



Appendix A

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Smart Card

Test Model: BS-3514AA

Environmental Conditions

Temperature:	23.1° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng





A.1 -6dB Bandwidth

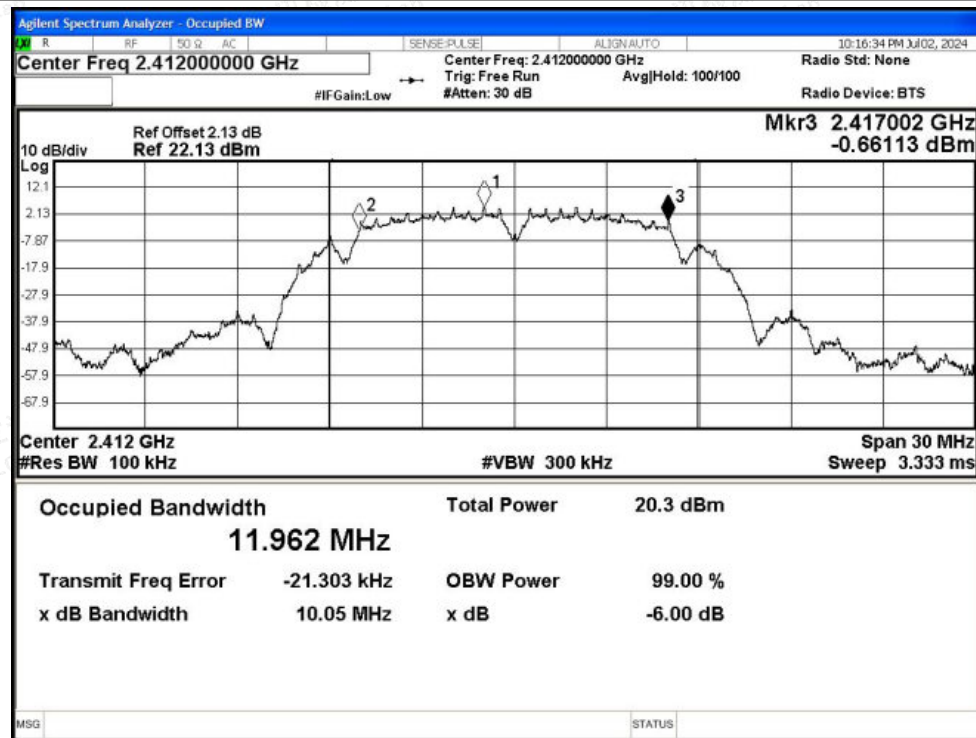
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
HVHT	b	2412	Ant1	10.046	≥ 0.5	Pass
HVHT	b	2437	Ant1	10.063	≥ 0.5	Pass
HVHT	b	2462	Ant1	10.068	≥ 0.5	Pass
HVHT	g	2412	Ant1	16.311	≥ 0.5	Pass
HVHT	g	2437	Ant1	16.306	≥ 0.5	Pass
HVHT	g	2462	Ant1	16.01	≥ 0.5	Pass
HVHT	n20	2412	Ant1	16.575	≥ 0.5	Pass
HVHT	n20	2437	Ant1	16.86	≥ 0.5	Pass
HVHT	n20	2462	Ant1	16.816	≥ 0.5	Pass
HVHT	n40	2422	Ant1	35.583	≥ 0.5	Pass
HVHT	n40	2437	Ant1	35.364	≥ 0.5	Pass
HVHT	n40	2452	Ant1	35.724	≥ 0.5	Pass





