

FCC Test Report (WLAN_DFS Band)

Report No.: RF191118E09B-1

FCC ID: PY319400466

Test Model: RAX50

Series Model: RAX45

Received Date: Nov. 12, 2019

Test Date: Nov. 12, 2019 to Feb. 03, 2020

Issued Date: Mar. 31, 2020

Applicant: NETGEAR, Inc.

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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
RF191118E09B-1	Original release.	Mar. 31, 2020

1 Certificate of Conformity

Product: Nighthawk AX6 AX5400 6-Stream WiFi Router, Nighthawk AX6 AX4300 6-Stream WiFi Router

Brand: NETGEAR

Test Model: RAX50

Series Model: RAX45

Sample Status: ENGINEERING SAMPLE

Applicant: NETGEAR, Inc.

Test Date: Nov. 12, 2019 to Feb. 03, 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 -8.93 dB at 0.30625 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 -0.1 dB at 5350.00 MHz and 5725.00 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(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is R-SMA 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) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.8 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.0 dB
	30MHz ~ 1GHz	4.9 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.1 dB
	6GHz ~ 18GHz	4.9 dB
	18GHz ~ 40GHz	5.2 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (WLAN_DFS Band)

Product	NIGHTHAWK AX6 AX5400 6-Stream WiFi Router, NIGHTHAWK AX6 AX4300 6-Stream WiFi Router
Brand	NETGEAR
Test Model	RAX50
Series Model	RAX45
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from 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 4803.9 Mbps
Operating Frequency	5.25 ~ 5.32 GHz, 5.50 ~ 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	Non-Beamforming Mode: 5.25 ~ 5.32 GHz: 233.996 mW 5.5 ~ 5.72 GHz: 240.035 mW Beamforming Mode: 5.25 ~ 5.32 GHz: 222.02 mW 5.5 ~ 5.72 GHz: 215.781 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, 1.8 m)

Note:

- This report is prepared for FCC class II change. The difference compared with the Report No.: RF191118E09 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.
- All models are listed as below.

Product Name	Model Name	Description
NIGHTHAWK AX6 AX5400 6-Stream WiFi Router	RAX50	The hardware are the same, just only the Link Rate is different.
NIGHTHAWK AX6 AX4300 6-Stream WiFi Router	RAX45	RAX50: 2.4GHz 600 Mbps, 5GHz 4800 Mbps RAX45: 2.4GHz 480 Mbps, 5GHz 3840 Mbps

Note: From the above models, model: RAX50 was selected as representative model for the test and its data was recorded in this report.

4. 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.

5. The EUT must be supplied one power adapter and following different models could be chosen as following table:

No.	Brand	Model No.	P/N	Spec.
1	NETGEAR	2ABL030F 1 NA	332-10758-01	Input: 100-120Vac, 1.0A, 50/60Hz Output: 12V, 2.5A DC Output cable: Unshielded, 1.8 m
2	NETGEAR	AD2067F10	332-10797-01	Input: 100-120Vac, 1.0A, 50/60Hz Output: 12V, 2.5A DC Output cable: Unshielded, 1.8 m

Note: From the above models, the worst AC Power Conducted Emissions and Radiated Emissions test was found in **Adapter 1**. Therefore only the test data of the modes were recorded in this report.

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

Antenna Operation 1	Antenna Operation 2
Dual_Ant0	Dual_Ant0
Dual_Ant1	Dual_Ant1
Single_Ant2	Dual_Ant2
Single_Ant3	Dual_Ant3

Note: From the above antenna conditions, the worst case was found in Antenna Operation 1. Therefore only the test data of the mode was recorded in this report.

7. The directional antenna gain, please refer to the following table:

Frequency Range (GHz)	Directional Antenna Gain (dBi)	Antenna Type	Antenna Connector
2.4~2.4835	3.73	Dipole	R-SMA
5.15 ~ 5.25	6.61		
5.25 ~ 5.35	6.53		
5.47 ~ 5.725	6.64		
5.725 ~ 5.85	6.66		

Note: More detailed information, please refer to antenna specification.

8. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
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:

1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
2. The EUT support Beamforming and Non-Beamforming mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. 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)

9. 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	
-	√	√	√	√	-

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note: In original report, the EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on X-plane.

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.

Non-Beamforming 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)		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
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6Mb/s
802.11ac (VHT20)		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

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.

Non-Beamforming 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	110	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.

Non-Beamforming 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	110	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.

Non-Beamforming 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
802.11ac (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ac (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ac (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≥1G	21deg. C, 64%RH	120Vac, 60Hz	Kevin Ko
RE<1G	25deg. C, 73%RH	120Vac, 60Hz	Kevin Ko
PLC	25deg. C, 75%RH	120Vac, 60Hz	Kevin Ko
APCM	25deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin

3.3 Duty Cycle of Test Signal

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

If duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11a: Duty cycle = $2.062 \text{ ms} / 2.094 \text{ ms} = 0.985$

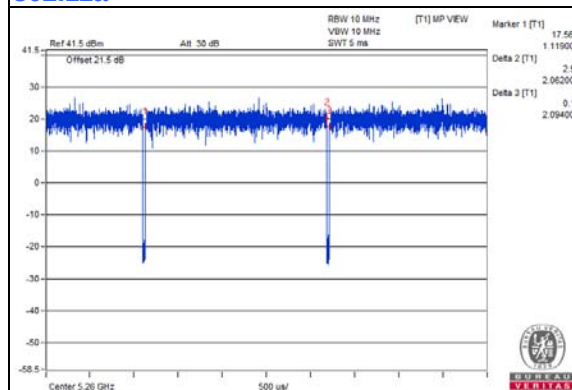
802.11ax (HE20): Duty cycle = $1.484 \text{ ms} / 1.523 \text{ ms} = 0.974$, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.11 \text{ dB}$

802.11ax (HE40): Duty cycle = $0.771 \text{ ms} / 0.804 \text{ ms} = 0.959$, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.18 \text{ dB}$

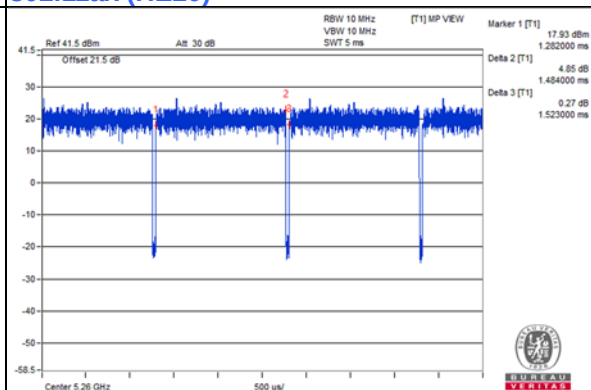
802.11ax (HE80): Duty cycle = $0.4 \text{ ms} / 0.433 \text{ ms} = 0.924$, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.34 \text{ dB}$

802.11ax (HE160): Duty cycle = $0.232 \text{ ms} / 0.263 \text{ ms} = 0.882$, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.54 \text{ dB}$

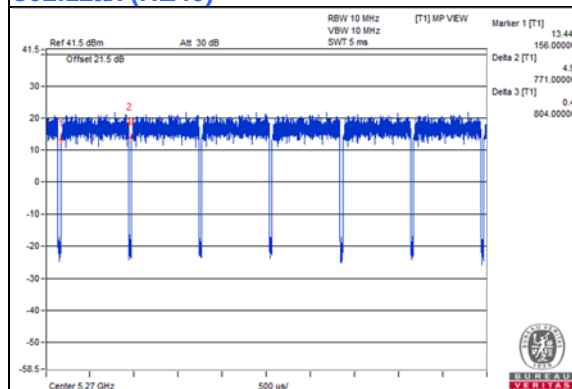
802.11a



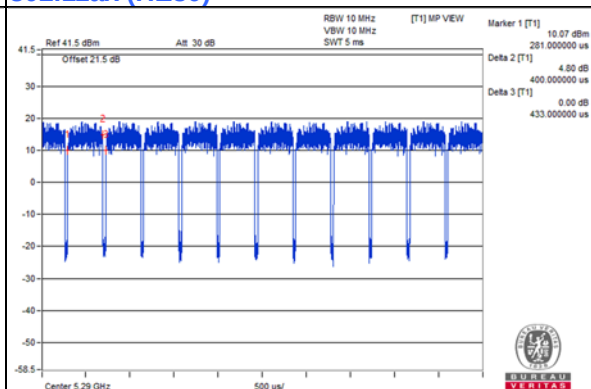
802.11ax (HE20)



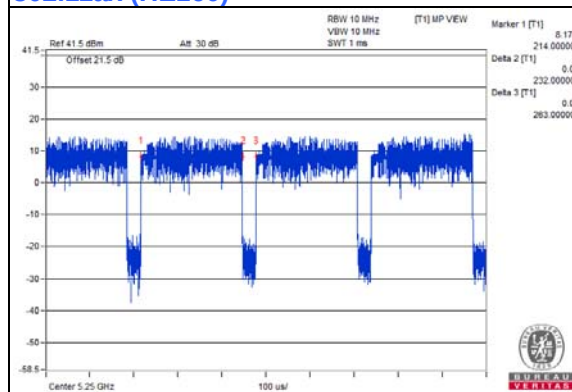
802.11ax (HE40)



802.11ax (HE80)



802.11ax (HE160)



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.

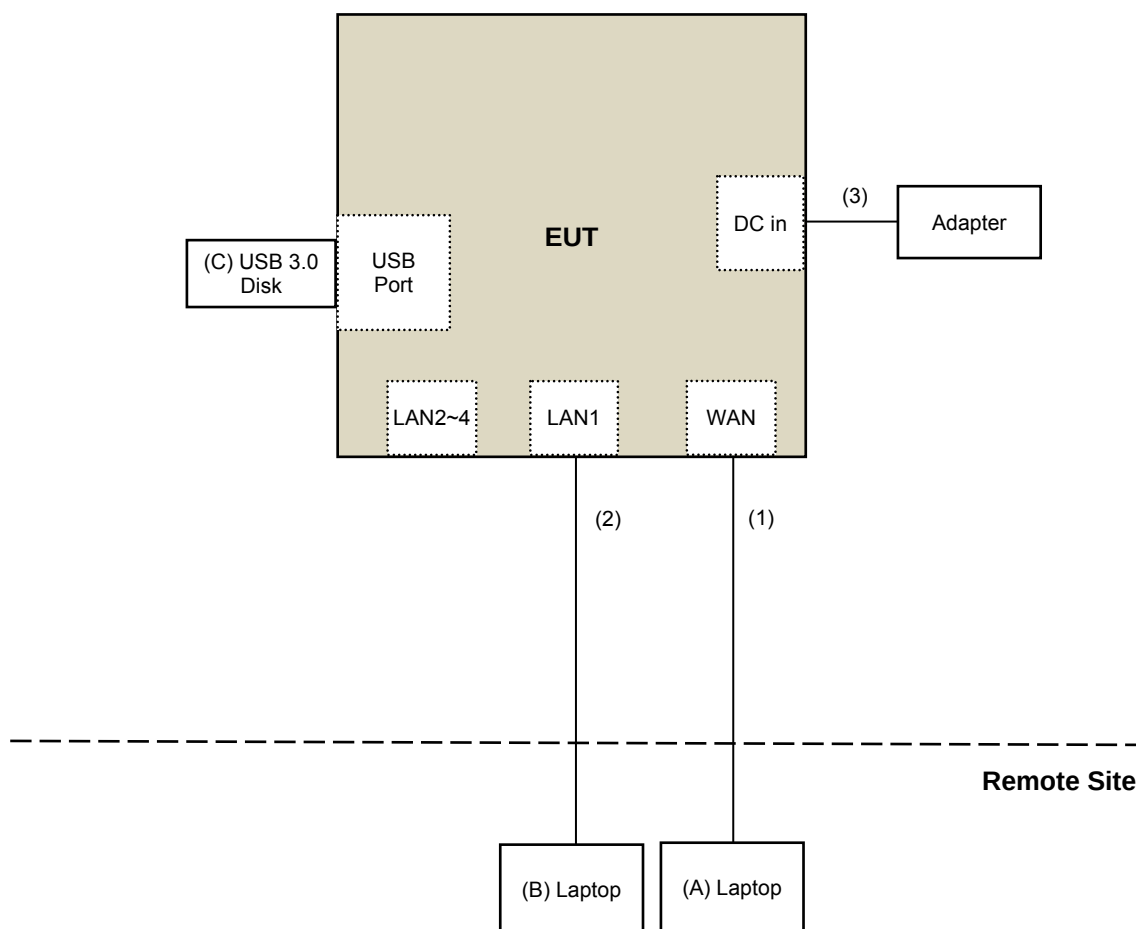
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab
B.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
C.	USB 3.0 Disk	SanDisk	MSIP-REM-TAD-S DCZ73	NA	NA	Provided by Lab

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.	RJ-45 Cable	1	10	No	0	Provided by Lab
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	DC Cable	1	1.8	No	0	Supplied by client

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 (dBµV/m)	AV:54 (dBµV/m)
Frequency Band	Applicable To		EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)		PK:-27 (dBm/MHz)	PK:68.2(dBµV/m)
5250~5350 MHz	15.407(b)(2)			
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	☒	15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2(dBµV/m) ^{*1} PK:105.2 (dBµV/m) ^{*2} PK: 110.8(dBµV/m) ^{*3} PK:122.2 (dBµV/m) ^{*4}
	☐	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge. ^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.				

Note:

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

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

4.1.2 Test Instruments

For Radiated Emission Test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 13, 2019	Dec. 12, 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 Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Oct. 23, 2019	Oct. 22, 2020
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 11, 2019	Nov. 10, 2020
RF Cable	8D	966-4-1	Mar. 19, 2019	Mar. 18, 2020
RF Cable	8D	966-4-2	Mar. 19, 2019	Mar. 18, 2020
RF Cable	8D	966-4-3	Mar. 19, 2019	Mar. 18, 2020
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Sep. 26, 2019	Sep. 25, 2020
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC12630SE	980385	Aug. 15, 2019	Aug. 14, 2020
RF Cable	EMC104-SM-SM-1200	160923	Jan. 28, 2019	Jan. 27, 2020
RF Cable	104 RF cable	131215	Jan. 09, 2020	Jan. 08, 2021
RF Cable	EMC104-SM-SM-6000	180418	May 03, 2019	May 02, 2020
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 28, 2019	Jan. 27, 2020
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 24, 2019	Nov. 23, 2020
RF Cable	EMC102-KM-KM-1200	160924	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC102-KM-KM-1200	160925	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. 4.
3. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: Jan. 11, 2020

For other test items:

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

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. 4.
3. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: Feb. 03, 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:

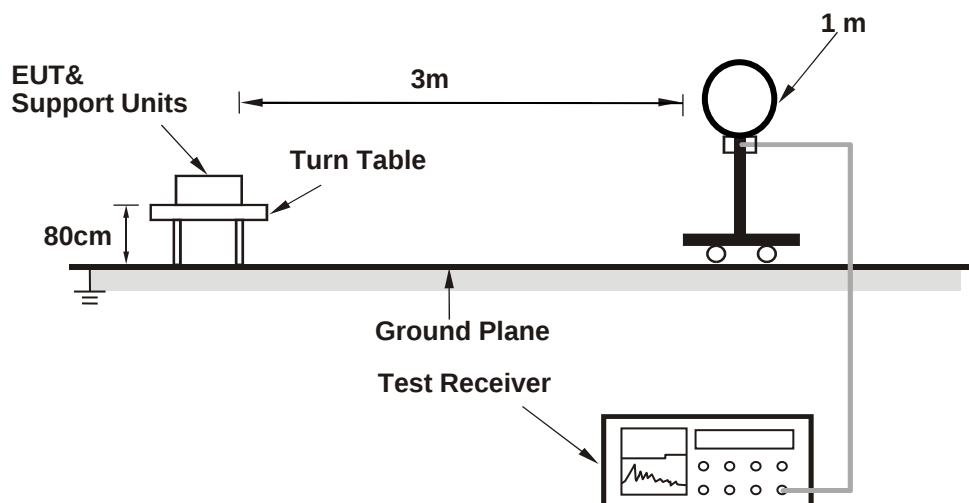
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

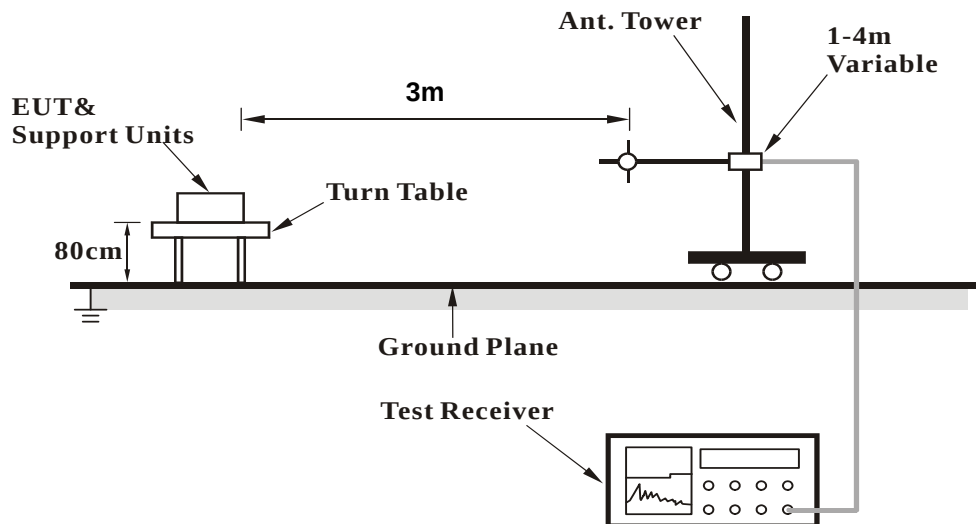
No deviation.

4.1.5 Test Setup

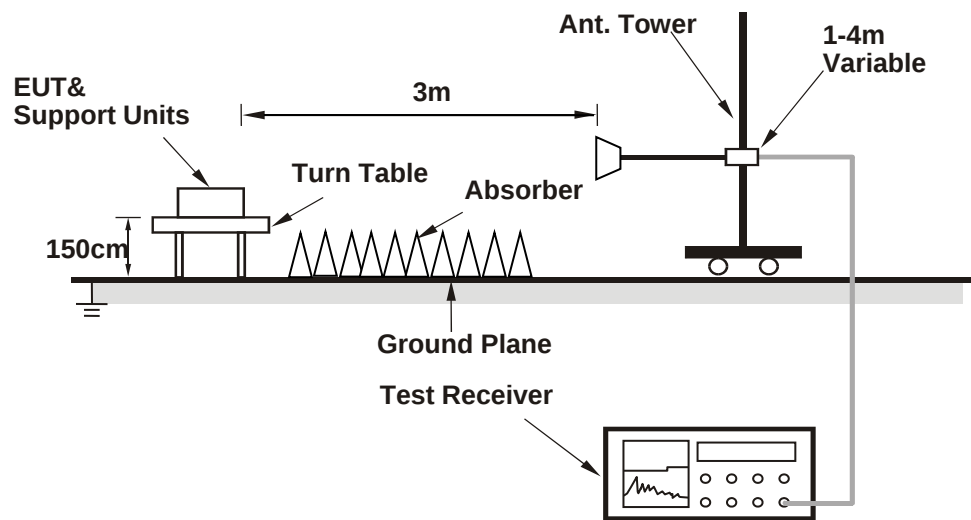
For Radiated emission below 30MHz



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 (Mtool 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	51.4 PK	74.0	-22.6	2.64 H	59	48.3	3.1
2	5150.00	39.7 AV	54.0	-14.3	2.64 H	59	36.6	3.1
3	*5260.00	119.2 PK			2.64 H	59	116.4	2.8
4	*5260.00	109.2 AV			2.64 H	59	106.4	2.8
5	5350.00	51.5 PK	74.0	-22.5	2.64 H	59	48.4	3.1
6	5350.00	39.4 AV	54.0	-14.6	2.64 H	59	36.3	3.1
7	#10520.00	48.4 PK	68.2	-19.8	2.52 H	178	35.0	13.4
8	15780.00	48.8 PK	74.0	-25.2	2.59 H	116	36.0	12.8
9	15780.00	35.5 AV	54.0	-18.5	2.59 H	116	22.7	12.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.3 PK	74.0	-14.7	1.53 V	164	56.2	3.1
2	5150.00	46.5 AV	54.0	-7.5	1.53 V	164	43.4	3.1
3	*5260.00	124.5 PK			1.53 V	164	121.7	2.8
4	*5260.00	115.3 AV			1.53 V	164	112.5	2.8
5	5350.00	58.5 PK	74.0	-15.5	1.53 V	164	55.4	3.1
6	5350.00	46.1 AV	54.0	-7.9	1.53 V	164	43.0	3.1
7	#10520.00	46.7 PK	68.2	-21.5	2.36 V	131	33.3	13.4
8	15780.00	48.9 PK	74.0	-25.1	1.10 V	99	36.1	12.8
9	15780.00	35.7 AV	54.0	-18.3	1.10 V	99	22.9	12.8

REMARKS:

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

CHANNEL	TX Channel 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	*5300.00	117.5 PK			2.04 H	83	114.6	2.9
2	*5300.00	109.8 AV			2.04 H	83	106.9	2.9
3	5350.00	52.0 PK	74.0	-22.0	2.04 H	83	48.9	3.1
4	5350.00	42.3 AV	54.0	-11.7	2.04 H	83	39.2	3.1
5	10600.00	48.3 PK	74.0	-25.7	1.10 H	109	35.1	13.2
6	10600.00	32.5 AV	54.0	-21.5	1.10 H	109	19.3	13.2
7	15900.00	49.2 PK	74.0	-24.8	1.54 H	200	36.1	13.1
8	15900.00	36.0 AV	54.0	-18.0	1.54 H	200	22.9	13.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	124.7 PK			1.48 V	163	121.8	2.9
2	*5300.00	115.0 AV			1.48 V	163	112.1	2.9
3	5350.00	58.9 PK	74.0	-15.1	1.48 V	163	55.8	3.1
4	5350.00	47.8 AV	54.0	-6.2	1.48 V	163	44.7	3.1
5	10600.00	47.6 PK	74.0	-26.4	1.28 V	164	34.4	13.2
6	10600.00	32.8 AV	54.0	-21.2	1.28 V	164	19.6	13.2
7	15900.00	49.5 PK	74.0	-24.5	2.63 V	207	36.4	13.1
8	15900.00	35.9 AV	54.0	-18.1	2.63 V	207	22.8	13.1

REMARKS:

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

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	115.6 PK			1.05 H	242	112.7	2.9
2	*5320.00	105.3 AV			1.05 H	242	102.4	2.9
3	5350.00	62.3 PK	74.0	-11.7	1.05 H	242	59.2	3.1
4	5350.00	47.9 AV	54.0	-6.1	1.05 H	242	44.8	3.1
5	10640.00	46.9 PK	74.0	-27.1	2.49 H	218	33.6	13.3
6	10640.00	33.0 AV	54.0	-21.0	2.49 H	218	19.7	13.3
7	15960.00	49.0 PK	74.0	-25.0	1.47 H	216	35.7	13.3
8	15960.00	35.5 AV	54.0	-18.5	1.47 H	216	22.2	13.3
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	121.3 PK			3.58 V	184	118.4	2.9
2	*5320.00	113.0 AV			3.58 V	184	110.1	2.9
3	5350.00	69.8 PK	74.0	-4.2	3.58 V	184	66.7	3.1
4	5350.00	53.9 AV	54.0	-0.1	3.58 V	184	50.8	3.1
5	10640.00	47.1 PK	74.0	-26.9	2.25 V	350	33.8	13.3
6	10640.00	32.9 AV	54.0	-21.1	2.25 V	350	19.6	13.3
7	15960.00	48.6 PK	74.0	-25.4	2.35 V	76	35.3	13.3
8	15960.00	35.4 AV	54.0	-18.6	2.35 V	76	22.1	13.3

REMARKS:

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

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	51.4 PK	74.0	-22.6	1.93 H	157	48.0	3.4
2	5460.00	36.3 AV	54.0	-17.7	1.93 H	157	32.9	3.4
3	#5470.00	62.8 PK	68.2	-5.4	1.93 H	157	59.4	3.4
4	*5500.00	111.6 PK			1.93 H	157	108.3	3.3
5	*5500.00	100.0 AV			1.93 H	157	96.7	3.3
6	11000.00	48.3 PK	74.0	-25.7	1.20 H	287	34.6	13.7
7	11000.00	32.8 AV	54.0	-21.2	1.20 H	287	19.1	13.7
8	#16500.00	48.2 PK	68.2	-20.0	1.67 H	308	33.2	15.0
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	3.54 V	249	54.3	3.4
2	5460.00	44.2 AV	54.0	-9.8	3.54 V	249	40.8	3.4
3	#5470.00	67.9 PK	68.2	-0.3	3.54 V	249	64.5	3.4
4	*5500.00	117.3 PK			3.54 V	249	114.0	3.3
5	*5500.00	107.8 AV			3.54 V	249	104.5	3.3
6	11000.00	47.0 PK	74.0	-27.0	2.52 V	160	33.3	13.7
7	11000.00	32.8 AV	54.0	-21.2	2.52 V	160	19.1	13.7
8	#16500.00	49.1 PK	68.2	-19.1	1.33 V	71	34.1	15.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
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	*5580.00	117.7 PK			1.35 H	179	114.3	3.4
2	*5580.00	108.6 AV			1.35 H	179	105.2	3.4
3	11160.00	48.2 PK	74.0	-25.8	2.18 H	298	34.7	13.5
4	11160.00	32.8 AV	54.0	-21.2	2.18 H	298	19.3	13.5
5	#16740.00	47.9 PK	68.2	-20.3	2.47 H	275	31.3	16.6
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	*5580.00	124.6 PK			3.23 V	66	121.2	3.4
2	*5580.00	114.8 AV			3.23 V	66	111.4	3.4
3	11160.00	46.6 PK	74.0	-27.4	1.50 V	341	33.1	13.5
4	11160.00	33.0 AV	54.0	-21.0	1.50 V	341	19.5	13.5
5	#16740.00	49.4 PK	68.2	-18.8	1.95 V	192	32.8	16.6

REMARKS:

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

CHANNEL	TX Channel 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	113.9 PK			2.12 H	332	110.2	3.7
2	*5700.00	105.2 AV			2.12 H	332	101.5	3.7
3	#5725.00	61.1 PK	68.2	-7.1	2.12 H	332	57.5	3.6
4	11400.00	46.6 PK	74.0	-27.4	1.51 H	70	33.0	13.6
5	11400.00	32.9 AV	54.0	-21.1	1.51 H	70	19.3	13.6
6	#17100.00	49.3 PK	68.2	-18.9	1.86 H	29	32.6	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	120.2 PK			1.82 V	3	116.5	3.7
2	*5700.00	110.9 AV			1.82 V	3	107.2	3.7
3	#5725.00	68.1 PK	68.2	-0.1	1.82 V	3	64.5	3.6
4	11400.00	47.1 PK	74.0	-26.9	1.68 V	184	33.5	13.6
5	11400.00	33.4 AV	54.0	-20.6	1.68 V	184	19.8	13.6
6	#17100.00	48.5 PK	68.2	-19.7	2.01 V	236	31.8	16.7

REMARKS:

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

CHANNEL	TX Channel 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	50.5 PK	74.0	-23.5	1.00 H	22	47.1	3.4
2	5460.00	38.4 AV	54.0	-15.6	1.00 H	22	35.0	3.4
3	#5470.00	49.3 PK	68.2	-18.9	1.00 H	22	45.9	3.4
4	*5720.00	116.5 PK			1.00 H	22	112.8	3.7
5	*5720.00	107.0 AV			1.00 H	22	103.3	3.7
6	#5850.00	48.6 PK	68.2	-19.6	1.00 H	22	44.5	4.1
7	11440.00	48.2 PK	74.0	-25.8	1.06 H	146	34.6	13.6
8	11440.00	32.8 AV	54.0	-21.2	1.06 H	146	19.2	13.6
9	#17160.00	48.3 PK	68.2	-19.9	2.46 H	63	31.5	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	5460.00	56.3 PK	74.0	-17.7	1.65 V	5	52.9	3.4
2	5460.00	43.8 AV	54.0	-10.2	1.65 V	5	40.4	3.4
3	#5470.00	56.6 PK	68.2	-11.6	1.65 V	5	53.2	3.4
4	*5720.00	124.3 PK			1.65 V	5	120.6	3.7
5	*5720.00	114.6 AV			1.65 V	5	110.9	3.7
6	#5850.00	55.8 PK	68.2	-12.4	1.65 V	5	51.7	4.1
7	11440.00	47.8 PK	74.0	-26.2	2.31 V	113	34.2	13.6
8	11440.00	32.6 AV	54.0	-21.4	2.31 V	113	19.0	13.6
9	#17160.00	48.7 PK	68.2	-19.5	1.96 V	24	31.9	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ax (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	48.3 PK	74.0	-25.7	1.38 H	80	45.2	3.1
2	5150.00	40.0 AV	54.0	-14.0	1.38 H	80	36.9	3.1
3	*5260.00	119.1 PK			1.38 H	80	116.3	2.8
4	*5260.00	107.5 AV			1.38 H	80	104.7	2.8
5	5350.00	53.6 PK	74.0	-20.4	1.38 H	80	50.5	3.1
6	5350.00	39.6 AV	54.0	-14.4	1.38 H	80	36.5	3.1
7	#10520.00	47.2 PK	68.2	-21.0	2.48 H	234	33.8	13.4
8	15780.00	49.0 PK	74.0	-25.0	1.00 H	323	36.2	12.8
9	15780.00	34.9 AV	54.0	-19.1	1.00 H	323	22.1	12.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.9 PK	74.0	-18.1	1.72 V	162	52.8	3.1
2	5150.00	45.9 AV	54.0	-8.1	1.72 V	162	42.8	3.1
3	*5260.00	125.9 PK			1.72 V	162	123.1	2.8
4	*5260.00	114.7 AV			1.72 V	162	111.9	2.8
5	5350.00	59.1 PK	74.0	-14.9	1.72 V	162	56.0	3.1
6	5350.00	46.4 AV	54.0	-7.6	1.72 V	162	43.3	3.1
7	#10520.00	48.4 PK	68.2	-19.8	1.74 V	320	35.0	13.4
8	15780.00	49.2 PK	74.0	-24.8	1.61 V	189	36.4	12.8
9	15780.00	35.9 AV	54.0	-18.1	1.61 V	189	23.1	12.8

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)
- Margin value = Emission Level – Limit value
- The other emission levels were very low against the limit.
- " * ": 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	*5300.00	119.2 PK			1.41 H	326	116.3	2.9
2	*5300.00	107.9 AV			1.41 H	326	105.0	2.9
3	5350.00	60.9 PK	74.0	-13.1	1.41 H	326	57.8	3.1
4	5350.00	48.0 AV	54.0	-6.0	1.41 H	326	44.9	3.1
5	10600.00	46.7 PK	74.0	-27.3	1.91 H	33	33.5	13.2
6	10600.00	32.4 AV	54.0	-21.6	1.91 H	33	19.2	13.2
7	15900.00	48.5 PK	74.0	-25.5	2.59 H	73	35.4	13.1
8	15900.00	35.3 AV	54.0	-18.7	2.59 H	73	22.2	13.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	125.8 PK			1.66 V	163	122.9	2.9
2	*5300.00	114.3 AV			1.66 V	163	111.4	2.9
3	5350.00	68.6 PK	74.0	-5.4	1.66 V	163	65.5	3.1
4	5350.00	53.7 AV	54.0	-0.3	1.66 V	163	50.6	3.1
5	10600.00	47.4 PK	74.0	-26.6	1.51 V	134	34.2	13.2
6	10600.00	33.4 AV	54.0	-20.6	1.51 V	134	20.2	13.2
7	15900.00	48.3 PK	74.0	-25.7	1.34 V	83	35.2	13.1
8	15900.00	35.0 AV	54.0	-19.0	1.34 V	83	21.9	13.1

REMARKS:

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

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	114.4 PK			1.76 H	79	111.5	2.9
2	*5320.00	104.4 AV			1.76 H	79	101.5	2.9
3	5350.00	62.3 PK	74.0	-11.7	1.76 H	79	59.2	3.1
4	5350.00	47.0 AV	54.0	-7.0	1.76 H	79	43.9	3.1
5	10640.00	48.2 PK	74.0	-25.8	2.28 H	287	34.9	13.3
6	10640.00	32.7 AV	54.0	-21.3	2.28 H	287	19.4	13.3
7	15960.00	47.7 PK	74.0	-26.3	2.55 H	22	34.4	13.3
8	15960.00	35.8 AV	54.0	-18.2	2.55 H	22	22.5	13.3
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	121.1 PK			1.86 V	245	118.2	2.9
2	*5320.00	109.5 AV			1.86 V	245	106.6	2.9
3	5350.00	70.3 PK	74.0	-3.7	1.86 V	245	67.2	3.1
4	5350.00	53.9 AV	54.0	-0.1	1.86 V	245	50.8	3.1
5	10640.00	47.1 PK	74.0	-26.9	2.23 V	266	33.8	13.3
6	10640.00	32.8 AV	54.0	-21.2	2.23 V	266	19.5	13.3
7	15960.00	48.8 PK	74.0	-25.2	2.60 V	231	35.5	13.3
8	15960.00	36.2 AV	54.0	-17.8	2.60 V	231	22.9	13.3

