Appendix A

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

Product Name: Turing Bluetooth module

Trade Mark: N/A

Test Model: Turing-C

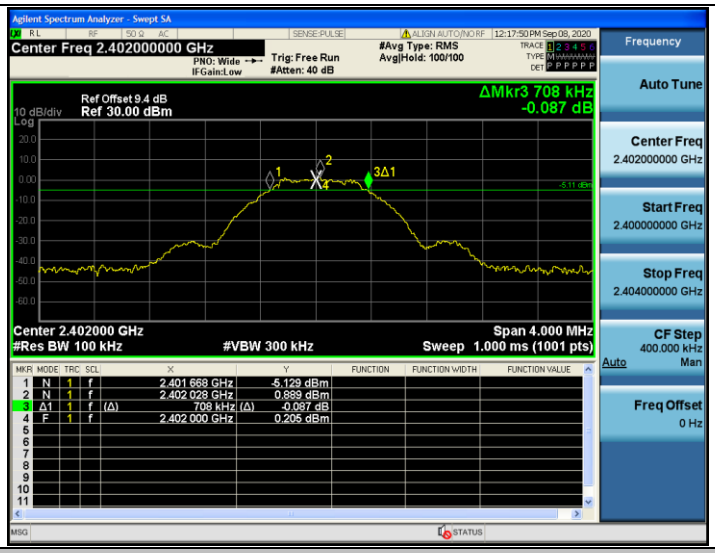
FCC ID: 2AXD8TURING

Environmental Conditions

Temperature:	22.8° C
Relative Humidity:	60%
ATM Pressure:	100.0 kPa
Test Engineer:	Nancy Li
Supervised by:	Hugo Chen
NOTE	N/A

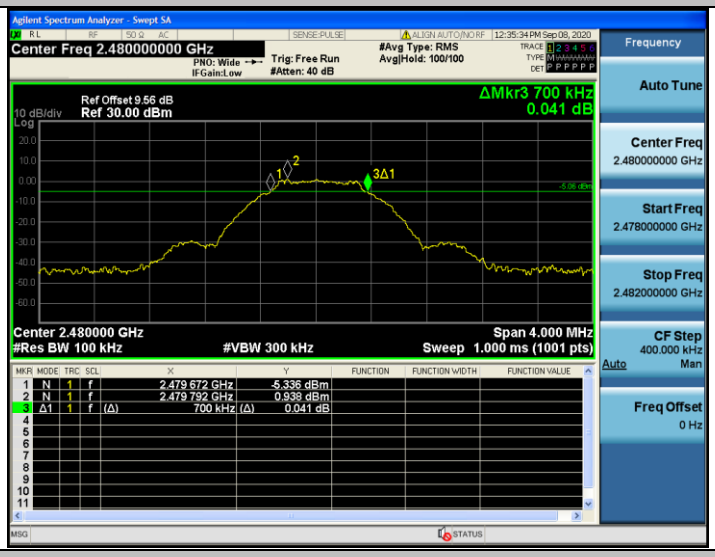
A.1. 6dB Bandwidth

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.708	2401.668	2402.376	0.5	PASS
		2440	0.700	2439.664	2440.364	0.5	PASS
		2480	0.700	2479.672	2480.372	0.5	PASS
BLE_2M	Ant1	2402	1.392	2401.328	2402.720	0.5	PASS
		2440	1.364	2439.356	2440.720	0.5	PASS
		2480	1.416	2479.292	2480.708	0.5	PASS

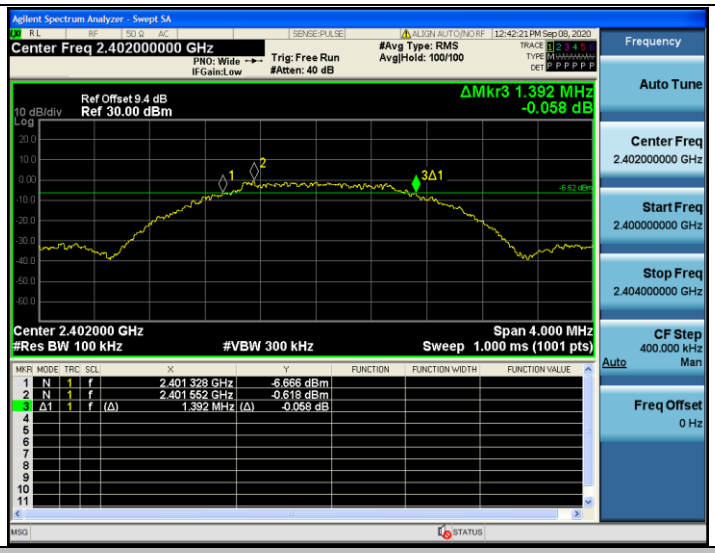


BLE_1M_Ant1_2402

BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



BLE_2M_Ant1_2402

BLE_2M_Ant1_2440

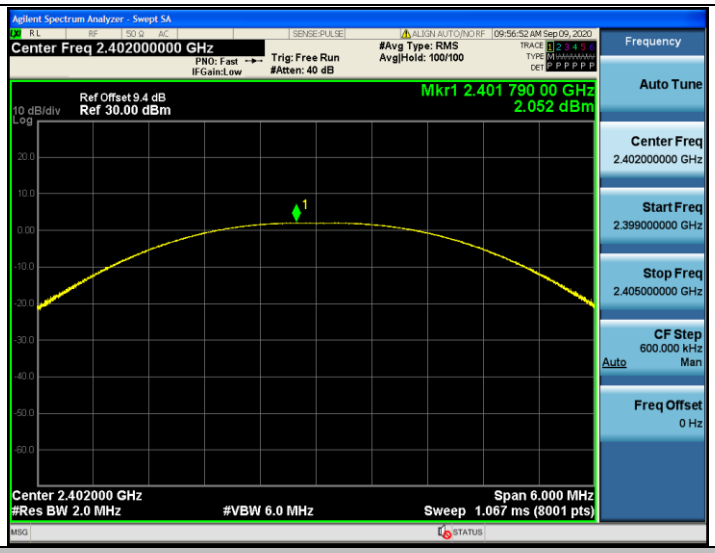
BLE_2M_Ant1_2480

A.2. Occupied Bandwidth

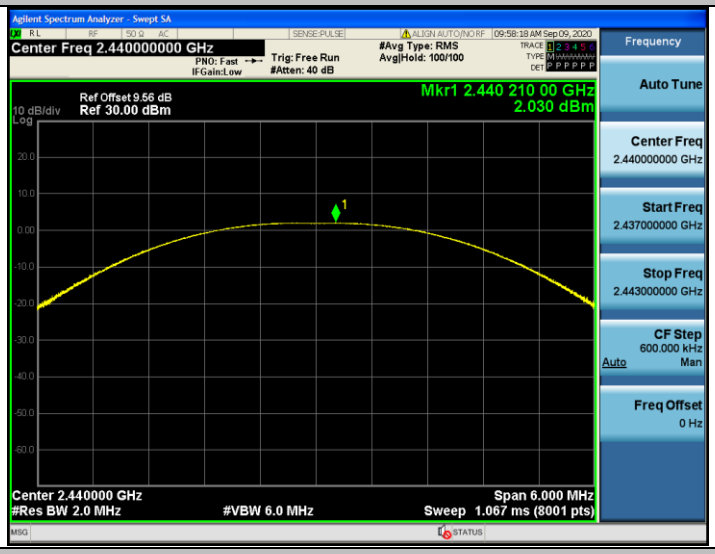
Test Mode	Test Channel	Ant	OBW[MHz]	Limit[MHz]	Verdict

