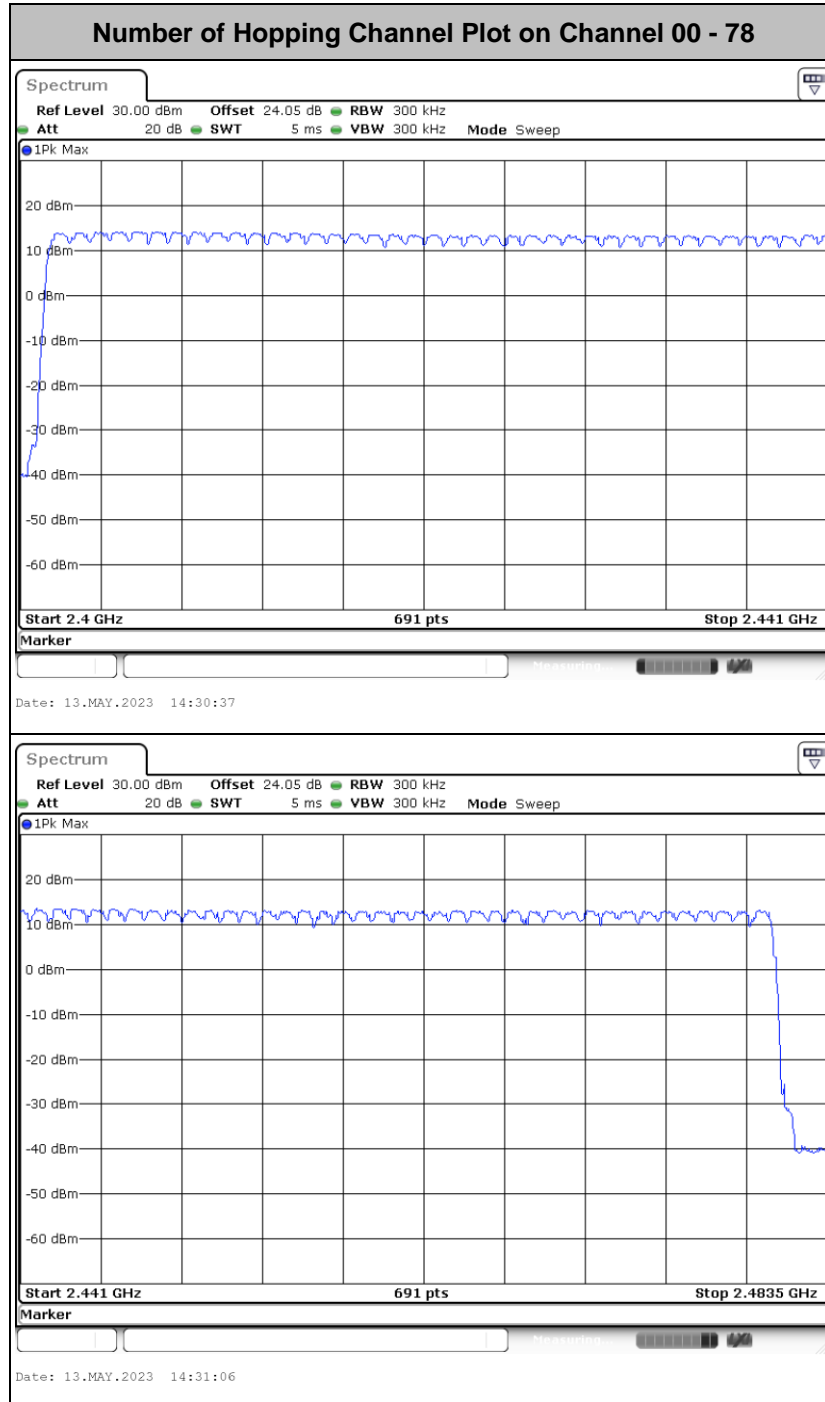




<TXBF BR+EDR Ant. 4>

Number of Hopping Frequency

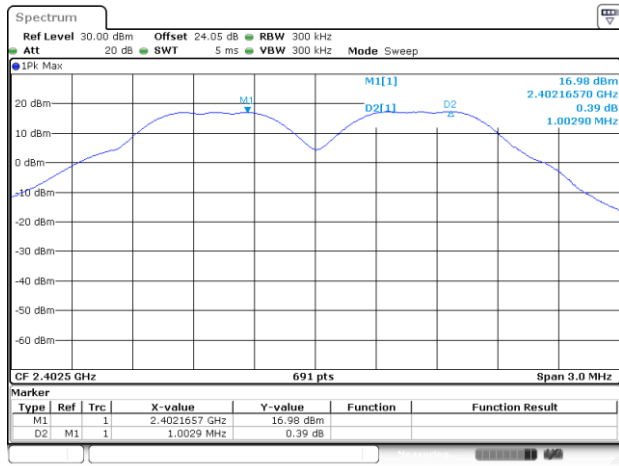




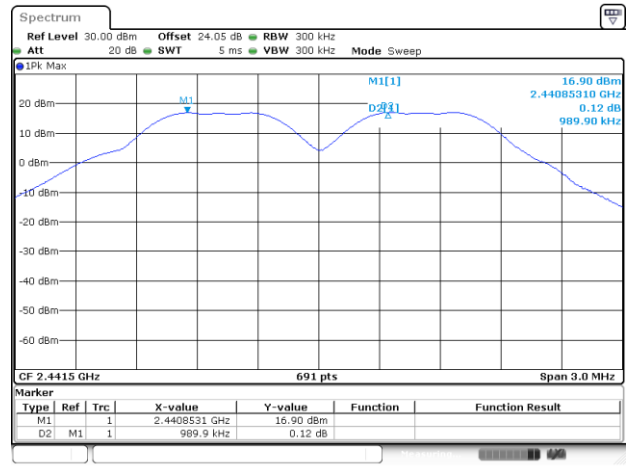
Hopping Channel Separation

<1Mbps>

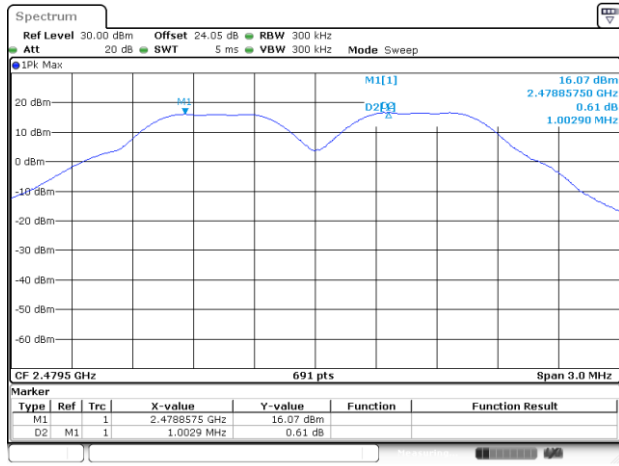
Channel Separation Plot on Channel 00 - 01



Channel Separation Plot on Channel 39 - 40



Channel Separation Plot on Channel 77 - 78

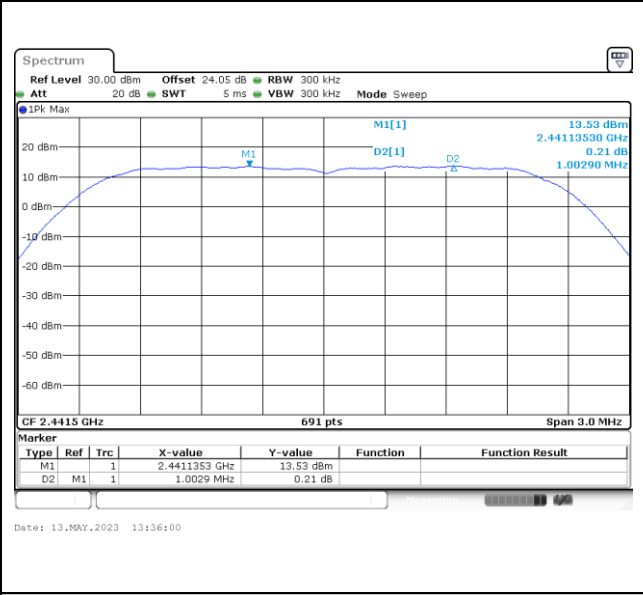
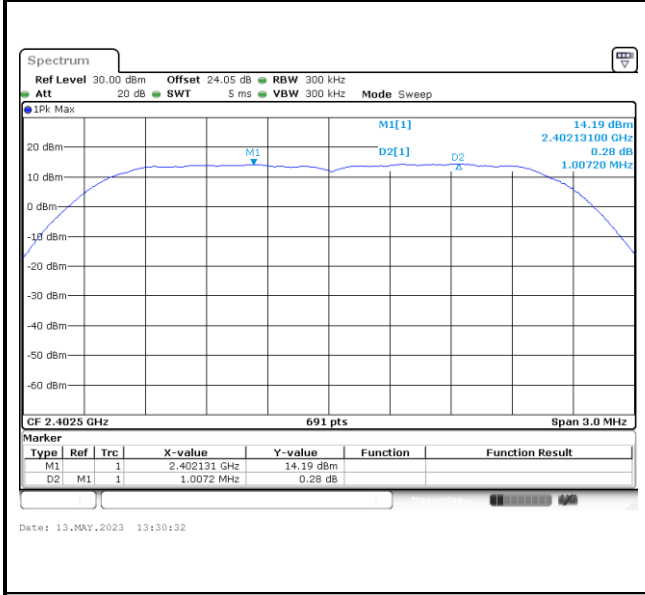




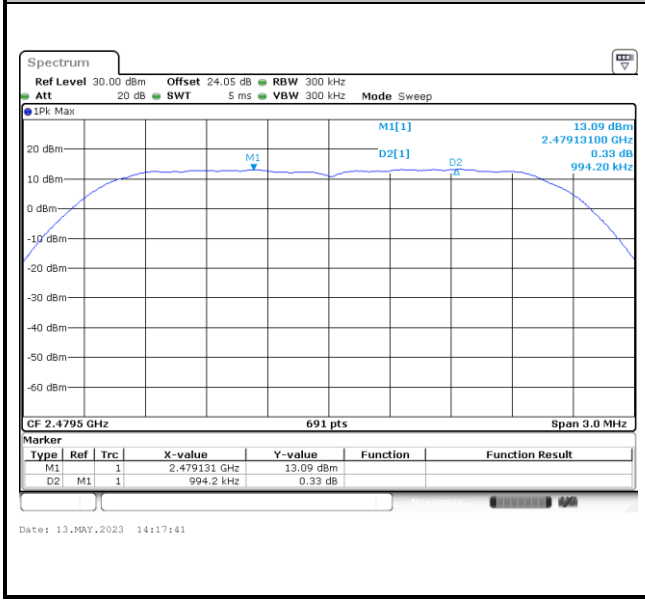
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Channel Separation Plot on Channel 00 - 01

Channel Separation Plot on Channel 39 - 40



Channel Separation Plot on Channel 77 - 78

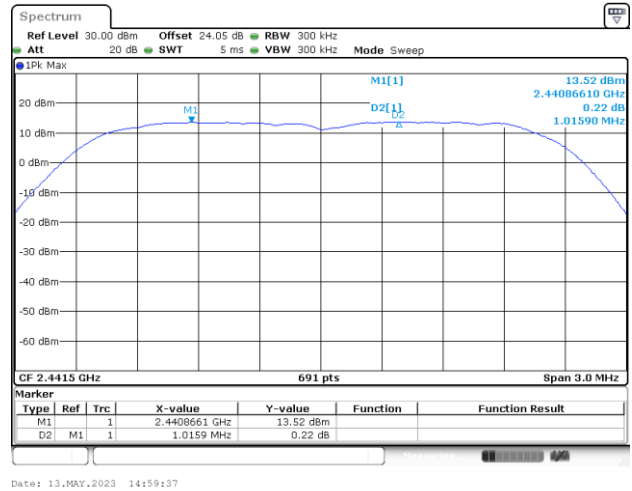
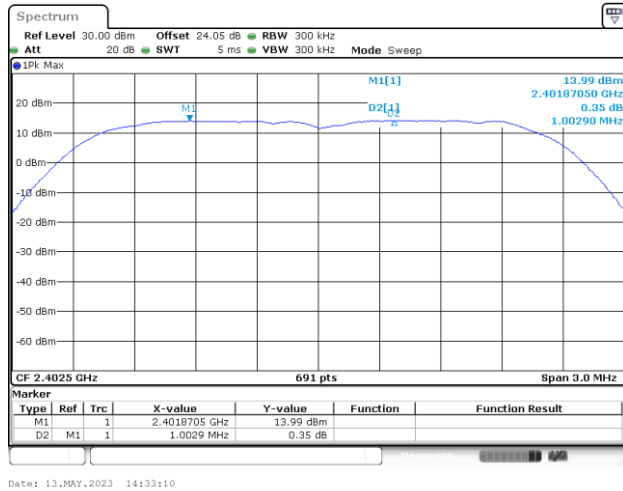




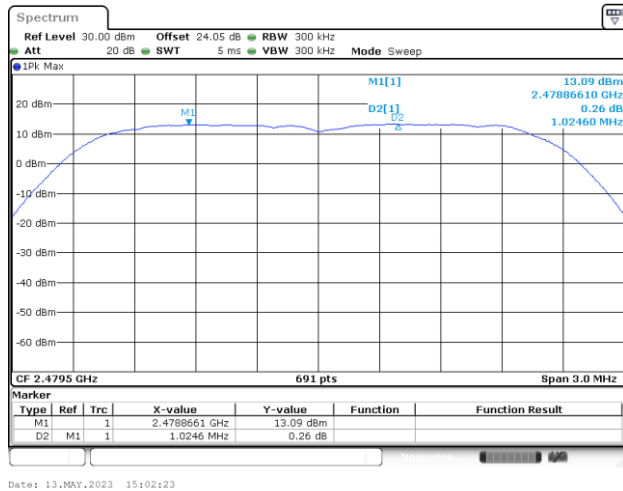
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Channel Separation Plot on Channel 00 - 01

Channel Separation Plot on Channel 39 - 40

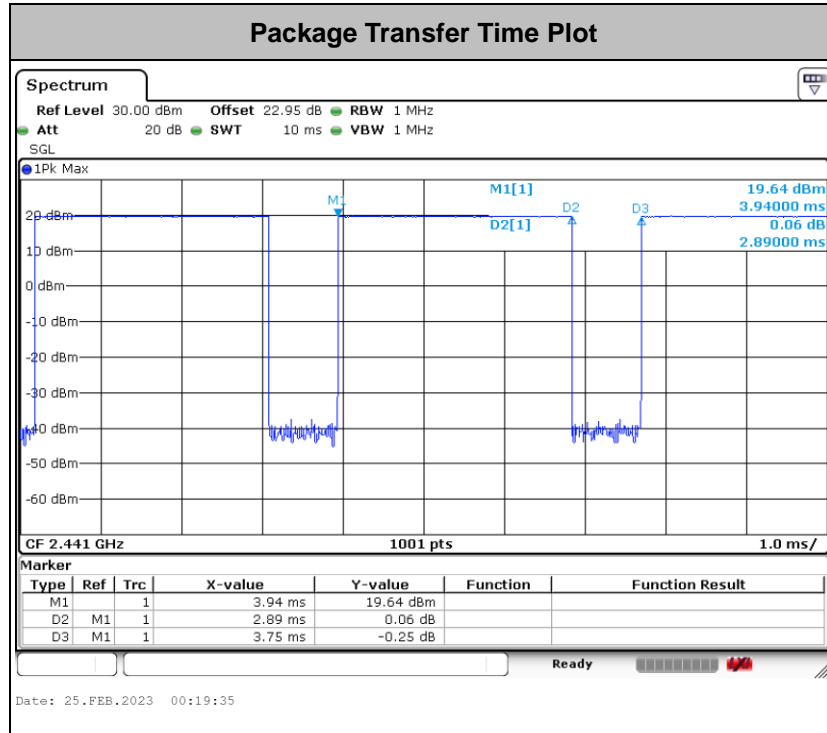


Channel Separation Plot on Channel 77 - 78





Dwell Time



Remark:

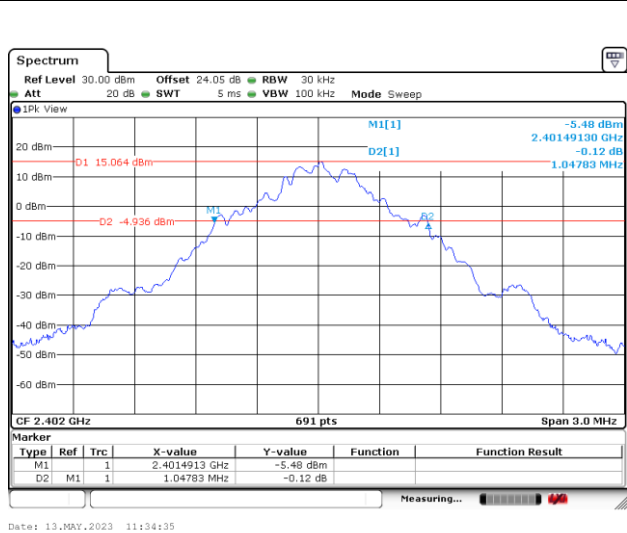
1. In normal mode, hopping rate is 1600 hops/s with 6 slots in 79 hopping channels. With channel hopping rate (1600 / 6 / 79) in Occupancy Time Limit (0.4 x 79) (s), Hops Over Occupancy Time comes to (1600 / 6 / 79) x (0.4 x 79) = 106.67 hops.
2. In AFH mode, hopping rate is 800 hops/s with 6 slots in 20 hopping channels. With channel hopping rate (800 / 6 / 20) in Occupancy Time Limit (0.4 x 20) (s), Hops Over Occupancy Time comes to (800 / 6 / 20) x (0.4 x 20) = 53.33 hops.
3. Dwell Time(s) = Hops Over Occupancy Time (hops) x Package Transfer Time



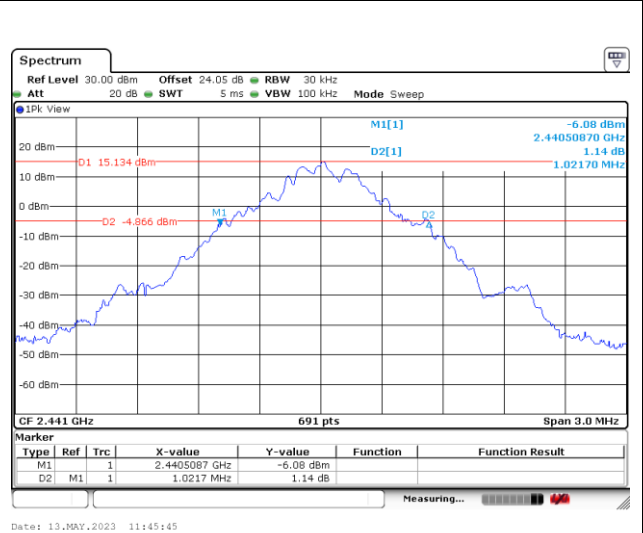
20dB Bandwidth

<1Mbps>

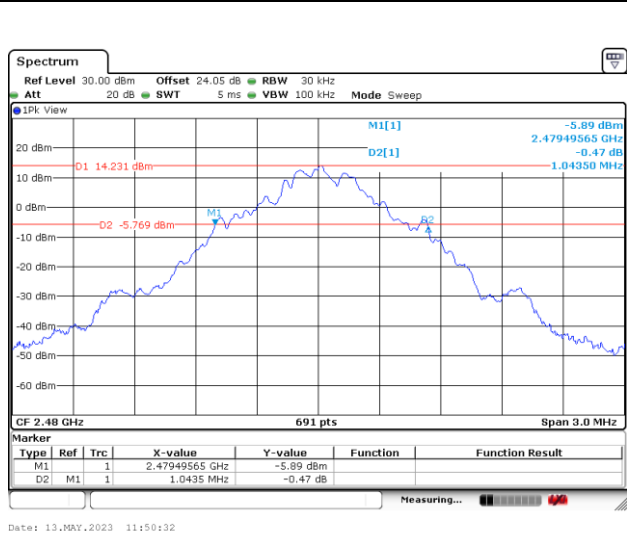
20 dB Bandwidth Plot on Channel 00



20 dB Bandwidth Plot on Channel 39



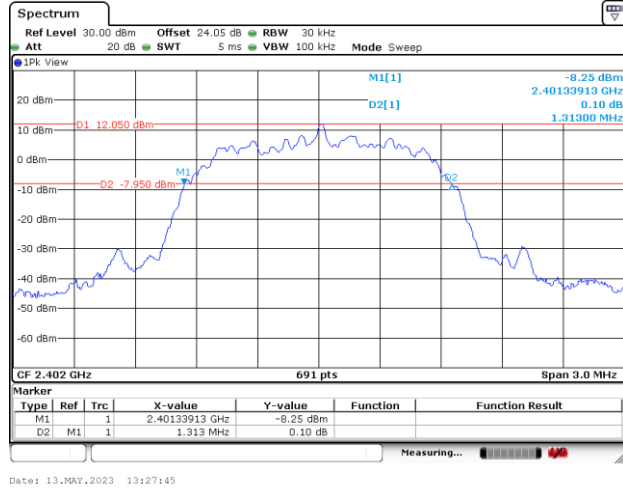
20 dB Bandwidth Plot on Channel 78





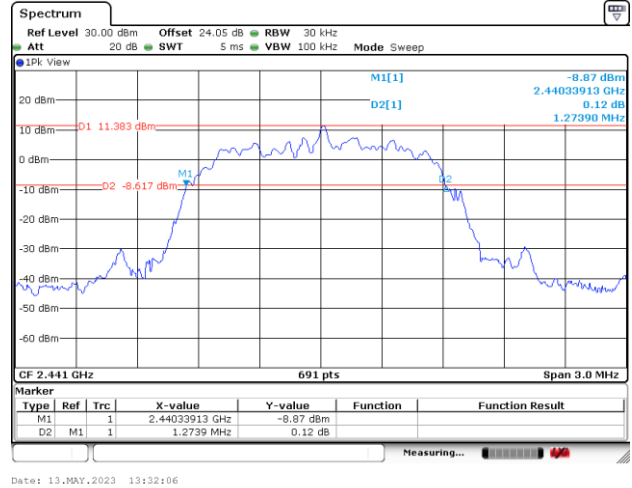
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20 dB Bandwidth Plot on Channel 00



