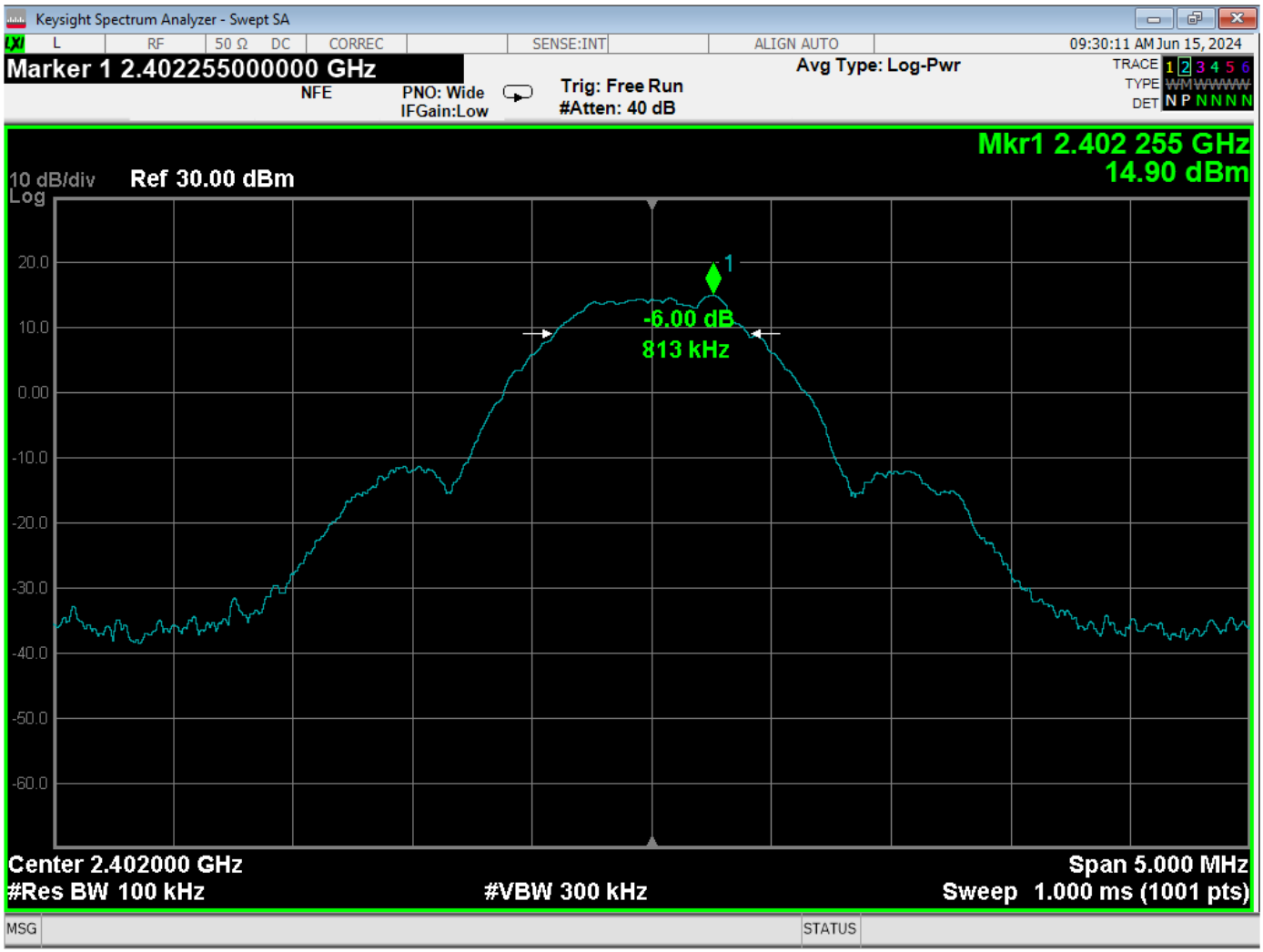
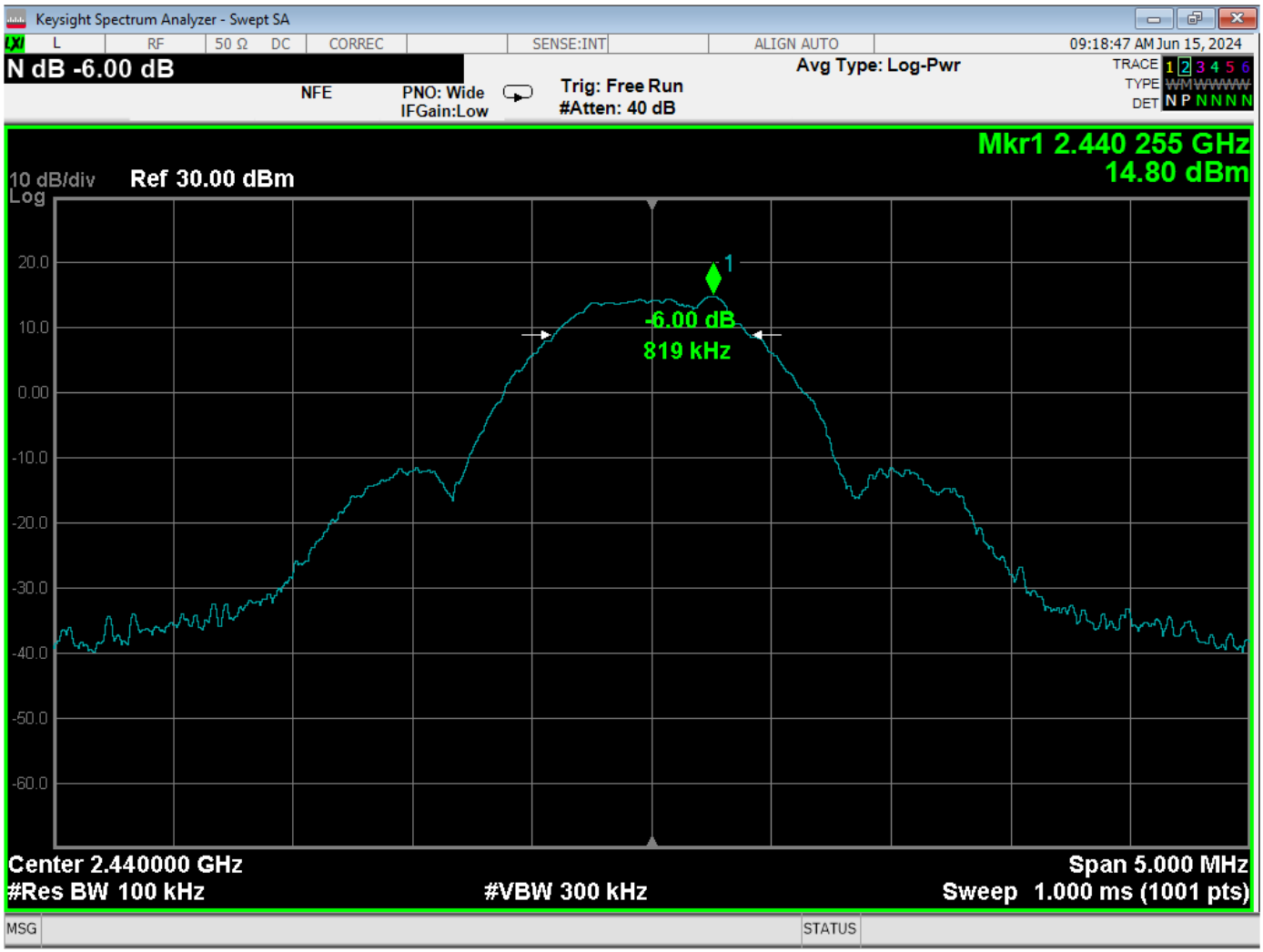
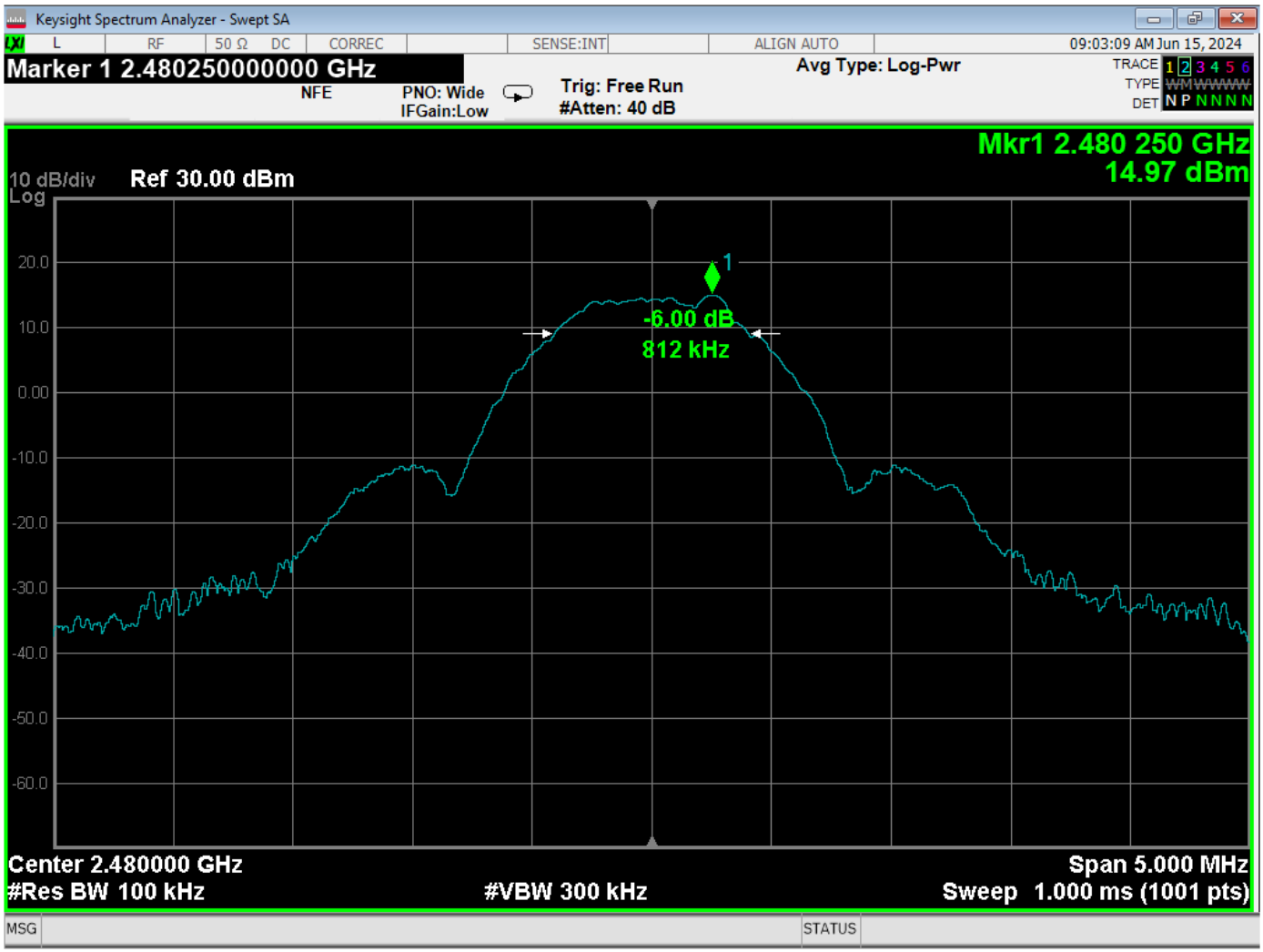
-6 dB BANDWIDTH DATA SHEETS



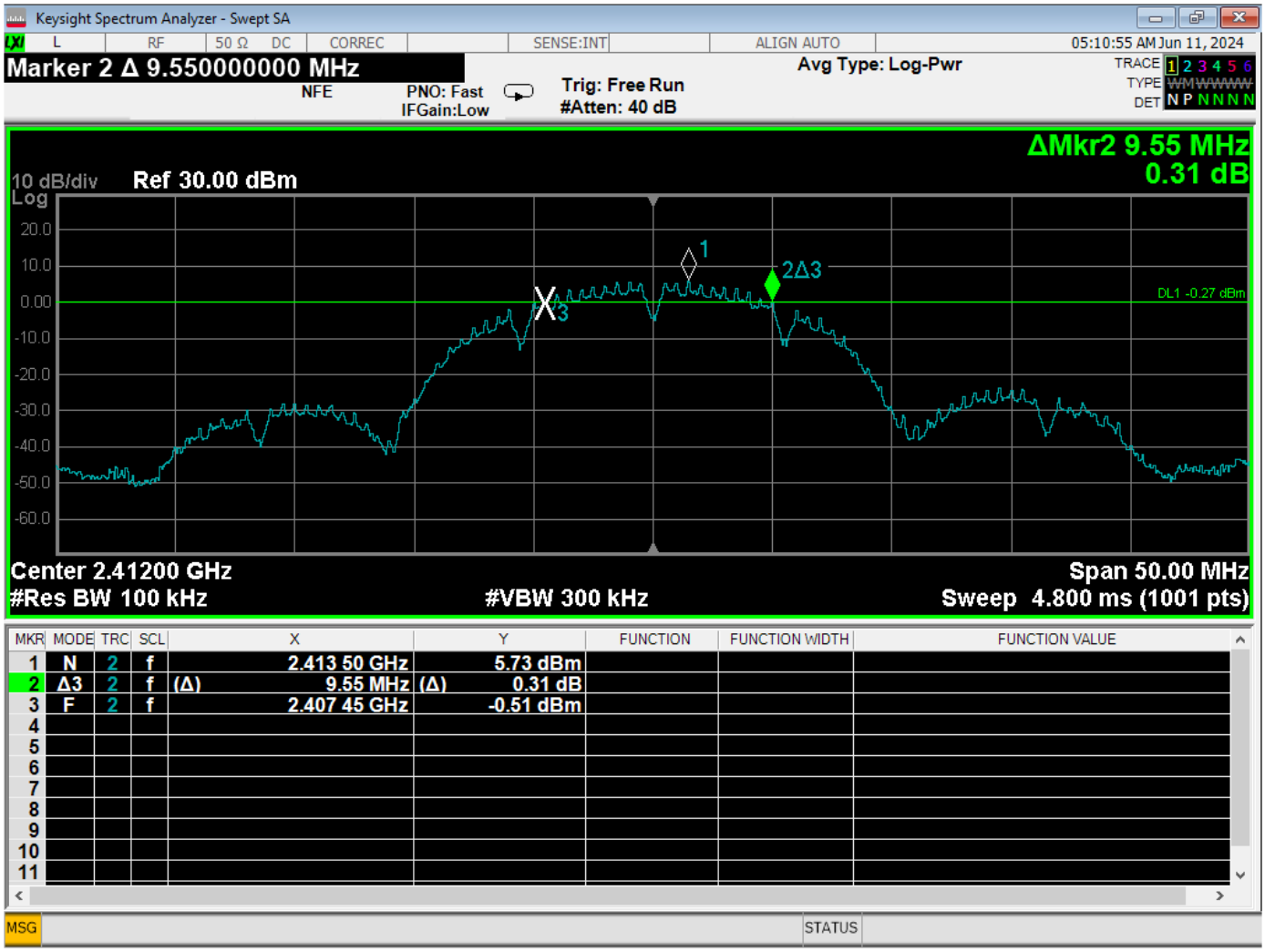
-6 dB Bandwidth – Low Channel – BLE Mode – RedPine



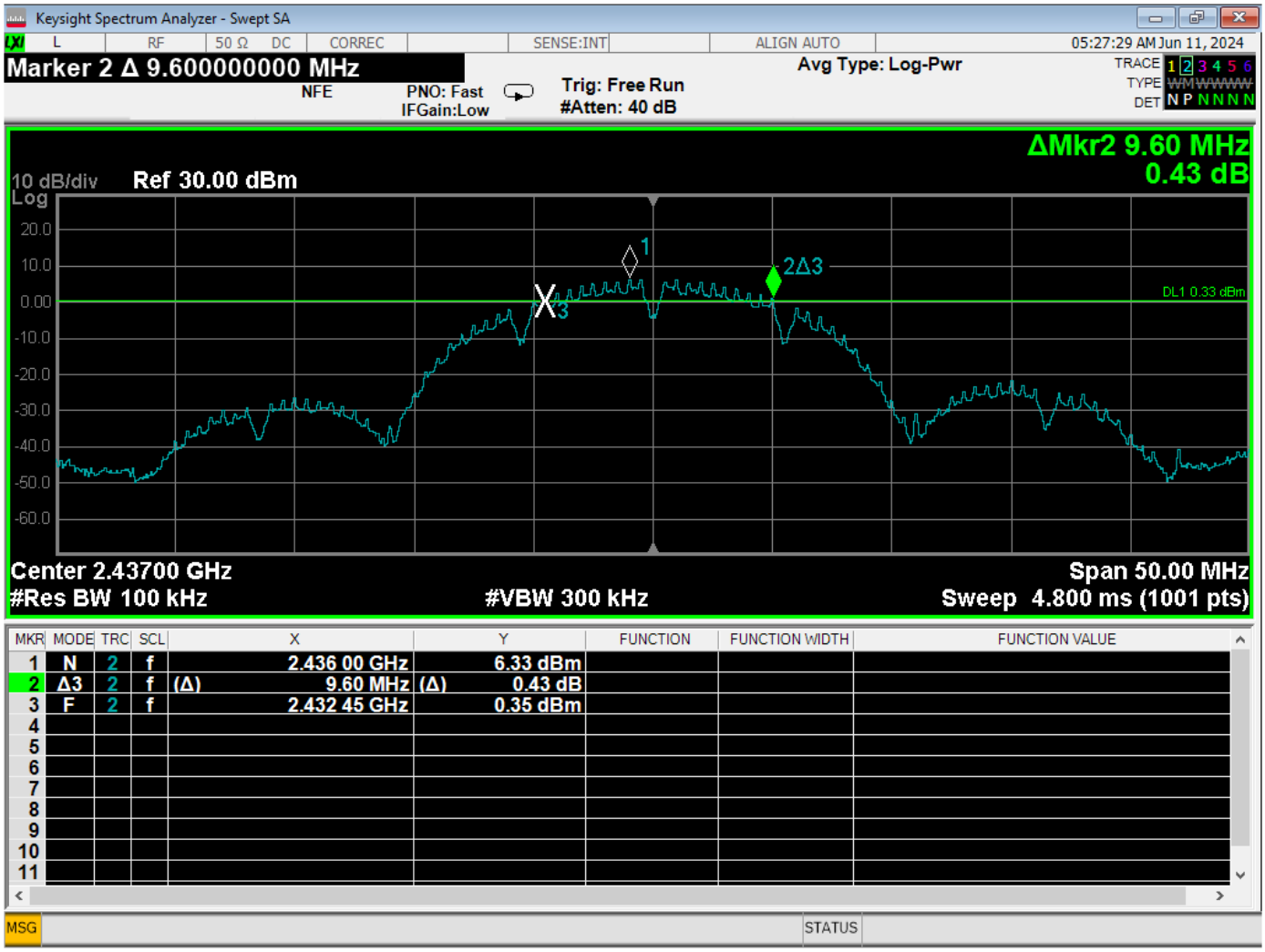
-6 dB Bandwidth – Middle Channel – BLE Mode – RedPine



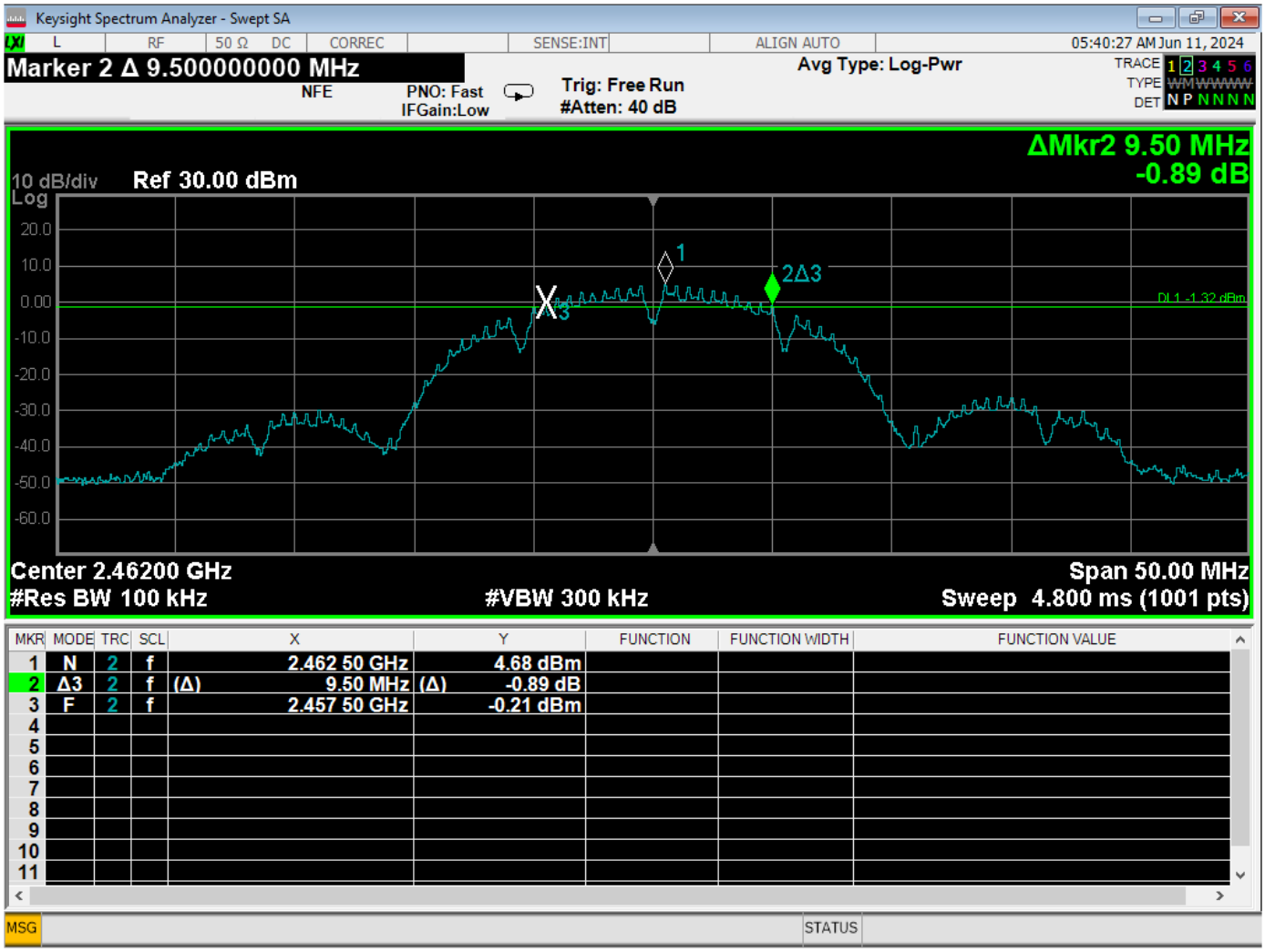
-6 dB Bandwidth – High Channel – 802.11b Mode – RedPine



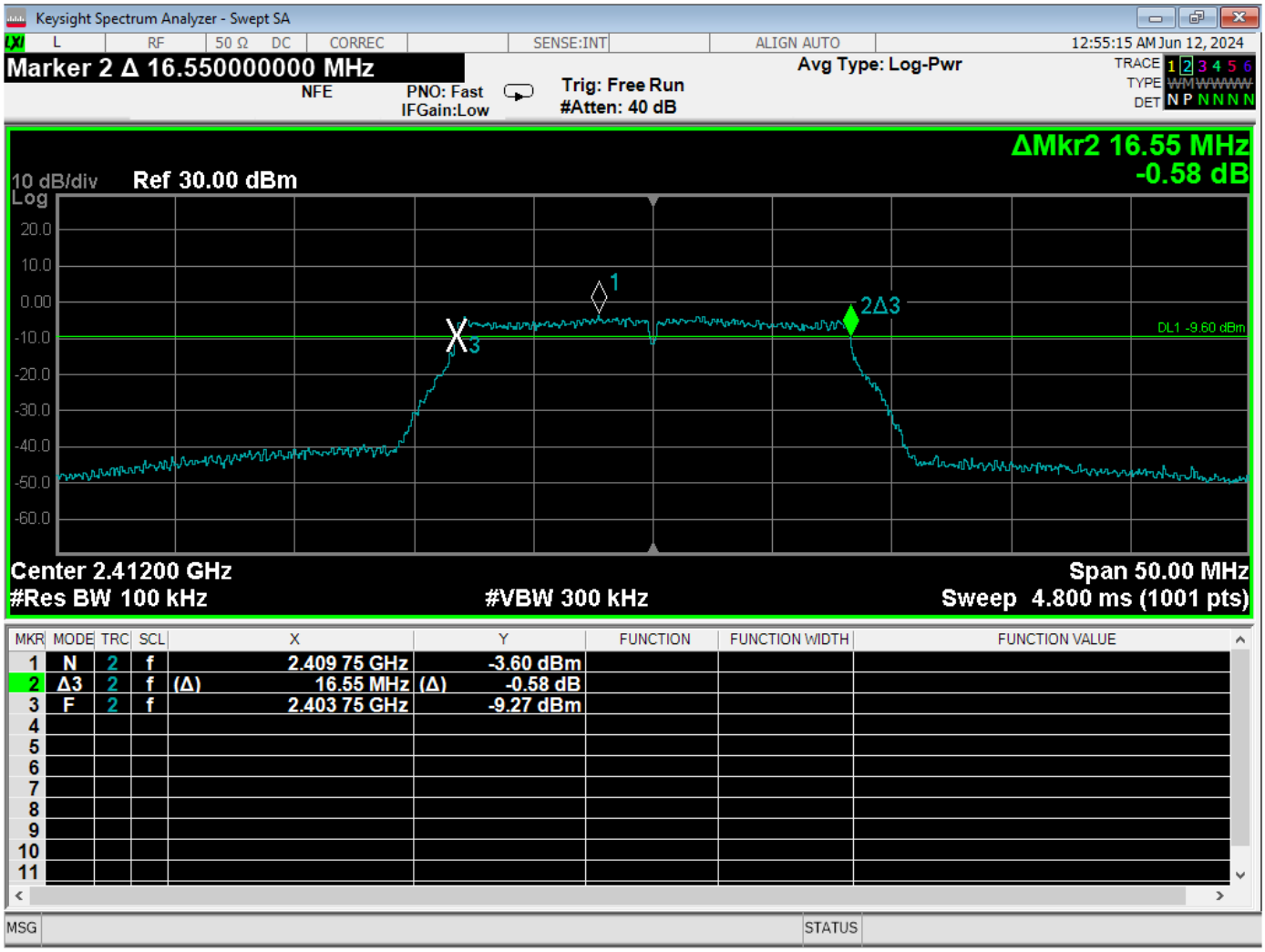
-6 dB Bandwidth – Low Channel – 802.11b Mode – RedPine



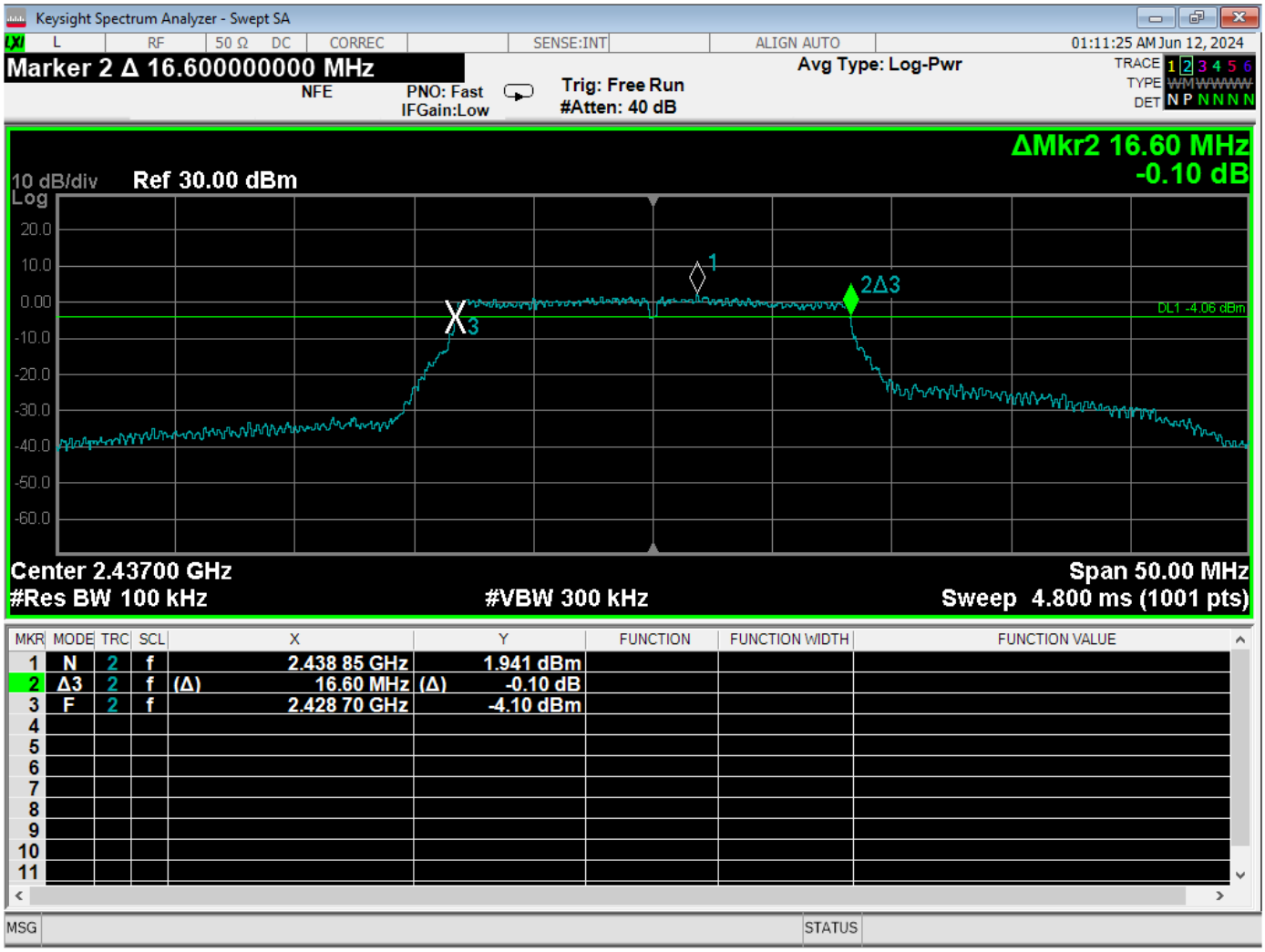
-6 dB Bandwidth – Middle Channel – 802.11b Mode – RedPine



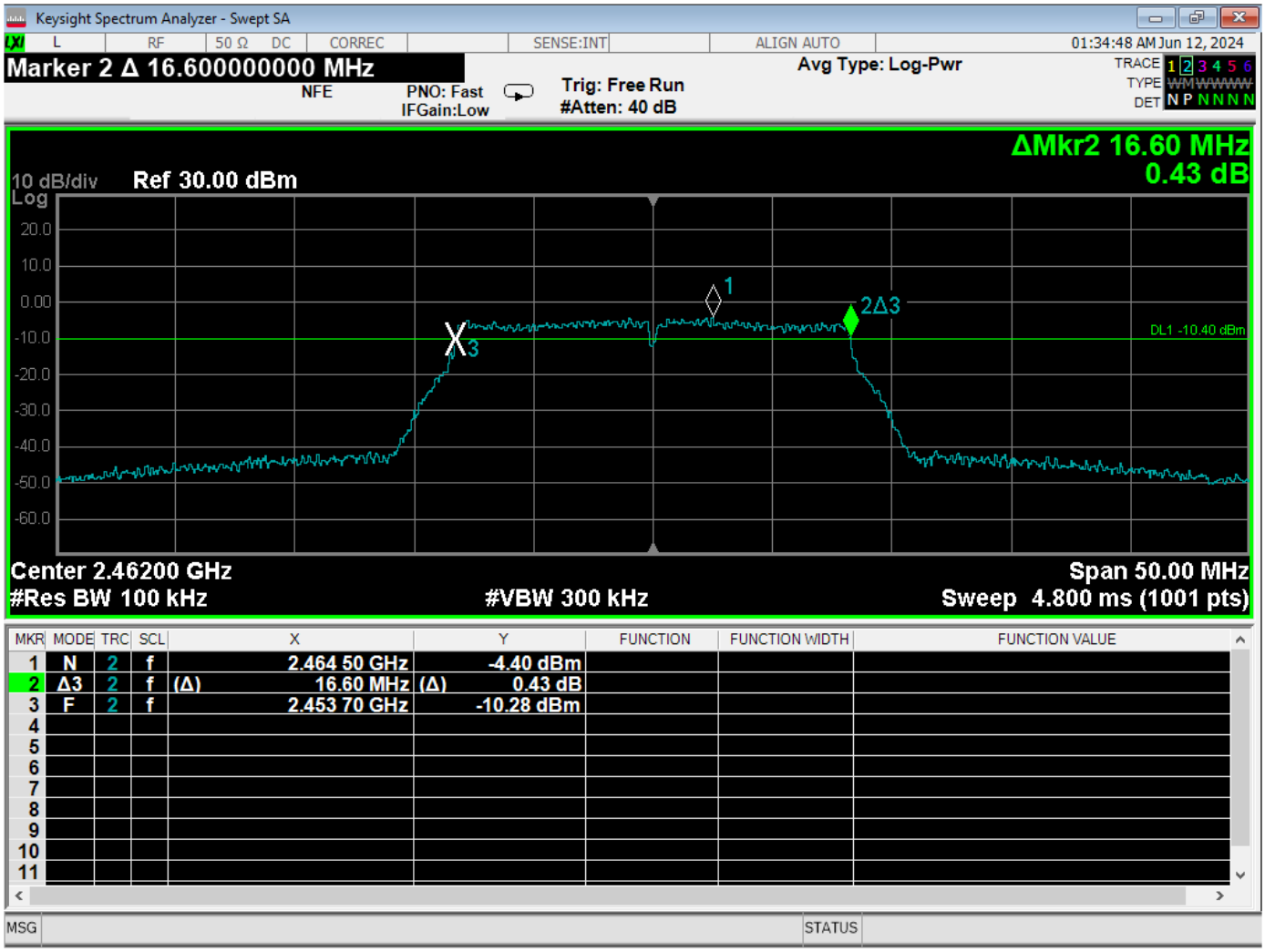
-6 dB Bandwidth – High Channel – 802.11b Mode – RedPine



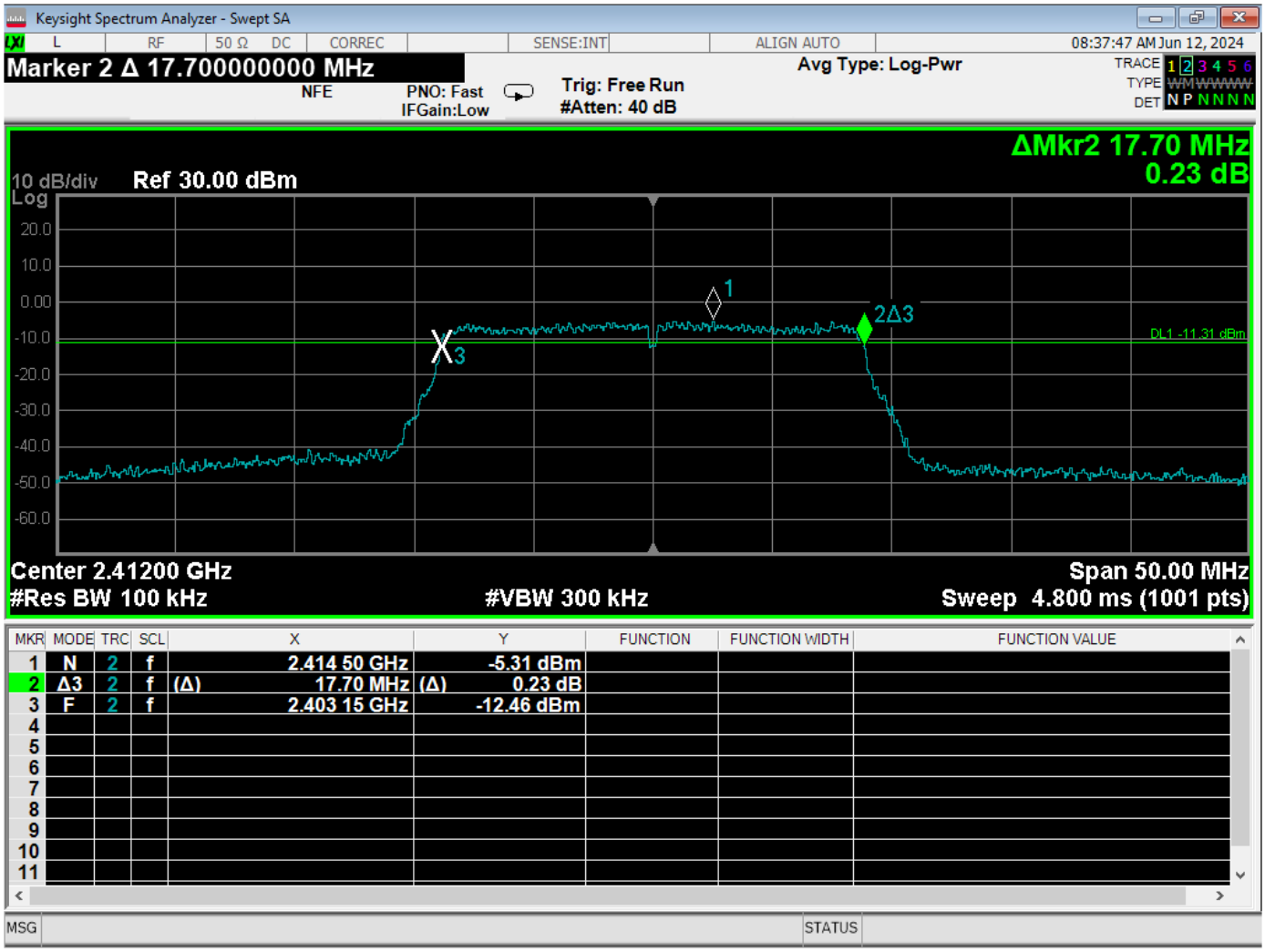
-6 dB Bandwidth – Low Channel – 802.11g Mode – RedPine



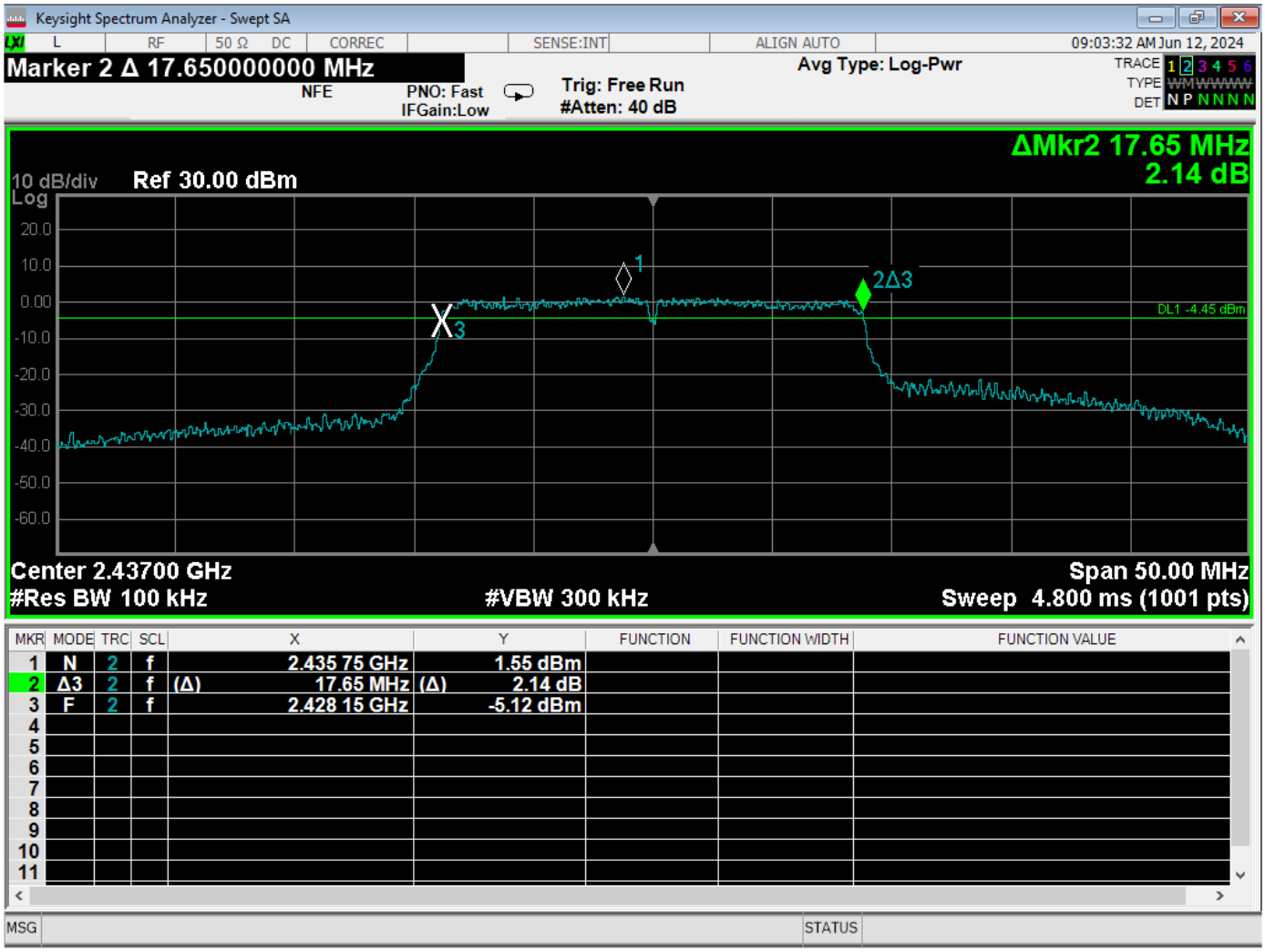
-6 dB Bandwidth – Middle Channel – 802.11g Mode – RedPine



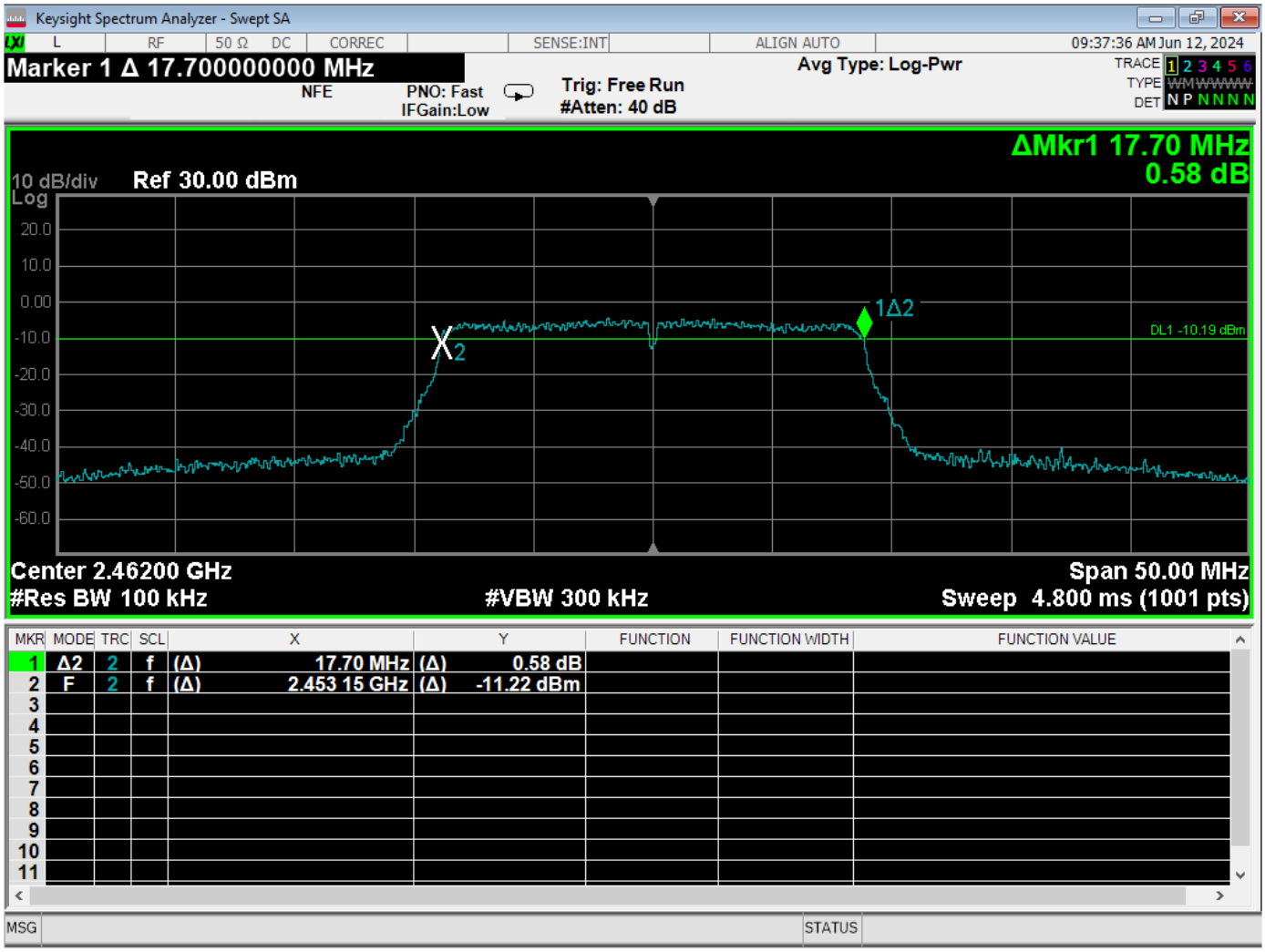
-6 dB Bandwidth – High Channel – 802.11g Mode – RedPine



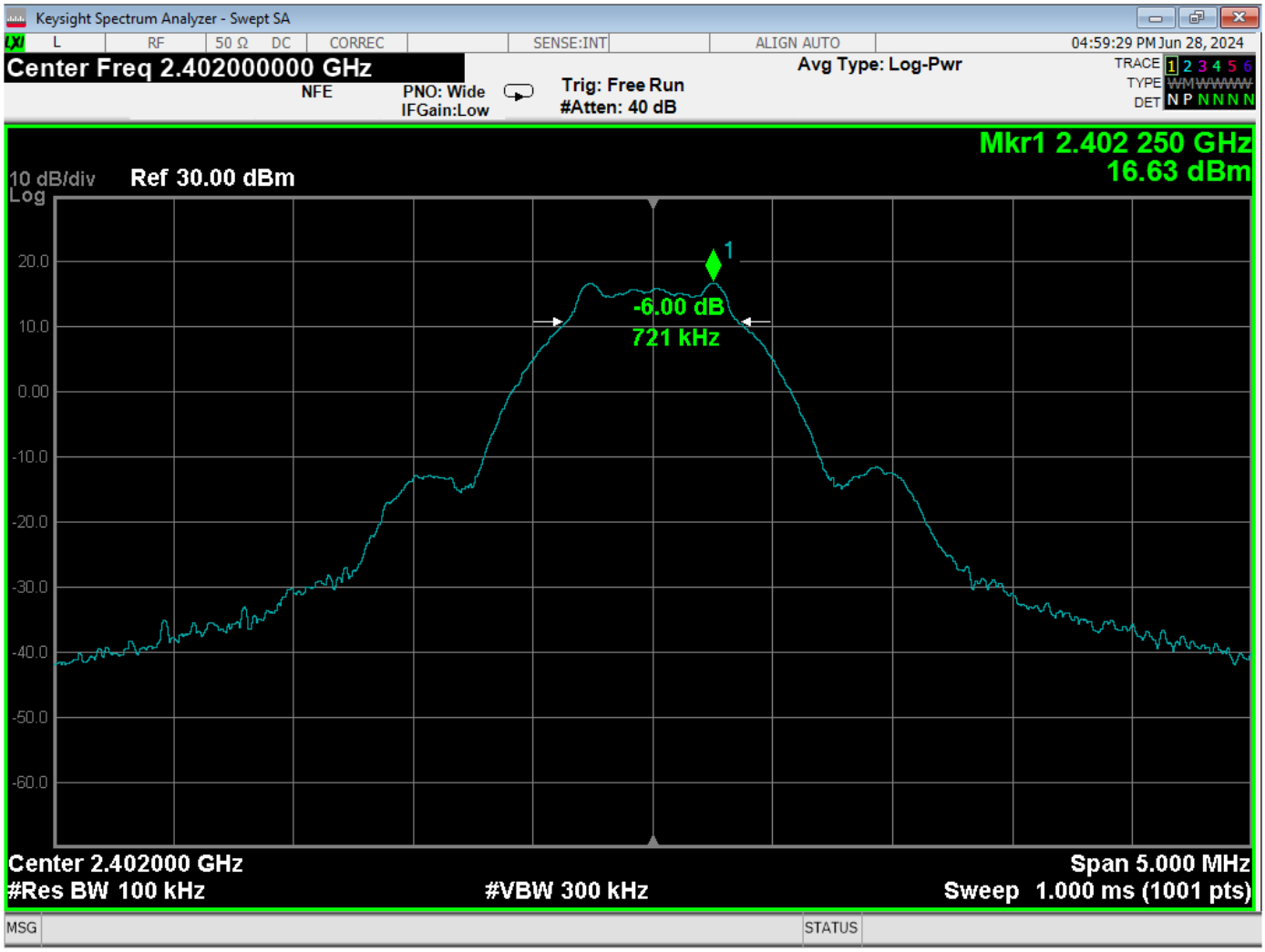
-6 dB Bandwidth – Low Channel – 802.11n Mode – 20 MHz – RedPine



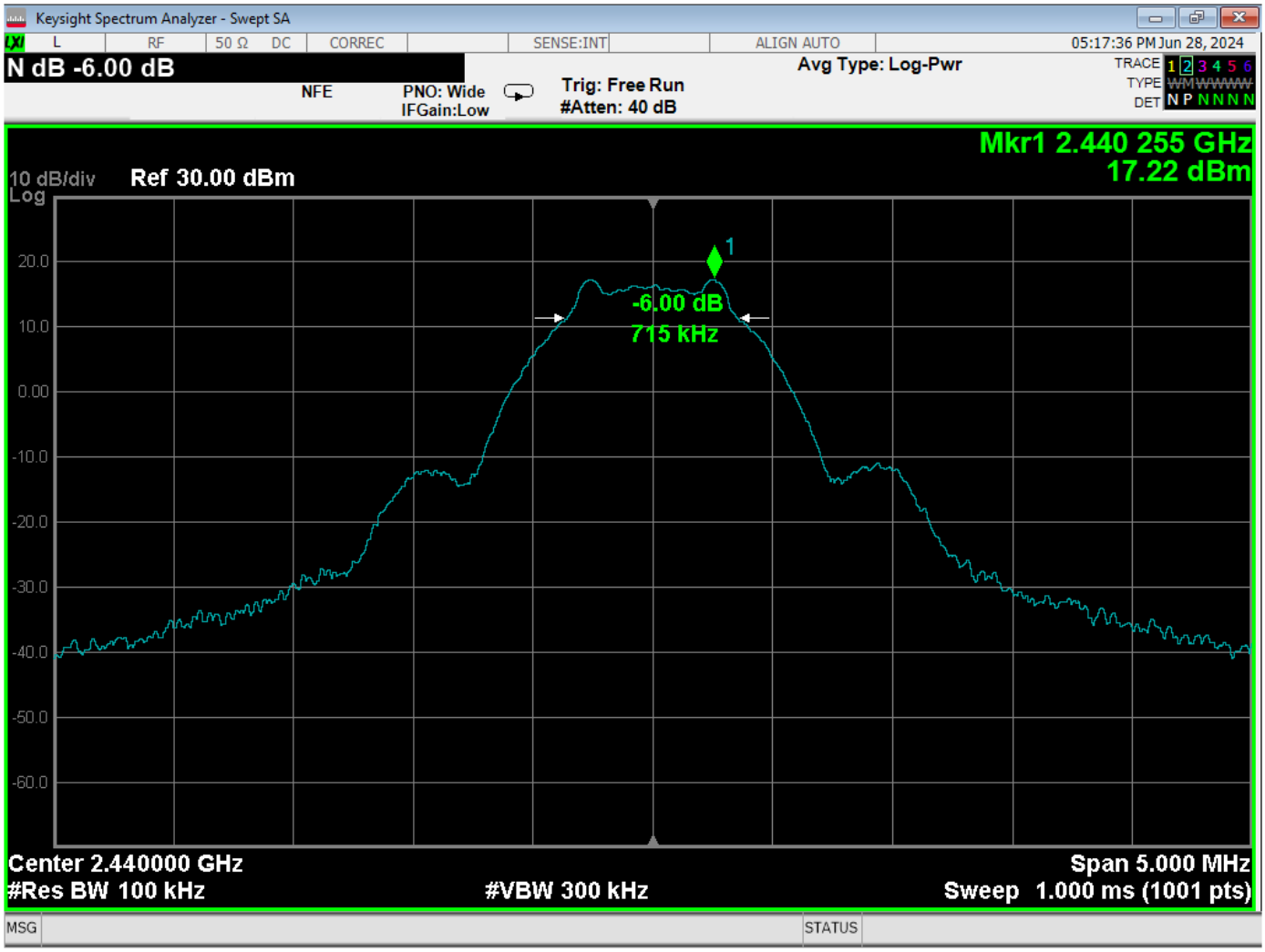
-6 dB Bandwidth – Middle Channel – 802.11n Mode – 20 MHz – RedPine



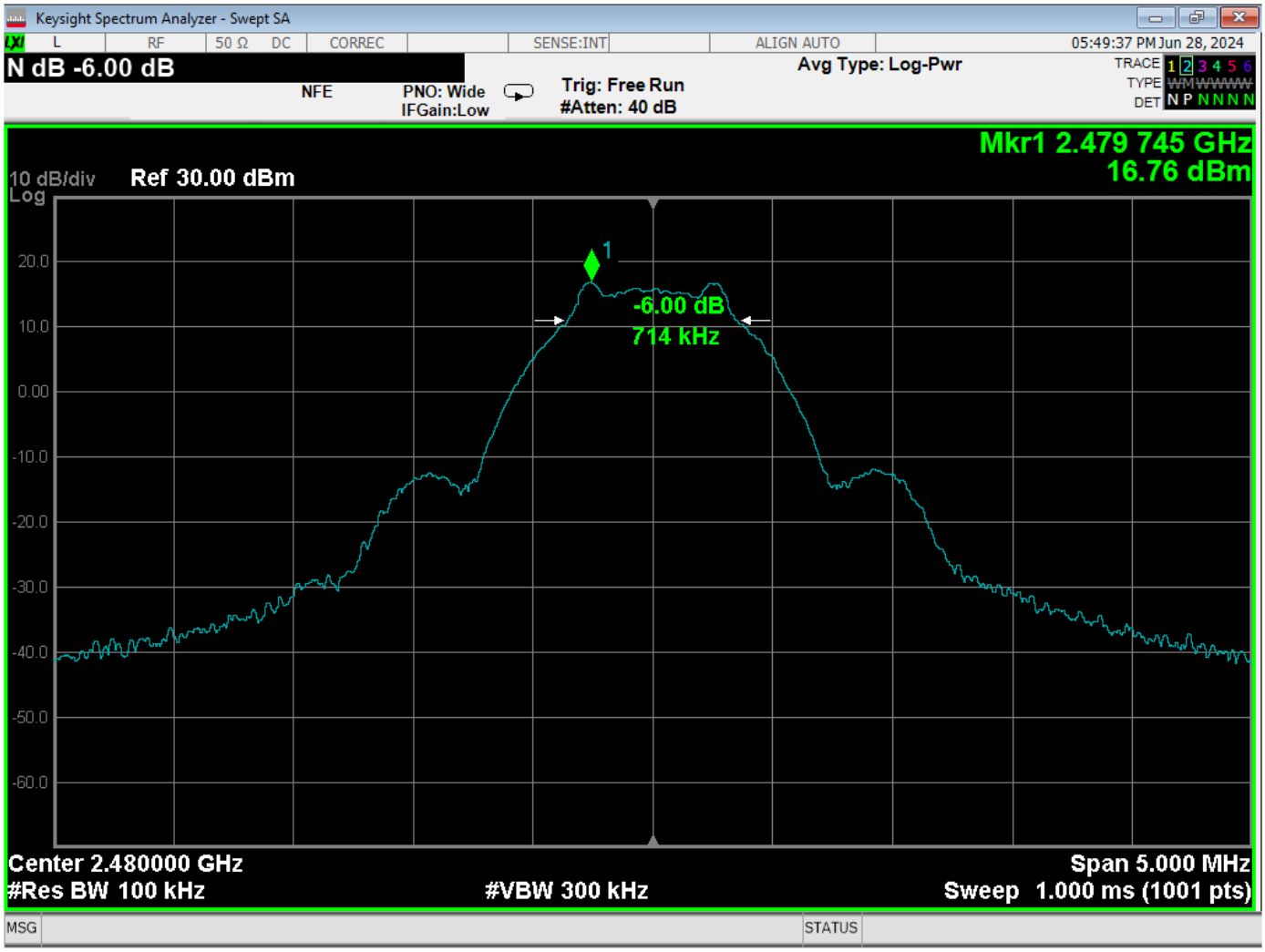
-6 dB Bandwidth – High Channel – 802.11n Mode – 20 MHz – RedPine



-6 dB Bandwidth – Low Channel – BLE Mode – Nordic



-6 dB Bandwidth – Middle Channel – BLE Mode – Nordic



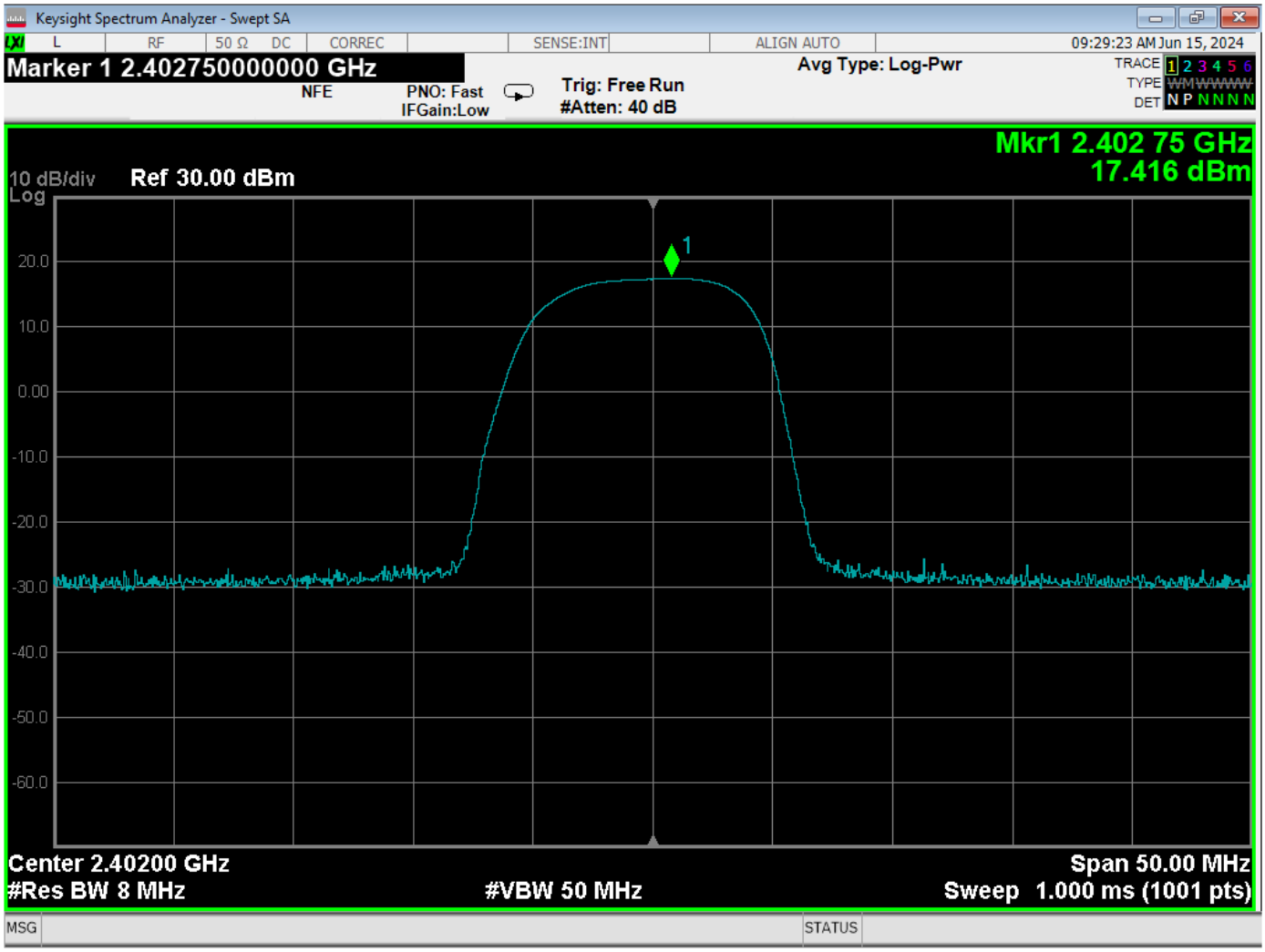
-6 dB Bandwidth – High Channel – BLE Mode – Nordic