Test Graphs

-6dB Bandwidth HVHT b 2412MHz Ant1

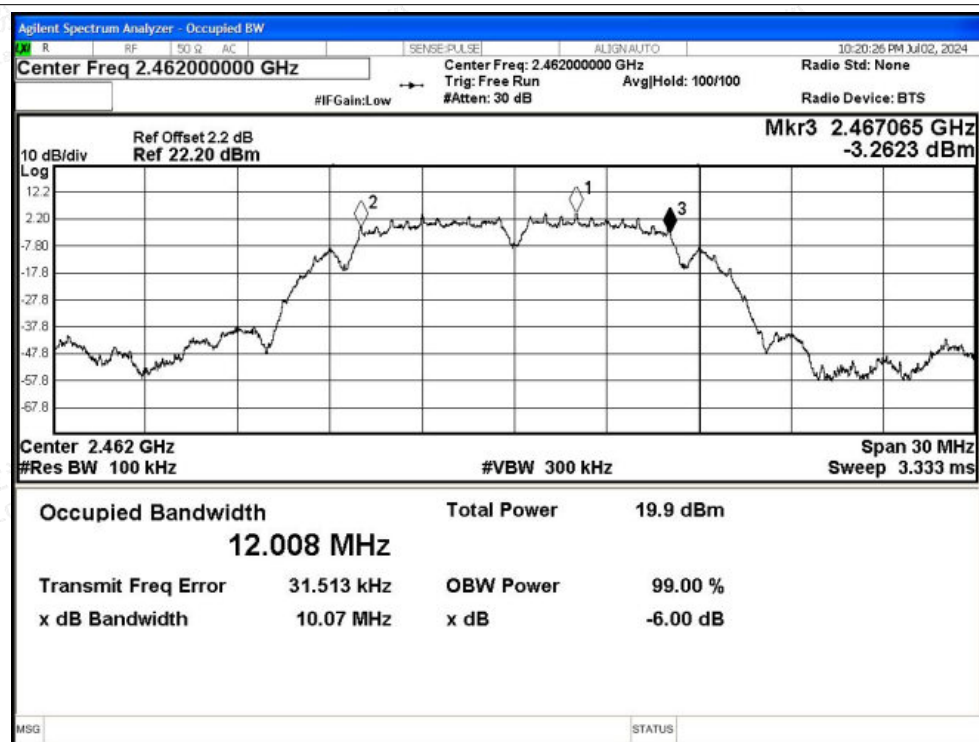


-6dB Bandwidth HVHT b 2437MHz Ant1

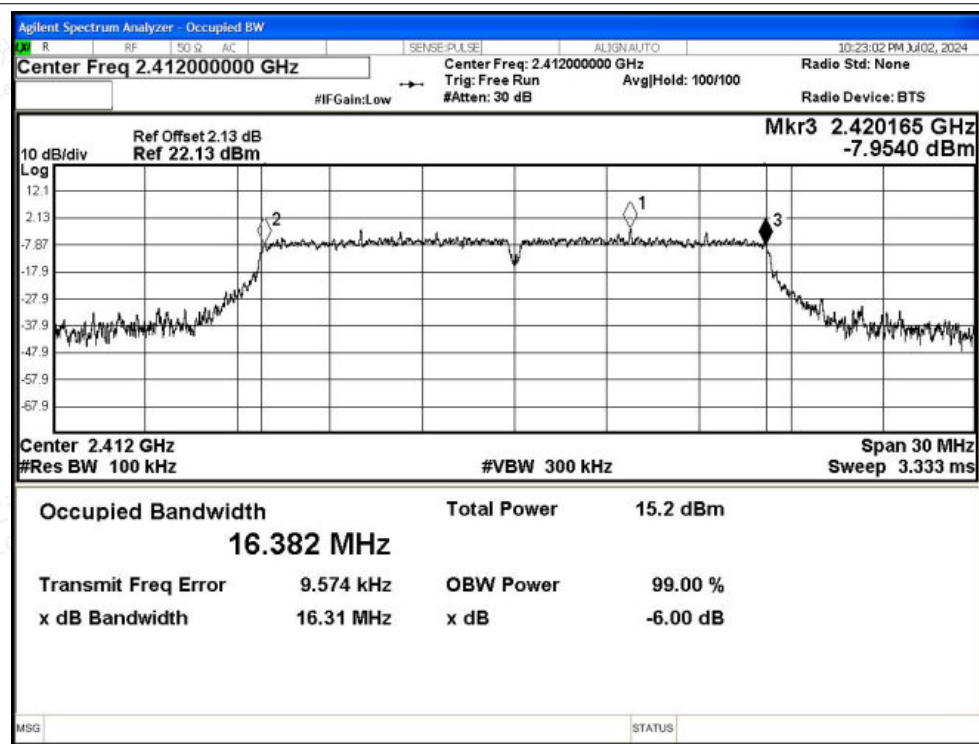




-6dB Bandwidth HVHT b 2462MHz Ant1

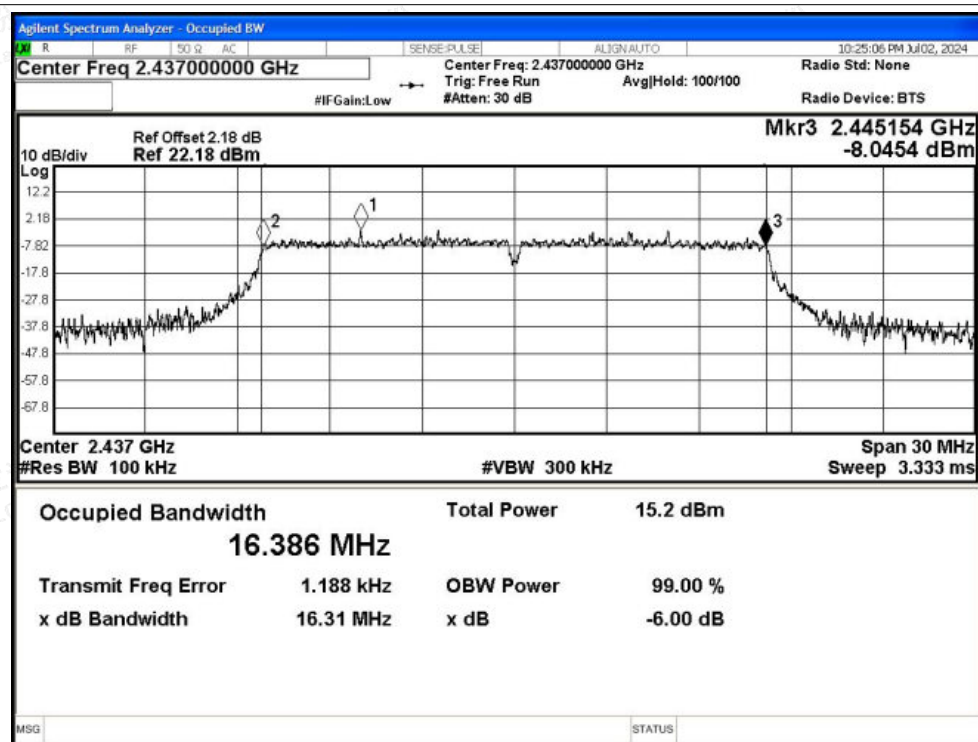


-6dB Bandwidth HVHT g 2412MHz Ant1

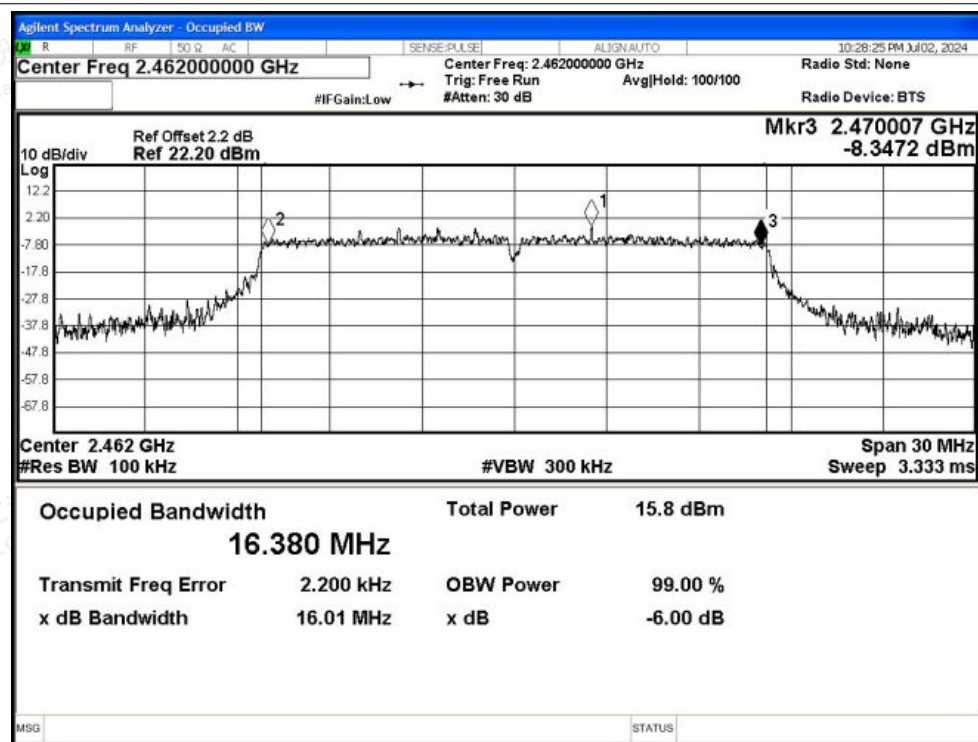




-6dB Bandwidth HVHT g 2437MHz Ant1

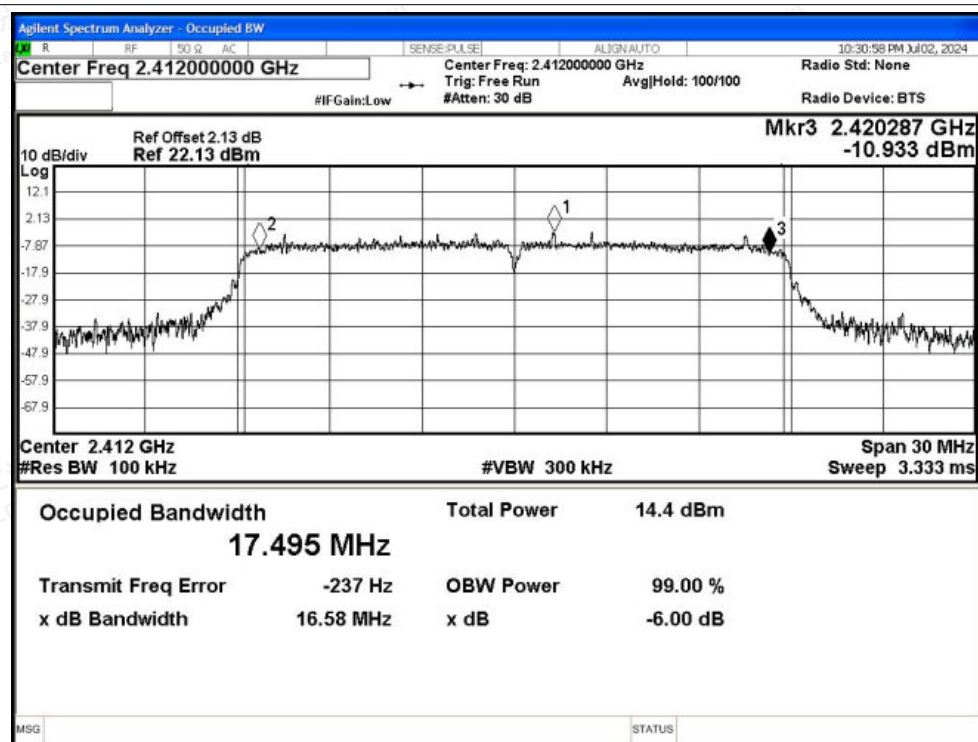


-6dB Bandwidth HVHT g 2462MHz Ant1

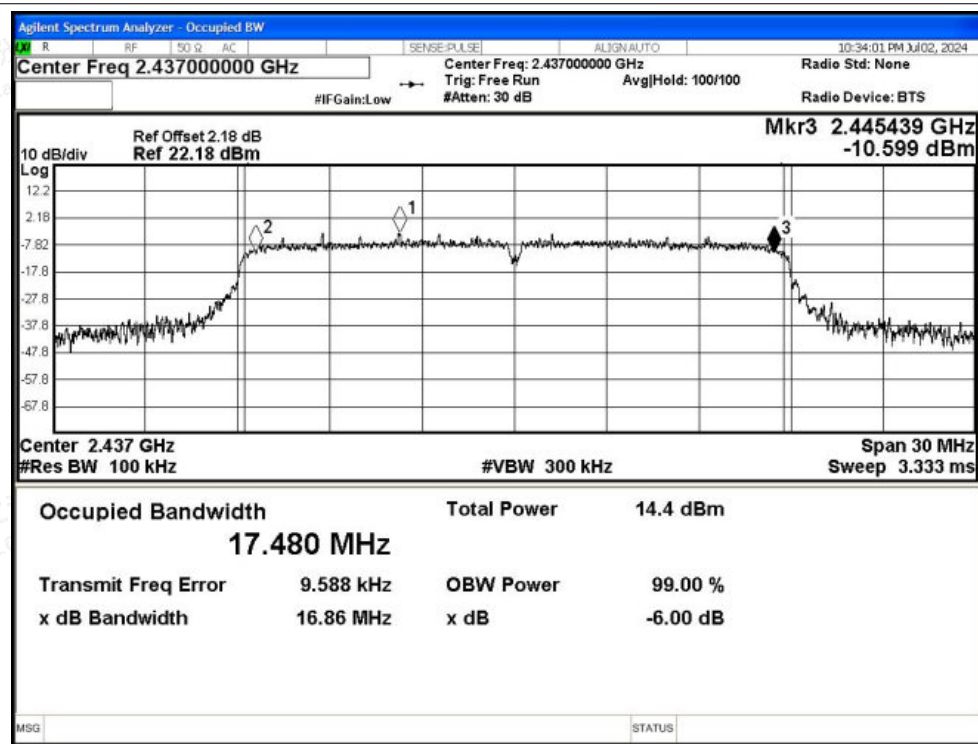




-6dB Bandwidth HVHT n20 2412MHz Ant1

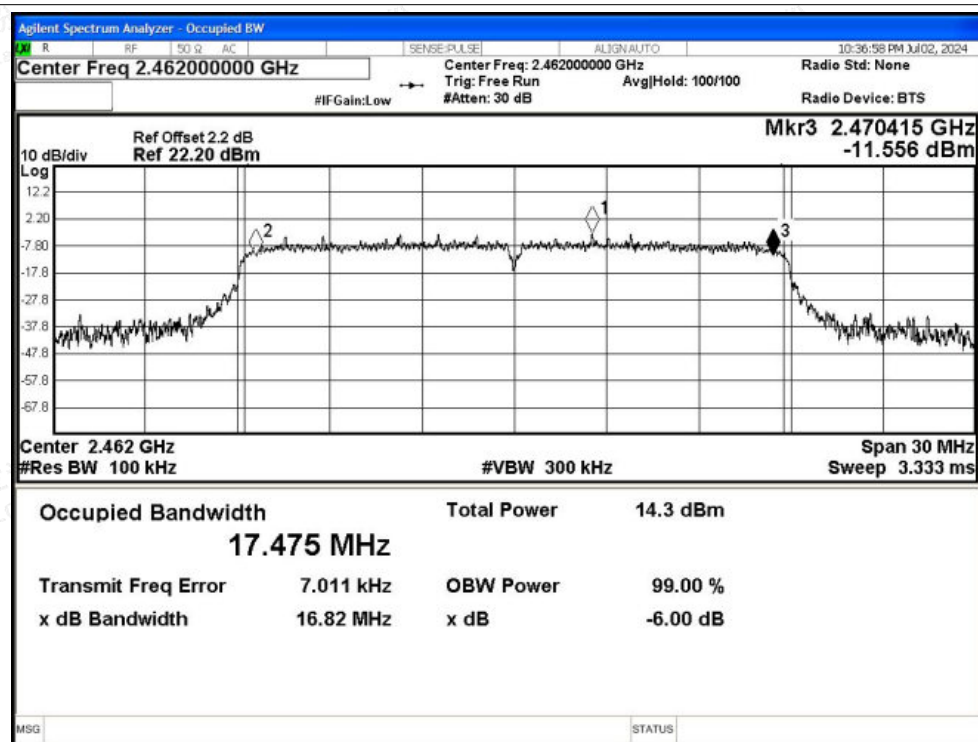


-6dB Bandwidth HVHT n20 2437MHz Ant1

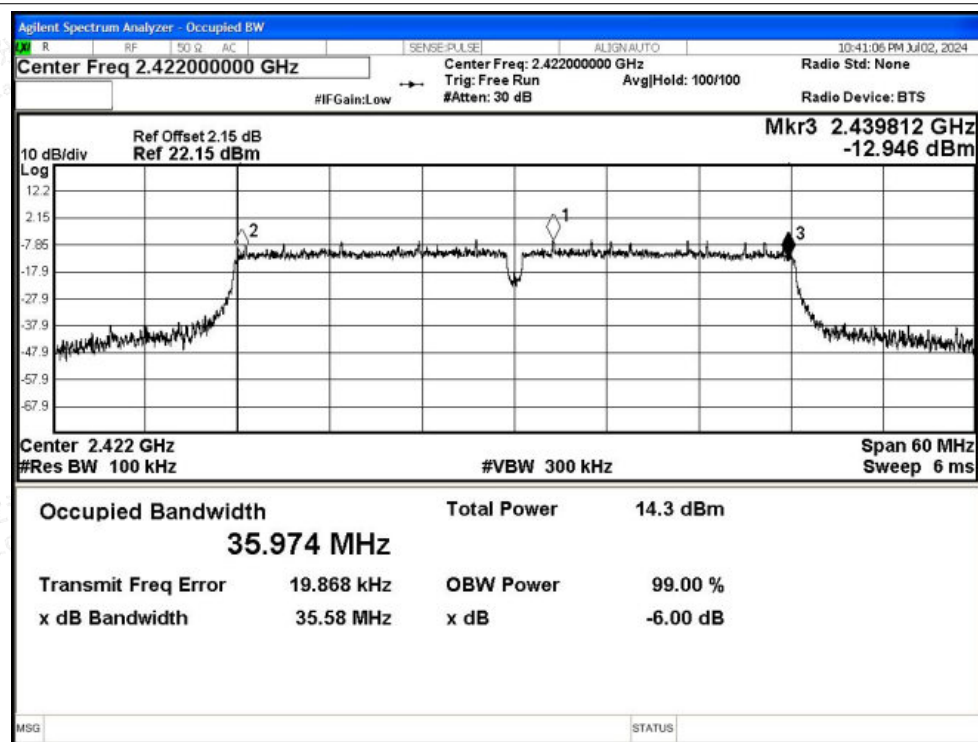




-6dB Bandwidth HVHT n20 2462MHz Ant1

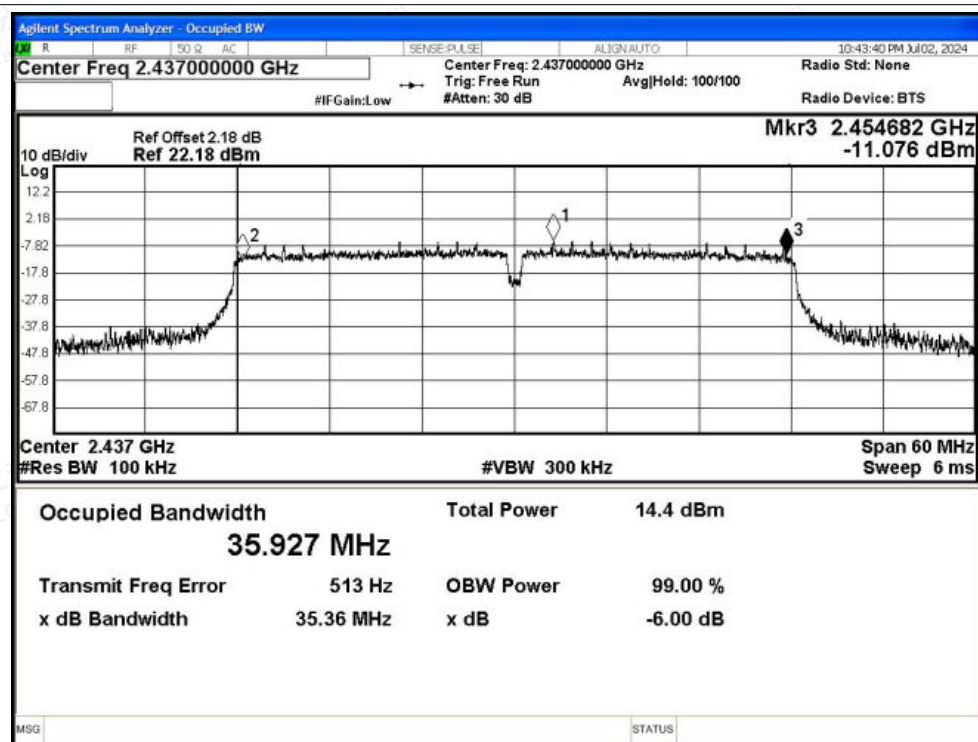


-6dB Bandwidth HVHT n40 2422MHz Ant1

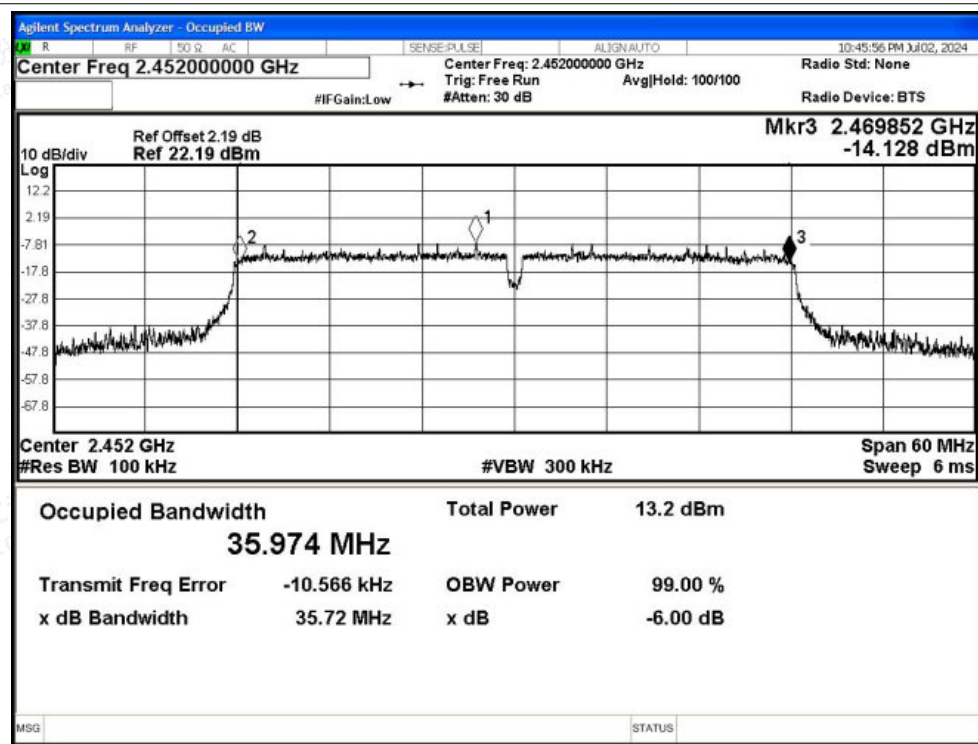




-6dB Bandwidth HVHT n40 2437MHz Ant1



-6dB Bandwidth HVHT n40 2452MHz Ant1





A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
HVHT	b	2412	Ant1	8.2	30	Pass
HVHT	b	2437	Ant1	8.14	30	Pass
HVHT	b	2462	Ant1	8.83	30	Pass
HVHT	g	2412	Ant1	8.01	30	Pass
HVHT	g	2437	Ant1	8.77	30	Pass
HVHT	g	2462	Ant1	8.43	30	Pass
HVHT	n20	2412	Ant1	7.86	30	Pass
HVHT	n20	2437	Ant1	7.03	30	Pass
HVHT	n20	2462	Ant1	6.83	30	Pass
HVHT	n40	2422	Ant1	7.67	30	Pass
HVHT	n40	2437	Ant1	7.82	30	Pass
HVHT	n40	2452	Ant1	6.63	30	Pass