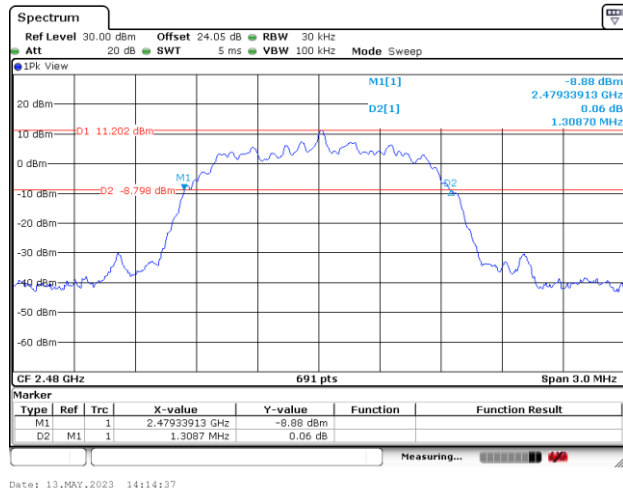
Date: 13.MAY.2023 13:27:45

20 dB Bandwidth Plot on Channel 39



Date: 13.MAY.2023 13:32:06

20 dB Bandwidth Plot on Channel 78

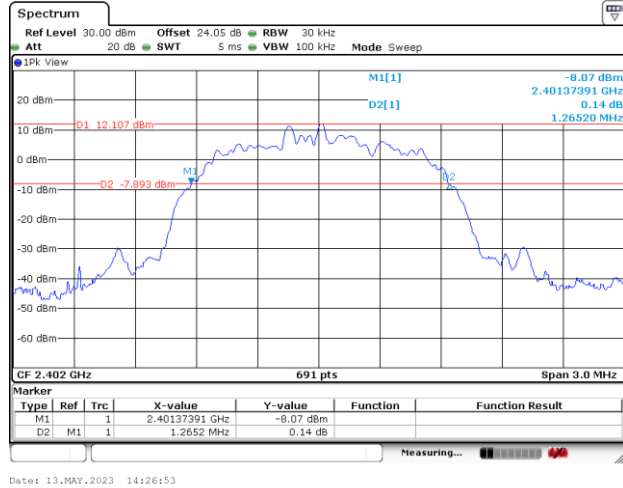


Date: 13.MAY.2023 14:14:37

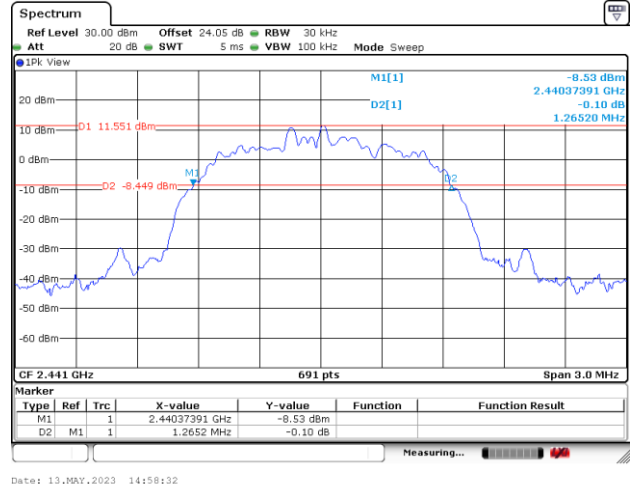


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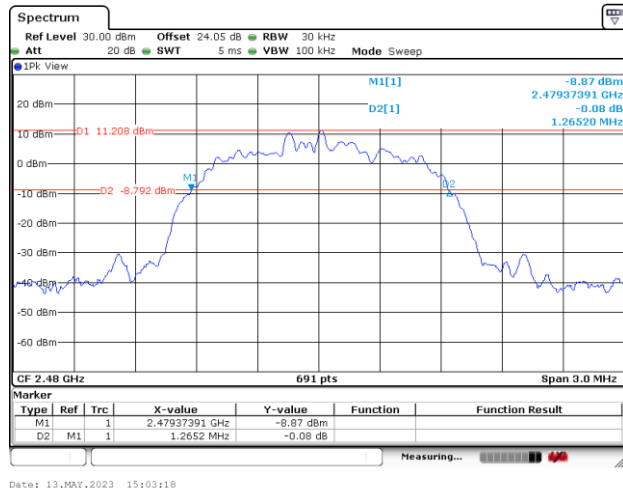
20 dB Bandwidth Plot on Channel 00



20 dB Bandwidth Plot on Channel 39



20 dB Bandwidth Plot on Channel 78

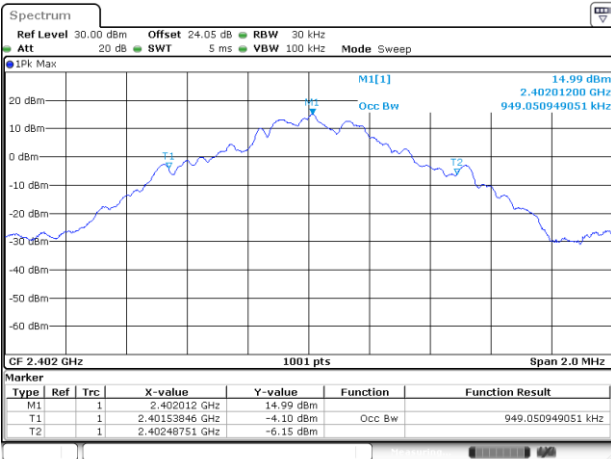




99% Occupied Bandwidth

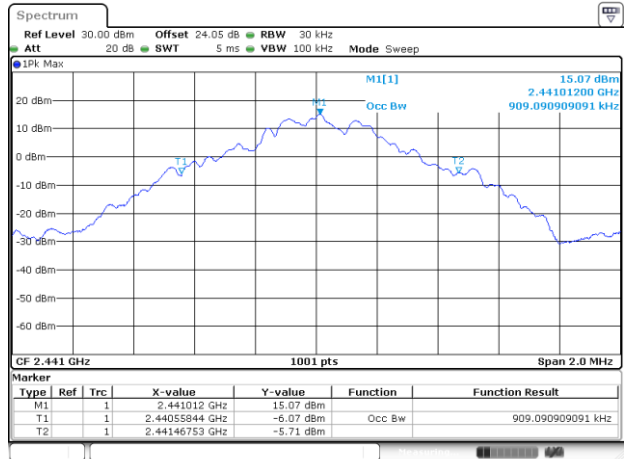
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99% Occupied Bandwidth on Channel 00



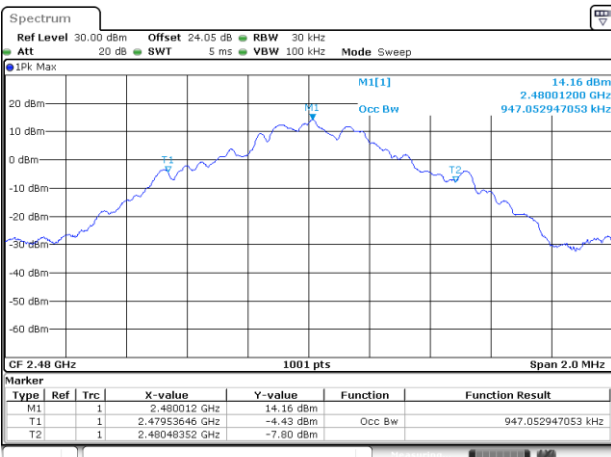
Date: 13.MAY.2023 11:40:14

99% Occupied Bandwidth on Channel 39



Date: 13.MAY.2023 11:45:27

99% Occupied Bandwidth on Channel 78



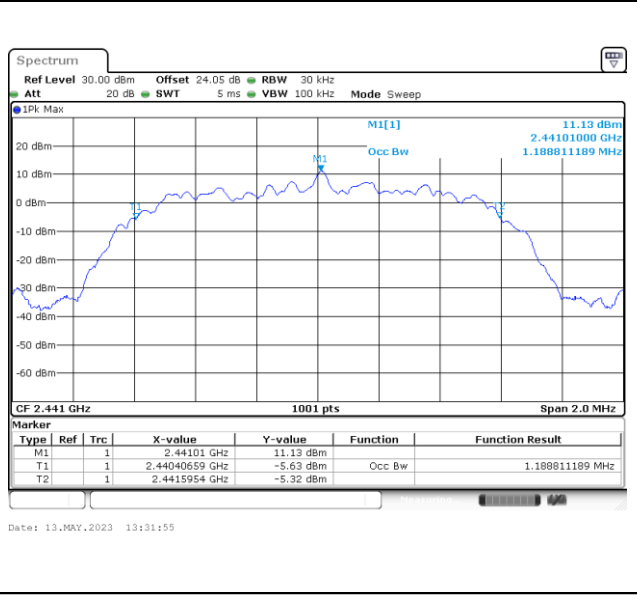
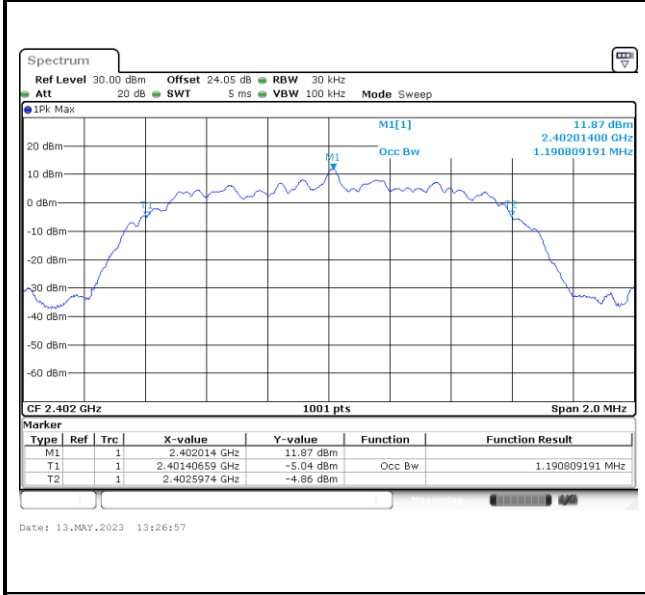
Date: 13.MAY.2023 11:49:57



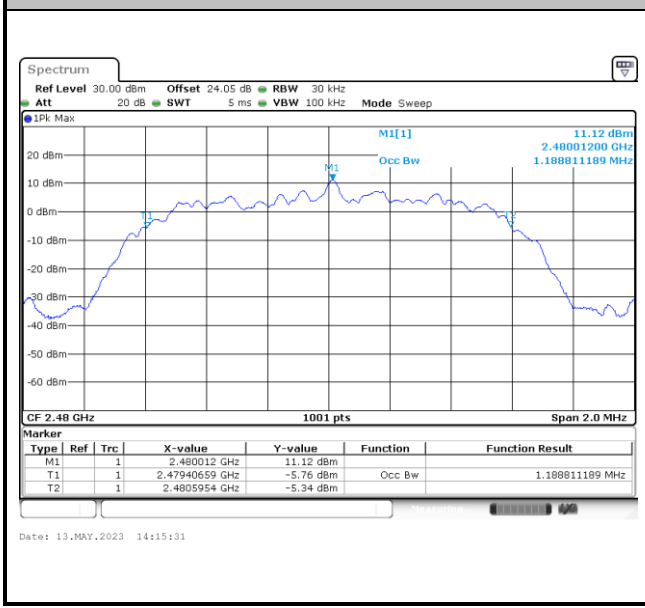
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99% Occupied Bandwidth on Channel 00

99% Occupied Bandwidth on Channel 39



99% Occupied Bandwidth on Channel 78

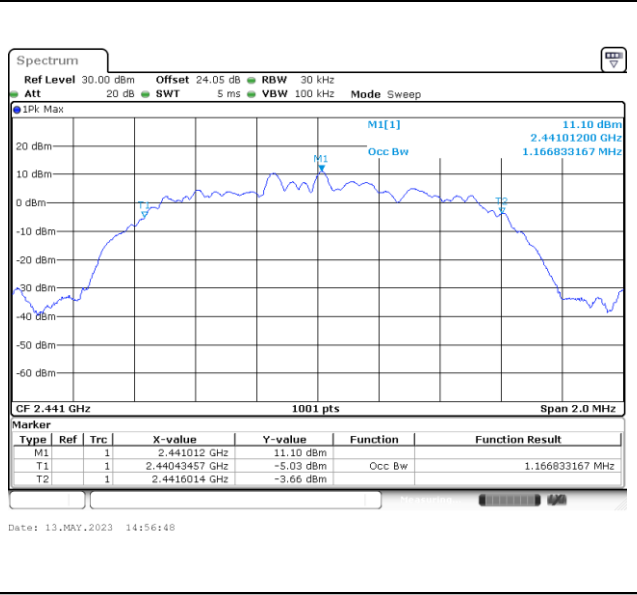
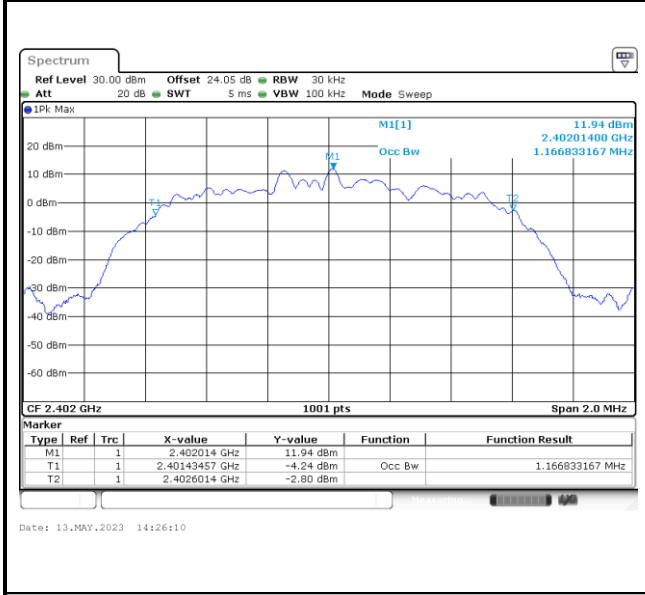




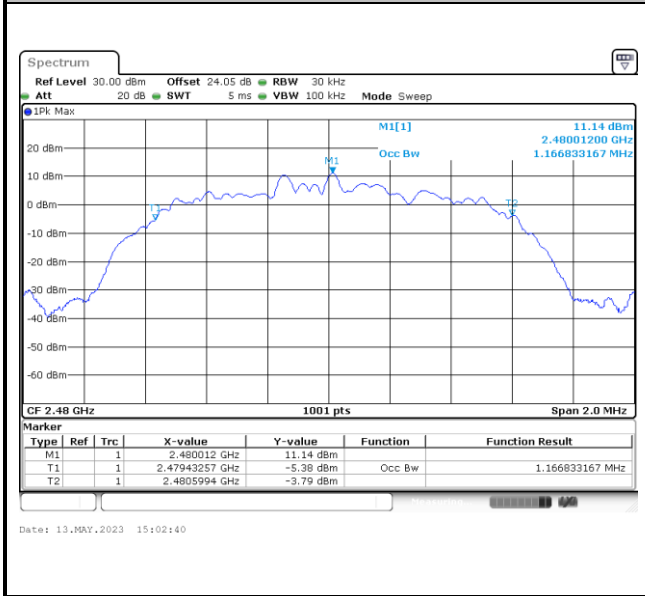
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99% Occupied Bandwidth on Channel 00

99% Occupied Bandwidth on Channel 39



99% Occupied Bandwidth on Channel 78



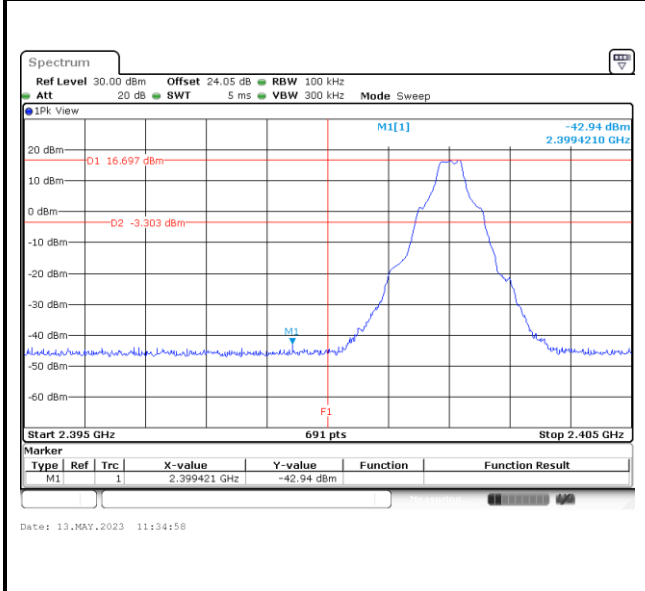
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.



