FUNDAMENTAL AND HARMONICS

DATA SHEETS

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/09/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Y-Axis - AC Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810.00	40.06	V	73.97	-33.91	Peak	145.75	175.56	
4810.00	21.83	V	53.97	-32.14	Avg	145.75	175.56	
7215.00								**Not in Restricted Band**
7215.00								**Done Via Conducted**
9620.00								**Not in Restricted Band**
9620.00								**Done Via Conducted**
12025.00	60.58	V	73.97	-13.39	Peak	123.25	127.38	
12025.00	42.35	V	53.97	-11.62	Avg	123.25	127.38	
14430.00								**No Emission**
14430.00								**Detected**
16835.00								**No Emission**
16835.00								**Detected**
19240.00								**No Emission**
19240.00								**Detected**
21645.00								**No Emission**
21645.00								**Detected**
24050.00								**No Emission**
24050.00								**Detected**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/09/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Y-Axis - AC Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810.00	44.39	H	73.97	-29.58	Peak	21.00	111.26	
4810.00	26.16	H	53.97	-27.81	Avg	21.00	111.26	
7215.00								**Not in Restricted Band**
7215.00								**Done Via Conducted**
9620.00								**Not in Restricted Band**
9620.00								**Done Via Conducted**
12025.00	60.30	H	73.97	-13.67	Peak	17.00	111.44	
12025.00	42.07	H	53.97	-11.90	Avg	17.00	111.44	
14430.00								**No Emission**
14430.00								**Detected**
16835.00								**No Emission**
16835.00								**Detected**
19240.00								**No Emission**
19240.00								**Detected**
21645.00								**No Emission**
21645.00								**Detected**
24050.00								**No Emission**
24050.00								**Detected**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/09/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Y-Axis - AC Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	45.36	V	73.97	-28.61	Peak	213.00	223.44	
4880.00	27.13	V	53.97	-26.84	Avg	213.00	223.44	
7320.00	52.03	V	73.97	-21.94	Peak	1.25	111.32	
7320.00	33.80	V	53.97	-20.17	Avg	1.25	111.32	
9760.00								**Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00	59.36	V	73.97	-14.61	Peak	160.25	127.56	
12200.00	41.13	V	53.97	-12.84	Avg	160.25	127.56	
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/09/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Y-Axis - AC Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	42.45	H	73.97	-31.52	Peak	106.00	222.97	
4880.00	24.22	H	53.97	-29.75	Avg	106.00	222.97	
7320.00	52.95	H	73.97	-21.02	Peak	358.00	111.14	
7320.00	34.72	H	53.97	-19.25	Avg	358.00	111.14	
9760.00								**Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00	61.48	H	73.97	-12.49	Peak	31.00	127.50	
12200.00	43.25	H	53.97	-10.72	Avg	31.00	127.50	
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/09/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Y-Axis - AC Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	46.50	V	73.97	-27.47	Peak	340.00	127.50	
4960.00	28.27	V	53.97	-25.70	Avg	340.00	127.50	
7440.00	52.34	V	73.97	-21.63	Peak	338.75	111.32	
7440.00	34.11	V	53.97	-19.86	Avg	338.75	111.32	
9920.00								**Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00	55.64	V	73.97	-18.33	Peak	62.75	111.26	
12400.00	37.41	V	53.97	-16.56	Avg	62.75	111.26	
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/09/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Y-Axis - AC Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	43.24	H	73.97	-30.73	Peak	58.25	111.44	
4960.00	25.01	H	53.97	-28.96	Avg	58.25	111.44	
7440.00	53.45	H	73.97	-20.52	Peak	51.75	111.44	
7440.00	35.22	H	53.97	-18.75	Avg	51.75	111.44	
9920.00								**Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00	54.47	H	73.97	-19.50	Peak	25.50	175.44	
12400.00	36.24	H	53.97	-17.73	Avg	25.50	175.44	
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247 and RSS-247

Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/09/2023
Lab: D
Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx and Digital Portion - 9 kHz to 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 25 GHz
AC Mode

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated at the Low Channel,
								Middle Channel, and High Channel

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/11/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Y-Axis - Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810.00	39.32	V	73.97	-34.65	Peak	72.50	191.26	
4810.00	21.09	V	53.97	-32.88	Avg	72.50	191.26	
7215.00								**Not in Restricted Band**
7215.00								**Done Via Conducted**
9620.00								**Not in Restricted Band**
9620.00								**Done Via Conducted**
12025.00	47.93	V	73.97	-26.04	Peak	81.50	159.20	
12025.00	29.70	V	53.97	-24.27	Avg	81.50	159.20	
14430.00								**No Emission**
14430.00								**Detected**
16835.00								**No Emission**
16835.00								**Detected**
19240.00								**No Emission**
19240.00								**Detected**
21645.00								**No Emission**
21645.00								**Detected**
24050.00								**No Emission**
24050.00								**Detected**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/11/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Y-Axis - Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810.00	42.01	H	73.97	-31.96	Peak	37.25	127.50	
4810.00	23.78	H	53.97	-30.19	Avg	37.25	127.50	
7215.00								**Not in Restricted Band**
7215.00								**Done Via Conducted**
9620.00								**Not in Restricted Band**
9620.00								**Done Via Conducted**
12025.00	48.93	H	73.97	-25.04	Peak	54.50	111.26	
12025.00	30.70	H	53.97	-23.27	Avg	54.50	111.26	
14430.00								**No Emission**
14430.00								**Detected**
16835.00								**No Emission**
16835.00								**Detected**
19240.00								**No Emission**
19240.00								**Detected**
21645.00								**No Emission**
21645.00								**Detected**
24050.00								**No Emission**
24050.00								**Detected**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/11/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Y-Axis - Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	43.60	V	73.97	-30.37	Peak	330.50	127.26	
4880.00	25.37	V	53.97	-28.60	Avg	330.50	127.26	
7320.00	46.65	V	73.97	-27.32	Peak	342.50	111.32	
7320.00	28.42	V	53.97	-25.55	Avg	342.50	111.32	
9760.00								**Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00	49.89	V	73.97	-24.08	Peak	181.00	111.38	
12200.00	31.66	V	53.97	-22.31	Avg	181.00	111.38	
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/11/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Y-Axis - Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	43.80	H	73.97	-30.17	Peak	320.75	111.56	
4880.00	25.57	H	53.97	-28.40	Avg	320.75	111.56	
7320.00	45.96	H	73.97	-28.01	Peak	315.25	111.32	
7320.00	27.73	H	53.97	-26.24	Avg	315.25	111.32	
9760.00								**Not in Restricted Band**
9760.00								**Done Via Conducted**
12200.00	49.65	H	73.97	-24.32	Peak	23.75	159.74	
12200.00	31.42	H	53.97	-22.55	Avg	23.75	159.74	
14640.00								**No Emission**
14640.00								**Detected**
17080.00								**No Emission**
17080.00								**Detected**
19520.00								**No Emission**
19520.00								**Detected**
21960.00								**No Emission**
21960.00								**Detected**
24400.00								**No Emission**
24400.00								**Detected**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/11/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Y-Axis - Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	41.74	V	73.97	-32.23	Peak	326.00	143.14	
4960.00	23.51	V	53.97	-30.46	Avg	326.00	143.14	
7440.00	45.43	V	73.97	-28.54	Peak	323.25	207.14	
7440.00	27.20	V	53.97	-26.77	Avg	323.25	207.14	
9920.00								**Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00	49.20	V	73.97	-24.77	Peak	108.50	223.26	
12400.00	30.97	V	53.97	-23.00	Avg	108.50	223.26	
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/11/2023
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Y-Axis - Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	40.88	H	73.97	-33.09	Peak	55.75	111.38	
4960.00	22.65	H	53.97	-31.32	Avg	55.75	111.38	
7440.00	46.19	H	73.97	-27.78	Peak	307.75	143.50	
7440.00	27.96	H	53.97	-26.01	Avg	307.75	143.50	
9920.00								**Not in Restricted Band**
9920.00								**Done Via Conducted**
12400.00	48.47	H	73.97	-25.50	Peak	331.50	223.56	
12400.00	30.24	H	53.97	-23.73	Avg	331.50	223.56	
14880.00								**No Emission**
14880.00								**Detected**
17360.00								**No Emission**
17360.00								**Detected**
19840.00								**No Emission**
19840.00								**Detected**
22320.00								**No Emission**
22320.00								**Detected**
24800.00								**No Emission**
24800.00								**Detected**

FCC 15.247 and RSS-247

Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/11/2023
Lab: D
Tested By: Kyle Fujimoto

Battery Power
Non Harmonic Emissions from the Tx and Digital Portion - 9 kHz to 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 25 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated at the Low Channel,
								Middle Channel, and High Channel

BAND EDGES DATA SHEETS

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/10/2023
Lab: D
Tested By: Kyle Fujimoto

Band Edges - Low Channel - AC Power

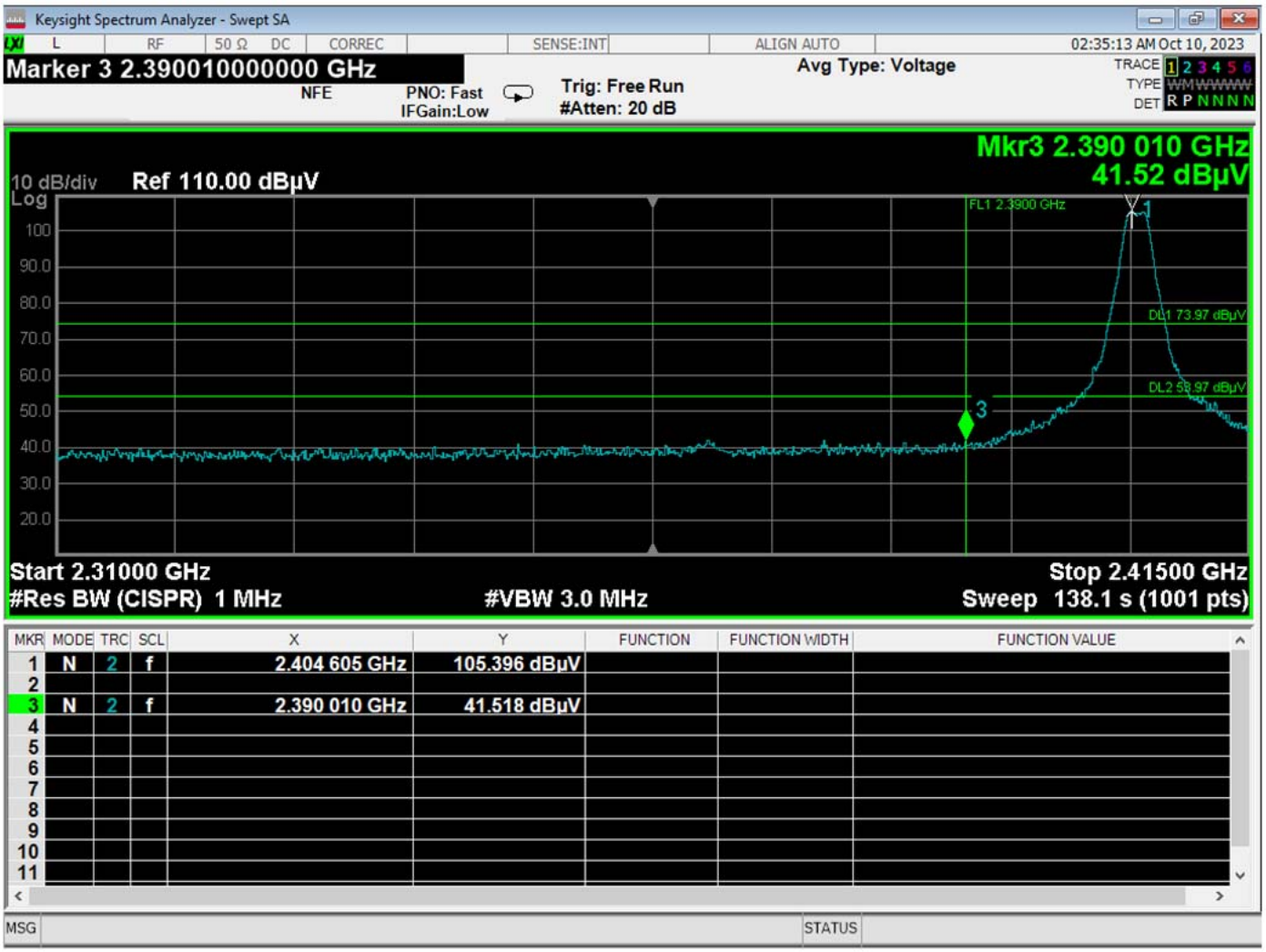
Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2402.00	105.40	V	--	--	Peak	105.25	216.76	**Fundamental - Low Ch.**
2402.00	87.17	V	--	--	Avg	105.25	216.76	**Y-Axis**
2390.00	41.52	V	73.97	-32.45	Peak	105.25	216.76	**Band Edge**
2390.00	23.29	V	53.97	-30.68	Avg	105.25	216.76	**Y-Axis**
2402.00	105.21	H	--	--	Peak	22.50	177.71	**Fundamental - Low Ch.**
2402.00	86.98	H	--	--	Avg	22.50	177.71	**Y-Axis**
2390.00	40.18	H	73.97	-33.79	Peak	22.50	177.71	**Band Edge**
2390.00	21.95	H	53.97	-32.02	Avg	22.50	177.71	**Y-Axis**

FCC 15.247 and RSS-247
Vivint, Inc.
ZigBee Thermostat
Model: TH03

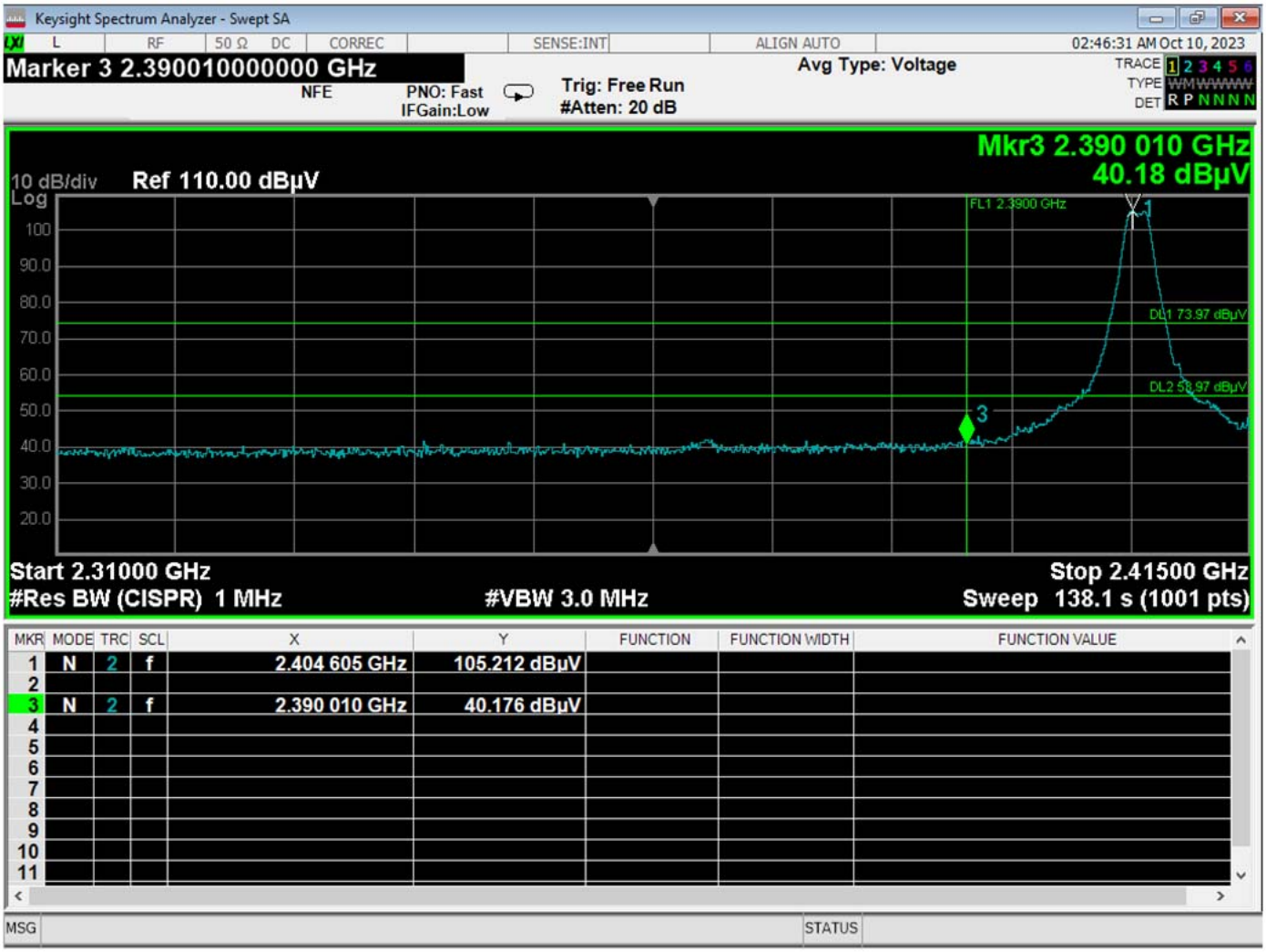
Date: 10/10/2023
Lab: D
Tested By: Kyle Fujimoto

Band Edges - High Channel - AC Power

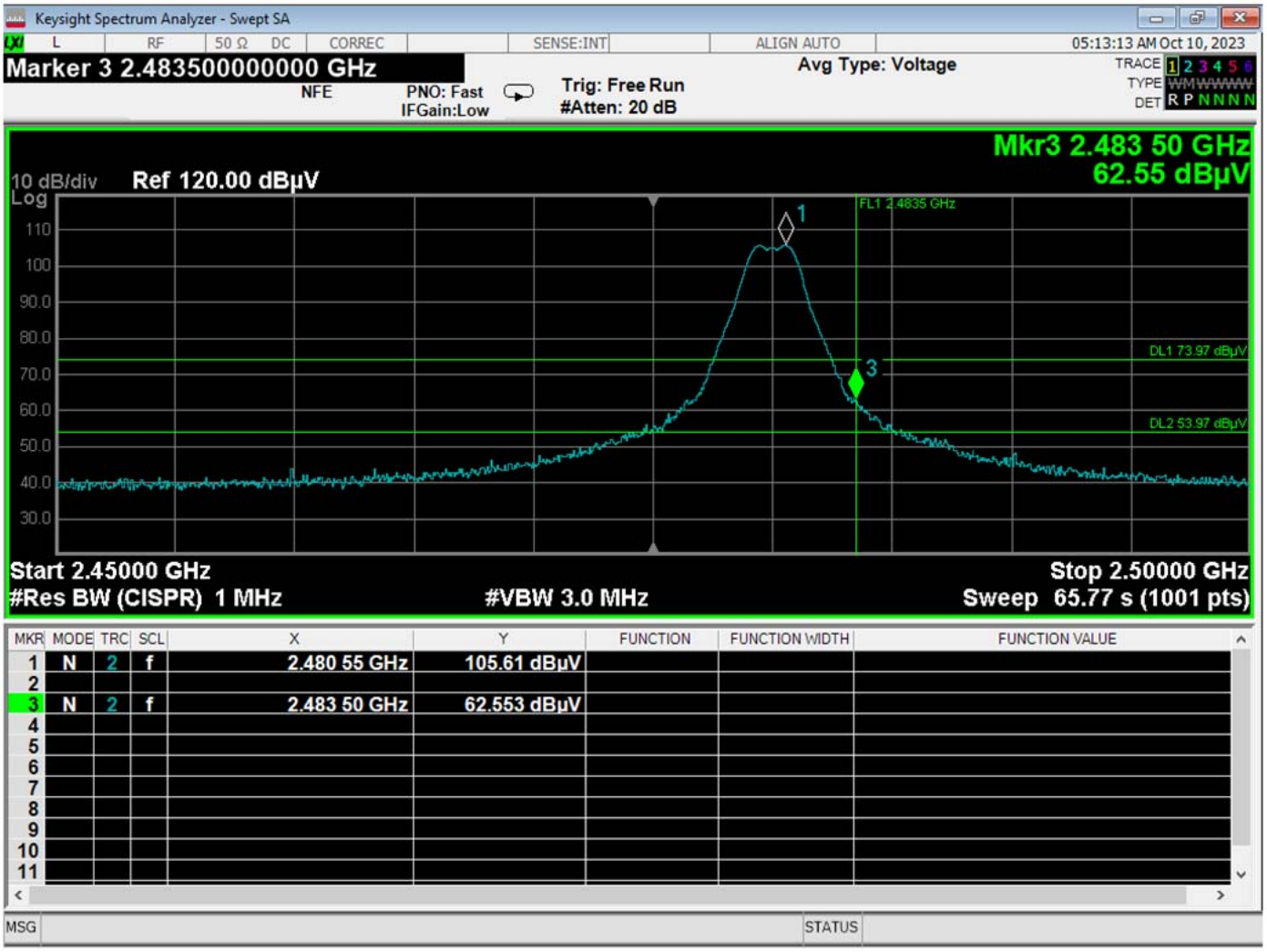
Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480.00	105.61	V	--	--	Peak	221.25	198.25	**Fundamental - High Ch.**
2480.00	87.38	V	--	--	Avg	221.25	198.25	**Y-Axis**
2483.50	62.55	V	73.97	-11.42	Peak	221.25	198.25	**Band Edge**
2483.50	44.32	V	53.97	-9.65	Avg	221.25	198.25	**Y-Axis**
2480.00	105.52	H	--	--	Peak	11.00	192.28	**Fundamental - High Ch.**
2480.00	87.29	H	--	--	Avg	11.00	192.28	**Y-Axis**
2483.50	61.15	H	73.97	-12.82	Peak	11.00	192.28	**Band Edge**
2483.50	42.92	H	53.97	-11.05	Avg	11.00	192.28	**Y-Axis**



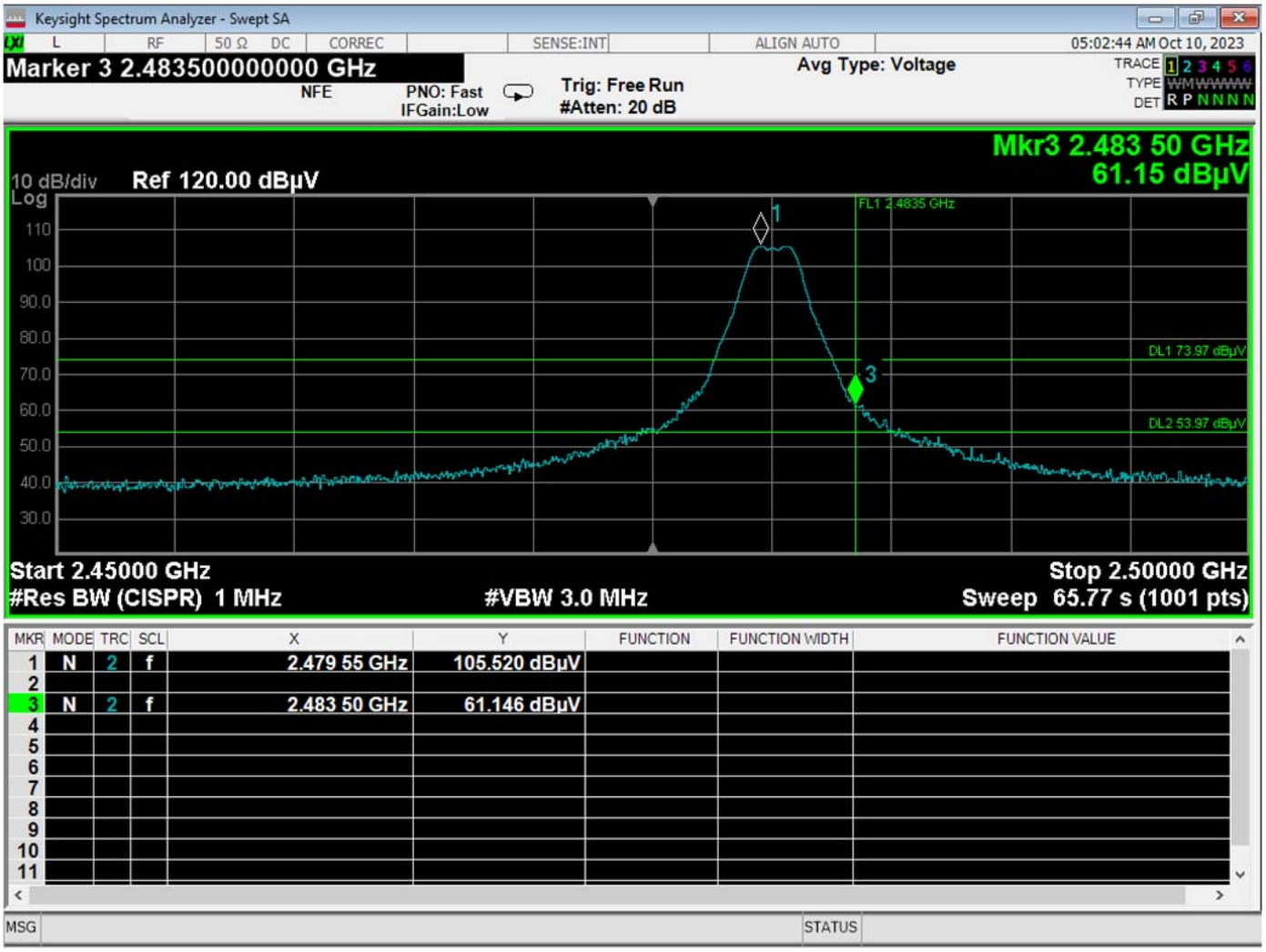
Band Edge – Low Channel – Vertical Polarization – AC Mode



Band Edge – Low Channel – Horizontal Polarization – AC Mode



Band Edge – High Channel – Vertical Polarization – AC Mode



Band Edge – High Channel – Horizontal Polarization – AC Mode

FCC 15.247 and RSS-247

Vivint, Inc.
ZigBee Thermostat
Model: TH03

Date: 10/12/2023
Lab: D
Tested By: Kyle Fujimoto

Band Edges - Low Channel - Battery Power

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2402.00	99.62	V	--	--	Peak	109.50	112.35	**Fundamental - Low Ch.**
2402.00	81.39	V	--	--	Avg	109.50	112.35	**Y-Axis**
2390.00	39.25	V	73.97	-34.72	Peak	109.50	112.35	**Band Edge**
2390.00	21.02	V	53.97	-32.95	Avg	109.50	112.35	**Y-Axis**
2402.00	99.91	H	--	--	Peak	301.75	170.20	**Fundamental - Low Ch.**
2402.00	81.68	H	--	--	Avg	301.75	170.20	**Y-Axis**
2390.00	40.49	H	73.97	-33.48	Peak	301.75	170.20	**Band Edge**
2390.00	22.26	H	53.97	-31.71	Avg	301.75	170.20	**Y-Axis**

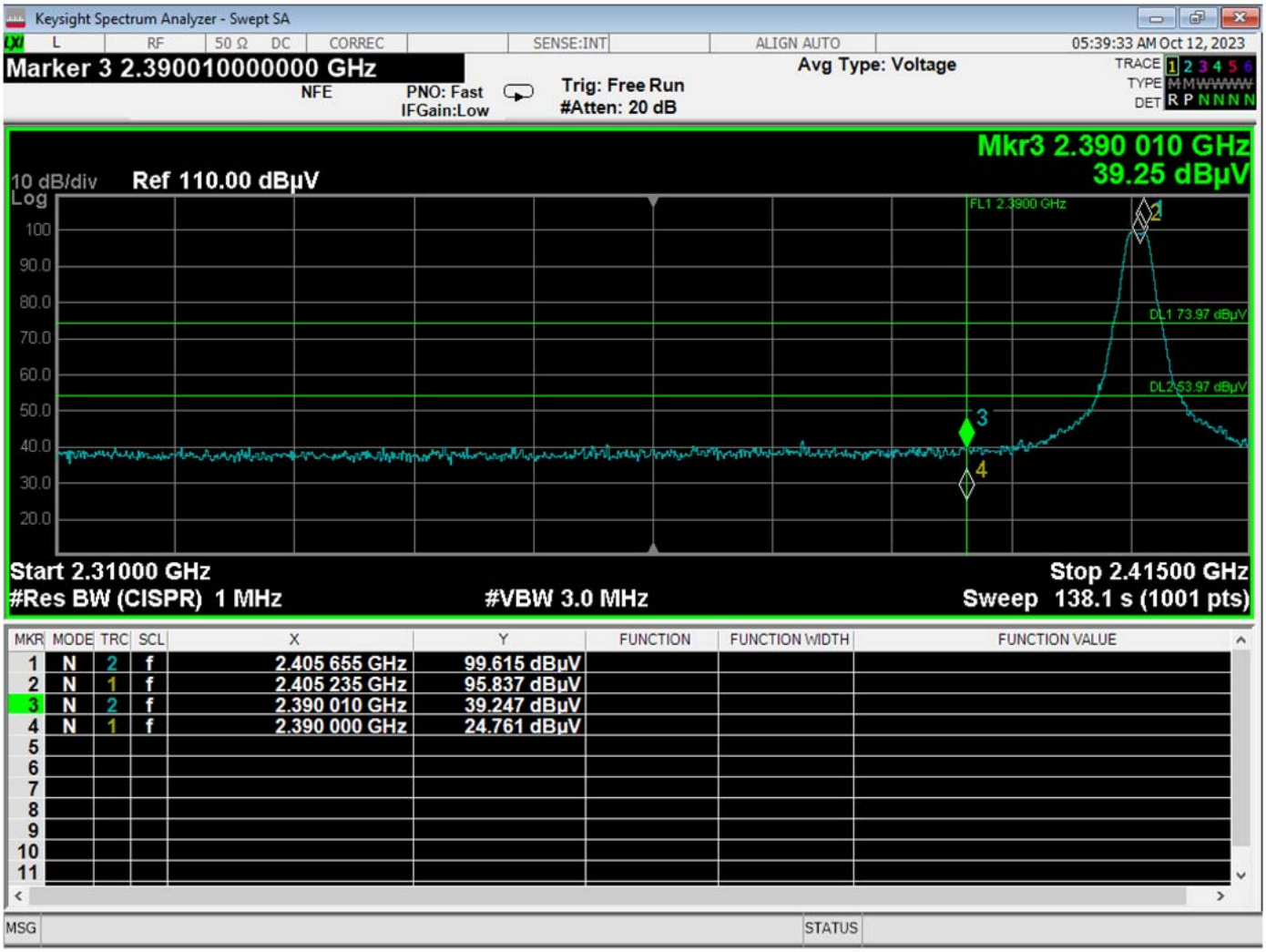
FCC 15.247 and RSS-247

Vivint, Inc.
ZigBee Thermostat
Model: TH03

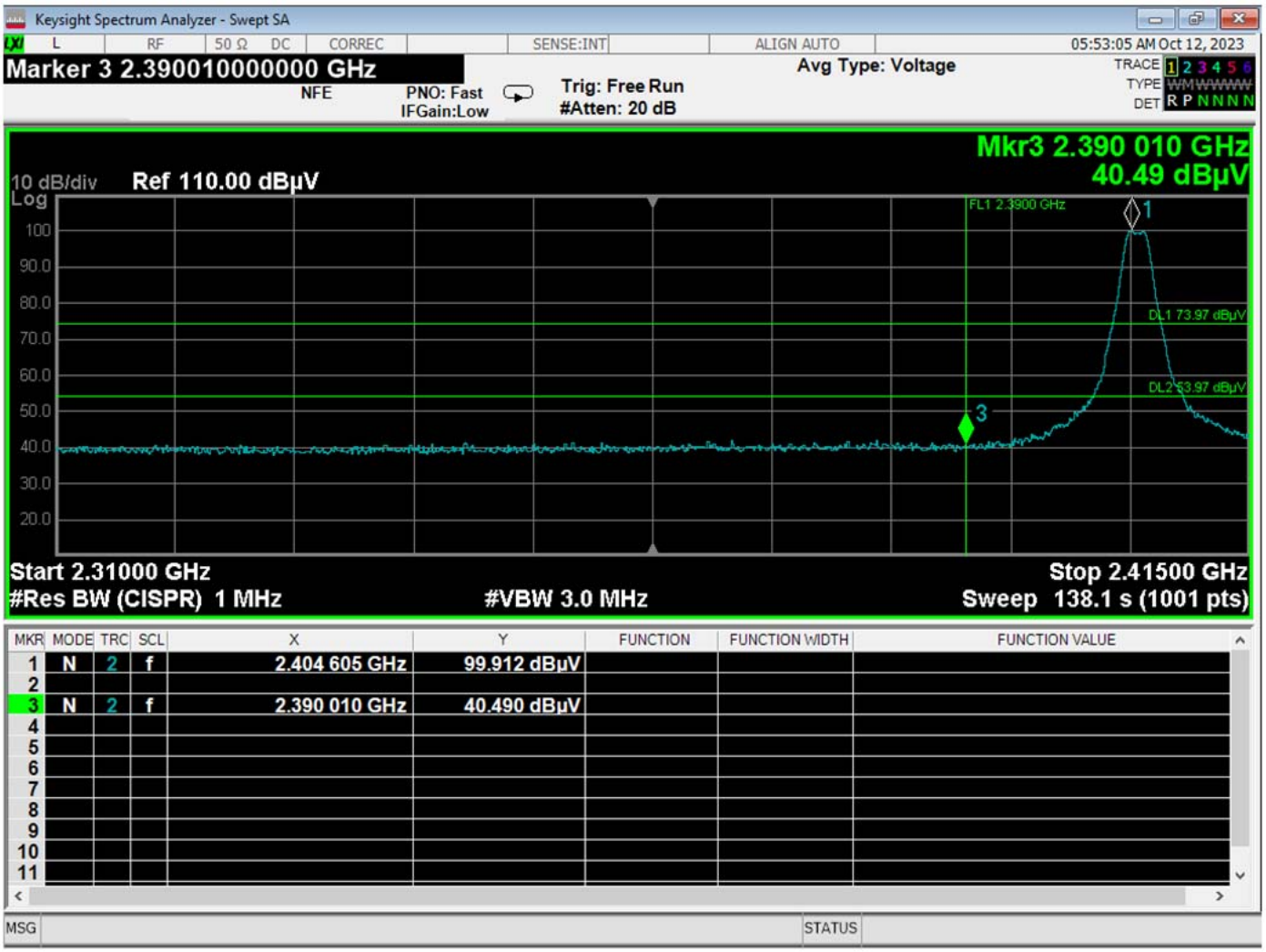
Date: 10/12/2023
Lab: D
Tested By: Kyle Fujimoto

Band Edges - High Channel - Battery Power

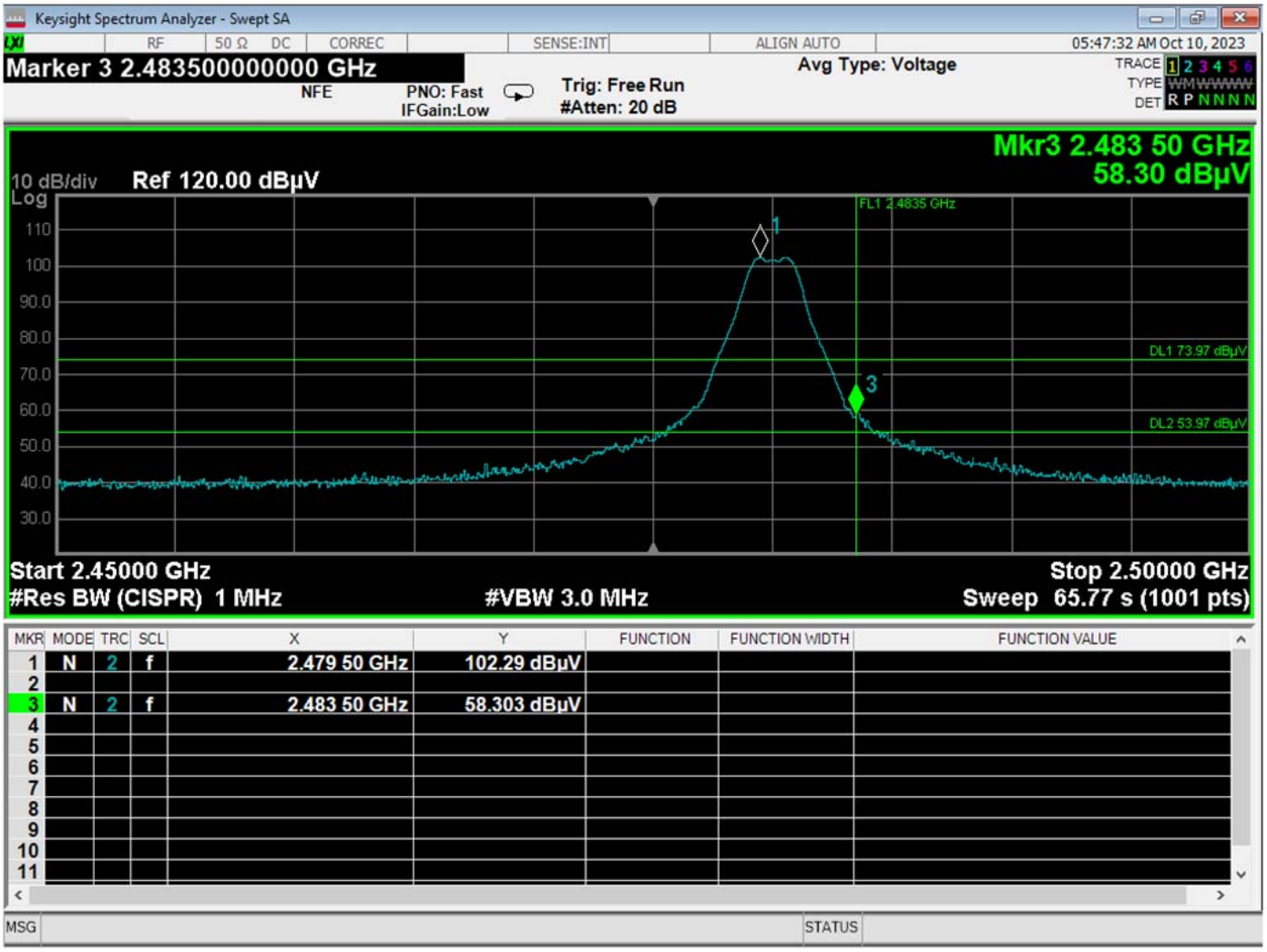
Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480.00	102.29	V	--	--	Peak	99.00	195.14	**Fundamental - High Ch.**
2480.00	84.06	V	--	--	Avg	99.00	195.14	**Y-Axis**
2483.50	58.30	V	73.97	-15.67	Peak	99.00	195.14	**Band Edge**
2483.50	40.07	V	53.97	-13.90	Avg	99.00	195.14	**Y-Axis**
2480.00	100.32	H	--	--	Peak	27.00	118.07	**Fundamental - High Ch.**
2480.00	82.09	H	--	--	Avg	27.00	118.07	**Y-Axis**
2483.50	56.90	H	73.97	-17.07	Peak	27.00	118.07	**Band Edge**
2483.50	38.64	H	53.97	-15.33	Avg	27.00	118.07	**Y-Axis**



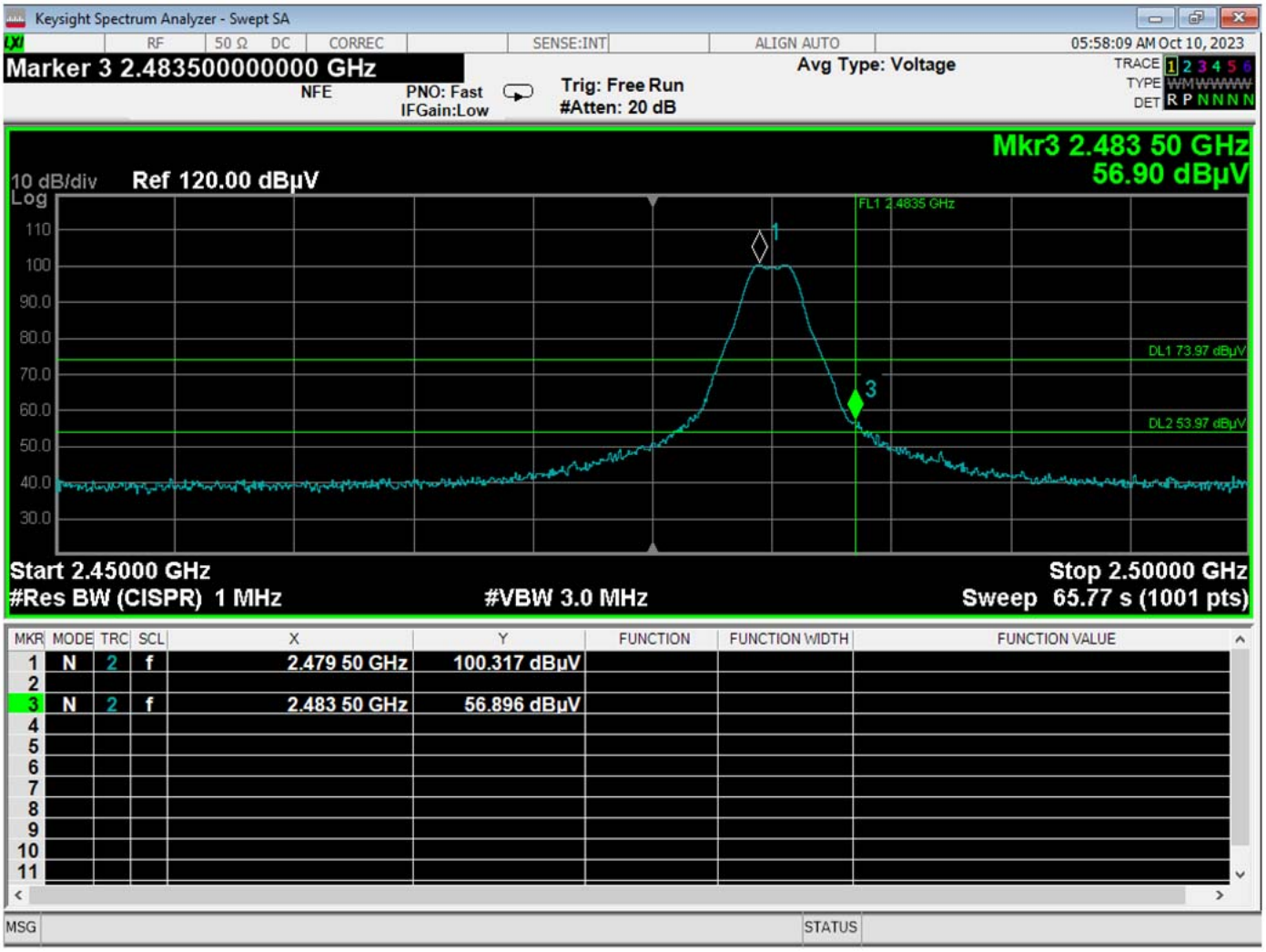
Band Edge – Low Channel – Vertical Polarization – Battery Power



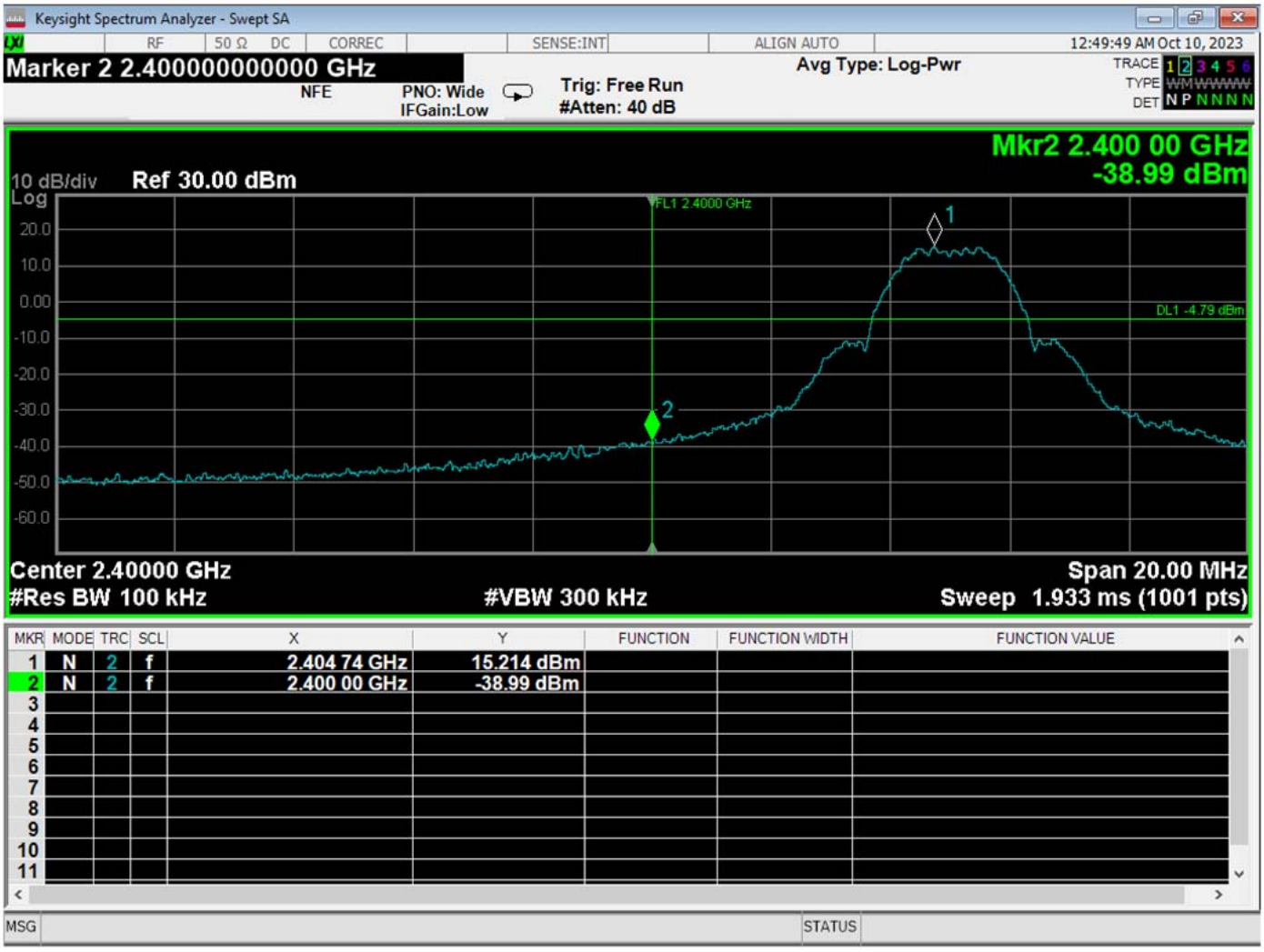
Band Edge – Low Channel – Vertical Polarization – Battery Power



Band Edge – High Channel – Vertical Polarization – Battery Power

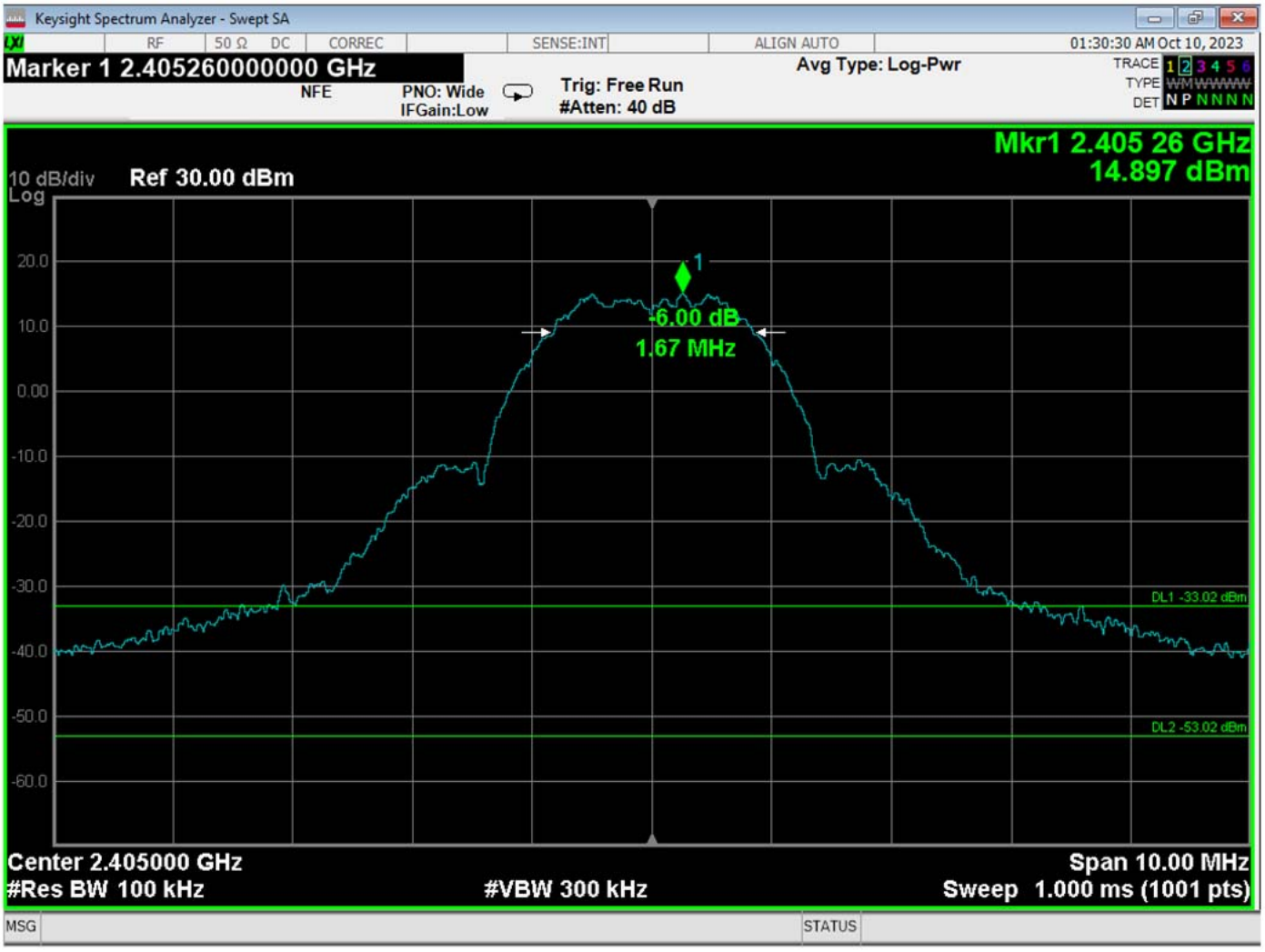


Band Edge – High Channel – Horizontal Polarization – Battery Power

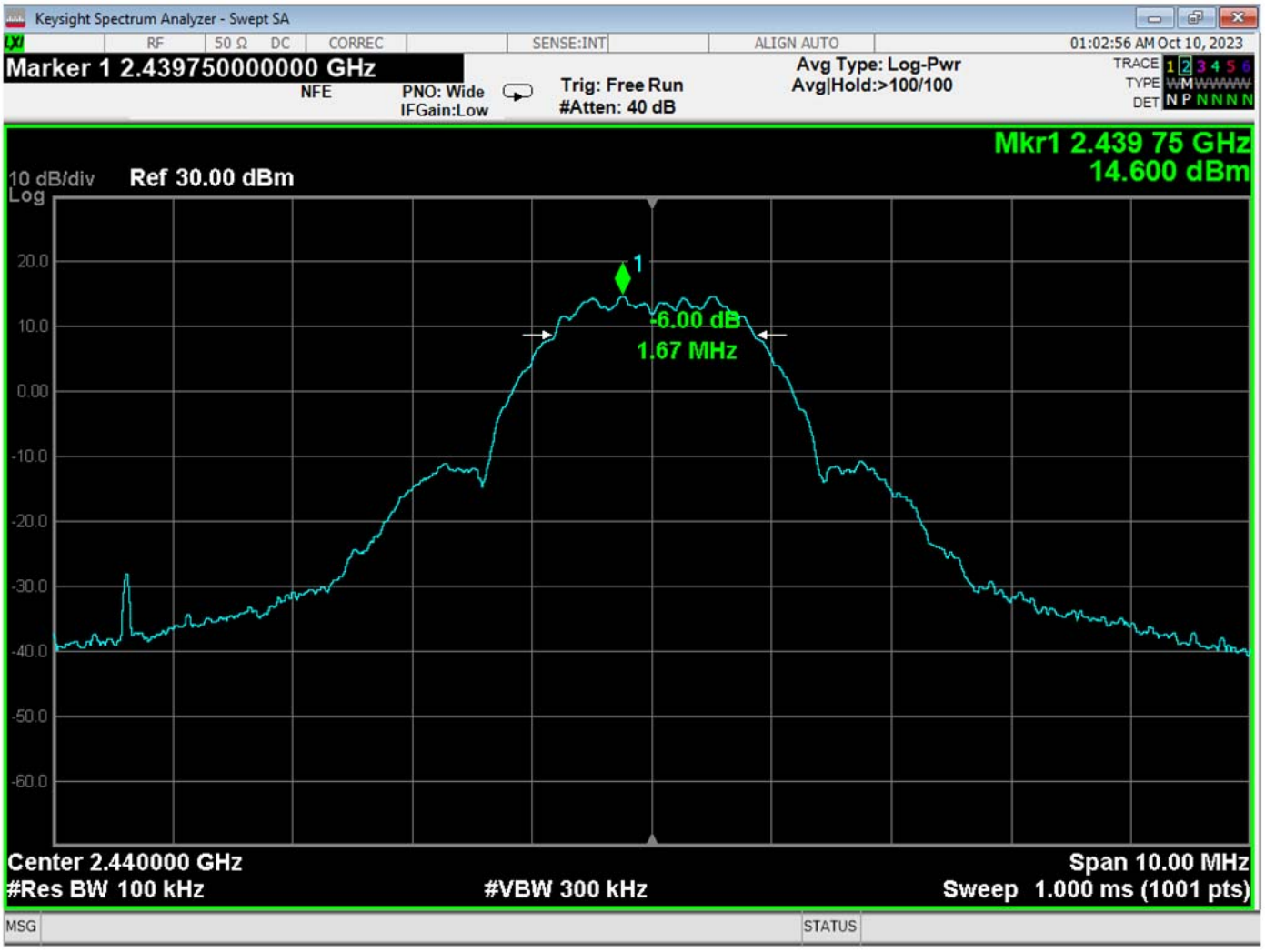


Band Edge – Low Channel – at 2400 MHz – Via Conducted Measurement

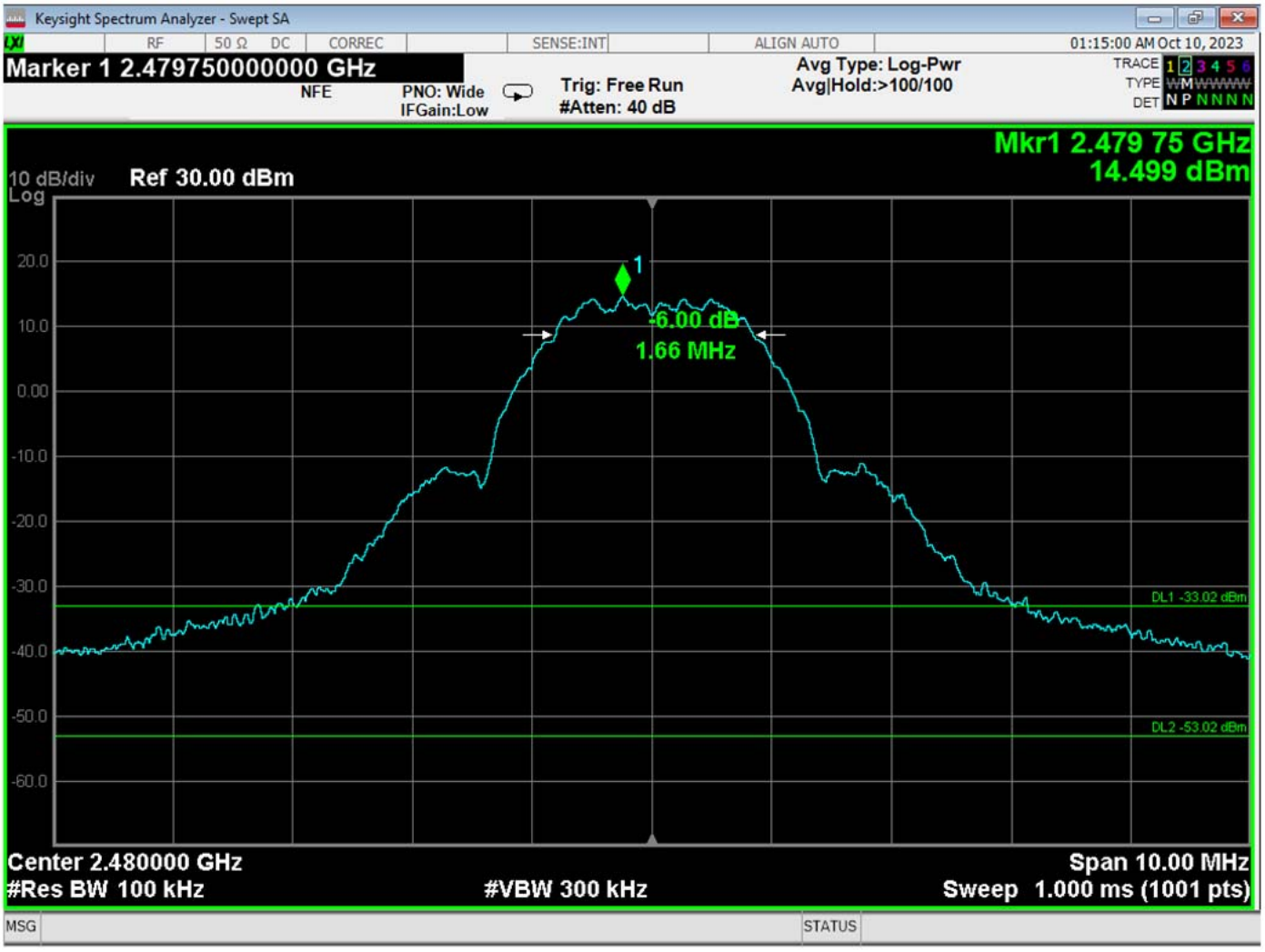
-6 dB BANDWIDTH DATA SHEETS



-6 dB Bandwidth – Low Channel

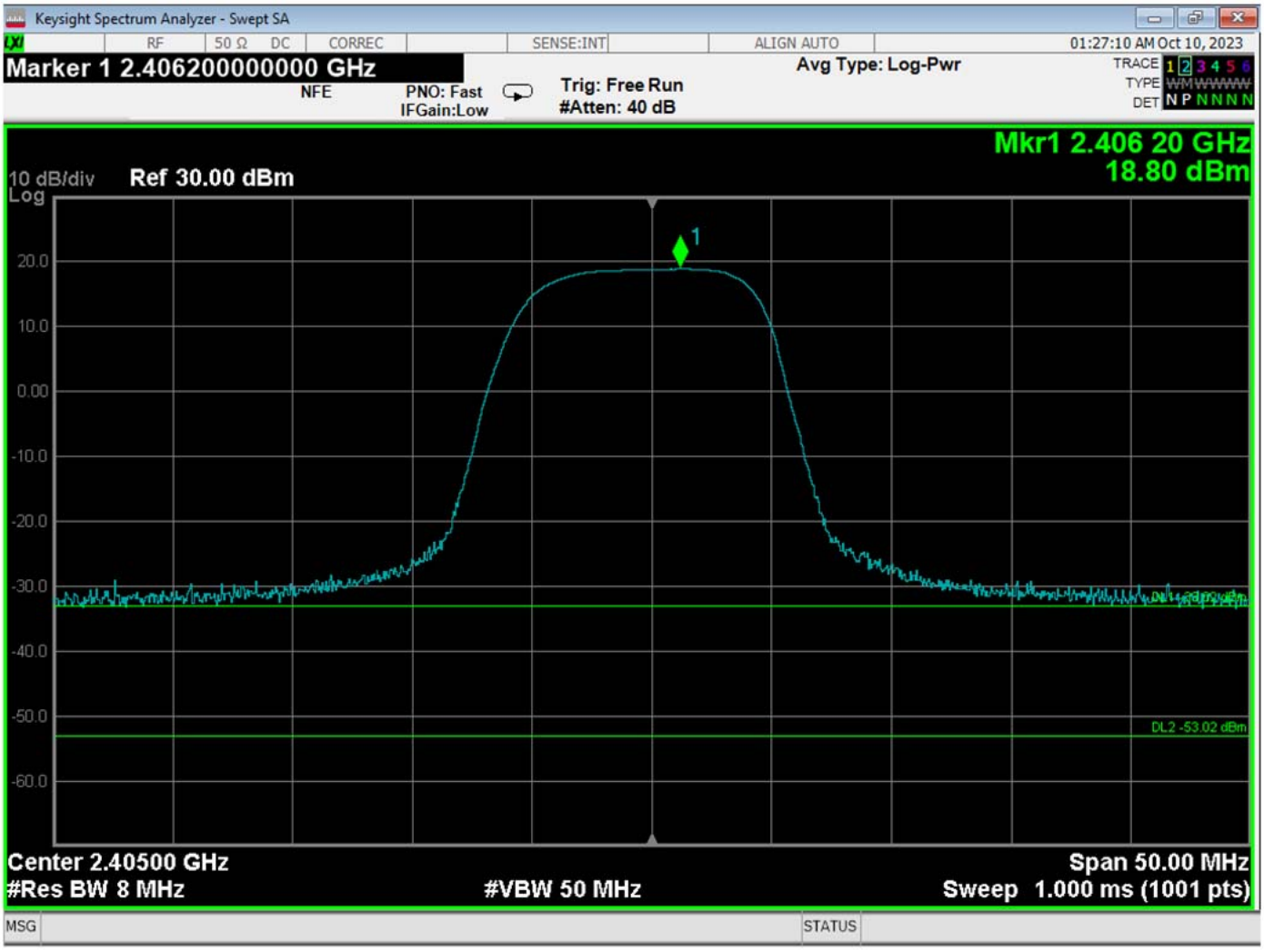


-6 dB Bandwidth – Middle Channel

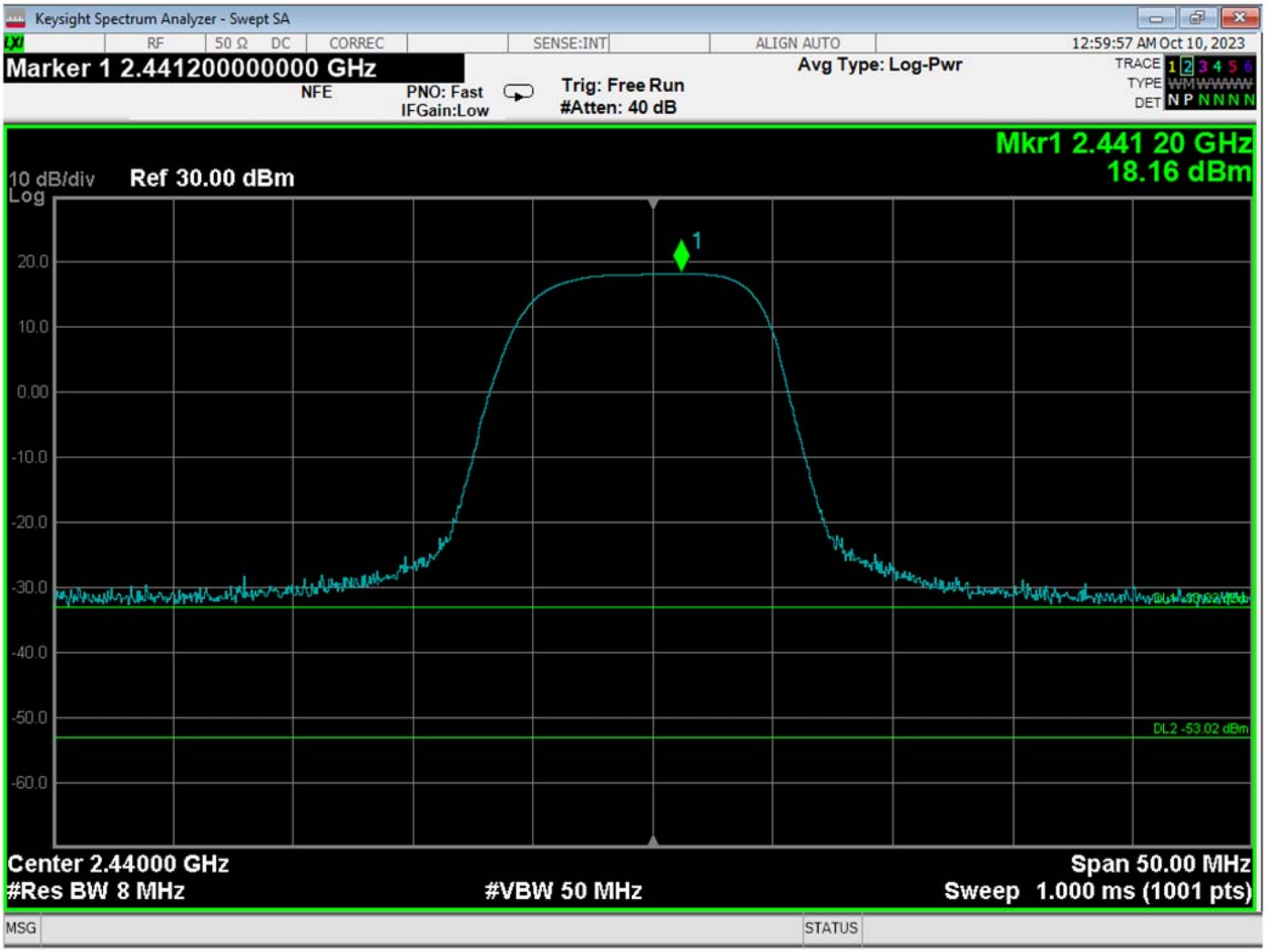


-6 dB Bandwidth – High Channel

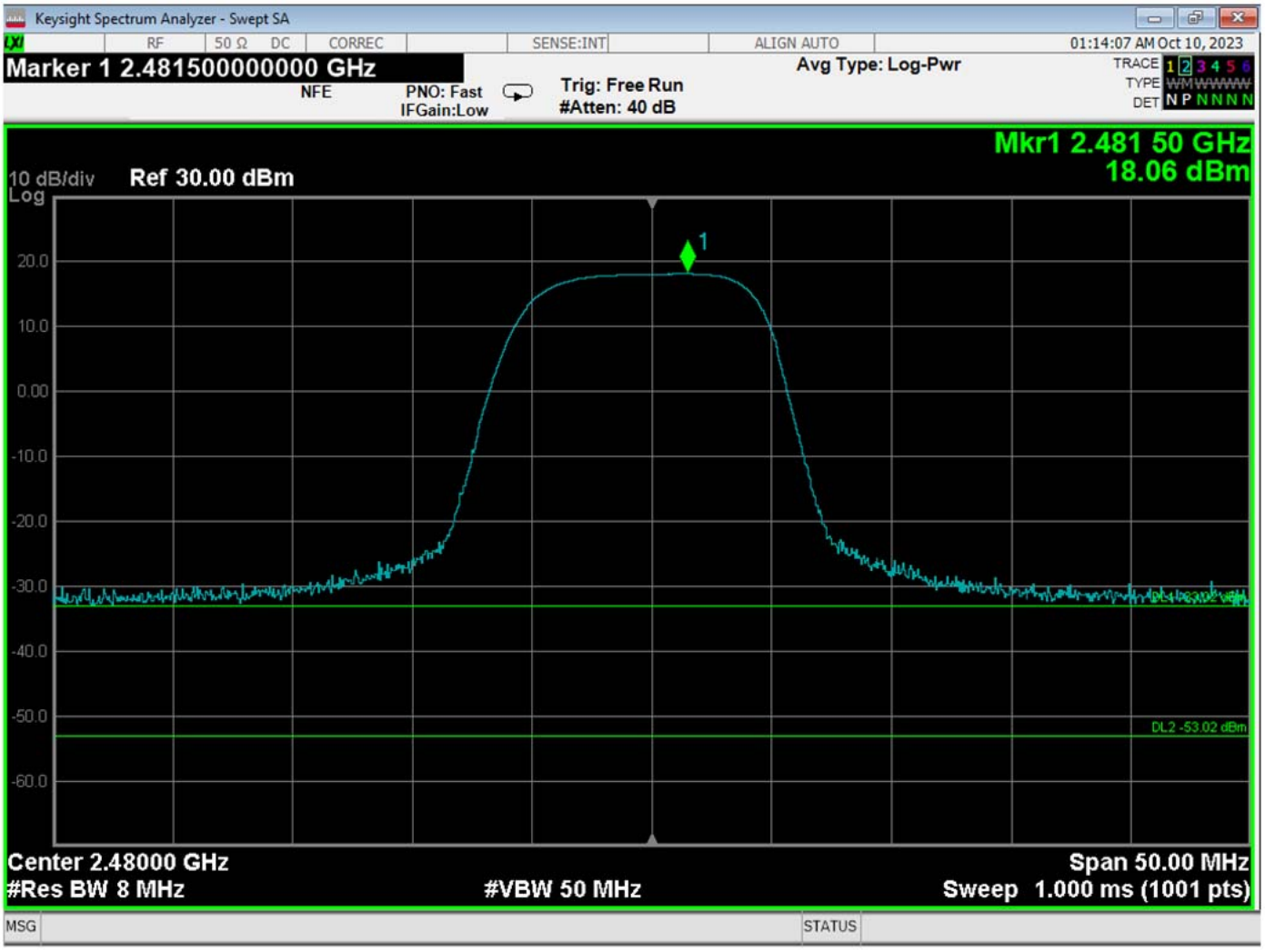
PEAK POWER OUTPUT DATA SHEETS



Peak Power Output – Low Channel



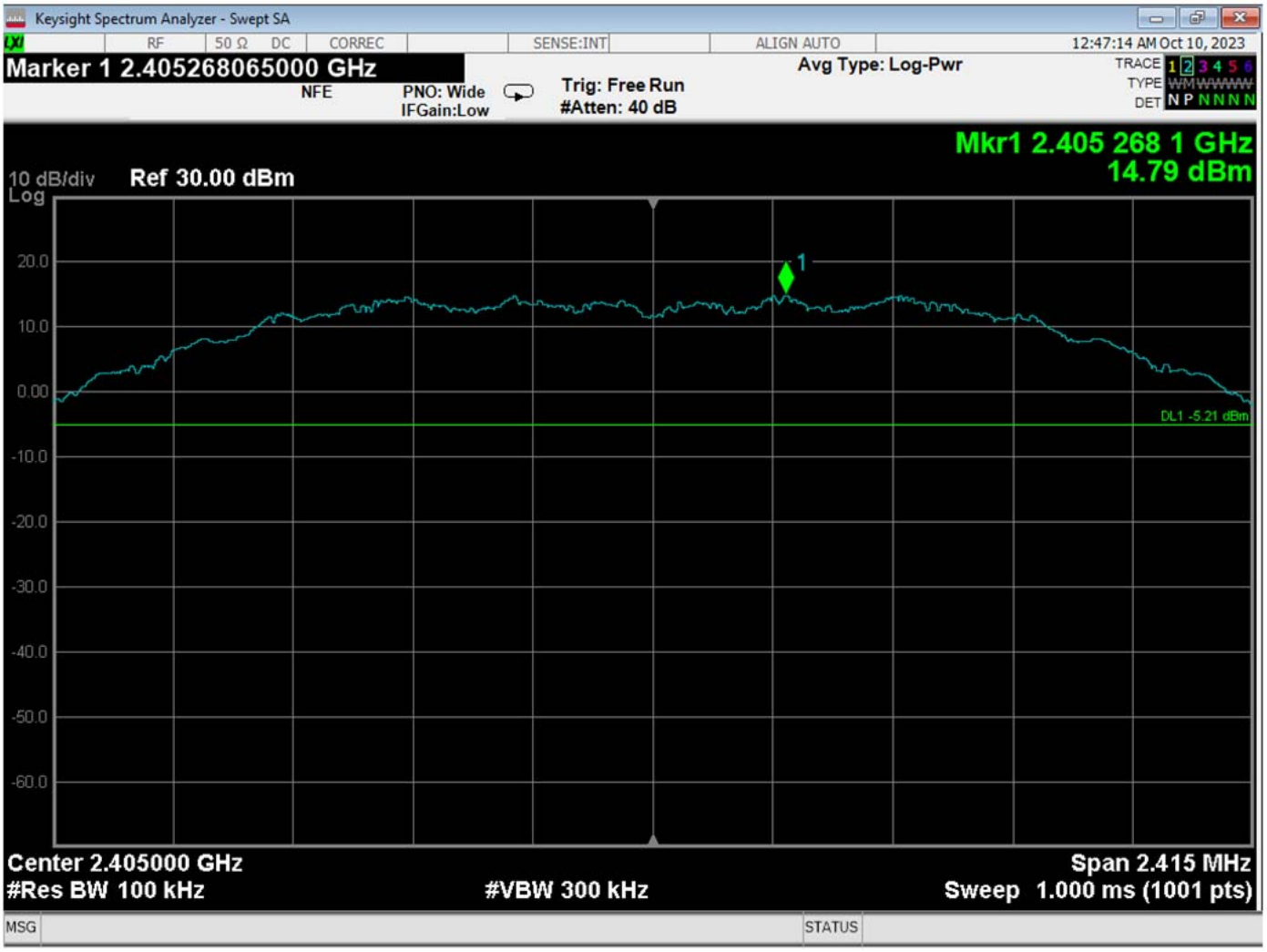
Peak Power Output – Middle Channel



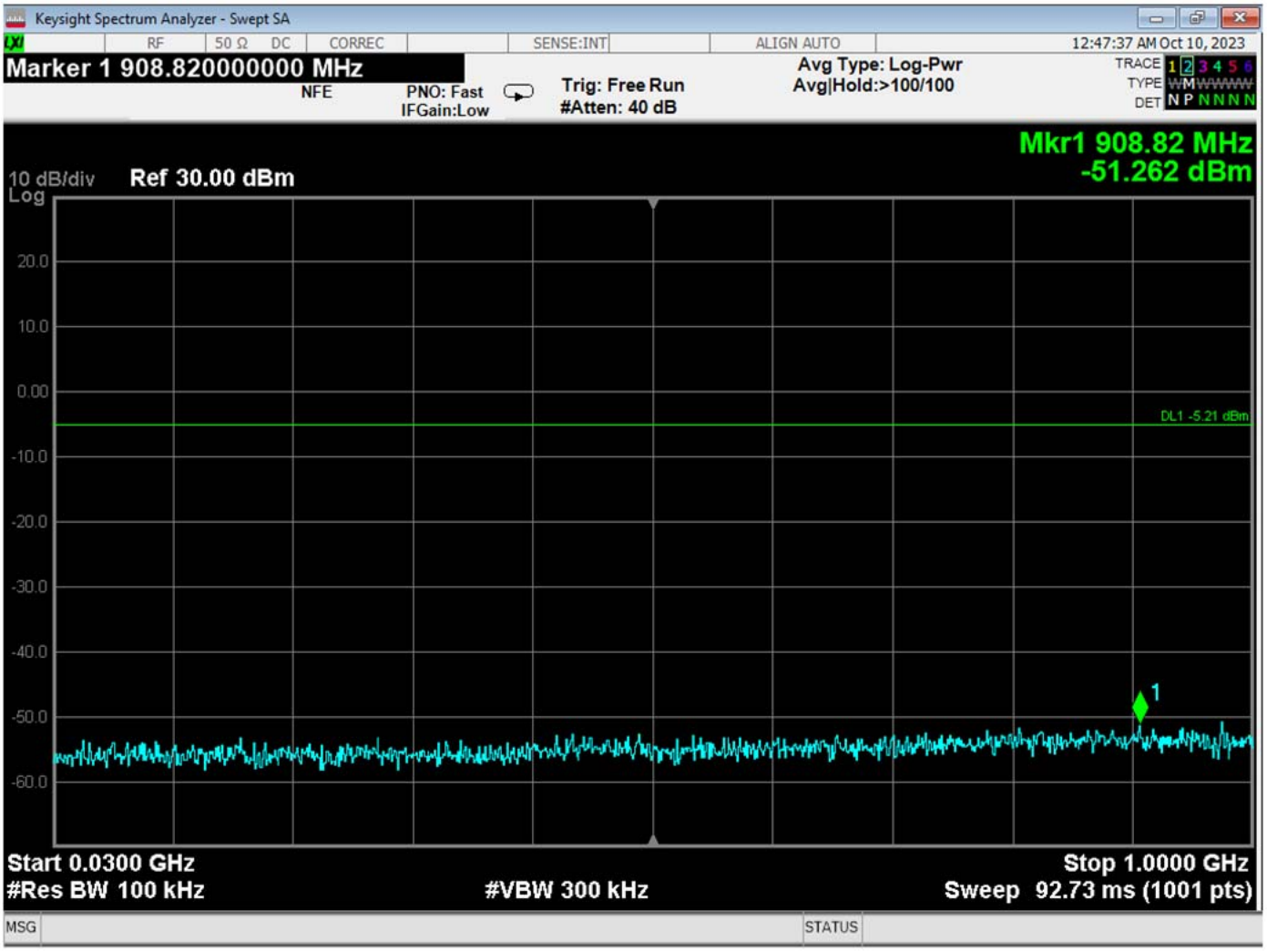
Peak Power Output – High Channel

RF ANTENNA CONDUCTED

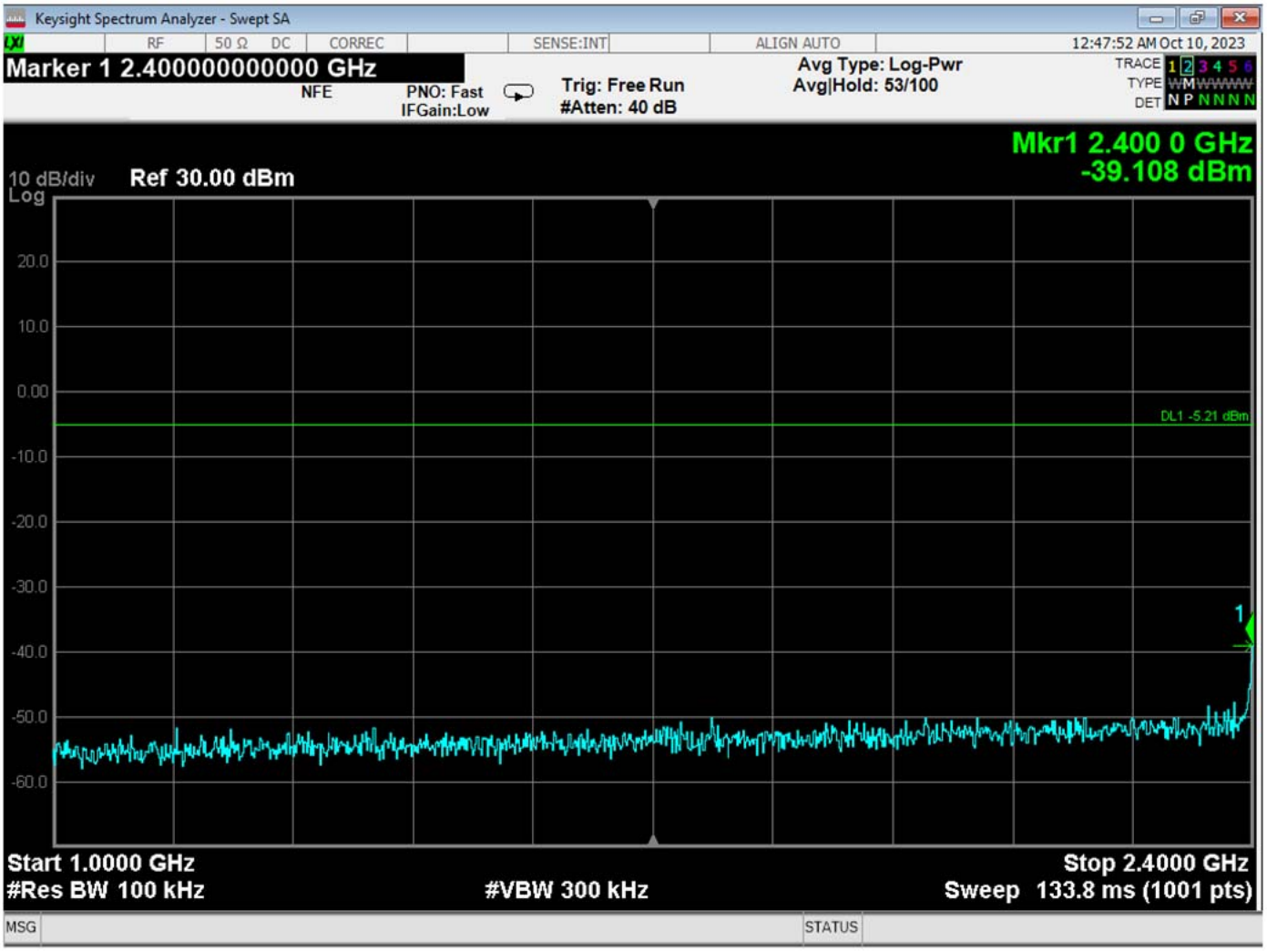
DATA SHEETS



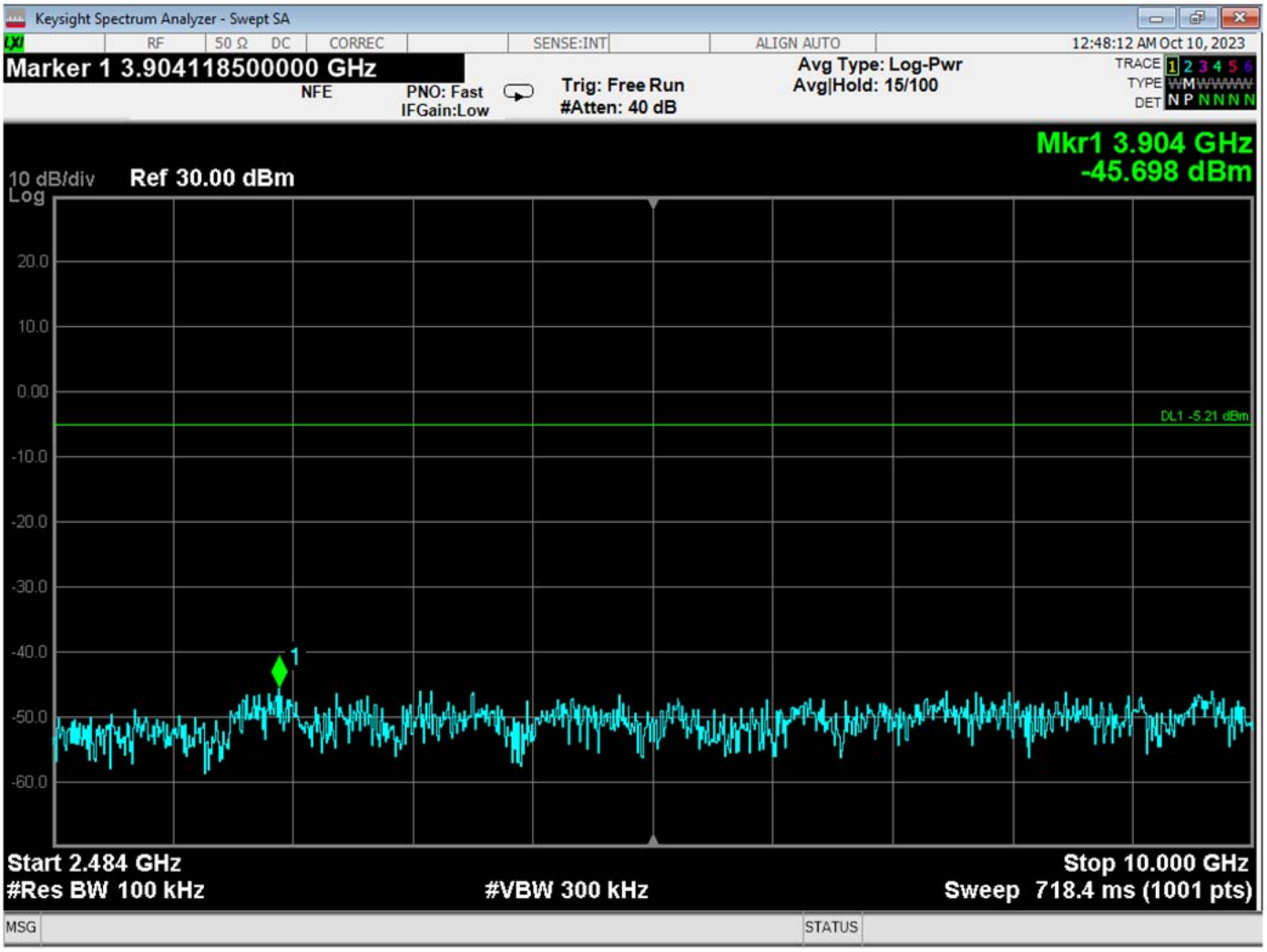
RF Antenna Conducted – Low Channel – Reference Level



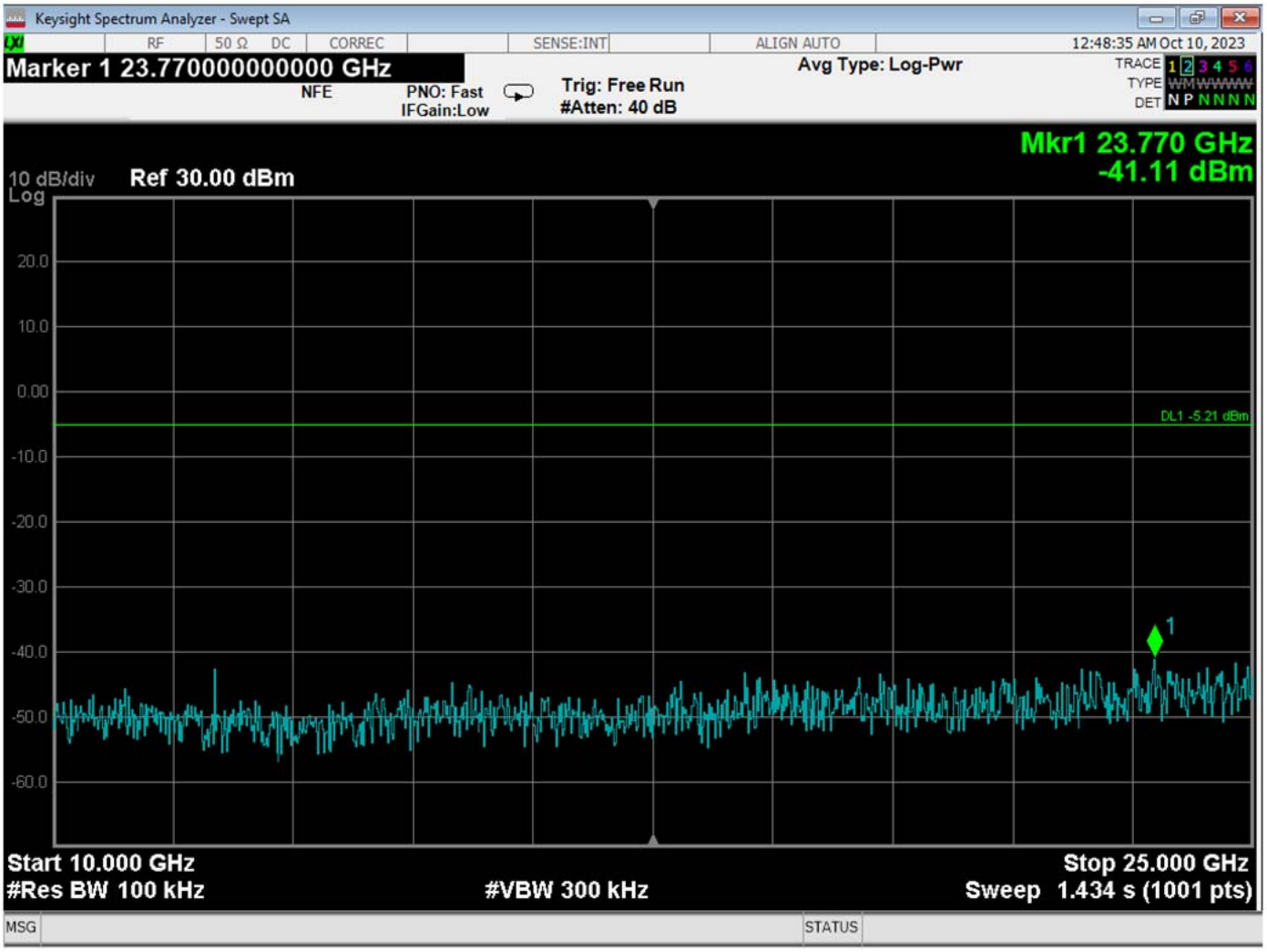
RF Antenna Conducted – Low Channel – 30 MHz to 1 GHz



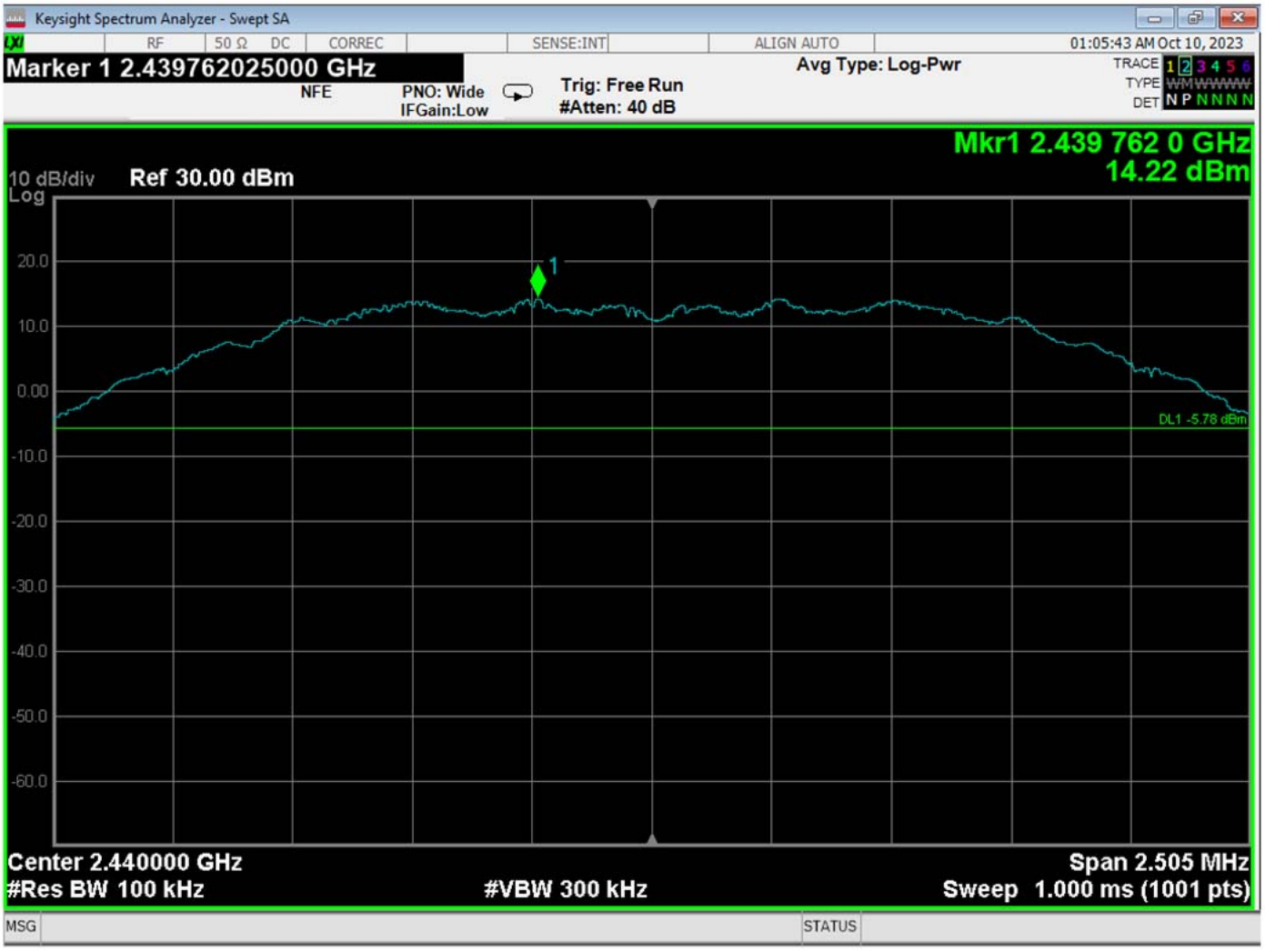
RF Antenna Conducted – Low Channel – 1 GHz to 2.4 GHz



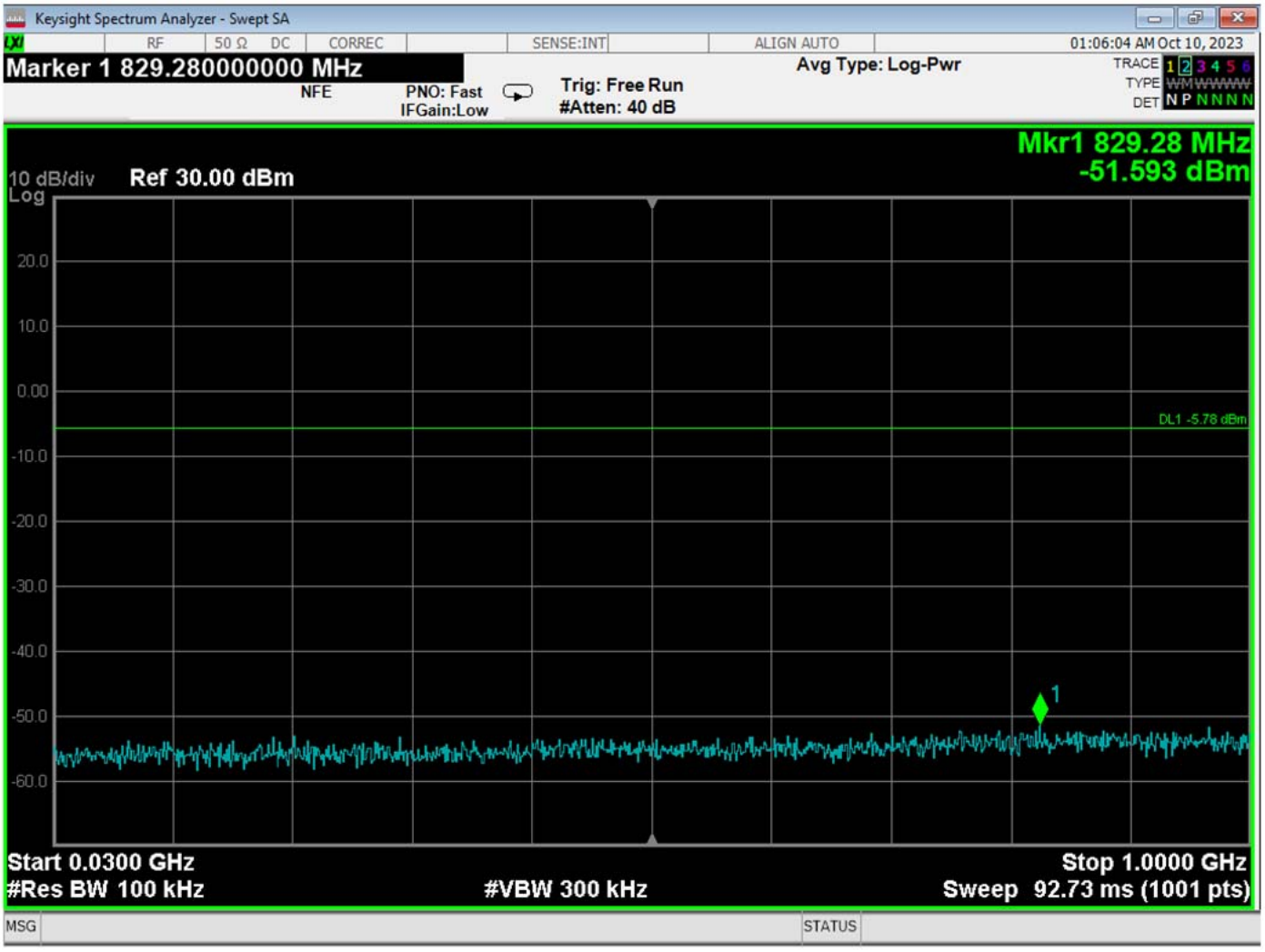
RF Antenna Conducted – Low Channel – 2.4835 MHz to 10 GHz



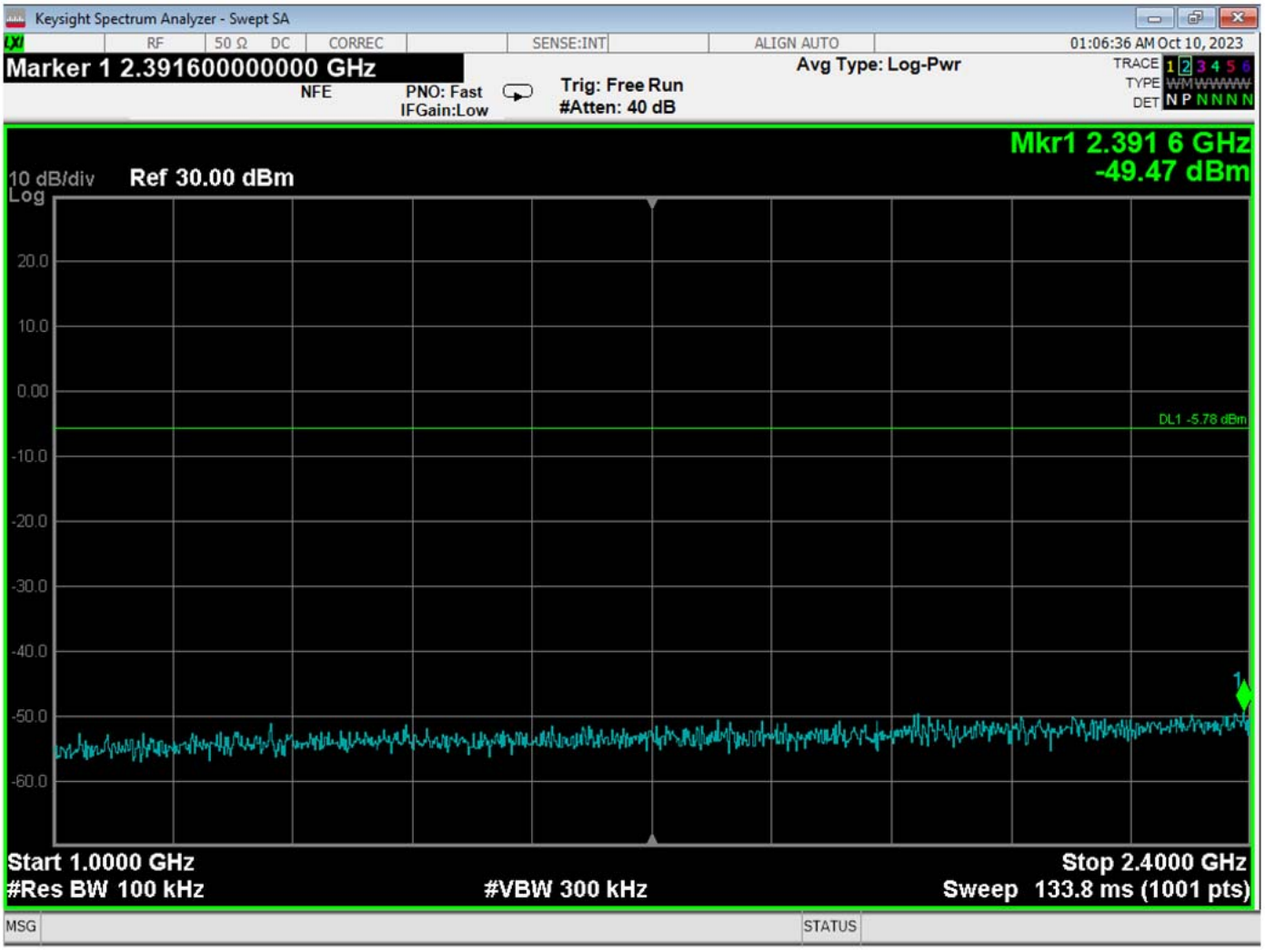
RF Antenna Conducted – Low Channel – 10 GHz to 25 GHz



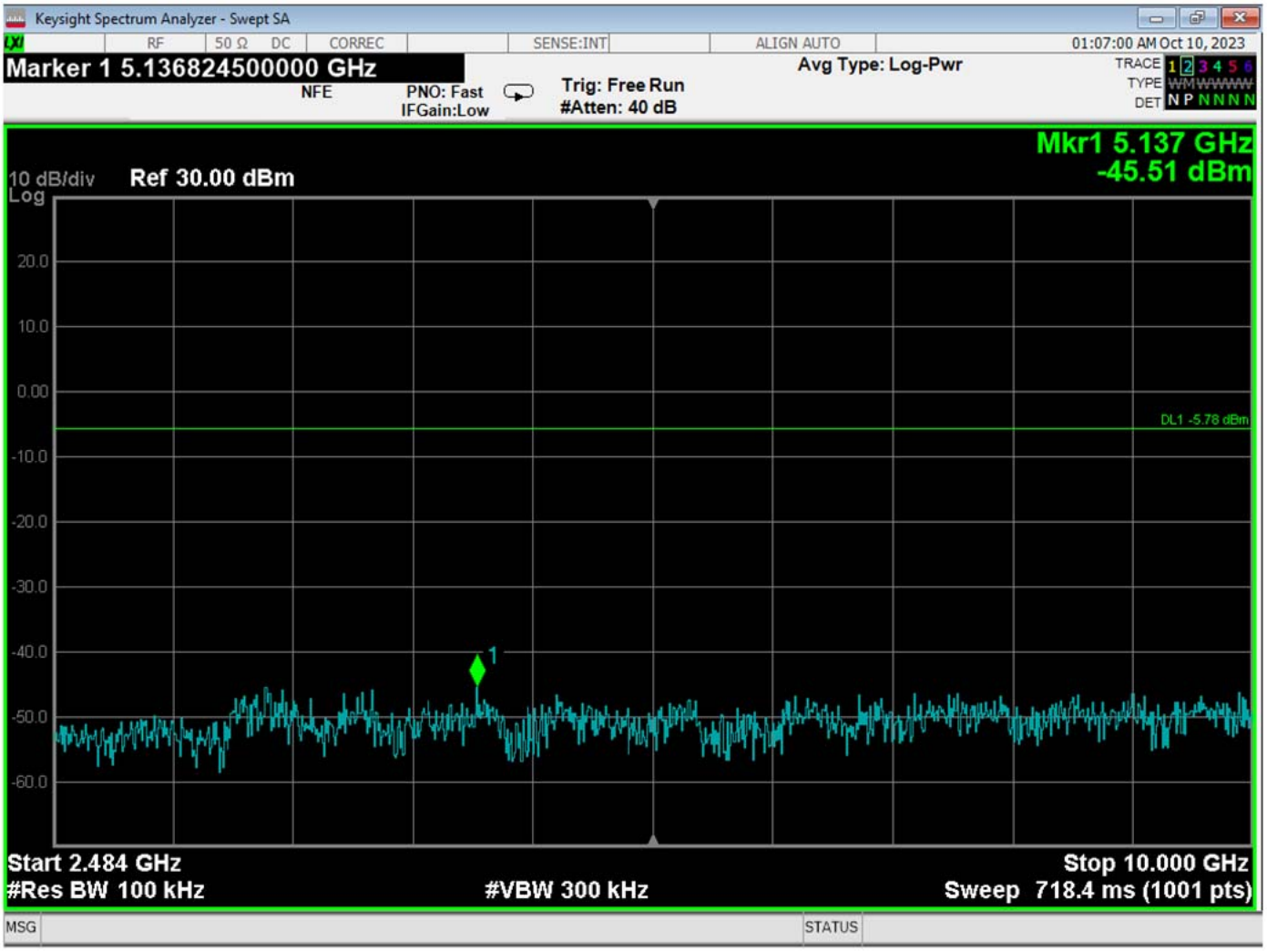
RF Antenna Conducted – Middle Channel – Reference Level



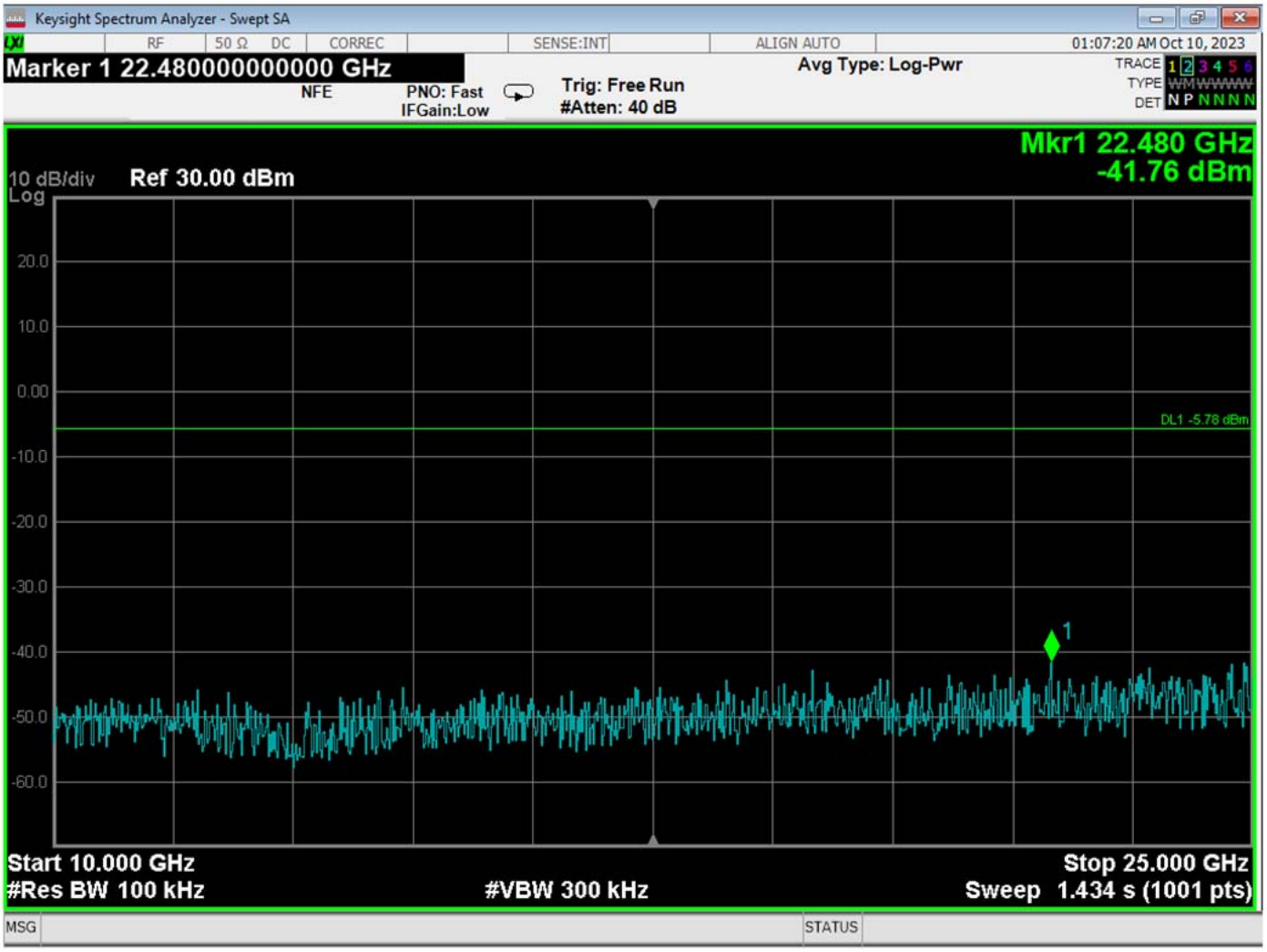
RF Antenna Conducted – Middle Channel – 30 MHz to 1 GHz



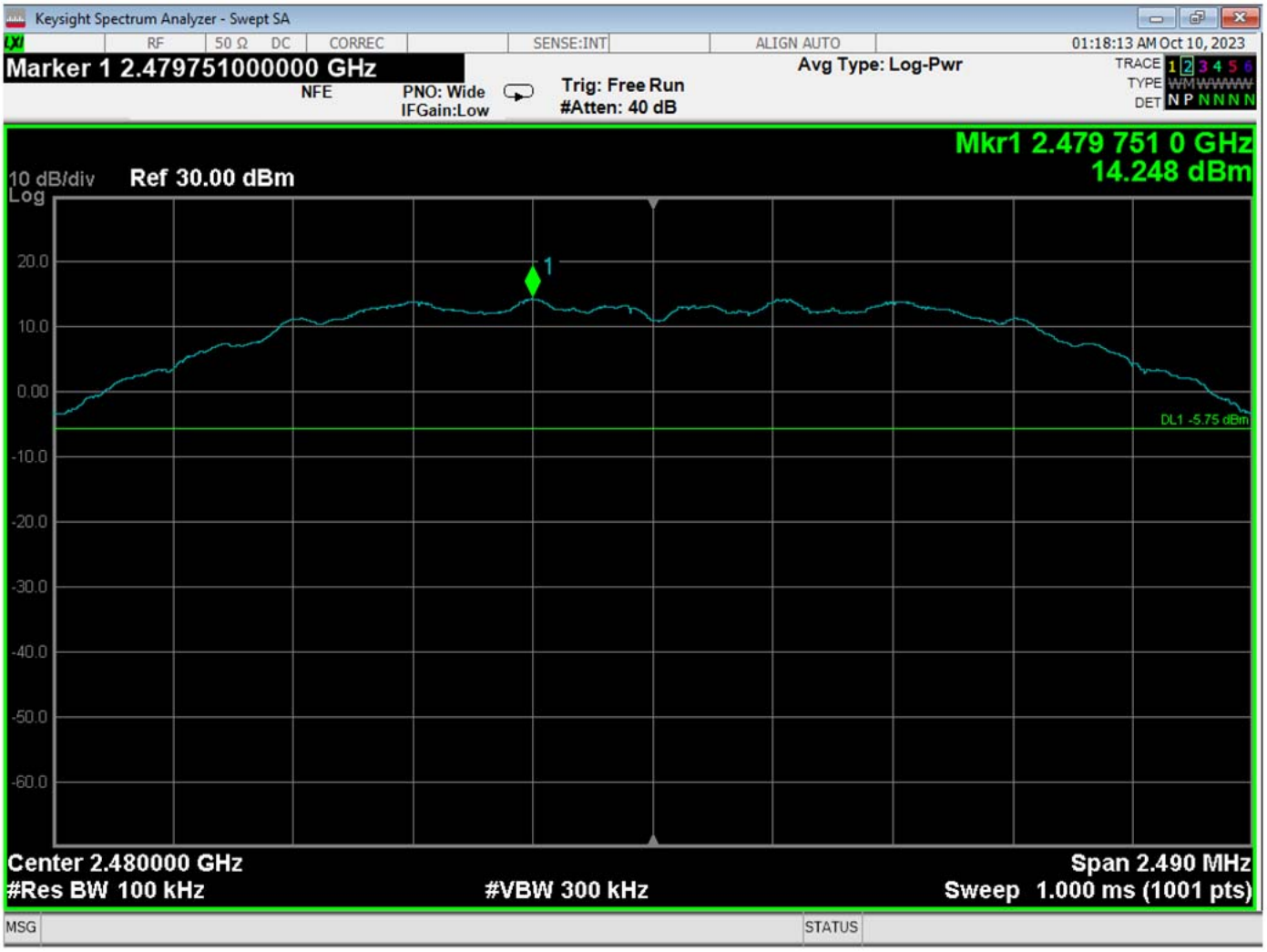
RF Antenna Conducted – Middle Channel – 1 GHz to 2.4 GHz



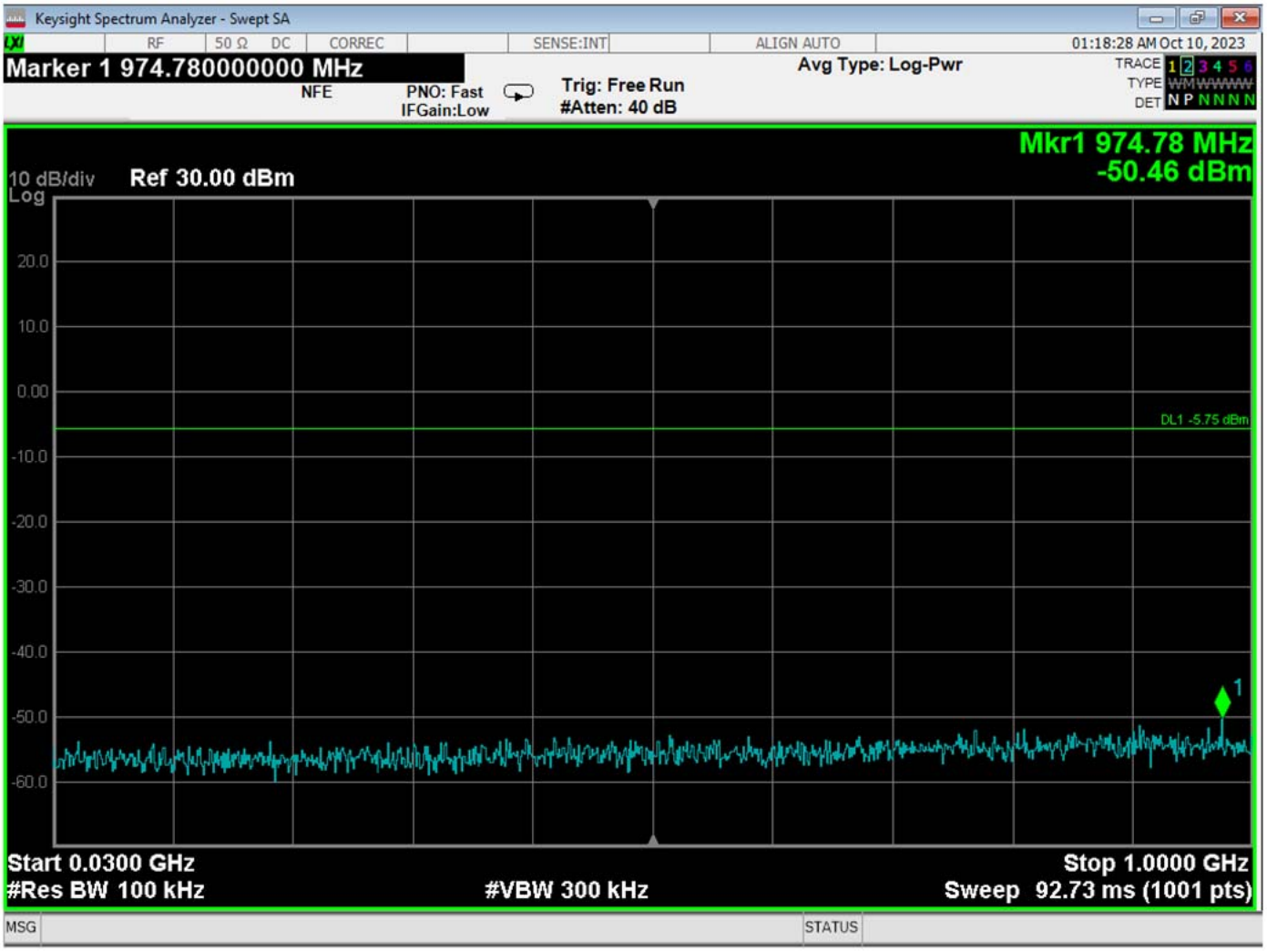
RF Antenna Conducted – Middle Channel – 2.4835 GHz to 10 GHz



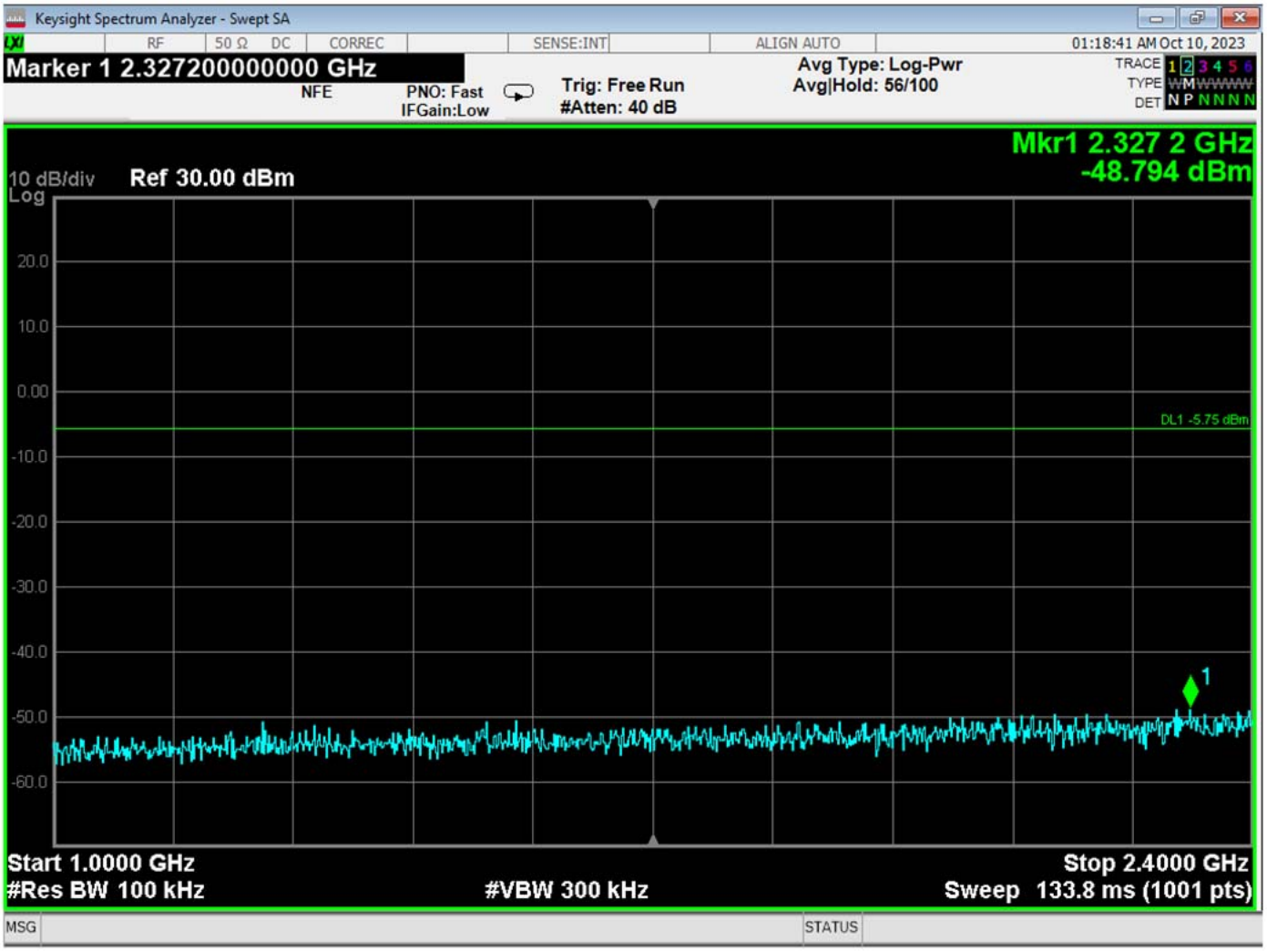
RF Antenna Conducted – Middle Channel – 10 GHz to 25 GHz



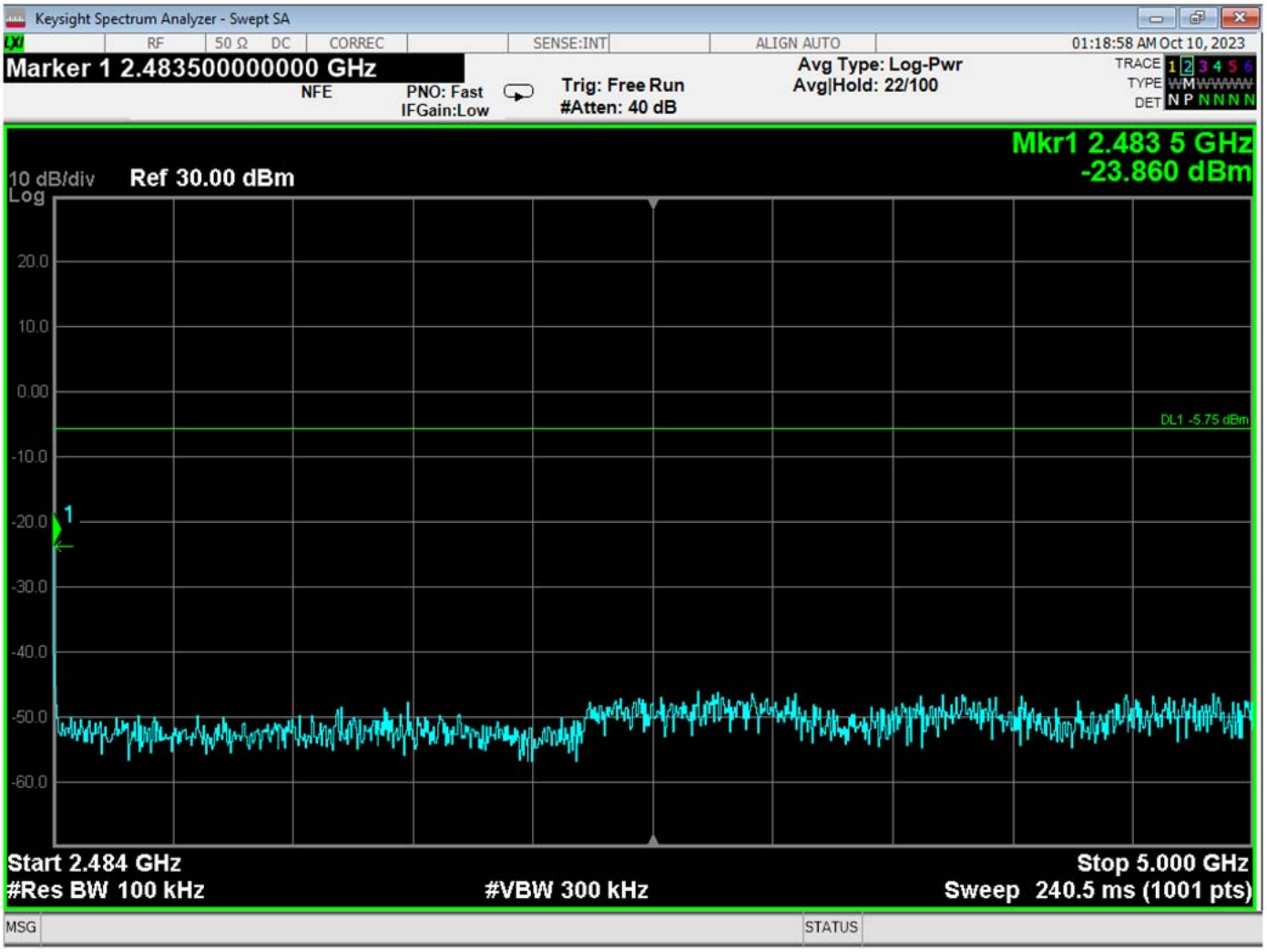
RF Antenna Conducted – High Channel – Reference Level



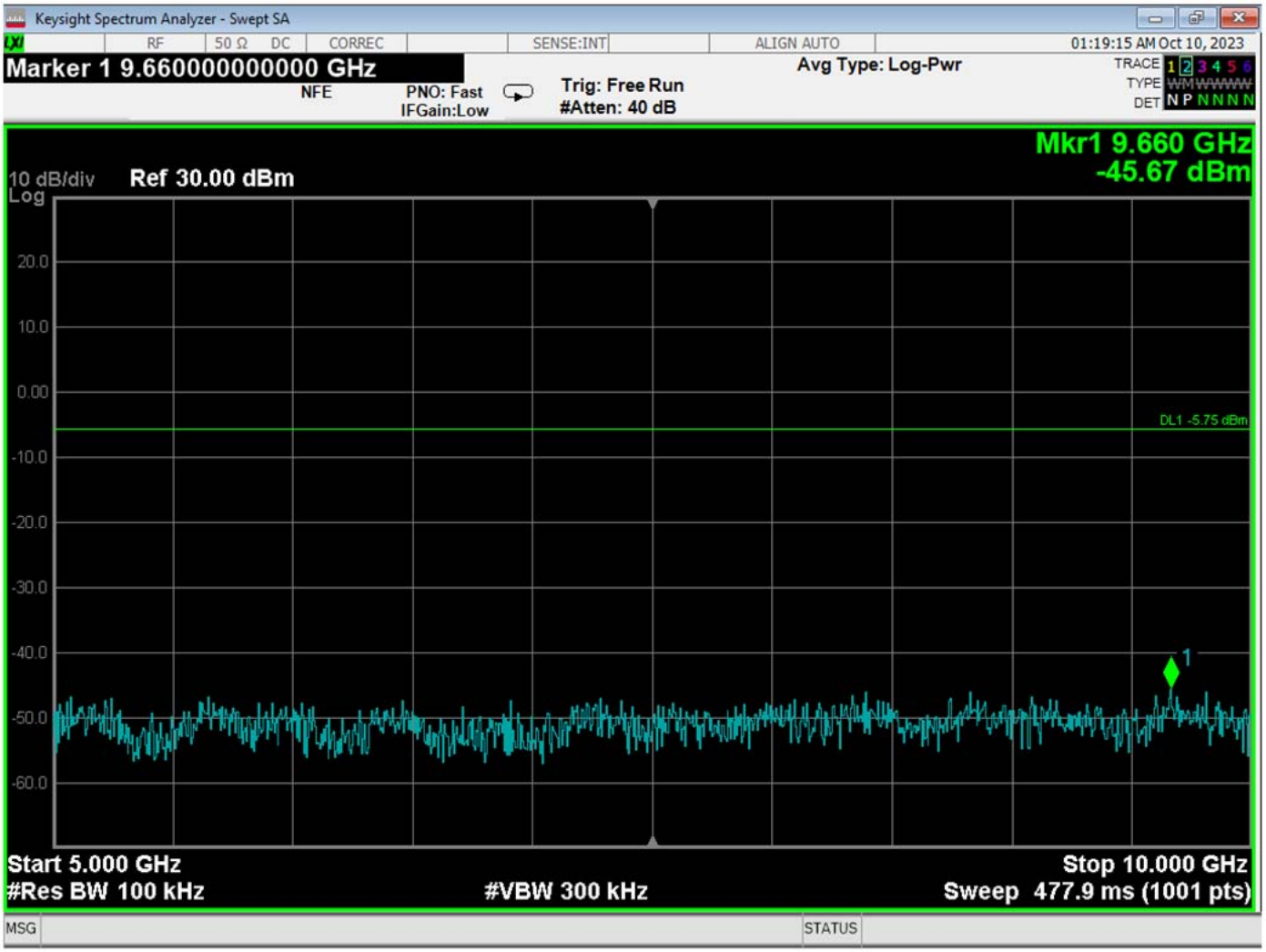
RF Antenna Conducted – High Channel – 30 MHz to 1 GHz



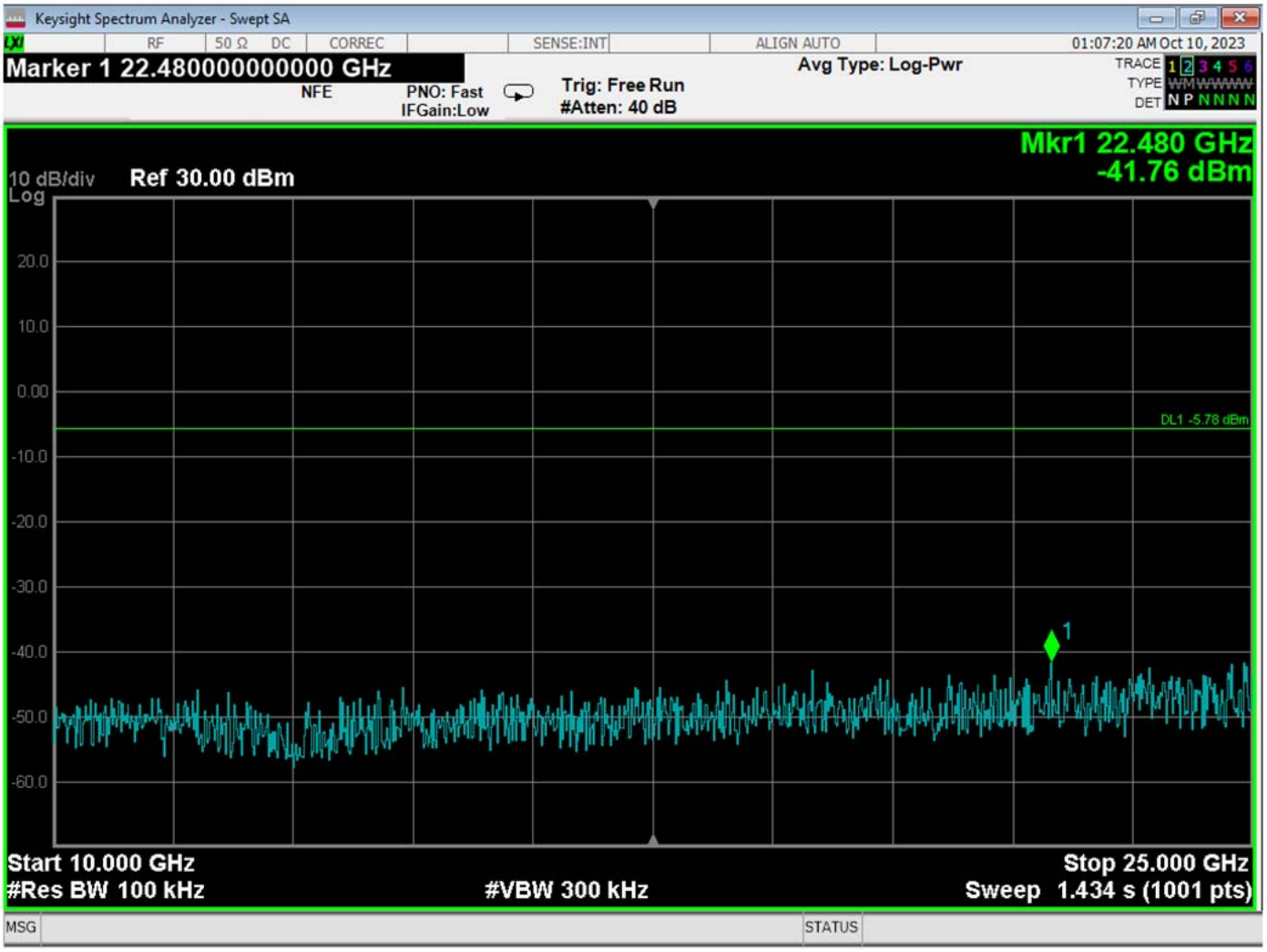
RF Antenna Conducted – High Channel – 1 GHz to 2.4 GHz



RF Antenna Conducted – High Channel – 2.4835 GHz to 5 GHz



RF Antenna Conducted – High Channel – 5 GHz to 10 GHz



RF Antenna Conducted – High Channel – 10 GHz to 25 GHz

VIVINT, INC.

ZIGBEE THERMOSTAT

MODEL: TH03

EMISSIONS IN NON-RESTRICTED BANDS

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
2391.60	-49.47	-5.78	-43.69
2400.00	-39.108	-5.21	-33.898
9660.00	-45.67	-5.75	-39.92

PEAK POWER SPECTRAL DENSITY

DATA SHEETS

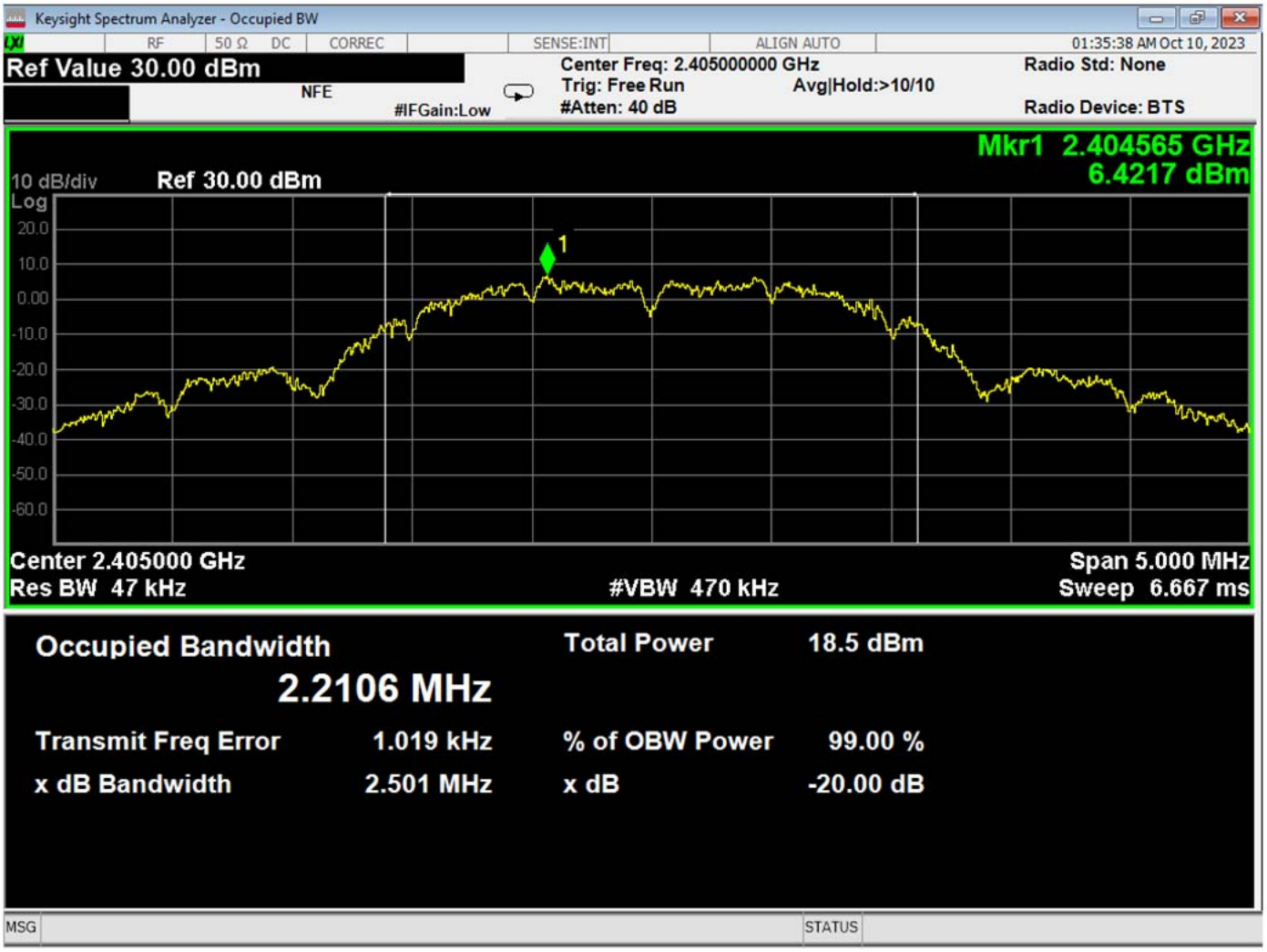
Peak Power Spectral Density – Low Channel

Peak Power Spectral Density – Middle Channel

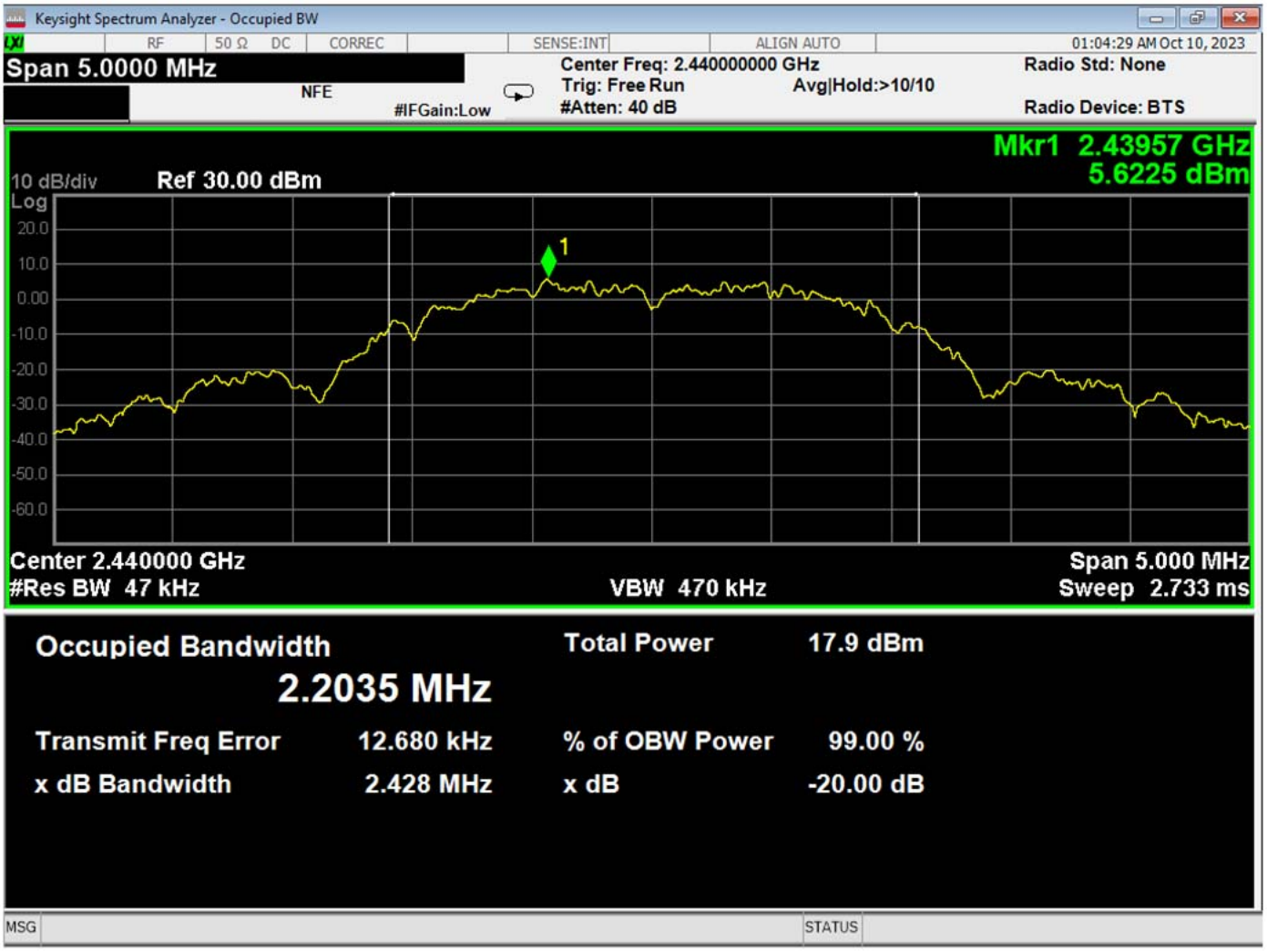
Peak Power Spectral Density – High Channel

99% BANDWIDTH

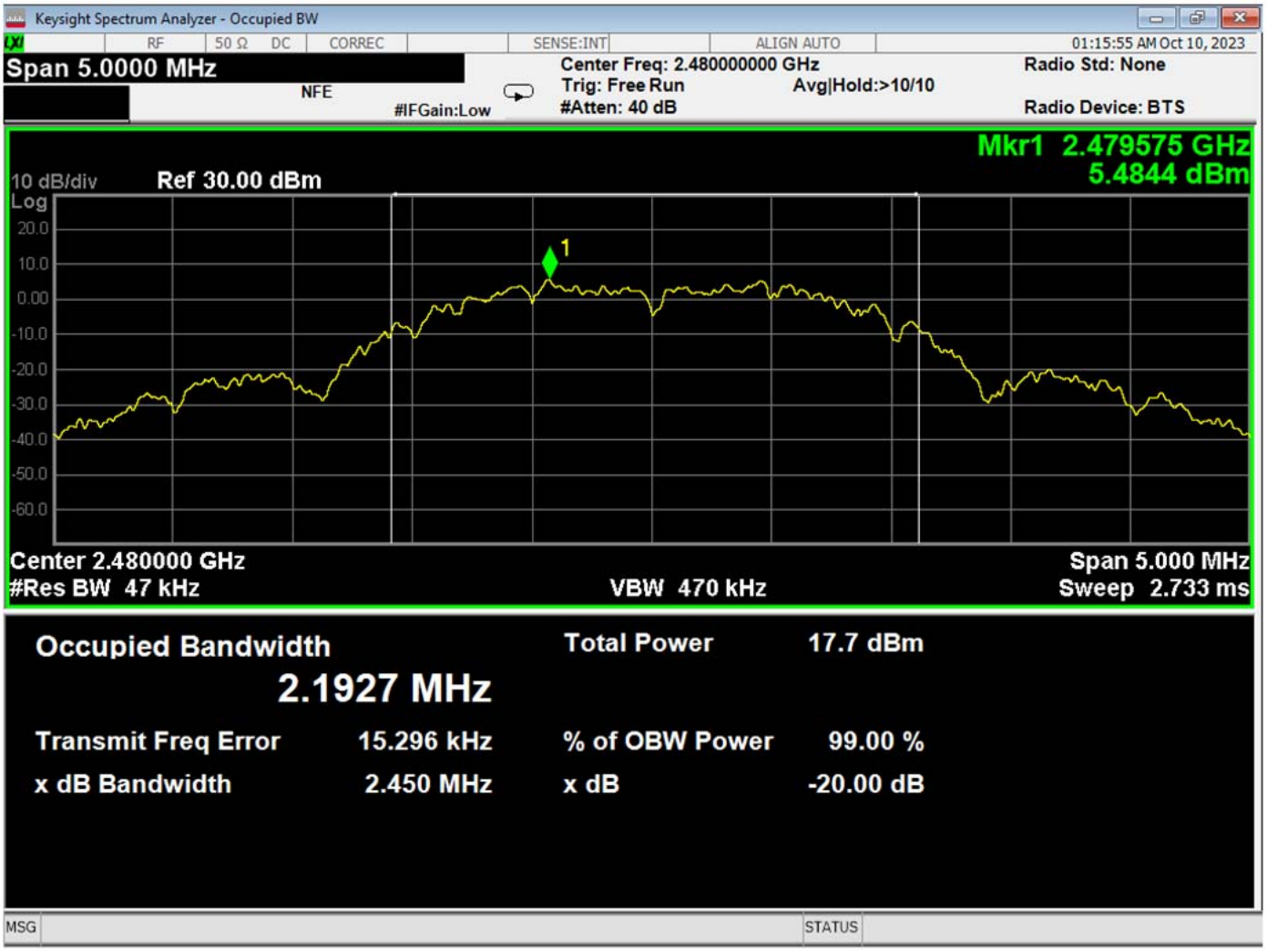
DATA SHEETS



99% Bandwidth Plot – Low Channel



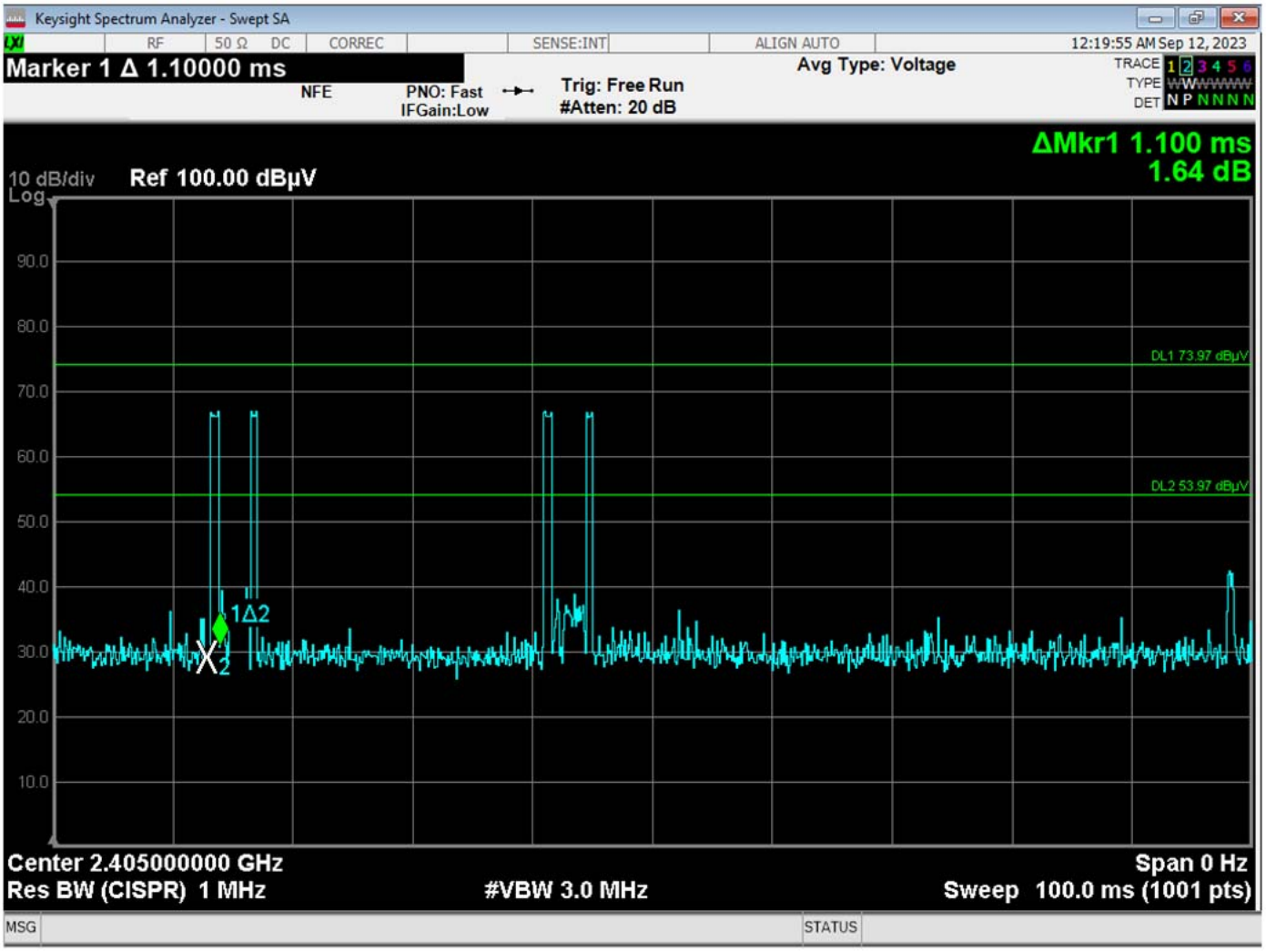
99% Bandwidth Plot – Middle Channel



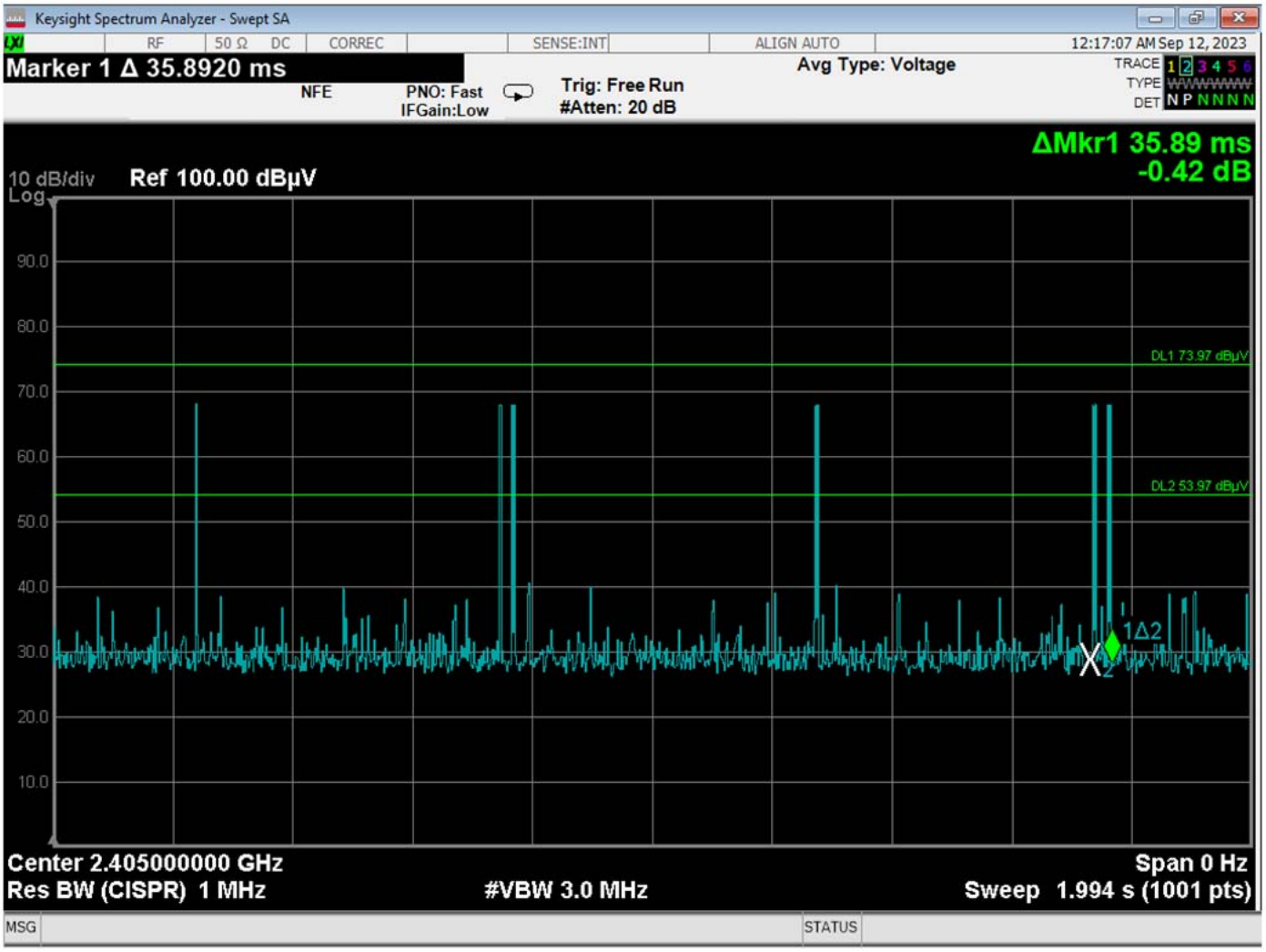
99% Bandwidth Plot – High Channel

DUTY CYCLE

DATA SHEETS



Time of one pulse – 1.1 ms



Worst case of Pulse Train Repeating = 35.89 ms

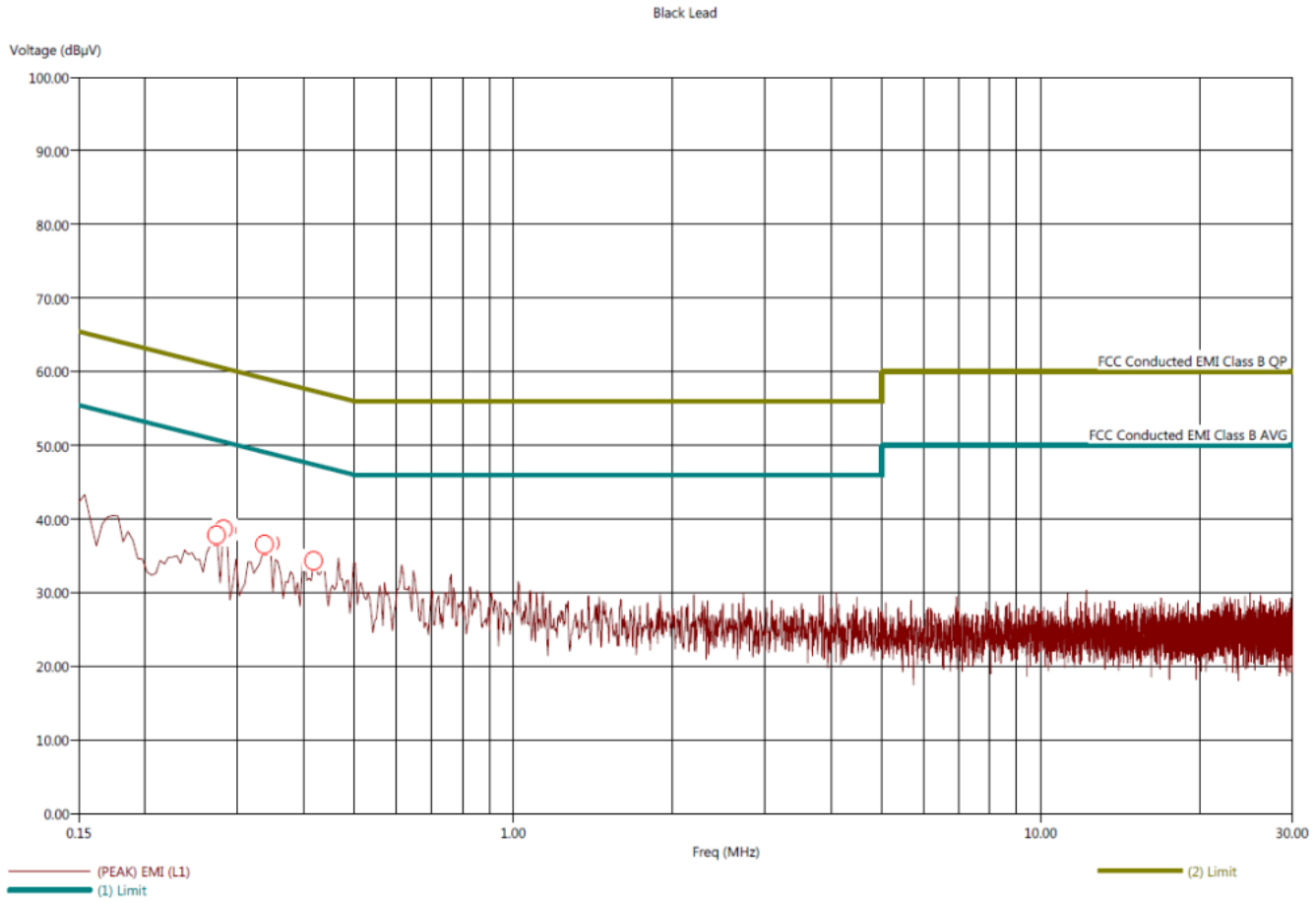
Duty Cycle = 4.4 ms / 35.89 ms = 12.26%

A Peak to Average Ratio of -18.23 dB can be used.

CONDCUTED EMISSIONS DATA SHEETS

Title: Pre-Scan - FCC Class B - Black Lead
File: 1 - BL - Pre-Scan - 2405 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2405 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B1

12/6/2023 2:23:41 PM
Sequence: Preliminary Scan



Title: Final Scan - FCC Class B - Black Lead
File: 1 - BL - Final Scan - 2405 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2405 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B1

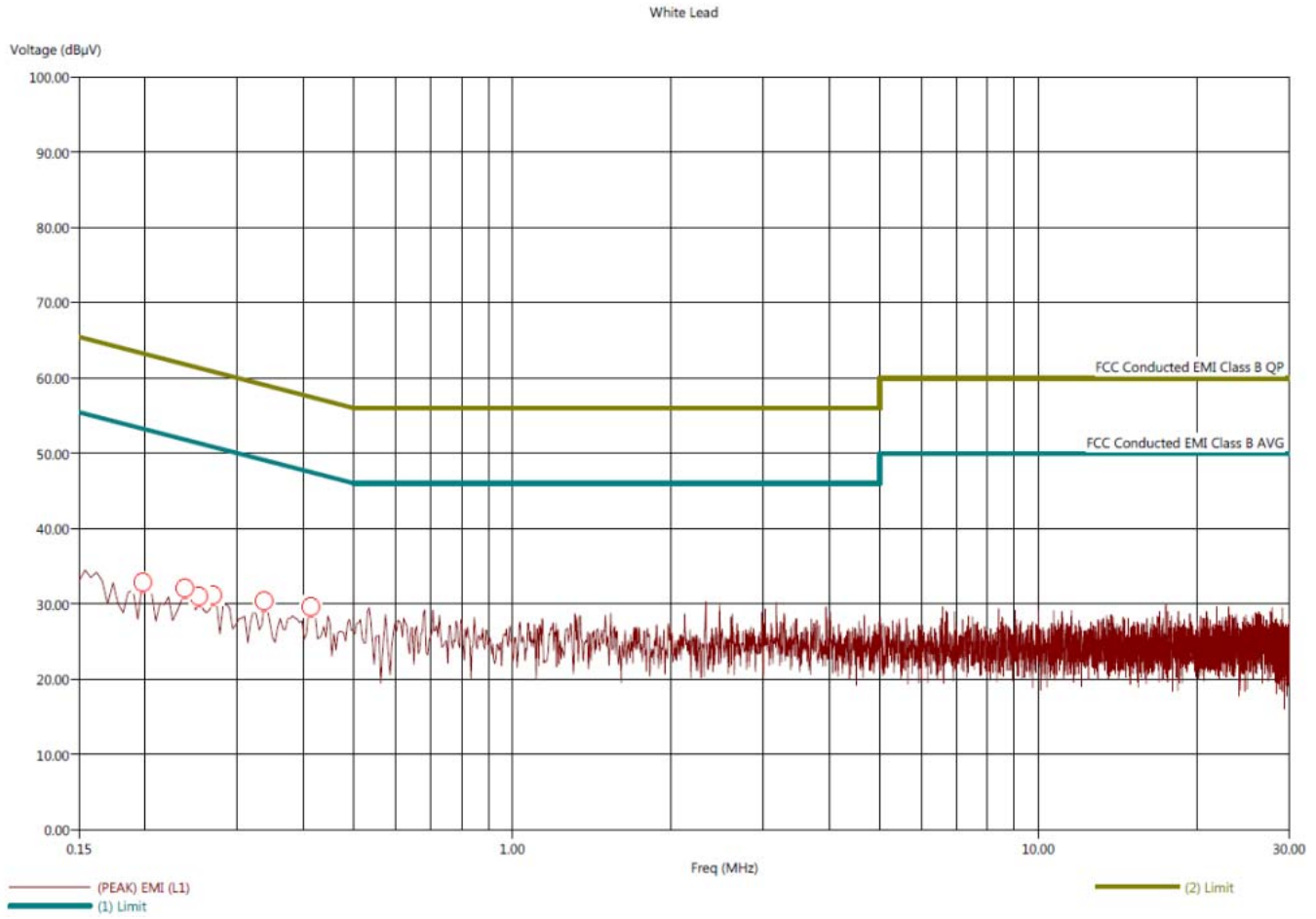
12/6/2023 2:25:07 PM
Sequence: Final Measurements

Black Lead - Average

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin (AVG) (dB)	(AVG) Margin (AVG) (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.274	40.43	28.46	-10.58	-22.55	51.00	0.32	0.05	10.10
0.282	39.34	27.73	-11.01	-22.62	50.35	0.33	0.04	10.10
0.286	40.73	27.66	-9.55	-22.62	50.28	0.33	0.04	10.10
0.338	38.99	26.24	-9.97	-22.72	48.97	0.36	0.04	10.10
0.346	40.54	26.45	-8.51	-22.60	49.05	0.35	0.04	10.10
0.418	36.76	24.54	-10.54	-22.76	47.30	0.39	0.03	10.10

Title: Pre-Scan - FCC Class B - White Lead
File: 1 - WL - Pre-Scan - 2405 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2405 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B1

12/6/2023 2:38:03 PM
Sequence: Preliminary Scan



Title: Final Scan - FCC Class B - White Lead
File: 1 - WL - Final Scan - 2405 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2405 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B1

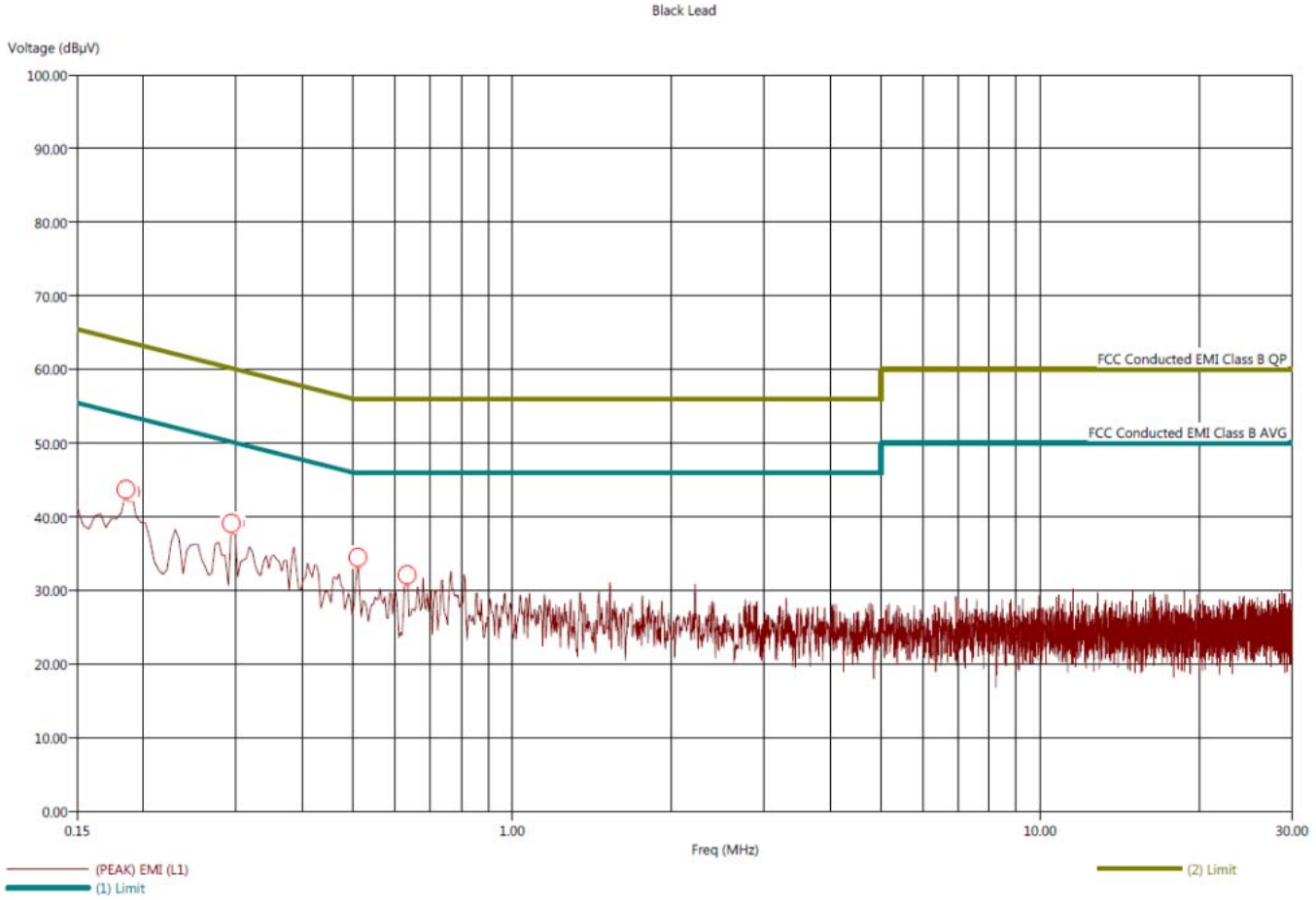
12/6/2023 2:39:22 PM
Sequence: Final Measurements

White Lead - Average

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin (AVG) (dB)	(AVG) Margin (AVG) (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.198	28.06	16.60	-25.42	-36.88	53.48	0.28	0.06	10.10
0.238	29.68	16.68	-22.09	-35.09	51.77	0.31	0.06	10.10
0.254	31.21	16.75	-19.95	-34.41	51.16	0.32	0.05	10.10
0.270	29.69	15.79	-21.25	-35.15	50.95	0.32	0.05	10.10
0.338	26.14	13.74	-22.79	-35.19	48.94	0.36	0.05	10.10
0.414	25.25	13.11	-22.44	-34.58	47.70	0.38	0.04	10.10

Title: Pre-Scan - FCC Class B - Black Lead
File: 1 - BL - Pre-Scan - 2440 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2440 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B2

12/6/2023 2:12:40 PM
Sequence: Preliminary Scan



Title: Final Scan - FCC Class B - Black Lead
File: 1 - BL - Final Scan - 2440 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2440 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B2

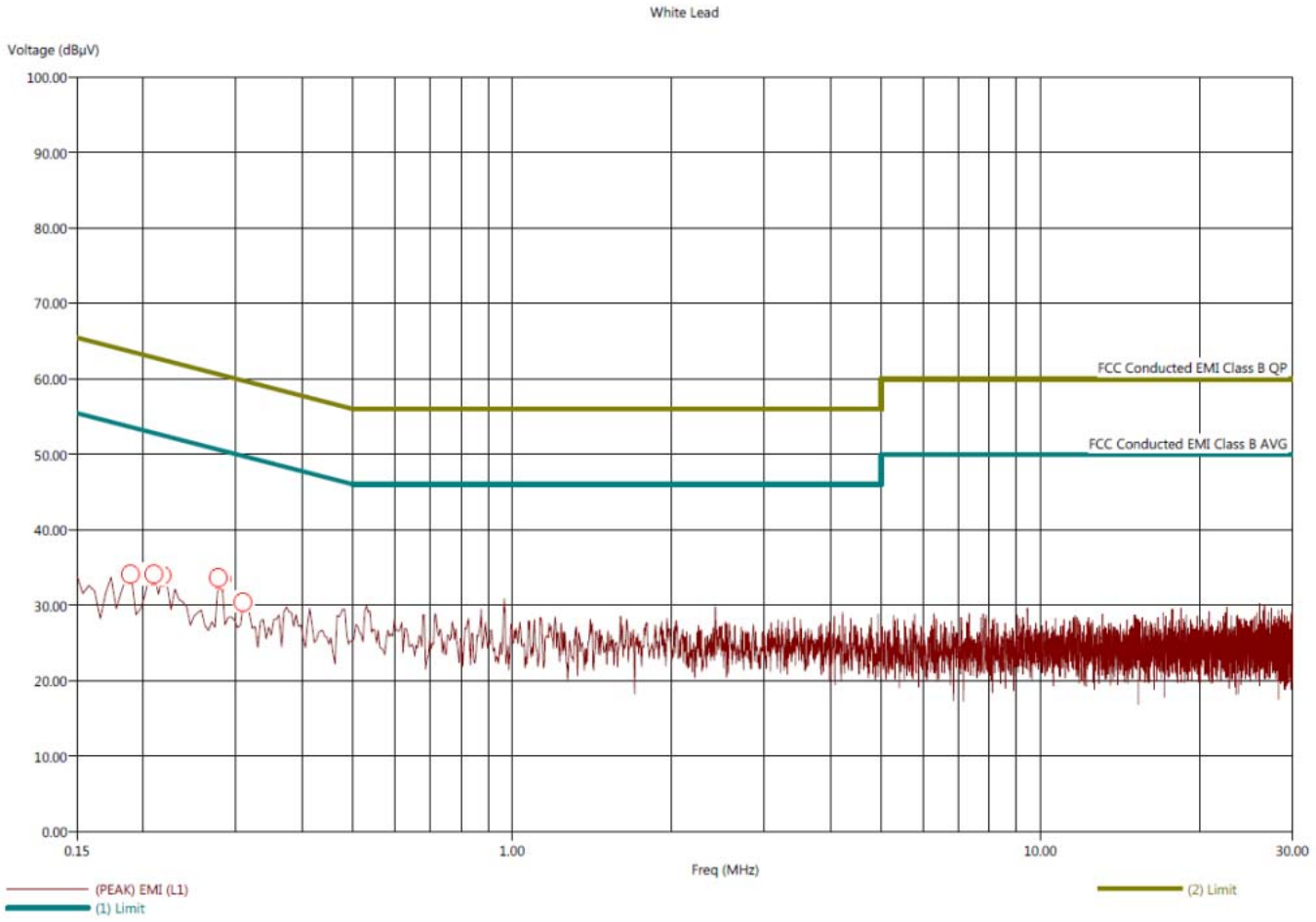
12/6/2023 2:13:47 PM
Sequence: Final Measurements

Black Lead - Average

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin (AVG) (dB)	(AVG) Margin (AVG) (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.186	45.61	31.53	-8.12	-22.20	53.72	0.28	0.07	10.10
0.190	45.68	31.18	-7.66	-22.16	53.34	0.28	0.06	10.10
0.294	45.56	27.73	-4.70	-22.53	50.26	0.33	0.04	10.10
0.298	42.15	27.35	-7.99	-22.79	50.13	0.34	0.04	10.10
0.510	38.16	23.59	-7.84	-22.41	46.00	0.41	0.03	10.10
0.634	35.64	21.40	-10.36	-24.60	46.00	0.38	0.03	10.10

Title: Pre-Scan - FCC Class B - White Lead
File: 1 - WL - Pre-Scan - 2440 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2440 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B2

12/6/2023 2:17:59 PM
Sequence: Preliminary Scan



Title: Final Scan - FCC Class B - White Lead
File: 1 - WL - Final Scan - 2440 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2440 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B2

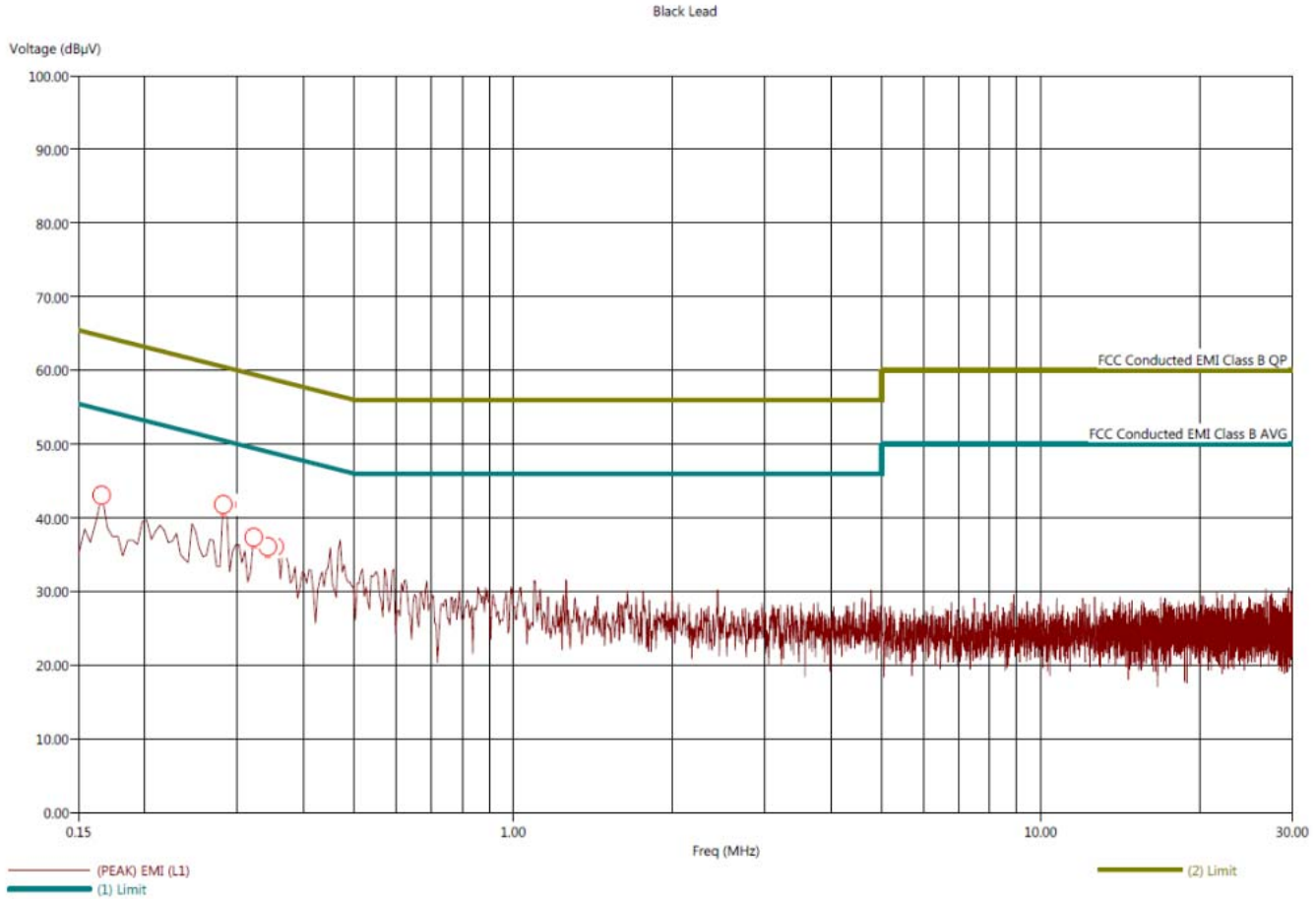
12/6/2023 2:19:17 PM
Sequence: Final Measurements

White Lead - Average

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin (AVG) (dB)	(AVG) Margin (AVG) (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.190	28.41	16.48	-25.73	-37.66	54.14	0.28	0.07	10.10
0.210	27.23	16.85	-26.15	-36.53	53.38	0.28	0.06	10.10
0.218	29.23	18.39	-23.06	-33.90	52.30	0.30	0.06	10.10
0.278	27.40	16.44	-23.18	-34.14	50.58	0.33	0.05	10.10
0.282	27.08	16.34	-23.50	-34.24	50.58	0.33	0.05	10.10
0.310	23.98	13.37	-25.87	-36.48	49.85	0.34	0.05	10.10

Title: Pre-Scan - FCC Class B - Black Lead
File: 1 - BL - Pre-Scan - 2480 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2480 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B3

12/6/2023 2:44:43 PM
Sequence: Preliminary Scan



Title: Final Scan - FCC Class B - Black Lead
File: 1 - BL - Final Scan - 2480 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2480 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B3

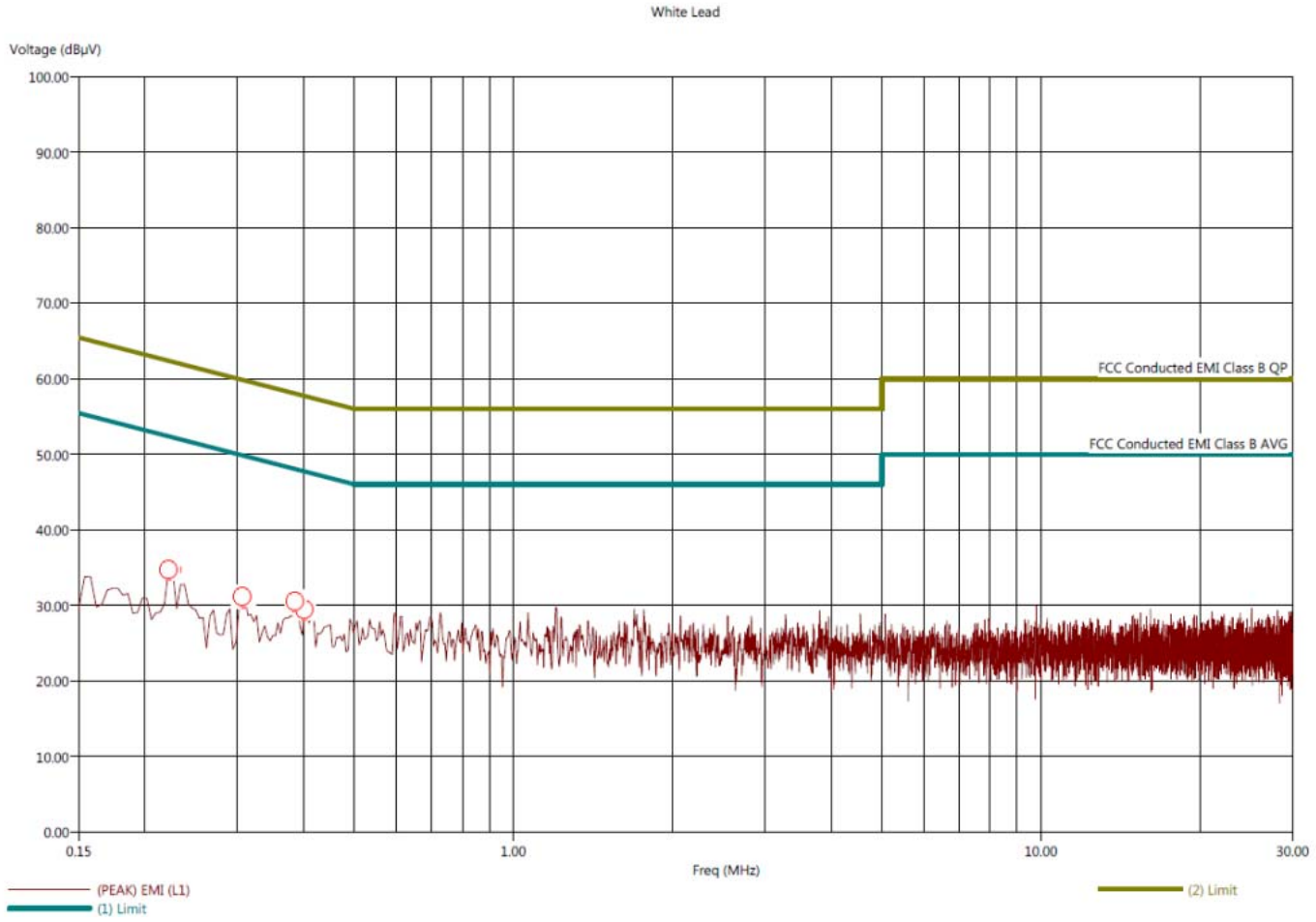
12/6/2023 2:46:18 PM
Sequence: Final Measurements

Black Lead - Average

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin (AVG) (dB)	(AVG) Margin (AVG) (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.166	46.31	32.49	-8.08	-21.90	54.38	0.28	0.08	10.10
0.282	41.82	27.60	-8.52	-22.74	50.35	0.33	0.04	10.10
0.286	40.80	27.95	-9.76	-22.61	50.56	0.33	0.04	10.10
0.322	39.70	26.52	-9.54	-22.72	49.24	0.35	0.04	10.10
0.342	39.37	26.37	-9.80	-22.80	49.17	0.35	0.04	10.10
0.354	39.85	26.36	-8.97	-22.46	48.82	0.36	0.04	10.10

Title: Pre-Scan - FCC Class B - White Lead
File: 1 - WL - Pre-Scan - 2480 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2480 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B3

12/6/2023 2:51:07 PM
Sequence: Preliminary Scan



Title: Final Scan - FCC Class B - White Lead
File: 1 - WL - Final Scan - 2480 MHz - 12-05-2023.set
Operator: Kyle Fujimoto
EUT Type: ZigBee Thermostat
EUT Condition: The EUT is continuously transmitting at 2480 MHz
Company: Vivint, Inc.
M/N: TH03
S/N: B3

12/6/2023 2:52:51 PM
Sequence: Final Measurements

White Lead - Average

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin (AVG) (dB)	(AVG) Margin (AVG) (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.222	28.31	17.03	-24.18	-35.46	52.49	0.29	0.06	10.10
0.226	27.81	16.15	-24.36	-36.02	52.16	0.30	0.06	10.10
0.306	27.18	16.48	-22.99	-33.69	50.17	0.33	0.05	10.10
0.310	23.88	13.30	-25.89	-36.47	49.77	0.34	0.05	10.10
0.386	25.30	13.86	-22.86	-34.30	48.16	0.37	0.05	10.10
0.402	22.43	12.46	-25.47	-35.44	47.90	0.38	0.04	10.10