

FCC Test Report

Product Name : Smart Display
Trade Name : Verizon
Model No. : LVD1
FCC ID : NKR-LVD1-IDU

Applicant : Wistron NeWeb Corporation
Address : No. 20, Yuanqu 2nd Rd., Baoshan
Township,,Hsinchu County 30844 Taiwan

Date of Receipt : May 06, 2021
Issued Date : Jun. 16, 2021
Report No. : 2150109R-E3032110125
Report Version : V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issued Date : Jun. 16, 2021

Report No. : 2150109R-E3032110125




Product Name : Smart Display
 Applicant : Wistron NeWeb Corporation
 Address : No. 20, Yuanqu 2nd Rd., Baoshan Township,,Hsinchu County 30844 Taiwan
 Manufacturer : Wistron NeWeb Corporation
 Address : No. 20, Yuanqu 2nd Rd., Baoshan Township,,Hsinchu County 30844 Taiwan
 Model No. : LVD1
 Trade Name : Verizon
 FCC ID : NKR-LVD1-IDU
 EUT Voltage : 12 Vdc(from adapter)
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart E Section 15.407: 2019
 ANSI C63.10: 2013
 Laboratory Name : Hsin Chu Laboratory
 Address : No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C.
 TEL: +886-3-582-8001 / FAX: +886-3-582-8958
 Test Result : Complied

Documented By : 

 (Demi Chang / Senior Engineering Adm. Specialist)

Tested By : 

 (Scott Chang / Senior Engineer)

Approved By : 

 (Louis Hsu / Deputy Manager)

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Jun. 16, 2021

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1. General Information

1.1. EUT Description

Product Name	Smart Display	
Trade Name	Verizon	
Model No.	LVD1	
Frequency Range/ Channel Number	IEEE 802.11a/n/ac (20MHz)	5180~5240MHz / 4 Channels 5260~5320MHz / 4 Channels 5500~5720MHz / 12 Channels 5745~5825MHz / 5 Channels
	IEEE 802.11n/ac (40MHz)	5190~5230MHz / 2 Channels 5270~5310MHz / 2 Channels 5510~5710MHz / 6 Channels 5755~5795MHz / 2 Channels
	IEEE 802.11ac (80MHz)	5210MHz / 1 Channel 5290MHz / 1 Channel 5530~5690MHz / 3 Channel 5775MHz / 1 Channel
Type of Modulation	IEEE 802.11n/a/ac	256QAM, 64QAM, 16QAM, QPSK, BPSK
Data Speed	IEEE 802.11n/a	6, 9, 18, 24, 36, 48, 54Mbps
	IEEE 802.11ac	Support a subset of the combination of GI, MCS0 0~MCS9 and bandwidth defined in 802.11ac

Accessories Information	
Power Adapter 1	Delta, ADP-36DW B I/P: 100-120V~60Hz, 0.9A O/P: 12Vdc, 3.0A Cable Out: Shielded, 1.8m
Power Adapter 2	Lucent Trans, 1A100-US1230 I/P: 100-120V~60Hz, 0.9A O/P: 12Vdc, 3.0A Cable Out: Shielded, 1.8m

Ant. No.	Brand	Model No.	Antenna Type	Frequency Range	Ant. Gain
0	WNC	N/A	PCB Antenna	5150 ~ 5250MHz	2.97dBi
				5250 ~ 5350MHz	2.69dBi
				5470 ~ 5725MHz	3.17dBi
				5725 ~ 5825MHz	3.43dBi
1	WNC	N/A	PCB Antenna	5150 ~ 5250MHz	3.5dBi
				5250 ~ 5350MHz	2.83dBi
				5470 ~ 5725MHz	1.91dBi
				5725 ~ 5825MHz	0.84dBi

For 802.11a mode (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both Ant. 0 and Ant. 1 support transmit and receive functions, but only one of them will be used at one time.

The Ant. 1 generated the worst case, so it was selected to test and record in the report.

For IEEE 802.11n/ac mode (2TX/2RX):

Both Ant. 0 and Ant. 1 can be used as transmitting/receiving antennas, and they can transmit/receive signal simultaneously.

ANT-TX / RX & Bandwidth

ANT-TX / RX	TX			RX		
	20MHz	40MHz	80MHz	20MHz	40MHz	80MHz
IEEE802.11n	✓	✓		✓	✓	
IEEE802.11a	✓	✓		✓	✓	
IEEE802.11ac	✓	✓	✓	✓	✓	✓

IEEE 802.11a & IEEE 802.11n/ac (20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz
52	5260 MHz	56	5280 MHz	60	5300 MHz	64	5320 MHz
100	5500 MHz	104	5520 MHz	108	5540 MHz	112	5560 MHz
116	5580 MHz	120	5600 MHz	124	5620 MHz	128	5640 MHz
132	5660 MHz	136	5680 MHz	140	5700 MHz	144	5720 MHz
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz						

IEEE 802.11n/ac (40MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	54	5270MHz	62	5310 MHz
102	5510 MHz	110	5550 MHz	118	5590MHz	126	5630 MHz
134	5670 MHz	142	5710 MHz	151	5755 MHz	159	5795 MHz

IEEE 802.11ac (80MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz	106	5530 MHz	122	5610 MHz
138	5690 MHz	155	5775 MHz				

Note:

1. This Smart Display including 2.4GHz b/g/n/ac and 5GHz a/n/ac and BT2.0 & BT 5.0 transmitting and receiving functions.
2. The device contains certified module (Brand: WNC, M/N: IMQ7, FCC ID: NKRIMQ7).
3. Regards to the frequency band operation; the lowest, middle and highest frequency of channel were selected to perform the test, and then shown on this report.
4. The EUT description is from the customer declaration.

1.2. Test Mode

DEKRA has verified the construction and function in typical operation. The preliminary tests were performed in different data rate, and to find the worst condition, which was shown in this test report. The following table is the final test mode.

Test Mode	Mode 1: Transmit_Adapter_ADP-36DW B Mode 2: Transmit_Adapter_1A100-US1230			
Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	11ac(40MHz)	151	0+1	Complies
26dB & 99% & DTS Bandwidth	a	36/44/48/52/60/64/ 100/116/140/144/ 149/157/165	0	Complies
	11ac(20MHz)	36/44/48/52/60/64/ 100/116/140/144/ 149/157/165	0/1	Complies
	11ac(40MHz)	38/46/54/62/102/ 110/134/142/151/159	0/1	Complies
	11ac(80MHz)	42/58/106/122/138/155	0/1	Complies
Maximum conducted output power	a	36/44/48/52/60/64/ 100/116/140/144/ 149/157/165	0	Complies
	11ac(20MHz)	36/44/48/52/60/64/ 100/116/140/144/ 149/157/165	0+1	Complies
	11ac(40MHz)	38/46/54/62/102/ 110/134/142/151/159	0+1	Complies
	11ac(80MHz)	42/58/106/122/138/155	0+1	Complies
Maximum power spectral density	a	36/44/48/52/60/64/ 100/116/140/144/ 149/157/165	0	Complies
	11ac(20MHz)	36/44/48/52/60/64/ 100/116/140/144/ 149/157/165	0+1	Complies
	11ac(40MHz)	38/46/54/62/102/ 110/134/142/151/159	0+1	Complies
	11ac(80MHz)	42/58/106/122/138/155	0+1	Complies
Radiated Emission	a	36/44/48/52/60/64/ 100/116/140/144/ 149/157/165	0	Complies
	11ac(20MHz)	36/44/48/52/60/64/ 100/116/140/144/ 149/157/165	0+1	Complies
	11ac(40MHz)	38/46/54/62/102/ 110/134/142/151/159	0+1	Complies
	11ac(80MHz)	42/58/106/122/138/155	0+1	Complies
Band Edge	a	36/44/48/149/157/165	0	Complies
	11ac(20MHz)	36/44/48/149/157/165	0+1	Complies
	11ac(40MHz)	38/46/54/62/102/ 110/134/151/159	0+1	Complies
	11ac(80MHz)	42/58/106/122/155	0+1	Complies

Note 1: 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).

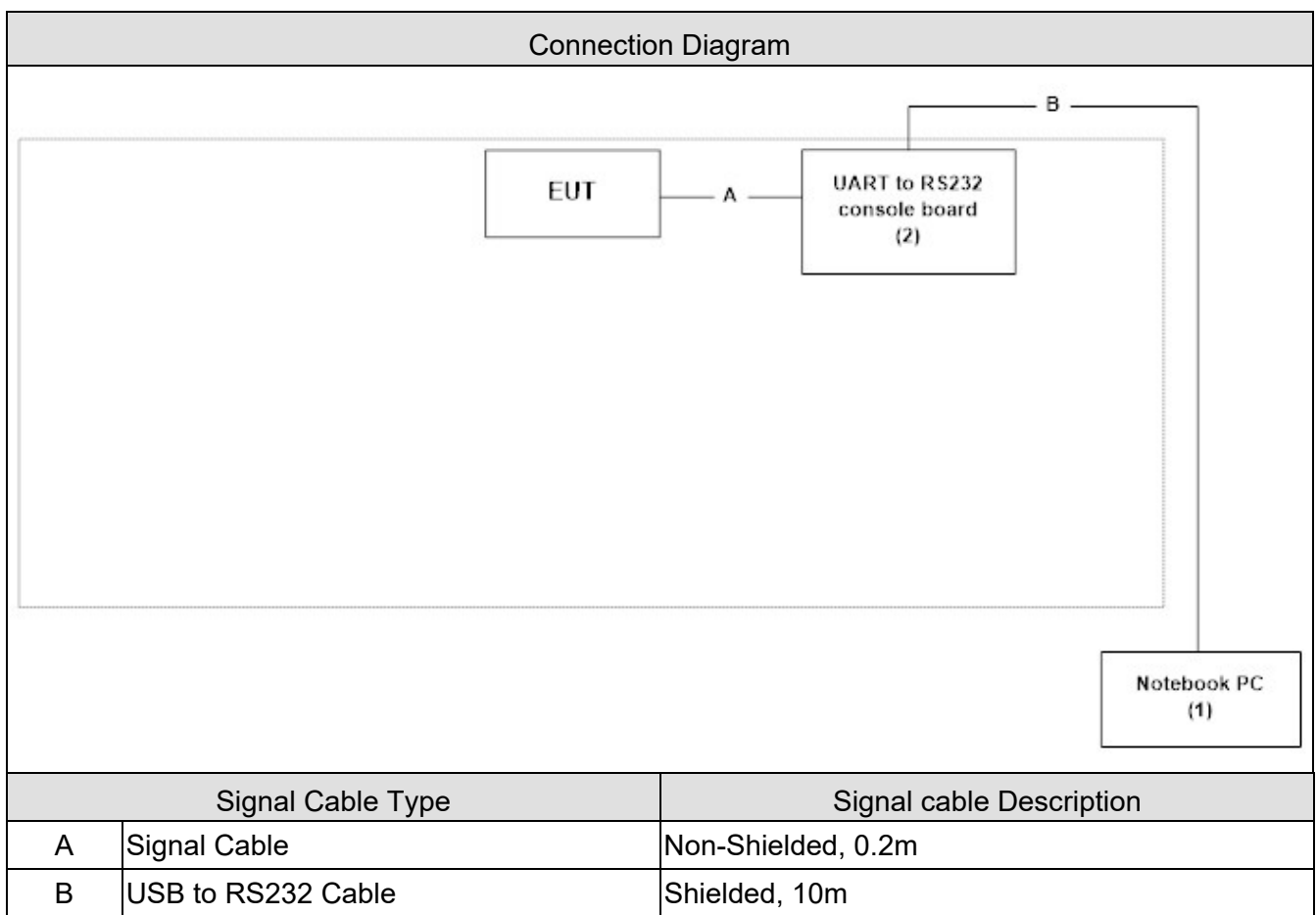
Note 2: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1 Notebook PC	Lenove	80SJ	MP16Z7TB	DoC	Shielded, 1.8m
2 UART to RS232 console board	WNC	48.J53RS.SGA	--	DoC	--

1.4. Configuration of tested System



1.5. EUT Exercise Software

1	Set the EUT as shown.
2	Execute control command by software "TeraTerm".
3	Configure test mode, test channel and data rate.
4	Let the EUT start transmitting signal continuously.
5	Verify that device is working properly.

1.6. Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required	Test Site
Temperature (°C)	FCC PART 15E 15.407	15 - 35	2
Humidity (%RH)	Conducted Emission	25 - 75	
Temperature (°C)	FCC PART 15E 15.407	15 - 35	1
Humidity (%RH)	26dB & 99% & DTS Bandwidth	25 - 75	
Temperature (°C)	FCC PART 15E 15.407	15 - 35	1
Humidity (%RH)	Maximum conducted output power	25 - 75	
Temperature (°C)	FCC PART 15E 15.407	15 - 35	1
Humidity (%RH)	Maximum power spectral density	25 - 75	
Temperature (°C)	FCC PART 15E 15.407	15 - 35	1
Humidity (%RH)	Radiated Emission	25 - 75	
Temperature (°C)	FCC PART 15E 15.407	15 - 35	1
Humidity (%RH)	Band Edge	25 - 75	

Note: Test site information refers to Laboratory Information.

Laboratory Information

USA	: FCC Registration Number: TW3024
Canada	: IC Registration Number: 22397-1 / 22397-2 / 22397-3

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: <http://www.dekra.com.tw>

If you have any comments, please don't hesitate to contact us. Our test sites as below:

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
Address	1. No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. 2. No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
Phone number	1. +886-3-582-8001 2. +886-3-582-8001
Fax number	1. +886-3-582-8958 2. +886-3-582-8958
Email address	info.tw@dekra.com
Website	http://www.dekra.com.tw

1.8. List of Test Equipment

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2020/12/24	2021/12/23
Test Receiver	R&S	ESCS 30	836858/022	2021/02/22	2022/02/21
LISN	R&S	ENV216	100092	2020/06/22	2021/06/21

Occupied Bandwidth / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2021/05/14	2022/05/13
Spectrum Analyzer	Keysight	N9010B	MY57110159	2021/03/29	2022/03/28
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2021/03/31	2022/03/30

Maximum conducted output power / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2020/11/30	2021/11/29
Pulse Power Sensor	Anritsu	MA2411B	1531043	2020/11/30	2021/11/29
Pulse Power Sensor	Anritsu	MA2411B	1531044	2020/11/30	2021/11/29
Power Meter	Keysight	8990B	MY51000248	2021/05/21	2022/05/20
Power Sensor	Keysight	N1923A	MY57240005	2021/05/21	2022/05/20

Maximum power spectral density / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2021/05/14	2022/05/13
Spectrum Analyzer	Keysight	N9010B	MY57110159	2021/03/29	2022/03/28
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2021/03/31	2022/03/30

Radiated Emission / CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2020/10/12	2021/10/11
Signal & Spectrum Analyzer	R&S	FSV40	101049	2021/03/31	2022/03/30
Signal Analyzer	R&S	FSVA40	101435	2020/06/24	2021/06/23
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2021/01/25	2022/01/24
Bilog Antenna	Teseq	CBL6112D	23191	2021/02/26	2022/02/25
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2021/05/17	2022/05/16
Horn Antenna	Schwarzbeck	BBHA 9170	202	2020/12/16	2021/12/15
Pre-Amplifier	EMCI	EMC01820I	980365	2020/06/19	2021/06/18
Pre-Amplifier	EMEC	EM01G18GA	060741	2020/07/24	2021/07/23
Pre-Amplifier	DEKRA	AP-400C	201801231	2020/11/16	2021/11/15
Band Reject Filter	Micro-Tronics	BRM50702	G258	2020/12/16	2021/12/15
Wideband Radio Communication Tester	R&S	CMW500	106071	2021/01/27	2022/01/26
Wireless Conn. Tseter	R&S	CMW500	157118	2020/07/23	2021/07/22
Coaxial Cable(13m)	Huber+Suhner	SF104	CB2-H	2020/07/25	2021/07/24
DEKRA Testing System	DEKRA	Version 2.0	CB2-H	NA	NA

Band Edge / CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2020/10/12	2021/10/11
Signal & Spectrum Analyzer	R&S	FSV40	101049	2021/03/31	2022/03/30
Signal Analyzer	R&S	FSVA40	101435	2020/06/24	2021/06/23
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2021/01/25	2022/01/24
Bilog Antenna	Teseq	CBL6112D	23191	2021/02/26	2022/02/25
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2021/05/17	2022/05/16
Horn Antenna	Schwarzbeck	BBHA 9170	202	2020/12/16	2021/12/15
Pre-Amplifier	EMCI	EMC01820I	980365	2020/06/19	2021/06/18
Pre-Amplifier	EMEC	EM01G18GA	060741	2020/07/24	2021/07/23
Pre-Amplifier	DEKRA	AP-400C	201801231	2020/11/16	2021/11/15
Band Reject Filter	Micro-Tronics	BRM50702	G258	2020/12/16	2021/12/15
Wideband Radio Communication Tester	R&S	CMW500	106071	2021/01/27	2022/01/26
Wireless Conn. Tseter	R&S	CMW500	157118	2020/07/23	2021/07/22
Coaxial Cable(13m)	Huber+Suhner	SF104	CB2-H	2020/07/25	2021/07/24
DEKRA Testing System	DEKRA	Version 2.0	CB2-H	NA	NA

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

1.9. Uncertainty

Test item	Uncertainty
Conducted Emission	± 2.26 dB
26dB & 99% & DTS Bandwidth	± 50 Hz
Maximum conducted output power	± 1.27 dB
Maximum power spectral density	± 1.27 dB
Radiated Emission	30MHz~1GHz as ± 3.43 dB 1GHz~26.5GHz as ± 3.65 dB
Band Edge	± 3.65 dB

1.10. Duty Cycle

Mode	On Time(ms)	On+Off Time(ms)	Duty Cycle(%)	Duty Factor(dB) linear voltage	Duty Factor(dB) Power	1/T Minimum VBW (kHz)
802.11a	2.053	2.238	91.73%	0.749598	0.37	0.487
802.11ac(20M)	1.908	2.028	94.08%	0.529926	0.26	0.524
802.11ac(40M)	0.911	1.096	83.16%	1.601880	0.80	1.098
802.11ac(80M)	0.429	0.689	62.26%	4.115239	2.06	2.331

Note:

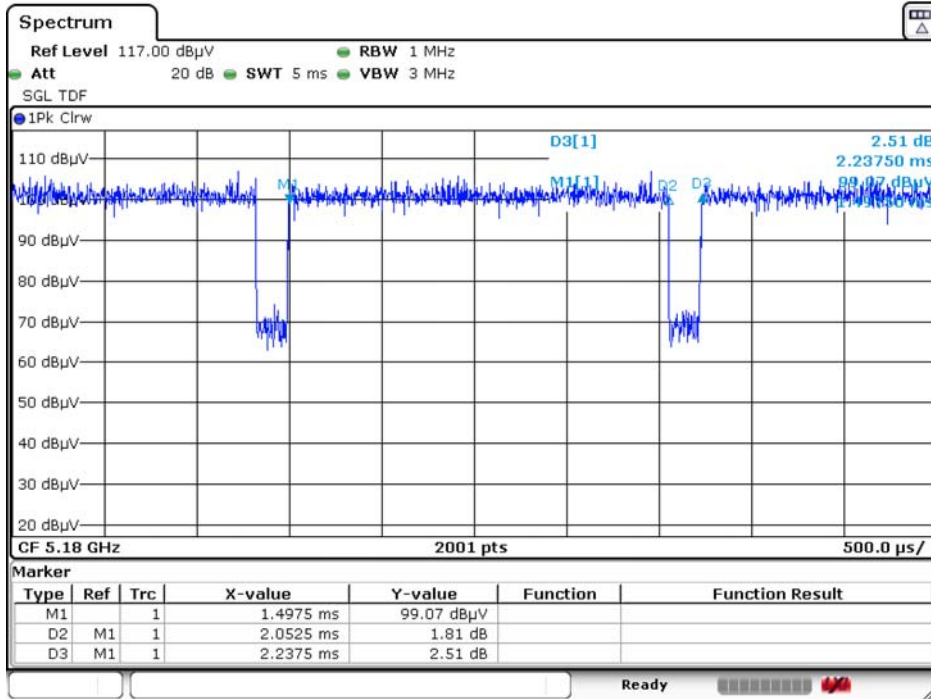
Offset = $20 \log(1/\text{duty cycle})$

Accotding to KDB 789033

If power averaging (rms) mode was used in step (iv) above, the correction factor is $10 \log(1/x)$, where x is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB must be added to the measured emission levels.

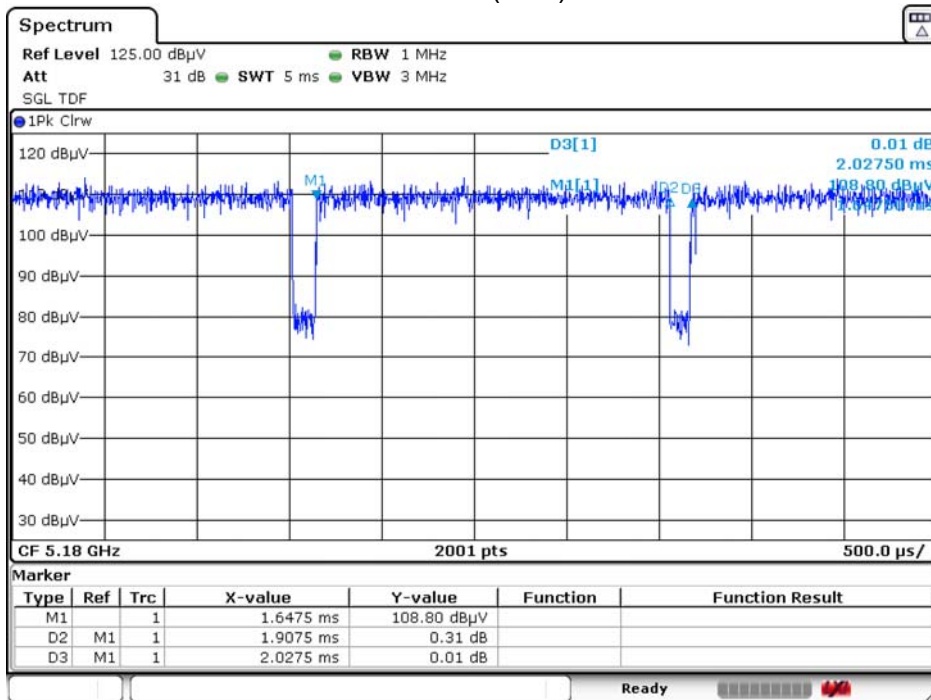
If linear voltage averaging mode was used in step (iv) above, the correction factor is $20 \log(1/x)$, where x is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB must be added to the measured emission levels.

802.11a



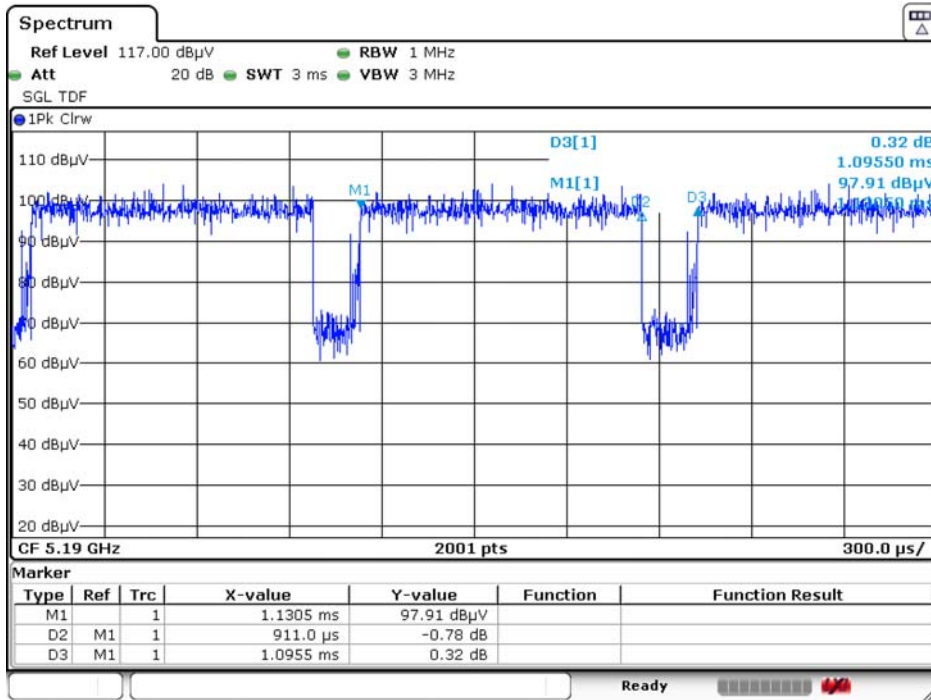
Date: 10.MAY.2021 21:23:29

802.11ac(20M)



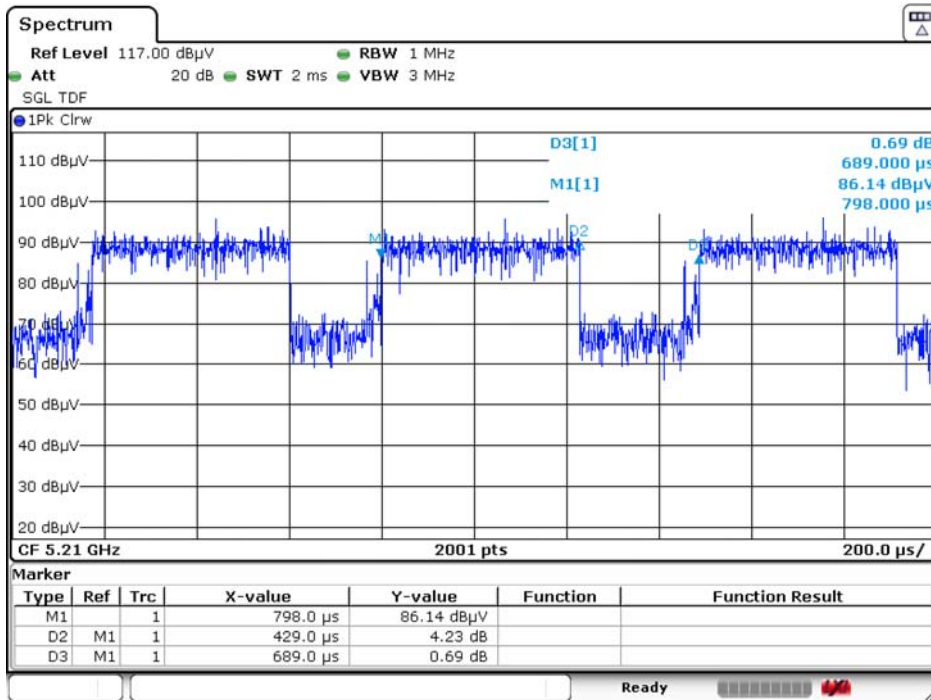
Date: 10.MAY.2021 22:02:25

802.11ac(40M)



Date: 10.MAY.2021 22:32:17

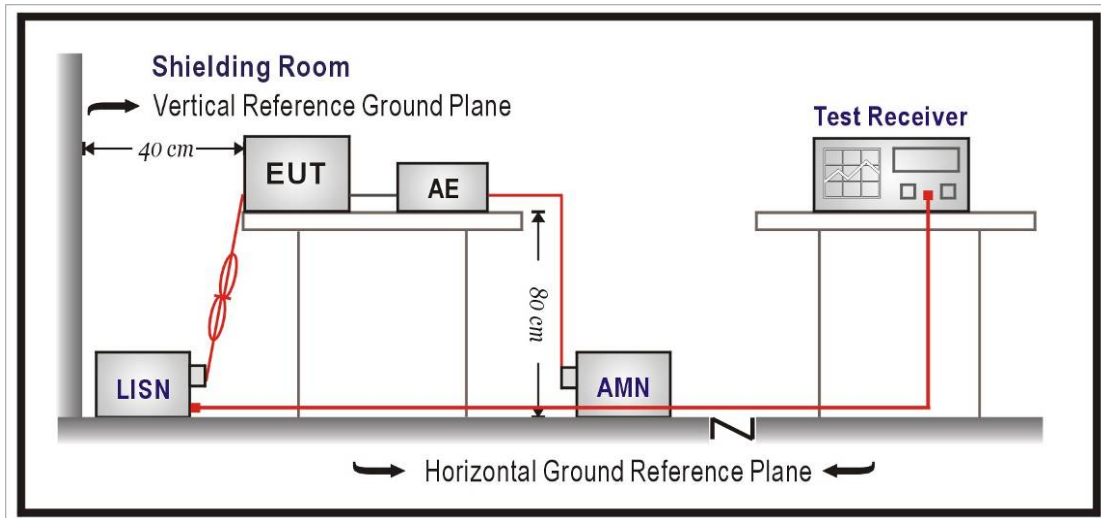
802.11ac(80M)



Date: 10.MAY.2021 23:10:36

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remark: In the above table, the tighter limit applies at the band edges.

2.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

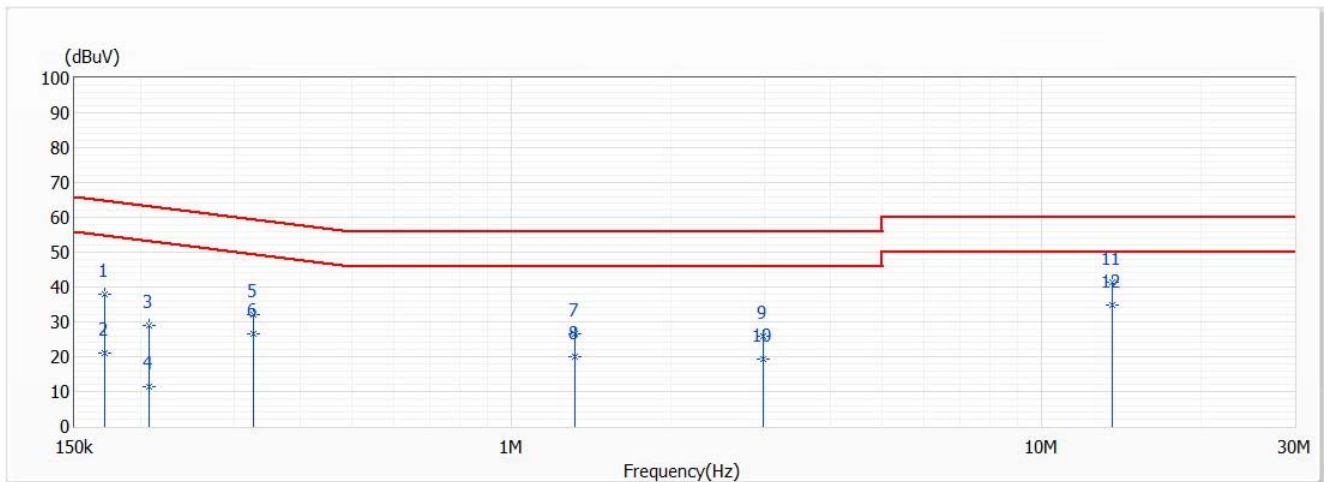
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.407: 2019

2.5. Test Result

Model No	LVD1	Site	SR2-H
Test Voltage	AC 120V/60Hz	Test Date	2021/5/25
Test Mode	Mode 1: Transmit_Adapter_ADP-36DW B	Engineer	Lion Wang
Phase	L	Temperature (°C)	26.7
Test Condition	CDD,802.11ac,Ant0+1,Ch 151,5.755G,BW40M	Humidity (%RH)	57.8

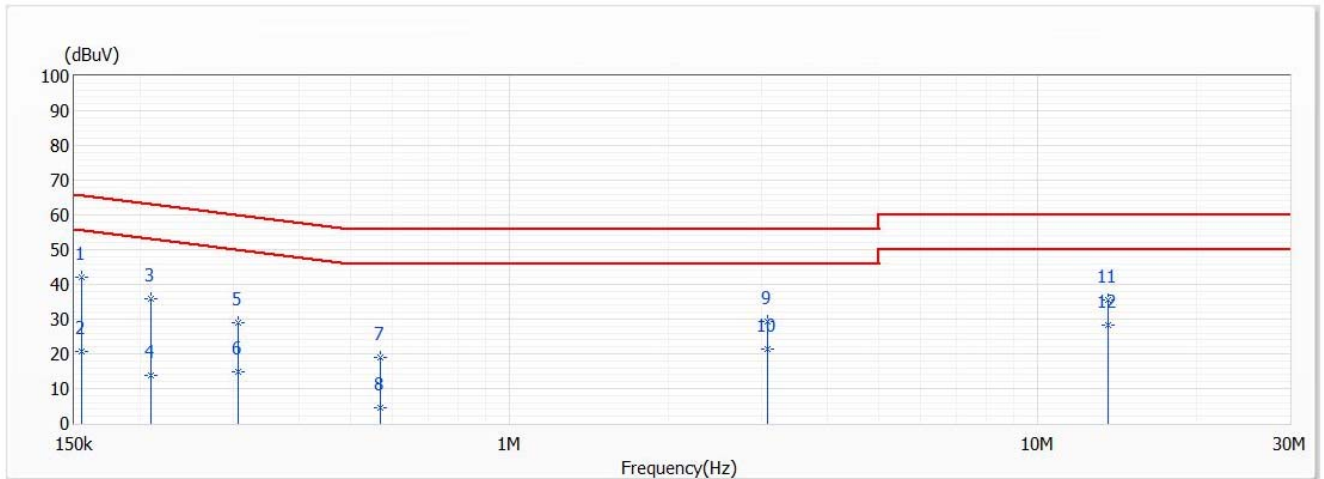


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.171	38.06	64.93	-26.87	28.41	9.65	QP
2	0.171	21.12	54.93	-33.81	11.47	9.65	AV
3	0.207	28.94	63.33	-34.39	19.29	9.65	QP
4	0.207	11.54	53.33	-41.79	1.89	9.65	AV
5	0.326	32.15	59.56	-27.41	22.48	9.67	QP
6	0.326	26.68	49.56	-22.88	17.01	9.67	AV
7	1.320	26.53	56.00	-29.47	16.77	9.76	QP
8	1.320	20.12	46.00	-25.88	10.36	9.76	AV
9	2.981	25.99	56.00	-30.01	16.15	9.84	QP
10	2.981	19.28	46.00	-26.72	9.44	9.84	AV
11	13.580	41.51	60.00	-18.49	31.29	10.22	QP
*12	13.580	34.76	50.00	-15.24	24.54	10.22	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Model No	LVD1	Site	SR2-H
Test Voltage	AC 120V/60Hz	Test Date	2021/5/25
Test Mode	Mode 1: Transmit_Adapter_ADP-36DW B	Engineer	Lion Wang
Phase	N	Temperature (°C)	26.7
Test Condition	CDD,802.11ac,Ant0+1,Ch 151,5.755G,BW40M	Humidity (%RH)	57.8

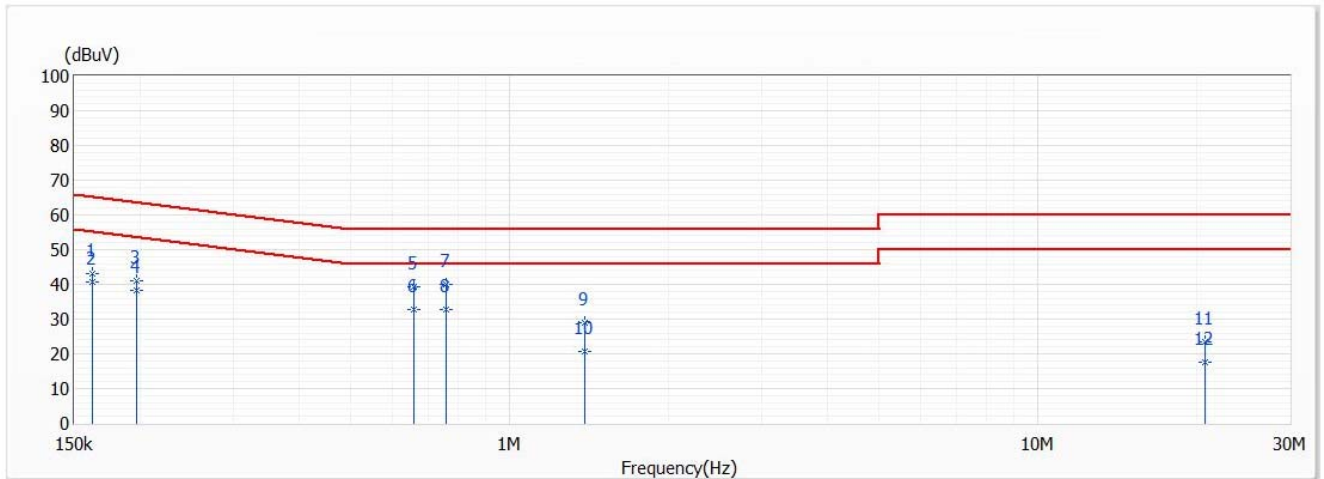


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.154	42.15	65.76	-23.61	32.51	9.64	QP
2	0.154	20.83	55.76	-34.93	11.19	9.64	AV
3	0.209	35.88	63.24	-27.36	26.24	9.64	QP
4	0.209	13.75	53.24	-39.49	4.11	9.64	AV
5	0.306	28.91	60.07	-31.16	19.25	9.66	QP
6	0.306	14.94	50.07	-35.13	5.28	9.66	AV
7	0.569	19.02	56.00	-36.98	9.33	9.69	QP
8	0.569	4.54	46.00	-41.46	-5.15	9.69	AV
9	3.071	29.46	56.00	-26.54	19.63	9.83	QP
10	3.071	21.43	46.00	-24.57	11.60	9.83	AV
11	13.598	35.51	60.00	-24.49	25.22	10.29	QP
*12	13.598	28.21	50.00	-21.79	17.92	10.29	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Model No	LVD1	Site	SR2-H
Test Voltage	AC 120V/60Hz	Test Date	2021/5/25
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230	Engineer	Lion Wang
Phase	L	Temperature (°C)	26.7
Test Condition	CDD,802.11ac,Ant0+1,Ch 151,5.755G,BW40M	Humidity (%RH)	57.8

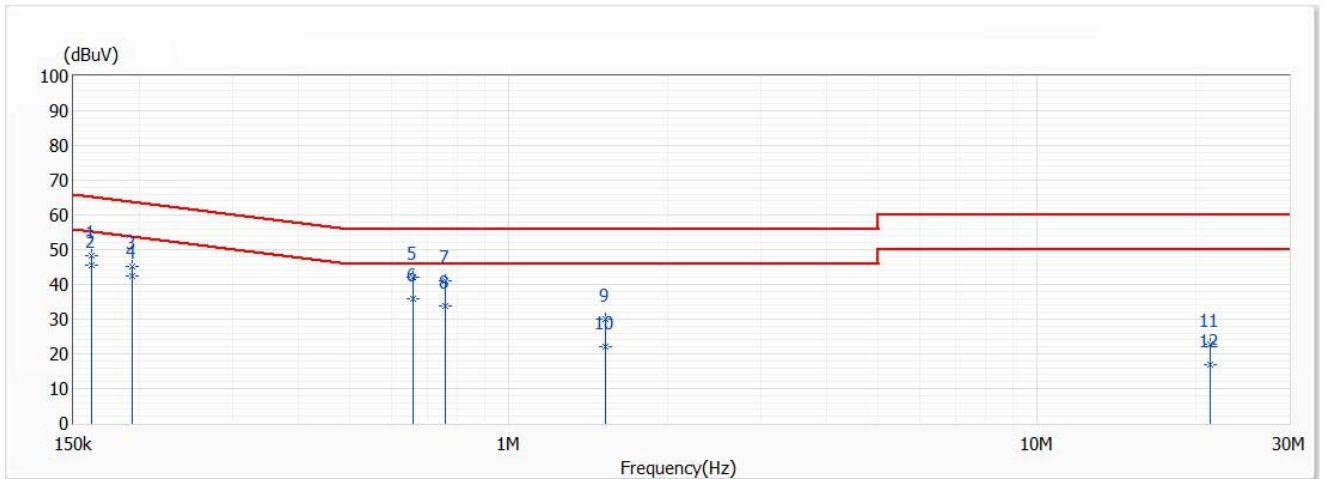


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.163	43.23	65.33	-22.10	33.58	9.65	QP
2	0.163	40.72	55.33	-14.61	31.07	9.65	AV
3	0.197	41.13	63.73	-22.60	31.48	9.65	QP
4	0.197	38.12	53.73	-15.61	28.47	9.65	AV
5	0.659	39.20	56.00	-16.80	29.50	9.70	QP
*6	0.659	32.92	46.00	-13.08	23.22	9.70	AV
7	0.759	39.97	56.00	-16.03	30.25	9.72	QP
8	0.759	32.70	46.00	-13.30	22.98	9.72	AV
9	1.390	29.00	56.00	-27.00	19.24	9.76	QP
10	1.390	20.85	46.00	-25.15	11.09	9.76	AV
11	20.720	23.50	60.00	-36.50	13.11	10.39	QP
12	20.720	17.46	50.00	-32.54	7.07	10.39	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Model No	LVD1	Site	SR2-H
Test Voltage	AC 120V/60Hz	Test Date	2021/5/25
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230	Engineer	Lion Wang
Phase	N	Temperature (°C)	26.7
Test Condition	CDD,802.11ac,Ant0+1,Ch 151,5.755G,BW40M	Humidity (%RH)	57.8



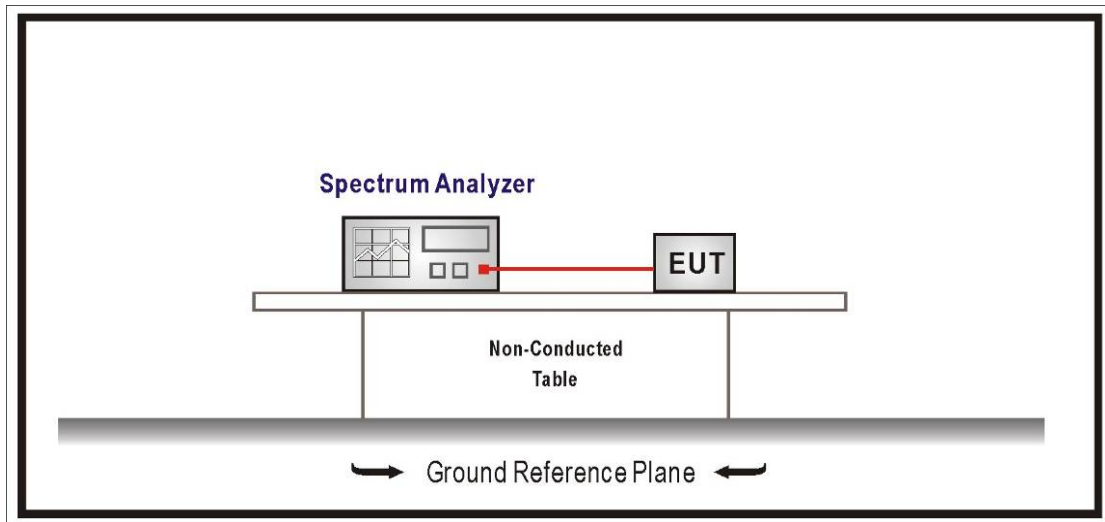
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.162	48.40	65.35	-16.95	38.76	9.64	QP
*2	0.162	45.52	55.35	-9.83	35.88	9.64	AV
3	0.194	45.31	63.86	-18.55	35.67	9.64	QP
4	0.194	42.30	53.86	-11.56	32.66	9.64	AV
5	0.659	42.01	56.00	-13.99	32.32	9.69	QP
6	0.659	35.69	46.00	-10.31	26.00	9.69	AV
7	0.760	41.08	56.00	-14.92	31.38	9.70	QP
8	0.760	33.75	46.00	-12.25	24.05	9.70	AV
9	1.520	29.84	56.00	-26.16	20.08	9.76	QP
10	1.520	21.96	46.00	-24.04	12.20	9.76	AV
11	21.216	22.69	60.00	-37.31	12.14	10.55	QP
12	21.216	16.89	50.00	-33.11	6.34	10.55	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

3. 26dB & 99% & DTS Bandwidth

3.1. Test Setup



3.2. Limits

99% & 26dB Bandwidth : No Required

6dB Bandwidth \geq 500KHz

3.3. Test Procedure

99% & 26dB Bandwidth :

The EUT was tested according to U-NII test procedure of KDB 789033 D02 v02r01
Set RBW 1% of the emission bandwidth, VBW equal to 3 times the RBW.