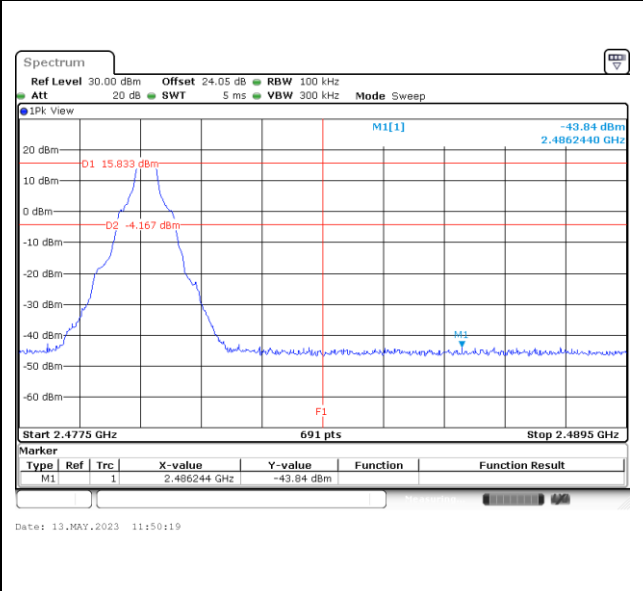
Band Edges

<1Mbps>

Low Band Edge Plot on Channel 00

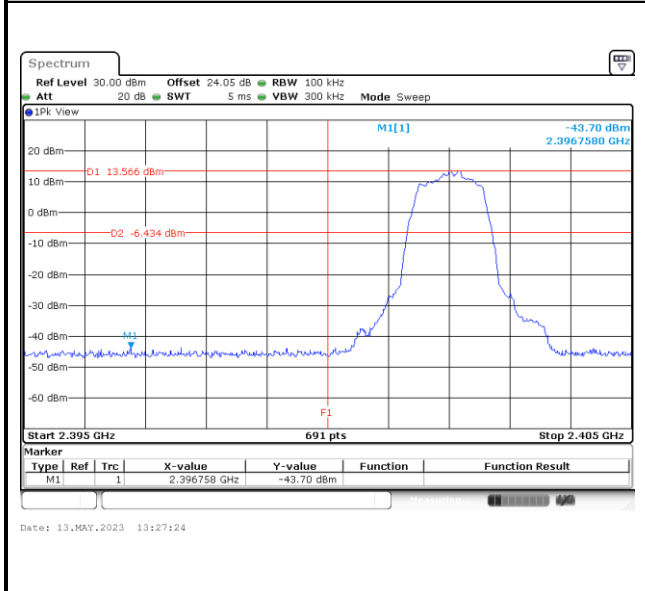


High Band Edge Plot on Channel 78

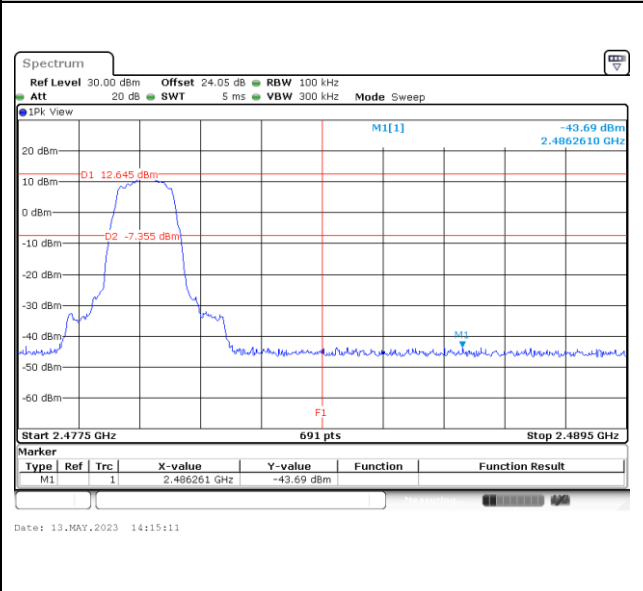


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Low Band Edge Plot on Channel 00



High Band Edge Plot on Channel 78

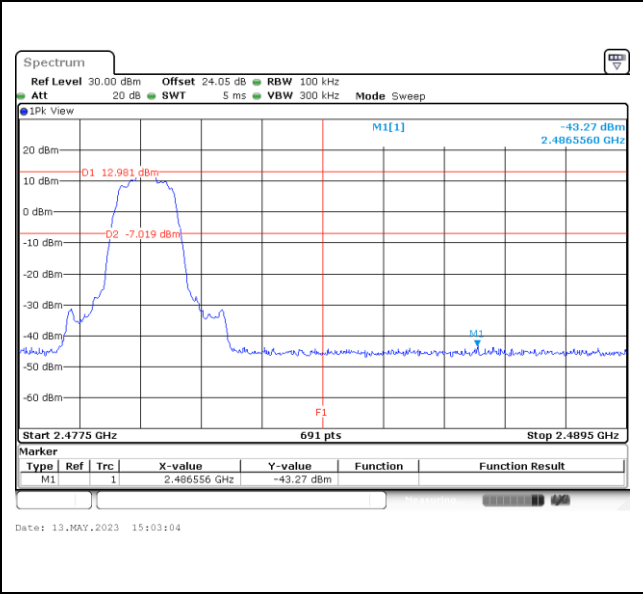
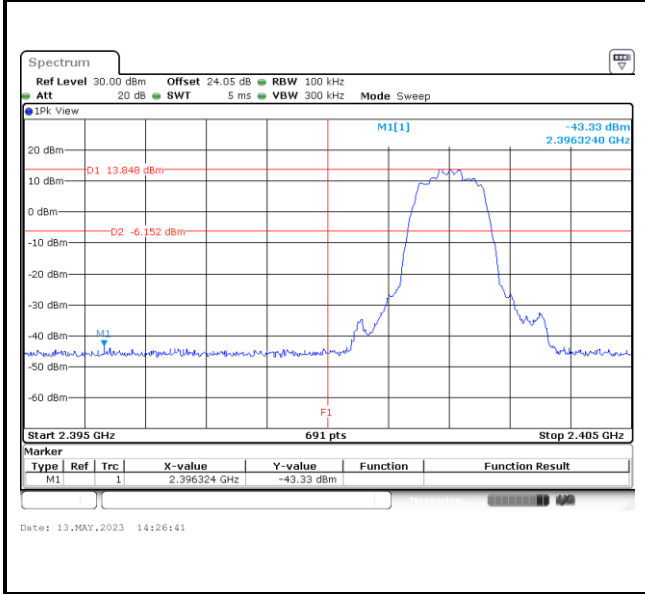




<3Mbps>

Low Band Edge Plot on Channel 00

High Band Edge Plot on Channel 78

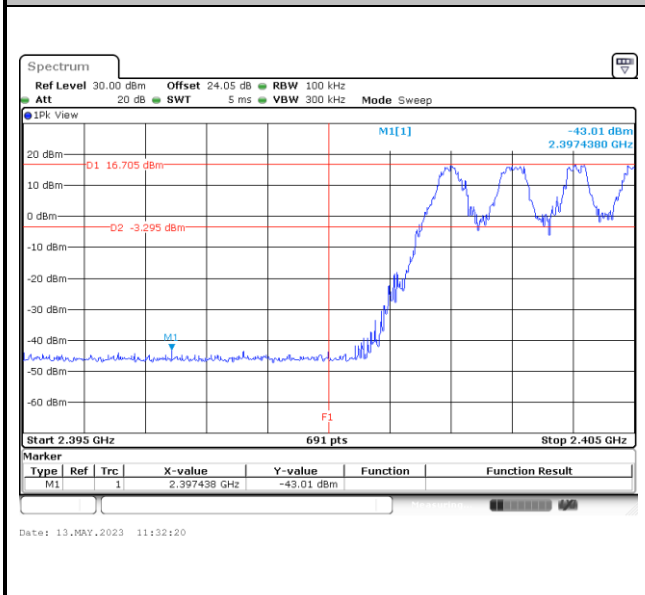




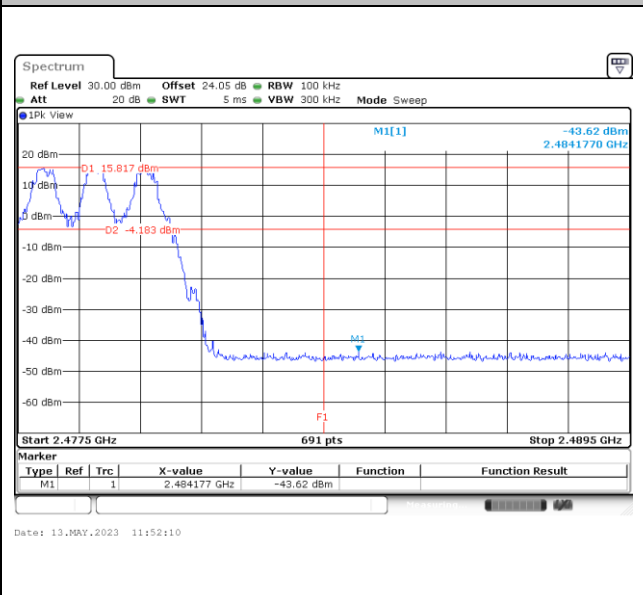
Hopping Mode Band Edges

<1Mbps>

Hopping Mode Low Band Edge Plot

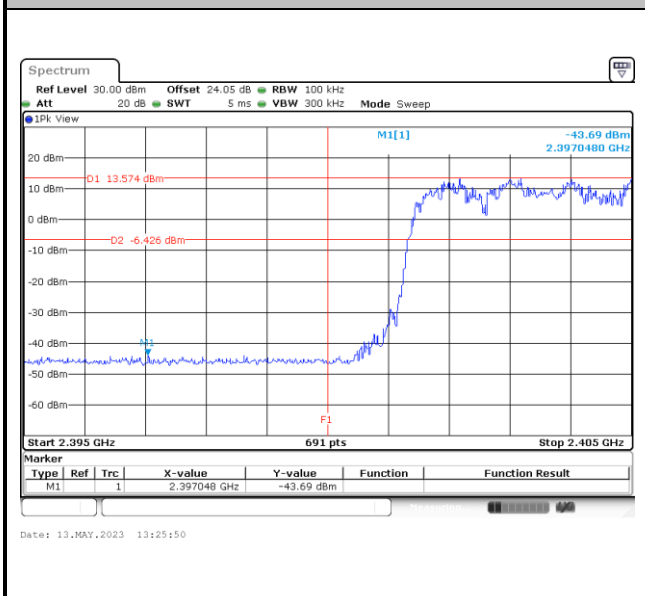


Hopping Mode High Band Edge Plot

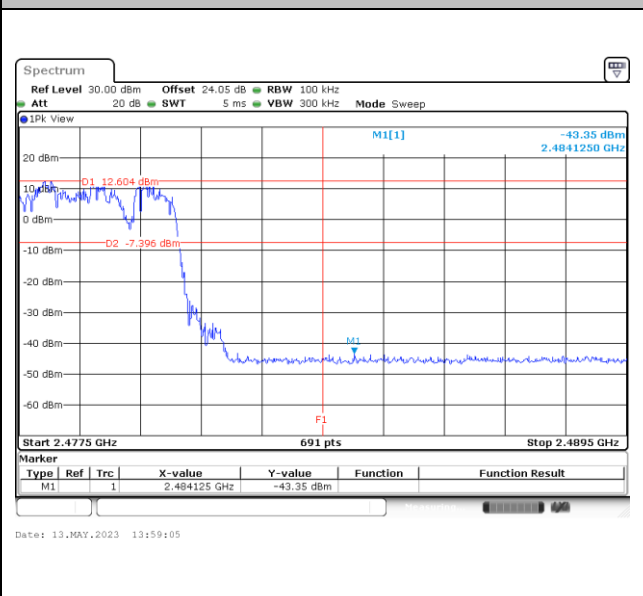


<2Mbps>

Hopping Mode Low Band Edge Plot



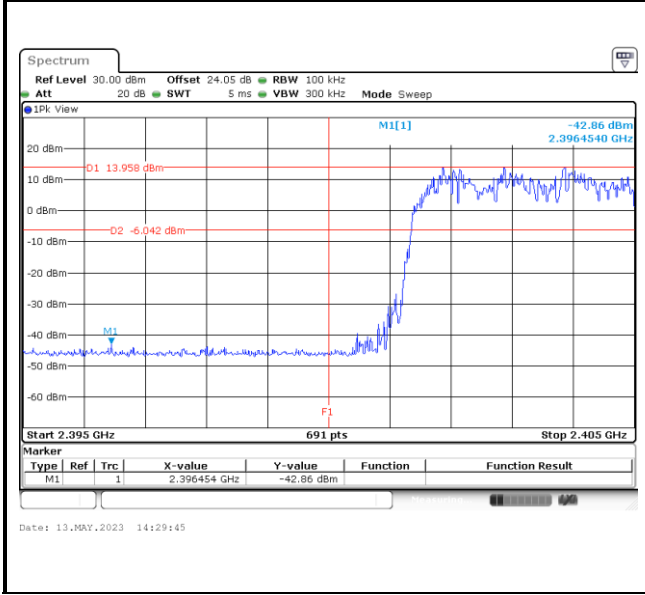
Hopping Mode High Band Edge Plot



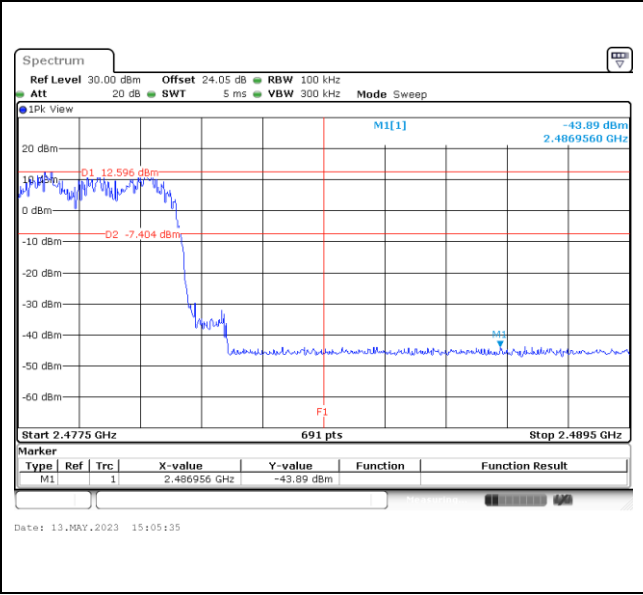


<3Mbps>

Hopping Mode Low Band Edge Plot



Hopping Mode High Band Edge Plot

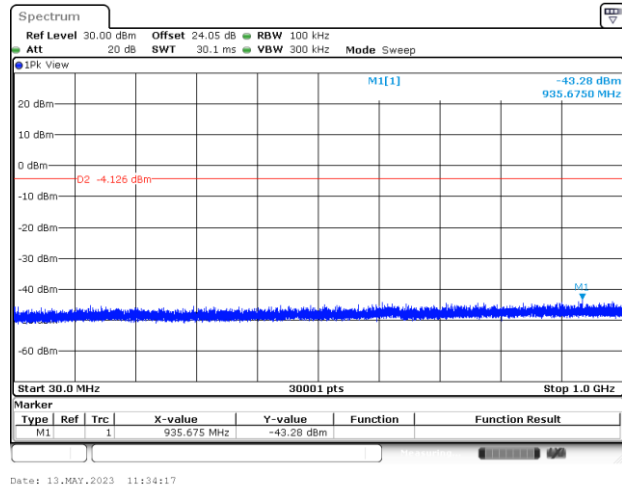




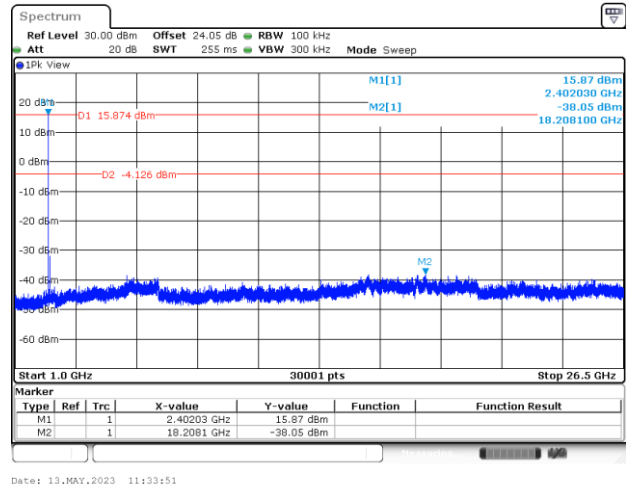
Spurious Emission

<1Mbps>

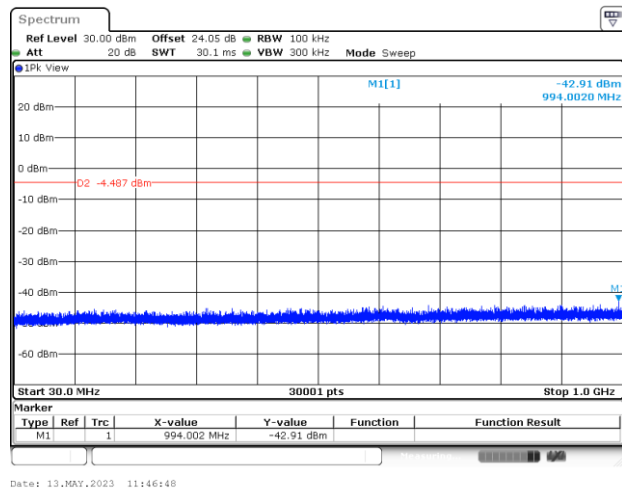
CSE Plot on Ch 00 between 30MHz ~ 1 GHz



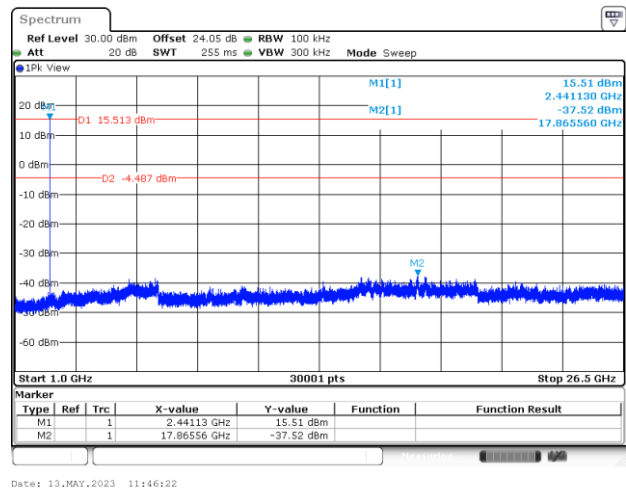
CSE Plot on Ch 00 between 1 GHz ~ 26.5 GHz



CSE Plot on Ch 39 between 30MHz ~ 1 GHz

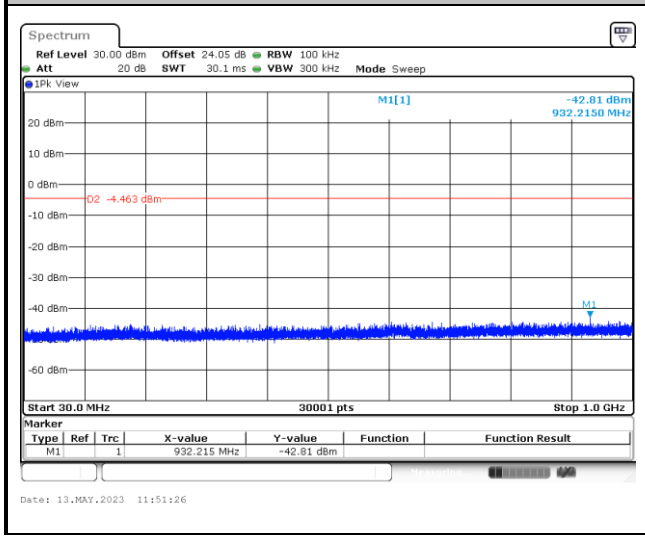


CSE Plot on Ch 39 between 1 GHz ~ 26.5 GHz

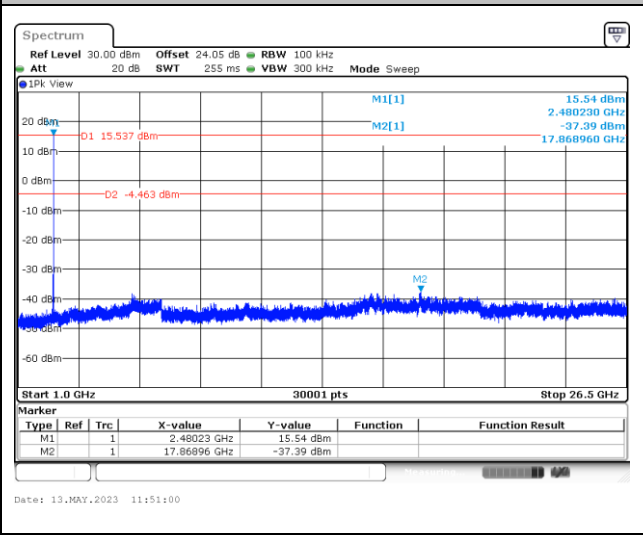




CSE Plot on Ch 78 between 30MHz ~ 1 GHz



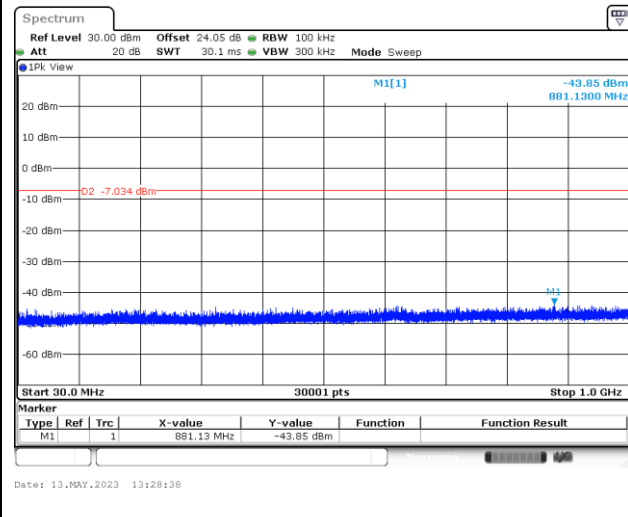
CSE Plot on Ch 78 between 1 GHz ~ 26.5 GHz



