

Appendix A

RF Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: Bluetooth mechanical keyboard

Trade Mark: N/A

Test Model: keychron K12

FCC ID: 2ASF4-K12

Environmental Conditions

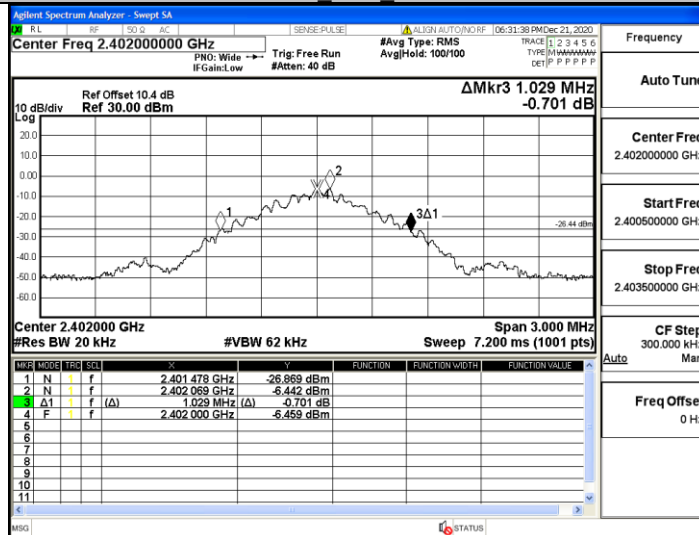
Temperature:	22.8° C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen

A.1 20 dB Bandwidth

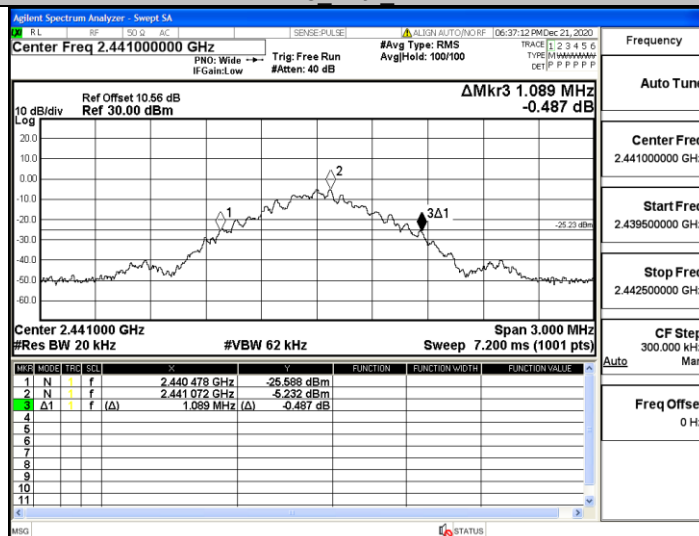
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.029	2401.478	2402.507	---	PASS
		2441	1.089	2440.478	2441.567	---	PASS
		2480	1.023	2479.487	2480.510	---	PASS