DTS Bandwidth :

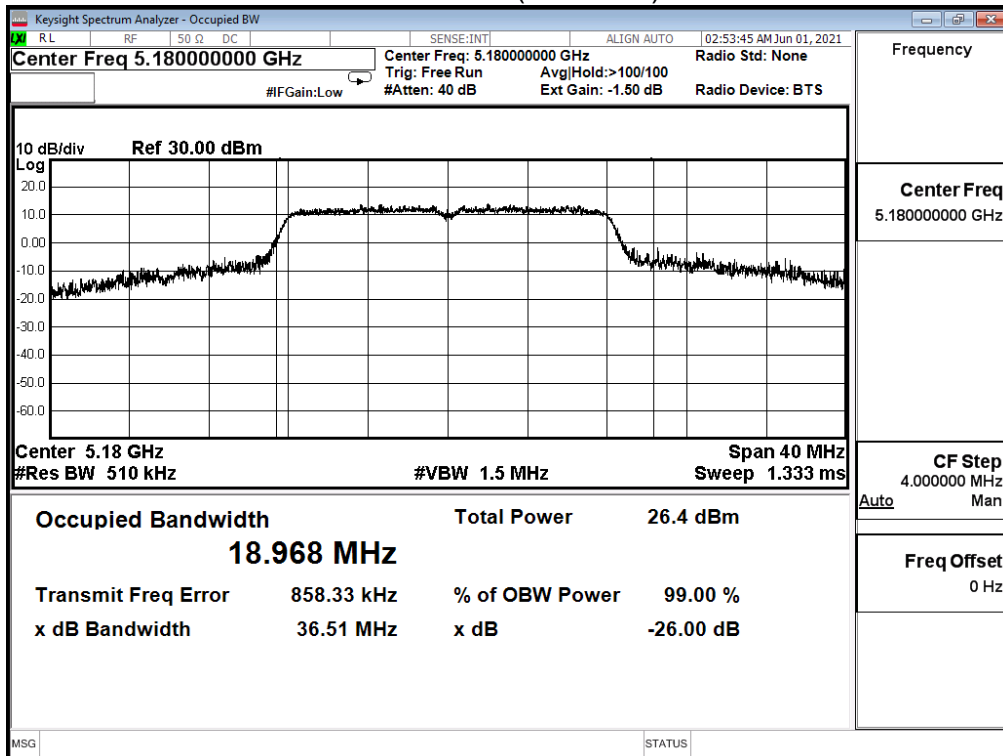
Set RBW = 100KHz, VBW \geq 3xRBW, Sweep time=Auto, Set Peak detector.

3.4. Test Result

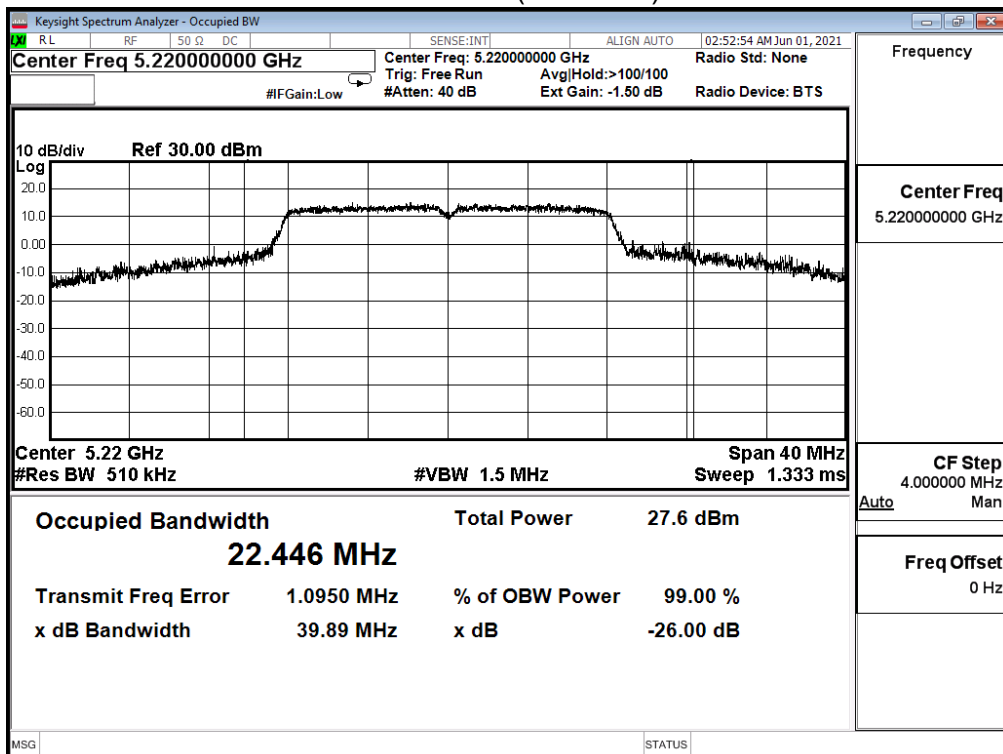
Product	Smart Display		
Test Item	26dB & 99% Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/06/01	Test Site	SR12-H
Temperature (°C)	26.0	Humidity (%RH)	60.0

IEEE 802.11a (ANT 1)				
Channel No.	Frequency (MHz)	Measure Value		Limit (MHz)
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	
36	5180	18.968	36.510	--
44	5220	22.446	39.890	--
48	5240	22.352	39.250	--
52	5260	21.148	39.470	--
60	5300	23.565	39.910	--
64	5320	16.790	32.490	--
100	5500	17.621	36.130	--
116	5580	22.003	39.710	--
140	5700	16.937	31.820	--
144_L	5720	14.465	24.175	--
144_R	5720	4.465	N/A	--
149	5745	33.587		--
157	5785	33.201		--
165	5825	32.458		--

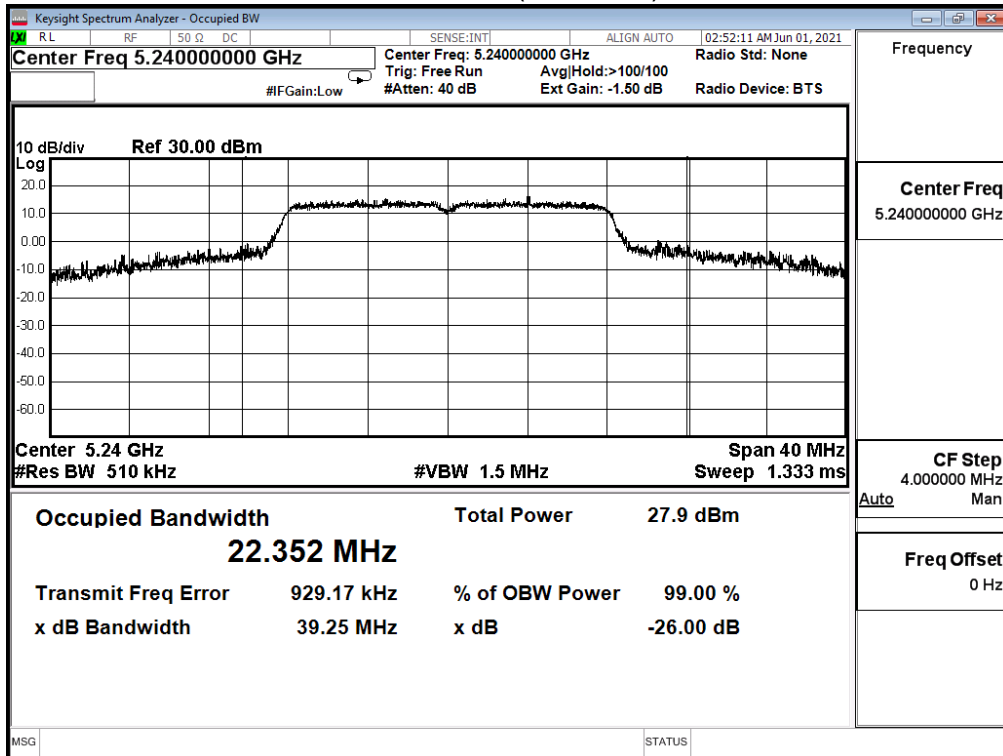
Channel 36 (5180MHz)



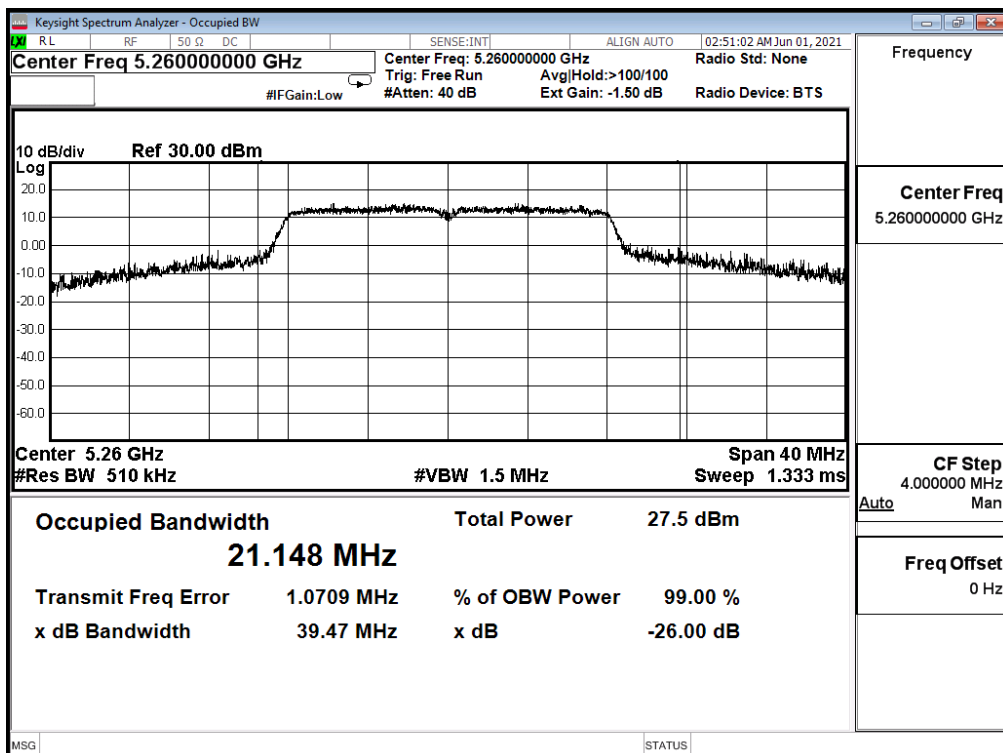
Channel 44 (5220MHz)



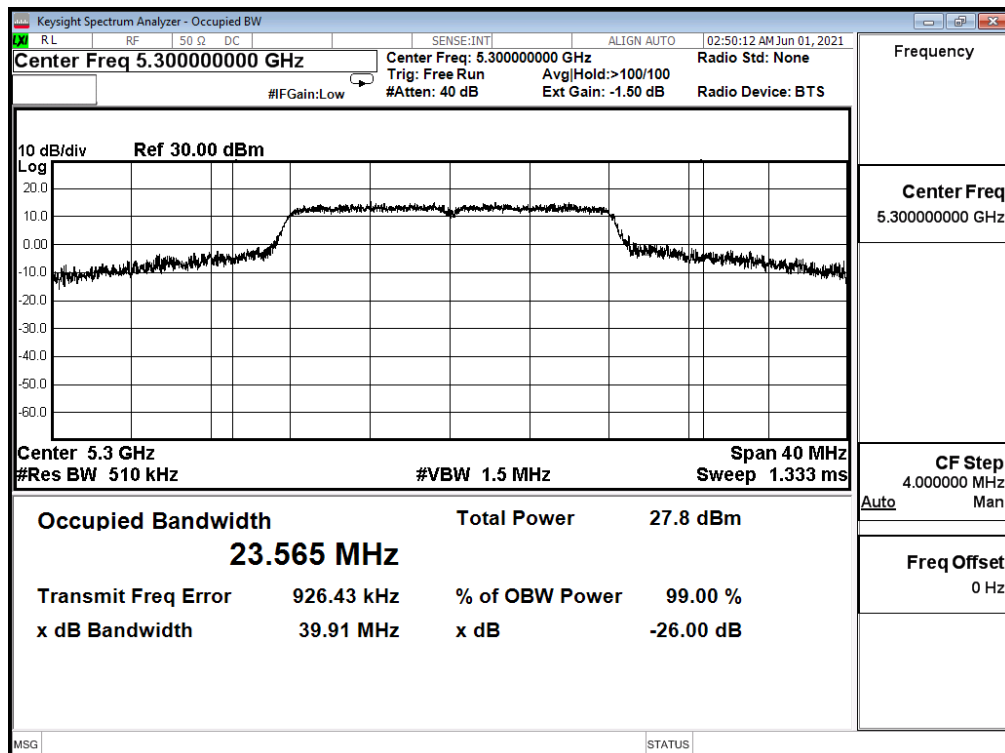
Channel 48 (5240MHz)



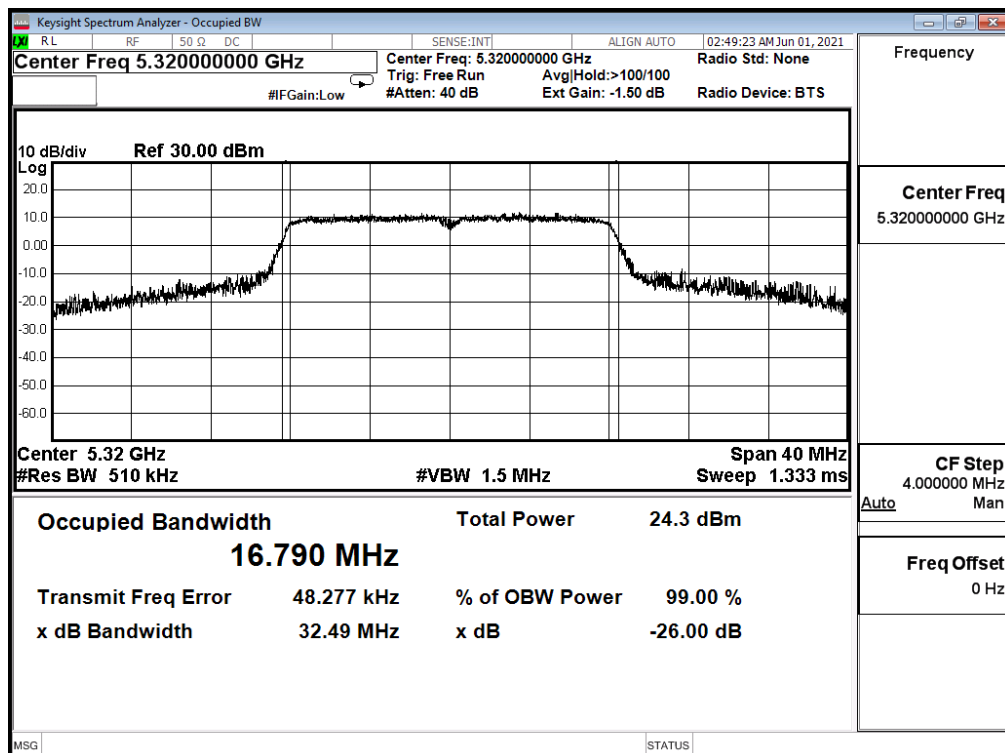
Channel 52 (5260MHz)



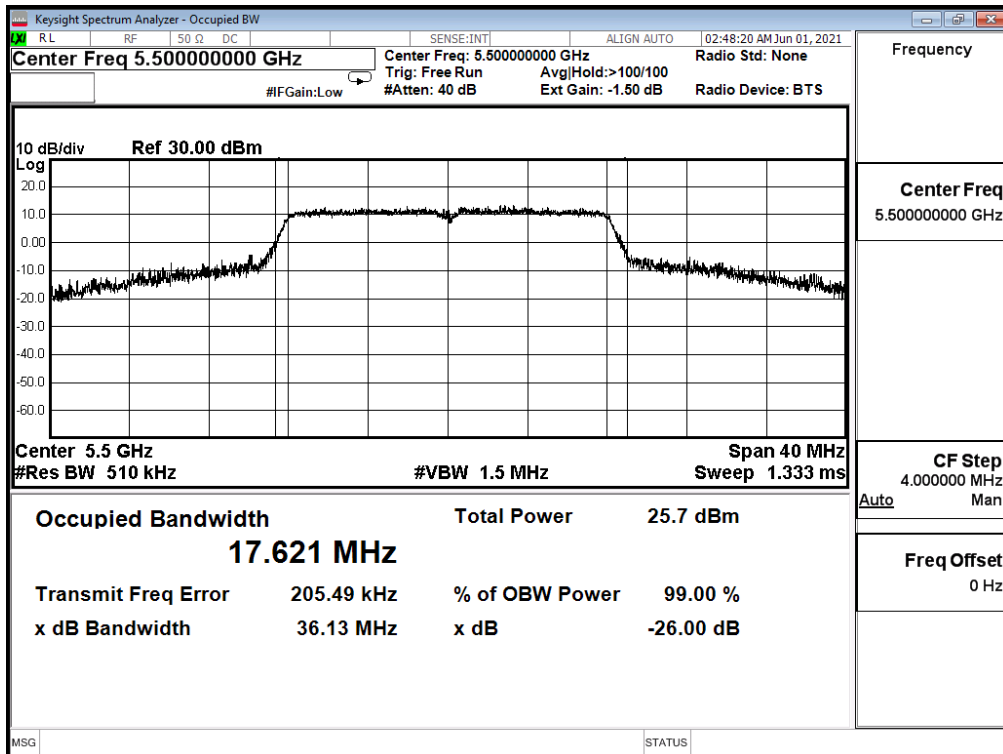
Channel 60 (5300MHz)



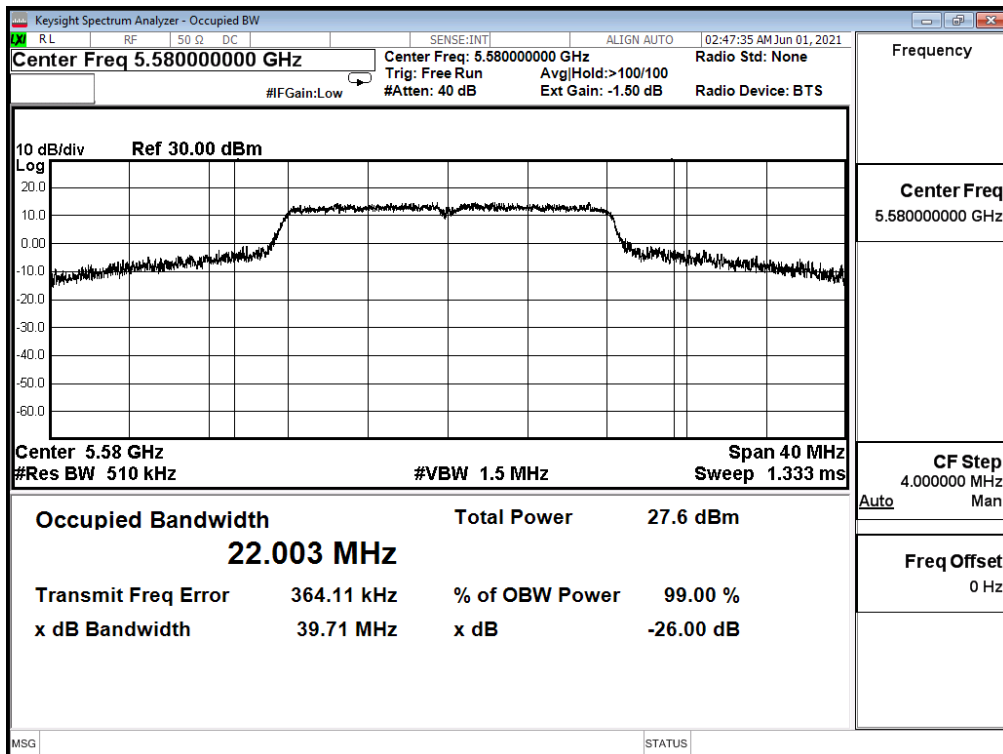
Channel 64 (5320MHz)



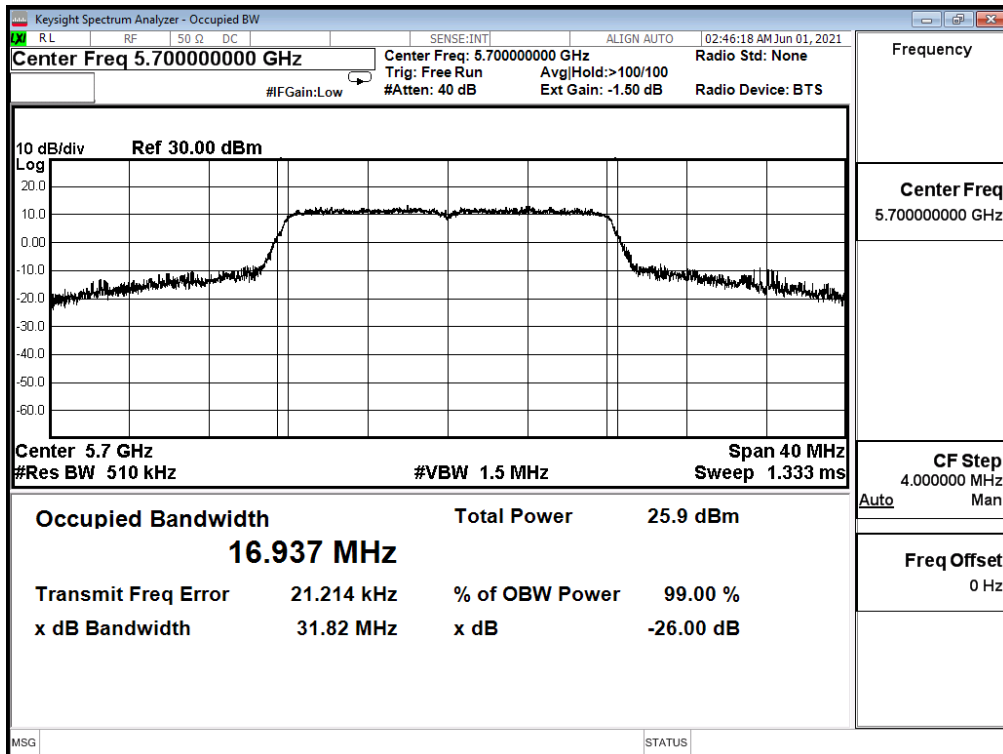
Channel 100 (5500MHz)



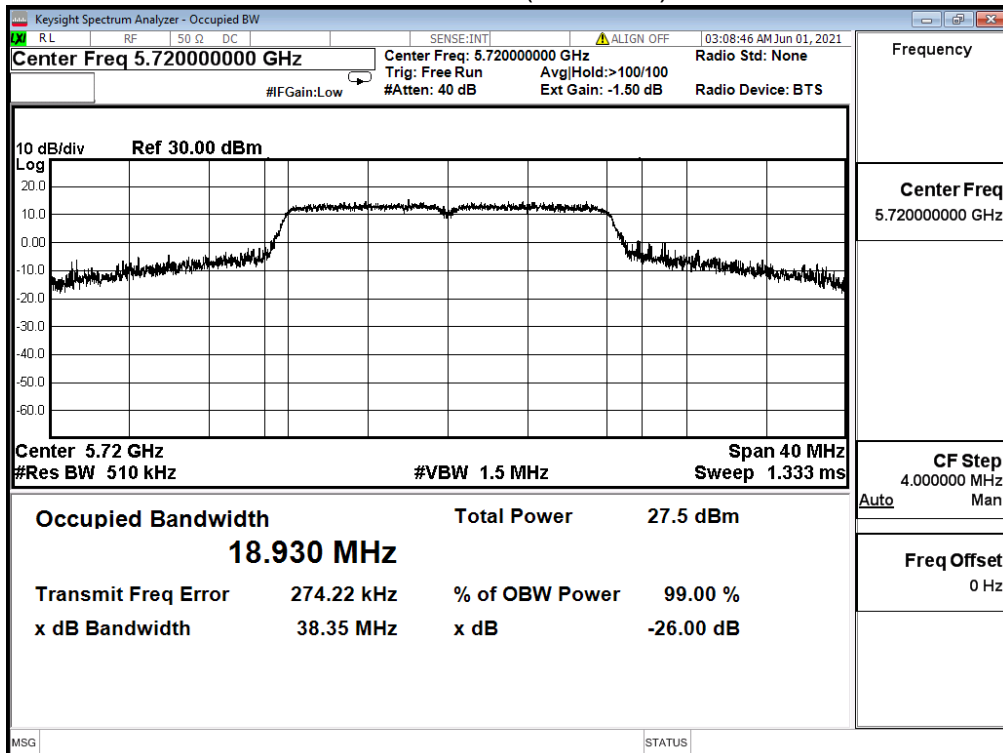
Channel 116 (5580MHz)



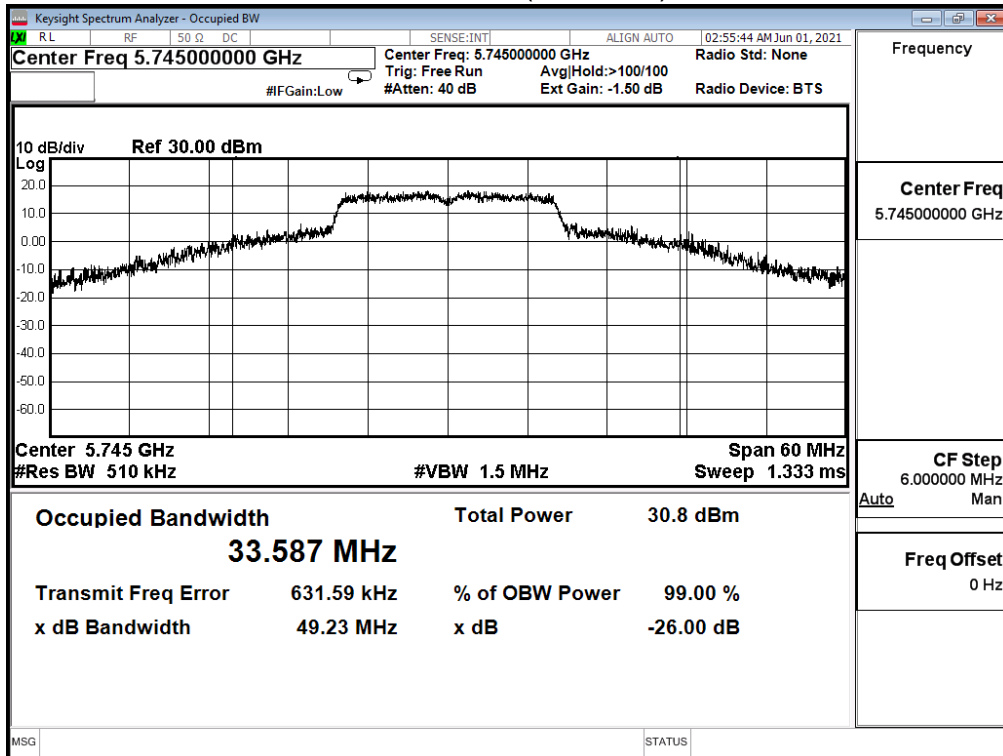
Channel 140 (5700MHz)



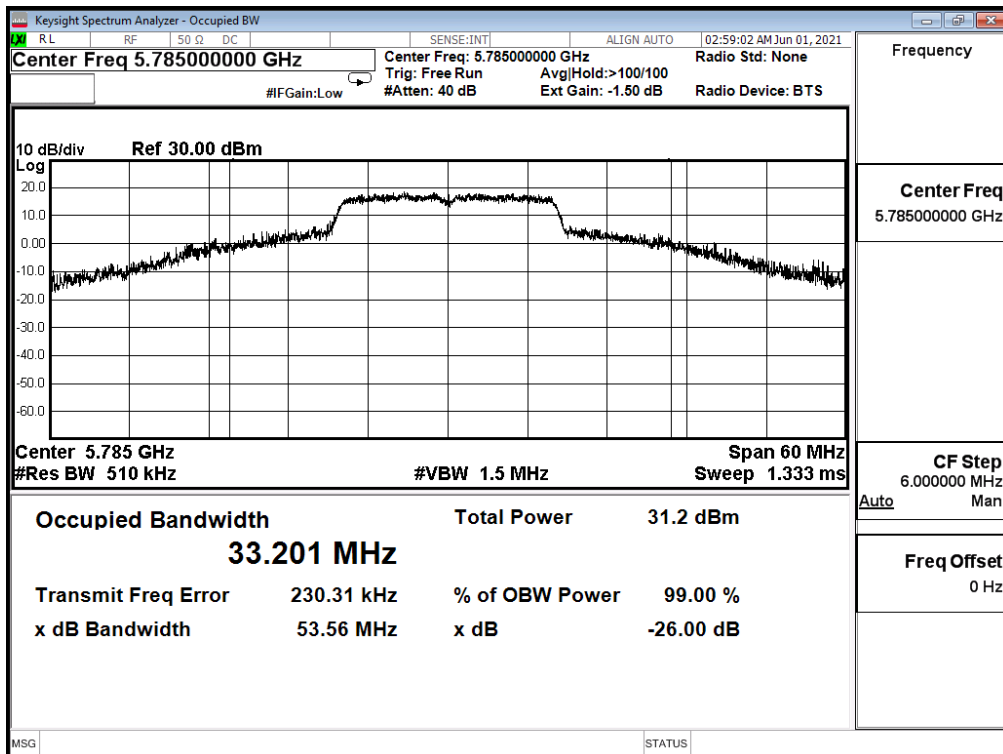
Channel 144 (5720MHz)



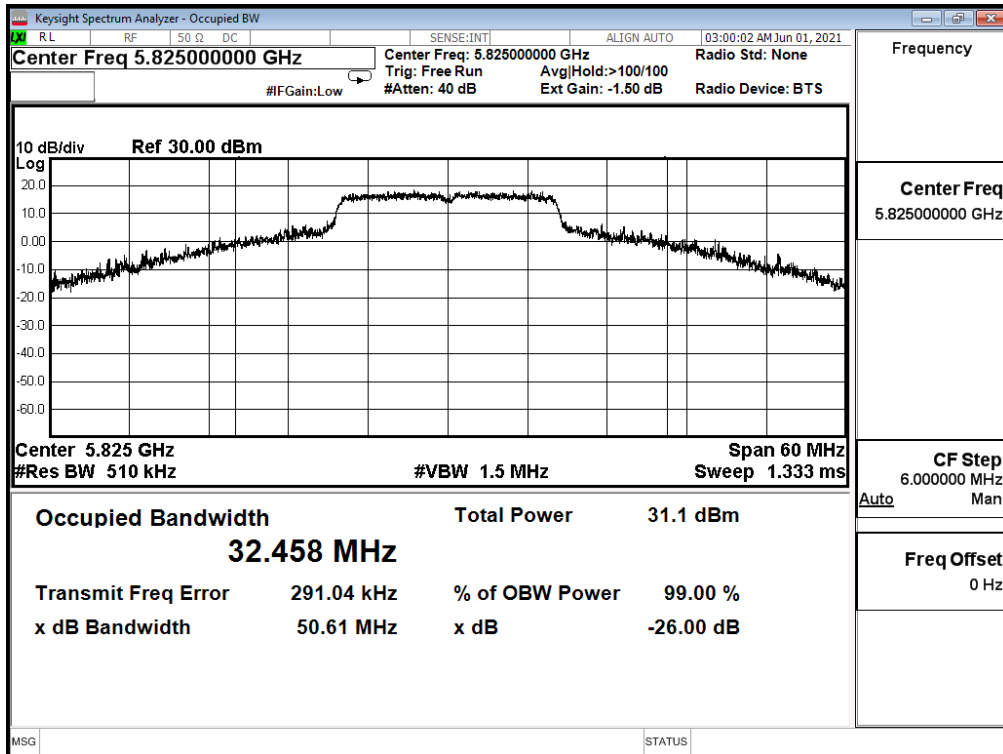
Channel 149 (5745MHz)



Channel 157 (5785MHz)



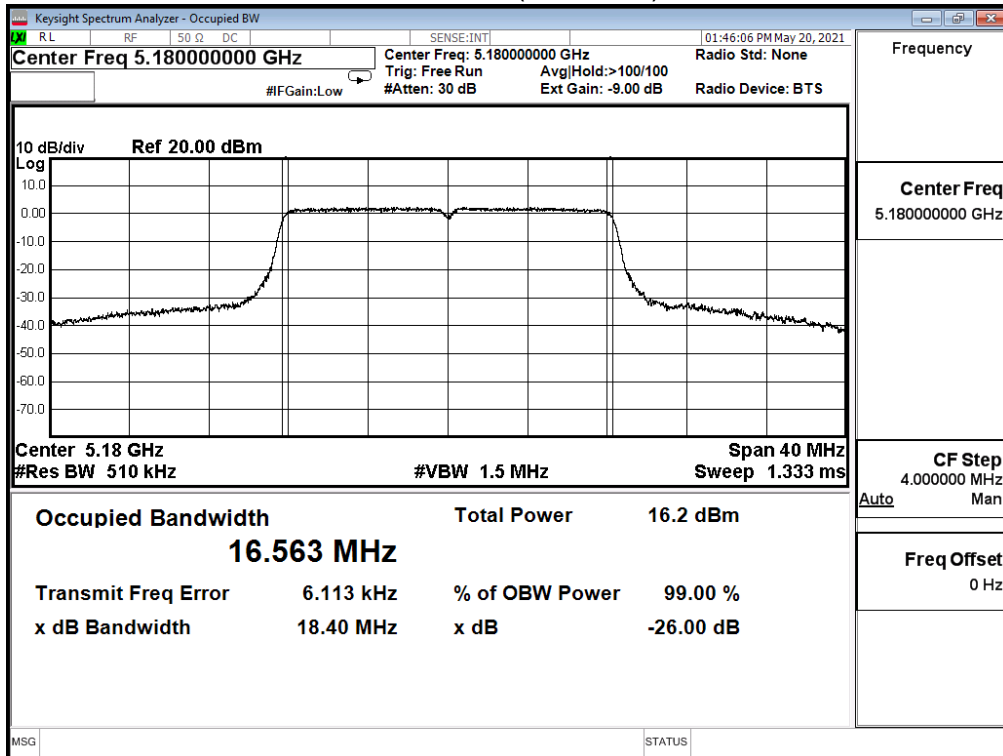
Channel 165 (5825MHz)



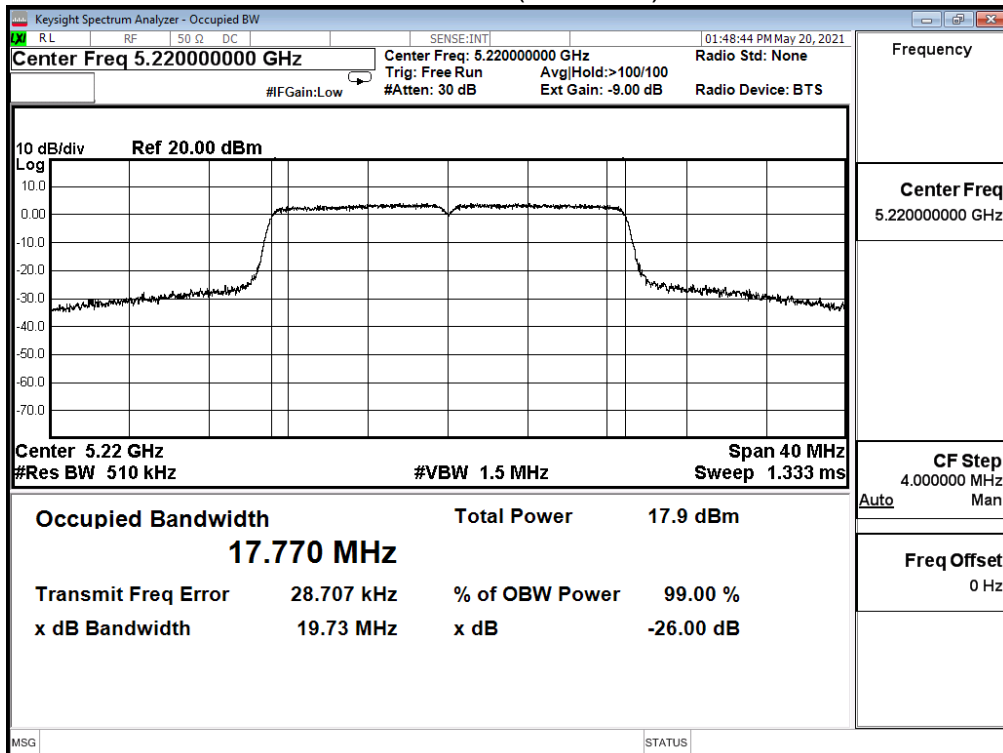
Product	Smart Display		
Test Item	26dB & 99% Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/21	Test Site	SR12-H
Temperature (°C)	24.0~24.5	Humidity (%RH)	66.0

