

# Radio Test Report

Report No: CTA231205003W02

Issued for

BTECH ( Baofeng Tech )

702N industrial Ave, Arlington, South Dakota, US

Product Name: Two way radio

Brand Name: BTECH

Model Name: UV-PRO

Series Model(s) N/A

FCC ID: 2AGND-UV-PRO

Test Standards: FCC Part 90

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the ShenZhen CTA Test Services Co., Ltd.





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	04 Dec. 2023	CTA231205003W02	ALL	Initial Issue
01	19 Feb. 2024	CTA231205003W02	ALL	Increase bandwidth by 6.25KHz for testing

## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Emission			
Standard	Item	Result	Remarks
FCC Part 90.205	Maximum Transmitter Power	PASS	
FCC Part 90.209	Occupied Bandwidth	PASS	
FCC Part 90.210	Emission Mask	PASS	
FCC Part 90.210	Transmitter Radiated Spurious Emssion	PASS	
FCC Part 90.210	Spurious Emssion on Antenna Port	PASS	
FCC Part 90.213	Frequency Stability Test	PASS	
FCC Part 90.214	Transient Frequency Behavior	PASS	
FCC Part 2.1047	Modulation Characteristic	PASS	

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report.

### 1.1 TEST FACILITY

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

FCC test Firm Registration Number: 517856

IC test Firm Registration Number: 27890

A2LA Certificate No.: 6534.01

IC CAB ID: CN0127

### 1.2 MEASUREMENT UNCERTAINTY

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

Test	Range	Measurement Uncertainty
Radiated Emission	30~1000MHz	4.06 dB
Radiated Emission	1~18GHz	5.14 dB
Radiated Emission	18-40GHz	5.38 dB
Conducted Disturbance	0.15~30MHz	2.14 dB
Output Peak power	30MHz~18GHz	0.55 dB
Power spectral density	/	0.57 dB
Spectrum bandwidth	/	1.1%
Radiated spurious emission (30MHz-1GHz)	30~1000MHz	4.10 dB
Radiated spurious emission (1GHz-18GHz)	1~18GHz	4.32 dB
Radiated spurious emission (18GHz-40GHz)	18-40GHz	5.54 dB



## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Product Name:	Two way radio
Brand Name:	BTECH
Model Name:	UV-PRO
Series Model:	N/A
Model Difference description:	N/A
Operation Frequency Range	150-174MHz,421-512MHz
Maximum Transmitter Power:	37.68dBm
Channel Separation:	6.25KHz,12.5KHz, 25KHz
Modulation type:	F3E
Rating:	Input: DC 5V Output: 5W
Battery :	Rated Voltage: 7.4V Charge Limit Voltage: 5V Capacity: 2600mAh
Temperature Range:	-30°C-50°C
Test frequency list:	See Note 3
Software version number:	0.6.2
Hardware version number:	1.0

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	BTECH	UV-PRO L	External	N/A	1.6dBi	Antenna

The EUT antenna is External Antenna. No antenna other than that furnished by the responsible party shall be used with the device.



## 3. Test frequency list

6.25KHz:

150.8 MHz - 162.0125 MHz

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	150.80625	2	150.8125	3	150.81875	4	150.825
.....	.....	896	156.4	.....	.....	.....	.....
1790	161.9875	1791	161.99375	1792	162	1793	162.00625

173.2 MHz - 173.4 MHz

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	173.20625	2	173.2125	3	173.21875	4	173.225
.....	.....	16	173.3	.....	.....	.....	.....
28	173.375	29	173.38125	30	173.3875	31	173.39375

421 MHz - 512 MHz

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	421.00625	2	421.0125	3	421.01875	4	421.025
.....	.....	7280	466.5	.....	.....	.....	.....
14556	511.975	14557	511.98125	14558	511.9875	14559	511.99375

12.5KHz:

150.8 MHz - 162.0125 MHz

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	150.8125	2	150.825	3	150.8375	4	150.85
.....	.....	448	156.4	.....	.....	.....	.....
893	161.9625	894	161.975	895	161.9875	896	162

173.2 MHz - 173.4 MHz

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	173.2125	2	173.225	3	173.2375	4	173.25
.....	.....	8	173.3	.....	.....	.....	.....
12	173.35	13	173.3625	14	173.375	15	173.3875

421 MHz - 512 MHz

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	421.0125	2	421.025	3	421.0375	4	421.05
.....	.....	3640	466.5	.....	.....	.....	.....
7276	511.95	7277	511.9625	7278	511.975	7279	511.9875

25KHz:

150.8 MHz - 162.0125 MHz

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	150.825	2	150.85	3	150.875	4	150.9
.....	.....	224	156.4	.....	.....	.....	.....
444	161.9	445	161.925	446	161.95	447	161.975

173.2 MHz - 173.4 MHz

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	173.225	2	173.25	3	173.275	4	173.3
5	173.325	6	173.35	7	173.375		

421 MHz - 512 MHz

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	421.025	2	421.05	3	421.075	4	421.1
.....	.....	1820	466.5	.....	.....	.....	.....
3636	511.9	3637	511.925	3638	511.95	3639	511.975

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above listed frequency for testing.

## 2.2 EUT OPERATION MODE

The EUT has been tested under typical operating condition and The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

## 2.3 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test Mode	Power level	Modulation Type	Channel Separation	Frequency
Mode1	Low power	F3E	12.5kHz	Low channel(150.8125MHz)
				Mid channel(156.4MHz)
				High channel(162MHz)
Mode2	High power			Low channel(150.8125MHz)
				Mid channel(156.4MHz)
				High channel(162MHz)
Mode3	Low power			Mid channel(173.3MHz)
Mode4	High power			Mid channel(173.3MHz)

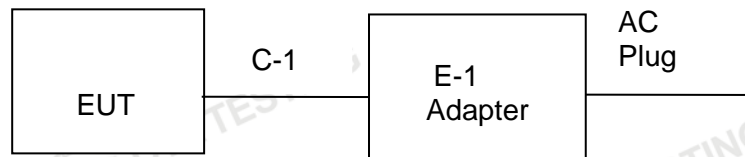
Mode5	Low power		25kHz	Low channel(421.0125MHz)
Mode6	High power			Mid channel(466.5MHz)
				High channel(511.9875MHz)
				Low channel(421.0125MHz)
Mode7	Low power			Mid channel(466.5MHz)
				High channel(511.9875MHz)
			Low channel(150.825MHz)	
Mode8	High power		Mid channel(156.4MHz)	
			High channel(161.975MHz)	
			Low channel(150.825MHz)	
Mode9	Low power		Mid channel(156.4MHz)	
Mode10	High power		High channel(161.975MHz)	
Mode11	Low power		Mid channel(173.3MHz)	
			Mid channel(173.3MHz)	
			Low channel(421.025MHz)	
Mode12	High power		Mid channel(466.5MHz)	
			High channel(511.975MHz)	
			Low channel(421.025MHz)	
Mode13	Low power	Mid channel(466.5MHz)		
		High channel(511.975MHz)		
		Low channel(150.80625MHz)		
Mode14	High power	Mid channel(156.4MHz)		
		High channel(162.00625MHz)		
		Low channel(150.80625MHz)		
Mode15	Low power	Mid channel(156.4MHz)		
Mode16	High power	High channel(162.00625MHz)		
Mode17	Low power	Mid channel(173.3MHz)		
		Mid channel(173.3MHz)		
		Low channel(421.00625MHz)		
Mode18	High power	Mid channel(466.5MHz)		
		High channel(511.99375MHz)		
		Low channel(421.00625MHz)		
			6.25kHz	Mid channel(466.5MHz)
				High channel(511.99375MHz)
				Low channel(421.00625MHz)
				Mid channel(466.5MHz)
				High channel(511.99375MHz)

### 2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

#### Radiated Spurious Emission Test



#### Conducted Emission Test



## 2.5 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
N/A	N/A	N/A	N/A	N/A	N/A

### Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
E-1	Adapter	HUAWEI	HW-050450C00	N/A	N/A
C-1	DC Cable	N/A	N/A	80cm	N/A

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.

## 2.6 TEST EQUIPMENT

Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date
LISN	R&S	ENV216	CTA-308	2023/08/02	2024/08/01
LISN	R&S	ENV216	CTA-314	2023/08/02	2024/08/01
EMI Test Receiver	R&S	ESPI	CTA-307	2023/08/02	2024/08/01
EMI Test Receiver	R&S	ESCI	CTA-306	2023/08/02	2024/08/01
Spectrum Analyzer	Agilent	N9020A	CTA-301	2023/08/02	2024/08/01
Spectrum Analyzer	R&S	FSP	CTA-337	2023/08/02	2024/08/01
Vector Signal generator	Agilent	N5182A	CTA-305	2023/08/02	2024/08/01
Analog Signal Generator	R&S	SML03	CTA-304	2023/08/02	2024/08/01
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	R&S	CTA-302	2023/08/02	2024/08/01
Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2023/08/02	2024/08/01
Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2023/10/17	2024/10/16
Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2023/10/13	2024/10/12
Loop Antenna	Zhinan	ZN30900C	CTA-311	2023/10/17	2024/10/16
Horn Antenna	Beijing Hangwei Dayang	OBH100400	CTA-336	2021/08/07	2024/08/06
Amplifier	Schwarzbeck	BBV 9745	CTA-312	2023/08/02	2024/08/01
Amplifier	Taiwan chengyi	EMC051845B	CTA-313	2023/08/02	2024/08/01
Directional coupler	NARDA	4226-10	CTA-303	2023/08/02	2024/08/01
High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2023/08/02	2024/08/01
High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2023/08/02	2024/08/01
Automated filter bank	Tonscend	JS0806-F	CTA-404	2023/08/02	2024/08/01
Power Sensor	Agilent	U2021XA	CTA-405	2023/08/02	2024/08/01
Amplifier	Schwarzbeck	BBV9719	CTA-406	2023/08/02	2024/08/01
Intercom comprehensive tester	HP	8920A	CTA-501	2023/03/01	2024/02/29

Test Equipment	Manufacturer	Model No.	Version number	Calibration Date	Calibration Due Date
EMI Test Software	Tonscend	TS®JS32-RE	5.0.0.2	N/A	N/A
EMI Test Software	Tonscend	TS®JS32-CE	5.0.0.1	N/A	N/A
RF Test Software	Tonscend	TS®JS1120-3	3.1.65	N/A	N/A
RF Test Software	Tonscend	TS®JS1120	3.1.46	N/A	N/A



### 3. MAXIMUM TRANSMITTER POWER

#### 3.1 LIMITS

Per FCC Part 2.1046 and Part 90.205: Maximum ERP is dependent upon the station's antenna HAAT and required service area.

The output power shall not exceed by more than 20 percent either the output power shown in the Radio Equipment List [available in accordance with §90.203(a)(1)] for transmitters included in this list or when not so listed, the manufacturer's rated output power for the particular transmitter specifically listed on the authorization.

#### 3.2 TEST PROCEDURE

Measurements shall be made to establish the radio frequency power delivered by the transmitter the standard output termination. The power output shall be monitored and recorded and no adjustment shall be made to the transmitter after the test has begun, except as noted below: If the power output is adjustable, measurements shall be made for the highest and lowest power levels. The EUT connect to the Spectrum Analyzer through 30 dB attenuator.

#### 3.3 DEVIATION FROM TEST STANDARD

No deviation

#### 3.4 TEST SETUP BLOCK DIAGRAM



#### 3.5 TEST RESULT

Channel Sparation	Operation Mode	Test Channel	Test Frequency (MHz)	Test Results (dBm)	Test Results (W)	Rated Output Power(W)	Limit (W)
12.5KHz	Low Power	Lowest	150.8125	33.730	2.36	2.0	1.6-2.4
		Middle	156.4000	33.610	2.30		
		Highest	162.0000	33.310	2.14		
		Middle	173.3000	33.330	2.15		
		Lowest	421.0125	33.780	2.39		
		Middle	466.5000	33.630	2.31		
		Highest	511.9875	33.350	2.16		
	High Power	Lowest	150.8125	37.600	5.75	5.0	4.0-6.0
		Middle	156.4000	37.400	5.50		
		Highest	162.0000	37.620	5.78		
		Middle	173.3000	37.280	5.35		
		Lowest	421.0125	37.650	5.82		
		Middle	466.5000	37.680	5.86		
		Highest	511.9875	37.090	5.12		

Channel Separation	Operation Mode	Test Channel	Test Frequency (MHz)	Test Results (dBm)	Test Results (W)	Rated Output Power(W)	Limit (W)
25KHz	Low Power	Lowest	150.8250	33.652	2.32	2.0	1.6-2.4
		Middle	156.4000	33.489	2.23		
		Highest	161.9750	33.338	2.16		
		Middle	173.3000	33.325	2.15		
		Lowest	421.0250	33.686	2.34		
		Middle	466.5000	33.593	2.29		
		Highest	511.9750	33.433	2.20		
	High Power	Lowest	150.8250	37.652	5.82	5.0	4.0-6.0
		Middle	156.4000	37.459	5.57		
		Highest	161.9750	37.618	5.78		
		Middle	173.3000	37.211	5.26		
		Lowest	421.0250	37.614	5.77		
		Middle	466.5000	37.568	5.71		
		Highest	511.9750	37.106	5.14		

Channel Separation	Operation Mode	Test Channel	Test Frequency (MHz)	Test Results (dBm)	Test Results (W)	Rated Output Power(W)	Limit (W)
6.25KHz	Low Power	Lowest	150.80625	33.651	2.32	2.0	1.6-2.4
		Middle	156.40000	33.587	2.28		
		Highest	162.00625	33.293	2.13		
		Middle	173.30000	33.215	2.10		
		Lowest	421.00625	33.663	2.32		
		Middle	466.50000	33.527	2.25		
		Highest	511.99375	33.342	2.16		
	High Power	Lowest	150.80625	37.518	5.65	5.0	4.0-6.0
		Middle	156.40000	37.385	5.48		
		Highest	162.00625	37.503	5.63		
		Middle	173.30000	37.258	5.32		
		Lowest	421.00625	37.430	5.53		
		Middle	466.50000	37.572	5.72		
		Highest	511.99375	37.028	5.04		

Note: The rated low power is 2W, the power limits is 1.6 W-2.4W.  
The rated high power is 5W, the power limits is 4.0 W-6.0W.

## 4. OCCUPIED BANDWIDTH

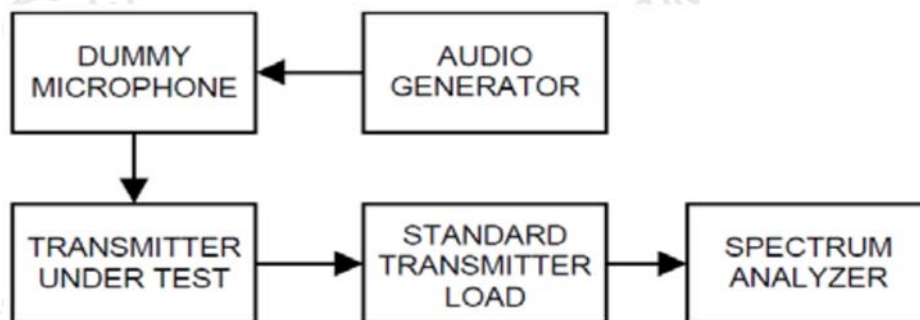
### 4.1 LIMIT

Occupied Bandwidth: The EUT was connected to the spectrum analyzer via the main RF connector, and through an appropriate attenuator. The EUT was controlled to transmit its maximum power. Then the bandwidth of 99% power can be measured by the spectrum analyzer. The maximum authorized bandwidth shall not be more than that normally authorized for digital data mode.

### 4.2 MEASUREMENT PROCEDURE

- a. The EUT was connected to the spectrum analyzer through sufficient attenuation.
- b. Set EUT as digital data mode.
- c. Set SPA Center Frequency=fundamental frequency, RBW=300Hz, VBW=3KHz, span =15KHz or 30KHz.
- e Set SPA Max hold. Mark peak, Set 99% Occupied Bandwidth.

### 4.3 TEST SETUP BLOCK DIAGRAM



## 4.4 TEST RESULT

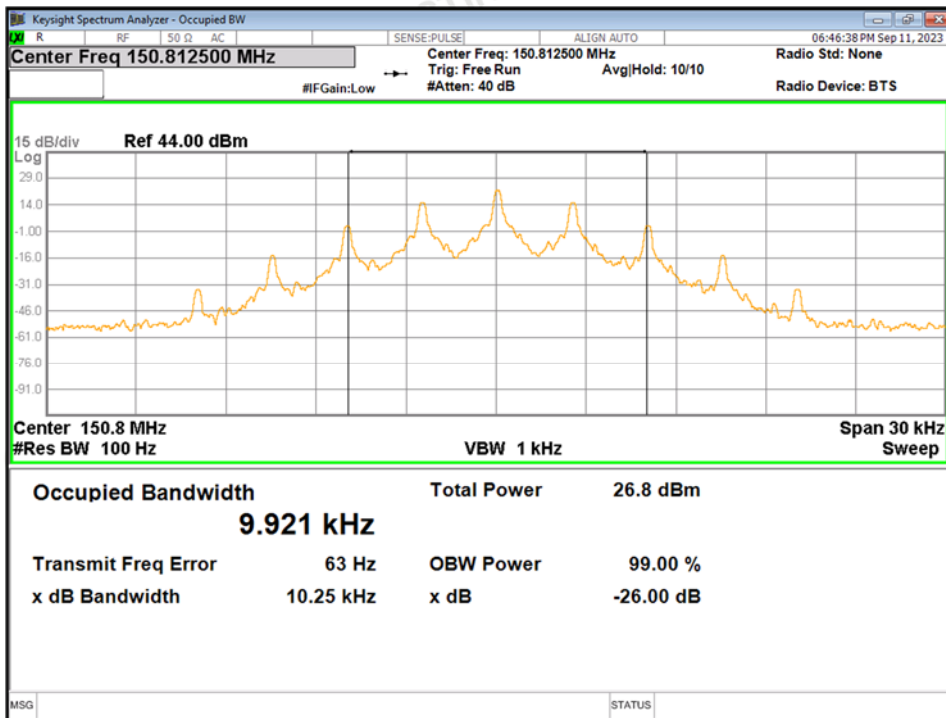
Channel Bandwidth	Operation Mode	Test Channel	Test Frequency (MHz)	Occupied Bandwidth (KHz)		Limits ( KHz )
				99%	26dB	
12.5KHz	Low Power	Lowest	150.8125	9.921	10.250	11.25
		Middle	156.4000	9.920	10.270	
		Highest	162.0000	9.932	10.240	
		Middle	173.3000	9.937	10.220	
		Lowest	421.0125	9.926	10.250	
		Middle	466.5000	9.930	10.240	
		Highest	511.9875	9.931	10.220	
	High Power	Lowest	150.8125	9.924	10.250	
		Middle	156.4000	9.912	10.310	
		Highest	162.0000	9.932	10.230	
		Middle	173.3000	9.930	10.230	
		Lowest	421.0125	9.930	10.230	
		Middle	466.5000	9.925	10.240	
		Highest	511.9875	9.932	10.240	

Channel Sparation	Operation Mode	Test Channel	Test Frequency (MHz)	Occupied Bandwidth (KHz)		Limits ( KHz )
				99%	26dB	
25KHz	Low Power	Lowest	150.8250	14.708	15.960	20
		Middle	156.4000	14.926	15.910	
		Highest	161.9750	14.823	15.870	
		Middle	173.3000	14.843	15.940	
		Lowest	421.0250	14.816	16.450	
		Middle	466.5000	14.643	16.120	
		Highest	511.9750	14.838	15.790	
	High Power	Lowest	150.8250	14.796	15.850	
		Middle	156.4000	14.805	15.970	
		Highest	161.9750	14.828	15.950	
		Middle	173.3000	14.814	16.160	
		Lowest	421.0250	14.854	16.310	
		Middle	466.5000	14.798	15.860	
		Highest	511.9750	14.713	15.930	

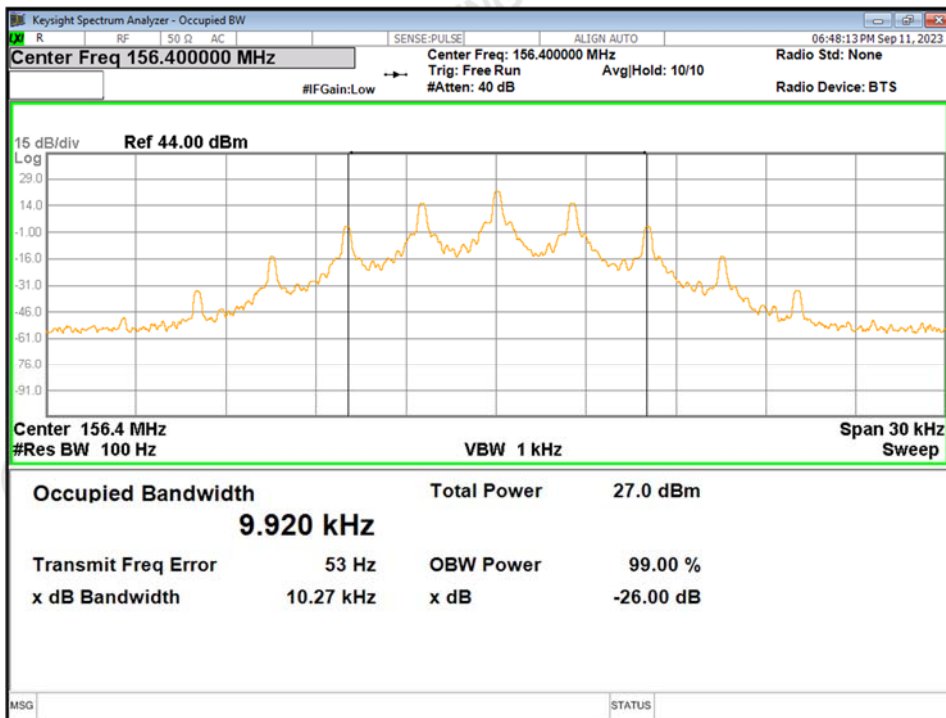
Channel Bandwidth	Operation Mode	Test Channel	Test Frequency (MHz)	Occupied Bandwidth (KHz)		Limits ( KHz )
				99%	26dB	
6.25KHz	Low Power	Lowest	150.80625	3.951	5.433	6
		Middle	156.40000	3.917	5.424	
		Highest	162.00625	3.904	5.417	
		Middle	173.30000	4.201	5.451	
		Lowest	421.00625	3.961	5.449	
		Middle	466.50000	3.944	5.436	
		Highest	511.99375	3.988	5.450	
	High Power	Lowest	150.80625	4.002	5.455	
		Middle	156.40000	3.914	5.415	
		Highest	162.00625	3.919	5.416	
		Middle	173.30000	3.996	5.448	
		Lowest	421.00625	3.932	5.431	
		Middle	466.50000	3.955	5.446	
		Highest	511.99375	4.190	5.450	

12.5 kHz:

Mode1-150.8125MHz-Low Power

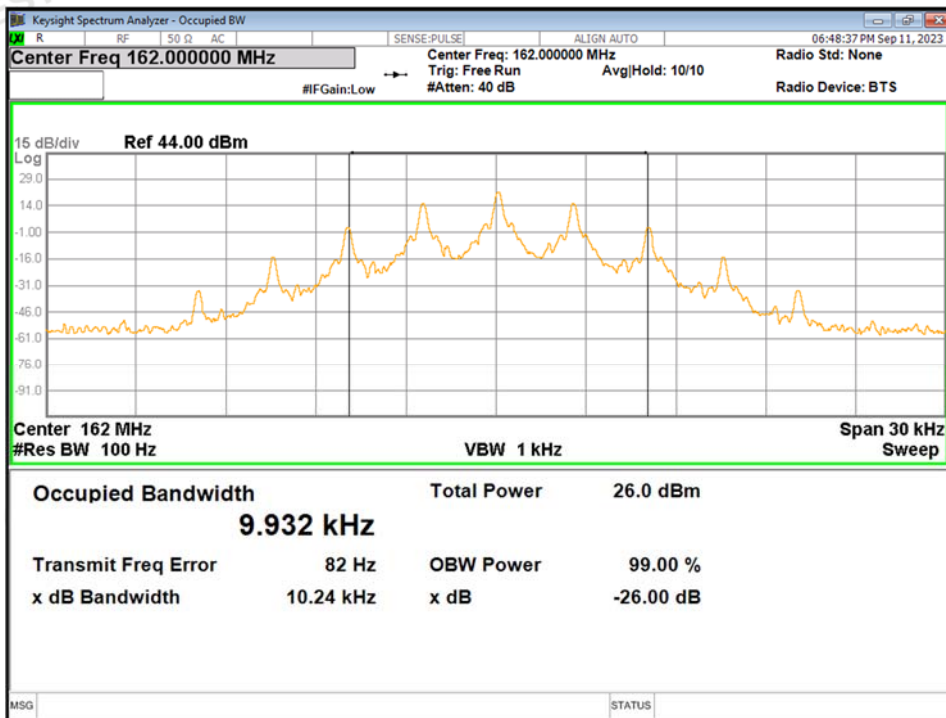


Mode1-156.4MHz-Low Power

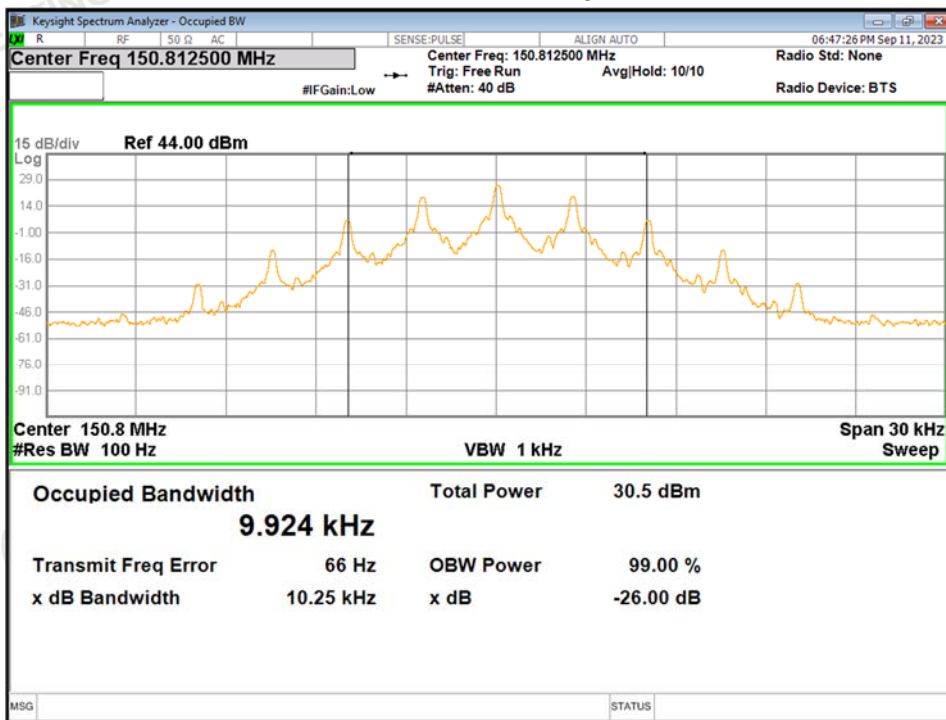




Mode1-162MHz-Low Power

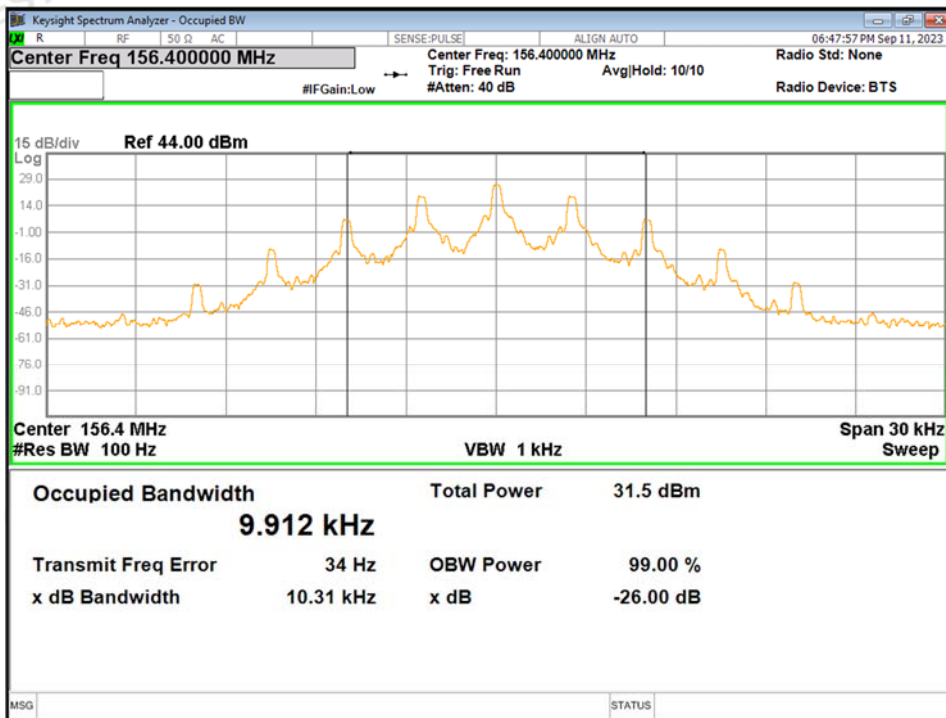


Mode2-150.8125MHz-High Power

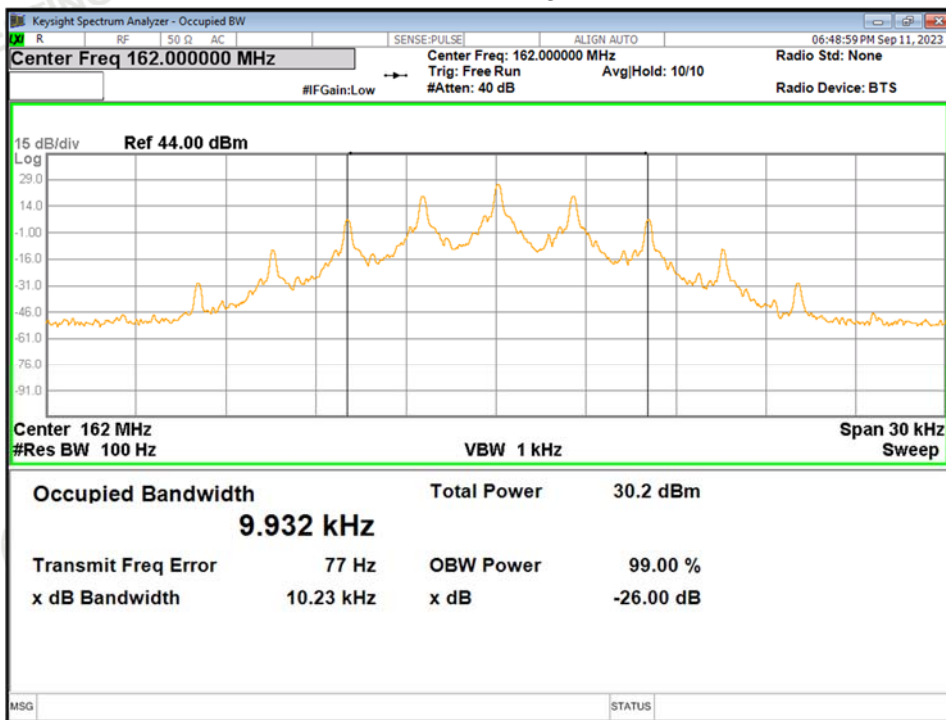




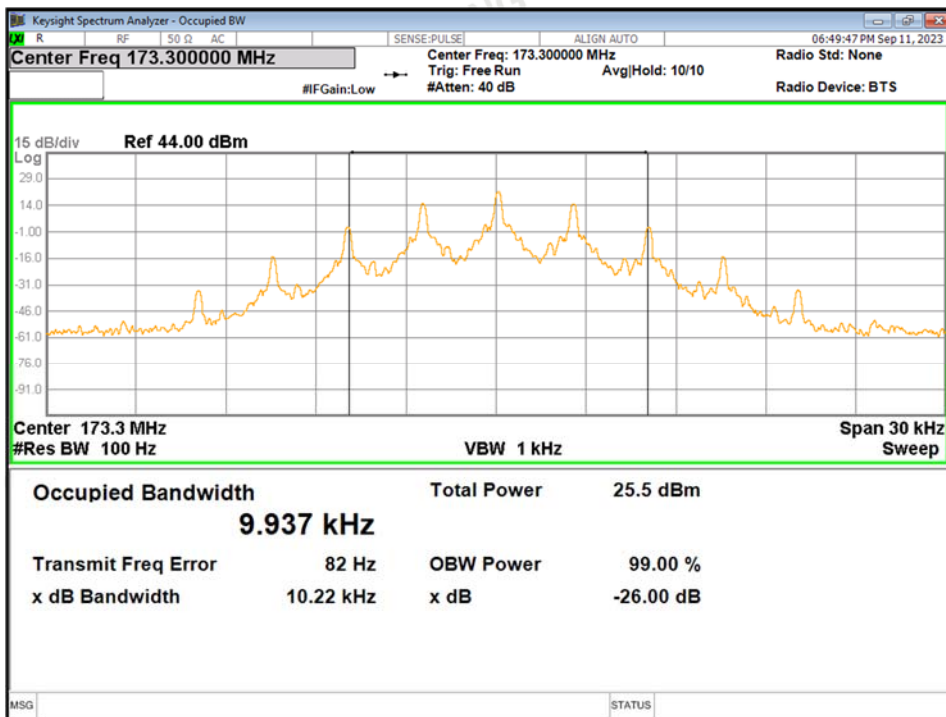
### Mode2-156.4MHz-High Power



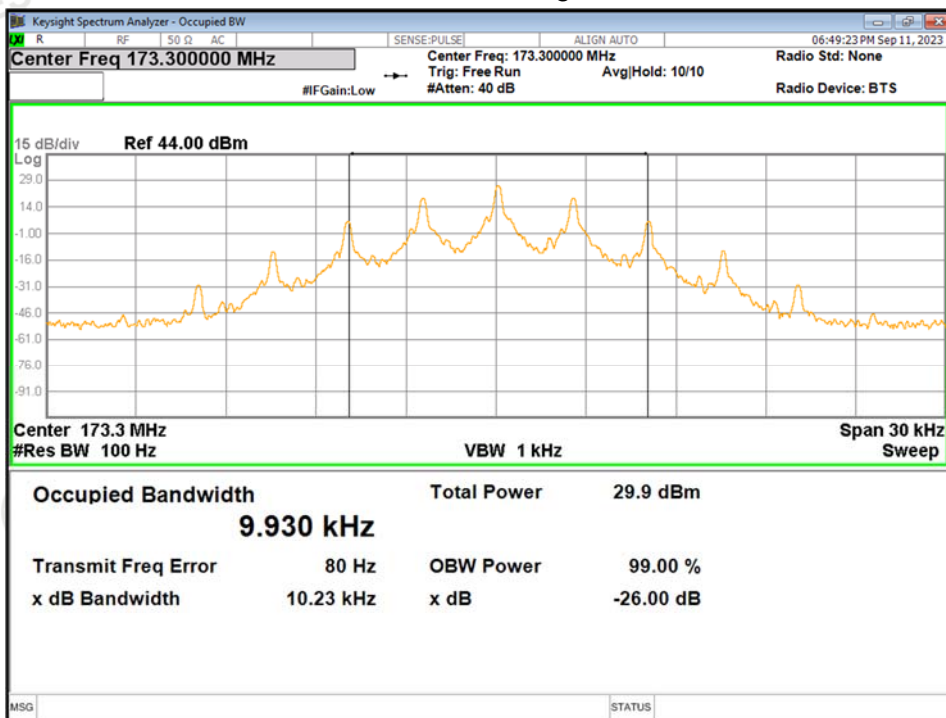
### Mode2-162MHz-High Power



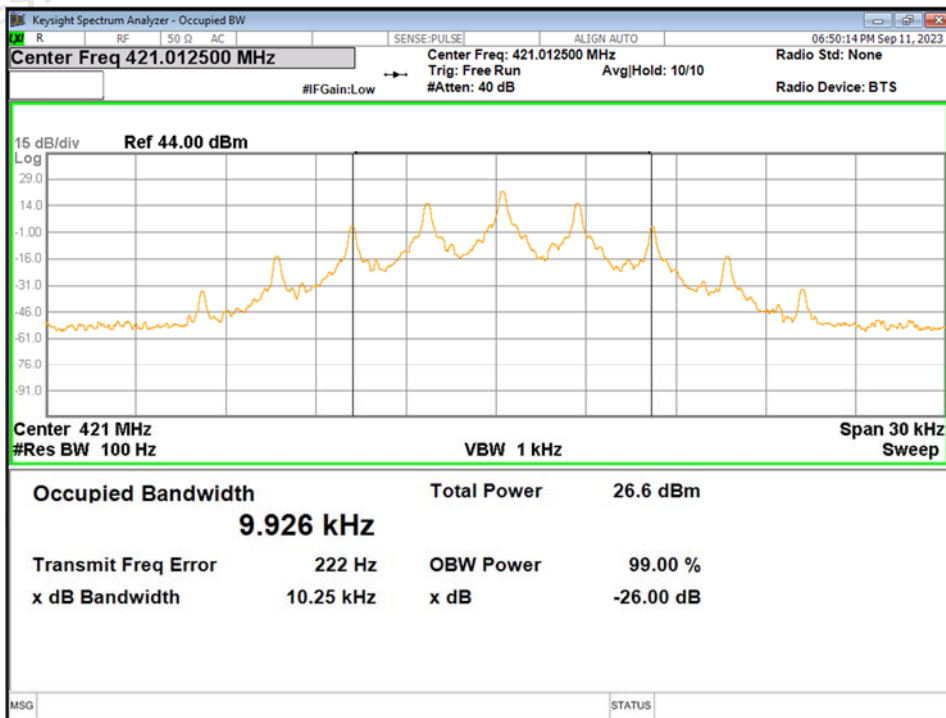
Mode3-173.3MHz-Low Power



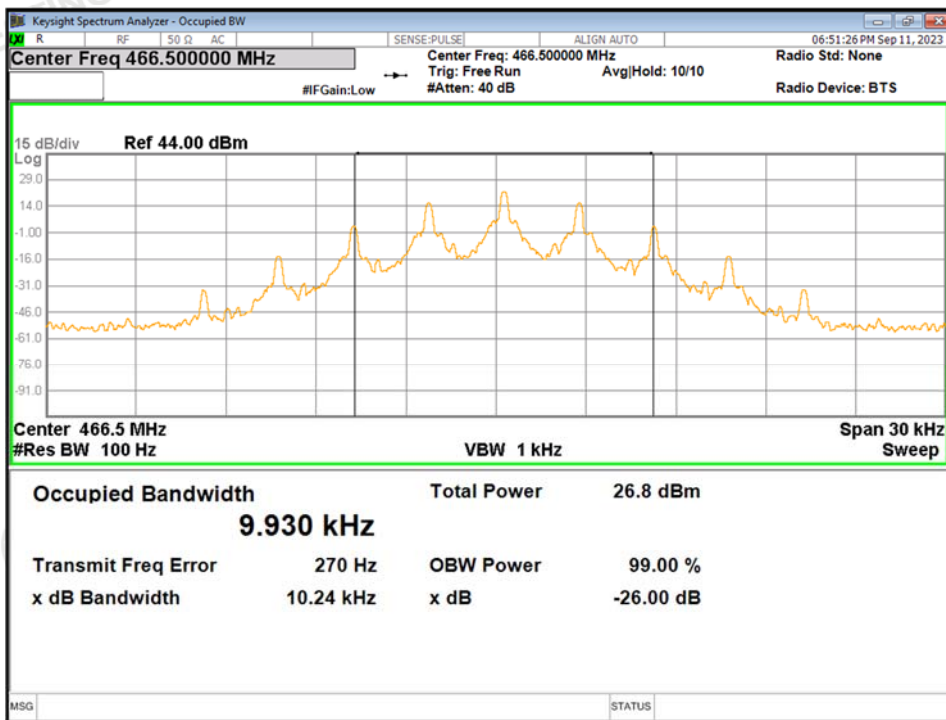
Mode4-173.3MHz-High Power



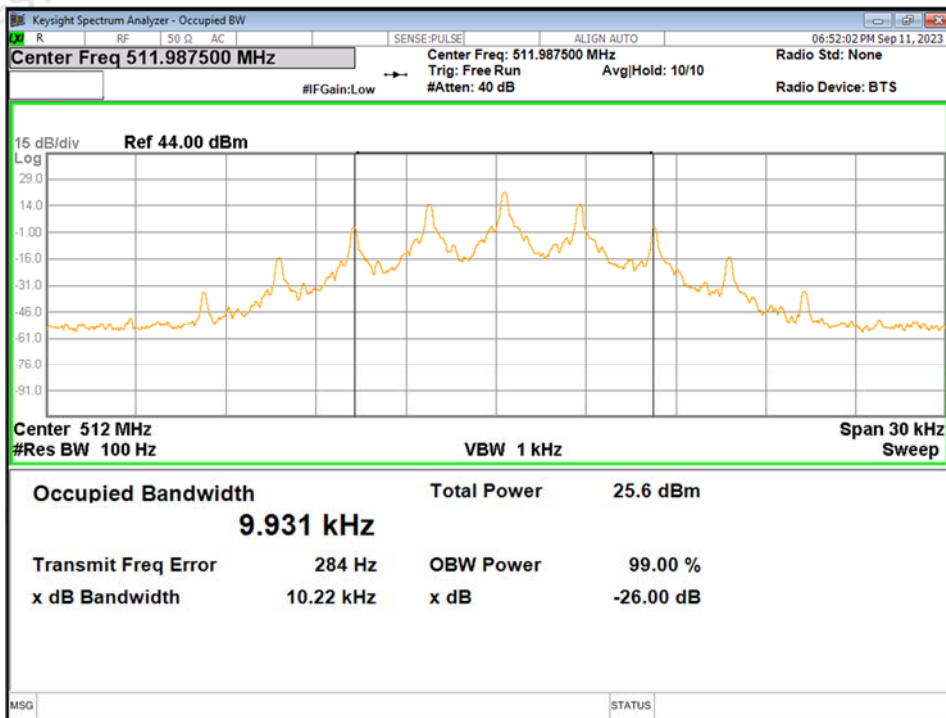
Mode5-421.0125MHz-Low Power



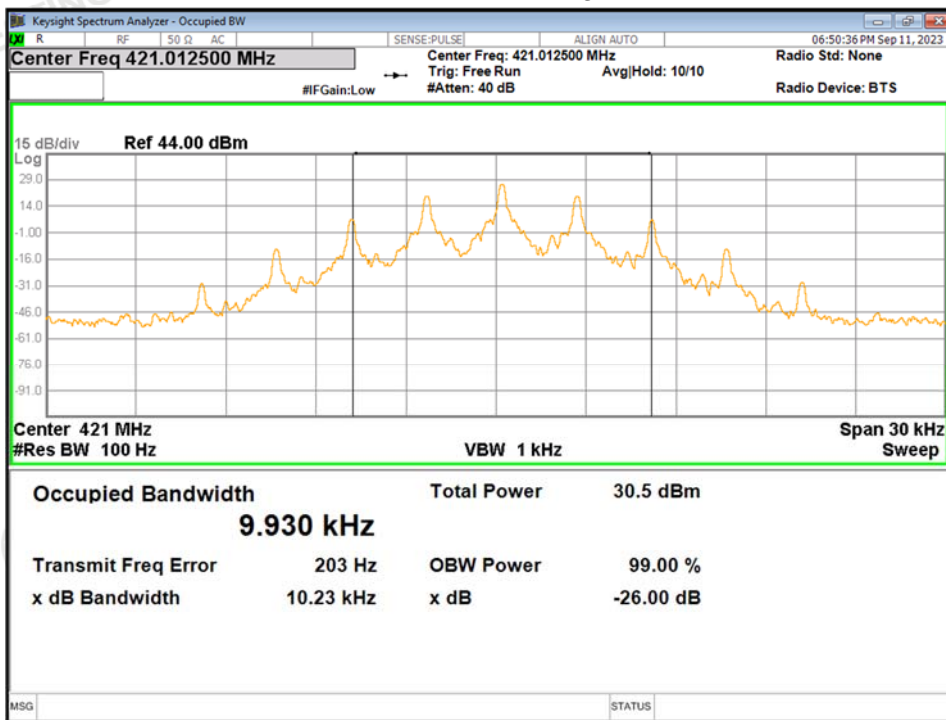
Mode5-466.5MHz-Low Power



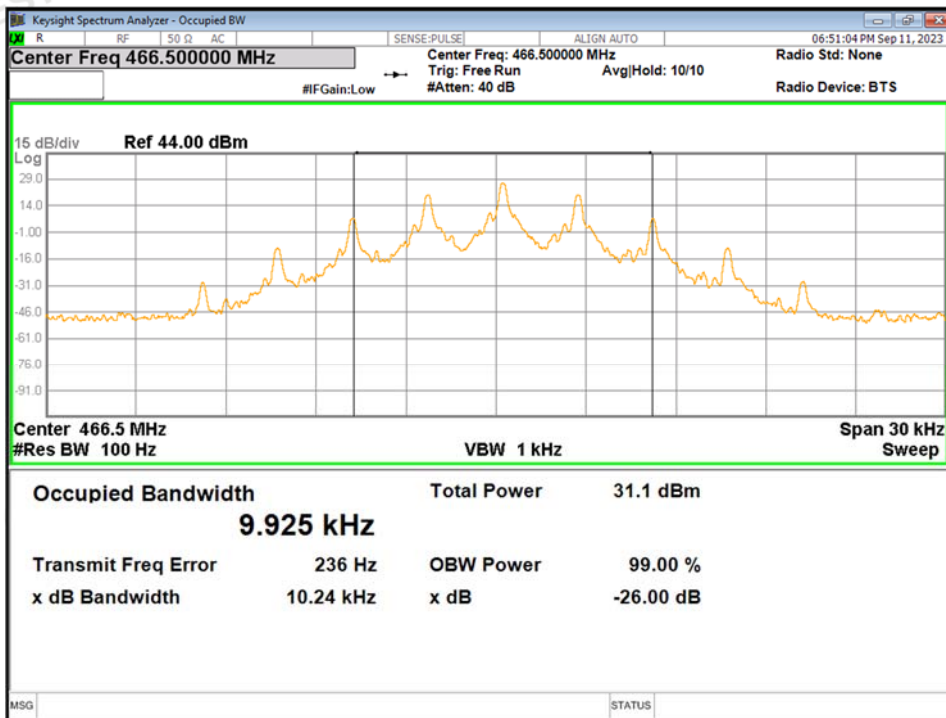
Mode5-511.9875MHz-Low Power



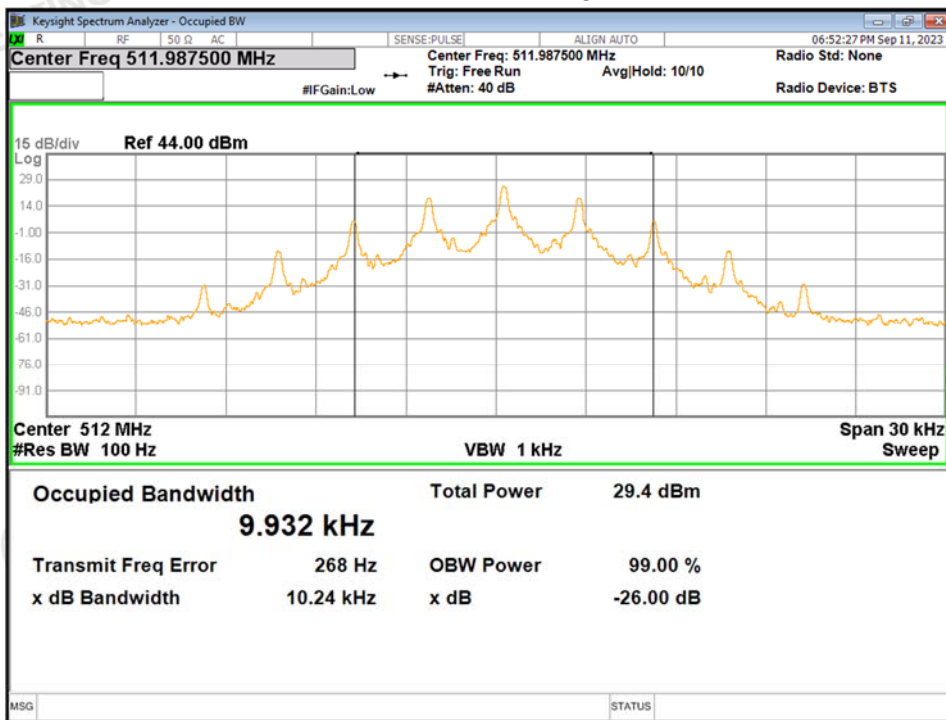
Mode6-421.0125MHz-High Power



Mode6-466.5MHz-High Power



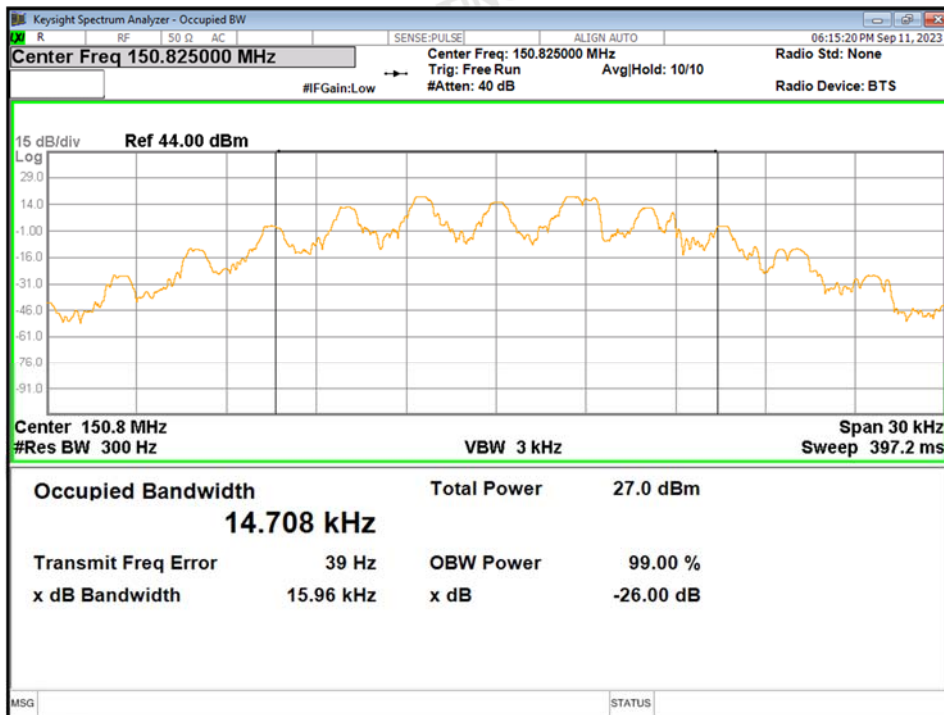
Mode6-511.9875MHz-High Power



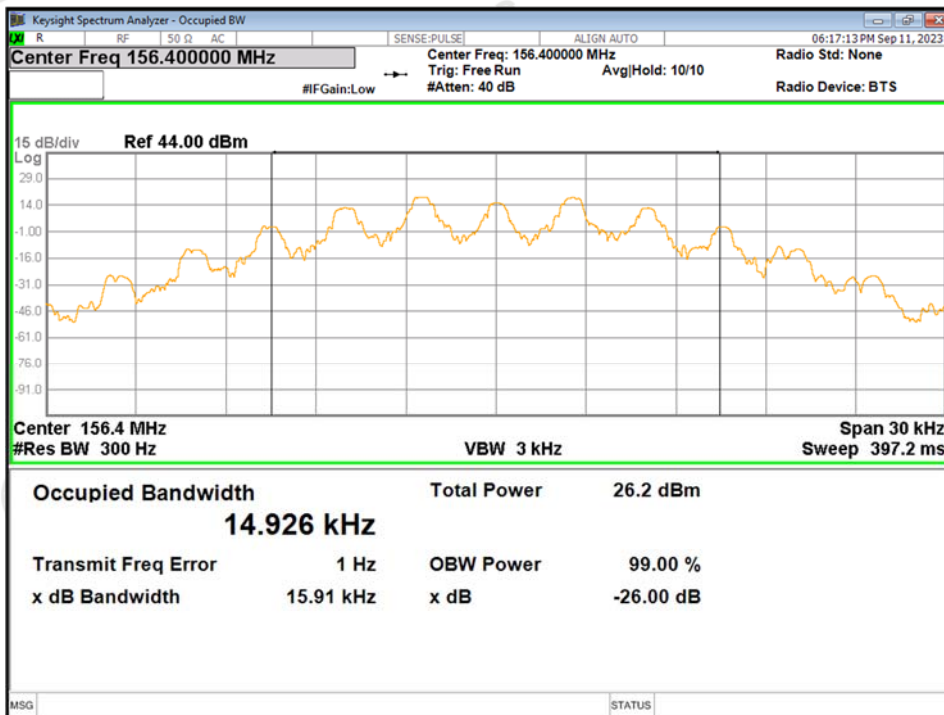


25 kHz:

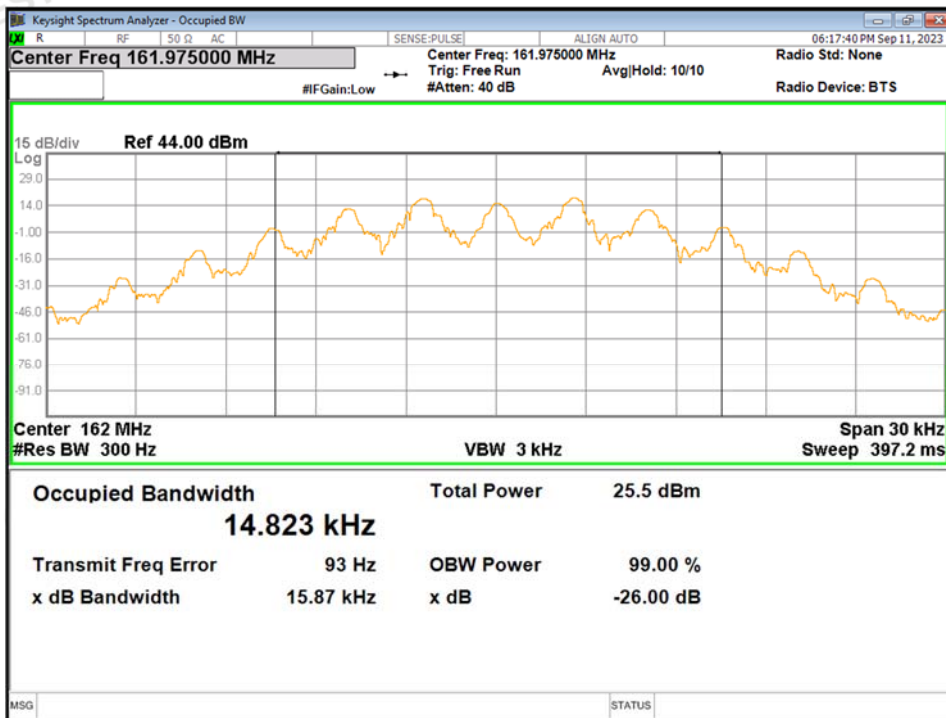
Mode7-150.825MHz-Low Power



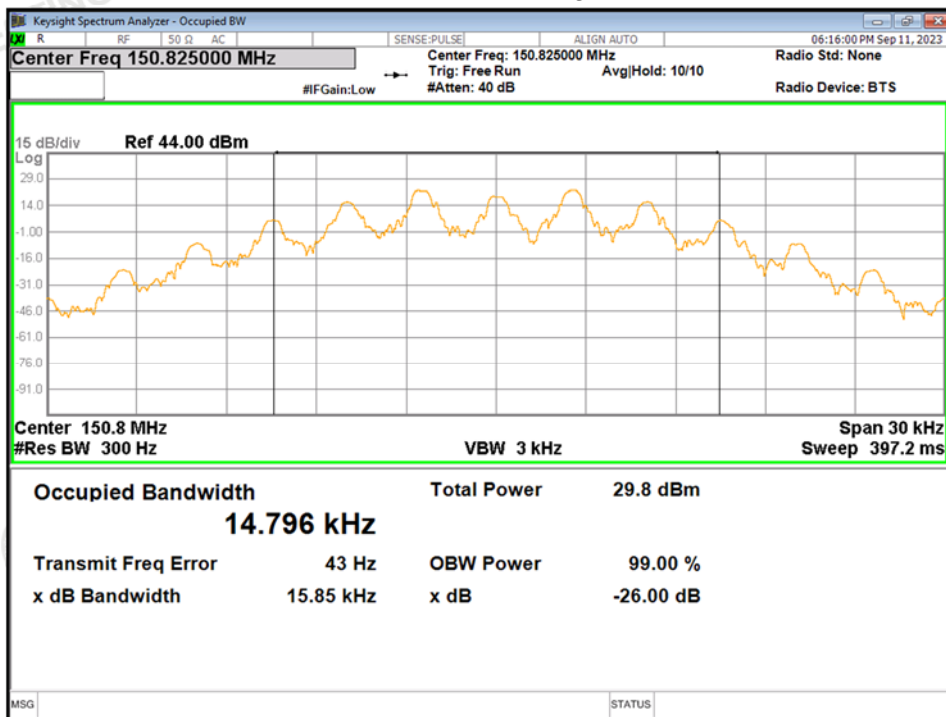
Mode7-156.4MHz-Low Power



Mode7-161.975MHz-Low Power

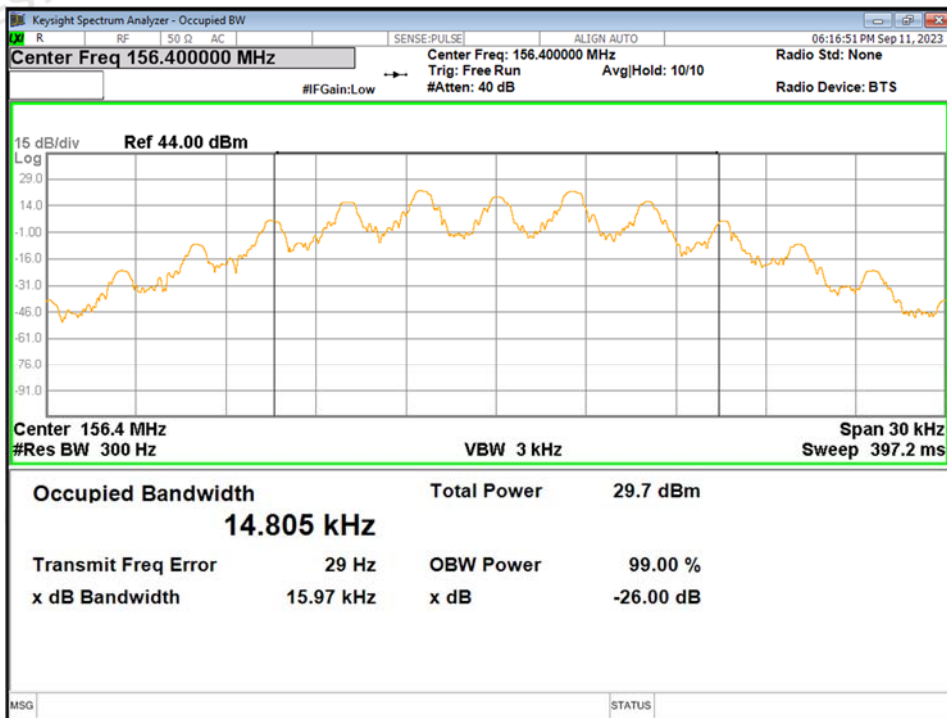


Mode8-150.825MHz-High Power

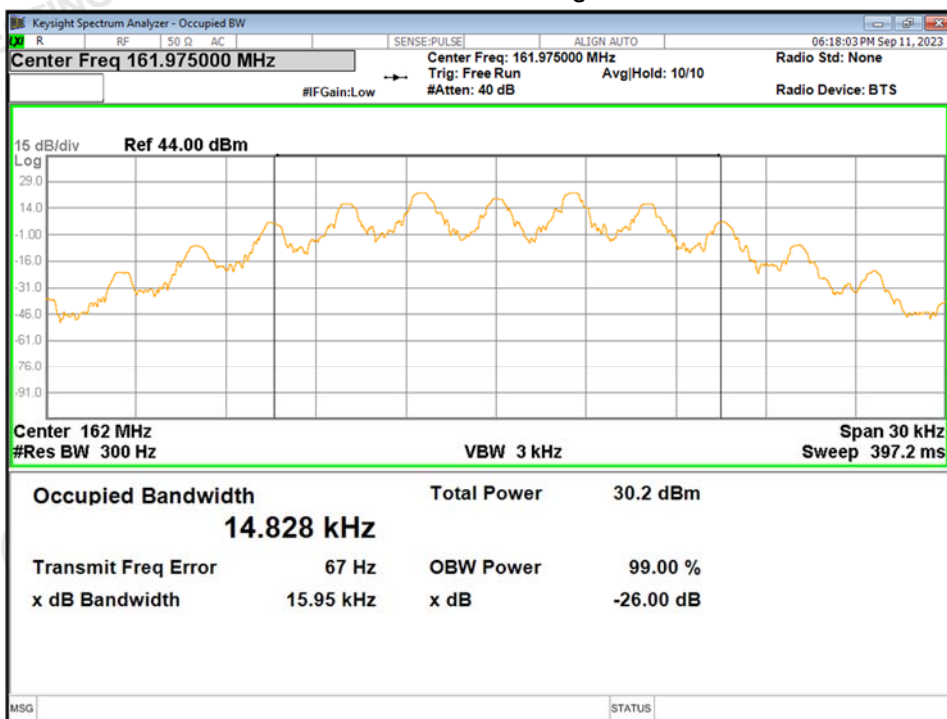




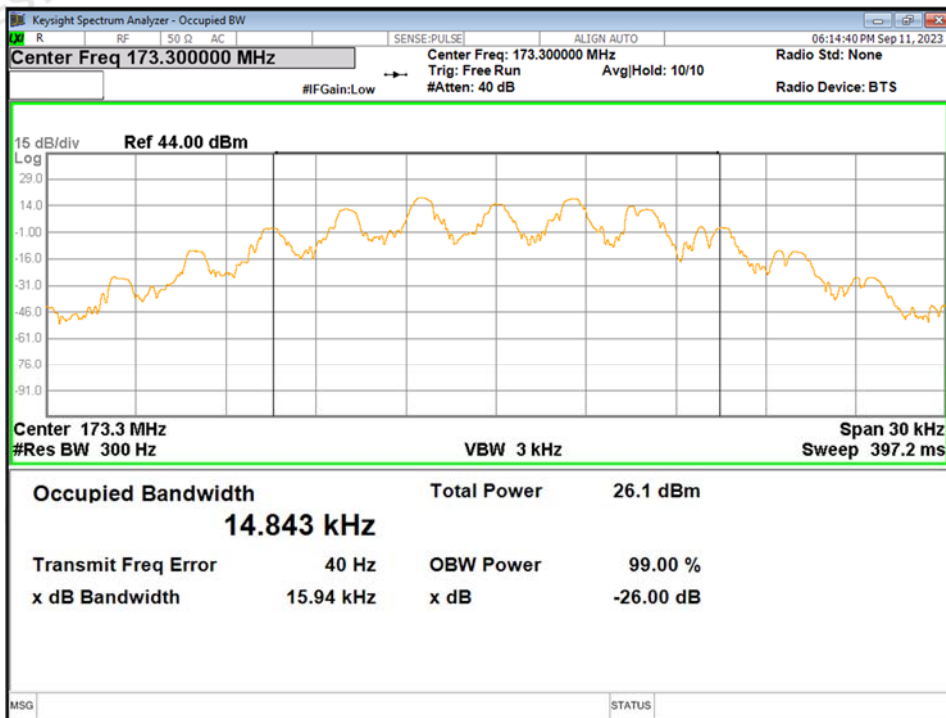
### Mode8-156.4MHz-High Power



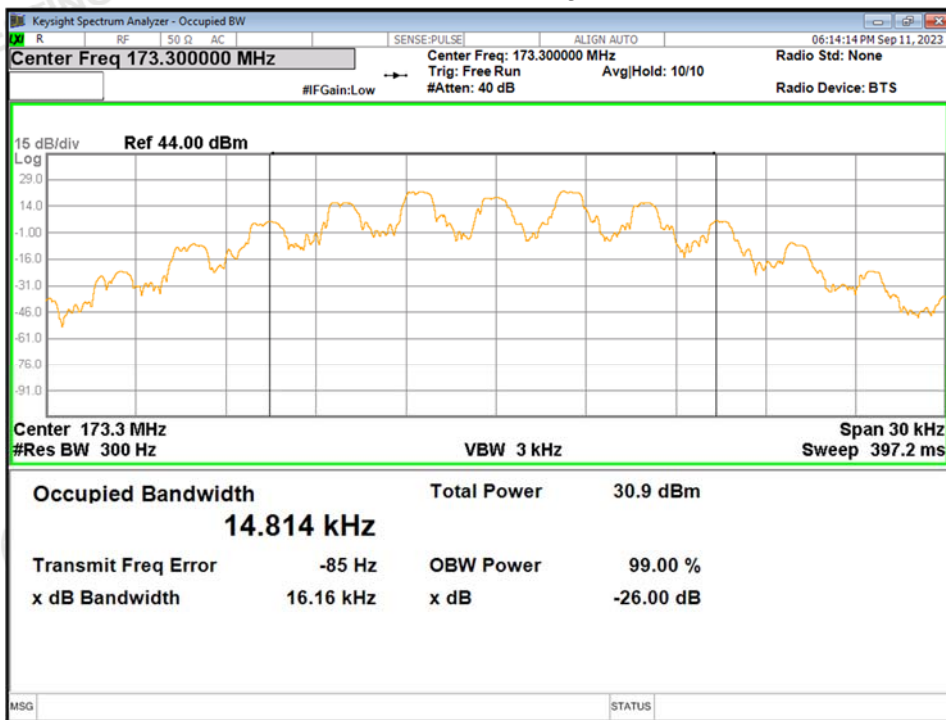
### Mode8-161.975MHz-High Power



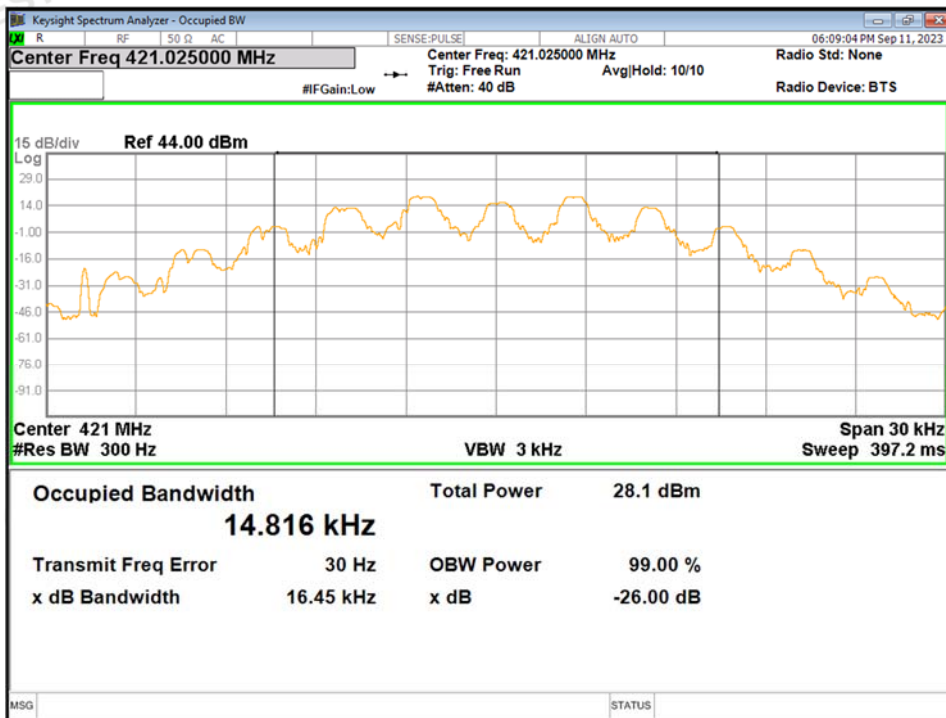
Mode9-173.3MHz-Low Power



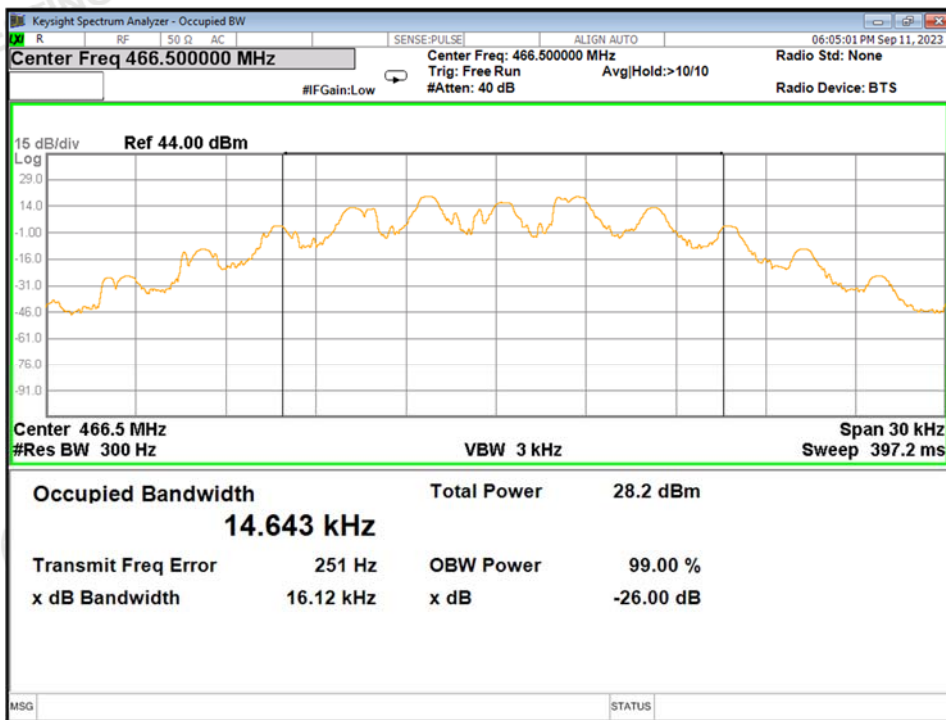
Mode10-173.3MHz-High Power



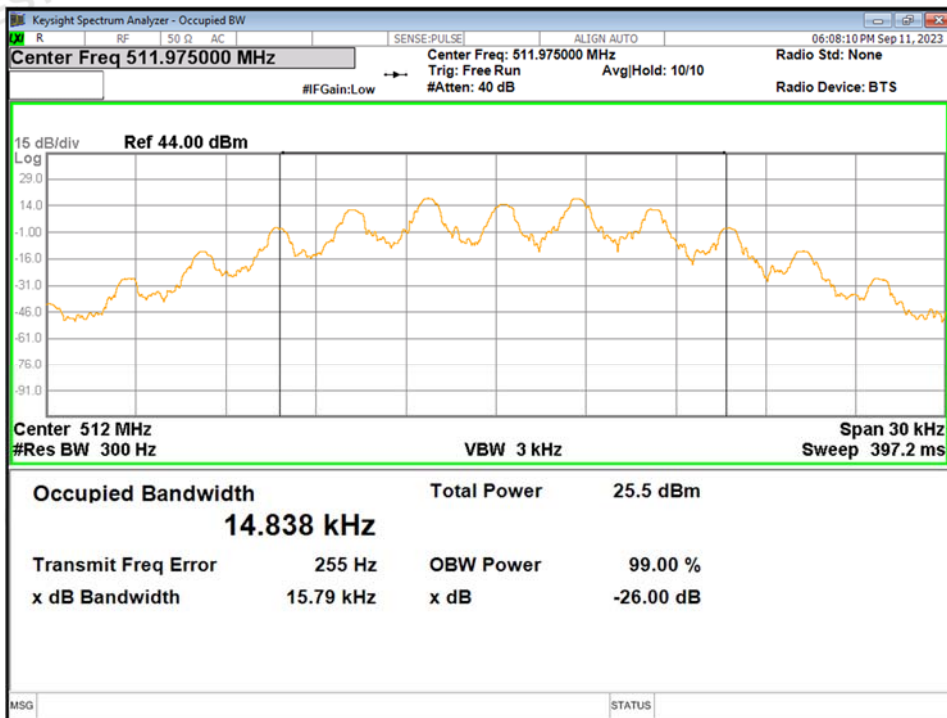
Mode11-421.025MHz-Low Power



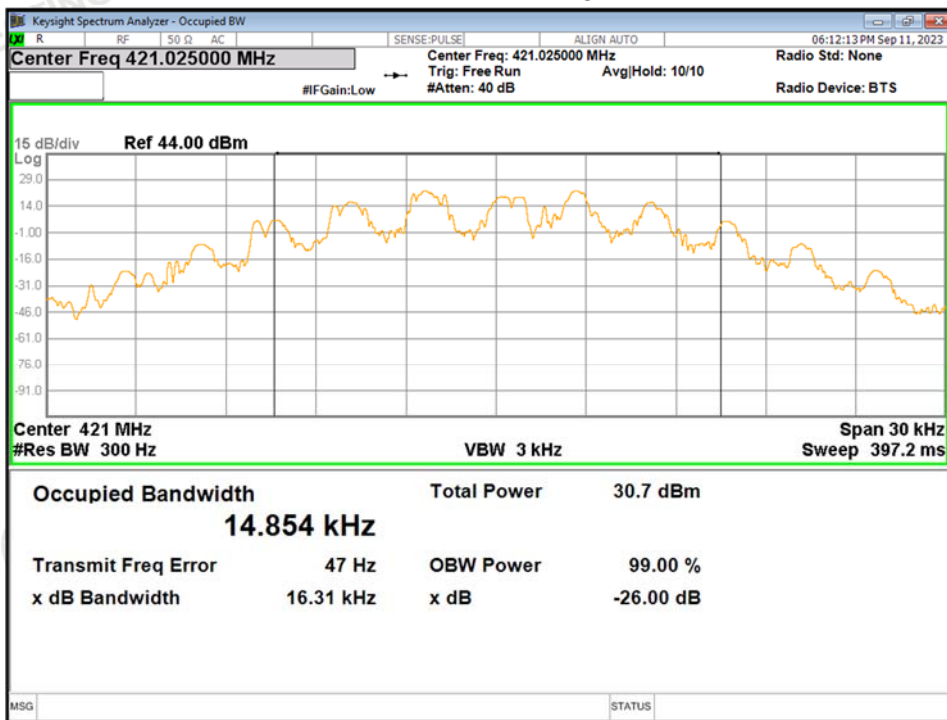
Mode11-466.5MHz-Low Power



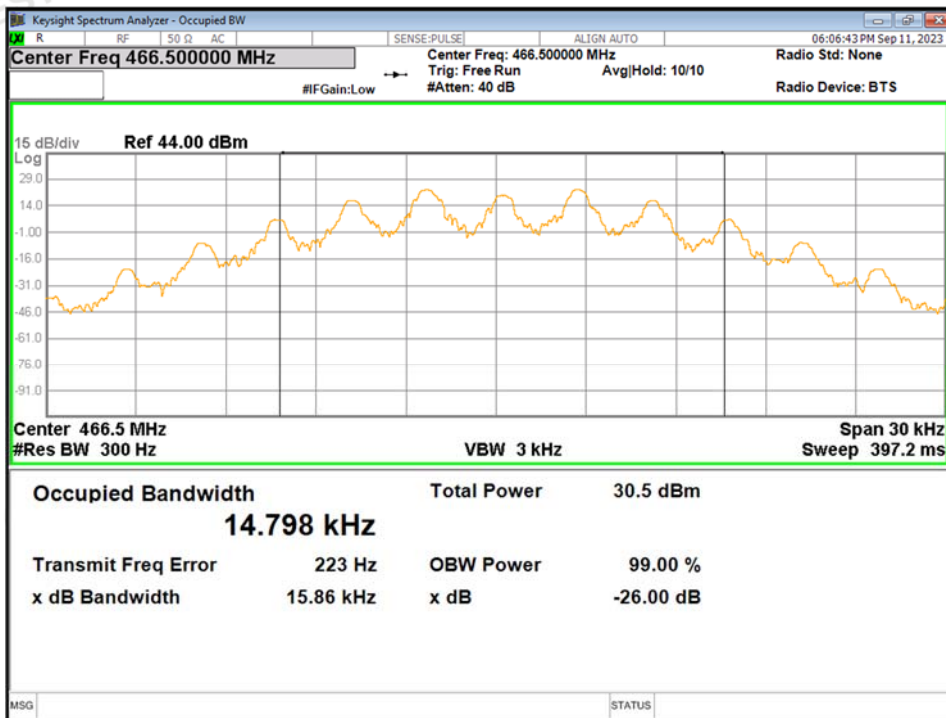
Mode11-511.975MHz-Low Power



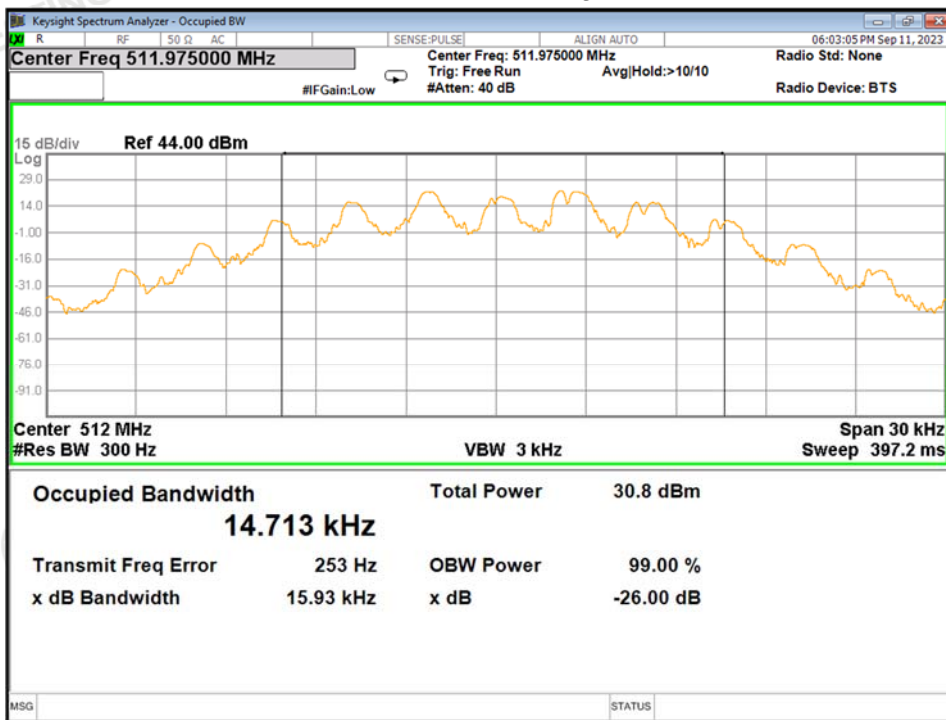
Mode12-421.025MHz-High Power



Mode12-466.5MHz-High Power



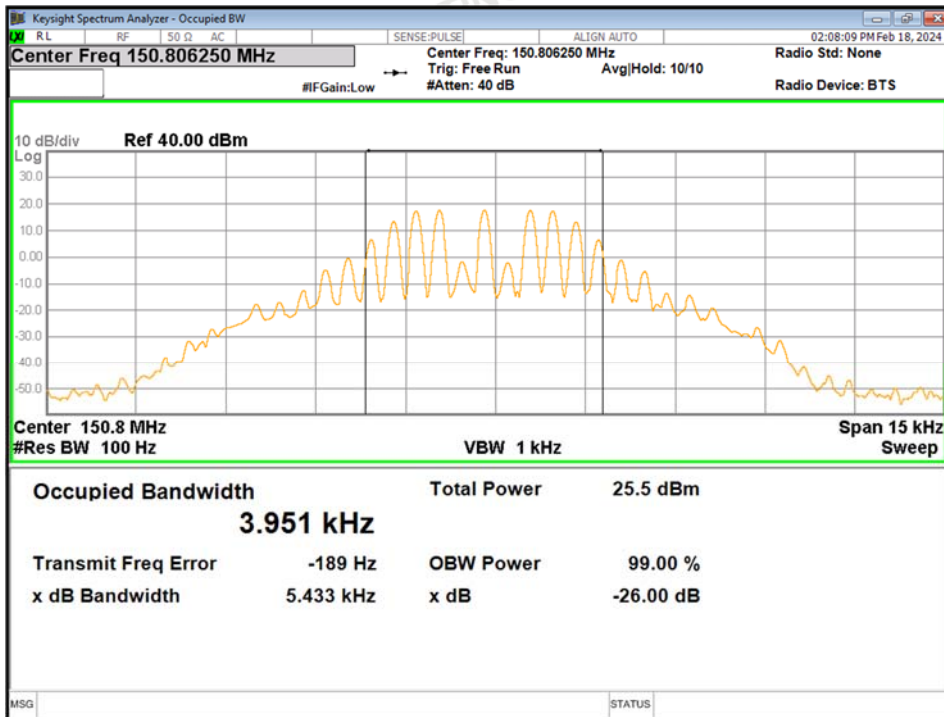
Mode12-511.975MHz-High Power



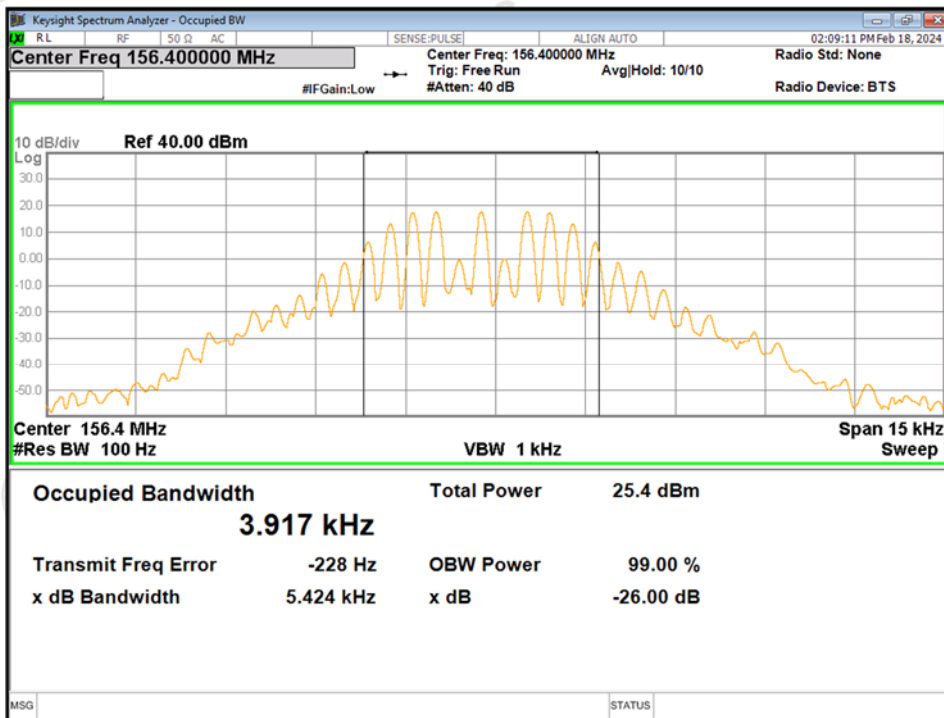


6.25 kHz:

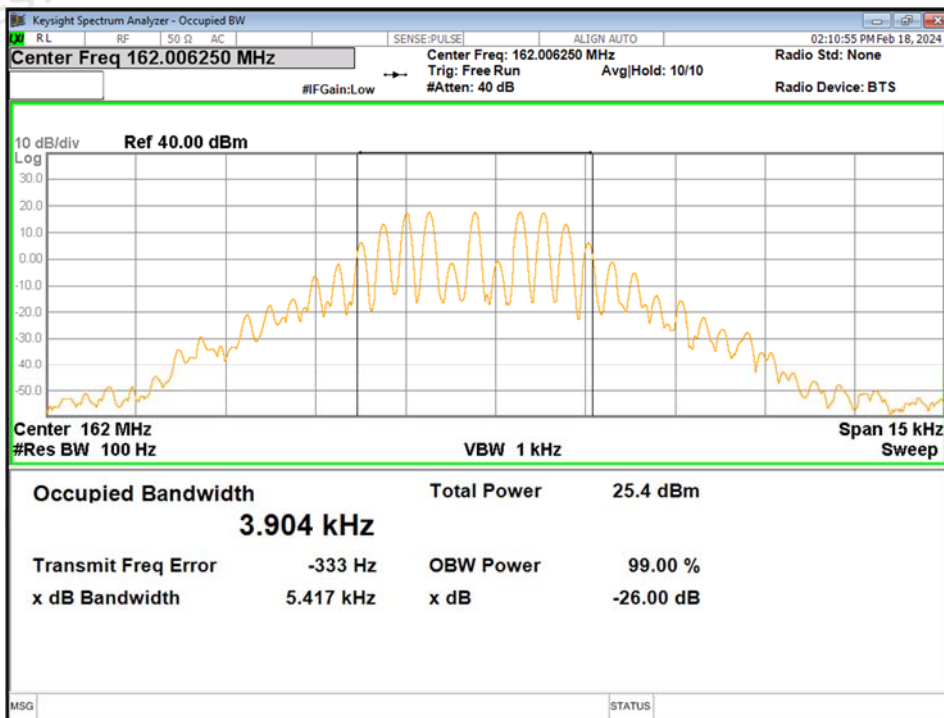
Mode13-150.80625MHz-Low Power



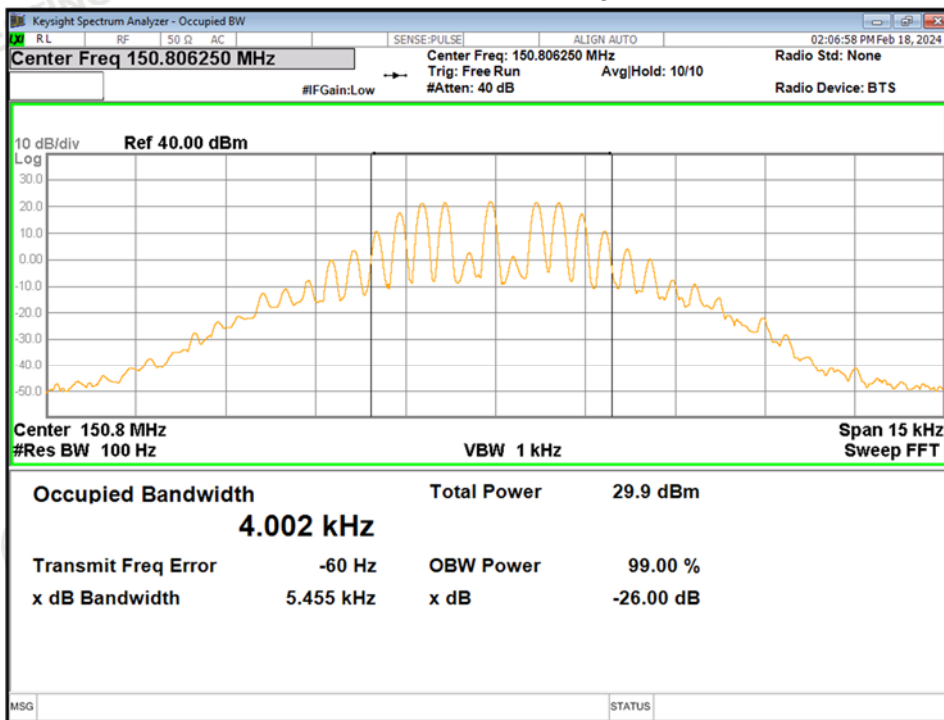
Mode13-156.4MHz-Low Power



Mode13-162.00625MHz-Low Power

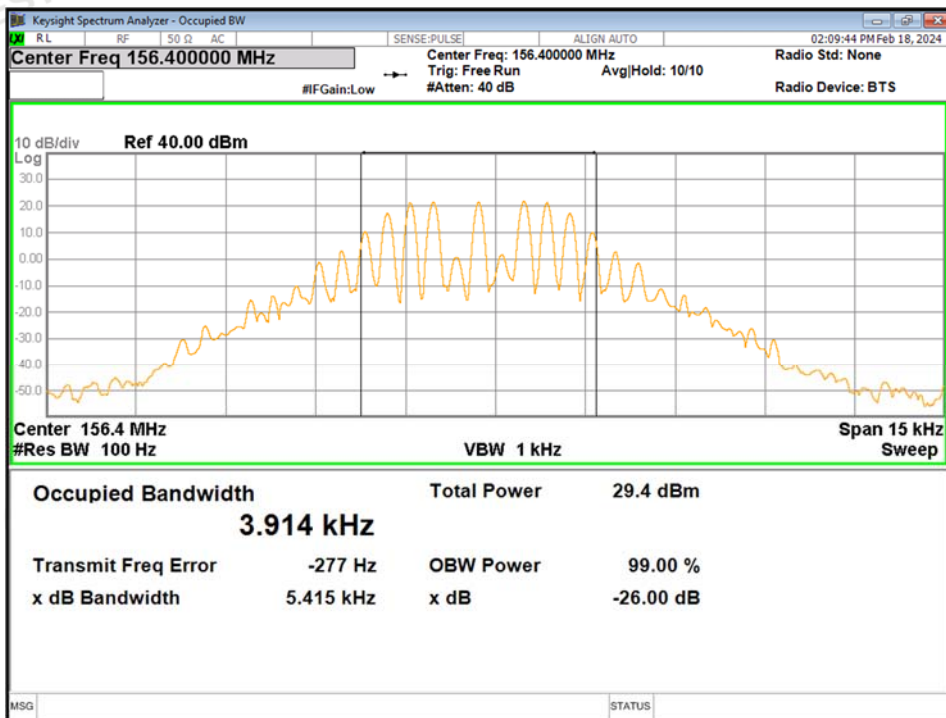


Mode14-150.80625MHz-High Power

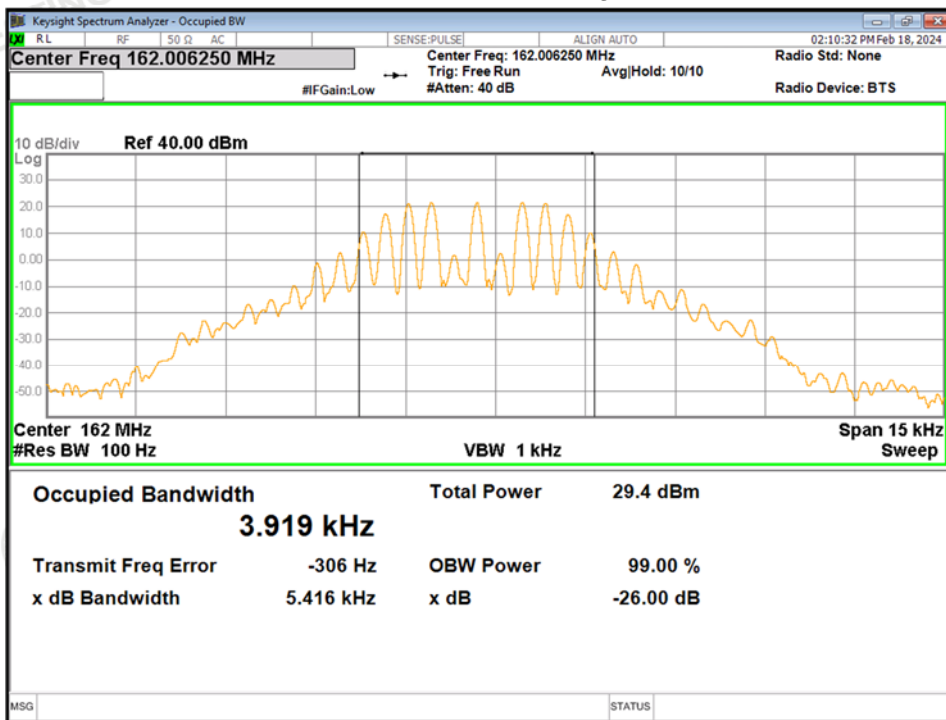




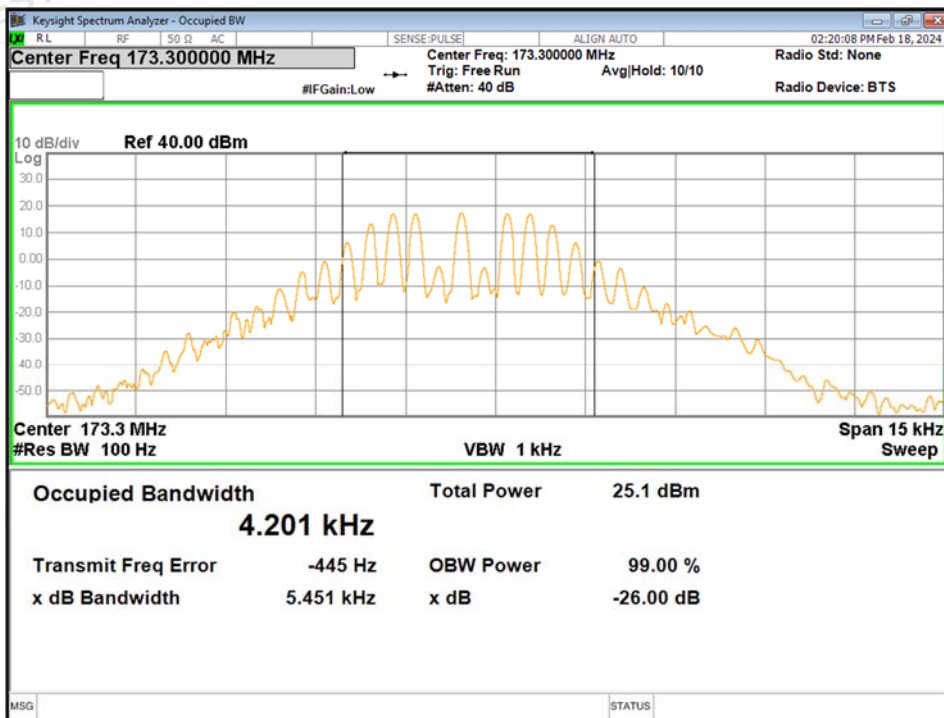
Mode14-156.4MHz-High Power



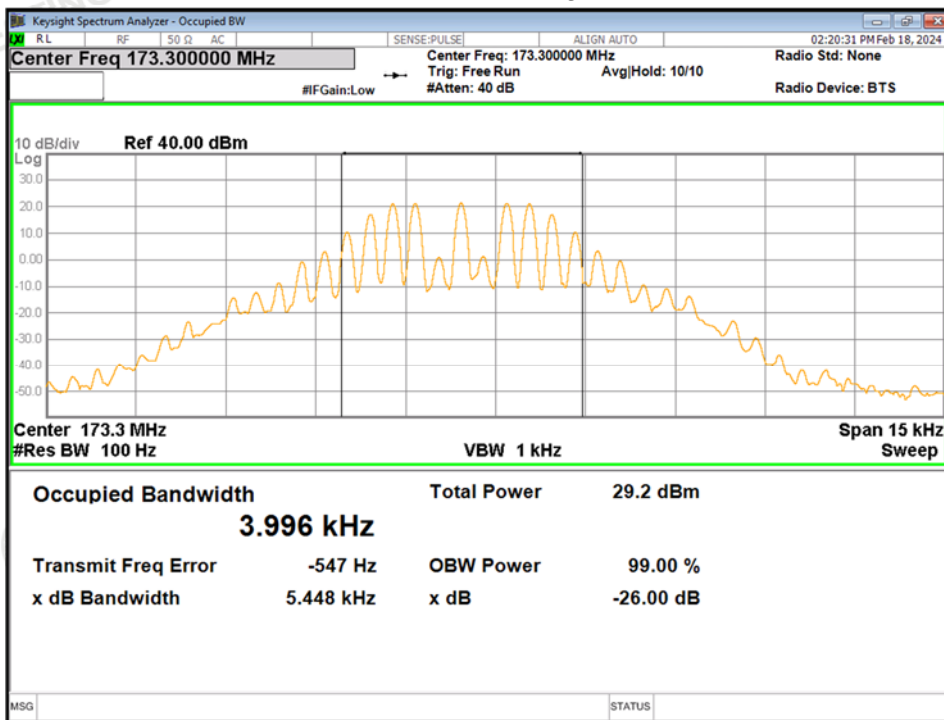
Mode14-162.00625MHz-High Power



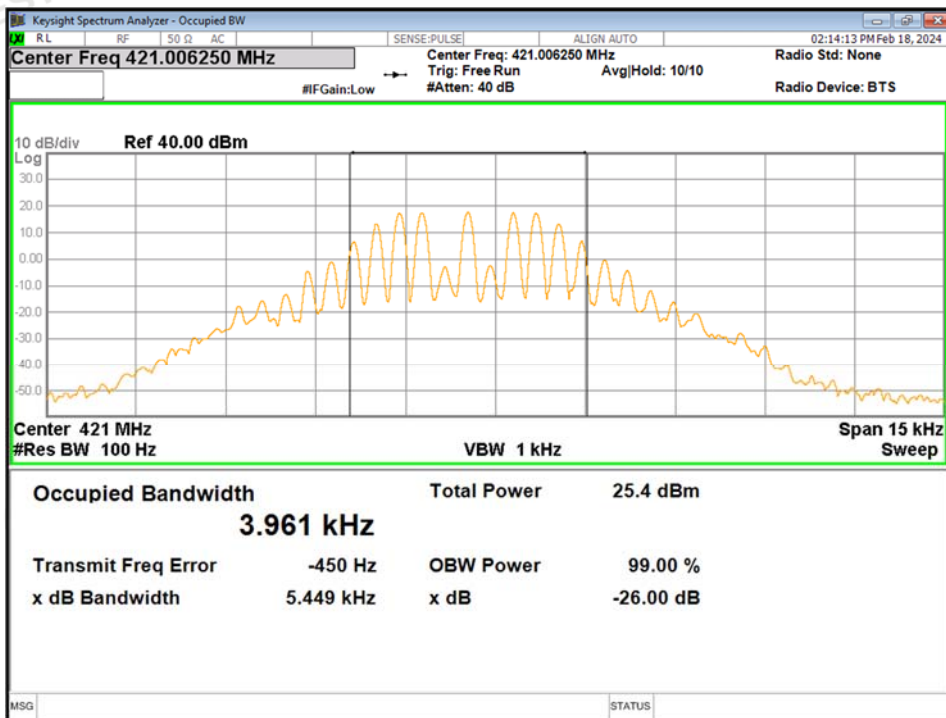
Mode15-173.3MHz-Low Power



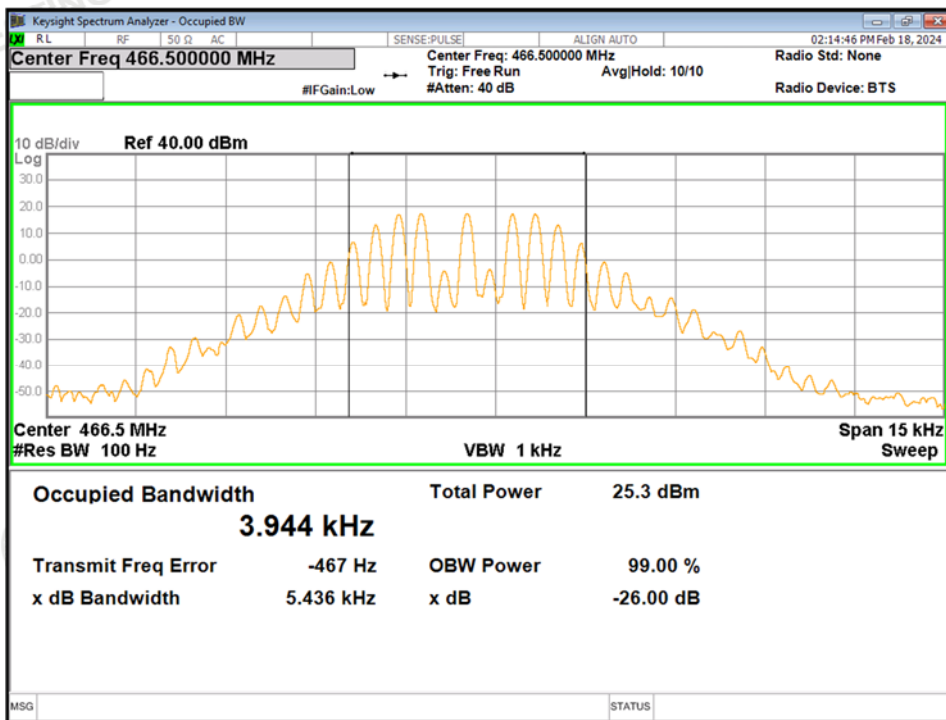
Mode16-173.3MHz-High Power



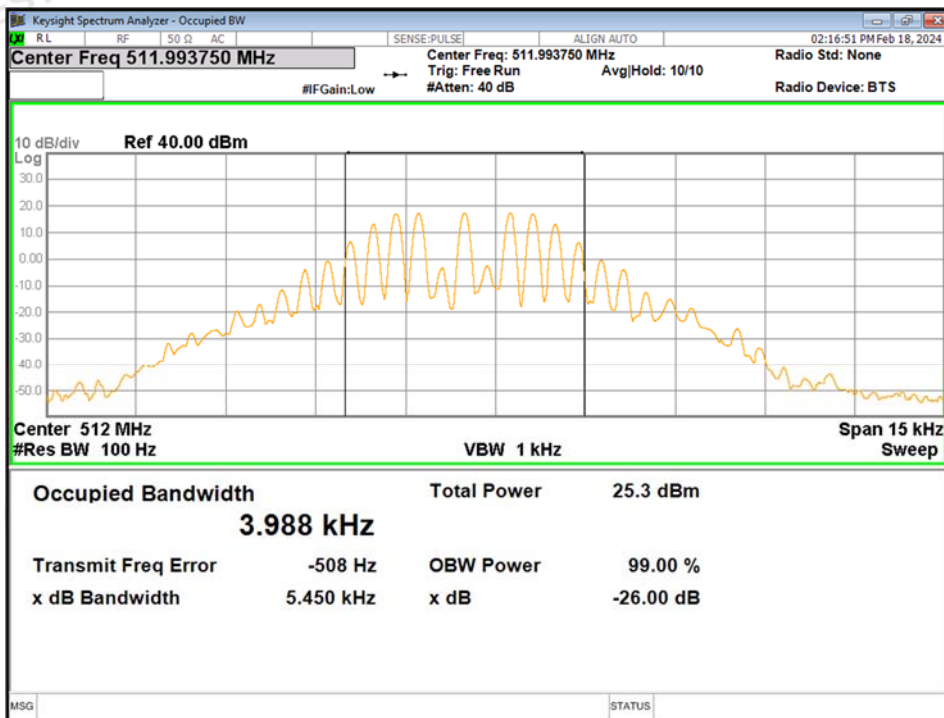
Mode17-421.00625MHz-Low Power



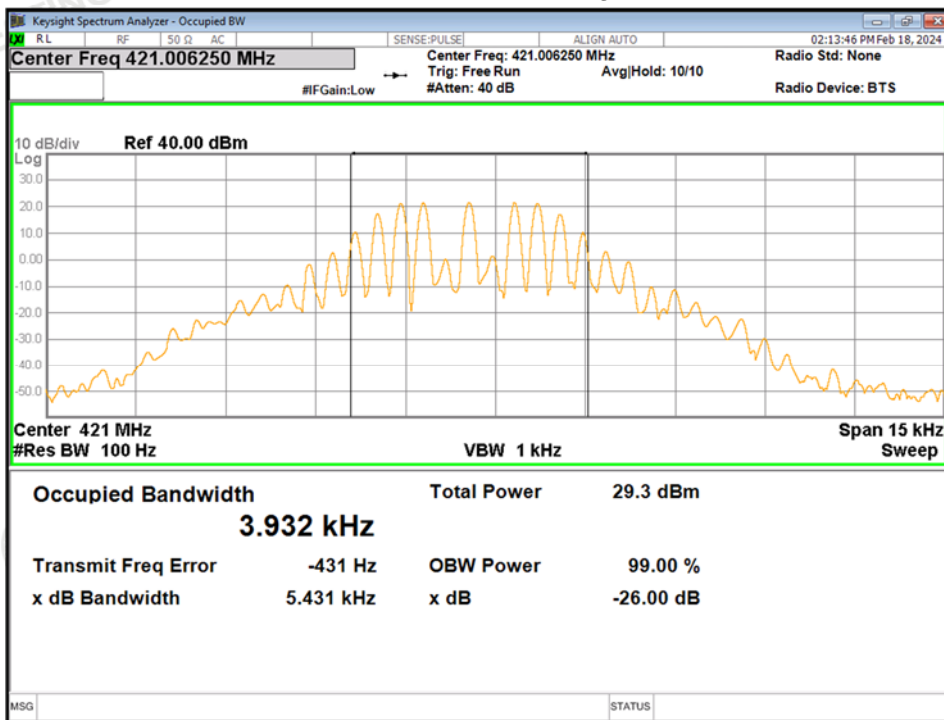
Mode17-466.5MHz-Low Power



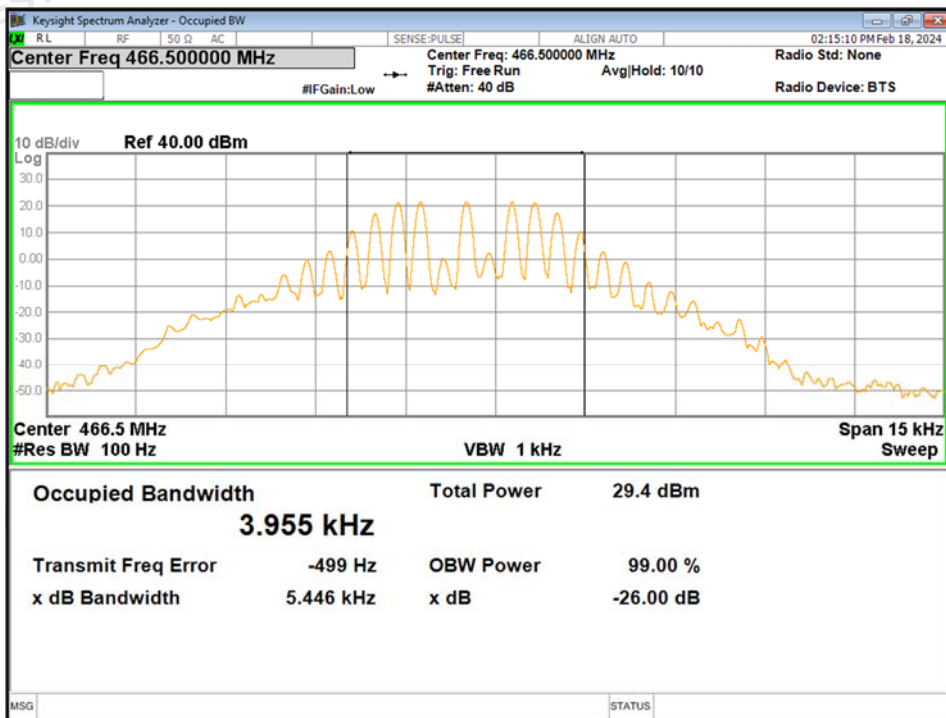
Mode17-511.99375MHz-Low Power



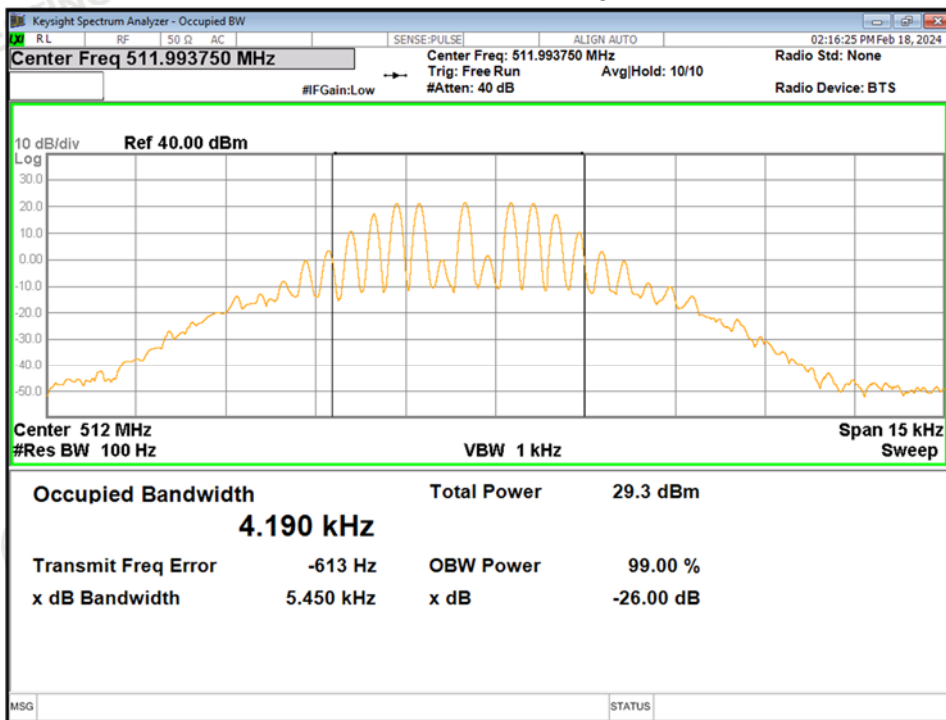
Mode18-421.00625MHz-High Power



Mode18-466.5MHz-High Power



Mode18-511.99375MHz-High Power



## 5. EMISSION MASK

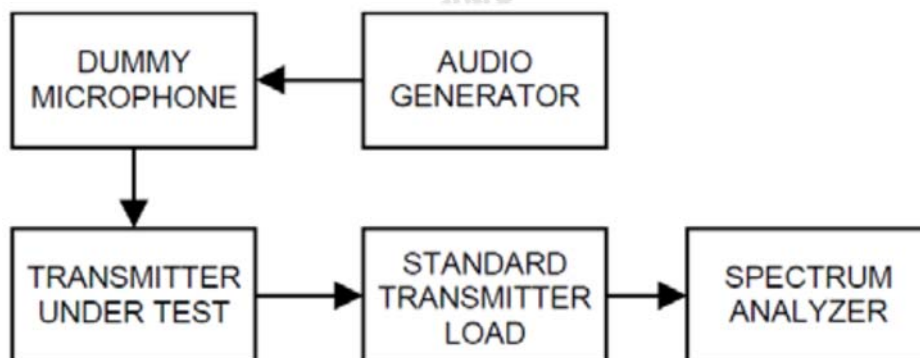
### 5.1 PROVISIONS APPLICABLE

- (h) Emission Mask H. For transmitters that are not equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:
- (1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of 4 kHz or less: Zero dB.
  - (2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 4 kHz, but no more than 8.5 kHz: At least  $107 \log (f_d/4)$  dB;
  - (3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 8.5 kHz, but no more than 15 kHz: At least  $40.5 \log (f_d/1.16)$  dB;
  - (4) On any frequency removed from the center of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 15 kHz, but no more than 25 kHz: At least  $116 \log (f_d/6.1)$  dB;
  - (5) On any frequency removed from the center of the authorized bandwidth by more than 25 kHz: At least  $43 + 10 \log (P)$  dB.

### 5.2 MEASUREMENT PROCEDURE

- a. The EUT was connected to the spectrum analyzer through sufficient attenuation.
- b. Set EUT as digital data mode.
- c. Set SPA Center Frequency=fundamental frequency, RBW=1kHz, VBW=3KHz, span =100KHz.

### 5.3 TEST SETUP BLOCK DIAGRAM





## 5.4 MEASUREMENT RESULT

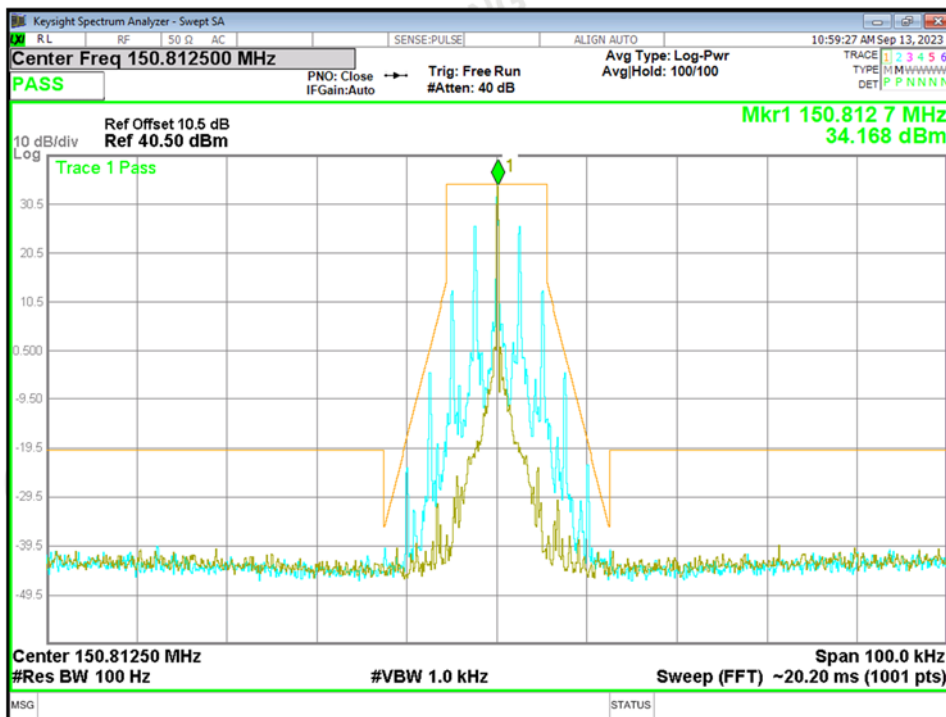
Channel Bandwidth	Operation Mode	Test Channel	Test Frequency (MHz)	Applicable Mask	Result
12.5KHz	Low Power	Lowest	150.8125	D	PASS
		Middle	156.4000	D	PASS
		Highest	162.0000	D	PASS
		Middle	173.3000	D	PASS
		Lowest	421.0125	D	PASS
		Middle	466.5000	D	PASS
		Highest	511.9875	D	PASS
	High Power	Lowest	150.8125	D	PASS
		Middle	156.4000	D	PASS
		Middle	162.0000	D	PASS
		Highest	173.3000	D	PASS
		Lowest	421.0125	D	PASS
		Middle	466.5000	D	PASS
		Highest	511.9875	D	PASS

Channel Bandwidth	Operation Mode	Test Channel	Test Frequency (MHz)	Applicable Mask	Result
25KHz	Low Power	Lowest	150.8250	B	PASS
		Middle	156.4000	B	PASS
		Highest	161.9750	B	PASS
		Middle	173.3000	B	PASS
		Lowest	421.0250	B	PASS
		Middle	466.5000	B	PASS
		Highest	511.9750	B	PASS
	High Power	Lowest	150.8250	B	PASS
		Middle	156.4000	B	PASS
		Middle	161.9750	B	PASS
		Highest	173.3000	B	PASS
		Lowest	421.0250	B	PASS
		Middle	466.5000	B	PASS
		Highest	511.9750	B	PASS

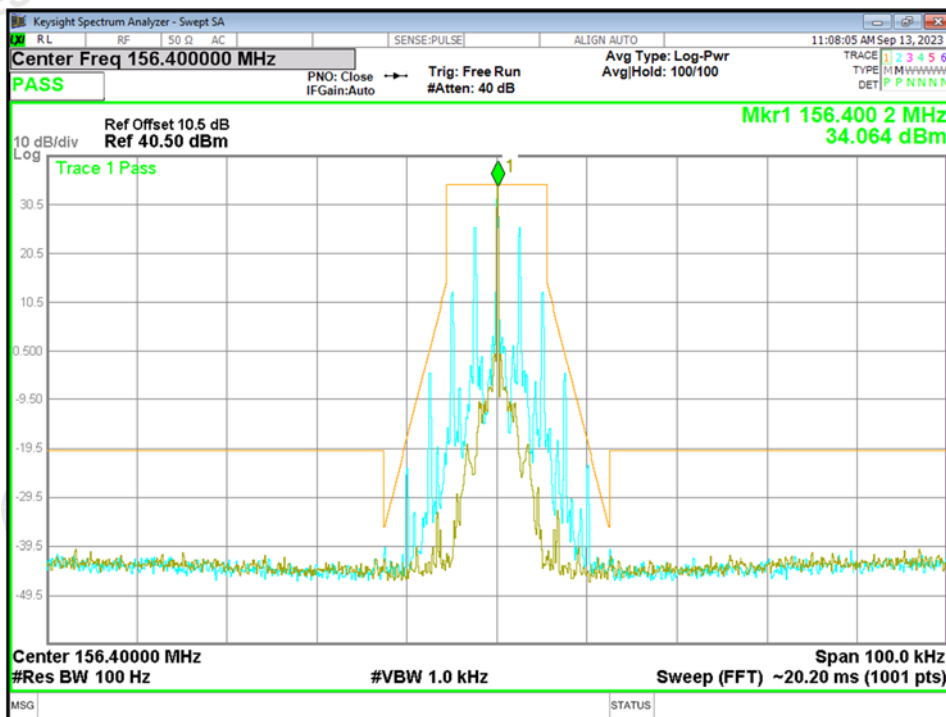
Channel Bandwidth	Operation Mode	Test Channel	Test Frequency (MHz)	Applicable Mask	Result
6.25KHz	Low Power	Lowest	150.80625	E	PASS
		Middle	156.40000	E	PASS
		Highest	162.00625	E	PASS
		Middle	173.30000	E	PASS
		Lowest	421.00625	E	PASS
		Middle	466.50000	E	PASS
		Highest	511.99375	E	PASS
	High Power	Lowest	150.80625	E	PASS
		Middle	156.40000	E	PASS
		Middle	162.00625	E	PASS
		Highest	173.30000	E	PASS
		Lowest	421.00625	E	PASS
		Middle	466.50000	E	PASS
		Highest	511.99375	E	PASS

