7.5	2.23 H	319	27.2	19.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	65.3 PK	74.0	-8.7	2.09 V	288	60.8	4.5
2	5460.00	50.0 AV	54.0	-4.0	2.09 V	288	45.5	4.5
3	#5470.00	65.2 PK	68.2	-3.0	2.10 V	290	60.7	4.5
4	*5610.00	109.7 PK			1.81 V	48	69.9	39.8
5	*5610.00	100.2 AV			1.81 V	48	60.4	39.8
6	#5725.00	66.7 PK	68.2	-1.5	1.86 V	48	62.0	4.7
7	11220.00	59.2 PK	74.0	-14.8	1.45 V	272	40.5	18.7
8	11220.00	45.0 AV	54.0	-9.0	1.45 V	272	26.3	18.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	55.5 PK	74.0	-18.5	1.55 H	55	51.0	4.5
2	5460.00	44.8 AV	54.0	-9.2	1.55 H	55	40.3	4.5
3	#5470.00	55.6 PK	68.2	-12.6	1.56 H	57	51.1	4.5
4	*5690.00	100.8 PK			1.53 H	53	61.0	39.8
5	*5690.00	90.4 AV			1.53 H	53	50.6	39.8
6	#5850.00	56.5 PK	68.2	-11.7	1.61 H	61	51.2	5.3
7	11380.00	59.7 PK	74.0	-14.3	2.23 H	324	41.2	18.5
8	11380.00	45.5 AV	54.0	-8.5	2.23 H	324	27.0	18.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.4 PK	74.0	-18.6	1.82 V	53	50.9	4.5
2	5460.00	44.7 AV	54.0	-9.3	1.82 V	53	40.2	4.5
3	#5470.00	55.5 PK	68.2	-12.7	1.84 V	55	51.0	4.5
4	*5690.00	110.4 PK			1.79 V	50	70.6	39.8
5	*5690.00	100.6 AV			1.79 V	50	60.8	39.8
6	#5850.00	58.6 PK	68.2	-9.6	2.14 V	57	53.3	5.3
7	11380.00	59.5 PK	74.0	-14.5	1.53 V	275	41.0	18.5
8	11380.00	45.6 AV	54.0	-8.4	1.53 V	275	27.1	18.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	#5648.80	55.9 PK	68.2	-12.3	1.96 H	126	51.5	4.4
2	#5650.00	54.6 PK	68.2	-13.6	1.99 H	128	50.2	4.4
3	*5775.00	99.0 PK			1.96 H	126	58.8	40.2
4	*5775.00	89.2 AV			1.96 H	126	49.0	40.2
5	#5925.00	56.1 PK	68.2	-12.1	2.00 H	130	50.7	5.4
6	#5930.40	55.8 PK	68.2	-12.4	1.96 H	126	50.4	5.4
7	11550.00	59.7 PK	74.0	-14.3	2.06 H	317	40.5	19.2
8	11550.00	47.2 AV	54.0	-6.8	2.06 H	317	28.0	19.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5645.60	63.5 PK	68.2	-4.7	2.16 V	97	59.1	4.4
2	#5650.00	66.4 PK	68.2	-1.8	2.09 V	100	62.0	4.4
3	*5775.00	109.7 PK			2.16 V	97	69.5	40.2
4	*5775.00	100.1 AV			2.16 V	97	59.9	40.2
5	#5925.00	58.9 PK	68.2	-9.3	1.89 V	94	53.5	5.4
6	#5982.40	58.6 PK	68.2	-9.6	2.16 V	97	53.1	5.5
7	11550.00	60.9 PK	74.0	-13.1	1.43 V	254	41.7	19.2
8	11550.00	48.4 AV	54.0	-5.6	1.43 V	254	29.2	19.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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:

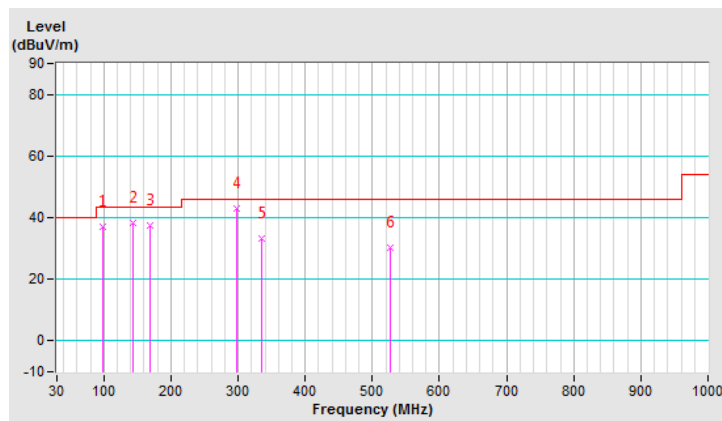
802.11n (HT40)

CHANNEL	TX Channel 110	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	98.88	37.2 QP	43.5	-6.3	1.99 H	176	50.5	-13.3
2	143.87	38.5 QP	43.5	-5.0	1.99 H	16	47.3	-8.8
3	169.17	37.3 QP	43.5	-6.2	1.51 H	3	46.2	-8.9
4	298.51	43.0 QP	46.0	-3.0	1.01 H	16	50.5	-7.5
5	335.06	33.4 QP	46.0	-12.6	1.01 H	182	39.7	-6.3
6	527.65	30.2 QP	46.0	-15.8	1.51 H	10	31.0	-0.8

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. 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.

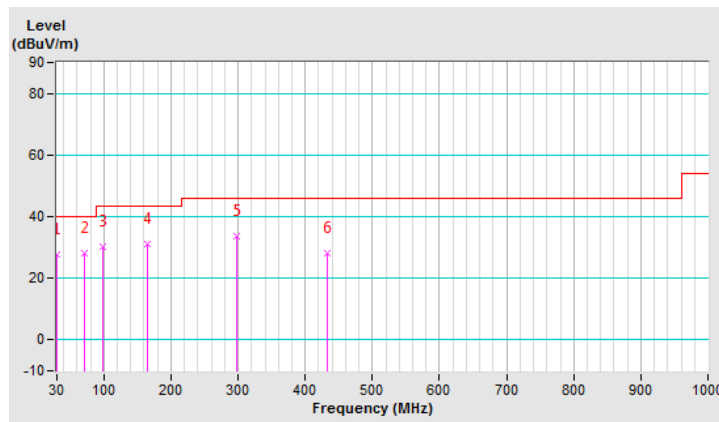


CHANNEL	TX Channel 110	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	30.00	27.8 QP	40.0	-12.2	2.00 V	324	38.2	-10.4
2	70.77	28.3 QP	40.0	-11.7	1.00 V	175	39.2	-10.9
3	98.88	30.2 QP	43.5	-13.3	1.50 V	46	43.5	-13.3
4	164.96	31.1 QP	43.5	-12.4	1.00 V	12	39.8	-8.7
5	298.51	33.6 QP	46.0	-12.4	2.00 V	114	41.1	-7.5
6	432.06	28.2 QP	46.0	-17.8	1.00 V	154	31.3	-3.1

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. 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	ESR3	102412	Feb. 14, 2019	Feb. 13, 2020
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 05, 2019	Sep. 04, 2020
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 30, 2019	Jan. 29, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 13, 2019	Aug. 12, 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 2.

3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

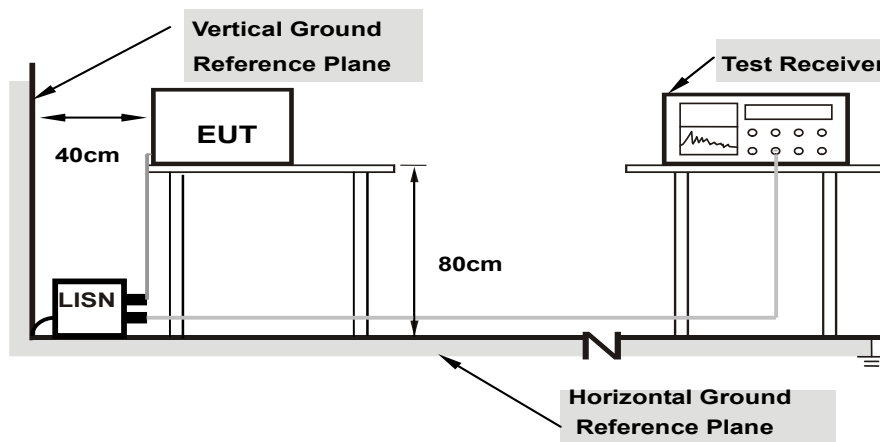
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

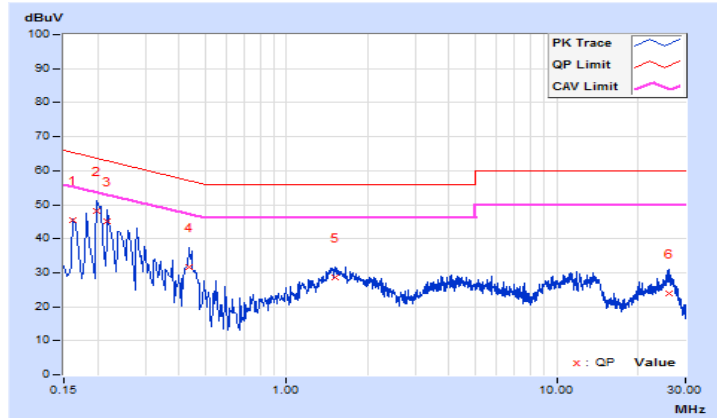
802.11n (HT40)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16200	10.11	35.44	20.79	45.55	30.90	65.36	55.36	-19.81	-24.46
2	0.19800	10.12	38.18	17.55	48.30	27.67	63.69	53.69	-15.39	-26.02
3	0.21800	10.12	34.95	19.46	45.07	29.58	62.89	52.89	-17.82	-23.31
4	0.43800	10.16	21.40	8.29	31.56	18.45	57.10	47.10	-25.54	-28.65
5	1.50600	10.24	18.41	11.07	28.65	21.31	56.00	46.00	-27.35	-24.69
6	26.13000	10.48	13.58	7.95	24.06	18.43	60.00	50.00	-35.94	-31.57

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.

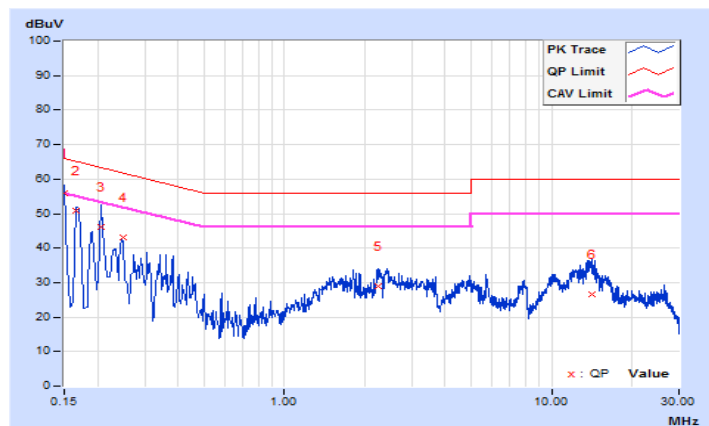


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15000	10.16	45.86	23.86	56.02	34.02	66.00
2	0.16600	10.17	40.78	26.04	50.95	36.21	65.16	55.16	-14.21	-18.95
3	0.20600	10.18	35.87	18.58	46.05	28.76	63.37	53.37	-17.32	-24.61
4	0.25000	10.19	32.96	18.22	43.15	28.41	61.76	51.76	-18.61	-23.35
5	2.25655	10.33	18.76	9.65	29.09	19.98	56.00	46.00	-26.91	-26.02
6	14.10200	10.64	16.07	9.56	26.71	20.20	60.00	50.00	-33.29	-29.80

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 $N_{ANT} \leq 4$;

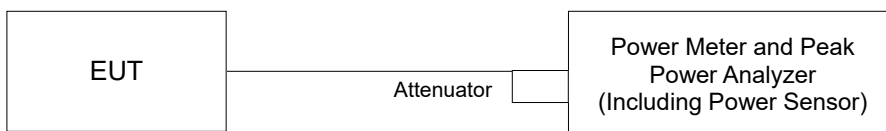
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

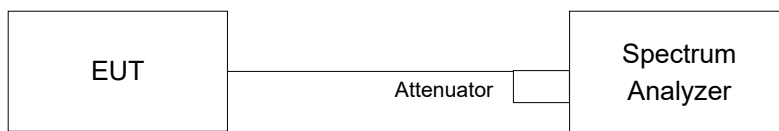
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

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 transmission above 5.725 GHz where the EBW crosses 5.725 GHz

For channel aggregation (channel 138, 142, 144) measurement refer to KDB 789033 D02 Section III.
CHANNEL AGGREGATION.

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%.