IEEE 802.11ac_20M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Value		Limit (MHz)
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	
36	5180	16.563	18.400	--
44	5220	17.770	19.730	--
48	5240	17.791	19.820	--
52	5260	17.800	20.020	--
60	5300	17.782	19.790	--
64	5320	17.753	19.320	--
100	5500	17.746	19.350	--
116	5580	17.829	22.370	--
140	5700	17.747	19.350	--
144_L	5720	13.904	15.610	--
144_R	5720	3.904	N/A	--
149	5745	26.662		--
157	5785	26.785		--
165	5825	25.476		--

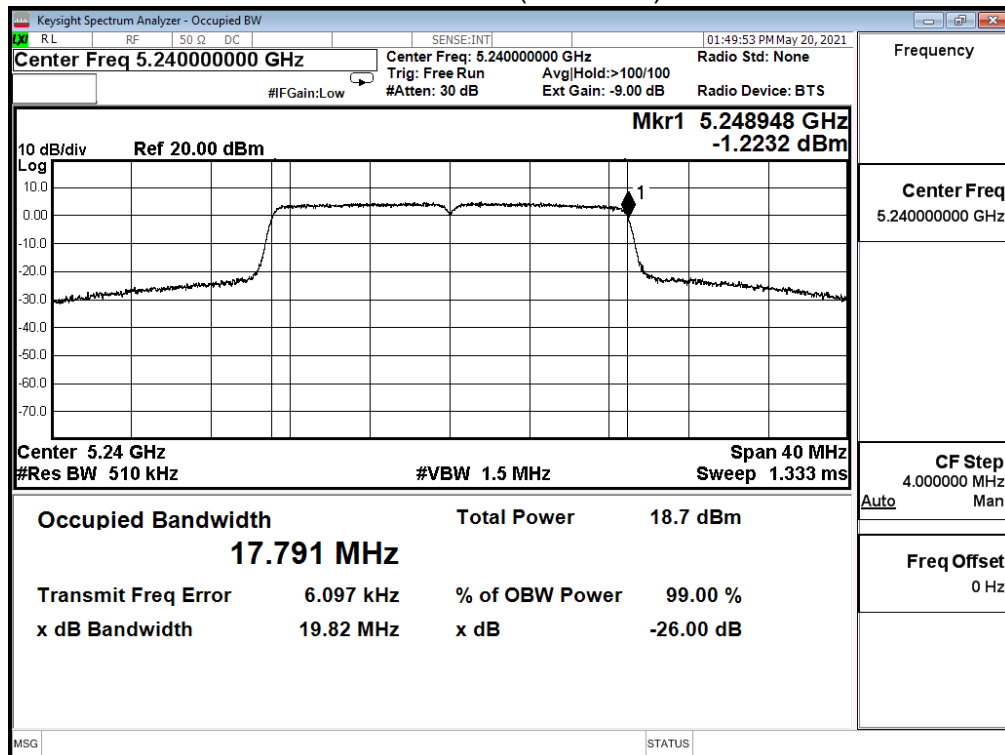
Channel 36 (5180MHz)



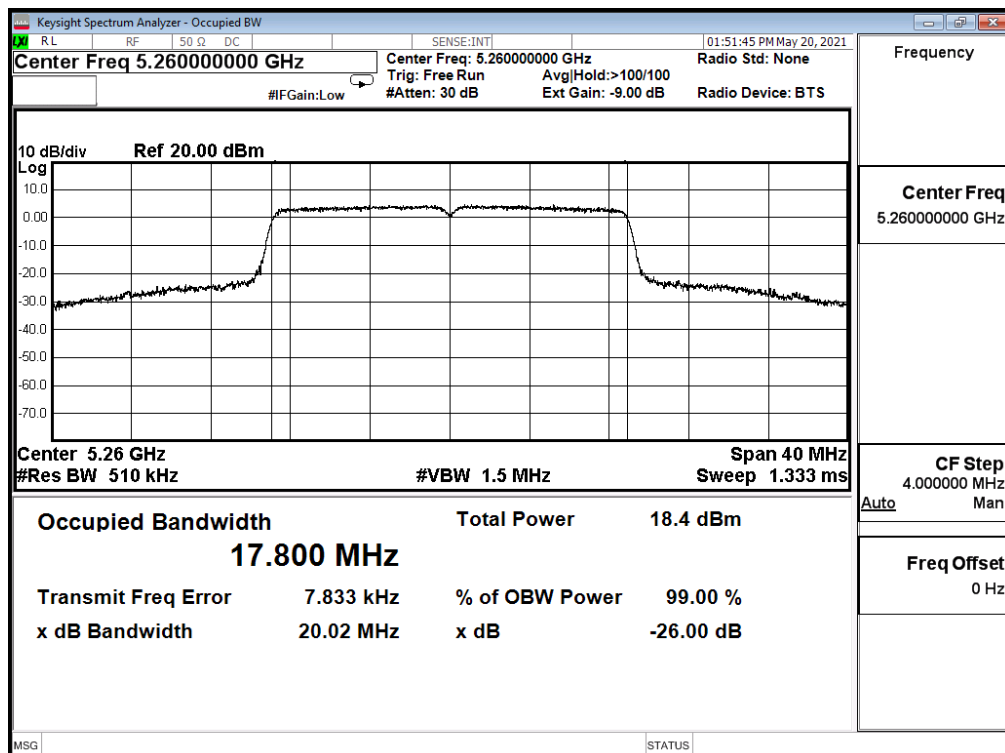
Channel 44 (5220MHz)



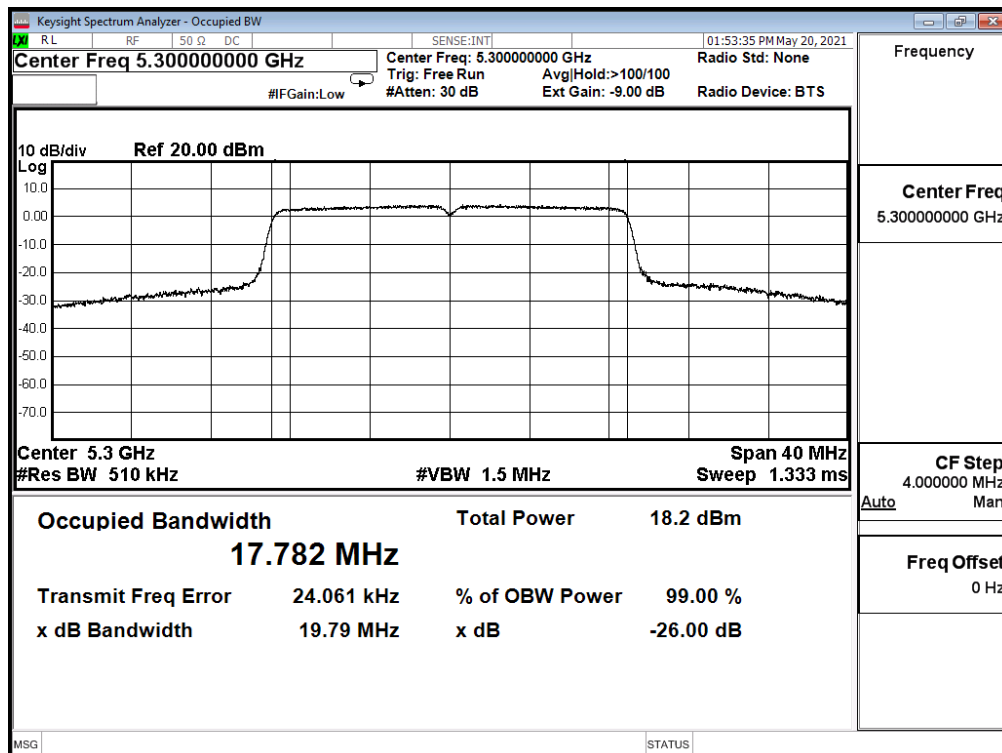
Channel 48 (5240MHz)



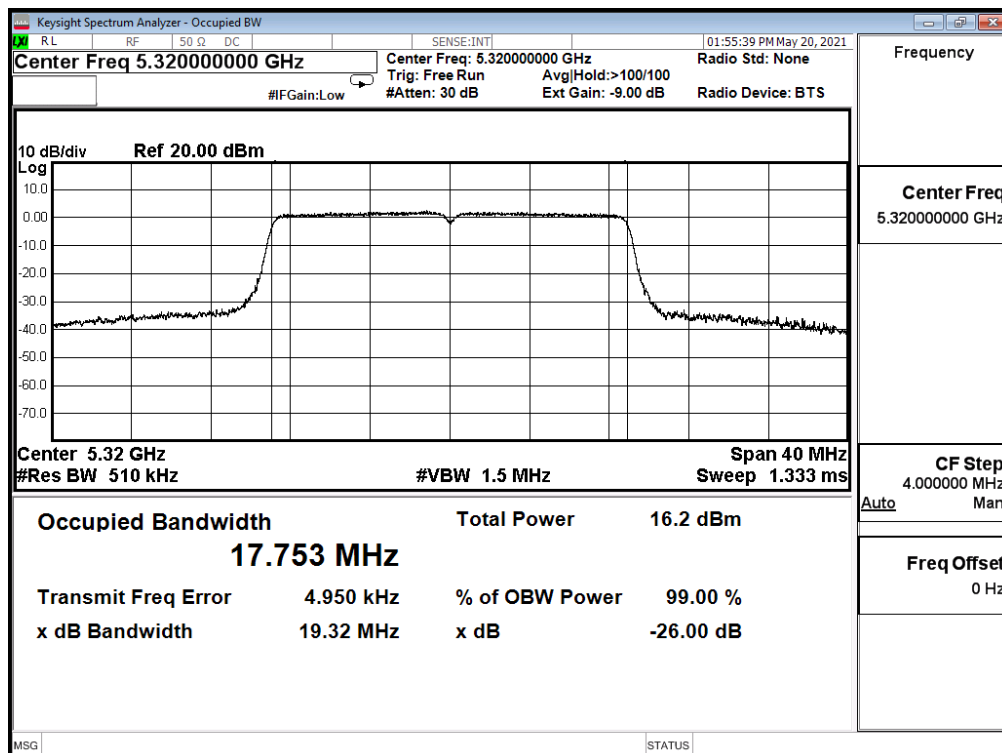
Channel 52 (5260MHz)



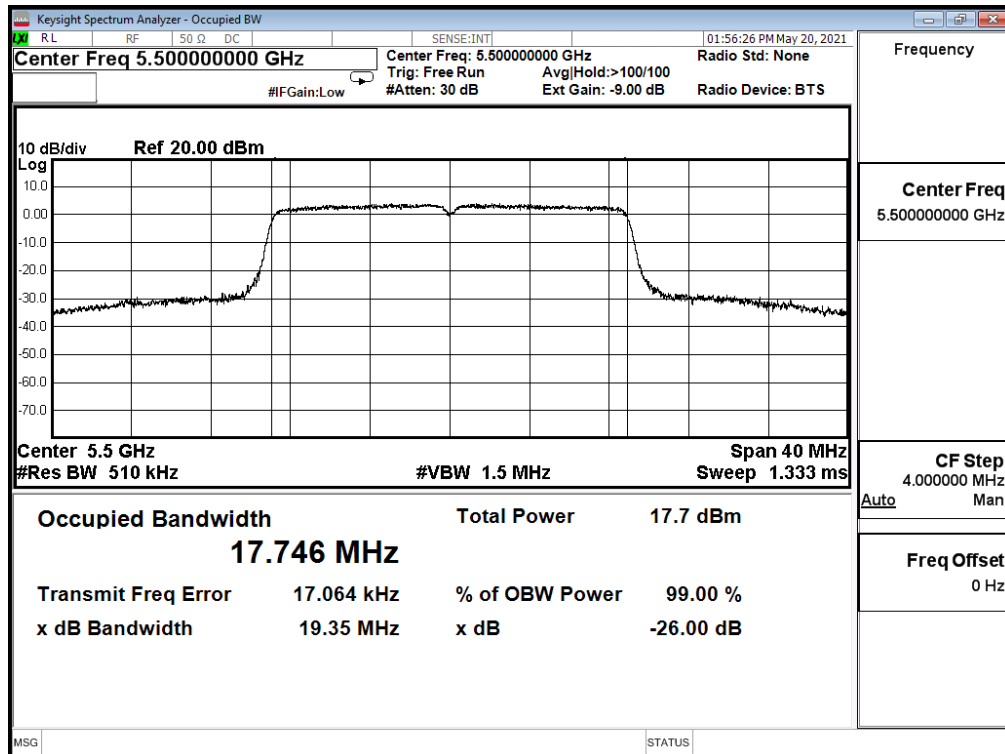
Channel 60 (5300MHz)



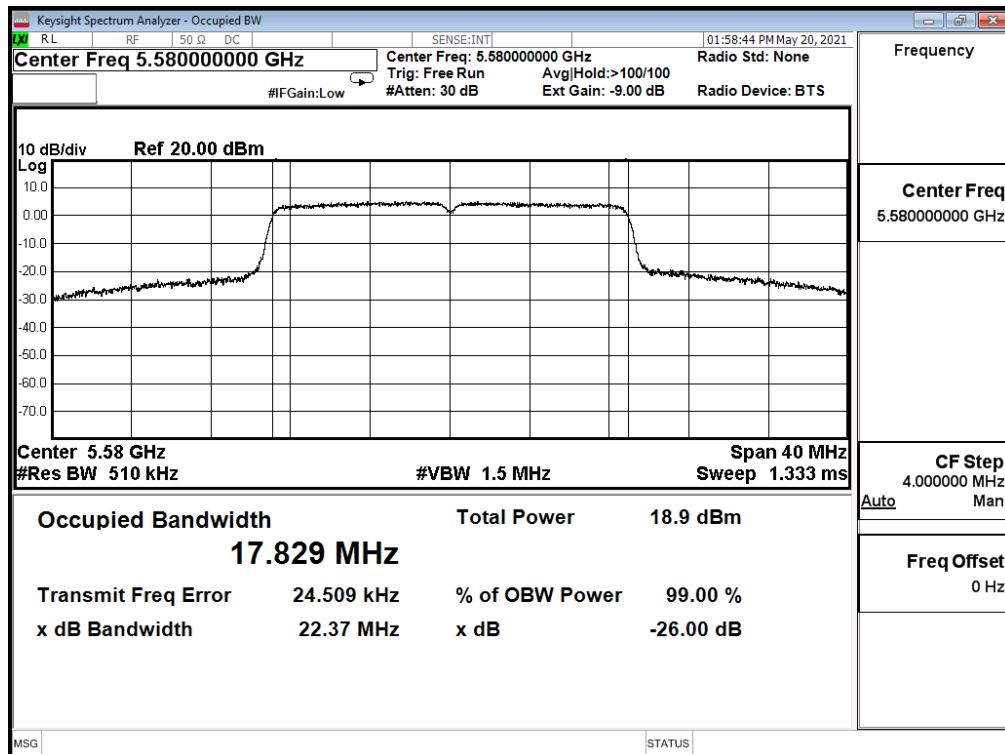
Channel 64 (5320MHz)



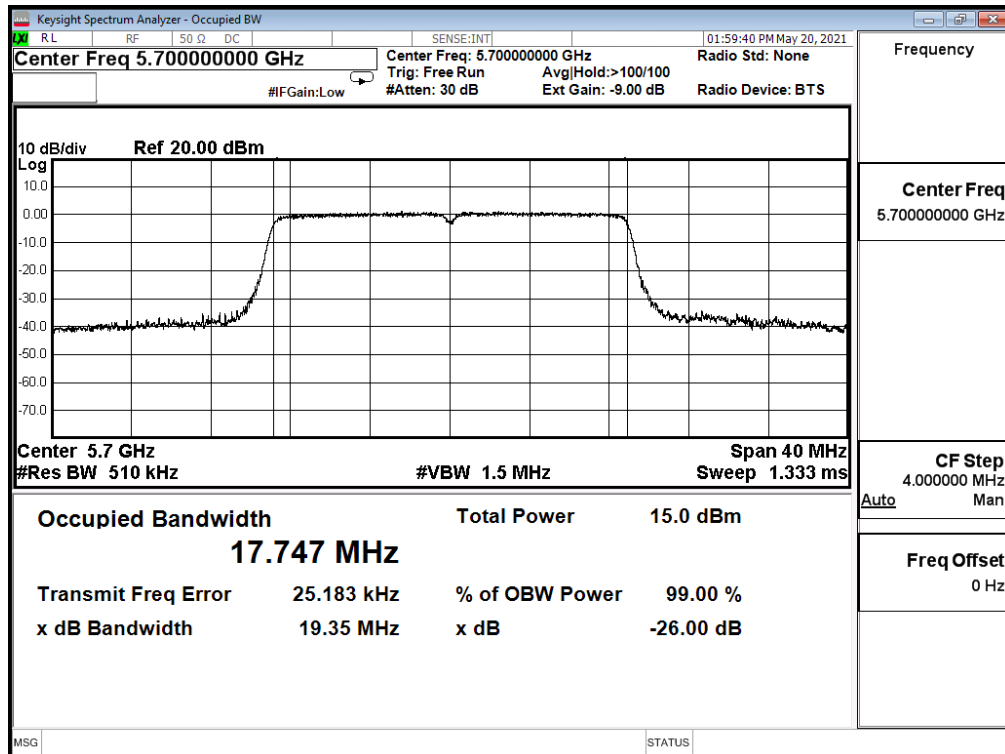
Channel 100 (5500MHz)



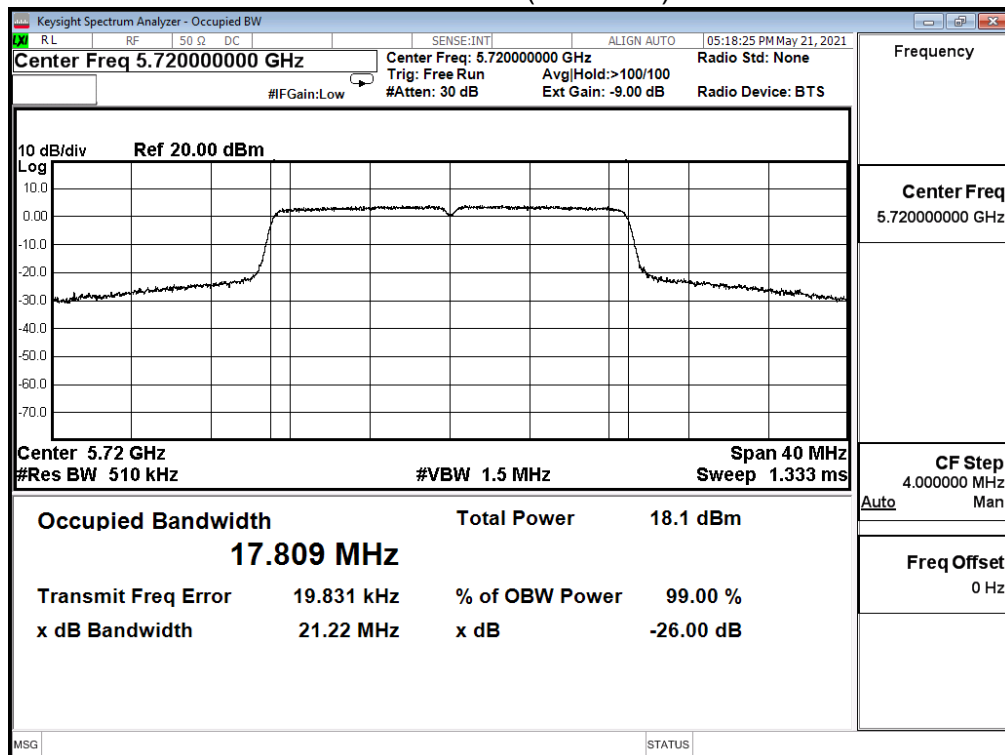
Channel 116 (5580MHz)



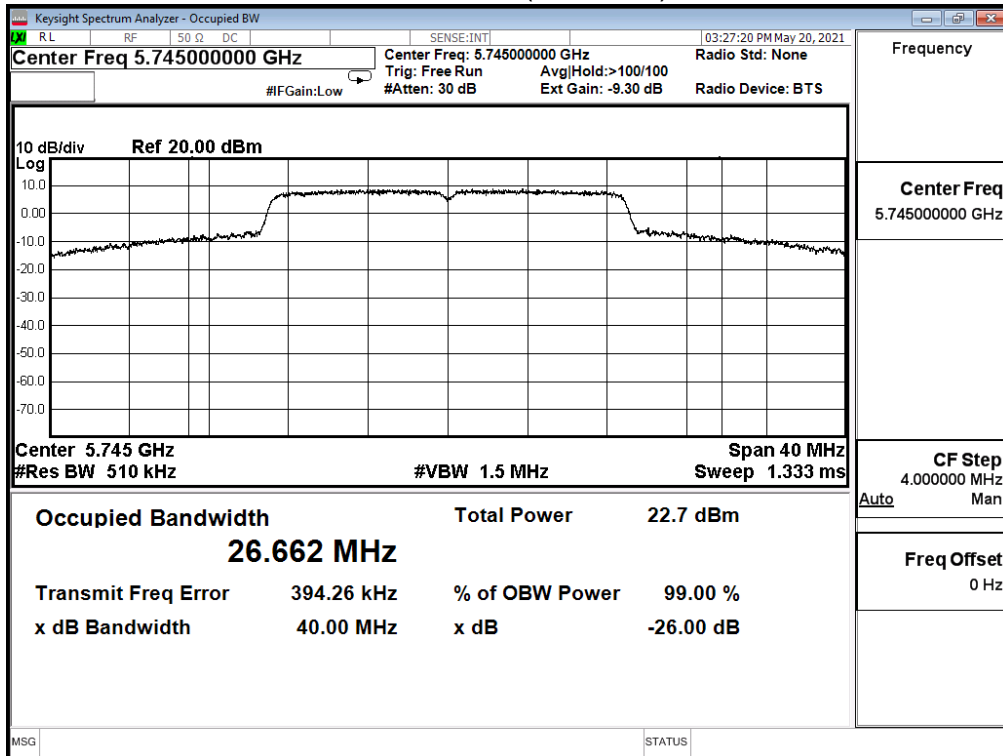
Channel 140 (5700MHz)



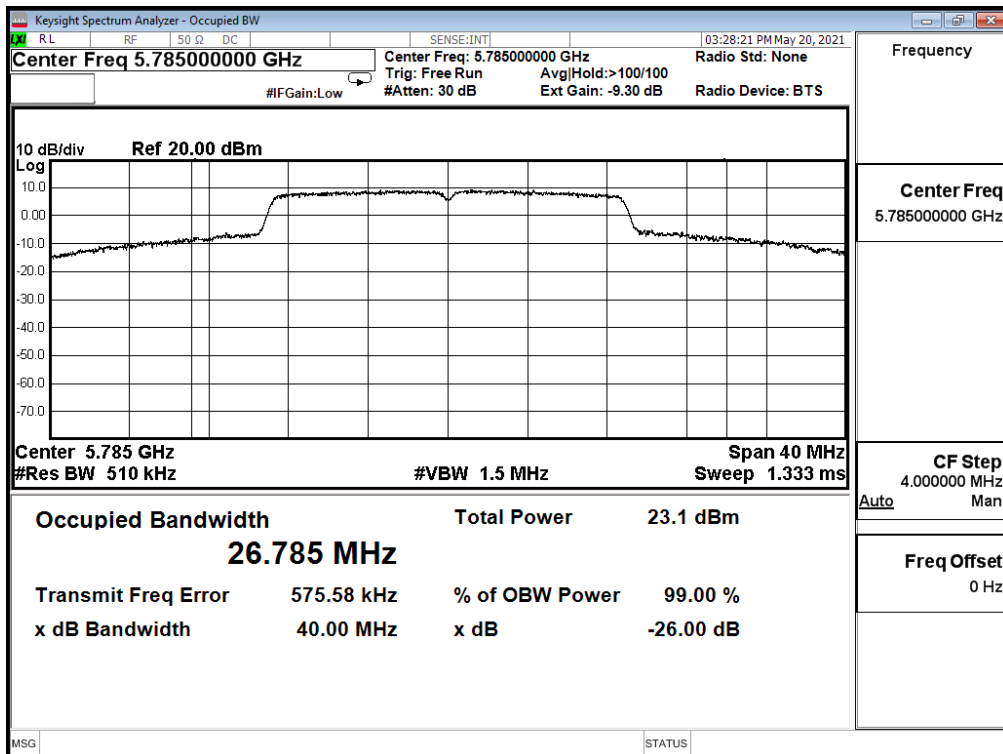
Channel 144 (5720MHz)



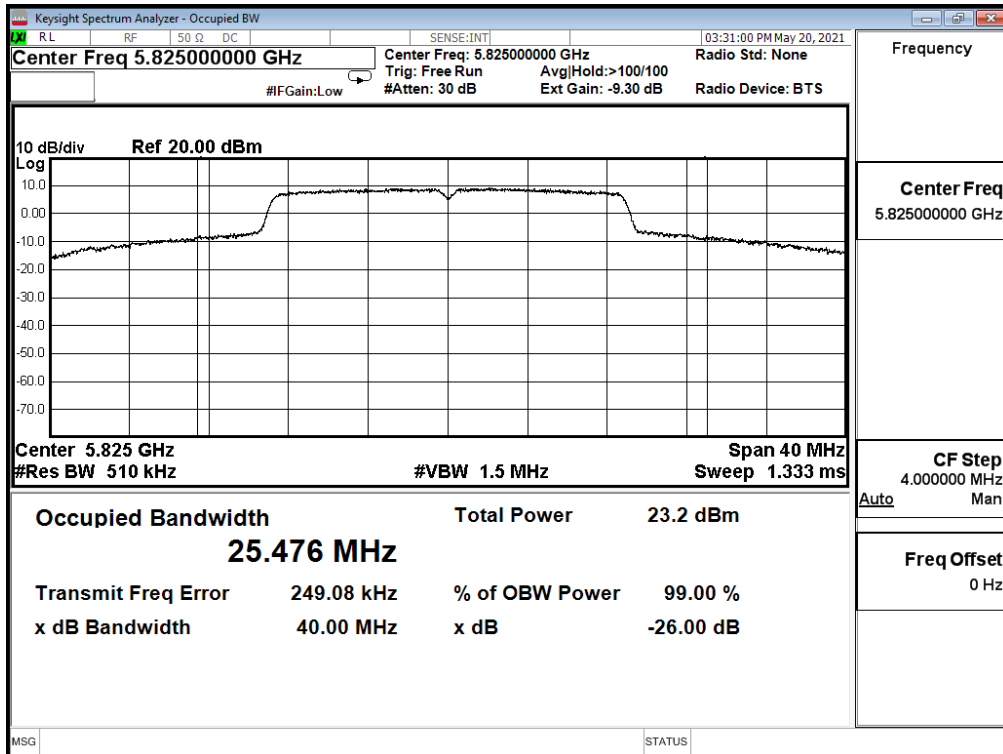
Channel 149 (5745MHz)



Channel 157 (5785MHz)



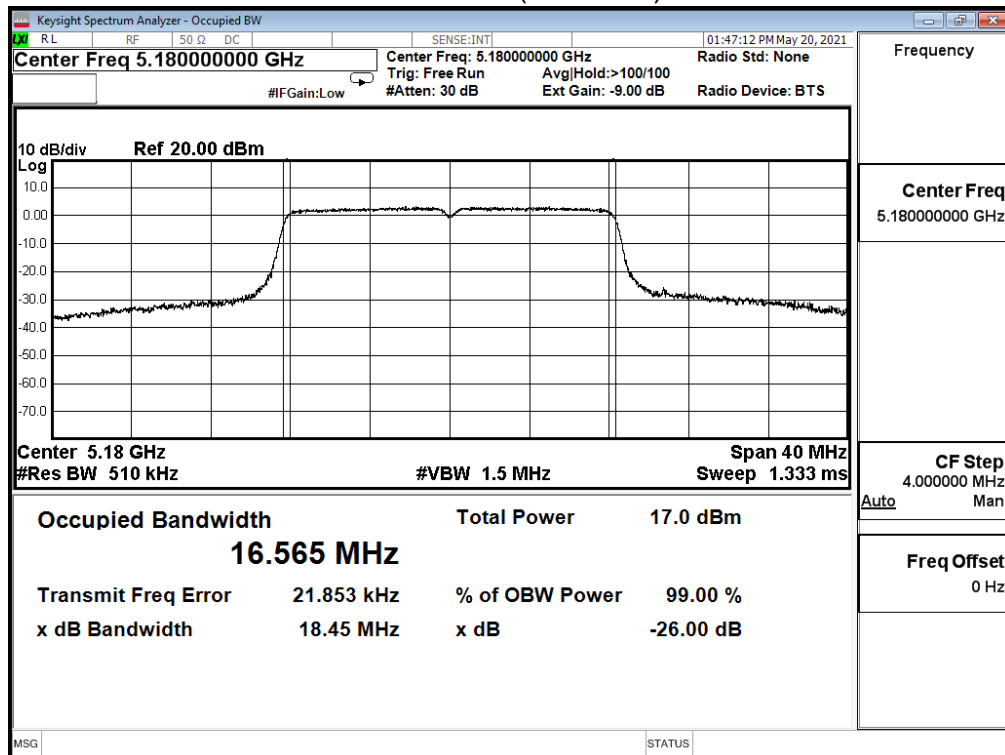
Channel 165 (5825MHz)



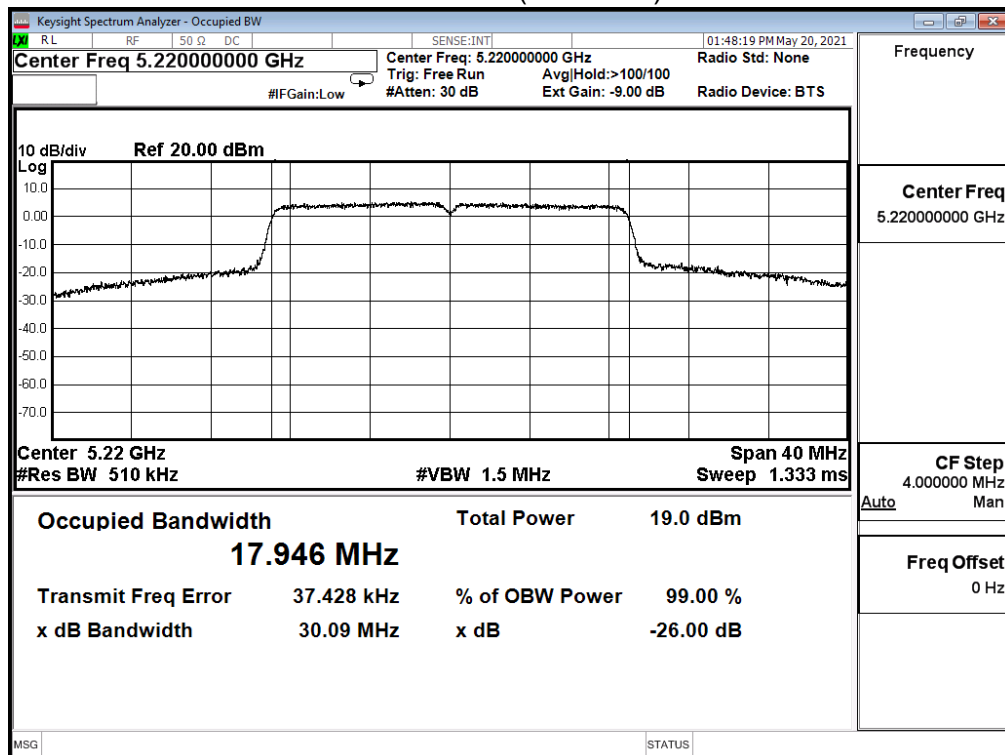
Product	Smart Display		
Test Item	26dB & 99% Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/21	Test Site	SR12-H
Temperature (°C)	24.0~24.5	Humidity (%RH)	66.0

IEEE 802.11ac_20M(ANT 1)				
Channel No.	Frequency (MHz)	Measure Value		Limit (MHz)
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	
36	5180	16.565	18.450	--
44	5220	17.946	30.090	--
48	5240	17.875	27.020	--
52	5260	17.992	33.280	--
60	5300	17.904	31.310	--
64	5320	17.760	19.440	--
100	5500	17.802	19.930	--
116	5580	17.853	25.060	--
140	5700	17.762	19.390	--
144_L	5720	13.953	19.445	--
144_R	5720	3.953	N/A	--
149	5745	26.474		--
157	5785	24.349		--
165	5825	24.356		--

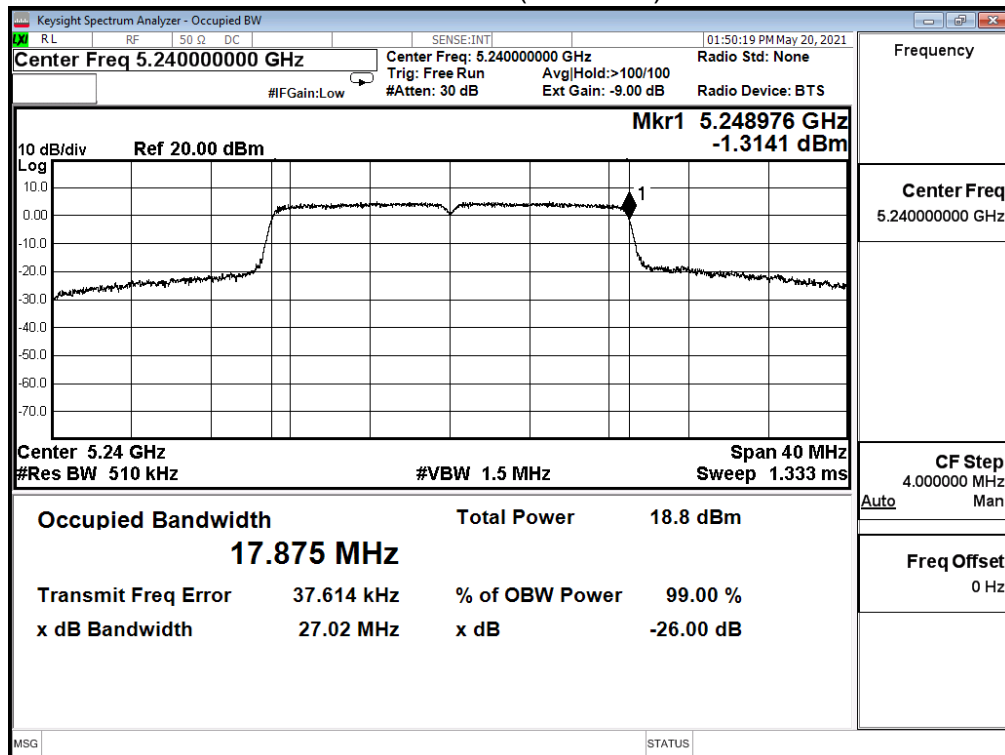
Channel 36 (5180MHz)



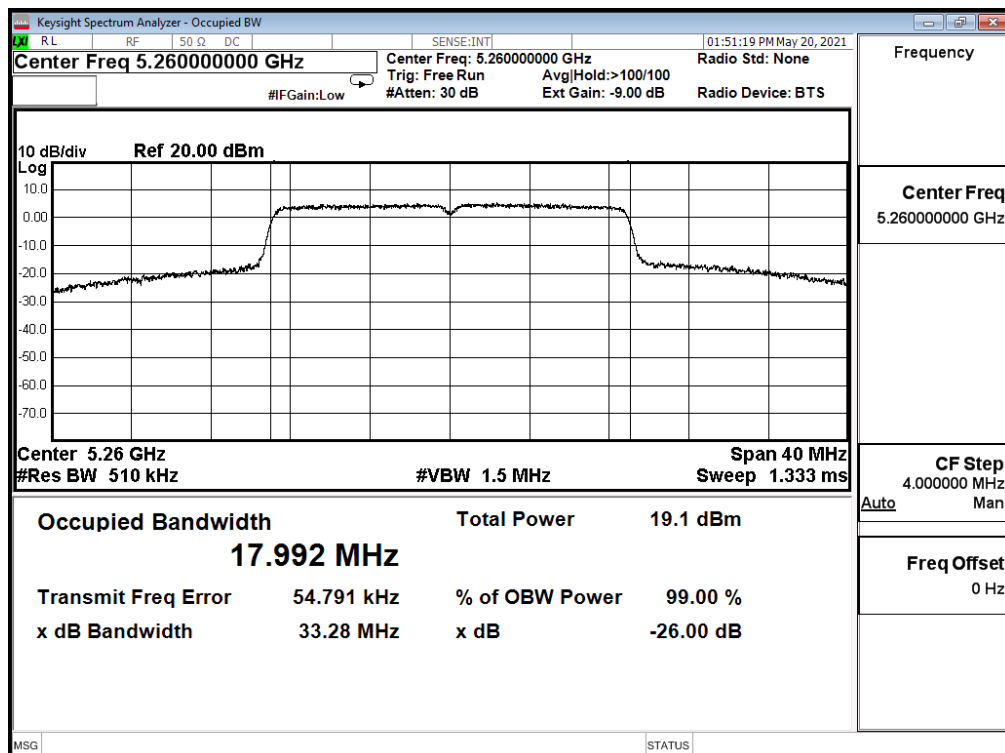
Channel 44 (5220MHz)



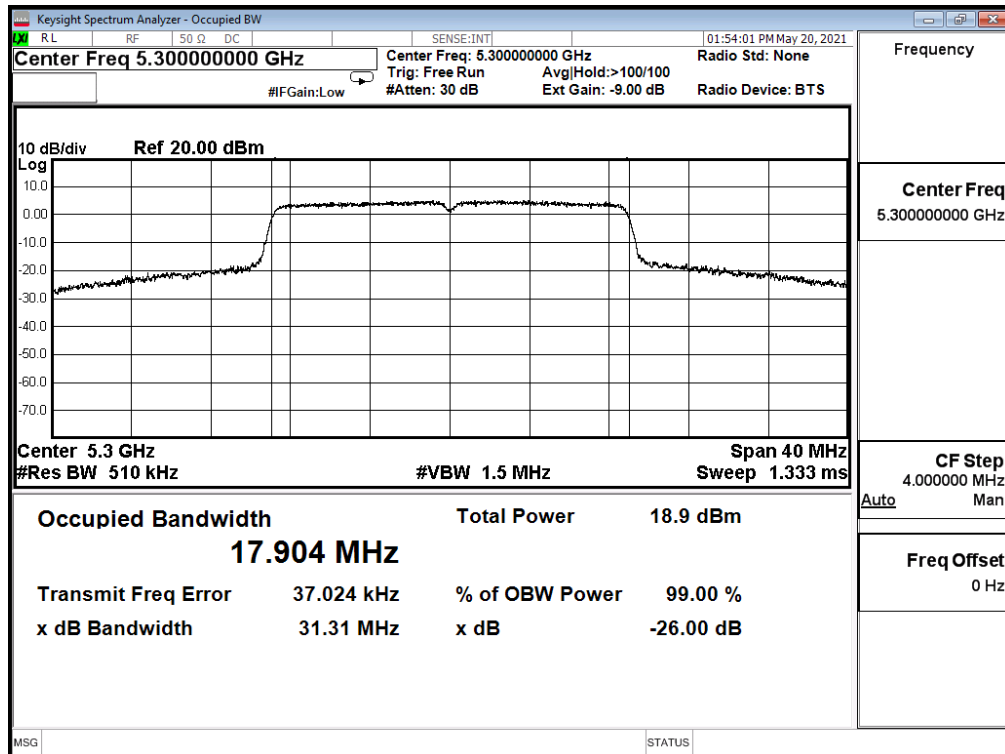
Channel 48 (5240MHz)



