

Report No.: AAEMT/RF/240604-01-03

FCC RADIO TEST REPORT

Part 15 subpart E

FCC ID: 2AZOI8XL4

Report Reference No.: AAEMT/RF/240604-01-03

Date of issue: 2024-07-05

Testing Laboratory.....: AA Electro Magnetic Test Laboratory Private Limited

Address: Plot No 174, Udyog Vihar - Phase 4, Sector 18,
Gurgaon, Haryana, India

Applicant's name: HFCL limited

Address: Plot No. 38, Institutional Area, Sector 32, Gurugram,
Haryana-122001, India

Manufacturer.....: HFCL limited

Plot No. 38, Institutional Area, Sector 32, Gurugram,
Haryana-122001, India

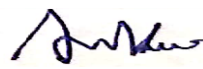
Test item description.....: IO 5 GHz 2 Gbps UBR with Integrated Antenna (27 dBi)

Trade Mark: 

Model/Type reference: ion8xl4

Ratings: Input of PoE: AC 110~265VAC,0.2A, 50/60Hz
Output of PoE/Input For EUT: DC 48V, 30W

Prepared By: (+ signature) Ankur Kumar



Reviewed & Approved by: (+ signature)



Dr. Lenin Raja (Authorized Representative) (/ lenin83/)

TABLE OF CONTENTS

1.	Summary of test results.....	5
2.	General test information	6
2.1.	Description of EUT.....	6
2.2.	Accessories of EUT	7
2.3.	Assistant equipment used for test	7
3.	Equipment's List for All Test Items	8
3.1.	Block diagram of EUT configuration for test	10
3.2.	Test environment conditions.....	10
3.3.	Measurement uncertainty.....	10
4.	POWER SPECTRAL DENSITY TEST.....	11
4.1.	Block diagram of test setup	11
4.2.	Applied procedures / limit	11
4.3.	Test Procedure	12
4.4.	Test Result:	13
5.	26 dB & 99% Emission Bandwidth.....	69
5.1.	Block diagram of test setup	69
5.2.	Applied procedures / limit	69
5.3.	Test Procedure	69
5.4.	Test Result	70
6.	MAXIMUM CONDUCTED OUTPUT POWER.....	168
6.1.	Test Result	169
7.	Band Edges Measurement	171
7.1.	Test Result	172
8.	RADIATED EMISSION MEASUREMENT.....	205
8.1.	Block diagram of test setup	205
8.2.	Limit	207
8.3.	Test Procedure	208
8.4.	Test result(Below 30MHz)	210
9.	Power Line Conducted Emission.....	244
9.1.	Block diagram of test setup	244
9.2.	Power Line Conducted Emission Limits	244
9.3.	Test Procedure	245
9.4.	Test Result	245
10.	Conducted Spurious Emissions	248
11.	Antenna Requirements.....	313

Report No.: AAEMT/RF/240604-01-03

11.1.	Limit	313
11.2.	EUT ANTENNA	313



Report No.: AAEMT/RF/240604-01-03

TEST REPORT DECLARE

Applicant	:	HFCL limited
Address	:	Plot No. 38, Institutional Area, Sector 32, Gurugram, Haryana-122001, India
Equipment under Test	:	IO 5 GHz 2 Gbps UBR with Integrated Antenna (27 dBi)
Model No	:	ion8xl4
Trade Mark	:	
Manufacturer	:	HFCL limited
Address	:	Plot No. 38, Institutional Area, Sector 32, Gurugram, Haryana-122001, India

Test Standard Used: FCC Part 15E 15.407

Test procedure used: ANSI C63.10-2013 and KDB 789033 D02 General UNII Test Procedures New Rules v02r01 .

We Declare:

The equipment described above is tested by AA Electro Magnetic Test Laboratory Private Limited and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and AA Electro Magnetic Test Laboratory Private Limited is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above FCC standards.

Report No:	AAEMT/RF/230604-01-03		
Date of Test:	June 04, 2024~ July 02, 2024	Date of Report:	July 05, 2024

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of AA Electro Magnetic Test Laboratory Private Limited

1. SUMMARY OF TEST RESULTS

The EUT have been tested according to the applicable standards as referenced below.		
FCC Part15 (15.407) , Subpart E		
Description of Test Item	Standard	Results
AC Power Line Conducted Emissions	FCC §15.207/ RSS-Gen	PASS
Spurious Radiated Emissions	FCC §15.209(a), 15.407(b)	PASS
26 dB and 99% Emission Bandwidth	FCC §15.407(a)	PASS
Maximum Conducted Output Power	FCC §407(a) (1)	PASS
Band Edges	FCC §2.1051, §15.407(b)	PASS
Power Spectral Density	FCC §15.407(a)(1)	PASS
Spurious Emissions at Antenna Terminals	FCC §2.1051, §15.407(b)	PASS
Antenna Requirement	FCC §15.203	PASS

2. GENERAL TEST INFORMATION

2.1. DESCRIPTION OF EUT

EUT Name	:	IO 5 GHz 2 Gbps UBR with Integrated Antenna (27 dBi)	
Model Number	:	ion8xl4	
Power supply	:	Input of PoE: AC 110~265VAC,0.2A, 50/60Hz Output of PoE/Input For EUT: DC 48V, 30W	
Operation frequency	:	WiFi: 802.11a/n (HT20)/ac (VHT20)/ax (HE20): 5180MHz~5240MHz; 5745MHz~5825MHz 802.11n (HT40)/ac (VHT40)/ax (HE40): 5190MHz~5230MHz; 5755MHz~5795MHz 802.11ac (VHT80)/ax (HE80):5210MHz; 5775MHz	
Modulation	:	802.11a/n: BPSK/QPSK/16QAM/64QAM 802.11ac/ax: BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM	
Data Rate	:	802.11a:6,9,12,18,24,36,48,54Mbps; 802.11ac(VHT20):MCS0-MCS9 802.11ac(VHT40/80):MCS0-MCS9 802.11n(VHT20):MCS0-MCS9; 802.11n(VHT40):MCS0-MCS9; 802.11ax(HE20/40/80):MCS0-MCS11	
Antenna Type	:	Dish Type Antenna	
Antenna gain	:	27 dBi	
Antenna Function Description	:	802.11a 802.11n20/ac20/ax20 802.11n40/ac40/ax40 802.11ac80/ax80	ANT0, ANT1
H/W No.	:	A1	
S/W No.	:	0.2.0.13	
Battery	:	N/A	
Date of Receipt	:	Jun. 04, 2024	
Condition of Sample on receipt	:	Good	
Note:	:	1 .For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. 2. Antenna gain and antenna type provided by manufacturer.	
Opinions and Interpretations:	:	See the specific Note / Annexure if any in the whole /full report.	

Report No.: AAEMT/RF/230604-01-03

Channel List							
802.11a/n/ac/ax (20MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	40	5200	44	5220	48	5240
149	5745	153	5765	157	5785	161	5805
165	5825	--	--	--	--	--	--
802.11n/ac/ax (40MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230	151	5755	159	5795
802.11ac/ax (80MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	-	-	-	-	155	5775

2.2. ACCESSORIES OF EUT

Description of Accessories	Shielded Type	Ferrite Core	Length
PoE Adapter	-	-	1m unshielded Cable

2.3. ASSISTANT EQUIPMENT USED FOR TEST

Description of Assistant equipment	Manufacturer	Model number or Type	EMC Compliance	SN
Laptop	DELL	Latitude 3490	-	5M2Z1W2

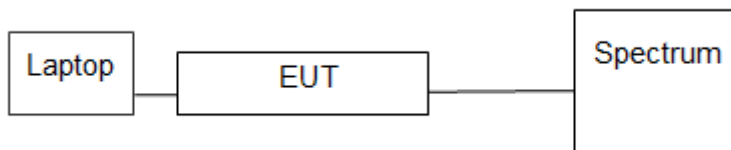
3.EQUIPMENT'S LIST FOR ALL TEST ITEMS

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal.Due Date
1	Spectrum Analyzer	Rohde and Schwarz	FSP	101163	2023/02/13	2025/02/13
2	Loop antenna	DAZE Beijing	ZN30900C	18052	2023/09/15	2026/09/15
3	Hi power horn antenna	DAZE Beijing	ZN30700	18012	2023/09/11	2026/09/10
4	MXA Signal Analyzer	Keysight	N9020A	6272323218	2023/07/27	2025/07/27
5	Horn antenna	DAZE Beijing	ZN30703	18005	2023/09/11	2026/09/10
6	Pre amplifier	KELIANDA	LNA-0009295	-	2024/01/10	2025/01/10
7	Pre amplifier	KELIANDA	CF-00218	-	2024/01/10	2025/01/10
8	Biconical Antenna	DAZE Beijing	ZN30505C	17038	2023/09/11	2026/09/10
9	EMI-RECEIVER	Schwarzback	FCKL	1528194	2024/01/10	2025/01/10
10	LISN	Kyoritsu	KNW-407	8-1789-5	2024/01/10	2025/01/10
11	Network-LISN	SCHWAR ZBECK	NNBM8125	81251314	2024/01/10	2025/01/10
12	Network-LISN	SCHWAR ZBECK	NNBM8125	81251315	2024/01/10	2025/01/10
13	PULSELIMITER	Rohde and Schwarz	ESH3-Z2	100681	-	-
14	50Ω Coaxial Switch	DAIWA	1565157	-	-	-
15	50Ω Coaxial Switch	-	-	-	-	-
16	Wireless signal power meter	DARE!!	RPR3006W	RF5W190220	2024/01/13	2025/01/13
17	Signal Generator	KEYSIGHT	N5181A	512071	2024/01/10	2026/01/10
18	RF Vector Signal Generator	Keysight	N5182B	512094	2024/01/10	2026/01/10

Report No.: AAEMT/RF/230604-01-03

19	Spectrum analyzer	R&S	FSV-40N	101385	2023/04/28	2025/04/28
20	Radio Communication Tester	R&S	CMW 500	124589	2023/09/08	2025/09/08
21	Signal Generator	R&S	SMP02	837017/004 836593/005	2023/09/08	2025/09/08
22	DC Regulated Power Supply	Metravi	RPS-3005	669076	2023/12/12	2024/12/11
23	Climatic Chamber	Sunrise Scientific Instruments	-	-	2023/11/08	2024/11/07
24	Attenuators	AGILENT	8494B	-	-	-
25	Attenuators	AGILENT	8495B	-	-	-

3.1. BLOCK DIAGRAM OF EUT CONFIGURATION FOR TEST



3.2. TEST ENVIRONMENT CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	21-25°C
Humidity range:	40-75%
Pressure range:	86-106kPa

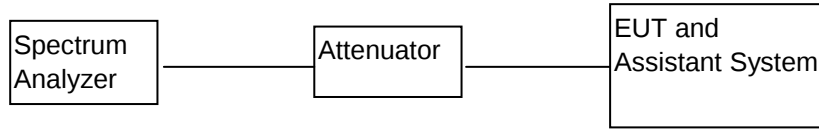
3.3. MEASUREMENT UNCERTAINTY

No.	Item	Uncertainty
1	Conducted Emission Test	2.70dB
2	Radiated Emission Test	3.09dB
3	RF power, conducted	2.46dB
4	RF power density, conducted	2.24dB
5	Spurious emissions, conducted	2.71dB
6	All emissions, radiated(<1G)	3.08dB
7	All emissions, radiated(>1G)	3.09dB

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4. POWER SPECTRAL DENSITY TEST

4.1. BLOCK DIAGRAM OF TEST SETUP



4.2. APPLIED PROCEDURES / LIMIT

According to FCC §15.407(a)(3)

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 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 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 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, omni directional 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 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.

For the band 5.725-5.85 GHz

For the band 5.725-5.85 GHz, 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..

4.3. TEST PROCEDURE

(For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.1.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections 5.c) and 5.d) above, since RBW=100 KHz is available on nearly all spectrum analyzers.

4.4. TEST RESULT:

Antenna 0:

CH. No.	Frequency	Power density (dBm/MHz)	Limit (dBm/MHz)	Result
TX 802.11a Mode				
CH36	5180	9.64	13	Pass
CH40	5200	9.70	13	Pass
CH48	5240	10.06	13	Pass
TX 802.11n20 Mode				
CH36	5180	9.64	13	Pass
CH40	5200	9.56	13	Pass
CH48	5240	9.93	13	Pass
TX 802.11n40 Mode				
CH38	5190	7.40	13	Pass
CH46	5230	7.75	13	Pass
TX 802.11ac20 Mode				
CH36	5180	9.76	13	Pass
CH40	5200	9.74	13	Pass
CH48	5240	9.65	13	Pass
TX 802.11ac40 Mode				
CH38	5190	7.12	13	Pass
CH46	5230	7.75	13	Pass
TX 802.11ac80 Mode				
CH42	5210	4.80	13	Pass
TX 802.11ax20 Mode				
CH36	5180	11.13	13	Pass
CH40	5200	11.41	13	Pass
CH48	5240	12.23	13	Pass
TX 802.11ax40 Mode				
CH38	5190	8.68	13	Pass
CH46	5230	9.05	13	Pass
TX 802.11ax80 Mode				
CH42	5210	5.81	13	Pass

CH. No.	Frequency	Limit (dBm/500KHz)	Limit (dBm/500KHz)	Result
TX 802.11a Mode				
CH 149	5745	-5.91	9	Pass
CH 157	5785	-6.69	9	Pass
CH 165	5825	-5.66	9	Pass
TX 802.11n20 Mode				
CH 149	5745	-5.69	9	Pass
CH 157	5785	-5.76	9	Pass
CH 165	5825	-5.61	9	Pass
TX 802.11n40 Mode				
CH151	5755	-8.24	9	Pass
CH159	5795	-9.48	9	Pass
TX 802.11ac20 Mode				
CH 149	5745	-6.07	9	Pass
CH 157	5785	-5.58	9	Pass
CH 165	5825	-5.32	9	Pass
TX 802.11ac40 Mode				
CH151	5755	-9.29	9	Pass
CH159	5795	-9.13	9	Pass
TX 802.11ac80 Mode				
CH155	5775	-8.63	9	Pass
TX 802.11ax20 Mode				
CH 149	5745	-3.96	9	Pass
CH 157	5785	-3.87	9	Pass
CH 165	5825	-3.53	9	Pass
TX 802.11ax40 Mode				
CH151	5755	-5.91	9	Pass
CH159	5795	-6.75	9	Pass
TX 802.11ax80 Mode				
CH155	5775	-6.60	9	Pass

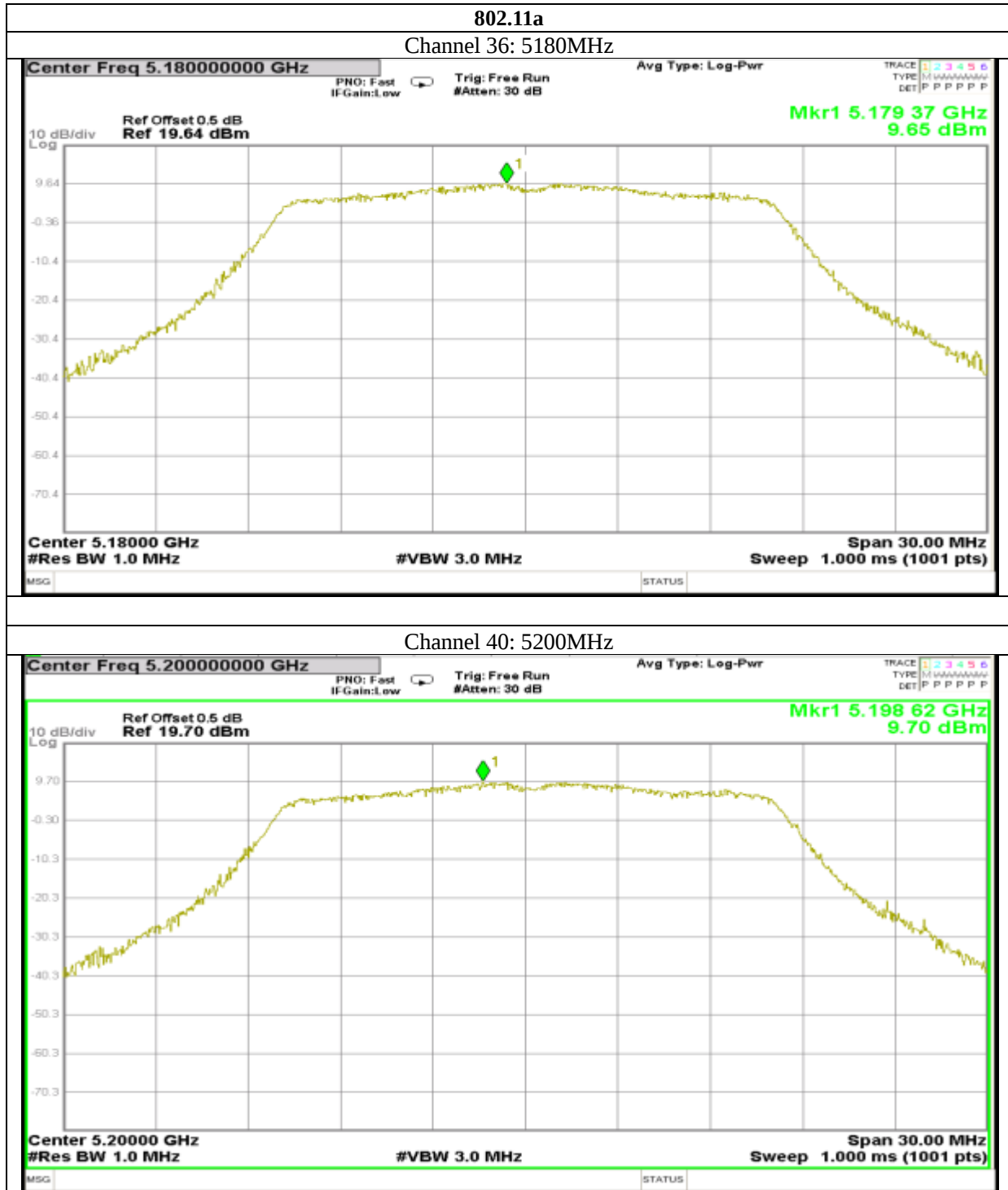
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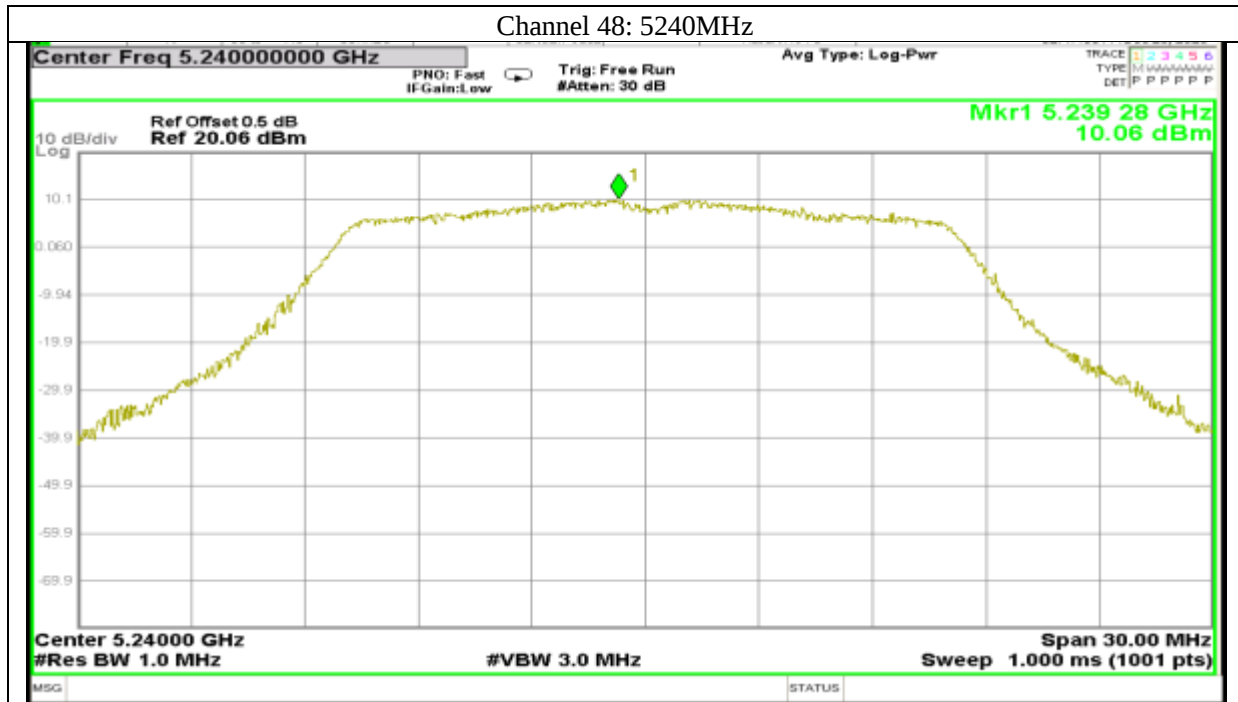
CH. No.	Frequency	Power density (dBm/MHz)	Limit (dBm/MHz)	Result
TX 802.11a Mode				
CH36	5180	10.54	13	Pass
CH40	5200	10.15	13	Pass
CH48	5240	8.72	13	Pass
TX 802.11n20 Mode				
CH36	5180	10.62	13	Pass
CH40	5200	10.04	13	Pass
CH48	5240	8.48	13	Pass
TX 802.11n40 Mode				
CH38	5190	5.93	13	Pass
CH46	5230	5.21	13	Pass
TX 802.11ac20 Mode				
CH36	5180	10.82	13	Pass
CH40	5200	7.97	13	Pass
CH48	5240	7.39	13	Pass
TX 802.11ac40 Mode				
CH38	5190	6.08	13	Pass
CH46	5230	5.14	13	Pass
TX 802.11ac80 Mode				
CH42	5210	2.57	13	Pass
TX 802.11ax20 Mode				
CH36	5180	9.98	13	Pass
CH40	5200	10.75	13	Pass
CH48	5240	9.01	13	Pass
TX 802.11ax40 Mode				
CH38	5190	7.28	13	Pass
CH46	5230	6.29	13	Pass
TX 802.11ax80 Mode				
CH42	5210	3.96	13	Pass

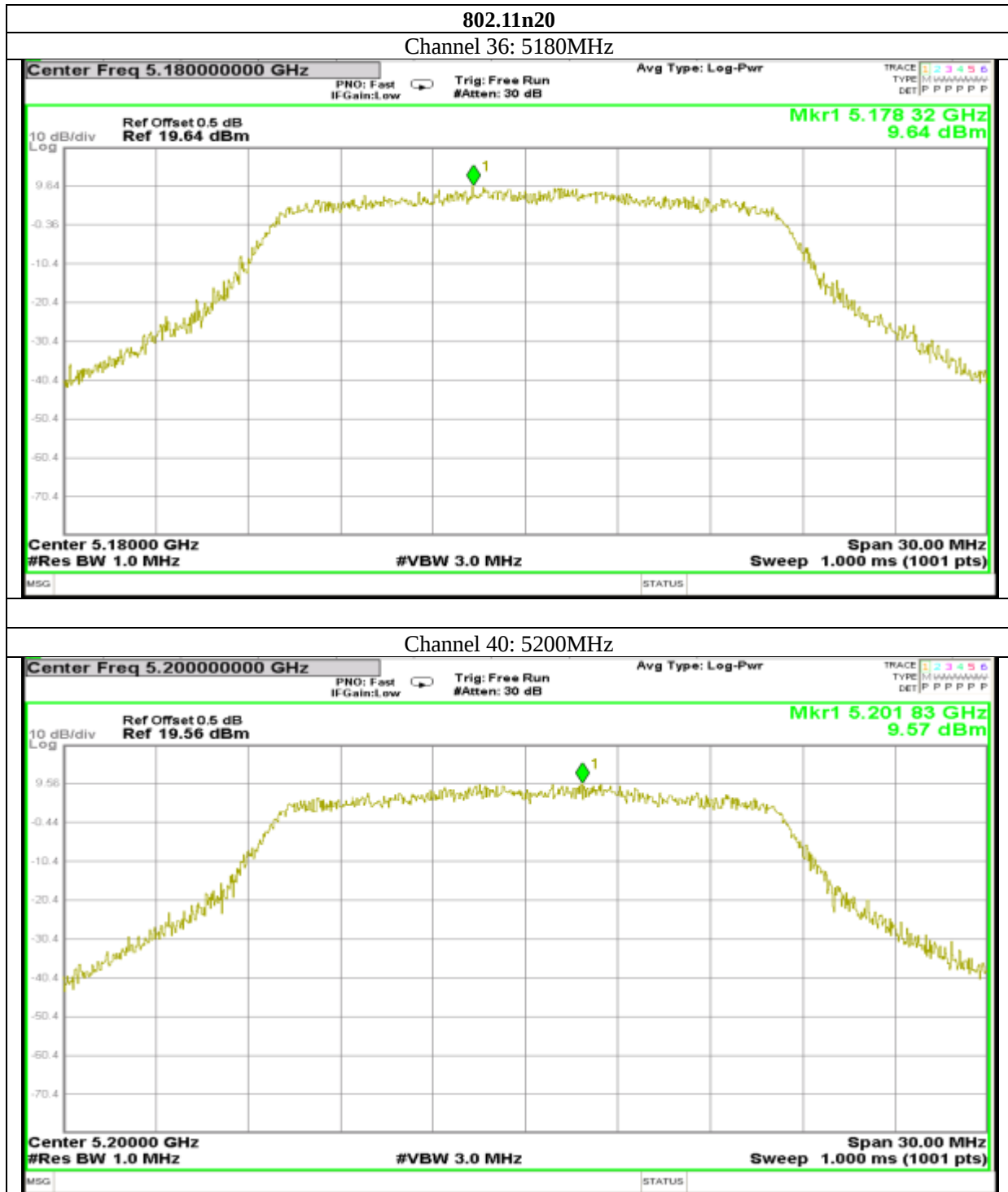
CH. No.	Frequency	Limit (dBm/500KHz)	Limit (dBm/500KHz)	Result
TX 802.11a Mode				
CH 149	5745	-5.43	9	Pass
CH 157	5785	-6.47	9	Pass
CH 165	5825	-6.80	9	Pass
TX 802.11n20 Mode				
CH 149	5745	-4.65	9	Pass
CH 157	5785	-5.60	9	Pass
CH 165	5825	-6.33	9	Pass
TX 802.11n40 Mode				
CH151	5755	-7.85	9	Pass
CH159	5795	-9.05	9	Pass
TX 802.11ac20 Mode				
CH 149	5745	-5.20	9	Pass
CH 157	5785	-6.20	9	Pass
CH 165	5825	-6.72	9	Pass
TX 802.11ac40 Mode				
CH151	5755	-7.87	9	Pass
CH159	5795	-9.47	9	Pass
TX 802.11ac80 Mode				
CH155	5775	-8.20	9	Pass
TX 802.11ax20 Mode				
CH 149	5745	-2.77	9	Pass
CH 157	5785	-4.14	9	Pass
CH 165	5825	-3.94	9	Pass
TX 802.11ax40 Mode				
CH151	5755	-5.89	9	Pass
CH159	5795	-6.50	9	Pass
TX 802.11ax80 Mode				
CH155	5775	-6.09	9	Pass