-6 dB Bandwidth – Low Channel – Thread Mode – Nordic

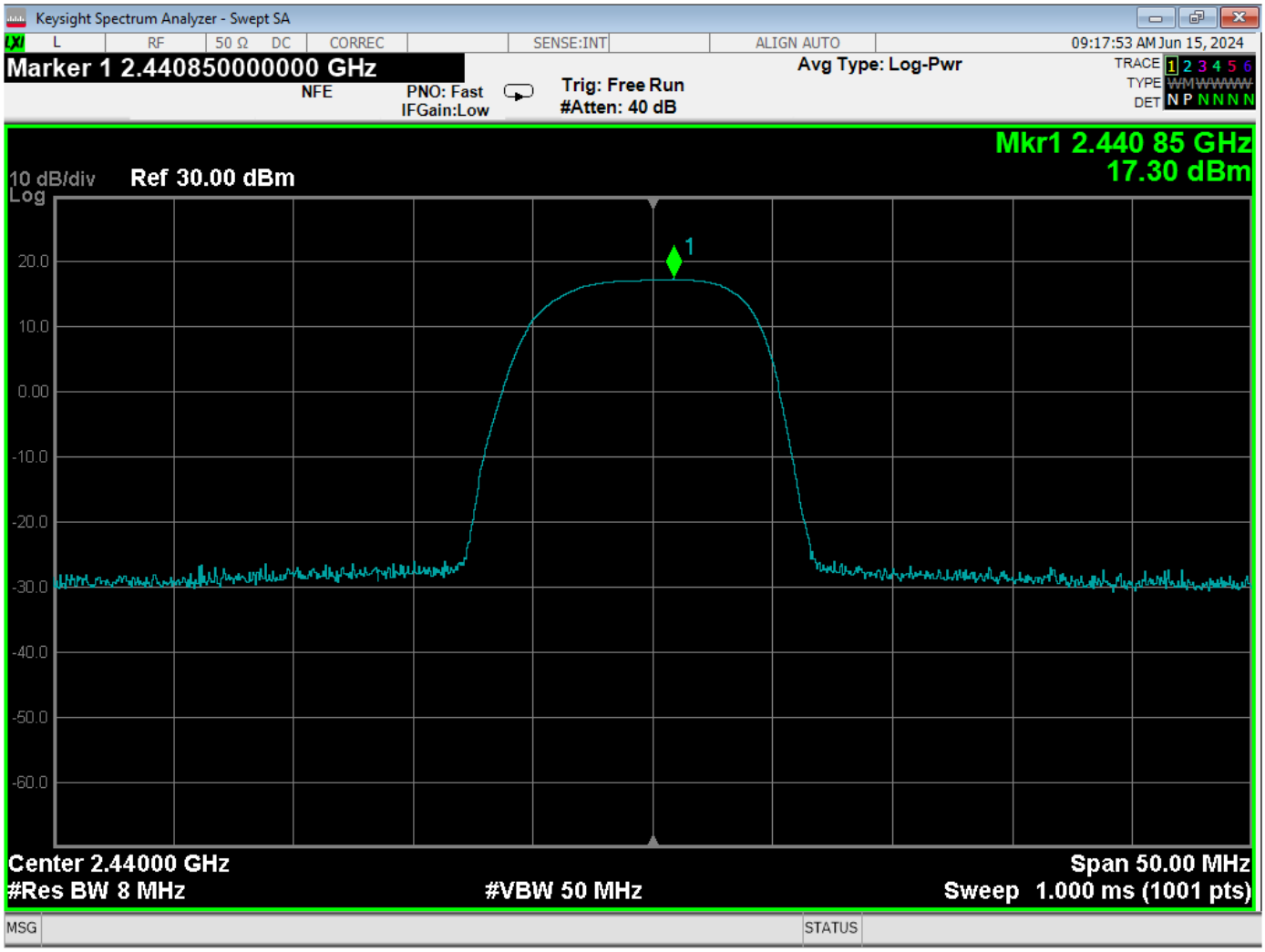
-6 dB Bandwidth – Middle Channel – Thread Mode – Nordic

-6 dB Bandwidth – High Channel – Thread Mode – Nordic

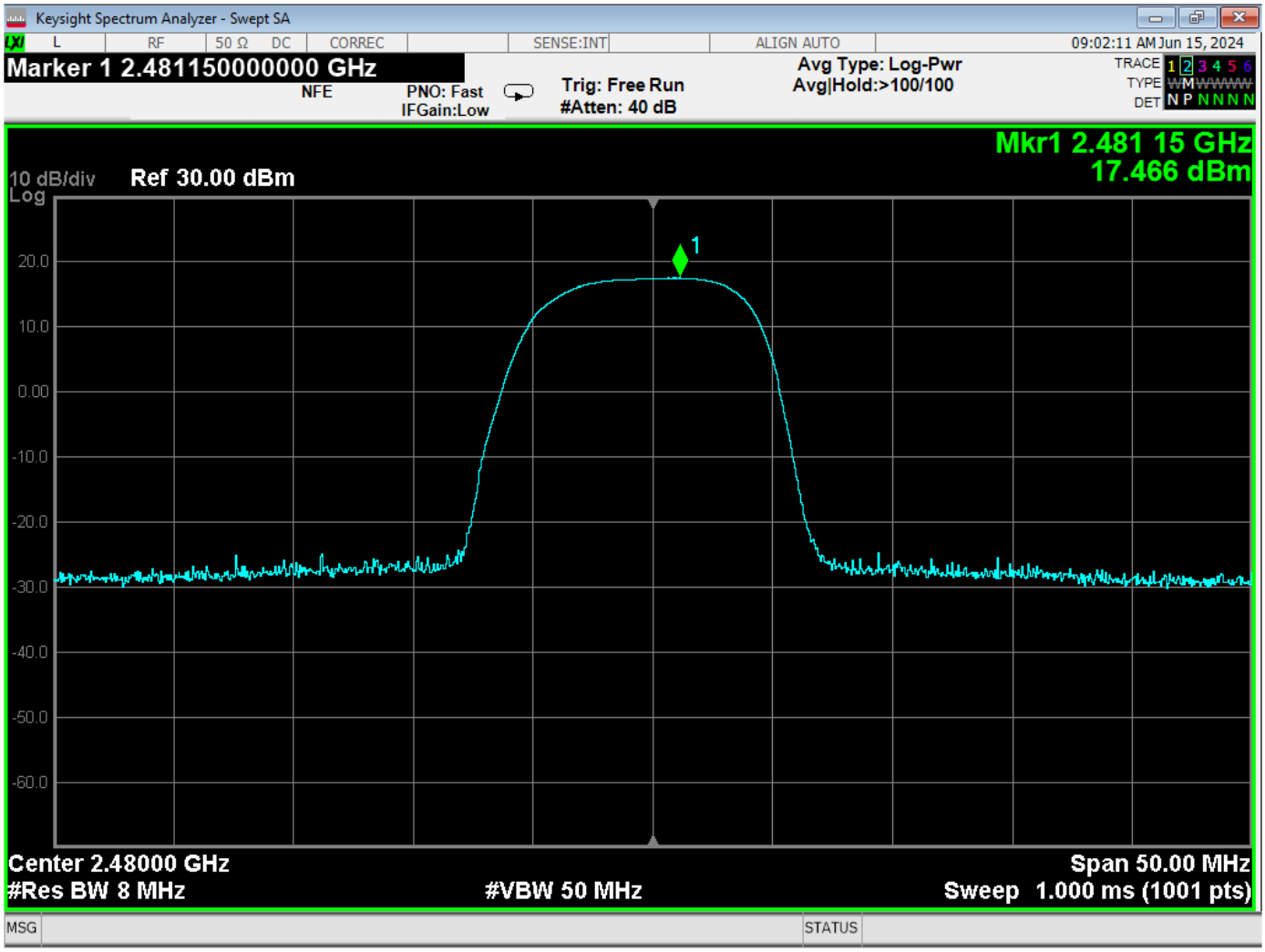
PEAK POWER OUTPUT DATA SHEETS



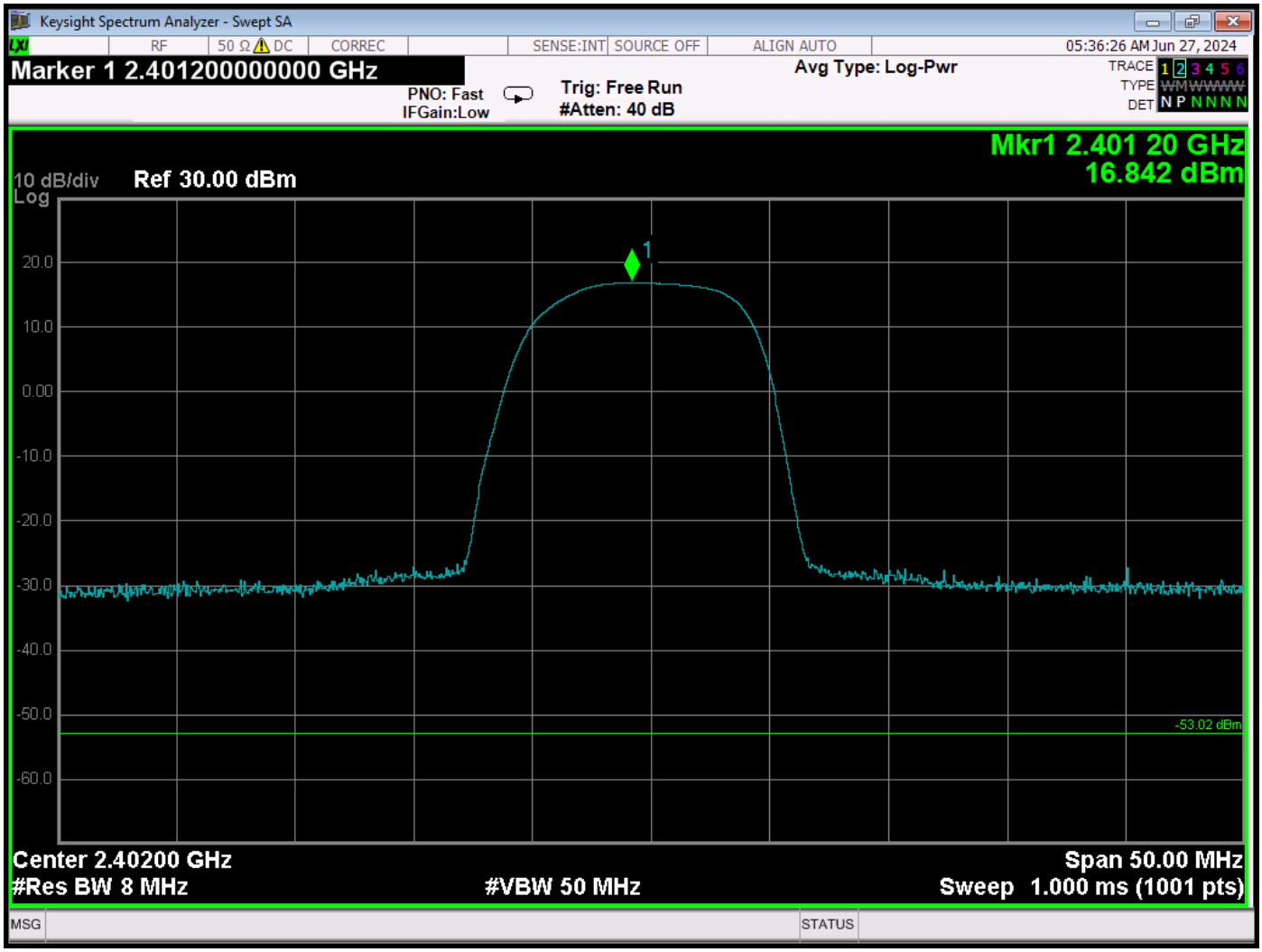
Peak Power Output – Low Channel – BLE Mode – RedPine



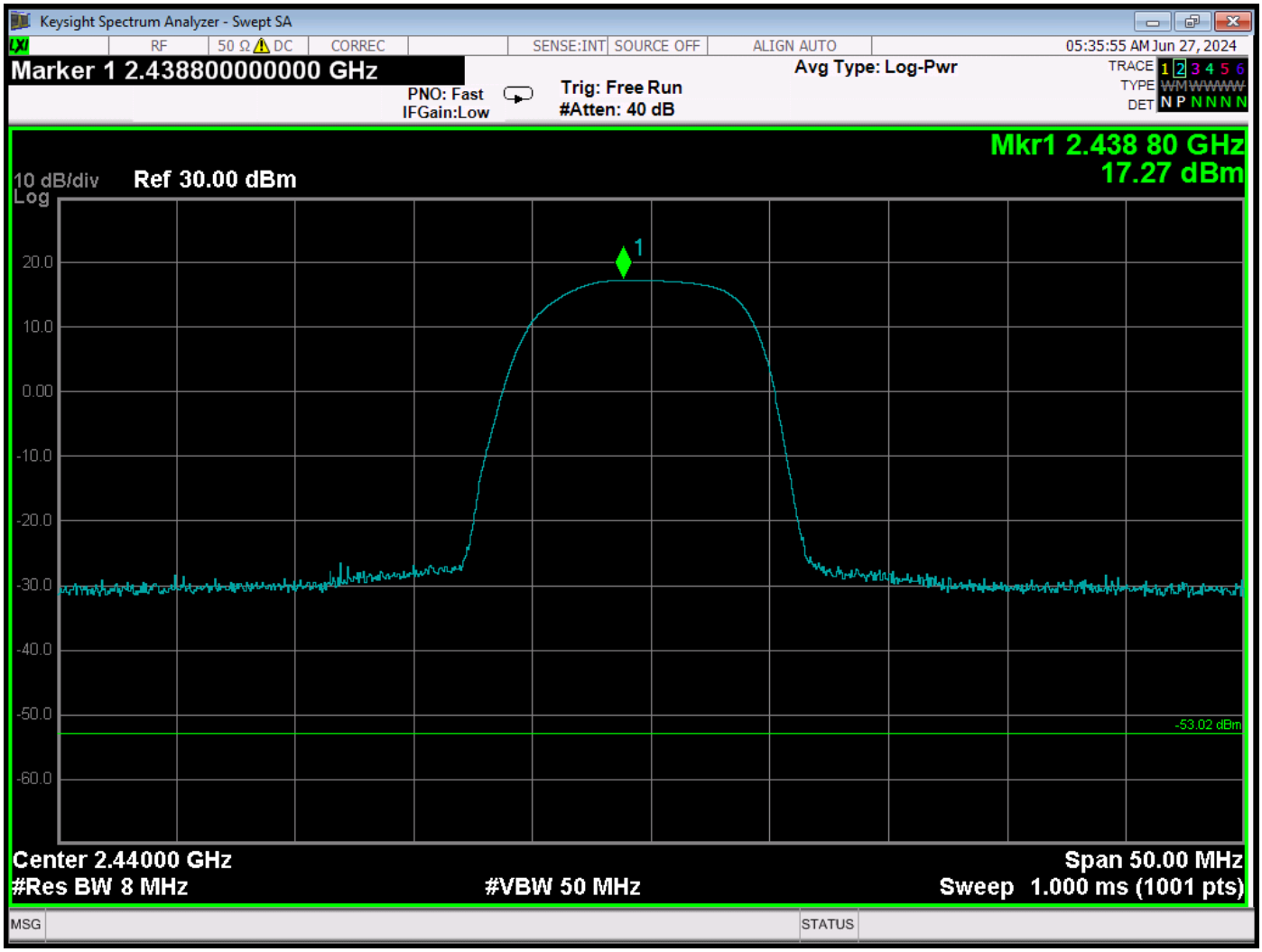
Peak Power Output – Middle Channel – BLE Mode – RedPine



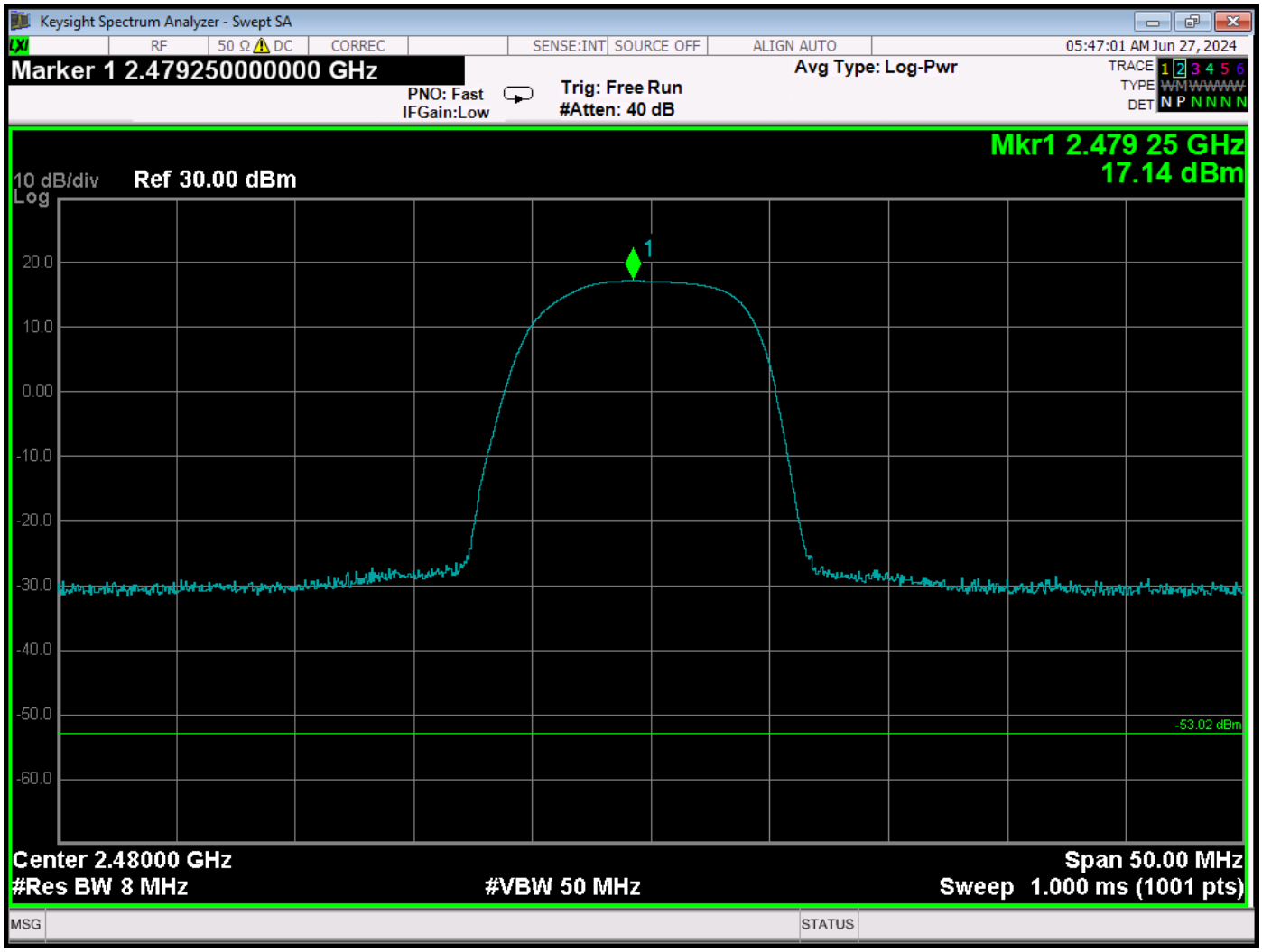
Peak Power Output – High Channel – BLE Mode – RedPine



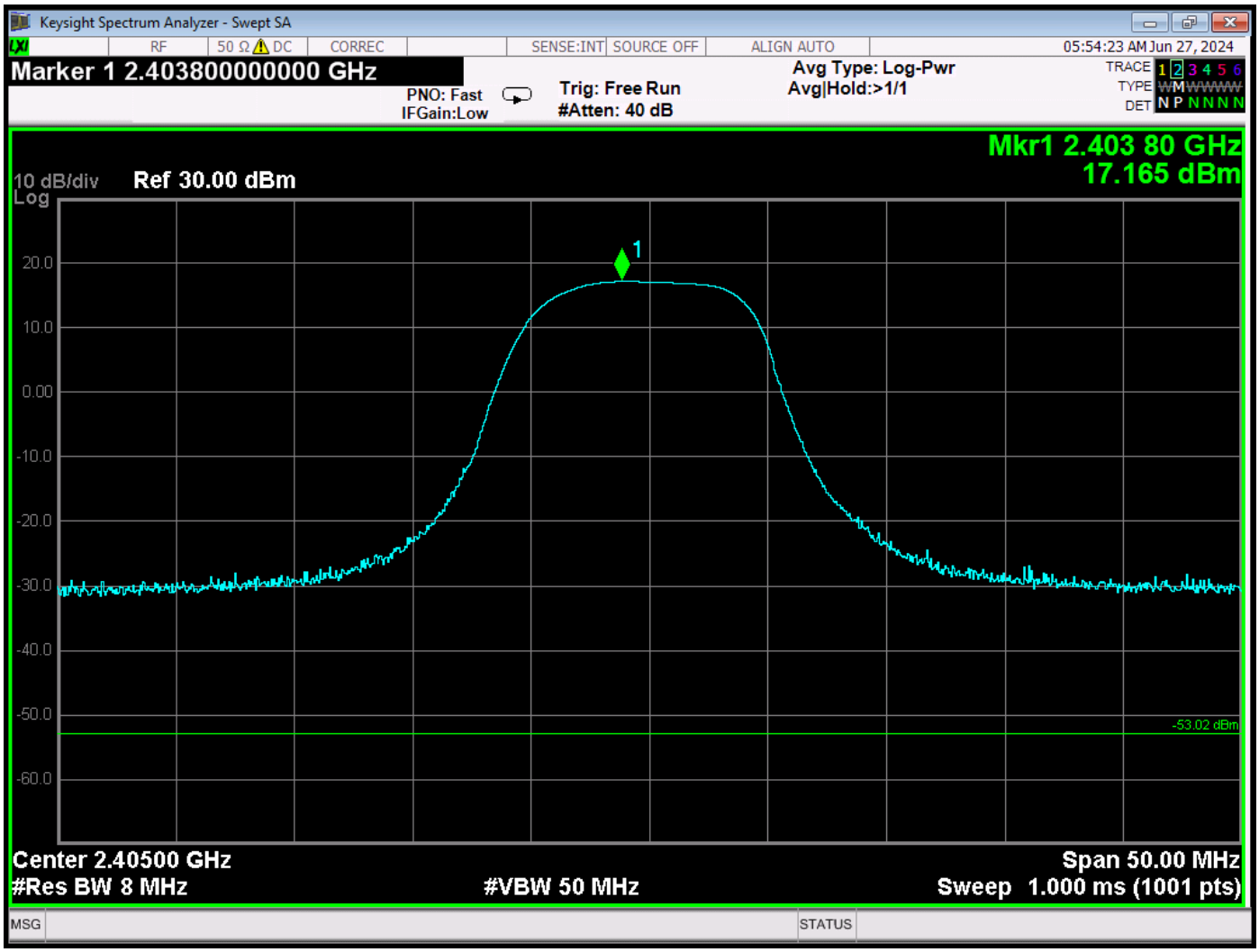
Peak Power Output – Low Channel – BLE Mode – Nordic



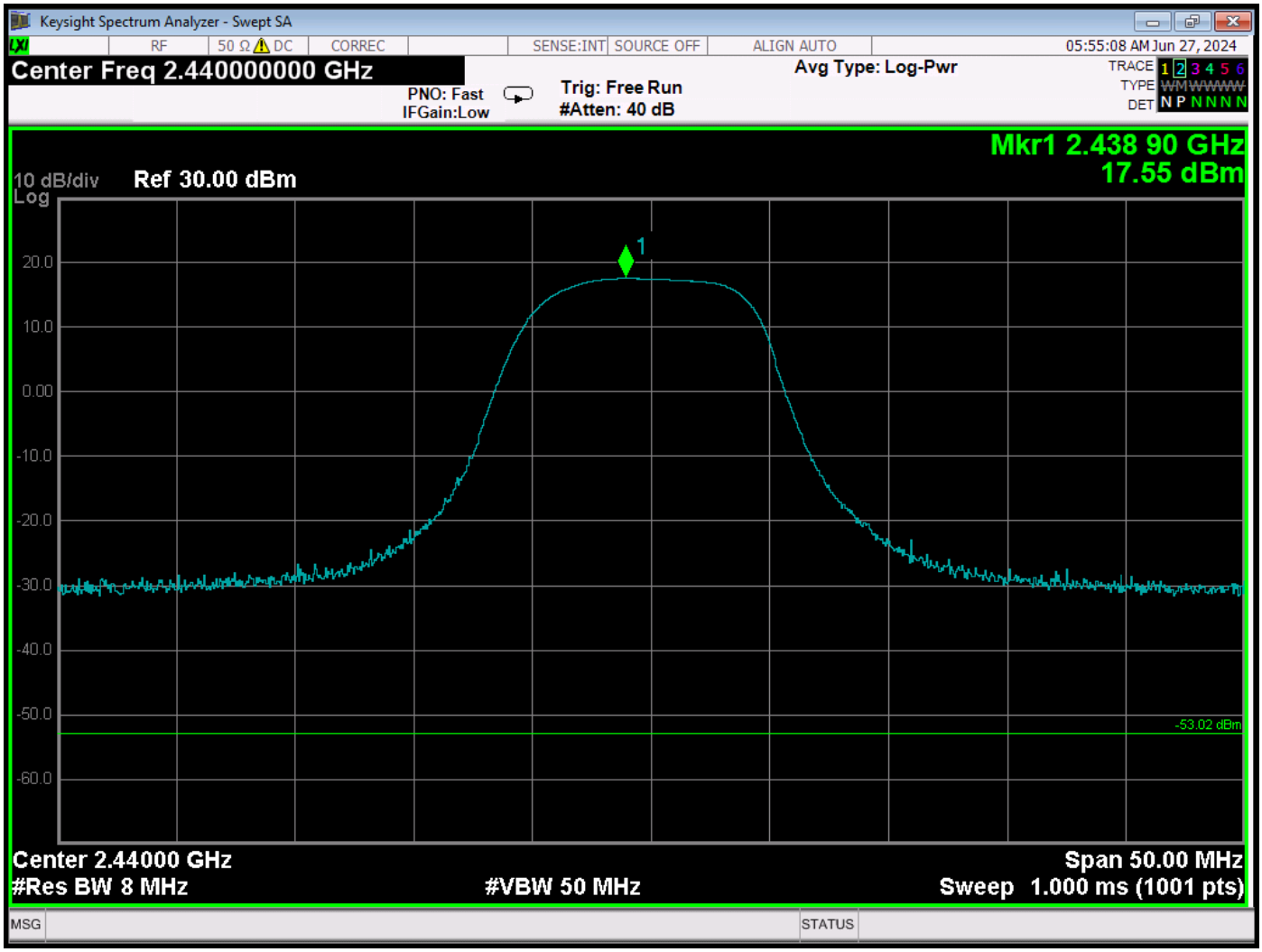
Peak Power Output – Middle Channel – BLE Mode – Nordic



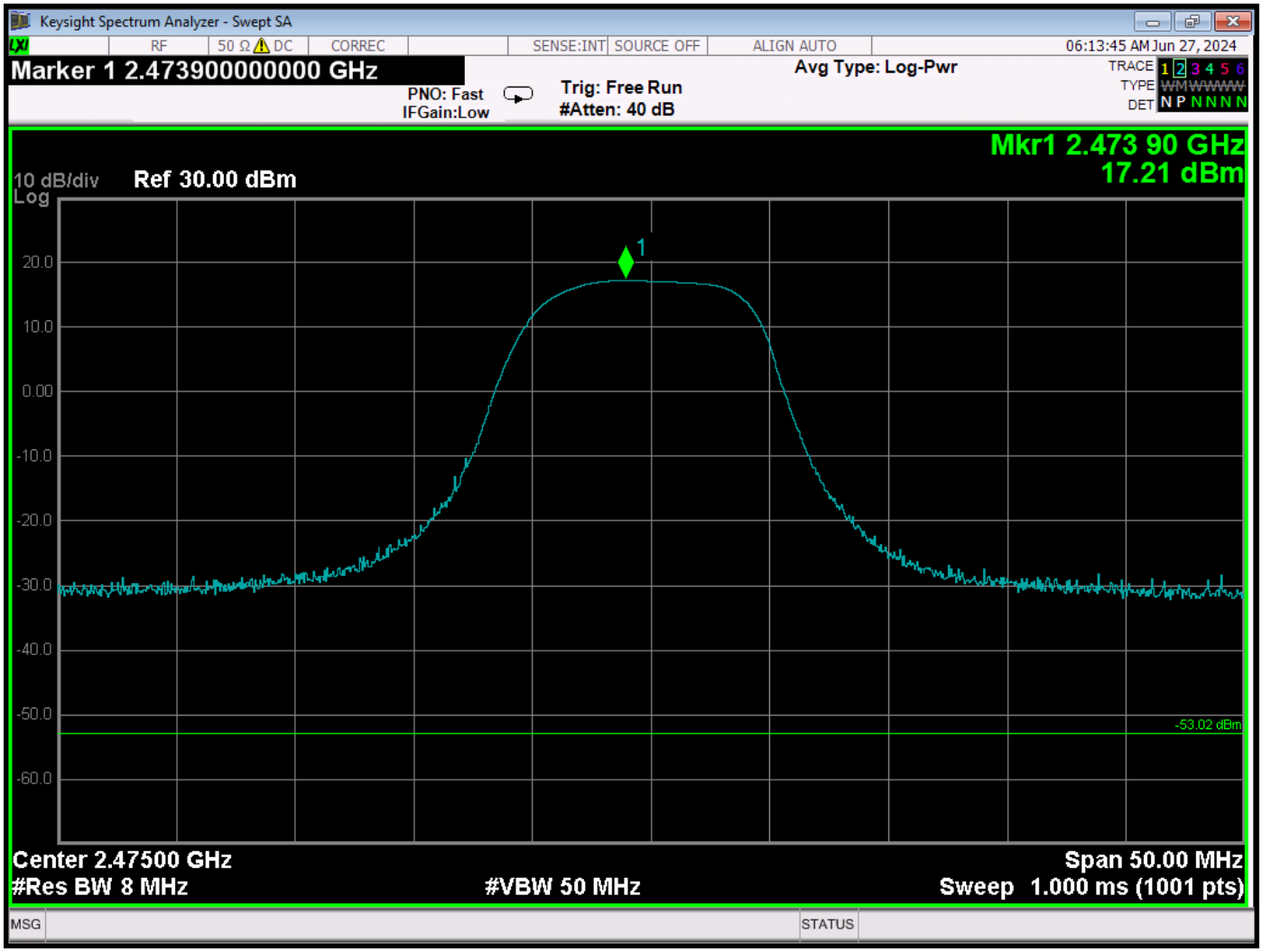
Peak Power Output – High Channel – BLE Mode – Nordic



Peak Power Output – Low Channel – Thread Mode – Nordic



Peak Power Output – Middle Channel – Thread Mode – Nordic



Peak Power Output – High Channel – Thread Mode – Nordic

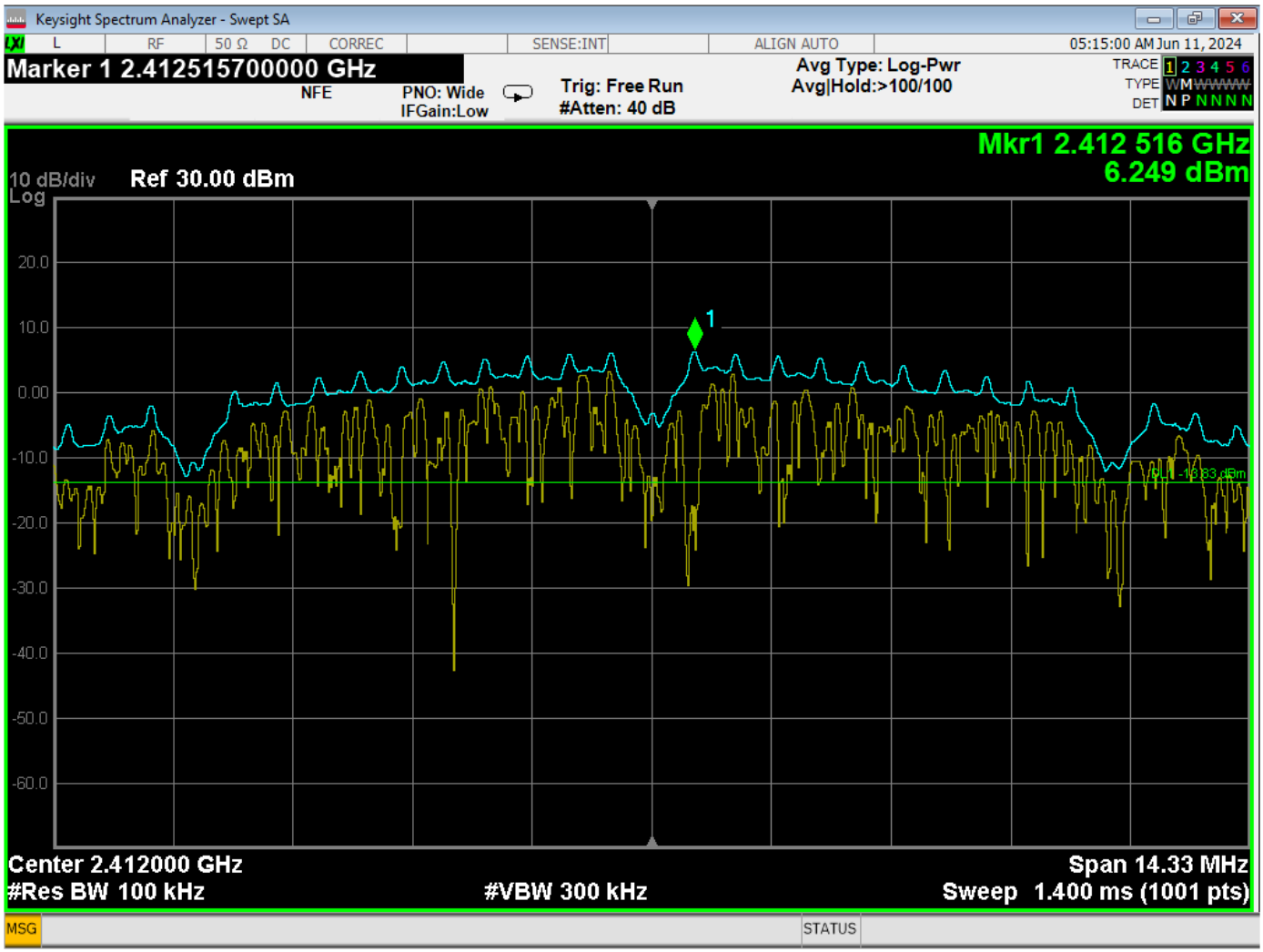
PEAK OUTPUT POWER

Residential Electronic Deadbolt
Model: 9800

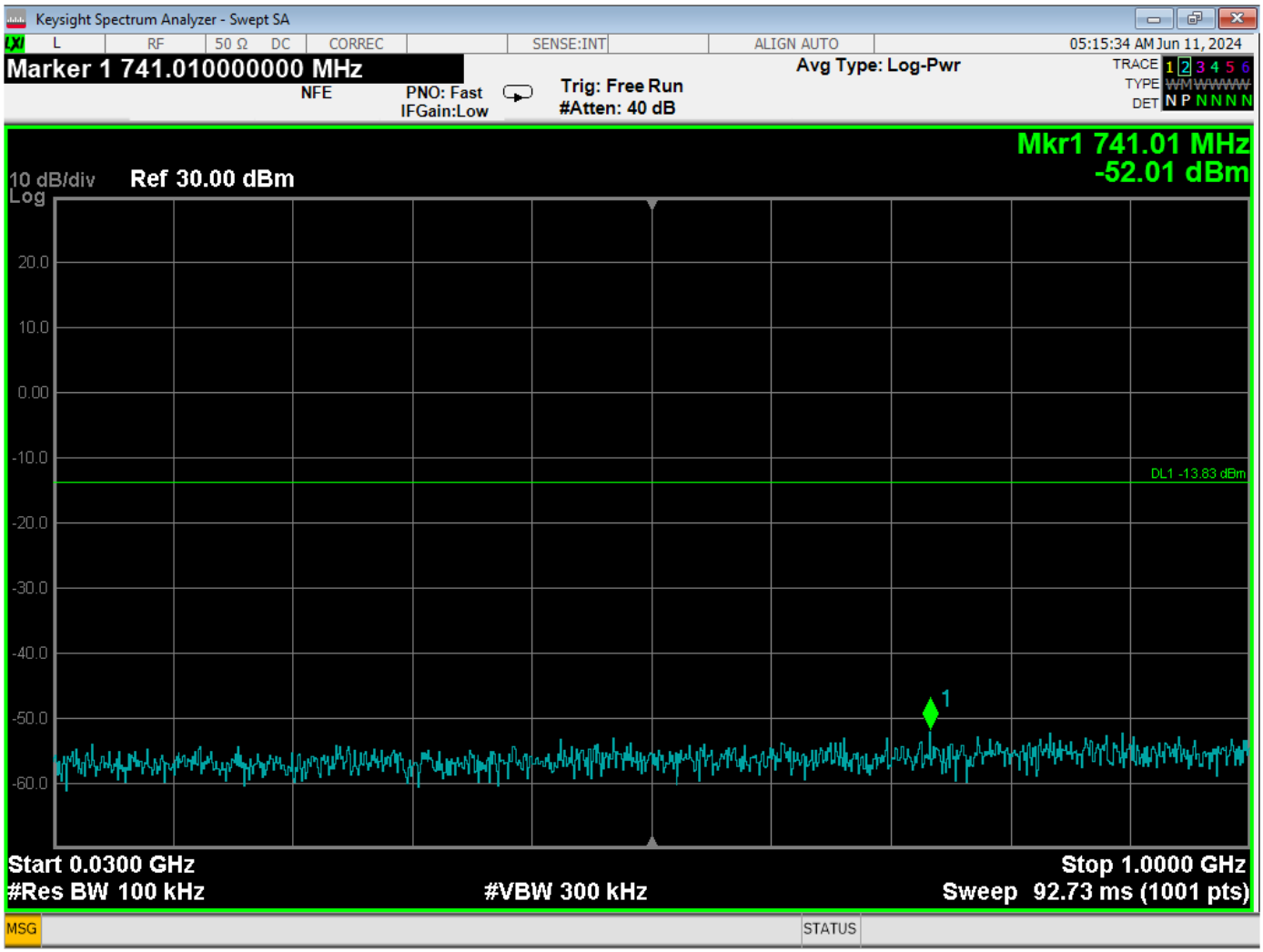
FREQUENCY (MHz)	PROTOCOL	DATA RATE	CHIPSET	PEAK POWER (dBm)	LIMIT (dB)	MARGIN (dBm)
2402	BLE	1 Mbit	REDPINE	17.416	30.00	-12.584
2440	BLE	1 Mbit	REDPINE	17.300	30.00	-12.700
2480	BLE	1 Mbit	REDPINE	17.470	30.00	-12.530
2402	BLE	1 Mbit	NORDIC	16.842	30.00	-13.158
2440	BLE	1 Mbit	NORDIC	17.270	30.00	-12.730
2480	BLE	1 Mbit	NORDIC	17.140	30.00	-12.860
2405	THREAD	250 kBit	NORDIC	17.165	30.00	-12.835
2440	THREAD	250 kBit	NORDIC	17.550	30.00	-12.450
2475	THREAD	250 kBit	NORDIC	17.210	30.00	-12.790
2412	802.11b	1 – CCK	REDPINE	14.830	30.00	-15.170
2437	802.11b	1 – CCK	REDPINE	14.110	30.00	-15.890
2462	802.11b	1 – CCK	REDPINE	12.670	30.00	-17.330
2412	802.11g	6 - OFDM	REDPINE	12.390	30.00	-17.610
2437	802.11g	6 - OFDM	REDPINE	17.420	30.00	-12.580
2462	802.11g	6 - OFDM	REDPINE	10.680	30.00	-19.320
2412	802.11n (20 MHz)	MCS0	REDPINE	11.490	30.00	-18.510
2437	802.11n (20 MHz)	MCS0	REDPINE	17.890	30.00	-12.110
2462	802.11n (20 MHz)	MCS0	REDPINE	12.680	30.00	-17.320

RF ANTENNA CONDUCTED

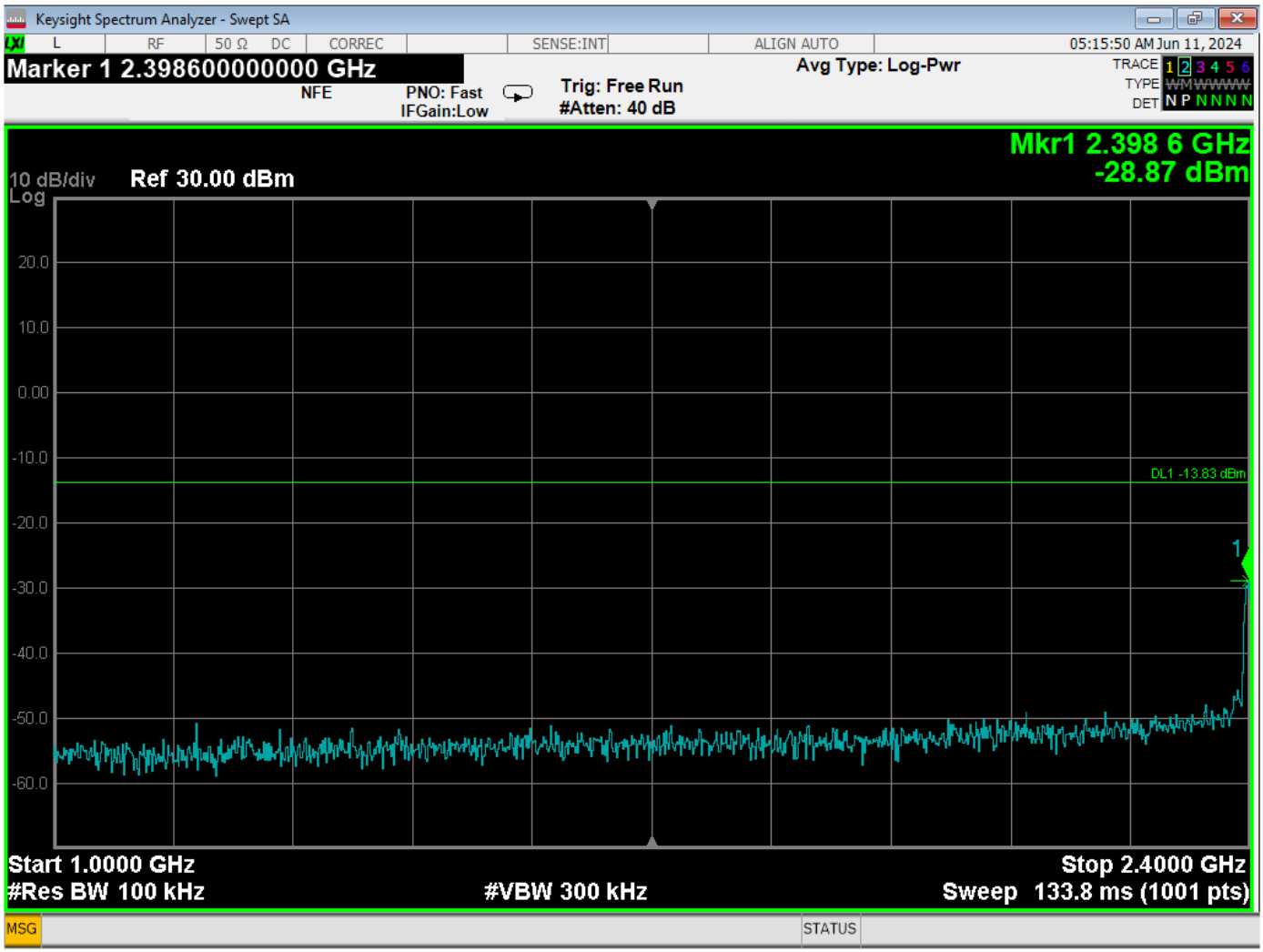
DATA SHEETS



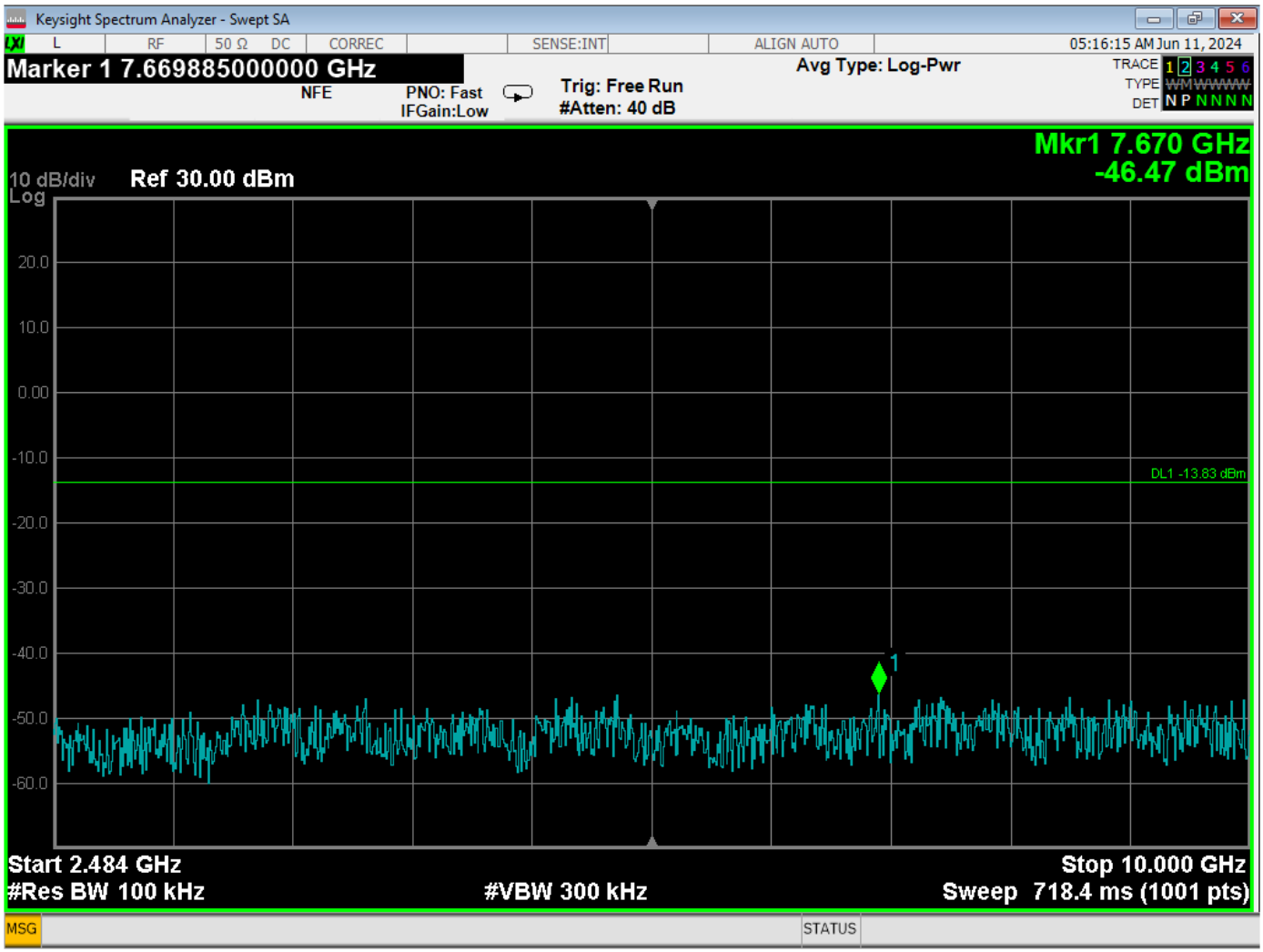
RF Antenna Conducted – Low Channel – 802.11b Mode – Reference Level – RedPine



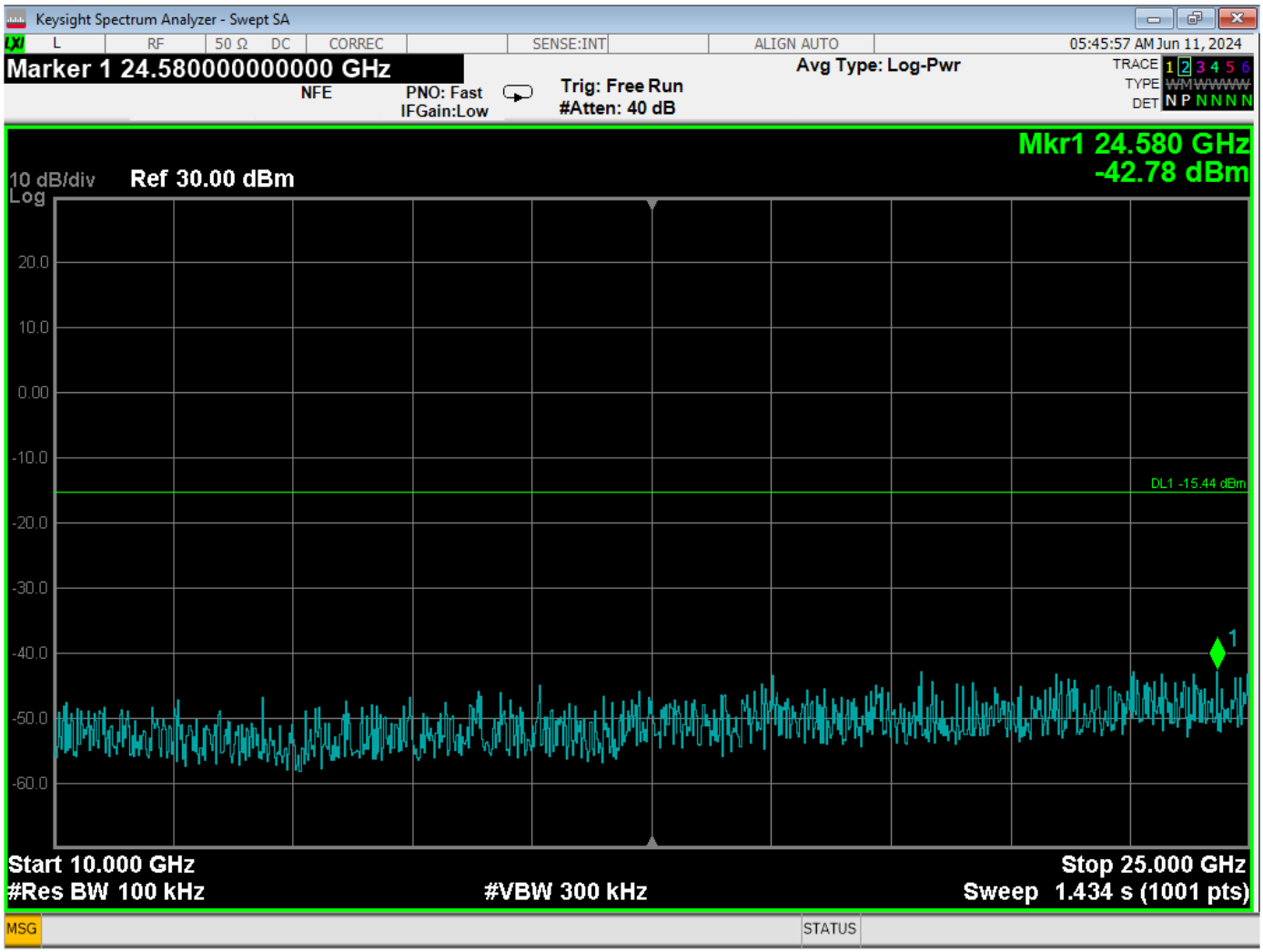
RF Antenna Conducted – Low Channel – 802.11b Mode – 30 MHz to 1 GHz – RedPine



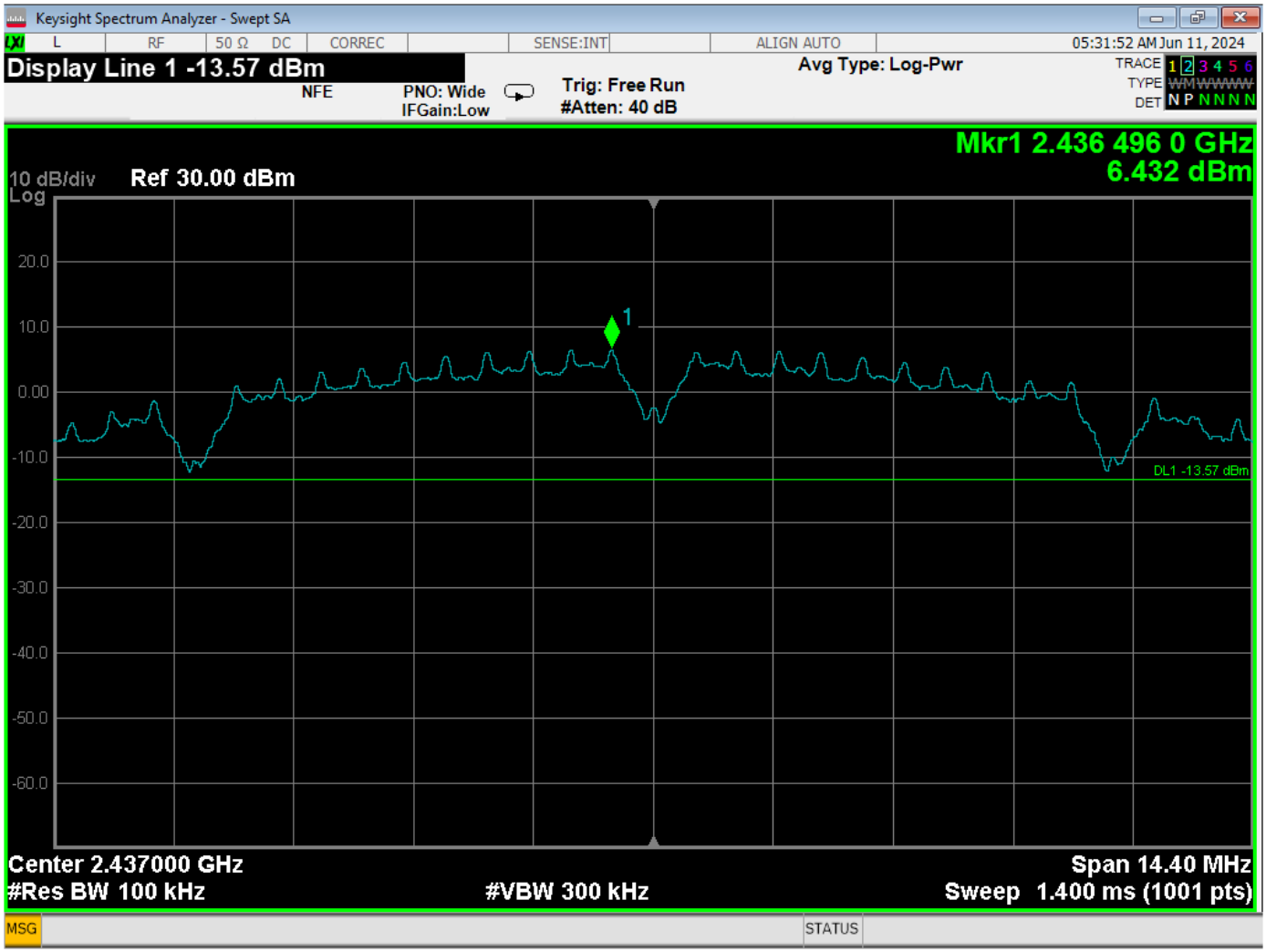
RF Antenna Conducted – Low Channel – 802.11b Mode – 1 GHz to 2.4 GHz – RedPine



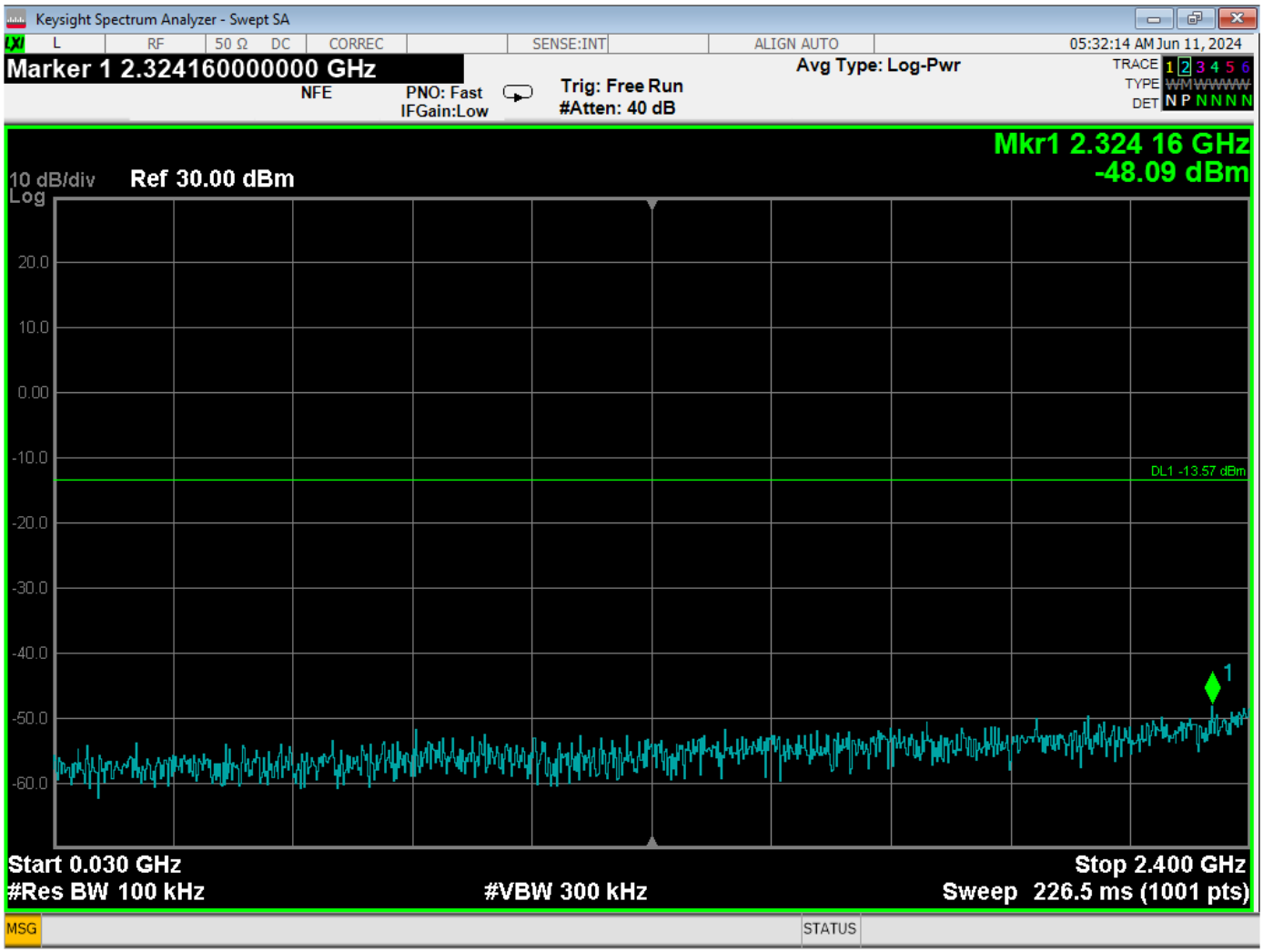
RF Antenna Conducted – Low Channel – 802.11b Mode – 2483.5 MHz to 10 GHz – RedPine



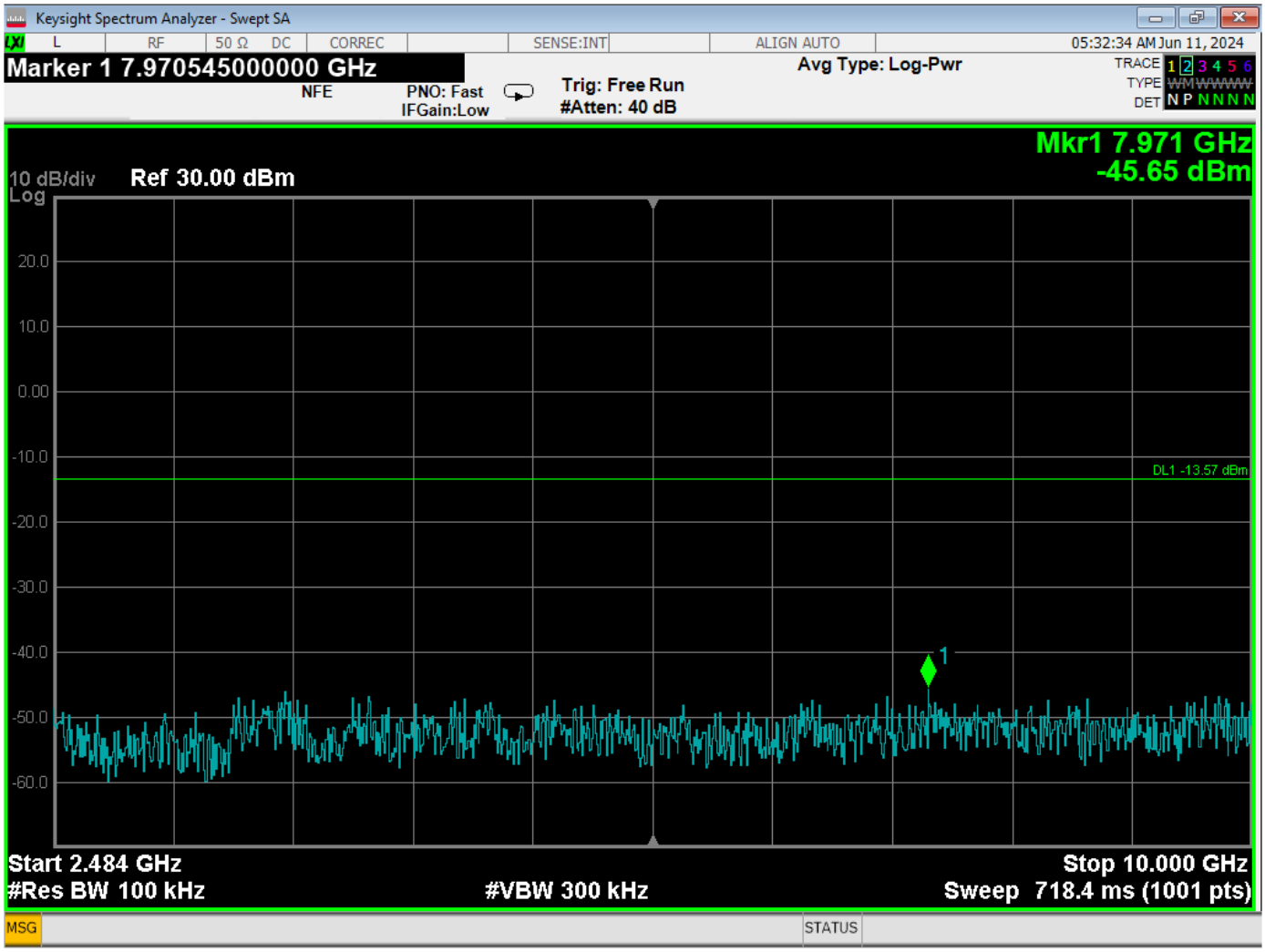
RF Antenna Conducted – Low Channel – 802.11b Mode – 10 GHz to 25 GHz – RedPine



