

FCC Test Report (DFS Band)

Report No.: RF200102E06A-1

FCC ID: RAXCM4652442

Test Model: CM4652442-MM

Received Date: Jan. 02, 2020

Test Date: Jan. 06 to Feb. 17, 2020

Issued Date: Mar. 31, 2020

Applicant: Arcadyan Technology Corporation

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
RF200102E06A-1	Original release.	Mar. 31, 2020

1 Certificate of Conformity

Product: DOCSIS® 3.1 Dual-band AX6000 Wi-Fi 6 Cable Gateway

Brand: XTREAM

Test Model: CM4652442-MM

Sample Status: ENGINEERING SAMPLE

Applicant: Arcadyan Technology Corporation

Test Date: Jan. 06 to Feb. 17, 2020

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

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

Prepared by : Phoenix Huang , **Date:** Mar. 31, 2020
Phoenix Huang / Specialist

Approved by : Clark Lin , **Date:** Mar. 31, 2020
Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -19.06 dB at 0.48203 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.2 dB at 5350.00 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

Note:

Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (\pm)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.8 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.0 dB
	30MHz ~ 1GHz	4.8 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.0 dB
	6GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (DFS Band)

Product	DOCSIS® 3.1 Dual-band AX6000 Wi-Fi 6 Cable Gateway
Brand	XTREAM
Test Model	CM4652442-MM
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from power adapter
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to 600 Mbps 802.11ac: up to 3466.7 Mbps 802.11ax: up to 4803.9Mbps
Operating Frequency	5.25 ~ 5.32 GHz, 5.5 ~ 5.72 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 80211ax (HE20): 16 802.11n (HT40), 802.11ac (VHT40), 80211ax (HE40): 8 802.11ac (VHT80), 80211ax (HE80): 4 802.11ac (VHT160), 80211ax (HE160): 2
Output Power	CDD Mode: 5.25 ~ 5.32 GHz: 236.251 mW 5.5 ~ 5.72 GHz: 244.753 mW Beamforming Mode: 5.25 ~ 5.32 GHz: 175.156 mW 5.5 ~ 5.72 GHz: 175.997 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	RJ-45 Cable x 1 (Unshielded, 1 m)

Note:

- This report is prepared for FCC class II change. The difference compared with the Report No.: RF200102E06-1 as the following:
 - ◆ Add DFS band <5250~5350 MHz & 5470~5725 MHz> 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.
- Simultaneously transmission condition.

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

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

- The EUT must be supplied with a power adapter as following table:

Brand	Model No.	Spec.
Asian Power Devices Inc.	WA-36A12FU	Input: 100-240Vac, 0.9A, 50/60Hz Output: 12Vdc, 3A DC Output cable: Unshielded, 1.5 m

5. The antennas provided to the EUT, please refer to the following table:

Ant. No.	Transmitter Circuit	Model No.	Ant. Net Gain (dBi) (Including cable loss)	Freq. Range (GHz)	Ant. Type	Connector Type	Cable Length (mm)
1	Chain 0	CM4652442- MM R0B	2.42	2.4~2.4835	PIFA	i-pex(MHF)	227
			0.49	5.15~5.85			
2	Chain 1	CM4652442- MM R0B	0.09	2.4~2.4835	PIFA	i-pex(MHF)	171
			1.42	5.15~5.85			
3	Chain 2	CM4652442- MM R0B	1.38	2.4~2.4835	PIFA	i-pex(MHF)	145
			1.44	5.15~5.85			
4	Chain 3	CM4652442- MM R0B	3.69	2.4~2.4835	PIFA	i-pex(MHF)	73
			2.46	5.15~5.85			

6. The directional gain table:

Frequency Range (GHz)	Directional Antenna Gain (dBi)	Antenna Type	Antenna Connector
2.4~2.4835	8.02	PIFA	i-pex(MHF)
5.15~5.85	7.5		

Note: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4]$

7. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11b	4TX	4RX
802.11g	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
VHT20	4TX	4RX
VHT40	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
5GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ac (VHT160)	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
802.11ax (HE160)	4TX	4RX

Note:

- All of modulation mode support beamforming function except 802.11a/b/g 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 20MHz (40MHz), 802.11ac mode for 20MHz (40MHz, 80MHz, 160MHz) and 802.11ax mode for 20MHz (40MHz, 80MHz, 160MHz), therefore the manufacturer will control the power for 802.11n/ac mode is the same as the 802.11ax or more lower than it and investigated worst case to representative mode in test report. (Final test mode refer to section 3.2.1)

8. 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 Description of Test Modes

FOR 5250 ~ 5320MHz

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

1 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
50	5250 MHz

FOR 5500 ~ 5720MHz

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		

1 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
114	5570 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE \geq 1G	RE $<$ 1G	PLC	APCM	
1	√	√	√	√	-

Where **RE \geq 1G**: Radiated Emission above 1GHz
RE $<$ 1G: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission
APCM: Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5250-5320	52 to 64	52, 60, 64	OFDM	BPSK	6Mb/s
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6Mb/s
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	OFDMA	BPSK	MCS0

Radiated Emission Test (Below 1GHz):

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE40)	5250-5320, 5500-5720	54 to 62, 102 to 142	134	OFDMA	BPSK	MCS0

Power Line Conducted Emission Test:

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE40)	5250-5320, 5500-5720	54 to 62, 102 to 142	134	OFDMA	BPSK	MCS0

Antenna Port Conducted Measurement:

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

CDD Mode							
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	
802.11a	5250-5320	52 to 64	52, 60, 64	OFDM	BPSK	6Mb/s	
802.11ac (VHT20) (for output power)		52 to 64	52, 60, 64	OFDM	BPSK	MCS0	
802.11ac (VHT40) (for output power)		54 to 62	54, 62	OFDM	BPSK	MCS0	
802.11ac (VHT80) (for output power)		58	58	OFDM	BPSK	MCS0	
802.11ac (VHT160) (for output power)		50	50	OFDM	BPSK	MCS0	
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0	
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0	
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0	
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0	
802.11a		5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (for output power)	100 to 144		100, 116, 140, 144	OFDM	BPSK	MCS0	
802.11ac (VHT40) (for output power)	102 to 142		102, 110, 134, 142	OFDM	BPSK	MCS0	
802.11ac (VHT80) (for output power)	106 to 138		106, 122, 138	OFDM	BPSK	MCS0	
802.11ac (VHT160) (for output power)	114		114	OFDM	BPSK	MCS0	
802.11ax (HE20)	100 to 144		100, 116, 140, 144	OFDMA	BPSK	MCS0	
802.11ax (HE40)	102 to 142		102, 110, 134, 142	OFDMA	BPSK	MCS0	
802.11ax (HE80)	106 to 138		106, 122, 138	OFDMA	BPSK	MCS0	
802.11ax (HE160)	114		114	OFDMA	BPSK	MCS0	
Beamforming Mode (output power only)							
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter	
802.11ac (VHT20)	5250-5320	52 to 64	52, 60, 64	OFDM	BPSK	MCS0	
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	MCS0	
802.11ac (VHT80)		58	58	OFDM	BPSK	MCS0	
802.11ac (VHT160)		50	50	OFDM	BPSK	MCS0	
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0	
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0	
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0	
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0	
802.11ac (VHT20)		5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS0
802.11ac (VHT40)			102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS0
802.11ac (VHT80)	106 to 138		106, 122, 138	OFDM	BPSK	MCS0	
802.11ac (VHT160)	114		114	OFDM	BPSK	MCS0	
802.11ax (HE20)	100 to 144		100, 116, 140, 144	OFDMA	BPSK	MCS0	
802.11ax (HE40)	102 to 142		102, 110, 134, 142	OFDMA	BPSK	MCS0	
802.11ax (HE80)	106 to 138		106, 122, 138	OFDMA	BPSK	MCS0	
802.11ax (HE160)	114		114	OFDMA	BPSK	MCS0	

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE \geq 1G	23deg. C, 58%RH, 22deg. C, 57%RH	120Vac, 60Hz	Jeff Lee
RE<1G	22deg. C, 57%RH	120Vac, 60Hz	Jeff Lee
PLC	25deg. C, 75%RH	120Vac, 60Hz	Kevin Ko
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98%, duty factor shall be considered.

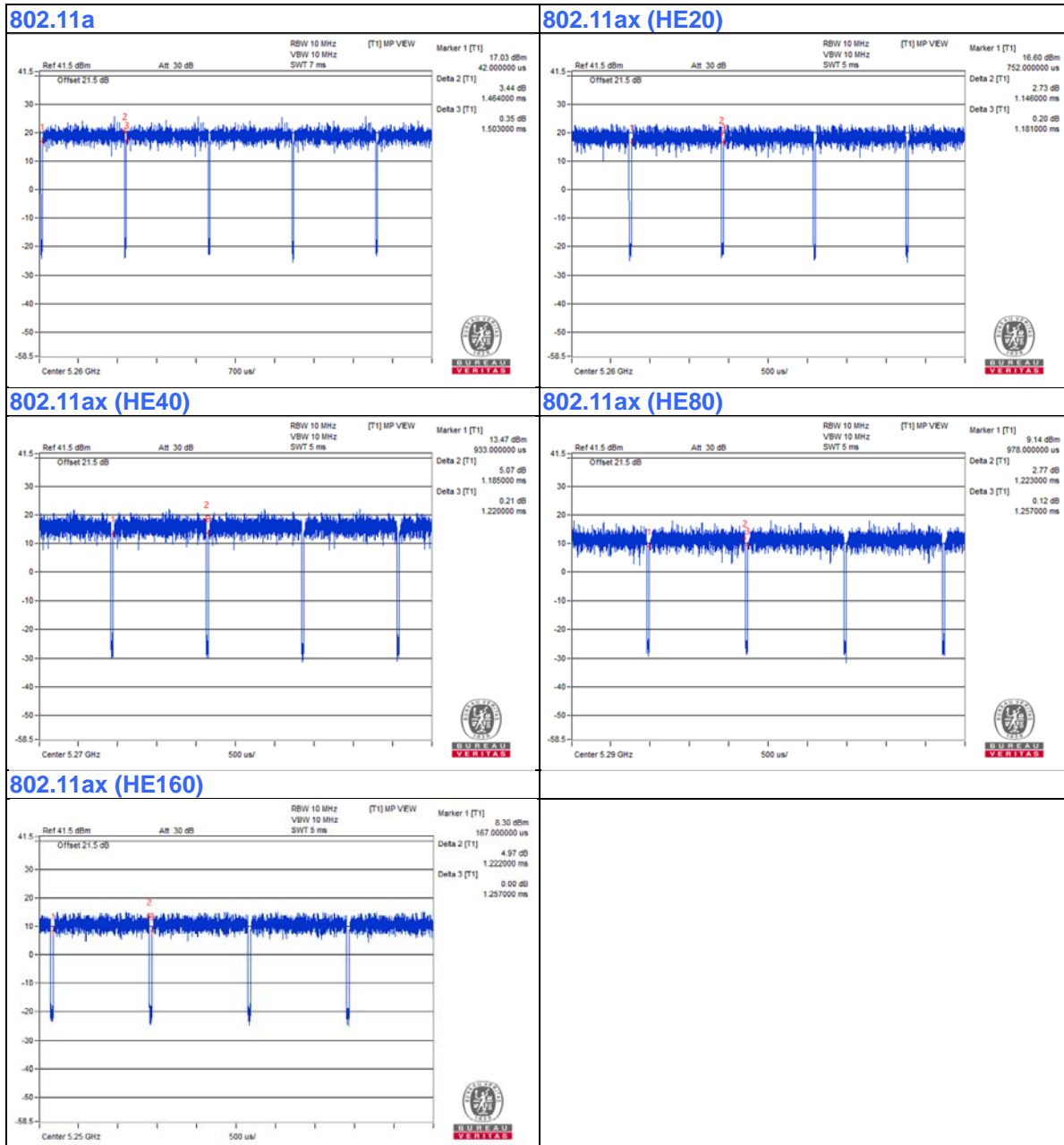
802.11a: Duty cycle = 1.464 ms/1.503 ms = 0.974, Duty factor = 10 * log (1/Duty cycle) = 0.11 dB

802.11ax (HE20): Duty cycle = 1.146 ms/1.181 ms = 0.97, Duty factor = 10 * log (1/Duty cycle) = 0.13 dB

802.11ax (HE40): Duty cycle = 1.185 ms/1.22 ms = 0.971, Duty factor = 10 * log (1/Duty cycle) = 0.13 dB

802.11ax (HE80): Duty cycle = 1.223 ms/1.257 ms = 0.973, Duty factor = 10 * log (1/Duty cycle) = 0.12 dB

802.11ax (HE160): Duty cycle = 1.222 ms/1.257 ms = 0.972, Duty factor = 10 * log (1/Duty cycle) = 0.12 dB



3.4 Description of Support Units

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

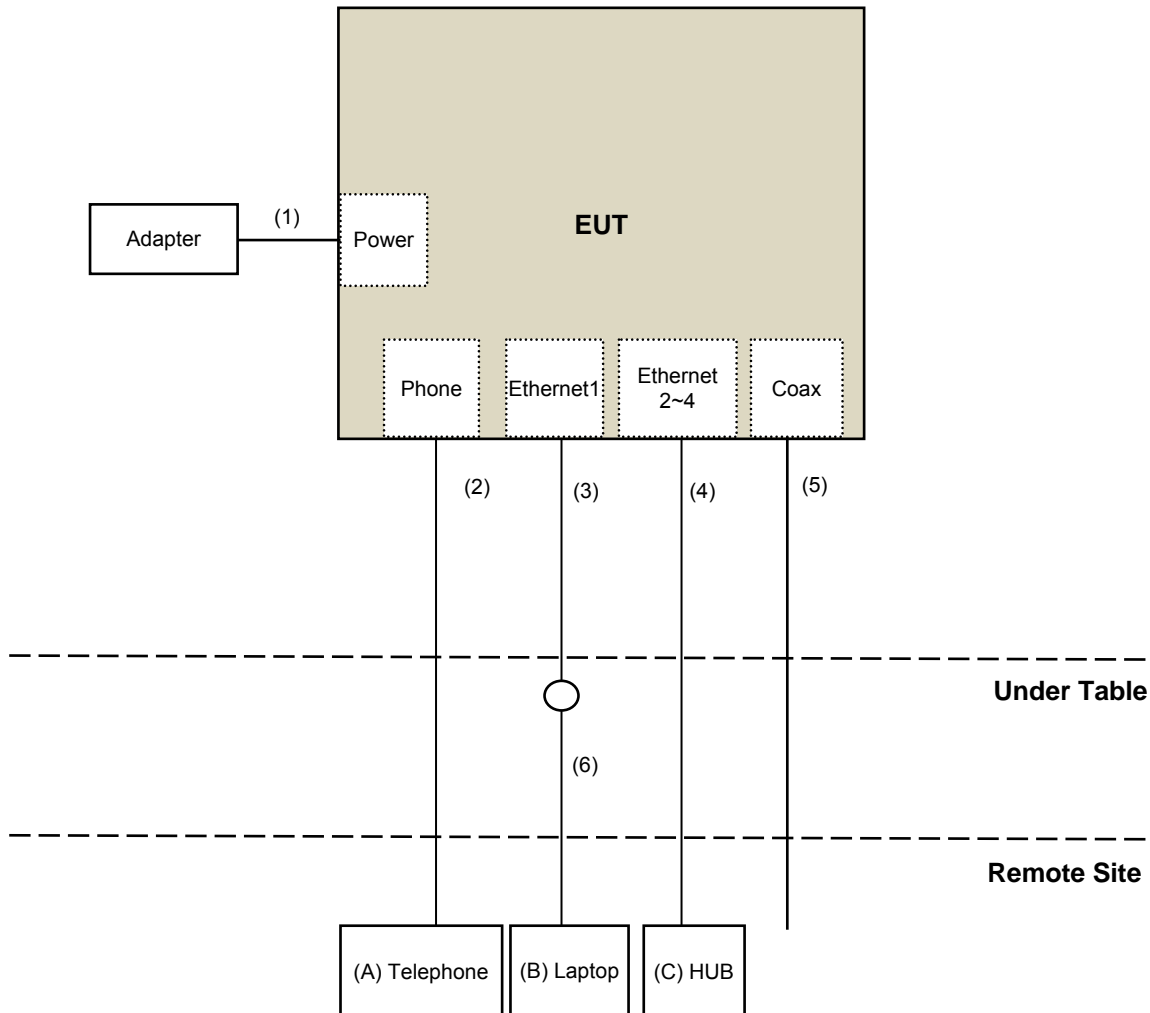
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Telephone	WONDER	WD-303	7C17KA 04011	NA	Provided by Lab
B.	Laptop	DELL	E6400	D814C A00 APCC	NA	Provided by Lab
C.	HUB	ZyXEL	GS1100-16	S150H44000046	FCC DoC	Provided by Lab

Note:

1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.5	No	0	Supplied by client
2.	RJ-11 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	1	1	No	0	Supplied by client
4.	RJ-45 Cable	3	10	No	0	Provided by Lab
5.	Coaxial Cable	1	10	Yes	0	Provided by Lab
6.	RJ-45 Cable	1	10	No	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test Standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

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

Note:

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

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

4.1.2 Test Instruments

For Radiated Emission (Above 1GHz) test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ESR7 R&S	ESR7	102026	Apr. 24, 2019	Apr. 23, 2020
Spectrum Analyzer Keysight	N9030B	MY57141948	May 25, 2019	May 24, 2020
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-1819	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC12630SE	980509	May 03, 2019	May 02, 2020
RF Cable EMCI	EMC104-SM-SM-1500	180503	May 03, 2019	May 02, 2020
RF Cable EMCI	EMC104-SM-SM-2000	180501	May 03, 2019	May 02, 2020
RF Cable EMCI	EMC104-SM-SM-6000	180505	May 03, 2019	May 02, 2020
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 24, 2019	Nov. 23, 2020
RF Cable	EMC102-KM-KM-1200	160924	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC102-KM-KM-4500	181205	Aug. 26, 2019	Aug. 25, 2020
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 5.
3. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: Jan. 31, 2020

For Radiated Emission (Below 1GHz) test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ESR7 R&S	ESR7	102026	Apr. 24, 2019	Apr. 23, 2020
Spectrum Analyzer Keysight	N9030B	MY57141948	May 25, 2019	May 24, 2020
Pre-Amplifier EMCI	EMC001340	980142	May 30, 2019	May 29, 2020
Loop Antenna Electro-Metrics	EM-6879	264	Jan. 22, 2019	Jan. 21, 2020
RF Cable	NA	LOOPCAB-001	Jan. 14, 2019	Jan. 13, 2020
RF Cable	NA	LOOPCAB-002	Jan. 14, 2019	Jan. 13, 2020
Pre-Amplifier EMCI	EMC330N	980538	Apr. 30, 2019	Apr. 29, 2020
Trilog Broadband Antenna SCHWARZBECK	VULB9168	9168-0842	Nov. 08, 2019	Nov. 07, 2020
RF Cable	8D	966-5-1	May 03, 2019	May 02, 2020
RF Cable	8D	966-5-2	May 03, 2019	May 02, 2020
RF Cable	8D	966-5-3	May 03, 2019	May 02, 2020
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	Jan. 28, 2019	Jan. 27, 2020
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 5.
3. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: Jan. 13, 2020

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	June 04, 2019	June 03, 2020
Power meter Anritsu	ML2495A	1014008	May 13, 2019	May 12, 2020
Power sensor Anritsu	MA2411B	0917122	May 13, 2019	May 12, 2020
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 15, 2019	Apr. 14, 2020
AC Power Source Extech Electronics	6205	1440452	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 16, 2020	Jan. 15, 2021
True RMS Clamp Meter FLUKE	325	31130711WS	May 21, 2019	May 20, 2020
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: Feb. 17, 2020

4.1.3 Test Procedure

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

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

Note:

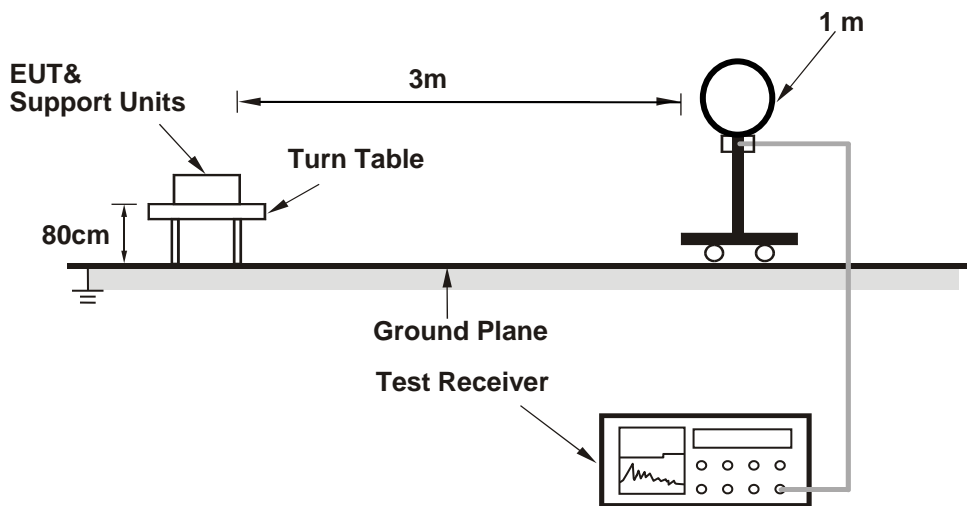
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

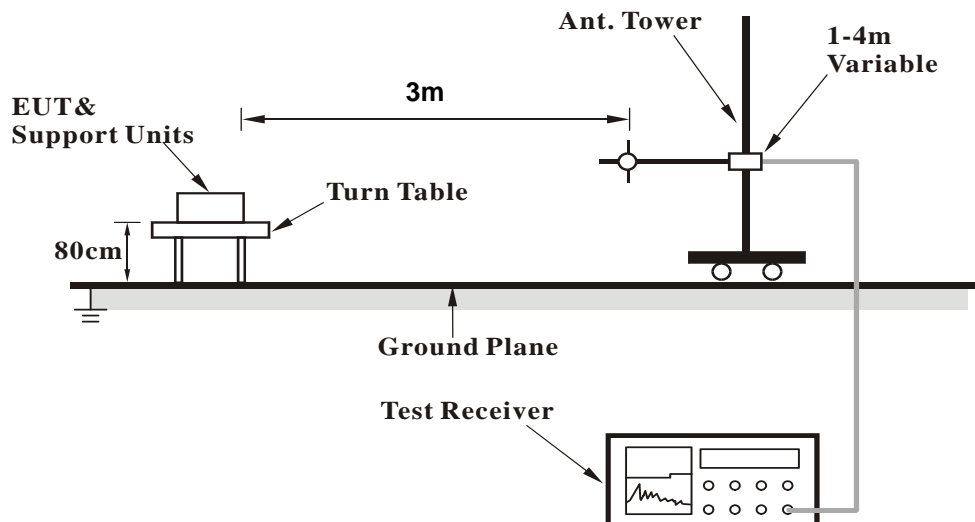
No deviation.

4.1.5 Test Setup

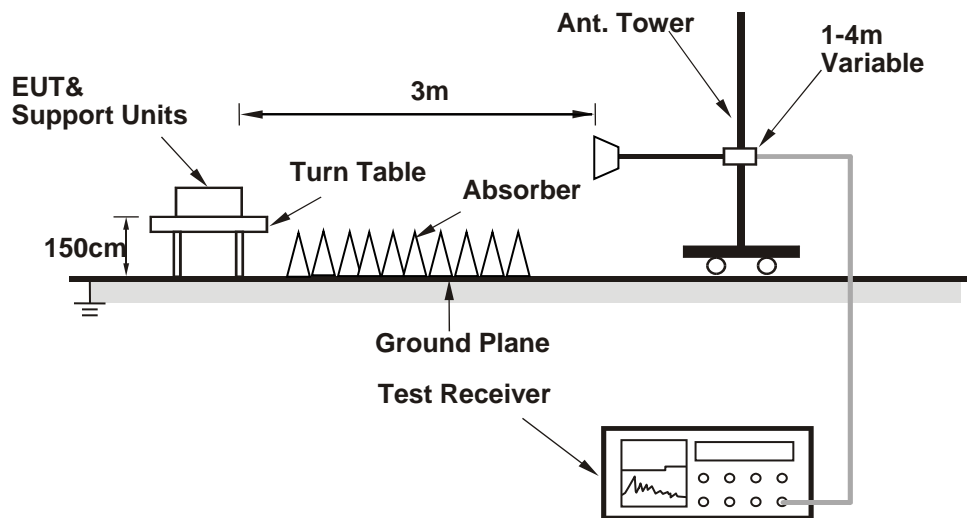
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

- Connected the EUT with the Laptop which is placed on remote site.
- Controlling software (accessMTool_3.1.0.1) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.4 PK	74.0	-16.6	1.97 H	269	55.5	1.9
2	5150.00	46.3 AV	54.0	-7.7	1.97 H	269	44.4	1.9
3	*5260.00	119.9 PK			1.97 H	269	118.6	1.3
4	*5260.00	110.0 AV			1.97 H	269	108.7	1.3
5	5350.00	58.9 PK	74.0	-15.1	1.97 H	269	57.5	1.4
6	5350.00	48.6 AV	54.0	-5.4	1.97 H	269	47.2	1.4
7	#10520.00	49.4 PK	68.2	-18.8	2.10 H	133	36.7	12.7
8	15780.00	48.8 PK	74.0	-25.2	1.30 H	298	37.2	11.6
9	15780.00	35.2 AV	54.0	-18.8	1.30 H	298	23.6	11.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.2 PK	74.0	-16.8	1.63 V	296	55.3	1.9
2	5150.00	46.3 AV	54.0	-7.7	1.63 V	296	44.4	1.9
3	*5260.00	122.3 PK			1.63 V	296	121.0	1.3
4	*5260.00	112.2 AV			1.63 V	296	110.9	1.3
5	5350.00	58.6 PK	74.0	-15.4	1.63 V	296	57.2	1.4
6	5350.00	48.2 AV	54.0	-5.8	1.63 V	296	46.8	1.4
7	#10520.00	49.8 PK	68.2	-18.4	1.88 V	208	37.1	12.7
8	15780.00	48.4 PK	74.0	-25.6	2.31 V	190	36.8	11.6
9	15780.00	35.1 AV	54.0	-18.9	2.31 V	190	23.5	11.6

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.0 PK	74.0	-17.0	1.94 H	263	55.1	1.9
2	5150.00	45.6 AV	54.0	-8.4	1.94 H	263	43.7	1.9
3	*5300.00	122.2 PK			1.94 H	263	120.9	1.3
4	*5300.00	109.8 AV			1.94 H	263	108.5	1.3
5	5350.00	67.6 PK	74.0	-6.4	1.94 H	263	66.2	1.4
6	5350.00	52.5 AV	54.0	-1.5	1.94 H	263	51.1	1.4
7	10600.00	48.4 PK	74.0	-25.6	2.15 H	123	35.3	13.1
8	10600.00	34.4 AV	54.0	-19.6	2.15 H	123	21.3	13.1
9	15900.00	49.0 PK	74.0	-25.0	1.36 H	294	37.6	11.4
10	15900.00	36.0 AV	54.0	-18.0	1.36 H	294	24.6	11.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	1.80 V	293	55.8	1.9
2	5150.00	46.0 AV	54.0	-8.0	1.80 V	293	44.1	1.9
3	*5300.00	122.6 PK			1.80 V	293	121.3	1.3
4	*5300.00	112.3 AV			1.80 V	293	111.0	1.3
5	5350.00	67.5 PK	74.0	-6.5	1.80 V	293	66.1	1.4
6	5350.00	52.1 AV	54.0	-1.9	1.80 V	293	50.7	1.4
7	10600.00	48.6 PK	74.0	-25.4	1.95 V	217	35.5	13.1
8	10600.00	34.9 AV	54.0	-19.1	1.95 V	217	21.8	13.1
9	15900.00	48.7 PK	74.0	-25.3	2.33 V	174	37.3	11.4
10	15900.00	35.5 AV	54.0	-18.5	2.33 V	174	24.1	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	118.2 PK			1.94 H	273	116.8	1.4
2	*5320.00	107.6 AV			1.94 H	273	106.2	1.4
3	5350.00	70.0 PK	74.0	-4.0	1.94 H	273	68.6	1.4
4	5350.00	53.1 AV	54.0	-0.9	1.94 H	273	51.7	1.4
5	10640.00	47.8 PK	74.0	-26.2	2.14 H	116	34.7	13.1
6	10640.00	33.8 AV	54.0	-20.2	2.14 H	116	20.7	13.1
7	15960.00	48.5 PK	74.0	-25.5	1.39 H	318	37.2	11.3
8	15960.00	35.6 AV	54.0	-18.4	1.39 H	318	24.3	11.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	120.4 PK			1.64 V	294	119.0	1.4
2	*5320.00	109.9 AV			1.64 V	294	108.5	1.4
3	5350.00	70.8 PK	74.0	-3.2	1.64 V	294	69.4	1.4
4	5350.00	53.7 AV	54.0	-0.3	1.64 V	294	52.3	1.4
5	10640.00	47.5 PK	74.0	-26.5	1.88 V	218	34.4	13.1
6	10640.00	33.6 AV	54.0	-20.4	1.88 V	218	20.5	13.1
7	15960.00	48.2 PK	74.0	-25.8	2.42 V	186	36.9	11.3
8	15960.00	35.1 AV	54.0	-18.9	2.42 V	186	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.1 PK	74.0	-11.9	2.02 H	264	60.3	1.8
2	5460.00	47.4 AV	54.0	-6.6	2.02 H	264	45.6	1.8
3	#5470.00	67.4 PK	68.2	-0.8	2.02 H	264	65.6	1.8
4	*5500.00	115.8 PK			2.02 H	264	113.9	1.9
5	*5500.00	106.5 AV			2.02 H	264	104.6	1.9
6	11000.00	47.7 PK	74.0	-26.3	2.13 H	127	34.5	13.2
7	11000.00	33.7 AV	54.0	-20.3	2.13 H	127	20.5	13.2
8	#16500.00	48.5 PK	68.2	-19.7	1.29 H	320	34.4	14.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.5 PK	74.0	-11.5	1.78 V	294	60.7	1.8
2	5460.00	47.8 AV	54.0	-6.2	1.78 V	294	46.0	1.8
3	#5470.00	67.9 PK	68.2	-0.3	1.78 V	294	66.1	1.8
4	*5500.00	117.7 PK			1.78 V	294	115.8	1.9
5	*5500.00	108.5 AV			1.78 V	294	106.6	1.9
6	11000.00	47.6 PK	74.0	-26.4	1.91 V	205	34.4	13.2
7	11000.00	33.5 AV	54.0	-20.5	1.91 V	205	20.3	13.2
8	#16500.00	48.3 PK	68.2	-19.9	2.44 V	197	34.2	14.1