A.3. Maximum peak conducted output power

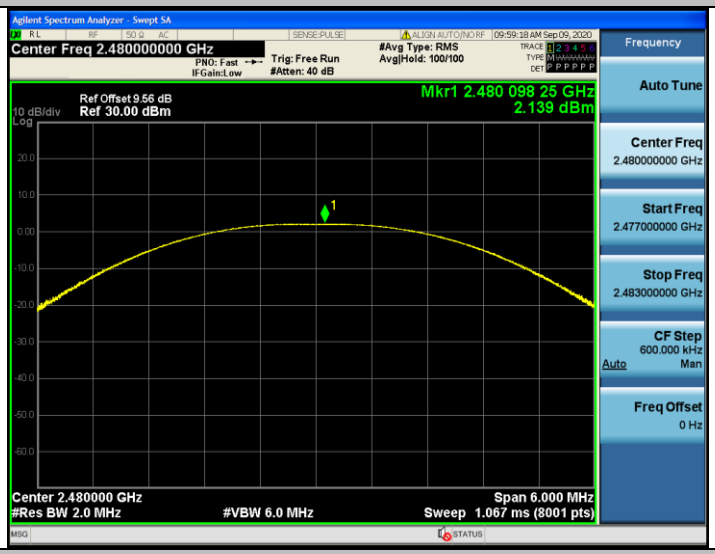
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2.05	<=30	PASS
		2440	2.03	<=30	PASS
		2480	2.14	<=30	PASS
BLE_2M	Ant1	2402	2.06	<=30	PASS
		2440	2.01	<=30	PASS
		2480	2.14	<=30	PASS



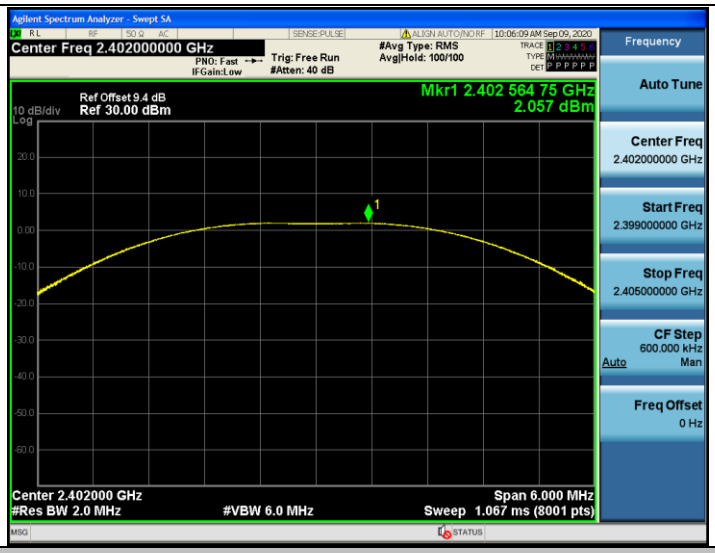
BLE_1M_Ant1_2402



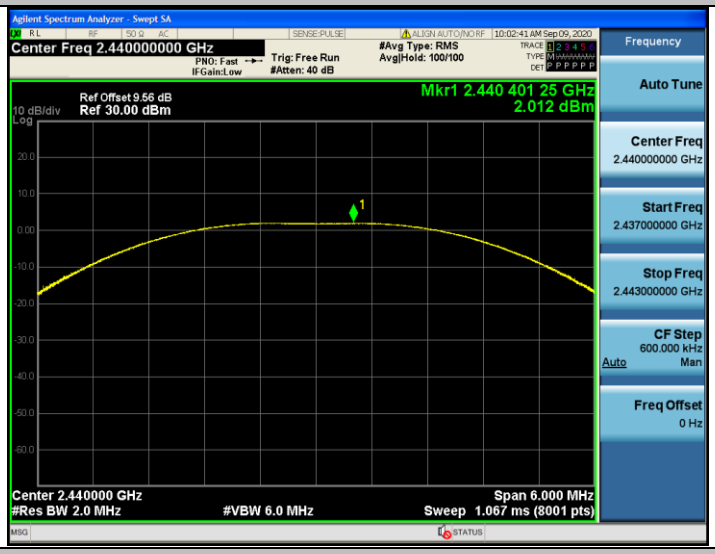
BLE_1M_Ant1_2440



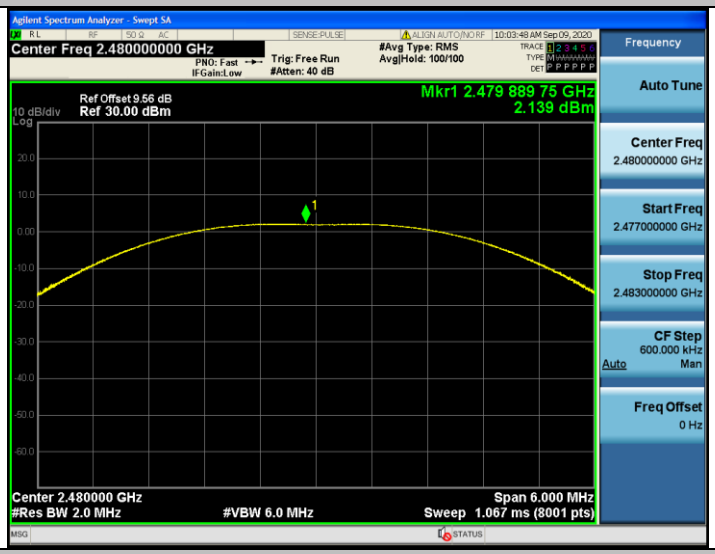
BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

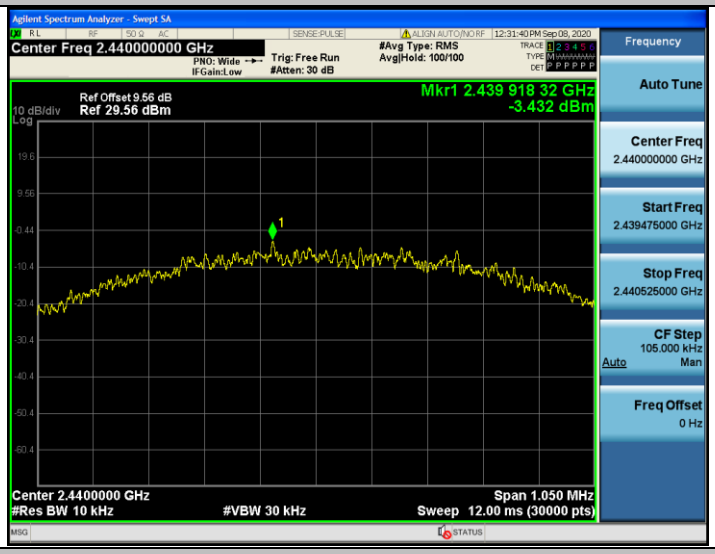
A.4. Maximum Peak power spectral density

