Appendix A

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

Product Name: Smart Padlock

Trade Mark: Brilliant Guard

Test Model: BGPL1338

FCC ID: 2AYAP-BGPL1338

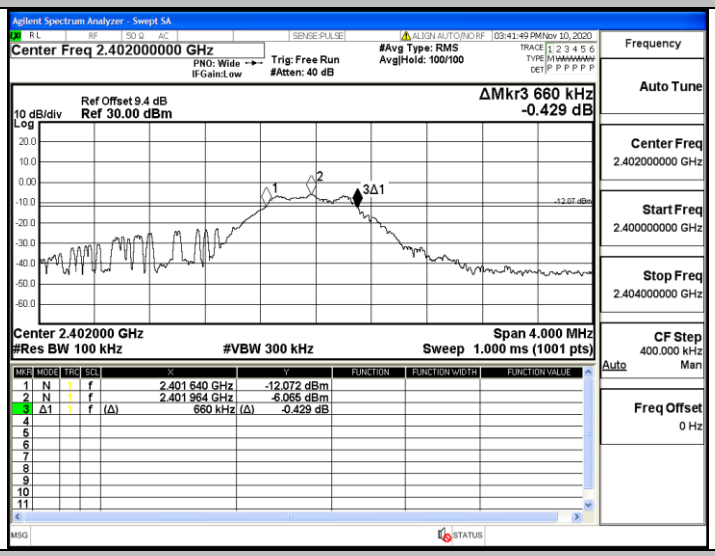
Environmental Conditions

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

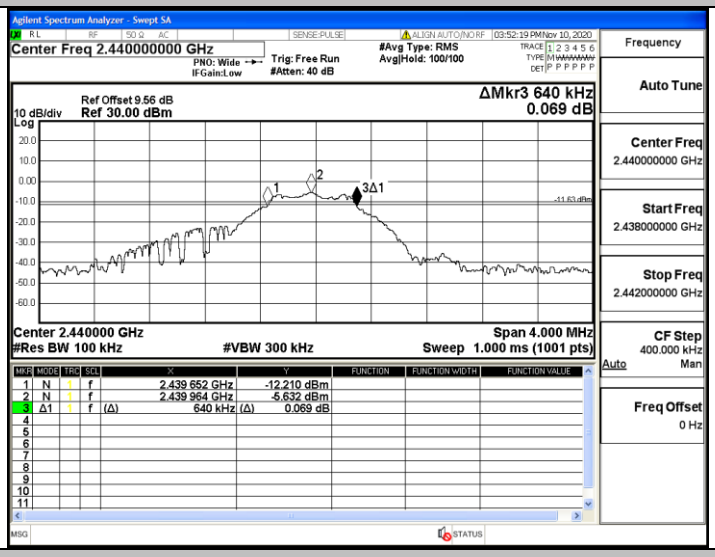
A.1. 6dB Bandwidth

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.660	2401.640	2402.300	0.5	PASS
		2440	0.640	2439.652	2440.292	0.5	PASS
		2480	0.644	2479.644	2480.288	0.5	PASS

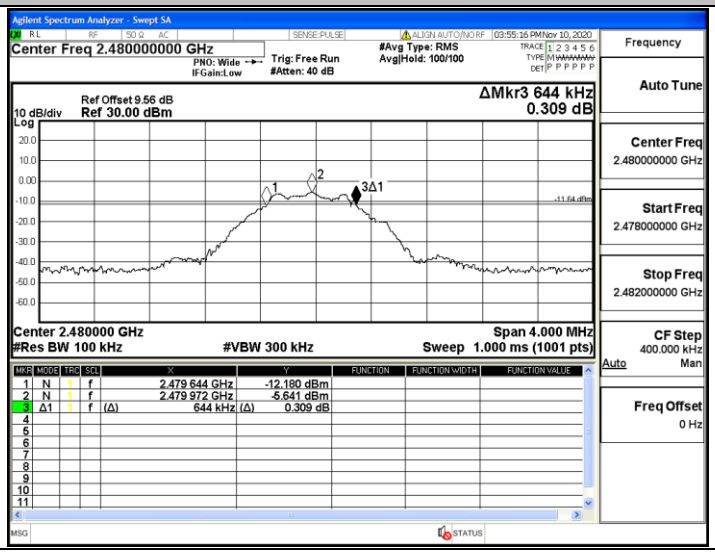
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