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)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	17.43	17.82	115.869	20.64	24.00	Pass
40	5200	17.46	17.78	115.698	20.63	24.00	Pass
48	5240	17.41	17.82	115.615	20.63	24.00	Pass
52	5260	17.46	17.76	115.423	20.62	24.00	Pass
60	5300	17.43	17.78	115.314	20.62	24.00	Pass
64	5320	17.40	17.75	114.520	20.59	24.00	Pass
100	5500	17.45	17.79	115.707	20.63	24.00	Pass
116	5580	17.43	17.82	115.869	20.64	24.00	Pass
140	5700	17.39	17.75	114.394	20.58	24.00	Pass
149	5745	19.35	19.52	175.635	22.45	30.00	Pass
157	5785	18.55	18.83	147.998	21.70	30.00	Pass
165	5825	18.88	18.91	155.072	21.91	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(21.63) = 24.35 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.49) = 24.32 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(21.41) = 24.30 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(24.24) = 24.84 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(24.38) = 24.87 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(23.89) = 24.78 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(20.69) = 24.15 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.44) = 24.10 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.55) = 24.12 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.03) = 24.22 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.12) = 24.24 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(20.53) = 24.12 > 24\text{dBm}$

For Channel straddling 5725MHz of Power

Chan.	Freq. (MHz)	Average Power (dBm)		Duty Factor (dB)	Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
144	5720 (For U-NII-2C)	12.89	13.26	0.27	40.638	16.09	22.86	Pass
144	5720 (For U-NII-3)	5.19	6.61	0.27	7.885	8.97	30.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

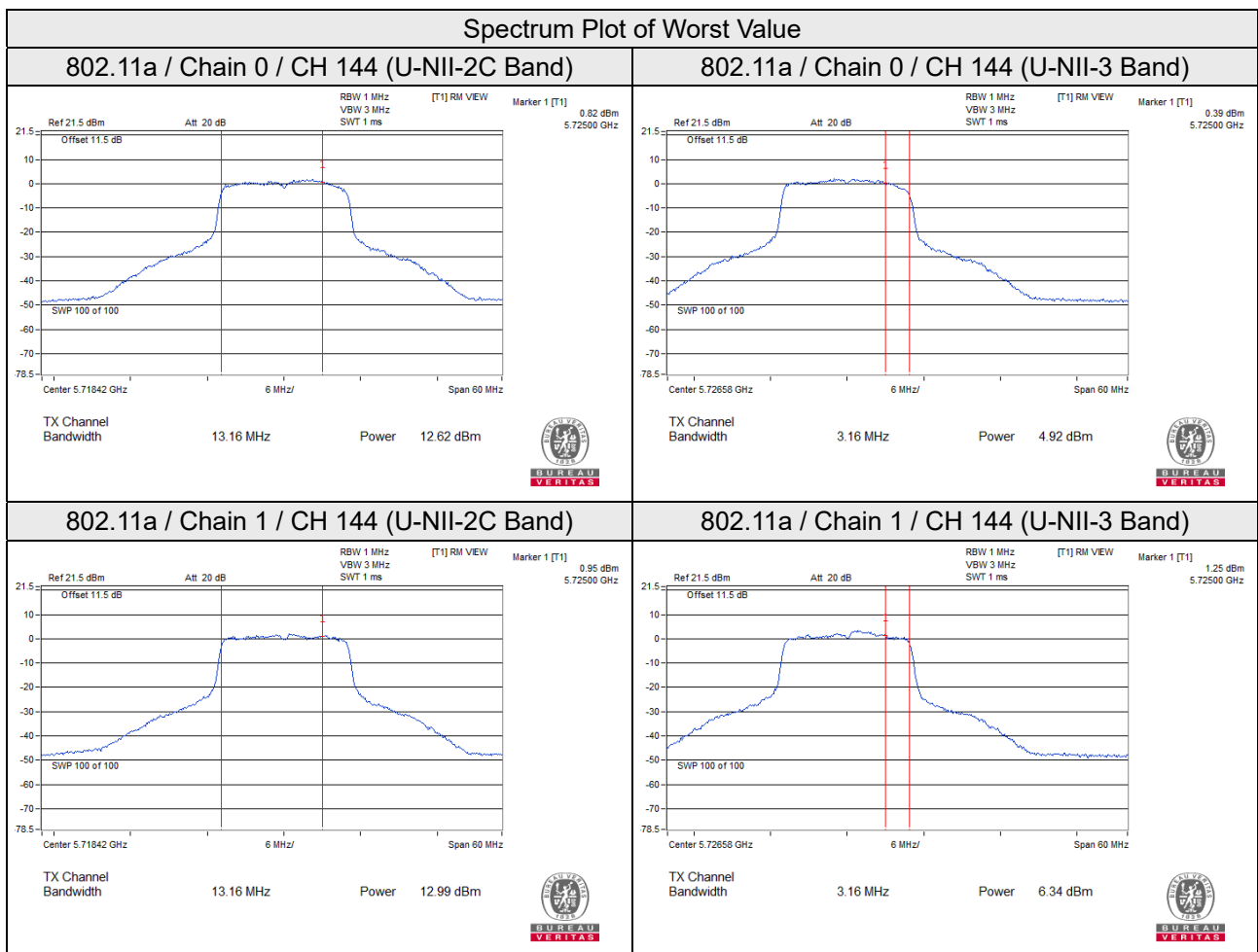
For U-NII-2C Band:

Chain 0

$$1. 11\text{dBm} + 10\log(5725.00 - 5708.92) = 23.06 < 24\text{dBm}$$

Chain 1

$$1. 11\text{dBm} + 10\log(5725.00 - 5709.63) = 22.86 < 24\text{dBm}$$



802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	17.13	17.53	108.266	20.34	24.00	Pass
40	5200	17.16	17.58	109.280	20.39	24.00	Pass
48	5240	17.11	17.62	109.214	20.38	24.00	Pass
52	5260	17.15	17.63	109.823	20.41	24.00	Pass
60	5300	17.17	17.68	110.733	20.44	24.00	Pass
64	5320	17.41	17.92	117.025	20.68	24.00	Pass
100	5500	16.43	16.91	93.045	19.69	24.00	Pass
116	5580	17.18	17.65	110.450	20.43	24.00	Pass
140	5700	16.83	16.94	97.626	19.90	24.00	Pass
149	5745	19.03	19.31	165.293	22.18	30.00	Pass
157	5785	18.85	19.00	156.169	21.94	30.00	Pass
165	5825	18.61	18.72	147.084	21.68	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(27.73) = 25.42 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(28.14) = 25.49 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(29.16) = 25.64 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(22.26) = 24.47 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(29.23) = 25.65 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(29.33) = 25.67 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(23.03) = 24.62 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.97) = 24.61 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(27.13) = 25.33 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.73) = 24.37 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(24.73) = 24.93 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(23.19) = 24.65 > 24\text{dBm}$

For Channel straddling 5725MHz of Power

Chan.	Freq. (MHz)	Average Power (dBm)		Duty Factor (dB)	Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
144	5720 (For U-NII-2C)	13.45	14.79	0.21	52.261	17.18	23.27	Pass
144	5720 (For U-NII-3)	8.69	8.09	0.21	13.838	11.41	30.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

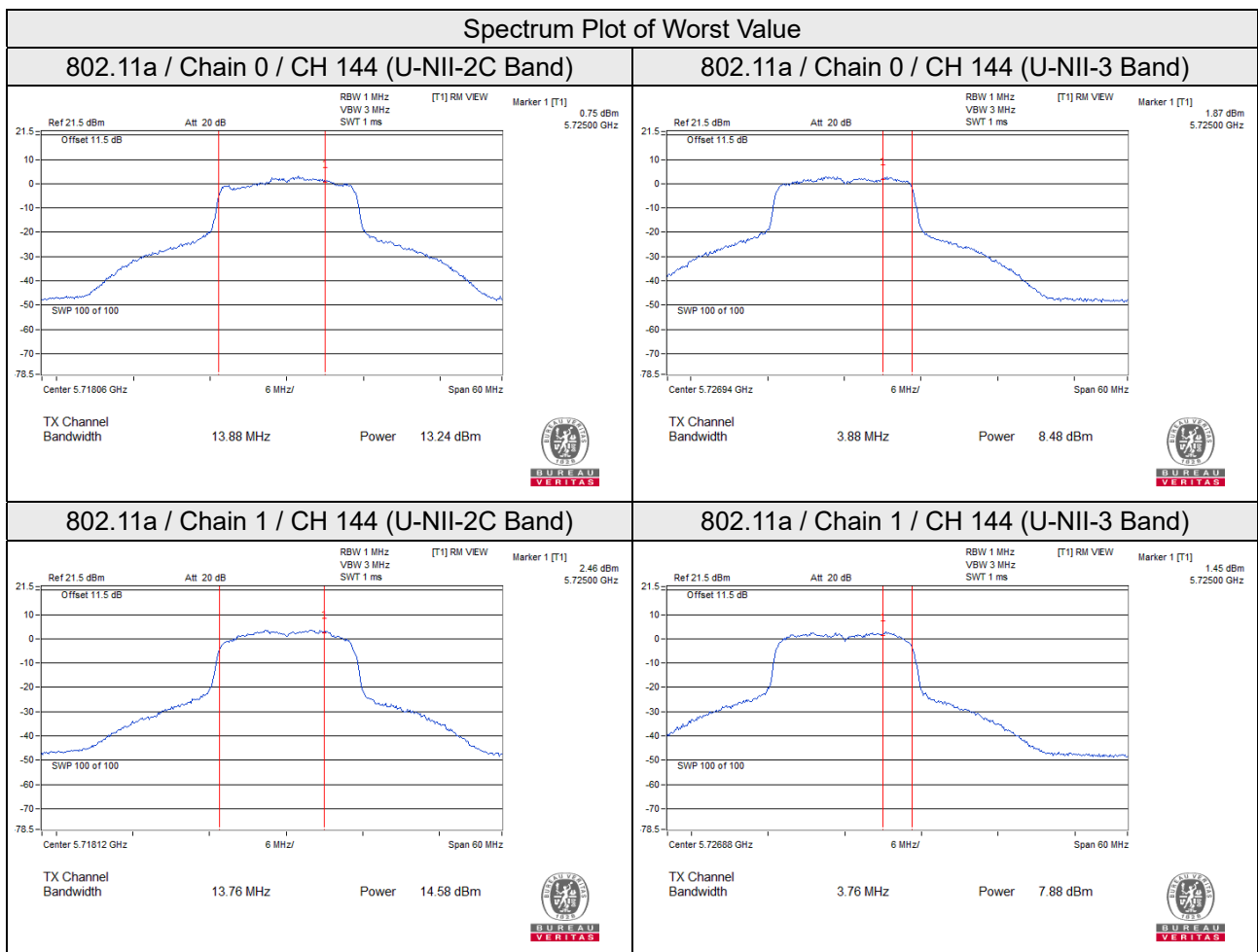
For U-NII-2C Band:

Chain 0

$$1. 11\text{dBm} + 10\log(5725.00 - 5704.36) = 24.14 > 24\text{dBm}$$

Chain 1

$$1. 11\text{dBm} + 10\log(5725.00 - 5708.11) = 23.27 < 24\text{dBm}$$



802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	14.91	14.93	62.091	17.93	24.00	Pass
46	5230	19.43	19.73	181.672	22.59	24.00	Pass
54	5270	19.11	19.72	175.226	22.44	24.00	Pass
62	5310	13.77	14.28	50.615	17.04	24.00	Pass
102	5510	10.88	11.13	25.218	14.02	24.00	Pass
110	5550	20.00	20.09	202.094	23.06	24.00	Pass
134	5670	16.79	17.13	99.395	19.97	24.00	Pass
151	5755	18.93	19.34	164.064	22.15	30.00	Pass
159	5795	18.88	18.93	155.431	21.92	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(82.82) = 30.18 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.14) = 27.24 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(42.53) = 27.28 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(83.81) = 30.23 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(66.78) = 29.24 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(72.58) = 29.60 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.12) = 27.24 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(41.52) = 27.18 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(74.63) = 29.72 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(47.54) = 27.77 > 24\text{dBm}$

For Channel straddling 5725MHz of Power

Chan.	Freq. (MHz)	Average Power (dBm)		Duty Factor (dB)	Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
142	5710 (For U-NII-2C)	14.29	16.00	0.52	66.664	18.24	24.00	Pass
142	5710 (For U-NII-3)	1.42	2.49	0.52	3.161	5.00	30.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

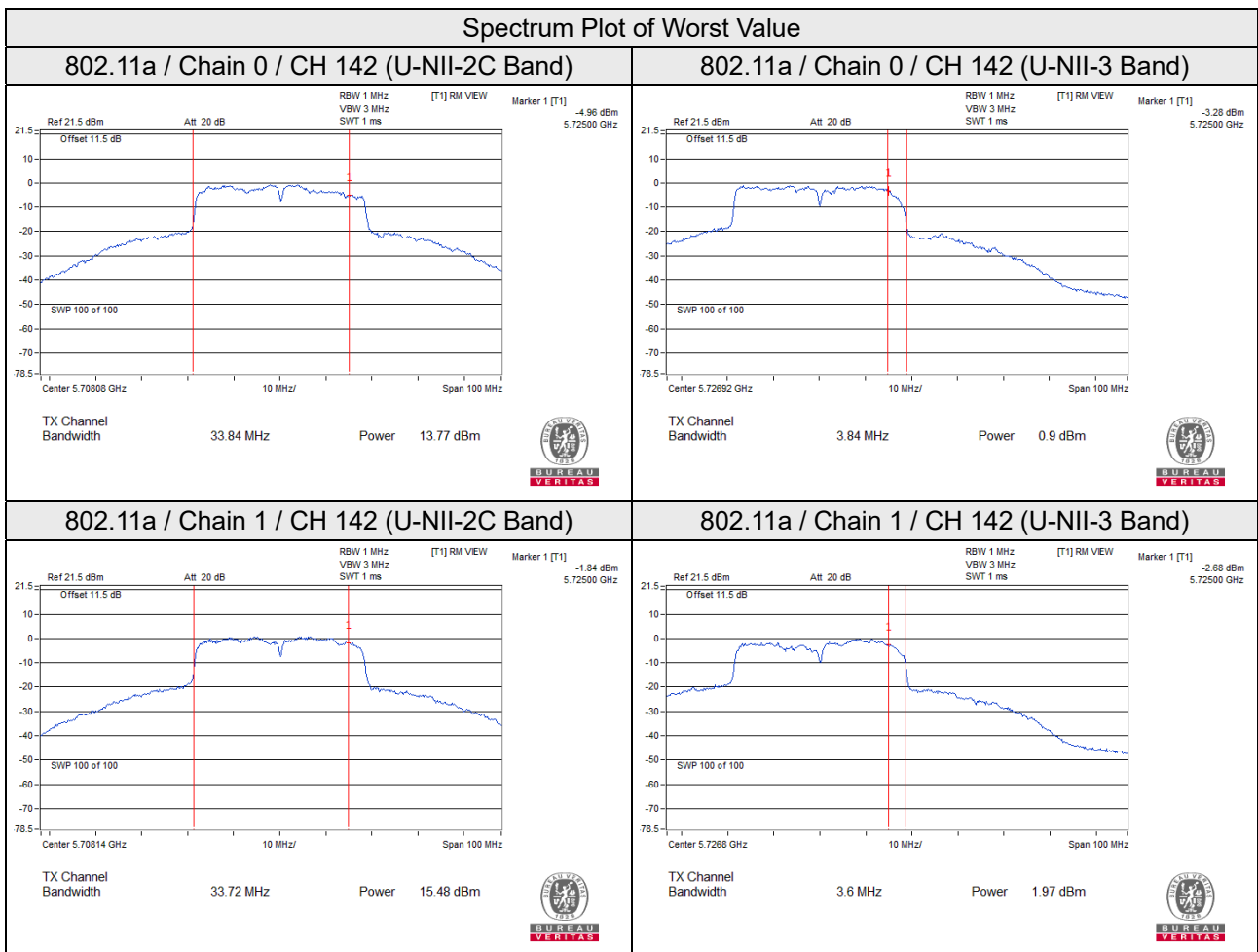
For U-NII-2C Band:

Chain 0

$$1. 11\text{dBm} + 10\log(5725.00 - 5669.84) = 28.41 > 24\text{dBm}$$

Chain 1

$$1. 11\text{dBm} + 10\log(5725.00 - 5671.58) = 28.27 > 24\text{dBm}$$



802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	13.56	13.55	45.345	16.57	24.00	Pass
58	5290	11.89	12.57	33.525	15.25	24.00	Pass
106	5530	12.91	13.25	40.678	16.09	24.00	Pass
122	5610	18.74	19.27	159.345	22.02	24.00	Pass
155	5775	18.75	18.94	153.332	21.86	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(84.09) = 30.24 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(84.18) = 30.25 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(166.92) = 33.22 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(83.36) = 30.20 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(83.21) = 30.20 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(140.38) = 32.47 > 24\text{dBm}$

For Channel straddling 5725MHz of Power

Chan.	Freq. (MHz)	Average Power (dBm)		Duty Factor (dB)	Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
138	5690 (For U-NII-2C)	11.94	12.59	0.85	33.786	15.29	24.00	Pass
138	5690 (For U-NII-3)	-2.33	-1.25	0.85	1.3347	1.25	30.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

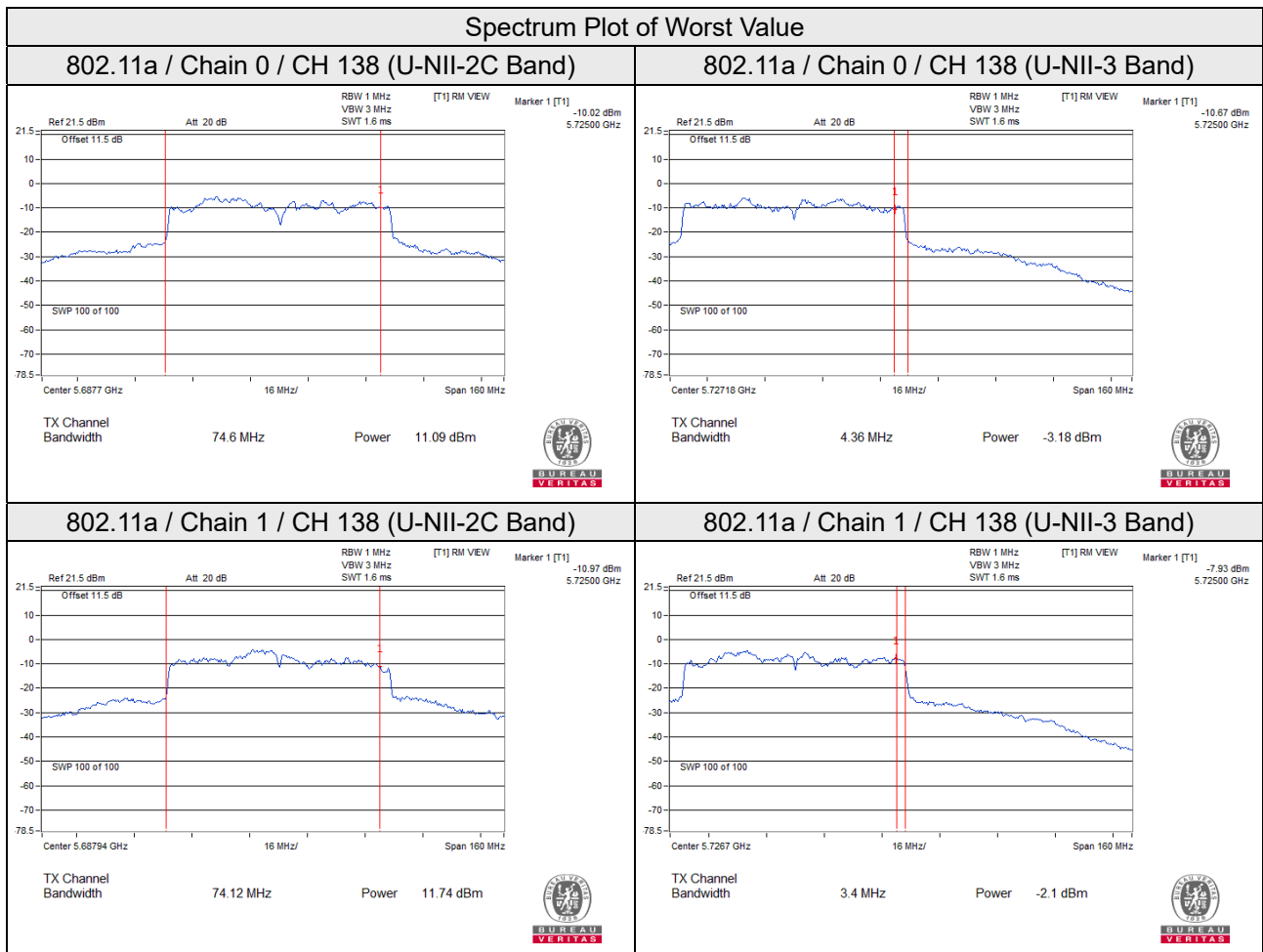
For U-NII-2C Band:

Chain 0

$$1. 11\text{dBm} + 10\log(5725.00 - 5607.67) = 31.69 > 24\text{dBm}$$

Chain 1

$$1. 11\text{dBm} + 10\log(5725.00 - 5609.02) = 31.64 > 24\text{dBm}$$



26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	21.63	20.69
60	5300	21.49	20.44
64	5320	21.41	20.55
100	5500	24.24	21.03
116	5580	24.38	21.12
140	5700	23.89	20.53
144	5720 (For U-NII-2C)	16.08	15.37
144	5720 (For U-NII-3)	6.07	5.68

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	27.73	23.03
60	5300	28.14	22.97
64	5320	29.16	27.13
100	5500	22.26	21.73
116	5580	29.23	24.73
140	5700	29.33	23.19
144	5720 (For U-NII-2C)	20.64	16.89
144	5720 (For U-NII-3)	10.02	7.37

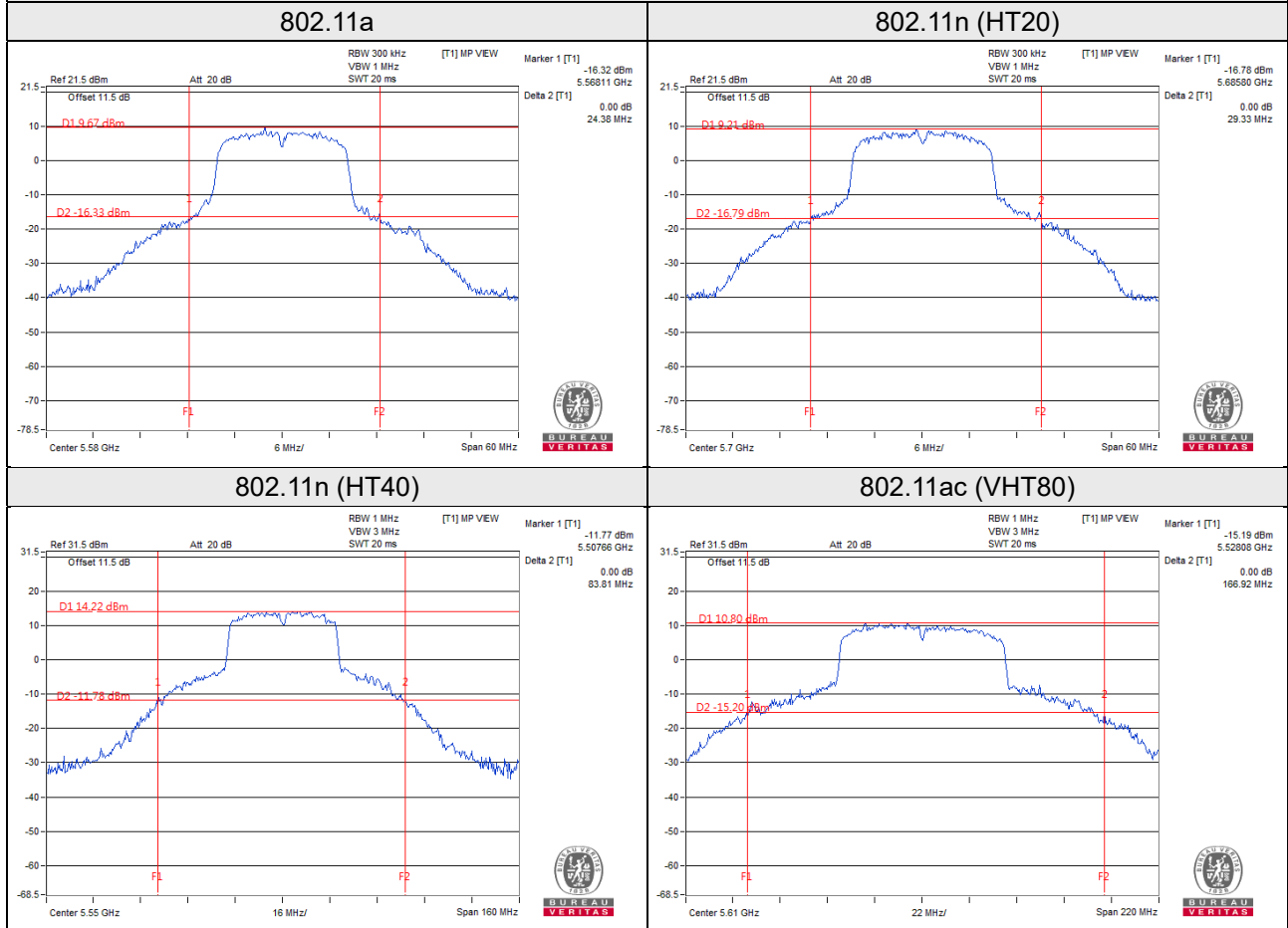
802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	82.82	72.58
62	5310	42.14	42.12
102	5510	42.53	41.52
110	5550	83.81	74.63
134	5670	66.78	47.54
142	5710 (For U-NII-2C)	55.16	53.42
142	5710 (For U-NII-3)	23.42	21.64

802.11ac (VHT80)

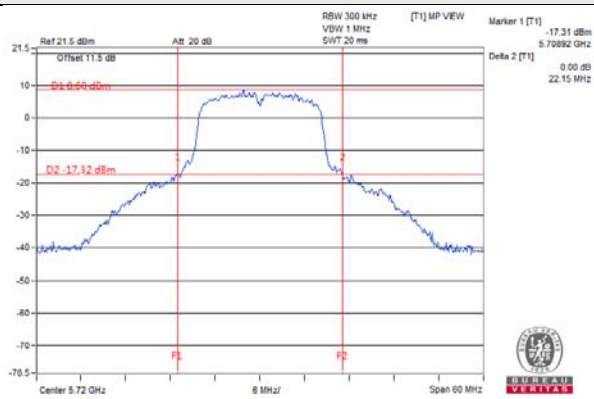
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	84.09	83.36
106	5530	84.18	83.21
122	5610	166.92	140.38
138	5690 (For U-NII-2C)	117.33	115.98
138	5690 (For U-NII-3)	45.76	42.96