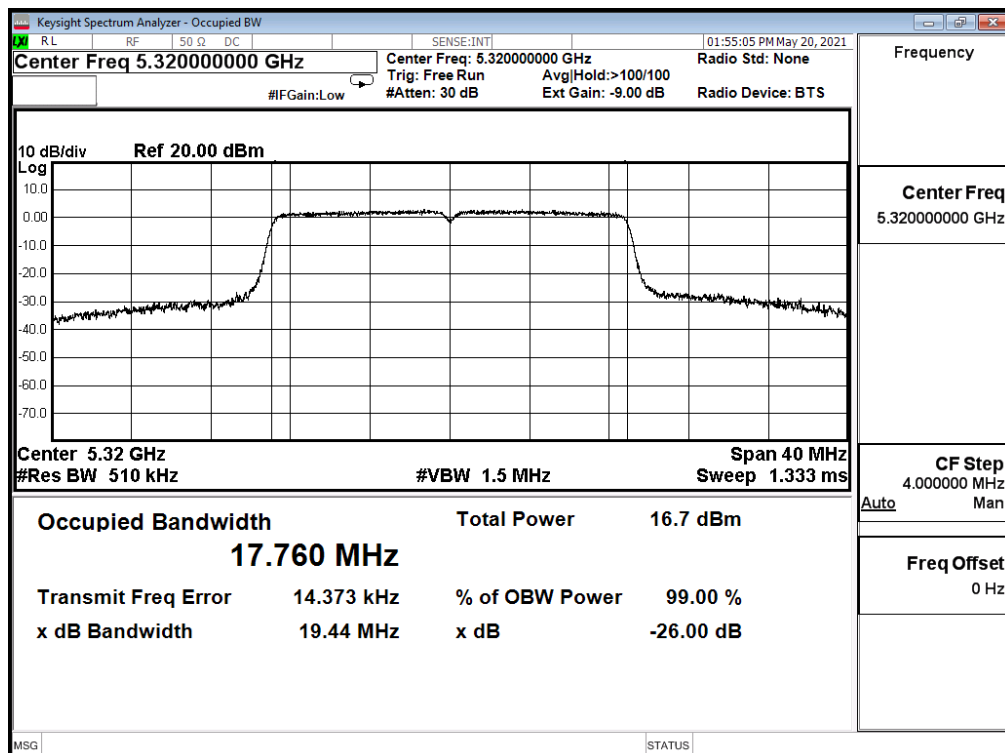
Channel 52 (5260MHz)



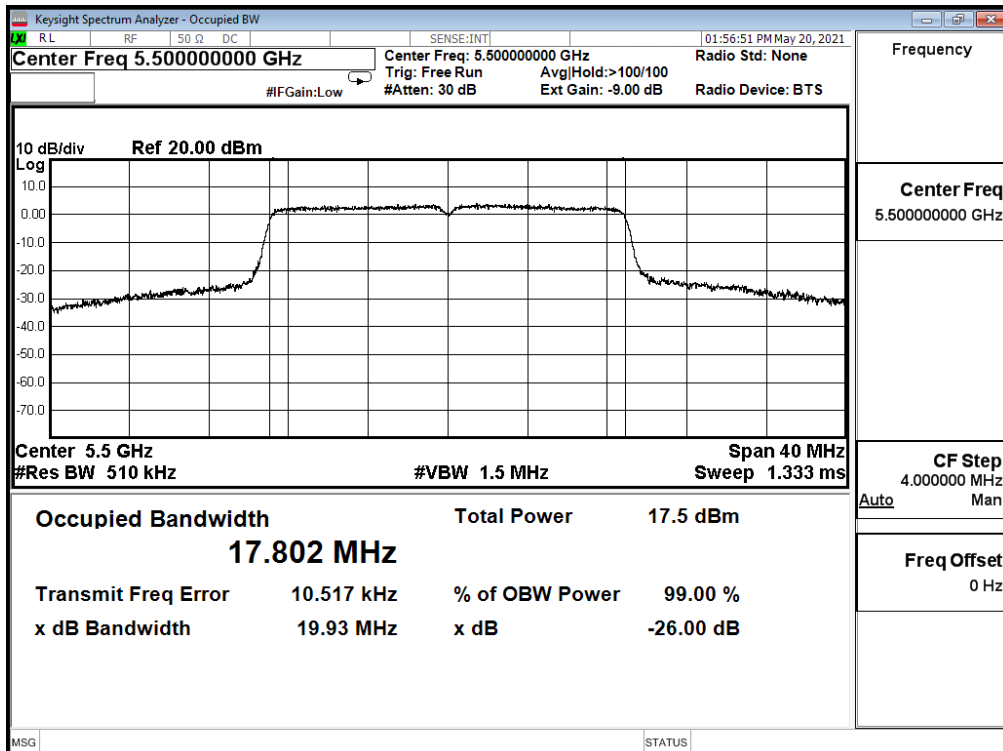
Channel 60 (5300MHz)



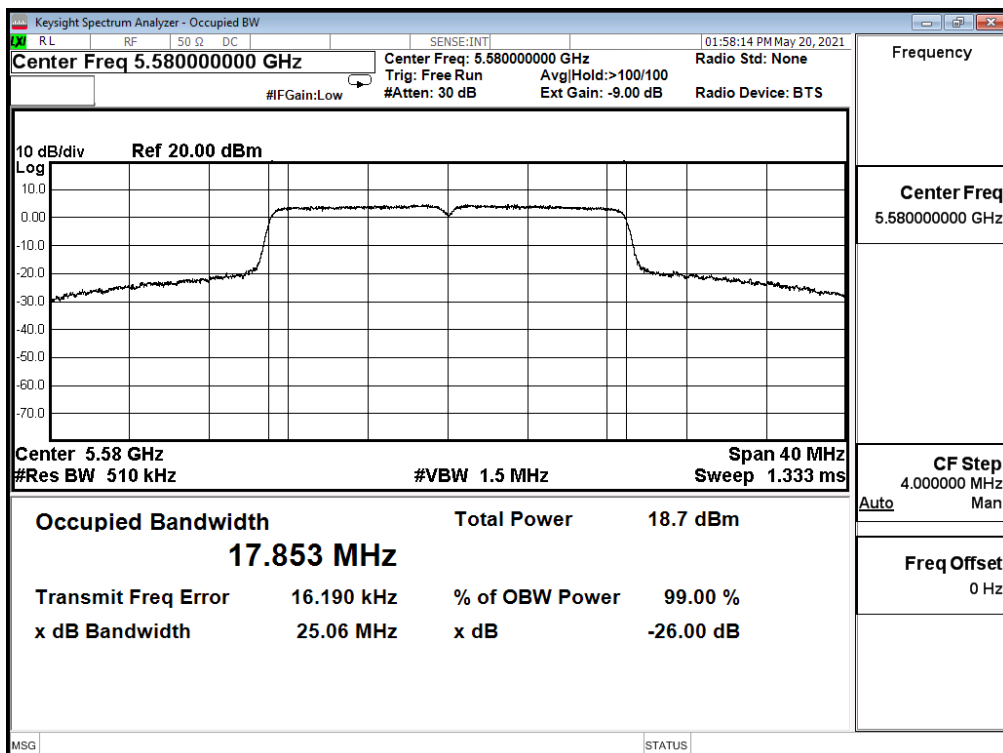
Channel 64 (5320MHz)



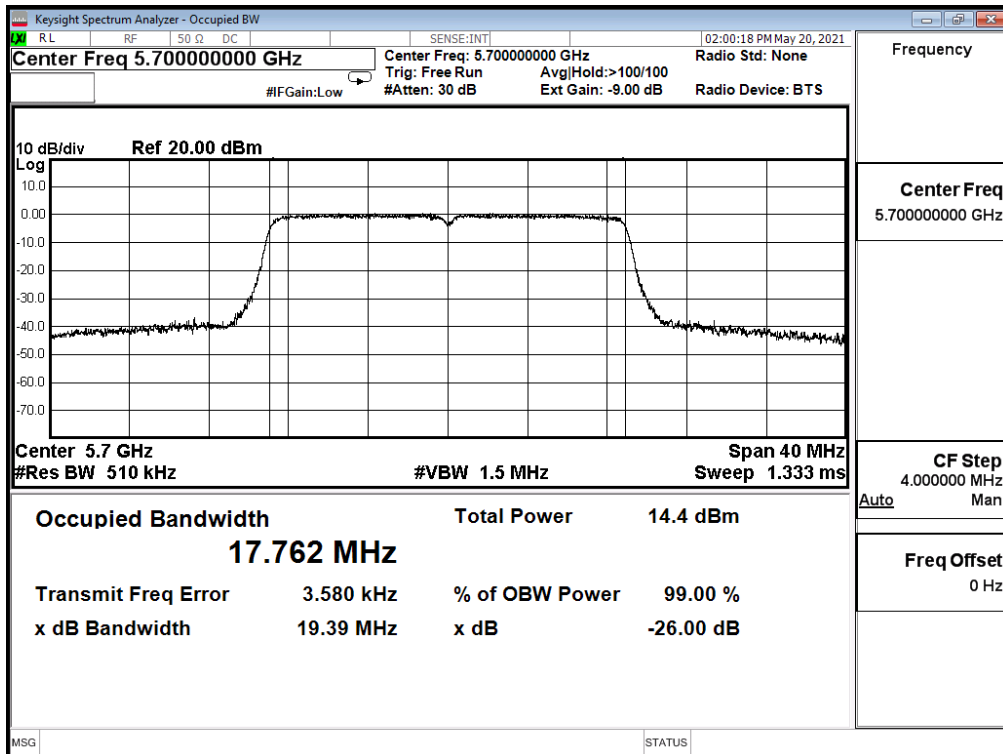
Channel 100 (5500MHz)



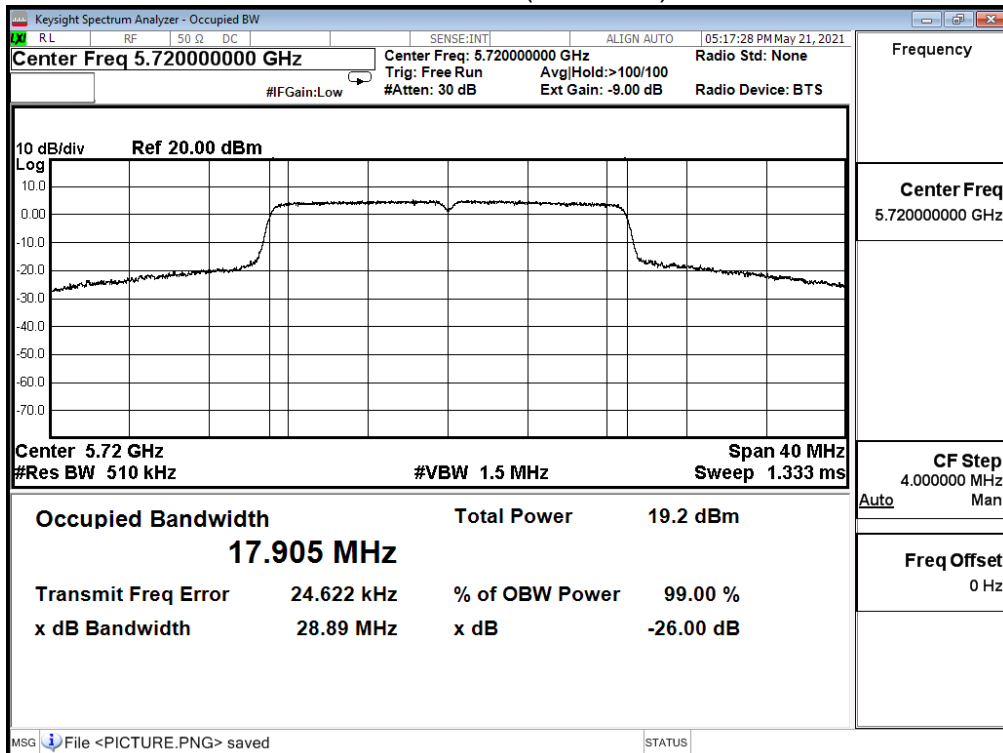
Channel 116 (5580MHz)



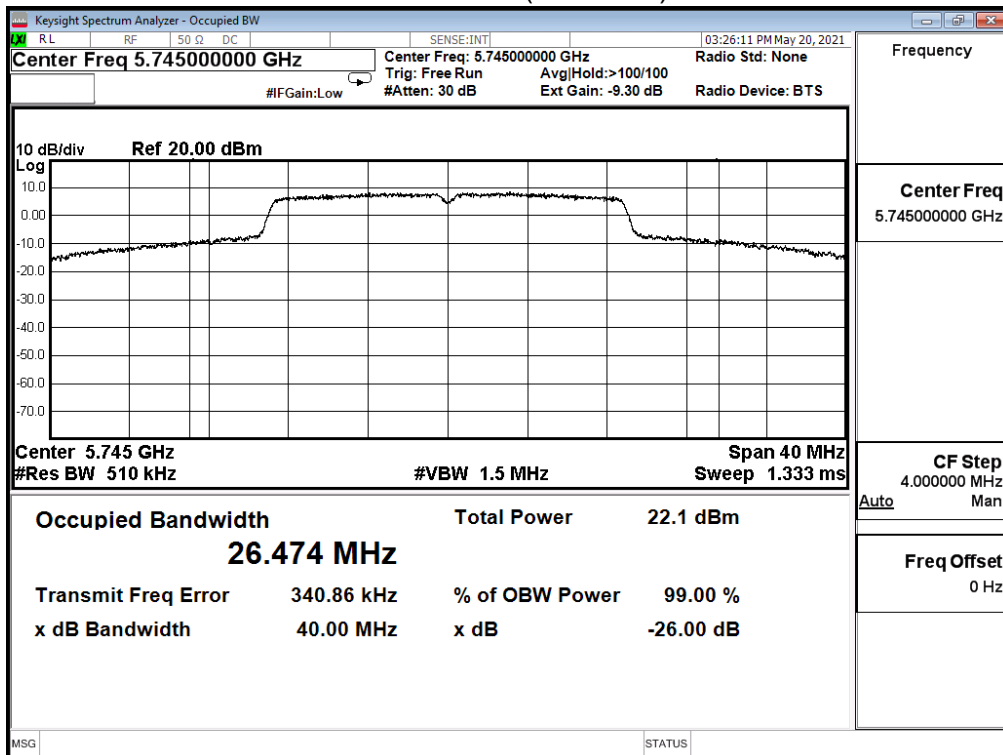
Channel 140 (5700MHz)



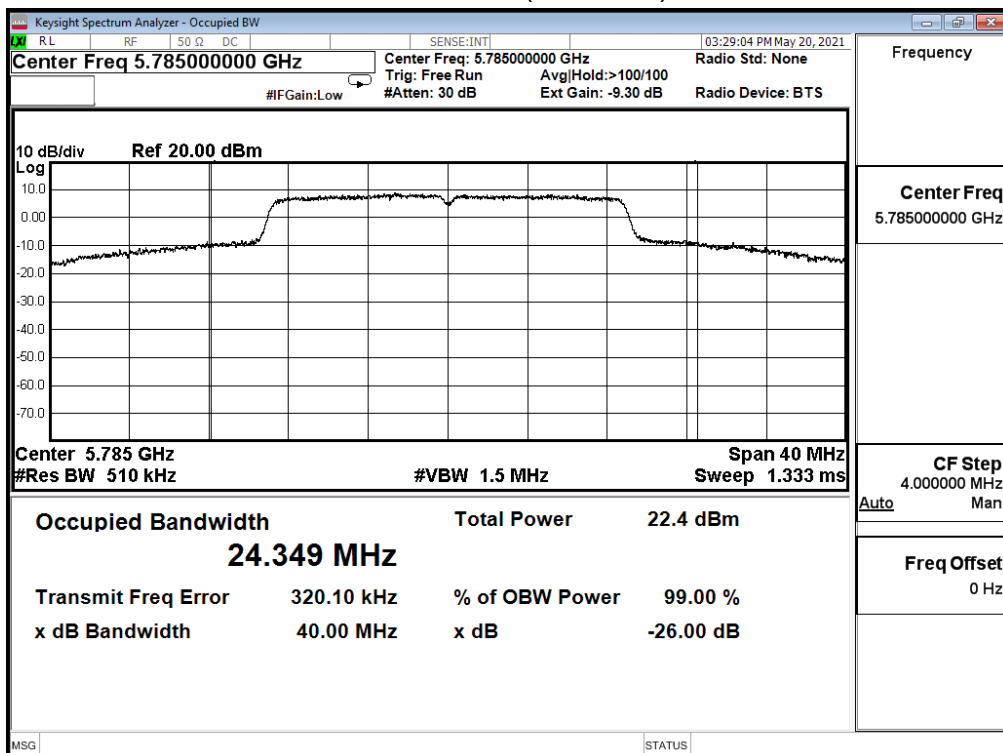
Channel 144 (5720MHz)



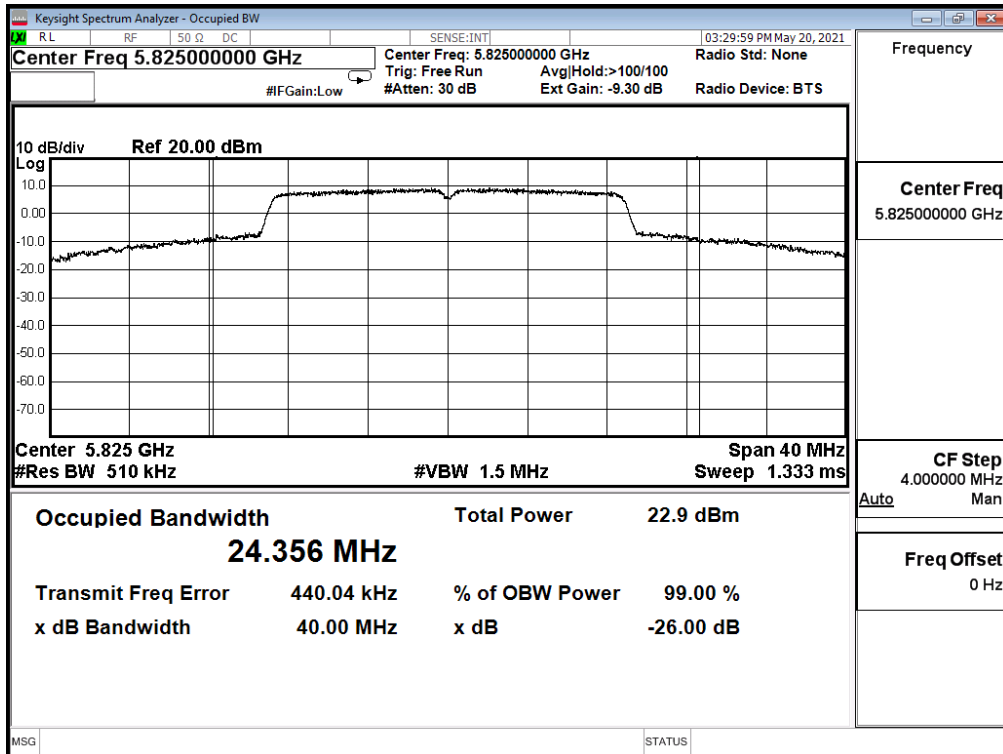
Channel 149 (5745MHz)



Channel 157 (5785MHz)



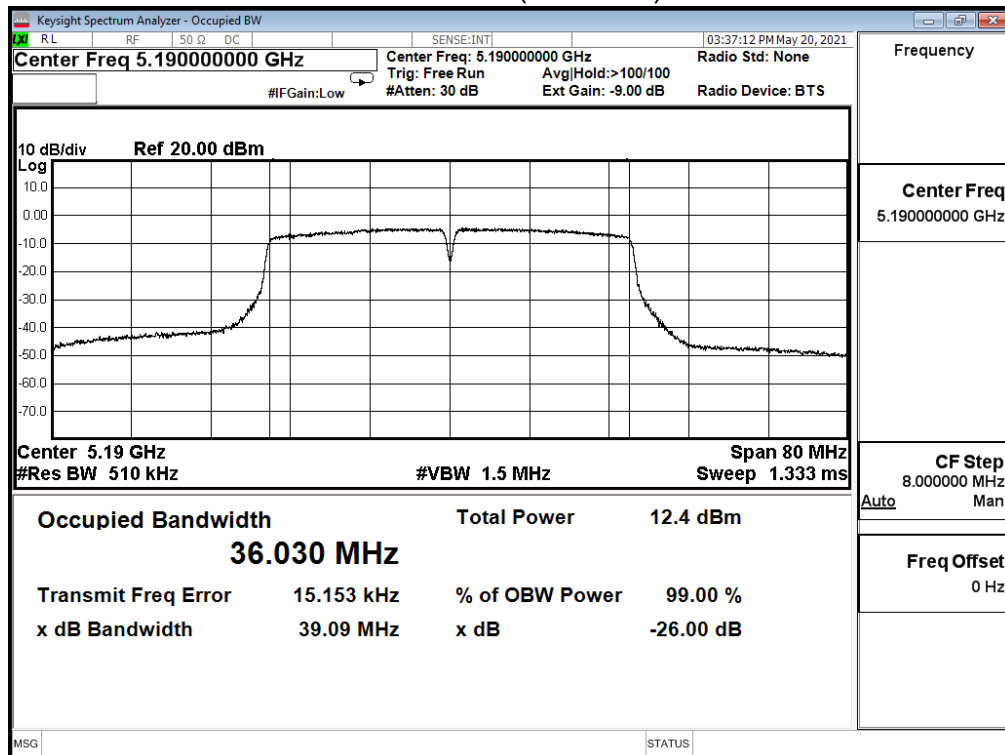
Channel 165 (5825MHz)



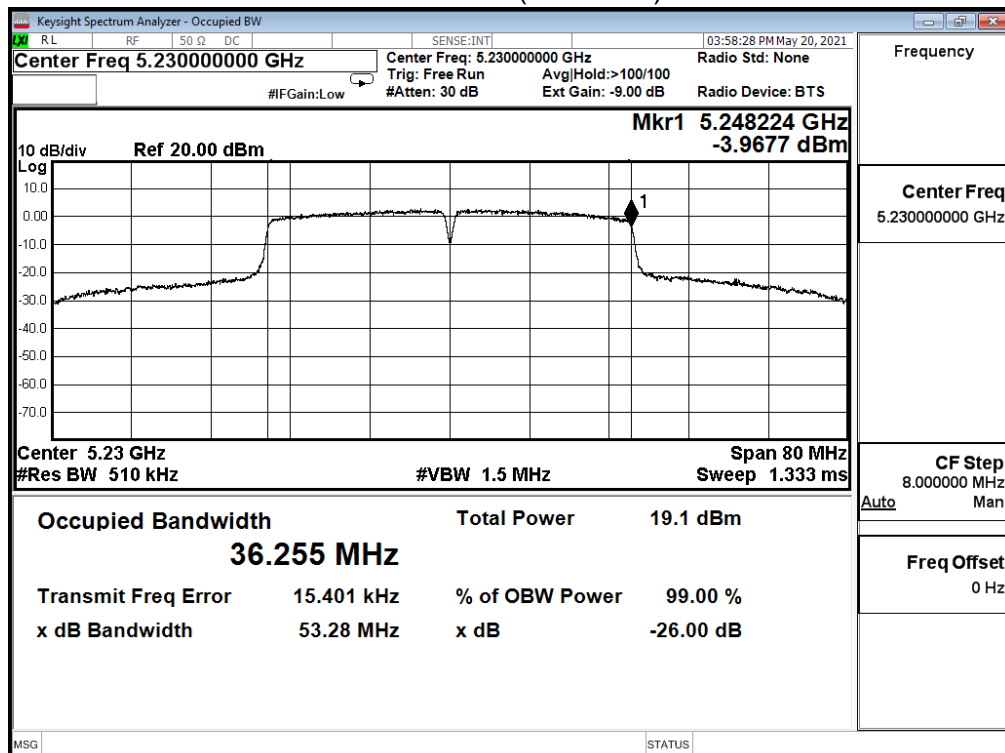
Product	Smart Display		
Test Item	26dB & 99% Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/22	Test Site	SR12-H
Temperature (°C)	23.0~24.5	Humidity (%RH)	65.0~66.0

IEEE 802.11ac_40M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Value		Limit (MHz)
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	
38	5190	36.030	39.090	--
46	5230	36.255	53.280	--
54	5270	36.087	39.930	--
62	5310	35.981	38.660	--
102	5510	36.045	38.820	--
110	5550	36.569	70.790	--
134	5670	36.148	40.490	--
142_L	5710	45.948	61.370	--
142_R	5710	15.948	N/A	--
151	5755	56.684		--
159	5795	52.196		--

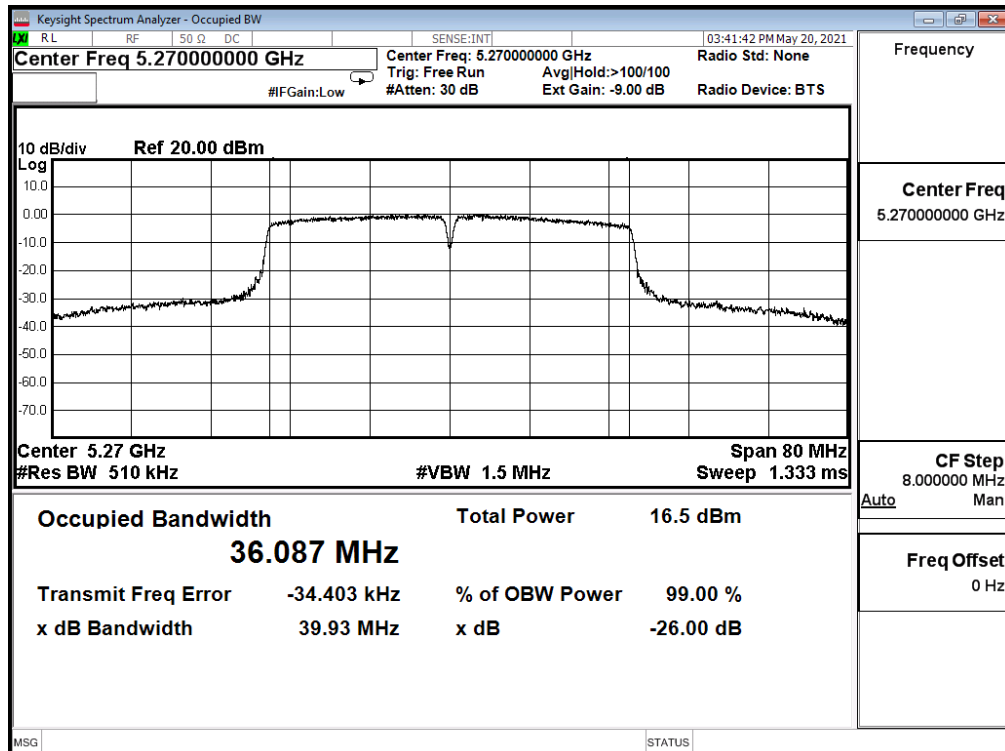
Channel 38 (5190MHz)



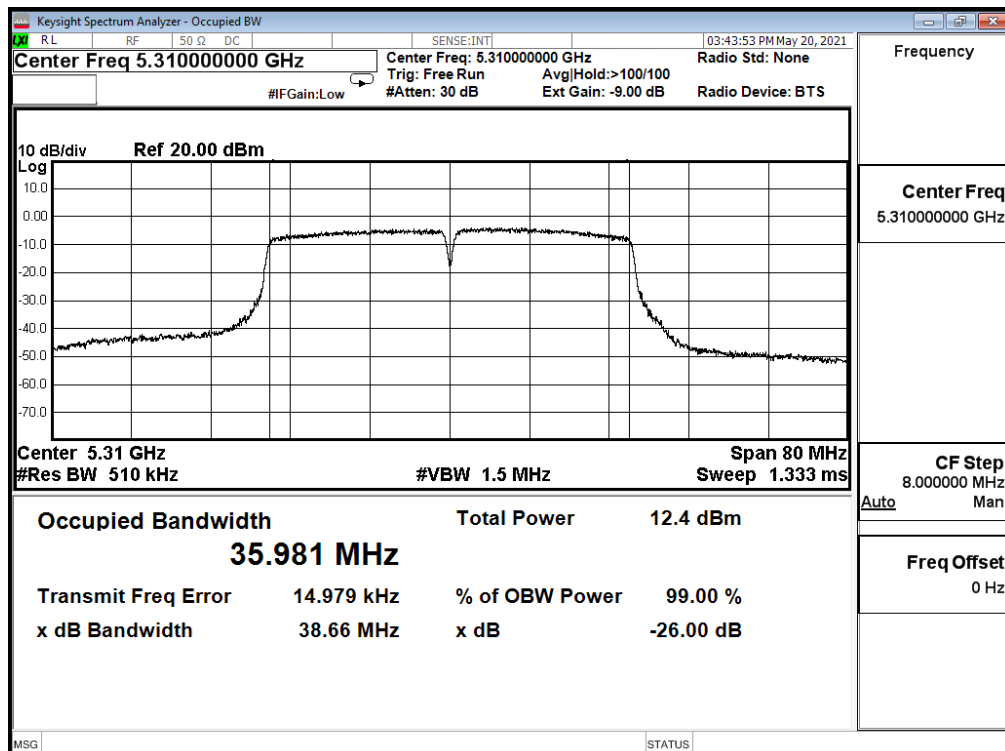
Channel 46 (5230MHz)



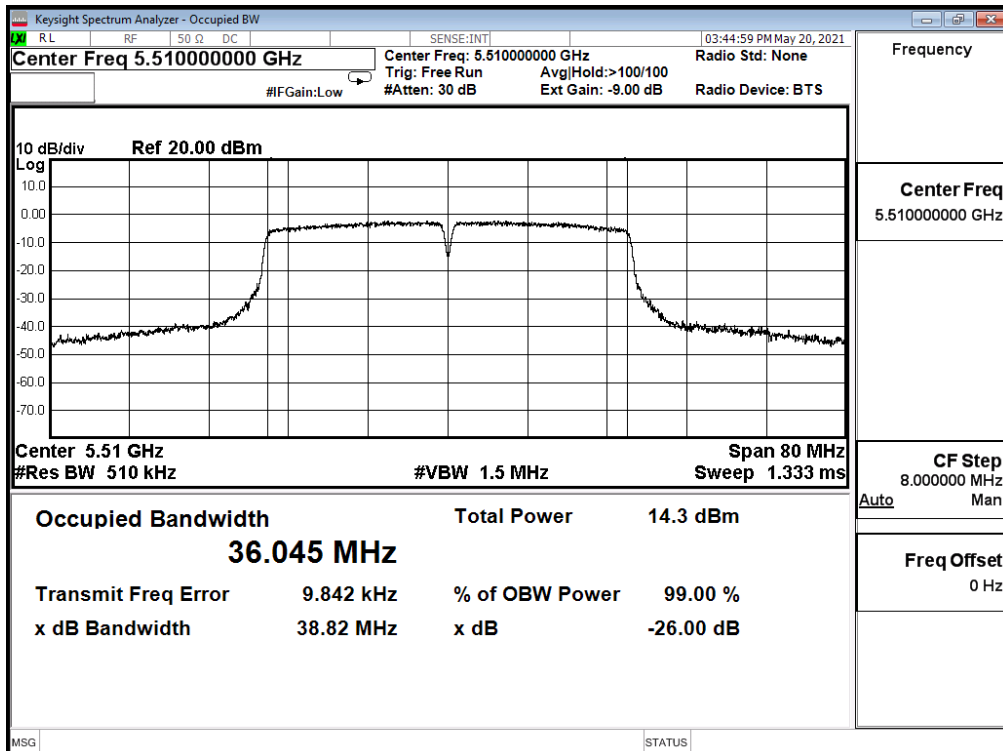
Channel 54 (5270MHz)



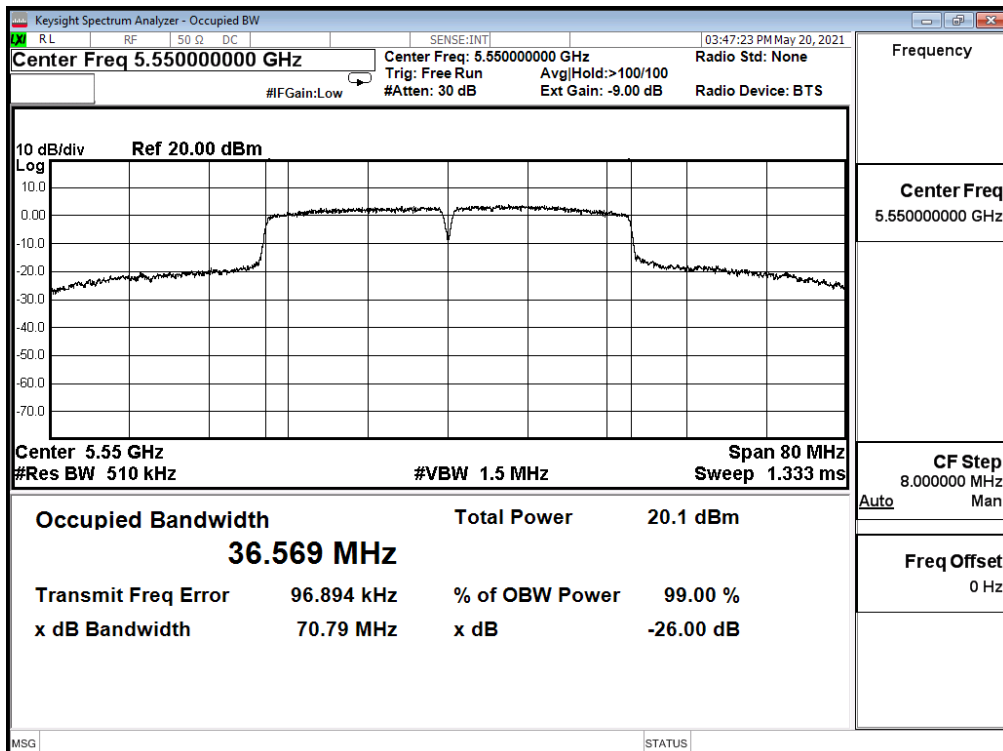
Channel 62 (5310MHz)



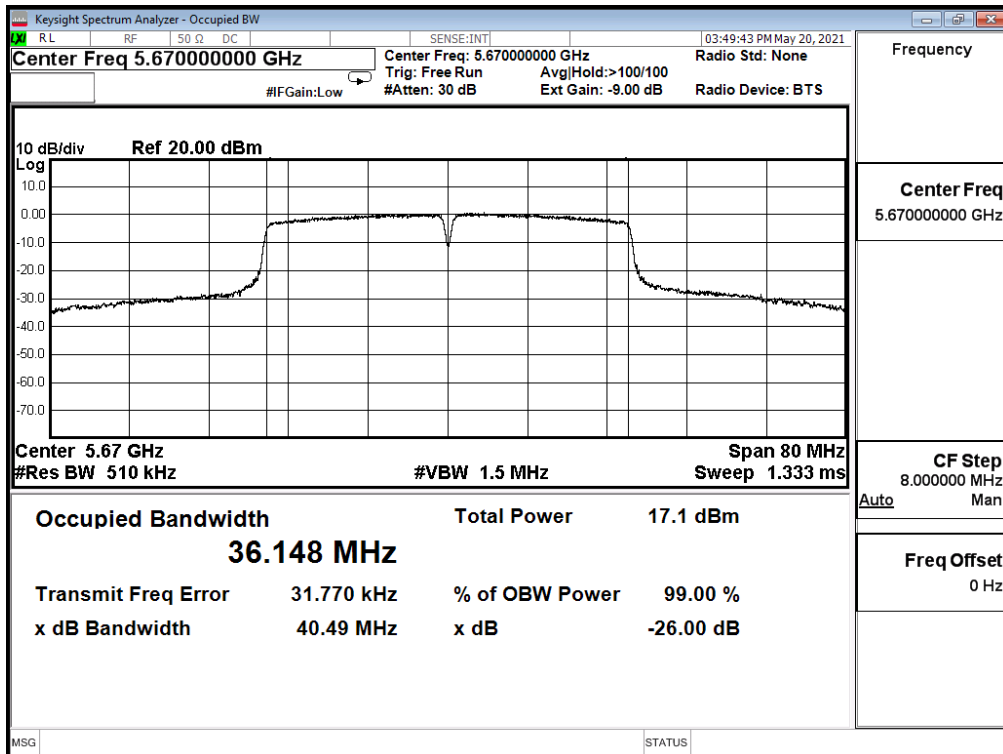
Channel 102 (5510MHz)



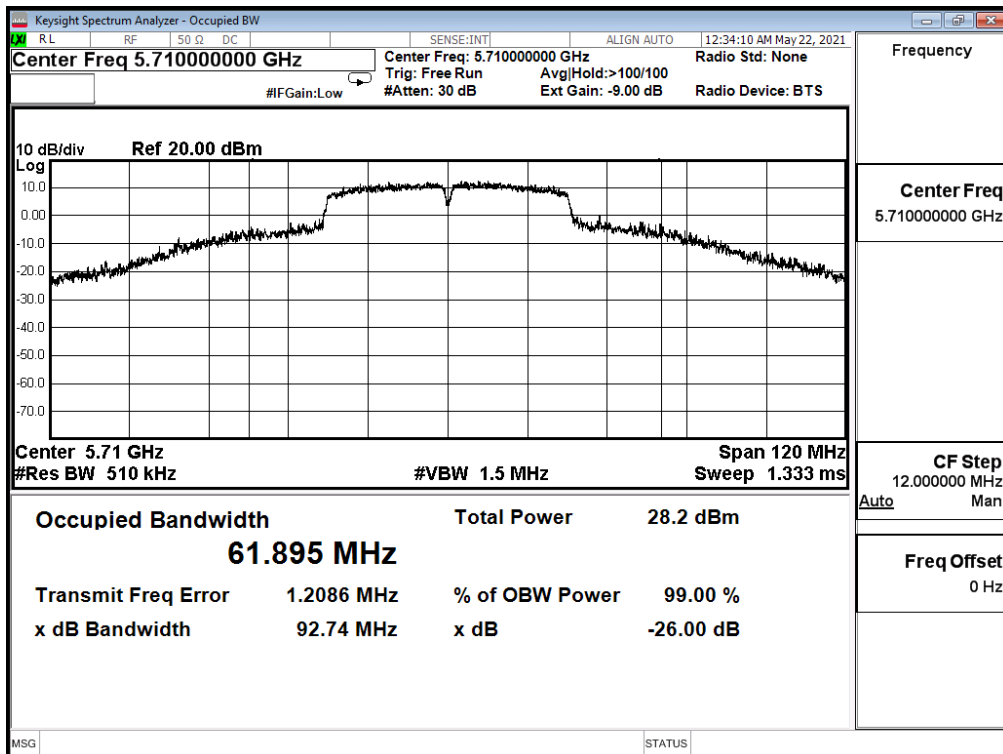
Channel 110 (5550MHz)



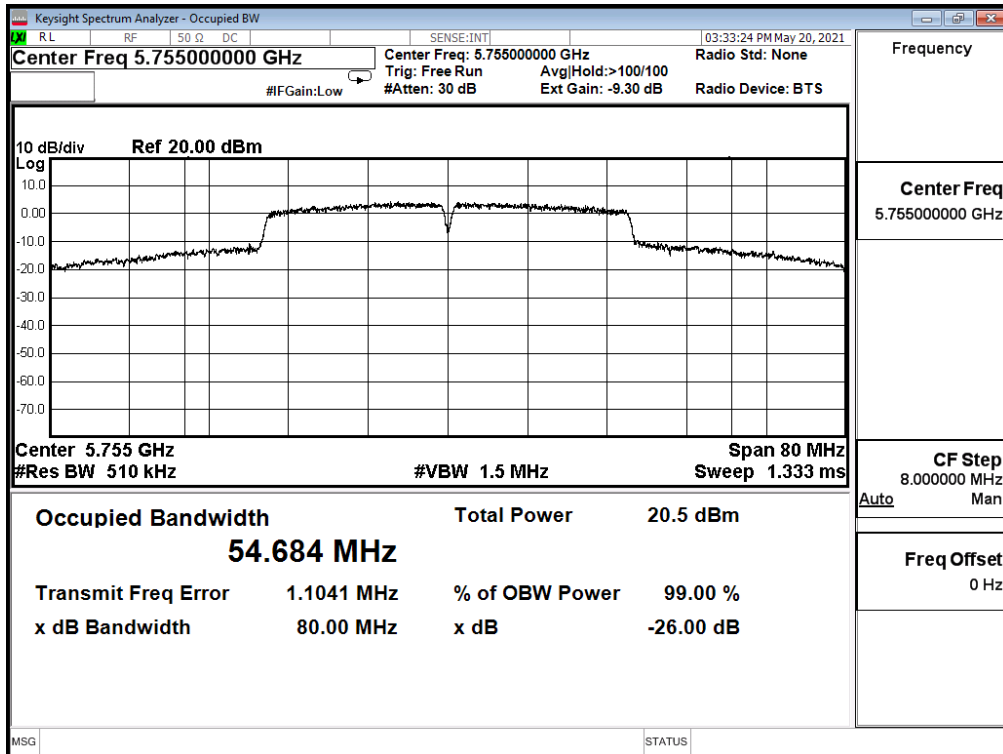
Channel 134 (5670MHz)



