

TEST REPORT

Report No.: CSTC-26060105E

Applicant: CHOUHOU Co.,Ltd

Product Name: Wearable action camera

Model/Type Ref.: T70

Tested Date: Jun. 11, 2026 to Jun. 24, 2026

Issued Date: Jun. 24, 2026

Shenzhen CSTC Testing Co., Ltd.

Product Name: Wearable action camera

Trademark: N/A

Model/Type Ref.: T70, CA-AC014K

Prepared For: CHOUHOU Co.,Ltd

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Prepared By: Shenzhen CSTC Testing Co., Ltd.

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Sample Received Date: Jun. 11, 2026

Sample tested Date: Jun. 11, 2026 to Jun. 24, 2026

Issue Date: Jun. 24, 2026

Report No.: CSTC-26060105E

Test Standards: Article 2 paragraph 1 of item 19
MIC Notice No.88 Annex 1
MIC Notice No.88 Annex 43

Test Results: PASS

Remark: This is JAPAN RADIO test report.

Tested by:

Zane Cai

Zane Cai/Project Handler



Approved by:

Jeff Fu

Jeff.Fu/Reviewer

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1. VERSION

Report No.	Version	Description	Approved
CSTC-26060105E	Rev.01	Initial issue of report	Jun. 24, 2026



2. TSUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

NO.	Test Item	Test Requirement	Result
1	RF shielding method	item 19 Clause 3.7	Pass
2	Frequency Error	item 19 Clause 3.2(4)	Pass
3	Antenna Power & EIRP Power	item 19 Clause 3.2(2)	Pass
4	99% Occupied bandwidth	item 19 Clause 3.2(7)	Pass
5	Spurious Emissions Intensity	item 19 Clause 3.2(6)	Pass
6	Limit of secondary radiated emissions	item 19 Clause 3.3(1)	Pass
7	Interference suppression	item 19 Clause 3.4.1	Pass
8	Transmission Antenna Gain	item 19 Clause 3.6	Pass
9	Transmission Radiation Angle Width(3dB Beam width)	item 19 Clause 3.6	N/A*
10	CARRIER SENSE CAPABILITY	item 19 Clause 3.6	Pass

NOTE:

(1) "N/A": EIRP is less than 12.14dBm/MHz for 802.11b/g/n20, 9.13 dBm/MHz for 802.11n40

2.1 TEST FACILITY

Shenzhen CSTC Testing Co., Ltd.

Add. : No. 101, Building 1, Shajing Wanfeng Huafeng Entrepreneurship Park, Heyi Community, Shajing Street, Bao 'an District, Shenzhen City, Guangdong Province, China.

2.2 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	Conducted Emission Test	$\pm 3.2\text{dB}$
2	Radiated Emission Test	$\pm 4.7\text{dB}$
3	RF power conducted	$\pm 0.16\text{dB}$
4	Spurious emissions conducted	$\pm 0.21\text{dB}$
5	All emissions radiated(<1G)	$\pm 4.68\text{dB}$
6	All emissions radiated(>1G)	$\pm 5.0\text{dB}$
7	frequency error ppm	$\pm 0.5\text{ppm}$
8	RF Occupied Bandwidth	$U=1.8\text{MHz}$

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Product Designation	Wearable action camera
Model Name	T70
Series models:	CA-AC014K
Model Description	Model differences: All the model are the same circuit and RF module, except model names and appearance color.
Hardware Version:	V1.0
Software Version:	V1.0
Modulation Type	802.11b: DSSS 802.11g/n: DSSS, OFDM
Operation Frequency	2412~2472 MHz for 802.11b/g/n(HT20) 2422~2462 MHz for 802.11n(HT40)
Channel No.	13 Channels for 802.11b/g/n(HT20) 11 Channels for 802.11n(HT40)
Channel space	5MHz
Rated power:	802.11b, Max 2mW/MHz 802.11g, Max 1mW/MHz 802.11n20, Max 1mW/MHz 802.11n40, Max 1mW/MHz
Antenna Specification:	FPC Antenna
Antenna Gain:	0.96 dBi
Ratings:	Input: 5V  1A Battery: DC 3.7V 1000mAh, 3.7Wh

Channel List for 802.11b/g/n20							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452	13	2472
02	2417	06	2437	10	2457		
03	2422	07	2442	11	2462		
04	2427	08	2447	12	2467		
Channel List for n40							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)		
03	2422	07	2442	11	2462		
04	2427	08	2447				
05	2432	09	2452				
06	2437	10	2457				

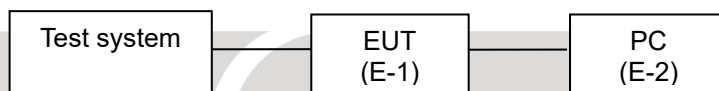
3.2 Description of test modes

Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed.		
The EUT was tuned to a low, middle, and high channel for all tests. For all test case pre/scans were completed in all Modes to determine worst case levels. test software CMD used for controlling the EUT. 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 power parameters of DSSS and OFDM.		
Test Software: CMD		
Test Mode	Power Level	
802.11b	Default	
802.11g	Default	
802.11n20	Default	
802.11n40	Default	

3.3 TEST CONDITIONS

Supply Voltage				
	Input Voltage (VDC)		Voltage at the input of the RF Circuit (Vdc)	Tolerance (%)
Normal	3.7	Normal	3.3	
+10%	4.07	+10%	3.3	0
-10%	3.33	-10%	3.3	0
Others				
Temperature (°C)		20-25		
Relative humidity		51%.		
ATM Pressure:		1019 mbar		
Note 1: When the input voltage is reduced or increased by 10%, the regulator voltage changes of less than 1%.So the following test items are conducted in the normal voltage.				

3.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 DESCRIPTION OF SUPPORT UNITS (CONDUCTED MODE)

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.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Wearable action camera	N/A	T70	N/A	EUT
E-2	PC	N/A	Thinkpad S2	N/A	Equipment

Item	Shielded Type	Ferrite Core	Length	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”.

3.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Calibration company: Guangzhou LiSai Metrology & Test Co., Ltd. (Article 24-2, Paragraph 4 of the Radio Act) method c

Radiation Emissions & Radiation Spurious Emissions Test

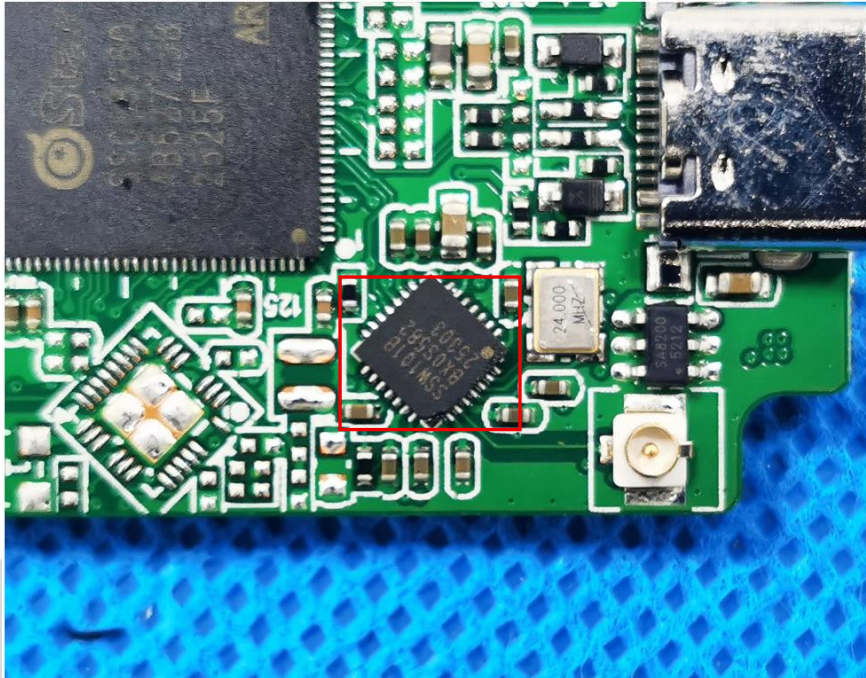
Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 17, 2025	Sep. 16, 2026
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 17, 2025	Sep. 16, 2026
3	EMI Test Receiver (9kHz-7GHz)	R&S	ESCI7	100969	4.32	Sep. 17, 2025	Sep. 16, 2026
4	Bilog Antenna (30MHz-1500MHz)	Schwarzbeck	VULB9168	00877	N/A	Sep. 17, 2025	Sep. 16, 2026
5	Horn Antenna (1GHz-18GHz)	Agilent	AH-118	071145	N/A	Sep. 17, 2025	Sep. 16, 2026
6	Horn Antenna (15GHz-40GHz)	A.H.System	SAS-574	588	N/A	Sep. 17, 2025	Sep. 16, 2026
7	Loop Antenna	TESEQ	HLA6121	58357	N/A	Sep. 17, 2025	Sep. 16, 2026
8	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	60747	N/A	Sep. 17, 2025	Sep. 16, 2026
signal 9	Amplifier (1GHz-26.5GHz)	HuiPu	8449B	3008A00315	N/A	Sep. 17, 2025	Sep. 16, 2026
10	Amplifier (500MHz-40GHz)	QuanJuDa	DLE-161	097	N/A	Sep. 17, 2025	Sep. 16, 2026
11	Test Cable	N/A	R-01	N/A	N/A	Sep. 17, 2025	Sep. 16, 2026
12	Test Cable	N/A	R-02	N/A	N/A	Sep. 17, 2025	Sep. 16, 2026
13	Test Cable	N/A	R-03	N/A	N/A	Sep. 17, 2025	Sep. 16, 2026
14	D.C. Power Supply	LongWei	TPR-6405D	GQ7516	N/A	Sep. 17, 2025	Sep. 16, 2026
15	EMC Software	Frad	EZ-EMC	Ver.EMC-CO N 3A1.1	N/A	\	\
16	Turntable	MF	MF-7802BS	N/A	N/A	\	\
17	Antenna tower	MF	MF-7802BS	N/A	N/A	\	\
18	Power Meter	KEYSIGHT	N1912AP	926431	A.05.00	Sep. 17, 2025	Sep. 16, 2026
19	Attenuator	GuoRenTong Xin	SGR-SJQ-6 dB-DC-3	N/A	N/A	Sep. 17, 2025	Sep. 16, 2026
20	Signal Generator	Agilent	N5182A	MY47420215	A.01.87	Sep. 17, 2025	Sep. 16, 2026

4. RF SHIELDING METHOD

Chipset:

The product structure is uses SMD patch process.

As shown in the picture, If the will be open so the product be damage.
terminalnumber is 28. Pitch is 0.20mm.



5.TEST RESULTS

5.1 FREQUENCY ERROR

5.1.1 LIMIT

Item	Limits
Frequency Error	±50ppm

5.1.2 MEASURING INSTRUMENTS AND SETTING

The following table is the setting of Spectrum Analyzer.

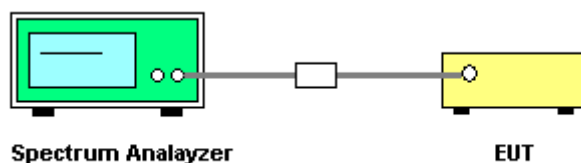
Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	10KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.1.3 TEST PROCEDURES

- (1)In the case of unmodulated signal (continuous or continuous burst), measure the frequency directly by a frequency meter.
- (2)In the case of burst waves, the measurement shall be done for enough time in order to obtain the enough measuring accuracy, and the average of the measured values becomes the final value.
- (3)In the case of a test mode with a specific frequency spectrum, measure the frequency of the specific spectrum by a spectrum analyzer.
- (4)In the cases above, if the frequency equivalent to the test frequency is not directly measured in principle, it shall be obtained by necessary calculation.

In the case of modulated signal, if there is no specific spectrum measurable by a spectrum analyzer but a specific dip is observed, it is allowed to measure the frequency with the signal generator (synthesized). That is, observe a signal of the signal generator concurrently (or alternately) with the tested signal using the spectrum analyzer while setting the frequency of the signal generator to the position of the dip on the screen of the spectrum analyzer, and determine the frequency of the signal generator at the time as a measured value.

5.1.4 TEST SETUP LAYOUT



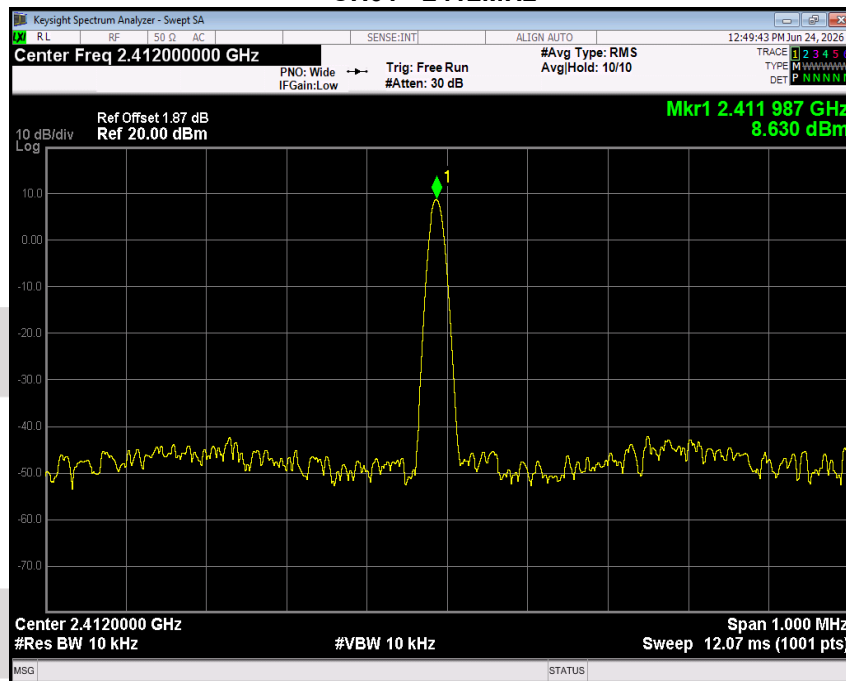
5.1.5 EUT OPERATION DURING TEST

The EUT was placed on the test table and programmed in un-modulation function.

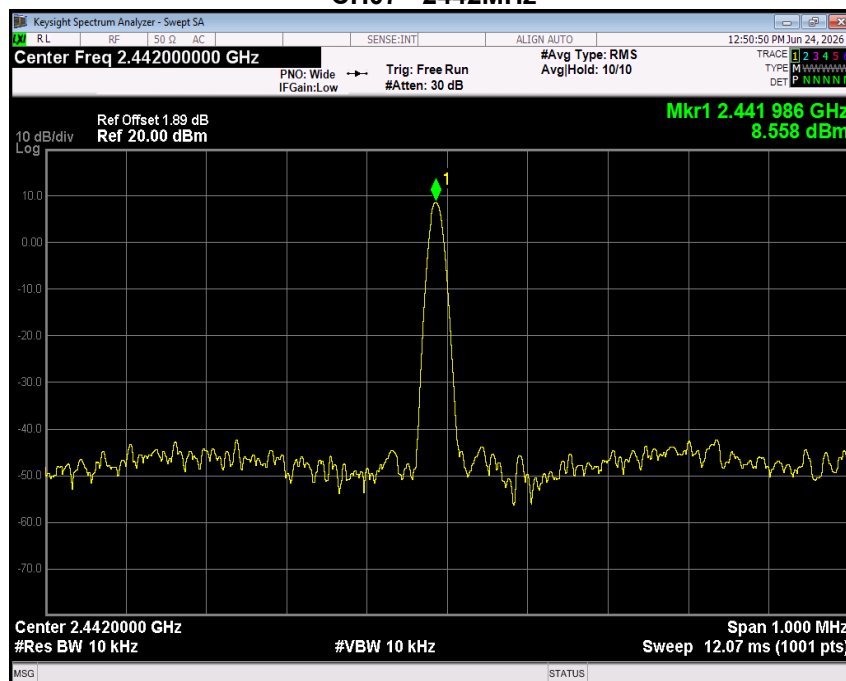
5.1.6 RESULTS OF FREQUENCY ERROR

Test mode	Test voltage	Frequency (MHz)	Read (MHz)	Tolerance (ppm)	Limit (ppm)	Result
Un-modulation mode	Normal	2412	2411.987	-5.39	±50.00	Pass
		2442	2441.986	-5.73		
		2472	2471.986	-5.66		
		2422	2421.986	-5.78		
		2462	2461.986	-5.69		

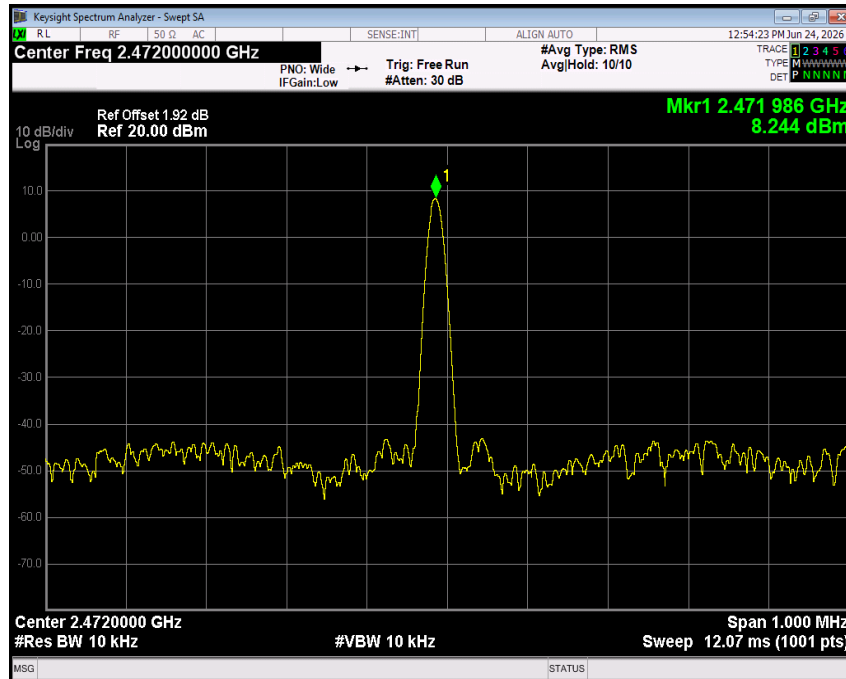
CH01 - 2412MHz



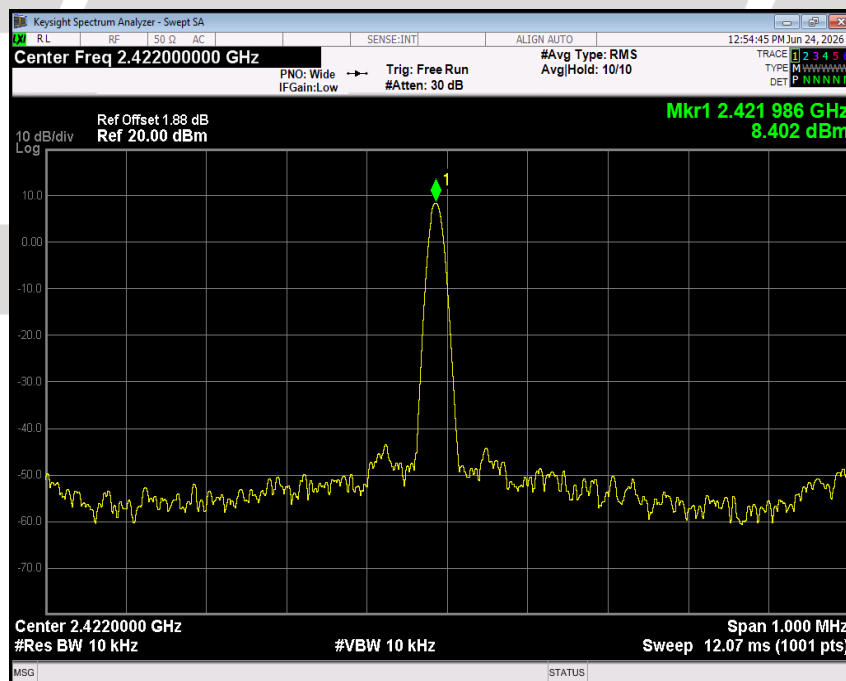
CH07 - 2442MHz



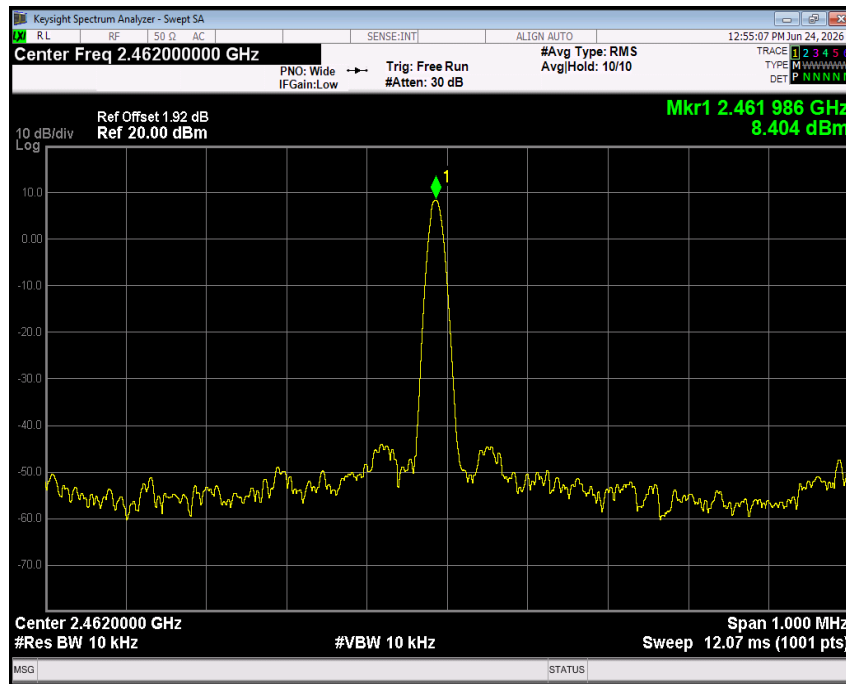
CH13 - 2472MHz



CH03 - 2422MHz



CH11 - 2462MHz



CSTC

5.2 99% OCCUPIED BANDWIDTH

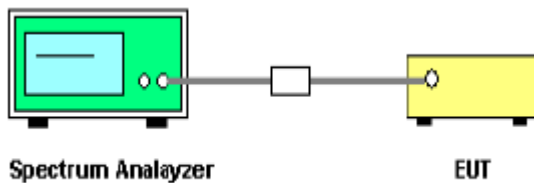
5.2.1 LIMIT

Item	Limits
Occupied Band Width:	802.11b,g,n(HT20): 26MHz or less
Spreading Bandwidth:	/
Spread Factor	/

5.2.2 TEST PROCEDURES

1. Setting of SA is following as: RB: 300kHz / VB:300kHz / SPAN: 50MHz / AT: 20dB Ref: 10dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
- 2 . EUT have transmitted the maximum modulation signal and fixed channelize (For DSSS or OFDM Device) or continuous maximum power of hopping mode(For FHSS Device). SA set to 99% of occupied bandwidth to measure occupied bandwidth. The limit is less than 26MHz (For DSSS or OFDM Device) or 83.5MHz (For FHSS Device).

5.2.3 TEST SETUP LAYOUT



5.2.4 TEST DEVIATION

There is no deviation with the original standard.

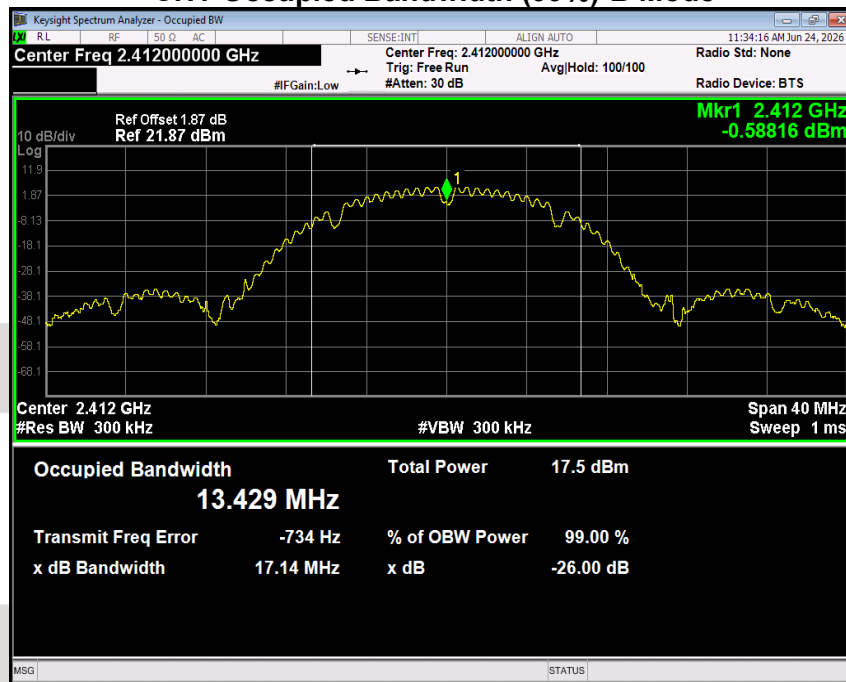
5.2.5 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

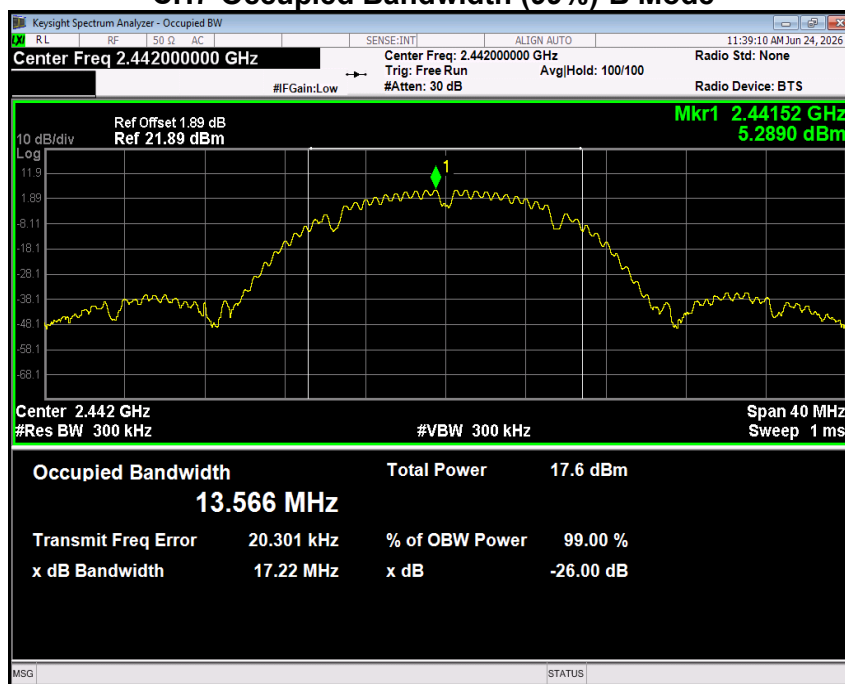
5.2.6 TEST RESULT

Test voltage	Mode	Test Frequency (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth Limits (MHz)	Result
Normal	b	2412	13.429	≤26	Pass
	b	2442	13.566	≤26	Pass
	b	2472	13.619	≤26	Pass