Spectrum Plot of Worst Value

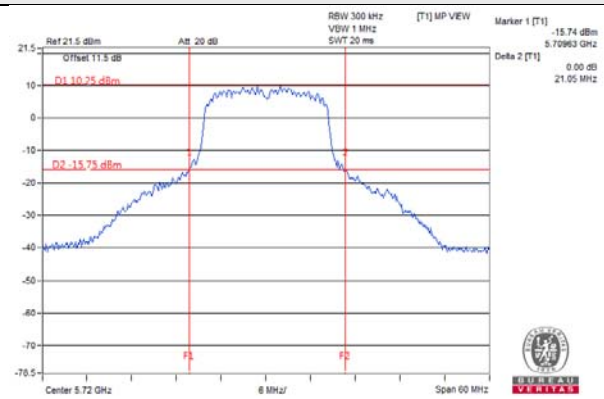


Spectrum Plot for Straddle Channels

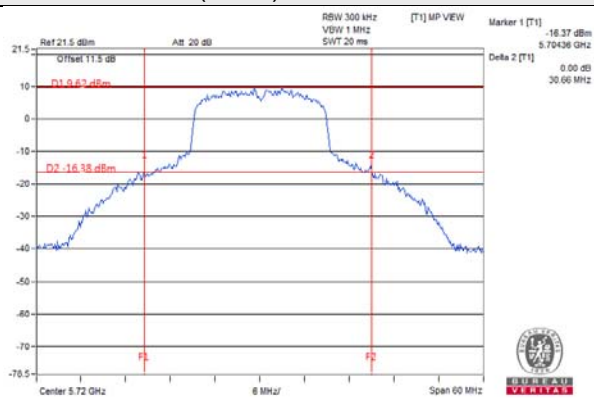
802.11a / Chain 0 / CH 144



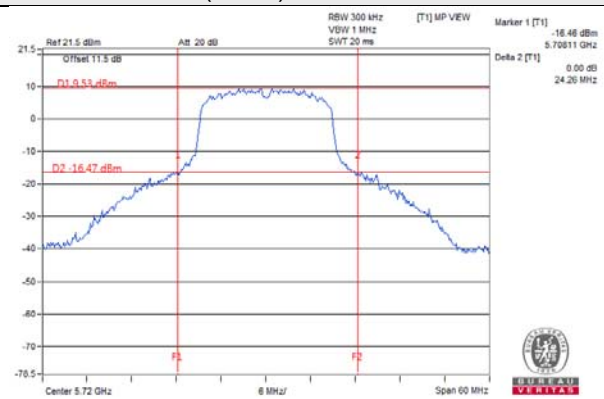
802.11a / Chain 1 / CH 144



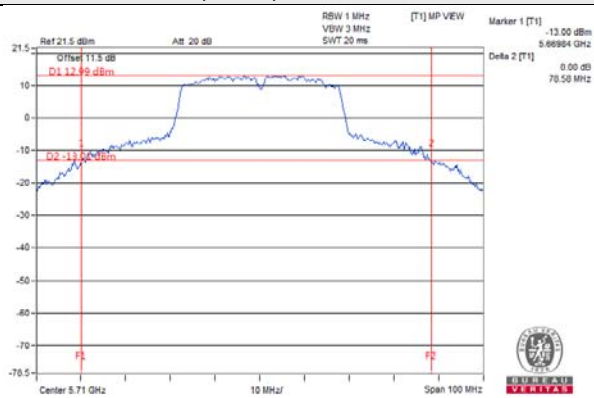
802.11n (HT20) / Chain 0 / CH 144



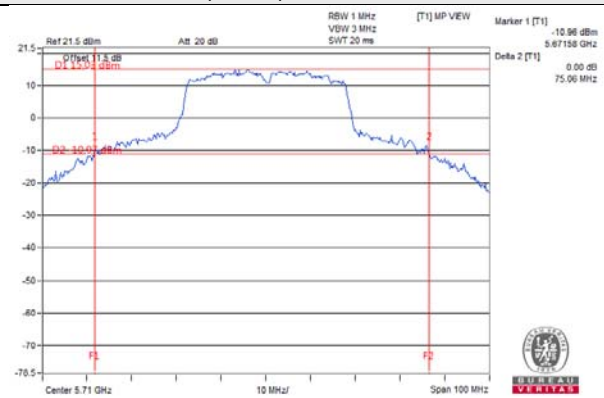
802.11n (HT20) / Chain 1 / CH 144



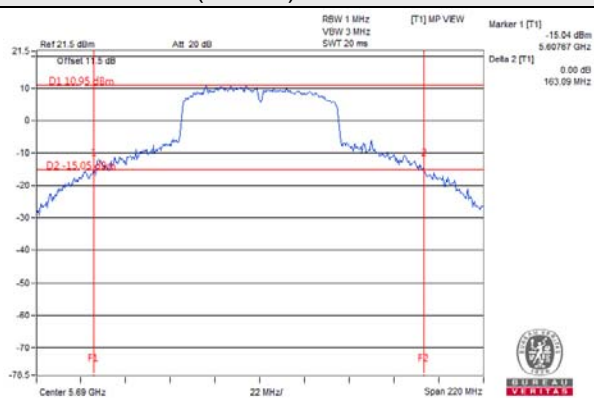
802.11n (HT40) / Chain 0 / CH 142



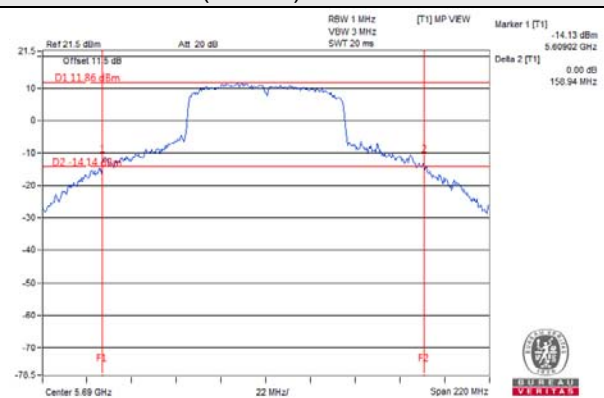
802.11n (HT40) / Chain 1 / CH 142



802.11ac (VHT80) / Chain 0 / CH 138



802.11ac (VHT80) / Chain 1 / CH 138



EUT Maximum Conducted Power

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	20.62	115.423
5470~5725	20.64	115.869

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	20.68	117.025
5470~5725	20.43	110.450

802.11n (HT40)

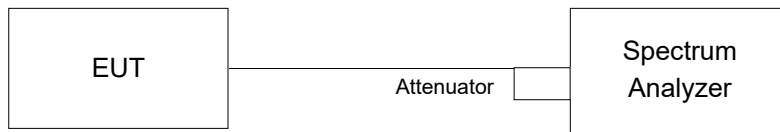
Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	22.44	175.226
5470~5725	23.06	202.094

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	15.25	33.525
5470~5725	22.02	159.345

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	16.56	16.32
40	5200	16.56	16.32
48	5240	16.32	16.32
52	5260	16.44	16.32
60	5300	16.32	16.32
64	5320	16.32	16.32
100	5500	16.56	16.32
116	5580	16.56	16.32
140	5700	17.16	16.32
144	5720 (For U-NII-2C)	13.16	13.16
144	5720 (For U-NII-3)	3.16	3.16
149	5745	20.64	19.44
157	5785	18.24	17.88
165	5825	17.04	17.04

802.11n (HT20)

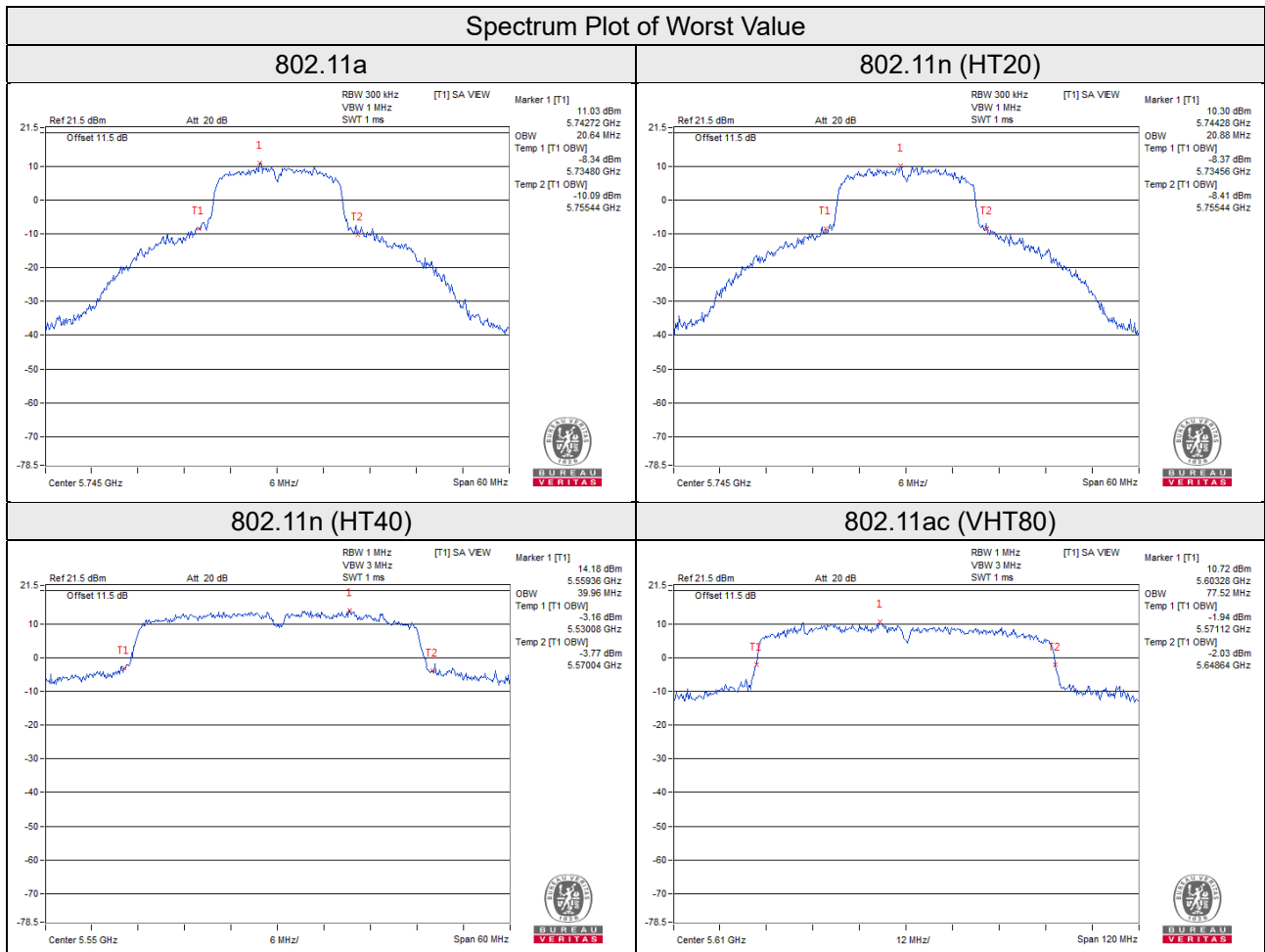
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.52
40	5200	17.88	17.52
48	5240	17.76	17.52
52	5260	17.76	17.52
60	5300	17.76	17.52
64	5320	17.76	17.52
100	5500	17.52	17.52
116	5580	17.76	17.52
140	5700	17.76	17.52
144	5720 (For U-NII-2C)	13.88	13.76
144	5720 (For U-NII-3)	3.88	3.76
149	5745	20.88	20.28
157	5785	18.48	18.36
165	5825	17.88	18.00

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.12	36.12
46	5230	39.00	36.96
54	5270	39.12	36.84
62	5310	36.00	36.12
102	5510	36.12	36.00
110	5550	39.96	37.08
134	5670	36.48	36.24
142	5710 (For U-NII-2C)	33.84	33.72
142	5710 (For U-NII-3)	3.84	3.60
151	5755	37.44	37.20
159	5795	36.84	36.72

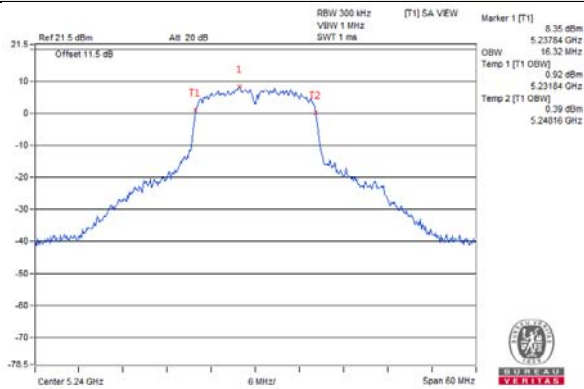
802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.36	75.36
58	5290	75.36	74.88
106	5530	75.12	75.12
122	5610	77.52	76.08
138	5690 (For U-NII-2C)	74.60	74.12
138	5690 (For U-NII-3)	4.36	3.40
155	5775	76.69	76.80