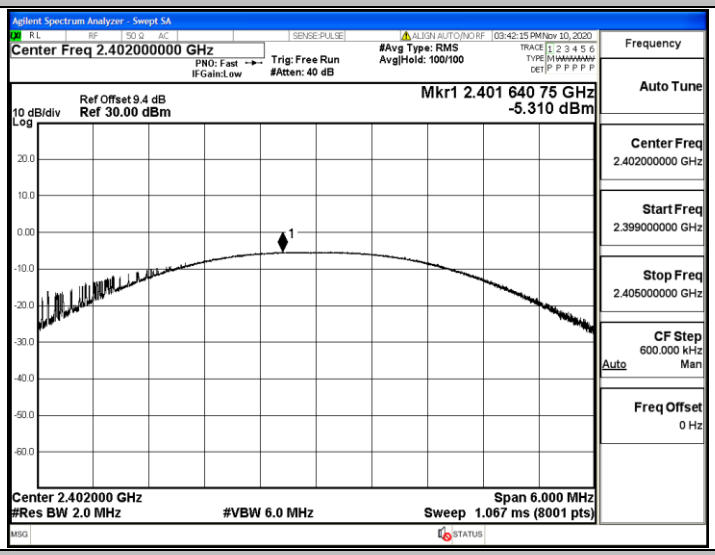
A.2. Occupied Bandwidth

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

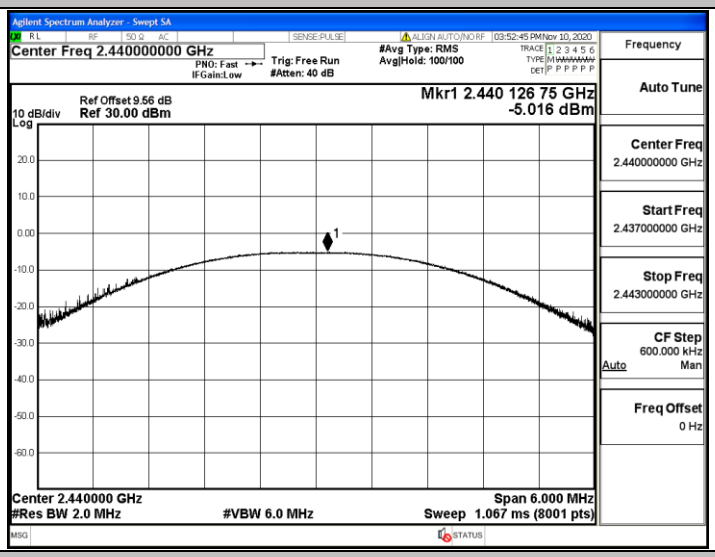
A.3. Maximum peak conducted output power

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-5.31	<=30	PASS
		2440	-5.02	<=30	PASS
		2480	-5.11	<=30	PASS

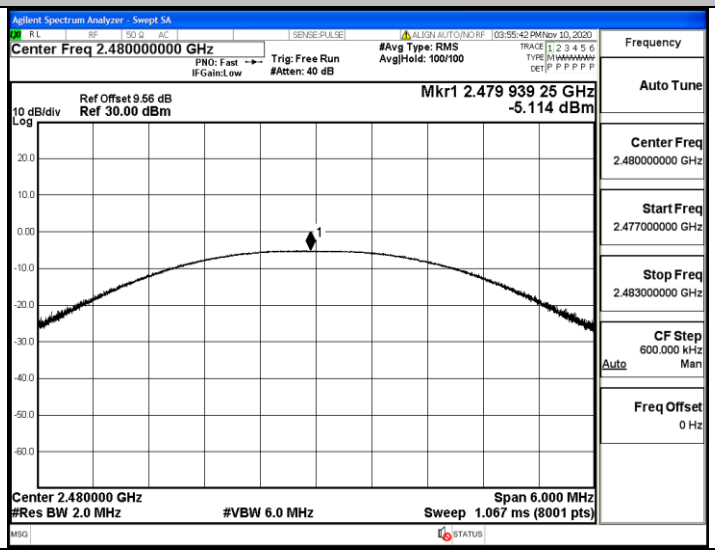
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