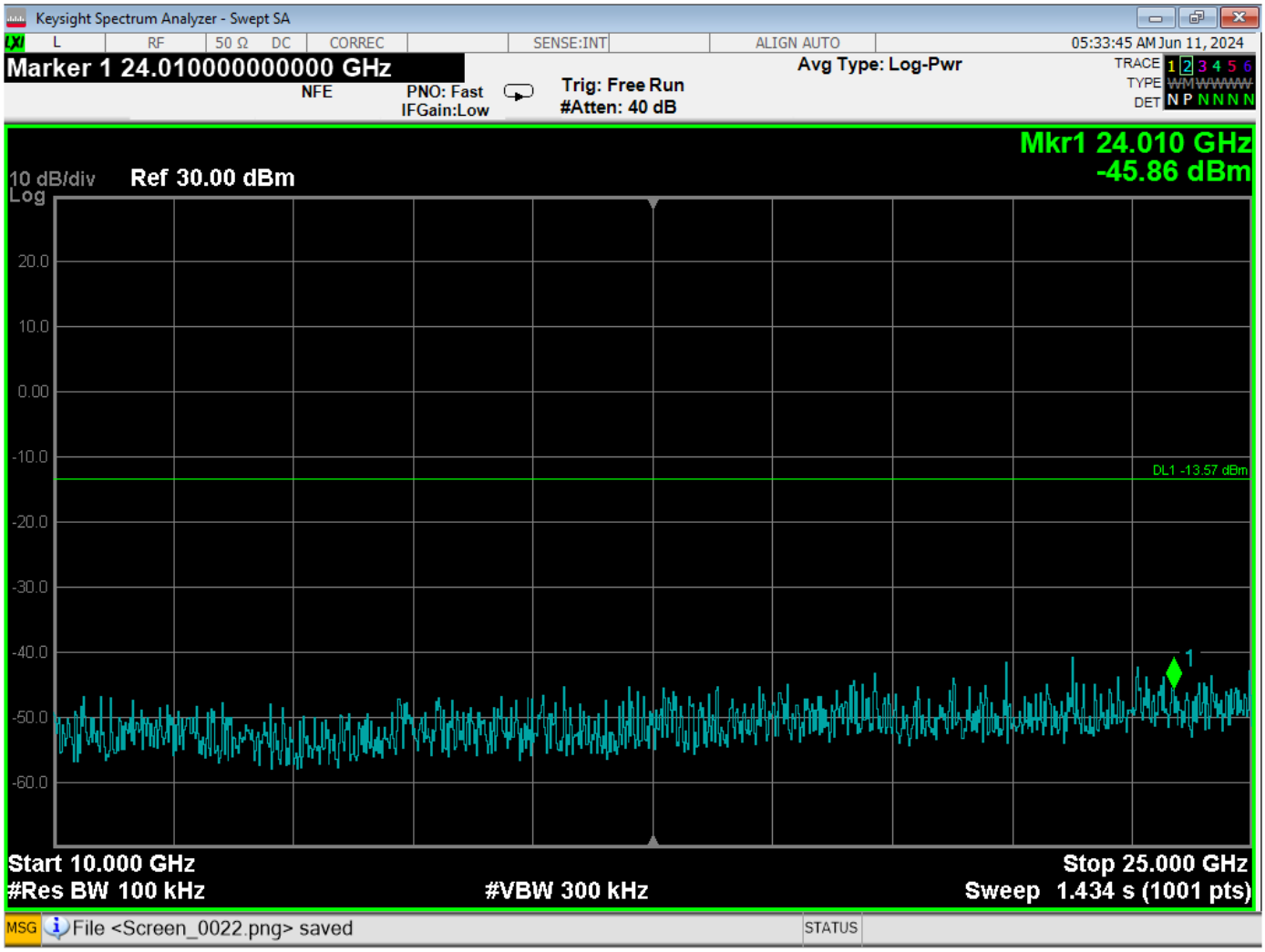
RF Antenna Conducted – Middle Channel – 802.11b Mode – Reference Leve l– RedPine



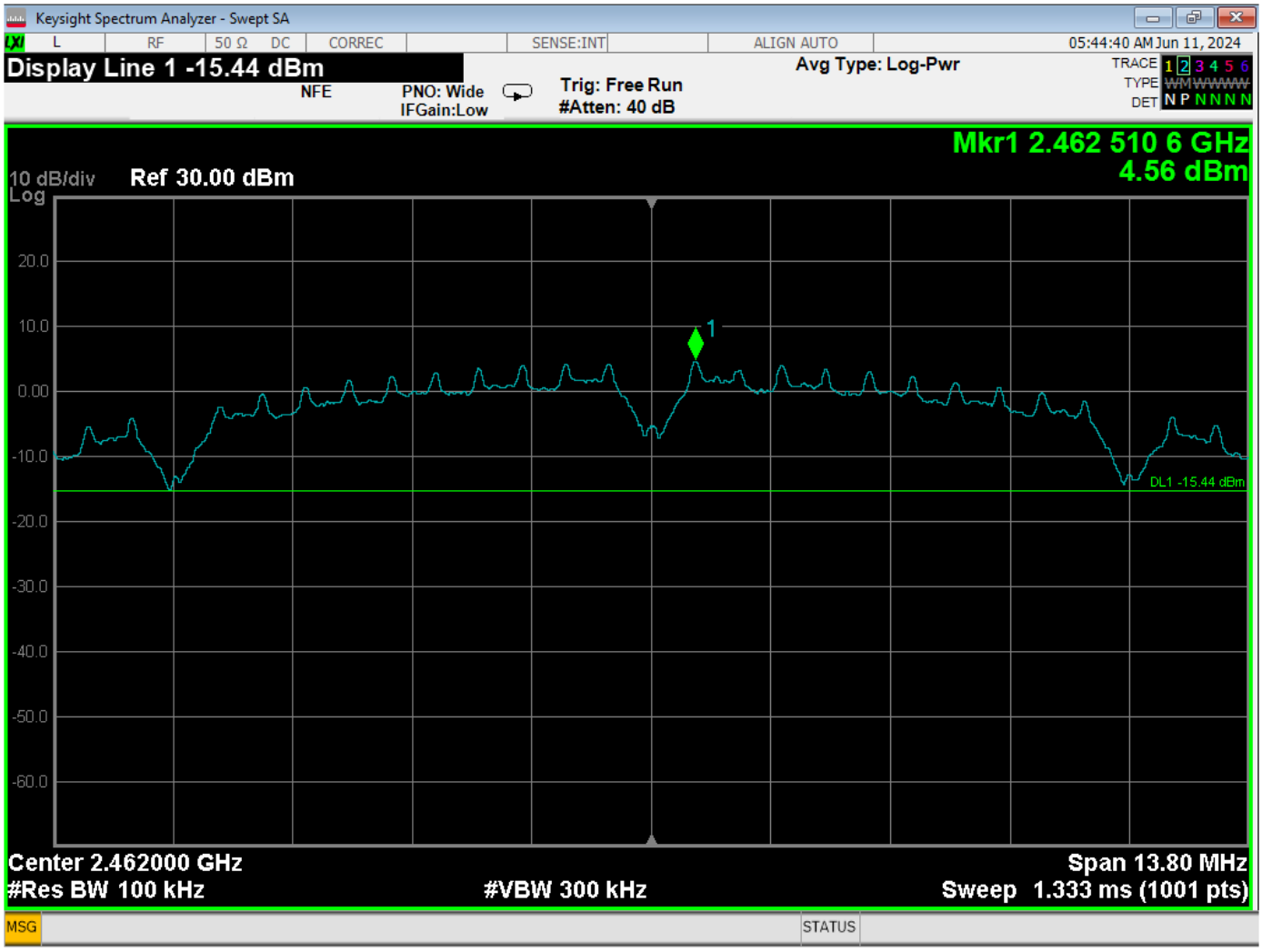
RF Antenna Conducted – Middle Channel – 802.11b Mode – 30 MHz to 2.4 GHz – RedPine



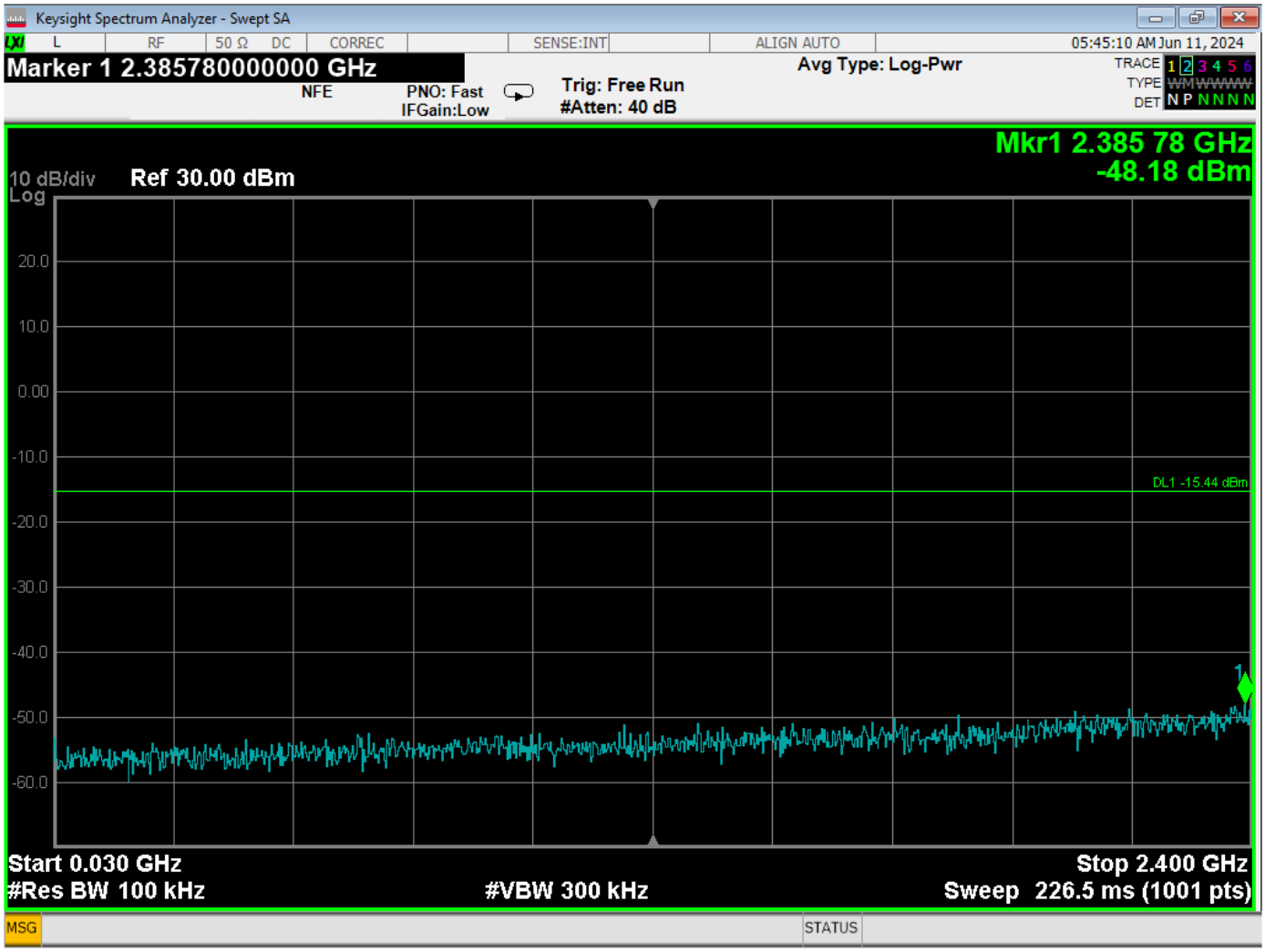
RF Antenna Conducted – Middle Channel – 802.11b Mode – 2485.3 MHz to 10 GHz – RedPine



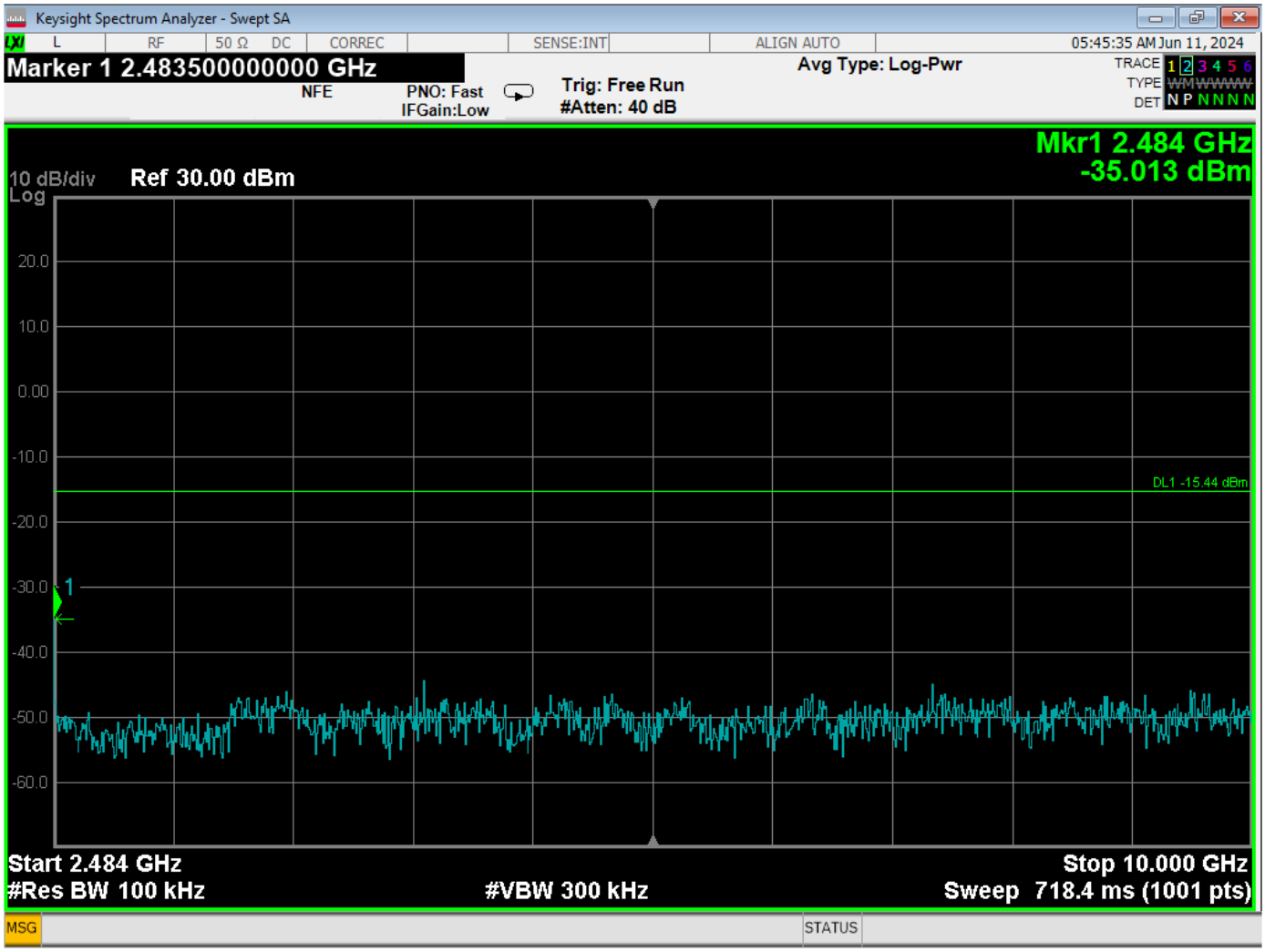
RF Antenna Conducted – Middle Channel – 802.11b Mode – 10 GHz to 25 GHz – RedPine



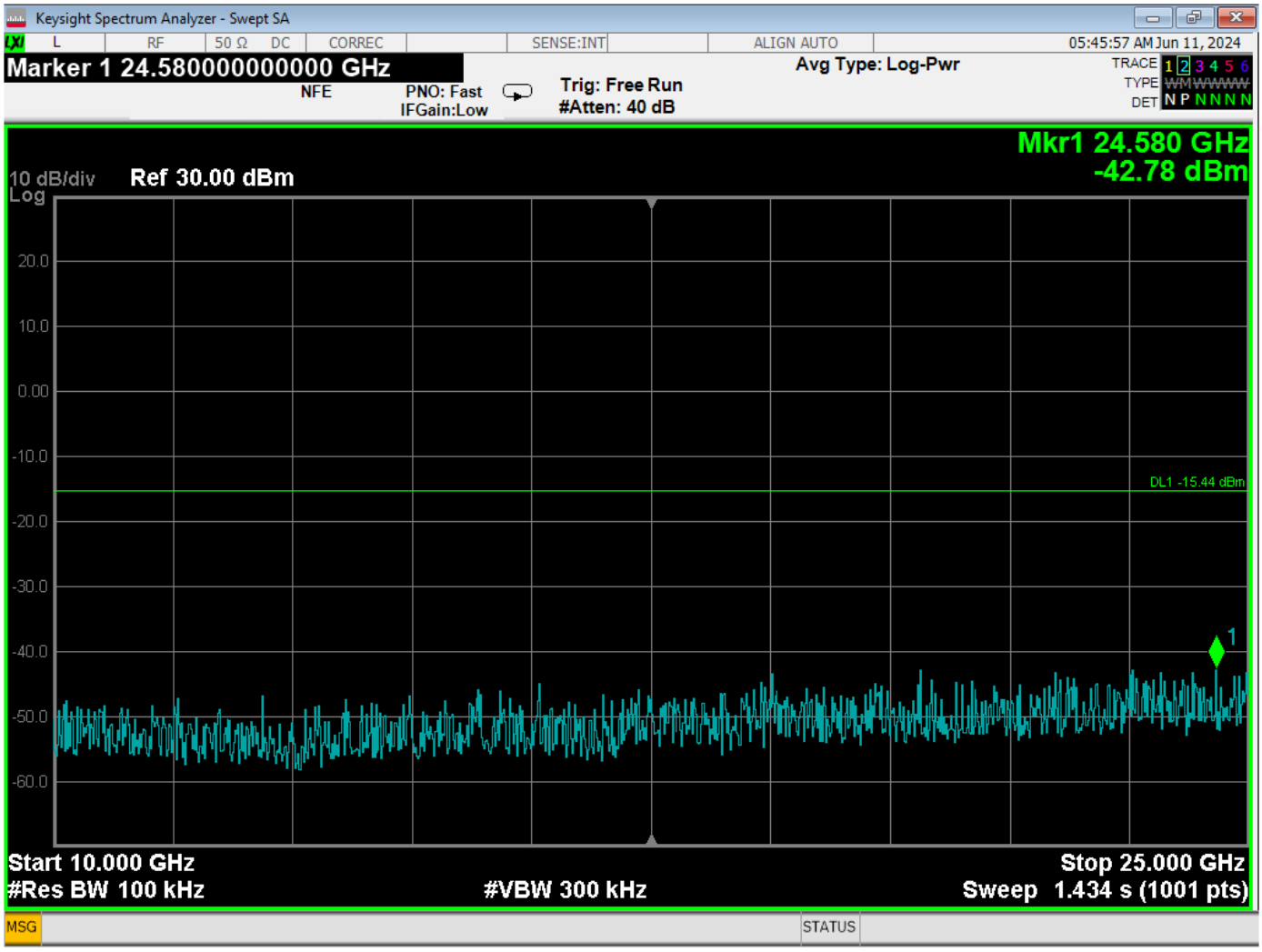
RF Antenna Conducted – High Channel – 802.11b Mode – Reference Level – RedPine



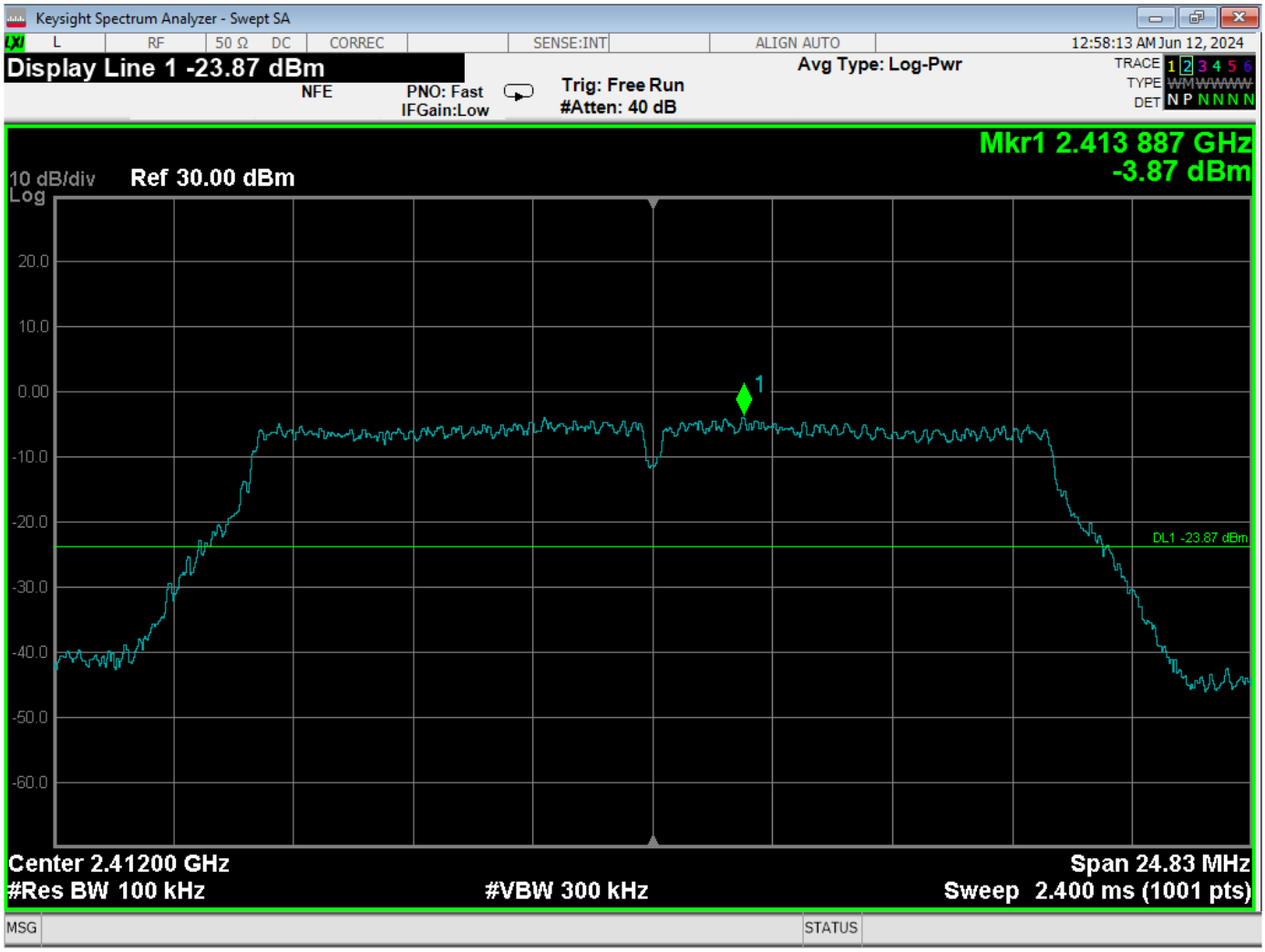
RF Antenna Conducted – High Channel – 802.11b Mode – 30 MHz to 2.4 GHz – RedPine



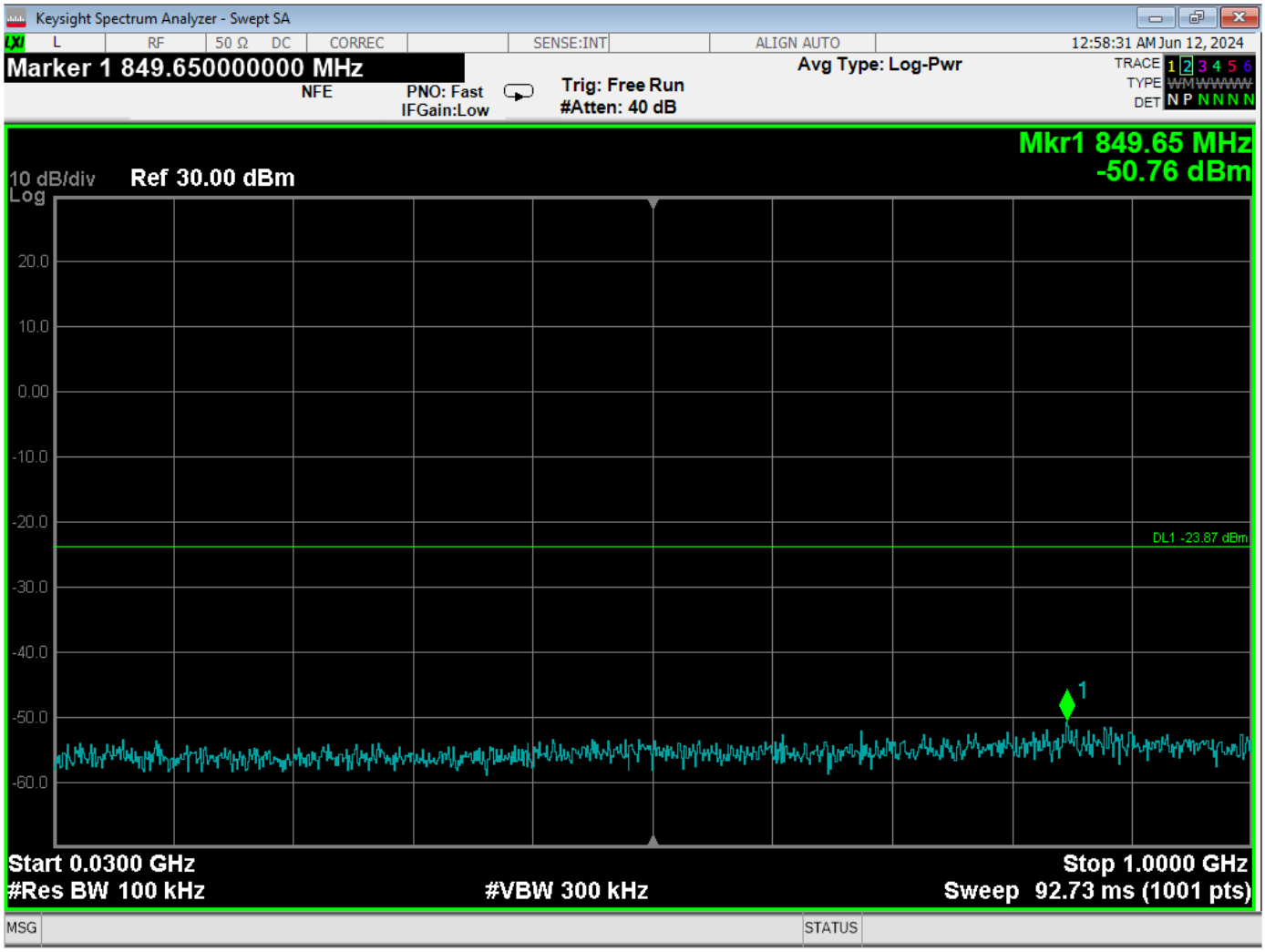
RF Antenna Conducted – High Channel – 802.11b Mode – 2483.5 MHz to 10 GHz – RedPine



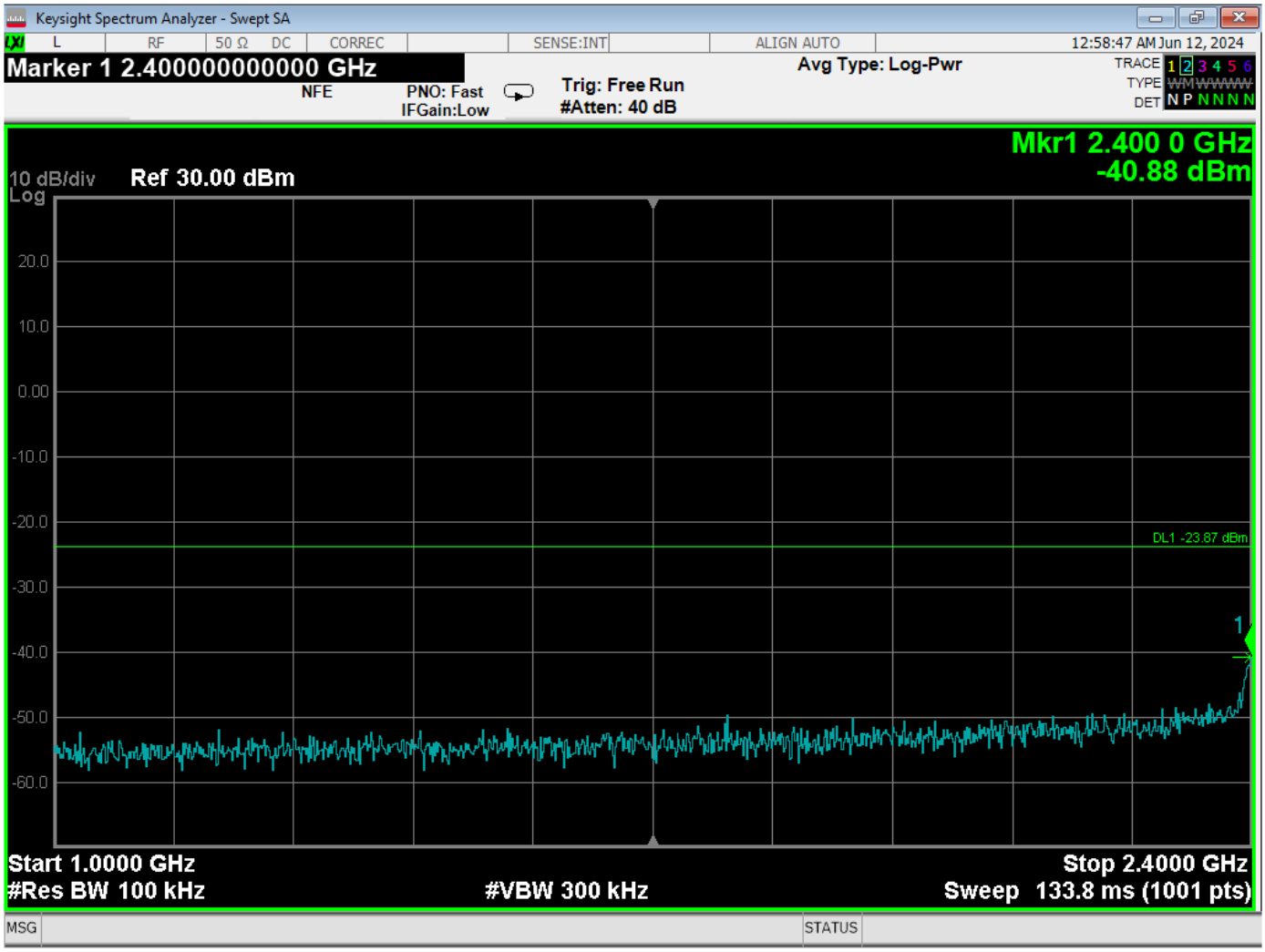
RF Antenna Conducted – High Channel – 802.11b Mode – 10 GHz to 25 GHz – RedPine



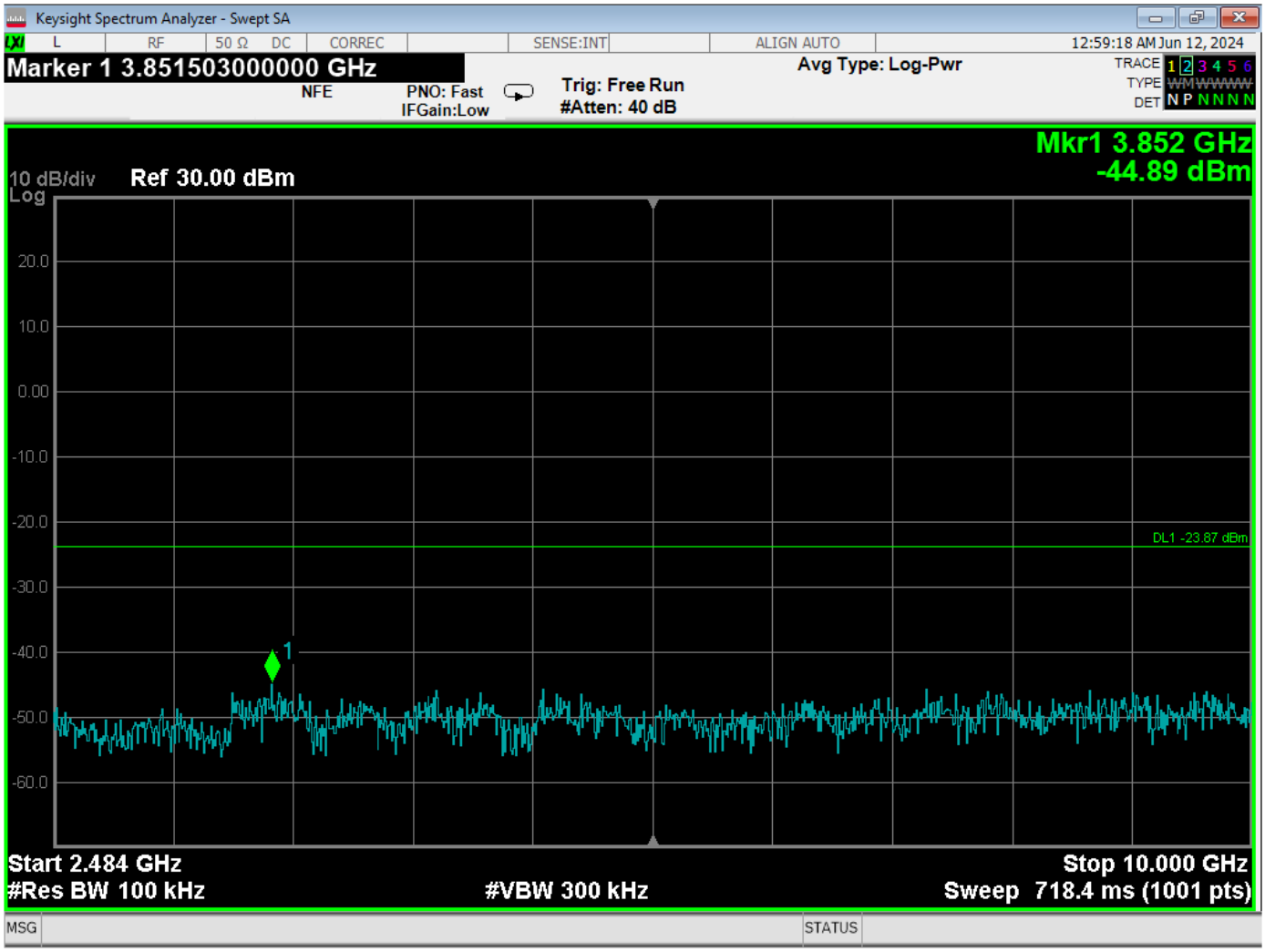
RF Antenna Conducted – Low Channel – 802.11g Mode – Reference Level – RedPine



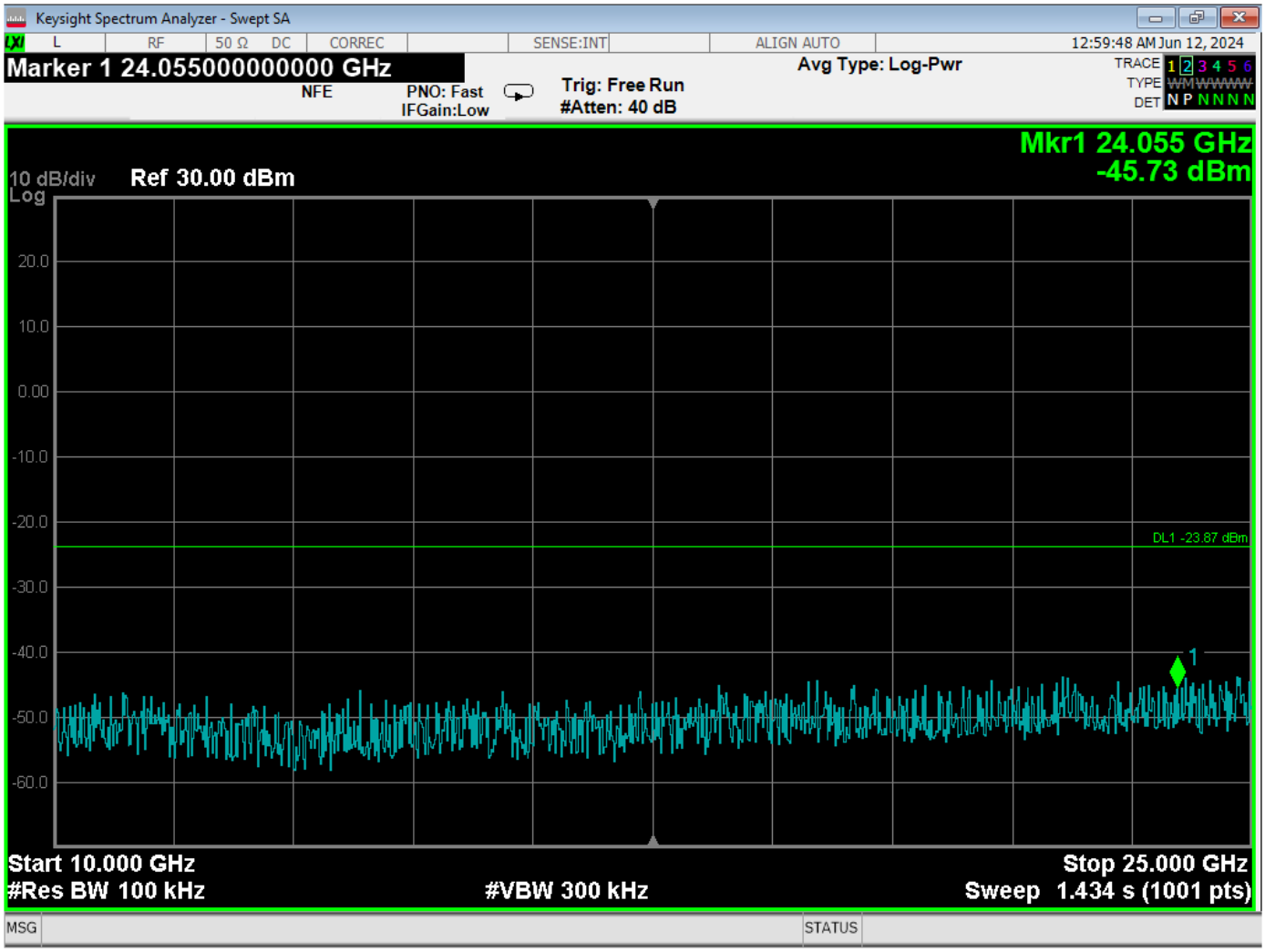
RF Antenna Conducted – Low Channel – 802.11g Mode – 30 MHz to 1 GHz – RedPine



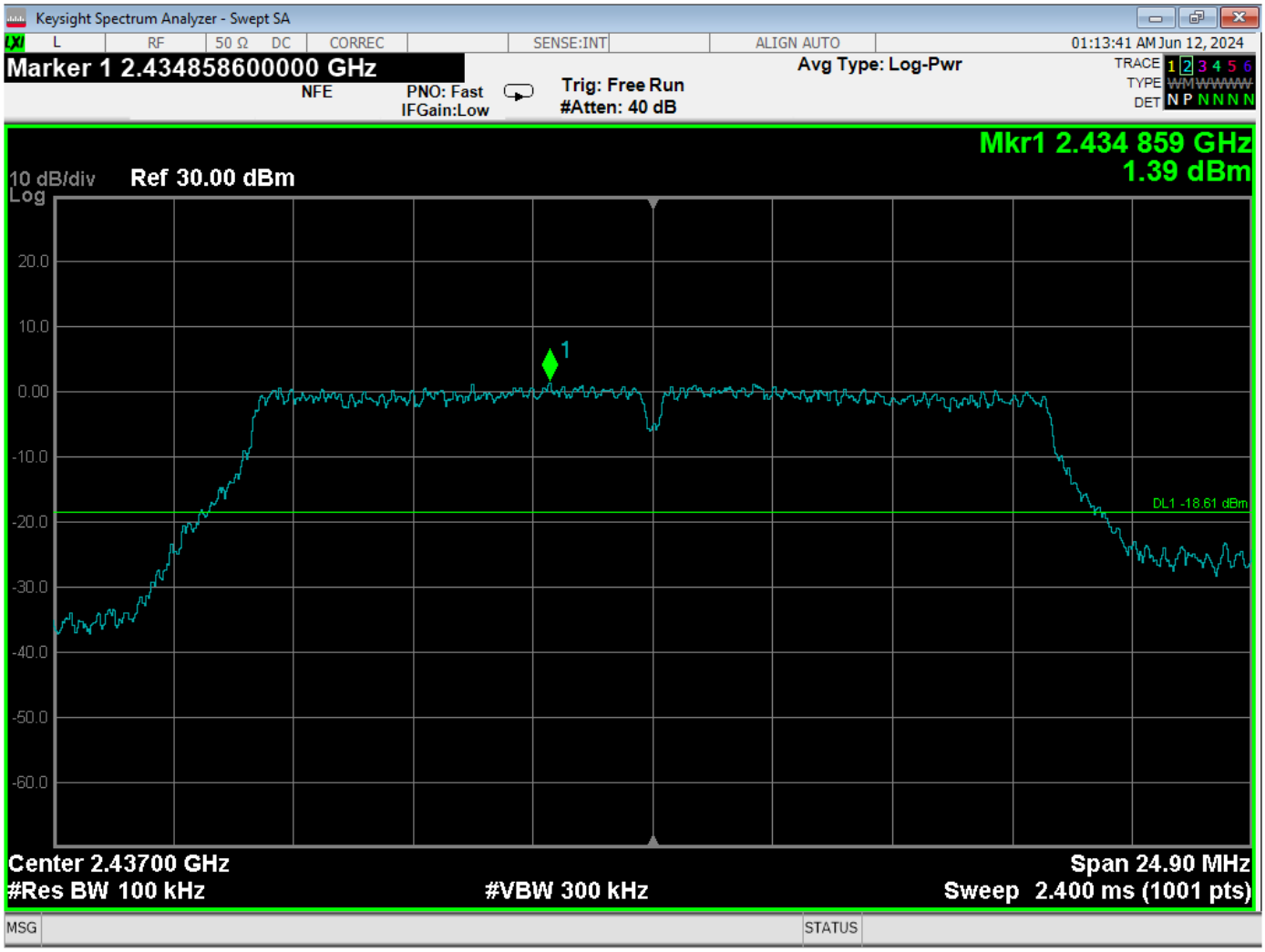
RF Antenna Conducted – Low Channel – 802.11g Mode – 1 GHz to 2.4 GHz – RedPine



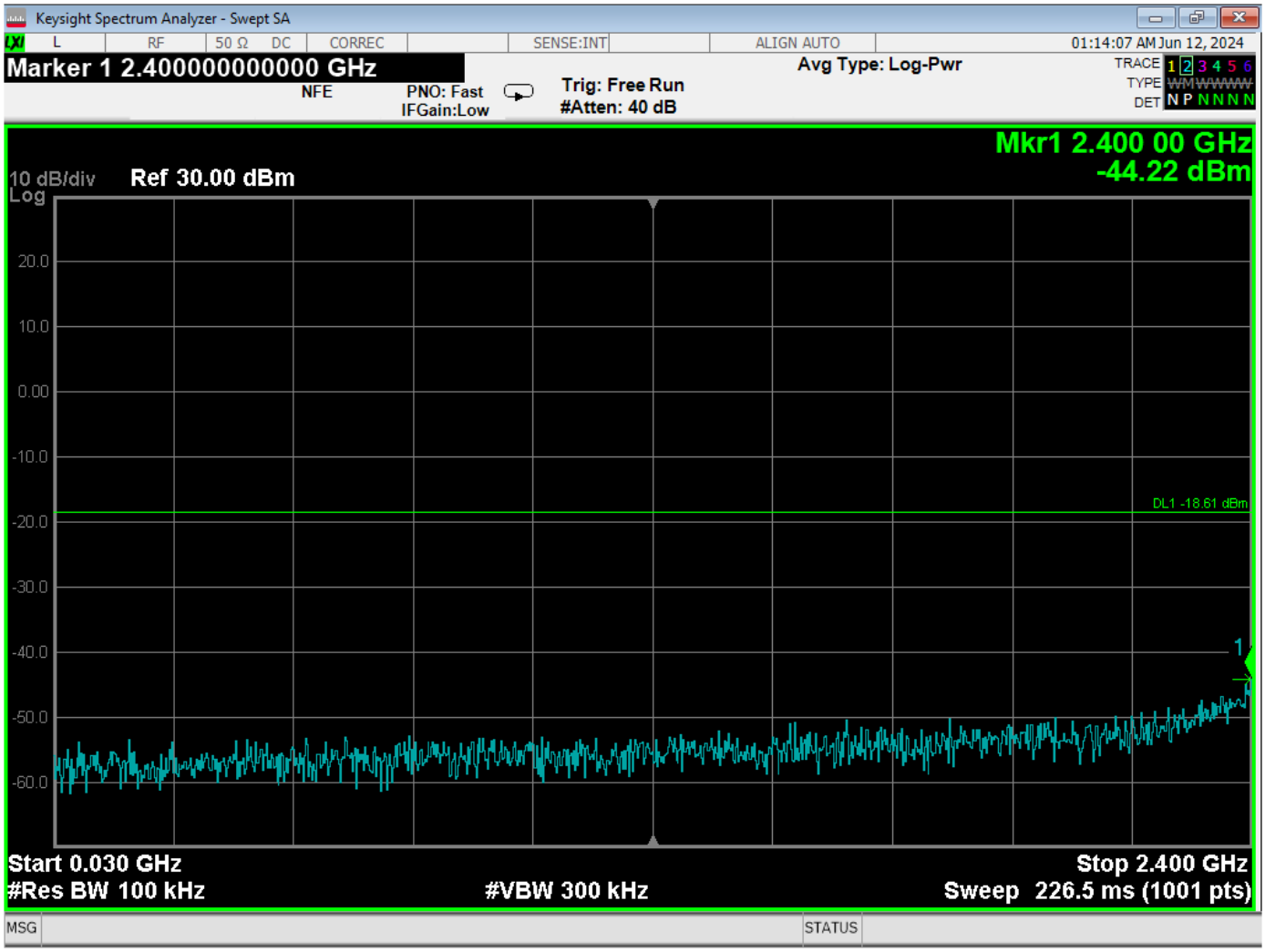
RF Antenna Conducted – Low Channel – 802.11g Mode – 2483.5 MHz to 10 GHz – RedPine



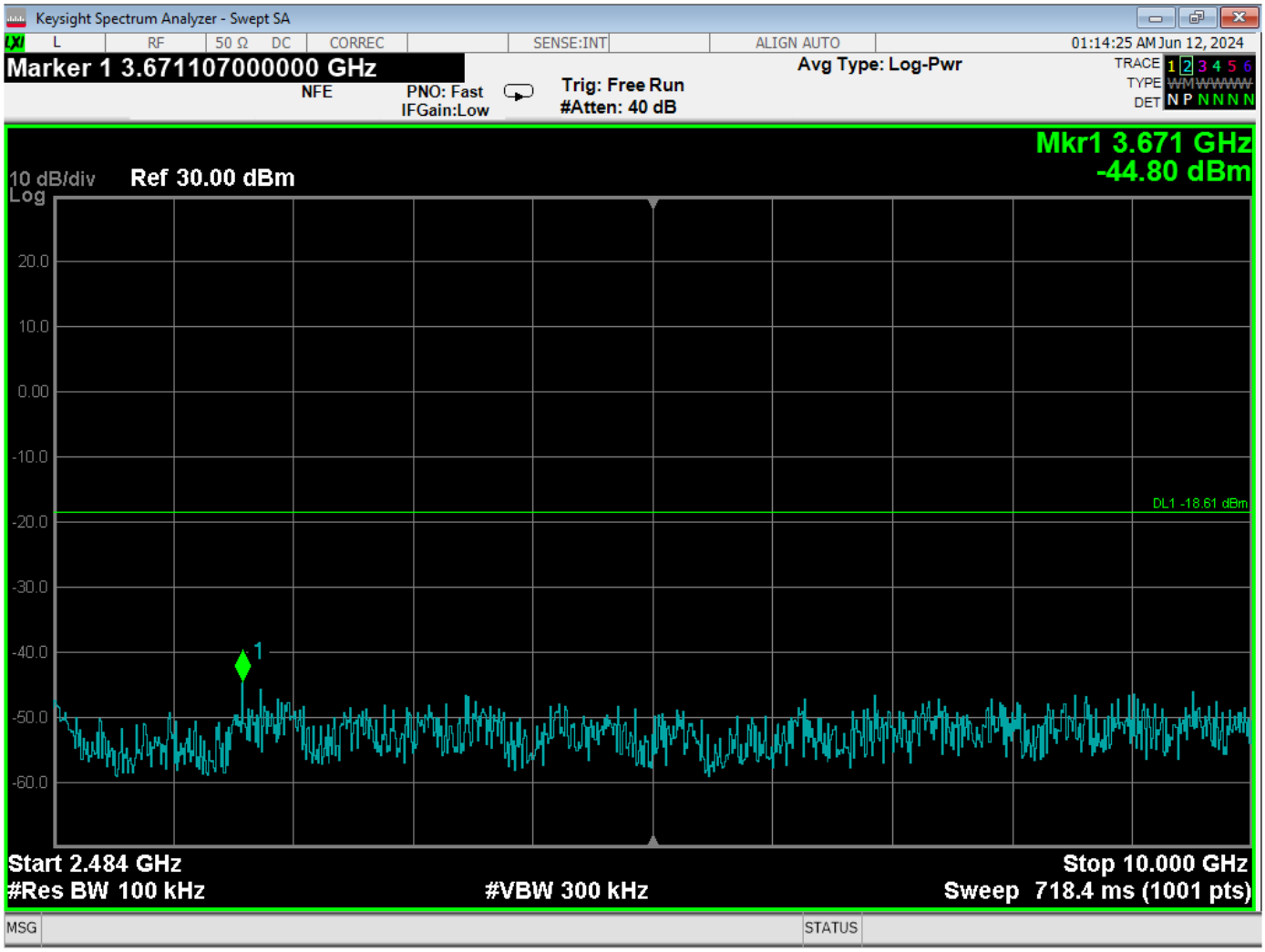
RF Antenna Conducted – Low Channel – 802.11g Mode – 10 GHz to 25 GHz – RedPine



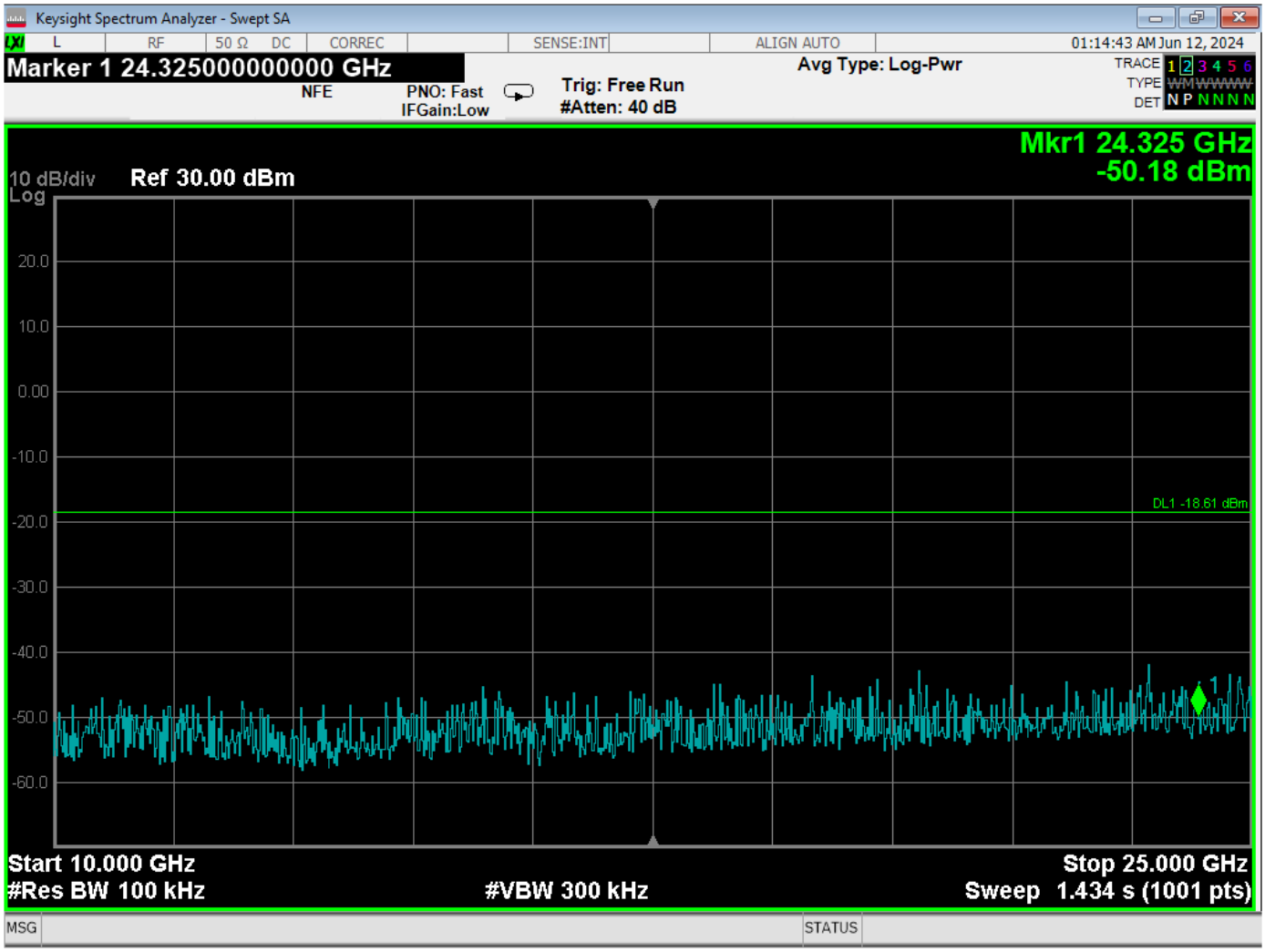
RF Antenna Conducted – Middle Channel – 802.11g Mode – Reference Level – RedPine



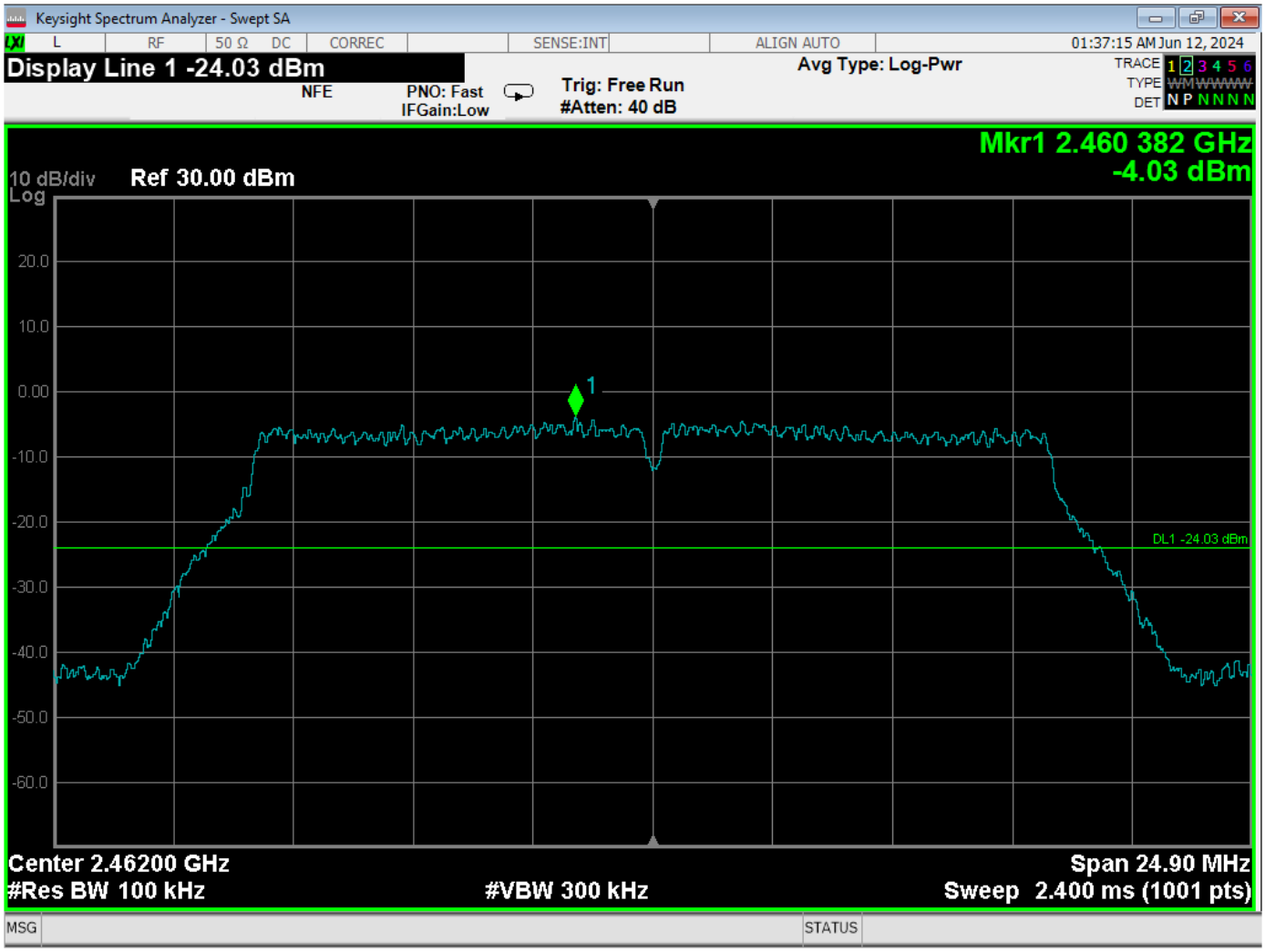
RF Antenna Conducted – Middle Channel – 802.11g Mode – 30 MHz to 2.4 GHz – RedPine



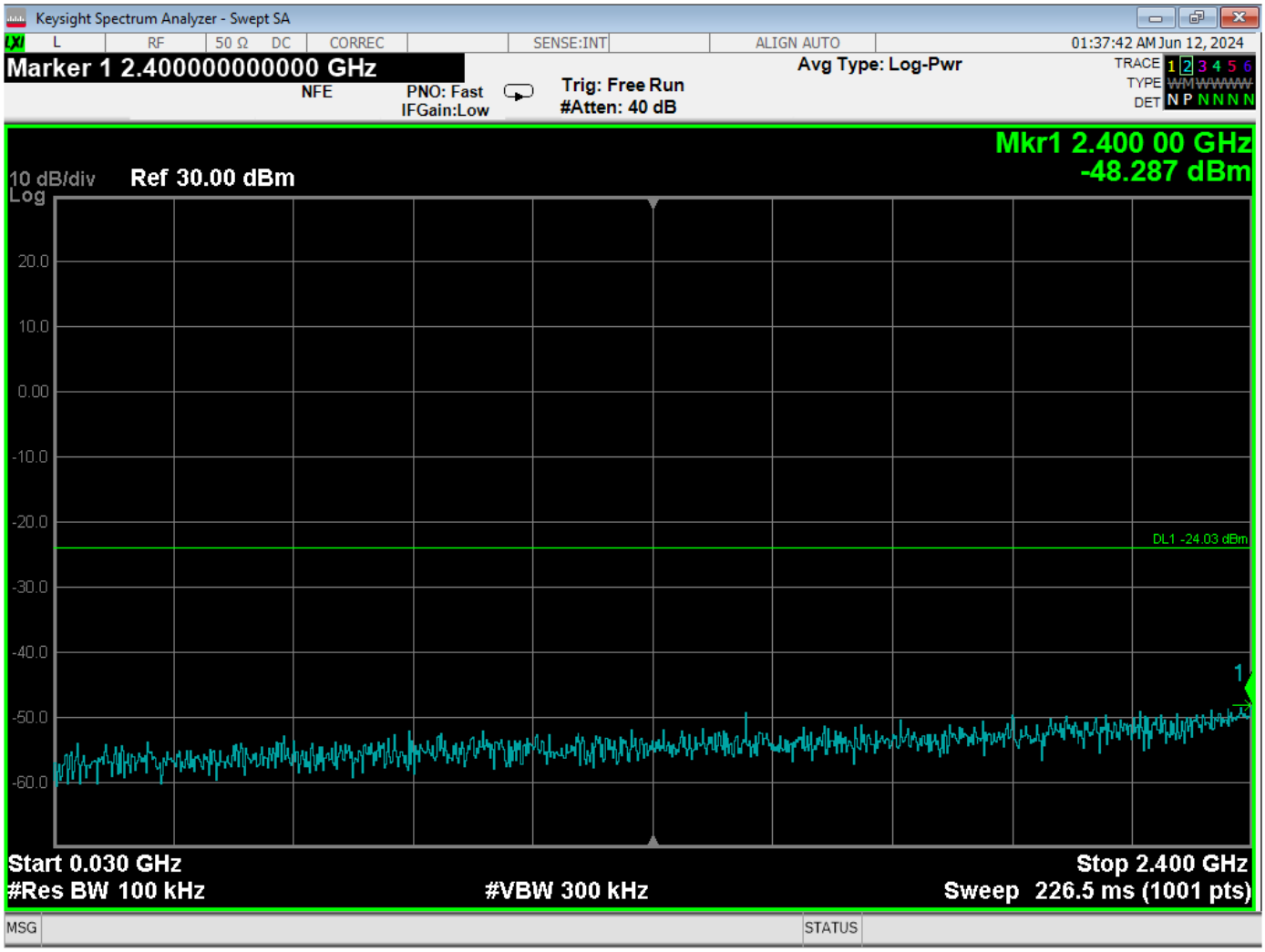
RF Antenna Conducted – Middle Channel – 802.11g Mode – 2483.5 MHz to 10 GHz – RedPine