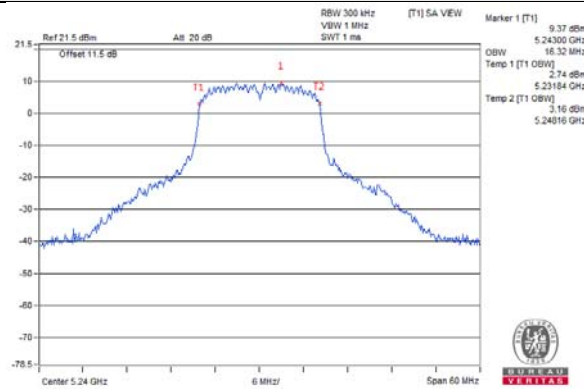


Spectrum Plot for near By DFS Band

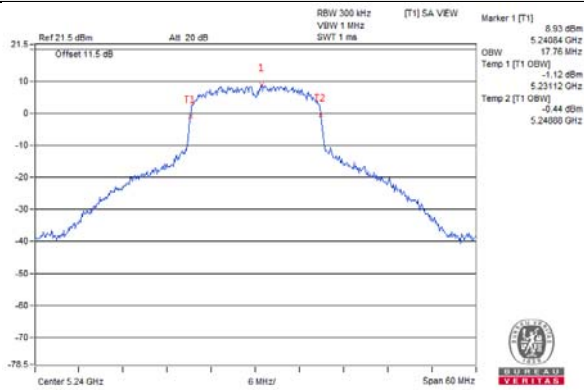
802.11a / Chain 0 / CH 48



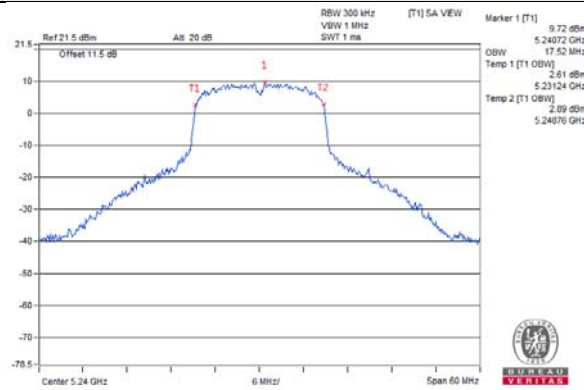
802.11a / Chain 1 / CH 48



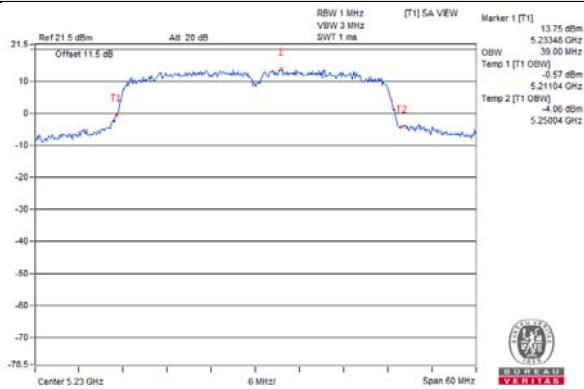
802.11n (HT20) / Chain 0 / CH 48



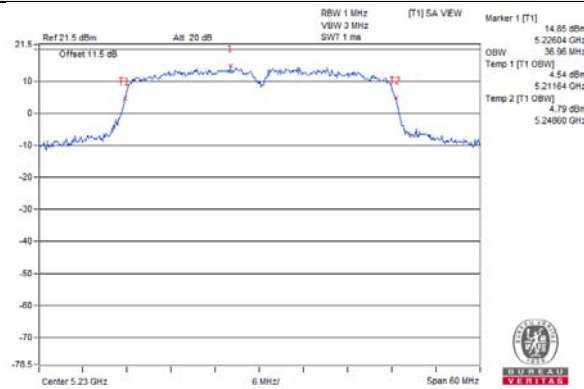
802.11n (HT20) / Chain 1 / CH 48



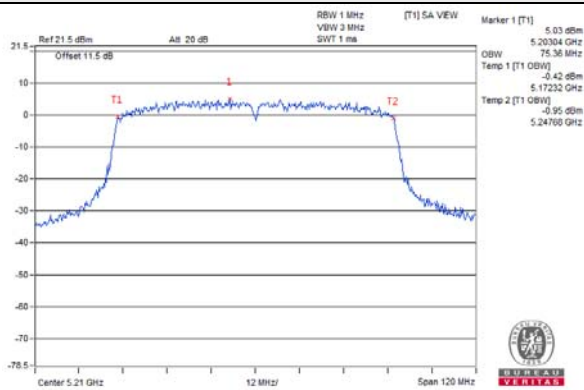
802.11n (HT40) / Chain 0 / CH 46



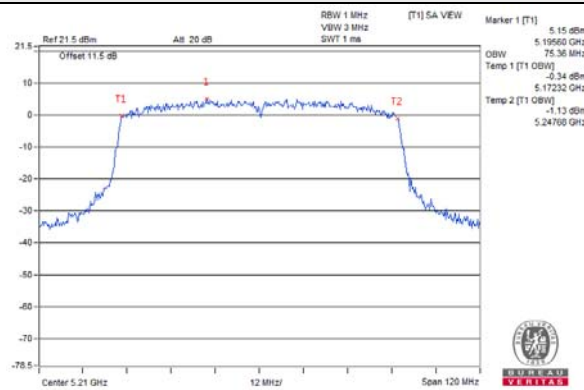
802.11n (HT40) / Chain 1 / CH 46



802.11ac (VHT80) / Chain 0 / CH 42

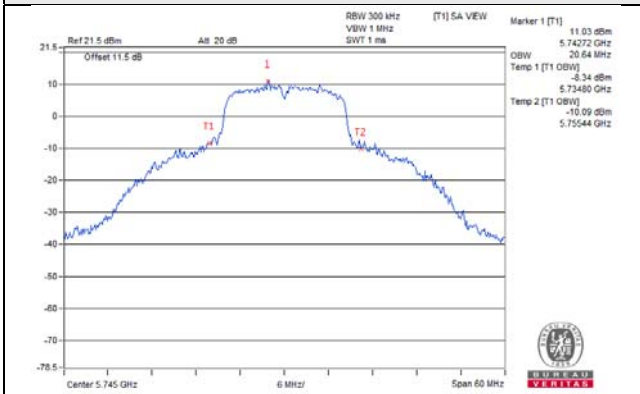


802.11ac (VHT80) / Chain 1 / CH 42

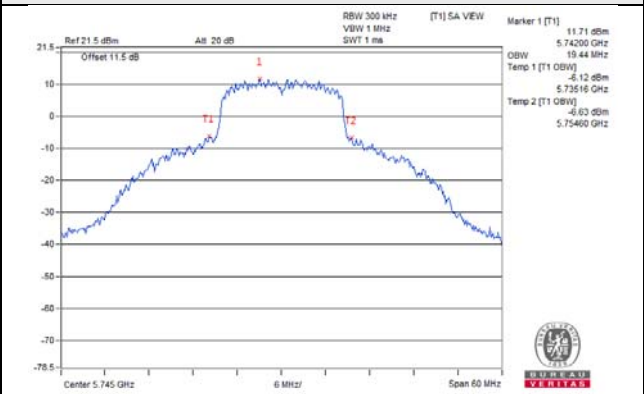


Spectrum Plot for near By DFS Band

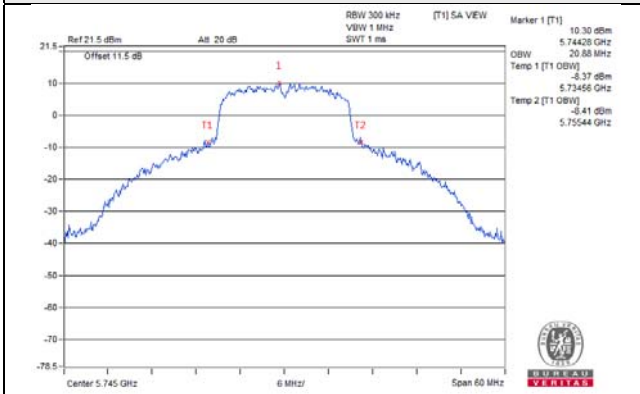
802.11a / Chain 0 / CH 149



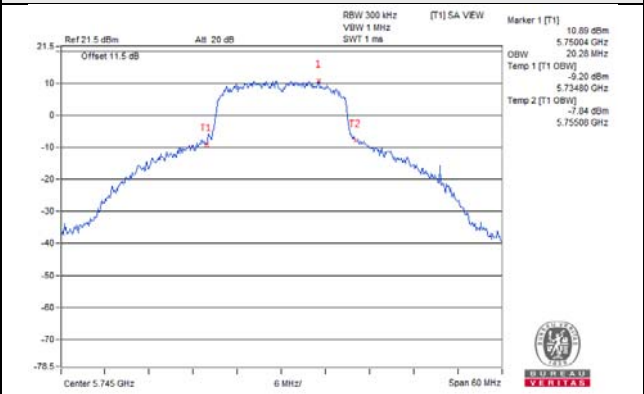
802.11a / Chain 1 / CH 149



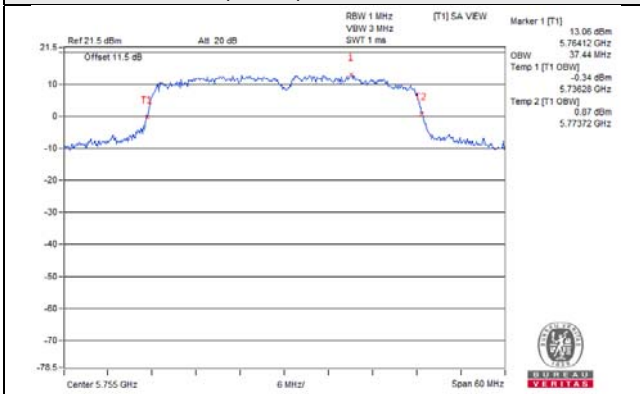
802.11n (HT20) / Chain 0 / CH 149



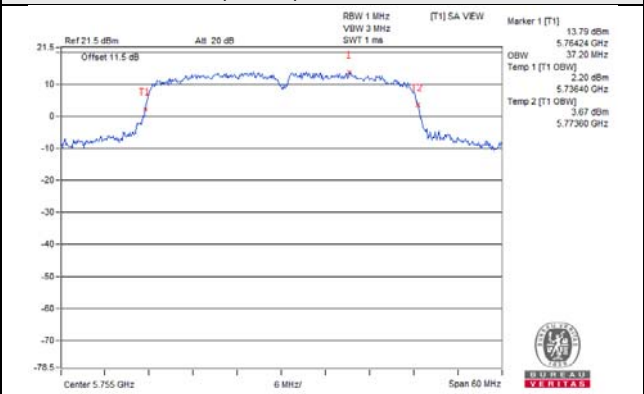
802.11n (HT20) / Chain 1 / CH 149



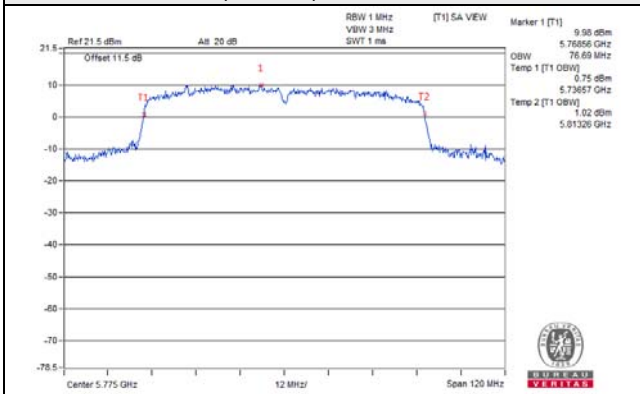
802.11n (HT40) / Chain 0 / CH 151



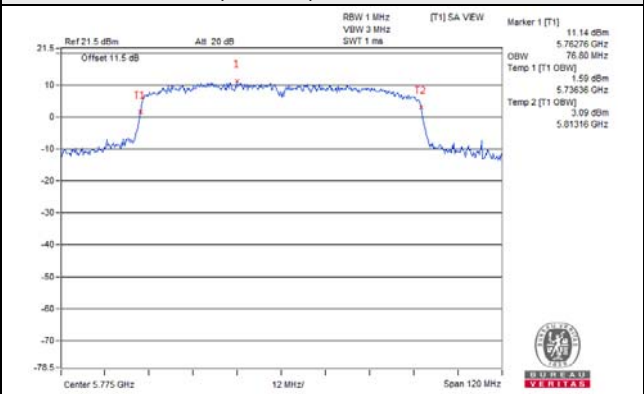
802.11n (HT40) / Chain 1 / CH 151



802.11ac (VHT80) / Chain 0 / CH 155

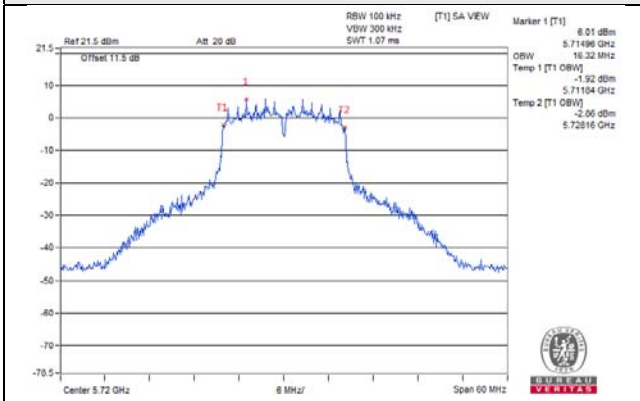


802.11ac (VHT80) / Chain 1 / CH 155

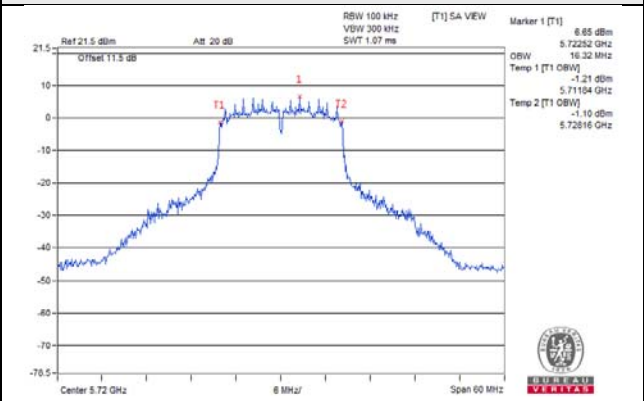


Spectrum Plot for Straddle Channels

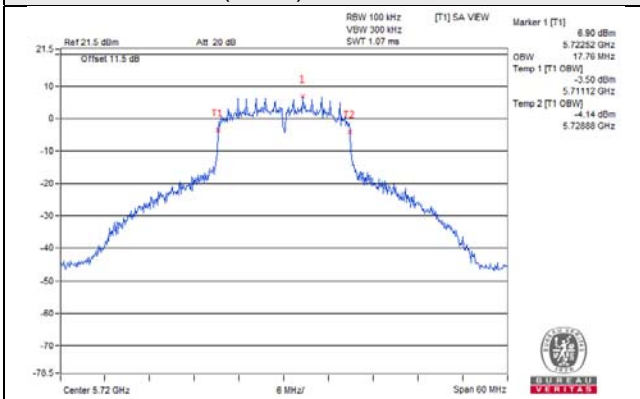
802.11a / Chain 0 / CH 144



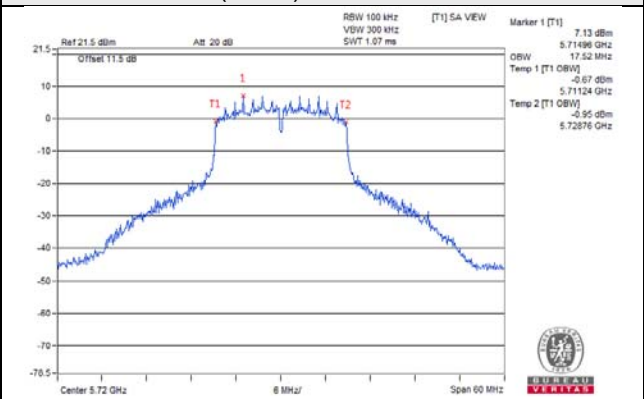
802.11a / Chain 1 / CH 144



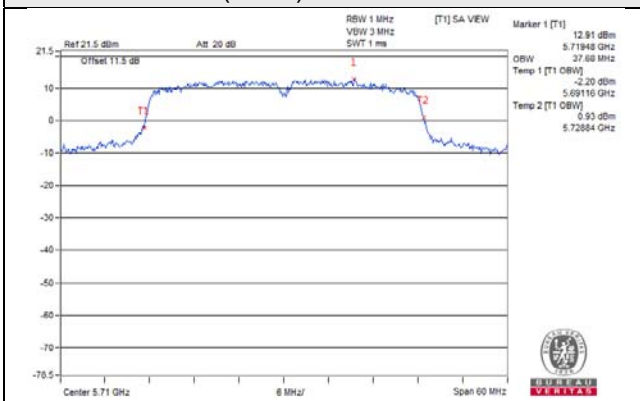
802.11n (HT20) / Chain 0 / CH 144



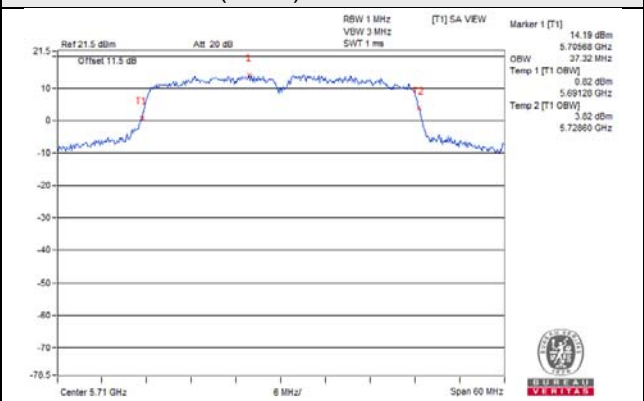
802.11n (HT20) / Chain 1 / CH 144



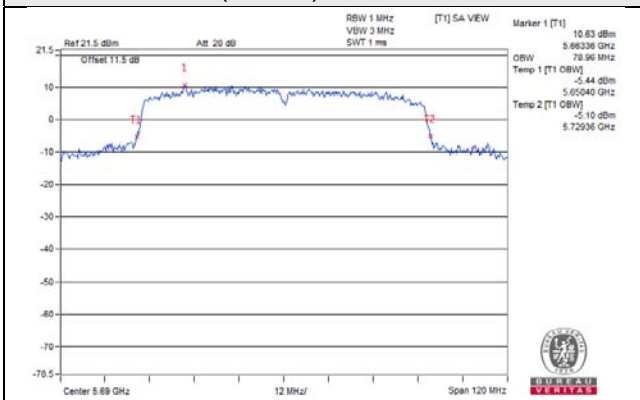
802.11n (HT40) / Chain 0 / CH 142



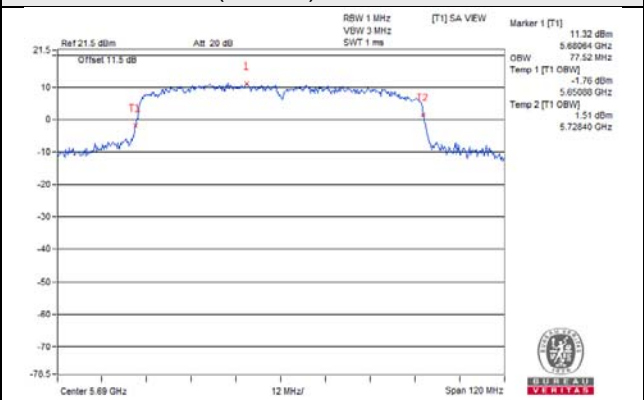
802.11n (HT40) / Chain 1 / CH 142



802.11ac (VHT80) / Chain 0 / CH 138



802.11ac (VHT80) / Chain 1 / CH 138

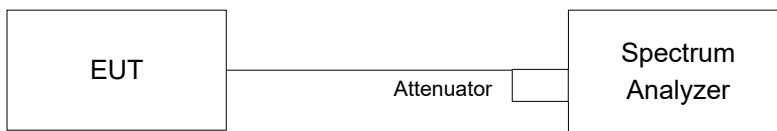


4.5 Peak Power Spectral Density Measurement

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 $10 \log (1/\text{duty cycle})$

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 $\text{BWCF} = 10 \log(500 \text{ kHz} / 300 \text{ kHz})$
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Record the max value and add $10 \log (1/\text{duty cycle})$

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	4.96	4.93	0.27	8.23	8.46	Pass
40	5200	5.01	4.77	0.27	8.17	8.46	Pass
48	5240	5.02	4.82	0.27	8.20	8.46	Pass
52	5260	4.79	4.80	0.27	8.08	8.46	Pass
60	5300	5.20	4.36	0.27	8.08	8.46	Pass
64	5320	5.31	4.27	0.27	8.10	8.46	Pass
100	5500	4.11	5.23	0.27	7.99	8.46	Pass
116	5580	5.09	4.96	0.27	8.31	8.46	Pass
140	5700	5.50	4.18	0.27	8.17	8.46	Pass
144	5720	4.94	4.40	0.27	7.96	8.46	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.
- 5180-5240MHz: Directional gain = 5.53dBi + 10log(2) = 8.54dBi > 6dBi, so the power density limit shall be reduced to 11 - (8.54 - 6) = 8.46dBi.
- 5260-5320MHz: Directional gain = 5.53dBi + 10log(2) = 8.54dBi > 6dBi, so the power density limit shall be reduced to 11 - (8.54 - 6) = 8.46dBi.
- 5500-5720MHz: Directional gain = 5.53dBi + 10log(2) = 8.54dBi > 6dBi, so the power density limit shall be reduced to 11 - (8.54 - 6) = 8.46dBi.
- 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	4.83	5.23	0.21	8.25	8.46	Pass
40	5200	4.96	5.20	0.21	8.30	8.46	Pass
48	5240	4.34	5.27	0.21	8.05	8.46	Pass
52	5260	4.27	5.16	0.21	7.96	8.46	Pass
60	5300	4.95	4.98	0.21	8.19	8.46	Pass
64	5320	4.18	5.20	0.21	7.94	8.46	Pass
100	5500	3.51	4.46	0.21	7.23	8.46	Pass
116	5580	4.65	5.58	0.21	8.36	8.46	Pass
140	5700	4.07	4.14	0.21	7.33	8.46	Pass
144	5720	5.50	4.50	0.21	8.25	8.46	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.