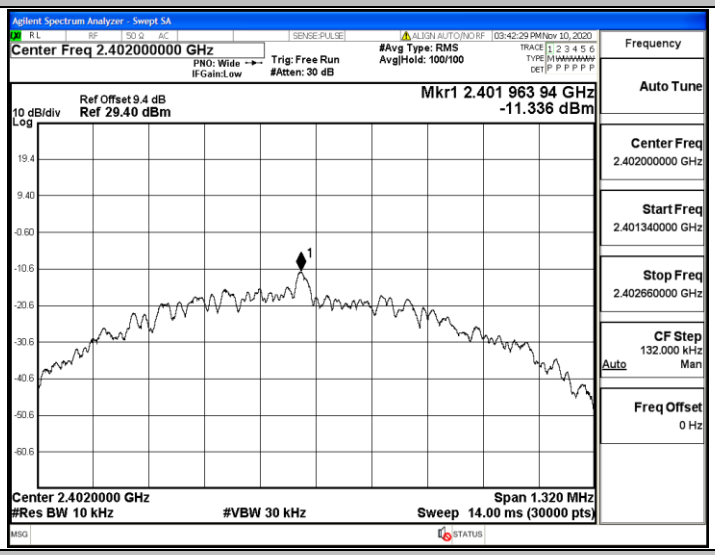
BLE_1M_Ant1_2480



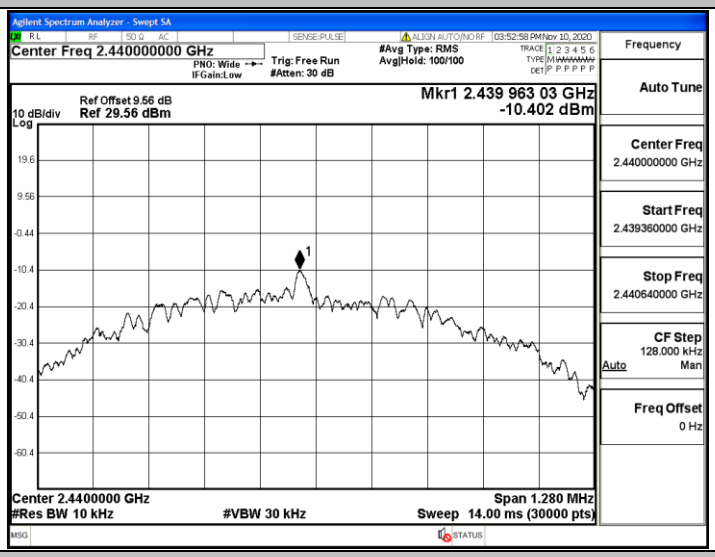
A.4. Maximum Peak power spectral density

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-11.34	<=8	PASS
		2440	-10.4	<=8	PASS
		2480	-10.36	<=8	PASS

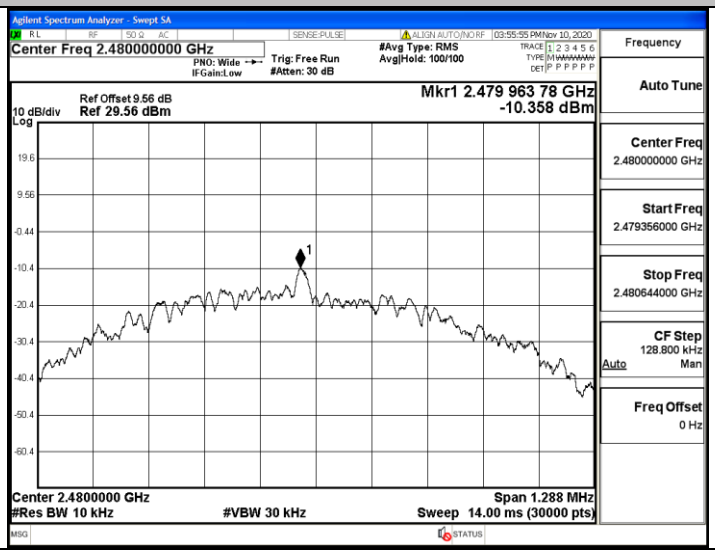
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



