

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)

Report No.: RFBCMA-WTW-P23040055A-1

FCC ID: RAXWR3210

Product: Standalone Router

Brand: Hughes

Model No.: HL1120W-IDU

Received Date: 2023/3/27

Test Date: 2023/4/28 ~ 2023/7/7

Issued Date: 2023/7/13

Applicant: Arcadyan Technology Corporation

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

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Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

FCC Registration / 723255 / TW2022

Designation Number:

Approved by: _____



, Date: _____

2023/7/13

Wen Yu / Assistant Manager

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Prepared by : Phoenix Huang / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBCMA-WTW-P23040055A-1	Original release.	2023/7/13

1 Certificate

Product: Standalone Router

Brand: Hughes

Test Model: HL1120W-IDU

Sample Status: Engineering sample

Applicant: Arcadyan Technology Corporation

Test Date: 2023/4/28 ~ 2023/7/7

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)

Measurement ANSI C63.10-2013

procedure: KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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.

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.407(a)(2)	26 dB Bandwidth	Pass	For U-NII-2A U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.
15.407(a)(2) 15.407(a)(3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(2) 15.407(a)(3)	Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
---	Occupied Bandwidth	-	Reference only.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -17.77 dB at 1.80115 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -5.1 dB at 41.38 MHz
15.407(b) (2/10) 15.407(b) (3/10) 15.407(b) (4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.2 dB at 5350.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

Note: 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	Specification	Expanded Uncertainty (k=2) (±)
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.1 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.1 dB
	18 GHz ~ 40 GHz	5.3 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Standalone Router
Brand	Hughes
Test Model	HL1120W-IDU
Status of EUT	Engineering sample
Power Supply Rating	12 Vdc from host equipment
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode 1024QAM for OFDMA in 11ax mode
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 866.7 Mbps 802.11ax: up to 1201.0 Mbps
Operating Frequency	5.26 GHz ~ 5.32 GHz 5.5 GHz ~ 5.72 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 16 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 8 802.11ac (VHT80), 802.11ax (HE80): 4
Output Power	CDD Mode: 5.26 GHz ~ 5.32 GHz: 245.213 mW (23.9 dBm) 5.5 GHz ~ 5.72 GHz: 248.909 mW (23.96 dBm) Beamforming Mode: 5.26 GHz ~ 5.32 GHz: 231.238 mW (23.64 dBm) 5.5 GHz ~ 5.72 GHz: 234.709 mW (23.71 dBm)

Note:

- This report is prepared for FCC class II change. The difference compared with the Report No.: RFBCMA-WTW-P23040055-1 as the following:
 - ◆ Add DFS band <5.26 ~ 5.32 GHz, 5.50 ~ 5.72 GHz> by software.
- According to above conditions, for DFS band all of test items need to be performed and all data was verified to meet the requirements.
- The EUT has below radios as following table:

Radio 1	Radio 2
WLAN (2.4GHz)	WLAN (5GHz)

- Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4 GHz)	WLAN (5 GHz)

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

- The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna No.	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range	Antenna Type	Connector Type	Cable Length
1	0	PSA	RFPCA370706IMAB303	1.67	2.4 GHz	Dipole	ipex(MHF)	60 mm
				1.86	2.45 GHz			
				1.80	2.5 GHz			
2	1	PSA	RFPCA330707IMAB301	1.75	2.4 GHz	Dipole	ipex(MHF)	70 mm
				1.94	2.45 GHz			
				1.37	2.5 GHz			
3	0	PSA	RFPCA220904IM5B301	2.26	5.15 GHz	Dipole	ipex(MHF)	40 mm
				1.56	5.5 GHz			
				2.07	5.85 GHz			
4	1	PSA	RFPCA220904IM5B305	2.91	5.15 GHz	Dipole	ipex(MHF)	41 mm
				2.37	5.5 GHz			
				1.97	5.85 GHz			

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

2. The EUT incorporates a MIMO function:

5 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11a	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (HE80)	2TX	2RX

Note:

- All of modulation mode support beamforming function except 802.11a modulation mode.
- The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
- The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz, 80 MHz) and 802.11ax mode for 20 MHz (40 MHz, 80 MHz) therefore the manufacturer will control the power for 802.11n/ac mode is same as the 802.11ax mode or more lower than it and investigated worst case to representative mode in test report.

3.3 Channel List

FOR 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

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

Channel	Frequency
58	5290 MHz

FOR 5500 ~ 5720 MHz

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

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

6 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

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

3 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

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

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. EUT's Antenna can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition. 2. 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).
Worst Case:	1. Antenna X-axis/ Y-axis/ Z-axis Worst Condition: Z-Axis

Following channel(s) was (were) selected for the final test as listed below:

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
26 dB Bandwidth	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
RF Output Power	802.11a	CDD	52, 60, 64, 100, 116, 140, 144,	BPSK	6Mb/s
	802.11ax (HE20)	CDD & Beamforming	52, 60, 64, 100, 116, 140, 144,	BPSK	MCS0
	802.11ax (HE40)	CDD & Beamforming	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD & Beamforming	58, 106, 122, 138	BPSK	MCS0
6 dB Bandwidth	802.11a	CDD	144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	144	BPSK	MCS0
	802.11ax (HE40)	CDD	142	BPSK	MCS0
	802.11ax (HE80)	CDD	138	BPSK	MCS0
Occupied Bandwidth / Power Spectral Density	802.11a	CDD	52, 60, 64, 100, 116, 140, 144,	BPSK	6Mb/s
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144,	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
Frequency Stability	802.11a	-	52	un-modulation	-
AC Power Conducted Emissions	802.11ax (HE40)	CDD	110	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11ax (HE40)	CDD	110	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11a	CDD	52, 60, 64, 100, 116, 140, 144,	BPSK	6Mb/s
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144,	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0

Note: Partial RU (resource unit) reduction mechanisms are not supported.

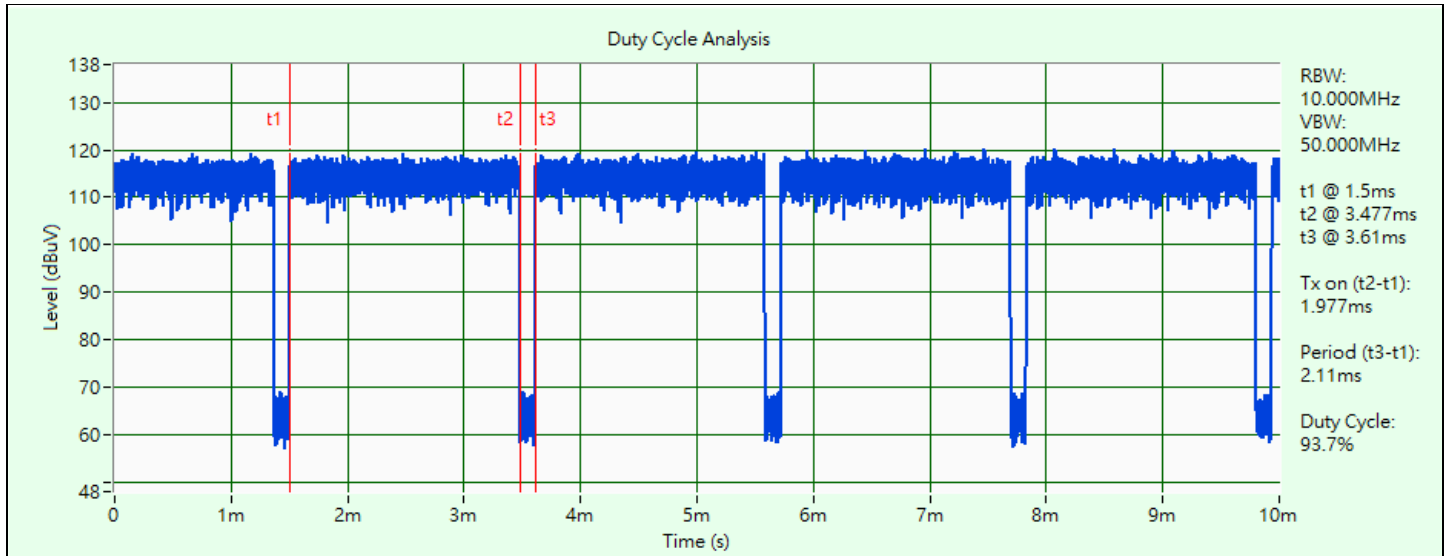
3.5 Duty Cycle of Test Signal

802.11a: Duty cycle = 1.977 ms / 2.11 ms x 100% = 93.7%, duty factor = 10 * log (1/Duty cycle) = 0.28 dB

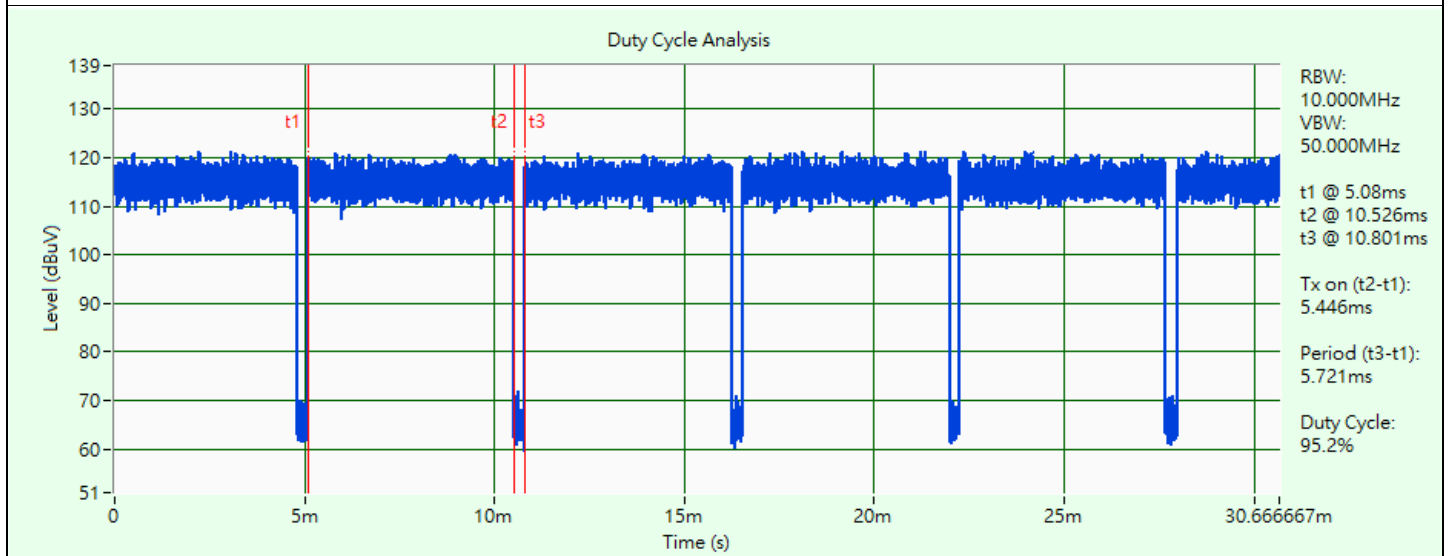
802.11ax (HE20): Duty cycle = 5.446 ms / 5.721 ms x 100% = 95.2%, duty factor = 10 * log (1/Duty cycle) = 0.21 dB

802.11ax (HE40): Duty cycle = 5.447 ms / 5.784 ms x 100% = 94.2%, duty factor = 10 * log (1/Duty cycle) = 0.26 dB

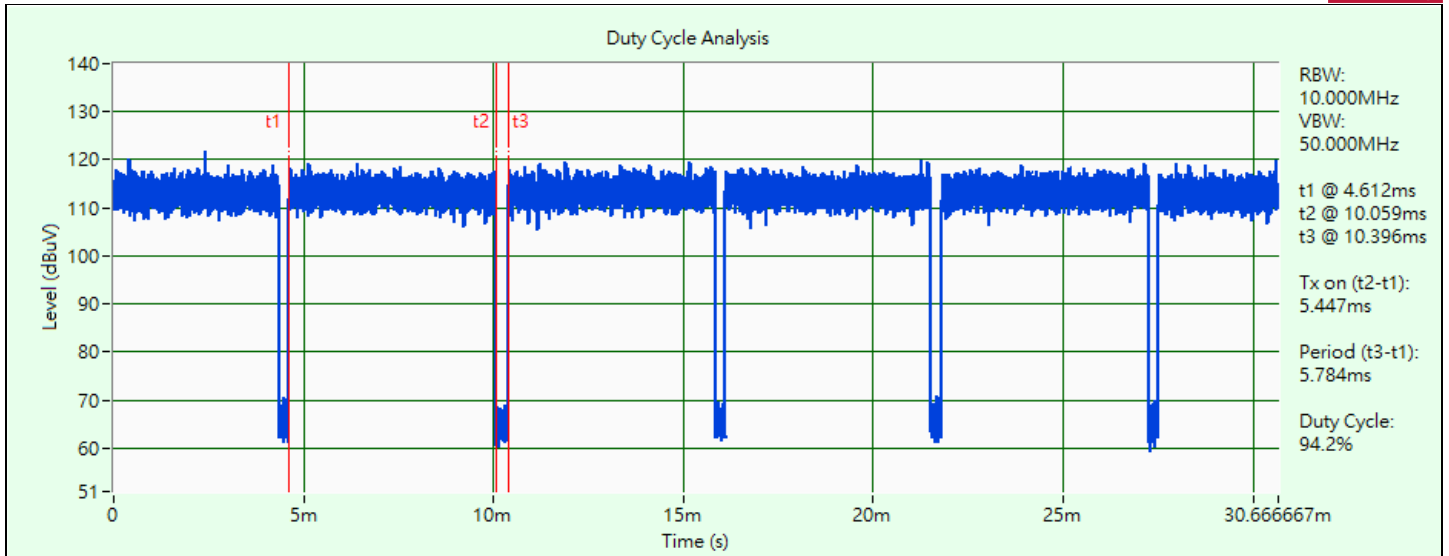
802.11ax (HE80): Duty cycle = 5.446 ms / 5.738 ms x 100% = 94.9%, duty factor = 10 * log (1/Duty cycle) = 0.23 dB



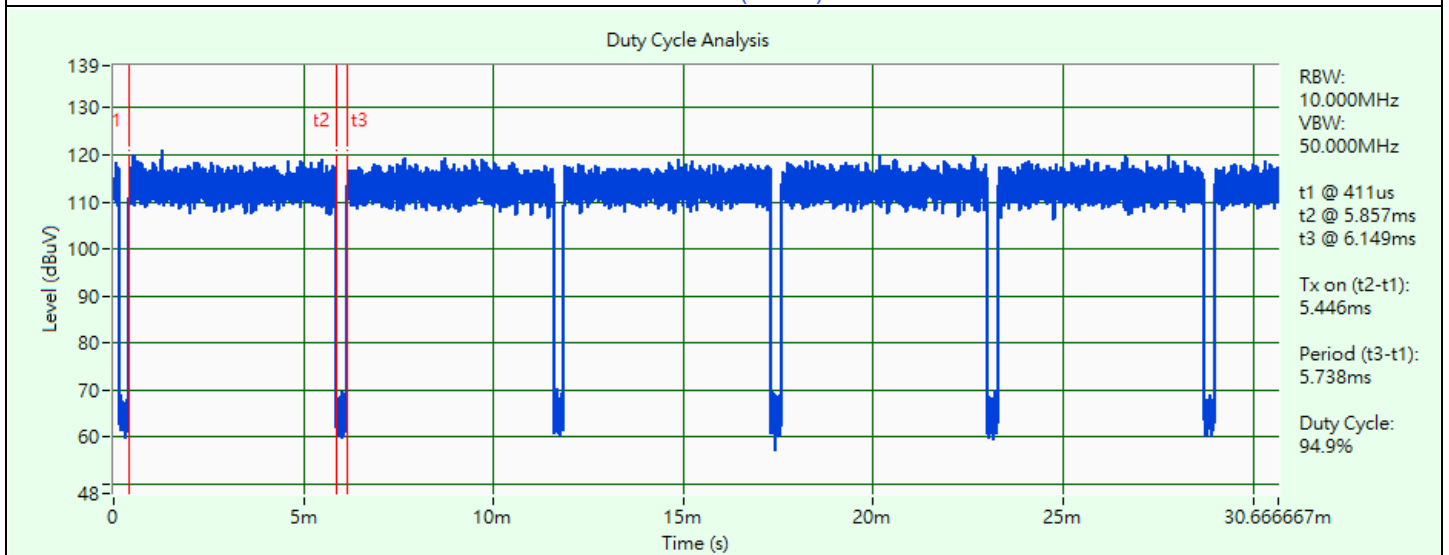
802.11a



802.11ax (HE20)



802.11ax (HE40)



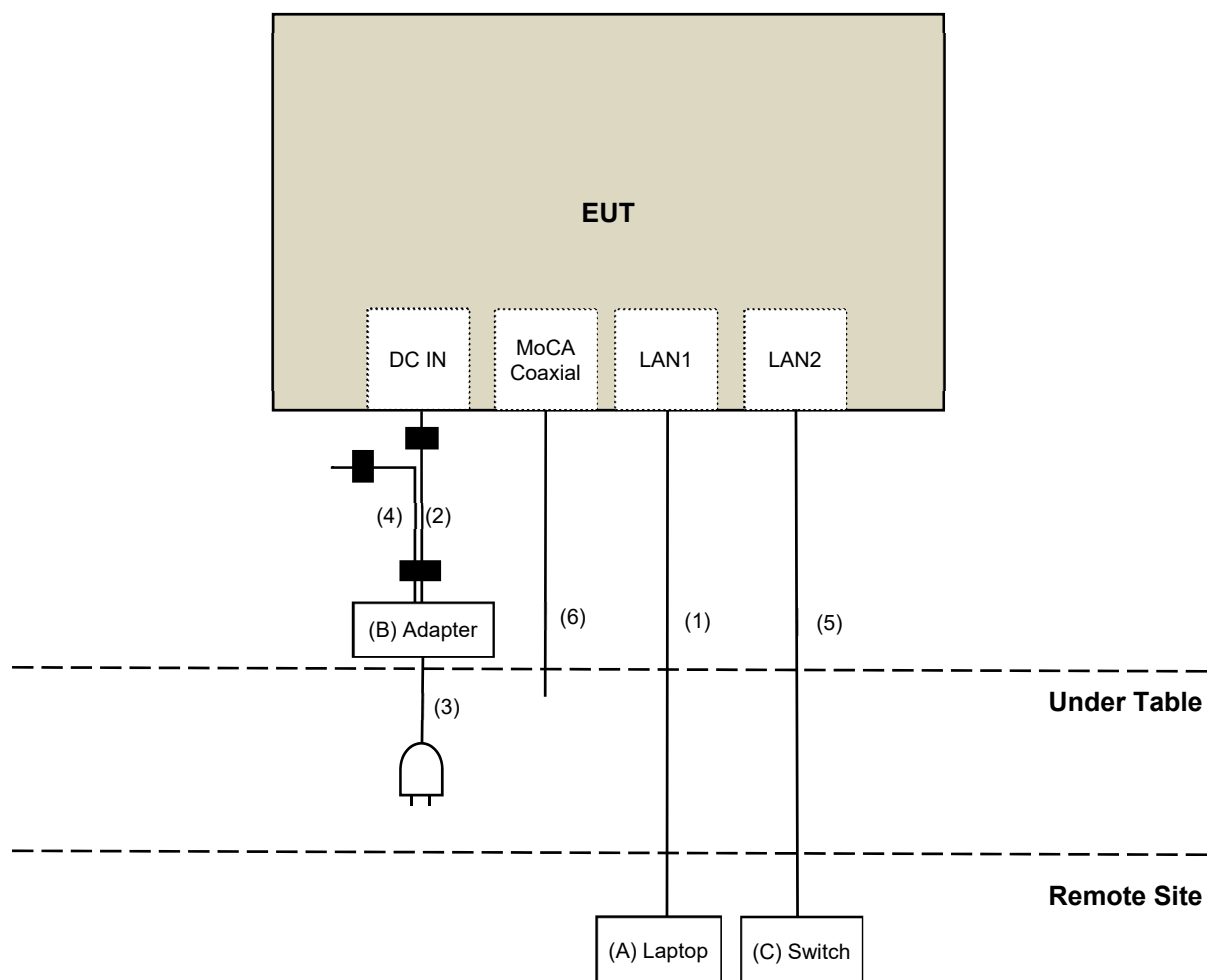
802.11ax (HE80)

3.6 Test Program Used and Operation Descriptions

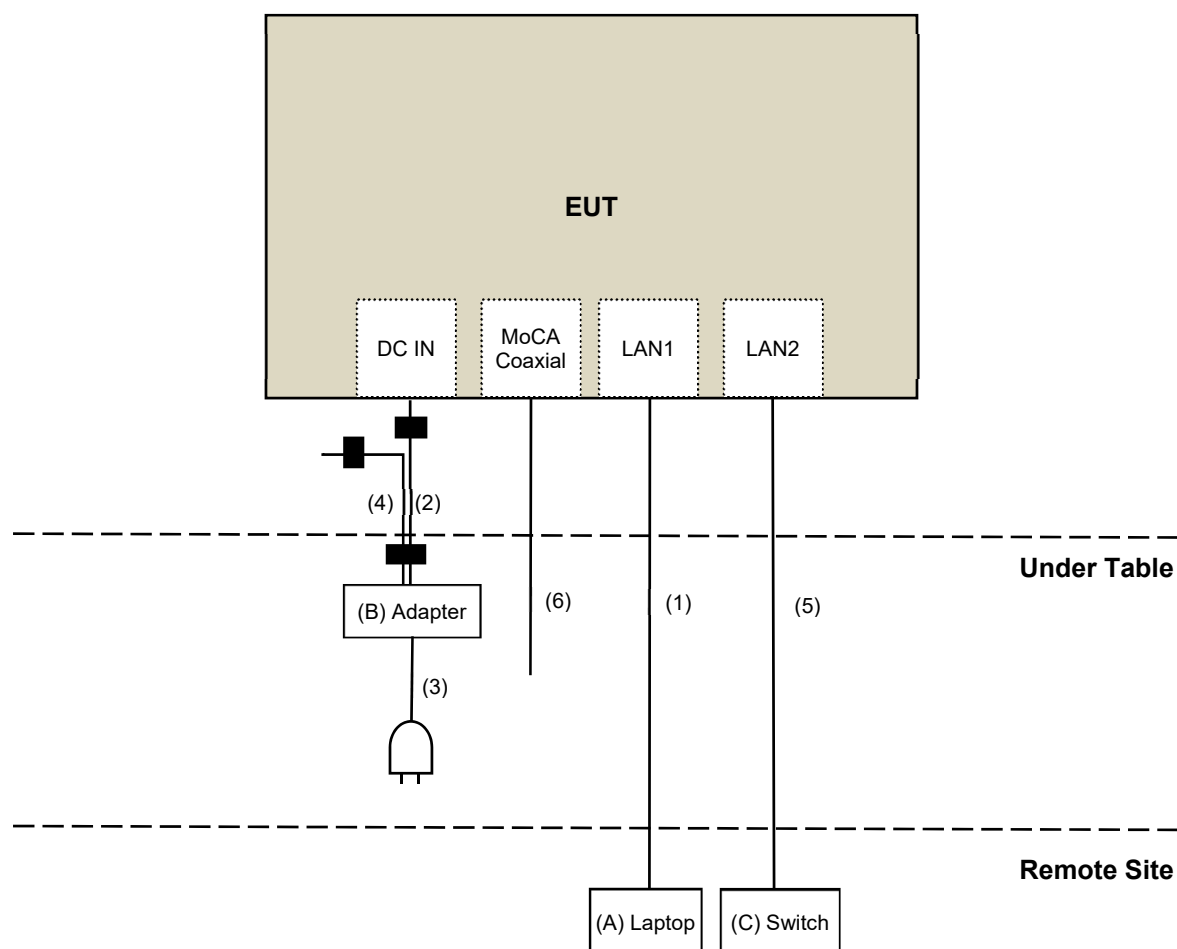
Controlling software (QRCT 4.0.00177.0) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices

For AC Power Conducted Emission test



For Unwanted Emission test



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Lenovo	20U5S01X00 L14	PF-1ANPYA	N/A	Provided by Lab
B	Adapter	HUGHES	BM500-232A-R	N/A	N/A	Supplied by applicant
C	Switch	D-Link	DGS-1005D	DR8WC92000523	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	10	No	0	Provided by Lab
2	DC Cable	1	1.2	No	2	Supplied by applicant
3	AC Cable	1	1.8	No	0	Supplied by applicant
4	DC Cable	1	1.2	No	2	Supplied by applicant
5	RJ-45 Cable	1	10	No	0	Provided by Lab
6	Coaxial Cable	1	10	Yes	0	Provided by Lab

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 26 dB Bandwidth

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	MDCS18N-10	MDCS18N-10-01	2023/3/27	2024/3/26
MXA Signal Analyzer Keysight	N9020B	MY60112409	2023/2/18	2024/2/17
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/6/6

4.2 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	MDCS18N-10	MDCS18N-10-01	2023/3/27	2024/3/26
MXA Signal Analyzer Keysight	N9020B	MY60112409	2023/2/18	2024/2/17
Power Meter Anritsu	ML2495A	1529002	2022/6/22	2023/6/21
Pulse Power Sensor Anritsu	MA2411B	1726434	2022/6/22	2023/6/21
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/6/6

4.3 Power Spectral Density

Refer to section 4.1 to get information of the instruments.

4.4 6 dB Bandwidth

Refer to section 4.1 to get information of the instruments.

4.5 Occupied Bandwidth

Refer to section 4.1 to get information of the instruments.

4.6 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
DC Power Supply Topward	6603D	795558	N/A	N/A
Fixed Attenuator Woken	MDCS18N-10	MDCS18N-10-01	2023/3/27	2024/3/26
MXA Signal Analyzer Keysight	N9020B	MY60112409	2023/2/18	2024/2/17
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	2022/12/26	2023/12/25
True RMS Clamp Meter FLUKE	325	31130711WS	2022/6/9	2023/6/8

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/6/6

4.7 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance	N/A	EMC-01	2022/9/27	2023/9/26
EMI Test Receiver R&S	ESCS 30	847124/029	2022/10/14	2023/10/13
Fixed Attenuator STI	STI02-2200-10	005	2023/7/1	2024/6/30
LISN R&S	ESH3-Z5	848773/004	2022/10/18	2023/10/17
RF Coaxial Cable JYBAO	5D-FB	COCCAB-001	2023/7/1	2024/6/30
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2023/7/7

4.8 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-0842	2022/10/24	2023/10/23
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
EMI Test Receiver R&S	ESR3	102528	2023/2/10	2024/2/9
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	2022/12/28	2023/12/27
Loop Antenna Electro-Metrics	EM-6879	264	2023/2/21	2024/2/20
MXA Signal Analyzer Keysight	N9020B	MY60112410	2023/3/6	2024/3/5
Preamplifier Agilent	8447D	2944A10636	2023/3/12	2024/3/11
Preamplifier EMCI	EMC330N	980538	2023/4/6	2024/4/5
PXA Signal Analyzer Keysight	N9030B	MY57141948	2023/5/19	2024/5/18
RF Coaxial Cable JYEBAO	5D-FB	LOOPCAB-001	2022/12/19	2023/12/18
		LOOPCAB-002	2022/12/19	2023/12/18
RF Coaxial Cable PEWC	8D	966-5-1	2023/4/6	2024/4/5
		966-5-2	2023/4/6	2024/4/5
		966-5-3	2023/4/6	2024/4/5
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 5.
2. Tested Date: 2023/7/7

4.9 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
EMI Test Receiver R&S	ESR3	102528	2023/2/10	2024/2/9
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-1819	2022/11/13	2023/11/12
	BBHA 9170	9170-739	2022/11/13	2023/11/12
MXA Signal Analyzer Keysight	N9020B	MY60112410	2023/3/6	2024/3/5
Preamplifier EMCI	EMC12630SE	980509	2023/4/7	2024/4/6
	EMC184045SE	980387	2022/12/28	2023/12/27
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2023/2/20	2024/2/19
	EMC102-KM-KM-1200	160924	2022/12/28	2023/12/27
	EMC104-SM-SM-1500	180503	2023/4/7	2024/4/6
	EMC104-SM-SM-2000	180501	2023/4/7	2024/4/6
	EMC104-SM-SM-6000	180506	2023/4/7	2024/4/6
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 5.
2. Tested Date: 2023/4/28 ~ 2023/7/7

5 Limits of Test Items

5.1 26 dB Bandwidth

The results are for reference only.

5.2 RF Output Power

Operation Band	Limit
U-NII-2A	250 mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	250 mW (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 D01 Multiple Transmitter Output 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.

5.3 Power Spectral Density

Operation Band	Limit
U-NII-2A	11 dBm/MHz
U-NII-2C	11 dBm/MHz
U-NII-3	30 dBm/500 kHz

5.4 6 dB Bandwidth

Within the 5.725-5.850 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

5.5 Occupied Bandwidth

The results are for reference only.

5.6 Frequency Stability

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

5.7 AC Power Conducted Emissions

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

Notes:

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 0.50 MHz.

5.8 Unwanted Emissions below 1 GHz

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

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.9 Unwanted Emissions above 1 GHz

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)
Above 960	500	3

Notes:

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 1000 MHz, 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 20 dB 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 3 m	
	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)

For transmitters operating in the 5.25-5.35 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(2)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)

For transmitters operating in the 5.47-5.725 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(3)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)

For transmitters operating in the 5.725-5.850 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
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.