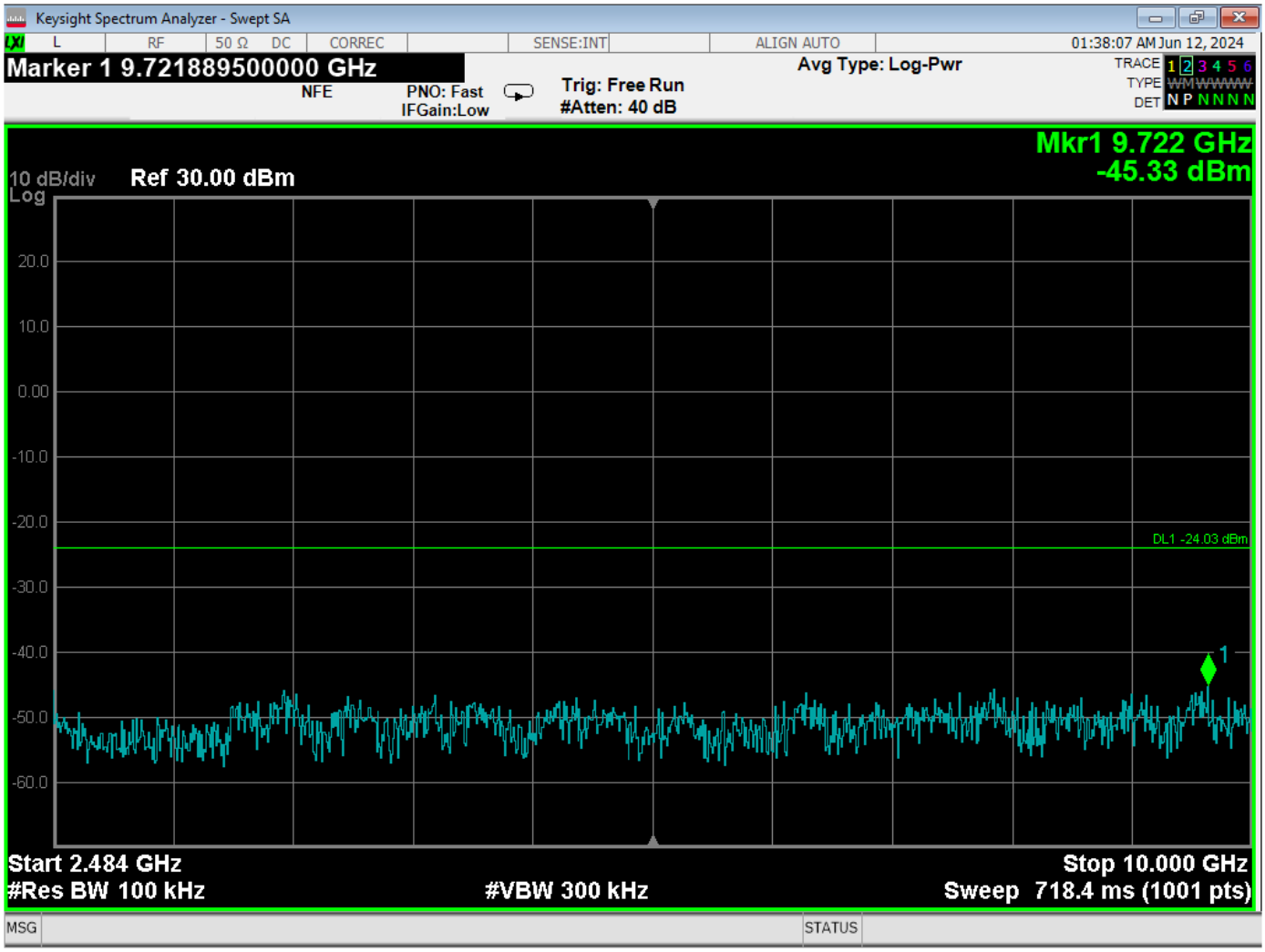
RF Antenna Conducted – Middle Channel – 802.11g Mode – 10 GHz to 25 GHz – RedPine



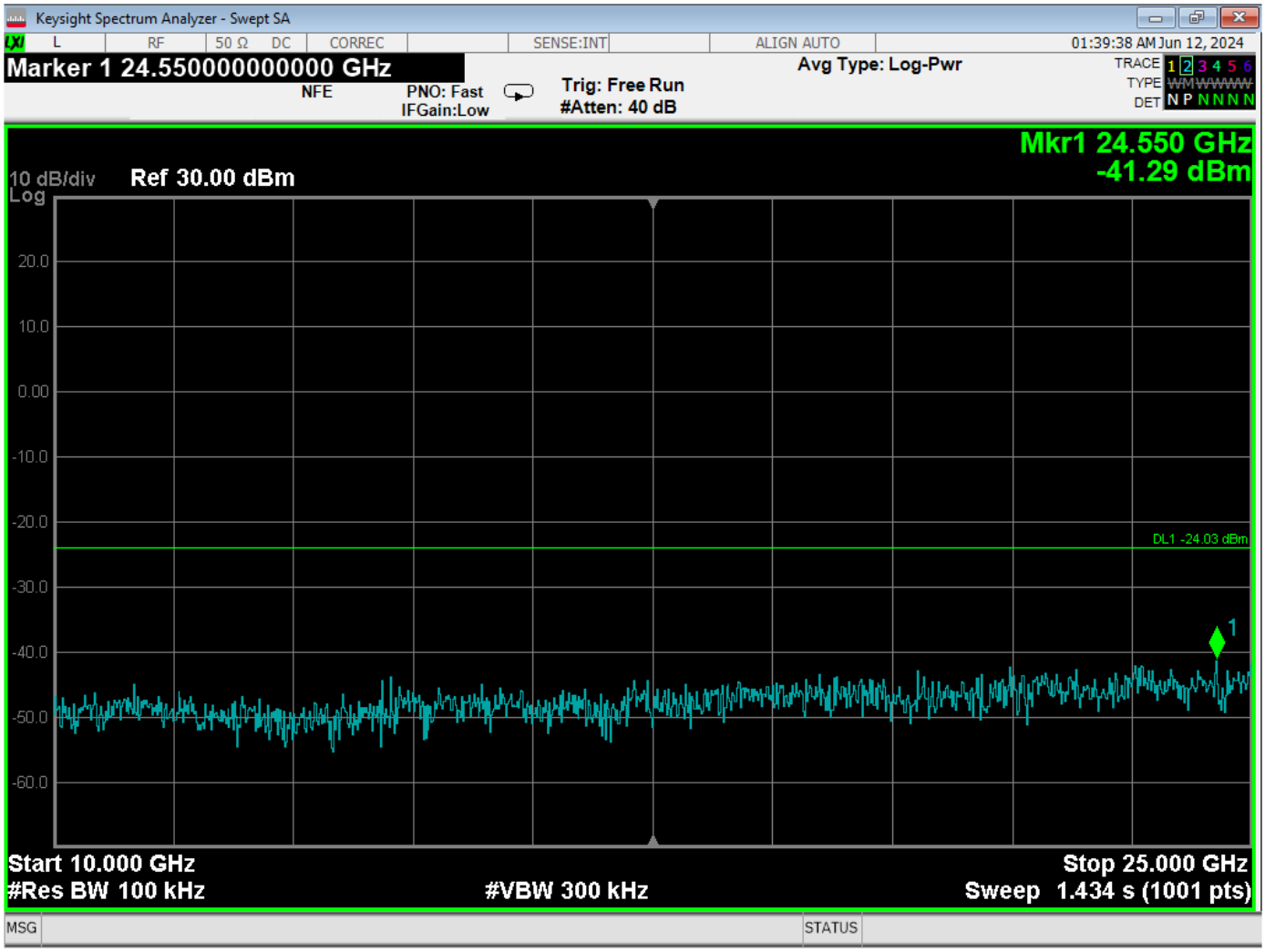
RF Antenna Conducted – High Channel – 802.11g Mode – Reference Level – RedPine



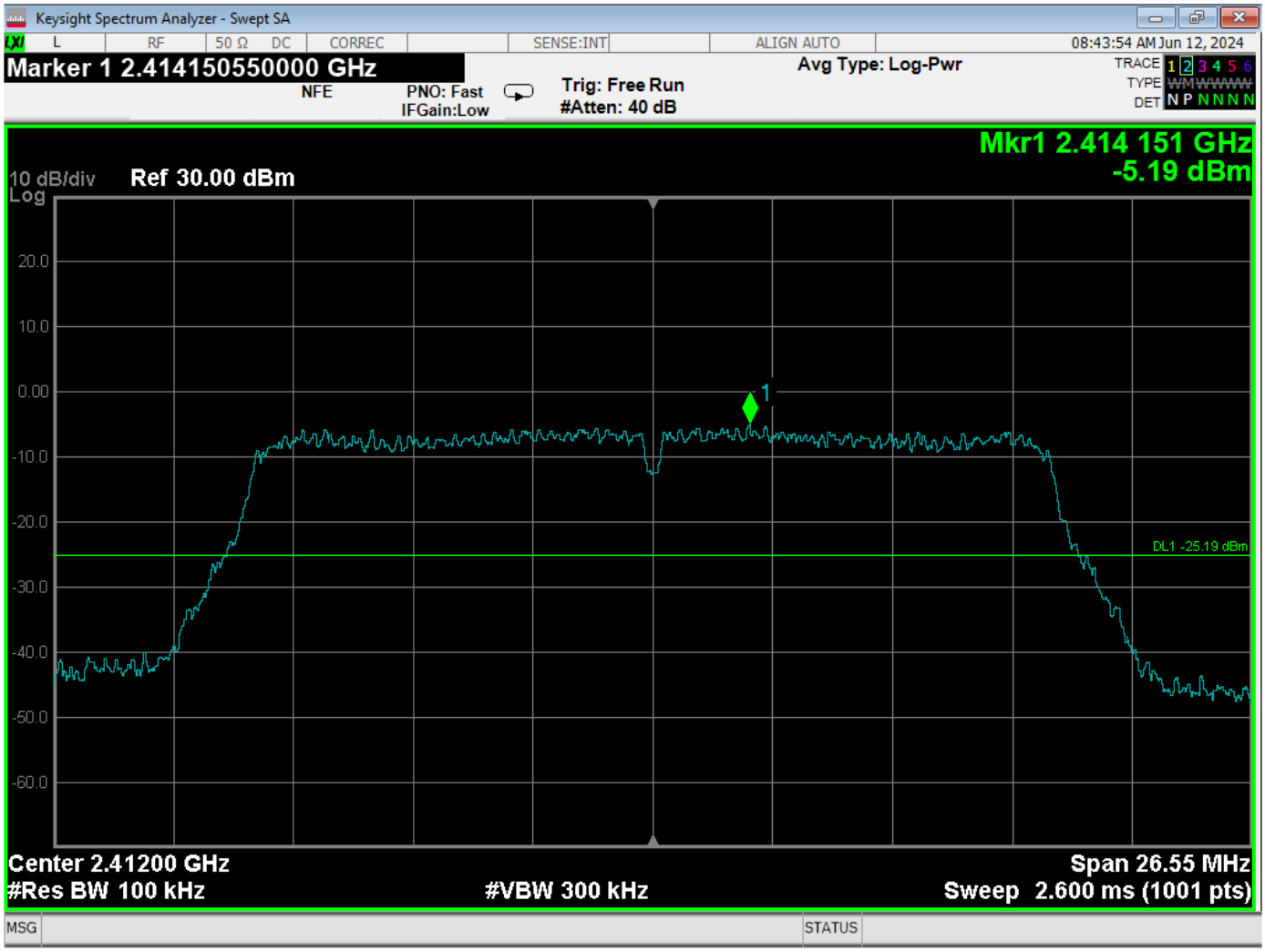
RF Antenna Conducted – High Channel – 802.11g – 30 MHz to 2.4 GHz – RedPine



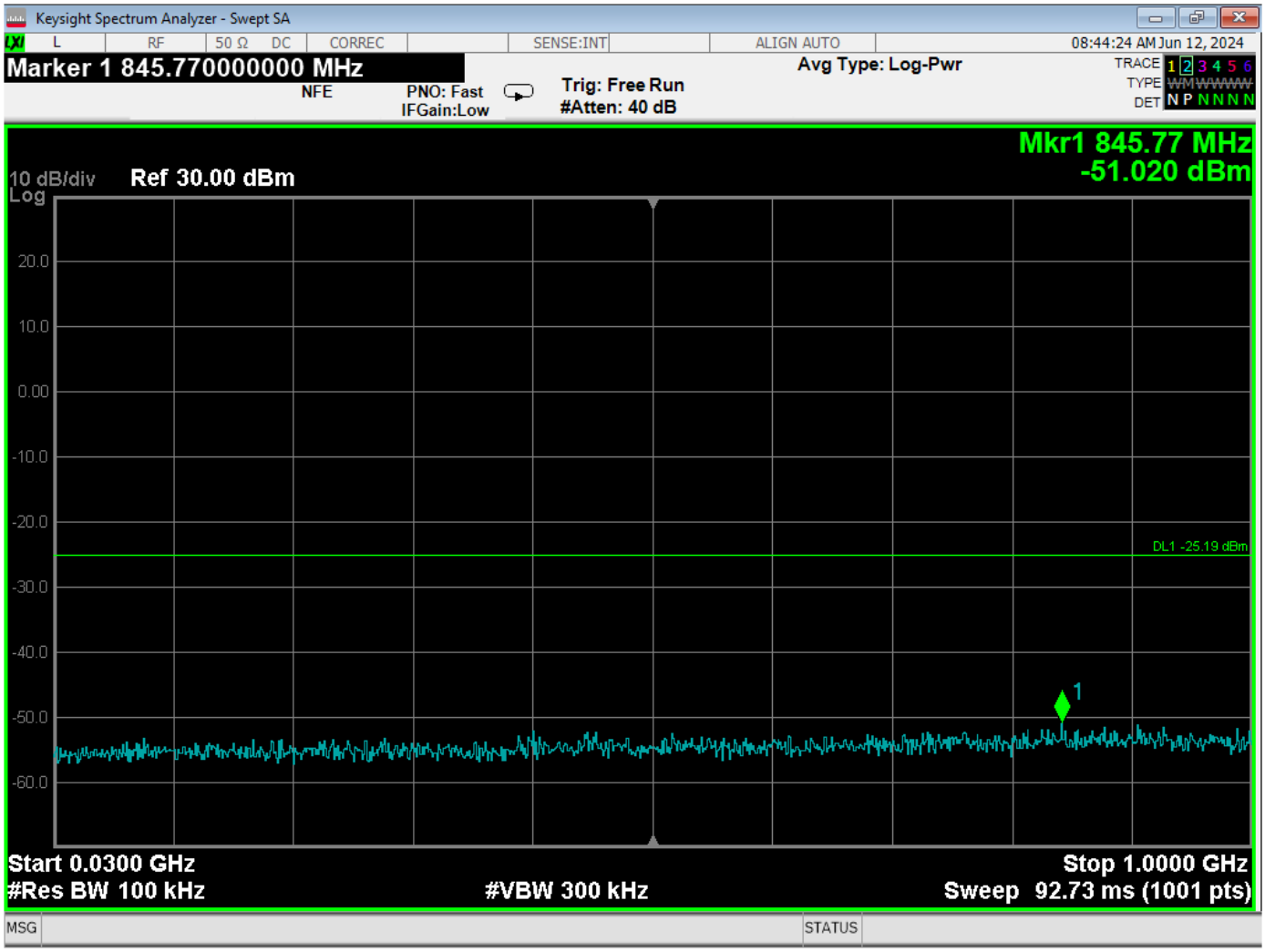
RF Antenna Conducted – High Channel – 802.11g – 2483.5 MHz to 10 GHz – RedPine



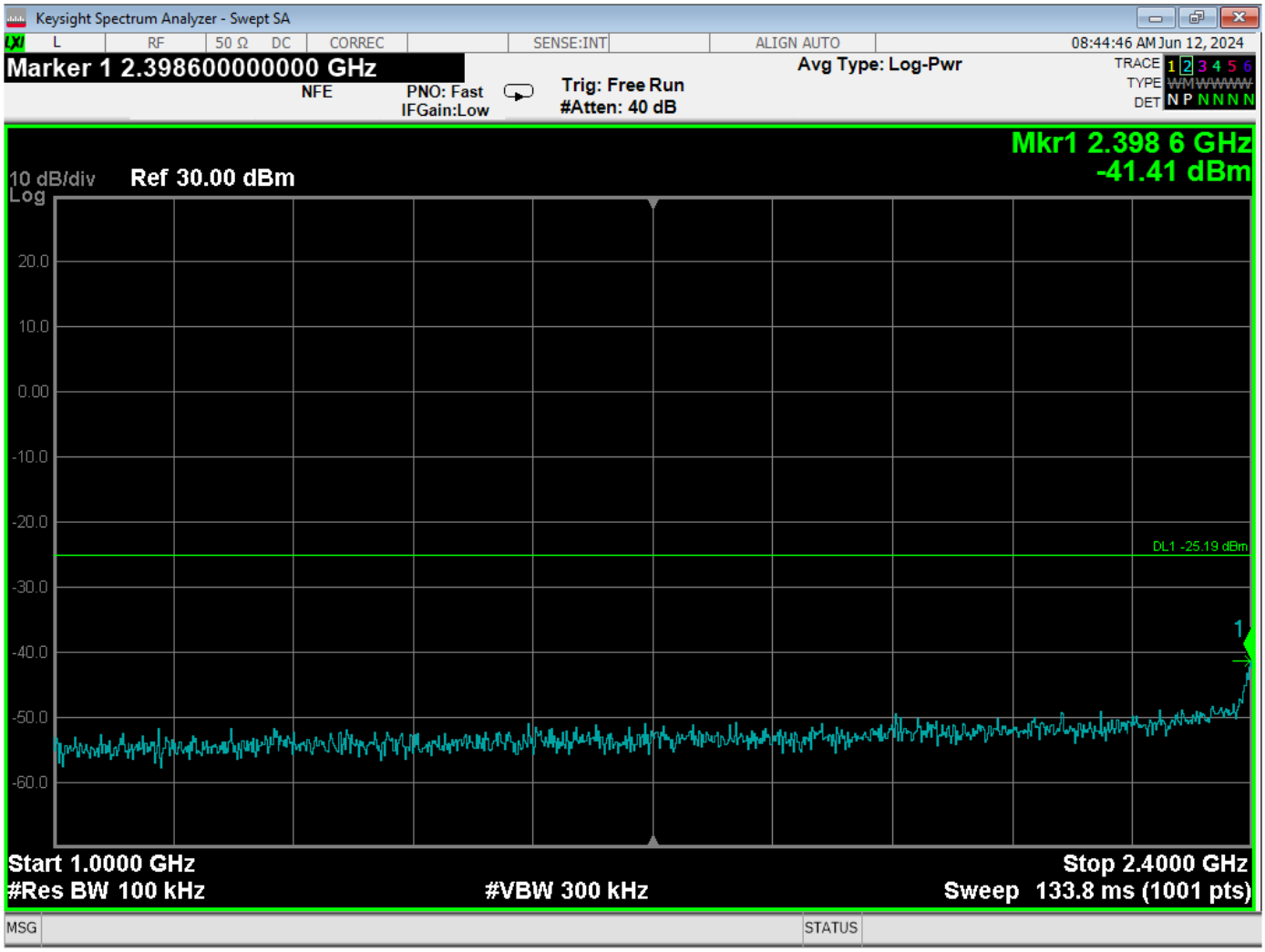
RF Antenna Conducted – High Channel – 802.11g – 10 GHz to 25 GHz – RedPine



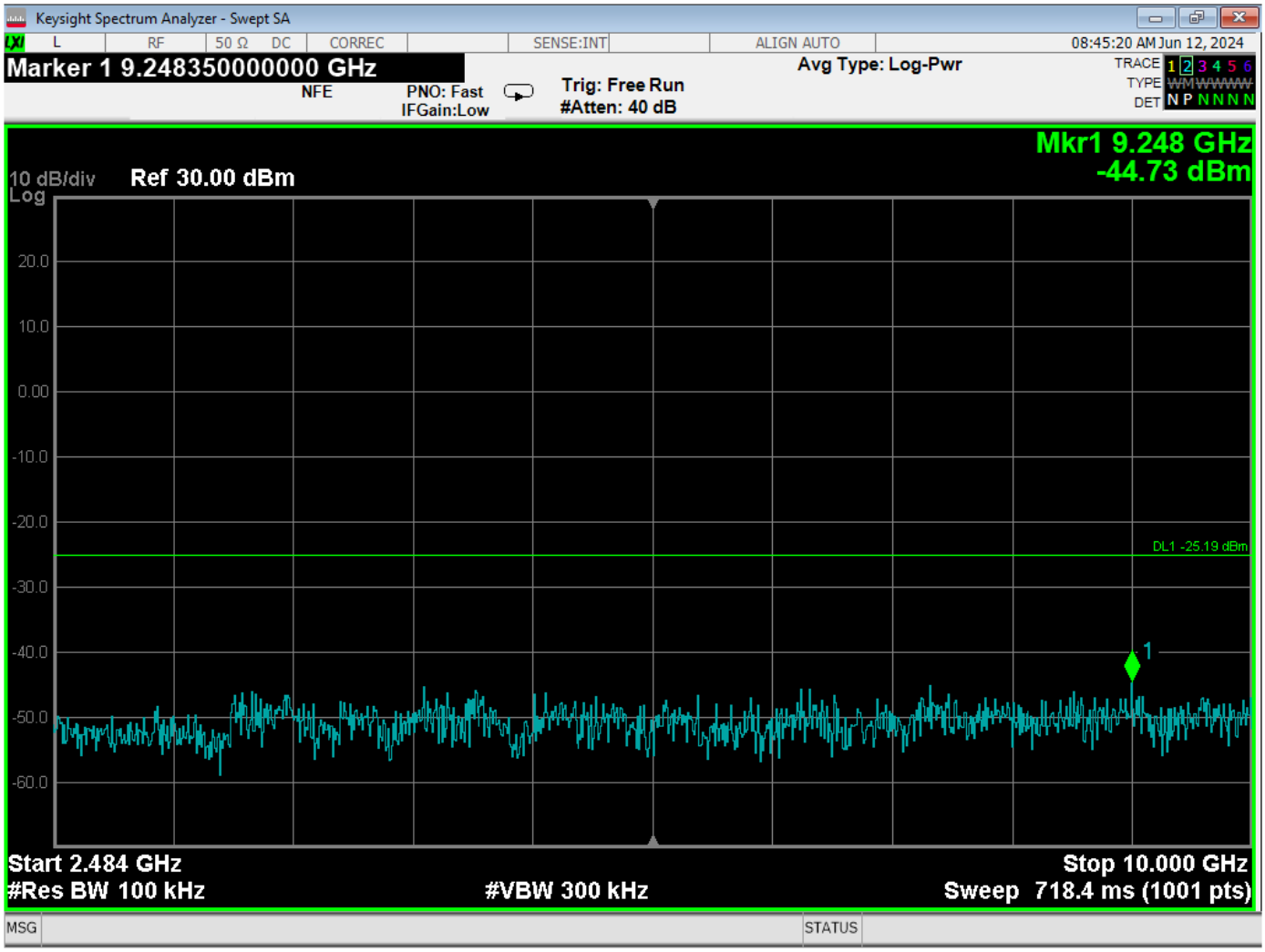
RF Antenna Conducted – Low Channel – 802.11n – Reference Level – RedPine



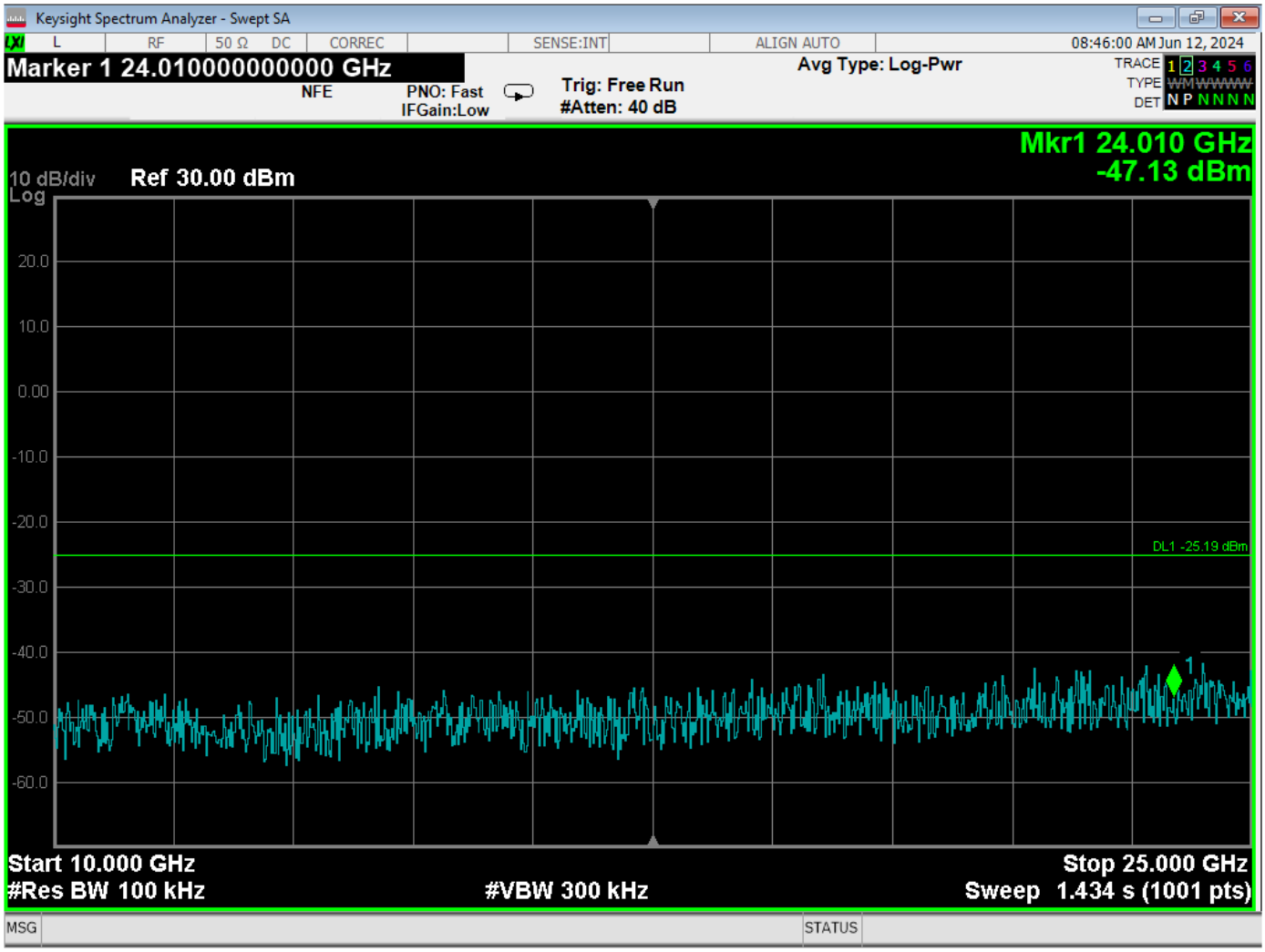
RF Antenna Conducted – Low Channel – 802.11n – 30 MHz to 1 GHz – RedPine



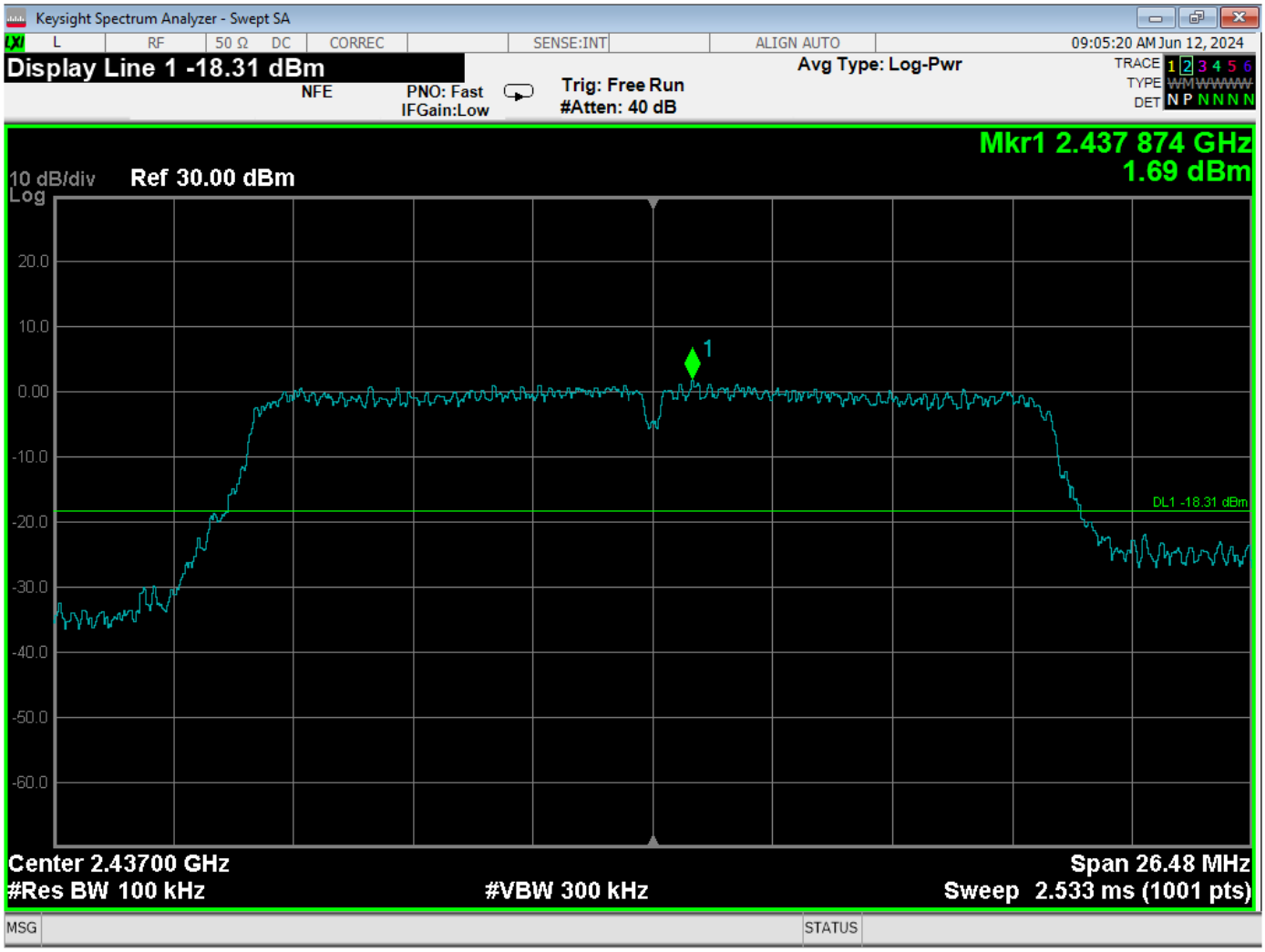
RF Antenna Conducted – Low Channel – 802.11n – 1 GHz to 2.4 GHz – RedPine



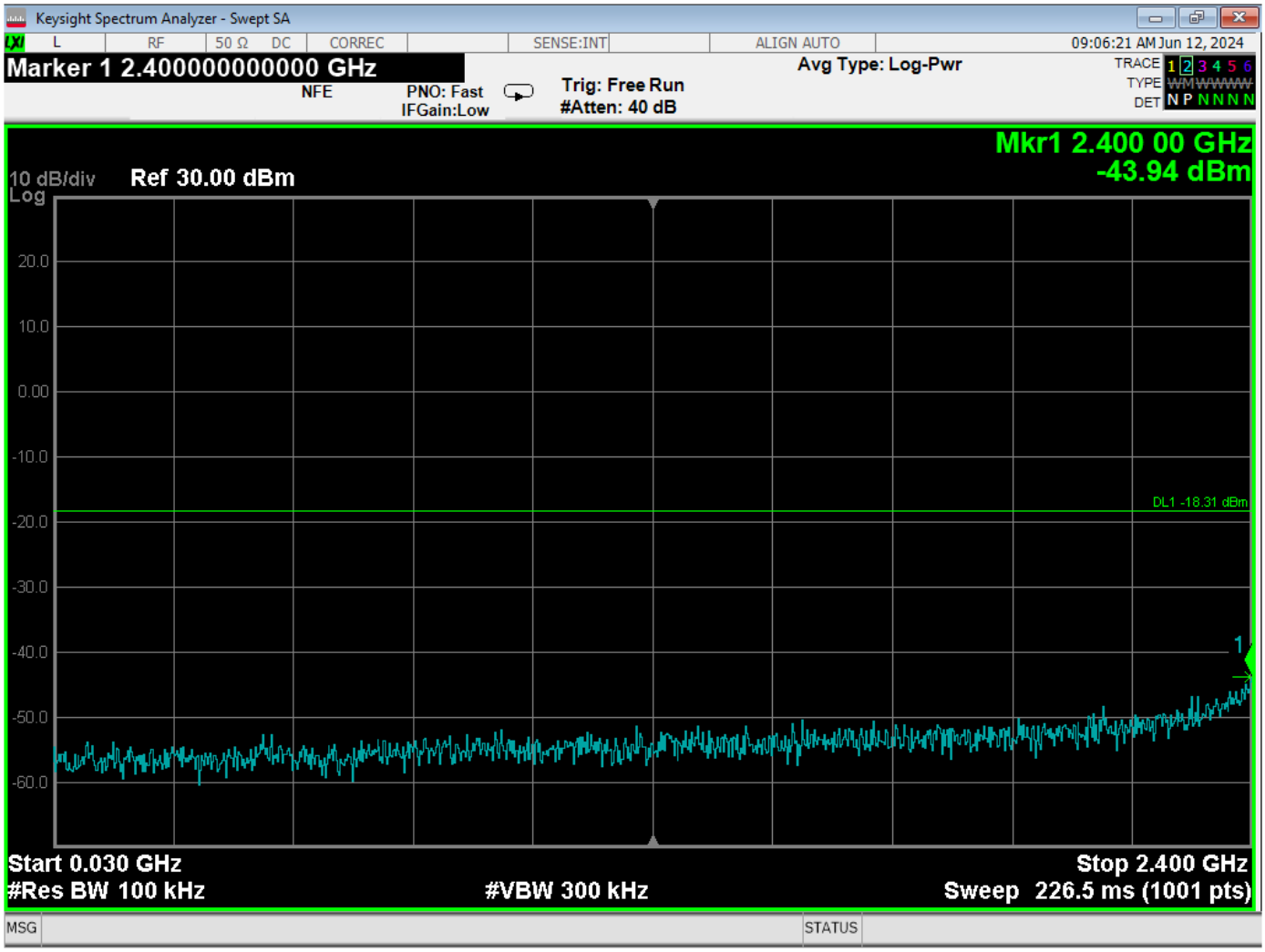
RF Antenna Conducted – Low Channel – 802.11n – 2483.5 MHz to 10 GHz – RedPine



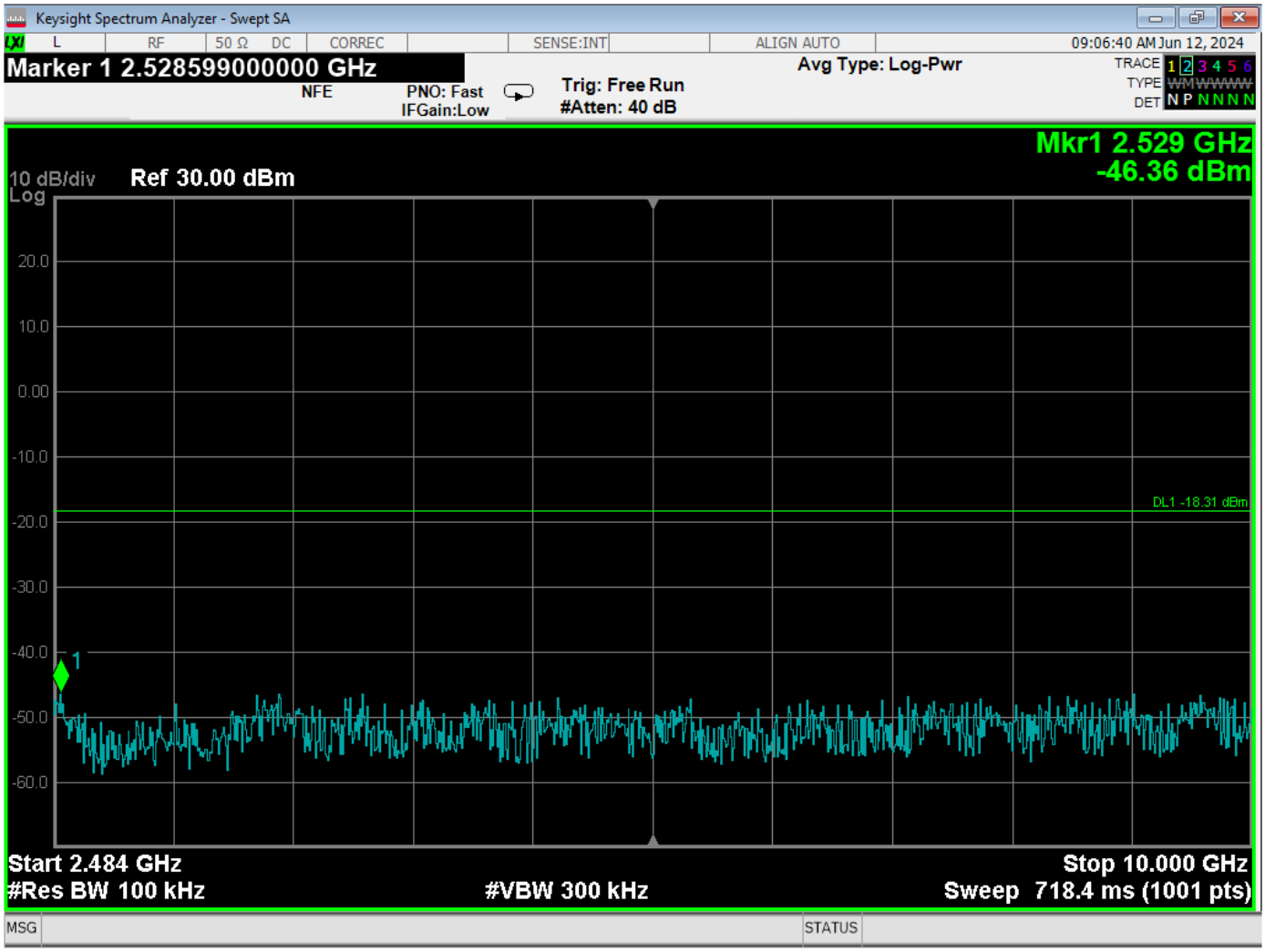
RF Antenna Conducted – Low Channel – 802.11n – 10 GHz to 25 GHz – RedPine



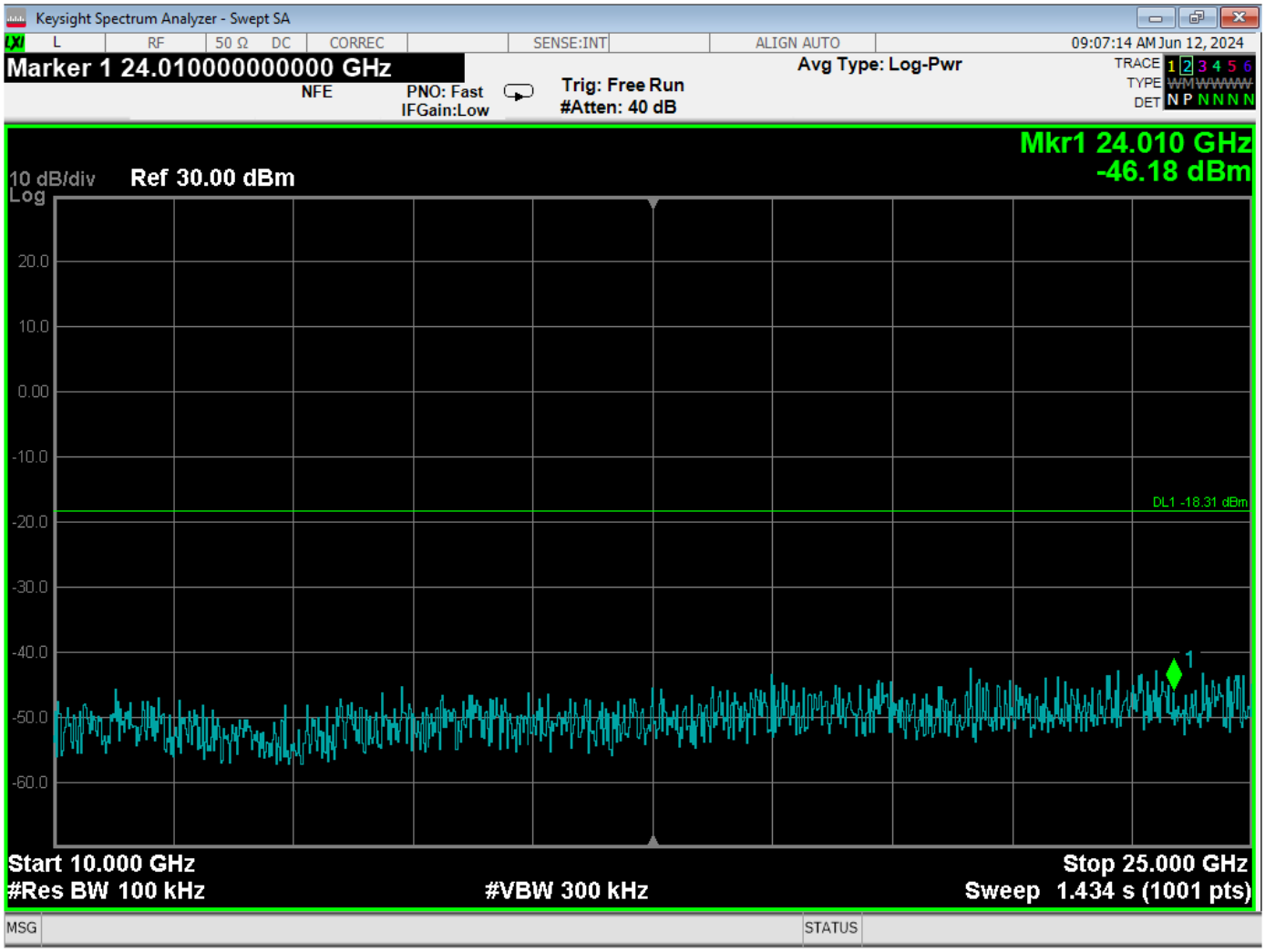
RF Antenna Conducted – Middle Channel – 802.11n – Reference Level – RedPine



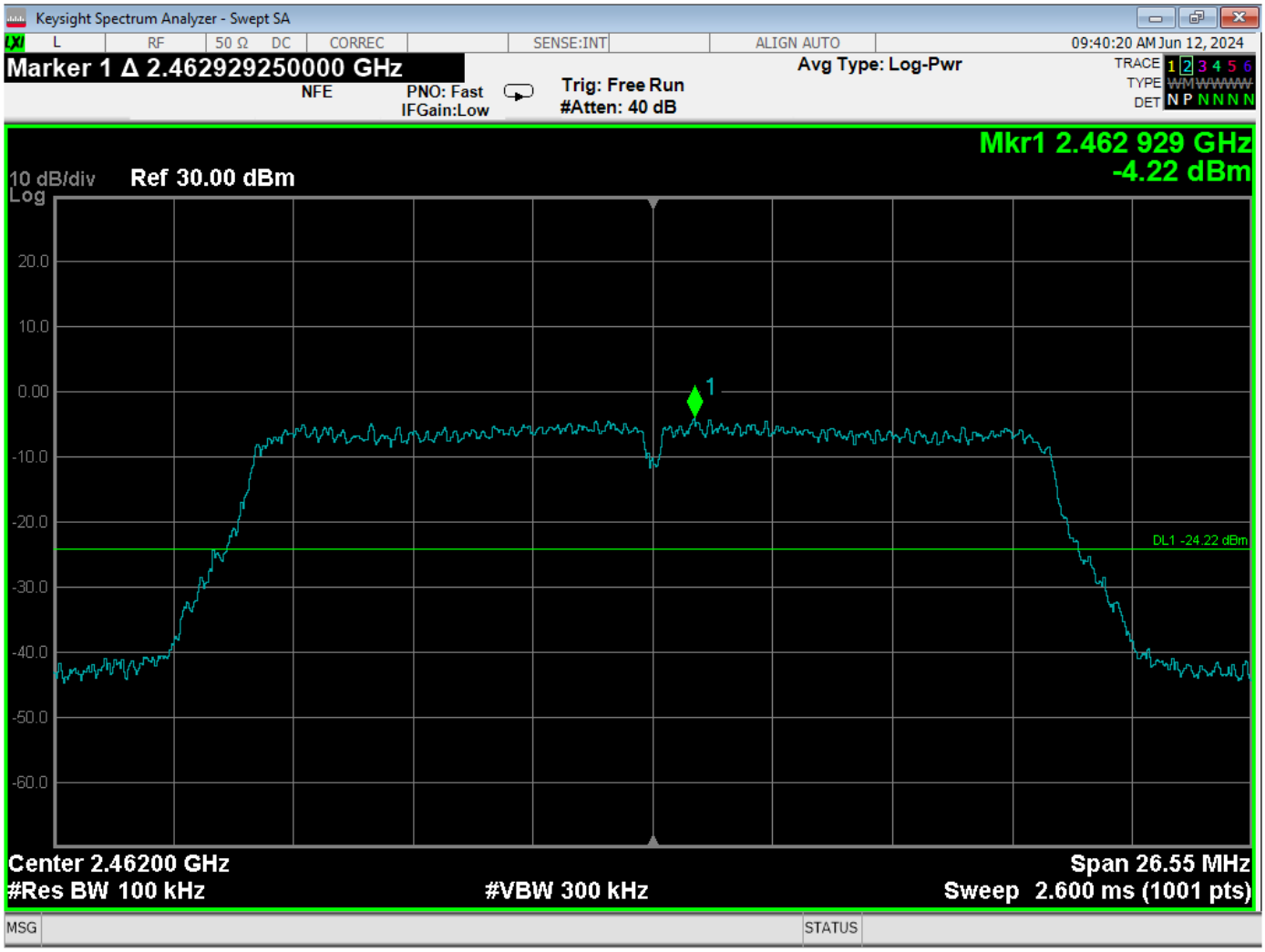
RF Antenna Conducted – Middle Channel – 802.11n – 30 MHz to 2.4 GHz – RedPine



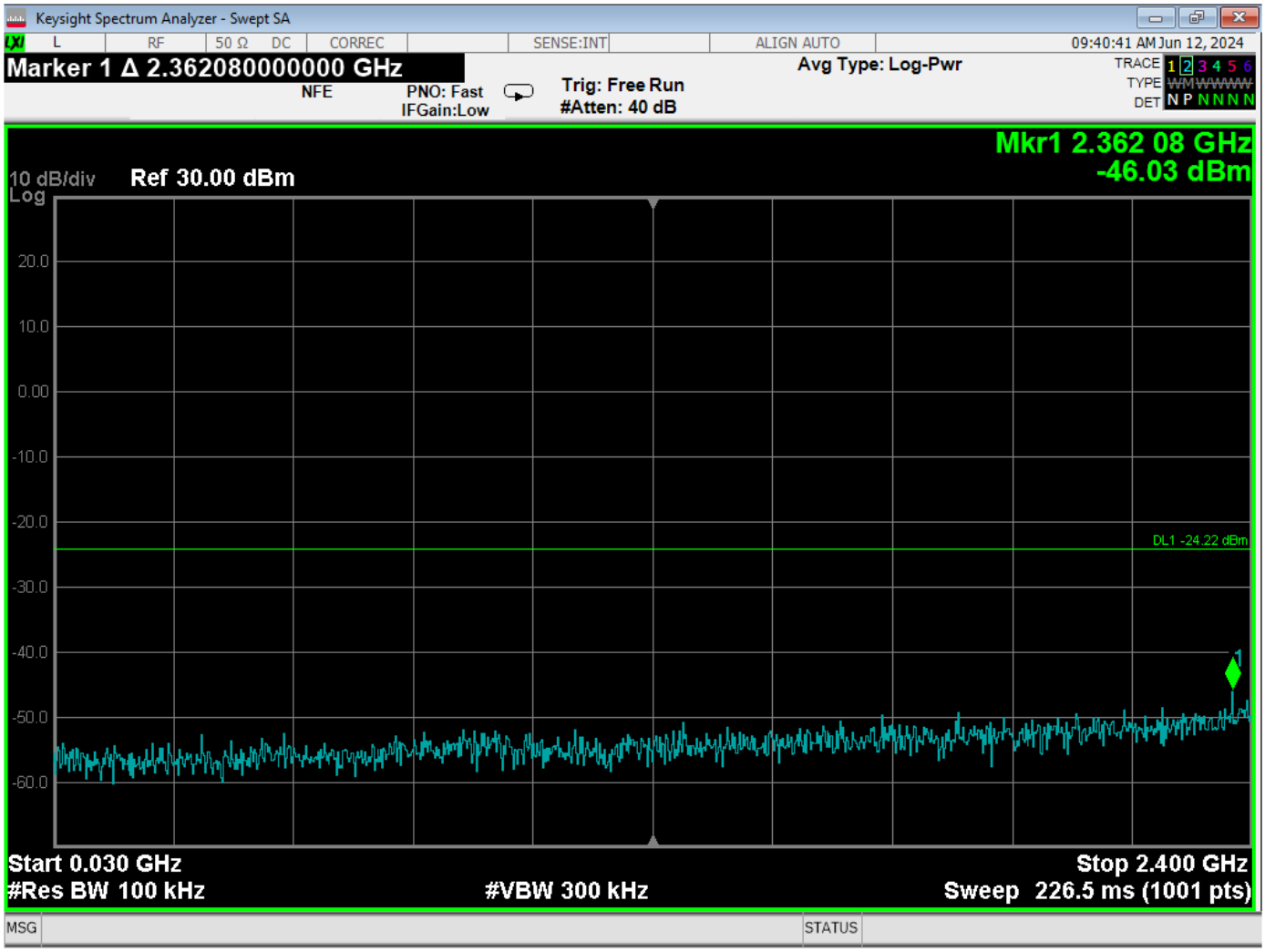
RF Antenna Conducted – Middle Channel – 802.11n – 2483.5 MHz to 10 GHz – RedPine



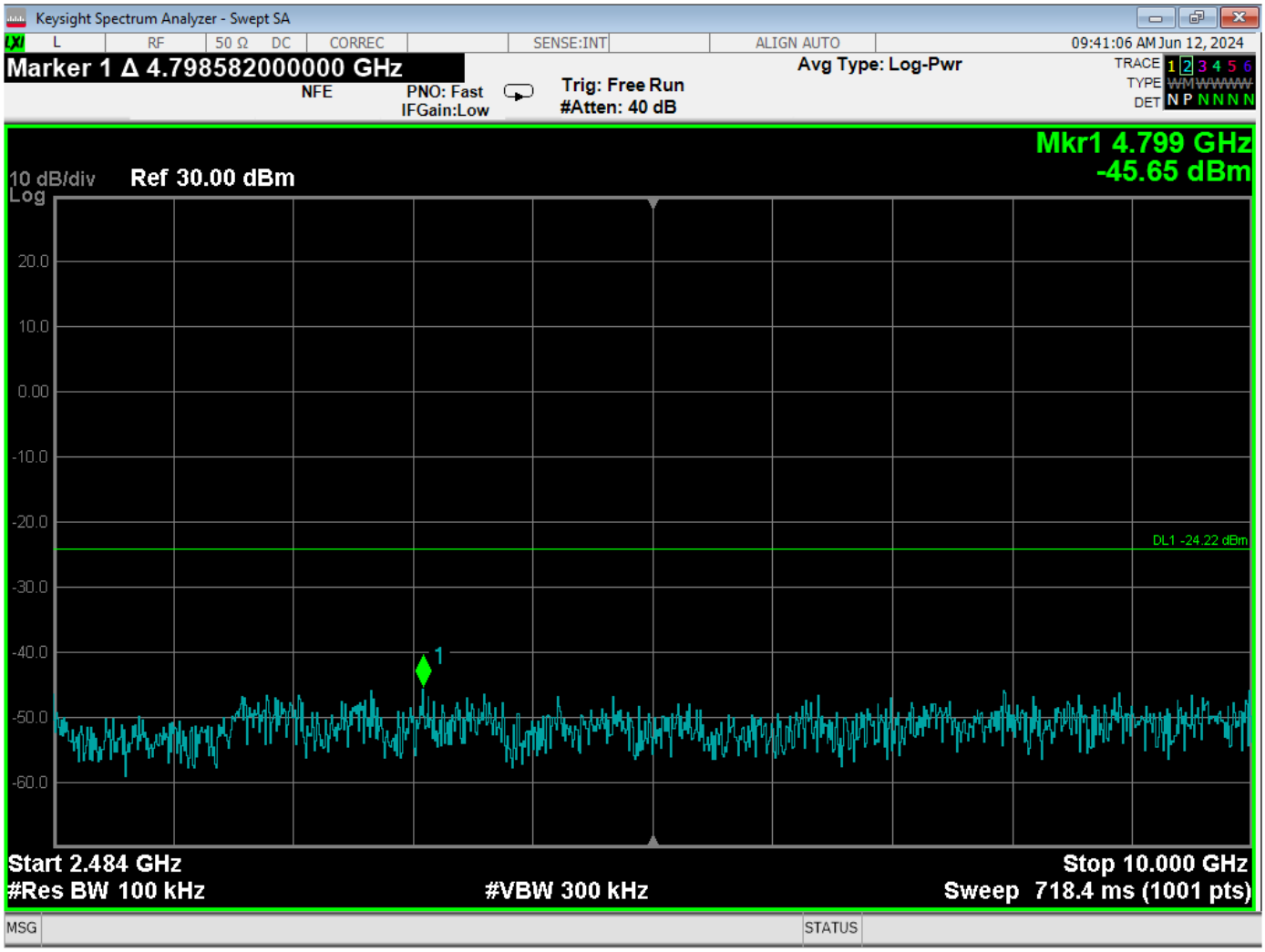
RF Antenna Conducted – Middle Channel – 802.11n – 10 GHz to 25 GHz – RedPine



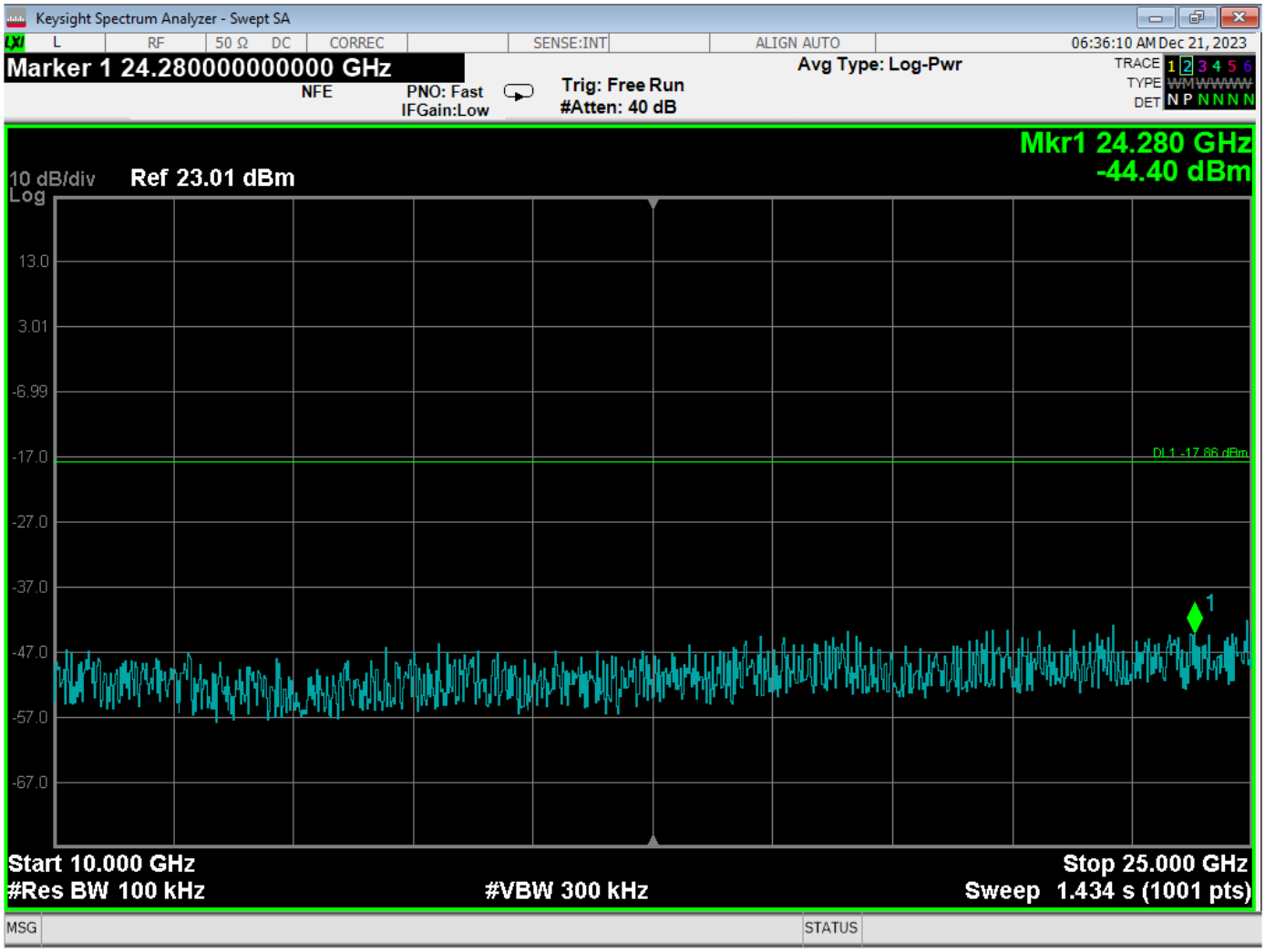
RF Antenna Conducted – High Channel – 802.11n – Reference Level – RedPine



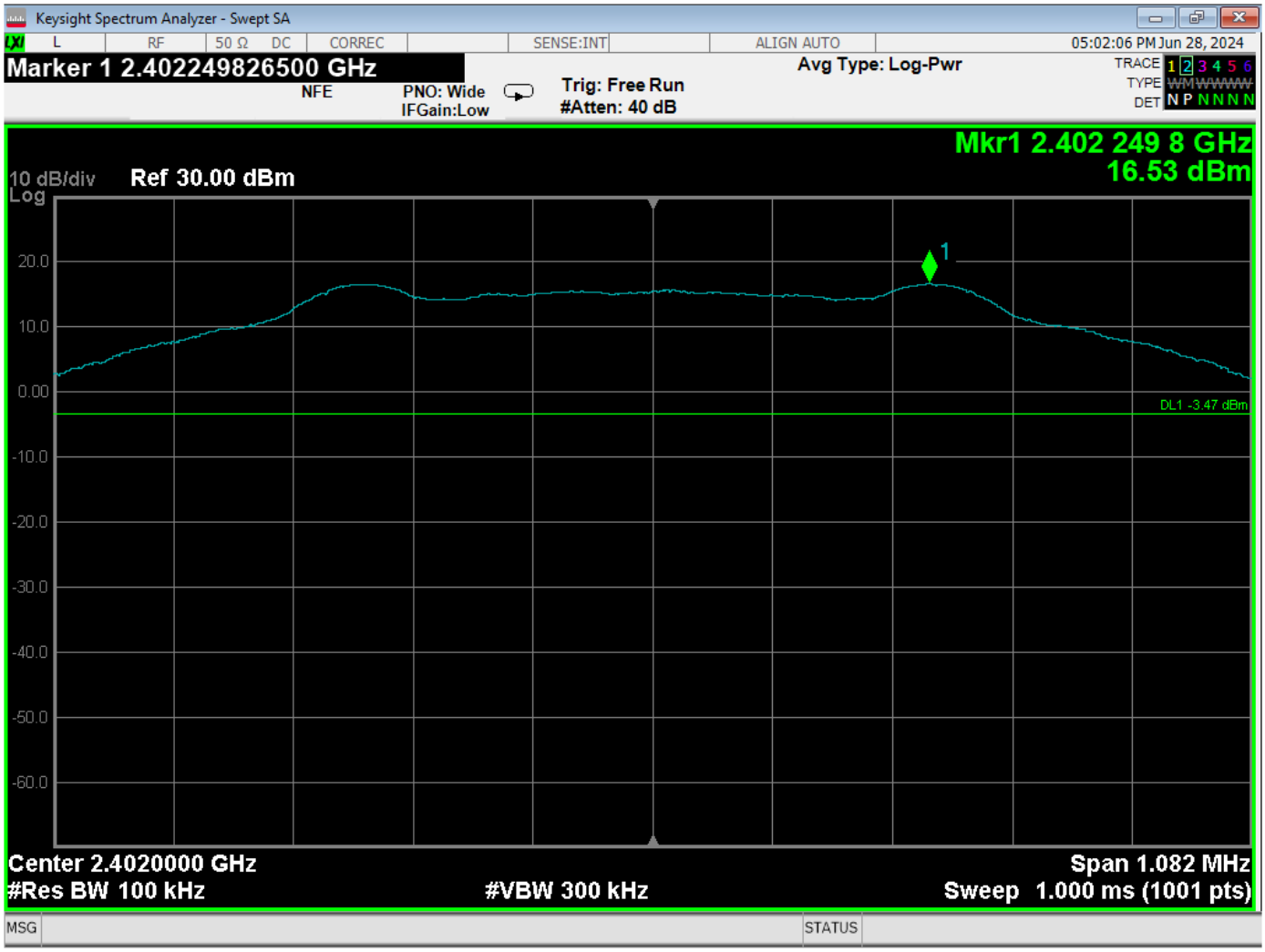
RF Antenna Conducted – High Channel – 802.11n – 30 MHz to 2.4 GHz – RedPine



