



TEST REPORT

Test item description: Portable intelligent projector
FCC ID: 2BVTM-TY-D1S
Trademark(s): **EASDAR**[®]
Model/Type reference: TY-D1S
Applicant's name: Easdar Optoelectronics Guangdong Co.,Ltd.
Address: No.152, Tanlong North Road, Tanzhou Town, Zhongshan City, Guangdong Province, China
Manufacturer: Easdar Optoelectronics Guangdong Co.,Ltd.
Address: No.152, Tanlong North Road, Tanzhou Town, Zhongshan City, Guangdong Province, China
Prepared By: Shenzhen CTB Testing Technology Co., Ltd.
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Sample Received Date: Mar. 23, 2026
Sample tested Date: Mar. 23, 2026 to Apr. 16, 2026
Issue Date: Apr. 16, 2026
Report No.: CTB26032300505RF04
Test Standards: FCC CFR Title 47 Part 15 Subpart E Section 15.407
Test Results: PASS
Remark: This is WIFI-5GHz band radio test report.
Compiled by: Reviewed by: Approved by:

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Note: If there is any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. The tested sample(s) and the sample information are provided by the applicant. The authenticity, accuracy, and completeness of the provided information are the sole responsibility of the applicant. Without written approval of Shenzhen CTB Testing Technology Co., Ltd. this report can't be reproduced except in full. The result decision rules of our laboratory are based solely on the direct comparison between the actual measured values of test results and the standard limits, without considering the measurement uncertainty. "★" indicates the testing items were fulfilled by subcontracted lab. "—" indicates the items are not in CNAS accreditation scope.

TABLE OF CONTENT

Test Report Declaration	Page
1. VERSION	4
2. TEST SUMMARY	5
3. MEASUREMENT UNCERTAINTY	6
4. PRODUCT INFORMATION AND TEST SETUP	7
4.1 Product Information	7
4.2 Test Setup Configuration	7
4.3 Support Equipment	7
4.4 Channel List	8
4.5 Test Mode	8
4.6 Test Environment	8
5. TEST FACILITY AND TEST INSTRUMENT USED	9
5.1 Test Facility	9
5.2 Test Instrument Used	9
6. AC POWER LINE CONDUCTED EMISSION	12
6.1 Block Diagram Of Test Setup	12
6.2 Limit	12
6.3 Test procedure	12
6.4 Test Result	14
7. RADIATED SPURIOUS EMISSIONS	16
7.1 Block Diagram Of Test Setup	16
7.2 Limit	16
7.3 Test procedure	17
7.4 Test Result	18
8. BAND EDGE	22
8.1 Block Diagram Of Test Setup	22
8.2 Limit	22
8.3 Test procedure	22
8.4 Test Result	23
9. CONDUCTED OUTPUT POWER	33
9.1 Block Diagram Of Test Setup	33
9.2 Limit	33
9.3 Test procedure	34
9.4 Test Result	35
10. EMISSION BANDWIDTH& OCCUPIED BANDWIDTH	48
10.1 Block Diagram Of Test Setup	48
10.2 Limits	48
10.3 Test Procedure	48
10.4 Test Results	50
11. POWER SPECTRAL DENSITY	64
11.1 Block Diagram Of Test Setup	64
11.2 Limit	64
11.3 Test procedure	64
11.4 Test Result	66
12. FREQUENCY STABILITY	79
12.1 Block Diagram Of Test Setup	79
12.2 Limit	79
12.3 Test procedure	79
12.4 Test Result	79
13. OPERATION IN THE ABSENCE OF INFORMATION TO THE TRANSMIT	92
13.1 Requirement	92
13.2 Test Results	92
14. ANTENNA REQUIREMENT	93
15. EUT TEST SETUP PHOTOGRAPHS	94



(Note: N/A means not applicable)

1. VERSION

Report No.	Issue Date	Description	Approved
CTB26032300505RF04	Apr. 16, 2026	Original	Valid

2. TEST SUMMARY

The Product has been tested according to the following specifications:

Test Item	Test Requirement	Test method	Result
AC Power Line Conducted Emission	47 CFR Part 15 Subpart E Section 15.407 (b)(6)	ANSI C63.10-2020	PASS
Radiated Spurious emissions	47 CFR Part 15 Subpart E Section 15.205/15.407(b)	KDB789033	PASS
Band edge	47 CFR Part 15 Subpart E Section 15.205/15.407(b)	KDB789033	PASS
Conducted Peak Output Power	47 CFR Part 15 Subpart E Section 15.407 (a)	KDB789033	PASS
Emission Bandwidth & Occupied Bandwidth	47 CFR Part 15 Subpart E Section 15.407 (a)(e)	KDB789033	PASS
Power Spectral Density	47 CFR Part 15 Subpart E Section 15.407 (a)	KDB789033	PASS
Frequency stability	47 CFR Part 15 Subpart E Section 15.407 (g)	KDB789033	PASS
Operation in the absence of information to the transmit	47 CFR Part 15 Subpart E Section 15.407 (b)	47 CFR Part 15 Subpart E	PASS
Antenna Requirement	47 CFR Part 15 Subpart E Section 15.203	/	PASS

Remark:

Test according to ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024.

3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Item	Uncertainty
Occupancy bandwidth	U=±54.3Hz
Adjacent channel power	U=±1.3dB
Conducted Adjacent channel power	U=±1.38dB
Conducted output power above 1G	U=±1.0dB
Conducted output power below 1G	U=±0.9dB
Power Spectral Density, Conduction	U=±1.0dB
Conduction spurious emissions	U=±2.8dB
Out of band emission	U=±54Hz
3m chamber Radiated spurious emission(9kHz-30MHz)	U=±4.8dB
3m chamber Radiated spurious emission(30MHz-1GHz)	U=±4.3dB
3m chamber Radiated spurious emission(1GHz-18GHz)	U=±4.5dB
3m chamber Radiated spurious emission(18GHz-40GHz)	U=±3.4dB
Humidity uncertainty	U=±5.3%
Temperature uncertainty	U=±0.59℃
Supply voltages	U=±3%
Time	U=±5%
Conducted emission(150kHz-30MHz)	3.2dB

4. PRODUCT INFORMATION AND TEST SETUP

4.1 Product Information

Model/Type reference:	TY-D1S
Model Description:	N/A
Wi-Fi Specification:	IEEE 802.11a/n/ac/ax
Hardware Version:	MT-DLP9269-L2-720p-8800
Software Version:	DLP-9269-CN-V1.01-20241227
Operation Frequency:	IEEE 802.11a/n/ac/ax(20M): 5150MHz ~5250MHz/ 4 channel IEEE 802.11n/ac/ax(40M): 5150MHz ~5250MHz/ 2 channel IEEE 802.11a/n/ac/ax(20M): 5725MHz ~5850MHz/ 5 channel IEEE 802.11n/ac/ax(40M): 5725MHz ~5850MHz/ 2 channel
Max. RF output power:	WiFi (5G): 7.625dBm
Type of Modulation:	WiFi (5G): OFDM, OFDMA
Antenna installation:	WiFi (5G): FPC antenna WiFi (5.2G): Ant1: 3.29dBi Ant2: 3.29dBi
Antenna Gain:	WiFi (5.8G): Ant1: 3.72dBi Ant2: 3.72dBi
Ratings:	DC 12V charging from adapter DC 3.7V by battery

4.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP PHOTOGRAPHS for the actual connections between Product and support equipment.

4.3 Support Equipment

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
1.	Adapter	JIYIN	JY-05100C	/	AE
2	Laptop	DELL	Vostro 5490	N/A	AE

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Channel List

For 802.11a/n/ac/ax(20M) Operation in the 5180MHz ~5240 MHz band			
Channel	Frequency	Channel	Frequency
36	5180MHz	44	5220MHz
40	5200MHz	48	5240MHz
For 802.11a/n/ac/ax(20M) Operation in the 5745MHz ~5825 MHz band			
Channel	Frequency	Channel	Frequency
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz	NA	NA

For 802.11n/ac/ax(40M) Operation in the 5190MHz ~5230 MHz band			
Channel	Frequency	Channel	Frequency
38	5190MHz	46	5230MHz
For 802.11n/ac/ax(40M) Operation in the 5755MHz ~5795 MHz band			
Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

NOTE: Duty cycle>98%.

Test mode	Rate
802.11a	54M
802.11n	500M
802.11ac/ax	500M

4.5 Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(M)	High(H)
802.11a/n/ac/ax(20M)	5180MHz ~5240 MHz	Channel 36	Channel 40	Channel 48
		5180MHz	5200MHz	5240MHz
802.11n/ac/ax(40M)	5180MHz ~5240 MHz	Channel 38	N/A	Channel 46
		5190MHz	N/A	5230MHz
802.11a/n/ac/ax(20M)	5745MHz ~5825MHz	Channel 149	Channel 157	Channel 165
		5745MHz	5785MHz	5825MHz
802.11n/ac/ax(40M)	5745MHz ~5825MHz	Channel 151	N/A	Channel 159
		5755MHz	N/A	5795MHz

4.6 Test Environment

Humidity(%):	54
Atmospheric Pressure(kPa):	101
Normal Voltage(DC):	12V
Normal Temperature(°C):NT	23
Low Temperature(°C):LT	0
High Temperature(°C):HT	40

5. TEST FACILITY AND TEST INSTRUMENT USED

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at 1&2F., Building A, No. 26, Xinxhe Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: CN1276

5.2 Test Instrument Used

No.	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Calibrated Date	Calibrated until
1	Spectrum Analyzer	Agilent	N9020A	MY52090073	A.14.16	2025/5/23	2026/5/22
2	Power Sensor	Agilent	U2021XA	MY56120032	/	2025/5/23	2026/5/22
3	Power Sensor	Agilent	U2021XA	MY56120034	/	2025/5/23	2026/5/22
4	Communication test set	R&S	CMW500	108058	V3.5.80	2025/5/23	2026/5/22
5	Spectrum Analyzer	KEYSIGHT	N9020A	MY51289897	A.14.16	2025/5/23	2026/5/22
6	Signal Generator	Agilent	N5181A	MY50140365	A.01.60	2025/5/22	2026/5/21
7	Vector signal generator	Agilent	N5182A	MY47420195	A.01.87	2025/5/22	2026/5/21
8	Communication test set	Agilent	E5515C	MY50102567	B.19.07 (E1962B)	2025/5/22	2026/5/21
9	2.4 GHz Filter	Shenxiang	MSF2400-2483.5MS-1154	20181015001	/	2025/6/18	2026/6/17
10	5 GHz Filter	Shenxiang	MSF5150-5850 MS-1155	20181015001	/	2025/6/18	2026/6/17
11	Filter	Xingbo	XBLBQ-DZA120	190821-1-1	/	2025/5/24	2026/5/23
12	BT&WI-FI Automatic test software	Microwave	MTS8310	Ver. 2.0.0.0	/	/	/
13	Rohde & Schwarz SFU Broadcast Test System	R&S	SFU	101017	/	2025/10/20	2026/10/19
14	Temperature humidity chamber	Hongjing	TH-80CH	DG-15174	/	2025/5/22	2026/5/21
15	234G Automatic test software	Microwave	MTS8200	Ver. 2.0.0.0	/	/	/
16	966 chamber	C.R.T.	966	/	/	2024/6/23	2027/6/22
17	Receiver	R&S	ESPI	100362	RF_ATTEN_7 (104489/003)	2025/5/23	2026/5/22

18	Amplifier	HP	8447E	2945A02747	/	2025/5/23	2026/5/22
19	Amplifier	Agilent	8449B	3008A01838	/	2025/6/2	2026/6/1
20	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	/	2025/6/29	2026/6/28
21	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA9120D	01911	/	2025/6/1	2026/5/31
22	EMI test software	Fala	EZ-EMC	FA-03A2 RE	/	/	/
23	Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-224	/	2025/6/2	2026/6/1
24	loop antenna	ZHINAN	ZN30900A	GTS534	/	/	/
25	40G Horn antenna	A/H/System	SAS-574	588	/	2025/6/2	2026/6/1
26	Amplifier	AEROFLEX	Aeroflex	097	/	2025/6/2	2026/6/1
27	Power Meter	KEYSIGHT	N1912AP	N/A	A.05.00	2025/6/2	2026/6/1

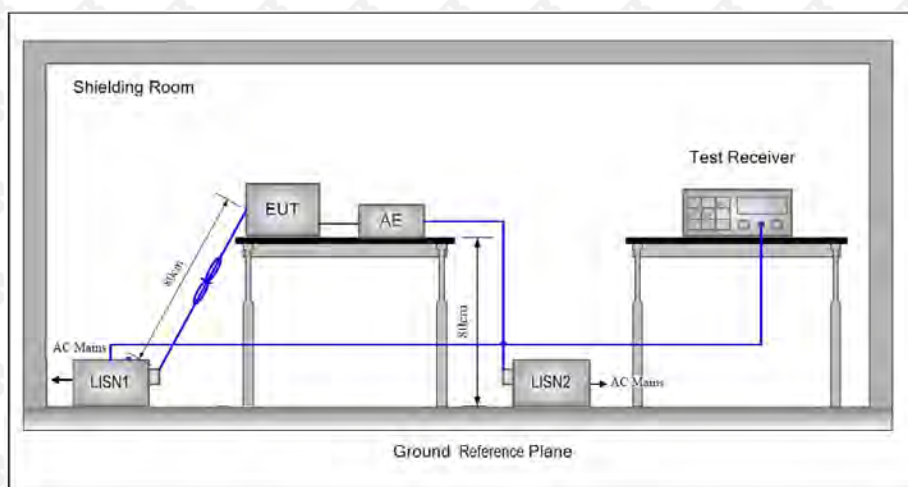
Continuous disturbance							
No.	Equipment	Manufacturer	Model No.	Serial No.	Firmware version	Calibrated Date	Calibrated until
1	843 Shield Room	C/ R/ T	843	/	/	2024/6/22	2027/6/21
2	LISN	ROHDE&SCHWARZ	ESH3-Z5	831551852	/	2025/5/22	2026/5/21
3	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100428	V4.42.SP3	2025/5/22	2026/5/21
4	Coaxial cable	ZDECL	Z302S	18091904	/	2025/5/22	2026/5/21
5	ISN	Schwarzbeck	NTFM8158	183	/	2025/6/18	2026/6/17
6	Voltage sensor	Schwarzbeck	TK 9420	01189	/	2025/9/19	2026/9/18
7	EZ-EMC	Frad	EMC-con3A1.1	/	/	/	/
8	Current Probe	FCC	F-52B	199453	/	2025/5/24	2026/5/23
9	Communication test set	R&S	CMW500	108058	B.19.07 (E1962B)	2025/5/23	2026/5/22
10	Communication test set	Agilent	E5515C	MY50102567	V3.5.80	2025/5/23	2026/5/22

Radiated emission(No.1 Chamber)							
No.	Equipment	Manufacturer	Model No.	Serial No.	Firmware version	Calibrated until	Calibrated until
1	966 Chamber	C/ R/ T	966	/	/	2024/6/23	2027/6/22
2	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA 9120 D	01911	/	2025/6/1	2026/5/31
3	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	/	2025/6/29	2026/6/28
4	Amplifier	Agilent	8449B	3008A01838	/	2025/6/3	2026/6/2

5	Amplifier	HP	8447E	2945A02747	/	2025/5/23	2026/5/22
6	loop antenna	Schwarzbeck	FMZB 1519B	1519B-224	/	2025/6/2	2026/6/1
7	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESPI	100362	RF_ATTEN_7 (104489/003)	2025/5/23	2026/5/22
8	Spectrum Analyzer	KEYSIGHT	N9020A	MY51289897	A.14.16	2025/5/23	2026/5/22
9	Coaxial cable	ETS	RFC-SNS-100-NMS-80	/	/	2025/5/24	2026/5/23
10	Coaxial cable	ETS	RFC-SN-100-NMS-20	/	/	2025/5/24	2026/5/23
11	Coaxial cable	ETS	RFC-SNS-100-SMS-20	/	/	2025/5/24	2026/5/23
12	Coaxial cable	ETS	RFC-NNS-100-NMS-300	/	/	2025/5/24	2026/5/23
13	EMI test software	Frad	EZ-EMC	Ver/ FA-03A2 RE	/	/	/
14	Communication test set	R&S	CMW500	108058	B.19.07 (E1962B)	2025/5/23	2026/5/22
15	Communication test set	Agilent	E5515C	MY50102567	V3.5.80	2025/5/23	2026/5/22

6. AC POWER LINE CONDUCTED EMISSION

6.1 Block Diagram Of Test Setup



6.2 Limit

Table 4 – AC power-line conducted emissions limits

Frequency (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 ^{Note 1}	56 to 46 ^{Note 1}
0.5 - 5	56	46
5 - 30	60	50

Note 1: The level decreases linearly with the logarithm of the frequency.

* Decreasing linearly with the logarithm of the frequency

6.3 Test procedure

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50 Ω /50 μ H + 5 Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0,4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane.