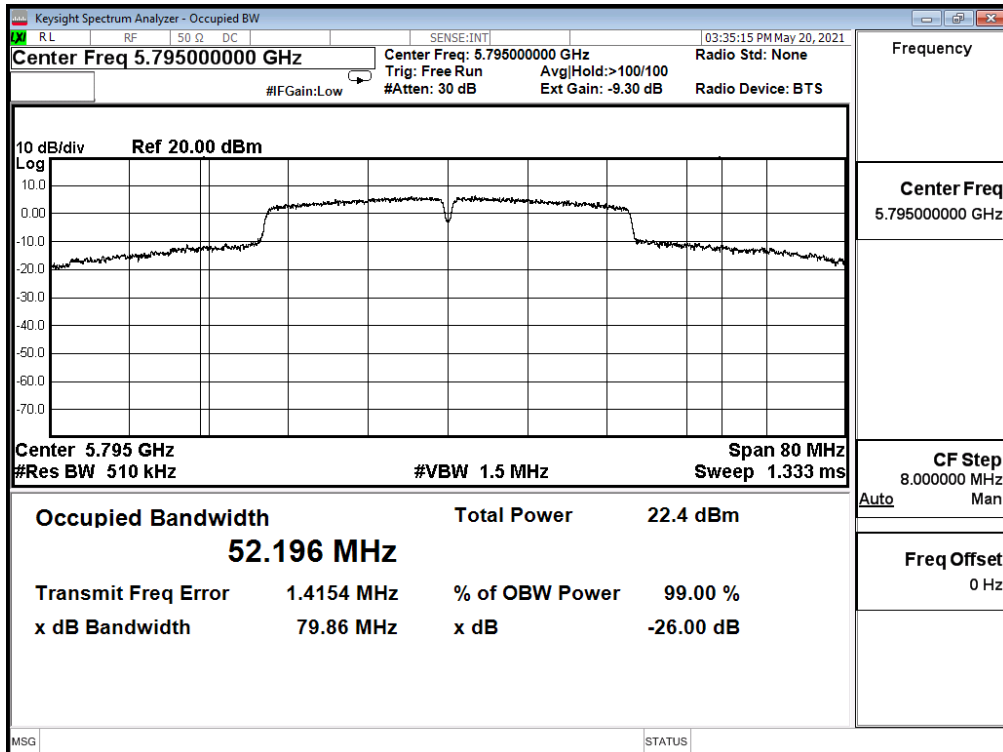
Channel 142 (5710MHz)



Channel 151 (5755MHz)



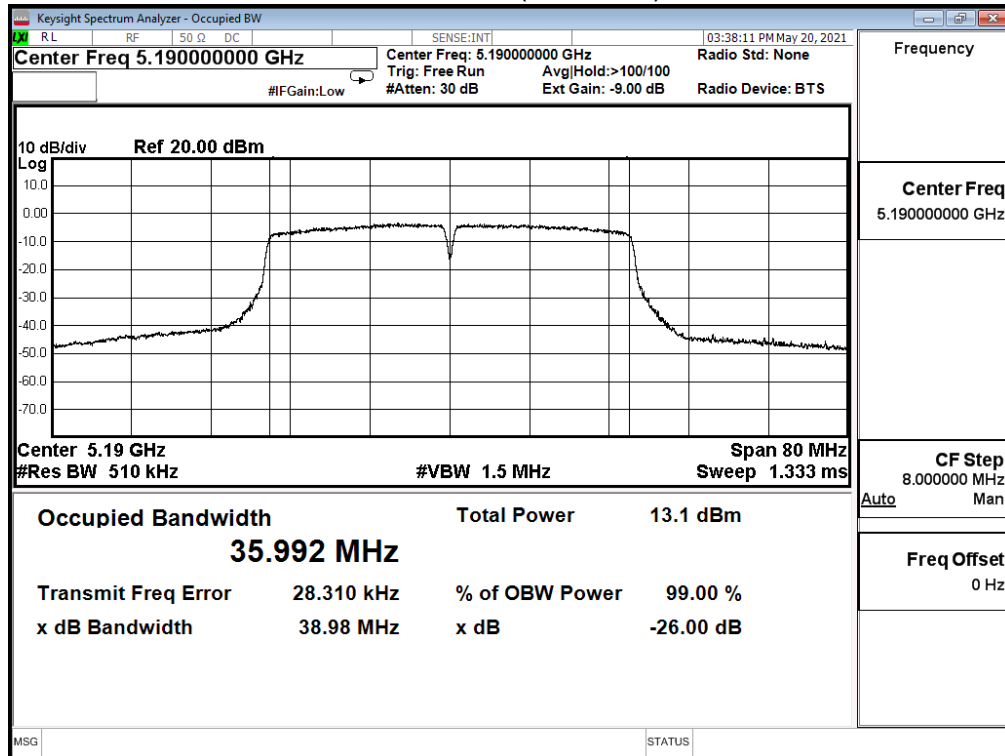
Channel 159 (5795MHz)



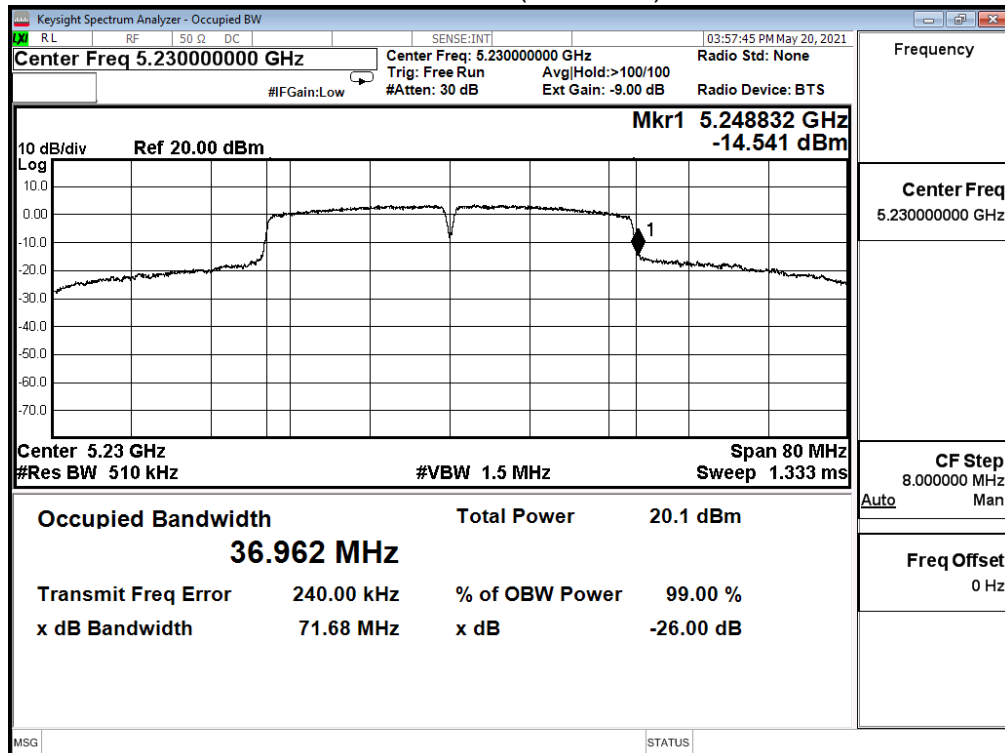
Product	Smart Display		
Test Item	26dB & 99% Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/22	Test Site	SR12-H
Temperature (°C)	23.0~24.5	Humidity (%RH)	65.0~66.0

IEEE 802.11ac_40M(ANT 1)				
Channel No.	Frequency (MHz)	Measure Value		Limit (MHz)
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	
38	5190	35.992	38.980	--
46	5230	36.962	71.680	--
54	5270	36.368	56.780	--
62	5310	36.038	39.160	--
102	5510	36.049	39.410	--
110	5550	36.689	71.210	--
134	5670	36.225	44.440	--
142_L	5710	45.078	59.470	--
142_R	5710	15.078	N/A	--
151	5755	52.402		--
159	5795	51.295		--

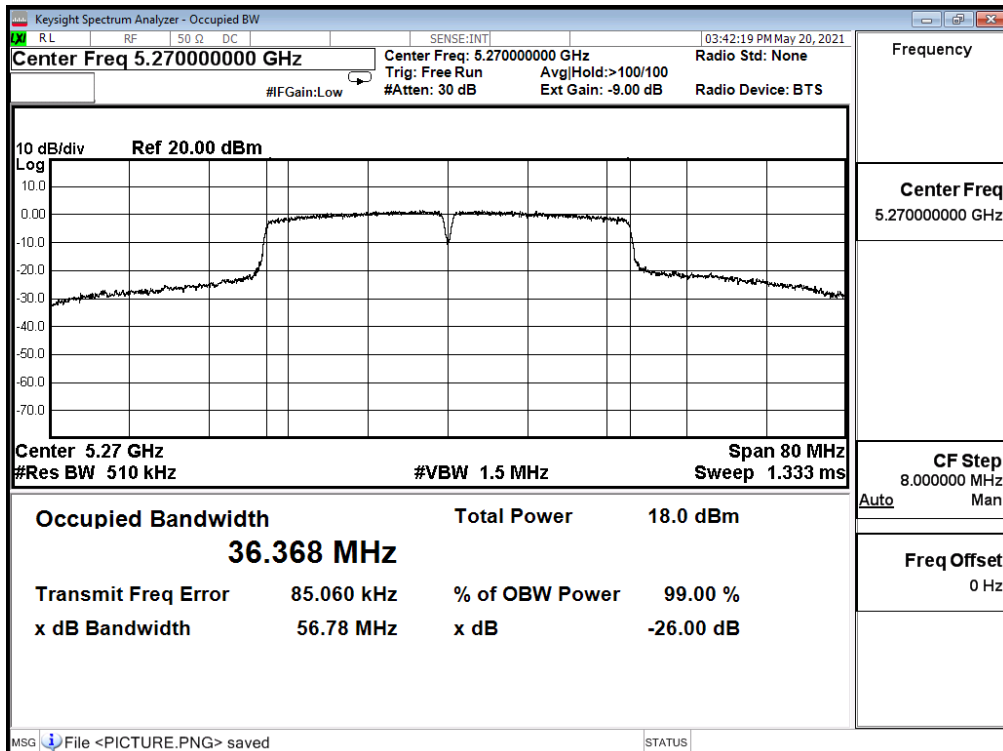
Channel 38 (5190MHz)



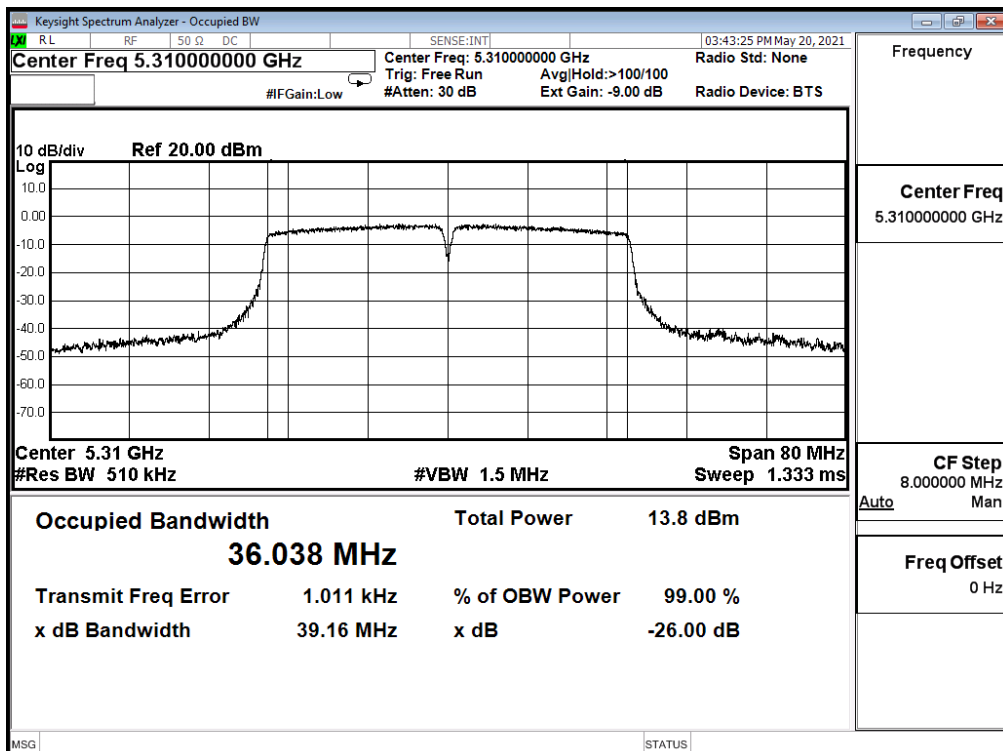
Channel 46 (5230MHz)



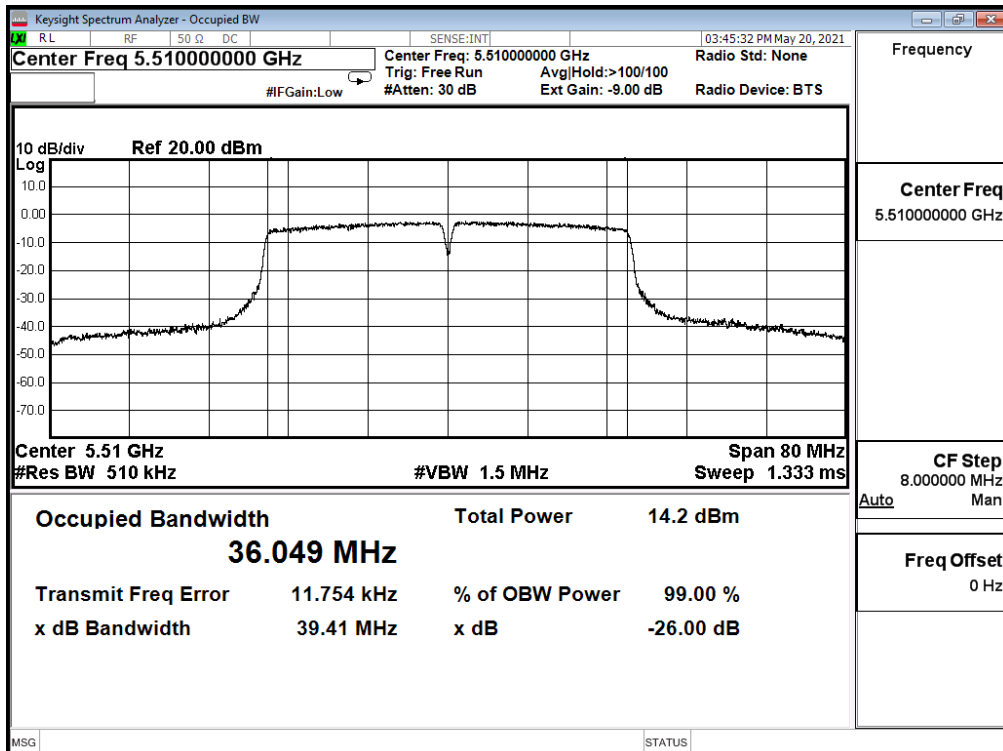
Channel 54 (5270MHz)



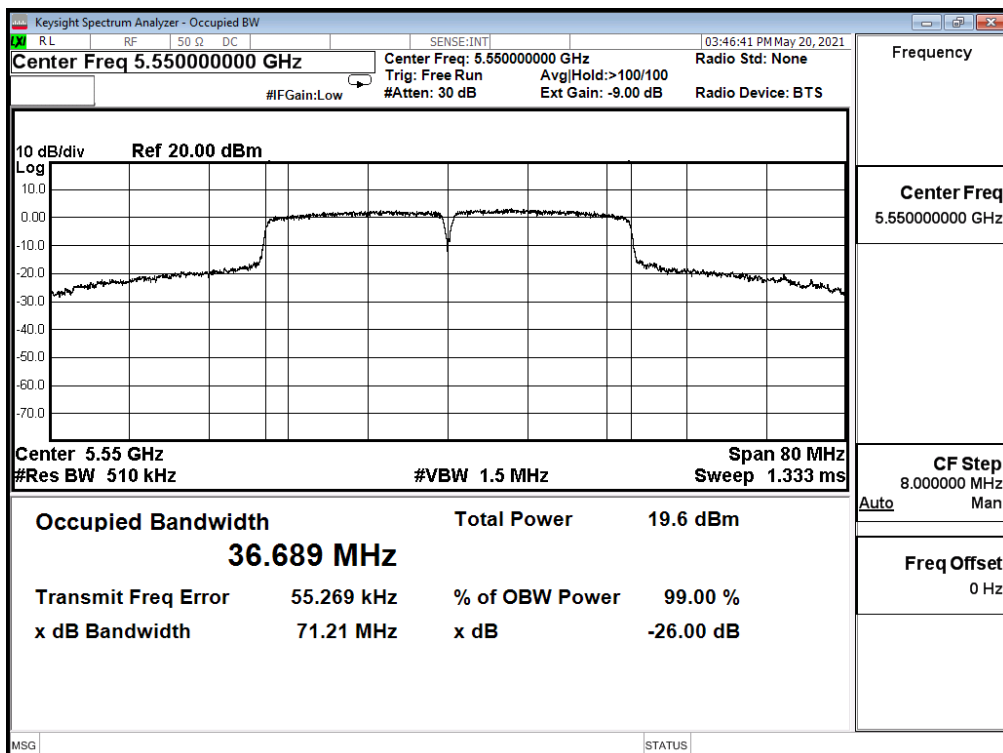
Channel 62 (5310MHz)



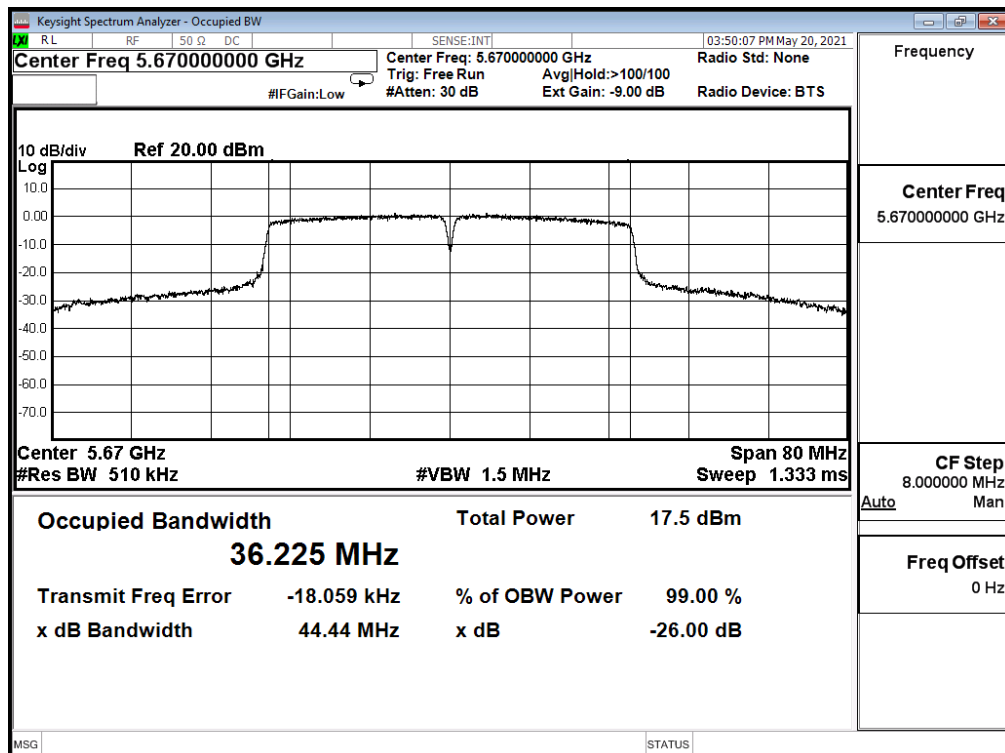
Channel 102 (5510MHz)



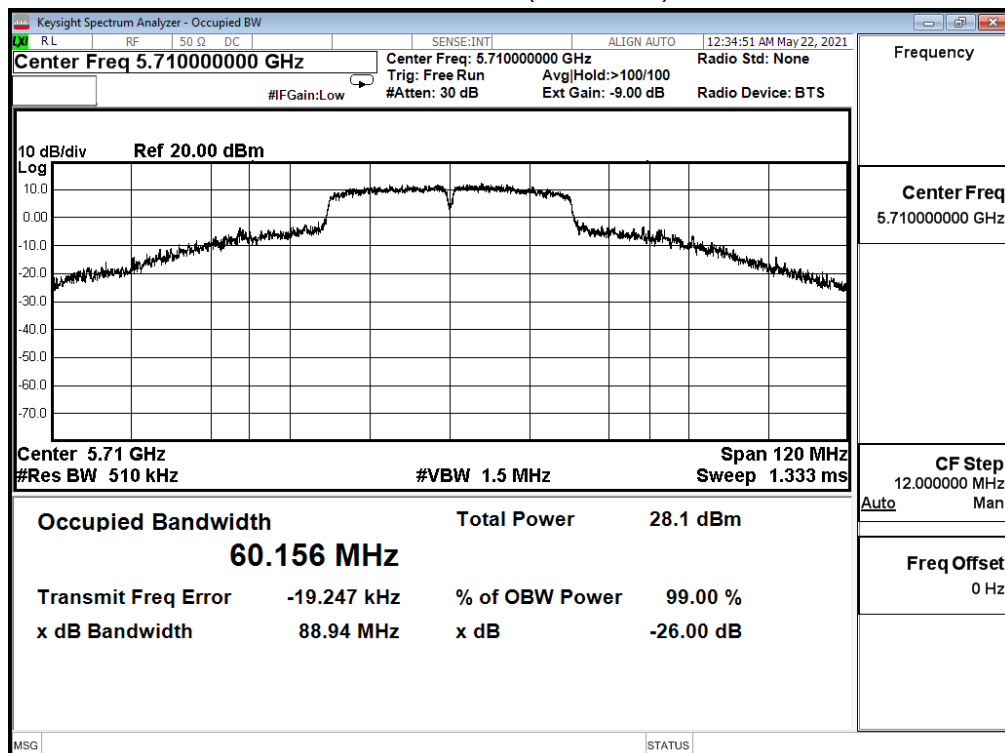
Channel 110 (5550MHz)



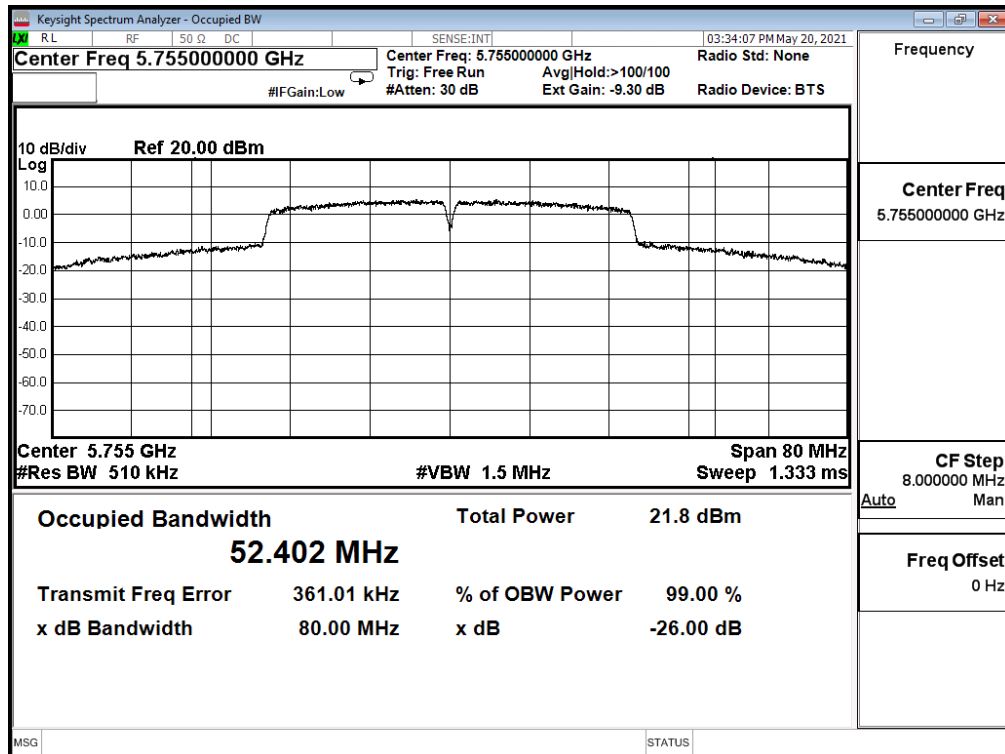
Channel 134 (5670MHz)



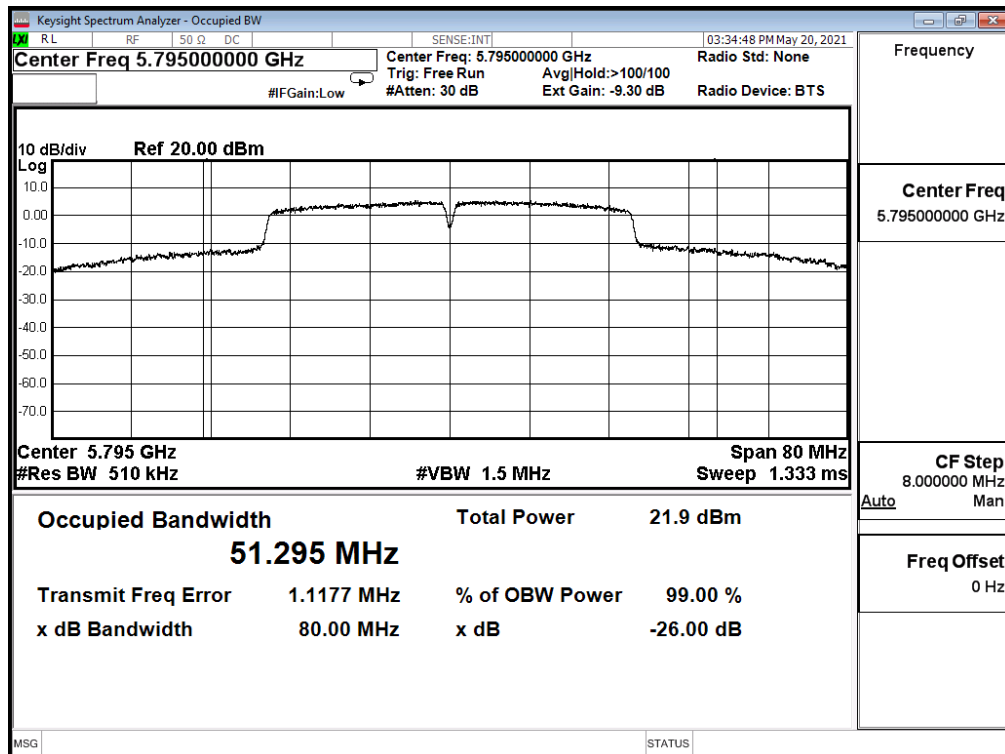
Channel 142 (5710MHz)



Channel 151 (5755MHz)



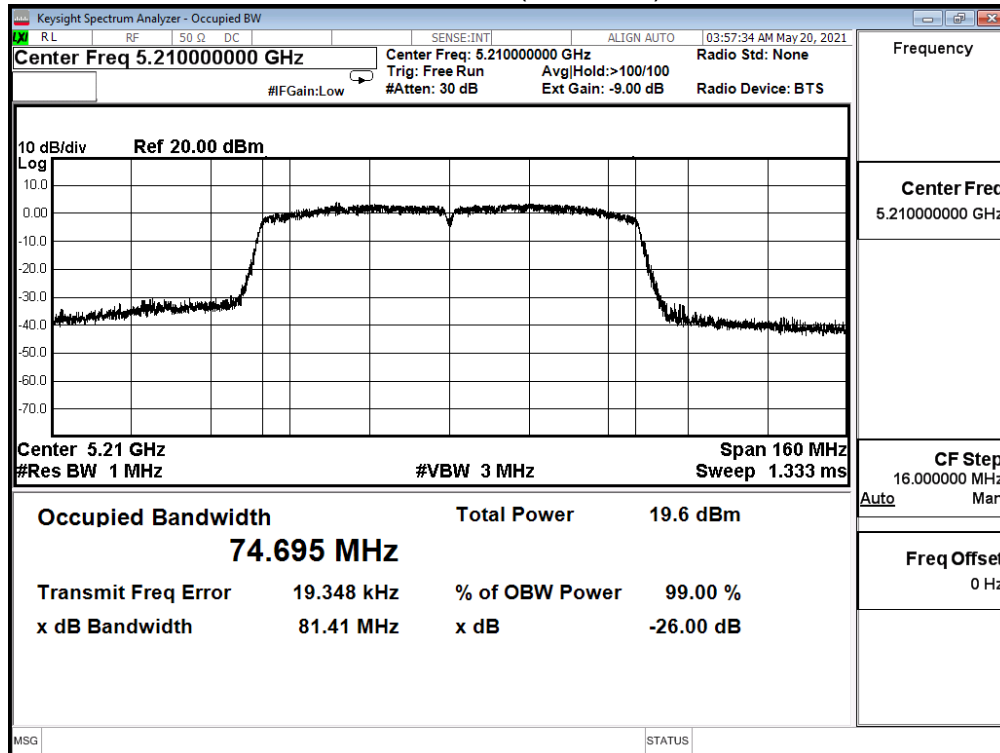
Channel 159 (5795MHz)



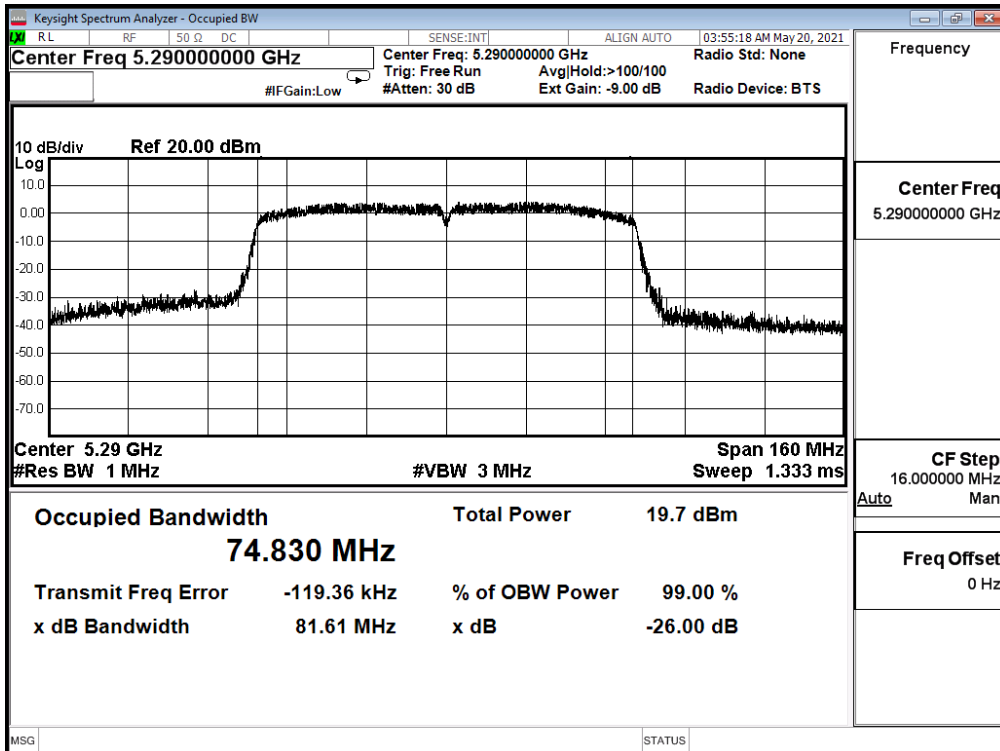
Product	Smart Display		
Test Item	26dB & 99% Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/22	Test Site	SR12-H
Temperature (°C)	23.0~24.5	Humidity (%RH)	65.0~66.0

IEEE 802.11ac_80M(ANT 0)					
Channel No.	Frequency (MHz)	Measure Value		Limit (MHz)	Result
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)		
42	5210	74.695	81.410	--	Pass
58	5290	74.830	81.610	--	Pass
106	5530	74.688	80.780	--	Pass
122	5610	75.745	151.200	--	Pass
138_L	5690	95.205	129.350	--	Pass
138_R	5690	25.205	N/A	--	Pass
155	5775	88.992		--	Pass

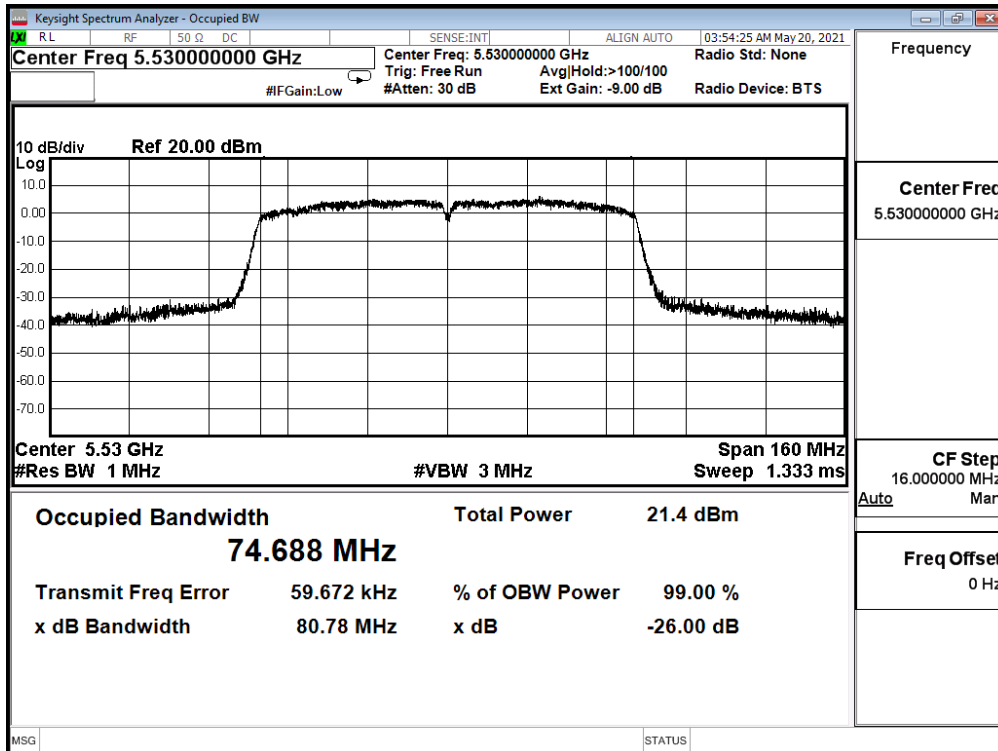
Channel 42 (5210MHz)



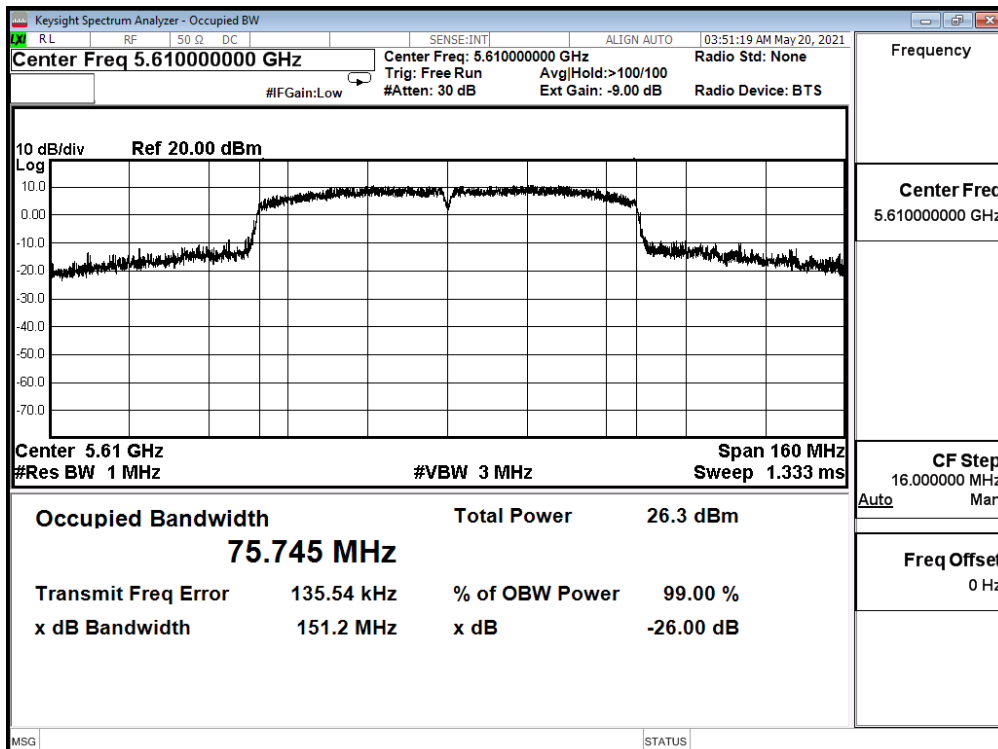
Channel 58 (5290MHz)



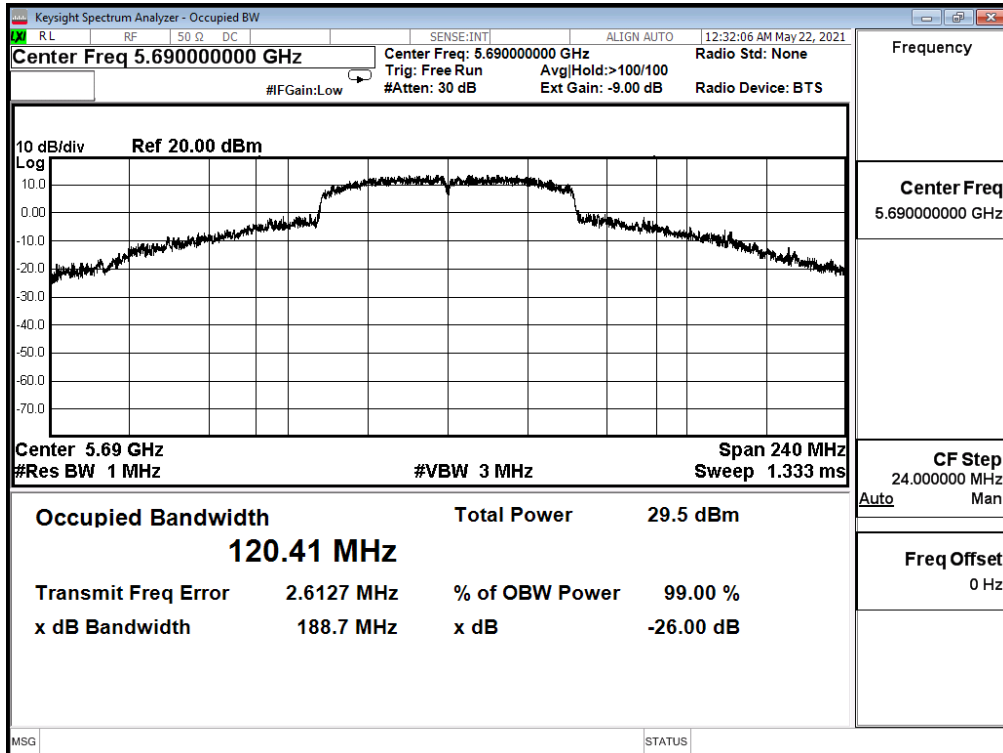
Channel 106 (5530MHz)