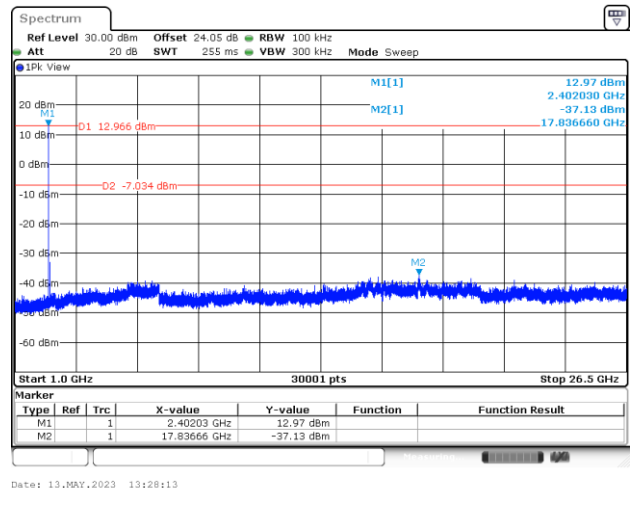


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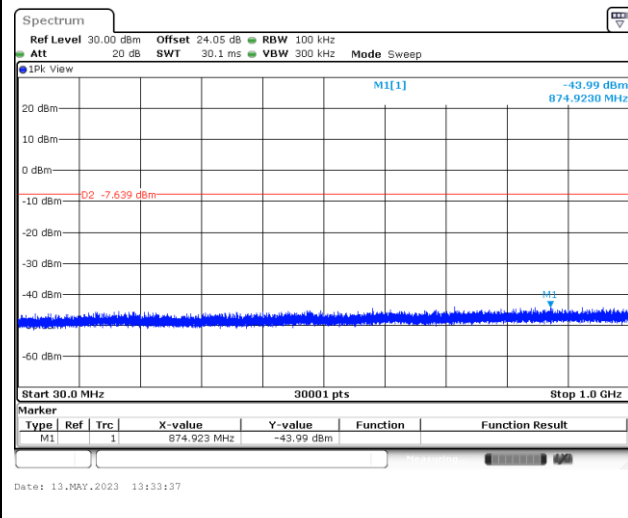
CSE Plot on Ch 00 between 30MHz ~ 1 GHz



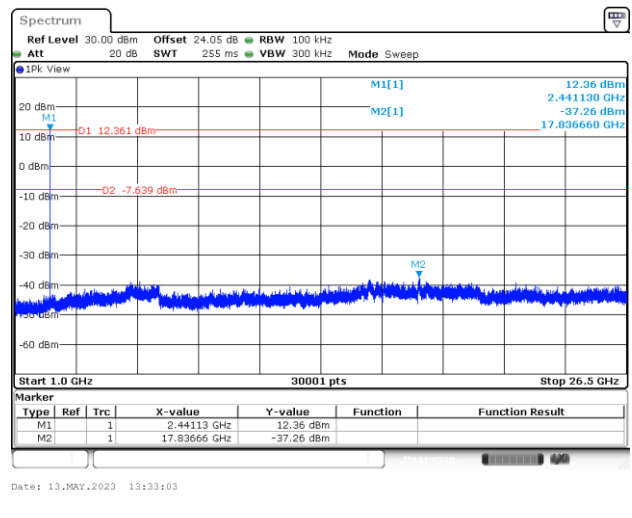
CSE Plot on Ch 00 between 1 GHz ~ 26.5 GHz



CSE Plot on Ch 39 between 30MHz ~ 1 GHz

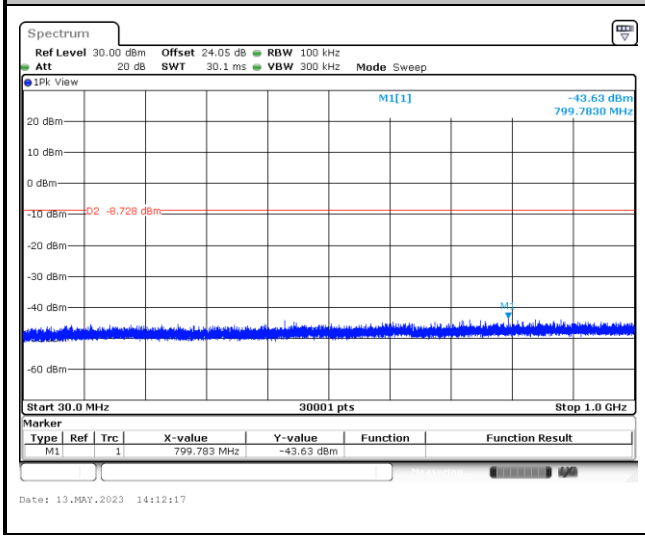


CSE Plot on Ch 39 between 1 GHz ~ 26.5 GHz

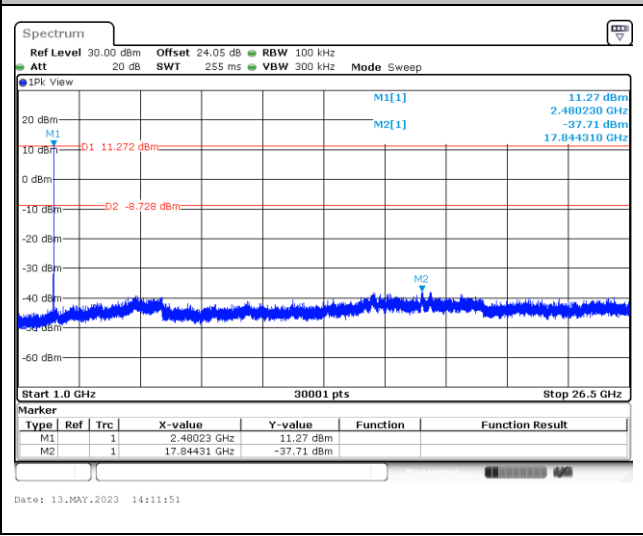




CSE Plot on Ch 78 between 30MHz ~ 1 GHz



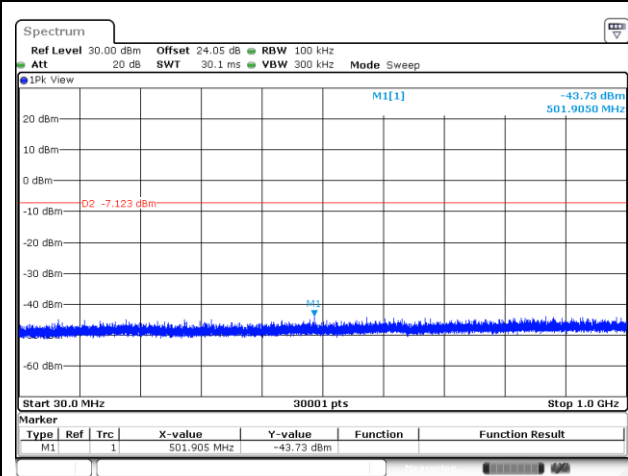
CSE Plot on Ch 78 between 1 GHz ~ 26.5 GHz



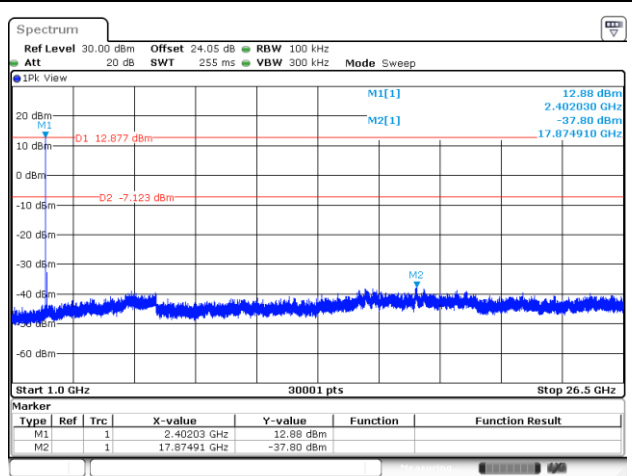


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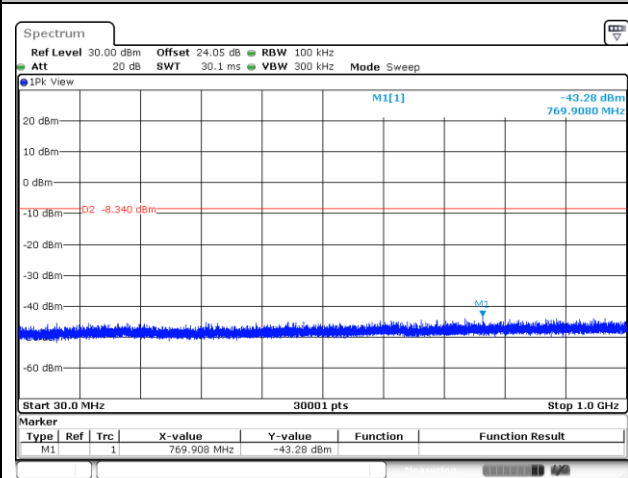
CSE Plot on Ch 00 between 30MHz ~ 1 GHz



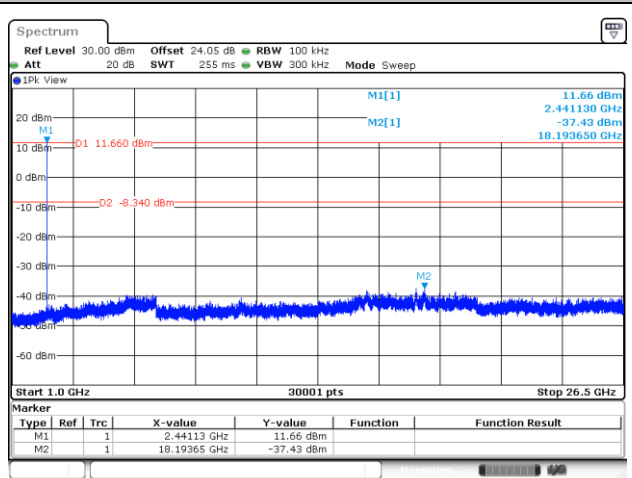
CSE Plot on Ch 00 between 1 GHz ~ 26.5 GHz



CSE Plot on Ch 39 between 30MHz ~ 1 GHz

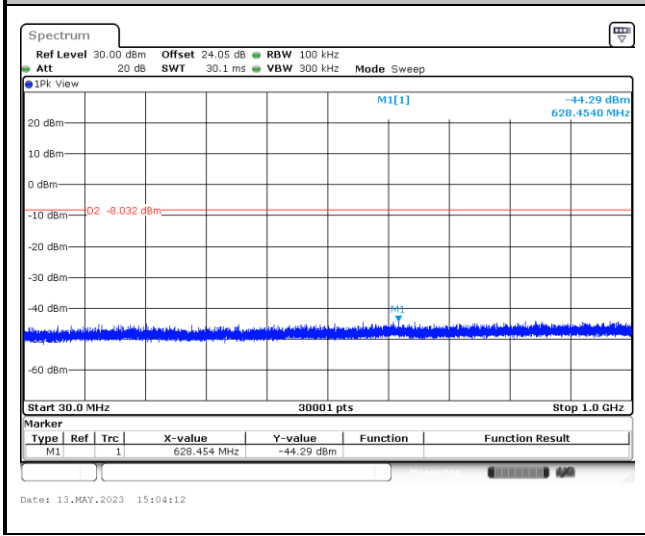


CSE Plot on Ch 39 between 1 GHz ~ 26.5 GHz

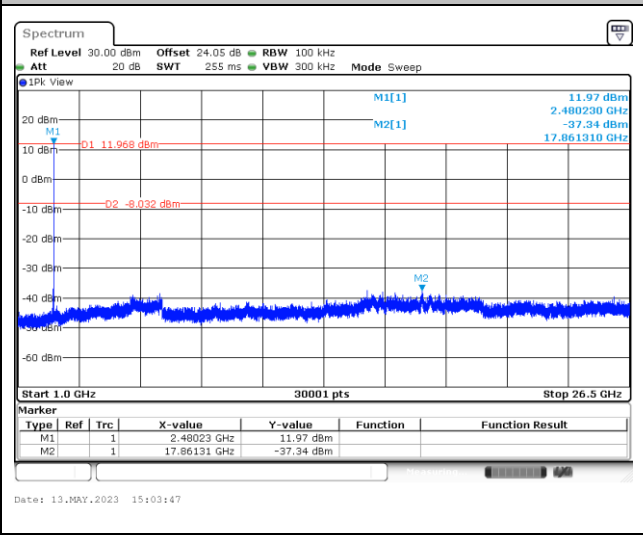




CSE Plot on Ch 78 between 30MHz ~ 1 GHz



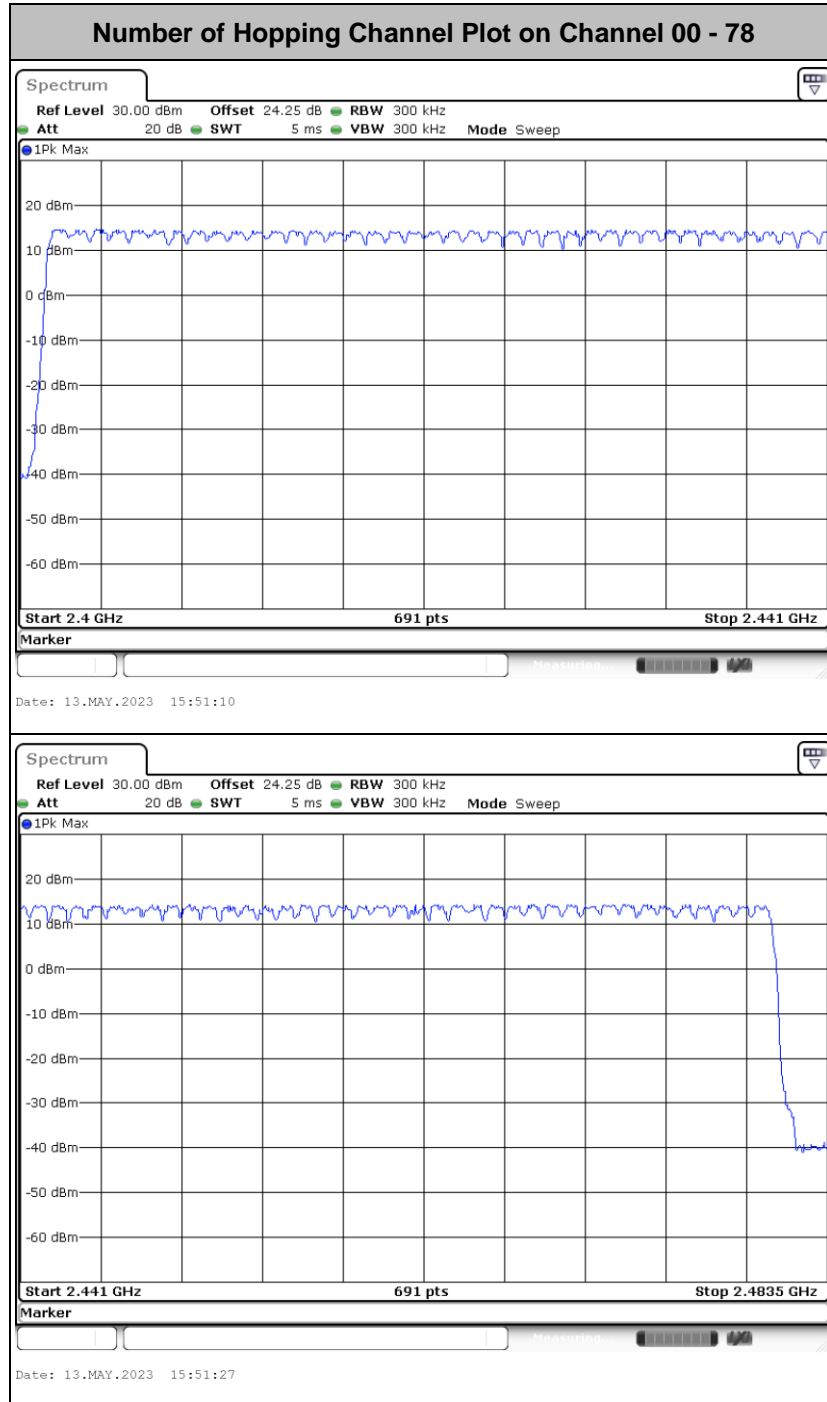
CSE Plot on Ch 78 between 1 GHz ~ 26.5 GHz





<TXBF HR 2Mbps Ant.3>

Number of Hopping Frequency



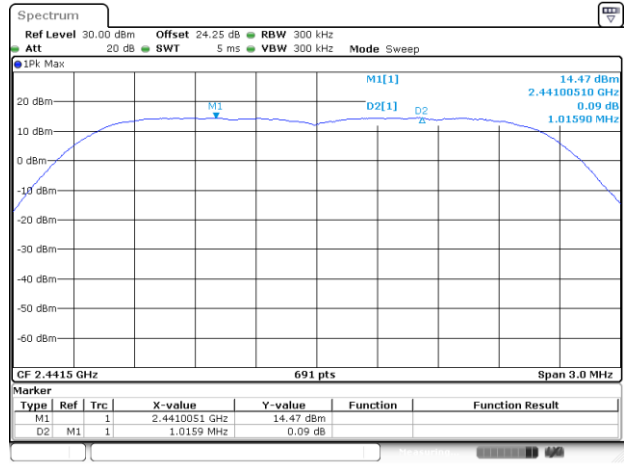
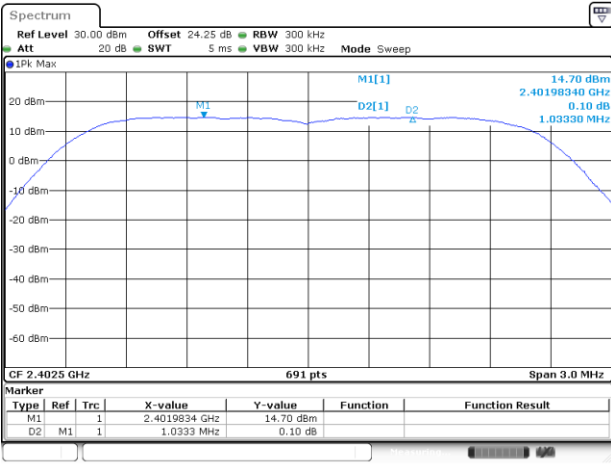


Hopping Channel Separation

<HR 2Mbps>

Channel Separation Plot on Channel 00 - 01

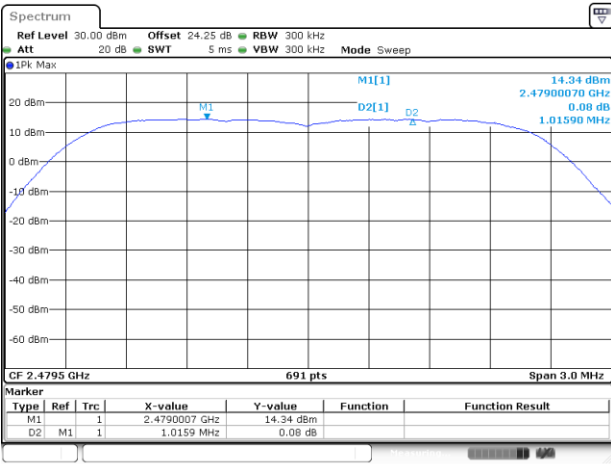
Channel Separation Plot on Channel 39 - 40