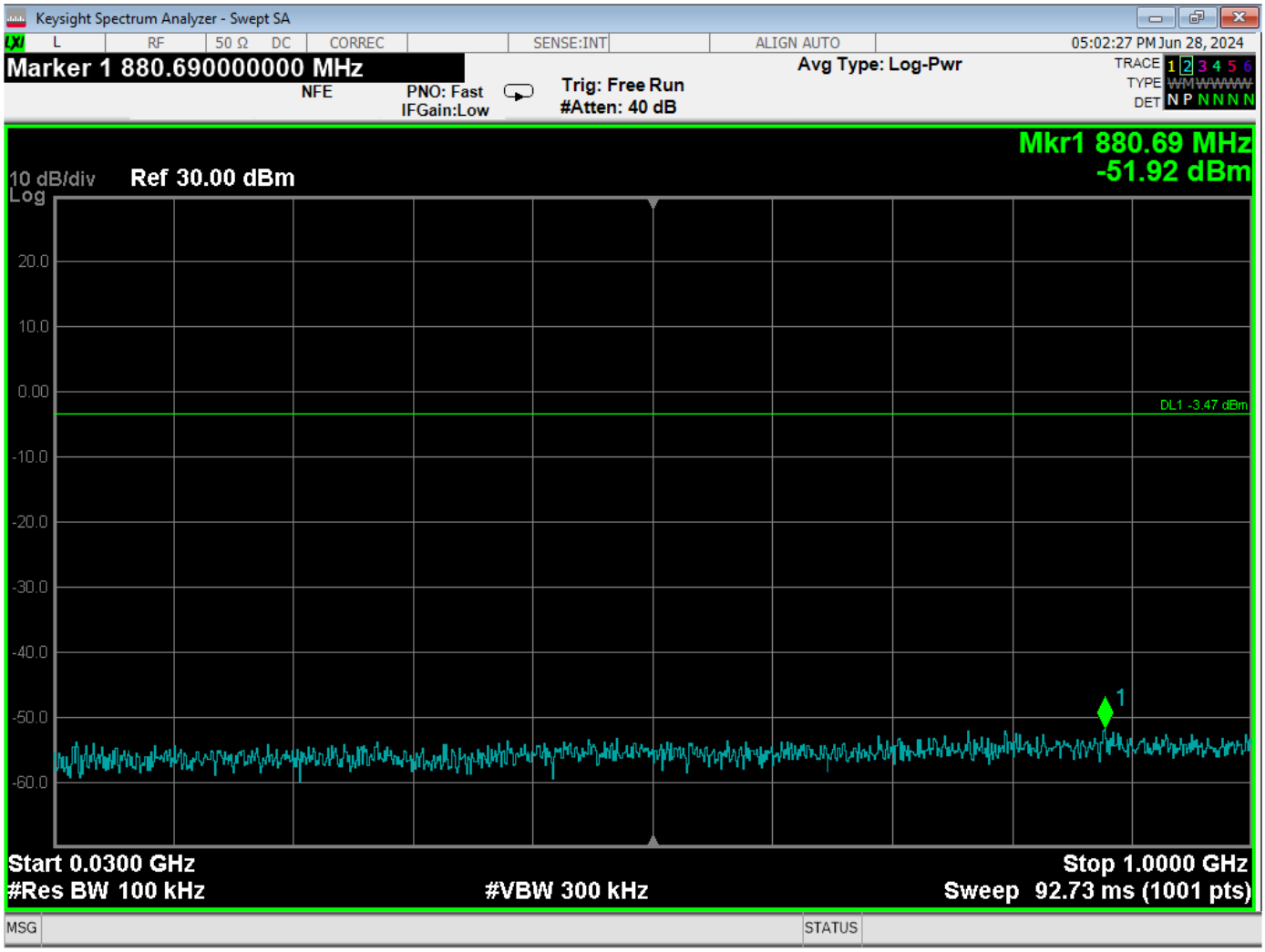
RF Antenna Conducted – High Channel – 802.11n – 2483.5 MHz to 10 GHz – RedPine



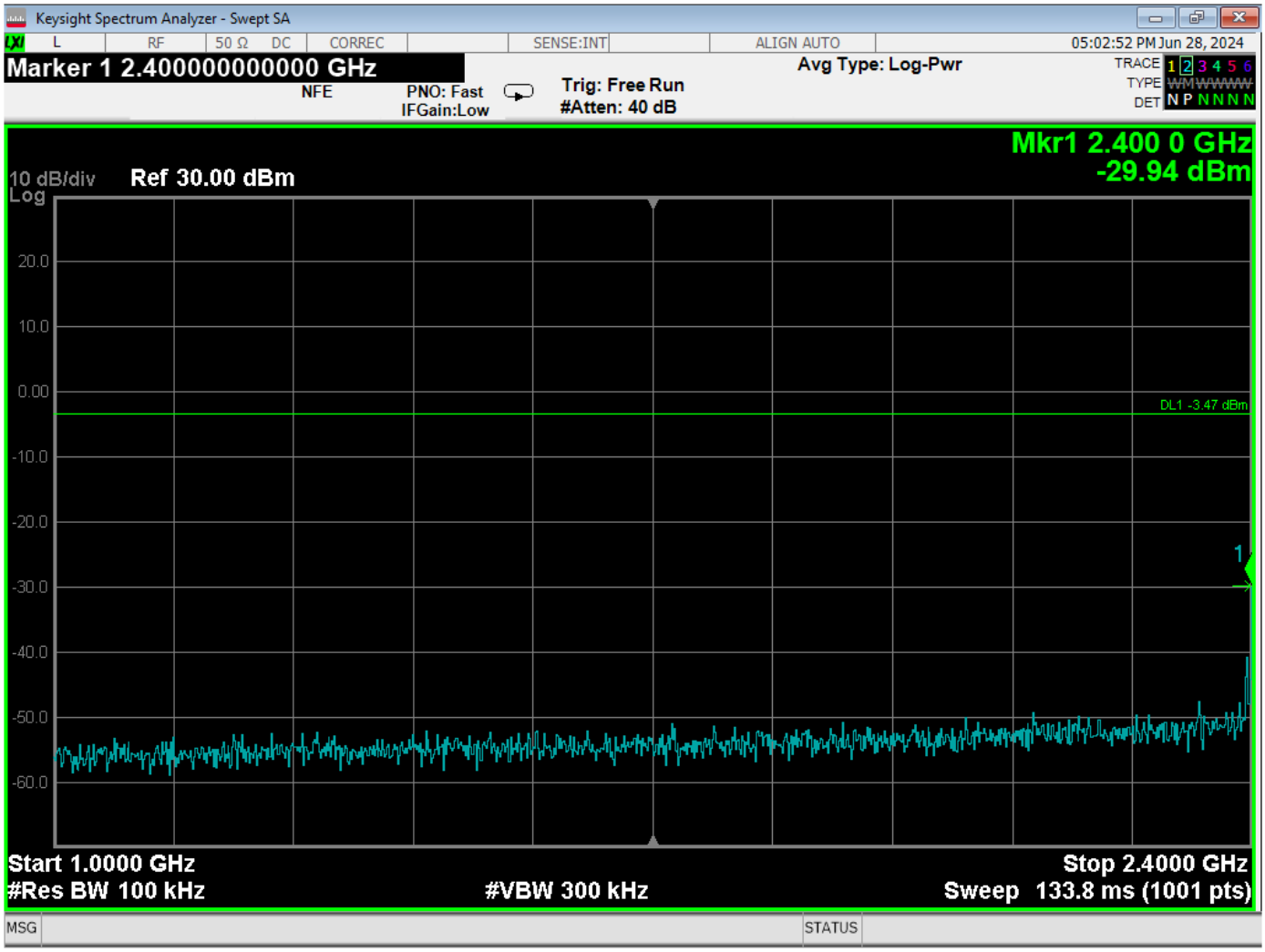
RF Antenna Conducted – High Channel – 802.11n – 10 GHz to 25 GHz – RedPine



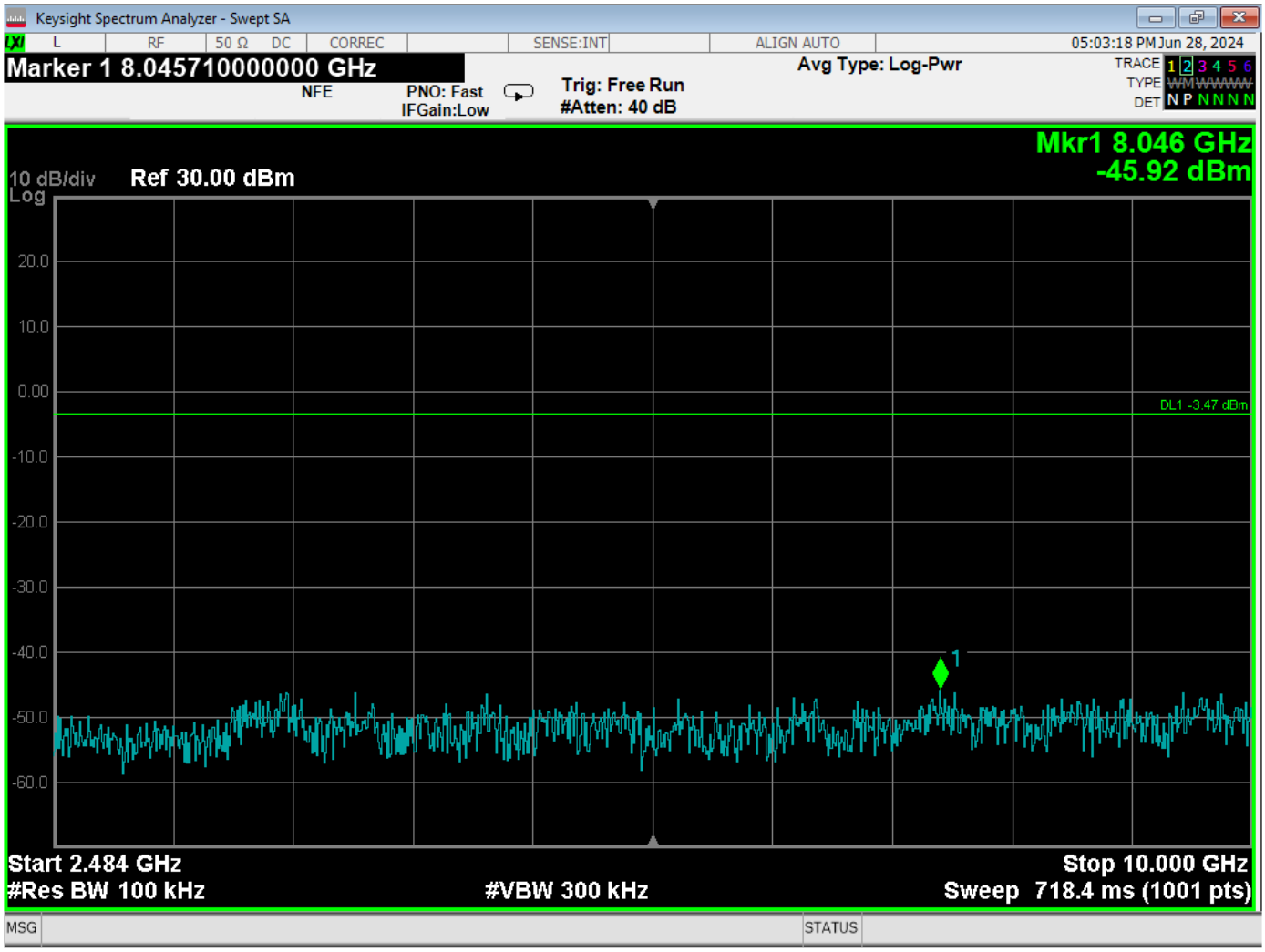
RF Antenna Conducted – Low Channel – BLE – Reference Level – Nordic



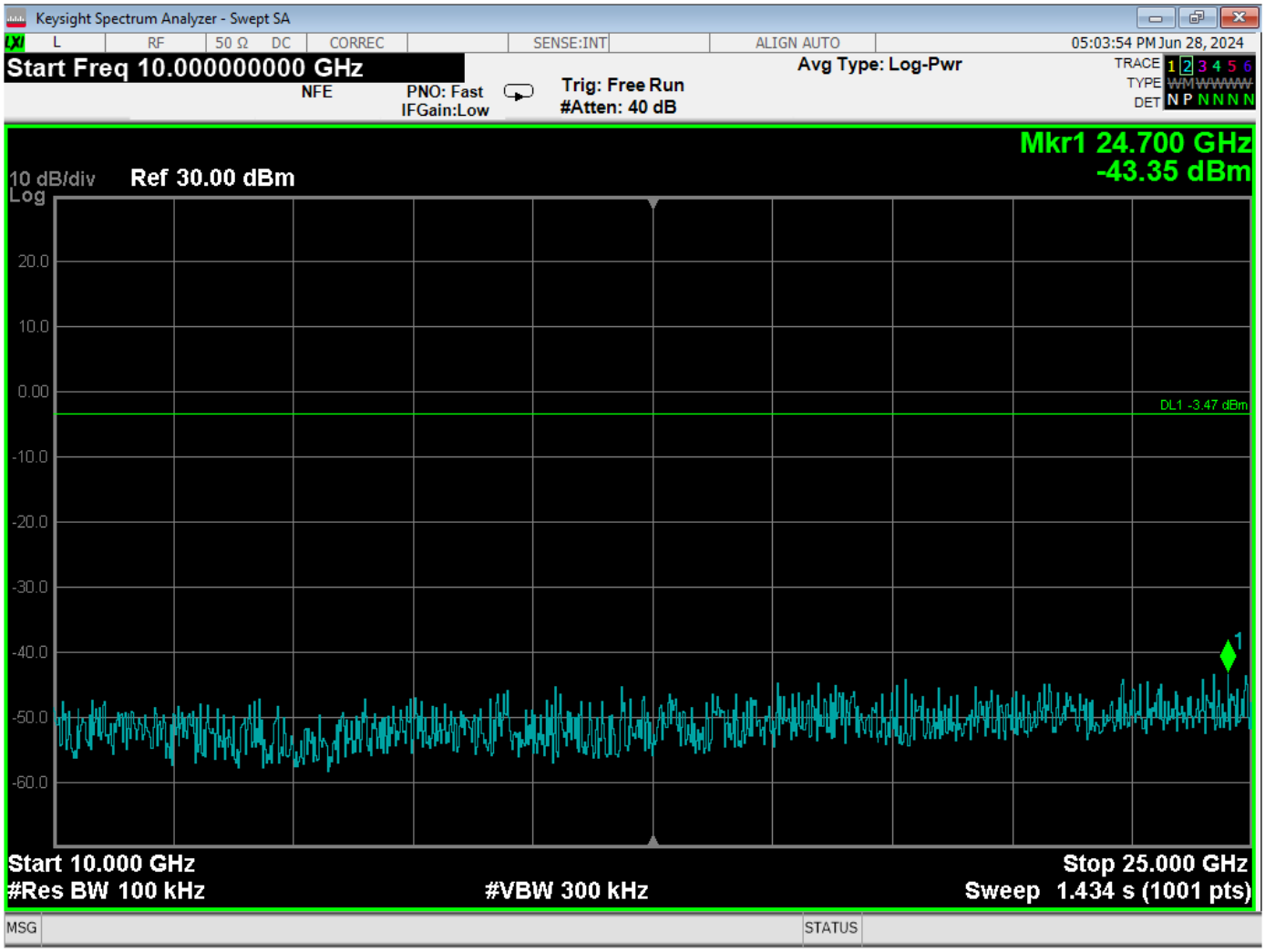
RF Antenna Conducted – Low Channel – BLE – 30 MHz to 1 GHz – Nordic



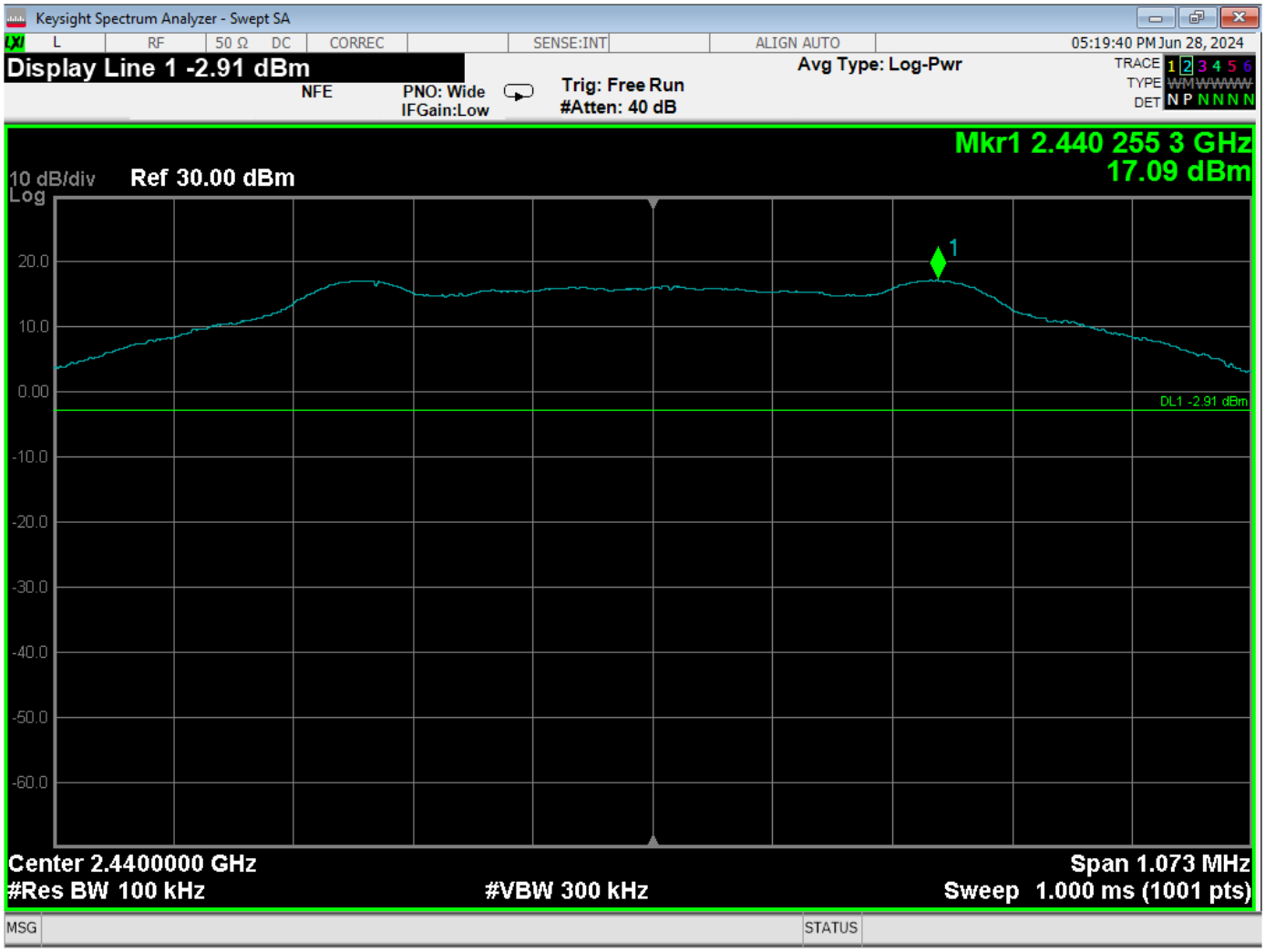
RF Antenna Conducted – Low Channel – BLE – 1 GHz to 2.4 GHz – Nordic



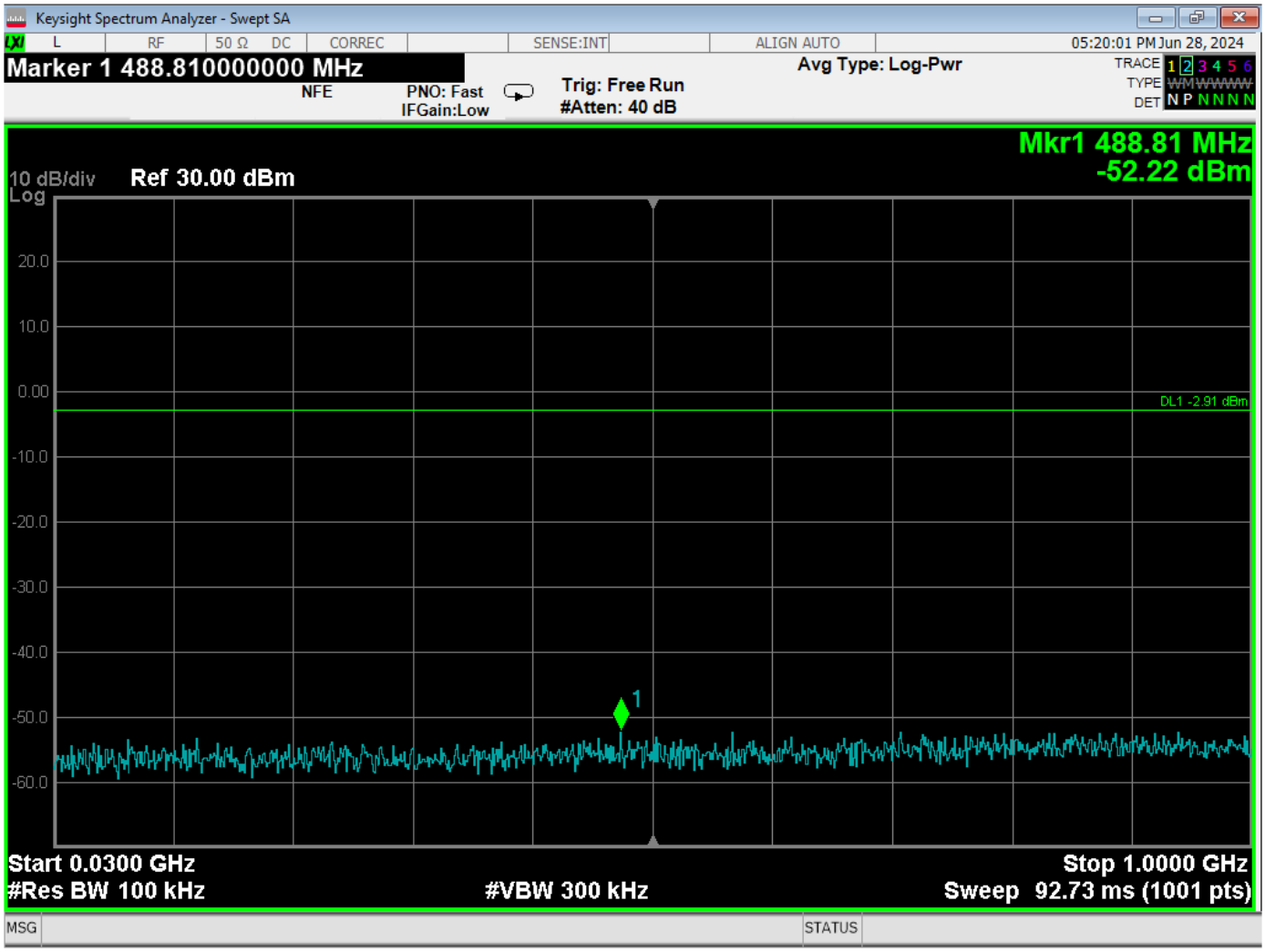
RF Antenna Conducted – Low Channel – BLE – 2483.5 MHz to 10 GHz – Nordic



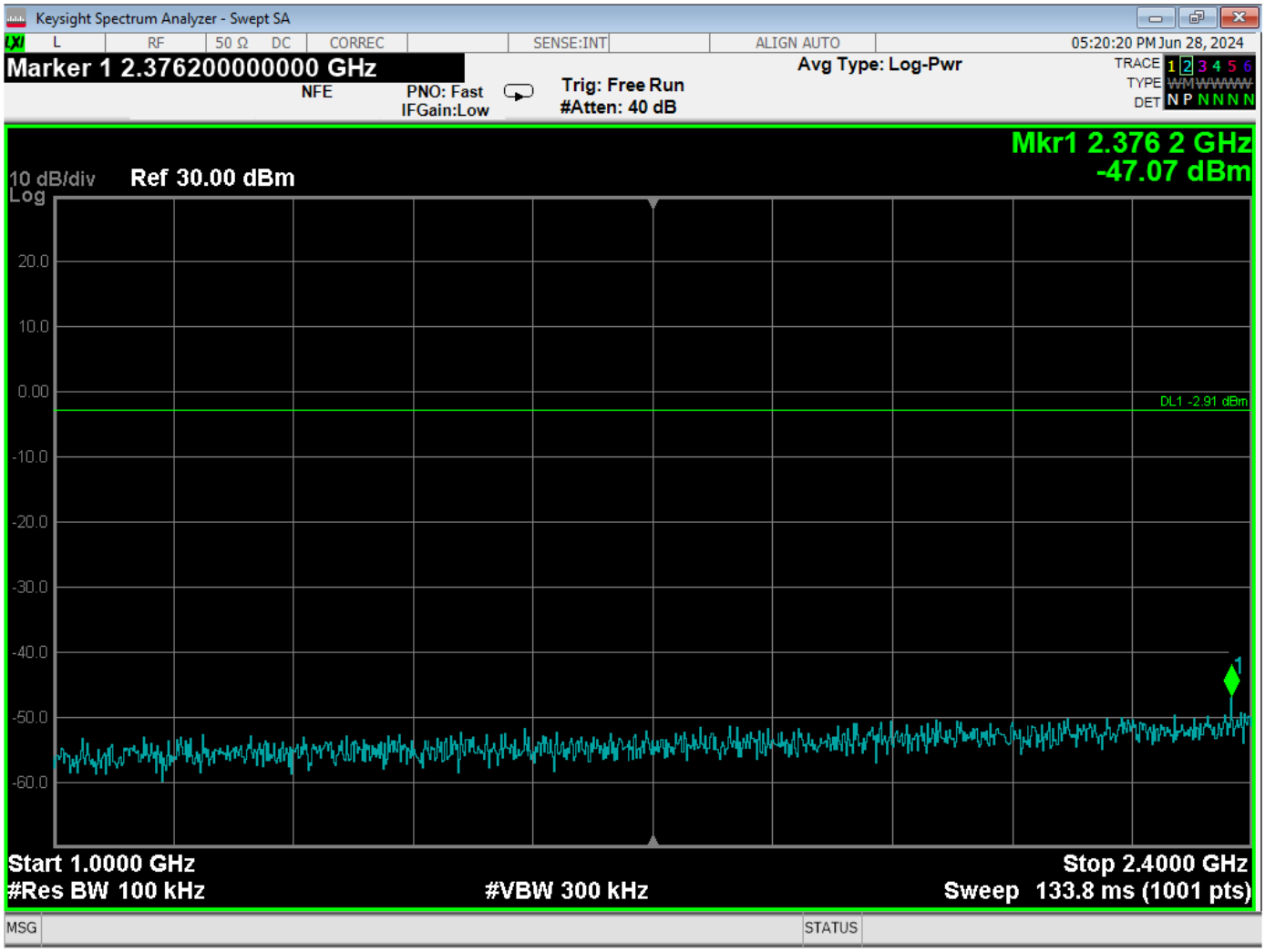
RF Antenna Conducted – Low Channel – BLE – 10 GHz to 25 GHz – Nordic



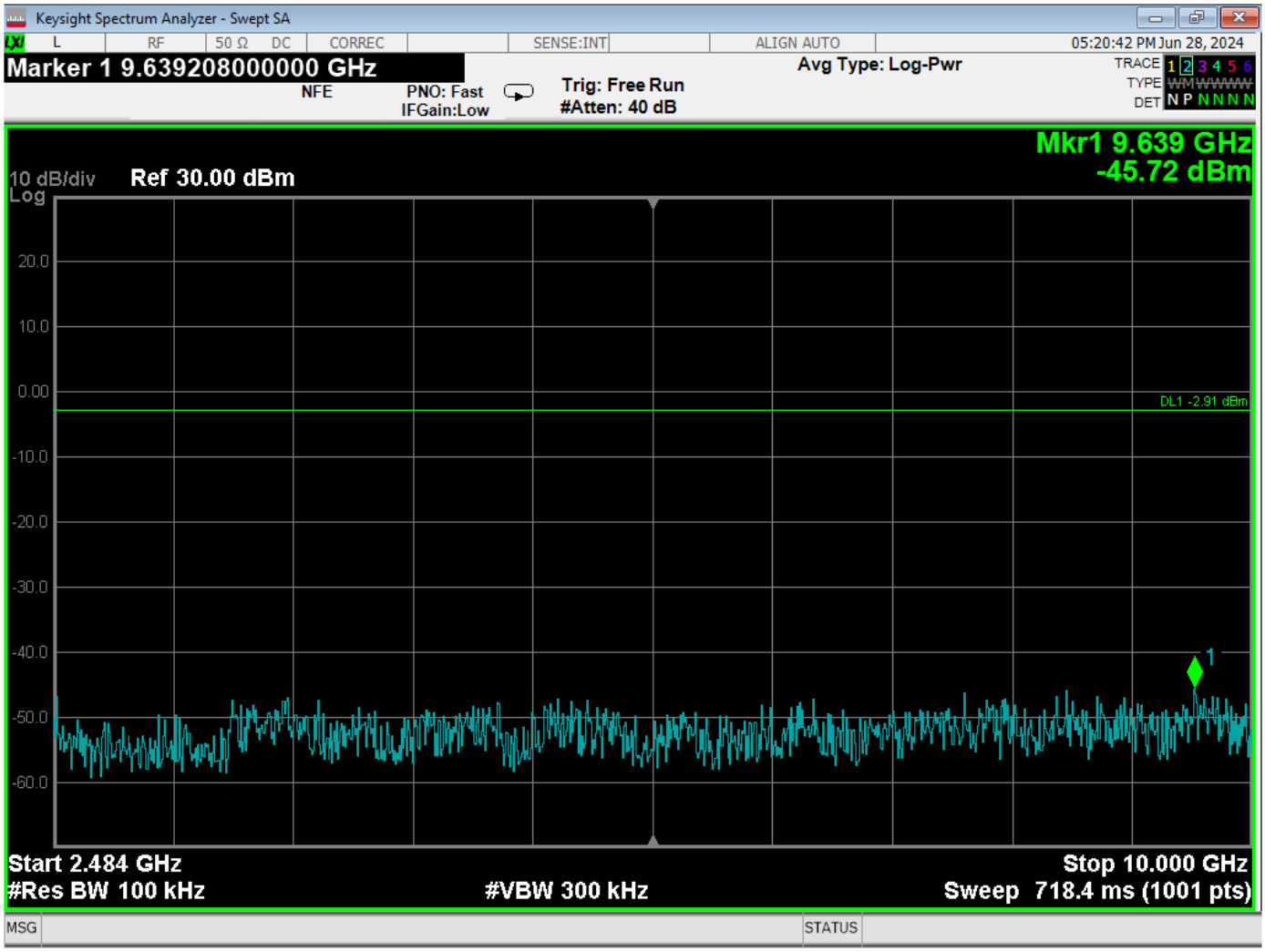
RF Antenna Conducted – Middle Channel – BLE – Reference Level – Nordic



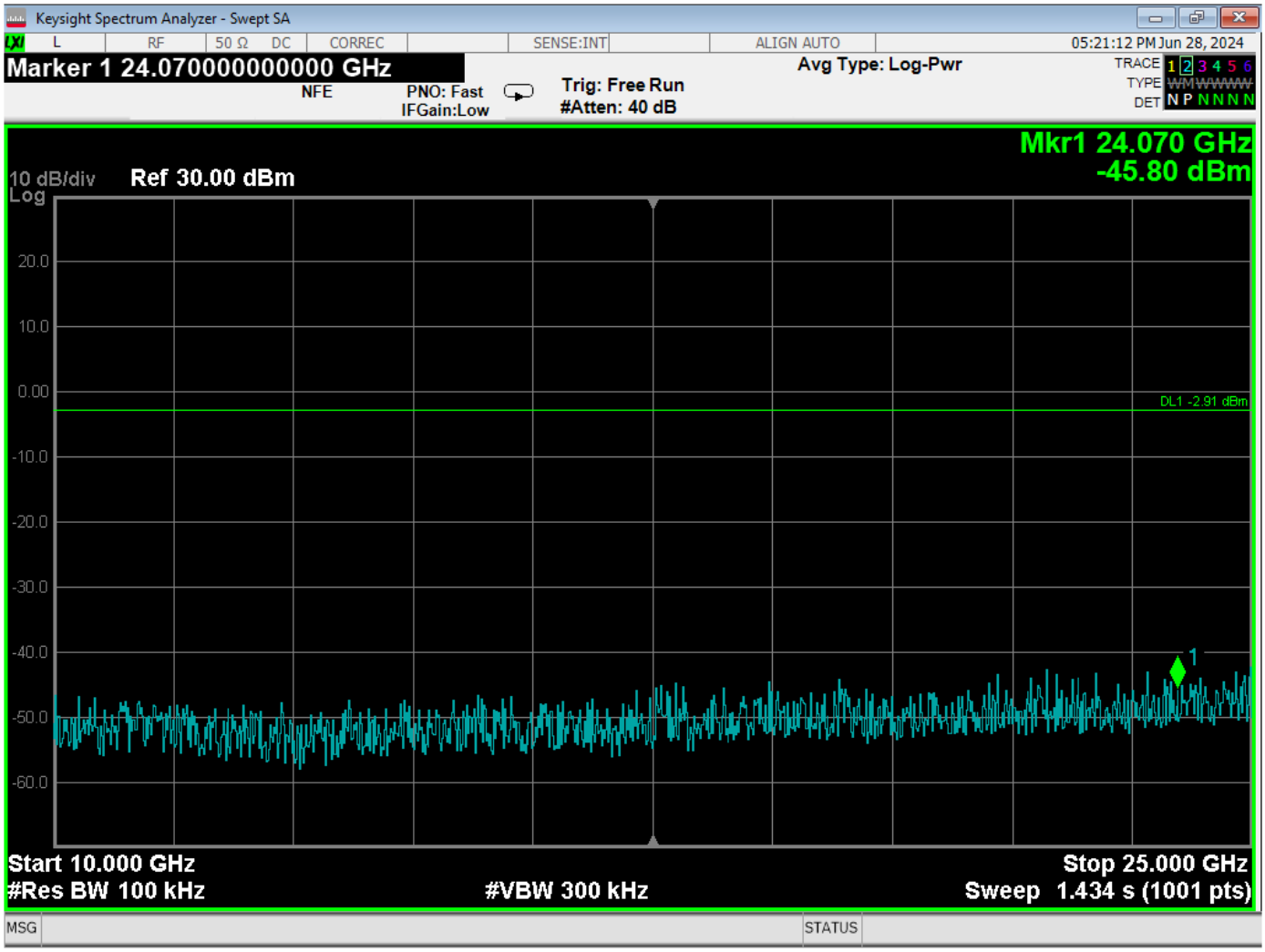
RF Antenna Conducted – Middle Channel – BLE – 30 MHz to 1 GHz – Nordic



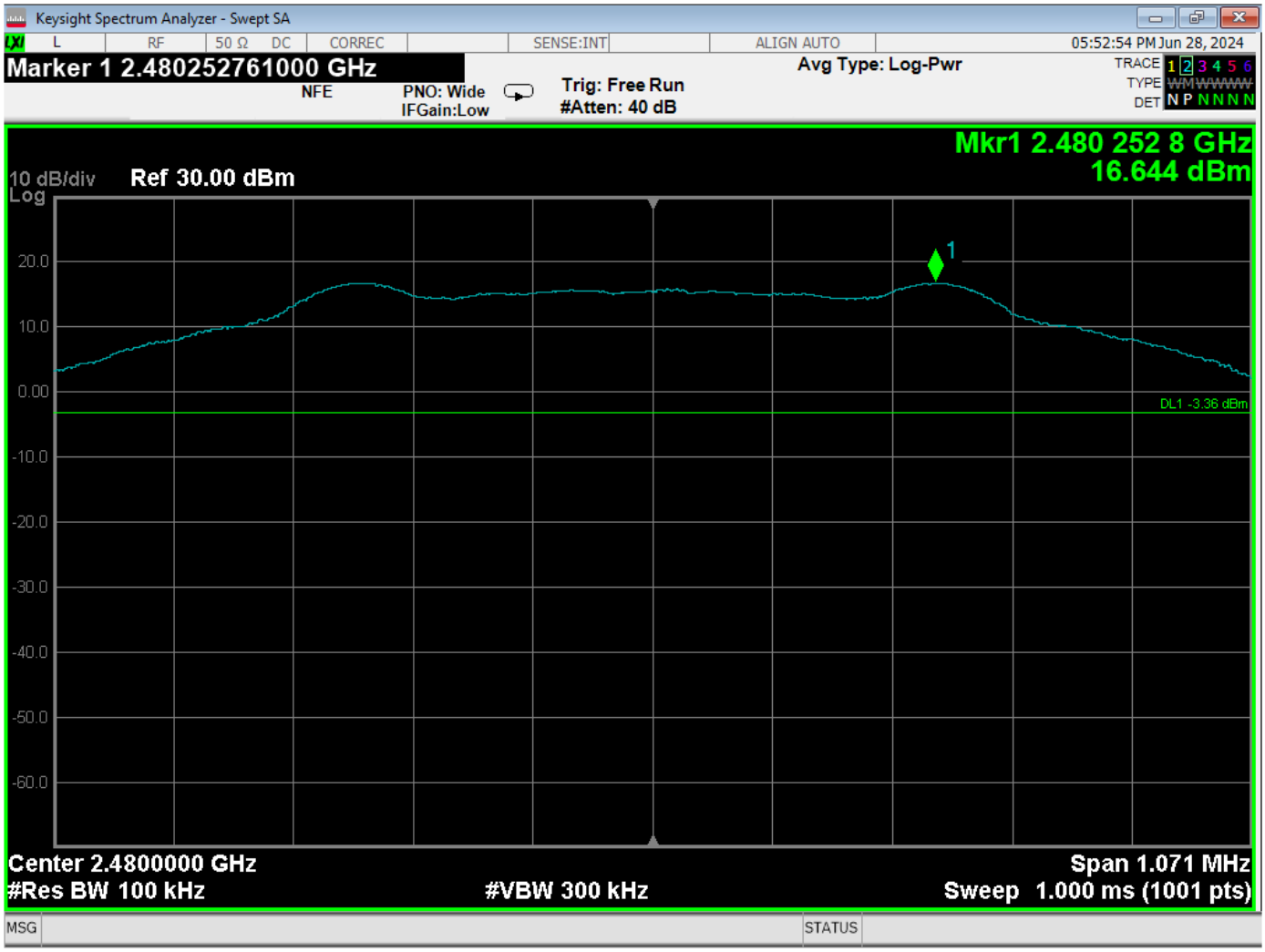
RF Antenna Conducted – Middle Channel – BLE – 1 GHz to 2.4 GHz – Nordic



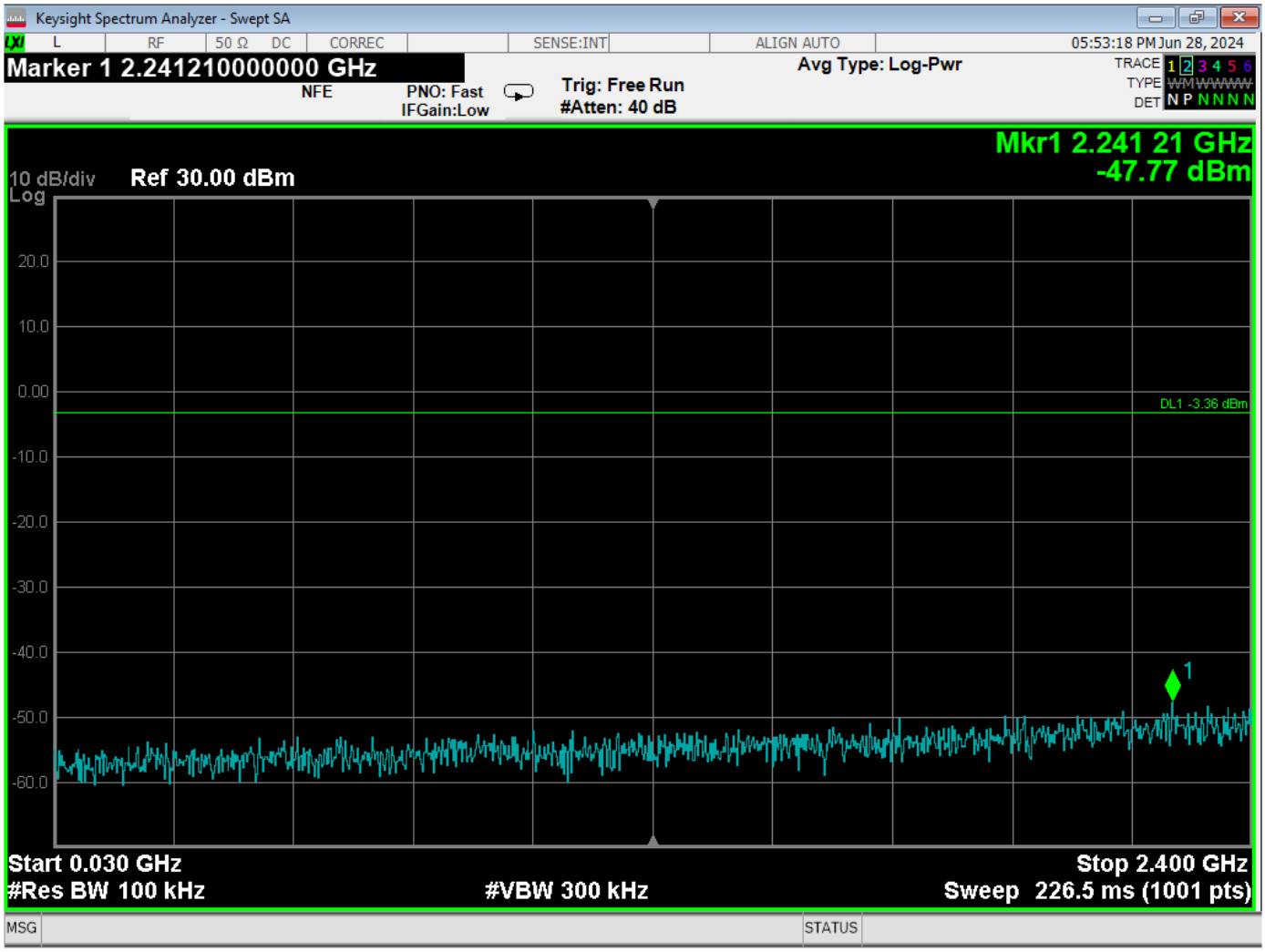
RF Antenna Conducted – Middle Channel – BLE – 2483.5 MHz to 10 GHz – Nordic



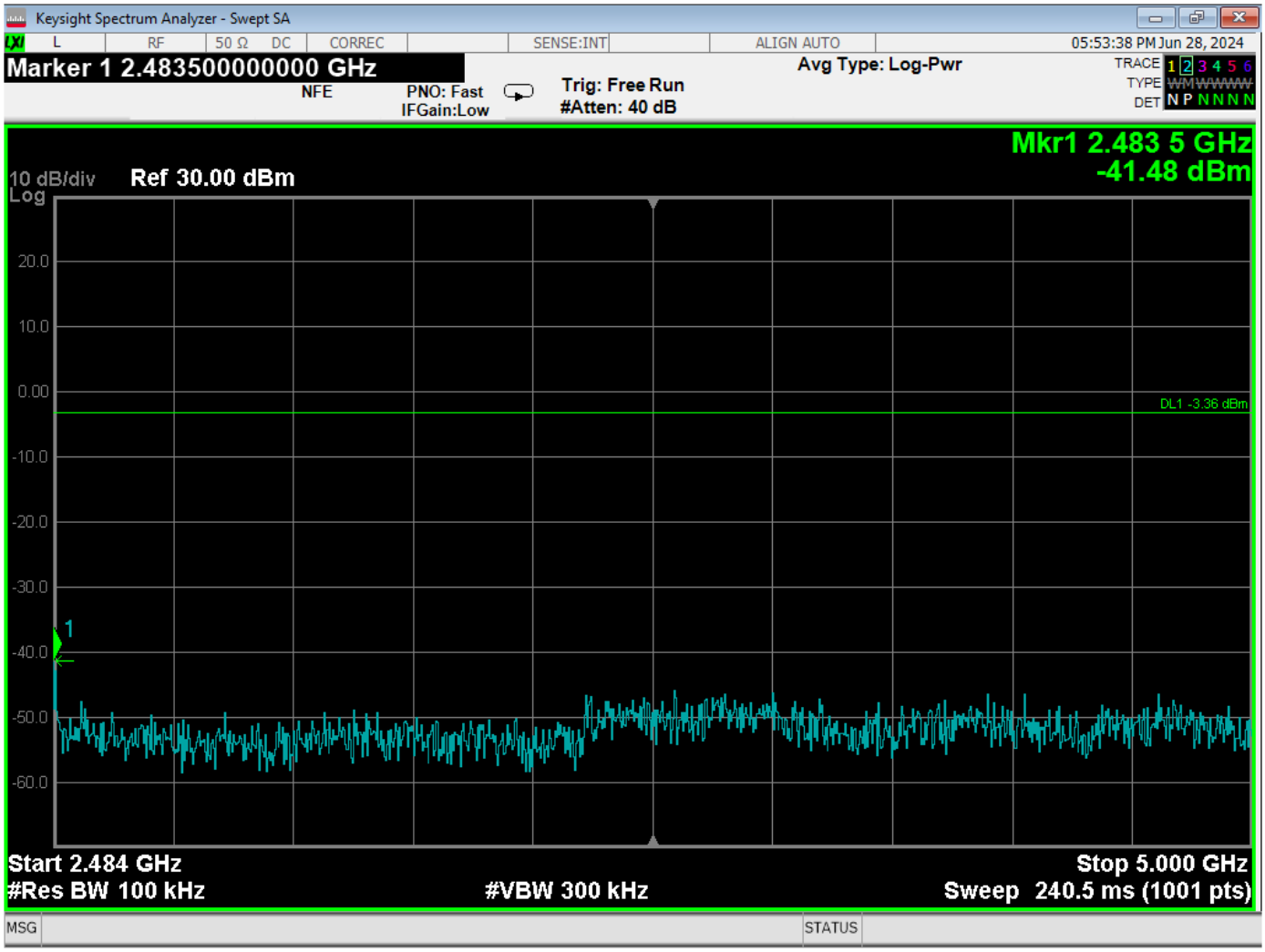
RF Antenna Conducted – Middle Channel – BLE – 10 GHz to 25 GHz – Nordic



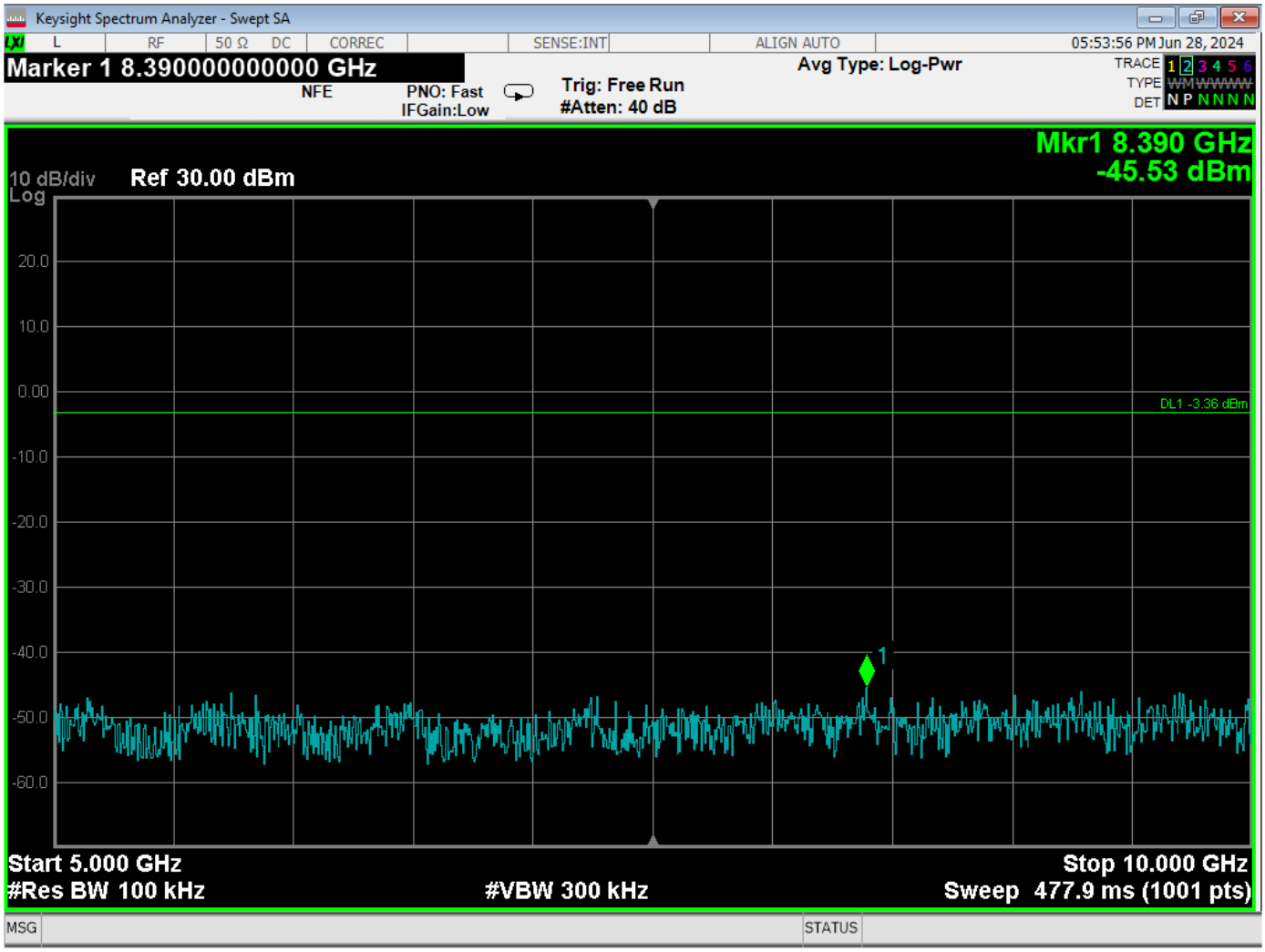
RF Antenna Conducted – High Channel – BLE – Reference Level – Nordic



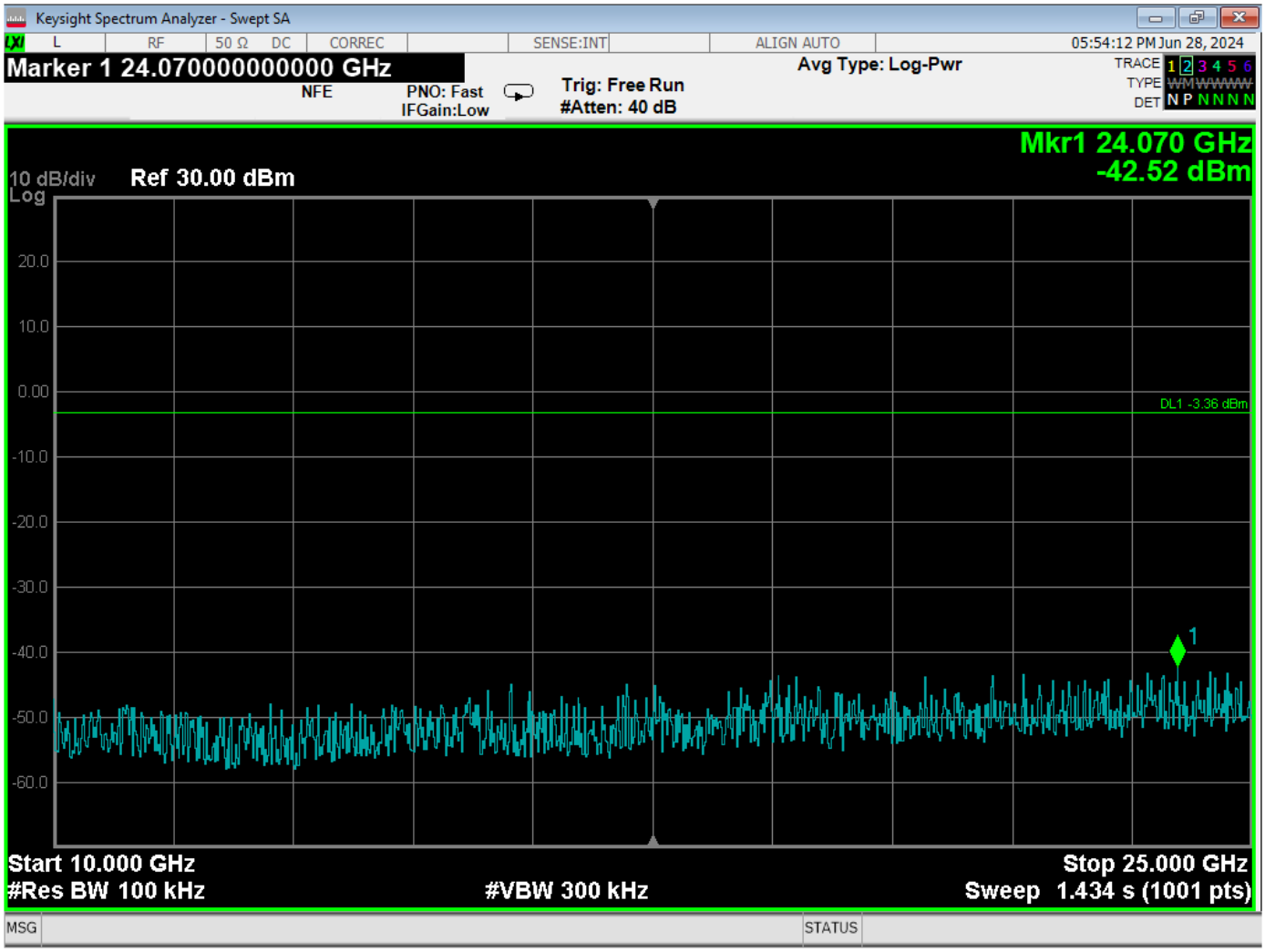
RF Antenna Conducted – High Channel – BLE – 30 MHz to 2.4 GHz – Nordic



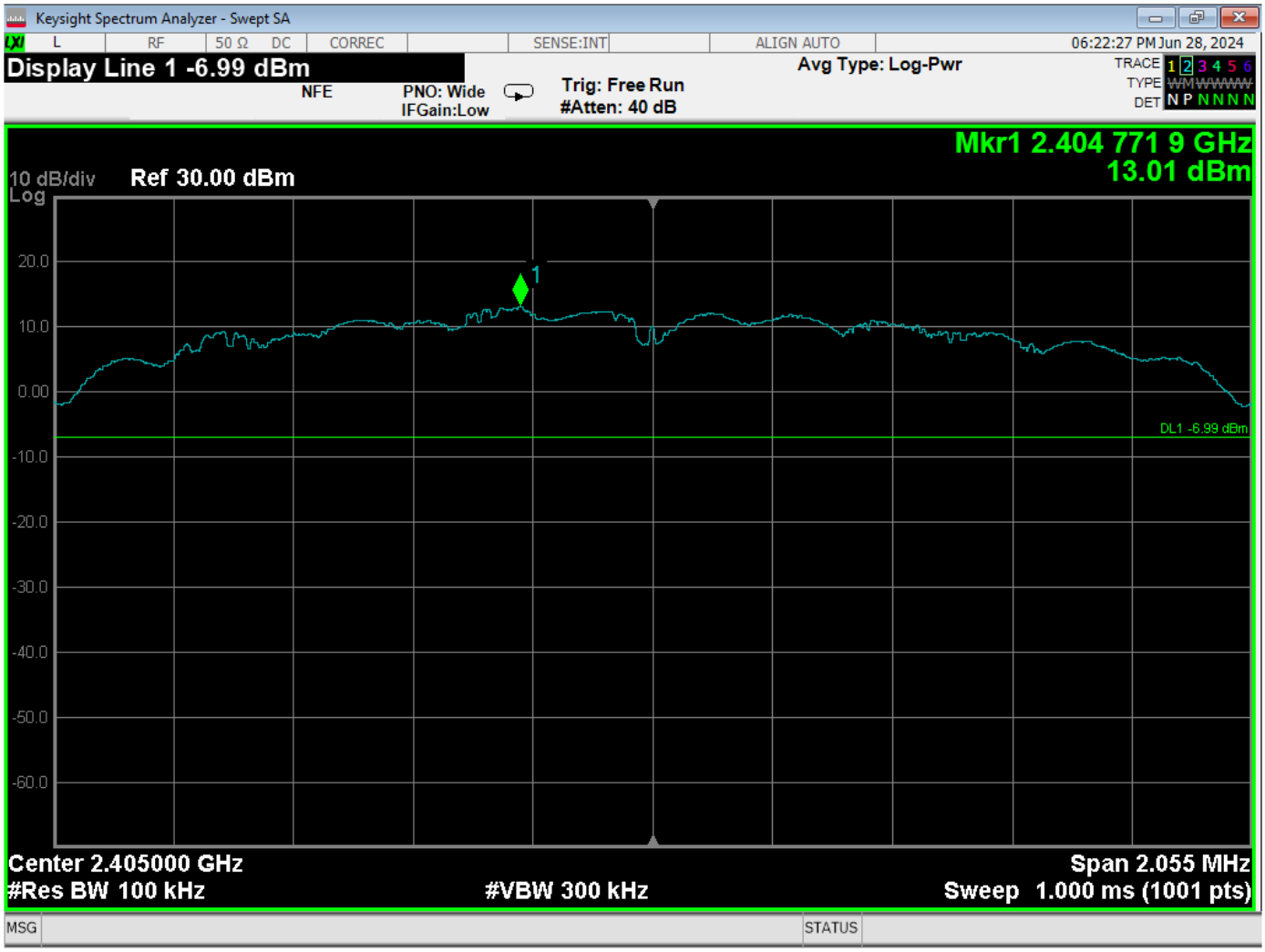
RF Antenna Conducted – High Channel – BLE – 2483.5 MHz to 5 GHz – Nordic



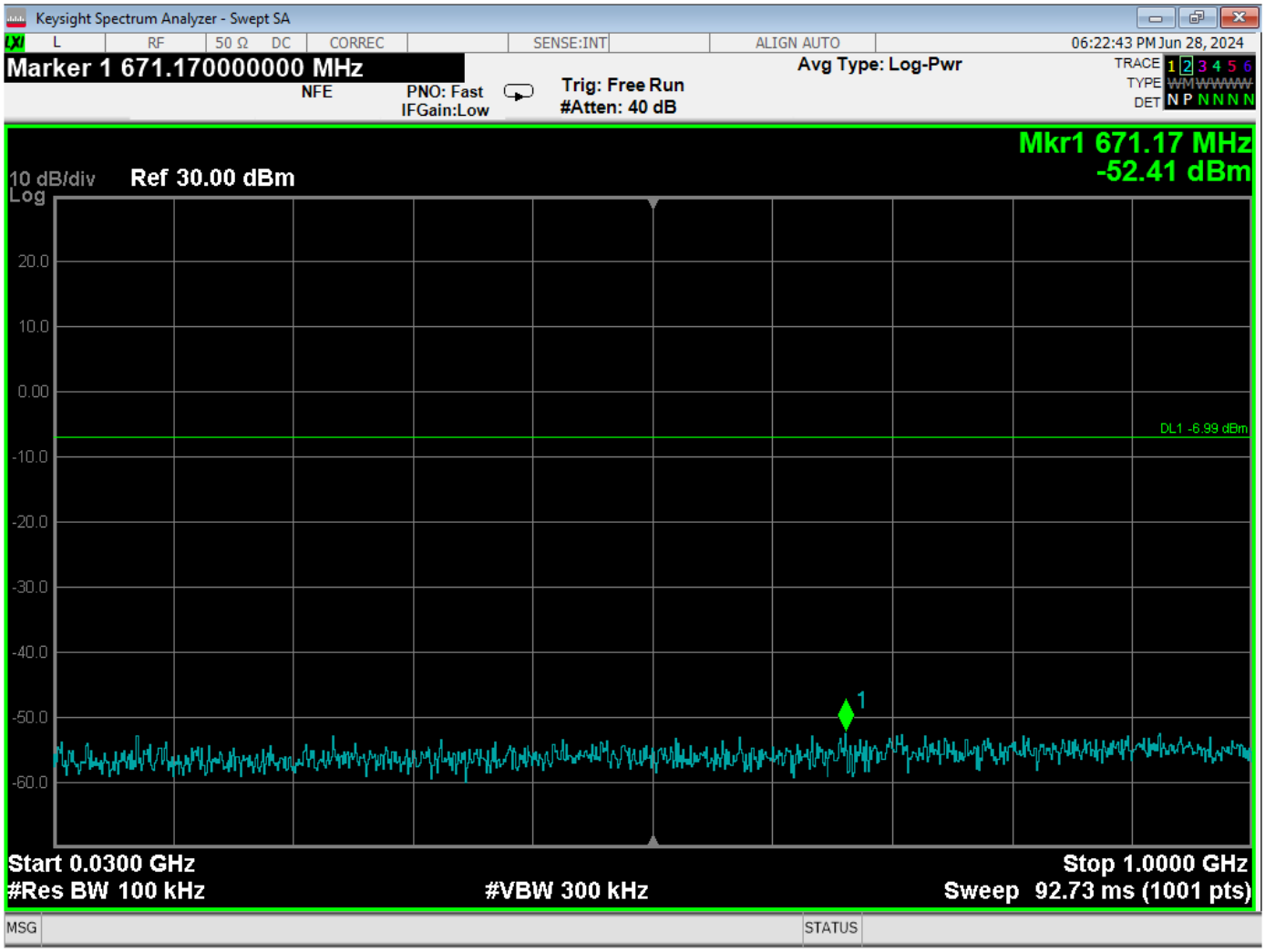
RF Antenna Conducted – High Channel – BLE – 5 GHz to 10 GHz – Nordic