A.3 Maximum Power Spectral Density Level

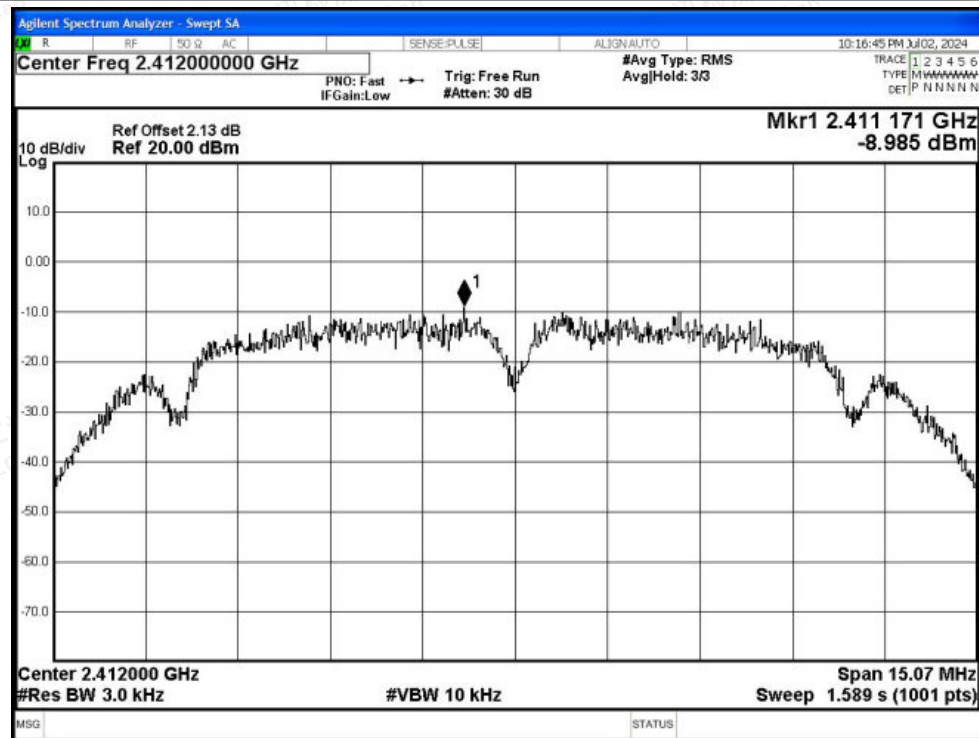
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
HVHT	b	2412	Ant1	-8.99	8	Pass
HVHT	b	2437	Ant1	-9.61	8	Pass
HVHT	b	2462	Ant1	-9.94	8	Pass
HVHT	g	2412	Ant1	-16.41	8	Pass
HVHT	g	2437	Ant1	-16.8	8	Pass
HVHT	g	2462	Ant1	-16.08	8	Pass
HVHT	n20	2412	Ant1	-16.87	8	Pass
HVHT	n20	2437	Ant1	-17.81	8	Pass
HVHT	n20	2462	Ant1	-18.14	8	Pass
HVHT	n40	2422	Ant1	-20.77	8	Pass
HVHT	n40	2437	Ant1	-21.11	8	Pass
HVHT	n40	2452	Ant1	-21.97	8	Pass