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.3 PK	74.0	-16.7	1.93 H	272	55.5	1.8
2	5460.00	45.2 AV	54.0	-8.8	1.93 H	272	43.4	1.8
3	#5470.00	59.9 PK	68.2	-8.3	1.93 H	272	58.1	1.8
4	*5580.00	119.9 PK			1.93 H	272	117.9	2.0
5	*5580.00	108.9 AV			1.93 H	272	106.9	2.0
6	#5725.00	55.5 PK	68.2	-12.7	1.93 H	272	53.4	2.1
7	11160.00	44.3 PK	74.0	-29.7	2.06 H	101	31.8	12.5
8	11160.00	33.2 AV	54.0	-20.8	2.06 H	101	20.7	12.5
9	#16740.00	42.7 PK	68.2	-25.5	1.33 H	316	26.8	15.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.7 PK	74.0	-16.3	1.63 V	290	55.9	1.8
2	5460.00	45.7 AV	54.0	-8.3	1.63 V	290	43.9	1.8
3	#5470.00	59.9 PK	68.2	-8.3	1.63 V	290	58.1	1.8
4	*5580.00	121.7 PK			1.63 V	290	119.7	2.0
5	*5580.00	111.9 AV			1.63 V	290	109.9	2.0
6	#5725.00	55.4 PK	68.2	-12.8	1.63 V	290	53.3	2.1
7	11160.00	44.7 PK	74.0	-29.3	1.90 V	226	32.2	12.5
8	11160.00	33.4 AV	54.0	-20.6	1.90 V	226	20.9	12.5
9	#16740.00	43.0 PK	68.2	-25.2	2.35 V	163	27.1	15.9

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	114.4 PK			1.50 H	254	112.3	2.1
2	*5700.00	104.4 AV			1.50 H	254	102.3	2.1
3	#5725.00	65.1 PK	68.2	-3.1	1.50 H	254	63.0	2.1
4	11400.00	43.7 PK	74.0	-30.3	2.15 H	103	30.4	13.3
5	11400.00	32.8 AV	54.0	-21.2	2.15 H	103	19.5	13.3
6	#17100.00	41.6 PK	68.2	-26.6	1.29 H	301	24.8	16.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	116.7 PK			1.52 V	245	114.6	2.1
2	*5700.00	107.2 AV			1.52 V	245	105.1	2.1
3	#5725.00	67.8 PK	68.2	-0.4	1.52 V	245	65.7	2.1
4	11400.00	43.5 PK	74.0	-30.5	1.84 V	226	30.2	13.3
5	11400.00	32.6 AV	54.0	-21.4	1.84 V	226	19.3	13.3
6	#17100.00	42.1 PK	68.2	-26.1	2.42 V	155	25.3	16.8

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.1 PK	74.0	-15.9	1.68 H	263	56.3	1.8
2	5460.00	45.5 AV	54.0	-8.5	1.68 H	263	43.7	1.8
3	#5470.00	57.7 PK	68.2	-10.5	1.59 H	263	55.9	1.8
4	*5720.00	120.5 PK			1.64 H	263	118.4	2.1
5	*5720.00	109.8 AV			1.64 H	263	107.7	2.1
6	#5850.00	55.3 PK	68.2	-12.9	1.63 H	263	52.7	2.6
7	11440.00	44.3 PK	74.0	-29.7	2.13 H	122	30.8	13.5
8	11440.00	33.3 AV	54.0	-20.7	2.13 H	122	19.8	13.5
9	#17160.00	43.0 PK	68.2	-25.2	1.32 H	308	26.0	17.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.5 PK	74.0	-16.5	1.65 V	245	55.7	1.8
2	5460.00	45.2 AV	54.0	-8.8	1.65 V	245	43.4	1.8
3	#5470.00	58.1 PK	68.2	-10.1	1.65 V	245	56.3	1.8
4	*5720.00	122.7 PK			1.65 V	245	120.6	2.1
5	*5720.00	112.0 AV			1.65 V	245	109.9	2.1
6	#5850.00	55.5 PK	68.2	-12.7	1.65 V	245	52.9	2.6
7	11440.00	44.5 PK	74.0	-29.5	1.87 V	214	31.0	13.5
8	11440.00	33.4 AV	54.0	-20.6	1.87 V	214	19.9	13.5
9	#17160.00	43.2 PK	68.2	-25.0	2.32 V	167	26.2	17.0

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

802.11ax (HE20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.5 PK	74.0	-17.5	1.95 H	266	54.6	1.9
2	5150.00	45.1 AV	54.0	-8.9	1.95 H	266	43.2	1.9
3	*5260.00	121.9 PK			1.95 H	266	120.6	1.3
4	*5260.00	109.2 AV			1.95 H	266	107.9	1.3
5	5350.00	58.2 PK	74.0	-15.8	1.95 H	266	56.8	1.4
6	5350.00	47.5 AV	54.0	-6.5	1.95 H	266	46.1	1.4
7	#10520.00	49.7 PK	68.2	-18.5	2.18 H	114	37.0	12.7
8	15780.00	48.5 PK	74.0	-25.5	1.37 H	311	36.9	11.6
9	15780.00	34.9 AV	54.0	-19.1	1.37 H	311	23.3	11.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.4 PK	74.0	-17.6	2.39 V	331	54.5	1.9
2	5150.00	45.2 AV	54.0	-8.8	2.39 V	331	43.3	1.9
3	*5260.00	123.8 PK			2.39 V	331	122.5	1.3
4	*5260.00	111.4 AV			2.39 V	331	110.1	1.3
5	5350.00	57.9 PK	74.0	-16.1	2.39 V	331	56.5	1.4
6	5350.00	47.1 AV	54.0	-6.9	2.39 V	331	45.7	1.4
7	#10520.00	50.4 PK	68.2	-17.8	1.91 V	204	37.7	12.7
8	15780.00	48.1 PK	74.0	-25.9	2.28 V	187	36.5	11.6
9	15780.00	34.7 AV	54.0	-19.3	2.28 V	187	23.1	11.6

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.4 PK	74.0	-19.6	2.01 H	255	52.5	1.9
2	5150.00	44.6 AV	54.0	-9.4	2.01 H	255	42.7	1.9
3	*5300.00	121.0 PK			2.01 H	255	119.7	1.3
4	*5300.00	108.8 AV			2.01 H	255	107.5	1.3
5	5350.00	70.4 PK	74.0	-3.6	2.01 H	255	69.0	1.4
6	5350.00	53.7 AV	54.0	-0.3	2.01 H	255	52.3	1.4
7	10600.00	48.3 PK	74.0	-25.7	2.08 H	133	35.2	13.1
8	10600.00	34.2 AV	54.0	-19.8	2.08 H	133	21.1	13.1
9	15900.00	49.1 PK	74.0	-24.9	1.31 H	321	37.7	11.4
10	15900.00	36.0 AV	54.0	-18.0	1.31 H	321	24.6	11.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.9 PK	74.0	-19.1	2.27 V	332	53.0	1.9
2	5150.00	44.8 AV	54.0	-9.2	2.27 V	332	42.9	1.9
3	*5300.00	123.4 PK			2.27 V	332	122.1	1.3
4	*5300.00	111.2 AV			2.27 V	332	109.9	1.3
5	5350.00	70.2 PK	74.0	-3.8	2.27 V	332	68.8	1.4
6	5350.00	53.3 AV	54.0	-0.7	2.27 V	332	51.9	1.4
7	10600.00	48.9 PK	74.0	-25.1	1.90 V	217	35.8	13.1
8	10600.00	35.2 AV	54.0	-18.8	1.90 V	217	22.1	13.1
9	15900.00	48.7 PK	74.0	-25.3	2.32 V	196	37.3	11.4
10	15900.00	35.8 AV	54.0	-18.2	2.32 V	196	24.4	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.9 PK	74.0	-20.1	1.91 H	262	52.0	1.9
2	5150.00	43.0 AV	54.0	-11.0	1.91 H	262	41.1	1.9
3	*5320.00	120.8 PK			1.91 H	262	119.4	1.4
4	*5320.00	108.0 AV			1.91 H	262	106.6	1.4
5	5350.00	71.3 PK	74.0	-2.7	1.91 H	262	69.9	1.4
6	5350.00	53.7 AV	54.0	-0.3	1.91 H	262	52.3	1.4
7	10640.00	48.3 PK	74.0	-25.7	2.18 H	124	35.2	13.1
8	10640.00	34.0 AV	54.0	-20.0	2.18 H	124	20.9	13.1
9	15960.00	48.8 PK	74.0	-25.2	1.31 H	323	37.5	11.3
10	15960.00	36.0 AV	54.0	-18.0	1.31 H	323	24.7	11.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.8 PK	74.0	-20.2	2.31 V	333	51.9	1.9
2	5150.00	43.1 AV	54.0	-10.9	2.31 V	333	41.2	1.9
3	*5320.00	121.0 PK			2.31 V	333	119.6	1.4
4	*5320.00	108.0 AV			2.31 V	333	106.6	1.4
5	5350.00	71.3 PK	74.0	-2.7	2.31 V	333	69.9	1.4
6	5350.00	53.8 AV	54.0	-0.2	2.31 V	333	52.4	1.4
7	10640.00	47.7 PK	74.0	-26.3	1.88 V	214	34.6	13.1
8	10640.00	33.6 AV	54.0	-20.4	1.88 V	214	20.5	13.1
9	15960.00	47.6 PK	74.0	-26.4	2.31 V	202	36.3	11.3
10	15960.00	34.7 AV	54.0	-19.3	2.31 V	202	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.7 PK	74.0	-11.3	1.93 H	263	60.9	1.8
2	5460.00	45.9 AV	54.0	-8.1	1.93 H	263	44.1	1.8
3	#5470.00	67.5 PK	68.2	-0.7	1.93 H	263	65.7	1.8
4	*5500.00	116.9 PK			1.93 H	263	115.0	1.9
5	*5500.00	104.9 AV			1.93 H	263	103.0	1.9
6	11000.00	47.6 PK	74.0	-26.4	2.14 H	125	34.4	13.2
7	11000.00	33.8 AV	54.0	-20.2	2.14 H	125	20.6	13.2
8	#16500.00	48.5 PK	68.2	-19.7	1.37 H	296	34.4	14.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.0 PK	74.0	-11.0	1.65 V	294	61.2	1.8
2	5460.00	46.4 AV	54.0	-7.6	1.65 V	294	44.6	1.8
3	#5470.00	67.9 PK	68.2	-0.3	1.65 V	294	66.1	1.8
4	*5500.00	118.5 PK			1.65 V	294	116.6	1.9
5	*5500.00	106.5 AV			1.65 V	294	104.6	1.9
6	11000.00	47.9 PK	74.0	-26.1	1.94 V	209	34.7	13.2
7	11000.00	33.6 AV	54.0	-20.4	1.94 V	209	20.4	13.2
8	#16500.00	47.7 PK	68.2	-20.5	2.27 V	199	33.6	14.1

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.2 PK	74.0	-15.8	1.87 H	265	56.4	1.8
2	5460.00	46.0 AV	54.0	-8.0	1.87 H	265	44.2	1.8
3	#5470.00	60.6 PK	68.2	-7.6	1.87 H	265	58.8	1.8
4	*5580.00	110.3 PK			1.87 H	265	108.3	2.0
5	*5580.00	108.9 AV			1.87 H	265	106.9	2.0
6	#5725.00	55.2 PK	68.2	-13.0	1.87 H	265	53.1	2.1
7	11160.00	44.0 PK	74.0	-30.0	2.09 H	128	31.5	12.5
8	11160.00	33.2 AV	54.0	-20.8	2.09 H	128	20.7	12.5
9	#16740.00	42.8 PK	68.2	-25.4	1.35 H	314	26.9	15.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.9 PK	74.0	-16.1	1.72 V	292	56.1	1.8
2	5460.00	45.5 AV	54.0	-8.5	1.72 V	292	43.7	1.8
3	#5470.00	60.5 PK	68.2	-7.7	1.72 V	292	58.7	1.8
4	*5580.00	112.6 PK			1.72 V	292	110.6	2.0
5	*5580.00	111.2 AV			1.72 V	292	109.2	2.0
6	#5725.00	55.7 PK	68.2	-12.5	1.72 V	292	53.6	2.1
7	11160.00	45.0 PK	74.0	-29.0	1.89 V	200	32.5	12.5
8	11160.00	33.5 AV	54.0	-20.5	1.89 V	200	21.0	12.5
9	#16740.00	43.2 PK	68.2	-25.0	2.29 V	180	27.3	15.9

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	115.5 PK			1.97 H	251	113.4	2.1
2	*5700.00	103.6 AV			1.97 H	251	101.5	2.1
3	#5725.00	67.1 PK	68.2	-1.1	1.97 H	251	65.0	2.1
4	11400.00	43.5 PK	74.0	-30.5	2.08 H	136	30.2	13.3
5	11400.00	32.3 AV	54.0	-21.7	2.08 H	136	19.0	13.3
6	#17100.00	41.7 PK	68.2	-26.5	1.30 H	308	24.9	16.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	117.3 PK			1.56 V	247	115.2	2.1
2	*5700.00	105.2 AV			1.56 V	247	103.1	2.1
3	#5725.00	67.9 PK	68.2	-0.3	1.56 V	247	65.8	2.1
4	11400.00	43.3 PK	74.0	-30.7	1.84 V	210	30.0	13.3
5	11400.00	32.3 AV	54.0	-21.7	1.84 V	210	19.0	13.3
6	#17100.00	41.6 PK	68.2	-26.6	2.36 V	194	24.8	16.8

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.7 PK	74.0	-16.3	1.96 H	248	55.9	1.8
2	5460.00	45.4 AV	54.0	-8.6	1.96 H	248	43.6	1.8
3	#5470.00	59.3 PK	68.2	-8.9	1.96 H	248	57.5	1.8
4	*5720.00	121.1 PK			1.96 H	248	119.0	2.1
5	*5720.00	109.0 AV			1.96 H	248	106.9	2.1
6	#5850.00	55.6 PK	68.2	-12.6	1.96 H	248	53.0	2.6
7	11440.00	44.8 PK	74.0	-29.2	2.15 H	125	31.3	13.5
8	11440.00	33.6 AV	54.0	-20.4	2.15 H	125	20.1	13.5
9	#17160.00	42.6 PK	68.2	-25.6	1.38 H	296	25.6	17.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.7 PK	74.0	-16.3	1.67 V	247	55.9	1.8
2	5460.00	45.2 AV	54.0	-8.8	1.67 V	247	43.4	1.8
3	#5470.00	59.5 PK	68.2	-8.7	1.67 V	247	57.7	1.8
4	*5720.00	123.0 PK			1.67 V	247	120.9	2.1
5	*5720.00	111.0 AV			1.67 V	247	108.9	2.1
6	#5850.00	55.5 PK	68.2	-12.7	1.67 V	247	52.9	2.6
7	11440.00	44.1 PK	74.0	-29.9	1.90 V	218	30.6	13.5
8	11440.00	33.1 AV	54.0	-20.9	1.90 V	218	19.6	13.5
9	#17160.00	42.9 PK	68.2	-25.3	2.34 V	188	25.9	17.0

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

802.11ax (HE40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.2 PK	74.0	-13.8	1.90 H	250	58.3	1.9
2	5150.00	48.4 AV	54.0	-5.6	1.90 H	250	46.5	1.9
3	*5270.00	116.2 PK			1.90 H	250	114.9	1.3
4	*5270.00	105.8 AV			1.90 H	250	104.5	1.3
5	5350.00	67.9 PK	74.0	-6.1	1.90 H	250	66.5	1.4
6	5350.00	53.2 AV	54.0	-0.8	1.90 H	250	51.8	1.4
7	#10540.00	44.8 PK	68.2	-23.4	2.16 H	113	32.0	12.8
8	15810.00	41.8 PK	74.0	-32.2	1.32 H	300	30.3	11.5
9	15810.00	32.8 AV	54.0	-21.2	1.32 H	300	21.3	11.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.8 PK	74.0	-14.2	2.45 V	331	57.9	1.9
2	5150.00	48.2 AV	54.0	-5.8	2.45 V	331	46.3	1.9
3	*5270.00	118.4 PK			2.45 V	331	117.1	1.3
4	*5270.00	107.9 AV			2.45 V	331	106.6	1.3
5	5350.00	68.1 PK	74.0	-5.9	2.45 V	331	66.7	1.4
6	5350.00	53.6 AV	54.0	-0.4	2.45 V	331	52.2	1.4
7	#10540.00	44.3 PK	68.2	-23.9	1.86 V	195	31.5	12.8
8	15810.00	42.4 PK	74.0	-31.6	2.32 V	191	30.9	11.5
9	15810.00	33.3 AV	54.0	-20.7	2.32 V	191	21.8	11.5

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	113.9 PK			1.97 H	257	112.5	1.4
2	*5310.00	101.0 AV			1.97 H	257	99.6	1.4
3	5350.00	66.1 PK	74.0	-7.9	1.97 H	257	64.7	1.4
4	5350.00	53.2 AV	54.0	-0.8	1.97 H	257	51.8	1.4
5	10620.00	44.7 PK	74.0	-29.3	2.12 H	115	31.6	13.1
6	10620.00	32.5 AV	54.0	-21.5	2.12 H	115	19.4	13.1
7	15930.00	45.1 PK	74.0	-28.9	1.34 H	322	33.7	11.4
8	15930.00	34.9 AV	54.0	-19.1	1.34 H	322	23.5	11.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	115.9 PK			2.32 V	334	114.5	1.4
2	*5310.00	102.8 AV			2.32 V	334	101.4	1.4
3	5350.00	66.9 PK	74.0	-7.1	2.32 V	334	65.5	1.4
4	5350.00	53.7 AV	54.0	-0.3	2.32 V	334	52.3	1.4
5	10620.00	44.5 PK	74.0	-29.5	1.88 V	205	31.4	13.1
6	10620.00	32.5 AV	54.0	-21.5	1.88 V	205	19.4	13.1
7	15930.00	44.5 PK	74.0	-29.5	2.28 V	193	33.1	11.4
8	15930.00	34.5 AV	54.0	-19.5	2.28 V	193	23.1	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.4 PK	74.0	-11.6	1.95 H	274	60.6	1.8
2	5460.00	50.0 AV	54.0	-4.0	1.95 H	274	48.2	1.8
3	#5470.00	67.4 PK	68.2	-0.8	1.95 H	274	65.6	1.8
4	*5510.00	112.6 PK			1.95 H	274	110.8	1.8
5	*5510.00	100.2 AV			1.95 H	274	98.4	1.8
6	11020.00	44.2 PK	74.0	-29.8	2.07 H	132	31.1	13.1
7	11020.00	32.1 AV	54.0	-21.9	2.07 H	132	19.0	13.1
8	#16530.00	44.3 PK	68.2	-23.9	1.26 H	313	30.0	14.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.5 PK	74.0	-11.5	1.66 V	295	60.7	1.8
2	5460.00	49.9 AV	54.0	-4.1	1.66 V	295	48.1	1.8
3	#5470.00	67.9 PK	68.2	-0.3	1.66 V	295	66.1	1.8
4	*5510.00	115.0 PK			1.66 V	295	113.2	1.8
5	*5510.00	102.3 AV			1.66 V	295	100.5	1.8
6	11020.00	44.2 PK	74.0	-29.8	1.92 V	203	31.1	13.1
7	11020.00	32.5 AV	54.0	-21.5	1.92 V	203	19.4	13.1
8	#16530.00	44.6 PK	68.2	-23.6	2.28 V	201	30.3	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.9 PK	74.0	-12.1	1.91 H	259	60.1	1.8
2	5460.00	48.2 AV	54.0	-5.8	1.91 H	259	46.4	1.8
3	#5470.00	67.7 PK	68.2	-0.5	1.91 H	259	65.9	1.8
4	*5550.00	117.0 PK			1.91 H	259	115.1	1.9
5	*5550.00	104.7 AV			1.91 H	259	102.8	1.9
6	#5725.00	55.0 PK	68.2	-13.2	1.91 H	259	52.9	2.1
7	11100.00	43.7 PK	74.0	-30.3	2.08 H	118	31.1	12.6
8	11100.00	32.0 AV	54.0	-22.0	2.08 H	118	19.4	12.6
9	#16650.00	44.5 PK	68.2	-23.7	1.34 H	311	29.3	15.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.6 PK	74.0	-12.4	1.62 V	292	59.8	1.8
2	5460.00	48.0 AV	54.0	-6.0	1.62 V	292	46.2	1.8
3	#5470.00	67.8 PK	68.2	-0.4	1.62 V	292	66.0	1.8
4	*5550.00	118.9 PK			1.62 V	292	117.0	1.9
5	*5550.00	106.6 AV			1.62 V	292	104.7	1.9
6	#5725.00	55.2 PK	68.2	-13.0	1.62 V	292	53.1	2.1
7	11100.00	44.7 PK	74.0	-29.3	1.93 V	218	32.1	12.6
8	11100.00	32.8 AV	54.0	-21.2	1.93 V	218	20.2	12.6
9	#16650.00	44.5 PK	68.2	-23.7	2.27 V	205	29.3	15.2

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	114.5 PK			1.92 H	276	112.4	2.1
2	*5670.00	101.8 AV			1.92 H	276	99.7	2.1
3	#5725.00	67.2 PK	68.2	-1.0	1.92 H	276	65.1	2.1
4	11340.00	44.1 PK	74.0	-29.9	2.08 H	135	31.3	12.8
5	11340.00	31.9 AV	54.0	-22.1	2.08 H	135	19.1	12.8
6	#17010.00	44.8 PK	68.2	-23.4	1.35 H	311	28.0	16.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	116.6 PK			1.58 V	246	114.5	2.1
2	*5670.00	104.1 AV			1.58 V	246	102.0	2.1
3	#5725.00	67.7 PK	68.2	-0.5	1.58 V	246	65.6	2.1
4	11340.00	44.6 PK	74.0	-29.4	1.84 V	213	31.8	12.8
5	11340.00	32.5 AV	54.0	-21.5	1.84 V	213	19.7	12.8
6	#17010.00	44.2 PK	68.2	-24.0	2.36 V	196	27.4	16.8

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.1 PK	74.0	-15.9	1.96 H	250	56.3	1.8
2	5460.00	44.5 AV	54.0	-9.5	1.96 H	250	42.7	1.8
3	#5470.00	59.8 PK	68.2	-8.4	1.96 H	250	58.0	1.8
4	*5710.00	115.5 PK			1.96 H	250	113.4	2.1
5	*5710.00	106.0 AV			1.96 H	250	103.9	2.1
6	#5850.00	58.2 PK	68.2	-10.0	1.96 H	250	55.6	2.6
7	11420.00	43.7 PK	74.0	-30.3	2.14 H	129	30.3	13.4
8	11420.00	31.7 AV	54.0	-22.3	2.14 H	129	18.3	13.4
9	#17130.00	43.9 PK	68.2	-24.3	1.32 H	295	27.0	16.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.2 PK	74.0	-15.8	1.53 V	245	56.4	1.8
2	5460.00	44.8 AV	54.0	-9.2	1.53 V	245	43.0	1.8
3	#5470.00	59.9 PK	68.2	-8.3	1.53 V	245	58.1	1.8
4	*5710.00	117.7 PK			1.53 V	245	115.6	2.1
5	*5710.00	108.1 AV			1.53 V	245	106.0	2.1
6	#5850.00	58.0 PK	68.2	-10.2	1.53 V	245	55.4	2.6
7	11420.00	44.1 PK	74.0	-29.9	1.94 V	218	30.7	13.4
8	11420.00	32.1 AV	54.0	-21.9	1.94 V	218	18.7	13.4
9	#17130.00	44.4 PK	68.2	-23.8	2.33 V	206	27.5	16.9

REMARKS:

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

802.11ax (HE80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5124.00	52.2 PK	74.0	-21.8	1.95 H	258	50.3	1.9
2	5124.00	47.3 AV	54.0	-6.7	1.95 H	258	45.4	1.9
3	5150.00	59.3 PK	74.0	-14.7	1.95 H	258	57.4	1.9
4	5150.00	45.8 AV	54.0	-8.2	1.95 H	258	43.9	1.9
5	*5290.00	110.0 PK			1.95 H	258	108.7	1.3
6	*5290.00	97.4 AV			1.95 H	258	96.1	1.3
7	5350.00	64.3 PK	74.0	-9.7	1.95 H	258	62.9	1.4
8	5350.00	53.4 AV	54.0	-0.6	1.95 H	258	52.0	1.4
9	#10580.00	45.0 PK	68.2	-23.2	2.17 H	129	32.1	12.9
10	15870.00	45.2 PK	74.0	-28.8	1.33 H	305	33.8	11.4
11	15870.00	34.9 AV	54.0	-19.1	1.33 H	305	23.5	11.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5124.00	52.2 PK	74.0	-21.8	1.70 V	288	50.3	1.9
2	5124.00	47.4 AV	54.0	-6.6	1.70 V	288	45.5	1.9
3	5150.00	59.0 PK	74.0	-15.0	1.70 V	288	57.1	1.9
4	5150.00	45.3 AV	54.0	-8.7	1.70 V	288	43.4	1.9
5	*5290.00	111.5 PK			1.70 V	288	110.2	1.3
6	*5290.00	99.0 AV			1.70 V	288	97.7	1.3
7	5350.00	64.6 PK	74.0	-9.4	1.70 V	288	63.2	1.4
8	5350.00	53.6 AV	54.0	-0.4	1.70 V	288	52.2	1.4
9	#10580.00	44.5 PK	68.2	-23.7	1.87 V	210	31.6	12.9
10	15870.00	44.3 PK	74.0	-29.7	2.29 V	179	32.9	11.4
11	15870.00	34.2 AV	54.0	-19.8	2.29 V	179	22.8	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.3 PK	74.0	-11.7	1.89 H	259	60.5	1.8
2	5460.00	50.2 AV	54.0	-3.8	1.89 H	259	48.4	1.8
3	#5470.00	67.7 PK	68.2	-0.5	1.89 H	259	65.9	1.8
4	*5530.00	111.2 PK			1.89 H	259	109.3	1.9
5	*5530.00	97.6 AV			1.89 H	259	95.7	1.9
6	#5725.00	53.4 PK	68.2	-14.8	1.89 H	259	51.3	2.1
7	11060.00	44.7 PK	74.0	-29.3	2.09 H	118	31.8	12.9
8	11060.00	32.6 AV	54.0	-21.4	2.09 H	118	19.7	12.9
9	#16590.00	44.7 PK	68.2	-23.5	1.31 H	303	29.9	14.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.9 PK	74.0	-11.1	1.77 V	292	61.1	1.8
2	5460.00	50.6 AV	54.0	-3.4	1.77 V	292	48.8	1.8
3	#5470.00	67.9 PK	68.2	-0.3	1.77 V	292	66.1	1.8
4	*5530.00	113.2 PK			1.77 V	292	111.3	1.9
5	*5530.00	99.6 AV			1.77 V	292	97.7	1.9
6	#5725.00	52.9 PK	68.2	-15.3	1.77 V	292	50.8	2.1
7	11060.00	43.8 PK	74.0	-30.2	1.84 V	204	30.9	12.9
8	11060.00	32.1 AV	54.0	-21.9	1.84 V	204	19.2	12.9
9	#16590.00	44.7 PK	68.2	-23.5	2.28 V	202	29.9	14.8

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.3 PK	74.0	-11.7	1.90 H	257	60.5	1.8
2	5460.00	50.0 AV	54.0	-4.0	1.90 H	257	48.2	1.8
3	#5470.00	67.5 PK	68.2	-0.7	1.90 H	257	65.7	1.8
4	*5610.00	111.8 PK			1.90 H	257	109.8	2.0
5	*5610.00	100.2 AV			1.90 H	257	98.2	2.0
6	#5725.00	63.4 PK	68.2	-4.8	1.90 H	257	61.3	2.1
7	11220.00	44.4 PK	74.0	-29.6	2.17 H	136	32.0	12.4
8	11220.00	32.1 AV	54.0	-21.9	2.17 H	136	19.7	12.4
9	#16830.00	43.9 PK	68.2	-24.3	1.32 H	313	27.5	16.4