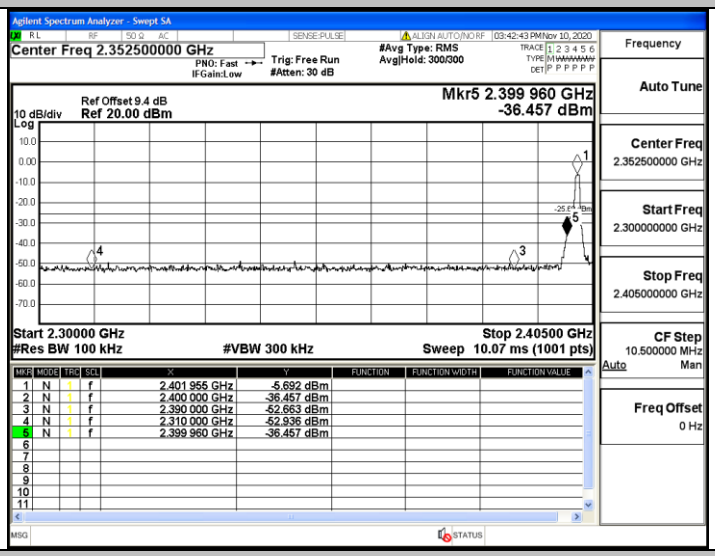
BLE_1M_Ant1_2480



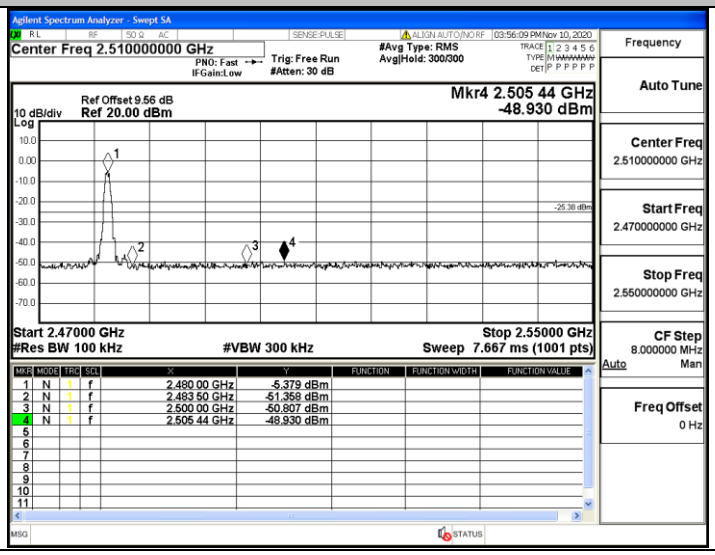
A.5. Band-edge for RF Conducted Emissions

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-5.69	-36.46	<=-25.69	PASS
		High	2480	-5.38	-48.93	<=-25.38	PASS

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



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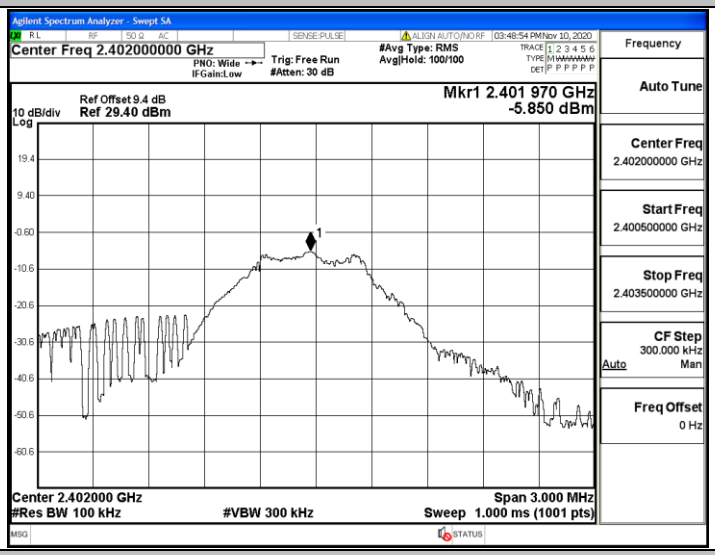
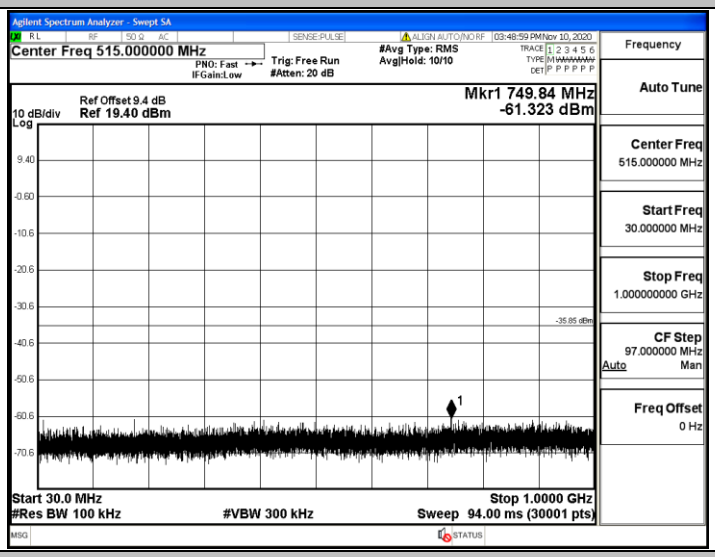
A.6. RF Conducted Spurious Emissions