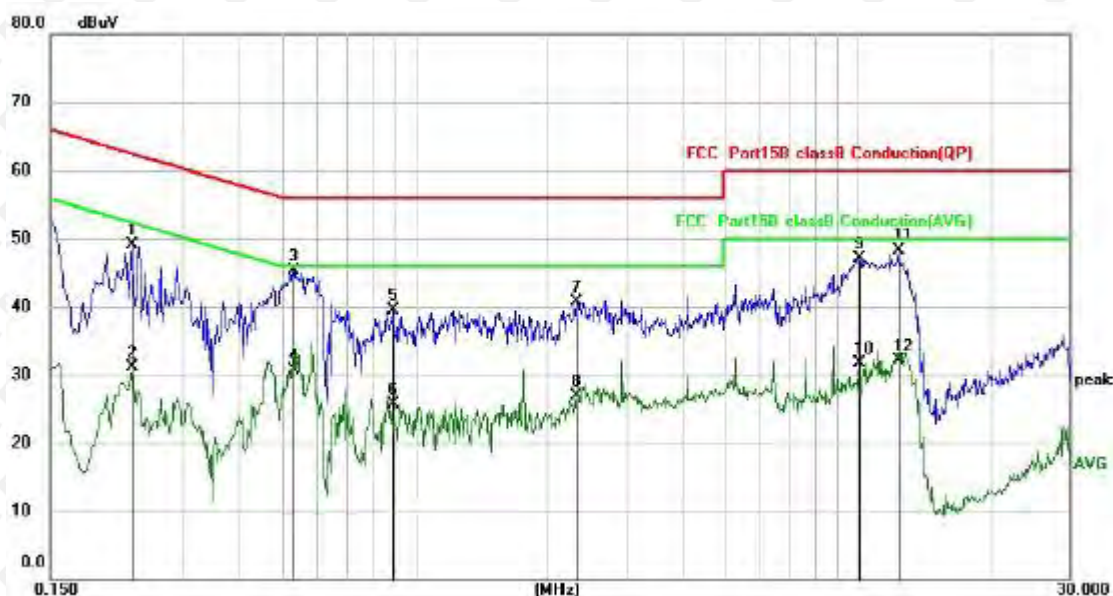
This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0,8 m from the LISN 2.

- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

6.4 Test Result

Modulation: 802.11a (the worst data)

L:

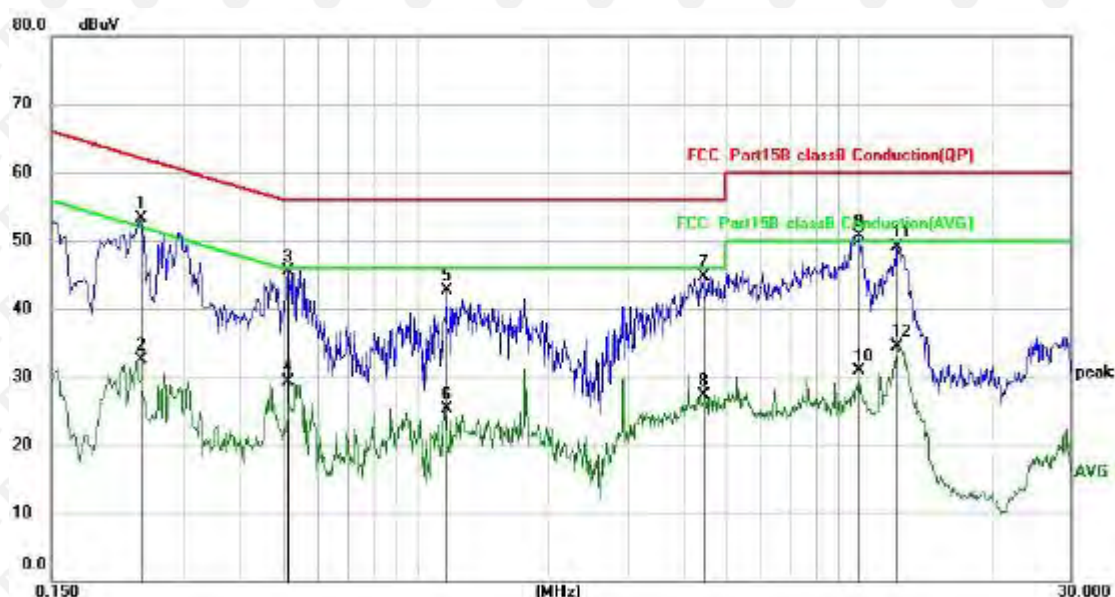


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.2300	38.94	10.08	49.02	62.45	-13.43	QP
2		0.2300	21.00	10.08	31.08	52.45	-21.37	AVG
3	*	0.5299	35.25	10.09	45.34	56.00	-10.66	QP
4		0.5299	20.58	10.09	30.67	46.00	-15.33	AVG
5		0.8900	29.42	10.12	39.54	56.00	-16.46	QP
6		0.8900	15.51	10.12	25.63	46.00	-20.37	AVG
7		2.3179	30.43	10.18	40.61	56.00	-15.39	QP
8		2.3179	16.64	10.18	26.82	46.00	-19.18	AVG
9		10.0419	36.72	10.44	47.16	60.00	-12.84	QP
10		10.0419	21.26	10.44	31.70	50.00	-18.30	AVG
11		12.3817	37.73	10.58	48.31	60.00	-11.69	QP
12		12.3817	21.54	10.58	32.12	50.00	-17.88	AVG

Remark:

Factor = Cable loss + LISN factor, Margin = Measurement – Limit

N:



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.2391	43.16	10.08	53.24	62.13	-8.89	QP
2		0.2391	22.38	10.08	32.46	52.13	-19.67	AVG
3		0.5140	35.51	10.09	45.60	56.00	-10.40	QP
4		0.5140	19.24	10.09	29.33	46.00	-16.67	AVG
5		1.1739	32.59	10.14	42.73	56.00	-13.27	QP
6		1.1739	15.19	10.14	25.33	46.00	-20.67	AVG
7		4.4739	34.52	10.26	44.78	56.00	-11.22	QP
8		4.4739	17.02	10.26	27.28	46.00	-18.72	AVG
9		10.0178	40.30	10.44	50.74	60.00	-9.26	QP
10		10.0178	20.44	10.44	30.88	50.00	-19.12	AVG
11		12.1819	38.63	10.57	49.20	60.00	-10.80	QP
12		12.1819	23.94	10.57	34.51	50.00	-15.49	AVG

Remark:

- Factor = Cable loss + LISN factor, Margin = Limit – Level
- All modes were tested at AC 120V and 240V, only the worst result of AC 120V 60Hz was reported.
- All the test modes completed for test. Only the worst result of was reported.

7. RADIATED SPURIOUS EMISSIONS

7.1 Block Diagram Of Test Setup

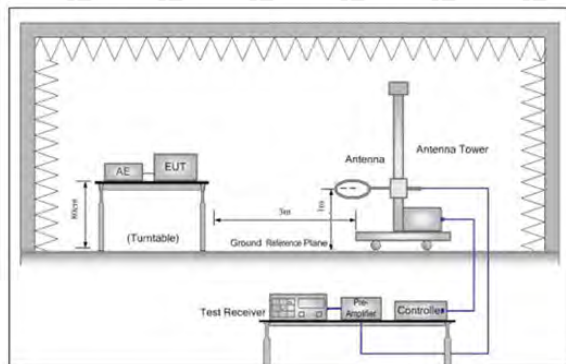


Figure 1. Below 30MHz

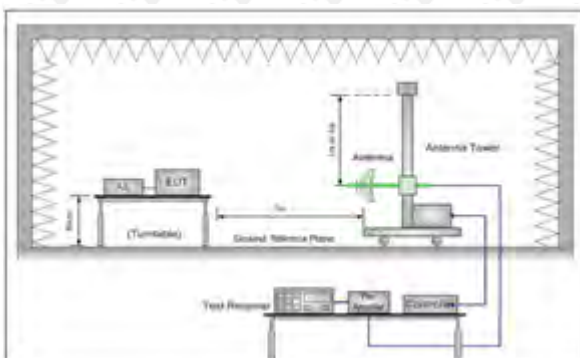


Figure 2. 30MHz to 1GHz

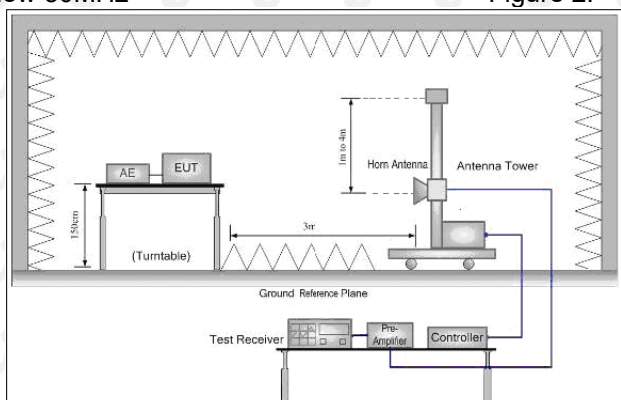


Figure 3. Above 1GHz

7.2 Limit

Spurious Emissions:

Frequency	Field strength (dBμV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	$20\log 2400/F \text{ (kHz)} + 80$	Quasi-peak	3
0.490MHz-1.705MHz	$20\log 24000/F \text{ (kHz)} + 40$	Quasi-peak	3
1.705MHz-30MHz	$20\log 30 + 40$	Quasi-peak	3
30MHz-88MHz	40.0	Quasi-peak	3
88MHz-216MHz	43.5	Quasi-peak	3
216MHz-960MHz	46.0	Quasi-peak	3
960MHz-1GHz	54.0	Quasi-peak	3
Above 1GHz	54.0	Average	3

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

If radiated measurements are performed, field strength is then converted to EIRP as follows:

(i) $EIRP = ((E \cdot d)^2) / 30$

where:

- E is the field strength in V/m;
- d is the measurement distance in meters;
- EIRP is the equivalent isotropically radiated power in watts.

(ii) Working in dB units, the above equation is equivalent to:

$$EIRP[dBm] = E[dB\mu V/m] + 20 \log(d[meters]) - 104.77$$

(iii) Or, if d is 3 meters:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

7.3 Test procedure

Below 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rota table table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

- Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table is 1.5 meter).
- Test the EUT in the lowest channel ,the middle channel ,the Highest channel
- Repeat above procedures until all frequencies measured was complete.

Receiver set:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30KHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30KHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30KHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30KHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30KHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120 kHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

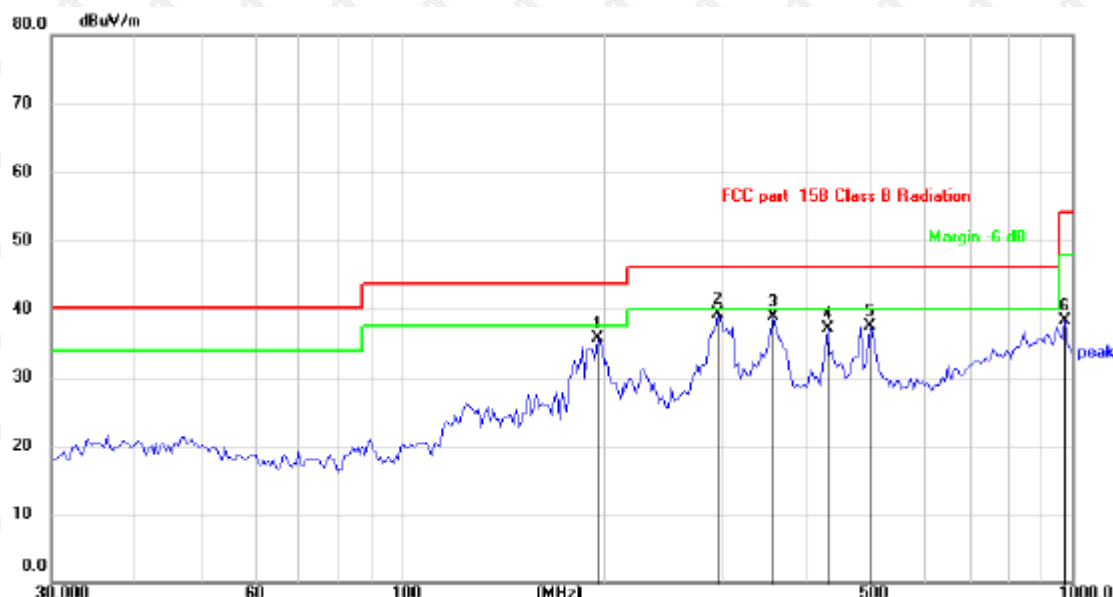
7.4 Test Result

30MHz-1GHz Test Results:

Modulation: 802.11a (the worst data)

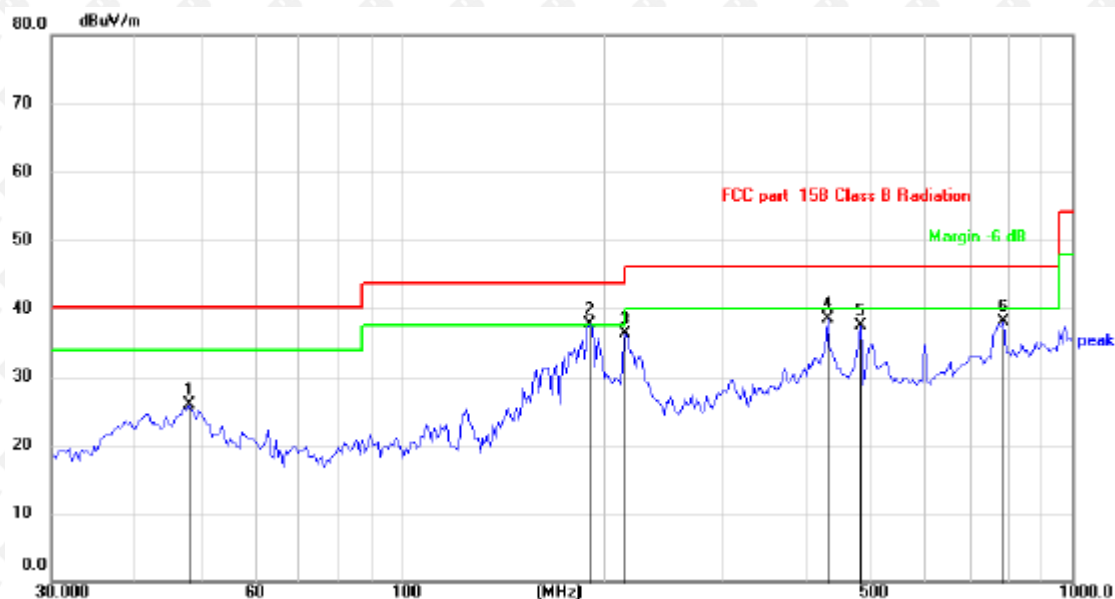
Test Channel: 5780MHz

Antenna polarity: H



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			Detector
			dBuV	dB	dBuV/m	dB/m	dB	
1		195.8217	41.67	-5.95	35.72	43.50	-7.78	QP
2	*	295.6648	41.99	-2.71	39.28	46.00	-6.72	QP
3		358.5568	40.54	-1.57	38.97	46.00	-7.03	QP
4		431.0314	37.46	-0.33	37.13	46.00	-8.87	QP
5		500.3009	36.53	0.95	37.48	46.00	-8.52	QP
6		974.0434	29.21	9.18	38.39	54.00	-15.61	QP

Antenna polarity: V



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		48.1625	32.27	-6.34	25.93	40.00	-14.07	QP
2	*	190.7390	42.94	-5.32	37.62	43.50	-5.88	QP
3		215.6453	42.14	-5.92	36.22	43.50	-7.28	QP
4		431.0314	38.77	-0.33	38.44	46.00	-7.56	QP
5		483.0615	36.91	0.63	37.54	46.00	-8.46	QP
6		789.2335	29.81	8.33	38.14	46.00	-7.86	QP

Remark: Factor = Cable lose + Antenna factor - Pre-amplifier; Margin = Limit – Level

Radiated Spurious Emission (Above 1GHz):

Modulation: 802.11(a) (the worst data)

Freq (MHz)	Rd_level (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)	detector	Height	Degree	Antenna polarization
Channel:5180MHz									
10360	41.61	16.39	58.00	74	-16.00	PK	1.47	221	H
10360	25.52	16.39	41.91	54	-12.09	AV	1.43	92	H
10360	39.58	16.39	55.97	74	-18.03	PK	1.42	111	V
10360	27.88	16.39	44.27	54	-9.73	AV	1.52	344	V
Channel:5200MHz									
10400	41.14	16.11	57.25	74	-16.75	PK	1.45	113	H
10400	25.64	16.11	41.75	54	-12.25	AV	1.05	144	H
10400	39.96	16.11	56.07	74	-17.93	PK	1.37	11	V
10400	25.96	16.11	42.07	54	-11.93	AV	1.08	23	V
10400	41.14	16.11	57.25	74	-16.75	PK	1.45	113	H
Channel:5240MHz									
10480	41.87	16.11	57.98	74	-16.02	PK	1.75	234	H
10480	25.34	16.11	41.45	54	-12.55	AV	1.09	102	H
10480	41.13	16.11	57.24	74	-16.76	PK	1.20	260	V
10480	26.76	16.11	42.87	54	-11.13	AV	1.52	200	V
Channel:5745MHz									
11490	39.16	17.46	56.62	74	-17.38	PK	1.21	140	H
11490	27.32	17.46	44.78	54	-9.22	AV	1.74	273	H
11490	39.77	17.46	57.23	74	-16.77	PK	1.10	355	V
11490	26.84	17.46	44.30	54	-9.70	AV	1.05	143	V
Channel:5785MHz									
11570	41.39	16.11	57.50	74	-16.50	PK	1.41	266	H
11570	27.36	16.11	43.47	54	-10.53	AV	1.69	142	H
11570	39.69	16.11	55.80	74	-18.20	PK	1.42	177	V
11570	26.42	16.11	42.53	54	-11.47	AV	1.81	161	V
Channel:5825MHz									
11650	40.77	17.57	58.34	74	-15.66	PK	1.47	111	H
11650	25.19	17.57	42.76	54	-11.24	AV	1.84	236	H
11650	41.51	17.57	59.08	74	-14.92	PK	1.23	46	V
11650	25.23	17.57	42.80	54	-11.20	AV	1.51	16	V