REMARKS:

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

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	57.7 PK	74.0	-16.3	2.62 H	50	54.3	3.4
2	5460.00	39.4 AV	54.0	-14.6	2.62 H	50	36.0	3.4
3	#5470.00	61.0 PK	68.2	-7.2	2.62 H	50	57.6	3.4
4	*5500.00	113.5 PK			2.62 H	50	110.2	3.3
5	*5500.00	104.1 AV			2.62 H	50	100.8	3.3
6	11000.00	48.0 PK	74.0	-26.0	2.12 H	179	34.3	13.7
7	11000.00	32.8 AV	54.0	-21.2	2.12 H	179	19.1	13.7
8	#16500.00	48.5 PK	68.2	-19.7	1.54 H	232	33.5	15.0
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	63.4 PK	74.0	-10.6	1.78 V	157	60.0	3.4
2	5460.00	46.7 AV	54.0	-7.3	1.78 V	157	43.3	3.4
3	#5470.00	68.0 PK	68.2	-0.2	1.78 V	157	64.6	3.4
4	*5500.00	120.9 PK			1.78 V	157	117.6	3.3
5	*5500.00	109.1 AV			1.78 V	157	105.8	3.3
6	11000.00	47.9 PK	74.0	-26.1	1.64 V	223	34.2	13.7
7	11000.00	32.4 AV	54.0	-21.6	1.64 V	223	18.7	13.7
8	#16500.00	49.3 PK	68.2	-18.9	1.22 V	225	34.3	15.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
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	*5580.00	117.7 PK			1.09 H	353	114.3	3.4
2	*5580.00	106.8 AV			1.09 H	353	103.4	3.4
3	11160.00	47.6 PK	74.0	-26.4	1.57 H	355	34.1	13.5
4	11160.00	33.1 AV	54.0	-20.9	1.57 H	355	19.6	13.5
5	#16740.00	47.7 PK	68.2	-20.5	1.61 H	233	31.1	16.6
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	*5580.00	123.8 PK			1.48 V	57	120.4	3.4
2	*5580.00	113.3 AV			1.48 V	57	109.9	3.4
3	11160.00	47.3 PK	74.0	-26.7	1.04 V	297	33.8	13.5
4	11160.00	33.1 AV	54.0	-20.9	1.04 V	297	19.6	13.5
5	#16740.00	47.9 PK	68.2	-20.3	2.04 V	6	31.3	16.6

REMARKS:

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

CHANNEL	TX Channel 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	115.6 PK			1.56 H	56	111.9	3.7
2	*5700.00	101.8 AV			1.56 H	56	98.1	3.7
3	#5725.00	62.8 PK	68.2	-5.4	1.56 H	56	59.2	3.6
4	11400.00	47.2 PK	74.0	-26.8	1.16 H	277	33.6	13.6
5	11400.00	32.9 AV	54.0	-21.1	1.16 H	277	19.3	13.6
6	#17100.00	48.3 PK	68.2	-19.9	2.54 H	327	31.6	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	122.1 PK			1.88 V	145	118.4	3.7
2	*5700.00	109.7 AV			1.88 V	145	106.0	3.7
3	#5725.00	67.9 PK	68.2	-0.3	1.88 V	145	64.3	3.6
4	11400.00	46.8 PK	74.0	-27.2	1.42 V	309	33.2	13.6
5	11400.00	33.5 AV	54.0	-20.5	1.42 V	309	19.9	13.6
6	#17100.00	49.1 PK	68.2	-19.1	2.22 V	18	32.4	16.7

REMARKS:

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

CHANNEL	TX Channel 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	49.7 PK	74.0	-24.3	1.93 H	292	46.3	3.4
2	5460.00	37.7 AV	54.0	-16.3	1.93 H	292	34.3	3.4
3	#5470.00	49.3 PK	68.2	-18.9	1.93 H	292	45.9	3.4
4	*5720.00	116.8 PK			1.93 H	292	113.1	3.7
5	*5720.00	107.4 AV			1.93 H	292	103.7	3.7
6	#5850.00	50.9 PK	68.2	-17.3	1.93 H	292	46.8	4.1
7	11440.00	48.2 PK	74.0	-25.8	2.54 H	38	34.6	13.6
8	11440.00	33.4 AV	54.0	-20.6	2.54 H	38	19.8	13.6
9	#17160.00	47.7 PK	68.2	-20.5	1.41 H	281	30.9	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	5460.00	56.9 PK	74.0	-17.1	1.77 V	145	53.5	3.4
2	5460.00	44.1 AV	54.0	-9.9	1.77 V	145	40.7	3.4
3	#5470.00	56.3 PK	68.2	-11.9	1.77 V	145	52.9	3.4
4	*5720.00	124.3 PK			1.77 V	145	120.6	3.7
5	*5720.00	113.7 AV			1.77 V	145	110.0	3.7
6	#5850.00	56.1 PK	68.2	-12.1	1.77 V	145	52.0	4.1
7	11440.00	47.5 PK	74.0	-26.5	2.63 V	202	33.9	13.6
8	11440.00	33.1 AV	54.0	-20.9	2.63 V	202	19.5	13.6
9	#17160.00	47.5 PK	68.2	-20.7	1.00 V	250	30.7	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ax (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	53.3 PK	74.0	-20.7	2.68 H	133	50.2	3.1
2	5150.00	41.6 AV	54.0	-12.4	2.68 H	133	38.5	3.1
3	*5270.00	115.9 PK			2.68 H	133	113.1	2.8
4	*5270.00	105.2 AV			2.68 H	133	102.4	2.8
5	5350.00	60.9 PK	74.0	-13.1	2.68 H	133	57.8	3.1
6	5350.00	47.0 AV	54.0	-7.0	2.68 H	133	43.9	3.1
7	#10540.00	47.1 PK	68.2	-21.1	1.84 H	20	33.8	13.3
8	15810.00	49.1 PK	74.0	-24.9	1.83 H	17	36.2	12.9
9	15810.00	36.3 AV	54.0	-17.7	1.83 H	17	23.4	12.9
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	5150.00	58.6 PK	74.0	-15.4	1.94 V	247	55.5	3.1
2	5150.00	48.3 AV	54.0	-5.7	1.94 V	247	45.2	3.1
3	*5270.00	122.9 PK			1.94 V	247	120.1	2.8
4	*5270.00	110.7 AV			1.94 V	247	107.9	2.8
5	5350.00	66.2 PK	74.0	-7.8	1.94 V	247	63.1	3.1
6	5350.00	53.6 AV	54.0	-0.4	1.94 V	247	50.5	3.1
7	#10540.00	47.3 PK	68.2	-20.9	2.34 V	77	34.0	13.3
8	15810.00	48.6 PK	74.0	-25.4	2.33 V	68	35.7	12.9
9	15810.00	35.1 AV	54.0	-18.9	2.33 V	68	22.2	12.9

REMARKS:

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

CHANNEL	TX Channel 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	116.6 PK			2.11 H	25	113.7	2.9
2	*5310.00	104.4 AV			2.11 H	25	101.5	2.9
3	5350.00	60.3 PK	74.0	-13.7	2.11 H	25	57.2	3.1
4	5350.00	46.5 AV	54.0	-7.5	2.11 H	25	43.4	3.1
5	10620.00	46.9 PK	74.0	-27.1	2.49 H	80	33.6	13.3
6	10620.00	32.6 AV	54.0	-21.4	2.49 H	80	19.3	13.3
7	15930.00	48.5 PK	74.0	-25.5	1.24 H	93	35.3	13.2
8	15930.00	36.2 AV	54.0	-17.8	1.24 H	93	23.0	13.2
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	*5310.00	122.1 PK			1.77 V	179	119.2	2.9
2	*5310.00	109.5 AV			1.77 V	179	106.6	2.9
3	5350.00	67.1 PK	74.0	-6.9	1.77 V	179	64.0	3.1
4	5350.00	53.7 AV	54.0	-0.3	1.77 V	179	50.6	3.1
5	10620.00	46.9 PK	74.0	-27.1	1.54 V	110	33.6	13.3
6	10620.00	32.4 AV	54.0	-21.6	1.54 V	110	19.1	13.3
7	15930.00	49.3 PK	74.0	-24.7	2.02 V	224	36.1	13.2
8	15930.00	36.2 AV	54.0	-17.8	2.02 V	224	23.0	13.2

REMARKS:

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

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	56.8 PK	74.0	-17.2	2.09 H	155	53.4	3.4
2	5460.00	44.2 AV	54.0	-9.8	2.09 H	155	40.8	3.4
3	#5470.00	60.3 PK	68.2	-7.9	2.09 H	155	56.9	3.4
4	*5510.00	116.3 PK			2.09 H	155	113.0	3.3
5	*5510.00	103.7 AV			2.09 H	155	100.4	3.3
6	11020.00	46.6 PK	74.0	-27.4	1.24 H	62	33.0	13.6
7	11020.00	32.4 AV	54.0	-21.6	1.24 H	62	18.8	13.6
8	#16530.00	48.3 PK	68.2	-19.9	2.27 H	64	33.1	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	63.7 PK	74.0	-10.3	2.74 V	178	60.3	3.4
2	5460.00	49.3 AV	54.0	-4.7	2.74 V	178	45.9	3.4
3	#5470.00	67.8 PK	68.2	-0.4	2.74 V	178	64.4	3.4
4	*5510.00	122.5 PK			2.74 V	178	119.2	3.3
5	*5510.00	109.9 AV			2.74 V	178	106.6	3.3
6	11020.00	47.1 PK	74.0	-26.9	2.33 V	141	33.5	13.6
7	11020.00	33.6 AV	54.0	-20.4	2.33 V	141	20.0	13.6
8	#16530.00	48.0 PK	68.2	-20.2	2.48 V	87	32.8	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK)
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	56.7 PK	74.0	-17.3	2.65 H	338	53.3	3.4
2	5460.00	42.8 AV	54.0	-11.2	2.65 H	338	39.4	3.4
3	#5470.00	59.9 PK	68.2	-8.3	2.65 H	338	56.5	3.4
4	*5550.00	116.0 PK			2.65 H	338	112.6	3.4
5	*5550.00	102.2 AV			2.65 H	338	98.8	3.4
6	11100.00	47.4 PK	74.0	-26.6	2.68 H	199	33.8	13.6
7	11100.00	32.4 AV	54.0	-21.6	2.68 H	199	18.8	13.6
8	#16650.00	48.6 PK	68.2	-19.6	1.10 H	22	32.5	16.1
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	64.5 PK	74.0	-9.5	1.84 V	292	61.1	3.4
2	5460.00	50.6 AV	54.0	-3.4	1.84 V	292	47.2	3.4
3	#5470.00	67.8 PK	68.2	-0.4	1.84 V	292	64.4	3.4
4	*5550.00	121.9 PK			1.84 V	292	118.5	3.4
5	*5550.00	109.7 AV			1.84 V	292	106.3	3.4
6	11100.00	47.7 PK	74.0	-26.3	1.52 V	2	34.1	13.6
7	11100.00	33.0 AV	54.0	-21.0	1.52 V	2	19.4	13.6
8	#16650.00	49.4 PK	68.2	-18.8	1.96 V	359	33.3	16.1

REMARKS:

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

CHANNEL	TX Channel 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	113.6 PK			2.22 H	197	110.0	3.6
2	*5670.00	101.2 AV			2.22 H	197	97.6	3.6
3	#5725.00	60.2 PK	68.2	-8.0	2.22 H	197	56.6	3.6
4	11340.00	46.7 PK	74.0	-27.3	2.36 H	100	33.1	13.6
5	11340.00	32.3 AV	54.0	-21.7	2.36 H	100	18.7	13.6
6	#17010.00	48.2 PK	68.2	-20.0	2.30 H	43	31.4	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	118.7 PK			1.76 V	53	115.1	3.6
2	*5670.00	107.1 AV			1.76 V	53	103.5	3.6
3	#5725.00	68.1 PK	68.2	-0.1	1.76 V	53	64.5	3.6
4	11340.00	48.1 PK	74.0	-25.9	1.59 V	278	34.5	13.6
5	11340.00	33.5 AV	54.0	-20.5	1.59 V	278	19.9	13.6
6	#17010.00	49.2 PK	68.2	-19.0	2.55 V	319	32.4	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 142	DETECTOR FUNCTION	Peak (PK)
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	51.4 PK	74.0	-22.6	1.03 H	39	48.0	3.4
2	5460.00	38.3 AV	54.0	-15.7	1.03 H	39	34.9	3.4
3	#5470.00	51.2 PK	68.2	-17.0	1.03 H	39	47.8	3.4
4	*5710.00	117.5 PK			1.03 H	39	113.8	3.7
5	*5710.00	103.8 AV			1.03 H	39	100.1	3.7
6	#5850.00	55.5 PK	68.2	-12.7	1.03 H	39	51.4	4.1
7	11420.00	46.6 PK	74.0	-27.4	2.04 H	308	33.1	13.5
8	11420.00	33.0 AV	54.0	-21.0	2.04 H	308	19.5	13.5
9	#17130.00	48.0 PK	68.2	-20.2	1.52 H	212	31.2	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	5460.00	57.9 PK	74.0	-16.1	1.76 V	160	54.5	3.4
2	5460.00	45.1 AV	54.0	-8.9	1.76 V	160	41.7	3.4
3	#5470.00	58.1 PK	68.2	-10.1	1.76 V	160	54.7	3.4
4	*5710.00	122.8 PK			1.76 V	160	119.1	3.7
5	*5710.00	111.3 AV			1.76 V	160	107.6	3.7
6	#5850.00	61.1 PK	68.2	-7.1	1.76 V	160	57.0	4.1
7	11420.00	48.4 PK	74.0	-25.6	2.37 V	357	34.9	13.5
8	11420.00	33.2 AV	54.0	-20.8	2.37 V	357	19.7	13.5
9	#17130.00	48.5 PK	68.2	-19.7	2.46 V	220	31.7	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ax (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	5150.00	53.5 PK	74.0	-20.5	1.21 H	36	50.4	3.1
2	5150.00	44.5 AV	54.0	-9.5	1.21 H	36	41.4	3.1
3	*5290.00	112.8 PK			1.21 H	36	109.9	2.9
4	*5290.00	102.9 AV			1.21 H	36	100.0	2.9
5	5350.00	65.1 PK	74.0	-8.9	1.21 H	36	62.0	3.1
6	5350.00	52.8 AV	54.0	-1.2	1.21 H	36	49.7	3.1
7	#10580.00	48.4 PK	68.2	-19.8	2.31 H	141	35.2	13.2
8	15870.00	47.5 PK	74.0	-26.5	1.70 H	199	34.5	13.0
9	15870.00	35.5 AV	54.0	-18.5	1.70 H	199	22.5	13.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.5 PK	74.0	-18.5	1.90 V	180	52.4	3.1
2	5150.00	45.5 AV	54.0	-8.5	1.90 V	180	42.4	3.1
3	*5290.00	116.8 PK			1.90 V	180	113.9	2.9
4	*5290.00	105.9 AV			1.90 V	180	103.0	2.9
5	5350.00	66.1 PK	74.0	-7.9	1.90 V	180	63.0	3.1
6	5350.00	53.8 AV	54.0	-0.2	1.90 V	180	50.7	3.1
7	#10580.00	46.9 PK	68.2	-21.3	1.40 V	278	33.7	13.2
8	15870.00	49.0 PK	74.0	-25.0	2.34 V	75	36.0	13.0
9	15870.00	34.9 AV	54.0	-19.1	2.34 V	75	21.9	13.0

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)
- Margin value = Emission Level – Limit value
- The other emission levels were very low against the limit.
- " * ": Fundamental frequency.
- " # ": 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	60.4 PK	74.0	-13.6	2.44 H	110	57.0	3.4
2	5460.00	45.7 AV	54.0	-8.3	2.44 H	110	42.3	3.4
3	#5470.00	61.2 PK	68.2	-7.0	2.44 H	110	57.8	3.4
4	*5530.00	112.0 PK			2.44 H	110	108.6	3.4
5	*5530.00	98.6 AV			2.44 H	110	95.2	3.4
6	#5725.00	47.4 PK	68.2	-20.8	2.44 H	110	43.8	3.6
7	11060.00	47.7 PK	74.0	-26.3	1.76 H	14	34.0	13.7
8	11060.00	33.0 AV	54.0	-21.0	1.76 H	14	19.3	13.7
9	#16590.00	49.3 PK	68.2	-18.9	1.82 H	164	33.7	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	65.8 PK	74.0	-8.2	2.81 V	178	62.4	3.4
2	5460.00	53.0 AV	54.0	-1.0	2.81 V	178	49.6	3.4
3	#5470.00	67.8 PK	68.2	-0.4	2.81 V	178	64.4	3.4
4	*5530.00	117.2 PK			2.81 V	178	113.8	3.4
5	*5530.00	106.4 AV			2.81 V	178	103.0	3.4
6	#5725.00	53.2 PK	68.2	-15.0	2.81 V	178	49.6	3.6
7	11060.00	46.6 PK	74.0	-27.4	2.04 V	130	32.9	13.7
8	11060.00	32.9 AV	54.0	-21.1	2.04 V	130	19.2	13.7
9	#16590.00	47.6 PK	68.2	-20.6	1.99 V	186	32.0	15.6

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
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	58.2 PK	74.0	-15.8	1.59 H	288	54.8	3.4
2	5460.00	45.3 AV	54.0	-8.7	1.59 H	288	41.9	3.4
3	#5470.00	60.8 PK	68.2	-7.4	1.59 H	288	57.4	3.4
4	*5610.00	111.6 PK			1.59 H	288	108.2	3.4
5	*5610.00	99.0 AV			1.59 H	288	95.6	3.4
6	#5725.00	61.9 PK	68.2	-6.3	1.59 H	288	58.3	3.6
7	11220.00	46.8 PK	74.0	-27.2	2.66 H	175	33.4	13.4
8	11220.00	33.3 AV	54.0	-20.7	2.66 H	175	19.9	13.4
9	#16830.00	48.6 PK	68.2	-19.6	2.17 H	315	31.6	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	65.6 PK	74.0	-8.4	1.91 V	292	62.2	3.4
2	5460.00	51.7 AV	54.0	-2.3	1.91 V	292	48.3	3.4
3	#5470.00	66.7 PK	68.2	-1.5	1.91 V	292	63.3	3.4
4	*5610.00	118.5 PK			1.91 V	292	115.1	3.4
5	*5610.00	106.6 AV			1.91 V	292	103.2	3.4
6	#5725.00	67.8 PK	68.2	-0.4	1.91 V	292	64.2	3.6
7	11220.00	47.2 PK	74.0	-26.8	2.37 V	354	33.8	13.4
8	11220.00	32.6 AV	54.0	-21.4	2.37 V	354	19.2	13.4
9	#16830.00	49.2 PK	68.2	-19.0	2.51 V	51	32.2	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK)
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	54.8 PK	74.0	-19.2	1.34 H	268	51.4	3.4
2	5460.00	40.2 AV	54.0	-13.8	1.34 H	268	36.8	3.4
3	#5470.00	53.1 PK	68.2	-15.1	1.34 H	268	49.7	3.4
4	*5690.00	110.5 PK			1.34 H	268	106.8	3.7
5	*5690.00	100.4 AV			1.34 H	268	96.7	3.7
6	#5850.00	61.0 PK	68.2	-7.2	1.34 H	268	56.9	4.1
7	11380.00	47.5 PK	74.0	-26.5	2.41 H	200	33.9	13.6
8	11380.00	32.5 AV	54.0	-21.5	2.41 H	200	18.9	13.6
9	#17070.00	48.0 PK	68.2	-20.2	2.12 H	314	31.2	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	5460.00	60.7 PK	74.0	-13.3	1.70 V	159	57.3	3.4
2	5460.00	46.6 AV	54.0	-7.4	1.70 V	159	43.2	3.4
3	#5470.00	61.0 PK	68.2	-7.2	1.70 V	159	57.6	3.4
4	*5690.00	117.2 PK			1.70 V	159	113.5	3.7
5	*5690.00	105.8 AV			1.70 V	159	102.1	3.7
6	#5850.00	67.7 PK	68.2	-0.5	1.70 V	159	63.6	4.1
7	11380.00	48.2 PK	74.0	-25.8	1.18 V	147	34.6	13.6
8	11380.00	33.0 AV	54.0	-21.0	1.18 V	147	19.4	13.6
9	#17070.00	49.1 PK	68.2	-19.1	1.05 V	331	32.3	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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11ax (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	62.8 PK	74.0	-11.2	1.46 H	133	59.7	3.1
2	5150.00	47.0 AV	54.0	-7.0	1.46 H	133	43.9	3.1
3	*5250.00	109.7 PK			1.46 H	133	106.9	2.8
4	*5250.00	98.2 AV			1.46 H	133	95.4	2.8
5	5350.00	58.9 PK	74.0	-15.1	1.46 H	133	55.8	3.1
6	5350.00	45.5 AV	54.0	-8.5	1.46 H	133	42.4	3.1
7	#10500.00	46.7 PK	68.2	-21.5	1.89 H	330	33.3	13.4
8	15750.00	48.4 PK	74.0	-25.6	1.73 H	194	35.6	12.8
9	15750.00	35.8 AV	54.0	-18.2	1.73 H	194	23.0	12.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.8 PK	74.0	-6.2	1.91 V	181	64.7	3.1
2	5150.00	53.5 AV	54.0	-0.5	1.91 V	181	50.4	3.1
3	*5250.00	116.8 PK			1.91 V	181	114.0	2.8
4	*5250.00	105.9 AV			1.91 V	181	103.1	2.8
5	5350.00	65.1 PK	74.0	-8.9	1.91 V	181	62.0	3.1
6	5350.00	51.2 AV	54.0	-2.8	1.91 V	181	48.1	3.1
7	#10500.00	47.1 PK	68.2	-21.1	1.02 V	14	33.7	13.4
8	15750.00	47.6 PK	74.0	-26.4	2.61 V	205	34.8	12.8
9	15750.00	35.8 AV	54.0	-18.2	2.61 V	205	23.0	12.8

REMARKS:

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

CHANNEL	TX Channel 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	59.6 PK	74.0	-14.4	2.21 H	66	56.2	3.4
2	5460.00	47.8 AV	54.0	-6.2	2.21 H	66	44.4	3.4
3	#5470.00	60.1 PK	68.2	-8.1	2.21 H	66	56.7	3.4
4	*5570.00	110.6 PK			2.21 H	66	107.2	3.4
5	*5570.00	99.7 AV			2.21 H	66	96.3	3.4
6	#5725.00	47.1 PK	68.2	-21.1	2.21 H	66	43.5	3.6
7	11140.00	48.0 PK	74.0	-26.0	2.56 H	136	34.5	13.5
8	11140.00	32.7 AV	54.0	-21.3	2.56 H	136	19.2	13.5
9	#16710.00	49.4 PK	68.2	-18.8	1.53 H	202	32.9	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	66.5 PK	74.0	-7.5	3.43 V	237	63.1	3.4
2	5460.00	53.7 AV	54.0	-0.3	3.43 V	237	50.3	3.4
3	#5470.00	66.5 PK	68.2	-1.7	3.43 V	237	63.1	3.4
4	*5570.00	117.6 PK			3.43 V	237	114.2	3.4
5	*5570.00	106.8 AV			3.43 V	237	103.4	3.4
6	#5725.00	53.3 PK	68.2	-14.9	3.43 V	237	49.7	3.6
7	11140.00	48.0 PK	74.0	-26.0	2.29 V	343	34.5	13.5
8	11140.00	33.1 AV	54.0	-20.9	2.29 V	343	19.6	13.5
9	#16710.00	47.9 PK	68.2	-20.3	2.19 V	74	31.4	16.5

REMARKS:

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

Below 1GHz Data:

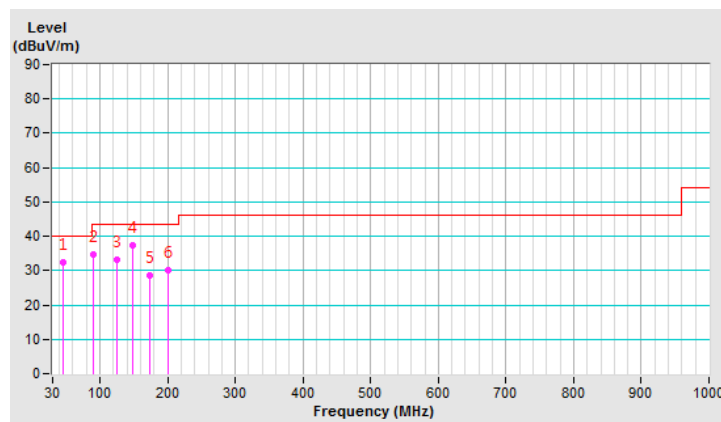
802.11ax (HE40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	46.11	32.4 QP	40.0	-7.6	2.00 H	45	40.3	-7.9
2	90.15	34.5 QP	43.5	-9.0	3.00 H	155	48.2	-13.7
3	124.80	33.2 QP	43.5	-10.3	1.00 H	272	42.6	-9.4
4	148.68	37.2 QP	43.5	-6.3	1.00 H	155	44.9	-7.7
5	173.55	28.6 QP	43.5	-14.9	2.00 H	355	37.2	-8.6
6	200.00	30.0 QP	43.5	-13.5	2.00 H	80	40.8	-10.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit 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.

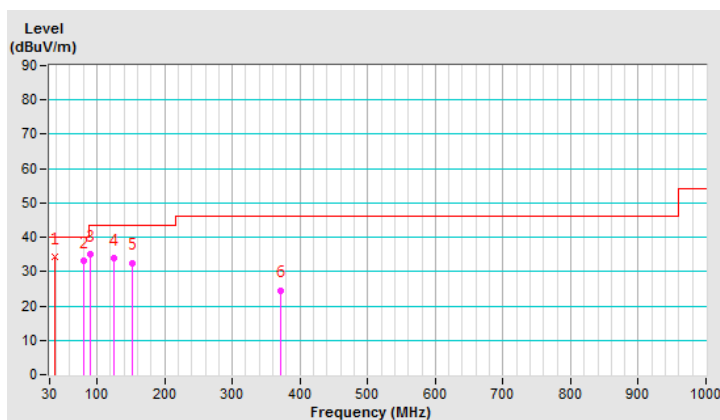


CHANNEL	TX Channel 110	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	38.11	34.2 QP	40.0	-5.8	1.00 V	245	42.5	-8.3
2	80.14	33.0 QP	40.0	-7.0	2.00 V	122	45.7	-12.7
3	90.54	34.9 QP	43.5	-8.6	2.00 V	122	48.5	-13.6
4	125.00	34.0 QP	43.5	-9.5	2.00 V	150	43.4	-9.4
5	152.50	32.6 QP	43.5	-10.9	1.00 V	258	40.2	-7.6
6	372.00	24.6 QP	46.0	-21.4	1.00 V	175	29.5	-4.9

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 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: Dec. 12, 2019

4.2.3 Test Procedure

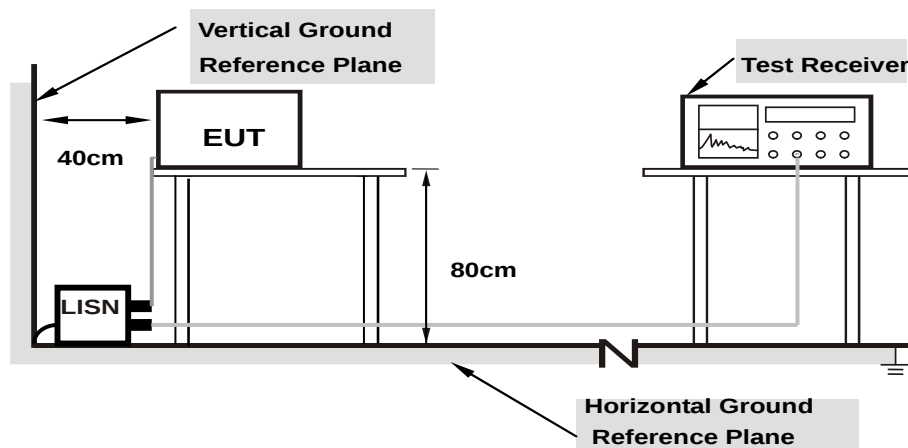
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

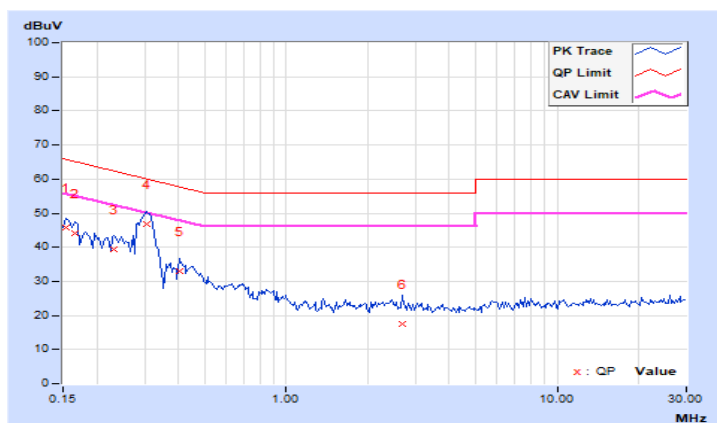
4.2.7 Test Results

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	35.67	19.16	45.66	29.15	65.79	55.79	-20.13	-26.64
2	0.16562	9.99	34.01	21.52	44.00	31.51	65.18	55.18	-21.18	-23.67
3	0.23203	9.99	29.35	21.98	39.34	31.97	62.38	52.38	-23.04	-20.41
4	0.30625	10.00	36.94	31.14	46.94	41.14	60.07	50.07	-13.13	-8.93
5	0.40391	10.00	23.14	11.02	33.14	21.02	57.77	47.77	-24.63	-26.75
6	2.68359	10.17	7.47	2.46	17.64	12.63	56.00	46.00	-38.36	-33.37

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	0.15781	9.99	35.20	20.89	45.19	30.88	65.58	55.58	-20.39	-24.70
2	0.19297	9.99	30.30	19.36	40.29	29.35	63.91	53.91	-23.62	-24.56
3	0.23984	9.99	30.24	15.24	40.23	25.23	62.10	52.10	-21.87	-26.87
4	0.30625	10.00	37.19	29.94	47.19	39.94	60.07	50.07	-12.88	-10.13
5	0.45078	10.01	23.20	12.61	33.21	22.62	56.86	46.86	-23.65	-24.24
6	0.61484	10.02	18.24	11.64	28.26	21.66	56.00	46.00	-27.74	-24.34

Remarks:

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



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} ;

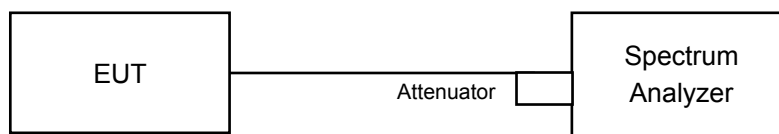
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

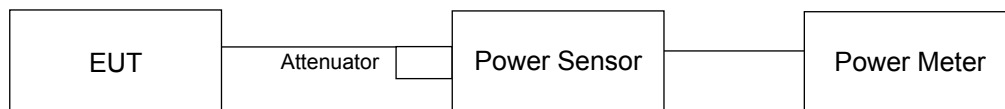
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

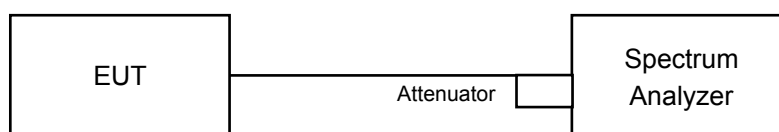
For channel straddling 5250MHz and 5725MHz:



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:

For 802.11a:

Follow FCC KDB 789033 UNII test procedure:

Method SA-1

1. Set span to encompass the entire 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. Set trigger to free run (duty cycle ≥ 98 percent)
7. Detector = RMS.
8. Trace average at least 100 traces in power averaging mode
9. Compute power by integrating the spectrum across the 26 dB EBW of the signal.

