Appendix A

RF Test Data for BT(BLE) (Conducted Measurement)

Product Name: NucBox

Trade Mark: GMK

Test Model: KB1

FCC ID: 2AXUD-KB1

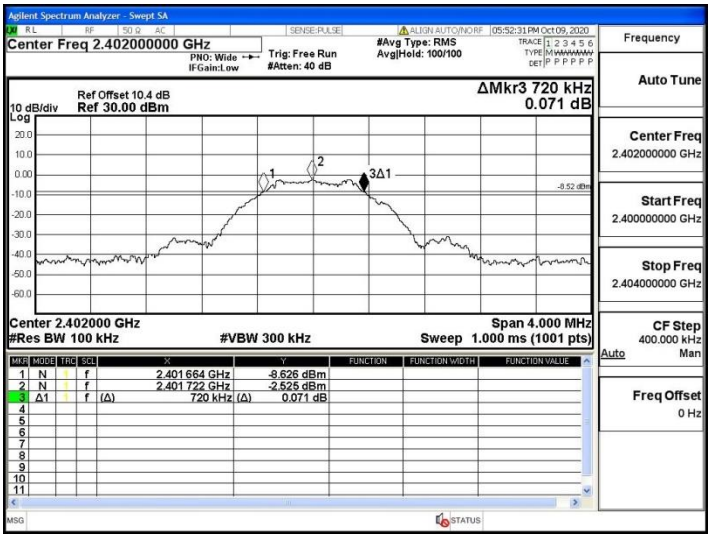
Environmental Conditions

Temperature:	22.8° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

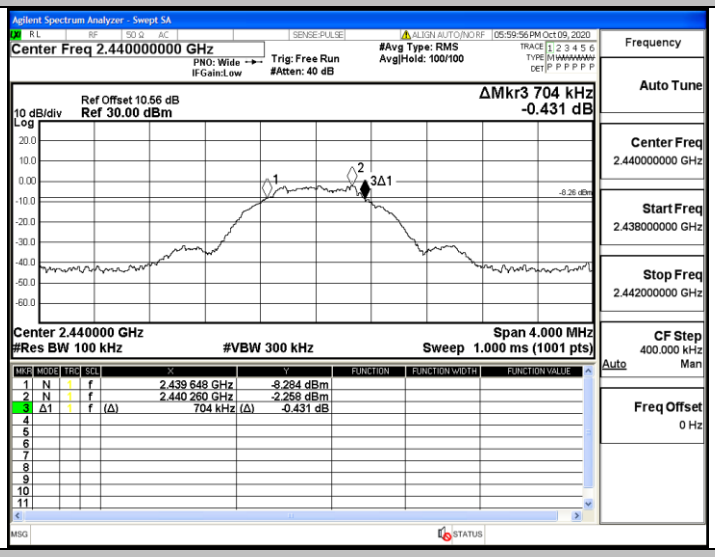
A.1. 6dB Bandwidth

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.720	2401.664	2402.384	0.5	PASS
		2440	0.704	2439.648	2440.352	0.5	PASS
		2480	0.672	2479.672	2480.344	0.5	PASS

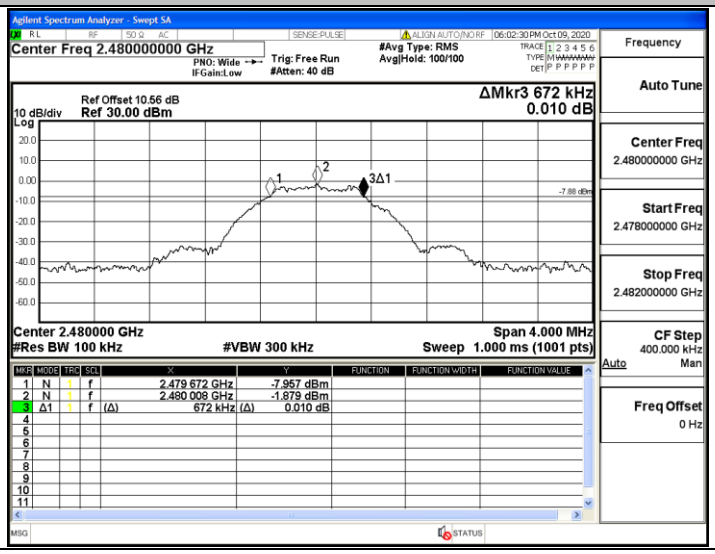
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