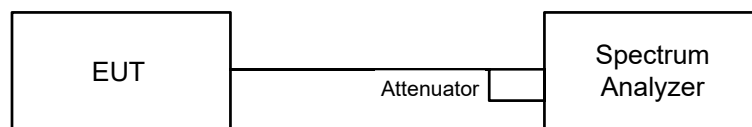
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 26 dB Bandwidth

6.1.1 Test Setup



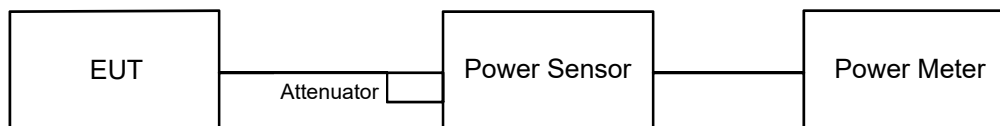
6.1.2 Test Procedure

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

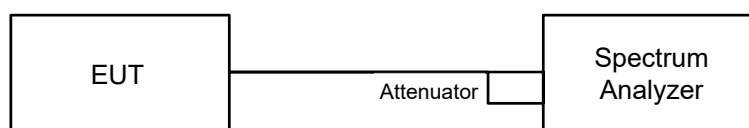
6.2 RF Output Power

6.2.1 Test Setup

Conducted Measurement Method



For channel straddling:



6.2.2 Test Procedure

Conducted Measurement Method

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

For channel straddling:

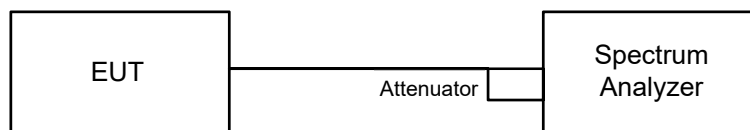
Method SA-2

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW \geq 3 MHz, Detector = RMS
- Sweep points \geq $[2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing \leq RBW / 2, so that narrowband signals are not lost between frequency bins.) Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- Record the max value and add $10 \log (1/\text{duty cycle})$.

Note: When measuring straddle channel power, use compute power by integrating the spectrum across the 26 dB EBW or 99% OBW of the signal using the instrument's band power measurement function, with band limits set equal to the EBW or OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW or 99% OBW of the spectrum.

6.3 Power Spectral Density

6.3.1 Test Setup



6.3.2 Test Procedure

For specified measurement bandwidth 1 MHz:

Method SA-2

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW \geq 3 MHz, Detector = RMS
- Sweep points \geq $[2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing \leq RBW / 2, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- Record the max value and add 10 log (1/duty cycle).

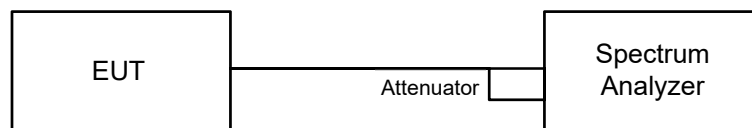
For specified measurement bandwidth 500 kHz:

Method SA-2

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz, Set VBW \geq 1 MHz, Detector = RMS
- 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 $\text{BWCF} = 10\log(500 \text{ kHz}/300 \text{ kHz})$
- Sweep points \geq $[2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing \leq RBW / 2, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- Record the max value and add 10 log (1/duty cycle).

6.4 6 dB Bandwidth

6.4.1 Test Setup

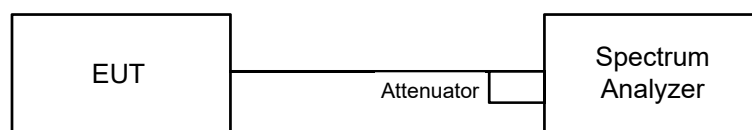


6.4.2 Test Procedure

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

6.5 Occupied Bandwidth

6.5.1 Test Setup

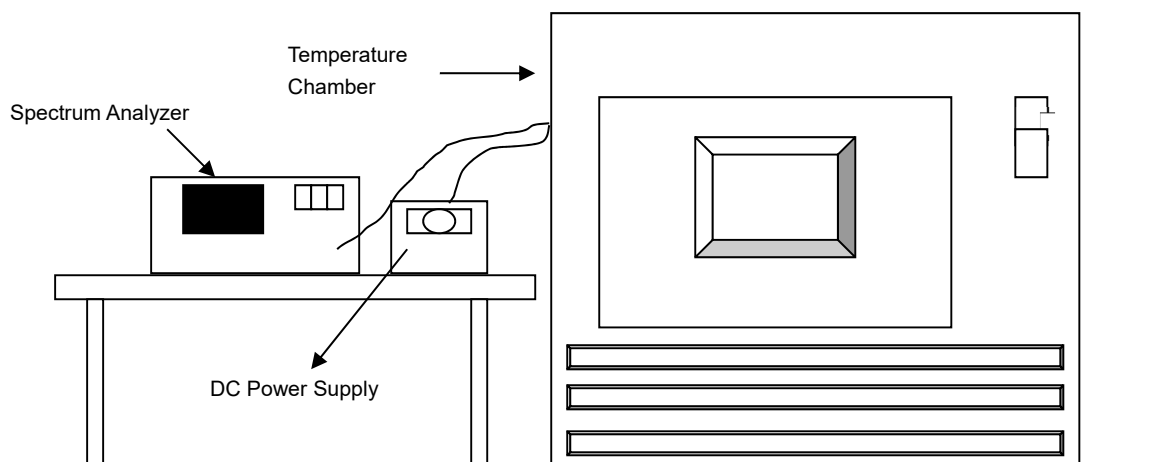


6.5.2 Test Procedure

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.

6.6 Frequency Stability

6.6.1 Test Setup

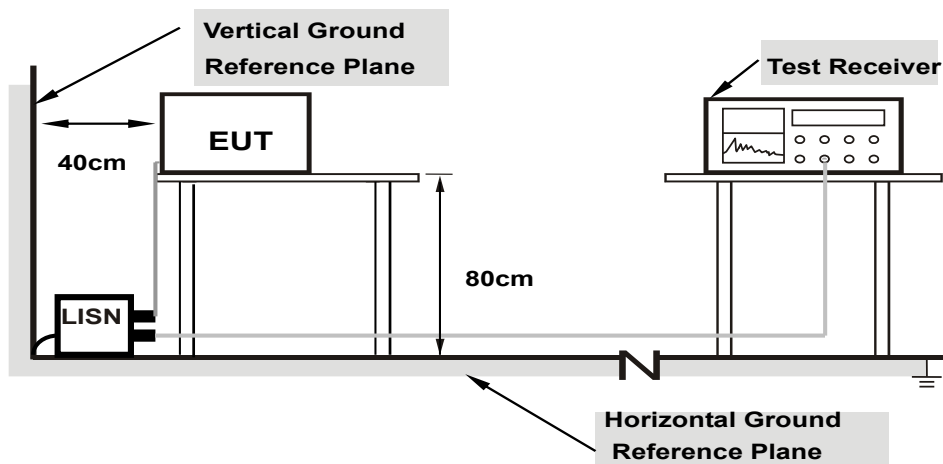


6.6.2 Test Procedure

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

6.7 AC Power Conducted Emissions

6.7.1 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).

6.7.2 Test Procedure

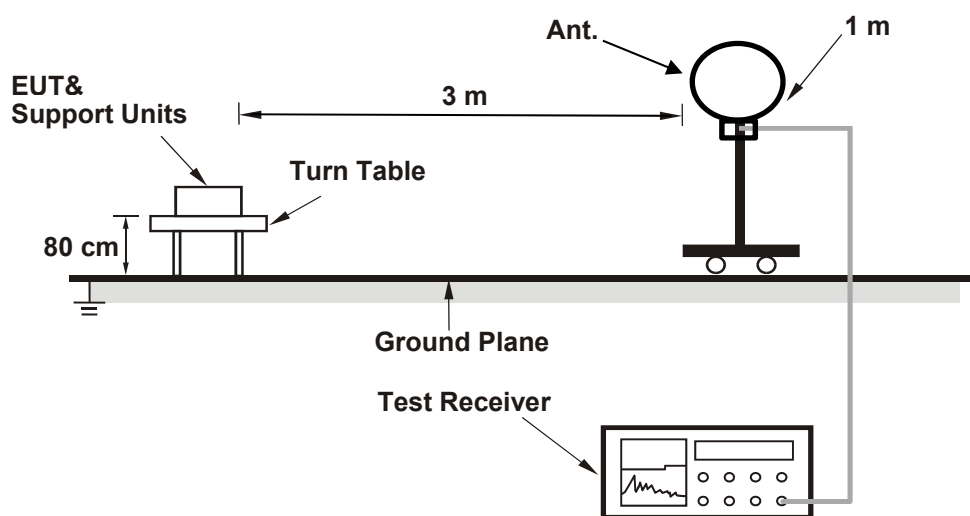
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.

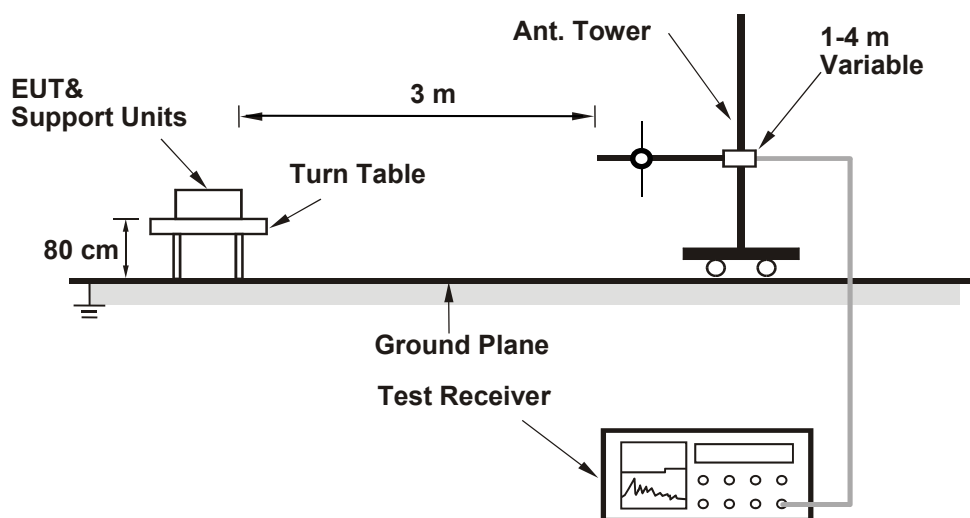
6.8 Unwanted Emissions below 1 GHz

6.8.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.8.2 Test Procedure

For Radiated emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters 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. 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, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

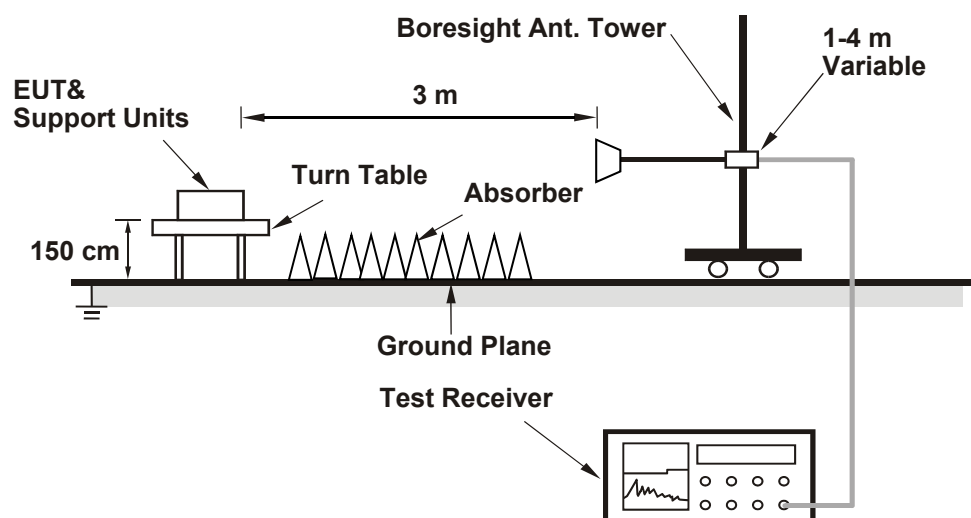
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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(QP) detect function, Average(AV) detect function, Peak(PK) detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP), Average detection (AV), Peak detection (PK) at frequency (30MHz to 1 GHz).
2. All modes of operation were investigated and the worst-case emissions are reported.

6.9 Unwanted Emissions above 1 GHz

6.9.1 Test Setup



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

6.9.2 Test Procedure

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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.
- The test-receiver system was set to peak and average detects 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.

Notes:

- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
- For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

7.1 26 dB Bandwidth

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Louis Yang
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802.11a

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	20.59	20.52
60	5300	20.46	20.46
64	5320	20.70	20.41
100	5500	20.43	20.48
116	5580	20.54	20.43
140	5700	20.62	20.69
144 (U-NII-2C)	5720	15.15	15.16
144 (U-NII-3)	5720	5.70	5.03

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	20.52	24.12 > 24
60	5300	20.46	24.1 > 24
64	5320	20.41	24.09 > 24
100	5500	20.43	24.1 > 24
116	5580	20.43	24.1 > 24
140	5700	20.62	24.14 > 24
144 (U-NII-2C)	5720	15.15	22.8 < 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

802.11ax (HE20)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	21.39	20.87
60	5300	21.62	21.06
64	5320	21.16	21.46
100	5500	21.04	20.99
116	5580	21.25	21.13
140	5700	21.19	21.39
144 (U-NII-2C)	5720	15.47	15.37
144 (U-NII-3)	5720	5.38	5.64

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	20.87	24.19 > 24
60	5300	21.06	24.23 > 24
64	5320	21.16	24.25 > 24
100	5500	20.99	24.22 > 24
116	5580	21.13	24.24 > 24
140	5700	21.19	24.26 > 24
144 (U-NII-2C)	5720	15.37	22.86 < 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

802.11ax (HE40)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	42.16	41.73
62	5310	41.69	41.54
102	5510	41.74	41.79
110	5550	41.82	41.45
134	5670	41.94	41.99
142 (U-NII-2C)	5710	35.58	36.03
142 (U-NII-3)	5710	5.35	5.68

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	41.73	27.2 > 24
62	5310	41.54	27.18 > 24
102	5510	41.74	27.2 > 24
110	5550	41.45	27.17 > 24
134	5670	41.94	27.22 > 24
142 (U-NII-2C)	5710	35.58	26.51 > 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

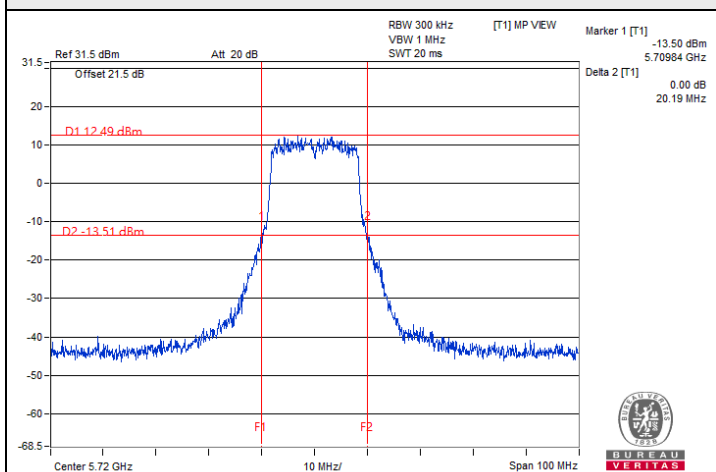
802.11ax (HE80)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	81.95	82.79
106	5530	82.85	82.40
122	5610	82.24	82.34
138 (U-NII-2C)	5690	76.13	76.21
138 (U-NII-3)	5690	5.81	5.81

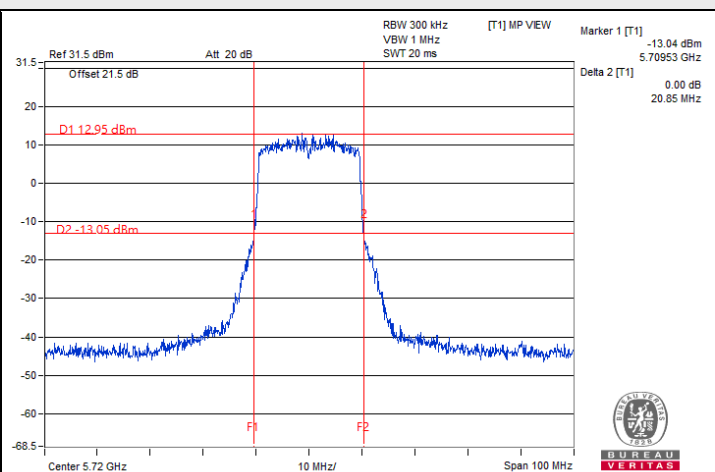
Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	81.95	30.13 > 24
106	5530	82.40	30.15 > 24
122	5610	82.24	30.15 > 24
138 (U-NII-2C)	5690	76.13	29.81 > 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

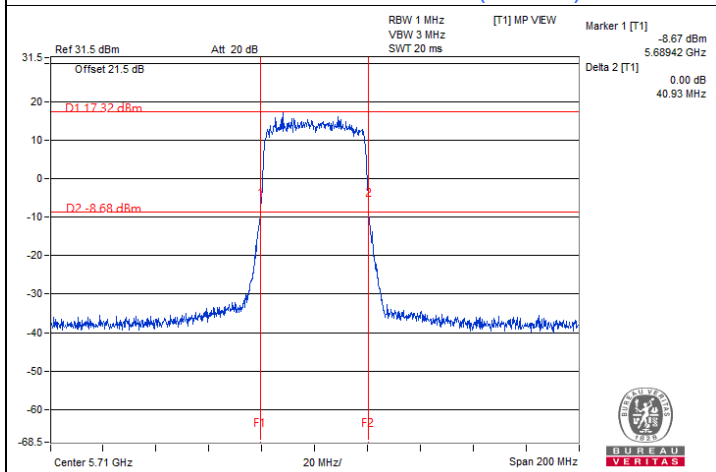
Spectrum Plot of Minimum Value



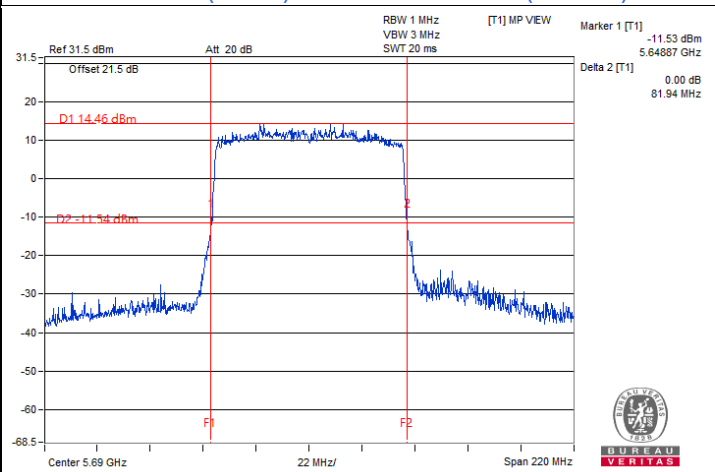
802.11a / Chain 1 : CH 144 (U-NII-3)



802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)



802.11ax (HE40) / Chain 0 : CH 142 (U-NII-3)



802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)

Notes:

1. For U-NII-2C straddle channel = 5725 MHz - Marker 1
2. For U-NII-3 straddle channel = Marker 1 + Delta 2 - 5725 MHz

7.2 RF Output Power

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Louis Yang
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802.11a CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
52	5260	20.85	20.92	245.213	23.90	24	Pass
60	5300	20.67	20.83	237.741	23.76	24	Pass
64	5320	20.76	20.66	235.537	23.72	24	Pass
100	5500	20.44	20.42	220.816	23.44	24	Pass
116	5580	20.38	20.46	220.317	23.43	24	Pass
140	5700	20.63	20.56	229.374	23.61	24	Pass
*144 (U-NII-2C)	5720	19.46	19.31	185.298	22.68	22.8	Pass
*144 (U-NII-3)	5720	13.24	12.59	41.881	16.22	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
52	5260	20.92	20.80	243.821	23.87	24	Pass
60	5300	20.63	20.65	231.756	23.65	24	Pass
64	5320	20.59	20.46	225.724	23.54	24	Pass
100	5500	20.50	20.51	224.662	23.52	24	Pass
116	5580	20.45	20.60	225.733	23.54	24	Pass
140	5700	20.63	20.64	231.489	23.65	24	Pass
*144 (U-NII-2C)	5720	18.24	19.62	166.296	22.21	22.86	Pass
*144 (U-NII-3)	5720	13.70	13.33	47.241	16.74	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
54	5270	20.68	20.90	239.977	23.80	24	Pass
62	5310	20.46	20.59	225.724	23.54	24	Pass
102	5510	20.59	20.61	229.631	23.61	24	Pass
110	5550	20.92	20.98	248.909	23.96	24	Pass
134	5670	20.34	20.59	222.695	23.48	24	Pass
*142 (U-NII-2C)	5710	20.13	20.34	224.248	23.51	24	Pass
*142 (U-NII-3)	5710	9.66	10.28	21.145	13.25	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE80) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
58	5290	20.71	20.86	239.66	23.80	24	Pass
106	5530	20.39	20.52	222.115	23.47	24	Pass
122	5610	20.43	20.76	229.532	23.61	24	Pass
*138 (U-NII-2C)	5690	20.21	20.46	228.7	23.59	24	Pass
*138 (U-NII-3)	5690	6.59	6.11	9.107	9.59	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 2.91 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
52	5260	20.68	20.58	231.238	23.64	24	Pass
60	5300	20.38	20.39	218.54	23.40	24	Pass
64	5320	20.33	20.21	212.849	23.28	24	Pass
100	5500	20.25	20.27	212.34	23.27	24	Pass
116	5580	20.20	20.34	212.856	23.28	24	Pass
140	5700	20.42	20.39	219.55	23.42	24	Pass
*144 (U-NII-2C)	5720	18.24	19.62	166.296	22.21	22.86	Pass
*144 (U-NII-3)	5720	13.70	13.33	47.241	16.74	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-2A, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
54	5270	20.42	20.61	225.234	23.53	24	Pass
62	5310	20.17	20.33	211.887	23.26	24	Pass
102	5510	20.33	20.35	216.287	23.35	24	Pass
110	5550	20.70	20.69	234.709	23.71	24	Pass
134	5670	20.09	20.33	209.989	23.22	24	Pass
*142 (U-NII-2C)	5710	20.13	20.34	224.248	23.51	24	Pass
*142 (U-NII-3)	5710	9.66	10.28	21.145	13.25	30	Pass

Notes:

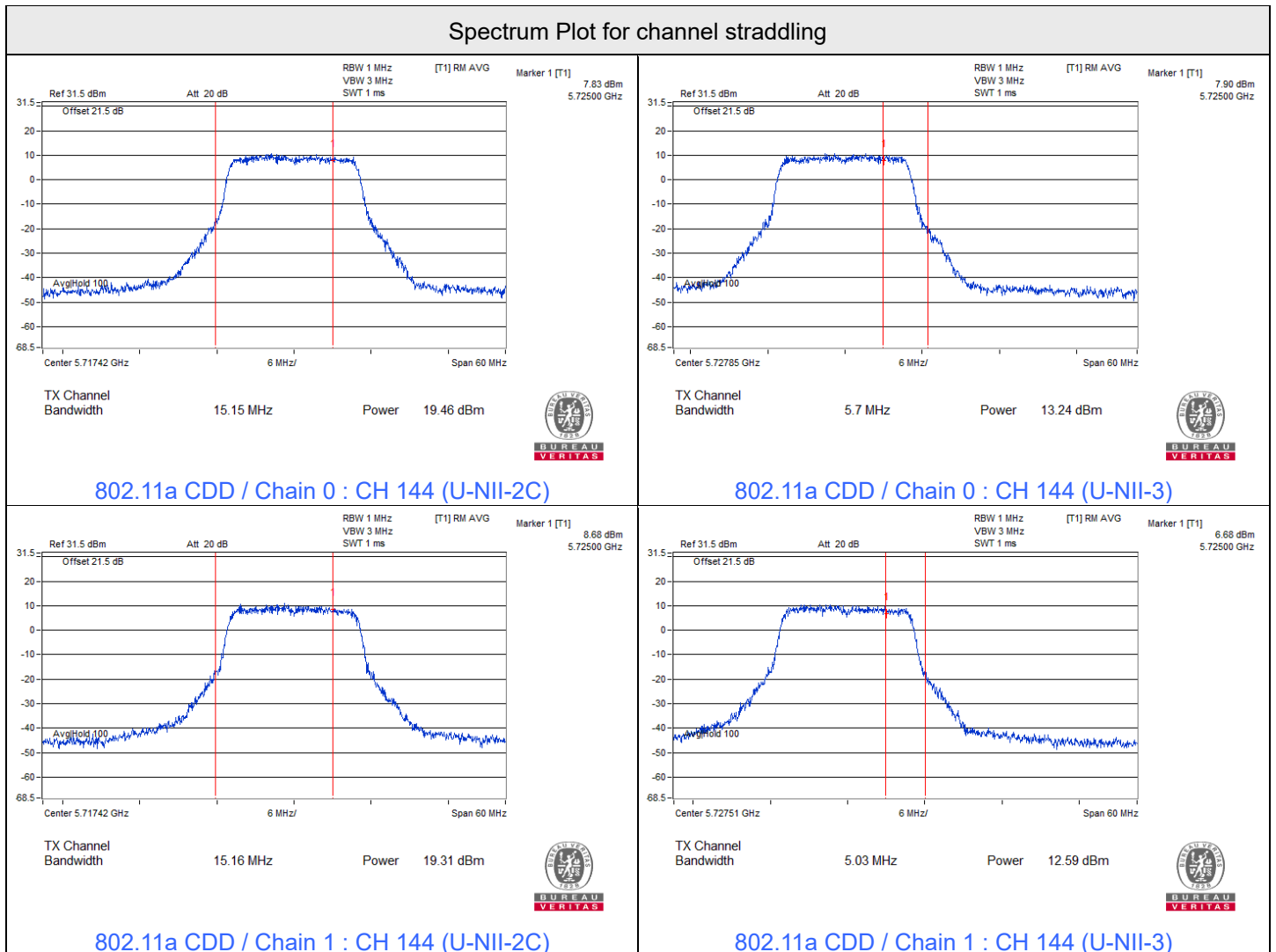
- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-2A, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE80) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
58	5290	20.43	20.61	225.488	23.53	24	Pass
106	5530	20.11	20.29	209.471	23.21	24	Pass
122	5610	20.21	20.55	218.455	23.39	24	Pass
*138 (U-NII-2C)	5690	20.21	20.46	227.716	23.57	24	Pass
*138 (U-NII-3)	5690	6.59	6.11	9.107	9.59	30	Pass

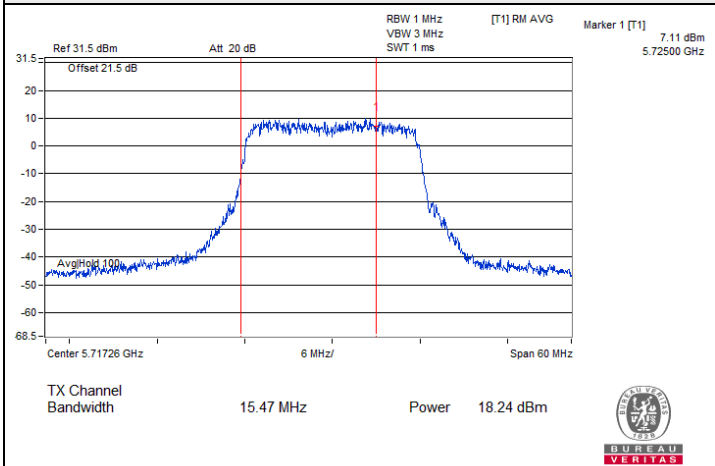
Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test , the duty factor was included in the total power.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-2A, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the directional gain is 5.6 dBi < 6 dBi, so the output power limit shall not be reduced.

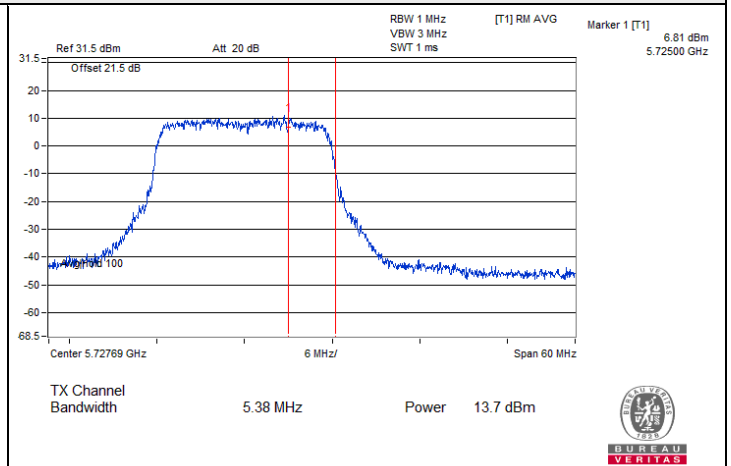




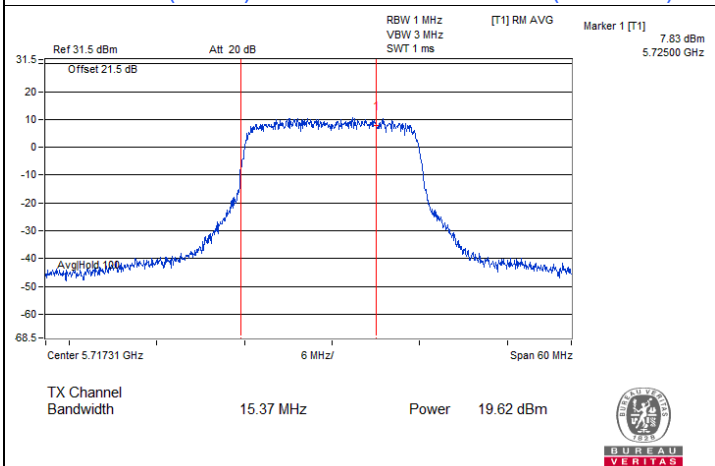
Spectrum Plot for channel straddling



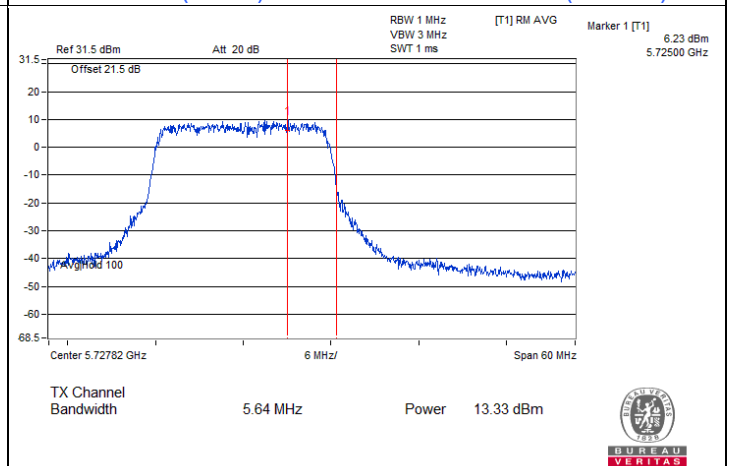
802.11ax (HE20) CDD / Chain 0 : CH 144 (U-NII-2C)



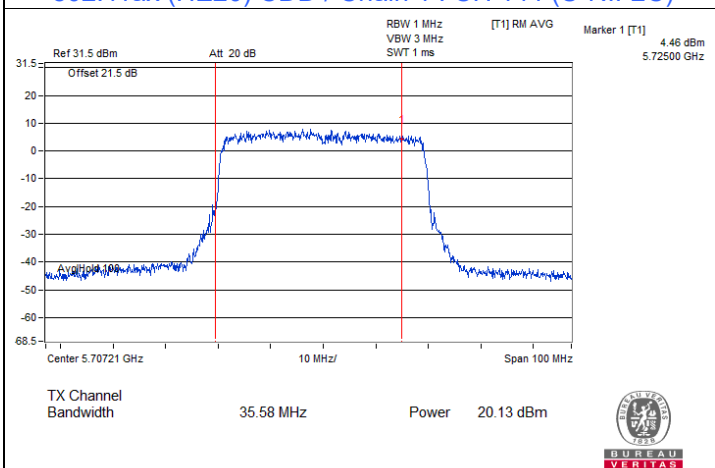
802.11ax (HE20) CDD / Chain 0 : CH 144 (U-NII-3)



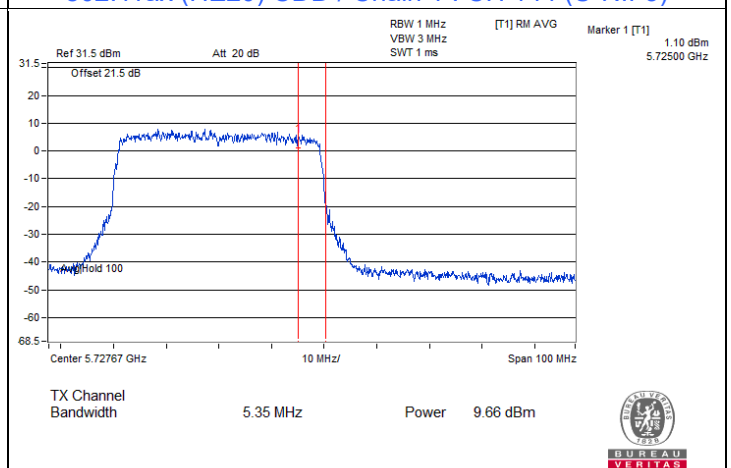
802.11ax (HE20) CDD / Chain 1 : CH 144 (U-NII-2C)



802.11ax (HE20) CDD / Chain 1 : CH 144 (U-NII-3)

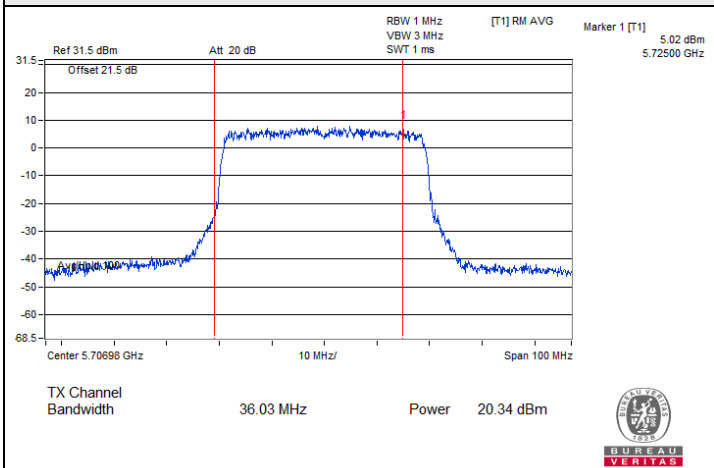


802.11ax (HE40) CDD / Chain 0 : CH 142 (U-NII-2C)

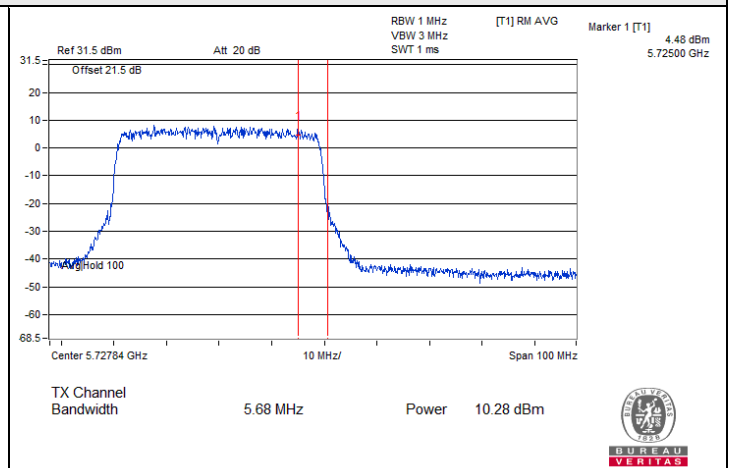


802.11ax (HE40) CDD / Chain 0 : CH 142 (U-NII-3)

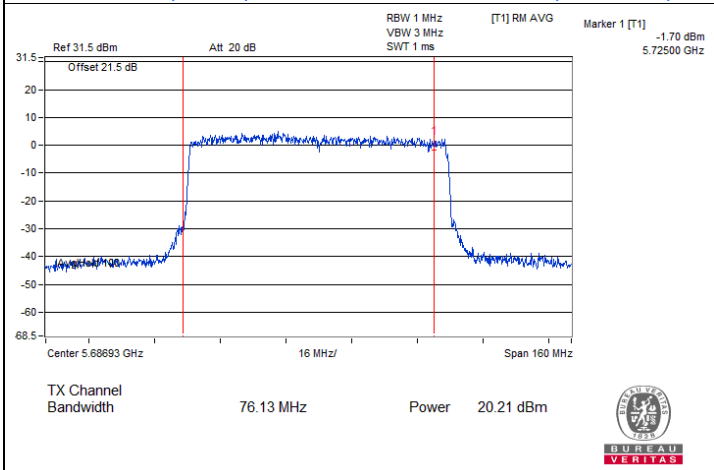
Spectrum Plot for channel straddling



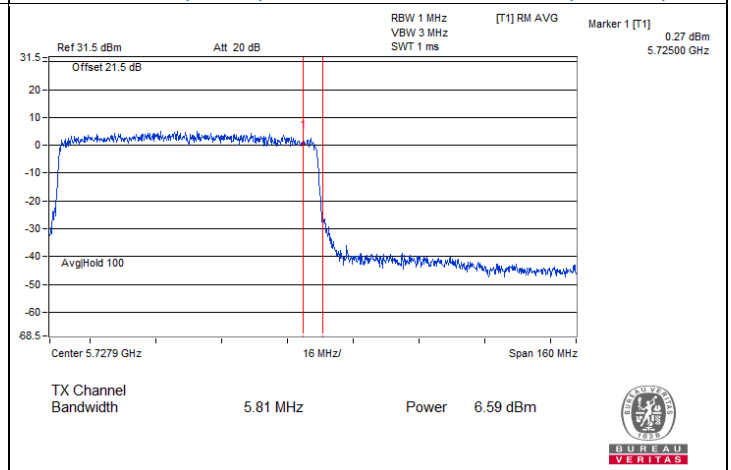
802.11ax (HE40) CDD / Chain 1 : CH 142 (U-NII-2C)



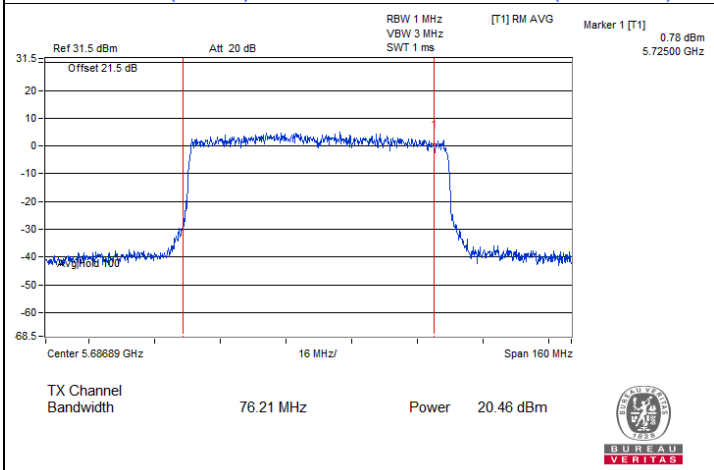
802.11ax (HE40) CDD / Chain 1 : CH 142 (U-NII-3)



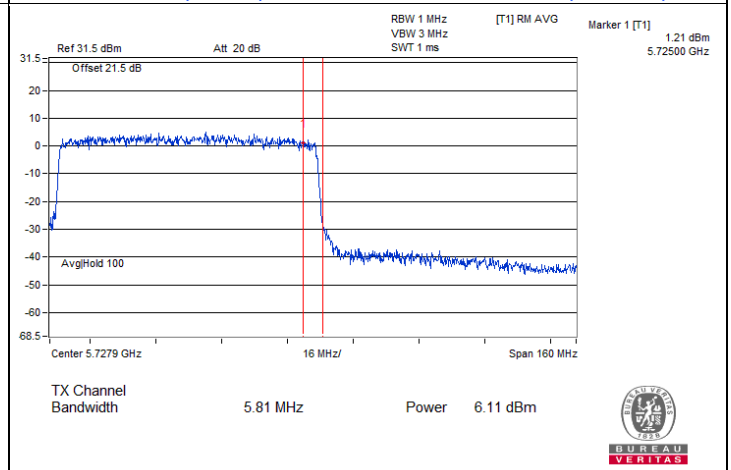
802.11ax (HE80) CDD / Chain 0 : CH 138 (U-NII-2C)



802.11ax (HE80) CDD / Chain 0 : CH 138 (U-NII-3)



802.11ax (HE80) CDD / Chain 1 : CH 138 (U-NII-2C)



802.11ax (HE80) CDD / Chain 1 : CH 138 (U-NII-3)

7.3 Power Spectral Density

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Louis Yang
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802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
52	5260	8.03	6.92	0.28	10.80	11	Pass
60	5300	7.77	6.98	0.28	10.68	11	Pass
64	5320	7.25	5.94	0.28	9.93	11	Pass
100	5500	7.27	7.26	0.28	10.56	11	Pass
116	5580	7.23	7.35	0.28	10.58	11	Pass
140	5700	7.49	7.60	0.28	10.84	11	Pass
144 (U-NII-2C)	5720	7.60	7.51	0.28	10.85	11	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-2A, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.
- For U-NII-2C, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
52	5260	7.74	7.58	0.21	10.88	11	Pass
60	5300	7.19	7.21	0.21	10.42	11	Pass
64	5320	7.20	6.86	0.21	10.25	11	Pass
100	5500	6.51	7.33	0.21	10.16	11	Pass
116	5580	7.32	7.75	0.21	10.76	11	Pass
140	5700	7.15	6.96	0.21	10.28	11	Pass
144 (U-NII-2C)	5720	6.98	7.29	0.21	10.36	11	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-2A, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.
- For U-NII-2C, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
54	5270	4.58	4.44	0.26	7.78	11	Pass
62	5310	4.32	3.91	0.26	7.39	11	Pass
102	5510	3.84	4.40	0.26	7.40	11	Pass
110	5550	4.38	4.37	0.26	7.65	11	Pass
134	5670	3.92	4.12	0.26	7.29	11	Pass
142 (U-NII-2C)	5710	4.19	4.36	0.26	7.55	11	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-2A, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.
- For U-NII-2C, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1				
58	5290	1.62	1.66	0.23	4.88	11	Pass
106	5530	0.96	0.88	0.23	4.16	11	Pass
122	5610	1.58	1.70	0.23	4.88	11	Pass
138 (U-NII-2C)	5690	1.90	1.70	0.23	5.04	11	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-2A, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.
- For U-NII-2C, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1					
144 (U-NII-3)	5720	2.05	1.96	5.02	0.28	7.52	30	Pass

Notes:

- Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-3, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1					
144 (U-NII-3)	5720	1.26	1.29	4.29	0.21	6.72	30	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1					
142 (U-NII-3)	5710	-2.35	-2.22	0.73	0.26	3.21	30	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE80)

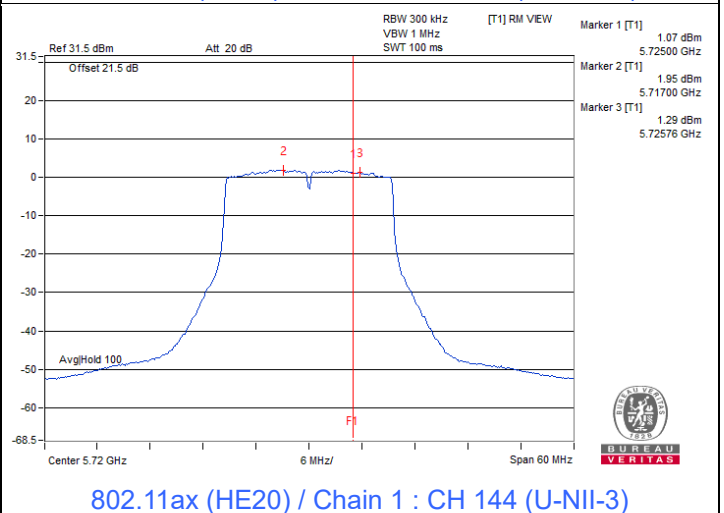
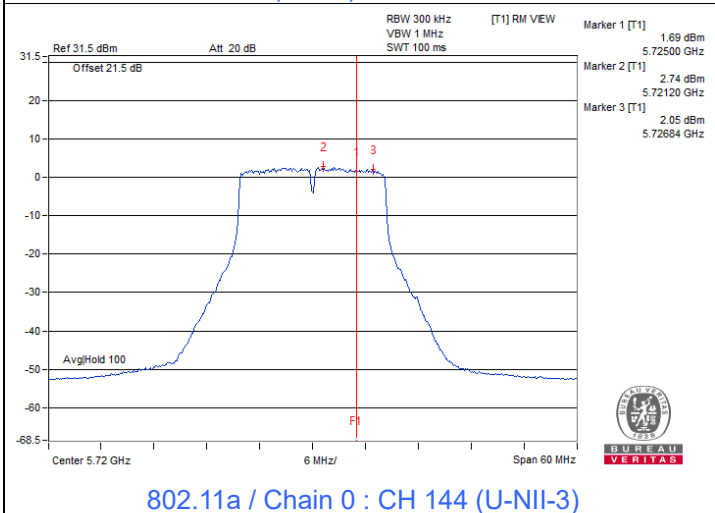
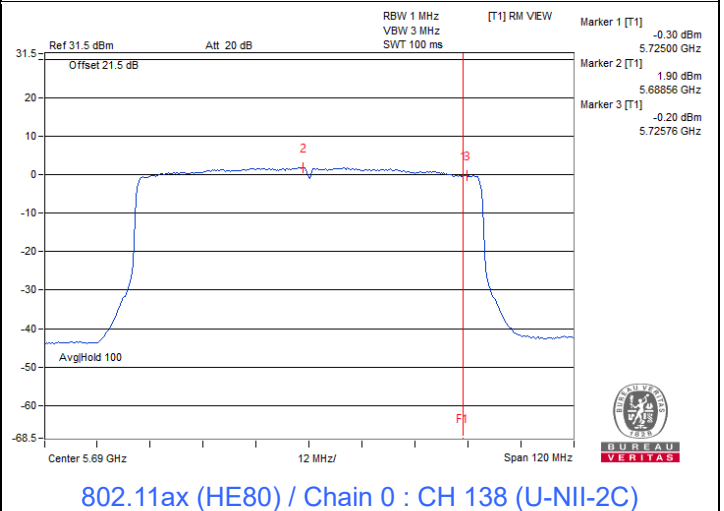
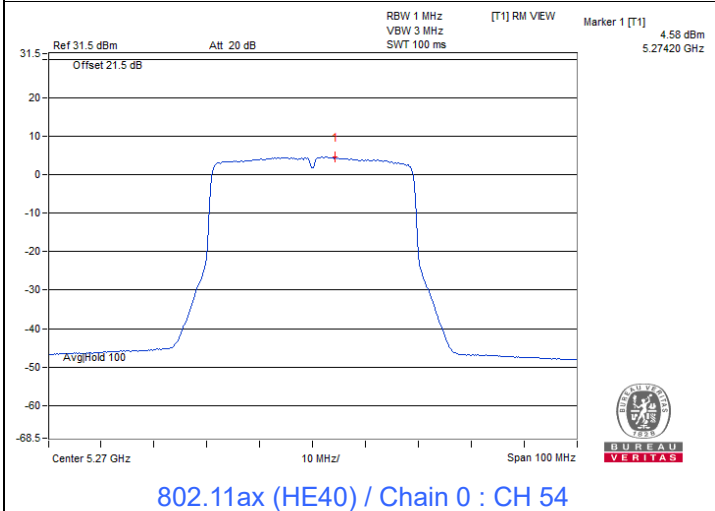
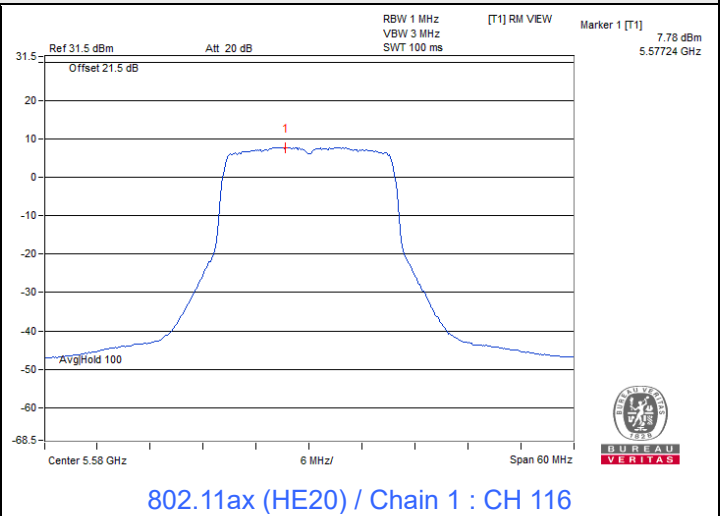
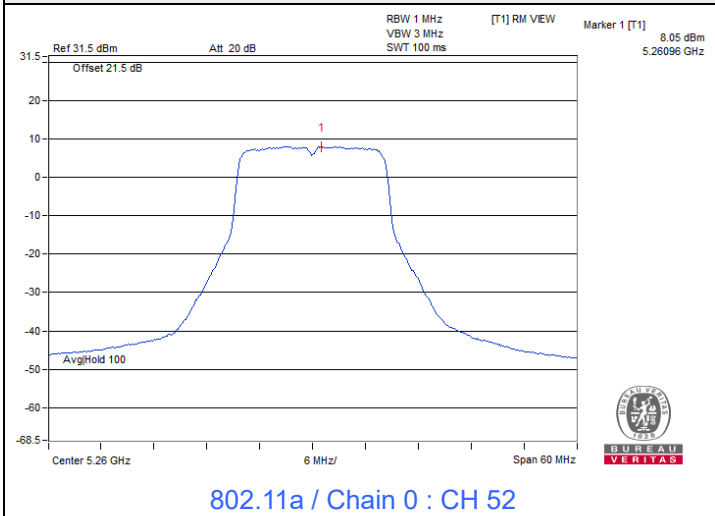
Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1					
138 (U-NII-3)	5690	-5.47	-5.67	-2.56	0.23	-0.11	30	Pass

Notes:

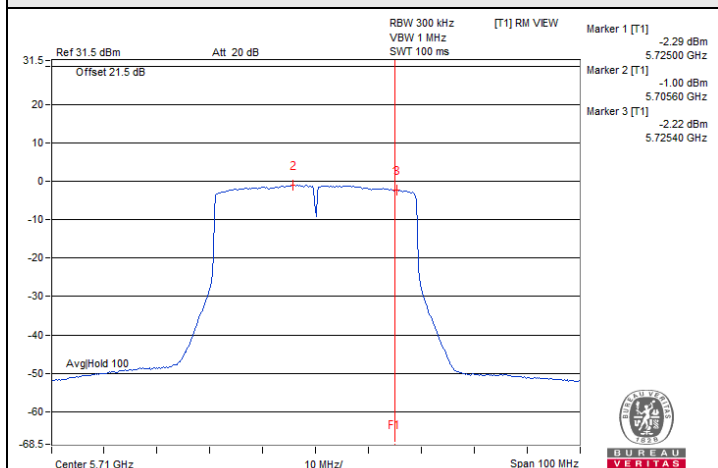
1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 5.6 dBi < 6 dBi, so the power density limit shall not be reduced.



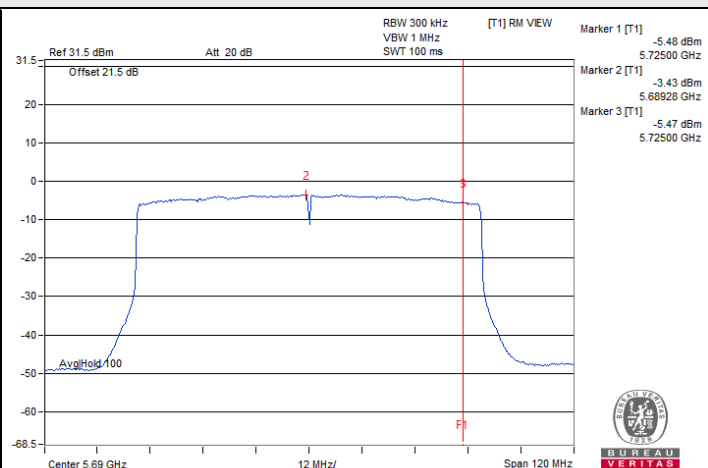
Spectrum Plot of Maximum Value



Spectrum Plot of Maximum Value



802.11ax (HE40) / Chain 1 : CH 142 (U-NII-3)



802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)

7.4 6 dB Bandwidth

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Louis Yang
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802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
144 (U-NII-3)	5720	2.80	3.11	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
144 (U-NII-3)	5720	4.21	4.22	0.5	Pass

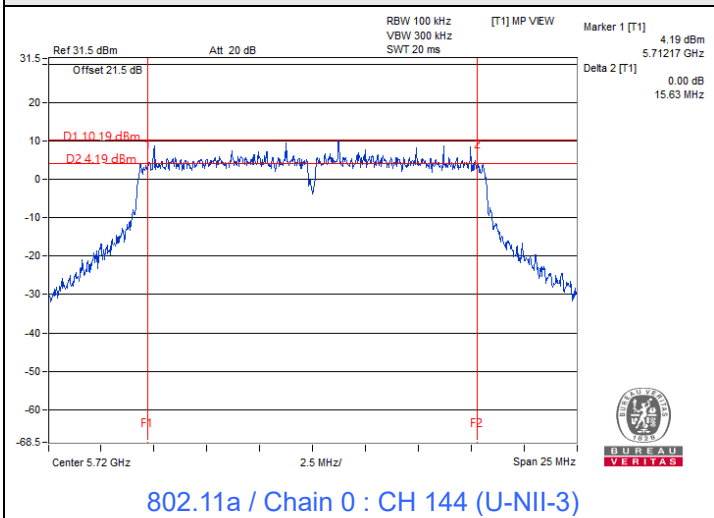
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
142 (U-NII-3)	5710	3.62	3.80	0.5	Pass

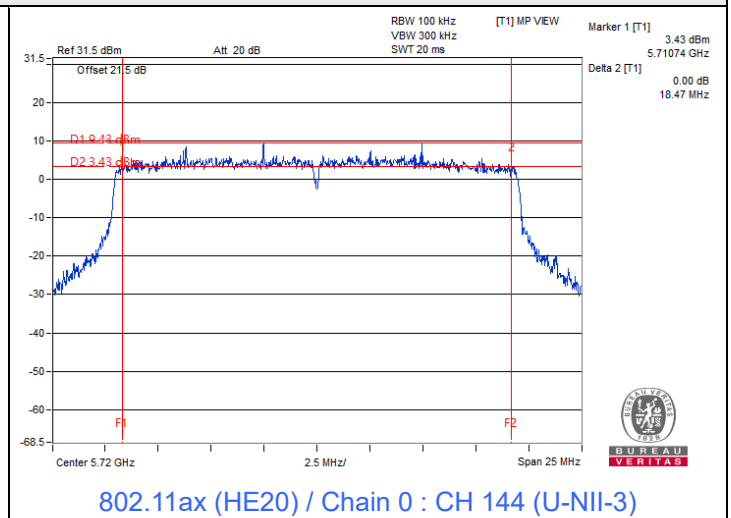
802.11ax (HE80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
138 (U-NII-3)	5690	3.62	1.90	0.5	Pass

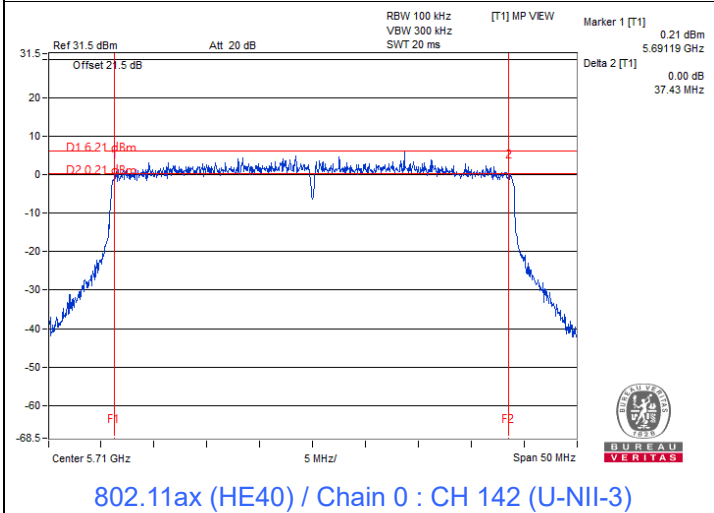
Spectrum Plot of Minimum Value



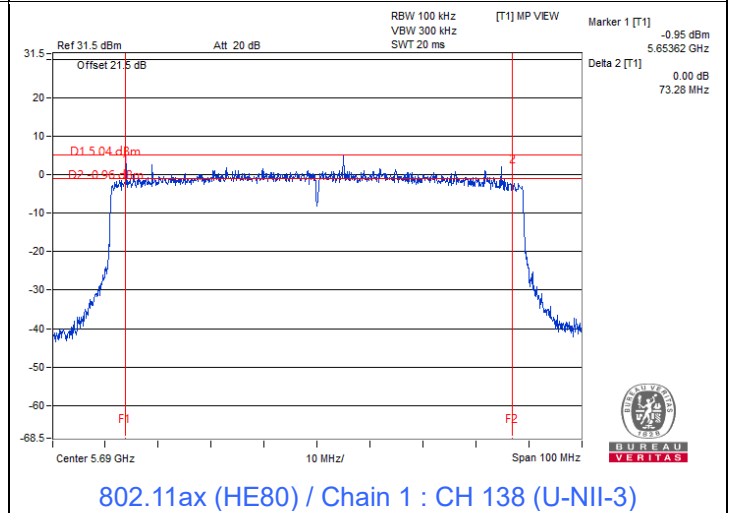
802.11a / Chain 0 : CH 144 (U-NII-3)



802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)



802.11ax (HE40) / Chain 0 : CH 142 (U-NII-3)



802.11ax (HE80) / Chain 1 : CH 138 (U-NII-3)

Note: For U-NII-3 straddle channel = Marker 1 + Delta 2 - 5725 MHz

7.5 Occupied Bandwidth

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Louis Yang
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802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	16.50	16.44
60	5300	16.44	16.38
64	5320	16.50	16.38
100	5500	16.44	16.44
116	5580	16.50	16.44
140	5700	16.50	16.50
144 (U-NII-2C)	5720	13.22	13.22
144 (U-NII-3)	5720	3.16	3.16

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	19.02	19.02
60	5300	18.90	18.90
64	5320	18.90	18.90
100	5500	19.02	18.96
116	5580	18.96	18.96
140	5700	18.96	18.90
144 (U-NII-2C)	5720	14.48	14.48
144 (U-NII-3)	5720	4.42	4.42

802.11ax (HE40)

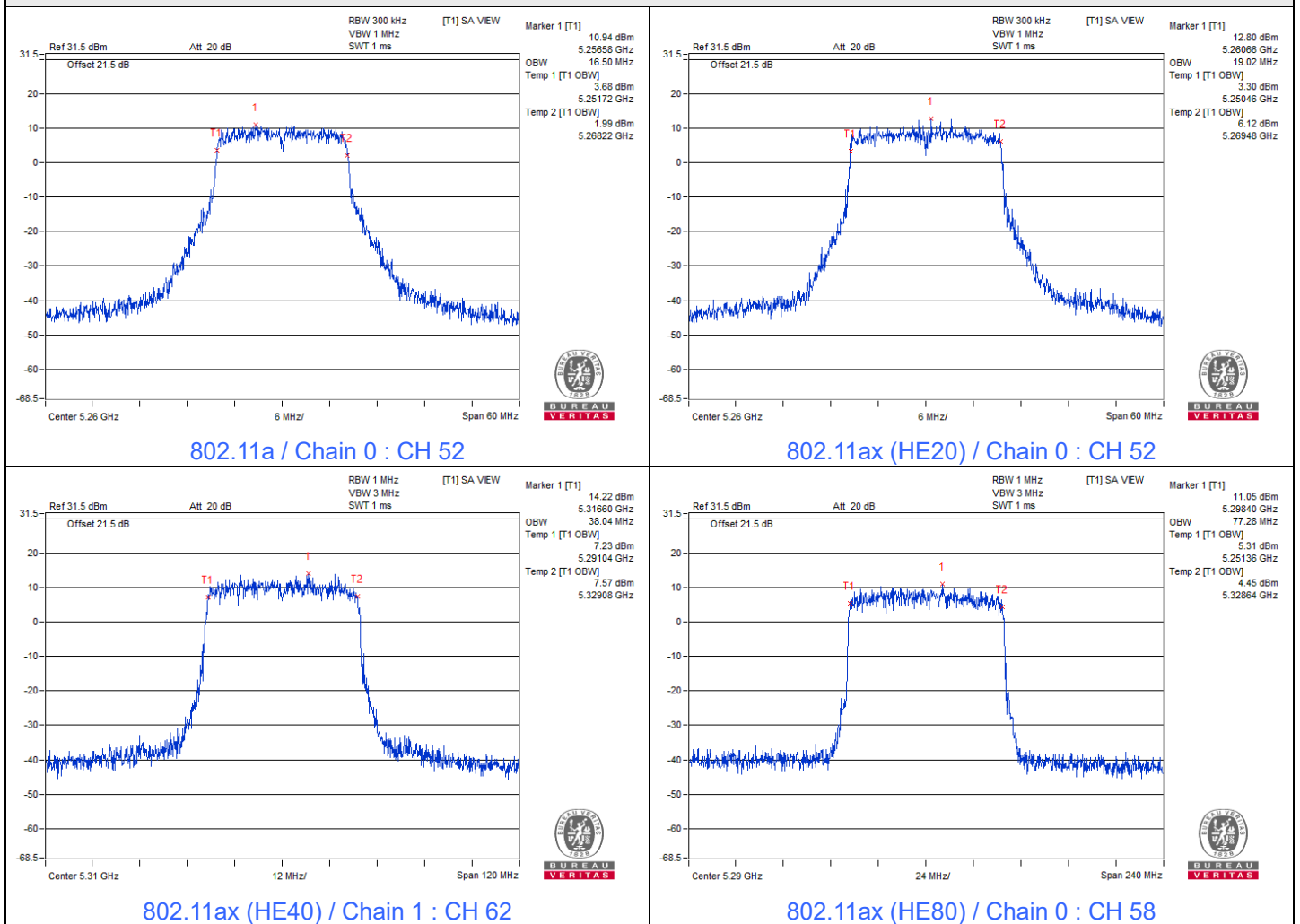
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	37.80	37.80
62	5310	37.92	38.04
102	5510	37.92	37.92
110	5550	37.92	37.92
134	5670	37.92	38.04
142 (U-NII-2C)	5710	34.08	34.08
142 (U-NII-3)	5710	3.96	3.96



802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	77.28	77.04
106	5530	77.04	77.04
122	5610	77.04	77.28
138 (U-NII-2C)	5690	73.64	73.64
138 (U-NII-3)	5690	3.40	3.40

Spectrum Plot of Maximum Value



7.6 Frequency Stability

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Louis Yang
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802.11a

Frequency Stability Versus Temperature									
Operating Frequency: 5260 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
40	12	5260.0005	Pass	5260.0021	Pass	5260.0025	Pass	5260.0028	Pass
30	12	5260.0128	Pass	5260.0143	Pass	5260.0136	Pass	5260.012	Pass
20	12	5260.0144	Pass	5260.0112	Pass	5260.0141	Pass	5260.0146	Pass
10	12	5259.9773	Pass	5259.9794	Pass	5259.9808	Pass	5259.9795	Pass
0	12	5259.9993	Pass	5259.9963	Pass	5259.9962	Pass	5259.9991	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	13.8	5260.0177	Pass	5260.0162	Pass	5260.0135	Pass	5260.0161	Pass
	12	5260.0144	Pass	5260.0112	Pass	5260.0141	Pass	5260.0146	Pass
	10.2	5260.0053	Pass	5260.0047	Pass	5260.0065	Pass	5260.0062	Pass

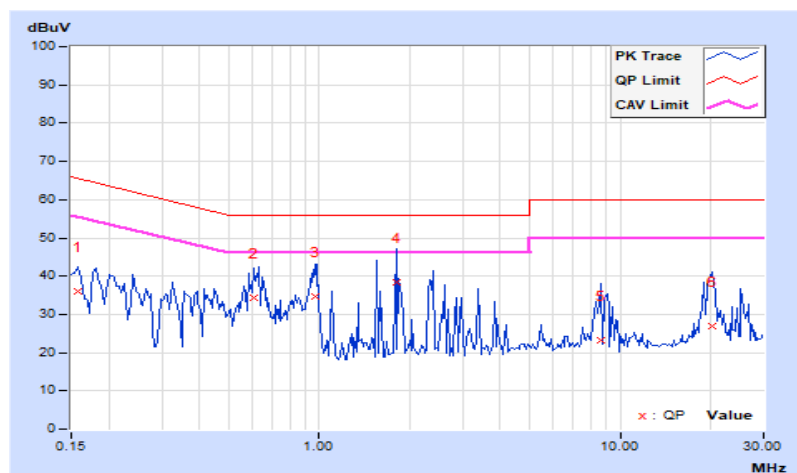
7.7 AC Power Conducted Emissions

RF Mode	802.11ax (HE40)	Channel	CH 110 : 5550 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Tom Yang		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15699	9.94	25.96	10.80	35.90	20.74	65.62	55.62	-29.72	-34.88
2	0.60651	9.96	24.50	-4.23	34.46	5.73	56.00	46.00	-21.54	-40.27
3	0.96502	9.98	24.70	1.93	34.68	11.91	56.00	46.00	-21.32	-34.09
4	1.80115	10.00	28.23	-2.23	38.23	7.77	56.00	46.00	-17.77	-38.23
5	8.62220	10.39	12.70	-10.56	23.09	-0.17	60.00	50.00	-36.91	-50.17
6	20.30512	10.99	15.80	-1.37	26.79	9.62	60.00	50.00	-33.21	-40.38

Remarks:

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

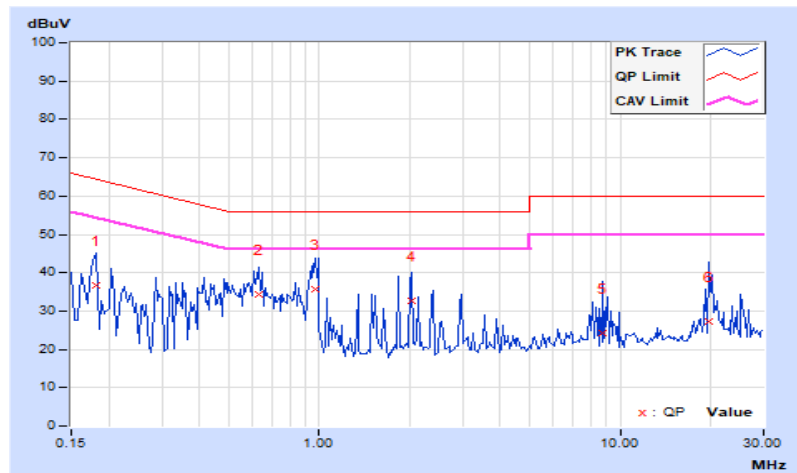


RF Mode	802.11ax (HE40)	Channel	CH 110 : 5550 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Tom Yang		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18231	9.99	26.56	8.23	36.55	18.22	64.38	54.38	-27.83	-36.16
2	0.62723	10.01	24.23	-1.70	34.24	8.31	56.00	46.00	-21.76	-37.69
3	0.96505	10.03	25.69	2.70	35.72	12.73	56.00	46.00	-20.28	-33.27
4	2.02431	10.06	22.56	-4.18	32.62	5.88	56.00	46.00	-23.38	-40.12
5	8.71512	10.38	13.75	-8.02	24.13	2.36	60.00	50.00	-35.87	-47.64
6	19.71401	10.77	16.67	0.53	27.44	11.30	60.00	50.00	-32.56	-38.70

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



7.8 Unwanted Emissions below 1 GHz

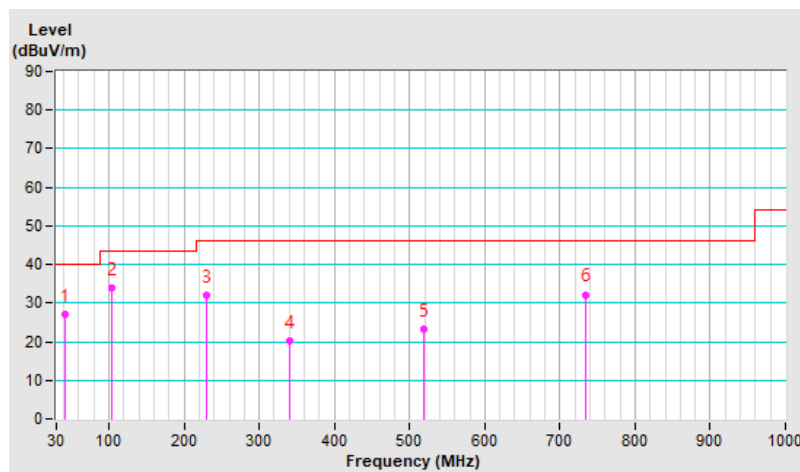
RF Mode	802.11ax (HE40)	Channel	CH 110 : 5550 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	Quasi-Peak (QP), RB = 120kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	30°C, 76% RH
Tested By	Louis Yang		

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	40.93	27.0 QP	40.0	-13.0	1.50 H	305	40.0	-13.0
2	103.80	34.0 QP	43.5	-9.5	1.50 H	80	50.7	-16.7
3	229.15	31.9 QP	46.0	-14.1	1.50 H	300	47.3	-15.4
4	339.93	20.3 QP	46.0	-25.7	1.50 H	10	31.4	-11.1
5	519.10	23.2 QP	46.0	-22.8	1.50 H	90	30.0	-6.8
6	734.86	32.2 QP	46.0	-13.8	1.50 H	30	35.1	-2.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

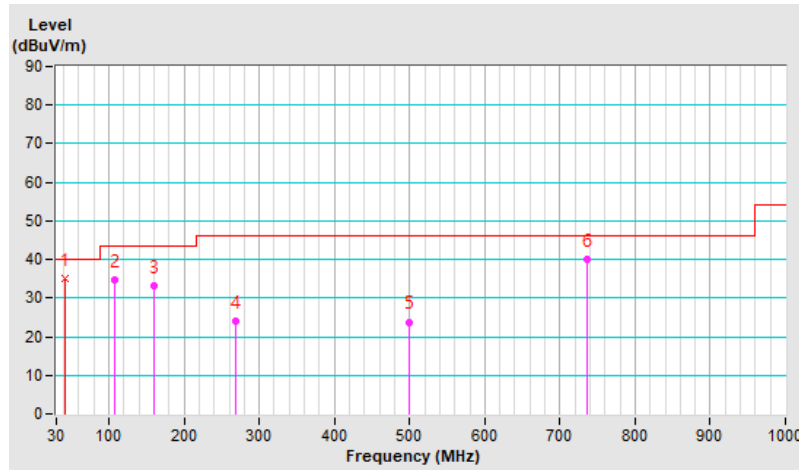


RF Mode	802.11ax (HE40)	Channel	CH 110 : 5550 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	Quasi-Peak (QP), RB = 120kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	30°C, 76% RH
Tested By	Louis Yang		

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	41.38	34.9 QP	40.0	-5.1	1.00 V	80	47.9	-13.0
2	107.76	34.8 QP	43.5	-8.7	2.00 V	199	50.8	-16.0
3	160.10	33.0 QP	43.5	-10.5	1.50 V	23	45.5	-12.5
4	269.32	24.1 QP	46.0	-21.9	2.00 V	80	37.3	-13.2
5	500.01	23.8 QP	46.0	-22.2	1.50 V	295	31.3	-7.5
6	736.00	40.1 QP	46.0	-5.9	1.00 V	358	43.0	-2.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



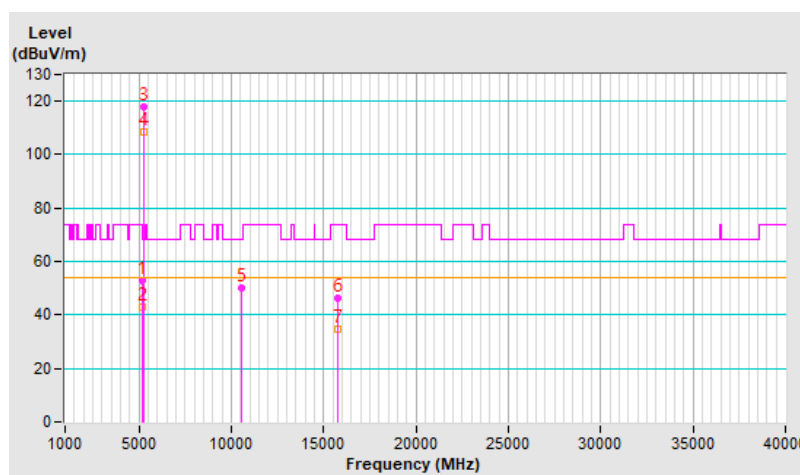
7.9 Unwanted Emissions above 1 GHz

RF Mode	802.11a	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	52.8 PK	74.0	-21.2	1.16 H	360	50.6	2.2
2	5150.00	42.8 AV	54.0	-11.2	1.16 H	360	40.6	2.2
3	*5260.00	117.8 PK			1.16 H	360	116.0	1.8
4	*5260.00	108.3 AV			1.16 H	360	106.5	1.8
5	#10520.00	50.0 PK	68.2	-18.2	1.41 H	157	38.1	11.9
6	15780.00	46.0 PK	74.0	-28.0	2.55 H	302	34.6	11.4
7	15780.00	34.8 AV	54.0	-19.2	2.55 H	302	23.4	11.4

Remarks:

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

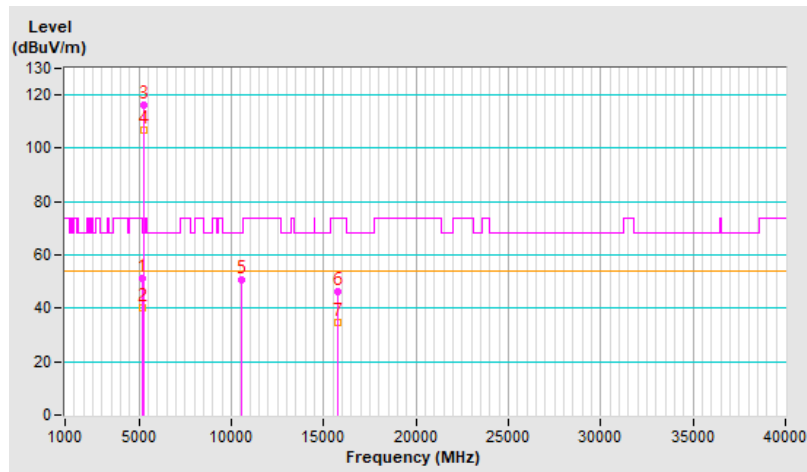


RF Mode	802.11a	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	51.1 PK	74.0	-22.9	3.98 V	302	48.9	2.2
2	5150.00	40.3 AV	54.0	-13.7	3.98 V	302	38.1	2.2
3	*5260.00	116.2 PK			3.98 V	302	114.4	1.8
4	*5260.00	106.8 AV			3.98 V	302	105.0	1.8
5	#10520.00	50.9 PK	68.2	-17.3	1.28 V	196	39.0	11.9
6	15780.00	46.1 PK	74.0	-27.9	2.62 V	314	34.7	11.4
7	15780.00	34.9 AV	54.0	-19.1	2.62 V	314	23.5	11.4

Remarks:

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

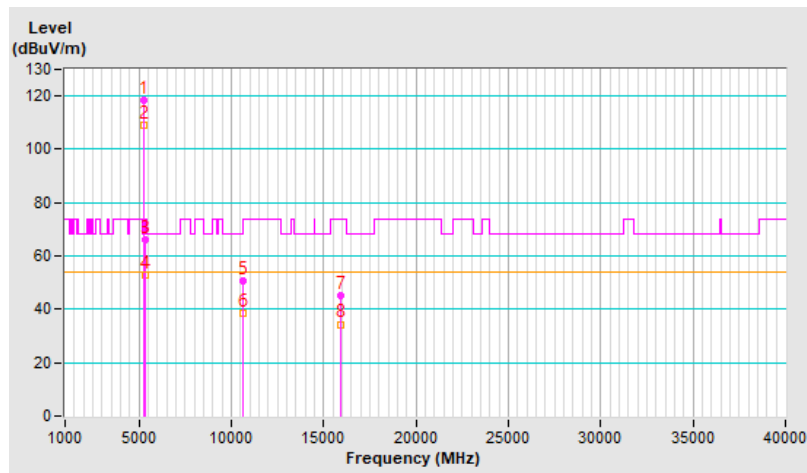


RF Mode	802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	118.2 PK			1.05 H	355	116.5	1.7
2	*5300.00	108.9 AV			1.05 H	355	107.2	1.7
3	5350.00	66.3 PK	74.0	-7.7	1.05 H	355	64.3	2.0
4	5350.00	52.8 AV	54.0	-1.2	1.05 H	355	50.8	2.0
5	10600.00	50.8 PK	74.0	-23.2	1.32 H	158	39.1	11.7
6	10600.00	38.6 AV	54.0	-15.4	1.32 H	158	26.9	11.7
7	15900.00	45.4 PK	74.0	-28.6	2.50 H	319	34.5	10.9
8	15900.00	34.4 AV	54.0	-19.6	2.50 H	319	23.5	10.9

Remarks:

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

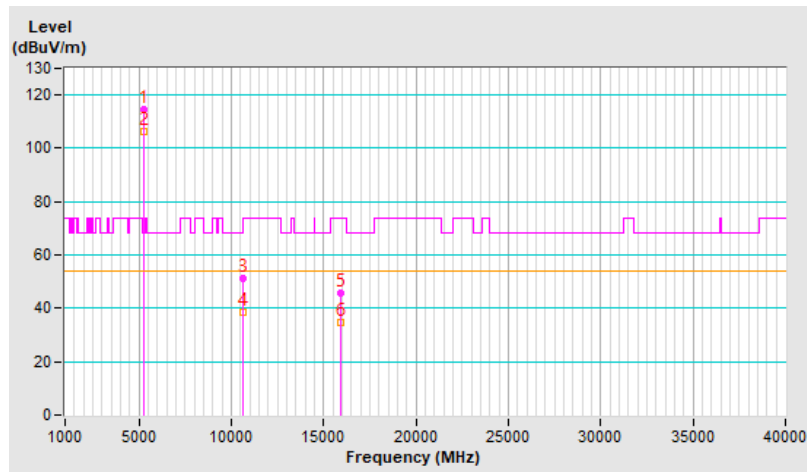


RF Mode	802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	114.4 PK			4.00 V	298	112.7	1.7
2	*5300.00	106.1 AV			4.00 V	298	104.4	1.7
3	10600.00	51.0 PK	74.0	-23.0	1.28 V	192	39.3	11.7
4	10600.00	38.5 AV	54.0	-15.5	1.28 V	192	26.8	11.7
5	15900.00	45.8 PK	74.0	-28.2	2.56 V	297	34.9	10.9
6	15900.00	34.5 AV	54.0	-19.5	2.56 V	297	23.6	10.9

Remarks:

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

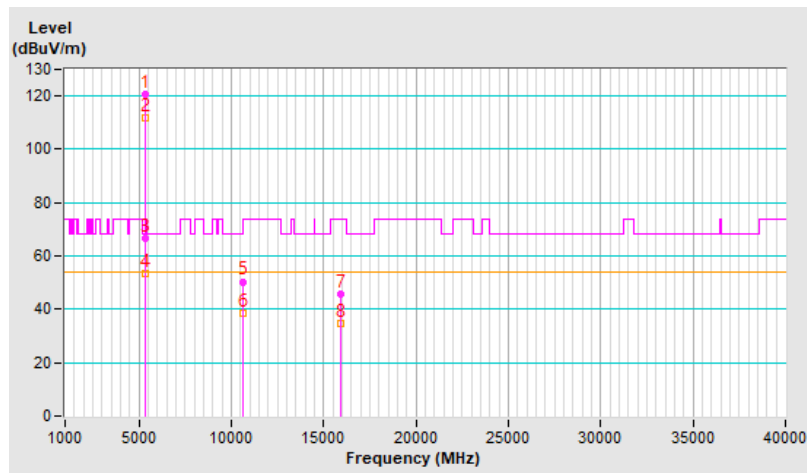


RF Mode	802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	120.5 PK			1.20 H	360	118.7	1.8
2	*5320.00	111.8 AV			1.20 H	360	110.0	1.8
3	5350.00	66.8 PK	74.0	-7.2	1.20 H	360	64.8	2.0
4	5350.00	53.4 AV	54.0	-0.6	1.20 H	360	51.4	2.0
5	10640.00	50.4 PK	74.0	-23.6	1.33 H	154	38.7	11.7
6	10640.00	38.5 AV	54.0	-15.5	1.33 H	154	26.8	11.7
7	15960.00	45.6 PK	74.0	-28.4	2.48 H	318	34.3	11.3
8	15960.00	34.8 AV	54.0	-19.2	2.48 H	318	23.5	11.3

Remarks:

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

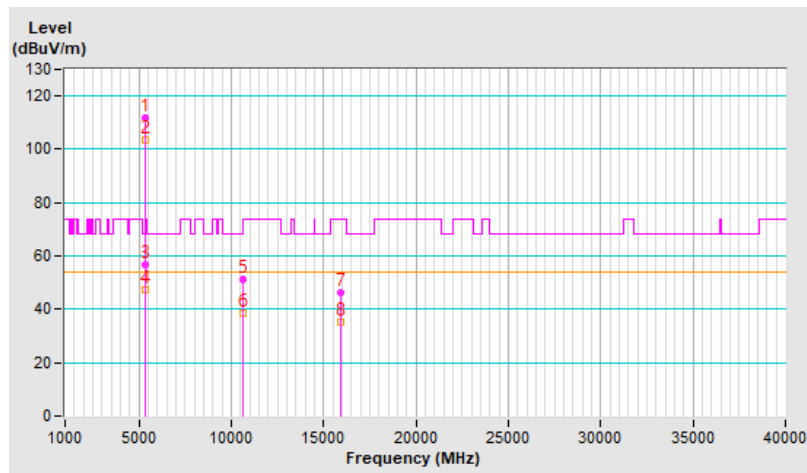


RF Mode	802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	111.6 PK			3.94 V	296	109.8	1.8
2	*5320.00	103.5 AV			3.94 V	296	101.7	1.8
3	5350.00	56.6 PK	74.0	-17.4	3.94 V	296	54.6	2.0
4	5350.00	47.3 AV	54.0	-6.7	3.94 V	296	45.3	2.0
5	10640.00	51.2 PK	74.0	-22.8	1.32 V	178	39.5	11.7
6	10640.00	38.6 AV	54.0	-15.4	1.32 V	178	26.9	11.7
7	15960.00	46.0 PK	74.0	-28.0	2.53 V	318	34.7	11.3
8	15960.00	35.1 AV	54.0	-18.9	2.53 V	318	23.8	11.3

Remarks:

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

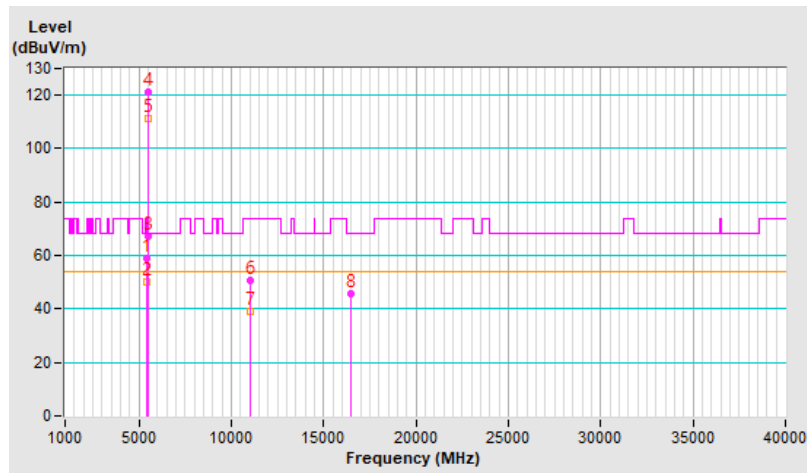


RF Mode	802.11a	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.0 PK	74.0	-15.0	1.39 H	359	56.9	2.1
2	5460.00	50.2 AV	54.0	-3.8	1.39 H	359	48.1	2.1
3	#5470.00	67.1 PK	68.2	-1.1	1.39 H	359	65.0	2.1
4	*5500.00	121.1 PK			1.39 H	359	119.1	2.0
5	*5500.00	111.2 AV			1.39 H	359	109.2	2.0
6	11000.00	50.9 PK	74.0	-23.1	1.38 H	153	38.6	12.3
7	11000.00	38.9 AV	54.0	-15.1	1.38 H	153	26.6	12.3
8	#16500.00	45.7 PK	68.2	-22.5	2.51 H	320	32.3	13.4

Remarks:

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

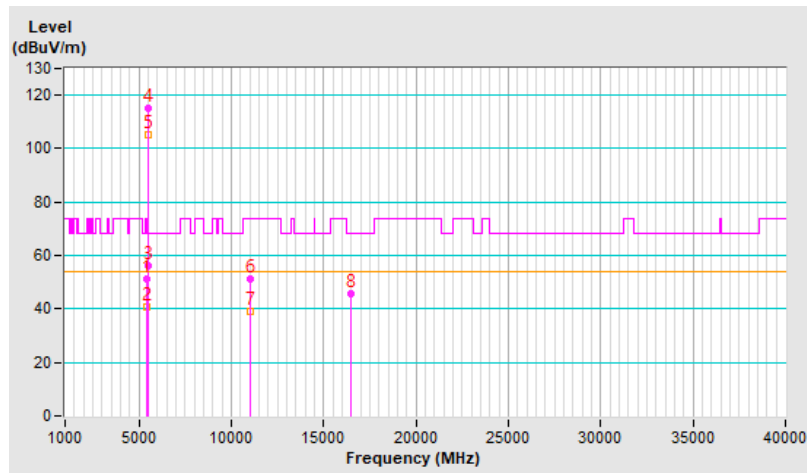


RF Mode	802.11a	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	51.3 PK	74.0	-22.7	3.82 V	298	49.2	2.1
2	5460.00	40.7 AV	54.0	-13.3	3.82 V	298	38.6	2.1
3	#5470.00	56.2 PK	68.2	-12.0	3.82 V	298	54.1	2.1
4	*5500.00	115.0 PK			3.82 V	298	113.0	2.0
5	*5500.00	105.2 AV			3.82 V	298	103.2	2.0
6	11000.00	51.3 PK	74.0	-22.7	1.24 V	172	39.0	12.3
7	11000.00	38.9 AV	54.0	-15.1	1.24 V	172	26.6	12.3
8	#16500.00	45.8 PK	68.2	-22.4	2.57 V	313	32.4	13.4

Remarks:

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

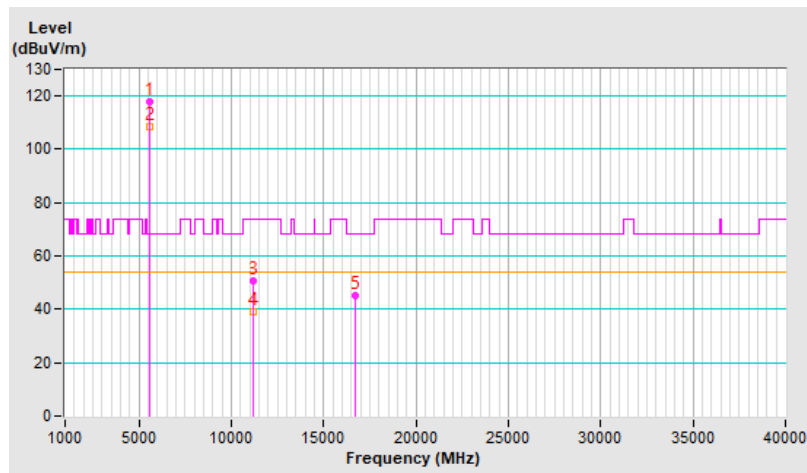


RF Mode	802.11a	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	118.0 PK			1.30 H	360	115.9	2.1
2	*5580.00	108.6 AV			1.30 H	360	106.5	2.1
3	11160.00	50.7 PK	74.0	-23.3	1.31 H	178	38.9	11.8
4	11160.00	38.9 AV	54.0	-15.1	1.31 H	178	27.1	11.8
5	#16740.00	45.2 PK	68.2	-23.0	2.50 H	319	30.2	15.0

Remarks:

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

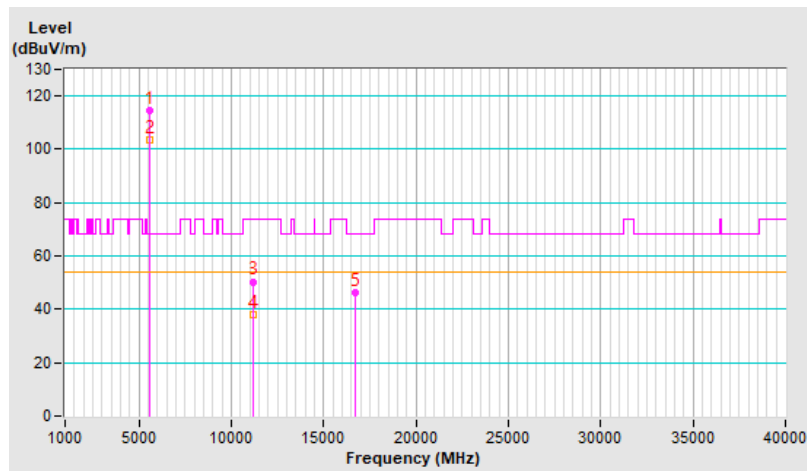


RF Mode	802.11a	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	114.5 PK			3.79 V	296	112.4	2.1
2	*5580.00	103.5 AV			3.79 V	296	101.4	2.1
3	11160.00	50.4 PK	74.0	-23.6	1.27 V	197	38.6	11.8
4	11160.00	38.2 AV	54.0	-15.8	1.27 V	197	26.4	11.8
5	#16740.00	46.2 PK	68.2	-22.0	2.55 V	297	31.2	15.0

Remarks:

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

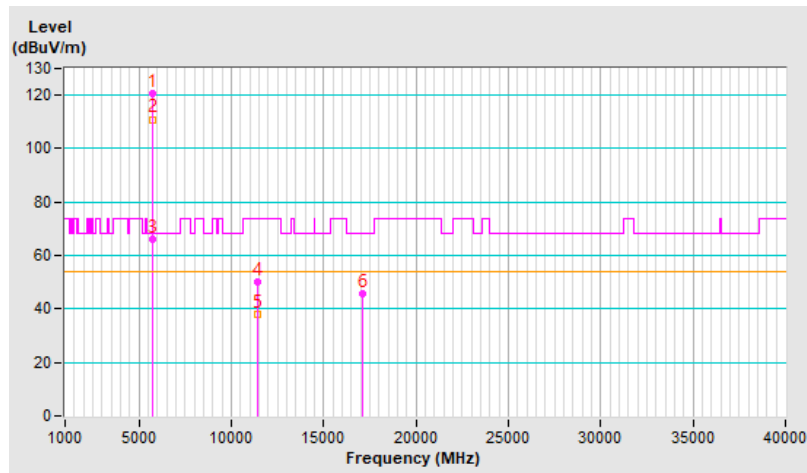


RF Mode	802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	120.8 PK			1.15 H	360	118.4	2.4
2	*5700.00	111.0 AV			1.15 H	360	108.6	2.4
3	#5725.00	66.3 PK	68.2	-1.9	1.15 H	360	63.8	2.5
4	11400.00	50.2 PK	74.0	-23.8	1.39 H	167	37.9	12.3
5	11400.00	38.1 AV	54.0	-15.9	1.39 H	167	25.8	12.3
6	#17100.00	45.5 PK	68.2	-22.7	2.45 H	316	29.2	16.3

Remarks:

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

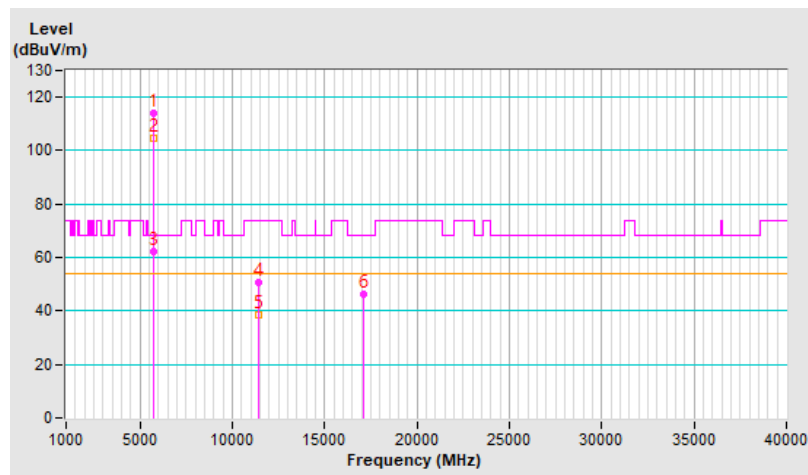


RF Mode	802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	113.9 PK			3.96 V	281	111.5	2.4
2	*5700.00	104.7 AV			3.96 V	281	102.3	2.4
3	#5725.00	62.2 PK	68.2	-6.0	3.96 V	281	59.7	2.5
4	11400.00	50.8 PK	74.0	-23.2	1.25 V	184	38.5	12.3
5	11400.00	38.5 AV	54.0	-15.5	1.25 V	184	26.2	12.3
6	#17100.00	46.2 PK	68.2	-22.0	2.60 V	327	29.9	16.3

Remarks:

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

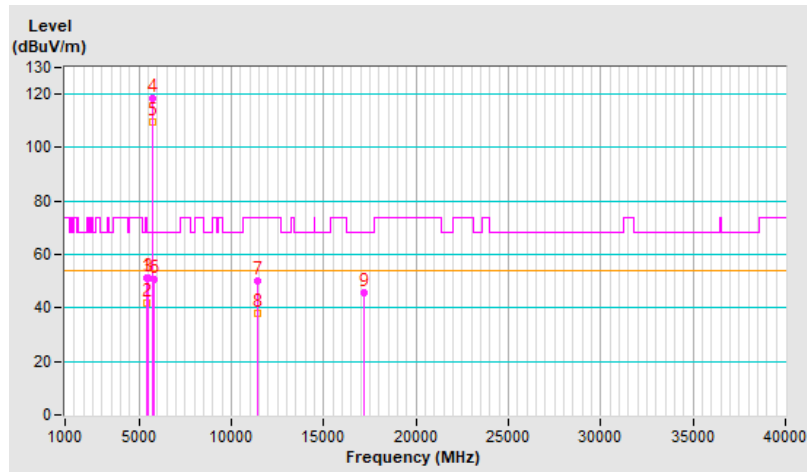


RF Mode	802.11a	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	51.3 PK	74.0	-22.7	1.08 H	354	49.2	2.1
2	5460.00	41.9 AV	54.0	-12.1	1.08 H	354	39.8	2.1
3	#5470.00	51.0 PK	68.2	-17.2	1.08 H	354	48.9	2.1
4	*5720.00	118.5 PK			1.08 H	354	116.0	2.5
5	*5720.00	109.5 AV			1.08 H	354	107.0	2.5
6	#5850.00	50.8 PK	68.2	-17.4	1.08 H	354	48.1	2.7
7	11440.00	50.2 PK	74.0	-23.8	1.33 H	154	37.9	12.3
8	11440.00	38.1 AV	54.0	-15.9	1.33 H	154	25.8	12.3
9	#17160.00	45.6 PK	68.2	-22.6	2.50 H	327	29.4	16.2

Remarks:

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

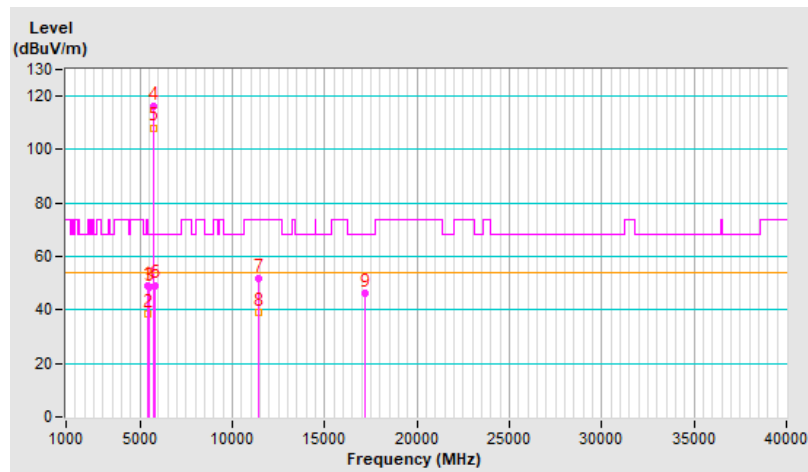


RF Mode	802.11a	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	48.8 PK	74.0	-25.2	3.99 V	309	46.7	2.1
2	5460.00	38.3 AV	54.0	-15.7	3.99 V	309	36.2	2.1
3	#5470.00	48.7 PK	68.2	-19.5	3.99 V	309	46.6	2.1
4	*5720.00	116.4 PK			3.99 V	309	113.9	2.5
5	*5720.00	108.2 AV			3.99 V	309	105.7	2.5
6	#5850.00	49.3 PK	68.2	-18.9	3.99 V	309	46.6	2.7
7	11440.00	51.6 PK	74.0	-22.4	1.33 V	176	39.3	12.3
8	11440.00	38.9 AV	54.0	-15.1	1.33 V	176	26.6	12.3
9	#17160.00	46.2 PK	68.2	-22.0	2.52 V	326	30.0	16.2

Remarks:

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

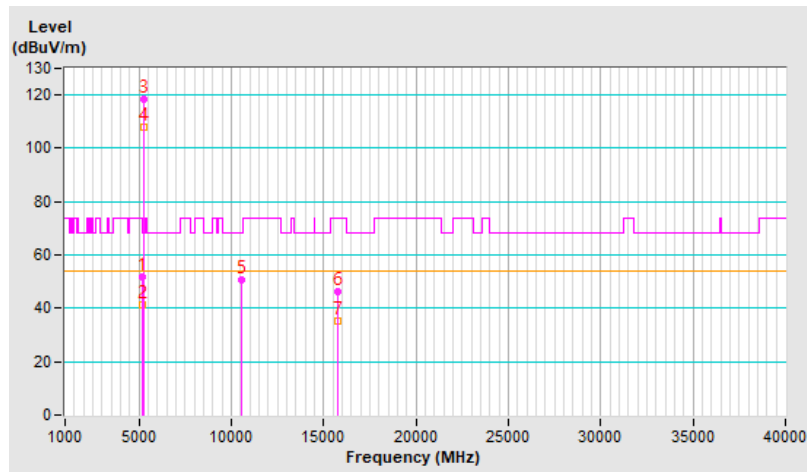


RF Mode	802.11ax (HE20)	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	51.8 PK	74.0	-22.2	1.74 H	359	49.6	2.2
2	5150.00	41.1 AV	54.0	-12.9	1.74 H	359	38.9	2.2
3	*5260.00	118.3 PK			1.74 H	359	116.5	1.8
4	*5260.00	107.7 AV			1.74 H	359	105.9	1.8
5	#10520.00	50.5 PK	68.2	-17.7	1.37 H	190	38.6	11.9
6	15780.00	46.3 PK	74.0	-27.7	2.54 H	320	34.9	11.4
7	15780.00	35.1 AV	54.0	-18.9	2.54 H	320	23.7	11.4

Remarks:

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

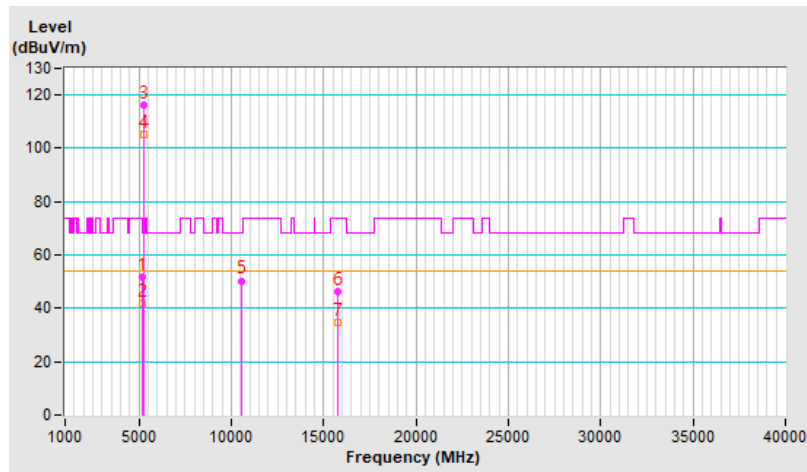


RF Mode	802.11ax (HE20)	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	51.8 PK	74.0	-22.2	3.99 V	305	49.6	2.2
2	5150.00	42.0 AV	54.0	-12.0	3.99 V	305	39.8	2.2
3	*5260.00	116.0 PK			3.99 V	305	114.2	1.8
4	*5260.00	105.3 AV			3.99 V	305	103.5	1.8
5	#10520.00	50.4 PK	68.2	-17.8	1.33 V	184	38.5	11.9
6	15780.00	46.1 PK	74.0	-27.9	2.55 V	316	34.7	11.4
7	15780.00	34.9 AV	54.0	-19.1	2.55 V	316	23.5	11.4

Remarks:

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

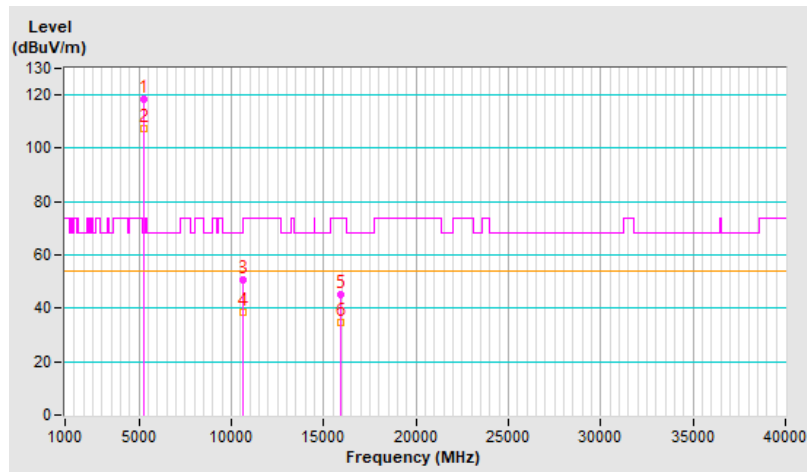


RF Mode	802.11ax (HE20)	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	118.4 PK			1.06 H	360	116.7	1.7
2	*5300.00	107.6 AV			1.06 H	360	105.9	1.7
3	10600.00	50.7 PK	74.0	-23.3	1.32 H	161	39.0	11.7
4	10600.00	38.4 AV	54.0	-15.6	1.32 H	161	26.7	11.7
5	15900.00	45.4 PK	74.0	-28.6	2.50 H	313	34.5	10.9
6	15900.00	34.5 AV	54.0	-19.5	2.50 H	313	23.6	10.9

Remarks:

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

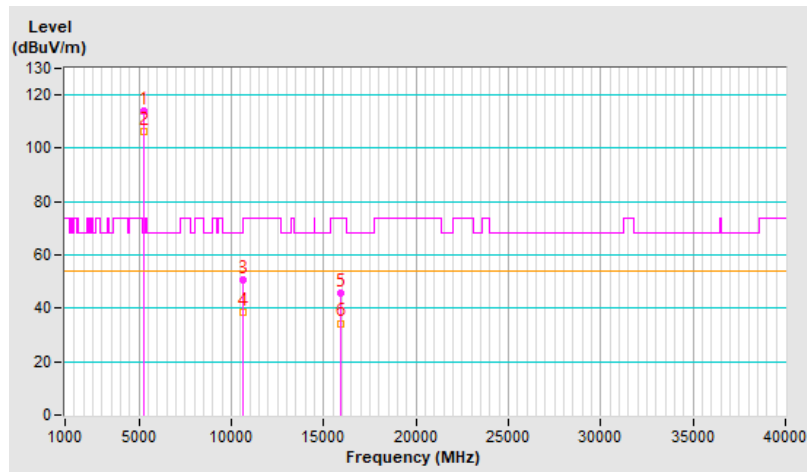


RF Mode	802.11ax (HE20)	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	114.2 PK			3.96 V	304	112.5	1.7
2	*5300.00	106.1 AV			3.96 V	304	104.4	1.7
3	10600.00	50.7 PK	74.0	-23.3	1.24 V	199	39.0	11.7
4	10600.00	38.5 AV	54.0	-15.5	1.24 V	199	26.8	11.7
5	15900.00	45.5 PK	74.0	-28.5	2.60 V	304	34.6	10.9
6	15900.00	34.4 AV	54.0	-19.6	2.60 V	304	23.5	10.9

Remarks:

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

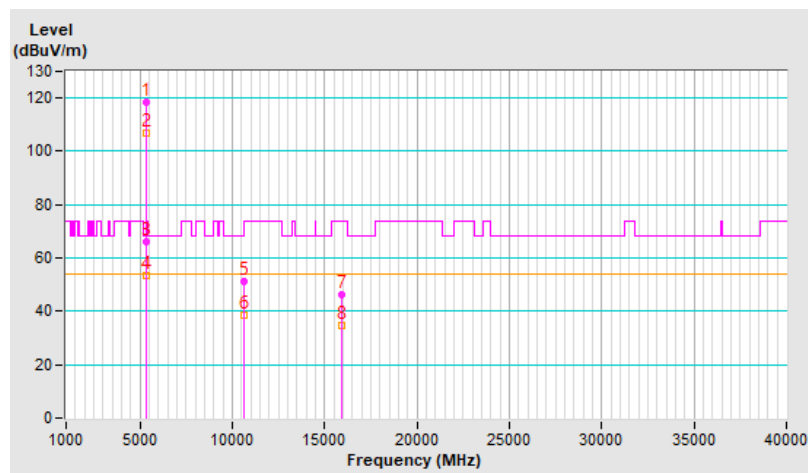


RF Mode	802.11ax (HE20)	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	118.4 PK			1.04 H	360	116.6	1.8
2	*5320.00	106.6 AV			1.04 H	360	104.8	1.8
3	5350.00	66.3 PK	74.0	-7.7	1.04 H	360	64.3	2.0
4	5350.00	53.4 AV	54.0	-0.6	1.04 H	360	51.4	2.0
5	10640.00	51.0 PK	74.0	-23.0	1.29 H	187	39.3	11.7
6	10640.00	38.6 AV	54.0	-15.4	1.29 H	187	26.9	11.7
7	15960.00	46.0 PK	74.0	-28.0	2.57 H	312	34.7	11.3
8	15960.00	34.8 AV	54.0	-19.2	2.57 H	312	23.5	11.3

Remarks:

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

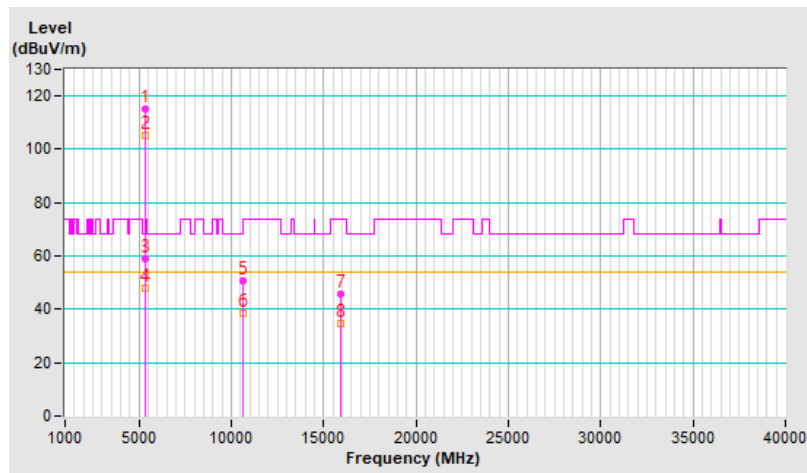


RF Mode	802.11ax (HE20)	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	115.2 PK			3.85 V	282	113.4	1.8
2	*5320.00	105.1 AV			3.85 V	282	103.3	1.8
3	5350.00	58.7 PK	74.0	-15.3	3.85 V	282	56.7	2.0
4	5350.00	47.8 AV	54.0	-6.2	3.85 V	282	45.8	2.0
5	10640.00	50.8 PK	74.0	-23.2	1.30 V	185	39.1	11.7
6	10640.00	38.4 AV	54.0	-15.6	1.30 V	185	26.7	11.7
7	15960.00	45.7 PK	74.0	-28.3	2.61 V	303	34.4	11.3
8	15960.00	34.7 AV	54.0	-19.3	2.61 V	303	23.4	11.3

Remarks:

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

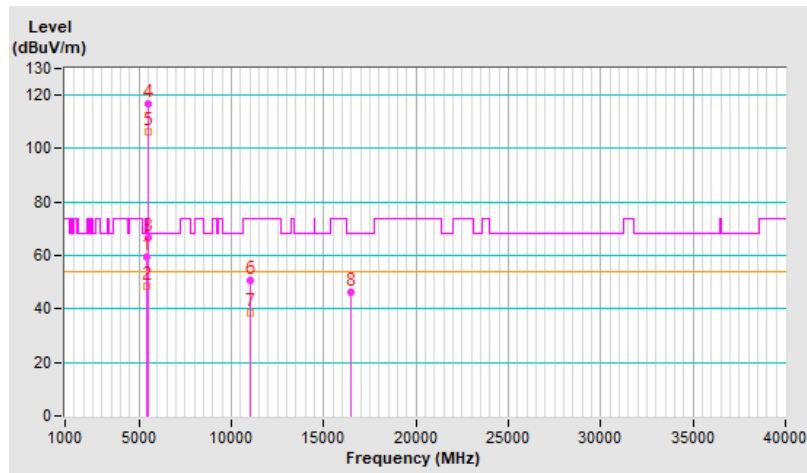


RF Mode	802.11ax (HE20)	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.5 PK	74.0	-14.5	1.16 H	360	57.4	2.1
2	5460.00	48.2 AV	54.0	-5.8	1.16 H	360	46.1	2.1
3	#5470.00	66.7 PK	68.2	-1.5	1.16 H	360	64.6	2.1
4	*5500.00	116.7 PK			1.16 H	360	114.7	2.0
5	*5500.00	106.4 AV			1.16 H	360	104.4	2.0
6	11000.00	50.8 PK	74.0	-23.2	1.30 H	183	38.5	12.3
7	11000.00	38.3 AV	54.0	-15.7	1.30 H	183	26.0	12.3
8	#16500.00	46.2 PK	68.2	-22.0	2.51 H	318	32.8	13.4

Remarks:

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

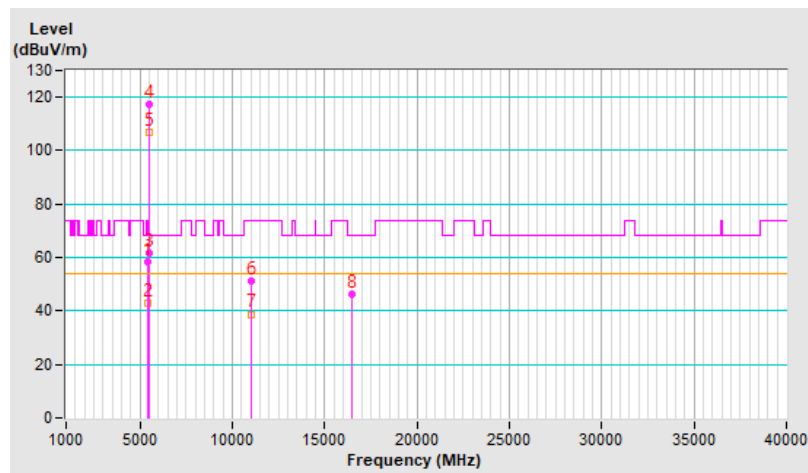


RF Mode	802.11ax (HE20)	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.4 PK	74.0	-15.6	3.81 V	289	56.3	2.1
2	5460.00	42.8 AV	54.0	-11.2	3.81 V	289	40.7	2.1
3	#5470.00	61.5 PK	68.2	-6.7	3.81 V	289	59.4	2.1
4	*5500.00	117.5 PK			3.81 V	289	115.5	2.0
5	*5500.00	107.0 AV			3.81 V	289	105.0	2.0
6	11000.00	51.2 PK	74.0	-22.8	1.23 V	199	38.9	12.3
7	11000.00	38.8 AV	54.0	-15.2	1.23 V	199	26.5	12.3
8	#16500.00	46.1 PK	68.2	-22.1	2.60 V	300	32.7	13.4

Remarks:

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



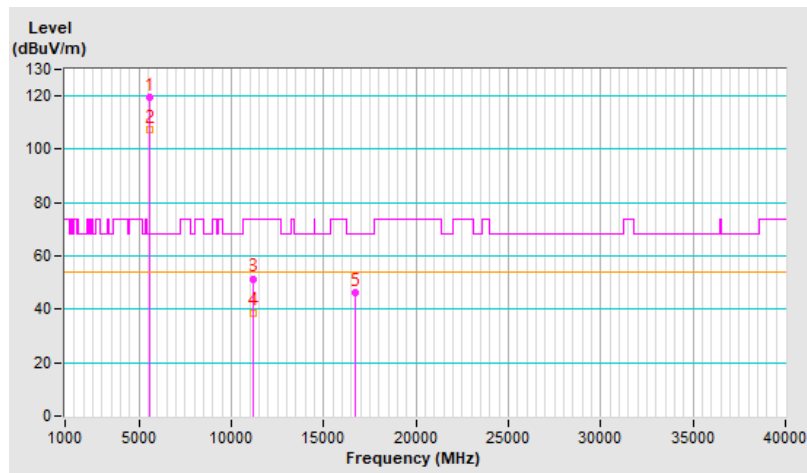
RF Mode	802.11ax (HE20)	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	119.3 PK			1.08 H	360	117.2	2.1
2	*5580.00	107.5 AV			1.08 H	360	105.4	2.1
3	11160.00	51.5 PK	74.0	-22.5	1.34 H	175	39.7	11.8
4	11160.00	38.8 AV	54.0	-15.2	1.34 H	175	27.0	11.8
5	#16740.00	46.0 PK	68.2	-22.2	2.60 H	300	31.0	15.0

Remarks:

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

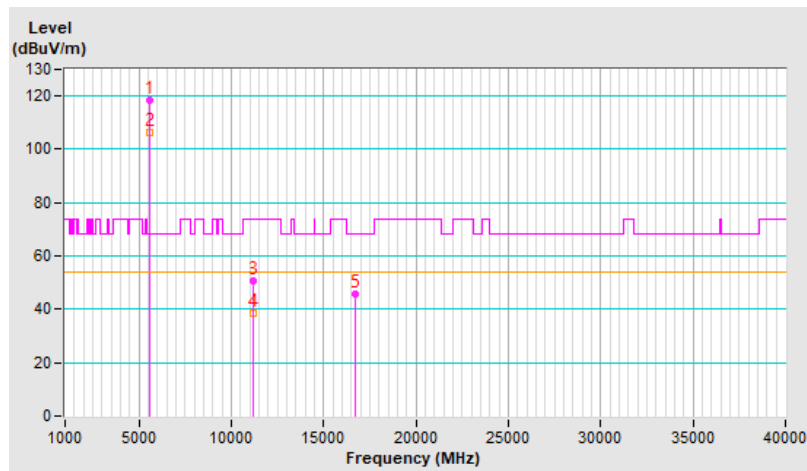


RF Mode	802.11ax (HE20)	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	118.5 PK			3.96 V	299	116.4	2.1
2	*5580.00	106.1 AV			3.96 V	299	104.0	2.1
3	11160.00	50.8 PK	74.0	-23.2	1.28 V	189	39.0	11.8
4	11160.00	38.6 AV	54.0	-15.4	1.28 V	189	26.8	11.8
5	#16740.00	45.9 PK	68.2	-22.3	2.60 V	301	30.9	15.0

Remarks:

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

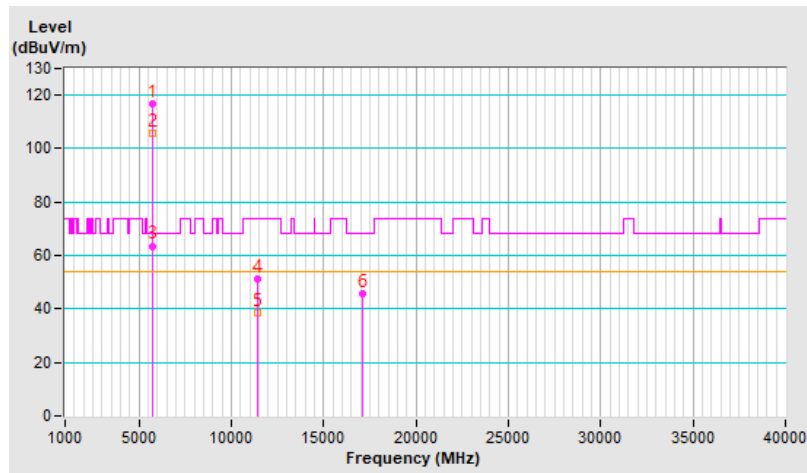


RF Mode	802.11ax (HE20)	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	116.8 PK			1.10 H	360	114.4	2.4
2	*5700.00	105.7 AV			1.10 H	360	103.3	2.4
3	#5725.00	63.6 PK	68.2	-4.6	1.10 H	360	61.1	2.5
4	11400.00	51.3 PK	74.0	-22.7	1.35 H	201	39.0	12.3
5	11400.00	38.7 AV	54.0	-15.3	1.35 H	201	26.4	12.3
6	#17100.00	45.9 PK	68.2	-22.3	2.55 H	312	29.6	16.3

Remarks:

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

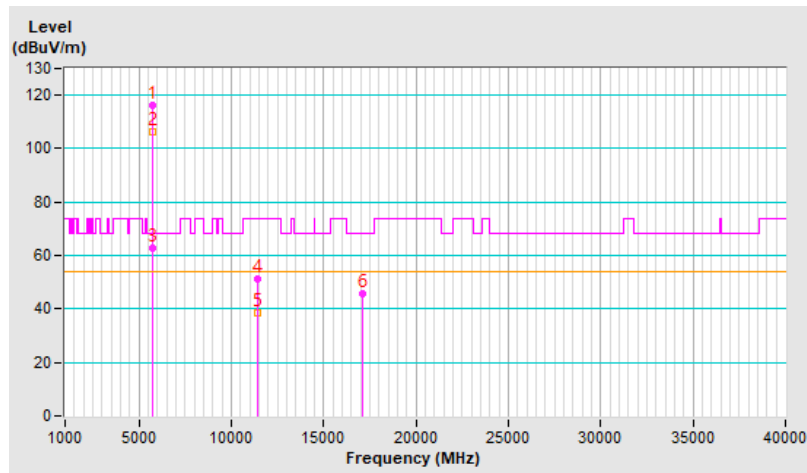


RF Mode	802.11ax (HE20)	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	116.0 PK			3.93 V	288	113.6	2.4
2	*5700.00	106.2 AV			3.93 V	288	103.8	2.4
3	#5725.00	62.6 PK	68.2	-5.6	3.93 V	288	60.1	2.5
4	11400.00	51.3 PK	74.0	-22.7	1.31 V	191	39.0	12.3
5	11400.00	38.6 AV	54.0	-15.4	1.31 V	191	26.3	12.3
6	#17100.00	45.8 PK	68.2	-22.4	2.62 V	327	29.5	16.3

Remarks:

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

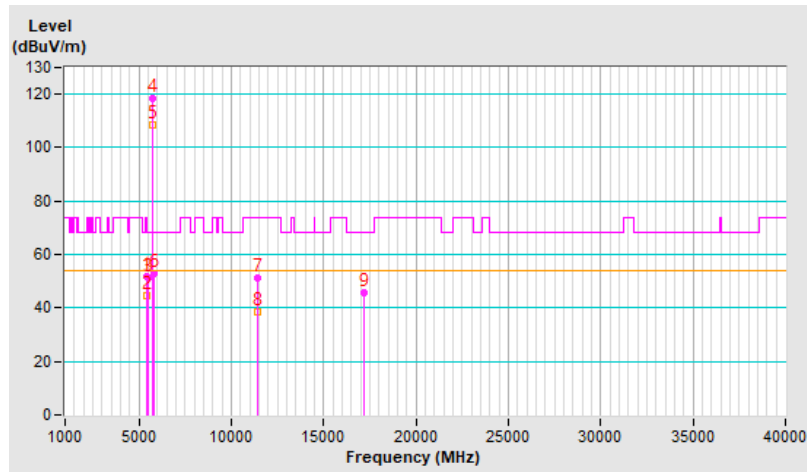


RF Mode	802.11ax (HE20)	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	51.8 PK	74.0	-22.2	1.11 H	360	49.7	2.1
2	5460.00	44.4 AV	54.0	-9.6	1.11 H	360	42.3	2.1
3	#5470.00	51.2 PK	68.2	-17.0	1.11 H	360	49.1	2.1
4	*5720.00	118.5 PK			1.11 H	360	116.0	2.5
5	*5720.00	108.3 AV			1.11 H	360	105.8	2.5
6	#5850.00	52.7 PK	68.2	-15.5	1.11 H	360	50.0	2.7
7	11440.00	51.0 PK	74.0	-23.0	1.25 H	199	38.7	12.3
8	11440.00	38.4 AV	54.0	-15.6	1.25 H	199	26.1	12.3
9	#17160.00	45.9 PK	68.2	-22.3	2.51 H	322	29.7	16.2

Remarks:

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

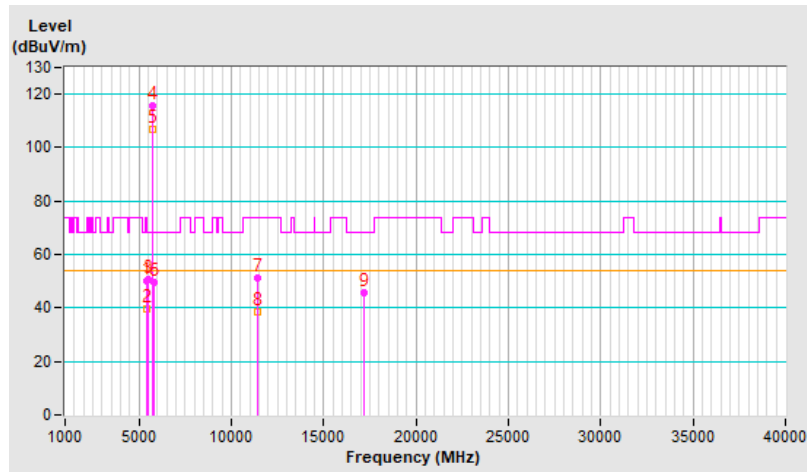


RF Mode	802.11ax (HE20)	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	50.3 PK	74.0	-23.7	3.83 V	287	48.2	2.1
2	5460.00	39.7 AV	54.0	-14.3	3.83 V	287	37.6	2.1
3	#5470.00	50.8 PK	68.2	-17.4	3.83 V	287	48.7	2.1
4	*5720.00	115.9 PK			3.83 V	287	113.4	2.5
5	*5720.00	106.7 AV			3.83 V	287	104.2	2.5
6	#5850.00	49.5 PK	68.2	-18.7	3.83 V	287	46.8	2.7
7	11440.00	51.0 PK	74.0	-23.0	1.24 V	174	38.7	12.3
8	11440.00	38.7 AV	54.0	-15.3	1.24 V	174	26.4	12.3
9	#17160.00	45.5 PK	68.2	-22.7	2.56 V	323	29.3	16.2

Remarks:

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

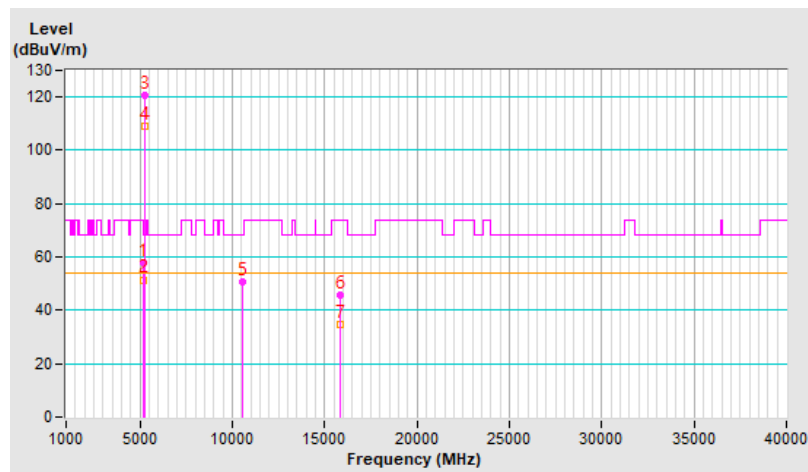


RF Mode	802.11ax (HE40)	Channel	CH 54 : 5270 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	57.8 PK	74.0	-16.2	1.14 H	348	55.6	2.2
2	5150.00	51.5 AV	54.0	-2.5	1.14 H	348	49.3	2.2
3	*5270.00	120.8 PK			1.14 H	348	119.0	1.8
4	*5270.00	108.9 AV			1.14 H	348	107.1	1.8
5	#10540.00	50.9 PK	68.2	-17.3	1.25 H	186	39.0	11.9
6	15810.00	45.5 PK	74.0	-28.5	2.59 H	324	34.3	11.2
7	15810.00	34.5 AV	54.0	-19.5	2.59 H	324	23.3	11.2

Remarks:

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

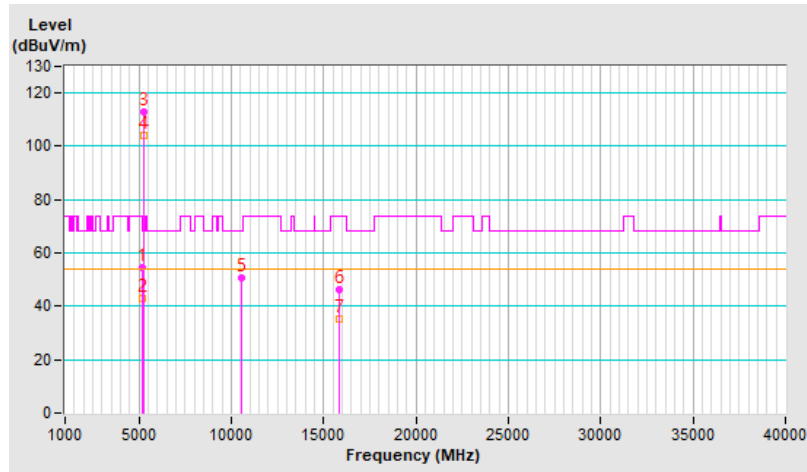


RF Mode	802.11ax (HE40)	Channel	CH 54 : 5270 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	54.7 PK	74.0	-19.3	3.92 V	298	52.5	2.2
2	5150.00	42.9 AV	54.0	-11.1	3.92 V	298	40.7	2.2
3	*5270.00	113.1 PK			3.92 V	298	111.3	1.8
4	*5270.00	104.0 AV			3.92 V	298	102.2	1.8
5	#10540.00	50.8 PK	68.2	-17.4	1.33 V	178	38.9	11.9
6	15810.00	46.0 PK	74.0	-28.0	2.53 V	323	34.8	11.2
7	15810.00	35.1 AV	54.0	-18.9	2.53 V	323	23.9	11.2

Remarks:

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

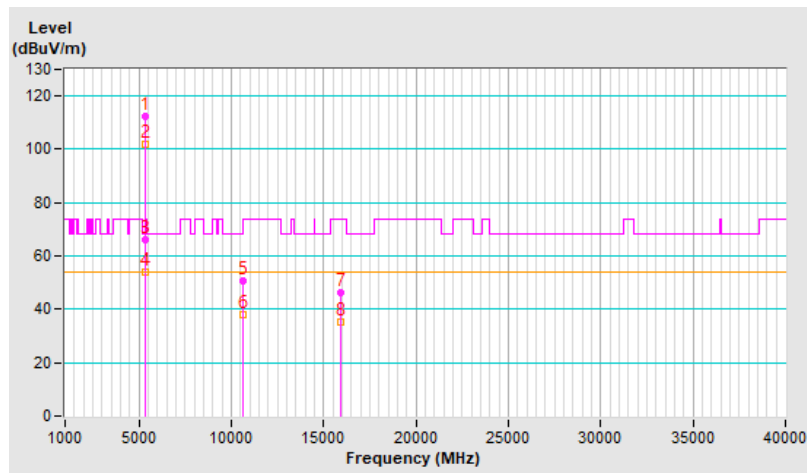


RF Mode	802.11ax (HE40)	Channel	CH 62 : 5310 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	*5310.00	112.4 PK			1.03 H	354	110.6	1.8
2	*5310.00	101.7 AV			1.03 H	354	99.9	1.8
3	5350.00	66.2 PK	74.0	-7.8	1.03 H	354	64.2	2.0
4	5350.00	53.8 AV	54.0	-0.2	1.03 H	354	51.8	2.0
5	10620.00	50.7 PK	74.0	-23.3	1.31 H	202	39.0	11.7
6	10620.00	38.2 AV	54.0	-15.8	1.31 H	202	26.5	11.7
7	15930.00	46.5 PK	74.0	-27.5	2.52 H	309	35.4	11.1
8	15930.00	35.3 AV	54.0	-18.7	2.52 H	309	24.2	11.1

Remarks:

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

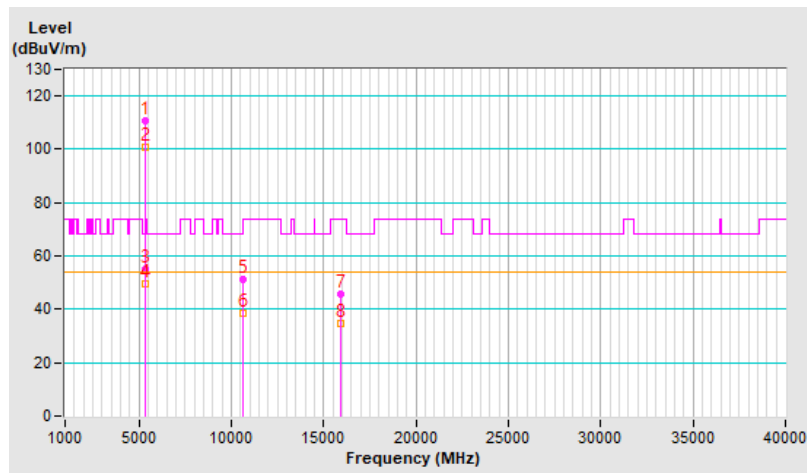


RF Mode	802.11ax (HE40)	Channel	CH 62 : 5310 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	*5310.00	110.7 PK			3.86 V	280	108.9	1.8
2	*5310.00	100.7 AV			3.86 V	280	98.9	1.8
3	5350.00	55.2 PK	74.0	-18.8	3.86 V	280	53.2	2.0
4	5350.00	49.4 AV	54.0	-4.6	3.86 V	280	47.4	2.0
5	10620.00	51.0 PK	74.0	-23.0	1.30 V	175	39.3	11.7
6	10620.00	38.4 AV	54.0	-15.6	1.30 V	175	26.7	11.7
7	15930.00	45.6 PK	74.0	-28.4	2.61 V	311	34.5	11.1
8	15930.00	34.6 AV	54.0	-19.4	2.61 V	311	23.5	11.1

Remarks:

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

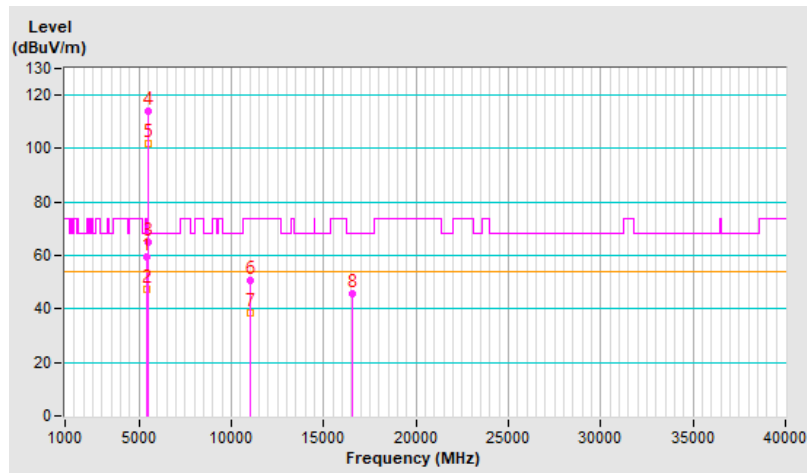


RF Mode	802.11ax (HE40)	Channel	CH 102 : 5510 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.5 PK	74.0	-14.5	1.21 H	360	57.4	2.1
2	5460.00	47.6 AV	54.0	-6.4	1.21 H	360	45.5	2.1
3	#5470.00	65.1 PK	68.2	-3.1	1.21 H	360	63.0	2.1
4	*5510.00	114.1 PK			1.21 H	360	112.1	2.0
5	*5510.00	101.8 AV			1.21 H	360	99.8	2.0
6	11020.00	50.6 PK	74.0	-23.4	1.32 H	173	38.3	12.3
7	11020.00	38.3 AV	54.0	-15.7	1.32 H	173	26.0	12.3
8	#16530.00	45.9 PK	68.2	-22.3	2.58 H	313	32.2	13.7

Remarks:

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

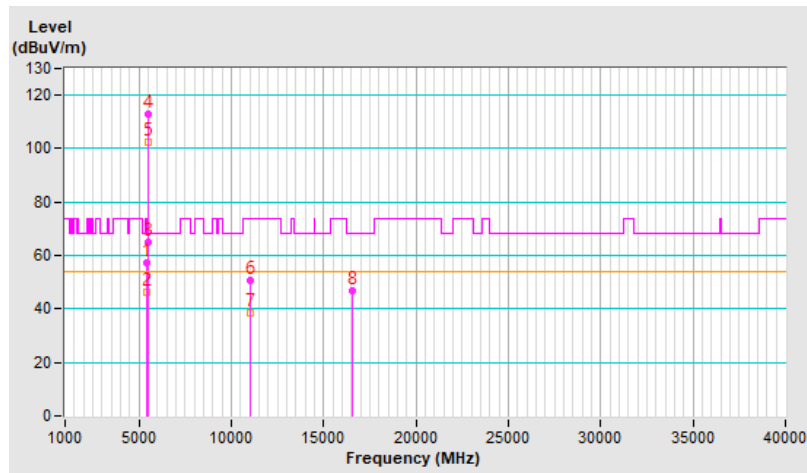


RF Mode	802.11ax (HE40)	Channel	CH 102 : 5510 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.5 PK	74.0	-16.5	3.84 V	292	55.4	2.1
2	5460.00	46.1 AV	54.0	-7.9	3.84 V	292	44.0	2.1
3	#5470.00	65.0 PK	68.2	-3.2	3.84 V	292	62.9	2.1
4	*5510.00	112.7 PK			3.84 V	292	110.7	2.0
5	*5510.00	102.5 AV			3.84 V	292	100.5	2.0
6	11020.00	50.9 PK	74.0	-23.1	1.28 V	202	38.6	12.3
7	11020.00	38.5 AV	54.0	-15.5	1.28 V	202	26.2	12.3
8	#16530.00	46.6 PK	68.2	-21.6	2.58 V	313	32.9	13.7

Remarks:

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

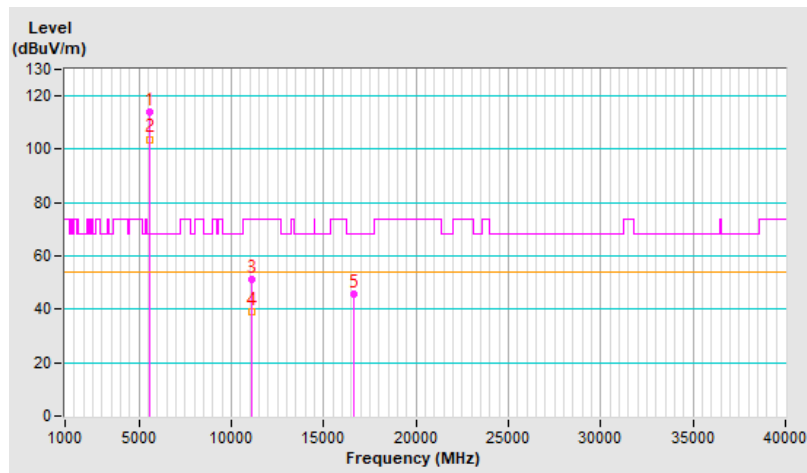


RF Mode	802.11ax (HE40)	Channel	CH 110 : 5550 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	*5550.00	114.1 PK			1.08 H	360	112.0	2.1
2	*5550.00	103.8 AV			1.08 H	360	101.7	2.1
3	11100.00	51.4 PK	74.0	-22.6	1.32 H	177	39.5	11.9
4	11100.00	38.9 AV	54.0	-15.1	1.32 H	177	27.0	11.9
5	#16650.00	45.5 PK	68.2	-22.7	2.56 H	324	30.9	14.6

Remarks:

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

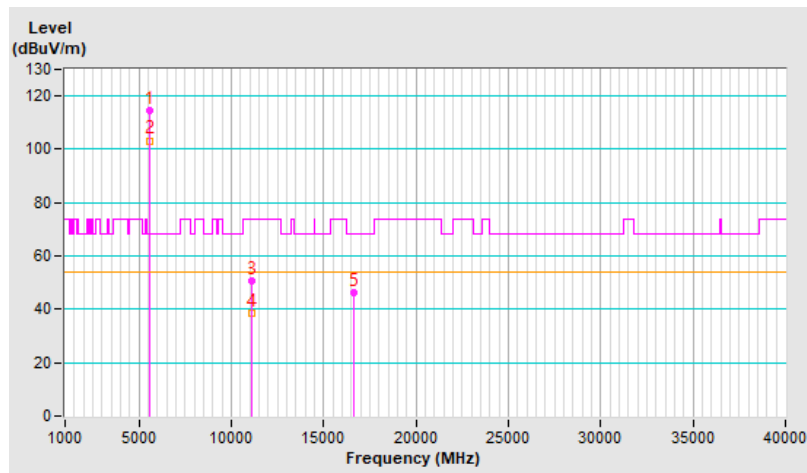


RF Mode	802.11ax (HE40)	Channel	CH 110 : 5550 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	*5550.00	114.8 PK			3.90 V	320	112.7	2.1
2	*5550.00	103.3 AV			3.90 V	320	101.2	2.1
3	11100.00	50.6 PK	74.0	-23.4	1.30 V	201	38.7	11.9
4	11100.00	38.4 AV	54.0	-15.6	1.30 V	201	26.5	11.9
5	#16650.00	46.3 PK	68.2	-21.9	2.62 V	296	31.7	14.6

Remarks:

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

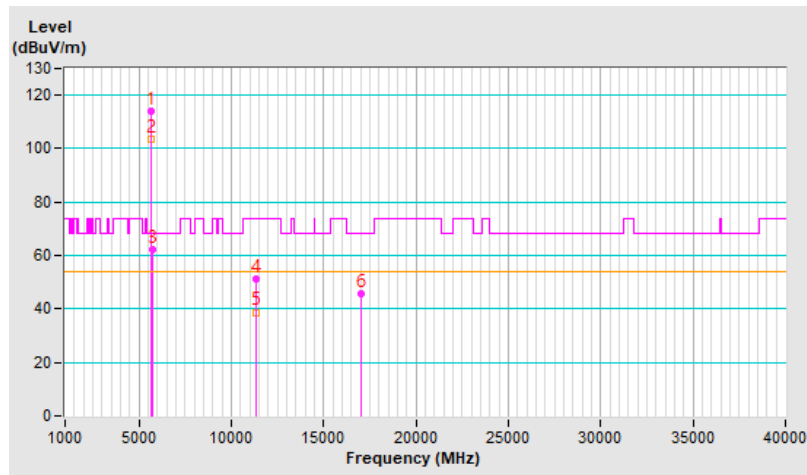


RF Mode	802.11ax (HE40)	Channel	CH 134 : 5670 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	*5670.00	114.1 PK			1.12 H	360	111.8	2.3
2	*5670.00	103.3 AV			1.12 H	360	101.0	2.3
3	#5725.00	62.0 PK	68.2	-6.2	1.12 H	360	59.5	2.5
4	11340.00	51.4 PK	74.0	-22.6	1.23 H	193	39.3	12.1
5	11340.00	38.8 AV	54.0	-15.2	1.23 H	193	26.7	12.1
6	#17010.00	45.9 PK	68.2	-22.3	2.51 H	310	29.6	16.3

Remarks:

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

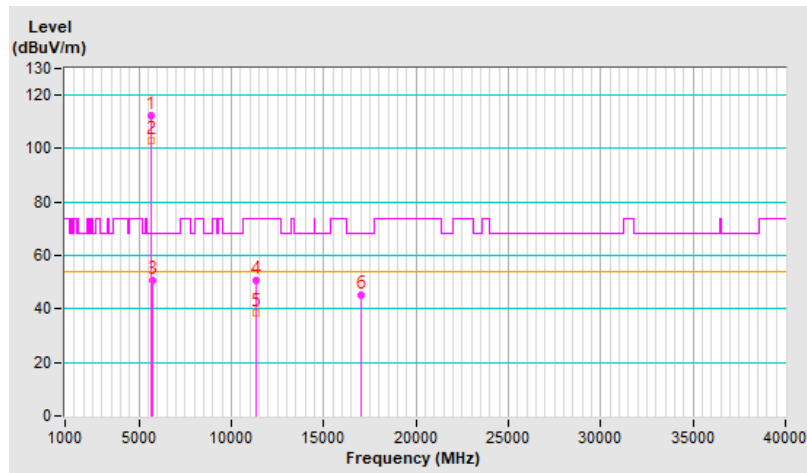


RF Mode	802.11ax (HE40)	Channel	CH 134 : 5670 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	*5670.00	112.2 PK			3.91 V	319	109.9	2.3
2	*5670.00	102.9 AV			3.91 V	319	100.6	2.3
3	#5725.00	50.9 PK	68.2	-17.3	3.91 V	319	48.4	2.5
4	11340.00	50.9 PK	74.0	-23.1	1.24 V	194	38.8	12.1
5	11340.00	38.7 AV	54.0	-15.3	1.24 V	194	26.6	12.1
6	#17010.00	45.4 PK	68.2	-22.8	2.61 V	311	29.1	16.3

Remarks:

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

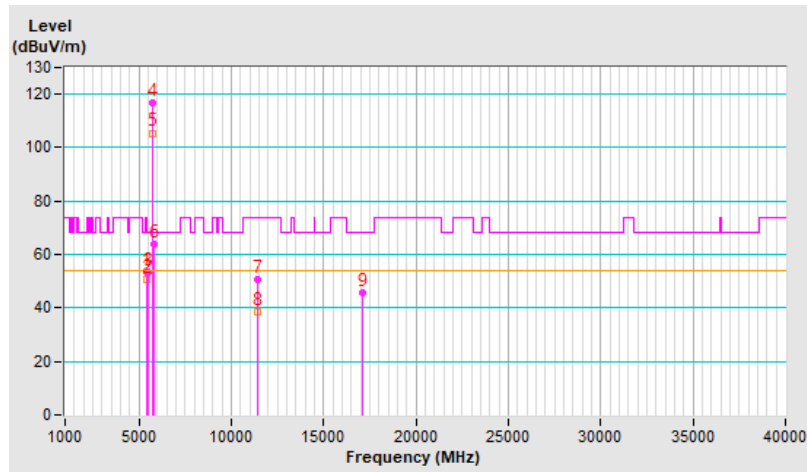


RF Mode	802.11ax (HE40)	Channel	CH 142 : 5710 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	53.4 PK	74.0	-20.6	1.11 H	360	51.3	2.1
2	5460.00	50.5 AV	54.0	-3.5	1.11 H	360	48.4	2.1
3	#5470.00	53.4 PK	68.2	-14.8	1.11 H	360	51.3	2.1
4	*5710.00	116.7 PK			1.11 H	360	114.3	2.4
5	*5710.00	105.5 AV			1.11 H	360	103.1	2.4
6	#5850.00	64.1 PK	68.2	-4.1	1.11 H	360	61.4	2.7
7	11420.00	50.8 PK	74.0	-23.2	1.25 H	196	38.5	12.3
8	11420.00	38.5 AV	54.0	-15.5	1.25 H	196	26.2	12.3
9	#17130.00	45.6 PK	68.2	-22.6	2.62 H	325	29.3	16.3

Remarks:

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

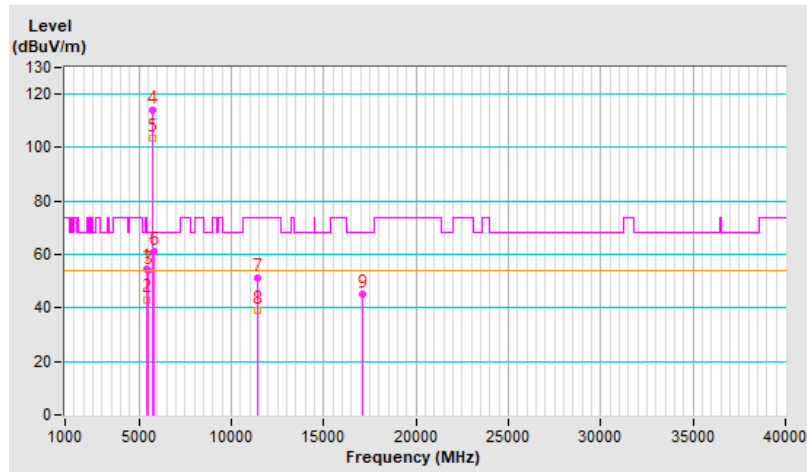


RF Mode	802.11ax (HE40)	Channel	CH 142 : 5710 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.8 PK	74.0	-19.2	4.00 V	327	52.7	2.1
2	5460.00	43.2 AV	54.0	-10.8	4.00 V	327	41.1	2.1
3	#5470.00	54.1 PK	68.2	-14.1	4.00 V	327	52.0	2.1
4	*5710.00	113.9 PK			4.00 V	327	111.5	2.4
5	*5710.00	103.6 AV			4.00 V	327	101.2	2.4
6	#5850.00	61.0 PK	68.2	-7.2	4.00 V	327	58.3	2.7
7	11420.00	51.3 PK	74.0	-22.7	1.28 V	187	39.0	12.3
8	11420.00	39.1 AV	54.0	-14.9	1.28 V	187	26.8	12.3
9	#17130.00	45.3 PK	68.2	-22.9	2.58 V	311	29.0	16.3

Remarks:

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

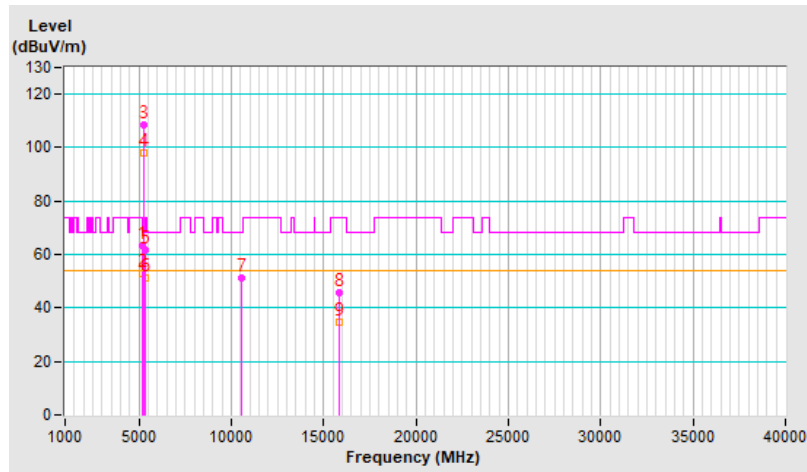


RF Mode	802.11ax (HE80)	Channel	CH 58 : 5290 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.4 PK	74.0	-10.6	1.09 H	356	61.2	2.2
2	5150.00	52.9 AV	54.0	-1.1	1.09 H	356	50.7	2.2
3	*5290.00	108.5 PK			1.09 H	356	106.8	1.7
4	*5290.00	97.8 AV			1.09 H	356	96.1	1.7
5	5350.00	61.9 PK	74.0	-12.1	1.09 H	356	59.9	2.0
6	5350.00	51.3 AV	54.0	-2.7	1.09 H	356	49.3	2.0
7	#10580.00	51.4 PK	68.2	-16.8	1.35 H	179	39.7	11.7
8	15870.00	45.9 PK	74.0	-28.1	2.58 H	299	35.0	10.9
9	15870.00	34.6 AV	54.0	-19.4	2.58 H	299	23.7	10.9

Remarks:

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

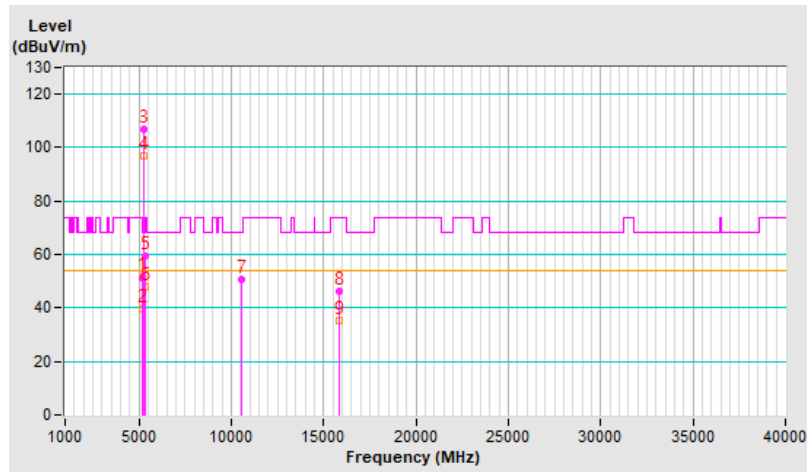


RF Mode	802.11ax (HE80)	Channel	CH 58 : 5290 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	51.5 PK	74.0	-22.5	3.93 V	300	49.3	2.2
2	5150.00	39.5 AV	54.0	-14.5	3.93 V	300	37.3	2.2
3	*5290.00	106.7 PK			3.93 V	300	105.0	1.7
4	*5290.00	96.9 AV			3.93 V	300	95.2	1.7
5	5350.00	59.4 PK	74.0	-14.6	3.93 V	300	57.4	2.0
6	5350.00	47.7 AV	54.0	-6.3	3.93 V	300	45.7	2.0
7	#10580.00	50.9 PK	68.2	-17.3	1.34 V	190	39.2	11.7
8	15870.00	46.2 PK	74.0	-27.8	2.57 V	308	35.3	10.9
9	15870.00	35.0 AV	54.0	-19.0	2.57 V	308	24.1	10.9

Remarks:

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

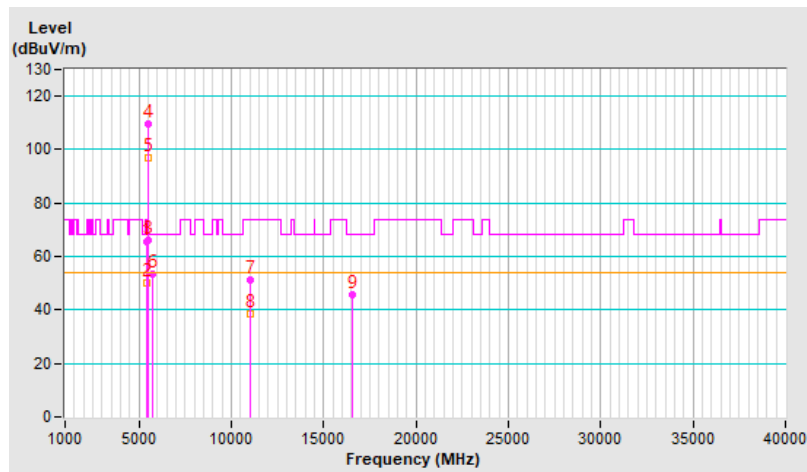


RF Mode	802.11ax (HE80)	Channel	CH 106 : 5530 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	65.4 PK	74.0	-8.6	1.49 H	358	63.3	2.1
2	5460.00	50.1 AV	54.0	-3.9	1.49 H	358	48.0	2.1
3	#5470.00	66.3 PK	68.2	-1.9	1.49 H	358	64.2	2.1
4	*5530.00	109.6 PK			1.49 H	358	107.6	2.0
5	*5530.00	96.8 AV			1.49 H	358	94.8	2.0
6	#5725.00	53.3 PK	68.2	-14.9	1.49 H	358	50.8	2.5
7	11060.00	51.4 PK	74.0	-22.6	1.34 H	172	39.3	12.1
8	11060.00	38.7 AV	54.0	-15.3	1.34 H	172	26.6	12.1
9	#16590.00	45.6 PK	68.2	-22.6	2.54 H	297	31.3	14.3

Remarks:

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

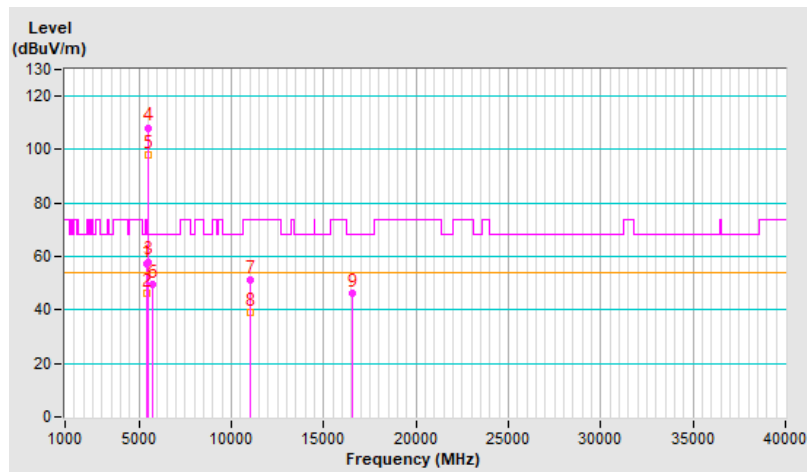


RF Mode	802.11ax (HE80)	Channel	CH 106 : 5530 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.4 PK	74.0	-16.6	4.00 V	292	55.3	2.1
2	5460.00	46.3 AV	54.0	-7.7	4.00 V	292	44.2	2.1
3	#5470.00	58.1 PK	68.2	-10.1	4.00 V	292	56.0	2.1
4	*5530.00	108.2 PK			4.00 V	292	106.2	2.0
5	*5530.00	98.0 AV			4.00 V	292	96.0	2.0
6	#5725.00	49.6 PK	68.2	-18.6	4.00 V	292	47.1	2.5
7	11060.00	51.4 PK	74.0	-22.6	1.29 V	173	39.3	12.1
8	11060.00	39.1 AV	54.0	-14.9	1.29 V	173	27.0	12.1
9	#16590.00	46.1 PK	68.2	-22.1	2.57 V	303	31.8	14.3

Remarks:

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

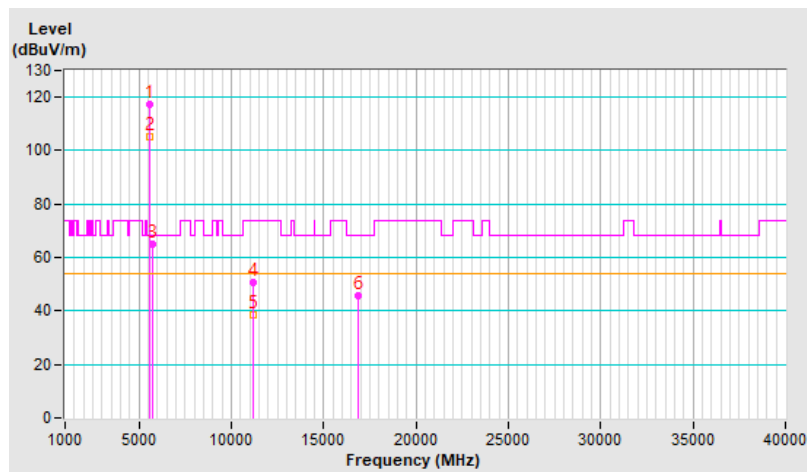


RF Mode	802.11ax (HE80)	Channel	CH 122 : 5610 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	*5610.00	117.3 PK			1.14 H	360	115.1	2.2
2	*5610.00	105.3 AV			1.14 H	360	103.1	2.2
3	#5725.00	65.2 PK	68.2	-3.0	1.14 H	360	62.7	2.5
4	11220.00	50.8 PK	74.0	-23.2	1.26 H	186	38.9	11.9
5	11220.00	38.3 AV	54.0	-15.7	1.26 H	186	26.4	11.9
6	#16830.00	45.6 PK	68.2	-22.6	2.58 H	300	30.0	15.6

Remarks:

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

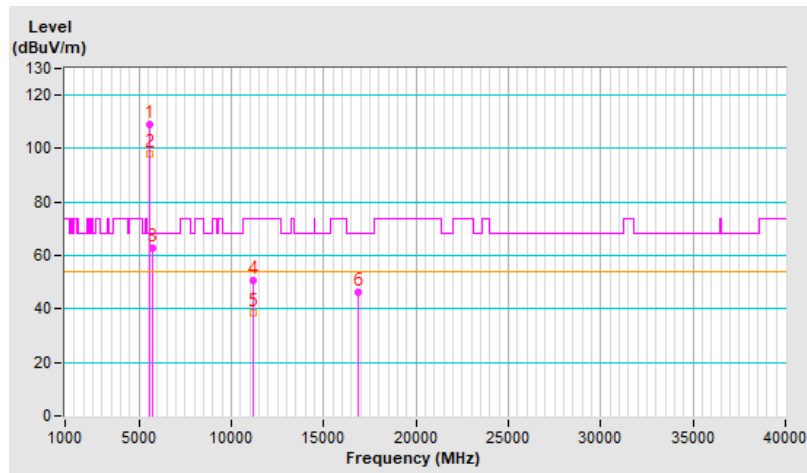


RF Mode	802.11ax (HE80)	Channel	CH 122 : 5610 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

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	*5610.00	108.9 PK			3.94 V	299	106.7	2.2
2	*5610.00	97.8 AV			3.94 V	299	95.6	2.2
3	#5725.00	62.7 PK	68.2	-5.5	3.94 V	299	60.2	2.5
4	11220.00	50.9 PK	74.0	-23.1	1.26 V	191	39.0	11.9
5	11220.00	38.4 AV	54.0	-15.6	1.26 V	191	26.5	11.9
6	#16830.00	46.2 PK	68.2	-22.0	2.61 V	327	30.6	15.6

Remarks:

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

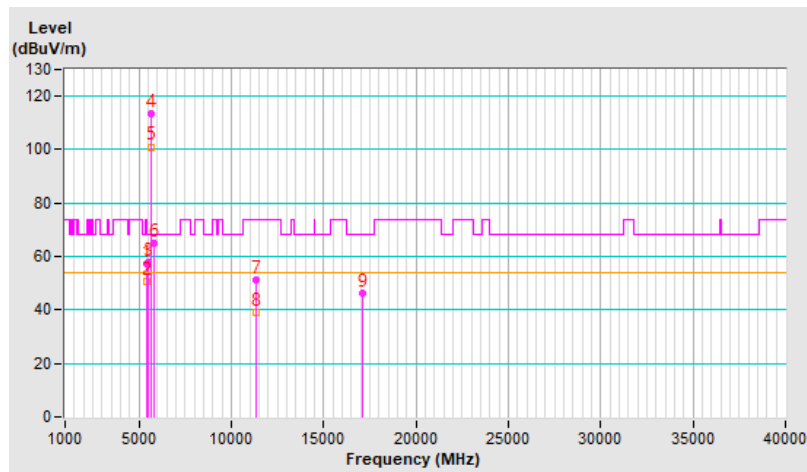


RF Mode	802.11ax (HE80)	Channel	CH 138 : 5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.3 PK	74.0	-16.7	1.02 H	360	55.2	2.1
2	5460.00	50.5 AV	54.0	-3.5	1.02 H	360	48.4	2.1
3	#5470.00	58.0 PK	68.2	-10.2	1.02 H	360	55.9	2.1
4	*5690.00	113.6 PK			1.02 H	360	111.2	2.4
5	*5690.00	101.1 AV			1.02 H	360	98.7	2.4
6	#5850.00	64.9 PK	68.2	-3.3	1.02 H	360	62.2	2.7
7	11380.00	51.3 PK	74.0	-22.7	1.25 H	172	39.0	12.3
8	11380.00	38.9 AV	54.0	-15.1	1.25 H	172	26.6	12.3
9	#17070.00	46.1 PK	68.2	-22.1	2.61 H	320	29.7	16.4

Remarks:

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

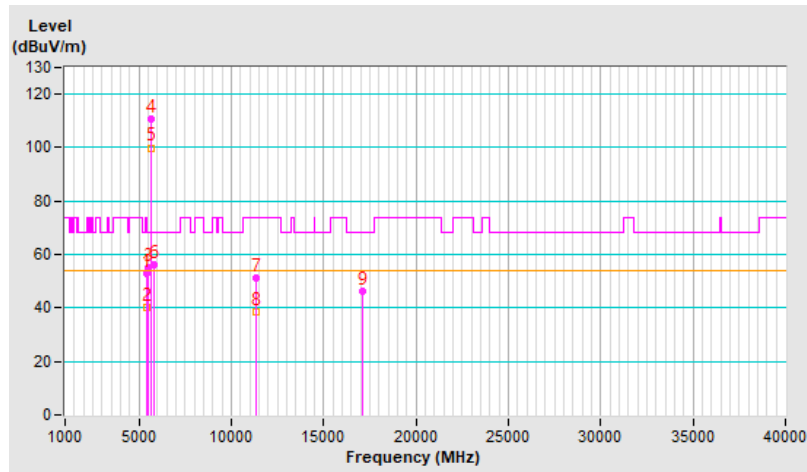


RF Mode	802.11ax (HE80)	Channel	CH 138 : 5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	28°C, 75% RH
Tested By	Louis Yang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	53.1 PK	74.0	-20.9	3.95 V	288	51.0	2.1
2	5460.00	40.2 AV	54.0	-13.8	3.95 V	288	38.1	2.1
3	#5470.00	55.2 PK	68.2	-13.0	3.95 V	288	53.1	2.1
4	*5690.00	110.7 PK			3.95 V	288	108.3	2.4
5	*5690.00	100.0 AV			3.95 V	288	97.6	2.4
6	#5850.00	56.4 PK	68.2	-11.8	3.95 V	288	53.7	2.7
7	11380.00	51.0 PK	74.0	-23.0	1.34 V	176	38.7	12.3
8	11380.00	38.6 AV	54.0	-15.4	1.34 V	176	26.3	12.3
9	#17070.00	46.4 PK	68.2	-21.8	2.63 V	296	30.0	16.4

Remarks:

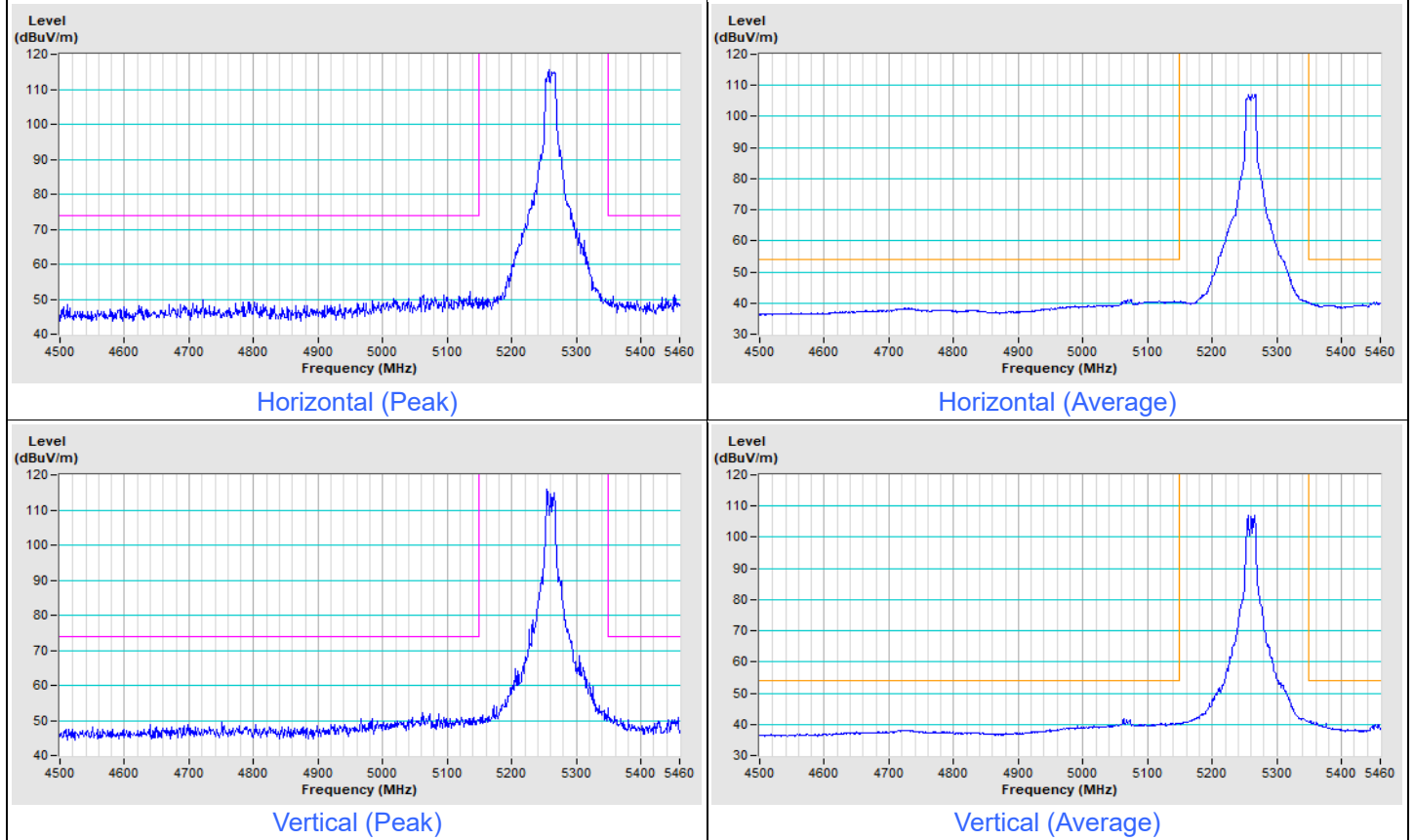
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency,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



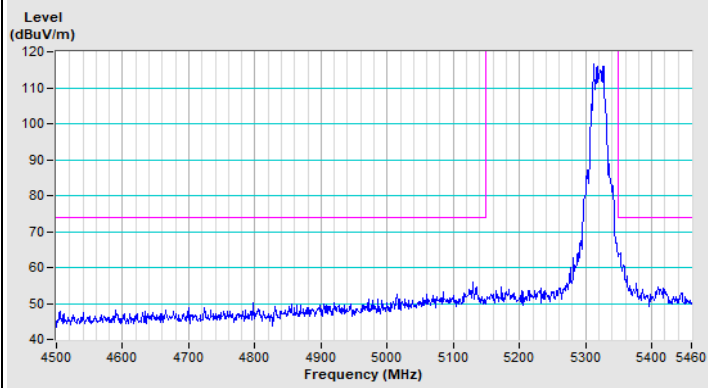
Plot of Band Edge

Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
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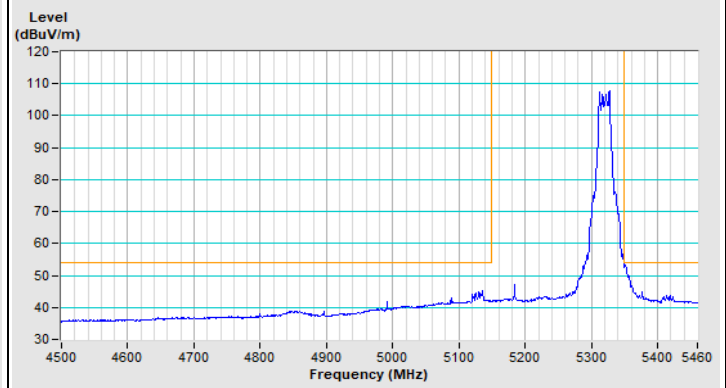
802.11a Channel 52



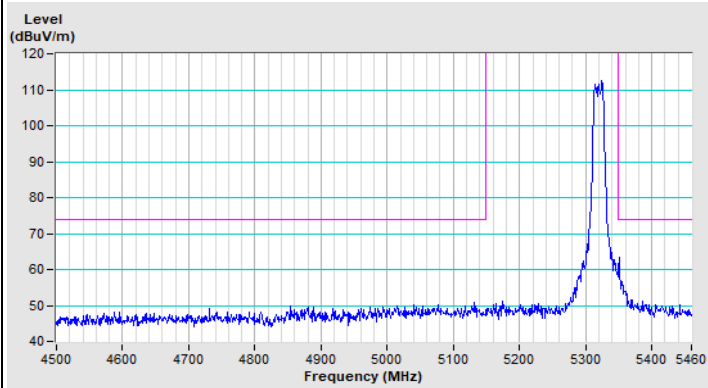
802.11a Channel 64



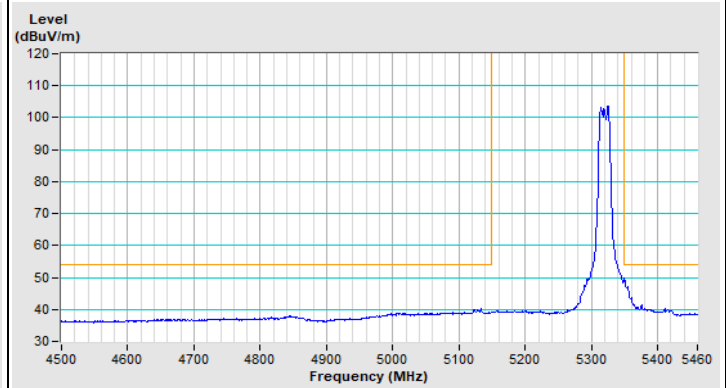
Horizontal (Peak)



Horizontal (Average)



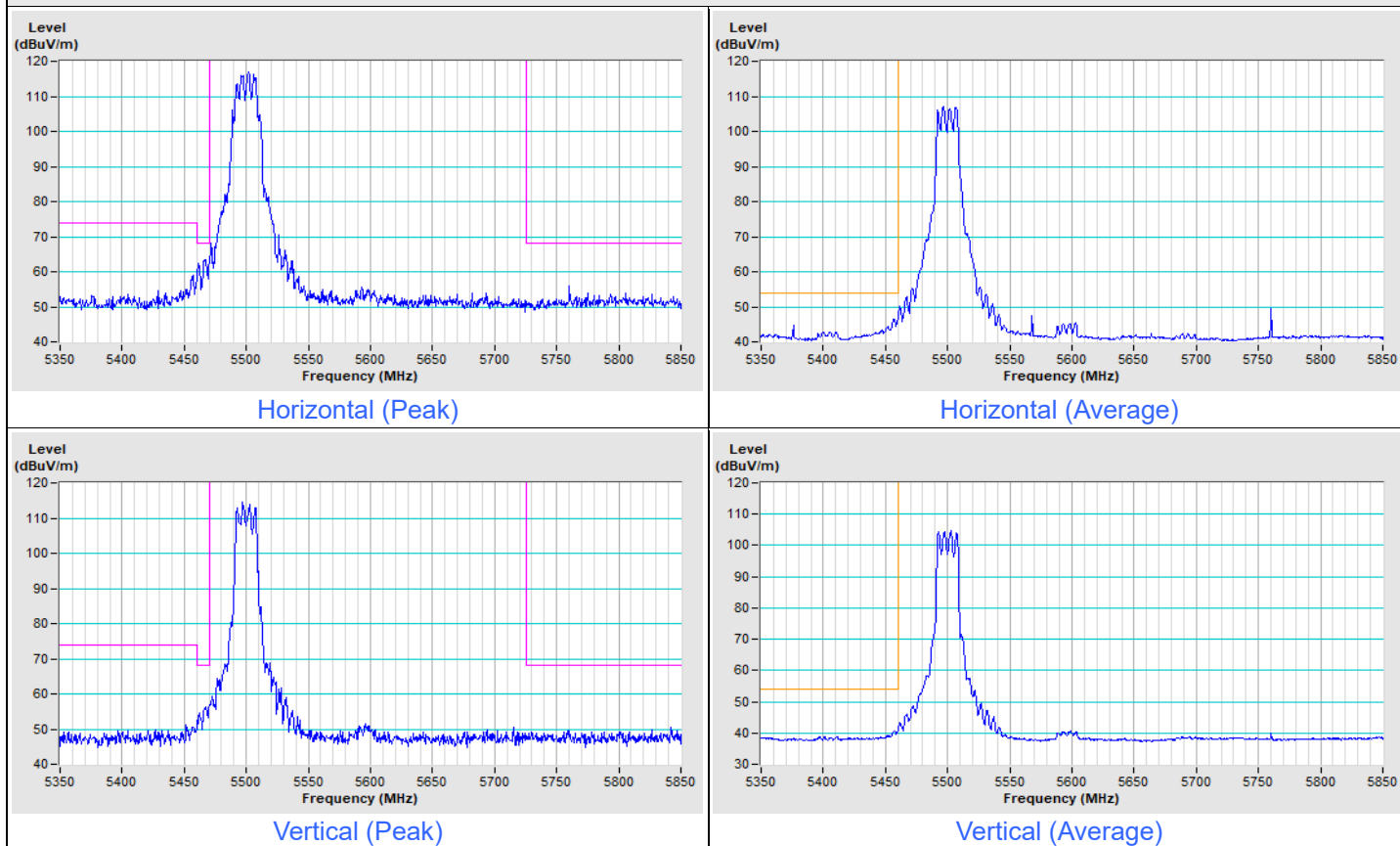
Vertical (Peak)



Vertical (Average)

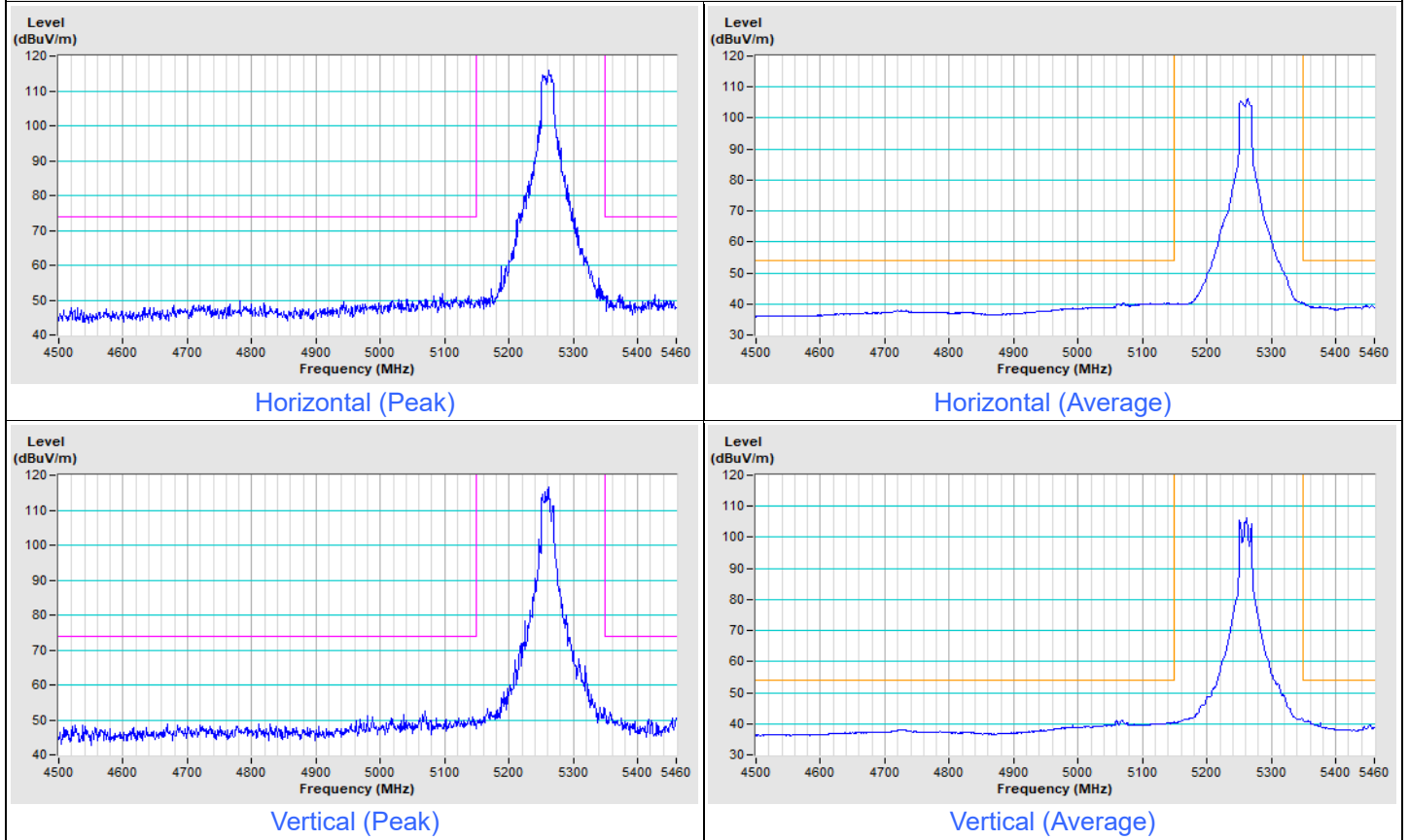
Frequency Range	5.35 GHz ~ 5.85 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 510 Hz
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802.11a Channel 100

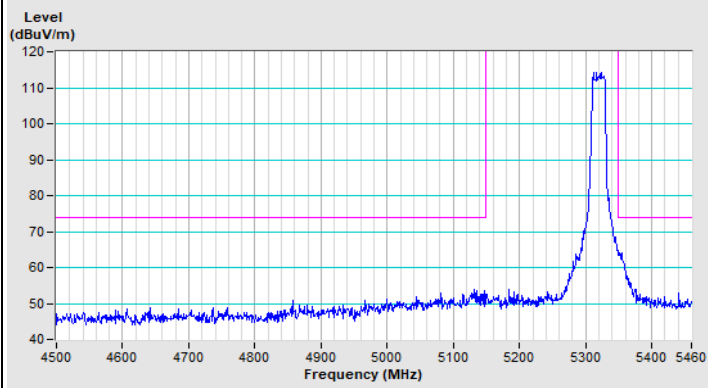


Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
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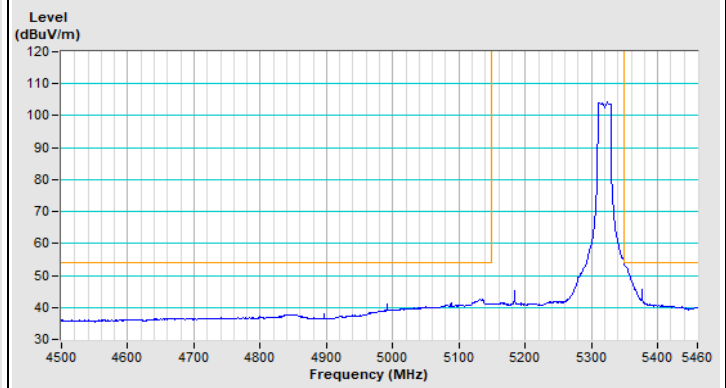
802.11ax (HE20) Channel 52



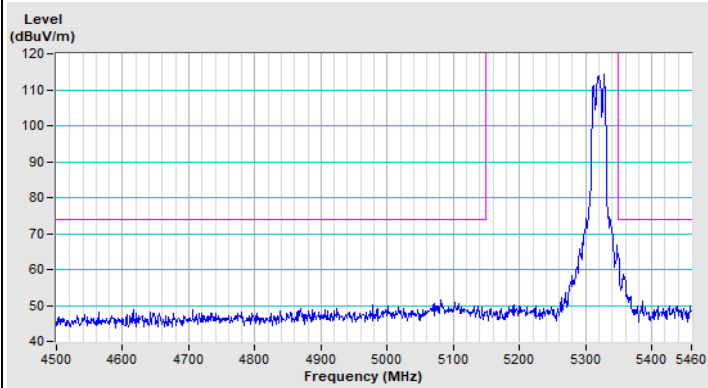
802.11ax (HE20) Channel 64



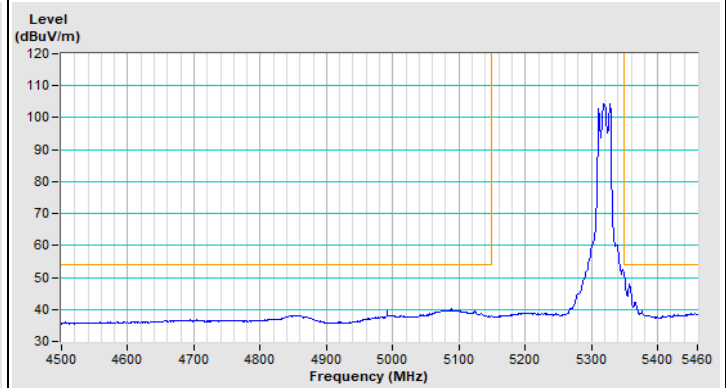
Horizontal (Peak)



Horizontal (Average)



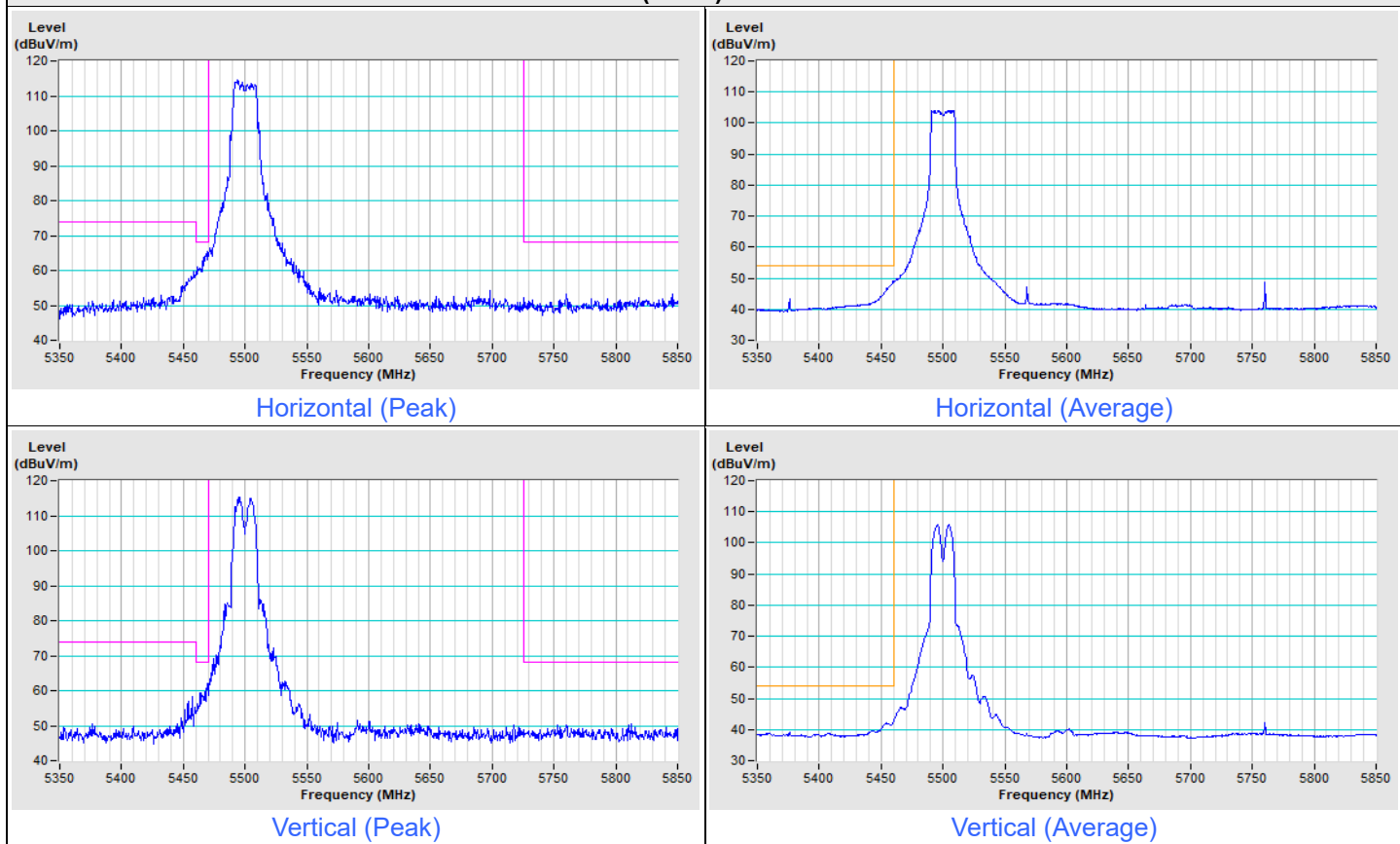
Vertical (Peak)



Vertical (Average)

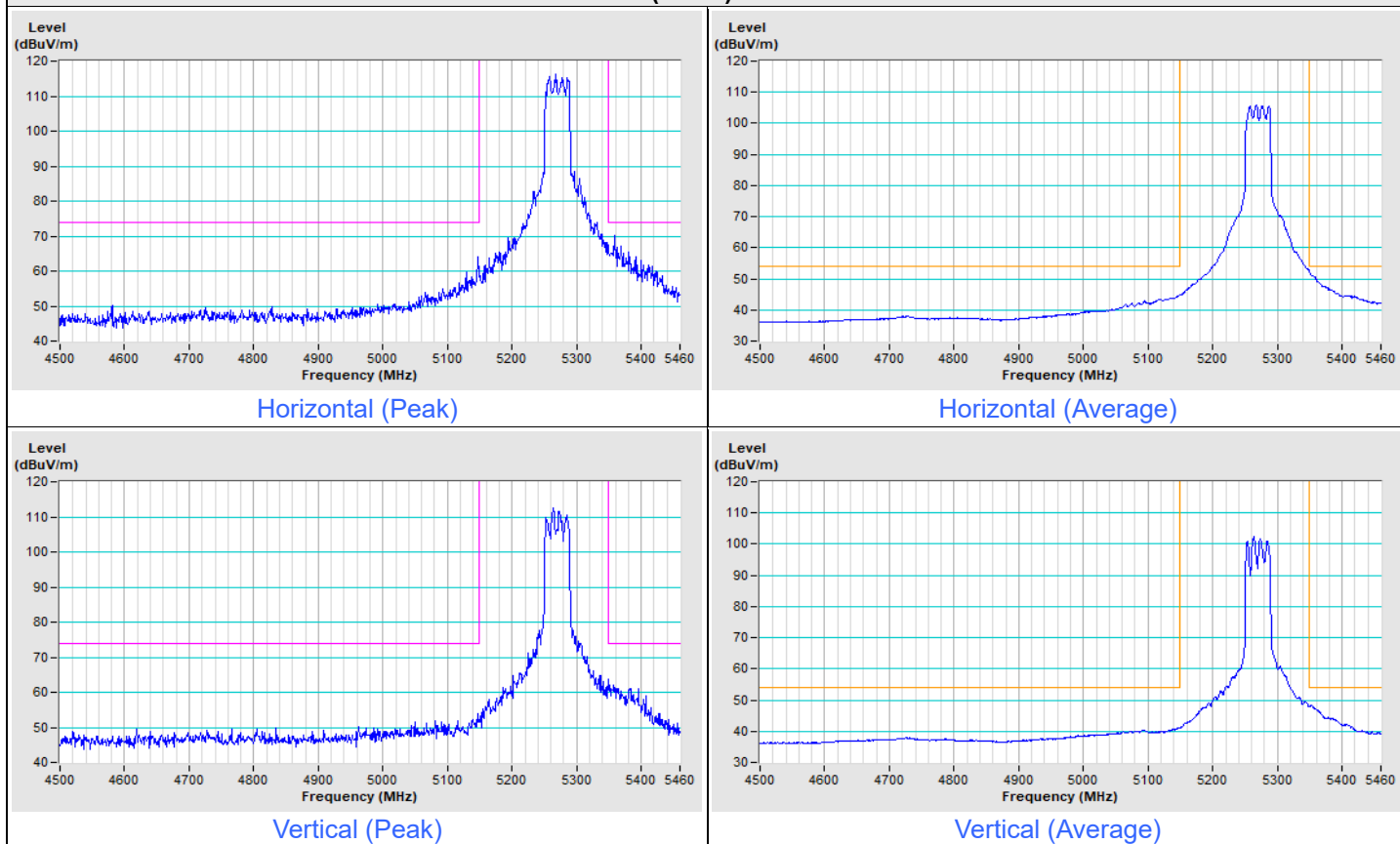
Frequency Range	5.35 GHz ~ 5.85 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
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802.11ax (HE20) Channel 100

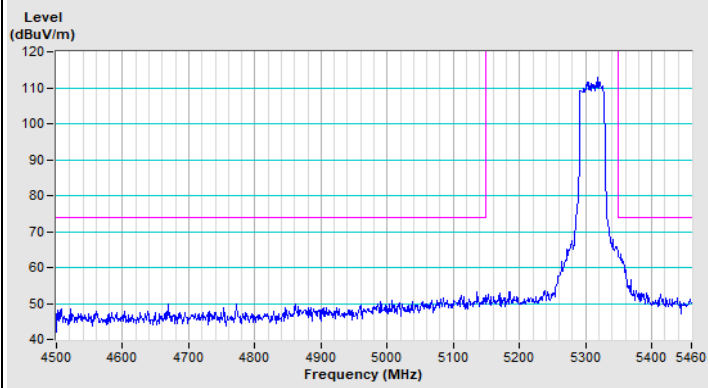


Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
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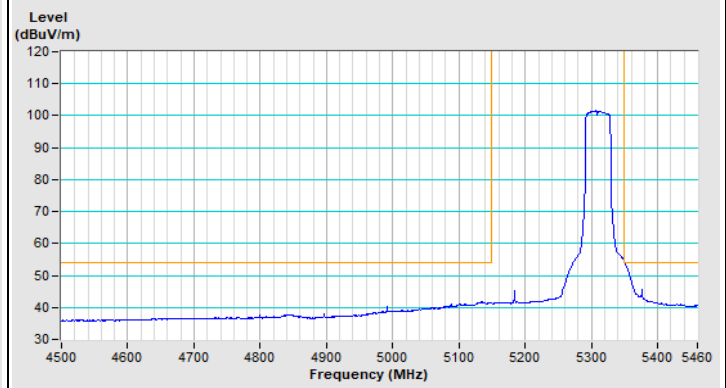
802.11ax (HE40) Channel 54



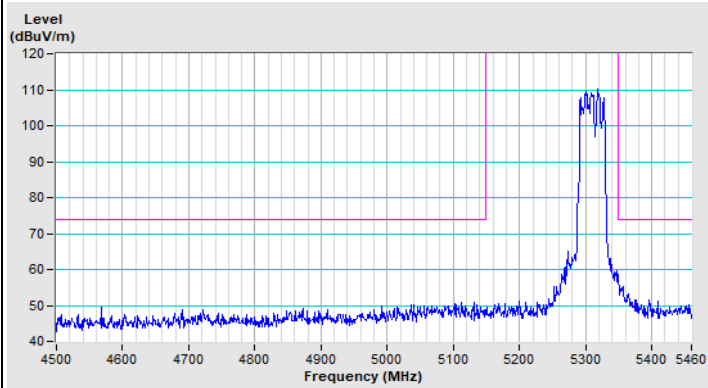
802.11ax (HE40) Channel 62



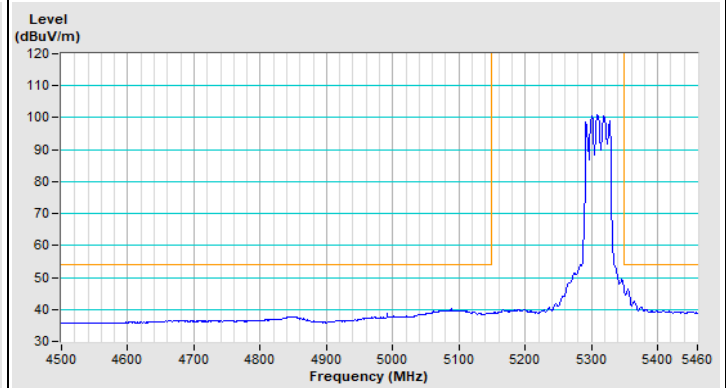
Horizontal (Peak)



Horizontal (Average)



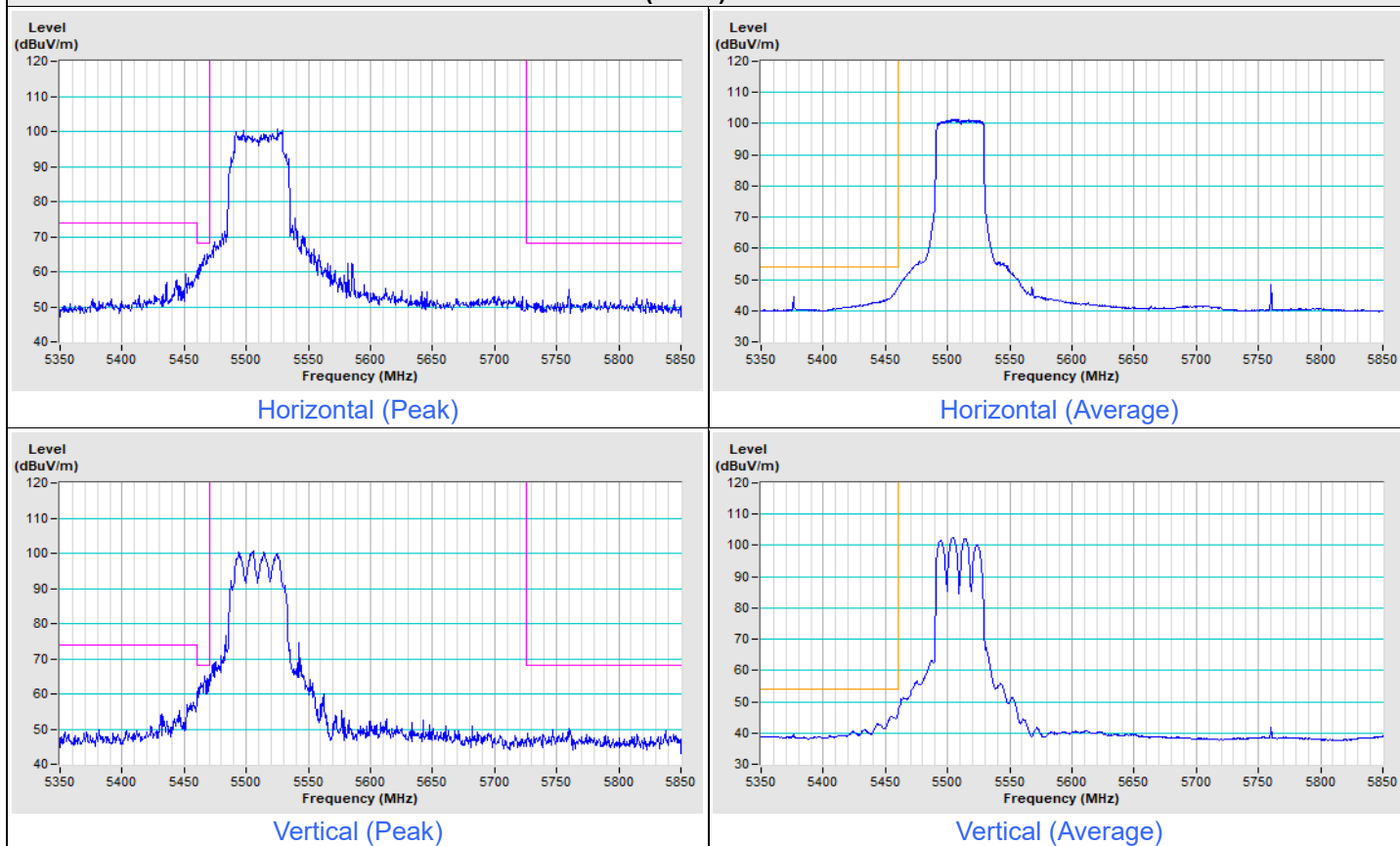
Vertical (Peak)



Vertical (Average)

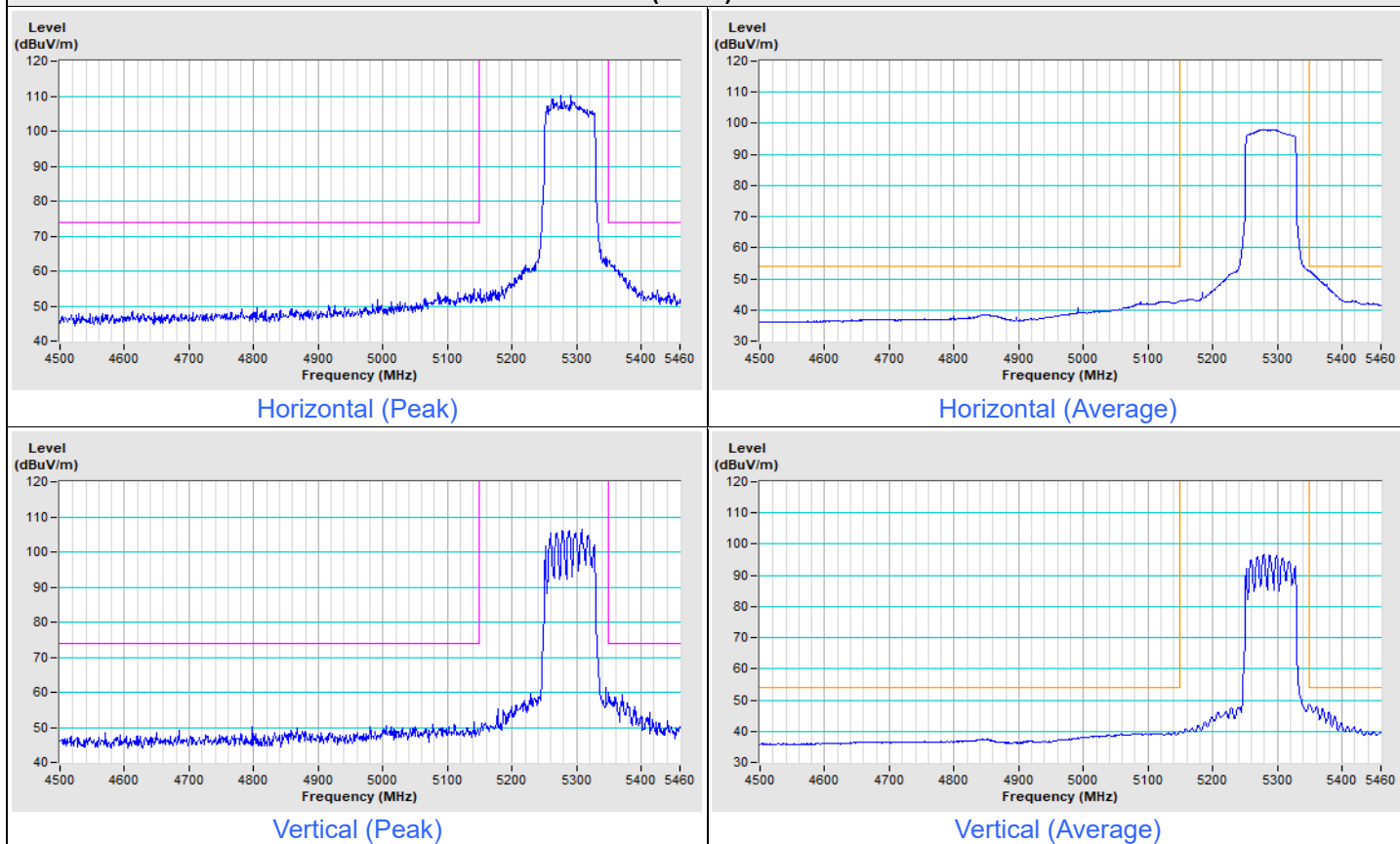
Frequency Range	5.35 GHz ~ 5.85 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
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802.11ax (HE40) Channel 102



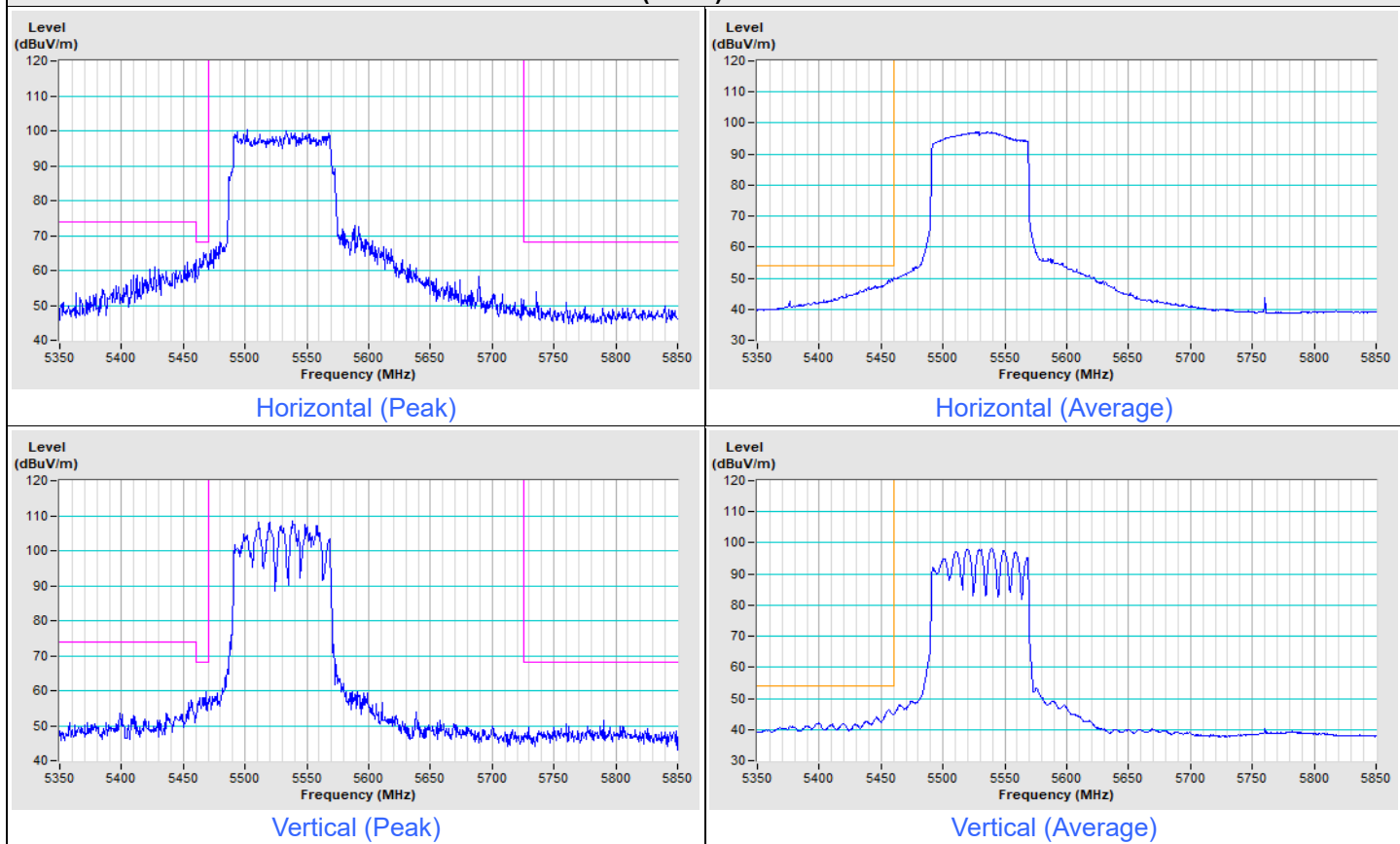
Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
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802.11ax (HE80) Channel 58



Frequency Range	5.35 GHz ~ 5.85 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 200 Hz
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802.11ax (HE80) Channel 106



8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)



9 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 according to ISO/IEC 17025.

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

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Fax: 886-2-26051924

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Email: service.adt@bureauveritas.com

Web Site: <http://ee.bureauveritas.com.tw>

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

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