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-5.85	-5.85	---	PASS
			30~1000	30~1000	-61.323	<=-20	PASS
			1000~26500	1000~26500	-51.258	<=-20	PASS
		2440	Reference	-5.73	-5.73	---	PASS
			30~1000	30~1000	-61.002	<=-20	PASS
			1000~26500	1000~26500	-44.632	<=-20	PASS
		2480	Reference	-5.59	-5.59	---	PASS
			30~1000	30~1000	-60.077	<=-20	PASS
			1000~26500	1000~26500	-51.414	<=-20	PASS

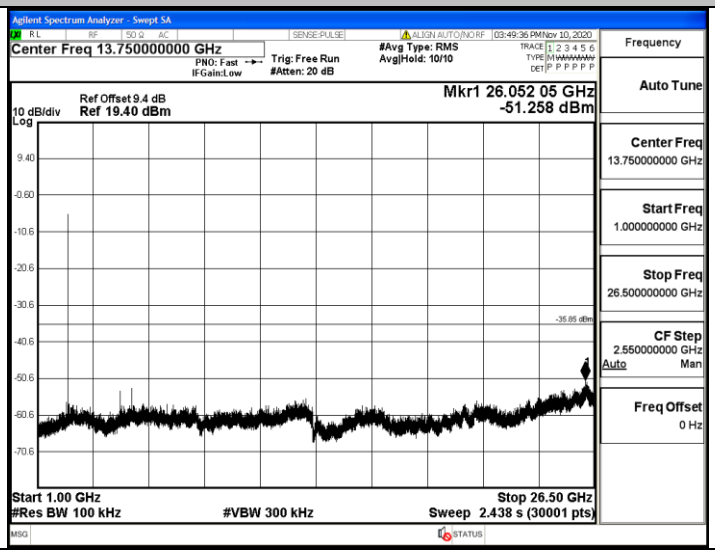
BLE_1M_Ant1_2402_0~Reference



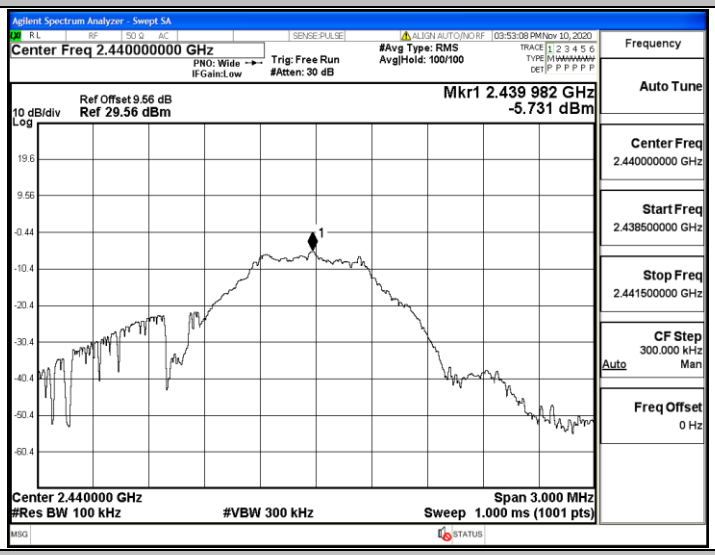
BLE_1M_Ant1_2402_30~1000



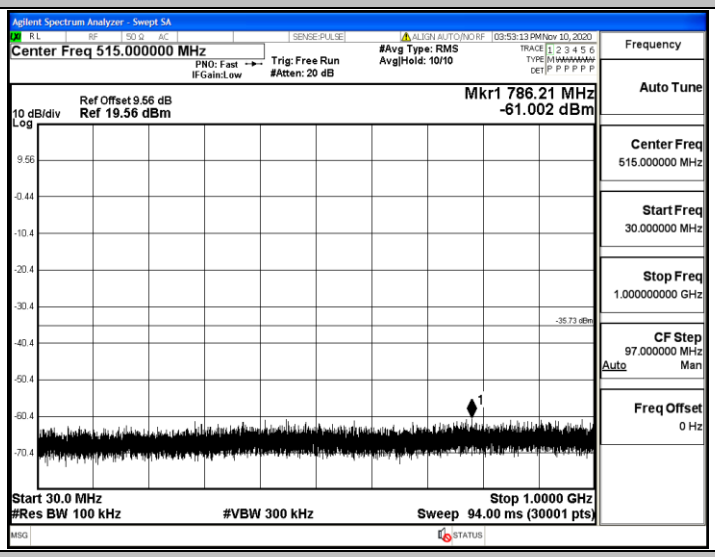
BLE_1M_Ant1_2402_1000~26500



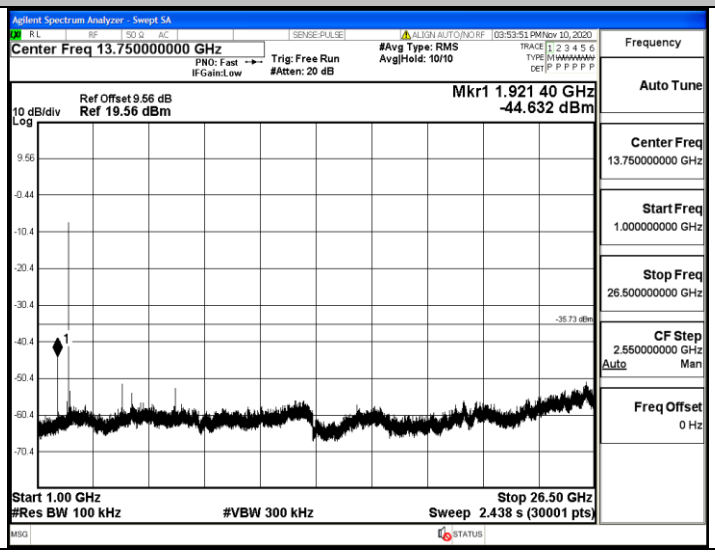
BLE_1M_Ant1_2440_0~Reference



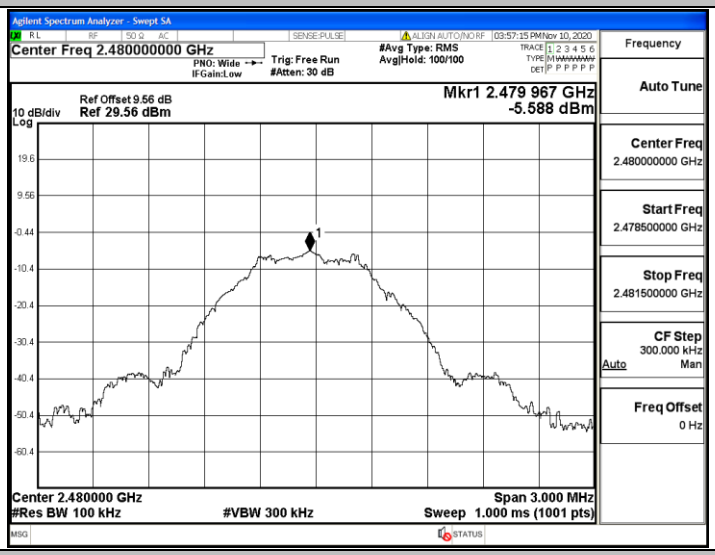
