

FCC Test Report

Report No.: RFBDGE-WTW-P22031218-1

FCC ID: EHTPERS1

Test Model: 6920w

Received Date: Mar. 30, 2022

Test Date: May 15 ~ Jun. 23, 2022

Issued Date: Jun. 28, 2022

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FCC Registration / 788550 / TW0003
Designation Number (1):

FCC Registration / 281270 / TW0032
Designation Number (2):



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Release Control Record

Issue No.	Description	Date Issued
RFBDGE-WTW-P22031218-1	Original release.	Jun. 28, 2022

1 Certificate of Conformity

Product: IP Phone

Brand: Mitel

Test Model: 6920w

Sample Status: Engineering sample

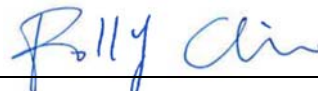
Applicant: Mitel Networks Corporation

Test Date: May 15 ~ Jun. 23, 2022

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

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

Prepared by :


Polly Chien / Specialist

Date:

Jun. 28, 2022

Approved by :



Jeremy Lin / Project Engineer

Date:

Jun. 28, 2022

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(9)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -3.89dB at 13.51000MHz.
15.407(b)(1/2/3/4(i/ii)/9)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.4dB at 5150.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
3. For U-NII-1, U-NII-2A and U-NII-2C band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.

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	3.00 dB
	30MHz ~ 200MHz	2.91 dB
	200MHz ~ 1000MHz	2.93 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	1.76 dB
	18GHz ~ 40GHz	1.77 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	IP Phone
Brand	Mitel
Test Model	6920w
Sample Status	Engineering sample
Power Supply Rating	48Vdc (Adapter) 56Vdc (PoE)
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 150Mbps
Operating Frequency	5180~5240MHz, 5260~5320MHz, 5500~5700MHz, 5745~5825MHz
Number of Channel	5180~5240MHz: 802.11a, 802.11n (HT20): 4 5260~5320MHz: 802.11a, 802.11n (HT20): 4 5500~5700MHz: 802.11a, 802.11n (HT20): 11 5745~5825MHz: 802.11a, 802.11n (HT20): 5
Output Power	5180~5240MHz: 46.345mW 5260~5320MHz: 46.452mW 5500~5700MHz: 17.298mW 5745~5825MHz: 16.634mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Refer to note
Cable Supplied	Refer to note

Note:

- The EUT provides 1 completed transmitter and 1 receiver.

Modulation Mode	TX Function
802.11a	1TX
802.11n (HT20)	1TX

- The EUT uses the following devices.

Item	Brand	Model	Specification	Remark
Adapter	FSP	FSP030-DFMN3	I/P: 100-240Vac, 50-60Hz, 1.2A O/P: 48Vdc, 0.625A DC Cable: 1.78m power cable with one core attached on adapter	Support unit
Network Cable (RJ45)	NA	NA	2.1m non-shielded RJ45 cable without core	Accessory
PoE	Phihong	POE15M-1AF	I/P: 100-240Vac, 50-60Hz, 0.8A O/P: 56Vdc, 0.275A, 15.4W	Support unit

3. The following antenna was provided to the EUT.

Ant. Type	Connector	Antenna Gain(dBi)				
		2400~2500 MHz	5150~5250 MHz	5250~5350 MHz	5470~5725 MHz	5725~5850 MHz
Chip	NA	2.32	2.63	2.85	3.55	3.72

*The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

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

3.2 Description of Test Modes

5180~5240MHz:

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

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

5260~5320MHz:

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

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

5500~5700MHz:

11 channels are provided for 802.11a, 802.11n (HT20):

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		

5745~5825MHz:

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

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	√	EUT + adapter
B	-	√	√	-	EUT + PoE

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement
RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of each 2 axis (X & Z). The worst case was found when positioned on **Z-plane**.
2. For radiated emission (below 1GHz) and power line conducted emission test items chosen the worst maximum fundamental emission level channel.
3. "-" means no effect.

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)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	MCS0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0
	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	MCS0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	MCS0

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)
A, B	802.11n (HT20)	5180-5240	36 to 48	36	OFDM	MCS0
		5260-5320	52 to 64		OFDM	MCS0
		5500-5700	100 to 144		OFDM	MCS0
		5745-5825	149 to 165		OFDM	MCS0

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)
A, B	802.11n (HT20)	5180-5240	36 to 48	36	OFDM	MCS0
		5260-5320	52 to 64		OFDM	MCS0
		5500-5700	100 to 144		OFDM	MCS0
		5745-5825	149 to 165		OFDM	MCS0

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)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	MCS0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0
	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	MCS0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	MCS0

Test Condition:

Applicable to	Environmental Conditions	Input Power (System)	Tested by
RE $\geq$ 1G	23deg. C, 64%RH, 23deg. C, 68%RH	48Vdc	Tim Chen, Greg Lin
RE<1G	23deg. C, 64%RH, 23deg. C, 72%RH	48Vdc 56Vdc	Tim Chen, Vincent Chen
PLC	25deg. C, 75%RH, 23deg. C, 65%RH	48Vdc 56Vdc	Titan Hsu, Vincent Chen
APCM	25deg. C, 60%RH	48Vdc	Jisyong Wang

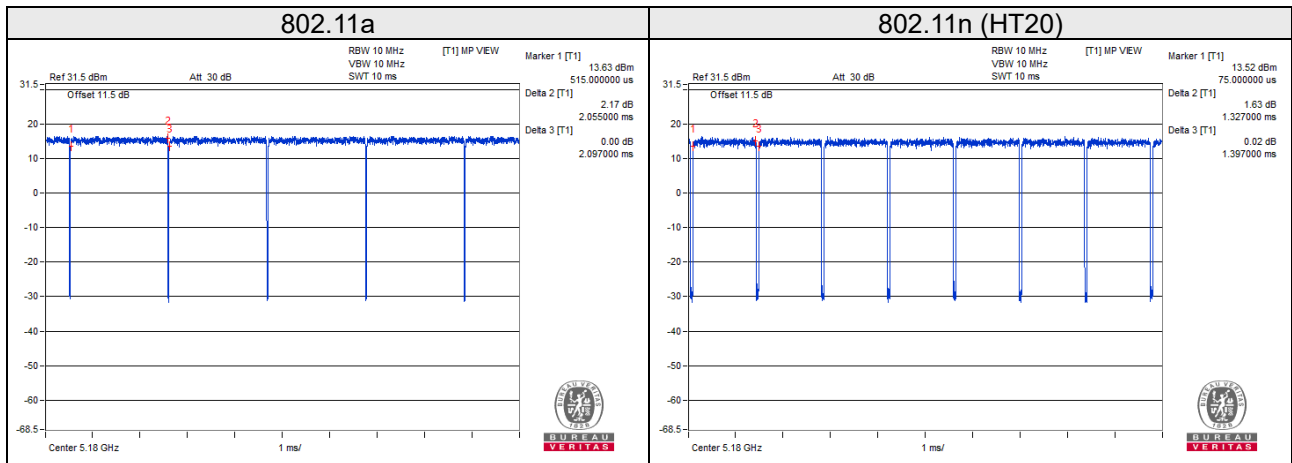
3.3 Duty Cycle of Test Signal

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

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

802.11a: Duty cycle = $2.055\text{ms}/2.097\text{ms}=0.980$

802.11n (HT20): Duty cycle = $1.327\text{ms}/1.397\text{ms}=0.950$, Duty factor = $10 * \log(1/0.950) = 0.22$



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.	USB Flash	SanDisk	SDDDC-032G	NA	NA	Provided by Lab. Type-A
B.	Load	NA	NA	NA	NA	Provided by Lab.
C.	Adapter	FSP	FSP030-DFMN3	NA	NA	Provided by client
D.	PoE	Phihong	POE15M-1AF	NA	NA	Provided by client
E.	Notebook	ELL	E5410	1HC2XM1	FCC DoC Approved	Provided by Lab.

Note:

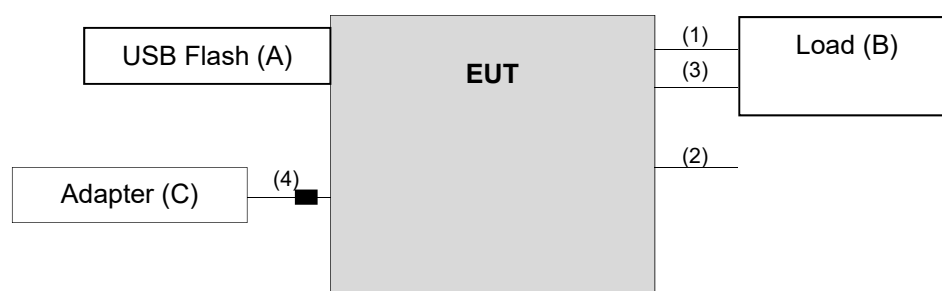
1. All power cords of the above support units are non-shielded (1.8m).
2. Item E acted as a communication partners to transfer data.

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	2.1	N	0	Provided by client
2.	RJ11 cable	1	1.6	N	0	Provided by Lab.
3.	LAN cable	1	1.5	N	0	Provided by Lab. RJ45, Cat.5e
4.	Power cable	1	1.78	N	1	Provided by client
5.	LAN cable	1	3	N	0	Provided by Lab. RJ45, Cat.5e

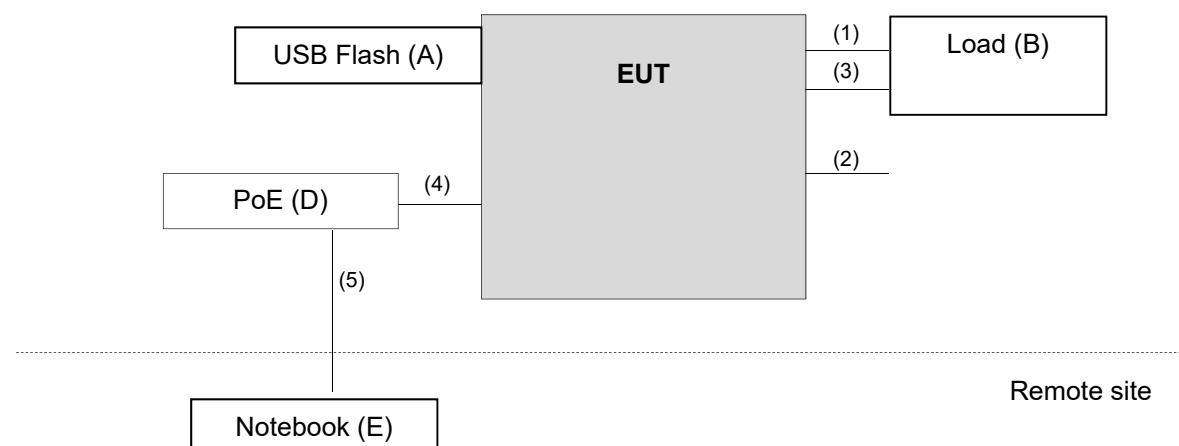
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

Mode A



Mode B



3.5 General Description of Applied Standards and References

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

Test standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10:2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

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	☒ 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}
^{*1} beyond 75 MHz or more above of the band edge. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. ^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.			

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver Rohde & Schwarz	ESR3	102783	Dec. 21, 2021	Dec. 20, 2022
Spectrum Analyzer KEYSIGHT	N9020B	MY60110513	Dec. 24, 2021	Dec. 23, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-1214	Oct. 27, 2021	Oct. 26, 2022
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1170	Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	9170-995	Nov. 14, 2021	Nov. 13, 2022
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI	EMC330N	980798	Jan. 17, 2022	Jan. 16, 2023
Preamplifier EMCI	EMC118A45SE	980809	Dec. 30, 2021	Dec. 29, 2022
Preamplifier EMCI	EMC184045SE	980786	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC104-SM-SM- (9000+2000+1000)	201244+ 201232+ 210103	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMCCFD400-NM-NM- (9000+300+500)	201251+ 201249+ 201248	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC101G-KM-KM- (5000+3000+2000)	201261+201258+ 201249	Jan. 17, 2022	Jan. 16, 2023
Software BV ADT	ADT_Radiated_V7.6.1 5.9.5	NA	NA	NA
Antenna Tower Max-Full	MFA-515BSN	NA	NA	NA
Turn Table Max-Full	MFT-201SS	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208676	NA	NA
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	Jan. 18, 2022	Jan. 17, 2023
Wideband Power Sensor KEYSIGHT	N1923A	MY58020002	Jan. 17, 2022	Jan. 16, 2023

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 WM Chamber 9.