Modulation: 802.11(n40) (the worst data)

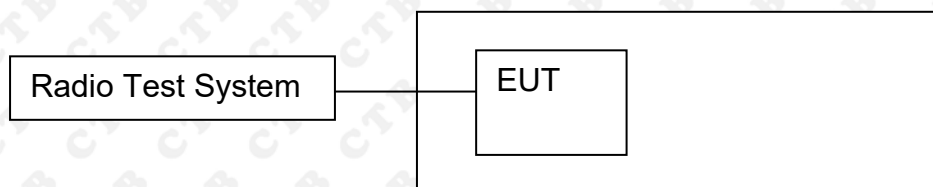
Freq (MHz)	Rd_level (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over (dB)	detector	Height	Degree	Antenna polarization
Channel:5190MHz									
10380	39.99	16.34	56.33	74	-17.67	PK	1.42	95	H
10380	27.00	16.34	43.34	54	-10.66	AV	1.01	193	H
10380	41.74	16.34	58.08	74	-15.92	PK	1.40	202	V
10380	26.90	16.34	43.24	54	-10.76	AV	1.79	256	V
Channel:5230MHz									
10460	39.64	16.15	55.79	74	-18.21	PK	1.09	59	H
10460	27.69	16.15	43.84	54	-10.16	AV	1.80	98	H
10460	41.75	16.15	57.90	74	-16.10	PK	1.74	66	V
10460	27.95	16.15	44.10	54	-9.90	AV	1.26	305	V
Channel:5755MHz									
11510	41.41	17.49	58.90	74	-15.10	PK	1.78	65	H
11510	26.07	17.49	43.56	54	-10.44	AV	1.76	283	H
11510	39.90	17.49	57.39	74	-16.61	PK	1.26	292	V
11510	25.64	17.49	43.13	54	-10.87	AV	1.36	19	V
Channel:5795MHz									
11590	39.59	17.52	57.11	74	-18.07	PK	1.90	83	H
11590	27.55	17.52	45.07	54	-16.89	AV	1.84	102	H
11590	39.92	17.52	57.44	74	-16.56	PK	1.65	75	V
11590	25.76	17.52	43.28	54	-10.72	AV	1.31	162	V

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits
2. The EUT was tested in the low, high channel and the worst case position data was reported.
3. Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

8. BAND EDGE

8.1 Block Diagram Of Test Setup



8.2 Limit

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

8.3 Test procedure

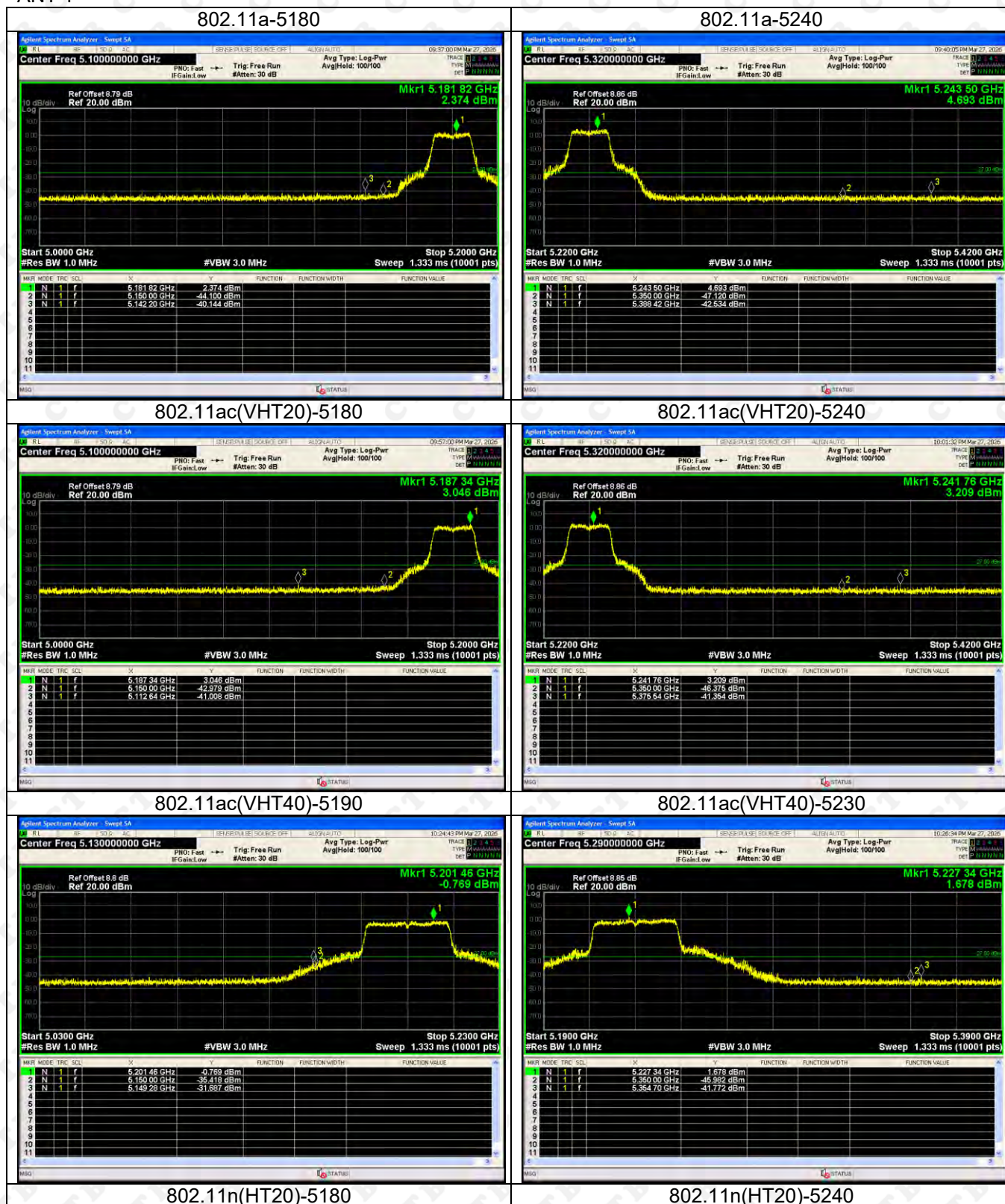
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

8.4 Test Result

Test Graph

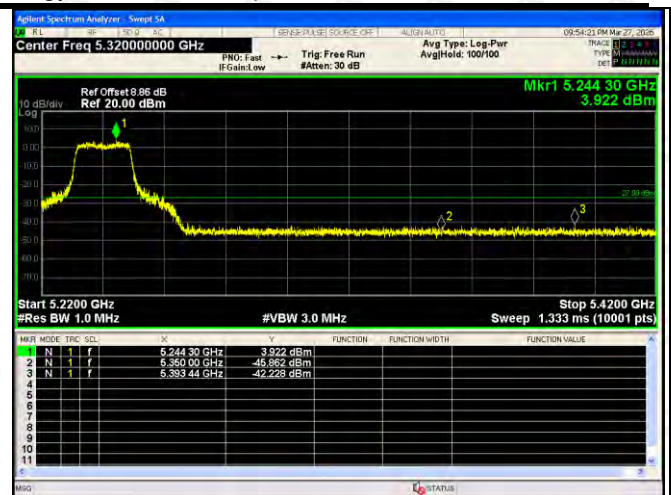
5180-5240MHz

ANT 1

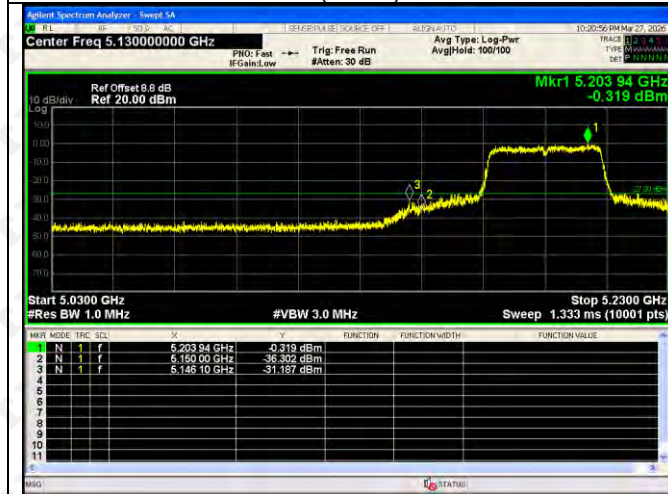




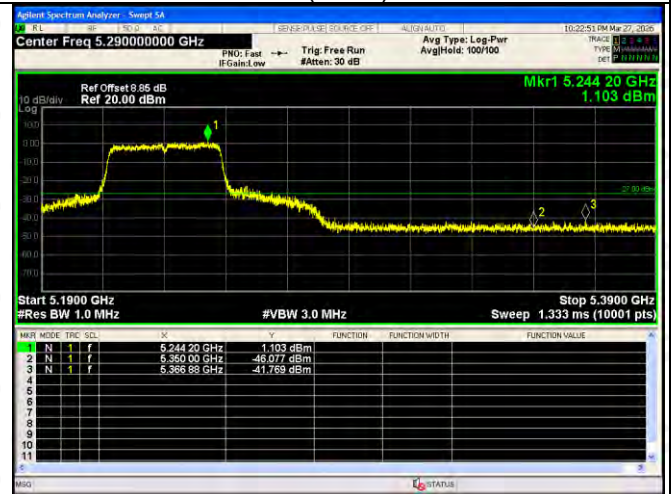
802.11n(HT40)-5190



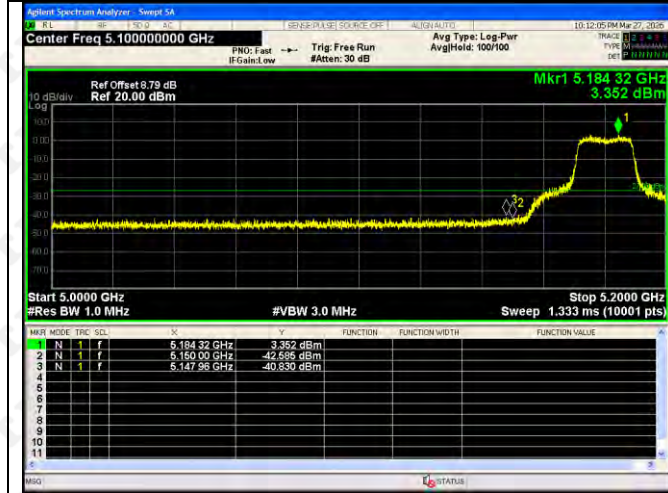
802.11n(HT40)-5230



802.11ax(HE20)-5180



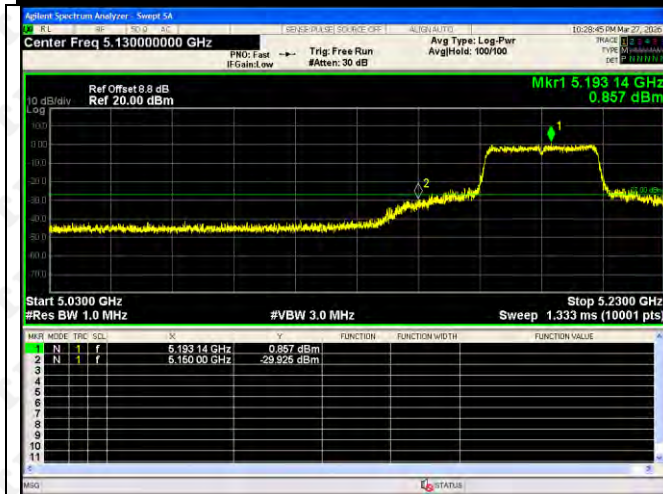
802.11ax(HE20)-5240



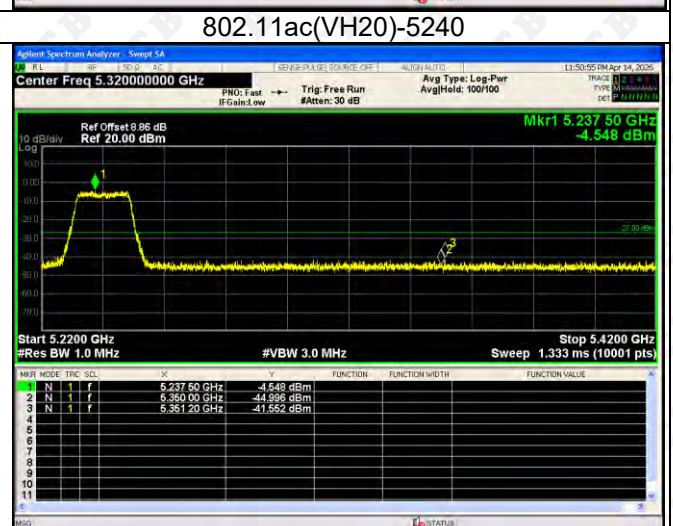
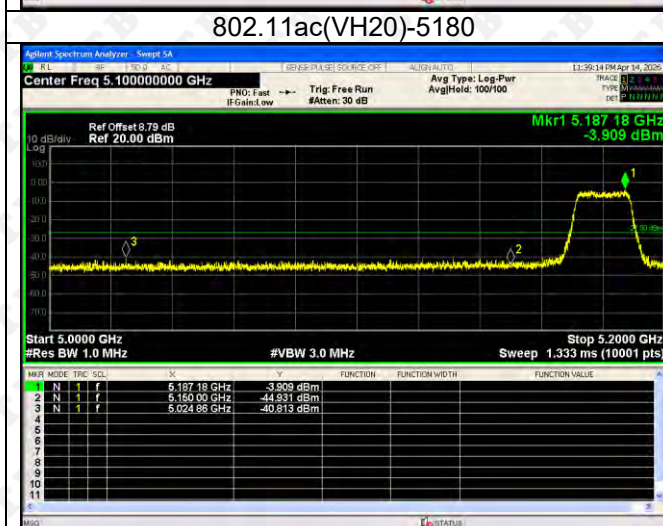
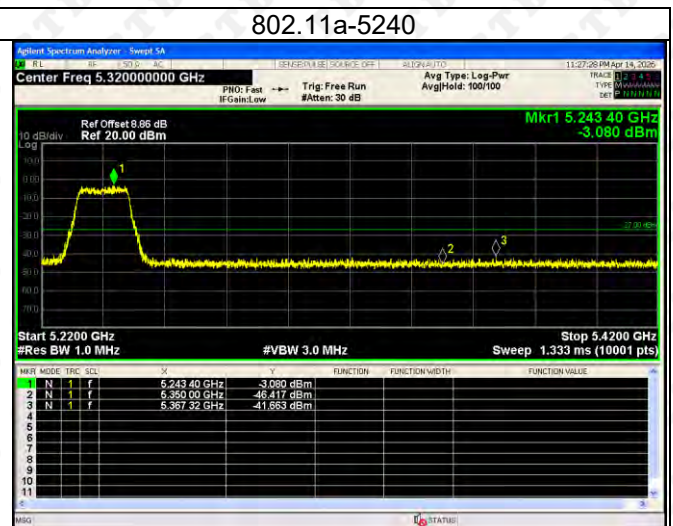
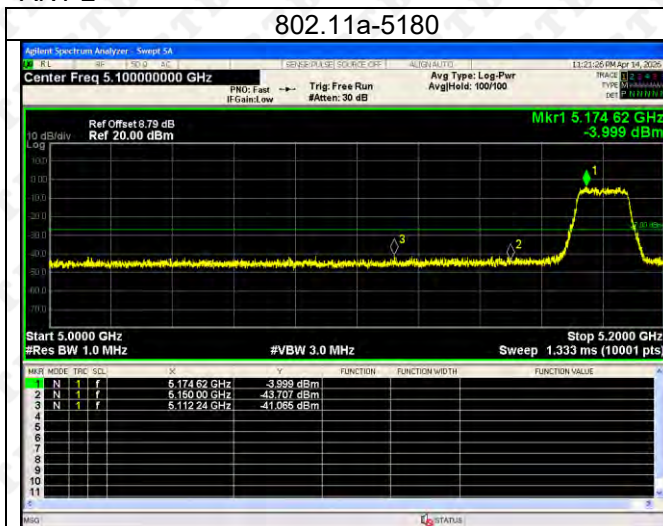
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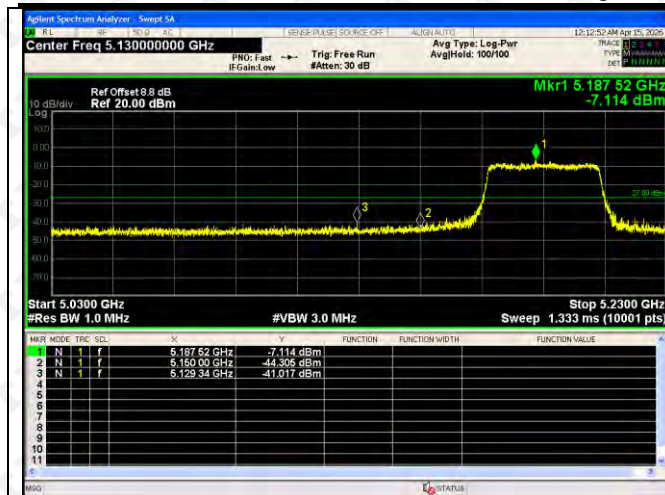