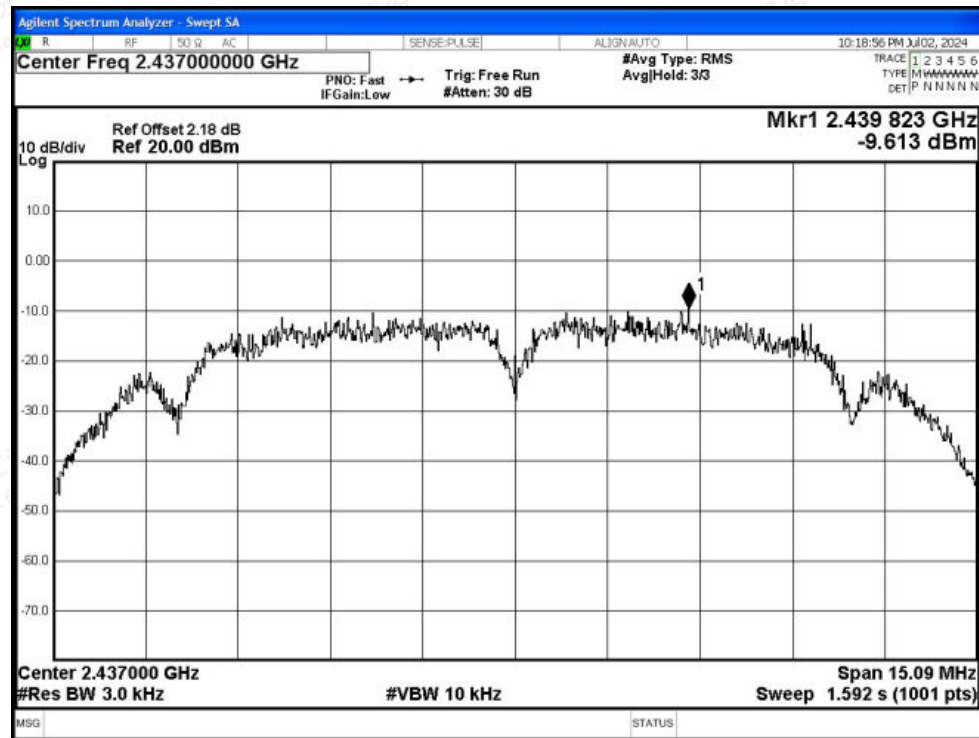


Test Graphs

PSD HVHT b 2412MHz Ant1

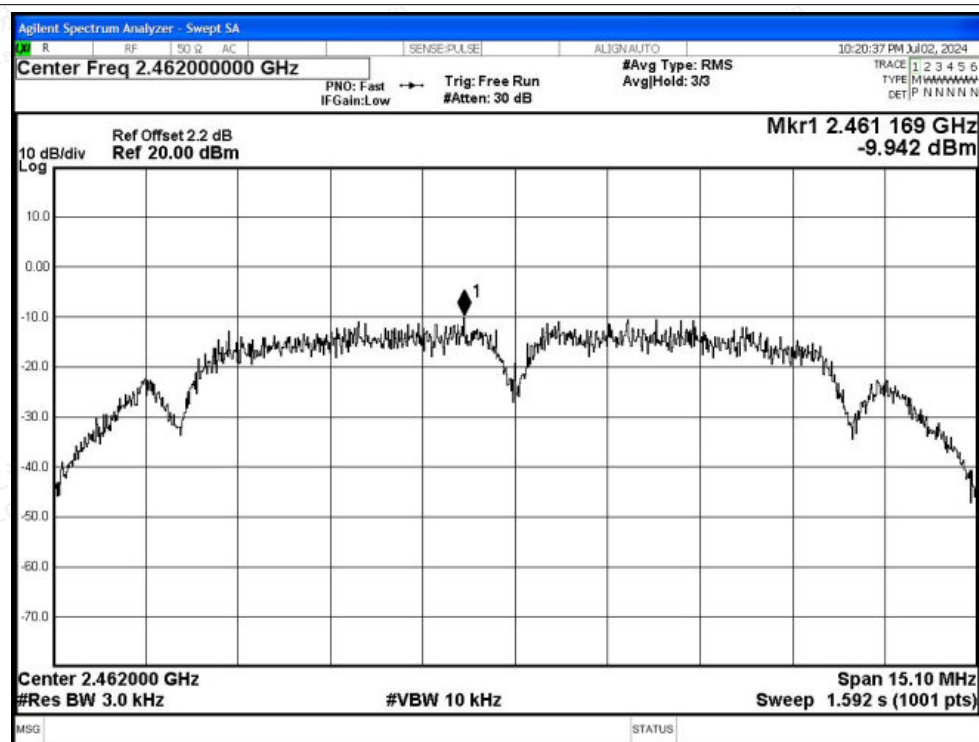


PSD HVHT b 2437MHz Ant1

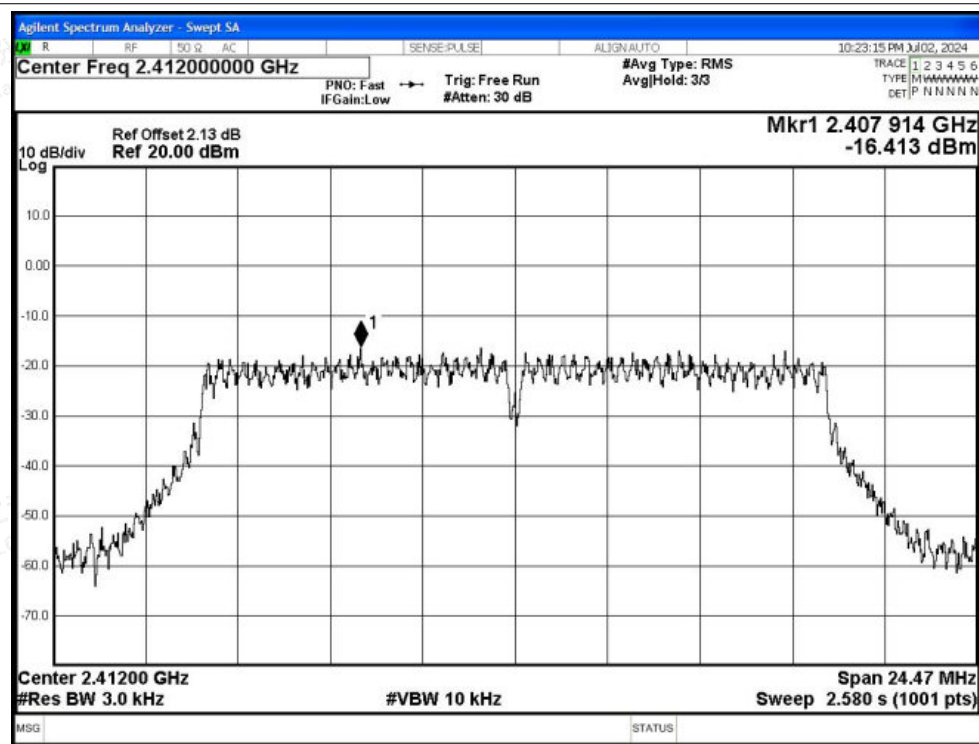




PSD HVHT b 2462MHz Ant1

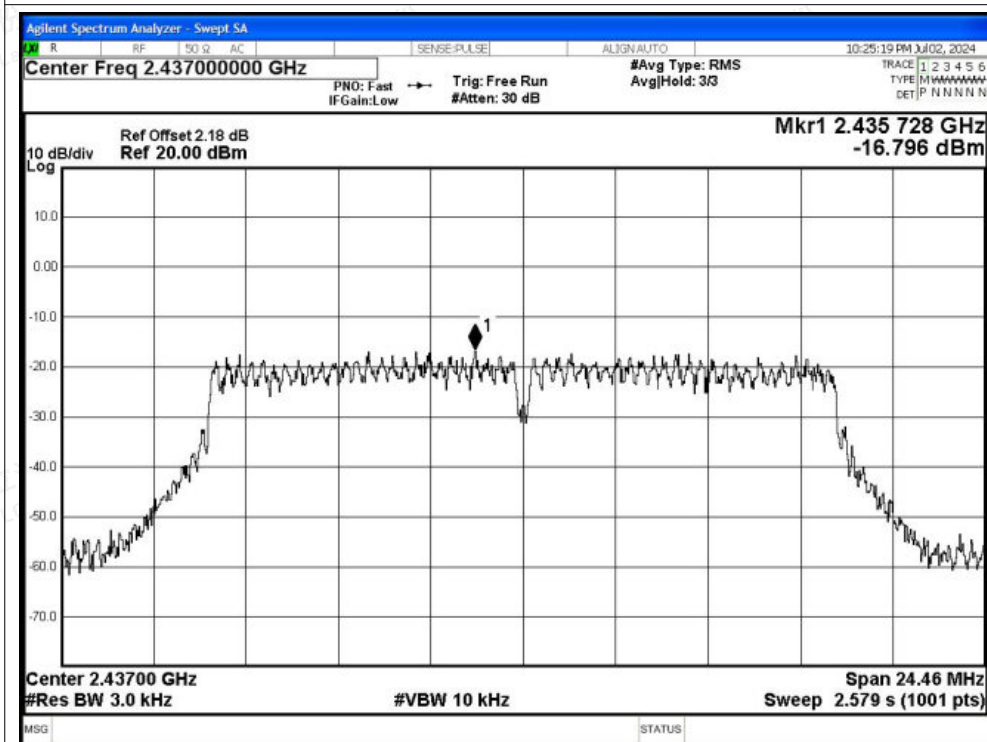


PSD HVHT g 2412MHz Ant1

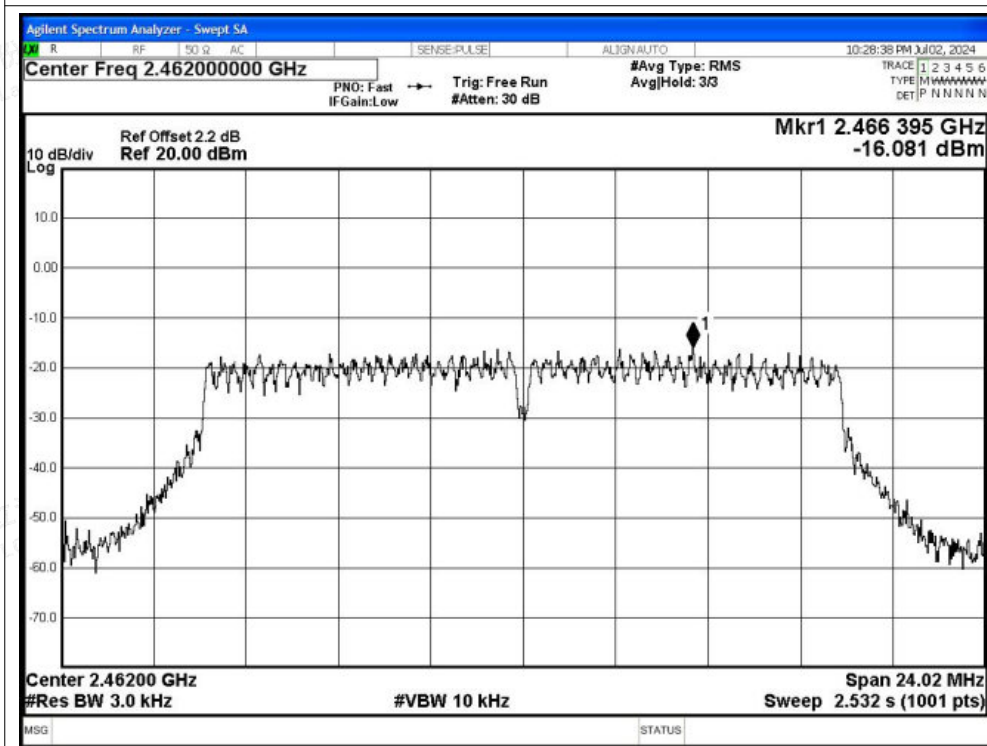


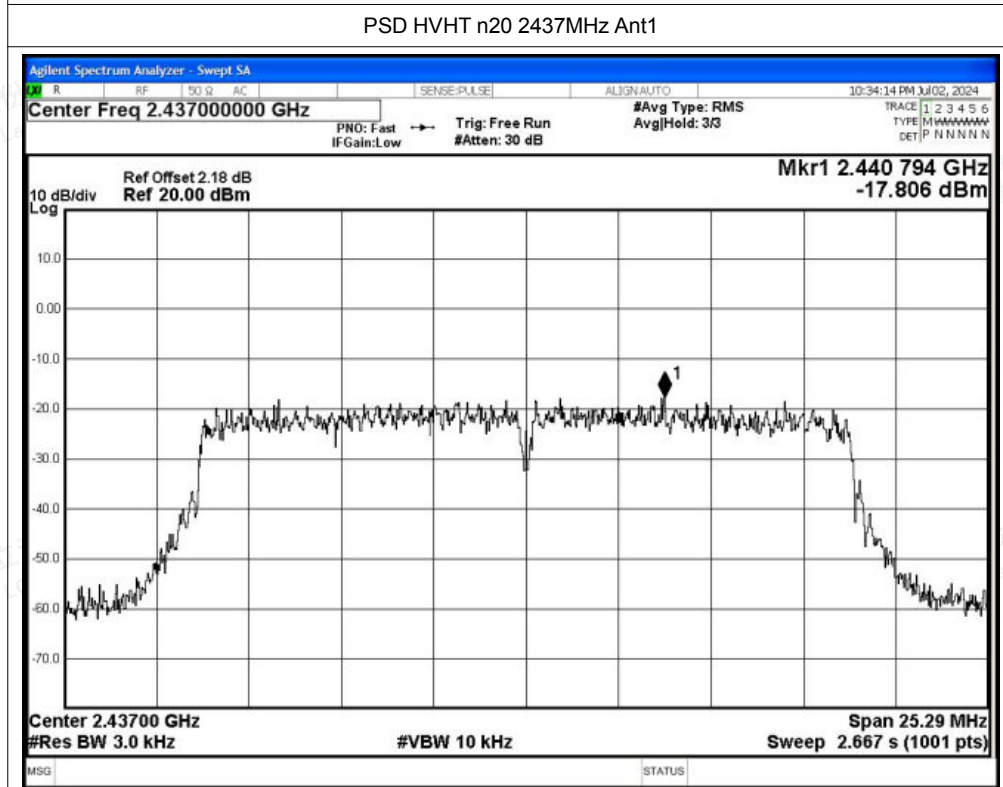
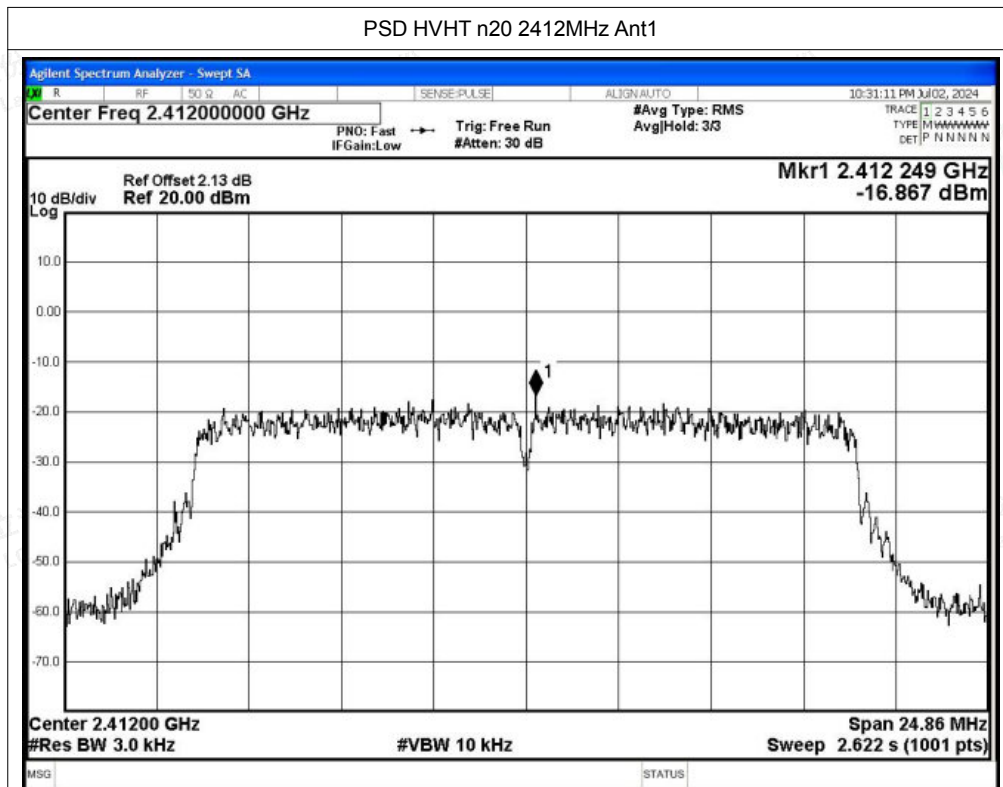


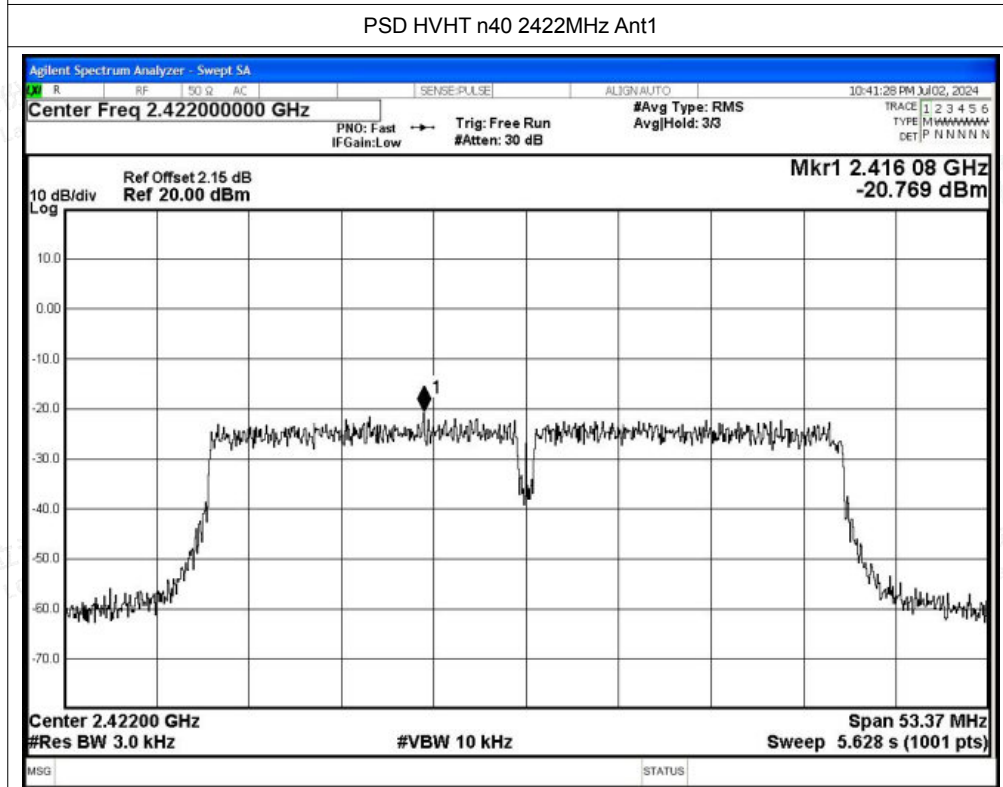
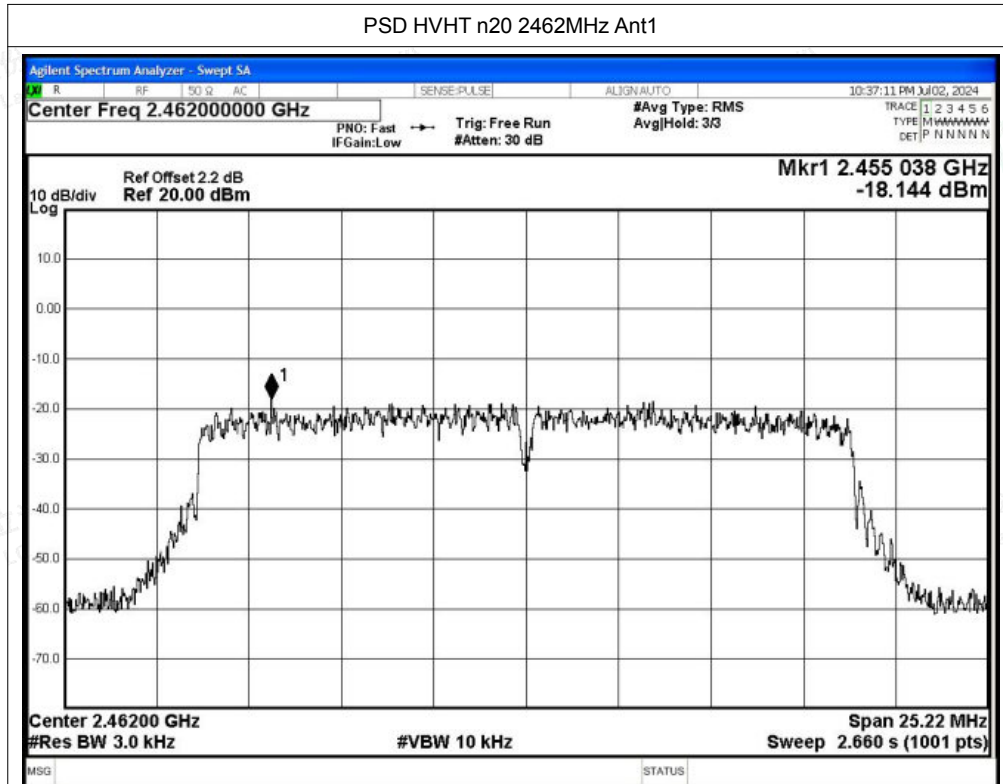
PSD HVHT g 2437MHz Ant1

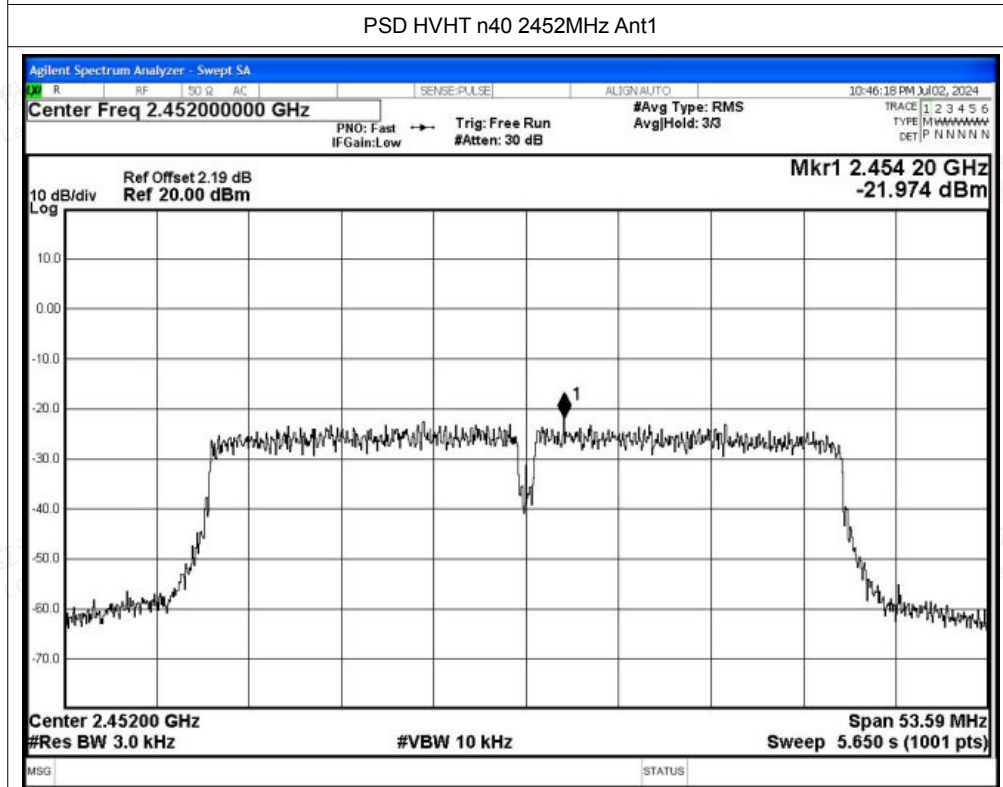
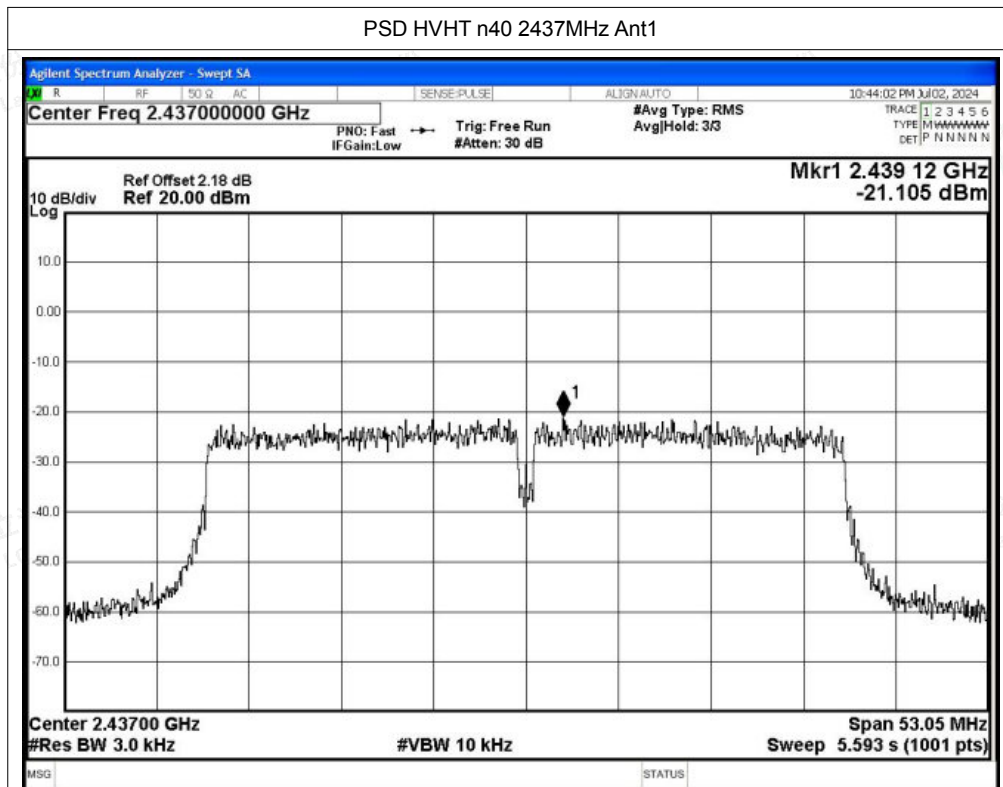