- 5180-5240MHz: Directional gain = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (8.54 - 6) = 8.46\text{dBi}$.
- 5260-5320MHz: Directional gain = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (8.54 - 6) = 8.46\text{dBi}$.
- 5500-5720MHz: Directional gain = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (8.54 - 6) = 8.46\text{dBi}$.
- 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	-0.98	-0.85	0.52	2.62	8.46	Pass
46	5230	3.02	3.61	0.52	6.86	8.46	Pass
54	5270	2.80	3.68	0.52	6.79	8.46	Pass
62	5310	-2.34	-1.80	0.52	1.47	8.46	Pass
102	5510	-5.18	-4.55	0.52	-1.32	8.46	Pass
110	5550	3.32	3.88	0.52	7.14	8.46	Pass
134	5670	0.64	1.07	0.52	4.39	8.46	Pass
142	5710	2.38	3.42	0.52	6.46	8.46	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.
- 5180-5240MHz: Directional gain = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (8.54 - 6) = 8.46\text{dBi}$.
- 5260-5320MHz: Directional gain = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (8.54 - 6) = 8.46\text{dBi}$.
- 5500-5720MHz: Directional gain = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (8.54 - 6) = 8.46\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

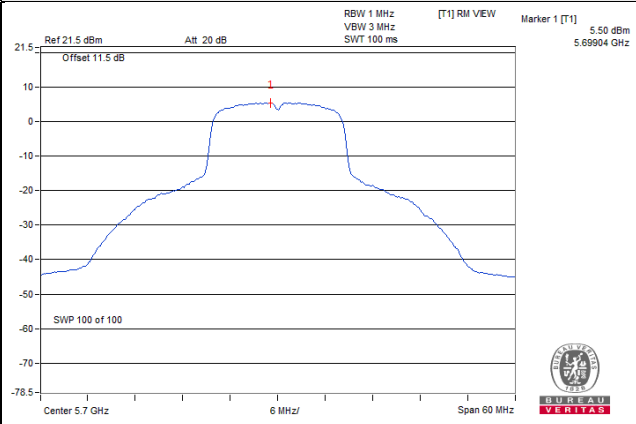
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-6.18	-5.76	0.85	-2.10	8.46	Pass
58	5290	-7.63	-7.06	0.85	-3.48	8.46	Pass
106	5530	-6.55	-6.16	0.85	-2.49	8.46	Pass
122	5610	-0.89	-0.52	0.85	3.16	8.46	Pass
138	5690	-0.90	0.39	0.85	3.65	8.46	Pass

Note:

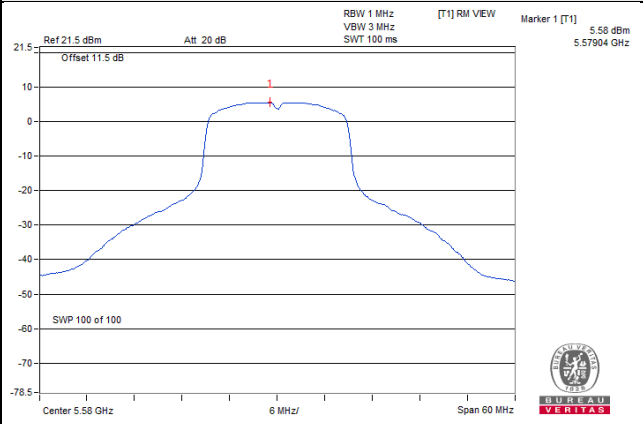
- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- 5180-5240MHz: Directional gain = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (8.54 - 6) = 8.46\text{dBi}$.
- 5260-5320MHz: Directional gain = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (8.54 - 6) = 8.46\text{dBi}$.
- 5500-5720MHz: Directional gain = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (8.54 - 6) = 8.46\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

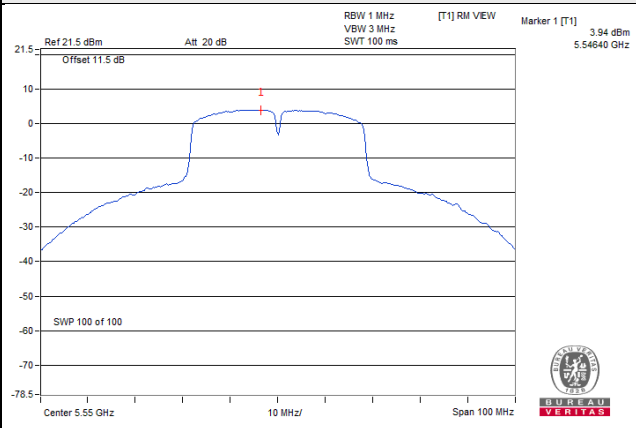
802.11a / Chain 0 / CH 140



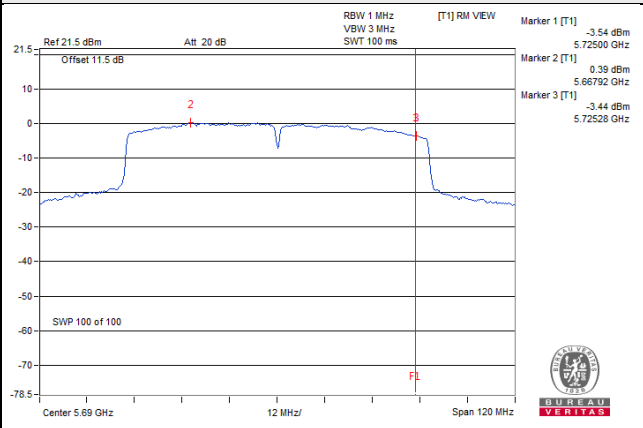
802.11n (HT20) / Chain 1 / CH 116



802.11n (HT40) / Chain 1 / CH 110



802.11ac (VHT80) / Chain 1 / 138



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	-3.80	-1.58	3.01	0.27	1.70	27.46	Pass
	149	5745	-2.80	-0.58	3.01	0.27	2.70	27.46	Pass
	157	5785	-3.17	-0.95	3.01	0.27	2.33	27.46	Pass
	165	5825	-3.50	-1.28	3.01	0.27	2.00	27.46	Pass
1	144	5720	-4.69	-2.47	3.01	0.27	0.81	27.46	Pass
	149	5745	-1.52	0.70	3.01	0.27	3.98	27.46	Pass
	157	5785	-2.09	0.13	3.01	0.27	3.41	27.46	Pass
	165	5825	-2.70	-0.48	3.01	0.27	2.80	27.46	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 = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46\text{dBi}$.
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	-3.51	-1.29	3.01	0.21	1.93	27.46	Pass
	149	5745	-3.14	-0.92	3.01	0.21	2.30	27.46	Pass
	157	5785	-3.48	-1.26	3.01	0.21	1.96	27.46	Pass
	165	5825	-3.69	-1.47	3.01	0.21	1.75	27.46	Pass
1	144	5720	-4.44	-2.22	3.01	0.21	1.00	27.46	Pass
	149	5745	-1.65	0.57	3.01	0.21	3.79	27.46	Pass
	157	5785	-2.69	-0.47	3.01	0.21	2.75	27.46	Pass
	165	5825	-2.98	-0.76	3.01	0.21	2.46	27.46	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 = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46\text{dBi}$.
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	-9.02	-6.80	3.01	0.52	-3.27	27.46	Pass
	151	5755	-6.40	-4.18	3.01	0.52	-0.65	27.46	Pass
	159	5795	-6.96	-4.74	3.01	0.52	-1.21	27.46	Pass
1	142	5710	-7.93	-5.71	3.01	0.52	-2.18	27.46	Pass
	151	5755	-5.35	-3.13	3.01	0.52	0.40	27.46	Pass
	159	5795	-5.94	-3.72	3.01	0.52	-0.19	27.46	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 = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

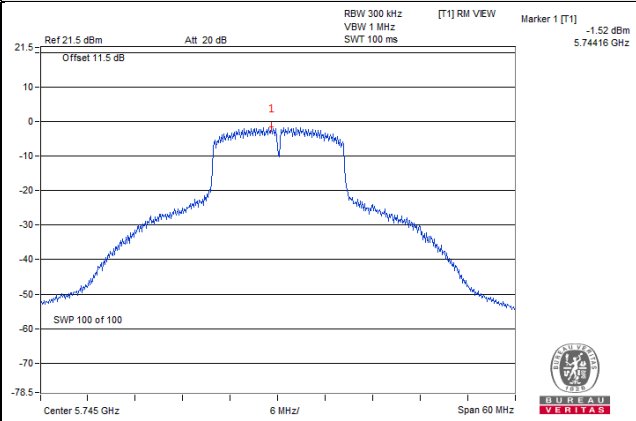
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690	-13.84	-11.62	3.01	0.85	-7.76	27.46	Pass
	155	5775	-9.81	-7.59	3.01	0.85	-3.73	27.46	Pass
1	138	5690	-12.51	-10.29	3.01	0.85	-6.43	27.46	Pass
	155	5775	-8.72	-6.50	3.01	0.85	-2.64	27.46	Pass

Note:

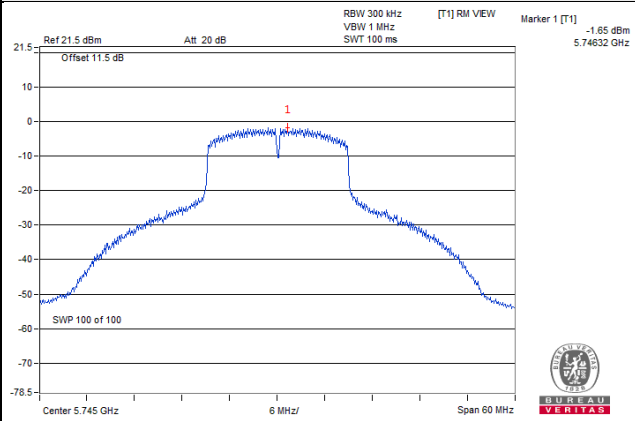
- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log(N_{ANT})$ dB.
- Directional gain = $5.53\text{dBi} + 10\log(2) = 8.54\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (8.54 - 6) = 27.46\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

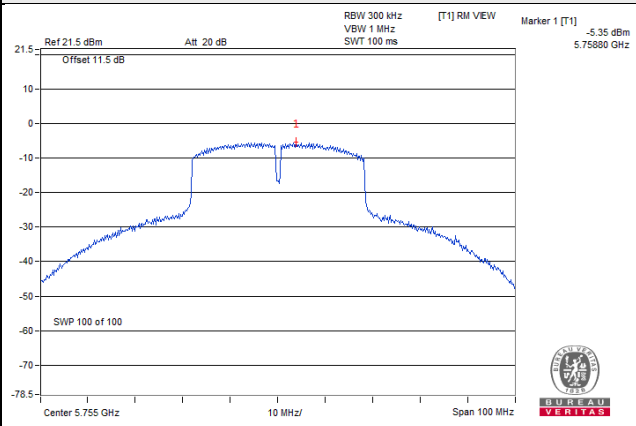
802.11a



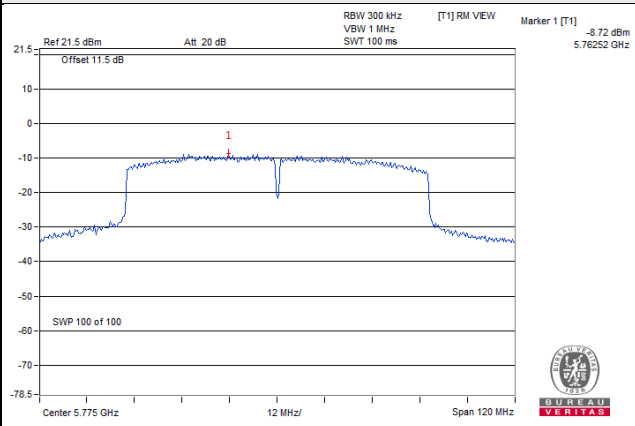
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

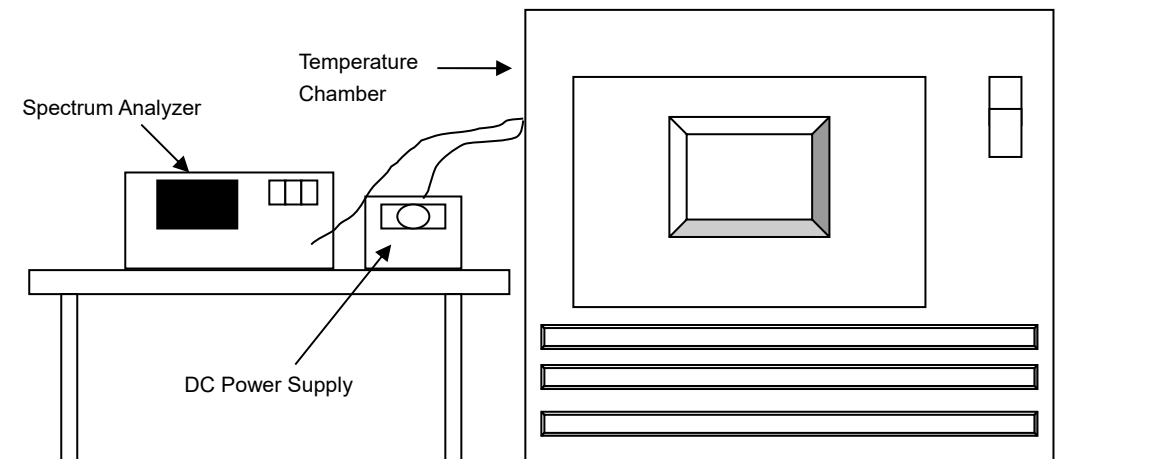


4.6 Frequency Stability

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
DC Power Supply TOPWARD	6306A	727263	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 DC 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 every 10 degrees reduction until the lowest temperature achieved.
- 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 (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
85	3.3	5180.0132	Pass	5180.0129	Pass	5180.0135	Pass	5180.0123	Pass
80	3.3	5179.9972	Pass	5179.9934	Pass	5179.9939	Pass	5179.9955	Pass
70	3.3	5179.9883	Pass	5179.9874	Pass	5179.99	Pass	5179.9895	Pass
60	3.3	5179.9945	Pass	5179.9938	Pass	5179.9947	Pass	5179.9942	Pass
50	3.3	5179.9928	Pass	5179.992	Pass	5179.9967	Pass	5179.9965	Pass
40	3.3	5179.983	Pass	5179.9804	Pass	5179.9834	Pass	5179.9843	Pass
30	3.3	5179.9811	Pass	5179.9794	Pass	5179.9808	Pass	5179.9801	Pass
20	3.3	5179.9878	Pass	5179.9905	Pass	5179.9879	Pass	5179.9881	Pass
10	3.3	5180.0044	Pass	5180.0038	Pass	5180.0024	Pass	5180.0057	Pass
0	3.3	5179.9969	Pass	5179.9927	Pass	5179.9928	Pass	5179.9944	Pass
-10	3.3	5180.0186	Pass	5180.0222	Pass	5180.0182	Pass	5180.0222	Pass
-20	3.3	5180.02	Pass	5180.0236	Pass	5180.0204	Pass	5180.0206	Pass
-30	3.3	5180.0022	Pass	5180.0007	Pass	5180.0027	Pass	5180.0034	Pass
-40	3.3	5180.0138	Pass	5180.0147	Pass	5180.0131	Pass	5180.0161	Pass

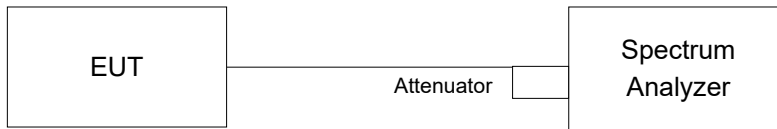
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	3.795	5179.9876	Pass	5179.991	Pass	5179.9886	Pass	5179.9876	Pass
	3.3	5179.9878	Pass	5179.9905	Pass	5179.9879	Pass	5179.9881	Pass
	2.805	5179.9869	Pass	5179.9912	Pass	5179.9879	Pass	5179.9873	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	2.62	2.62	0.5	Pass
149	5745	15.20	15.20	0.5	Pass
157	5785	15.36	15.19	0.5	Pass
165	5825	15.21	15.18	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	2.63	2.61	0.5	Pass
149	5745	15.19	15.19	0.5	Pass
157	5785	15.20	15.19	0.5	Pass
165	5825	15.19	15.20	0.5	Pass

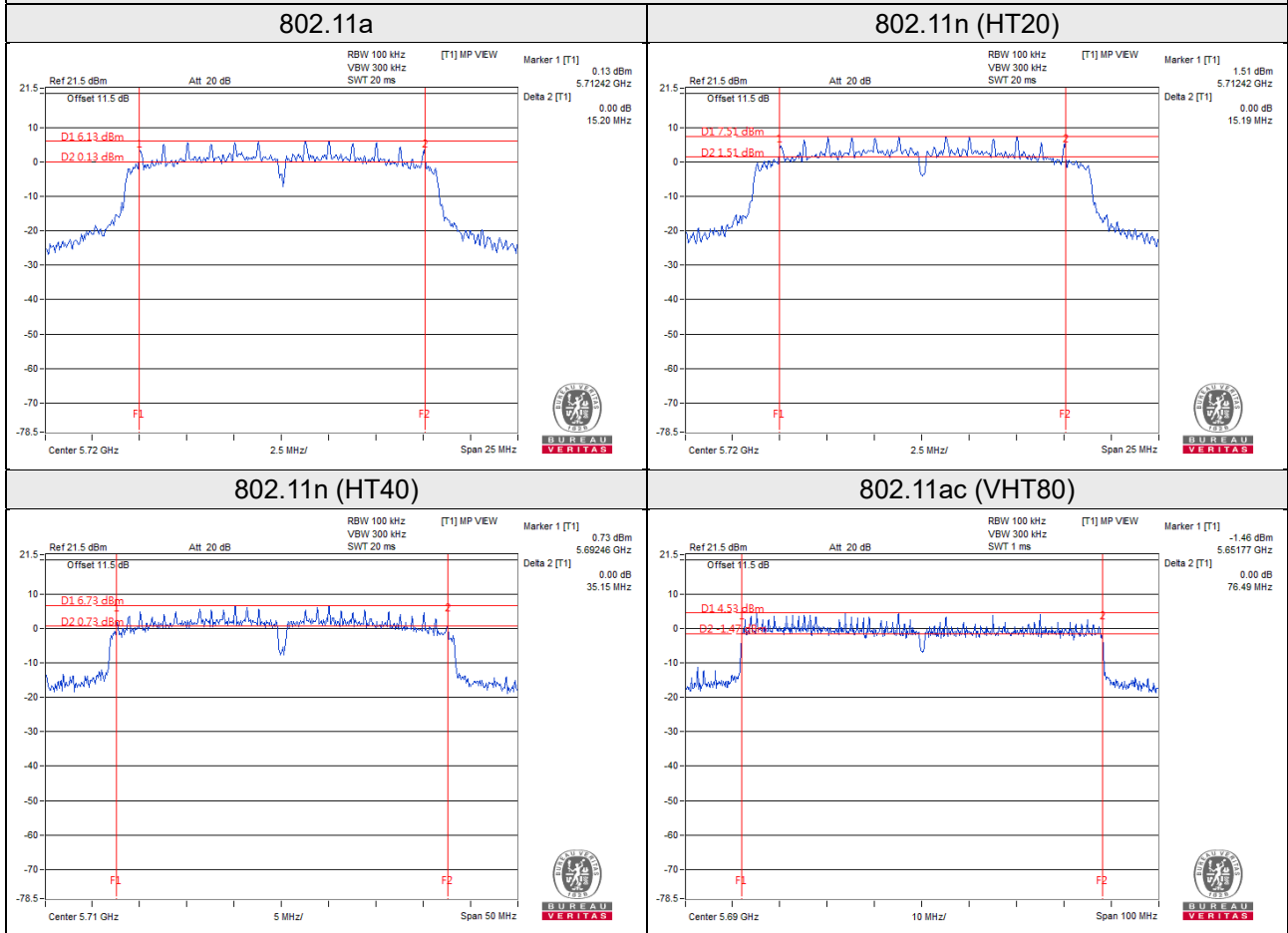
802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142 (For U-NII-3)	5710	2.61	2.61	0.5	Pass
151	5755	35.16	35.13	0.5	Pass
159	5795	35.17	35.15	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	3.13	3.26	0.5	Pass
155	5775	72.71	72.88	0.5	Pass

Spectrum Plot of Worst Value



Note:

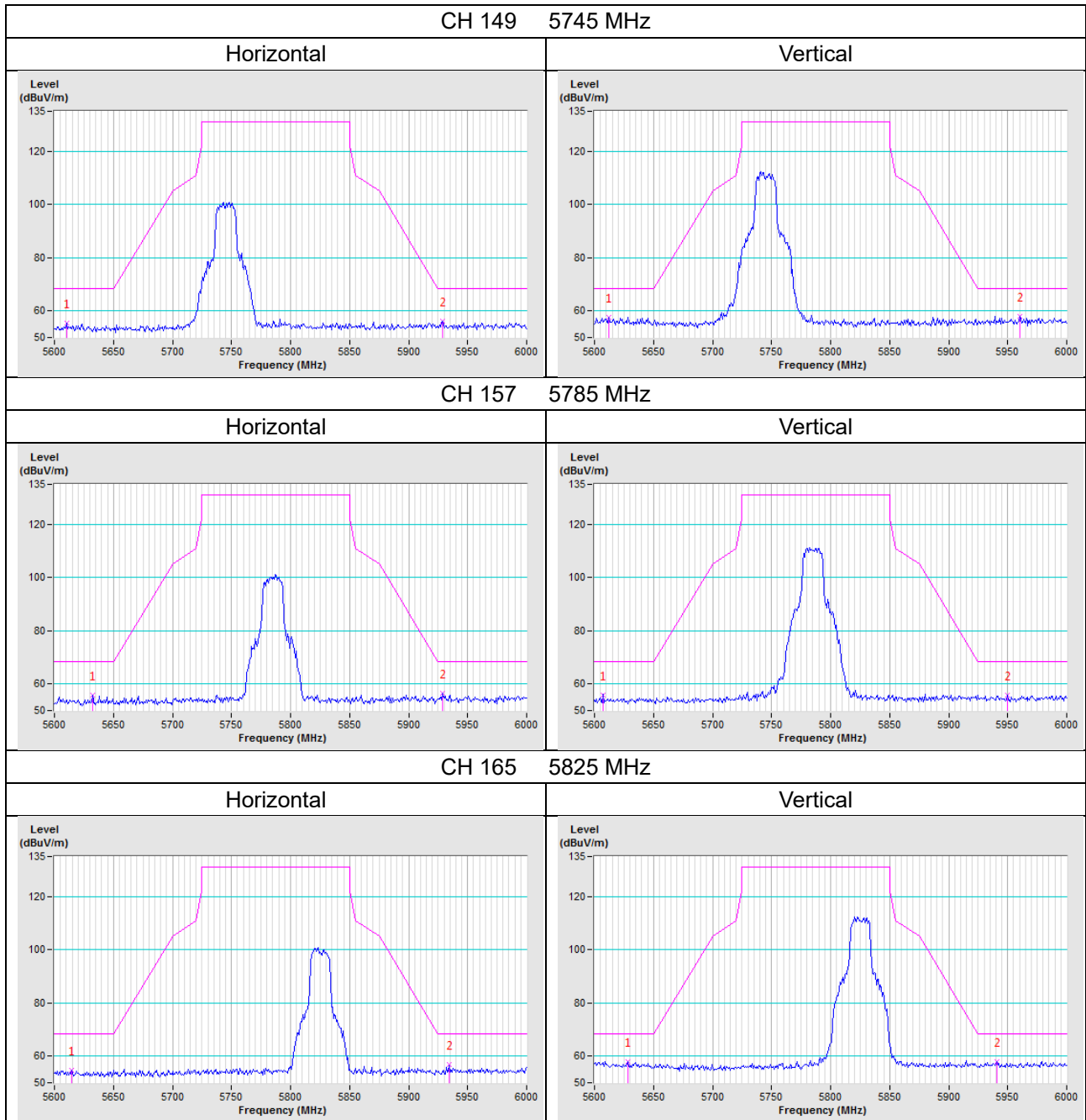
- For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz
- For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz
- For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

5 Pictures of Test Arrangements

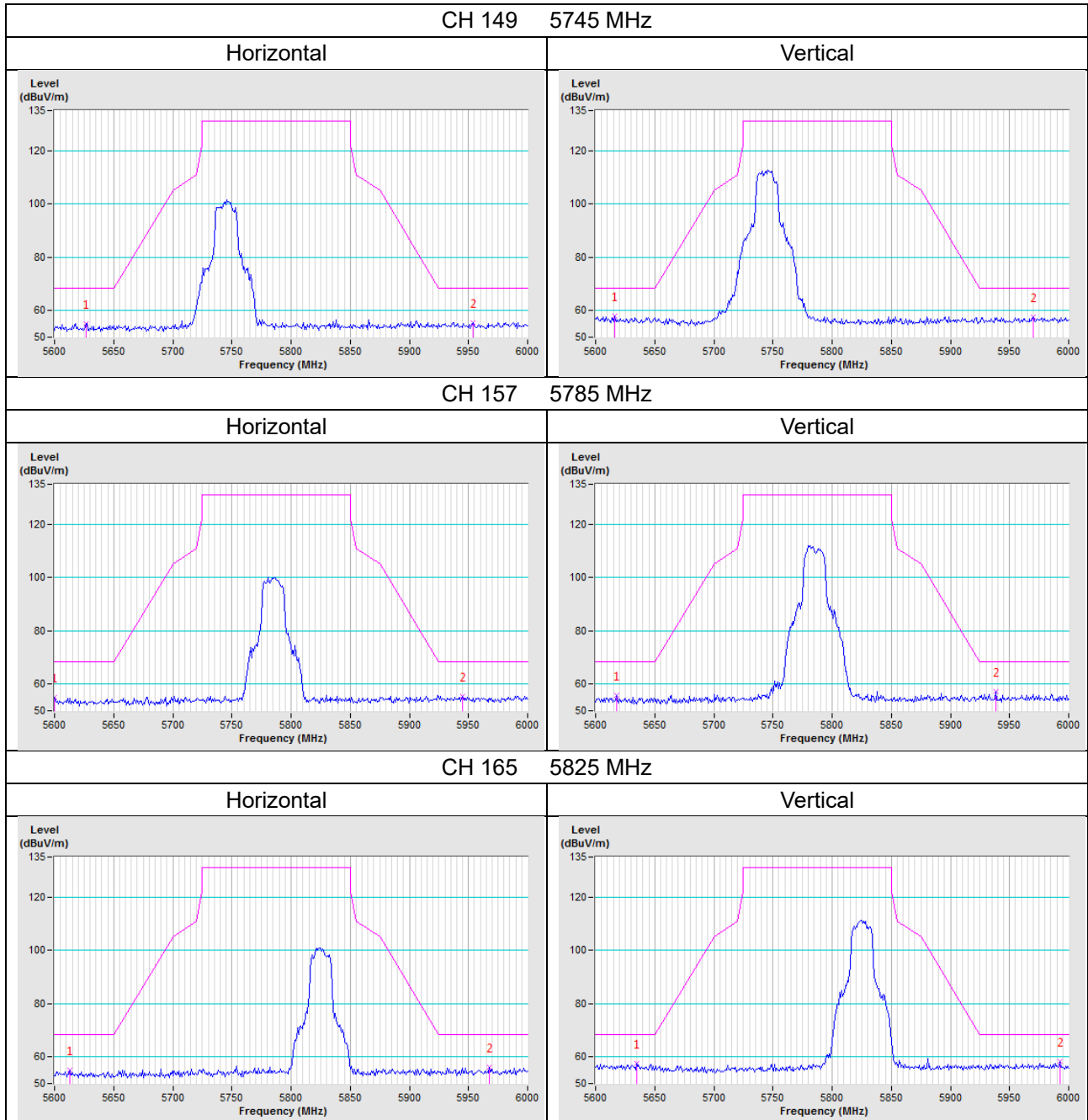
Please refer to the attached file (Test Setup Photo).

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

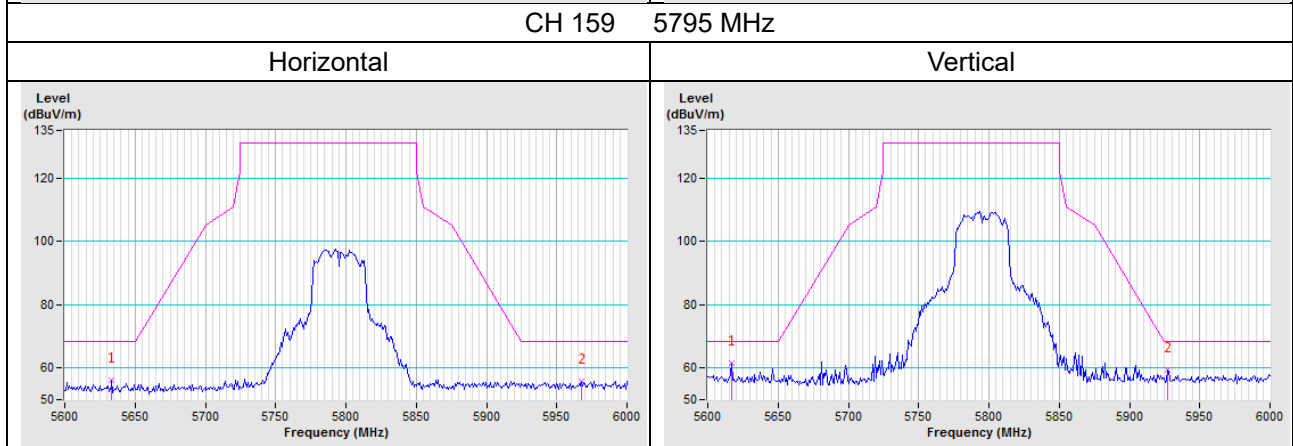
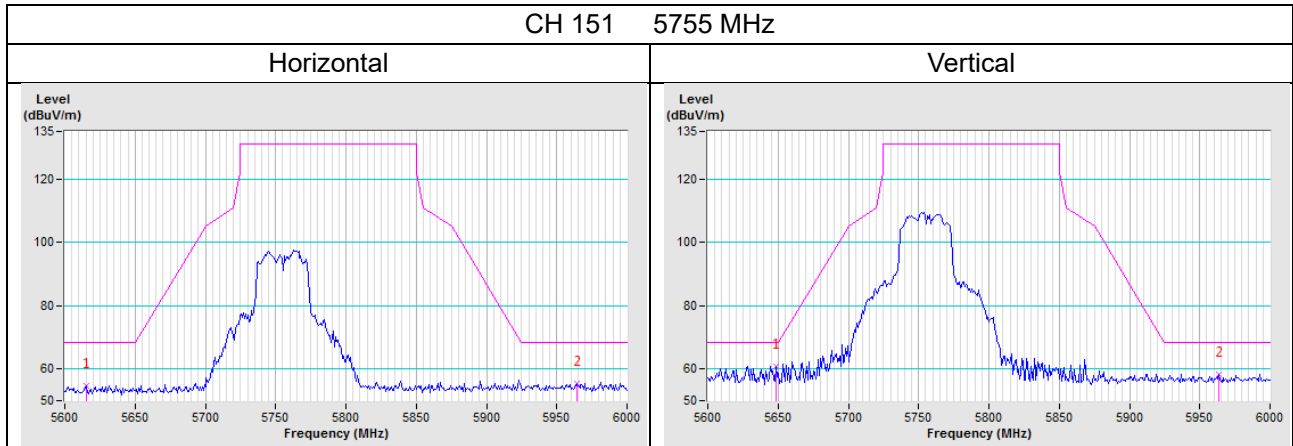
802.11a



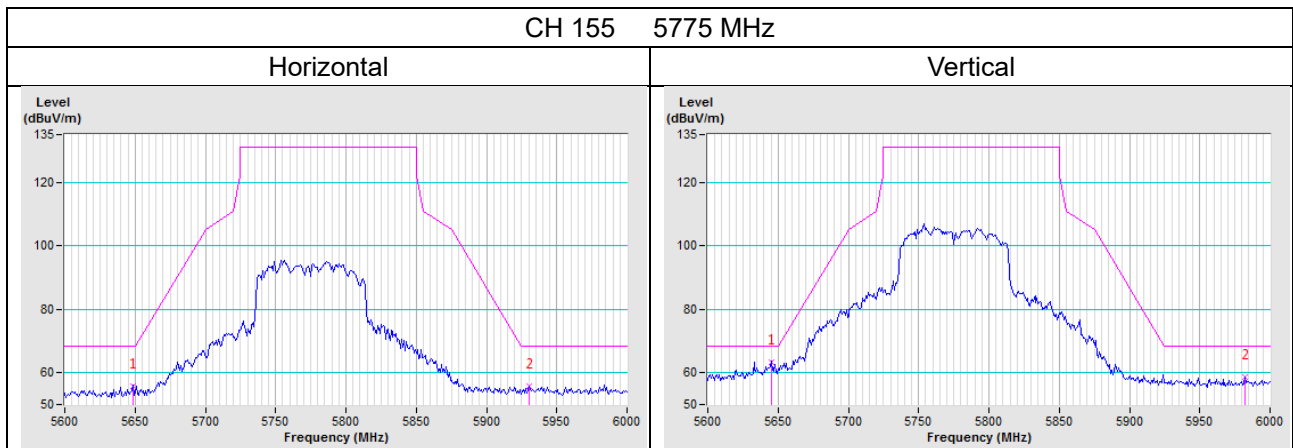
802.11n (HT20)



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.

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

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Fax: 886-2-26051924

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Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety

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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