Test Graph

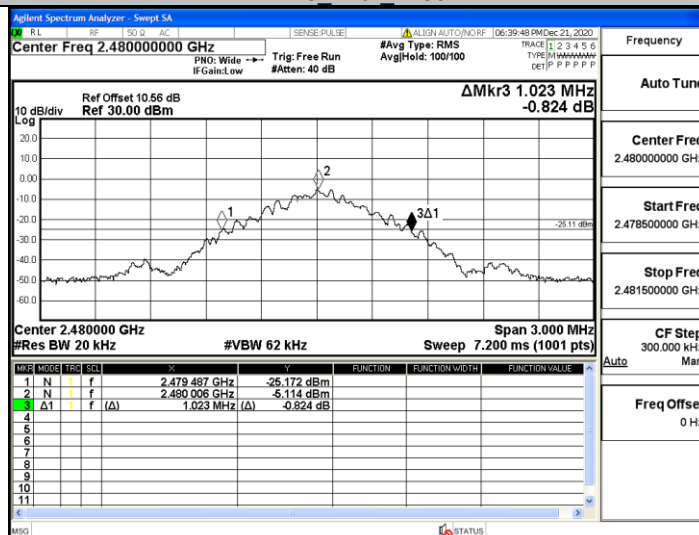
DH5_Ant1_2402



DH5_Ant1_2441



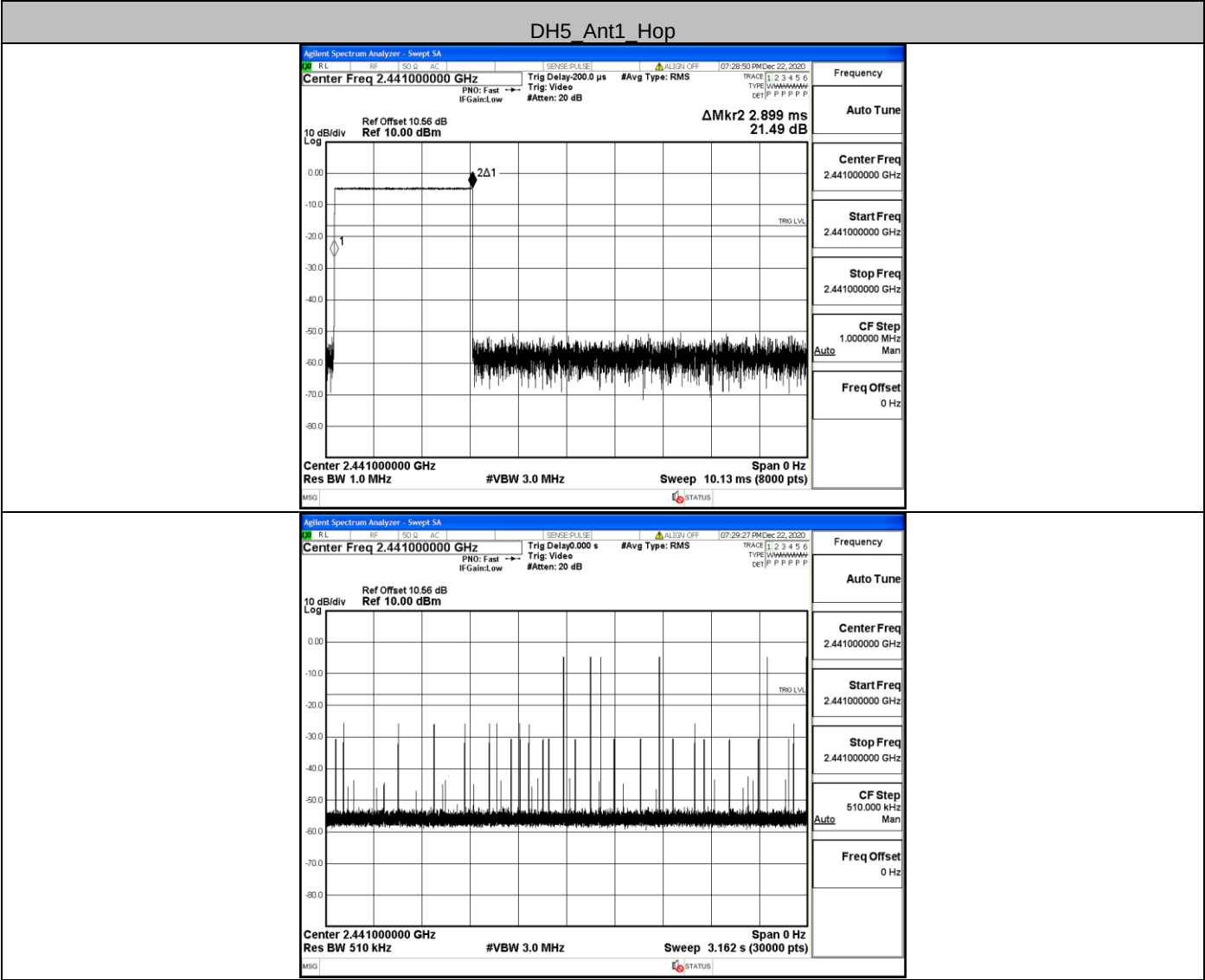
DH5_Ant1_2480



A.2 Dwell Time

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.90	70	0.203	<=0.4	PASS

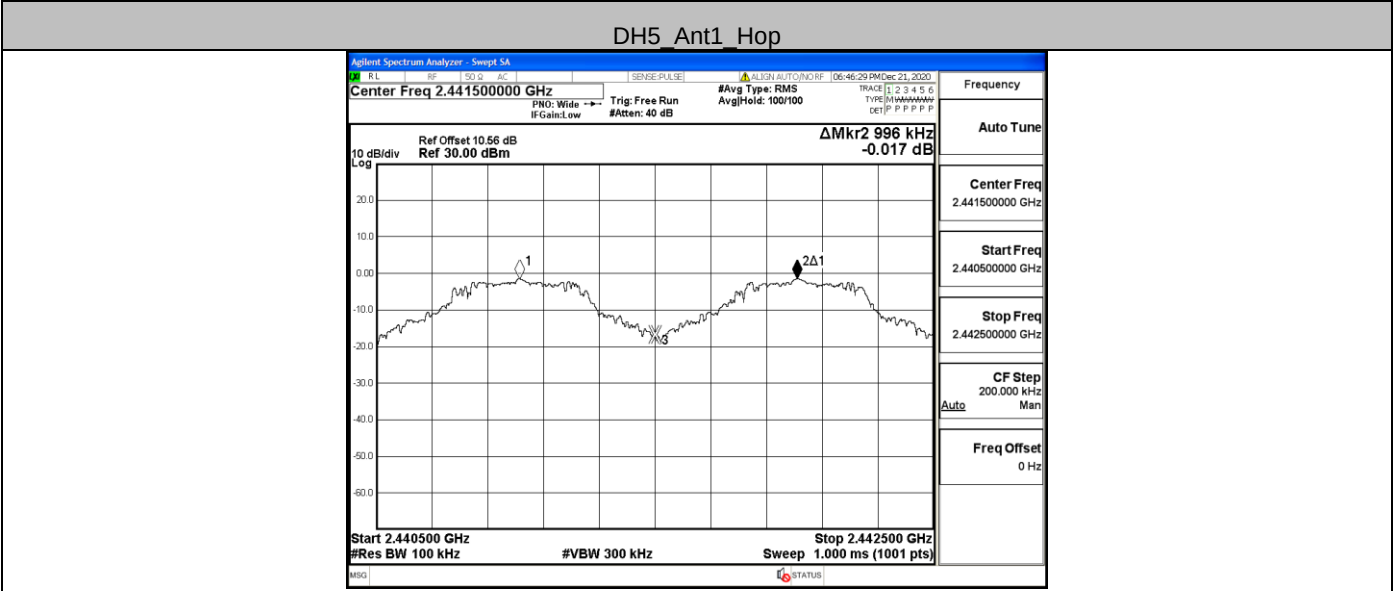
Test Graph



A.3 Carrier Frequency Separation

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.996	>=0.726	PASS