4.1.3 Test Procedures

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

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

Note:

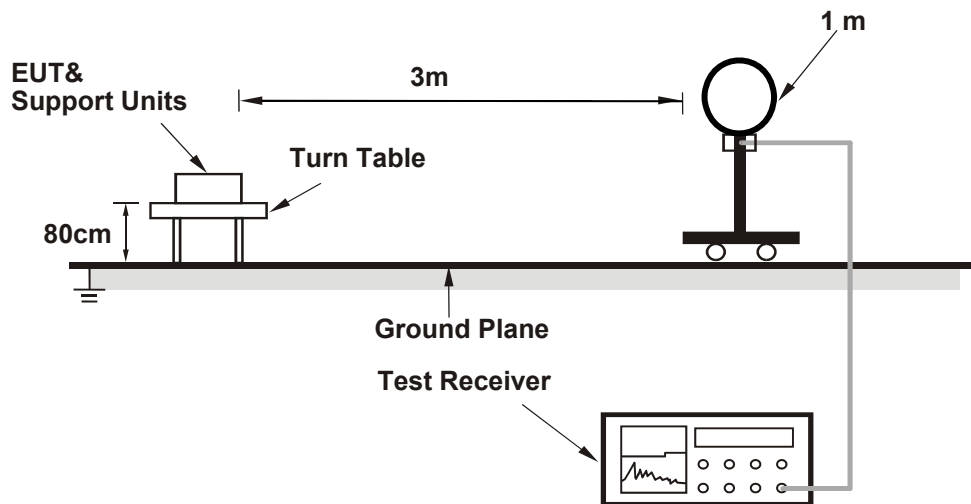
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

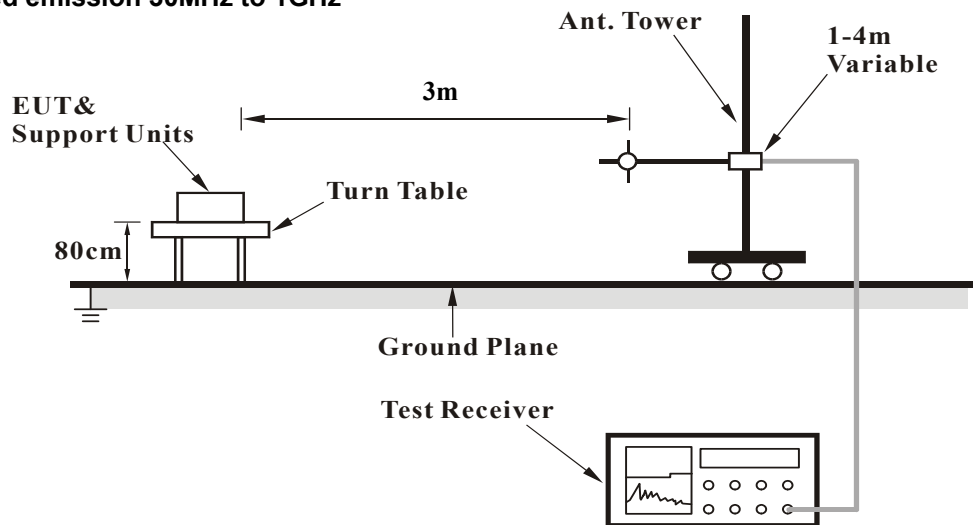
No deviation.

4.1.5 Test Set Up

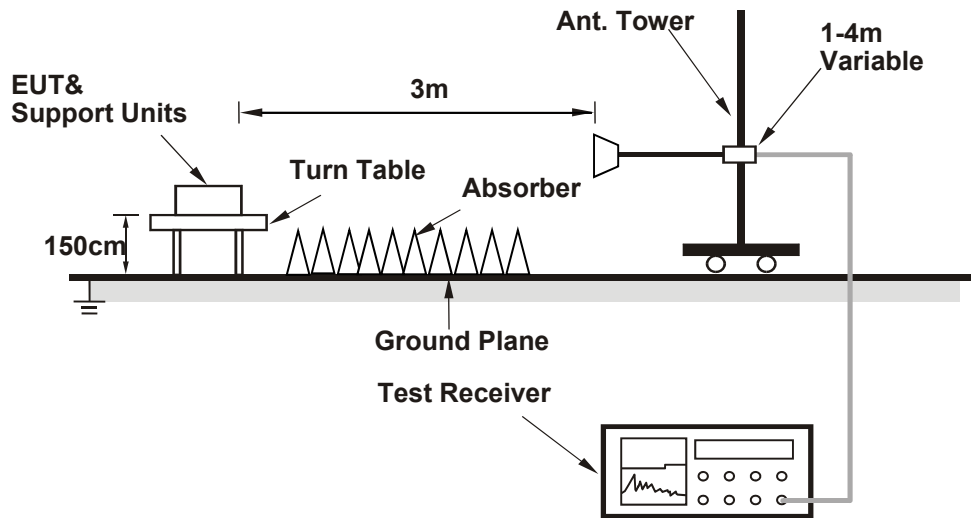
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz data:

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.3 PK	74.0	-10.7	1.75 H	279	60.4	2.9
2	5150.00	50.0 AV	54.0	-4.0	1.75 H	279	47.1	2.9
3	*5180.00	104.7 PK			1.75 H	279	64.3	40.4
4	*5180.00	96.6 AV			1.75 H	279	56.2	40.4
5	#10360.00	54.5 PK	68.2	-13.7	1.52 H	134	46.5	8.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	66.1 PK	74.0	-7.9	1.40 V	11	63.2	2.9
2	5150.00	53.0 AV	54.0	-1.0	1.40 V	11	50.1	2.9
3	*5180.00	108.1 PK			1.40 V	11	67.7	40.4
4	*5180.00	100.1 AV			1.40 V	11	59.7	40.4
5	#10360.00	55.5 PK	68.2	-12.7	1.24 V	167	47.5	8.0

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.

RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	58.1 PK	74.0	-15.9	1.64 H	278	55.2	2.9
2	5150.00	48.5 AV	54.0	-5.5	1.64 H	278	45.6	2.9
3	*5200.00	106.3 PK			1.64 H	278	66.0	40.3
4	*5200.00	98.4 AV			1.64 H	278	58.1	40.3
5	#10400.00	53.1 PK	68.2	-15.1	1.24 H	107	45.2	7.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	61.0 PK	74.0	-13.0	1.50 V	13	58.1	2.9
2	5150.00	51.0 AV	54.0	-3.0	1.50 V	13	48.1	2.9
3	*5200.00	111.7 PK			1.50 V	13	71.4	40.3
4	*5200.00	103.6 AV			1.50 V	13	63.3	40.3
5	#10400.00	53.7 PK	68.2	-14.5	1.89 V	211	45.8	7.9

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.

RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	106.9 PK			1.71 H	284	66.7	40.2
2	*5240.00	98.8 AV			1.71 H	284	58.6	40.2
3	5350.00	59.2 PK	74.0	-14.8	1.71 H	284	56.8	2.4
4	5350.00	45.6 AV	54.0	-8.4	1.71 H	284	43.2	2.4
5	#10480.00	53.5 PK	68.2	-14.7	1.23 H	309	45.7	7.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	111.1 PK			1.57 V	12	70.9	40.2
2	*5240.00	102.8 AV			1.57 V	12	62.6	40.2
3	5350.00	59.5 PK	74.0	-14.5	1.57 V	12	57.1	2.4
4	5350.00	45.9 AV	54.0	-8.1	1.57 V	12	43.5	2.4
5	#10480.00	54.1 PK	68.2	-14.1	1.34 V	177	46.3	7.8

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.

RF Mode	TX 802.11a	Channel	CH 52 : 5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	58.5 PK	74.0	-15.5	1.69 H	283	55.6	2.9
2	5150.00	47.2 AV	54.0	-6.8	1.69 H	283	44.3	2.9
3	*5260.00	107.2 PK			1.69 H	283	67.1	40.1
4	*5260.00	99.1 AV			1.69 H	283	59.0	40.1
5	#10520.00	54.0 PK	68.2	-14.2	1.41 H	78	46.1	7.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.2 PK	74.0	-14.8	1.57 V	11	56.3	2.9
2	5150.00	47.7 AV	54.0	-6.3	1.57 V	11	44.8	2.9
3	*5260.00	111.2 PK			1.57 V	11	71.1	40.1
4	*5260.00	103.4 AV			1.57 V	11	63.3	40.1
5	#10520.00	54.7 PK	68.2	-13.5	1.94 V	211	46.8	7.9

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.

RF Mode	TX 802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	105.8 PK			1.66 H	284	65.9	39.9
2	*5300.00	97.6 AV			1.66 H	284	57.7	39.9
3	10600.00	55.8 PK	74.0	-18.2	1.66 H	204	47.7	8.1
4	10600.00	45.3 AV	54.0	-8.7	1.66 H	204	37.2	8.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	110.6 PK			1.54 V	8	70.7	39.9
2	*5300.00	102.3 AV			1.54 V	8	62.4	39.9
3	10600.00	54.4 PK	74.0	-19.6	1.07 V	311	46.3	8.1
4	10600.00	45.7 AV	54.0	-8.3	1.07 V	311	37.6	8.1

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.

RF Mode	TX 802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	105.3 PK			1.66 H	283	65.4	39.9
2	*5320.00	97.3 AV			1.66 H	283	57.4	39.9
3	5350.00	63.2 PK	74.0	-10.8	1.66 H	283	60.8	2.4
4	5350.00	50.9 AV	54.0	-3.1	1.66 H	283	48.5	2.4
5	10640.00	54.1 PK	74.0	-19.9	2.01 H	139	46.2	7.9
6	10640.00	45.5 AV	54.0	-8.5	2.01 H	139	37.6	7.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	110.1 PK			1.50 V	9	70.2	39.9
2	*5320.00	102.1 AV			1.50 V	9	62.2	39.9
3	5350.00	66.8 PK	74.0	-7.2	1.50 V	9	64.4	2.4
4	5350.00	53.4 AV	54.0	-0.6	1.50 V	9	51.0	2.4
5	10640.00	54.8 PK	74.0	-19.2	1.35 V	214	46.9	7.9
6	10640.00	46.1 AV	54.0	-7.9	1.35 V	214	38.2	7.9

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.

RF Mode	TX 802.11a	Channel	CH 100 : 5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	59.1 PK	74.0	-14.9	2.19 H	36	56.8	2.3
2	5460.00	49.0 AV	54.0	-5.0	2.19 H	36	46.7	2.3
3	#5470.00	62.3 PK	68.2	-5.9	2.19 H	36	59.8	2.5
4	*5500.00	101.0 PK			2.19 H	36	60.9	40.1
5	*5500.00	93.2 AV			2.19 H	36	53.1	40.1
6	11000.00	54.6 PK	74.0	-19.4	1.26 H	101	46.7	7.9
7	11000.00	45.1 AV	54.0	-8.9	1.26 H	101	37.2	7.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	59.3 PK	74.0	-14.7	1.53 V	7	57.0	2.3
2	5460.00	49.4 AV	54.0	-4.6	1.53 V	7	47.1	2.3
3	#5470.00	62.8 PK	68.2	-5.4	1.53 V	7	60.3	2.5
4	*5500.00	106.5 PK			1.53 V	7	66.4	40.1
5	*5500.00	98.3 AV			1.53 V	7	58.2	40.1
6	11000.00	55.2 PK	74.0	-18.8	1.26 V	344	47.3	7.9
7	11000.00	45.5 AV	54.0	-8.5	1.26 V	344	37.6	7.9

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.

RF Mode	TX 802.11a	Channel	CH 116 : 5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	101.0 PK			2.12 H	38	60.4	40.6
2	*5580.00	92.9 AV			2.12 H	38	52.3	40.6
3	11160.00	54.7 PK	74.0	-19.3	1.68 H	233	46.1	8.6
4	11160.00	44.8 AV	54.0	-9.2	1.68 H	233	36.2	8.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	106.1 PK			1.50 V	8	65.5	40.6
2	*5580.00	98.0 AV			1.50 V	8	57.4	40.6
3	11160.00	55.0 PK	74.0	-19.0	1.01 V	69	46.4	8.6
4	11160.00	45.3 AV	54.0	-8.7	1.01 V	69	36.7	8.6

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.

RF Mode	TX 802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	100.5 PK			1.86 H	27	59.2	41.3
2	*5700.00	92.3 AV			1.86 H	27	51.0	41.3
3	#5725.00	62.1 PK	68.2	-6.1	1.86 H	27	58.3	3.8
4	11400.00	55.3 PK	74.0	-18.7	1.68 H	247	46.4	8.9
5	11400.00	45.8 AV	54.0	-8.2	1.68 H	247	36.9	8.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	106.5 PK			1.31 V	9	65.2	41.3
2	*5700.00	99.1 AV			1.31 V	9	57.8	41.3
3	#5725.00	62.5 PK	68.2	-5.7	1.31 V	9	58.7	3.8
4	11400.00	55.8 PK	74.0	-18.2	1.58 V	207	46.9	8.9
5	11400.00	46.1 AV	54.0	-7.9	1.58 V	207	37.2	8.9

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.

RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5640.80	59.2 PK	68.2	-9.0	1.74 H	22	55.8	3.4
2	*5745.00	101.1 PK			1.74 H	22	59.6	41.5
3	*5745.00	92.8 AV			1.74 H	22	51.3	41.5
4	#5953.60	59.4 PK	68.2	-8.8	1.74 H	22	55.3	4.1
5	11490.00	54.9 PK	74.0	-19.1	1.18 H	207	45.8	9.1
6	11490.00	45.5 AV	54.0	-8.5	1.18 H	207	36.4	9.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5609.20	59.5 PK	68.2	-8.7	1.48 V	6	56.3	3.2
2	*5745.00	106.8 PK			1.48 V	6	65.3	41.5
3	*5745.00	98.6 AV			1.48 V	6	57.1	41.5
4	#5949.60	59.6 PK	68.2	-8.6	1.48 V	6	55.6	4.0
5	11490.00	55.5 PK	74.0	-18.5	1.85 V	211	46.4	9.1
6	11490.00	45.7 AV	54.0	-8.3	1.85 V	211	36.6	9.1

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.

RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5606.80	59.2 PK	68.2	-9.0	1.90 H	31	56.0	3.2
2	*5785.00	100.0 PK			1.90 H	31	58.4	41.6
3	*5785.00	91.8 AV			1.90 H	31	50.2	41.6
4	#5966.00	60.3 PK	68.2	-7.9	1.90 H	31	56.1	4.2
5	11570.00	55.8 PK	74.0	-18.2	1.21 H	107	46.6	9.2
6	11570.00	45.6 AV	54.0	-8.4	1.21 H	107	36.4	9.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.40	58.9 PK	68.2	-9.3	1.21 V	6	55.5	3.4
2	*5785.00	105.6 PK			1.21 V	6	64.0	41.6
3	*5785.00	97.3 AV			1.21 V	6	55.7	41.6
4	#5954.40	59.9 PK	68.2	-8.3	1.21 V	6	55.8	4.1
5	11570.00	56.4 PK	74.0	-17.6	1.67 V	212	47.2	9.2
6	11570.00	46.0 AV	54.0	-8.0	1.67 V	212	36.8	9.2

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.