For other Modulation test:

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

Non-Beamforming Mode

POWER OUTPUT

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
52	5260	17.54	18.12	16.27	17.59	221.394	23.45	24.00	Pass
60	5300	17.49	17.94	16.51	17.65	221.316	23.45	24.00	Pass
64	5320	17.46	17.92	16.28	17.88	221.501	23.45	24.00	Pass
100	5500	16.89	17.90	16.49	16.85	203.508	23.09	24.00	Pass
116	5580	16.69	17.12	16.76	17.89	207.131	23.16	24.00	Pass
140	5700	16.42	17.50	17.03	17.69	209.302	23.21	24.00	Pass
*144 (U-NII-2C Band)	5720	14.53	15.27	15.27	15.44	130.676	21.16	22.98	Pass
*144 (U-NII-3 Band)	5720	8.22	9.05	9.31	9.07	31.276	14.95	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 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)
				Chain0	Chain1	Chain2	Chain3		
144	5720	161.952	22.09	16.89	17.30	17.03	17.36	207.485	23.17

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	21.65	24.35 > 24
60	5300	21.66	24.35 > 24
64	5320	21.73	24.37 > 24
100	5500	21.72	24.36 > 24
116	5580	21.70	24.36 > 24
140	5700	21.74	24.37 > 24
144 (U-NII-2C Band)	5720	15.80	22.98 < 24

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
52	5260	17.40	17.63	16.09	17.71	212.561	23.27	24.00	Pass
60	5300	17.33	17.61	15.94	17.91	212.818	23.28	24.00	Pass
64	5320	17.22	17.73	16.12	17.70	211.826	23.26	24.00	Pass
100	5500	16.60	16.82	16.85	17.96	204.727	23.11	24.00	Pass
116	5580	16.97	17.80	16.69	17.35	211.021	23.24	24.00	Pass
140	5700	17.03	18.01	16.53	17.44	214.148	23.31	24.00	Pass
*144 (U-NII-2C Band)	5720	13.96	14.90	13.18	14.85	107.138	20.30	23.00	Pass
*144 (U-NII-3 Band)	5720	8.47	9.80	8.27	9.00	31.238	14.95	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)
				Chain0	Chain1	Chain2	Chain3		
144	5720	138.376	21.41	17.15	17.75	16.38	17.36	209.348	23.21

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	21.74	24.37 > 24
60	5300	21.76	24.37 > 24
64	5320	21.79	24.38 > 24
100	5500	21.82	24.38 > 24
116	5580	21.77	24.37 > 24
140	5700	21.83	24.39 > 24
144 (U-NII-2C Band)	5720	15.87	23 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
54	5270	17.72	17.52	16.68	17.05	212.908	23.28	24.00	Pass
62	5310	17.89	17.73	16.56	17.64	224.176	23.51	24.00	Pass
102	5510	17.37	18.09	17.25	17.00	222.2	23.47	24.00	Pass
110	5550	17.35	18.59	17.00	17.31	230.548	23.63	24.00	Pass
134	5670	16.52	18.17	17.24	18.20	229.525	23.61	24.00	Pass
*142 (U-NII-2C Band)	5710	13.64	15.24	14.48	15.63	121.154	20.83	24.00	Pass
*142 (U-NII-3 Band)	5710	3.99	5.67	5.73	6.66	14.571	11.63	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)
				Chain0	Chain1	Chain2	Chain3		
142	5710	135.725	21.33	16.56	18.16	17.32	18.04	228.384	23.59

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	5260	41.44	27.17 > 24
62	5300	41.38	27.16 > 24
102	5320	41.35	27.16 > 24
110	5500	41.39	27.16 > 24
134	5580	41.39	27.16 > 24
142 (U-NII-2C Band)	5700	35.58	26.51 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
58	5290	17.51	17.57	16.16	17.25	207.905	23.18	24.00	Pass
106	5530	16.59	18.05	16.92	17.50	214.868	23.32	24.00	Pass
122	5610	16.99	18.21	17.30	17.86	231.022	23.64	24.00	Pass
*138 (U-NII-2C Band)	5690	13.33	14.41	13.93	14.01	99.028	19.96	24.00	Pass
*138 (U-NII-3 Band)	5690	-2.86	1.46	-1.88	1.54	3.9914	6.01	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)
				Chain0	Chain1	Chain2	Chain3		
138	5690	103.0194	20.13	16.85	18.49	17.01	17.71	228.303	23.59

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	82.70	30.17 > 24
106	5530	82.81	30.18 > 24
122	5610	82.87	30.18 > 24
138 (U-NII-2C Band)	5690	76.35	29.82 > 24

802.11ac (VHT160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
*50 (U-NII-1 Band)	5250	9.25	9.65	8.54	9.46	33.615	15.27	30.00	PASS
*50 (U-NII-2A Band)	5250	10.95	10.68	9.48	10.10	43.245	16.36	24.00	PASS
114	5570	17.13	18.00	16.56	17.44	215.49	23.33	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)
				Chain0	Chain1	Chain2	Chain3		
50	5250	76.86	18.86	17.92	18.21	16.51	17.35	227.262	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	81.75	30.12 > 24
114	5570	163.32	33.13 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
52	5260	17.60	17.79	16.25	17.91	221.633	23.46	24.00	Pass
60	5300	17.48	17.81	16.12	18.08	221.565	23.46	24.00	Pass
64	5320	17.41	17.88	16.30	17.86	220.209	23.43	24.00	Pass
100	5500	16.75	16.97	17.02	18.12	212.302	23.27	24.00	Pass
116	5580	17.16	17.95	16.88	17.51	219.49	23.41	24.00	Pass
140	5700	17.21	18.20	16.69	17.60	222.881	23.48	24.00	Pass
*144 (U-NII-2C Band)	5720	14.11	15.02	13.41	14.93	110.577	20.44	23.00	Pass
*144 (U-NII-3 Band)	5720	8.56	10.18	8.46	9.21	32.952	15.18	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)
				Chain0	Chain1	Chain2	Chain3		
144	5720	143.529	21.57	17.34	17.94	16.56	17.52	218.214	23.39

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	21.74	24.37 > 24
60	5300	21.76	24.37 > 24
64	5320	21.79	24.38 > 24
100	5500	21.82	24.38 > 24
116	5580	21.77	24.37 > 24
140	5700	21.83	24.39 > 24
144 (U-NII-2C Band)	5720	15.87	23 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
54	5270	17.90	17.70	16.88	17.22	222.02	23.46	24.00	Pass
62	5310	18.09	17.93	16.73	17.81	233.996	23.69	24.00	Pass
102	5510	17.56	18.29	17.42	17.15	231.557	23.65	24.00	Pass
110	5550	17.53	18.74	17.19	17.50	240.035	23.80	24.00	Pass
134	5670	16.71	18.33	17.43	18.38	239.159	23.79	24.00	Pass
*142 (U-NII-2C Band)	5710	13.64	15.24	14.48	15.63	121.154	20.83	24.00	Pass
*142 (U-NII-3 Band)	5710	3.99	5.67	5.73	6.66	14.571	11.63	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)
				Chain0	Chain1	Chain2	Chain3		
142	5710	135.725	21.33	16.74	18.35	17.51	18.20	238.031	23.77

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	5260	41.44	27.17 > 24
62	5300	41.38	27.16 > 24
102	5320	41.35	27.16 > 24
110	5500	41.39	27.16 > 24
134	5580	41.39	27.16 > 24
142 (U-NII-2C Band)	5700	35.58	26.51 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
58	5290	17.69	17.75	16.35	17.44	216.93	23.36	24.00	Pass
106	5530	16.78	18.20	17.12	17.66	223.58	23.49	24.00	Pass
122	5610	17.16	18.37	17.45	18.01	239.538	23.79	24.00	Pass
*138 (U-NII-2C Band)	5690	13.33	14.41	13.93	14.01	99.028	19.96	24.00	Pass
*138 (U-NII-3 Band)	5690	-2.86	1.46	-1.88	1.54	3.9914	6.01	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)
				Chain0	Chain1	Chain2	Chain3		
138	5690	103.0194	20.13	17.00	18.65	17.20	17.89	237.4	23.75

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	82.70	30.17 > 24
106	5530	82.81	30.18 > 24
122	5610	82.87	30.18 > 24
138 (U-NII-2C Band)	5690	76.35	29.82 > 24

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
*50 (U-NII-1 Band)	5250	9.25	9.65	8.54	9.46	33.615	15.27	30.00	PASS
*50 (U-NII-2A Band)	5250	10.95	10.68	9.48	10.10	43.245	16.36	24.00	PASS
114	5570	17.33	18.18	16.75	17.59	224.568	23.51	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)
				Chain0	Chain1	Chain2	Chain3		
50	5250	76.86	18.86	18.12	18.36	16.67	17.50	236.098	23.73

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	81.75	30.12 > 24
114	5570	163.32	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
		Chain0	Chain1	Chain2	Chain3				
52	5260	17.40	17.63	16.09	17.71	212.561	23.27	23.47	Pass
60	5300	17.33	17.61	15.94	17.91	212.818	23.28	23.47	Pass
64	5320	17.22	17.73	16.12	17.70	211.826	23.26	23.47	Pass
100	5500	16.60	16.82	16.85	17.96	204.727	23.11	23.36	Pass
116	5580	16.80	17.64	16.53	17.17	203.037	23.08	23.36	Pass
140	5700	16.88	17.85	16.35	17.28	206.315	23.15	23.36	Pass
*144 (U-NII-2C Band)	5720	13.76	14.79	13.01	14.61	102.804	20.12	22.36	Pass
*144 (U-NII-3 Band)	5720	8.01	9.73	8.14	8.71	29.668	14.72	29.34	Pass

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

1. For U-NII-2A: The directional gain = 6.53 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.53-6)".
2. For U-NII-2C: The directional gain = 6.64 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.64-6)".
3. For U-NII-3: The directional gain is 6.66 dBi > 6dBi, so the power limit shall be reduced to 30-(6.66-6) = 29.34 dBm.

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)
				Chain0	Chain1	Chain2	Chain3		
144	5720	132.472	21.22	16.97	17.56	16.21	17.18	200.813	23.03

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	21.74	24.37 > 24
60	5300	21.76	24.37 > 24
64	5320	21.79	24.38 > 24
100	5500	21.82	24.38 > 24
116	5580	21.77	24.37 > 24
140	5700	21.83	24.39 > 24
144 (U-NII-2C Band)	5720	15.87	23 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
54	5270	17.72	17.52	16.68	17.05	212.908	23.28	23.47	Pass
62	5310	17.55	17.39	16.18	17.28	206.665	23.15	23.47	Pass
102	5510	16.99	17.71	16.89	16.68	204.447	23.11	23.36	Pass
110	5550	16.84	18.11	16.52	16.74	205.101	23.12	23.36	Pass
134	5670	16.01	17.60	16.70	17.63	202.163	23.06	23.36	Pass
*142 (U-NII-2C Band)	5710	13.26	15.08	14.30	15.33	114.429	20.59	23.36	Pass
*142 (U-NII-3 Band)	5710	3.83	5.20	5.50	6.44	13.68	11.36	29.34	Pass

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

1. For U-NII-2A: The directional gain = 6.53 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.53-6)".
2. For U-NII-2C: The directional gain = 6.64 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.64-6)".
3. For U-NII-3: The directional gain is 6.66 dBi > 6dBi, so the power limit shall be reduced to 30-(6.66-6) = 29.34dBm.

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)
				Chain0	Chain1	Chain2	Chain3		
142	5710	128.109	21.08	16.11	17.65	16.84	17.56	204.365	23.10

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	5260	41.44	27.17 > 24
62	5300	41.38	27.16 > 24
102	5320	41.35	27.16 > 24
110	5500	41.39	27.16 > 24
134	5580	41.39	27.16 > 24
142 (U-NII-2C Band)	5700	35.58	26.51 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
58	5290	17.51	17.57	16.16	17.25	207.905	23.18	23.47	Pass
106	5530	16.42	17.86	16.73	17.33	206.12	23.14	23.36	Pass
122	5610	16.45	17.64	16.79	17.32	203.937	23.09	23.36	Pass
*138 (U-NII-2C Band)	5690	13.23	14.10	13.64	13.88	94.297	19.74	23.36	Pass
*138 (U-NII-3 Band)	5690	-2.94	1.15	-2.13	1.28	3.7664	5.76	29.34	Pass

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

1. For U-NII-2A: The directional gain = 6.53 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.53-6)".
2. For U-NII-2C: The directional gain = 6.64 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.64-6)".
3. For U-NII-3: The directional gain is 6.66 dBi > 6dBi, so the power limit shall be reduced to 30-(6.66-6) = 29.34dBm.

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)
				Chain0	Chain1	Chain2	Chain3		
138	5690	98.0634	19.92	16.36	18.01	16.47	17.20	203.334	23.08

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	82.70	30.17 > 24
106	5530	82.81	30.18 > 24
122	5610	82.87	30.18 > 24
138 (U-NII-2C Band)	5690	76.35	29.82 > 24

802.11ac (VHT160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
*50 (U-NII-1 Band)	5250	8.95	9.13	8.07	9.11	30.596	14.86	29.39	PASS
*50 (U-NII-2A Band)	5250	10.17	10.14	9.10	9.87	38.56	15.86	23.47	PASS
114	5570	16.93	17.84	16.37	17.29	207.062	23.16	23.36	PASS

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

1. For U-NII-1: The directional gain is 6.61 dBi > 6dBi, so the power limit shall be reduced to $30 - (6.61 - 6) = 29.39$ dBm.
2. For U-NII-2A: The directional gain = 6.53 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.53-6)".
3. For U-NII-2C: The directional gain = 6.64 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.64-6)".

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)
				Chain0	Chain1	Chain2	Chain3		
50	5250	69.156	18.40	17.60	17.89	16.13	17.03	210.548	23.23

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	81.75	30.12 > 24
114	5570	163.32	33.13 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
52	5260	17.60	17.79	16.25	17.91	221.633	23.46	23.47	Pass
60	5300	17.48	17.81	16.12	18.08	221.565	23.46	23.47	Pass
64	5320	17.41	17.88	16.30	17.86	220.209	23.43	23.47	Pass
100	5500	16.75	16.97	17.02	18.12	212.302	23.27	23.36	Pass
116	5580	16.99	17.79	16.72	17.33	211.186	23.25	23.36	Pass
140	5700	17.06	18.04	16.51	17.44	214.729	23.32	23.36	Pass
*144 (U-NII-2C Band)	5720	14.00	14.70	12.93	14.76	104.187	20.18	22.36	Pass
*144 (U-NII-3 Band)	5720	8.29	9.68	8.08	9.09	30.571	14.85	29.34	Pass

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

1. For U-NII-2A: The directional gain = 6.53 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.53-6)".
2. For U-NII-2C: The directional gain = 6.64 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.64-6)".
3. For U-NII-3: The directional gain is 6.66 dBi > 6dBi, so the power limit shall be reduced to 30-(6.66-6) = 29.34dBm.

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)
				Chain0	Chain1	Chain2	Chain3		
144	5720	134.758	21.30	17.16	17.75	16.39	17.34	209.317	23.21

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	21.74	24.37 > 24
60	5300	21.76	24.37 > 24
64	5320	21.79	24.38 > 24
100	5500	21.82	24.38 > 24
116	5580	21.77	24.37 > 24
140	5700	21.83	24.39 > 24
144 (U-NII-2C Band)	5720	15.87	23 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
54	5270	17.90	17.70	16.88	17.22	222.02	23.46	23.47	Pass
62	5310	17.75	17.59	16.35	17.45	215.72	23.34	23.47	Pass
102	5510	17.18	17.91	17.06	16.83	213.052	23.28	23.36	Pass
110	5550	17.02	18.26	16.71	16.93	213.537	23.29	23.36	Pass
134	5670	16.20	17.76	16.89	17.81	210.651	23.24	23.36	Pass
*142 (U-NII-2C Band)	5710	13.55	14.71	14.51	15.30	114.36	20.58	23.36	Pass
*142 (U-NII-3 Band)	5710	3.56	5.54	5.17	6.06	13.176	11.20	29.34	Pass

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

1. For U-NII-2A: The directional gain = 6.53 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.53-6)".
2. For U-NII-2C: The directional gain = 6.64 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.64-6)".
3. For U-NII-3: The directional gain is 6.66 dBi > 6dBi, so the power limit shall be reduced to 30-(6.66-6) = 29.34dBm.

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)
				Chain0	Chain1	Chain2	Chain3		
142	5710	127.536	21.06	16.29	17.84	17.03	17.72	212.996	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)
54	5260	41.44	27.17 > 24
62	5300	41.38	27.16 > 24
102	5320	41.35	27.16 > 24
110	5500	41.39	27.16 > 24
134	5580	41.39	27.16 > 24
142 (U-NII-2C Band)	5700	35.58	26.51 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
58	5290	17.69	17.75	16.35	17.44	216.93	23.36	23.47	Pass
106	5530	16.61	18.01	16.93	17.49	214.478	23.31	23.36	Pass
122	5610	16.62	17.80	16.94	17.47	211.454	23.25	23.36	Pass
*138 (U-NII-2C Band)	5690	13.16	14.17	14.04	13.93	96.892	19.86	23.36	Pass
*138 (U-NII-3 Band)	5690	-2.96	1.12	1.18	1.03	4.3799	6.41	29.34	Pass

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

1. For U-NII-2A: The directional gain = 6.53 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.53-6)".
2. For U-NII-2C: The directional gain = 6.64 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.64-6)".
3. For U-NII-3: The directional gain is 6.66 dBi > 6dBi, so the power limit shall be reduced to 30-(6.66-6) = 29.34dBm.

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)
				Chain0	Chain1	Chain2	Chain3		
138	5690	101.2719	20.05	16.49	18.17	16.66	17.38	211.226	23.25

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	82.70	30.17 > 24
106	5530	82.81	30.18 > 24
122	5610	82.87	30.18 > 24
138 (U-NII-2C Band)	5690	76.35	29.82 > 24

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
*50 (U-NII-1 Band)	5250	9.10	9.12	8.43	9.05	31.296	14.95	29.39	PASS
*50 (U-NII-2A Band)	5250	10.49	10.14	9.13	9.94	39.569	15.97	23.47	PASS
114	5570	17.13	18.02	16.56	17.44	215.781	23.34	23.36	PASS

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

1. For U-NII-1: The directional gain is 6.61 dBi > 6dBi, so the power limit shall be reduced to $30 - (6.61 - 6) = 29.39$ dBm.
2. For U-NII-2A: The directional gain = 6.53 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.53-6)".
3. For U-NII-2C: The directional gain = 6.64 dBi > 6 dBi, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.64-6)".

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)
				Chain0	Chain1	Chain2	Chain3		
50	5250	70.865	18.50	17.80	18.04	16.29	17.18	218.735	23.40

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

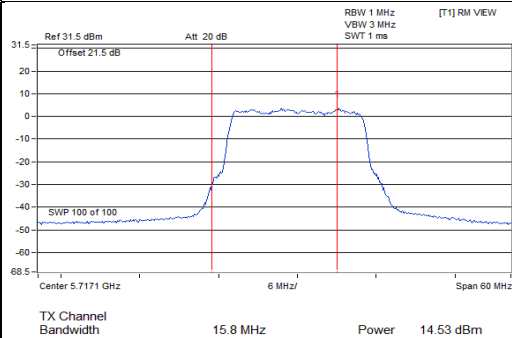
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	81.75	30.12 > 24
114	5570	163.32	33.13 > 24

For channel straddling 5725MHz of Power

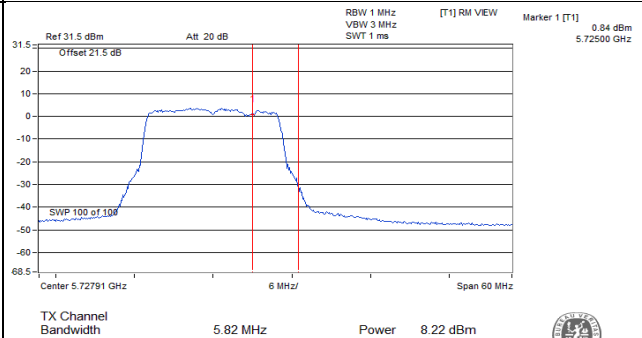
Non-Beamforming Mode

Spectrum Plot Value of Power

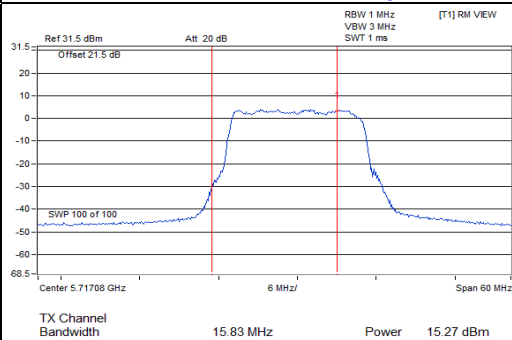
802.11a_Chain 0 / CH144 (U-NII-2C Band)



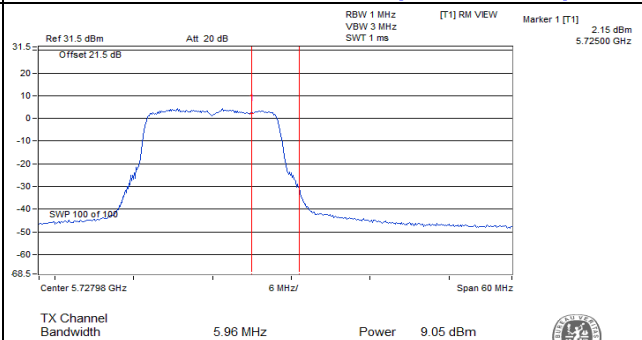
802.11a_Chain 0 / CH144 (U-NII-3 Band)



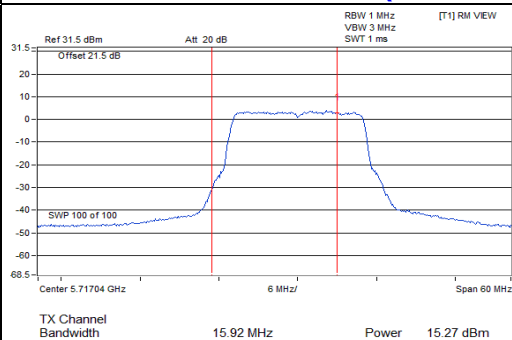
802.11a_Chain 1 / CH144 (U-NII-2C Band)



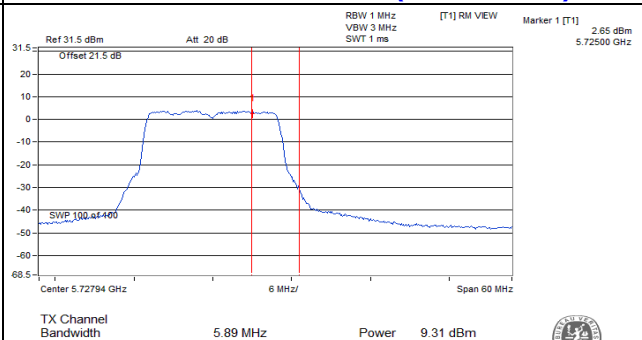
802.11a_Chain 1 / CH144 (U-NII-3 Band)



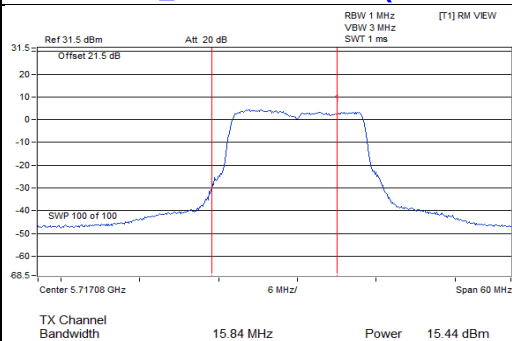
802.11a_Chain 2 / CH144 (U-NII-2C Band)



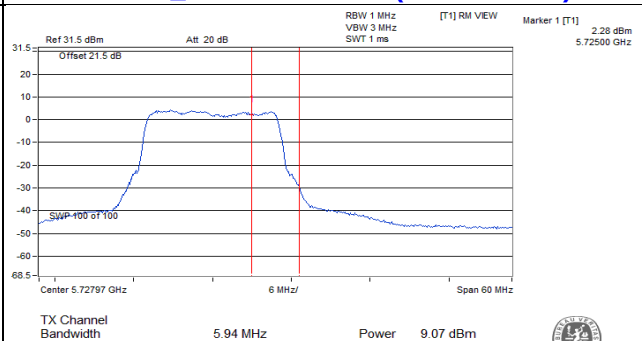
802.11a_Chain 2 / CH144 (U-NII-3 Band)



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

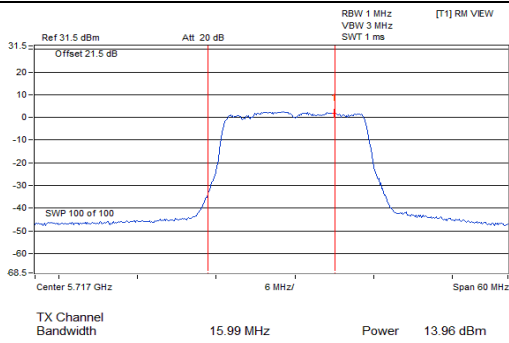


802.11a_Chain 3 / CH144 (U-NII-3 Band)

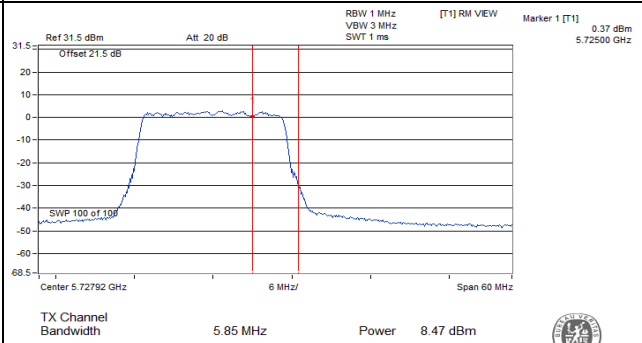


Spectrum Plot Value of Power

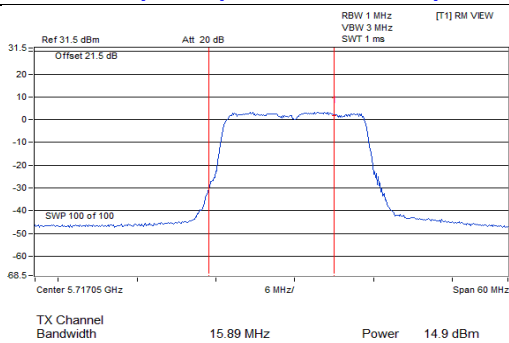
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-2C Band)



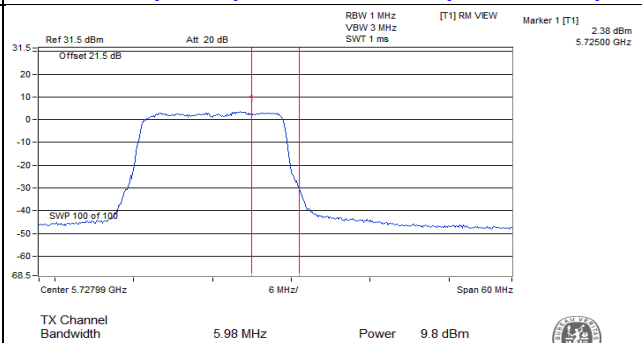
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-3 Band)



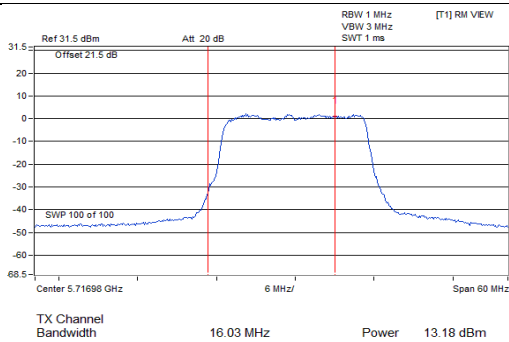
802.11ac (VHT20)_Chain 1 / CH144 (U-NII-2C Band)



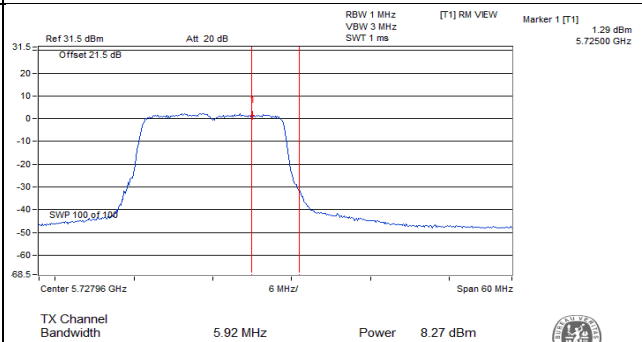
802.11ac (VHT20)_Chain 1 / CH144 (U-NII-3 Band)



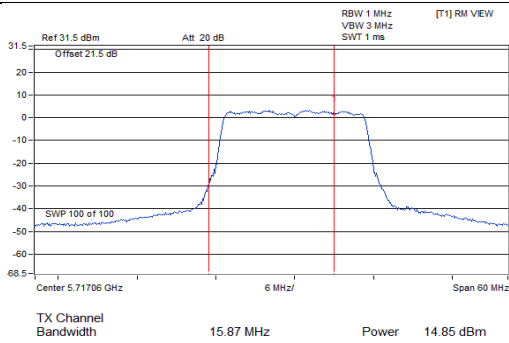
802.11ac (VHT20)_Chain 2 / CH144 (U-NII-2C Band)



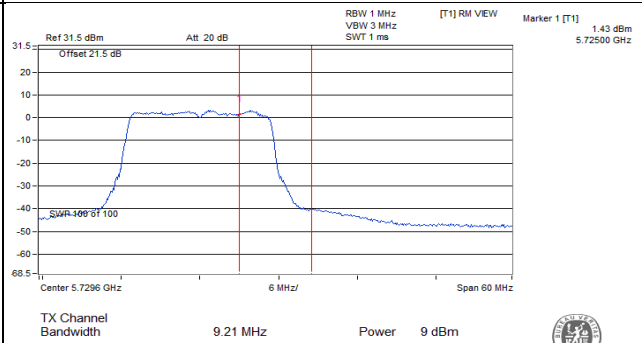
802.11ac (VHT20)_Chain 2 / CH144 (U-NII-3 Band)



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

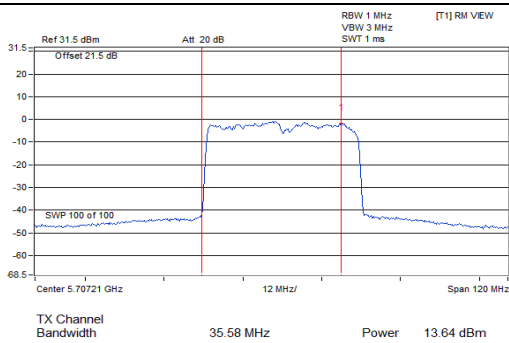


802.11ac (VHT20)_Chain 3 / CH144 (U-NII-3 Band)

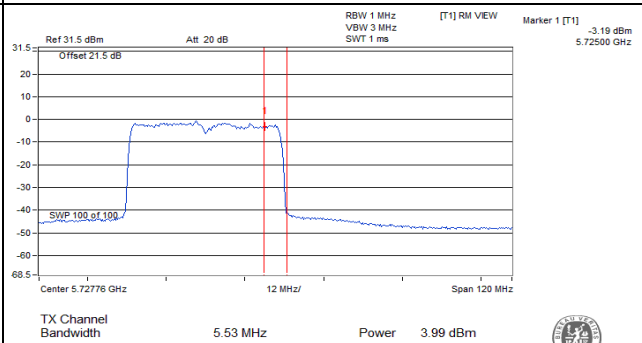


Spectrum Plot Value of Power

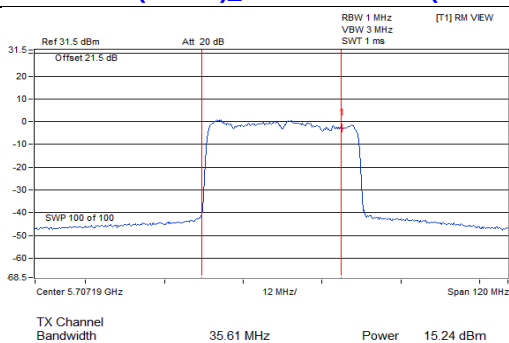
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band)



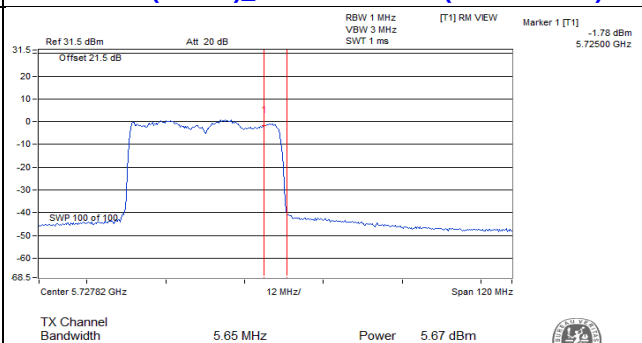
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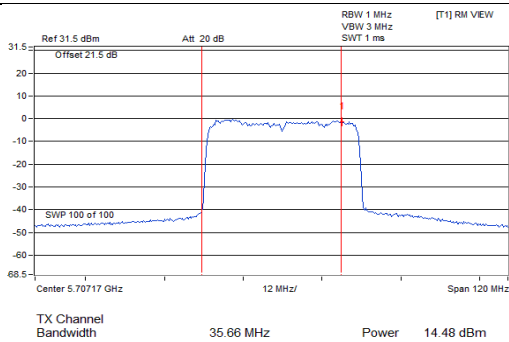
802.11ac (VHT40)_Chain 1 / CH142 (U-NII-2C Band)