802.11ax(HE40)-5230

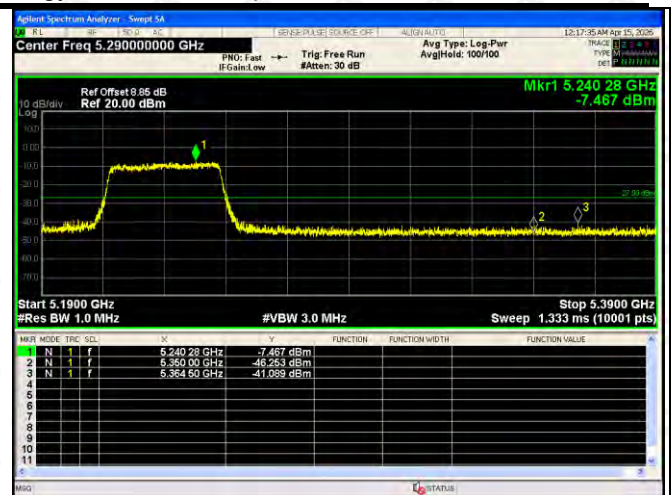


ANT 2

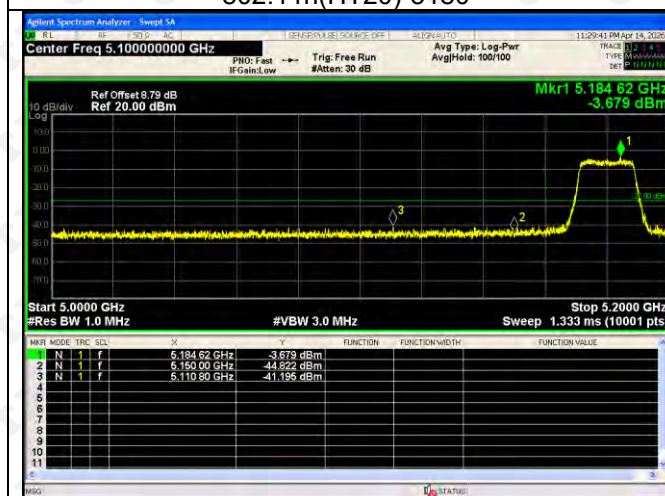




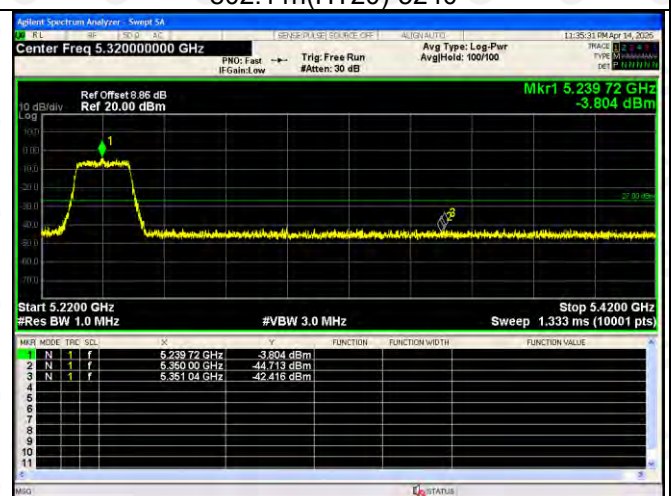
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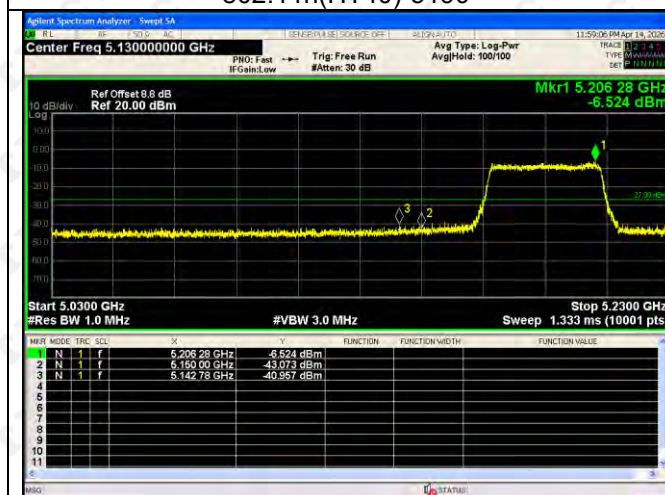
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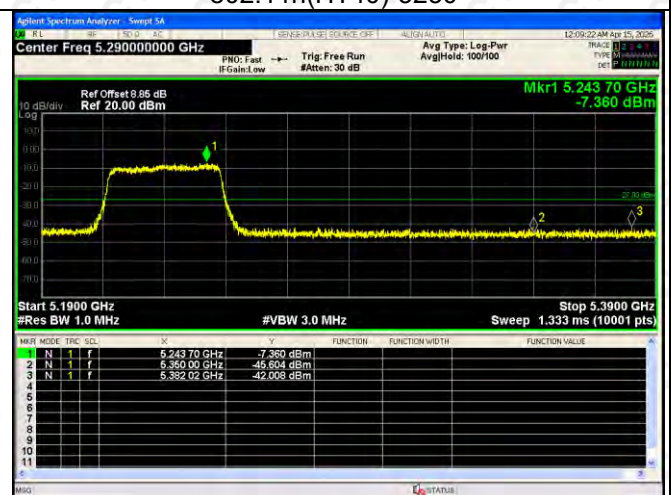
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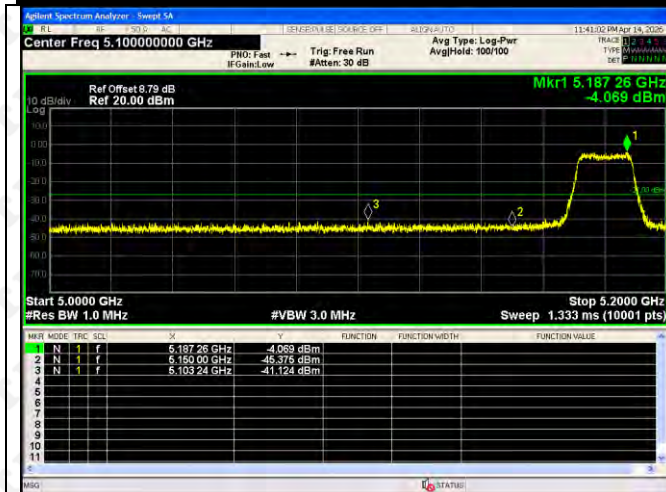
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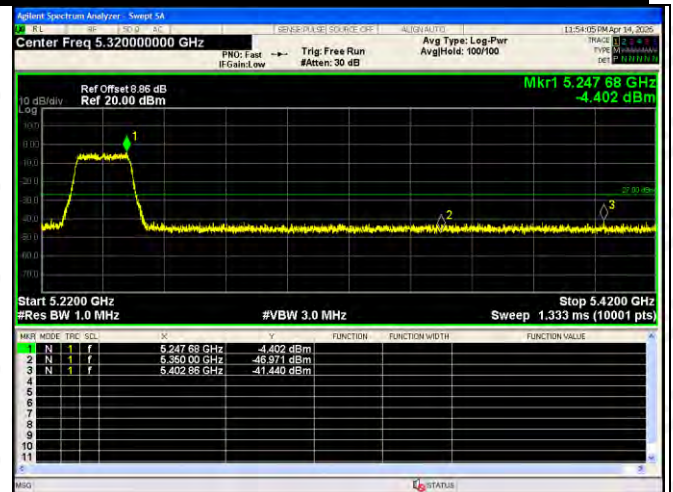
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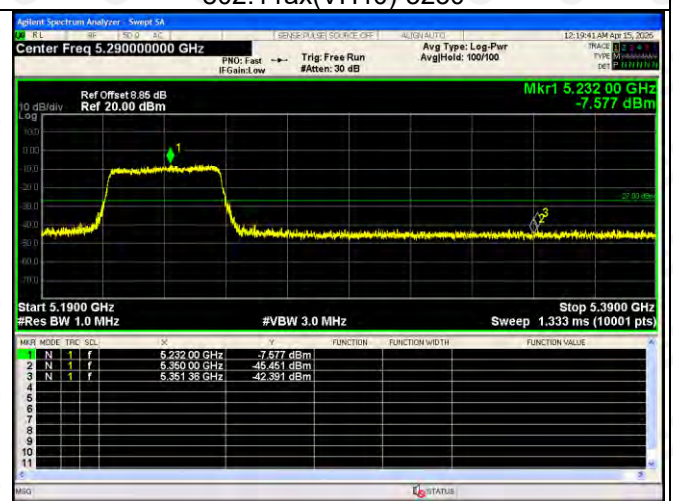
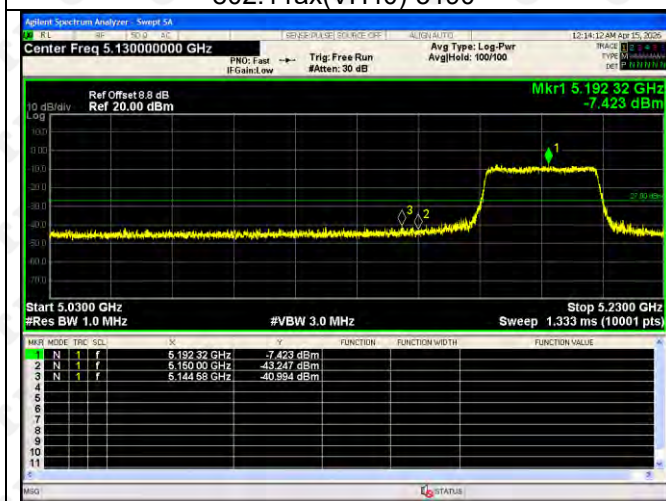
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802.11ax(VH40)-5190



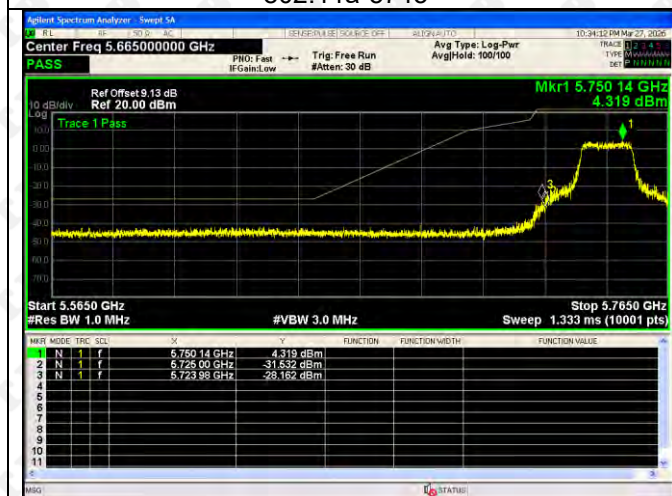
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5745-5825MHz

ANT1:

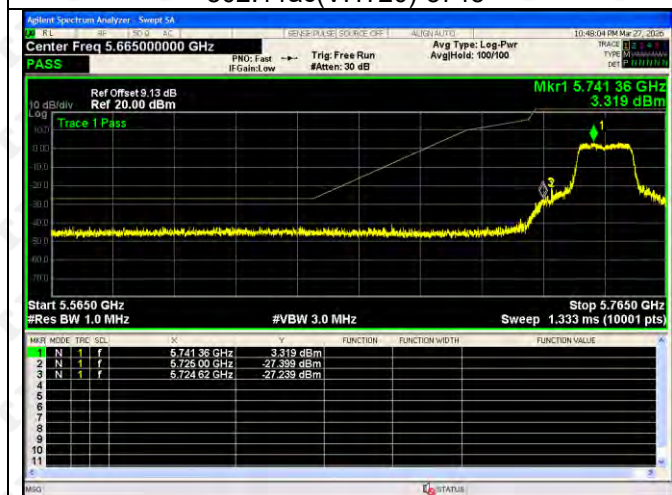
802.11a-5745



802.11a-5825



802.11ac(VHT20)-5745



802.11ac(VHT20)-5825



802.11ac(VHT40)-5755



802.11ac(VHT40)-5795



802.11(n20)-5745



802.11(n20)-5825





802.11(n40)-5755



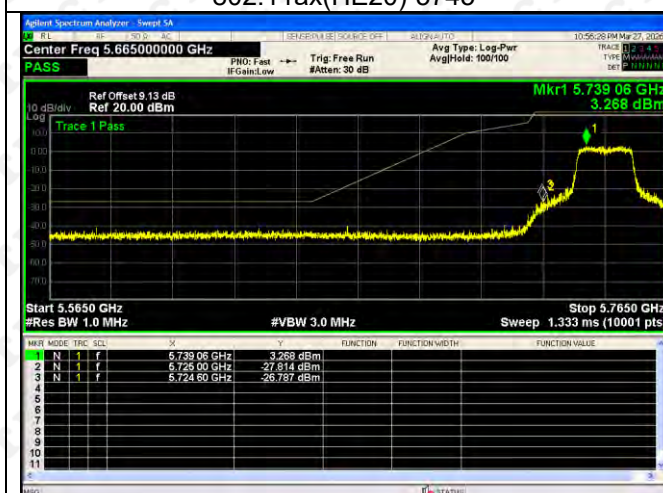
802.11(n40)-5795



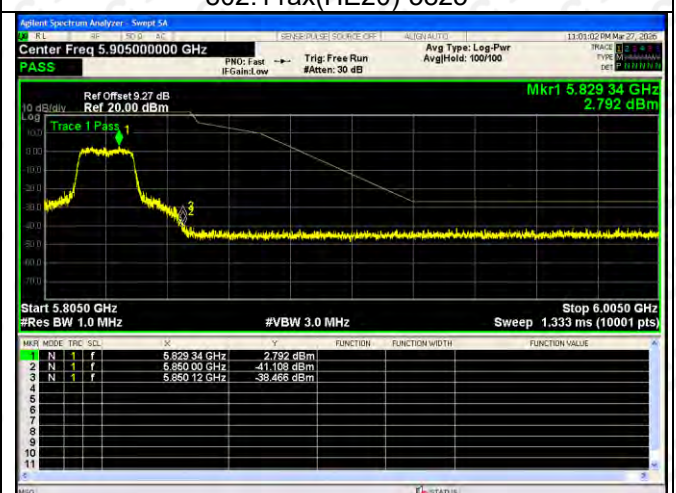
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802.11ax(HE20)-5825