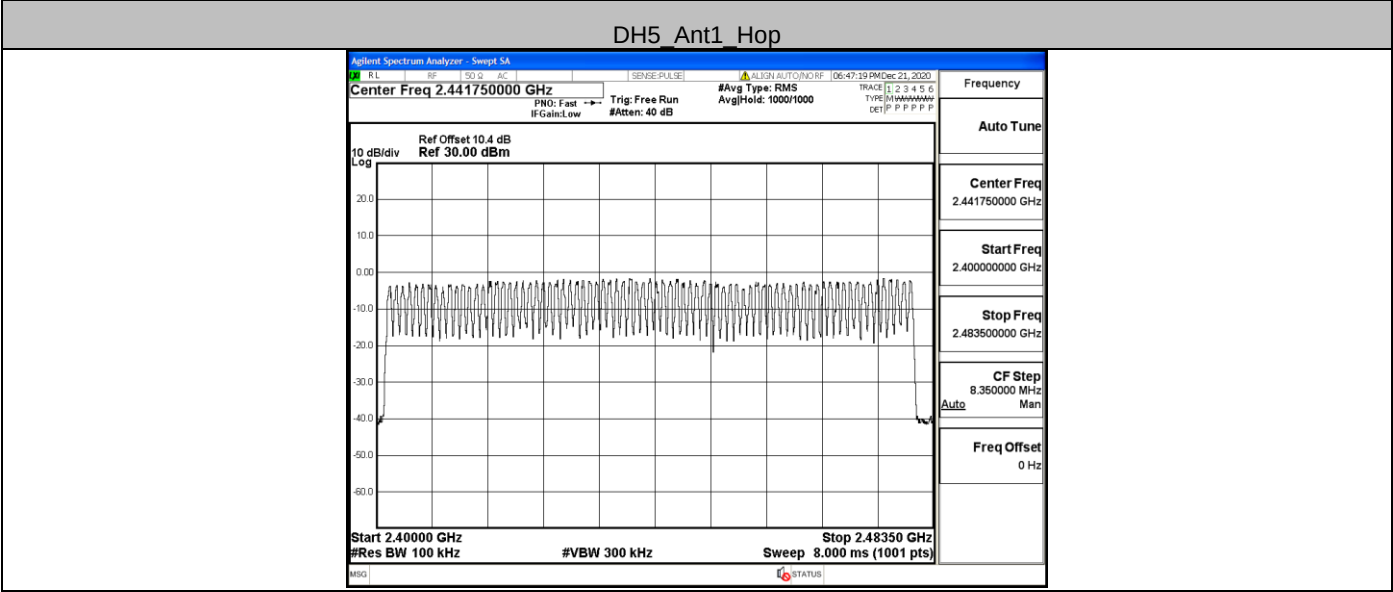
Test Graph



A.4 Hopping Channel Number

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	>=15	PASS

Test Graph

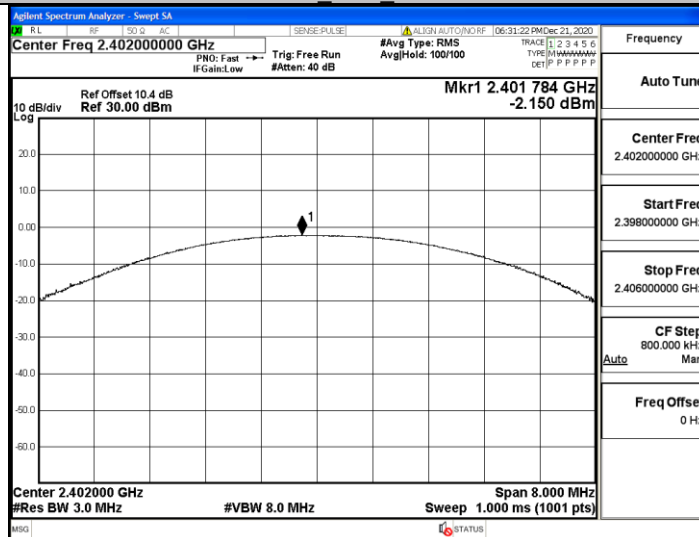


A.5 Conducted Peak Output Power

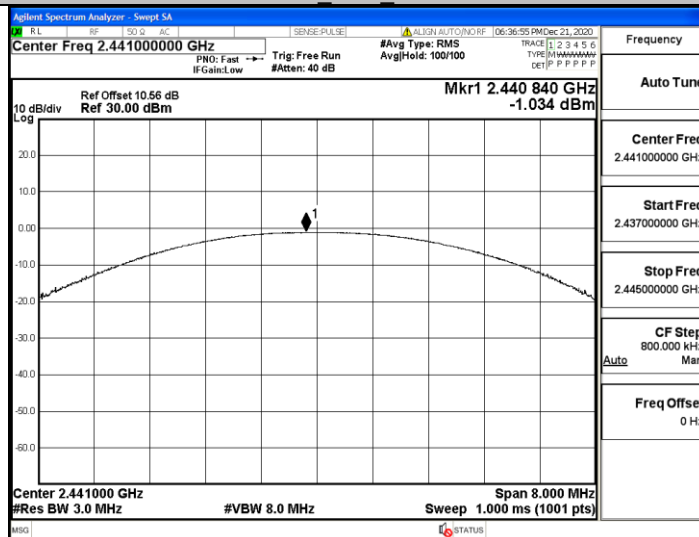
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-2.15	<=20.97	PASS
		2441	-1.03	<=20.97	PASS
		2480	-1.00	<=20.97	PASS