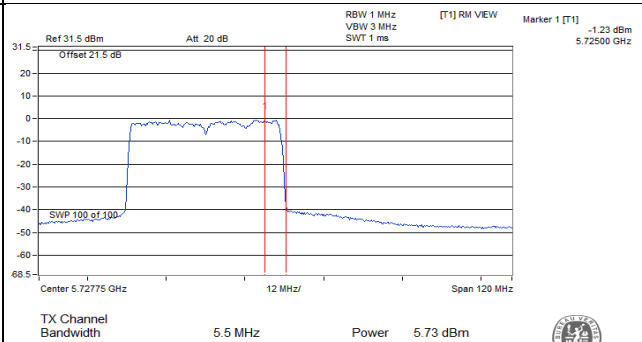
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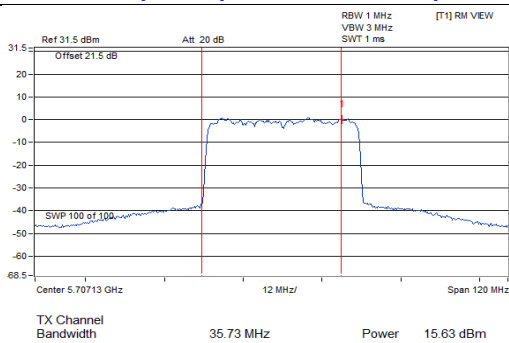
802.11ac (VHT40)_Chain 2 / CH142 (U-NII-2C Band)



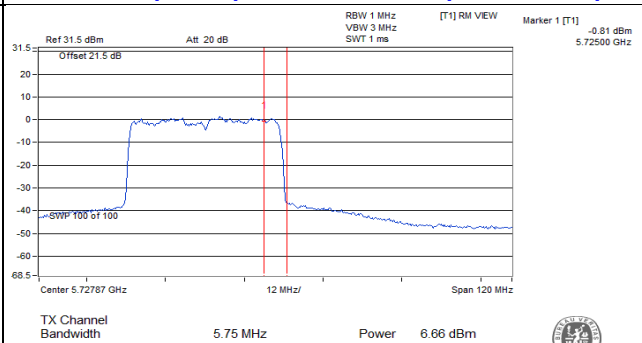
802.11ac (VHT40)_Chain 2 / CH142 (U-NII-3 Band)



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

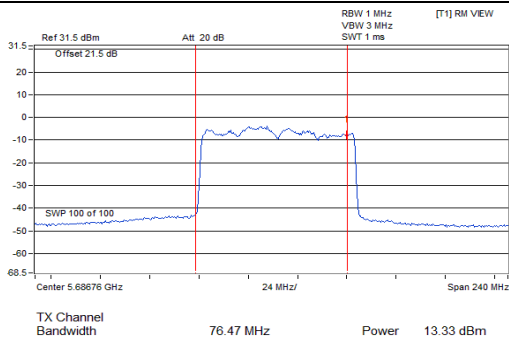


802.11ac (VHT40)_Chain 3 / CH142 (U-NII-3 Band)

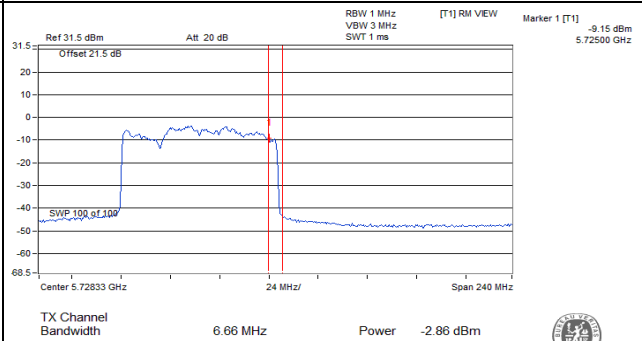


Spectrum Plot Value of Power

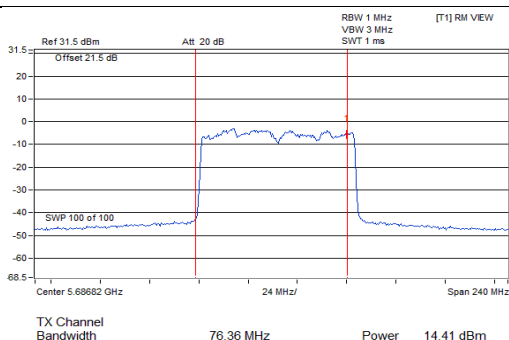
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C Band)



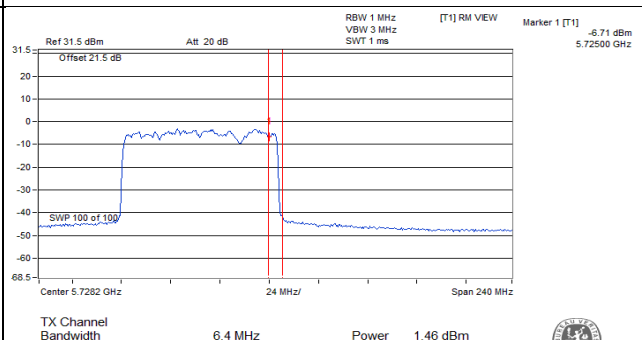
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-3 Band)



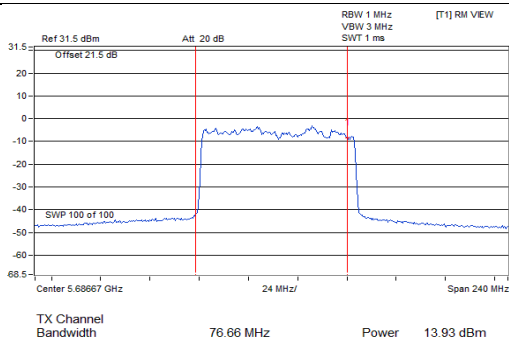
802.11ac (VHT80)_Chain 1 / CH138 (U-NII-2C Band)



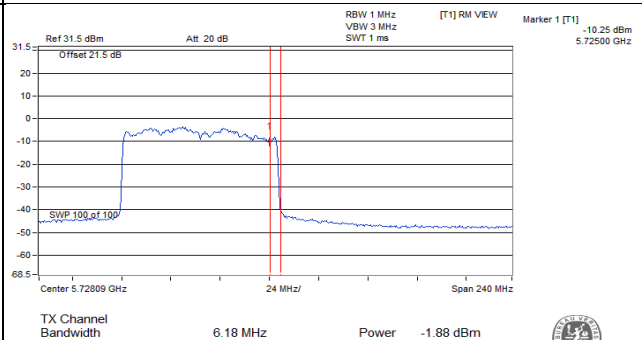
802.11ac (VHT80)_Chain 1 / CH138 (U-NII-3 Band)



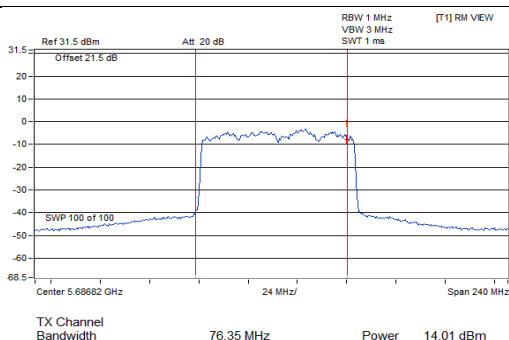
802.11ac (VHT80)_Chain 2 / CH138 (U-NII-2C Band)



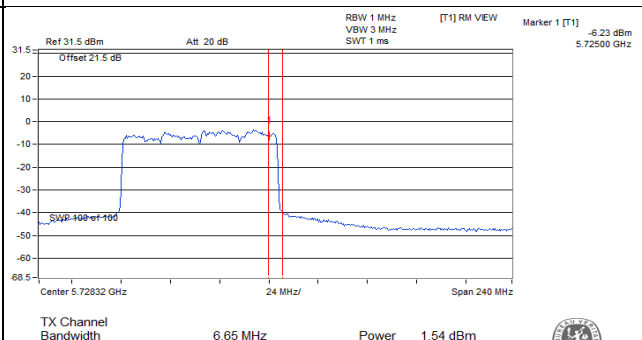
802.11ac (VHT80)_Chain 2 / CH138 (U-NII-3 Band)



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

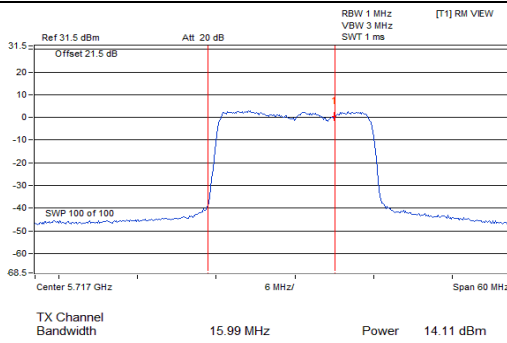


802.11ac (VHT80)_Chain 3 / CH138 (U-NII-3 Band)

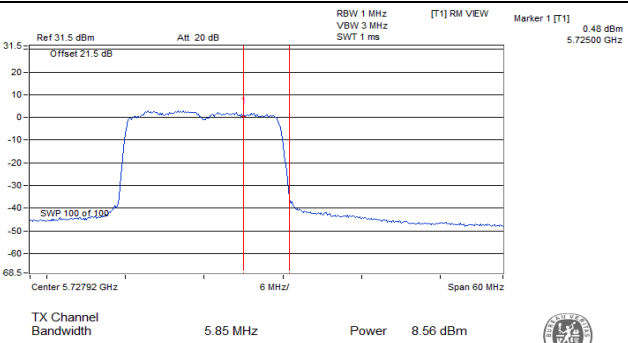


Spectrum Plot Value of Power

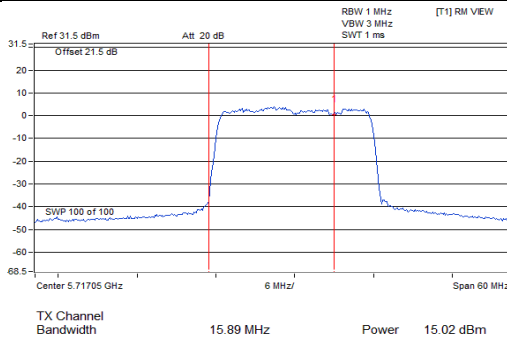
802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



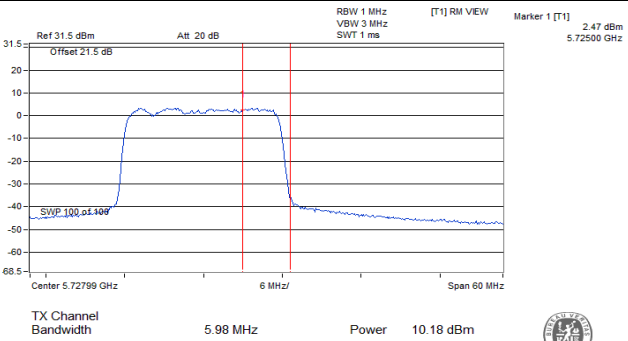
802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



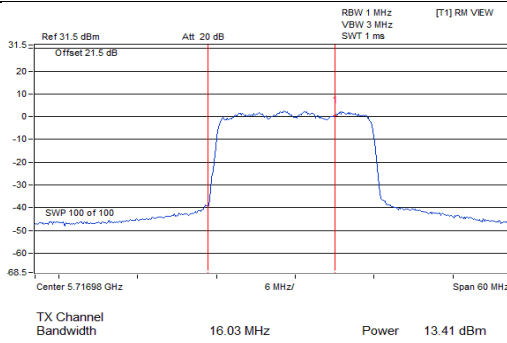
802.11ax (HE20)_Chain 1 / CH144 (U-NII-2C Band)



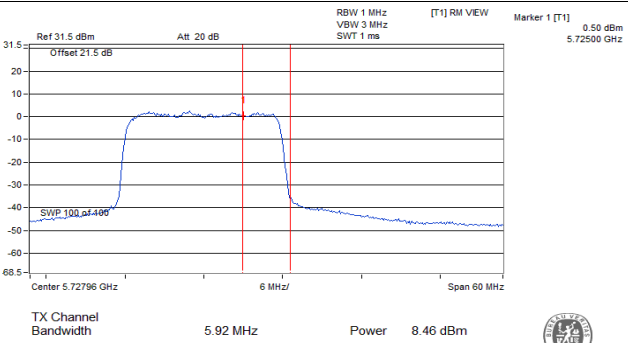
802.11ax (HE20)_Chain 1 / CH144 (U-NII-3 Band)



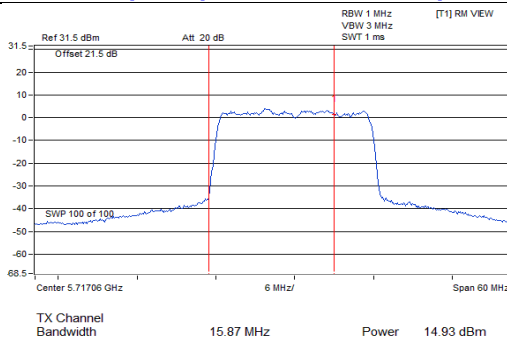
802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)



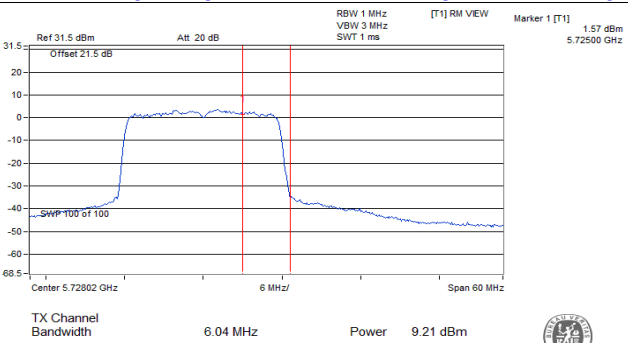
802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



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

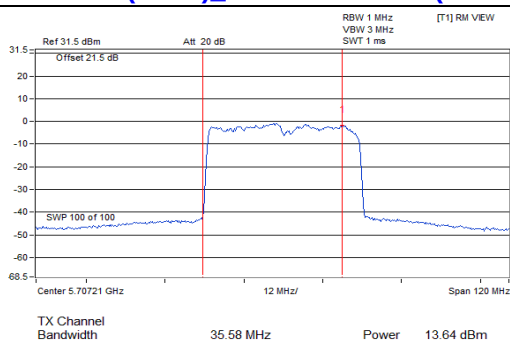


802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)

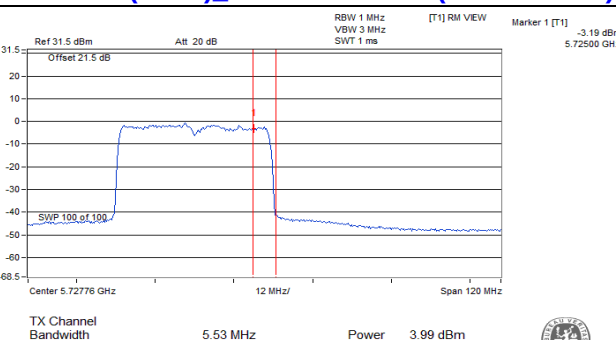


Spectrum Plot Value of Power

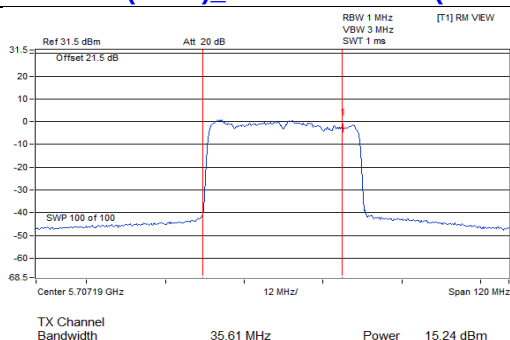
802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)



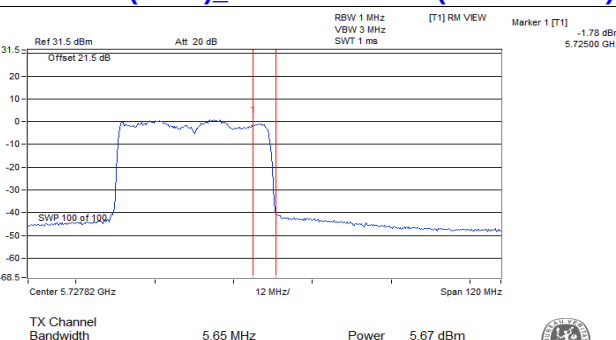
802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



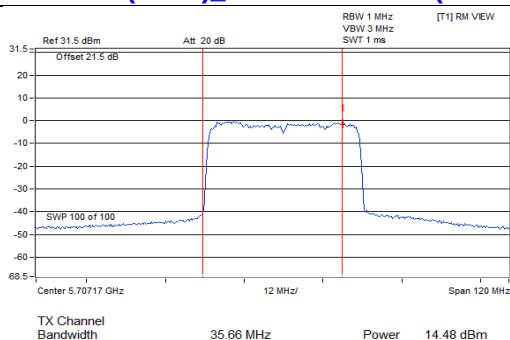
802.11ax (HE40)_Chain 1 / CH142 (U-NII-2C Band)



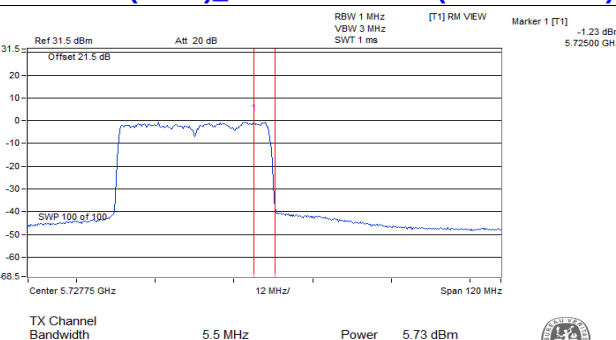
802.11ax (HE40)_Chain 1 / CH142 (U-NII-3 Band)



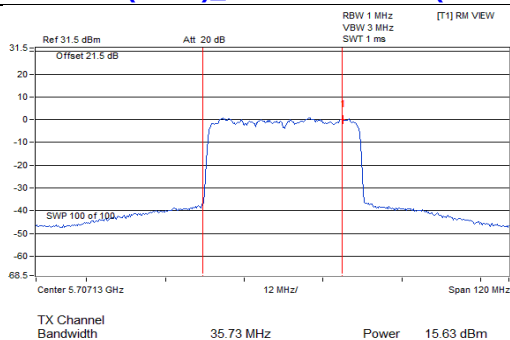
802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)



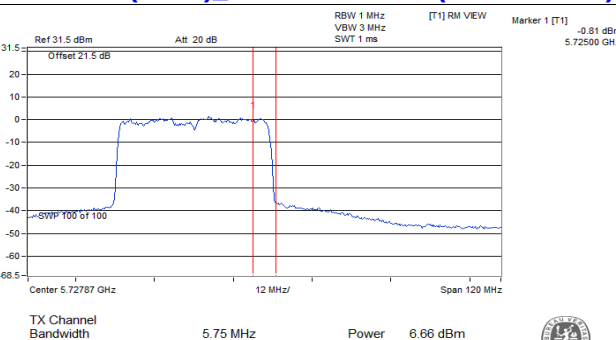
802.11ax (HE40)_Chain 2 / CH142 (U-NII-3 Band)



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

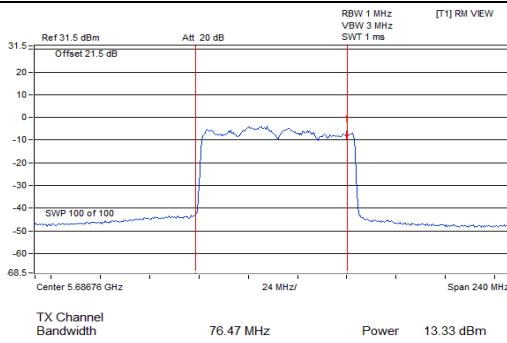


802.11ax (HE40)_Chain 3 / CH142 (U-NII-3 Band)

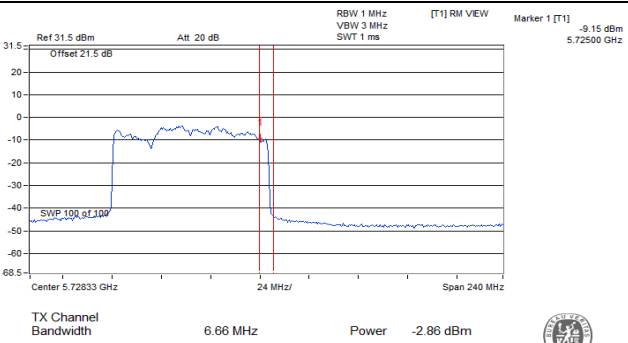


Spectrum Plot Value of Power

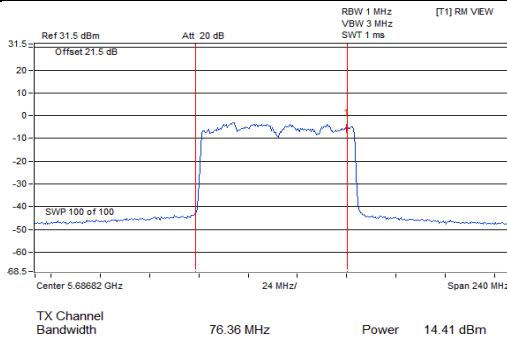
802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)



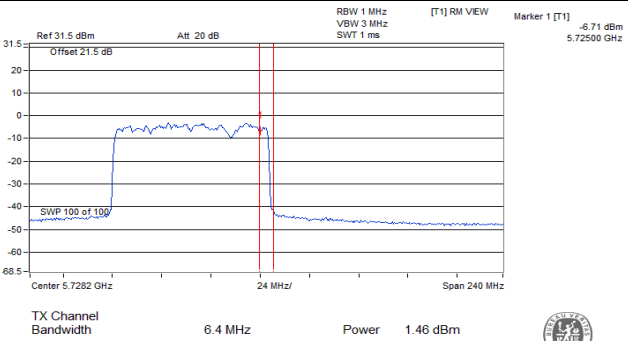
802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



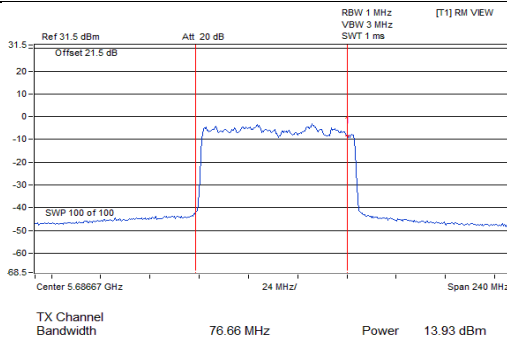
802.11ax (HE80)_Chain 1 / CH138 (U-NII-2C Band)



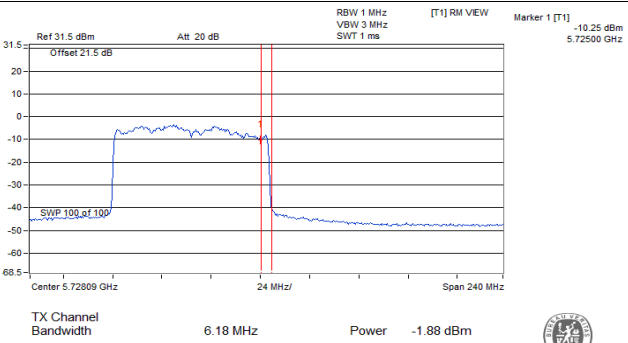
802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)



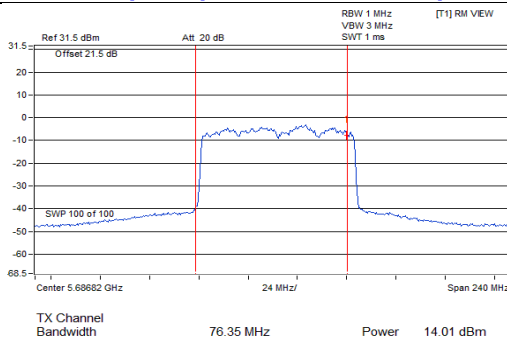
802.11ax (HE80)_Chain 2 / CH138 (U-NII-2C Band)



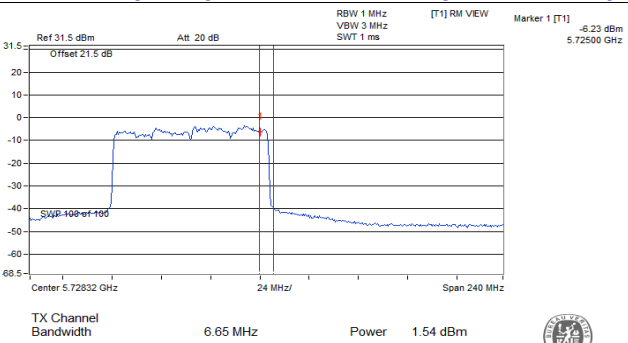
802.11ax (HE80)_Chain 2 / CH138 (U-NII-3 Band)



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



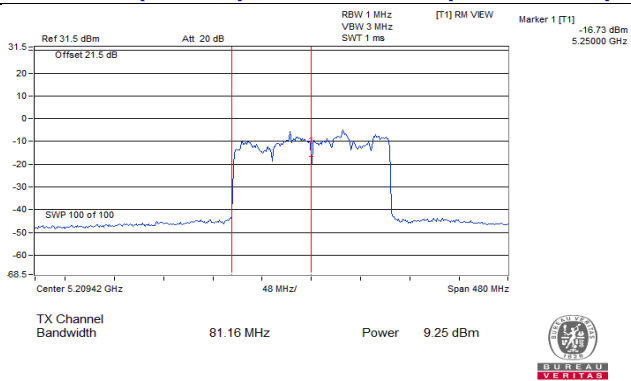
802.11ax (HE80)_Chain 3 / CH138 (U-NII-3 Band)



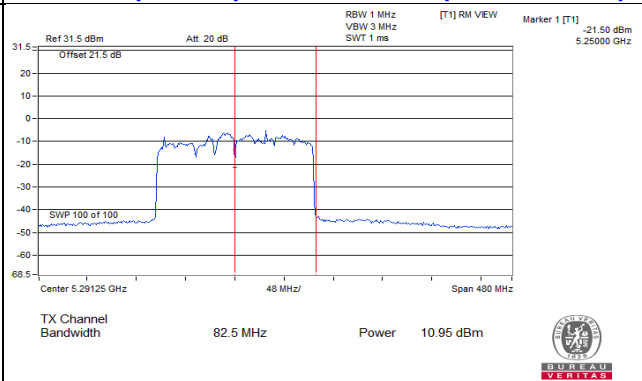
For channel straddling 5250MHz of Power

Spectrum Plot Value of Power

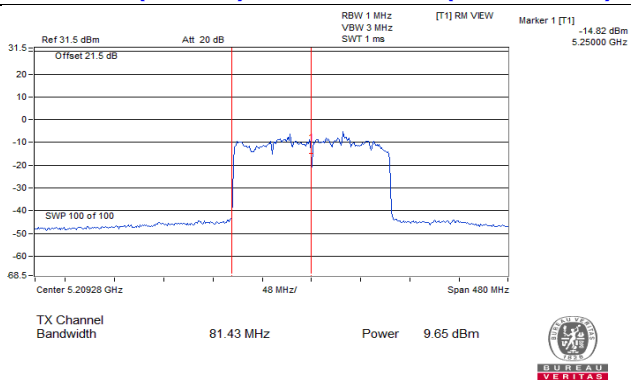
802.11ac (VHT160)_Chain 0 / CH50 (U-NII-1 Band)



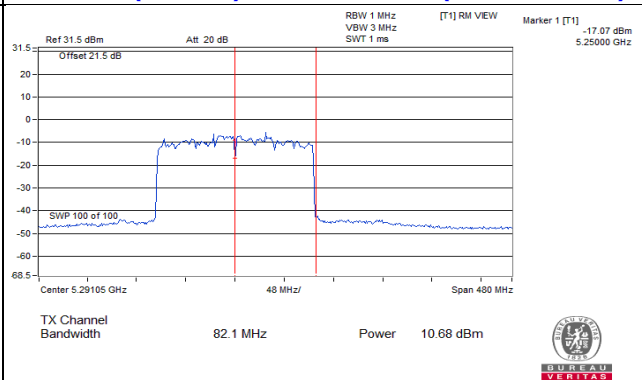
802.11ac (VHT160)_Chain 0 / CH50 (U-NII-2A Band)



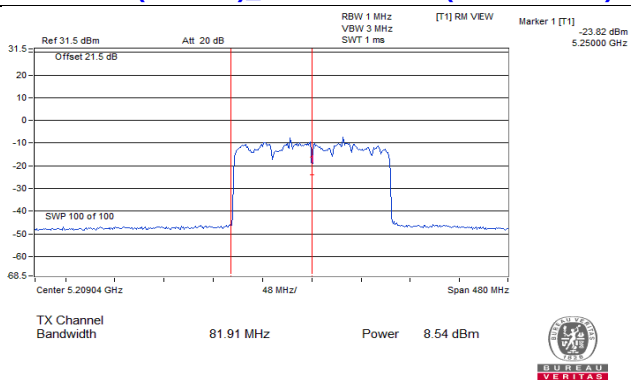
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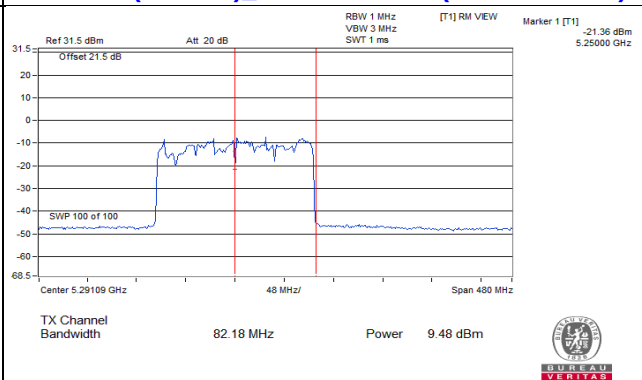
802.11ac (VHT160)_Chain 1 / CH50 (U-NII-2A Band)



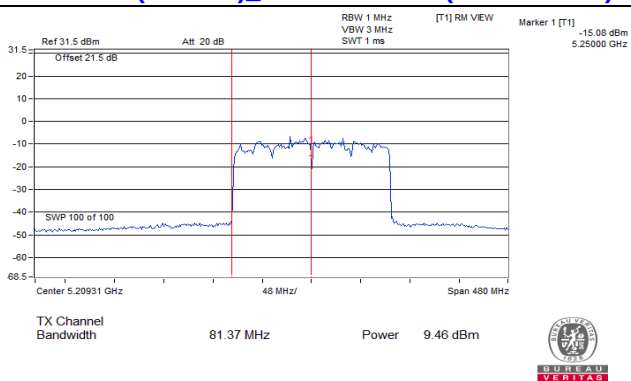
802.11ac (VHT160)_Chain 2 / CH50 (U-NII-1 Band)



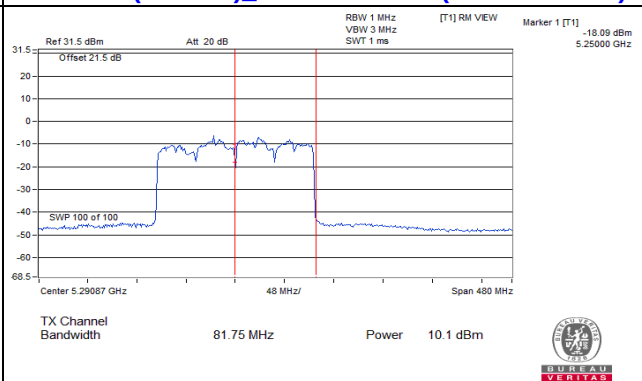
802.11ac (VHT160)_Chain 2 / CH50 (U-NII-2A Band)



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

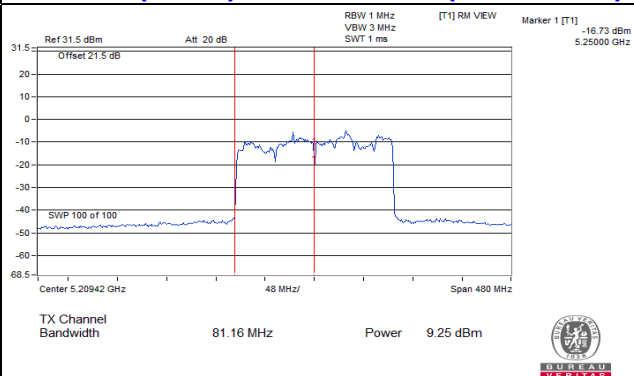


802.11ac (VHT160)_Chain 3 / CH50 (U-NII-2A Band)

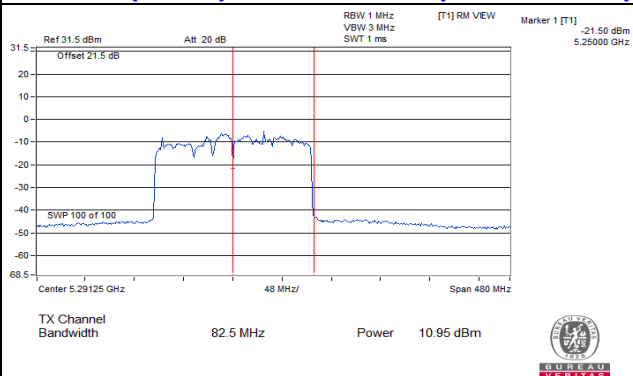


Spectrum Plot Value of Power

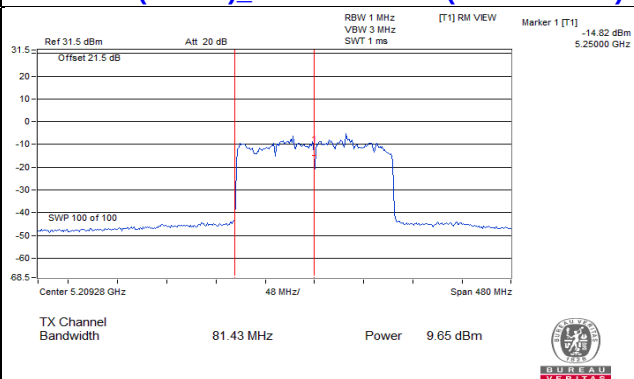
802.11ax (HE160)_Chain 0 / CH50 (U-NII-1 Band)