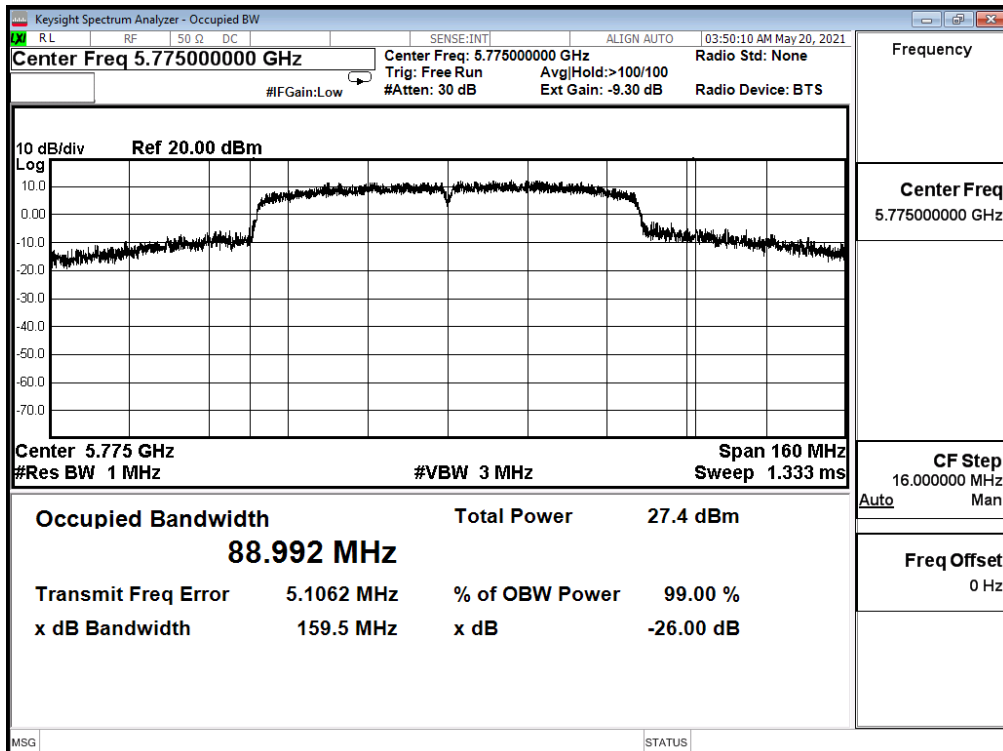
Channel 122 (5610MHz)



Channel 138 (5690MHz)



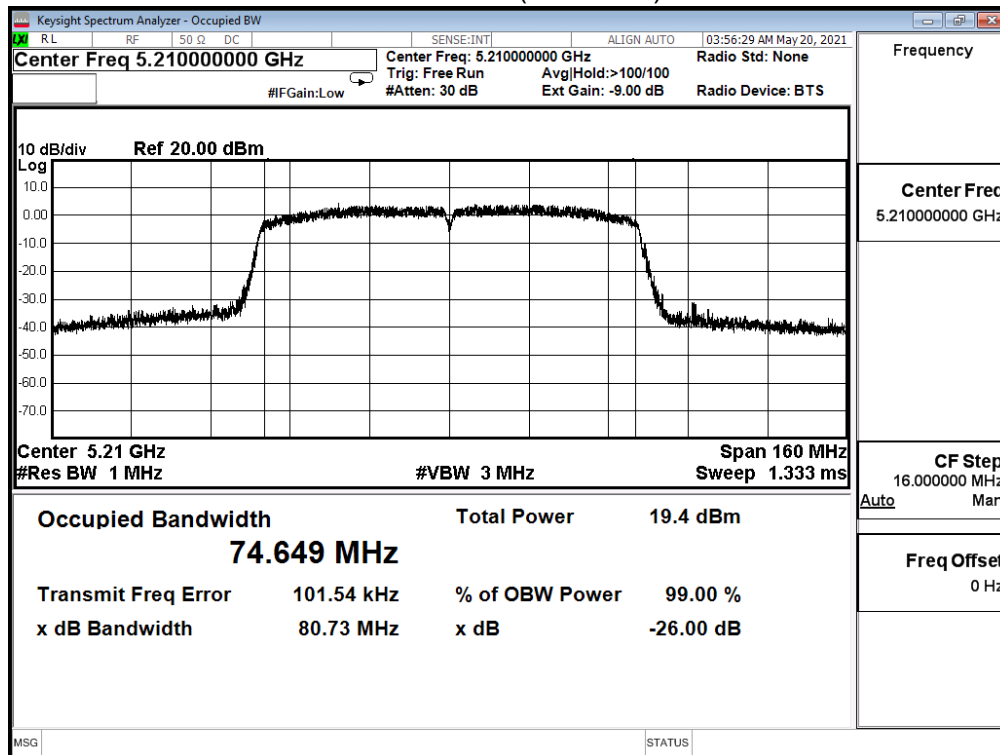
Channel 155 (5775MHz)



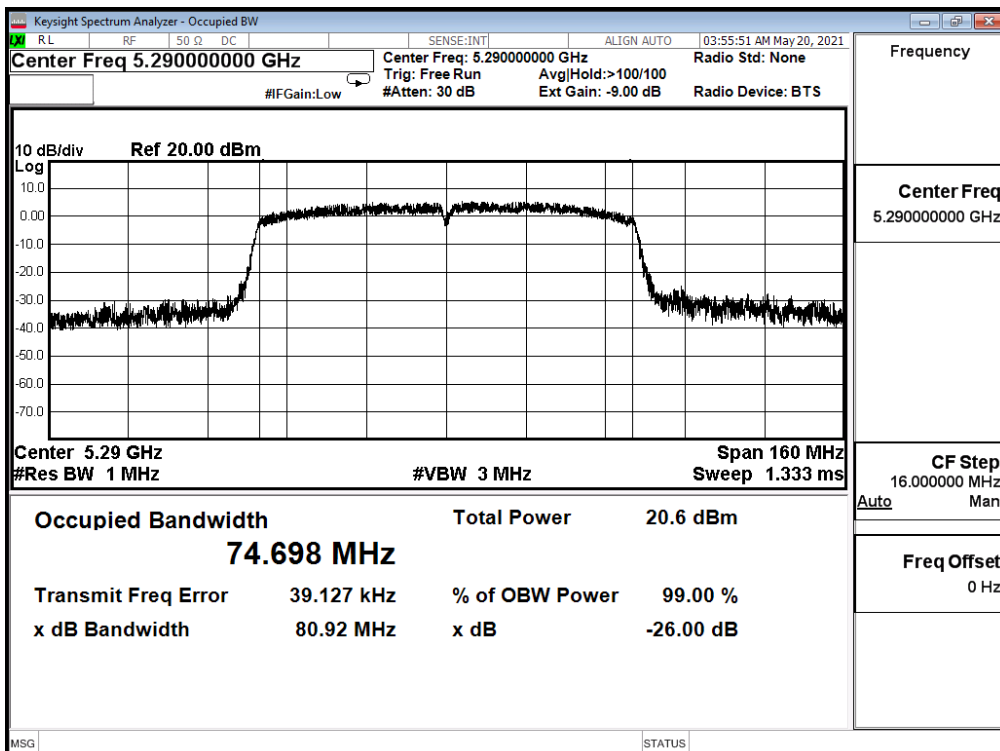
Product	Smart Display		
Test Item	26dB & 99% Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/22	Test Site	SR12-H
Temperature (°C)	23.0~24.5	Humidity (%RH)	65.0~66.0

IEEE 802.11ac_80M(ANT 1)					
Channel No.	Frequency (MHz)	Measure Value		Limit (MHz)	Result
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)		
42	5210	74.649	80.730	--	Pass
58	5290	74.698	80.920	--	Pass
106	5530	74.440	80.340	--	Pass
122	5610	75.862	149.900	--	Pass
138_L	5690	93.605	125.600	--	Pass
138_R	5690	23.605	N/A	--	Pass
155	5775	81.257		--	Pass

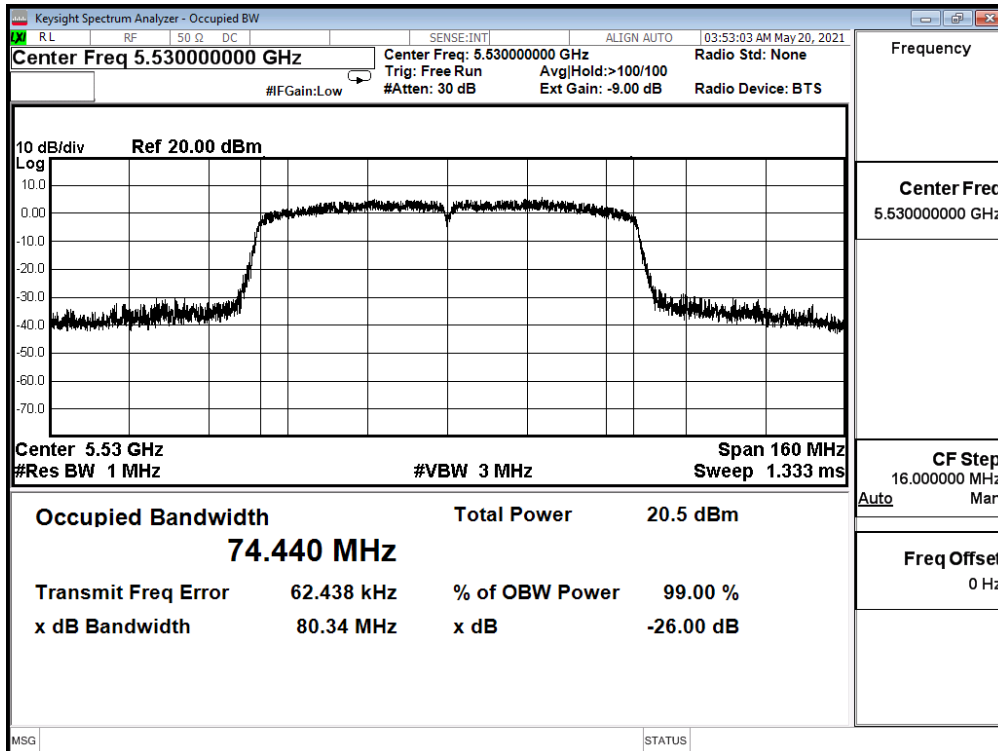
Channel 42 (5210MHz)



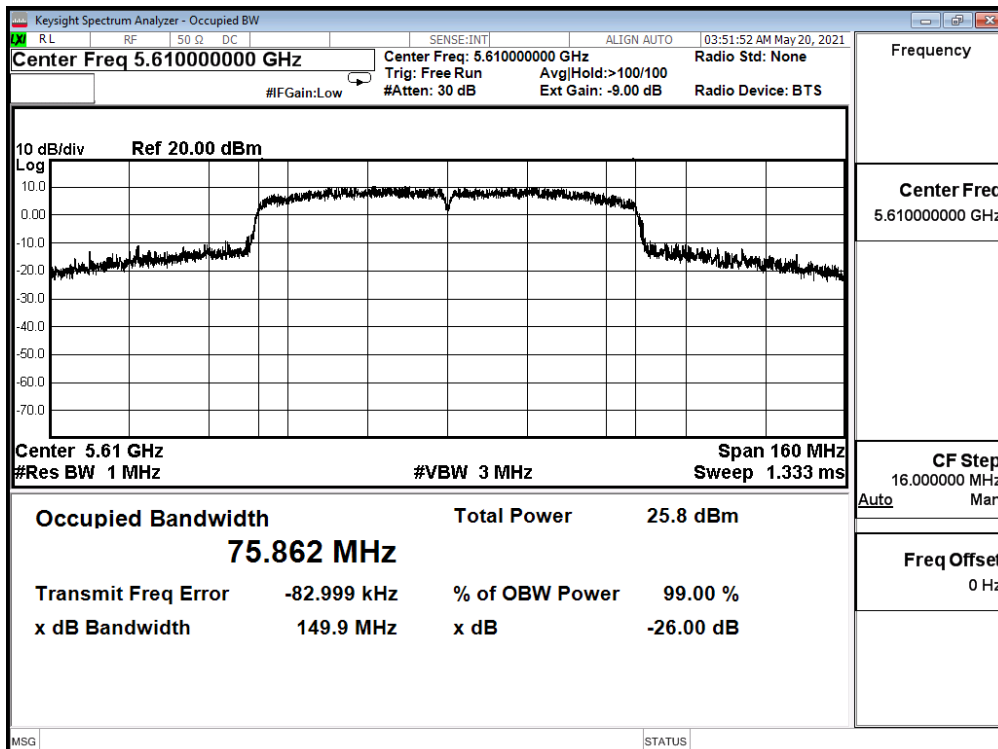
Channel 58 (5290MHz)



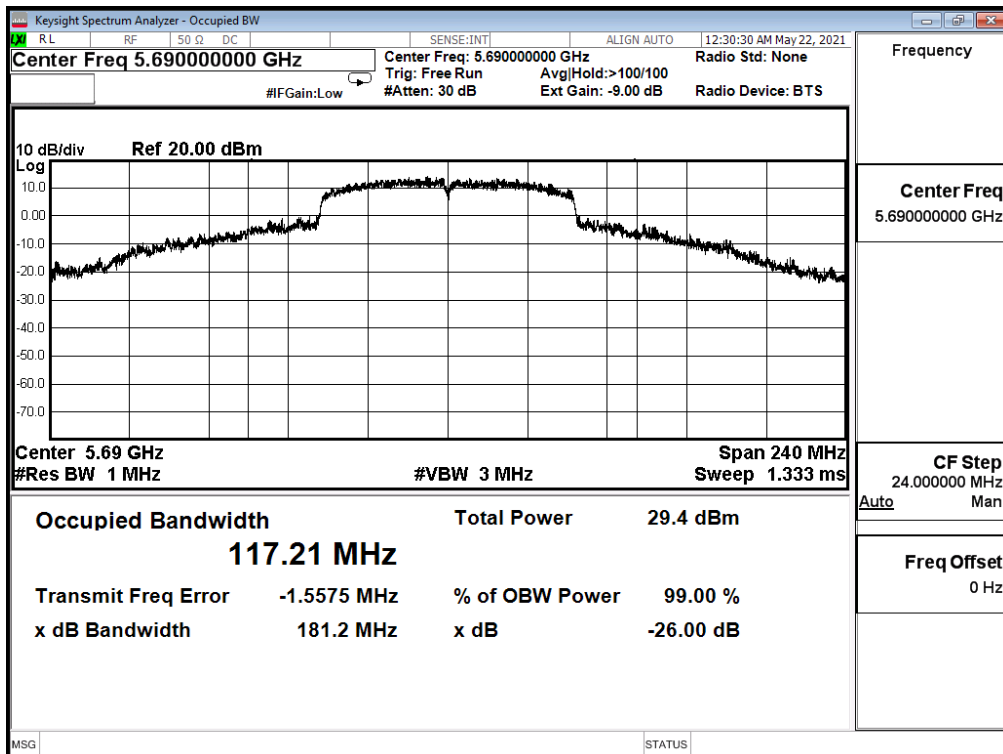
Channel 106 (5530MHz)



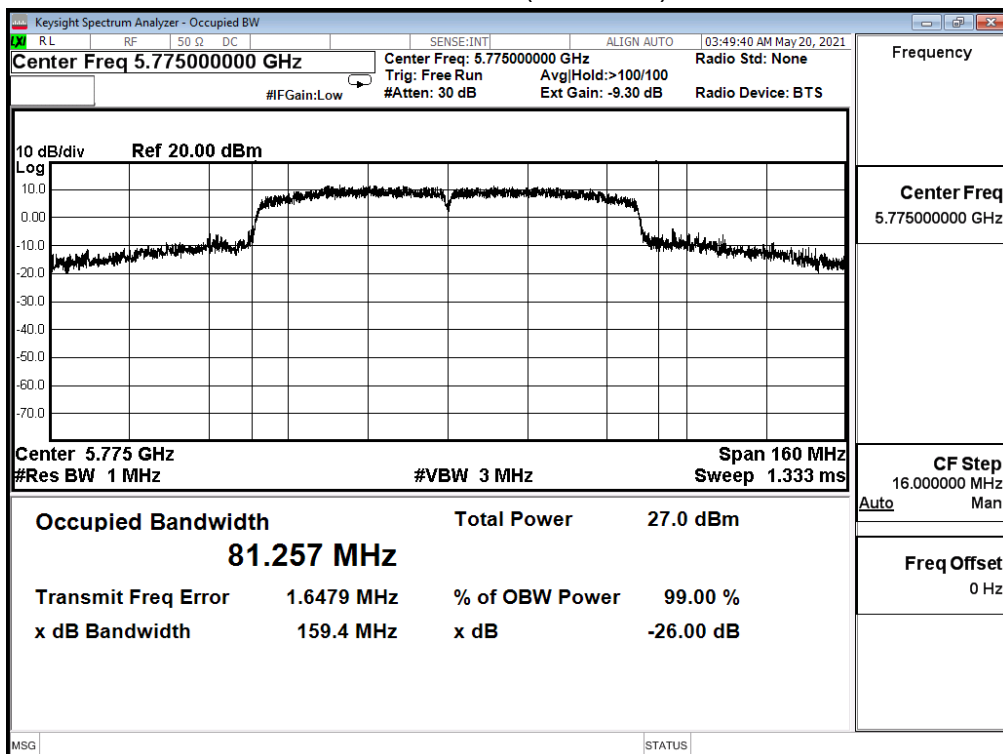
Channel 122 (5610MHz)



Channel 138 (5690MHz)



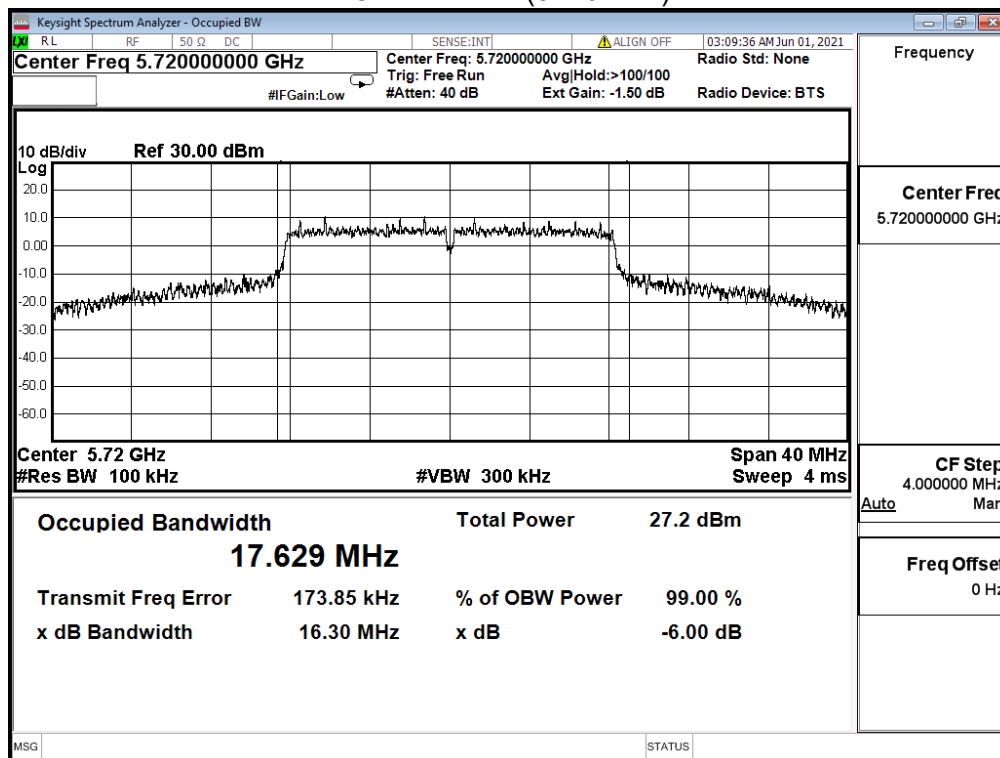
Channel 155 (5775MHz)



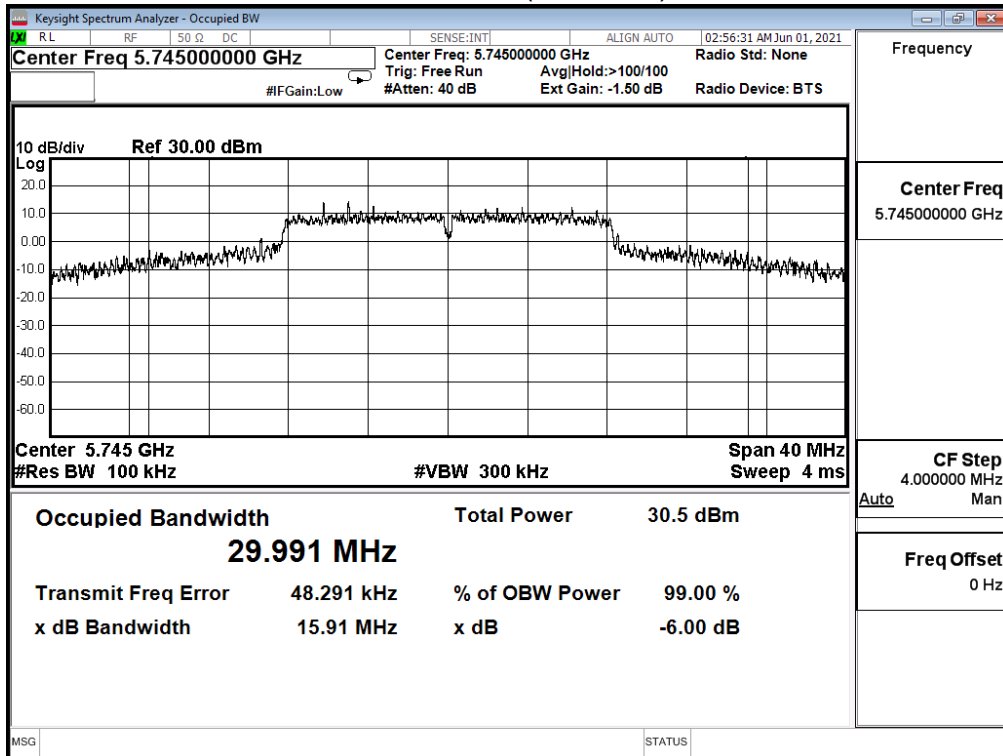
Product	Smart Display		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/06/01	Test Site	SR12-H
Temperature (°C)	26.0	Humidity (%RH)	60.0

IEEE 802.11a (ANT 1)			
Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)
144_R	5720	3.150	≥ 0.500
149	5745	15.910	≥ 0.500
157	5785	16.270	≥ 0.500
165	5825	16.300	≥ 0.500

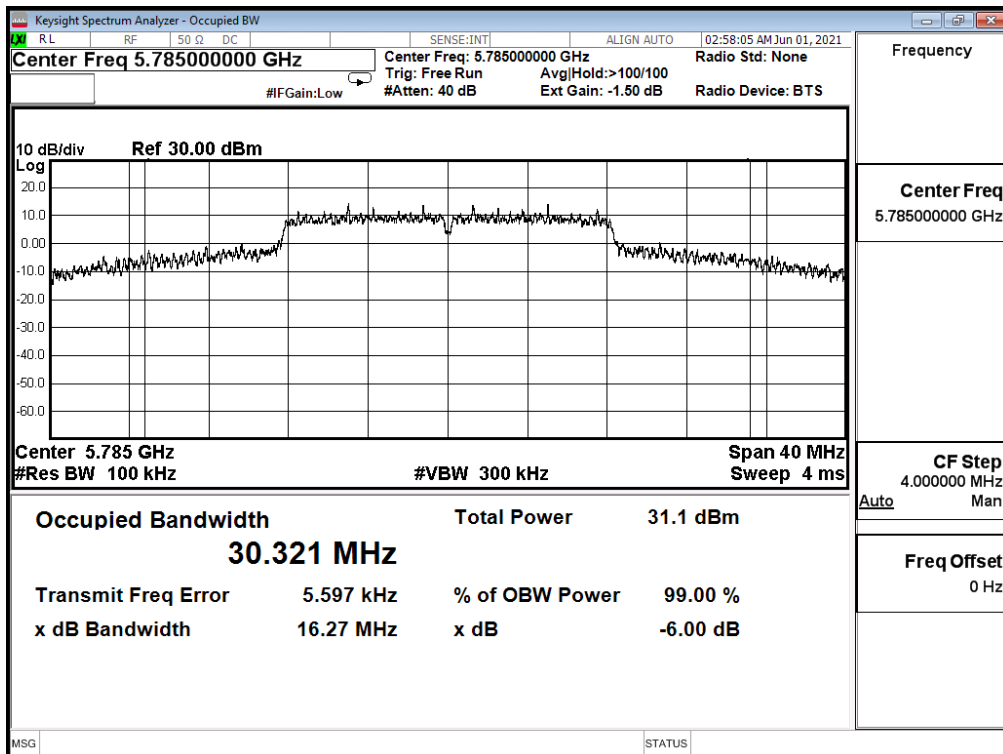
Channel 144 (5720MHz)



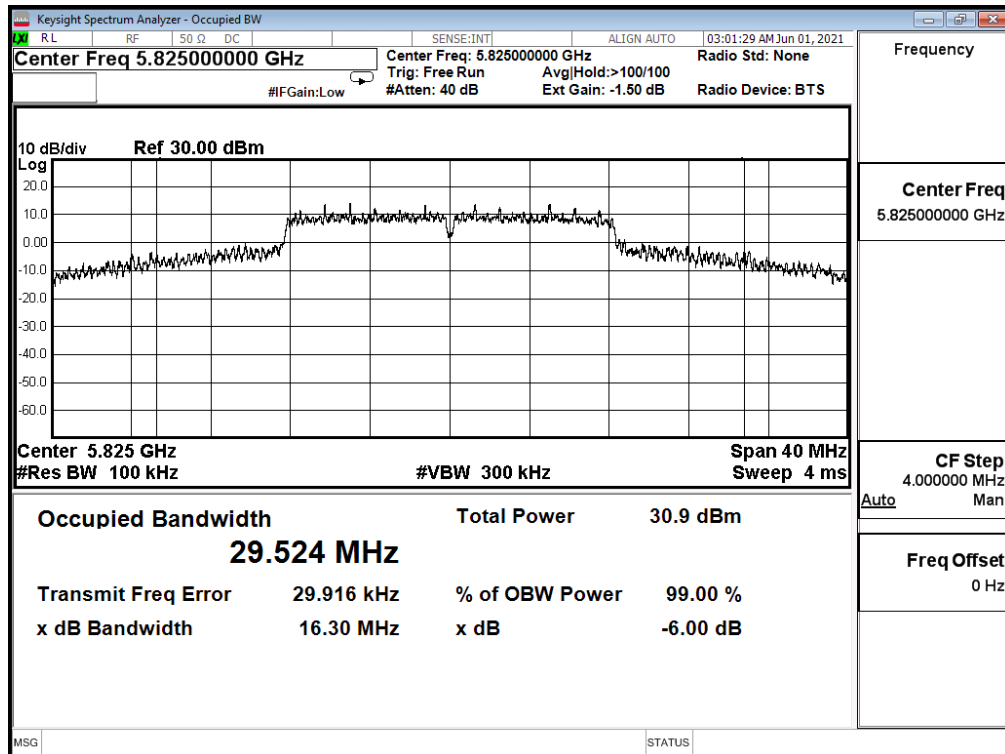
Channel 149 (5745MHz)



Channel 157 (5785MHz)



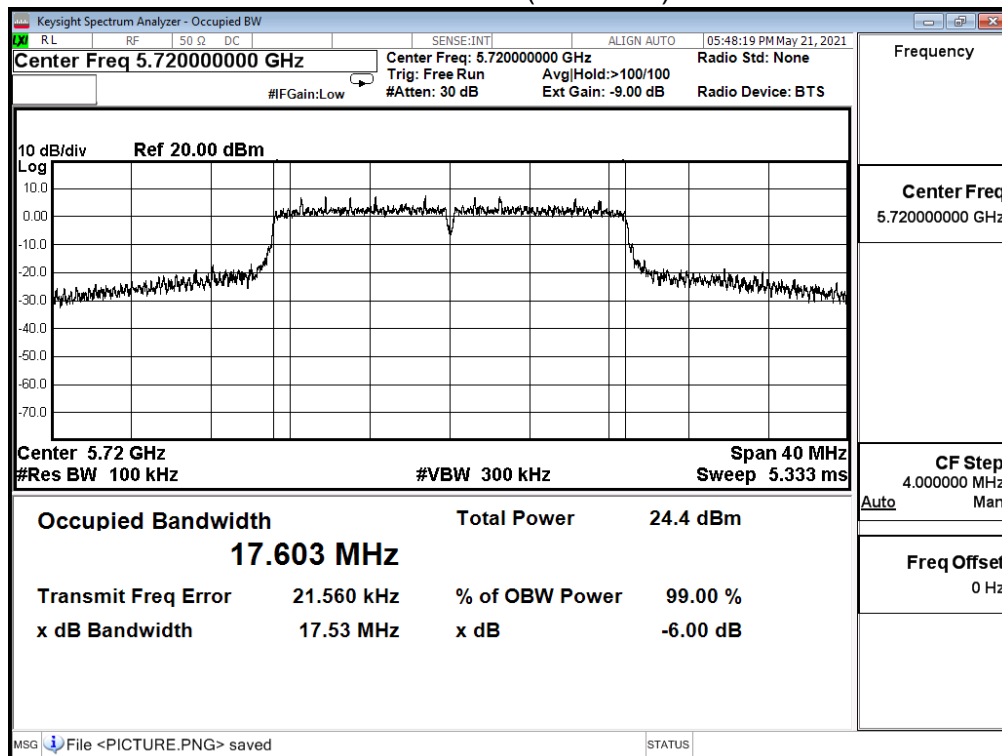
Channel 165 (5825MHz)



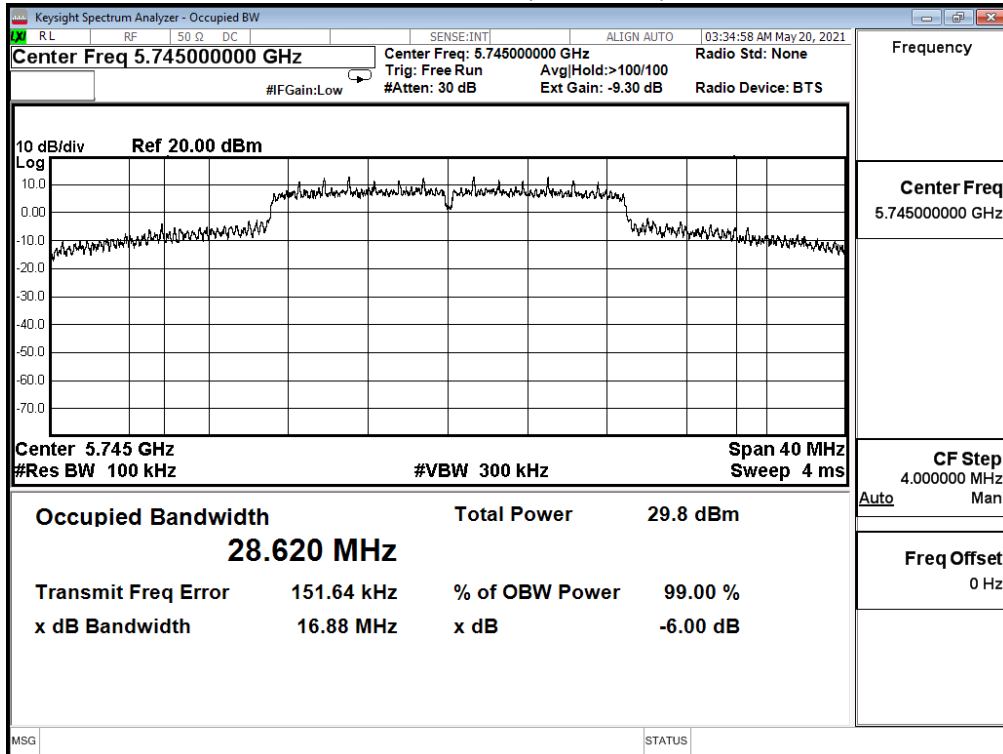
Product	Smart Display		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/21	Test Site	SR12-H
Temperature (°C)	24.0~24.5	Humidity (%RH)	66.0

IEEE 802.11ac_20M(ANT 0)			
Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)
144_R	5720	3.765	≥ 0.500
149	5745	16.880	≥ 0.500
157	5785	17.280	≥ 0.500
165	5825	17.290	≥ 0.500

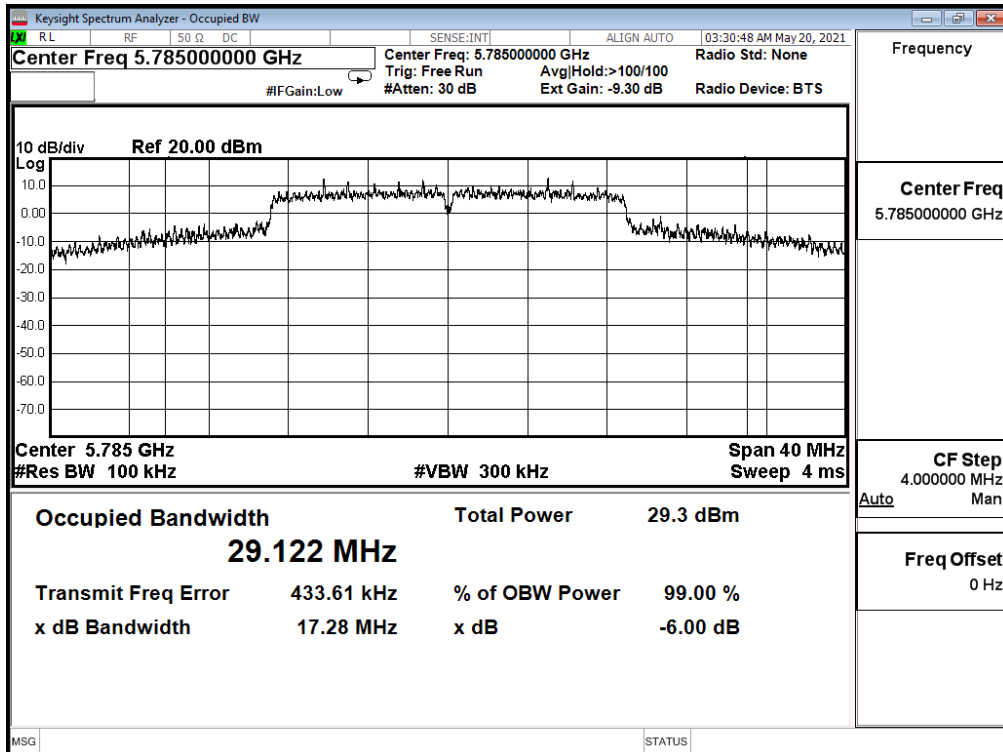
Channel 144 (5720MHz)



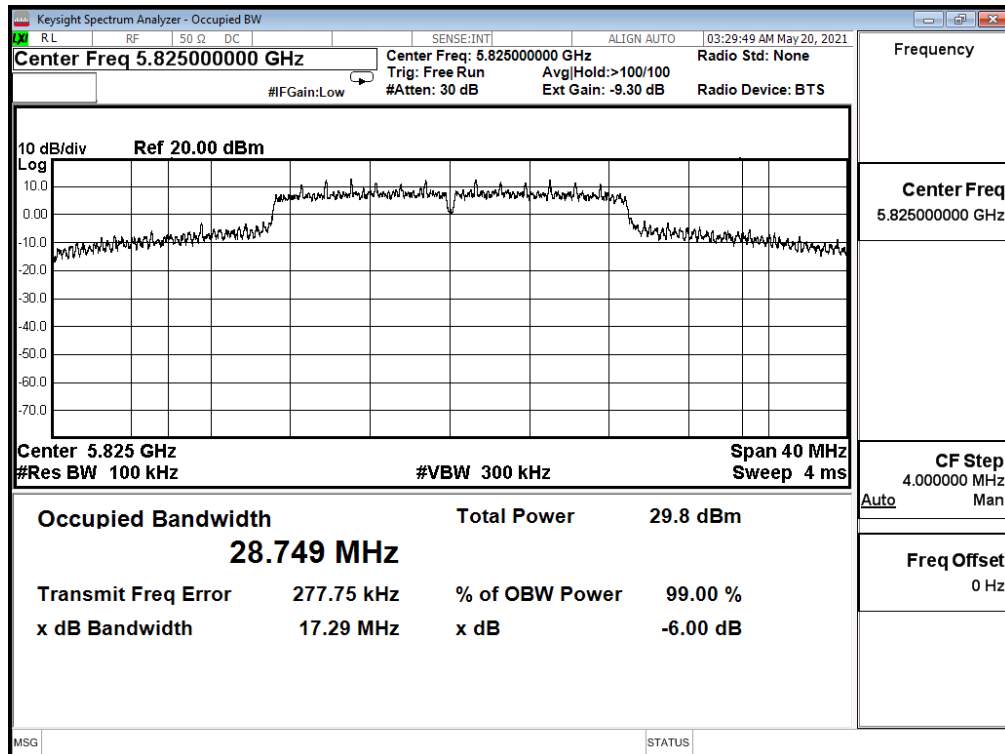
Channel 149 (5745MHz)



Channel 157 (5785MHz)



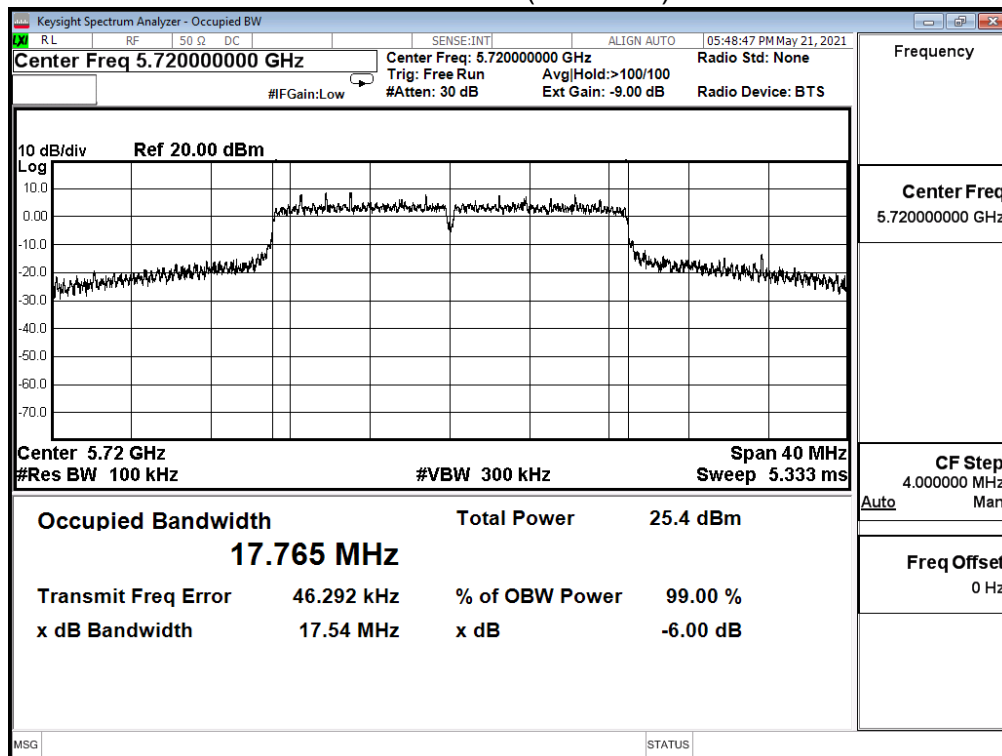
Channel 165 (5825MHz)



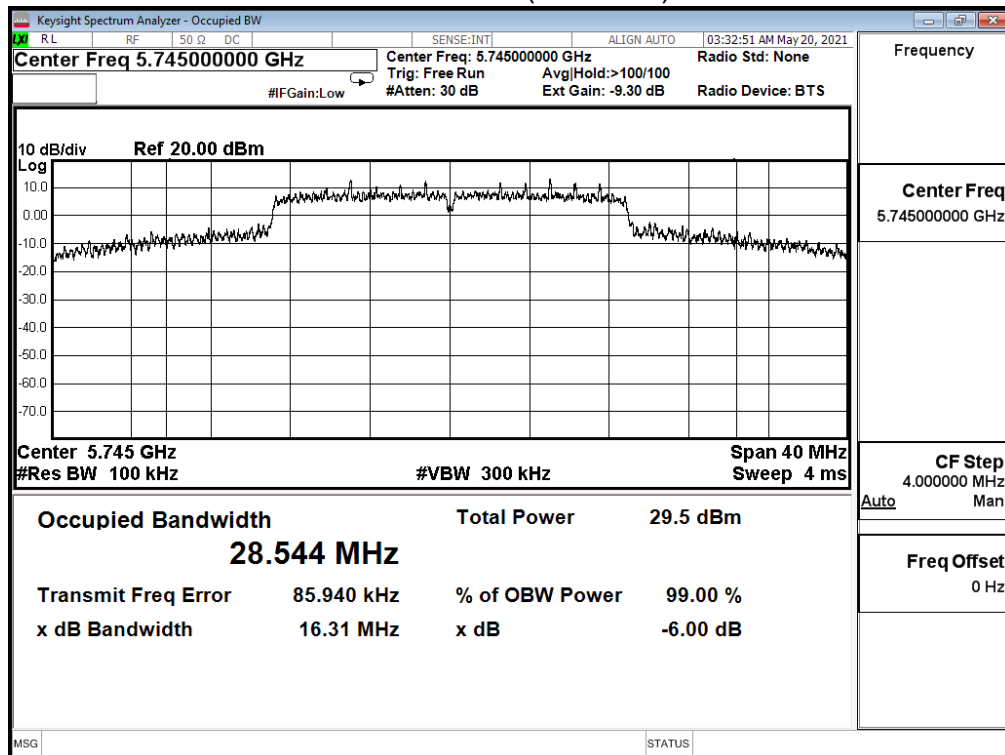
Product	Smart Display		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/21	Test Site	SR12-H
Temperature (°C)	24.0~24.5	Humidity (%RH)	66.0

