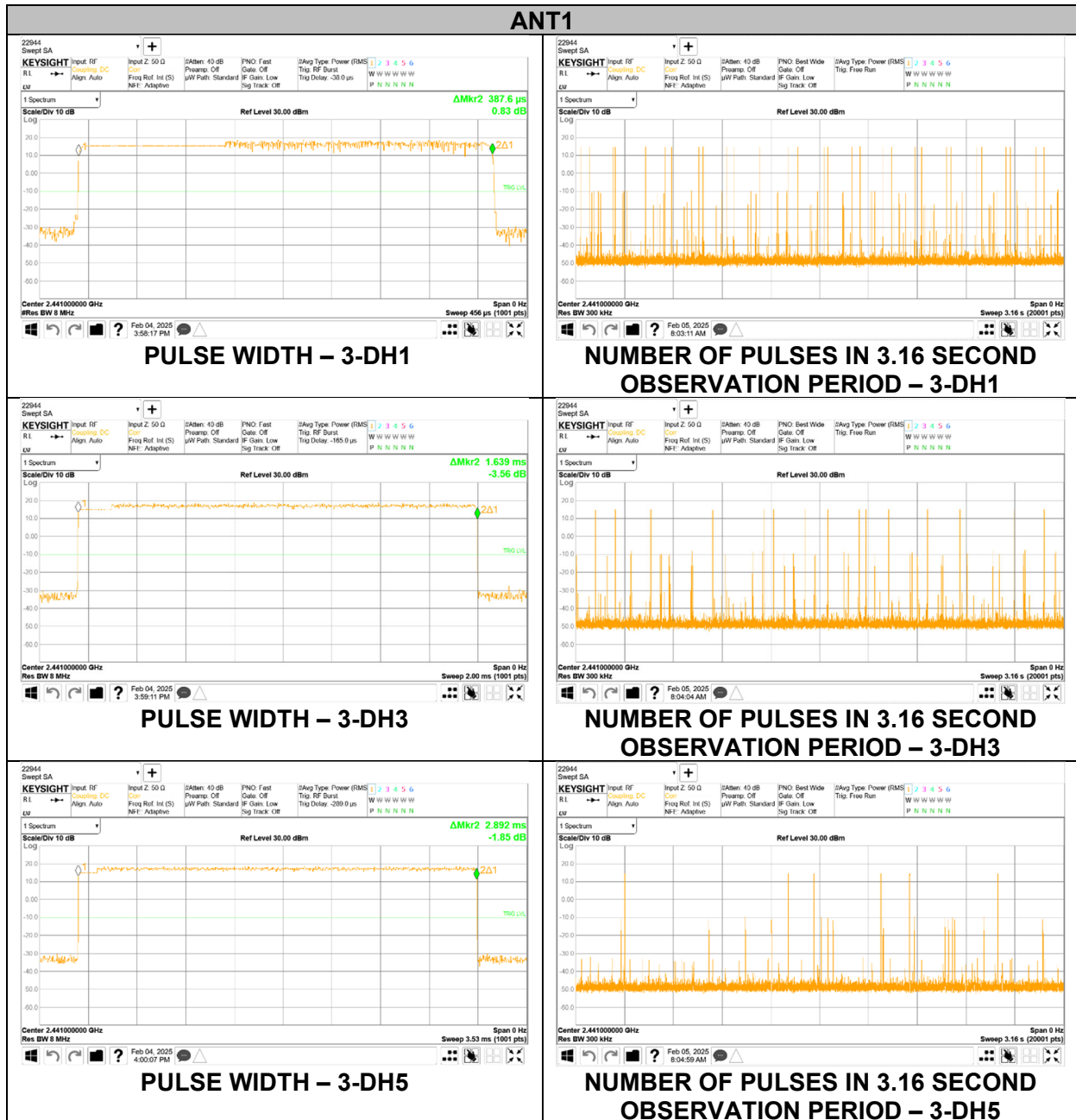