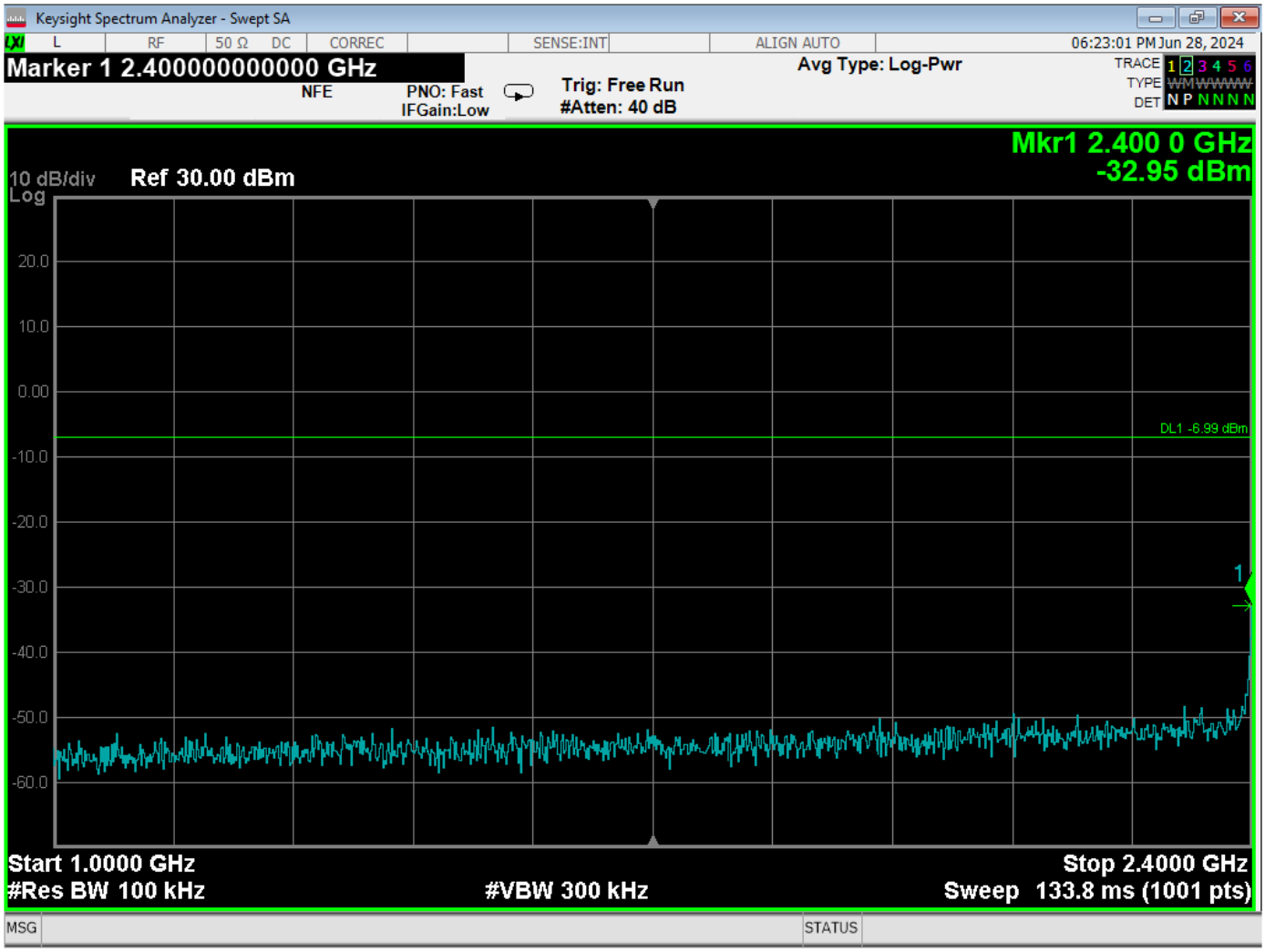
RF Antenna Conducted – High Channel – BLE – 10 GHz to 25 GHz – Nordic



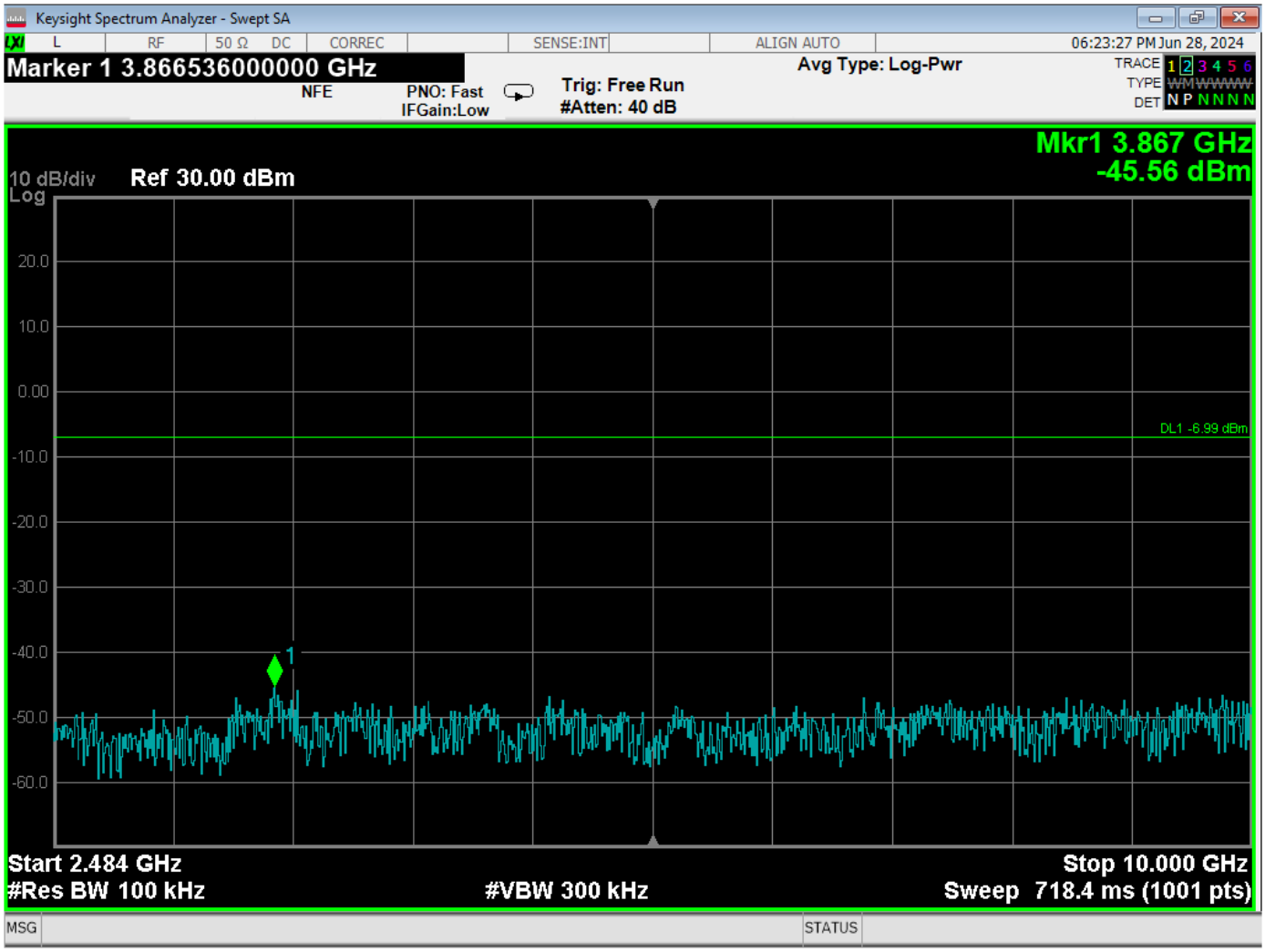
RF Antenna Conducted – Low Channel – Thread – Reference Level – Nordic



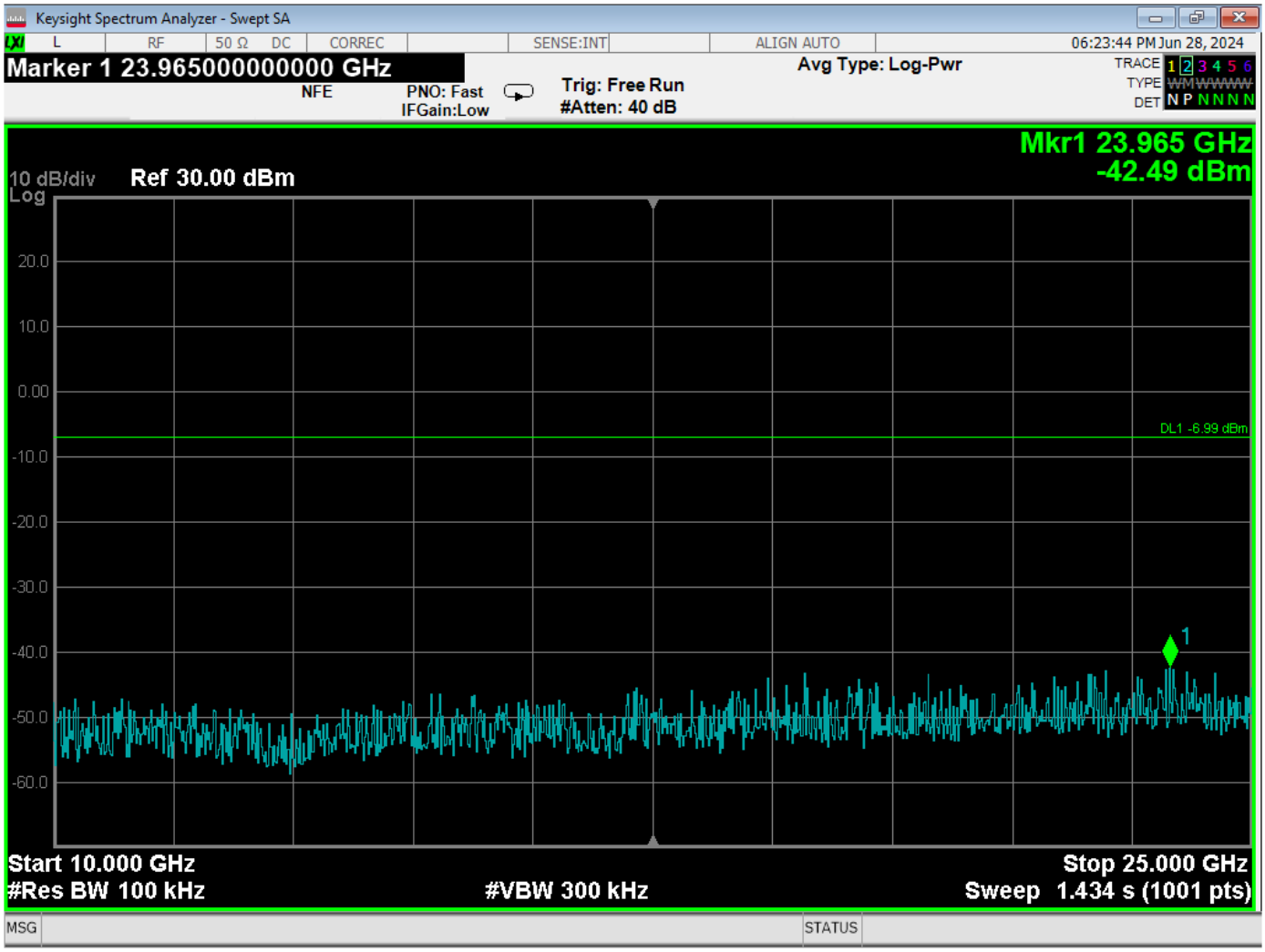
RF Antenna Conducted – Low Channel – Thread – 30 MHz to 1 GHz – Nordic



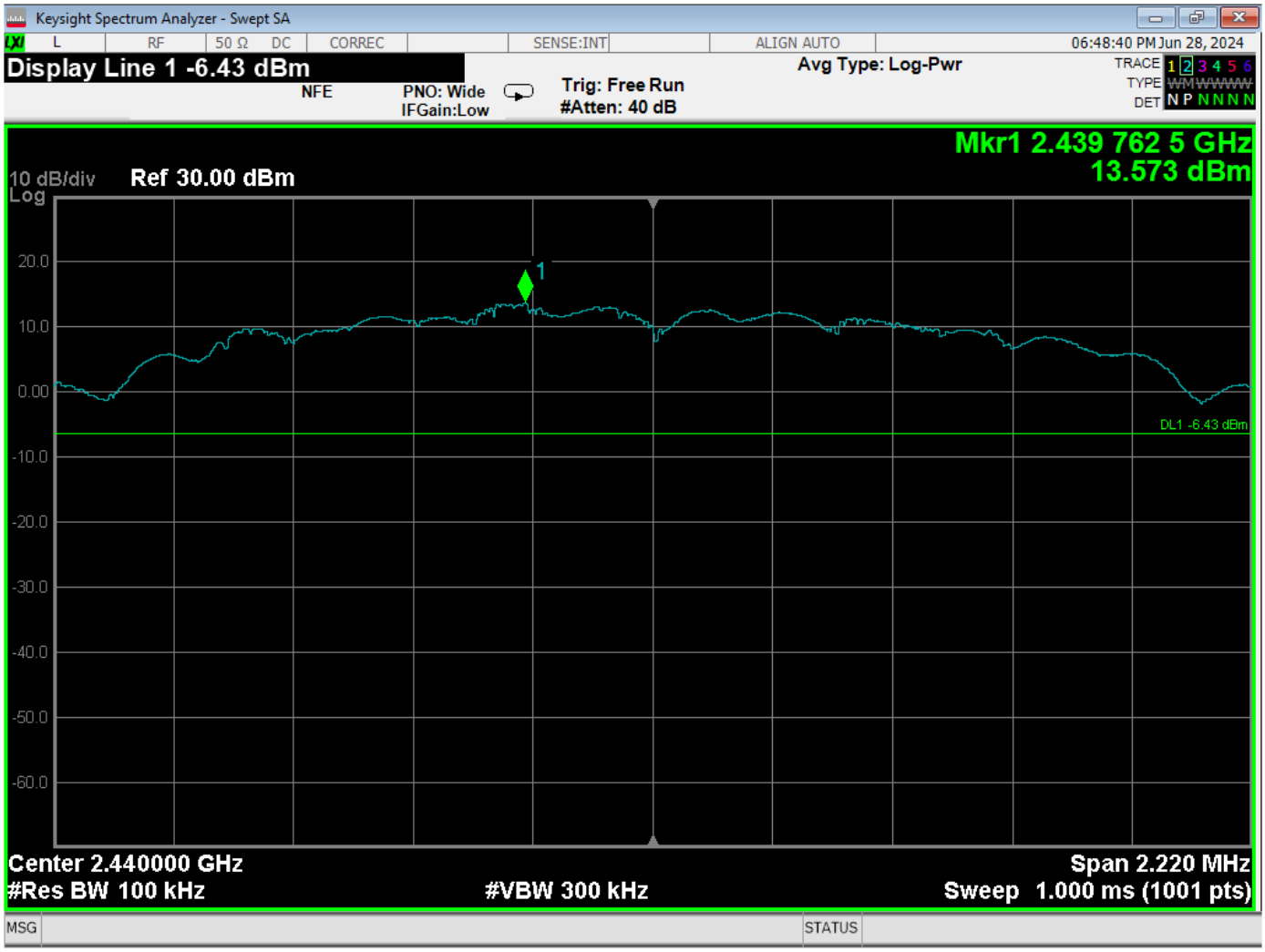
RF Antenna Conducted – Low Channel – Thread – 1 GHz to 2.4 GHz – Nordic



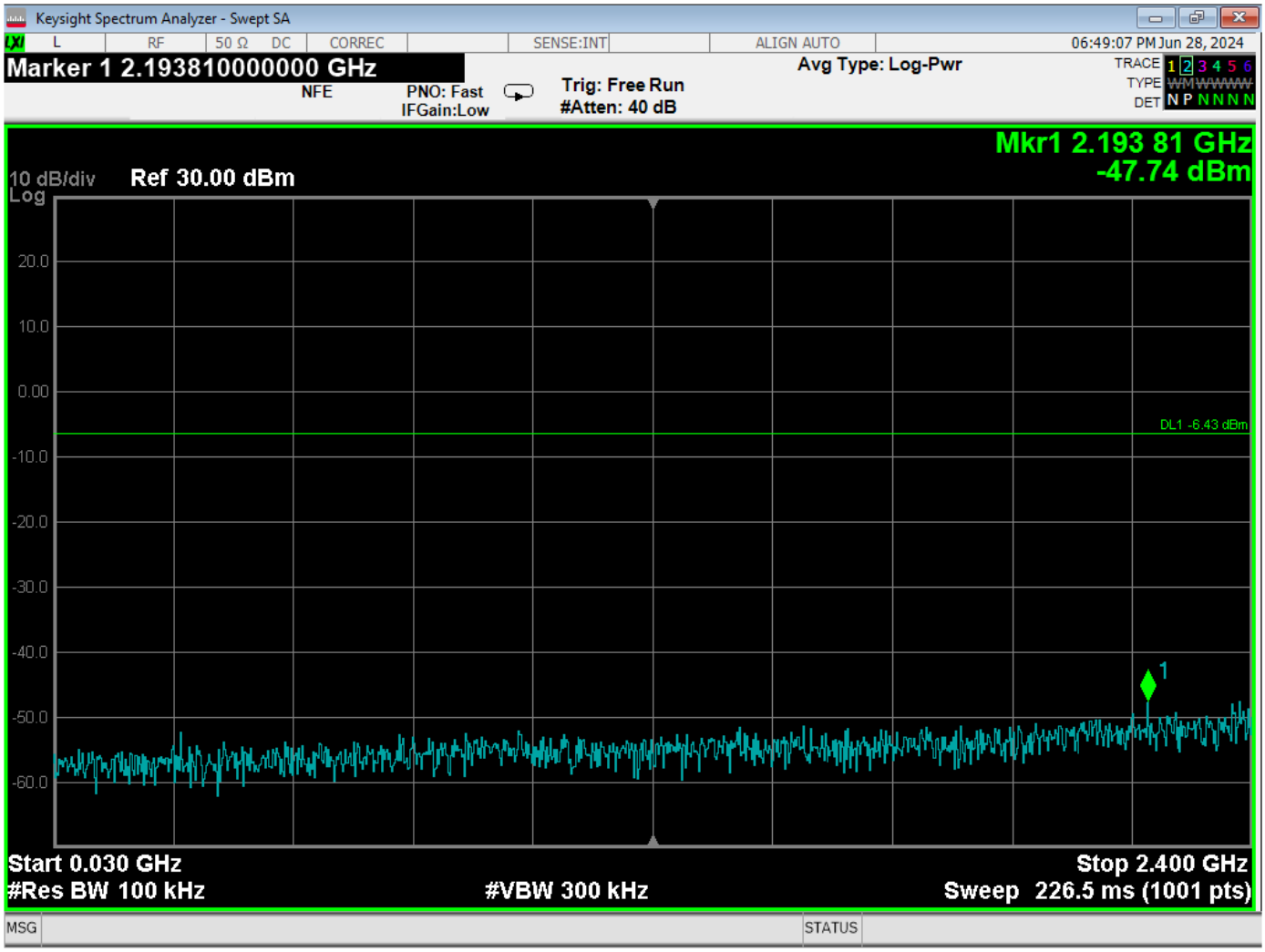
RF Antenna Conducted – Low Channel – Thread – 2483.5 MHz to 10 GHz – Nordic



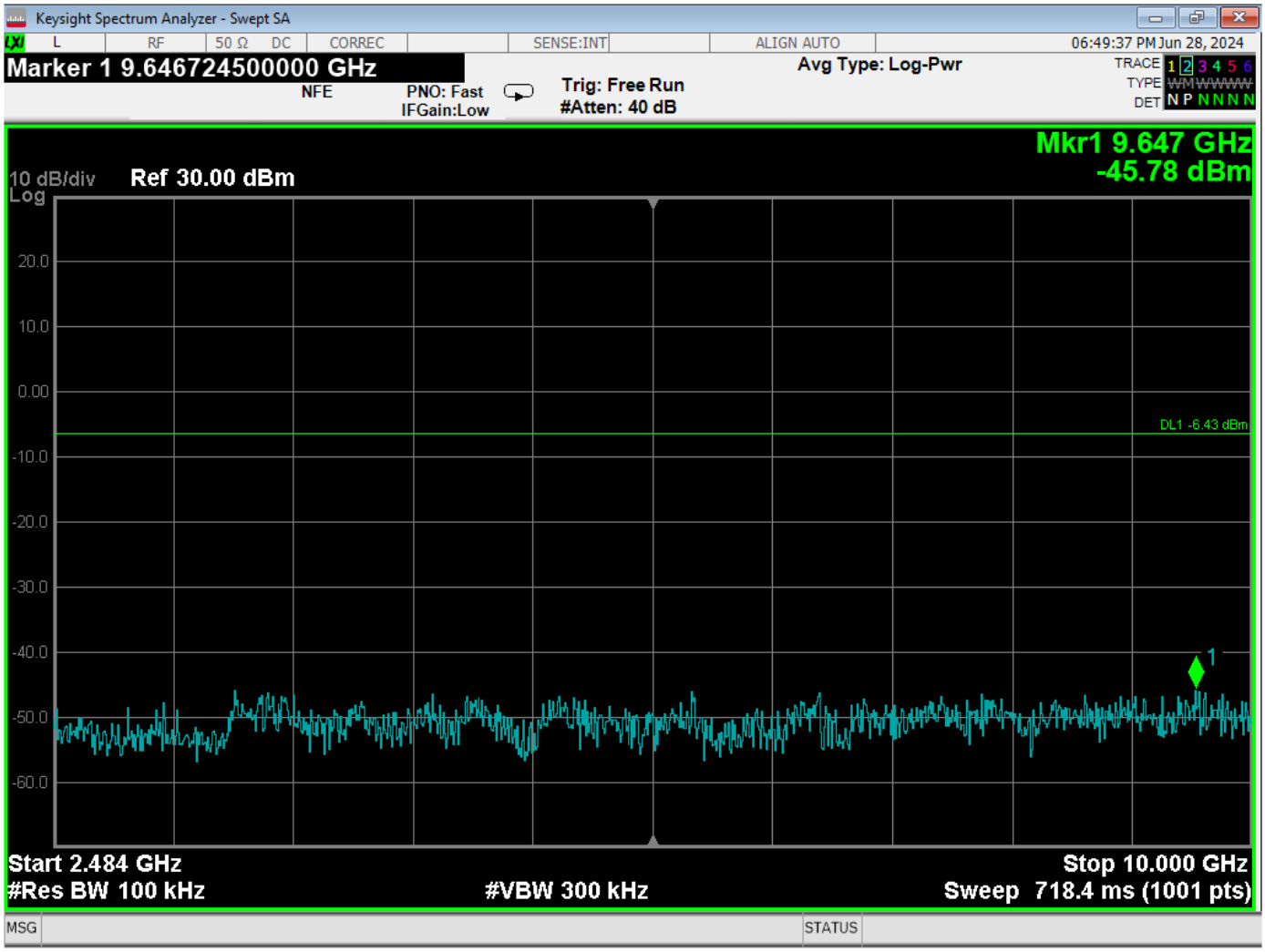
RF Antenna Conducted – Low Channel – Thread – 10 GHz to 25 GHz – Nordic



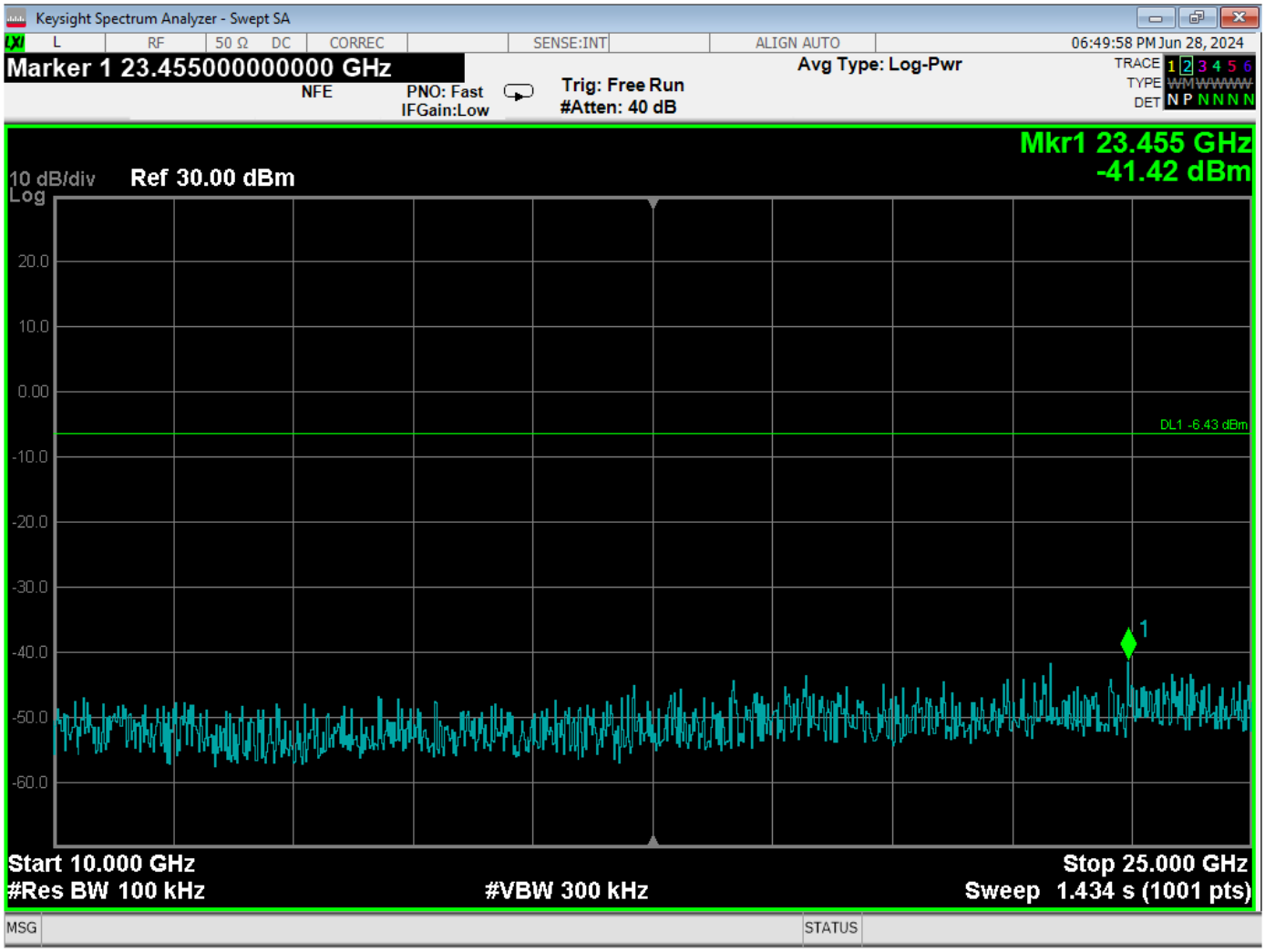
RF Antenna Conducted – Middle Channel – Thread – Reference Level – Nordic



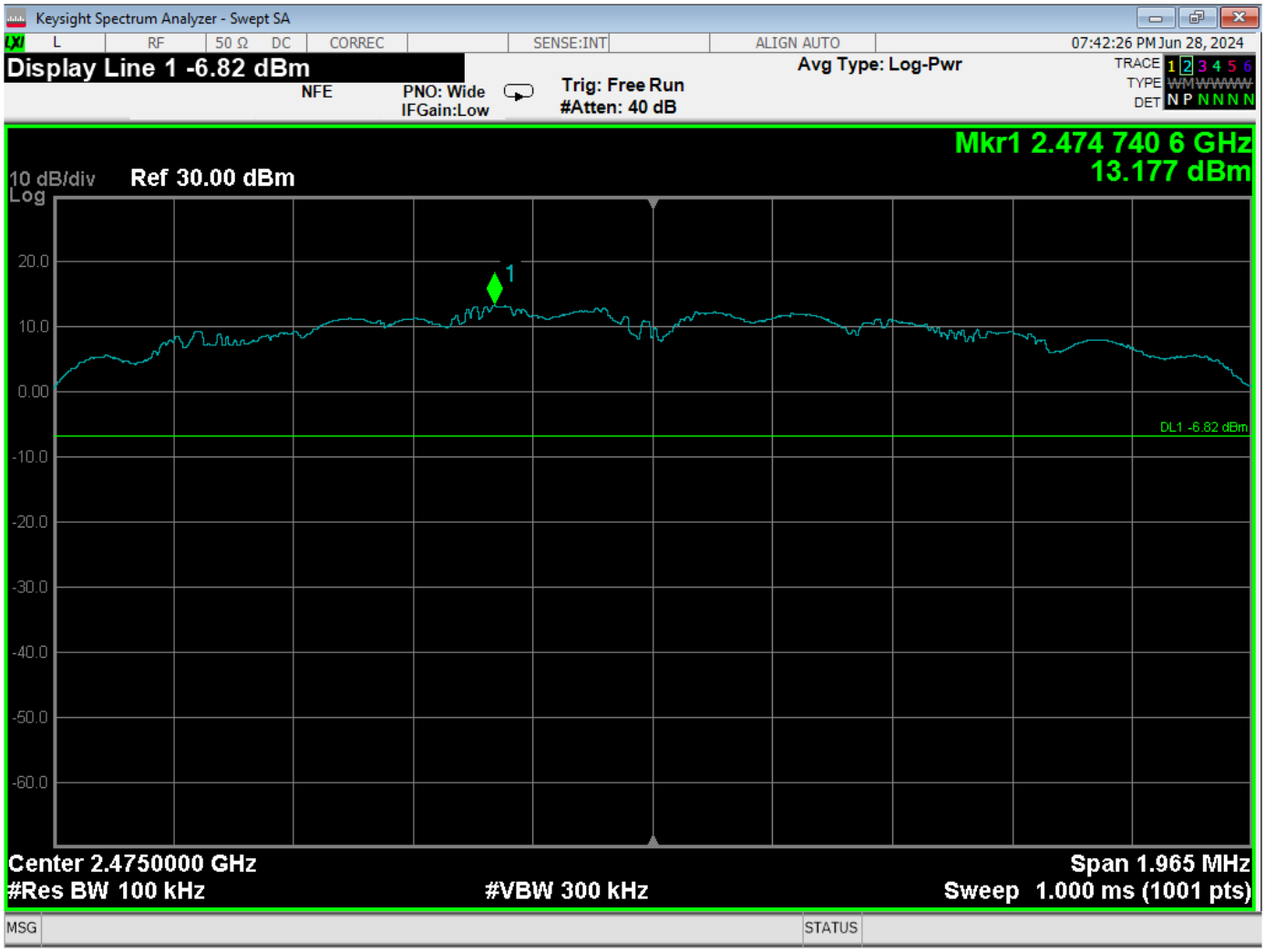
RF Antenna Conducted – Middle Channel – Thread – 30 MHz to 2.4 GHz – Nordic



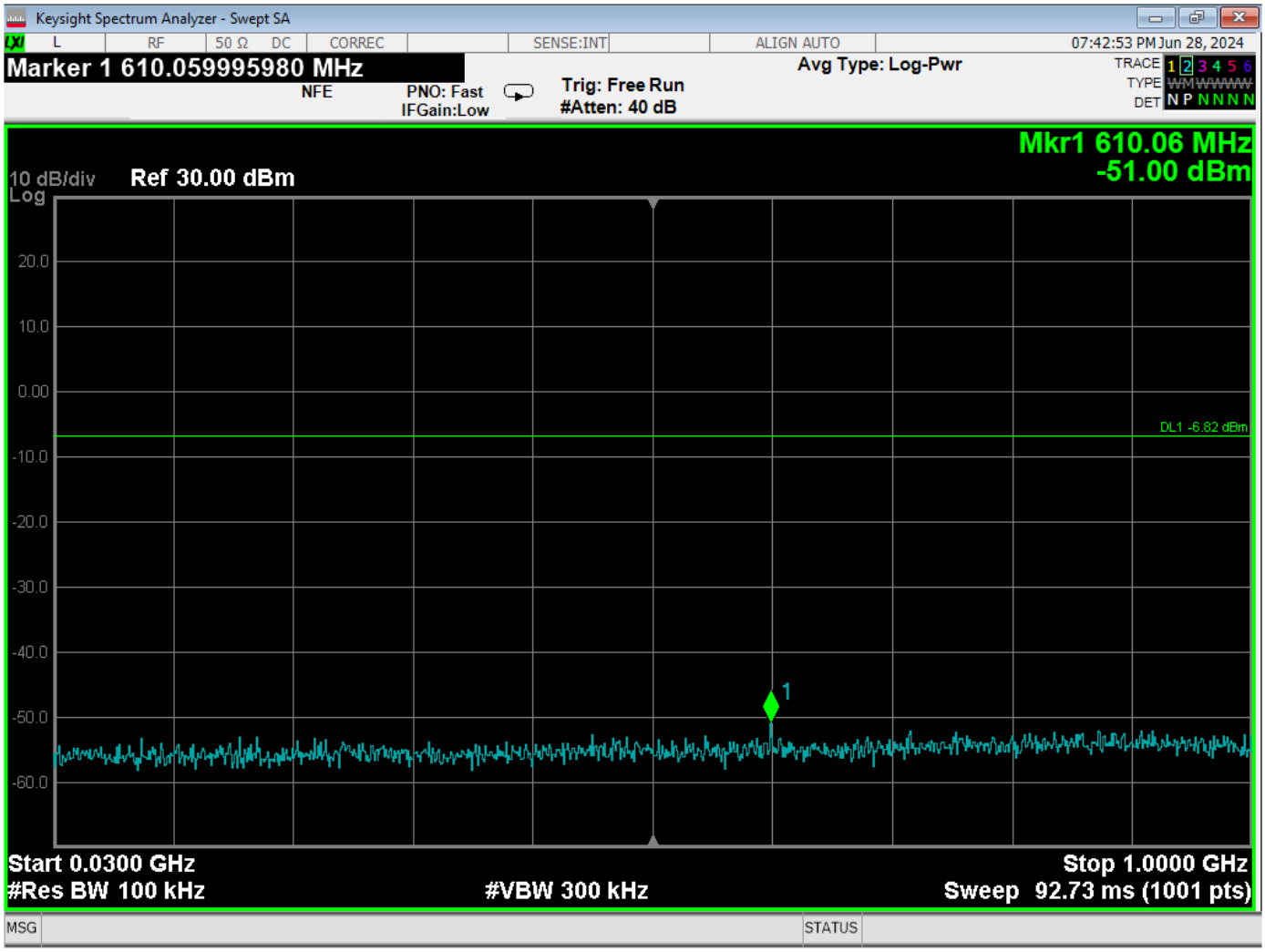
RF Antenna Conducted – Middle Channel – Thread – 2483.5 MHz to 10 GHz – Nordic



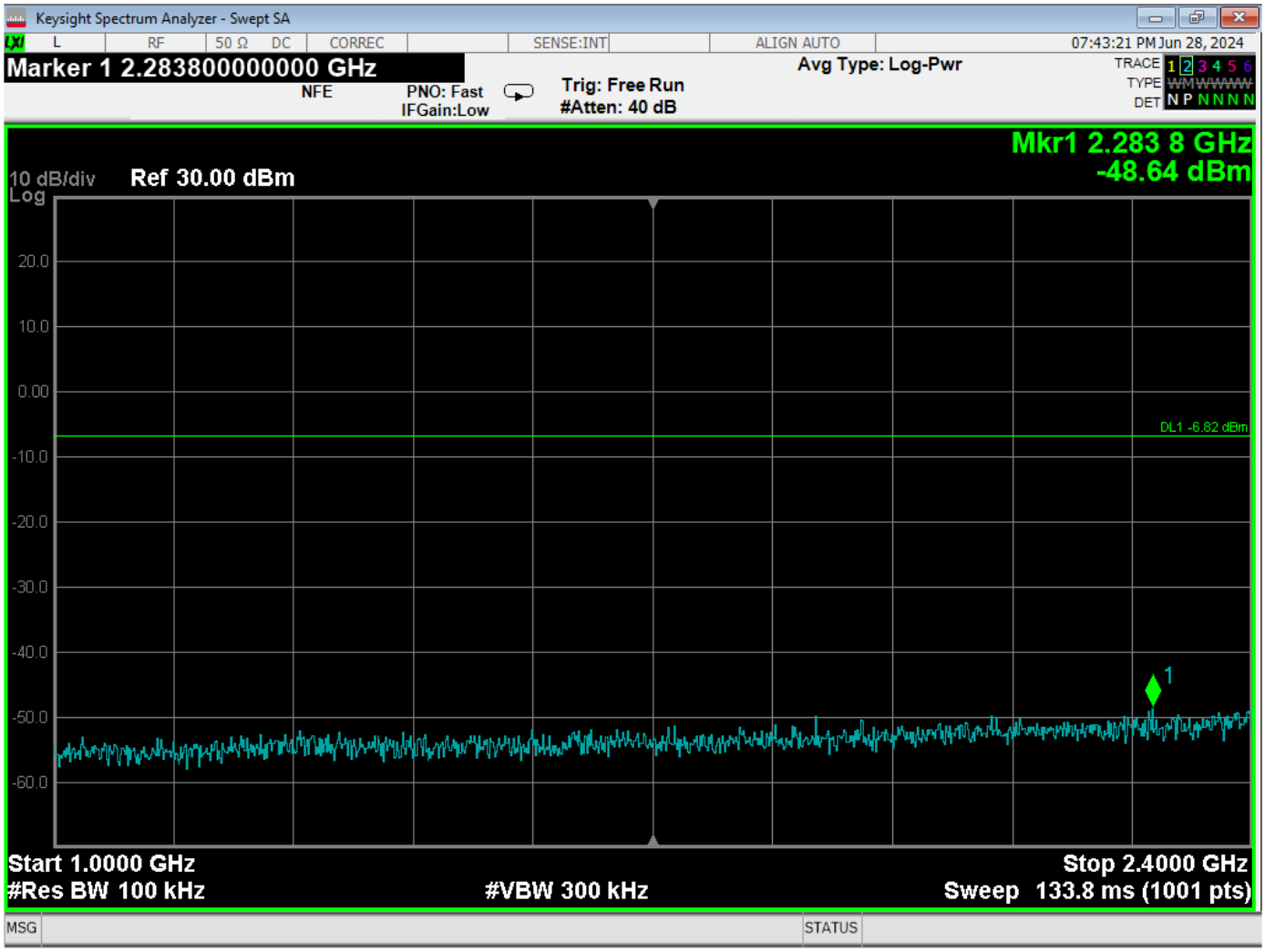
RF Antenna Conducted – Middle Channel – Thread – 10 GHz to 25 GHz – Nordic



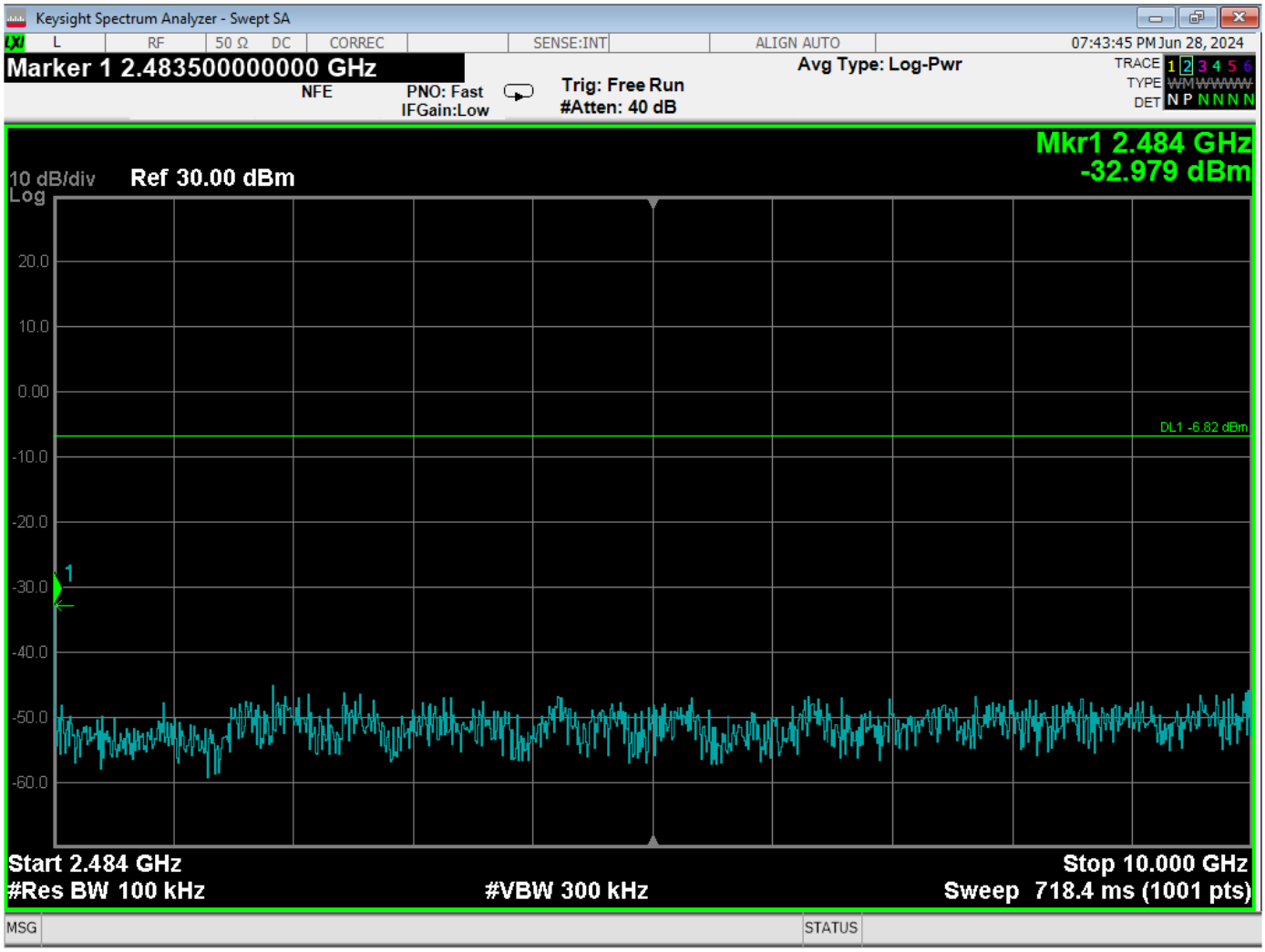
RF Antenna Conducted – High Channel – Thread – Reference Level – Nordic



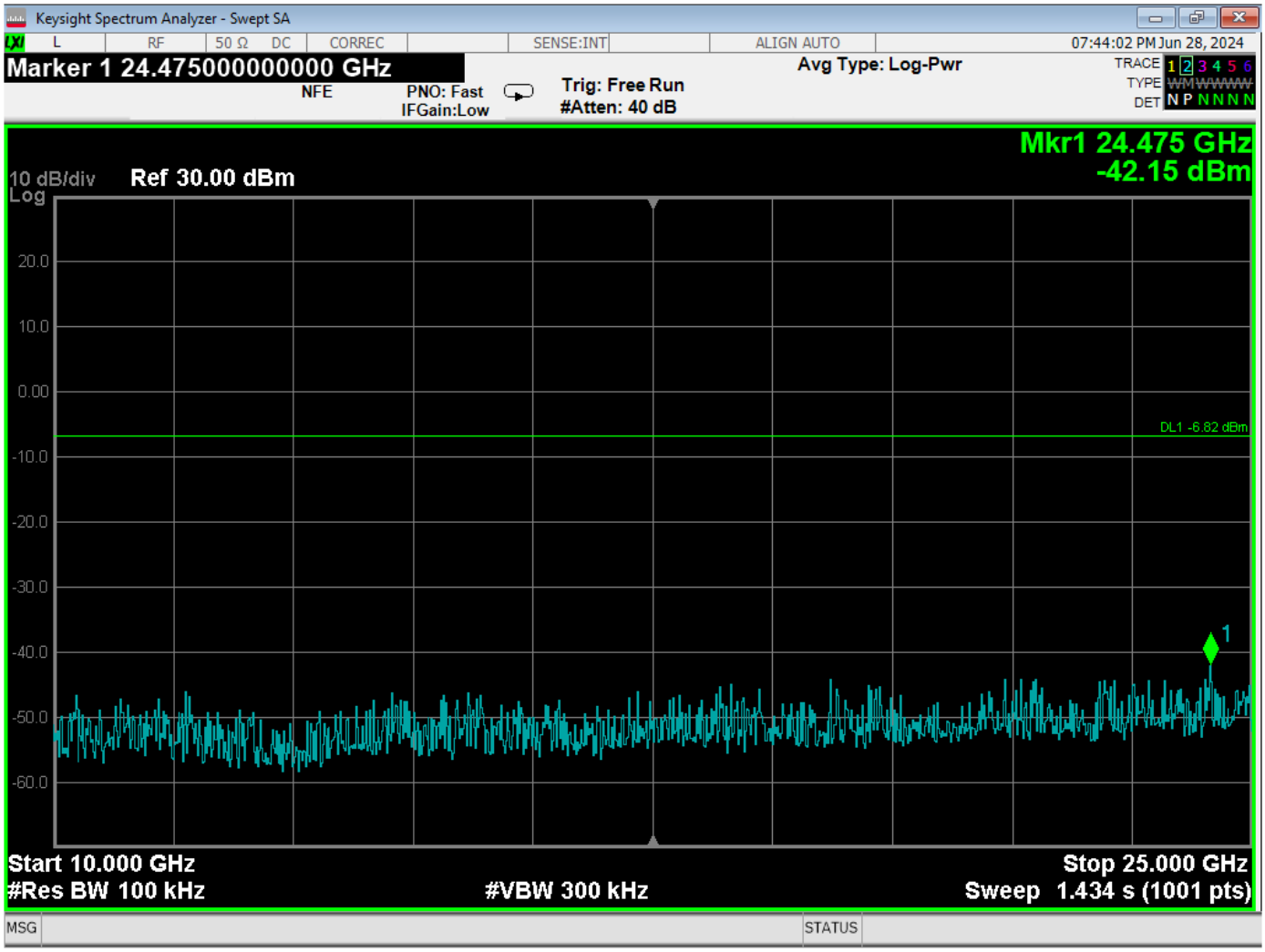
RF Antenna Conducted – High Channel – Thread – 30 MHz to 1 GHz – Nordic



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



RF Antenna Conducted – High Channel – Thread – 2483.5 MHz to 10 GHz – Nordic



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

SPECTRUM BRANDS, INC.

RESIDENTIAL ELECTRONIC DEADBOLT

MODEL: 9800

EMISSIONS IN NON-RESTRICTED BANDS

BLE MODE – REDPINE

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
2400.00 (BLE) (2Mbit)	-25.656	-5.17	-9.476
2400.00 (802.11g)	-27.440	-5.17	-9.360
2400.00 (802.11n) (20 MHz)	-28.566	-5.17	-10.746

*Per ANSI C63.10 section 11.11.2, the channel found to contain the maximum level can be used to establish the reference level.

SPECTRUM BRANDS, INC.

RESIDENTIAL ELECTRONIC DEADBOLT

MODEL: 9800

EMISSIONS IN NON-RESTRICTED BANDS

802.11b – REDPINE

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
23986.00	-28.87	-13.57	-15.30
24580.00	-42.78	-13.57	-29.21
7971.00	-45.65	-13.57	-32.08

*Per ANSI C63.10 section 11.11.2, the channel found to contain the maximum level can be used to establish the reference level.

SPECTRUM BRANDS, INC.

RESIDENTIAL ELECTRONIC DEADBOLT

MODEL: 9800

EMISSIONS IN NON-RESTRICTED BANDS

802.11g – REDPINE

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
2400.00	-40.88	-18.61	-22.27
9722.00	-45.33	-18.61	-26.72
24055.00	-43.73	-18.61	-25.12

*Per ANSI C63.10 section 11.11.2, the channel found to contain the maximum level can be used to establish the reference level.

SPECTRUM BRANDS, INC.

RESIDENTIAL ELECTRONIC DEADBOLT

MODEL: 9800

EMISSIONS IN NON-RESTRICTED BANDS

802.11n – REDPINE

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
24025.00	-42.41	-18.31	-24.10
9248.00	-44.73	-18.31	-26.42
2529.00	-46.36	-18.31	-28.05

*Per ANSI C63.10 section 11.11.2, the channel found to contain the maximum level can be used to establish the reference level.

SPECTRUM BRANDS, INC.

RESIDENTIAL ELECTRONIC DEADBOLT

MODEL: 9800

EMISSIONS IN NON-RESTRICTED BANDS

BLE – NORDIC

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
24070.00	-42.52	-2.91	-39.61
24700.00	-43.35	-2.91	-40.44
9639.00	-45.72	-2.91	-42.81

*Per ANSI C63.10 section 11.11.2, the channel found to contain the maximum level can be used to establish the reference level.

SPECTRUM BRANDS, INC.

RESIDENTIAL ELECTRONIC DEADBOLT

MODEL: 9800

EMISSIONS IN NON-RESTRICTED BANDS

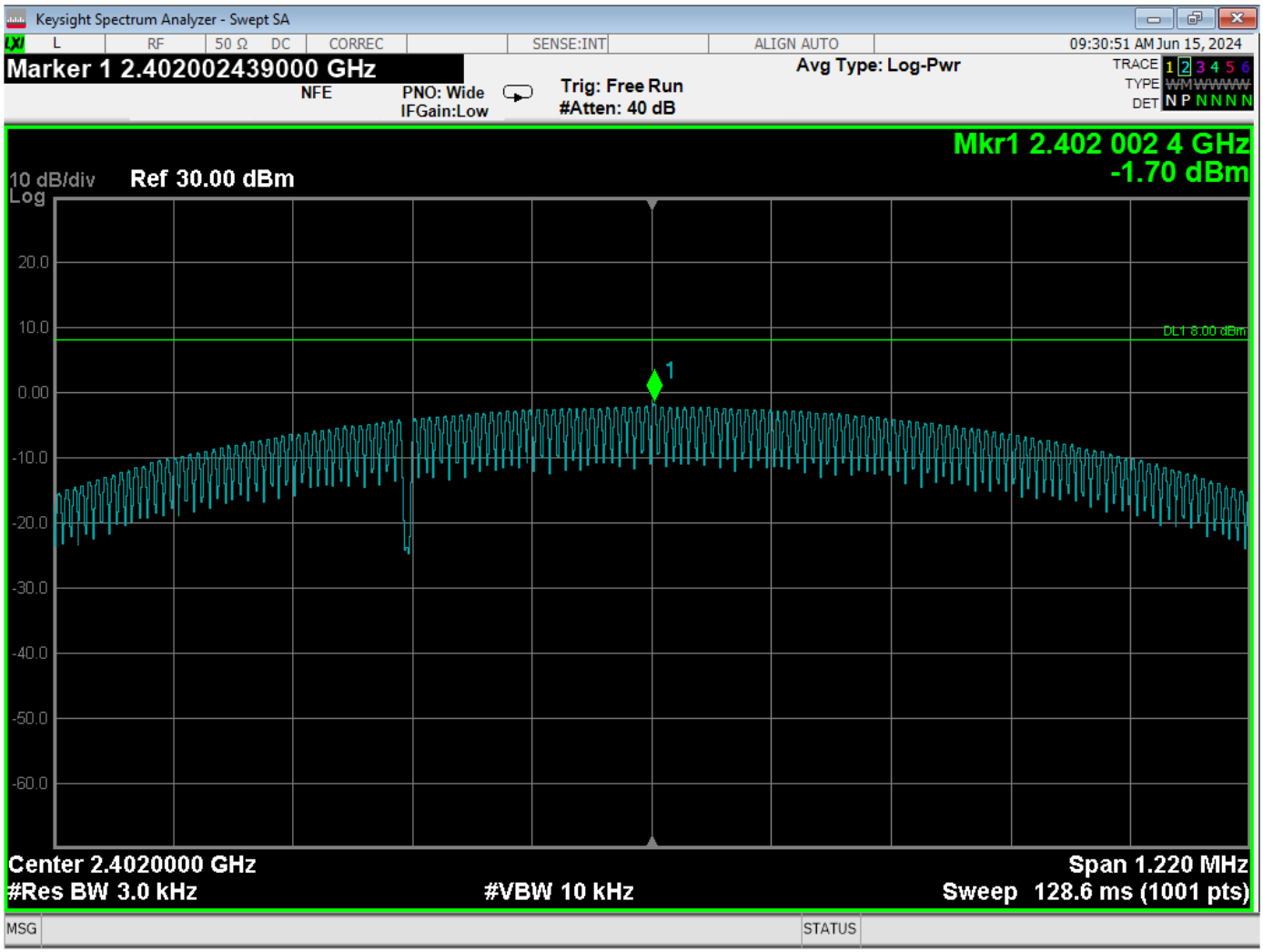
BLE – THREAD

FREQUENCY (MHz)	LEVEL (dBm)	Limit* (dBm)	Margin (dB)
2400.00	-32.95	-6.43	-26.52
23455.00	-41.42	-6.43	-34.99
9647.00	-45.78	-6.43	-39.35

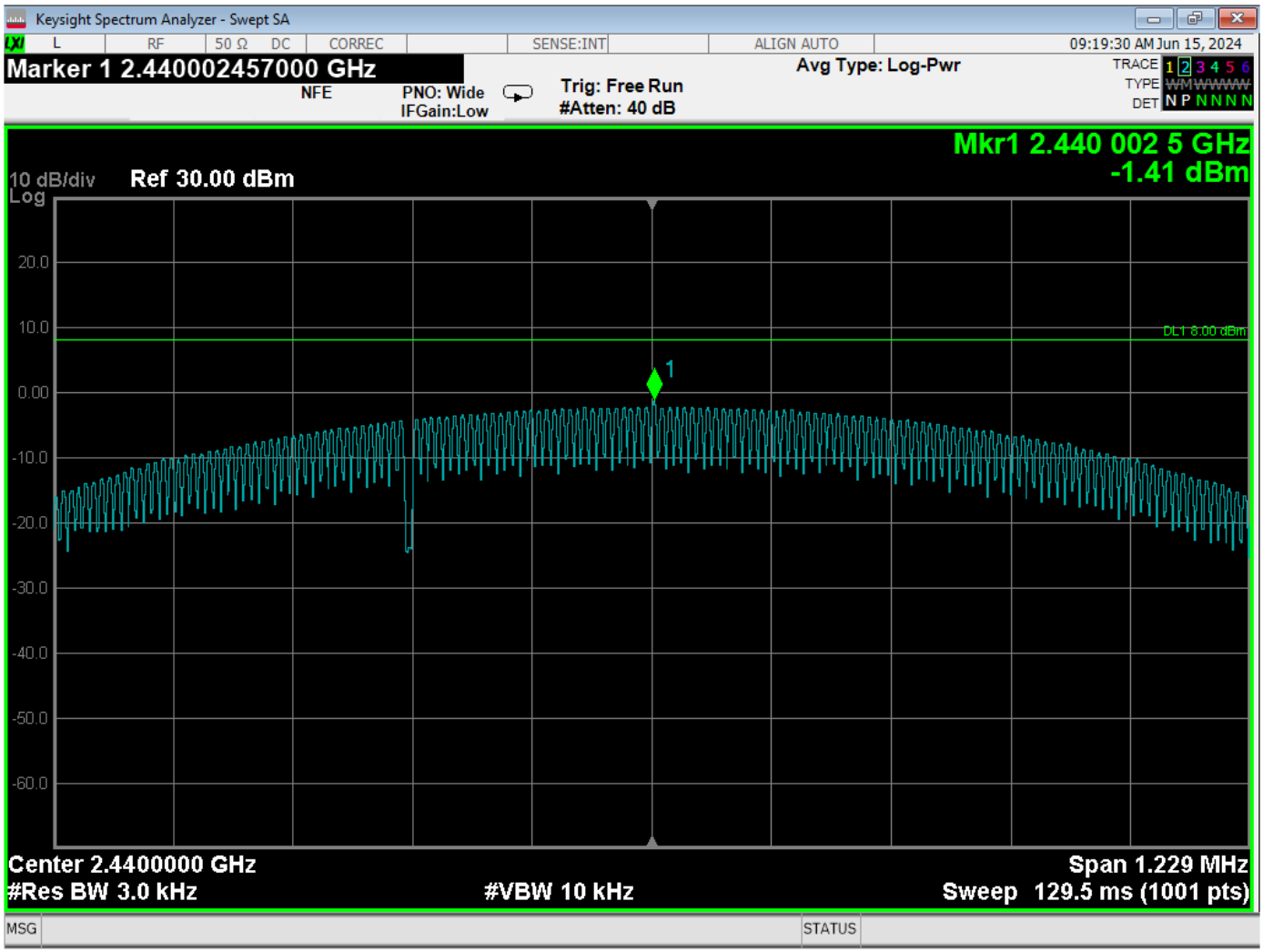
*Per ANSI C63.10 section 11.11.2, the channel found to contain the maximum level can be used to establish the reference level.

