



FCC Test Report

Report No: FCS202504111W01

Issued for

Applicant:	Zhongshan Luqian Technology Co., Ltd.
Address:	Unit 1, 5/F, Building 1, No. 50 Shagang Middle Road, Gangkou Town, Zhongshan, China
Product Name:	Dash Cam
Brand Name:	N/A
Model Name:	NS9000
Series Model:	NS9000-A, NS9000-B, NS9000-C, NS9000-D, NS9000-E, NS9000-F, NS9000-G, NS9000-H, NS9000-I, NS9000-J
FCC ID:	2BOXA-NS9000
Issued By: Flux Compliance Service Laboratory Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan Tel: 769-27280901 Fax:769-27280901 http://www.fcs-lab.com	

**TEST RESULT CERTIFICATION**

Applicant's Name: Zhongshan Luqian Technology Co., Ltd.
Address.....: Unit 1, 5/F, Building 1, No. 50 Shagang Middle Road, Gangkou Town, Zhongshan, China
Manufacture's Name: Shenzhen MaxChip Technology Co., Ltd
Address.....: 2003 Huaide international building , Huaide community, Fuyong Street, Bao'an District, Shenzhen

Product Description

Product Name: Dash Cam
Brand Name: N/A
Model Name.....: NS9000
Series Model: NS9000-A, NS9000-B, NS9000-C, NS9000-D, NS9000-E, NS9000-F, NS9000-G, NS9000-H, NS9000-I, NS9000-J
Test Standards: CFR 47 FCC Part15E section 15.407
Test Procedure.....: ANSI C63.10-2013
KDB 789033 D02 General UNII Test procedures New Rules 02

This device described above has been tested by Flux Compliance Service Laboratory, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of Flux Compliance Service Laboratory, this document may be altered or revised by Flux Compliance Service Laboratory, personal only, and shall be noted in the revision of the document..

Date of Test

Date (s) of performance of tests : April. 07, 2025 ~ April. 16, 2025

Date of Issue.....: April. 16, 2025

Test Result: Pass

Tested by

:

Scott Shen

(Scott Shen)

Reviewed by

:

Duke Qian

(Duke Qian)

Approved by

:

Jack Wang

(Jack Wang)





Table of contents

Revision History	4
1. SUMMARY OF TEST RESULTS	6
1.1 TEST FACTORY	7
1.2 MEASUREMENT UNCERTAINTY	7
2. GENERAL INFORMATION	8
2.1 GENERAL DESCRIPTION OF THE EUT	8
2.2 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	10
2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS	11
2.4 EQUIPMENTS LIST Radiation Test equipment	12
3. 26dB Bandwidth, 6dB Bandwidth and 99% Bandwidth	14
3.1 Limit	14
3.2 Test Procedure	14
3.3 3.3 Test setup	14
3.4 Test results	15
3.4 Original Test Data	16
4 CONDUCTED OUTPUT POWER	42
4.1 limit	42
4.2 test procedure	42
4.3 TEST SETUP	42
4.4 test results	43
5. POWER SPECTRAL DENSITY	44
5.1 LIMIT	44
5.2 TEST PROCEDURE	44
5.3 TEST SETUP	45
5.4 TEST RESULTS	45
5.5 original test data	46
6. FREQUENCY STABILITY MEASUREMENT	60
6.1 LIMIT	60
6.2 TEST PROCEDURE	60
6.3 TEST SETUP	60
6.4 TEST RESULTS	61
7. Conducted spurious emission and Band edge	62
7.1 LIMIT	62
7.2 TEST PROCEDURE	62
7.3 TEST SETUP	62
7.4 TEST RESULTS	63



8. Duty Cycle	87
8.1 TEST REQUIREMENT	87
8.2 TEST PROCEDURE	87
8.3 TEST SETUP	87
8.4 TEST RESULTS	88
9 RADIATED EMISSION MEASUREMENT	89
9.1 RADIATED EMISSION LIMITS	89
9.2 TEST PROCEDURE	91
9.3 TESTSETUP	92
9.4. TEST RESULTS	94
10 CONDUCTED EMISSION TEST	133
10.1POWER LINE CONDUCTED EMISSION LIMITS	133
10.2 TEST PROCEDURE	134
10.3 TEST SETUP	134
10 .4 TEST RESULT	135
11. ANTENNA REQUIREMENT	137
11.1 STANDARD REQUIREMENT	137
11.2 RESULT	137

**Revision History**

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	April. 16, 2025	FCS202504111W01	ALL	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Test Item	Test Requirement	Result
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Subpart E Section 15.407 (b)(9)	N/A
Duty Cycle	47 CFR Part 15 Subpart E Section 15.407	PASS
Maximum Conducted Output Power	47 CFR Part 15 Subpart E Section 15.407(a)	PASS
26dB emission bandwidth	47 CFR Part 15 Subpart E Section 15.407(a)	PASS
99%Occupied bandwidth	\	PASS
6dB emission bandwidth	47 CFR Part 15 Subpart E Section 15.407(e)	PASS
Maximum Power Spectral Density	47 CFR Part 15 Subpart E Section 15.407(a)	PASS
Frequency stability	47 CFR Part 15 Subpart E Section 15.407(g)	PASS
Radiated Emissions	47 CFR Part 15 Subpart E Section 15.407(b)	PASS
Radiated Emissions which fall in the restricted bands	47 CFR Part 15 Subpart E Section 15.407(b)	PASS
Remark:		

1.1 TEST FACTORY

Company Name:	Flux Compliance Service Laboratory
Address:	Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan
Telephone:	+86-769-27280901
Fax:	+86-769-27280901
FCC Test Firm Registration Number: 514908 Designation number: CN0127 A2LA accreditation number: 5545.01	

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95 %**.

No.	Item	Uncertainty
1	RF output power, conducted	± 0.71 dB
2	Unwanted Emissions, conducted	± 2.988 dB
3	Conducted Emission (9KHz-150KHz)	± 4.13 dB
4	Conducted Emission (150KHz-30MHz)	± 4.74 dB
5	All emissions, radiated (<1G) 9KHz-30MHz	± 5.2 dB
6	All emissions, radiated (<1G) 30MHz-1000MHz	± 5.2 dB
7	All emissions, radiated 1GHz -18GHz	± 4.66 dB
8	All emissions, radiated 18GHz -40GHz	± 4.31 dB
9	PSD	± 1.24 dB
10	Occupied bandwidth	± 0.3 dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Dash Cam
Trade Name	N/A
Model Name	NS9000
Series Model	NS9000-A, NS9000-B, NS9000-C, NS9000-D, NS9000-E, NS9000-F, NS9000-G, NS9000-H, NS9000-I, NS9000-J
Model Difference	PCB board, structure and internal of these model(s) are the same, the only difference is the model name and colour, resolution and lens focus length. So no additional models were tested
Channel List	Please refer to the Note 2.
Operation frequency	IEEE 802.11a/n(HT20)/ac(HT20)/n(HT40)/ac(HT40) U-NII-1 5150MHz ~5250MHZ U-NII-3 5725MHZ-5850 MHz
Number of channel	5150MHz ~5250MHZ (7CH) 5725MHZ-5850 MHz (8CH)
Modulation:	OFDM
Power supply	DC 12V
Battery	N/A
Hardware version number	NS9000-529-V10-20241022
Software version number	NS9000 20250228 V1.0
Sample type	mobile device
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

U-NII-1 (5.15-5.25GHz)			
channel	Frequency(MHz)	channel	Frequency(MHz)
36	5180	38	5190
40	5200	42	5210
44	5220	46	5230
48	5240		

U-NII-3 (5.725-5.85GHz)			
channel	Frequency(MHz)	channel	Frequency(MHz)
149	5745	151	5755
153	5765	155	5775
157	5785	159	5795
161	5805	165	5825

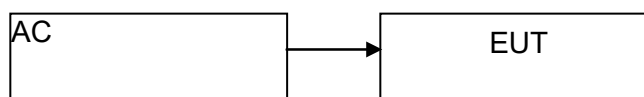
Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	NII 1 band	SLK-MXSX-3210A28	WiFi FPC antenna	N/A	1.15	5G Antenna
2	NII 3 band	SLK-MXSX-3210A28	WiFi FPC antenna	N/A	2.18	5G Antenna

2.2 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product

Block diagram of EUT configuration for test



Test software: sscom5.13.1

The test software was used to control EUT work in continuous TX mode, and select test channel, Wireless mode as below table

For 802.11a/n/ac(HT20)

U-NII-1

channel	Frequency(MHz)	channel	Frequency(MHz)
36	5180	40	5200
48	5240		

U-NII-3

channel	Frequency(MHz)	channel	Frequency(MHz)
149	5745	157	5785
165	5825		

For 802.11n/ac(HT40)

U-NII-1

channel	Frequency(MHz)	channel	Frequency(MHz)
38	5190	46	5230

U-NII-3

channel	Frequency(MHz)	channel	Frequency(MHz)
151	5755	159	5795

2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

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

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

2.4 EQUIPMENTS LIST Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	FCS-E001	2024.08.28	2025.08.27
Signal Analyzer	R&S	FSV40-N	FCS-E012	2024.08.28	2025.08.27
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2024.08.28	2025.08.27
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2024.08.28	2025.08.27
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2024.08.28	2025.08.27
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2024.08.28	2025.08.27
Pre-Amplifier(0.1M-3G Hz)	EMCI	EM330N	FCS-E004	2024.08.28	2025.08.27
Pre-Amplifier (1G-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2024.08.28	2025.08.27
Pre-Amplifier (18G-40GHz)	TERA-MW	TRLA-0400	FCS-E019	2024.08.28	2025.08.27
Temperature & Humidity	HTC-1	victor	FCS-E005	2024.08.28	2025.08.27

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESCI	FCS-E020	2024.08.28	2025.08.27
LISN	R&S	ENV216	FCS-E007	2024.08.28	2025.08.27
LISN	ETS	3810/2NM	FCS-E009	2024.08.28	2025.08.27
Temperature & Humidity	HTC-1	victor	FCS-E008	2024.08.28	2025.08.27

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
MXA SIGNAL Analyzer	Keysight	N9020A	FCS-E015	2024.08.28	2025.08.27
Spectrum Analyzer	Agilent	E4447A	MY50180039	2024.08.28	2025.08.27
Spectrum Analyzer	R&S	FSV-40	101499	2024.08.28	2025.08.27
Power Sensor	Agilent	UX2021XA	FCS-E021	2024.08.28	2025.08.27

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	FCS-E001	2024.08.28	2025.08.27
Signal Analyzer	R&S	FSV40-N	FCS-E012	2024.08.28	2025.08.27
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2024.08.28	2025.08.27
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2024.08.28	2025.08.27
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2024.08.28	2025.08.27
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2024.08.28	2025.08.27
Pre-Amplifier(0.1M-3G Hz)	EMCI	EM330N	FCS-E004	2024.08.28	2025.08.27
Pre-Amplifier (1G-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2024.08.28	2025.08.27
Pre-Amplifier (18G-40GHz)	TERA-MW	TRLA-0400	FCS-E019	2024.08.28	2025.08.27
Temperature & Humidity	HTC-1	victor	FCS-E005	2024.08.28	2025.08.27

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESCI	FCS-E020	2024.08.28	2025.08.27
LISN	R&S	ENV216	FCS-E007	2024.08.28	2025.08.27
LISN	ETS	3810/2NM	FCS-E009	2024.08.28	2025.08.27
Temperature & Humidity	HTC-1	victor	FCS-E008	2024.08.28	2025.08.27

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
MXA SIGNAL Analyzer	Keysight	N9020A	FCS-E015	2024.08.28	2025.08.27
Spectrum Analyzer	Agilent	E4447A	MY50180039	2024.08.28	2025.08.27
Spectrum Analyzer	R&S	FSV-40	101499	2024.08.28	2025.08.27
Power Sensor	Agilent	UX2021XA	FCS-E021	2024.08.28	2025.08.27

3. 26dB Bandwidth, 6dB Bandwidth and 99% Bandwidth

3.1 Limit

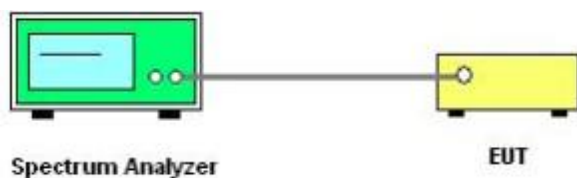
FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Bandwidth	26 dB Bandwidth	5150-5250
	26 dB Bandwidth	5250-5350
	26 dB Bandwidth	For FCC:5470-5725 For IC:5470-5600 5650-5725
	Minimum 500kHz 6dB Bandwidth	5725-5850

3.2 Test Procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	For 6dB Bandwidth: RBW=100kHz For 26dB Bandwidth: approximately 1% of the emission bandwidth.
VBW	For 6dB Bandwidth: VBW=300kHz For 26dB Bandwidth: >3RBW
Trace	Max hold
Sweep	Auto couple

(2) Allow the trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26dB and 6dB relative to the maximum level measured in the fundamental emission.