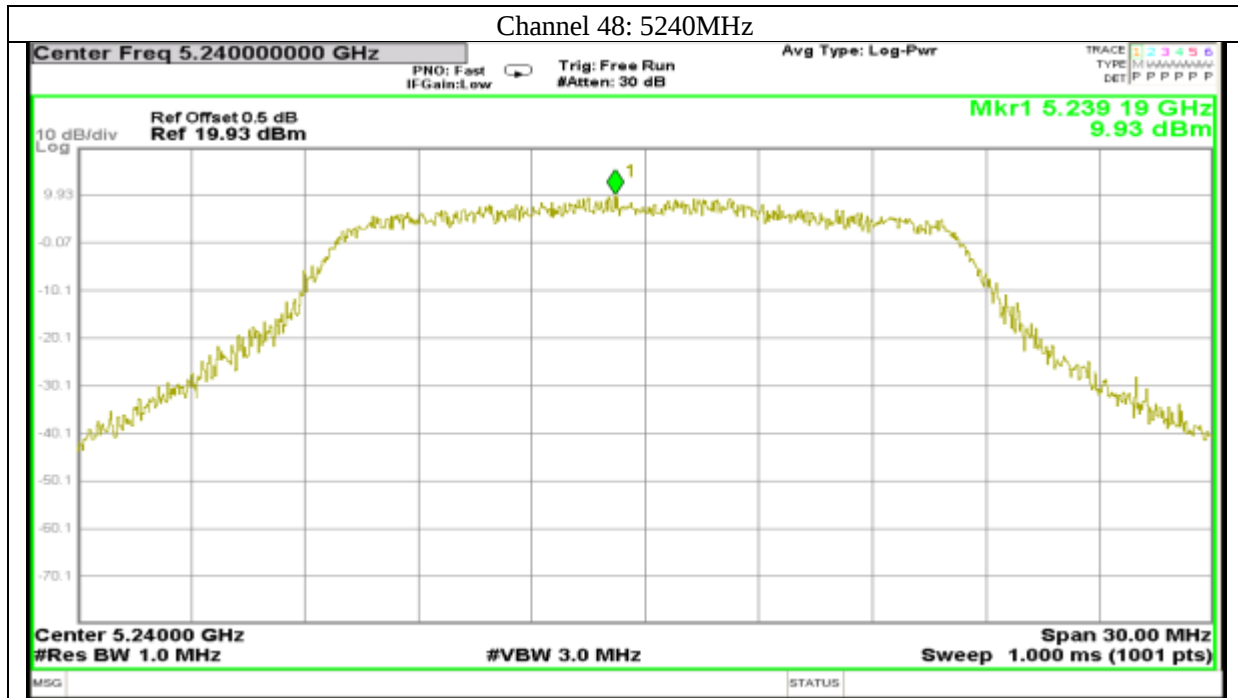
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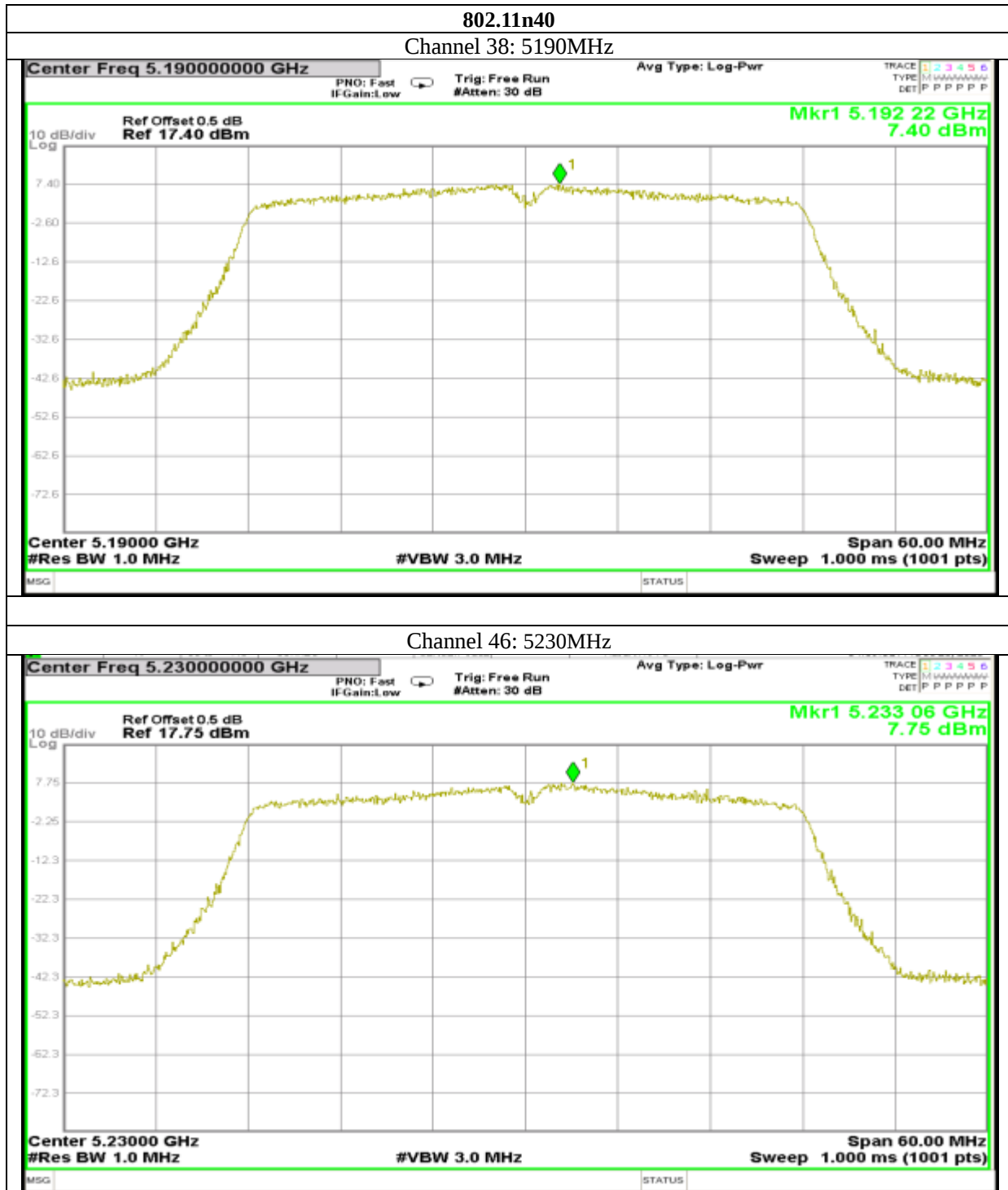
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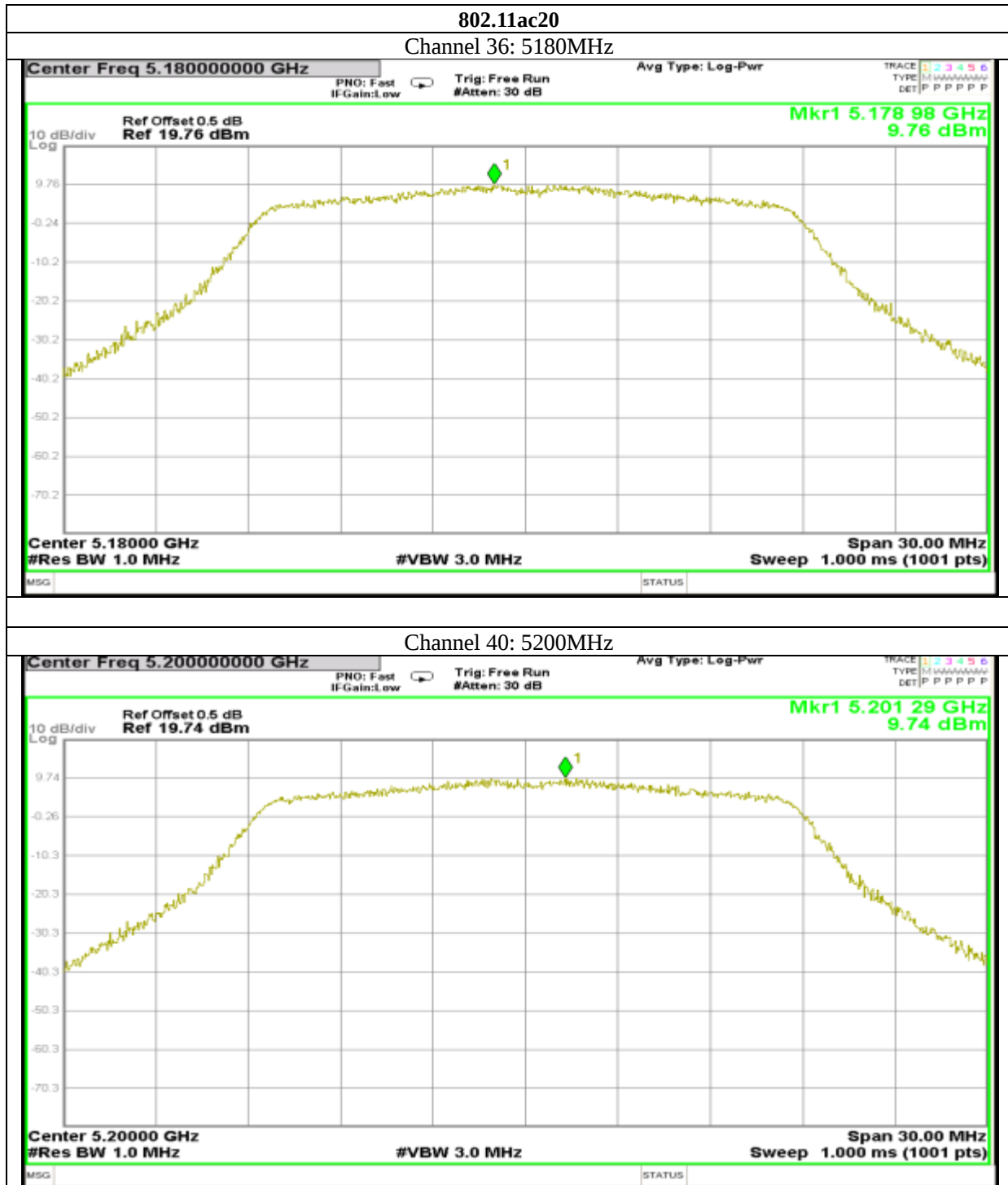