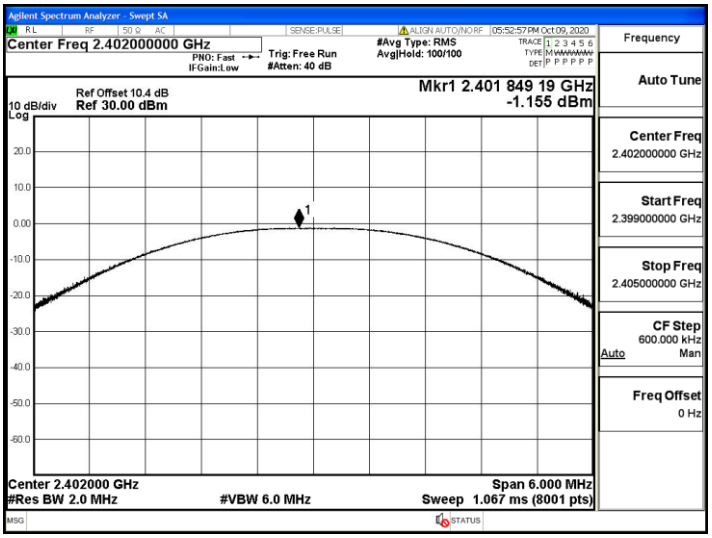
A.2. Occupied Bandwidth

Test Mode	Test Channel	Ant	OBW[MHz]	Limit[MHz]	Verdict

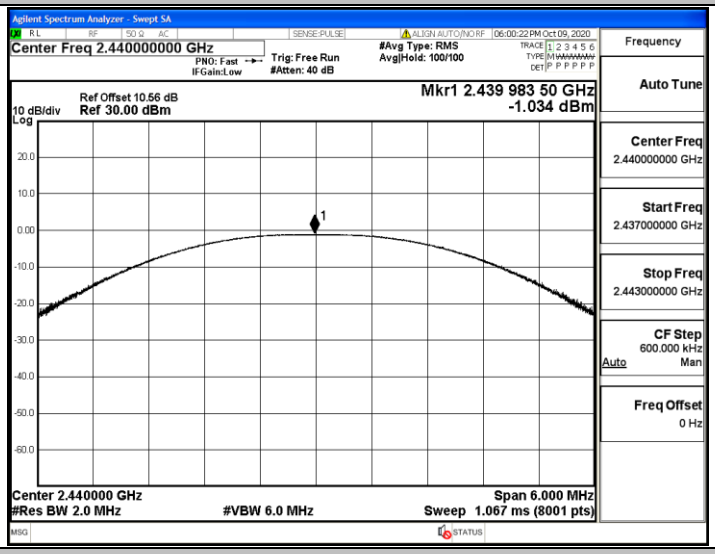
A.3. Maximum peak conducted output power

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.16	<=30	PASS
		2440	-1.03	<=30	PASS
		2480	-0.9	<=30	PASS

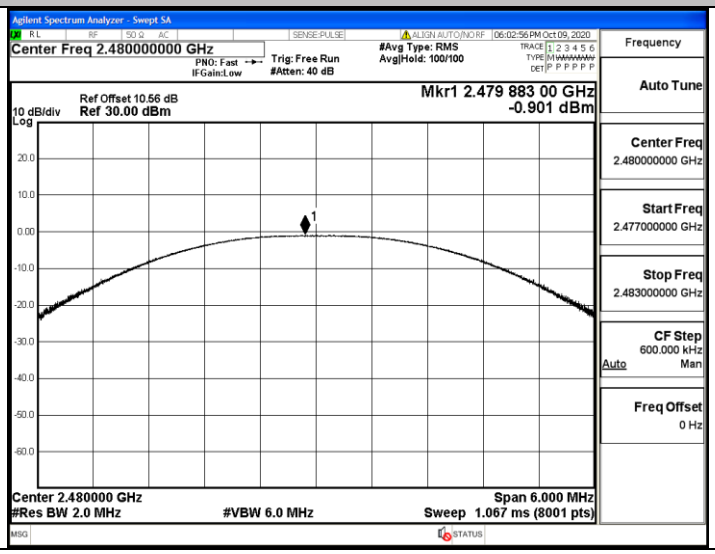
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