3.3 Test setup

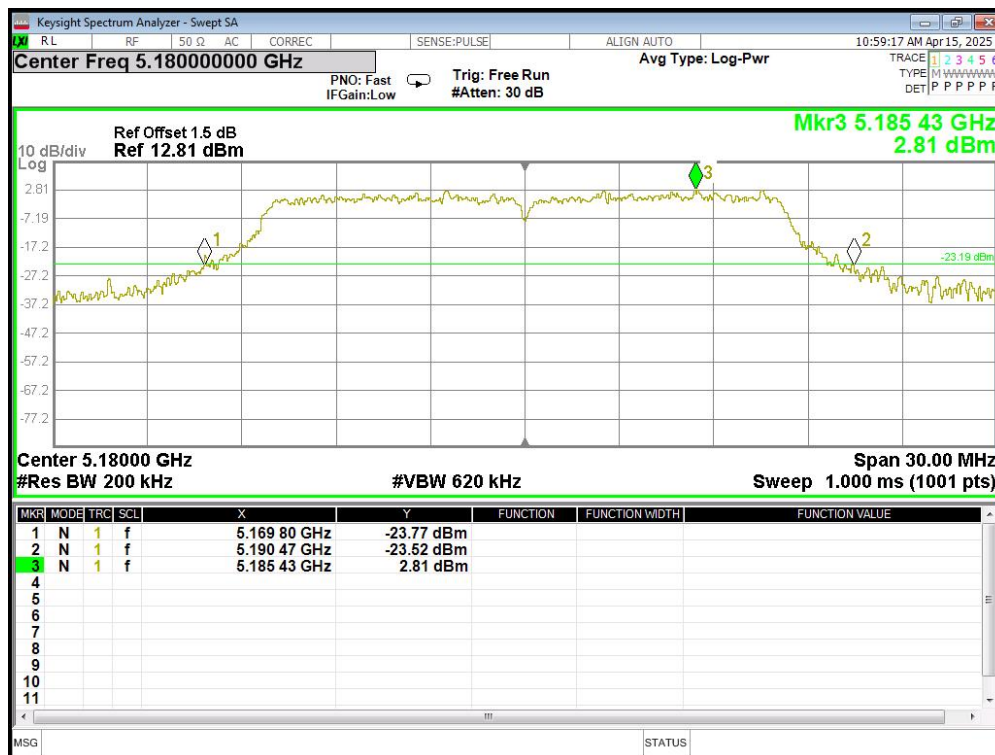
3.4 Test results

Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-1	802.11a	20.67	20.85	22.29	16.533	16.633	16.622
	802.11n(HT20)	21.09	21.99	22.74	17.690	17.728	17.705
	802.11n(HT40)	49.02	/	51.00	36.318	/	36.355
	802.11ac(HT20)	21.30	23.73	24.84	17.647	17.693	17.722
	802.11ac(HT40)	49.56	/	50.04	36.206	/	36.306

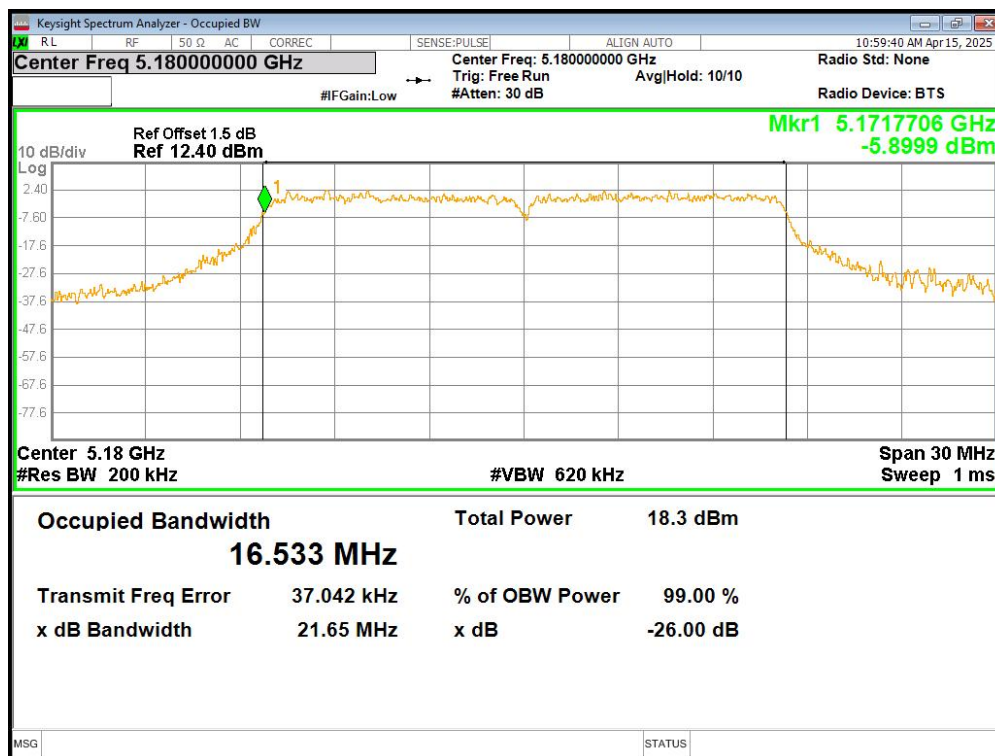
Band	Operation mode	6 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-3	802.11a	16.41	16.53	16.38	16.575	16.589	16.637
	802.11n(HT20)	17.22	17.04	17.58	17.658	17.687	17.686
	802.11n(HT40)	35.1	/	35.1	36.270	/	36.146
	802.11ac(HT20)	17.67	16.56	17.37	17.634	17.659	17.702
	802.11ac(HT40)	35.22	/	36.12	36.166	/	36.200

3.4 Original Test Data

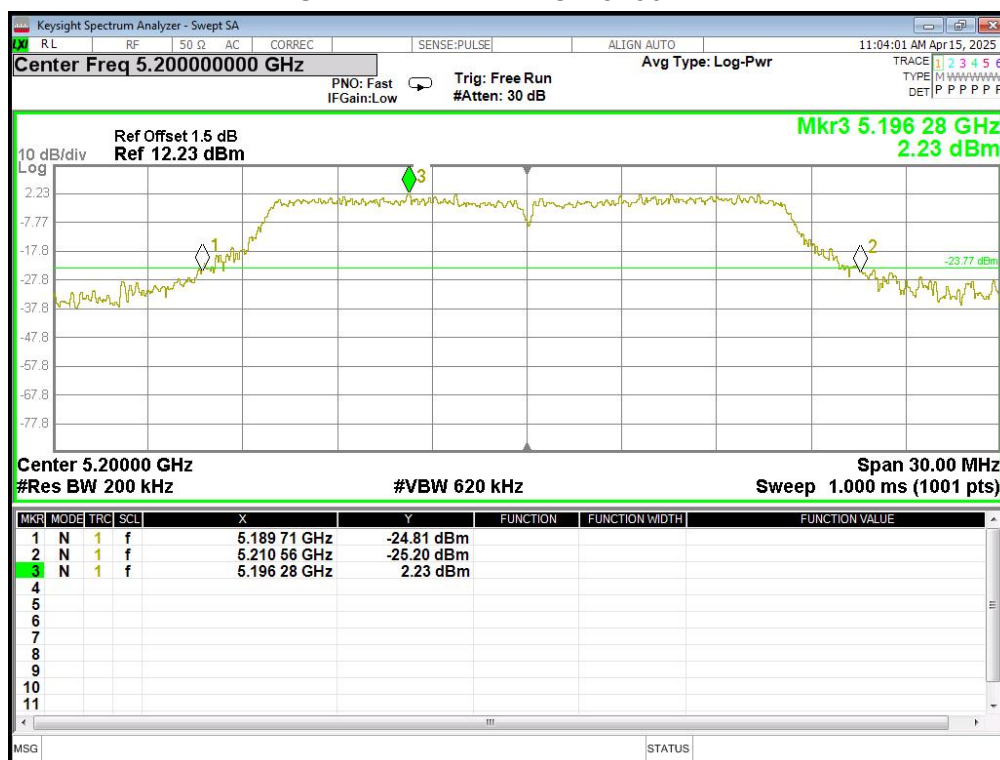
-26dB Bandwidth U-NII-1 11a Low CH 5180MHZ



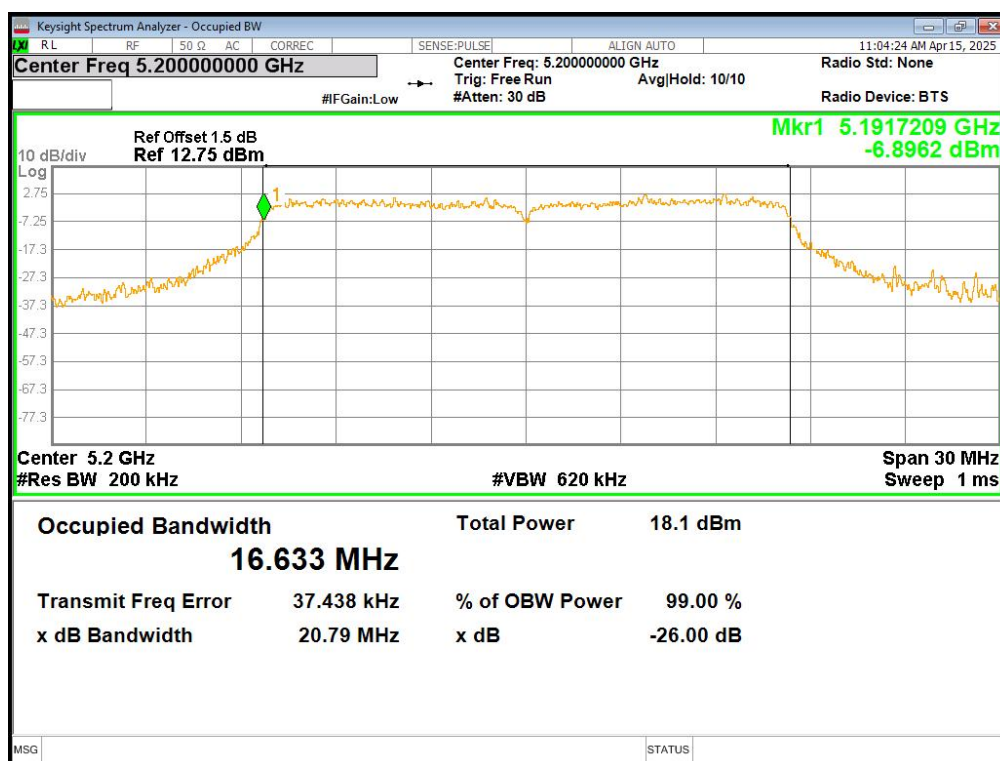
99%OBW Bandwidth U-NII-1 11a Low CH 5180MHZ



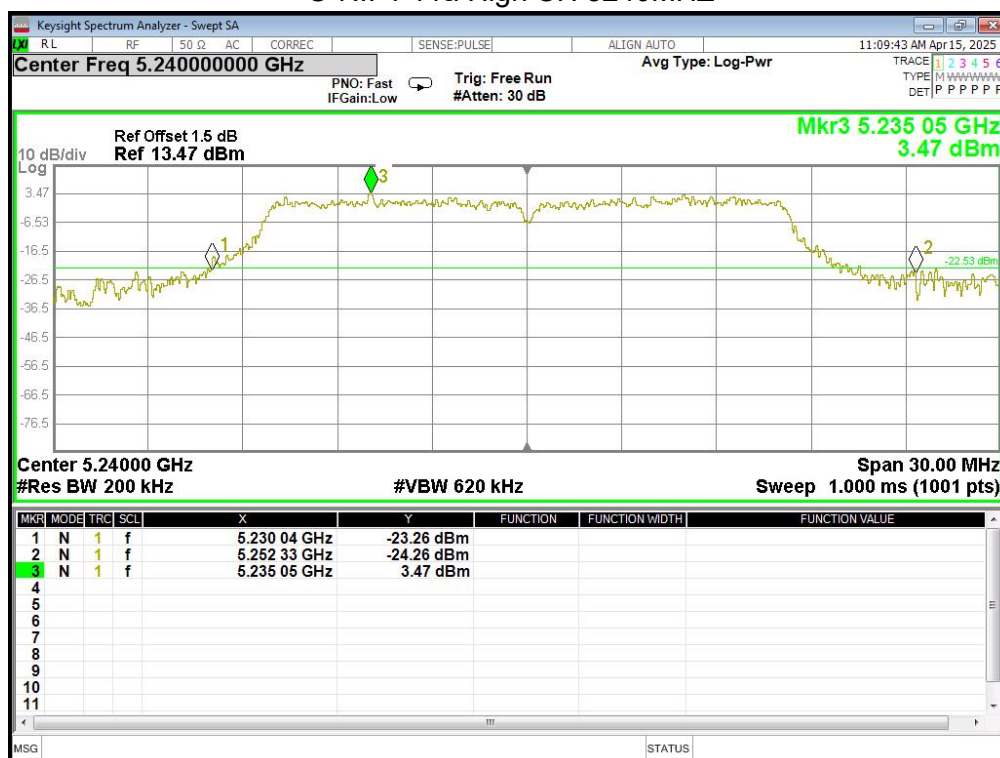
-26dB Bandwidth
U-NII-1 11a Middle CH 5200MHZ



