



## Appendix B

### RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: LED Ceiling Lamp

Test Model: US-CL12B-1

#### Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Bill Zhu
Supervised by:	Li Huan



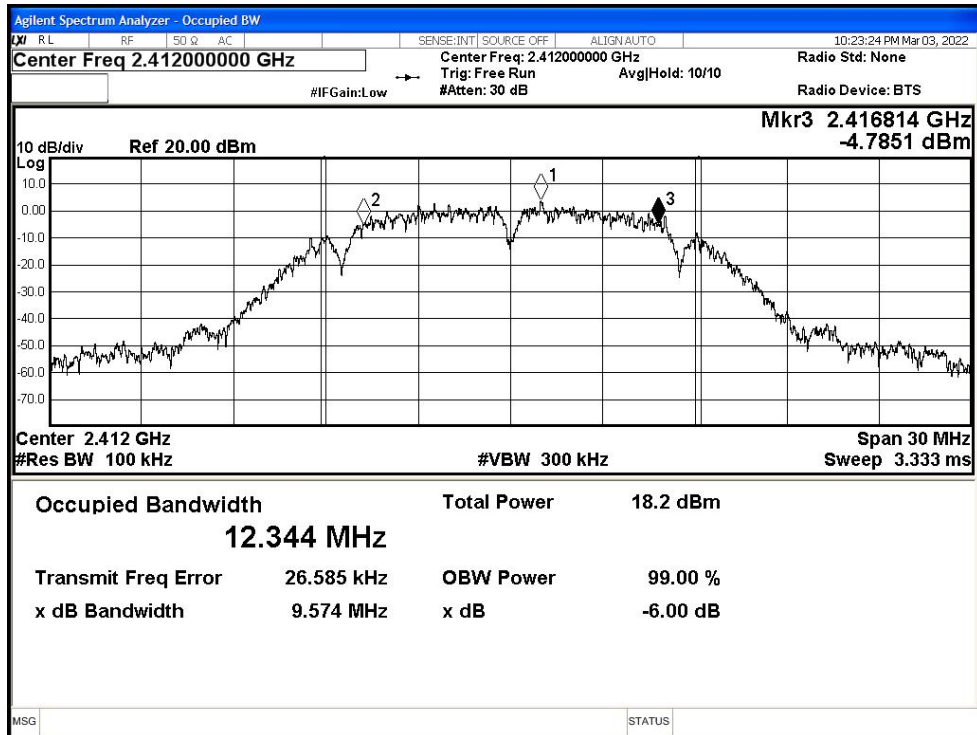
## B.1 6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.574	0.5	Pass
NVNT	b	2437	Ant1	8.624	0.5	Pass
NVNT	b	2462	Ant1	8.533	0.5	Pass
NVNT	g	2412	Ant1	16.317	0.5	Pass
NVNT	g	2437	Ant1	16.348	0.5	Pass
NVNT	g	2462	Ant1	15.413	0.5	Pass
NVNT	n20	2412	Ant1	17.282	0.5	Pass
NVNT	n20	2437	Ant1	15.835	0.5	Pass
NVNT	n20	2462	Ant1	16.251	0.5	Pass