12.5 KHz:

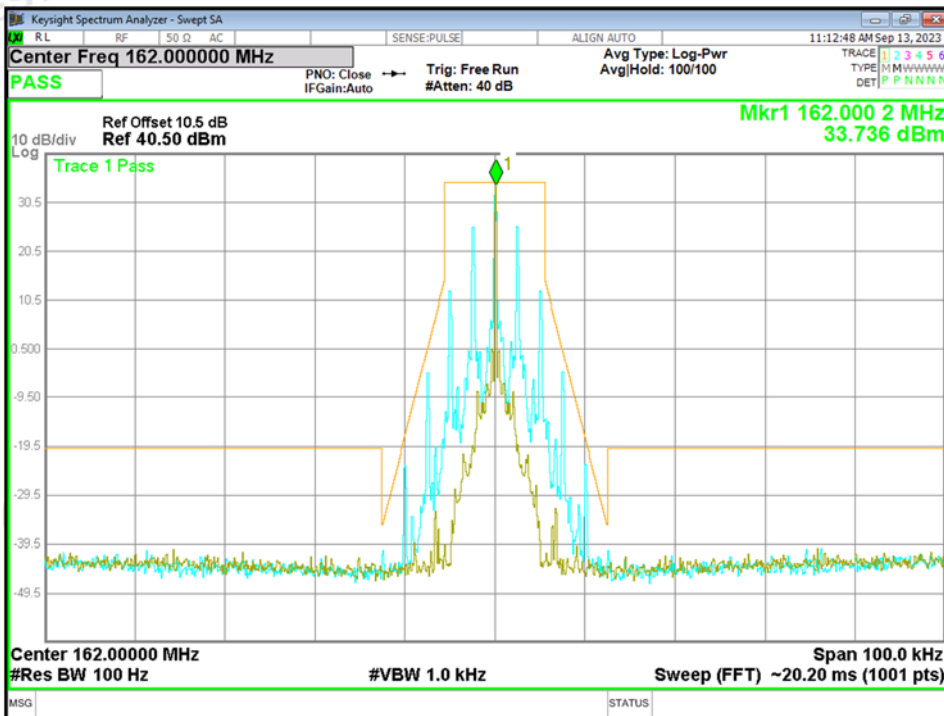
Mode1-150.8125MHz-Low Power



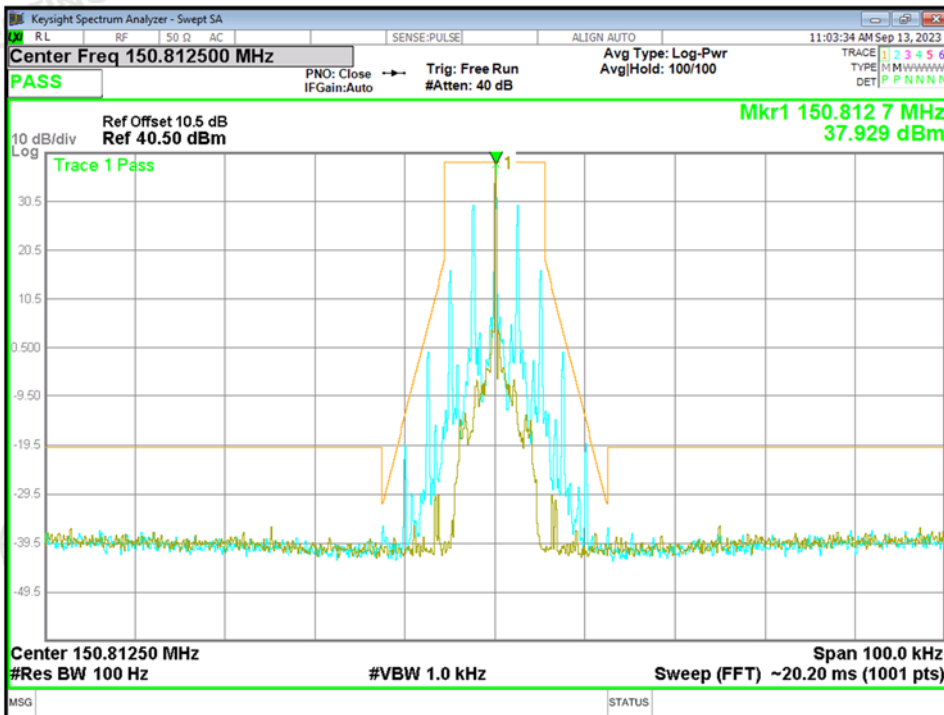
Mode1-156.4MHz-Low Power



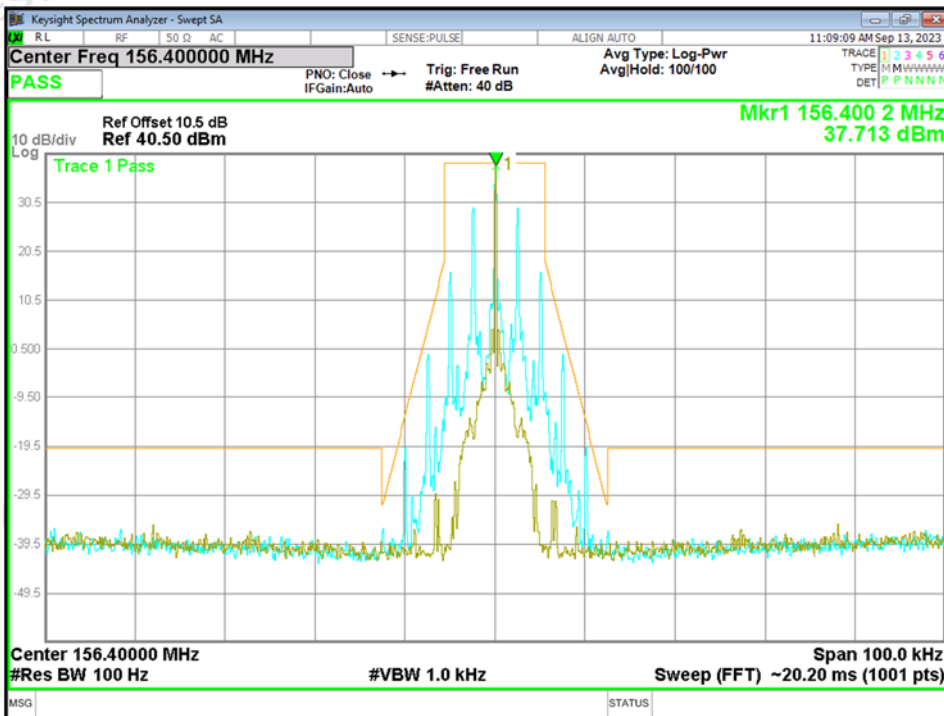
Mode1-162MHz-Low Power



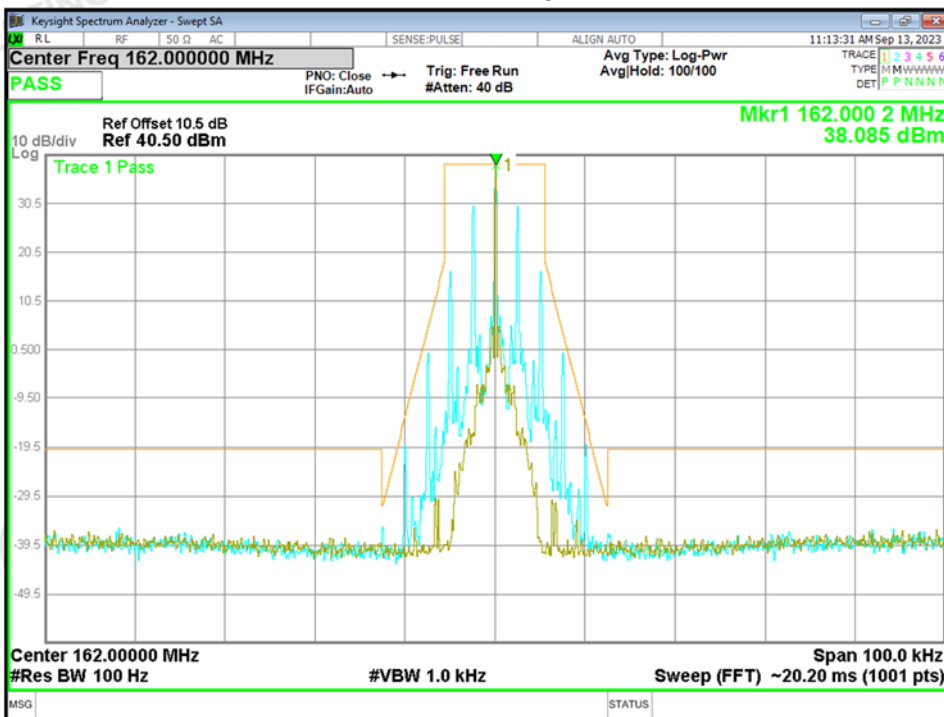
Mode2-150.8125MHz-High Power



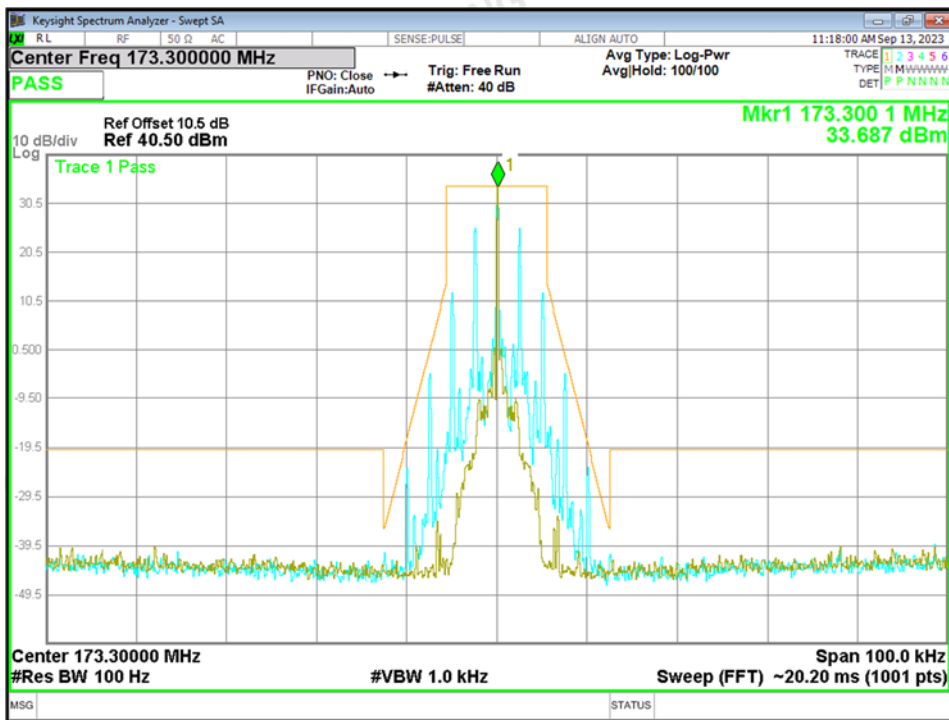
Mode2-156.4MHz-High Power



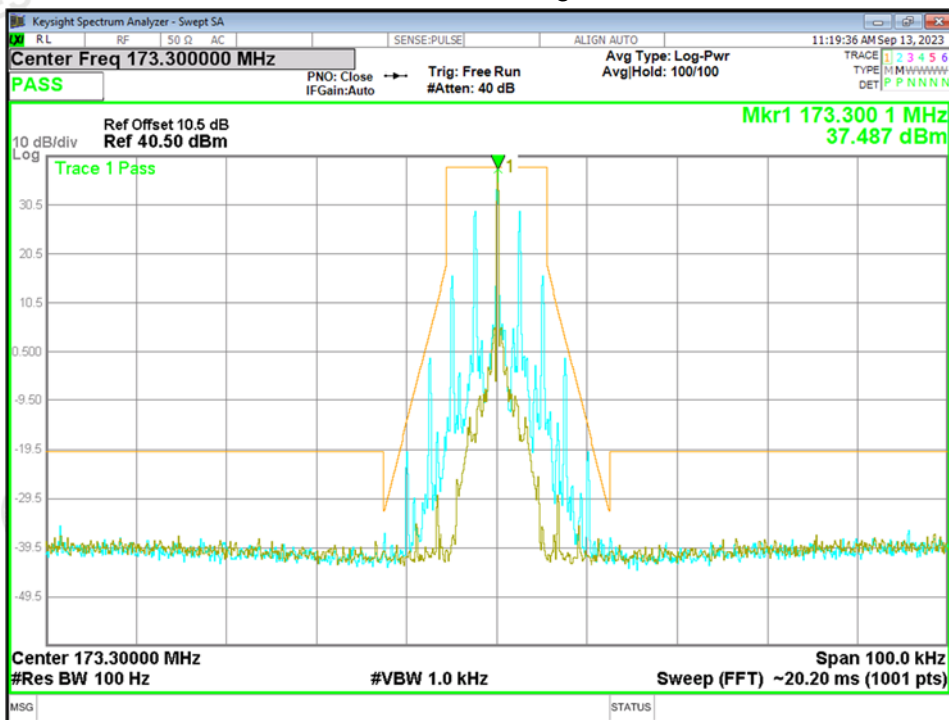
Mode2-162MHz-High Power



Mode3-173.3MHz-Low Power

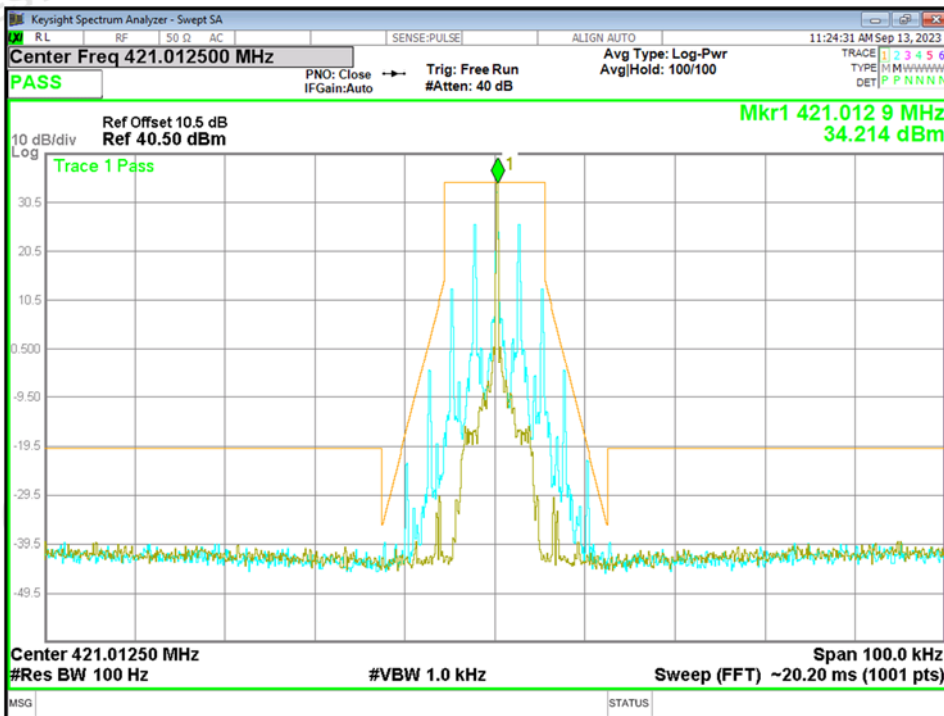


Mode4-173.3MHz-High Power

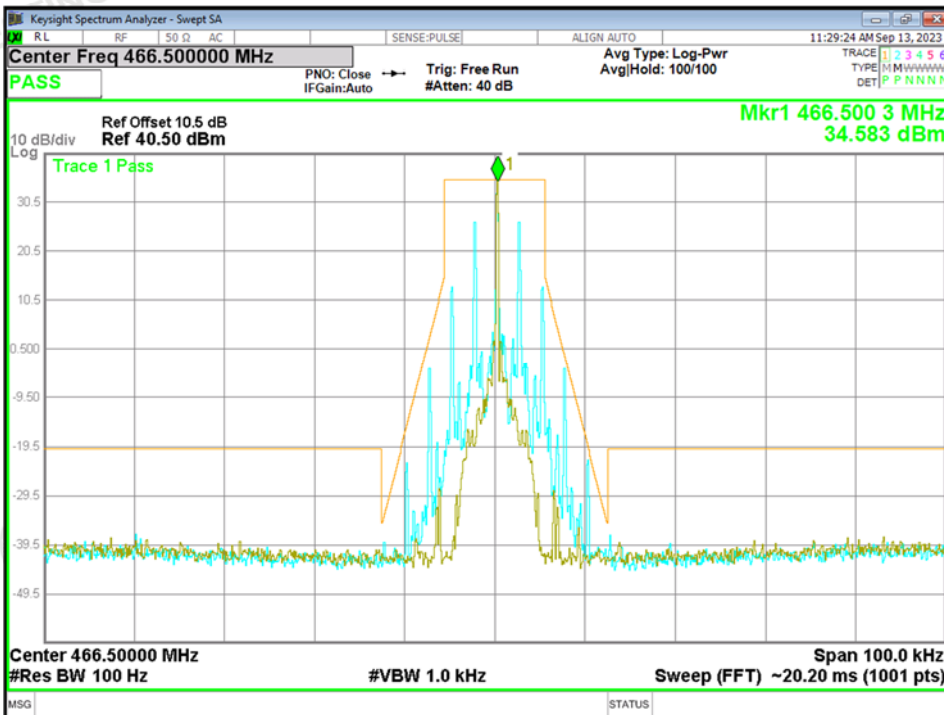




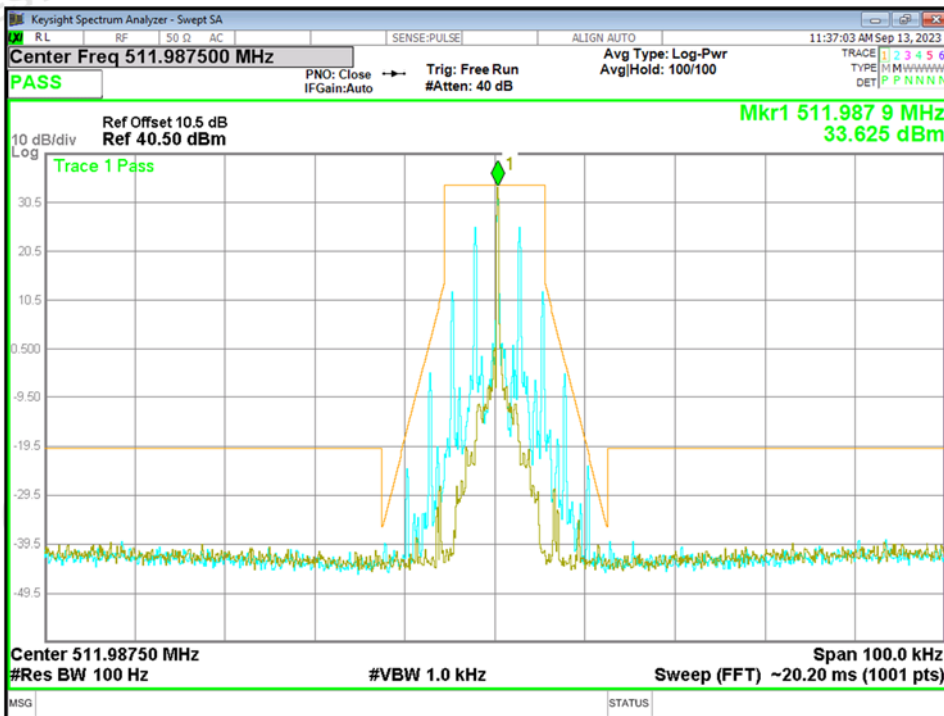
Mode5-421.0125MHz-Low Power



Mode5-466.5MHz-Low Power



Mode5-511.9875MHz-Low Power



Mode6-421.0125MHz-High Power