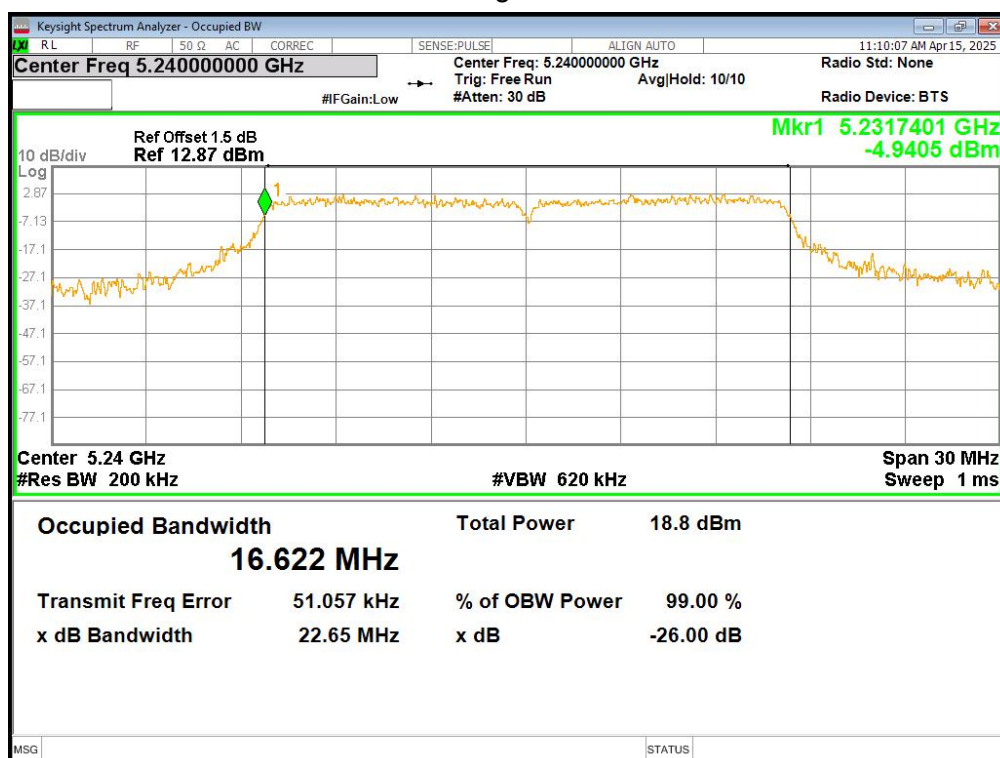
99%OBW Bandwidth
U-NII-1 11a Middle CH 5200MHZ



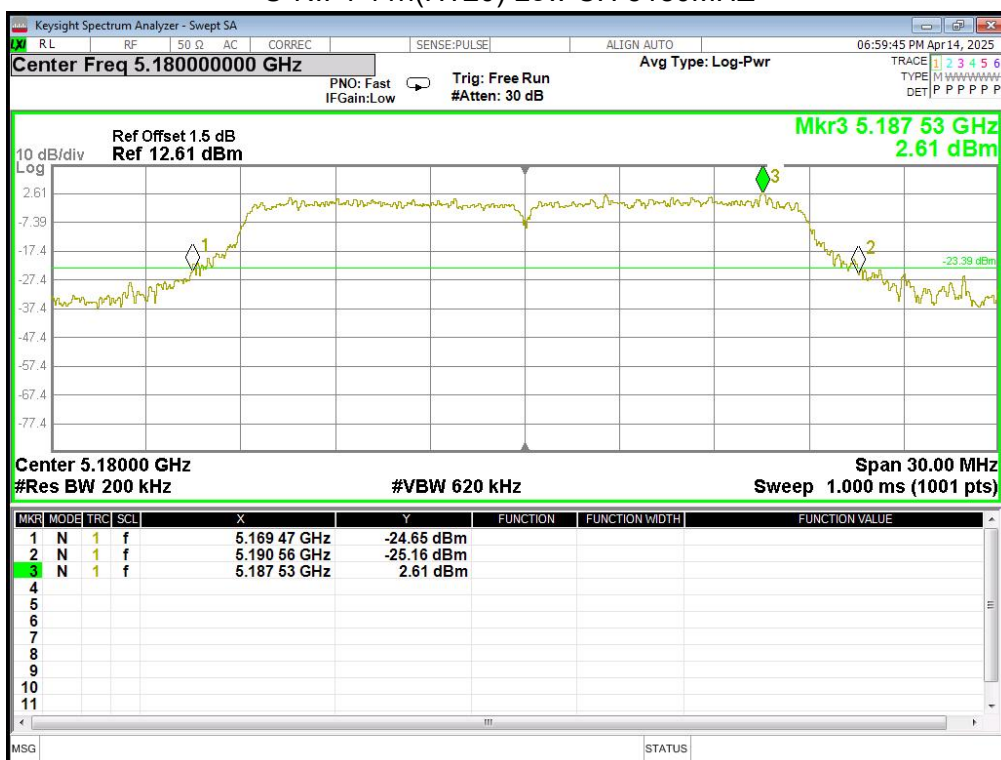
-26dB Bandwidth U-NII-1 11a High CH 5240MHZ



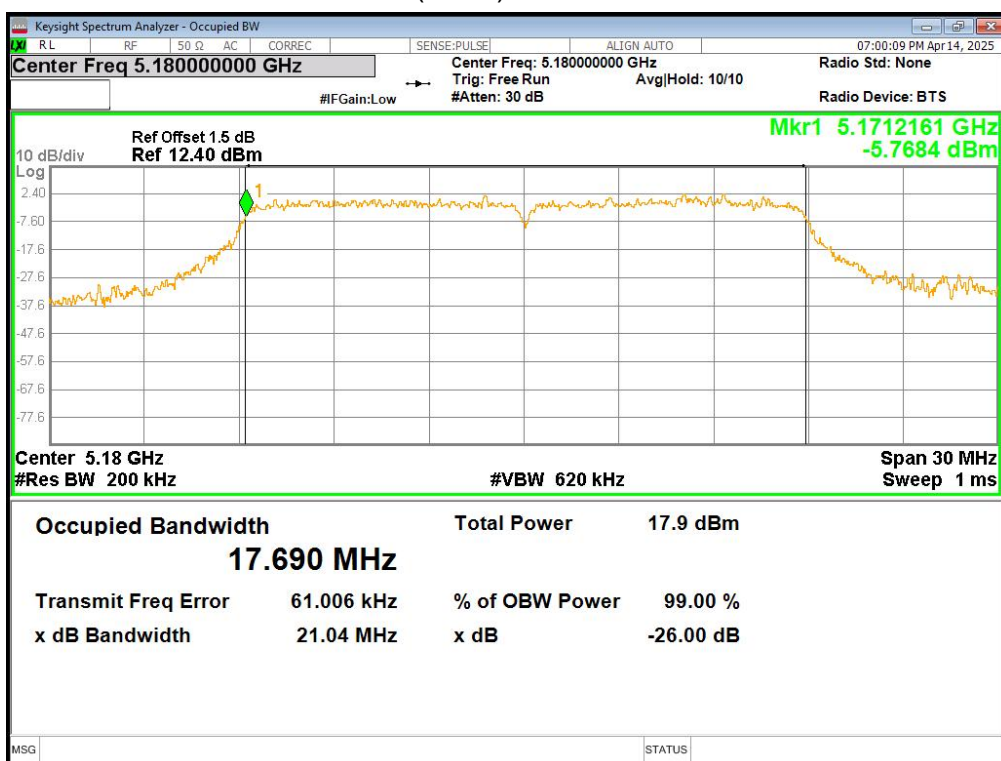
99%OBW Bandwidth U-NII-1 11a High CH 5240MHZ



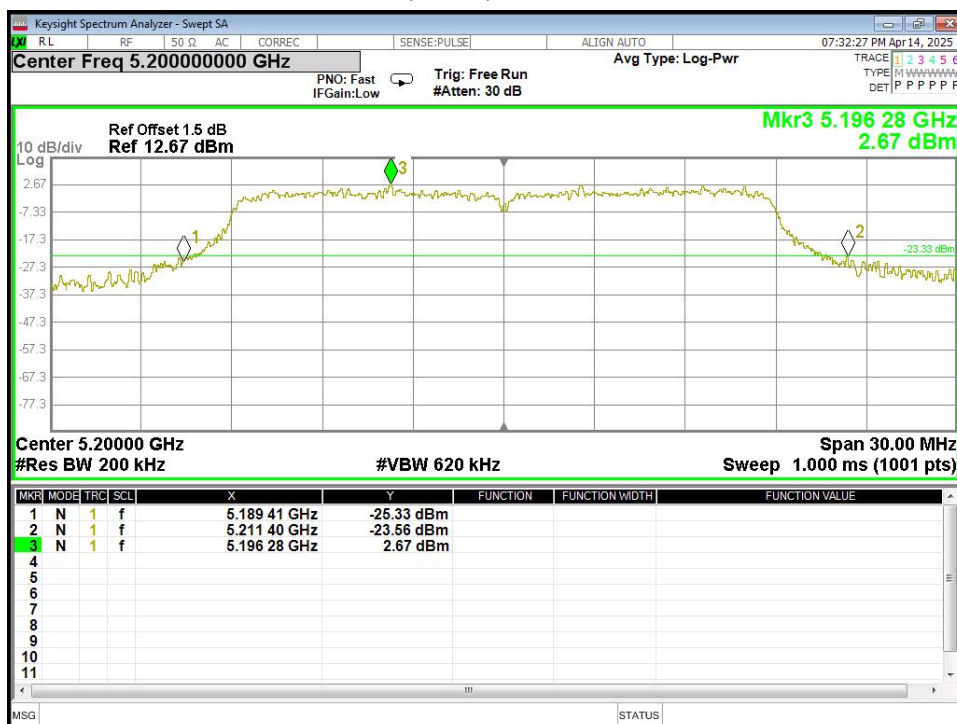
-26dB Bandwidth U-NII-1 11n(HT20) Low CH 5180MHz



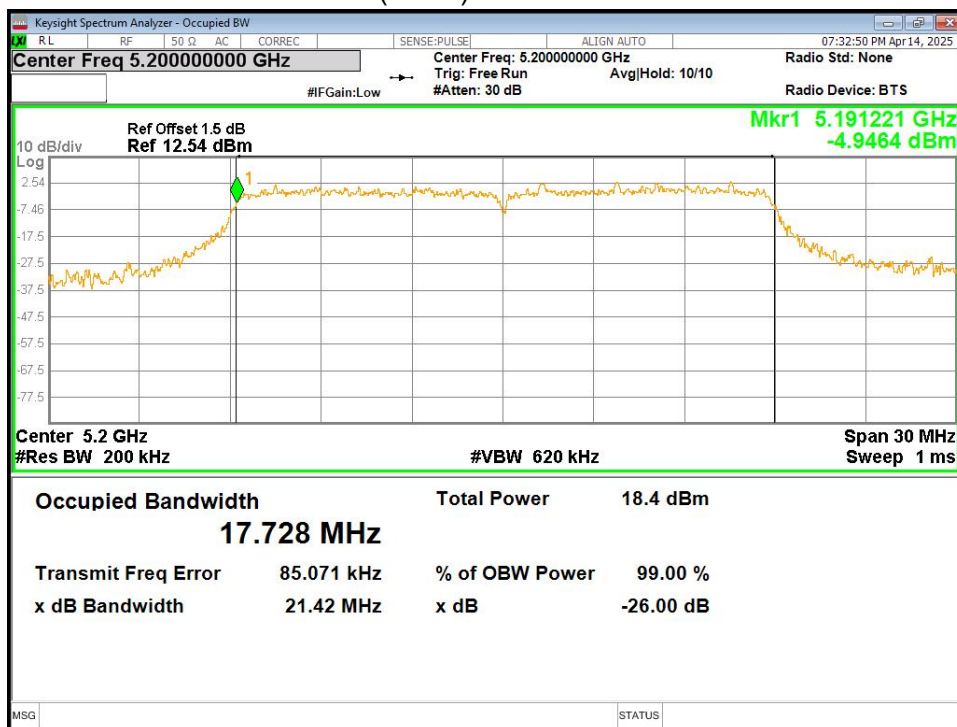
99%OBW Bandwidth U-NII-1 11n(HT20) Low CH 5180MHz