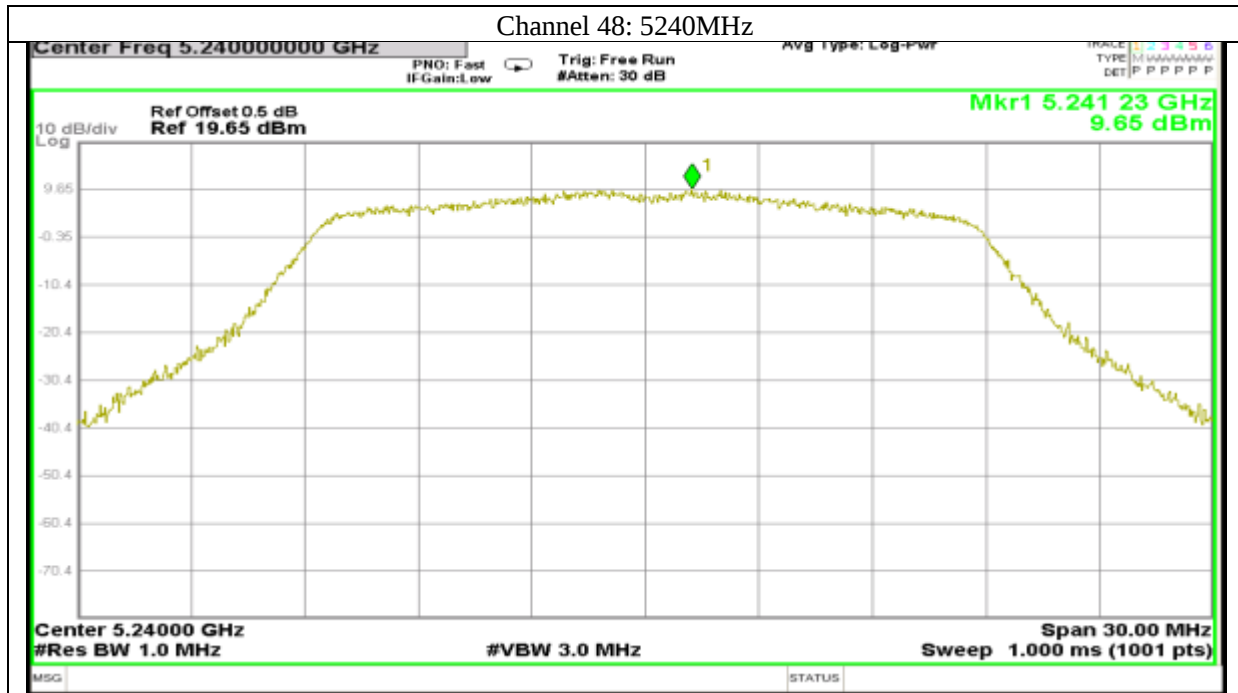


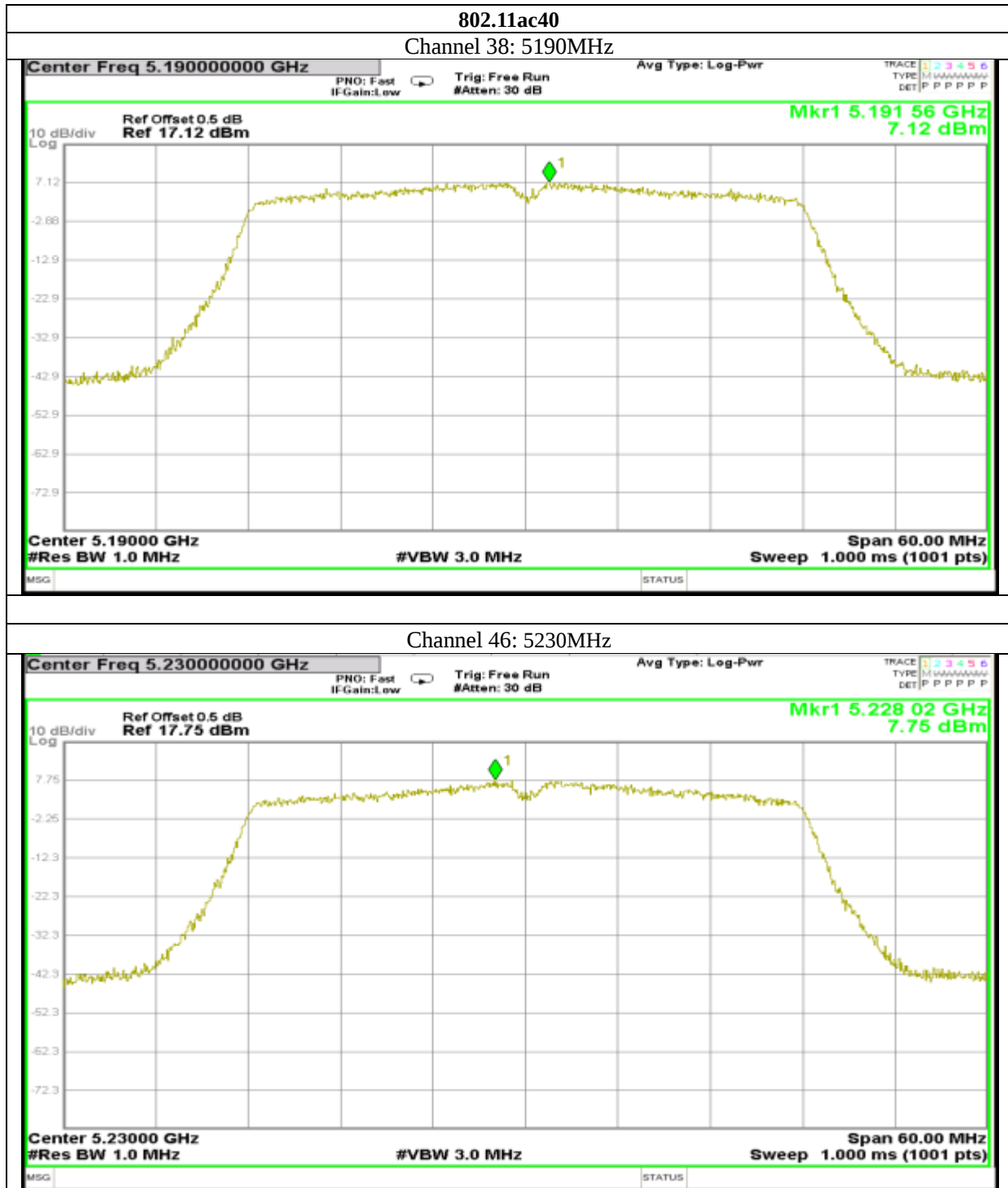


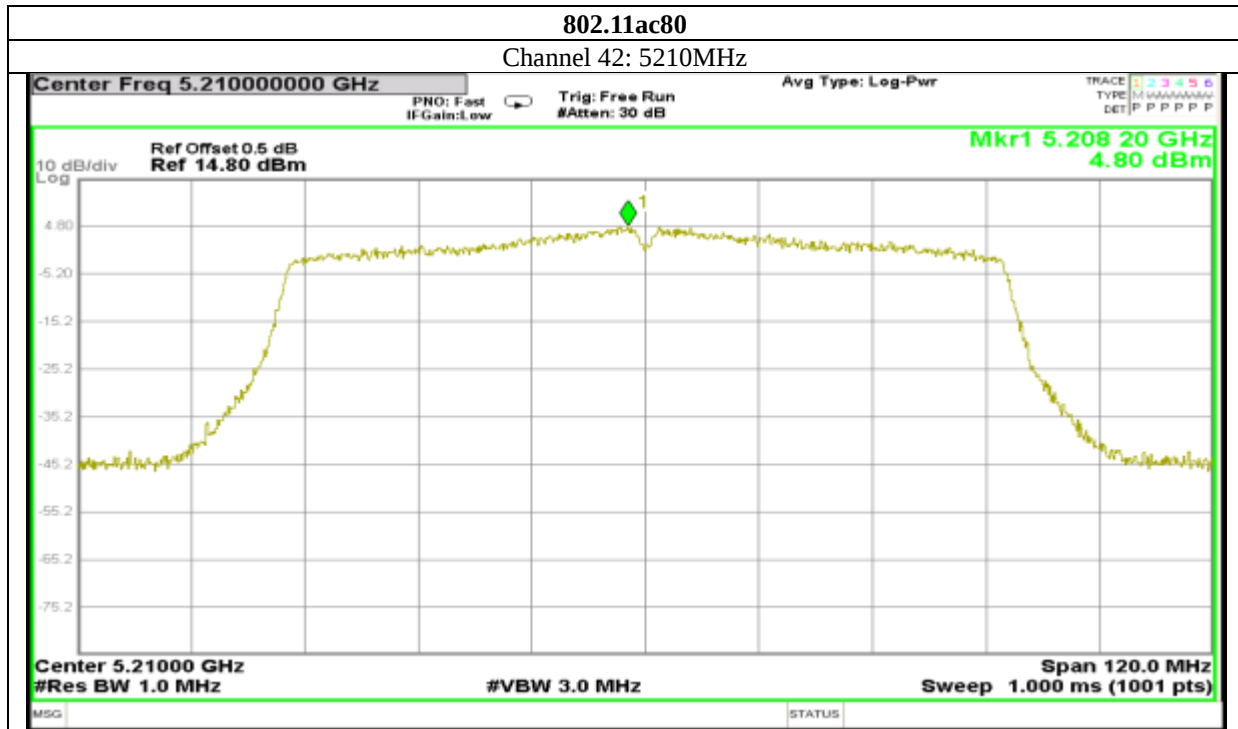


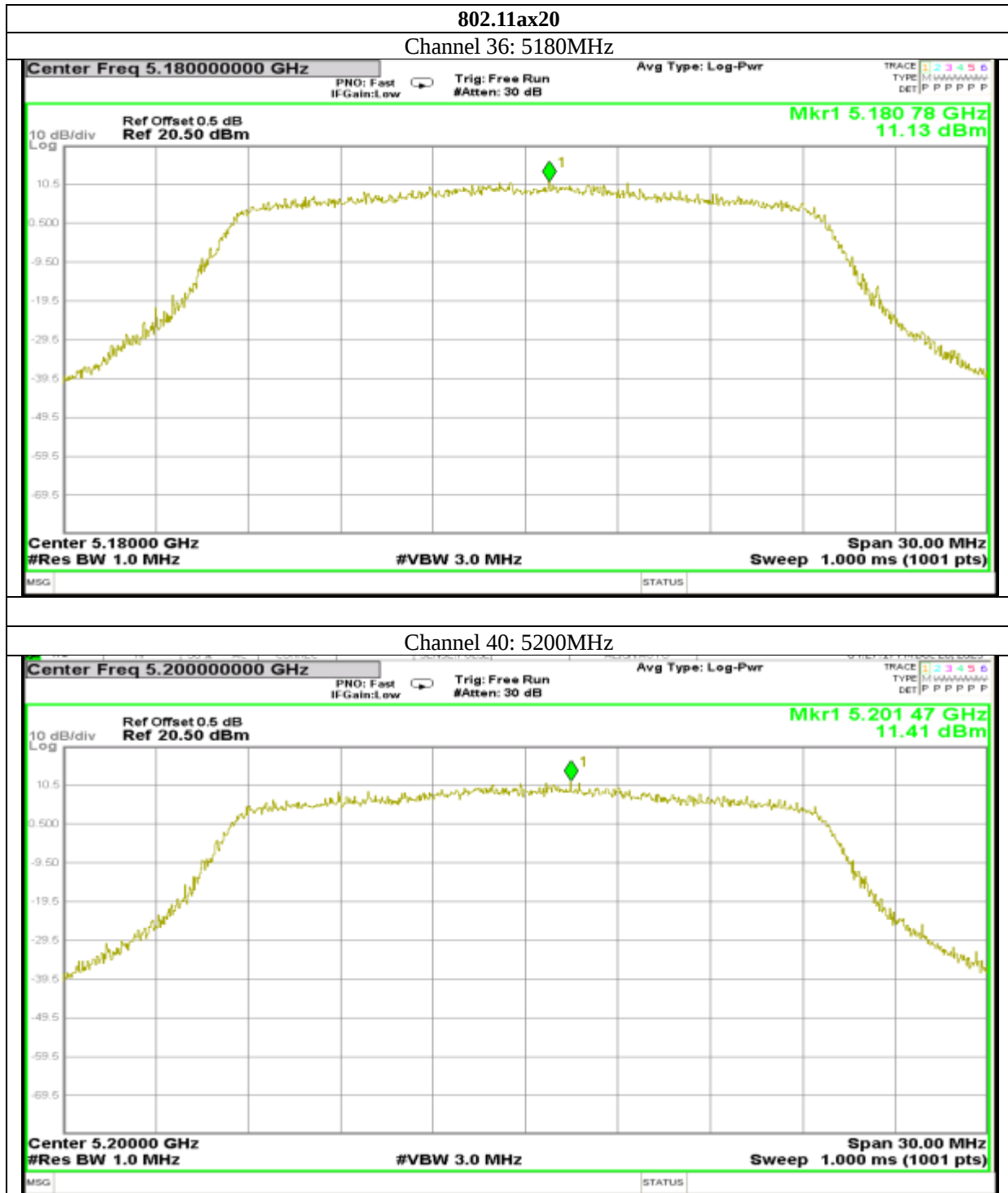


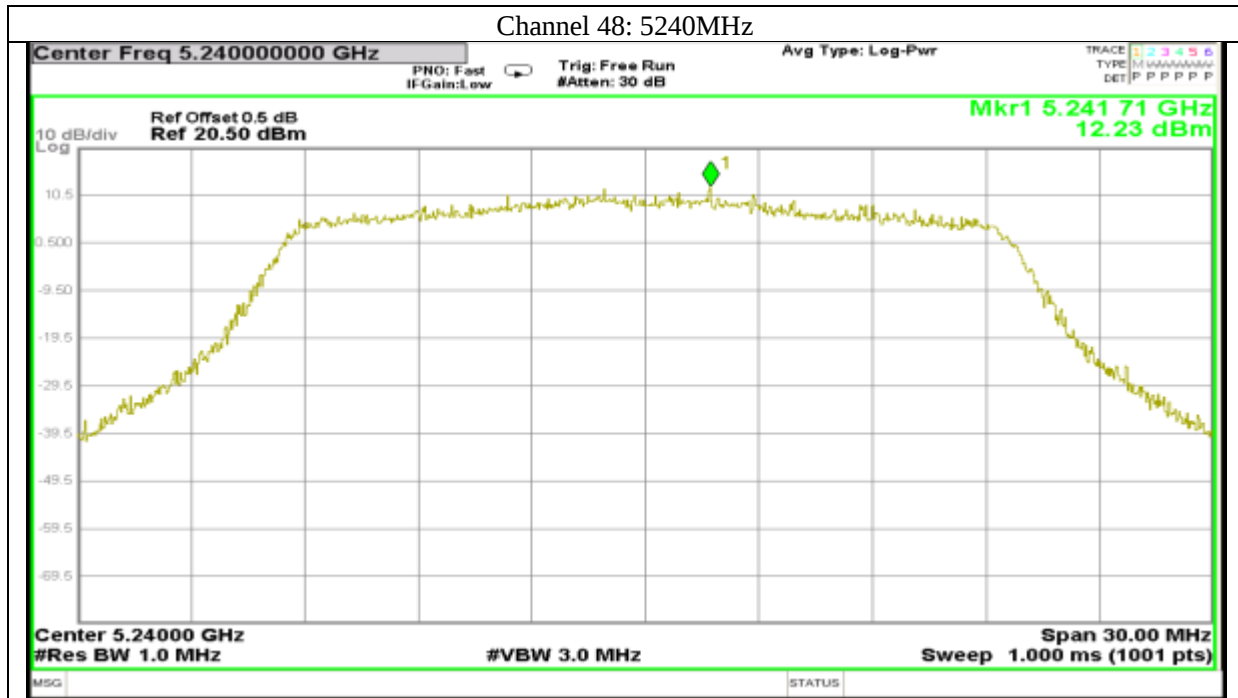


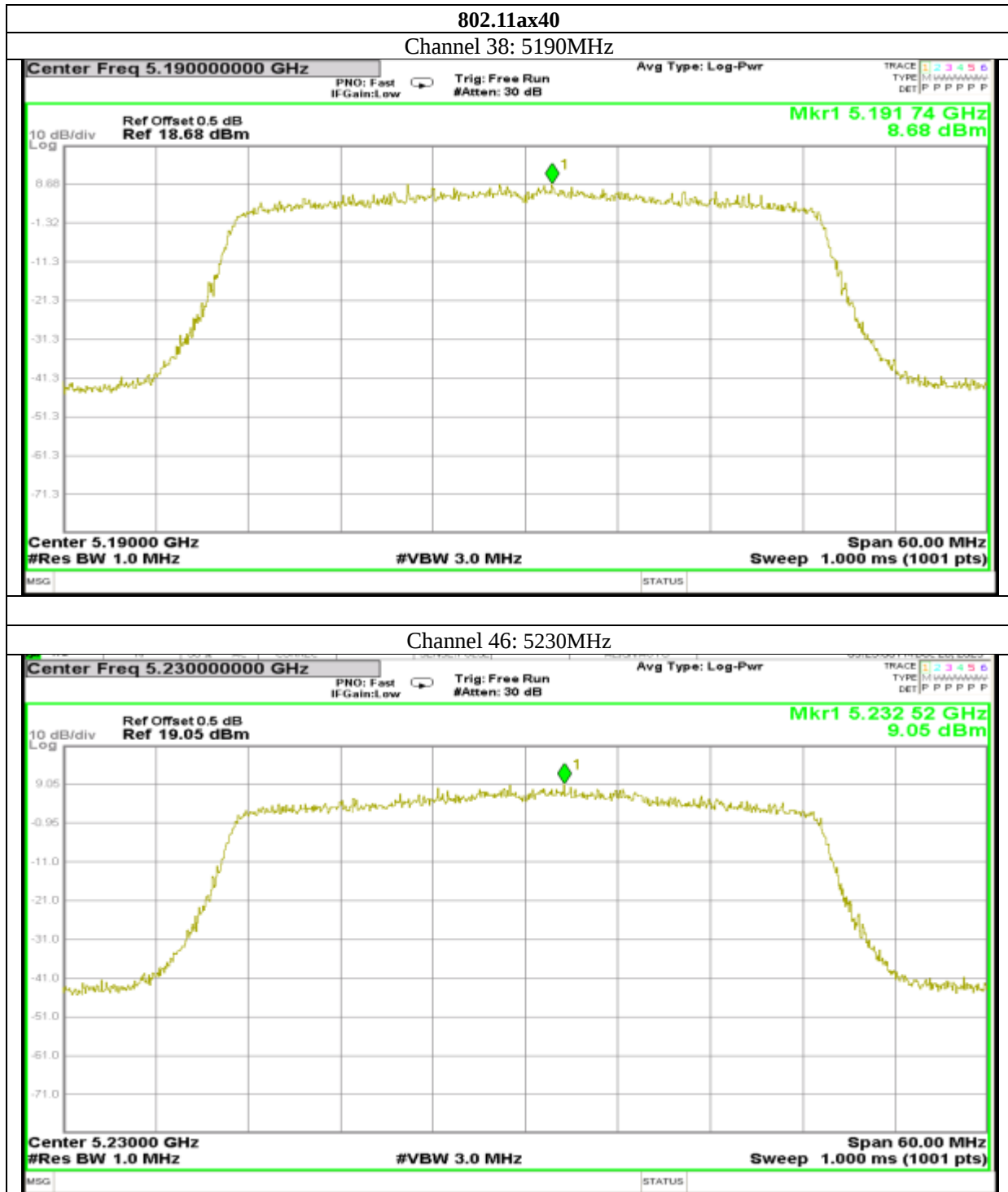


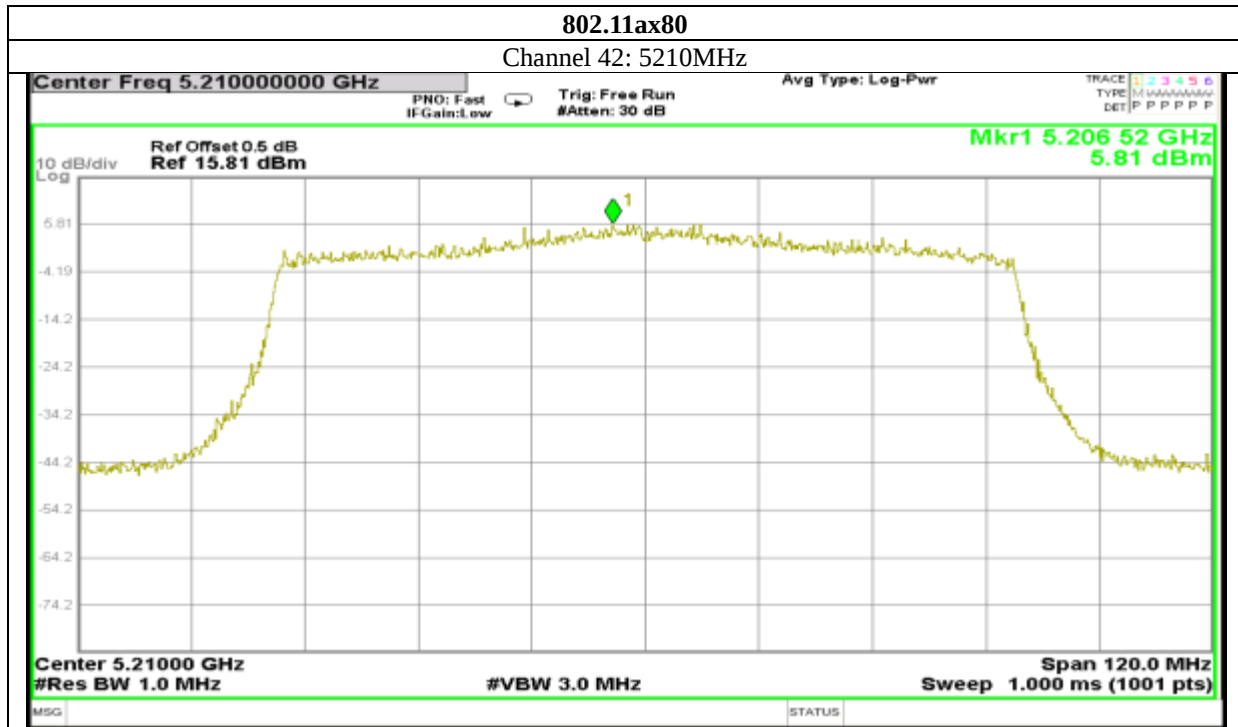


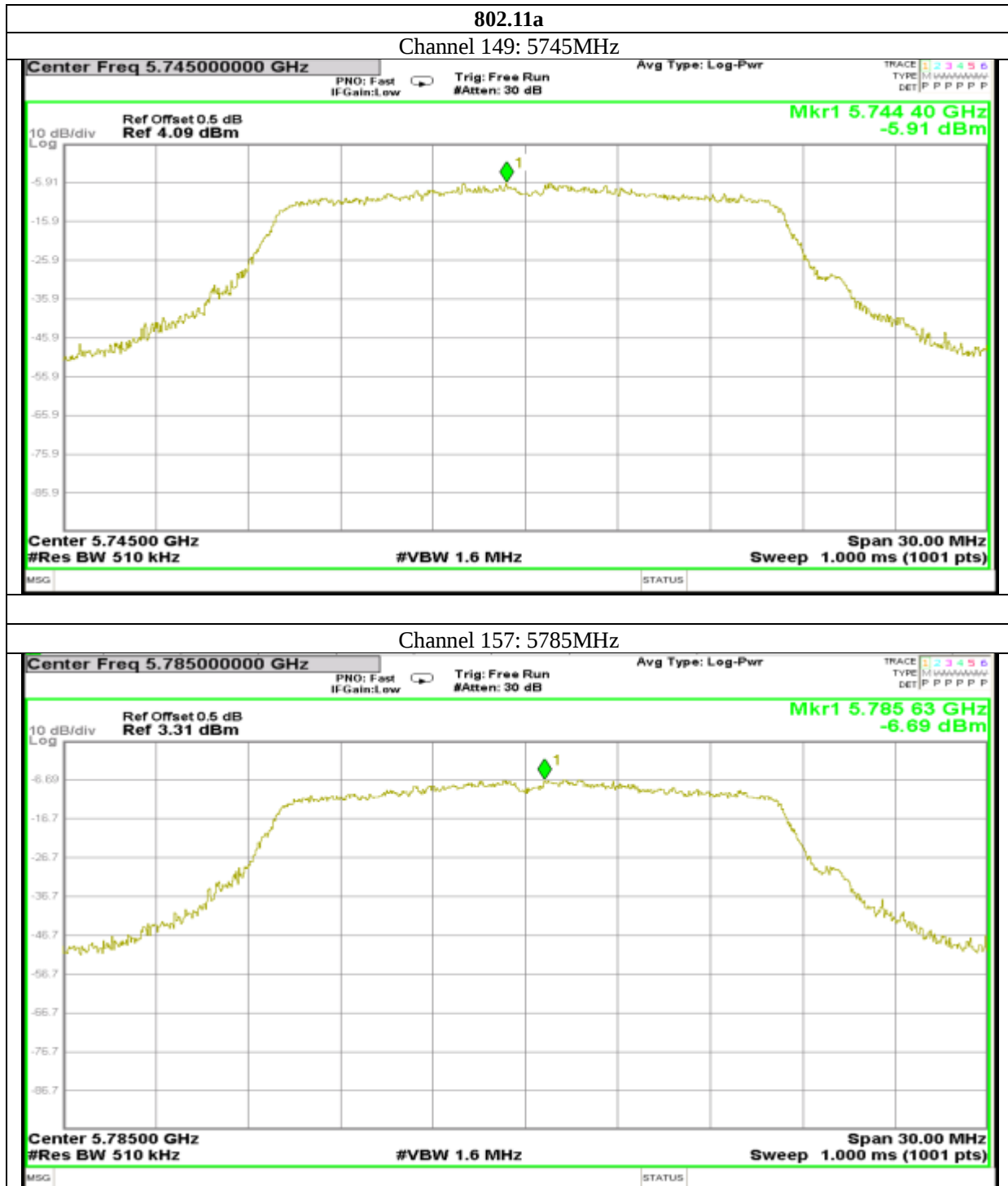


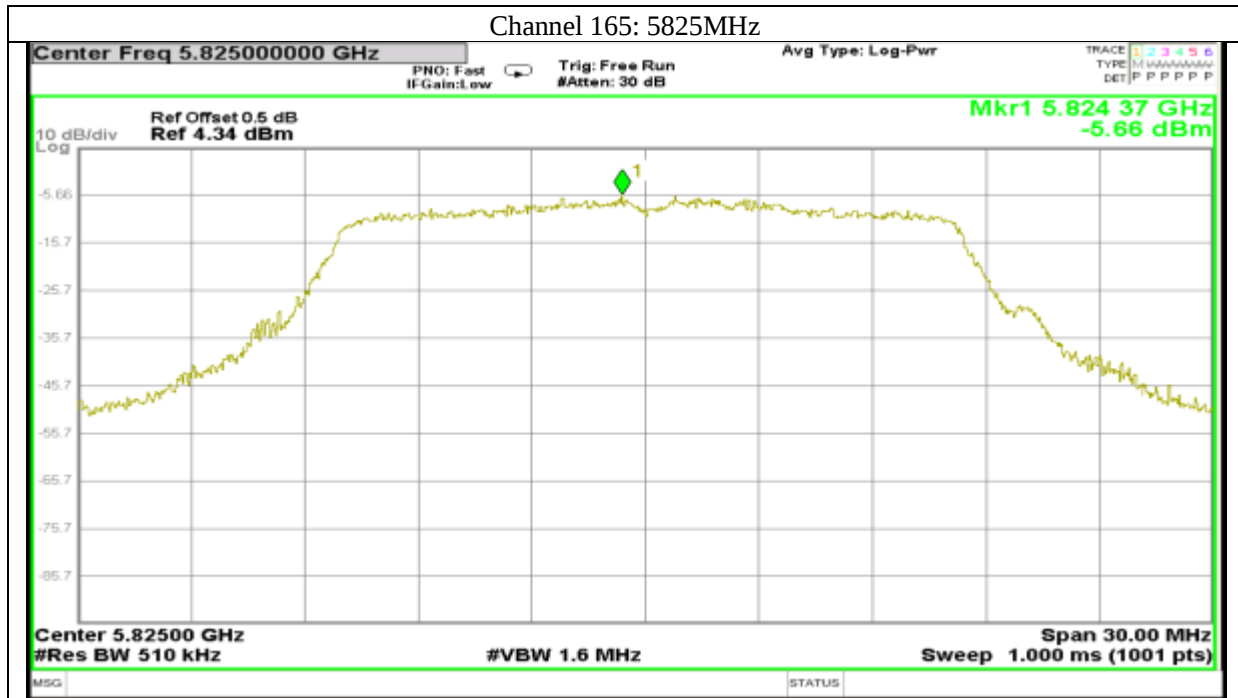