A.4. Maximum Peak power spectral density

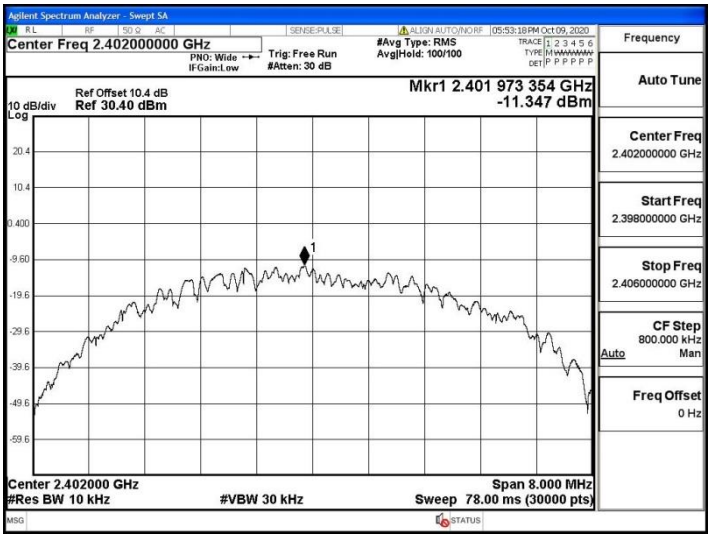
Test Mode	Ant	Test	PSD[dBm/10KHz]	Converter Factor [dB]	PSD[dBm/3KHz]	Limit[dBm/3KHz]	Verdict
BLE(1Mbps)	Ant1	2402	-11.35	5.23	-16.58	8.00	PASS
		2440	-11.21	5.23	-16.44	8.00	PASS
		2480	-11.09	5.23	-16.32	8.00	PASS

Note:

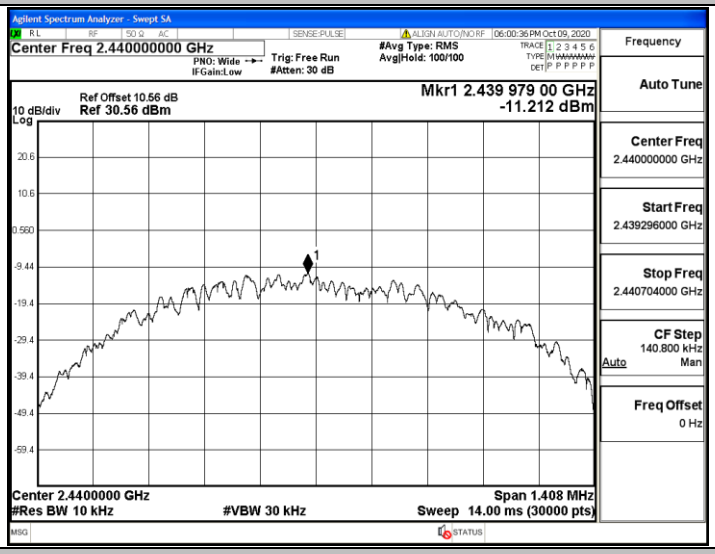
1,Converter factor = 10 * lg(RBW/3 kHz) = 5.23 (dB)

2, PSD[dBm/3KHz] = PSD[dBm/10KHz] - Converter Factor

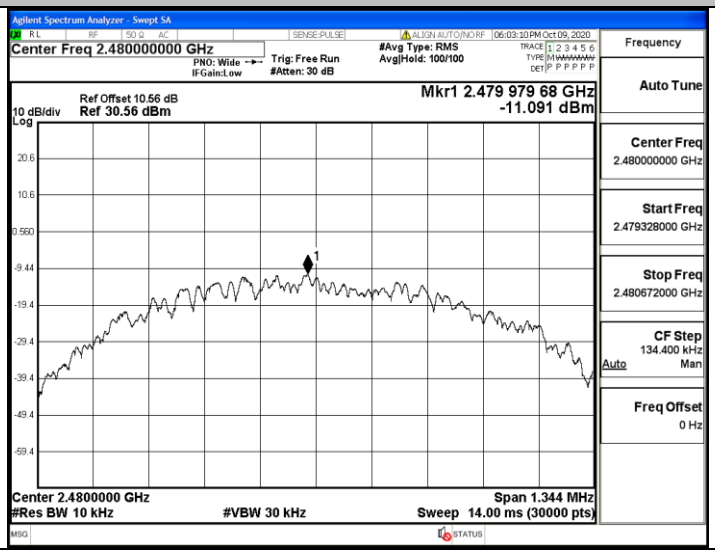
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