PSD HVHT g 2462MHz Ant1











A.4 Band Edge

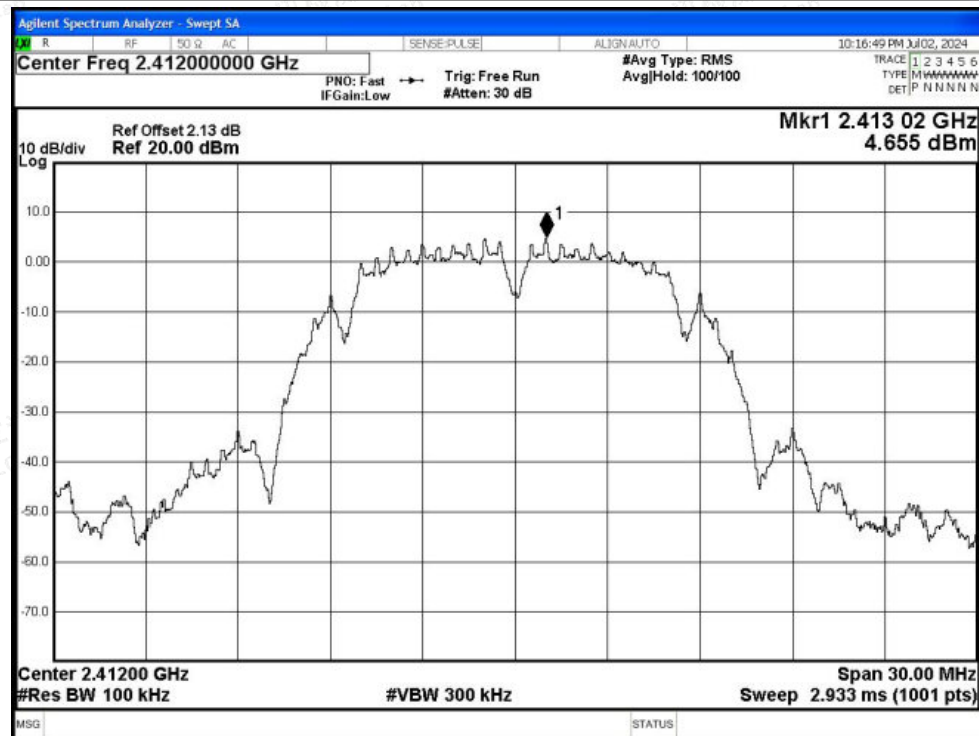
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
HVHT	b	2412	Ant1	-48.74	-20	Pass
HVHT	b	2462	Ant1	-54.87	-20	Pass
HVHT	g	2412	Ant1	-29.27	-20	Pass
HVHT	g	2462	Ant1	-44.04	-20	Pass
HVHT	n20	2412	Ant1	-29.9	-20	Pass
HVHT	n20	2462	Ant1	-43.62	-20	Pass
HVHT	n40	2422	Ant1	-32.33	-20	Pass
HVHT	n40	2452	Ant1	-39.02	-20	Pass