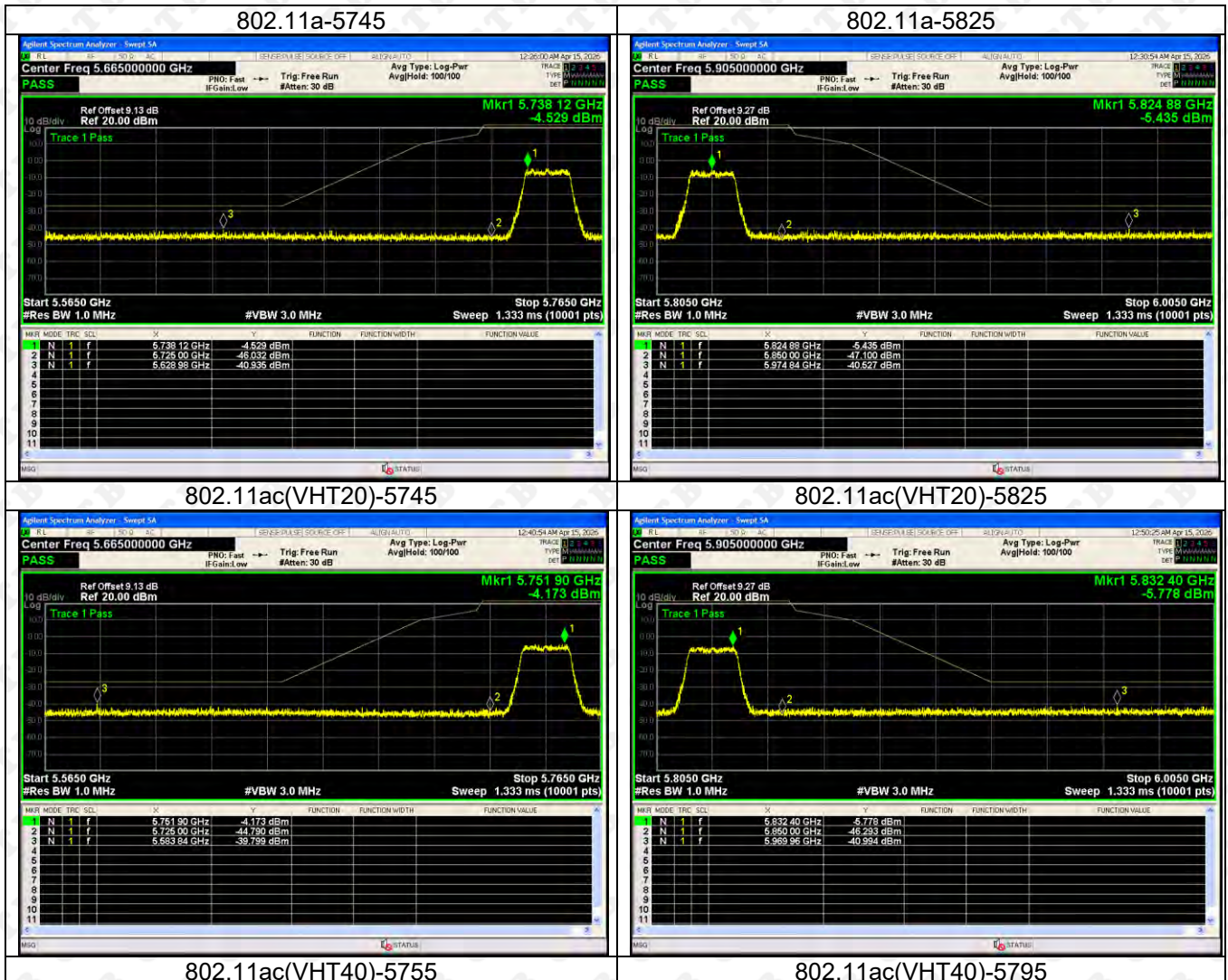
802.11ax(HE40)-5755

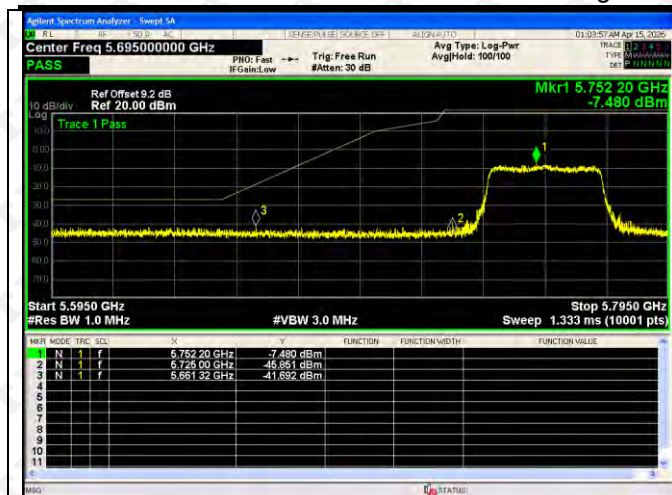


802.11ax(HE40)-5795



ANT 2

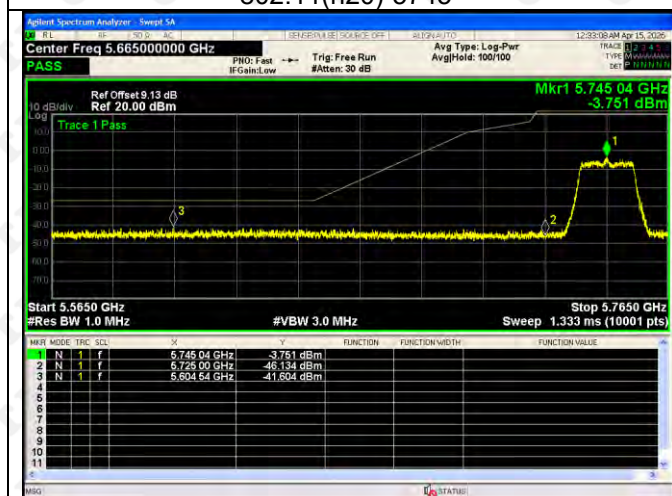




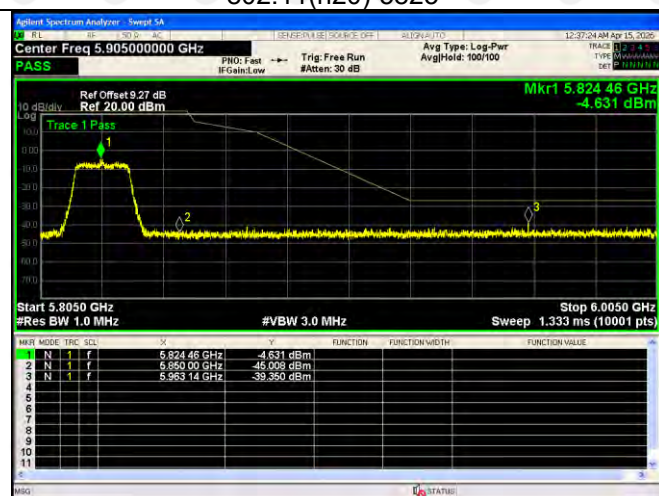
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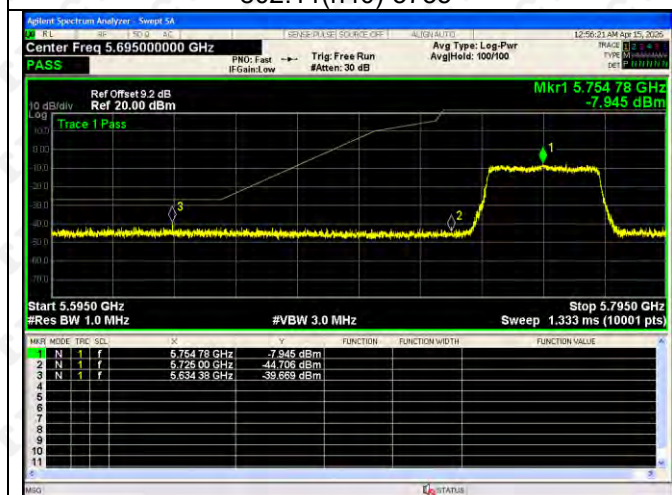
802.11(n20)-5825



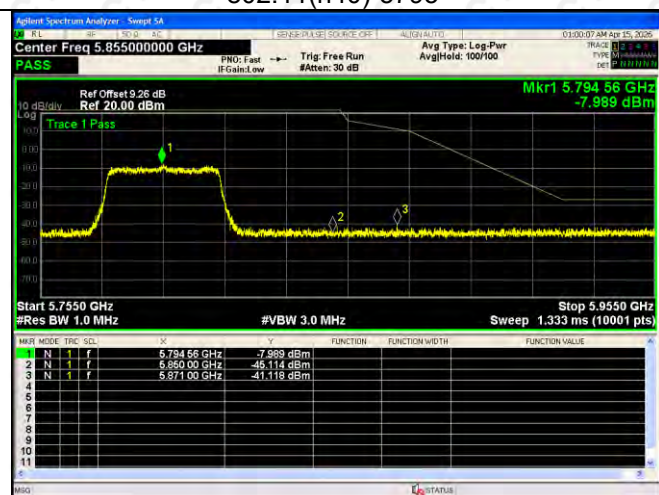
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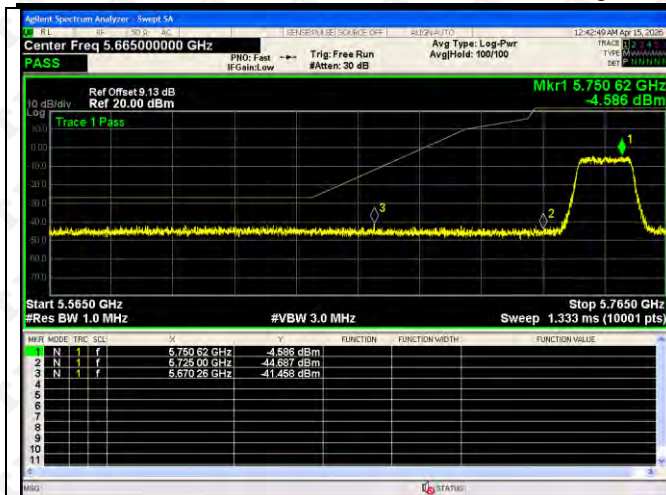
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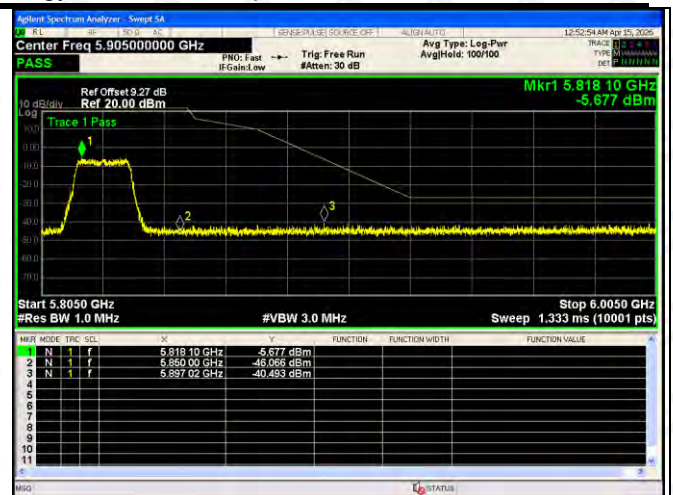
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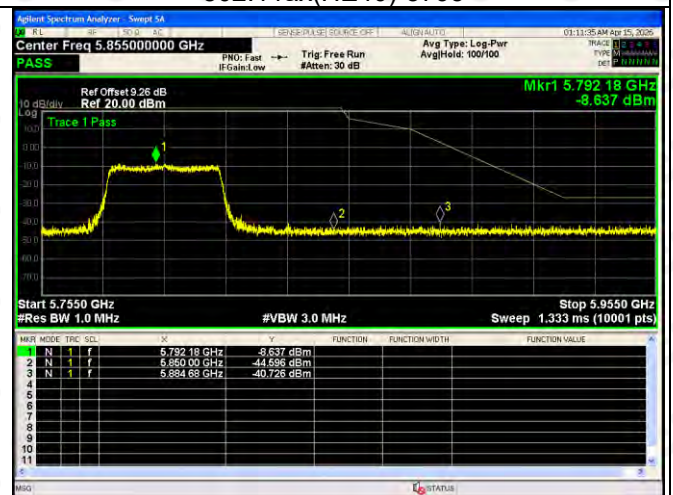
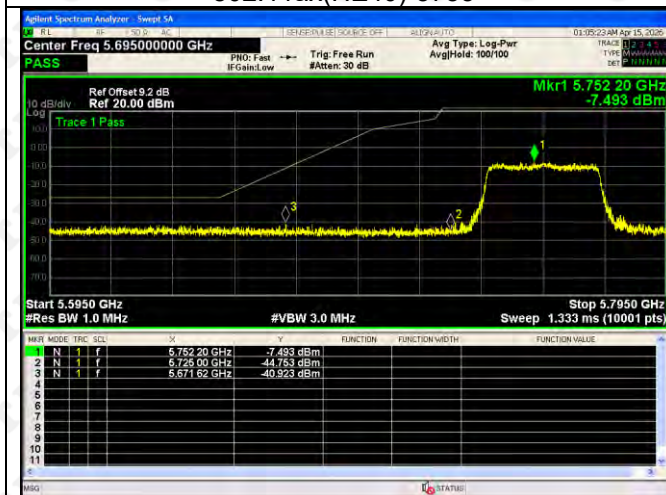
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802.11ax(HE40)-5755

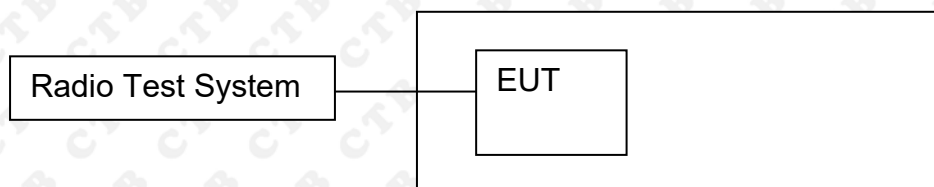


802.11ax(HE40)-5795



9. CONDUCTED OUTPUT POWER

9.1 Block Diagram Of Test Setup



9.2 Limit

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p.

at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(4) The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

(5) The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution

bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

(h) Transmit Power Control (TPC) and Dynamic Frequency Selection (DFS).

(1) Transmit power control (TPC). U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

9.3 Test procedure

According to KDB789033 D02v02r01 sectionE, the following is the measurement procedure.

(i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.

(ii) Set RBW = 1 MHz.

(iii) Set VBW $\geq$ 3 MHz.

(iv) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This ensures that bin-to-bin spacing is $\leq \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)

(v) Sweep time = auto.

(vi) Detector = power averaging (rms), if available. Otherwise, use sample detector mode.

(vii) If transmit duty cycle $< 98\%$, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle $\geq 98\%$, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run."

(viii) Trace average at least 100 traces in power averaging (rms) mode.

(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

9.4 Test Result

5180-5240MHz:
ANT 1+ANT 2

Test mode1	Test Channel (MHz)	Output Power dBm ANT1	Output Power dBm ANT2	Output Power dBm Total	Limit dBm
802.11a	5180	4.286	4.304	/	23.98
	5200	4.537	4.781	/	23.98
	5240	4.766	4.726	/	23.98
802.11ac(VHT20)	5180	4.426	4.483	7.465	23.98
	5200	4.583	4.573	7.588	23.98
	5240	4.521	4.707	7.625	23.98
802.11ac(VHT40)	5190	4.481	4.135	7.322	23.98
	5230	4.558	4.564	7.571	23.98
802.11n(HT20)	5180	4.34	4.579	7.471	23.98
	5200	4.473	4.56	7.527	23.98
	5240	4.453	4.199	7.338	23.98
802.11n(HT40)	5190	4.528	4.797	7.675	23.98
	5230	4.243	4.36	7.312	23.98
802.11ax(HE20)	5180	4.284	4.329	7.317	23.98
	5200	4.486	4.388	7.448	23.98
	5240	4.358	4.468	7.424	23.98
802.11ax(HE40)	5190	4.343	3.929	7.151	23.98
	5230	4.462	4.256	7.371	23.98

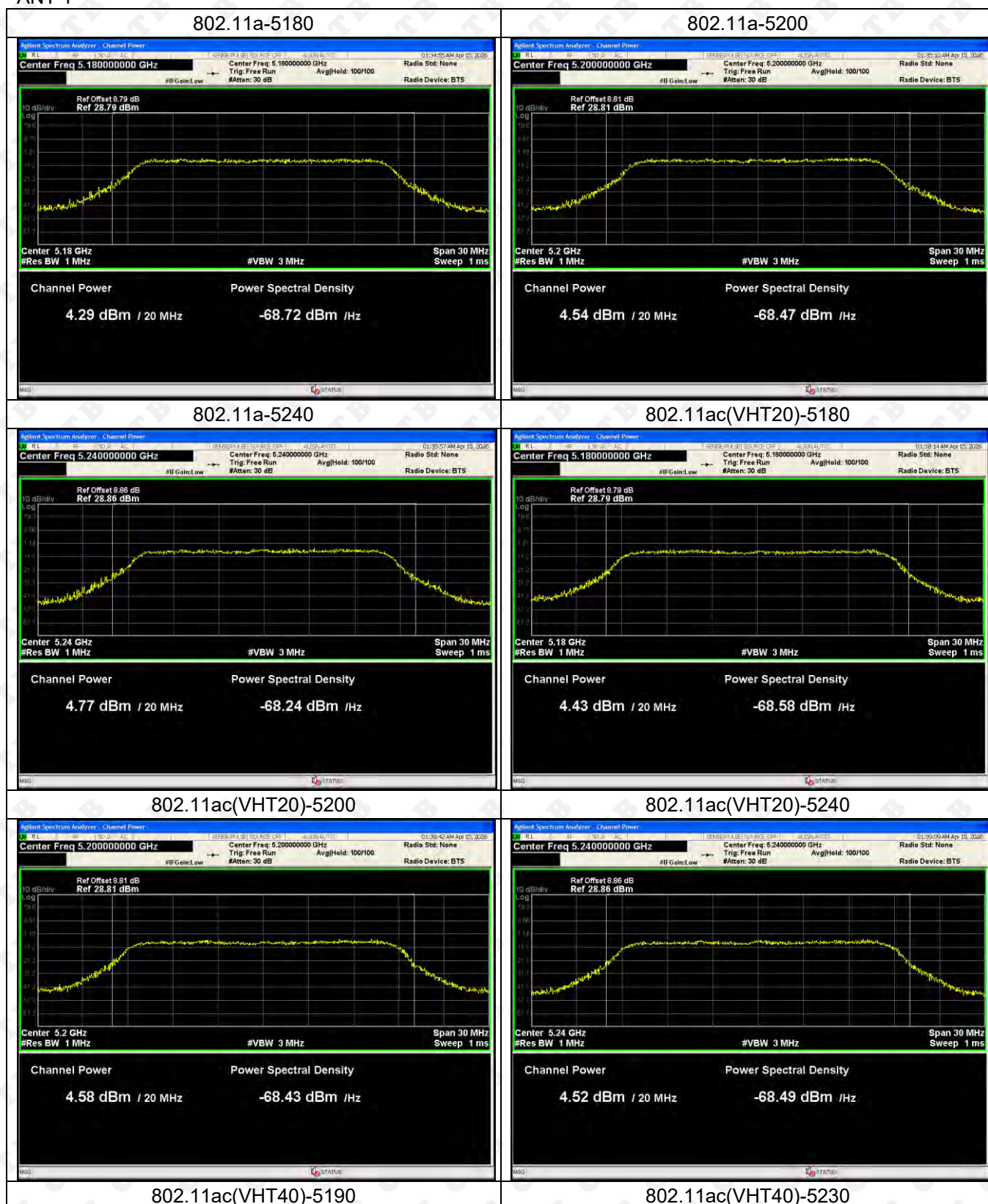
5745-5825MHz:
ANT 1+ANT 2

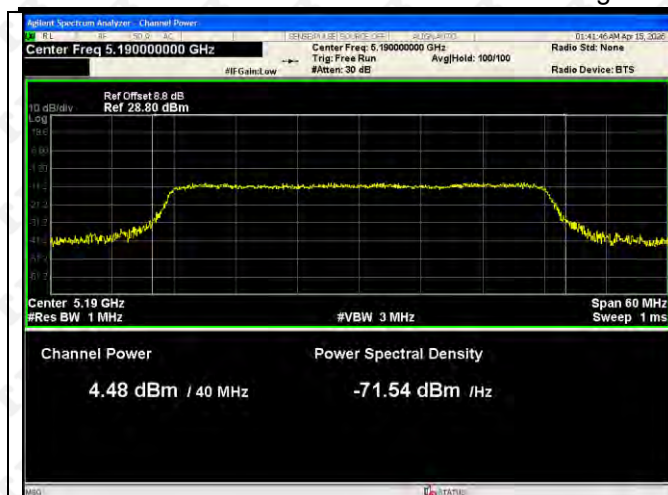
Test mode1	Test Channel (MHz)	Output Power dBm ANT1	Output Power dBm ANT2	Output Power dBm Total	Limit dBm
802.11a	5745	3.842	3.857	/	30
	5785	3.989	3.9	/	30
	5825	3.795	3.854	/	30
802.11ac(VHT20)	5745	3.825	4.222	7.038	30
	5785	3.718	3.721	6.730	30
	5825	4.472	4.132	7.316	30
802.11ac(VHT40)	5755	3.94	3.851	6.906	30
	5795	3.91	3.685	6.809	30
802.11n(HT20)	5745	4.246	3.827	7.052	30
	5785	4.157	3.649	6.921	30
	5825	4.099	4.026	7.073	30
802.11n(HT40)	5755	4.03	3.988	7.019	30
	5795	3.972	3.807	6.901	30
802.11ax(HE20)	5745	3.579	4.122	6.869	30
	5785	3.536	3.699	6.629	30
	5825	4.361	3.931	7.162	30
802.11ax(HE40)	5755	3.796	3.65	6.734	30
	5795	3.803	3.461	6.646	30

Test Graph

5180-5240MHz:

ANT 1





802.11n(HT20)-5180



802.11n(HT20)-5200



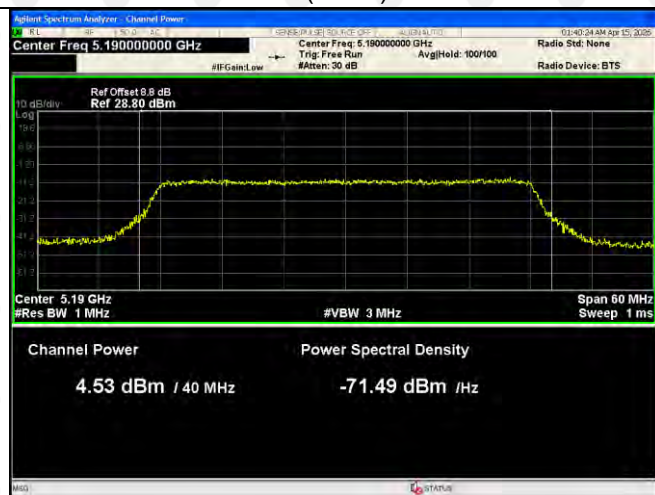
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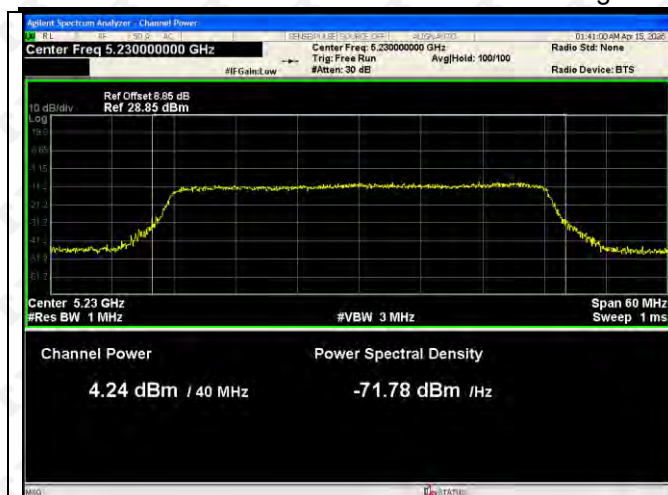
802.11n(HT40)-5190



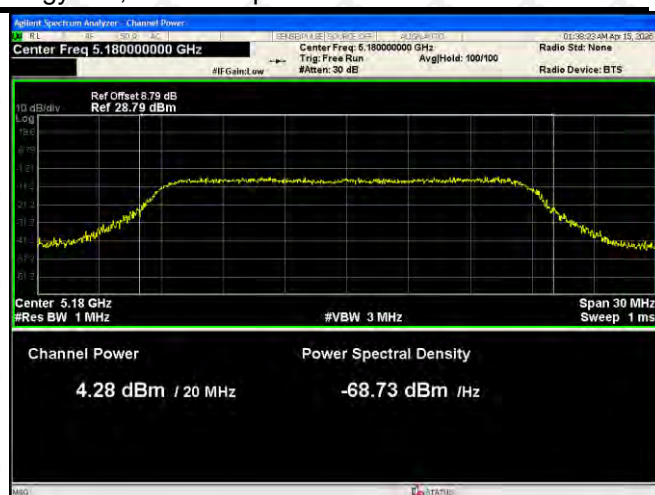
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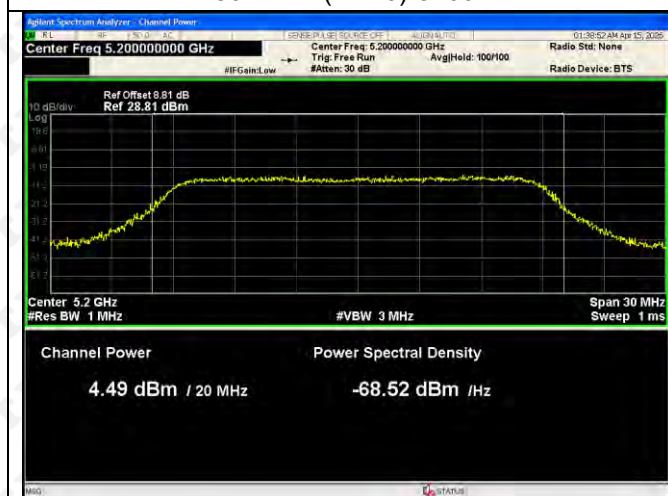
802.11ax(HE20)-5180



802.11ax(HE20)-5200



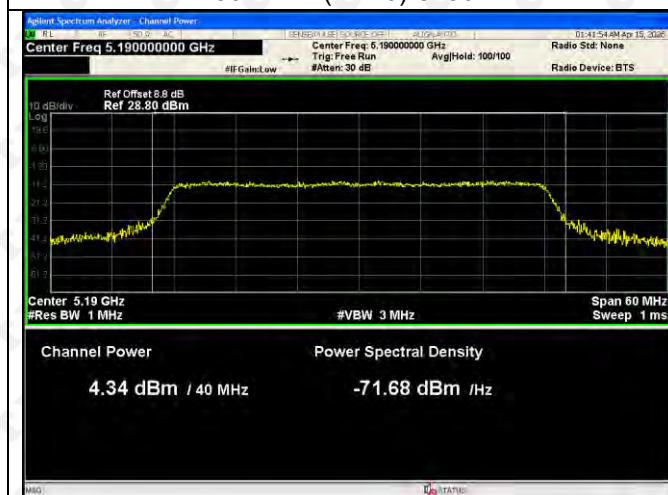
802.11ax(HE20)-5240



802.11ax(HE40)-5190



802.11ax(HE40)-5230

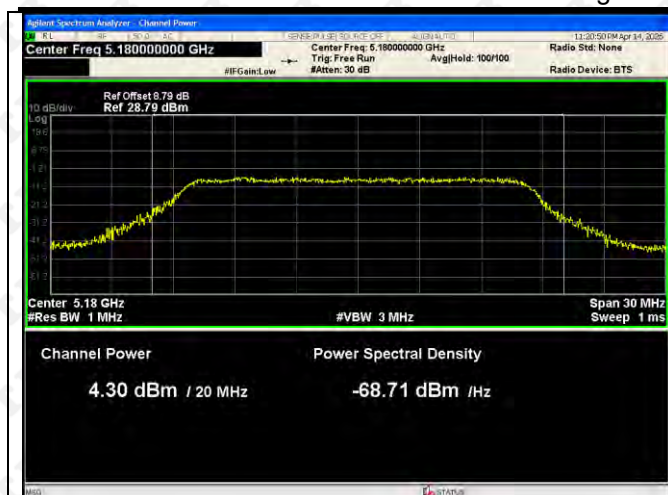


ANT 2

802.11a-5180



802.11a-5200



802.11a-5240



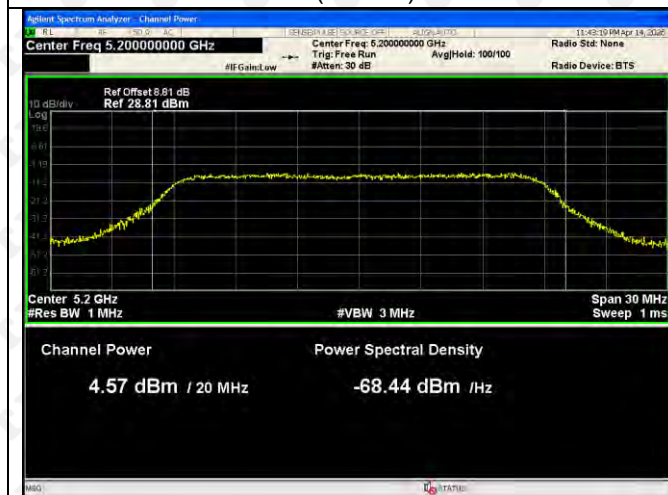
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802.11ac(VHT20)-5200



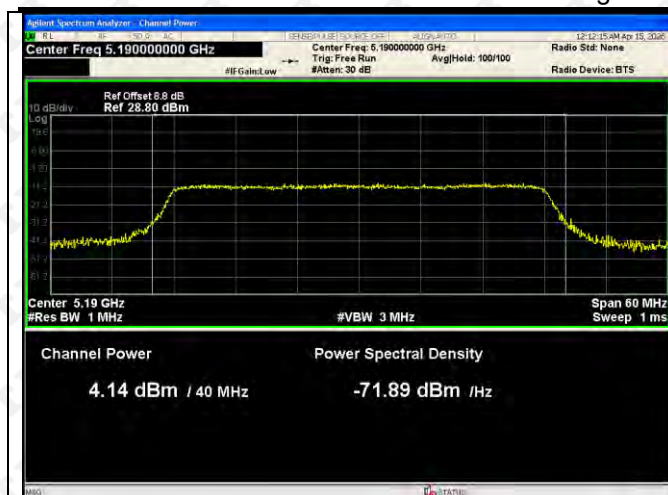
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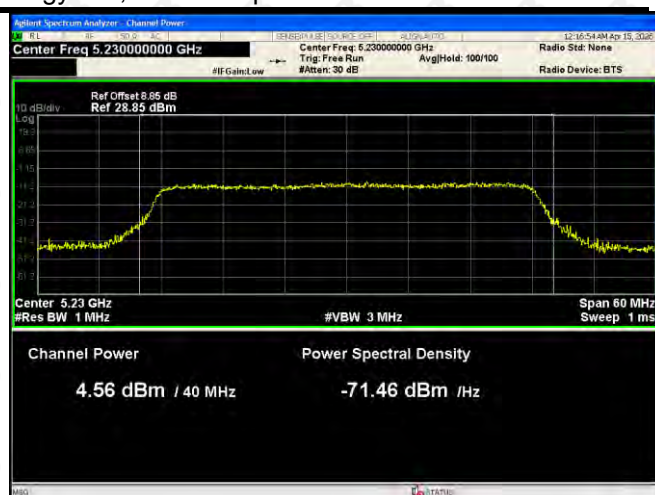
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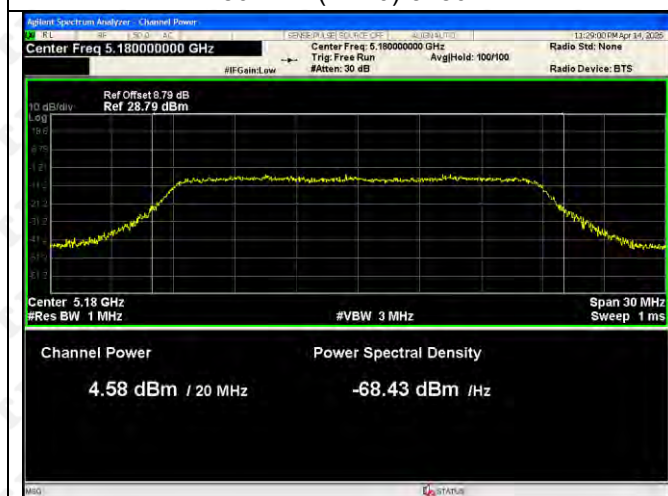
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802.11n(HT20)-5180



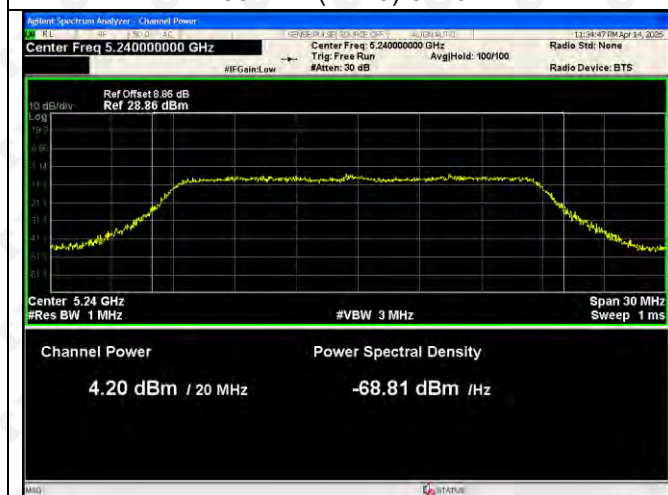
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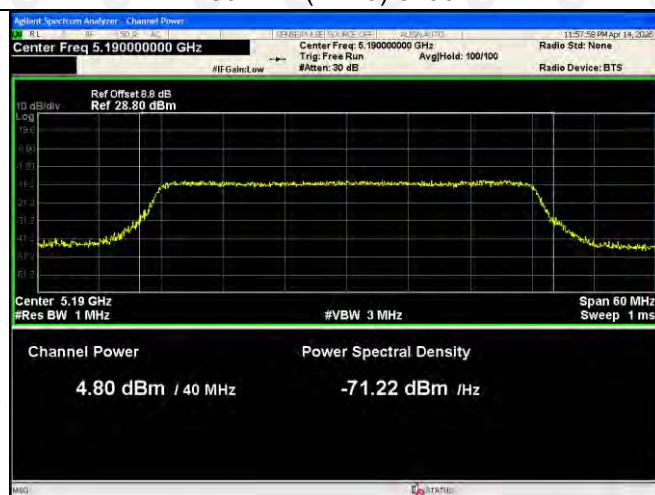
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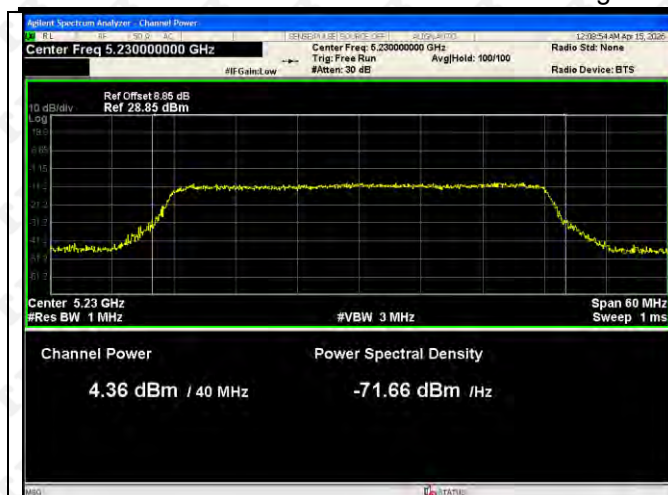
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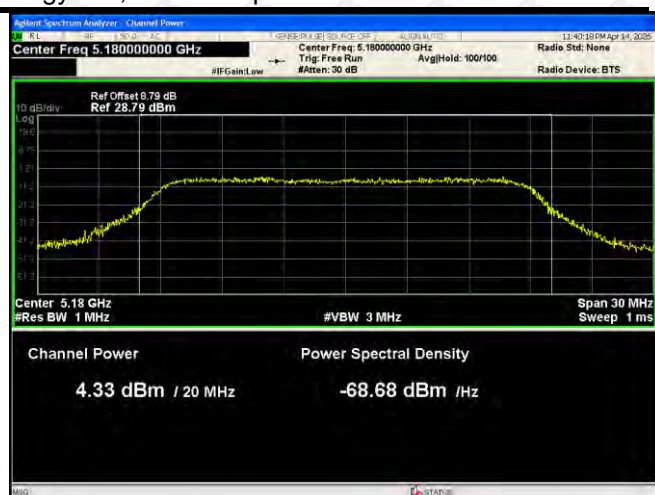
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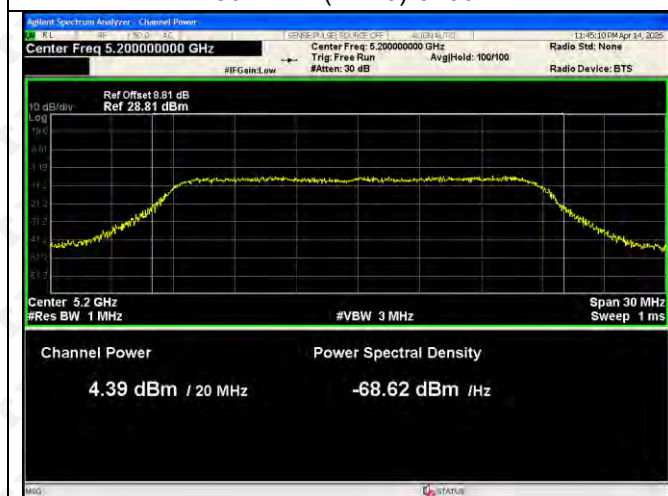
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802.11ax(HE20)-5200