RF Mode	TX 802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	60.0 PK	68.2	-8.2	2.00 H	22	56.8	3.2
2	*5825.00	99.7 PK			2.00 H	22	58.1	41.6
3	*5825.00	92.0 AV			2.00 H	22	50.4	41.6
4	#5961.60	60.3 PK	68.2	-7.9	2.00 H	22	56.2	4.1
5	11570.00	55.6 PK	74.0	-18.4	1.43 H	313	46.4	9.2
6	11570.00	45.5 AV	54.0	-8.5	1.43 H	313	36.3	9.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	60.8 PK	68.2	-7.4	1.42 V	5	57.3	3.5
2	*5825.00	106.4 PK			1.42 V	5	64.8	41.6
3	*5825.00	98.3 AV			1.42 V	5	56.7	41.6
4	#5962.00	60.8 PK	68.2	-7.4	1.42 V	5	56.7	4.1
5	11570.00	55.8 PK	74.0	-18.2	1.56 V	64	46.6	9.2
6	11570.00	45.6 AV	54.0	-8.4	1.56 V	64	36.4	9.2

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 36 : 5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.5 PK	74.0	-10.5	1.73 H	278	60.6	2.9
2	5150.00	49.7 AV	54.0	-4.3	1.73 H	278	46.8	2.9
3	*5180.00	104.7 PK			1.73 H	278	64.3	40.4
4	*5180.00	94.6 AV			1.73 H	278	54.2	40.4
5	#10360.00	55.1 PK	68.2	-13.1	1.83 H	217	47.1	8.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	71.7 PK	74.0	-2.3	1.36 V	14	68.8	2.9
2	5150.00	53.6 AV	54.0	-0.4	1.36 V	14	50.7	2.9
3	*5180.00	109.2 PK			1.36 V	14	68.8	40.4
4	*5180.00	99.0 AV			1.36 V	14	58.6	40.4
5	#10360.00	55.8 PK	68.2	-12.4	1.42 V	171	47.8	8.0

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 40 : 5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	106.9 PK			1.79 H	281	66.6	40.3
2	*5200.00	96.7 AV			1.79 H	281	56.4	40.3
3	#10400.00	55.1 PK	68.2	-13.1	1.91 H	224	47.2	7.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	111.1 PK			1.34 V	16	70.8	40.3
2	*5200.00	101.0 AV			1.34 V	16	60.7	40.3
3	#10400.00	55.8 PK	68.2	-12.4	1.38 V	164	47.9	7.9

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 48 : 5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	106.4 PK			1.76 H	287	66.2	40.2
2	*5240.00	96.3 AV			1.76 H	287	56.1	40.2
3	5350.00	55.6 PK	74.0	-18.4	1.76 H	287	53.2	2.4
4	5350.00	44.3 AV	54.0	-9.7	1.76 H	287	41.9	2.4
5	#10480.00	54.7 PK	68.2	-13.5	1.93 H	212	46.9	7.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	110.6 PK			1.37 V	17	70.4	40.2
2	*5240.00	100.5 AV			1.37 V	17	60.3	40.2
3	5350.00	56.5 PK	74.0	-17.5	1.37 V	17	54.1	2.4
4	5350.00	45.2 AV	54.0	-8.8	1.37 V	17	42.8	2.4
5	#10480.00	55.5 PK	68.2	-12.7	1.39 V	177	47.7	7.8

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 52 : 5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.2 PK	74.0	-16.8	1.81 H	289	54.3	2.9
2	5150.00	46.3 AV	54.0	-7.7	1.81 H	289	43.4	2.9
3	*5260.00	106.4 PK			1.81 H	289	66.3	40.1
4	*5260.00	96.2 AV			1.81 H	289	56.1	40.1
5	#10520.00	54.6 PK	68.2	-13.6	1.91 H	207	46.7	7.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	58.6 PK	74.0	-15.4	1.35 V	19	55.7	2.9
2	5150.00	47.5 AV	54.0	-6.5	1.35 V	19	44.6	2.9
3	*5260.00	110.7 PK			1.35 V	19	70.6	40.1
4	*5260.00	100.5 AV			1.35 V	19	60.4	40.1
5	#10520.00	55.4 PK	68.2	-12.8	1.38 V	169	47.5	7.9

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 60 : 5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	106.8 PK			1.76 H	272	66.9	39.9
2	*5300.00	96.7 AV			1.76 H	272	56.8	39.9
3	10600.00	55.3 PK	74.0	-18.7	1.83 H	221	47.2	8.1
4	10600.00	45.4 AV	54.0	-8.6	1.83 H	221	37.3	8.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	111.1 PK			1.43 V	18	71.2	39.9
2	*5300.00	101.0 AV			1.43 V	18	61.1	39.9
3	10600.00	55.9 PK	74.0	-18.1	1.53 V	177	47.8	8.1
4	10600.00	45.9 AV	54.0	-8.1	1.53 V	177	37.8	8.1

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 64 : 5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	105.2 PK			1.76 H	288	65.3	39.9
2	*5320.00	95.1 AV			1.76 H	288	55.2	39.9
3	5350.00	58.9 PK	74.0	-15.1	1.76 H	288	56.5	2.4
4	5350.00	47.2 AV	54.0	-6.8	1.76 H	288	44.8	2.4
5	10640.00	54.5 PK	74.0	-19.5	1.87 H	215	46.6	7.9
6	10640.00	45.0 AV	54.0	-9.0	1.87 H	215	37.1	7.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	109.5 PK			1.54 V	11	69.6	39.9
2	*5320.00	99.4 AV			1.54 V	11	59.5	39.9
3	5350.00	63.2 PK	74.0	-10.8	1.54 V	11	60.8	2.4
4	5350.00	50.6 AV	54.0	-3.4	1.54 V	11	48.2	2.4
5	10640.00	55.5 PK	74.0	-18.5	1.51 V	182	47.6	7.9
6	10640.00	45.5 AV	54.0	-8.5	1.51 V	182	37.6	7.9

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 100 : 5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.6 PK	74.0	-17.4	1.73 H	276	54.3	2.3
2	5460.00	45.8 AV	54.0	-8.2	1.73 H	276	43.5	2.3
3	#5470.00	59.4 PK	68.2	-8.8	1.73 H	276	56.9	2.5
4	*5500.00	102.0 PK			1.73 H	276	61.9	40.1
5	*5500.00	91.9 AV			1.73 H	276	51.8	40.1
6	11000.00	54.6 PK	74.0	-19.4	1.92 H	210	46.7	7.9
7	11000.00	44.7 AV	54.0	-9.3	1.92 H	210	36.8	7.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	57.6 PK	74.0	-16.4	1.54 V	9	55.3	2.3
2	5460.00	47.0 AV	54.0	-7.0	1.54 V	9	44.7	2.3
3	#5470.00	62.0 PK	68.2	-6.2	1.54 V	9	59.5	2.5
4	*5500.00	106.3 PK			1.54 V	9	66.2	40.1
5	*5500.00	96.2 AV			1.54 V	9	56.1	40.1
6	11000.00	55.5 PK	74.0	-18.5	1.43 V	164	47.6	7.9
7	11000.00	45.4 AV	54.0	-8.6	1.43 V	164	37.5	7.9

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 116 : 5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	103.3 PK			1.69 H	271	62.7	40.6
2	*5580.00	93.3 AV			1.69 H	271	52.7	40.6
3	11160.00	55.0 PK	74.0	-19.0	1.73 H	224	46.4	8.6
4	11160.00	45.2 AV	54.0	-8.8	1.73 H	224	36.6	8.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	107.5 PK			1.43 V	12	66.9	40.6
2	*5580.00	97.4 AV			1.43 V	12	56.8	40.6
3	11160.00	56.0 PK	74.0	-18.0	1.41 V	162	47.4	8.6
4	11160.00	45.9 AV	54.0	-8.1	1.41 V	162	37.3	8.6

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 140 : 5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	103.5 PK			1.69 H	282	62.2	41.3
2	*5700.00	93.3 AV			1.69 H	282	52.0	41.3
3	#5725.00	65.5 PK	68.2	-2.7	1.69 H	282	61.7	3.8
4	11400.00	55.5 PK	74.0	-18.5	1.96 H	213	46.6	8.9
5	11400.00	45.1 AV	54.0	-8.9	1.96 H	213	36.2	8.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	107.6 PK			1.38 V	9	66.3	41.3
2	*5700.00	97.5 AV			1.38 V	9	56.2	41.3
3	#5725.00	67.2 PK	68.2	-1.0	1.38 V	9	63.4	3.8
4	11400.00	56.1 PK	74.0	-17.9	1.56 V	184	47.2	8.9
5	11400.00	45.9 AV	54.0	-8.1	1.56 V	184	37.0	8.9

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 149 : 5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5638.00	59.9 PK	68.2	-8.3	1.75 H	288	56.5	3.4
2	*5745.00	102.1 PK			1.75 H	288	60.6	41.5
3	*5745.00	92.1 AV			1.75 H	288	50.6	41.5
4	#5996.00	61.1 PK	68.2	-7.1	1.75 H	288	56.7	4.4
5	11490.00	55.6 PK	74.0	-18.4	1.85 H	209	46.5	9.1
6	11490.00	45.4 AV	54.0	-8.6	1.85 H	209	36.3	9.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5641.60	60.1 PK	68.2	-8.1	1.32 V	8	56.7	3.4
2	*5745.00	106.3 PK			1.32 V	8	64.8	41.5
3	*5745.00	96.2 AV			1.32 V	8	54.7	41.5
4	#5966.40	61.1 PK	68.2	-7.1	1.32 V	8	56.9	4.2
5	11490.00	56.4 PK	74.0	-17.6	1.56 V	187	47.3	9.1
6	11490.00	46.2 AV	54.0	-7.8	1.56 V	187	37.1	9.1

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 157 : 5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5628.80	59.9 PK	68.2	-8.3	1.73 H	283	56.6	3.3
2	*5785.00	101.8 PK			1.73 H	283	60.2	41.6
3	*5785.00	91.7 AV			1.73 H	283	50.1	41.6
4	#5950.00	59.8 PK	68.2	-8.4	1.73 H	283	55.8	4.0
5	11570.00	55.6 PK	74.0	-18.4	1.97 H	223	46.4	9.2
6	11570.00	45.5 AV	54.0	-8.5	1.97 H	223	36.3	9.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	59.8 PK	68.2	-8.4	1.37 V	6	56.5	3.3
2	*5785.00	106.1 PK			1.37 V	6	64.5	41.6
3	*5785.00	95.9 AV			1.37 V	6	54.3	41.6
4	#5996.80	60.5 PK	68.2	-7.7	1.37 V	6	56.1	4.4
5	11570.00	56.4 PK	74.0	-17.6	1.53 V	176	47.2	9.2
6	11570.00	46.2 AV	54.0	-7.8	1.53 V	176	37.0	9.2

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.

RF Mode	TX 802.11n (HT20)	Channel	CH 165 : 5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	59.1 PK	68.2	-9.1	1.77 H	285	55.9	3.2
2	*5825.00	101.8 PK			2.77 H	285	60.2	41.6
3	*5825.00	91.6 AV			2.77 H	285	50.0	41.6
4	#5988.40	60.2 PK	68.2	-8.0	1.77 H	285	55.8	4.4
5	11650.00	55.3 PK	74.0	-18.7	1.95 H	223	46.3	9.0
6	11650.00	45.2 AV	54.0	-8.8	1.95 H	223	36.2	9.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5639.20	59.3 PK	68.2	-8.9	1.40 V	4	55.9	3.4
2	*5825.00	105.9 PK			1.40 V	4	64.3	41.6
3	*5825.00	95.7 AV			1.40 V	4	54.1	41.6
4	#5959.20	61.2 PK	68.2	-7.0	1.40 V	4	57.1	4.1
5	11650.00	55.5 PK	74.0	-18.5	1.62 V	188	46.5	9.0
6	11650.00	45.4 AV	54.0	-8.6	1.62 V	188	36.4	9.0

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.

Below 1GHz Worst-Case Data:

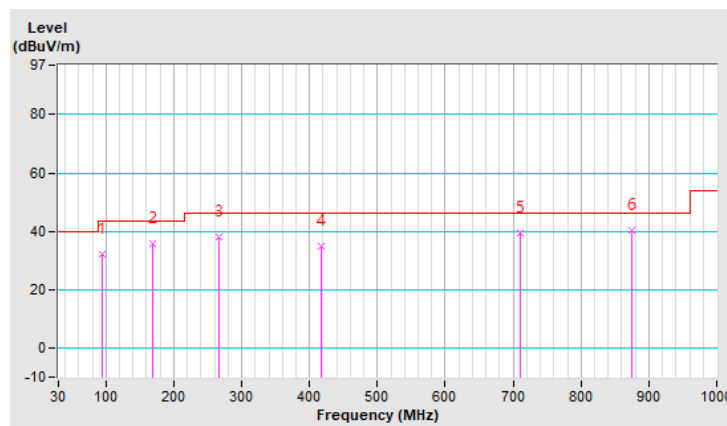
Mode A

RF Mode	TX 802.11n (HT20)	Channel	CH 36 : 5180 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	94.02	32.1 QP	43.5	-11.4	1.99 H	246	50.6	-18.6
2	168.71	35.6 QP	43.5	-7.9	1.99 H	266	49.0	-13.4
3	265.71	37.9 QP	46.0	-8.1	1.00 H	332	51.5	-13.6
4	417.03	35.1 QP	46.0	-10.9	1.99 H	2	44.8	-9.7
5	710.94	39.2 QP	46.0	-6.8	1.99 H	193	43.1	-3.9
6	874.87	40.4 QP	46.0	-5.6	1.00 H	2	42.2	-1.9

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. 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 20dB below the permissible value to be report.