Date: 13.MAY.2023 16:04:37

Date: 13.MAY.2023 16:08:17

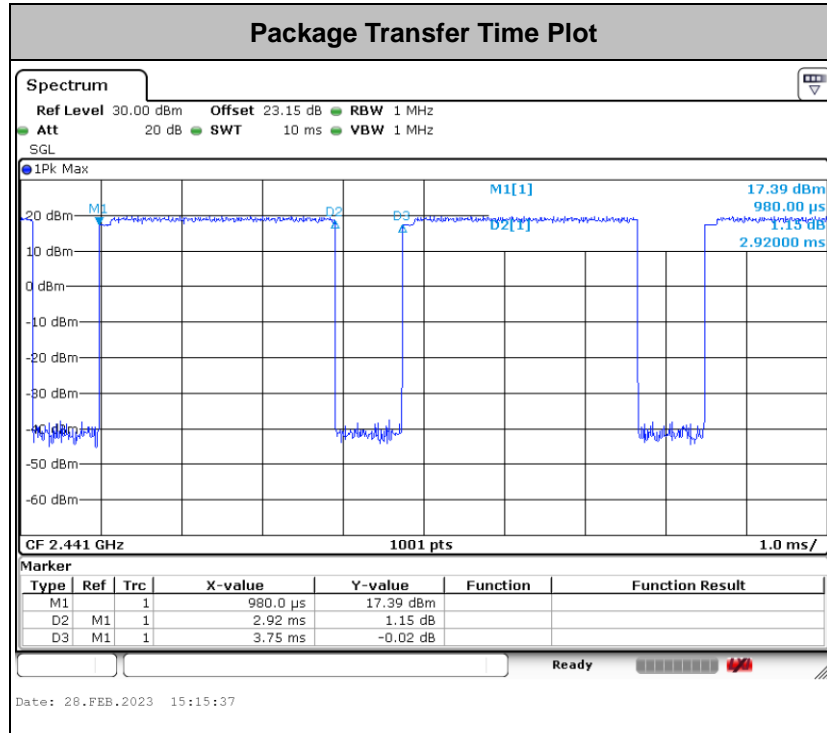
Channel Separation Plot on Channel 77 - 78



Date: 13.MAY.2023 16:30:59



Dwell Time



Remark:

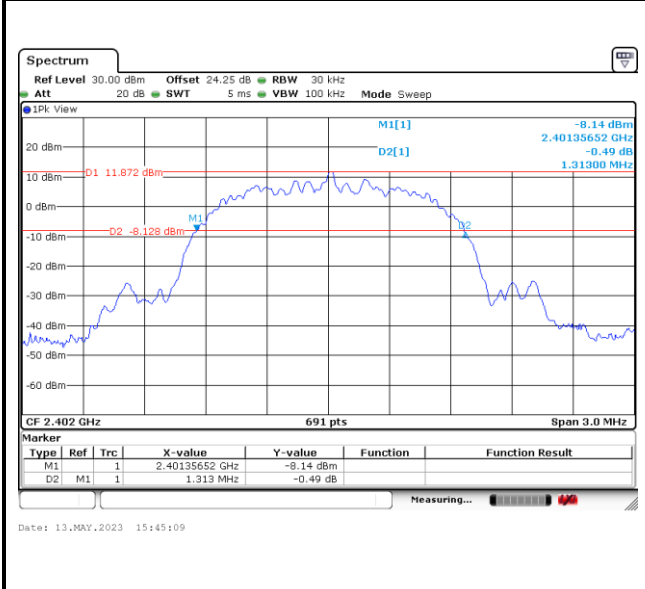
1. In normal mode, hopping rate is 1600 hops/s with 6 slots in 79 hopping channels. With channel hopping rate (1600 / 6 / 79) in Occupancy Time Limit (0.4 x 79) (s), Hops Over Occupancy Time comes to (1600 / 6 / 79) x (0.4 x 79) = 106.67 hops.
2. In AFH mode, hopping rate is 800 hops/s with 6 slots in 20 hopping channels. With channel hopping rate (800 / 6 / 20) in Occupancy Time Limit (0.4 x 20) (s), Hops Over Occupancy Time comes to (800 / 6 / 20) x (0.4 x 20) = 53.33 hops.
3. Dwell Time(s) = Hops Over Occupancy Time (hops) x Package Transfer Time



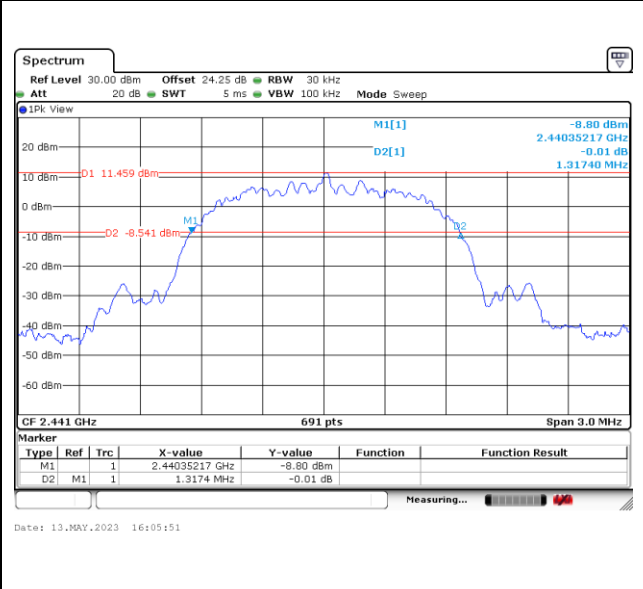
20dB Bandwidth

< HR 2Mbps >

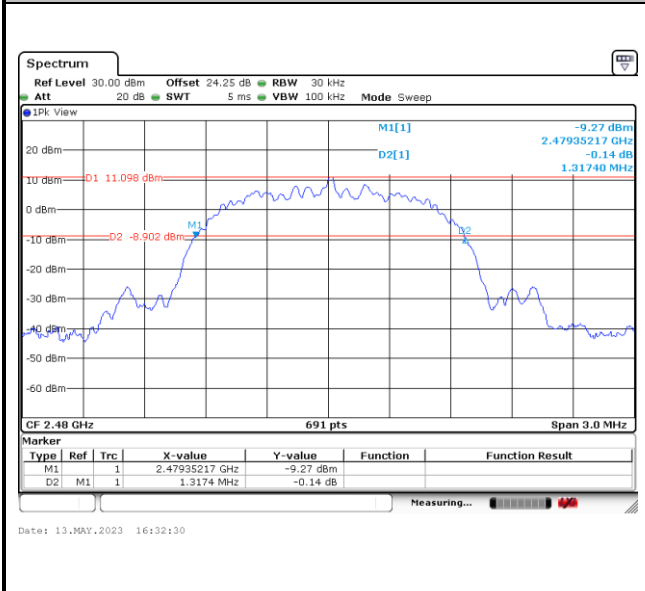
20 dB Bandwidth Plot on Channel 00



20 dB Bandwidth Plot on Channel 39



20 dB Bandwidth Plot on Channel 78

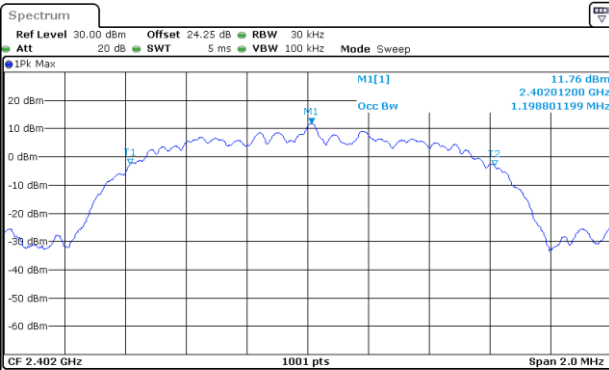




99% Occupied Bandwidth

< HR 2Mbps >

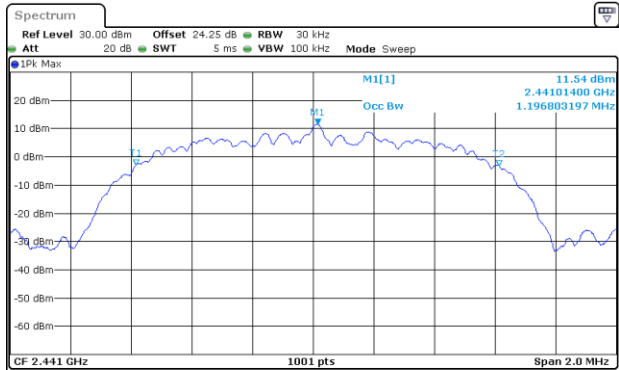
99% Occupied Bandwidth on Channel 00



Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		2.402012 GHz	11.76 dBm		
T1	1		2.40141459 GHz	-2.65 dBm	Occ Bw	1.198801199 MHz
T2	1		2.40261339 GHz	-3.21 dBm		

Date: 13.MAY.2023 15:44:08

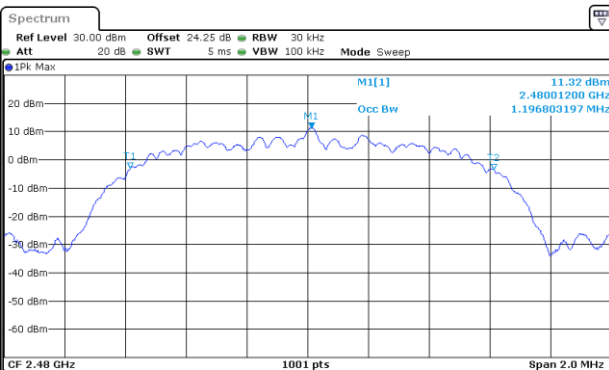
99% Occupied Bandwidth on Channel 39



Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		2.441014 GHz	11.54 dBm		
T1	1		2.44041459 GHz	-2.94 dBm	Occ Bw	1.196803197 MHz
T2	1		2.44161139 GHz	-3.14 dBm		

Date: 13.MAY.2023 16:05:26

99% Occupied Bandwidth on Channel 78



Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1	1		2.480012 GHz	11.32 dBm		
T1	1		2.47941459 GHz	-3.06 dBm	Occ Bw	1.196803197 MHz
T2	1		2.48061139 GHz	-3.60 dBm		

Date: 13.MAY.2023 16:31:37

Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

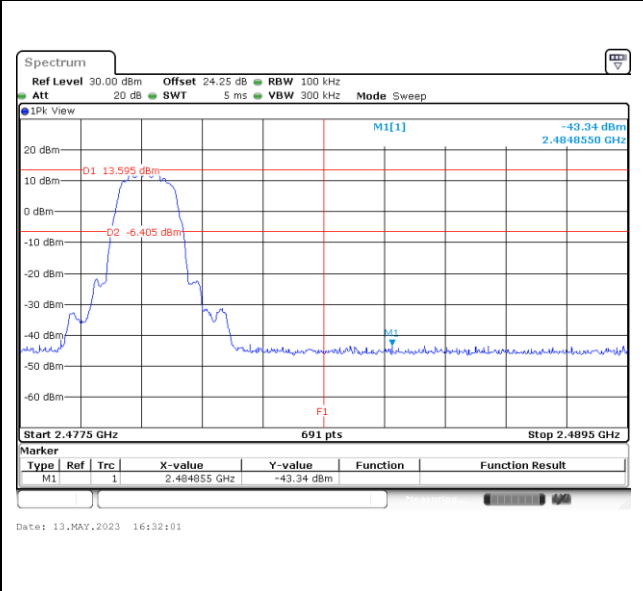
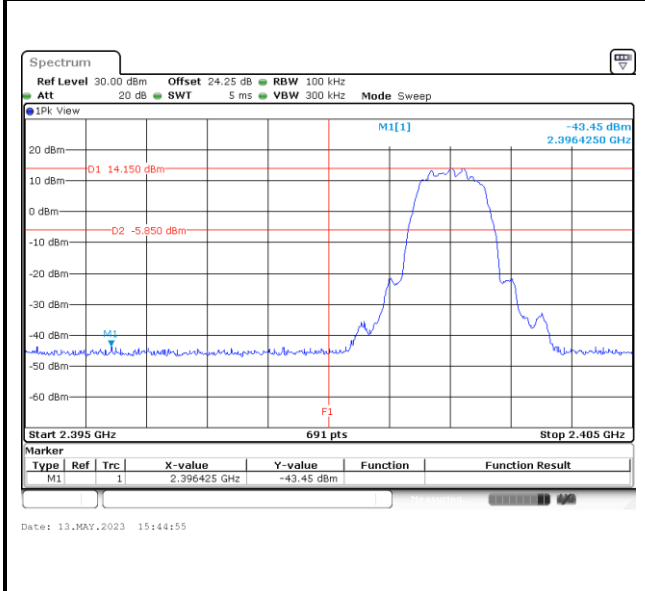


Band Edges

< HR 2Mbps >

Low Band Edge Plot on Channel 00

High Band Edge Plot on Channel 78

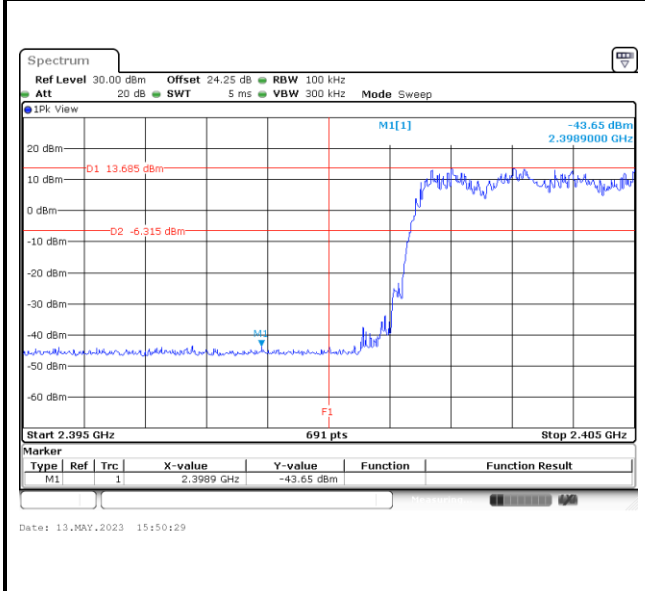




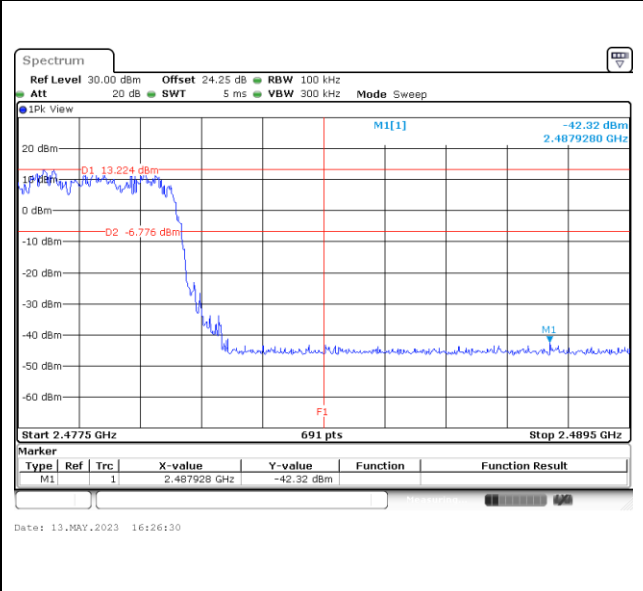
Hopping Mode Band Edges

< HR 2Mbps >

Hopping Mode Low Band Edge Plot



Hopping Mode High Band Edge Plot

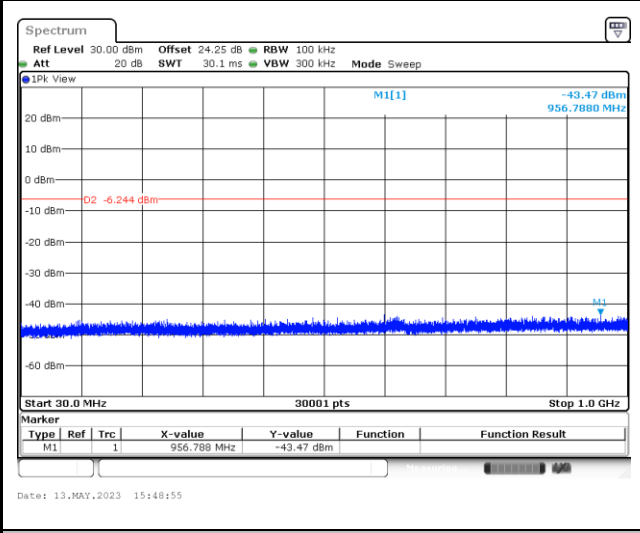




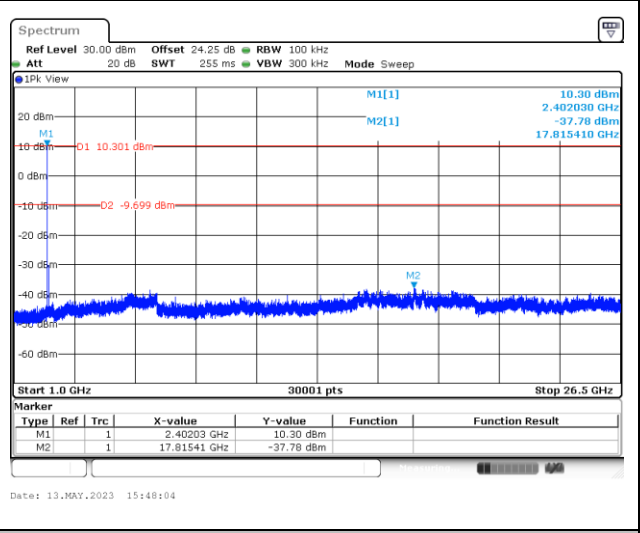
Spurious Emission

< HR 2Mbps >

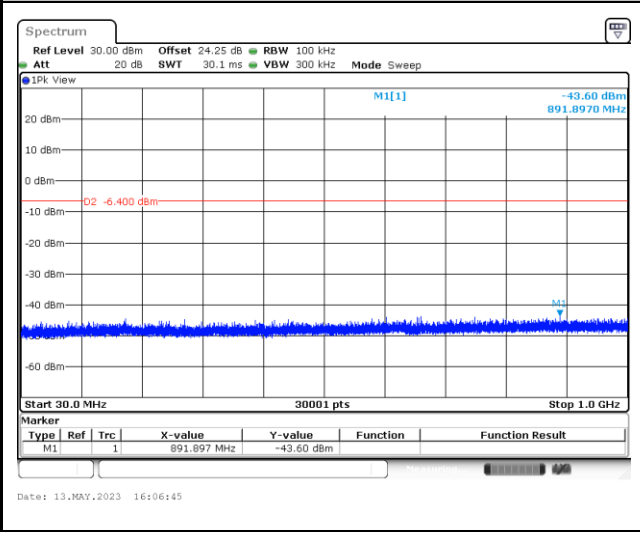
CSE Plot on Ch 00 between 30MHz ~ 1 GHz



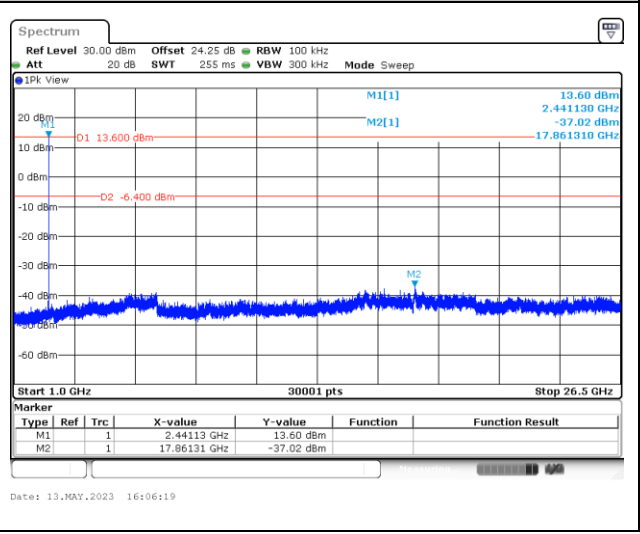
CSE Plot on Ch 00 between 1 GHz ~ 26.5 GHz