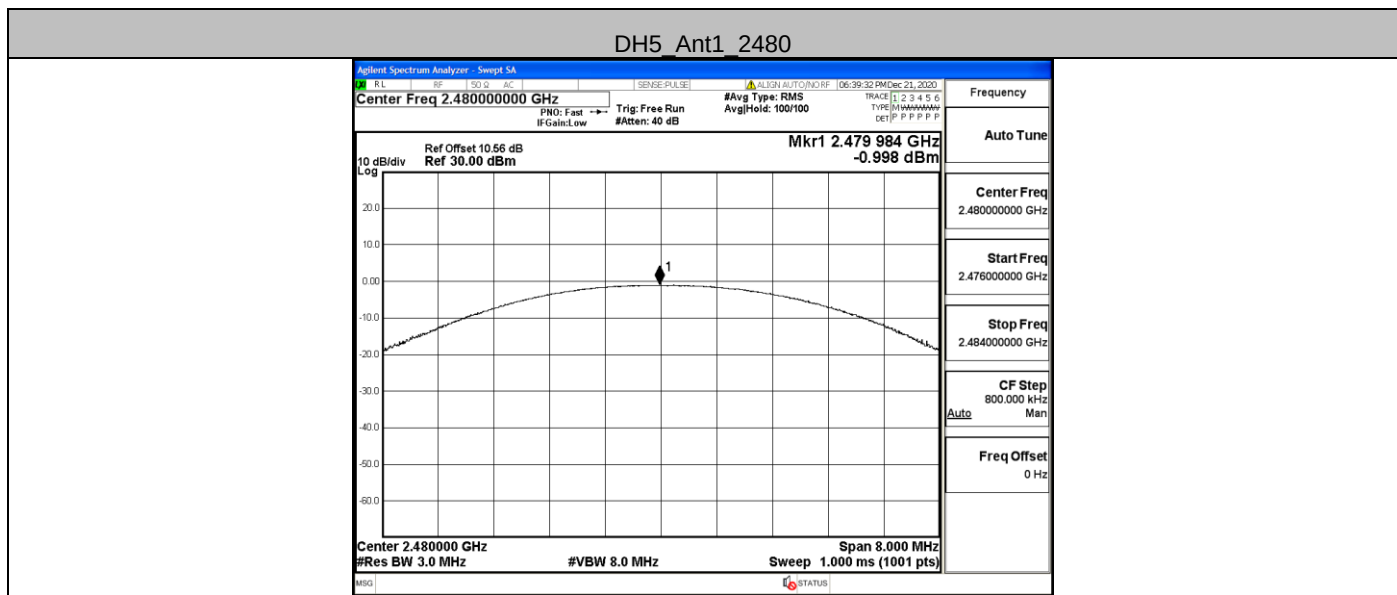
Test Graph

DH5_Ant1_2402



DH5_Ant1_2441



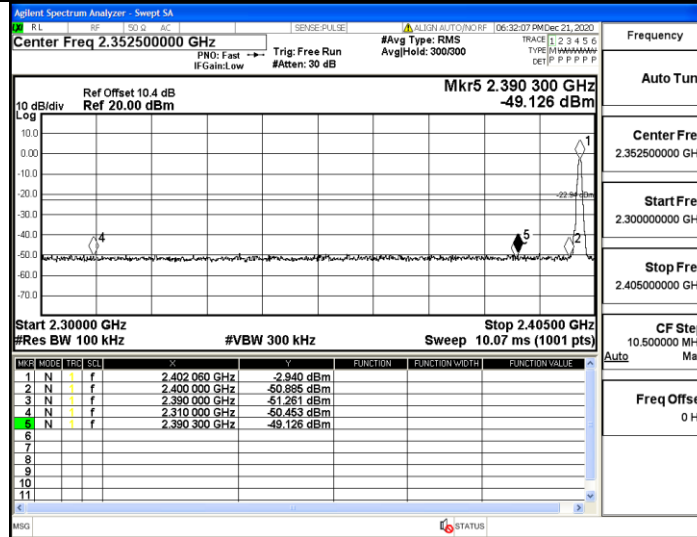


A.6 Band-edge for RF Conducted Emissions

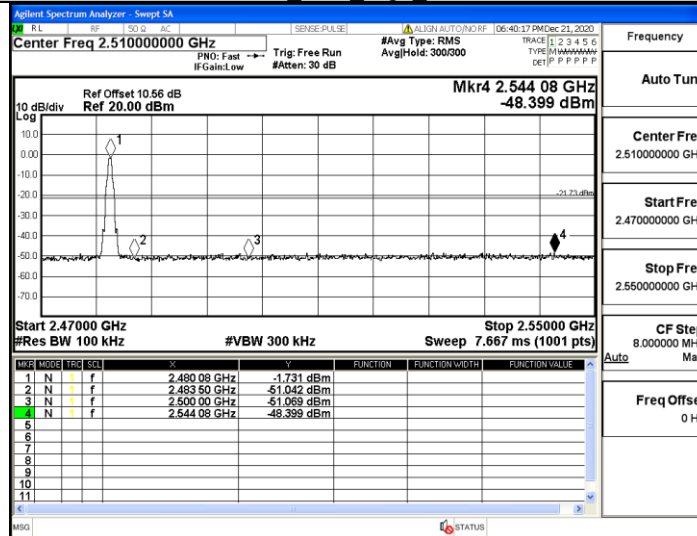
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-2.94	-49.13	<=-22.94	PASS
		High	2480	-1.73	-48.4	<=-21.73	PASS
		Low	Hop_2402	-3.63	-49.07	<=-23.63	PASS
		High	Hop_2480	-1.44	-47.61	<=-21.44	PASS

Test Graph

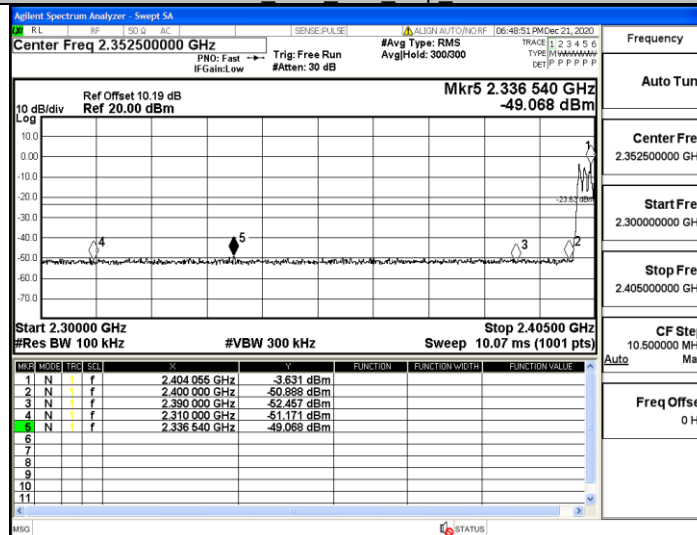
DH5_Ant1_Low_2402



DH5_Ant1_High_2480



DH5_Ant1_Low_Hop_2402



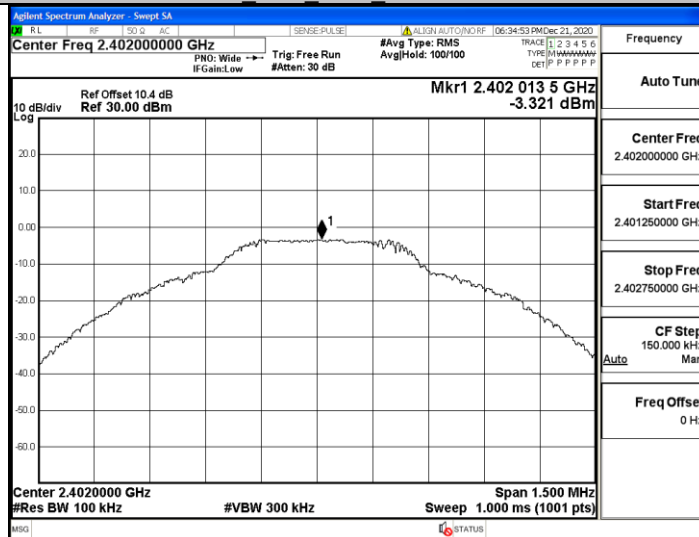
The screenshot displays an Agilent Spectrum Analyzer interface. The main display shows a spectrum plot with a signal at 2.51 GHz. The plot has a logarithmic scale for power (dBm) and a linear scale for frequency (GHz). The signal is labeled 'Mkr4 2.549 04 GHz -47.612 dBm'. The plot also shows a reference level at 2.470 GHz and a stop level at 2.550 GHz. The plot is titled 'Center Freq 2.510000000 GHz'.

Below the plot, there is a table with the following columns: MAG, MODE, FREQ, and VALUE. The table contains four rows of data, corresponding to the four points marked on the plot.