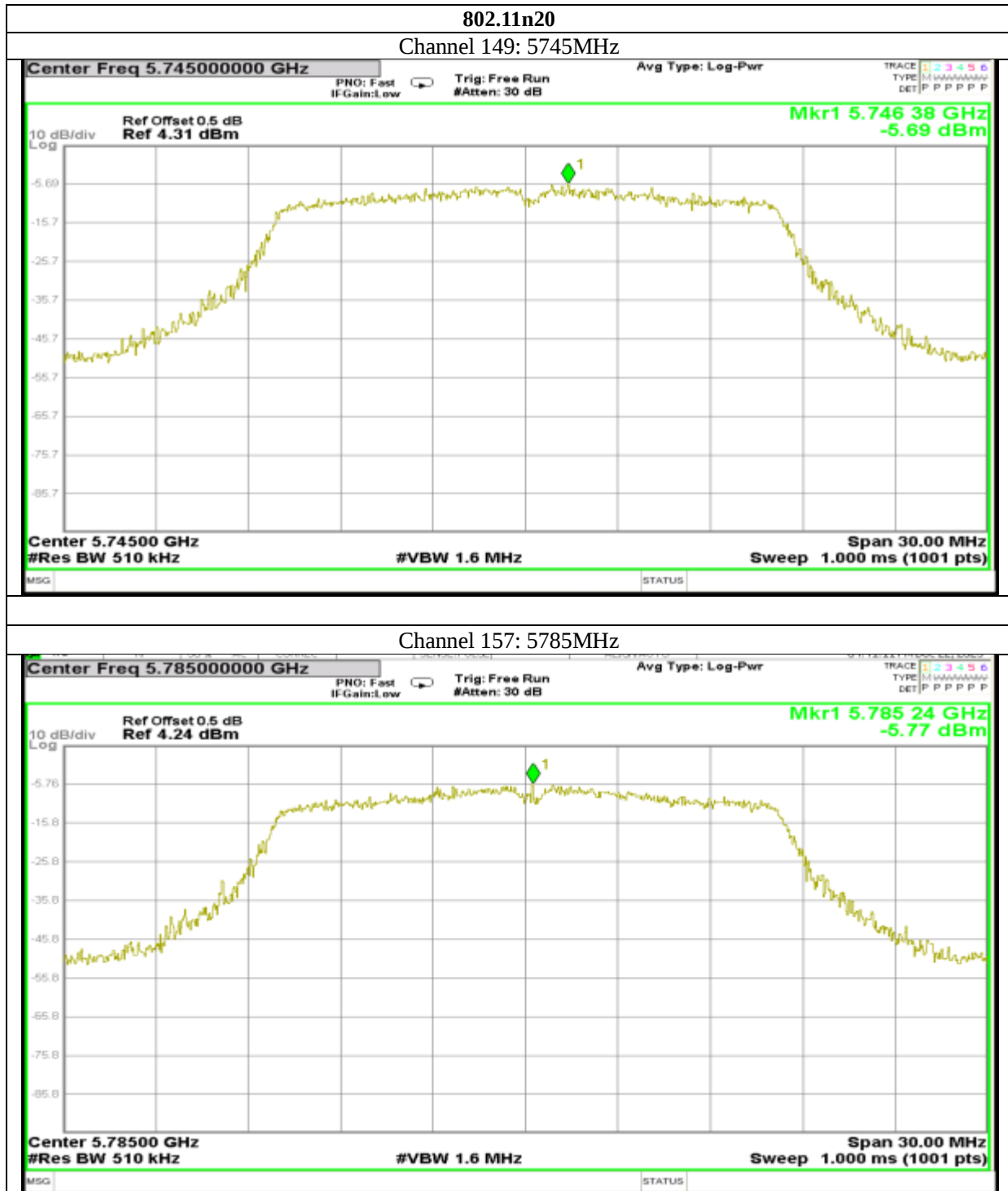


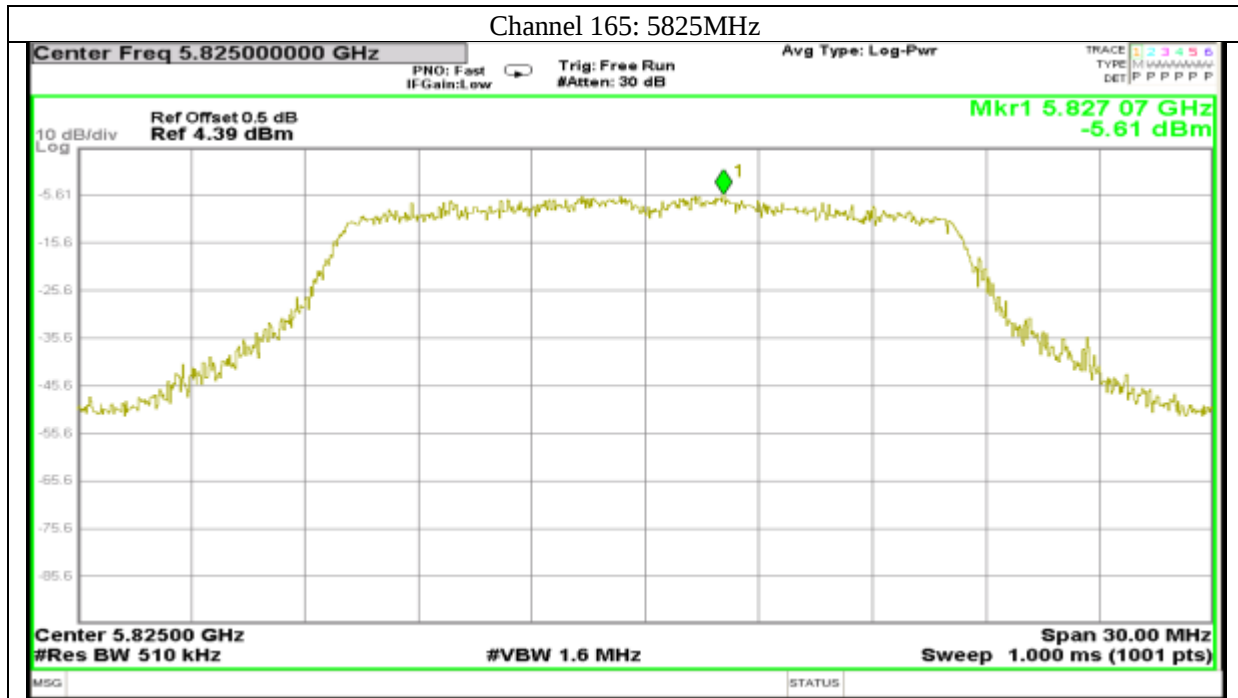


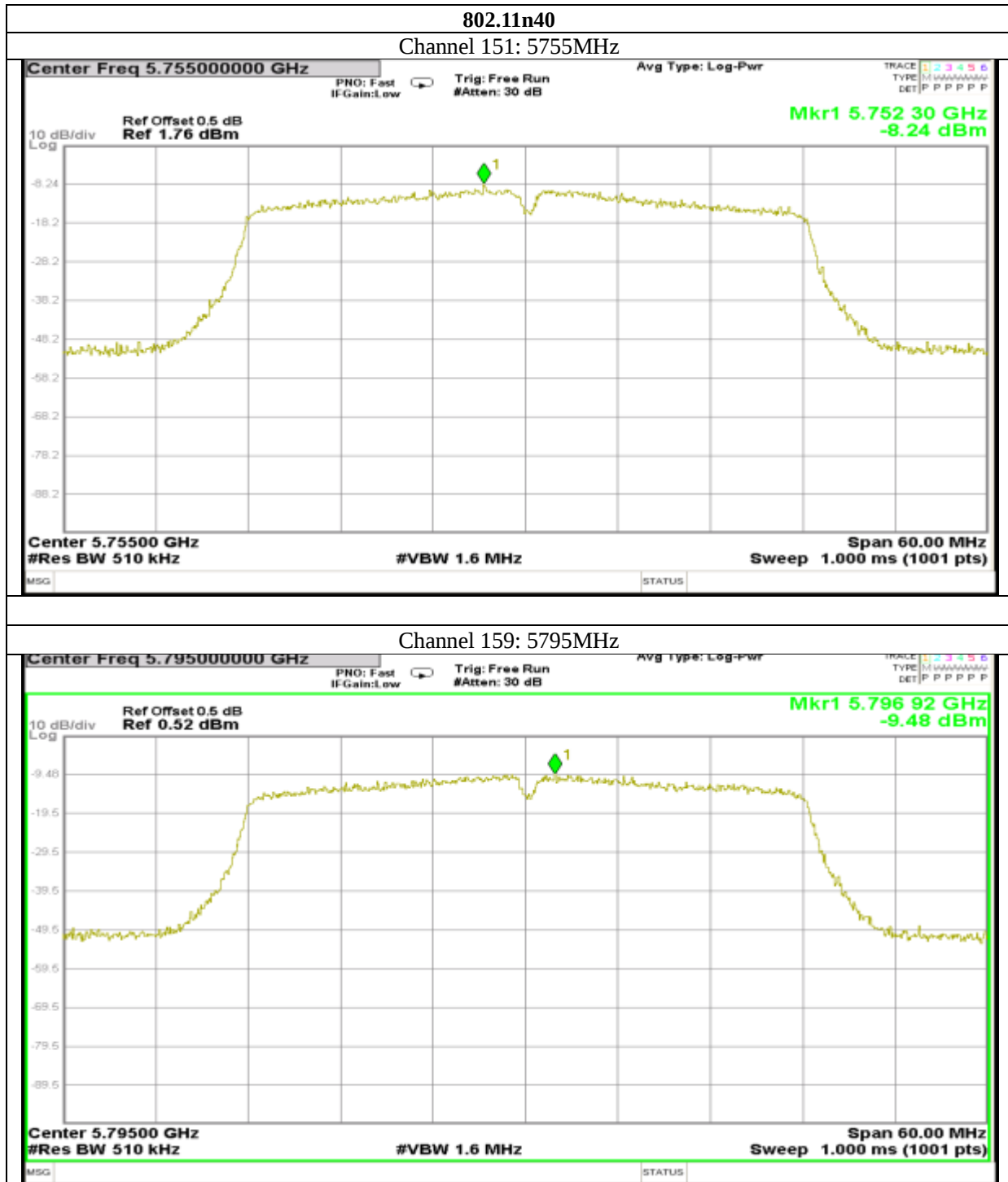


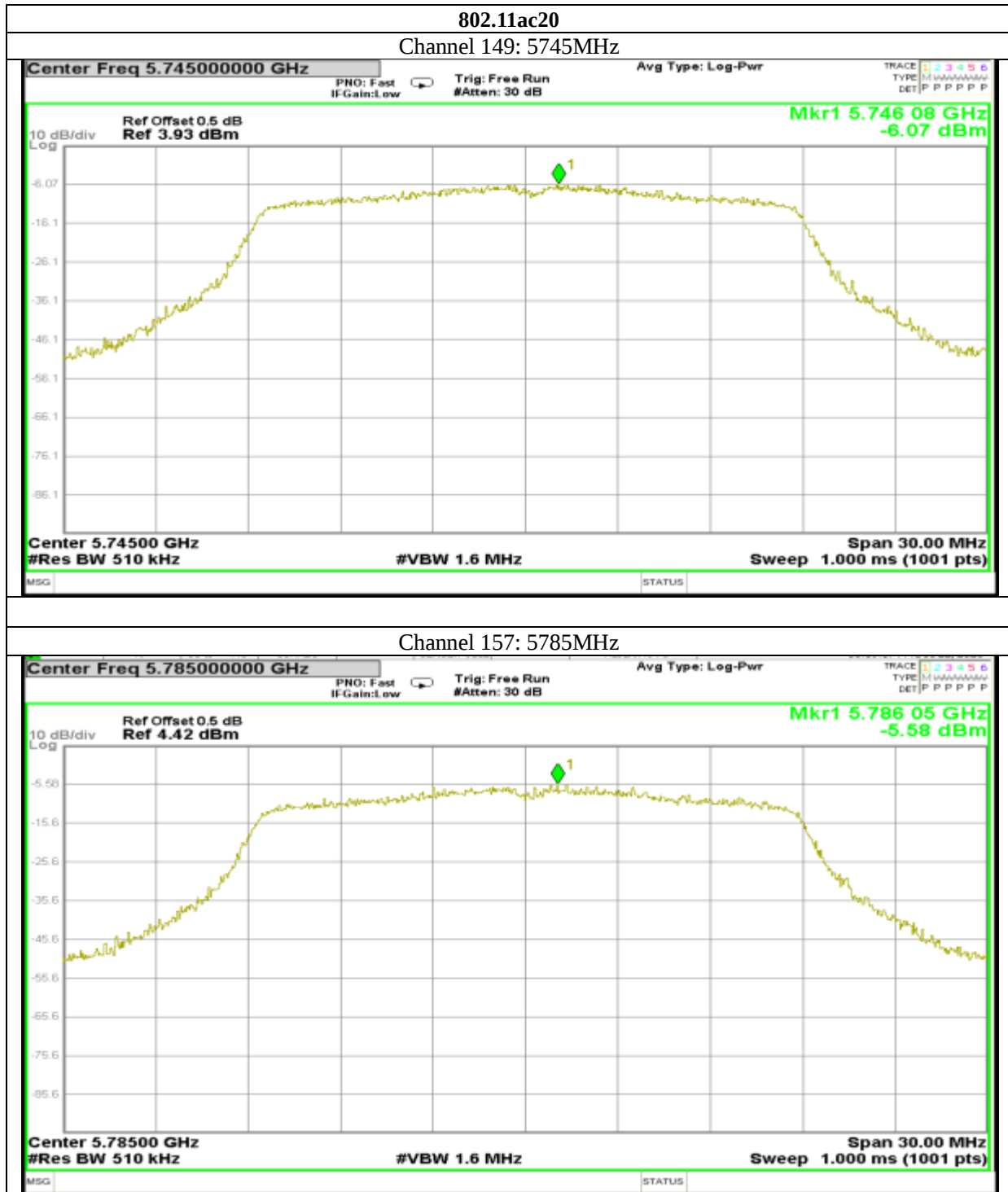


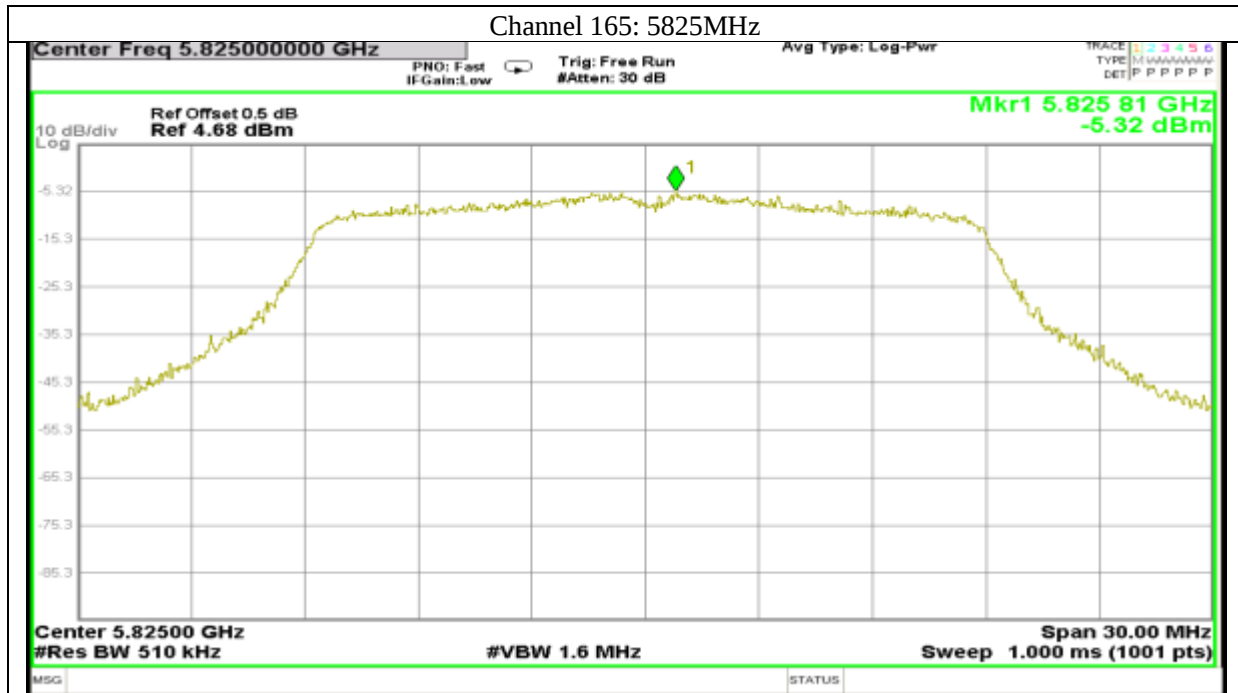


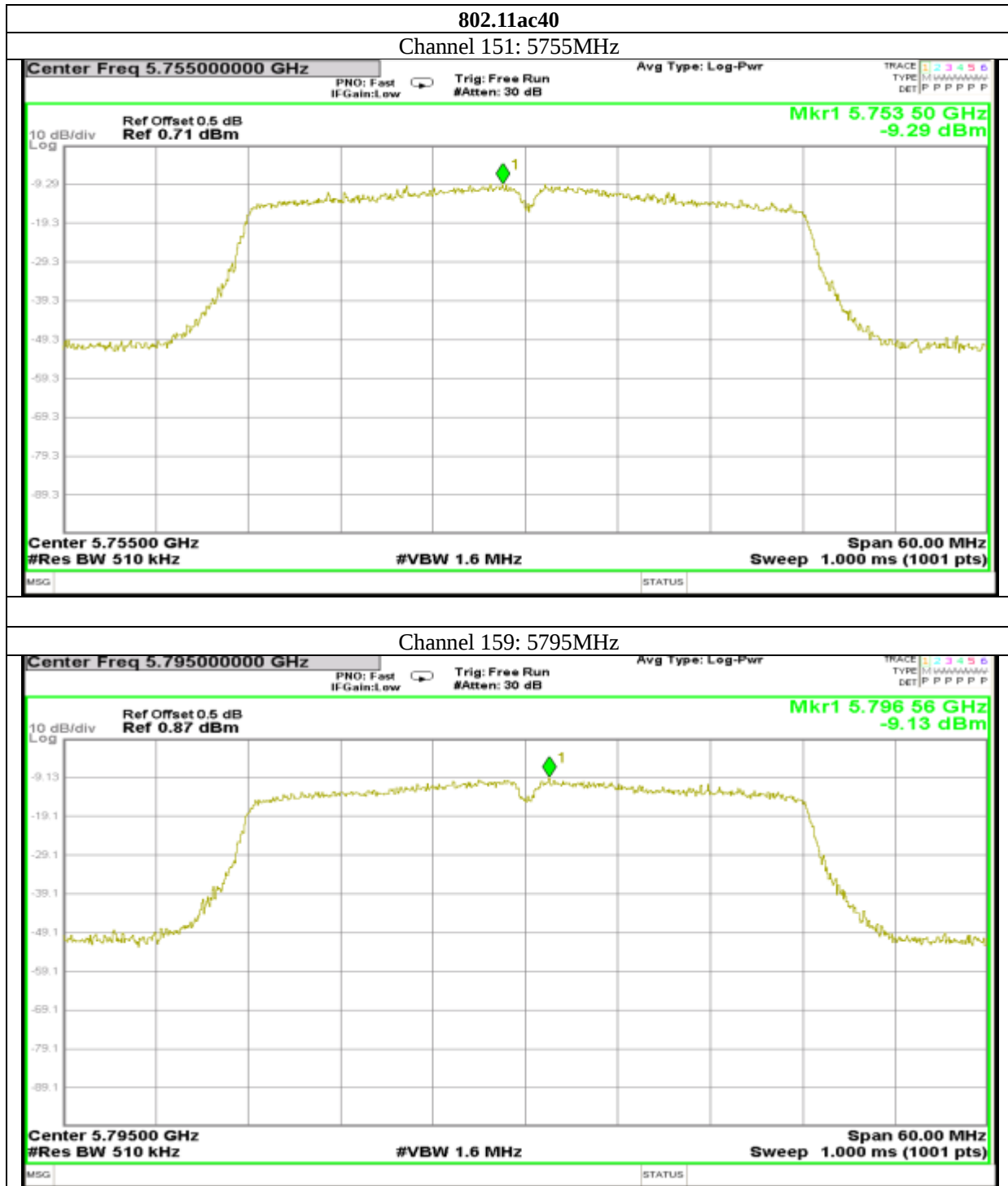


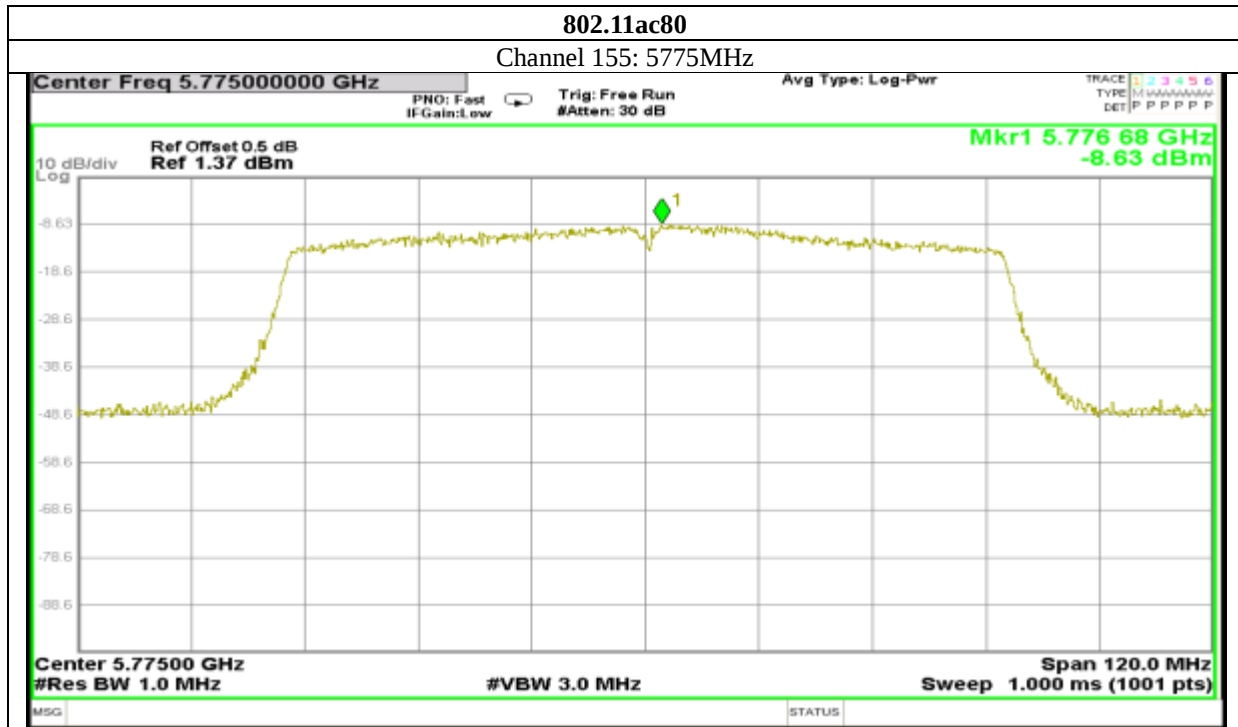


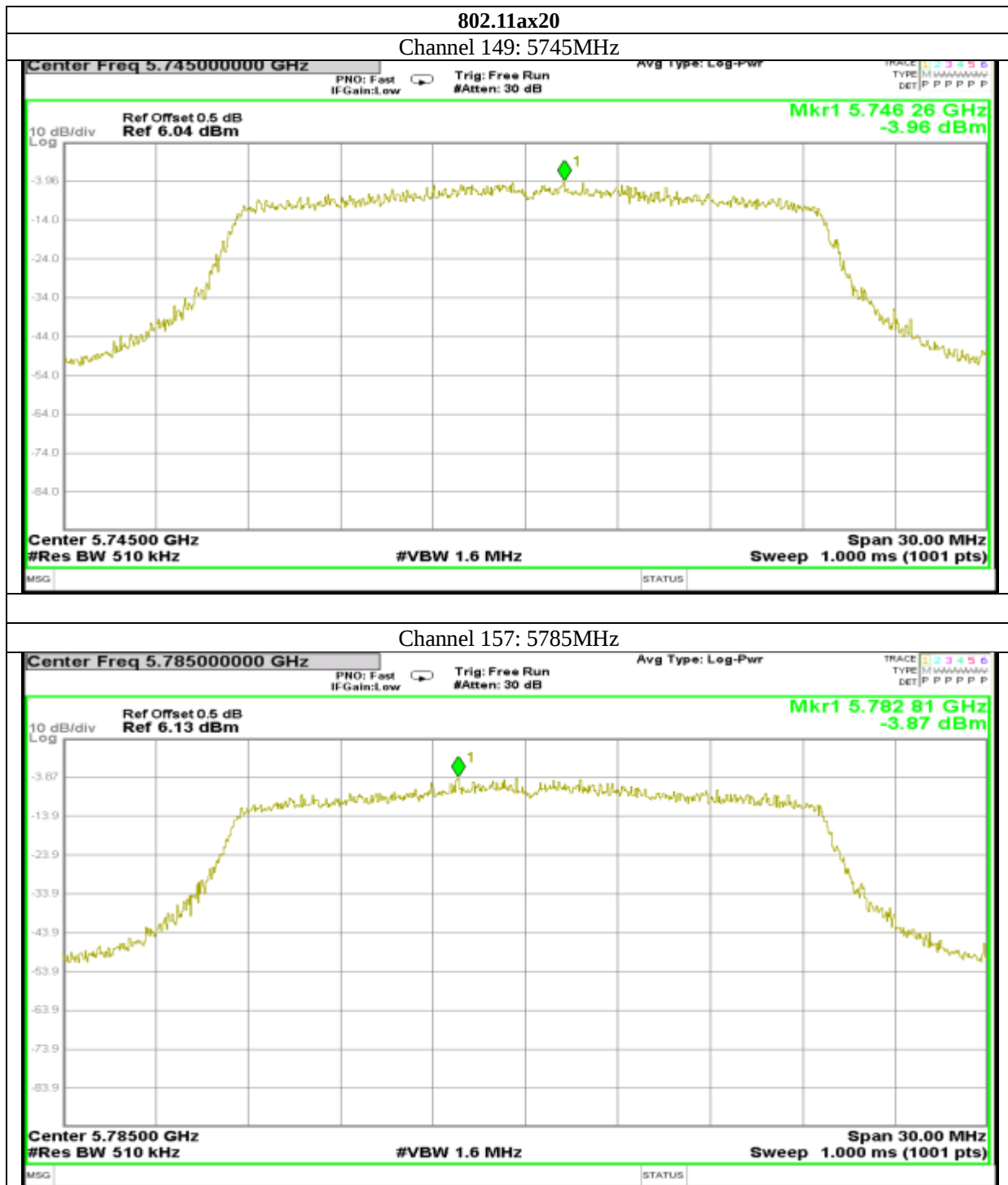


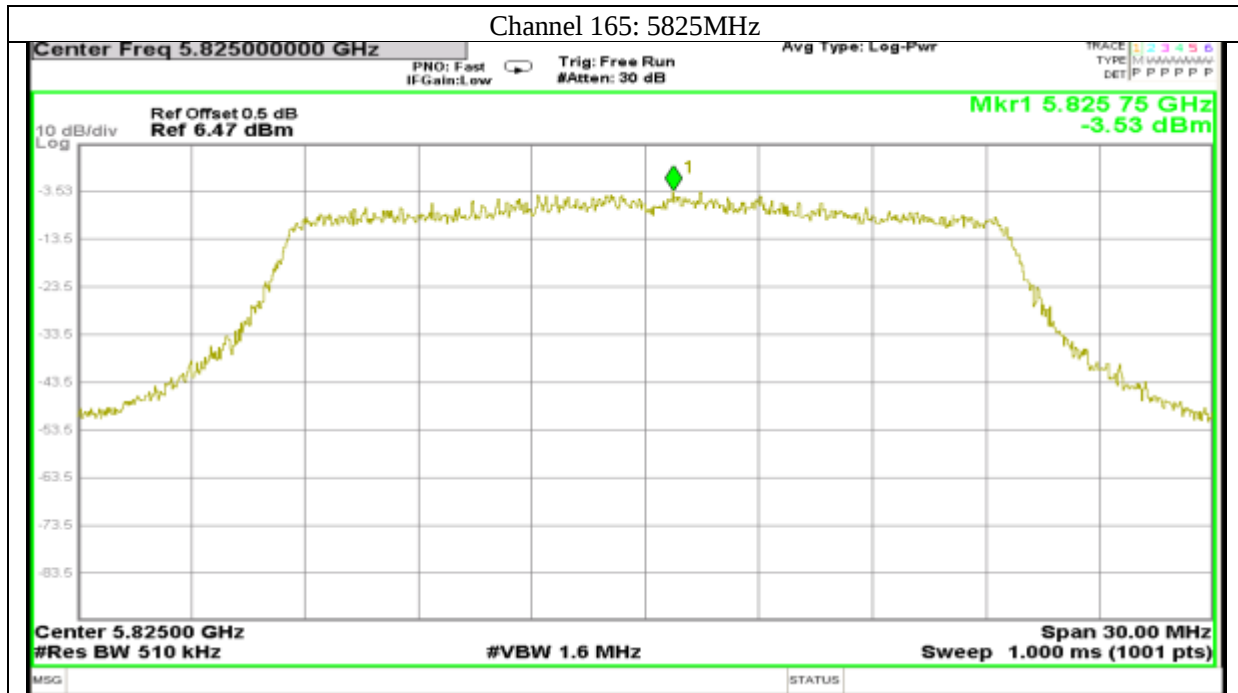