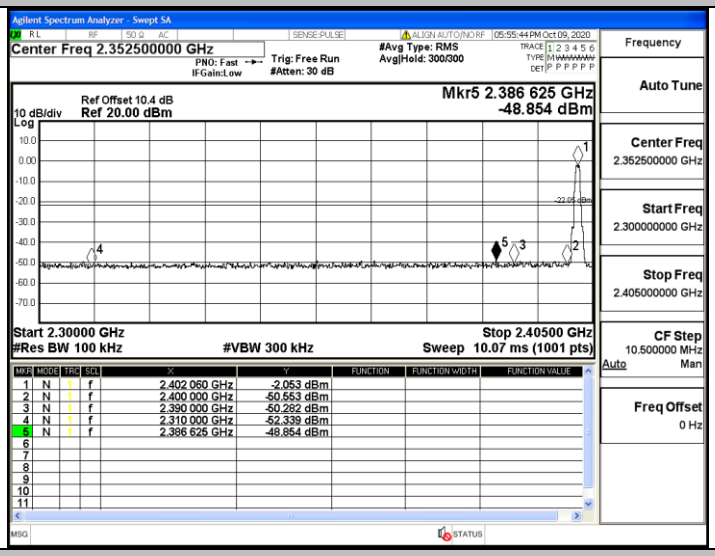


A.5. Band-edge for RF Conducted Emissions

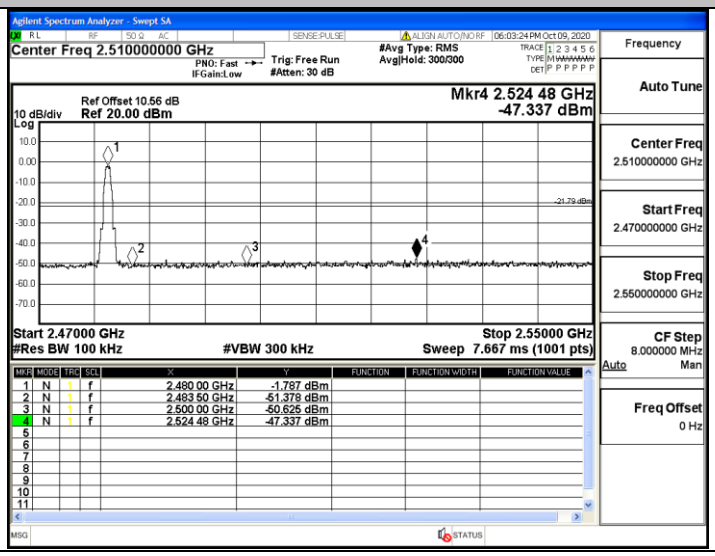
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-2.05	-48.85	<=-22.05	PASS
		High	2480	-1.79	-47.34	<=-21.79	PASS