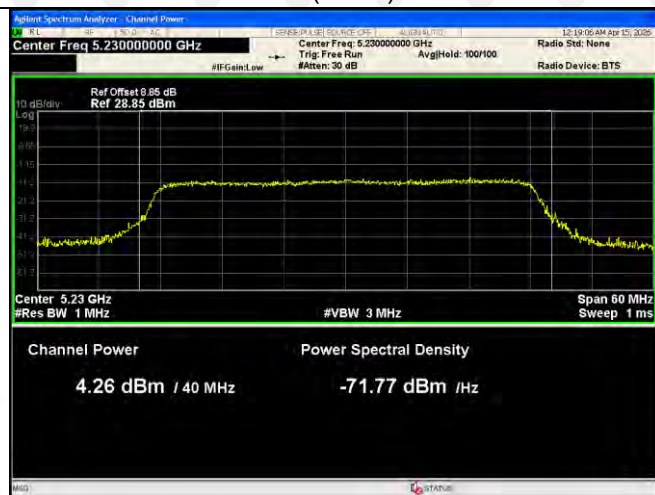
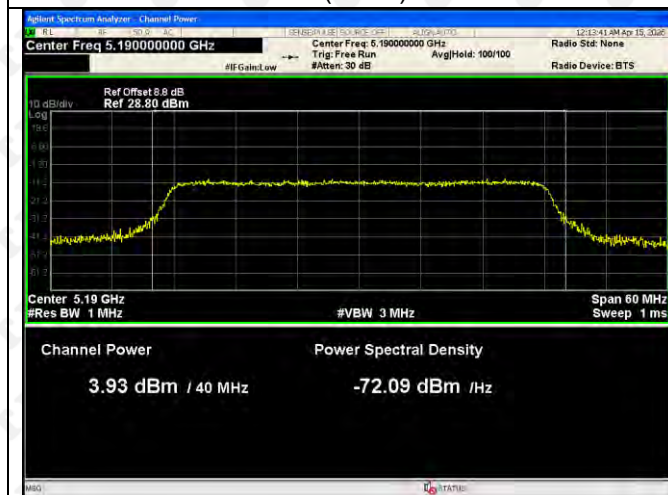
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802.11ax(HE40)-5190



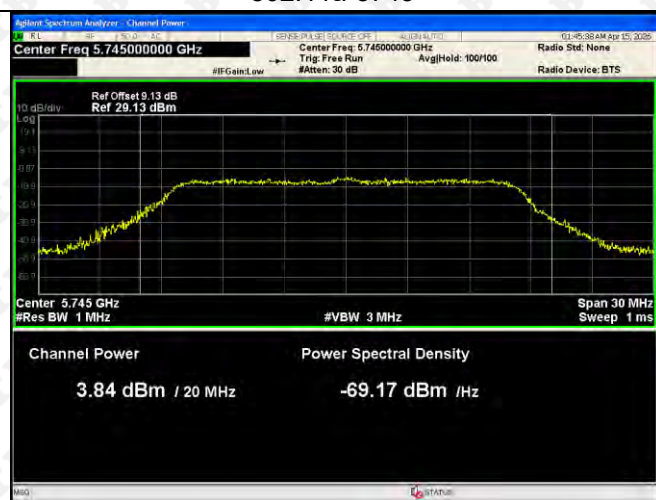
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5745-5825MHz:

ANT1:

802.11a-5745



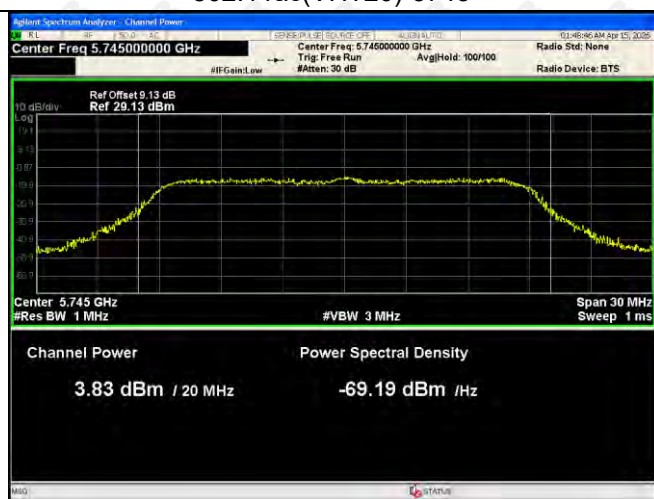
802.11a-5785



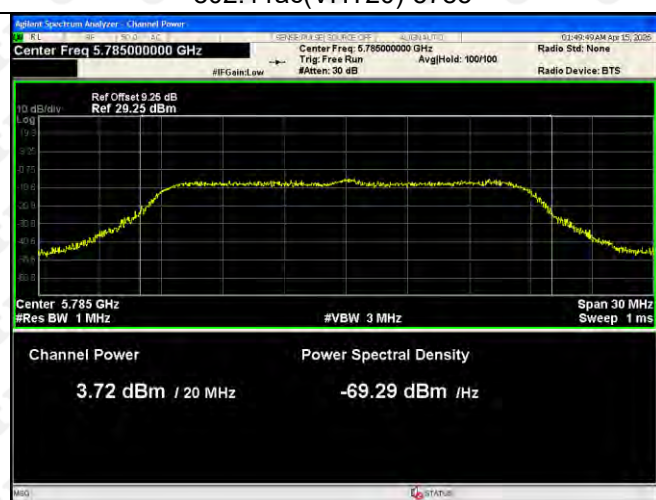
802.11a-5825



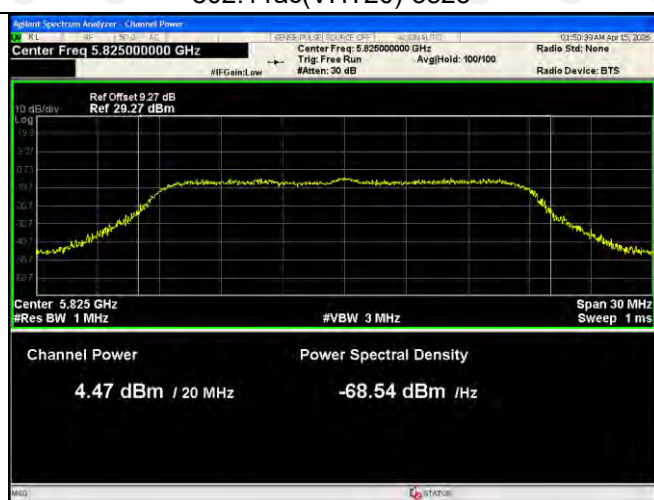
802.11ac(VHT20)-5745



802.11ac(VHT20)-5785

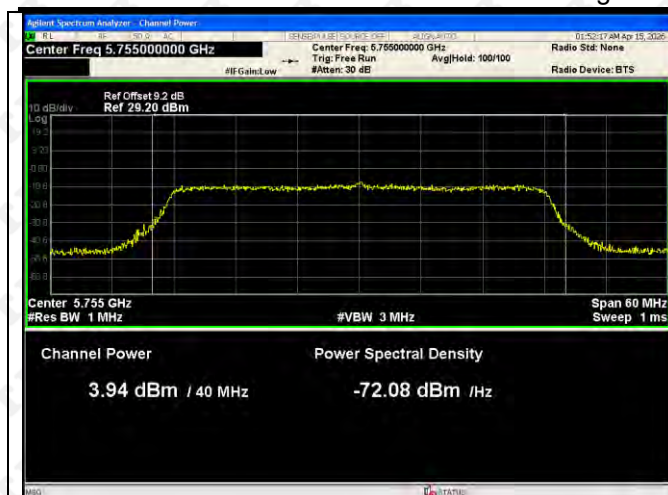


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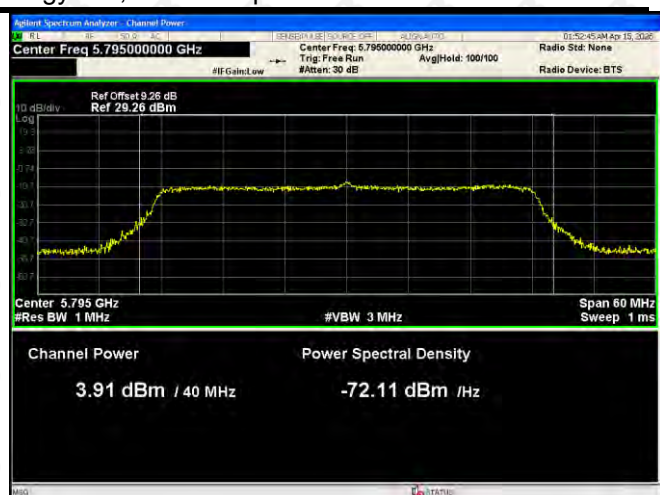


802.11ac(VHT40)-5755

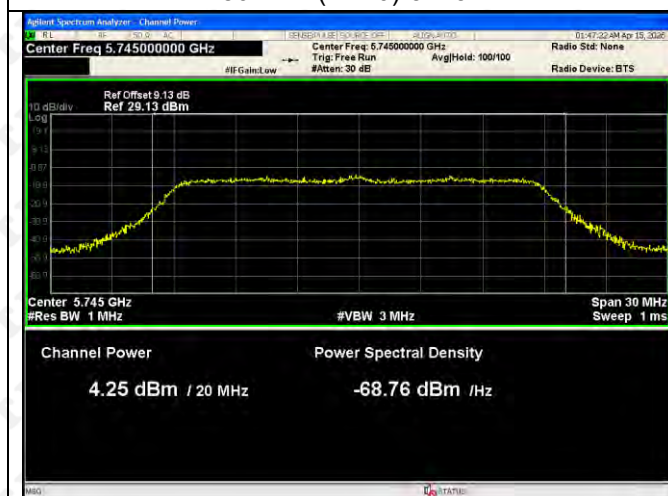
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802.11n(HT20)-5745



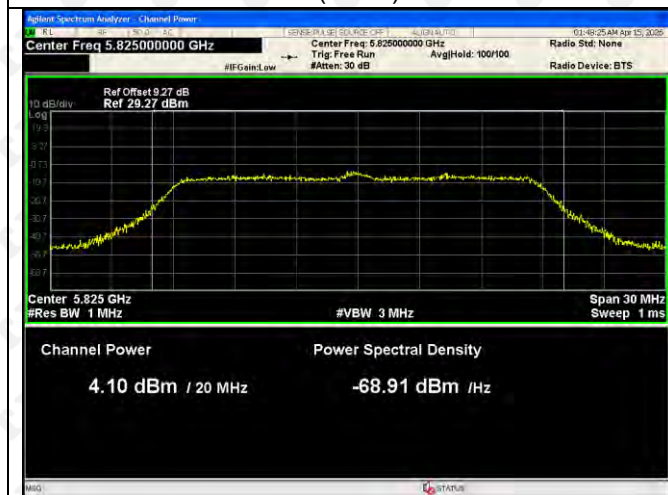
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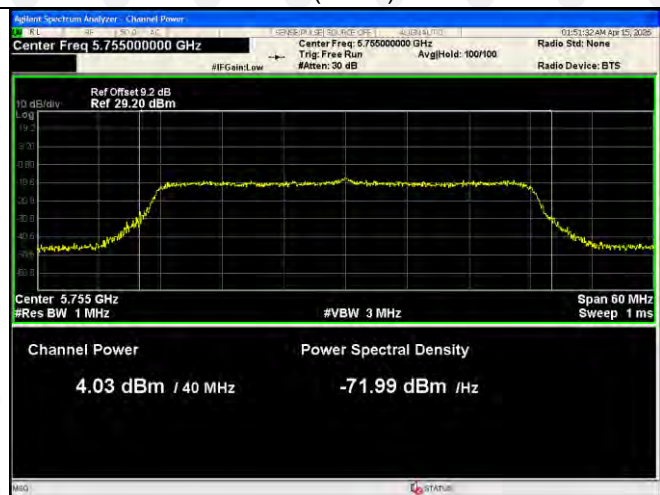
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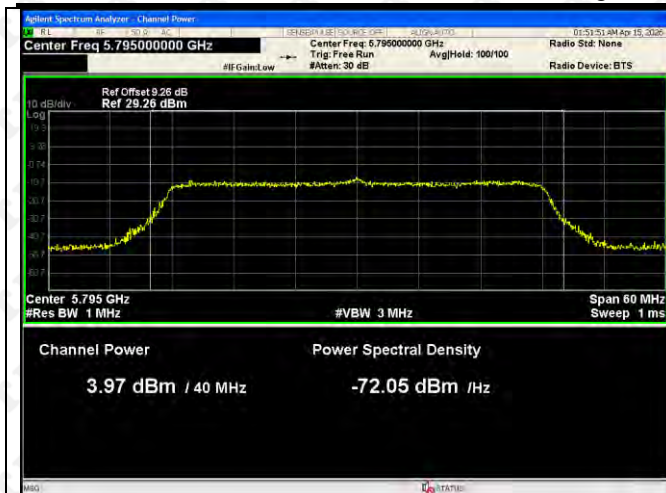
5802.11n(HT40)-5755



802.11n(HT40)-5795



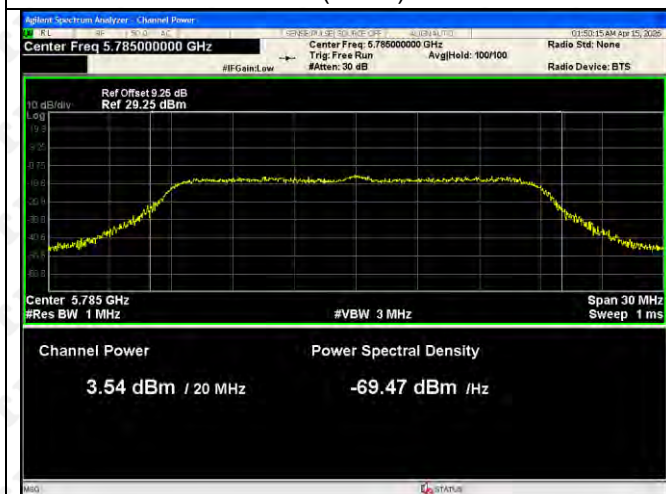
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802.11ax(HE20)-5785



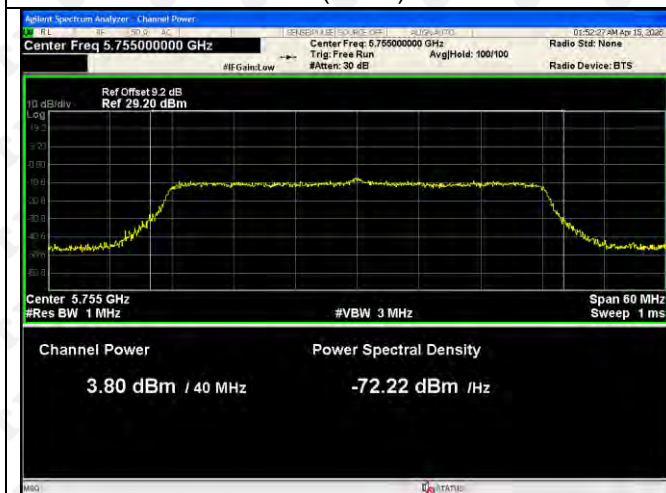
802.11ax(HE20)-5825



802.11ax(HE40)-5755



802.11ax(HE40)-5795

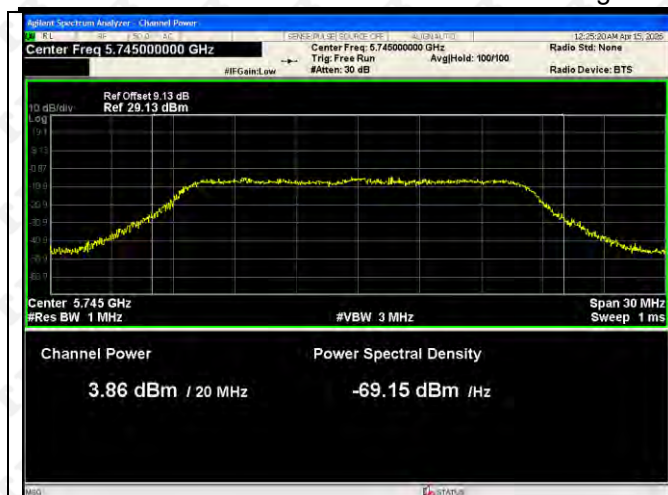


ANT2:

802.11a-5745



802.11a-5785



802.11a-5825



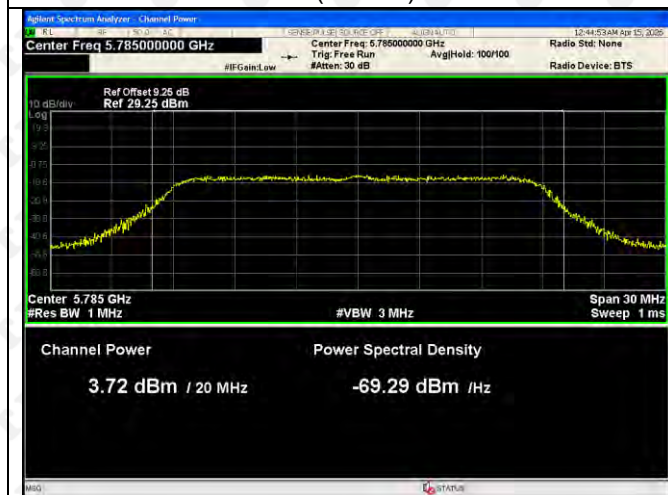
802.11ac(VHT20)-5745



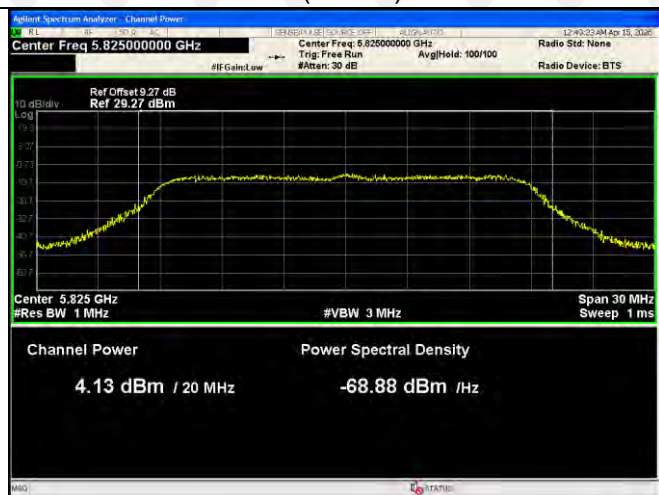
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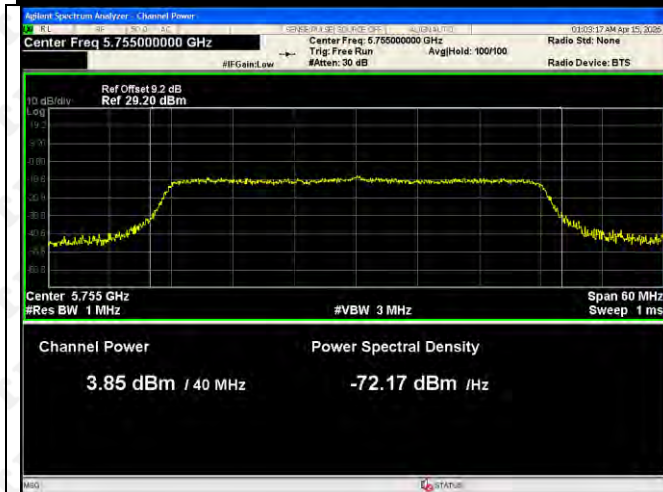
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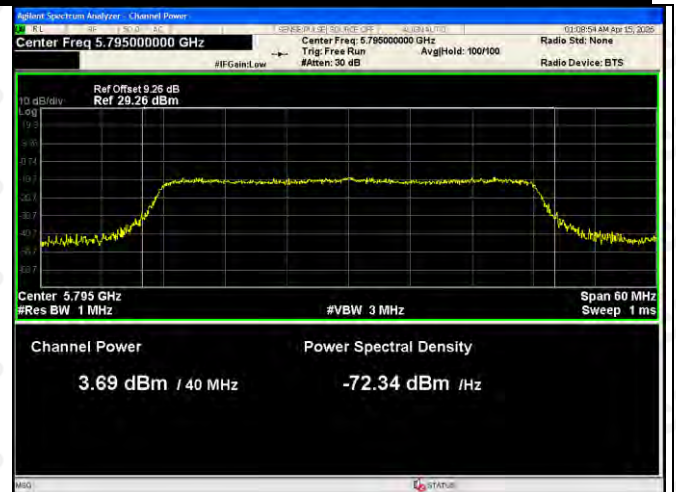
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802.11ac(VHT40)-5795



802.11n(HT20)-5745



802.11n(HT20)-5785



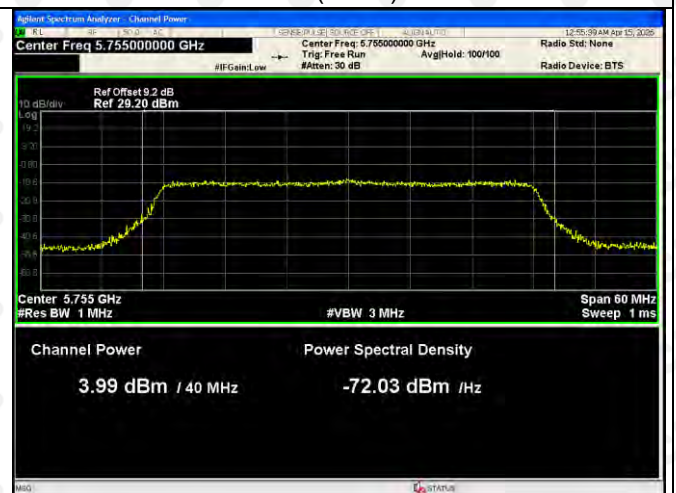
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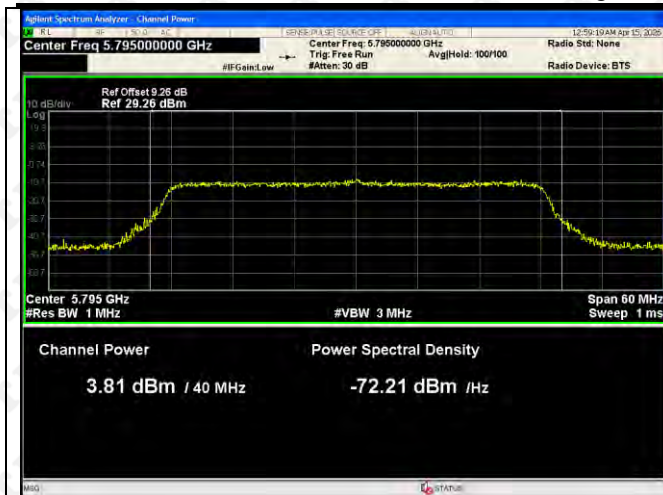
5802.11n(HT40)-5755



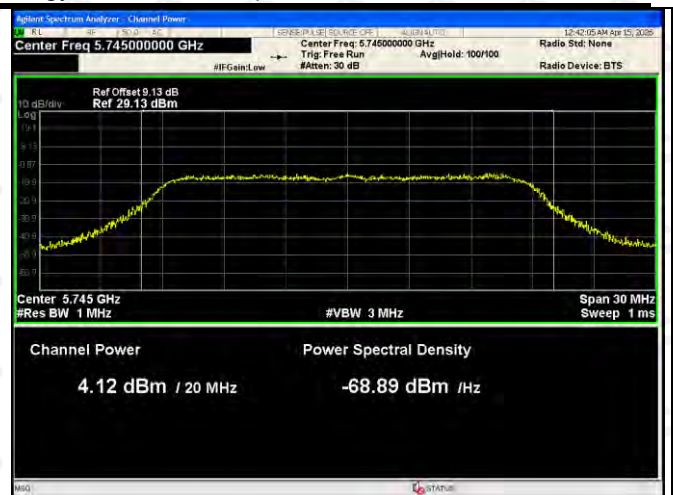
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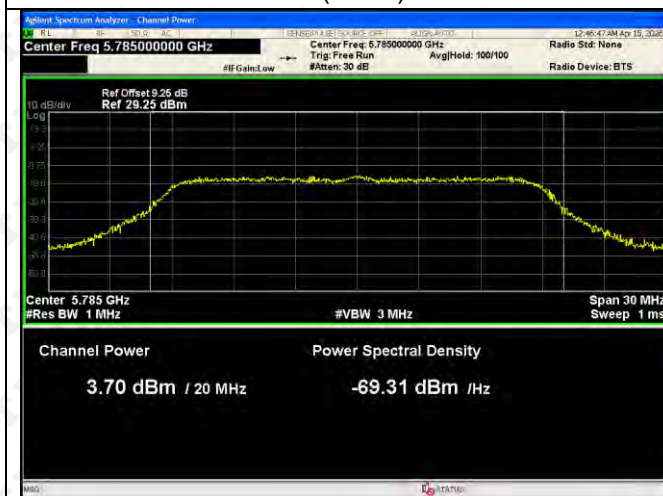
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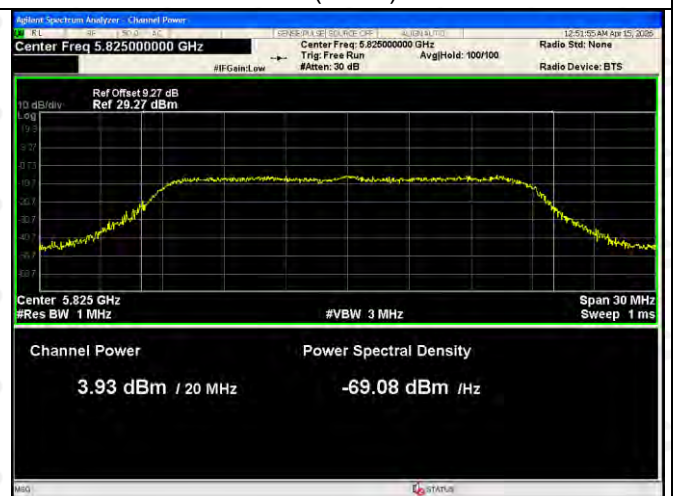
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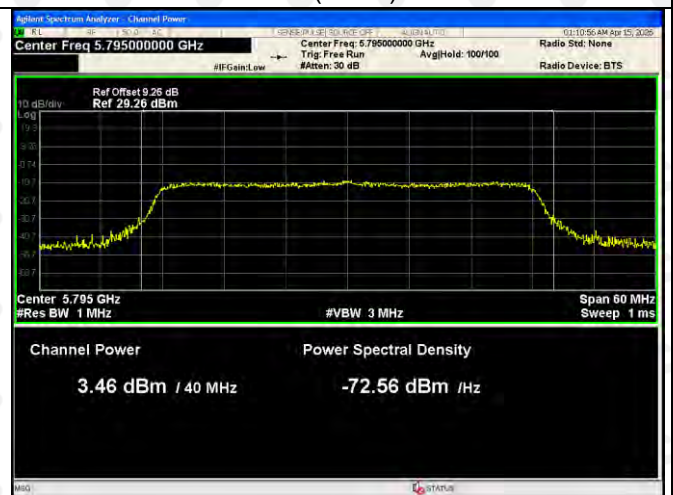
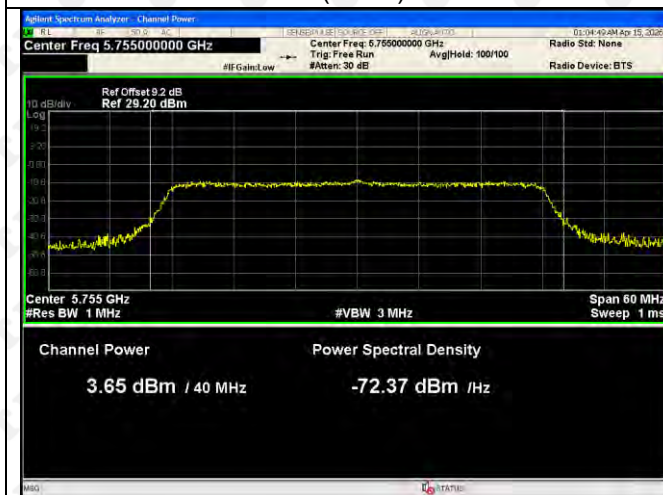
802.11ax(HE20)-5825



802.11ax(HE40)-5755

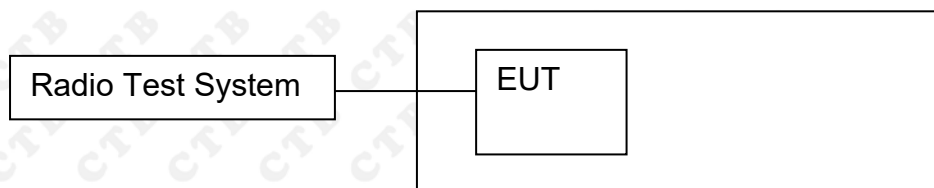


802.11ax(HE40)-5795



10. EMISSION BANDWIDTH& OCCUPIED BANDWIDTH

10.1 Block Diagram Of Test Setup



10.2 Limits

(1) For the band 5.15-5.25 GHz.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(e) Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

10.3 Test Procedure

According to KDB789033 D02v02r01 sectionE, the following is the measurement procedure.

1. Emission Bandwidth (EBW)

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the maximum 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%.

2. Minimum Emission Bandwidth for the band 5.725–5.85 GHz

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 kHz for the band 5.725–5.85 GHz. The following procedure shall be used for measuring this bandwidth:

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 * \text{RBW}$.
- Detector = Peak.
- Trace mode = max hold.

e) Sweep = auto couple.

f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described in this section. For devices that use channel aggregation refer to III.A and III.C for determining emission bandwidth.

D. 99% Occupied Bandwidth

The 99% occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. Measurement of the 99% occupied bandwidth is *required* only as a condition for using the optional band-edge measurement techniques described in II.G.3.d). Measurements of 99% occupied bandwidth may also optionally be used in lieu of the EBW to define the minimum frequency range over which the 789033 D02 General UNII Test Procedures New Rules v02r01 Page 4 spectrum is integrated when measuring maximum conducted output power as described in II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with Section 15.407(a).

The following procedure shall be used for measuring (99%) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1% to 5% of the OBW
4. Set VBW $\geq 3 * RBW$
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99% power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99% power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

10.4 Test Results

5180-5240MHz:

Test mode Ant 1	Test Channel (MHz)	26dB Bandwidth (MHz)
802.11a	5180	22.068
	5200	21.406
	5240	24.666
802.11ac(VHT20)	5180	22.194
	5200	22.136
	5240	22.458
802.11ac(VHT40)	5190	56.476
	5230	56.94
802.11n(HT20)	5180	21.451
	5200	21.973
	5240	23.636
802.11n(HT40)	5190	41.442
	5230	43.768
802.11ax(HE20)	5180	22.581
	5200	21.807
	5240	21.969
802.11ax(HE40)	5190	51.177
	5230	42.105

Test mode Ant 2	Test Channel (MHz)	26dB Bandwidth (MHz)
802.11a	5180	21.064
	5200	21.292
	5240	20.948
802.11ac(VHT20)	5180	21.571
	5200	21.236
	5240	21.372
802.11ac(VHT40)	5190	40.603
	5230	40.197
802.11n(HT20)	5180	21.181
	5200	21.012
	5240	21.074
802.11n(HT40)	5190	40.874
	5230	40.961
802.11ax(HE20)	5180	21.367
	5200	21.317
	5240	21.406
802.11ax(HE40)	5190	40.969
	5230	40.329