BLE_1M_Ant1_2440_30~1000



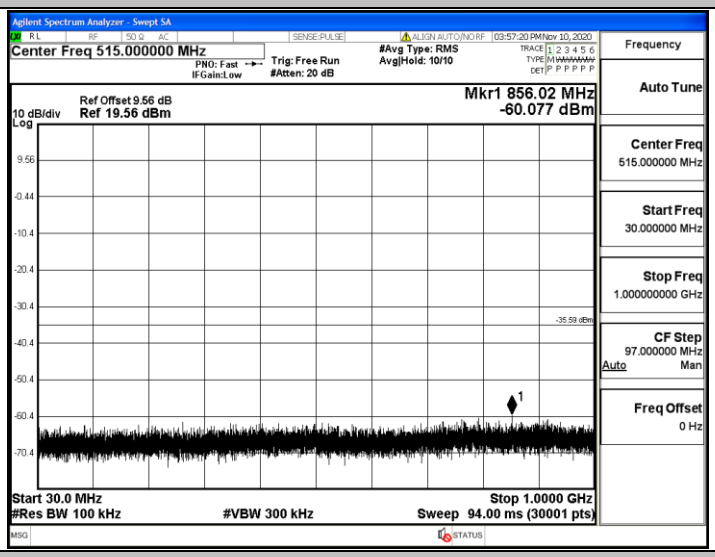
BLE_1M_Ant1_2440_1000~26500



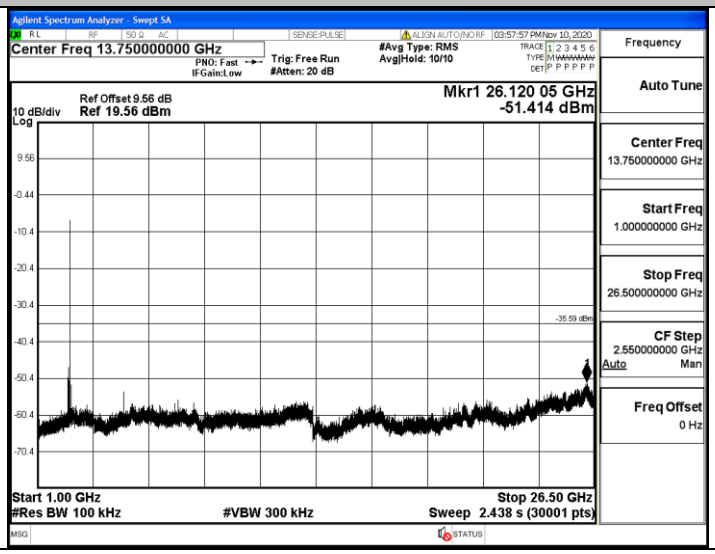
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



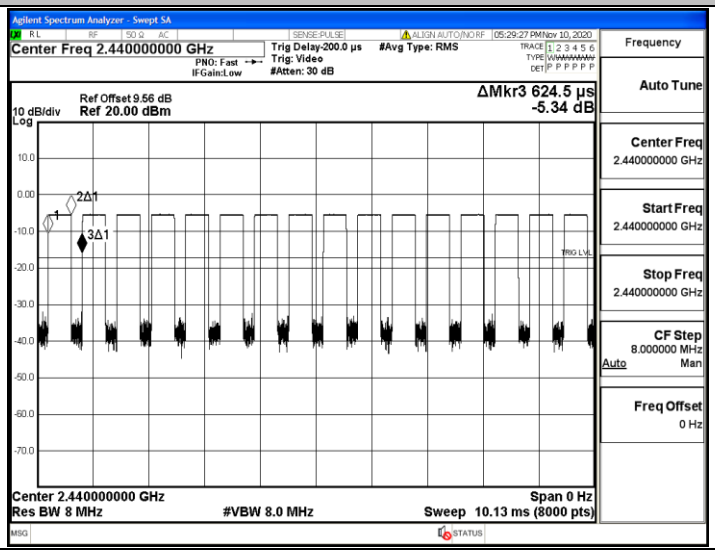
BLE_1M_Ant1_2480_1000~26500



A.7. Duty Cycle

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
BLE_1M	Ant1	2440	0.42	0.62	66.94