PEAK POWER SPECTRAL DENSITY

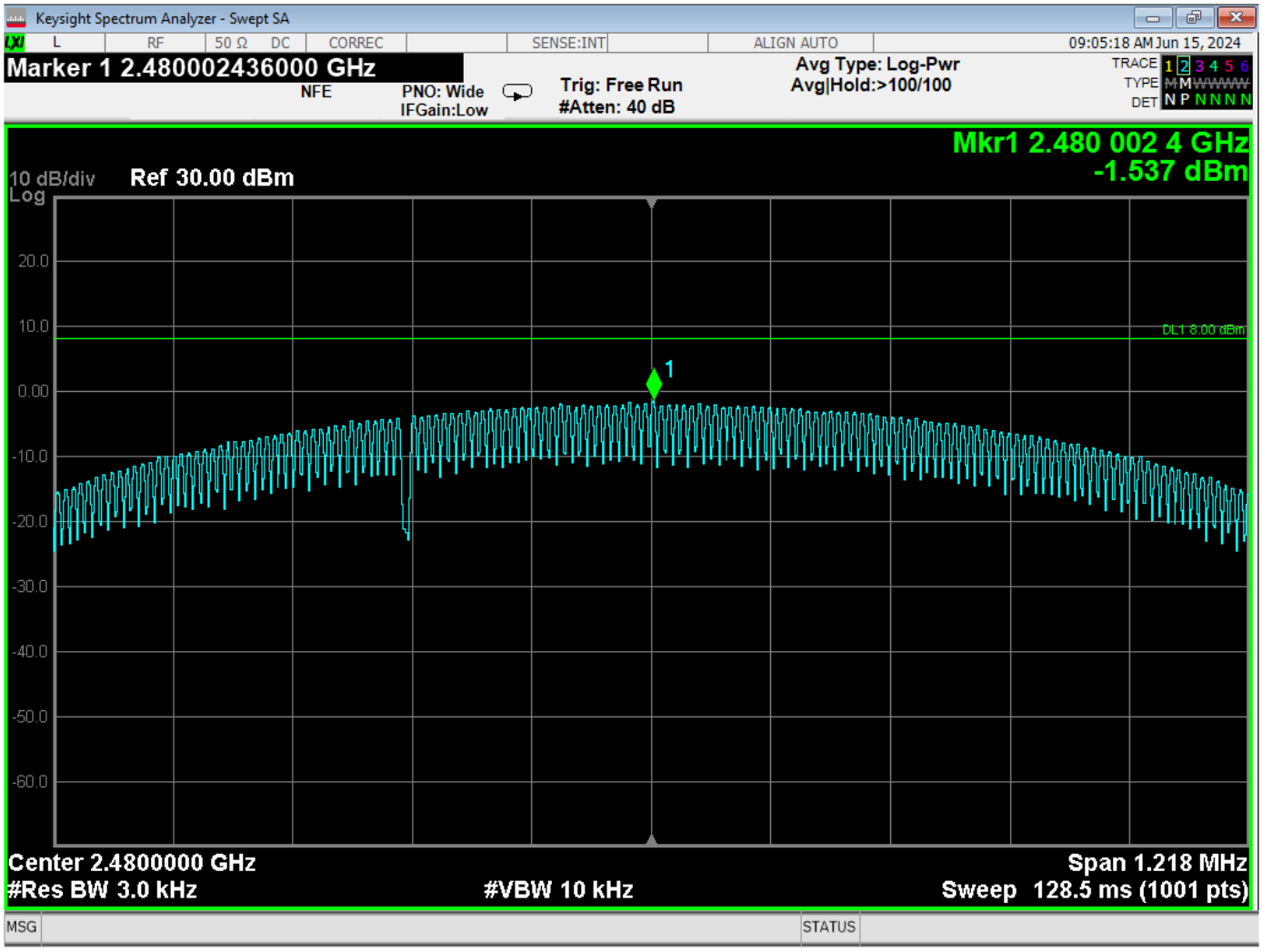
DATA SHEETS



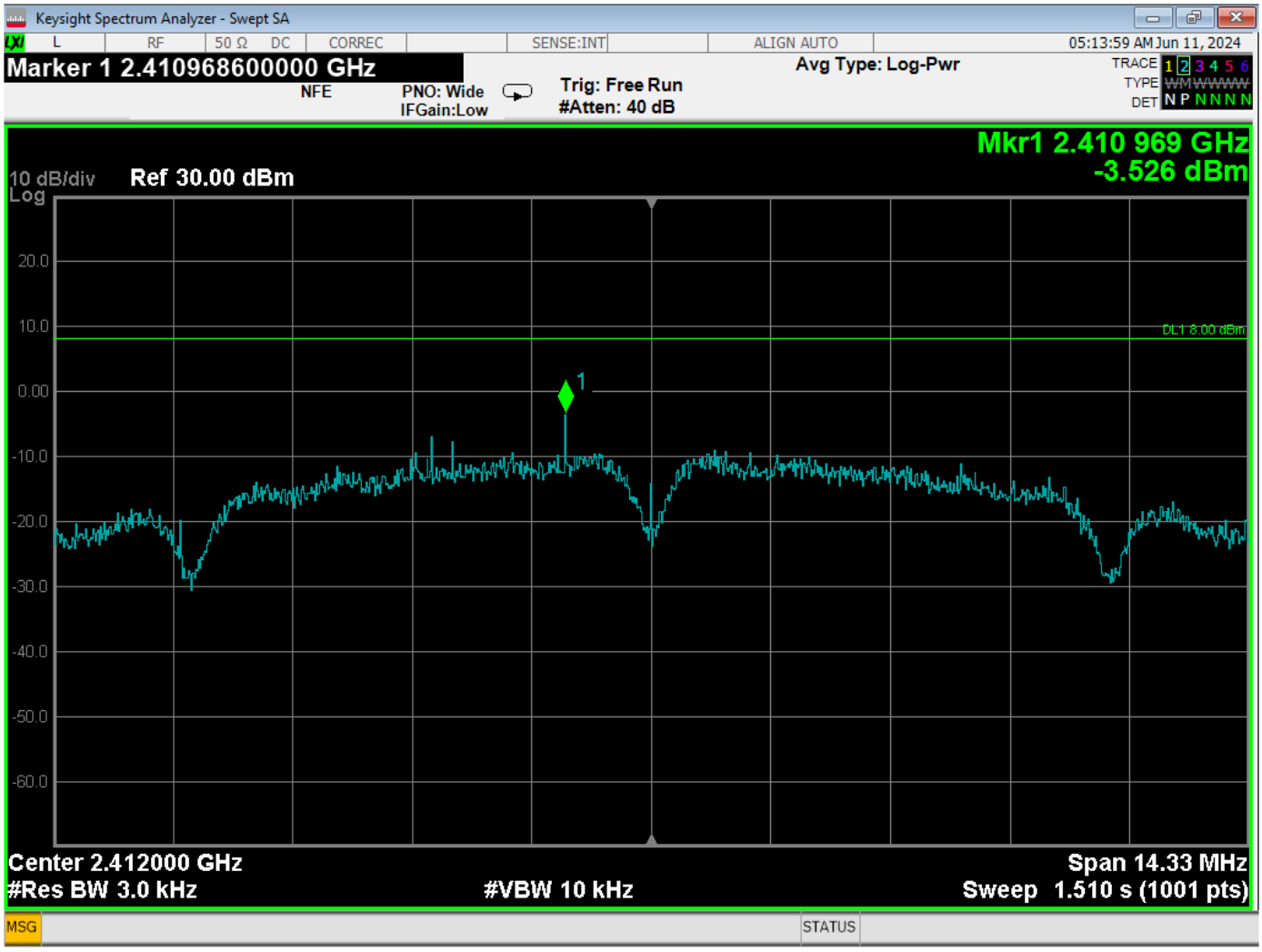
Peak Power Spectral Density – Low Channel – BLE Mode – RedPine



Peak Power Spectral Density – Middle Channel – BLE Mode – RedPine

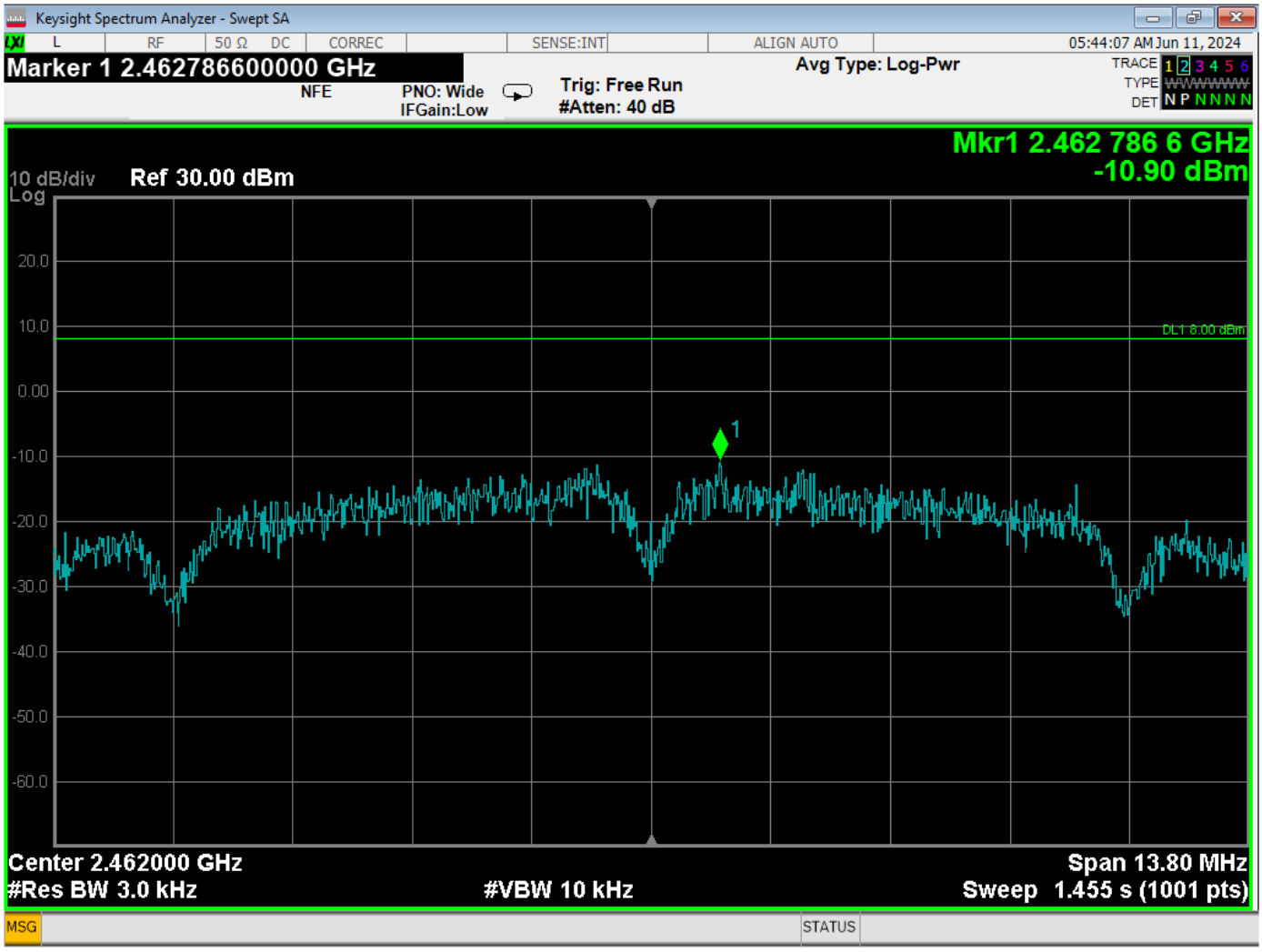


Peak Power Spectral Density – High Channel – BLE Mode – RedPine

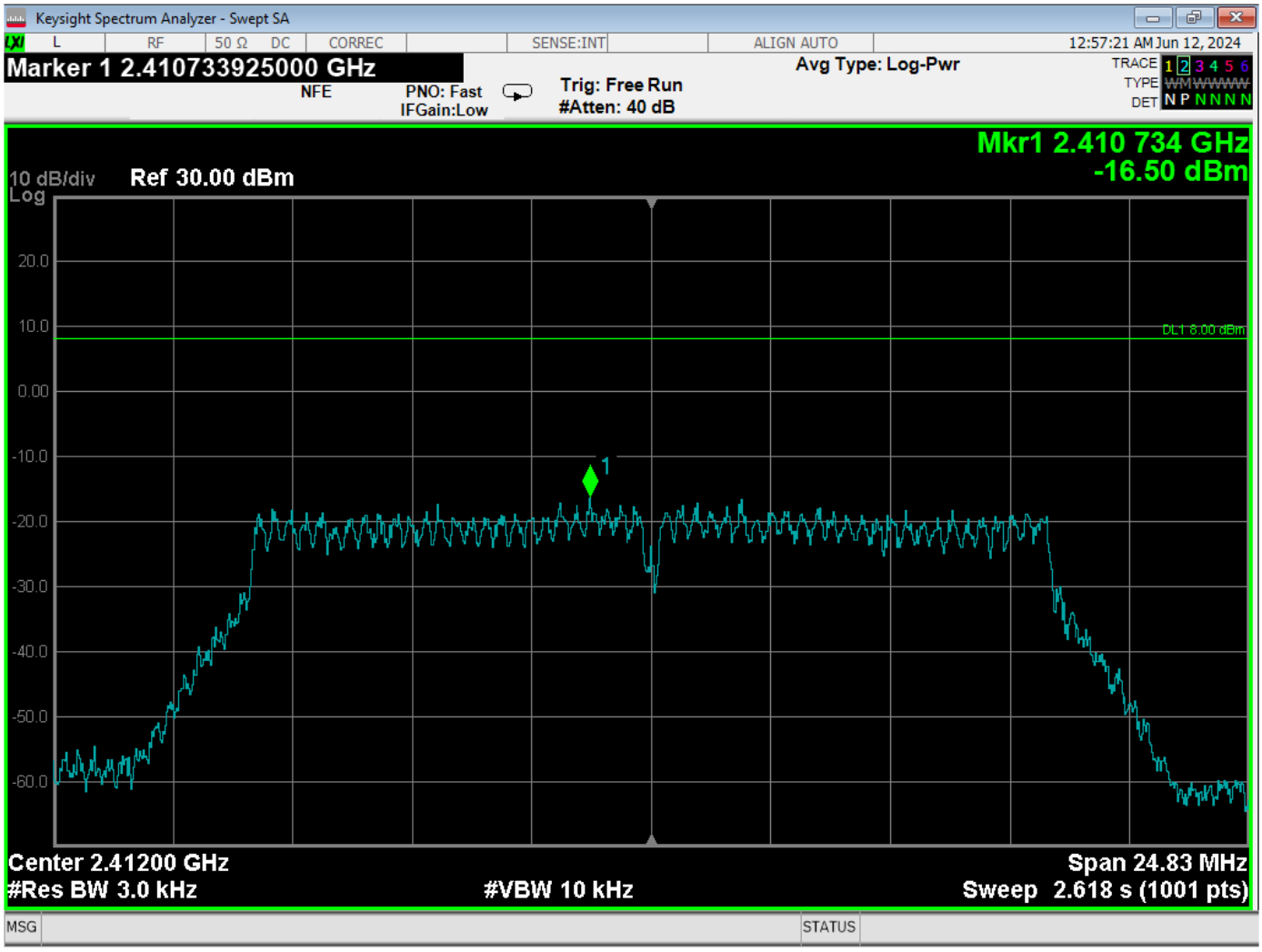


Peak Power Spectral Density – Low Channel – 802.11b Mode – RedPine

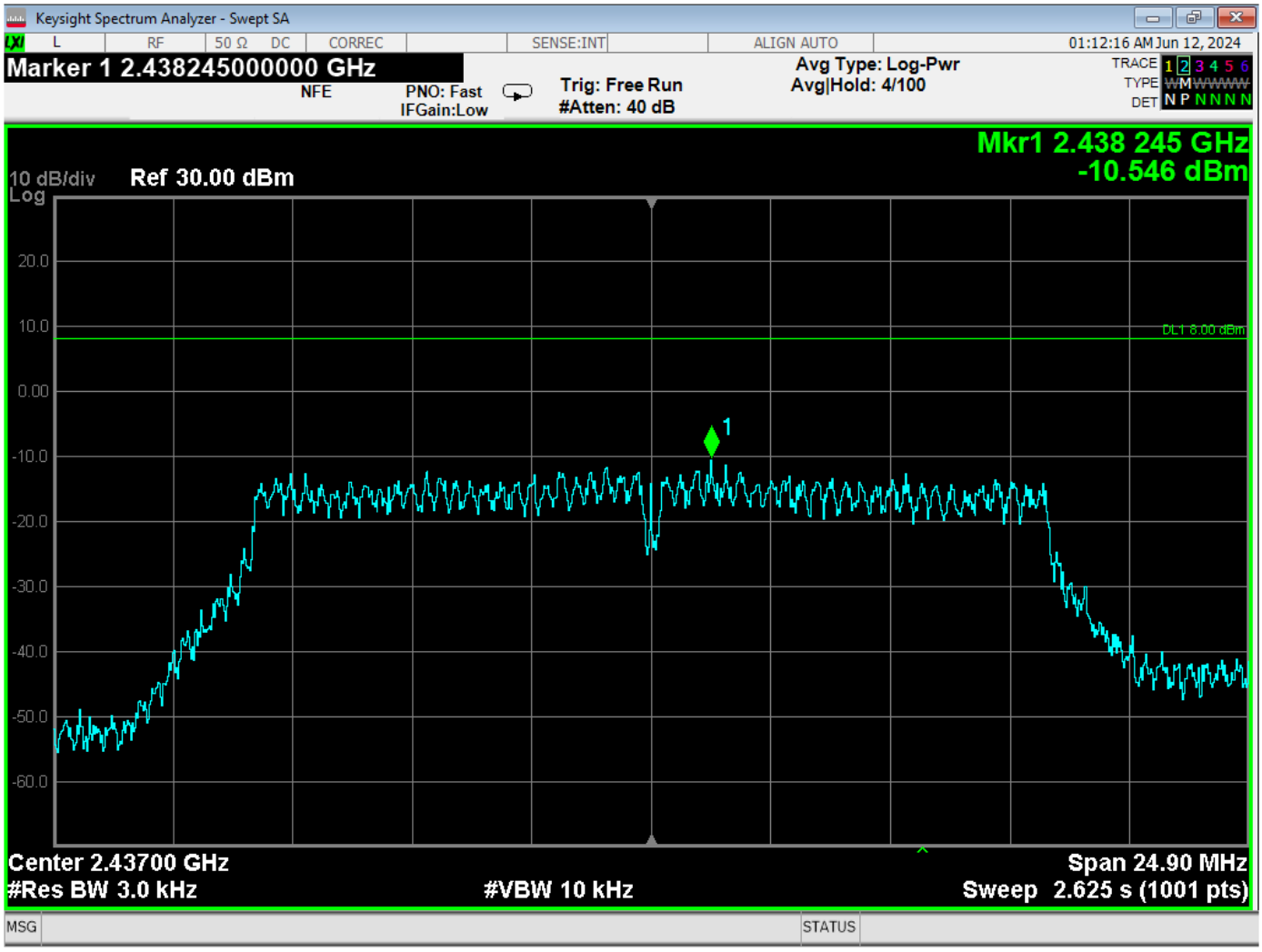
Peak Power Spectral Density – Middle Channel – 802.11b Mode – RedPine



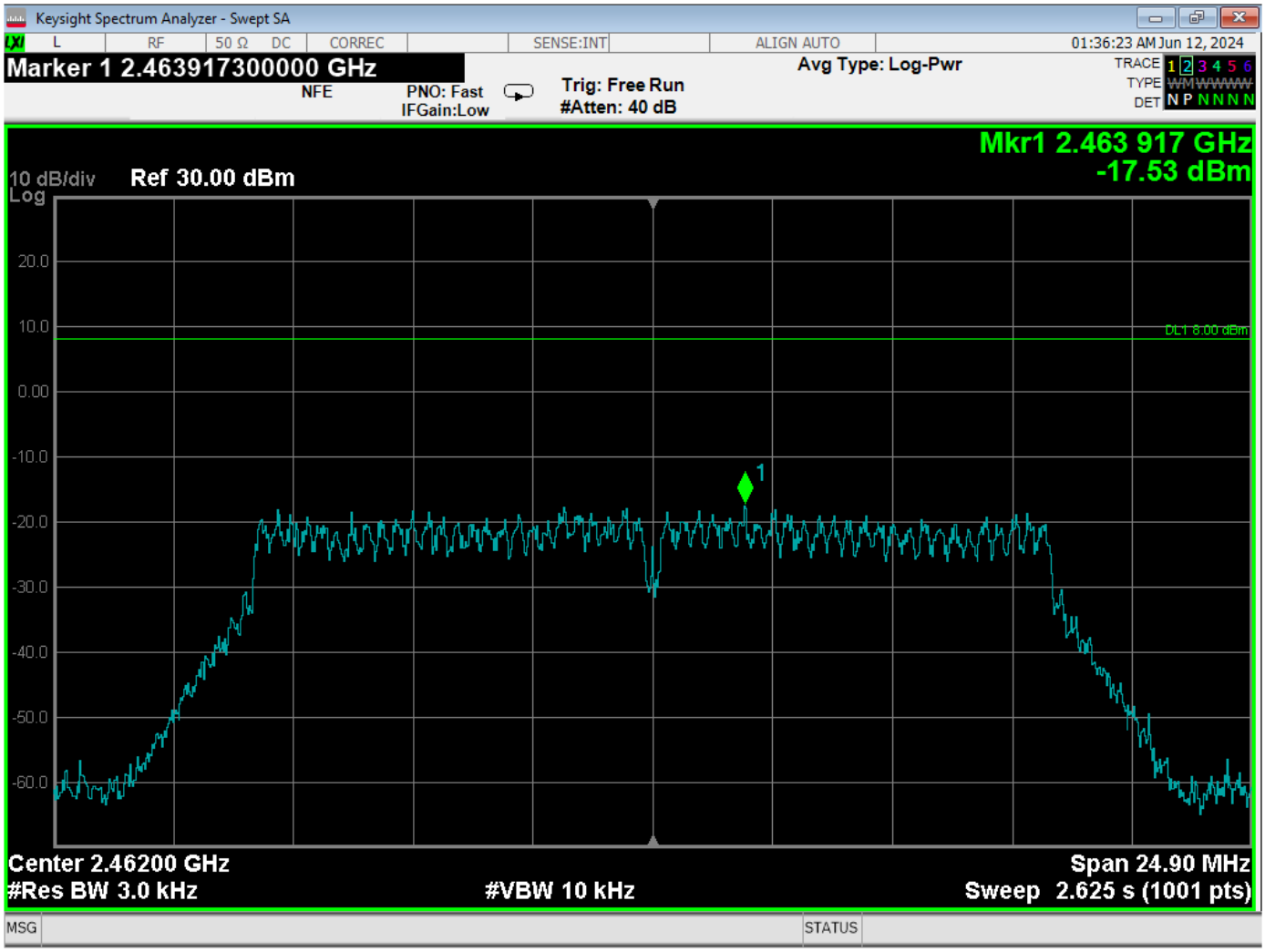
Peak Power Spectral Density – High Channel – 802.11b Mode – RedPine



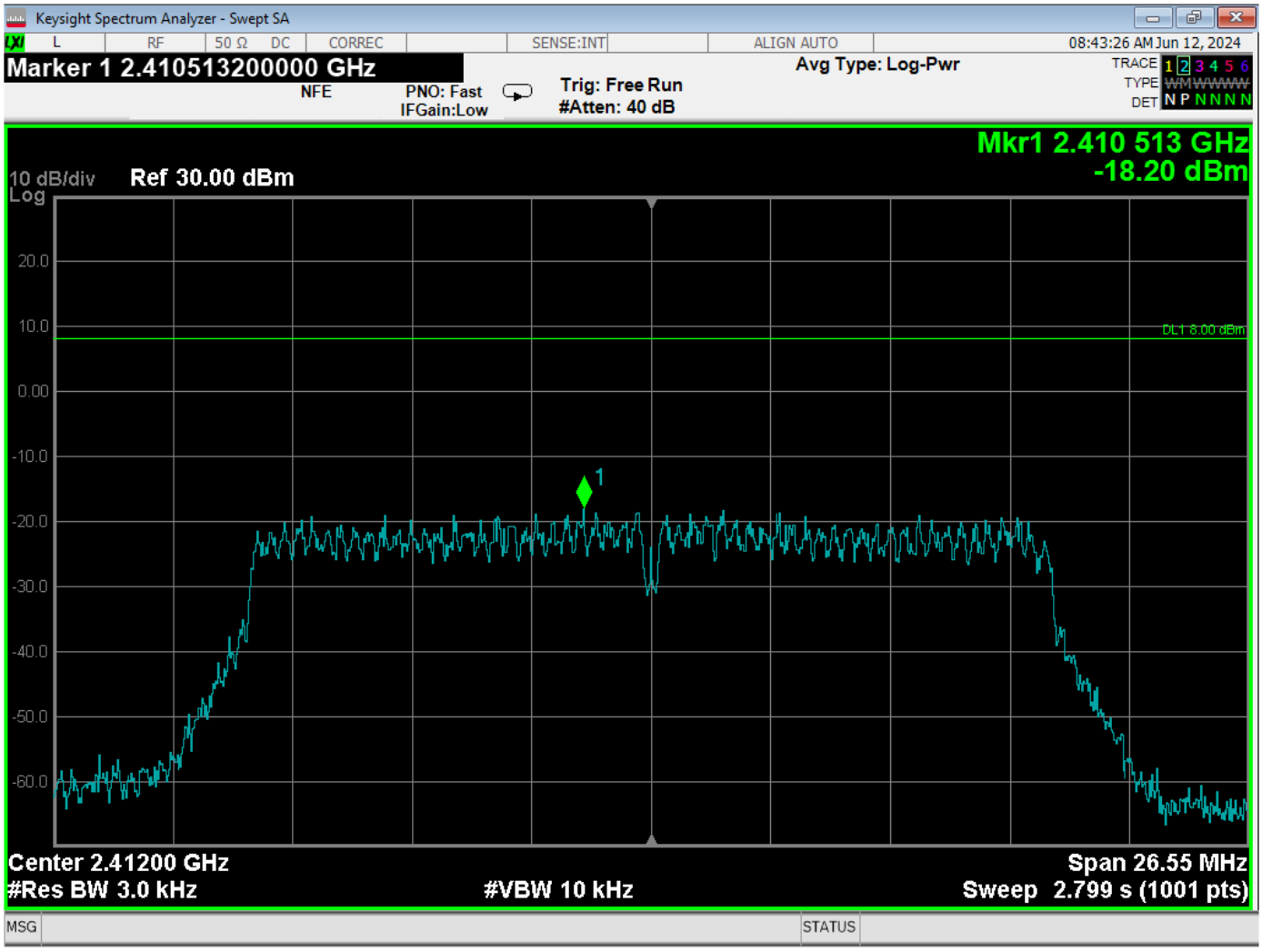
Peak Power Spectral Density – Low Channel – 802.11g Mode – RedPine



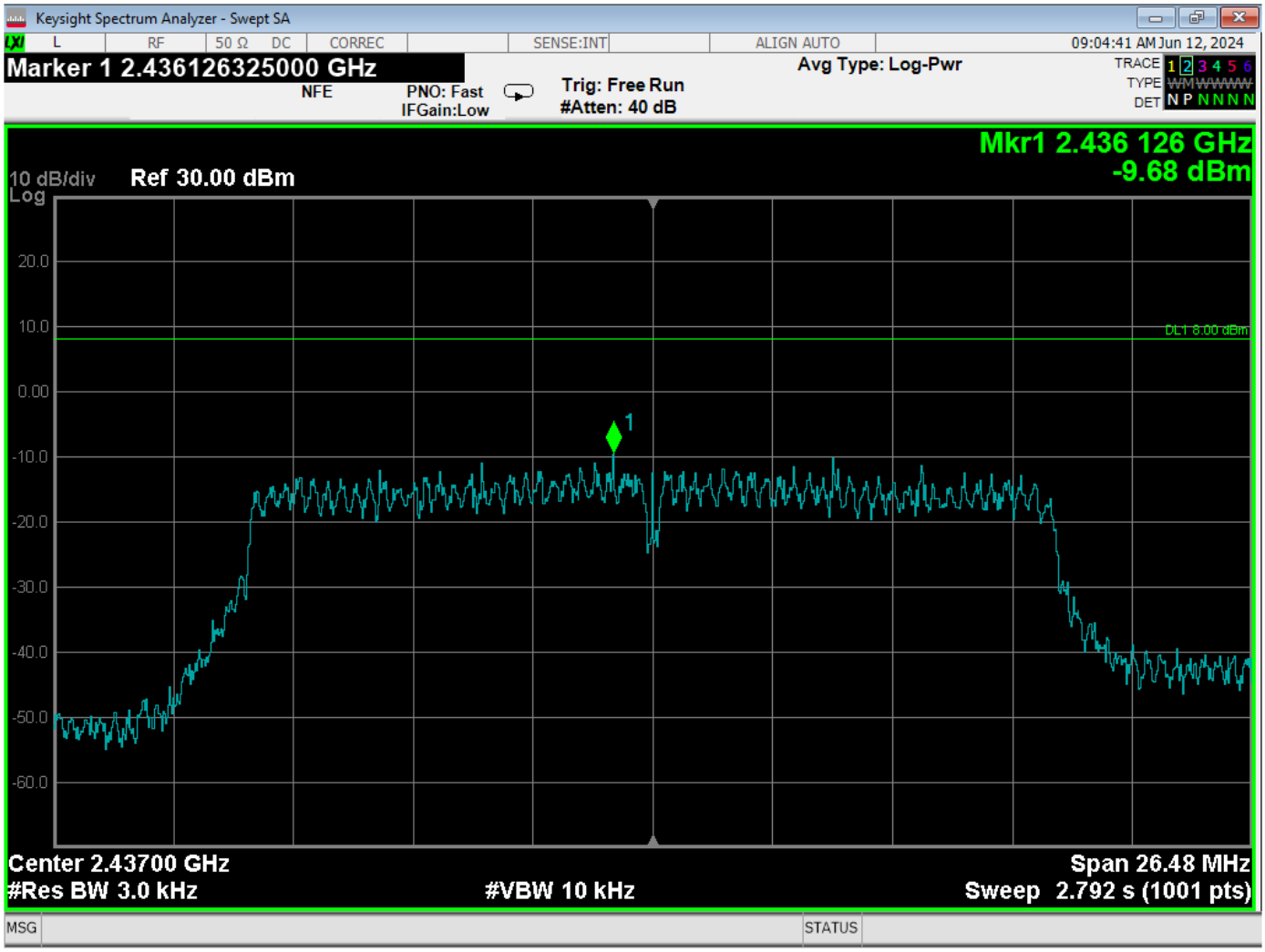
Peak Power Spectral Density – Middle Channel – 802.11g Mode – RedPine



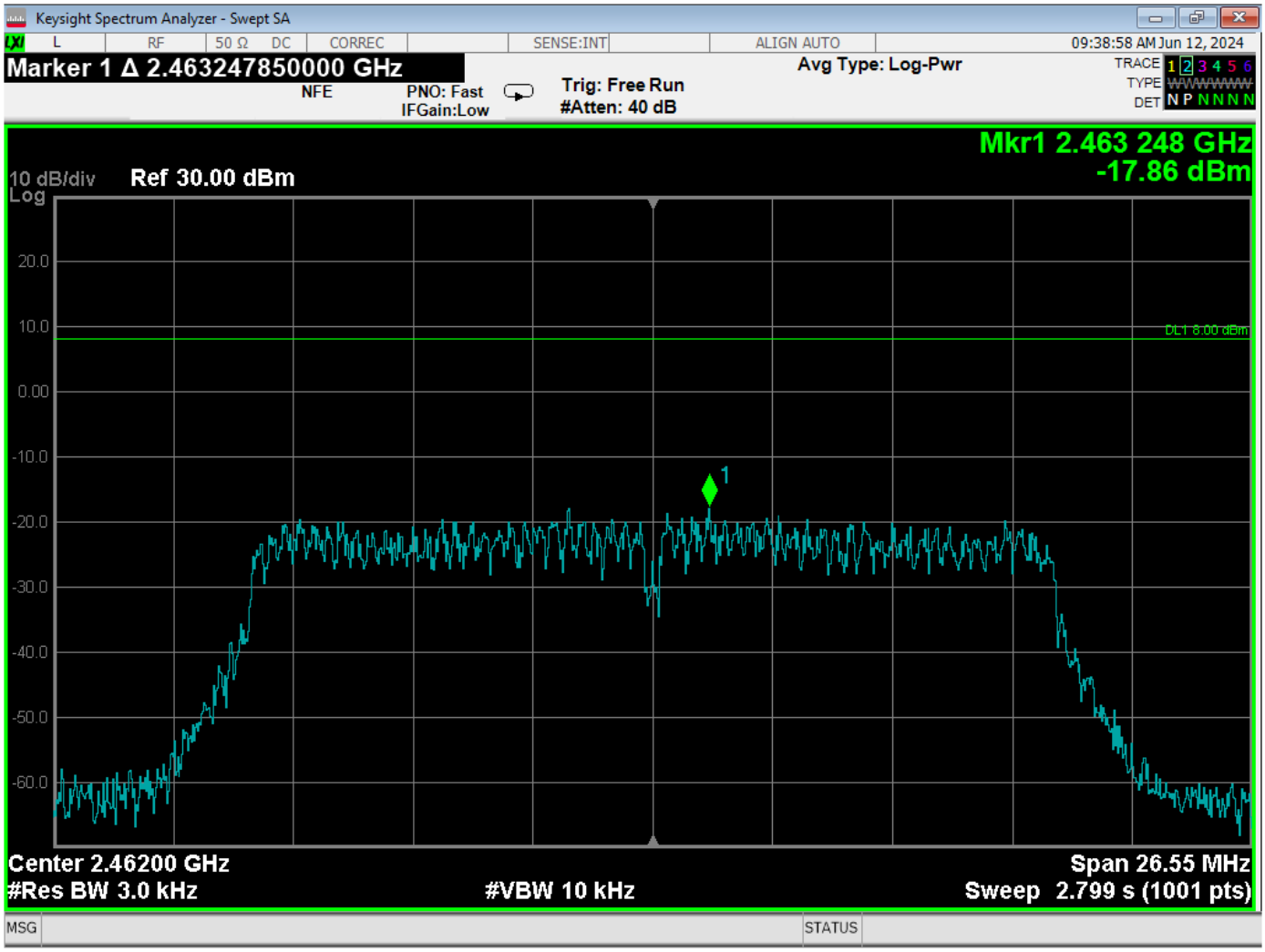
Peak Power Spectral Density – High Channel – 802.11g Mode – RedPine



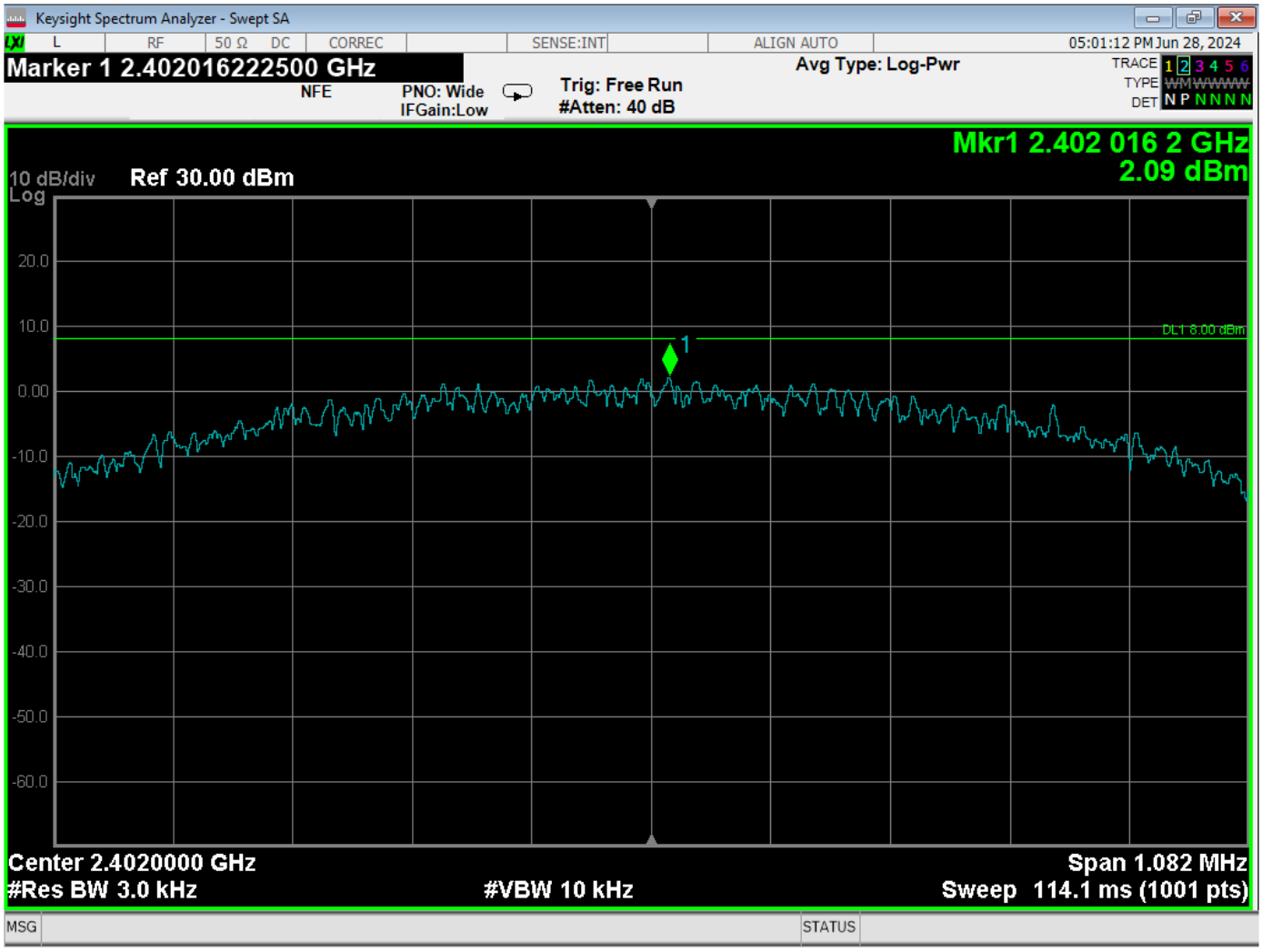
Peak Power Spectral Density – Low Channel – 802.11n Mode



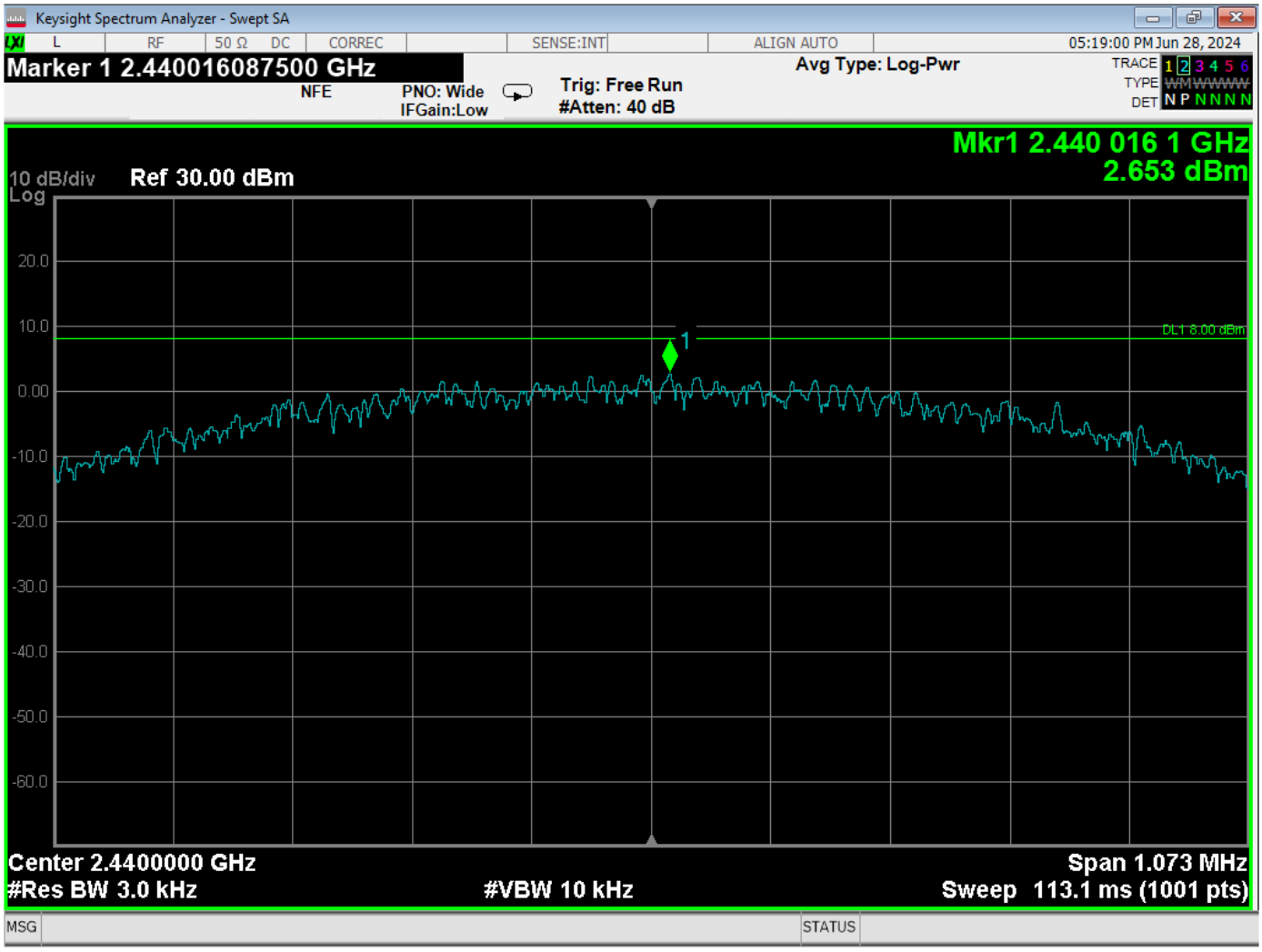
Peak Power Spectral Density – Middle Channel – 802.11n Mode



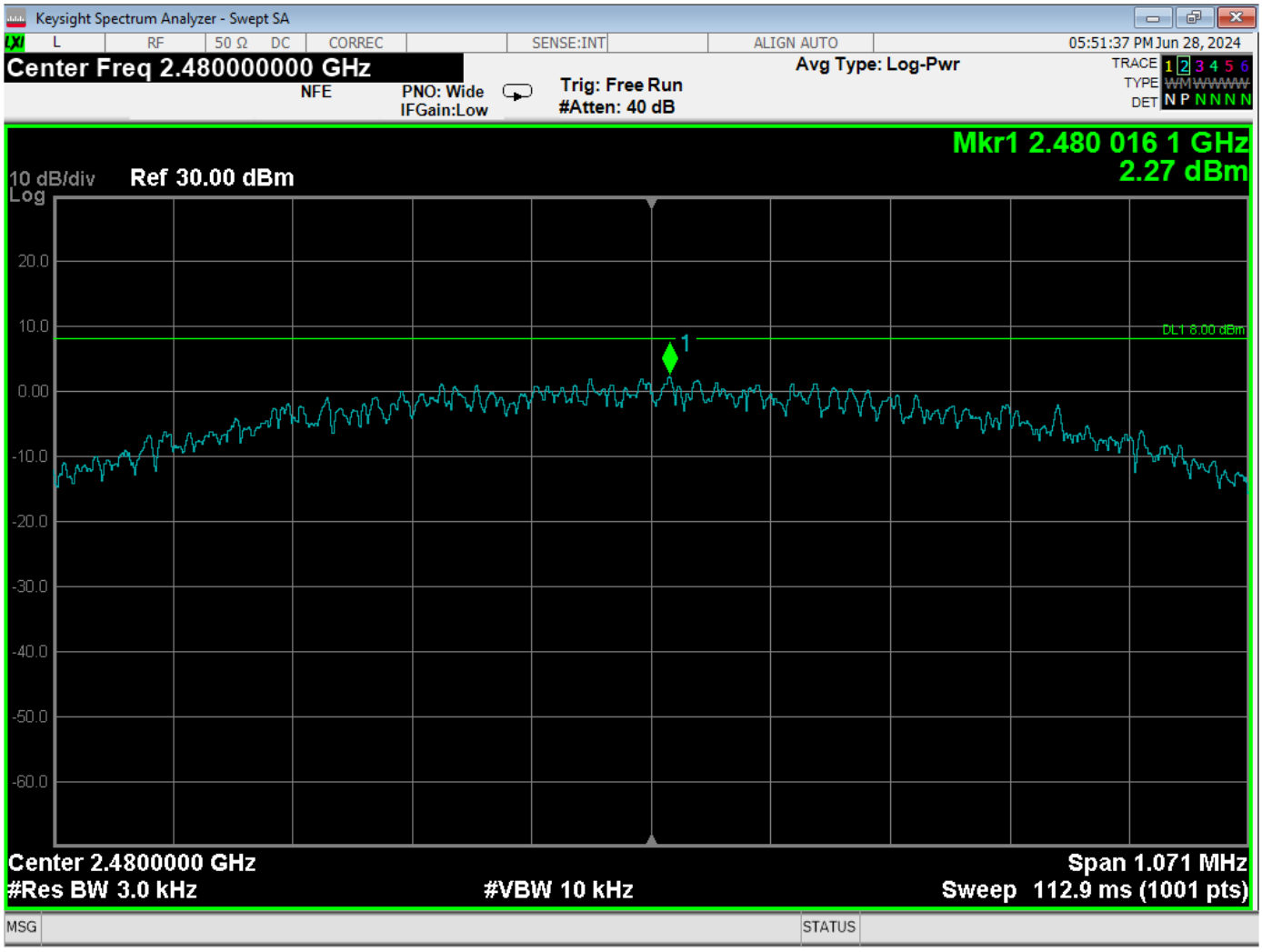
Peak Power Spectral Density – High Channel – 802.11n Mode



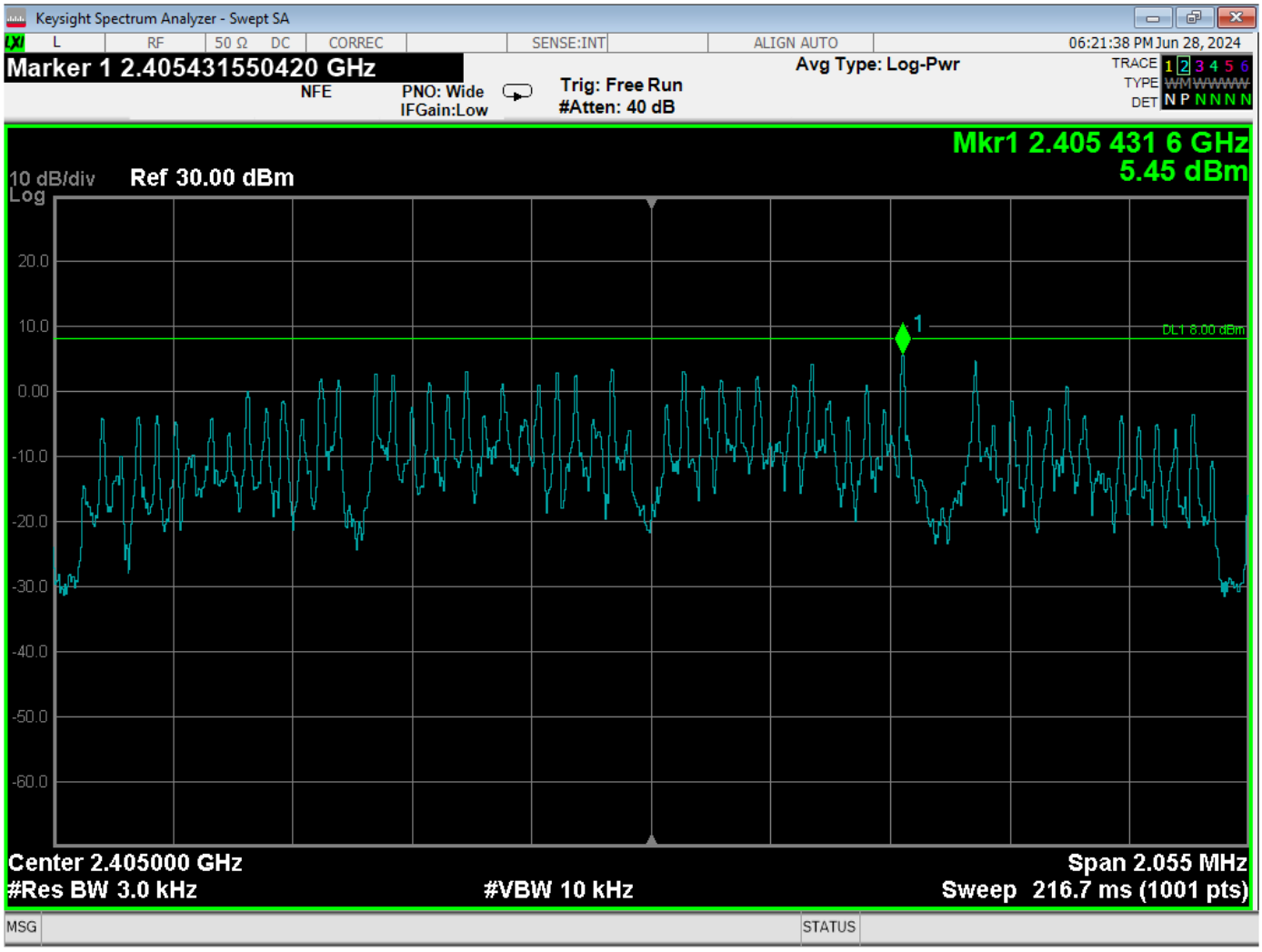
Peak Power Spectral Density – Low Channel – BLE – Nordic



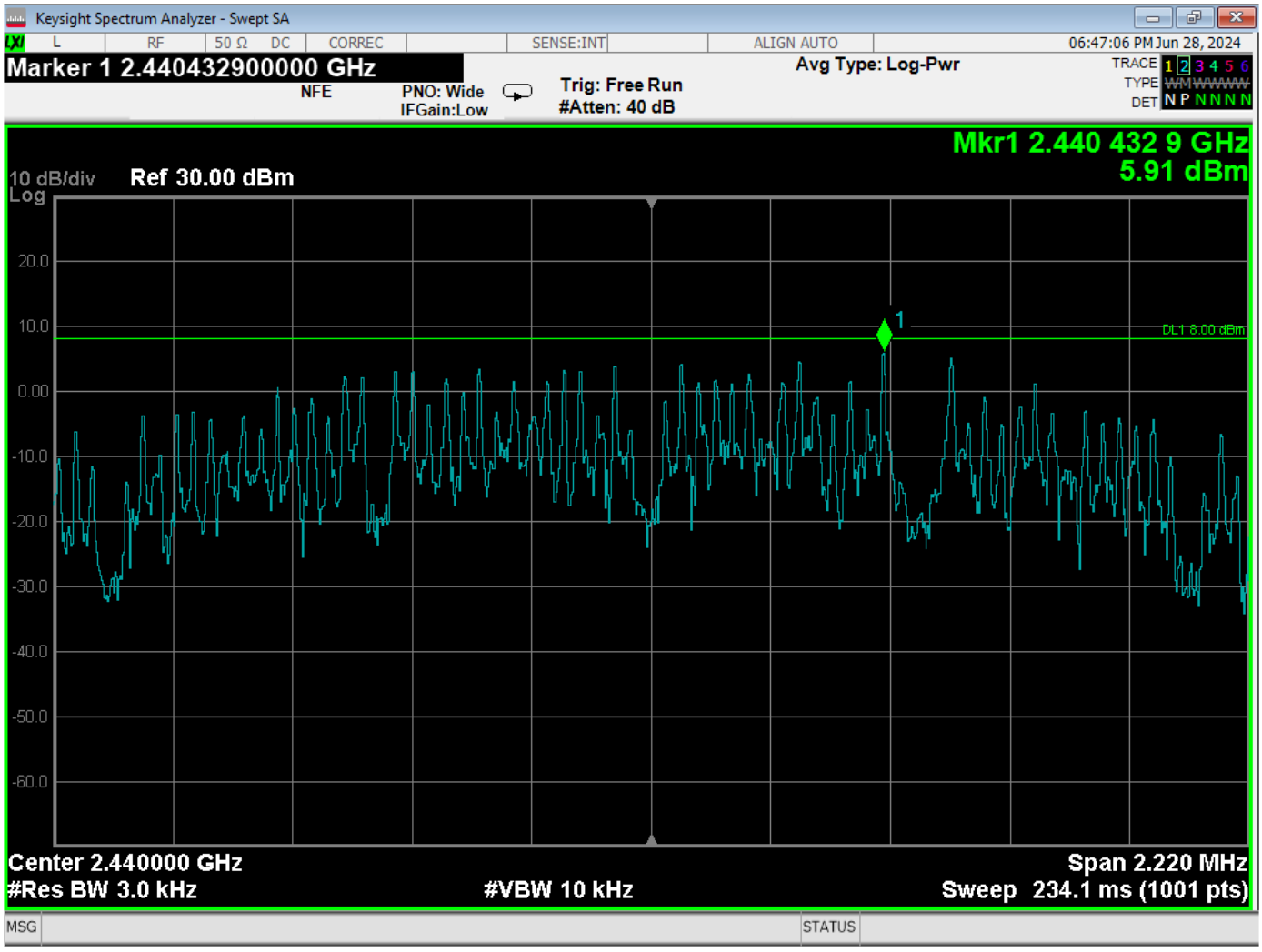
Peak Power Spectral Density – Middle Channel – BLE – Nordic



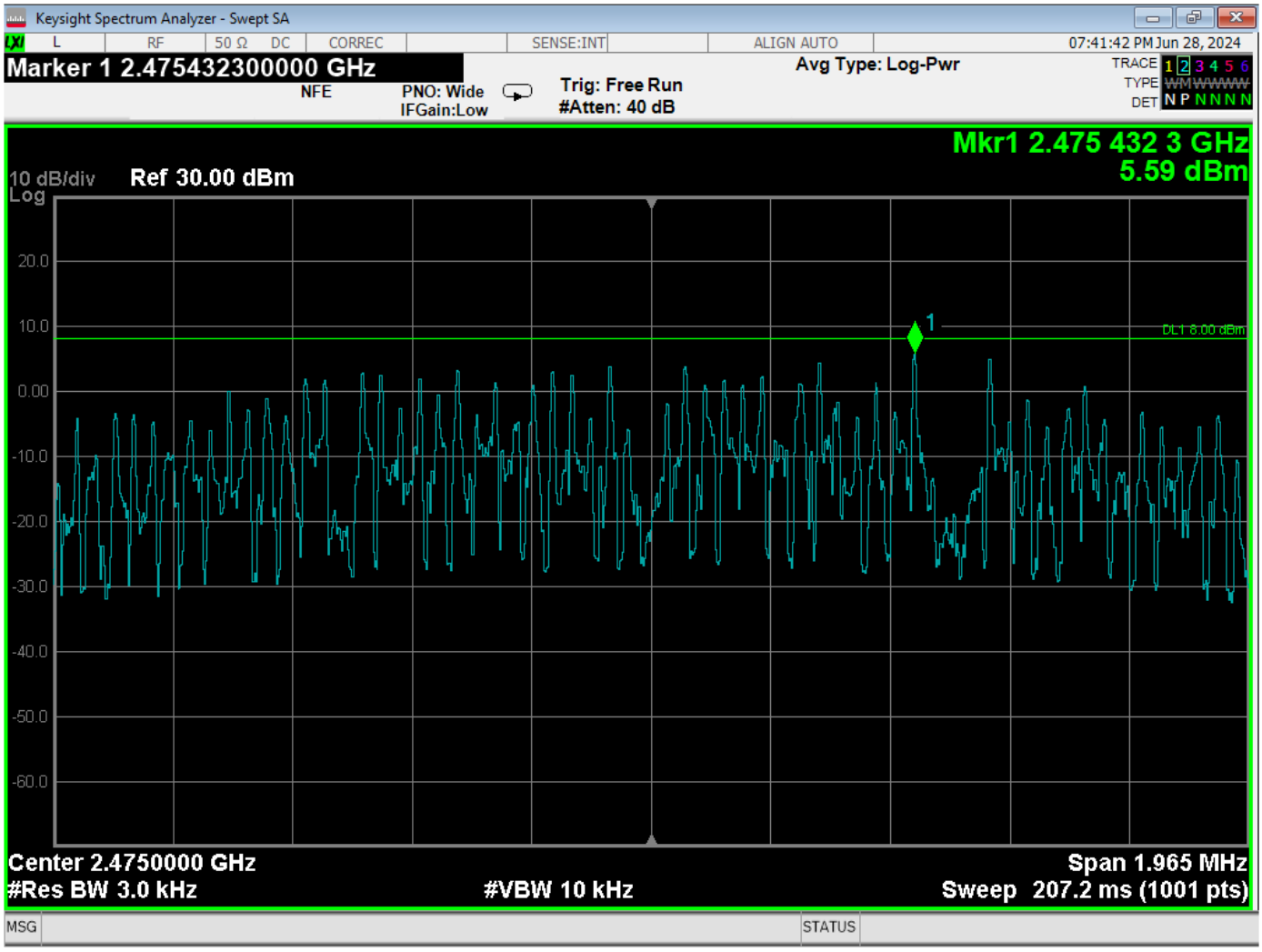
Peak Power Spectral Density – High Channel – BLE – Nordic



Peak Power Spectral Density – Low Channel – Thread – Nordic



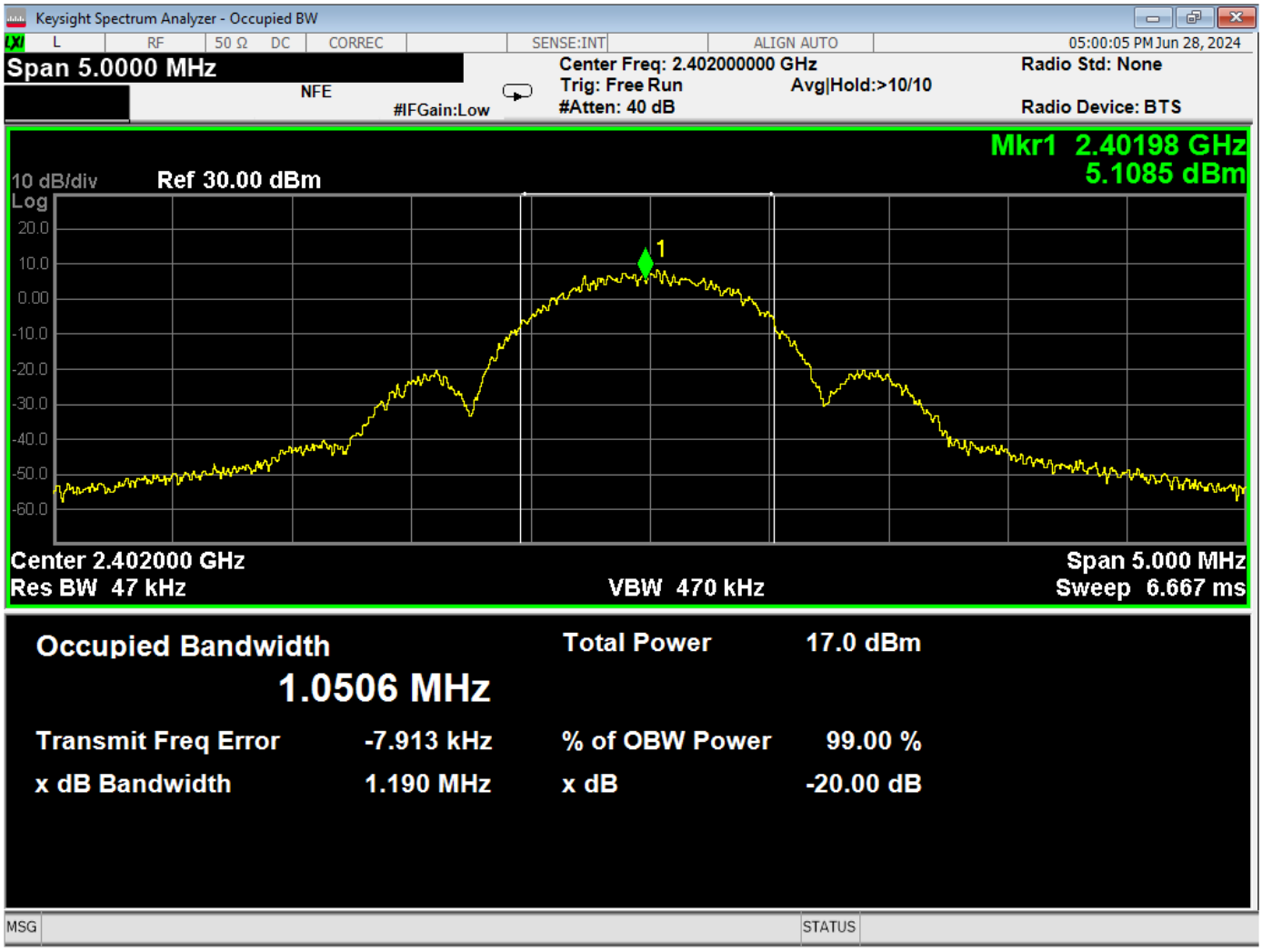
Peak Power Spectral Density – Middle Channel – Thread – Nordic



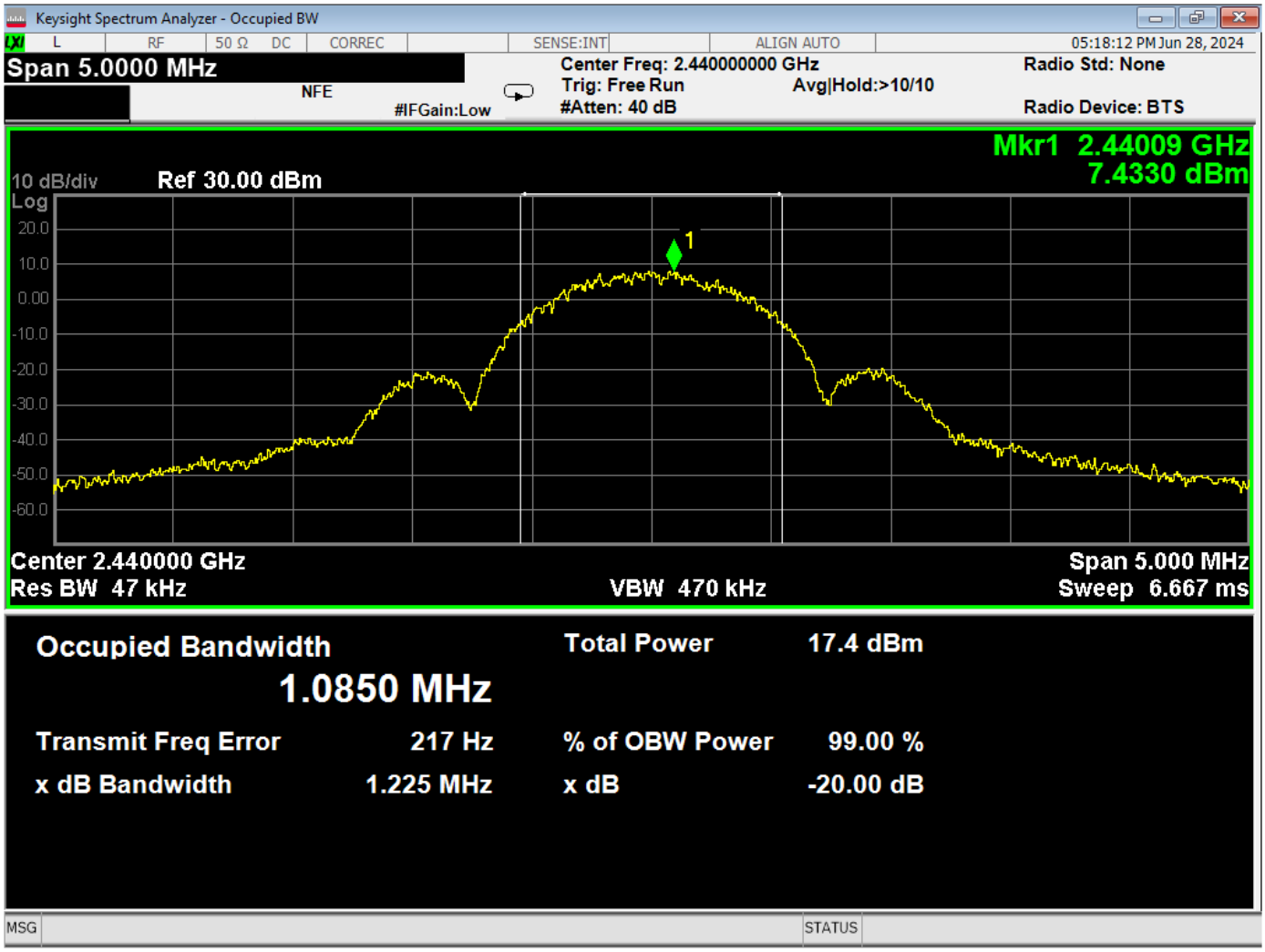
Peak Power Spectral Density – High Channel – Thread – Nordic