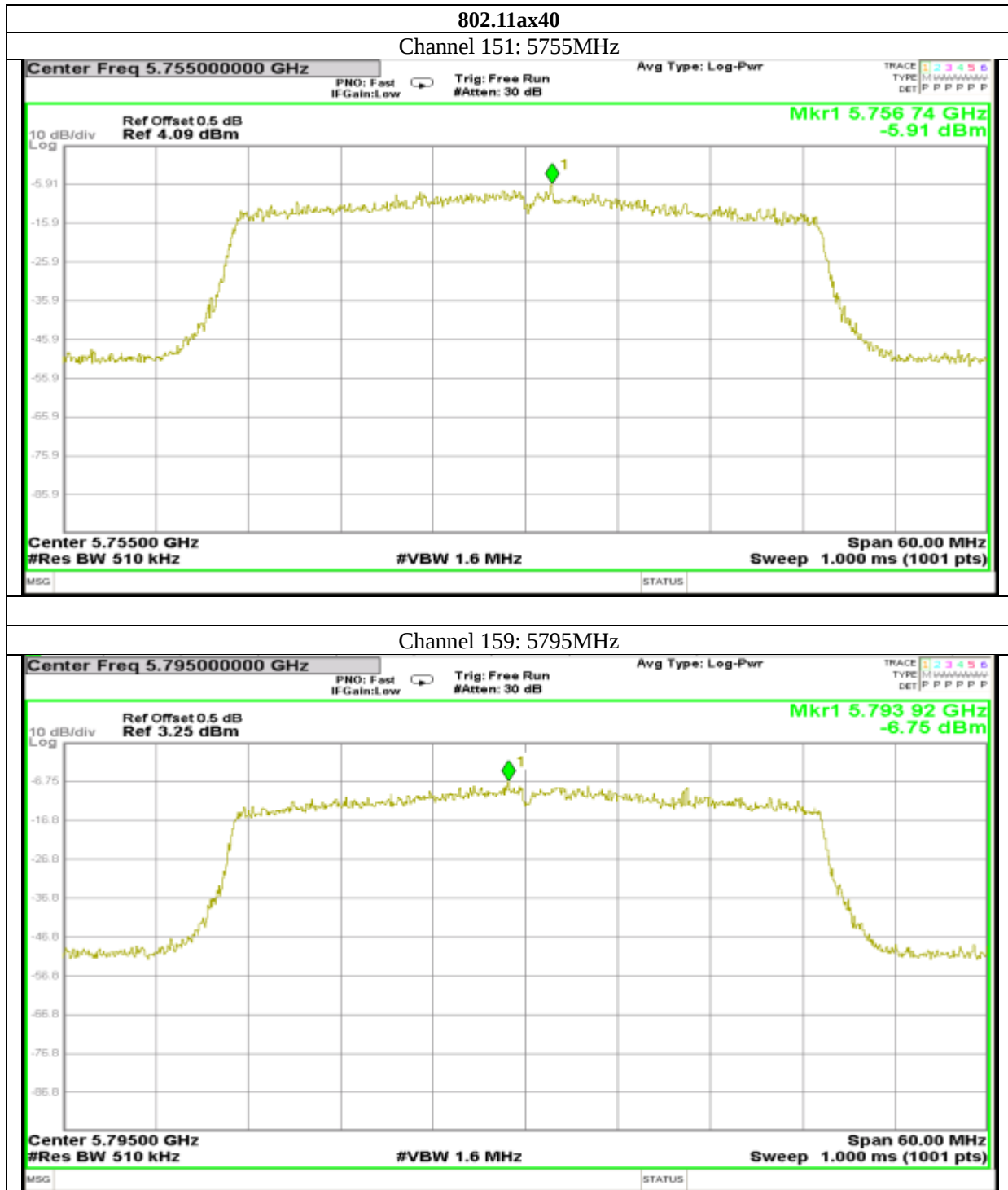


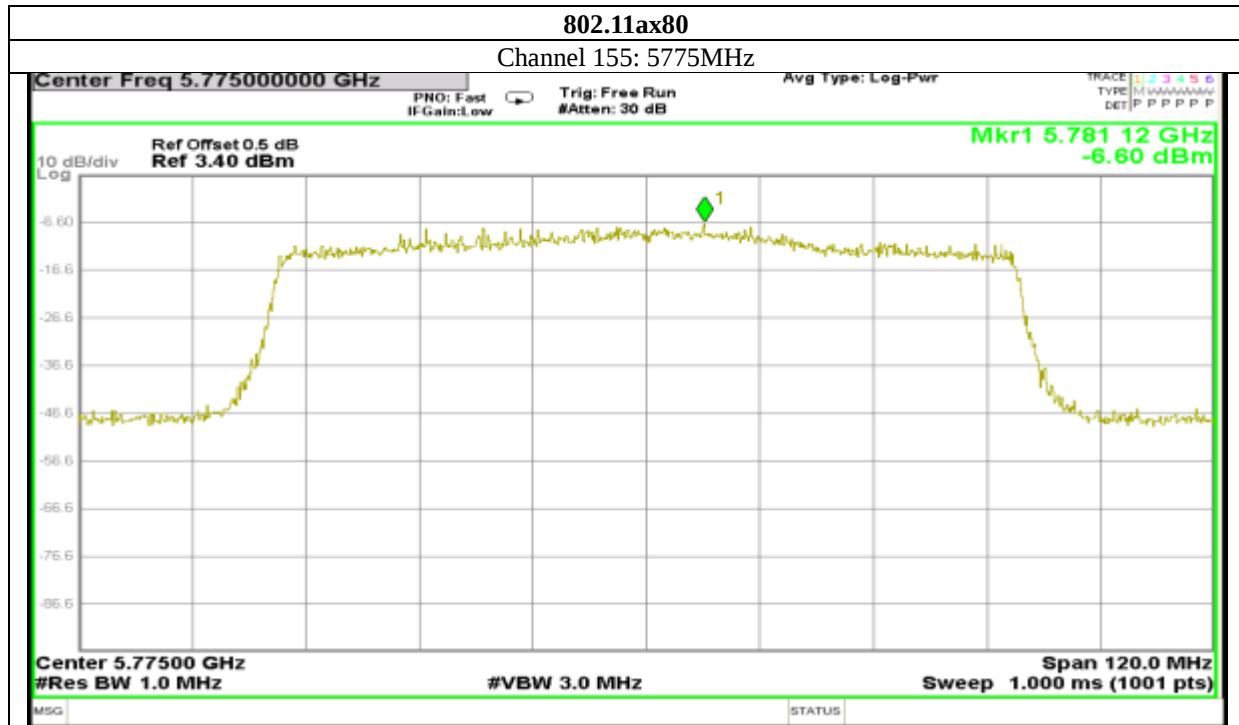




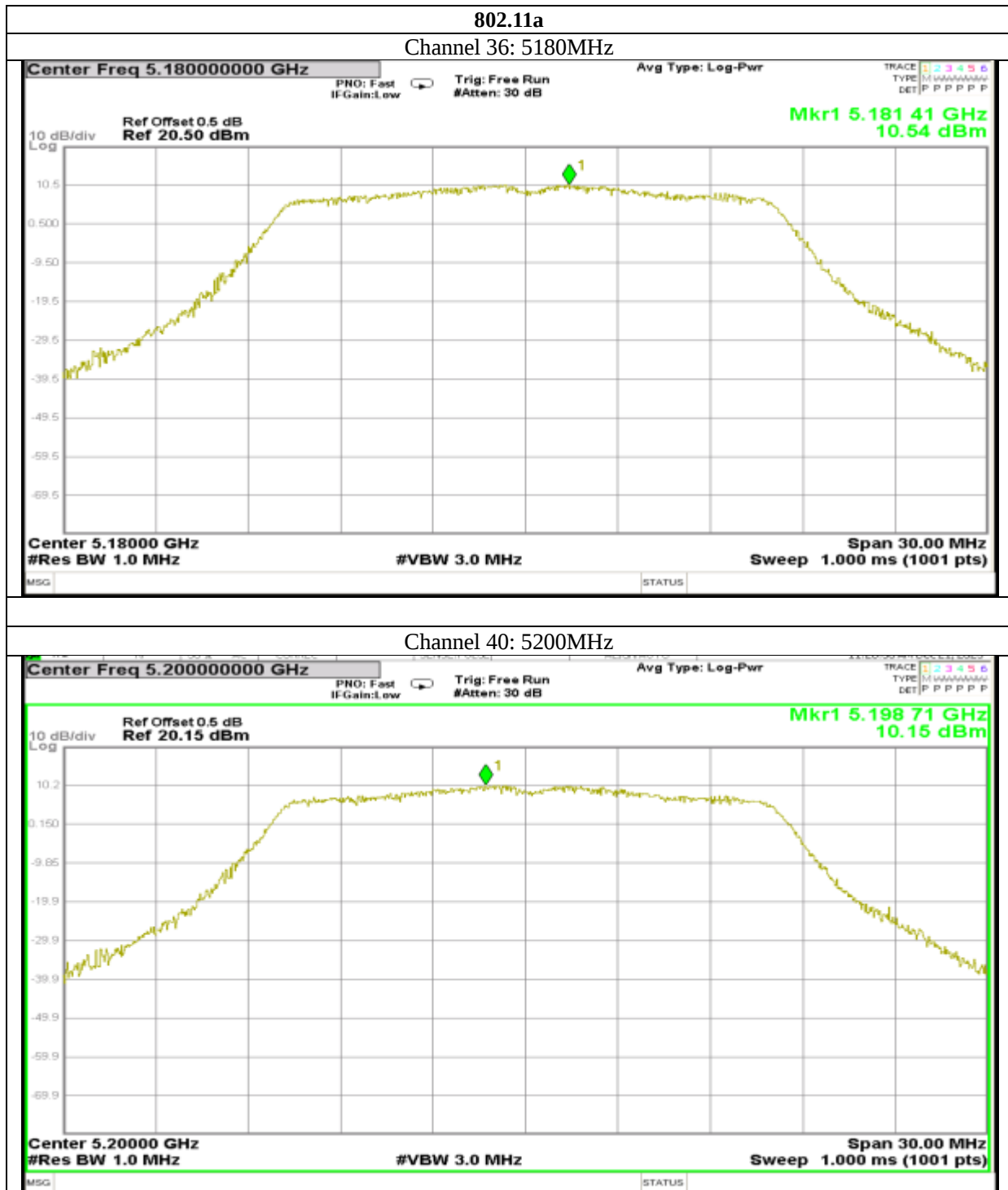


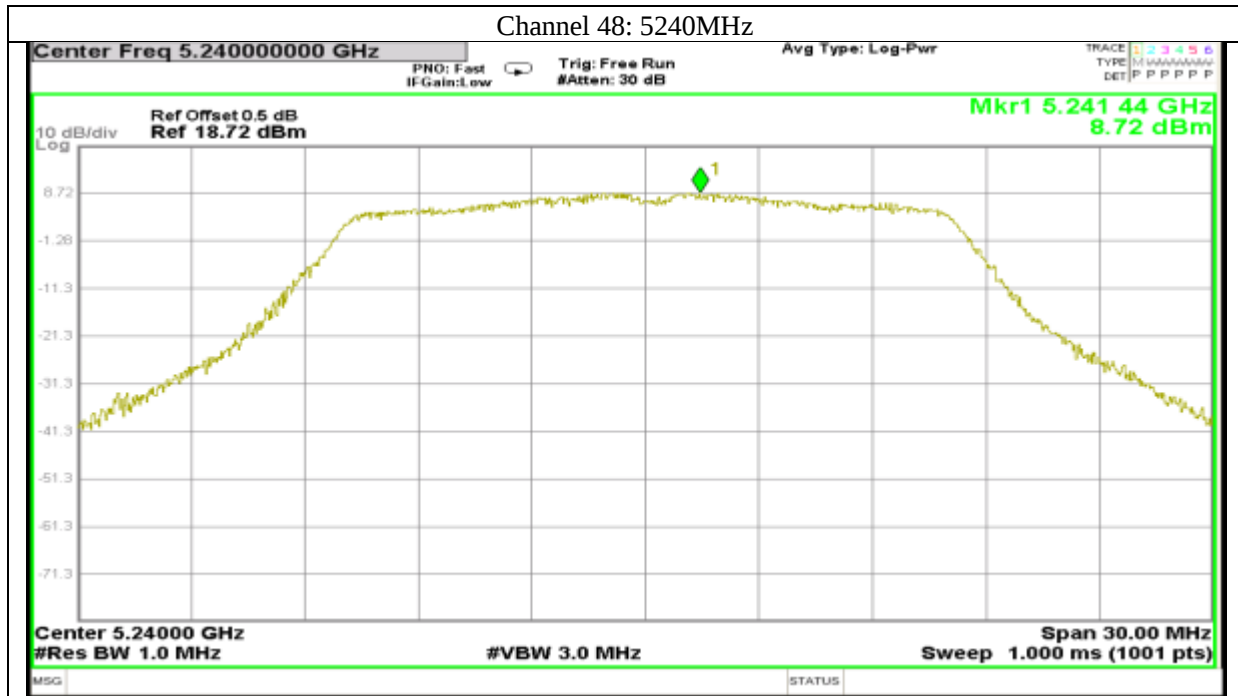


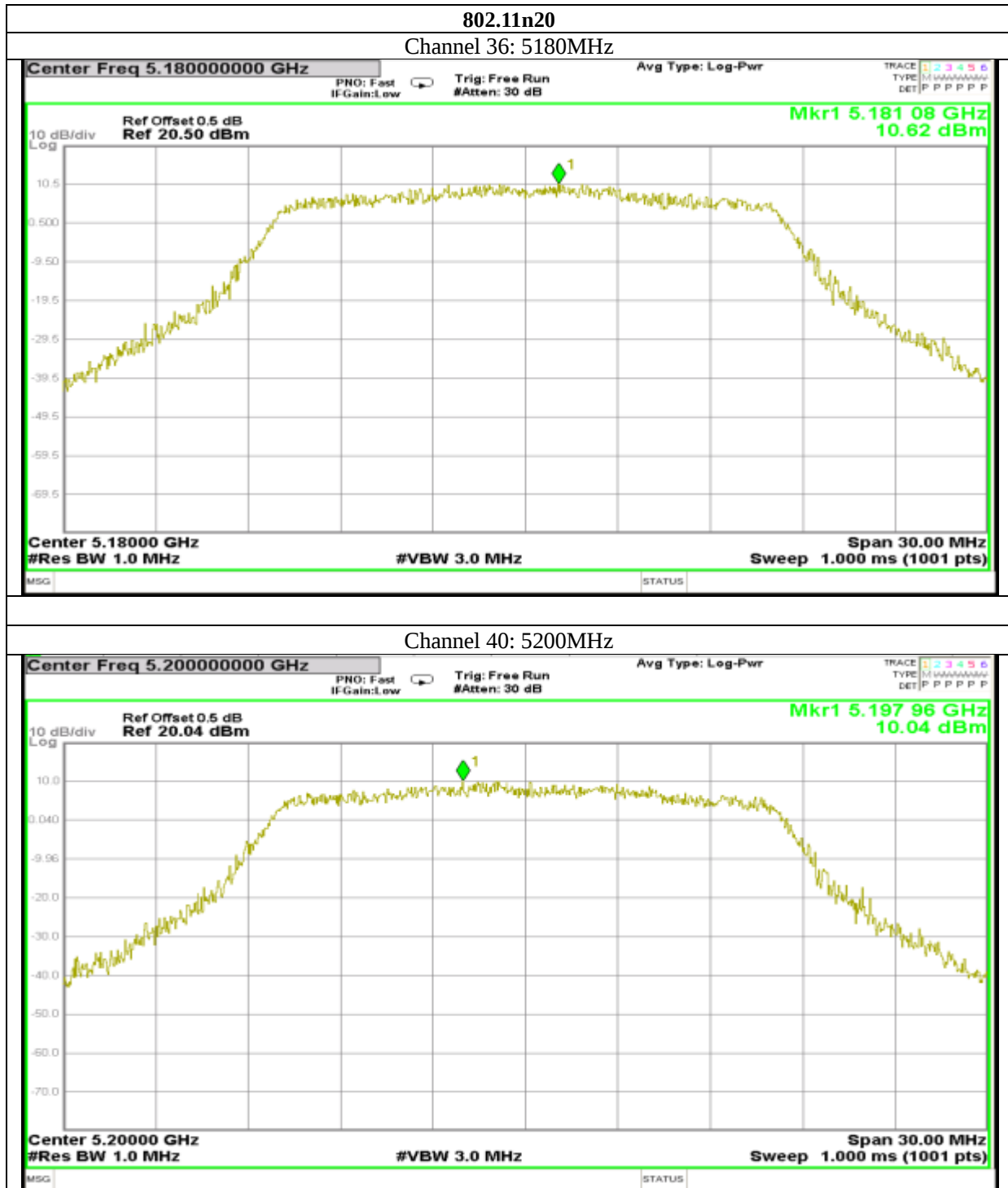


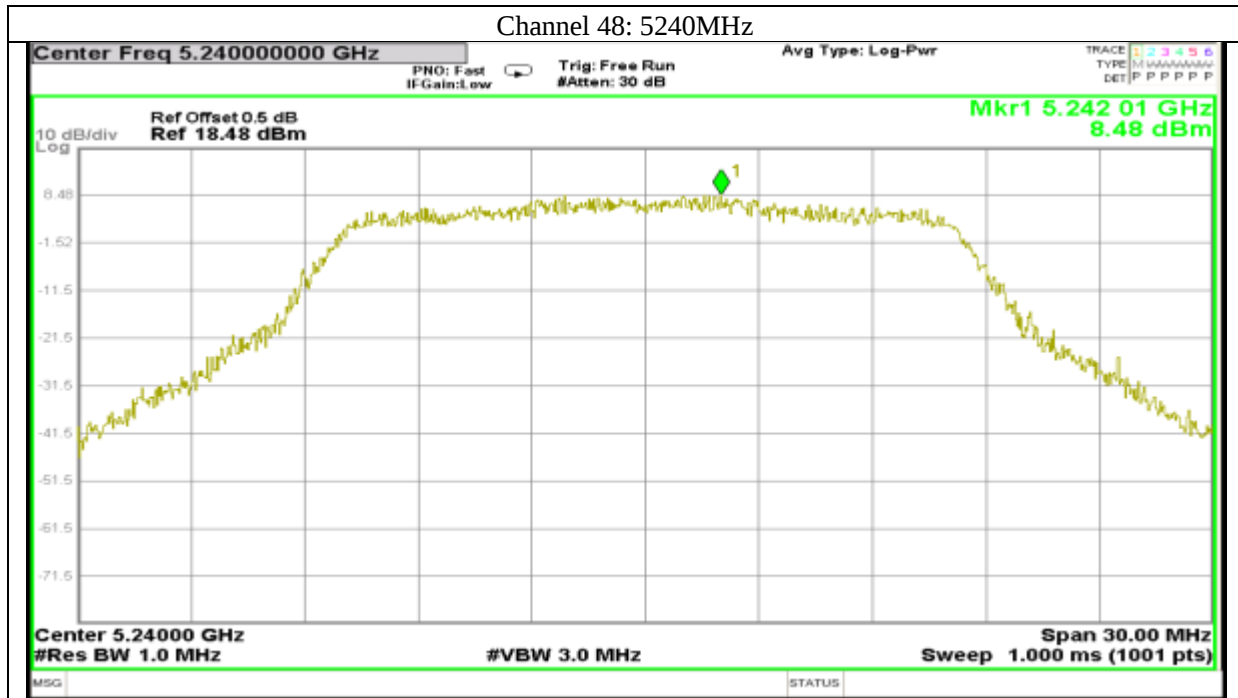


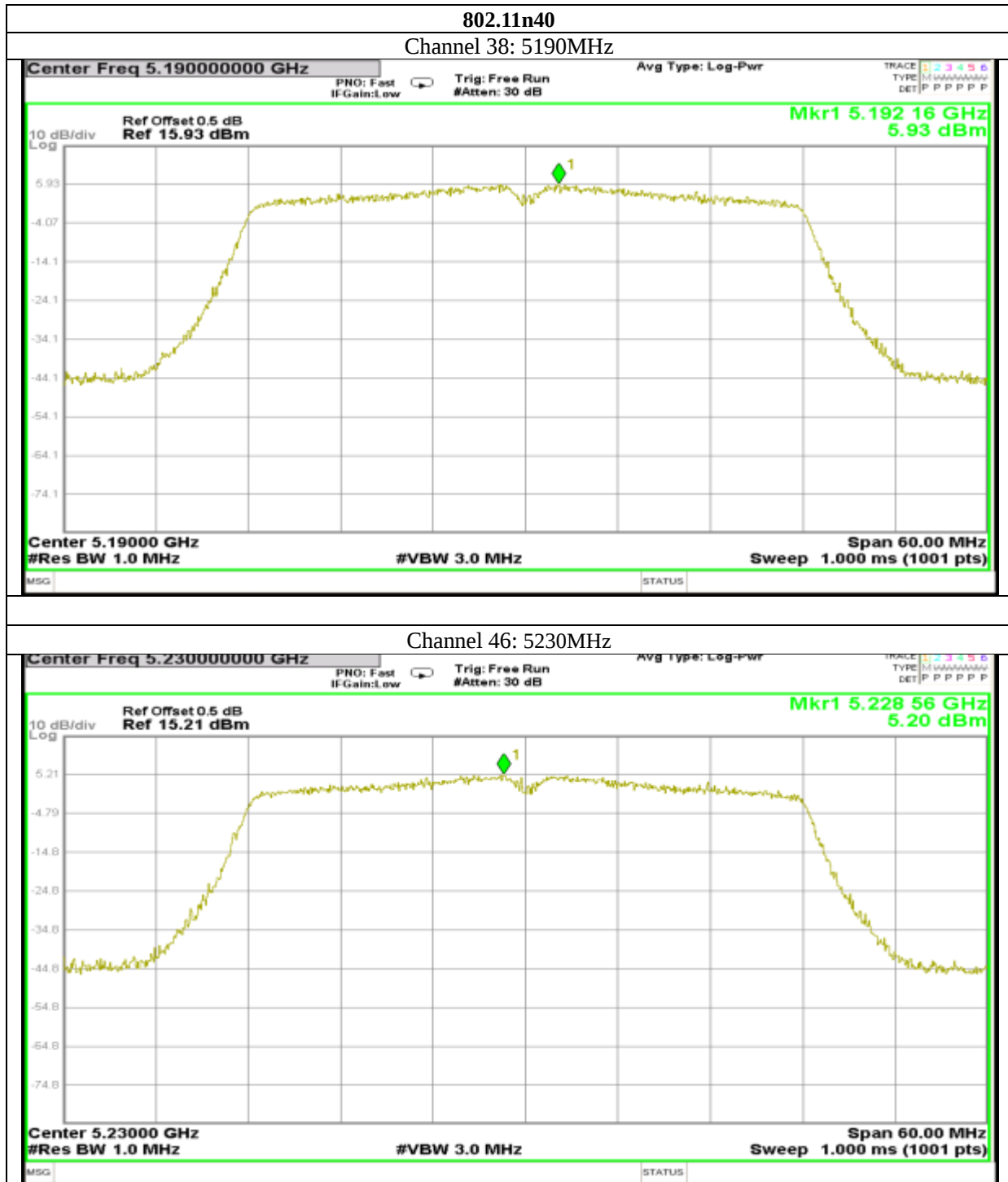
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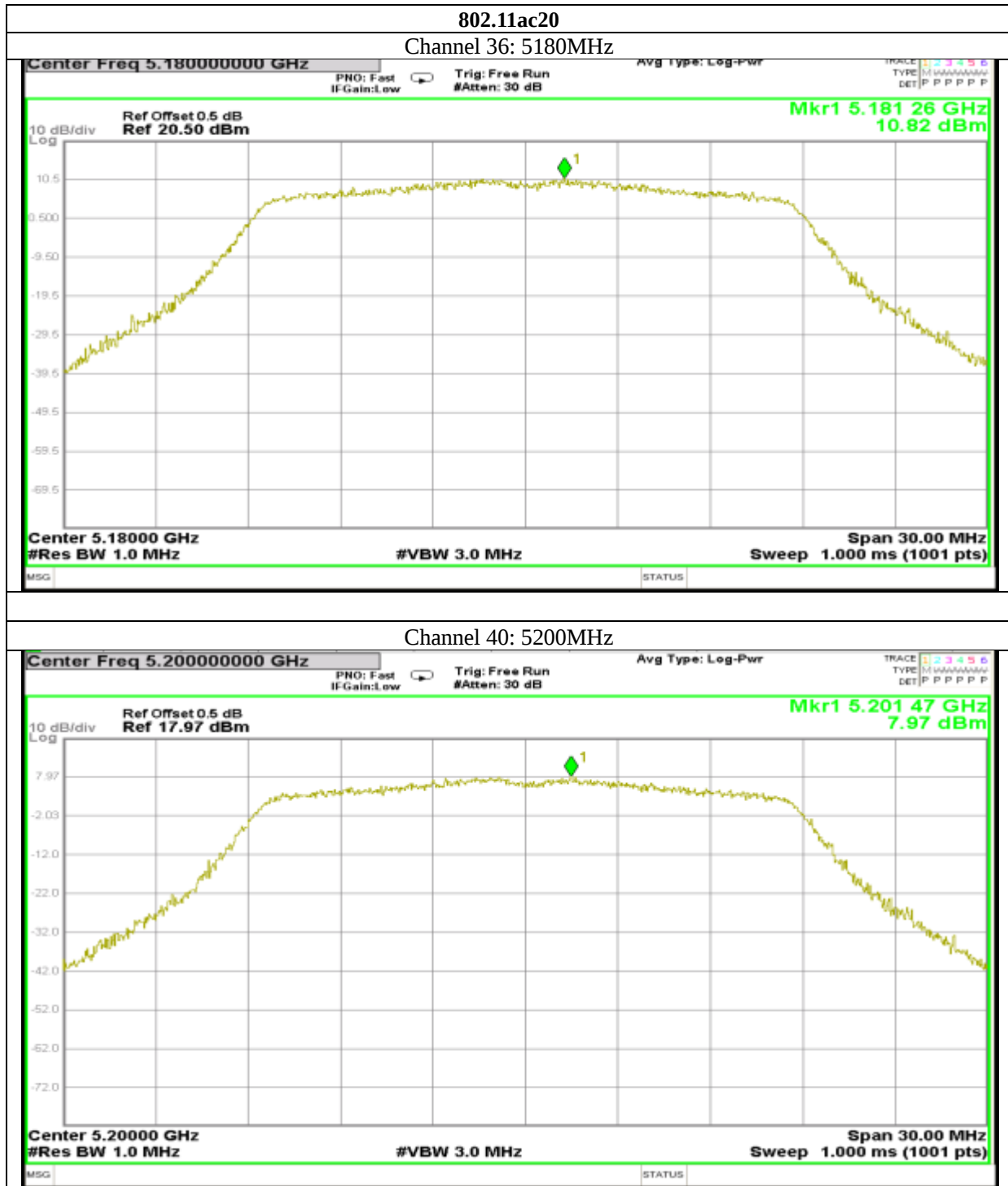