A.6. RF Conducted Spurious Emissions

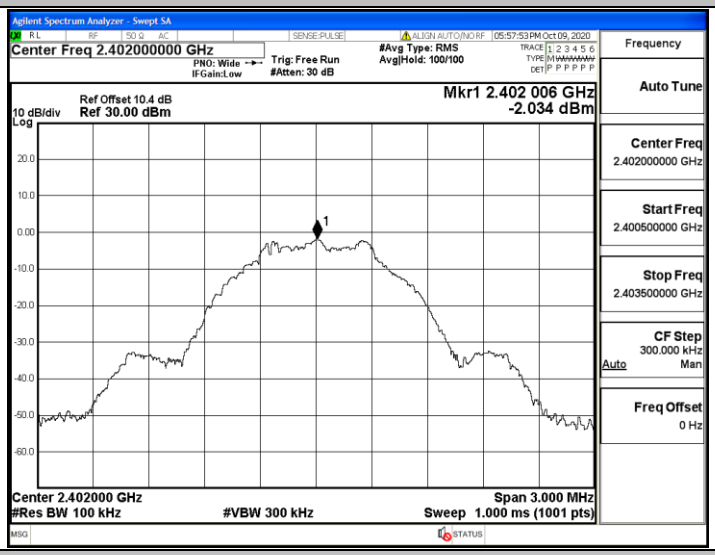
BLE_1M_Ant1_Low_2402



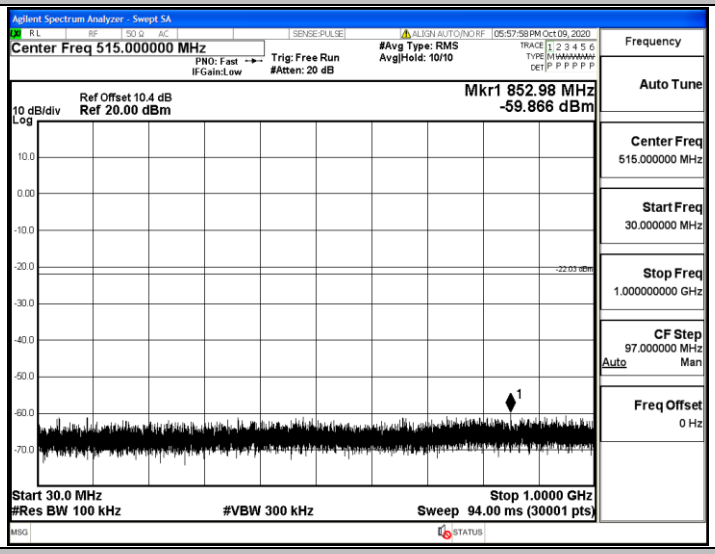
BLE_1M_Ant1_High_2480



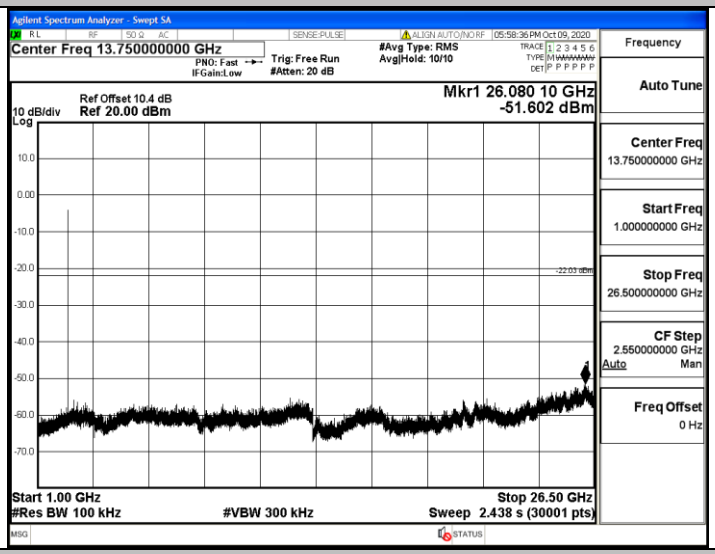
BLE_1M_Ant1_2402_0~Reference



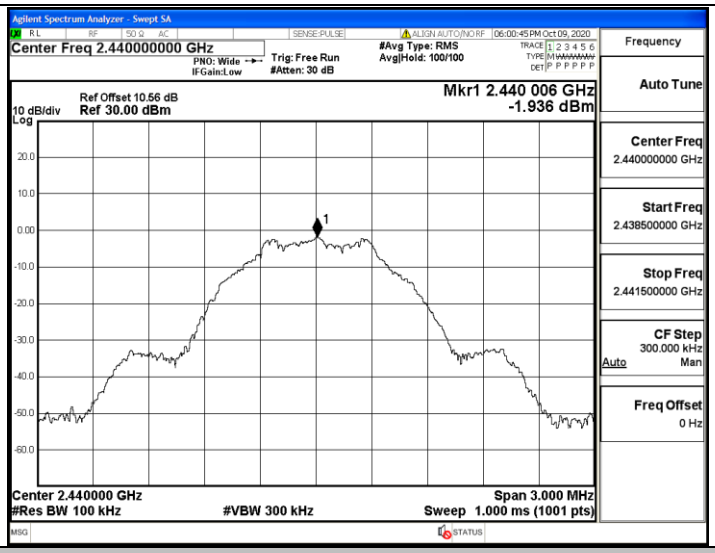