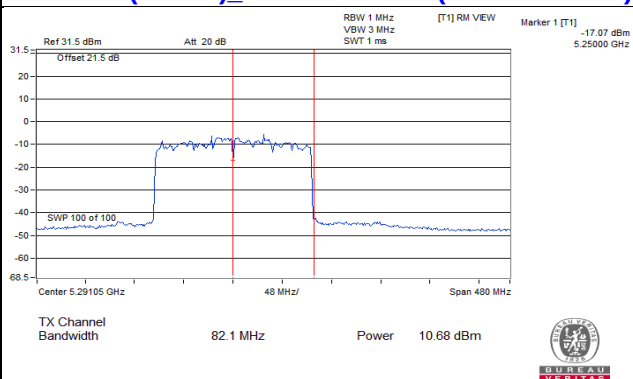
802.11ax (HE160)_Chain 0 / CH50 (U-NII-2A Band)



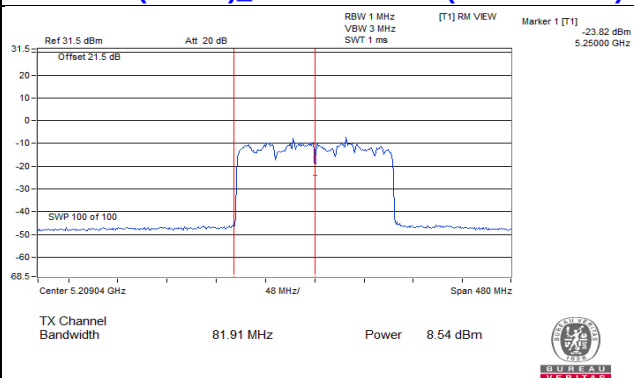
802.11ax (HE160)_Chain 1 / CH50 (U-NII-1 Band)



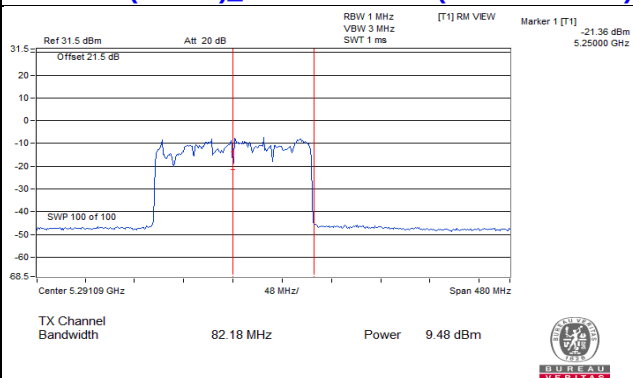
802.11ax (HE160)_Chain 1 / CH50 (U-NII-2A Band)



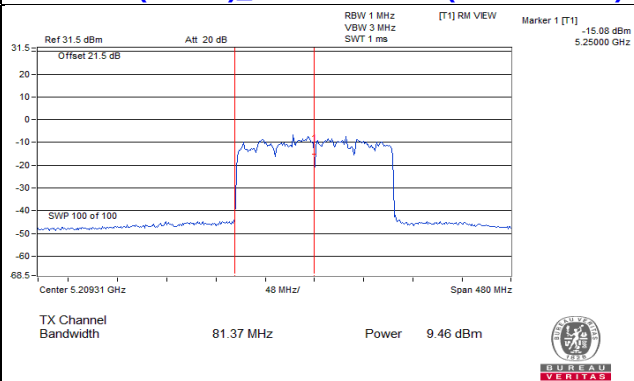
802.11ax (HE160)_Chain 2 / CH50 (U-NII-1 Band)



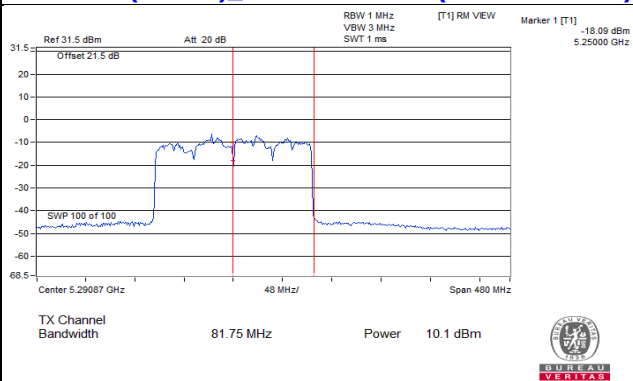
802.11ax (HE160)_Chain 2 / CH50 (U-NII-2A Band)



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



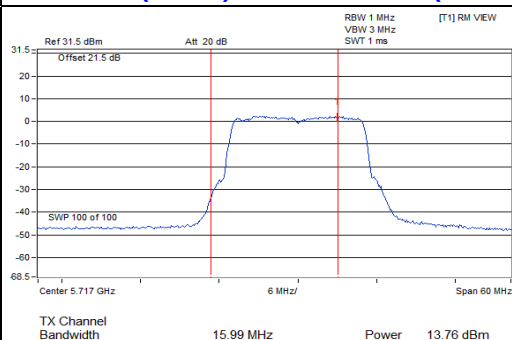
802.11ax (HE160)_Chain 3 / CH50 (U-NII-2A Band)



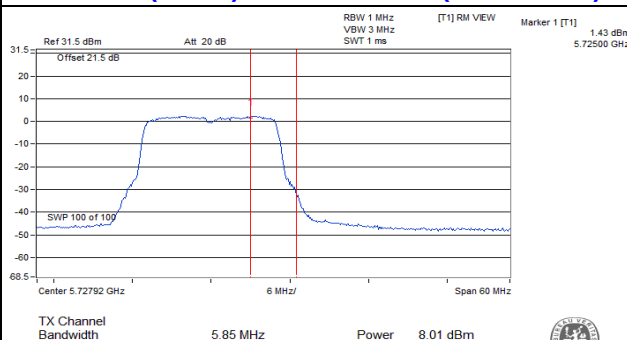
Beamforming Mode

Spectrum Plot Value of Power

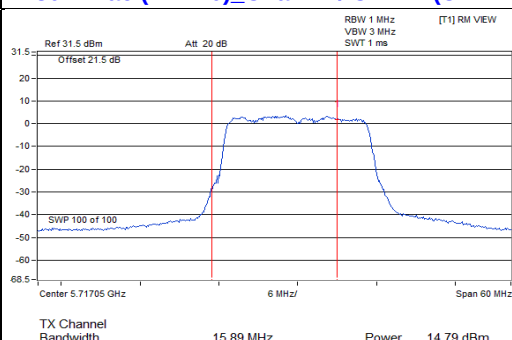
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-2C Band)



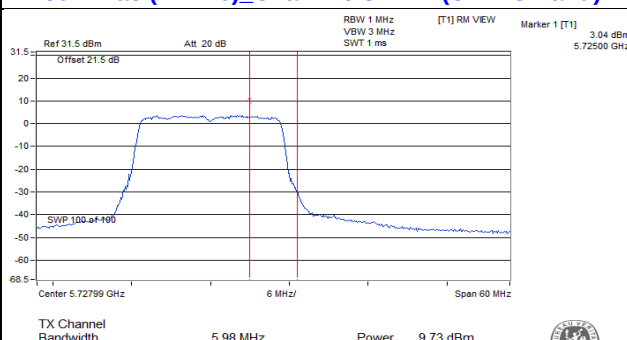
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-3 Band)



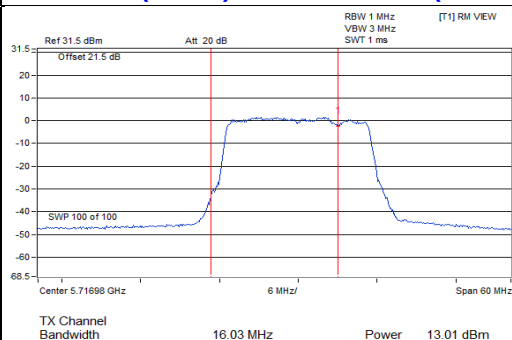
802.11ac (VHT20)_Chain 1 / CH144 (U-NII-2C Band)



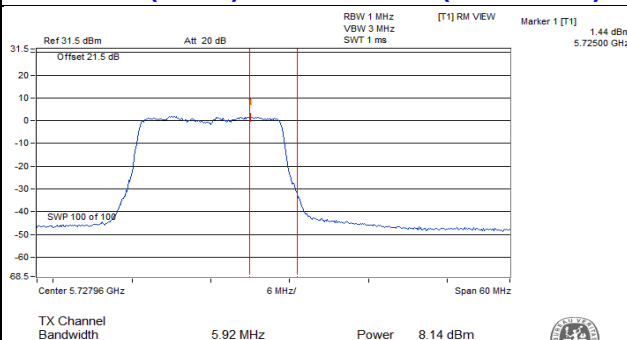
802.11ac (VHT20)_Chain 1 / CH144 (U-NII-3 Band)



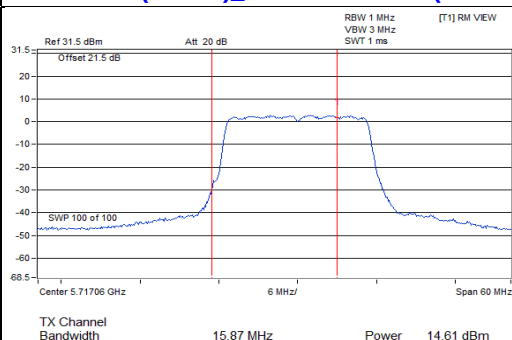
802.11ac (VHT20)_Chain 2 / CH144 (U-NII-2C Band)



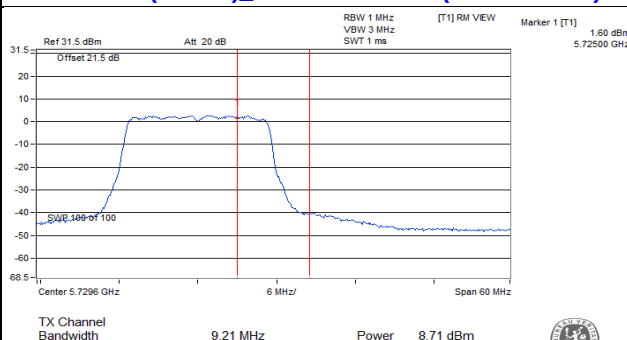
802.11ac (VHT20)_Chain 2 / CH144 (U-NII-3 Band)



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

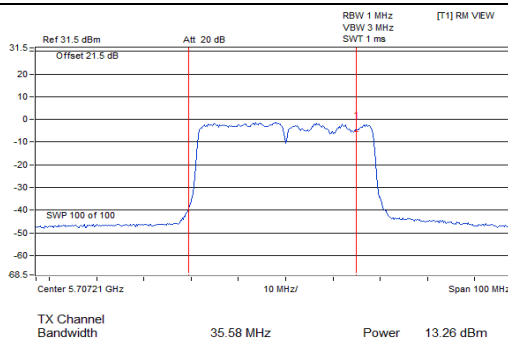


802.11ac (VHT20)_Chain 3 / CH144 (U-NII-3 Band)

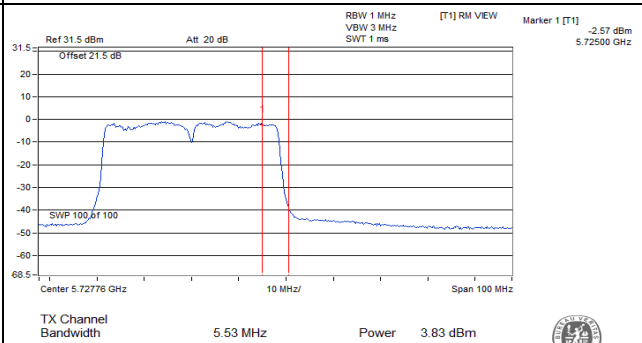


Spectrum Plot Value of Power

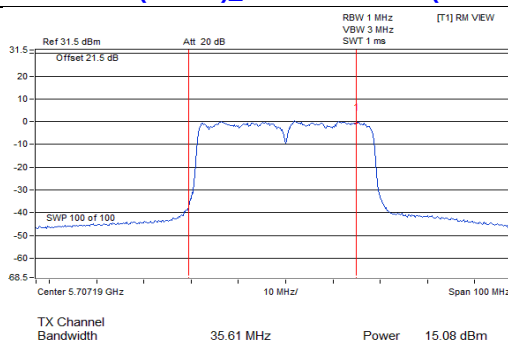
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band)



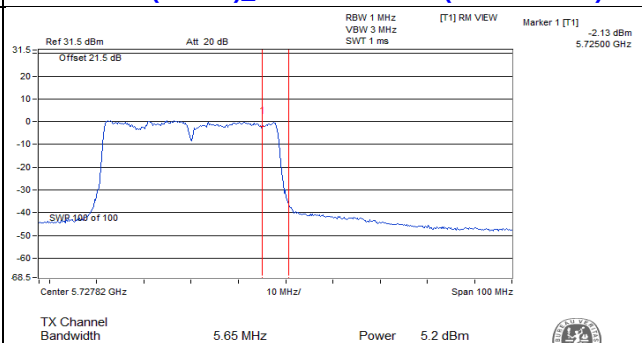
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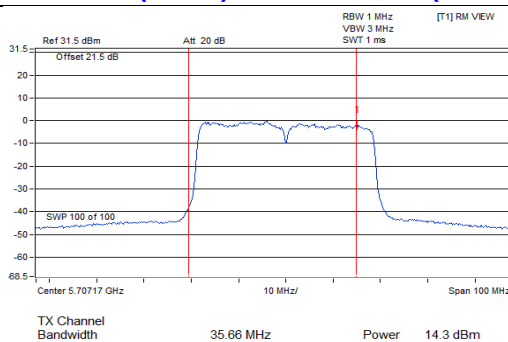
802.11ac (VHT40)_Chain 1 / CH142 (U-NII-2C Band)



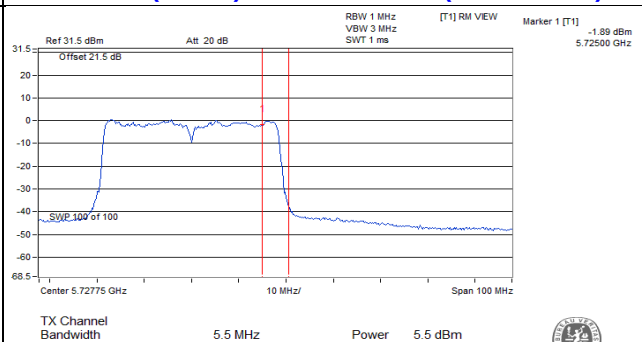
802.11ac (VHT40)_Chain 1 / CH142 (U-NII-3 Band)



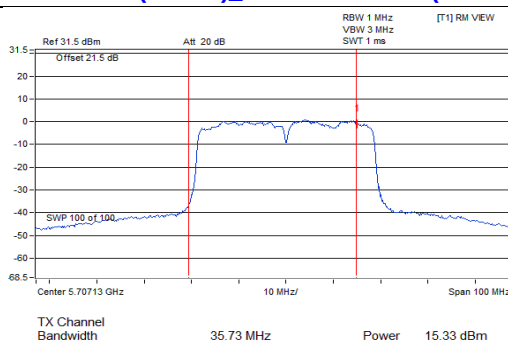
802.11ac (VHT40)_Chain 2 / CH142 (U-NII-2C Band)



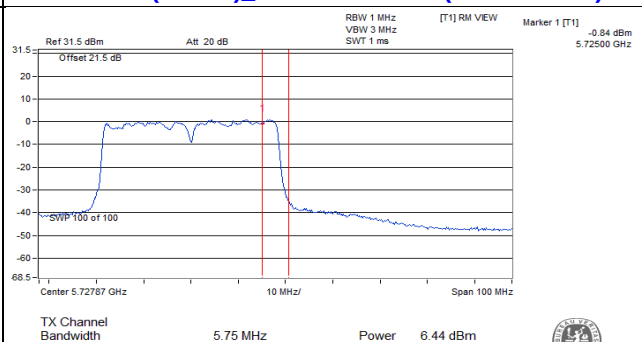
802.11ac (VHT40)_Chain 2 / CH142 (U-NII-3 Band)



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

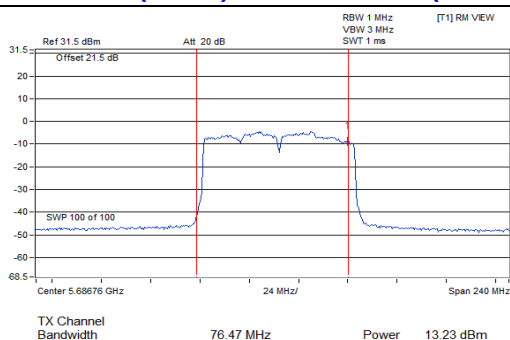


802.11ac (VHT40)_Chain 3 / CH142 (U-NII-3 Band)

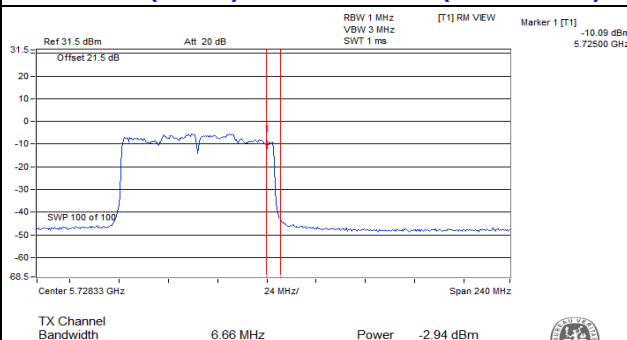


Spectrum Plot Value of Power

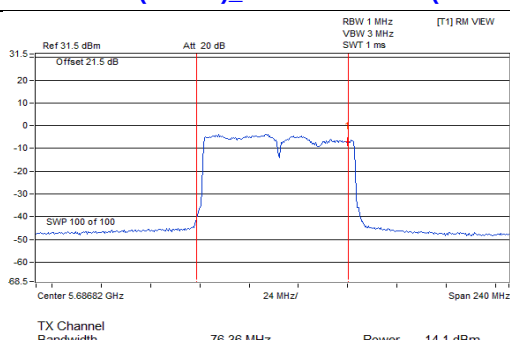
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C Band)



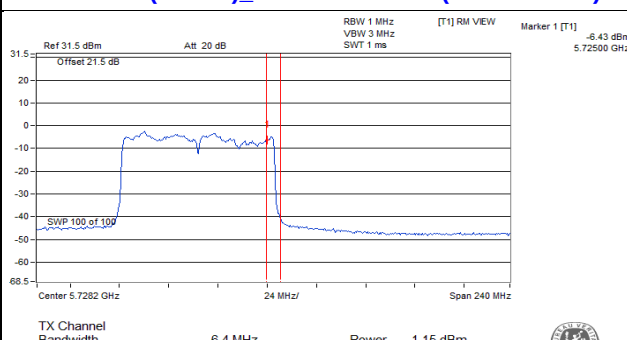
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-3 Band)



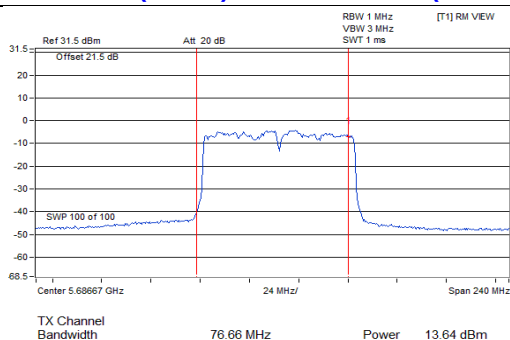
802.11ac (VHT80)_Chain 1 / CH138 (U-NII-2C Band)



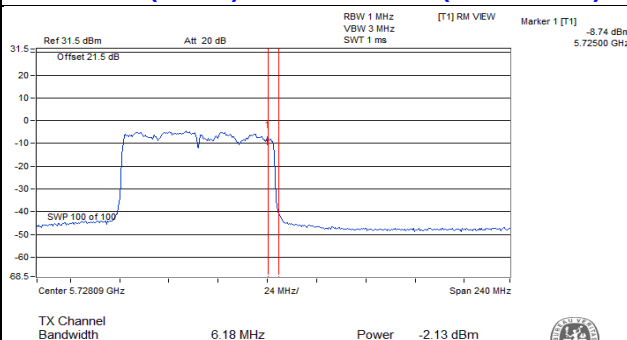
802.11ac (VHT80)_Chain 1 / CH138 (U-NII-3 Band)



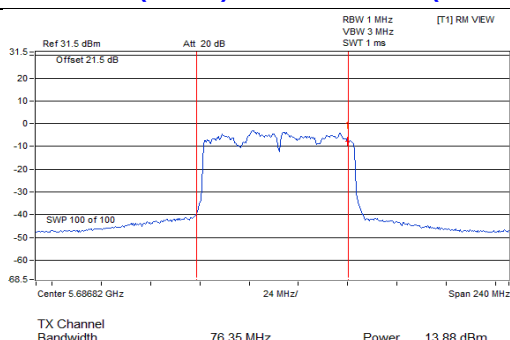
802.11ac (VHT80)_Chain 2 / CH138 (U-NII-2C Band)



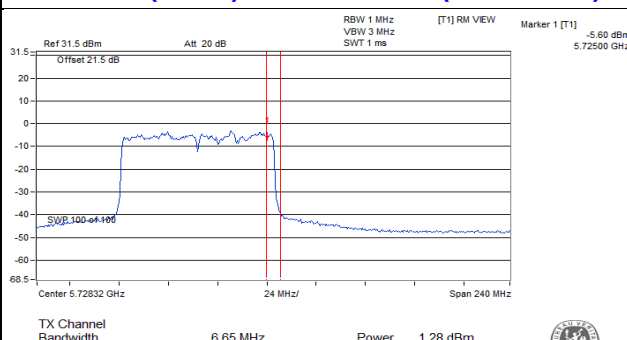
802.11ac (VHT80)_Chain 2 / CH138 (U-NII-3 Band)



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

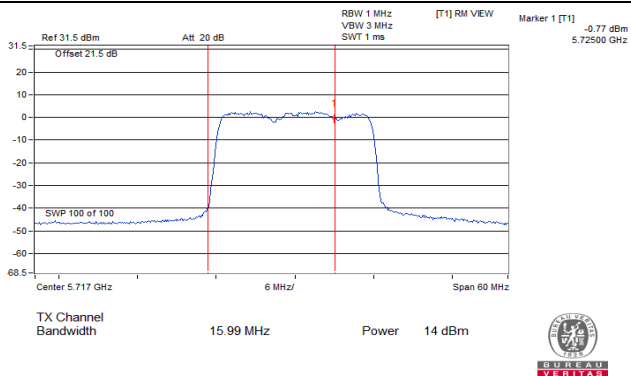


802.11ac (VHT80)_Chain 3 / CH138 (U-NII-3 Band)

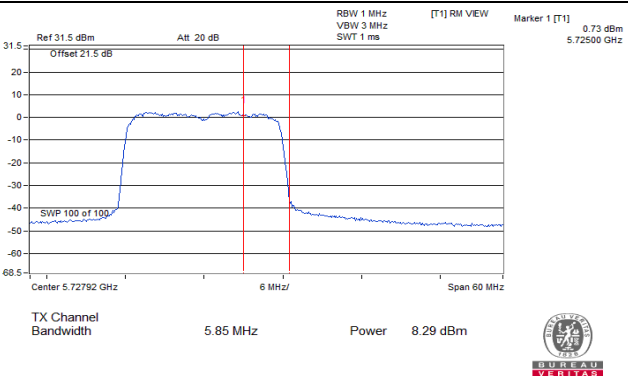


Spectrum Plot Value of Power

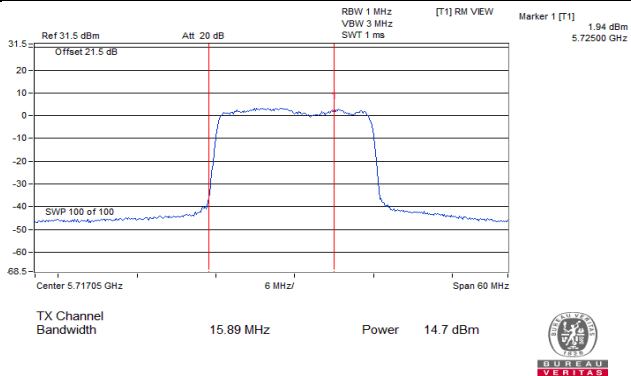
802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



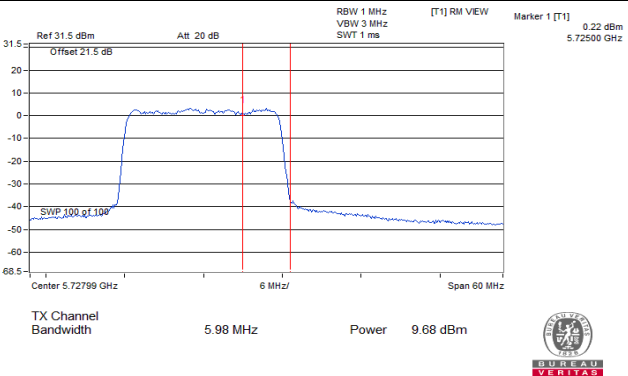
802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



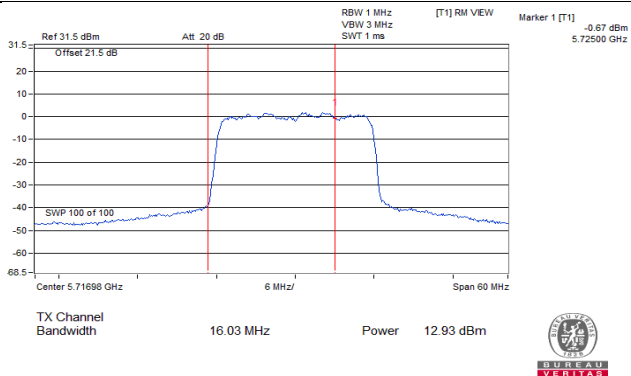
802.11ax (HE20)_Chain 1 / CH144 (U-NII-2C Band)



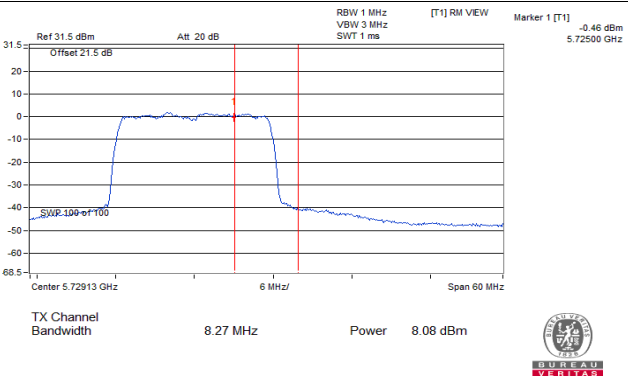
802.11ax (HE20)_Chain 1 / CH144 (U-NII-3 Band)



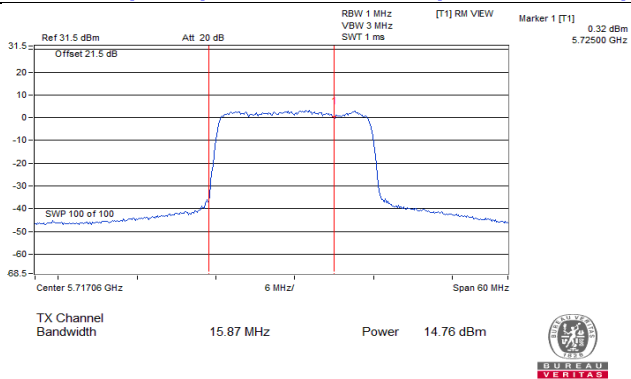
802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)



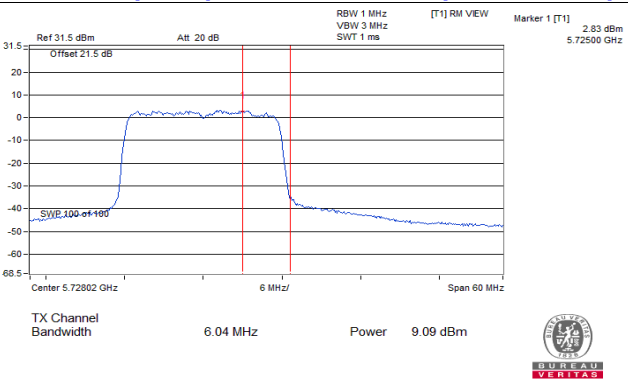
802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



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

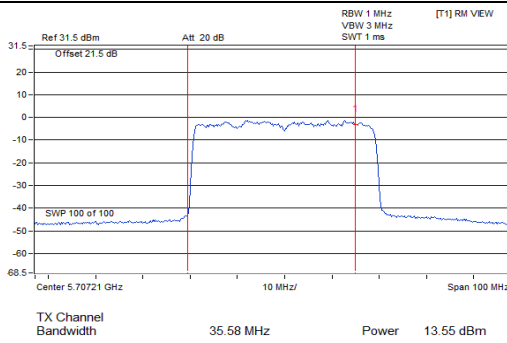


802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)

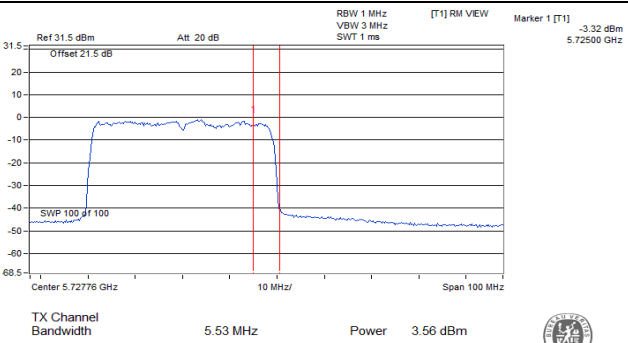


Spectrum Plot Value of Power

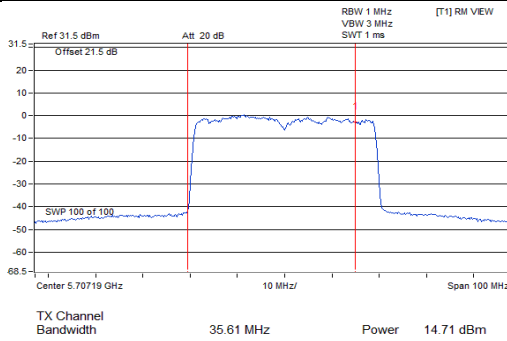
802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)



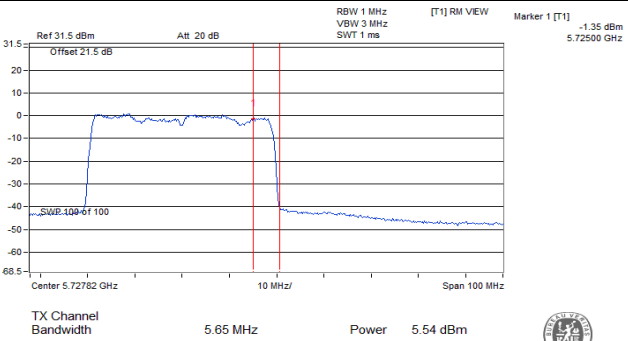
802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



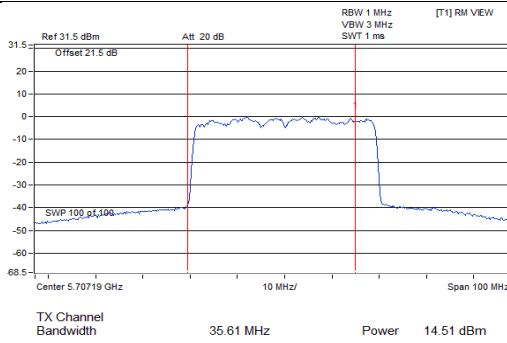
802.11ax (HE40)_Chain 1 / CH142 (U-NII-2C Band)



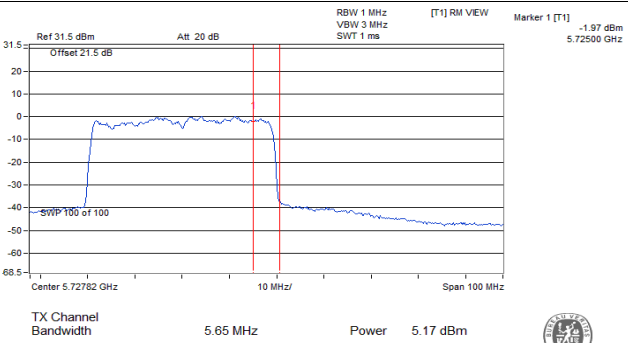
802.11ax (HE40)_Chain 1 / CH142 (U-NII-3 Band)