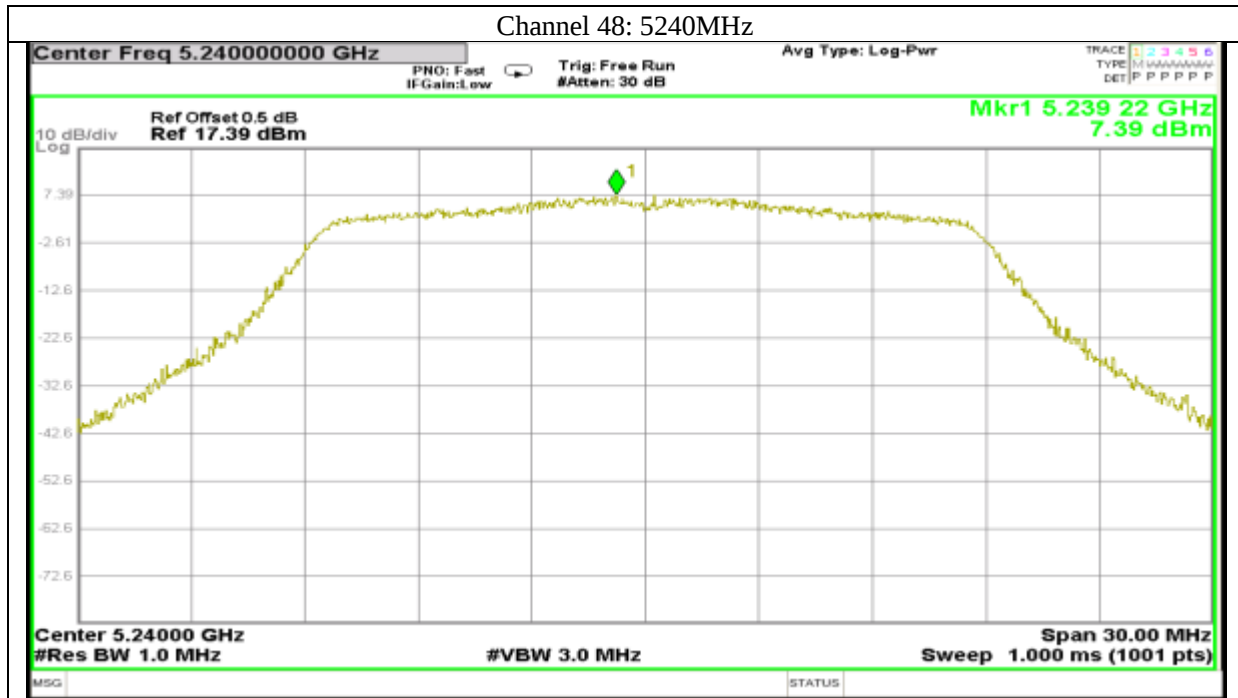


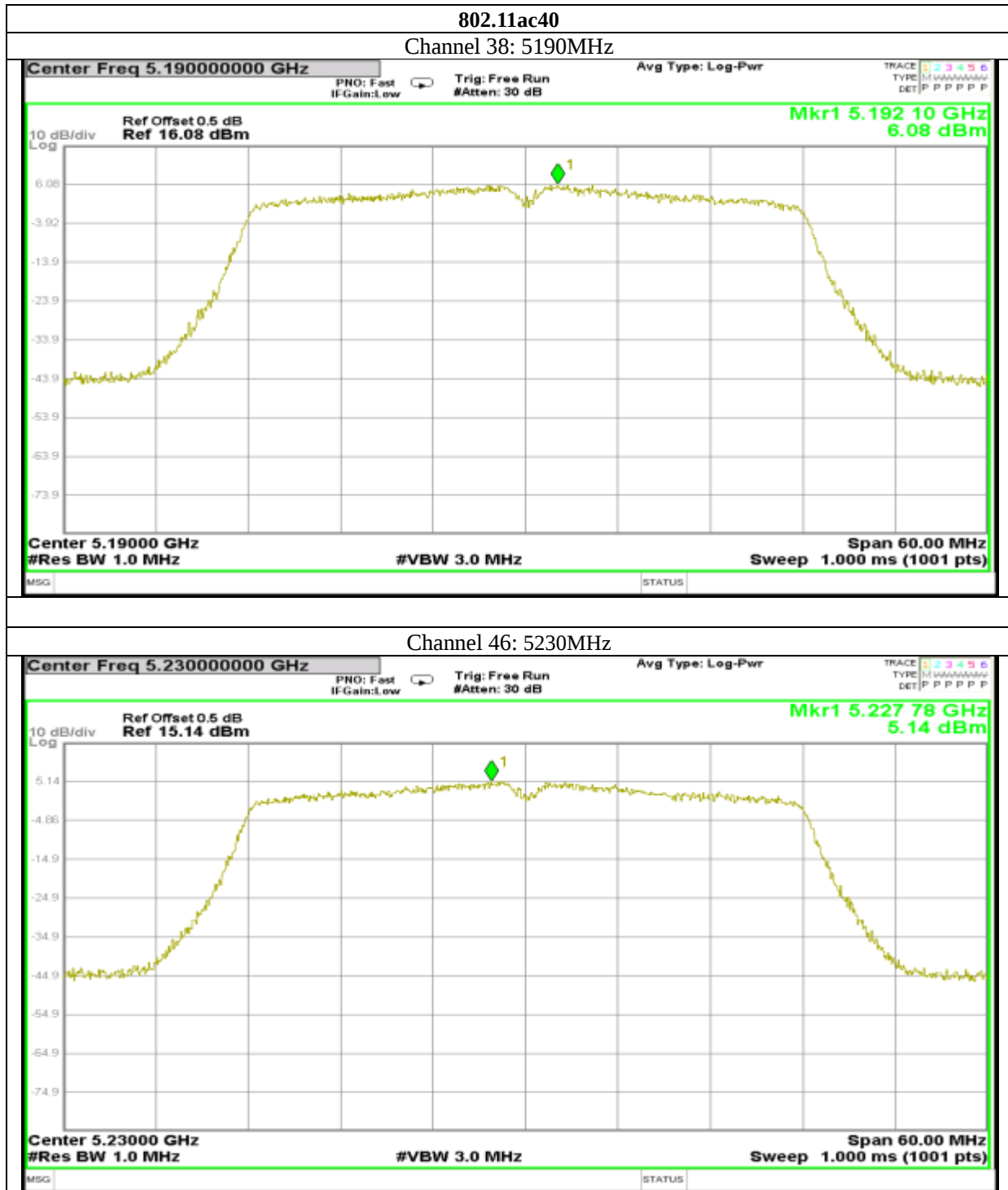


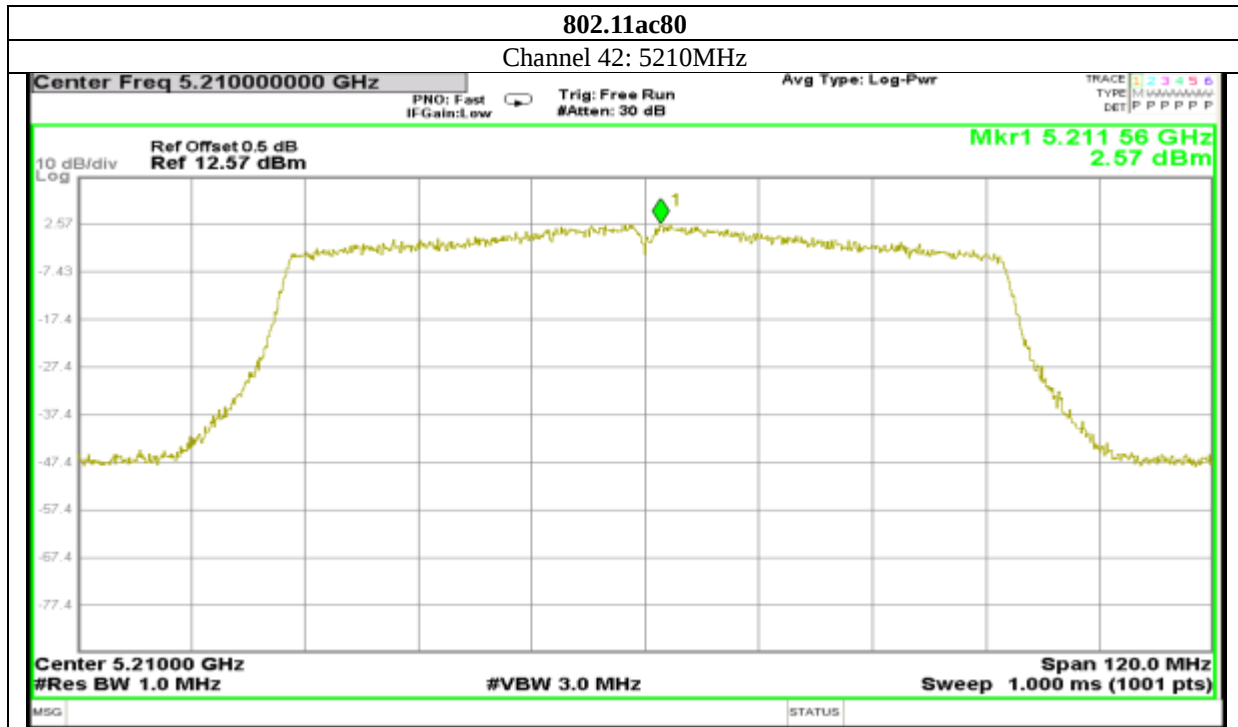


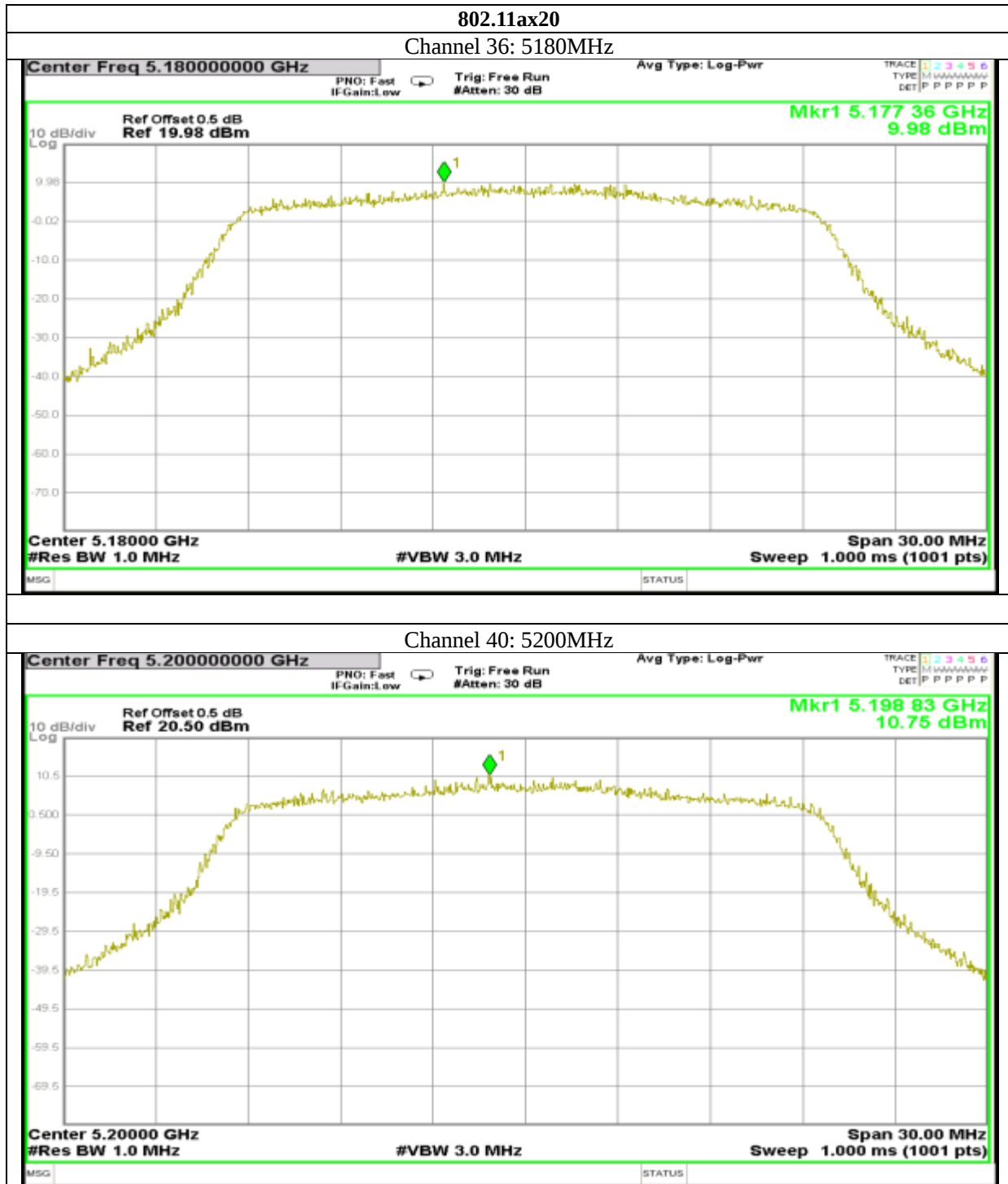


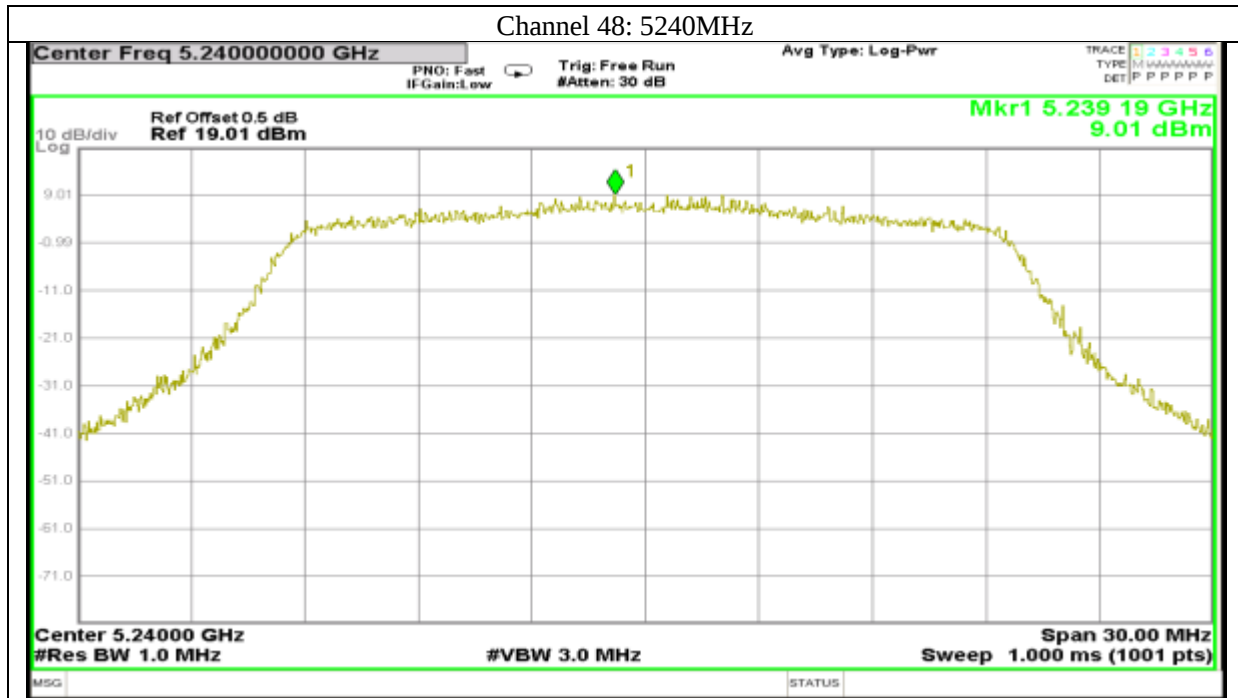


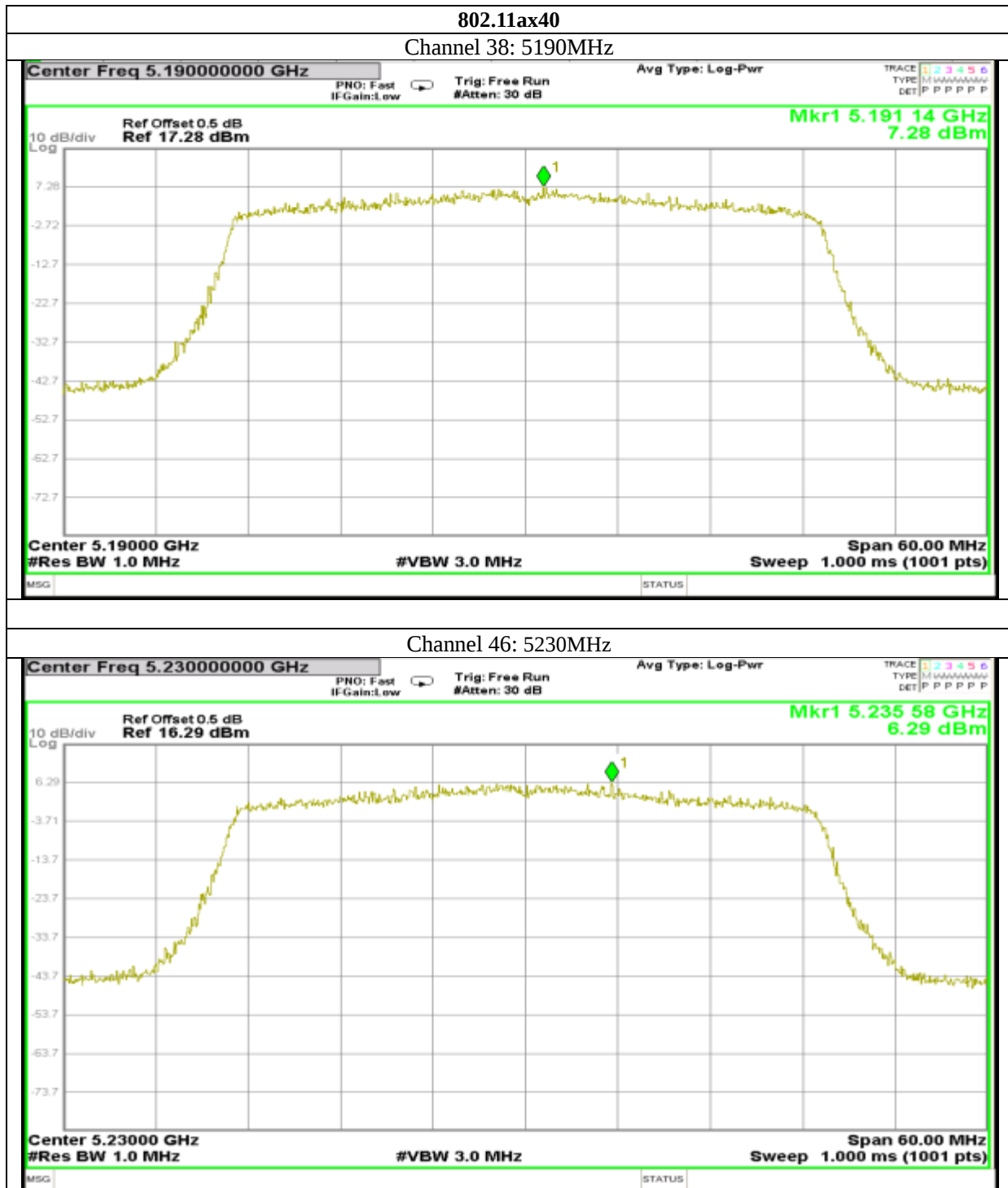


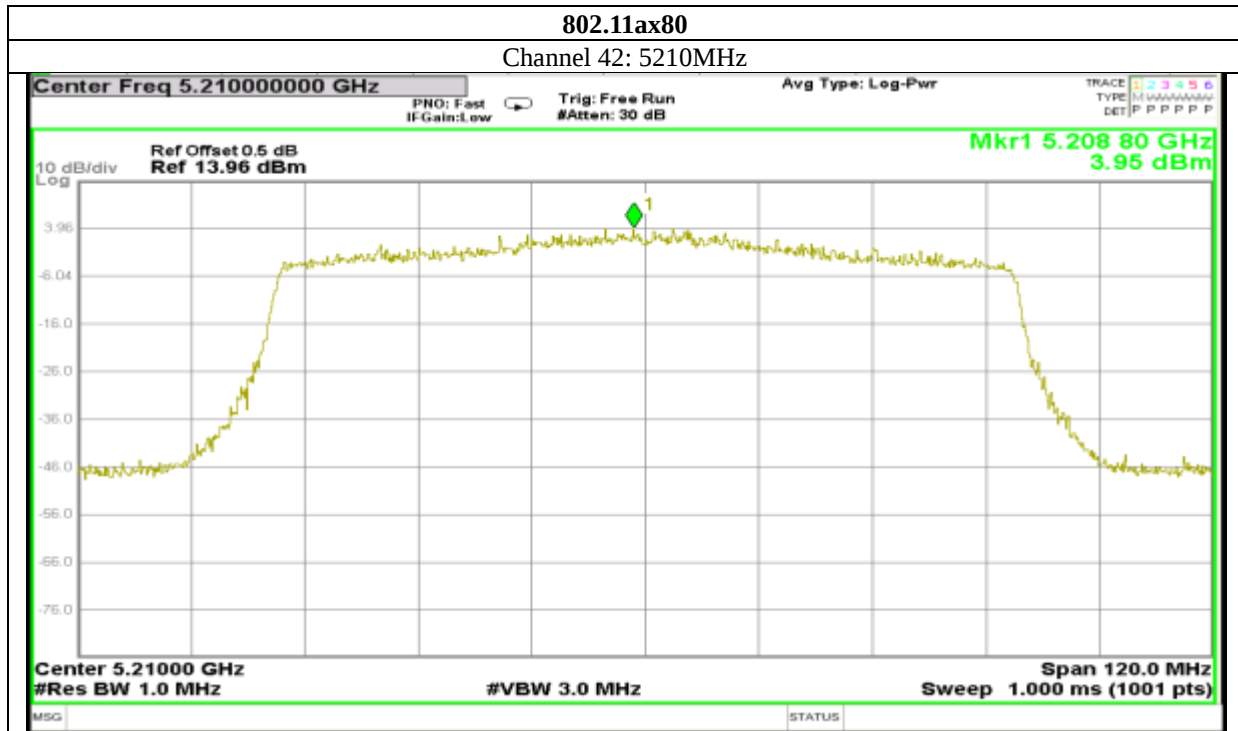


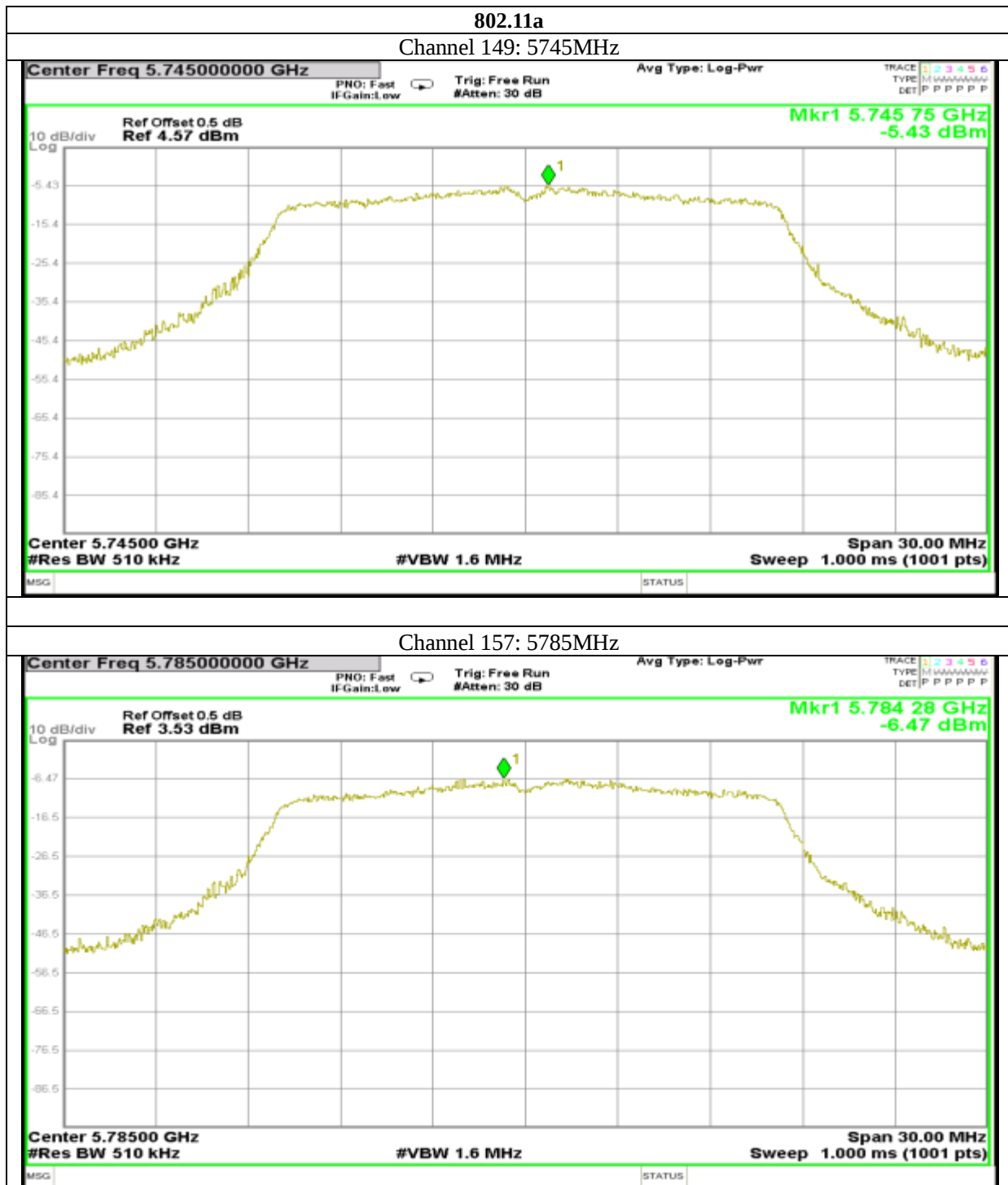


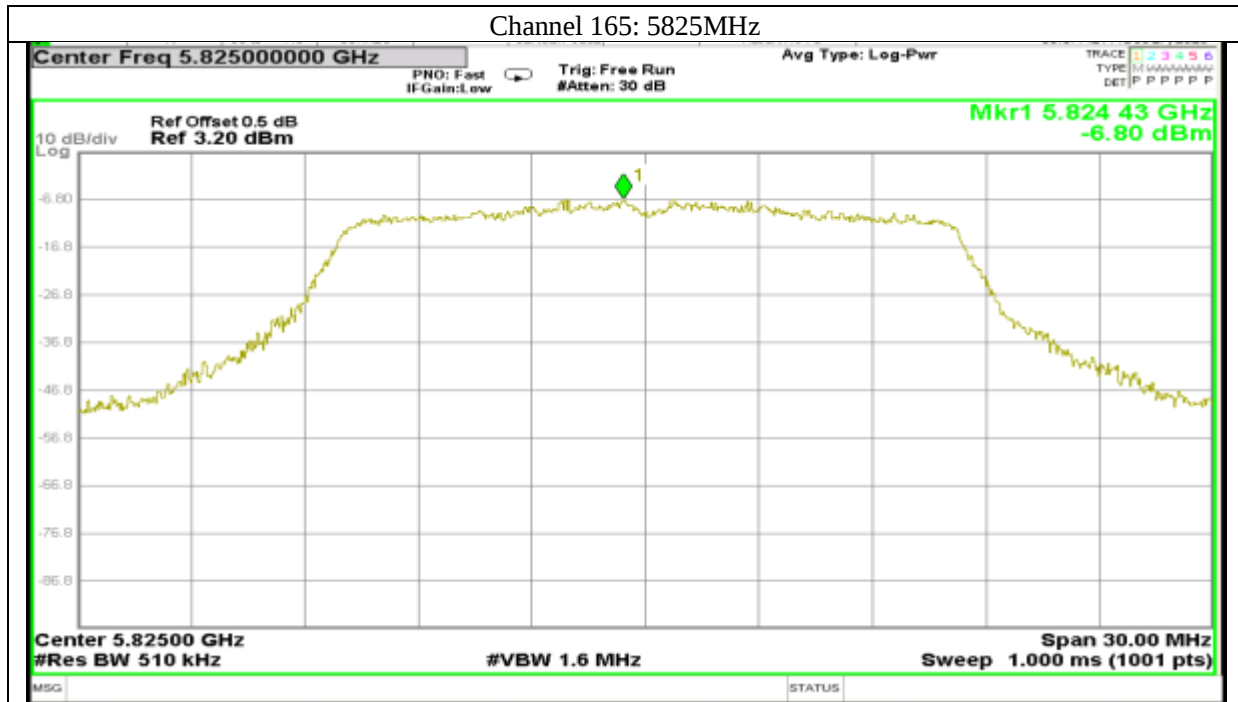


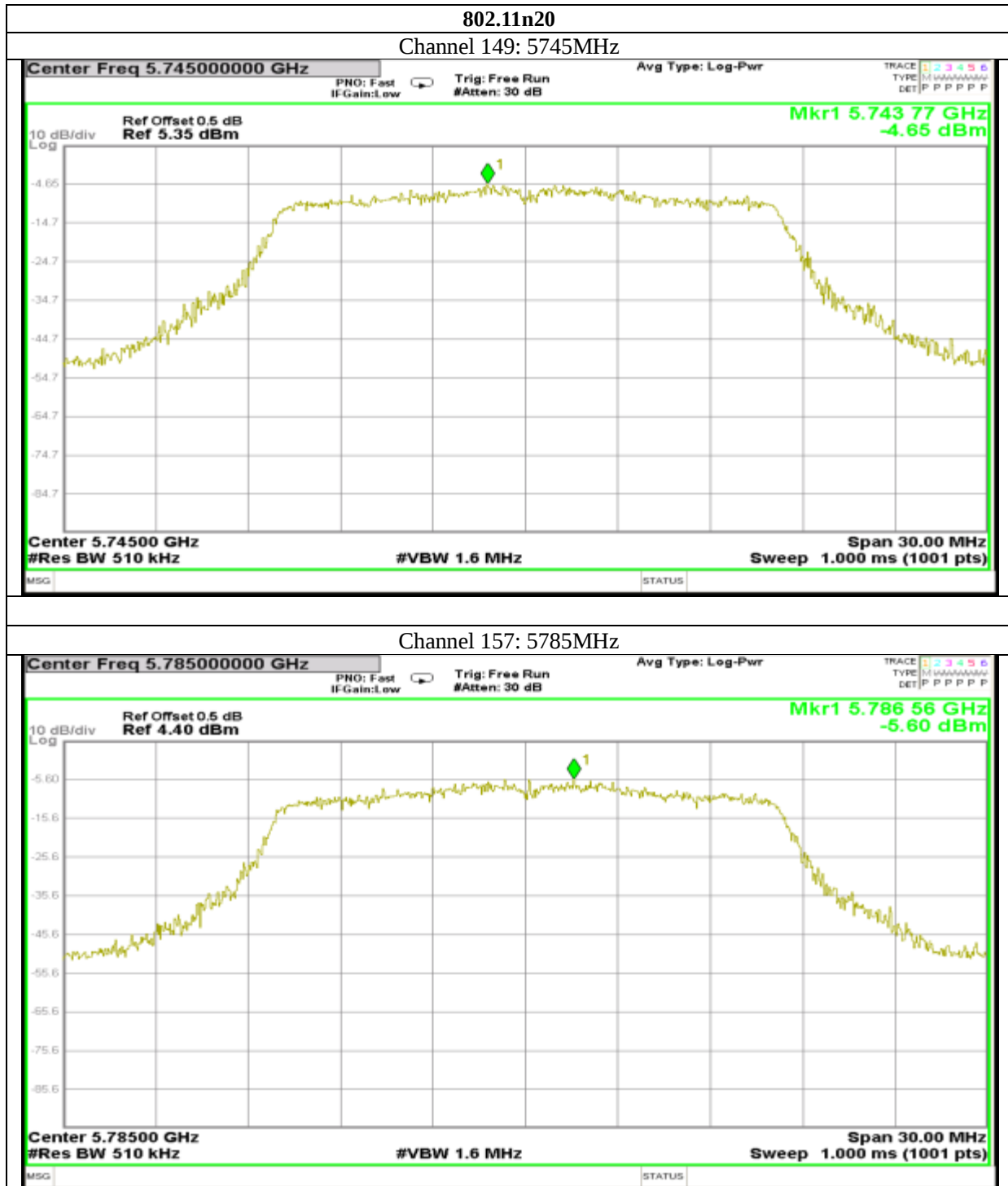


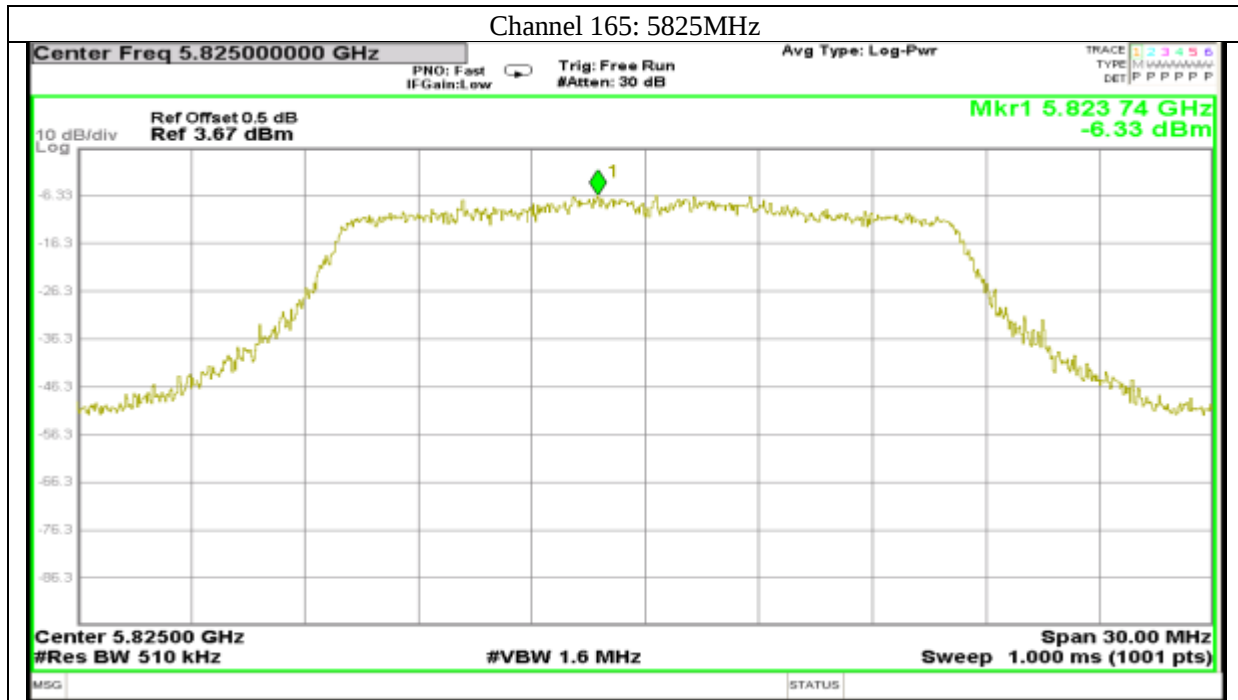


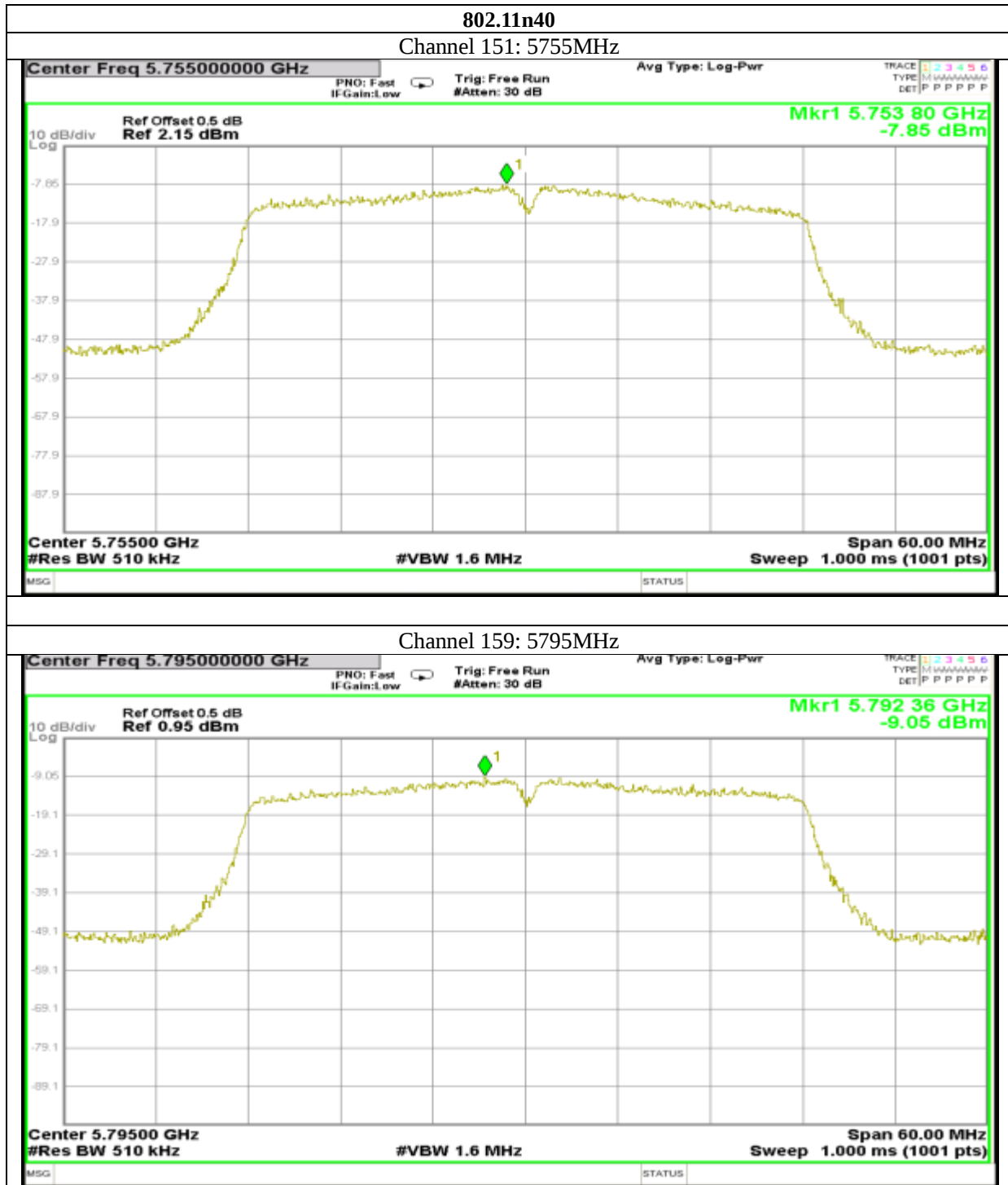


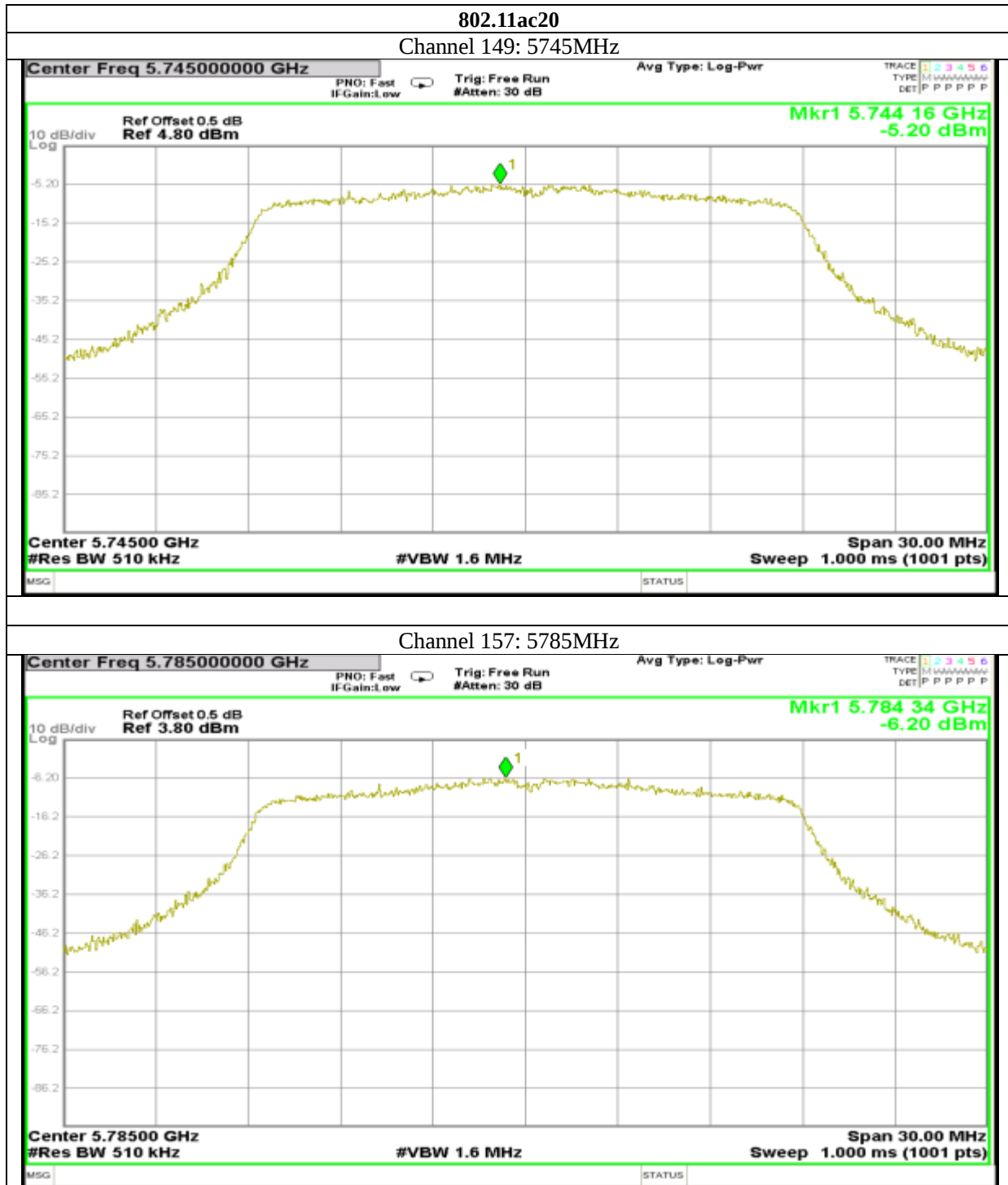


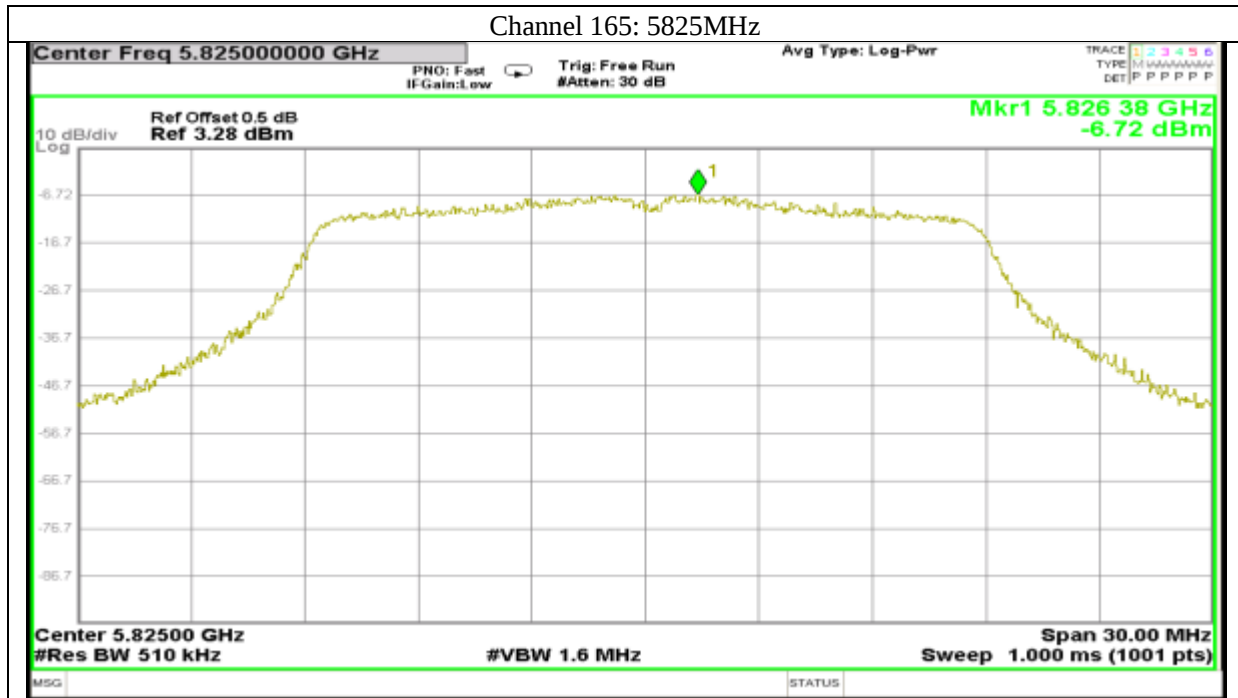


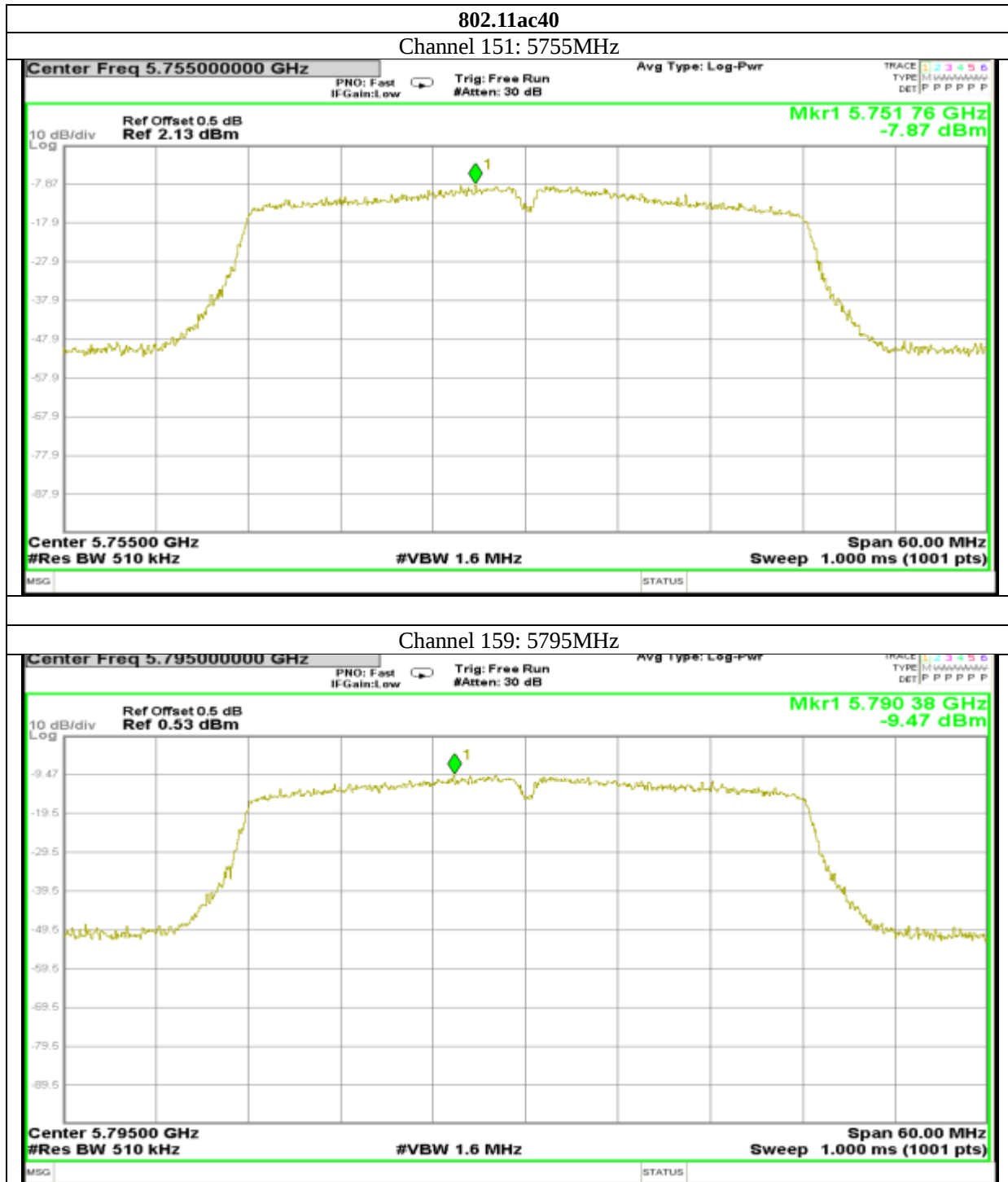


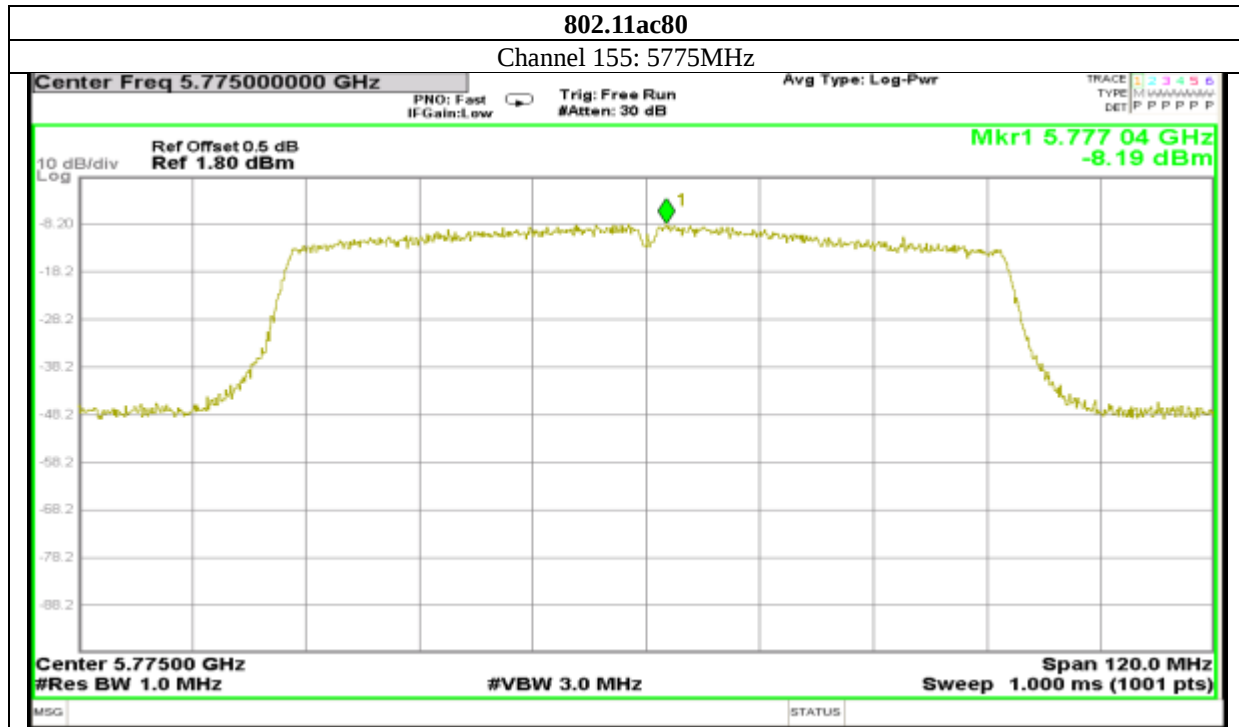


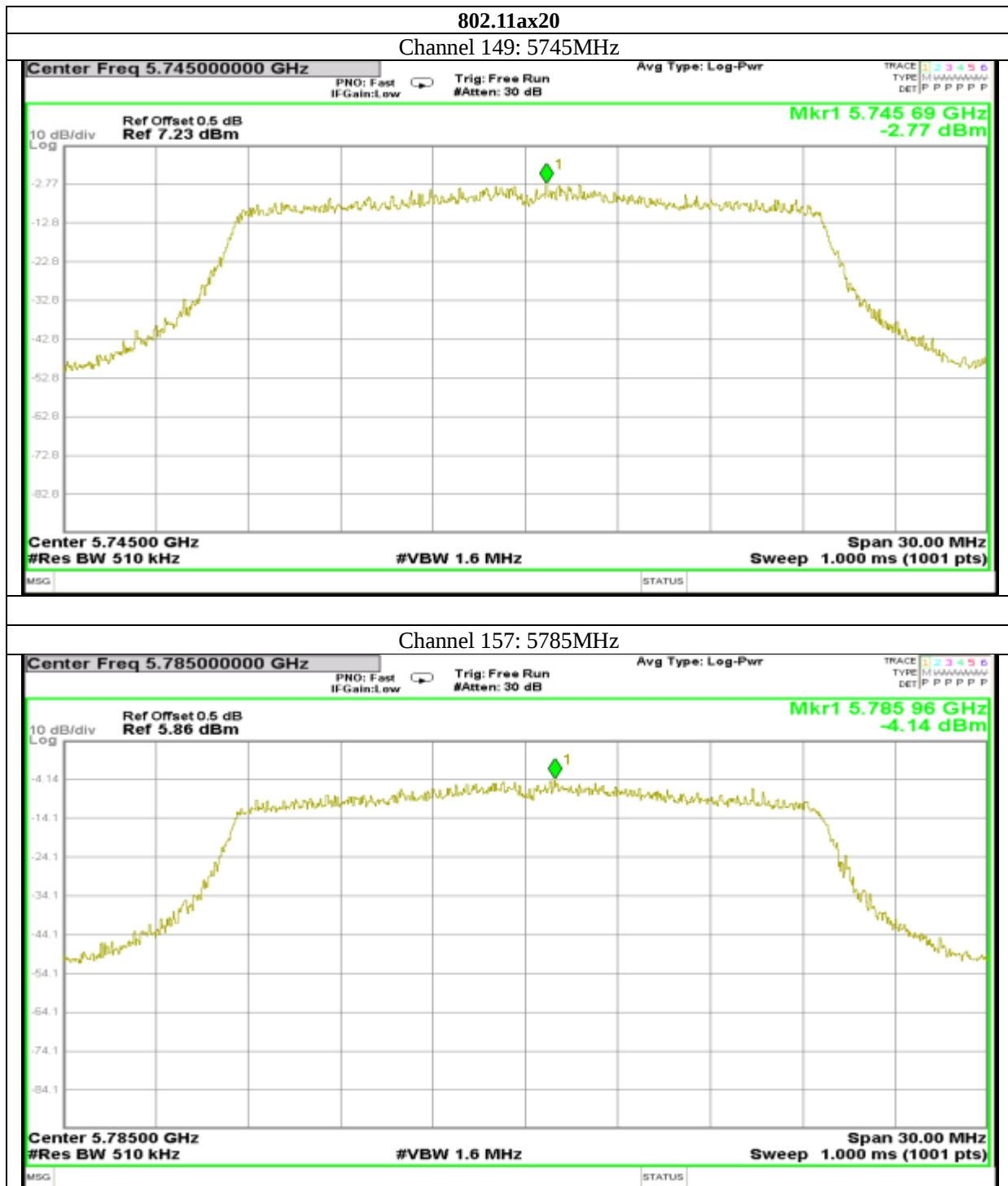


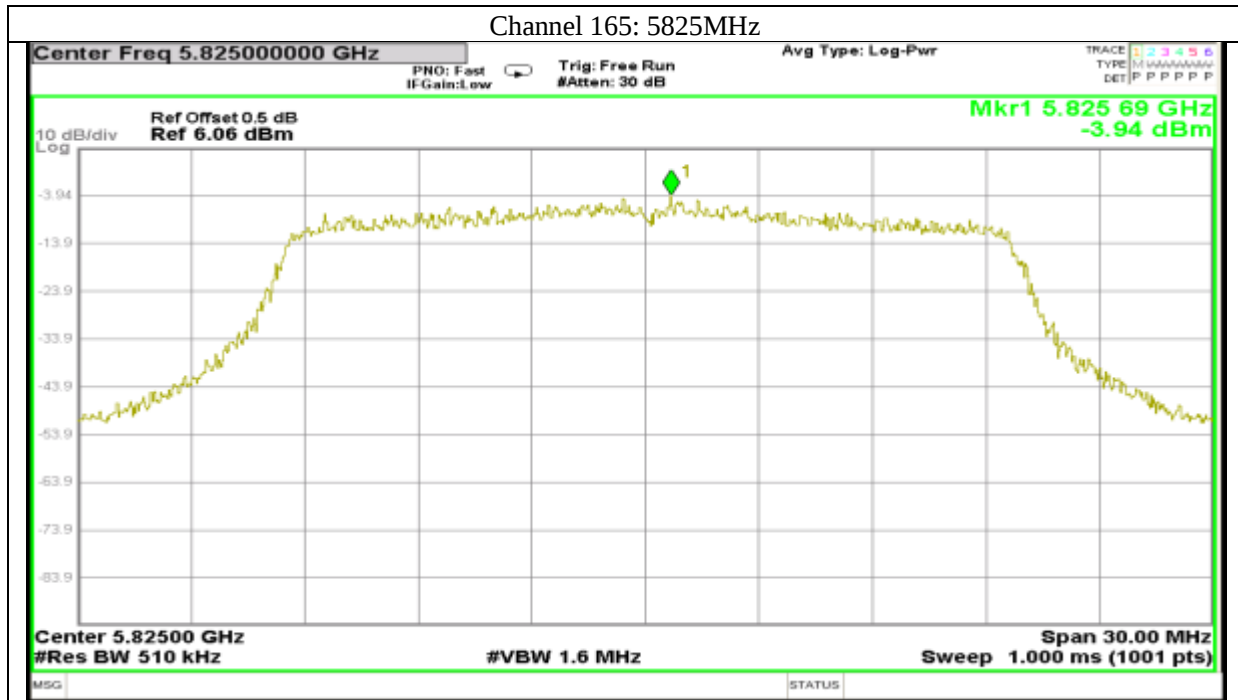


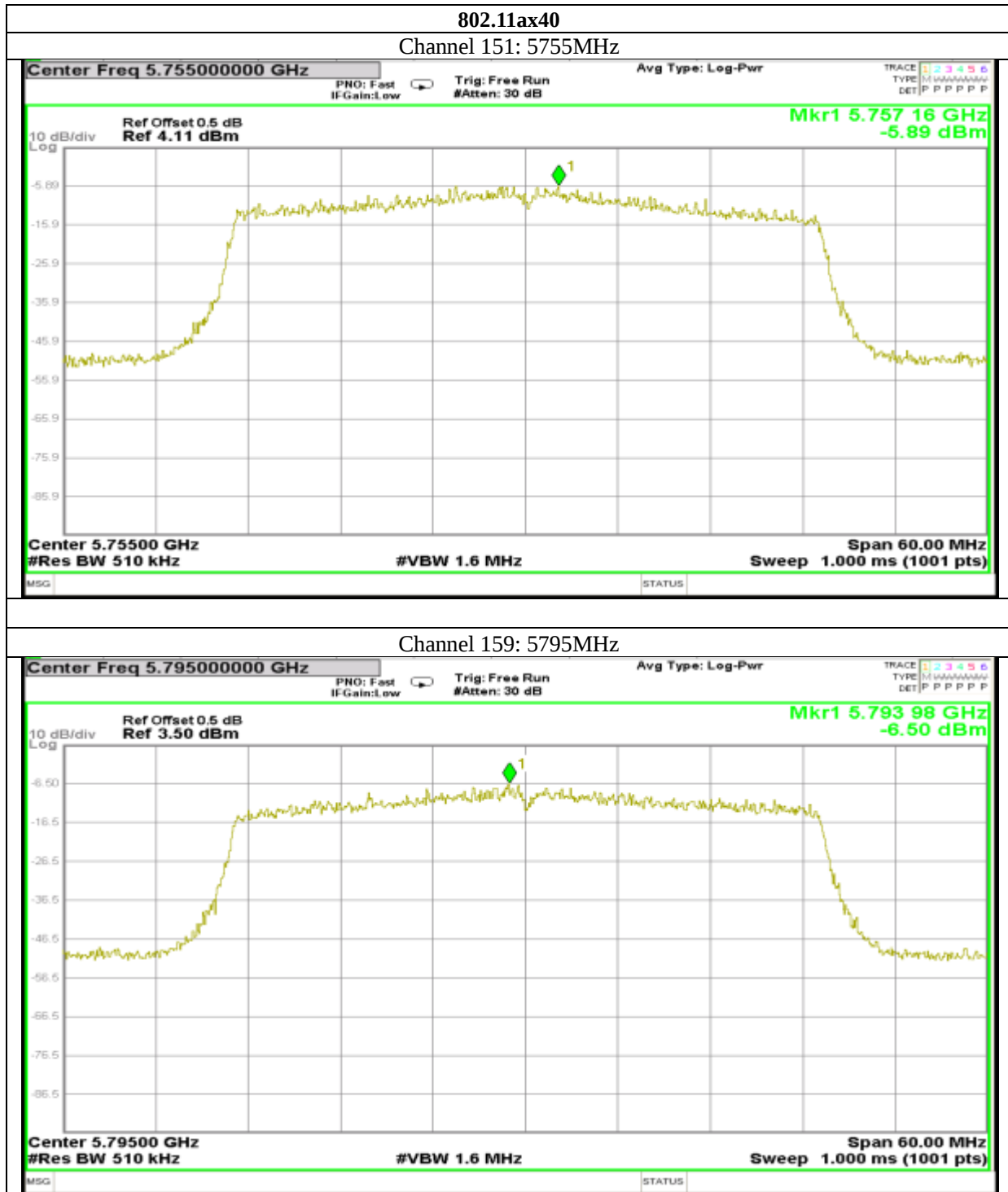


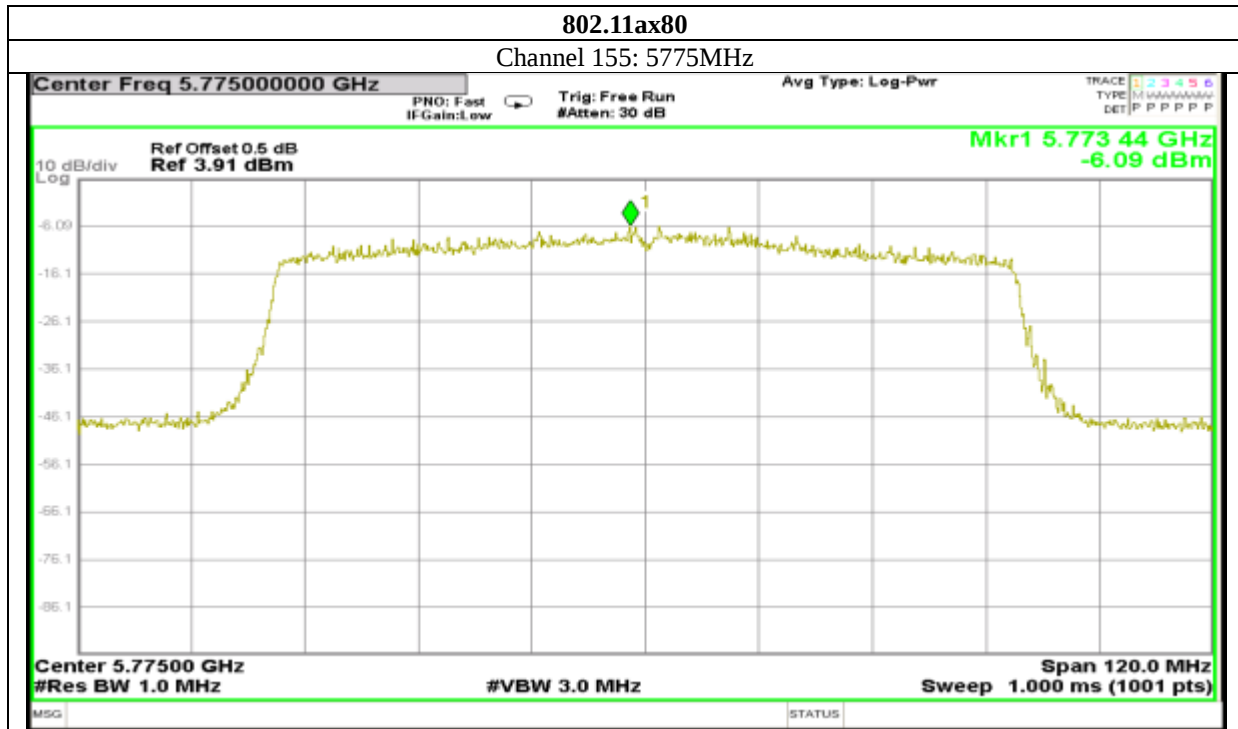






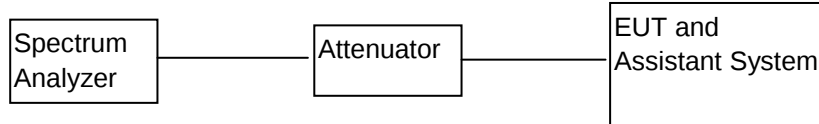






5. 26 dB & 99% Emission Bandwidth

5.1. BLOCK DIAGRAM OF TEST SETUP



5.2. APPLIED PROCEDURES / LIMIT

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.

5.3. TEST PROCEDURE

- 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%.

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

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 5.0 times the OBW.
- Set RBW = 1 % to 5 % of the OBW
- Set $VBW \geq 3 \cdot RBW$
- 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.
- Use the 99 % power bandwidth function of the instrument (if available).
- 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.

5.4. TEST RESULT

Antenna 0:

CH. No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)				99% Occupied Bandwidth (MHz)			
		802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11ax (HE20)	802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11ax (HE20)
36	5180.00	18.510	18.210	19.890	20.610	16.218	16.210	17.417	18.788