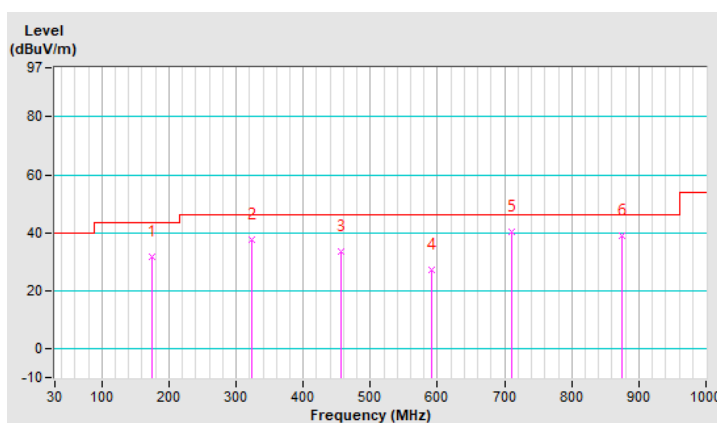


RF Mode	TX 802.11n (HT20)	Channel	CH 36 : 5180 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	174.53	31.6 QP	43.5	-11.9	1.00 V	218	45.5	-13.9
2	322.94	37.7 QP	46.0	-8.3	1.99 V	293	49.5	-11.8
3	455.83	33.5 QP	46.0	-12.5	1.00 V	112	41.9	-8.4
4	590.66	27.3 QP	46.0	-18.7	1.00 V	261	32.9	-5.6
5	710.94	40.4 QP	46.0	-5.6	1.99 V	18	44.3	-3.9
6	874.87	39.0 QP	46.0	-7.0	1.00 V	86	40.8	-1.9

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. 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 20dB below the permissible value to be report.



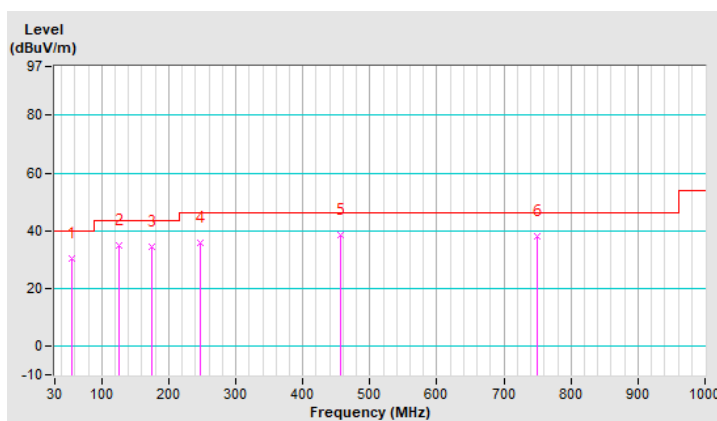
Mode B

RF Mode	TX 802.11n (HT20)	Channel	CH 36 : 5180 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	56.19	30.6 QP	40.0	-9.4	1.99 H	18	43.4	-12.9
2	125.06	34.8 QP	43.5	-8.7	1.99 H	308	48.7	-13.9
3	174.53	34.4 QP	43.5	-9.1	1.00 H	263	47.9	-13.6
4	247.28	36.0 QP	46.0	-10.0	1.99 H	18	50.5	-14.5
5	455.83	38.7 QP	46.0	-7.3	1.99 H	165	45.9	-7.2
6	749.74	38.2 QP	46.0	-7.8	1.00 H	17	38.7	-0.5

Remarks:

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

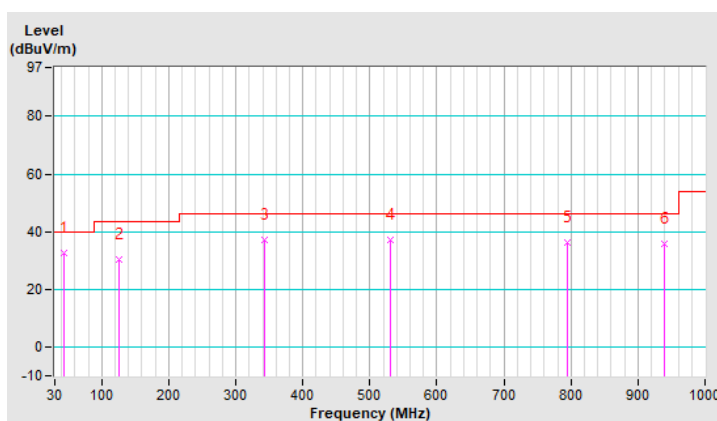


RF Mode	TX 802.11n (HT20)	Channel	CH 36 : 5180 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	43.58	32.7 QP	40.0	-7.3	1.01 V	15	45.6	-12.9
2	125.06	30.2 QP	43.5	-13.3	1.01 V	18	44.1	-13.9
3	343.31	37.0 QP	46.0	-9.0	2.00 V	122	47.5	-10.5
4	530.52	37.4 QP	46.0	-8.6	1.01 V	18	43.0	-5.7
5	795.33	36.2 QP	46.0	-9.8	1.01 V	253	36.1	0.1
6	939.86	35.8 QP	46.0	-10.2	2.00 V	256	33.3	2.5

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 03, 2021	Dec. 02, 2022
RF signal cable Woken	5D-FB	Cable-cond1-01	Jan. 15, 2022	Jan. 14, 2023
LISN/AMN ROHDE & SCHWARZ (EUT)	ENV216	101826	Mar. 14, 2022	Mar. 13, 2023
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Sep. 07, 2021	Sep. 06, 2022
Software ADT	BV ADT_Conc_ V7.3.7.4	NA	NA	NA

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

2. The test was performed in HwaYa Shielded Room 1 (Conduction 1).

3. The VCCI Site Registration No. is C-12040.

4. Tested date: May 18 ~ Jun. 23, 2022

4.2.3 Test Procedures

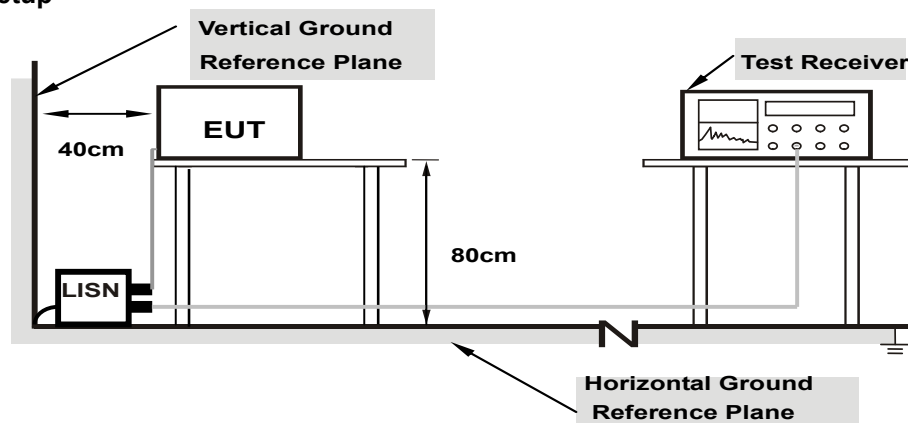
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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 (HT20)

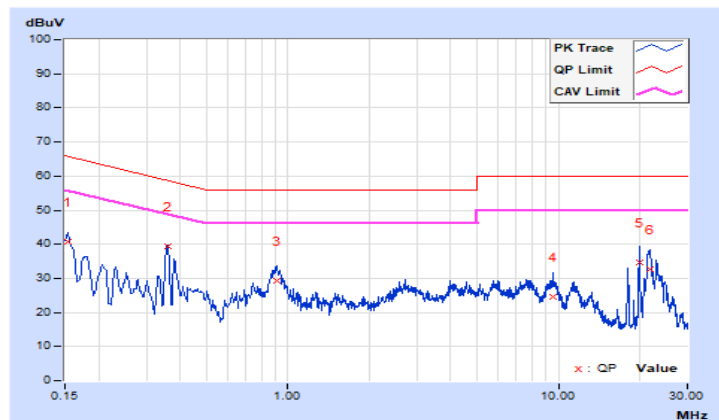
Mode A

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	0.15400	9.68	31.12	15.71	40.80	25.39	65.78	55.78	-24.98	-30.39
2	0.36066	9.78	29.55	26.84	39.33	36.62	58.71	48.71	-19.38	-12.09
3	0.90600	9.83	19.41	14.43	29.24	24.26	56.00	46.00	-26.76	-21.74
4	9.50600	10.05	14.69	8.04	24.74	18.09	60.00	50.00	-35.26	-31.91
5	19.93000	10.16	24.59	19.51	34.75	29.67	60.00	50.00	-25.25	-20.33
6	21.79400	10.17	22.34	16.87	32.51	27.04	60.00	50.00	-27.49	-22.96

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.

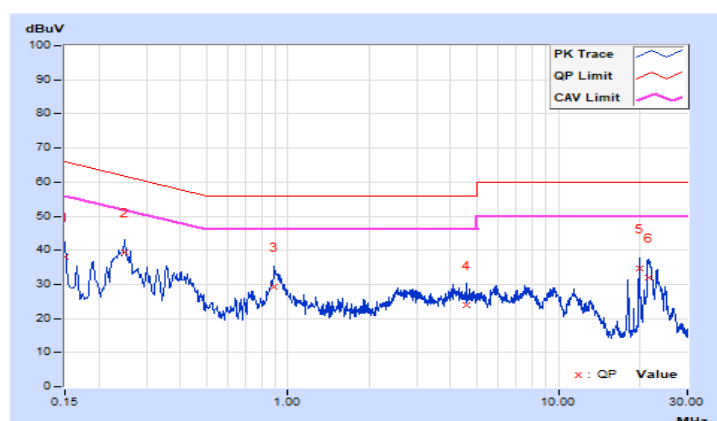


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.68	28.23	18.21	37.91	27.89	66.00	56.00	-28.09	-28.11
2	0.25000	9.74	29.53	23.75	39.27	33.49	61.76	51.76	-22.49	-18.27
3	0.89400	9.85	19.29	14.39	29.14	24.24	56.00	46.00	-26.86	-21.76
4	4.57800	9.98	13.97	6.87	23.95	16.85	56.00	46.00	-32.05	-29.15
5	19.91400	10.20	24.33	19.36	34.53	29.56	60.00	50.00	-25.47	-20.44
6	21.53400	10.20	21.66	16.31	31.86	26.51	60.00	50.00	-28.14	-23.49

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.



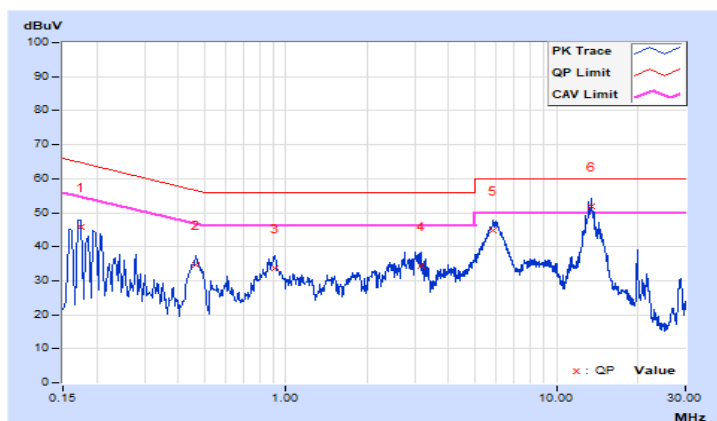
Mode B

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

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	0.17384	9.63	36.30	17.53	45.93	27.16	64.77	54.77	-18.84	-27.61
2	0.46567	9.69	24.95	18.73	34.64	28.42	56.59	46.59	-21.95	-18.17
3	0.90600	9.70	23.96	19.01	33.66	28.71	56.00	46.00	-22.34	-17.29
4	3.14600	9.74	24.66	16.11	34.40	25.85	56.00	46.00	-21.60	-20.15
5	5.83800	9.77	34.90	30.76	44.67	40.53	60.00	50.00	-15.33	-9.47
6	13.51000	9.83	42.09	36.28	51.92	46.11	60.00	50.00	-8.08	-3.89

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.