BLE_1M_Ant1_2402_30~1000



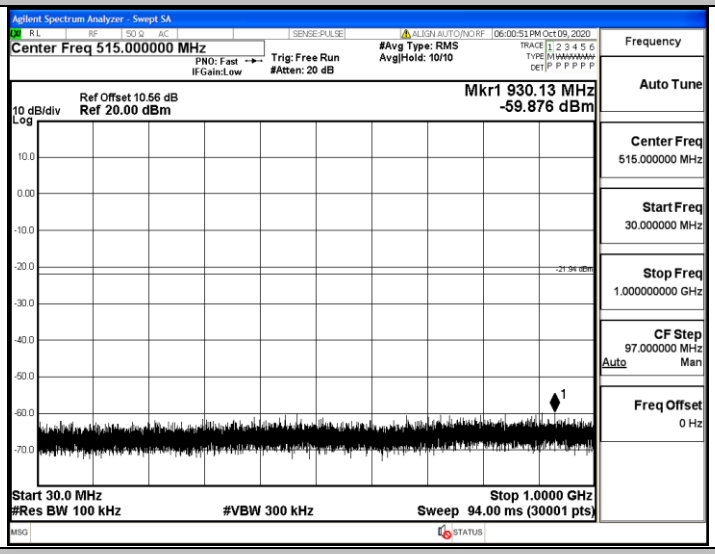
BLE_1M_Ant1_2402_1000~26500



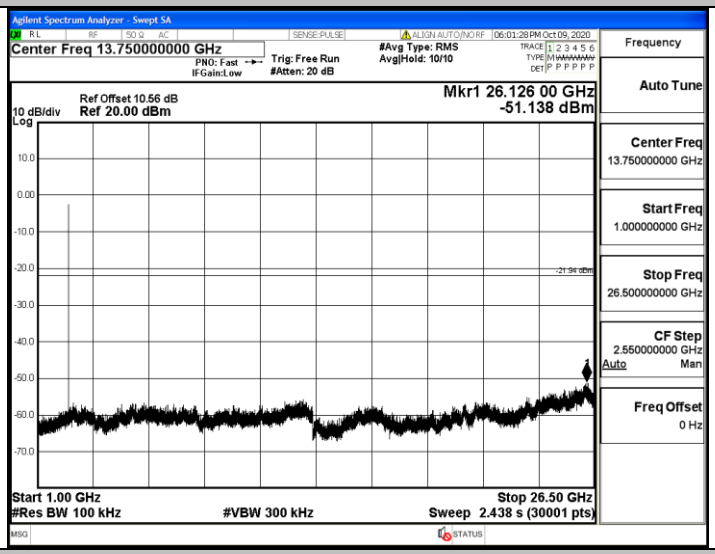
BLE_1M_Ant1_2440_0~Reference



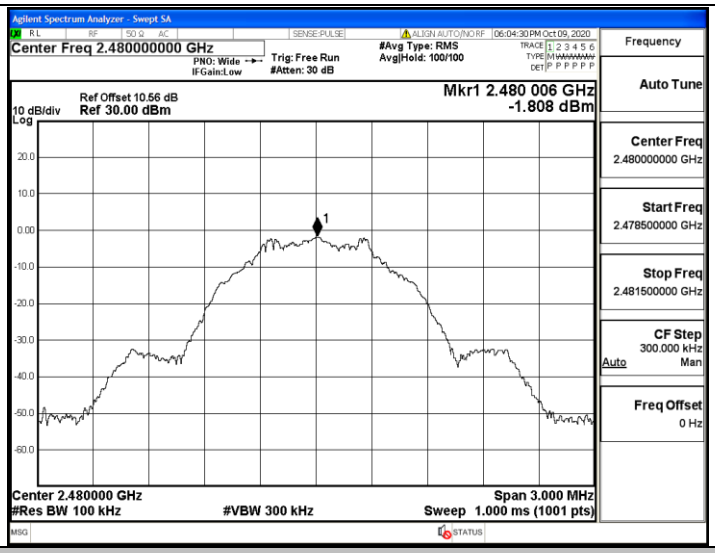
BLE_1M_Ant1_2440_30~1000



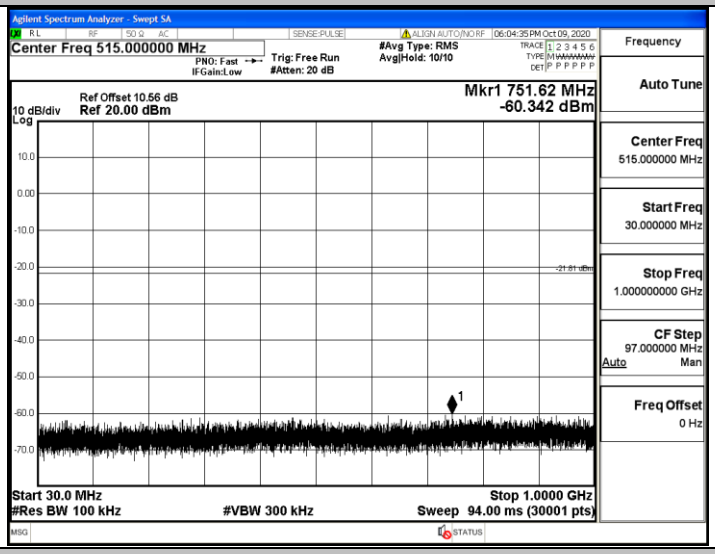
BLE_1M_Ant1_2440_1000~26500



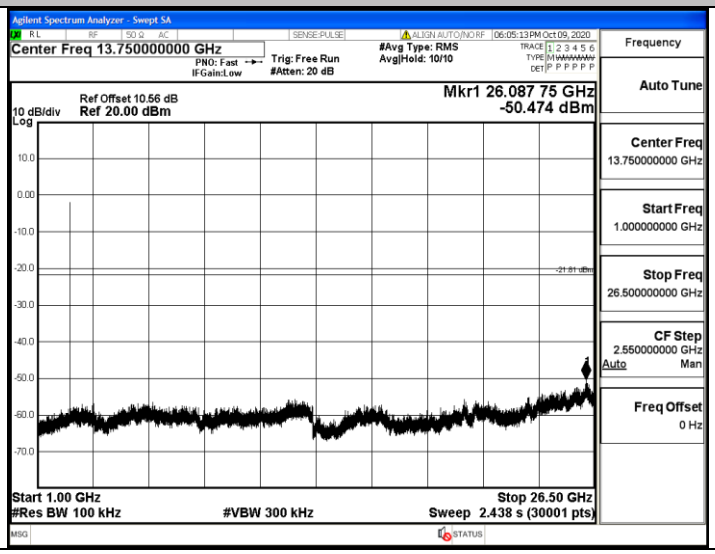
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



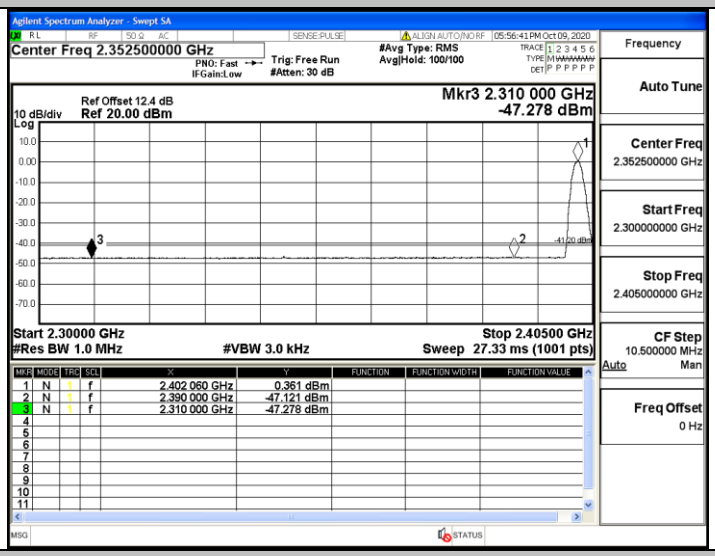
BLE_1M_Ant1_2480_1000~26500



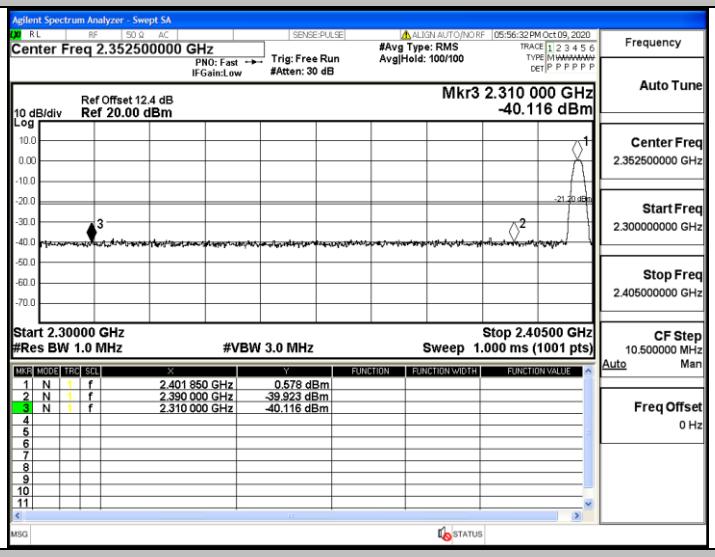
A.7. Restrict-band band-edge measurements