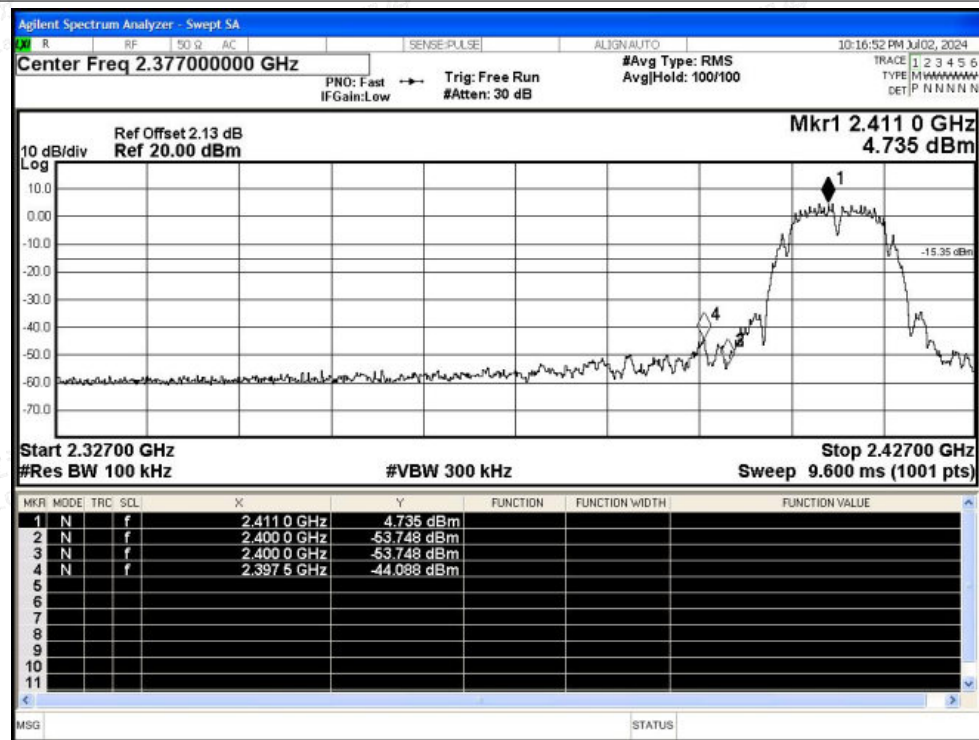


Test Graphs

Band Edge HVHT b 2412MHz Ant1 Ref

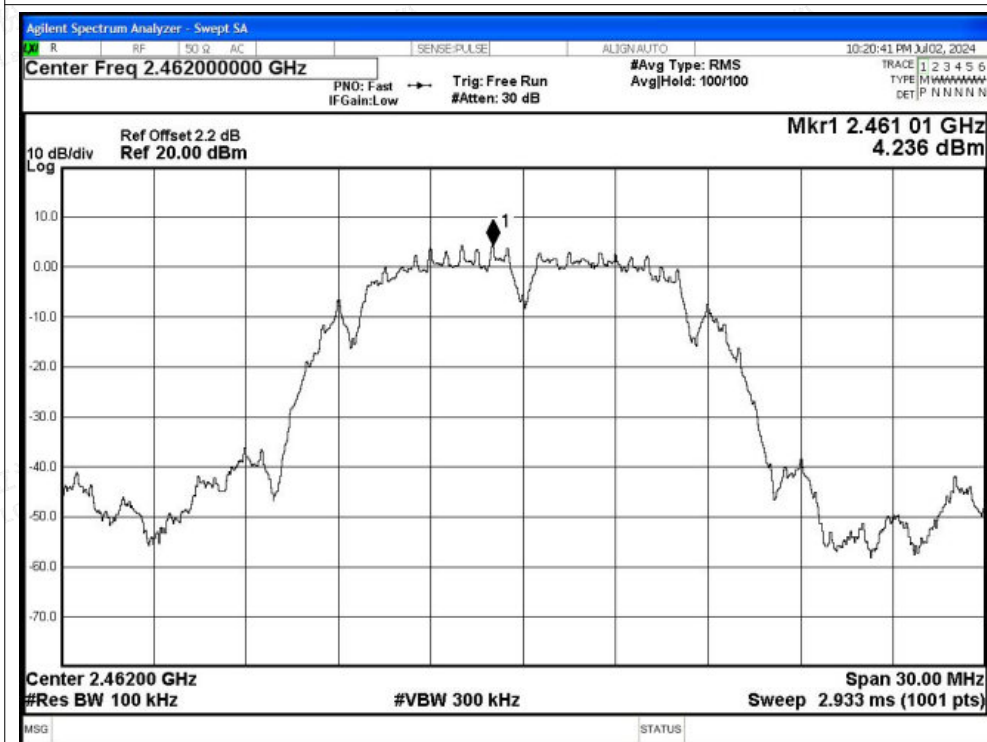


Band Edge HVHT b 2412MHz Ant1 Emission

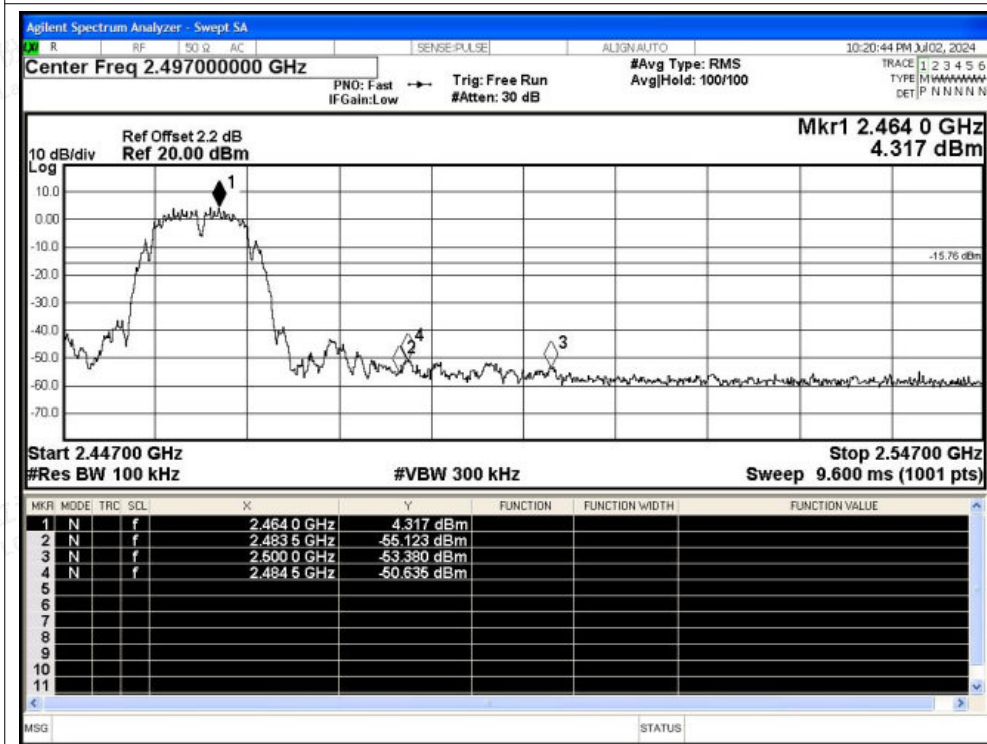




Band Edge HVHT b 2462MHz Ant1 Ref

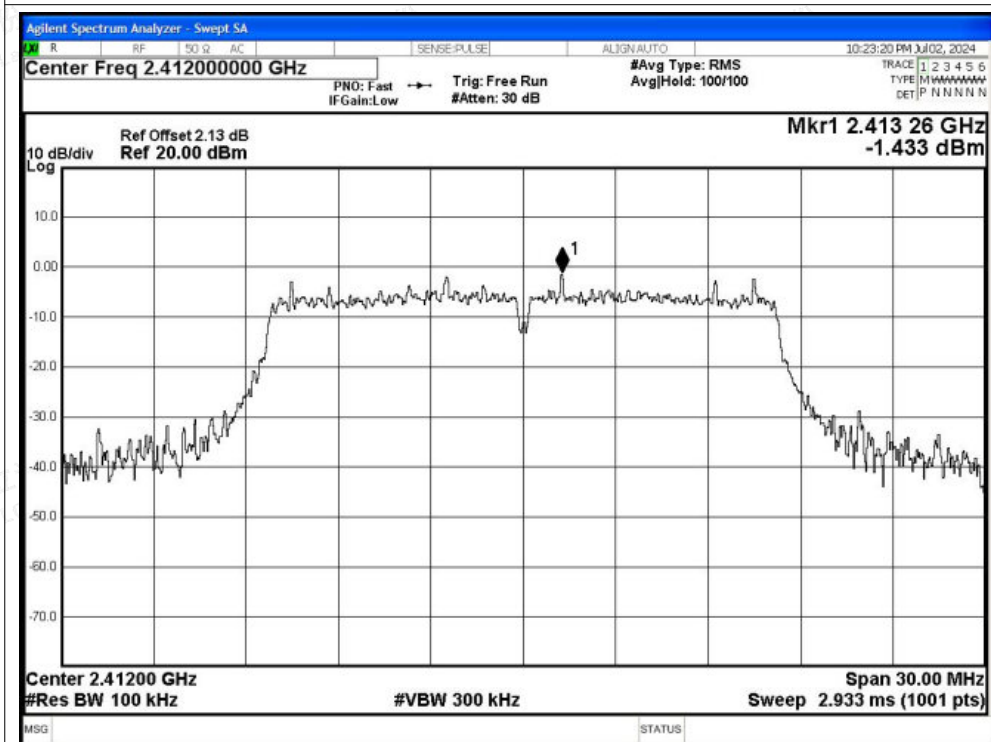


Band Edge HVHT b 2462MHz Ant1 Emission

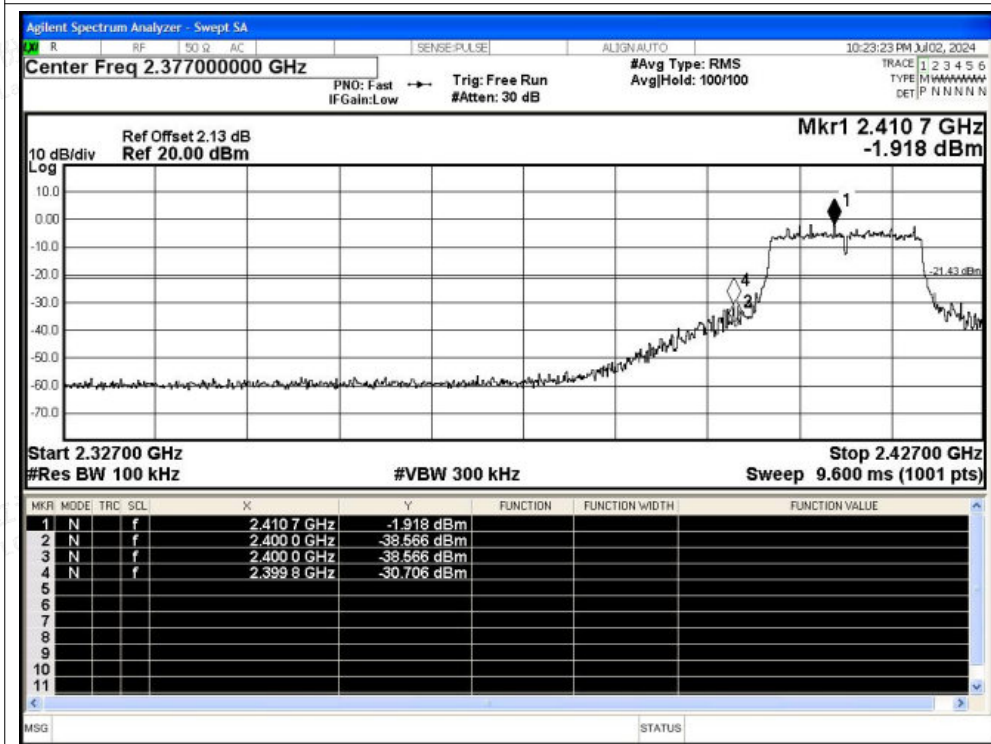




Band Edge HVHT g 2412MHz Ant1 Ref

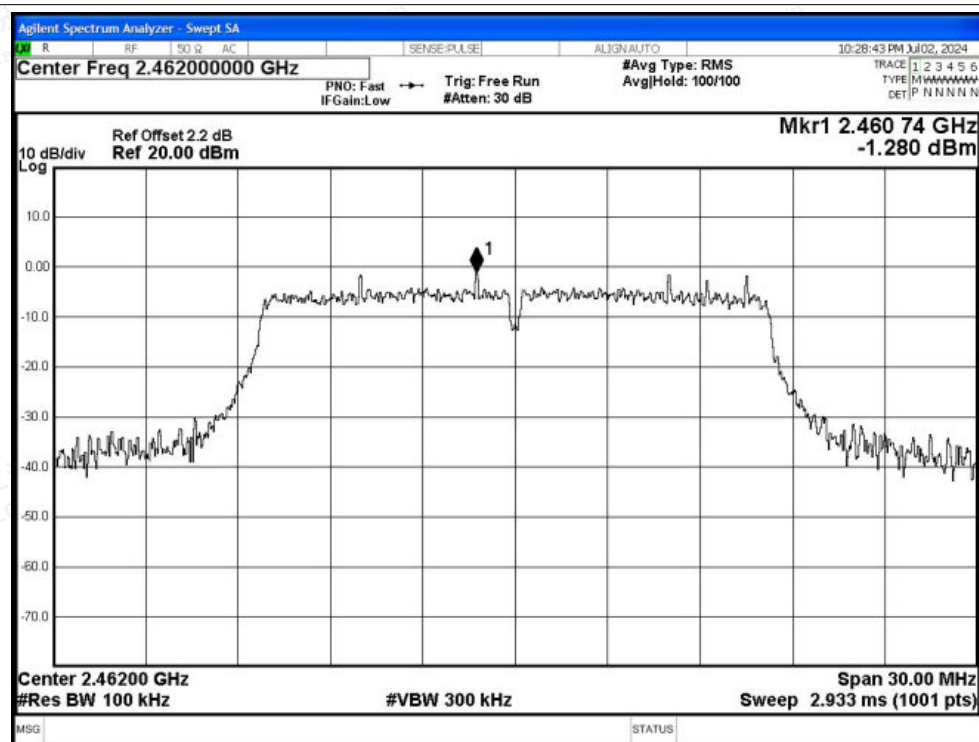


Band Edge HVHT g 2412MHz Ant1 Emission

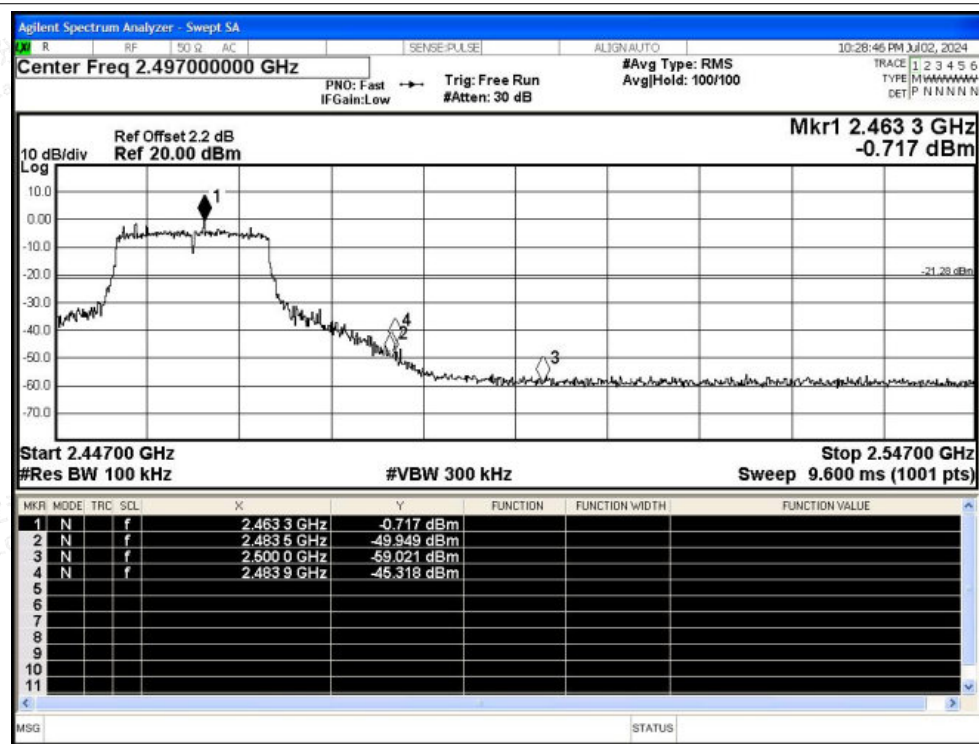




Band Edge HVHT g 2462MHz Ant1 Ref

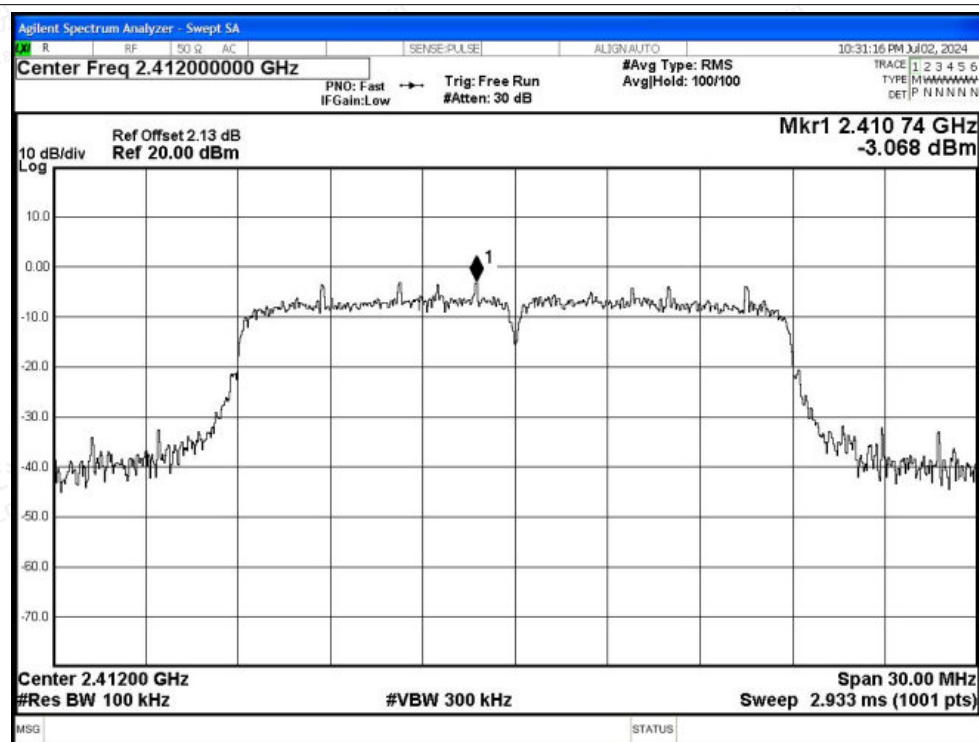


Band Edge HVHT g 2462MHz Ant1 Emission

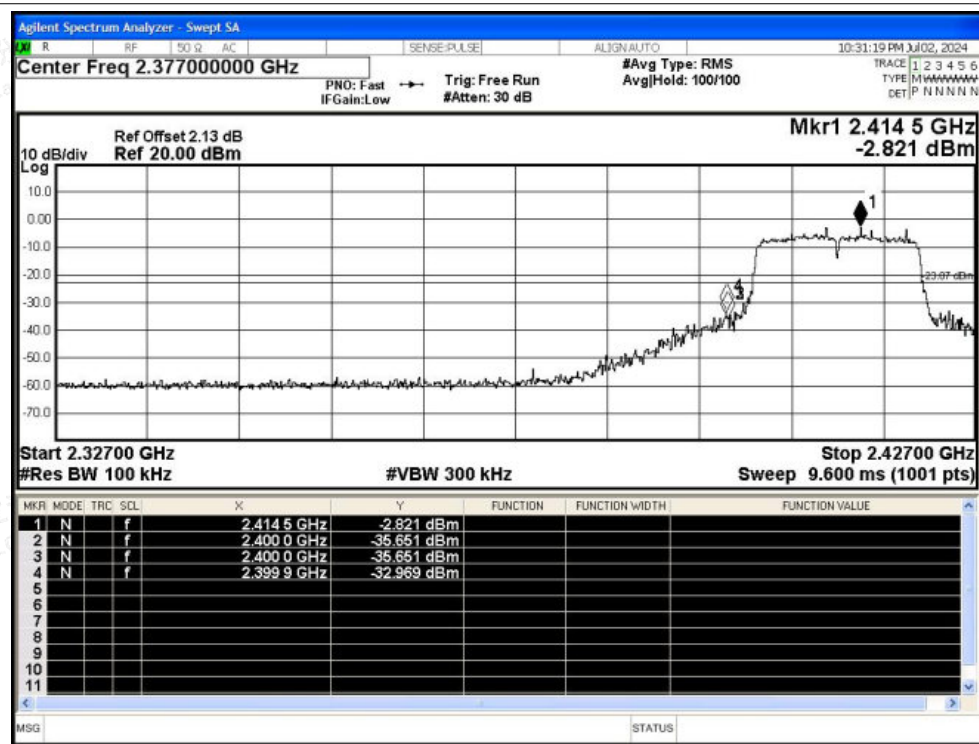




Band Edge HVHT n20 2412MHz Ant1 Ref

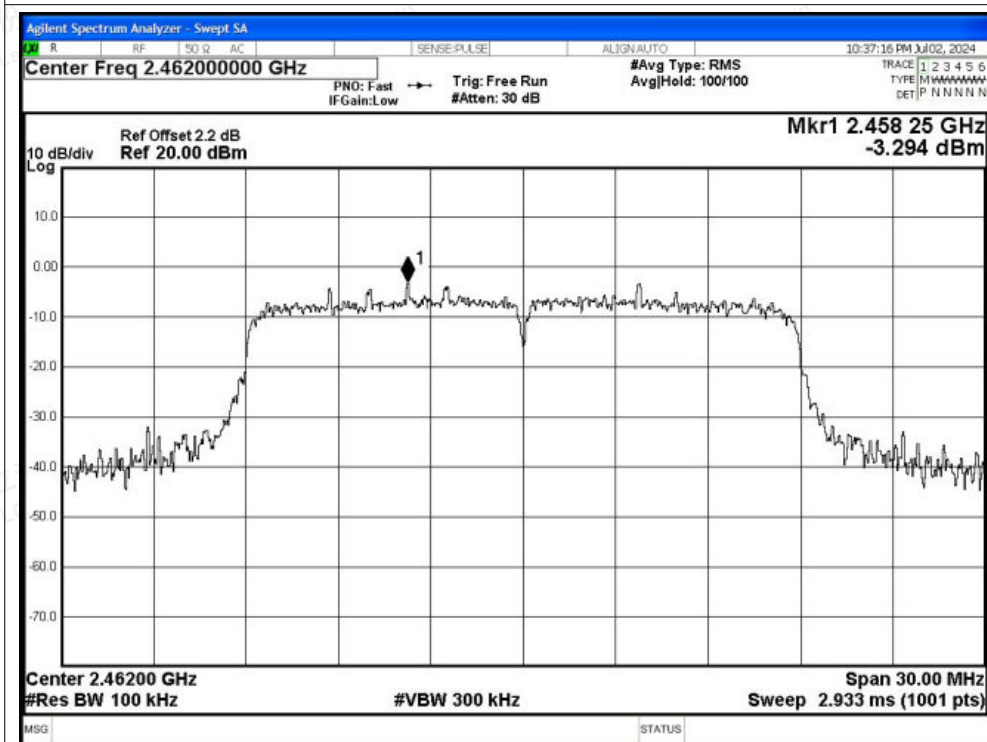


Band Edge HVHT n20 2412MHz Ant1 Emission

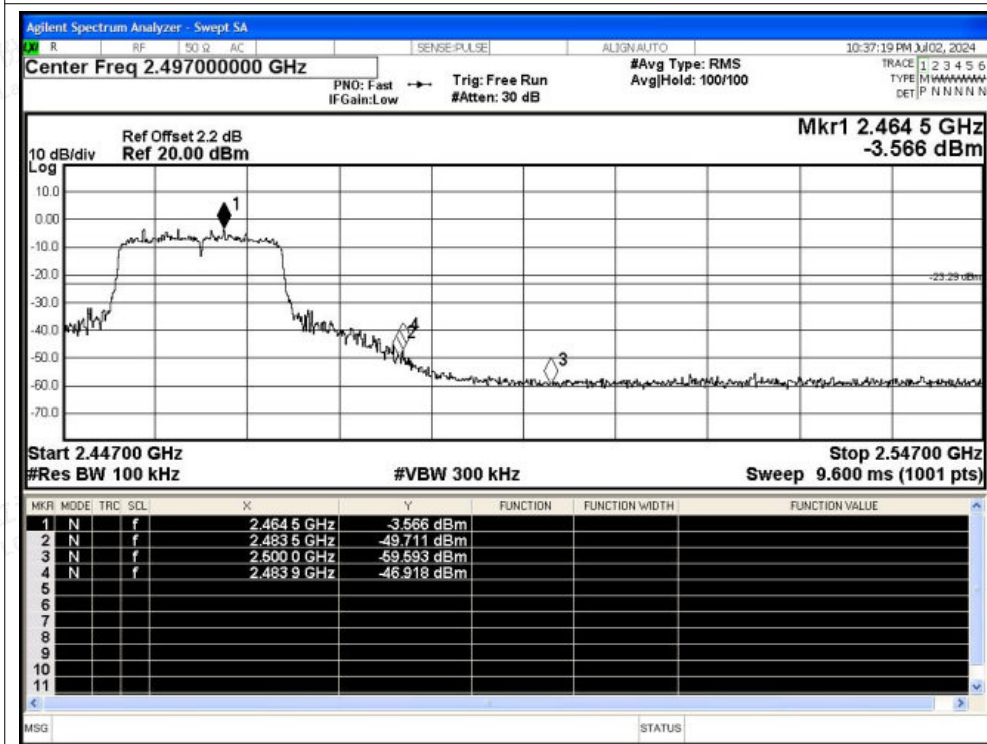




Band Edge HVHT n20 2462MHz Ant1 Ref