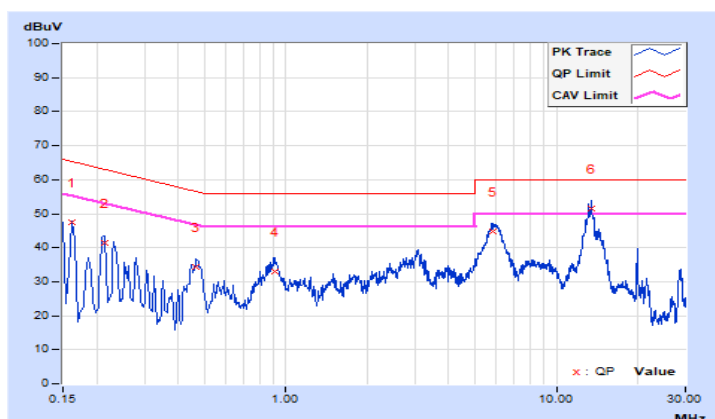


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16200	9.62	38.02	21.27	47.64	30.89	65.36	55.36	-17.72	-24.47
2	0.21294	9.64	31.87	20.54	41.51	30.18	63.09	53.09	-21.58	-22.91
3	0.46600	9.69	24.70	18.42	34.39	28.11	56.58	46.58	-22.19	-18.47
4	0.91400	9.70	23.44	18.49	33.14	28.19	56.00	46.00	-22.86	-17.81
5	5.85800	9.77	35.01	30.87	44.78	40.64	60.00	50.00	-15.22	-9.36
6	13.50600	9.85	41.70	36.07	51.55	45.92	60.00	50.00	-8.45	-4.08

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

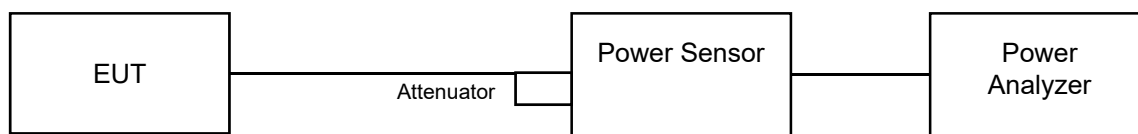
4.3.1 Limits of Transmit Power Measurement

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)

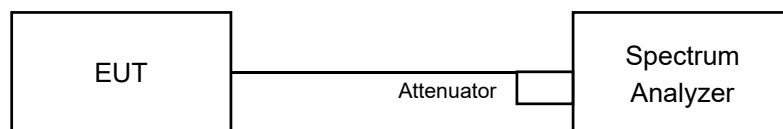
*B is the 26 dB emission bandwidth in megahertz

4.3.2 Test Setup

For Power Output



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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

For 26dB Bandwidth

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	22.029	13.43	24	Pass
40	5200	46.345	16.66	24	Pass
48	5240	42.954	16.33	24	Pass
52	5260	46.452	16.67	24	Pass
60	5300	44.361	16.47	24	Pass
64	5320	34.834	15.42	24	Pass
100	5500	17.298	12.38	24	Pass
116	5580	16.520	12.18	24	Pass
140	5700	14.555	11.63	24	Pass
149	5745	16.634	12.21	30	Pass
157	5785	16.368	12.14	30	Pass
165	5825	16.069	12.06	30	Pass

Note:

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

1. $11\text{dBm} + 10\log(23.61) = 24.73 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.27) = 24.47 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(21.76) = 24.37 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.80) = 24.38 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.69) = 24.36 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(21.77) = 24.37 > 24\text{dBm}$

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	21.429	13.31	24	Pass
40	5200	33.266	15.22	24	Pass
48	5240	32.434	15.11	24	Pass
52	5260	33.343	15.23	24	Pass
60	5300	33.189	15.21	24	Pass
64	5320	26.853	14.29	24	Pass
100	5500	12.942	11.12	24	Pass
116	5580	12.882	11.10	24	Pass
140	5700	13.646	11.35	24	Pass
149	5745	15.346	11.86	30	Pass
157	5785	14.223	11.53	30	Pass
165	5825	14.655	11.66	30	Pass

Note:

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

1. $11\text{dBm} + 10\log(22.16) = 24.45 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.18) = 24.45 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.10) = 24.44 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(22.09) = 24.44 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(22.16) = 24.45 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(22.11) = 24.44 > 24\text{dBm}$

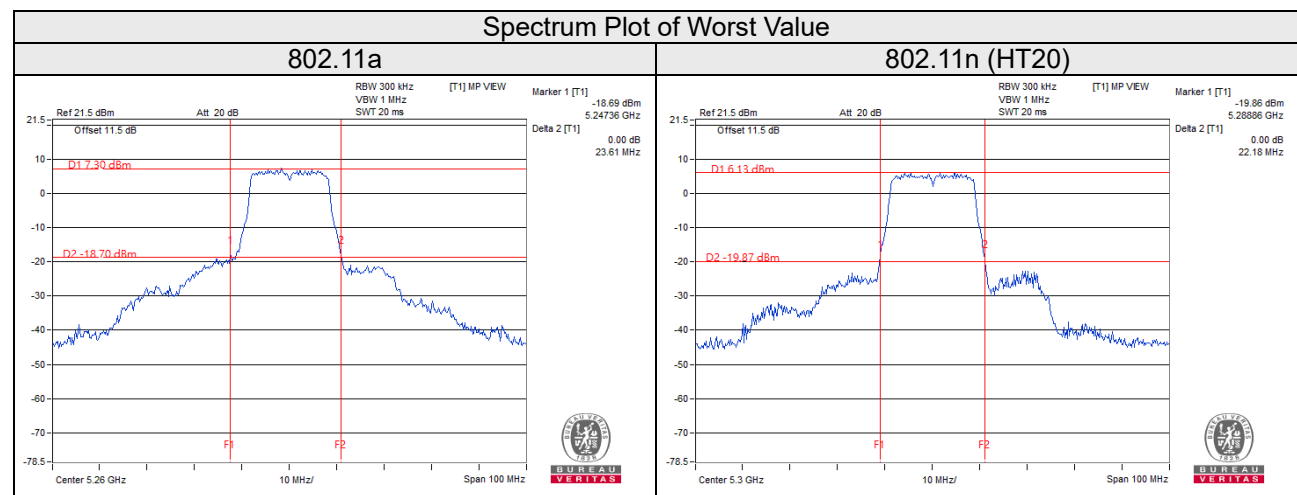
26dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	23.61
60	5300	22.27
64	5320	21.76
100	5500	21.80
116	5580	21.69
140	5700	21.77

802.11n (HT20)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	22.16
60	5300	22.18
64	5320	22.10
100	5500	22.09
116	5580	22.16
140	5700	22.11



EUT Maximum Conducted Power

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	46.452	16.67
5470~5725	17.298	12.38

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

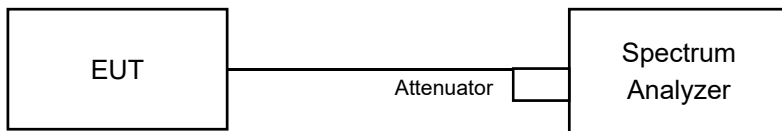
802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	33.343	15.23
5470~5725	13.646	11.35

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

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

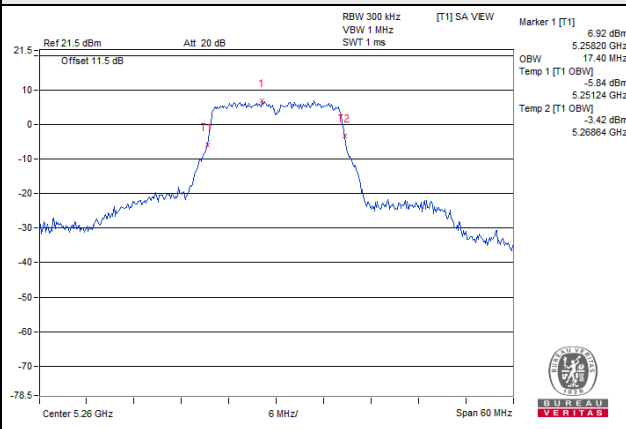
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.04
40	5200	17.16
48	5240	17.28
52	5260	17.40
60	5300	17.28
64	5320	17.04
100	5500	17.04
116	5580	17.04
140	5700	17.04
149	5745	17.04
157	5785	17.04
165	5825	17.04

802.11n (HT20)

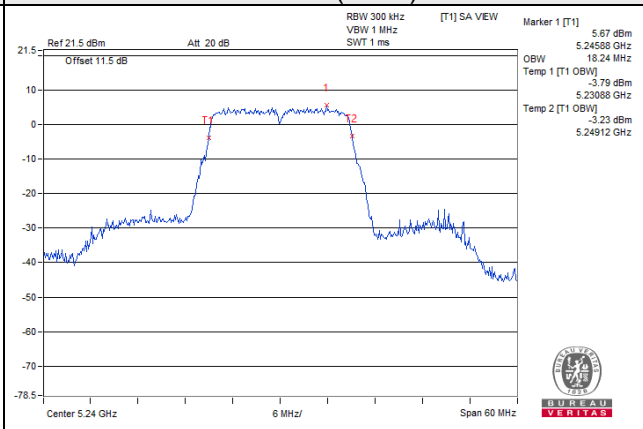
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.00
40	5200	18.12
48	5240	18.24
52	5260	18.24
60	5300	18.24
64	5320	18.12
100	5500	18.24
116	5580	18.12
140	5700	18.24
149	5745	18.17
157	5785	18.24
165	5825	18.12

Spectrum Plot of Worst Value

802.11a

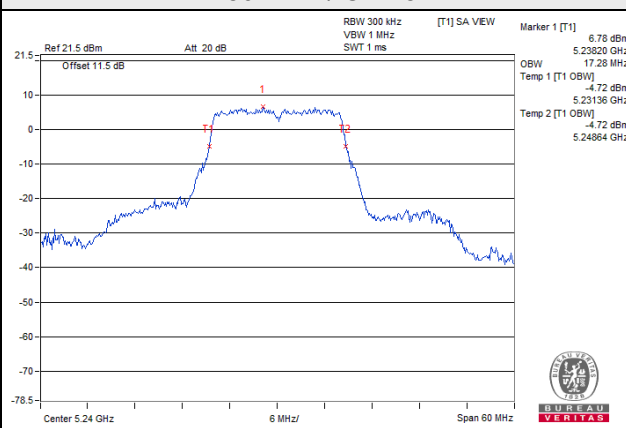


802.11n (HT20)

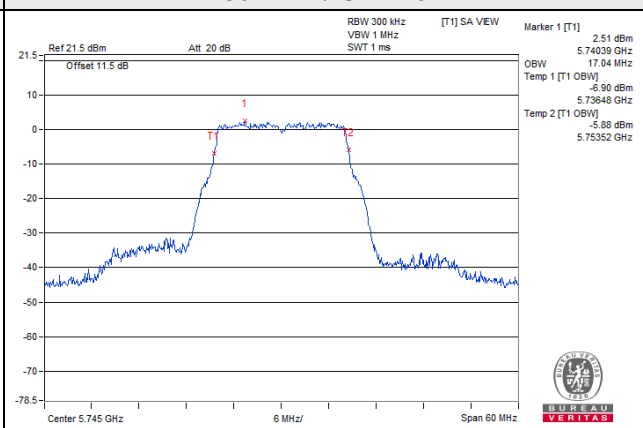


Spectrum Plot for near By DFS Band

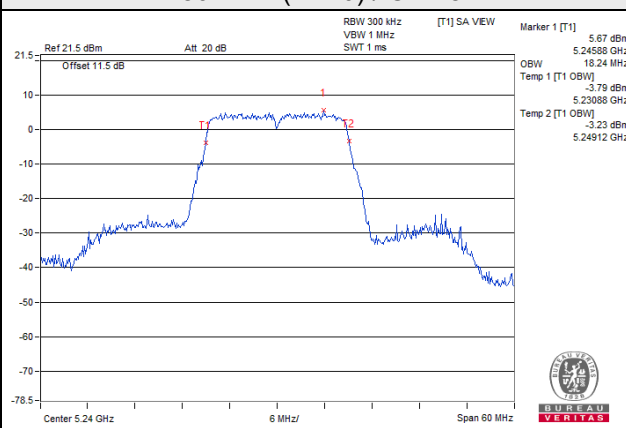
802.11a / CH 48



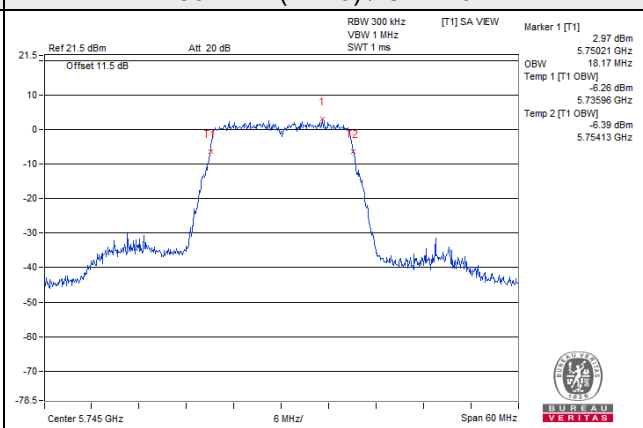
802.11a / CH 149



802.11n (HT20) / CH 48



802.11n (HT20) / CH 149

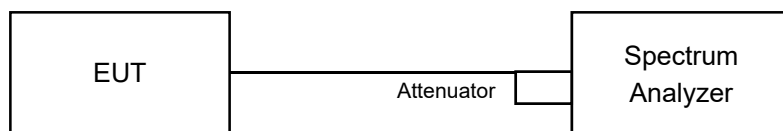


4.5 Peak Power Spectral Density Measurement

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, U-NII-2C band

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

Using method SA-1

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

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

Using method SA-2

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

For U-NII-3 band

Duty cycle $\geq 98\%$

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

Duty cycle $< 98\%$

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Freq. (MHz)	PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	0.22	11	Pass
40	5200	3.64	11	Pass
48	5240	3.27	11	Pass
52	5260	3.69	11	Pass
60	5300	3.28	11	Pass
64	5320	2.43	11	Pass
100	5500	-0.67	11	Pass
116	5580	-0.82	11	Pass
140	5700	-1.47	11	Pass