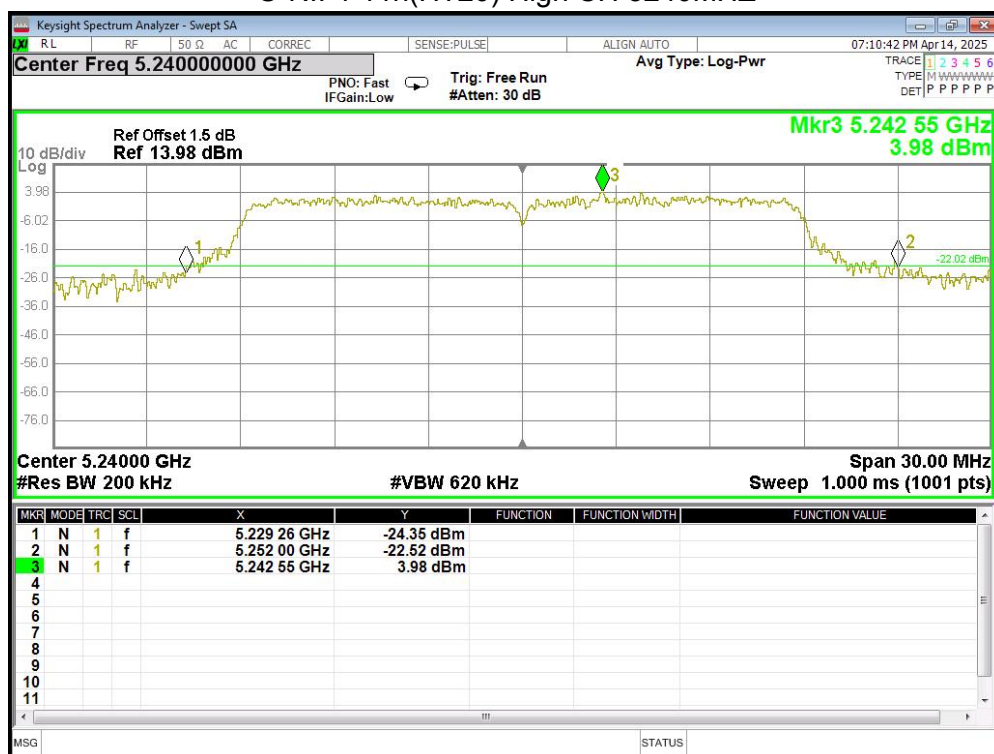
-26dB Bandwidth U-NII-1 11n(HT20) Middle CH 5200MHZ



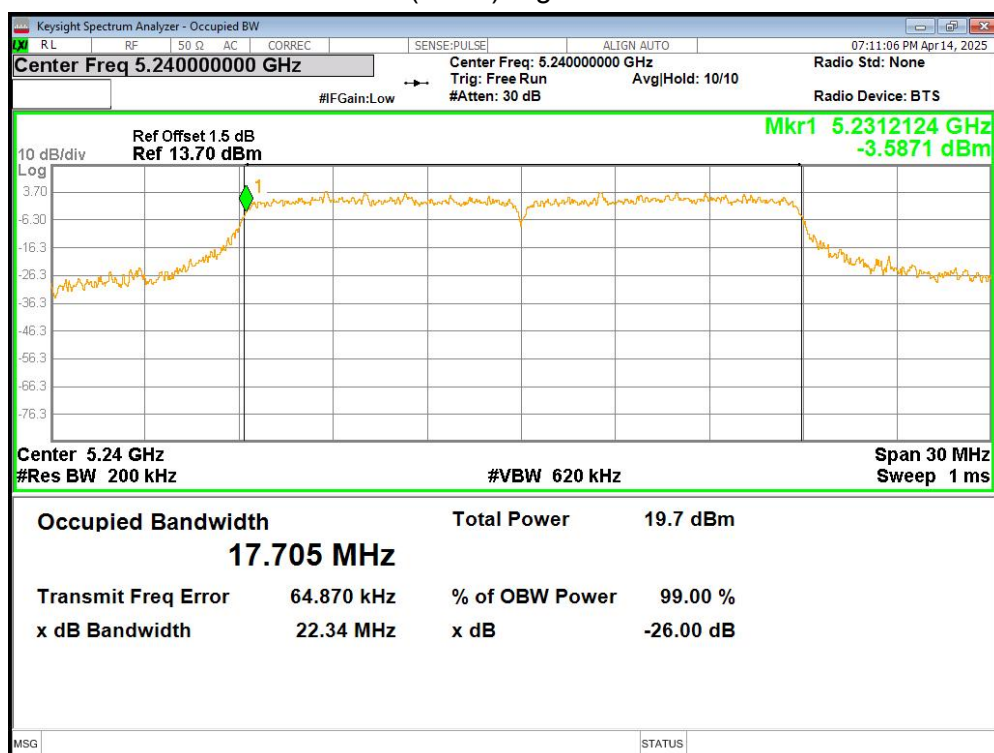
99%OBW Bandwidth U-NII-1 11n(HT20) Middle CH 5200MHZ



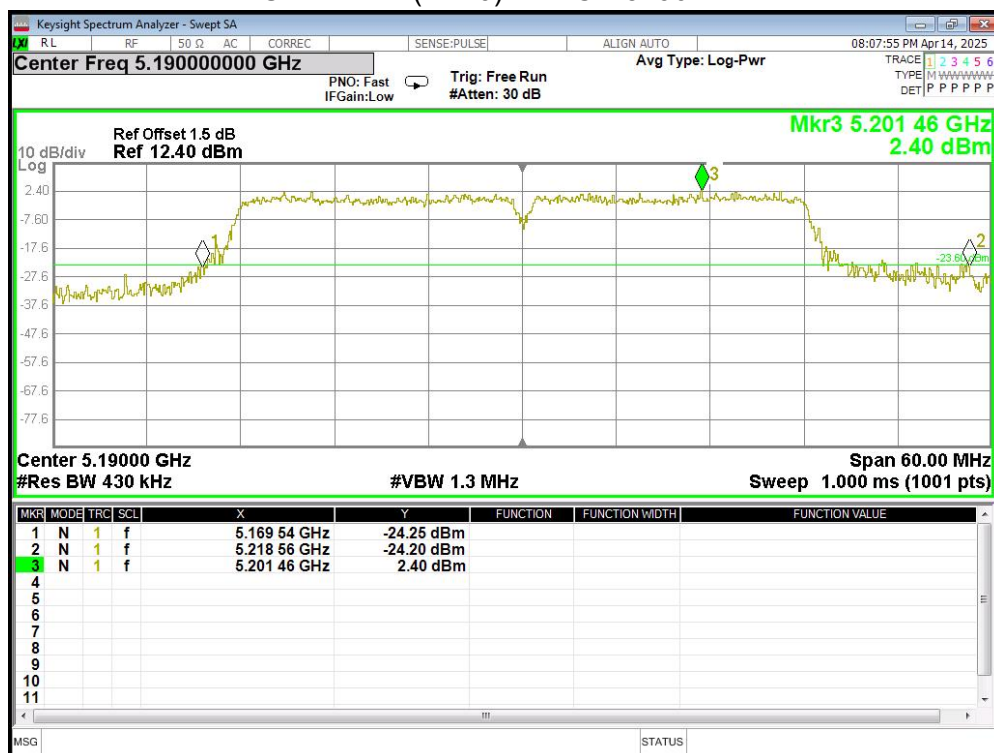
-26dB Bandwidth U-NII-1 11n(HT20) High CH 5240MHZ



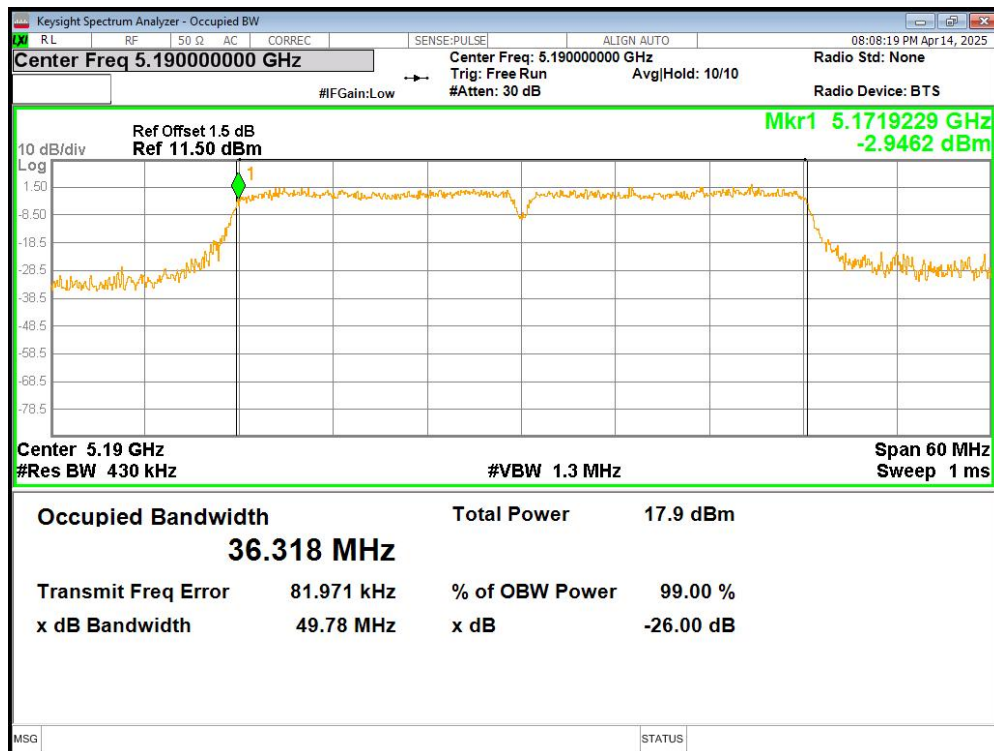
99%OBW Bandwidth U-NII-1 11n(HT20) High CH 5240MHZ



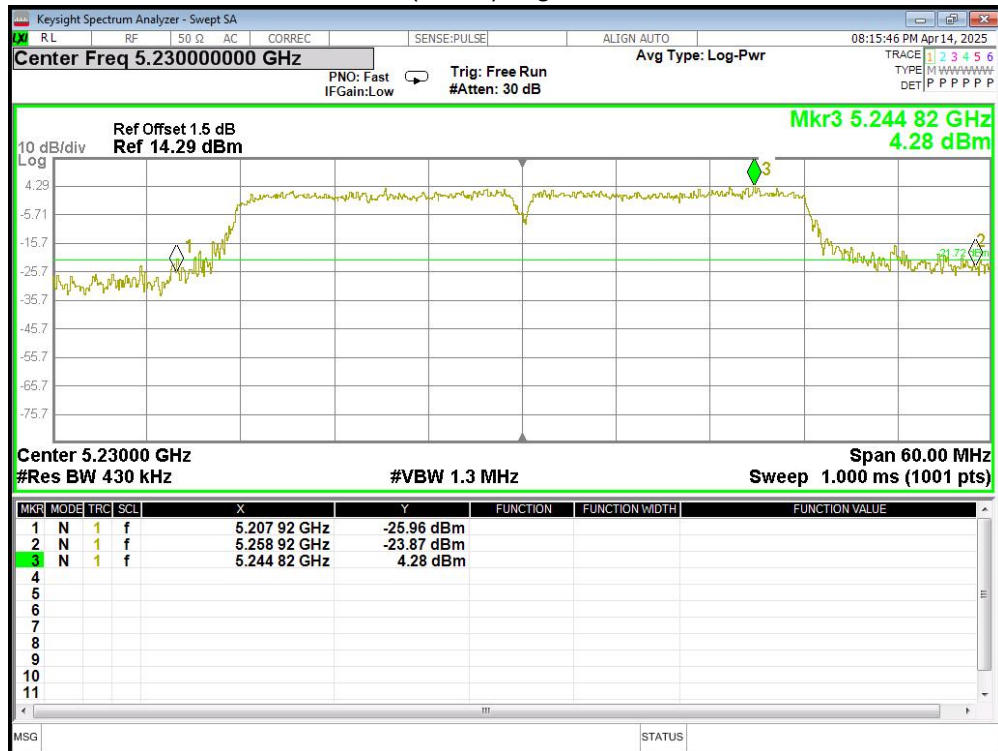
-26dB Bandwidth
U-NII-1 11n(HT40) Low CH 5190MHZ



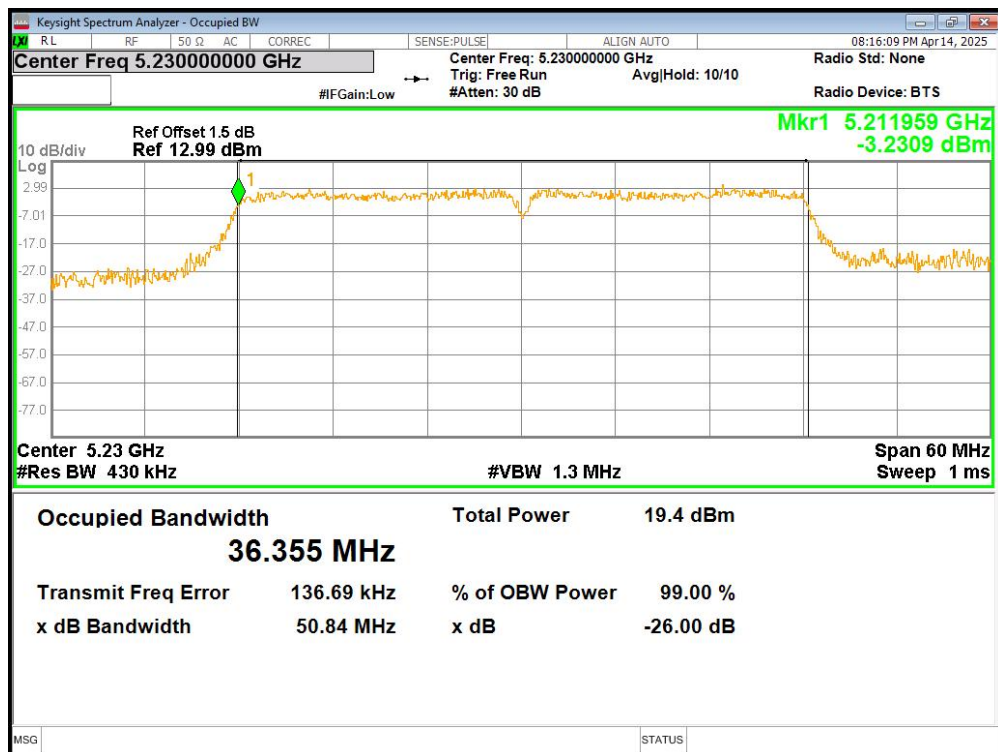
99%OBW Bandwidth
U-NII-1 11n(HT40) Low CH 5190MHZ



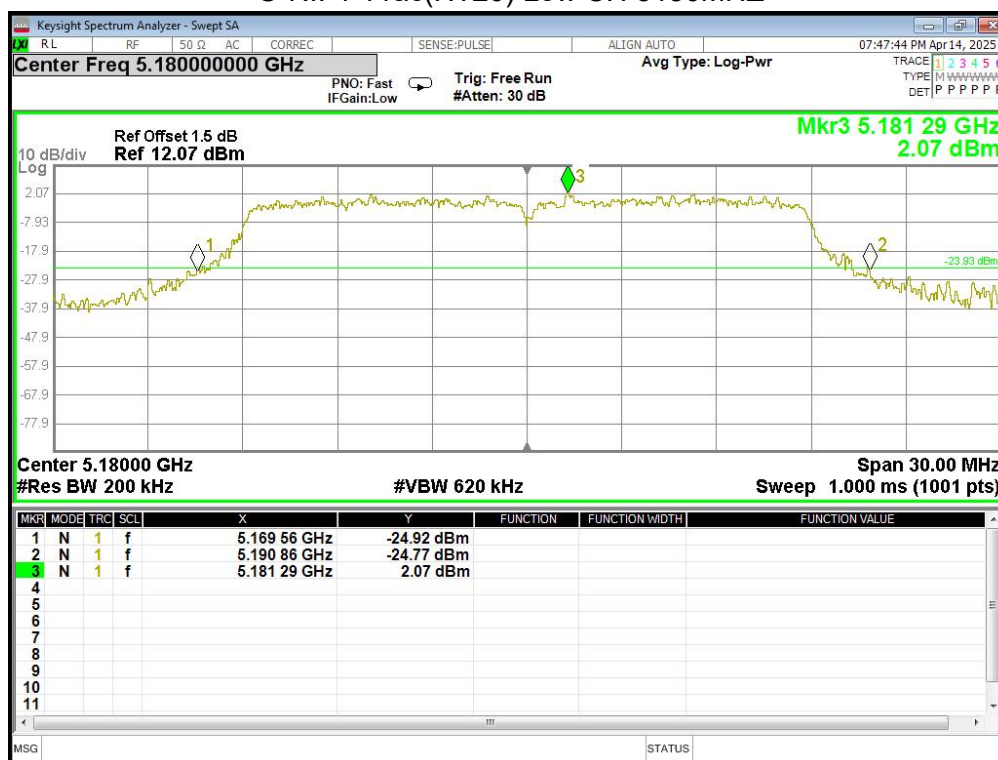
**-26dB Bandwidth
U-NII-1 11n(HT40) High CH 5230MHZ**



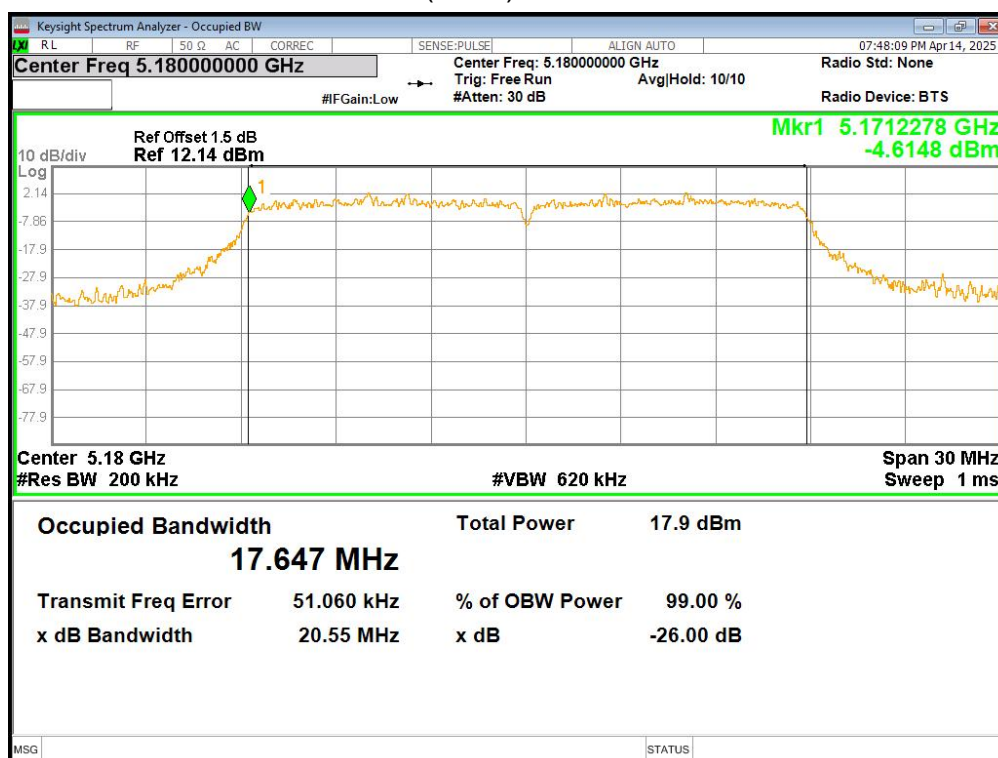
**99%OBW Bandwidth
U-NII-1 11n(HT40) High CH 5230MHZ**



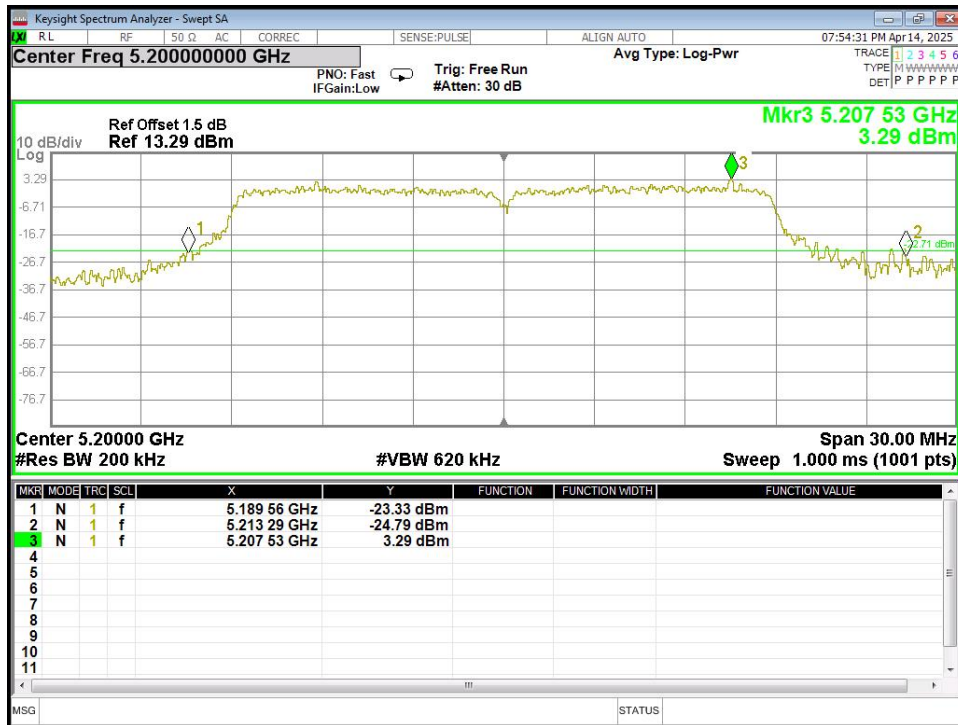
-26dB Bandwidth
U-NII-1 11ac(HT20) Low CH 5180MHZ



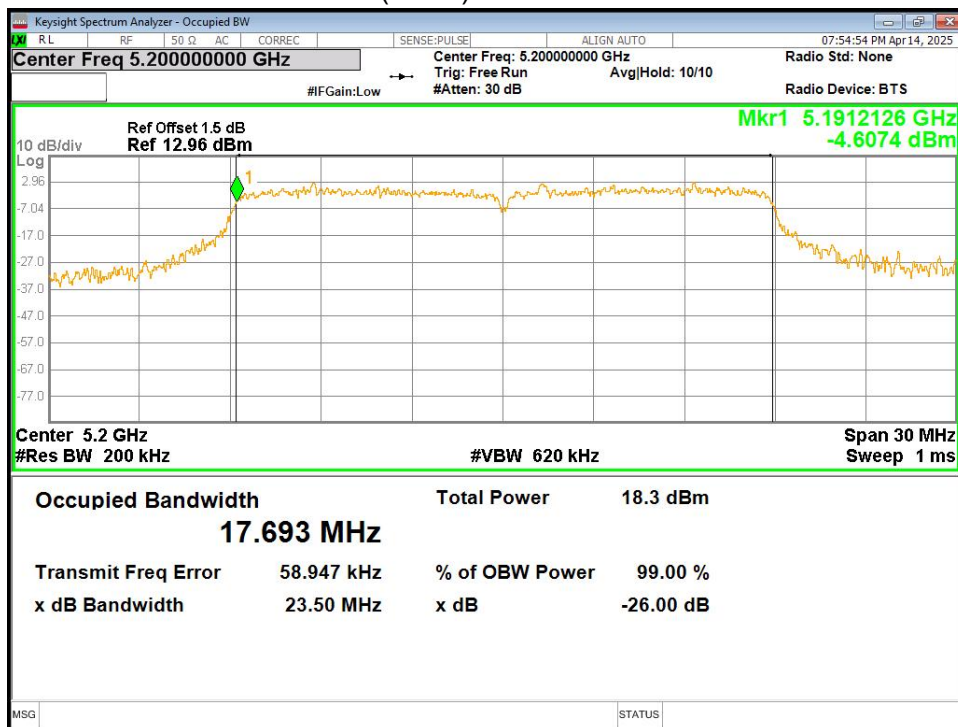
99%OBW Bandwidth
U-NII-1 11ac(HT20) Low CH 5180MHZ



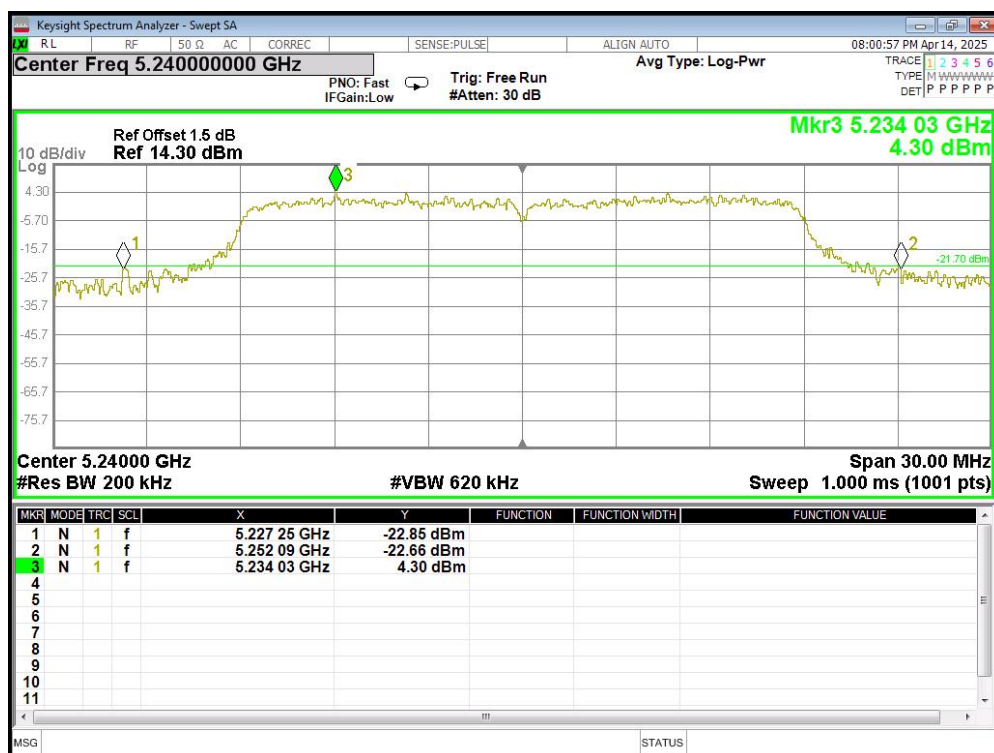
-26dB Bandwidth
U-NII-1 11ac(HT20) Middle CH 5200MHZ



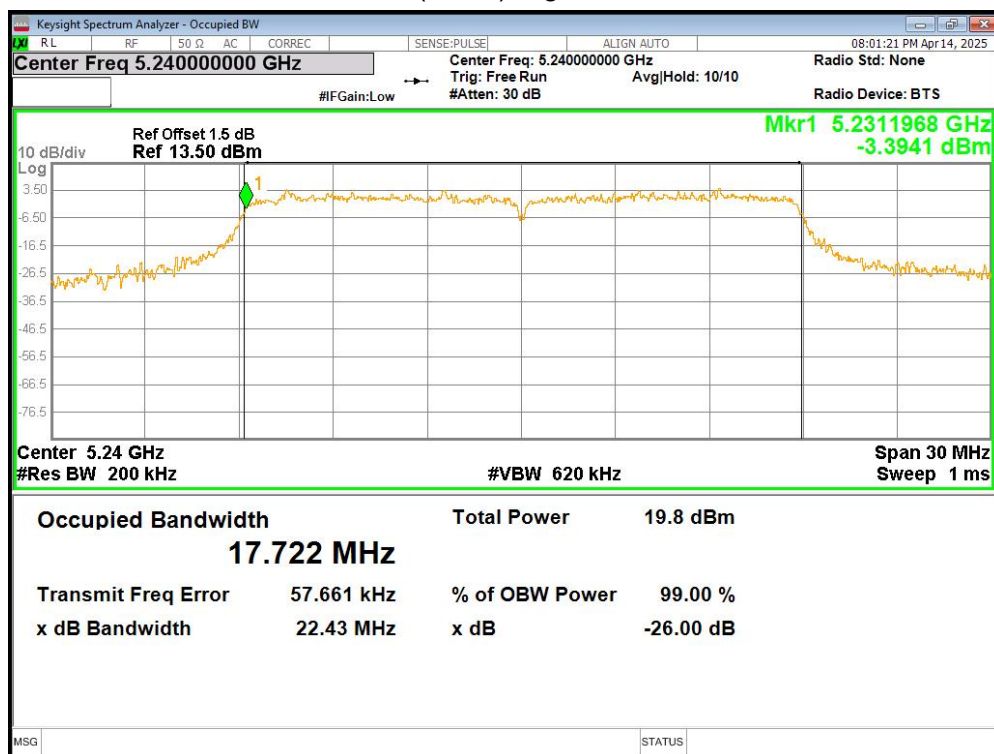
99%OBW Bandwidth
U-NII-1 11ac(HT20) Middle CH 5200MHZ



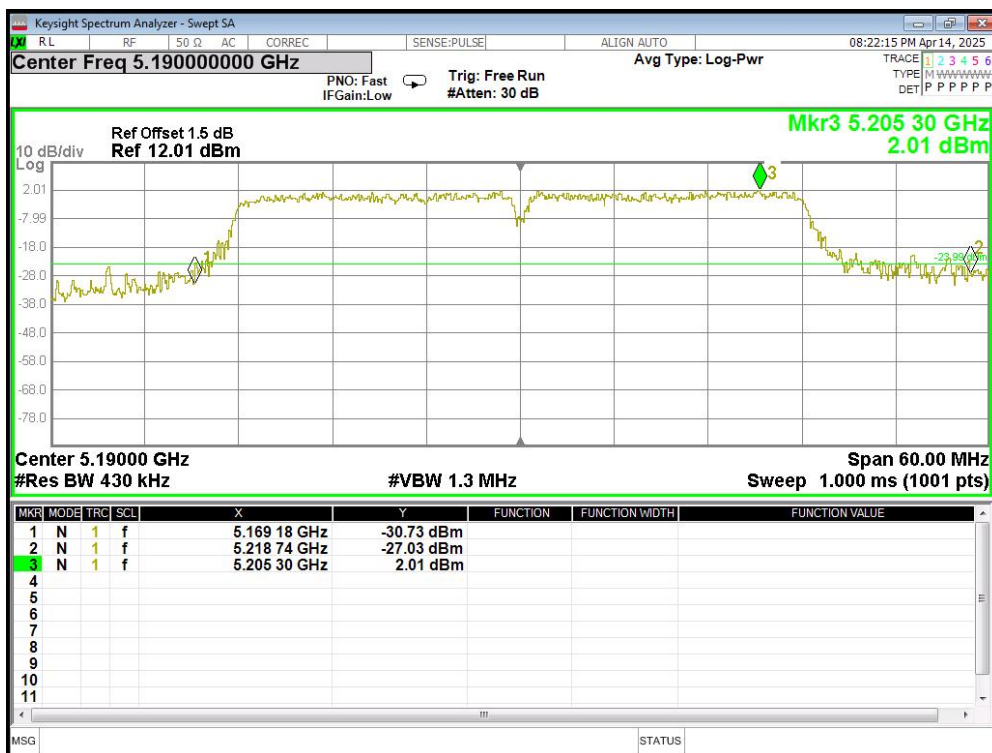
-26dB Bandwidth
U-NII-1 11ac(HT20) High CH 5240MHZ



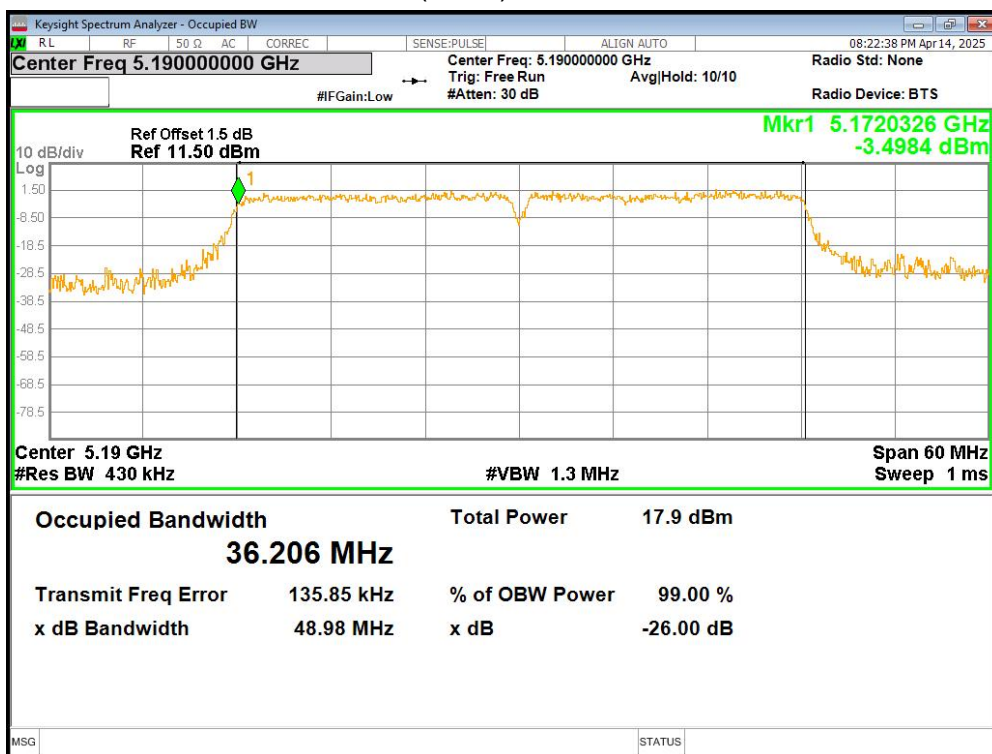
99%OBW Bandwidth
U-NII-1 11ac(HT20) High CH 5240MHZ



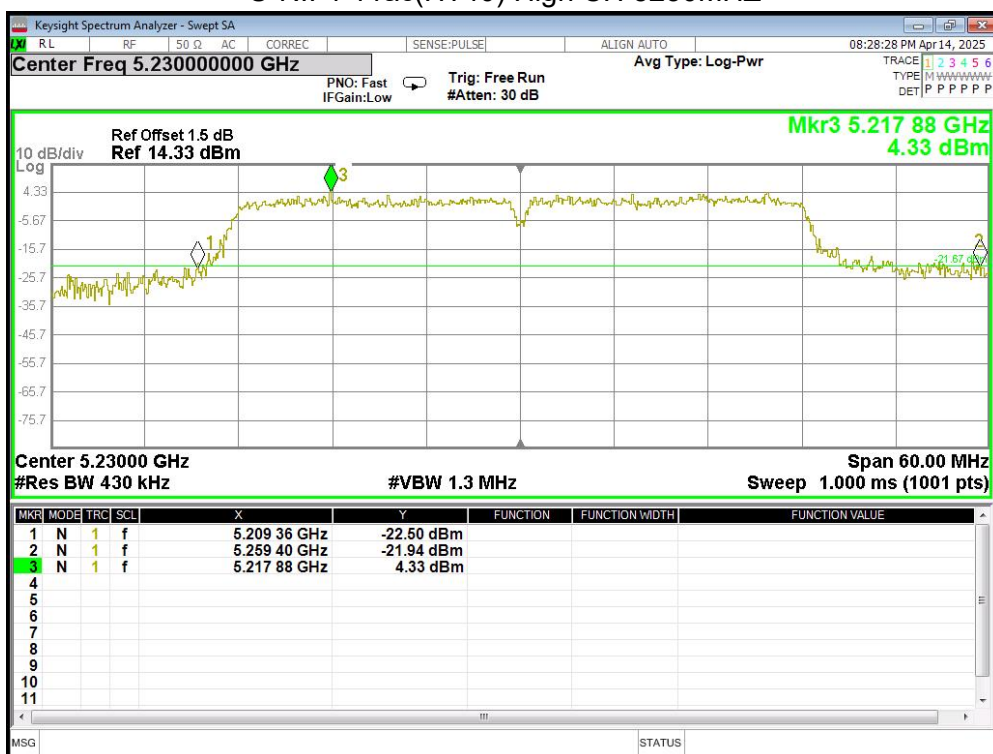
-26dB Bandwidth
U-NII-1 11ac(HT40) Low CH 5190MHZ