BLE_1M_Ant1_2440

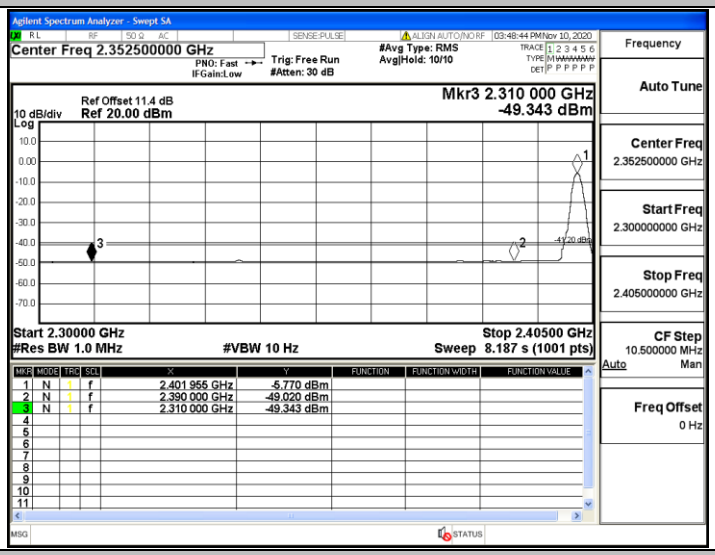


A.8. Restrict-band band-edge measurements

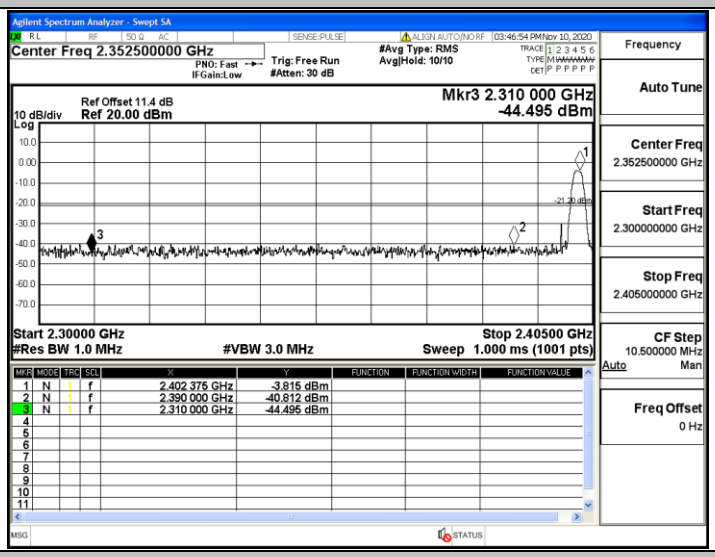
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-49.35	<=-41.20	PASS
				AV	2390.000	-49.02	<=-41.20	PASS
				Peak	2310.000	-44.50	<=-21.20	PASS
				Peak	2390.000	-40.81	<=-21.20	PASS
		High	2480	AV	2483.500	-46.03	<=-41.20	PASS
				AV	2500.000	-45.51	<=-41.20	PASS
				Peak	2483.500	-41.09	<=-21.20	PASS
				Peak	2500.000	-41.55	<=-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.

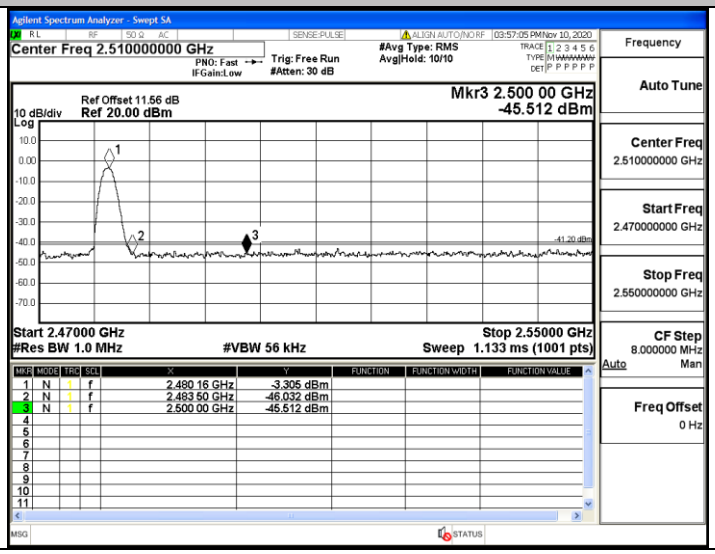
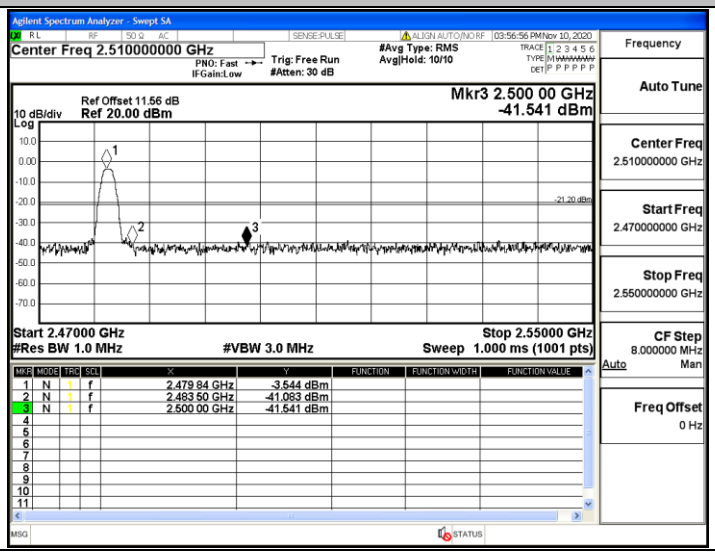
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak