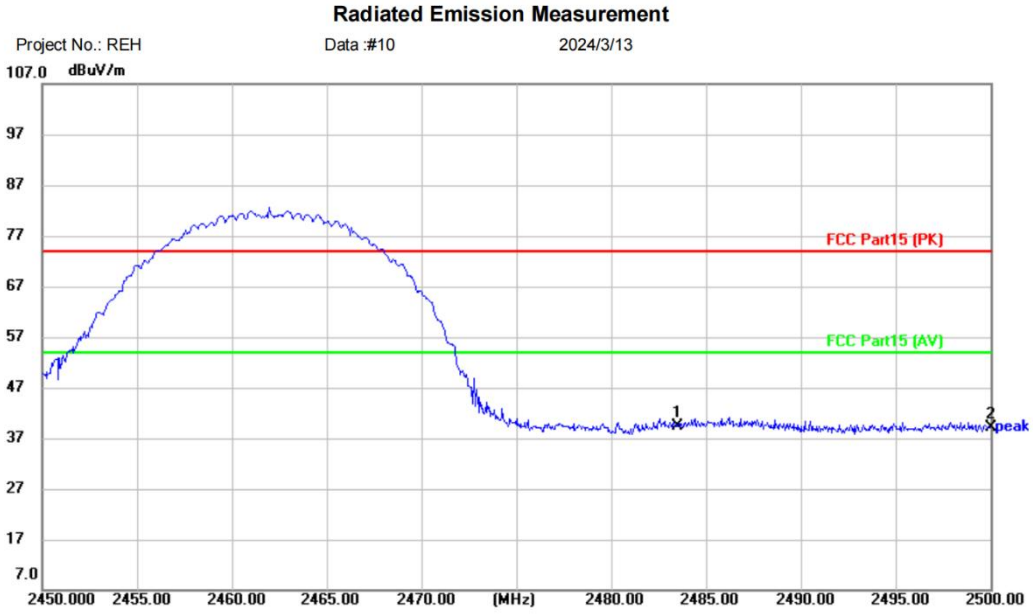
[TestMode: TX b high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: 11B-2462
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

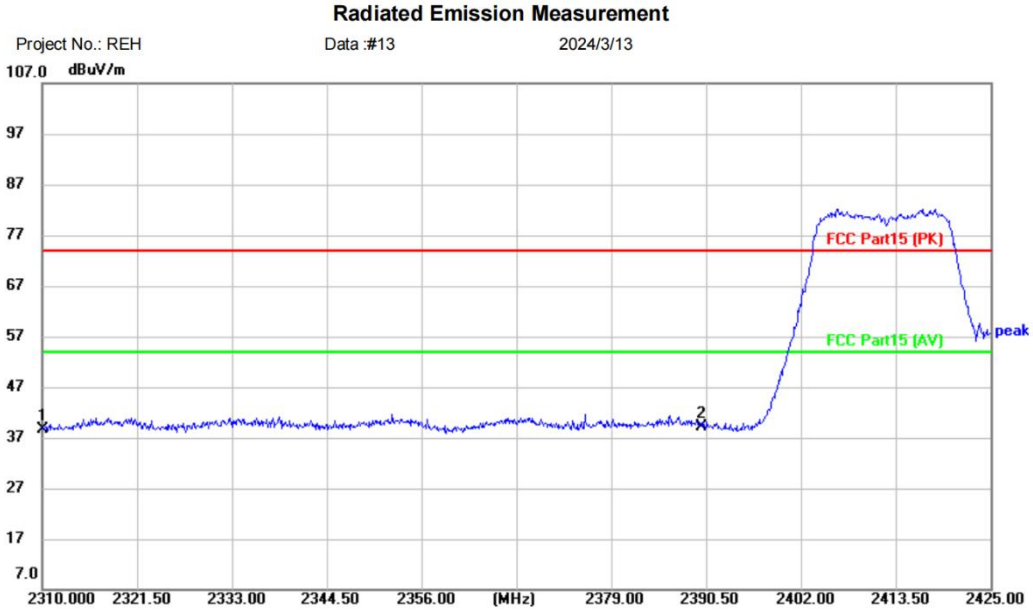
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	42.32	-2.91	39.41	74.00	-34.59	peak	
2		2500.000	42.24	-3.00	39.24	74.00	-34.76	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX g low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: 11G-2412
Note:

Polarization: ***Horizontal***
Power:

Temperature: (C)
Humidity: %RH

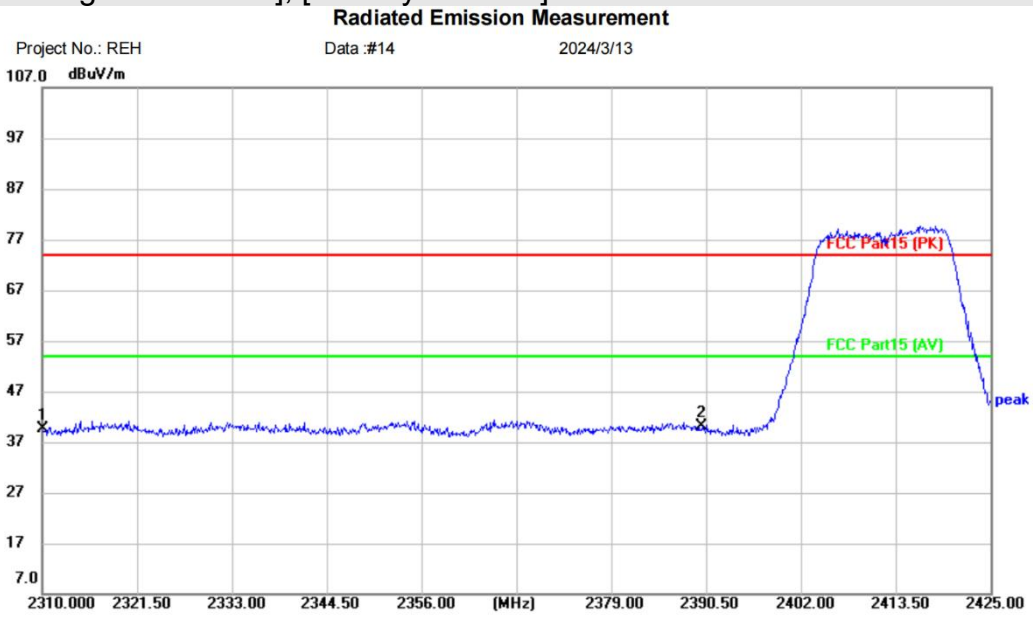
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	41.52	-2.89	38.63	74.00	-35.37	peak	
2	*	2390.000	41.88	-2.70	39.18	74.00	-34.82	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX g low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: 11G-2412
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

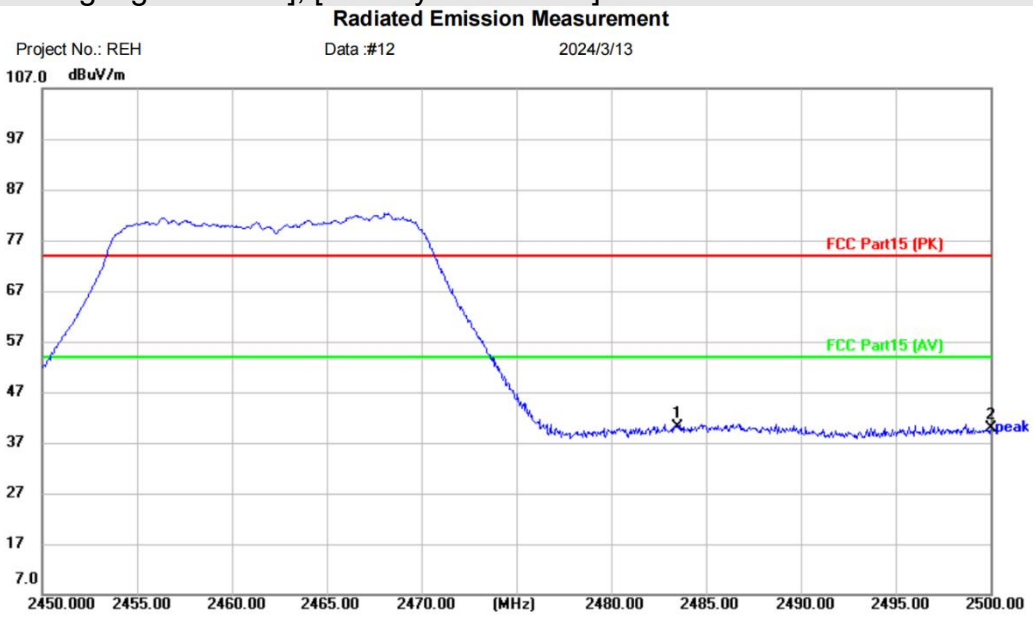
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	42.60	-2.89	39.71	74.00	-34.29	peak	
2	*	2390.000	42.78	-2.70	40.08	74.00	-33.92	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX g high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: 11G-2462
Note:

Polarization: ***Horizontal***
Power:

Temperature: (C)
Humidity: %RH

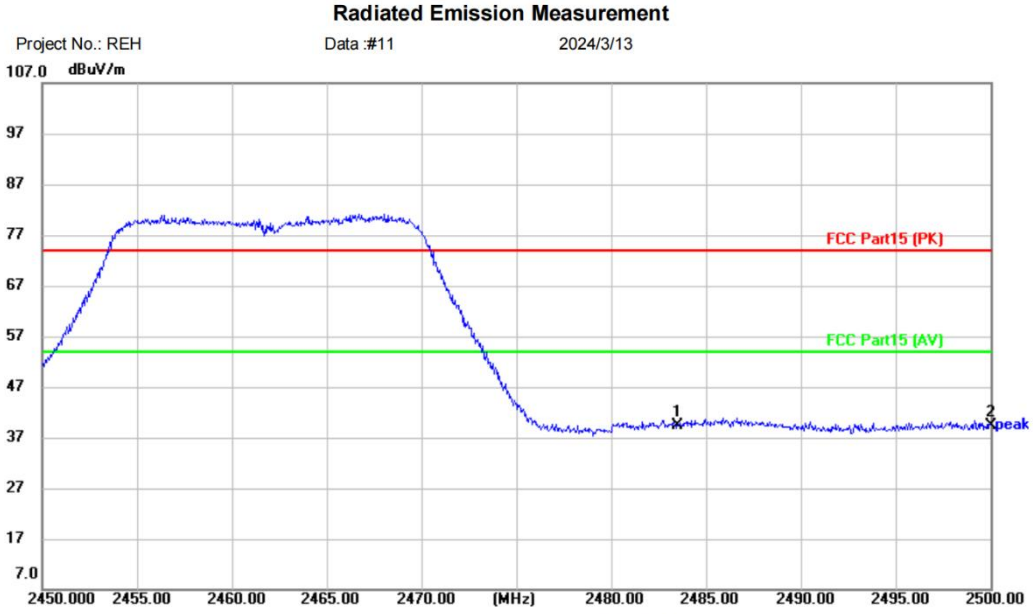
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	43.11	-2.91	40.20	74.00	-33.80	peak	
2		2500.000	42.90	-3.00	39.90	74.00	-34.10	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX g high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: 11G-2462
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

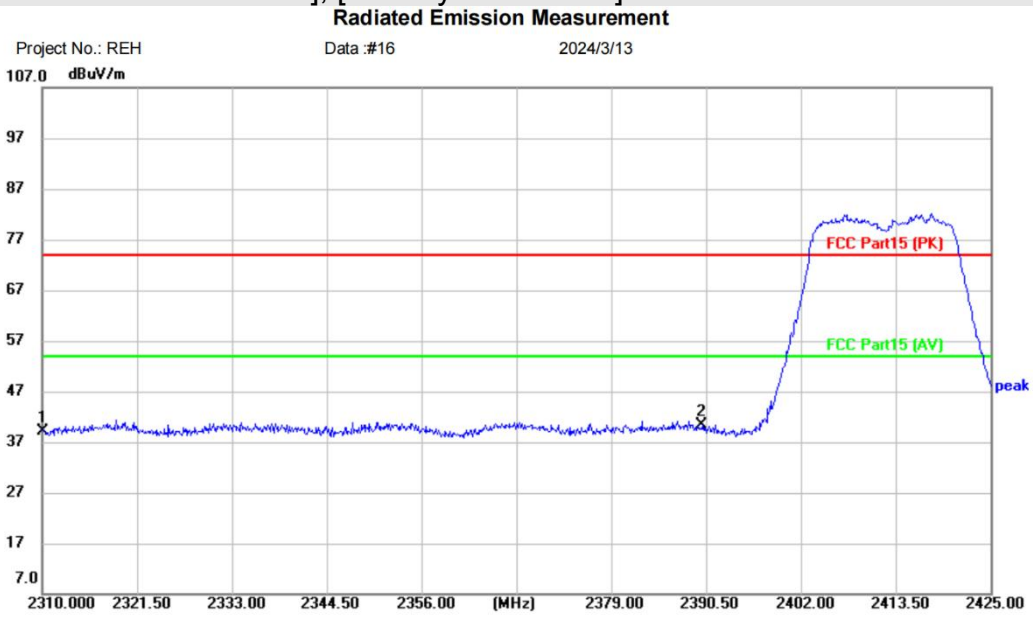
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	42.32	-2.91	39.41	74.00	-34.59	peak	
2		2500.000	42.28	-3.00	39.28	74.00	-34.72	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX n20 low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: N20-2412
Note:

Polarization: ***Horizontal***
Power:

Temperature: (C)
Humidity: %RH

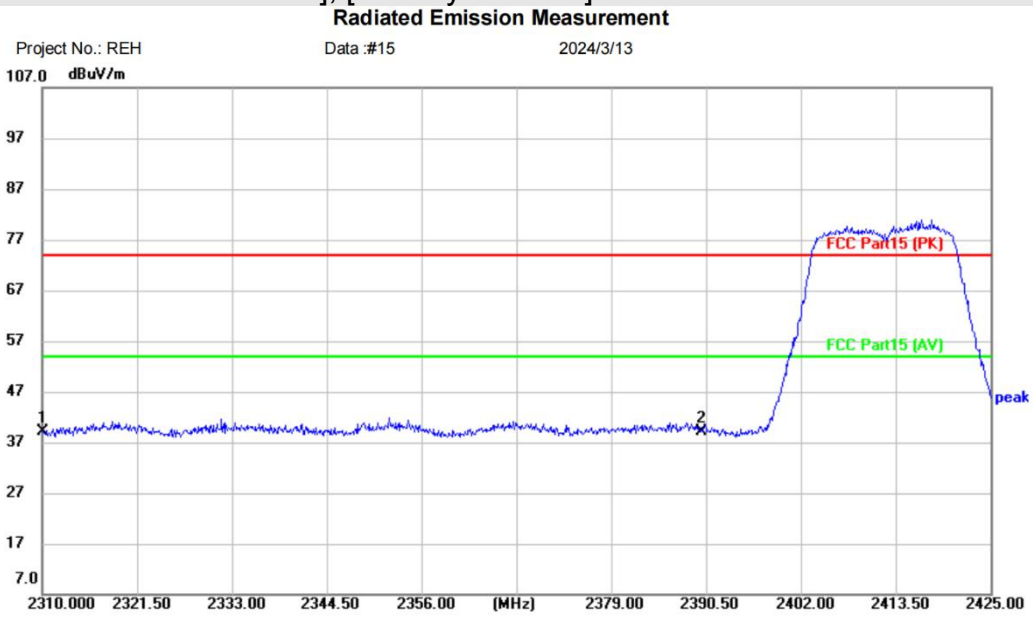
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	42.04	-2.89	39.15	74.00	-34.85	peak	
2	*	2390.000	43.01	-2.70	40.31	74.00	-33.69	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX n20 low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: N20-2412
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

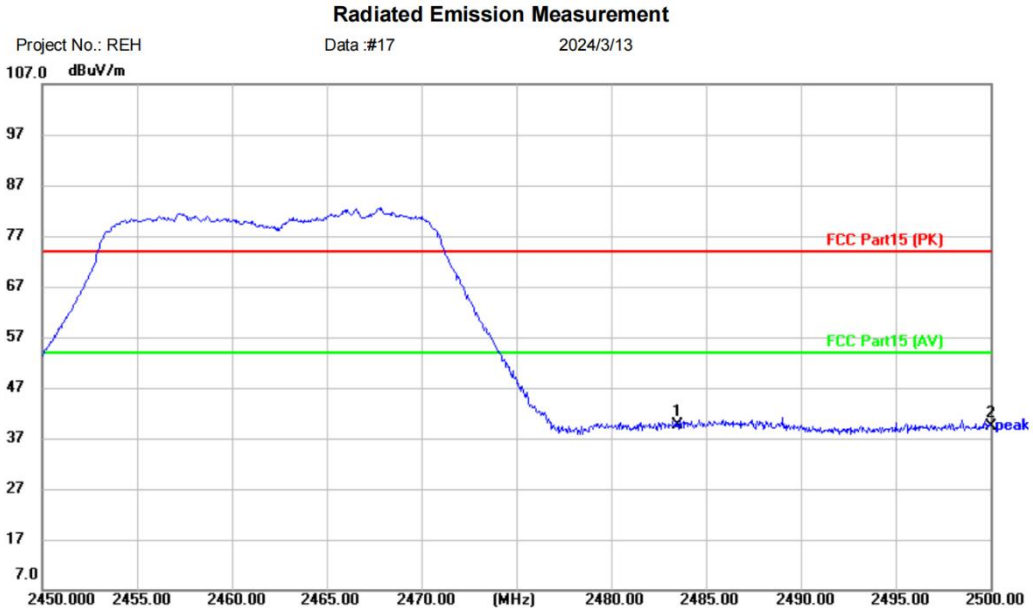
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	41.94	-2.89	39.05	74.00	-34.95	peak	
2	*	2390.000	41.88	-2.70	39.18	74.00	-34.82	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX n20 high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: N20-2462
Note:

Polarization: *Horizontal*
Power:

Temperature: (C)
Humidity: %RH

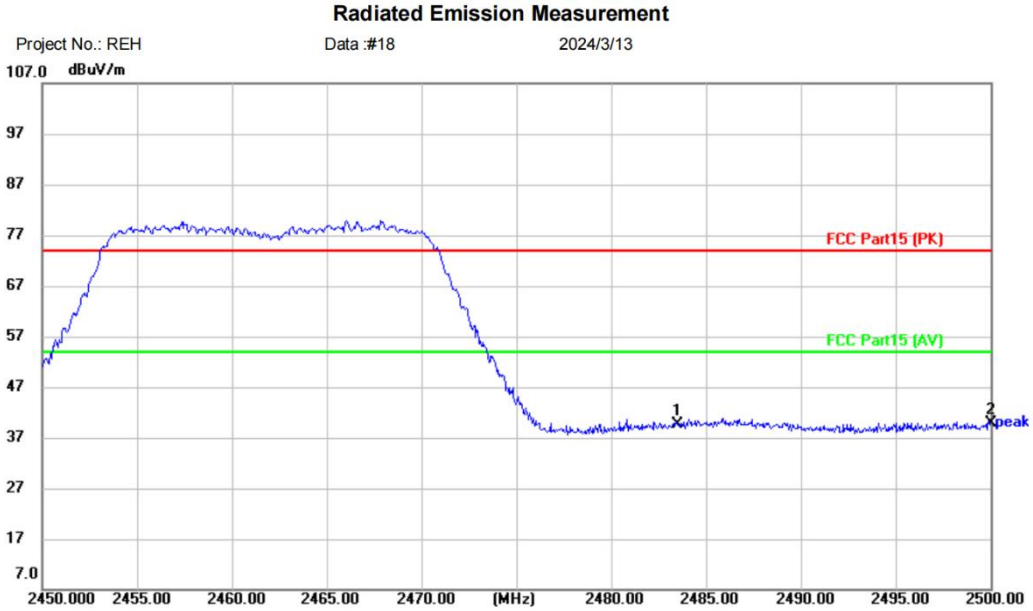
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	42.44	-2.91	39.53	74.00	-34.47	peak	
2		2500.000	42.38	-3.00	39.38	74.00	-34.62	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX n20 high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: N20-2462
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

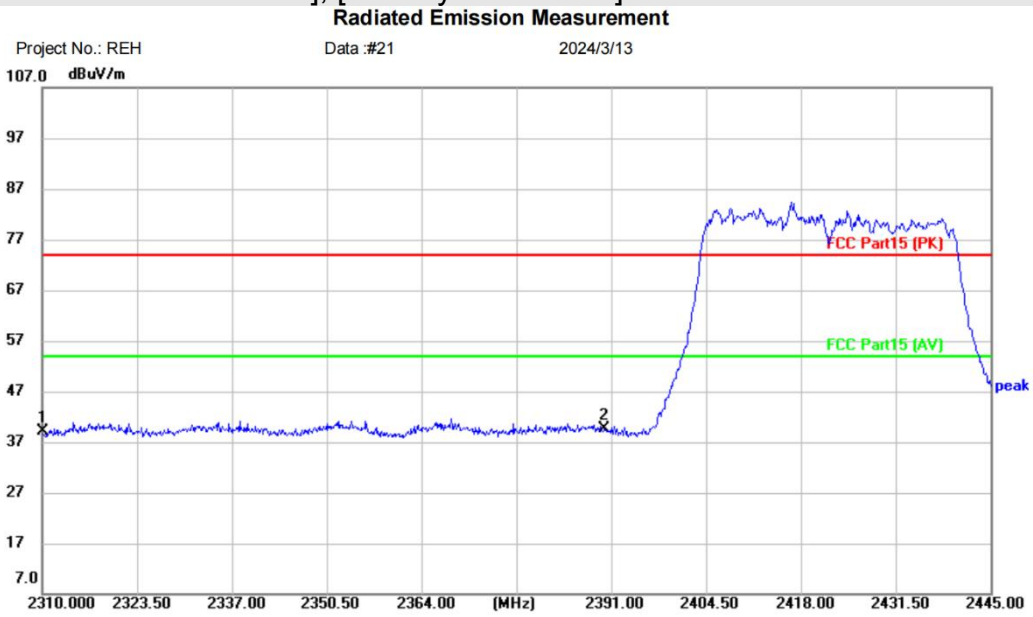
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	42.66	-2.91	39.75	74.00	-34.25	peak	
2	*	2500.000	42.97	-3.00	39.97	74.00	-34.03	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX n40 low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: N40-2422
Note:

Polarization: ***Horizontal***
Power:

Temperature: (C)
Humidity: %RH

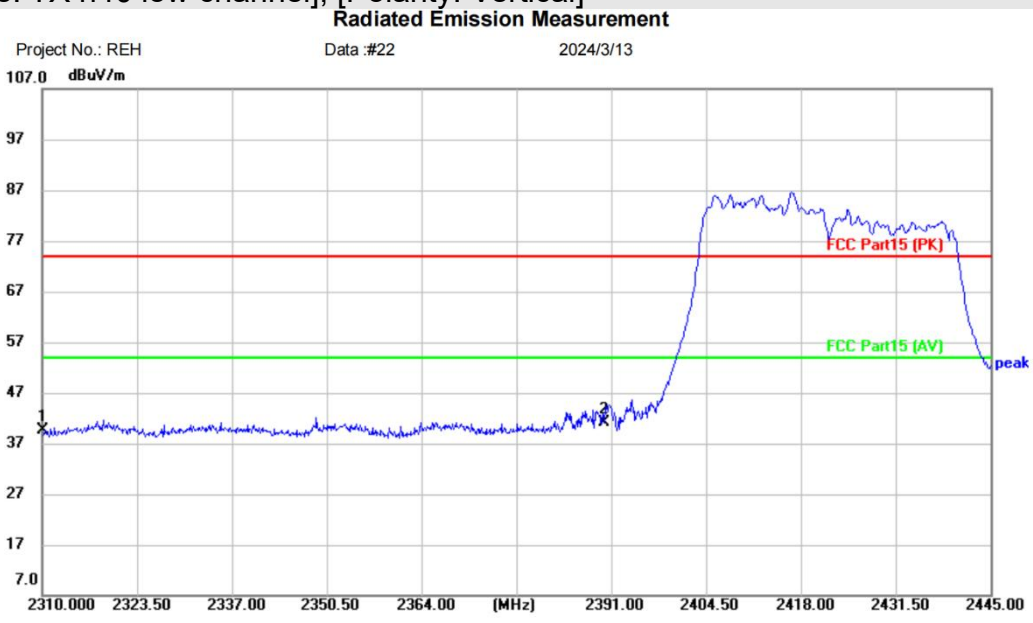
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	42.03	-2.89	39.14	74.00	-34.86	peak	
2	*	2390.000	42.36	-2.70	39.66	74.00	-34.34	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX n40 low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: N40-2422
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

