FCC Test Report

Report No.:	RFBDYS-WTW-P22031091-1
FCC ID:	2AKCZ-108
Test Model:	APL68-108
Received Date:	Mar. 28, 2022
Test Date:	Apr. 08 ~ May 27, 2022
Issued Date:	Aug. 09, 2022
Applicant:	SonicWall Inc.
Address:	1033 McCarthy Blvd., Milpitas, CA 95035, USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location (1):	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN
FCC Registration / Designation Number:	788550 / TW0003
Test Location (2):	No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
FCC Registration / Designation Number:	281270 / TW0032

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Release Control Record

Issue No.	Description	Date Issued
RFBDYS-WTW-P22031091-1	Original release	Aug. 09, 2022

1 Certificate of Conformity

Product:	Wireless Access Point
Brand:	SONICWALL
Test Model:	APL68-108
Sample Status:	Engineering sample
Applicant:	SonicWall Inc.
Test Date:	Apr. 08 ~ May 27, 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 : Celine Chou , **Date:** Aug. 09, 2022

Celine Chou / Senior Specialist

Approved by : Jeremy Lin , **Date:** Aug. 09, 2022

Jeremy Lin / 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)(9)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -6.88dB at 0.54600MHz.
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 -0.57dB at 15690.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX not a standard connector.

Note:

1. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.
2. For U-NII-1 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.
3. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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	Wireless Access Point
Brand	SONICWALL
Test Model	APL68-108
Sample Status	Engineering sample
Power Supply Rating	12Vdc from adapter 48-56Vdc from POE
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps 802.11ax: up to 1200Mbps
Operating Frequency	5180 ~ 5240MHz, 5745 ~ 5825MHz
Number of Channel	5G traffic radio (Radio 1): 5180 ~ 5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 5 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 Scanning radio (Radio 3): 5180 ~ 5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1

Output Power	5G traffic radio (Radio 1): CDD Mode: 5180 ~ 5240MHz: 171.835mW 5745 ~ 5825MHz: 399.434mW Beamforming Mode: 5180 ~ 5240MHz: 171.835mW 5745 ~ 5825MHz: 399.434mW Scanning radio (Radio 3): CDD Mode: 5180 ~ 5240MHz: 17.742mW 5745 ~ 5825MHz: 17.824mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	BRACKET T-BAR LFP (Brand: Senao, model: 6301A4133020)
Cable Supplied	NA

Note:

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

Radio	Modulation Mode	Beamforming Mode	TX Function
5G traffic radio (Radio 1)	802.11a	Not Support	2TX
	802.11n (HT20)	Support	2TX
	802.11n (HT40)	Support	2TX
	802.11ac (VHT20)	Support	2TX
	802.11ac (VHT40)	Support	2TX
	802.11ac (VHT80)	Support	2TX
	802.11ax (HE20)	Support	2TX
	802.11ax (HE40)	Support	2TX
	802.11ax (HE80)	Support	2TX
Scanning radio (Radio 3)	802.11a	Not Support	1TX
	802.11n (HT20)	Not Support	1TX
	802.11n (HT40)	Not Support	1TX
	802.11ac (VHT20)	Not Support	1TX
	802.11ac (VHT40)	Not Support	1TX
	802.11ac (VHT80)	Not Support	1TX

* For 802.11ax mode, this EUT doesn't support partial RU mode.

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40/VHT80 on 802.11ac mode and HE20/HE40/HE80 on 802.11ax mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

* CDD mode is the worst case for final tests after pretesting CDD mode and Beamforming mode except output power test.

2. The EUT consumes power from the following adapter and POE.

Adapter (Optional)	
Brand	Sunny
Model	SYS1546-3612-T3
Input Power	100-240Vac, 50-60Hz, 1.5A Max
Output Power	12Vdc, 3.0A
Power cord	Non-shielded AC (1.77m) Non-shielded DC (1.86m) with one core

POE (Support unit only)	
Brand	EnGenius
Model	EPA5006GAT
Input Power	100-240Vac, 50-60Hz, 0.8A
Output Power	48-56Vdc, 0.6A
Power cord	Non-shielded AC (0.5m)

3. The antenna information is listed as below.

No.	Type	Connector	Gain (dBi)					
			2400MHz	2450MHz	2500MHz	5150MHz	5500MHz	5850MHz
2G1	PIFA	I-PEX	3.05	3.14	3.21	-	-	-
2G2	PIFA	I-PEX	3.52	3.43	3.64	-	-	-
5G1	PIFA	I-PEX	-	-	-	4.52	4.63	5.07
5G2	PIFA	I-PEX	-	-	-	4.13	4.98	4.62
Scan	PIFA	I-PEX	3.83	3.93	3.81	3.81	4.23	4.89
BLE	PIFA	I-PEX	3.09	3.70	3.58	-	-	-

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

4. The simultaneous operation mode was determined by client.

No	Mode
1	2GHz traffic radio (Radio 2) + 5GHz traffic radio (Radio 1) + 5GHz Scanning radio (Radio 3) + BLE
2	5GHz traffic radio (Radio 1) + 2GHz Scanning radio (Radio 3) + BLE

* 5GHz traffic radio (Radio 1) and 5GHz Scanning radio (Radio 3) cannot transmit in the same band at same time.
* 2GHz traffic radio (Radio 2) and 2GHz Scanning radio (Radio 3) cannot transmit at same time.
* Spurious emission of the simultaneous operation has been evaluated and no non-compliance was found.

3.2 Description of Test Modes

For 5180 ~ 5240MHz:

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
42	5210MHz

For 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Powered by adapter
B	-	√	√	-	Powered by POE

Where RE≥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 3 axis. The worst case was found when positioned on **Y-plane**.
2. 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)	Remark
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	Radio 1
	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0	
	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0	
	802.11ax (HE80)		42	42	OFDMA	MCS0	
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	
	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0	
	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0	
	802.11ax (HE80)		155	155	OFDMA	MCS0	
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	Radio 3
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	MCS0	
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	MCS0	
	802.11ac (VHT80)		42	42	OFDM	MCS0	
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	MCS0	
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	MCS0	
	802.11ac (VHT80)		155	155	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)	Remark
A, B	802.11ax (HE40)	5180-5240	38 to 46	159	OFDMA	MCS0	Radio 1
	802.11ax (HE40)	5745-5825	151 to 159		OFDMA	MCS0	
A, B	802.11a	5180-5240	36 to 48	157	OFDM	6.0	Radio 3
	802.11a	5745-5825	149 to 165		OFDM	6.0	

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
A, B	802.11ax (HE40)	5180-5240	38 to 46	159	OFDMA	MCS0	Radio 1
	802.11ax (HE40)	5745-5825	151 to 159		OFDMA	MCS0	
A, B	802.11a	5180-5240	36 to 48	157	OFDM	6.0	Radio 3
	802.11a	5745-5825	149 to 165		OFDM	6.0	

Bandwidth, Power Spectral Density and Frequency Stability 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)	Remark
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	Radio 1
	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0	
	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0	
	802.11ax (HE80)		42	42	OFDMA	MCS0	
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	
	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0	
	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0	
	802.11ax (HE80)		155	155	OFDMA	MCS0	
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	Radio 3
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	MCS0	
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	MCS0	
	802.11ac (VHT80)		42	42	OFDM	MCS0	
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	MCS0	
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	MCS0	
	802.11ac (VHT80)		155	155	OFDM	MCS0	

Conducted Output Power 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)	Remark
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	Radio 1
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	MCS0	
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	MCS0	
	802.11ac (VHT80)		42	42	OFDM	MCS0	
	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0	
	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0	
	802.11ax (HE80)		42	42	OFDMA	MCS0	
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	MCS0	
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	MCS0	
	802.11ac (VHT80)		155	155	OFDM	MCS0	
	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0	
	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0	
	802.11ax (HE80)		155	155	OFDMA	MCS0	
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	Radio 3
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	MCS0	
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	MCS0	
	802.11ac (VHT80)		42	42	OFDM	MCS0	
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	MCS0	
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	MCS0	
	802.11ac (VHT80)		155	155	OFDM	MCS0	

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	26 deg. C, 66% RH	120Vac, 60Hz	Randy Wu Adair Peng
RE<1G	26 deg. C, 66% RH 25 deg. C, 77% RH	120Vac, 60Hz 48Vdc	Adair Peng
PLC	23 deg. C, 67% RH 25 deg. C, 75% RH	120Vac, 60Hz 48Vdc	Adair Peng Rex Wang
APCM	22 deg. C, 66% RH	120Vac, 60Hz	Gary Lin Jisyong Wang

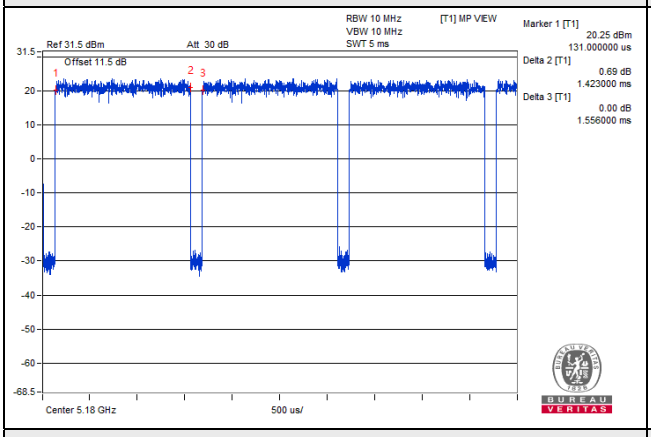
3.3 Duty Cycle of Test Signal

5G traffic radio (Radio 1)

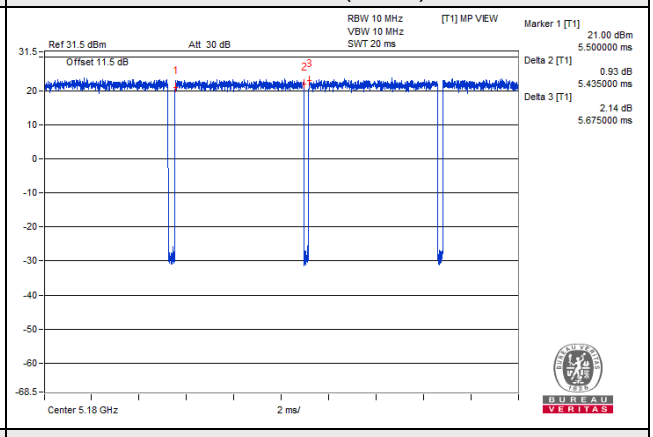
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = 1.423/1.556 = 0.915, Duty factor = 10 * log (1/0.915) = 0.39
802.11ax (HE20): Duty cycle = 5.435/5.675 = 0.958, Duty factor = 10 * log (1/0.958) = 0.19
802.11ax (HE40): Duty cycle = 5.415/5.680 = 0.953, Duty factor = 10 * log (1/0.953) = 0.21
802.11ax (HE80): Duty cycle = 5.425/5.690 = 0.953, Duty factor = 10 * log (1/0.953) = 0.21

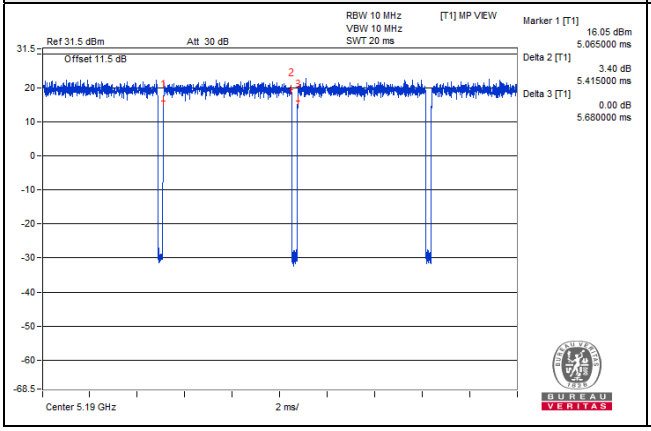
802.11a



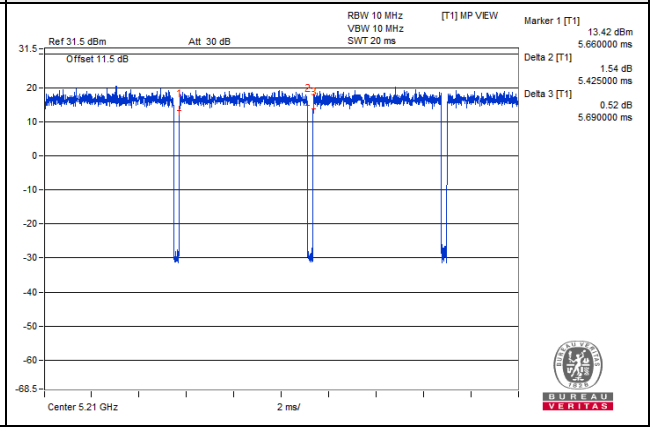
802.11ax (HE20)



802.11ax (HE40)



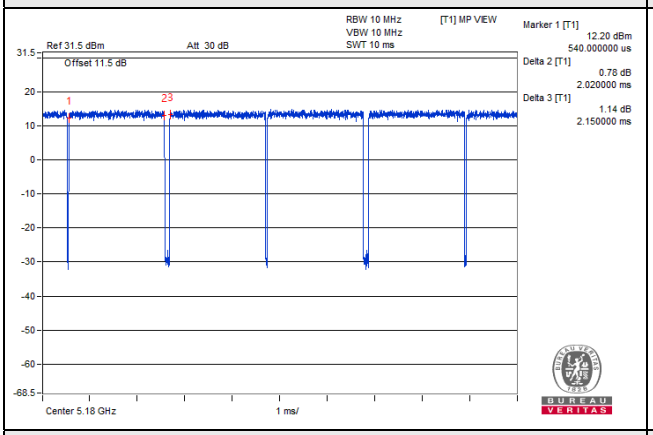
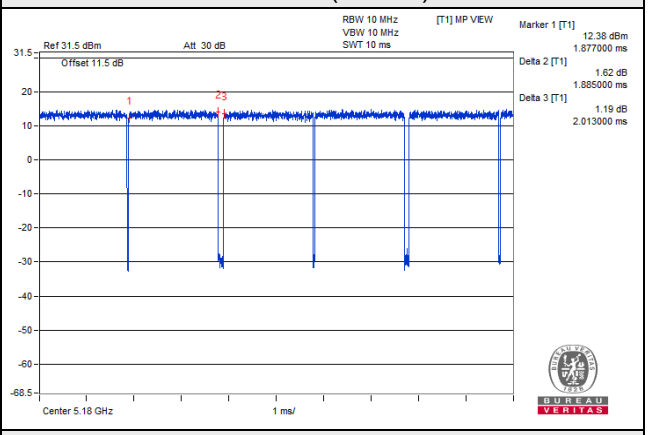
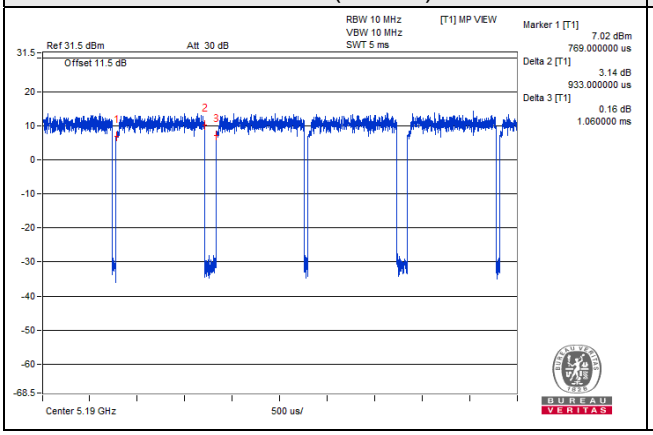
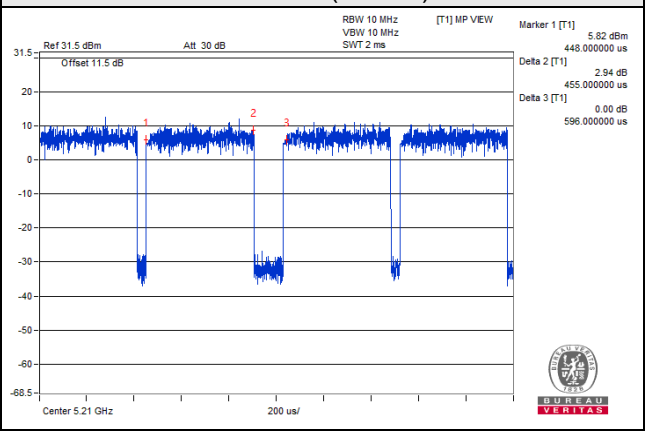
802.11ax (HE80)



Scanning radio (Radio 3)

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

802.11a: Duty cycle = 2.020/2.150 = 0.940, Duty factor = 10 * log (1/0.940) = 0.27
802.11ac (VHT20): Duty cycle = 1.885/2.013 = 0.936, Duty factor = 10 * log (1/0.936) = 0.29
802.11ac (VHT40): Duty cycle = 0.933/1.060 = 0.880, Duty factor = 10 * log (1/0.880) = 0.55
802.11ac (VHT80): Duty cycle = 0.455/0.596 = 0.763, Duty factor = 10 * log (1/0.763) = 1.17

802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	Adapter	Sunny	SYS1546-3612-T3	NA	NA	Provided by client
C.	POE	EnGenius	EPA5006GAT	NA	NA	Provided by client
D.	USB Flash	HP	v250W	5	NA	-

Note:

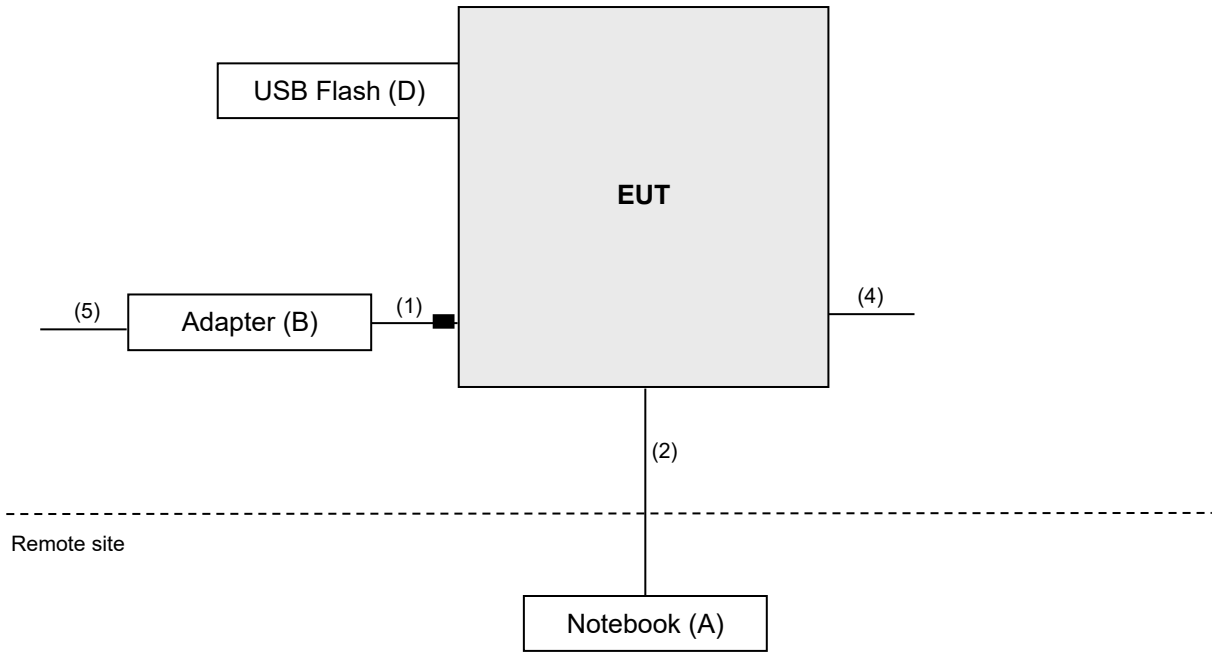
1. All power cords of the above support units are non-shielded (1.8m).
2. Items A acted as communication partner to transfer data.

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Power Cable	1	1.86	N	1	Provided by client
2.	LAN Cable	1	6.0	N	0	RJ45, Cat5e
3.	LAN Cable	1	1.5	N	0	RJ45, Cat5e
4.	USB Cable	1	1.5	Y	0	-
5.	AC Power Cable	1	1.77	N	0	Provided by client
6.	AC Power Cable	1	0.5	N	0	Provided by client

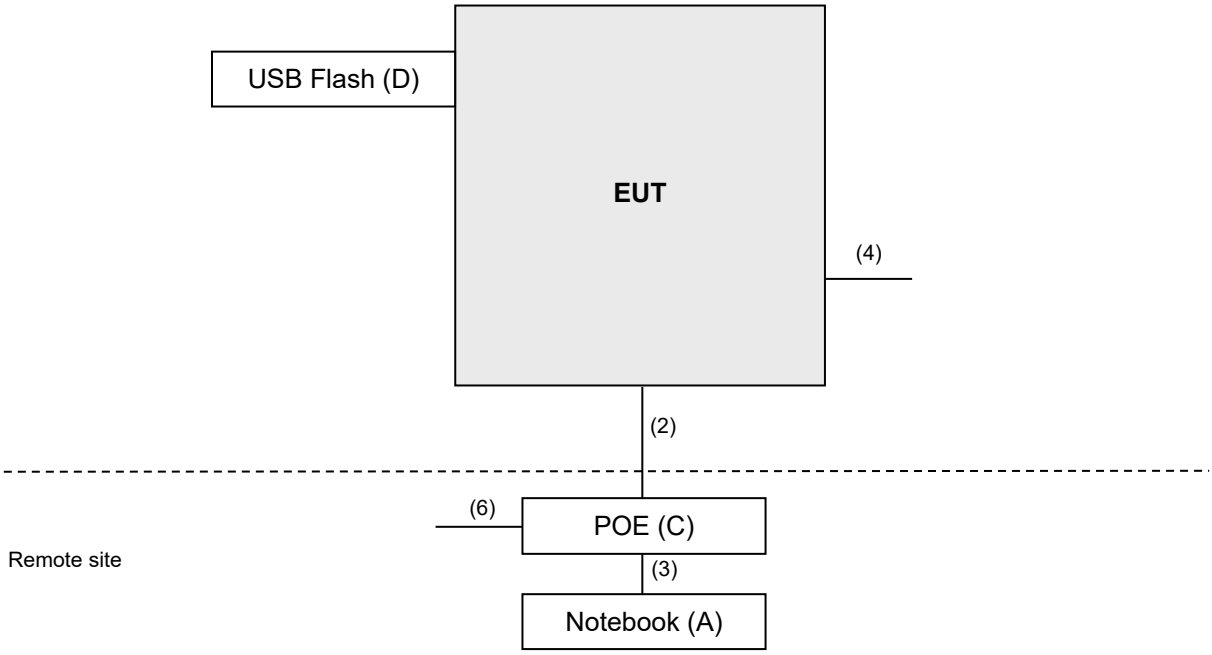
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

Test Mode A



Test 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
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 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) *1 PK: 10 (dBm/MHz) *2 PK: 15.6 (dBm/MHz) *3 PK: 27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK: 105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK: 122.2 (dBμV/m) *4

*1 beyond 75 MHz or more above of the band edge.

*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

$$E = \frac{1000000\ \sqrt{30\ P}}{3}$$ μV/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	102782	Dec. 10, 2021	Dec. 09, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSW43	101866	Jan. 14, 2022	Jan. 13, 2023
BILOG Antenna SCHWARZBECK	VULB9168	9168-1213	Oct. 27, 2021	Oct. 26, 2022
HORN Antenna RF SPIN	DRH18-E	210103A18E	Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	9170-1048	Nov. 14, 2021	Nov. 13, 2022
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI (Below 1GHz)	EMC330N	980782	Jan. 17, 2022	Jan. 16, 2023
Preamplifier EMCI (Above 1GHz)	EMC118A45SE	980808	Dec. 30, 2021	Dec. 29, 2022
Preamplifier EMCI (18GHz~40GHz)	EMC184045SE	980788	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC104-SM-SM-(9000+2000+1000)	201243+ 201231+ 210102	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMCCFD400-NM-NM-(9000+300+500)	201236+ 201235+ 201233	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC101G-KM-KM-(5000+3000+2000)	201260+201257+201254	Jan. 17, 2022	Jan. 16, 2023
Software BV ADT	ADT_Radiated_V7.6.15.9.5	NA	NA	NA
Antenna Tower &Turn Max-Full	MFT-151SS-0.5T	NA	NA	NA
Turn Table Max-Full	MF-7802BS	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208674	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208674	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 8.

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 ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.

   5G traffic radio (Radio 1)
   (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11ax (HE20): RBW = 1MHz, VBW = 1kHz;
   802.11ax (HE40): RBW = 1MHz, VBW = 1kHz; 802.11ax (HE80): RBW = 1MHz, VBW = 1kHz)

   Scanning radio (Radio 3)
   (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11ac (VHT20): RBW = 1MHz, VBW = 1kHz;
   802.11ac (VHT40): RBW = 1MHz, VBW = 3kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 3kHz)

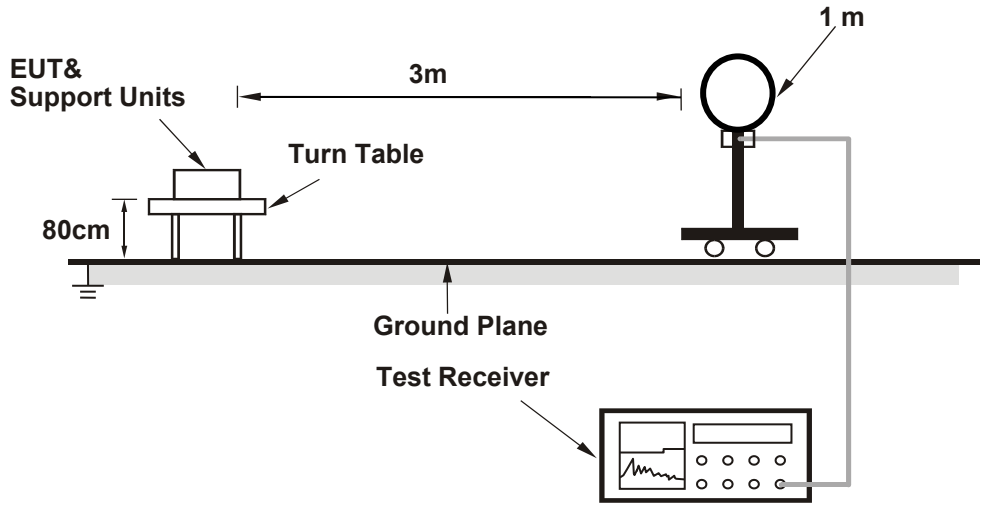
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

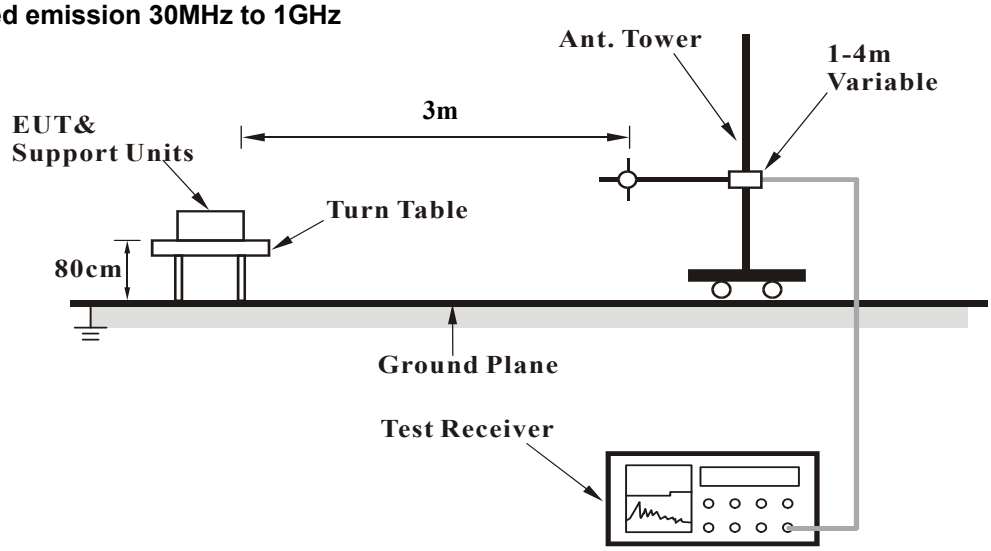
No deviation.