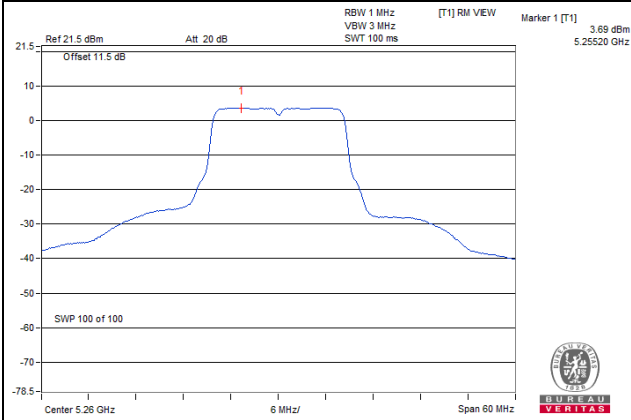
802.11n (HT20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	0.34	0.22	0.56	11	Pass
40	5200	2.16	0.22	2.38	11	Pass
48	5240	2.16	0.22	2.38	11	Pass
52	5260	2.18	0.22	2.40	11	Pass
60	5300	2.22	0.22	2.44	11	Pass
64	5320	1.24	0.22	1.46	11	Pass
100	5500	-1.81	0.22	-1.59	11	Pass
116	5580	-1.99	0.22	-1.77	11	Pass
140	5700	-1.70	0.22	-1.48	11	Pass

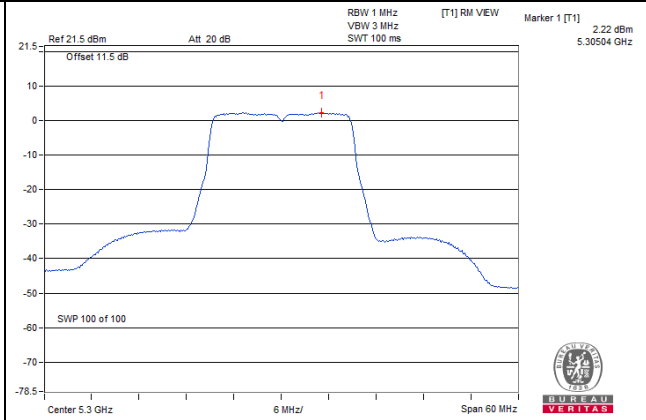
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

802.11a / CH 52



802.11n (HT20) / CH 60



For U-NII-3 band:
802.11a

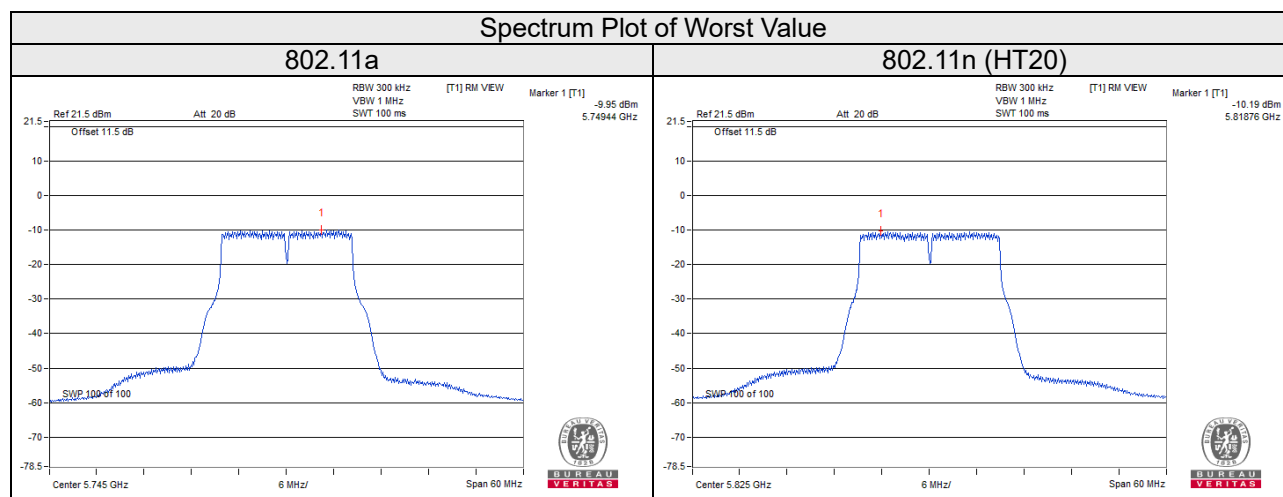
Chan.	Freq. (MHz)	PSD		Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)		
149	5745	-9.95	-7.73	30	Pass
157	5785	-10.05	-7.83	30	Pass
165	5825	-10.16	-7.94	30	Pass

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

802.11n (HT20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor		Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
149	5745	-10.27	-8.05	0.22	-7.83	30	Pass
157	5785	-10.58	-8.36	0.22	-8.14	30	Pass
165	5825	-10.19	-7.97	0.22	-7.75	30	Pass

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

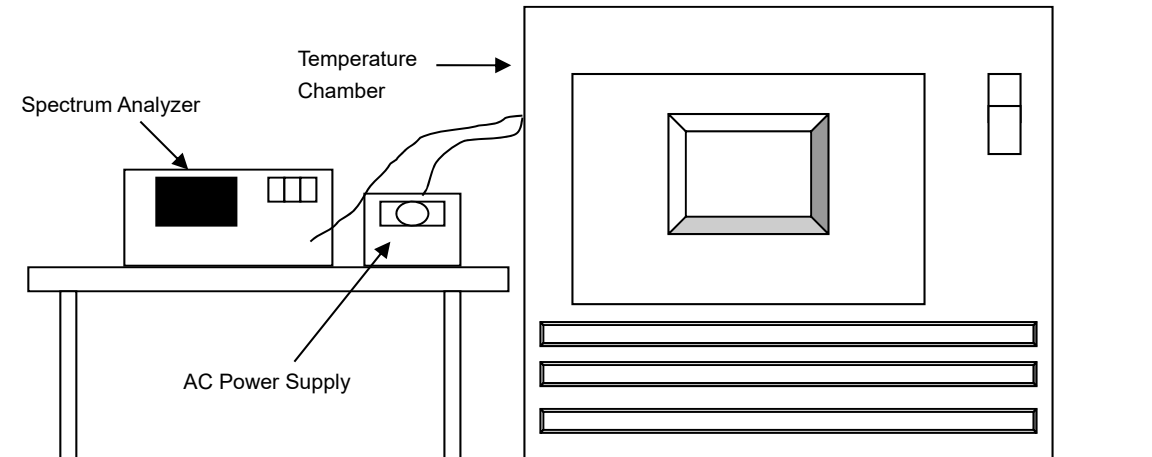


4.6 Frequency Stability

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	100269	Jun. 07, 2021	Jun. 06, 2022
Standard Temperature And Humidity Chamber TERCHY	MHU-225AU	920842	Jun. 15, 2021	Jun. 14, 2022
Digital Multimeter Fluke	87-III	70360755	Jul. 08, 2021	Jul. 07, 2022
AC Power Supply Extech	CFW-105	E000603	NA	NA

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

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
49	120	5180.0187	Pass	5180.0207	Pass	5180.0165	Pass	5180.0167	Pass
40	120	5180.0219	Pass	5180.0245	Pass	5180.0209	Pass	5180.0241	Pass
30	120	5179.9989	Pass	5179.9992	Pass	5179.9972	Pass	5179.9974	Pass
20	120	5180.0233	Pass	5180.0204	Pass	5180.0237	Pass	5180.0220	Pass
10	120	5179.9987	Pass	5180.0010	Pass	5179.9988	Pass	5180.0003	Pass
0	120	5180.0054	Pass	5180.0025	Pass	5180.0070	Pass	5180.0056	Pass

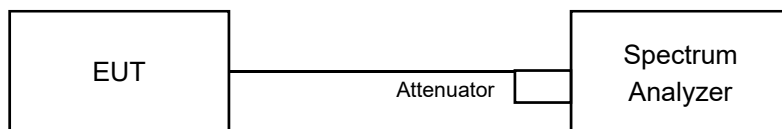
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0272	Pass	5180.0272	Pass	5180.0230	Pass	5180.0234	Pass
	120	5180.0233	Pass	5180.0204	Pass	5180.0237	Pass	5180.0220	Pass
	102	5180.0252	Pass	5180.0240	Pass	5180.0257	Pass	5180.0236	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

Measurement Procedure REF

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

4.7.5 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.

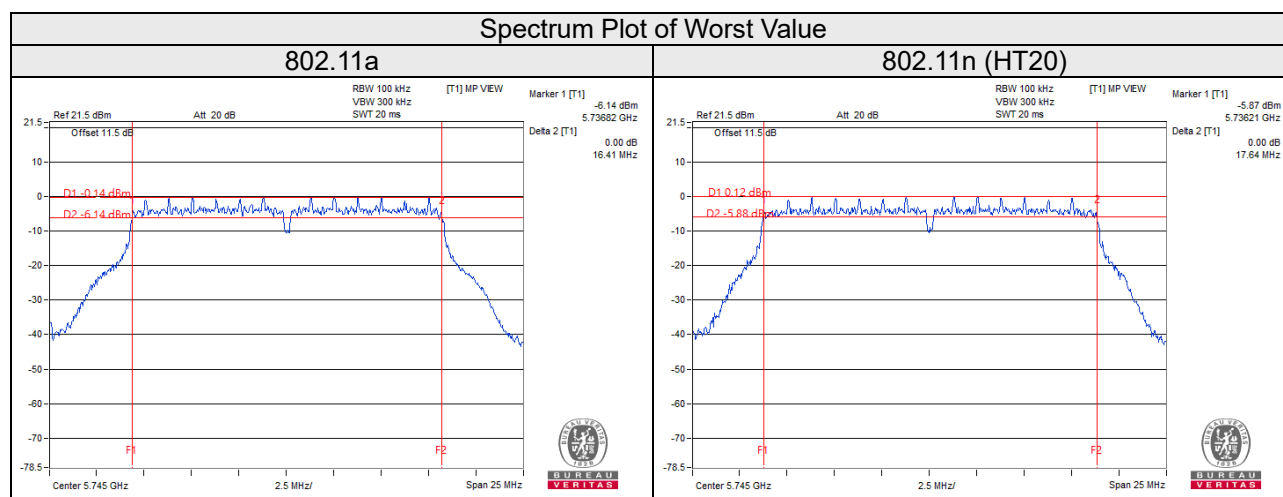
4.7.7 Test Results

802.11a

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

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.64	0.5	Pass
157	5785	17.65	0.5	Pass
165	5825	17.65	0.5	Pass