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.8 PK	74.0	-12.2	1.76 V	287	60.0	1.8
2	5460.00	49.7 AV	54.0	-4.3	1.76 V	287	47.9	1.8
3	#5470.00	67.8 PK	68.2	-0.4	1.76 V	287	66.0	1.8
4	*5610.00	113.8 PK			1.76 V	287	111.8	2.0
5	*5610.00	102.3 AV			1.76 V	287	100.3	2.0
6	#5725.00	63.6 PK	68.2	-4.6	1.76 V	287	61.5	2.1
7	11220.00	44.1 PK	74.0	-29.9	1.84 V	213	31.7	12.4
8	11220.00	32.4 AV	54.0	-21.6	1.84 V	213	20.0	12.4
9	#16830.00	44.7 PK	68.2	-23.5	2.31 V	179	28.3	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.5 PK	74.0	-15.5	1.91 H	264	56.7	1.8
2	5460.00	46.2 AV	54.0	-7.8	1.91 H	264	44.4	1.8
3	#5470.00	61.4 PK	68.2	-6.8	1.91 H	264	59.6	1.8
4	*5690.00	115.7 PK			1.91 H	264	113.7	2.0
5	*5690.00	103.4 AV			1.91 H	264	101.4	2.0
6	#5850.00	65.3 PK	68.2	-2.9	1.91 H	264	62.7	2.6
7	11380.00	44.5 PK	74.0	-29.5	2.16 H	118	31.4	13.1
8	11380.00	32.7 AV	54.0	-21.3	2.16 H	118	19.6	13.1
9	#17070.00	43.9 PK	68.2	-24.3	1.37 H	311	27.0	16.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.1 PK	74.0	-15.9	1.62 V	243	56.3	1.8
2	5460.00	45.9 AV	54.0	-8.1	1.62 V	243	44.1	1.8
3	#5470.00	61.2 PK	68.2	-7.0	1.62 V	243	59.4	1.8
4	*5690.00	117.3 PK			1.62 V	243	115.3	2.0
5	*5690.00	105.1 AV			1.62 V	243	103.1	2.0
6	#5850.00	65.4 PK	68.2	-2.8	1.62 V	243	62.8	2.6
7	11380.00	45.0 PK	74.0	-29.0	2.00 V	232	31.9	13.1
8	11380.00	32.8 AV	54.0	-21.2	2.00 V	232	19.7	13.1
9	#17070.00	44.7 PK	68.2	-23.5	2.35 V	196	27.8	16.9

REMARKS:

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

802.11ax (HE160)

CHANNEL	TX Channel 50	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.9 PK	74.0	-9.1	1.93 H	278	63.0	1.9
2	5150.00	52.6 AV	54.0	-1.4	1.93 H	278	50.7	1.9
3	*5250.00	106.3 PK			1.93 H	278	105.0	1.3
4	*5250.00	95.4 AV			1.93 H	278	94.1	1.3
5	5350.00	66.5 PK	74.0	-7.5	1.93 H	278	65.1	1.4
6	5350.00	53.0 AV	54.0	-1.0	1.93 H	278	51.6	1.4
7	#10500.00	44.5 PK	68.2	-23.7	2.09 H	108	31.8	12.7
8	15750.00	44.3 PK	74.0	-29.7	1.32 H	301	32.7	11.6
9	15750.00	34.1 AV	54.0	-19.9	1.32 H	301	22.5	11.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.9 PK	74.0	-9.1	2.46 V	329	63.0	1.9
2	5150.00	52.6 AV	54.0	-1.4	2.46 V	329	50.7	1.9
3	*5250.00	108.7 PK			2.46 V	329	107.4	1.3
4	*5250.00	97.7 AV			2.46 V	329	96.4	1.3
5	5350.00	66.7 PK	74.0	-7.3	2.46 V	329	65.3	1.4
6	5350.00	53.6 AV	54.0	-0.4	2.46 V	329	52.2	1.4
7	#10500.00	44.7 PK	68.2	-23.5	1.91 V	210	32.0	12.7
8	15750.00	44.7 PK	74.0	-29.3	2.32 V	186	33.1	11.6
9	15750.00	34.6 AV	54.0	-19.4	2.32 V	186	23.0	11.6

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

CHANNEL	TX Channel 114	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.0 PK	74.0	-13.0	1.89 H	255	59.2	1.8
2	5460.00	50.4 AV	54.0	-3.6	1.89 H	255	48.6	1.8
3	#5470.00	67.1 PK	68.2	-1.1	1.89 H	255	65.3	1.8
4	*5570.00	106.0 PK			1.89 H	255	104.0	2.0
5	*5570.00	93.8 AV			1.89 H	255	91.8	2.0
6	#5725.00	61.5 PK	68.2	-6.7	1.89 H	255	59.4	2.1
7	11140.00	44.1 PK	74.0	-29.9	2.11 H	122	31.6	12.5
8	11140.00	32.0 AV	54.0	-22.0	2.11 H	122	19.5	12.5
9	#16710.00	44.9 PK	68.2	-23.3	1.38 H	314	29.3	15.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.4 PK	74.0	-12.6	1.71 V	293	59.6	1.8
2	5460.00	50.8 AV	54.0	-3.2	1.71 V	293	49.0	1.8
3	#5470.00	67.8 PK	68.2	-0.4	1.71 V	293	66.0	1.8
4	*5570.00	108.1 PK			1.71 V	293	106.1	2.0
5	*5570.00	96.1 AV			1.71 V	293	94.1	2.0
6	#5725.00	60.9 PK	68.2	-7.3	1.71 V	293	58.8	2.1
7	11140.00	44.2 PK	74.0	-29.8	1.94 V	193	31.7	12.5
8	11140.00	32.4 AV	54.0	-21.6	1.94 V	193	19.9	12.5
9	#16710.00	44.7 PK	68.2	-23.5	2.32 V	177	29.1	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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Below 1GHz Data:

802.11ax (HE40)

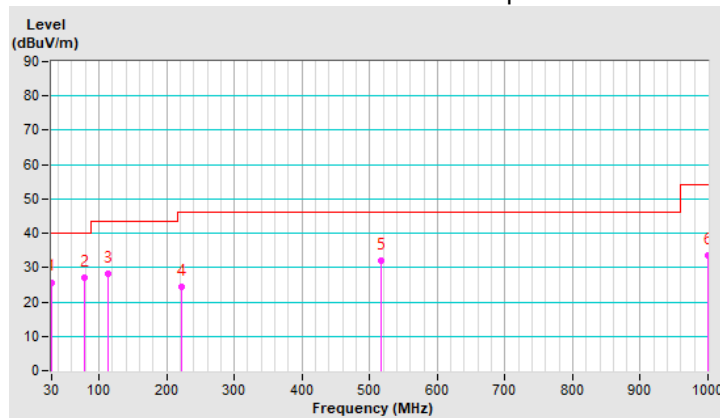
CHANNEL	TX Channel 134	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.47	25.7 QP	40.0	-14.3	1.00 H	175	39.9	-14.2
2	78.79	26.9 QP	40.0	-13.1	2.00 H	81	44.1	-17.2
3	112.85	28.3 QP	43.5	-15.2	1.50 H	77	43.8	-15.5
4	221.44	24.3 QP	46.0	-21.7	1.00 H	101	40.1	-15.8
5	516.72	31.9 QP	46.0	-14.1	1.50 H	232	39.0	-7.1
6	1000.00	33.6 QP	54.0	-20.4	1.00 H	149	33.6	0.0

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 of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



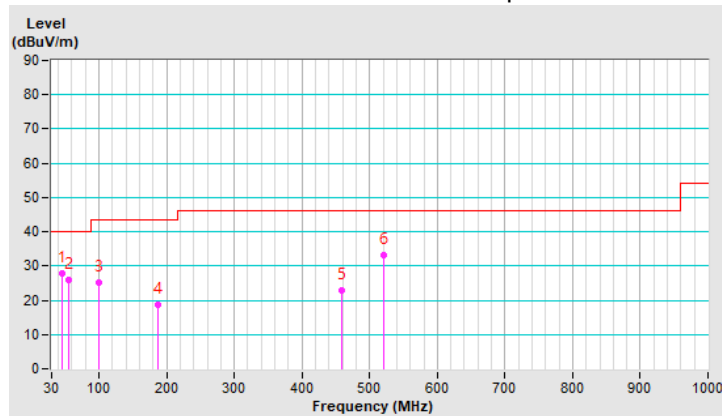
CHANNEL	TX Channel 134	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	44.84	27.8 QP	40.0	-12.2	1.50 V	358	40.6	-12.8
2	55.03	25.8 QP	40.0	-14.2	1.00 V	360	38.7	-12.9
3	99.74	25.2 QP	43.5	-18.3	1.50 V	242	42.5	-17.3
4	187.54	18.8 QP	43.5	-24.7	1.00 V	316	34.1	-15.3
5	458.32	22.8 QP	46.0	-23.2	1.50 V	2	30.8	-8.0
6	521.04	33.0 QP	46.0	-13.0	1.00 V	248	40.0	-7.0

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 of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 17, 2019	Mar. 16, 2020
50 ohms Terminator	50	3	Oct. 23, 2019	Oct. 22, 2020
RF Cable	5D-FB	COCCAB-001	Sep. 27, 2019	Sep. 26, 2020
Fixed attenuator EMCI	STI02-2200-10	003	Mar. 14, 2019	Mar. 13, 2020
Software BVADT	BVADT_Cond_V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
- 3 Tested Date: Feb. 05, 2020

4.2.3 Test Procedure

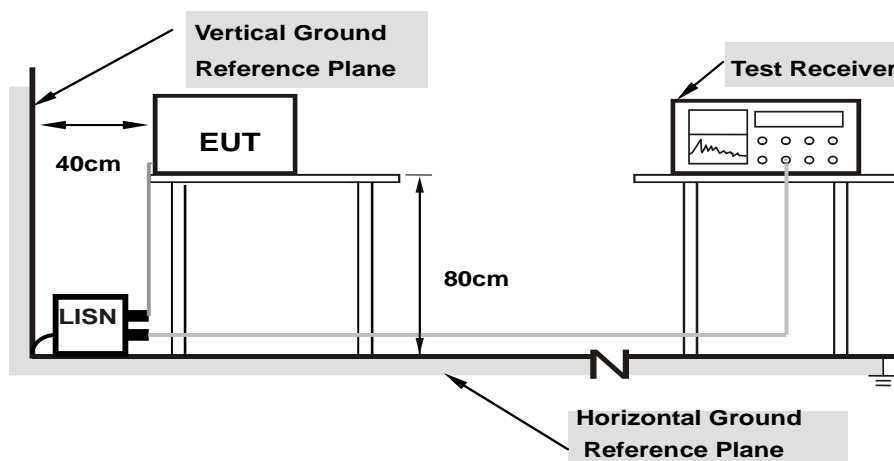
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

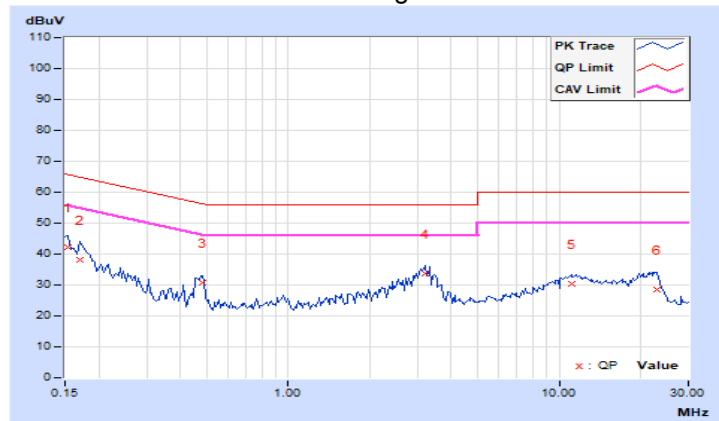
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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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	0.15391	9.99	32.20	21.22	42.19	31.21	65.79	55.79	-23.60	-24.58
2	0.16953	9.99	28.18	16.82	38.17	26.81	64.98	54.98	-26.81	-28.17
3	0.48203	10.01	20.59	17.23	30.60	27.24	56.30	46.30	-25.70	-19.06
4	3.18750	10.20	23.36	11.27	33.56	21.47	56.00	46.00	-22.44	-24.53
5	11.08984	10.73	19.48	13.94	30.21	24.67	60.00	50.00	-29.79	-25.33
6	22.86328	11.47	17.10	11.58	28.57	23.05	60.00	50.00	-31.43	-26.95

Remarks:

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

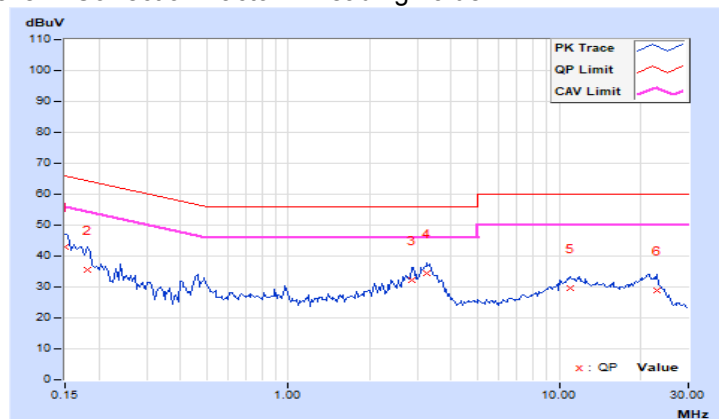


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.99	33.00	23.76	42.99	33.75	66.00	56.00	-23.01	-22.25
2	0.18125	9.99	25.44	12.65	35.43	22.64	64.43	54.43	-29.00	-31.79
3	2.87109	10.16	22.08	11.30	32.24	21.46	56.00	46.00	-23.76	-24.54
4	3.25781	10.18	24.22	12.27	34.40	22.45	56.00	46.00	-21.60	-23.55
5	11.05078	10.64	18.87	13.84	29.51	24.48	60.00	50.00	-30.49	-25.52
6	23.04688	11.18	17.65	13.02	28.83	24.20	60.00	50.00	-31.17	-25.80

Remarks:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p \leq 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
	√	Indoor Access Point	1 Watt (30 dBm)
		Client device	250mW (24 dBm)
U-NII-2A	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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

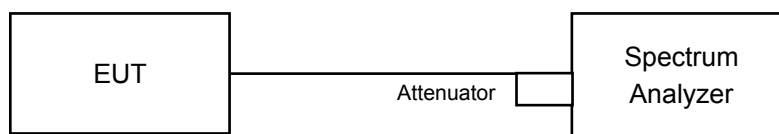
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

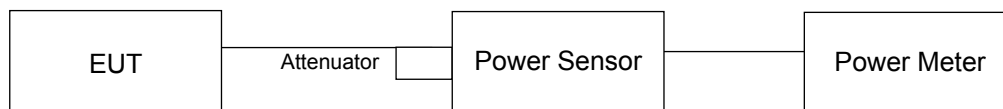
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

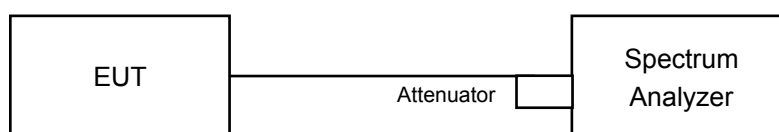
For channel straddling 5250MHz and 5725MHz:



For other channels:



FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR POWER OUTPUT MEASUREMENT

For channel straddling 5250MHz and 5725MHz:

Follow FCC KDB 789033 UNII test procedure:

Method SA-2

1. Set span to encompass the emission bandwidth (EBW) of the signal.
2. Set RBW =1MHz.
3. Set the VBW $\geq 3 \times$ RBW.
4. Number of points in sweep ≥ 2 Span / RBW.
5. Sweep time = auto.
6. Detector = RMS.
7. Trace average at least 100 traces in power averaging mode
8. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
9. Duty factor need added to measured value (duty cycle < 98 percent).

For other channels:

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. Duty factor is not added to measured value.

FOR 26dB OCCUPIED BANDWIDTH

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Results

CDD Mode
POWER OUTPUT
802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	16.19	16.15	16.18	16.25	166.466	22.21	24.00	Pass
60	5300	16.23	16.19	16.20	16.23	167.23	22.23	24.00	Pass
64	5320	16.17	16.14	16.11	16.21	165.13	22.18	24.00	Pass
100	5500	16.42	16.40	16.07	16.36	171.214	22.34	24.00	Pass
116	5580	16.35	16.30	16.39	16.32	172.216	22.36	24.00	Pass
140	5700	16.40	16.28	16.54	16.29	173.755	22.40	24.00	Pass
*144 (U-NII-2C Band)	5720	13.99	13.69	13.77	13.36	93.95	19.73	22.97	Pass
*144 (U-NII-3 Band)	5720	7.59	7.26	6.25	7.47	20.864	13.19	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	114.814	20.60	16.29	16.41	16.68	16.32	175.726	22.45

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.64	24.35 > 24
60	5300	21.64	24.35 > 24
64	5320	21.61	24.34 > 24
100	5500	21.68	24.36 > 24
116	5580	21.62	24.34 > 24
140	5700	21.65	24.35 > 24
144 (U-NII-2C Band)	5720	15.74	22.97 < 24

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	16.19	15.91	16.01	16.15	161.698	22.09	24.00	Pass
60	5300	16.30	15.88	16.05	16.10	162.393	22.11	24.00	Pass
64	5320	16.21	15.96	16.17	16.04	162.808	22.12	24.00	Pass
100	5500	16.31	16.15	15.91	16.15	164.17	22.15	24.00	Pass
116	5580	16.12	16.20	16.15	16.07	164.28	22.16	24.00	Pass
140	5700	16.18	16.25	16.25	16.05	166.106	22.20	24.00	Pass
*144 (U-NII-2C Band)	5720	12.66	12.27	12.55	13.36	74.981	18.75	22.98	Pass
*144 (U-NII-3 Band)	5720	6.78	6.85	7.06	7.47	20.272	13.07	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	95.253	19.79	16.06	16.15	16.29	16.19	165.725	22.19

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.72	24.36 > 24
60	5300	21.87	24.39 > 24
64	5320	21.91	24.4 > 24
100	5500	21.78	24.38 > 24
116	5580	21.84	24.39 > 24
140	5700	21.85	24.39 > 24
144 (U-NII-2C Band)	5720	15.78	22.98 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.07	17.18	17.45	17.73	218.056	23.39	24.00	Pass
62	5310	17.27	17.32	17.22	17.49	216.112	23.35	24.00	Pass
102	5510	17.28	17.56	17.58	17.12	219.275	23.41	24.00	Pass
110	5550	16.98	17.39	17.63	17.38	217.361	23.37	24.00	Pass
134	5670	17.52	17.63	17.76	17.43	229.475	23.61	24.00	Pass
*142 (U-NII-2C Band)	5710	15.48	15.79	15.71	15.21	143.678	21.57	24.00	Pass
*142 (U-NII-3 Band)	5710	5.67	5.31	5.71	4.35	13.533	11.31	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	157.211	21.96	17.14	17.47	17.39	17.18	214.675	23.32

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.40	27.17 > 24
62	5310	41.19	27.14 > 24
102	5510	41.46	27.17 > 24
110	5550	41.43	27.17 > 24
134	5670	41.49	27.17 > 24
142 (U-NII-2C Band)	5710	35.56	26.5 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	17.67	17.36	17.31	17.58	224.036	23.50	24.00	Pass
106	5530	17.85	17.37	13.94	17.78	200.283	23.02	24.00	Pass
122	5610	17.34	17.47	17.49	17.81	226.547	23.55	24.00	Pass
*138 (U-NII-2C Band)	5690	15.31	15.94	15.46	15.78	146.227	21.65	24.00	Pass
*138 (U-NII-3 Band)	5690	1.22	2.52	2.21	2.33	6.484	8.12	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
138	5690	152.711	21.84	16.82	17.43	17.29	17.41	212.079	23.26

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.40	30.15 > 24
106	5530	82.34	30.15 > 24
122	5610	82.40	30.15 > 24
138 (U-NII-2C Band)	5690	75.90	29.8 > 24

802.11ac (VHT160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1 Band)	5250	13.30	12.39	12.68	12.61	75.492	18.78	30.00	PASS
*50 (U-NII-2A Band)	5250	13.31	13.67	12.76	13.15	84.244	19.26	24.00	PASS
114	5570	17.01	17.56	16.67	17.11	205.107	23.12	24.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
50	5250	159.736	22.03	17.16	17.38	17.15	17.35	212.906	23.28

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.68	30.12 > 24
114	5570	163.42	33.13 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	16.40	16.12	16.21	16.38	169.812	22.30	24.00	Pass
60	5300	16.48	16.05	16.27	16.42	170.952	22.33	24.00	Pass
64	5320	16.45	16.14	16.40	16.29	171.483	22.34	24.00	Pass
100	5500	16.61	16.48	16.11	16.50	175.778	22.45	24.00	Pass
116	5580	16.38	16.51	16.44	16.25	174.447	22.42	24.00	Pass
140	5700	16.49	16.53	16.43	16.27	175.862	22.45	24.00	Pass
*144 (U-NII-2C Band)	5720	12.66	12.27	12.55	13.36	74.981	18.75	22.98	Pass
*144 (U-NII-3 Band)	5720	6.78	6.85	7.06	7.47	20.272	13.07	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	95.253	19.79	16.31	16.39	16.52	16.43	175.136	22.43

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.72	24.36 > 24
60	5300	21.87	24.39 > 24
64	5320	21.91	24.4 > 24
100	5500	21.78	24.38 > 24
116	5580	21.84	24.39 > 24
140	5700	21.85	24.39 > 24
144 (U-NII-2C Band)	5720	15.78	22.98 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.31	17.47	17.72	17.97	231.492	23.65	24.00	Pass
62	5310	17.55	17.56	17.53	17.75	230.092	23.62	24.00	Pass
102	5510	17.55	17.84	17.82	17.40	233.187	23.68	24.00	Pass
110	5550	17.28	17.68	17.86	17.65	231.375	23.64	24.00	Pass
134	5670	17.80	17.96	18.00	17.70	244.753	23.89	24.00	Pass
*142 (U-NII-2C Band)	5710	15.48	15.79	15.71	15.21	143.678	21.57	24.00	Pass
*142 (U-NII-3 Band)	5710	5.67	5.31	5.71	4.35	13.533	11.31	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	157.211	21.96	17.33	17.70	17.66	17.44	226.767	23.56

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.40	27.17 > 24
62	5310	41.19	27.14 > 24
102	5510	41.46	27.17 > 24
110	5550	41.43	27.17 > 24
134	5670	41.49	27.17 > 24
142 (U-NII-2C Band)	5710	35.56	26.5 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	17.90	17.60	17.50	17.84	236.251	23.73	24.00	Pass
106	5530	18.15	17.61	17.20	18.00	238.566	23.78	24.00	Pass
122	5610	17.63	17.73	17.75	18.05	240.628	23.81	24.00	Pass
*138 (U-NII-2C Band)	5690	15.31	15.94	15.46	15.78	146.227	21.65	24.00	Pass
*138 (U-NII-3 Band)	5690	1.22	2.52	2.21	2.33	6.484	8.12	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
138	5690	152.711	21.84	17.08	17.67	17.57	17.67	225.156	23.52

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.40	30.15 > 24
106	5530	82.34	30.15 > 24
122	5610	82.40	30.15 > 24
138 (U-NII-2C Band)	5690	75.90	29.8 > 24

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1 Band)	5250	13.15	12.34	13.16	12.98	78.356	18.94	30.00	PASS
*50 (U-NII-2A Band)	5250	13.23	13.32	12.77	13.32	82.918	19.19	24.00	PASS
114	5570	17.19	17.89	16.93	17.34	217.395	23.37	24.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
50	5250	161.274	22.08	17.44	17.69	17.43	17.63	227.489	23.57

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.68	30.12 > 24
114	5570	163.42	33.13 > 24

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	16.19	15.91	16.01	16.15	161.698	22.09	22.50	Pass
60	5300	16.30	15.88	16.05	16.10	162.393	22.11	22.50	Pass
64	5320	16.21	15.96	16.17	16.04	162.808	22.12	22.50	Pass
100	5500	16.31	16.15	15.91	16.15	164.17	22.15	22.50	Pass
116	5580	16.12	16.20	16.15	16.07	164.28	22.16	22.50	Pass
140	5700	16.18	16.25	16.25	16.05	166.106	22.20	22.50	Pass
*144 (U-NII-2C Band)	5720	12.66	12.27	12.55	13.36	74.981	18.75	21.48	Pass
*144 (U-NII-3 Band)	5720	6.78	6.85	7.06	7.47	20.272	13.07	28.50	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The directional gain = 7.5 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.5-6)".

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	95.253	19.79	16.06	16.15	16.29	16.19	165.725	22.19

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.72	24.36 > 24
60	5300	21.87	24.39 > 24
64	5320	21.91	24.4 > 24
100	5500	21.78	24.38 > 24
116	5580	21.84	24.39 > 24
140	5700	21.85	24.39 > 24
144 (U-NII-2C Band)	5720	15.78	22.98 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	15.91	15.92	16.11	16.40	162.562	22.11	22.50	Pass
62	5310	16.02	16.11	16.12	16.32	164.607	22.16	22.50	Pass
102	5510	16.18	16.40	16.28	15.95	166.964	22.23	22.50	Pass
110	5550	15.96	16.21	16.37	16.14	165.695	22.19	22.50	Pass
134	5670	16.18	16.31	16.30	16.04	167.089	22.23	22.50	Pass
*142 (U-NII-2C Band)	5710	13.59	13.68	13.56	13.59	91.745	19.63	22.50	Pass
*142 (U-NII-3 Band)	5710	2.64	3.14	2.86	2.40	7.567	8.79	28.50	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The directional gain = 7.5 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.5-6)".

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	99.312	19.97	16.05	16.19	16.18	16.08	163.909	22.15

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.40	27.17 > 24
62	5310	41.19	27.14 > 24
102	5510	41.46	27.17 > 24
110	5550	41.43	27.17 > 24
134	5670	41.49	27.17 > 24
142 (U-NII-2C Band)	5710	35.56	26.5 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	16.28	16.14	15.96	16.23	164.999	22.17	22.50	Pass
106	5530	16.35	16.05	15.91	16.32	165.273	22.18	22.50	Pass
122	5610	16.07	16.17	16.03	16.32	164.799	22.17	22.50	Pass
*138 (U-NII-2C Band)	5690	14.04	13.79	13.93	14.10	99.706	19.99	22.50	Pass
*138 (U-NII-3 Band)	5690	-1.38	-1.05	-1.14	-0.70	3.1333	4.96	28.50	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The directional gain = 7.5 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.5-6)".

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
138	5690	102.8393	20.12	15.72	16.13	16.28	16.21	162.59	22.11

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.40	30.15 > 24
106	5530	82.34	30.15 > 24
122	5610	82.40	30.15 > 24
138 (U-NII-2C Band)	5690	75.90	29.8 > 24

802.11ac (VHT160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1 Band)	5250	10.20	10.54	10.62	10.42	44.345	16.47	28.50	PASS
*50 (U-NII-2A Band)	5250	10.80	11.39	10.61	10.57	48.705	16.88	22.50	PASS
114	5570	16.02	16.27	15.99	16.29	164.638	22.17	22.50	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The directional gain = 7.5 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.5-6)".

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
50	5250	93.05	19.69	16.21	16.51	16.21	16.41	172.09	22.36

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.68	30.12 > 24
114	5570	163.42	33.13 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	16.40	16.12	16.21	16.38	169.812	22.30	22.50	Pass
60	5300	16.48	16.05	16.27	16.42	170.952	22.33	22.50	Pass
64	5320	16.45	16.14	16.40	16.29	171.483	22.34	22.50	Pass
100	5500	16.61	16.48	16.11	16.50	175.778	22.45	22.50	Pass
116	5580	16.38	16.51	16.44	16.25	174.447	22.42	22.50	Pass
140	5700	16.49	16.53	16.43	16.27	175.862	22.45	22.50	Pass
*144 (U-NII-2C Band)	5720	12.66	12.27	12.55	13.36	74.981	18.75	21.48	Pass
*144 (U-NII-3 Band)	5720	6.78	6.85	7.06	7.47	20.272	13.07	28.50	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The directional gain = 7.5 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.5-6)".

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	95.253	19.79	16.31	16.39	16.52	16.43	175.136	22.43

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.72	24.36 > 24
60	5300	21.87	24.39 > 24
64	5320	21.91	24.4 > 24
100	5500	21.78	24.38 > 24
116	5580	21.84	24.39 > 24
140	5700	21.85	24.39 > 24
144 (U-NII-2C Band)	5720	15.78	22.98 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	16.11	16.21	16.38	16.69	172.732	22.37	22.50	Pass
62	5310	16.31	16.31	16.31	16.58	173.768	22.40	22.50	Pass
102	5510	16.41	16.52	16.57	16.23	175.997	22.46	22.50	Pass
110	5550	16.16	16.48	16.65	16.41	175.758	22.45	22.50	Pass
134	5670	16.41	16.51	16.51	16.29	175.855	22.45	22.50	Pass
*142 (U-NII-2C Band)	5710	13.39	12.35	12.92	13.28	79.876	19.02	22.50	Pass
*142 (U-NII-3 Band)	5710	2.83	1.99	3.31	3.03	7.652	8.84	28.50	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The directional gain = 7.5 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.5-6)".

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	87.528	19.42	16.41	16.51	16.51	16.29	175.855	22.45

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.40	27.17 > 24
62	5310	41.19	27.14 > 24
102	5510	41.46	27.17 > 24
110	5550	41.43	27.17 > 24
134	5670	41.49	27.17 > 24
142 (U-NII-2C Band)	5710	35.56	26.5 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	16.51	16.41	16.25	16.48	175.156	22.43	22.50	Pass
106	5530	16.82	16.31	16.02	16.52	175.709	22.45	22.50	Pass
122	5610	16.41	16.41	16.32	16.57	175.753	22.45	22.50	Pass
*138 (U-NII-2C Band)	5690	13.99	13.65	13.50	13.92	95.283	19.79	22.50	Pass
*138 (U-NII-3 Band)	5690	-0.16	-2.40	0.15	0.12	3.6024	5.57	28.50	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The directional gain = 7.5 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.5-6)".

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
138	5690	98.8854	19.95	15.99	16.48	16.57	16.52	174.451	22.42

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.40	30.15 > 24
106	5530	82.34	30.15 > 24
122	5610	82.40	30.15 > 24
138 (U-NII-2C Band)	5690	75.90	29.8 > 24

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1 Band)	5250	10.55	9.49	9.84	10.52	41.152	16.14	28.50	PASS
*50 (U-NII-2A Band)	5250	10.58	11.02	10.56	10.38	46.367	16.66	22.50	PASS
114	5570	16.24	16.91	15.92	16.41	174	22.41	22.50	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The directional gain = 7.5 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(7.5-6)".