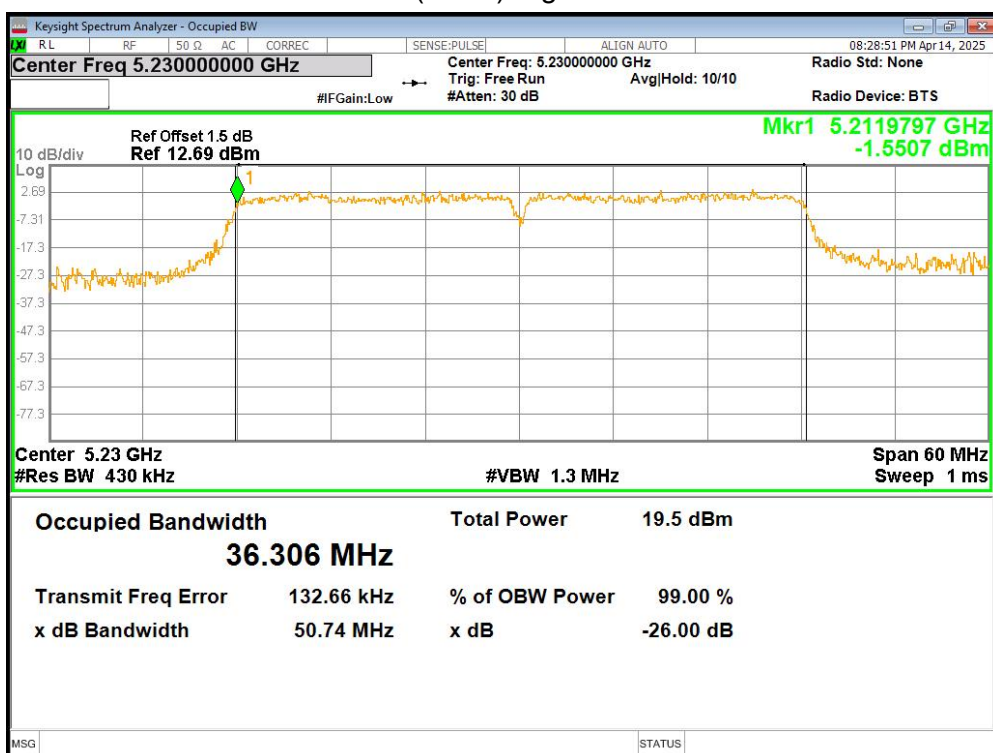
99%OBW Bandwidth
U-NII-1 11ac(HT40) Low CH 5190MHZ



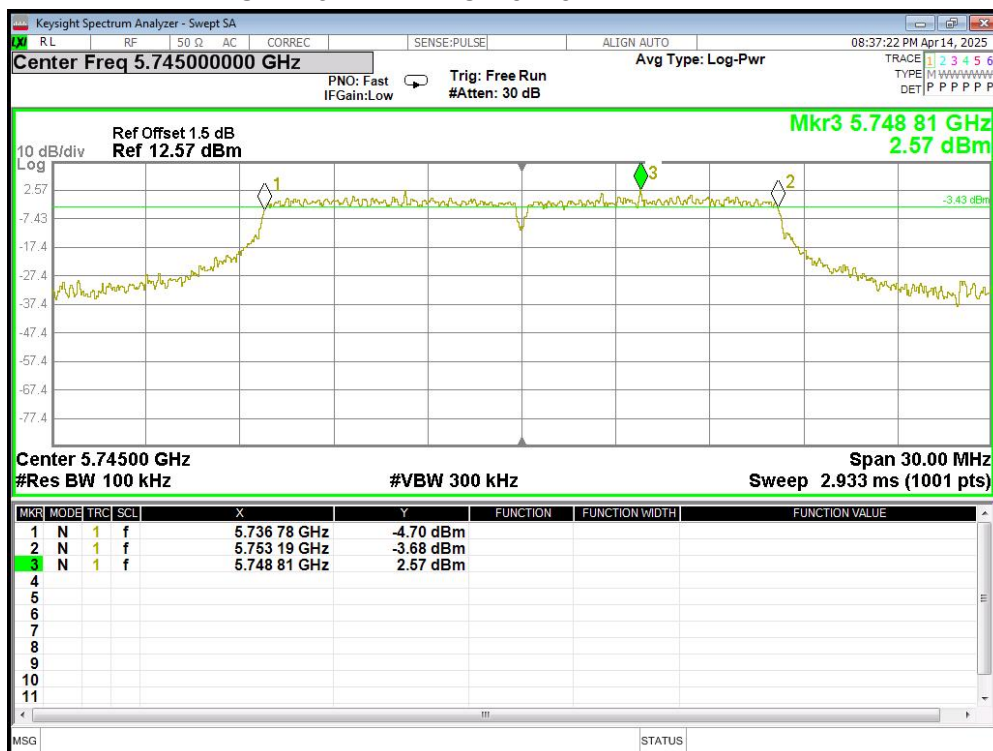
-26dB Bandwidth U-NII-1 11ac(HT40) High CH 5230MHZ



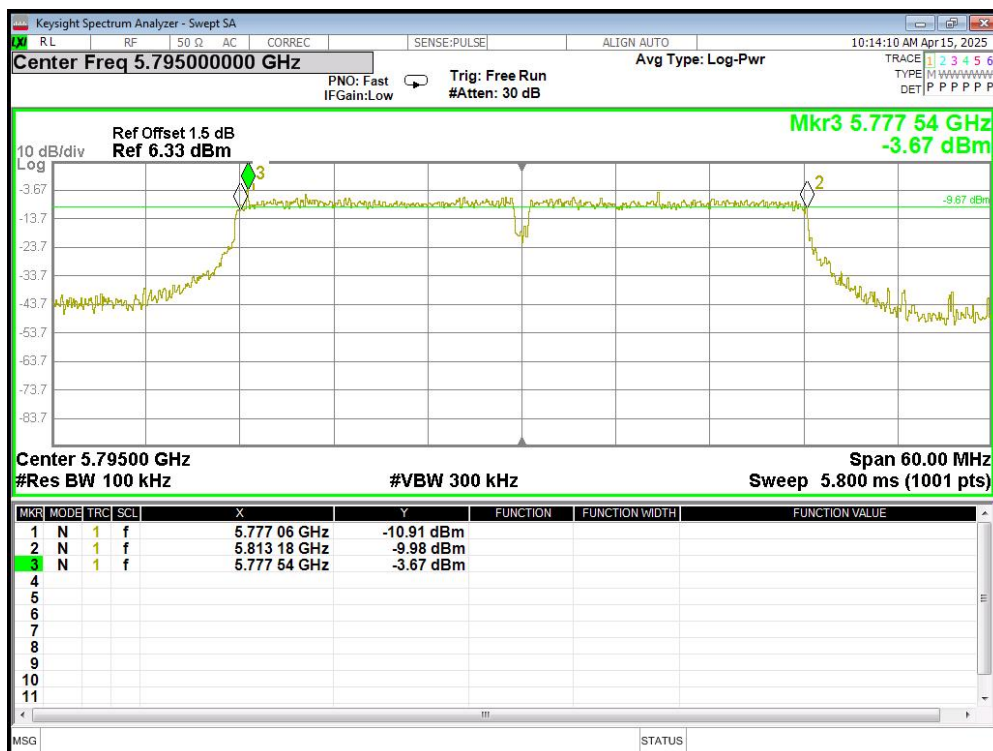
99%OBW Bandwidth U-NII-1 11ac(HT40) High CH 5230MHZ



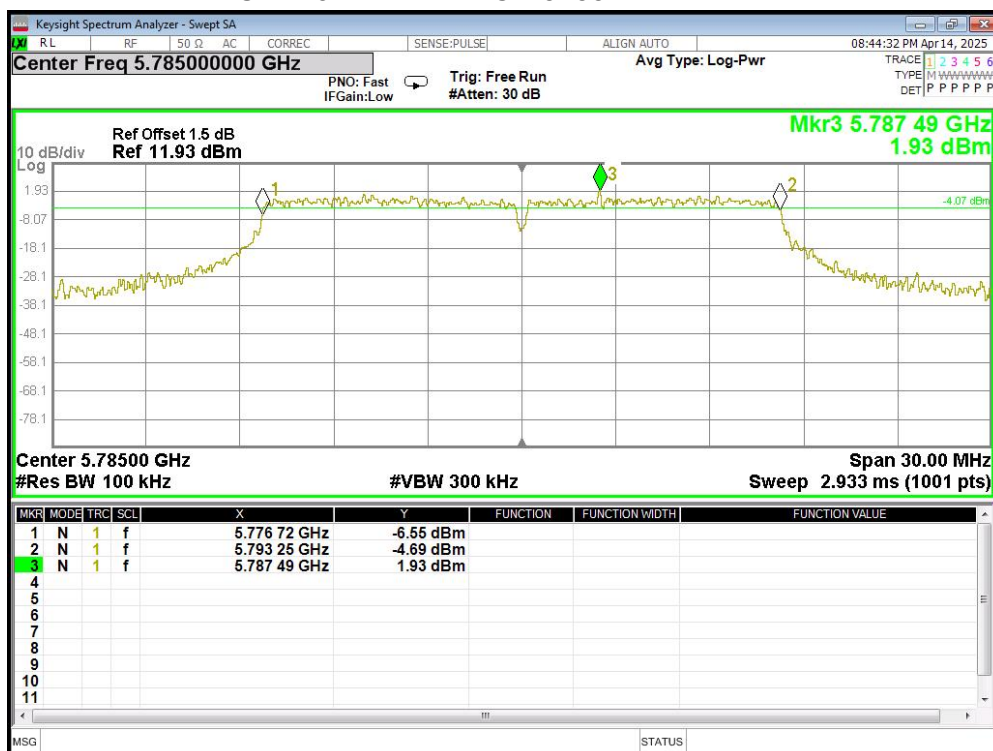
-6dB Bandwidth U-NII-3 11a Low CH 5745MHZ



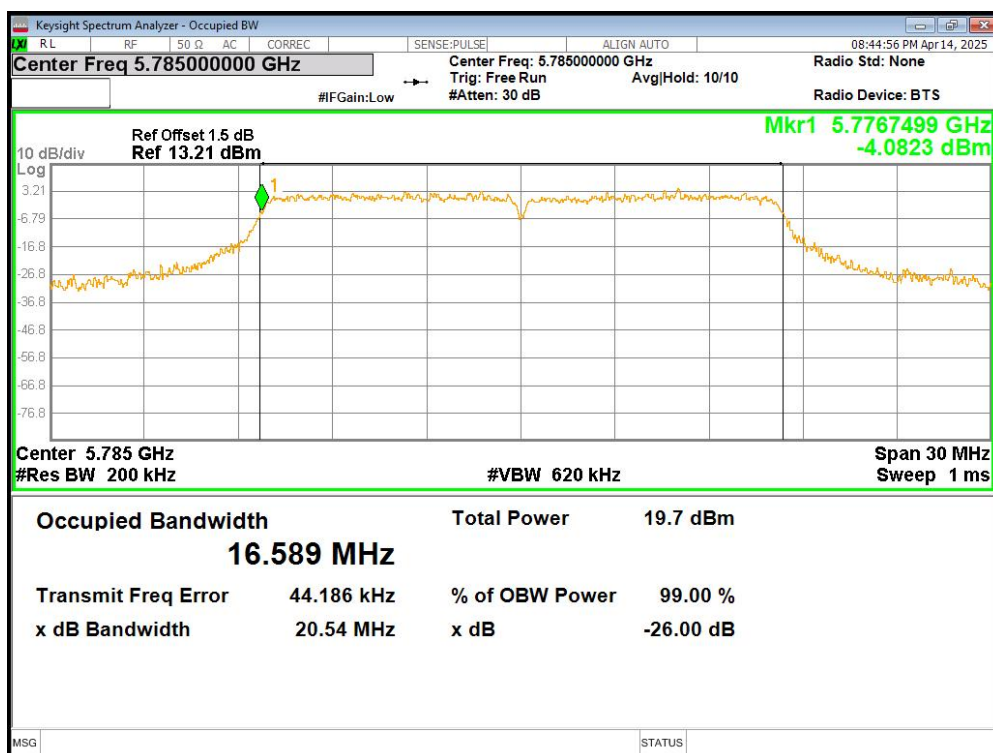
99%OBW Bandwidth U-NII-3 11a Low CH 5745MHZ



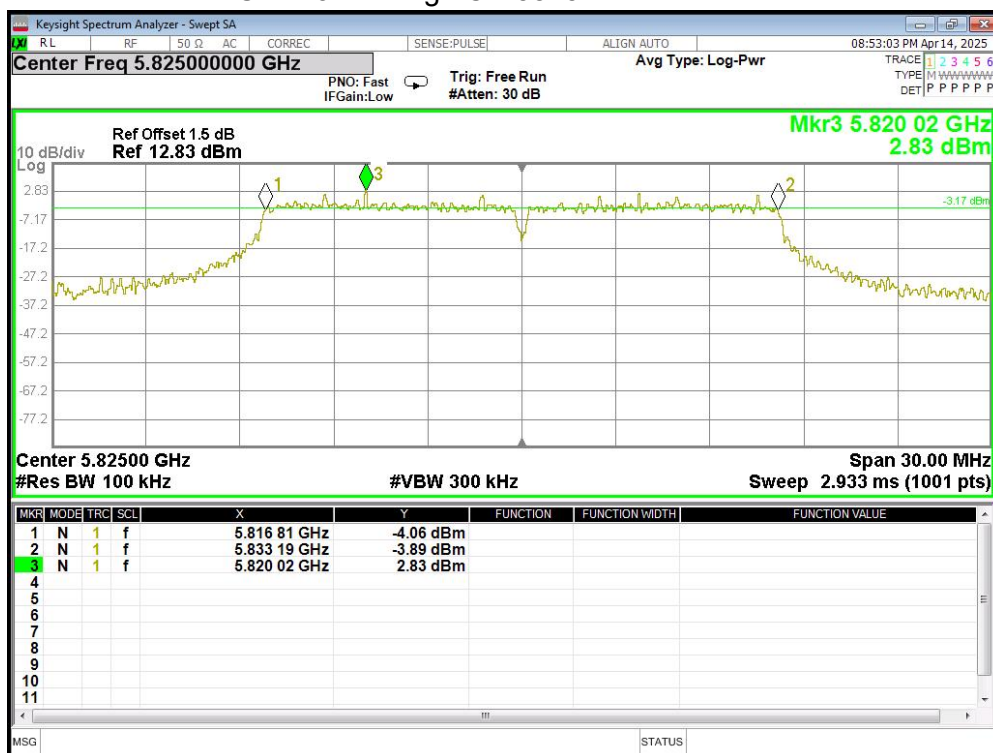
-6dB Bandwidth U-NII-3 11a Middle CH 5785MHZ



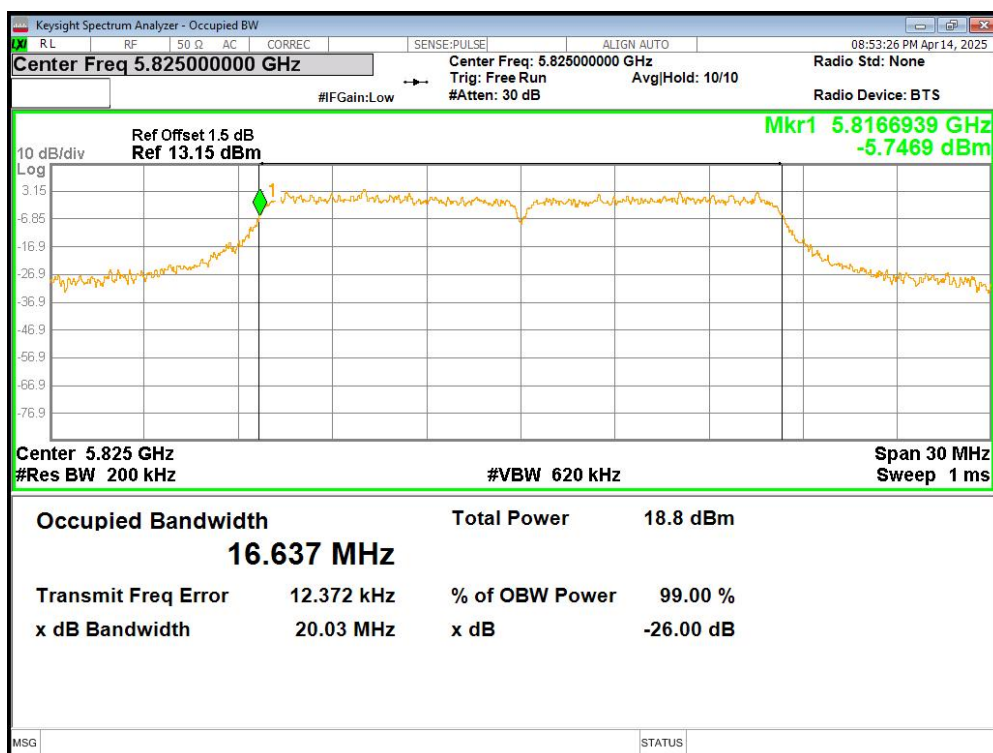
99%OBW Bandwidth U-NII-3 11a Middle CH 5785MHZ



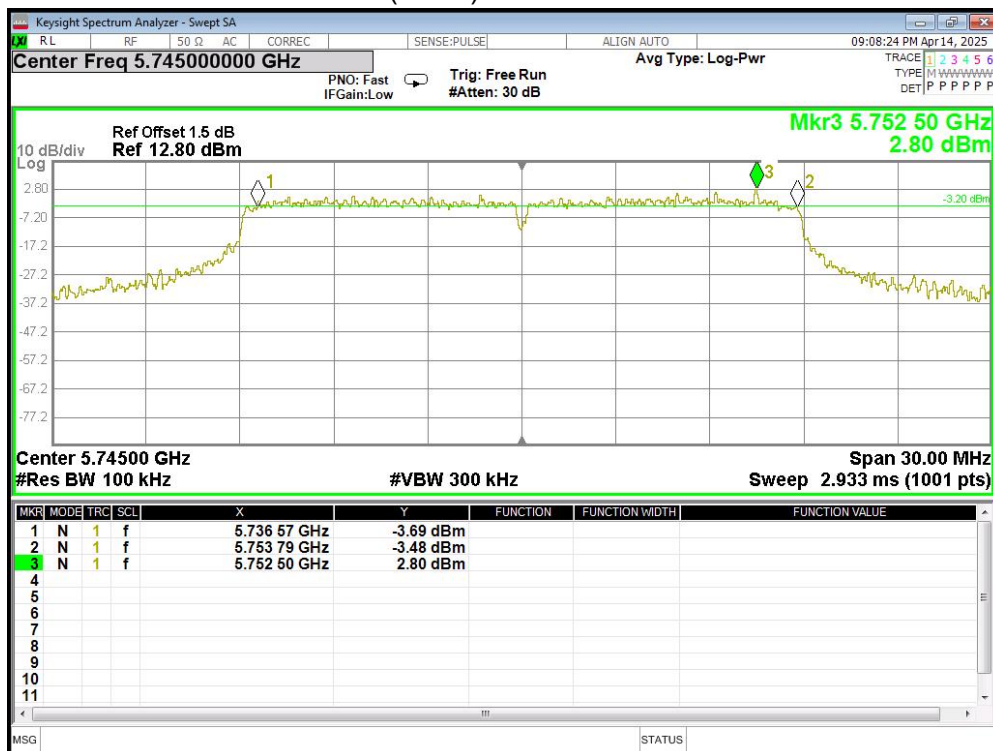
-6dB Bandwidth U-NII-3 11a High CH 5825MHZ



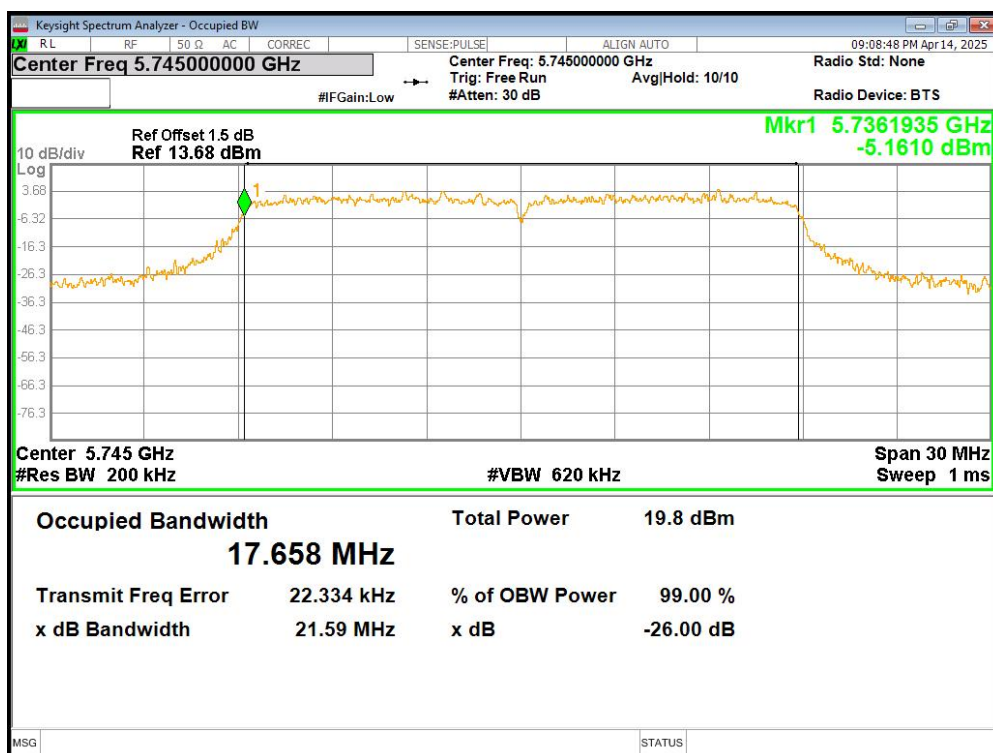
99%OBW Bandwidth U-NII-3 11a High CH 5825MHZ



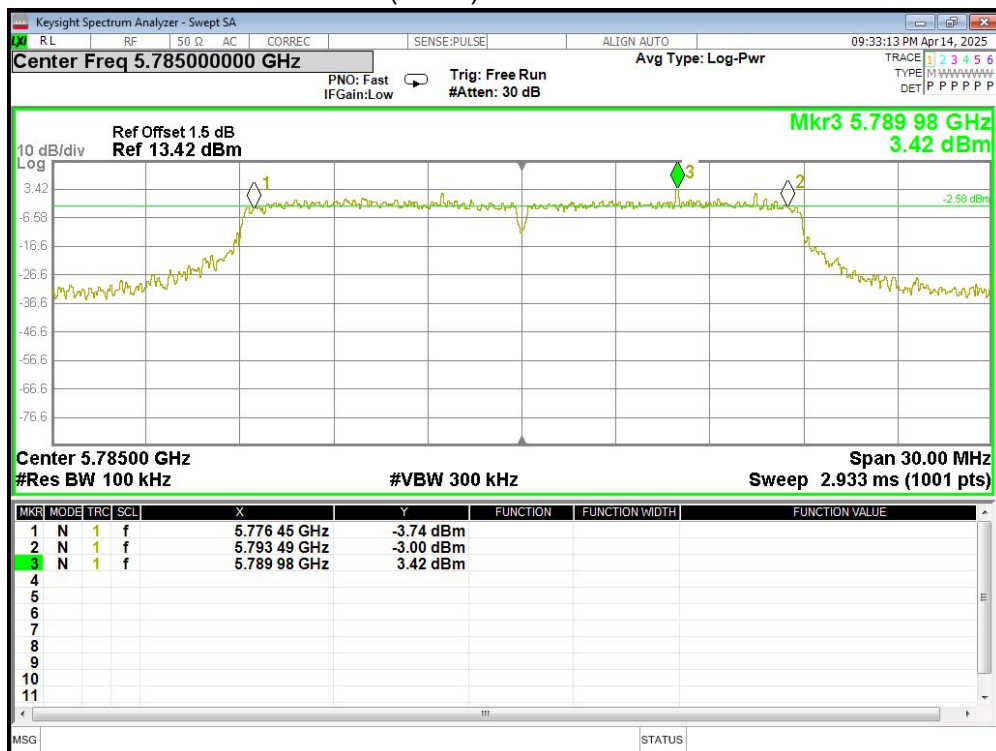
-6dB Bandwidth U-NII-3 11n(HT20) Low CH 5745MHZ



99%OBW Bandwidth U-NII-3 11n(HT20) Low CH 5745MHZ



-6dB Bandwidth U-NII-3 11n(HT20) Middle CH 5785MHZ



99%OBW Bandwidth U-NII-3 11n(HT20) Middle CH 5785MHZ