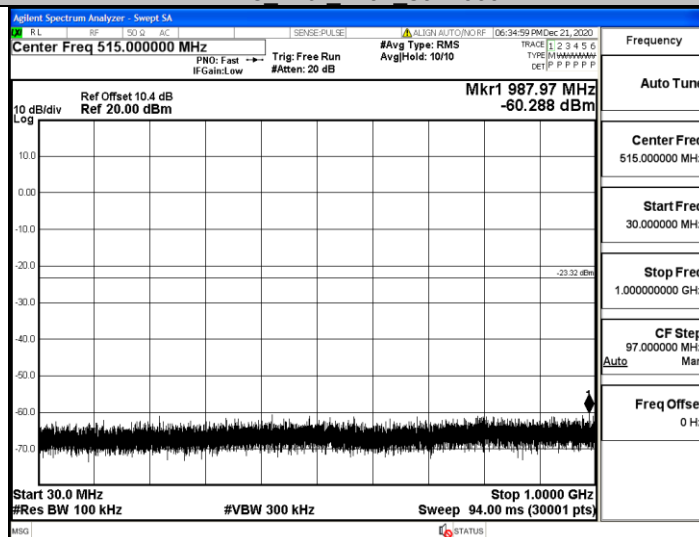
MAG	MODE	FREQ	VALUE
1	N	f	2.480 00 GHz -1.441 dBm
2	N	f	2.483 50 GHz -52.018 dBm
3	N	f	2.500 00 GHz -51.092 dBm
4	N	f	2.549 04 GHz -47.612 dBm