CSE Plot on Ch 39 between 30MHz ~ 1 GHz

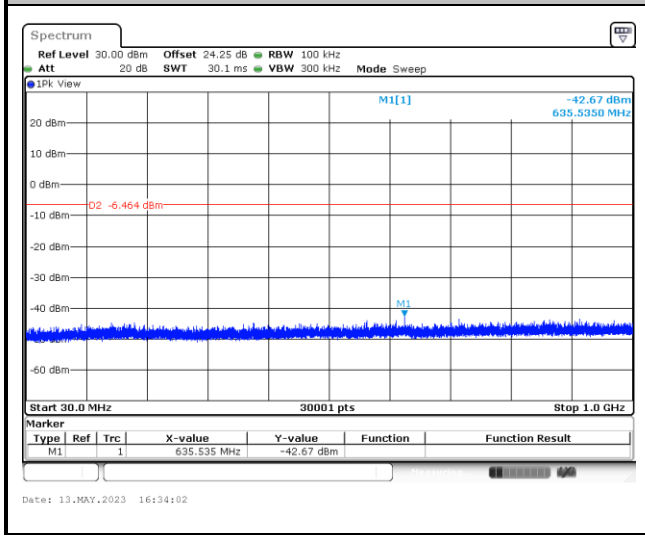


CSE Plot on Ch 39 between 1 GHz ~ 26.5 GHz

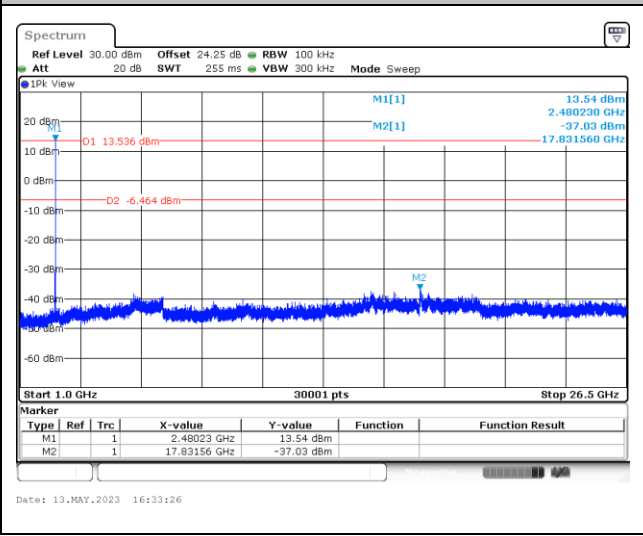




CSE Plot on Ch 78 between 30MHz ~ 1 GHz



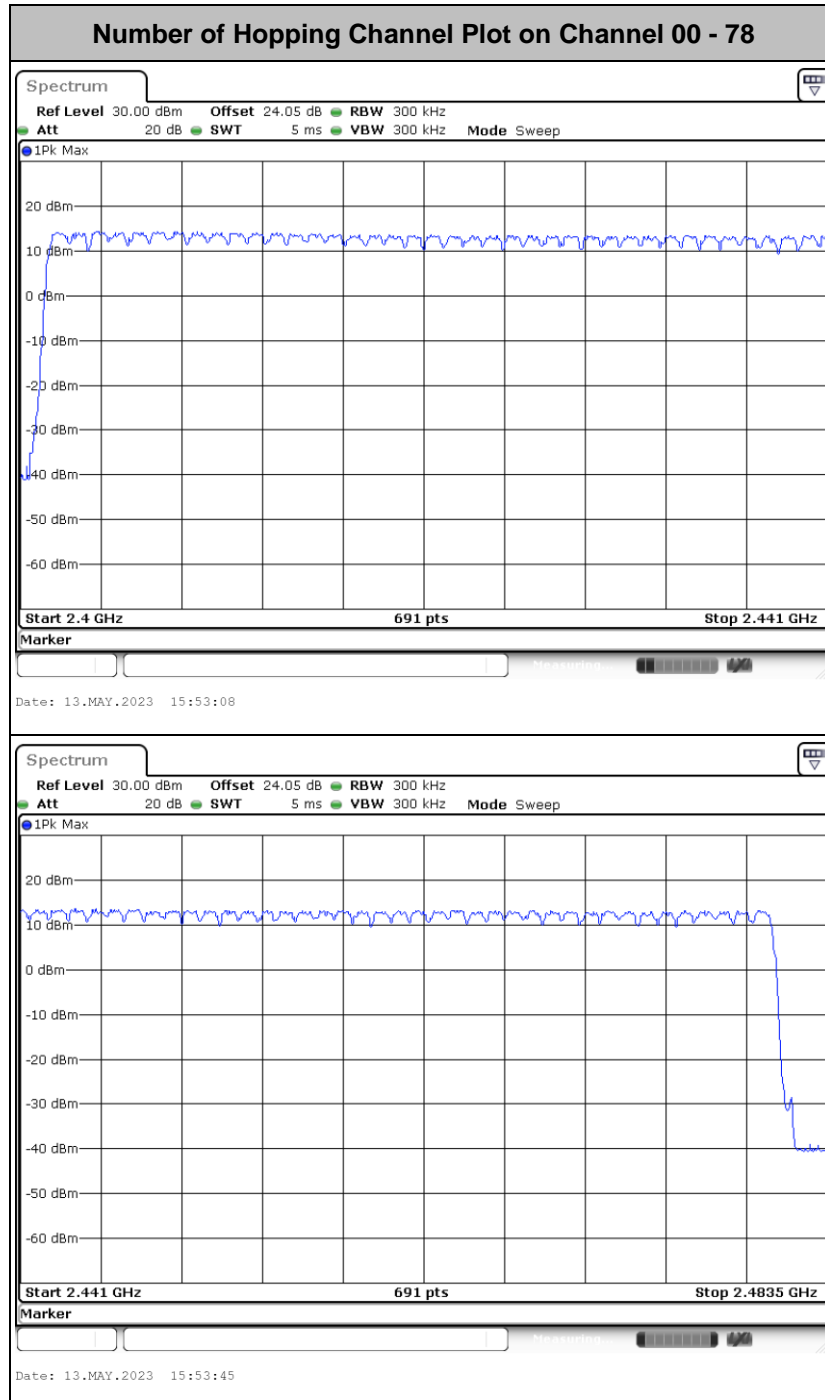
CSE Plot on Ch 78 between 1 GHz ~ 26.5 GHz





<TXBF HR 2Mbps Ant.4>

Number of Hopping Frequency



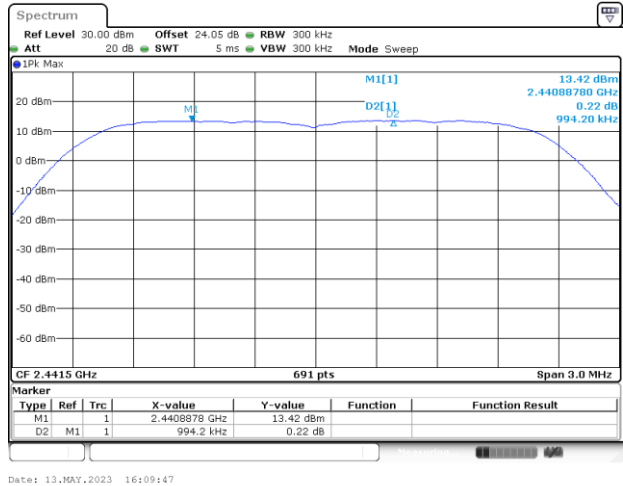
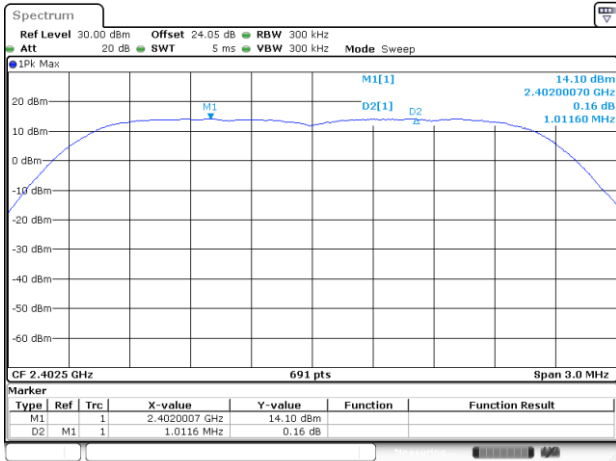


Hopping Channel Separation

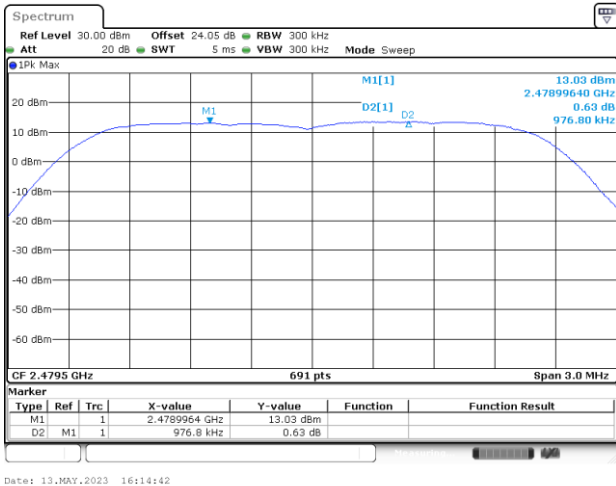
<HR 2Mbps>

Channel Separation Plot on Channel 00 - 01

Channel Separation Plot on Channel 39 - 40

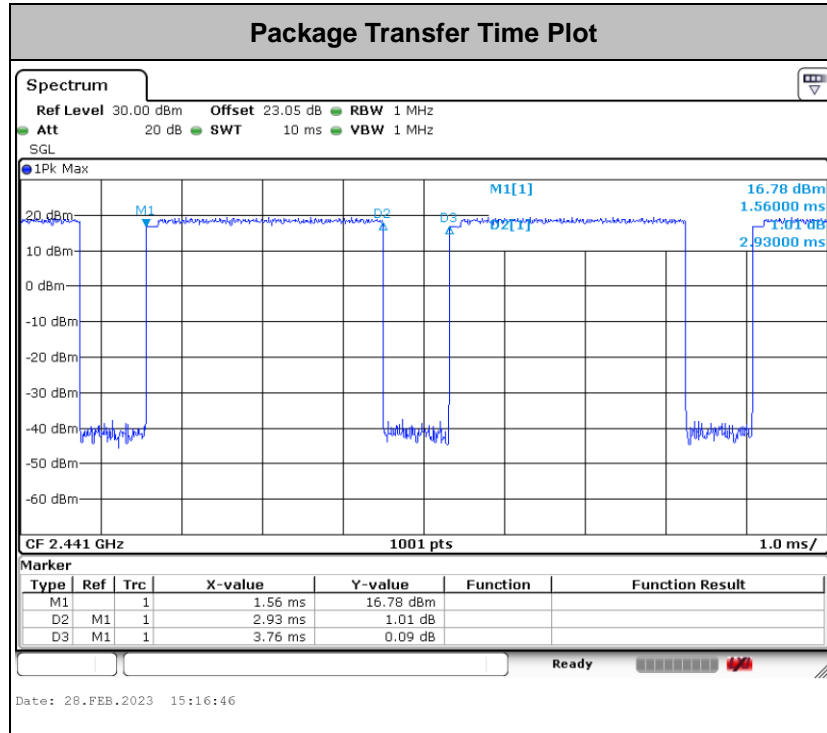


Channel Separation Plot on Channel 77 - 78





Dwell Time



Remark:

1. In normal mode, hopping rate is 1600 hops/s with 6 slots in 79 hopping channels. With channel hopping rate (1600 / 6 / 79) in Occupancy Time Limit (0.4 x 79) (s), Hops Over Occupancy Time comes to (1600 / 6 / 79) x (0.4 x 79) = 106.67 hops.

2. In AFH mode, hopping rate is 800 hops/s with 6 slots in 20 hopping channels. With channel hopping rate (800 / 6 / 20) in Occupancy Time Limit (0.4 x 20) (s), Hops Over Occupancy Time comes to (800 / 6 / 20) x (0.4 x 20) = 53.33 hops.

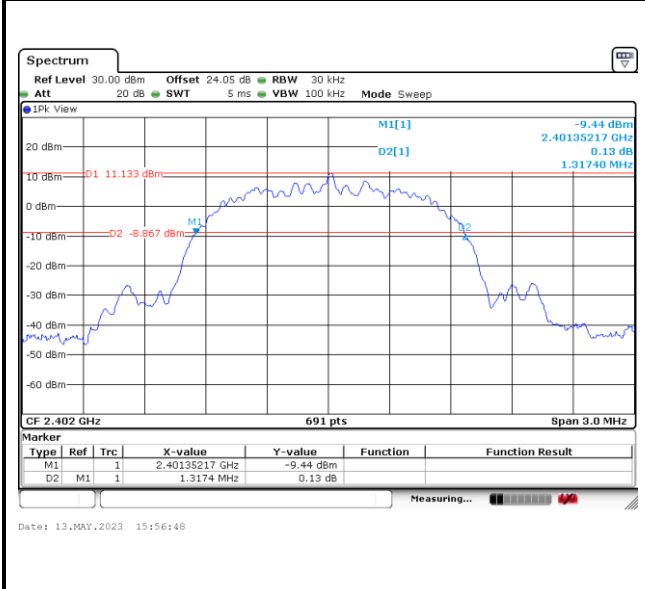
3. Dwell Time(s) = Hops Over Occupancy Time (hops) x Package Transfer Time



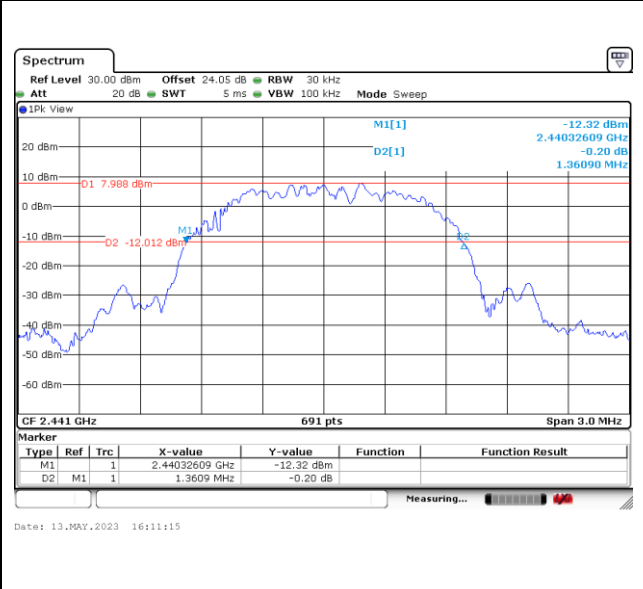
20dB Bandwidth

< HR 2Mbps >

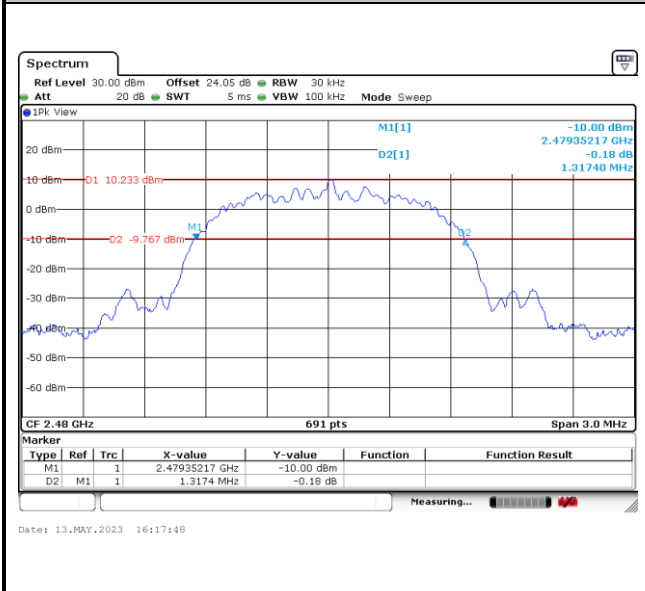
20 dB Bandwidth Plot on Channel 00



20 dB Bandwidth Plot on Channel 39



20 dB Bandwidth Plot on Channel 78

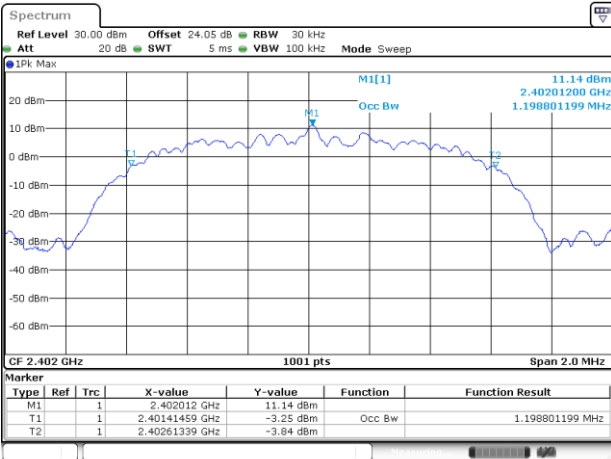




99% Occupied Bandwidth

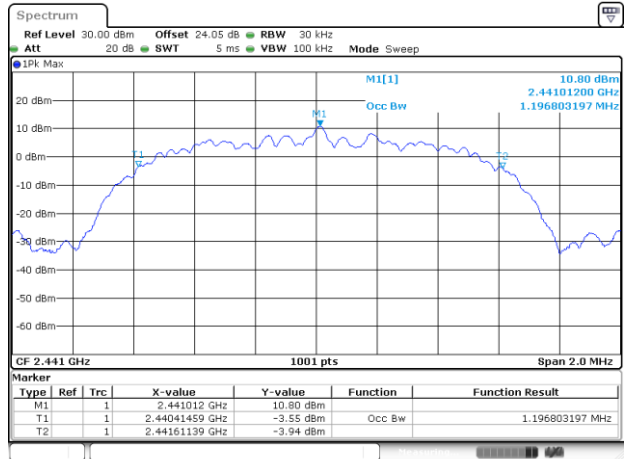
< HR 2Mbps >

99% Occupied Bandwidth on Channel 00



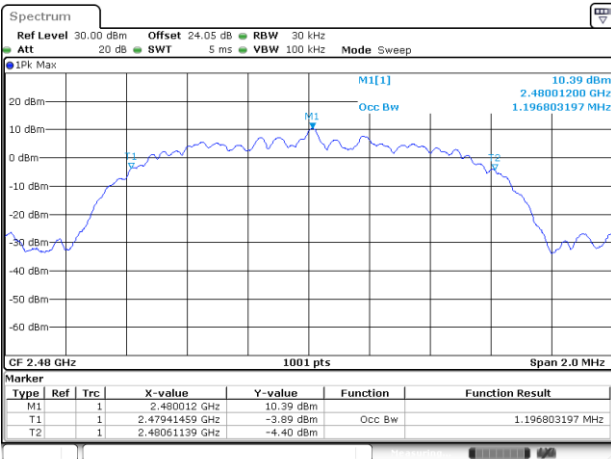
Date: 13.MAY.2023 15:55:51

99% Occupied Bandwidth on Channel 39



Date: 13.MAY.2023 16:10:33

99% Occupied Bandwidth on Channel 78



Date: 13.MAY.2023 16:16:29

Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

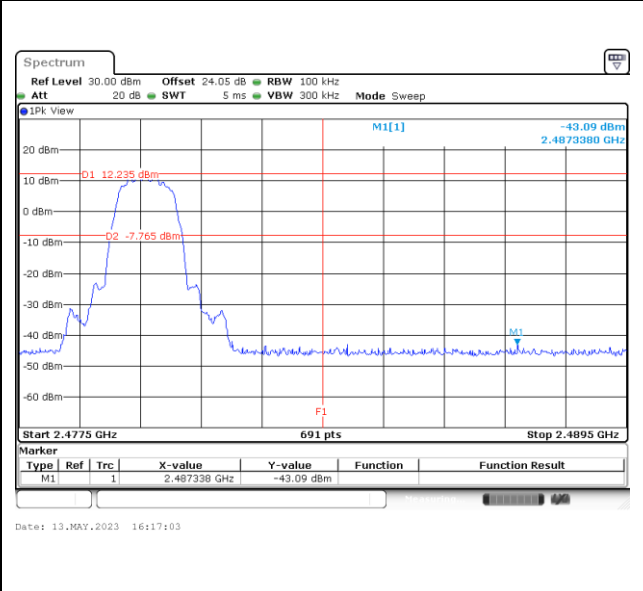
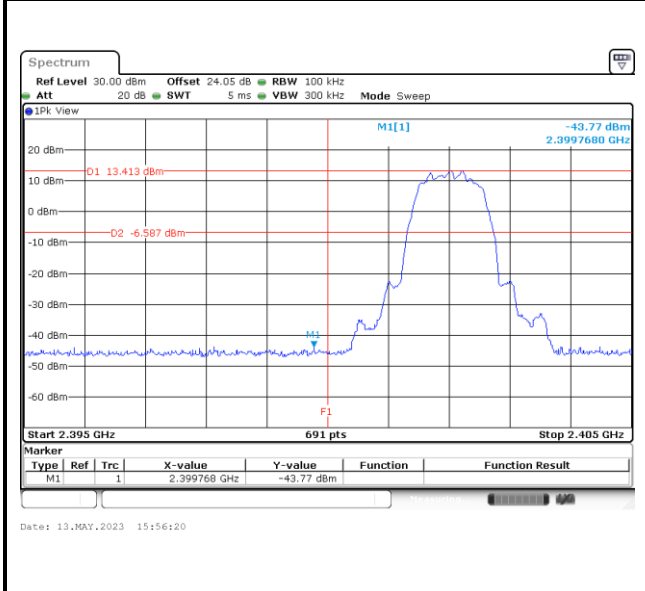