TestMode	Antenna	Channel	Result[dBm/10kHz]	Converter Factor[dB]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-4.27	-4.77	-9.04	<=8	PASS
		2440	-3.43	-4.77	-8.2	<=8	PASS
		2480	-4.42	-4.77	-9.19	<=8	PASS
BLE_2M	Ant1	2402	-6.27	-4.77	-11.04	<=8	PASS
		2440	-6.37	-4.77	-11.14	<=8	PASS
		2480	-4.65	-4.77	-9.42	<=8	PASS

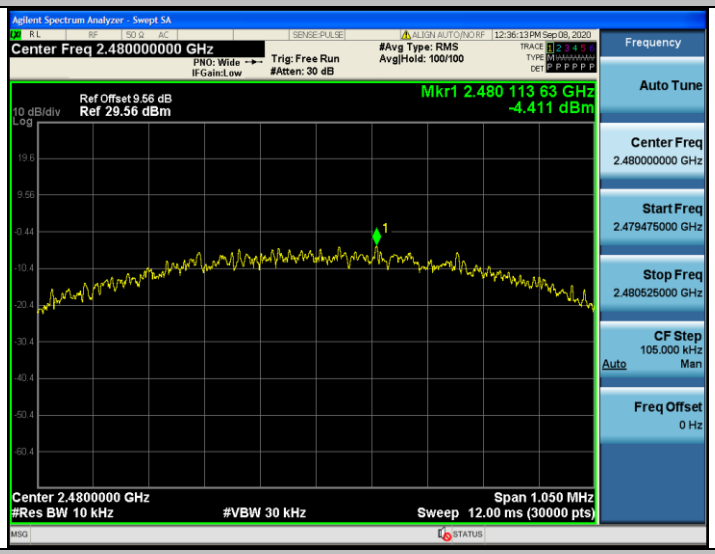
Converter Factor[dB] = 10*lg(3KHz / RBW) = -4.77 dB

Result[dBm/3kHz] = Result[dBm/10kHz] + Converter Factor[dB]

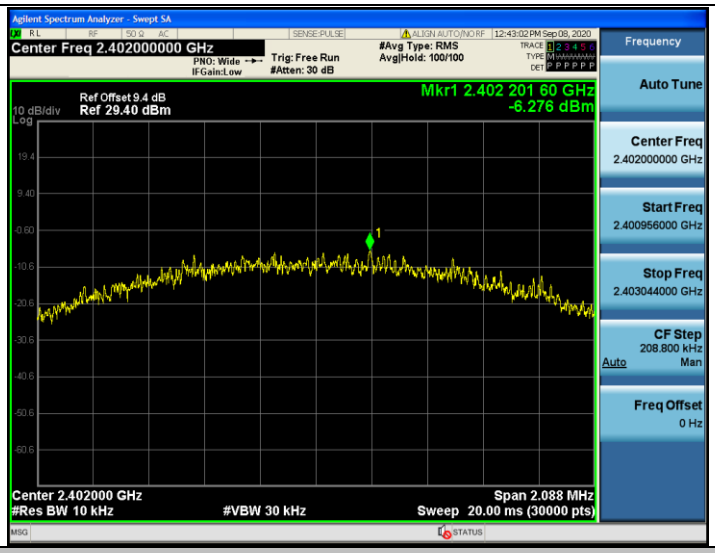
BLE_1M_Ant1_2402



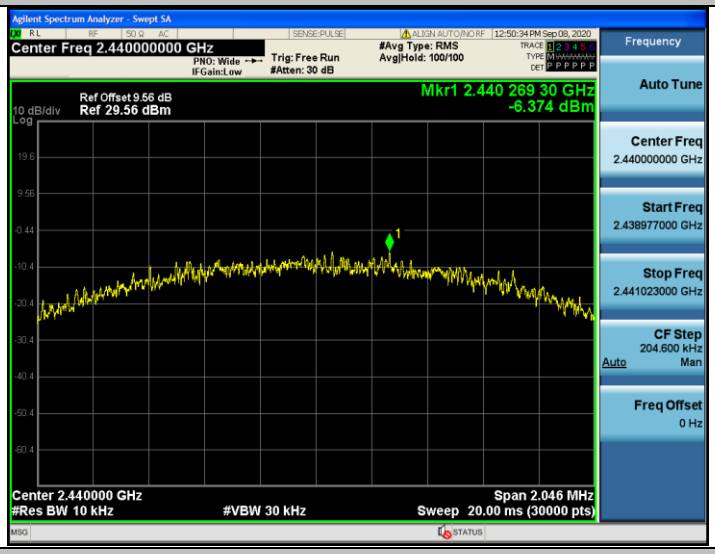
BLE_1M_Ant1_2440



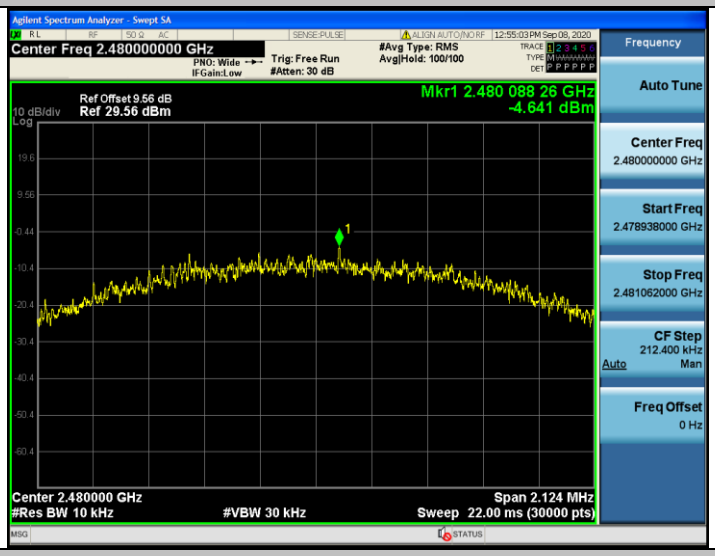
BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