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-47.28	<=-41.20	PASS
				AV	2390.000	-47.12	<=-41.20	PASS
				Peak	2310.000	-40.12	<=-21.20	PASS
				Peak	2390.000	-39.92	<=-21.20	PASS
		High	2480	AV	2483.500	-46.15	<=-41.20	PASS
				AV	2500.000	-46.28	<=-41.20	PASS
				Peak	2483.500	-38.82	<=-21.20	PASS
				Peak	2500.000	-39.07	<=-21.20	PASS

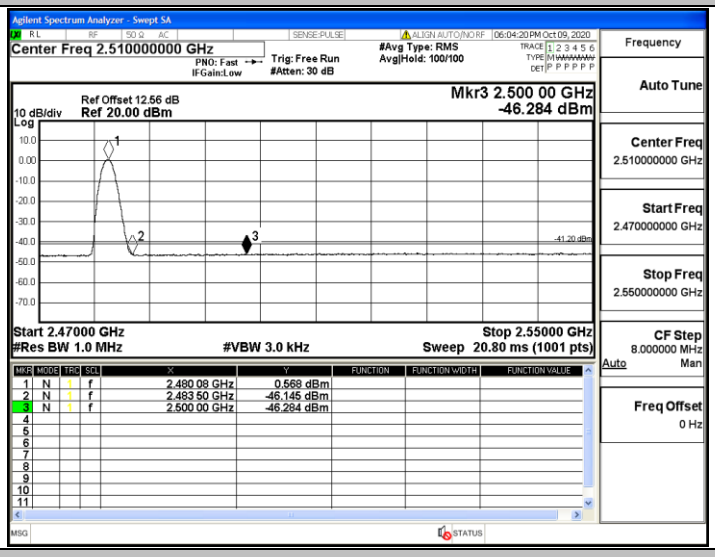
BLE_1M_Ant1_Low_2402_AV



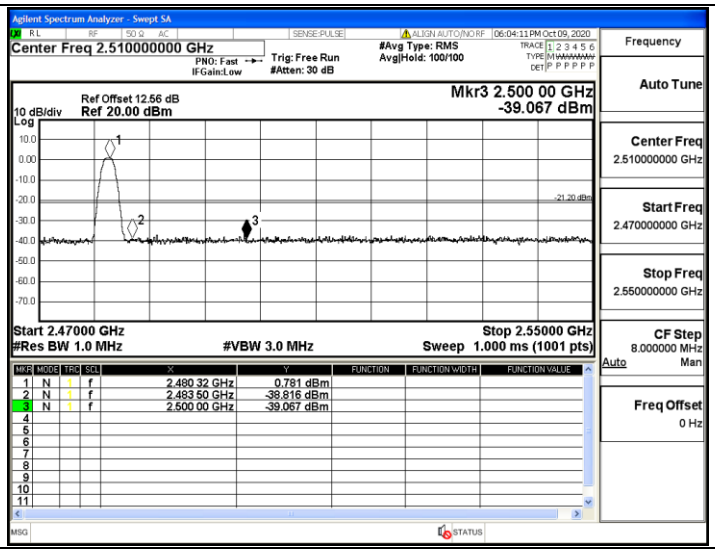
BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.510000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
06:04:11 PM Oct 09, 2020
Ref Offset 12.56 dB
10 dB/div
Log
Ref 20.00 dBm
Mkr3 2.500 00 GHz
-39.067 dBm
-21.20 dBm
Start 2.47000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 2.55000 GHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.480 32 GHz 0.781 dBm
2 N 1 f 2.483 50 GHz -38.816 dBm
3 N 1 f 2.500 00 GHz -39.067 dBm
Frequency
Auto Tune
Center Freq
2.510000000 GHz
Start Freq
2.470000000 GHz
Stop Freq
2.550000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz

A.8. Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BLE	2440	Ant1	63.00	PASS

Duty Cycle_BLE_2440_Ant1