40	5200.00	18.630	17.760	20.220	20.850	16.231	16.228	17.441	18.779
48	5240.00	18.600	17.940	20.370	20.520	16.211	16.216	17.417	18.773
CH. No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)				99% Occupied Bandwidth (MHz)			
		802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11ax (HE20)	802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11ax (HE20)
149	5745.00	15.390	15.150	15.780	13.800	16.241	16.202	17.447	18.788
157	5785.00	13.890	15.120	15.180	16.890	16.214	16.229	17.405	18.771
165	5825.00	15.150	13.920	16.290	17.580	16.272	16.254	17.460	18.820

CH. No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)			99% Occupied Bandwidth (MHz)		
		802.11n (HT40)	802.11ac (VHT40)	802.11ax (HE40)	802.11n (HT40)	802.11ac (VHT40)	802.11ax (HE40)
38	5190.00	39.120	39.120	39.840	35.833	35.817	37.517
46	5230.00	39.120	39.420	39.960	35.733	35.798	37.477
CH. No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)			99% Occupied Bandwidth (MHz)		
		802.11n (HT40)	802.11ac (VHT40)	802.11ax (HE40)	802.11n (HT40)	802.11ac (VHT40)	802.11ax (HE40)
151	5755.00	30.780	25.200	26.340	35.713	35.728	37.424
159	5795.00	31.080	35.220	33.240	35.762	35.755	37.424

CH. No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
		802.11ac (VHT80)	802.11ax (HE80)	802.11ac (VHT80)	802.11ax (HE80)
42	5210.00	80.160	81.240	74.806	76.536
CH. No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
		802.11ac (VHT80)	802.11ax (HE80)	802.11ac (VHT80)	802.11ax (HE80)
155	5775.00	61.560	72.720	75.134	76.932

Antenna 1:

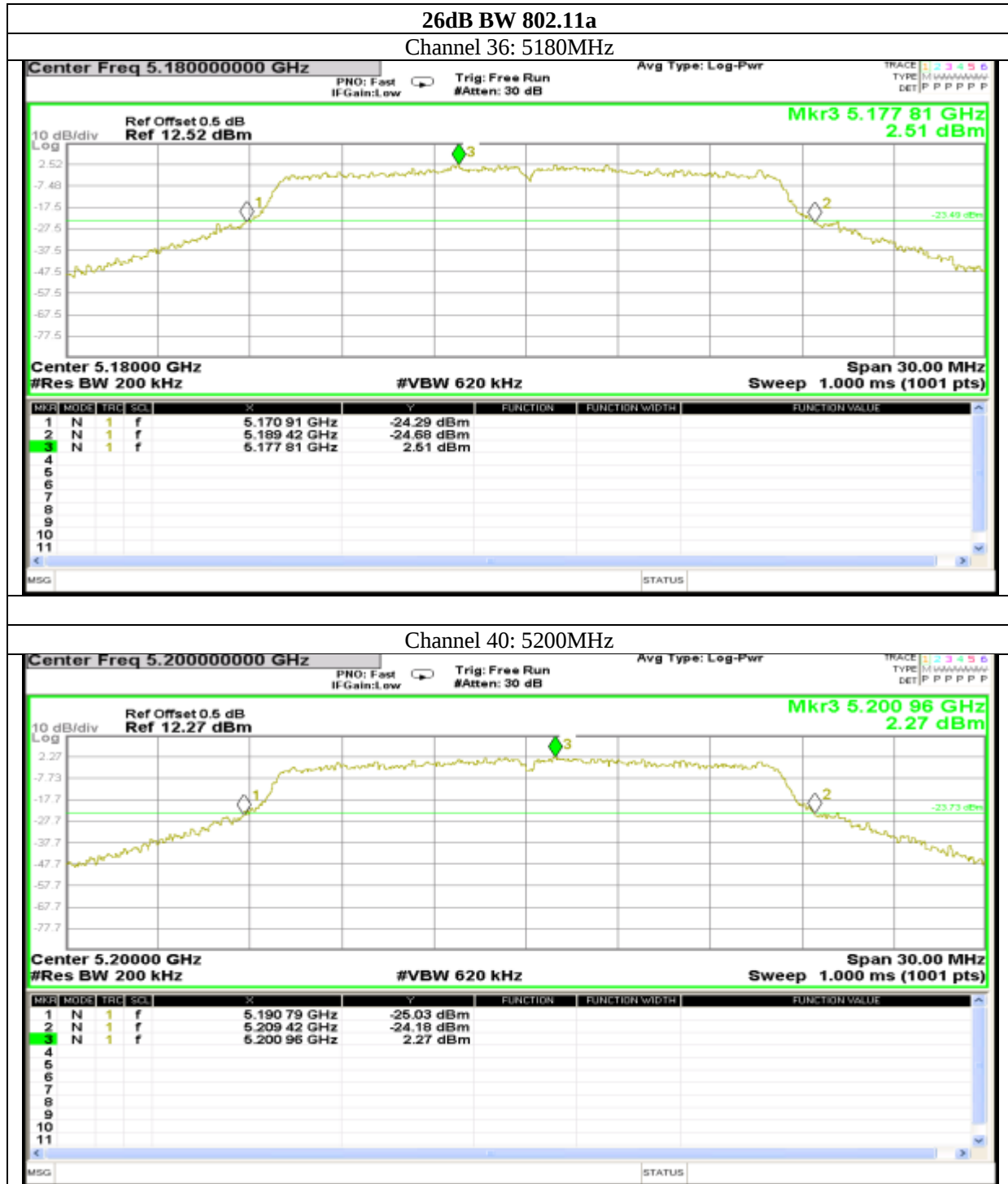
CH. No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)				99% Occupied Bandwidth (MHz)			
		802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11ax (HE20)	802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11ax (HE20)
36	5180.00	18.360	18.360	20.610	20.490	16.243	16.241	17.442	18.791
40	5200.00	18.540	18.240	19.950	20.880	16.239	16.242	17.431	18.781
48	5240.00	18.570	18.300	19.950	20.460	16.250	16.242	17.461	18.795
CH. No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)				99% Occupied Bandwidth (MHz)			
		802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11ax (HE20)	802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11ax (HE20)
149	5745.00	14.520	15.060	13.410	18.300	16.253	16.266	17.462	18.798
157	5785.00	15.960	15.090	15.150	15.300	16.213	16.202	17.412	18.771
165	5825.00	15.300	15.150	12.660	17.850	16.257	16.257	17.468	18.802

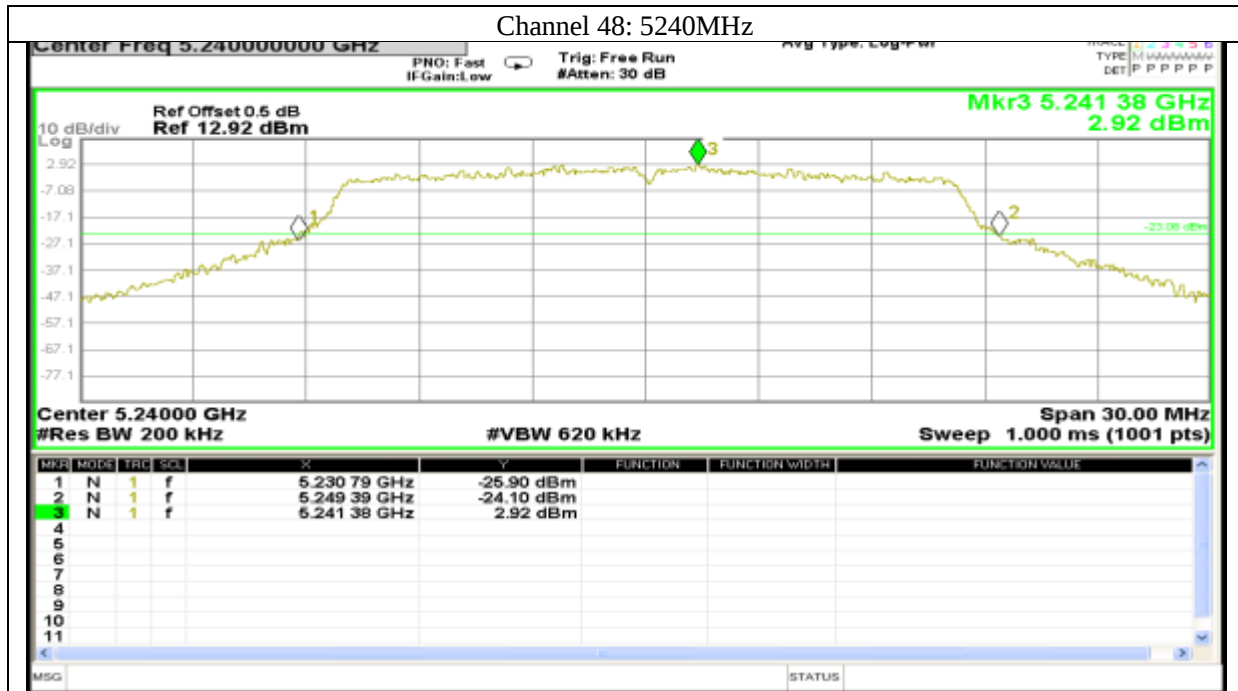
CH. No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)			99% Occupied Bandwidth (MHz)		
		802.11n (HT40)	802.11ac (VHT40)	802.11ax (HE40)	802.11n (HT40)	802.11ac (VHT40)	802.11ax (HE40)
38	5190.00	39.240	39.360	39.600	35.753	35.757	37.457
46	5230.00	39.240	39.420	40.020	35.770	35.792	37.471
CH. No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)			99% Occupied Bandwidth (MHz)		
		802.11n (HT40)	802.11ac (VHT40)	802.11ax (HE40)	802.11n (HT40)	802.11ac (VHT40)	802.11ax (HE40)
151	5755.00	34.500	35.160	32.160	35.663	35.712	37.394
159	5795.00	30.180	34.980	34.020	35.773	35.764	37.485

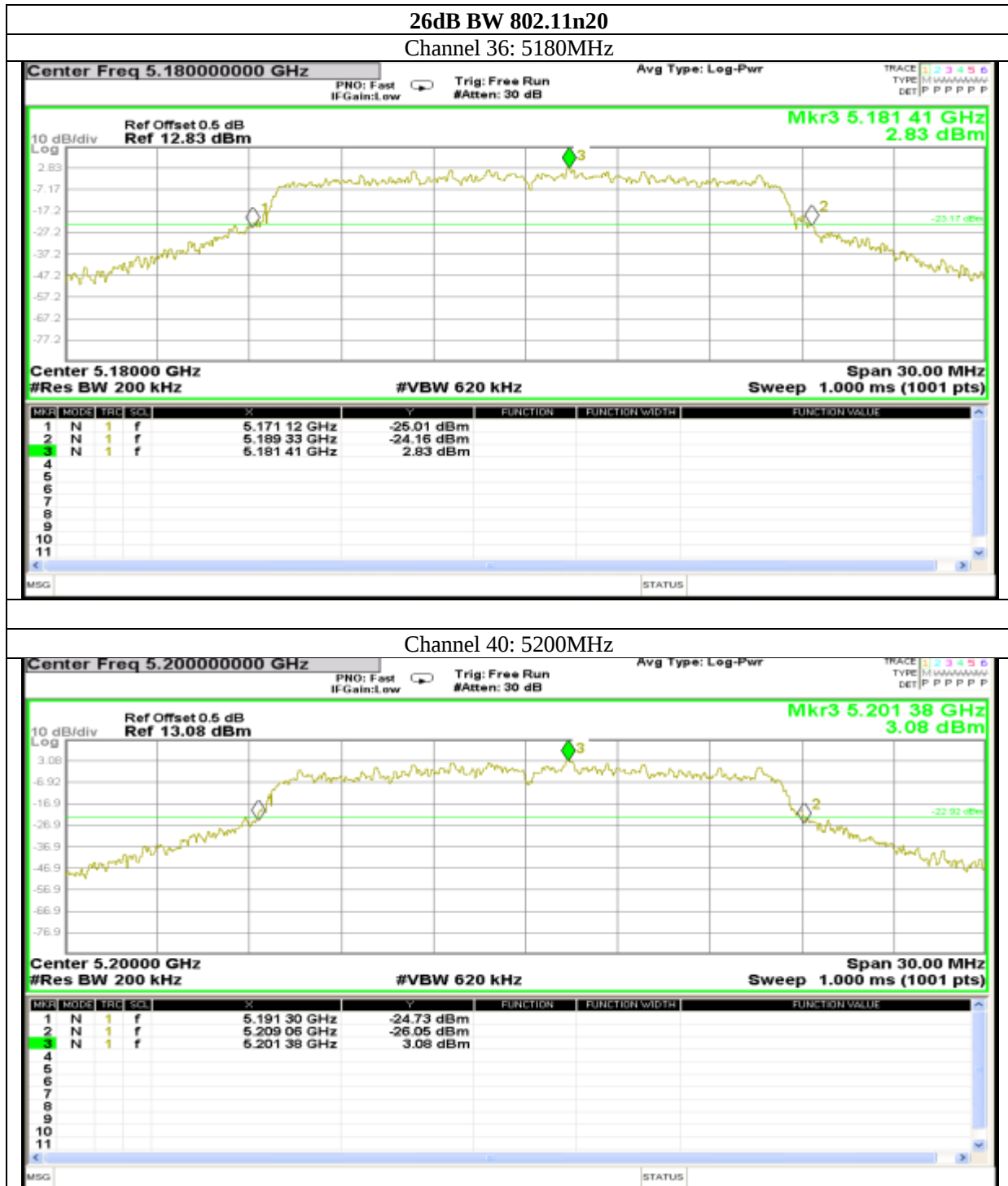
CH. No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
		802.11ac (VHT80)	802.11ax (HE80)	802.11ac (VHT80)	802.11ax (HE80)
42	5210.00	80.880	80.760	74.822	76.723
CH. No.	Frequency (MHz)	6dB Occupied Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
		802.11ac (VHT80)	802.11ax (HE80)	802.11ac (VHT80)	802.11ax (HE80)
155	5775.00	61.080	72.600	75.078	76.833

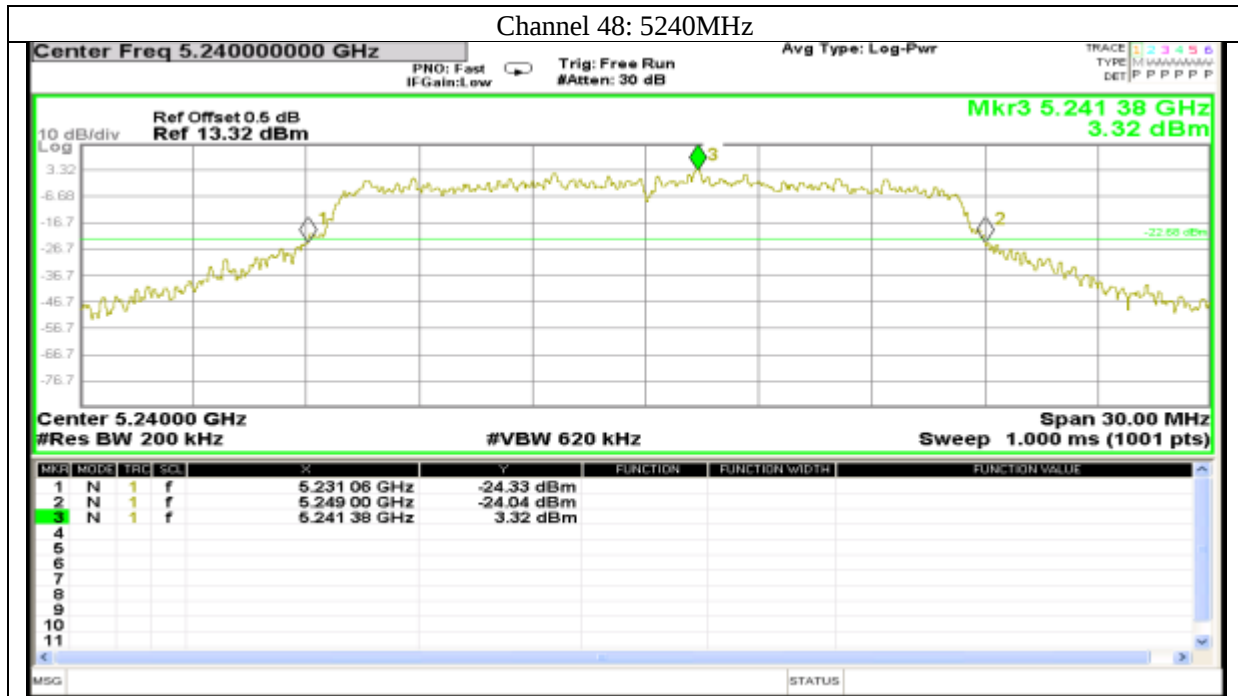
Test plots as followed:

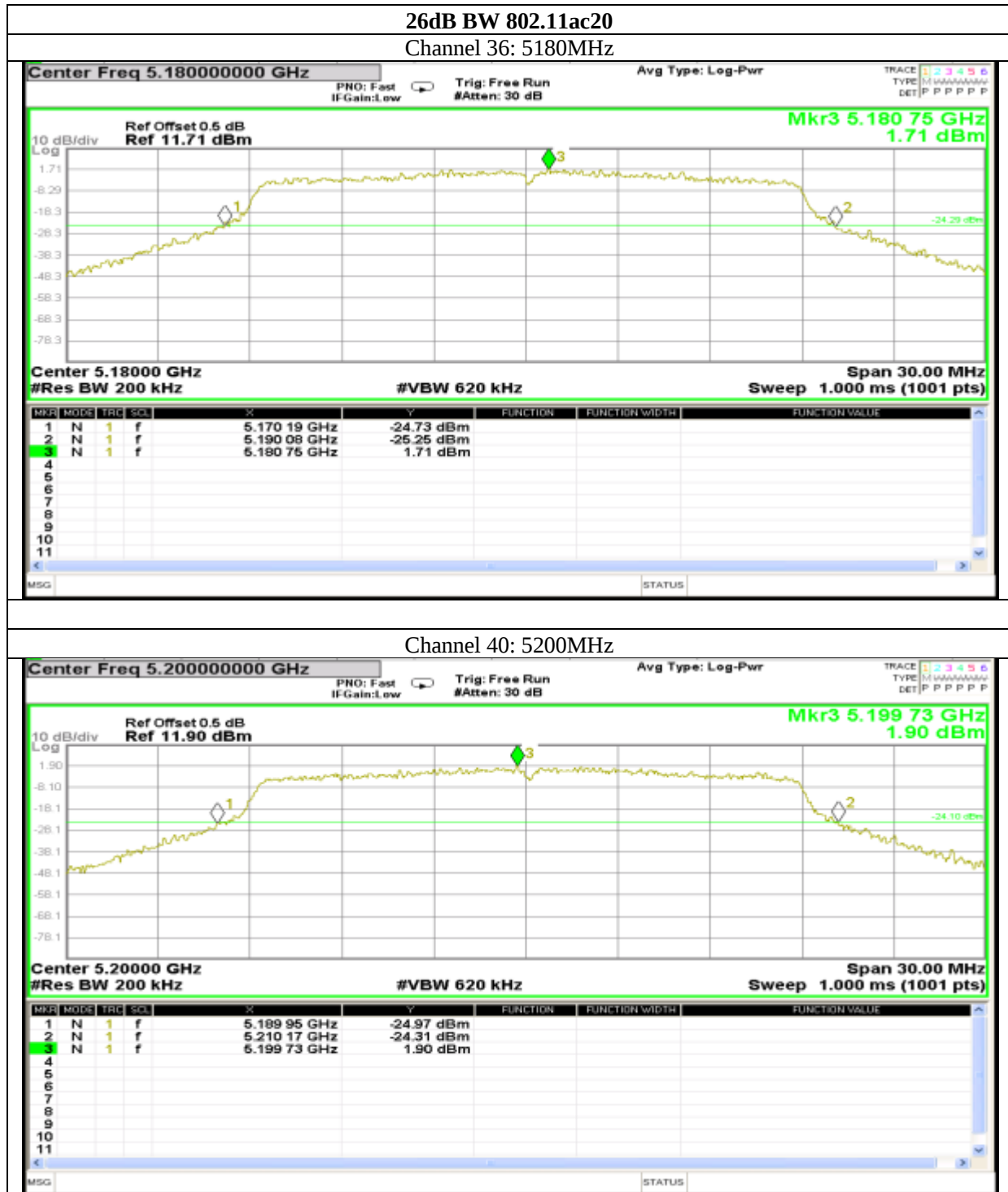
Antenna 0:











Report No.: AAEMT/RF/230604-01-03