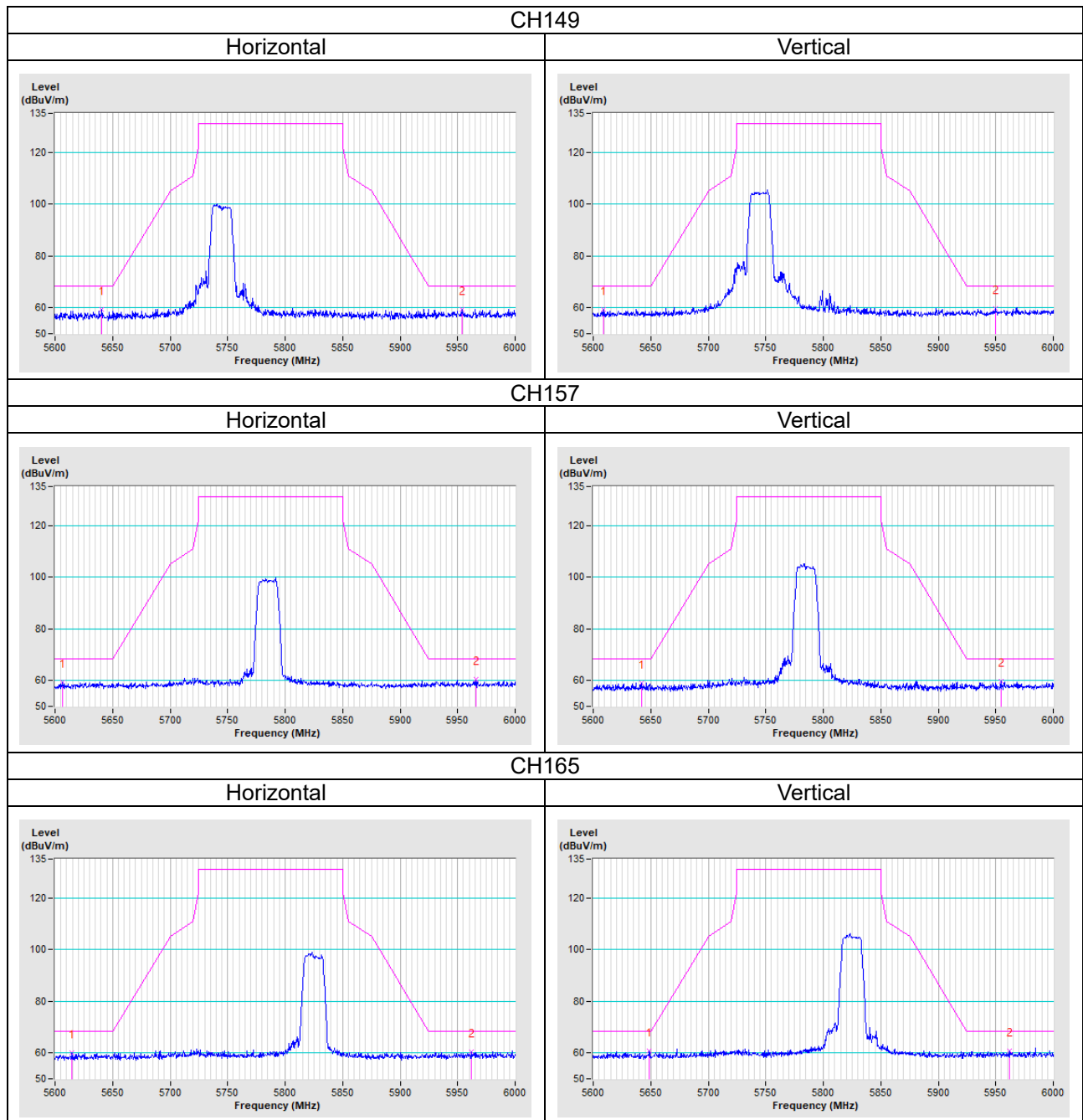


5 Pictures of Test Arrangements

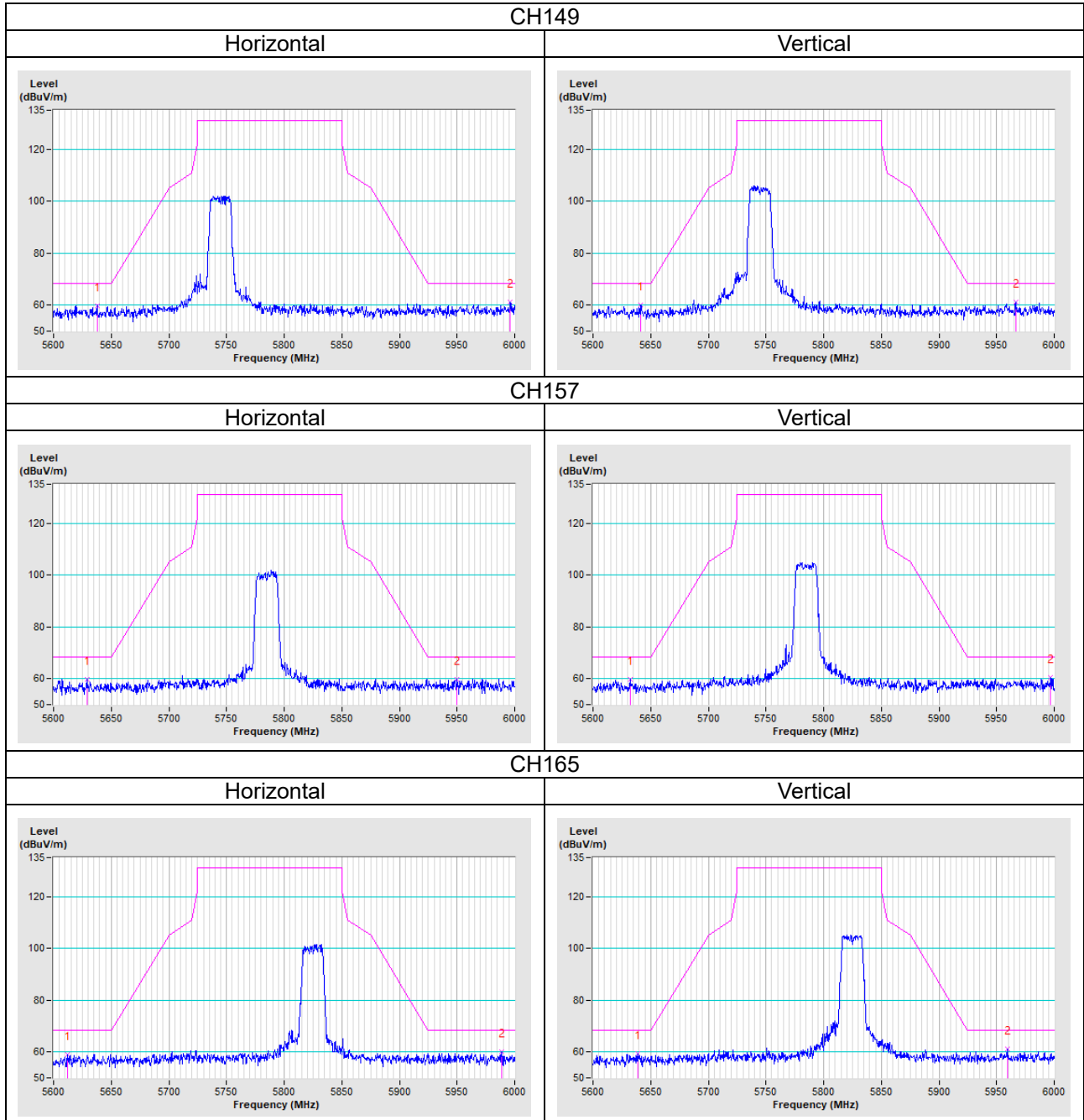
Please refer to the attached file (Test Setup Photo).

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

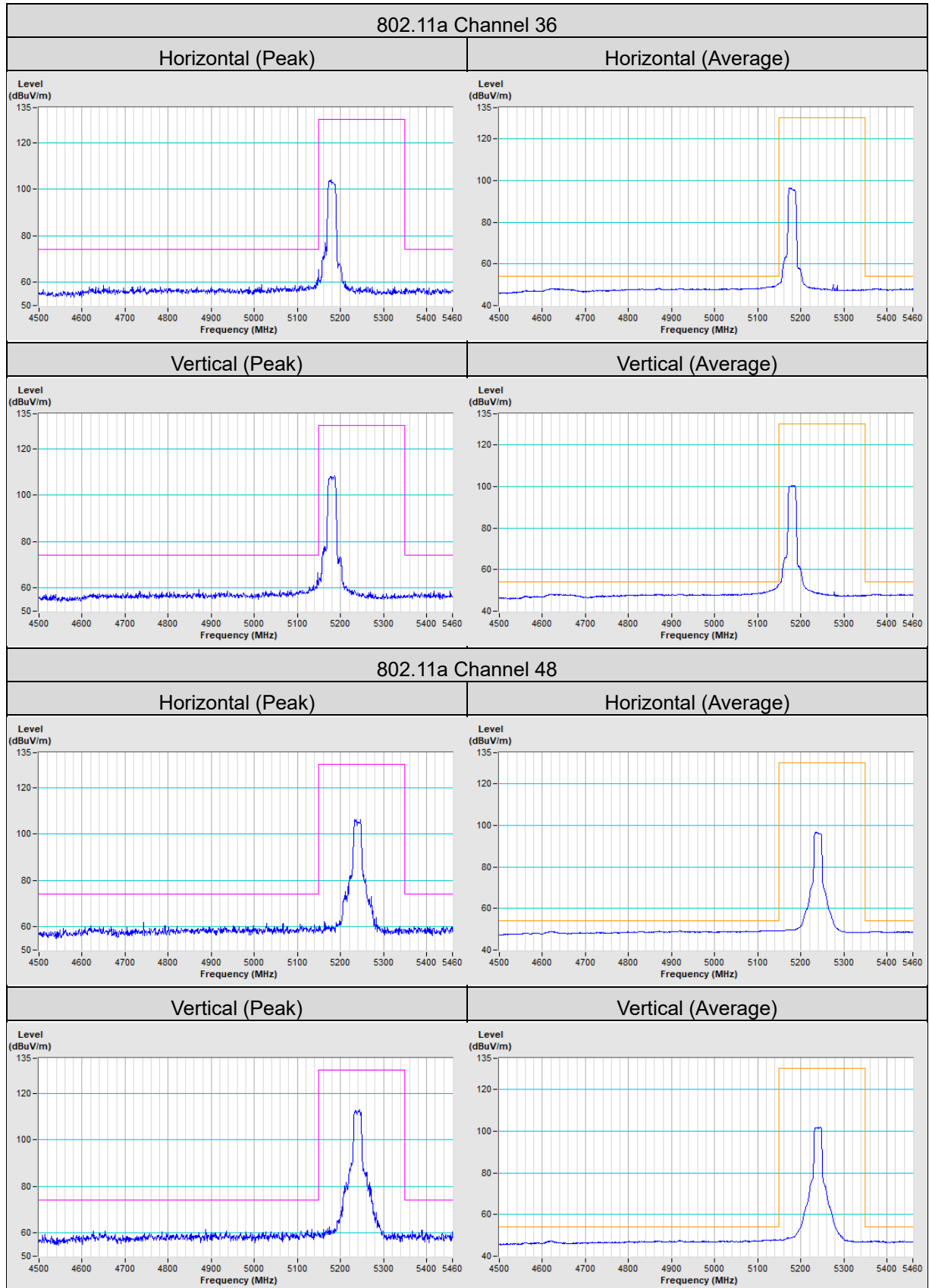
802.11a

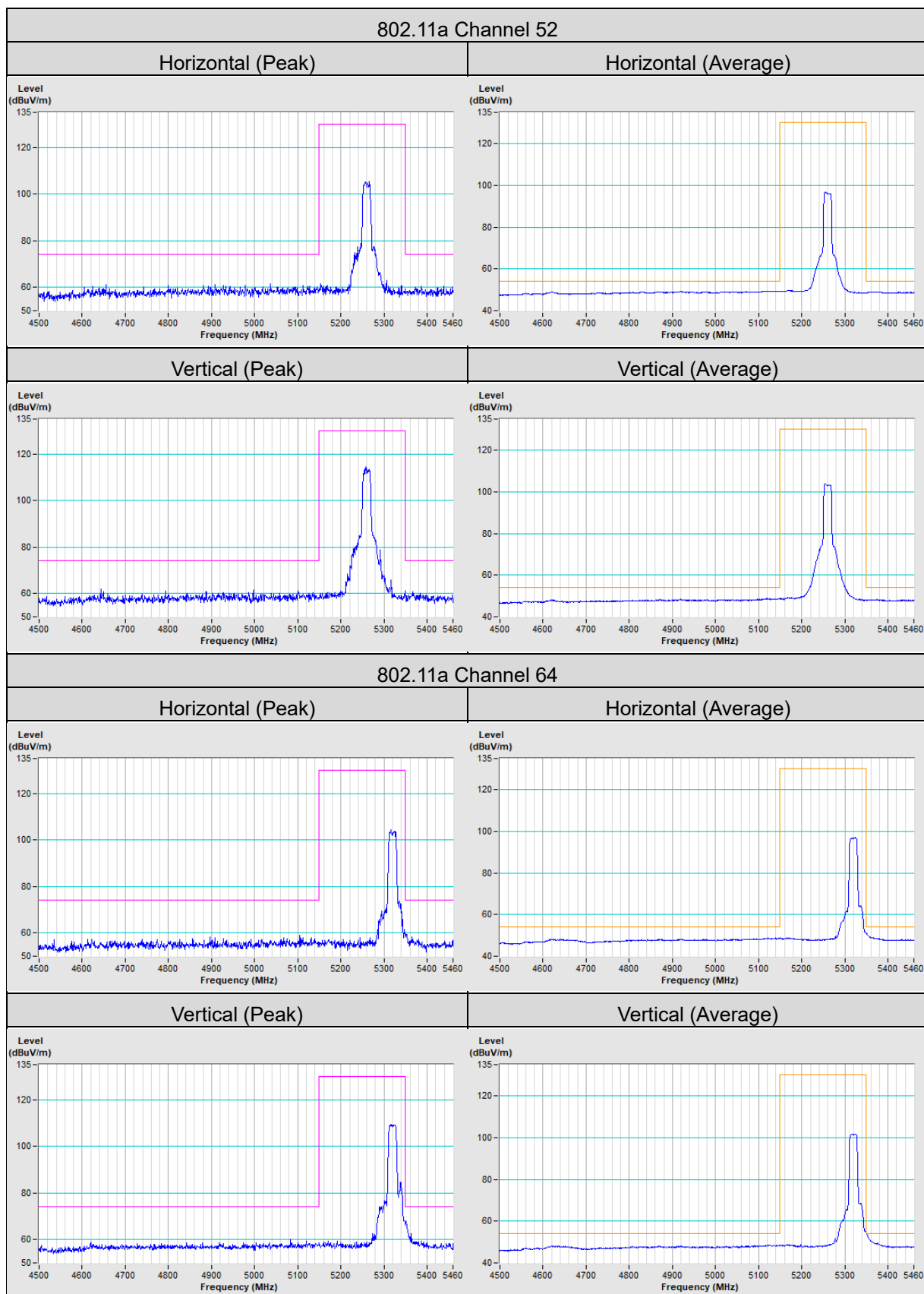


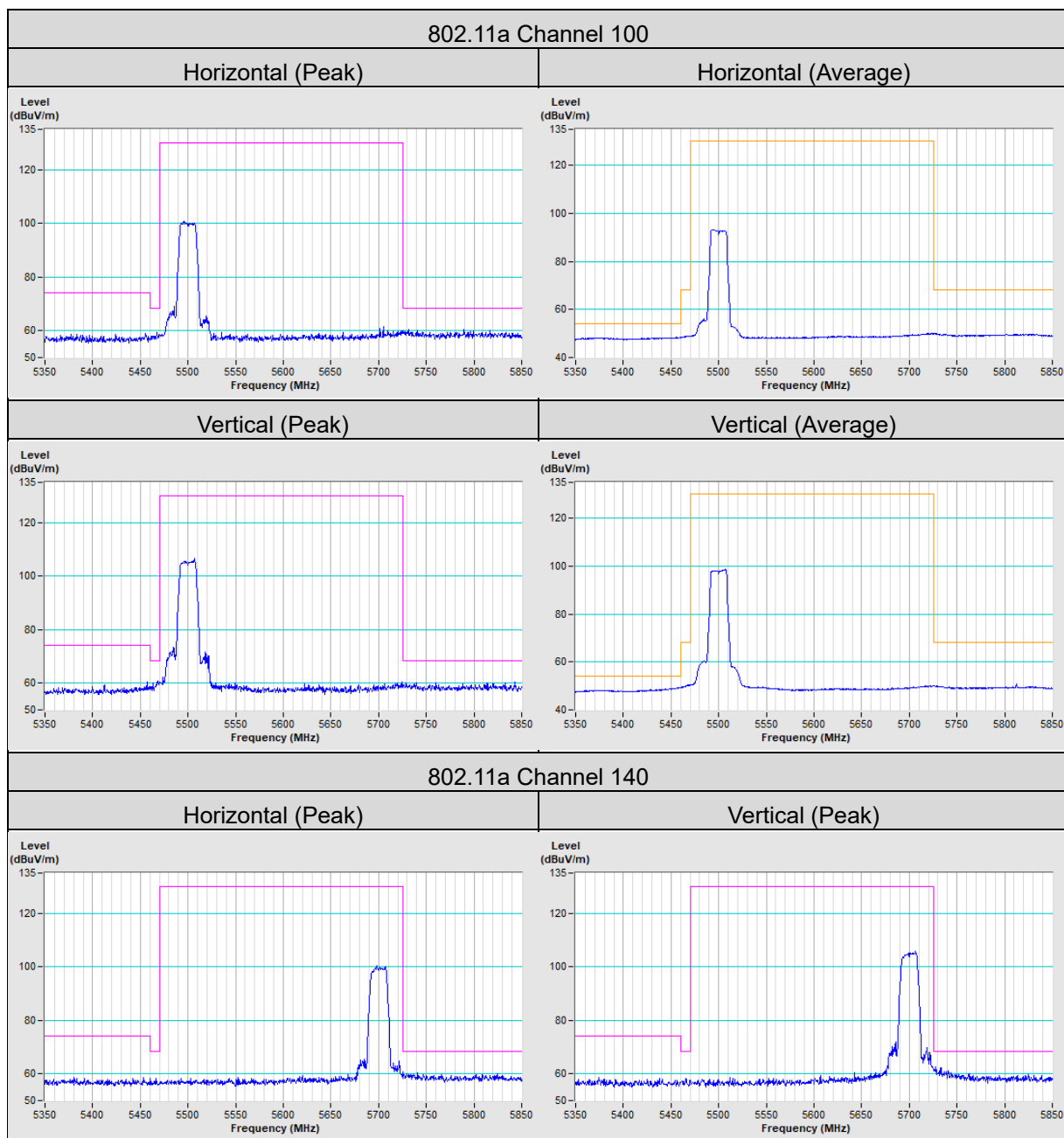
802.11n (HT20)

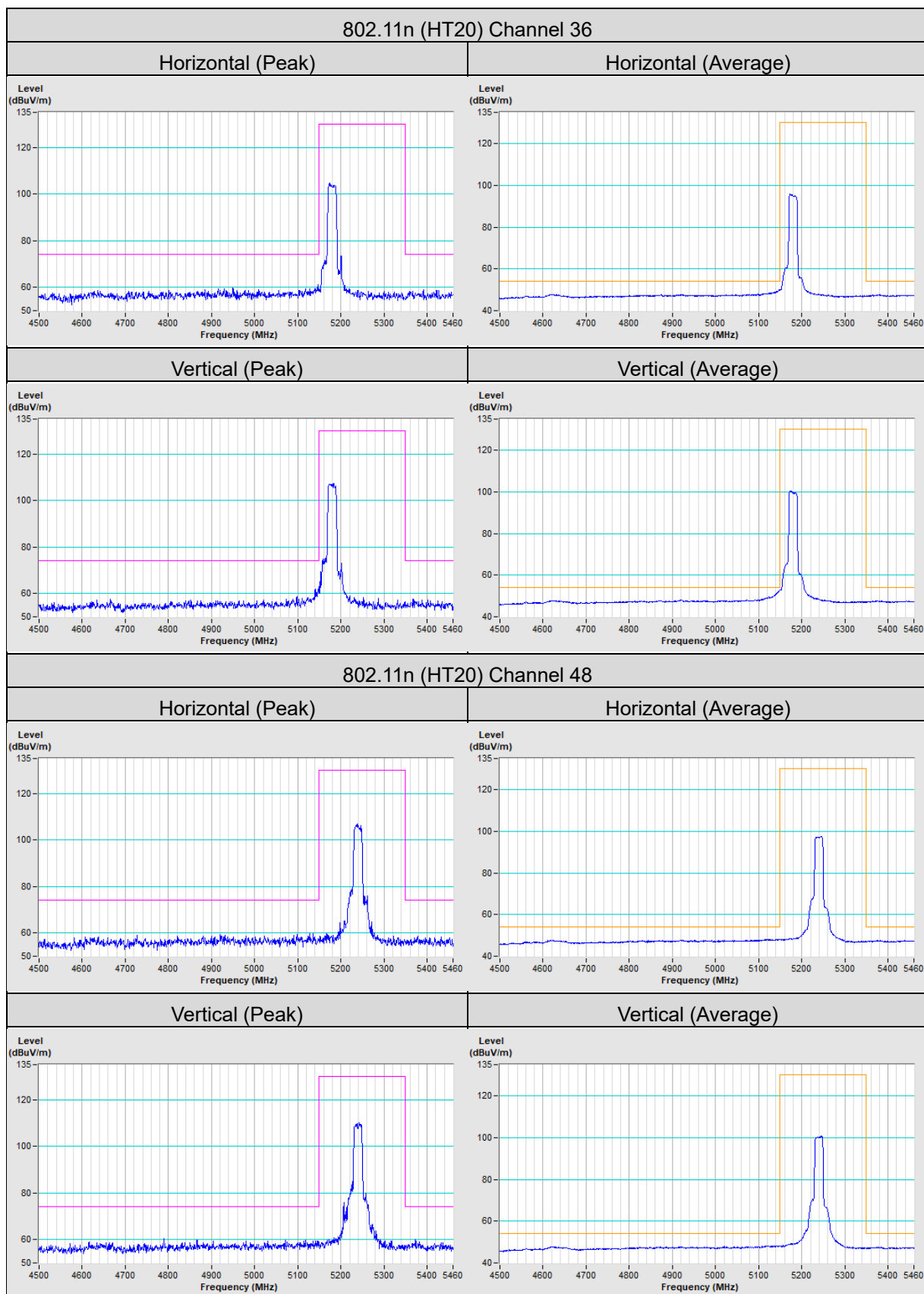


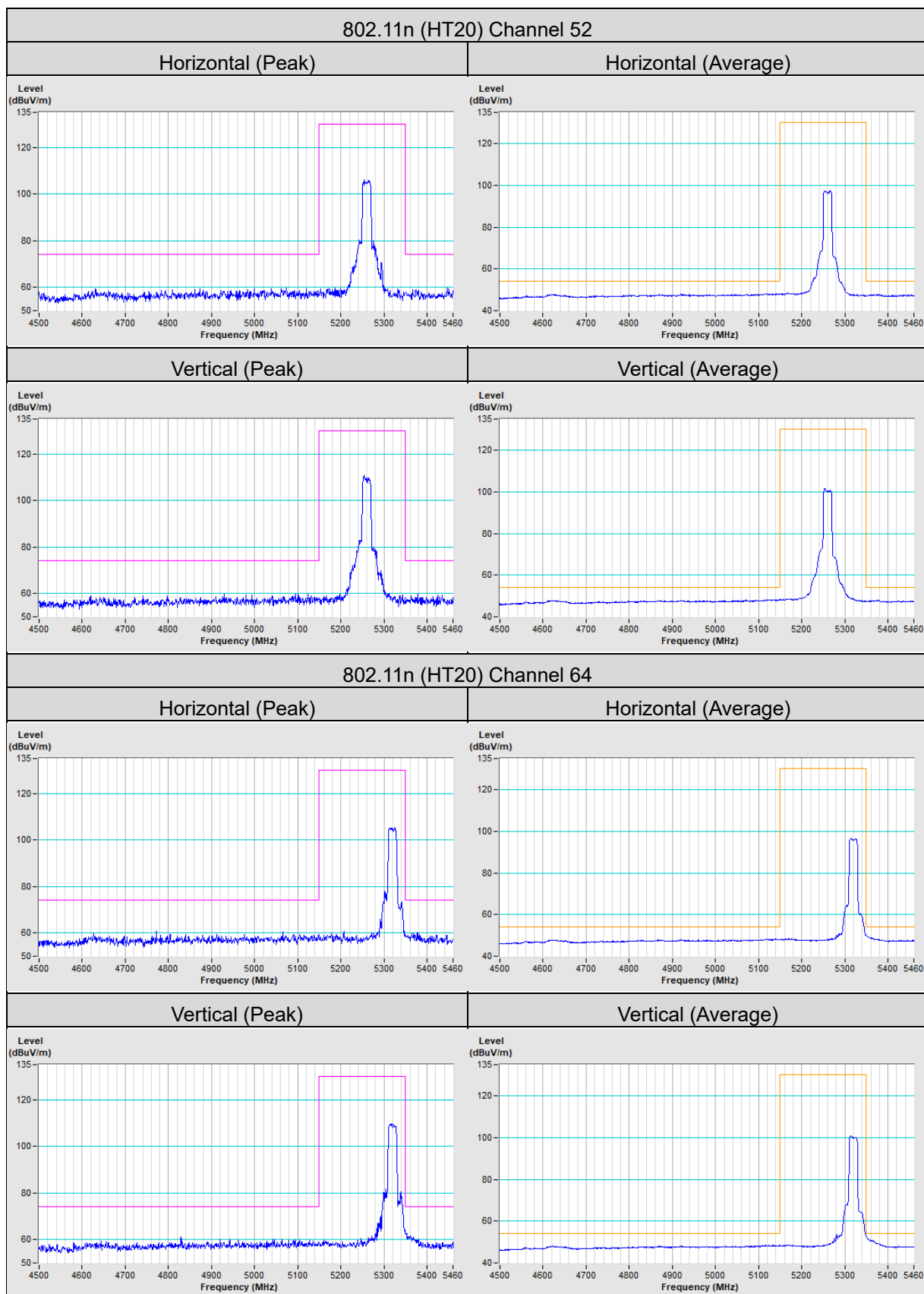
Annex B- Band Edge Measurement

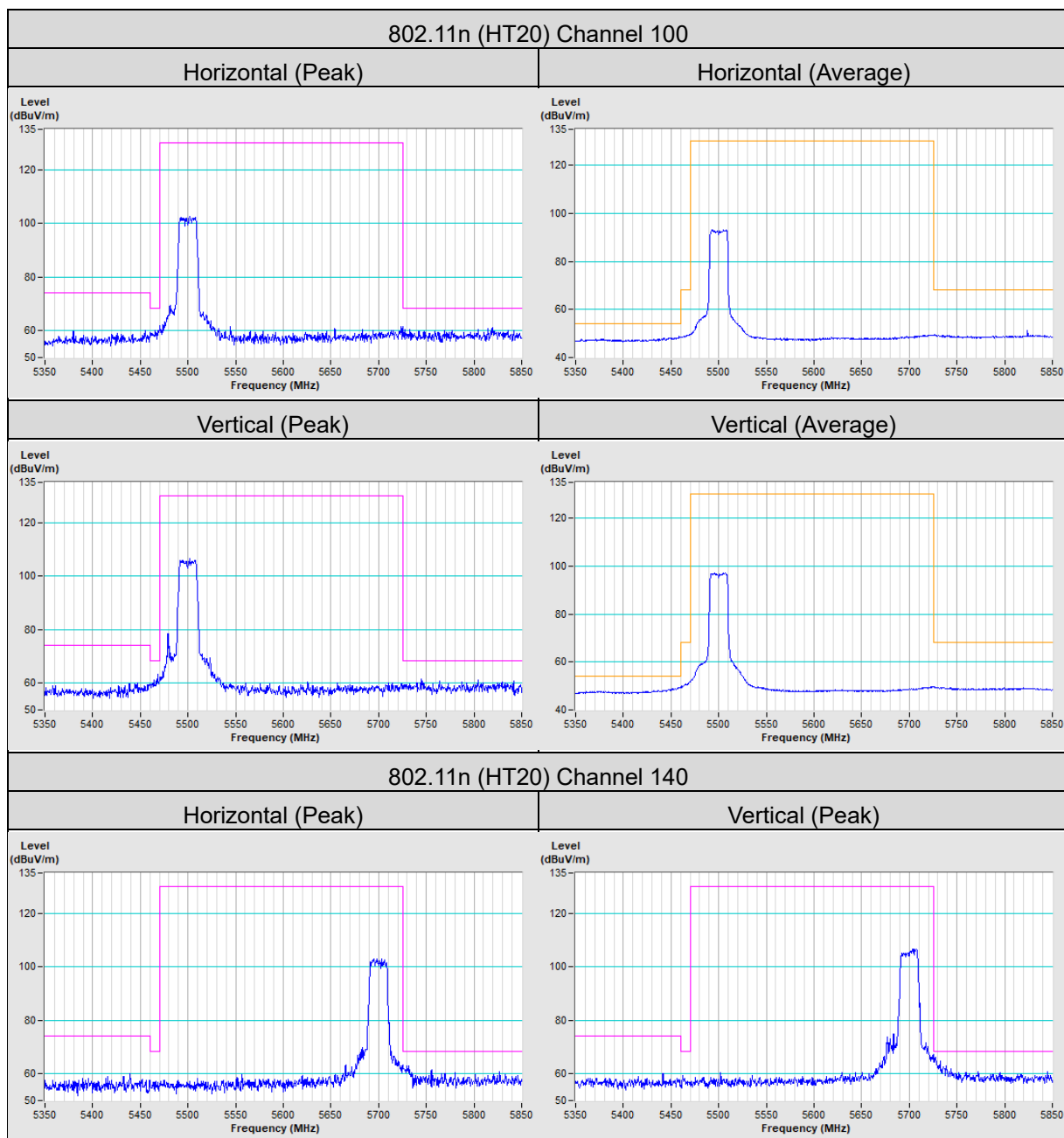












Appendix – Information of the Testing Laboratories

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 Lab

Tel: 886-3-3183232

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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