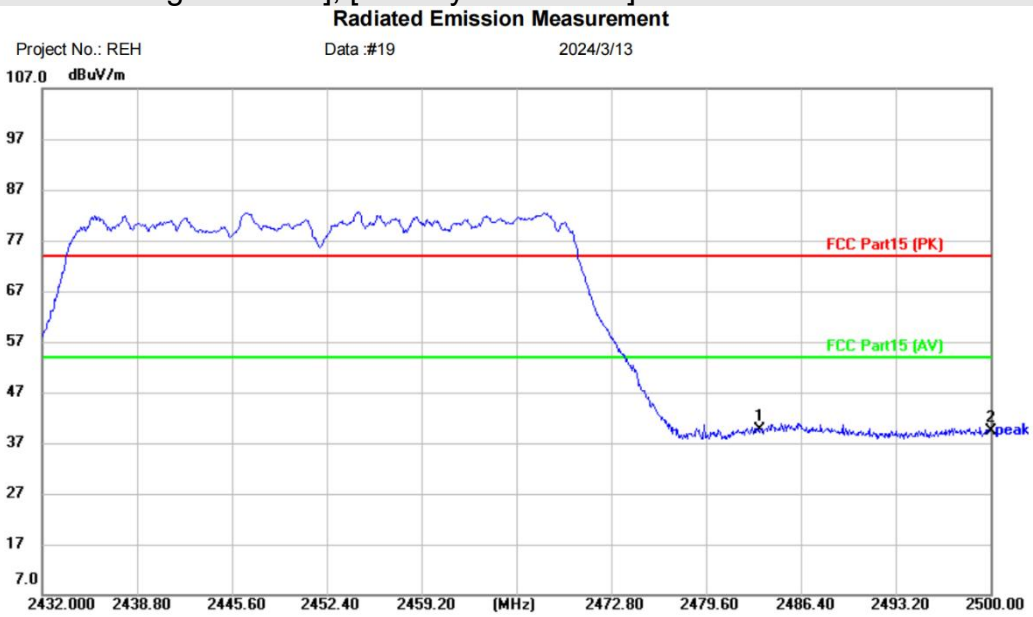
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	42.61	-2.89	39.72	74.00	-34.28	peak	
2	*	2390.000	43.75	-2.70	41.05	74.00	-32.95	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX n40 high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: N40-2452
Note:

Polarization: ***Horizontal***
Power:

Temperature: (C)
Humidity: %RH

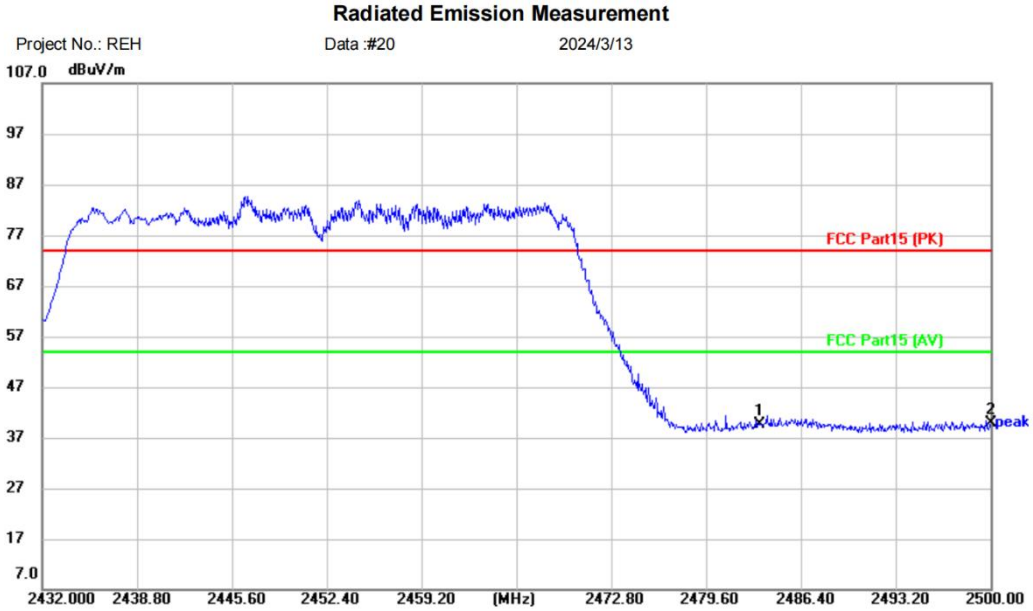
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	42.42	-2.91	39.51	74.00	-34.49	peak	
2		2500.000	42.27	-3.00	39.27	74.00	-34.73	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

[TestMode: TX n40 high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Smart Audio
M/N: H1RU
Mode: N40-2452
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	42.52	-2.91	39.61	74.00	-34.39	peak	
2	*	2500.000	42.89	-3.00	39.89	74.00	-34.11	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Receiver: ESR_1 Spectrum Analyzer: FSP40

Test Result: Pass

Remark:

1. Final Level =Receiver Read level + Correct factor
2. Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

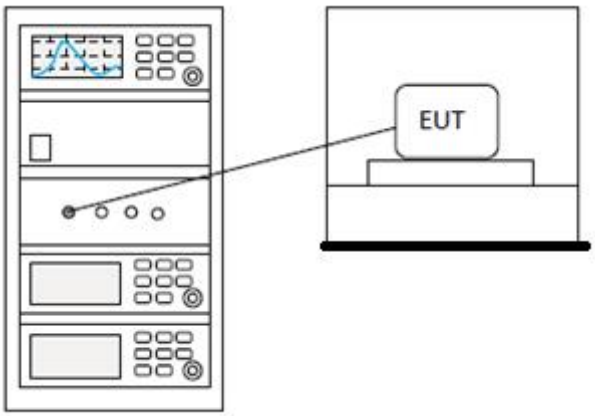
14 CONDUCTED SPURIOUS EMISSIONS

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

14.1 LIMITS

Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

14.2 BLOCK DIAGRAM OF TEST SETUP



14.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

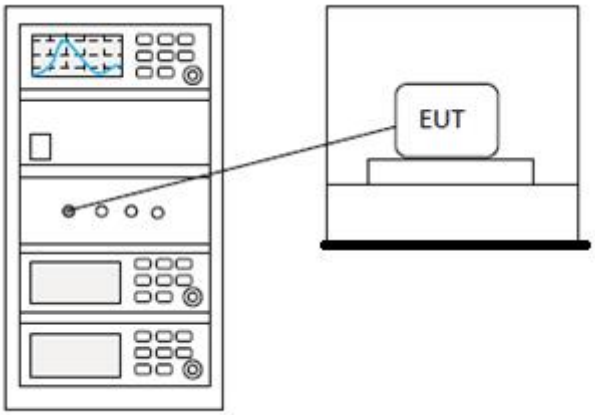
15 CONDUCTED BAND EDGES MEASUREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

15.1 LIMITS

Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

15.2 BLOCK DIAGRAM OF TEST SETUP



15.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

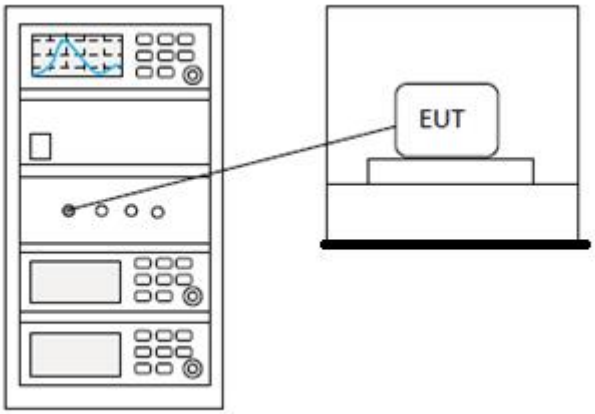
16 MINIMUM 6DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.8.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

16.1 LIMITS

Limit:	≥500 kHz

16.2 BLOCK DIAGRAM OF TEST SETUP



16.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

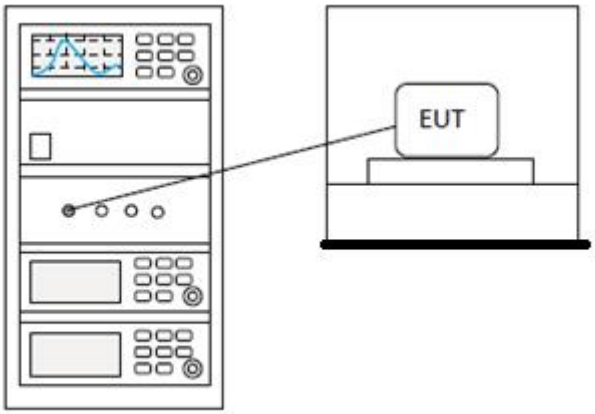
17 POWER SPECTRUM DENSITY

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.10.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

17.1 LIMITS

Limit:	≤8dBm in any 3 kHz band during any time interval of continuous transmission

17.2 BLOCK DIAGRAM OF TEST SETUP



17.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

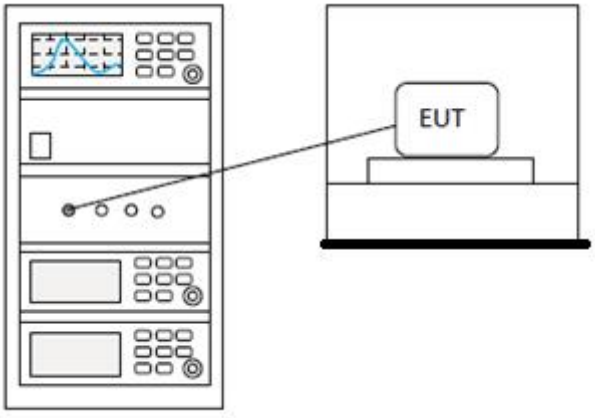
18 CONDUCTED AVERAGE OUTPUT POWER

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

18.1 LIMITS

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥50 hopping channels
	0.25 for 25≤ hopping channels <50
	1 for digital modulation
2400-2483.5	1 for ≥75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

18.2 BLOCK DIAGRAM OF TEST SETUP



18.3 TEST DATA

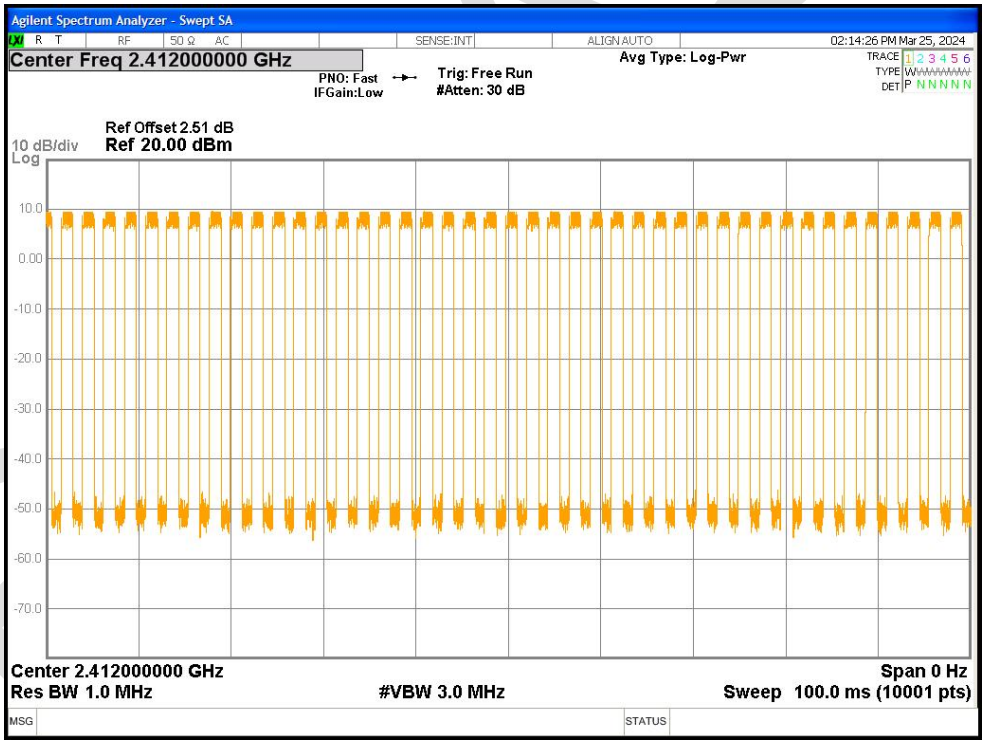
Pass: Please Refer To Appendix: Appendix1 For Details

19 APPENDIX1

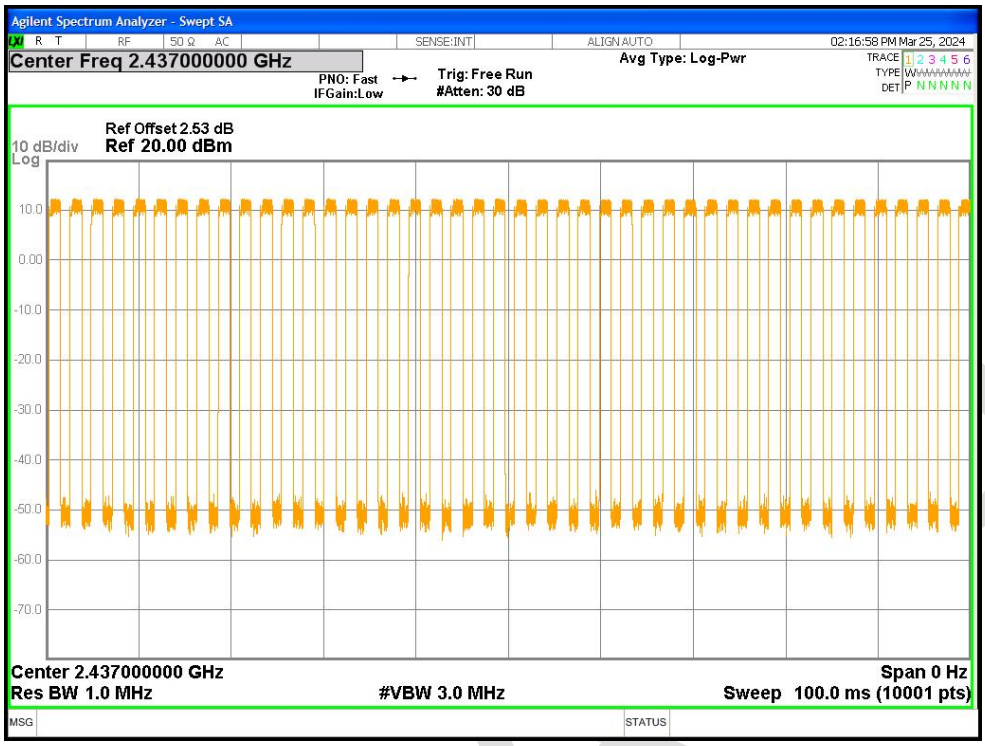
Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	b	2412	Ant1	56.37	2.49
NVNT	b	2437	Ant1	57.05	2.44
NVNT	b	2462	Ant1	56.34	2.49
NVNT	g	2412	Ant1	20.6	6.86
NVNT	g	2437	Ant1	20.51	6.88
NVNT	g	2462	Ant1	20.52	6.88
NVNT	n20	2412	Ant1	19.15	7.18
NVNT	n20	2437	Ant1	19.16	7.18
NVNT	n20	2462	Ant1	19.16	7.18
NVNT	n40	2422	Ant1	12.35	9.08
NVNT	n40	2437	Ant1	12.42	9.06
NVNT	n40	2452	Ant1	12.5	9.03

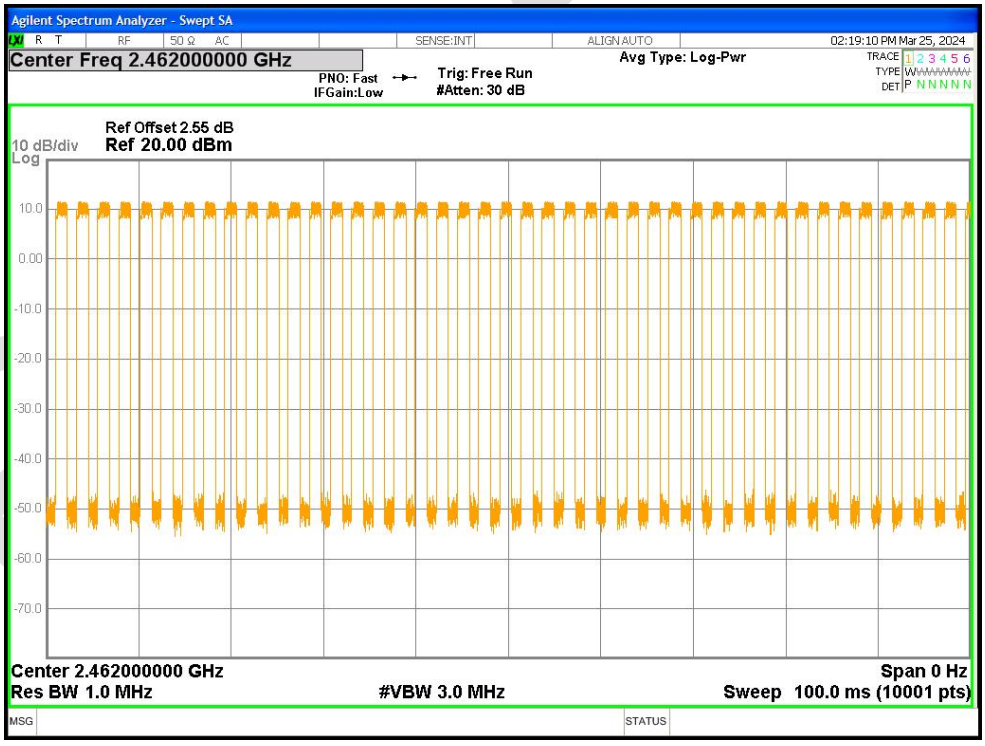
Duty Cycle NVNT b 2412MHz Ant1



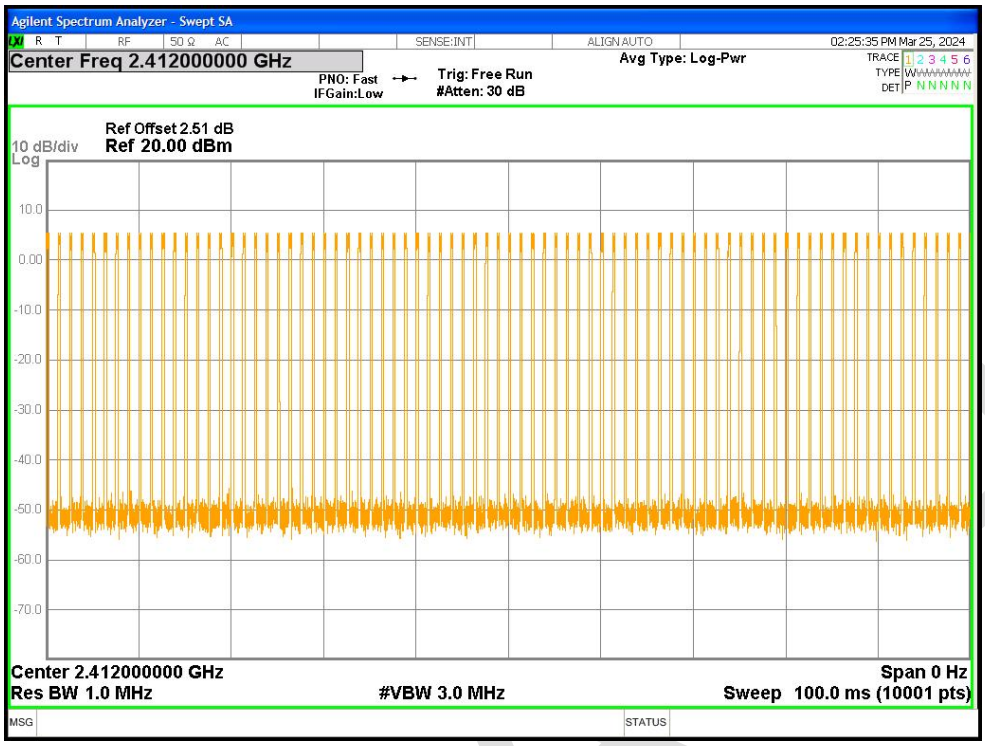
Duty Cycle NVNT b 2437MHz Ant1



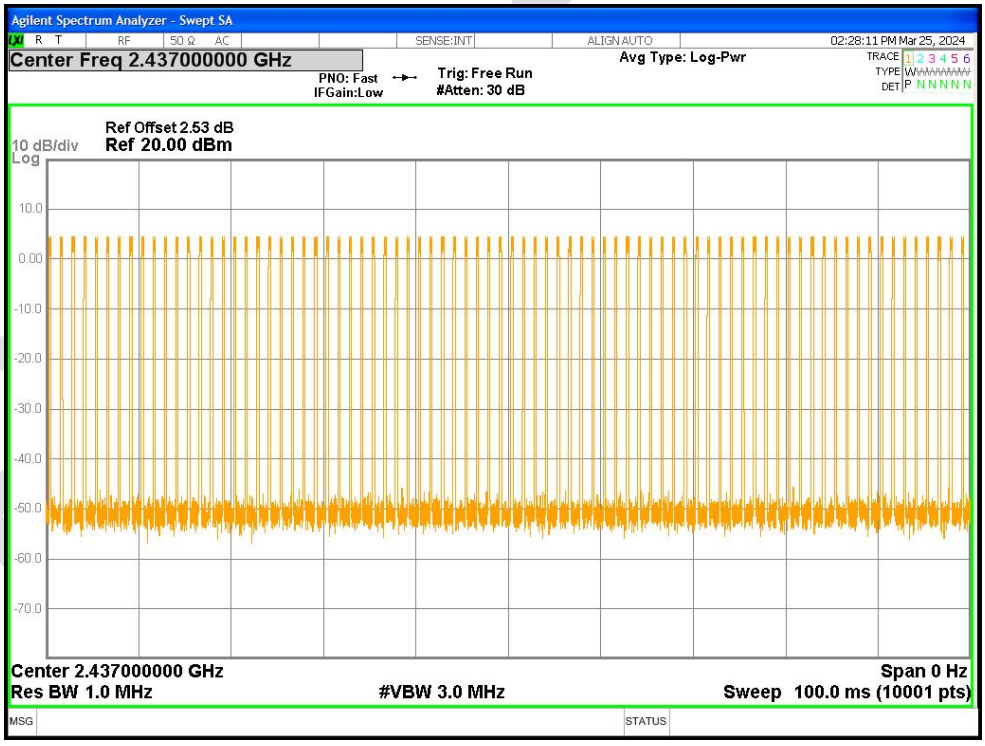
Duty Cycle NVNT b 2462MHz Ant1



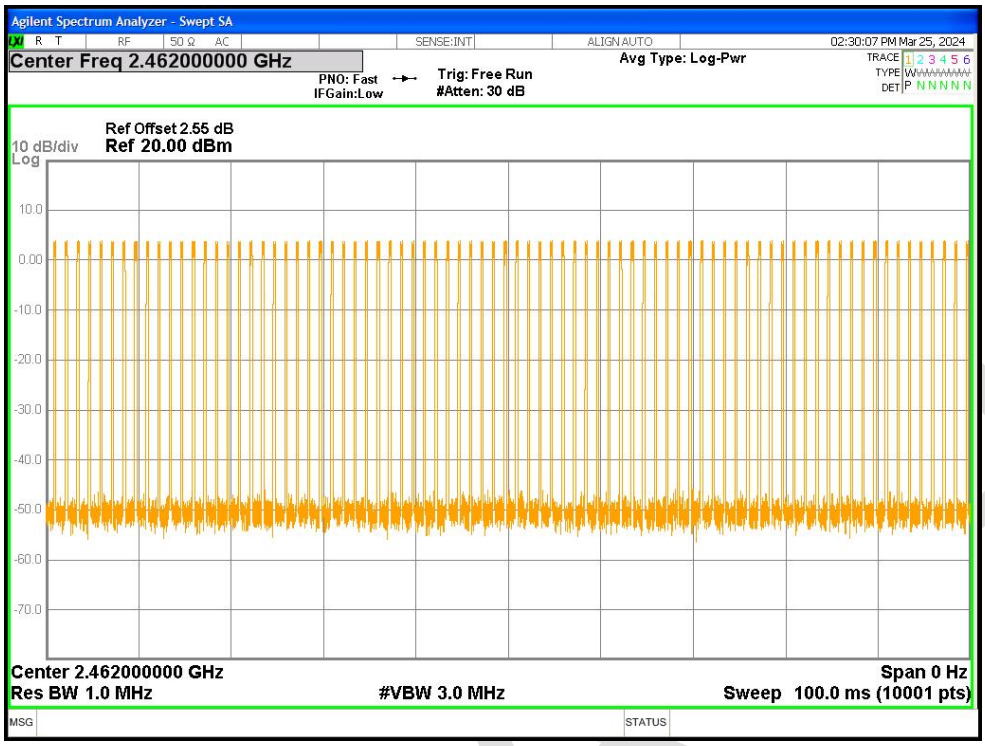
Duty Cycle NVNT g 2412MHz Ant1



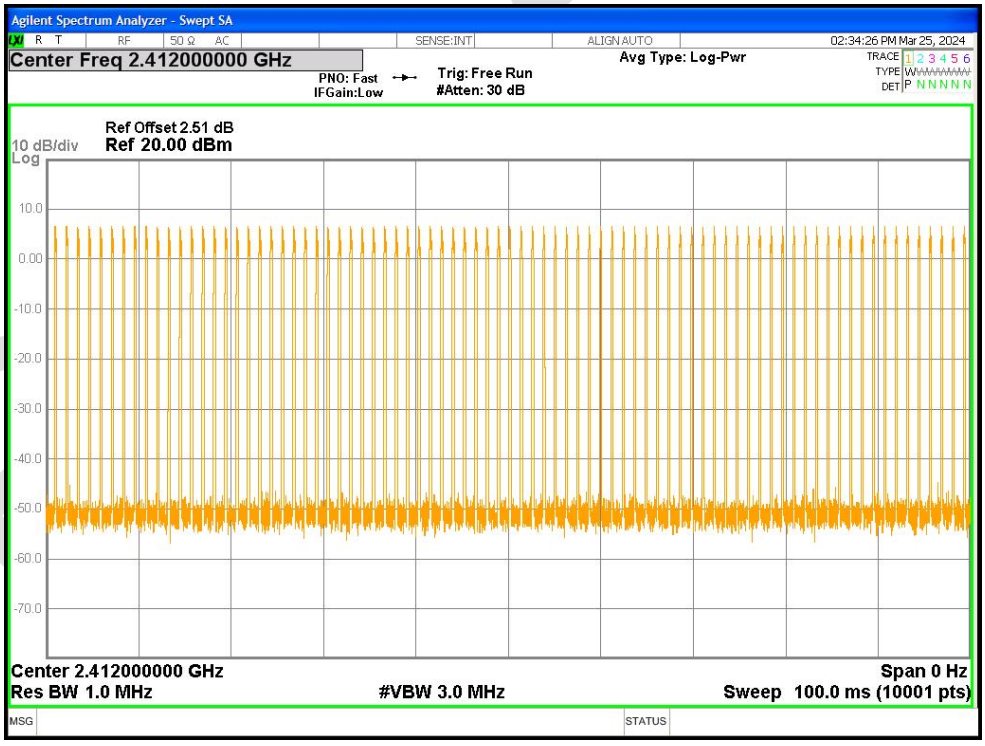
Duty Cycle NVNT g 2437MHz Ant1



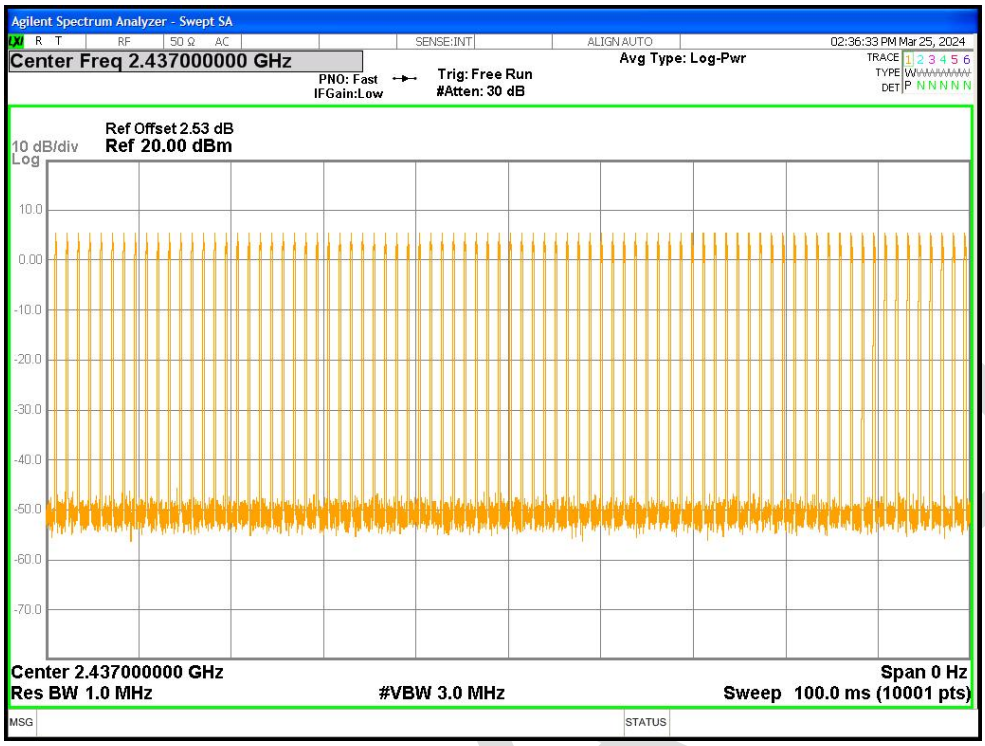
Duty Cycle NVNT g 2462MHz Ant1



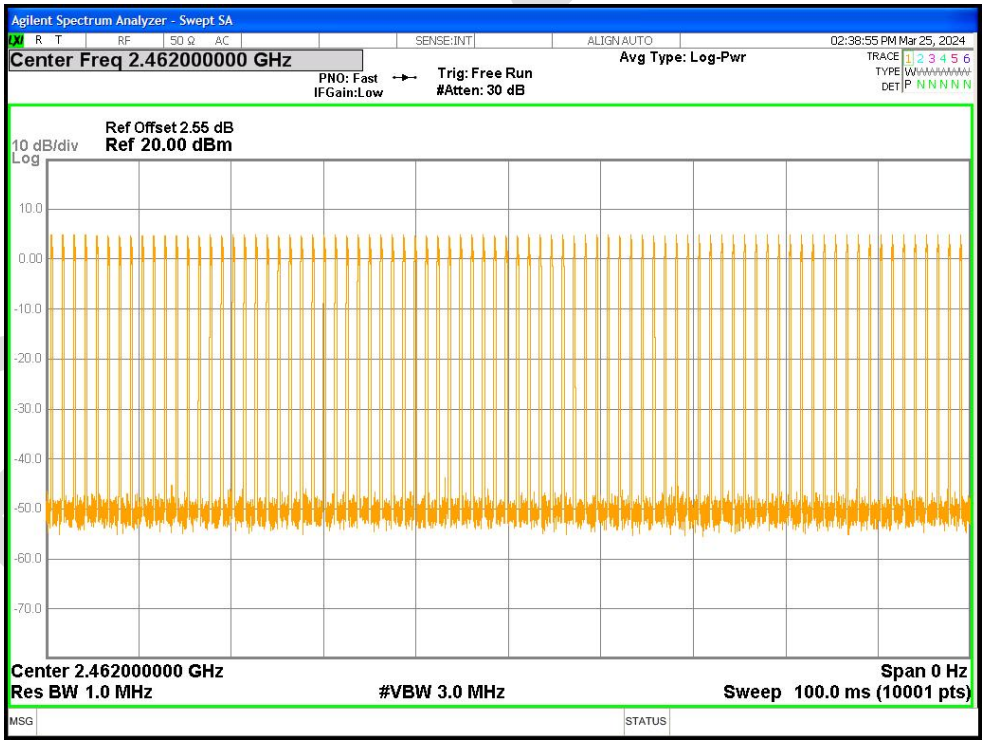
Duty Cycle NVNT n20 2412MHz Ant1



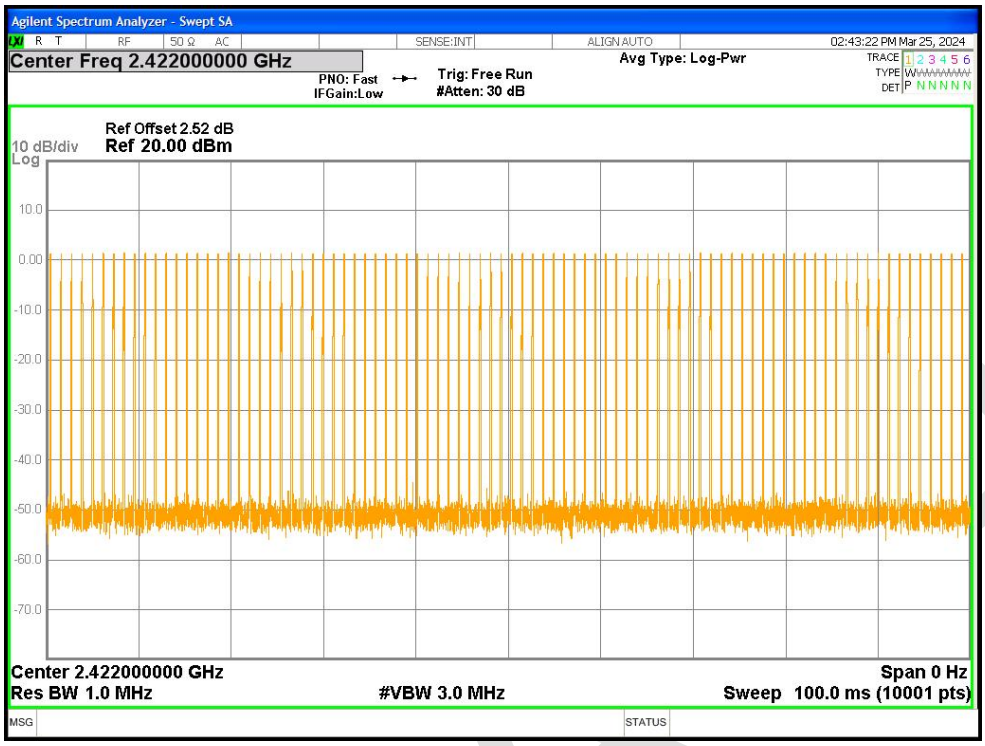
Duty Cycle NVNT n20 2437MHz Ant1



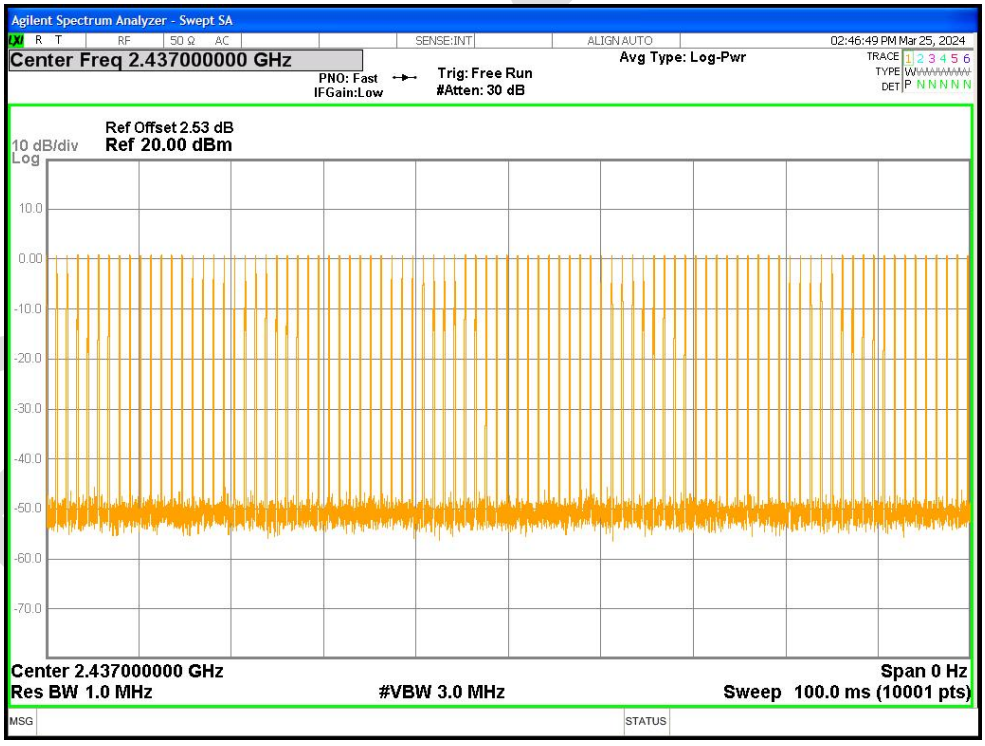
Duty Cycle NVNT n20 2462MHz Ant1



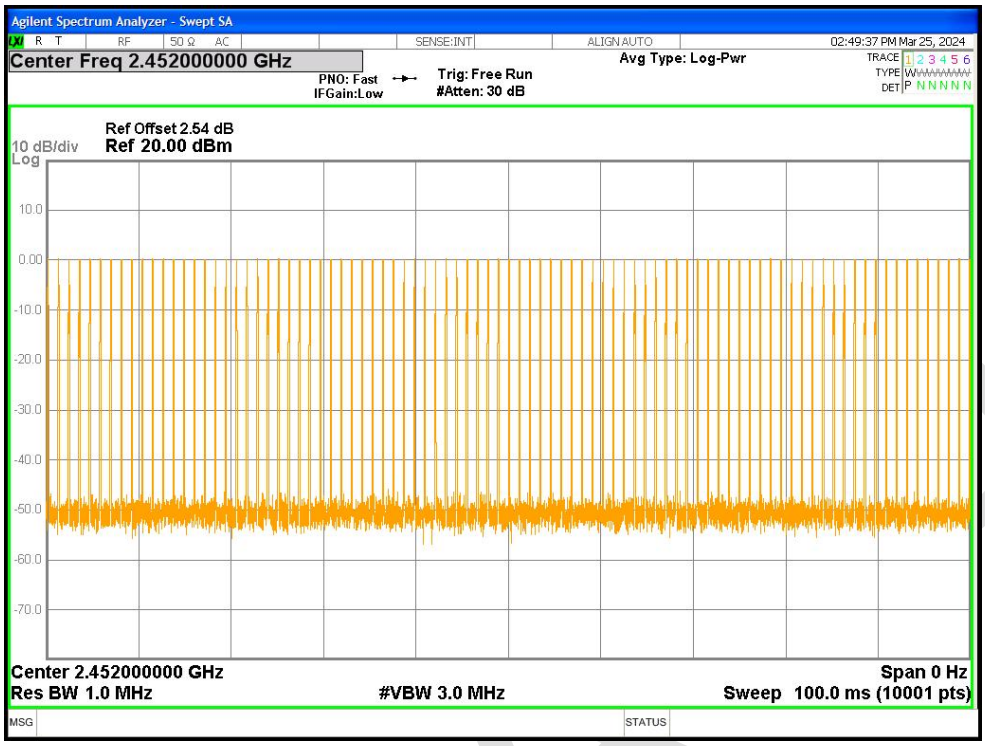
Duty Cycle NVNT n40 2422MHz Ant1



Duty Cycle NVNT n40 2437MHz Ant1



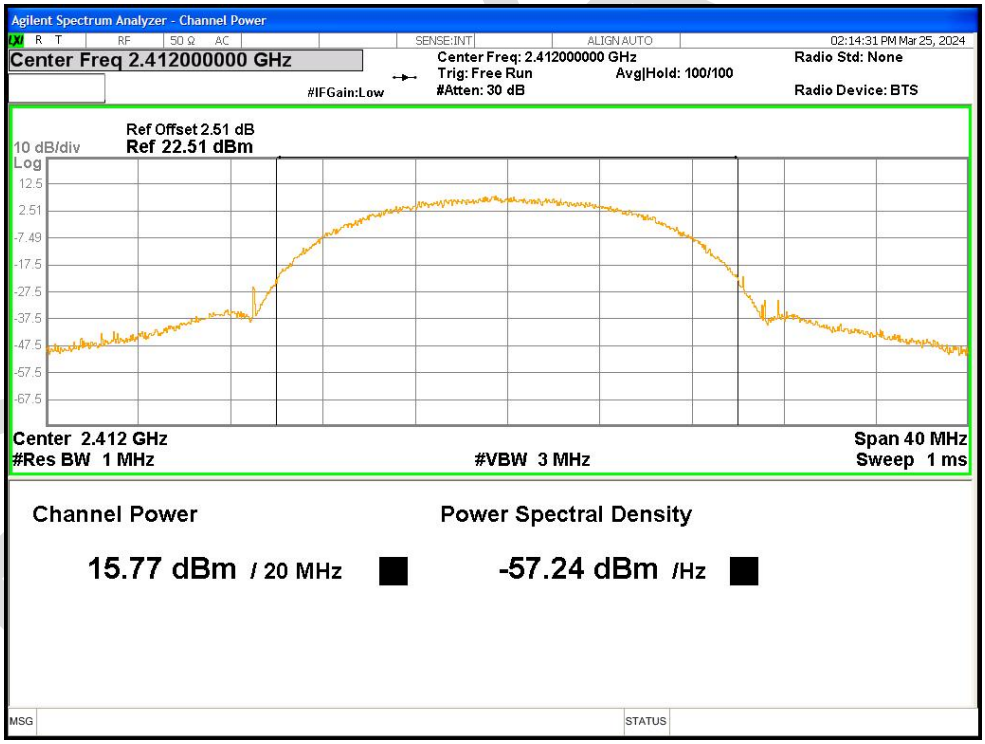
Duty Cycle NVNT n40 2452MHz Ant1


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.452000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
02:49:37 PM Mar 25, 2024
Ref Offset 2.54 dB
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.452000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 100.0 ms (10001 pts)

Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	15.771	2.49	18.261	30	Pass
NVNT	b	2437	Ant1	18.612	2.44	21.052	30	Pass
NVNT	b	2462	Ant1	17.862	2.49	20.352	30	Pass
NVNT	g	2412	Ant1	15.826	6.86	22.686	30	Pass
NVNT	g	2437	Ant1	14.946	6.88	21.826	30	Pass
NVNT	g	2462	Ant1	14.198	6.88	21.078	30	Pass
NVNT	n20	2412	Ant1	15.713	7.18	22.893	30	Pass
NVNT	n20	2437	Ant1	14.816	7.18	21.996	30	Pass
NVNT	n20	2462	Ant1	14.06	7.18	21.24	30	Pass
NVNT	n40	2422	Ant1	15.061	9.08	24.141	30	Pass
NVNT	n40	2437	Ant1	14.592	9.06	23.652	30	Pass
NVNT	n40	2452	Ant1	14.399	9.03	23.429	30	Pass

Power NVNT b 2412MHz Ant1



Power NVNT b 2437MHz Ant1