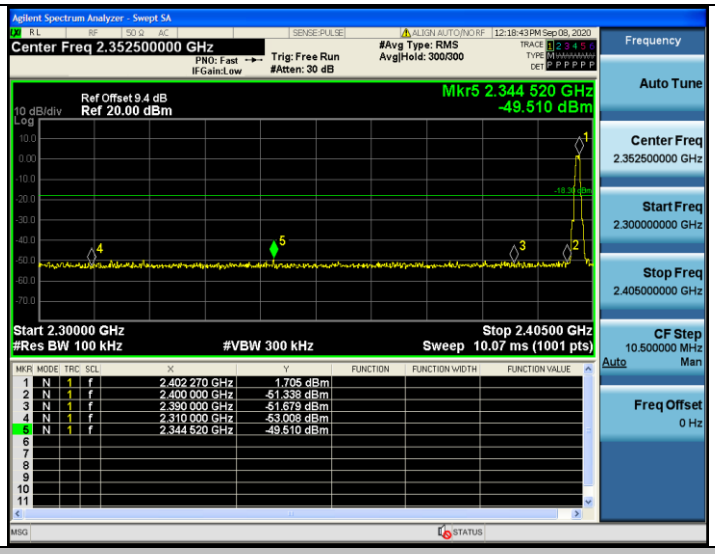
BLE_2M_Ant1_2440



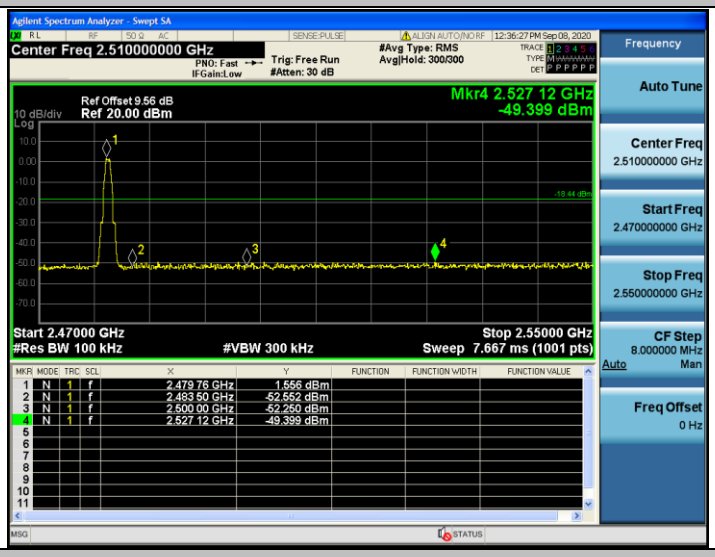
BLE_2M_Ant1_2480

A.5. Band-edge for RF Conducted Emissions

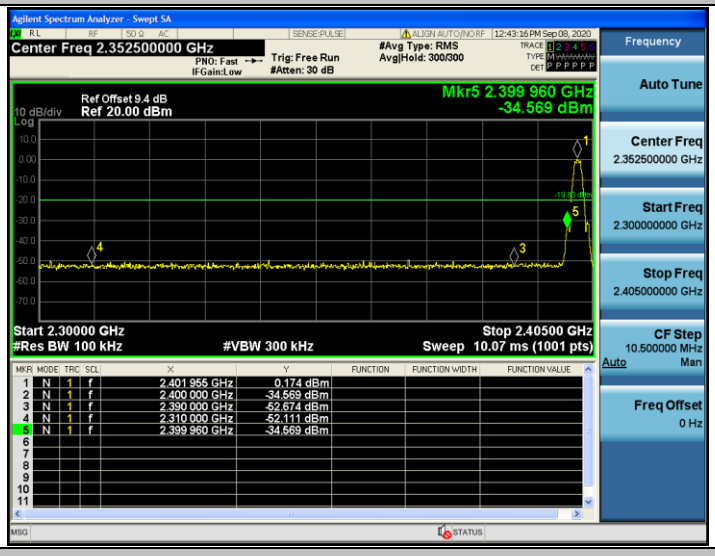
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.71	-49.51	<=-18.3	PASS
		High	2480	1.55	-49.40	<=-18.44	PASS
BLE_2M	Ant1	Low	2402	0.17	-34.57	<=-19.83	PASS
		High	2480	0.08	-48.89	<=-19.92	PASS



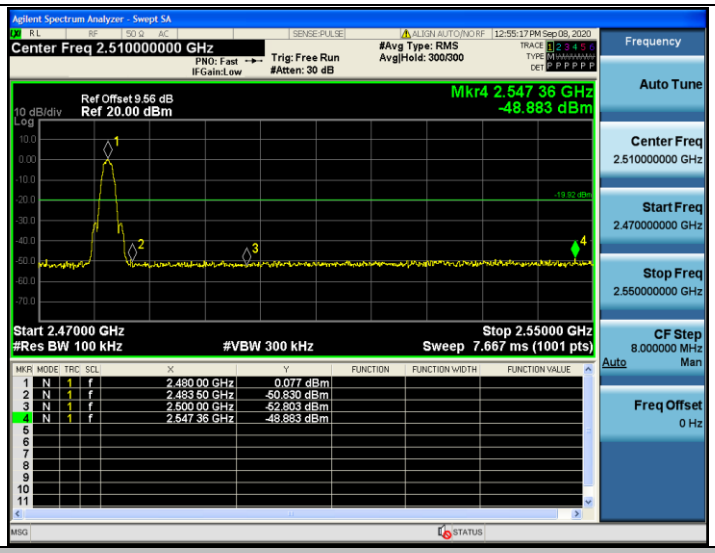
BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