A.7 RF Conducted Spurious Emissions Test Graph

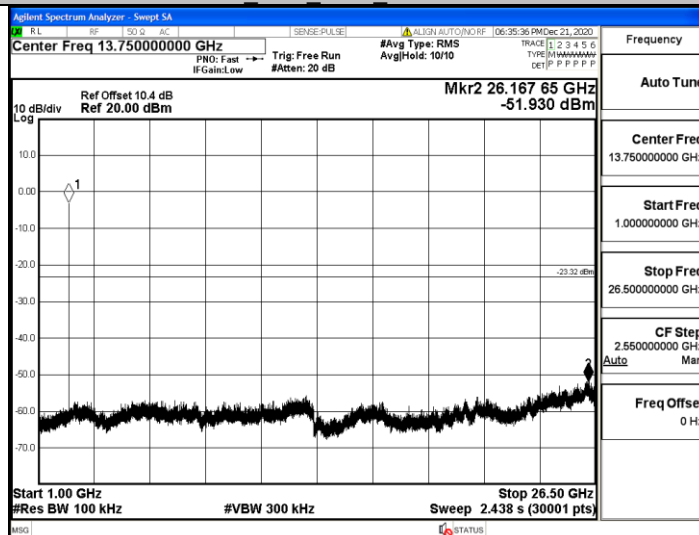
DH5_Ant1_2402_0-Reference



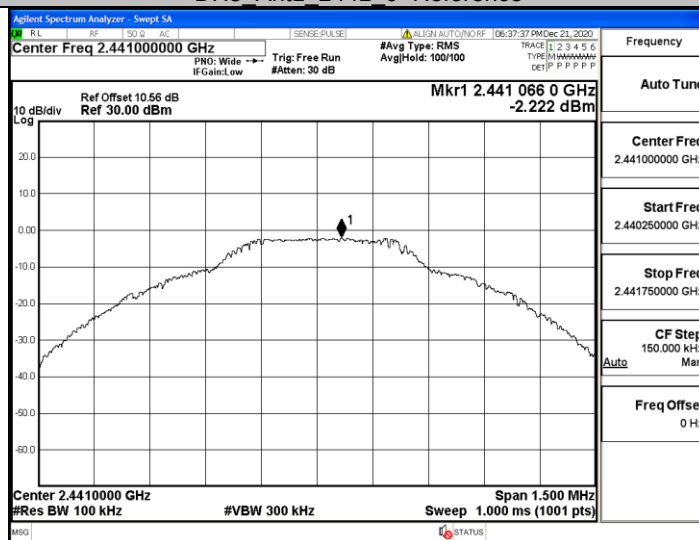
DH5_Ant1_2402_30~1000



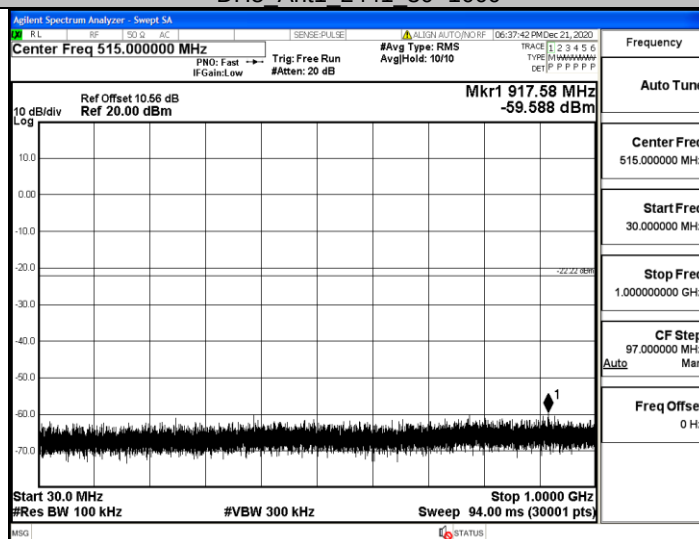
DH5_Ant1_2402_1000~26500



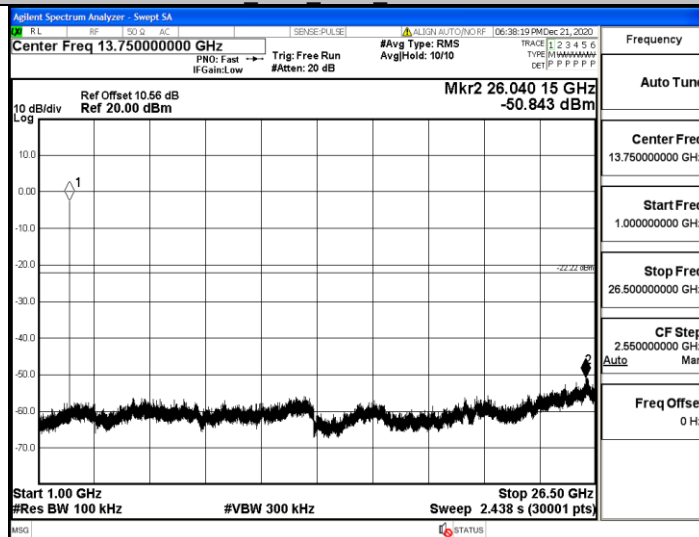
DH5_Ant1_2441_0-Reference



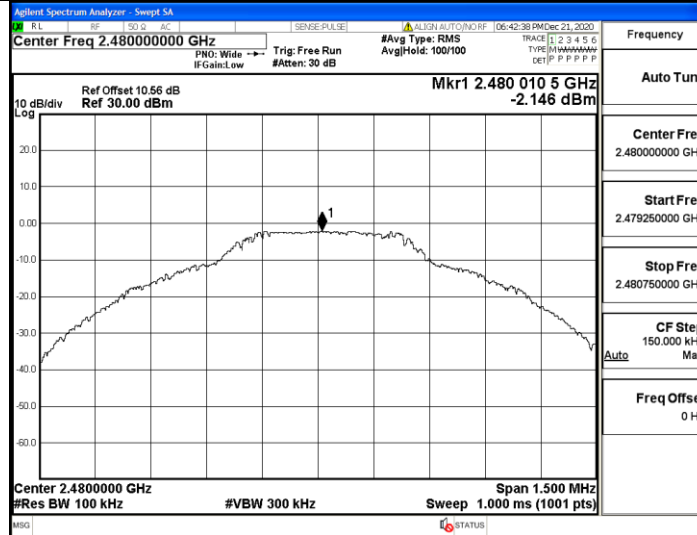
DH5_Ant1_2441_30~1000



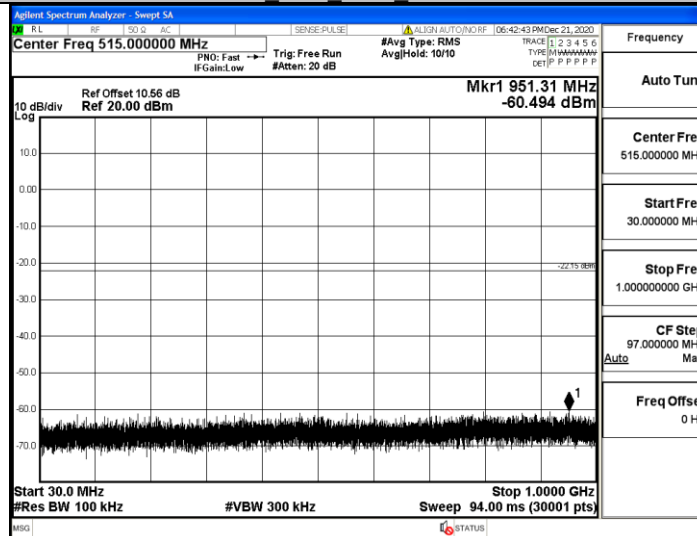
DH5_Ant1_2441_1000~26500



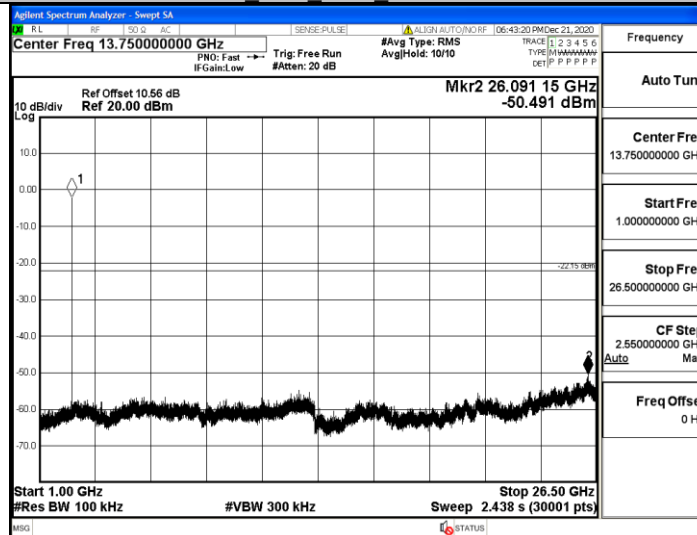
DH5_Ant1_2480_0-Reference



DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500



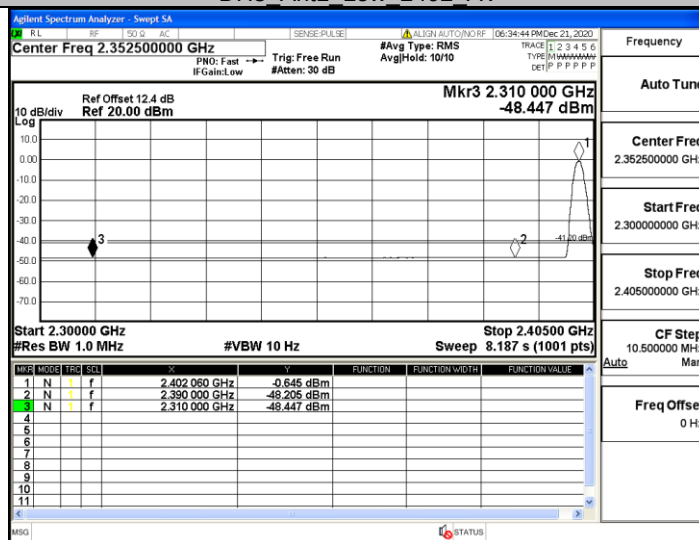
A.8 Restrict-band band-edge measurements