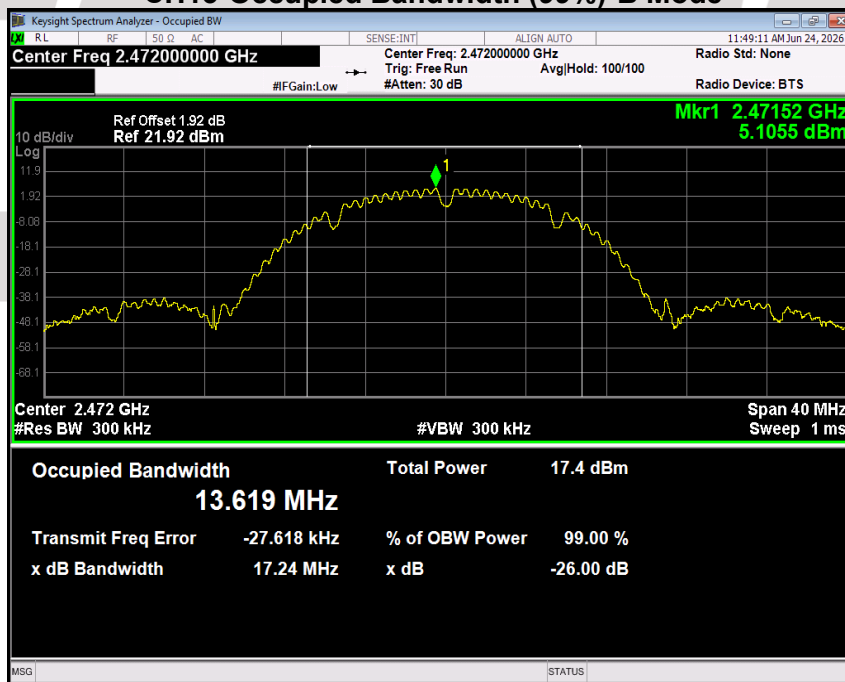
CH1-Occupied Bandwidth (99%)-B Mode



CH7-Occupied Bandwidth (99%)-B Mode

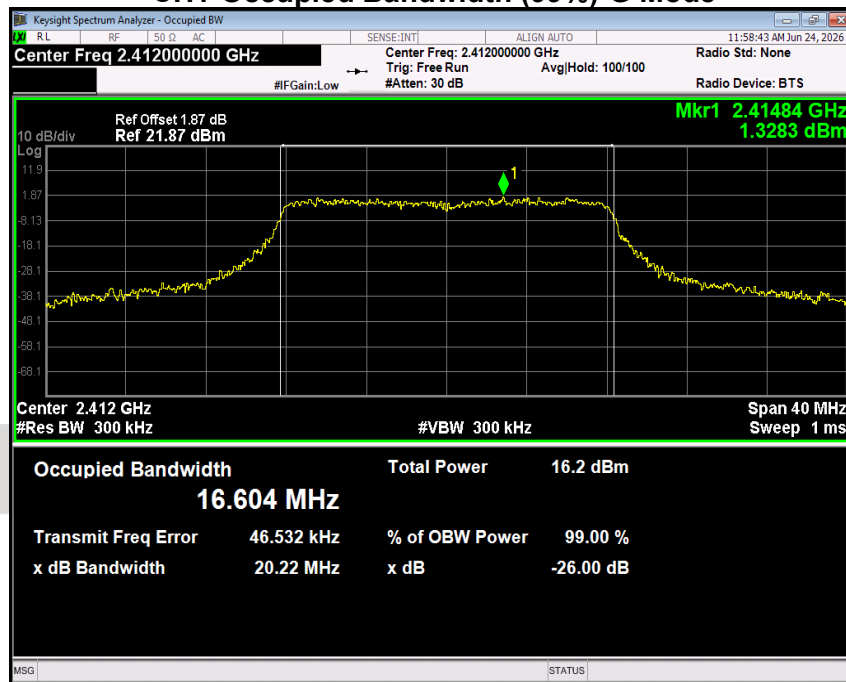


CH13-Occupied Bandwidth (99%)-B Mode

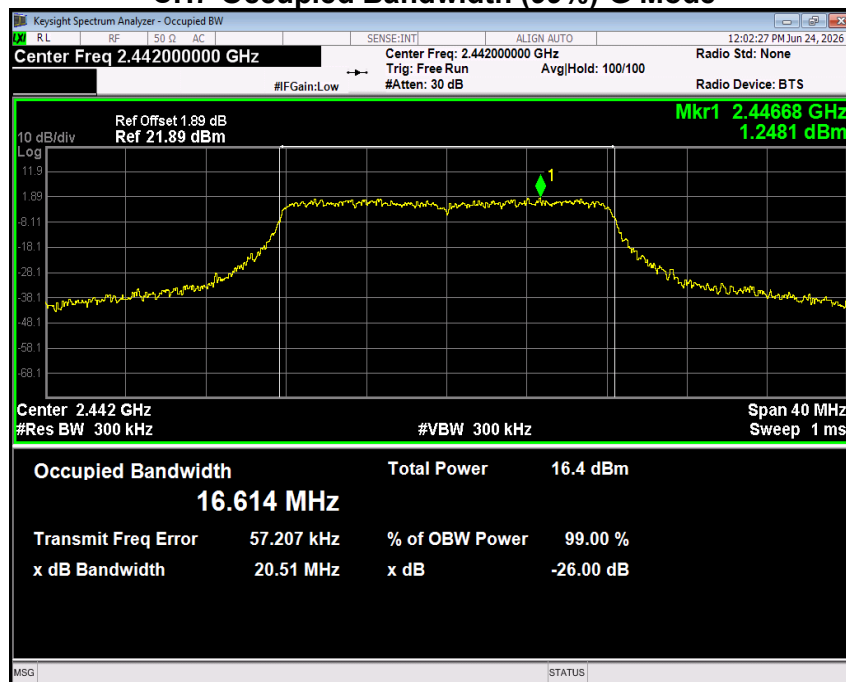


Test voltage	Test Channel (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth Limits (MHz)	Result
Normal	2412	16.604	≤26	Pass
	2442	16.614	≤26	Pass
	2472	16.562	≤26	Pass

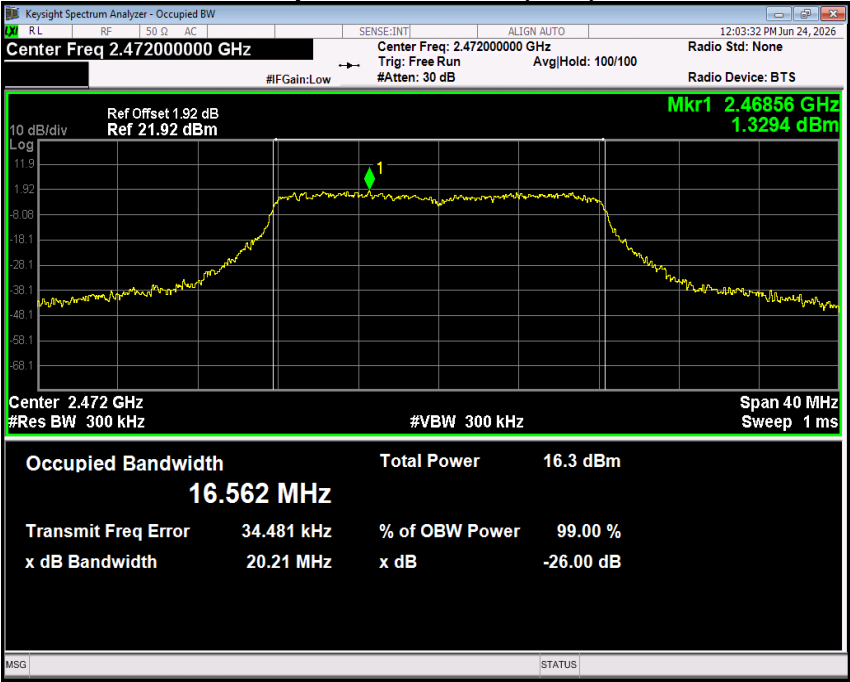
CH1-Occupied Bandwidth (99%)-G Mode



CH7-Occupied Bandwidth (99%)-G Mode

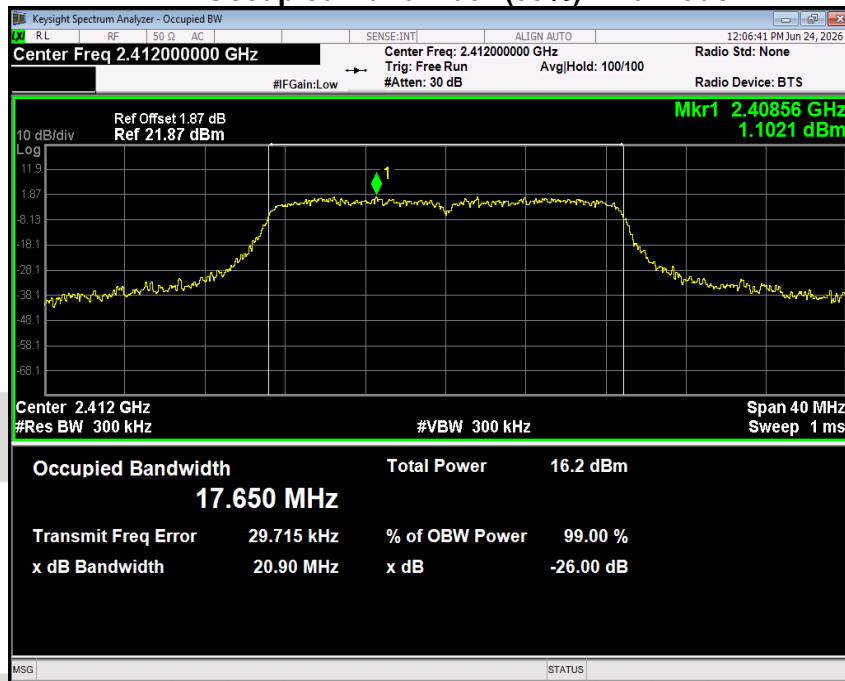


CH13-Occupied Bandwidth (99%)-G Mode

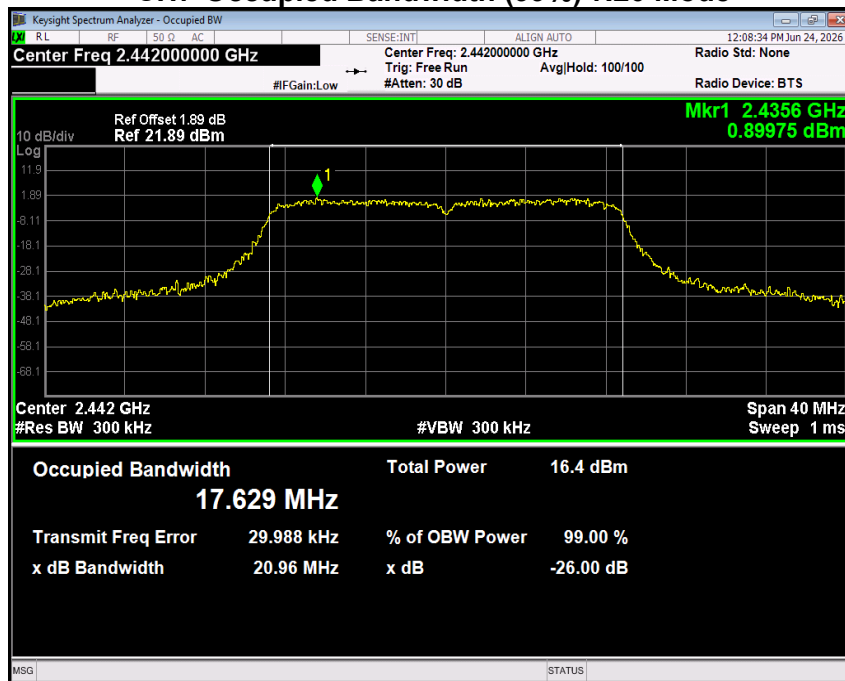


Test voltage	Test Channel (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth Limits (MHz)	Result
Normal	2412	17.650	≤26	Pass
	2442	17.629	≤26	Pass
	2472	17.614	≤26	Pass

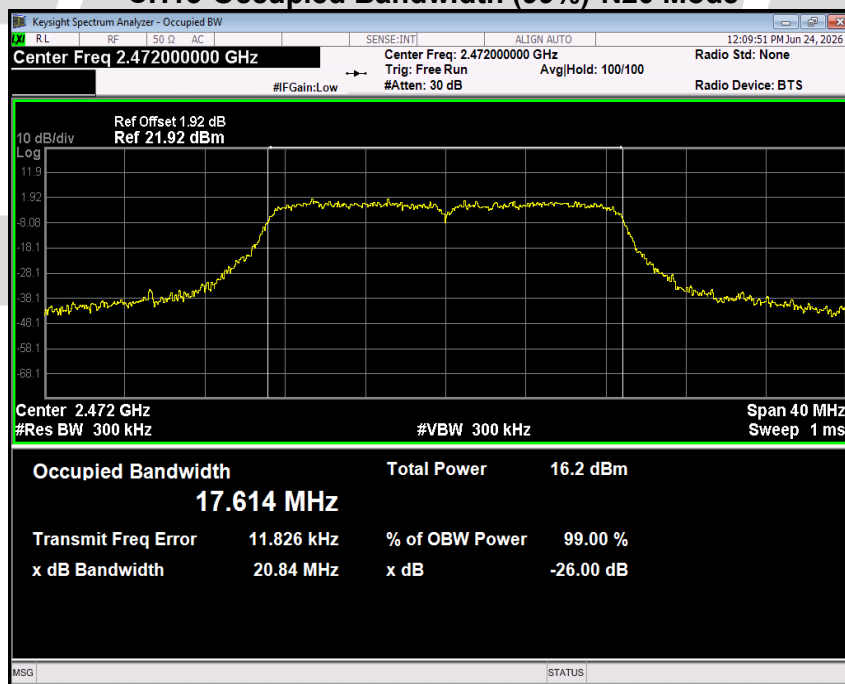
CH1-Occupied Bandwidth (99%)-N20 Mode



CH7-Occupied Bandwidth (99%)-N20 Mode

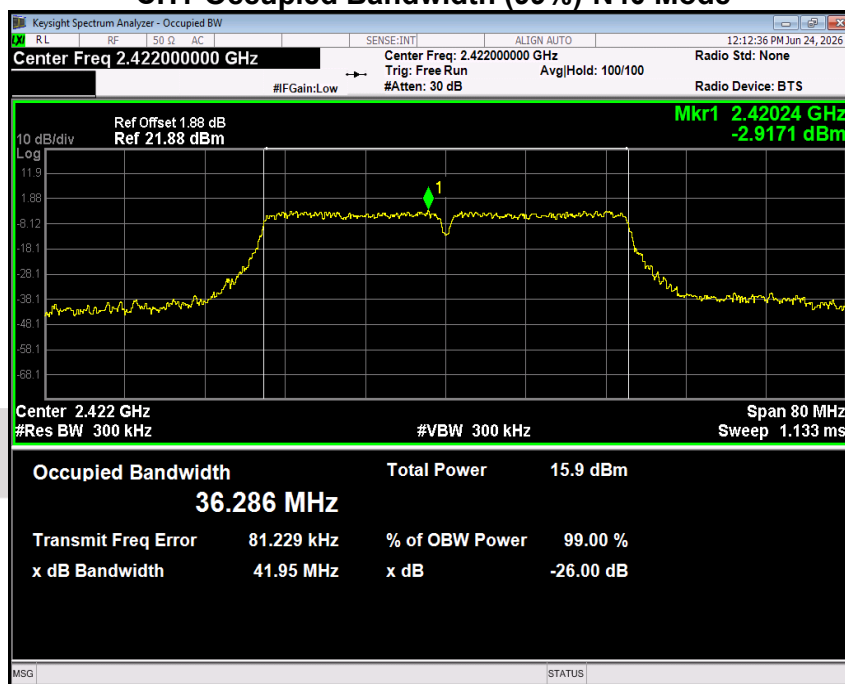


CH13-Occupied Bandwidth (99%)-N20 Mode

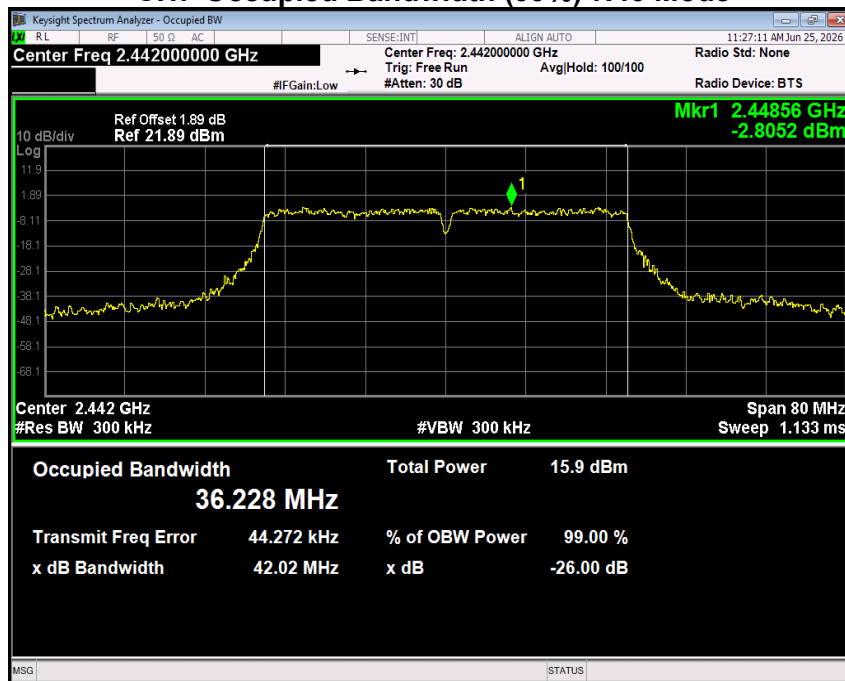


Test voltage	Test Channel (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth Limits (MHz)	Result
Normal	2422	36.286	≤40	Pass
	2442	36.228	≤40	Pass
	2462	36.248	≤40	Pass

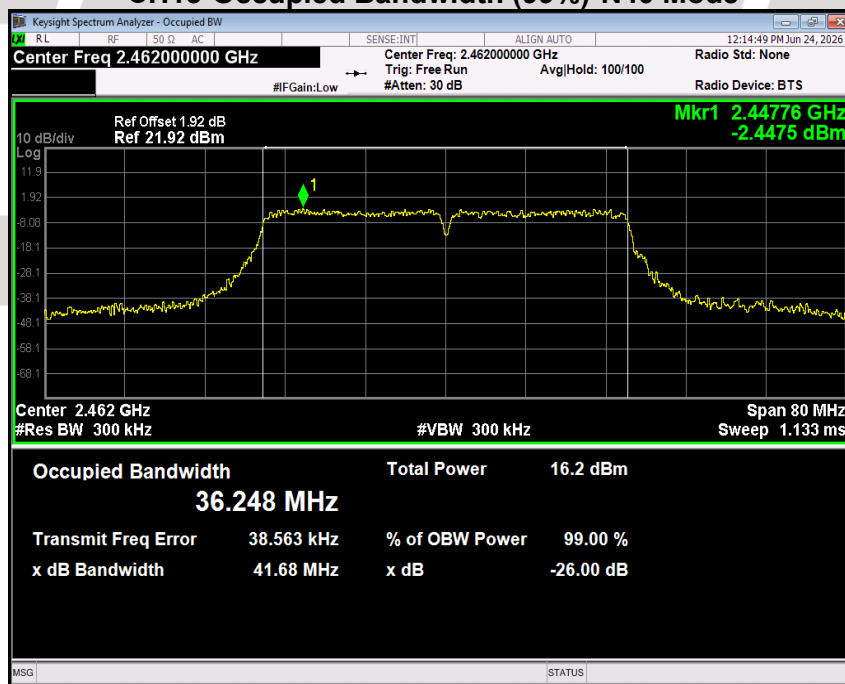
CH1-Occupied Bandwidth (99%)-N40 Mode



CH7-Occupied Bandwidth (99%)-N40 Mode



CH13-Occupied Bandwidth (99%)-N40 Mode



5.3 UNWANTED EMISSION INTENSITY MEASUREMENT

5.3.1 LIMIT

Item	Limits
TX Spurious Emission	Below 1G: 2.5μW or less Below 2387 MHz: 2.5μW/MHz or less 2387 to 2400 MHz: 25μW/MHz or less 2483.5 through 2496.5 MHz: 25μW/MHz or less Over 2496.5 MHz: 2.5μW/MHz or less

5.3.2 MEASURING INSTRUMENTS AND SETTING

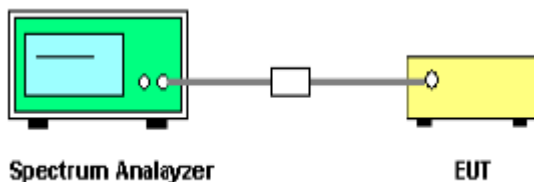
Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	1 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.3.3 TEST PROCEDURES

1. EUT have transmitted the maximum modulation signal and fixed channelize.
2. Setting of SA is following as: Below 1GHz RB:100KHz / VB:100KHz
Above 1GHz RB:1MHz / VB:1MHz / AT: 10dB Ref: 0dBm / Sweep time: Auto
Sweep Mode: Continuous sweep / Detect mode: Positive peak
Trace mode: Max hold
3. Setting of SA is following as 30MHz and stop frequency 1000MHz Then to mark peak reading value + cable loss shall be less than 2.5μW/MHz.
4. Setting of SA is following as 1000MHz and stop frequency 2387MHz Then to mark peak reading value + cable loss shall be less than 2.5μW/MHz.
5. SA adjusted to start frequency 2387MHz and stop frequency 2400MHz. Then to mark peak reading value + cable loss shall be less than 25μW/MHz.
6. SA adjusted to start frequency 2483.5MHz and stop frequency 2496.5MHz Then to mark peak reading value + cable loss shall be less than 25μW/MHz.
7. SA adjusted to start frequency 2496.5MHz and stop frequency 12500MHz Then to mark peak reading value + cable loss shall be less than 2.5μW/MHz
8. Measure side band spurious as follows: For 2.4GHz band: 2374MHz~2400MHz and 2483.5MHz~2509.5MHz RBW = VBW = 30kHz, Result_Value = Measured_Value + 15.2 [dBm]
9. If the Result_Value is over the requirement, take total sum of 1MHz band centered at the spur frequency like ACLP measurement as Result_Value.

5.3.4 TEST SETUP LAYOUT



5.3.5 TEST DEVIATION

There is no deviation with the original standard.

5.3.6 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

5.3.7 TEST RESULT

Test Voltage	Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Max Value (μW/MHz)	Limit (μW/MHz)	Verdict
Normal	802.11b	2412	30-1000	811.82	-58.99	0.0013	2.5	Pass
Normal	802.11b	2412	1000-2387	2387.00	-45.48	0.0283	2.5	Pass
Normal	802.11b	2412	2387-2400	2397.23	-31.34	0.7345	25	Pass
Normal	802.11b	2412	2483.5-2496.5	2495.98	-50.25	0.0094	25	Pass
Normal	802.11b	2412	2496.5-13000	2507.00	-50.87	0.0082	2.5	Pass
Normal	802.11b	2442	30-1000	930.16	-58.85	0.0013	2.5	Pass
Normal	802.11b	2442	1000-2387	2360.65	-49.85	0.0104	2.5	Pass
Normal	802.11b	2442	2387-2400	2394.25	-47.89	0.0163	25	Pass
Normal	802.11b	2442	2483.5-2496.5	2487.86	-48.97	0.0127	25	Pass
Normal	802.11b	2442	2496.5-13000	2507.00	-49.05	0.0124	2.5	Pass
Normal	802.11b	2472	30-1000	671.17	-57.90	0.0016	2.5	Pass
Normal	802.11b	2472	1000-2387	2378.68	-50.28	0.0094	2.5	Pass
Normal	802.11b	2472	2387-2400	2394.41	-48.61	0.0138	25	Pass
Normal	802.11b	2472	2483.5-2496.5	2483.79	-31.32	0.7379	25	Pass
Normal	802.11b	2472	2496.5-13000	2496.50	-43.08	0.0492	2.5	Pass
Normal	802.11g	2412	30-1000	889.42	-57.83	0.0016	2.5	Pass
Normal	802.11g	2412	1000-2387	2385.61	-40.88	0.0817	2.5	Pass
Normal	802.11g	2412	2387-2400	2399.60	-23.77	4.1976	25	Pass
Normal	802.11g	2412	2483.5-2496.5	2485.29	-50.03	0.0099	25	Pass
Normal	802.11g	2412	2496.5-13000	2496.50	-51.08	0.0078	2.5	Pass
Normal	802.11g	2442	30-1000	483.96	-58.32	0.0015	2.5	Pass
Normal	802.11g	2442	1000-2387	2385.61	-50.44	0.009	2.5	Pass
Normal	802.11g	2442	2387-2400	2399.92	-47.69	0.017	25	Pass
Normal	802.11g	2442	2483.5-2496.5	2489.35	-49.21	0.012	25	Pass
Normal	802.11g	2442	2496.5-13000	2496.50	-50.49	0.0089	2.5	Pass
Normal	802.11g	2472	30-1000	846.74	-58.41	0.0014	2.5	Pass
Normal	802.11g	2472	1000-2387	2370.36	-50.00	0.01	2.5	Pass
Normal	802.11g	2472	2387-2400	2391.13	-49.52	0.0112	25	Pass
Normal	802.11g	2472	2483.5-2496.5	2483.51	-22.39	5.7677	25	Pass
Normal	802.11g	2472	2496.5-13000	2496.50	-36.60	0.2188	2.5	Pass
Normal	802.11n20	2412	30-1000	995.15	-58.51	0.0014	2.5	Pass
Normal	802.11n20	2412	1000-2387	2385.61	-39.34	0.1164	2.5	Pass
Normal	802.11n20	2412	2387-2400	2399.96	-22.59	5.5081	25	Pass
Normal	802.11n20	2412	2483.5-2496.5	2494.16	-50.44	0.009	25	Pass
Normal	802.11n20	2412	2496.5-13000	2570.02	-51.46	0.0071	2.5	Pass
Normal	802.11n20	2442	30-1000	901.06	-58.10	0.0015	2.5	Pass
Normal	802.11n20	2442	1000-2387	2375.90	-51.01	0.0079	2.5	Pass
Normal	802.11n20	2442	2387-2400	2398.01	-48.06	0.0156	25	Pass
Normal	802.11n20	2442	2483.5-2496.5	2483.64	-48.42	0.0144	25	Pass
Normal	802.11n20	2442	2496.5-13000	2517.51	-50.86	0.0082	2.5	Pass
Normal	802.11n20	2472	30-1000	785.63	-58.75	0.0013	2.5	Pass
Normal	802.11n20	2472	1000-2387	2371.74	-51.38	0.0073	2.5	Pass
Normal	802.11n20	2472	2387-2400	2388.59	-48.81	0.0132	25	Pass
Normal	802.11n20	2472	2483.5-2496.5	2483.50	-21.16	7.656	25	Pass
Normal	802.11n20	2472	2496.5-13000	2496.50	-35.25	0.2985	2.5	Pass

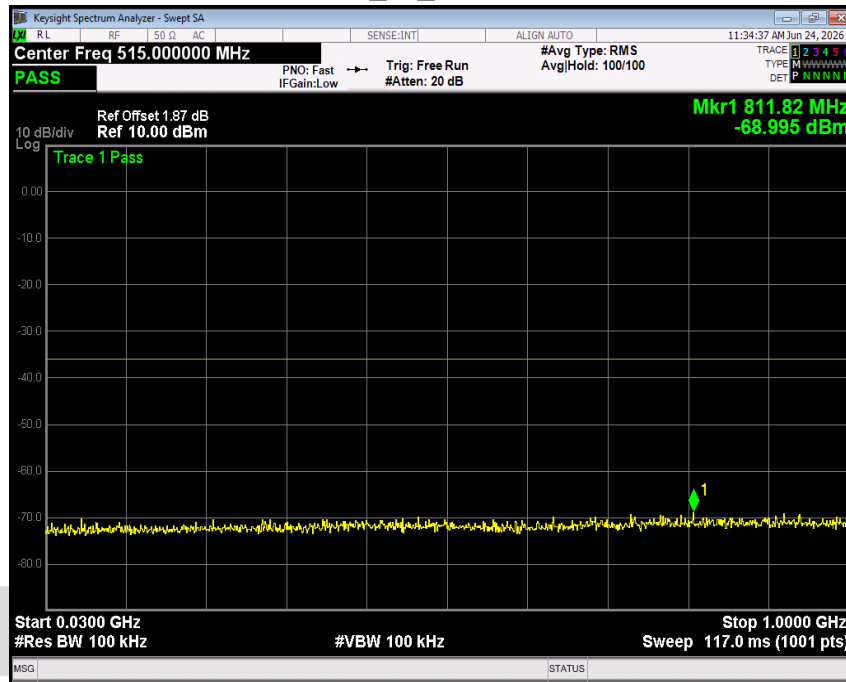
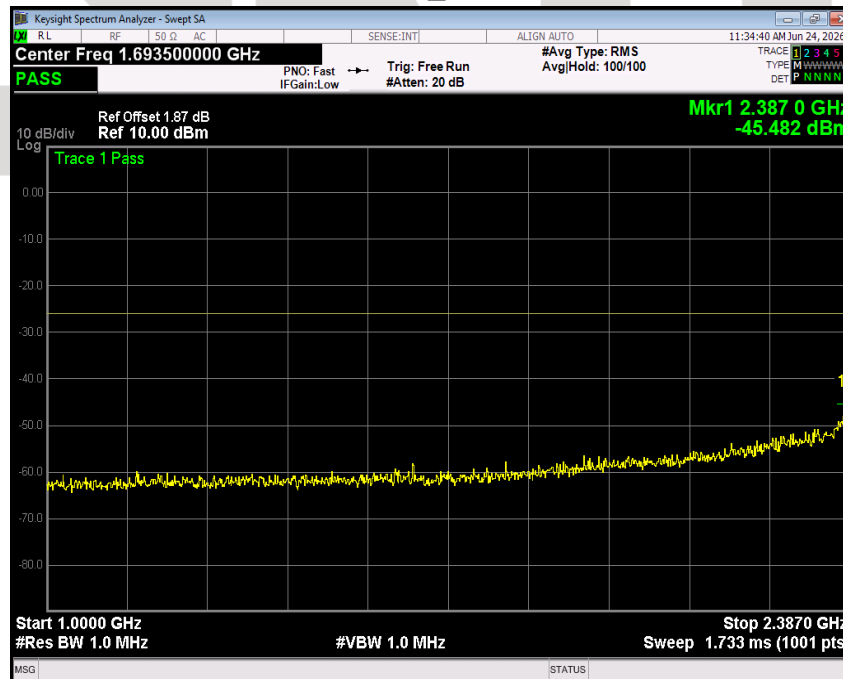
Test Voltage	Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Max Value (μW/MHz)	Limit (μW/MHz)	Verdict
Normal	802.11n40	2422	30-1000	668.26	-58.25	0.0015	25	Pass
Normal	802.11n40	2422	1000-2387	2382.84	-35.15	0.3055	2.5	Pass
Normal	802.11n40	2422	2387-2400	2399.99	-21.19	7.6033	25	Pass
Normal	802.11n40	2422	2483.5-2496.5	2483.81	-45.90	0.0257	2.5	Pass
Normal	802.11n40	2422	2496.5-13000	2507.00	-50.02	0.01	25	Pass
Normal	802.11n40	2442	30-1000	899.12	-58.46	0.0014	2.5	Pass
Normal	802.11n40	2442	1000-2387	2384.23	-47.80	0.0166	25	Pass
Normal	802.11n40	2442	2387-2400	2397.78	-39.78	0.1052	2.5	Pass
Normal	802.11n40	2442	2483.5-2496.5	2487.75	-37.05	0.1972	25	Pass
Normal	802.11n40	2442	2496.5-13000	2496.50	-45.55	0.0279	2.5	Pass
Normal	802.11n40	2462	30-1000	797.27	-58.44	0.0014	25	Pass
Normal	802.11n40	2462	1000-2387	2385.61	-49.35	0.0116	2.5	Pass
Normal	802.11n40	2462	2387-2400	2399.47	-45.73	0.0267	25	Pass
Normal	802.11n40	2462	2483.5-2496.5	2483.57	-19.44	11.3763	2.5	Pass
Normal	802.11n40	2462	2496.5-13000	2496.50	-32.84	0.5200	25	Pass

Note: 30M-1GHz test for RB=100kHz,
Test Result = Max Value +RB factor
RB factor = $10\log(RB0/RB1) = 10\log(1M/100K) = 10dB$



Modulation type: 802.11b

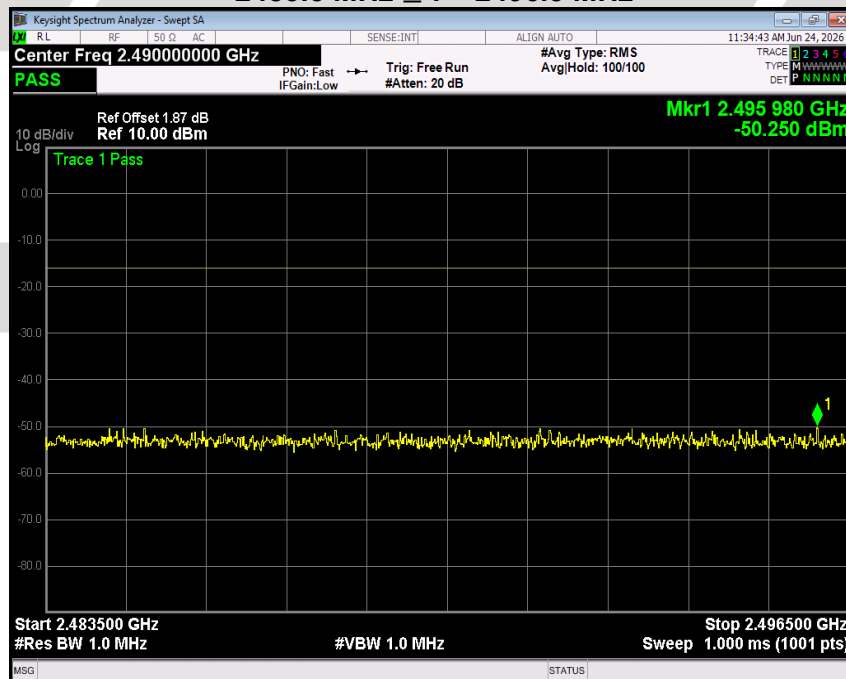
Test voltage	Normal	Test Channel (MHz)	2412.00
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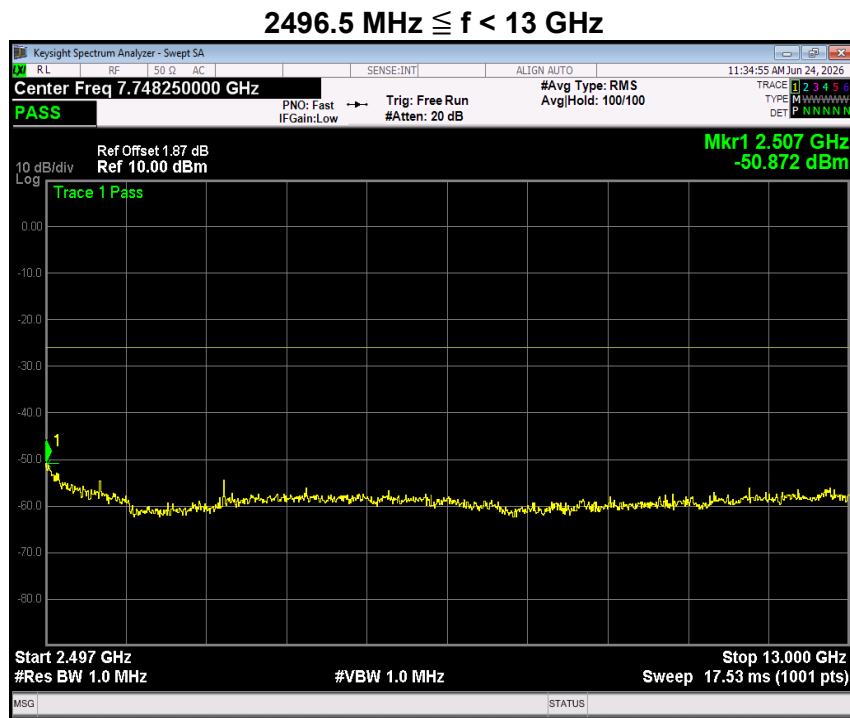
 $30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$

 $1000 \text{ MHz} < f \leq 2387 \text{ MHz}$


2387 MHz < f ≤ 2400 MHz



2483.5 MHz ≤ f < 2496.5 MHz

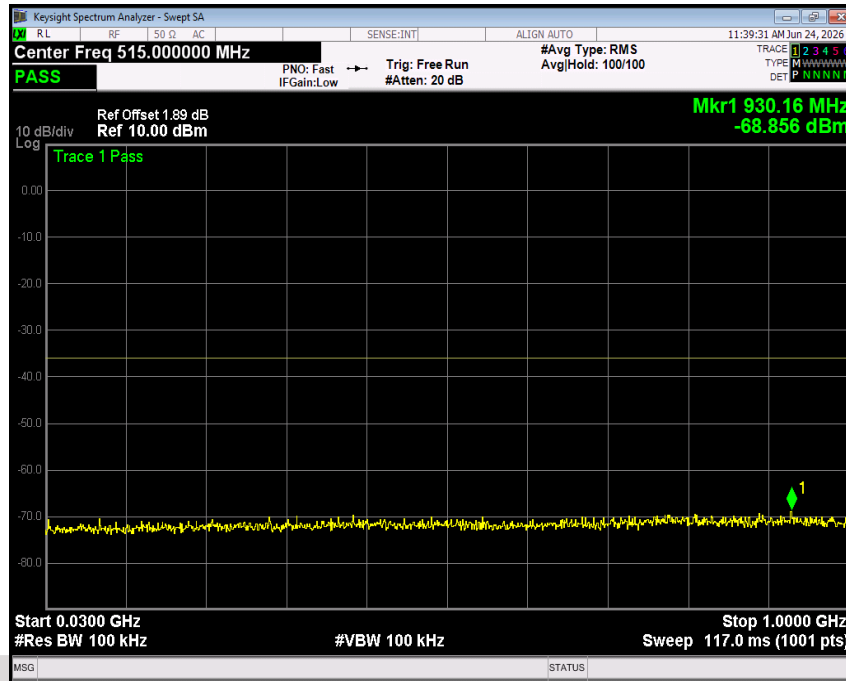




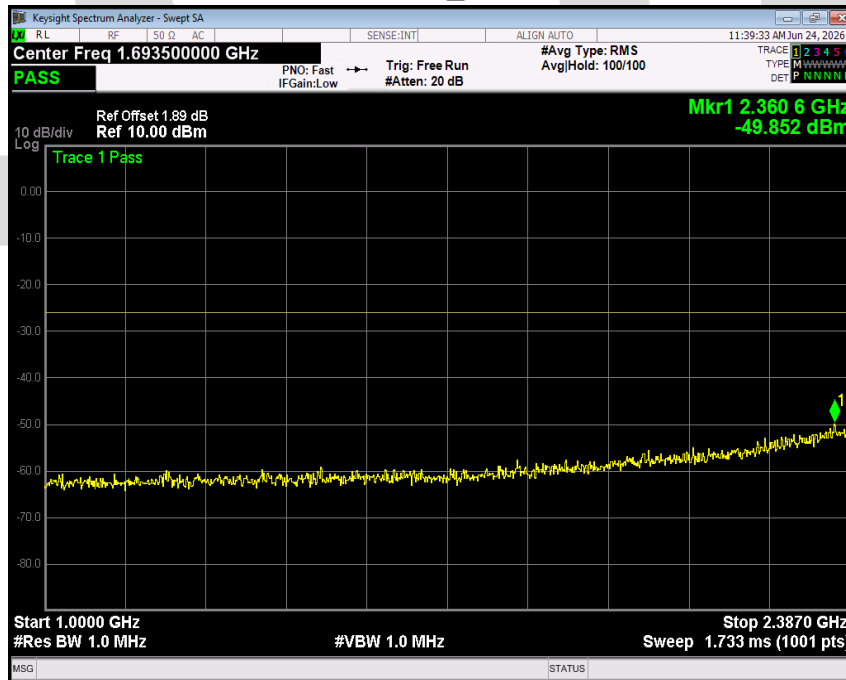
CSTC

Test voltage	Normal	Test Channel (MHz)	2442.00
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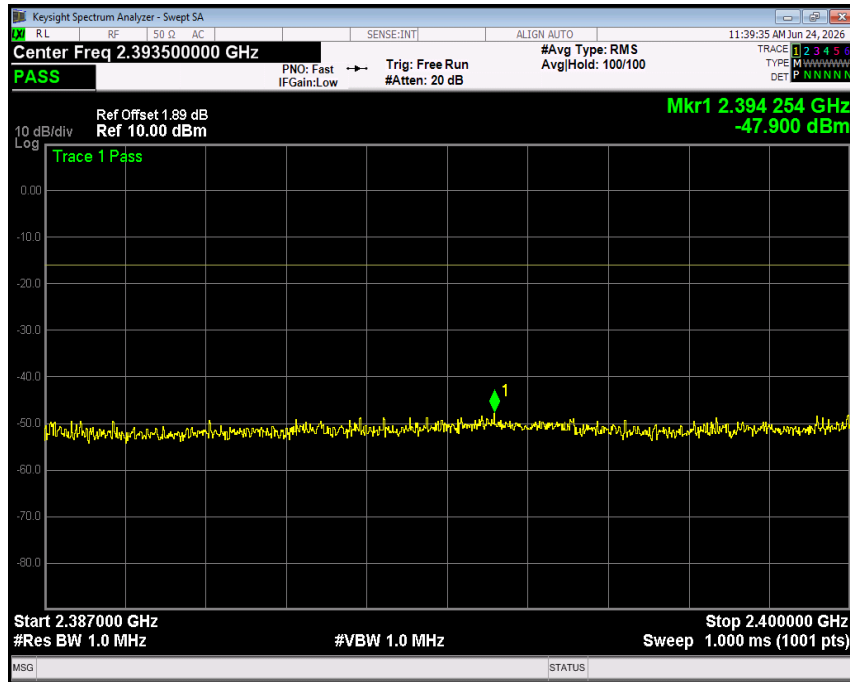
$30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$



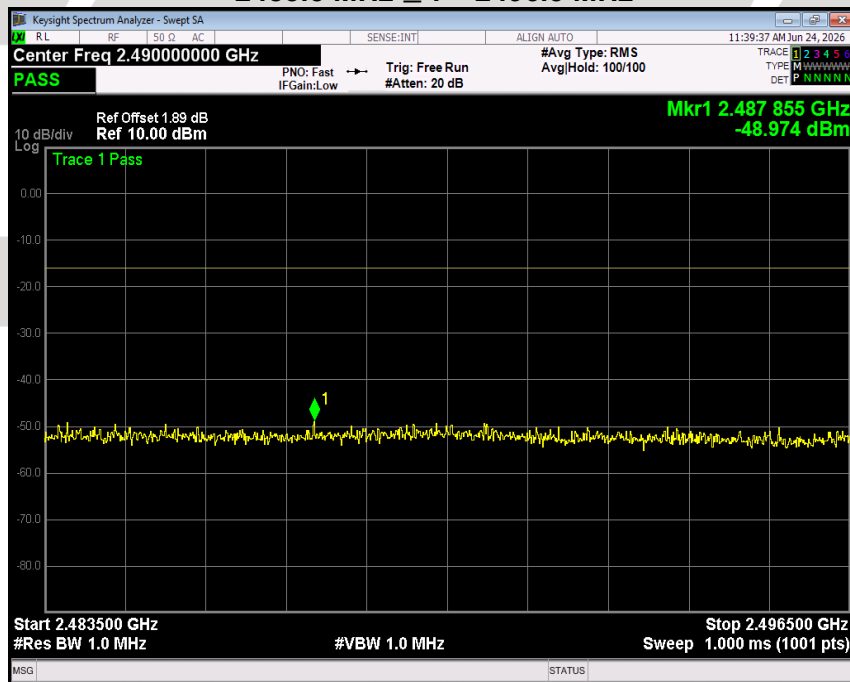
$1000 \text{ MHz} < f \leq 2387 \text{ MHz}$

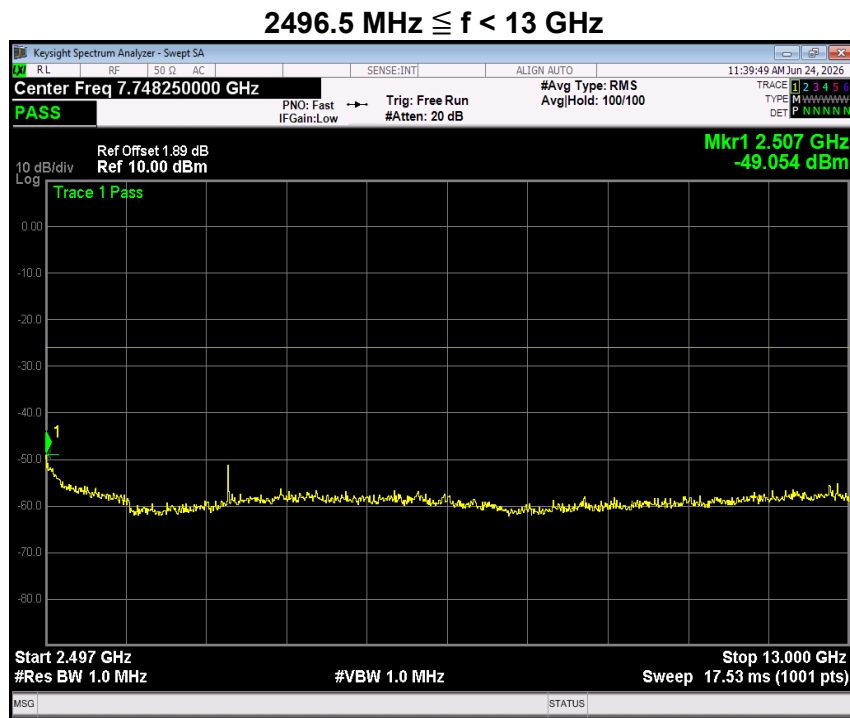


2387 MHz < f ≤ 2400 MHz



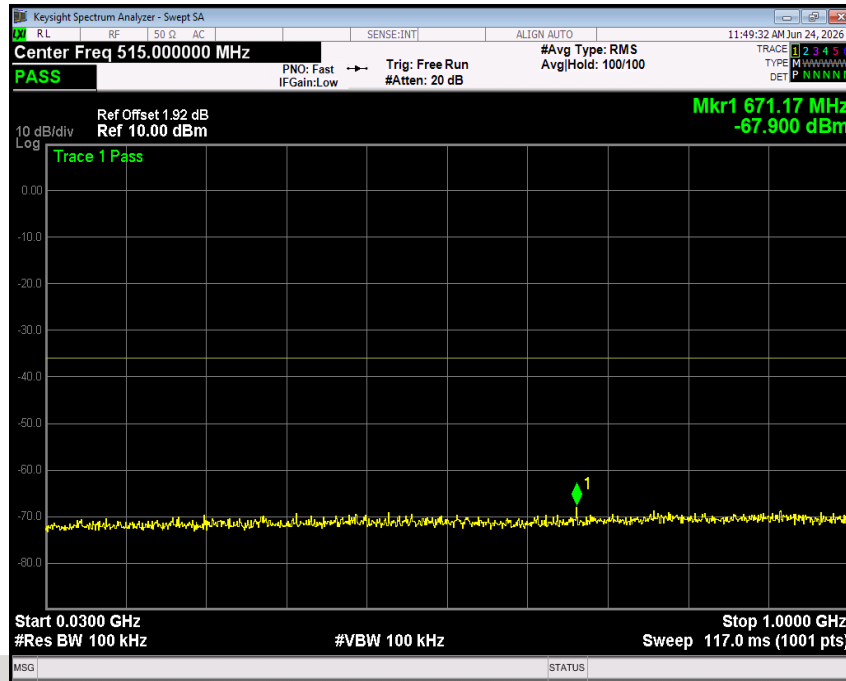
2483.5 MHz ≤ f < 2496.5 MHz



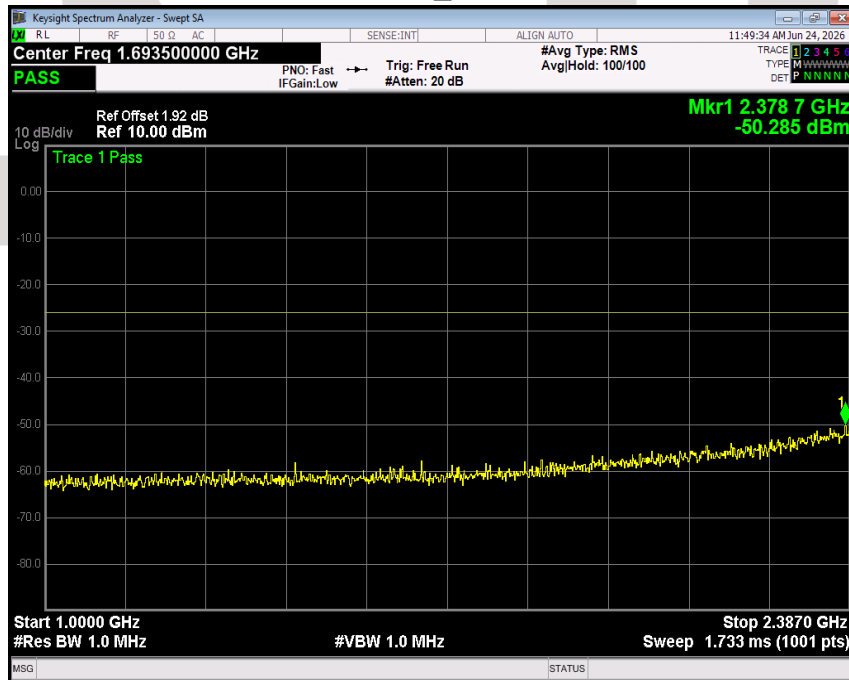


Test voltage	Normal	Test Channel (MHz)	2472.00
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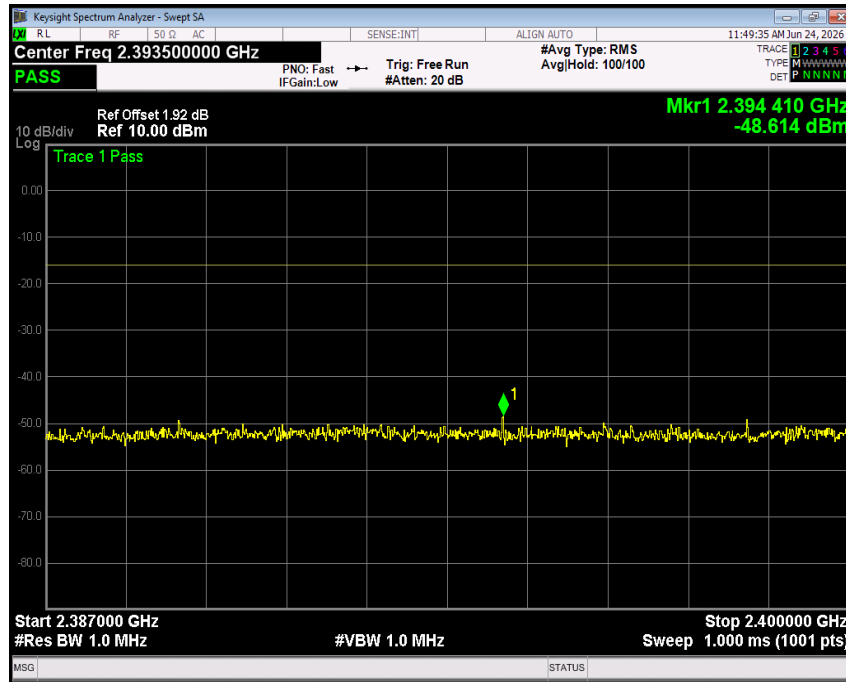
$30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$



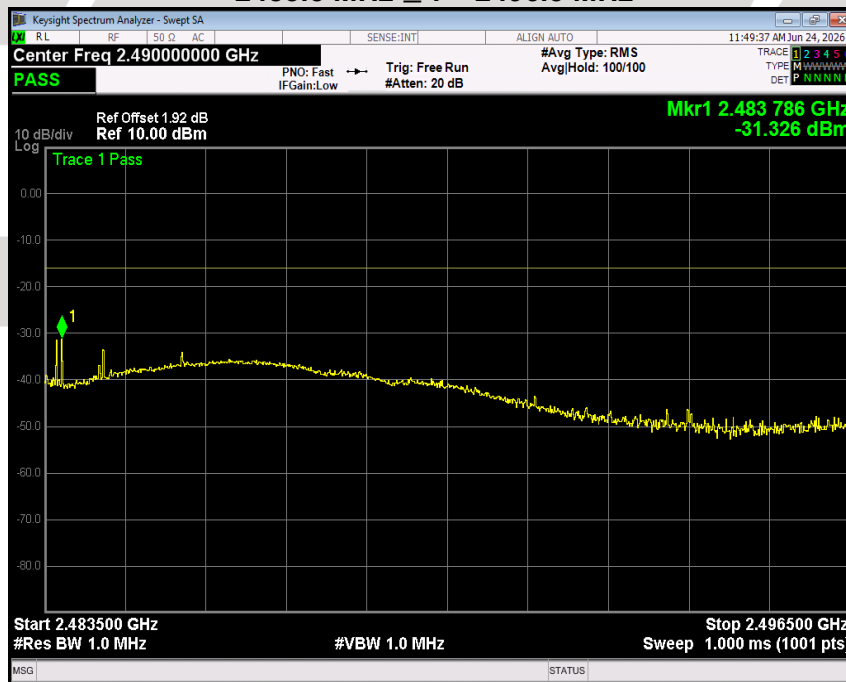
$1000 \text{ MHz} < f \leq 2387 \text{ MHz}$

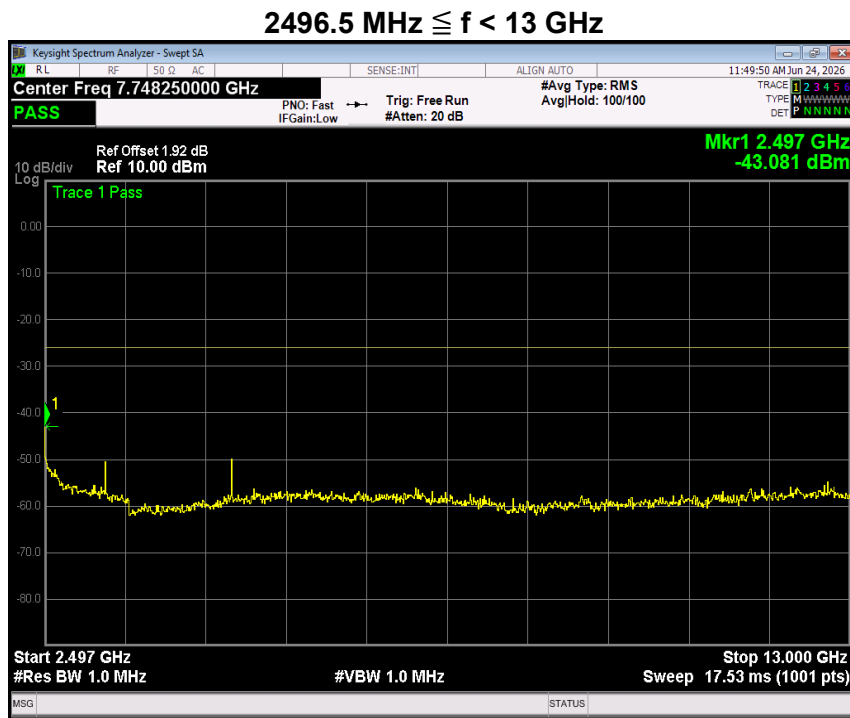


2387 MHz < f ≤ 2400 MHz



2483.5 MHz ≤ f < 2496.5 MHz

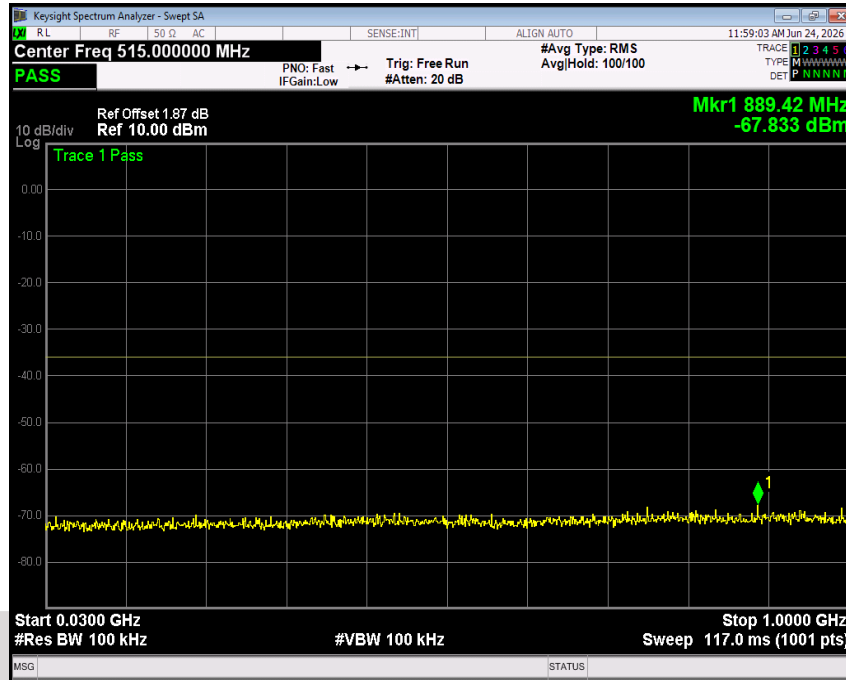
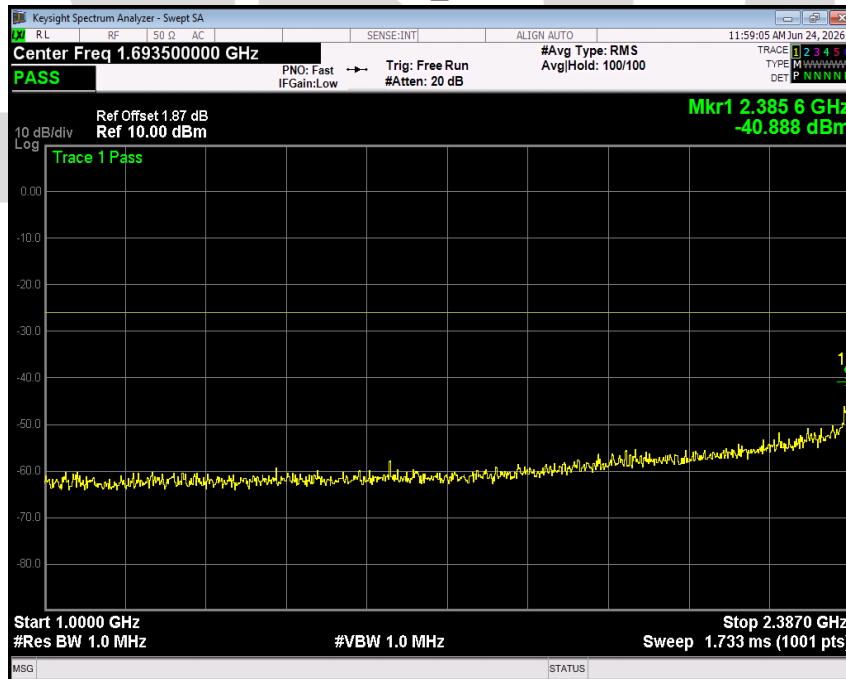




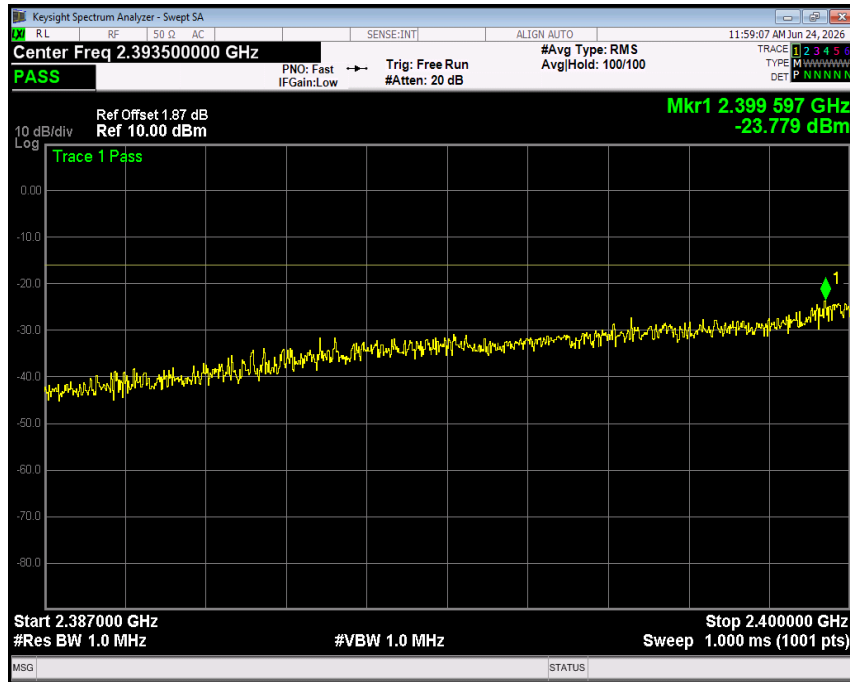
CSTC

Modulation type: 802.11g

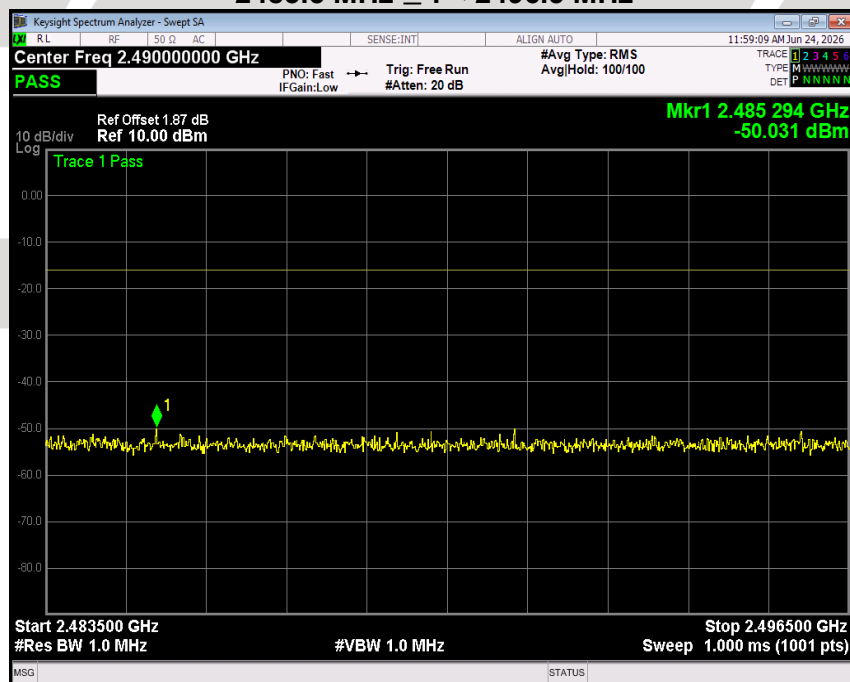
Test voltage	Normal	Test Channel (MHz)	2412.00
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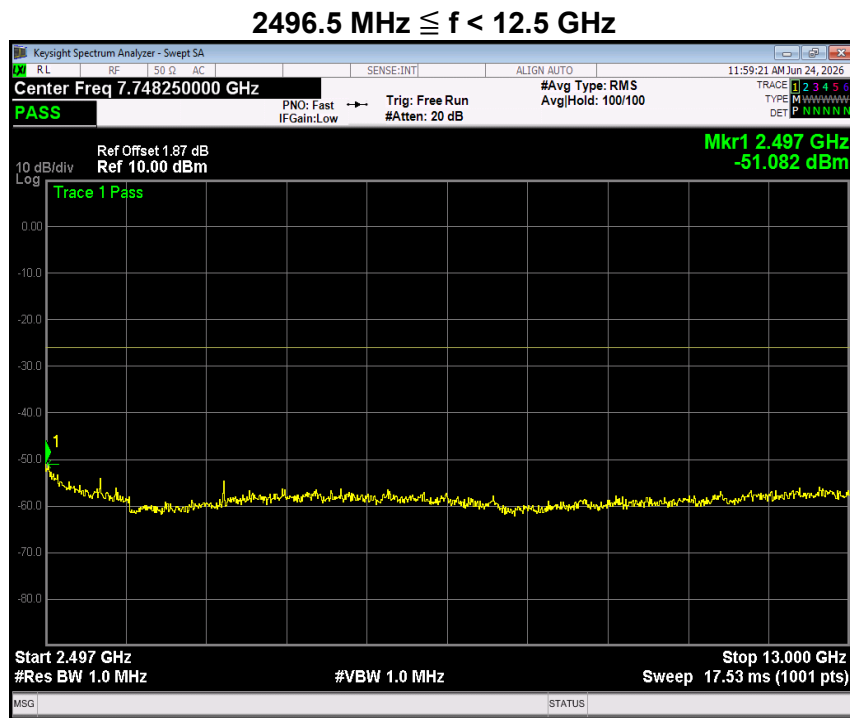
 $30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$

 $1000 \text{ MHz} < f \leq 2387 \text{ MHz}$


2387 MHz < f ≤ 2400 MHz



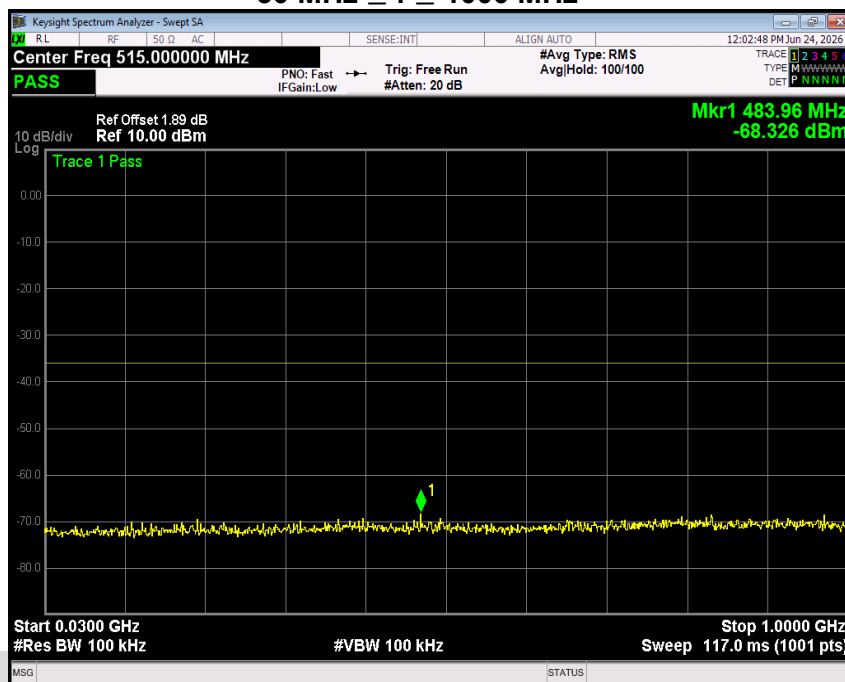
2483.5 MHz ≤ f < 2496.5 MHz



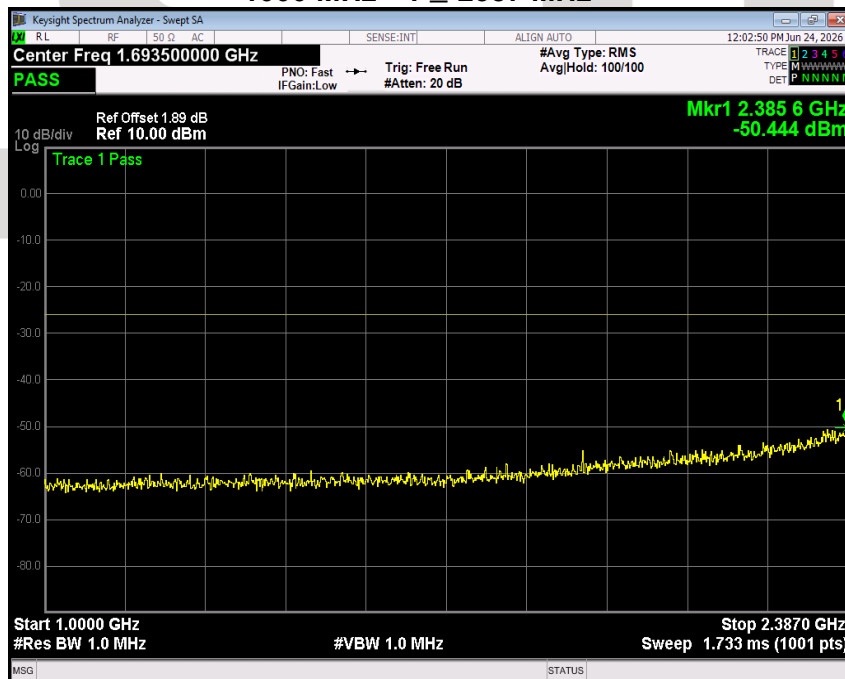


Test voltage	Normal	Test Channel (MHz)	2442.00
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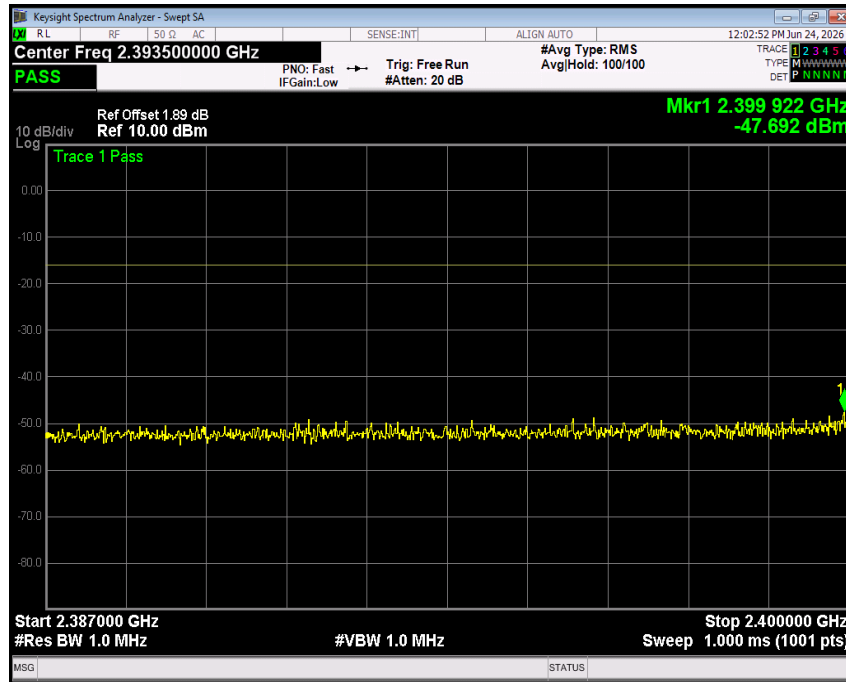
$30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$



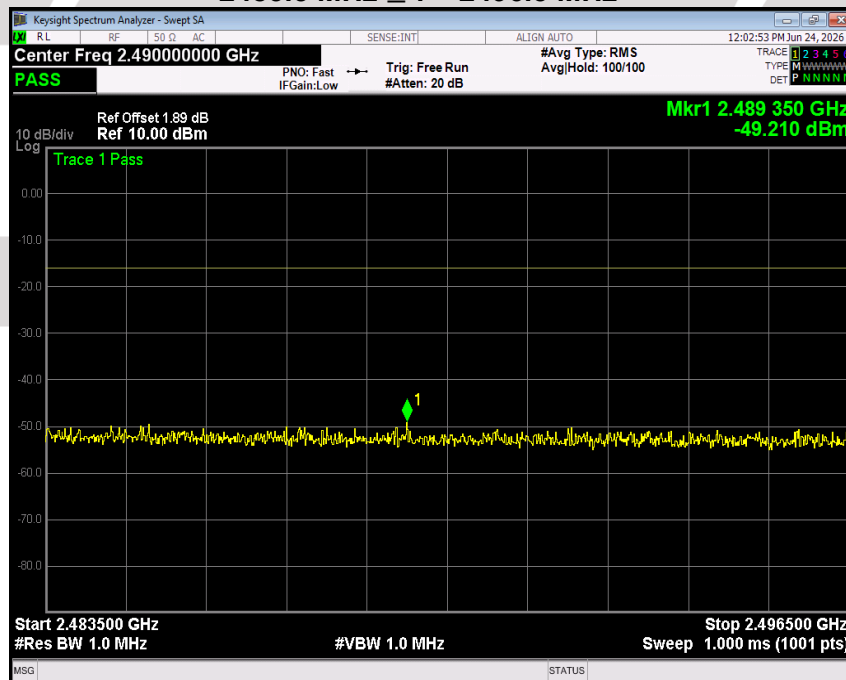
$1000 \text{ MHz} < f \leq 2387 \text{ MHz}$

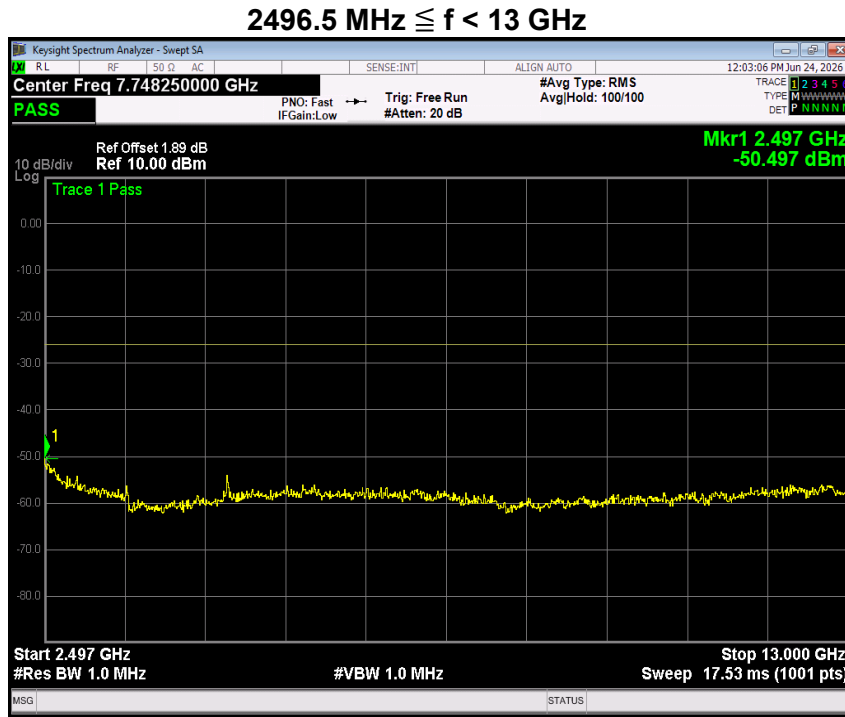


2387 MHz < f ≤ 2400 MHz



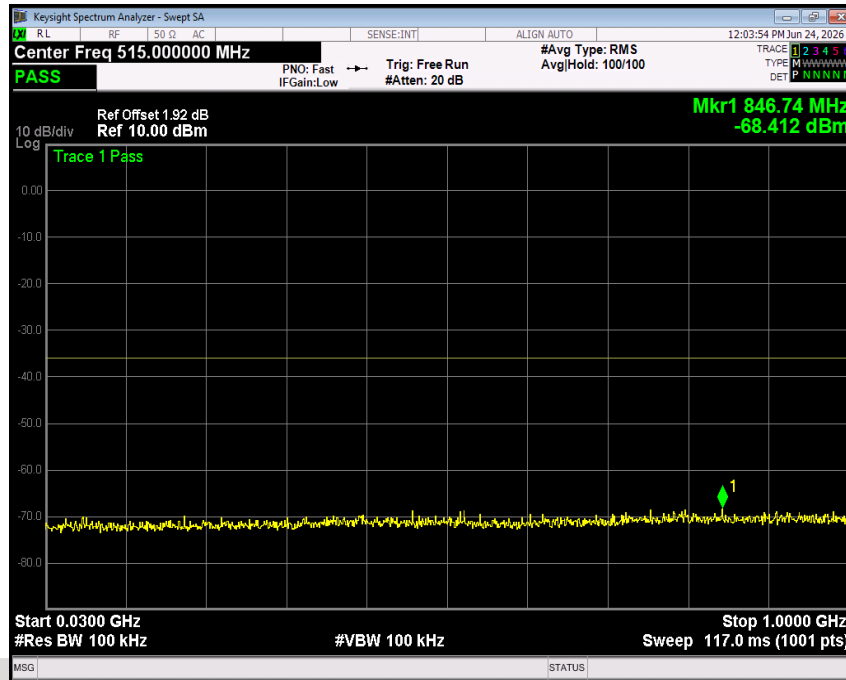
2483.5 MHz ≤ f < 2496.5 MHz



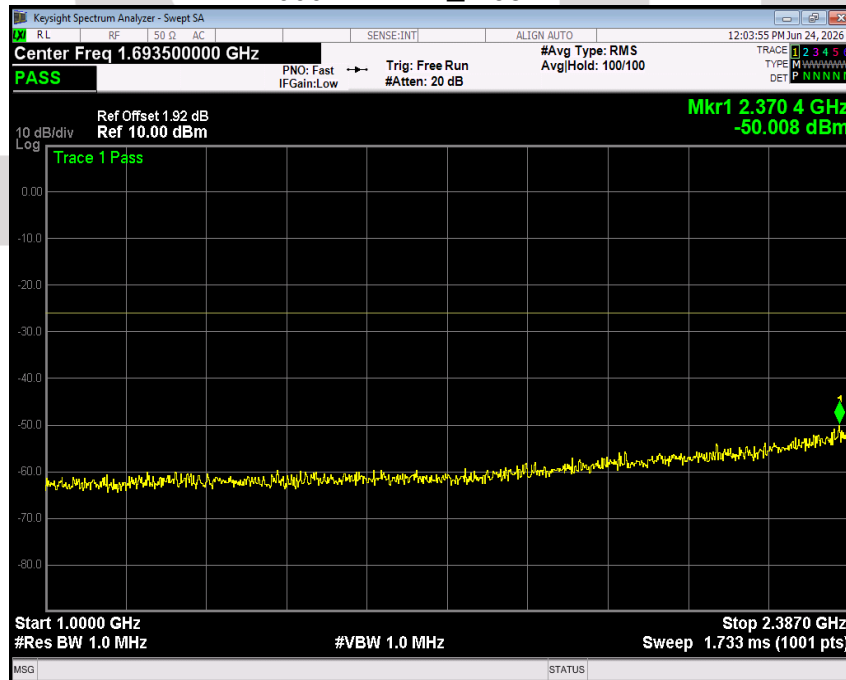


Test voltage	Normal	Test Channel (MHz)	2472.00
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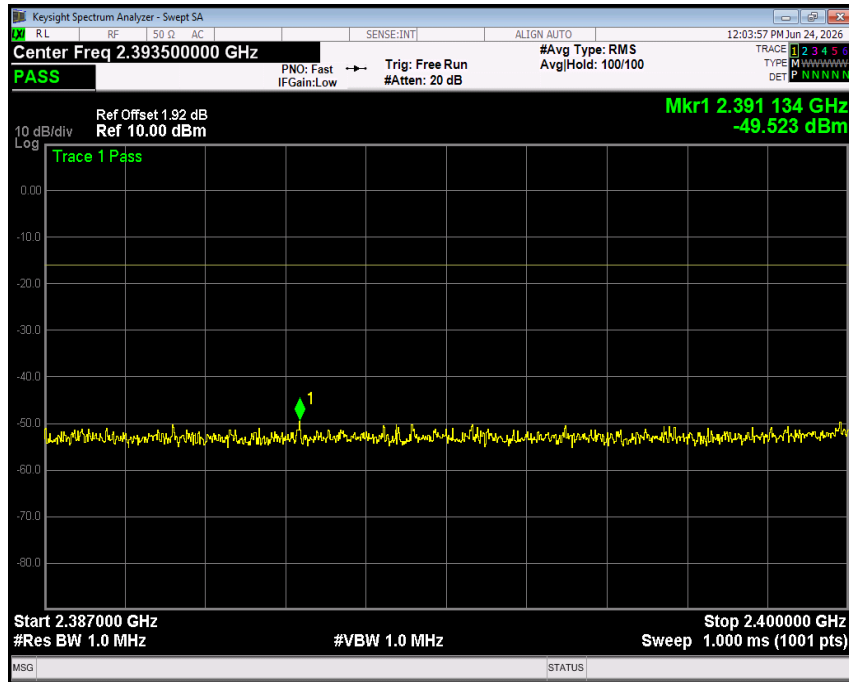
30 MHz $\leq f \leq$ 1000 MHz



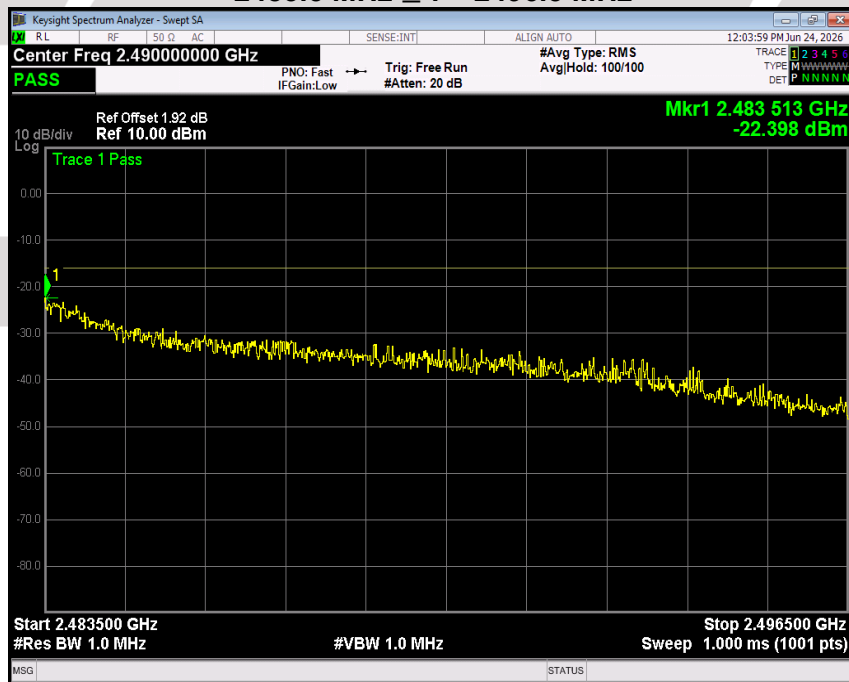
1000 MHz $< f \leq$ 2387 MHz

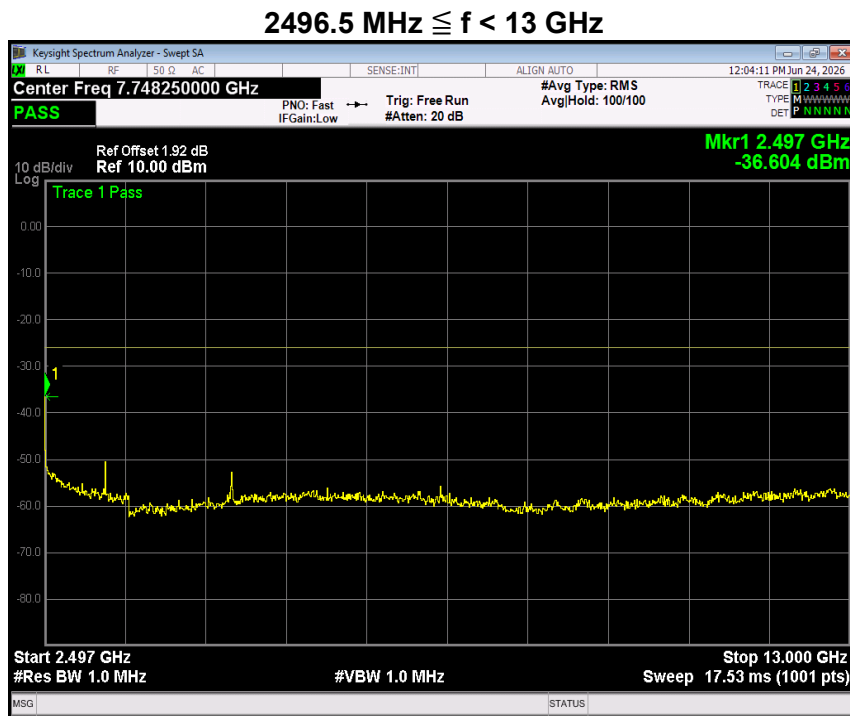


2387 MHz < f ≤ 2400 MHz



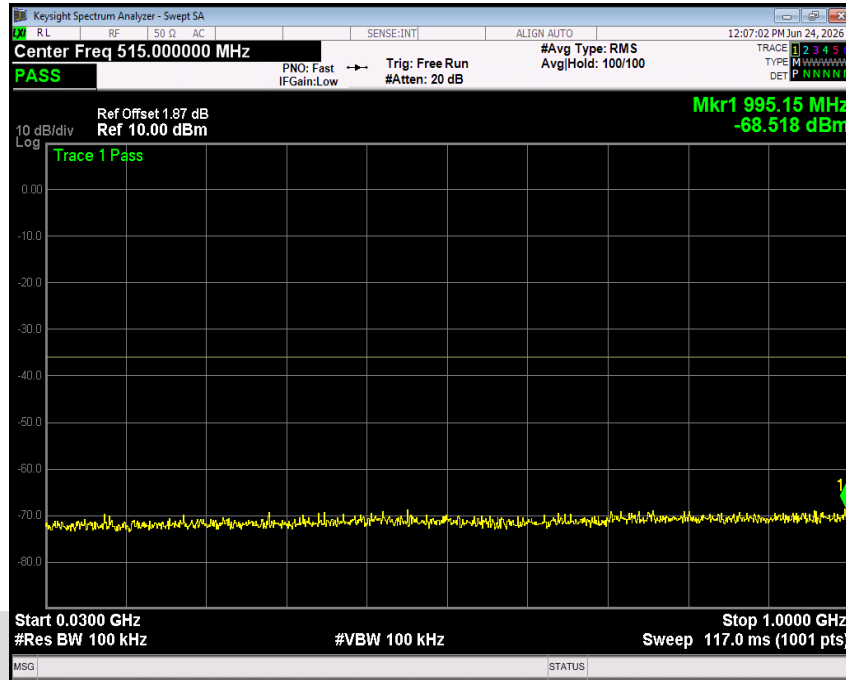
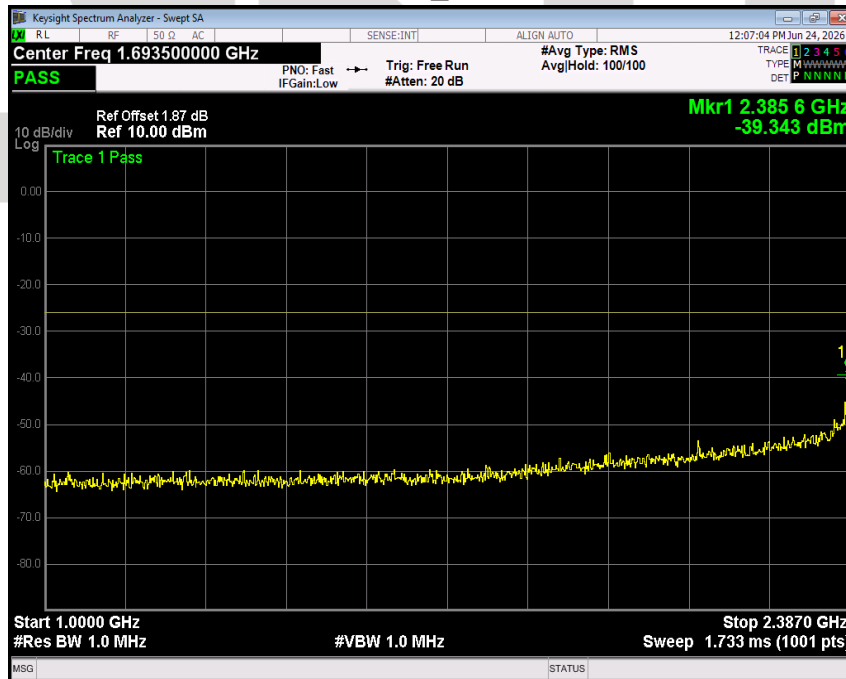
2483.5 MHz ≤ f < 2496.5 MHz



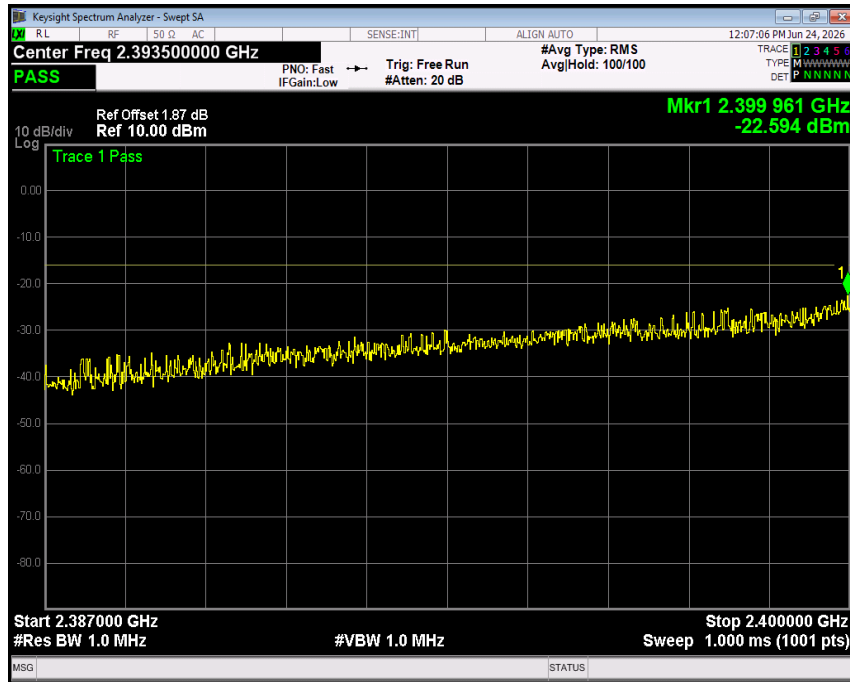


Modulation type: 802.11n20

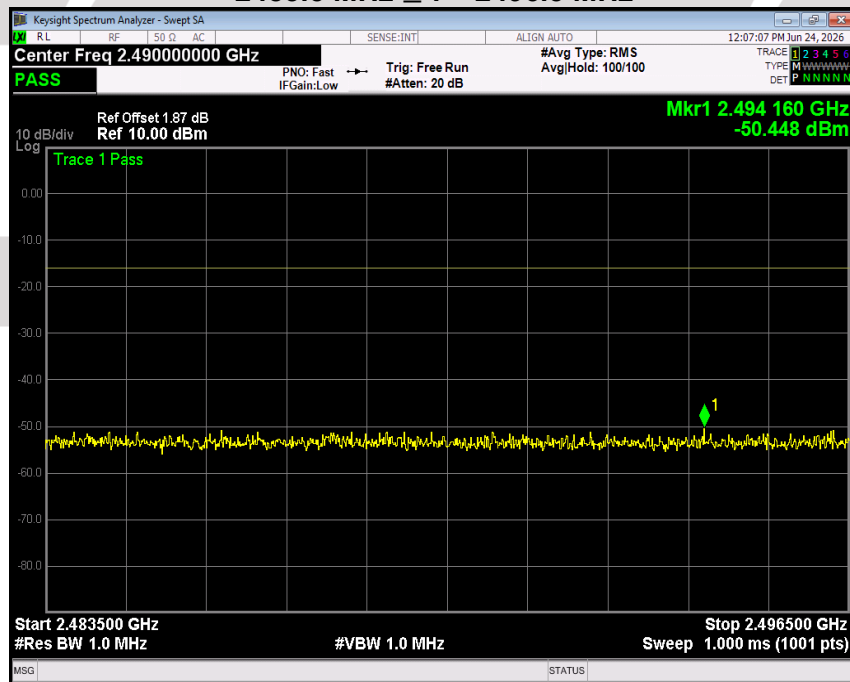
Test voltage	Normal	Test Channel (MHz)	2412.00
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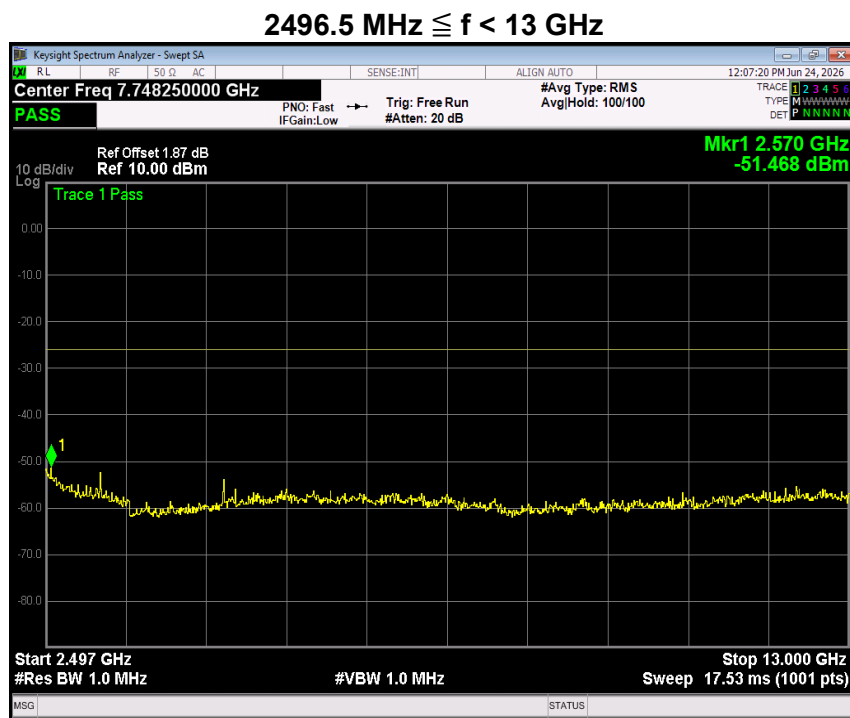
 $30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$

 $1000 \text{ MHz} < f \leq 2387 \text{ MHz}$


2387 MHz < f ≤ 2400 MHz



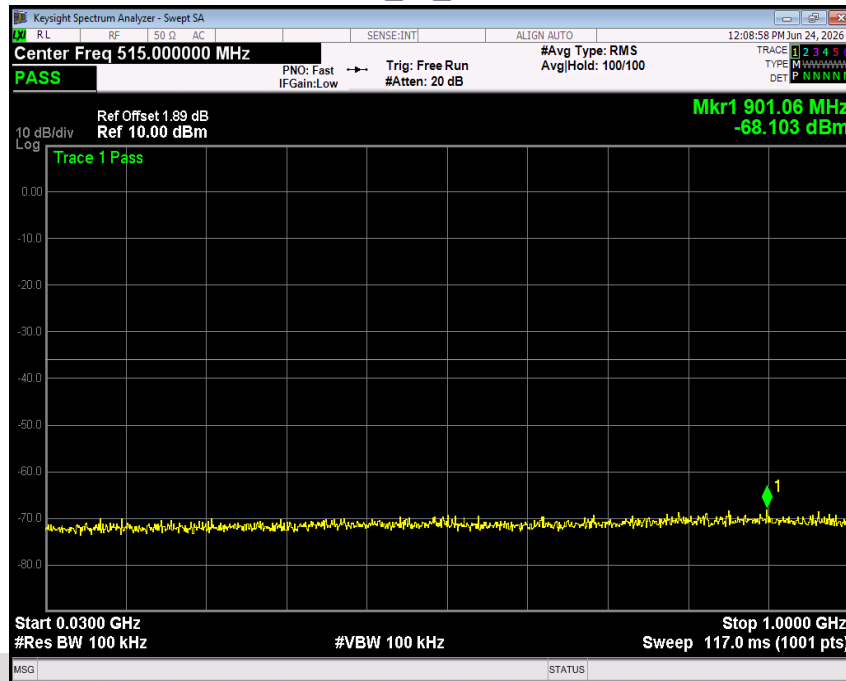
2483.5 MHz ≤ f < 2496.5 MHz



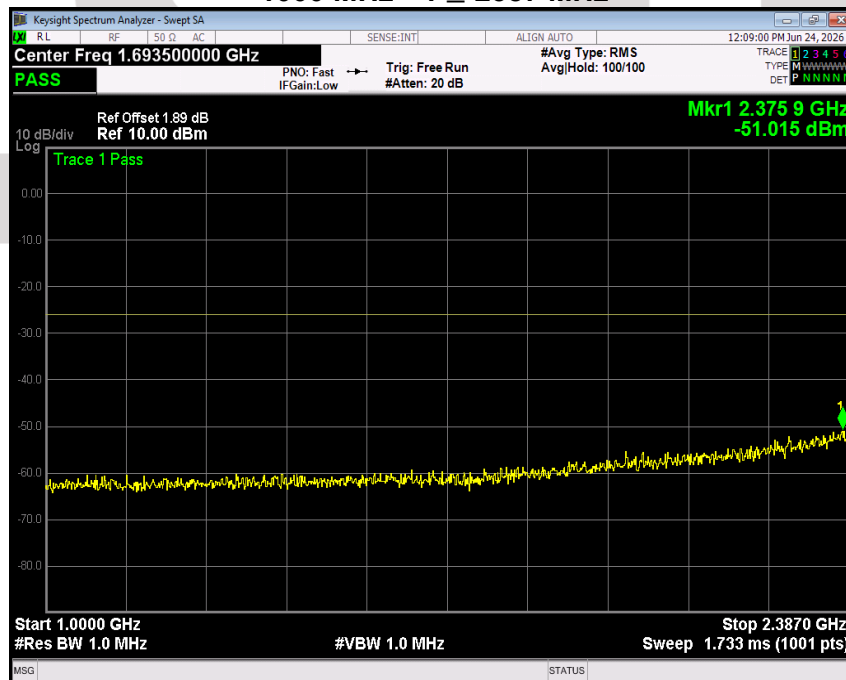


Test voltage	Normal	Test Channel (MHz)	2442.00
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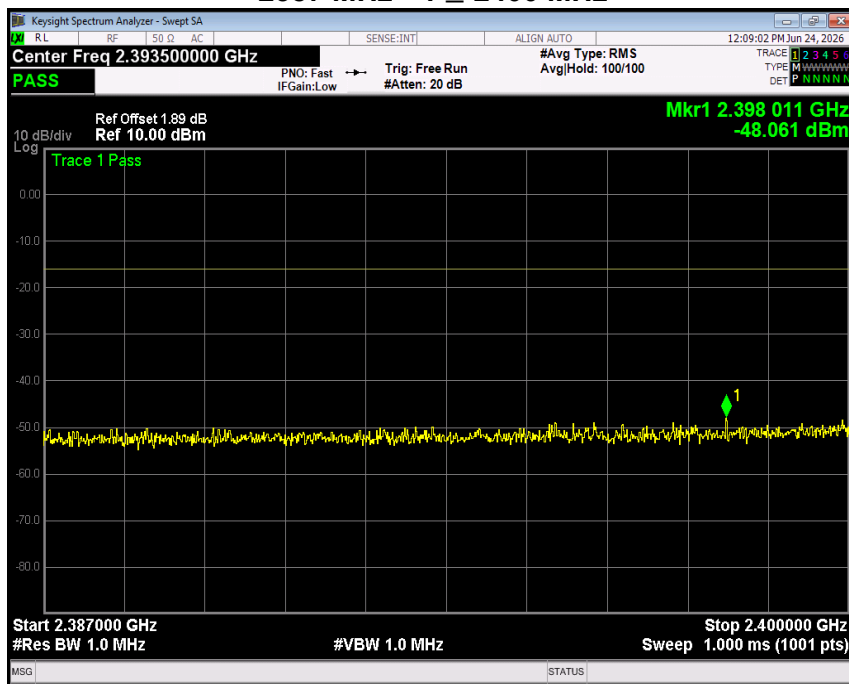
$30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$



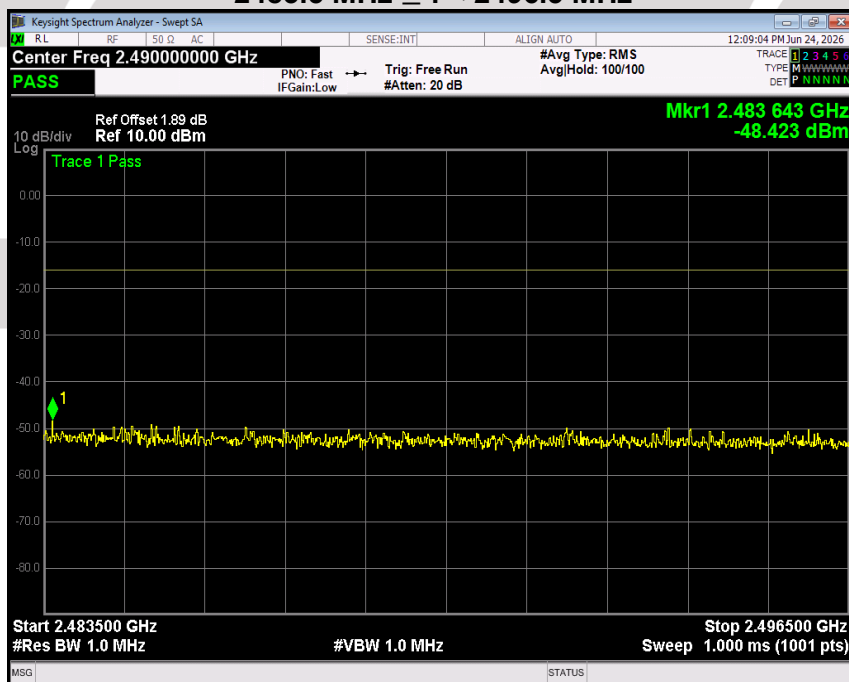
$1000 \text{ MHz} < f \leq 2387 \text{ MHz}$

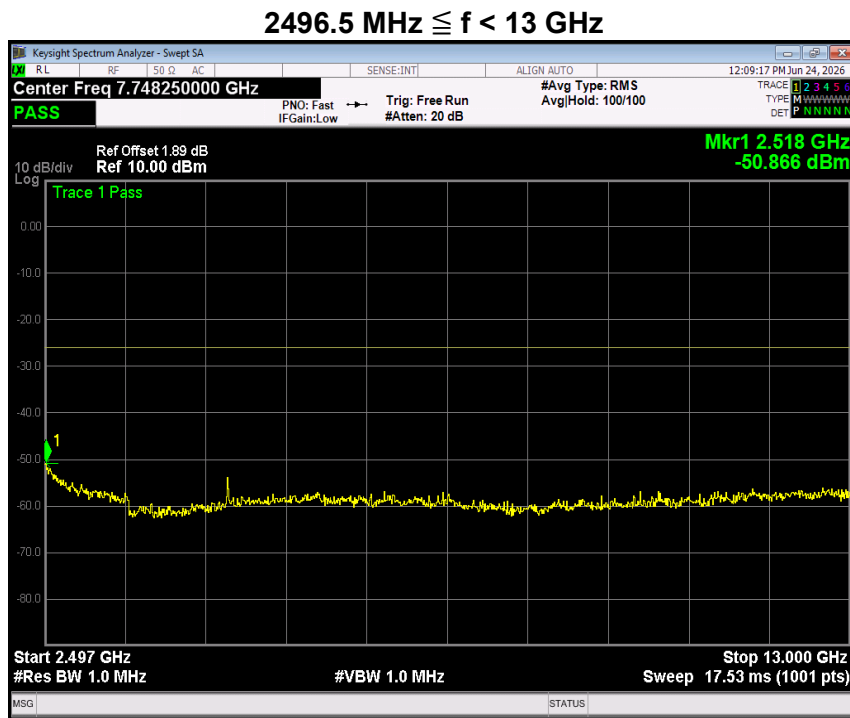


2387 MHz < f ≤ 2400 MHz



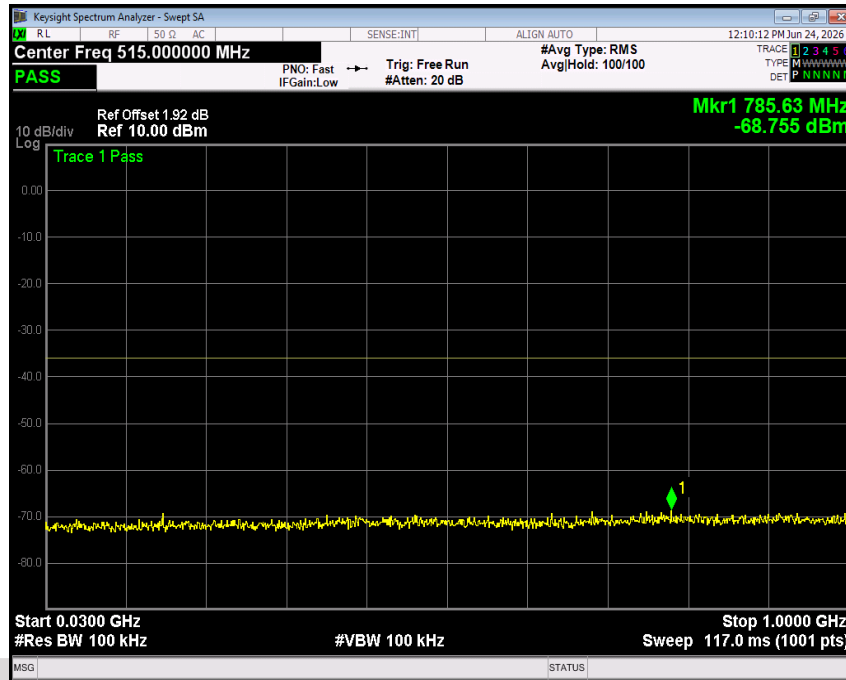
2483.5 MHz ≤ f < 2496.5 MHz



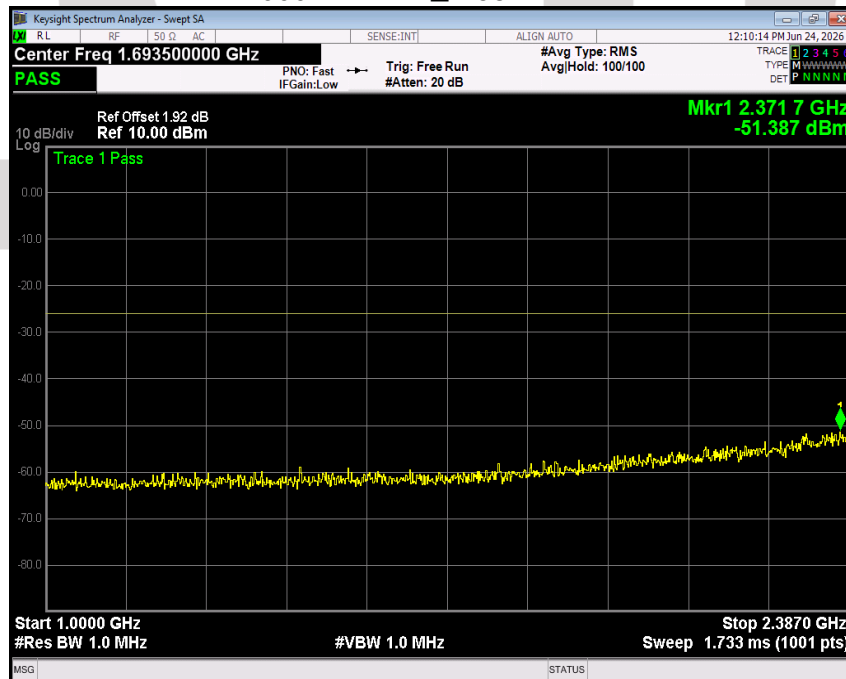


Test voltage	Normal	Test Channel (MHz)	2472.00
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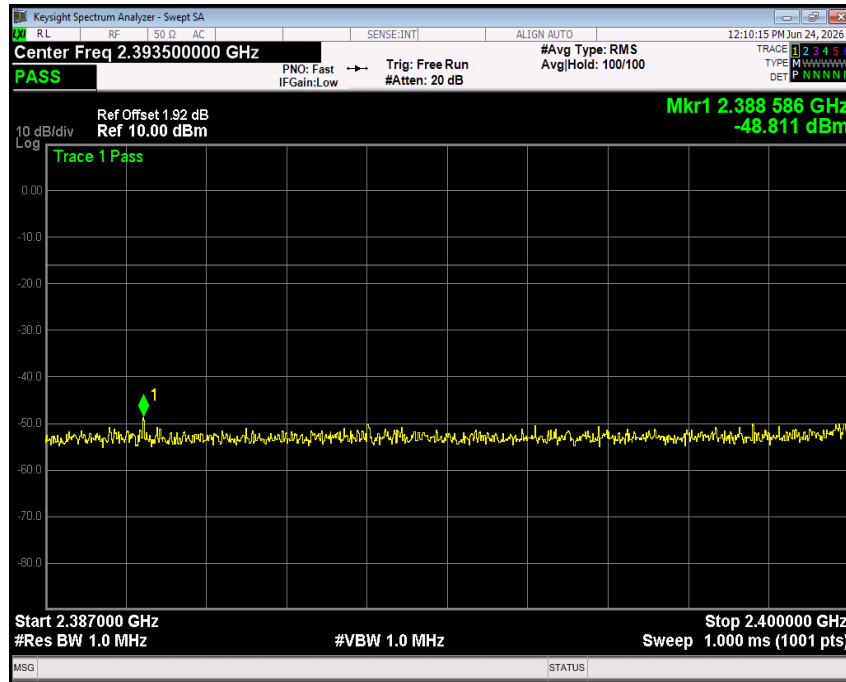
$30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$



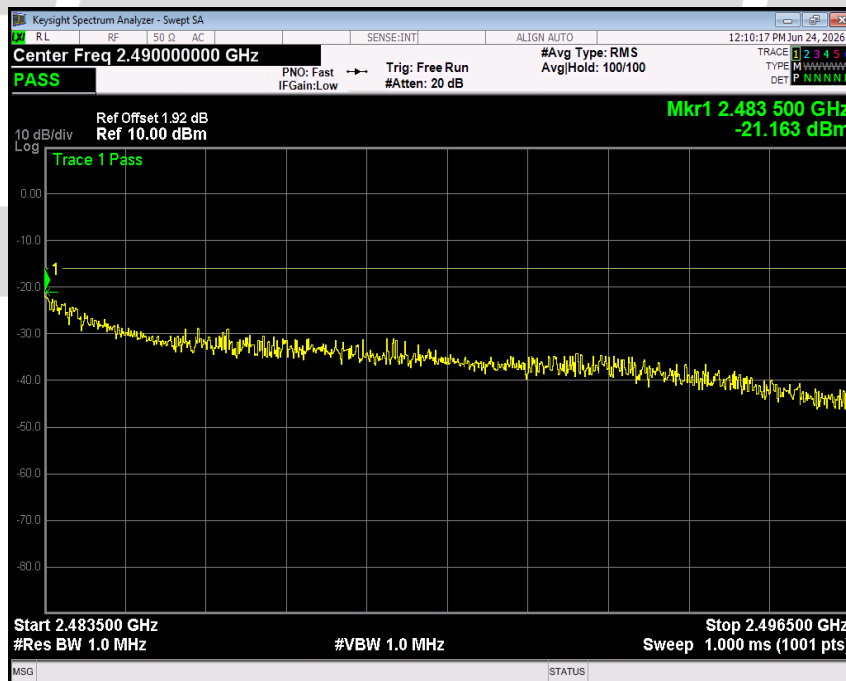
$1000 \text{ MHz} < f \leq 2387 \text{ MHz}$

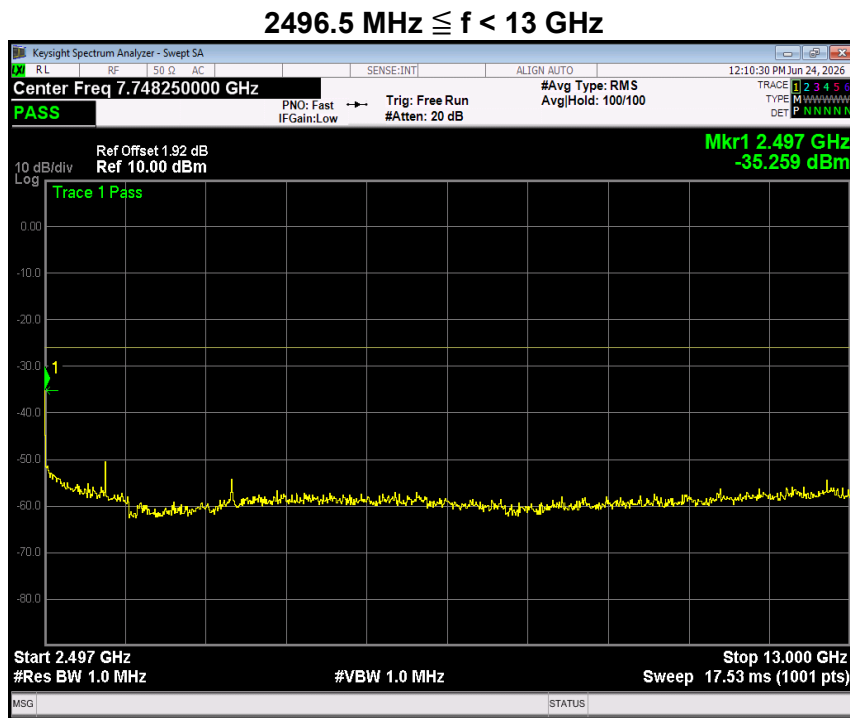


2387 MHz < f ≤ 2400 MHz



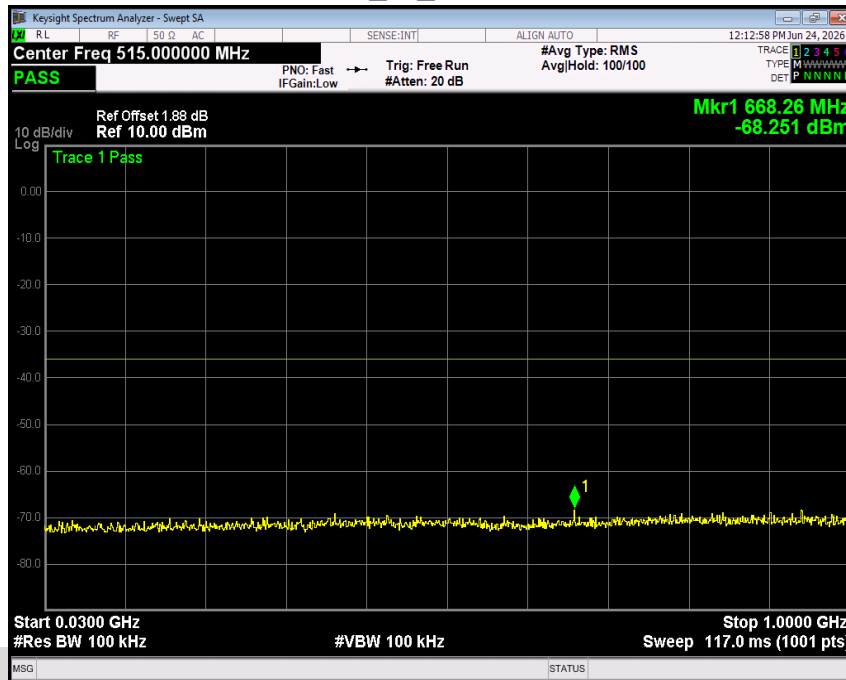
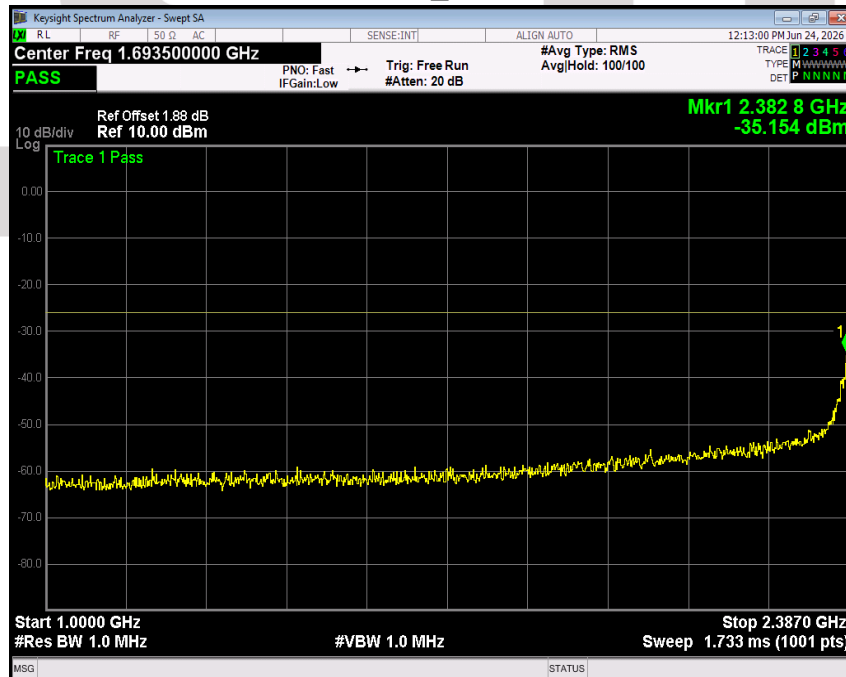
2483.5 MHz ≤ f < 2496.5 MHz



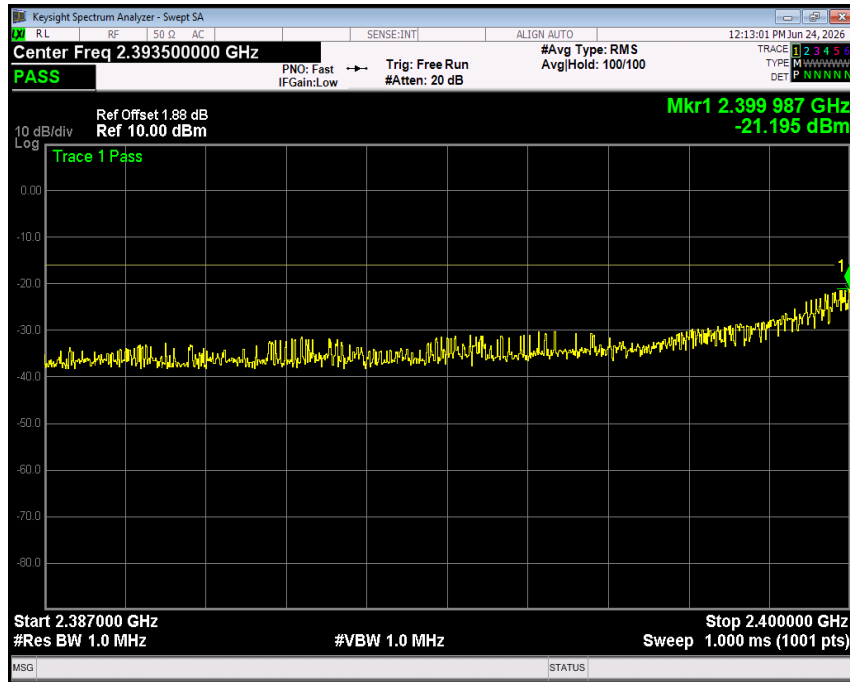


Modulation type: 802.11n40

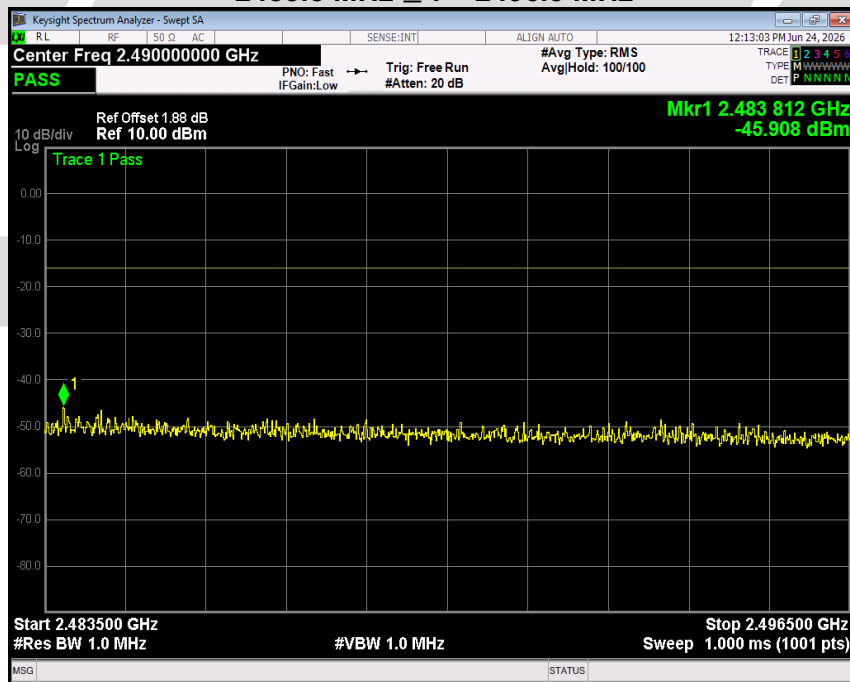
Test voltage	Normal	Test Channel (MHz)	2422.00
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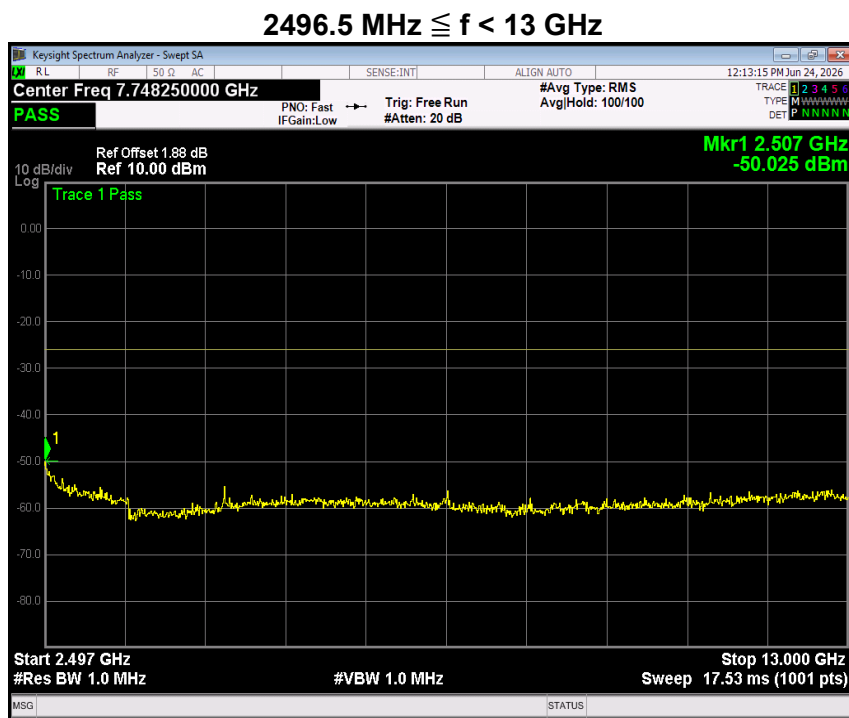
 $30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$

 $1000 \text{ MHz} < f \leq 2387 \text{ MHz}$


2387 MHz < f ≤ 2400 MHz



2483.5 MHz ≤ f < 2496.5 MHz

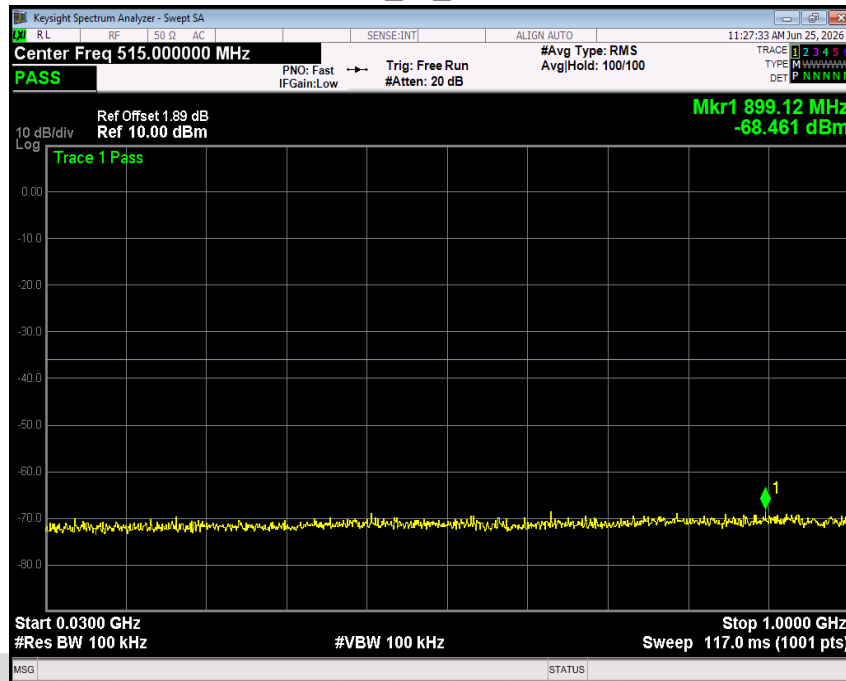




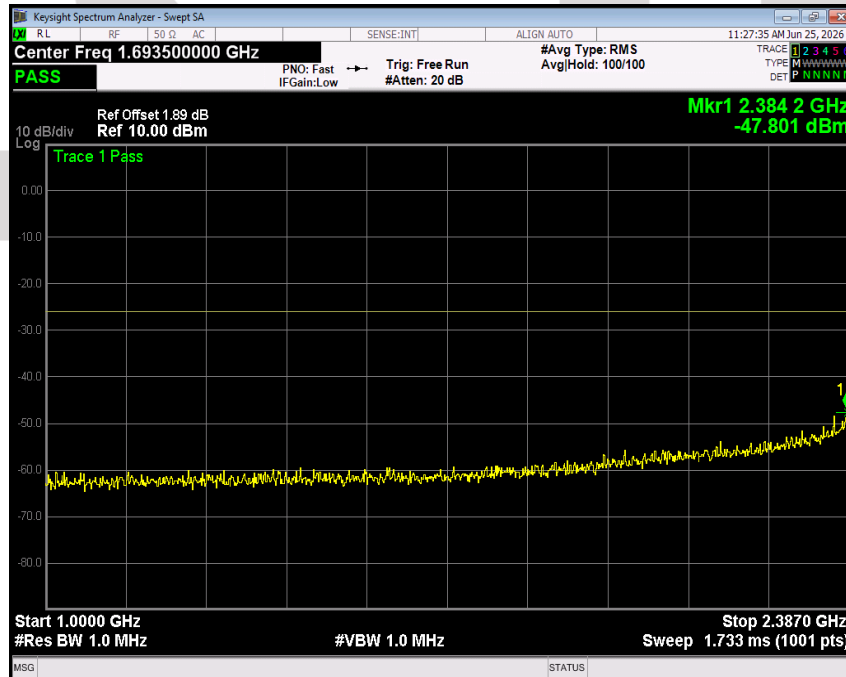
CSTC

Test voltage	Normal	Test Channel (MHz)	2442.00
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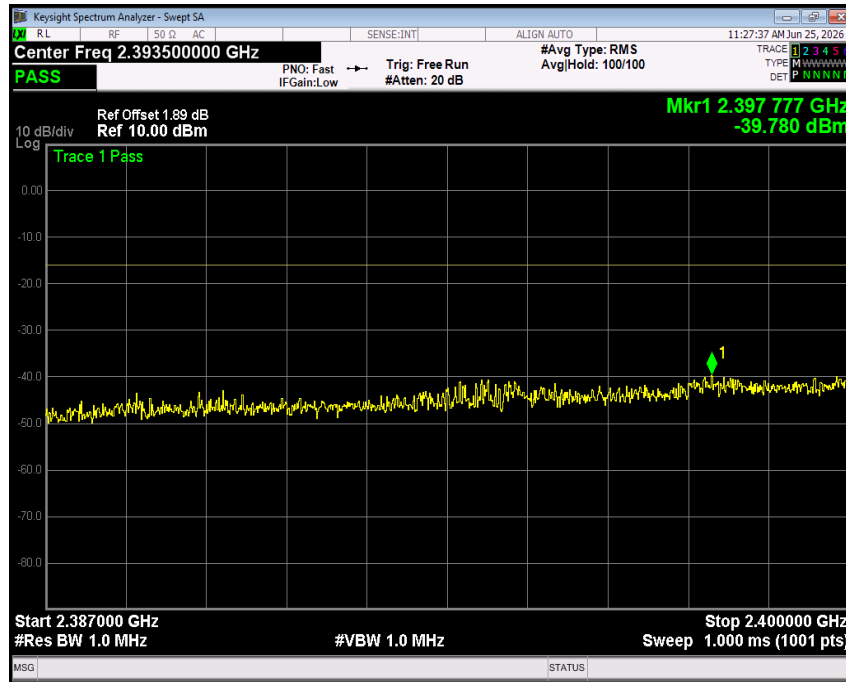
$30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$



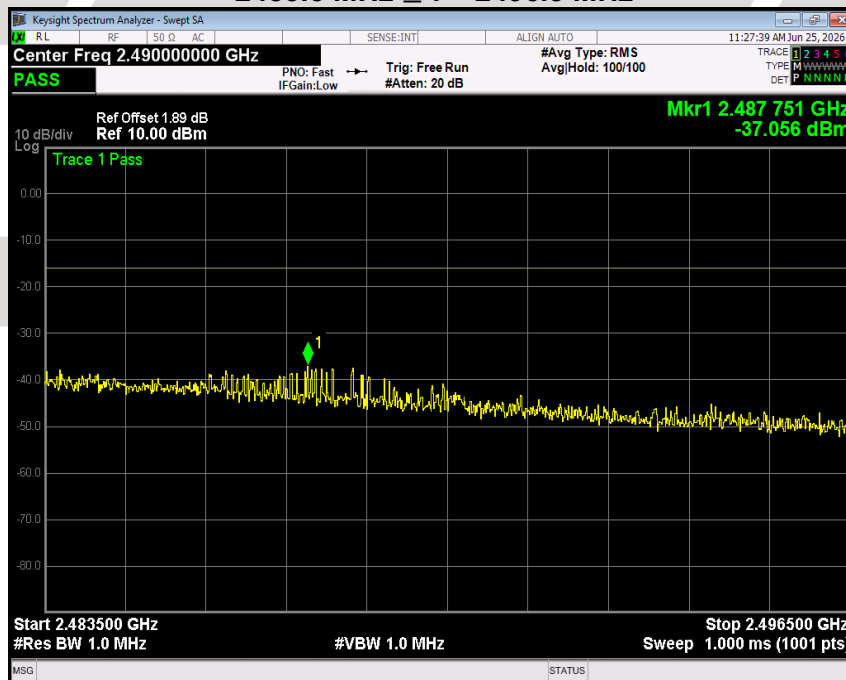
$1000 \text{ MHz} < f \leq 2387 \text{ MHz}$

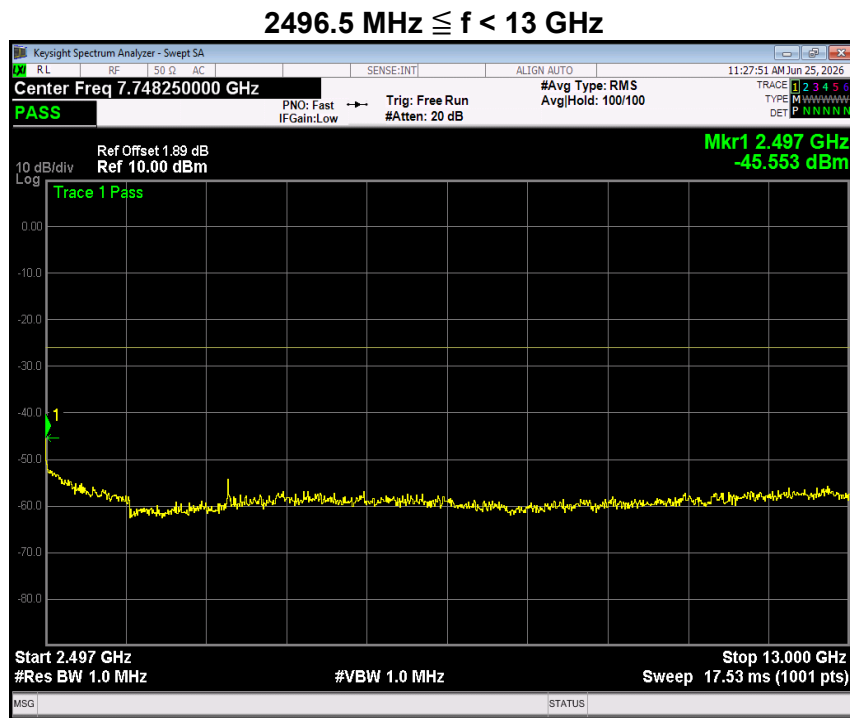


2387 MHz < f ≤ 2400 MHz



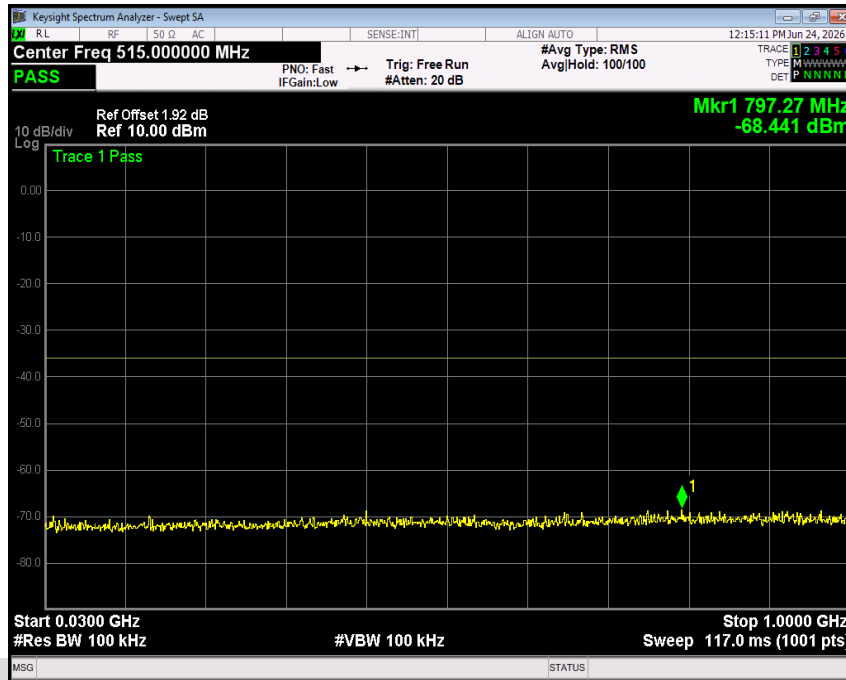
2483.5 MHz ≤ f < 2496.5 MHz



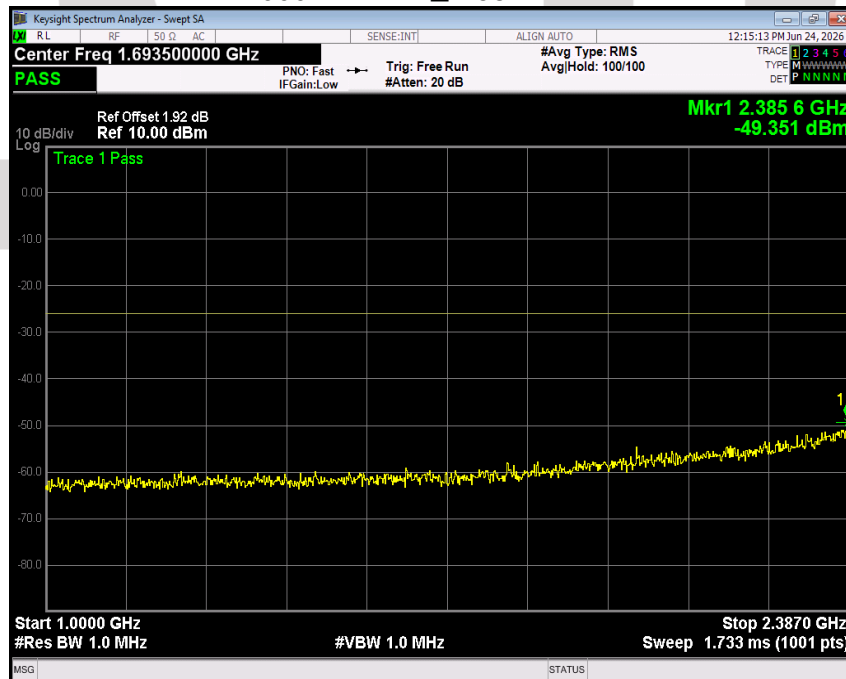


Test voltage	Normal	Test Channel (MHz)	2462.00
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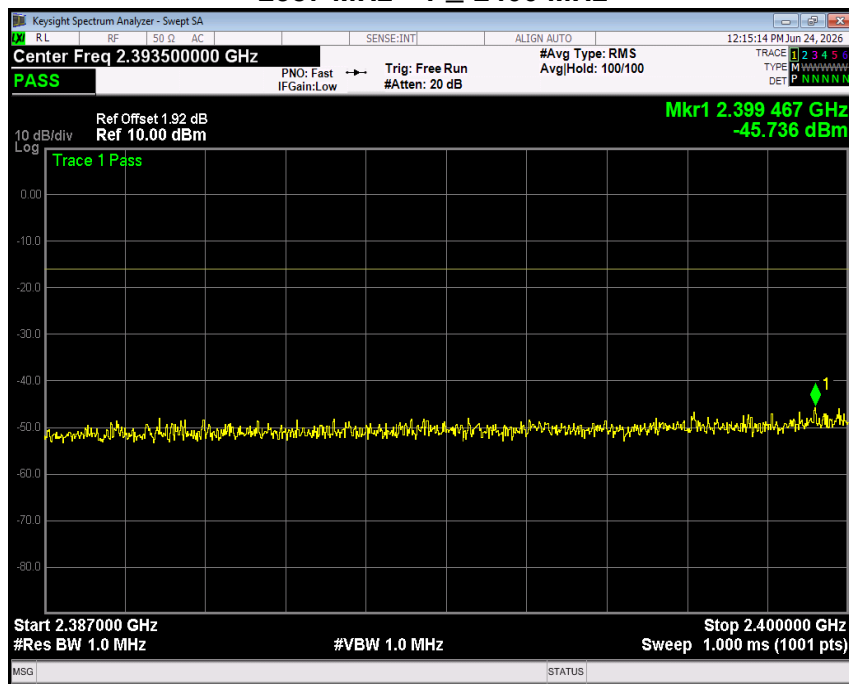
$30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$



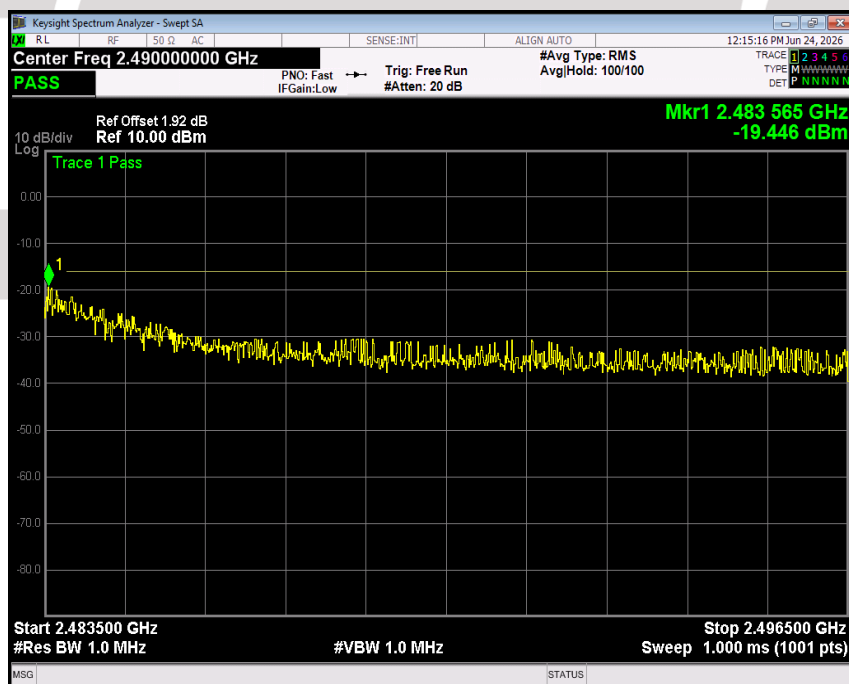
$1000 \text{ MHz} < f \leq 2387 \text{ MHz}$

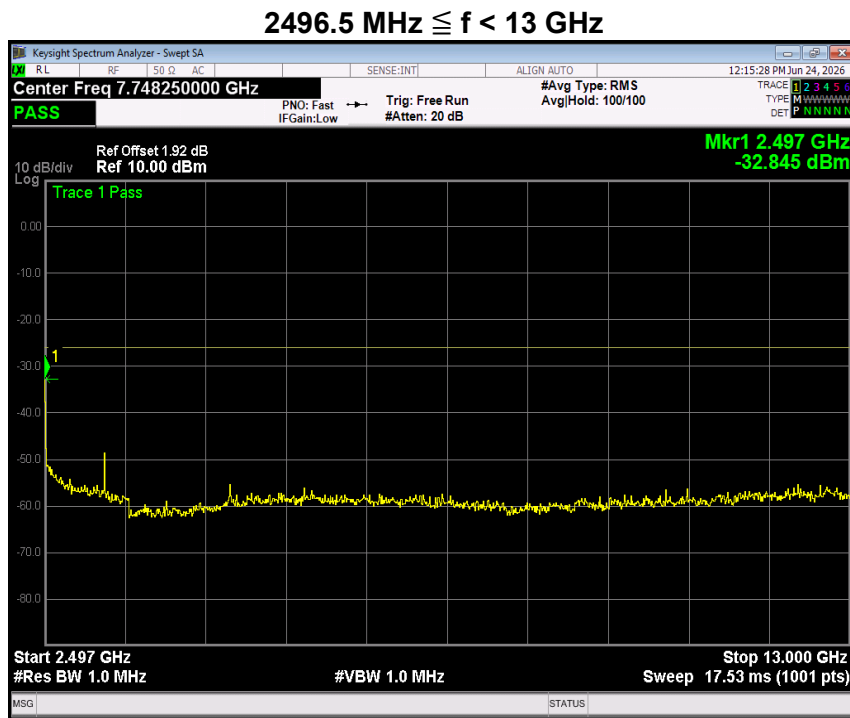


2387 MHz < f ≤ 2400 MHz



2483.5 MHz ≤ f < 2496.5 MHz





5.4 ANTENNA POWER ERROR MEASUREMENT & EIRP POWER

5.4.1 LIMIT

Item	Limits
Antenna Power Density	IEEE 802.11b/g/n20: 10mW/MHz IEEE 802.11 n40: 5mW/MHz
EIRP Power	IEEE 802.11b/g/n20: 12.14dBm//MHz IEEE 802.11n40: 9.14dBm//MHz
Antenna Power Error	+20% (No lower limit)

5.4.2 TEST PROCEDURES

Step 1: Connect the EUT to the Spectrum analyser and use the following settings:

Centre Frequency: The Centre frequency of the channel under test.

RBW: 1 MHz.

VBW: 1 MHz.

Span: Wide enough to cover the complete power envelope of the signal of the EUT.

Detector: Peak.

Trace Mode: Max Hold.

Step 2: When the trace is complete, find the peak value of the power envelope and record the frequency.

Step 3: Make the following changes to the settings of the Spectrum analyser:

Centre Frequency: Equal to the frequency recorded in step 2.

Span: 0 Hz.

RBW: 1 MHz.

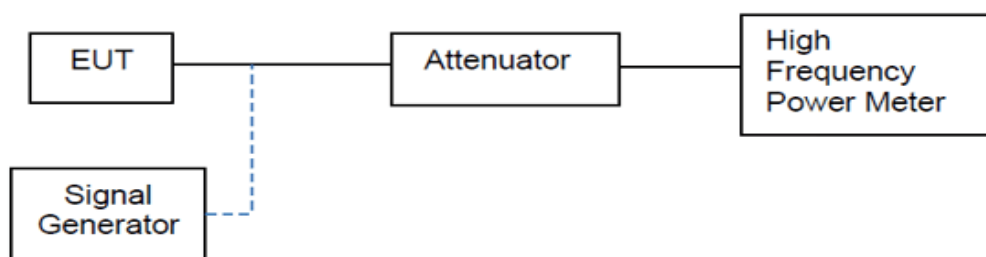
VBW: 1 MHz.

Detector: RMS (see note).

Trace Mode: Clear

Capture the timedomain burst power

5.4.3 TEST SETUP LAYOUT



5.4.4 EST DEVIATION

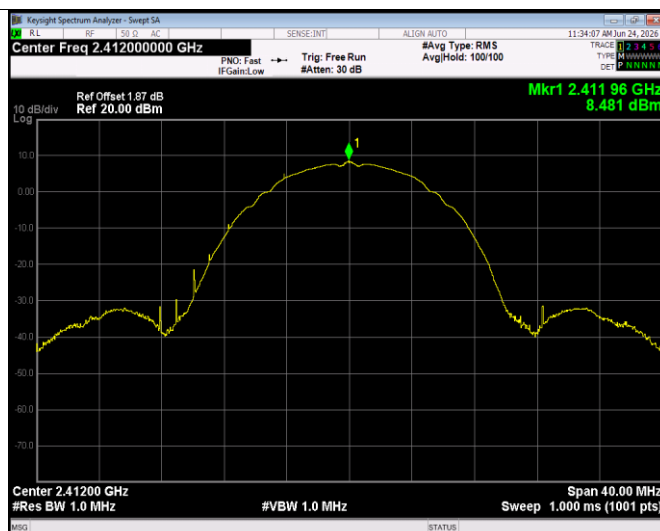
There is no deviation with the original standard.

5.4.5 EUT OPERATION DURING TEST

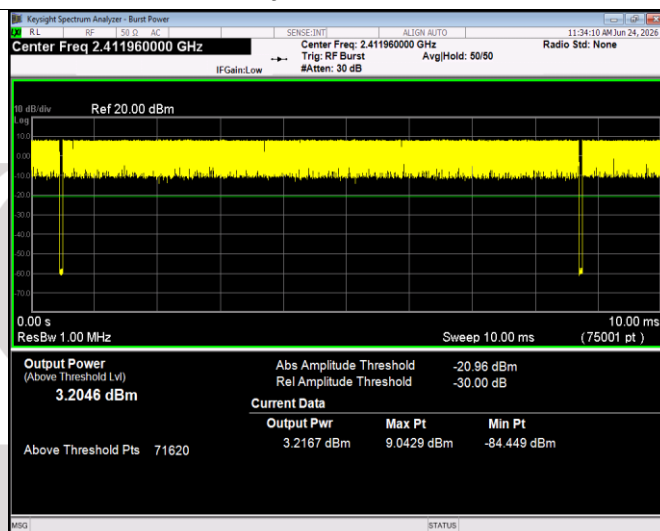
The EUT was programmed to be in continuously transmitting mode.

5.4.6 TEST RESULT

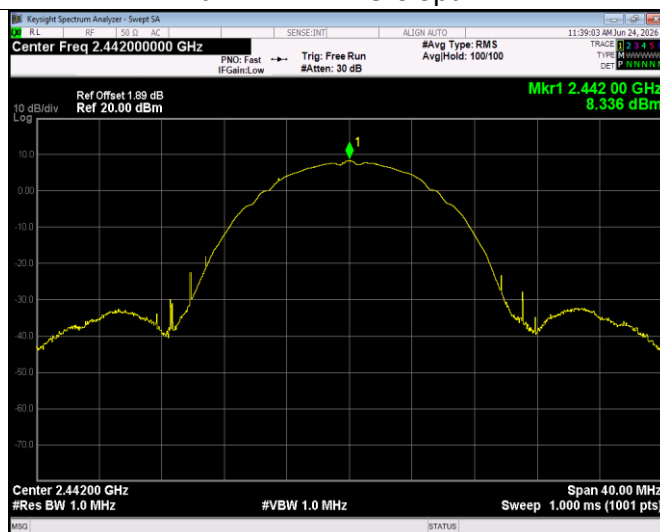
Test Frequency (MHz)	Antenna Power (dBm/MHz)	Antenna Power (mW/MHz)	Rated power density (mW/MHz)	Antenna Power Limits (mW/MHz)	Tolerance (%)	Tolerance Limit (%)	RESULT
Operation Mode:	Normal Voltage-IEEE 802.11b						
2412	3.20	2.089	2	≤10	4.46	+ 20	PASS
2442	3.25	2.113	2	≤10	5.67	+ 20	PASS
2472	3.07	2.028	2	≤10	1.38	+ 20	PASS
Operation Mode:	Normal Voltage-IEEE 802.11g						
2412	-1.06	0.783	1	≤10	-21.65	+ 20	PASS
2442	-0.82	0.828	1	≤10	-17.21	+ 20	PASS
2472	-2.92	0.511	1	≤10	-48.95	+ 20	PASS
Operation Mode:	Normal Voltage-IEEE 802.11n20						
2412	-1.35	0.733	1	≤10	-26.72	+ 20	PASS
2442	-1.12	0.773	1	≤10	-22.73	+ 20	PASS
2472	-1.33	0.736	1	≤10	-26.38	+ 20	PASS
Operation Mode:	Normal Voltage-IEEE 802.11n40						
2422	-4.85	0.327	1	≤10	-67.27	+ 20	PASS
2442	-4.68	0.340	1	≤10	-65.96	+ 20	PASS
2462	-4.63	0.344	1	≤10	-65.57	+ 20	PASS
Tolerance Limit : +20% (No lower limit)							



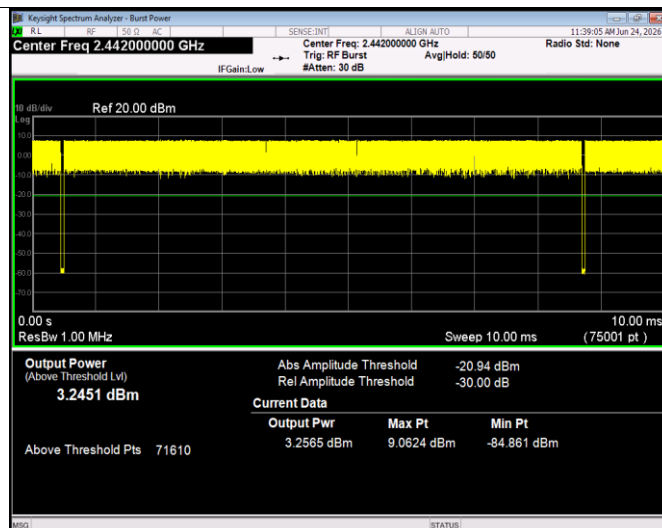
b 2412MHz



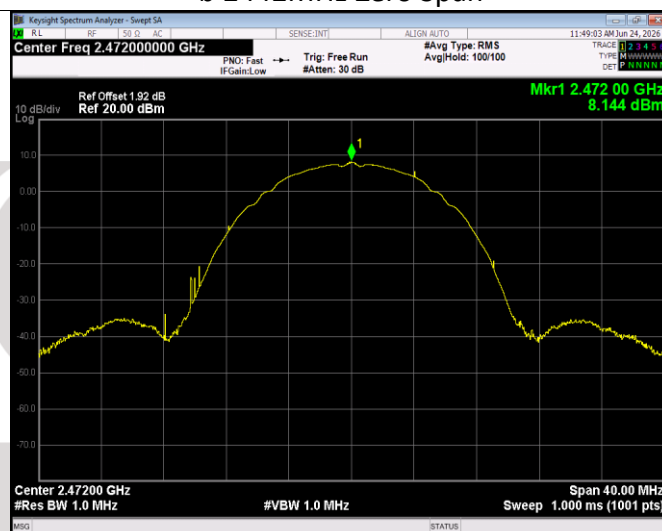
b 2412MHz Zero Span



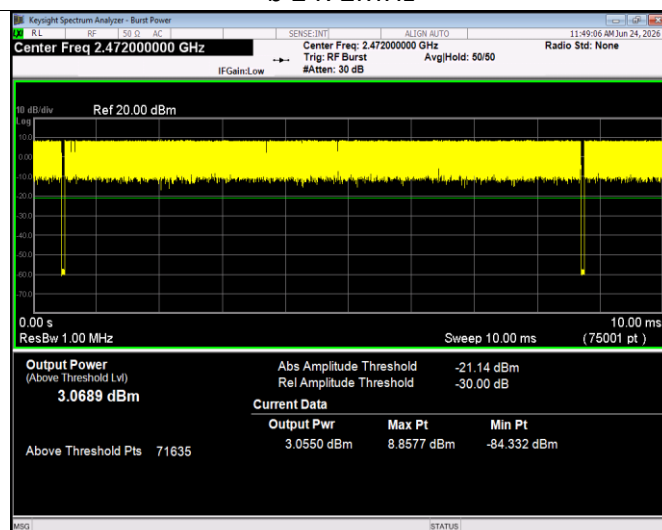
b 2442MHz



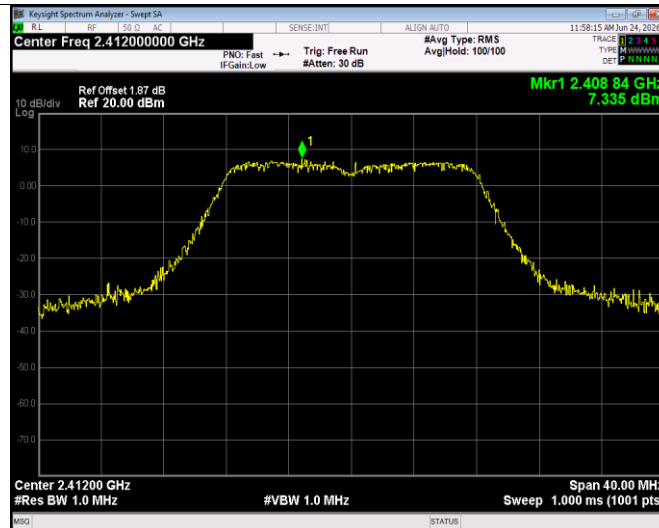
b 2442MHz Zero Span



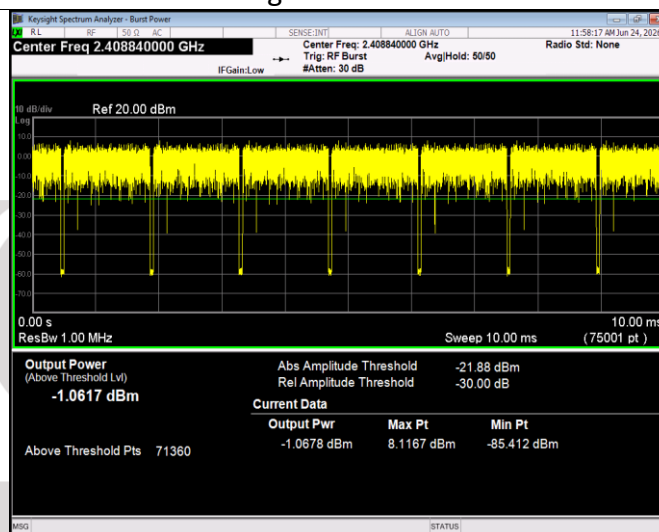
b 2472MHz



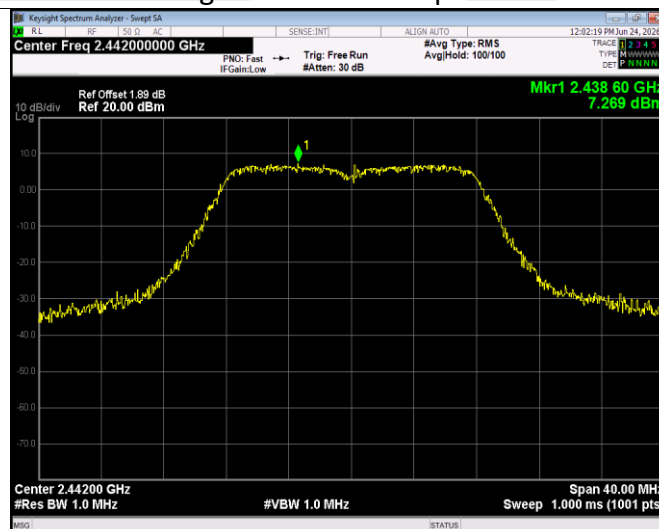
b 2472MHz



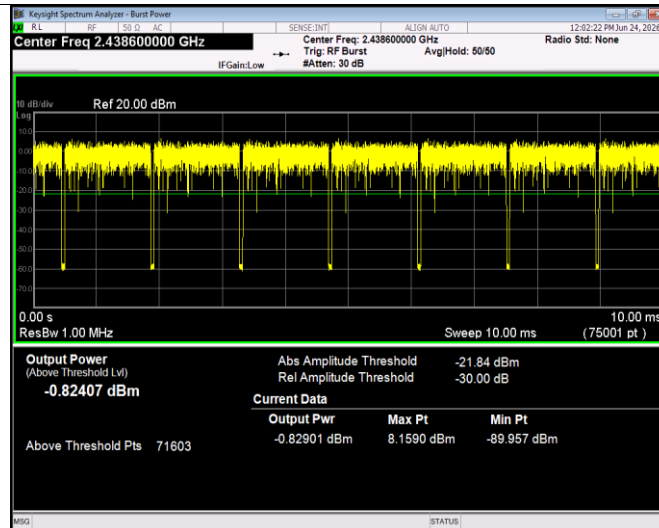
g 2412MHz



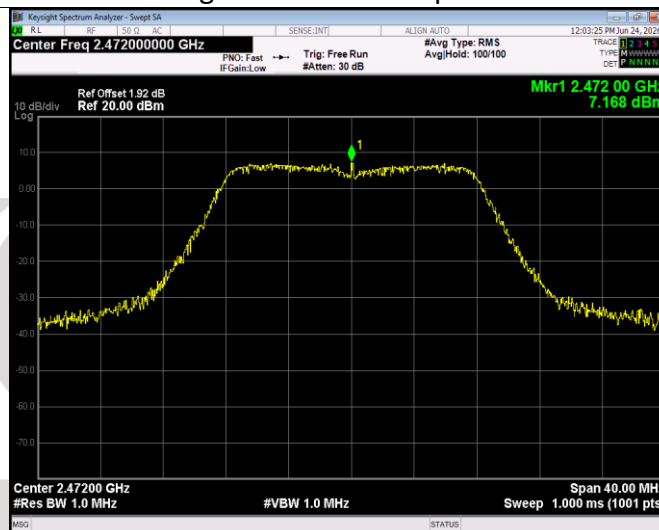
g 2412MHz Zero Span



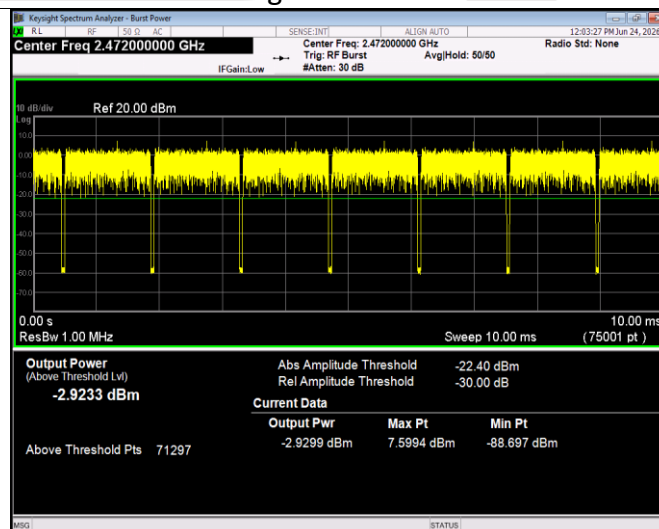
g 2442MHz



g 2442MHz Zero Span



g 2472MHz



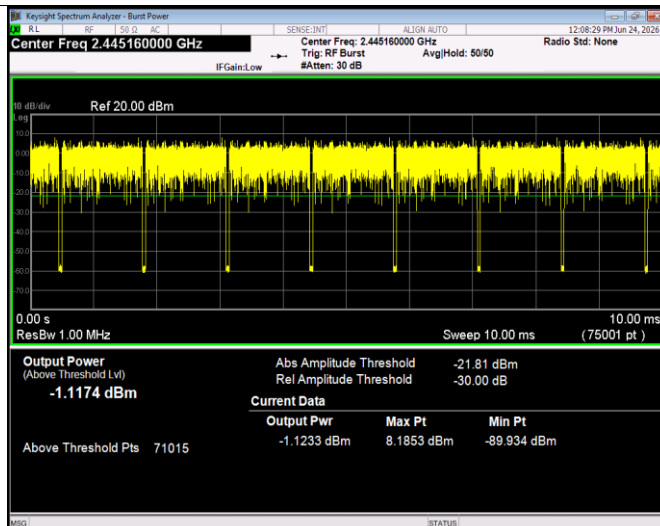
g 2472MHz Zero Span



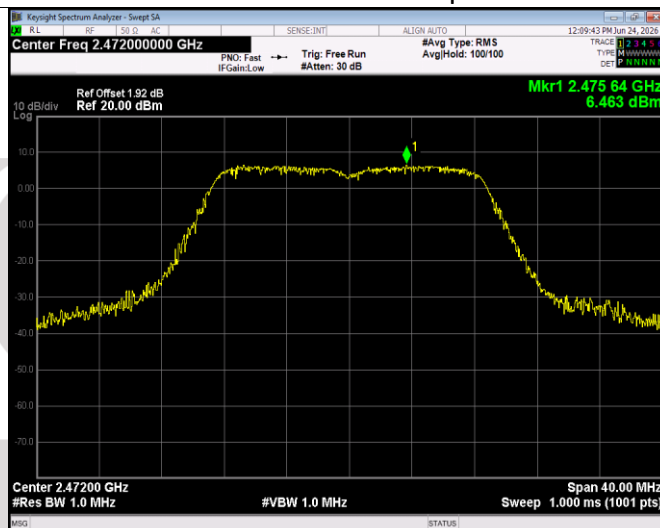
n20 2412MHz

n20 2412MHz Zero Span

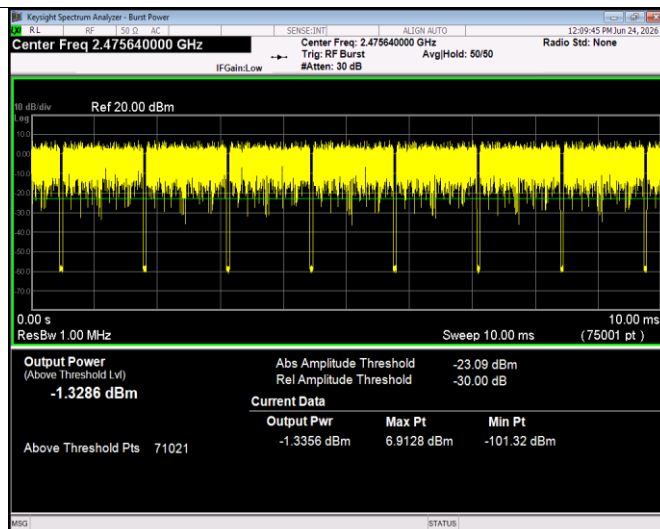
n20 2442MHz



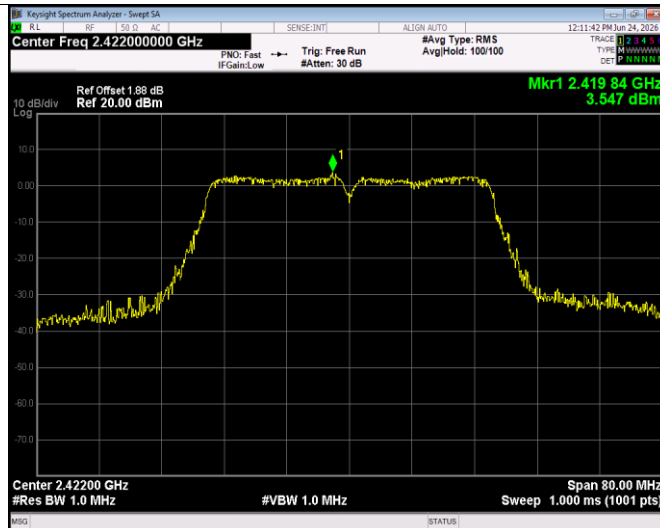
n20 2442MHz Zero Span



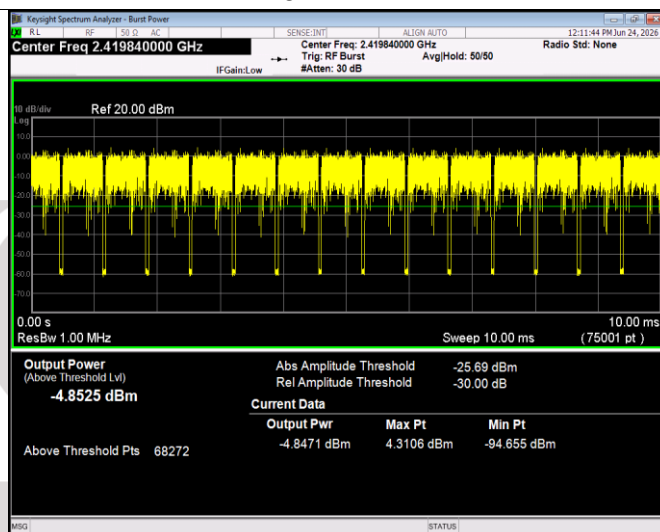
n20 2472MHz



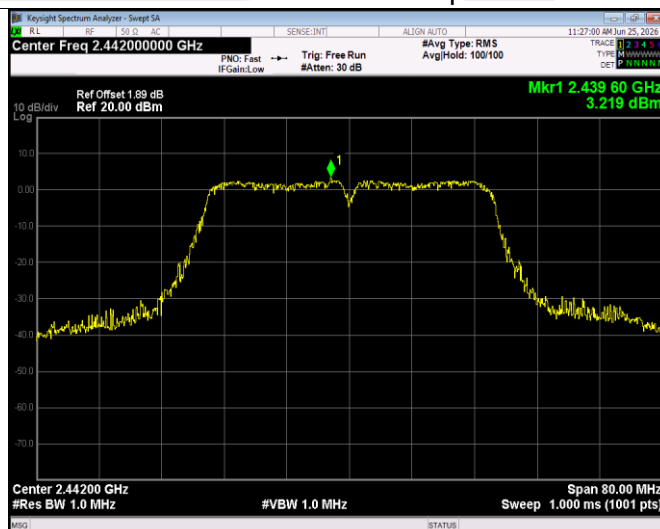
n20 2472MHz Zero Span



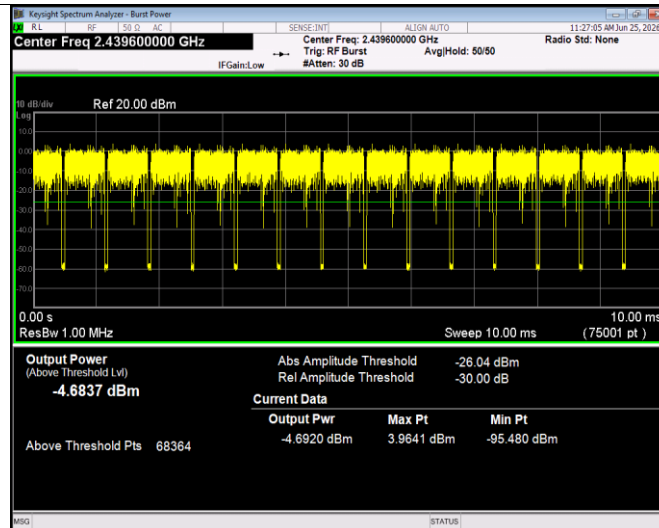
n40 2422MHz



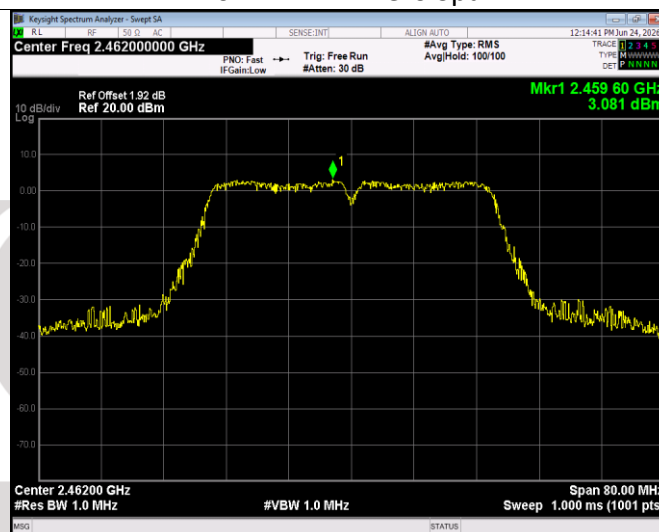
n40 2422MHz Zero Span



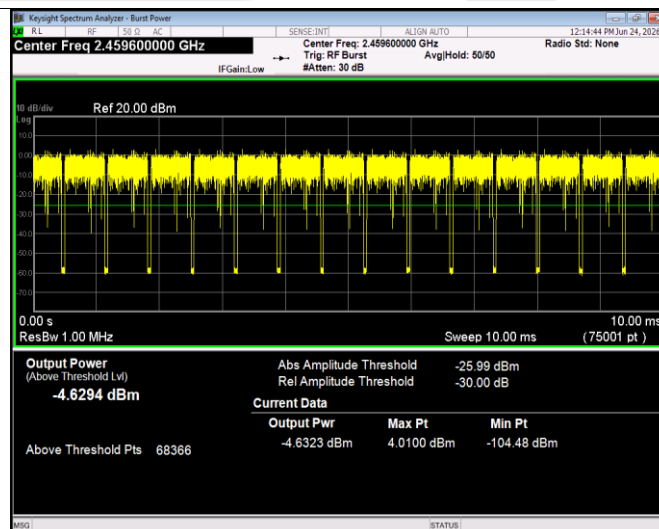
n40 2442MHz



n40 2442MHz Zero Span



n40 2462MHz



n40 2462MHz Zero Span

Test Frequency (MHz)	Antenna Power (mW /MHz)	Antenna gain (dBi)	EIRP Power (dBm/MHz)	Limits (dBm/MHz)	RESULT
Operation Mode:	Normal Voltage-IEEE 802.11b				
2412	3.20	0.96	4.16	≤12.14	PASS
2442	3.25	0.96	4.21	≤12.14	PASS
2472	3.07	0.96	4.03	≤12.14	PASS
Operation Mode:	Normal Voltage-IEEE 802.11g				
2412	-1.06	0.96	-0.10	≤12.14	PASS
2442	-0.82	0.96	0.14	≤12.14	PASS
2472	-2.92	0.96	-1.96	≤12.14	PASS
Operation Mode:	Normal Voltage-IEEE 802.11n20				
2412	-1.35	0.96	-0.39	≤12.14	PASS
2442	-1.12	0.96	-0.16	≤12.14	PASS
2472	-1.33	0.96	-0.37	≤12.14	PASS
Operation Mode:	Normal Voltage-IEEE 802.11n40				
2412	-4.85	0.96	-3.89	≤9.14	PASS
2442	-4.68	0.96	-3.72	≤9.14	PASS
2472	-4.63	0.96	-3.67	≤9.14	PASS

Note: EIRP Power = Antenna Power (mW/MHz) + Antenna Gain.

5.5 IMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT

5.5.1 LIMIT

Item	Limits
RX Spurious Emission:	$\leq 4\text{nW}$ ($f < 1\text{GHz}$)
	$\leq 20\text{nW}$ ($1\text{GHz} \leq f$)

5.5.2 MEASURING INSTRUMENTS AND SETTING

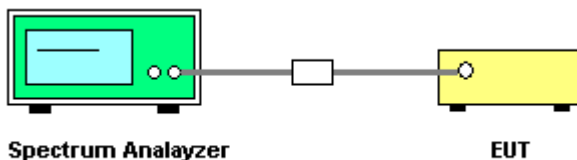
Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
VB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.5.3 TEST PROCEDURES

1. EUT have the continuous reception mode and fixed only one channelize.
2. Setting of SA is following as RB / VB: 100 kHz (below 1GHz emissions) / 1MHz (above 1GHz emissions) / AT: 10dB / Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
3. SA set RB: 100kHz and VB: 100kHz. Then adjust to start frequency 30MHz and stop frequency 1000MHz. Search to mark peak reading value + cable loss shall be less than 4nW
4. SA set RB: 1MHz and VB: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 12500MHz. Search to mark peak reading value + cable loss shall be less than 20nW
5. If power level of lower emissions are more than 1/10 of limit (.0.4nW for $f < 1\text{GHz}$, 2nW for $f \geq 1\text{GHz}$), all those are to be indicated in the 2nd and 3rd lines. If others are 1/10 or less more of the limit, no necessary to be indicated.

5.5.4 TEST SETUP LAYOUT



5.5.6 TEST DEVIATION

There is no deviation with the original standard.

5.5.7 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously reception mode.

5.5.8 TEST RESULT

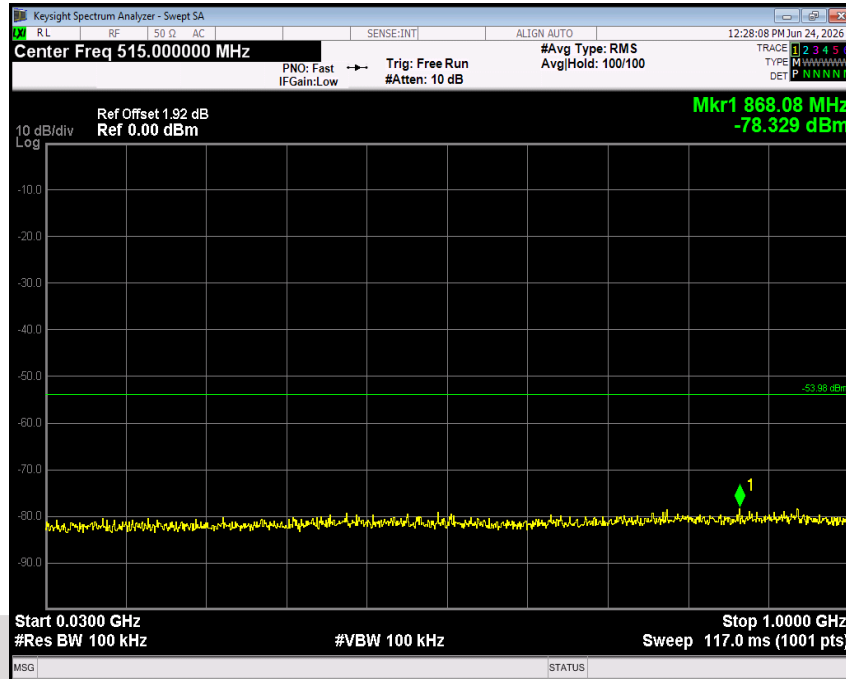
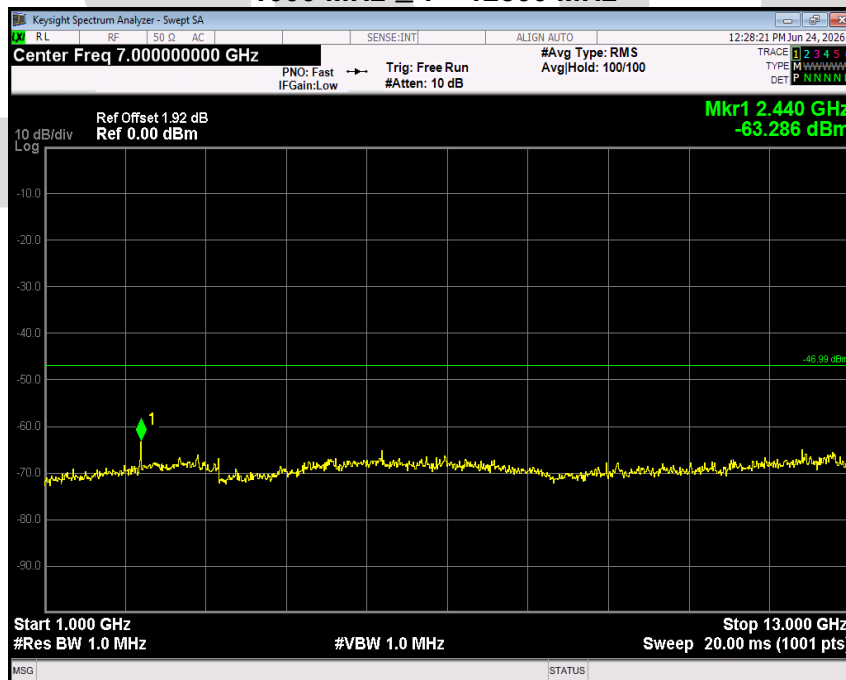
Test Voltage	Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Max Value (nW)	Limit (nW)	Verdict
Normal	802.11b	2442	30-1000	640.13	-78.70	0.0135	4	Pass
Normal	802.11b	2442	1000-12500	2440.00	-63.90	0.4074	20	Pass
Normal	802.11g	2442	30-1000	960.23	-78.45	0.0143	4	Pass
Normal	802.11g	2442	1000-12500	6556.00	-65.91	0.2564	20	Pass
Normal	802.11n20	2442	30-1000	871.96	-78.69	0.0135	4	Pass
Normal	802.11n20	2442	1000-12500	6484.00	-65.48	0.2831	20	Pass
Normal	802.11n40	2442	30-1000	890.39	-78.62	0.0137	4	Pass
Normal	802.11n40	2442	1000-12500	2464.00	-65.15	0.3055	20	Pass

Note: All channels are tested , only the worst test data recorded was 2442MHz.



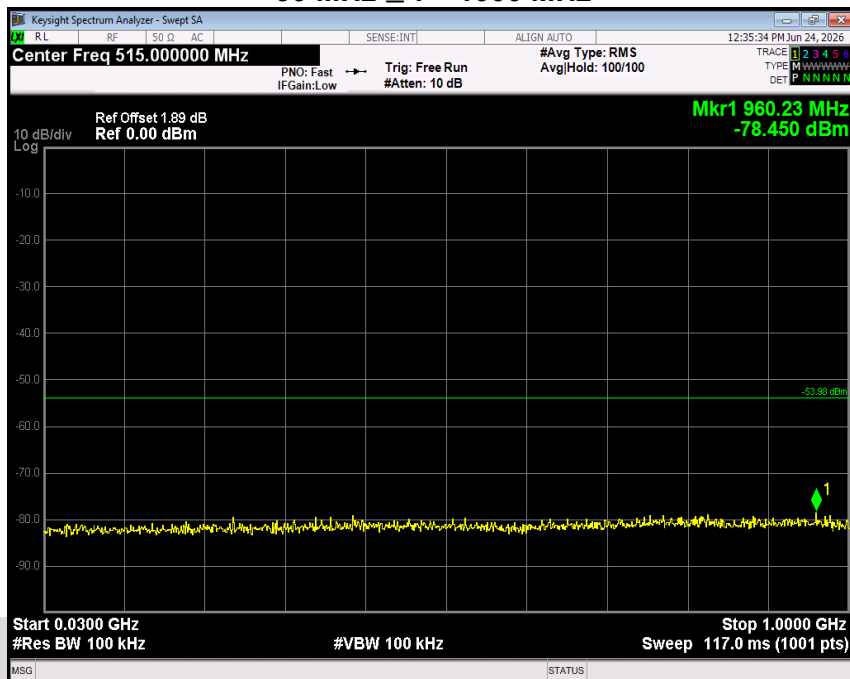
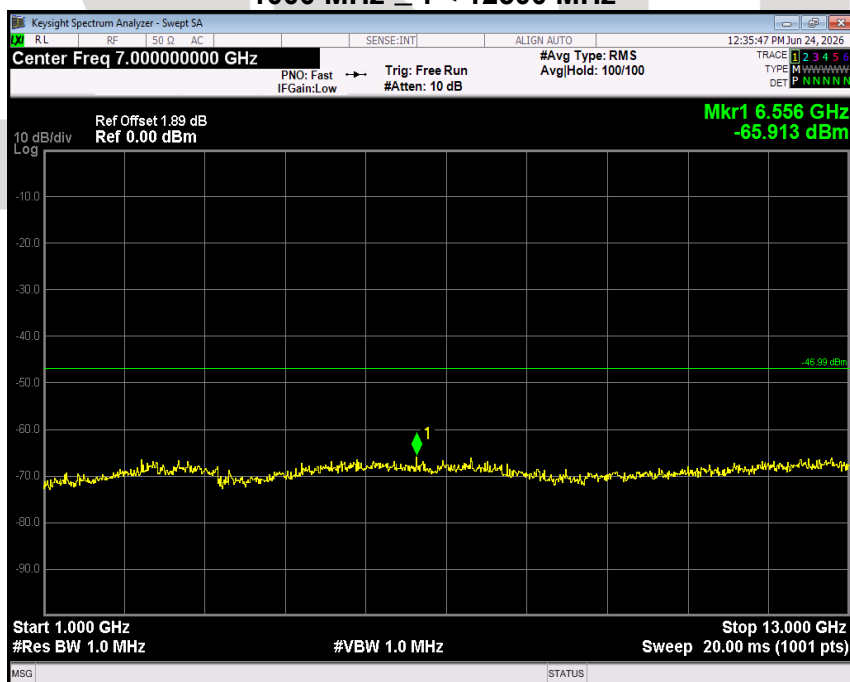
Modulation type: 802.11b

Test voltage	Normal	Test Channel	2442MHz
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 $30\text{ MHz} \leq f < 1000\text{ MHz}$

 $1000\text{ MHz} \leq f < 12500\text{ MHz}$


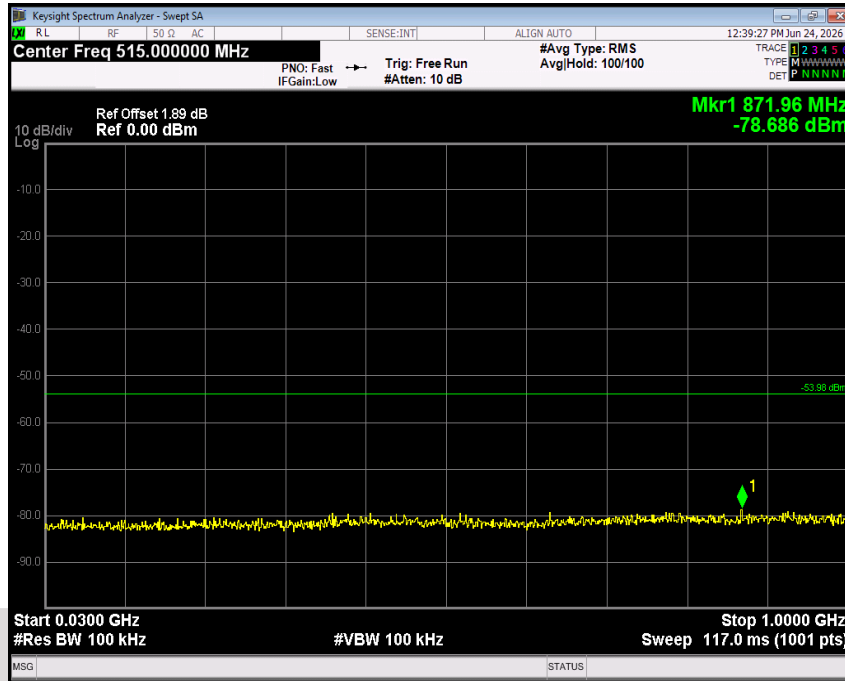
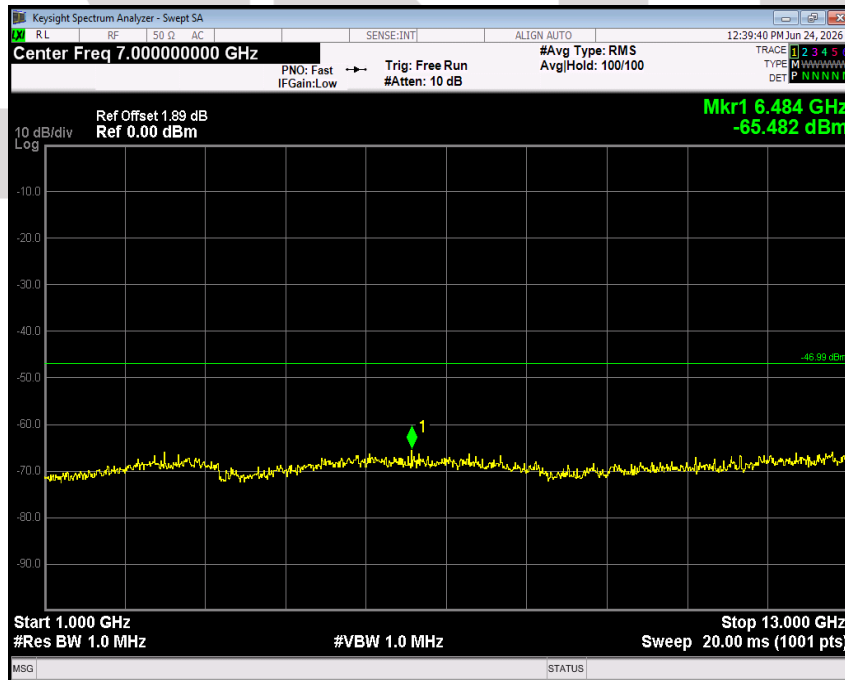
Modulation type: 802.11g

Test voltage	Normal	Test Channel	2442MHz
--------------	--------	--------------	---------

 $30\text{ MHz} \leq f < 1000\text{ MHz}$

 $1000\text{ MHz} \leq f < 12500\text{ MHz}$


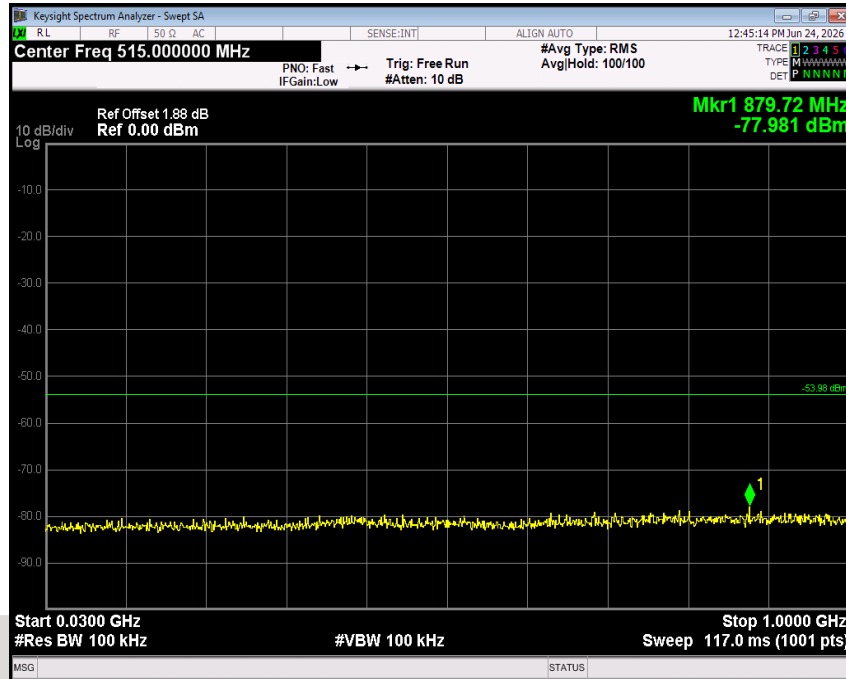
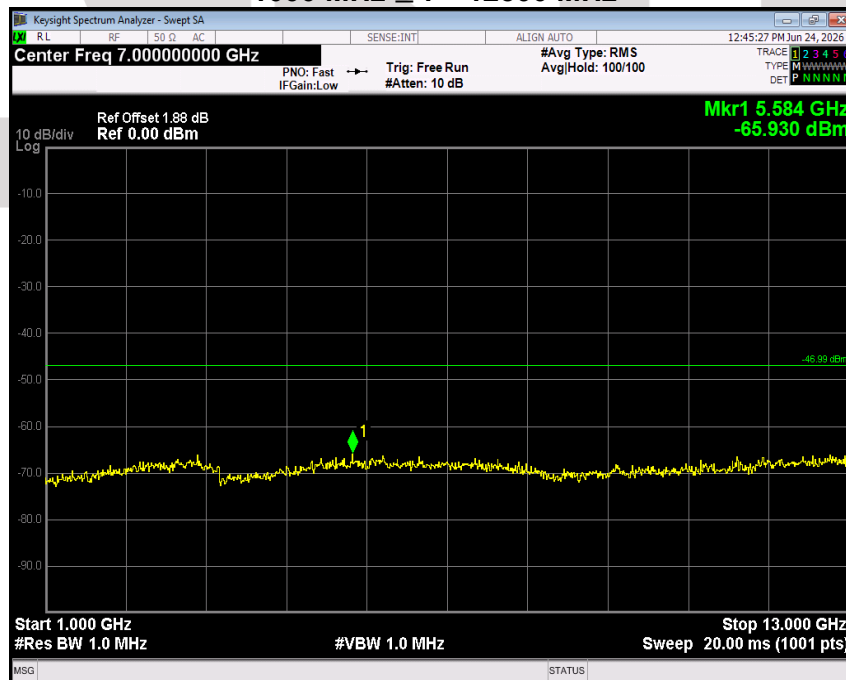
Modulation type: 802.11n20

Test voltage	Normal	Test Channel	2442MHz
--------------	--------	--------------	---------

 $30 \text{ MHz} \leq f < 1000 \text{ MHz}$

 $1000 \text{ MHz} \leq f < 12500 \text{ MHz}$


Modulation type: 802.11n40

Test voltage	Normal	Test Channel	2442MHz
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 $30\text{ MHz} \leq f < 1000\text{ MHz}$

 $1000\text{ MHz} \leq f < 12500\text{ MHz}$


5.6 RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT

5.6.1 LIMIT

Item	Limits
Identification code	≥ 48 bits

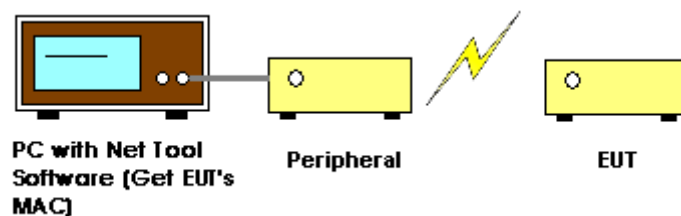
5.6.2 MEASURING ID CODE SOFTWARE

Item	Limits
MAC IP List	MAC Scan

5.6.3 TEST PROCEDURES

1. In the case that the EUT has the function of automatically transmitting the identification code:
 - a. Transmit the predetermined identification codes form EUT.
 - b. Check the transmitted identification codes with the demodulator.
2. In the case of receiving the identification ocde:
 - a. Transmit the predetermined identification codes form the counterpart.
 - b. Check if communication is normal.
 - c. Transmit the signals other than predetermined ID codes form the counterpart.
 - d. Check if the EUT stops the transmission, or if it displays that idnetification codes are different from the predetermined ones.

5.6.4 TEST SETUP LAYOUT



5.6.5 TEST DEVIATION

There is no deviation with the original standard.

5.6.6 EUT OPERATION DURING TEST

The EUT was programmed to be in normal transmitting mode.

5.6.7 TEST RESULT OF RADIO INTERFERENCE PREVENTION CAPABILITY

Temperature:	26°C	Relative Humidity:	50%
Pressure:	101kPa	Test Voltage:	Normal
Test Result:	PASS		

Transmitter Mode:	The transmitting mode (the identification code is more than 48 bits) of EUT is on normal operating, the interference prevention function is good.
Receiver Mode:	The transmitting mode of EUT is on normal operating, the interference prevention function is good.
MAC Address:	27-51-19-2B-E-6C



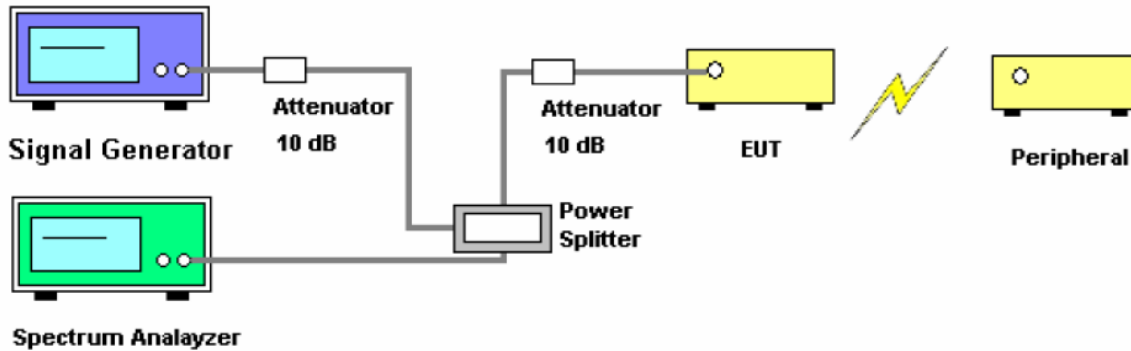
5.7 CARRIER SENSE CAPABILITY

5.7.1 LIMIT

EUT stop RF transmission signal after carrier inject to EUT

5.7.2 TEST PROCEDURE

Measurement System Diagram



1. SG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SG and power level is $[on 22.79 + G - 20 \cdot \log(f) \text{ dBm}]$ (G is the antenna gain, f is the test frequency).
2. turn off the RF signal of the SG.
3. EUT have transmitted the maximum modulation signal and fixed channelize.
4. Setting of SA :RBW/VBW=1MHz/1MHz,Span=50MHz,Sweep time=auto, Sweep mode=continuous, Detect mode=positive peak
5. SG RF signal on.
6. EUT shall be stop the transmitted any signal and SG RF signal off, the EUT will be continuous transmitted signal.

5.7.3 TEST RESULT

Test Mode	Test Channel (MHz)	Result		
		Normal Voltage	High Voltage	Low Voltage
802.11n40	2422	Pass	Pass	Pass
	2442	Pass	Pass	Pass
	2462	Pass	Pass	Pass
Note: The EUT cannot transmit radio when the field strength at maximal gain direction of receiving antenna power is over 100mV/m; and the EUT can start to transmit after carrier sensing.				



6. EUT TEST PHOTO

Reference to the appendix I for details.

7. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

******* END OF REPORT *******