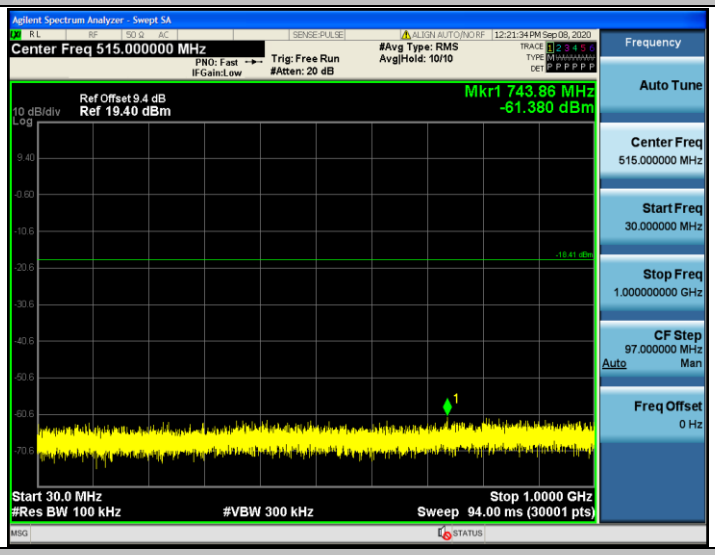
BLE_2M_Ant1_Low_2402



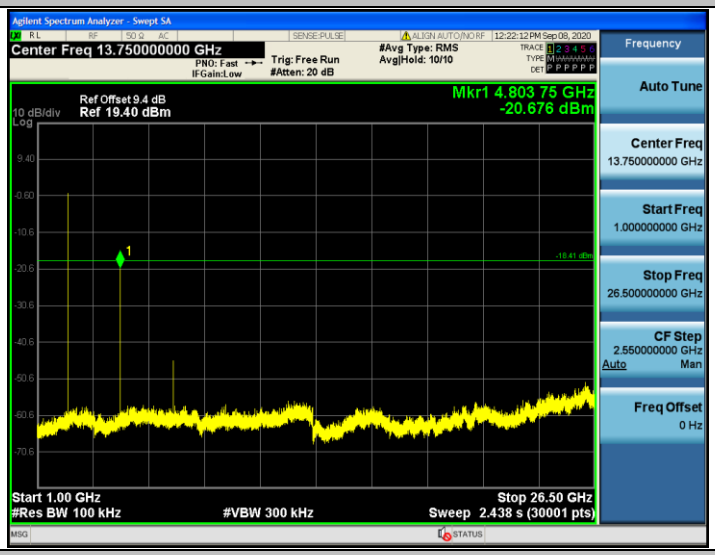
BLE_2M_Ant1_High_2480

A.6. RF Conducted Spurious Emissions

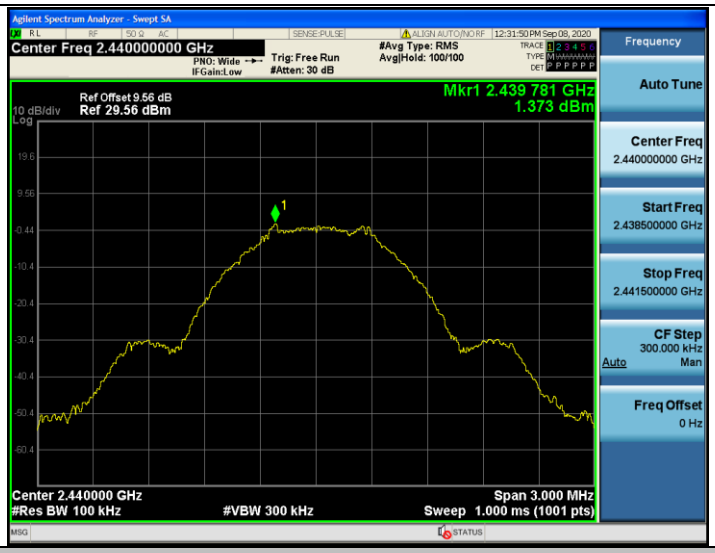
BLE_1M_Ant1_2402_0~Reference



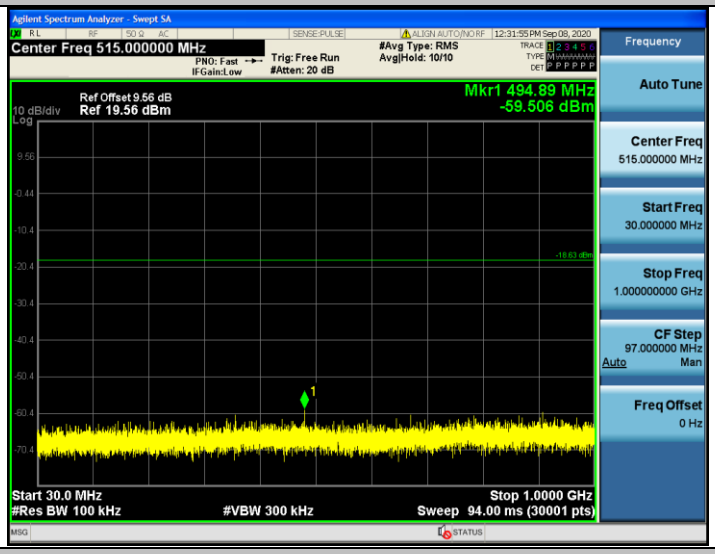
BLE_1M_Ant1_2402_30~1000



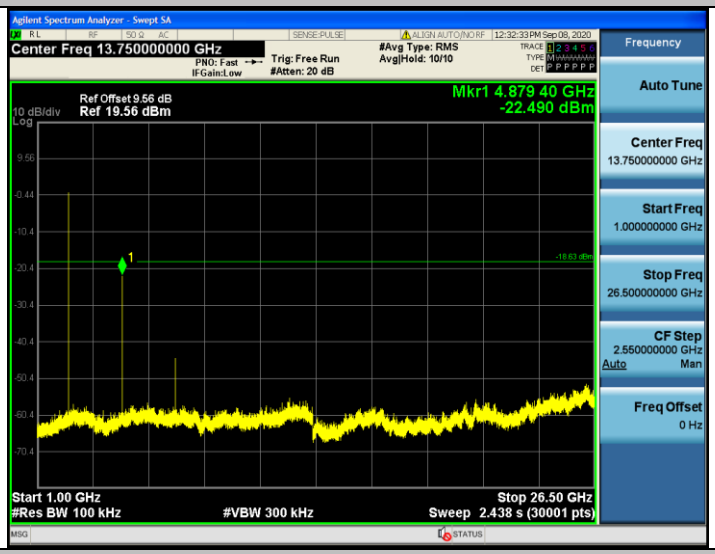
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference

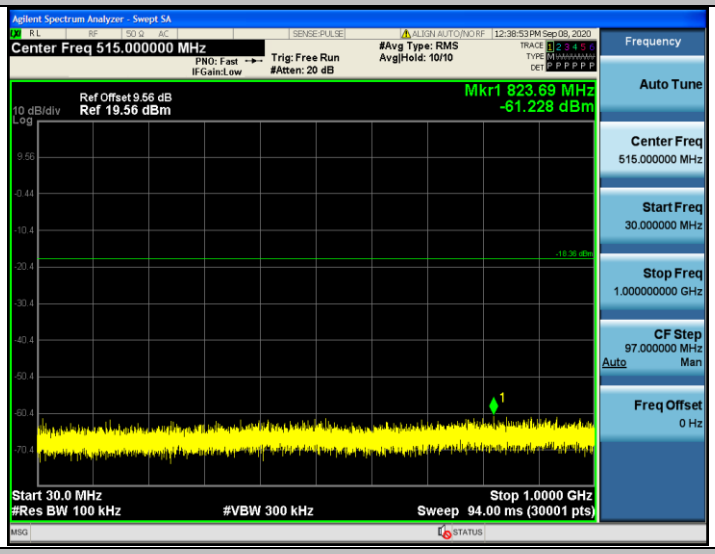


BLE_1M_Ant1_2440_30~1000

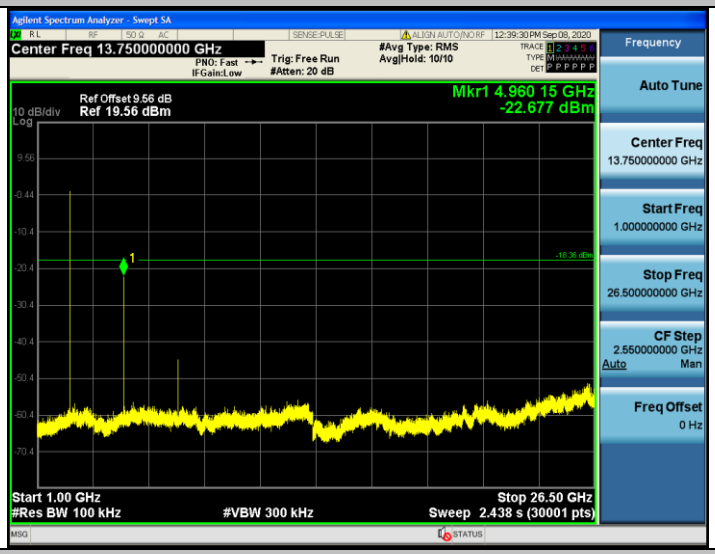


BLE_1M_Ant1_2440_1000~26500

BLE_1M_Ant1_2480_0~Reference

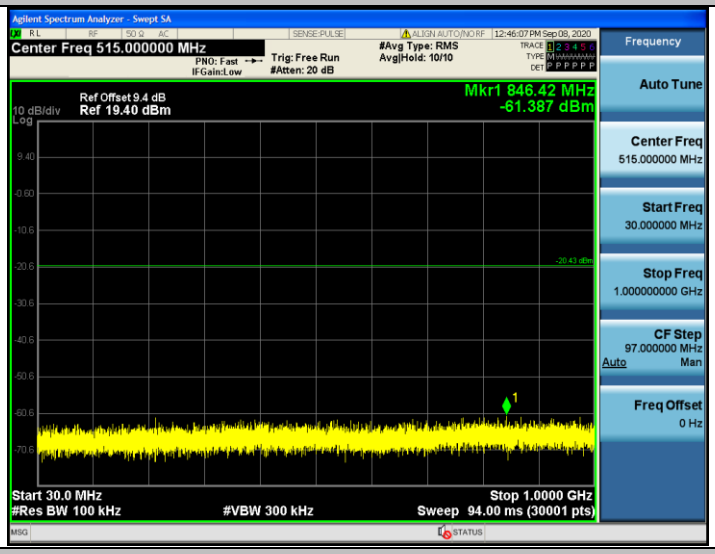


BLE_1M_Ant1_2480_30~1000

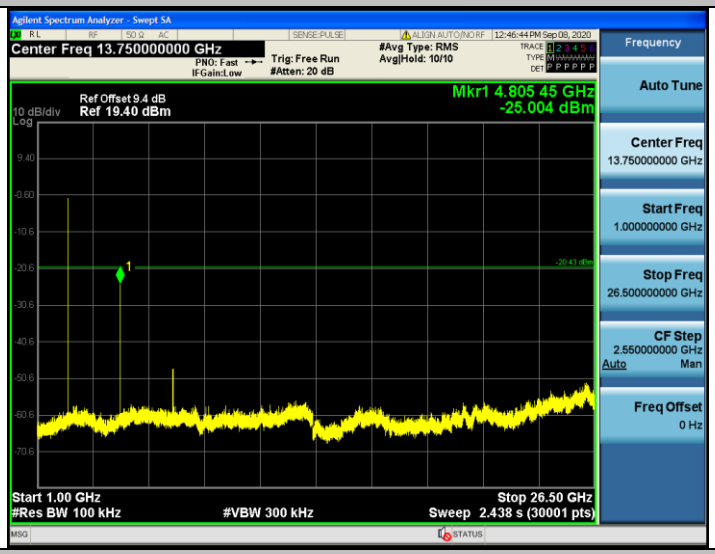


BLE_1M_Ant1_2480_1000~26500

BLE_2M_Ant1_2402_0~Reference

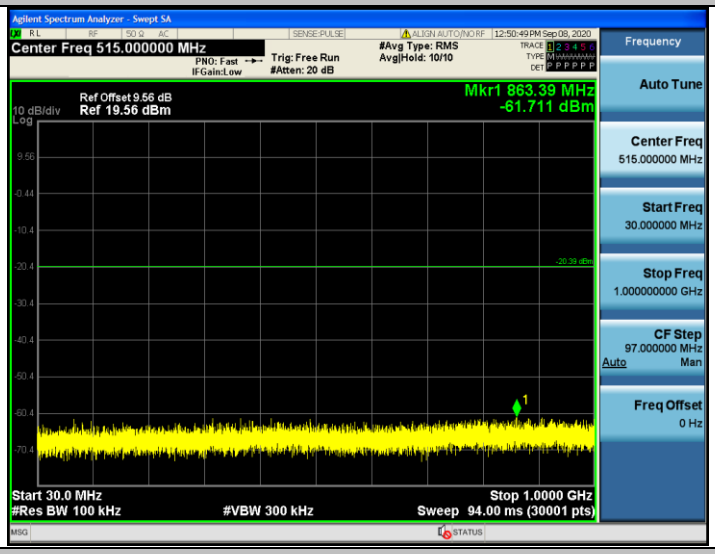


BLE_2M_Ant1_2402_30~1000

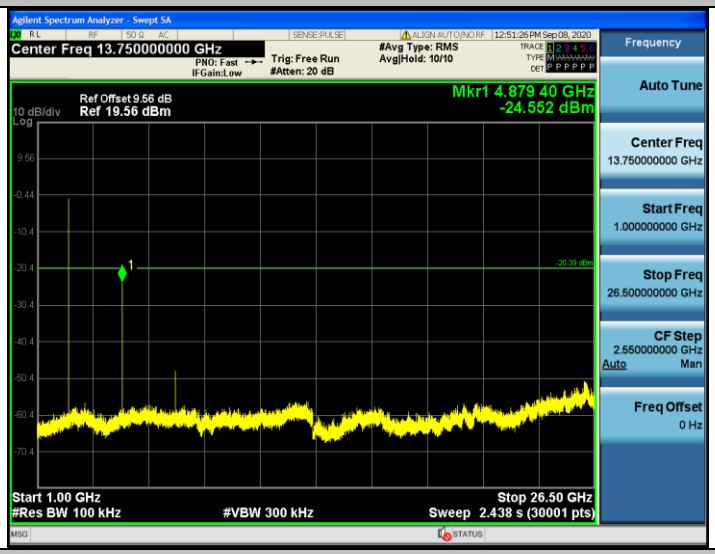


BLE_2M_Ant1_2402_1000~26500

BLE_2M_Ant1_2440_0~Reference

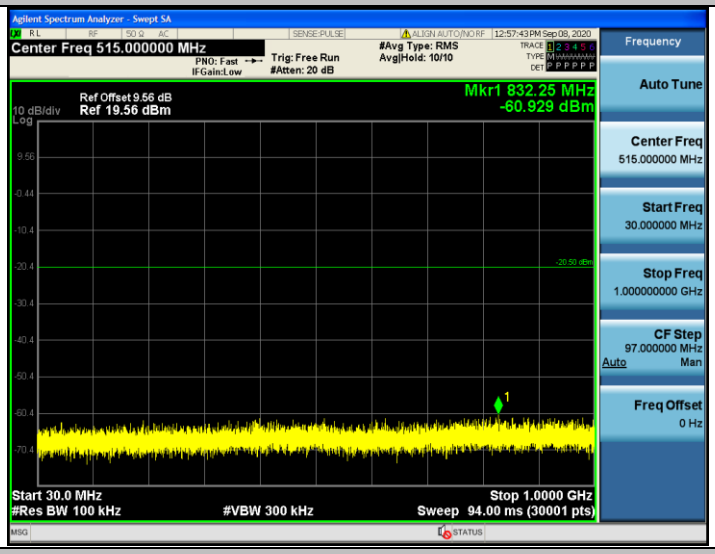


BLE_2M_Ant1_2440_30~1000

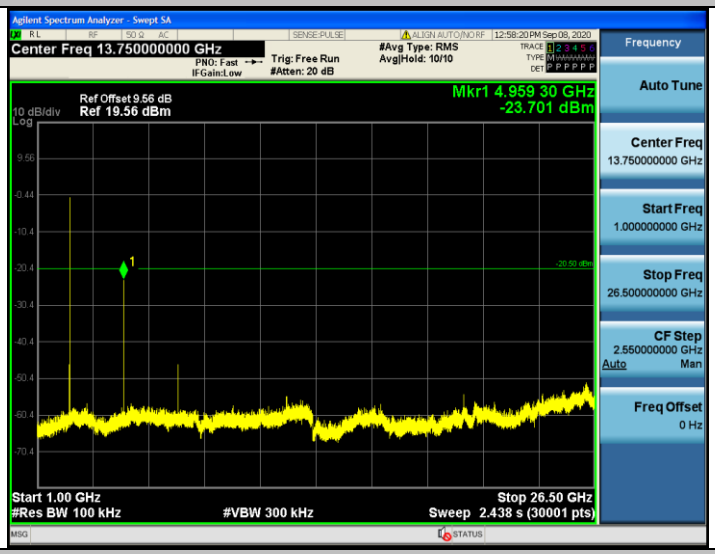


BLE_2M_Ant1_2440_1000~26500

BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000

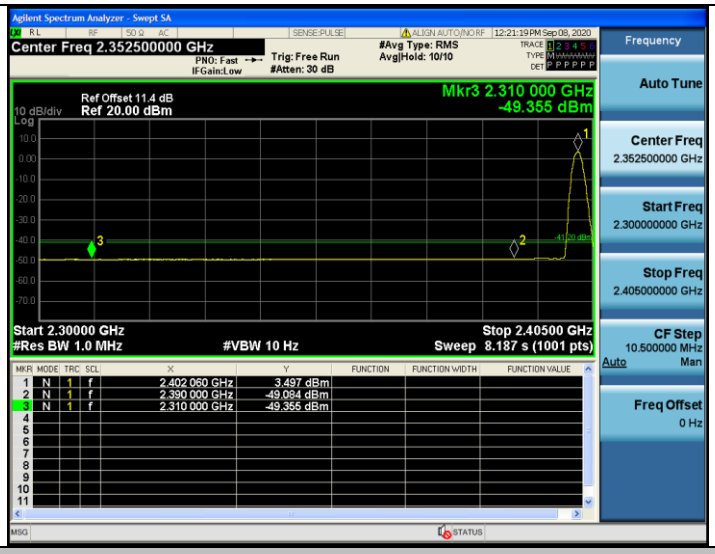


BLE_2M_Ant1_2480_1000~26500

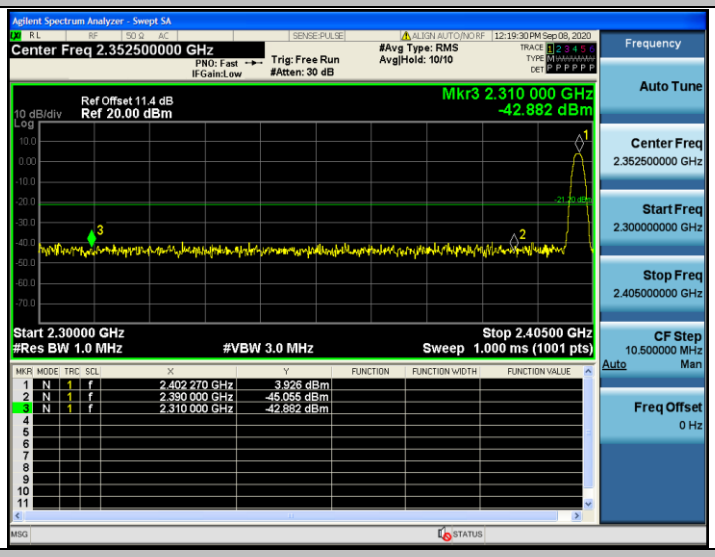