IEEE 802.11ac_20M(ANT 1)			
Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)
144_R	5720	3.770	≥ 0.500
149	5745	16.310	≥ 0.500
157	5785	17.530	≥ 0.500
165	5825	17.280	≥ 0.500

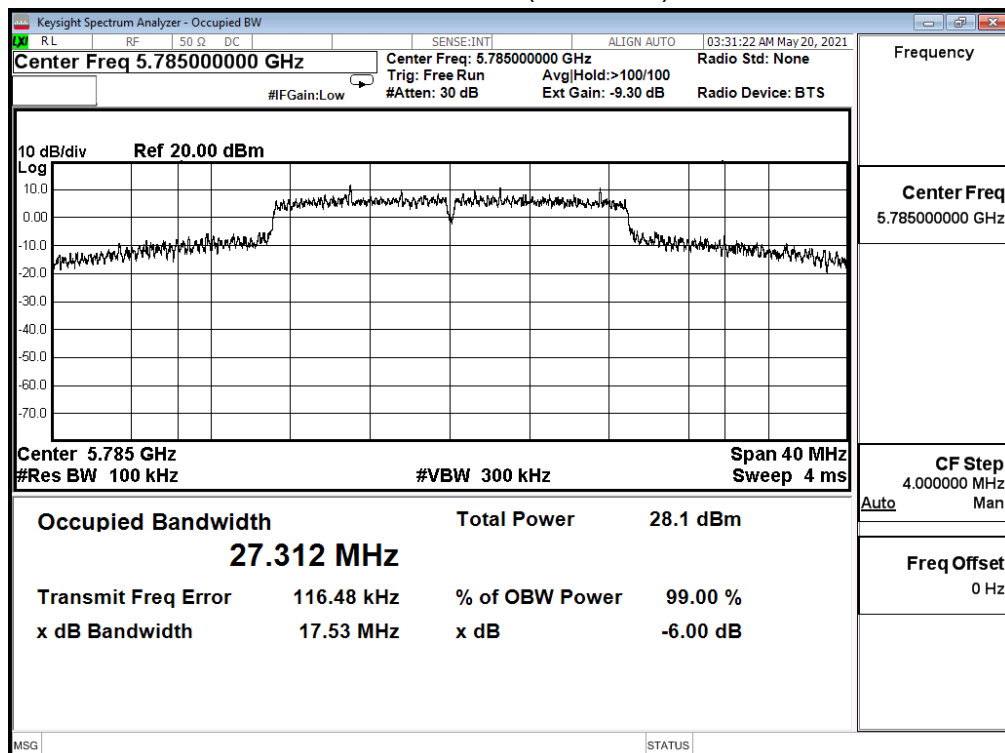
Channel 144 (5720MHz)



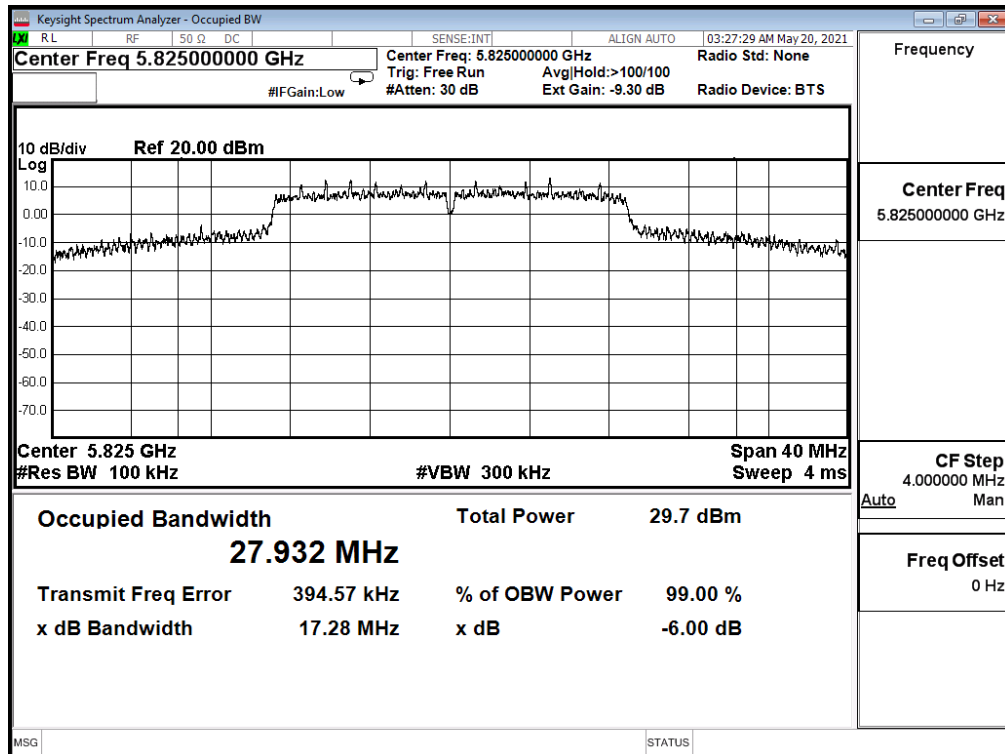
Channel 149 (5745MHz)



Channel 157 (5785MHz)



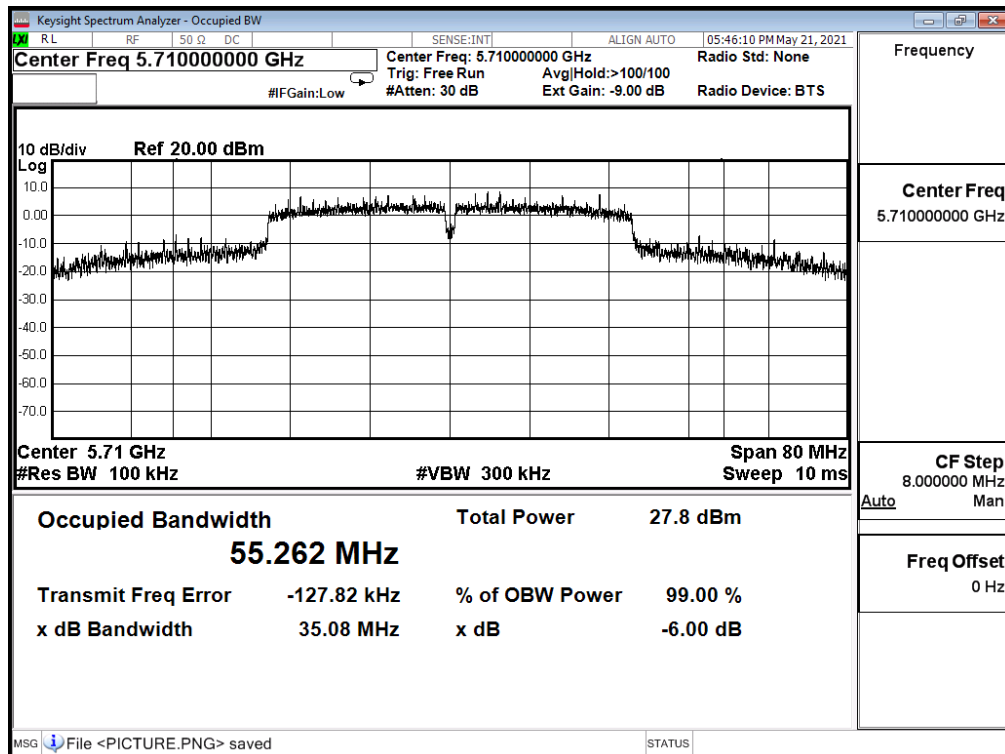
Channel 165 (5825MHz)



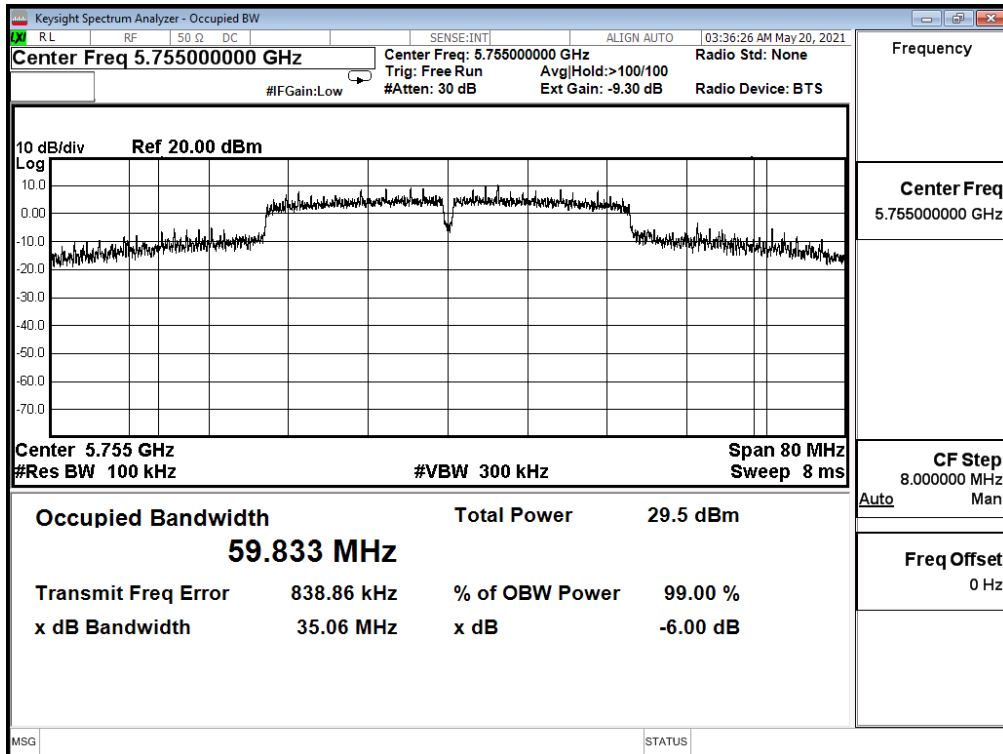
Product	Smart Display		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/21	Test Site	SR12-H
Temperature (°C)	24.0~24.5	Humidity (%RH)	66.0

IEEE 802.11ac_40M(ANT 0)			
Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)
142_R	5710	2.540	≥ 0.500
151	5755	35.060	≥ 0.500
159	5795	33.800	≥ 0.500

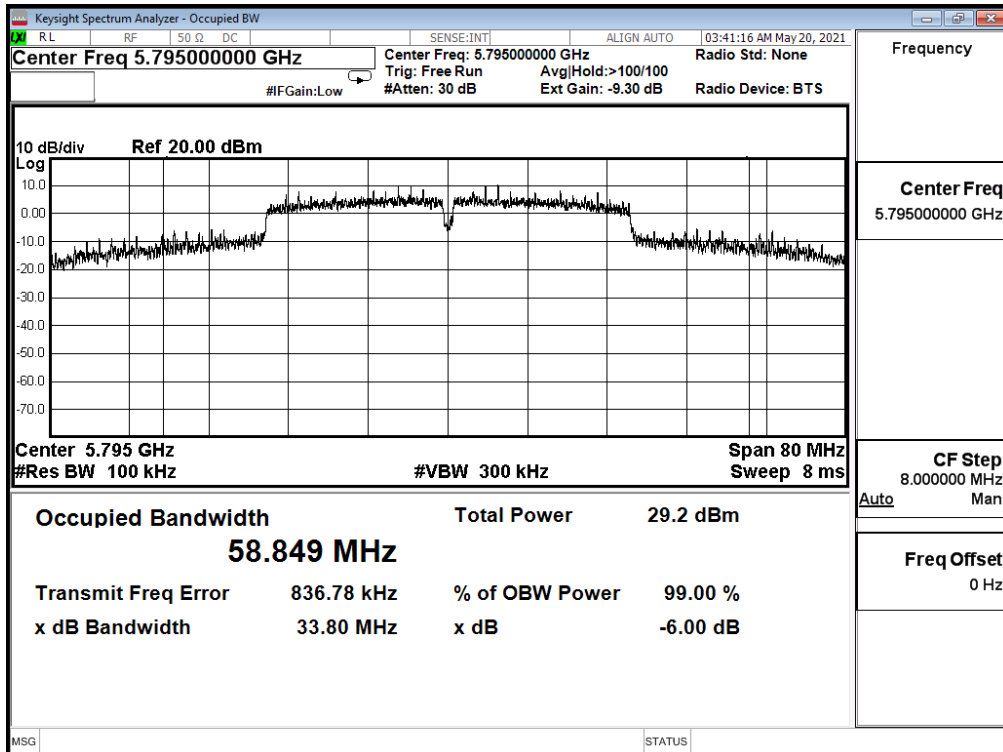
Channel 142 (5710MHz)



Channel 151 (5755MHz)



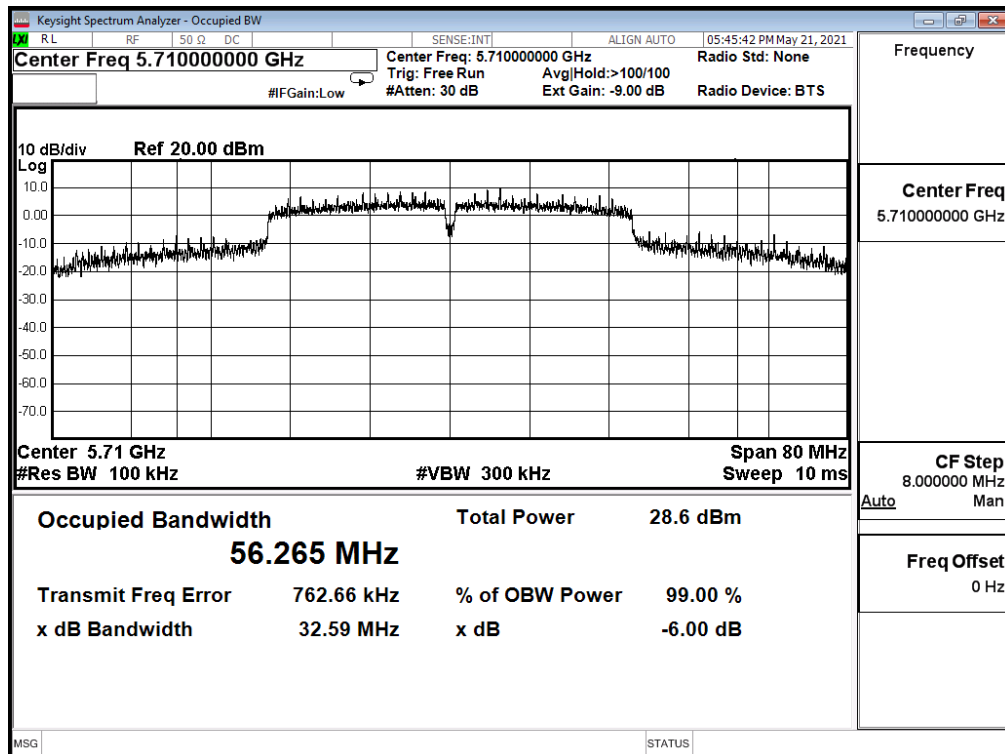
Channel 159 (5795MHz)



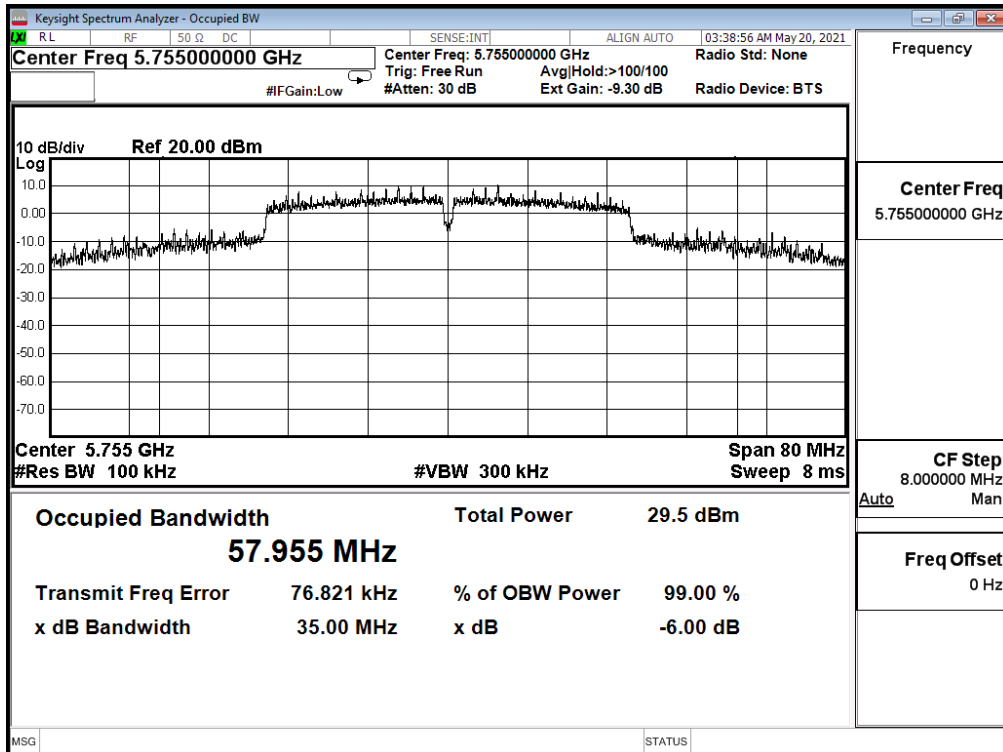
Product	Smart Display		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/21	Test Site	SR12-H
Temperature (°C)	24.0~24.5	Humidity (%RH)	66.0

IEEE 802.11ac_40M(ANT 1)			
Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)
142_R	5710	1.295	≥ 0.500
151	5755	35.000	≥ 0.500
159	5795	35.030	≥ 0.500

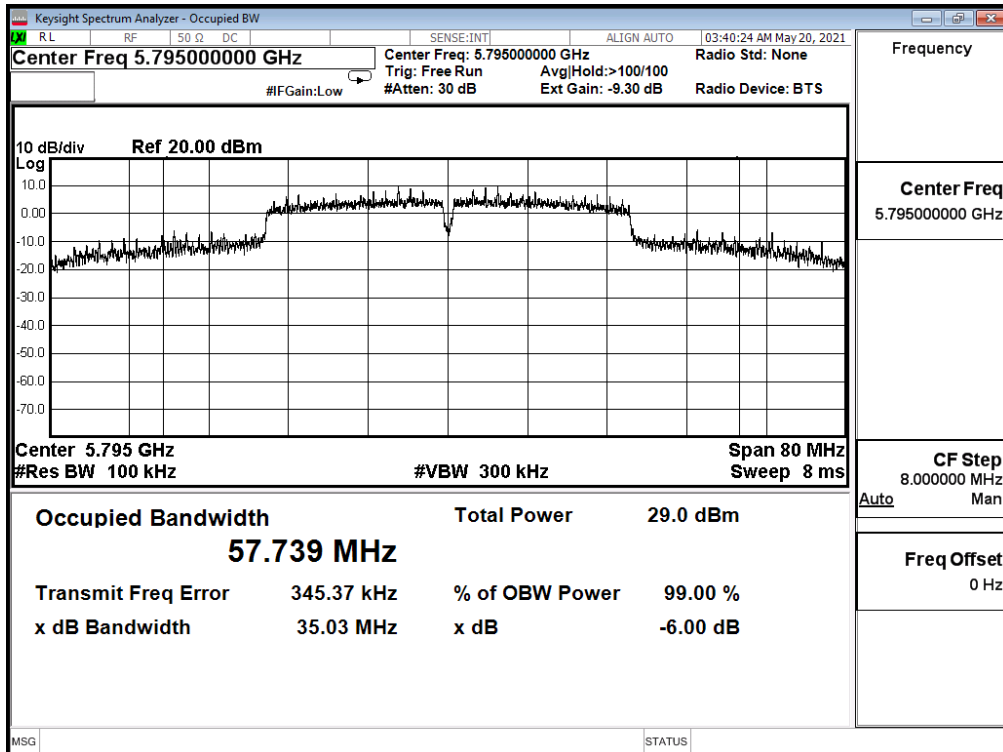
Channel 142 (5710MHz)



Channel 151 (5755MHz)



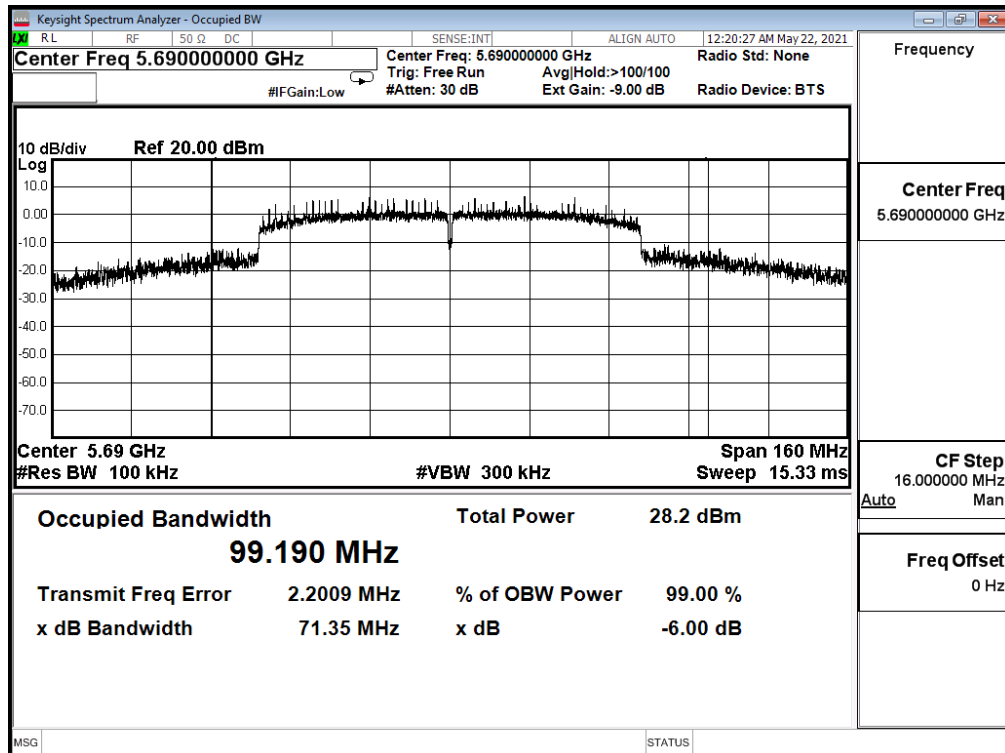
Channel 159 (5795MHz)



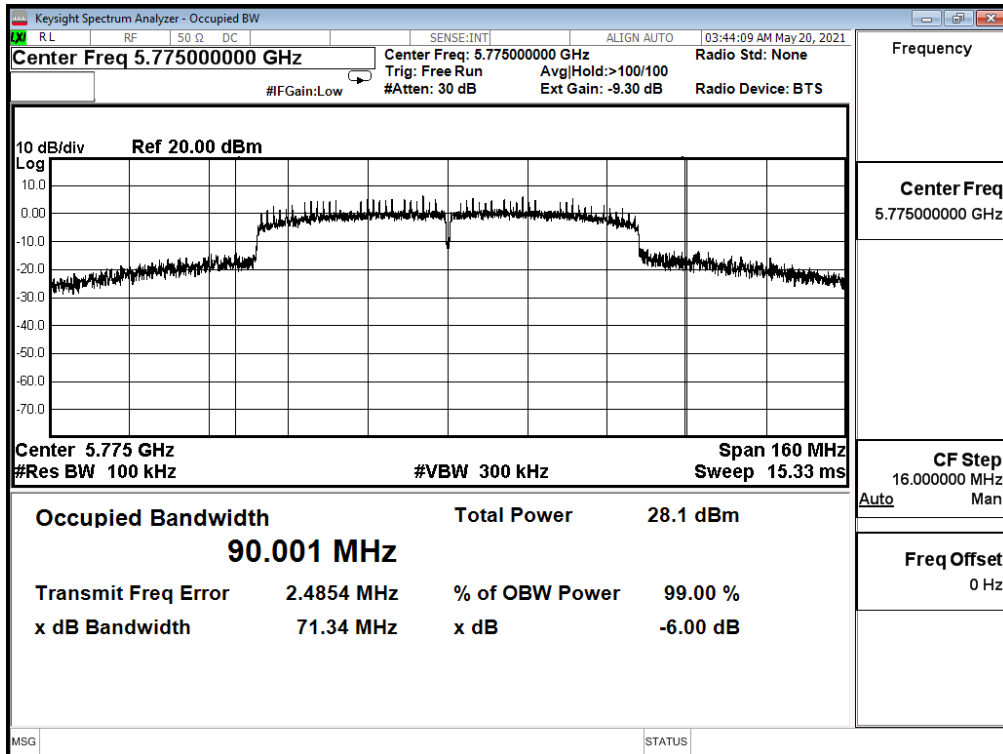
Product	Smart Display		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/22	Test Site	SR12-H
Temperature (°C)	23~24.5	Humidity (%RH)	65.0~66.0

IEEE 802.11ac_80M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)	Result
138_R	5690	0.675	≥ 0.500	Pass
155	5775	71.340	≥ 0.500	Pass

Channel 138 (5690MHz)



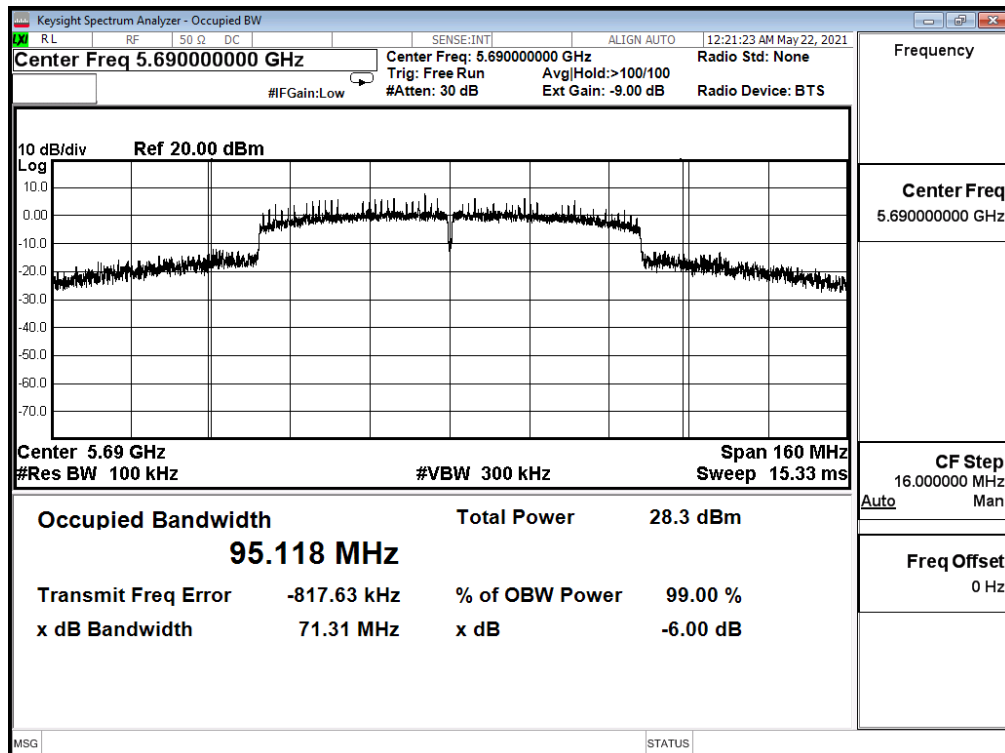
Channel 155 (5775MHz)



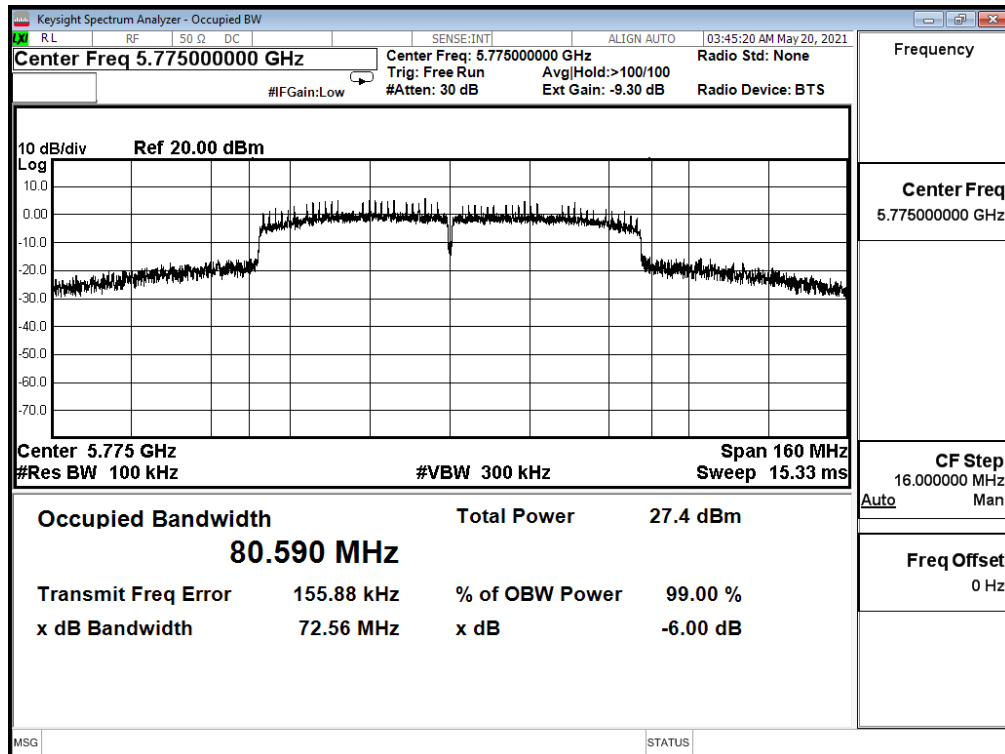
Product	Smart Display		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/20~2021/05/22	Test Site	SR12-H
Temperature (°C)	23~24.5	Humidity (%RH)	65.0~66.0

IEEE 802.11ac_80M(ANT 1)				
Channel No.	Frequency (MHz)	Measure Value (MHz)	Limit (MHz)	Result
138_R	5690	0.655	≥ 0.500	Pass
155	5775	72.560	≥ 0.500	Pass

Channel 138 (5690MHz)

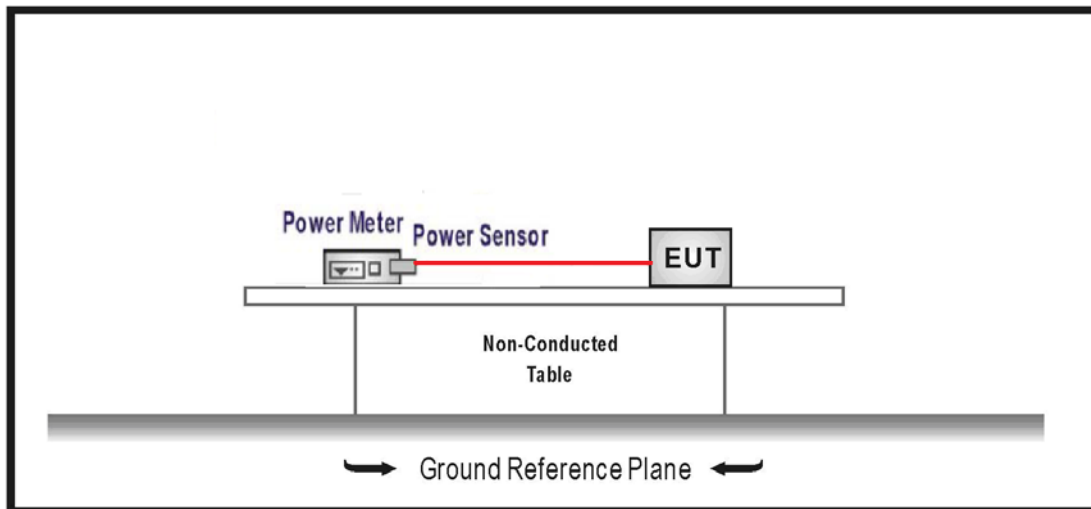


Channel 155 (5775MHz)



4. Maximum conducted output power

4.1. Test Setup



4.2. Limits

1. For the band 5.15-5.25 GHz, the Maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1W. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
2. For 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. 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 5.25-5.35 GHz, the Maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
4. For the band 5.725-5.850 GHz, the Maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1W. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

4.3. Test Procedure

The EUT was setup to ANSI C63.10: 2013; tested to U-NII test procedure of KDB 789033 D02 v02r01 for compliance to FCC 47CFR Subpart E requirements. The Method PM-G of the Maximum conducted output power was used.

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

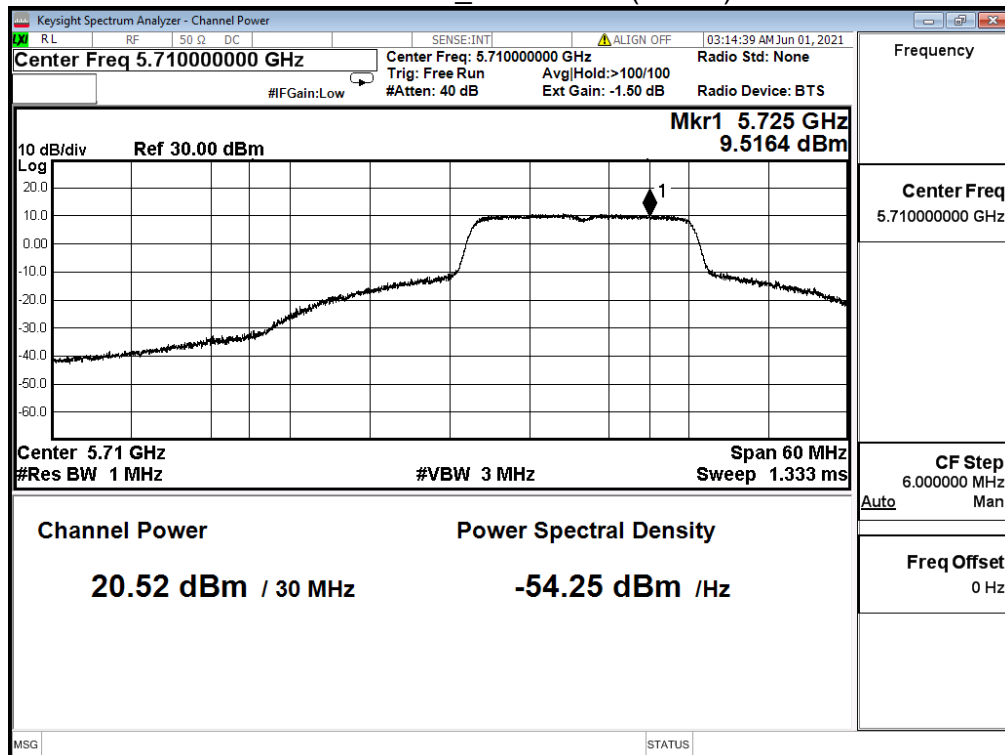
4.4. Test Result

Product	Smart Display		
Test Item	Maximum conducted output power		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/06/01	Test Site	SR12-H
Temperature (°C)	26.0	Humidity (%RH)	60.0

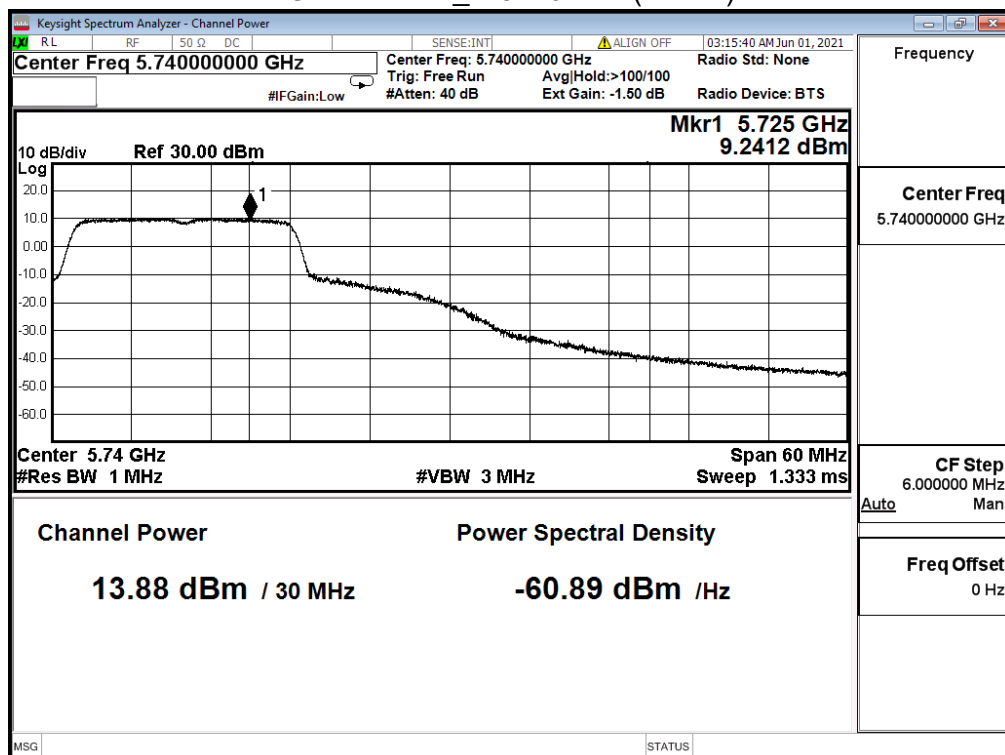
IEEE 802.11a				
Channel No.	Frequency (MHz)	Max. Conducted Output Power (dBm)		Limit (dBm)
		Ant. 1		
36	5180	20.640		≤ 24.000
44	5220	21.660		≤ 24.000
48	5240	21.630		≤ 24.000
52	5260	21.590		≤ 24.000
60	5300	21.720		≤ 24.000
64	5320	18.610		≤ 24.000
100	5500	20.030		≤ 24.000
116	5580	21.520		≤ 24.000
140	5700	19.740		≤ 24.000
144_L	5720	20.520		≤ 24.000
144_R	5720	13.880		≤ 30.000
149	5745	24.180		≤ 30.000
157	5785	24.140		≤ 30.000
165	5825	24.020		≤ 30.000

The worst emission of data rate is 6 Mbps.