99% BANDWIDTH

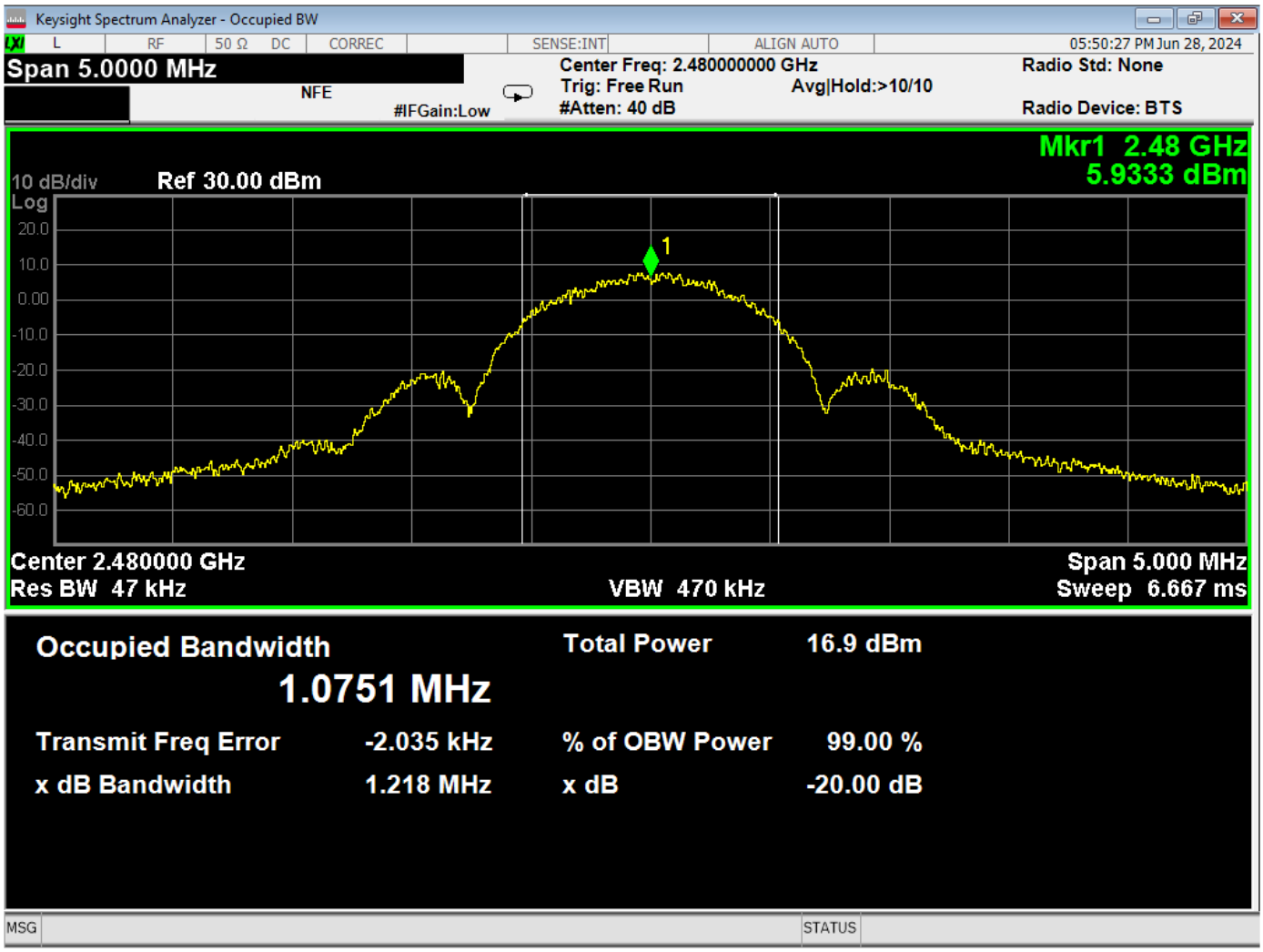
DATA SHEETS



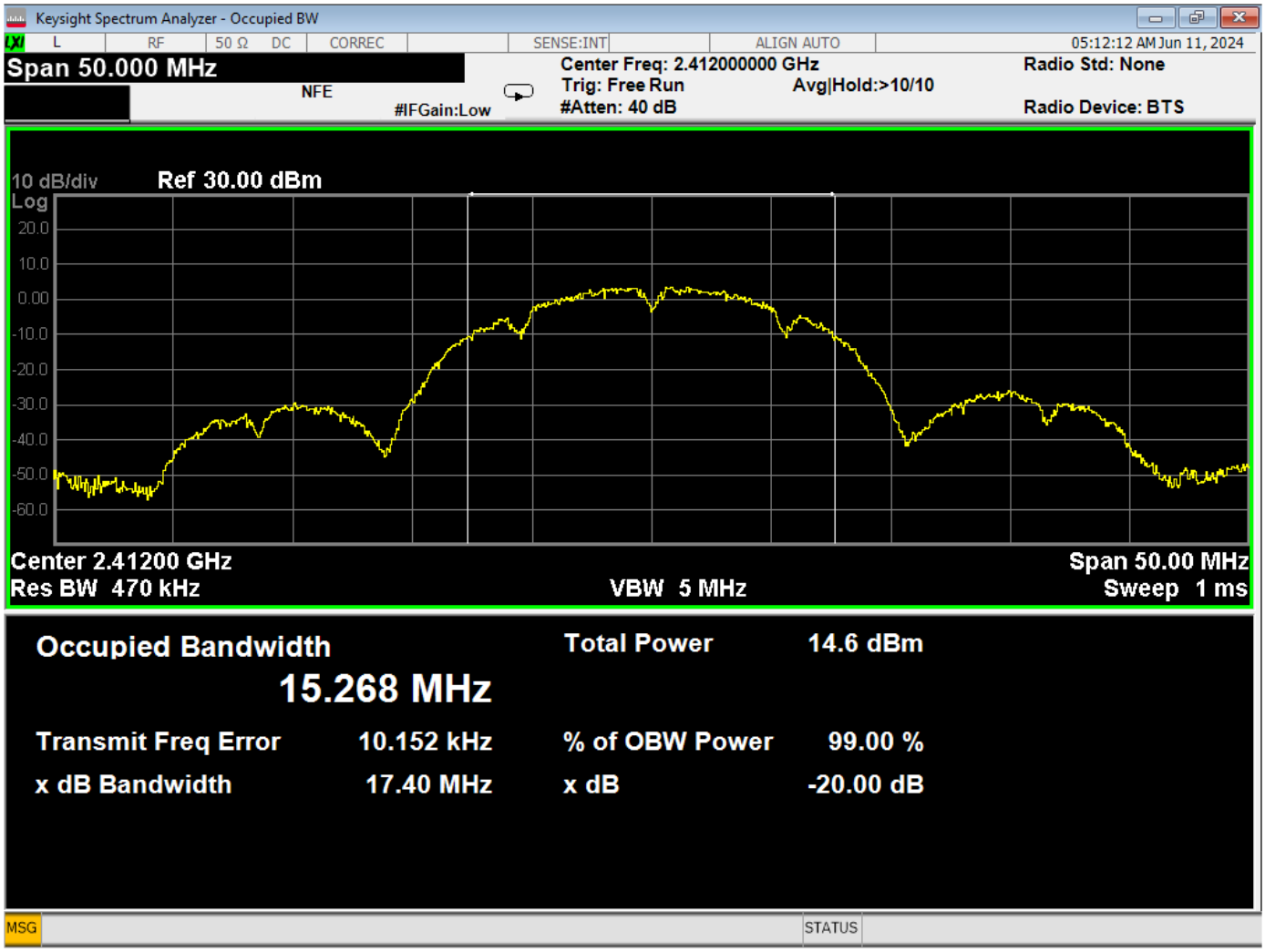
99% Bandwidth – Low Channel – BLE Mode – RedPine



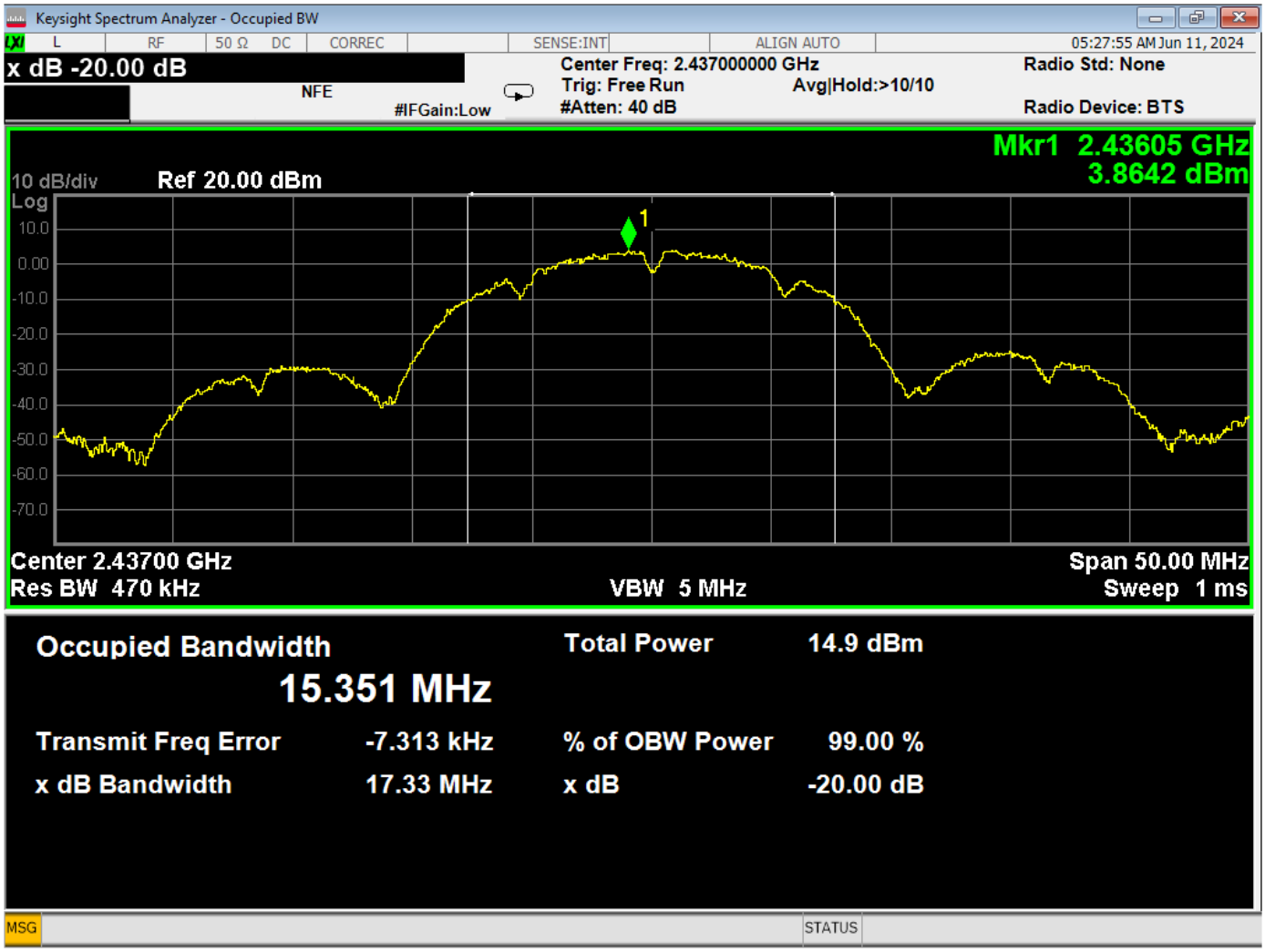
99% Bandwidth – Middle Channel – BLE Mode – RedPine



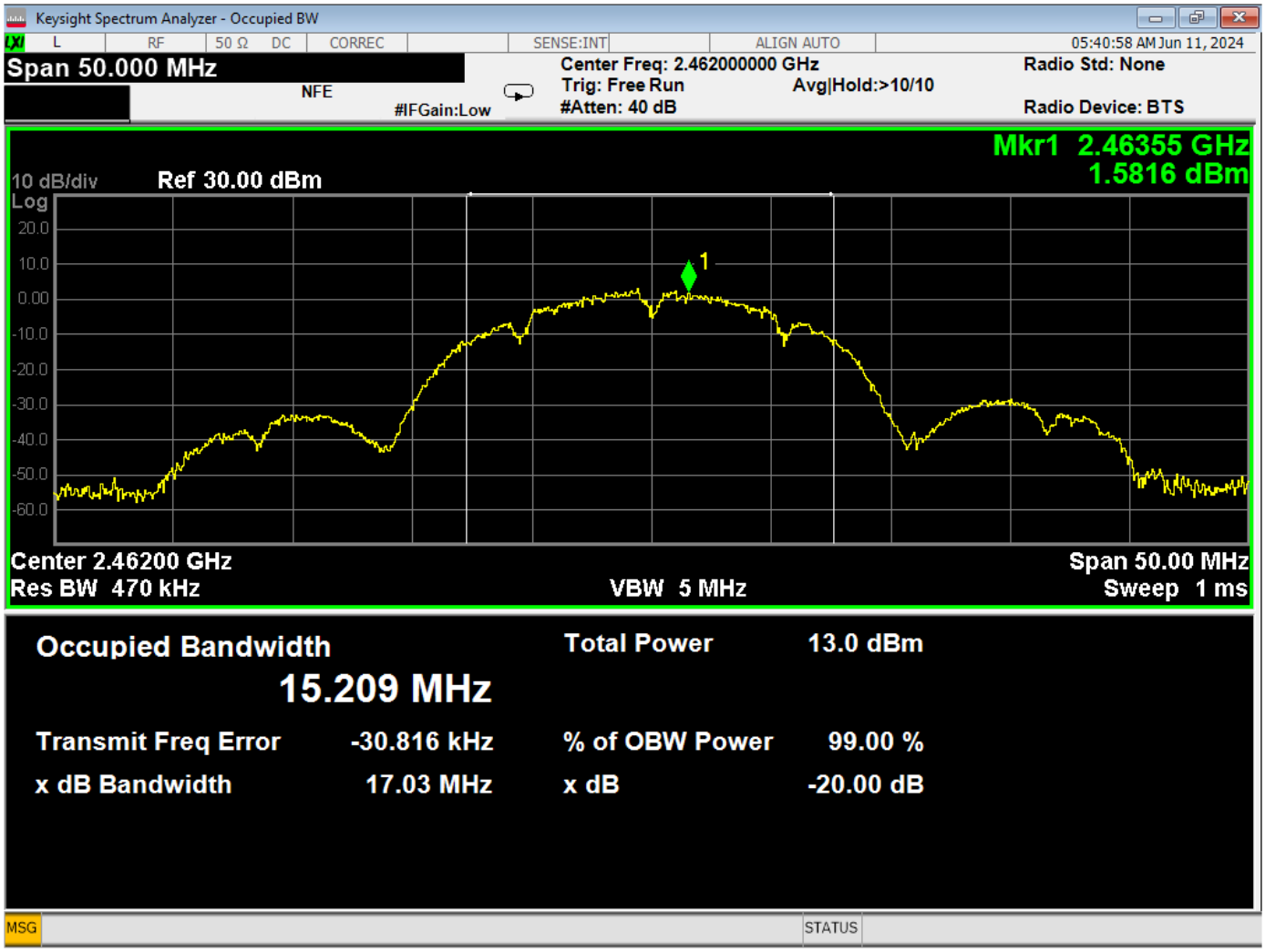
99% Bandwidth – High Channel – BLE Mode – RedPine



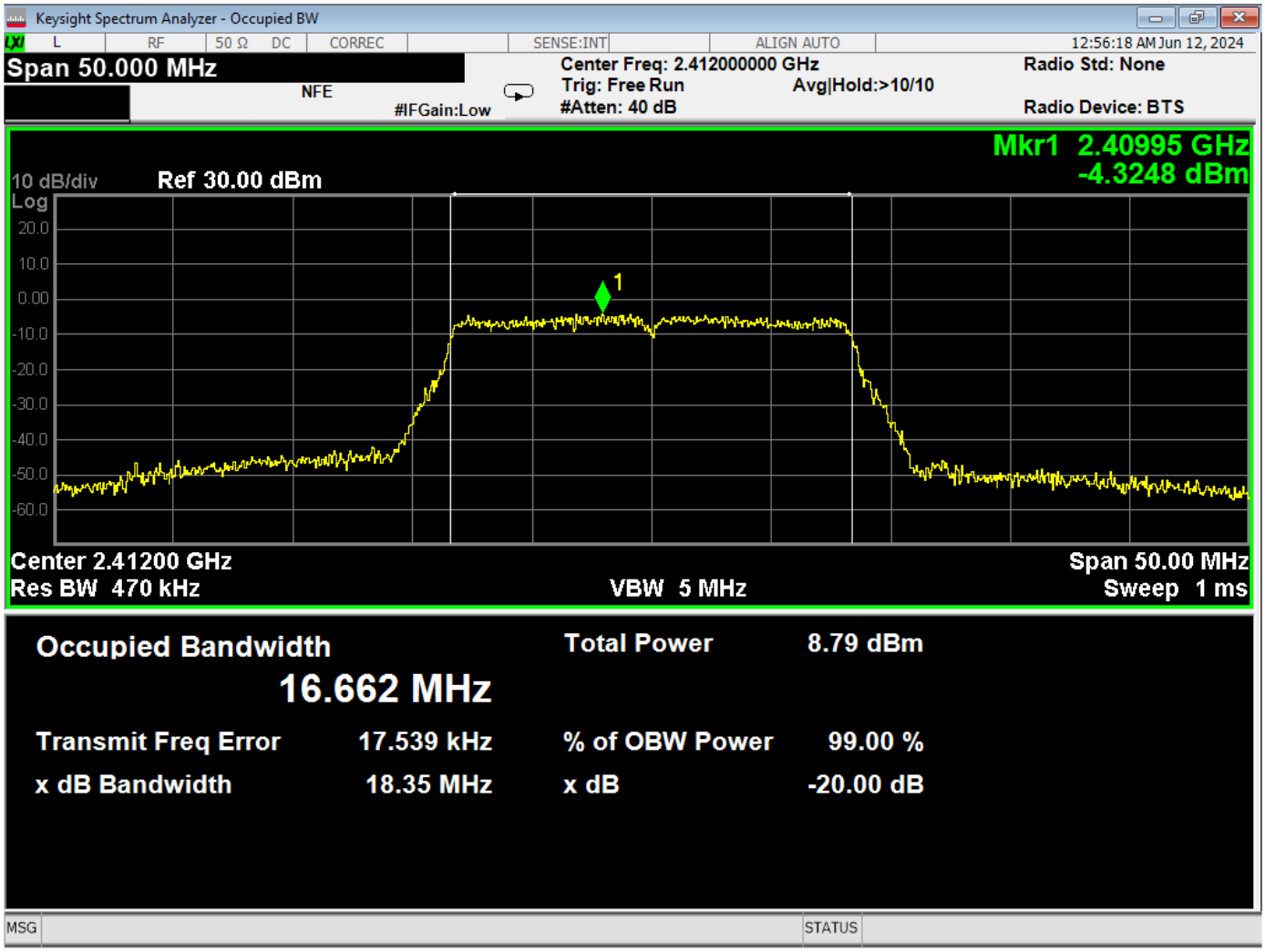
99% Bandwidth – Low Channel – 802.11b Mode – RedPine



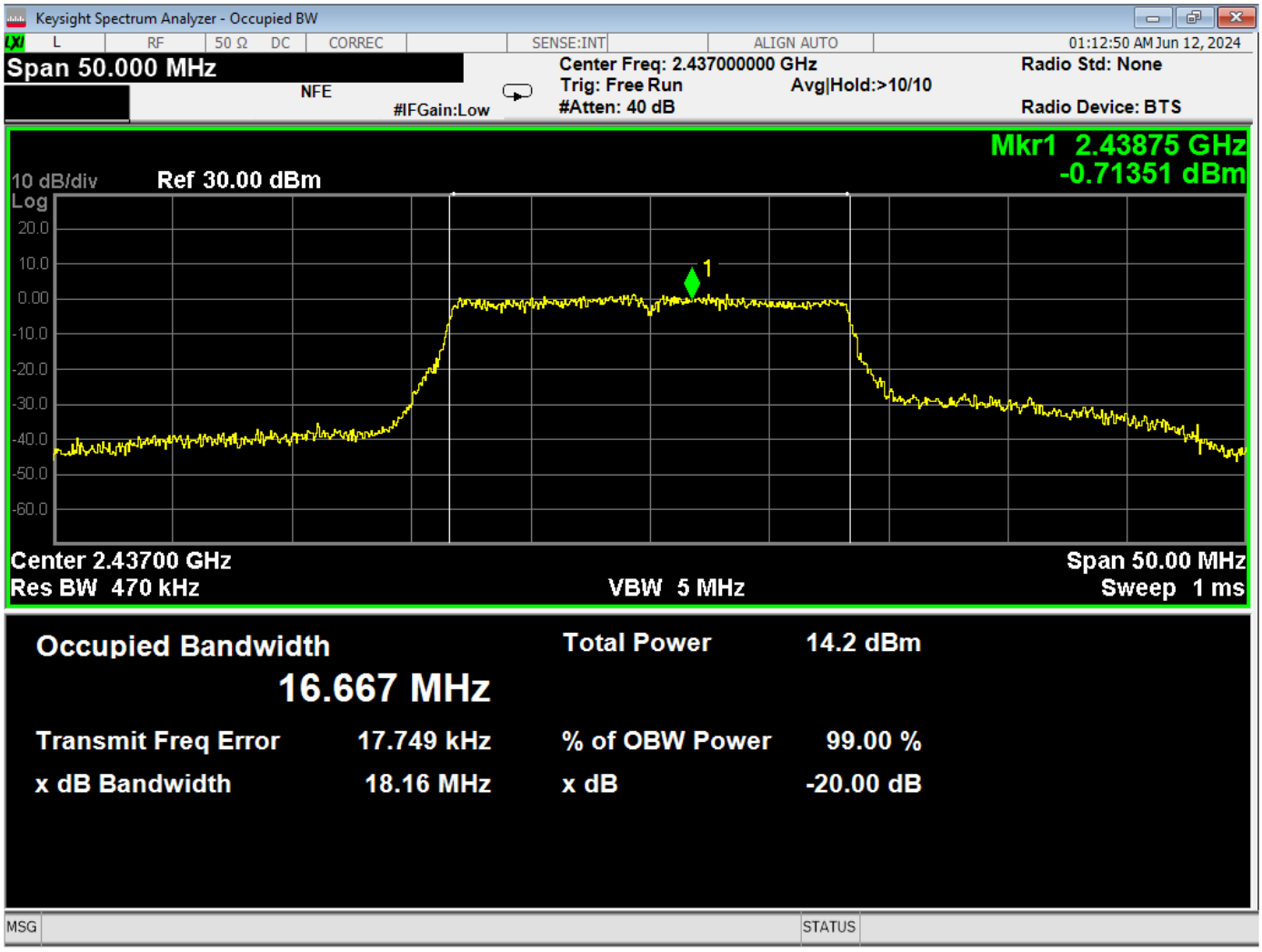
99% Bandwidth – Middle Channel – 802.11b Mode – RedPine



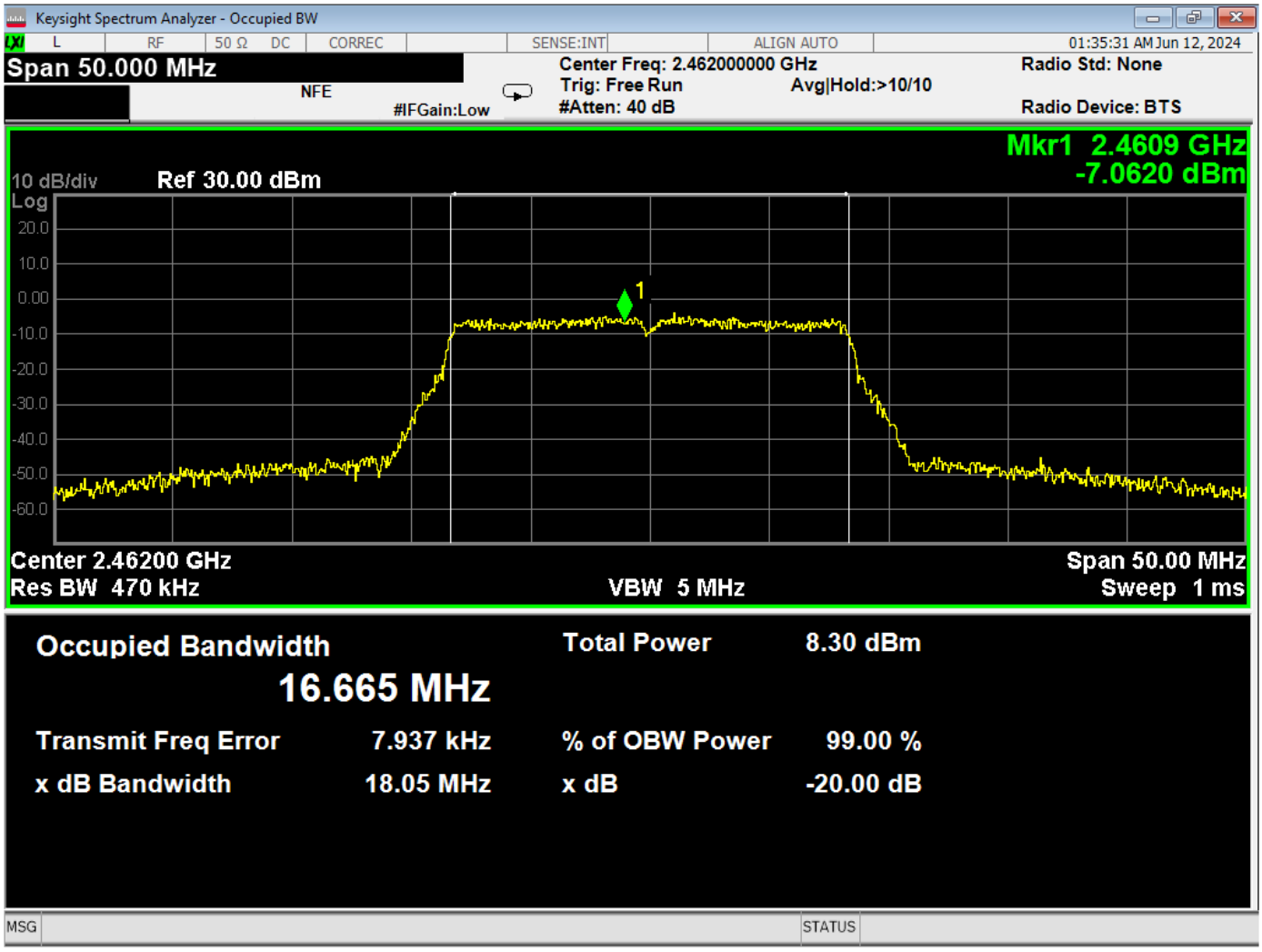
99% Bandwidth – High Channel – 802.11b Mode – RedPine



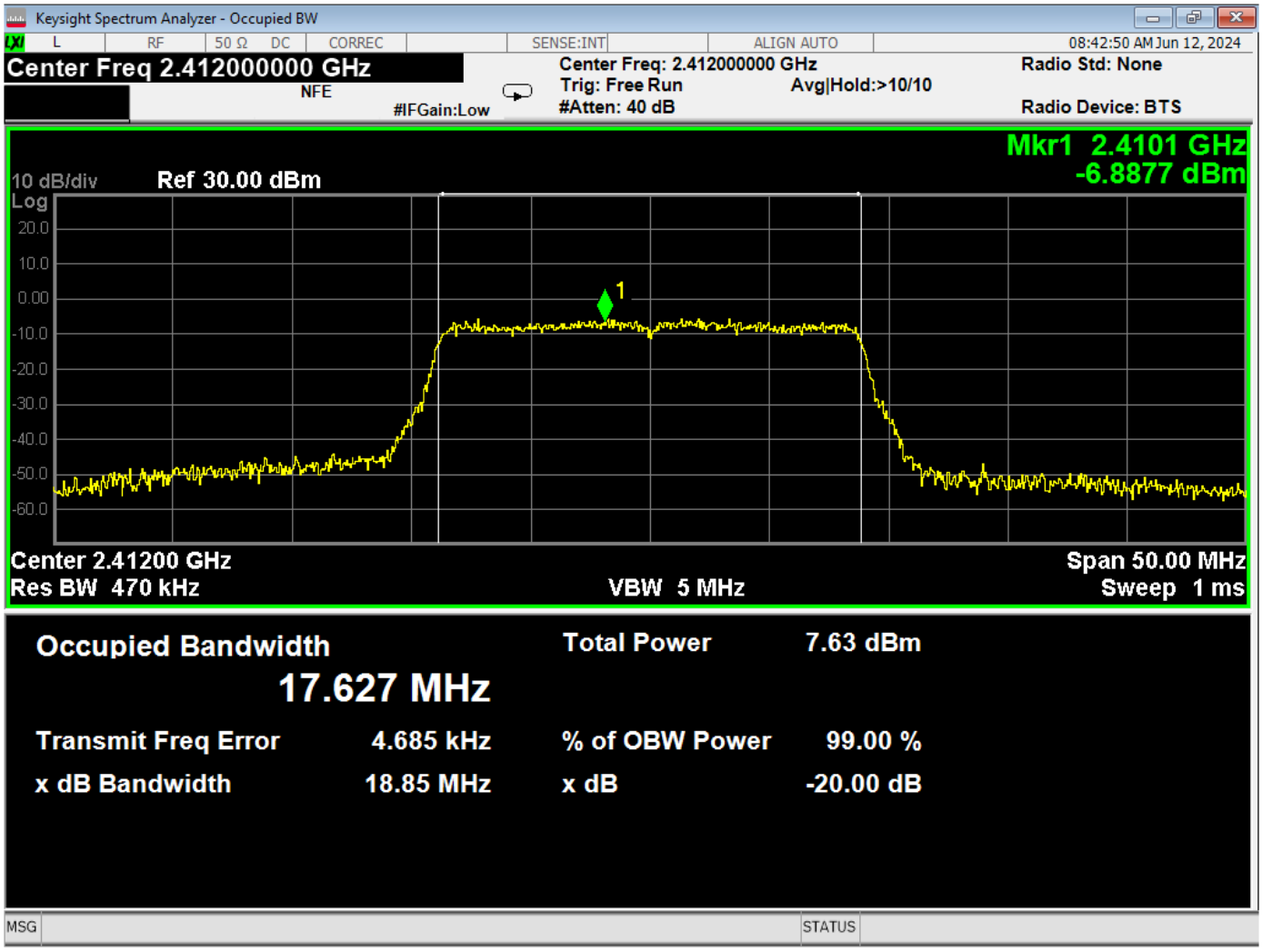
99% Bandwidth – Low Channel – 802.11g Mode – RedPine



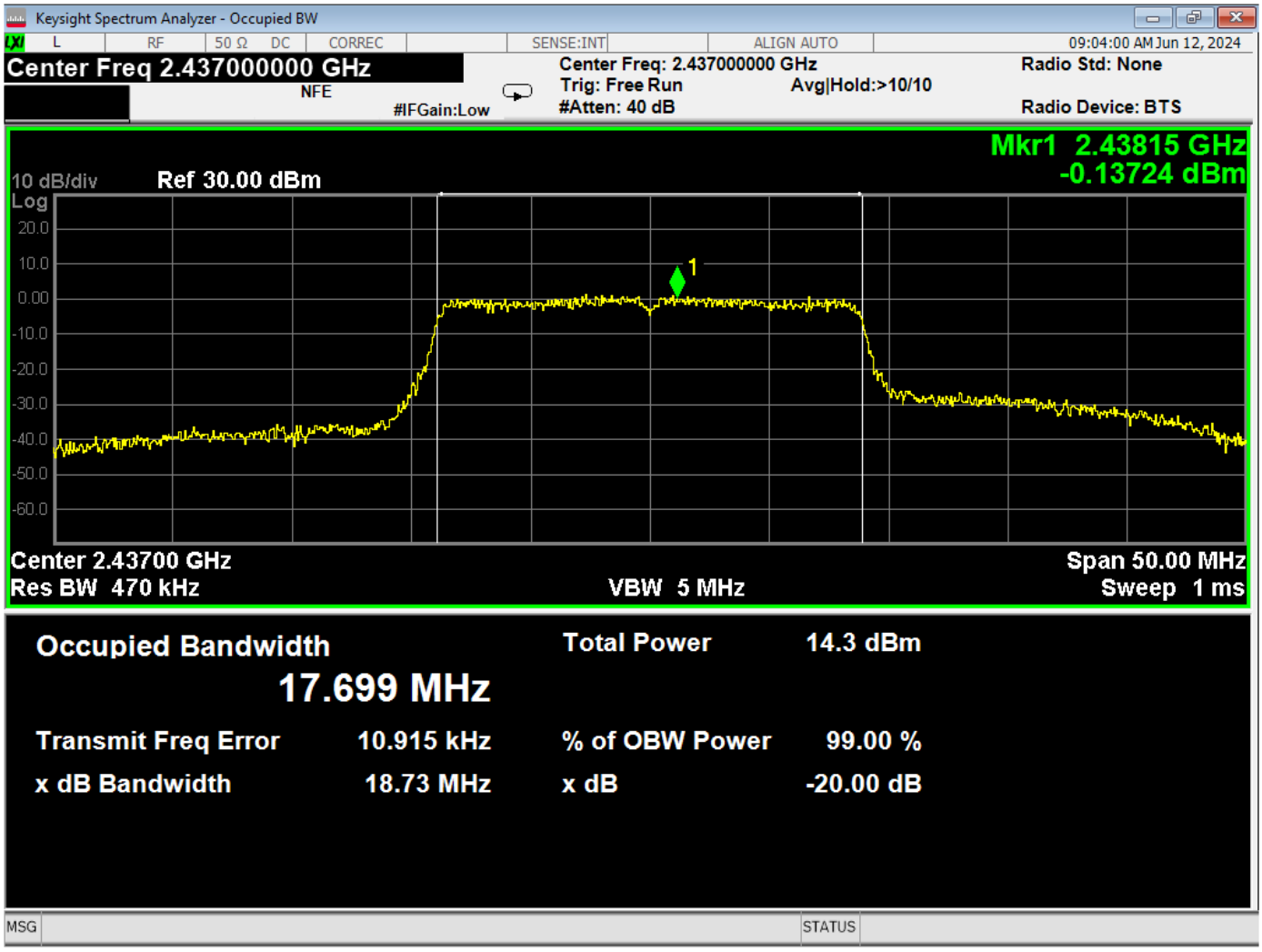
99% Bandwidth – Middle Channel – 802.11g Mode – RedPine



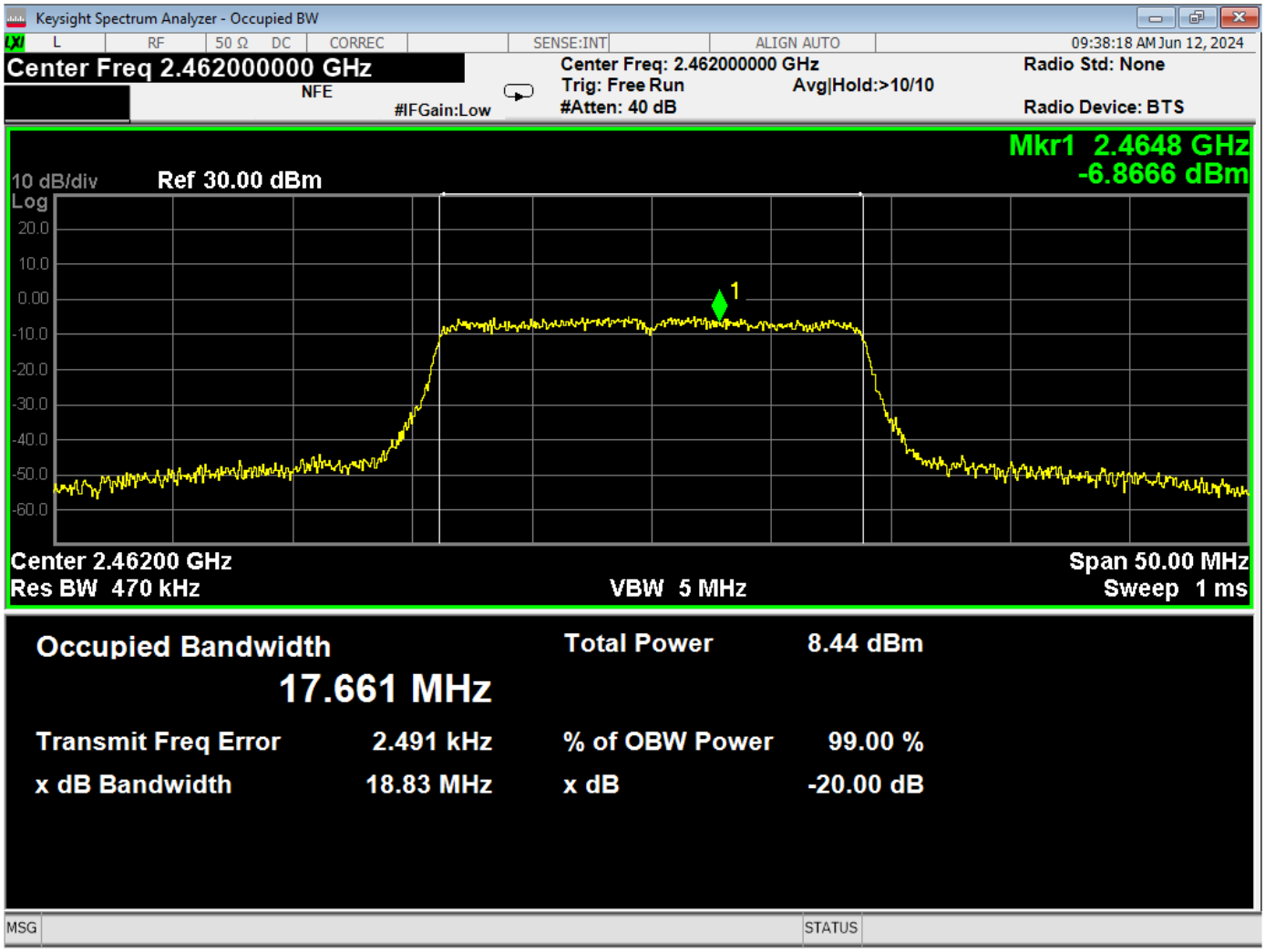
99% Bandwidth – High Channel – 802.11g Mode – RedPine



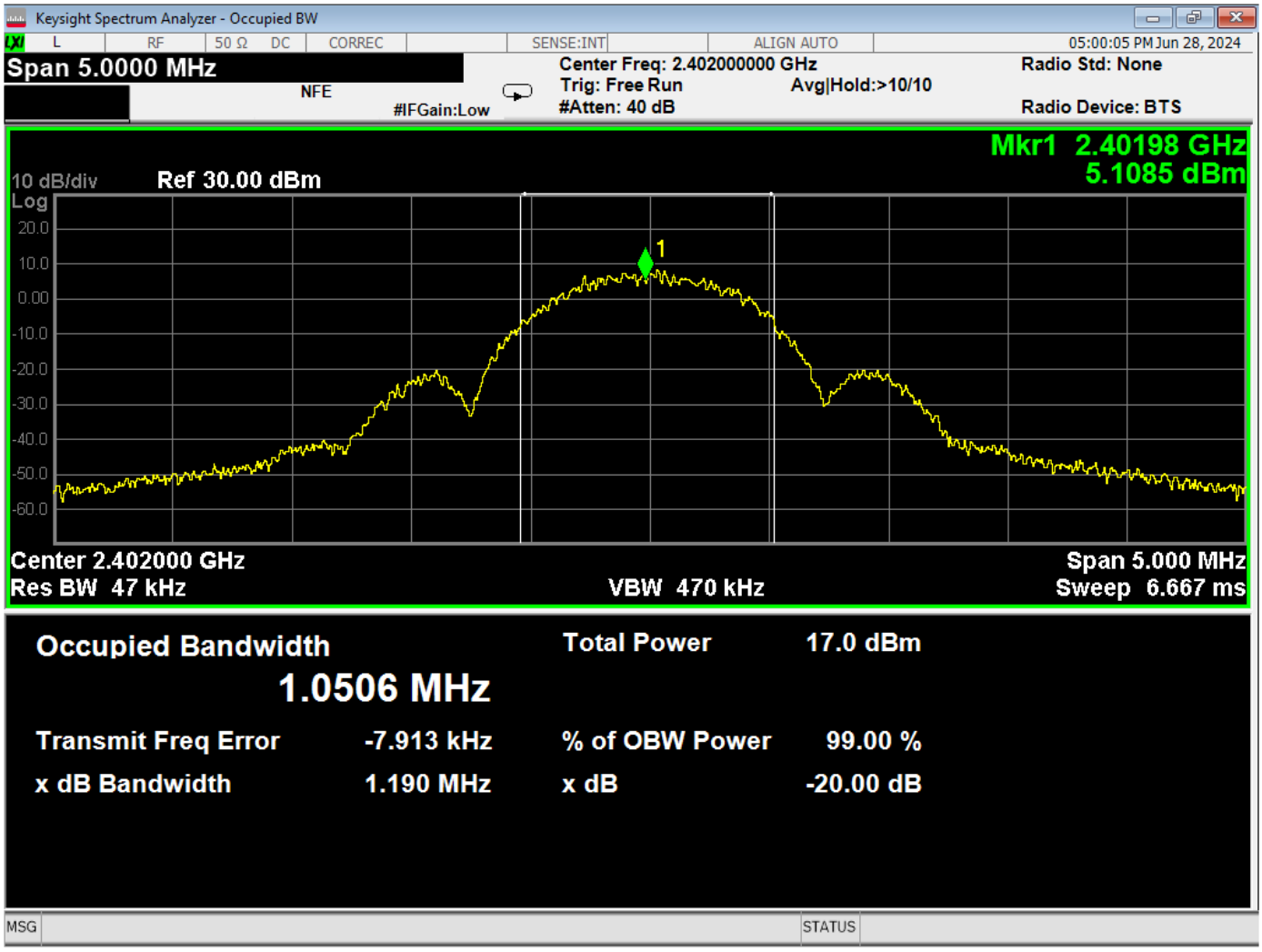
99% Bandwidth – Low Channel – 802.11n Mode – RedPine



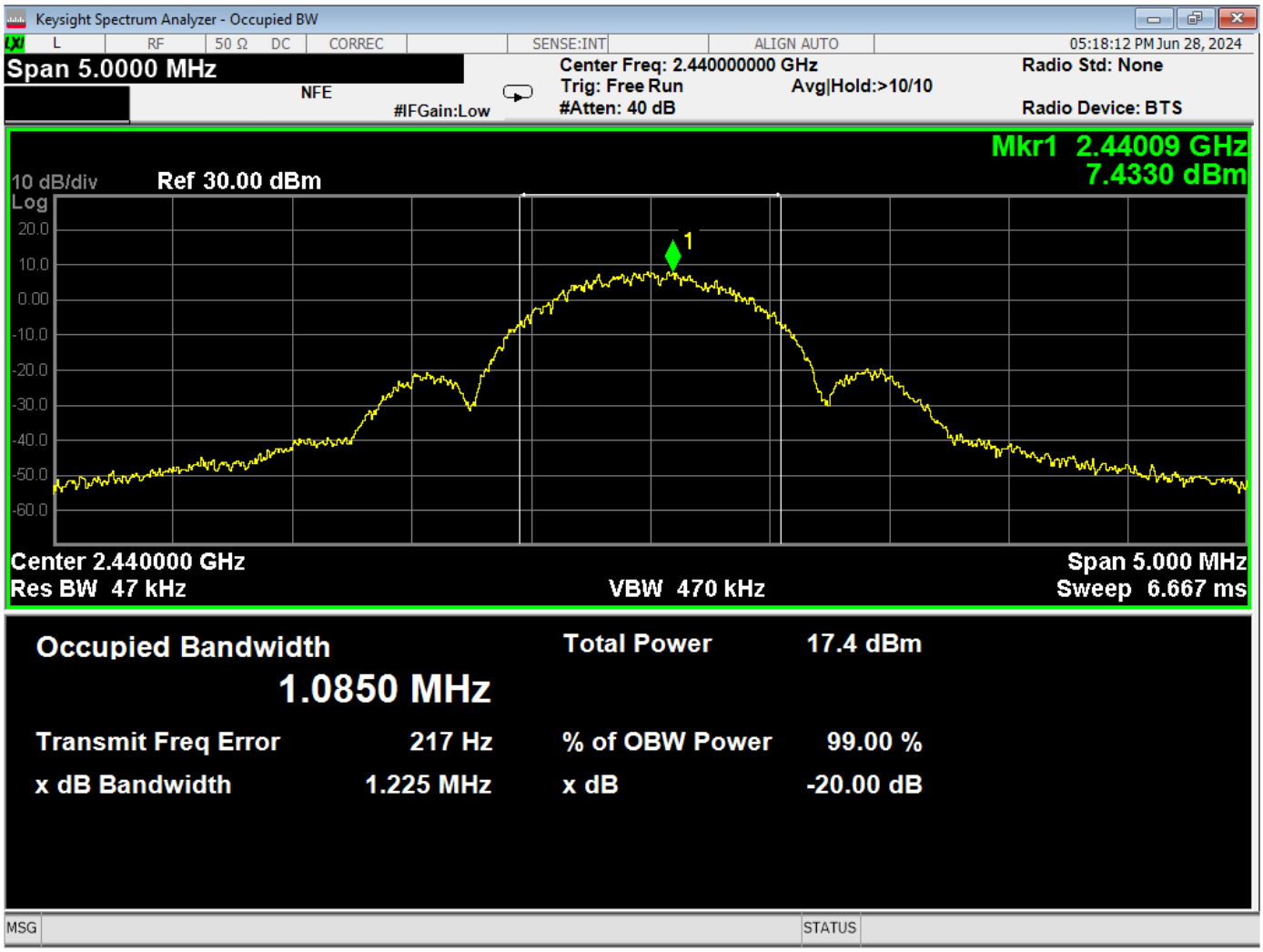
99% Bandwidth – Middle Channel – 802.11n Mode – RedPine



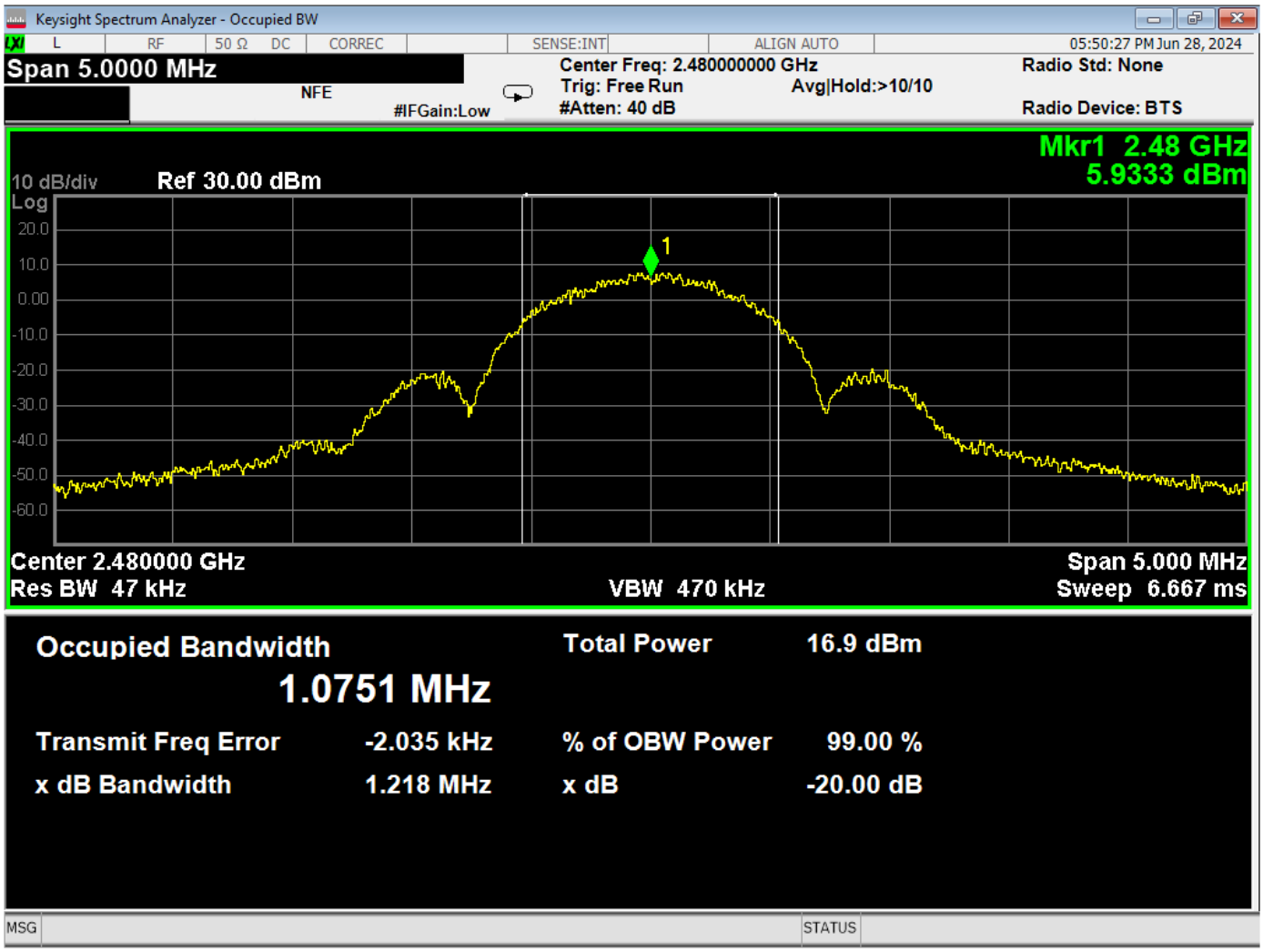
99% Bandwidth – High Channel – 802.11n Mode – RedPine



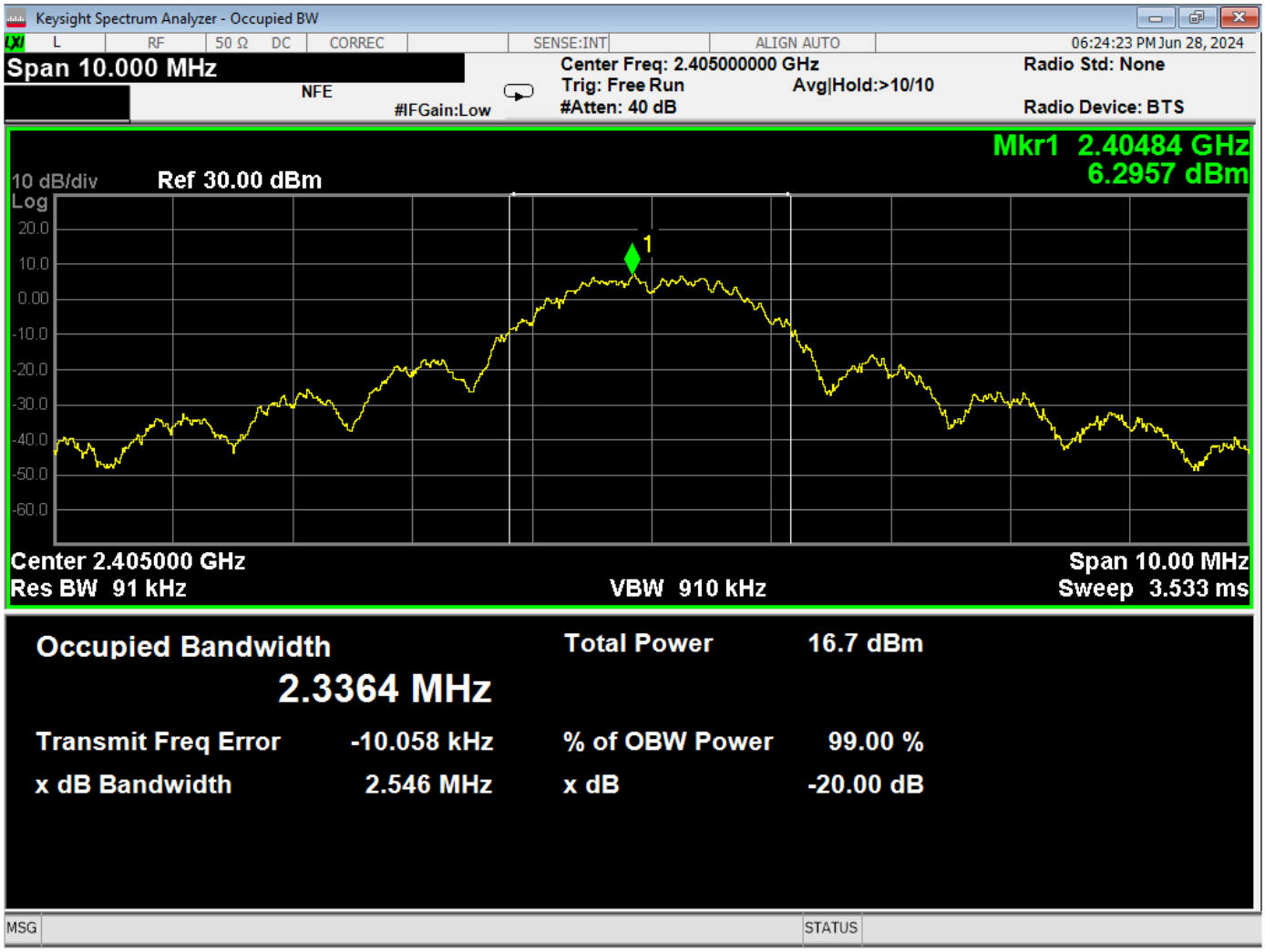
99% Bandwidth – Low Channel – BLE – Nordic



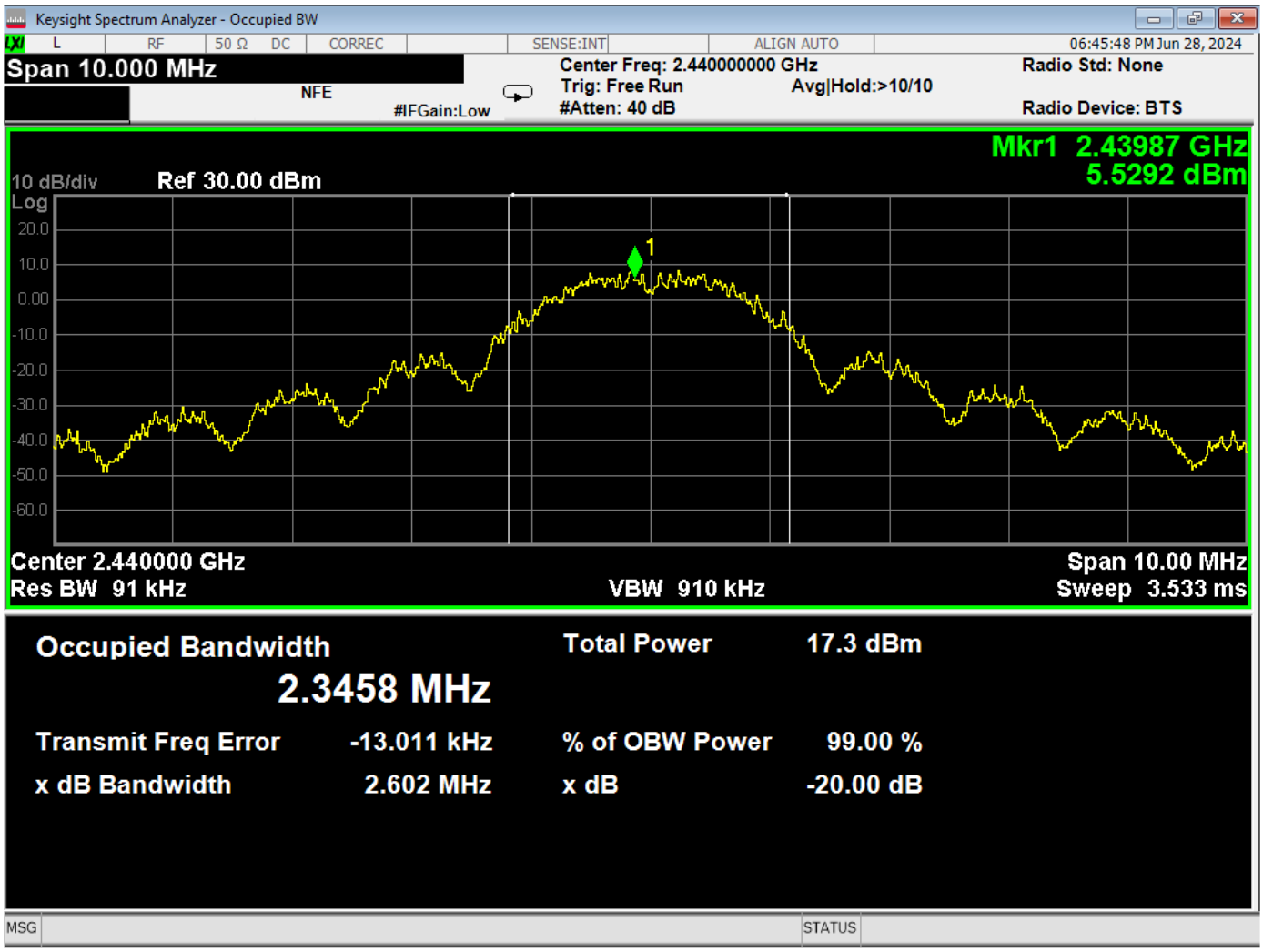
99% Bandwidth – Middle Channel – BLE – Nordic



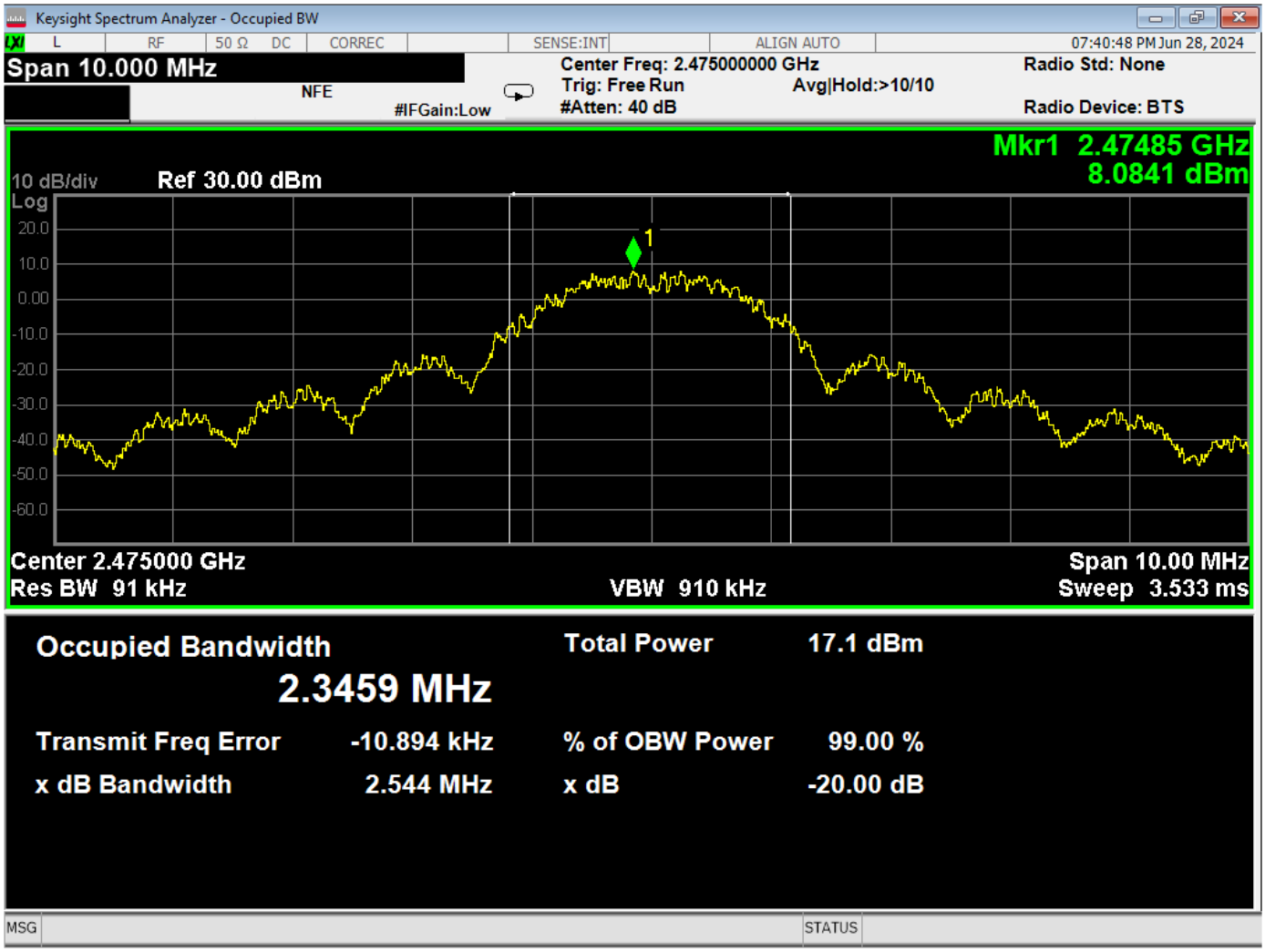
99% Bandwidth – High Channel – BLE – Nordic



99% Bandwidth – Low Channel – Thread – Nordic



99% Bandwidth – Middle Channel – Thread – Nordic



99% Bandwidth – High Channel – Thread – Nordic