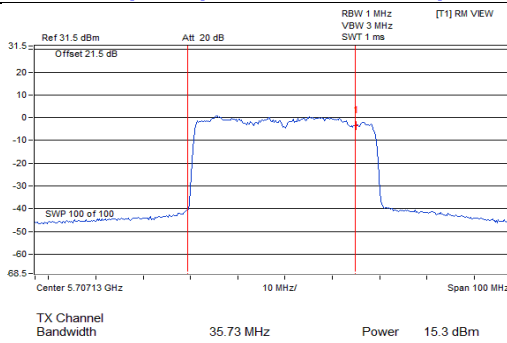
802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)



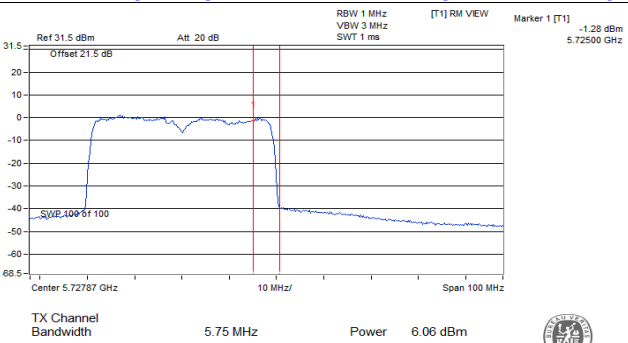
802.11ax (HE40)_Chain 2 / CH142 (U-NII-3 Band)



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

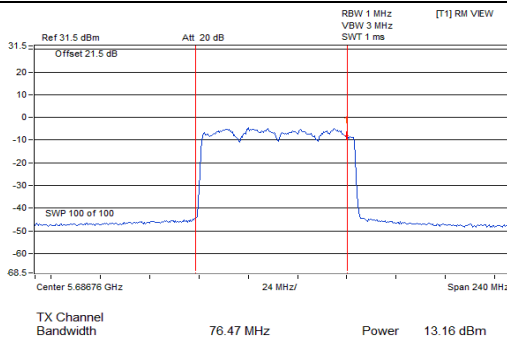


802.11ax (HE40)_Chain 3 / CH142 (U-NII-3 Band)

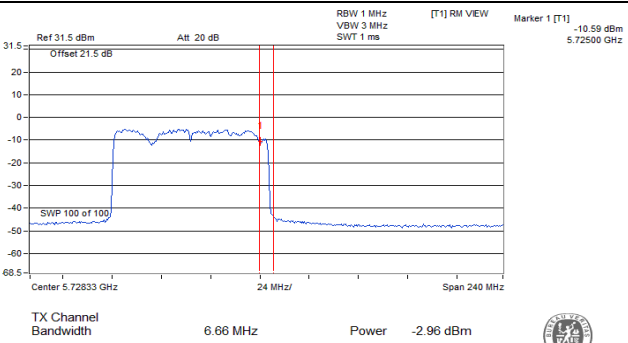


Spectrum Plot Value of Power

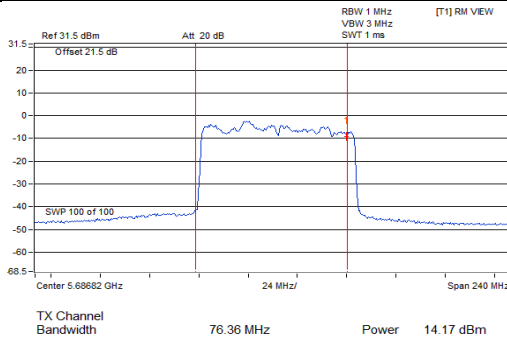
802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)



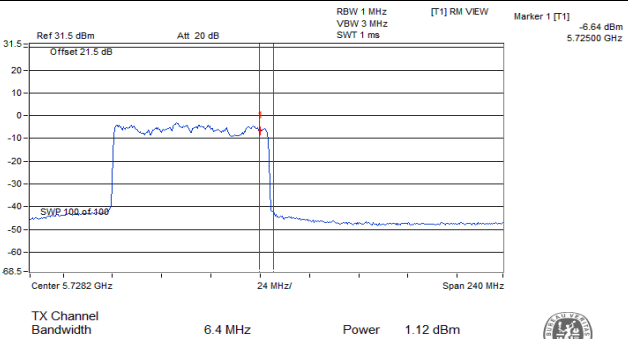
802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



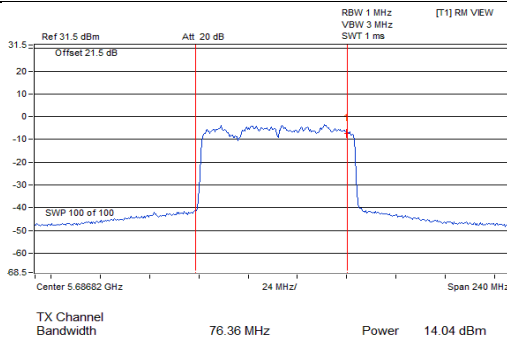
802.11ax (HE80)_Chain 1 / CH138 (U-NII-2C Band)



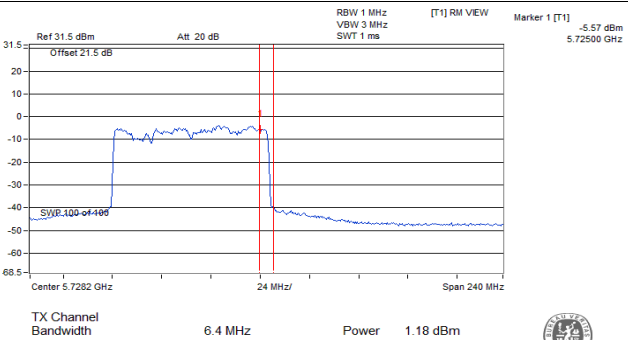
802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)



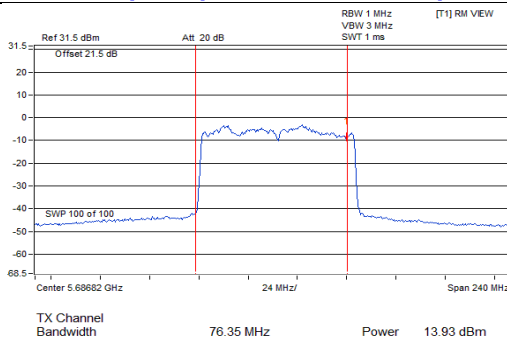
802.11ax (HE80)_Chain 2 / CH138 (U-NII-2C Band)



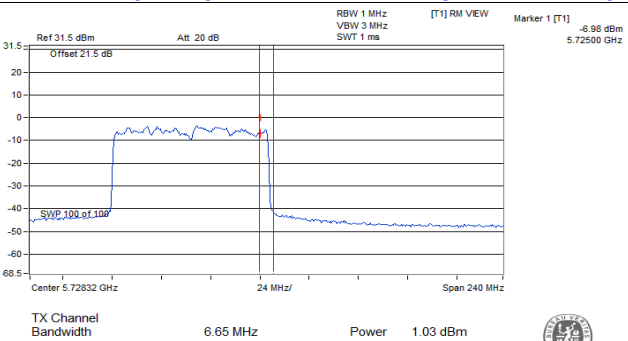
802.11ax (HE80)_Chain 2 / CH138 (U-NII-3 Band)



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



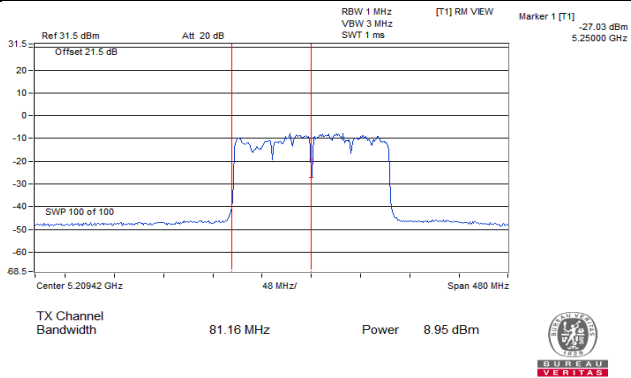
802.11ax (HE80)_Chain 3 / CH138 (U-NII-3 Band)



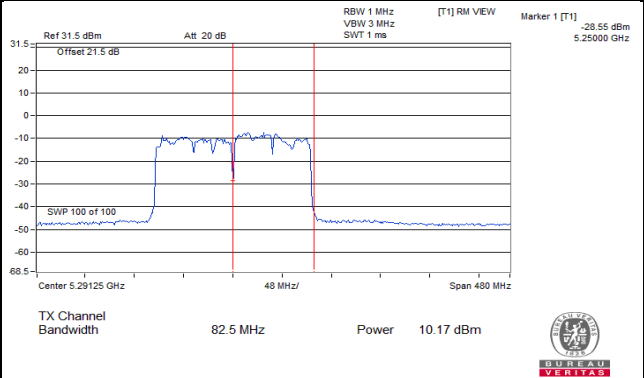
For channel straddling 5250MHz of Power

Spectrum Plot Value of Power

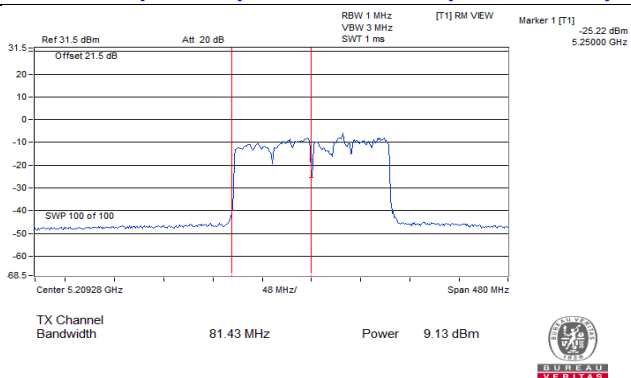
802.11ac (VHT160)_Chain 0 / CH50 (U-NII-1 Band)



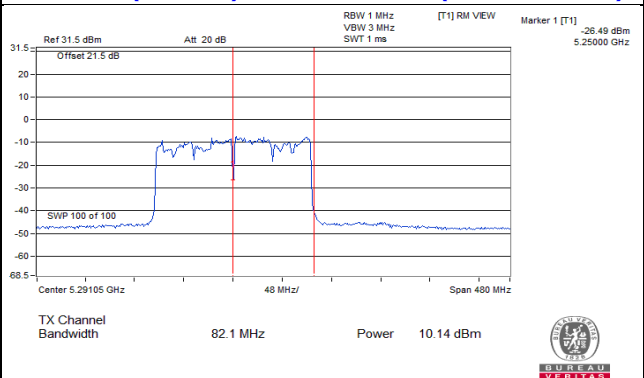
802.11ac (VHT160)_Chain 0 / CH50 (U-NII-2A Band)



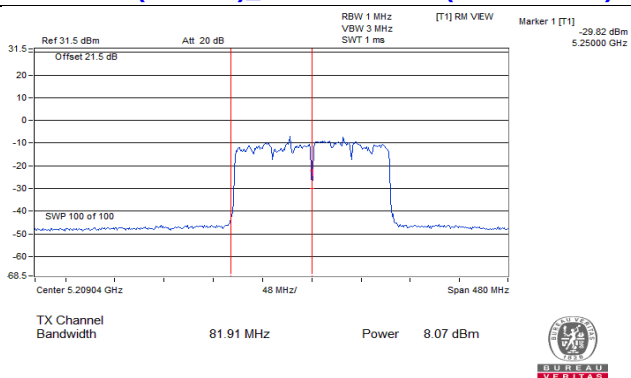
802.11ac (VHT160)_Chain 1 / CH50 (U-NII-1 Band)



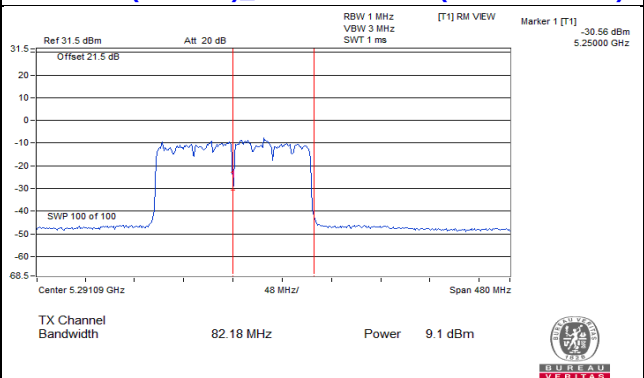
802.11ac (VHT160)_Chain 1 / CH50 (U-NII-2A Band)



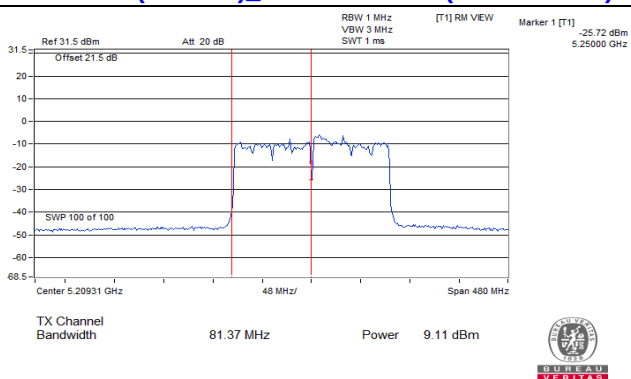
802.11ac (VHT160)_Chain 2 / CH50 (U-NII-1 Band)



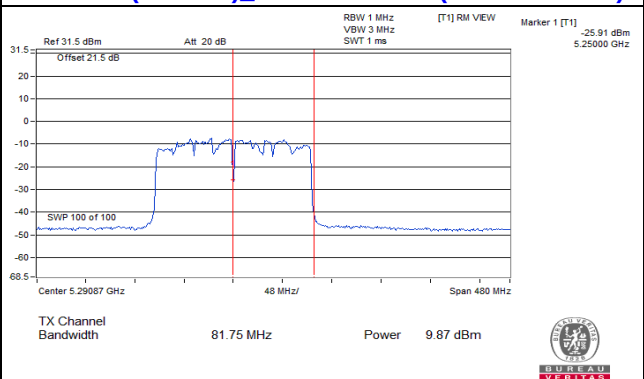
802.11ac (VHT160)_Chain 2 / CH50 (U-NII-2A Band)



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

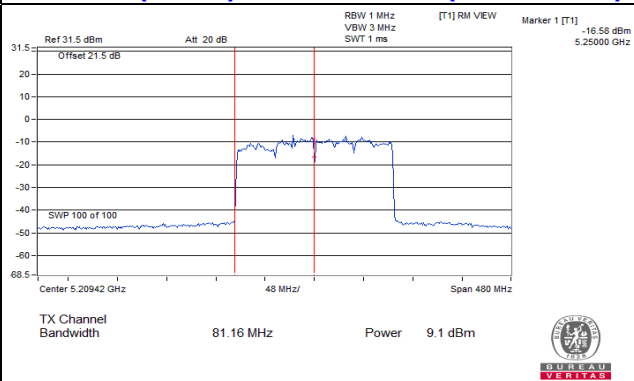


802.11ac (VHT160)_Chain 3 / CH50 (U-NII-2A Band)

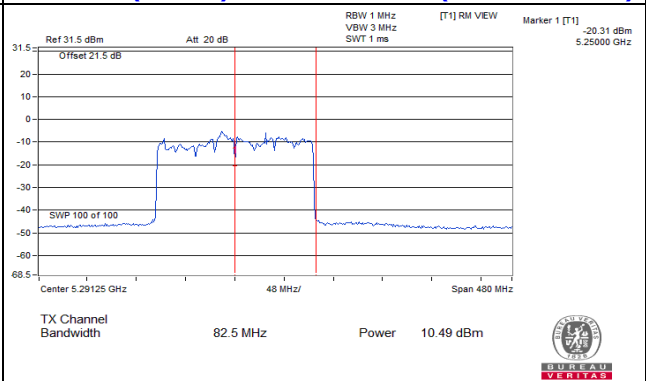


Spectrum Plot Value of Power

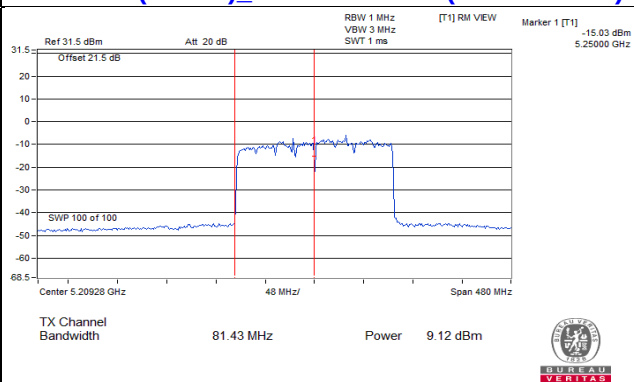
802.11ax (HE160)_Chain 0 / CH50 (U-NII-1 Band)



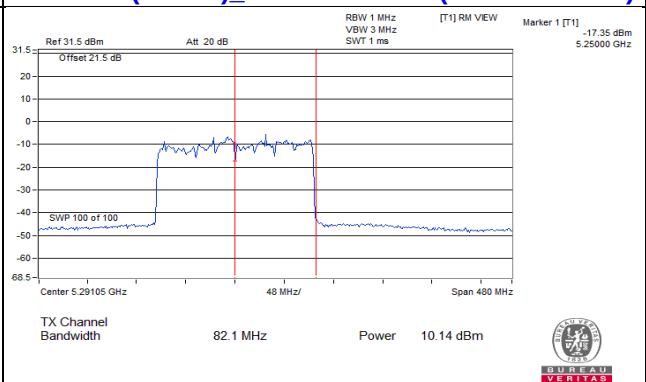
802.11ax (HE160)_Chain 0 / CH50 (U-NII-2A Band)



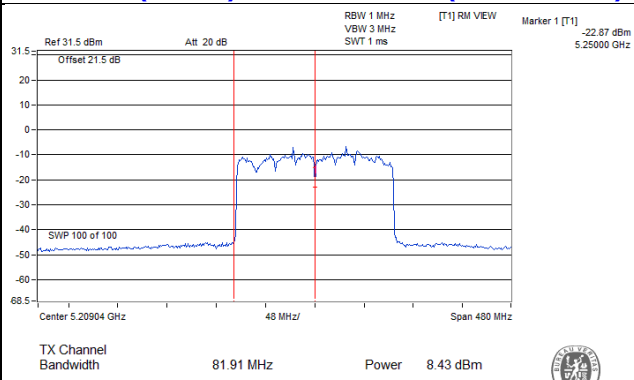
802.11ax (HE160)_Chain 1 / CH50 (U-NII-1 Band)



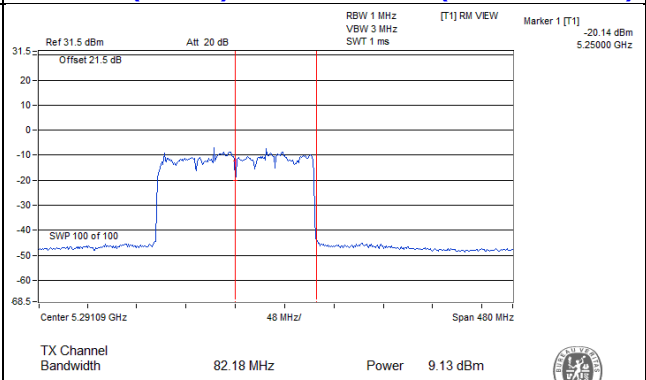
802.11ax (HE160)_Chain 1 / CH50 (U-NII-2A Band)



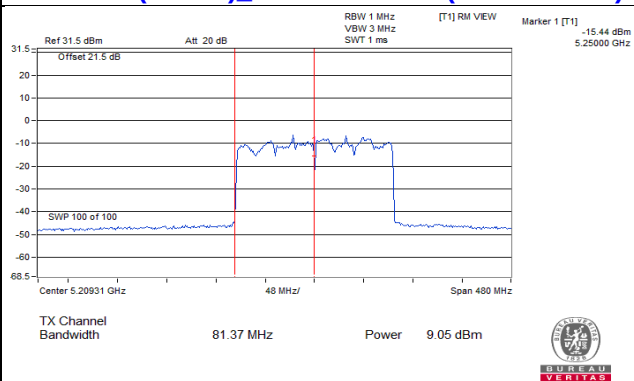
802.11ax (HE160)_Chain 2 / CH50 (U-NII-1 Band)



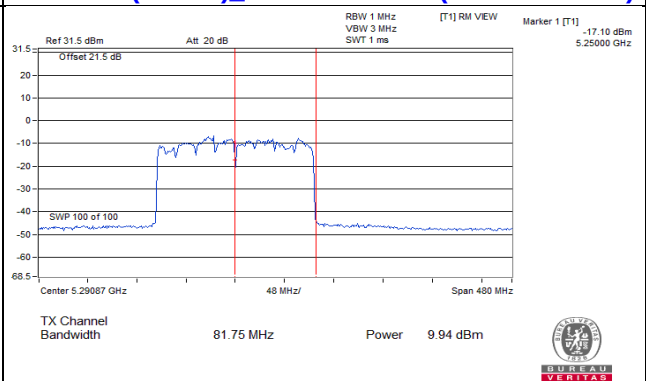
802.11ax (HE160)_Chain 2 / CH50 (U-NII-2A Band)



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



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



Non-Beamforming Mode

26dB OCCUPIED BANDWIDTH

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
52	5260	21.65	21.9	21.89	21.74
60	5300	21.66	21.83	21.92	21.8
64	5320	21.73	21.9	21.9	21.78
100	5500	21.72	21.89	21.89	21.85
116	5580	21.7	21.95	21.94	21.7
140	5700	21.74	21.88	21.96	21.74
144 (U-NII-2C Band)	5720	15.8	15.83	15.92	15.84

802.11ax (HE20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
52	5260	21.92	21.74	21.95	21.96
60	5300	21.76	21.94	21.98	21.98
64	5320	21.79	21.83	21.99	21.95
100	5500	21.87	21.82	21.95	21.97
116	5580	21.90	21.77	21.97	21.96
140	5700	21.84	21.83	22.00	21.92
144 (U-NII-2C Band)	5720	15.99	15.89	16.03	15.87

802.11ax (HE40)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
54	5270	41.63	41.59	41.44	41.45
62	5310	41.54	41.57	41.38	41.39
102	5510	41.47	41.55	41.37	41.35
110	5550	41.41	41.51	41.39	41.43
134	5670	41.44	41.61	41.39	41.45
142 (U-NII-2C Band)	5710	35.58	35.61	35.66	35.73

802.11ax (HE80)

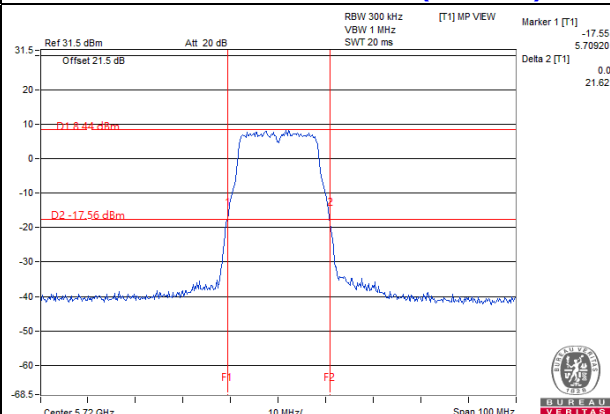
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
58	5290	83.12	83.21	82.94	82.70
106	5530	83.05	83.34	82.81	82.88
122	5610	83.22	82.87	82.94	82.92
138 (U-NII-2C Band)	5690	76.47	76.36	76.66	76.35

802.11ax (HE160)

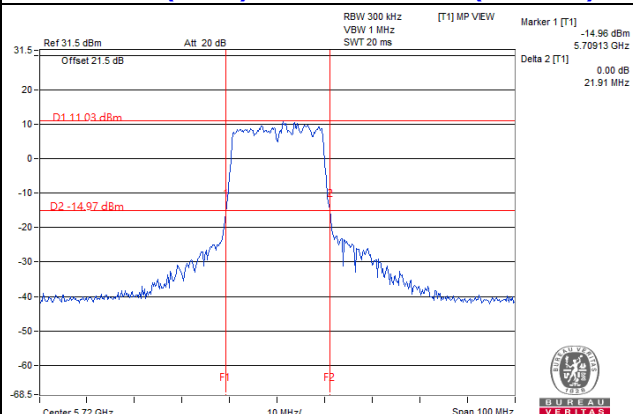
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
50 (U-NII-2A Band)	5250	82.50	82.10	82.18	81.75
114	5570	163.32	163.65	163.49	163.68

Spectrum Plot of Worst Value

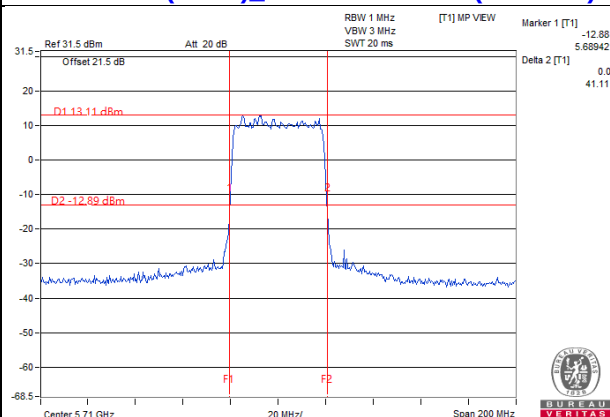
802.11a_Chain 0 / CH144 (U-NII-2C)



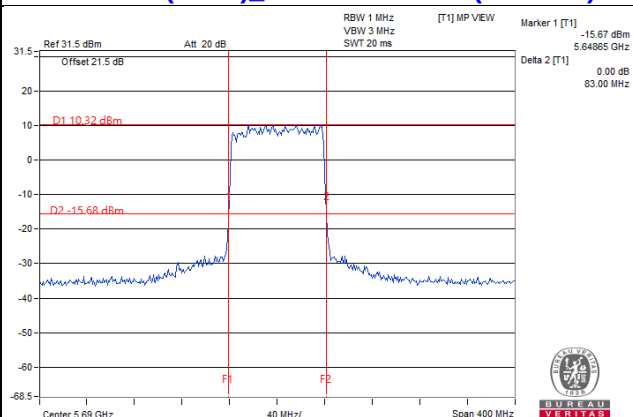
802.11ax (HE20)_Chain 3 / CH144 (U-NII-2C)



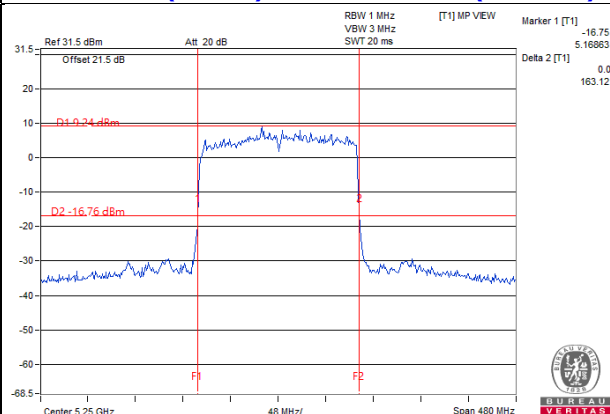
802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C)



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



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



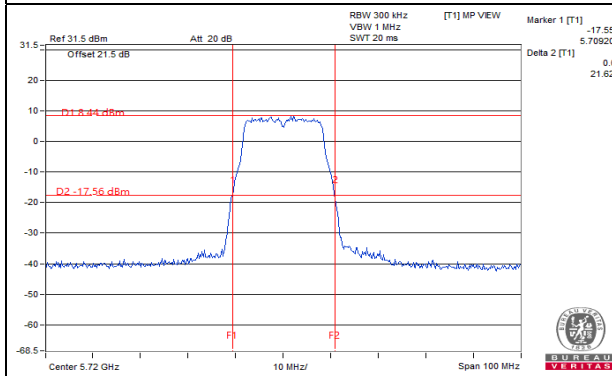
Note:

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

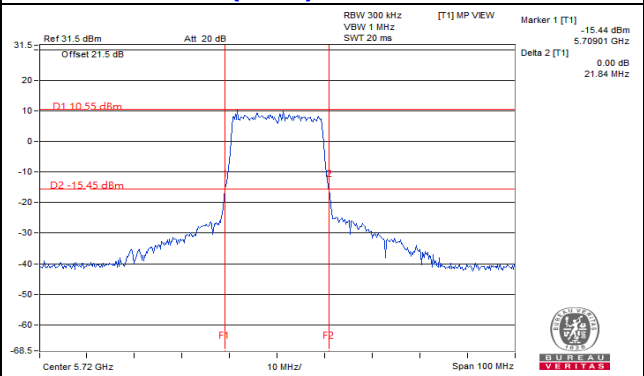
For channel straddling 5725MHz of 26dB BW

Spectrum Plot Value of 26dB BW

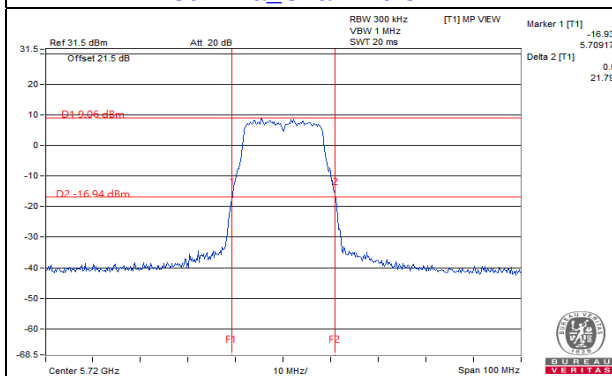
802.11a_Chain 0 / CH144



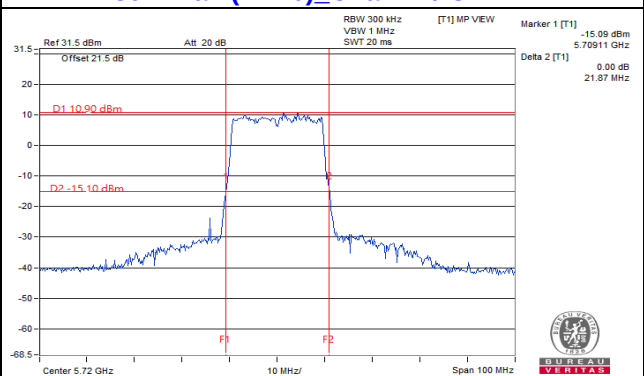
802.11ax (HE20)_Chain 0 / CH144



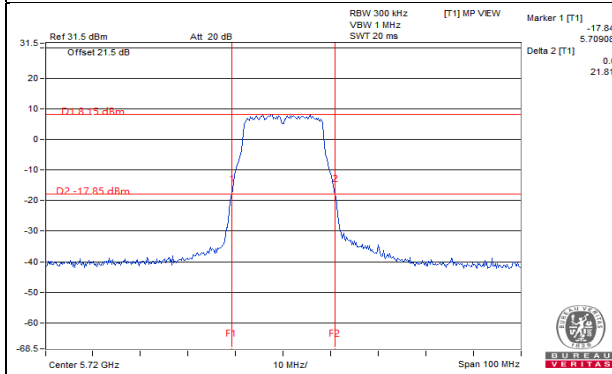
802.11a_Chain 1 / CH144



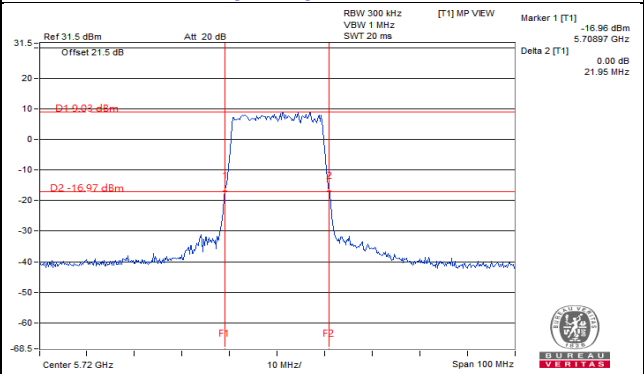
802.11ax (HE20)_Chain 1 / CH144



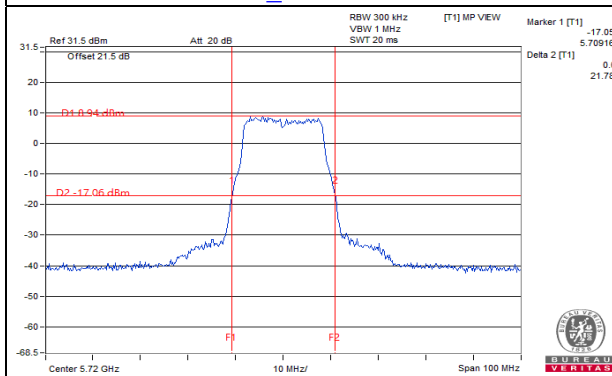
802.11a_Chain 2 / CH144



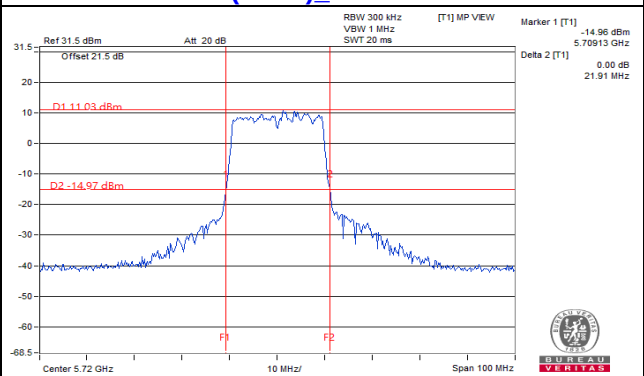
802.11ax (HE20)_Chain 2 / CH144



802.11a_Chain 3 / CH144



802.11ax (HE20)_Chain 3 / CH144

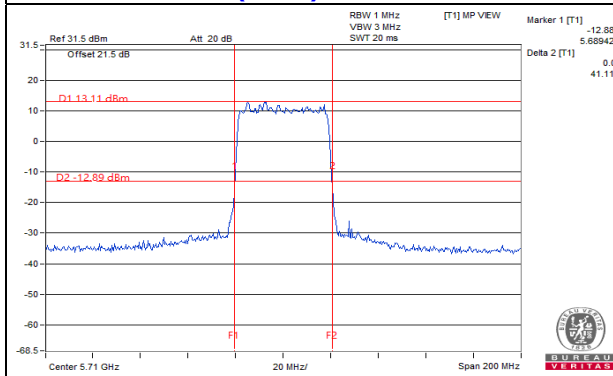


Note:

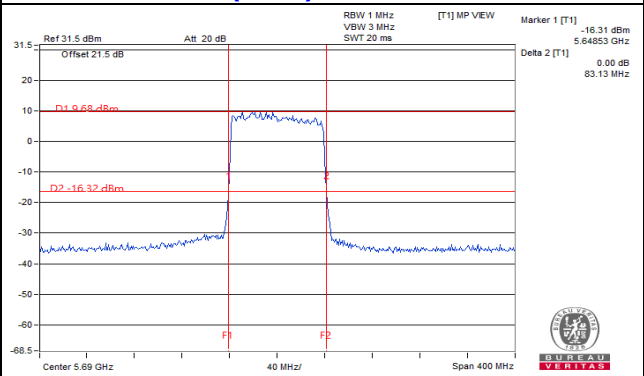
- For CH144 (U-NII-2C) = 5725MHz - Marker 1
- For CH142 (U-NII-2C) = 5725MHz - Marker 1
- For CH138 (U-NII-2C) = 5725MHz - Marker 1

Spectrum Plot Value of 26dB BW

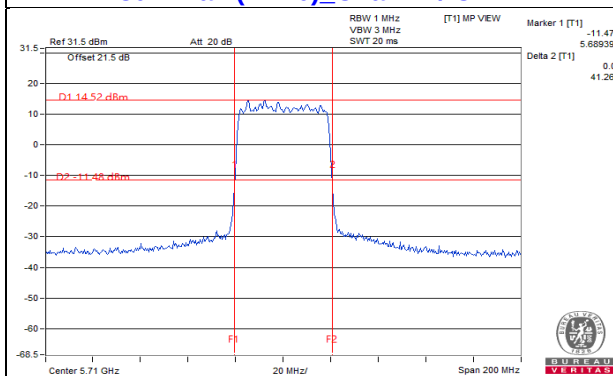
802.11ax (HE40)_Chain 0 / CH142



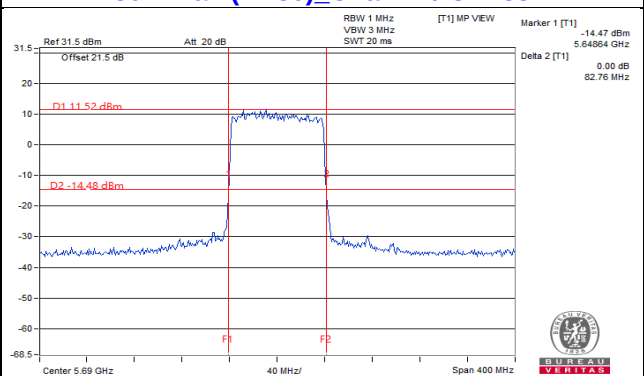
802.11ax (HE80)_Chain 0 / CH138



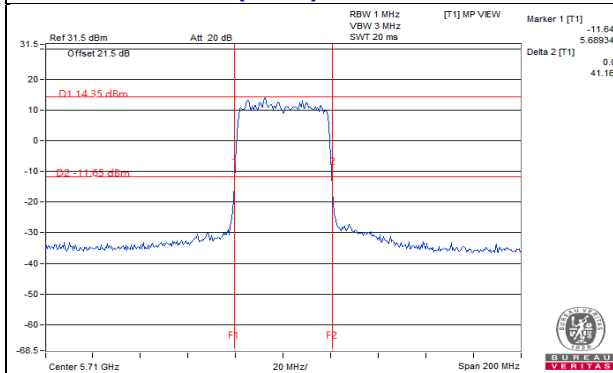
802.11ax (HE40)_Chain 1 / CH142



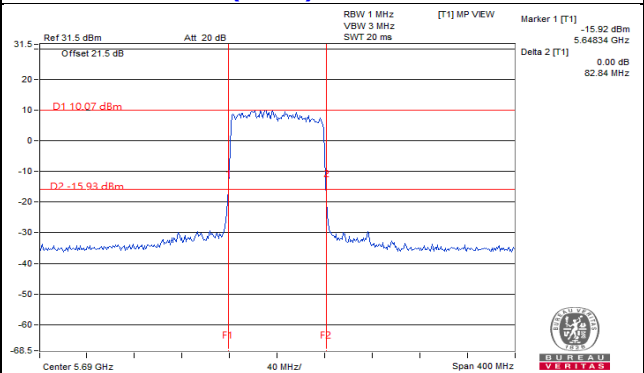
802.11ax (HE80)_Chain 1 / CH138



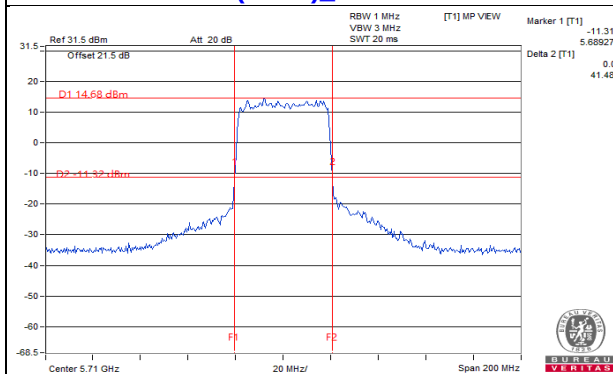
802.11ax (HE40)_Chain 2 / CH142



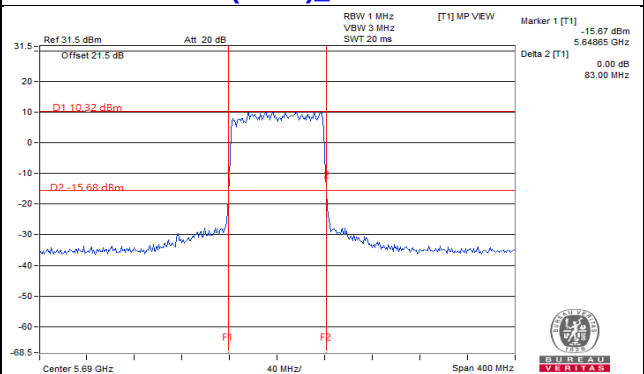
802.11ax (HE80)_Chain 2 / CH138



802.11ax (HE40)_Chain 3 / CH142



802.11ax (HE80)_Chain 3 / CH138



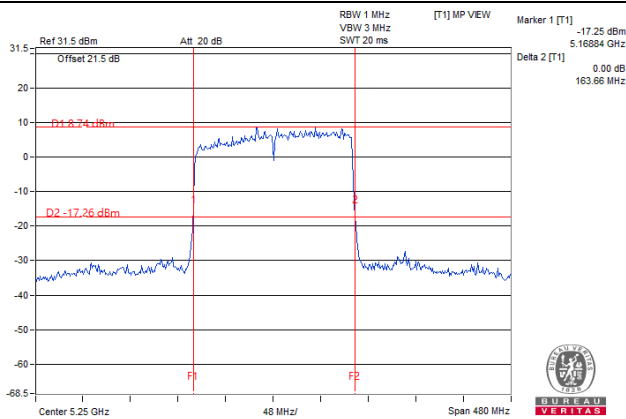
Note:

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

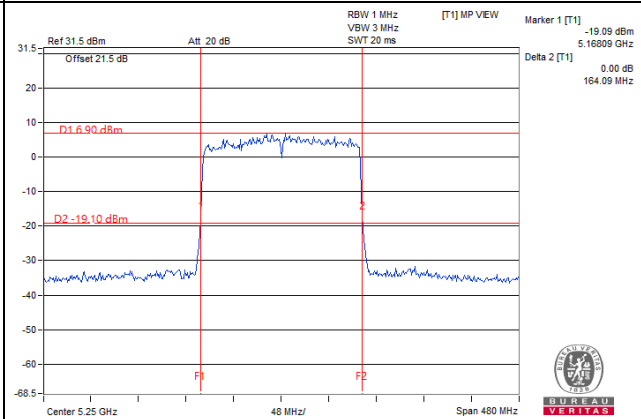
For channel straddling 5250MHz of 26dB BW

Spectrum Plot Value of 26dB BW

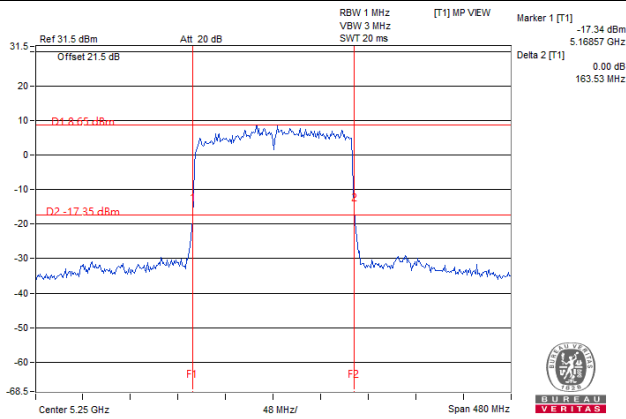
802.11ax (HE160)_Chain 0 / CH50



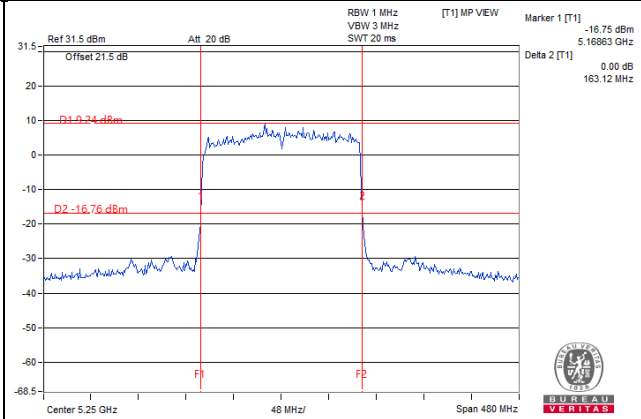
802.11ax (HE160)_Chain 2 / CH50



802.11ax (HE160)_Chain 1 / CH50



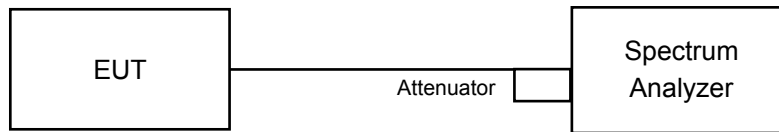
802.11ax (HE160)_Chain 3 / CH50



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

Non-Beamforming Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
52	5260	16.92	17.04	16.92	16.8
60	5300	17.04	17.04	16.92	16.8
64	5320	17.04	17.04	17.04	16.8
100	5500	17.04	17.04	17.16	16.8
116	5580	17.04	17.04	17.16	16.8
140	5700	17.04	17.04	17.04	17.04
144 (U-NII-2C Band)	5720	13.52	13.64	13.64	13.52
144 (U-NII-3 Band)	5720	3.52	3.52	3.4	3.52

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
52	5260	19.08	19.20	19.20	19.20
60	5300	19.08	19.20	19.20	19.20
64	5320	19.08	19.20	19.20	19.20
100	5500	19.08	19.20	19.20	19.20
116	5580	19.08	19.20	19.08	19.20
140	5700	19.08	19.20	19.20	19.20
144 (U-NII-2C Band)	5720	14.60	14.60	14.60	14.60
144 (U-NII-3 Band)	5720	4.48	4.48	4.48	4.60

802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
54	5270	38.40	37.92	37.68	37.68
62	5310	37.92	37.92	38.40	37.68
102	5510	37.68	37.92	37.68	37.68
110	5550	37.68	37.92	37.68	37.68
134	5670	37.68	37.68	37.68	37.92
142 (U-NII-2C Band)	5710	33.96	33.96	33.96	33.96
142 (U-NII-3 Band)	5710	3.72	3.72	3.72	3.72

802.11ax (HE80)

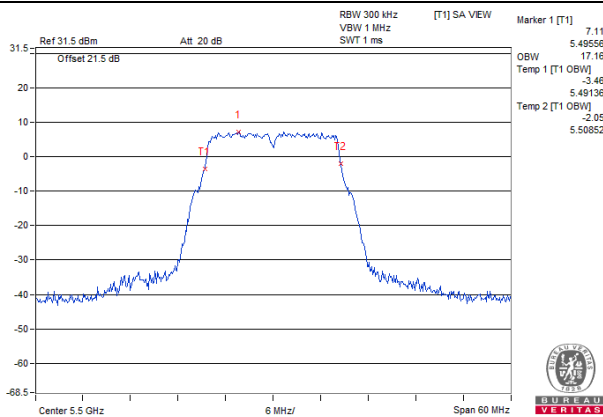
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
58	5290	78.72	77.28	76.80	77.28
106	5530	77.28	77.76	77.28	77.28
122	5610	77.28	76.80	77.28	77.28
138 (U-NII-2C Band)	5690	73.88	73.88	73.88	73.40
138 (U-NII-3 Band)	5690	3.40	3.40	3.40	3.40

802.11ax (HE160)

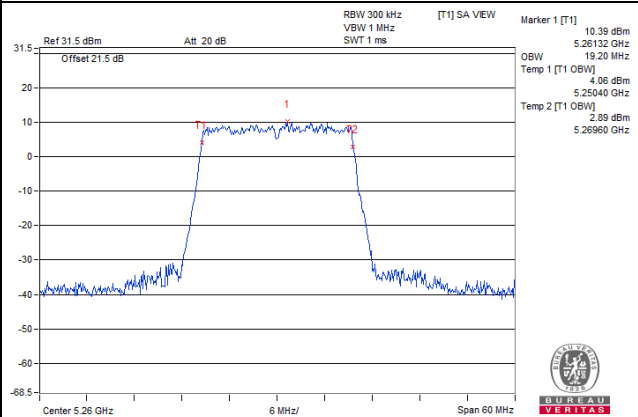
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
50 (U-NII-1 Band)	5250	76.80	77.76	77.76	77.76
50 (U-NII-2A Band)	5250	78.72	77.76	77.76	77.76
114	5570	155.52	155.52	155.52	155.52

Spectrum Plot of Max. Value

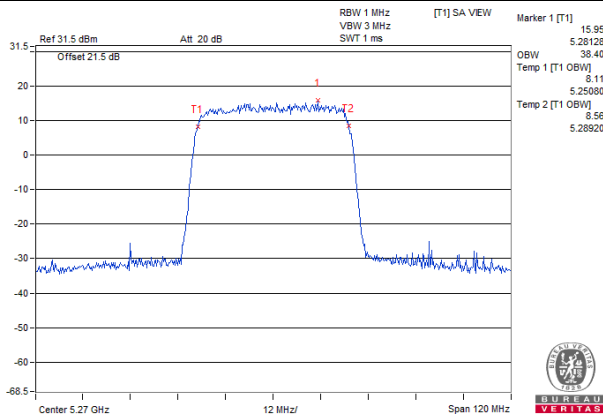
802.11a_Chain 2 / CH100



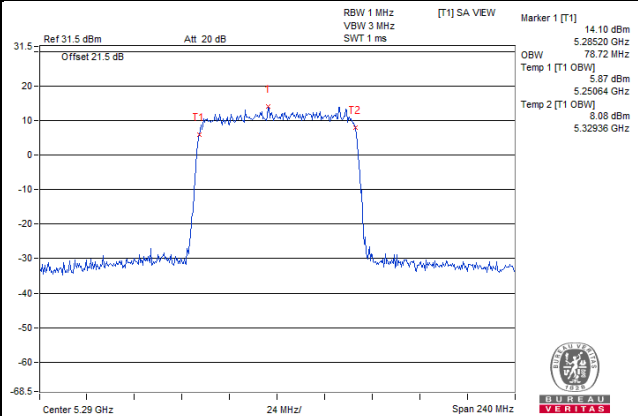
802.11ax (HE20)_Chain 1 / CH52



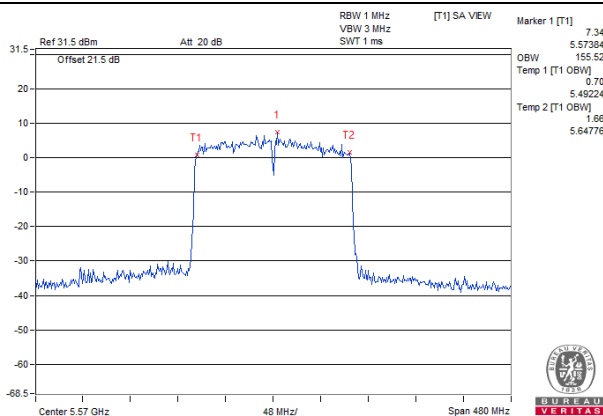
802.11ax (HE40)_Chain 0 / CH54



802.11ax (HE80)_Chain 0 / CH58

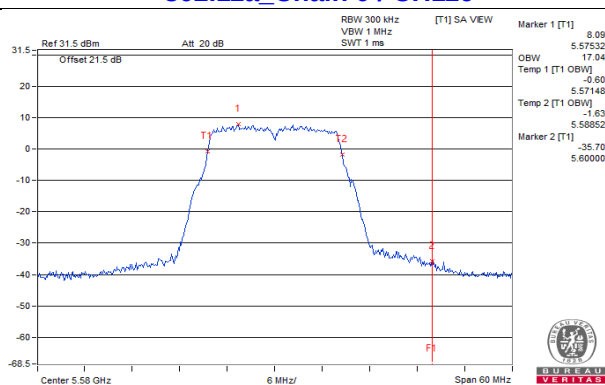


802.11ax (HE160)_Chain 0 / CH114

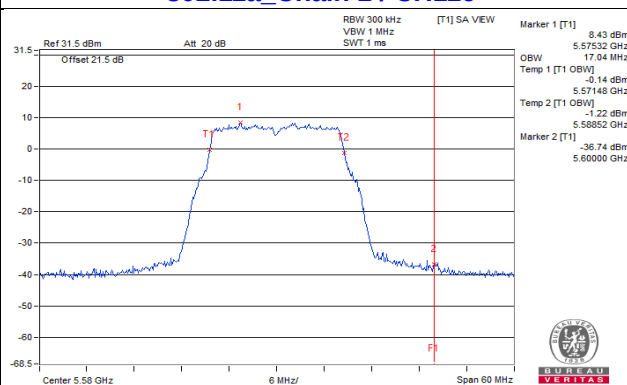


Verify that the 5600 – 5650 MHz band is notched.
Test results demonstrating last channel shall not exceed the band edge on 5600~5650MHz

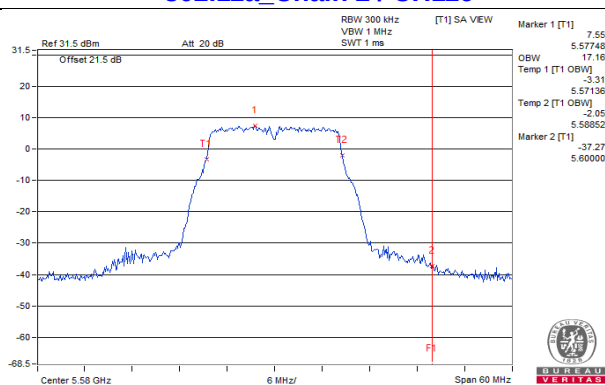
802.11a_Chain 0 / CH116



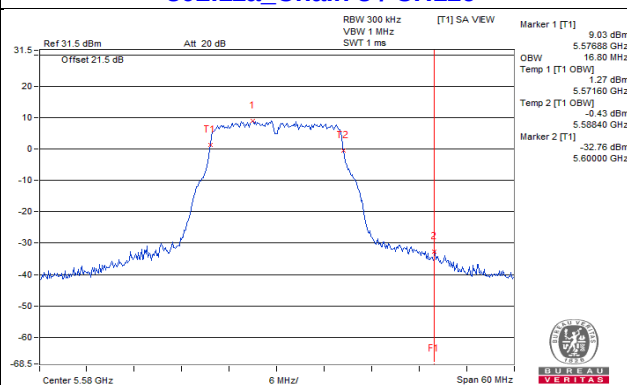
802.11a_Chain 1 / CH116



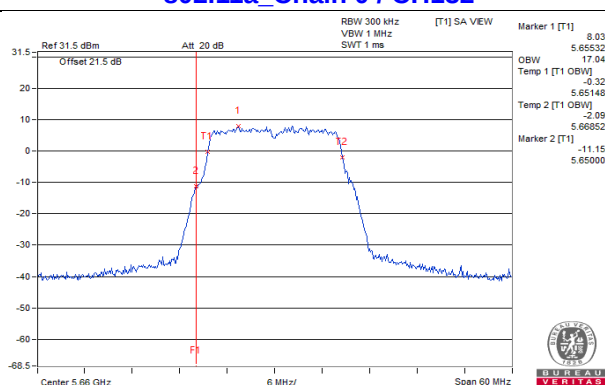
802.11a_Chain 2 / CH116



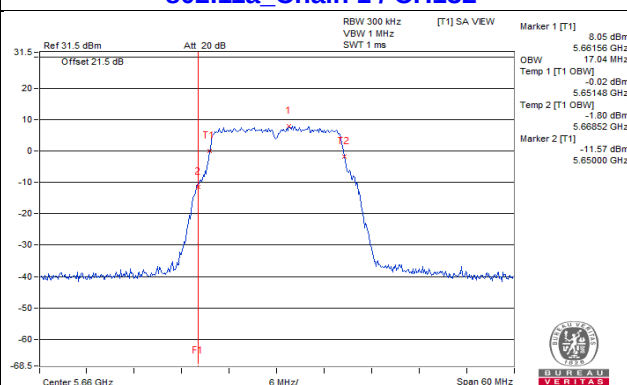
802.11a_Chain 3 / CH116



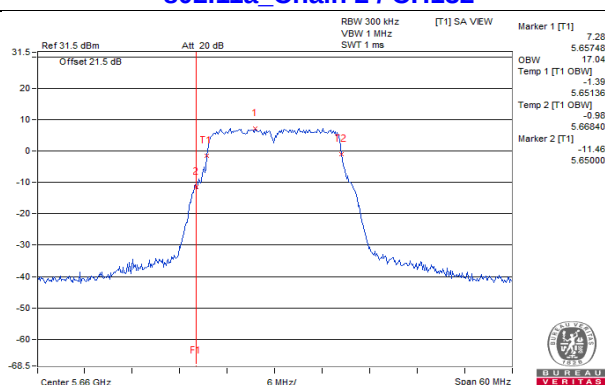
802.11a_Chain 0 / CH132



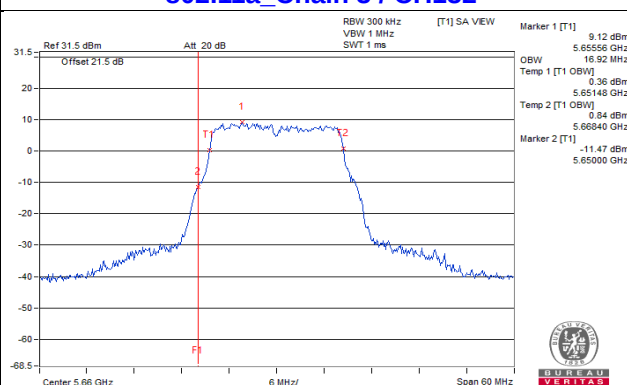
802.11a_Chain 1 / CH132



802.11a_Chain 2 / CH132

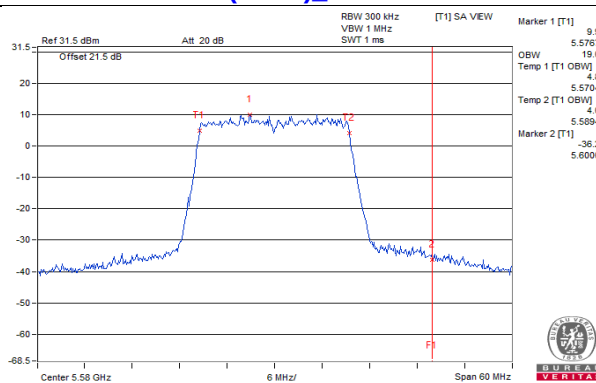


802.11a_Chain 3 / CH132

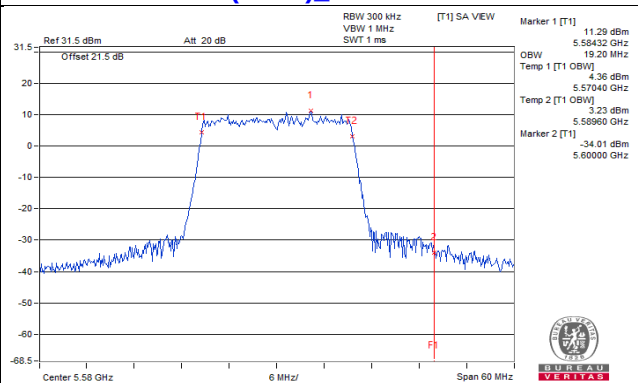


Verify that the 5600 / 5650 MHz band is notched.
Test results demonstrating last channel shall not exceed the band edge on 5600~5650MHz

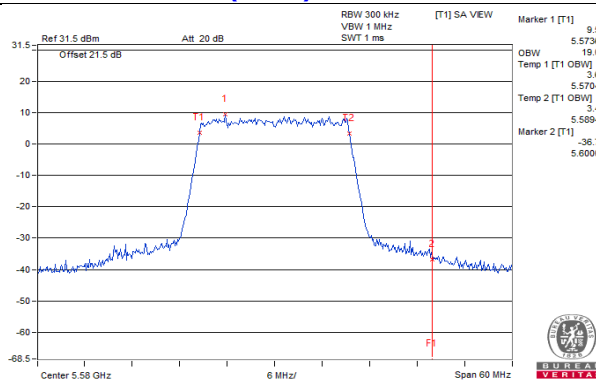
802.11ax (HE20)_Chain 0 / CH116



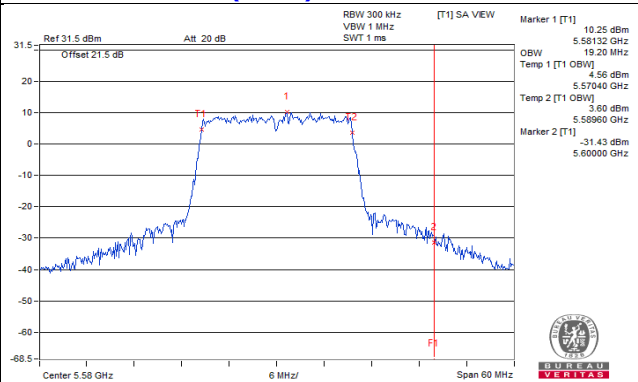
802.11ax (HE20)_Chain 1 / CH116



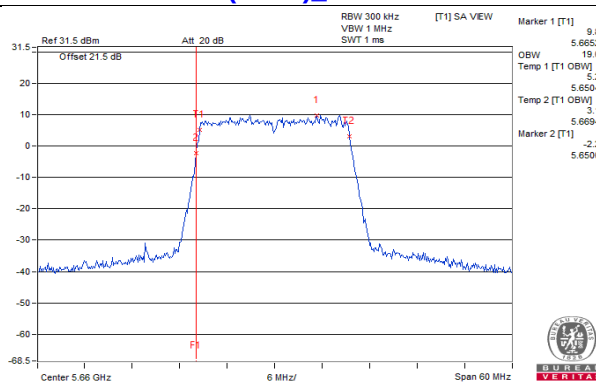
802.11ax (HE20)_Chain 2 / CH116



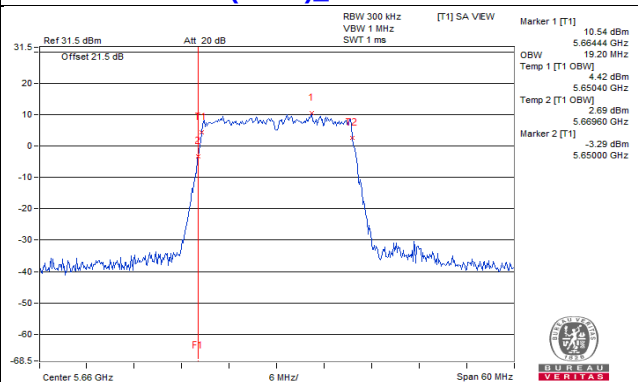
802.11ax (HE20)_Chain 3 / CH116



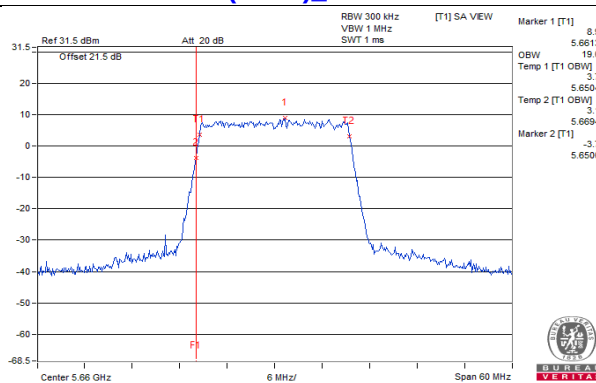
802.11ax (HE20)_Chain 0 / CH132



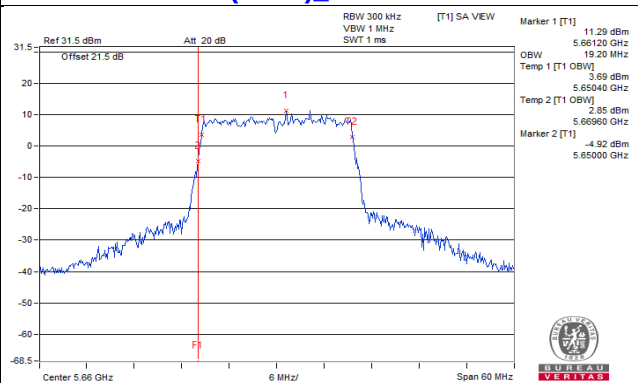
802.11ax (HE20)_Chain 1 / CH132



802.11ax (HE20)_Chain 2 / CH132

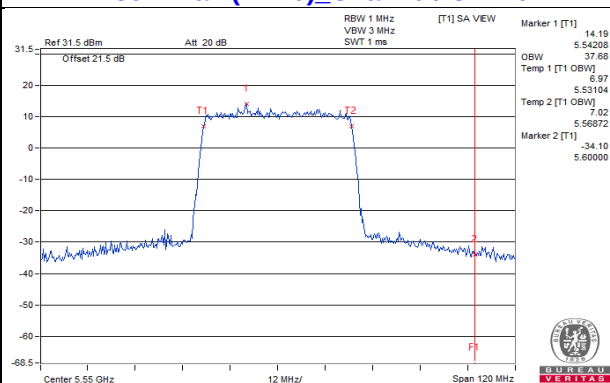


802.11ax (HE20)_Chain 3 / CH132

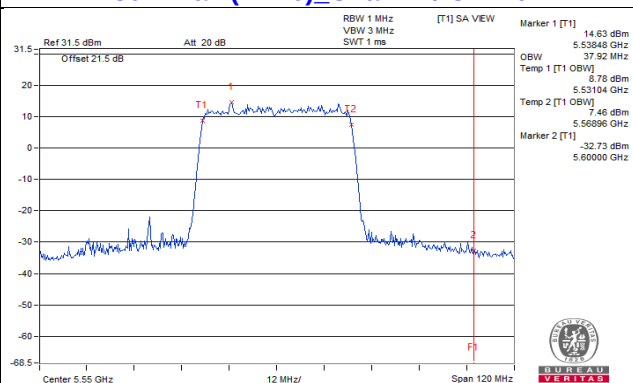


Verify that the 5600 / 5650 MHz band is notched.
Test results demonstrating last channel shall not exceed the band edge on 5600~5650MHz