A.7. Restrict-band band-edge measurements

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-49.36	<=-41.20	PASS
				AV	2390.000	-49.08	<=-41.20	PASS
				Peak	2310.000	-42.88	<=-21.20	PASS
				Peak	2390.000	-45.06	<=-21.20	PASS
		High	2480	AV	2483.500	-47.82	<=-41.20	PASS
				AV	2500.000	-48.35	<=-41.20	PASS
				Peak	2483.500	-41.45	<=-21.20	PASS
				Peak	2500.000	-43.22	<=-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-49.37	<=-41.20	PASS
				AV	2390.000	-49.06	<=-41.20	PASS
				Peak	2310.000	-42.57	<=-21.20	PASS
				Peak	2390.000	-46.33	<=-21.20	PASS
		High	2480	AV	2483.500	-44.57	<=-41.20	PASS
				AV	2500.000	-48.33	<=-41.20	PASS
				Peak	2483.500	-41.16	<=-21.20	PASS
				Peak	2500.000	-41.76	<=-21.20	PASS

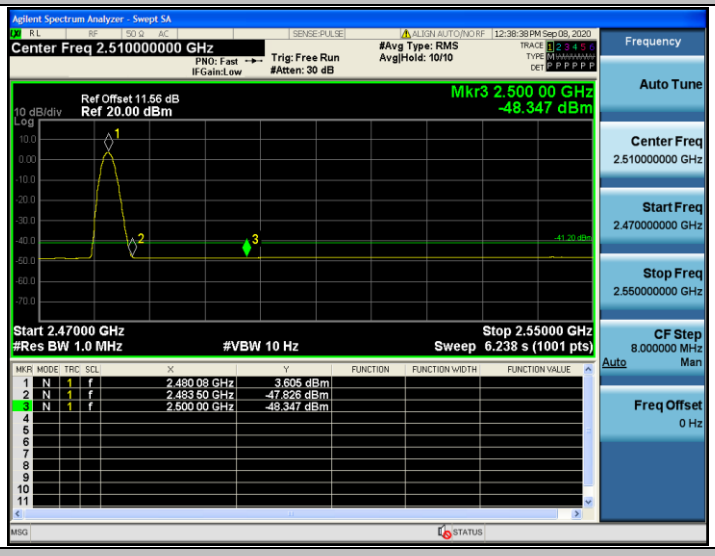
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