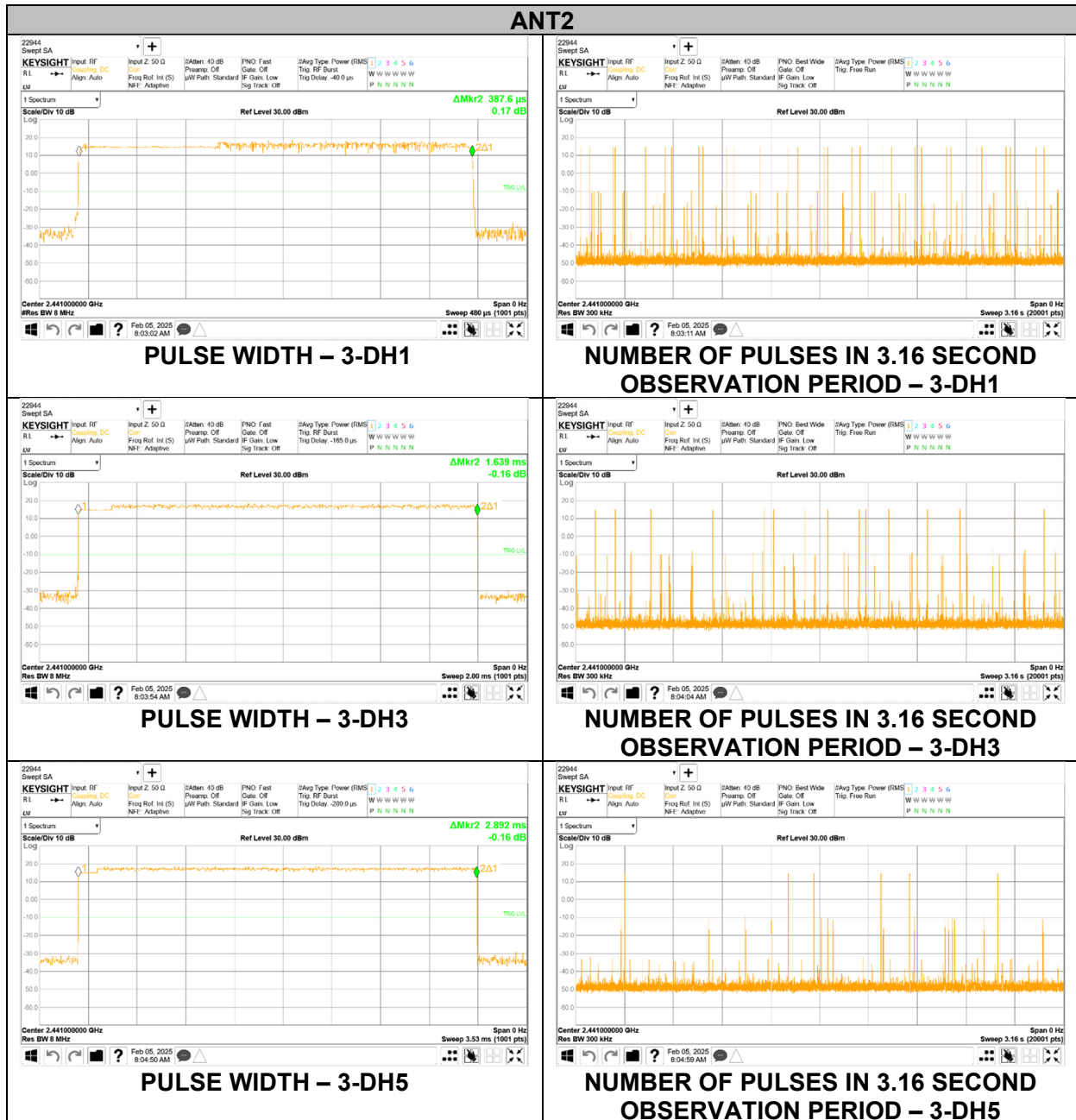