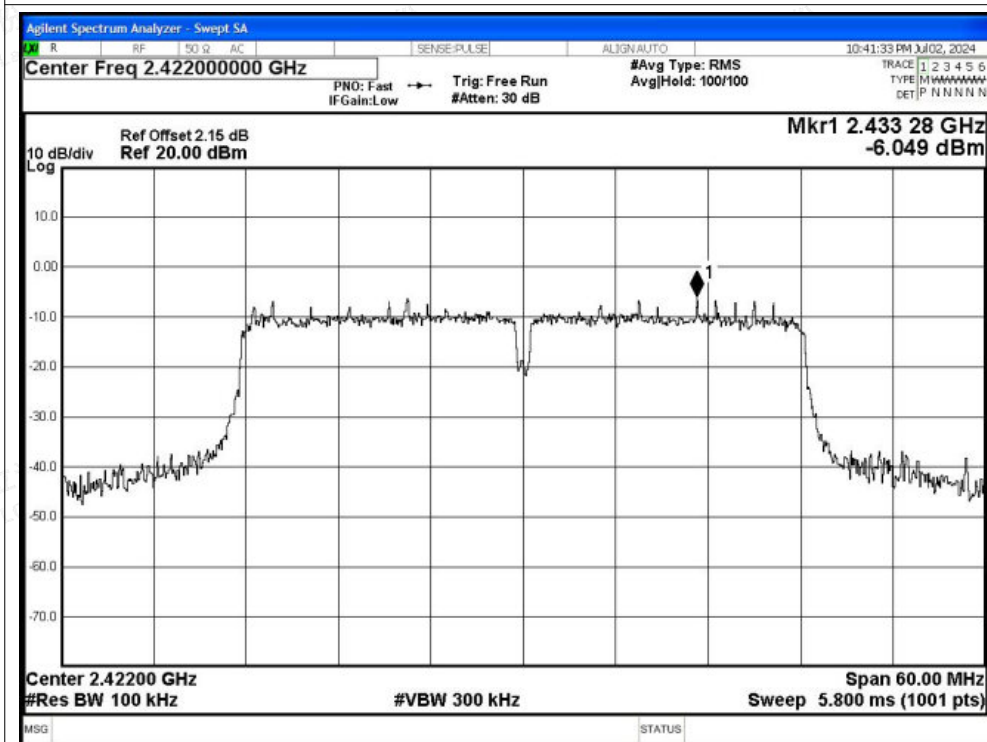


Band Edge HVHT n20 2462MHz Ant1 Emission

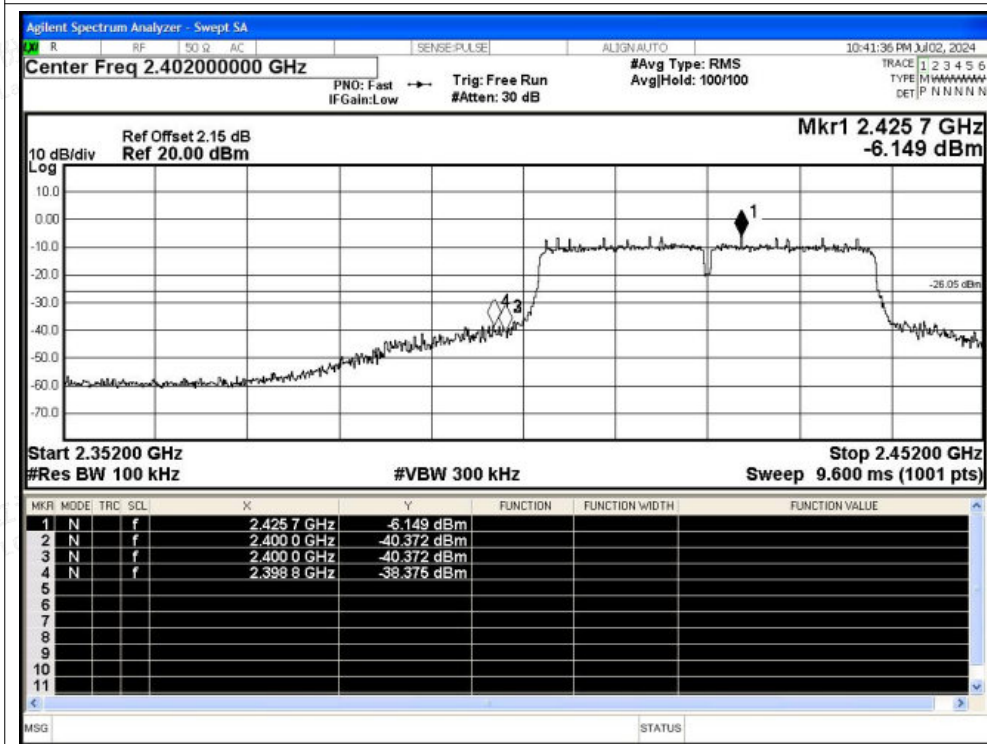




Band Edge HVHT n40 2422MHz Ant1 Ref

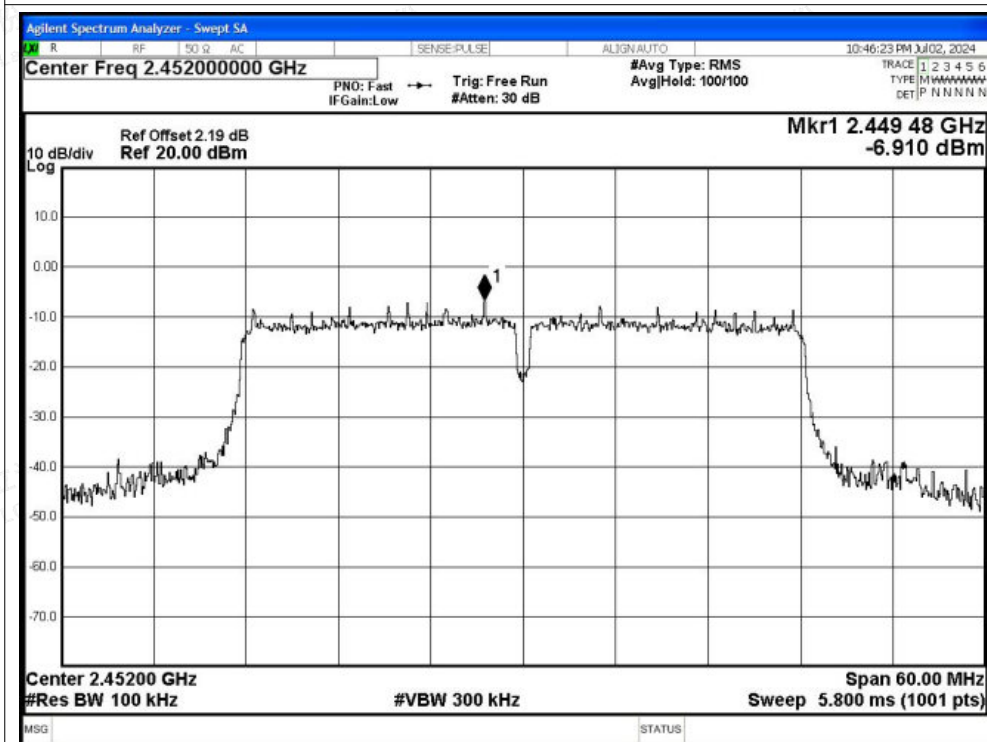


Band Edge HVHT n40 2422MHz Ant1 Emission

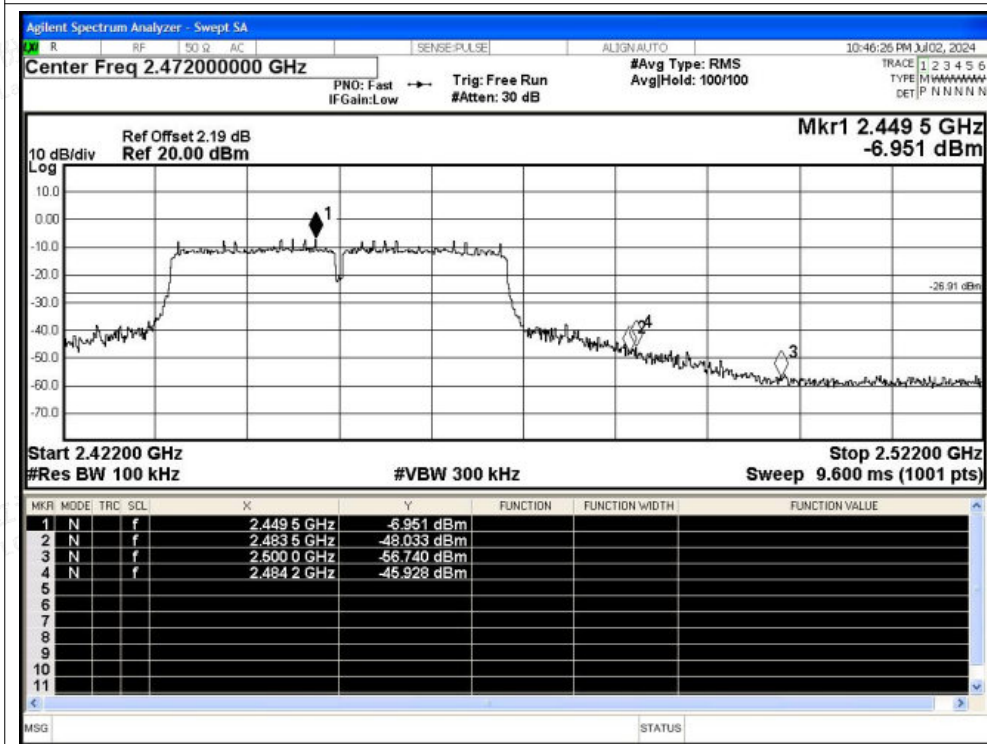




Band Edge HVHT n40 2452MHz Ant1 Ref



Band Edge HVHT n40 2452MHz Ant1 Emission





A.5 Conducted RF Spurious Emission

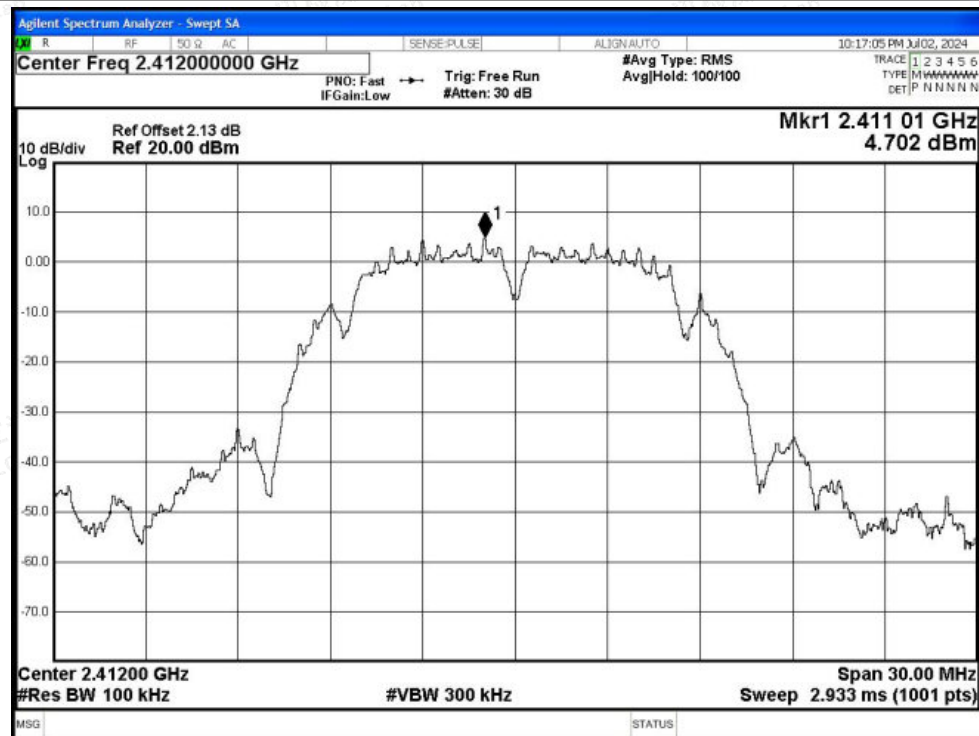
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
HVHT	b	2412	Ant1	-50.38	-20	Pass
HVHT	b	2437	Ant1	-50.73	-20	Pass
HVHT	b	2462	Ant1	-49.89	-20	Pass
HVHT	g	2412	Ant1	-44.9	-20	Pass
HVHT	g	2437	Ant1	-44.49	-20	Pass
HVHT	g	2462	Ant1	-45.39	-20	Pass
HVHT	n20	2412	Ant1	-42.51	-20	Pass
HVHT	n20	2437	Ant1	-42.96	-20	Pass
HVHT	n20	2462	Ant1	-43.17	-20	Pass
HVHT	n40	2422	Ant1	-39.89	-20	Pass
HVHT	n40	2437	Ant1	-40.57	-20	Pass
HVHT	n40	2452	Ant1	-38.8	-20	Pass