4.1.5 Test Setup

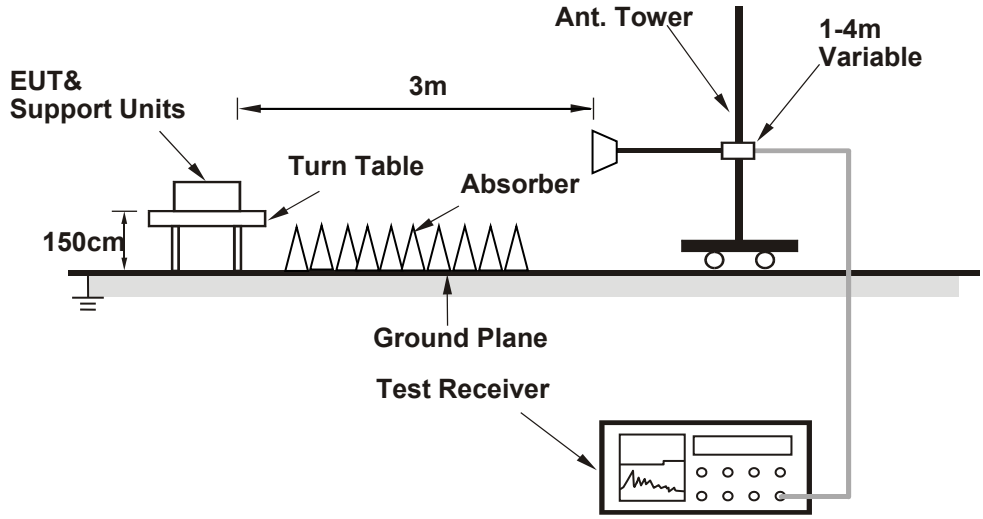
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

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

4.1.7 Test Results

Above 1GHz data:

5G traffic radio (Radio 1)

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	65.85 PK	74.00	-8.15	1.11 H	71	63.45	2.40
2	5150.00	52.24 AV	54.00	-1.76	1.11 H	71	49.84	2.40
3	*5180.00	119.27 PK			1.01 H	61	78.99	40.28
4	*5180.00	109.28 AV			1.01 H	61	69.00	40.28
5	#10360.00	55.99 PK	68.20	-12.21	2.57 H	311	47.49	8.50
6	15540.00	67.25 PK	74.00	-6.75	2.78 H	334	56.42	10.83
7	15540.00	53.17 AV	54.00	-0.83	2.78 H	334	42.34	10.83
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	60.07 PK	74.00	-13.93	2.94 V	315	57.67	2.40
2	5150.00	47.19 AV	54.00	-6.81	2.94 V	315	44.79	2.40
3	*5180.00	113.03 PK			3.18 V	335	72.75	40.28
4	*5180.00	103.40 AV			3.18 V	335	63.12	40.28
5	#10360.00	56.37 PK	68.20	-11.83	1.24 V	21	47.87	8.50
6	15540.00	66.68 PK	74.00	-7.32	1.03 V	7	55.85	10.83
7	15540.00	52.64 AV	54.00	-1.36	1.03 V	7	41.81	10.83

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	*5200.00	118.26 PK			1.05 H	61	78.02	40.24
2	*5200.00	108.77 AV			1.05 H	61	68.53	40.24
3	#10400.00	56.53 PK	68.20	-11.67	1.87 H	12	48.08	8.45
4	15600.00	68.99 PK	74.00	-5.01	1.88 H	3	58.00	10.99
5	15600.00	53.17 AV	54.00	-0.83	1.88 H	3	42.18	10.99
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	112.55 PK			3.11 V	326	72.31	40.24
2	*5200.00	102.67 AV			3.11 V	326	62.43	40.24
3	#10400.00	56.18 PK	68.20	-12.02	3.11 V	345	47.73	8.45
4	15600.00	63.80 PK	74.00	-10.20	1.21 V	19	52.81	10.99
5	15600.00	51.40 AV	54.00	-2.60	1.21 V	19	40.41	10.99

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	5088.00	58.98 PK	74.00	-15.02	1.14 H	67	56.66	2.32
2	5088.00	49.36 AV	54.00	-4.64	1.14 H	67	47.04	2.32
3	5150.00	57.41 PK	74.00	-16.59	1.14 H	67	55.01	2.40
4	5150.00	45.69 AV	54.00	-8.31	1.14 H	67	43.29	2.40
5	*5240.00	118.46 PK			1.06 H	63	78.35	40.11
6	*5240.00	108.59 AV			1.06 H	63	68.48	40.11
7	#10480.00	56.67 PK	68.20	-11.53	1.88 H	3	48.18	8.49
8	15720.00	70.05 PK	74.00	-3.95	1.88 H	3	58.22	11.83
9	15720.00	53.28 AV	54.00	-0.72	1.88 H	3	41.45	11.83
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	5088.00	57.30 PK	74.00	-16.70	3.85 V	346	54.98	2.32
2	5088.00	45.58 AV	54.00	-8.42	3.85 V	346	43.26	2.32
3	5150.00	58.85 PK	74.00	-15.15	3.85 V	346	56.45	2.40
4	5150.00	45.25 AV	54.00	-8.75	3.85 V	346	42.85	2.40
5	*5240.00	113.25 PK			3.86 V	334	73.14	40.11
6	*5240.00	103.59 AV			3.86 V	334	63.48	40.11
7	#10480.00	56.35 PK	68.20	-11.85	1.47 V	47	47.86	8.49
8	15720.00	64.06 PK	74.00	-9.94	1.63 V	32	52.23	11.83
9	15720.00	52.13 AV	54.00	-1.87	1.63 V	32	40.30	11.83

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	#5645.20	60.18 PK	68.20	-8.02	1.06 H	65	56.81	3.37
2	*5745.00	121.67 PK			1.06 H	65	80.00	41.67
3	*5745.00	111.57 AV			1.06 H	65	69.90	41.67
4	#5927.60	59.75 PK	68.20	-8.45	1.06 H	65	56.01	3.74
5	11490.00	58.17 PK	74.00	-15.83	1.06 H	62	48.50	9.67
6	11490.00	46.27 AV	54.00	-7.73	1.06 H	62	36.60	9.67
7	#17235.00	64.31 PK	68.20	-3.89	1.03 H	63	54.60	9.71
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	#5649.20	59.22 PK	68.20	-8.98	2.04 V	4	55.83	3.39
2	*5745.00	119.87 PK			2.04 V	4	78.20	41.67
3	*5745.00	109.47 AV			2.04 V	4	67.80	41.67
4	#5991.60	60.18 PK	68.20	-8.02	2.04 V	4	56.10	4.08
5	11490.00	59.27 PK	74.00	-14.73	3.93 V	333	49.60	9.67
6	11490.00	47.37 AV	54.00	-6.63	3.93 V	333	37.70	9.67
7	#17235.00	67.11 PK	68.20	-1.09	2.43 V	35	57.40	9.71

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	#5633.60	60.28 PK	68.20	-7.92	1.05 H	297	56.98	3.30
2	*5785.00	121.60 PK			1.05 H	297	79.80	41.80
3	*5785.00	111.40 AV			1.05 H	297	69.60	41.80
4	#5926.00	60.33 PK	68.20	-7.87	1.05 H	297	56.60	3.73
5	11570.00	58.40 PK	74.00	-15.60	1.11 H	60	48.80	9.60
6	11570.00	46.60 AV	54.00	-7.40	1.11 H	60	37.00	9.60
7	#17355.00	64.37 PK	68.20	-3.83	1.06 H	57	54.60	9.77
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	#5630.80	59.76 PK	68.20	-8.44	1.87 V	4	56.47	3.29
2	*5785.00	119.90 PK			1.87 V	4	78.10	41.80
3	*5785.00	109.50 AV			1.87 V	4	67.70	41.80
4	#5936.80	60.13 PK	68.20	-8.07	1.87 V	4	56.36	3.77
5	11570.00	59.50 PK	74.00	-14.50	3.91 V	329	49.90	9.60
6	11570.00	47.50 AV	54.00	-6.50	3.91 V	329	37.90	9.60
7	#17355.00	67.27 PK	68.20	-0.93	2.38 V	39	57.50	9.77

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	#5637.60	59.83 PK	68.20	-8.37	1.06 H	296	56.50	3.33
2	*5825.00	122.08 PK			1.06 H	296	80.30	41.78
3	*5825.00	111.58 AV			1.06 H	296	69.80	41.78
4	#5980.80	61.16 PK	68.20	-7.04	1.06 H	296	57.14	4.02
5	11650.00	58.25 PK	74.00	-15.75	1.11 H	298	48.70	9.55
6	11650.00	46.55 AV	54.00	-7.45	1.11 H	298	37.00	9.55
7	#17475.00	64.29 PK	68.20	-3.91	1.08 H	299	54.40	9.89
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	#5610.40	59.09 PK	68.20	-9.11	1.95 V	1	55.91	3.18
2	*5825.00	118.88 PK			1.95 V	1	77.10	41.78
3	*5825.00	108.58 AV			1.95 V	1	66.80	41.78
4	#5998.40	59.50 PK	68.20	-8.70	1.95 V	1	55.37	4.13
5	11650.00	59.55 PK	74.00	-14.45	3.93 V	328	50.00	9.55
6	11650.00	47.55 AV	54.00	-6.45	3.93 V	328	38.00	9.55
7	#17475.00	67.59 PK	68.20	-0.61	2.36 V	39	57.70	9.89

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 802.11ax (HE20)	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	69.00 PK	74.00	-5.00	1.02 H	62	66.60	2.40
2	5150.00	53.40 AV	54.00	-0.60	1.02 H	62	51.00	2.40
3	*5180.00	121.68 PK			1.02 H	65	81.40	40.28
4	*5180.00	108.68 AV			1.02 H	65	68.40	40.28
5	#10360.00	56.00 PK	68.20	-12.20	2.55 H	311	47.50	8.50
6	15540.00	65.93 PK	74.00	-8.07	3.19 H	309	55.10	10.83
7	15540.00	50.83 AV	54.00	-3.17	3.19 H	309	40.00	10.83
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	63.20 PK	74.00	-10.80	3.09 V	19	60.80	2.40
2	5150.00	48.70 AV	54.00	-5.30	3.09 V	19	46.30	2.40
3	*5180.00	117.78 PK			2.95 V	12	77.50	40.28
4	*5180.00	104.88 AV			2.95 V	12	64.60	40.28
5	#10360.00	56.50 PK	68.20	-11.70	3.33 V	22	48.00	8.50
6	15540.00	67.73 PK	74.00	-6.27	1.77 V	39	56.90	10.83
7	15540.00	51.63 AV	54.00	-2.37	1.77 V	39	40.80	10.83

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 802.11ax (HE20)	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	122.34 PK			1.05 H	63	82.10	40.24
2	*5200.00	109.54 AV			1.05 H	63	69.30	40.24
3	#10400.00	56.65 PK	68.20	-11.55	2.58 H	310	48.20	8.45
4	15600.00	69.59 PK	74.00	-4.41	2.95 H	300	58.60	10.99
5	15600.00	52.59 AV	54.00	-1.41	2.95 H	300	41.60	10.99
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	118.44 PK			3.84 V	13	78.20	40.24
2	*5200.00	105.04 AV			3.84 V	13	64.80	40.24
3	#10400.00	57.35 PK	68.20	-10.85	3.45 V	24	48.90	8.45
4	15600.00	69.79 PK	74.00	-4.21	1.90 V	35	58.80	10.99
5	15600.00	53.09 AV	54.00	-0.91	1.90 V	35	42.10	10.99

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 802.11ax (HE20)	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	5088.00	59.22 PK	74.00	-14.78	1.10 H	65	56.90	2.32
2	5088.00	49.22 AV	54.00	-4.78	1.10 H	65	46.90	2.32
3	5150.00	59.50 PK	74.00	-14.50	1.13 H	59	57.10	2.40
4	5150.00	46.10 AV	54.00	-7.90	1.13 H	59	43.70	2.40
5	*5240.00	121.11 PK			1.05 H	63	81.00	40.11
6	*5240.00	108.41 AV			1.05 H	63	68.30	40.11
7	5350.00	58.65 PK	74.00	-15.35	1.08 H	60	56.60	2.05
8	5350.00	46.25 AV	54.00	-7.75	1.08 H	60	44.20	2.05
9	#10480.00	57.49 PK	68.20	-10.71	2.69 H	312	49.00	8.49
10	15720.00	70.53 PK	74.00	-3.47	3.68 H	331	58.70	11.83
11	15720.00	53.13 AV	54.00	-0.87	3.68 H	331	41.30	11.83
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	5088.00	58.12 PK	74.00	-15.88	3.67 V	19	55.80	2.32
2	5088.00	45.52 AV	54.00	-8.48	3.67 V	19	43.20	2.32
3	5150.00	58.70 PK	74.00	-15.30	3.71 V	20	56.30	2.40
4	5150.00	45.50 AV	54.00	-8.50	3.71 V	20	43.10	2.40
5	*5240.00	117.51 PK			3.78 V	21	77.40	40.11
6	*5240.00	104.51 AV			3.78 V	21	64.40	40.11
7	5350.00	57.45 PK	74.00	-16.55	3.66 V	22	55.40	2.05
8	5350.00	44.45 AV	54.00	-9.55	3.66 V	22	42.40	2.05
9	#10480.00	56.89 PK	68.20	-11.31	3.41 V	26	48.40	8.49
10	15720.00	69.83 PK	74.00	-4.17	1.58 V	28	58.00	11.83
11	15720.00	53.03 AV	54.00	-0.97	1.58 V	28	41.20	11.83

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 802.11ax (HE20)	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	#5613.60	59.81 PK	68.20	-8.39	2.01 H	303	56.61	3.20
2	*5745.00	124.02 PK			2.01 H	303	82.35	41.67
3	*5745.00	111.40 AV			2.01 H	303	69.73	41.67
4	#5934.40	60.08 PK	68.20	-8.12	2.01 H	303	56.32	3.76
5	11490.00	59.66 PK	74.00	-14.34	2.35 H	52	49.99	9.67
6	11490.00	49.36 AV	54.00	-4.64	2.35 H	52	39.69	9.67
7	#17235.00	65.70 PK	68.20	-2.50	2.52 H	317	55.99	9.71
8	#17235.00	53.21 AV	54.00	-0.79	2.52 H	317	43.50	9.71
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	#5634.80	58.96 PK	68.20	-9.24	1.91 V	4	55.65	3.31
2	*5745.00	121.22 PK			1.91 V	4	79.55	41.67
3	*5745.00	109.69 AV			1.91 V	4	68.02	41.67
4	#5964.00	59.10 PK	68.20	-9.10	1.91 V	4	55.20	3.90
5	11490.00	58.19 PK	74.00	-15.81	3.38 V	197	48.52	9.67
6	11490.00	48.73 AV	54.00	-5.27	3.38 V	197	39.06	9.67
7	#17235.00	64.61 PK	68.20	-3.59	1.96 V	39	54.90	9.71
8	#17235.00	52.13 AV	54.00	-1.87	1.96 V	39	42.42	9.71

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 802.11ax (HE20)	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	#5641.60	59.08 PK	68.20	-9.12	1.00 H	299	55.73	3.35
2	*5785.00	124.43 PK			1.00 H	299	82.63	41.80
3	*5785.00	110.90 AV			1.00 H	299	69.10	41.80
4	#5952.40	59.87 PK	68.20	-8.33	1.00 H	299	56.04	3.83
5	11570.00	58.51 PK	74.00	-15.49	2.27 H	54	48.91	9.60
6	11570.00	48.66 AV	54.00	-5.34	2.27 H	54	39.06	9.60
7	#17355.00	65.28 PK	68.20	-2.92	1.00 H	312	55.51	9.77
8	#17355.00	53.08 AV	54.00	-0.92	1.00 H	312	43.31	9.77
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	#5647.60	58.48 PK	68.20	-9.72	1.84 V	4	55.10	3.38
2	*5785.00	121.70 PK			1.84 V	4	79.90	41.80
3	*5785.00	109.46 AV			1.84 V	4	67.66	41.80
4	#5976.40	59.03 PK	68.20	-9.17	1.84 V	4	55.04	3.99
5	11570.00	58.36 PK	74.00	-15.64	2.16 V	339	48.76	9.60
6	11570.00	48.63 AV	54.00	-5.37	2.16 V	339	39.03	9.60
7	#17355.00	64.48 PK	68.20	-3.72	1.00 V	10	54.71	9.77
8	#17355.00	52.04 AV	54.00	-1.96	1.00 V	10	42.27	9.77

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 802.11ax (HE20)	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	#5634.40	60.41 PK	68.20	-7.79	2.00 H	302	57.10	3.31
2	*5825.00	122.55 PK			2.00 H	302	80.77	41.78
3	*5825.00	111.14 AV			2.00 H	302	69.36	41.78
4	#5944.80	59.76 PK	68.20	-8.44	2.00 H	302	55.97	3.79
5	11650.00	57.78 PK	74.00	-16.22	2.11 H	47	48.23	9.55
6	11650.00	48.10 AV	54.00	-5.90	2.11 H	47	38.55	9.55
7	#17475.00	66.34 PK	68.20	-1.86	2.31 H	335	56.45	9.89
8	#17475.00	53.20 AV	54.00	-0.80	2.31 H	335	43.31	9.89
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	#5635.60	59.62 PK	68.20	-8.58	1.58 V	7	56.30	3.32
2	*5825.00	120.92 PK			1.85 V	7	79.14	41.78
3	*5825.00	108.59 AV			1.85 V	7	66.81	41.78
4	#5996.80	58.85 PK	68.20	-9.35	1.85 V	7	54.73	4.12
5	11650.00	59.84 PK	74.00	-14.16	N/A V	N/A	50.29	9.55
6	11650.00	51.74 AV	54.00	-2.26	N/A V	N/A	42.19	9.55
7	#17475.00	65.74 PK	68.20	-2.46	2.26 V	39	55.85	9.89
8	#17475.00	53.18 AV	54.00	-0.82	2.26 V	39	43.29	9.89

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 802.11ax (HE40)	Channel	CH 38：5190 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	67.40 PK	74.00	-6.60	1.04 H	65	65.00	2.40
2	5150.00	53.30 AV	54.00	-0.70	1.04 H	65	50.90	2.40
3	*5190.00	119.16 PK			1.00 H	63	78.90	40.26
4	*5190.00	105.56 AV			1.00 H	63	65.30	40.26
5	#10380.00	56.48 PK	68.20	-11.72	2.29 H	301	48.00	8.48
6	15570.00	62.92 PK	74.00	-11.08	1.05 H	59	52.00	10.92
7	15570.00	50.42 AV	54.00	-3.58	1.05 H	59	39.50	10.92
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	60.20 PK	74.00	-13.80	3.33 V	20	57.80	2.40
2	5150.00	47.00 AV	54.00	-7.00	3.33 V	20	44.60	2.40
3	*5190.00	114.56 PK			3.25 V	14	74.30	40.26
4	*5190.00	101.56 AV			3.25 V	14	61.30	40.26
5	#10380.00	57.08 PK	68.20	-11.12	3.26 V	31	48.60	8.48
6	15570.00	63.82 PK	74.00	-10.18	1.21 V	27	52.90	10.92
7	15570.00	50.82 AV	54.00	-3.18	1.21 V	27	39.90	10.92

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 802.11ax (HE40)	Channel	CH 46：5230 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	5088.00	60.52 PK	74.00	-13.48	1.09 H	63	58.20	2.32
2	5088.00	49.82 AV	54.00	-4.18	1.09 H	63	47.50	2.32
3	5150.00	66.50 PK	74.00	-7.50	1.09 H	66	64.10	2.40
4	5150.00	48.90 AV	54.00	-5.10	1.09 H	66	46.50	2.40
5	*5230.00	119.75 PK			1.03 H	61	79.60	40.15
6	*5230.00	106.65 AV			1.03 H	61	66.50	40.15
7	5350.00	61.45 PK	74.00	-12.55	1.10 H	65	59.40	2.05
8	5350.00	46.35 AV	54.00	-7.65	1.10 H	65	44.30	2.05
9	#10460.00	56.78 PK	68.20	-11.42	2.82 H	309	48.30	8.48
10	15690.00	67.43 PK	74.00	-6.57	3.22 H	295	55.80	11.63
11	15690.00	52.93 AV	54.00	-1.07	3.22 H	295	41.30	11.63
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	5088.00	58.72 PK	74.00	-15.28	3.33 V	26	56.40	2.32
2	5088.00	46.52 AV	54.00	-7.48	3.33 V	26	44.20	2.32
3	5150.00	62.20 PK	74.00	-11.80	3.25 V	19	59.80	2.40
4	5150.00	46.80 AV	54.00	-7.20	3.25 V	19	44.40	2.40
5	*5230.00	116.15 PK			3.22 V	16	76.00	40.15
6	*5230.00	102.85 AV			3.22 V	16	62.70	40.15
7	5350.00	58.15 PK	74.00	-15.85	3.30 V	20	56.10	2.05
8	5350.00	45.05 AV	54.00	-8.95	3.30 V	20	43.00	2.05
9	#10460.00	57.18 PK	68.20	-11.02	3.47 V	36	48.70	8.48
10	15690.00	67.43 PK	74.00	-6.57	1.40 V	29	55.80	11.63
11	**15690.00**	**53.43 AV**	**54.00**	**-0.57**	**1.40 V**	**29**	**41.80**	**11.63**

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 802.11ax (HE40)	Channel	CH 151：5755 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	#5646.40	66.42 PK	68.20	-1.78	2.03 H	302	63.05	3.37
2	*5755.00	121.29 PK			2.03 H	302	79.57	41.72
3	*5755.00	108.42 AV			2.03 H	302	66.70	41.72
4	#5955.20	60.48 PK	68.20	-7.72	2.03 H	302	56.63	3.85
5	11510.00	58.14 PK	74.00	-15.86	2.26 H	54	48.47	9.67
6	11510.00	48.20 AV	54.00	-5.80	2.26 H	54	38.53	9.67
7	#17265.00	64.16 PK	68.20	-4.04	3.53 H	340	54.45	9.71
8	#17265.00	50.89 AV	54.00	-3.11	3.53 H	340	41.18	9.71
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	#5646.80	62.22 PK	68.20	-5.98	1.82 V	6	58.85	3.37
2	*5755.00	119.69 PK			1.82 V	6	77.97	41.72
3	*5755.00	106.47 AV			1.82 V	6	64.75	41.72
4	#5942.80	60.06 PK	68.20	-8.14	1.82 V	6	56.27	3.79
5	11510.00	58.63 PK	74.00	-15.37	1.48 V	351	48.96	9.67
6	11510.00	47.34 AV	54.00	-6.66	1.48 V	351	37.67	9.67
7	#17265.00	63.32 PK	68.20	-4.88	2.32 V	39	53.61	9.71
8	#17265.00	50.50 AV	54.00	-3.50	2.32 V	39	40.79	9.71

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 802.11ax (HE40)	Channel	CH 159：5795 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	#5646.00	66.35 PK	68.20	-1.85	1.15 H	300	62.98	3.37
2	*5795.00	121.80 PK			1.15 H	300	79.98	41.82
3	*5795.00	108.98 AV			1.15 H	300	67.16	41.82
4	#5927.20	66.73 PK	68.20	-1.47	1.15 H	300	62.99	3.74
5	11590.00	58.21 PK	74.00	-15.79	3.11 H	360	48.63	9.58
6	11590.00	44.96 AV	54.00	-9.04	3.11 H	360	35.38	9.58
7	#17305.00	63.06 PK	68.20	-5.14	1.64 H	23	53.35	9.71
8	#17305.00	50.57 AV	54.00	-3.43	1.64 H	23	40.86	9.71
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	#5631.20	63.85 PK	68.20	-4.35	1.80 V	4	60.56	3.29
2	*5795.00	119.34 PK			1.80 V	4	77.52	41.82
3	*5795.00	106.96 AV			1.80 V	4	65.14	41.82
4	#5934.00	64.70 PK	68.20	-3.50	1.80 V	4	60.94	3.76
5	11590.00	57.73 PK	74.00	-16.27	2.41 V	133	48.15	9.58
6	11590.00	45.50 AV	54.00	-8.50	2.41 V	133	35.92	9.58
7	#17305.00	63.27 PK	68.20	-4.93	1.66 V	54	53.56	9.71
8	#17305.00	50.31 AV	54.00	-3.69	1.66 V	54	40.60	9.71

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 802.11ax (HE80)	Channel	CH 42：5210 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	69.20 PK	74.00	-4.80	1.00 H	63	66.80	2.40
2	5150.00	53.10 AV	54.00	-0.90	1.00 H	63	50.70	2.40
3	*5210.00	114.71 PK			1.03 H	61	74.50	40.21
4	*5210.00	101.41 AV			1.03 H	61	61.20	40.21
5	#10420.00	56.76 PK	68.20	-11.44	2.91 H	307	48.30	8.46
6	15630.00	63.50 PK	74.00	-10.50	3.30 H	301	52.30	11.20
7	15630.00	50.30 AV	54.00	-3.70	3.30 H	301	39.10	11.20
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	59.30 PK	74.00	-14.70	3.39 V	22	56.90	2.40
2	5150.00	48.00 AV	54.00	-6.00	3.39 V	22	45.60	2.40
3	*5210.00	109.91 PK			3.44 V	15	69.70	40.21
4	*5210.00	97.51 AV			3.44 V	15	57.30	40.21
5	#10420.00	57.06 PK	68.20	-11.14	3.36 V	42	48.60	8.46
6	15630.00	63.80 PK	74.00	-10.20	1.31 V	24	52.60	11.20
7	15630.00	50.70 AV	54.00	-3.30	1.31 V	24	39.50	11.20

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 802.11ax (HE80)	Channel	CH 155：5775 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	#5647.60	67.49 PK	68.20	-0.71	1.23 H	298	64.11	3.38
2	*5775.00	114.14 PK			1.23 H	298	72.37	41.77
3	*5775.00	101.41 AV			1.23 H	298	59.64	41.77
4	#5933.20	64.60 PK	68.20	-3.60	1.23 H	298	60.84	3.76
5	11550.00	58.00 PK	74.00	-16.00	2.26 H	57	48.38	9.62
6	11550.00	47.79 AV	54.00	-6.21	2.26 H	57	38.17	9.62
7	#17325.00	62.89 PK	68.20	-5.31	2.53 H	15	53.16	9.73
8	#17325.00	50.24 AV	54.00	-3.76	2.53 H	15	40.51	9.73
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	#5650.00	62.30 PK	68.20	-5.90	3.37 V	19	58.91	3.39
2	*5775.00	109.75 PK			3.37 V	19	67.98	41.77
3	*5775.00	97.41 AV			3.37 V	19	55.64	41.77
4	#5928.00	60.27 PK	68.20	-7.93	3.37 V	19	56.53	3.74
5	11550.00	58.54 PK	74.00	-15.46	1.64 V	31	48.92	9.62
6	11550.00	44.92 AV	54.00	-9.08	1.64 V	31	35.30	9.62
7	#17325.00	62.47 PK	68.20	-5.73	1.34 V	314	52.74	9.73
8	#17325.00	50.45 AV	54.00	-3.55	1.34 V	314	40.72	9.73

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.

Scanning radio (Radio 3)

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	57.60 PK	74.00	-16.40	1.82 H	350	55.20	2.40
2	5150.00	44.90 AV	54.00	-9.10	1.82 H	350	42.50	2.40
3	*5180.00	105.48 PK			1.79 H	348	65.20	40.28
4	*5180.00	95.78 AV			1.79 H	348	55.50	40.28
5	#10360.00	55.90 PK	68.20	-12.30	1.95 H	351	47.40	8.50
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	58.10 PK	74.00	-15.90	2.09 V	330	55.70	2.40
2	5150.00	45.30 AV	54.00	-8.70	2.09 V	330	42.90	2.40
3	*5180.00	106.18 PK			1.99 V	327	65.90	40.28
4	*5180.00	96.48 AV			1.99 V	327	56.20	40.28
5	#10360.00	56.00 PK	68.20	-12.20	2.12 V	324	47.50	8.50

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	*5200.00	105.84 PK			1.81 H	346	65.60	40.24
2	*5200.00	95.14 AV			1.81 H	346	54.90	40.24
3	#10400.00	56.05 PK	68.20	-12.15	2.01 H	353	47.60	8.45
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	106.64 PK			2.11 V	328	66.40	40.24
2	*5200.00	96.84 AV			2.11 V	328	56.60	40.24
3	#10400.00	56.25 PK	68.20	-11.95	2.17 V	321	47.80	8.45

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	105.11 PK			2.00 H	343	65.00	40.11
2	*5240.00	95.11 AV			2.00 H	343	55.00	40.11
3	5350.00	58.55 PK	74.00	-15.45	2.04 H	349	56.50	2.05
4	5350.00	45.95 AV	54.00	-8.05	2.04 H	349	43.90	2.05
5	5400.00	59.38 PK	74.00	-14.62	1.97 H	346	57.40	1.98
6	5400.00	46.98 AV	54.00	-7.02	1.97 H	346	45.00	1.98
7	#10480.00	55.99 PK	68.20	-12.21	1.97 H	348	47.50	8.49
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	105.81 PK			2.07 V	327	65.70	40.11
2	*5240.00	95.81 AV			2.07 V	327	55.70	40.11
3	5350.00	59.45 PK	74.00	-14.55	2.13 V	322	57.40	2.05
4	5350.00	45.65 AV	54.00	-8.35	2.13 V	322	43.60	2.05
5	5400.00	59.28 PK	74.00	-14.72	2.11 V	329	57.30	1.98
6	5400.00	46.88 AV	54.00	-7.12	2.11 V	329	44.90	1.98
7	#10480.00	56.19 PK	68.20	-12.01	2.12 V	326	47.70	8.49

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	#5608.00	59.53 PK	68.20	-8.67	2.05 H	322	56.37	3.16
2	*5745.00	106.17 PK			2.05 H	322	64.50	41.67
3	*5745.00	96.07 AV			2.05 H	322	54.40	41.67
4	#5927.20	58.76 PK	68.20	-9.44	2.05 H	322	55.02	3.74
5	11490.00	58.67 PK	74.00	-15.33	2.01 H	355	49.00	9.67
6	11490.00	45.77 AV	54.00	-8.23	2.01 H	355	36.10	9.67
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	#5649.20	60.19 PK	68.20	-8.01	1.86 V	305	56.80	3.39
2	*5745.00	107.37 PK			1.86 V	305	65.70	41.67
3	*5745.00	97.37 AV			1.86 V	305	55.70	41.67
4	#5980.00	58.58 PK	68.20	-9.62	1.86 V	305	54.57	4.01
5	11490.00	58.97 PK	74.00	-15.03	2.26 V	334	49.30	9.67
6	11490.00	46.07 AV	54.00	-7.93	2.26 V	334	36.40	9.67

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	#5643.60	59.30 PK	68.20	-8.90	1.69 H	319	55.94	3.36
2	*5785.00	105.90 PK			1.00 H	319	64.10	41.80
3	*5785.00	95.80 AV			1.00 H	319	54.00	41.80
4	#5967.20	58.59 PK	68.20	-9.61	1.69 H	319	54.66	3.93
5	11570.00	58.70 PK	74.00	-15.30	2.09 H	348	49.10	9.60
6	11570.00	45.60 AV	54.00	-8.40	2.09 H	348	36.00	9.60
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	#5628.00	59.71 PK	68.20	-8.49	1.84 V	307	56.44	3.27
2	*5785.00	107.10 PK			1.84 V	307	65.30	41.80
3	*5785.00	97.20 AV			1.84 V	307	55.40	41.80
4	#5974.80	58.90 PK	68.20	-9.30	1.84 V	307	54.93	3.97
5	11570.00	59.00 PK	74.00	-15.00	2.29 V	339	49.40	9.60
6	11570.00	45.90 AV	54.00	-8.10	2.29 V	339	36.30	9.60

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	#5647.60	59.67 PK	68.20	-8.53	1.78 H	321	56.29	3.38
2	*5825.00	105.48 PK			1.78 H	321	63.70	41.78
3	*5825.00	95.58 AV			1.78 H	321	53.80	41.78
4	#5953.20	58.84 PK	68.20	-9.36	1.78 H	321	55.01	3.83
5	11650.00	58.55 PK	74.00	-15.45	2.10 H	358	49.00	9.55
6	11650.00	45.55 AV	54.00	-8.45	2.10 H	358	36.00	9.55
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	59.40 PK	68.20	-8.80	1.92 V	305	56.10	3.30
2	*5825.00	106.08 PK			1.92 V	305	64.30	41.78
3	*5825.00	96.08 AV			1.92 V	305	54.30	41.78
4	#5994.40	59.67 PK	68.20	-8.53	1.92 V	305	55.57	4.10
5	11650.00	58.75 PK	74.00	-15.25	2.37 V	336	49.20	9.55
6	11650.00	45.75 AV	54.00	-8.25	2.37 V	336	36.20	9.55

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 802.11ac (VHT20)	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	57.60 PK	74.00	-16.40	1.81 H	342	55.20	2.40
2	5150.00	45.00 AV	54.00	-9.00	1.81 H	342	42.60	2.40
3	*5180.00	104.98 PK			1.77 H	348	64.70	40.28
4	*5180.00	95.08 AV			1.77 H	348	54.80	40.28
5	#10360.00	56.00 PK	68.20	-12.20	1.93 H	350	47.50	8.50
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	57.70 PK	74.00	-16.30	2.08 V	328	55.30	2.40
2	5150.00	45.30 AV	54.00	-8.70	2.08 V	328	42.90	2.40
3	*5180.00	105.68 PK			2.01 V	326	65.40	40.28
4	*5180.00	95.78 AV			2.01 V	326	55.50	40.28
5	#10360.00	56.10 PK	68.20	-12.10	2.17 V	328	47.60	8.50