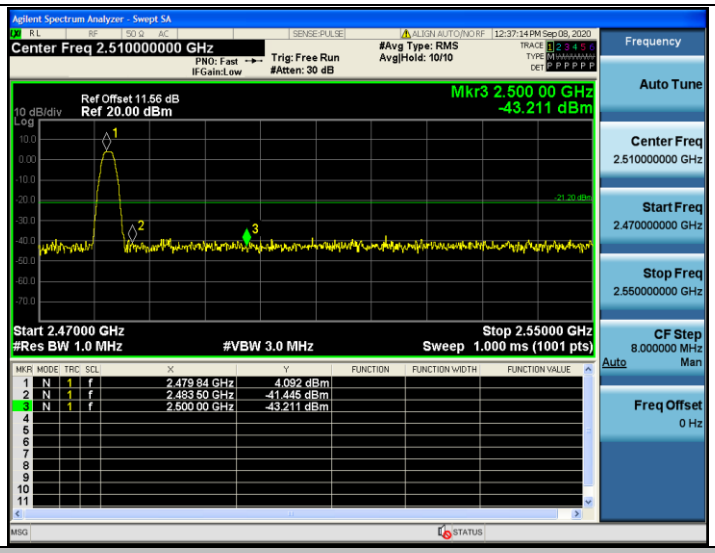
BLE_1M_Ant1_Low_2402_AV



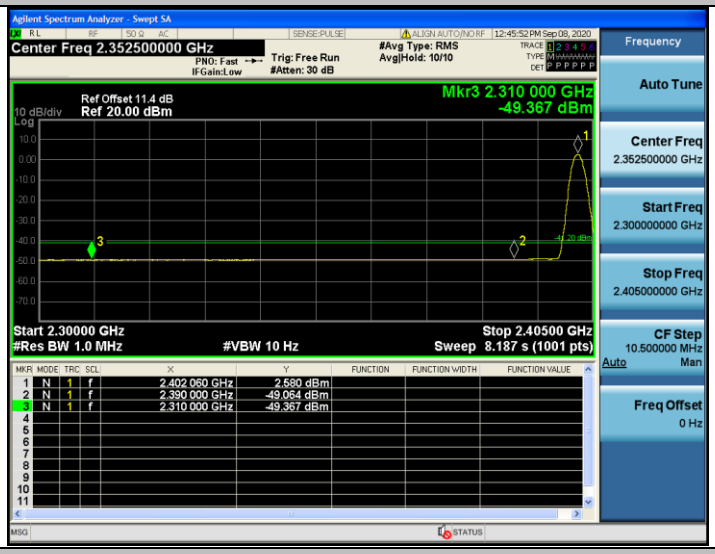
BLE_1M_Ant1_Low_2402_Peak



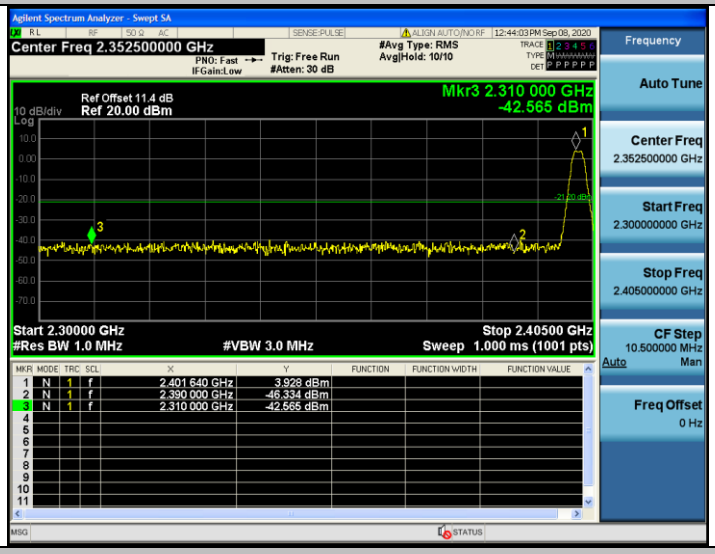
BLE_1M_Ant1_High_2480_AV



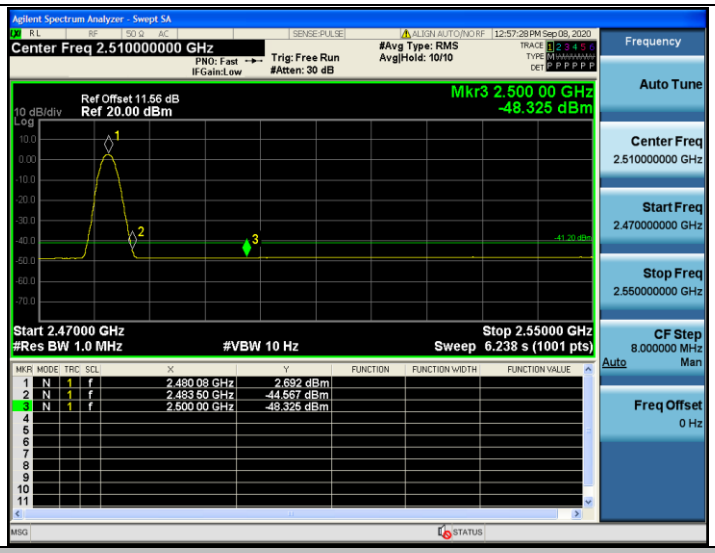
BLE_1M_Ant1_High_2480_Peak



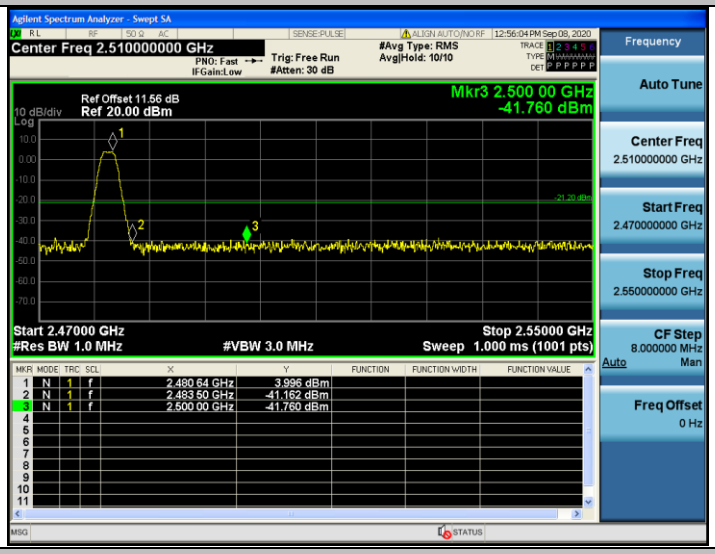
BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



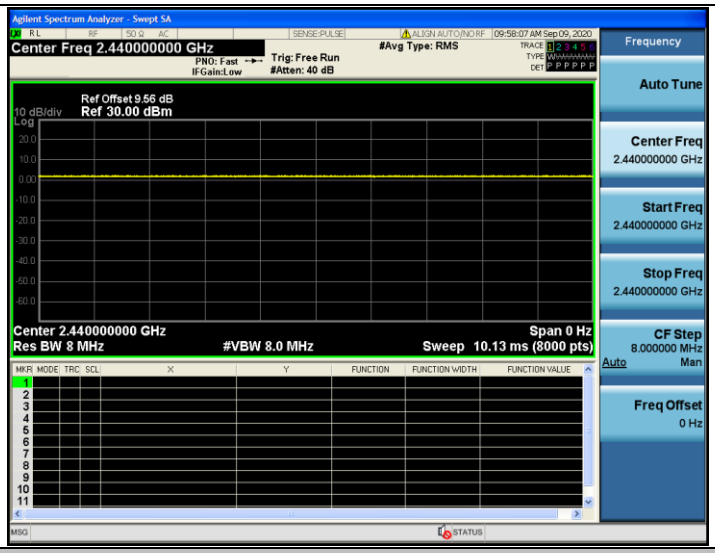
BLE_2M_Ant1_High_2480_AV



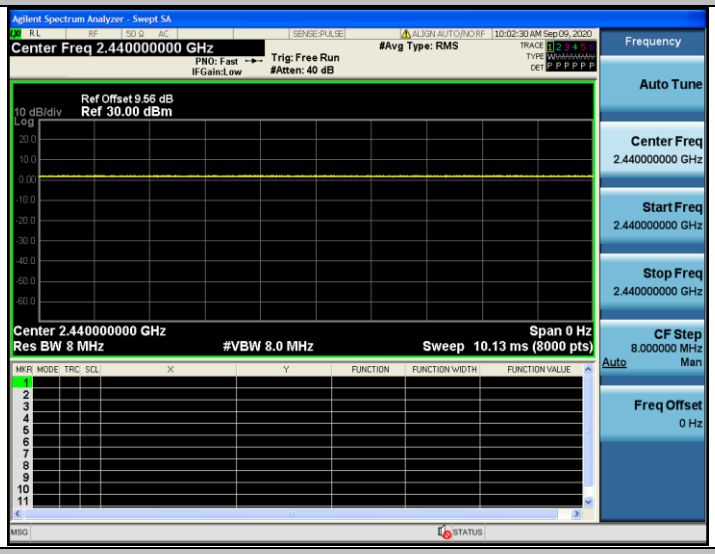
BLE_2M_Ant1_High_2480_Peak

A.8. Duty Cycle

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
BLE_1M	Ant1	2440	10.00	10.00	100.00
BLE_2M	Ant1	2440	10.00	10.00	100.00



BLE_1M_Ant1_2440



BLE_2M_Ant1_2440