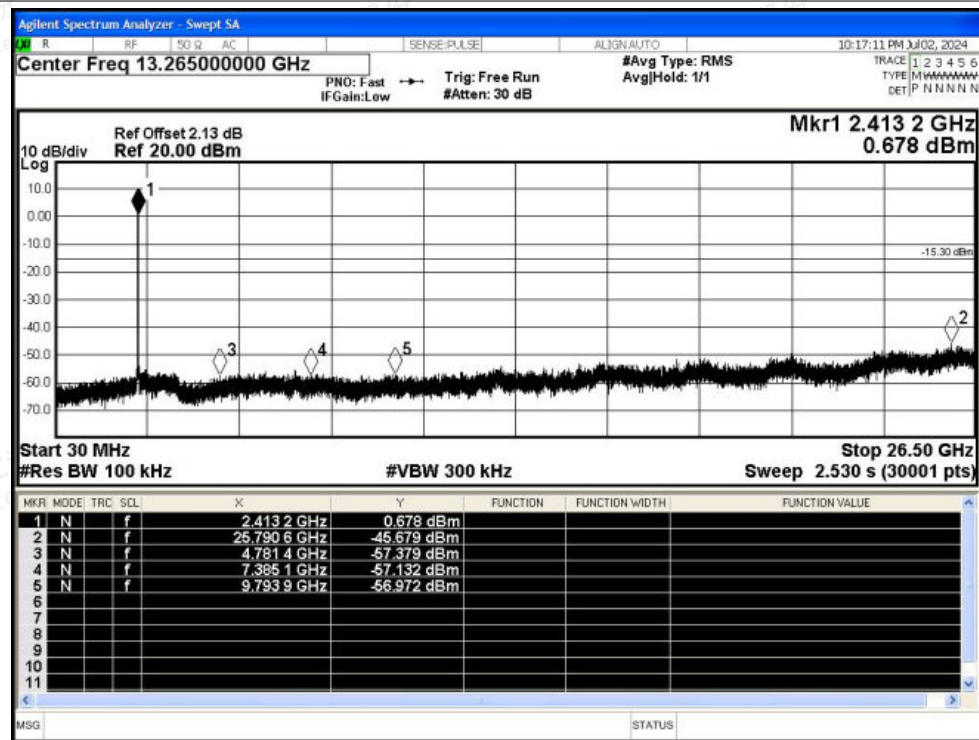


Test Graphs

Tx. Spurious HVHT b 2412MHz Ant1 Ref

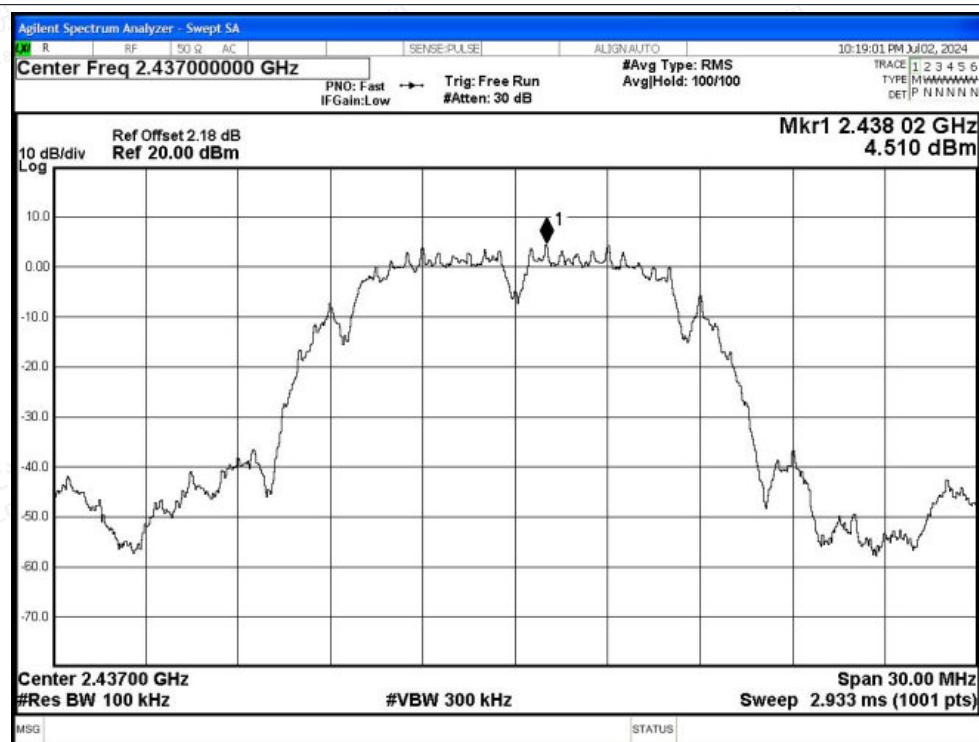


Tx. Spurious HVHT b 2412MHz Ant1 Emission

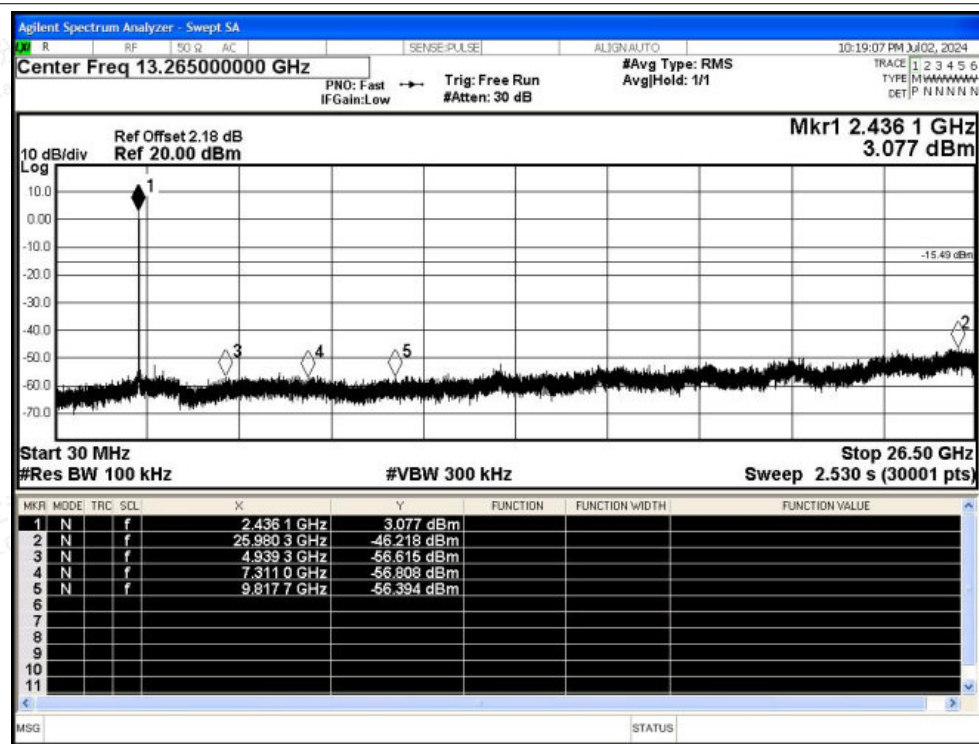




Tx. Spurious HVHT b 2437MHz Ant1 Ref

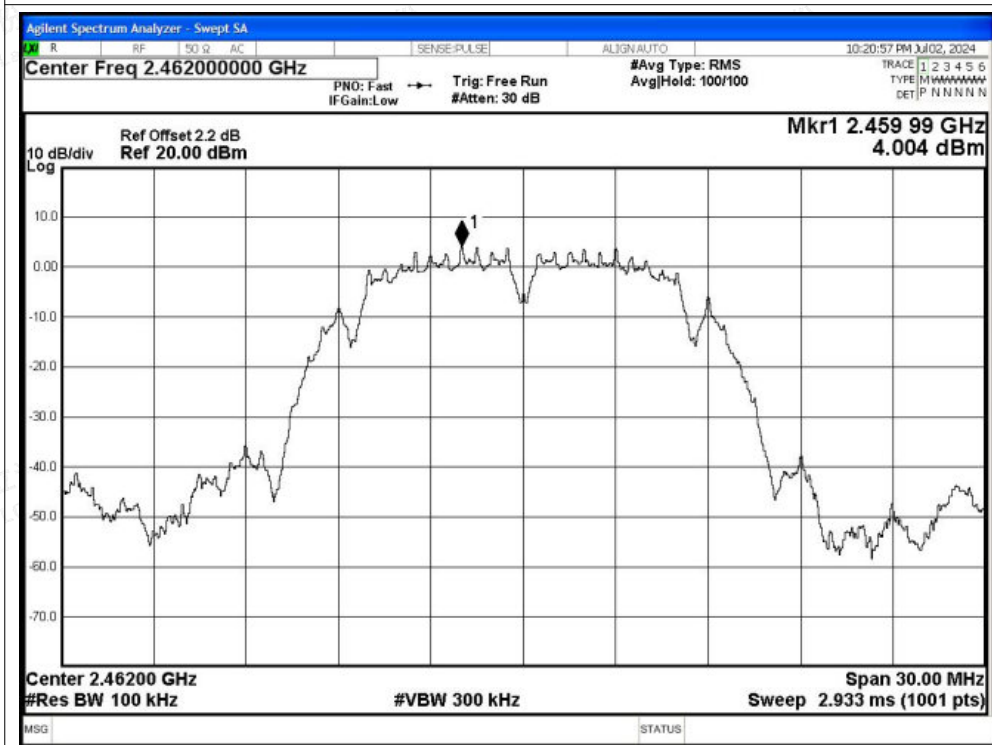


Tx. Spurious HVHT b 2437MHz Ant1 Emission

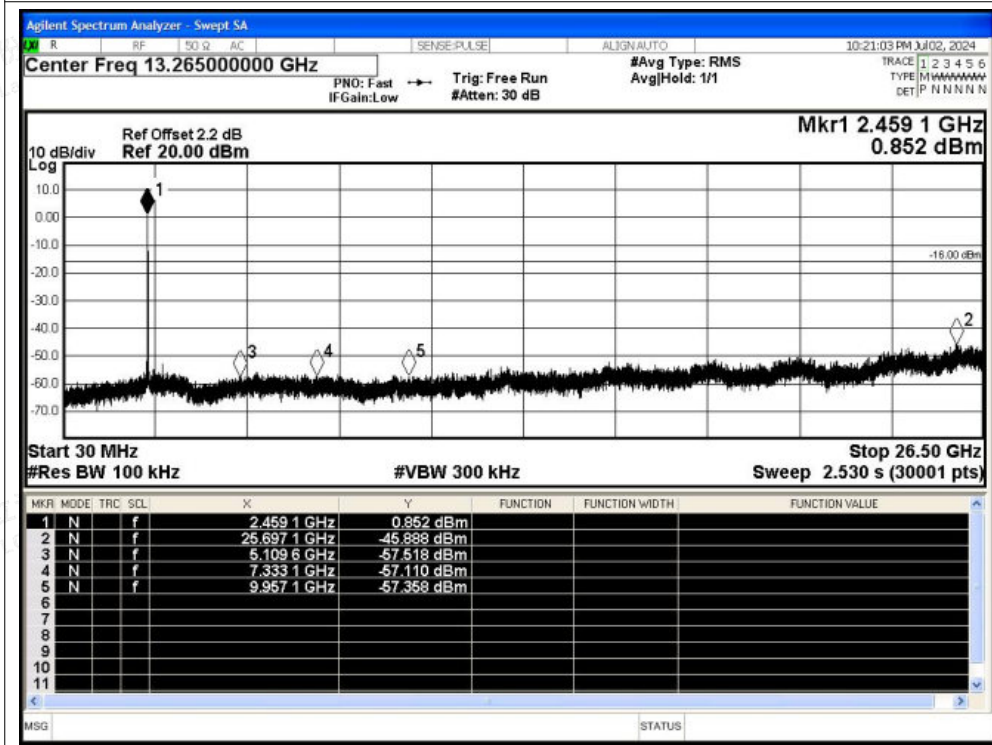




Tx. Spurious HVHT b 2462MHz Ant1 Ref

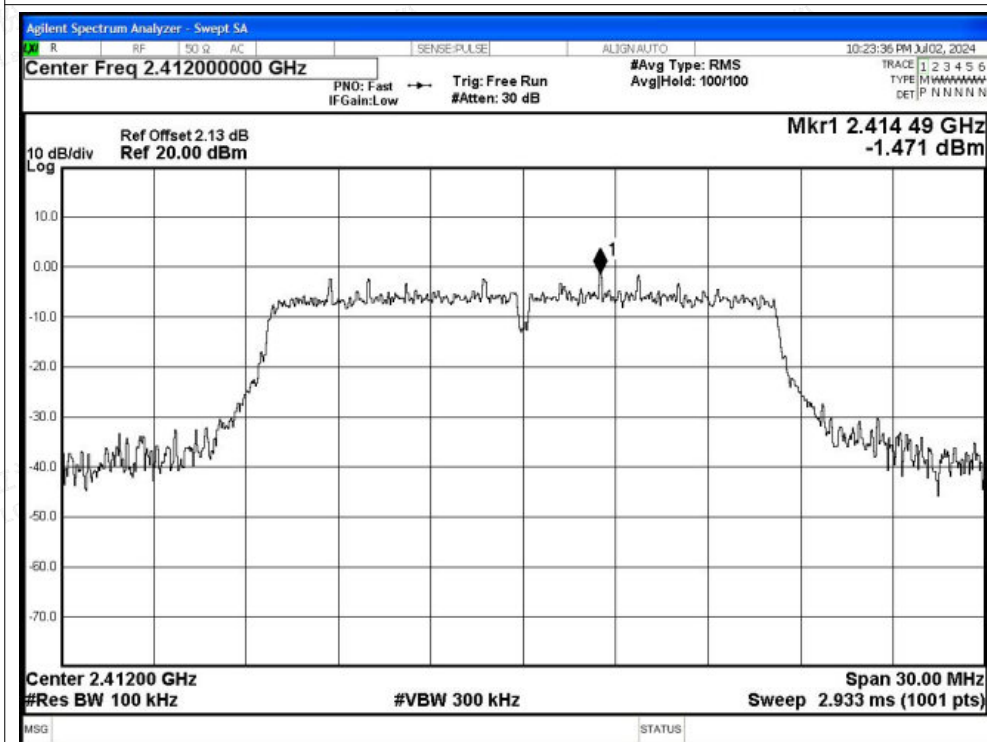


Tx. Spurious HVHT b 2462MHz Ant1 Emission





Tx. Spurious HVHT g 2412MHz Ant1 Ref



Tx. Spurious HVHT g 2412MHz Ant1 Emission