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 802.11ac (VHT20)	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	105.24 PK			1.83 H	349	65.00	40.24
2	*5200.00	95.34 AV			1.83 H	349	55.10	40.24
3	#10400.00	55.95 PK	68.20	-12.25	1.97 H	346	47.50	8.45
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	106.04 PK			2.05 V	329	65.80	40.24
2	*5200.00	96.04 AV			2.05 V	329	55.80	40.24
3	#10400.00	56.35 PK	68.20	-11.85	2.20 V	329	47.90	8.45

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 802.11ac (VHT20)	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	104.91 PK			1.96 H	343	64.80	40.11
2	*5240.00	94.61 AV			1.96 H	343	54.50	40.11
3	5350.00	58.75 PK	74.00	-15.25	2.03 H	341	56.70	2.05
4	5350.00	45.75 AV	54.00	-8.25	2.03 H	341	43.70	2.05
5	5400.00	59.78 PK	74.00	-14.22	1.99 H	345	57.80	1.98
6	5400.00	46.68 AV	54.00	-7.32	1.99 H	345	44.70	1.98
7	#10480.00	55.99 PK	68.20	-12.21	2.00 H	356	47.50	8.49
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	105.61 PK			2.07 V	325	65.50	40.11
2	*5240.00	95.31 AV			2.07 V	325	55.20	40.11
3	5350.00	58.85 PK	74.00	-15.15	2.08 V	322	56.80	2.05
4	5350.00	45.45 AV	54.00	-8.55	2.08 V	322	43.40	2.05
5	5400.00	59.48 PK	74.00	-14.52	2.10 V	328	57.50	1.98
6	5400.00	46.88 AV	54.00	-7.12	2.10 V	328	44.90	1.98
7	#10480.00	56.19 PK	68.20	-12.01	2.13 V	337	47.70	8.49

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 802.11ac (VHT20)	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	#5632.00	59.31 PK	68.20	-8.89	1.99 H	323	56.01	3.30
2	*5745.00	105.37 PK			1.00 H	323	63.70	41.67
3	*5745.00	95.37 AV			1.00 H	323	53.70	41.67
4	#5961.20	58.31 PK	68.20	-9.89	1.99 H	323	54.43	3.88
5	11490.00	58.77 PK	74.00	-15.23	2.01 H	350	49.10	9.67
6	11490.00	45.97 AV	54.00	-8.03	2.01 H	350	36.30	9.67
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	#5615.60	59.43 PK	68.20	-8.77	1.88 V	307	56.22	3.21
2	*5745.00	107.07 PK			1.88 V	307	65.40	41.67
3	*5745.00	97.07 AV			1.88 V	307	55.40	41.67
4	#5986.40	58.98 PK	68.20	-9.22	1.88 V	307	54.93	4.05
5	11490.00	59.17 PK	74.00	-14.83	2.35 V	339	49.50	9.67
6	11490.00	46.07 AV	54.00	-7.93	2.35 V	339	36.40	9.67

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 802.11ac (VHT20)	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	#5624.40	59.48 PK	68.20	-8.72	1.68 H	322	56.23	3.25
2	*5785.00	105.10 PK			1.68 H	322	63.30	41.80
3	*5785.00	95.10 AV			1.68 H	322	53.30	41.80
4	#5951.60	58.64 PK	68.20	-9.56	1.68 H	322	54.82	3.82
5	11570.00	58.60 PK	74.00	-15.40	1.99 H	352	49.00	9.60
6	11570.00	45.60 AV	54.00	-8.40	1.99 H	352	36.00	9.60
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	#5633.60	60.46 PK	68.20	-7.74	1.84 V	305	57.16	3.30
2	*5785.00	106.40 PK			1.84 V	305	64.60	41.80
3	*5785.00	96.50 AV			1.84 V	305	54.70	41.80
4	#5943.20	59.24 PK	68.20	-8.96	1.84 V	305	55.45	3.79
5	11570.00	59.00 PK	74.00	-15.00	2.31 V	325	49.40	9.60
6	11570.00	45.80 AV	54.00	-8.20	2.31 V	325	36.20	9.60

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 802.11ac (VHT20)	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	#5646.00	60.47 PK	68.20	-7.73	1.90 H	320	57.10	3.37
2	*5825.00	105.28 PK			1.90 H	320	63.50	41.78
3	*5825.00	95.38 AV			1.90 H	320	53.60	41.78
4	#5976.80	58.90 PK	68.20	-9.30	1.90 H	320	54.91	3.99
5	11650.00	58.85 PK	74.00	-15.15	2.04 H	355	49.30	9.55
6	11650.00	45.65 AV	54.00	-8.35	2.04 H	355	36.10	9.55
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	#5646.00	60.35 PK	68.20	-7.85	1.93 V	304	56.98	3.37
2	*5825.00	105.88 PK			1.93 V	304	64.10	41.78
3	*5825.00	96.08 AV			1.93 V	304	54.30	41.78
4	#5960.80	59.04 PK	68.20	-9.16	1.93 V	304	55.16	3.88
5	11650.00	59.05 PK	74.00	-14.95	2.20 V	326	49.50	9.55
6	11650.00	45.85 AV	54.00	-8.15	2.20 V	326	36.30	9.55

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 802.11ac (VHT40)	Channel	CH 38：5190 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	57.10 PK	74.00	-16.90	1.85 H	342	54.70	2.40
2	5150.00	45.20 AV	54.00	-8.80	1.85 H	342	42.80	2.40
3	*5190.00	101.76 PK			1.80 H	348	61.50	40.26
4	*5190.00	91.26 AV			1.80 H	348	51.00	40.26
5	#10380.00	56.38 PK	68.20	-11.82	1.97 H	352	47.90	8.48
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	57.60 PK	74.00	-16.40	2.16 V	323	55.20	2.40
2	5150.00	45.60 AV	54.00	-8.40	2.16 V	323	43.20	2.40
3	*5190.00	103.96 PK			2.09 V	331	63.70	40.26
4	*5190.00	92.96 AV			2.09 V	331	52.70	40.26
5	#10380.00	56.58 PK	68.20	-11.62	2.18 V	339	48.10	8.48

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 802.11ac (VHT40)	Channel	CH 46：5230 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	*5230.00	101.75 PK			1.86 H	348	61.60	40.15
2	*5230.00	90.75 AV			1.86 H	348	50.60	40.15
3	5350.00	59.75 PK	74.00	-14.25	1.93 H	351	57.70	2.05
4	5350.00	46.45 AV	54.00	-7.55	1.93 H	351	44.40	2.05
5	#10460.00	56.18 PK	68.20	-12.02	1.97 H	349	47.70	8.48
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	*5230.00	103.35 PK			1.94 V	329	63.20	40.15
2	*5230.00	92.45 AV			1.94 V	329	52.30	40.15
3	5350.00	59.05 PK	74.00	-14.95	2.01 V	334	57.00	2.05
4	5350.00	46.75 AV	54.00	-7.25	2.01 V	334	44.70	2.05
5	#10460.00	56.48 PK	68.20	-11.72	2.22 V	333	48.00	8.48

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 802.11ac (VHT40)	Channel	CH 151：5755 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	#5601.60	59.55 PK	68.20	-8.65	2.09 H	322	56.42	3.13
2	*5755.00	102.92 PK			2.09 H	322	61.20	41.72
3	*5755.00	92.42 AV			2.09 H	322	50.70	41.72
4	#5939.60	59.68 PK	68.20	-8.52	2.09 H	322	55.90	3.78
5	11510.00	58.67 PK	74.00	-15.33	2.12 H	348	49.00	9.67
6	11510.00	45.57 AV	54.00	-8.43	2.12 H	348	35.90	9.67
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	#5608.00	59.68 PK	68.20	-8.52	1.87 V	306	56.52	3.16
2	*5755.00	104.92 PK			1.87 V	306	63.20	41.72
3	*5755.00	94.12 AV			1.87 V	306	52.40	41.72
4	#5956.00	59.32 PK	68.20	-8.88	1.87 V	306	55.46	3.86
5	11510.00	59.17 PK	74.00	-14.83	2.38 V	328	49.50	9.67
6	11510.00	45.87 AV	54.00	-8.13	2.38 V	328	36.20	9.67

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 802.11ac (VHT40)	Channel	CH 159：5795 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	#5644.40	59.42 PK	68.20	-8.78	1.93 H	322	56.06	3.36
2	*5795.00	103.02 PK			1.93 H	322	61.20	41.82
3	*5795.00	92.32 AV			1.93 H	322	50.50	41.82
4	#5988.80	59.60 PK	68.20	-8.60	1.93 H	322	55.53	4.07
5	11590.00	58.68 PK	74.00	-15.32	2.14 H	357	49.10	9.58
6	11590.00	45.58 AV	54.00	-8.42	2.14 H	357	36.00	9.58
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	#5639.60	59.65 PK	68.20	-8.55	1.87 V	307	56.31	3.34
2	*5795.00	103.82 PK			1.87 V	307	62.00	41.82
3	*5795.00	93.52 AV			1.87 V	307	51.70	41.82
4	#5956.40	59.38 PK	68.20	-8.82	1.87 V	307	55.53	3.85
5	11590.00	58.98 PK	74.00	-15.02	2.31 V	329	49.40	9.58
6	11590.00	45.78 AV	54.00	-8.22	2.31 V	329	36.20	9.58

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 802.11ac (VHT80)	Channel	CH 42：5210 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	64.30 PK	74.00	-9.70	1.86 H	342	61.90	2.40
2	5150.00	50.30 AV	54.00	-3.70	1.86 H	342	47.90	2.40
3	*5210.00	98.71 PK			1.71 H	347	58.50	40.21
4	*5210.00	88.41 AV			1.71 H	347	48.20	40.21
5	#10420.00	56.26 PK	68.20	-11.94	1.98 H	359	47.80	8.46
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	64.60 PK	74.00	-9.40	1.99 V	328	62.20	2.40
2	5150.00	52.60 AV	54.00	-1.40	1.99 V	328	50.20	2.40
3	*5210.00	101.01 PK			1.89 V	329	60.80	40.21
4	*5210.00	90.01 AV			1.89 V	329	49.80	40.21
5	#10420.00	56.56 PK	68.20	-11.64	2.23 V	331	48.10	8.46

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 802.11ac (VHT80)	Channel	CH 155：5775 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	#5603.20	59.21 PK	68.20	-8.99	2.02 H	323	56.07	3.14
2	*5775.00	100.97 PK			1.00 H	323	59.20	41.77
3	*5775.00	90.17 AV			1.00 H	323	48.40	41.77
4	#5968.00	59.22 PK	68.20	-8.98	2.02 H	323	55.29	3.93
5	11550.00	58.52 PK	74.00	-15.48	2.08 H	349	48.90	9.62
6	11550.00	45.62 AV	54.00	-8.38	2.08 H	349	36.00	9.62
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	#5634.00	59.78 PK	68.20	-8.42	1.95 V	309	56.47	3.31
2	*5775.00	102.07 PK			1.95 V	309	60.30	41.77
3	*5775.00	91.07 AV			1.95 V	309	49.30	41.77
4	#5988.40	59.20 PK	68.20	-9.00	1.95 V	309	55.13	4.07
5	11550.00	58.82 PK	74.00	-15.18	2.31 V	328	49.20	9.62
6	11550.00	45.92 AV	54.00	-8.08	2.31 V	328	36.30	9.62

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:

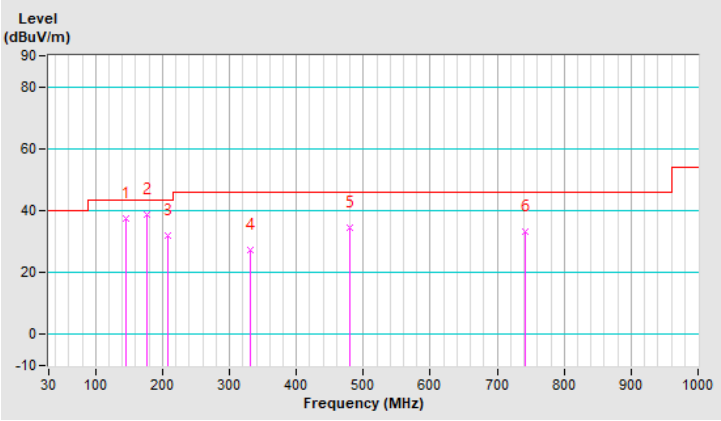
5G traffic radio (Radio 1)

RF Mode	TX 802.11ax (HE40)	Channel	CH 159：5795 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	A		

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	145.28	37.51 QP	43.50	-5.99	2.00 H	264	50.75	-13.24
2	176.20	38.65 QP	43.50	-4.85	1.51 H	254	52.78	-14.13
3	208.54	31.99 QP	43.50	-11.51	1.01 H	186	48.76	-16.77
4	330.84	27.29 QP	46.00	-18.71	1.01 H	232	38.91	-11.62
5	479.86	34.53 QP	46.00	-11.47	1.01 H	18	42.73	-8.20
6	742.74	33.11 QP	46.00	-12.89	2.00 H	32	36.32	-3.21

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.

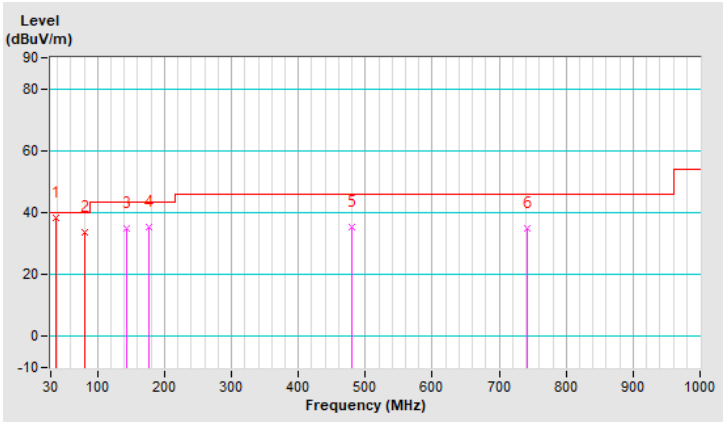


RF Mode	TX 802.11ax (HE40)	Channel	CH 159：5795 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	A		

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	38.59	38.22 QP	40.00	-1.78	1.00 V	166	51.95	-13.73
2	80.55	33.52 QP	40.00	-6.48	1.99 V	152	51.79	-18.27
3	142.46	34.89 QP	43.50	-8.61	1.00 V	190	48.28	-13.39
4	177.61	35.24 QP	43.50	-8.26	1.00 V	65	49.59	-14.35
5	479.86	35.26 QP	46.00	-10.74	1.00 V	139	43.46	-8.20
6	742.74	34.87 QP	46.00	-11.13	1.00 V	2	38.08	-3.21

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.

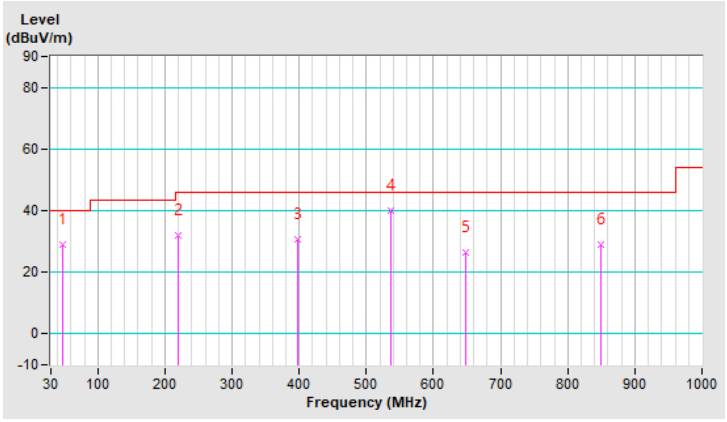


RF Mode	TX 802.11ax (HE40)	Channel	CH 159：5795 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

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	48.28	29.10 QP	40.00	-10.90	1.00 H	69	42.17	-13.07
2	219.78	31.91 QP	46.00	-14.09	1.00 H	133	48.53	-16.62
3	396.91	30.80 QP	46.00	-15.20	1.99 H	268	41.03	-10.23
4	536.09	39.91 QP	46.00	-6.09	1.49 H	237	47.14	-7.23
5	648.55	26.30 QP	46.00	-19.70	1.99 H	3	30.95	-4.65
6	849.58	29.04 QP	46.00	-16.96	1.00 H	149	30.73	-1.69

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.

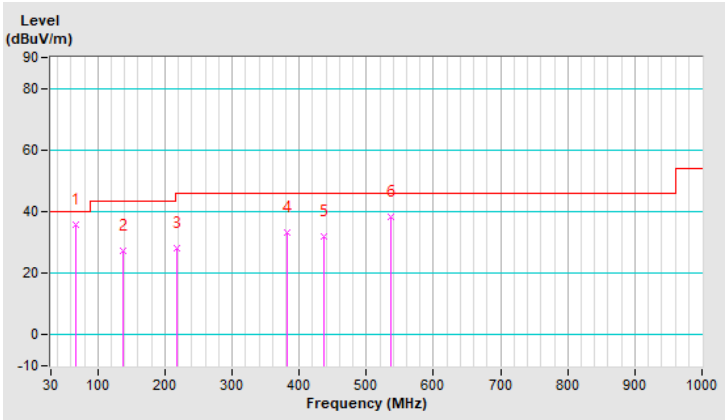


RF Mode	TX 802.11ax (HE40)	Channel	CH 159：5795 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

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	66.55	35.77 QP	40.00	-4.23	1.01 V	207	50.57	-14.80
2	138.25	27.12 QP	43.50	-16.38	1.01 V	195	40.84	-13.72
3	218.38	28.09 QP	46.00	-17.91	1.01 V	314	44.72	-16.63
4	381.45	33.41 QP	46.00	-12.59	1.01 V	162	44.01	-10.60
5	436.28	31.84 QP	46.00	-14.16	1.01 V	223	40.84	-9.00
6	536.09	38.34 QP	46.00	-7.66	1.01 V	166	45.57	-7.23

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.



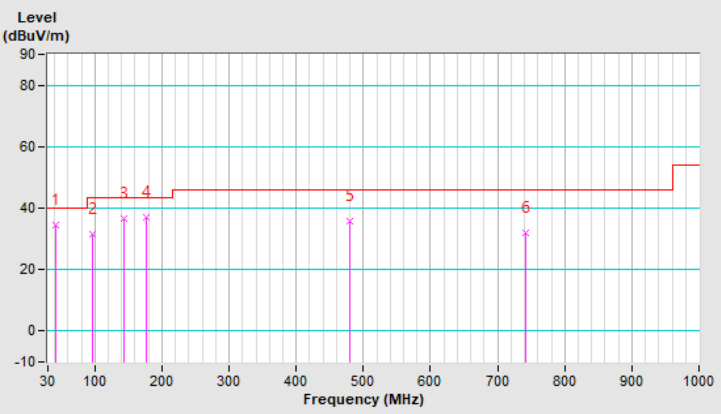
Scanning radio (Radio 3)

RF Mode	TX 802.11a	Channel	CH 157：5785 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	A		

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	42.65	34.54 QP	40.00	-5.46	1.99 H	260	47.86	-13.32
2	96.07	31.62 QP	43.50	-11.88	1.99 H	274	50.32	-18.70
3	142.46	36.45 QP	43.50	-7.05	1.99 H	97	49.84	-13.39
4	176.20	36.95 QP	43.50	-6.55	1.99 H	273	51.08	-14.13
5	479.86	35.85 QP	46.00	-10.15	1.99 H	318	44.05	-8.20
6	742.74	32.08 QP	46.00	-13.92	1.99 H	30	35.29	-3.21

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.

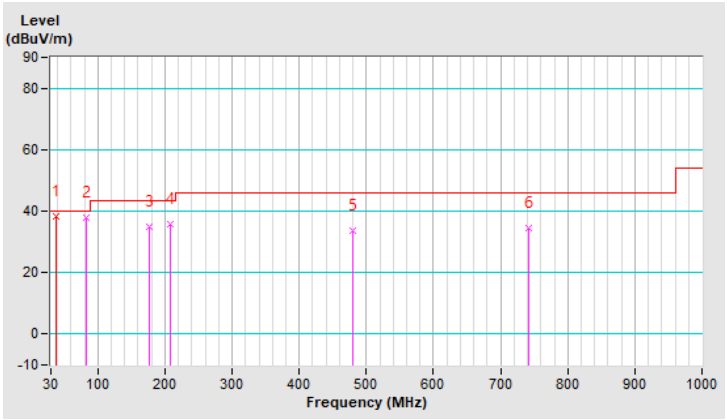


RF Mode	TX 802.11a	Channel	CH 157：5785 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	A		

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	38.23	38.33 QP	40.00	-1.67	1.01 V	163	52.02	-13.69
2	82.01	37.71 QP	40.00	-2.29	1.51 V	214	56.22	-18.51
3	176.20	34.79 QP	43.50	-8.71	1.01 V	18	48.92	-14.13
4	208.54	35.89 QP	43.50	-7.61	1.01 V	209	52.66	-16.77
5	479.86	33.66 QP	46.00	-12.34	2.00 V	35	41.86	-8.20
6	742.74	34.69 QP	46.00	-11.31	1.01 V	36	37.90	-3.21

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.

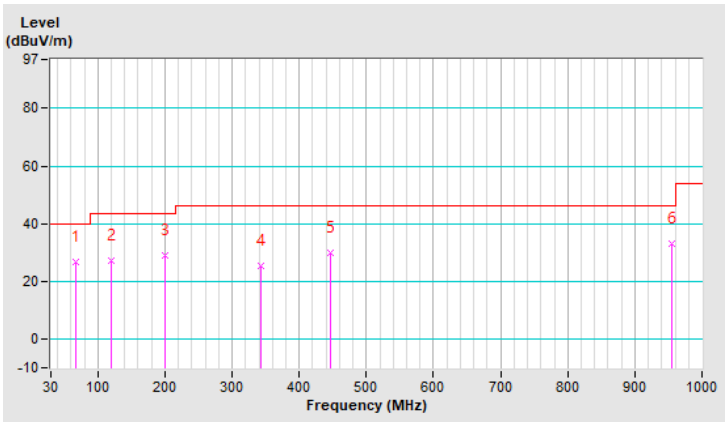


RF Mode	TX 802.11a	Channel	CH 157：5785 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

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	66.55	26.80 QP	40.00	-13.20	1.99 H	91	41.70	-14.90
2	119.97	27.00 QP	43.50	-16.50	1.49 H	118	42.40	-15.40
3	200.10	28.90 QP	43.50	-14.60	1.99 H	272	45.50	-16.60
4	343.49	25.30 QP	46.00	-20.70	1.00 H	254	36.90	-11.60
5	447.52	30.10 QP	46.00	-15.90	1.49 H	141	38.70	-8.60
6	955.01	32.90 QP	46.00	-13.10	1.99 H	189	33.40	-0.50

Remarks:

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

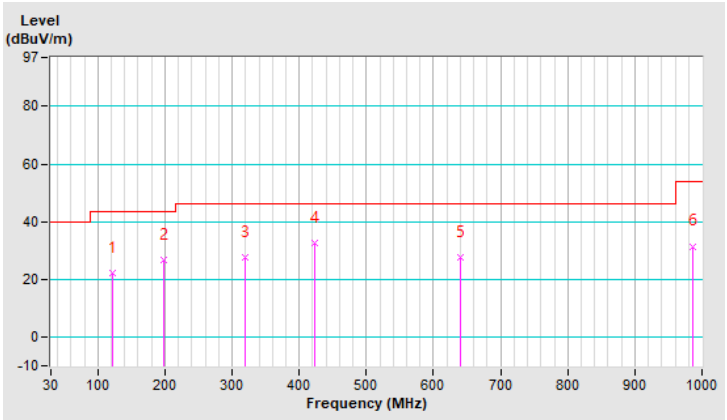


RF Mode	TX 802.11a	Channel	CH 157：5785 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

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	121.38	22.10 QP	43.50	-21.40	1.01 V	174	37.30	-15.20
2	197.29	26.80 QP	43.50	-16.70	1.01 V	18	43.50	-16.70
3	319.59	27.60 QP	46.00	-18.40	1.01 V	70	39.60	-12.00
4	422.22	32.60 QP	46.00	-13.40	1.51 V	255	42.20	-9.60
5	640.12	27.70 QP	46.00	-18.30	1.51 V	176	32.40	-4.70
6	985.94	31.50 QP	54.00	-22.50	1.01 V	208	31.80	-0.30

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

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

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1 (Conduction 1).
3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

a. 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.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

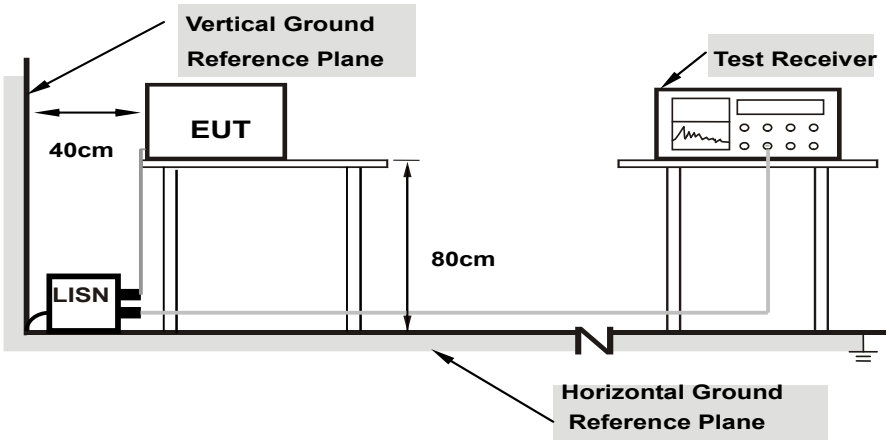
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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:

5G traffic radio (Radio 1)

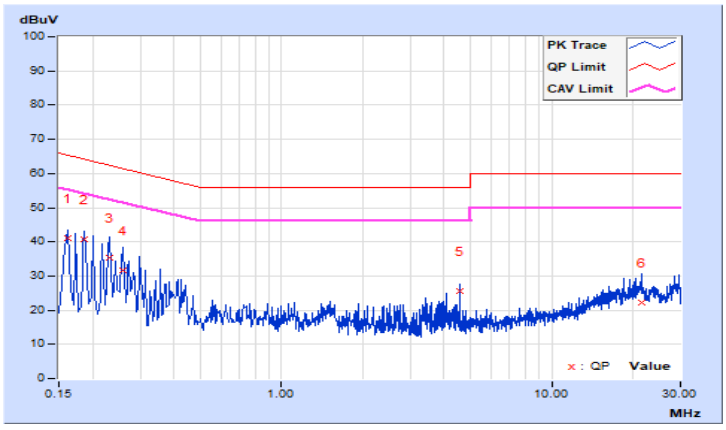
802.11ax (HE40)

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

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16173	9.62	31.47	15.37	41.09	24.99	65.37	55.37	-24.28	-30.38
2	0.18519	9.63	31.27	13.08	40.90	22.71	64.25	54.25	-23.35	-31.54
3	0.23211	9.65	25.74	11.69	35.39	21.34	62.37	52.37	-26.98	-31.03
4	0.25932	9.65	21.85	9.37	31.50	19.02	61.45	51.45	-29.95	-32.43
5	4.57221	9.76	15.88	2.23	25.64	11.99	56.00	46.00	-30.36	-34.01
6	21.58853	9.87	12.46	5.19	22.33	15.06	60.00	50.00	-37.67	-34.94

Remarks:

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

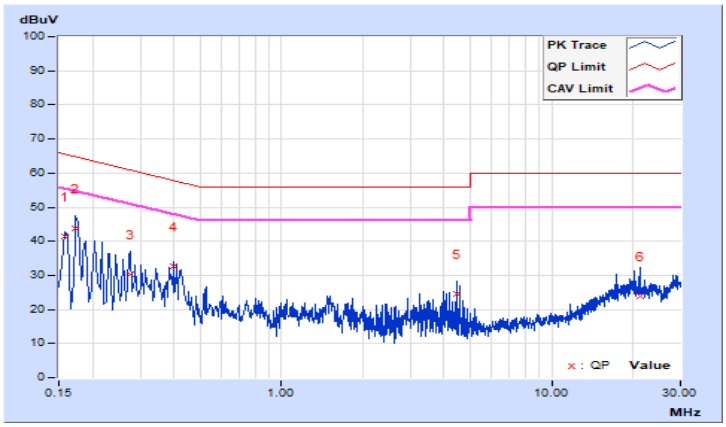


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	9.62	31.65	17.44	41.27	27.06	65.58	55.58	-24.31	-28.52
2	0.17346	9.63	34.19	18.03	43.82	27.66	64.79	54.79	-20.97	-27.13
3	0.27512	9.66	20.79	11.06	30.45	20.72	60.96	50.96	-30.51	-30.24
4	0.40024	9.69	22.81	14.54	32.50	24.23	57.85	47.85	-25.35	-23.62
5	4.47837	9.75	14.96	2.31	24.71	12.06	56.00	46.00	-31.29	-33.94
6	21.30310	9.89	13.86	6.33	23.75	16.22	60.00	50.00	-36.25	-33.78

Remarks:

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

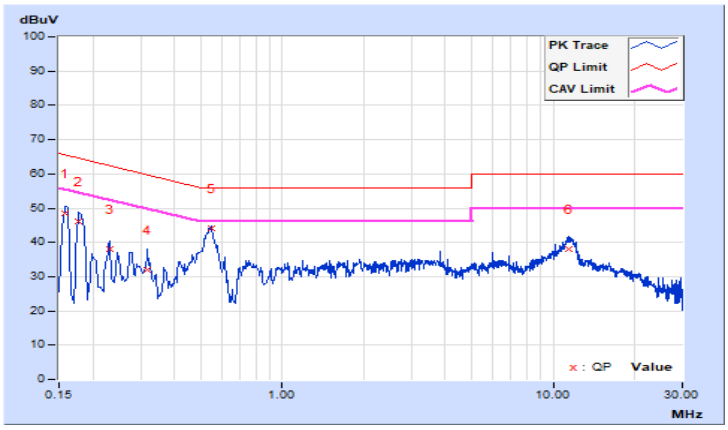


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	9.62	38.78	24.07	48.40	33.69	65.57	55.57	-17.17	-21.88
2	0.17800	9.63	36.57	19.96	46.20	29.59	64.58	54.58	-18.38	-24.99
3	0.23000	9.65	28.53	16.17	38.18	25.82	62.45	52.45	-24.27	-26.63
4	0.31800	9.67	22.35	16.14	32.02	25.81	59.76	49.76	-27.74	-23.95
5	**0.54600**	**9.69**	**34.25**	**29.43**	**43.94**	**39.12**	**56.00**	**46.00**	**-12.06**	**-6.88**
6	11.45400	9.82	28.35	23.70	38.17	33.52	60.00	50.00	-21.83	-16.48

Remarks:

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

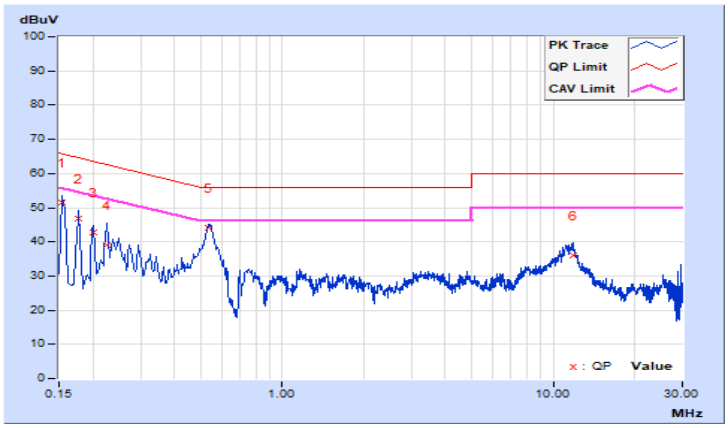


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.62	41.95	25.18	51.57	34.80	65.78	55.78	-14.21	-20.98
2	0.17800	9.63	37.24	20.52	46.87	30.15	64.58	54.58	-17.71	-24.43
3	0.20042	9.64	33.11	16.88	42.75	26.52	63.59	53.59	-20.84	-27.07
4	0.22600	9.65	29.48	15.15	39.13	24.80	62.60	52.60	-23.47	-27.80
5	0.53686	9.69	34.46	29.42	44.15	39.11	56.00	46.00	-11.85	-6.89
6	11.80600	9.83	26.12	21.25	35.95	31.08	60.00	50.00	-24.05	-18.92

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.