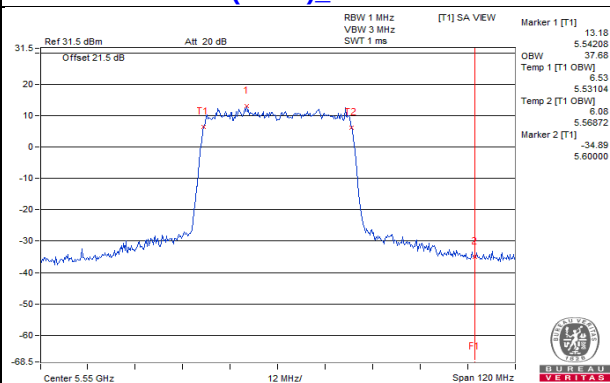
802.11ax (HE40)_Chain 0 / CH110



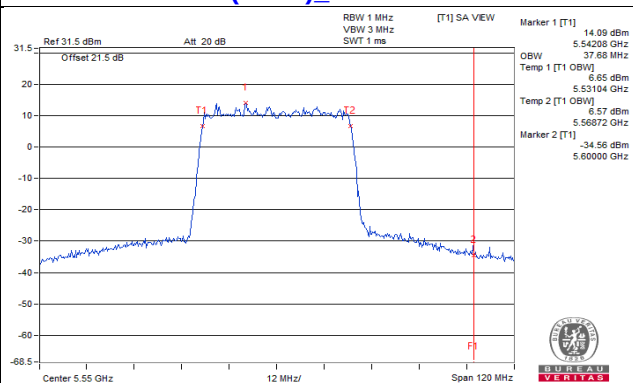
802.11ax (HE40)_Chain 1 / CH110



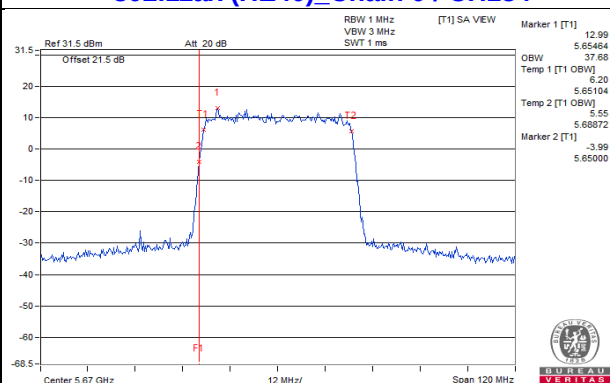
802.11ax (HE40)_Chain 2 / CH110



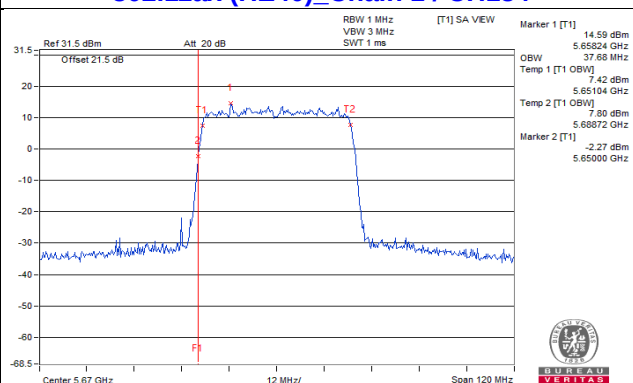
802.11ax (HE40)_Chain 3 / CH110



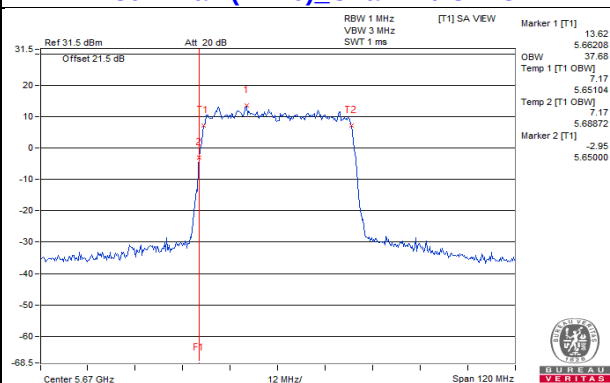
802.11ax (HE40)_Chain 0 / CH134



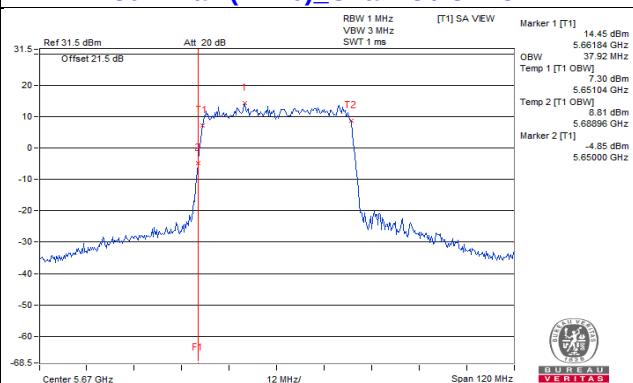
802.11ax (HE40)_Chain 1 / CH134



802.11ax (HE40)_Chain 2 / CH134

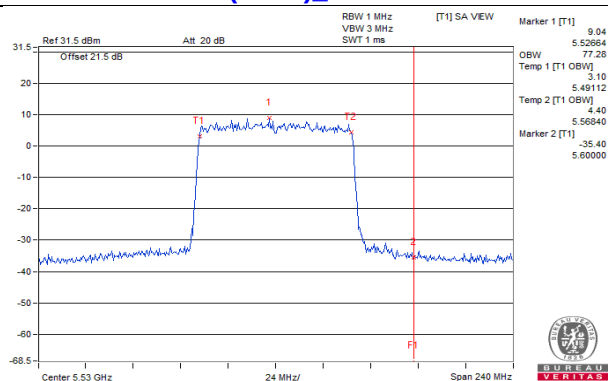


802.11ax (HE40)_Chain 3 / CH134

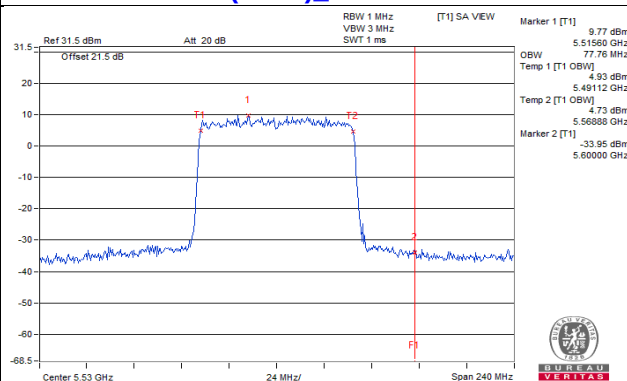


Verify that the 5600 / 5650 MHz band is notched.
Test results demonstrating last channel shall not exceed the band edge on 5600~5650MHz

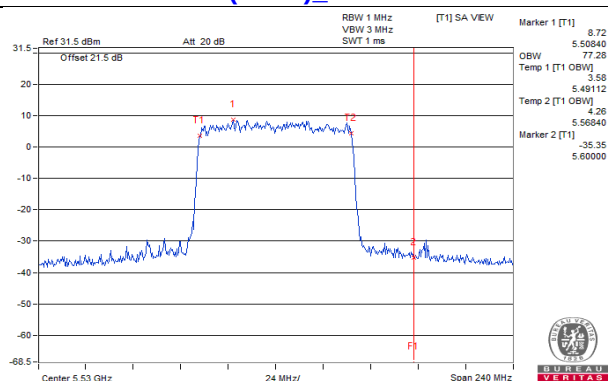
802.11ax (HE80)_Chain 0 / CH106



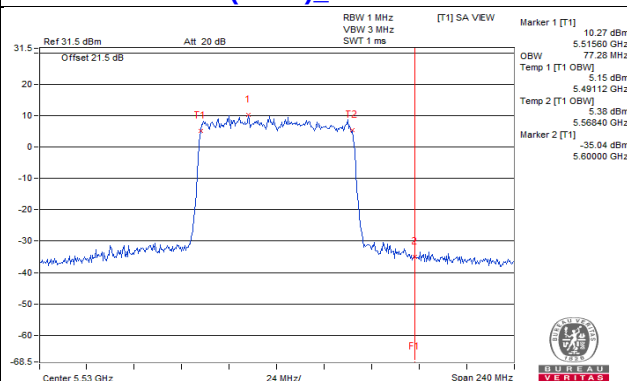
802.11ax (HE80)_Chain 1 / CH106



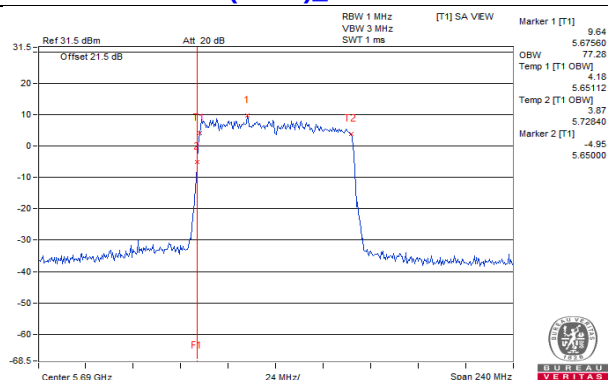
802.11ax (HE80)_Chain 2 / CH106



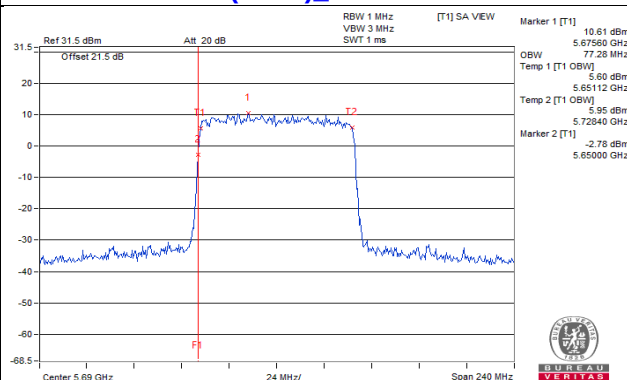
802.11ax (HE80)_Chain 3 / CH106



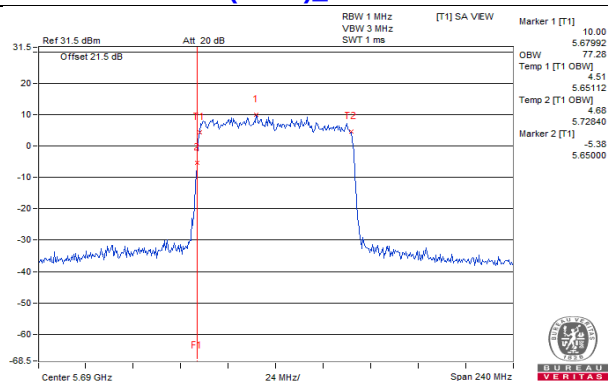
802.11ax (HE80)_Chain 0 / CH138



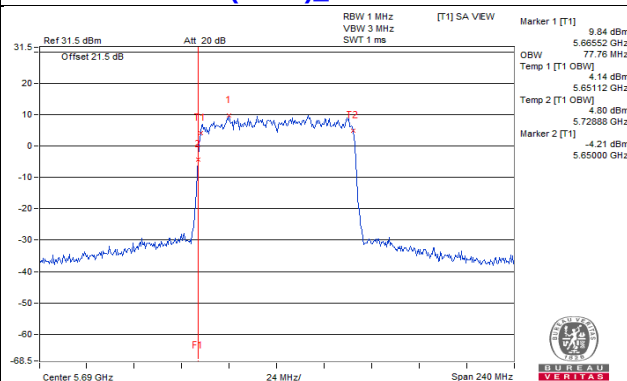
802.11ax (HE80)_Chain 1 / CH138



802.11ax (HE80)_Chain 2 / CH138



802.11ax (HE80)_Chain 3 / CH138

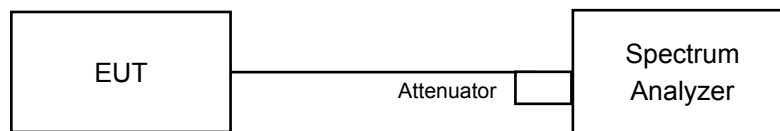


4.5 Peak Power Spectral Density Measurement

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:

For 802.11a:

Using method SA-1

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

For other Modulation test:

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:

For 802.11a:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW $\geq$ 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

For other Modulation test:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW $\geq$ 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 $10 \log (1/\text{duty cycle})$

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

Non-Beamforming Mode

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3			
52	5260	4.32	4.65	2.96	4.36	10.14	10.47	Pass
60	5300	4.29	4.70	2.96	4.32	10.14	10.47	Pass
64	5320	3.83	4.69	3.08	4.63	10.13	10.47	Pass
100	5500	3.82	4.75	3.26	3.87	9.98	10.36	Pass
116	5580	3.40	3.86	3.33	5.05	9.99	10.36	Pass
140	5700	2.43	4.22	3.61	4.76	9.86	10.36	Pass
144 (U-NII-2C)	5720	3.45	4.05	3.81	4.26	9.92	10.36	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-2A: The directional gain is 6.53 dBi > 6dBi, so the power density limit shall be reduced to $11-(6.53-6) = 10.47$ dBm.
3. For U-NII-2C: The directional gain is 6.64 dBi > 6dBi, so the power density limit shall be reduced to $11-(6.64-6) = 10.36$ dBm.

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
		Chain0	Chain1	Chain2	Chain3				
52	5260	4.11	3.92	2.25	3.91	0.11	9.63	10.47	Pass
60	5300	3.81	3.90	2.12	4.47	0.11	9.68	10.47	Pass
64	5320	3.81	3.91	2.43	4.29	0.11	9.68	10.47	Pass
100	5500	2.75	2.83	3.09	4.70	0.11	9.44	10.36	Pass
116	5580	3.67	3.96	3.14	3.94	0.11	9.71	10.36	Pass
140	5700	3.22	4.29	2.75	4.43	0.11	9.75	10.36	Pass
144 (U-NII-2C)	5720	3.34	4.03	2.46	4.09	0.11	9.55	10.36	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-2A: The directional gain is 6.53 dBi > 6dBi, so the power density limit shall be reduced to $11-(6.53-6) = 10.47$ dBm.
3. For U-NII-2C: The directional gain is 6.64 dBi > 6dBi, so the power density limit shall be reduced to $11-(6.64-6) = 10.36$ dBm.
4. 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
		Chain0	Chain1	Chain2	Chain3				
54	5270	1.49	1.06	-0.15	0.58	0.18	6.81	10.47	Pass
62	5310	1.28	1.20	0.03	1.32	0.18	7.01	10.47	Pass
102	5510	0.73	1.60	0.37	0.51	0.18	6.85	10.36	Pass
110	5550	1.06	1.92	0.58	1.17	0.18	7.23	10.36	Pass
134	5670	0.18	2.15	0.32	1.79	0.18	7.22	10.36	Pass
142 (U-NII-2C)	5710	0.10	1.49	0.67	2.02	0.18	7.15	10.36	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-2A: The directional gain is 6.53 dBi > 6dBi, so the power density limit shall be reduced to $11-(6.53-6) = 10.47$ dBm.
3. For U-NII-2C: The directional gain is 6.64 dBi > 6dBi, so the power density limit shall be reduced to $11-(6.64-6) = 10.36$ dBm.
4. 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
		Chain0	Chain1	Chain2	Chain3				
58	5290	-1.30	-2.26	-3.17	-1.88	0.34	3.92	10.47	Pass
106	5530	-2.94	-1.85	-2.57	-1.77	0.34	3.77	10.36	Pass
122	5610	-2.13	-1.49	-2.07	-1.41	0.34	4.26	10.36	Pass
138 (U-NII-2C)	5690	-2.32	-0.99	-2.24	-2.20	0.34	4.12	10.36	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-2A: The directional gain is 6.53 dBi > 6dBi, so the power density limit shall be reduced to $11-(6.53-6) = 10.47$ dBm.
3. For U-NII-2C: The directional gain is 6.64 dBi > 6dBi, so the power density limit shall be reduced to $11-(6.64-6) = 10.36$ dBm.
4. Refer to section 3.3 for duty cycle spectrum plot.

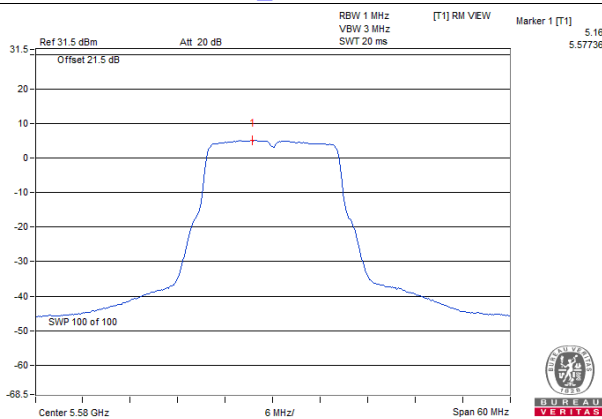
802.11ax (HE160)

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
		Chain0	Chain1	Chain2	Chain3				
50 (U-NII-1)	5250	-4.74	-4.20	-5.65	-4.48	0.54	1.29	16.39	Pass
50 (U-NII-2A)	5250	-4.08	-4.00	-5.61	-4.58	0.54	1.50	10.47	Pass
114	5570	-4.81	-4.19	-5.46	-5.06	0.54	1.17	10.36	Pass

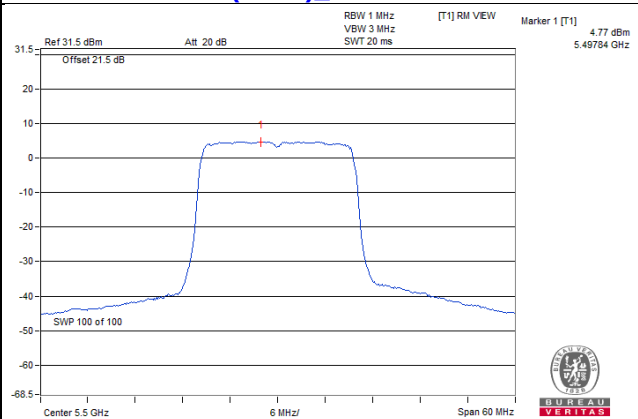
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1: The directional gain is 6.61 dBi > 6dBi, so the power density limit shall be reduced to $17-(6.61-6) = 16.39$ dBm.
3. For U-NII-2A: The directional gain is 6.53 dBi > 6dBi, so the power density limit shall be reduced to $11-(6.53-6) = 10.47$ dBm.
4. For U-NII-2C: The directional gain is 6.64 dBi > 6dBi, so the power density limit shall be reduced to $11-(6.64-6) = 10.36$ dBm.
5. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

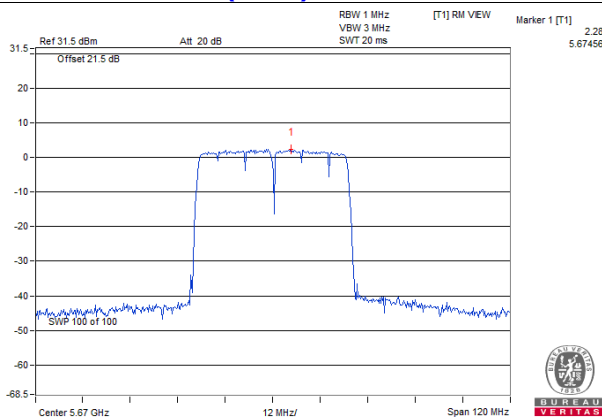
802.11a_Chain 3 / CH116



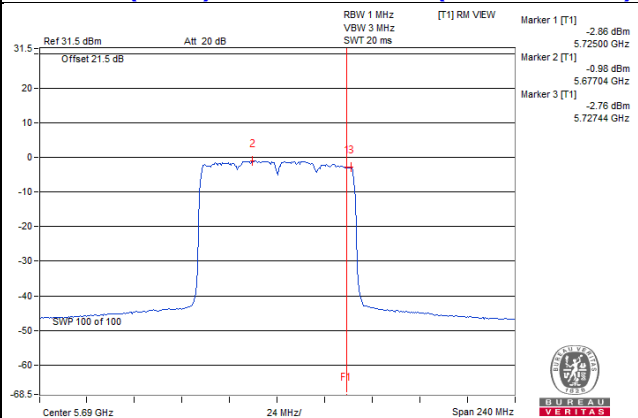
802.11ax (HE20)_Chain 3 / CH100



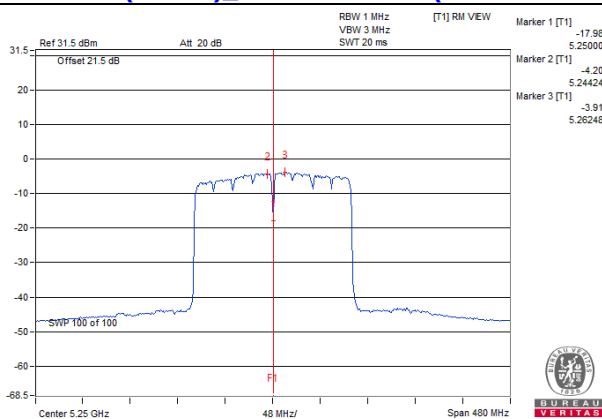
802.11ax (HE40)_Chain 1 / CH134



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



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



For U-NII-3:

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3				
144 (U-NII-3)	5720	-4.82	-4.55	-4.88	-4.78	1.26	3.48	29.34	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 6.66 dBi > 6dBi, so the power density limit shall be reduced to $30 - (6.66 - 6) = 29.34$ dBm.

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
		Chain0	Chain1	Chain2	Chain3					
144 (U-NII-3)	5720	-6.28	-5.50	-6.81	-5.17	0.11	0.24	2.46	29.34	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 6.66 dBi > 6dBi, so the power density limit shall be reduced to $30 - (6.66 - 6) = 29.34$ 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
		Chain0	Chain1	Chain2	Chain3					
142 (U-NII-3)	5710	-10.09	-8.74	-9.56	-7.28	0.18	-2.58	-0.36	29.34	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 6.66 dBi > 6dBi, so the power density limit shall be reduced to $30 - (6.66 - 6) = 29.34$ dBm.
 3. Refer to section 3.3 for duty cycle spectrum plot.

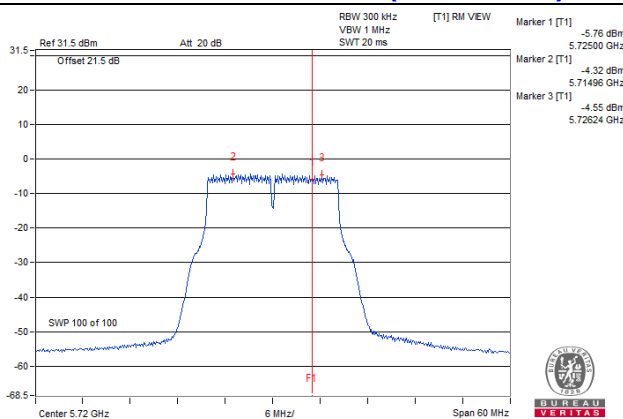
802.11ax (HE80)

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
		Chain0	Chain1	Chain2	Chain3					
138 (U-NII-3)	5690	-13.76	-11.83	-13.12	-11.17	0.34	-5.99	-3.77	29.34	Pass

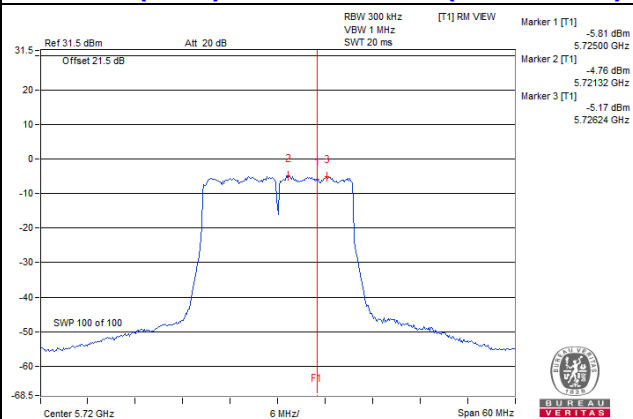
- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain is 6.66 dBi > 6dBi, so the power density limit shall be reduced to $30 - (6.66 - 6) = 29.34$ dBm.
 3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

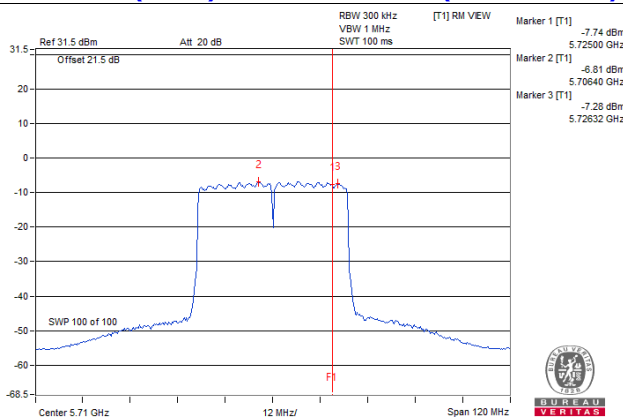
802.11a_Chain 1 / CH144 (U-NII-3 Band)



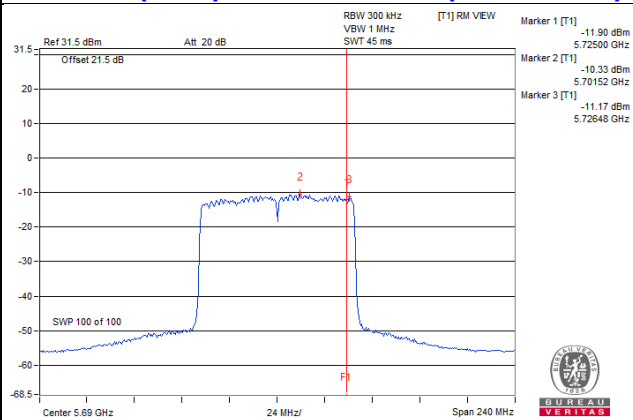
802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)



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



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

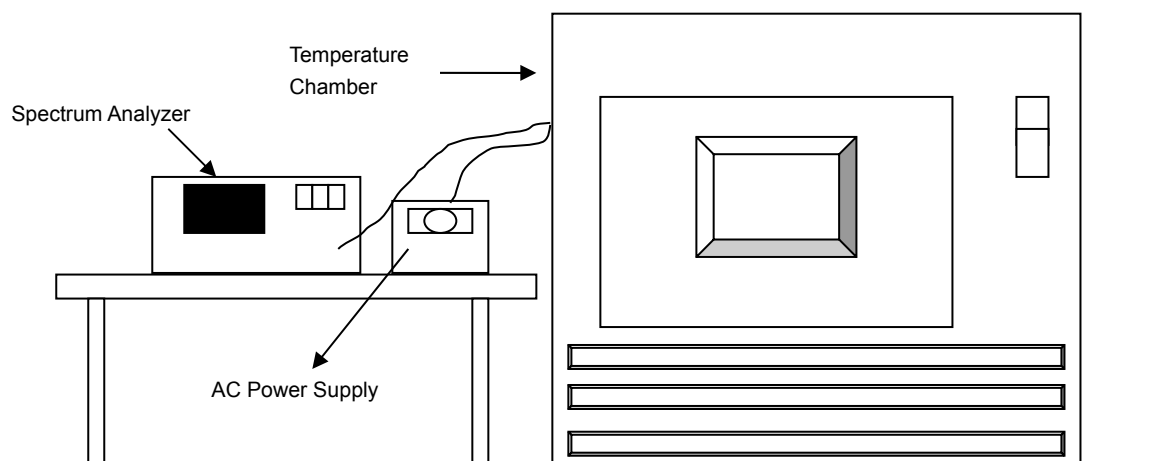


4.6 Frequency Stability Measurement

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
50	120	5260.0155	Pass	5260.018	Pass	5260.0186	Pass	5260.0171	Pass
40	120	5260.0182	Pass	5260.0172	Pass	5260.0216	Pass	5260.02	Pass
30	120	5259.9781	Pass	5259.9768	Pass	5259.9778	Pass	5259.9739	Pass
20	120	5259.993	Pass	5259.995	Pass	5259.9937	Pass	5259.9965	Pass
10	120	5260.0106	Pass	5260.0139	Pass	5260.0098	Pass	5260.0138	Pass
0	120	5259.9889	Pass	5259.9896	Pass	5259.9907	Pass	5259.9877	Pass
-10	120	5260.0234	Pass	5260.0246	Pass	5260.0256	Pass	5260.0254	Pass
-20	120	5259.9928	Pass	5259.9965	Pass	5259.9937	Pass	5259.9956	Pass
-30	120	5260.0257	Pass	5260.0261	Pass	5260.025	Pass	5260.0259	Pass

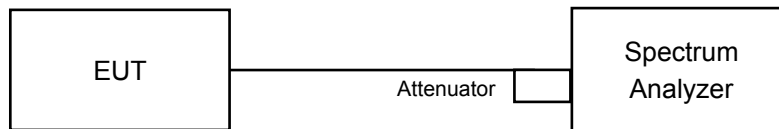
Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5259.9936	Pass	5259.9946	Pass	5259.9935	Pass	5259.9964	Pass
	120	5259.993	Pass	5259.995	Pass	5259.9937	Pass	5259.9965	Pass
	102	5259.9923	Pass	5259.9949	Pass	5259.9939	Pass	5259.9955	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

Non-Beamforming Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
144 (U-NII-3)	5720	3.19	3.18	3.18	3.18	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	4.52	4.52	4.51	4.55	0.5	Pass

802.11ax (HE40)

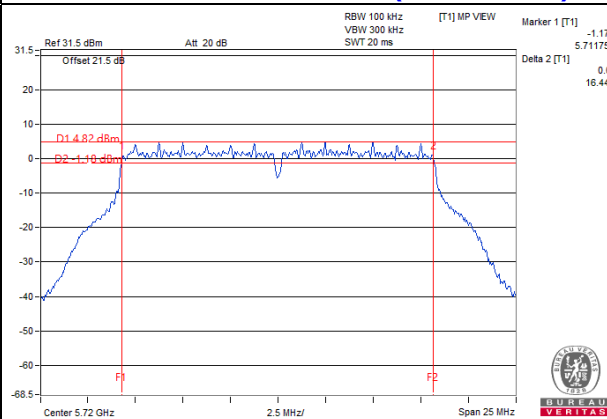
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
142 (U-NII-3)	5710	3.73	3.88	3.66	3.86	0.5	Pass

802.11ax (HE80)

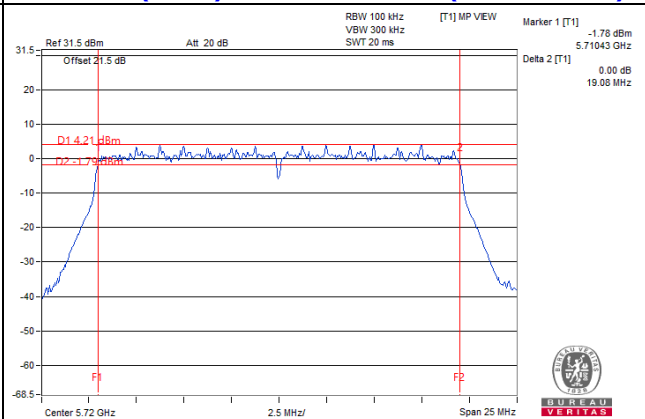
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
138 (U-NII-3)	5690	3.14	3.3	3.23	3.23	0.5	Pass

Spectrum Plot of Worst Value

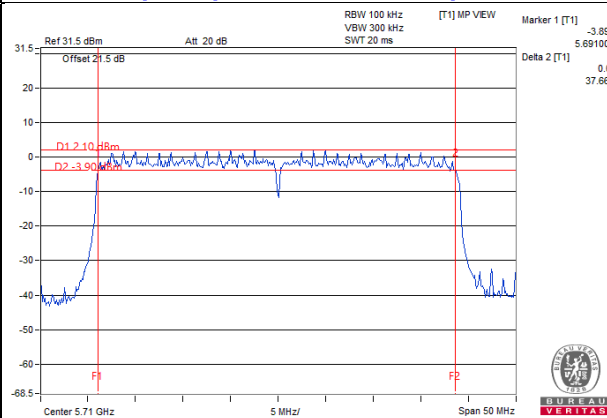
802.11a_Chain 0 / CH144 (U-NII-3 Band)



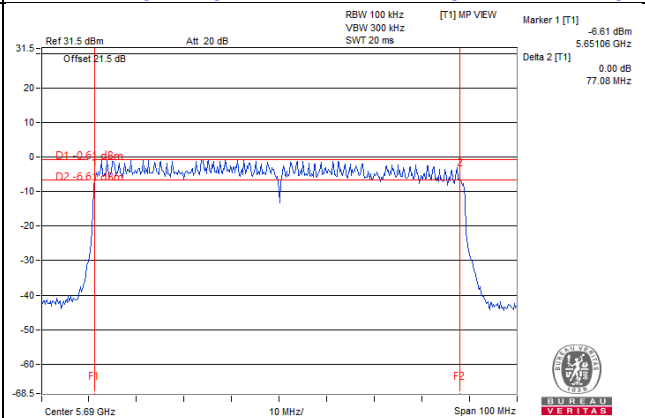
802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



802.11ax (HE40)_Chain 2 / 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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