Band Edges

< HR 2Mbps >

Low Band Edge Plot on Channel 00

High Band Edge Plot on Channel 78

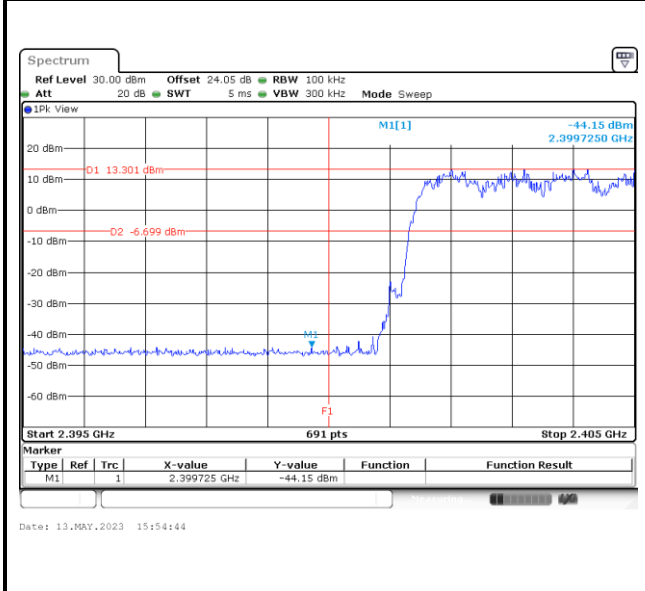




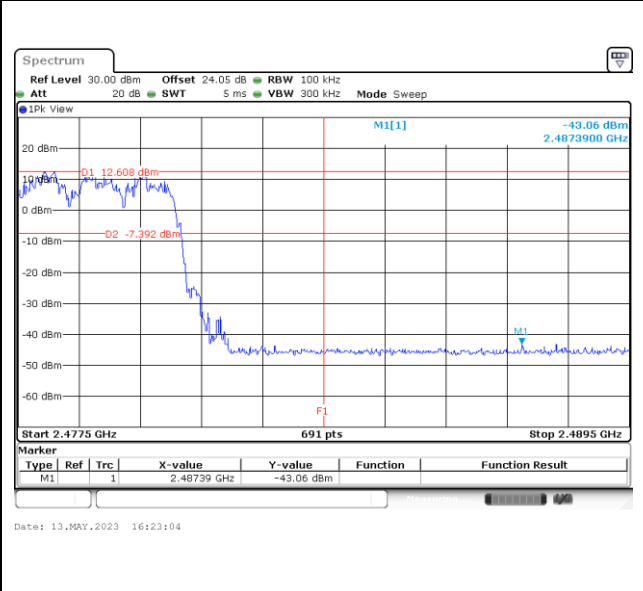
Hopping Mode Band Edges

< HR 2Mbps >

Hopping Mode Low Band Edge Plot



Hopping Mode High Band Edge Plot

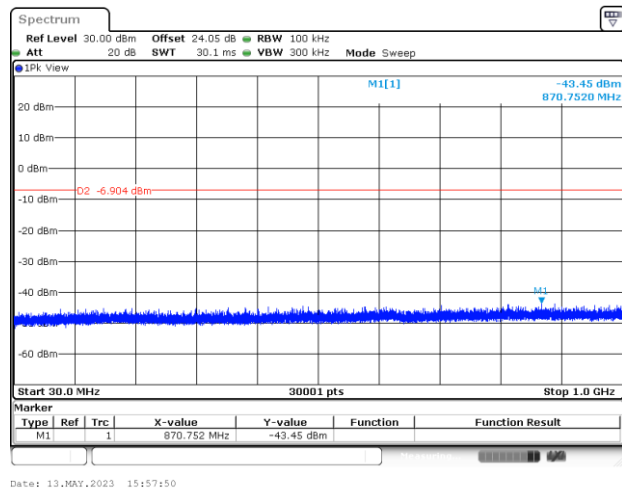




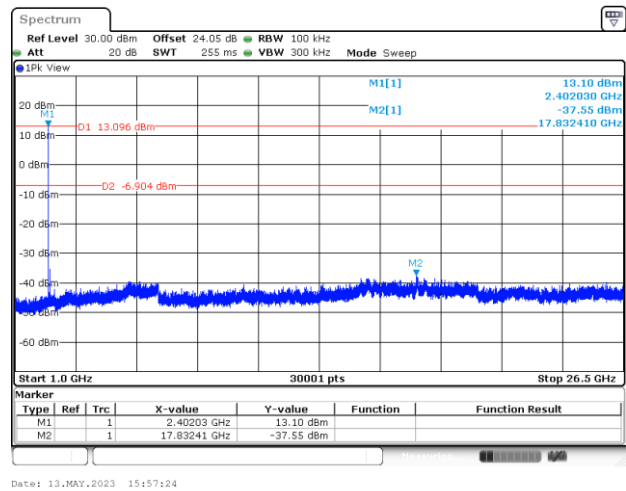
Spurious Emission

< HR 2Mbps >

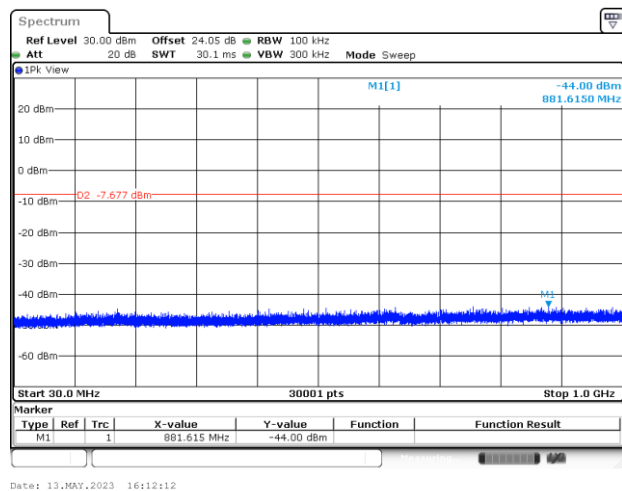
CSE Plot on Ch 00 between 30MHz ~ 1 GHz



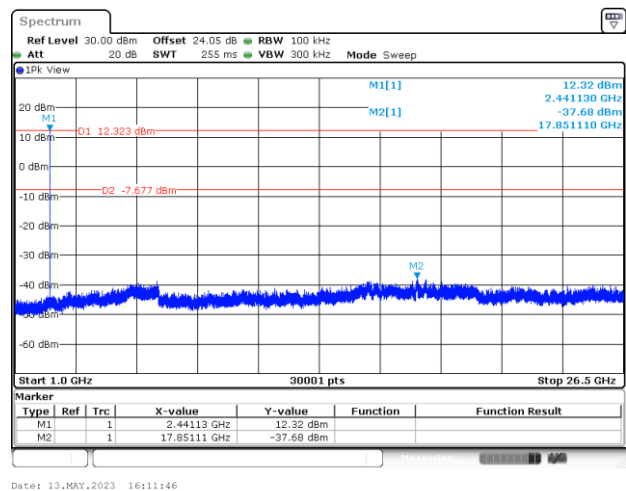
CSE Plot on Ch 00 between 1 GHz ~ 26.5 GHz



CSE Plot on Ch 39 between 30MHz ~ 1 GHz

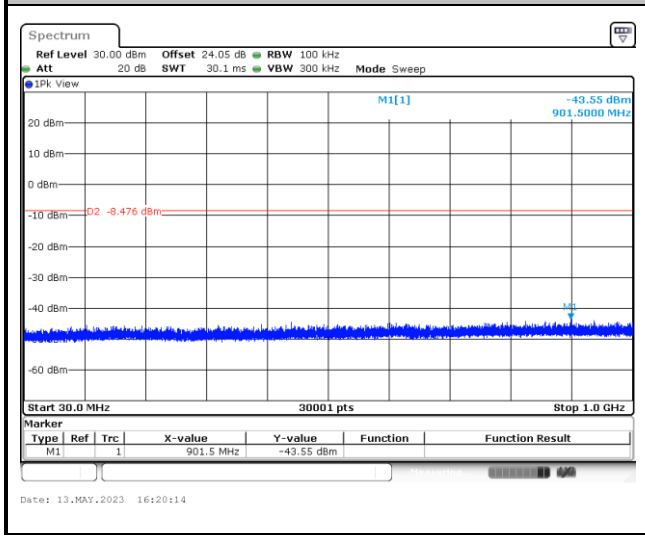


CSE Plot on Ch 39 between 1 GHz ~ 26.5 GHz

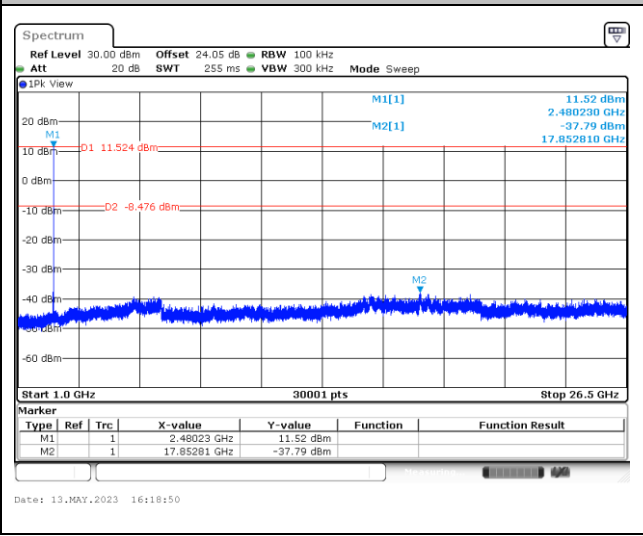




CSE Plot on Ch 78 between 30MHz ~ 1 GHz



CSE Plot on Ch 78 between 1 GHz ~ 26.5 GHz





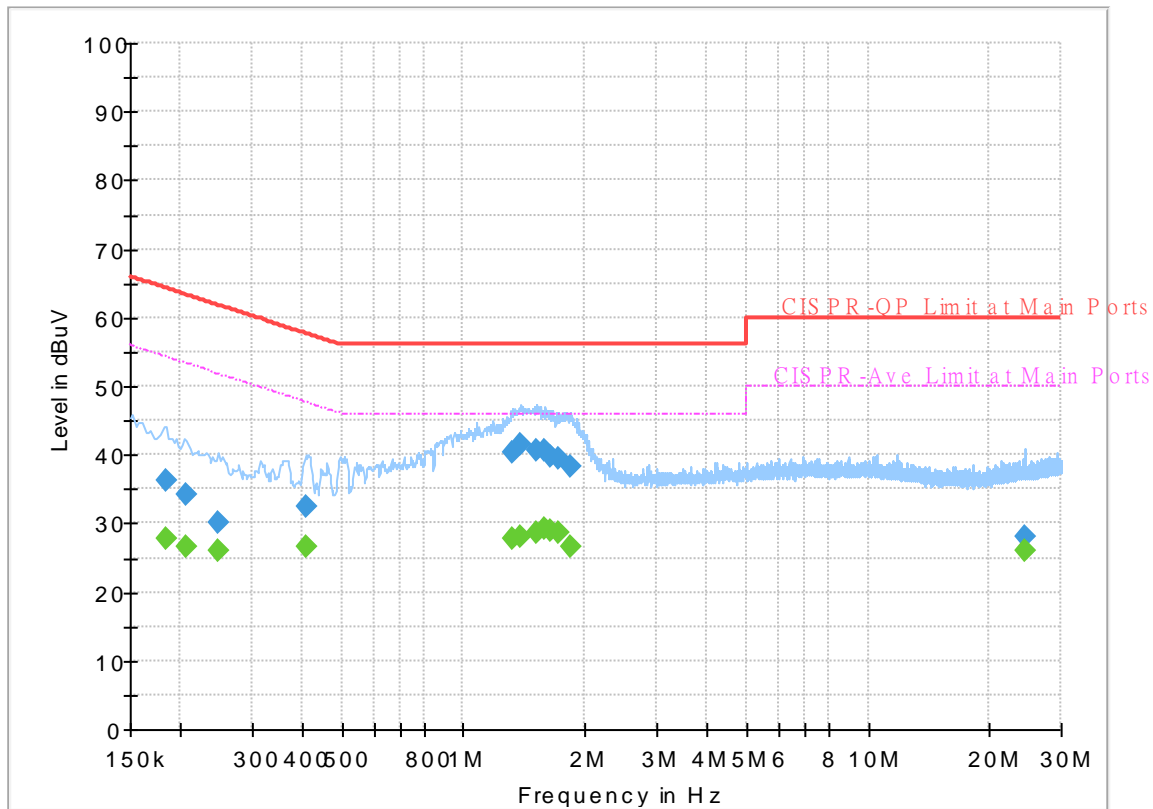
Appendix B. AC Conducted Emission Test Results

Test Engineer : Calvin Wang	Temperature : 23~26°C
	Relative Humidity : 45~55%

EUT Information

Report NO :
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Line

Full Spectrum



Final_Result

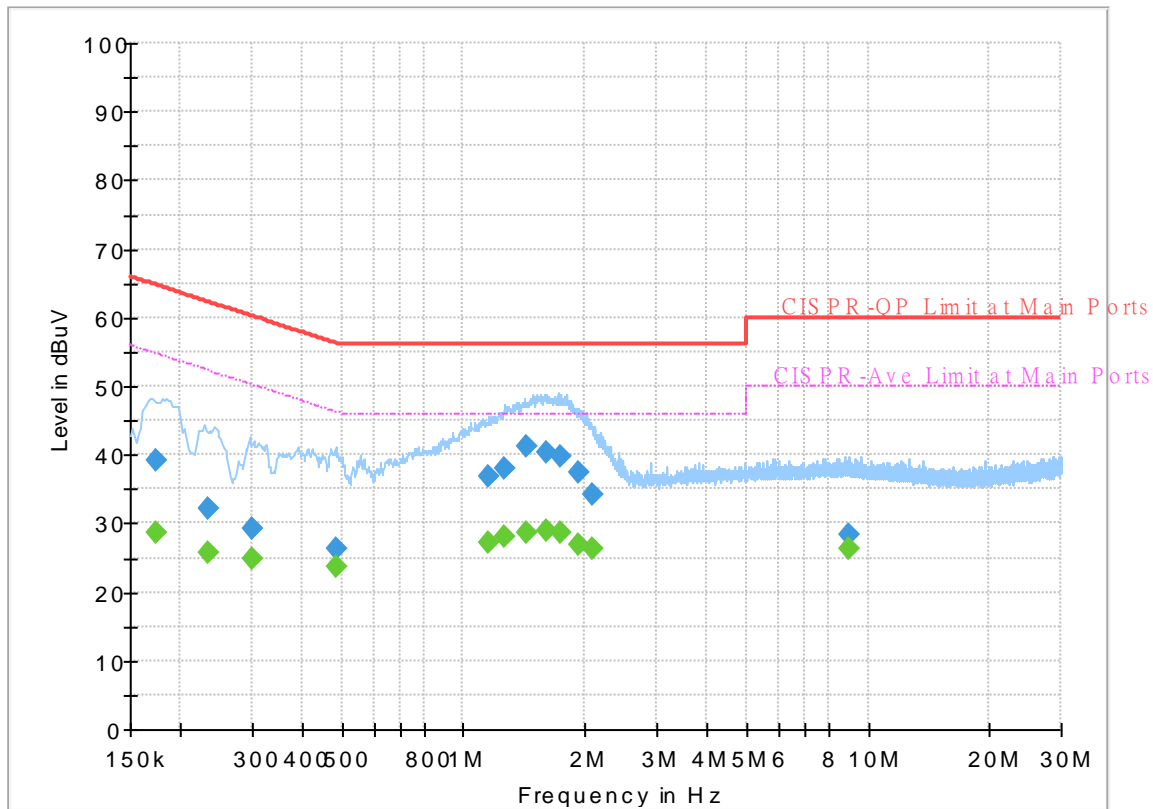
Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.183750	---	27.76	54.31	26.55	L1	OFF	19.9
0.183750	36.24	---	64.31	28.07	L1	OFF	19.9
0.206250	---	26.60	53.36	26.76	L1	OFF	19.9
0.206250	34.10	---	63.36	29.26	L1	OFF	19.9
0.249000	---	26.01	51.79	25.78	L1	OFF	19.9
0.249000	30.25	---	61.79	31.54	L1	OFF	19.9
0.408750	---	26.52	47.67	21.15	L1	OFF	19.9
0.408750	32.31	---	57.67	25.36	L1	OFF	19.9
1.324500	---	27.77	46.00	18.23	L1	OFF	19.9
1.324500	40.28	---	56.00	15.72	L1	OFF	19.9
1.387500	---	28.00	46.00	18.00	L1	OFF	19.9
1.387500	41.62	---	56.00	14.38	L1	OFF	19.9
1.511250	---	28.76	46.00	17.24	L1	OFF	19.9
1.511250	40.71	---	56.00	15.29	L1	OFF	19.9
1.594500	---	29.33	46.00	16.67	L1	OFF	19.9
1.594500	40.55	---	56.00	15.45	L1	OFF	19.9
1.641750	---	29.08	46.00	16.92	L1	OFF	19.9
1.641750	39.79	---	56.00	16.21	L1	OFF	19.9
1.716000	---	28.59	46.00	17.41	L1	OFF	19.9
1.716000	39.47	---	56.00	16.53	L1	OFF	19.9
1.833000	---	26.60	46.00	19.40	L1	OFF	19.9

1.833000	38.41	---	56.00	17.59	L1	OFF	19.9
24.319500	---	26.12	50.00	23.88	L1	OFF	20.6
24.319500	27.99	---	60.00	32.01	L1	OFF	20.6

EUT Information

Report NO :
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.174750	---	28.76	54.73	25.97	N	OFF	19.9
0.174750	39.20	---	64.73	25.53	N	OFF	19.9
0.233250	---	25.83	52.33	26.50	N	OFF	19.9
0.233250	32.18	---	62.33	30.15	N	OFF	19.9
0.300750	---	24.97	50.22	25.25	N	OFF	19.9
0.300750	29.13	---	60.22	31.09	N	OFF	19.9
0.483180	---	23.71	46.28	22.57	N	OFF	19.9
0.483180	26.26	---	56.28	30.02	N	OFF	19.9
1.155750	---	27.17	46.00	18.83	N	OFF	19.9
1.155750	36.97	---	56.00	19.03	N	OFF	19.9
1.261770	---	28.00	46.00	18.00	N	OFF	19.9
1.261770	38.13	---	56.00	17.87	N	OFF	19.9
1.428990	---	28.80	46.00	17.20	N	OFF	19.9
1.428990	41.27	---	56.00	14.73	N	OFF	19.9
1.599090	---	28.83	46.00	17.17	N	OFF	19.9
1.599090	40.44	---	56.00	15.56	N	OFF	19.9
1.744800	---	28.65	46.00	17.35	N	OFF	19.9
1.744800	39.71	---	56.00	16.29	N	OFF	19.9
1.931640	---	26.95	46.00	19.05	N	OFF	19.9
1.931640	37.52	---	56.00	18.48	N	OFF	19.9
2.096250	---	26.24	46.00	19.76	N	OFF	19.9

2.096250	34.08	---	56.00	21.92	N	OFF	19.9
8.922750	---	26.20	50.00	23.80	N	OFF	20.2
8.922750	28.29	---	60.00	31.71	N	OFF	20.2



Appendix C. Radiated Spurious Emission

Test Engineer :	Hao Qun , Gary Guo and Steven Wu	Temperature :	20~25°C
		Relative Humidity :	50~65%

<BR+EDR Ant. 3>

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH00 2402MHz		2324.7	54.41	-19.59	74	40.53	27.15	17.22	30.49	279	24	P	H	
		2324.7	29.65	-24.35	54	-	-	-	-	-	-	A	H	
	*	2402	110.65	-	-	96.33	27.4	17.38	30.46	279	24	P	H	
	*	2402	85.89	-	-	-	-	-	-	-	-	A	H	
													H	
														H
			2326.38	54.11	-19.89	74	40.23	27.14	17.23	30.49	157	85	P	V
			2326.38	29.35	-24.65	54	-	-	-	-	-	-	A	V
	*		2402	111.9	-	-	97.58	27.4	17.38	30.46	157	85	P	V
	*		2402	87.14	-	-	-	-	-	-	-	-	A	V
														V
														V
BT CH 39 2441MHz		2383.22	53.9	-20.1	74	39.7	27.33	17.34	30.47	303	29	P	H	
		2383.22	29.14	-24.86	54	-	-	-	-	-	-	A	H	
	*	2441	112.29	-	-	97.7	27.6	17.44	30.45	303	29	P	H	
	*	2441	87.53	-	-	-	-	-	-	-	-	A	H	
			2488.73	54.88	-19.12	74	40.01	27.79	17.51	30.43	303	29	P	H
			2488.73	30.12	-23.88	54	-	-	-	-	-	-	A	H
			2352.98	53.18	-20.82	74	39.18	27.2	17.28	30.48	212	84	P	V
			2352.98	28.42	-25.58	54	-	-	-	-	-	-	A	V
	*		2441	113.69	-	-	99.1	27.6	17.44	30.45	212	84	P	V
	*		2441	88.93	-	-	-	-	-	-	-	-	A	V
			2493.21	55.07	-18.93	74	40.18	27.8	17.52	30.43	212	84	P	V
			2493.21	30.31	-23.69	54	-	-	-	-	-	-	A	V



BT	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 78 2480MHz	*	2480	113.38	-	-	98.62	27.7	17.5	30.44	292	26	P	H	
	*	2480	88.62	-	-	-	-	-	-	-	-	A	H	
		2485.08	55.72	-18.28	74	40.89	27.75	17.51	30.43	292	26	P	H	
		2485.08	30.96	-23.04	54	-	-	-	-	-	-	A	H	
													H	
													H	
	*	2480	113.69	-	-	98.93	27.7	17.5	30.44	239	86	P	V	
	*	2480	88.93	-	-	-	-	-	-	-	-	-	A	V
		2485.56	55.91	-18.09	74	41.07	27.76	17.51	30.43	239	86	P	V	
		2485.56	31.15	-22.85	54	-	-	-	-	-	-	A	V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



2.4GHz 2400~2483.5MHz
BT (Harmonic @ 3m)

BT	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 00 2402MHz		4804	43.76	-30.24	74	66.79	32.32	11.3	66.65	257	121	P	H	
		4804	19	-35	54	-	-	-	-	-	-	A	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			4804	40.27	-33.73	74	63.3	32.32	11.3	66.65	-	-	P	V
			4804	15.51	-38.49	54	-	-	-	-	-	-	A	V
														V
														V
														V
														V
														V
														V
													V	
													V	



<BR+EDR Ant.4>

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
BT CH00 2402MHz		2368.695	54.27	-19.73	74	40.23	27.2	17.31	30.47	100	142	P	H	
		2368.695	29.51	-24.49	54	-	-	-	-	-	-	A	H	
	*	2402	108.68	-	-	94.36	27.4	17.38	30.46	100	142	P	H	
	*	2402	83.92	-	-	-	-	-	-	-	-	A	H	
													H	
													H	
			2384.235	54.18	-19.82	74	39.96	27.34	17.35	30.47	154	269	P	V
			2384.235	29.42	-24.58	54	-	-	-	-	-	-	A	V
	*		2402	115.84	-	-	101.52	27.4	17.38	30.46	154	269	P	V
	*		2402	91.08	-	-	-	-	-	-	-	-	A	V
													V	
													V	
BT CH 39 2441MHz		2387.56	54.6	-19.4	74	40.34	27.38	17.35	30.47	118	141	P	H	
		2387.56	29.84	-24.16	54	-	-	-	-	-	-	A	H	
	*	2441	107.33	-	-	92.74	27.6	17.44	30.45	118	141	P	H	
	*	2441	82.57	-	-	-	-	-	-	-	-	A	H	
			2491.67	55.48	-18.52	74	40.59	27.8	17.52	30.43	118	141	P	H
			2491.67	30.72	-23.28	54	-	-	-	-	-	-	A	H
			2381.26	54.16	-19.84	74	39.98	27.31	17.34	30.47	100	249	P	V
			2381.26	29.4	-24.6	54	-	-	-	-	-	-	A	V
	*		2441	113.59	-	-	99	27.6	17.44	30.45	100	249	P	V
	*		2441	88.83	-	-	-	-	-	-	-	-	A	V
			2495.45	55.16	-18.84	74	40.27	27.8	17.52	30.43	100	249	P	V
			2495.45	30.4	-23.6	54	-	-	-	-	-	-	A	V



BT	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 78 2480MHz	*	2480	108.2	-	-	93.44	27.7	17.5	30.44	112	139	P	H	
	*	2480	83.44	-	-	-	-	-	-	-	-	A	H	
		2489.8	55	-19	74	40.12	27.8	17.51	30.43	112	139	P	H	
		2489.8	30.24	-23.76	54	-	-	-	-	-	-	A	H	
													H	
														H
	*	2480	114.87	-	-	100.11	27.7	17.5	30.44	112	258	P	V	
	*	2480	90.11	-	-	-	-	-	-	-	-	-	A	V
		2483.72	55.46	-18.54	74	40.65	27.74	17.51	30.44	112	258	P	V	
		2483.72	30.7	-23.3	54	-	-	-	-	-	-	A	V	
														V
														V
	Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
BT (Harmonic @ 3m)

BT	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 00 2402MHz		4804	44.07	-29.93	74	67.1	32.32	11.3	66.65	225	125	P	H	
		4804	19.31	-34.69	54	-	-	-	-	-	-	A	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			4804	43.3	-30.7	74	66.33	32.32	11.3	66.65	100	91	P	V
			4804	18.54	-35.46	54	-	-	-	-	-	-	A	V
														V
														V
														V
														V
														V
														V
														V



<HR 2Mbps Ant. 3>

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
BT CH00 2402MHz		2338.035	53.76	-20.24	74	39.81	27.18	17.25	30.48	281	22	P	H	
		2338.035	29.09	-24.91	54	-	-		-	-	-	A	H	
	*	2402	112.84	-	-	98.52	27.4	17.38	30.46	281	22	P	H	
	*	2402	88.17	-	-	-	-		-	-	-	A	H	
													H	
													H	
			2316.09	54.18	-19.82	74	40.27	27.2	17.2	30.49	216	96	P	V
			2316.09	29.51	-24.49	54	-	-		-	-	-	A	V
	*		2402	113.56	-	-	99.24	27.4	17.38	30.46	216	96	P	V
	*		2402	88.89	-	-	-	-		-	-	-	A	V
													V	
													V	
BT CH 39 2441MHz		2313.92	54.03	-19.97	74	40.12	27.2	17.2	30.49	274	24	P	H	
		2313.92	29.36	-24.64	54	-	-	-	-	-	-	A	H	
	*	2441	114.71	-	-	100.12	27.6	17.44	30.45	274	24	P	H	
	*	2441	90.04	-	-	-	-	-	-	-	-	A	H	
			2491.81	55.01	-18.99	74	40.12	27.8	17.52	30.43	274	24	P	H
			2491.81	30.34	-23.66	54	-	-	-	-	-	-	A	H
			2362.5	53.56	-20.44	74	39.53	27.2	17.3	30.47	211	73	P	V
			2362.5	28.89	-25.11	54	-	-	-	-	-	-	A	V
	*		2441	115.31	-	-	100.72	27.6	17.44	30.45	211	73	P	V
	*		2441	90.64	-	-	-	-	-	-	-	-	A	V
			2490.62	55.52	-18.48	74	40.63	27.8	17.52	30.43	211	73	P	V
			2490.62	30.85	-23.15	54	-	-	-	-	-	-	A	V



BT	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 78 2480MHz	*	2480	114.58	-	-	99.82	27.7	17.5	30.44	291	23	P	H	
	*	2480	89.91	-	-	-	-	-	-	-	-	A	H	
		2483.6	54.72	-19.28	74	39.91	27.74	17.51	30.44	291	23	P	H	
		2483.6	30.05	-23.95	54	-	-	-	-	-	-	A	H	
													H	
													H	
	*	2480	114.29	-	-	99.53	27.7	17.5	30.44	175	70	P	V	
	*	2480	89.62	-	-	-	-	-	-	-	-	-	A	V
		2484	55.78	-18.22	74	40.97	27.74	17.51	30.44	175	70	P	V	
		2484	31.11	-22.89	54	-	-	-	-	-	-	A	V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



2.4GHz 2400~2483.5MHz
BT (Harmonic @ 3m)

BT	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 00 2402MHz		4804	44.21	-29.79	74	67.24	32.32	11.3	66.65	262	121	P	H	
		4804	19.45	-34.55	54	-	-	-	-	-	-	A	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			4804	44.07	-29.93	74	67.1	32.32	11.3	66.65	400	77	P	V
			4804	19.31	-34.69	54	-	-	-	-	-	-	A	V
														V
														V
														V
														V
														V
														V
														V
													V	



<HR 2Mbps Ant. 4>

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
BT CH00 2402MHz		2388.435	54.61	-19.39	74	40.34	27.38	17.36	30.47	100	143	P	H	
		2388.435	29.94	-24.06	54	-	-	-	-	-	-	A	H	
	*	2402	110.15	-	-	95.83	27.4	17.38	30.46	100	143	P	H	
	*	2402	85.48	-	-	-	-	-	-	-	-	A	H	
													H	
													H	
			2321.445	53.89	-20.11	74	39.97	27.19	17.22	30.49	152	264	P	V
			2321.445	29.22	-24.78	54	-	-	-	-	-	-	A	V
	*		2402	117.15	-	-	102.83	27.4	17.38	30.46	152	264	P	V
	*		2402	92.48	-	-	-	-	-	-	-	-	A	V
													V	
													V	
BT CH 39 2441MHz		2335.62	53.83	-20.17	74	39.91	27.16	17.24	30.48	118	141	P	H	
		2335.62	29.16	-24.84	54	-	-	-	-	-	-	A	H	
	*	2441	108.93	-	-	94.34	27.6	17.44	30.45	118	141	P	H	
	*	2441	84.26	-	-	-	-	-	-	-	-	A	H	
			2497.27	54.63	-19.37	74	39.73	27.8	17.53	30.43	118	141	P	H
			2497.27	29.96	-24.04	54	-	-	-	-	-	-	A	H
			2373.28	54.29	-19.71	74	40.21	27.23	17.32	30.47	100	267	P	V
			2373.28	29.62	-24.38	54	-	-	-	-	-	-	A	V
	*		2441	114.9	-	-	100.31	27.6	17.44	30.45	100	267	P	V
	*		2441	90.23	-	-	-	-	-	-	-	-	A	V
			2486.42	54.87	-19.13	74	40.03	27.76	17.51	30.43	100	267	P	V
			2486.42	30.2	-23.8	54	-	-	-	-	-	-	A	V



BT	Note	Frequency (MHz)	Level (dBµV/m)	Margin (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 78 2480MHz	*	2480	110.27	-	-	95.51	27.7	17.5	30.44	110	139	P	H	
	*	2480	85.6	-	-	-	-	-	-	-	-	A	H	
		2484.52	55.34	-18.66	74	40.51	27.75	17.51	30.43	110	139	P	H	
		2484.52	30.67	-23.33	54	-	-	-	-	-	-	A	H	
													H	
													H	
	*	2480	116.56	-	-	101.8	27.7	17.5	30.44	112	268	P	V	
	*	2480	91.89	-	-	-	-	-	-	-	-	-	A	V
		2491.96	55.78	-18.22	74	40.89	27.8	17.52	30.43	112	268	P	V	
		2491.96	31.11	-22.89	54	-	-	-	-	-	-	A	V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



<TXBF BR+EDR Ant. 3+4>

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
BT CH00 2402MHz		2389.695	54.97	-19.03	74	40.68	27.4	17.36	30.47	239	15	P	H	
		2389.695	30.18	-23.82	54	-	-	-	-	-	-	A	H	
	*	2402	111.36	-	-	97.04	27.4	17.38	30.46	239	15	P	H	
	*	2402	86.57	-	-	-	-	-	-	-	-	A	H	
													H	
													H	
			2316.72	53.92	-20.08	74	40	27.2	17.21	30.49	123	239	P	V
			2316.72	29.13	-24.87	54	-	-	-	-	-	-	A	V
	*		2402	114.97	-	-	100.65	27.4	17.38	30.46	123	239	P	V
	*		2402	90.18	-	-	-	-	-	-	-	-	A	V
													V	
													V	
BT CH 39 2441MHz		2316.44	54.1	-19.9	74	40.19	27.2	17.2	30.49	157	143	P	H	
		2316.44	29.31	-24.69	54	-	-	-	-	-	-	A	H	
	*	2441	111.55	-	-	96.96	27.6	17.44	30.45	157	143	P	H	
	*	2441	86.76	-	-	-	-	-	-	-	-	A	H	
			2493.7	54.66	-19.34	74	39.77	27.8	17.52	30.43	157	143	P	H
			2493.7	29.87	-24.13	54	-	-	-	-	-	-	A	H
			2381.96	54.15	-19.85	74	39.96	27.32	17.34	30.47	100	239	P	V
			2381.96	29.36	-24.64	54	-	-	-	-	-	-	A	V
	*		2441	114.9	-	-	100.31	27.6	17.44	30.45	100	239	P	V
	*		2441	90.11	-	-	-	-	-	-	-	-	A	V
			2485.3	54.89	-19.11	74	40.06	27.75	17.51	30.43	100	239	P	V
			2485.3	30.1	-23.9	54	-	-	-	-	-	-	A	V



BT	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 78 2480MHz	*	2480	112.17	-	-	97.41	27.7	17.5	30.44	293	142	P	H	
	*	2480	87.38	-	-	-	-	-	-	-	-	A	H	
		2489.84	54.9	-19.1	74	40.02	27.8	17.51	30.43	293	142	P	H	
		2489.84	30.11	-23.89	54	-	-	-	-	-	-	A	H	
													H	
													H	
	*	2480	113.32	-	-	98.56	27.7	17.5	30.44	127	76	P	V	
	*	2480	88.53	-	-	-	-	-	-	-	-	-	A	V
		2493	55.13	-18.87	74	40.24	27.8	17.52	30.43	127	76	P	V	
		2493	30.34	-23.66	54	-	-	-	-	-	-	A	V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



<TXBF HR 2Mbps Ant.3+4>

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
BT CH00 2402MHz		2379.825	53.83	-20.17	74	39.66	27.3	17.34	30.47	238	146	P	H	
		2379.825	29.16	-24.84	54	-	-	-	-	-	-	A	H	
	*	2402	110.09	-	-	95.77	27.4	17.38	30.46	238	146	P	H	
	*	2402	85.42	-	-	-	-	-	-	-	-	A	H	
													H	
													H	
			2366.595	54.15	-19.85	74	40.11	27.2	17.31	30.47	123	239	P	V
			2366.595	29.48	-24.52	54	-	-	-	-	-	-	A	V
	*		2402	114.36	-	-	100.04	27.4	17.38	30.46	123	239	P	V
	*		2402	89.69	-	-	-	-	-	-	-	-	A	V
													V	
													V	
BT CH 39 2441MHz		2388.26	54.02	-19.98	74	39.75	27.38	17.36	30.47	237	144	P	H	
		2388.26	29.35	-24.65	54	-	-	-	-	-	-	A	H	
	*	2441	111.8	-	-	97.21	27.6	17.44	30.45	237	144	P	H	
	*	2441	87.13	-	-	-	-	-	-	-	-	A	H	
			2490.55	54.68	-19.32	74	39.79	27.8	17.52	30.43	237	144	P	H
			2490.55	30.01	-23.99	54	-	-	-	-	-	-	A	H
			2388.68	53.82	-20.18	74	39.54	27.39	17.36	30.47	100	242	P	V
			2388.68	29.15	-24.85	54	-	-	-	-	-	-	A	V
	*		2441	114.58	-	-	99.99	27.6	17.44	30.45	100	242	P	V
	*		2441	89.91	-	-	-	-	-	-	-	-	A	V
			2493.21	54.48	-19.52	74	39.59	27.8	17.52	30.43	100	242	P	V
			2493.21	29.81	-24.19	54	-	-	-	-	-	-	A	V



BT	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
BT CH 78 2480MHz	*	2480	112.7	-	-	97.94	27.7	17.5	30.44	292	145	P	H	
	*	2480	88.03	-	-	-	-	-	-	-	-	A	H	
		2483.52	55.26	-18.74	74	40.45	27.74	17.51	30.44	292	145	P	H	
		2483.52	30.59	-23.41	54	-	-	-	-	-	-	A	H	
													H	
													H	
	*	2480	113.91	-	-	99.15	27.7	17.5	30.44	127	234	P	V	
	*	2480	89.24	-	-	-	-	-	-	-	-	-	A	V
		2484	55.35	-18.65	74	40.54	27.74	17.51	30.44	127	234	P	V	
		2484	30.68	-23.32	54	-	-	-	-	-	-	A	V	
													V	
													V	
	Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
BT (Harmonic @ 3m)

BT	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
BT CH 00 2402MHz		4804	42.65	-31.35	74	65.68	32.32	11.3	66.65	-	-	P	H
		4804	17.98	-36.02	54	-	-	-	-	-	-	A	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
			4804	40.95	-33.05	74	63.98	32.32	11.3	66.65	-	-	P
		4804	16.28	-37.72	54	-	-	-	-	-	-	A	V
													V
													V
													V
													V
													V
													V
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													V
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													V
													V



Emission below 1GHz

2.4GHz BT (LF)

BT	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
2.4GHz BT LF		40.8	24.98	-15.02	40	37.54	18.98	0.71	32.25	-	-	P	H	
		97.77	31.64	-11.86	43.5	46.72	15.65	1.51	32.24	-	-	P	H	
		158.79	26.71	-16.79	43.5	40.41	16.66	1.93	32.29	-	-	P	H	
		389.6	22.05	-23.95	46	29.93	21.49	3.03	32.4	-	-	P	H	
		607.3	27.23	-18.77	46	30.69	25.33	3.83	32.62	-	-	P	H	
		897.8	29.99	-16.01	46	28.5	28.57	4.67	31.75	-	-	P	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			40.8	31.5	-8.5	40	44.06	18.98	0.71	32.25	-	-	P	V
			95.88	24.64	-18.86	43.5	40.07	15.34	1.48	32.25	-	-	P	V
			159.6	30.15	-13.35	43.5	43.92	16.58	1.94	32.29	-	-	P	V
			378.4	22.47	-23.53	46	30.79	21.11	2.98	32.41	-	-	P	V
			641.6	27.84	-18.16	46	30.57	25.96	3.92	32.61	-	-	P	V
			943.3	32.87	-13.13	46	29.44	30.02	4.8	31.39	-	-	P	V
													V	
												V		
												V		
												V		
												V		
												V		

Remark

- No other spurious found.
- All results are PASS against limit line.
- The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical



A calculation example for radiated spurious emission is shown as below:

BT	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
	(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 00 2402MHz	2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =
Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Margin (dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
= 55.45 (dBμV/m)
2. Margin (dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 55.45(dBμV/m) – 74(dBμV/m)
= -18.55(dB)

Peak measured complies with the limit line, so test result is “PASS”.



Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Hao Qun , Gary Guo and Steven Wu	Temperature :	20~25°C
		Relative Humidity :	50~65%

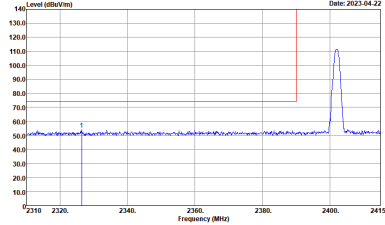
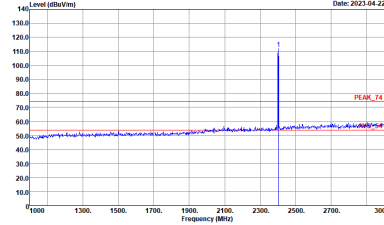
<BR+EDR Ant. 3>

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
	BT CH00 2402MHz	
	Horizontal	Fundamental
Peak	<p>Site : 03CH16-HY Condition : PEAK_BE_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH16-HY Condition : PEAK_74 3m 91200_1522_230323 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>



BT	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
BT CH00 2402MHz		
	Vertical	Fundamental
Peak	 <p data-bbox="427 667 694 703">Site : 03CH16-11Y Condition : PEAK_BE_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p data-bbox="898 667 1165 703">Site : 03CH16-11Y Condition : PEAK_74 3m 91200_1522_230323 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>