Scanning radio (Radio 3)

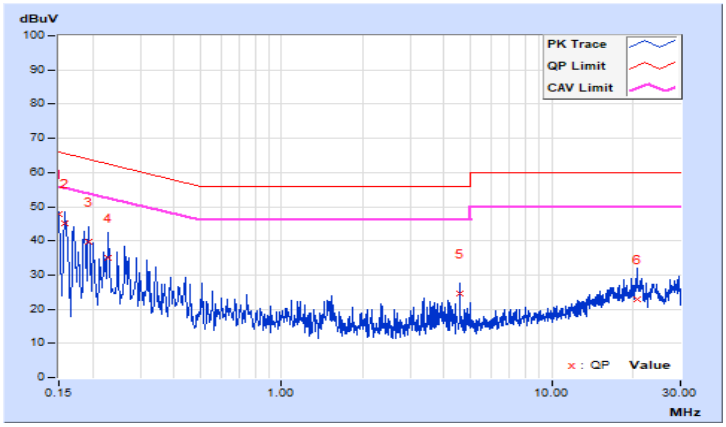
802.11a

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

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.62	38.03	20.63	47.65	30.25	66.00	56.00	-18.35	-25.75
2	0.15782	9.62	35.52	16.21	45.14	25.83	65.58	55.58	-20.44	-29.75
3	0.19301	9.64	30.07	13.72	39.71	23.36	63.91	53.91	-24.20	-30.55
4	0.22820	9.65	25.48	10.81	35.13	20.46	62.51	52.51	-27.38	-32.05
5	4.57221	9.76	14.66	1.69	24.42	11.45	56.00	46.00	-31.58	-34.55
6	20.80653	9.87	13.10	5.88	22.97	15.75	60.00	50.00	-37.03	-34.25

Remarks:

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

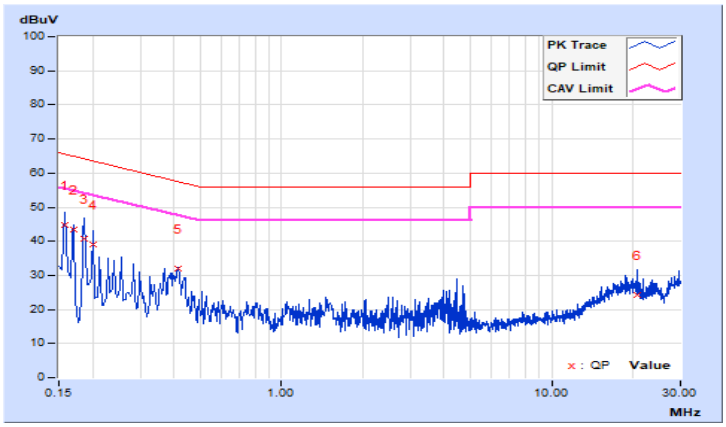


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	9.62	35.08	17.13	44.70	26.75	65.58	55.58	-20.88	-28.83
2	0.16955	9.63	33.83	18.23	43.46	27.86	64.98	54.98	-21.52	-27.12
3	0.18519	9.63	31.27	14.40	40.90	24.03	64.25	54.25	-23.35	-30.22
4	0.20083	9.64	29.31	13.01	38.95	22.65	63.58	53.58	-24.63	-30.93
5	0.41197	9.69	22.42	14.86	32.11	24.55	57.61	47.61	-25.50	-23.06
6	20.73615	9.90	14.19	6.85	24.09	16.75	60.00	50.00	-35.91	-33.25

Remarks:

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

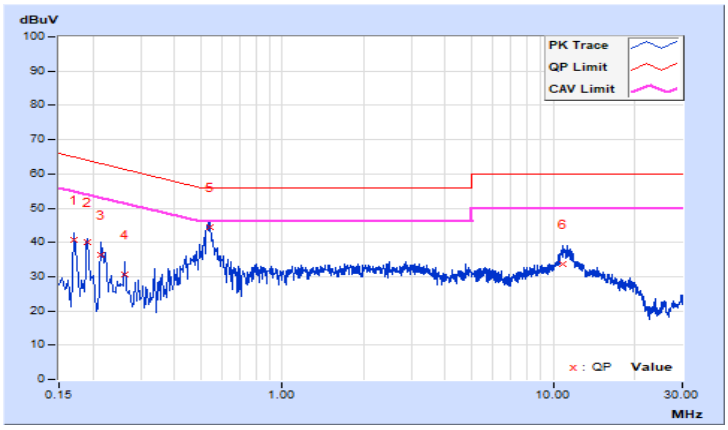


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17000	9.63	30.96	12.07	40.59	21.70	64.96	54.96	-24.37	-33.26
2	0.19000	9.64	30.37	11.97	40.01	21.61	64.04	54.04	-24.03	-32.43
3	0.21400	9.64	26.71	12.70	36.35	22.34	63.05	53.05	-26.70	-30.71
4	0.26200	9.66	20.83	7.20	30.49	16.86	61.37	51.37	-30.88	-34.51
5	0.53800	9.69	34.70	23.97	44.39	33.66	56.00	46.00	-11.61	-12.34
6	10.92200	9.82	23.92	13.84	33.74	23.66	60.00	50.00	-26.26	-26.34

Remarks:

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

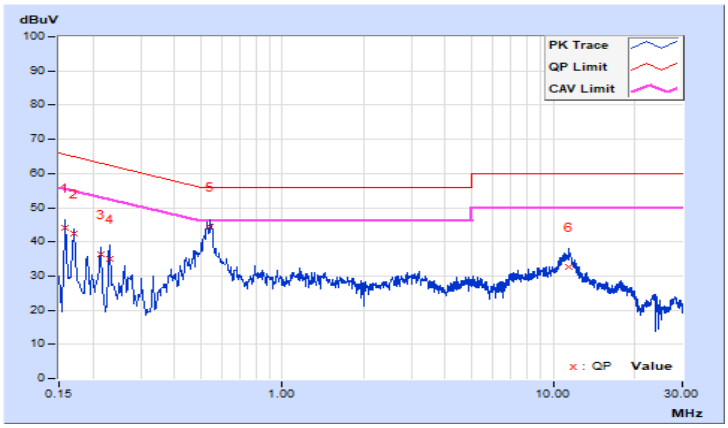


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	9.62	34.34	13.90	43.96	23.52	65.57	55.57	-21.61	-32.05
2	0.17000	9.63	32.68	12.57	42.31	22.20	64.96	54.96	-22.65	-32.76
3	0.21400	9.64	26.58	12.65	36.22	22.29	63.05	53.05	-26.83	-30.76
4	0.23000	9.65	25.42	11.36	35.07	21.01	62.45	52.45	-27.38	-31.44
5	0.54200	9.69	34.65	23.99	44.34	33.68	56.00	46.00	-11.66	-12.32
6	11.39000	9.82	22.93	12.79	32.75	22.61	60.00	50.00	-27.25	-27.39

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 ≦ 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)

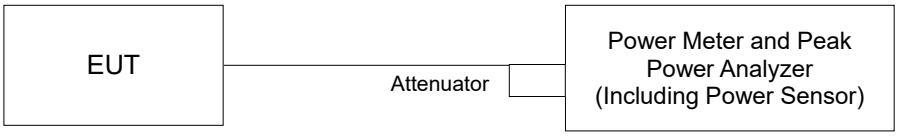
*B is the 26 dB emission bandwidth in megahertz

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



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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.

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

5G traffic radio (Radio 1)

Power Output:

CDD Mode

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	18.99	18.42	148.753	21.72	30.00	Pass
40	5200	18.24	17.83	127.354	21.05	30.00	Pass
48	5240	18.25	17.46	122.553	20.88	30.00	Pass
149	5745	22.34	22.36	343.583	25.36	30.00	Pass
157	5785	21.93	21.58	299.835	24.77	30.00	Pass
165	5825	22.37	21.55	315.473	24.99	30.00	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	18.86	18.41	146.256	21.65	30.00	Pass
40	5200	19.45	19.02	167.904	22.25	30.00	Pass
48	5240	18.55	17.74	131.044	21.17	30.00	Pass
149	5745	22.03	22.01	318.443	25.03	30.00	Pass
157	5785	22.11	21.76	312.523	24.95	30.00	Pass
165	5825	22.25	21.43	306.876	24.87	30.00	Pass

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	17.75	17.06	110.382	20.43	30.00	Pass
46	5230	19.20	18.52	154.298	21.88	30.00	Pass
151	5755	22.35	22.12	334.720	25.25	30.00	Pass
159	5795	23.07	22.68	388.121	25.89	30.00	Pass

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	17.81	16.94	109.826	20.41	30.00	Pass
155	5775	18.97	18.62	151.664	21.81	30.00	Pass

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	18.98	18.51	150.026	21.76	30.00	Pass
40	5200	19.56	19.11	**171.835**	22.35	30.00	Pass
48	5240	18.63	17.88	134.322	21.28	30.00	Pass
149	5745	22.15	22.13	327.364	25.15	30.00	Pass
157	5785	22.22	21.88	320.895	25.06	30.00	Pass
165	5825	22.39	21.52	315.286	24.99	30.00	Pass

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	17.87	17.17	113.355	20.54	30.00	Pass
46	5230	19.25	18.57	156.084	21.93	30.00	Pass
151	5755	22.46	22.25	344.078	25.37	30.00	Pass
159	5795	23.19	22.81	**399.434**	26.01	30.00	Pass

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	17.92	17.05	112.643	20.52	30.00	Pass
155	5775	19.06	18.75	155.527	21.92	30.00	Pass

Beamforming Mode

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	18.86	18.41	146.256	21.65	28.66	Pass
40	5200	19.45	19.02	167.904	22.25	28.66	Pass
48	5240	18.55	17.74	131.044	21.17	28.66	Pass
149	5745	22.03	22.01	318.443	25.03	28.14	Pass
157	5785	22.11	21.76	312.523	24.95	28.14	Pass
165	5825	22.25	21.43	306.876	24.87	28.14	Pass

Note:

1. 5180-5240MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.34dBi > 6dBi, so the power limit shall be reduced to 30 - (7.34 - 6) = 28.66dBm.
2. 5745-5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.86dBi > 6dBi, so the power limit shall be reduced to 30 - (7.86 - 6) = 28.14dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	17.75	17.06	110.382	20.43	28.66	Pass
46	5230	19.20	18.52	154.298	21.88	28.66	Pass
151	5755	22.35	22.12	334.720	25.25	28.14	Pass
159	5795	23.07	22.68	388.121	25.89	28.14	Pass

Note:

1. 5180-5240MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.34dBi > 6dBi, so the power limit shall be reduced to 30 - (7.34 - 6) = 28.66dBm.
2. 5745-5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.86dBi > 6dBi, so the power limit shall be reduced to 30 - (7.86 - 6) = 28.14dBm.

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	17.81	16.94	109.826	20.41	28.66	Pass
155	5775	18.97	18.62	151.664	21.81	28.14	Pass

Note:

1. 5180-5240MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.34dBi > 6dBi, so the power limit shall be reduced to 30 - (7.34 - 6) = 28.66dBm.
2. 5745-5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.86dBi > 6dBi, so the power limit shall be reduced to 30 - (7.86 - 6) = 28.14dBm.

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	18.98	18.51	150.026	21.76	28.66	Pass
40	5200	19.56	19.11	**171.835**	22.35	28.66	Pass
48	5240	18.63	17.88	134.322	21.28	28.66	Pass
149	5745	22.15	22.13	327.364	25.15	28.14	Pass
157	5785	22.22	21.88	320.895	25.06	28.14	Pass
165	5825	22.39	21.52	315.286	24.99	28.14	Pass

Note:
1. 5180-5240MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.34dBi > 6dBi, so the power limit shall be reduced to 30 - (7.34 - 6) = 28.66dBm.
2. 5745-5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.86dBi > 6dBi, so the power limit shall be reduced to 30 - (7.86 - 6) = 28.14dBm.

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	17.87	17.17	113.355	20.54	28.66	Pass
46	5230	19.25	18.57	156.084	21.93	28.66	Pass
151	5755	22.46	22.25	344.078	25.37	28.14	Pass
159	5795	23.19	22.81	**399.434**	26.01	28.14	Pass

Note:
1. 5180-5240MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.34dBi > 6dBi, so the power limit shall be reduced to 30 - (7.34 - 6) = 28.66dBm.
2. 5745-5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.86dBi > 6dBi, so the power limit shall be reduced to 30 - (7.86 - 6) = 28.14dBm.

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	17.92	17.05	112.643	20.52	28.66	Pass
155	5775	19.06	18.75	155.527	21.92	28.14	Pass

Note:
1. 5180-5240MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.34dBi > 6dBi, so the power limit shall be reduced to 30 - (7.34 - 6) = 28.66dBm.
2. 5745-5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.86dBi > 6dBi, so the power limit shall be reduced to 30 - (7.86 - 6) = 28.14dBm.

Scanning radio (Radio 3)

802.11a

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	16.368	12.14	24.00	Pass
40	5200	**17.742**	12.49	24.00	Pass
48	5240	17.022	12.31	24.00	Pass
149	5745	17.742	12.49	30.00	Pass
157	5785	**17.824**	12.51	30.00	Pass
165	5825	17.660	12.47	30.00	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	16.406	12.15	24.00	Pass
40	5200	17.660	12.47	24.00	Pass
48	5240	17.338	12.39	24.00	Pass
149	5745	17.418	12.41	30.00	Pass
157	5785	17.498	12.43	30.00	Pass
165	5825	16.943	12.29	30.00	Pass

802.11ac (VHT40)

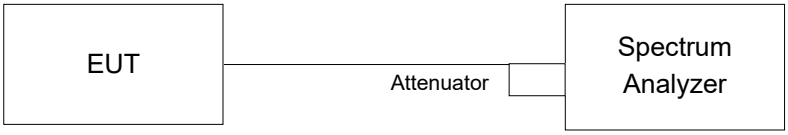
Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	16.558	12.19	24.00	Pass
46	5230	17.660	12.47	24.00	Pass
151	5755	17.579	12.45	30.00	Pass
159	5795	16.711	12.23	30.00	Pass

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	17.498	12.43	24.00	Pass
155	5775	15.959	12.03	30.00	Pass

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

5G traffic radio (Radio 1)

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.44	16.56
40	5200	16.44	16.32
48	5240	16.56	16.56
149	5745	17.74	18.70
157	5785	17.04	17.04
165	5825	17.28	16.80

802.11ax (HE20)

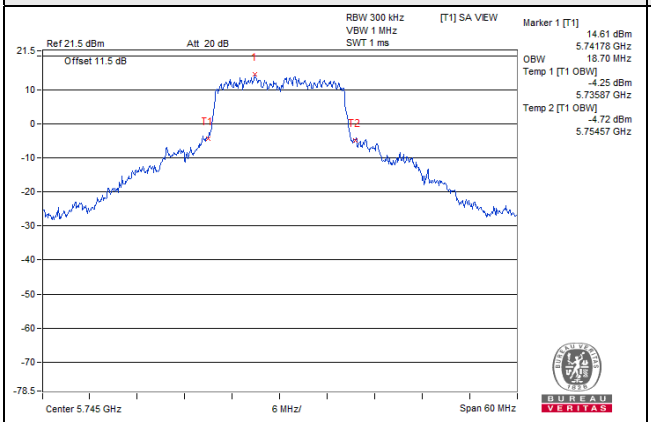
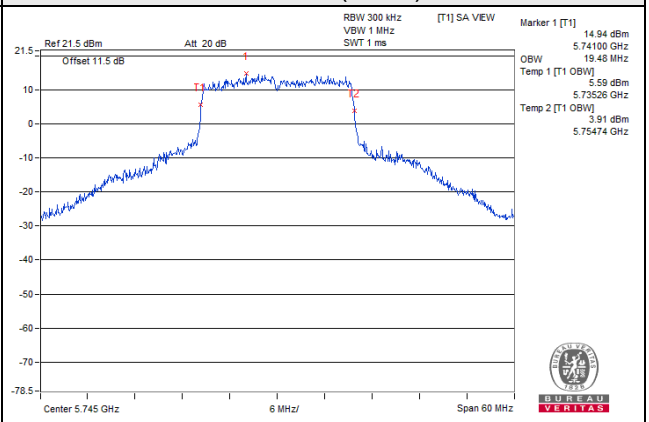
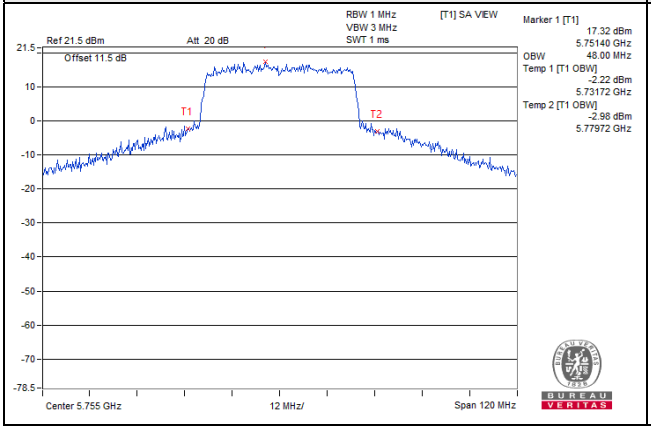
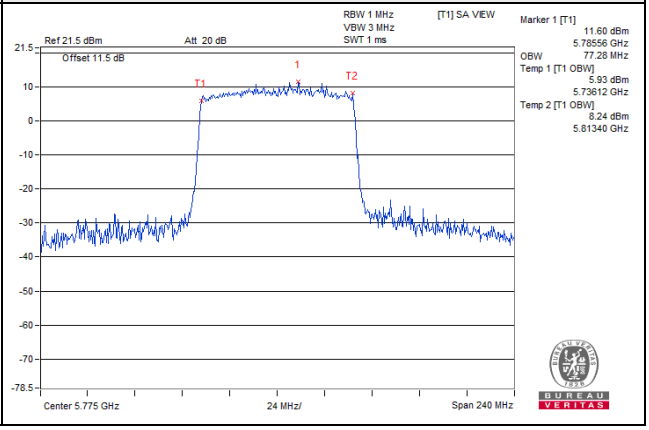
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	19.08	18.96
40	5200	18.96	18.96
48	5240	18.96	18.96
149	5745	19.32	19.48
157	5785	19.32	19.32
165	5825	19.44	19.32

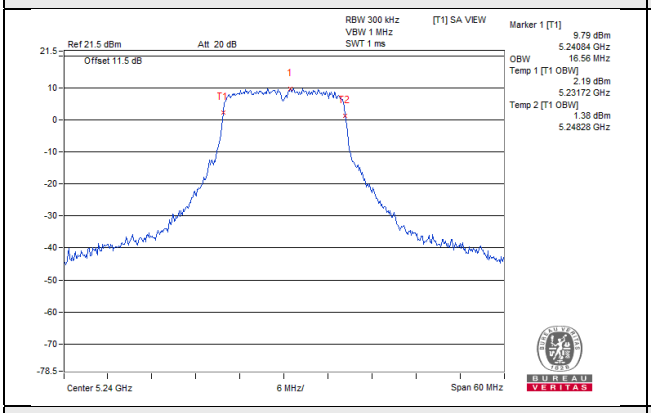
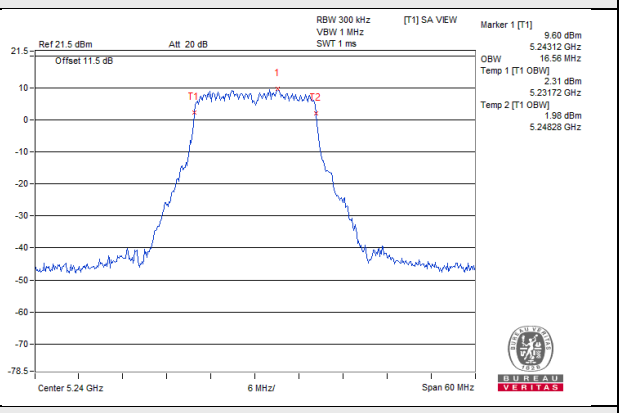
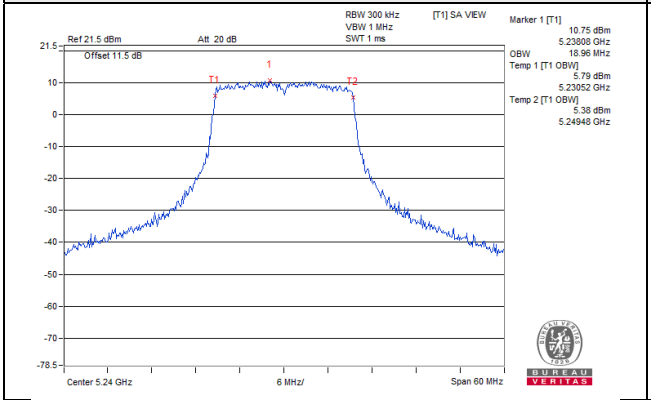
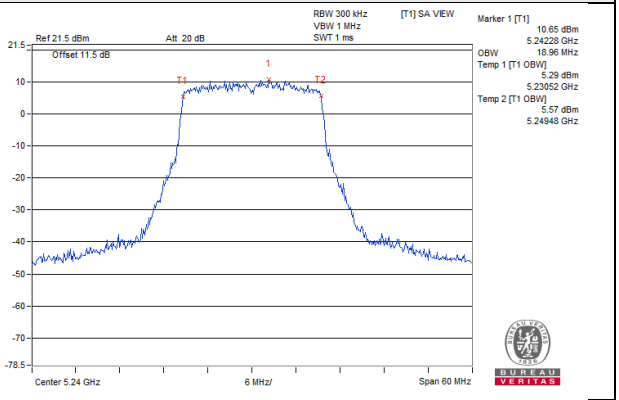
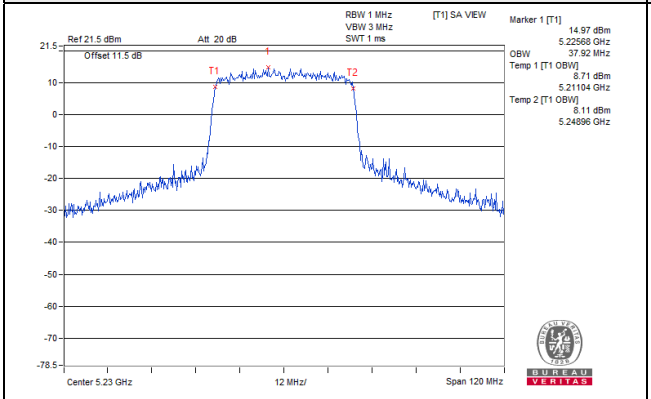
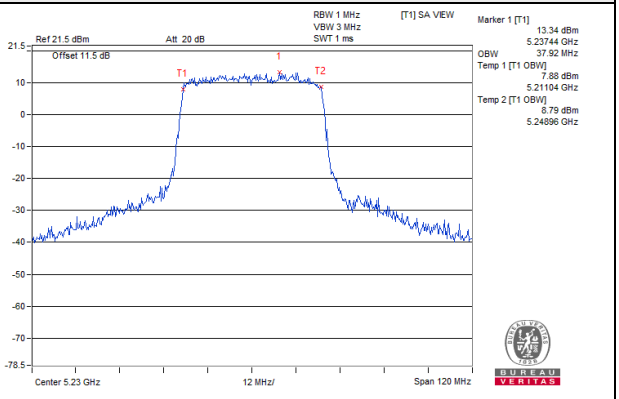
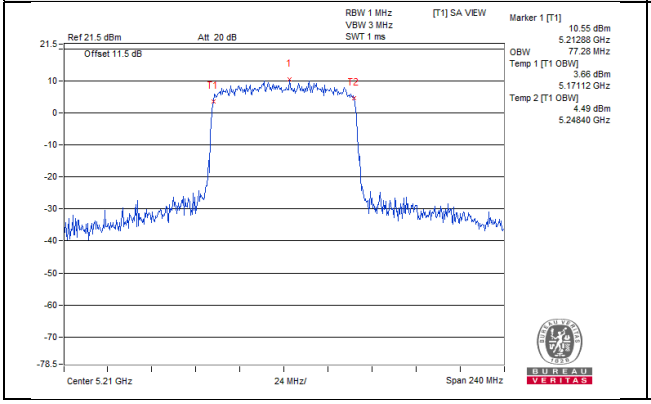
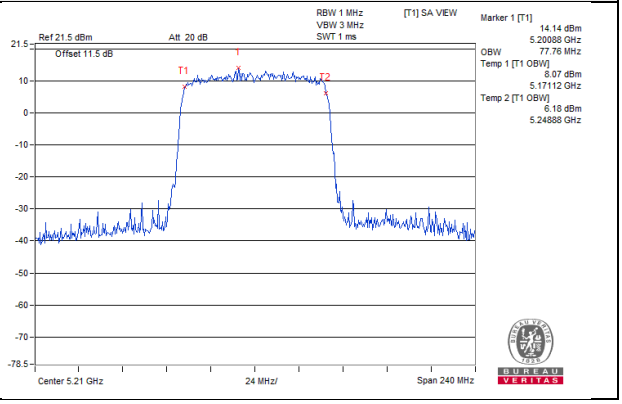
802.11ax (HE40)

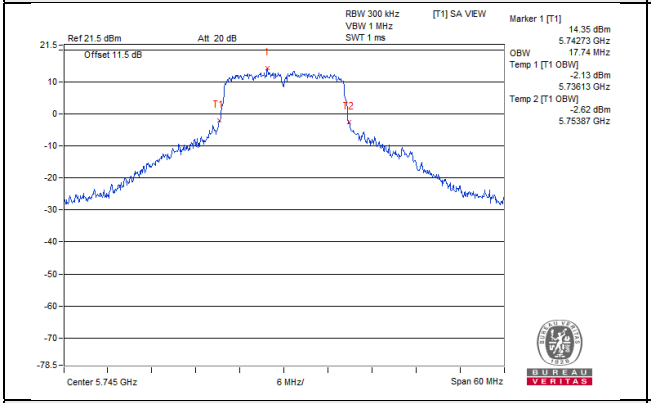
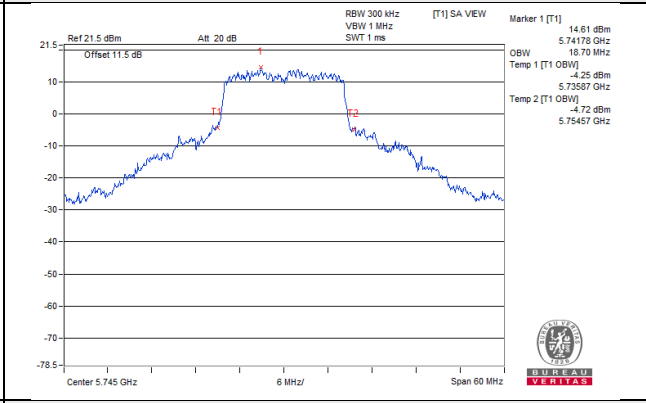
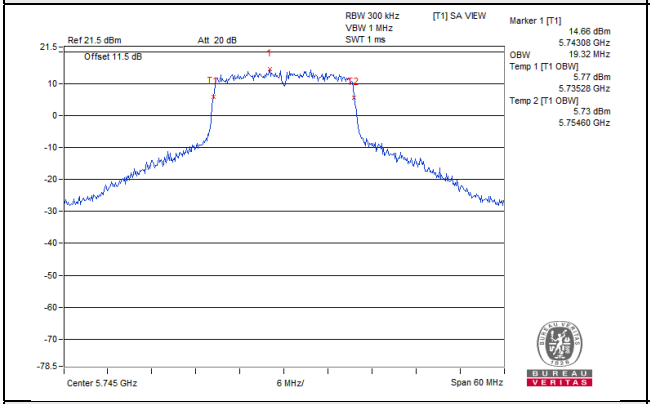
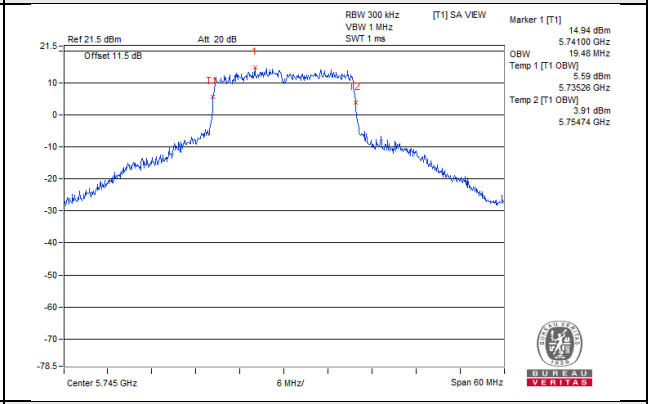
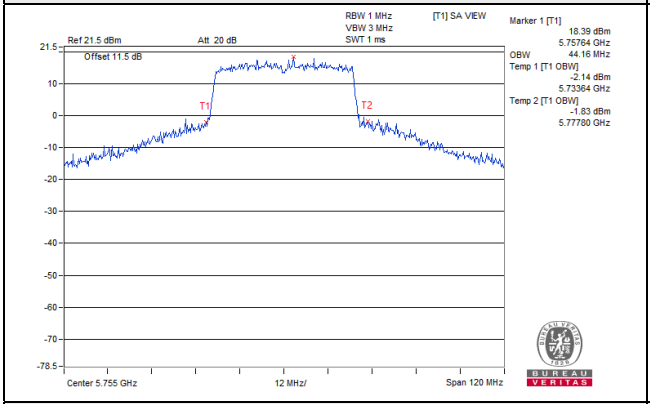
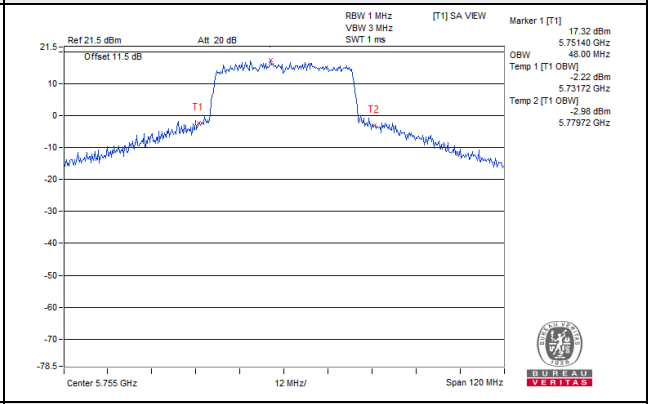
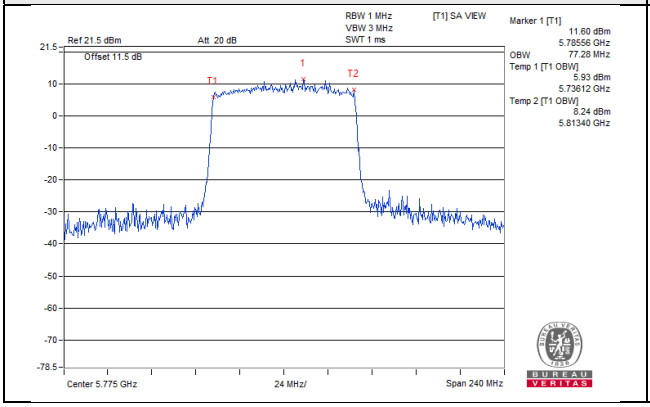
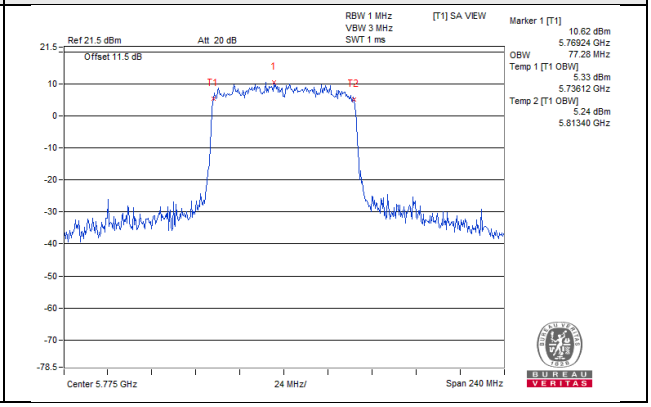
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	38.04	38.04
46	5230	37.92	37.92
151	5755	44.16	48.00
159	5795	39.60	44.76

802.11ax (HE80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	77.28	77.76
155	5775	77.28	77.28

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

Spectrum Plot for near By DFS Band	
802.11a / Chain 0 / CH 48	802.11a / Chain 1 / CH 48
	
802.11ax (HE20) / Chain 0 / CH 48	802.11ax (HE20) / Chain 1 / CH 48
	
802.11ax (HE40) / Chain 0 / CH 46	802.11ax (HE40) / Chain 1 / CH 46
	
802.11ax (HE80) / Chain 0 / CH 42	802.11ax (HE80) / Chain 1 / CH 42
	

Spectrum Plot for near By DFS Band	
802.11a / Chain 0 / CH 149	802.11a / Chain 1 / CH 149
	
802.11ax (HE20) / Chain 0 / CH 149	802.11ax (HE20) / Chain 1 / CH 149
	
802.11ax (HE40) / Chain 0 / CH 151	802.11ax (HE40) / Chain 1 / CH 151
	
802.11ax (HE80) / Chain 0 / CH 155	802.11ax (HE80) / Chain 1 / CH 155
	

Scanning radio (Radio 3)

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	17.04
40	5200	17.04
48	5240	17.16
149	5745	17.04
157	5785	17.04
165	5825	17.04

802.11ac (VHT20)

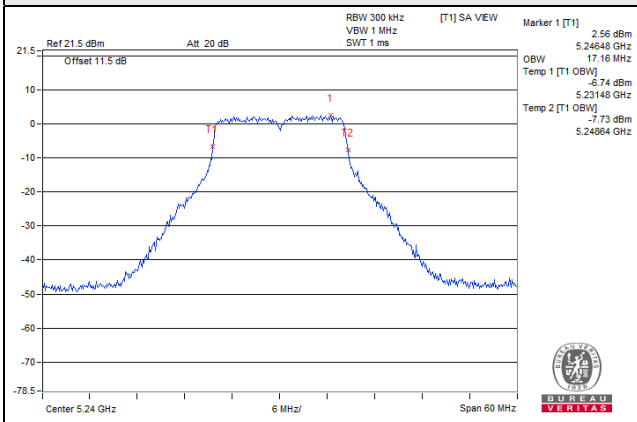
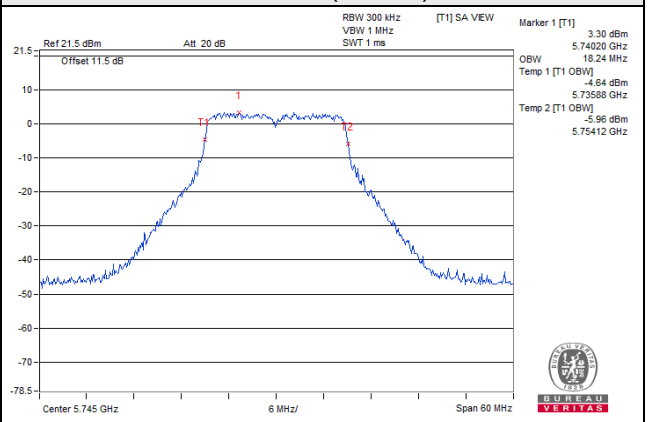
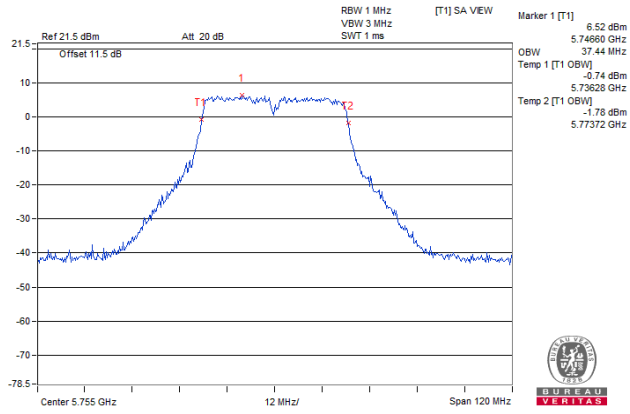
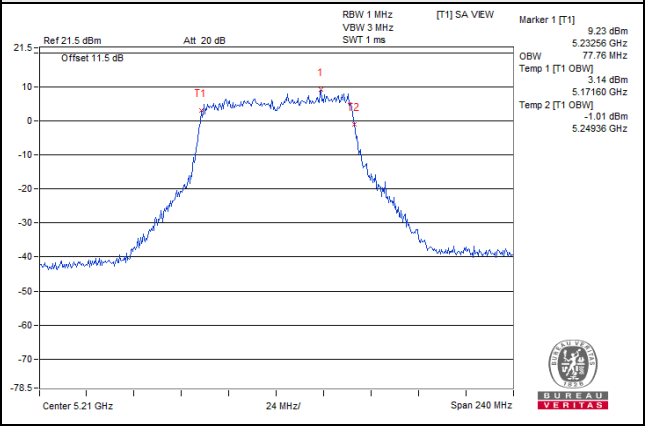
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	18.24
40	5200	18.12
48	5240	18.12
149	5745	18.24
157	5785	18.24
165	5825	18.12

802.11ac (VHT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
38	5190	37.20
46	5230	37.20
151	5755	37.44
159	5795	37.32

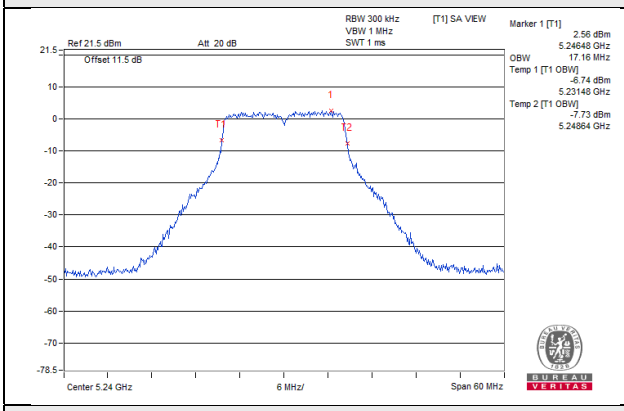
802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
42	5210	77.76
155	5775	76.32

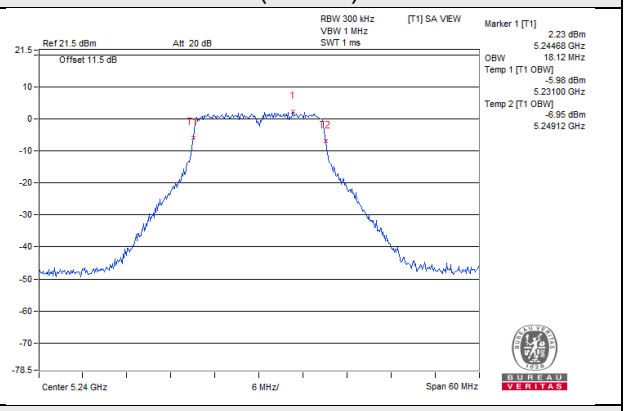
Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

Spectrum Plot for near By DFS Band

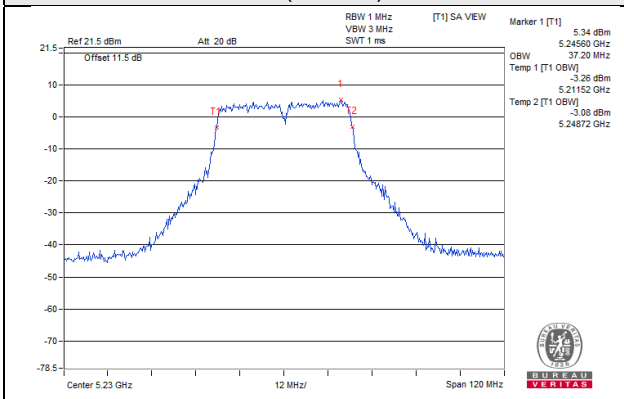
802.11a / CH 48



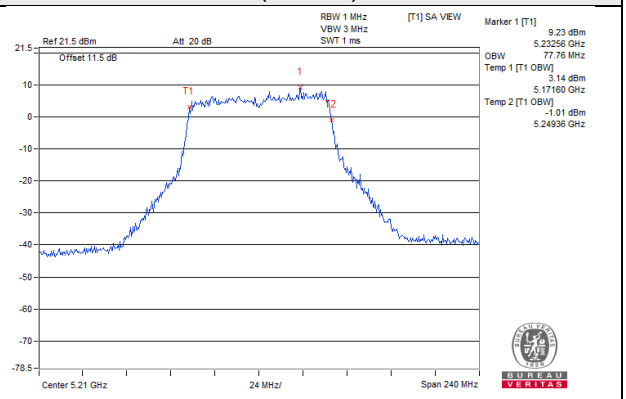
802.11ac (VHT20) / CH 48



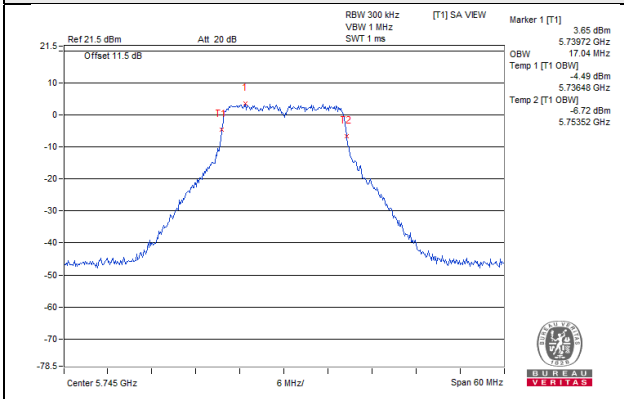
802.11ac (VHT40) / CH 46



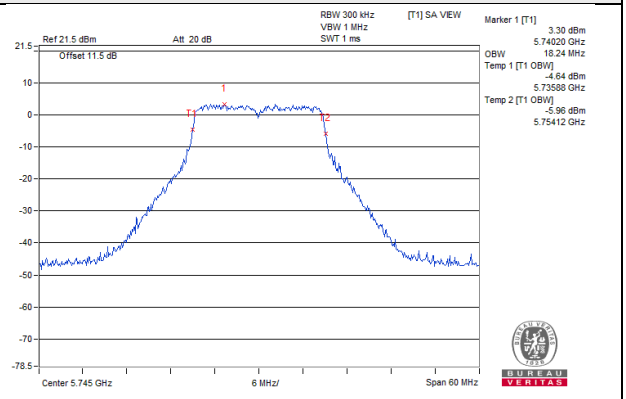
802.11ac (VHT80) / CH 42



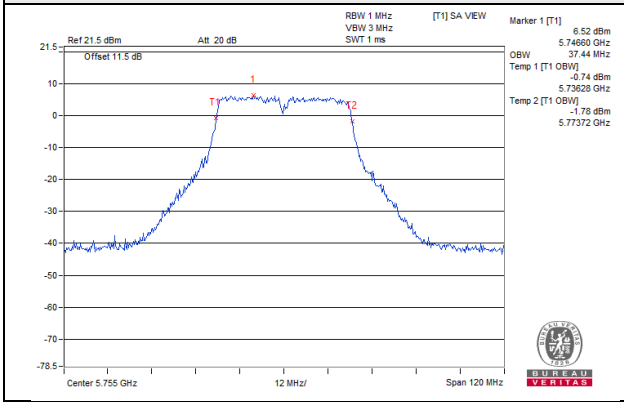
802.11a / CH 149



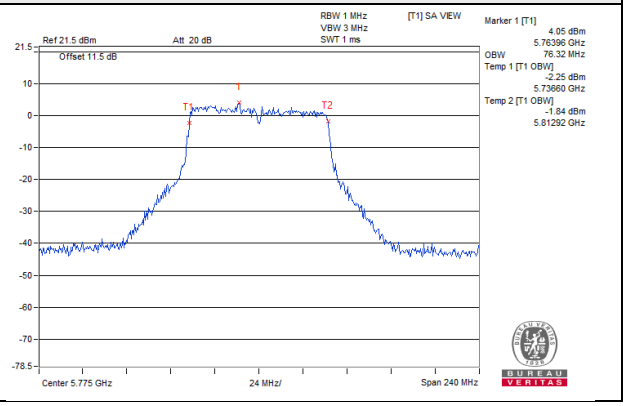
802.11ac (VHT20) / CH 149



802.11ac (VHT40) / CH 151



802.11ac (VHT80) / CH 155

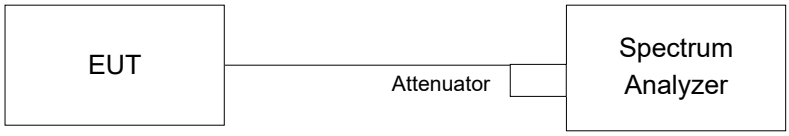


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1 band:

Duty cycle of test signal is < 98%

Using method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS

c. Set Channel power measure = 1MHz

d. Sweep time = auto, trigger set to “free run”.

e. Trace average at least 100 traces in power averaging mode.

f. Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

Duty cycle of test signal is < 98%

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS

c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.

d. 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 = 10log(500 kHz / 300 kHz)

e. Sweep time = auto, trigger set to “free run”.

f. Trace average at least 100 traces in power averaging mode.

g. Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

5G traffic radio (Radio 1)

For U-NII-1 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	5.74	5.15	0.39	8.86	15.66	Pass
40	5200	4.96	4.51	0.39	8.14	15.66	Pass
48	5240	4.82	4.26	0.39	7.95	15.66	Pass

Note:
1. 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.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.34dBi > 6dBi, so the power density limit shall be reduced to 17 - (7.34 - 6) = 15.66dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

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	5.26	4.85	0.19	8.26	15.66	Pass
40	5200	5.79	5.41	0.19	8.80	15.66	Pass
48	5240	4.91	4.22	0.19	7.78	15.66	Pass

Note:
1. 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.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.34dBi > 6dBi, so the power density limit shall be reduced to 17 - (7.34 - 6) = 15.66dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

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	1.11	0.62	0.21	4.09	15.66	Pass
46	5230	2.71	1.80	0.21	5.50	15.66	Pass

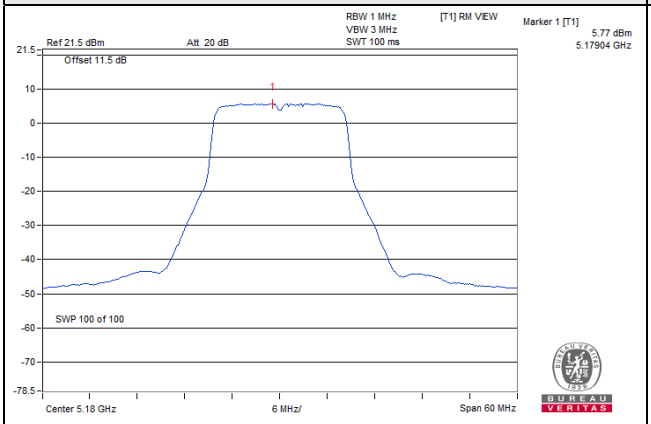
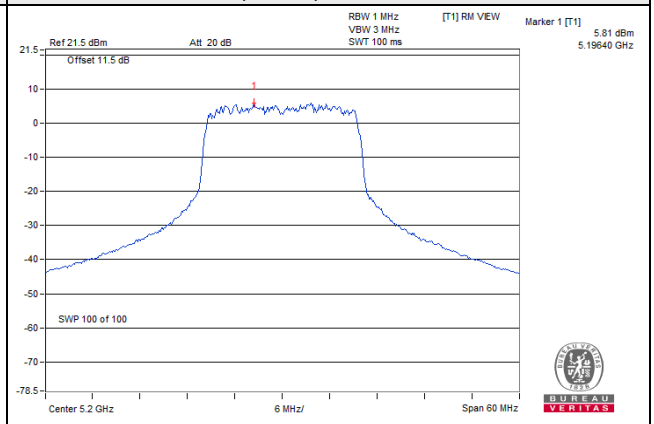
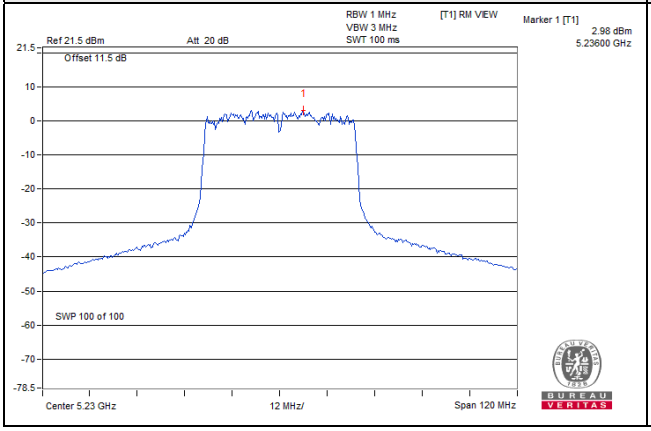
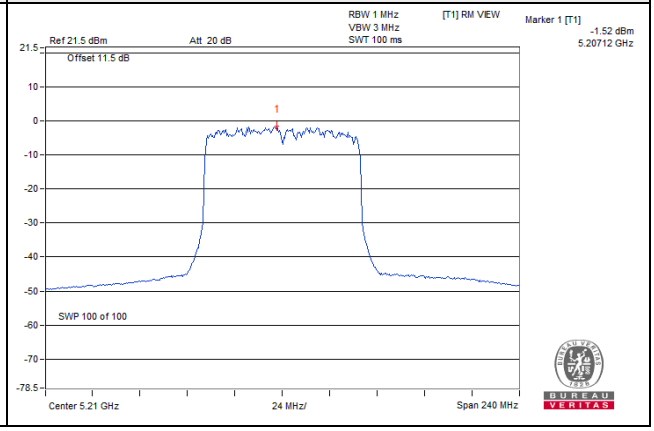
Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.34dBi > 6dBi, so the power density limit shall be reduced to 17 - (7.34 - 6) = 15.66dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

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	-1.77	-2.56	0.21	1.07	15.66	Pass

Note:

1. 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.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.34dBi > 6dBi, so the power density limit shall be reduced to 17 - (7.34 - 6) = 15.66dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / Chain 0 / CH 36	802.11ax (HE20) / Chain 0 / CH 40
	
802.11ax (HE40) / Chain 0 / CH 46	802.11ax (HE80) / Chain 0 / CH 42
	

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	149	5745	0.70	2.92	3.01	0.39	6.32	28.14	Pass
	157	5785	0.39	2.61	3.01	0.39	6.01	28.14	Pass
	165	5825	0.88	3.10	3.01	0.39	6.50	28.14	Pass
1	149	5745	0.82	3.04	3.01	0.39	6.44	28.14	Pass
	157	5785	0.07	2.29	3.01	0.39	5.69	28.14	Pass
	165	5825	-0.06	2.16	3.01	0.39	5.56	28.14	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.86dBi > 6dBi, so the power density limit shall be reduced to 30 - (7.86 - 6) = 28.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

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	149	5745	-0.93	1.29	3.01	0.19	4.49	28.14	Pass
	157	5785	-0.80	1.42	3.01	0.19	4.62	28.14	Pass
	165	5825	-0.75	1.47	3.01	0.19	4.67	28.14	Pass
1	149	5745	-1.02	1.20	3.01	0.19	4.40	28.14	Pass
	157	5785	-1.18	1.04	3.01	0.19	4.24	28.14	Pass
	165	5825	-1.29	0.93	3.01	0.19	4.13	28.14	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.86dBi > 6dBi, so the power density limit shall be reduced to 30 - (7.86 - 6) = 28.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

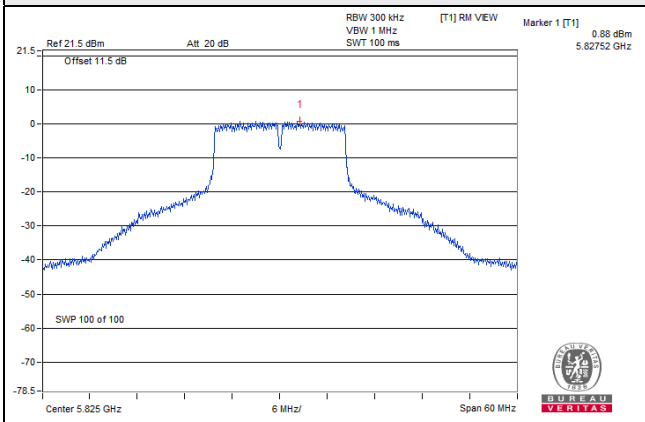
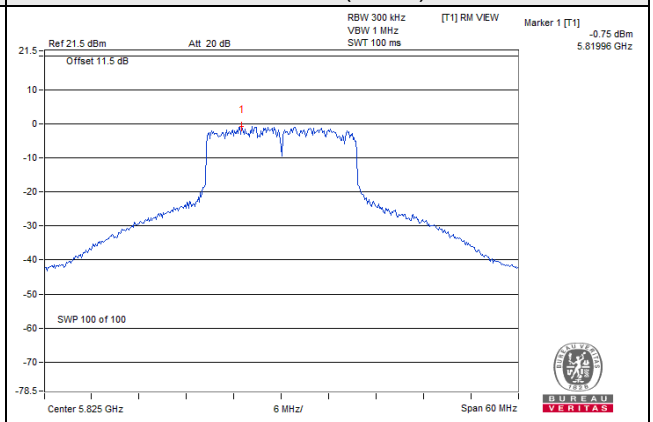
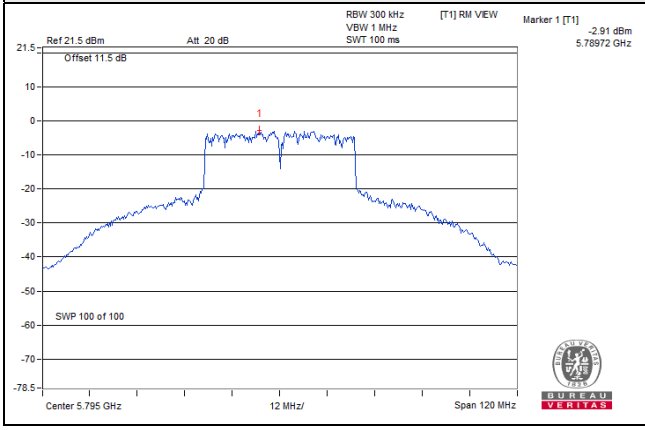
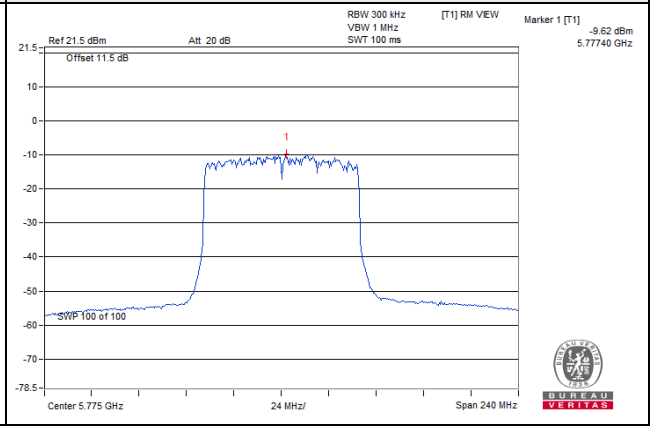
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	151	5755	-3.45	-1.23	3.01	0.21	1.99	28.14	Pass
	159	5795	-2.91	-0.69	3.01	0.21	2.53	28.14	Pass
1	151	5755	-3.62	-1.40	3.01	0.21	1.82	28.14	Pass
	159	5795	-3.10	-0.88	3.01	0.21	2.34	28.14	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.86dBi > 6dBi, so the power density limit shall be reduced to 30 - (7.86 - 6) = 28.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

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	155	5775	-9.62	-7.40	3.01	0.21	-4.18	28.14	Pass
1	155	5775	-9.75	-7.53	3.01	0.21	-4.31	28.14	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 7.86dBi > 6dBi, so the power density limit shall be reduced to 30 - (7.86 - 6) = 28.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

Scanning radio (Radio 3)

For U-NII-1 band:

802.11a

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	-1.01	0.27	-0.74	11.00	Pass
40	5200	-0.67	0.27	-0.40	11.00	Pass
48	5240	-0.83	0.27	-0.56	11.00	Pass

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

802.11ac (VHT20)

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	-1.31	0.29	-1.02	11.00	Pass
40	5200	-0.72	0.29	-0.43	11.00	Pass
48	5240	-0.79	0.29	-0.50	11.00	Pass

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

802.11ac (VHT40)

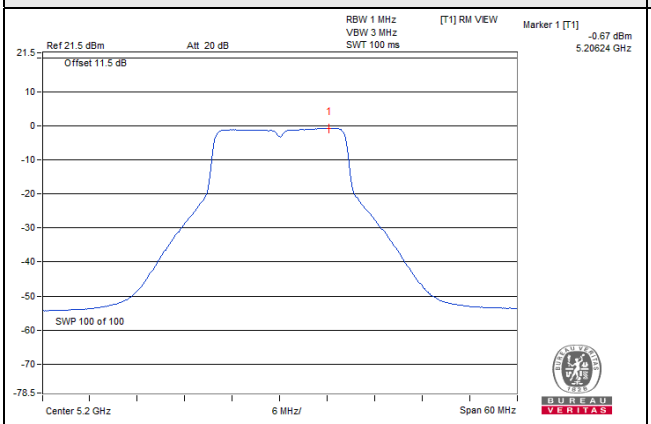
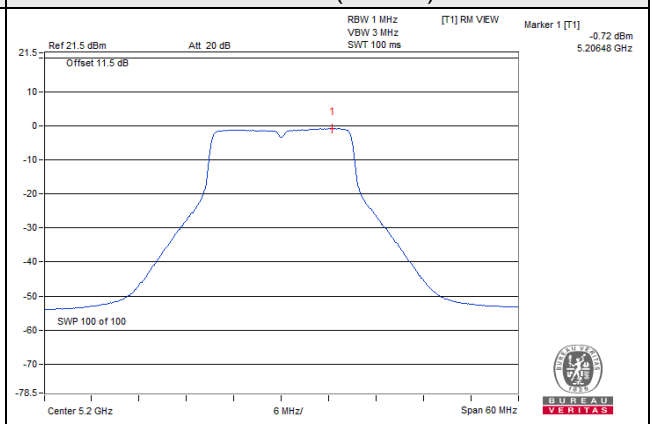
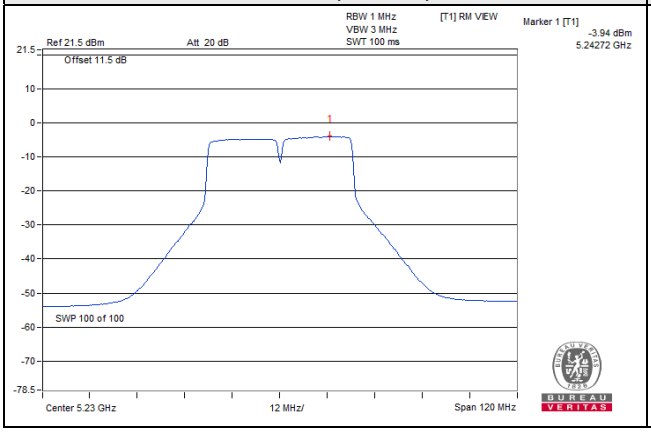
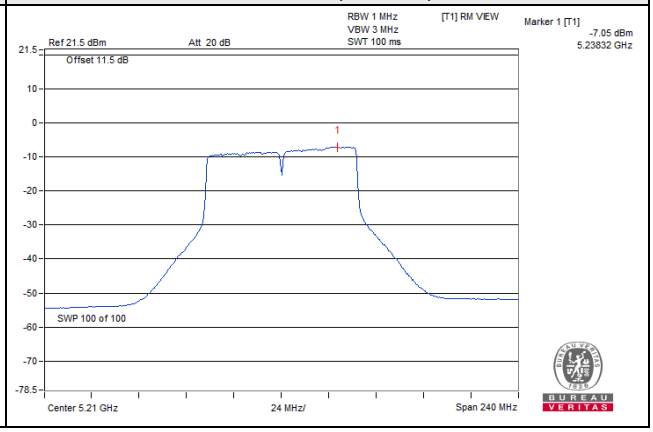
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
38	5190	-4.34	0.55	-3.79	11.00	Pass
46	5230	-3.94	0.55	-3.39	11.00	Pass

Note: 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)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
42	5210	-7.05	1.17	-5.88	11.00	Pass

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

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

For U-NII-3 band:

802.11a

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	-9.15	-6.93	0.27	-6.66	30.00	Pass
157	5785	-9.05	-6.83	0.27	-6.56	30.00	Pass
165	5825	-9.09	-6.87	0.27	-6.60	30.00	Pass

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

802.11ac (VHT20)

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	-9.09	-6.87	0.29	-6.58	30.00	Pass
157	5785	-9.04	-6.82	0.29	-6.53	30.00	Pass
165	5825	-9.24	-7.02	0.29	-6.73	30.00	Pass

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

802.11ac (VHT40)

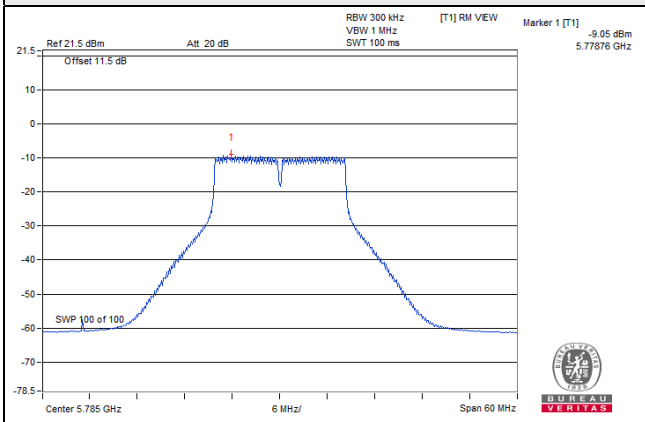
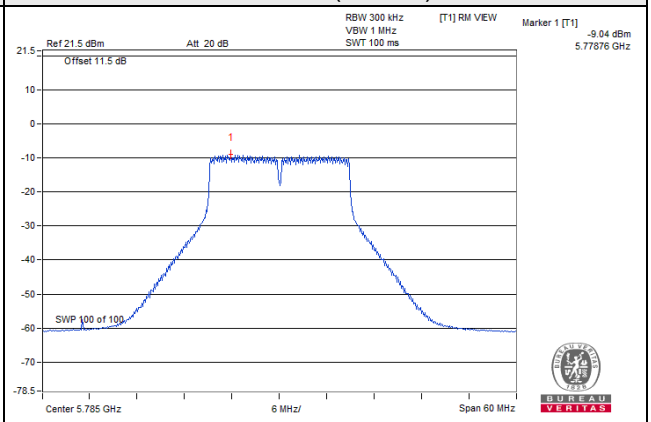
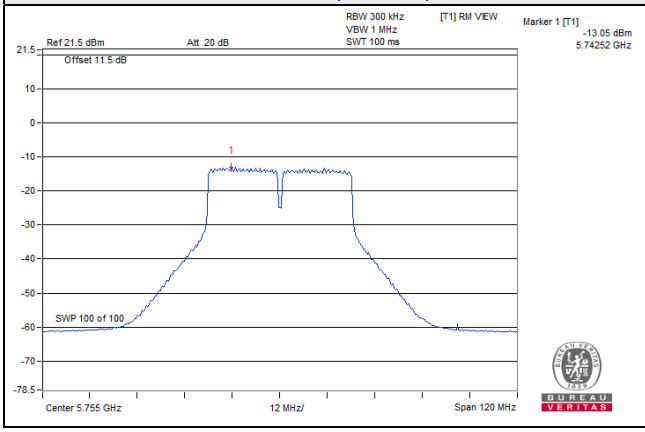
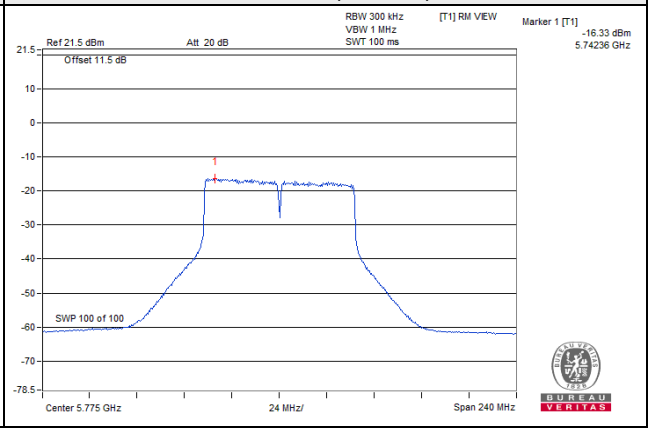
Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
151	5755	-13.05	-10.83	0.55	-10.28	30.00	Pass
159	5795	-13.13	-10.91	0.55	-10.36	30.00	Pass

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

802.11ac (VHT80)

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)				
155	5775	-16.33	-14.11	1.17	-12.94	30.00	Pass

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

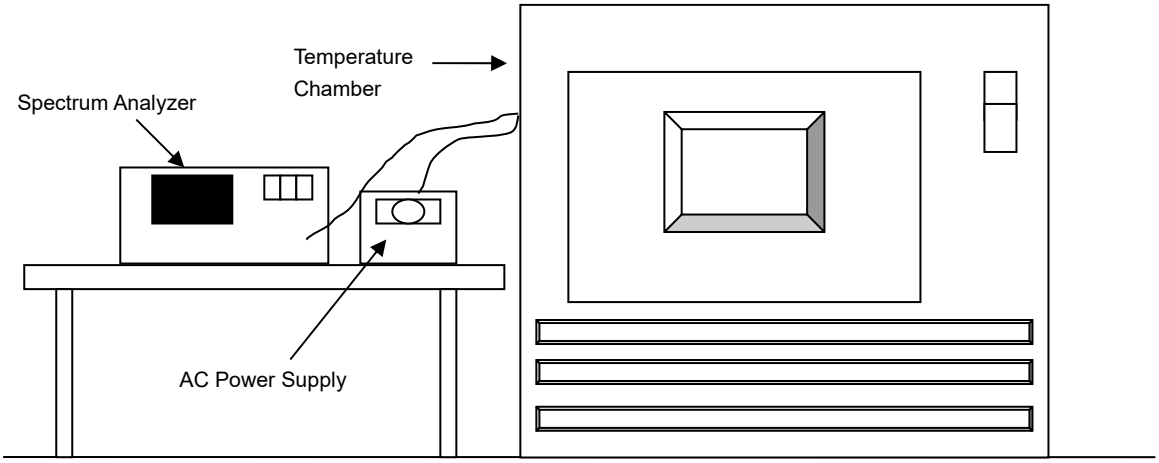
Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

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. 15, 2021	Sep. 14, 2022
Standard Temperature And Humidity Chamber TERCHY	HRM-120RF	931022	Jan. 03, 2022	Jan. 02, 2023
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

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.

b. Turn the EUT on and couple its output to a spectrum analyzer.

c. Turn the EUT off and set the chamber to the highest temperature specified.

d. 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.

e. Repeat step d with every 10 degrees reduction until the lowest temperature achieved.

f. 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

5G traffic radio (Radio 1)

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
40	120	5180.0152	Pass	5180.0143	Pass	5180.0115	Pass	5180.0144	Pass
30	120	5180.0276	Pass	5180.0278	Pass	5180.0276	Pass	5180.0263	Pass
20	120	5180.0117	Pass	5180.0129	Pass	5180.0085	Pass	5180.0096	Pass
10	120	5179.9774	Pass	5179.9799	Pass	5179.9762	Pass	5179.9779	Pass
0	120	5180.011	Pass	5180.0138	Pass	5180.0129	Pass	5180.0122	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0232	Pass	5180.0206	Pass	5180.0208	Pass	5180.0224	Pass
	120	5180.0117	Pass	5180.0129	Pass	5180.0085	Pass	5180.0096	Pass
	102	5180.0144	Pass	5180.0164	Pass	5180.0169	Pass	5180.0126	Pass

Scanning radio (Radio 3)

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
40	120	5180.0062	Pass	5180.0053	Pass	5180.0048	Pass	5180.0095	Pass
30	120	5179.9904	Pass	5179.9921	Pass	5179.9913	Pass	5179.9915	Pass
20	120	5179.9821	Pass	5179.9821	Pass	5179.9808	Pass	5179.9788	Pass
10	120	5179.983	Pass	5179.9833	Pass	5179.9821	Pass	5179.9838	Pass
0	120	5179.9945	Pass	5179.9938	Pass	5179.9903	Pass	5179.9903	Pass

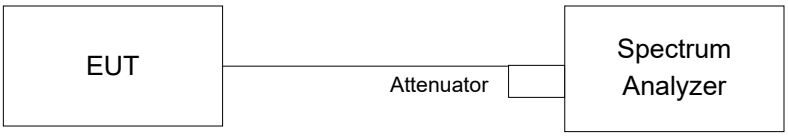
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.9727	Pass	5179.973	Pass	5179.9731	Pass	5179.9747	Pass
	120	5179.9821	Pass	5179.9821	Pass	5179.9808	Pass	5179.9788	Pass
	102	5179.9744	Pass	5179.9709	Pass	5179.9722	Pass	5179.9715	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

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. 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

5G traffic radio (Radio 1)

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.05	16.07	0.50	Pass
157	5785	16.08	15.78	0.50	Pass
165	5825	16.33	15.74	0.50	Pass

802.11ax (HE20)

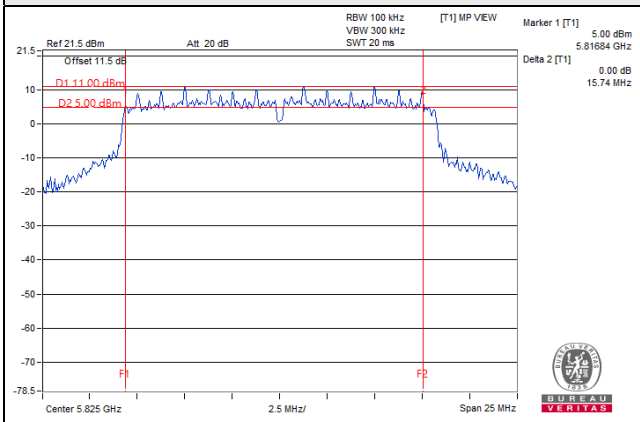
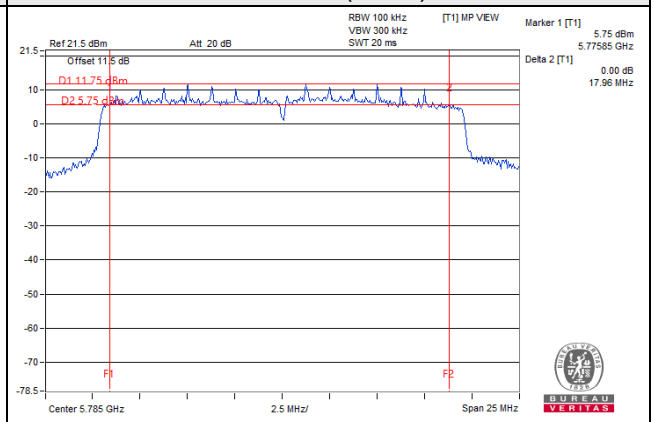
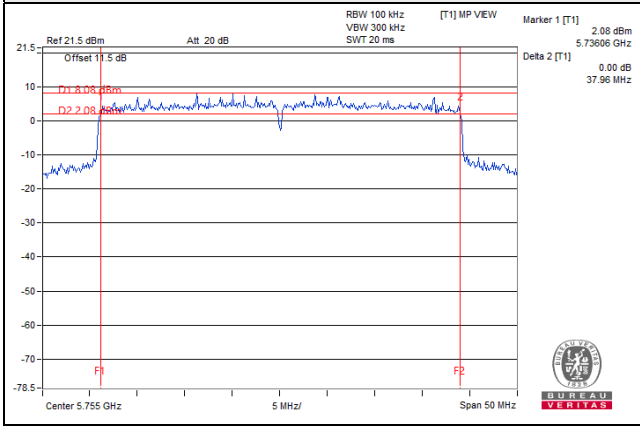
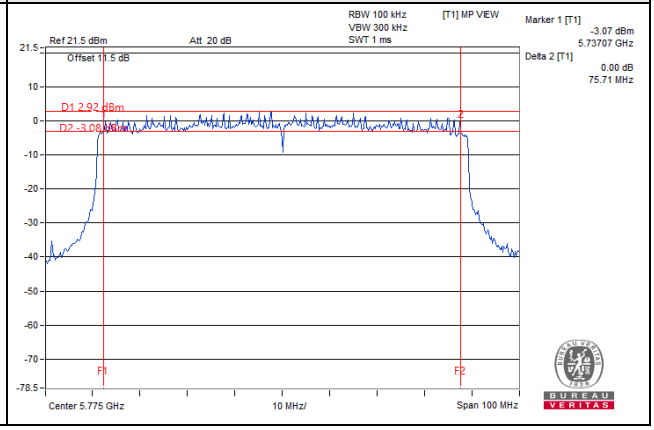
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	18.48	18.02	0.50	Pass
157	5785	18.49	17.96	0.50	Pass
165	5825	18.60	18.36	0.50	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	37.96	38.08	0.50	Pass
159	5795	37.98	38.17	0.50	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	77.62	75.71	0.50	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

Scanning radio (Radio 3)

802.11a

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.39	0.50	Pass
157	5785	16.39	0.50	Pass
165	5825	16.39	0.50	Pass

802.11ac (VHT20)

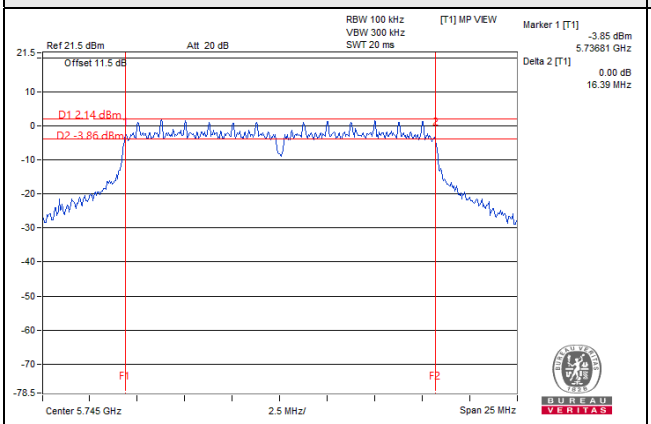
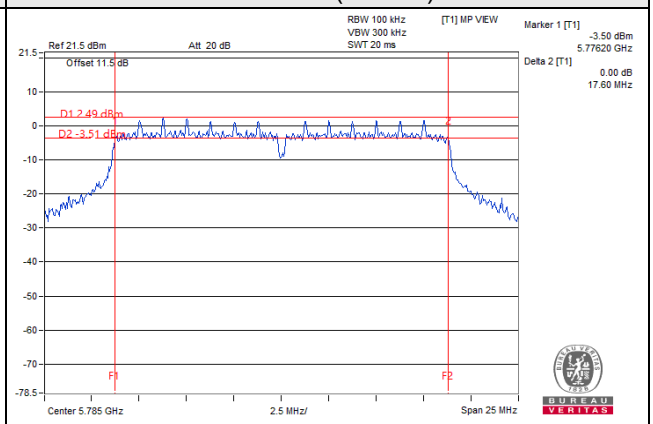
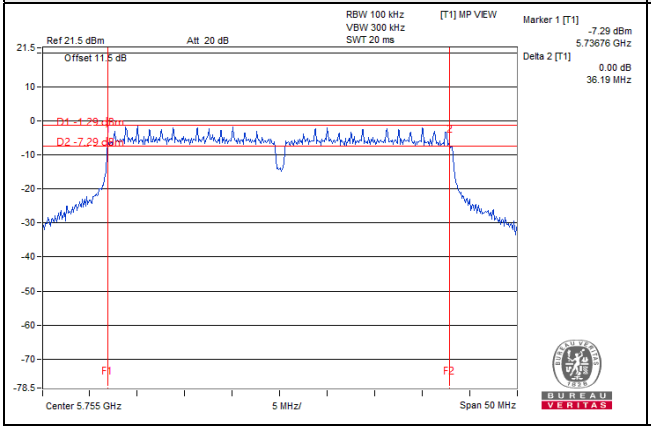
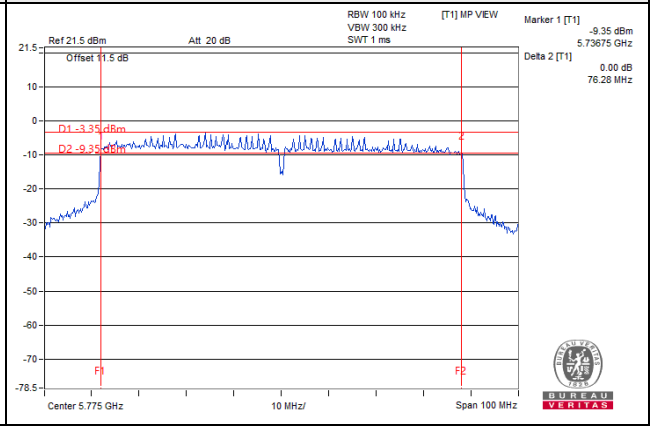
Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.62	0.50	Pass
157	5785	17.60	0.50	Pass
165	5825	17.61	0.50	Pass

802.11ac (VHT40)

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	36.19	0.50	Pass
159	5795	36.44	0.50	Pass

802.11ac (VHT80)

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	76.28	0.50	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

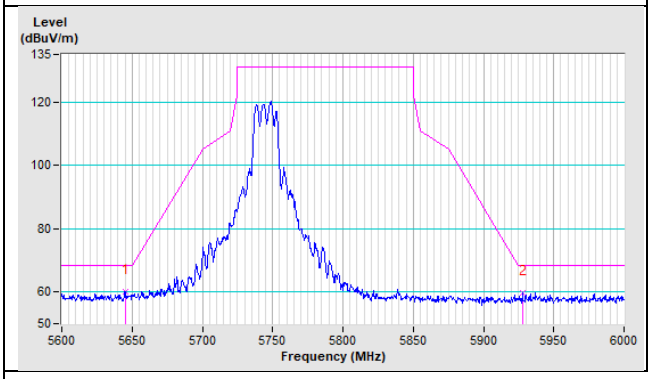
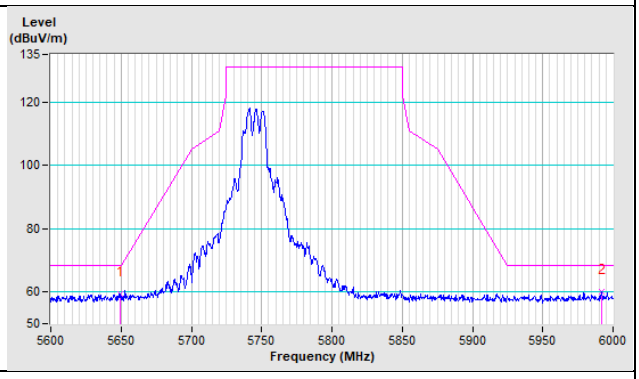
5 Pictures of Test Arrangements

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

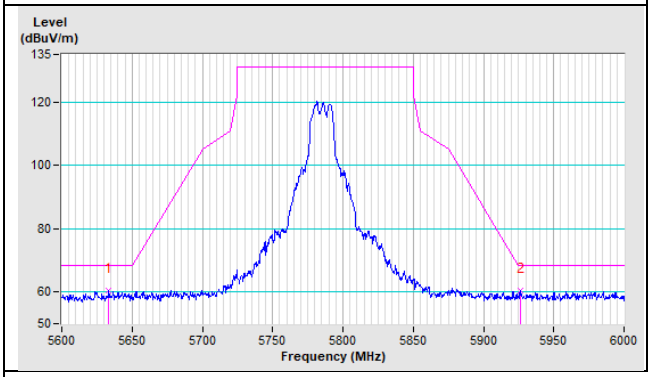
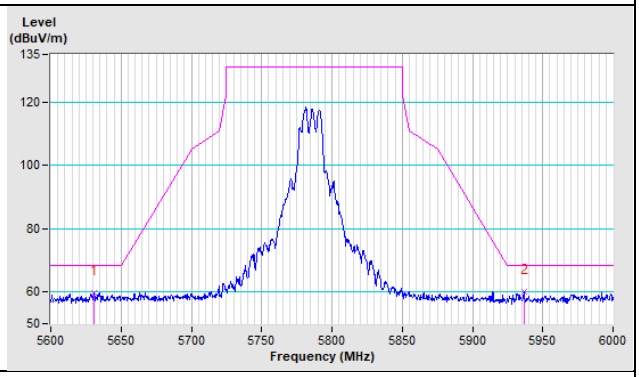
Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

5G traffic radio (Radio 1)

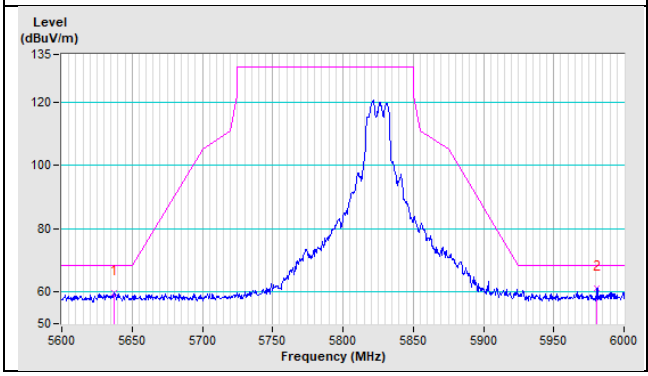
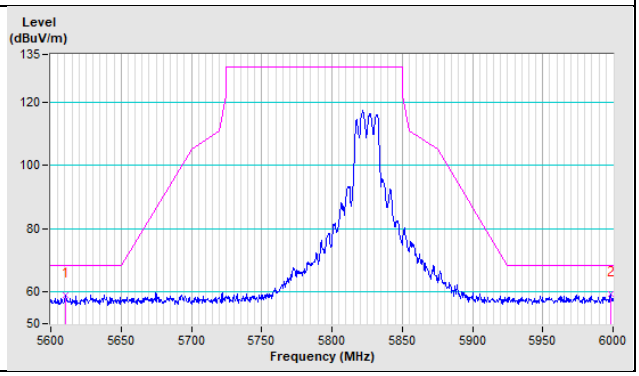
802.11a CH 149：5745 MHz

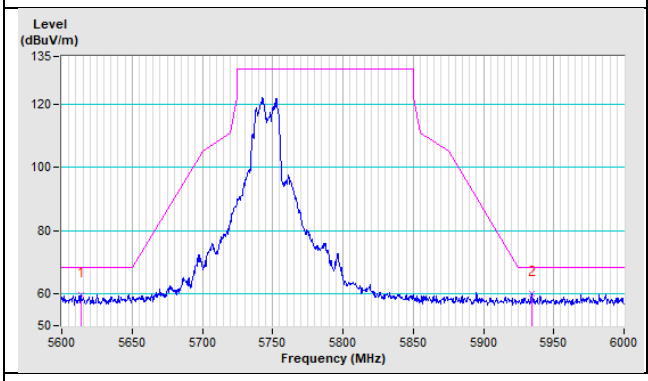
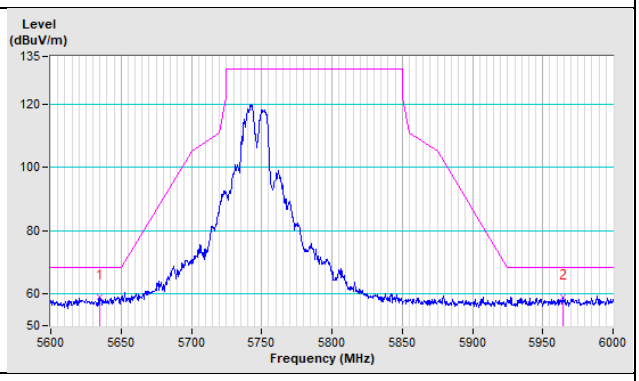
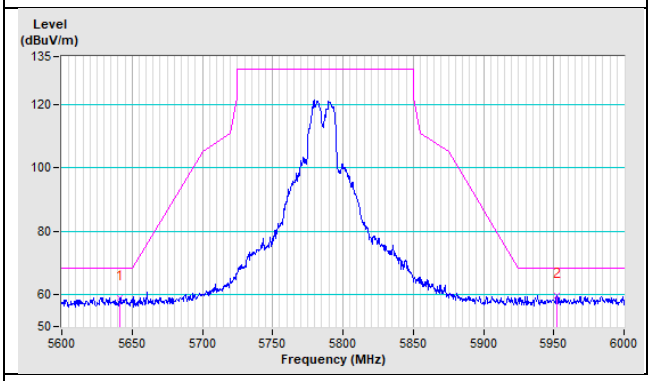
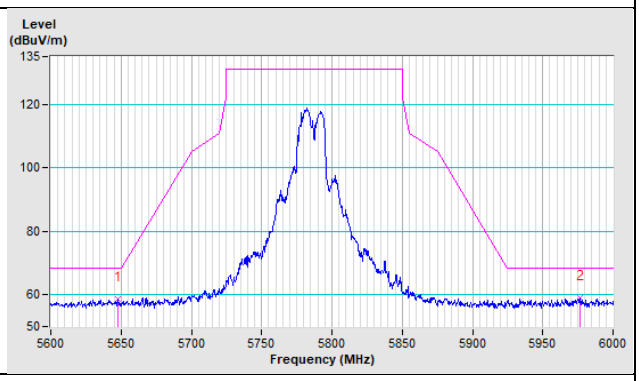
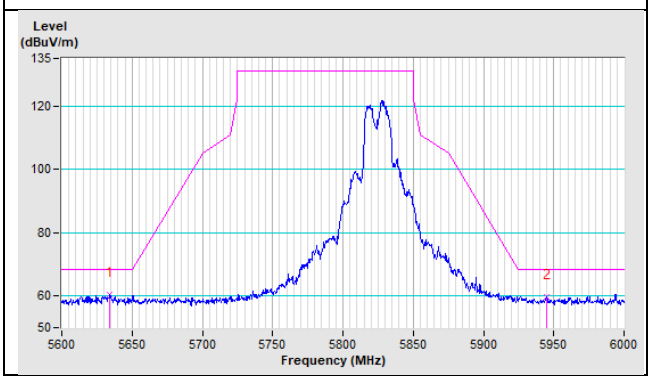
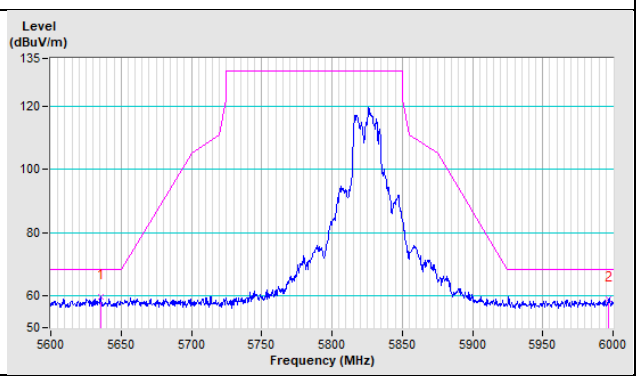
Horizontal	Vertical
	

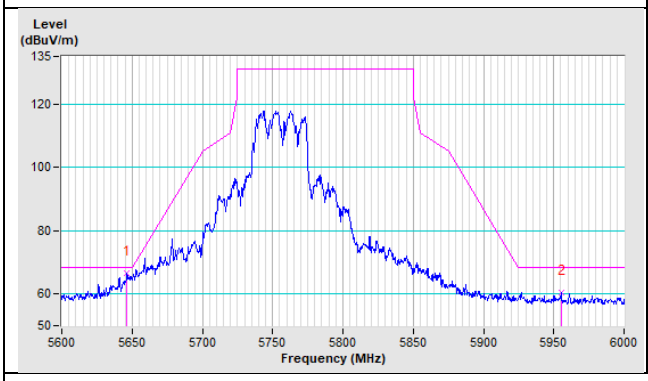
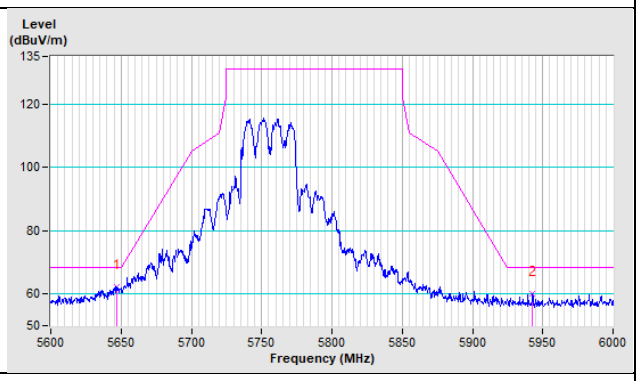
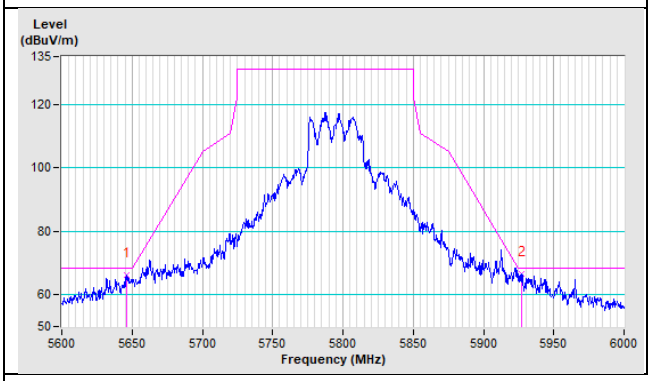
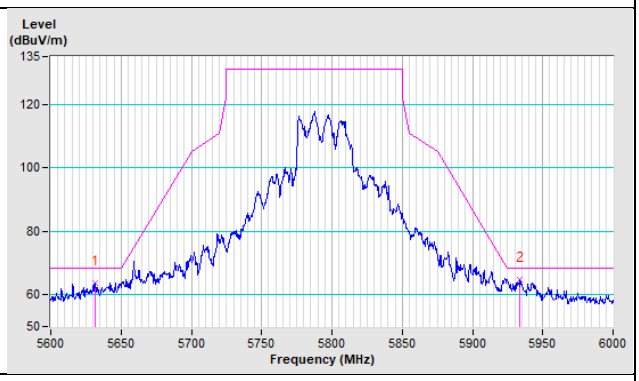
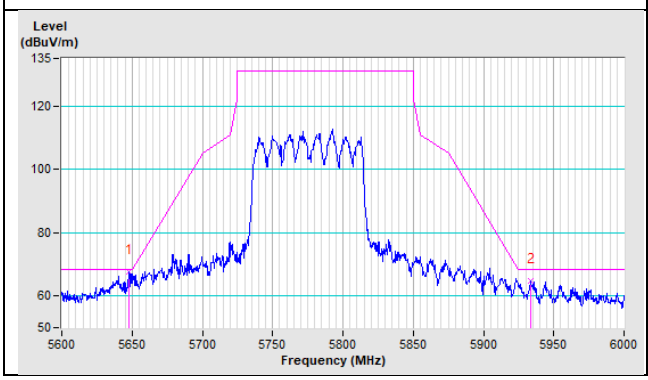
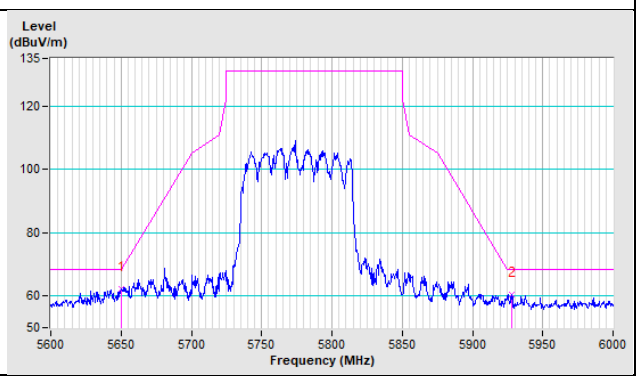
802.11a CH 157：5785 MHz

Horizontal	Vertical
	

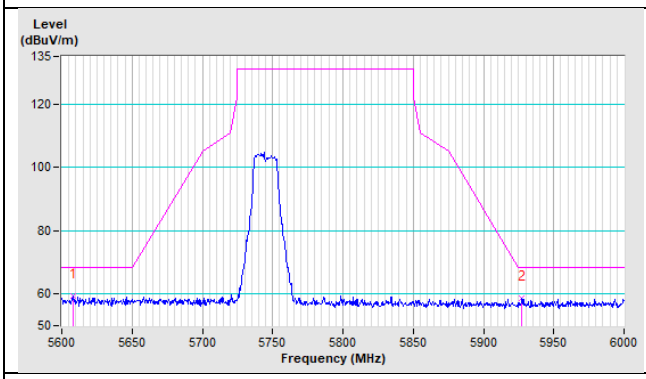
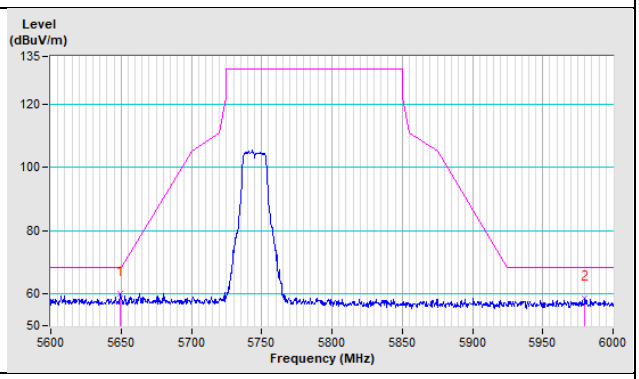
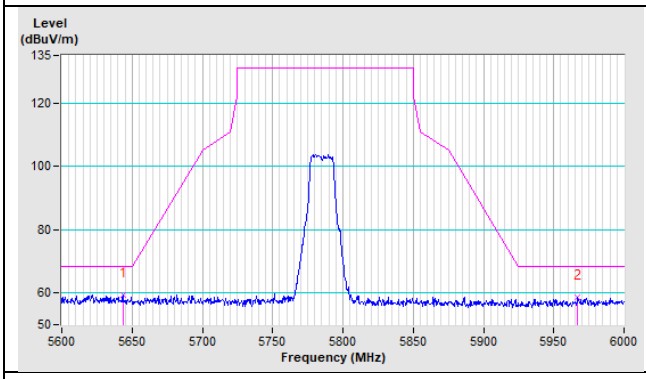
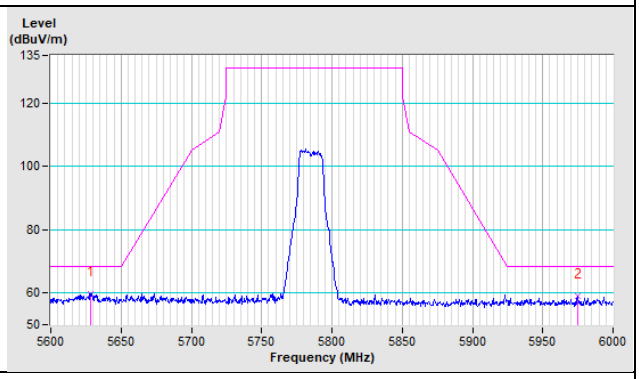
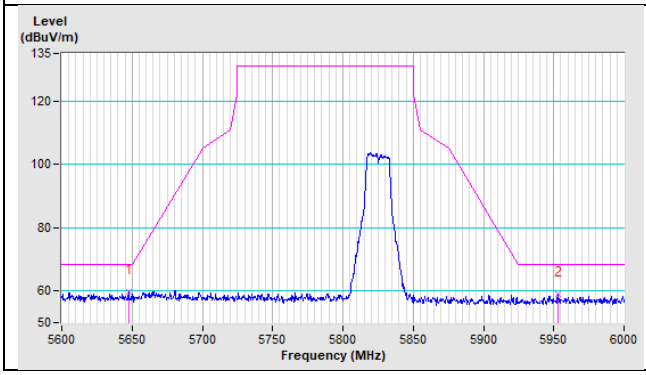
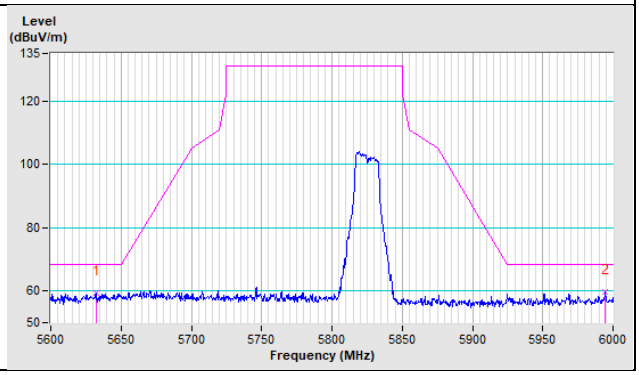
802.11a CH 165：5825 MHz

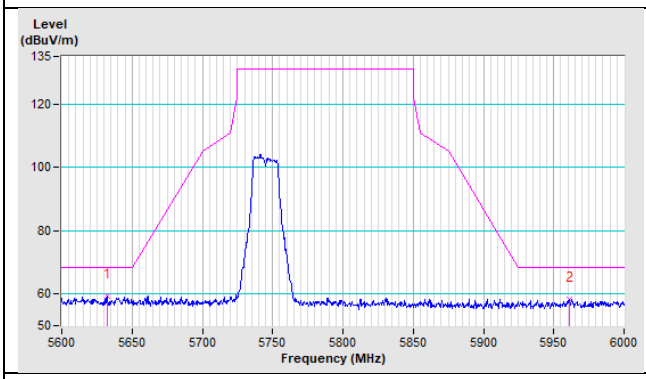
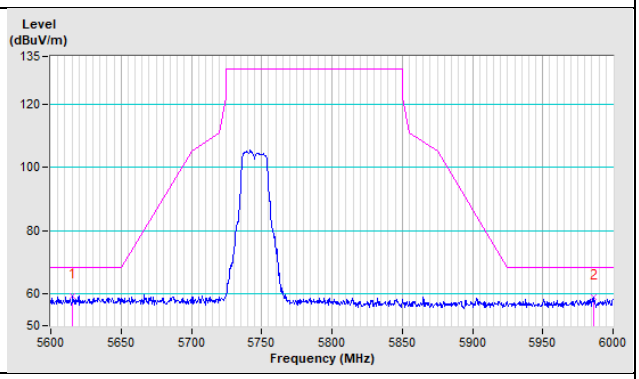
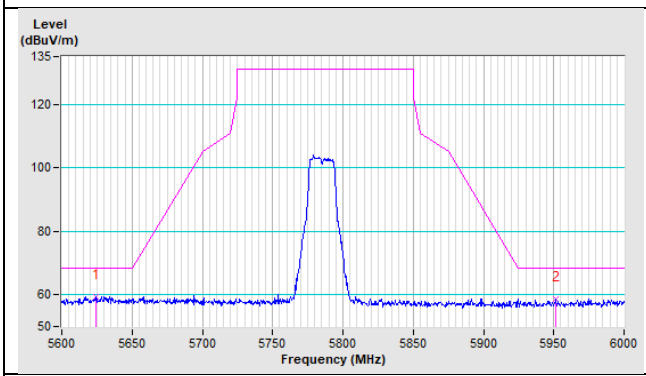
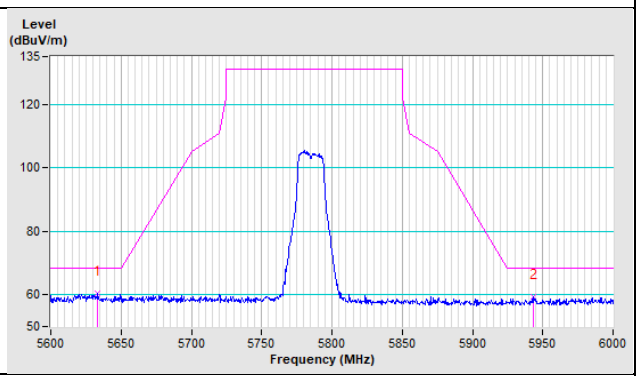
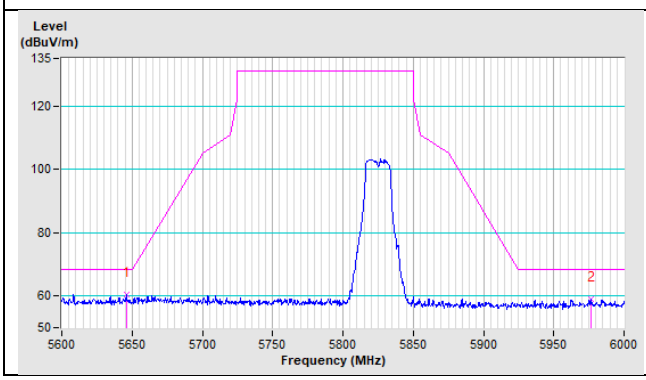
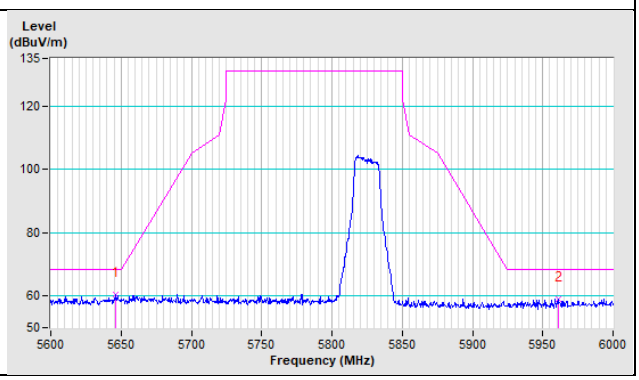
Horizontal	Vertical
	

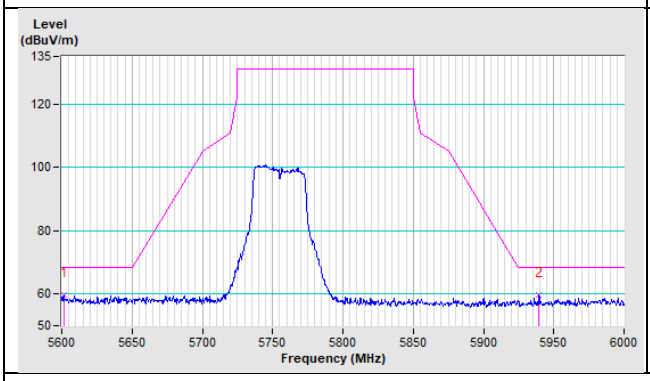
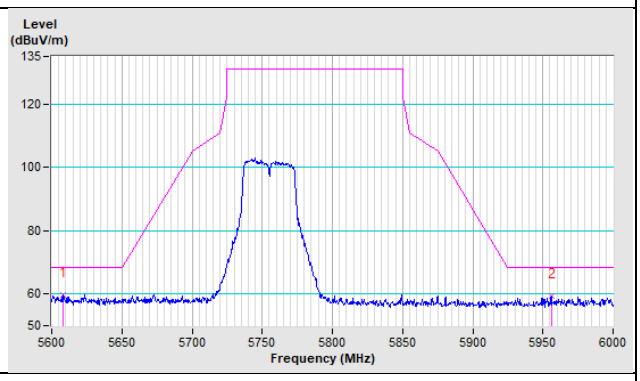
802.11ax (HE20) CH 149：5745 MHz	
Horizontal	Vertical
	
802.11ax (HE20) CH 157：5785 MHz	
Horizontal	Vertical
	
802.11ax (HE20) CH 165：5825 MHz	
Horizontal	Vertical
	

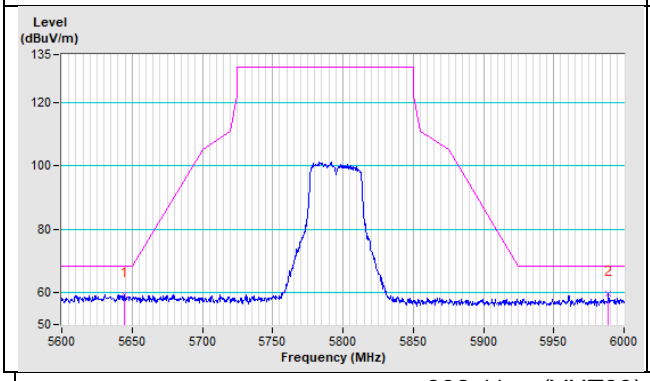
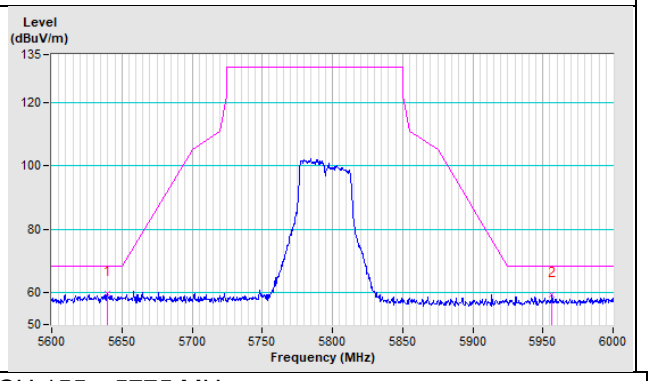
802.11ax (HE40) CH 151：5755 MHz	
Horizontal	Vertical
	
802.11ax (HE40) CH 159：5795 MHz	
Horizontal	Vertical
	
802.11ax (HE80) CH 155：5775 MHz	
Horizontal	Vertical
	

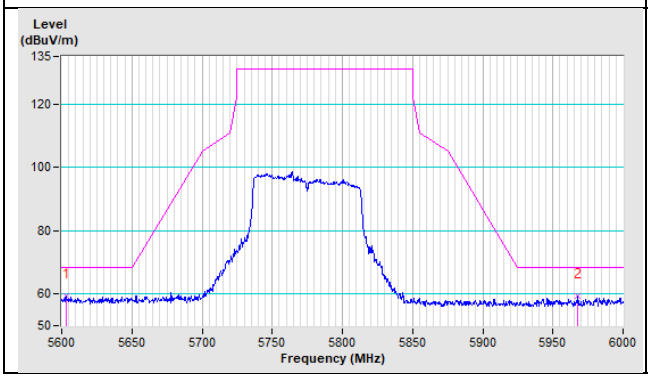
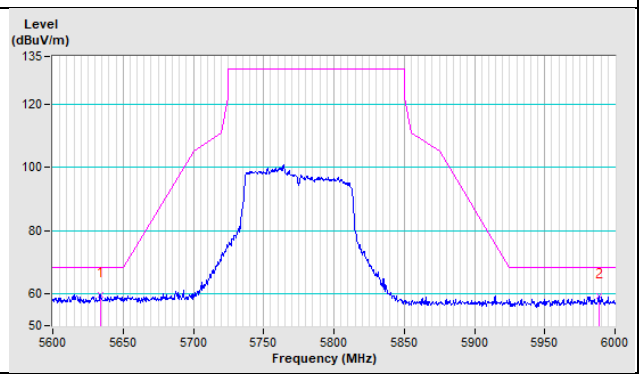
Scanning radio (Radio 3)

802.11a CH 149：5745 MHz	
Horizontal	Vertical
	
802.11a CH 157：5785 MHz	
Horizontal	Vertical
	
802.11a CH 165：5825 MHz	
Horizontal	Vertical
	

802.11ac (VHT20) CH 149：5745 MHz	
Horizontal	Vertical
	
802.11ac (VHT20) CH 157：5785 MHz	
Horizontal	Vertical
	
802.11ac (VHT20) CH 165：5825 MHz	
Horizontal	Vertical
	

802.11ac (VHT40) CH 151：5755 MHz	
Horizontal	Vertical
	

802.11ac (VHT40) CH 159：5795 MHz	
Horizontal	Vertical
	

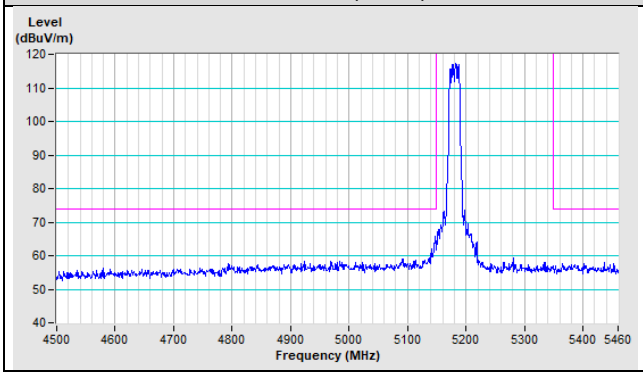
802.11ac (VHT80) CH 155：5775 MHz	
Horizontal	Vertical
	

Annex B - Band Edge Measurement

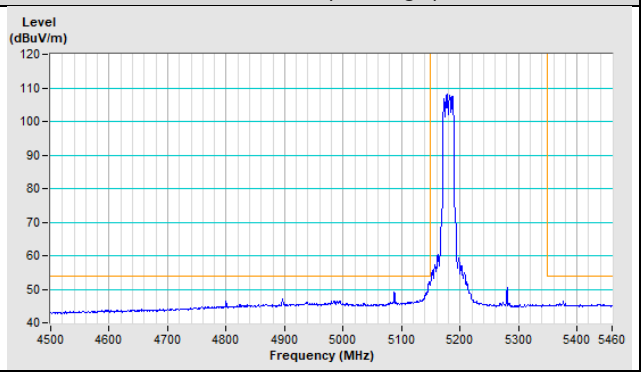
5G traffic radio (Radio 1)

802.11a Channel 36

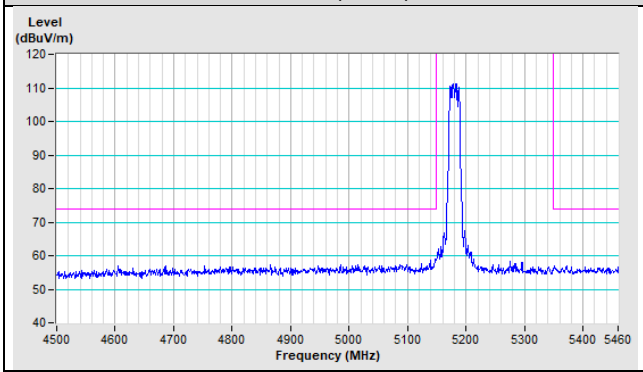
Horizontal (Peak)



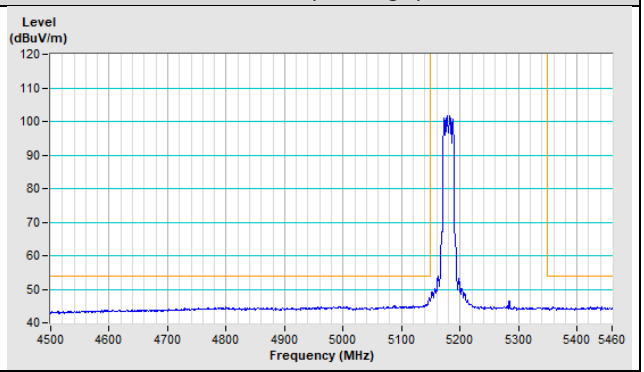
Horizontal (Average)



Vertical (Peak)

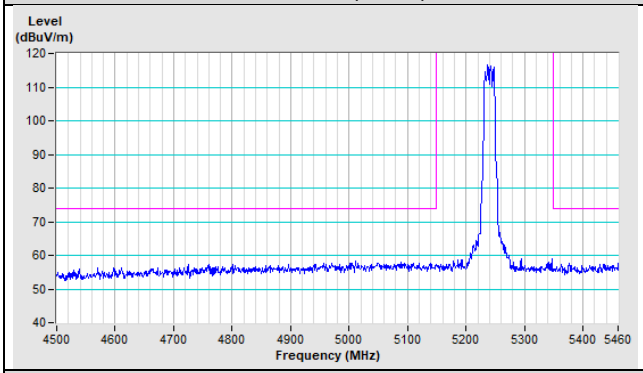


Vertical (Average)

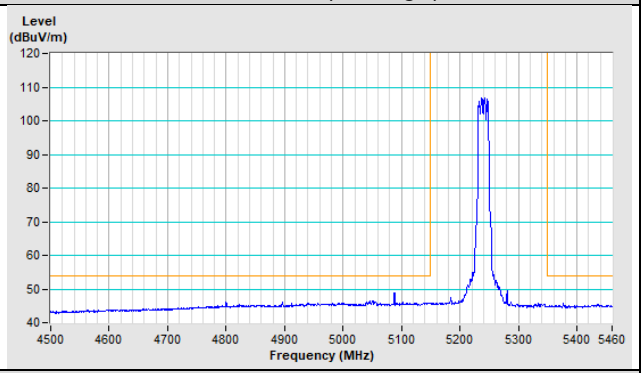


802.11a Channel 48

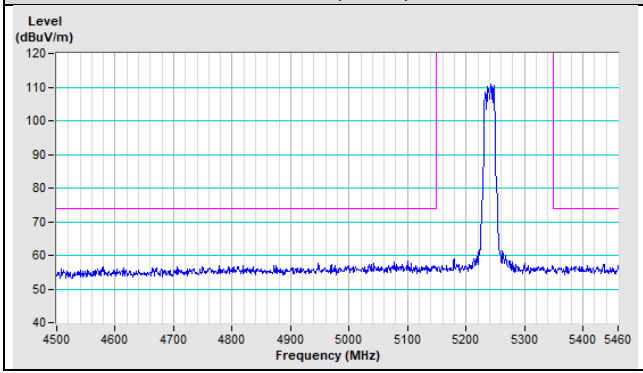
Horizontal (Peak)



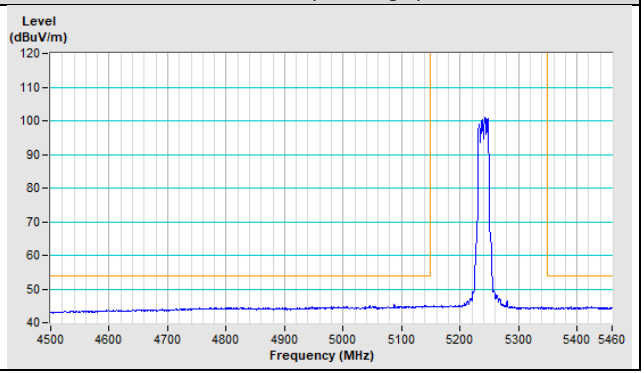
Horizontal (Average)

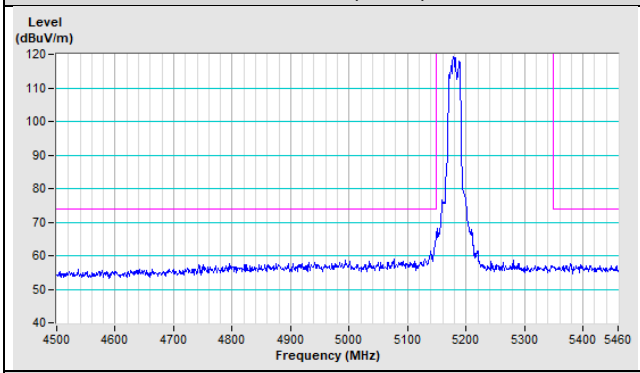
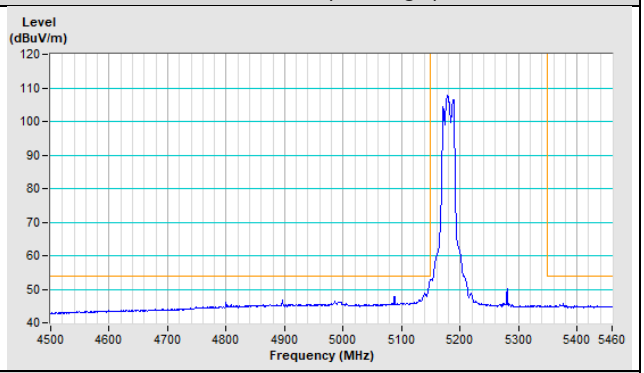
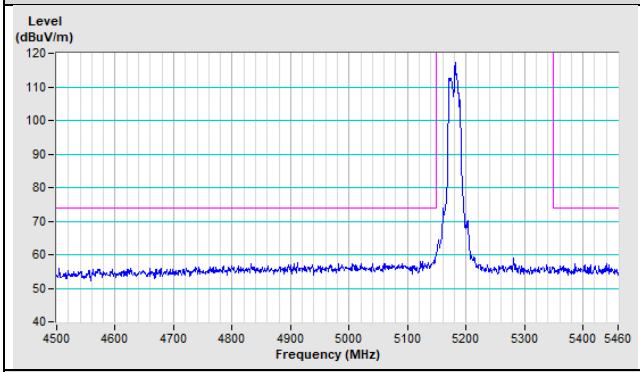
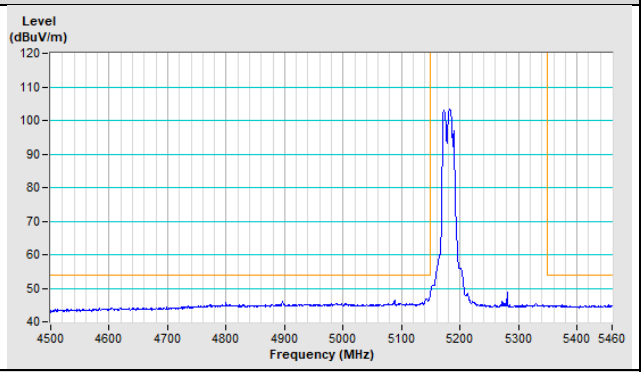
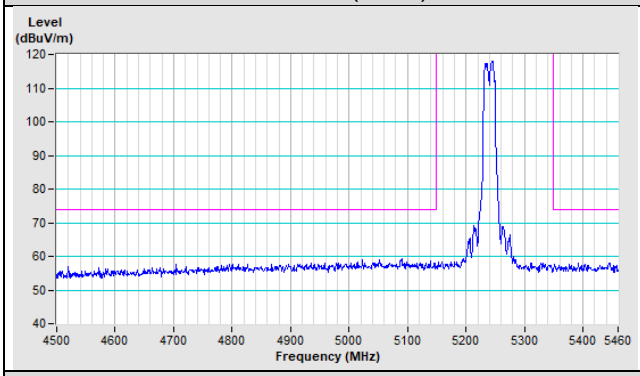
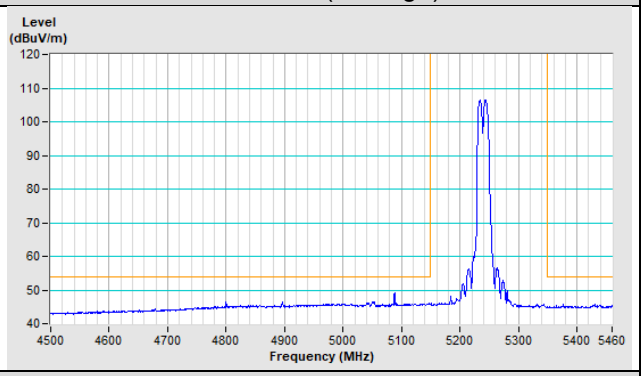
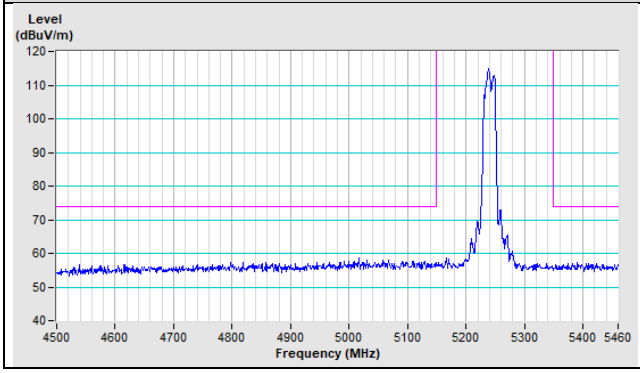
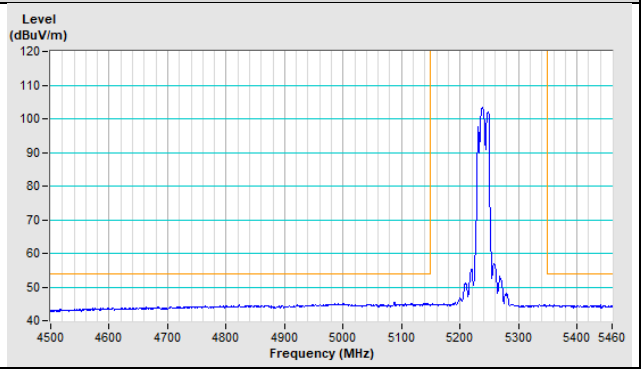


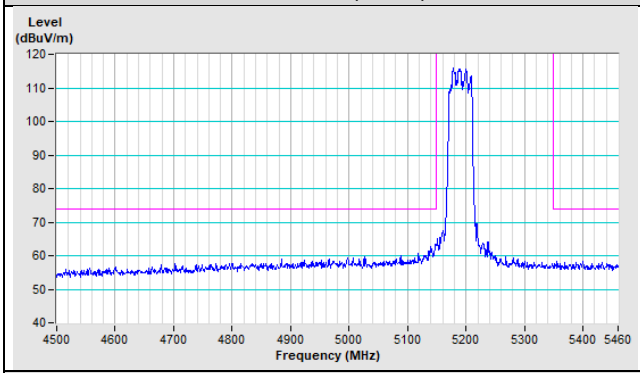
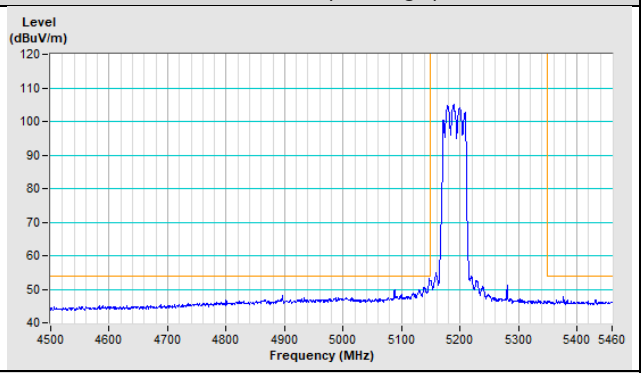
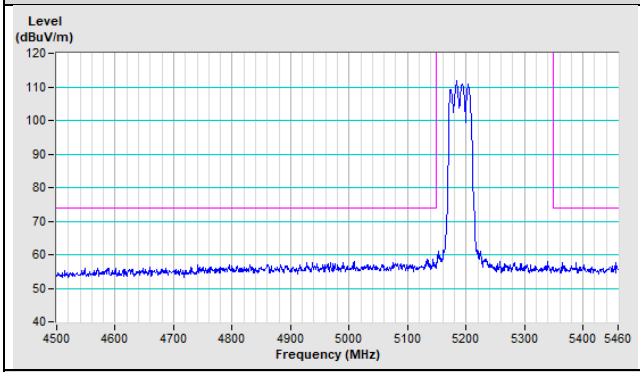
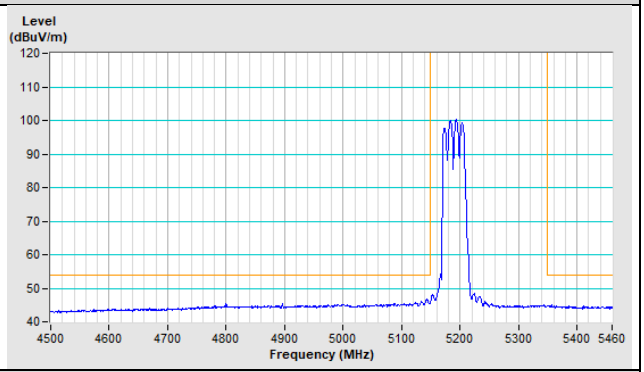
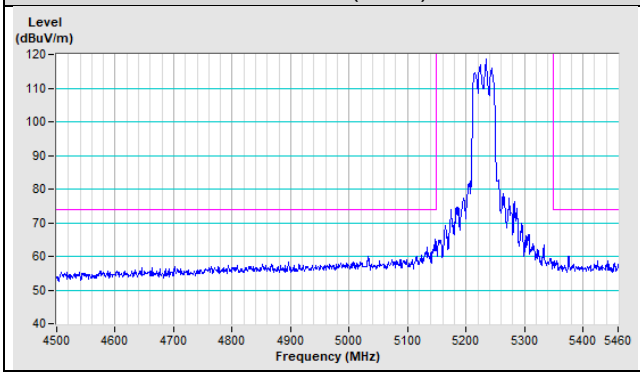
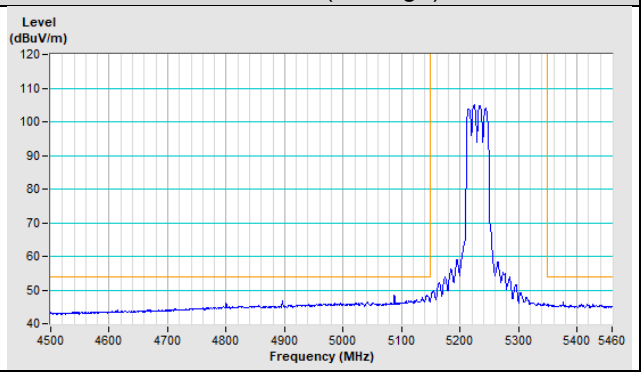
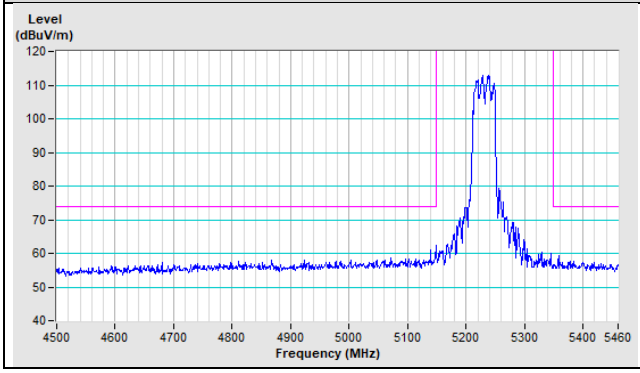
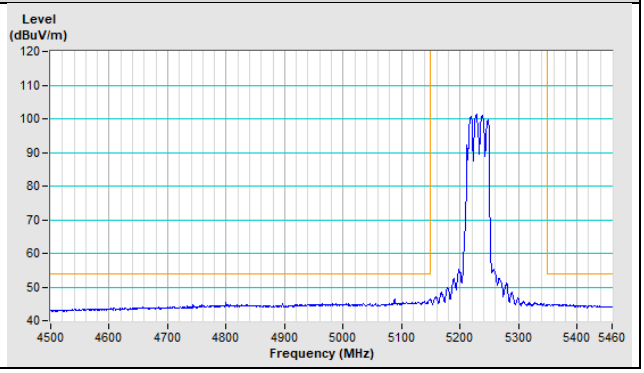
Vertical (Peak)

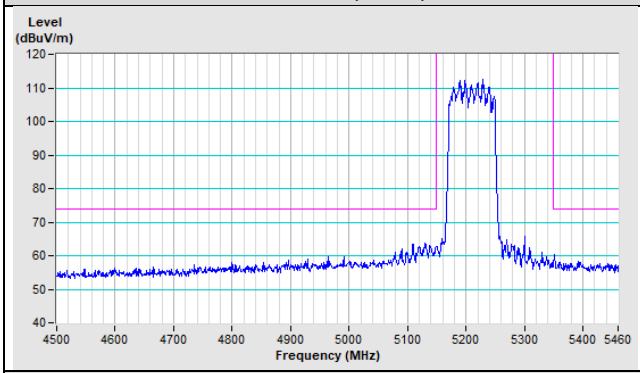
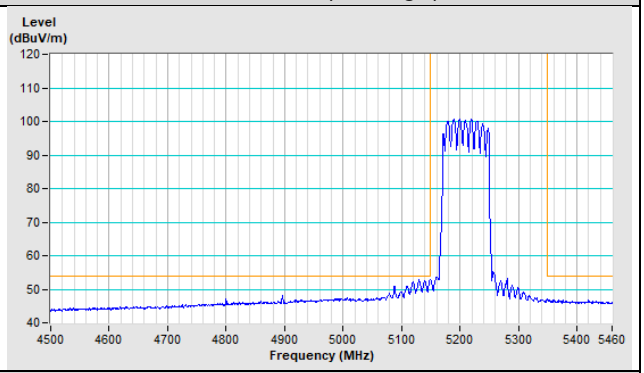
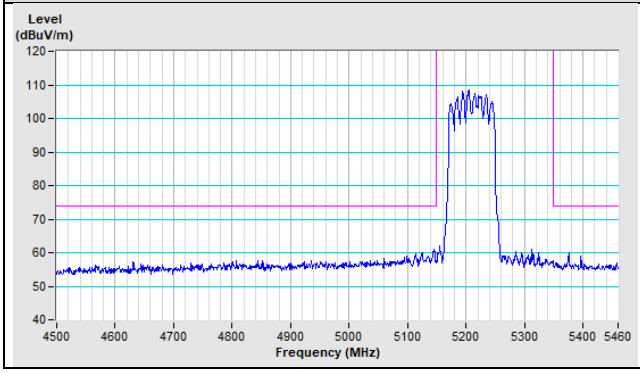
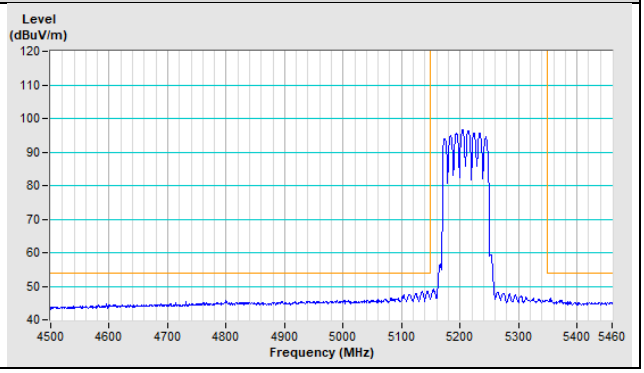


Vertical (Average)



802.11ax (HE20) Channel 36	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE20) Channel 48	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

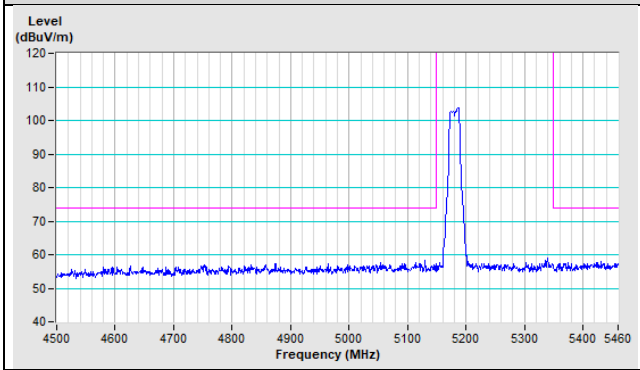
802.11ax (HE40) Channel 38	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 46	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE80) Channel 42	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

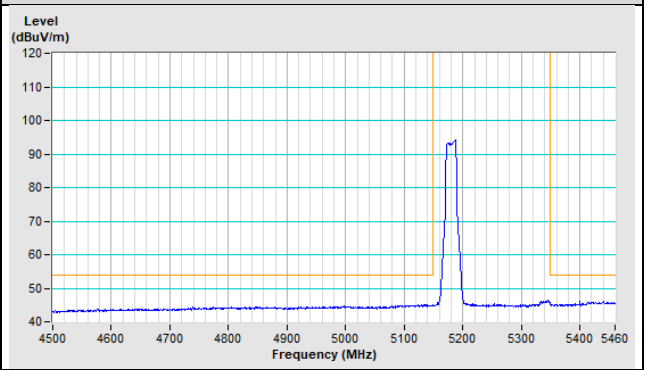
Scanning radio (Radio 3)

802.11a Channel 36

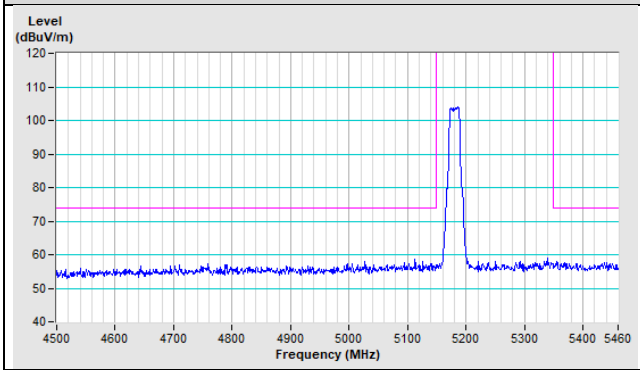
Horizontal (Peak)



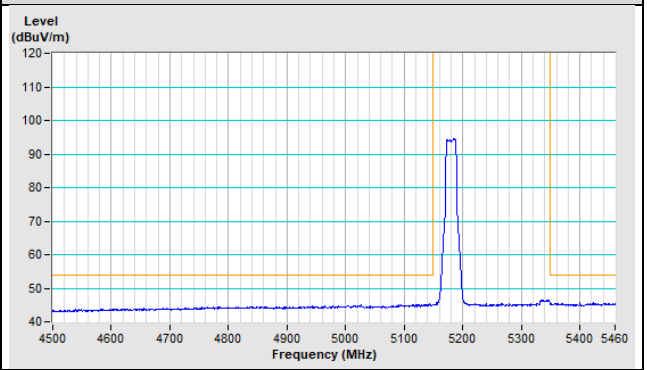
Horizontal (Average)



Vertical (Peak)

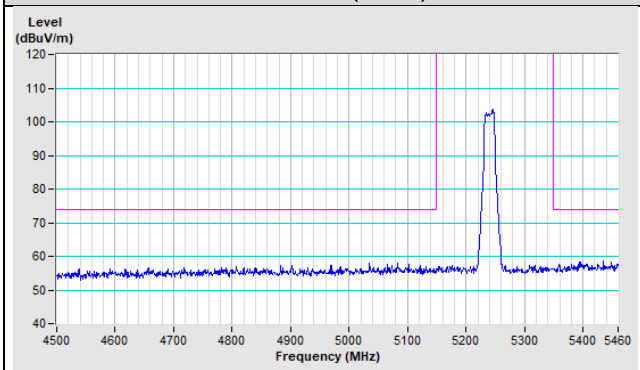


Vertical (Average)

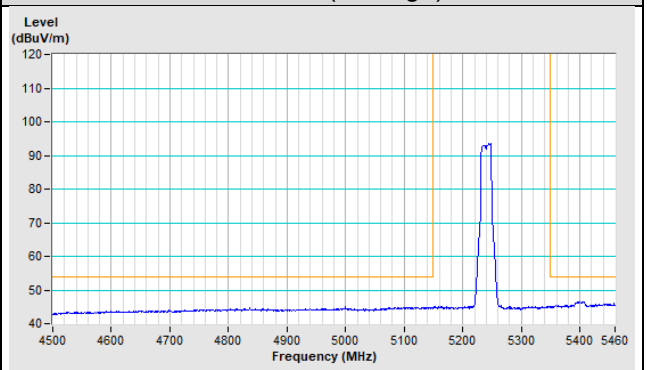


802.11a Channel 48

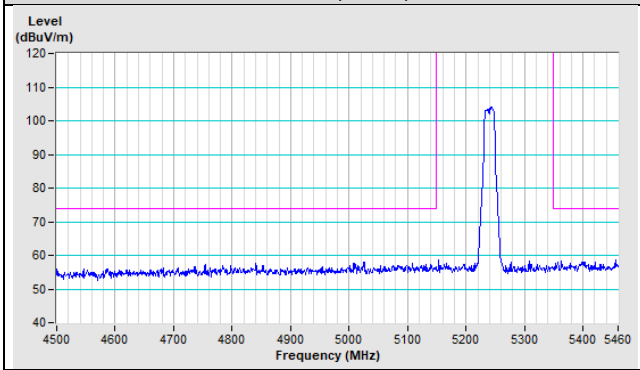
Horizontal (Peak)



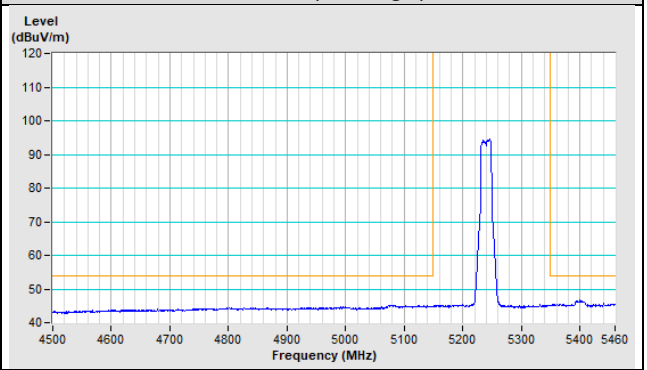
Horizontal (Average)

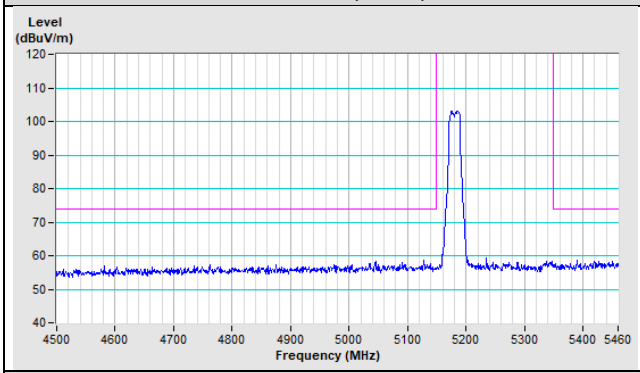
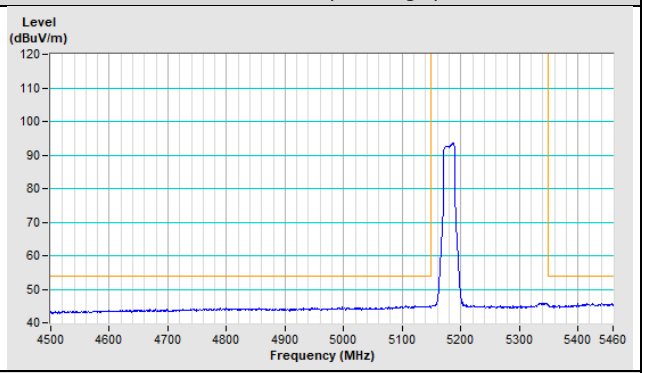
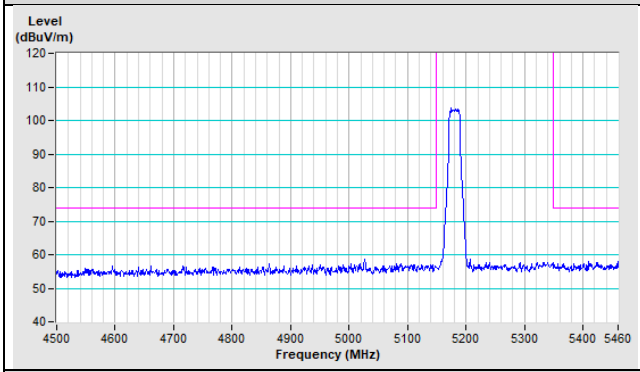
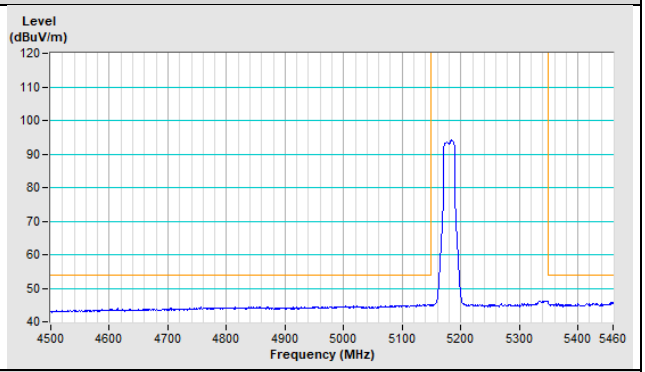
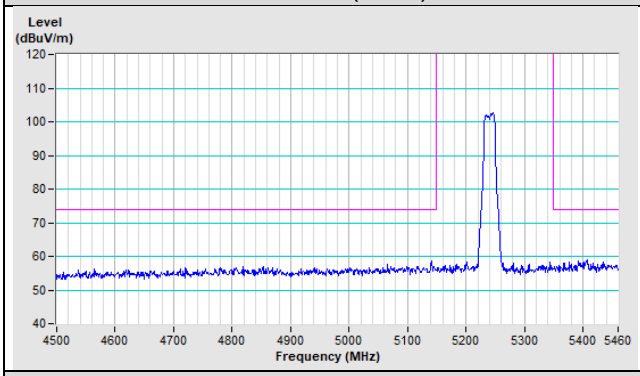
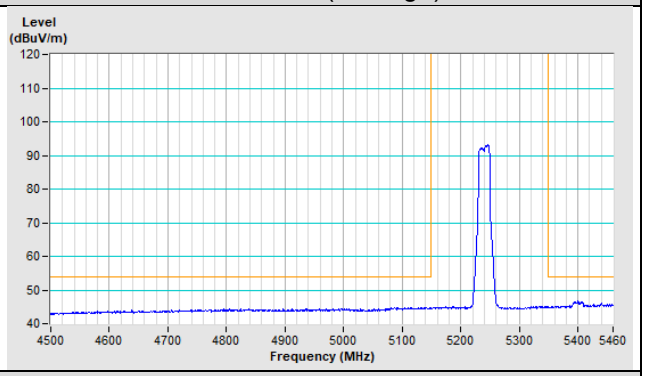
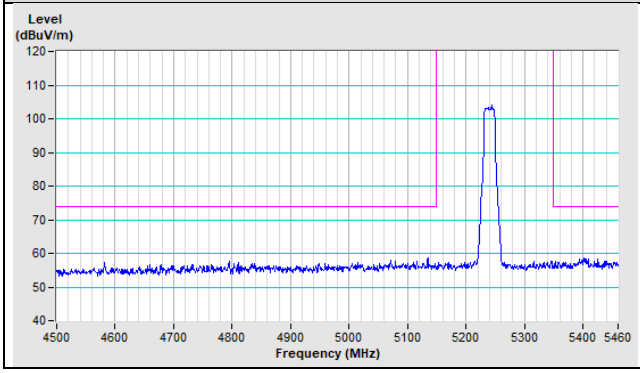
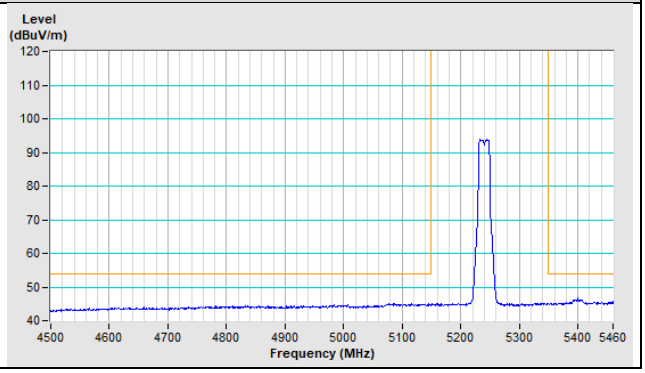


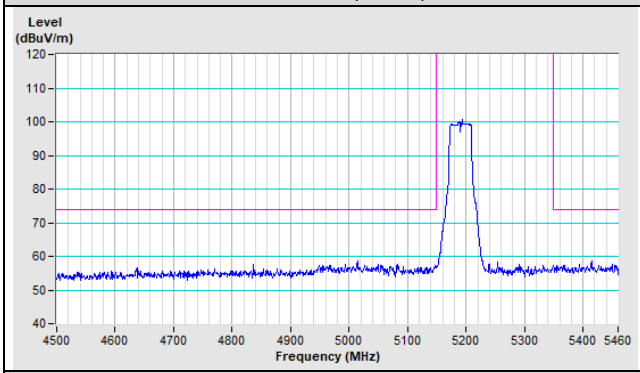
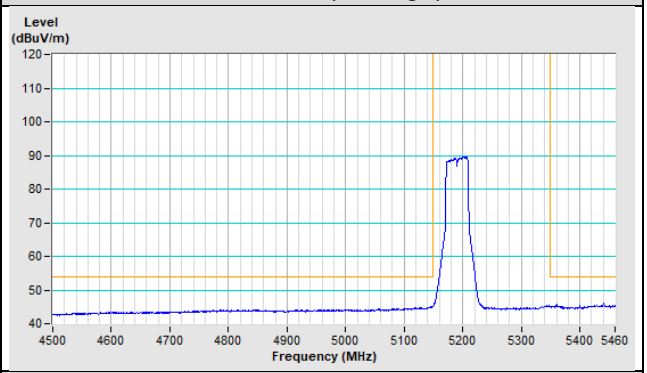
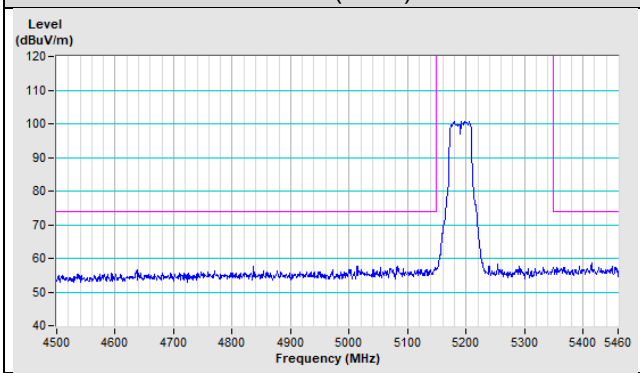
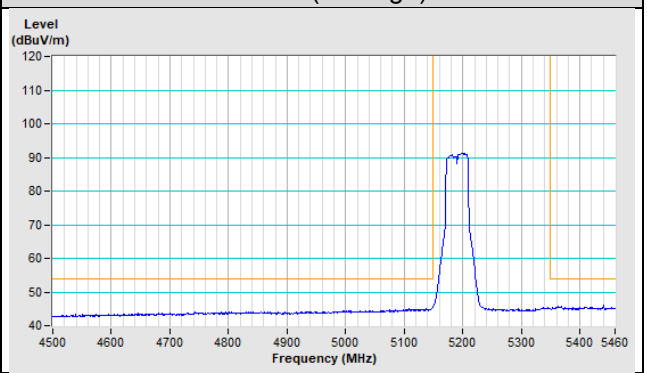
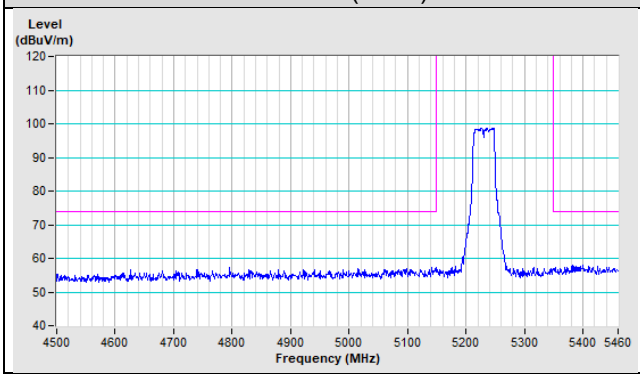
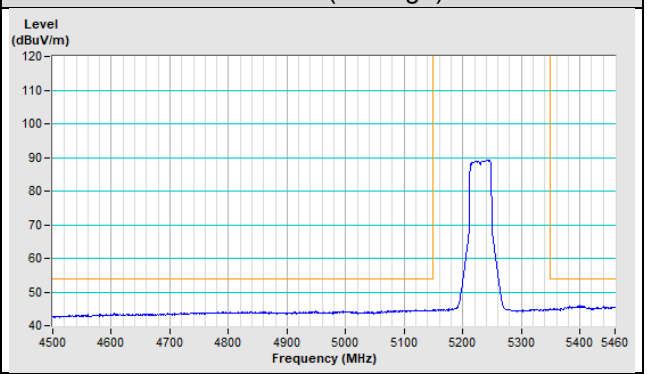
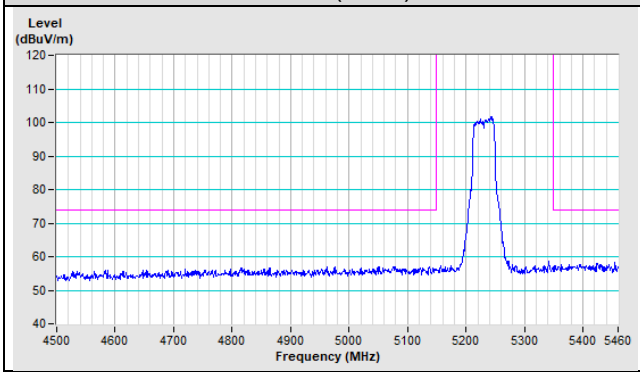
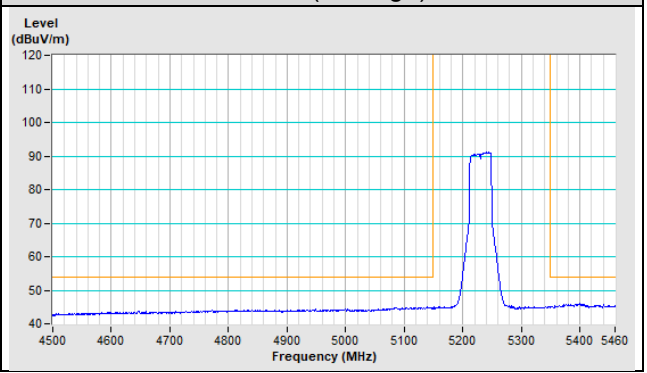
Vertical (Peak)

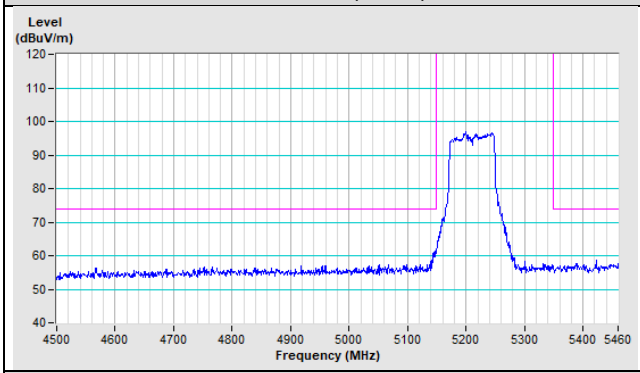
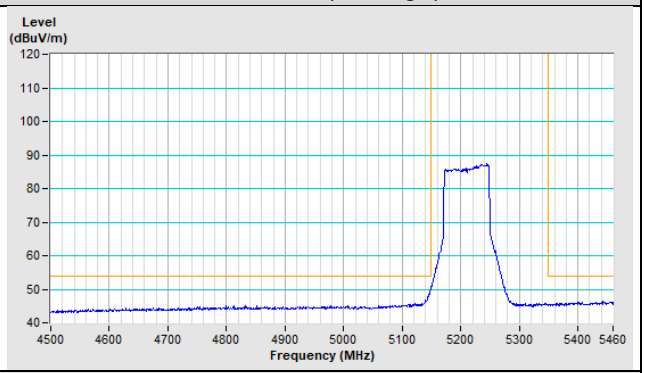
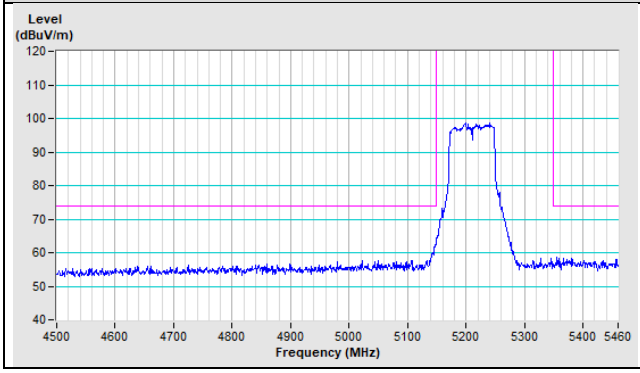
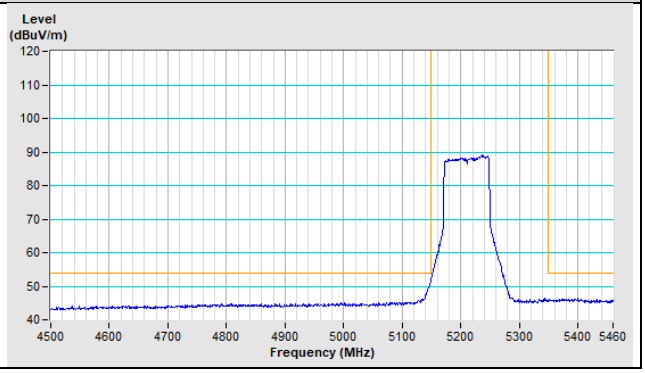


Vertical (Average)



802.11ac (VHT20) Channel 36	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ac (VHT20) Channel 48	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ac (VHT40) Channel 38	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ac (VHT40) Channel 46	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ac (VHT80) Channel 42	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

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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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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