DH Packet	Pulse Width [msec]	Number of Pulses in 3.16 seconds	Average Time of Occupancy [sec]	Limit [sec]	Margin [sec]
8PSK Normal ANT2					
DH1	0.388	31	0.120	0.4	-0.280
DH3	1.639	15	0.246	0.4	-0.154
DH5	2.892	6	0.174	0.4	-0.226
DH Packet	Pulse Width [msec]	Number of Pulses in 0.8 seconds	Average Time of Occupancy [sec]	Limit [sec]	Margin [sec]
8PSK AFH ANT2					
DH1	0.388	8	0.031	0.4	-0.369
DH3	1.639	4	0.066	0.4	-0.334
DH5	2.892	2	0.058	0.4	-0.342



9.6. OUTPUT POWER

LIMITS

§15.247 (b) (1)

The peak conducted output power limit is 0.125 W (21 dBm) since Bluetooth AFH mode can be used at least 20 non-overlapping hopping channels.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer the analyzer bandwidth is set to a value greater than the 20 dB bandwidth of the EUT.

RESULTS

9.6.1. BASIC DATA RATE GFSK MODULATION

Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
ANT1	0	2 402	17.88	21.00	-3.12
	39	2 441	18.55		-2.45
	78	2 480	19.72		-1.28
ANT2	0	2 402	17.98		-3.02
	39	2 441	18.41		-2.59
	78	2 480	18.02		-2.98
Worst			19.72		-1.28

9.6.2. ENHANCED DATA RATE Pi/4-DPSK MODULATION

Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
ANT1	0	2 402	16.98	21.00	-4.02
	39	2 441	17.90		-3.10
	78	2 480	18.63		-2.37
ANT2	0	2 402	17.43		-3.57
	39	2 441	17.68		-3.32
	78	2 480	17.39		-3.61
Worst			18.63		-2.37

9.6.3. ENHANCED DATA RATE 8PSK MODULATION

Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
ANT1	0	2 402	17.61	21.00	-3.39
	39	2 441	18.52		-2.48
	78	2 480	19.21		-1.79
ANT2	0	2 402	18.10		-2.90
	39	2 441	18.26		-2.74
	78	2 480	18.23		-2.77
Worst			19.21		-1.79

9.6.4. BASIC DATA RATE GFSK MODULATION(DUAL)

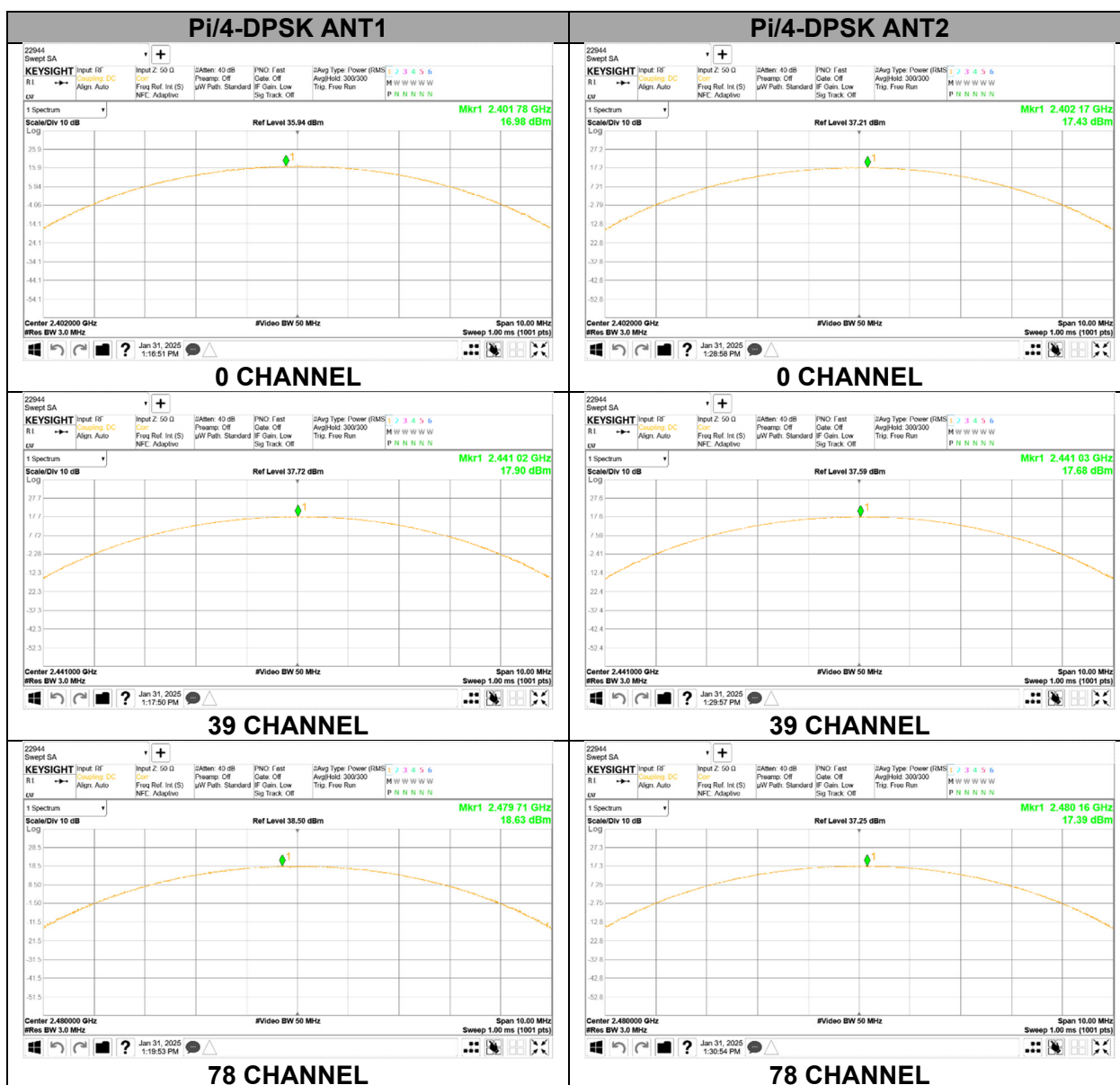
Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
DUAL ANT1	0	2 402	13.53	21.00	
	39	2 441	14.26		
	78	2 480	13.70		
DUAL ANT2	0	2 402	13.24		
	39	2 441	13.35		
	78	2 480	11.63		
DUAL ANT1+2	0	2 402	16.40		-4.60
	39	2 441	16.84		-4.16
	78	2 480	15.80		-5.20
Worst			16.84		-4.16

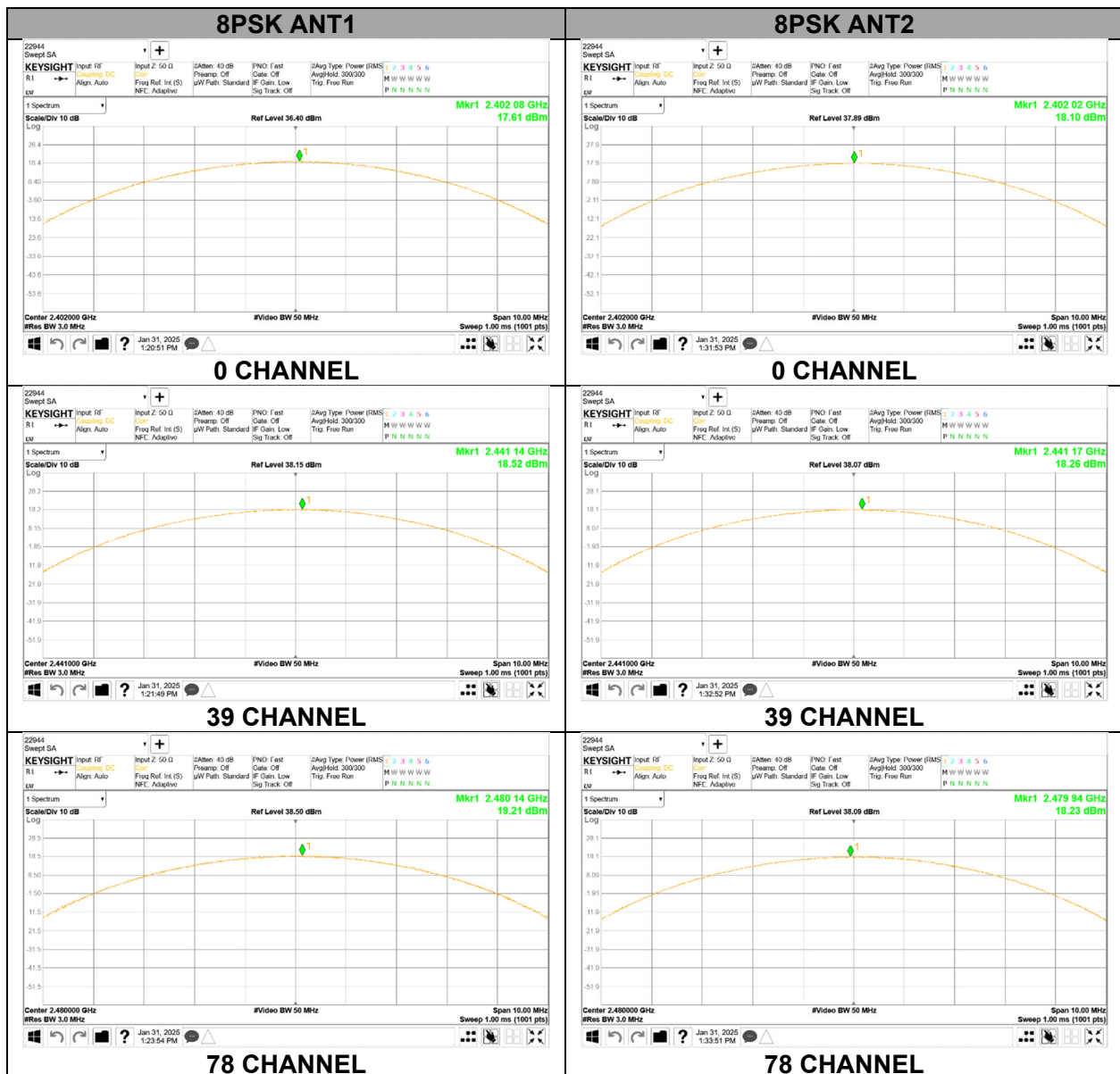
9.6.1. ENHANCED DATA RATE Pi/4-DPSK MODULATION(DUAL)

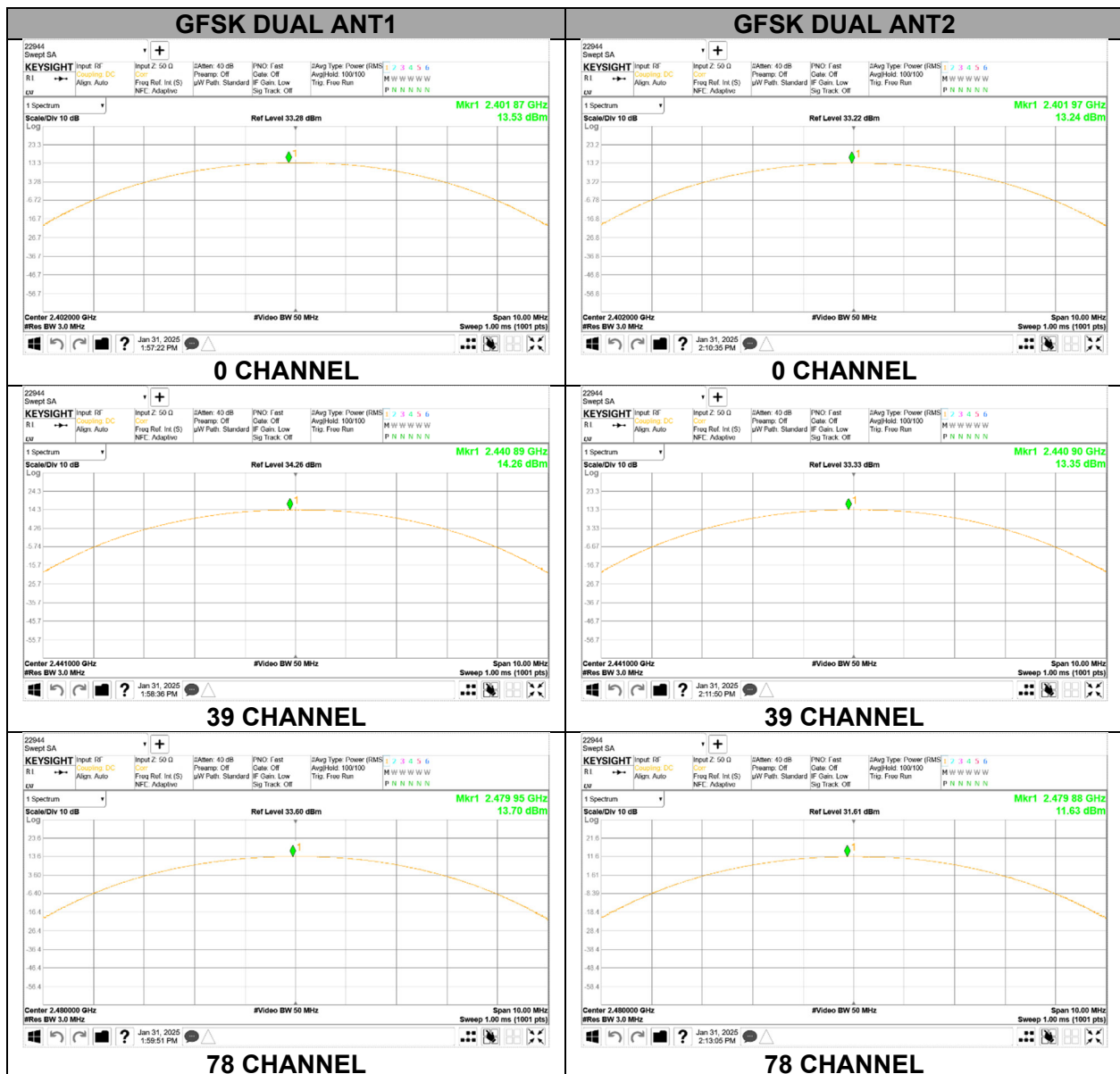
Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
DUAL ANT1	0	2 402	13.80	21.00	
	39	2 441	13.38		
	78	2 480	13.01		
DUAL ANT2	0	2 402	12.69		
	39	2 441	12.80		
	78	2 480	10.77		
DUAL ANT1+2	0	2 402	16.29		-4.71
	39	2 441	16.11		-4.89
	78	2 480	15.04		-5.96
Worst			16.29		-4.71

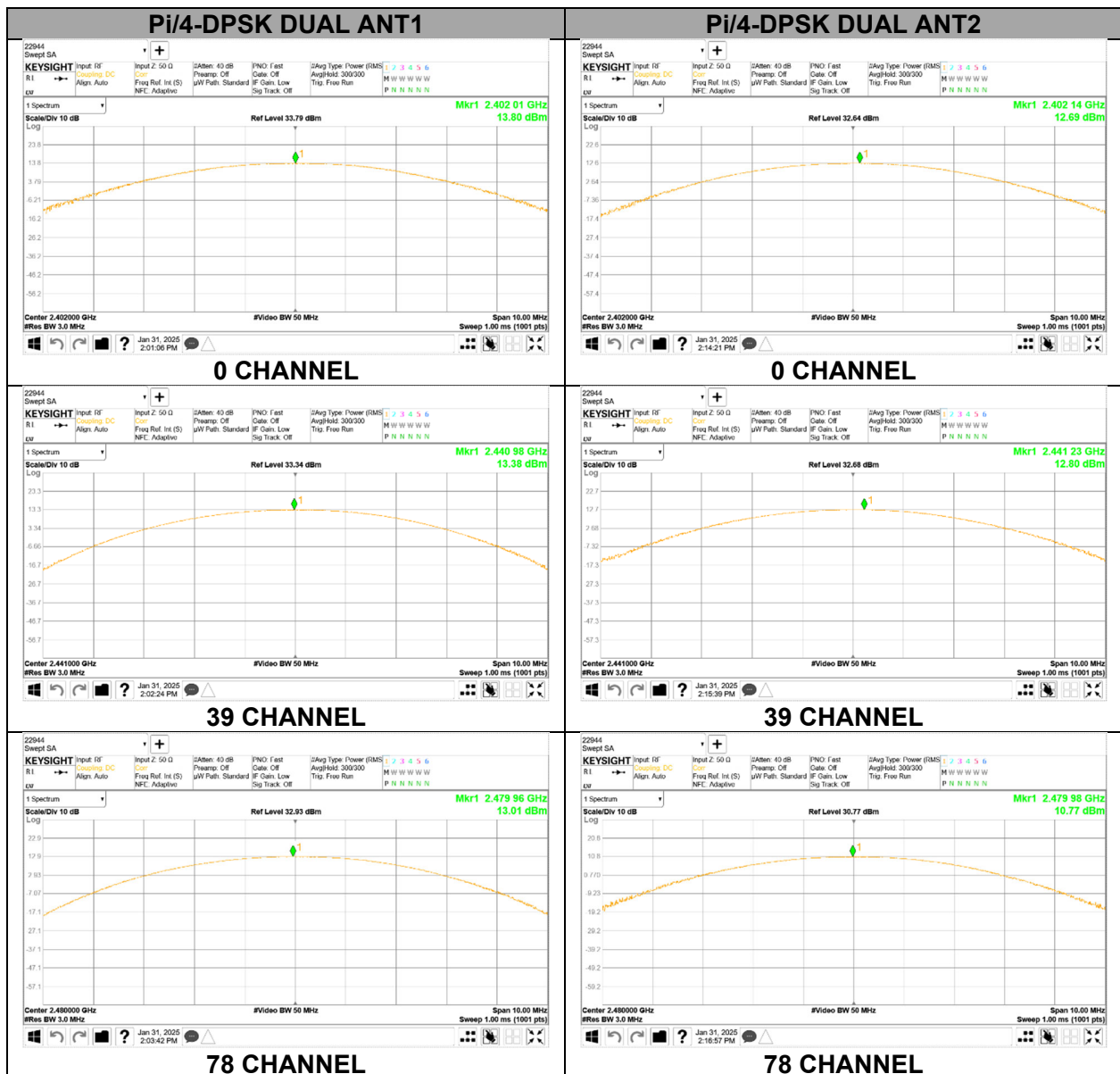
9.6.2. ENHANCED DATA RATE 8PSK MODULATION(DUAL)

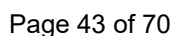
Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
DUAL ANT1	0	2 402	13.73	21.00	
	39	2 441	13.73		
	78	2 480	13.26		
DUAL ANT2	0	2 402	12.80		
	39	2 441	12.96		
	78	2 480	11.02		
DUAL ANT1+2	0	2 402	16.30		-4.70
	39	2 441	16.37		-4.63
	78	2 480	15.29		-5.71
Worst			16.37		-4.63











9.7. AVERAGE POWER

LIMITS

None; for reporting purposes only

TEST PROCEDURE

Measurements perform using a wideband gated RF power meter.
The cable assembly insertion loss was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

9.7.1. BASIC DATA RATE GFSK MODULATION

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
ANT1	0	2 402	17.721	59.170
	39	2 441	18.235	66.604
	78	2 480	18.461	70.162
ANT2	0	2 402	17.885	61.447
	39	2 441	18.038	63.650
	78	2 480	17.692	58.776

9.7.2. ENHANCED DATA RATE PI/4-DQPSK MODULATION

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
ANT1	0	2 402	14.380	27.416
	39	2 441	14.909	30.967
	78	2 480	15.162	32.825
ANT2	0	2 402	14.581	28.714
	39	2 441	14.768	29.978
	78	2 480	14.450	27.861

9.7.3. ENHANCED DATA RATE 8PSK MODULATION

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
ANT1	0	2 402	14.435	27.765
	39	2 441	14.690	29.444
	78	2 480	15.197	33.090
ANT2	0	2 402	14.637	29.087
	39	2 441	14.811	30.276
	78	2 480	14.500	28.184

9.7.4. BASIC DATA RATE GFSK MODULATION(DUAL)

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
DUAL ANT1	0	2 402	13.417	
	39	2 441	13.507	
	78	2 480	13.749	
DUAL ANT2	0	2 402	13.022	
	39	2 441	13.136	
	78	2 480	11.367	
DUAL ANT1+2	0	2 402	16.234	42.017
	39	2 441	16.336	43.011
	78	2 480	15.730	37.408

9.7.5. ENHANCED DATA RATE PI/4-DQPSK MODULATION(DUAL)

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
DUAL ANT1	0	2 402	11.351	
	39	2 441	10.477	
	78	2 480	10.730	
DUAL ANT2	0	2 402	10.237	
	39	2 441	10.487	
	78	2 480	8.575	
DUAL ANT1+2	0	2 402	13.840	24.210
	39	2 441	13.492	22.348
	78	2 480	12.795	19.032

9.7.6. ENHANCED DATA RATE 8PSK MODULATION(DUAL)

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
DUAL ANT1	0	2 402	11.395	
	39	2 441	10.453	
	78	2 480	10.708	
DUAL ANT2	0	2 402	10.208	
	39	2 441	10.448	
	78	2 480	8.498	
DUAL ANT1+2	0	2 402	13.852	24.279
	39	2 441	13.461	22.186
	78	2 480	12.752	18.847

9.8. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

Limit = -20 dBc

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

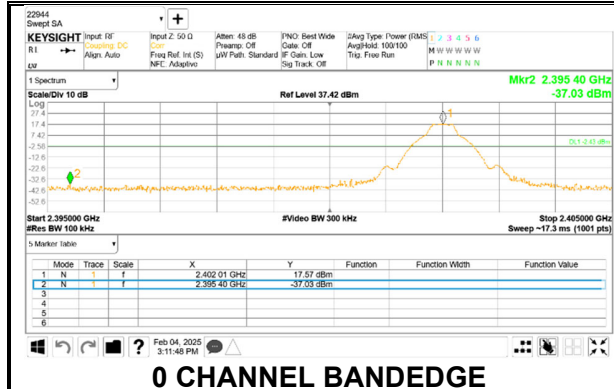
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

The band-edges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

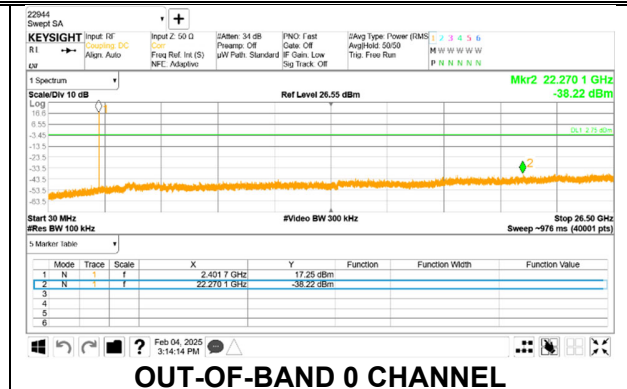
RESULTS

9.8.1. BLUETOOTH BASIC DATA RATE GFSK MODULATION

SPURIOUS EMISSIONS, NON-HOPPING – ANT1



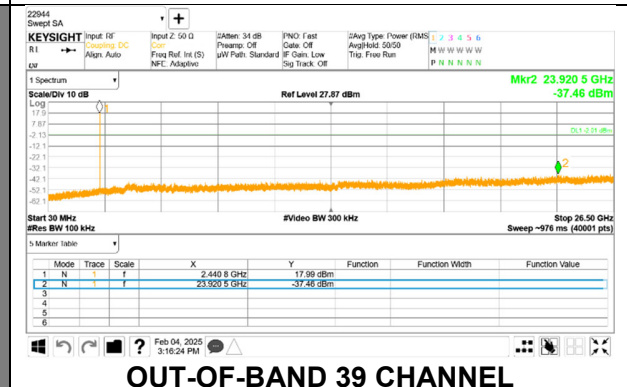
0 CHANNEL BANDEDGE



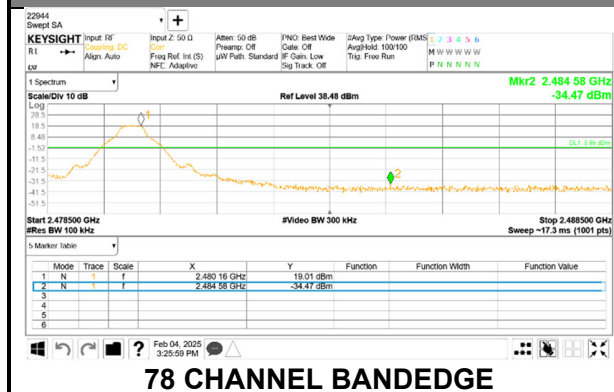
OUT-OF-BAND 0 CHANNEL



78 CHANNEL BANDEDGE



OUT-OF-BAND 39 CHANNEL



OUT-OF-BAND 78 CHANNEL

SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON – ANT1