TestMode	Antenna	ChName	Channel	Detector	Freq(MHz)	Result(dBm)	Limit(dBm)	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.45	<=-41.20	PASS
				AV	2390.000	-48.21	<=-41.20	PASS
				Peak	2310.000	-42.56	<=-21.20	PASS
				Peak	2390.000	-43.30	<=-21.20	PASS
		High	2480	AV	2483.500	-47.40	<=-41.20	PASS
				AV	2500.000	-47.46	<=-41.20	PASS
				Peak	2483.500	-44.51	<=-21.20	PASS
				Peak	2500.000	-40.59	<=-21.20	PASS

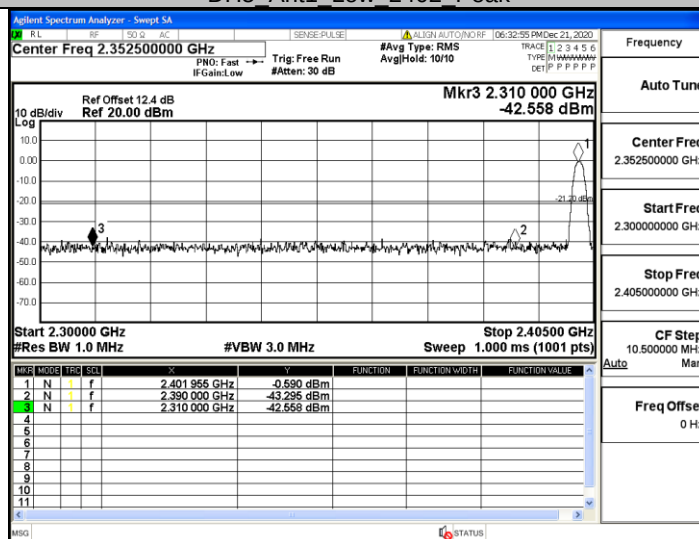
Note:

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.

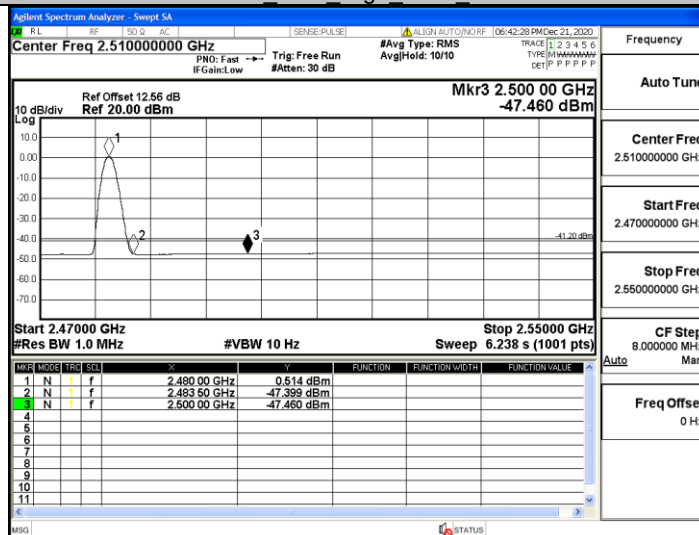
DH5 Ant1 Low 2402 AV



DH5 Ant1 Low 2402 Peak



DH5 Ant1 High 2480 AV



DH5 Ant1 High 2480 Peak