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
50	5250	87.519	19.42	16.21	16.51	16.21	16.41	172.09	22.36

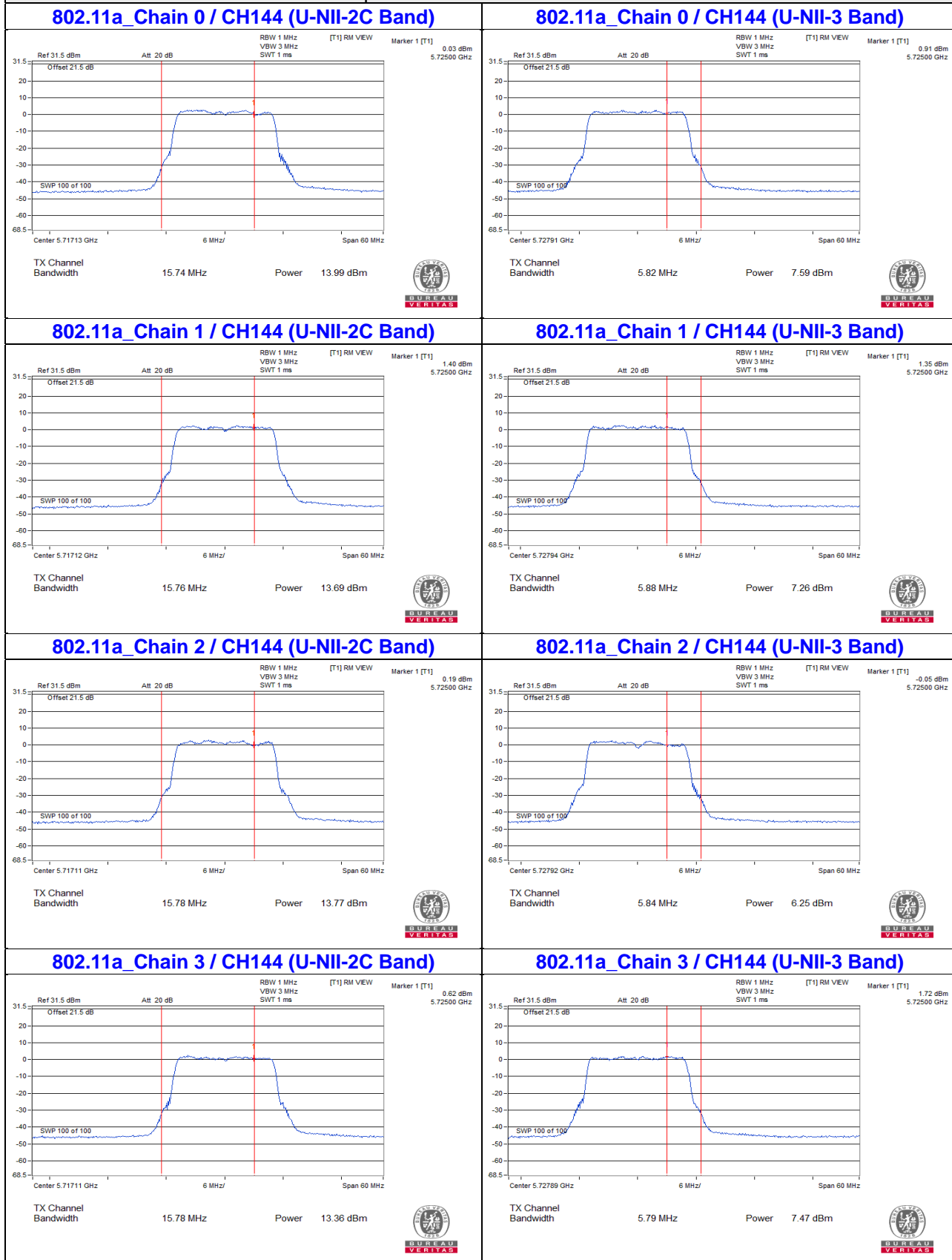
Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.68	30.12 > 24
114	5570	163.42	33.13 > 24

For channel straddling 5725MHz of Power

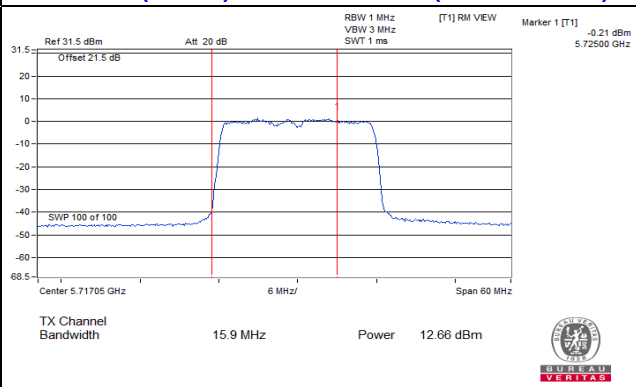
CDD Mode

Spectrum Plot Value of Power

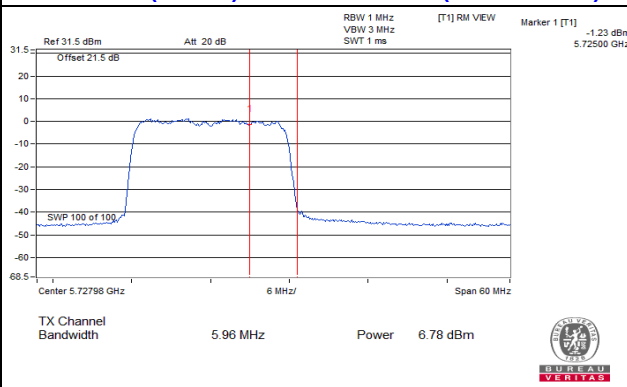


Spectrum Plot Value of Power

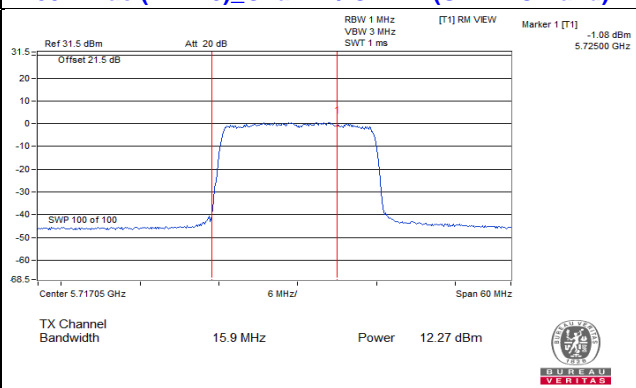
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-2C Band)



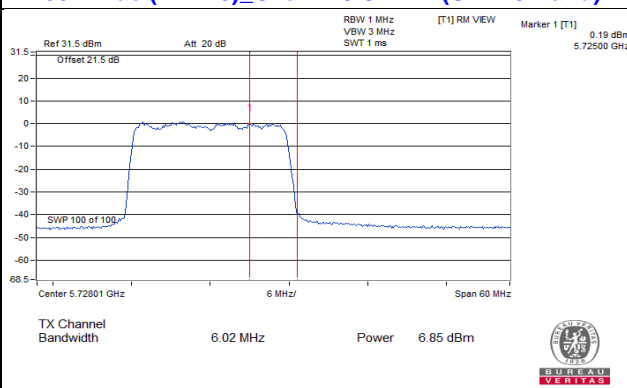
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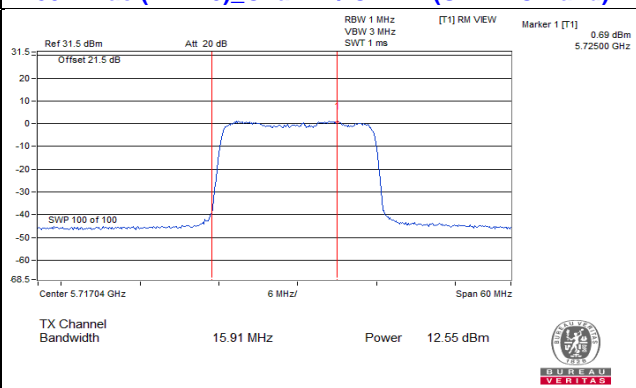
802.11ac (VHT20)_Chain 1 / CH144 (U-NII-2C Band)



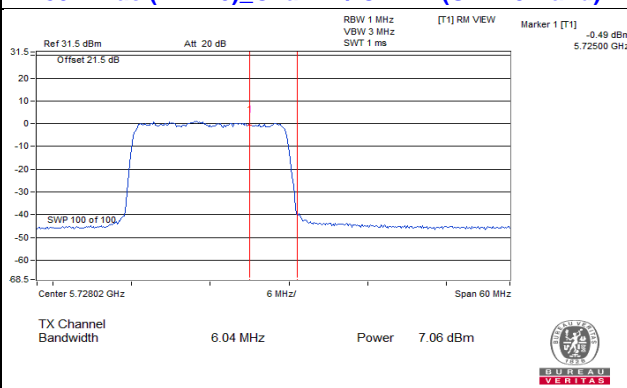
802.11ac (VHT20)_Chain 1 / CH144 (U-NII-3 Band)



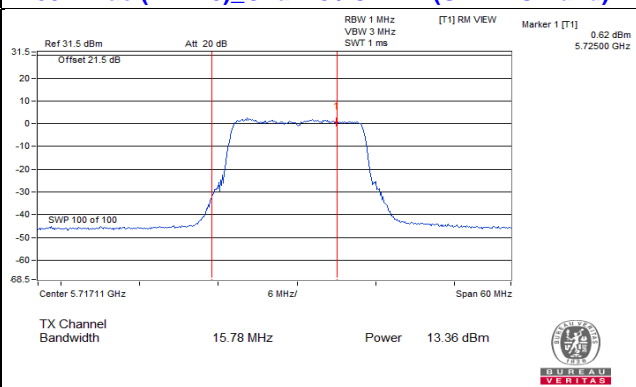
802.11ac (VHT20)_Chain 2 / CH144 (U-NII-2C Band)



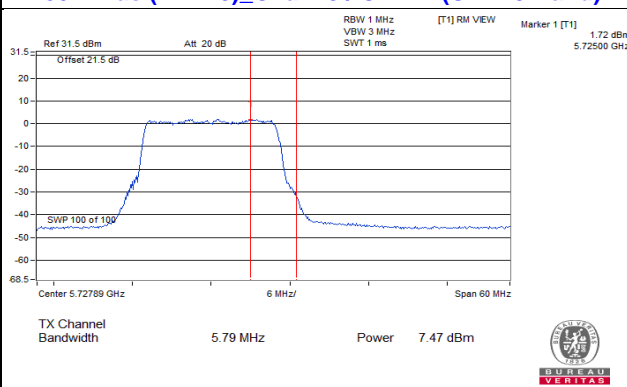
802.11ac (VHT20)_Chain 2 / CH144 (U-NII-3 Band)



802.11ac (VHT20)_Chain 3 / CH144 (U-NII-2C Band)

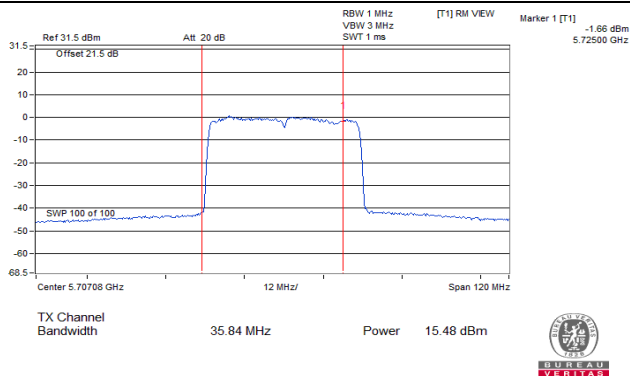


802.11ac (VHT20)_Chain 3 / CH144 (U-NII-3 Band)

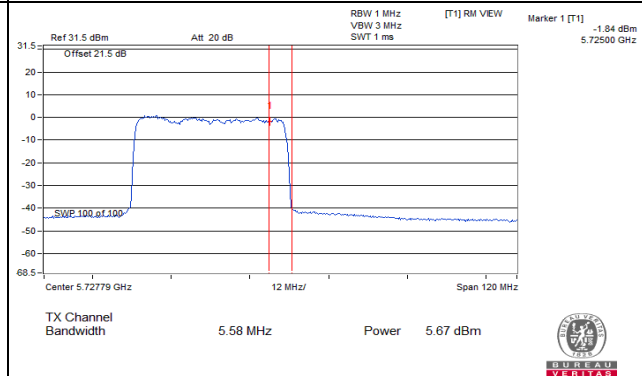


Spectrum Plot Value of Power

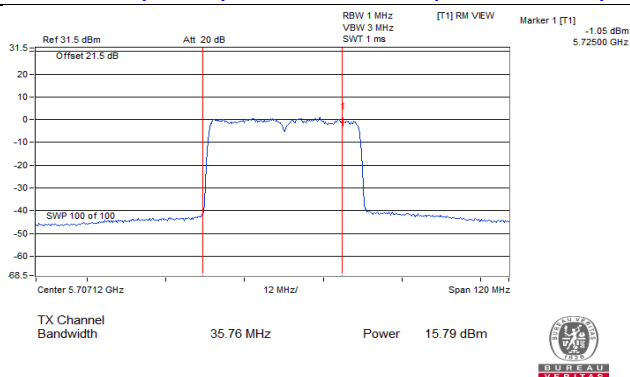
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band)



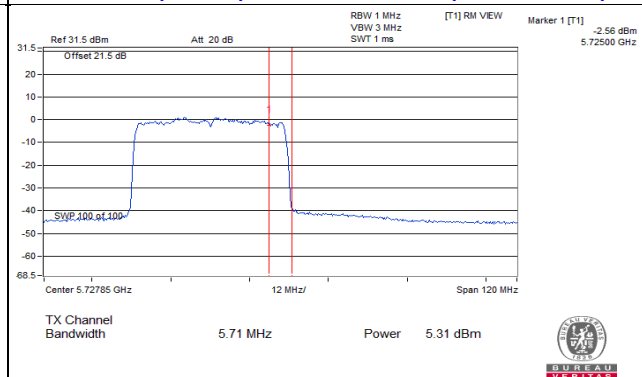
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-3 Band)



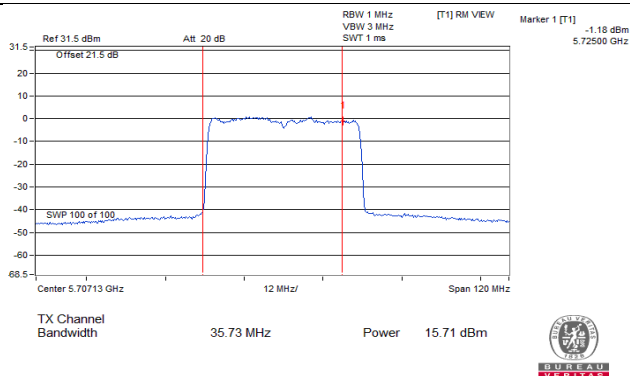
802.11ac (VHT40)_Chain 1 / CH142 (U-NII-2C Band)



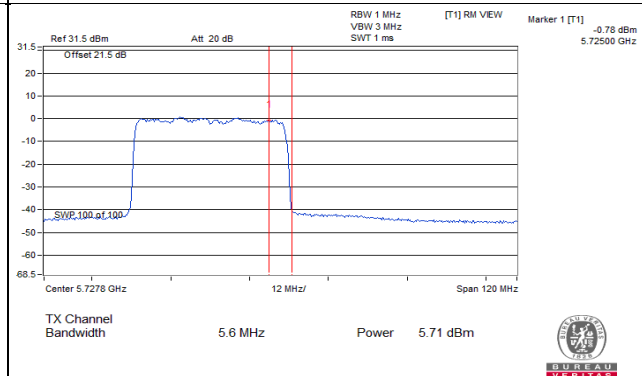
802.11ac (VHT40)_Chain 1 / CH142 (U-NII-3 Band)



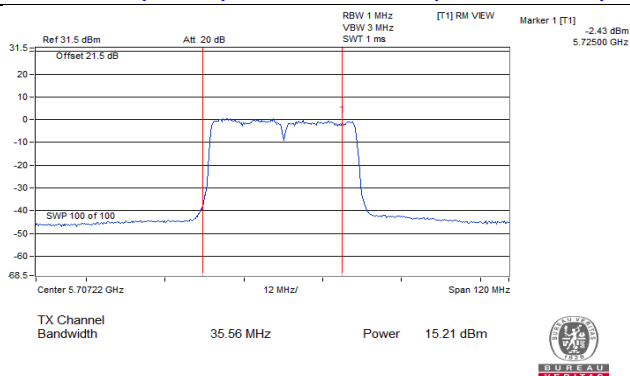
802.11ac (VHT40)_Chain 2 / CH142 (U-NII-2C Band)



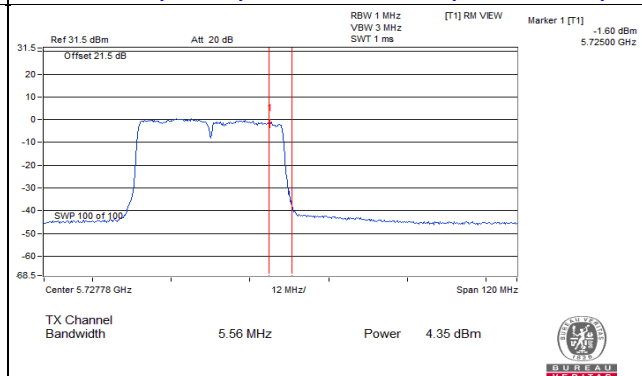
802.11ac (VHT40)_Chain 2 / CH142 (U-NII-3 Band)



802.11ac (VHT40)_Chain 3 / CH142 (U-NII-2C Band)

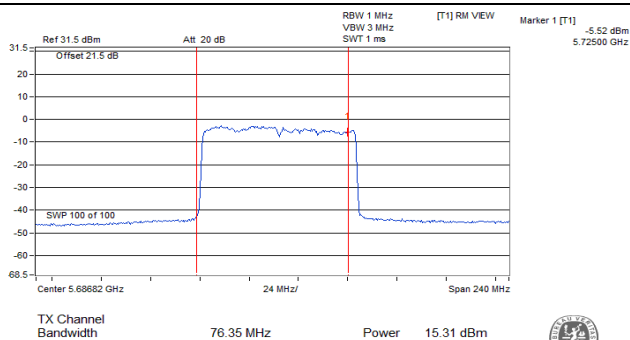


802.11ac (VHT40)_Chain 3 / CH142 (U-NII-3 Band)

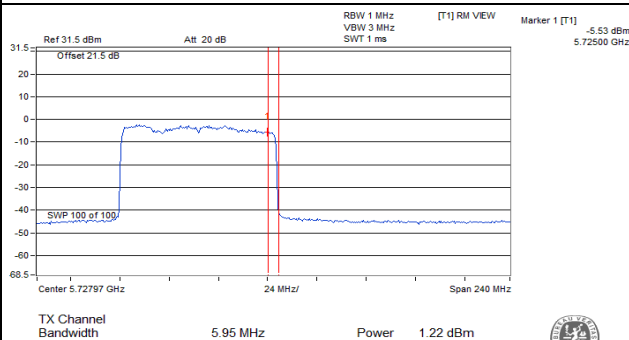


Spectrum Plot Value of Power

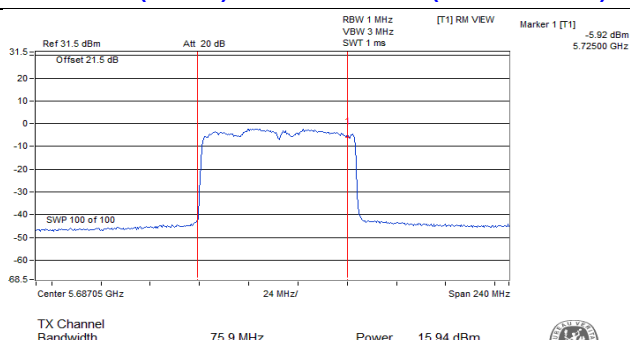
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C Band)



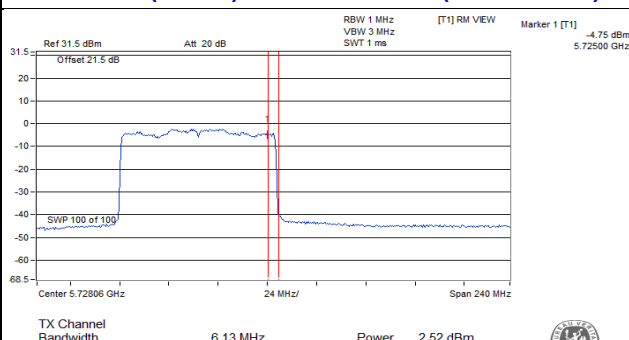
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-3 Band)



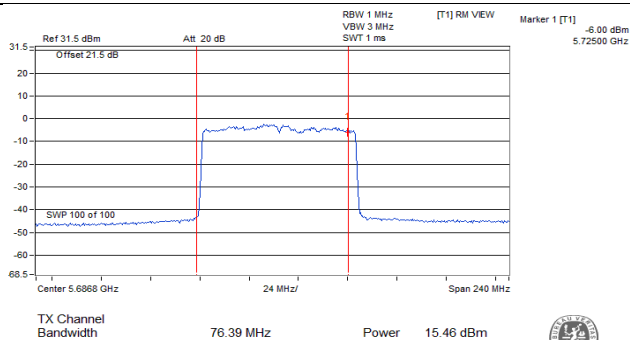
802.11ac (VHT80)_Chain 1 / CH138 (U-NII-2C Band)



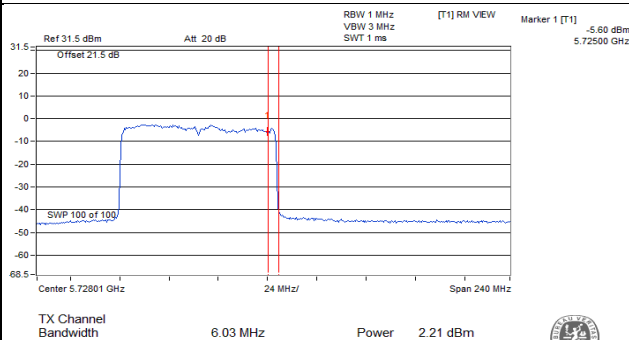
802.11ac (VHT80)_Chain 1 / CH138 (U-NII-3 Band)



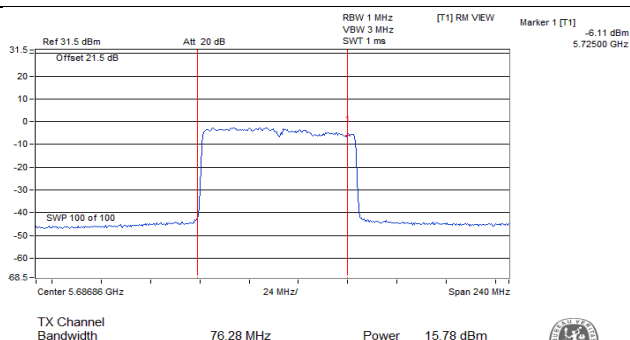
802.11ac (VHT80)_Chain 2 / CH138 (U-NII-2C Band)



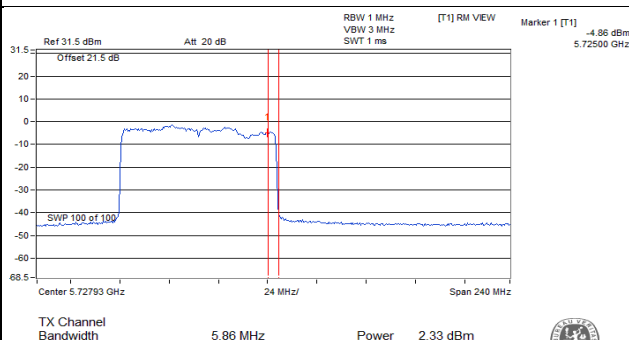
802.11ac (VHT80)_Chain 2 / CH138 (U-NII-3 Band)



802.11ac (VHT80)_Chain 3 / CH138 (U-NII-2C Band)

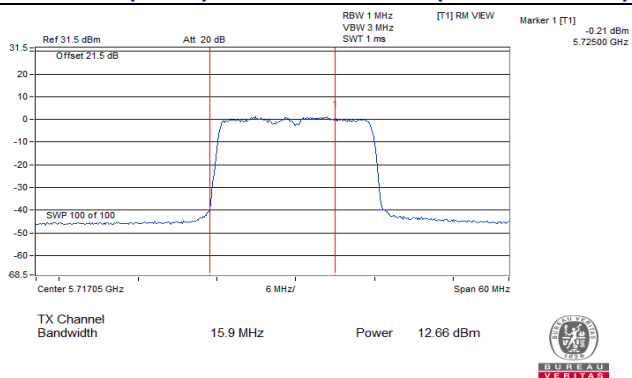


802.11ac (VHT80)_Chain 3 / CH138 (U-NII-3 Band)

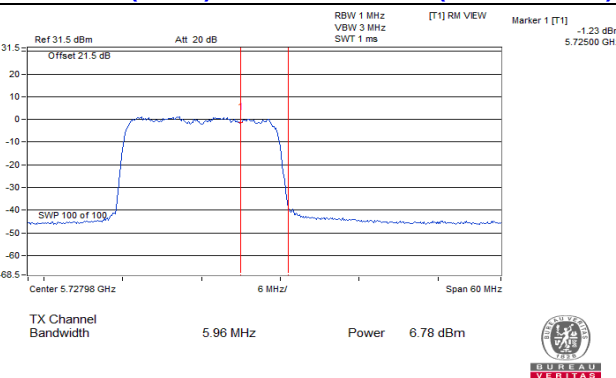


Spectrum Plot Value of Power

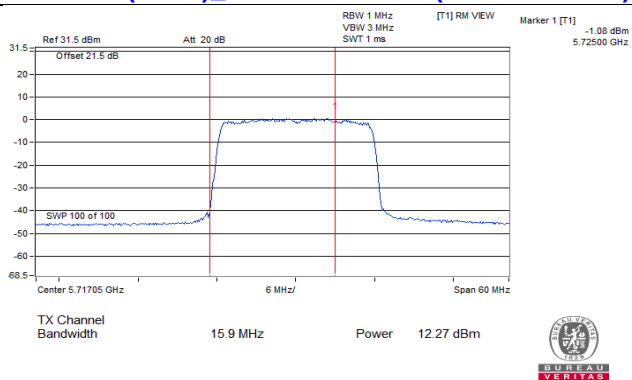
802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



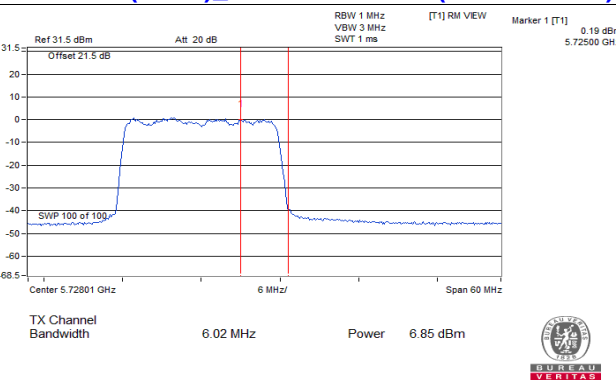
802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



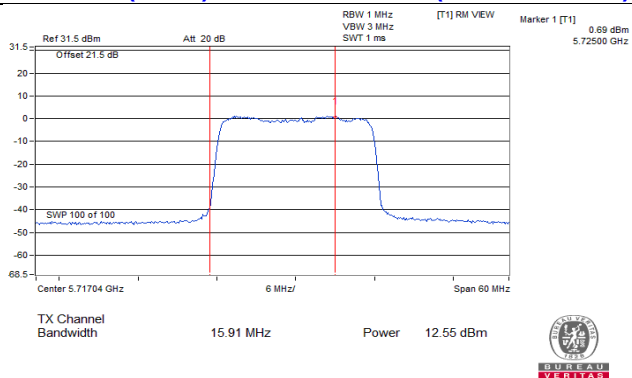
802.11ax (HE20)_Chain 1 / CH144 (U-NII-2C Band)



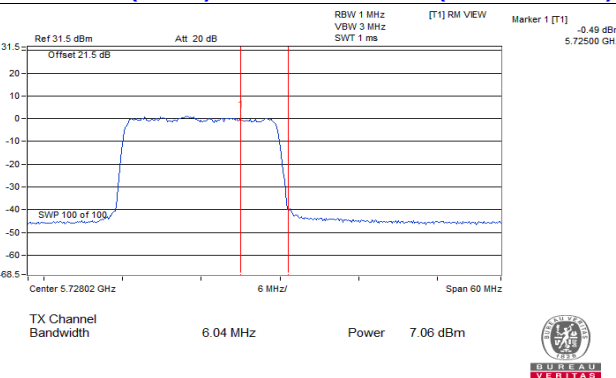
802.11ax (HE20)_Chain 1 / CH144 (U-NII-3 Band)



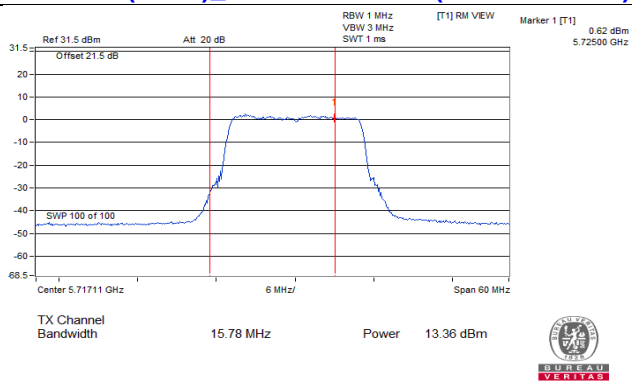
802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)



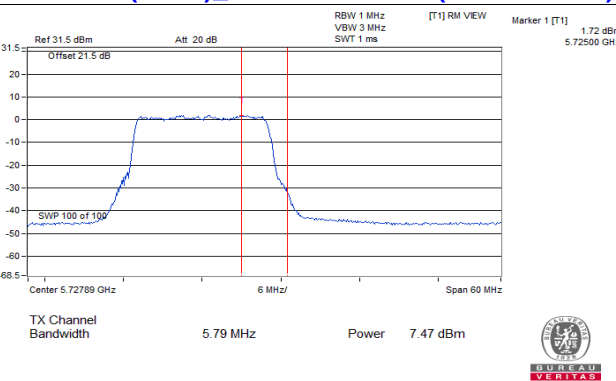
802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



802.11ax (HE20)_Chain 3 / CH144 (U-NII-2C Band)

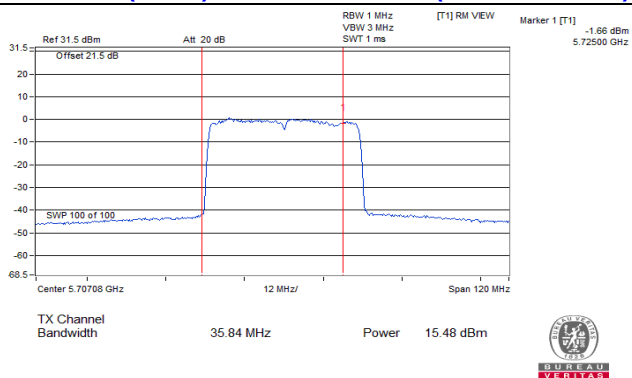


802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)

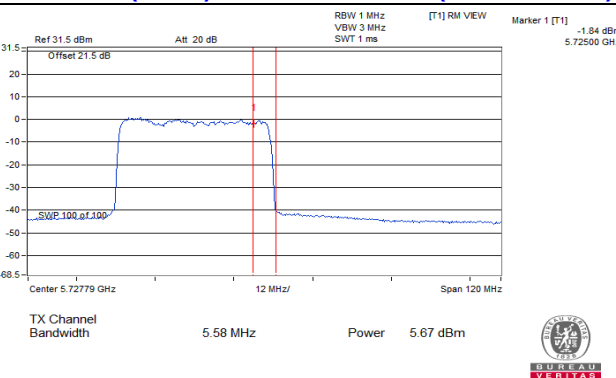


Spectrum Plot Value of Power

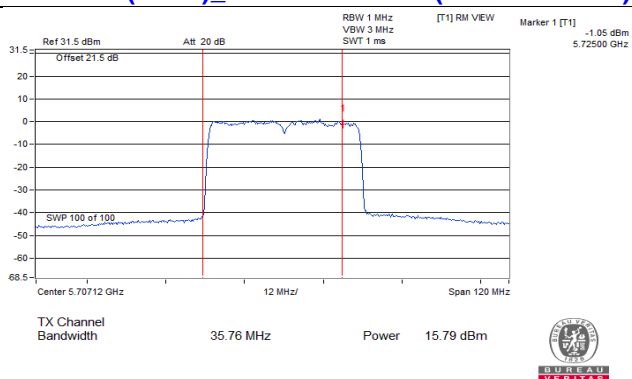
802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)



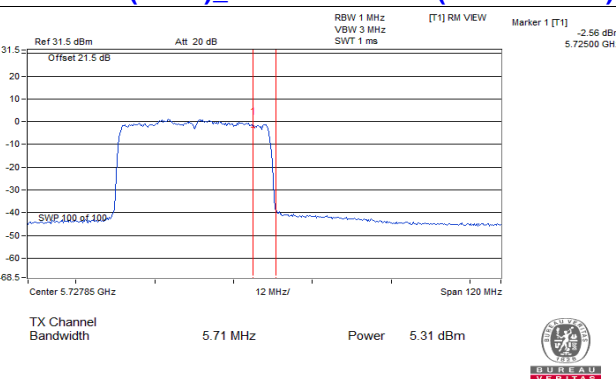
802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



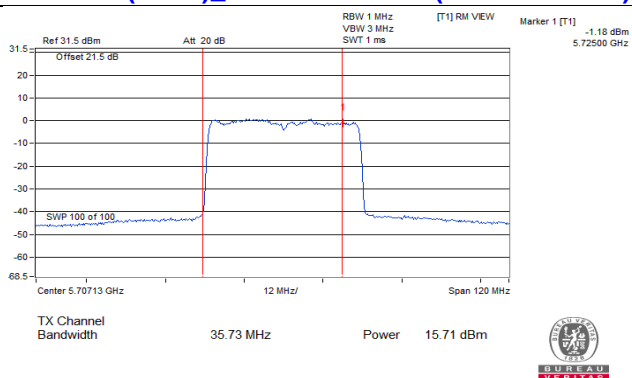
802.11ax (HE40)_Chain 1 / CH142 (U-NII-2C Band)



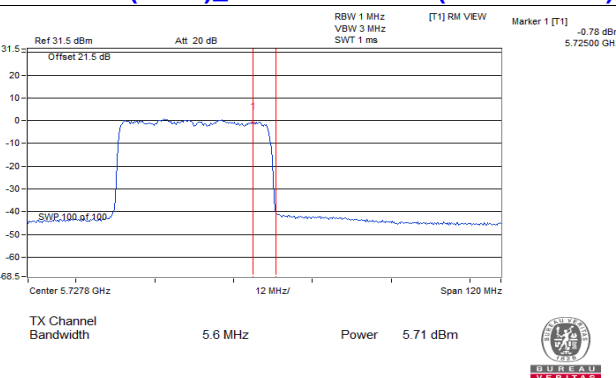
802.11ax (HE40)_Chain 1 / CH142 (U-NII-3 Band)



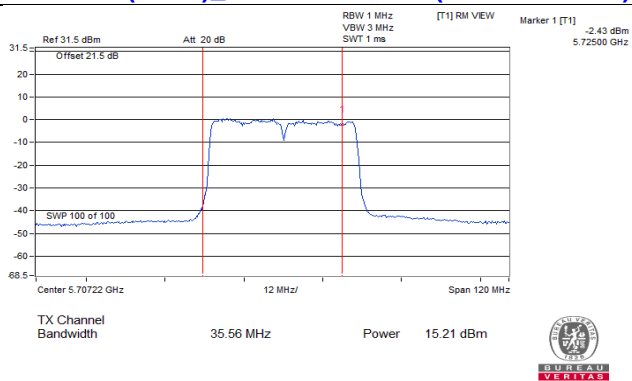
802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)



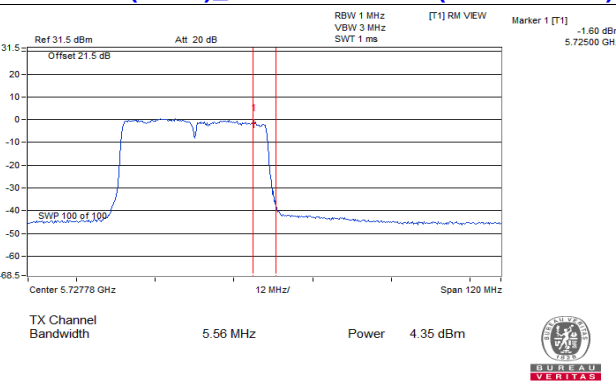
802.11ax (HE40)_Chain 2 / CH142 (U-NII-3 Band)



802.11ax (HE40)_Chain 3 / CH142 (U-NII-2C Band)

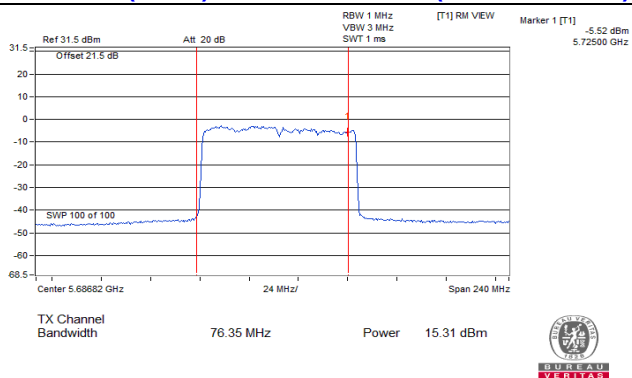


802.11ax (HE40)_Chain 3 / CH142 (U-NII-3 Band)

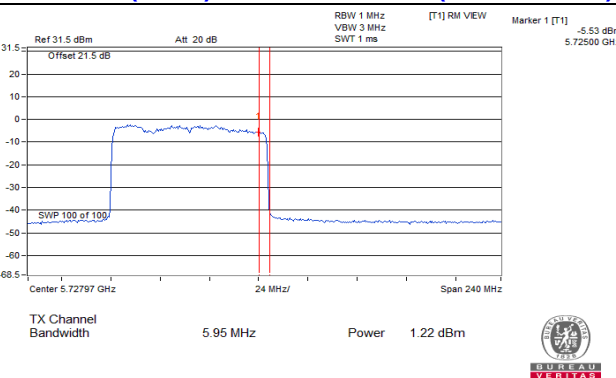


Spectrum Plot Value of Power

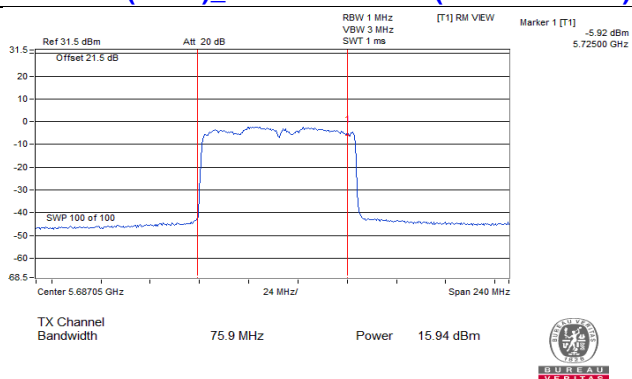
802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)



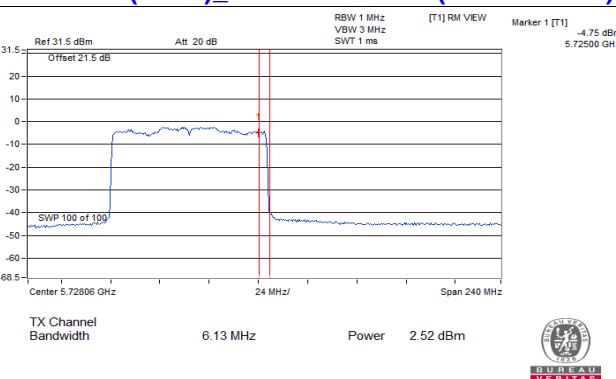
802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



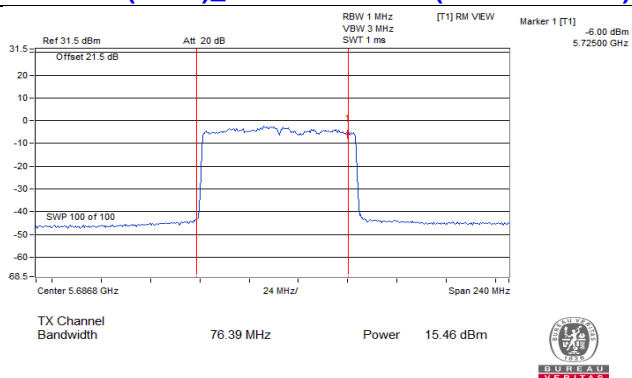
802.11ax (HE80)_Chain 1 / CH138 (U-NII-2C Band)



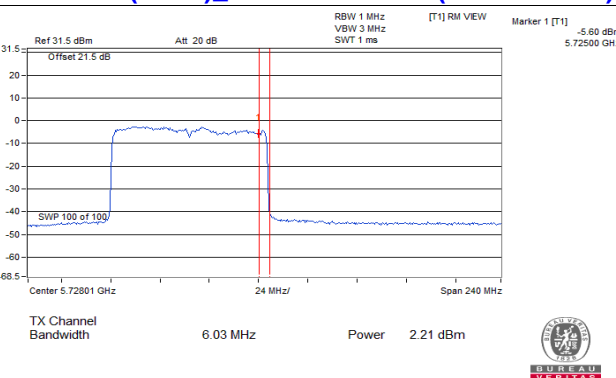
802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)



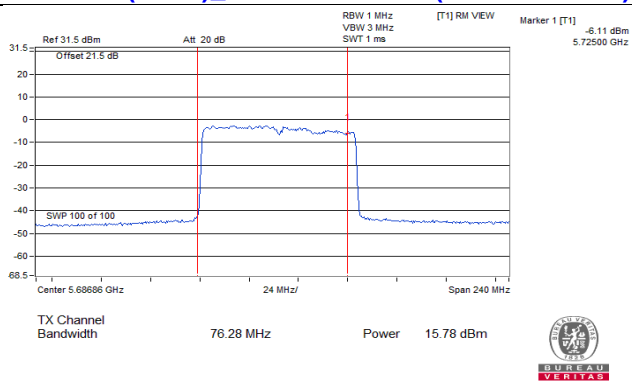
802.11ax (HE80)_Chain 2 / CH138 (U-NII-2C Band)



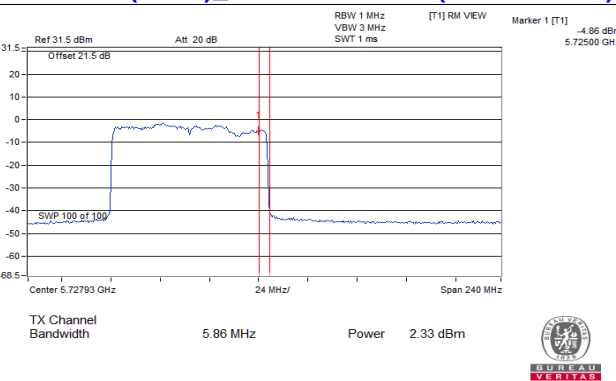
802.11ax (HE80)_Chain 2 / CH138 (U-NII-3 Band)



802.11ax (HE80)_Chain 3 / CH138 (U-NII-2C Band)



802.11ax (HE80)_Chain 3 / CH138 (U-NII-3 Band)



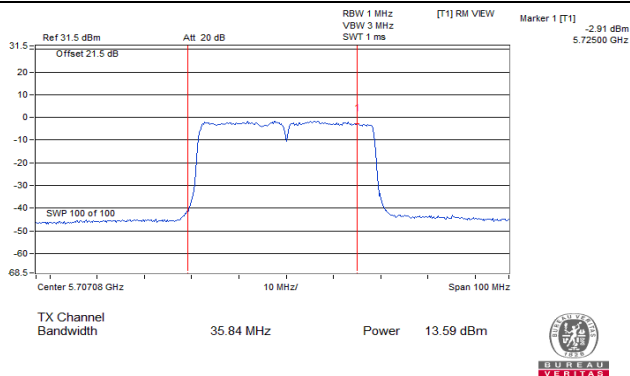
Beamforming Mode

Spectrum Plot Value of Power

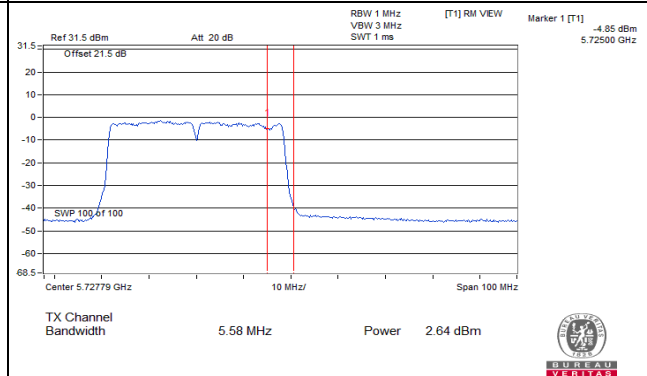


Spectrum Plot Value of Power

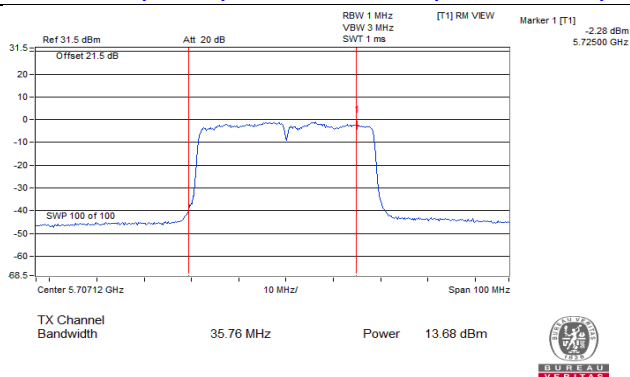
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band)



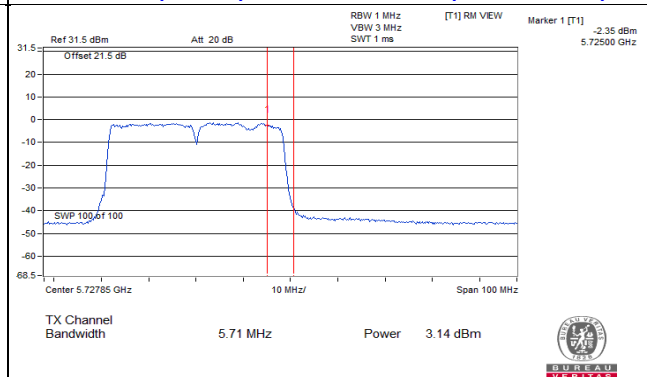
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-3 Band)



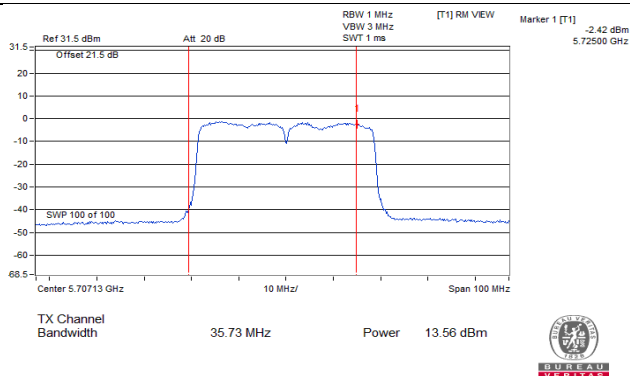
802.11ac (VHT40)_Chain 1 / CH142 (U-NII-2C Band)



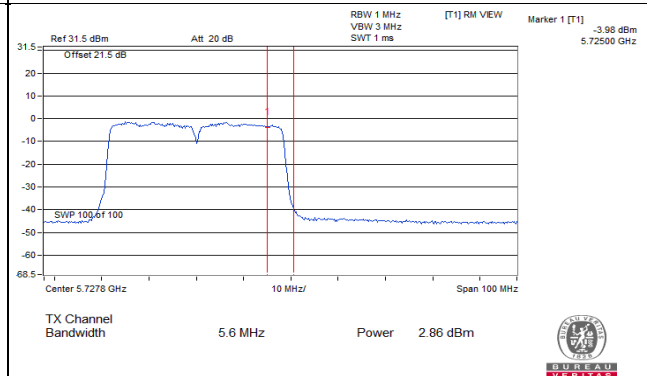
802.11ac (VHT40)_Chain 1 / CH142 (U-NII-3 Band)



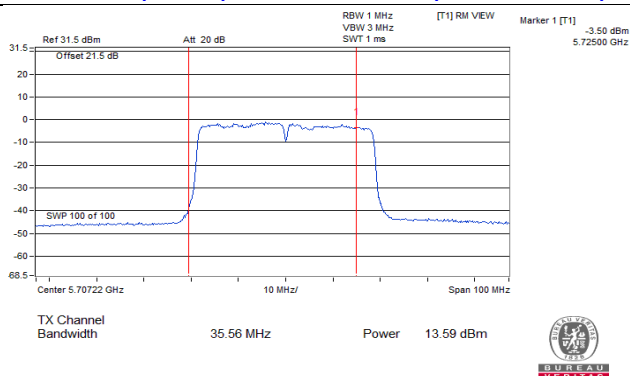
802.11ac (VHT40)_Chain 2 / CH142 (U-NII-2C Band)



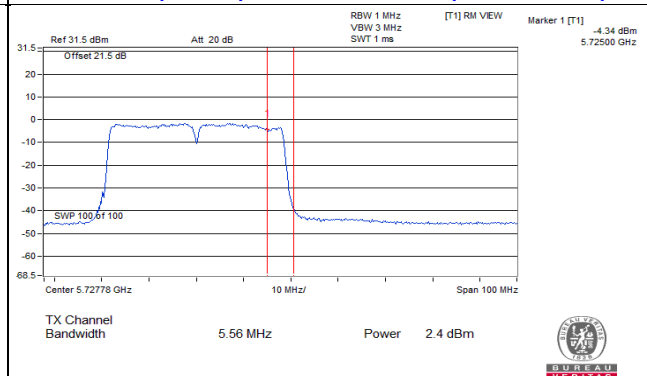
802.11ac (VHT40)_Chain 2 / CH142 (U-NII-3 Band)



802.11ac (VHT40)_Chain 3 / CH142 (U-NII-2C Band)

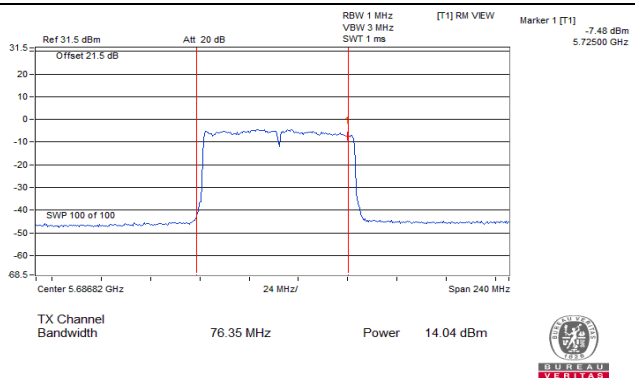


802.11ac (VHT40)_Chain 3 / CH142 (U-NII-3 Band)

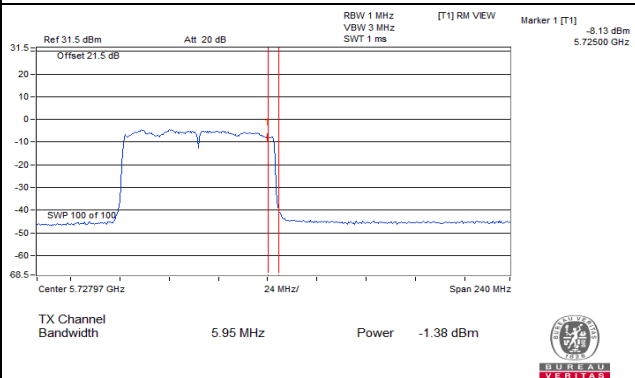


Spectrum Plot Value of Power

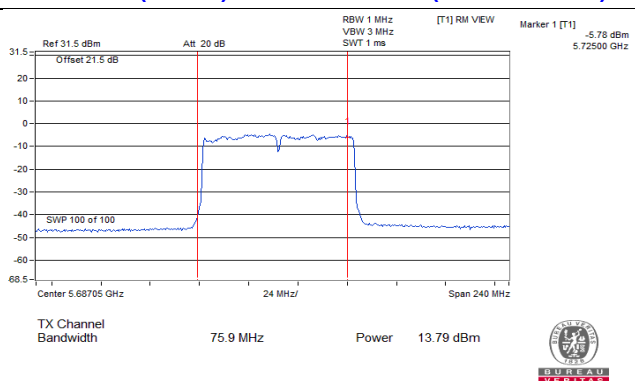
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C Band)



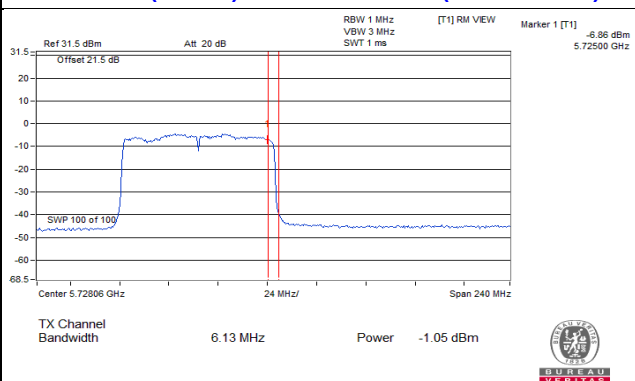
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-3 Band)



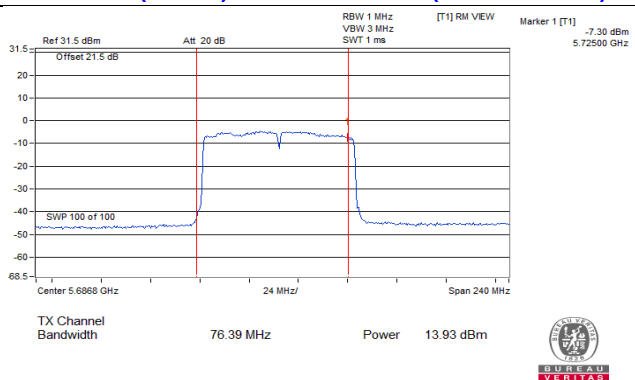
802.11ac (VHT80)_Chain 1 / CH138 (U-NII-2C Band)



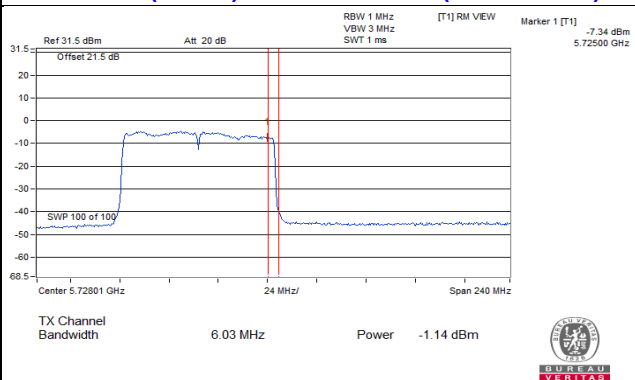
802.11ac (VHT80)_Chain 1 / CH138 (U-NII-3 Band)



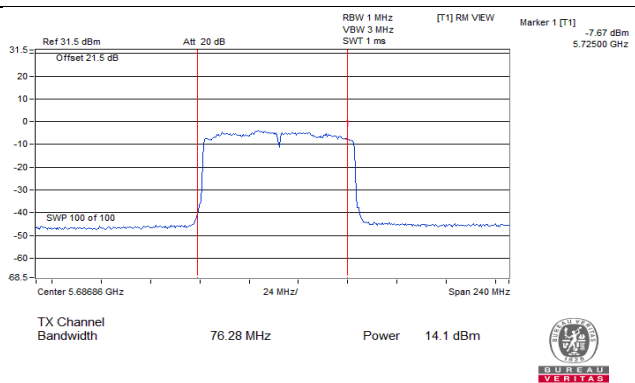
802.11ac (VHT80)_Chain 2 / CH138 (U-NII-2C Band)



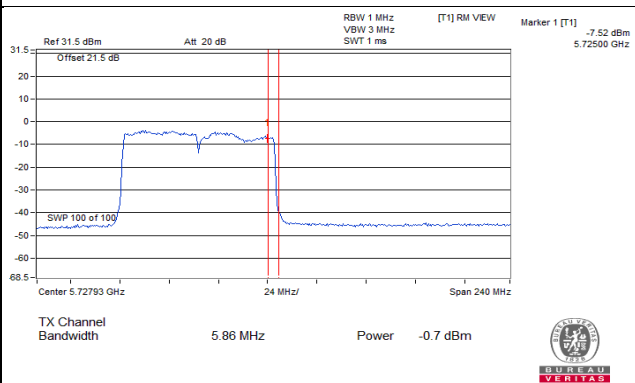
802.11ac (VHT80)_Chain 2 / CH138 (U-NII-3 Band)



802.11ac (VHT80)_Chain 3 / CH138 (U-NII-2C Band)

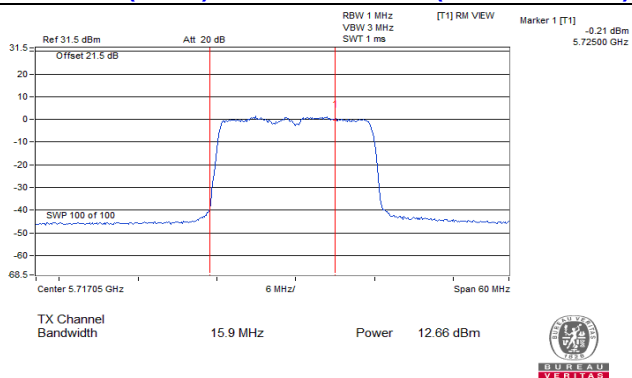


802.11ac (VHT80)_Chain 3 / CH138 (U-NII-3 Band)

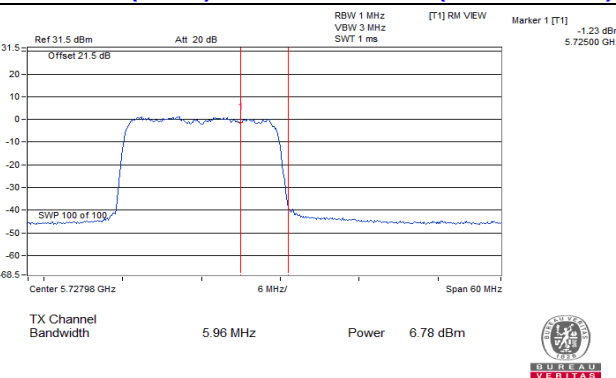


Spectrum Plot Value of Power

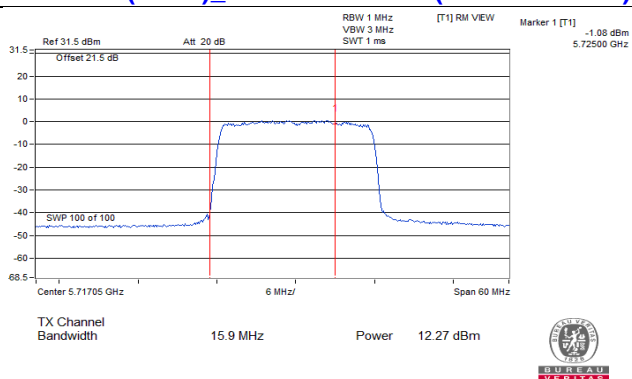
802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



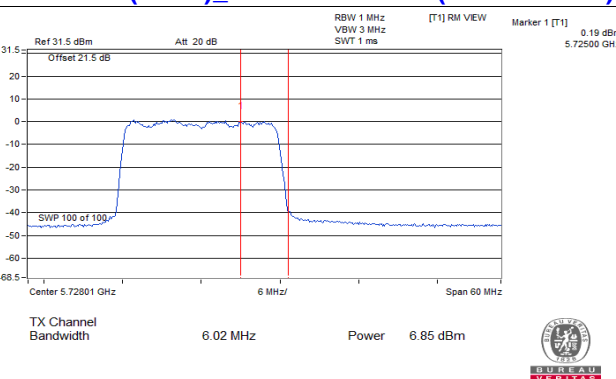
802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



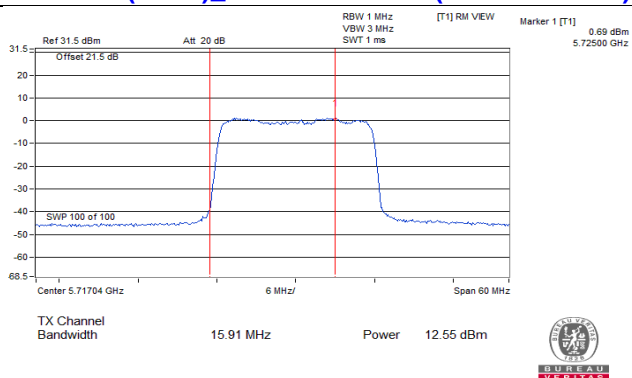
802.11ax (HE20)_Chain 1 / CH144 (U-NII-2C Band)



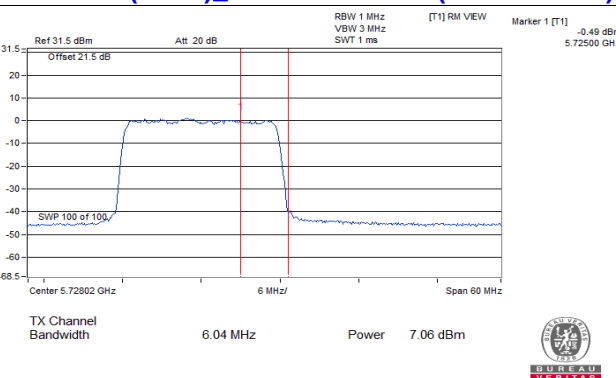
802.11ax (HE20)_Chain 1 / CH144 (U-NII-3 Band)



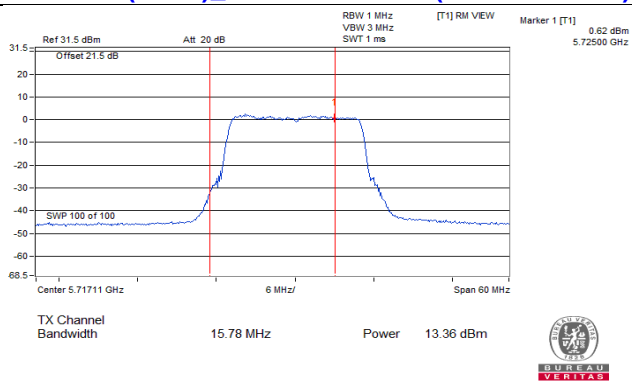
802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)



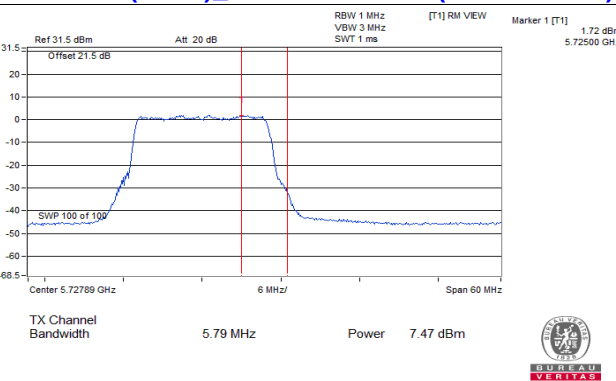
802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



802.11ax (HE20)_Chain 3 / CH144 (U-NII-2C Band)

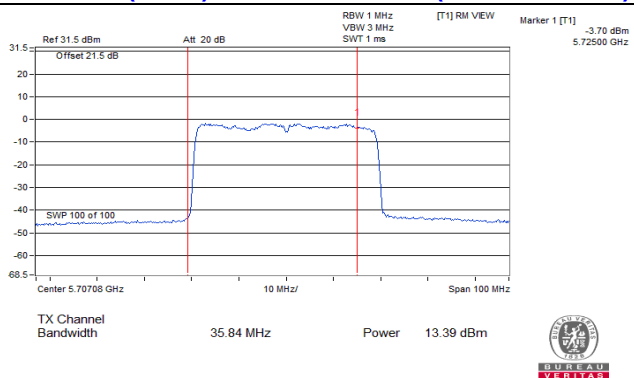


802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)

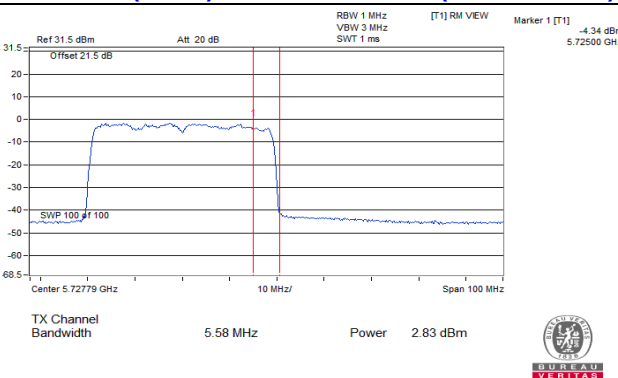


Spectrum Plot Value of Power

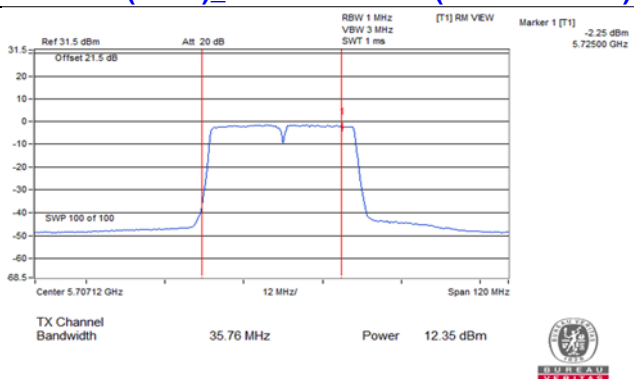
802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)



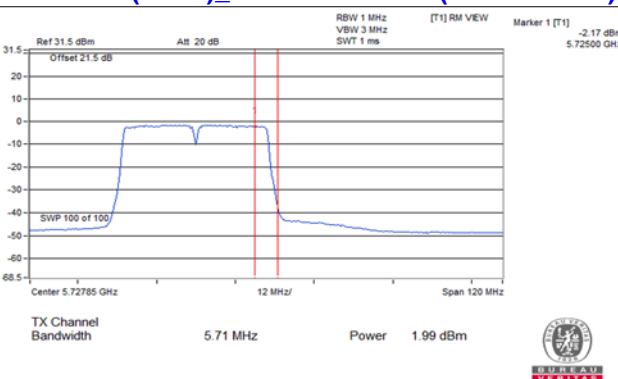
802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



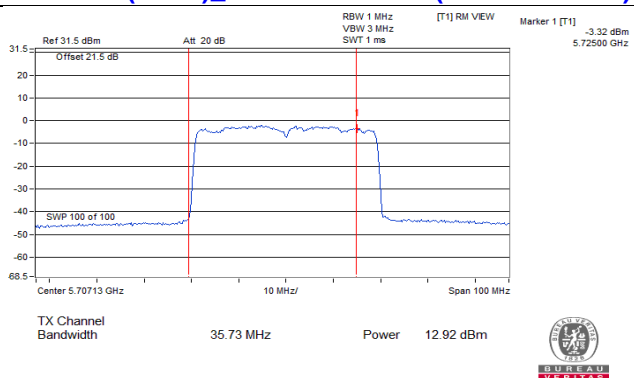
802.11ax (HE40)_Chain 1 / CH142 (U-NII-2C Band)



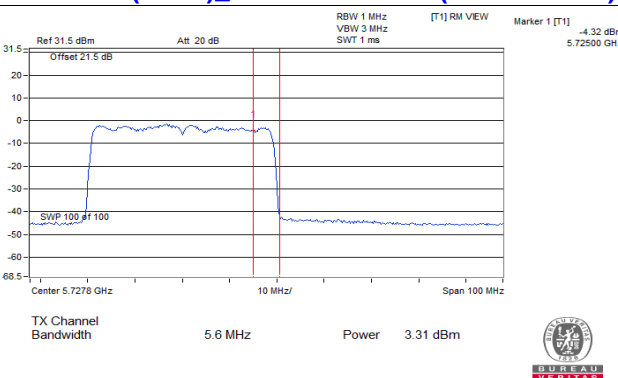
802.11ax (HE40)_Chain 1 / CH142 (U-NII-3 Band)



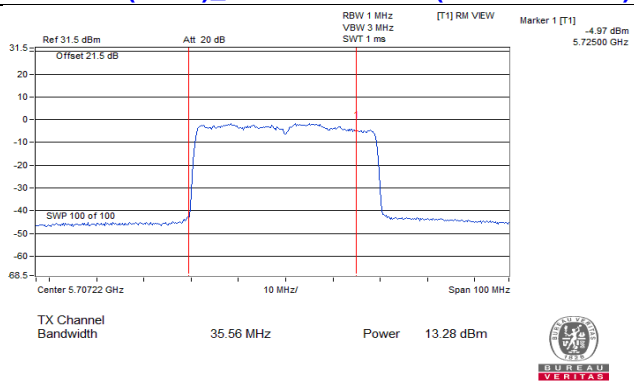
802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)



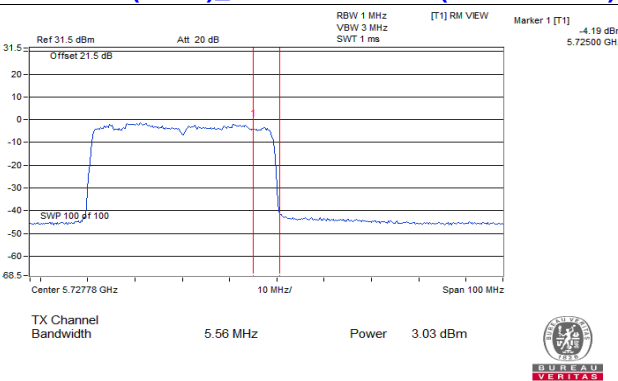
802.11ax (HE40)_Chain 2 / CH142 (U-NII-3 Band)



802.11ax (HE40)_Chain 3 / CH142 (U-NII-2C Band)

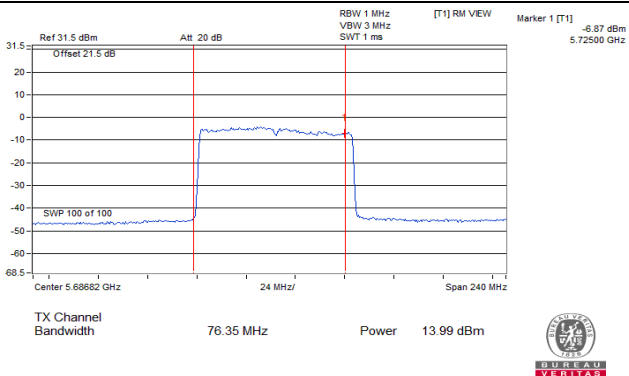


802.11ax (HE40)_Chain 3 / CH142 (U-NII-3 Band)

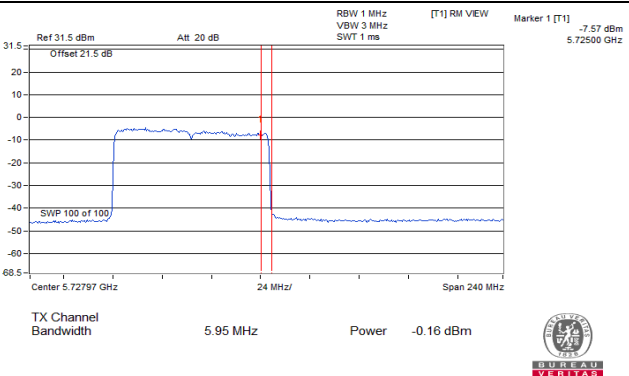


Spectrum Plot Value of Power

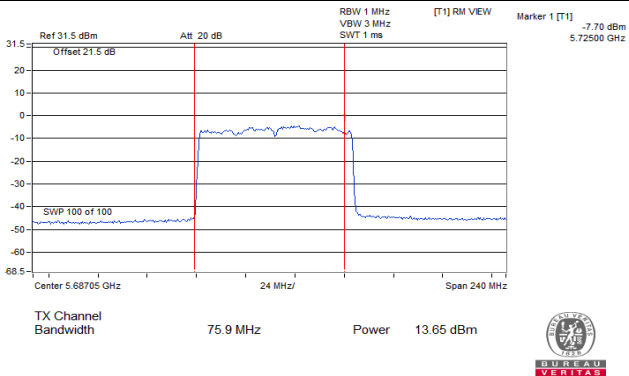
802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)



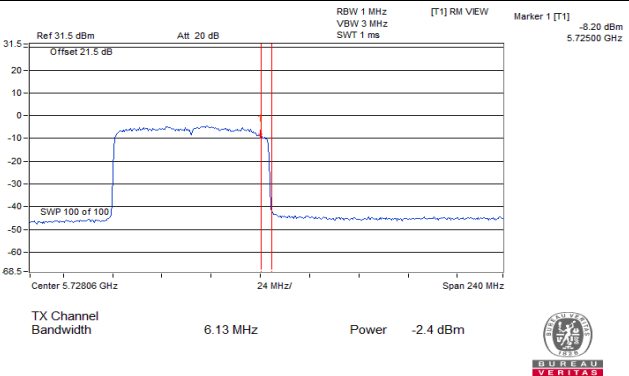
802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



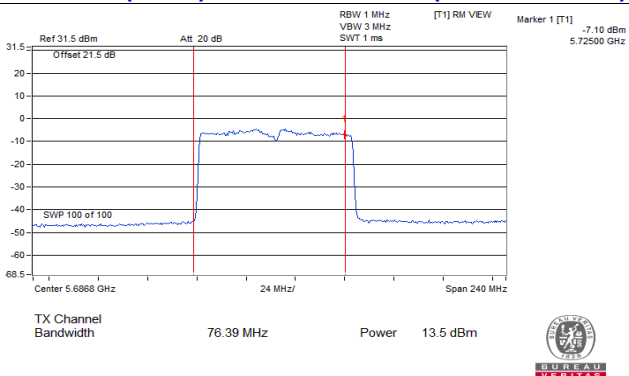
802.11ax (HE80)_Chain 1 / CH138 (U-NII-2C Band)



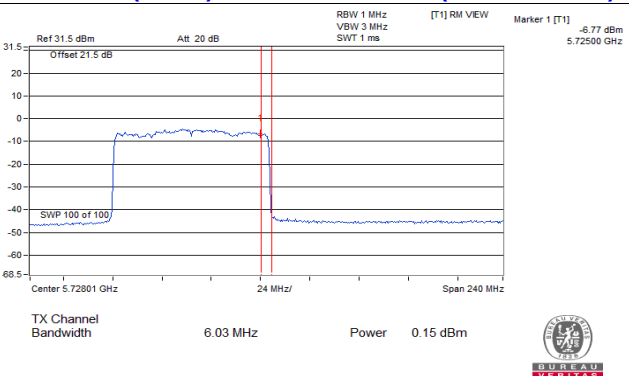
802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)



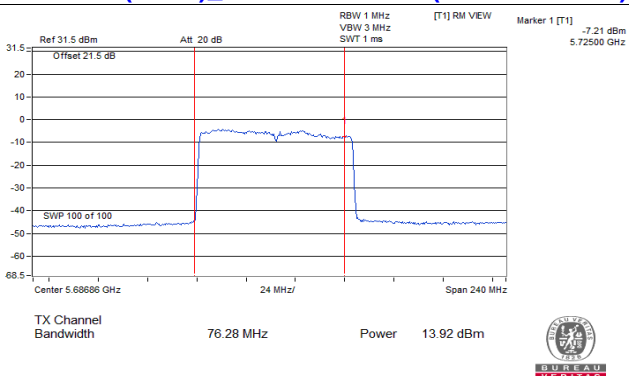
802.11ax (HE80)_Chain 2 / CH138 (U-NII-2C Band)



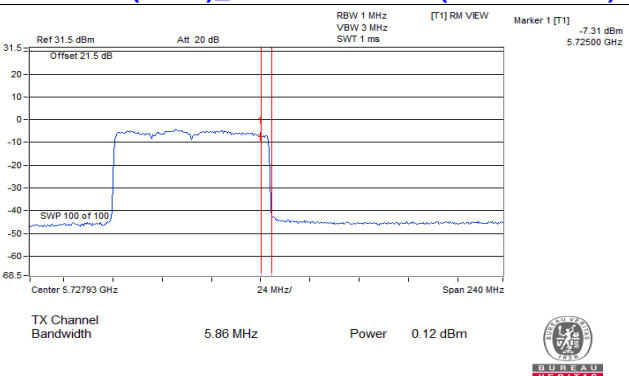
802.11ax (HE80)_Chain 2 / CH138 (U-NII-3 Band)



802.11ax (HE80)_Chain 3 / CH138 (U-NII-2C Band)



802.11ax (HE80)_Chain 3 / CH138 (U-NII-3 Band)



For channel straddling 5250MHz of Power

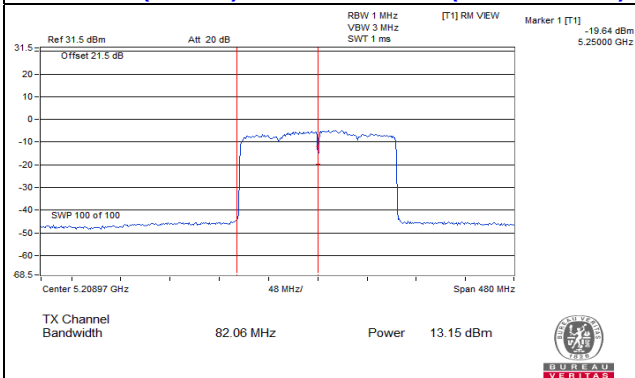
CDD Mode

Spectrum Plot Value of Power

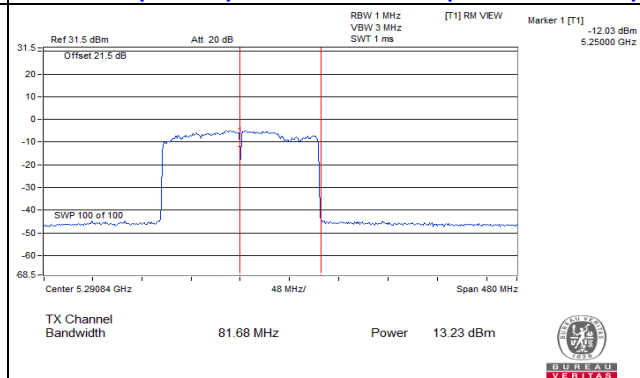


Spectrum Plot Value of Power

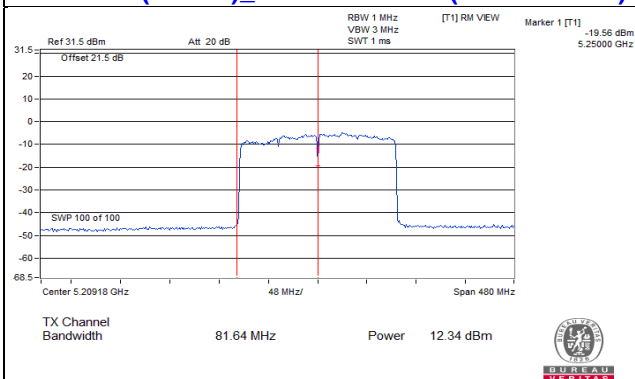
802.11ax (HE160)_Chain 0 / CH50 (U-NII-1 Band)



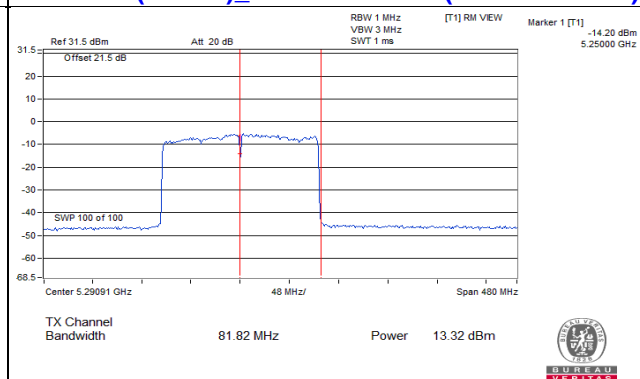
802.11ax (HE160)_Chain 0 / CH50 (U-NII-2A Band)



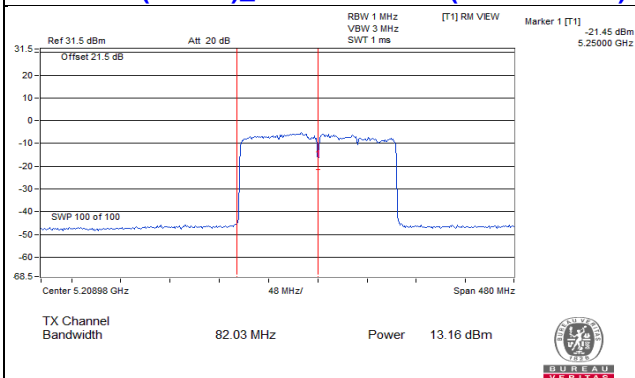
802.11ax (HE160)_Chain 1 / CH50 (U-NII-1 Band)



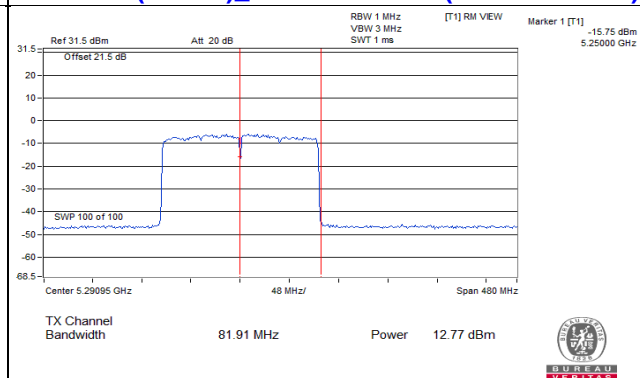
802.11ax (HE160)_Chain 1 / CH50 (U-NII-2A Band)



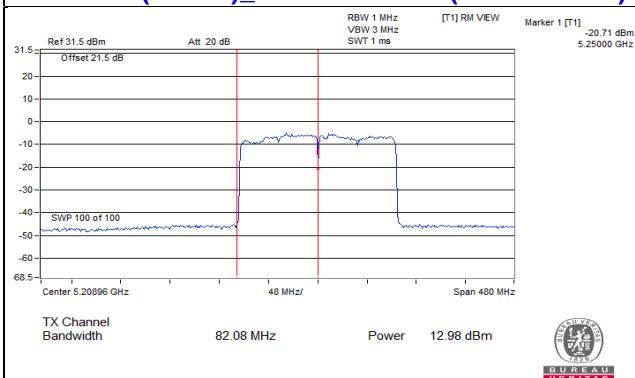
802.11ax (HE160)_Chain 2 / CH50 (U-NII-1 Band)



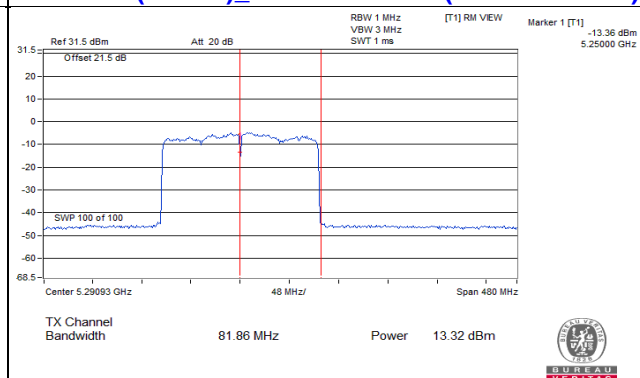
802.11ax (HE160)_Chain 2 / CH50 (U-NII-2A Band)



802.11ax (HE160)_Chain 3 / CH50 (U-NII-1 Band)



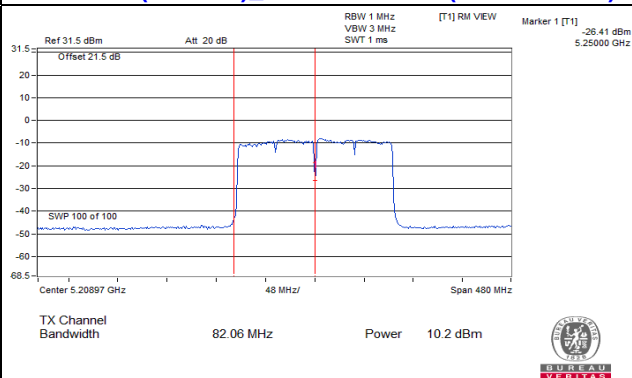
802.11ax (HE160)_Chain 3 / CH50 (U-NII-2A Band)



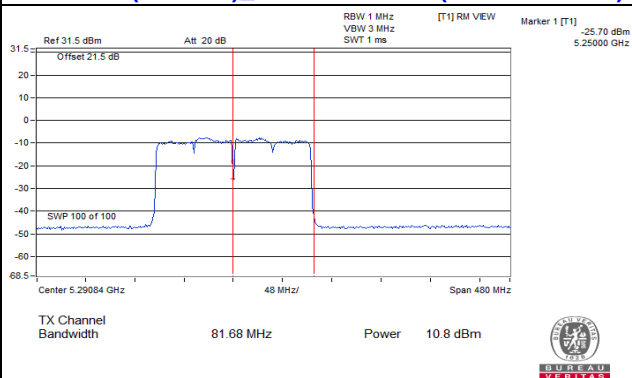
Beamforming Mode

Spectrum Plot Value of Power

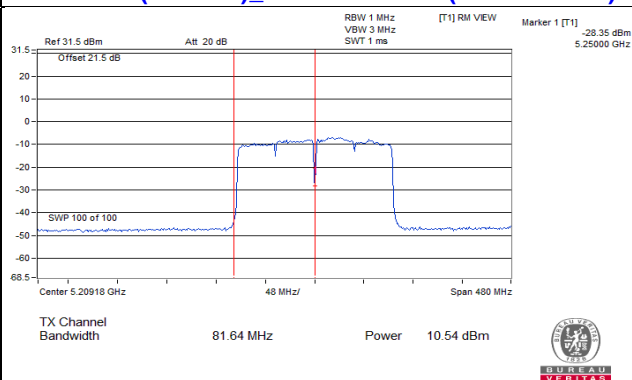
802.11ac (VHT160)_Chain 0 / CH50 (U-NII-1 Band)



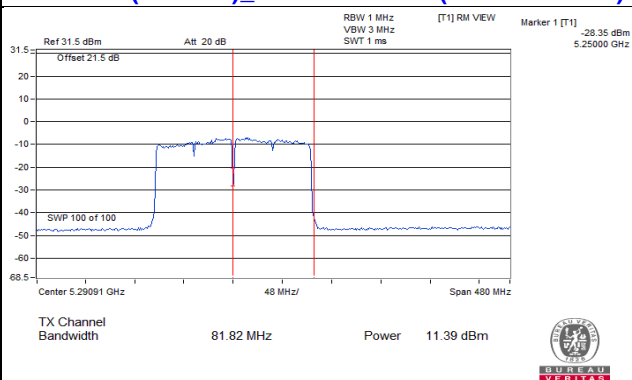
802.11ac (VHT160)_Chain 0 / CH50 (U-NII-2A Band)



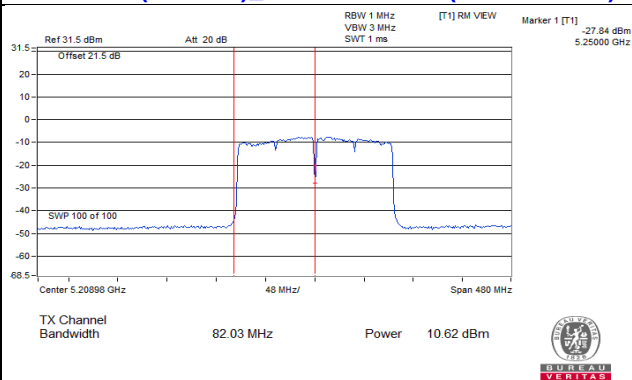
802.11ac (VHT160)_Chain 1 / CH50 (U-NII-1 Band)



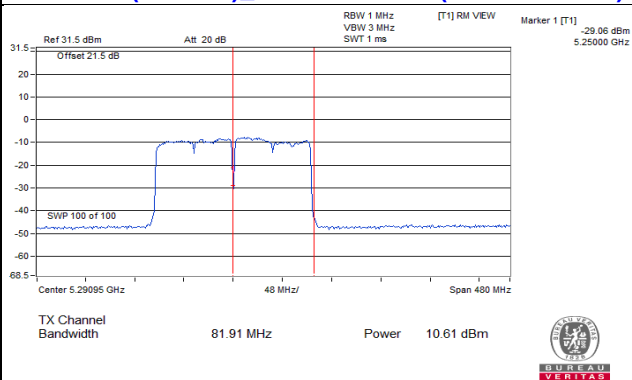
802.11ac (VHT160)_Chain 1 / CH50 (U-NII-2A Band)



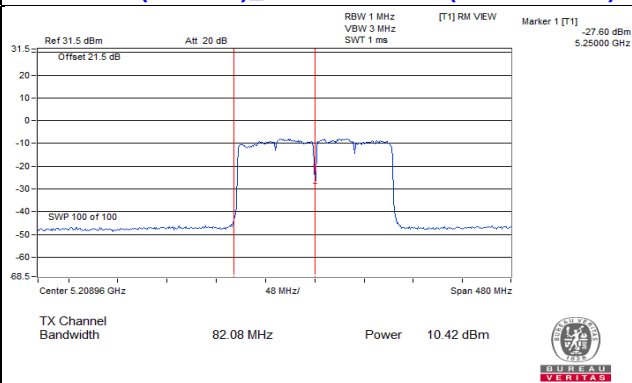
802.11ac (VHT160)_Chain 2 / CH50 (U-NII-1 Band)



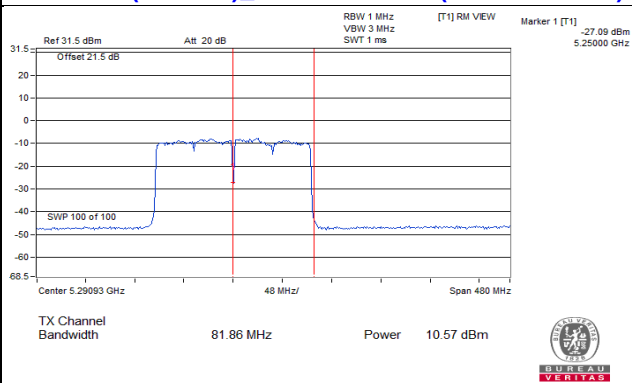
802.11ac (VHT160)_Chain 2 / CH50 (U-NII-2A Band)



802.11ac (VHT160)_Chain 3 / CH50 (U-NII-1 Band)

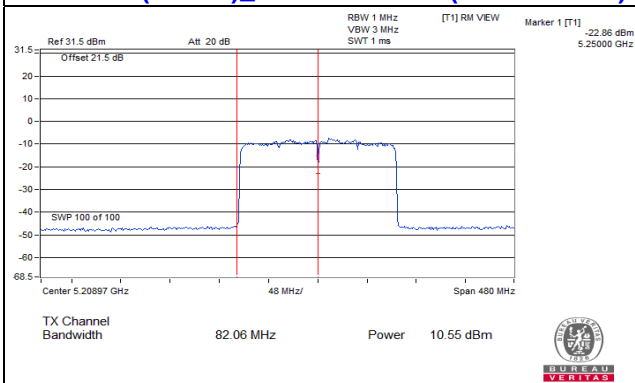


802.11ac (VHT160)_Chain 3 / CH50 (U-NII-2A Band)

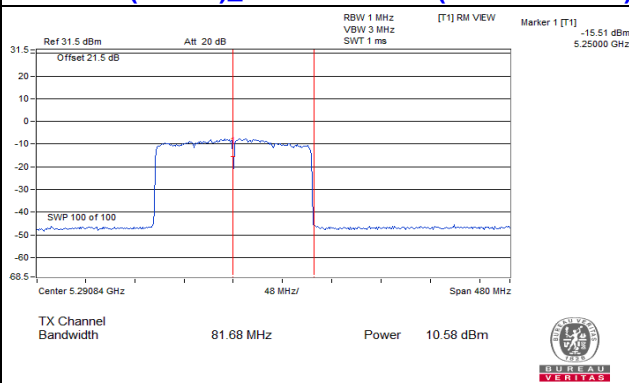


Spectrum Plot Value of Power

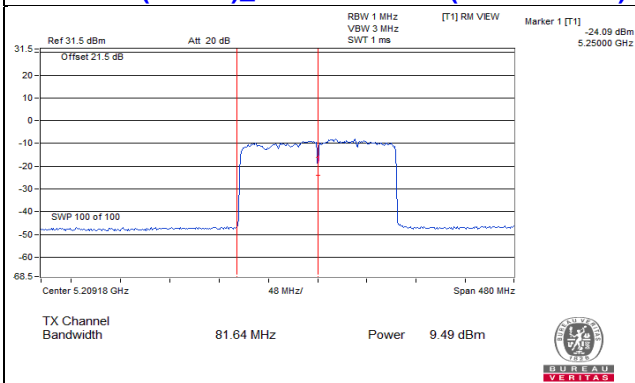
802.11ax (HE160)_Chain 0 / CH50 (U-NII-1 Band)



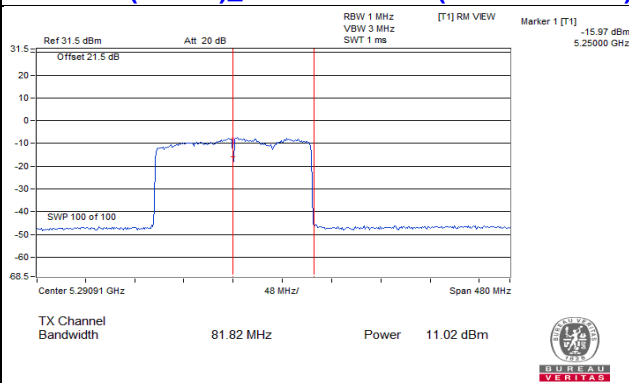
802.11ax (HE160)_Chain 0 / CH50 (U-NII-2A Band)



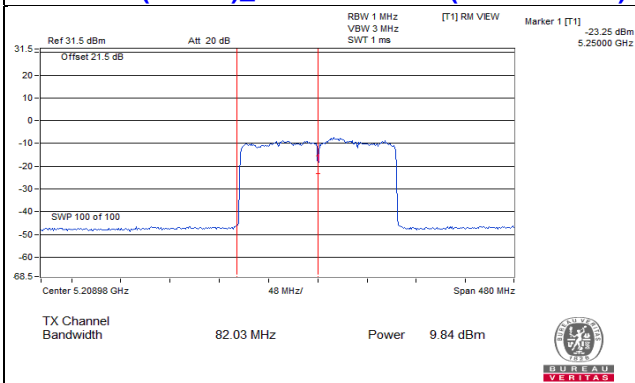
802.11ax (HE160)_Chain 1 / CH50 (U-NII-1 Band)



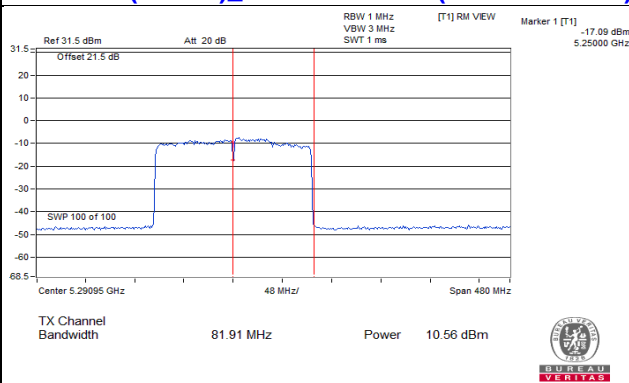
802.11ax (HE160)_Chain 1 / CH50 (U-NII-2A Band)



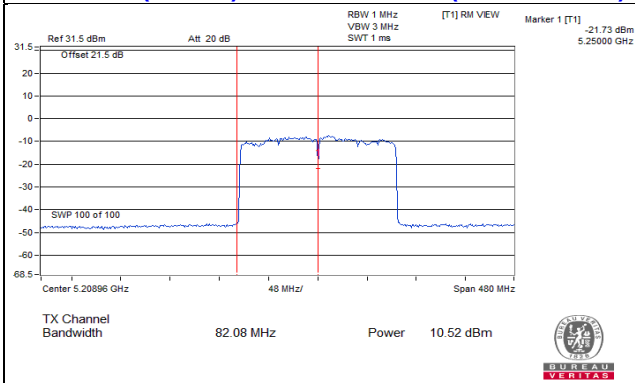
802.11ax (HE160)_Chain 2 / CH50 (U-NII-1 Band)



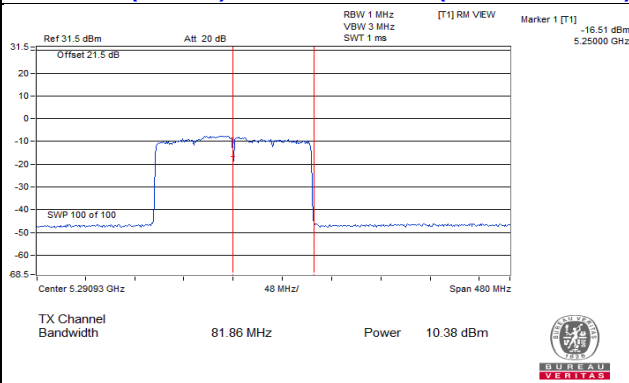
802.11ax (HE160)_Chain 2 / CH50 (U-NII-2A Band)



802.11ax (HE160)_Chain 3 / CH50 (U-NII-1 Band)



802.11ax (HE160)_Chain 3 / CH50 (U-NII-2A Band)



26dB OCCUPIED BANDWIDTH

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	21.64	22.06	21.66	21.65
60	5300	21.64	22.06	21.66	21.64
64	5320	21.61	22.11	21.63	21.65
100	5500	21.68	21.83	21.68	21.69
116	5580	21.67	21.96	21.62	21.69
140	5700	21.65	21.65	21.67	21.66
144 (U-NII-2C Band)	5720	15.74	15.76	15.78	15.78

802.11ax (HE20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	21.97	21.72	21.89	21.87
60	5300	22.05	21.87	22.06	21.87
64	5320	22.08	22.04	21.91	22.00
100	5500	22.05	22.11	21.96	21.78
116	5580	21.84	22.04	22.02	22.05
140	5700	21.98	22.00	21.97	21.85
144 (U-NII-2C Band)	5720	15.90	15.90	15.91	15.78

802.11ax (HE40)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	41.52	41.40	41.47	41.53
62	5310	41.55	41.19	41.55	41.50
102	5510	41.54	41.46	41.50	41.55
110	5550	41.52	41.43	41.54	41.48
134	5670	41.52	41.54	41.49	41.50
142 (U-NII-2C Band)	5710	35.84	35.76	35.73	35.56

802.11ax (HE80)

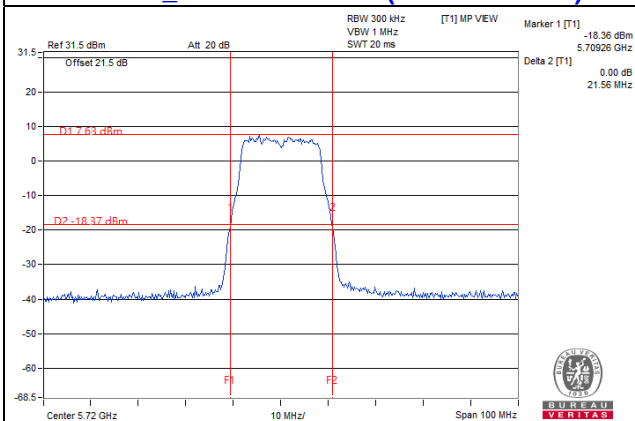
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	82.45	82.40	82.48	82.49
106	5530	82.40	82.42	82.42	82.34
122	5610	82.41	82.46	82.46	82.40
138 (U-NII-2C Band)	5690	76.35	75.90	76.39	76.28

802.11ax (HE160)

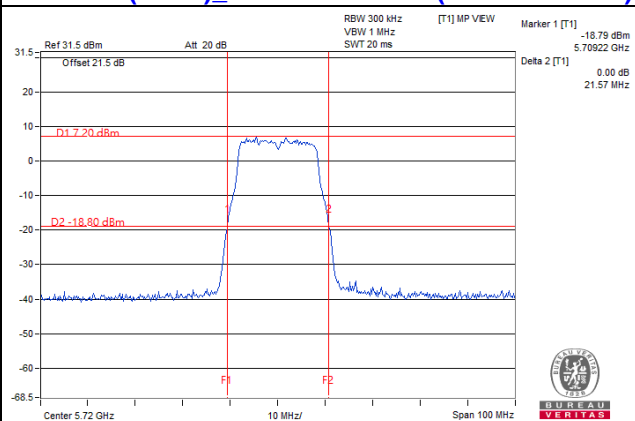
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-2A Band)	5250	81.68	81.82	81.91	81.86
114	5570	163.46	164.16	163.42	163.60

Spectrum Plot of Worst Value

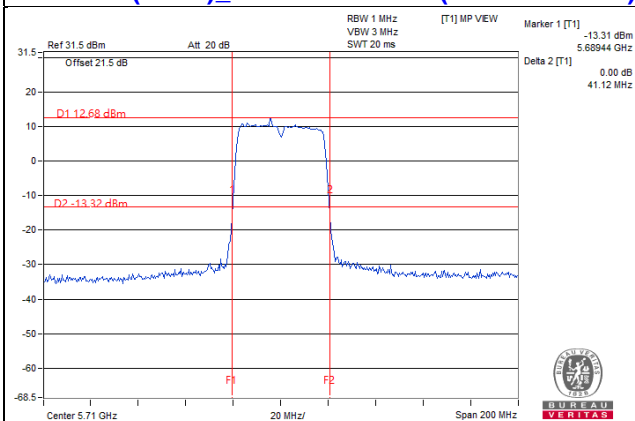
802.11a_Chain 0 / CH144 (U-NII-2C Band)



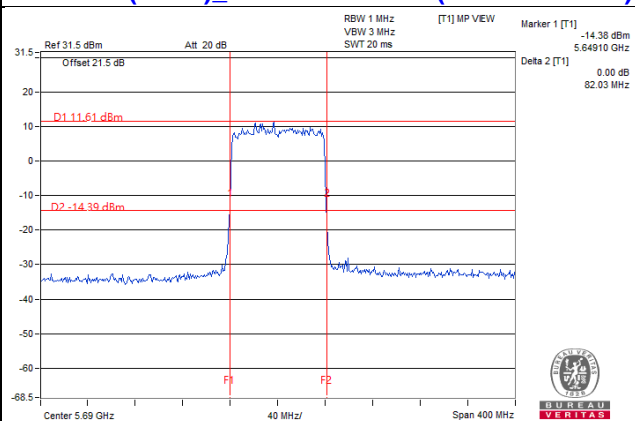
802.11ax (HE20)_Chain 3 / CH144 (U-NII-2C Band)



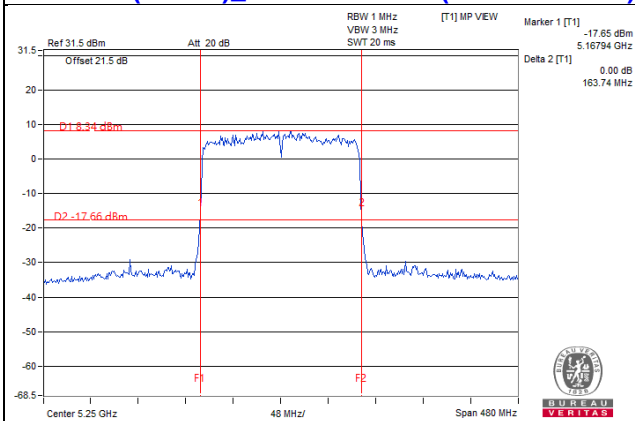
802.11ax (HE40)_Chain 3 / CH142 (U-NII-2C Band)



802.11ax (HE80)_Chain 1 / CH138 (U-NII-2C Band)



802.11ax (HE160)_Chain 0 / CH50 (U-NII-2A Band)



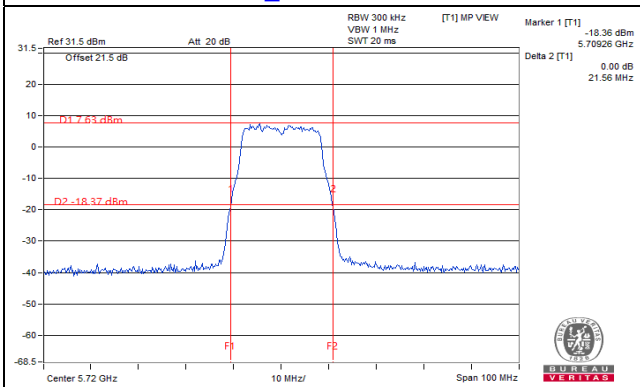
Note:

- For CH144 (U-NII-2C) = 5725MHz - Marker 1
- For CH142 (U-NII-2C) = 5725MHz - Marker 1
- For CH138 (U-NII-2C) = 5725MHz - Marker 1
- For CH50 (U-NII-2A) = Delta 2 - (5250MHz - Marker 1)

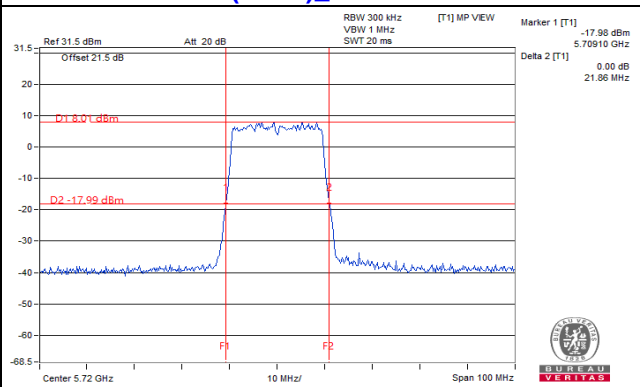
For channel straddling 5725MHz of 26dB BW

Spectrum Plot Value of 26dB BW

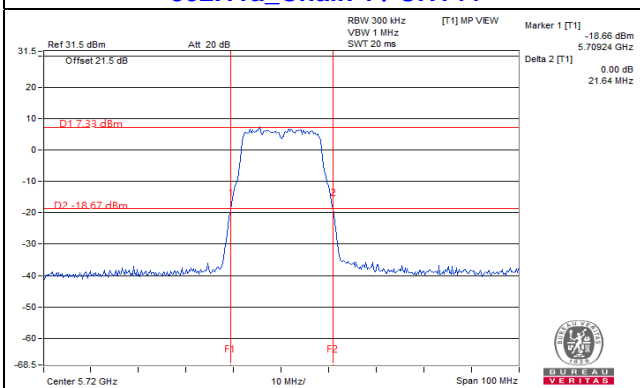
802.11a_Chain 0 / CH144



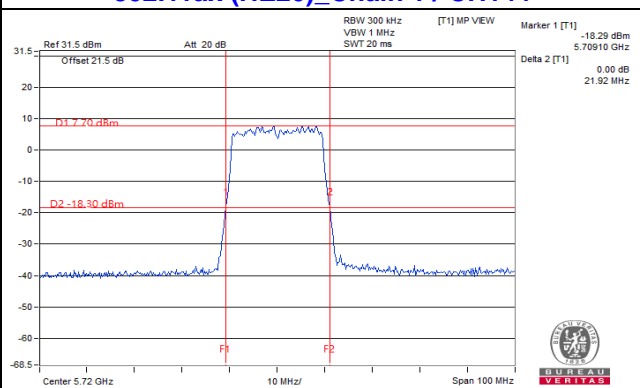
802.11ax (HE20)_Chain 0 / CH144



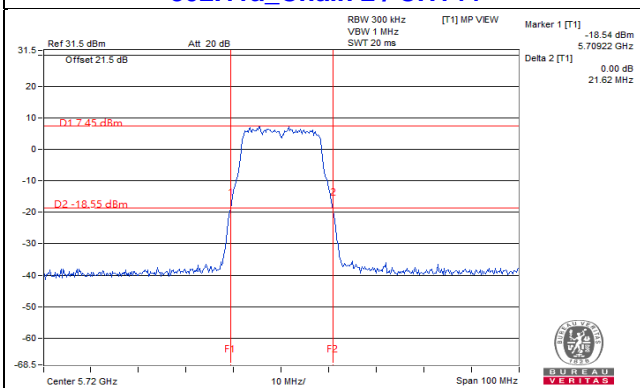
802.11a_Chain 1 / CH144



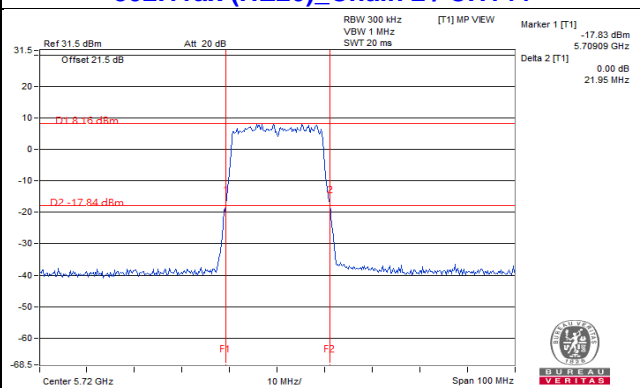
802.11ax (HE20)_Chain 1 / CH144



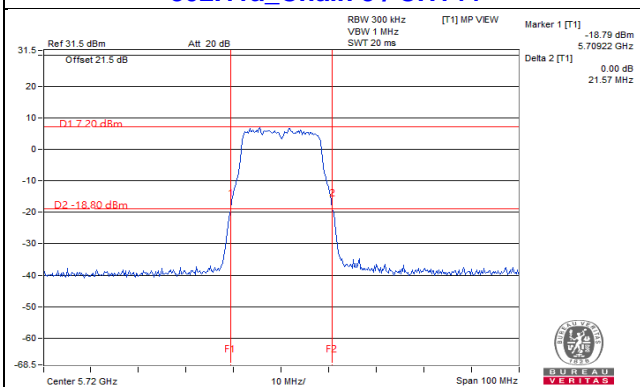
802.11a_Chain 2 / CH144



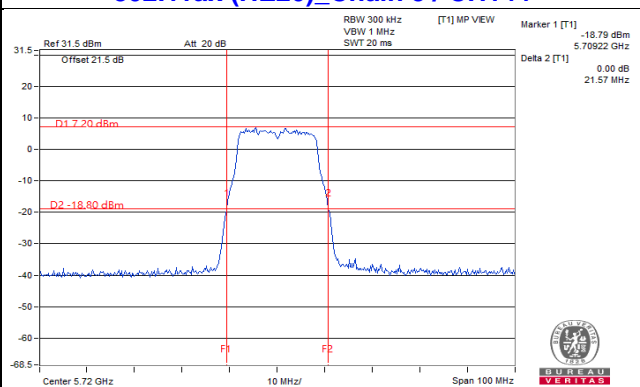
802.11ax (HE20)_Chain 2 / CH144



802.11a_Chain 3 / CH144



802.11ax (HE20)_Chain 3 / CH144

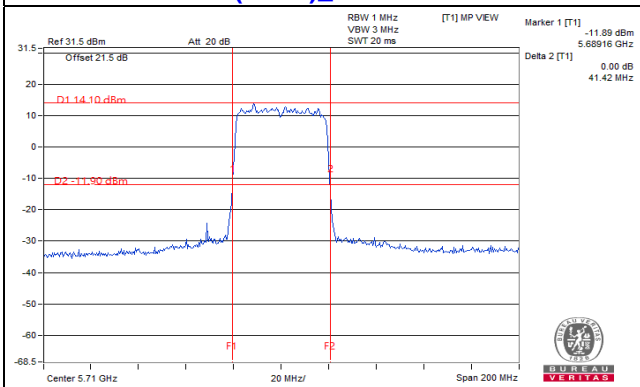


Note:

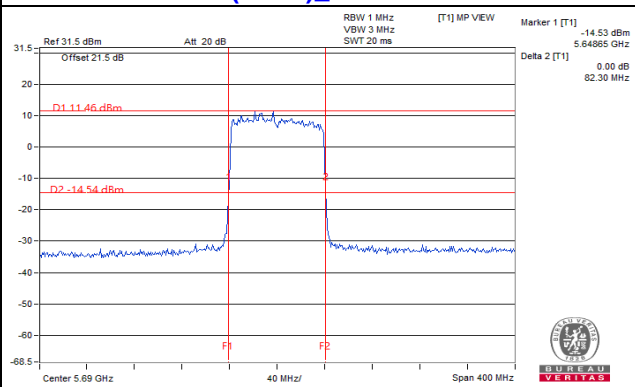
For CH144 (U-NII-2C) = 5725MHz - Marker 1

Spectrum Plot Value of 26dB BW

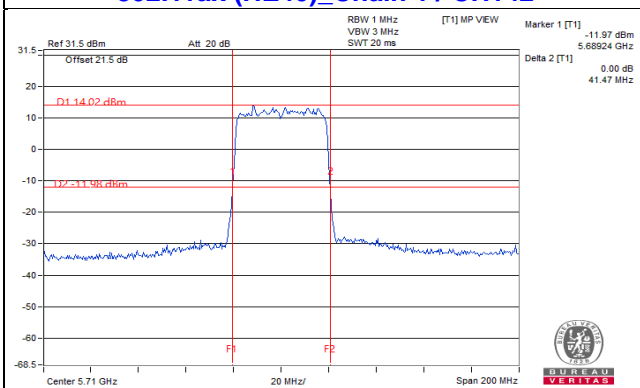
802.11ax (HE40)_Chain 0 / CH142



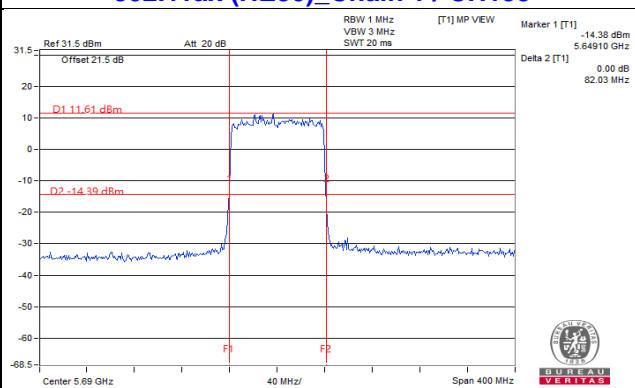
802.11ax (HE80)_Chain 0 / CH138



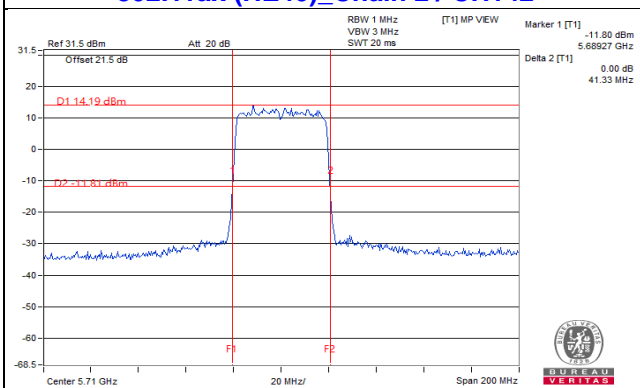
802.11ax (HE40)_Chain 1 / CH142



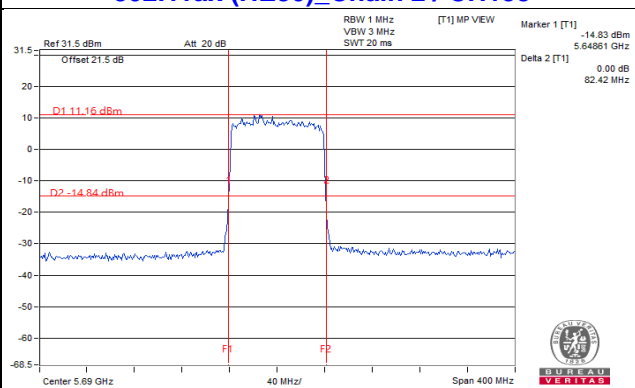
802.11ax (HE80)_Chain 1 / CH138



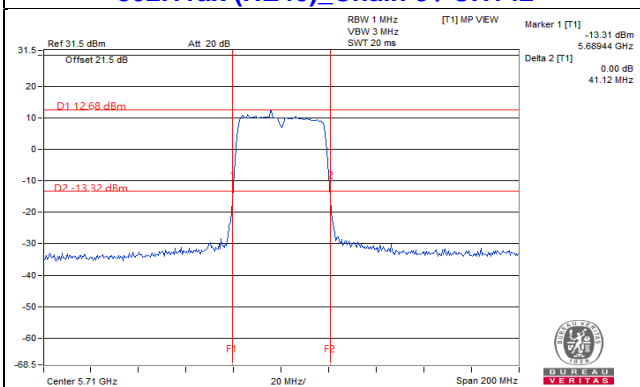
802.11ax (HE40)_Chain 2 / CH142



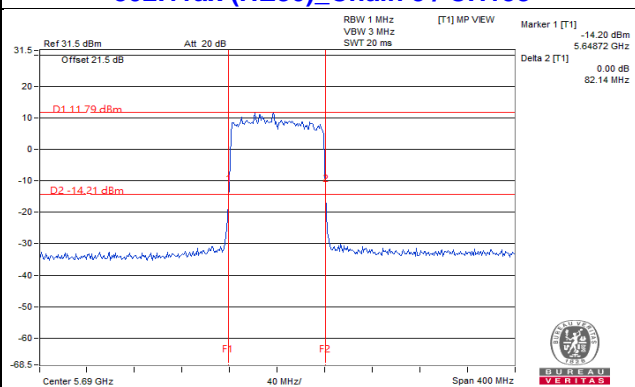
802.11ax (HE80)_Chain 2 / CH138



802.11ax (HE40)_Chain 3 / CH142



802.11ax (HE80)_Chain 3 / CH138



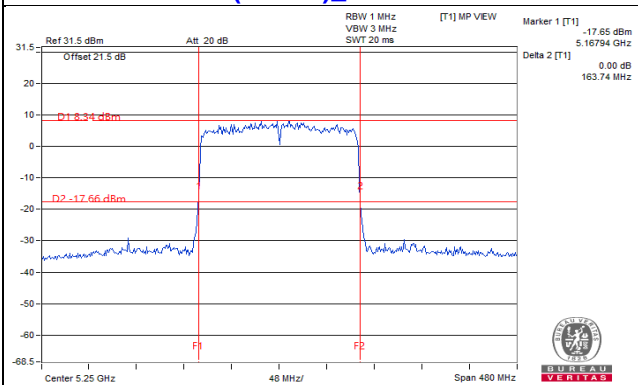
Note:

For CH142 (U-NII-2C) = 5725MHz - Marker 1
 For CH138 (U-NII-2C) = 5725MHz - Marker 1

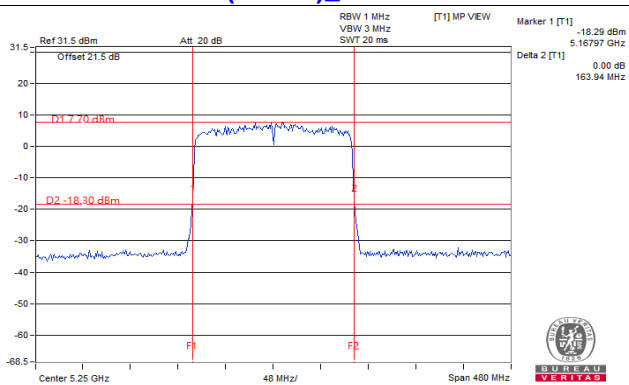
For channel straddling 5250MHz of 26dB BW

Spectrum Plot Value of 26dB BW

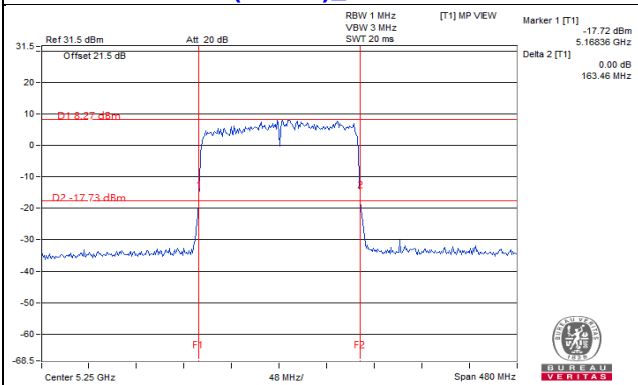
802.11ax (HE160)_Chain 0 / CH50



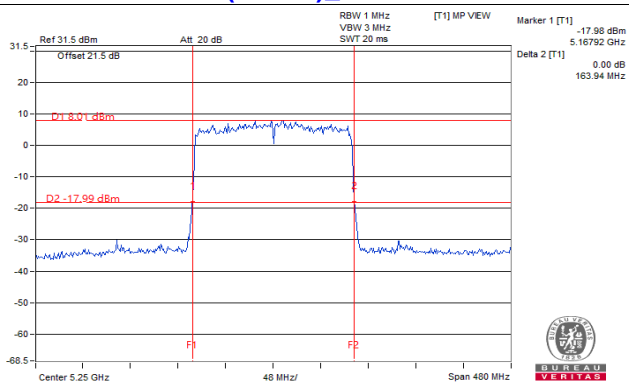
802.11ax (HE160)_Chain 2 / CH50



802.11ax (HE160)_Chain 1 / CH50



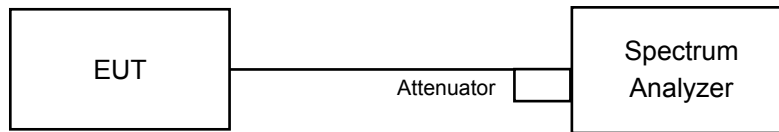
802.11ax (HE160)_Chain 3 / CH50



Note: For CH50 (U-NII-2A) = Delta 2 – (5250MHz - Marker 1)

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

CDD Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	16.92	19.20	17.04	16.92
60	5300	17.04	19.20	17.04	17.04
64	5320	16.92	18.12	17.04	16.92
100	5500	17.04	19.20	17.04	17.04
116	5580	17.04	19.20	17.04	17.04
140	5700	17.04	17.04	17.04	17.04
144 (U-NII-2C Band)	5720	13.52	13.52	13.52	13.52
144 (U-NII-3 Band)	5720	3.40	3.52	3.40	3.40

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	19.20	19.20	19.08	19.20
60	5300	18.24	19.20	19.20	19.20
64	5320	19.20	19.20	19.08	19.08
100	5500	19.20	18.24	19.08	17.92
116	5580	19.20	19.08	19.20	19.20
140	5700	19.08	19.20	19.08	19.08
144 (U-NII-2C Band)	5720	14.60	14.60	14.72	13.52
144 (U-NII-3 Band)	5720	4.48	4.60	4.48	3.40

802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	37.92	37.92	37.92	37.92
62	5310	37.92	38.40	37.92	37.68
102	5510	37.92	37.92	37.92	37.92
110	5550	37.92	37.92	37.92	37.92
134	5670	37.68	37.92	37.92	37.68
142 (U-NII-2C Band)	5710	33.96	33.96	33.96	33.48
142 (U-NII-3 Band)	5710	3.72	3.96	3.96	3.24

802.11ax (HE80)

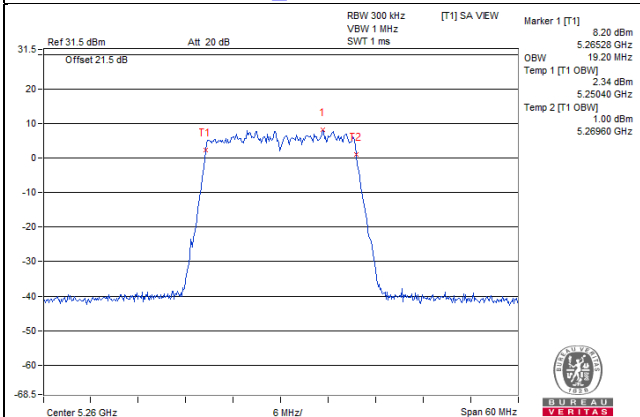
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	77.28	76.80	76.80	77.28
106	5530	77.28	77.28	76.80	77.76
122	5610	76.80	77.28	76.80	77.28
138 (U-NII-2C Band)	5690	73.88	73.40	73.88	73.88
138 (U-NII-3 Band)	5690	3.40	3.40	3.40	3.40

802.11ax (HE160)

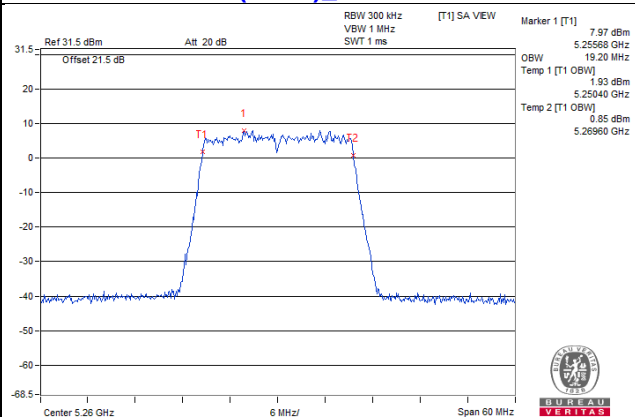
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-1 Band)	5250	77.76	77.76	77.76	77.76
50 (U-NII-2A Band)	5250	77.76	77.76	76.80	77.76
114	5570	154.56	155.52	156.48	154.56

Spectrum Plot of Max. Value

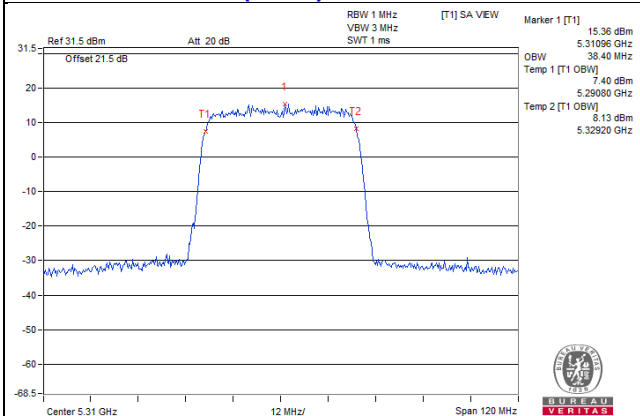
802.11a_Chain 1 / CH52



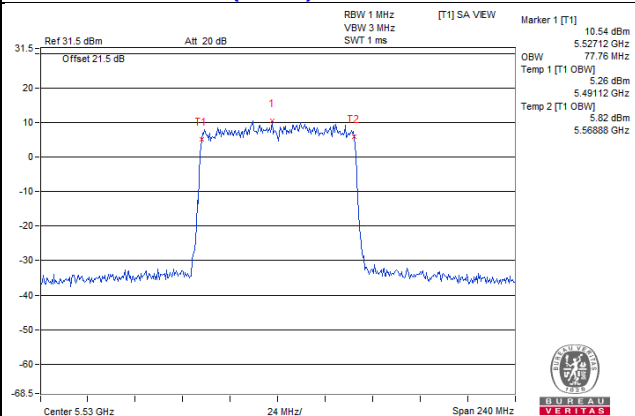
802.11ax (HE20)_Chain 0 / CH52



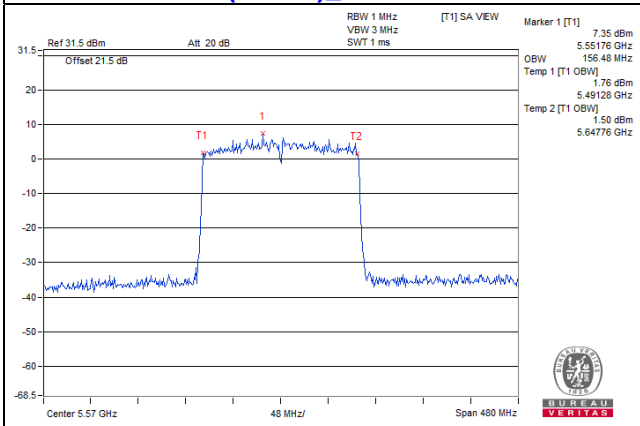
802.11ax (HE40)_Chain 1 / CH62



802.11ax (HE80)_Chain 3 / CH106



802.11ax (HE160)_Chain 2 / CH114

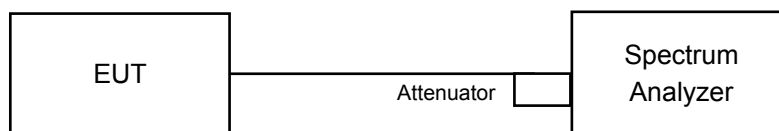


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

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

Using method SA-2

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

For U-NII-3 band:

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

CDD Mode

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

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)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	3.30	3.34	3.08	3.20	0.11	9.25	9.50	Pass
60	5300	3.15	3.33	3.18	3.48	0.11	9.31	9.50	Pass
64	5320	3.36	3.09	3.36	3.49	0.11	9.35	9.50	Pass
100	5500	3.52	3.47	3.68	2.78	0.11	9.40	9.50	Pass
116	5580	3.25	3.99	3.34	2.90	0.11	9.41	9.50	Pass
140	5700	3.62	3.46	3.53	3.16	0.11	9.47	9.50	Pass
144 (U-NII-2C)	5720	3.49	3.21	3.77	3.22	0.11	9.45	9.50	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is 7.5 dBi > 6dBi, so the power density limit shall be reduced to $11-(7.5-6) = 9.5$ dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

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)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	2.79	2.42	2.42	2.55	0.13	8.57	9.50	Pass
60	5300	3.06	2.61	2.44	2.57	0.13	8.70	9.50	Pass
64	5320	3.03	2.50	2.50	2.74	0.13	8.72	9.50	Pass
100	5500	3.03	2.82	2.86	2.97	0.13	8.94	9.50	Pass
116	5580	2.93	2.99	2.97	2.79	0.13	8.94	9.50	Pass
140	5700	3.19	2.92	2.92	2.93	0.13	9.01	9.50	Pass
144 (U-NII-2C)	5720	3.33	2.80	3.20	3.22	0.13	9.16	9.50	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is 7.5 dBi > 6dBi, so the power density limit shall be reduced to $11-(7.5-6) = 9.5$ dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

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)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	0.88	1.00	0.66	1.02	0.13	6.91	9.50	Pass
62	5310	0.82	0.55	0.46	0.93	0.13	6.71	9.50	Pass
102	5510	0.57	1.37	0.99	0.74	0.13	6.95	9.50	Pass
110	5550	0.51	1.21	1.18	0.42	0.13	6.87	9.50	Pass
134	5670	1.09	1.37	1.29	0.57	0.13	7.11	9.50	Pass
142 (U-NII-2C)	5710	1.06	1.18	1.06	0.54	0.13	6.99	9.50	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is 7.5 dBi > 6dBi, so the power density limit shall be reduced to $11-(7.5-6) = 9.5$ dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

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)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	-1.94	-1.66	-2.28	-1.62	0.12	4.15	9.50	Pass
106	5530	-1.67	-1.76	-1.64	-1.35	0.12	4.42	9.50	Pass
122	5610	-2.12	-1.53	-1.58	-1.25	0.12	4.41	9.50	Pass
138 (U-NII-2C)	5690	-1.96	-2.10	-1.88	-1.66	0.12	4.12	9.50	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain is 7.5 dBi > 6dBi, so the power density limit shall be reduced to $11-(7.5-6) = 9.5$ dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

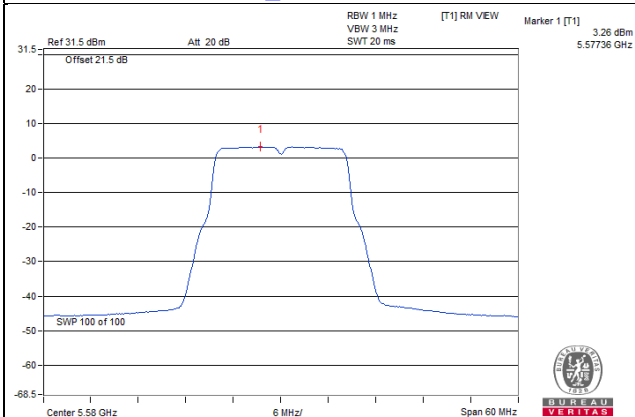
802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
50 (U-NII-1)	5250	-4.57	-4.49	-4.61	-4.46	0.12	1.49	15.50	Pass
50 (U-NII-2A)	5250	-4.46	-4.31	-4.59	-4.42	0.12	1.58	9.50	Pass
114	5570	-4.70	-4.36	-4.89	-4.17	0.12	1.50	9.50	Pass

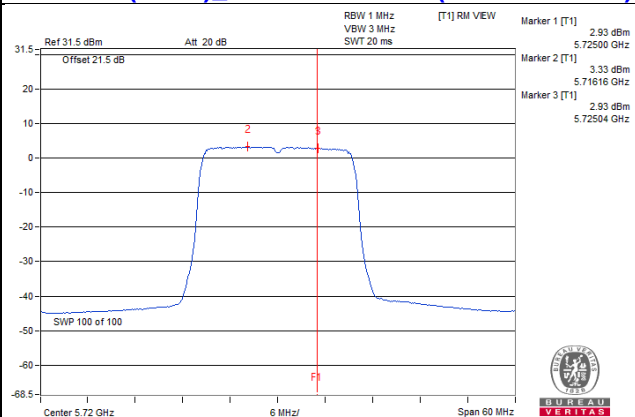
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1: The directional gain is 7.5 dBi > 6dBi, so the power density limit shall be reduced to $17-(7.5-6) = 15.5$ dBm.
3. For U-NII-2A, U-NII-2C: The directional gain is 7.5 dBi > 6dBi, so the power density limit shall be reduced to $11-(7.5-6) = 9.5$ dBm.
4. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

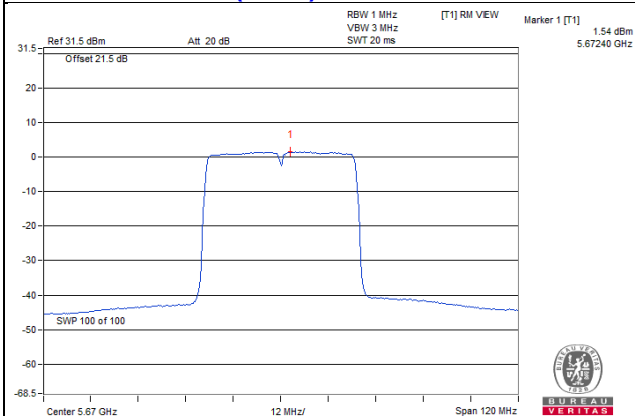
802.11a_Chain 1 / CH116



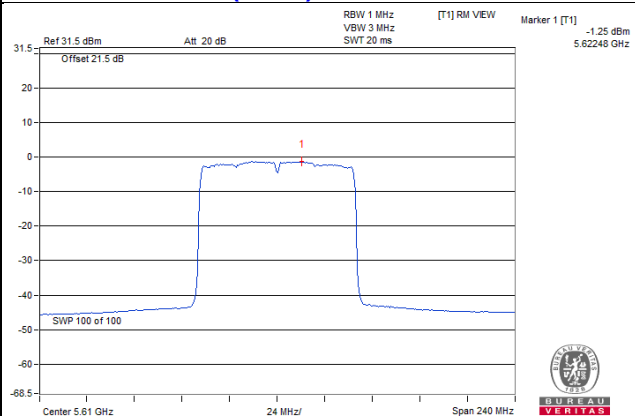
802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



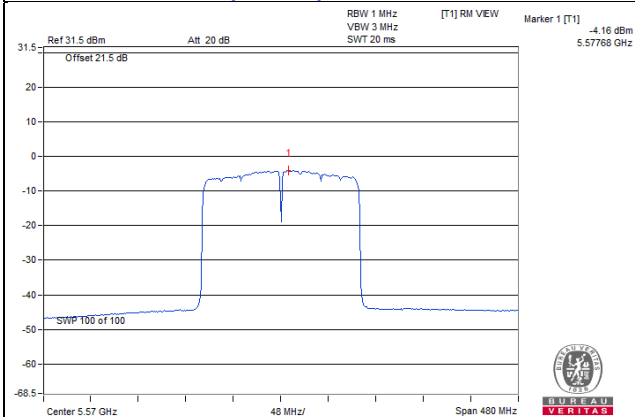
802.11ax (HE40)_Chain 1 / CH134



802.11ax (HE80)_Chain 3 / CH122



802.11ax (HE160)_Chain 3 / CH114



For U-NII-3 band:

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
144 (U-NII-3)	5720	-5.41	-5.79	-5.28	-5.63	0.11	0.61	2.83	28.50	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain is 7.5 dBi > 6dBi, so the power density limit shall be reduced to $30-(7.5-6) = 28.5$ dBm.
 3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
144 (U-NII-3)	5720	-6.17	-6.36	-6.18	-5.96	0.13	-0.01	2.21	28.50	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain is 7.5 dBi > 6dBi, so the power density limit shall be reduced to $30-(7.5-6) = 28.5$ dBm.
 3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
142 (U-NII-3)	5710	-9.26	-8.37	-8.82	-9.72	0.13	-2.87	-0.65	28.50	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain is 7.5 dBi > 6dBi, so the power density limit shall be reduced to $30-(7.5-6) = 28.5$ dBm.
 3. Refer to section 3.3 for duty cycle spectrum plot.

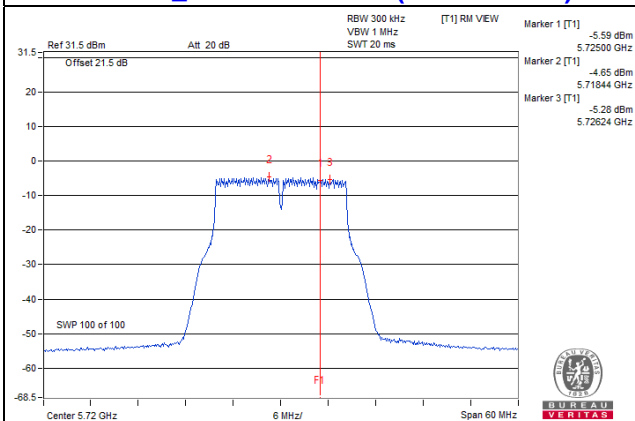
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
138 (U-NII-3)	5690	-13.54	-11.90	-13.38	-13.34	0.12	-6.85	-4.63	28.50	Pass

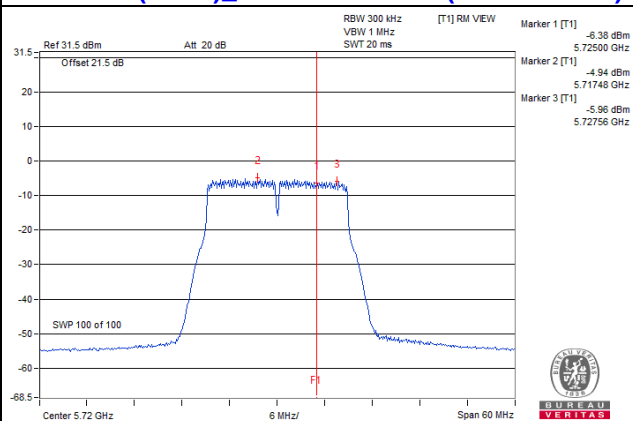
- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain is 7.5 dBi > 6dBi, so the power density limit shall be reduced to $30-(7.5-6) = 28.5$ dBm.
 3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

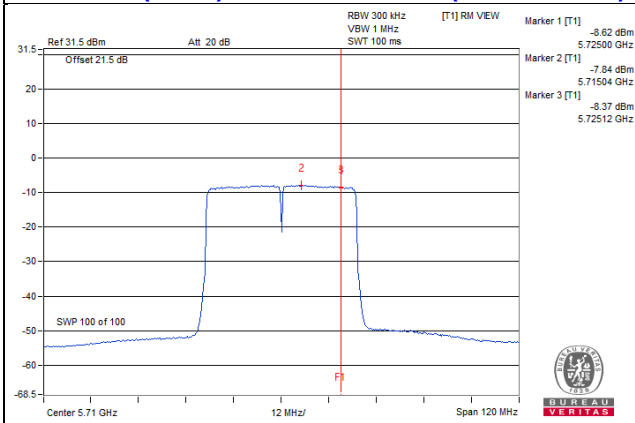
802.11a_Chain 2 / CH144 (U-NII-3 Band)



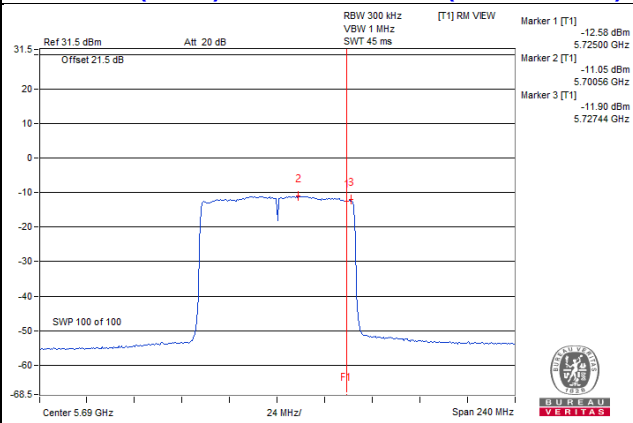
802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)



802.11ax (HE40)_Chain 1 / CH142 (U-NII-3 Band)



802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)

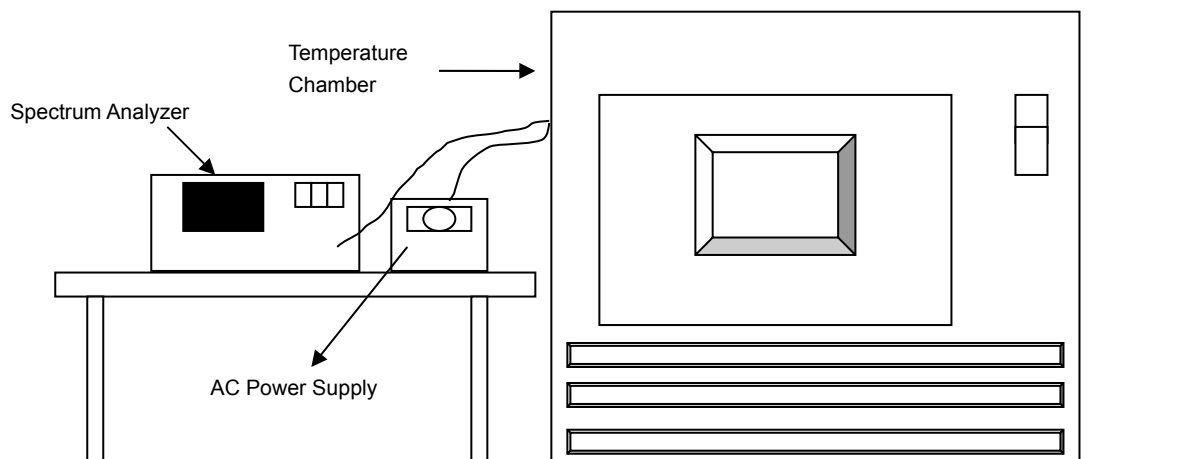


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	120	5260.0083	Pass	5260.0046	Pass	5260.0086	Pass	5260.0057	Pass
30	120	5260.0139	Pass	5260.011	Pass	5260.0137	Pass	5260.0126	Pass
20	120	5259.9988	Pass	5259.9997	Pass	5260.0001	Pass	5260.001	Pass
10	120	5260.0032	Pass	5259.9993	Pass	5260.0033	Pass	5260.0015	Pass
0	120	5260	Pass	5259.9987	Pass	5259.9987	Pass	5259.9989	Pass

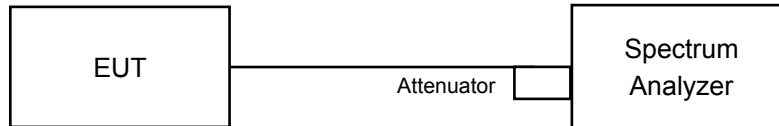
Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5259.9978	Pass	5260.0006	Pass	5260	Pass	5260.0011	Pass
	120	5259.9988	Pass	5259.9997	Pass	5260.0001	Pass	5260.001	Pass
	102	5259.9998	Pass	5259.9992	Pass	5260.0004	Pass	5260.0001	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
144 (U-NII-3)	5720	3.21	3.22	3.21	3.22	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
144 (U-NII-3)	5720	4.56	4.56	4.55	3.22	0.5	Pass

802.11ax (HE40)

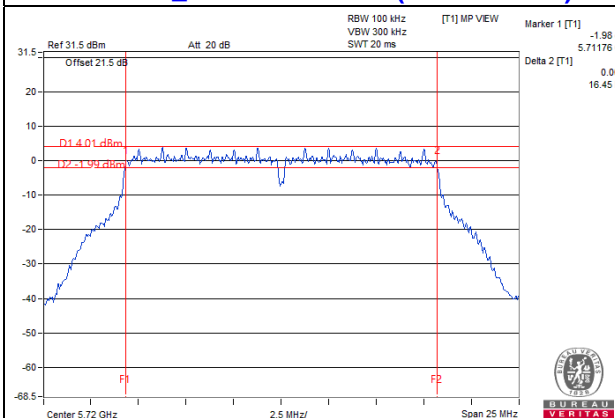
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
142 (U-NII-3)	5710	3.97	4.02	4.01	3.22	0.5	Pass

802.11ax (HE80)

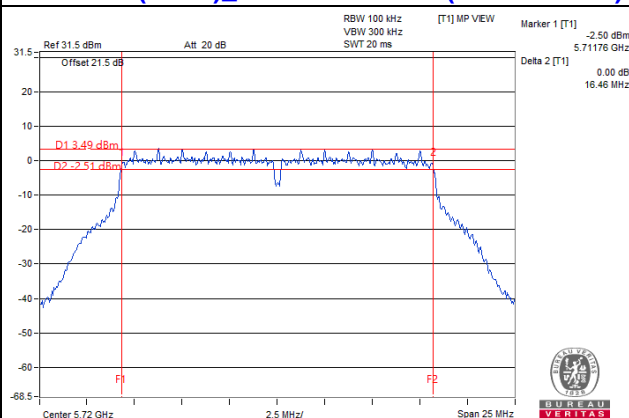
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
138 (U-NII-3)	5690	3.6	4	3.67	3.61	0.5	Pass

Spectrum Plot of Worst Value

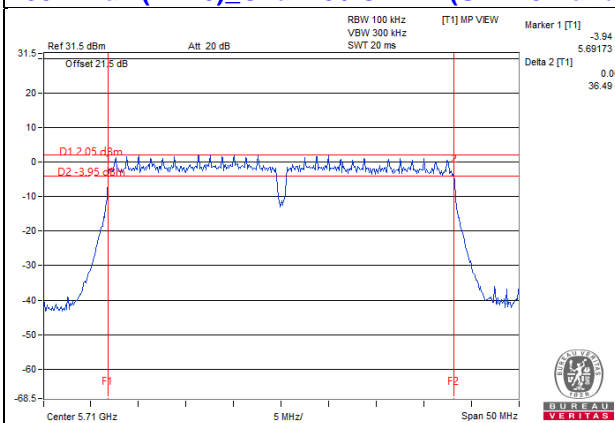
802.11a_Chain 0 / CH144 (U-NII-3 Band)



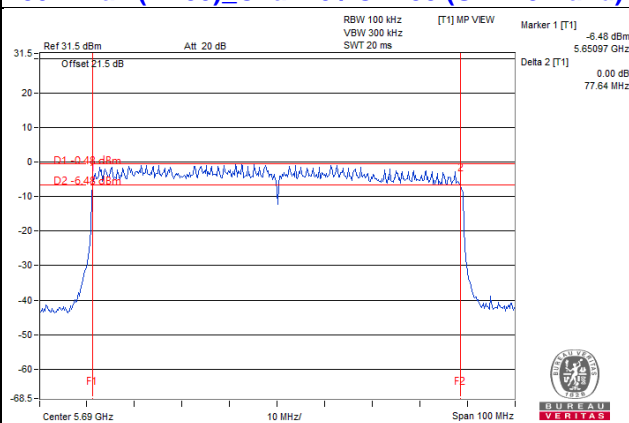
802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)



802.11ax (HE40)_Chain 3 / CH142 (U-NII-3 Band)



802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

5 Pictures of Test Arrangements

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

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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