Channel 144_L 5720MHz (ANT 1)



Channel 144_R 5720MHz (ANT 1)

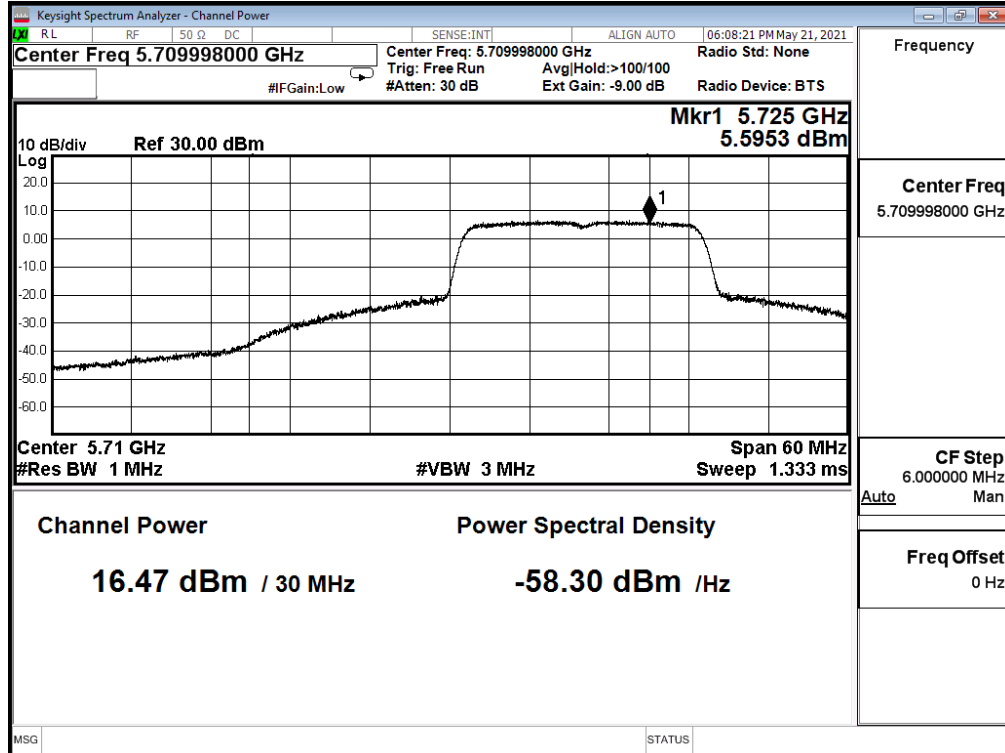


Product	Smart Display		
Test Item	Maximum conducted output power		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/19	Test Site	SR12-H
Temperature (°C)	24.0	Humidity (%RH)	68.0

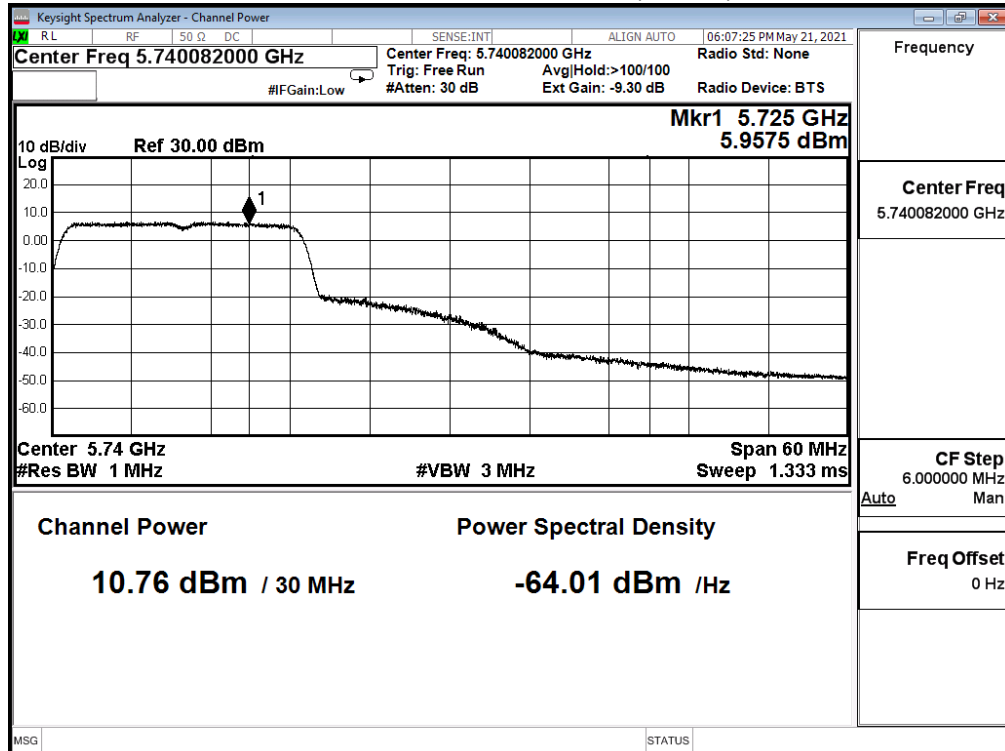
IEEE 802.11ac (20MHz)					
Channel No.	Frequency (MHz)	Max. Conducted Output Power (dBm)			Limit (dBm)
		Ant. 0	Ant. 1	Total	
36	5180	16.640	17.420	20.058	≤ 24.000
44	5220	18.630	19.720	22.219	≤ 24.000
48	5240	19.430	19.260	22.356	≤ 24.000
52	5260	19.130	19.670	22.419	≤ 24.000
60	5300	19.320	19.870	22.614	≤ 24.000
64	5320	17.480	18.090	20.806	≤ 24.000
100	5500	18.220	18.100	21.171	≤ 24.000
116	5580	19.450	19.270	22.371	≤ 24.000
140	5700	16.040	15.480	18.779	≤ 24.000
144_L	5720	16.470	17.580	20.071	≤ 22.934
144_R	5720	10.760	11.950	14.406	≤ 30.000
149	5745	23.260	23.310	26.295	≤ 30.000
157	5785	23.070	22.210	25.672	≤ 30.000
165	5825	23.040	22.980	26.020	≤ 30.000

The worst emission of data rate is MCS 0

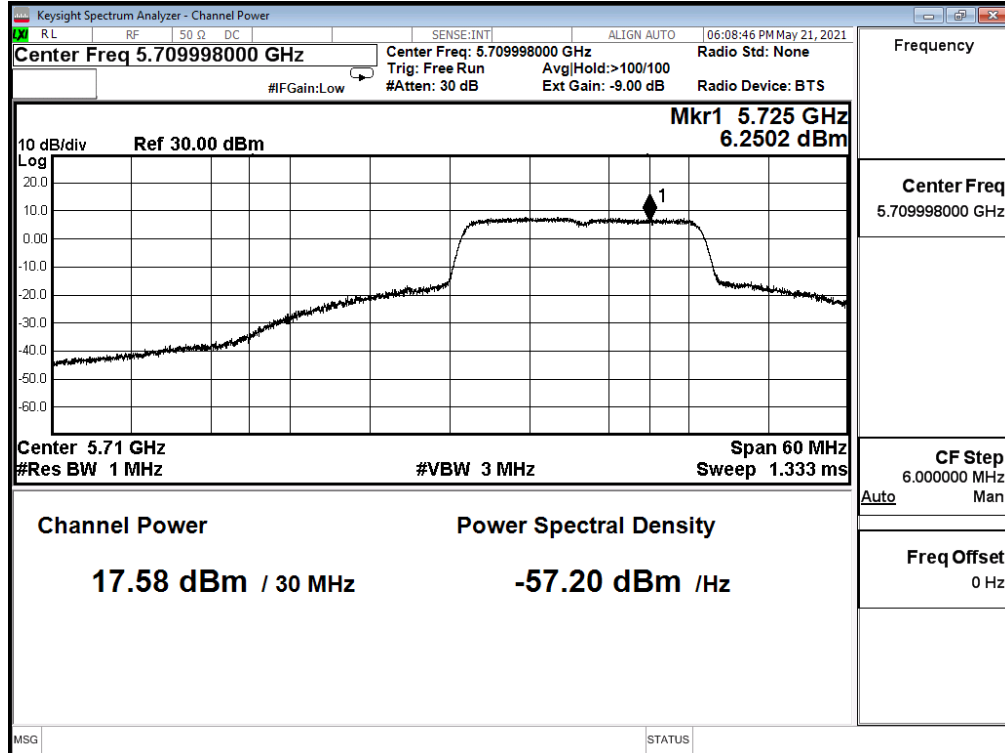
Channel 144_L 5720MHz (ANT 0)



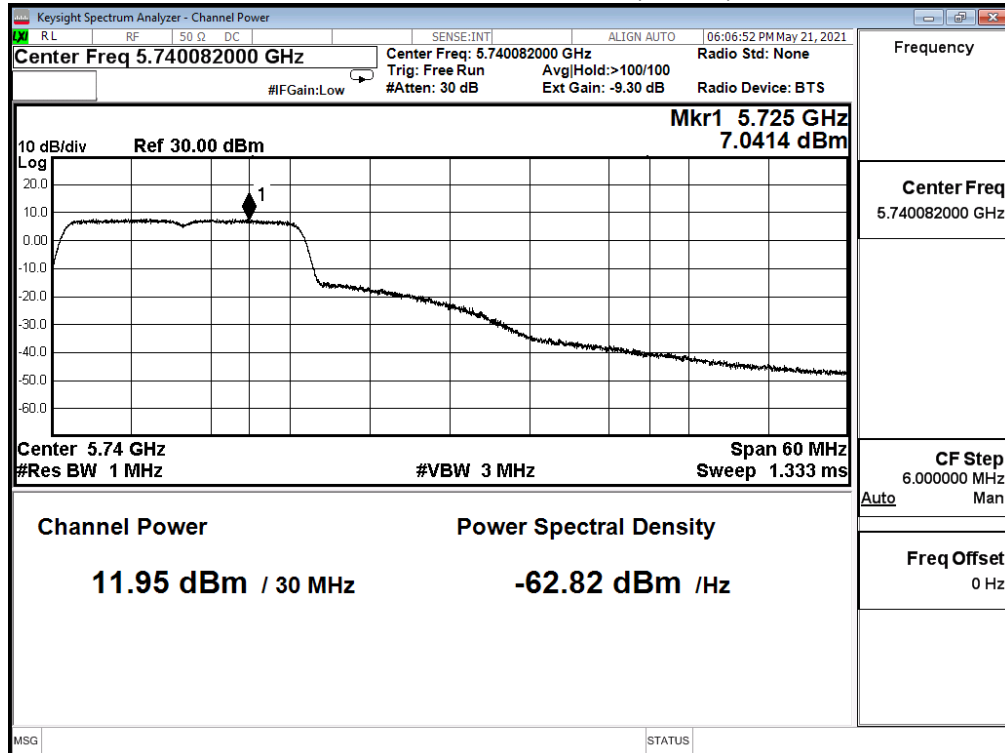
Channel 144_R 5720MHz (ANT 0)



Channel 144_L 5720MHz (ANT 1)



Channel 144_R 5720MHz (ANT 1)

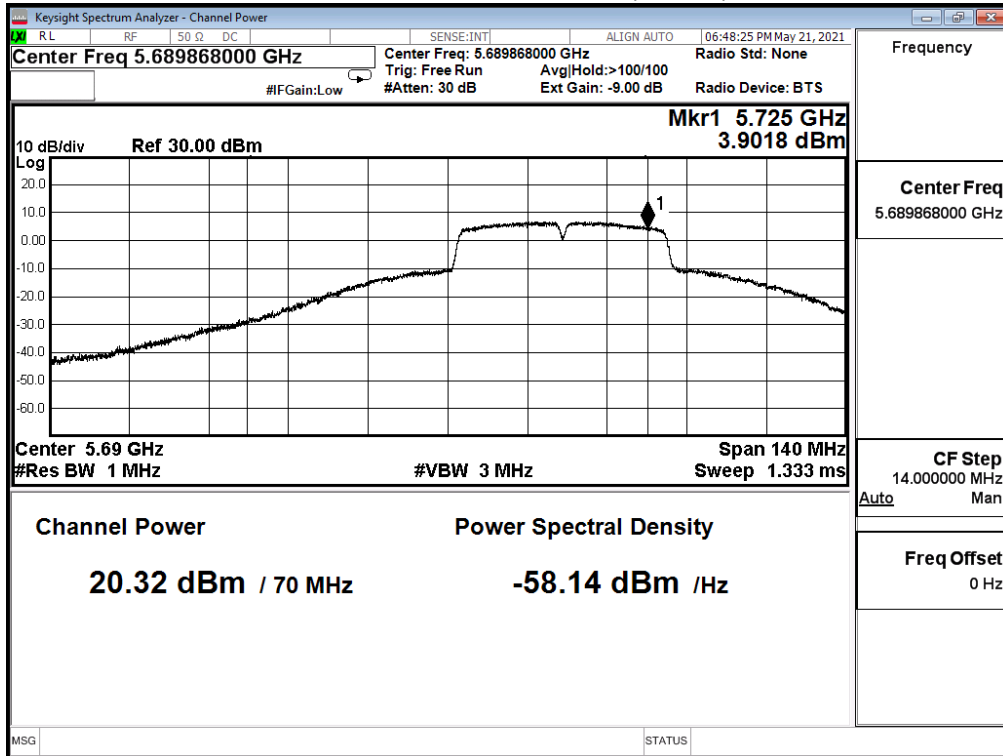


Product	Smart Display		
Test Item	Maximum conducted output power		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/19	Test Site	SR12-H
Temperature (°C)	24.0	Humidity (%RH)	68.0

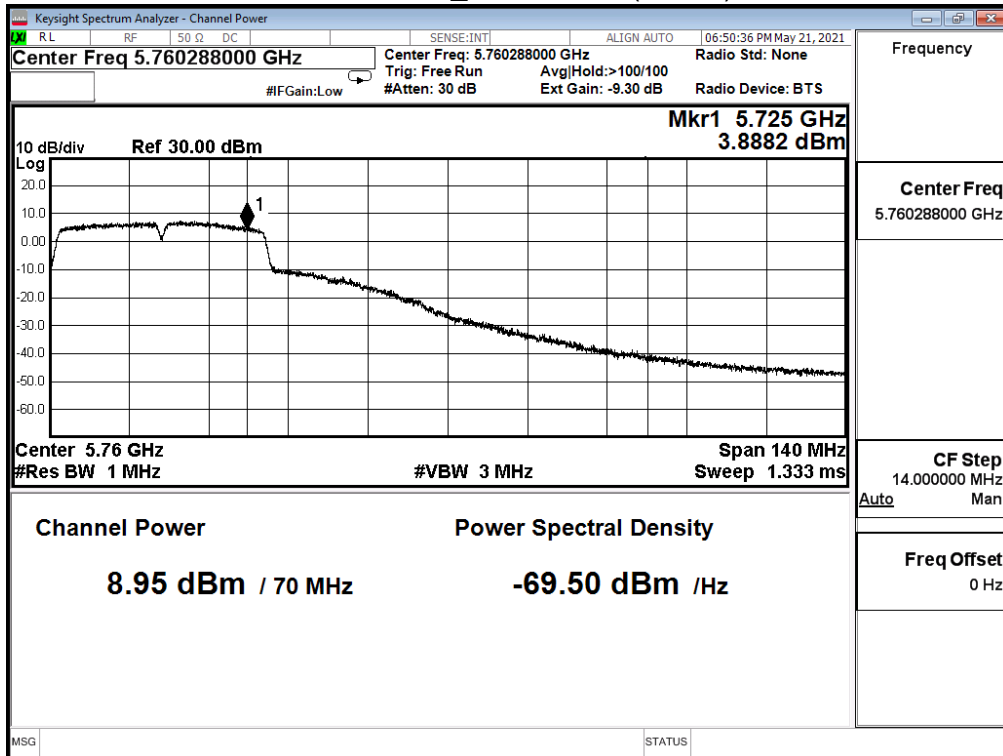
IEEE 802.11ac (40MHz)					
Channel No.	Frequency (MHz)	Max. Conducted Output Power (dBm)			Limit (dBm)
		Ant. 0	Ant. 1	Total	
38	5190	13.180	13.750	16.485	≤ 24.000
46	5230	19.900	20.580	23.264	≤ 24.000
54	5270	18.150	19.270	21.756	≤ 24.000
62	5310	14.130	15.380	17.810	≤ 24.000
102	5510	15.490	15.280	18.397	≤ 24.000
110	5550	20.890	20.660	23.787	≤ 24.000
134	5670	18.850	19.140	22.008	≤ 24.000
142_L	5710	20.320	20.950	23.657	≤ 24.000
142_R	5710	8.950	9.420	12.202	≤ 30.000
151	5755	23.470	23.260	26.377	≤ 30.000
159	5795	23.230	22.730	25.997	≤ 30.000

The worst emission of data rate is MCS0

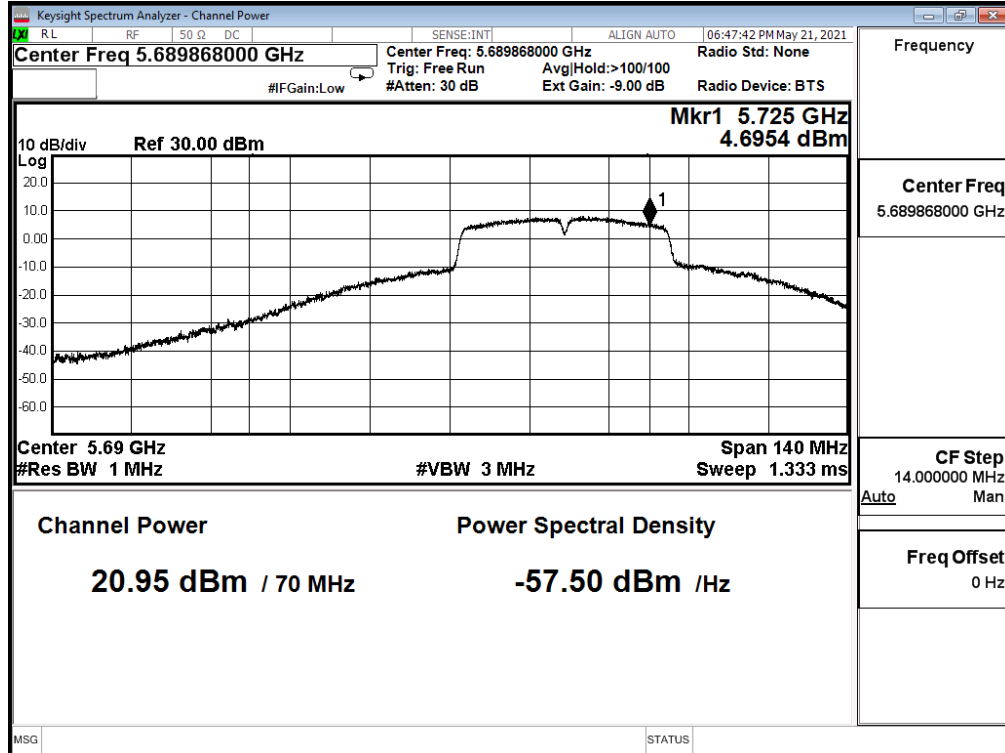
Channel 142_L 5710MHz (ANT 0)



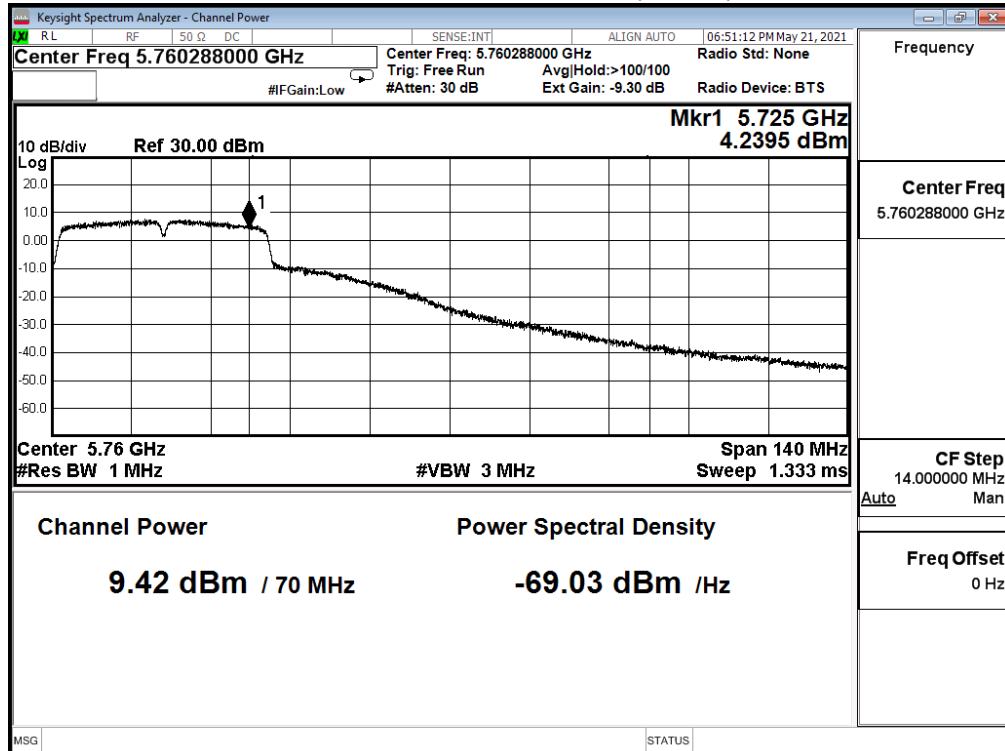
Channel 142_R 5710MHz (ANT 0)



Channel 142_L 5710MHz (ANT 1)



Channel 142_R 5710MHz (ANT 1)

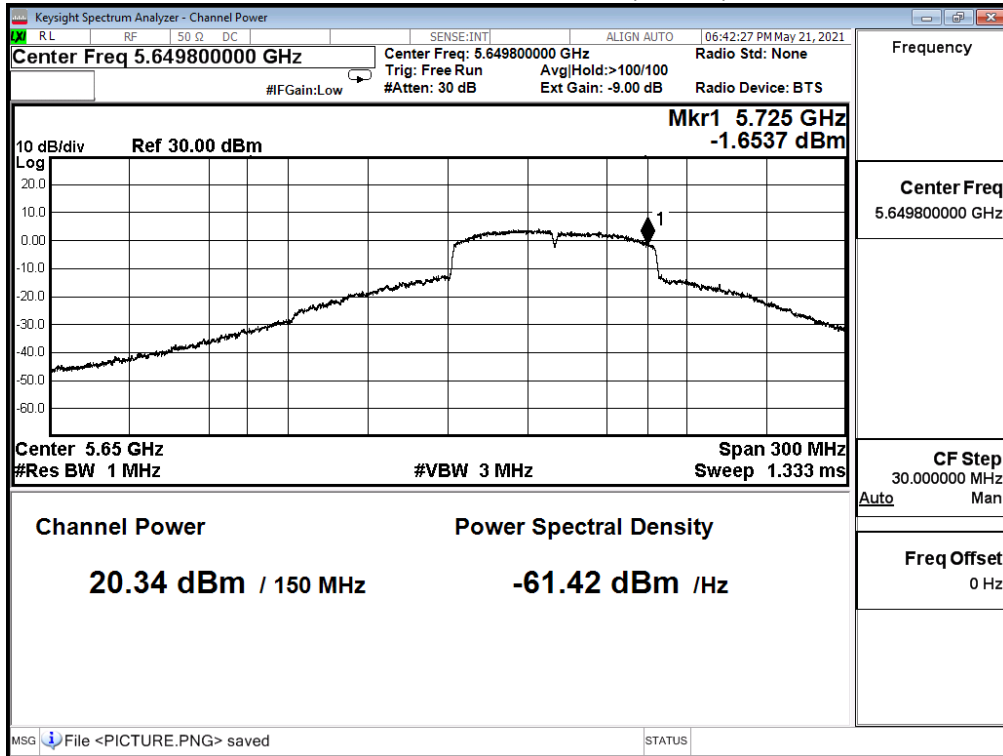


Product	Smart Display		
Test Item	Maximum conducted output power		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/19	Test Site	SR12-H
Temperature (°C)	24.0	Humidity (%RH)	68.0

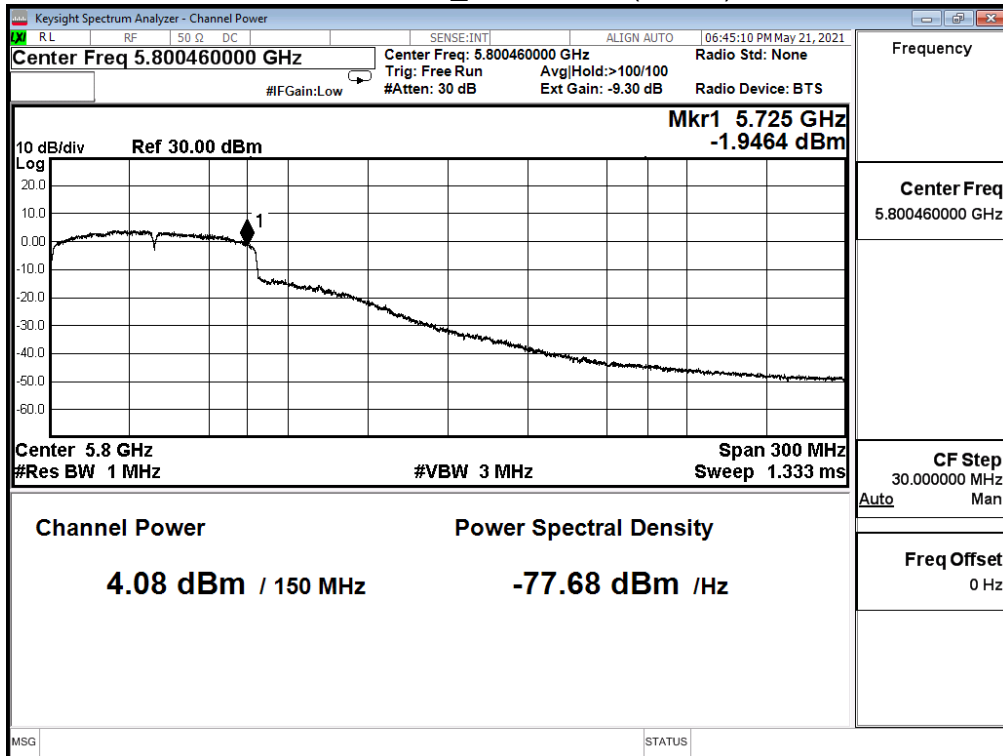
IEEE 802.11ac (80MHz)					
Channel No.	Frequency (MHz)	Max. Conducted Output Power (dBm)			Limit (dBm)
		Ant. 0	Ant. 1	Total	
42	5210	12.720	13.090	15.919	≤24.000
58	5290	13.970	14.940	17.492	≤24.000
106	5530	14.270	14.160	17.226	≤24.000
122	5610	20.140	19.780	22.974	≤24.000
138_L	5690	20.340	20.390	23.375	≤24.000
138_R	5690	4.080	5.070	7.613	≤30.000
155	5775	21.880	21.520	24.714	≤30.000

The worst emission of data rate is MCS0

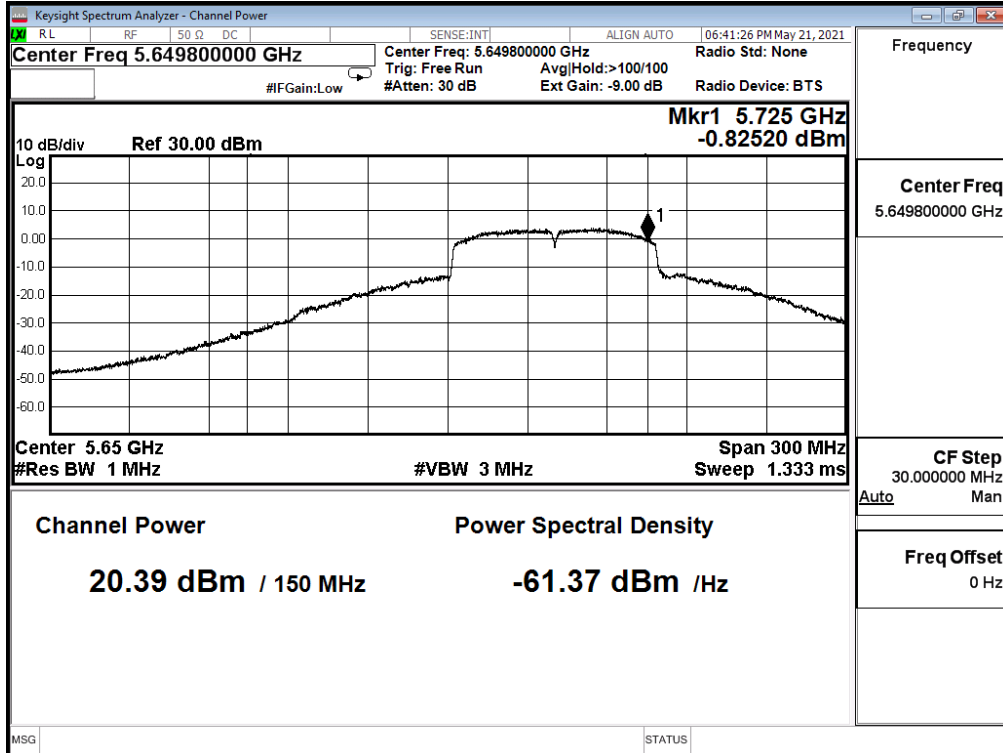
Channel 138_L 5960MHz (ANT 0)



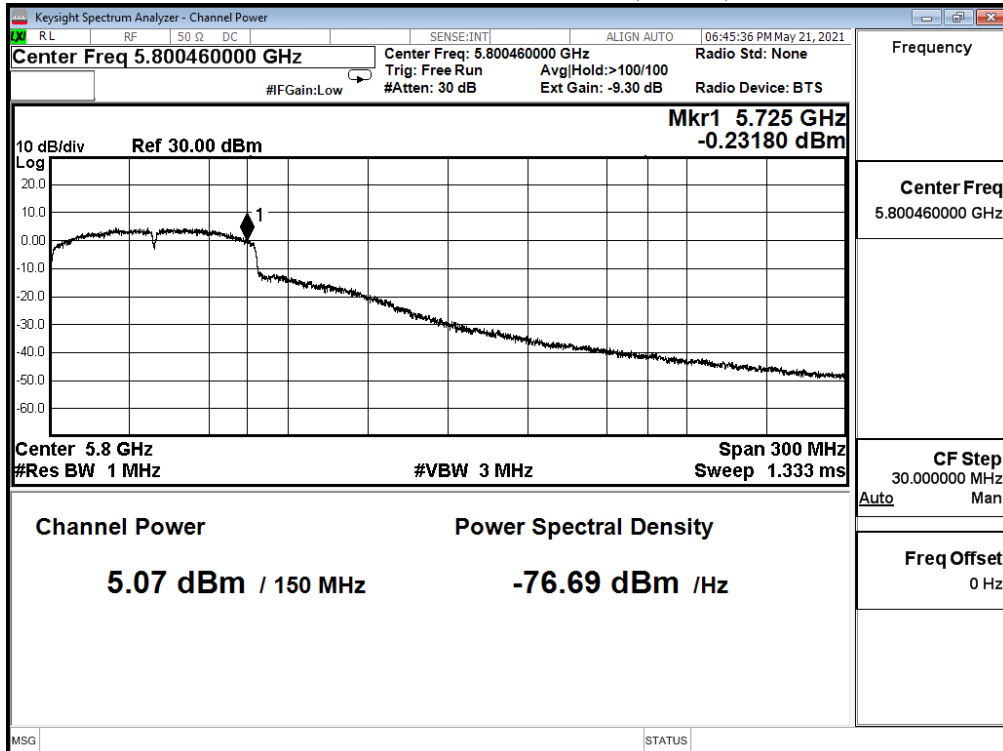
Channel 138_R 5960MHz (ANT 0)



Channel 138_L 5960MHz (ANT 1)



Channel 138_R 5960MHz (ANT 1)



Product	Smart Display		
Test Item	TPC		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/21~2021/06/01	Test Site	SR12-H
Temperature (°C)	24.3~26.0	Humidity (%RH)	65.7~60.0

IEEE 802.11a				
Channel No.	Frequency (MHz)	Max. Conducted Output Power (dBm)		Limit (dBm)
		Ant. 1		
52	5260	15.590		≤18.000
60	5300	15.720		≤18.000
64	5320	12.610		≤18.000
100	5500	14.030		≤18.000
116	5580	15.520		≤18.000
140	5700	13.740		≤18.000
144_L	5720	14.520		≤18.000

The worst emission of data rate is 6 Mbps.

IEEE 802.11ac (20MHz)					
Channel No.	Frequency (MHz)	Max. Conducted Output Power (dBm)			Limit (dBm)
		Ant. 0	Ant. 1	Total	
52	5260	13.130	13.670	16.419	≤18.000
60	5300	13.320	13.870	16.614	≤18.000
64	5320	11.480	12.090	14.806	≤18.000
100	5500	12.220	12.100	15.171	≤18.000
116	5580	13.450	13.270	16.371	≤18.000
140	5700	10.040	9.480	12.779	≤18.000
144_L	5720	10.470	11.580	14.071	≤18.000

The worst emission of data rate is MCS 0

Product	Smart Display		
Test Item	TPC		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/05/21	Test Site	SR12-H
Temperature (°C)	24.3	Humidity (%RH)	65.7

IEEE 802.11ac (40MHz)					
Channel No.	Frequency (MHz)	Max. Conducted Output Power (dBm)			Limit (dBm)
		Ant. 0	Ant. 1	Total	
54	5270	12.150	13.270	15.756	≤18.000
62	5310	8.130	9.380	11.810	≤18.000
102	5510	9.490	9.280	12.397	≤18.000
110	5550	14.890	14.660	17.787	≤18.000
134	5670	12.850	13.140	16.008	≤18.000
142_L	5710	14.320	14.950	17.657	≤18.000
142_R	5710	2.950	3.420	6.202	≤24.000

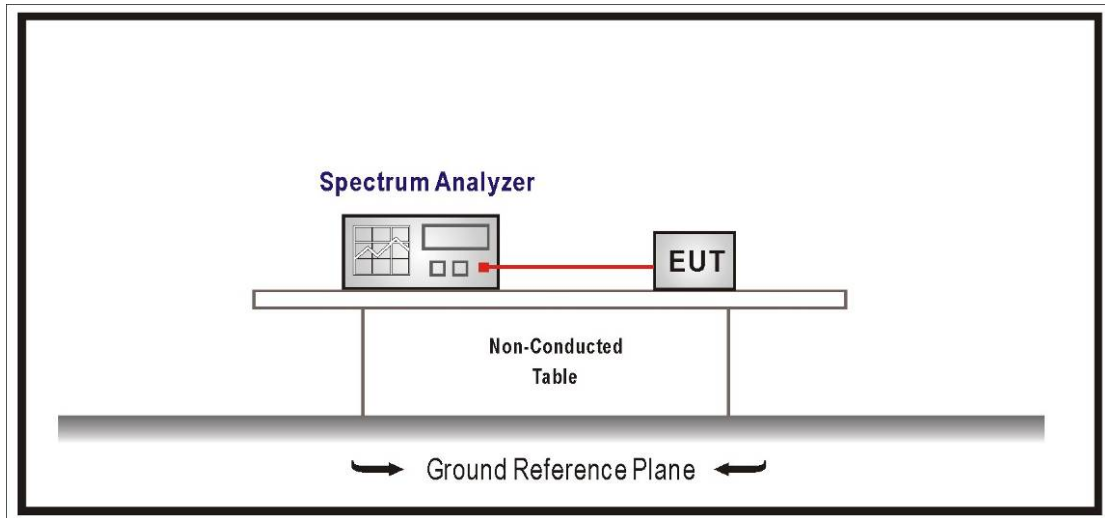
The worst emission of data rate is MCS0

IEEE 802.11ac (80MHz)					
Channel No.	Frequency (MHz)	Max. Conducted Output Power (dBm)			Limit (dBm)
		Ant. 0	Ant. 1	Total	
58	5290	7.970	8.940	11.492	≤18.000
106	5530	8.270	8.160	11.226	≤18.000
122	5610	14.140	13.780	16.974	≤18.000
138_L	5690	14.340	14.390	17.375	≤18.000
138_R	5690	-1.920	-0.930	1.613	≤24.000

The worst emission of data rate is MCS0

5. Maximum power spectral density

5.1. Test Setup



5.2. Limits

1. For the band 5.15-5.25 GHz, the Maximum power spectral density shall not exceed 17 dBm in any 1MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
2. For client devices in the 5.15-5.25 GHz band, 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 5.25-5.35 GHz, the Maximum power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
4. For the band 5.725-5.850 GHz, the Maximum power spectral density shall not exceed 30 dBm in any 500KHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi..

5.3. Test Procedure

The EUT was setup to ANSI C63.10: 2013; tested to U-NII test procedure of KDB 789033 D02 v02r01 for compliance to FCC 47CFR Subpart E requirements.

For Band1 : Set RBW=1MHz, VBW=3MHz with RMS detector. The PPSD is the highest level found across the emission in any 1-MHz band after 100 sweeps of averaging.

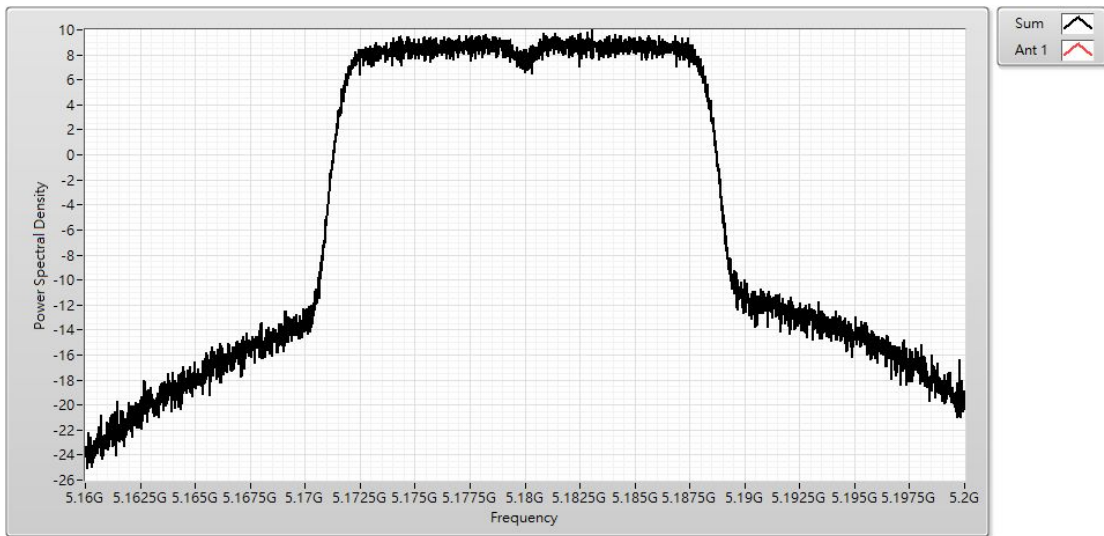
For Band4 : Set RBW=500KHz, VBW=1.5MHz with RMS detector. The PPSD is the highest level found across the emission in any 500KHz band after 100 sweeps of averaging.

5.4. Test Result

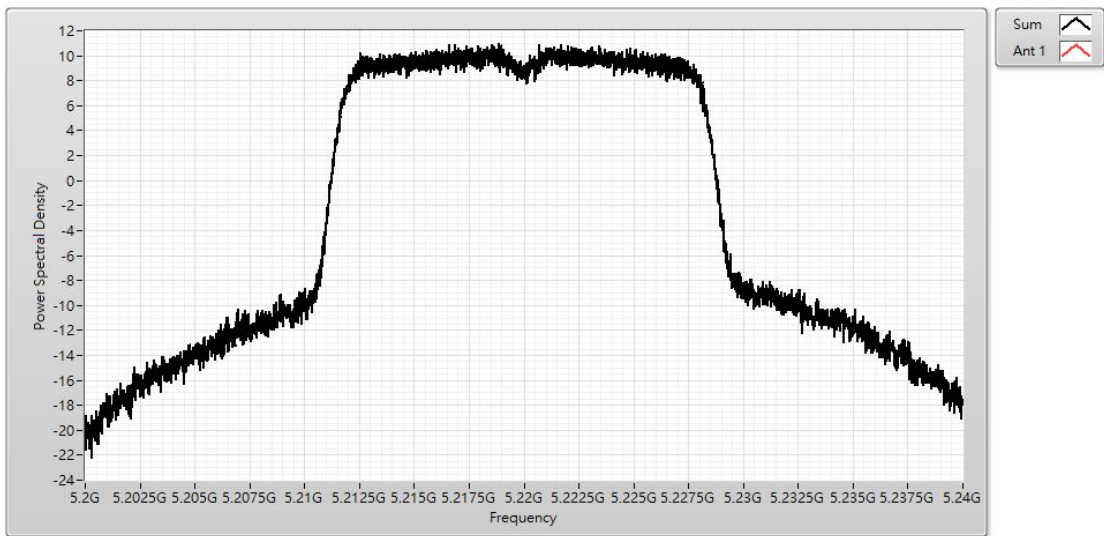
Product	Smart Display		
Test Item	Maximum power spectral density		
Test Mode	Mode 2: Transmit_Adapter_1A100-US1230		
Date of Test	2021/06/01	Test Site	SR12-H
Temperature (°C)	26.0	Humidity (%RH)	60.0

IEEE 802.11a			
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
		Ant. 1	
36	5180	9.990	≤ 11.000
44	5220	10.970	≤ 11.000
48	5240	10.910	≤ 11.000
52	5260	10.920	≤ 11.000
60	5300	10.940	≤ 11.000
64	5320	7.530	≤ 11.000
100	5500	9.120	≤ 11.000
116	5580	10.930	≤ 11.000
140	5700	8.560	≤ 11.000
144_L	5720	10.950	≤ 11.000
144_R	5720	10.150	≤ 30.000
149	5745	10.830	≤ 30.000
157	5785	10.640	≤ 30.000
165	5825	10.990	≤ 30.000

Channel 36 (5180MHz)



Channel 44 (5220MHz)



Channel 48 (5240MHz)