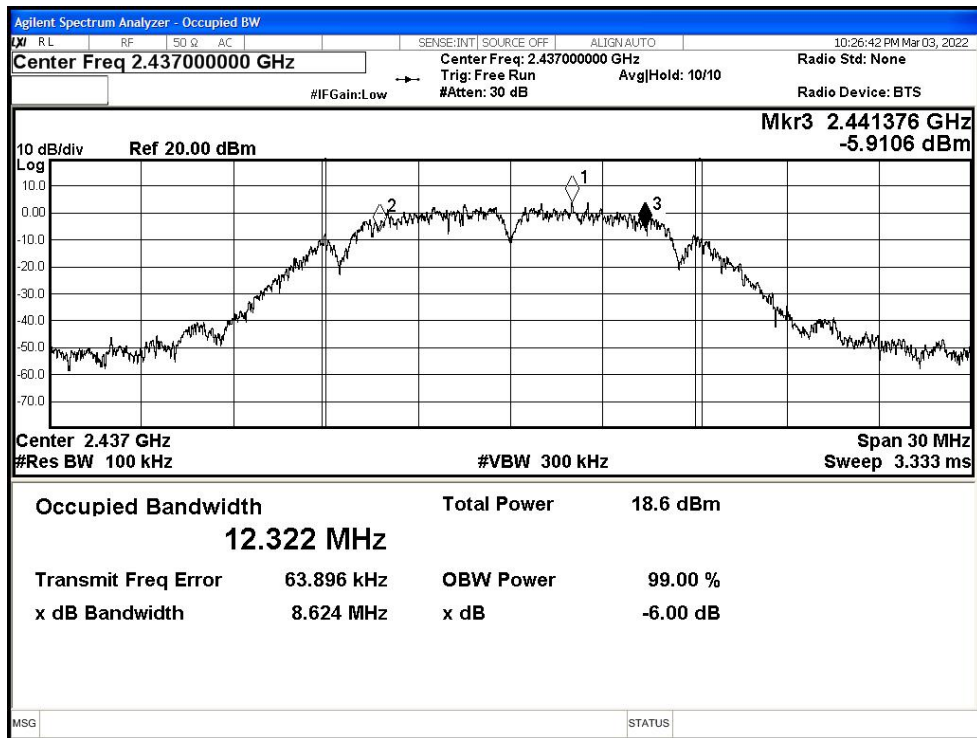


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1

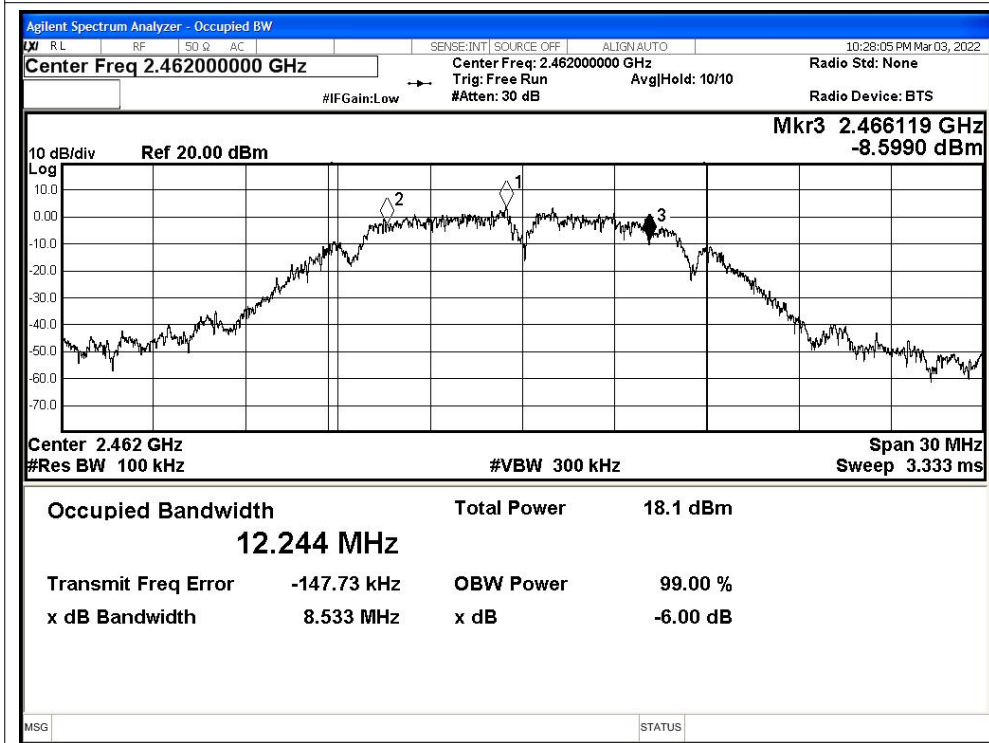


-6dB Bandwidth NVNT b 2437MHz Ant1

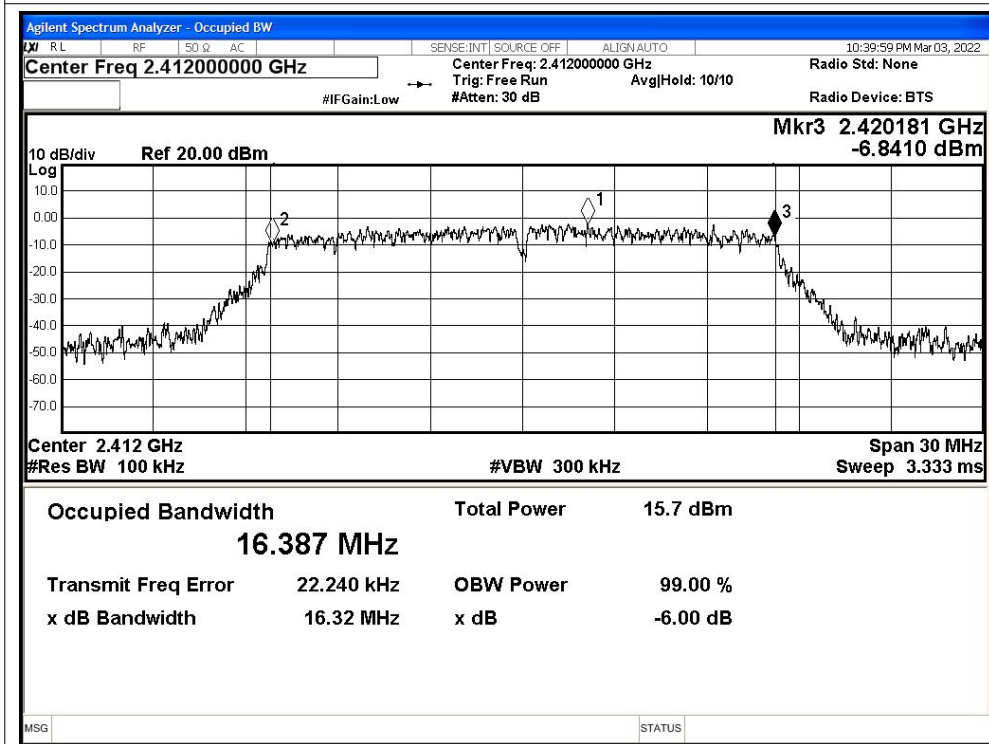


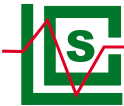


-6dB Bandwidth NVNT b 2462MHz Ant1

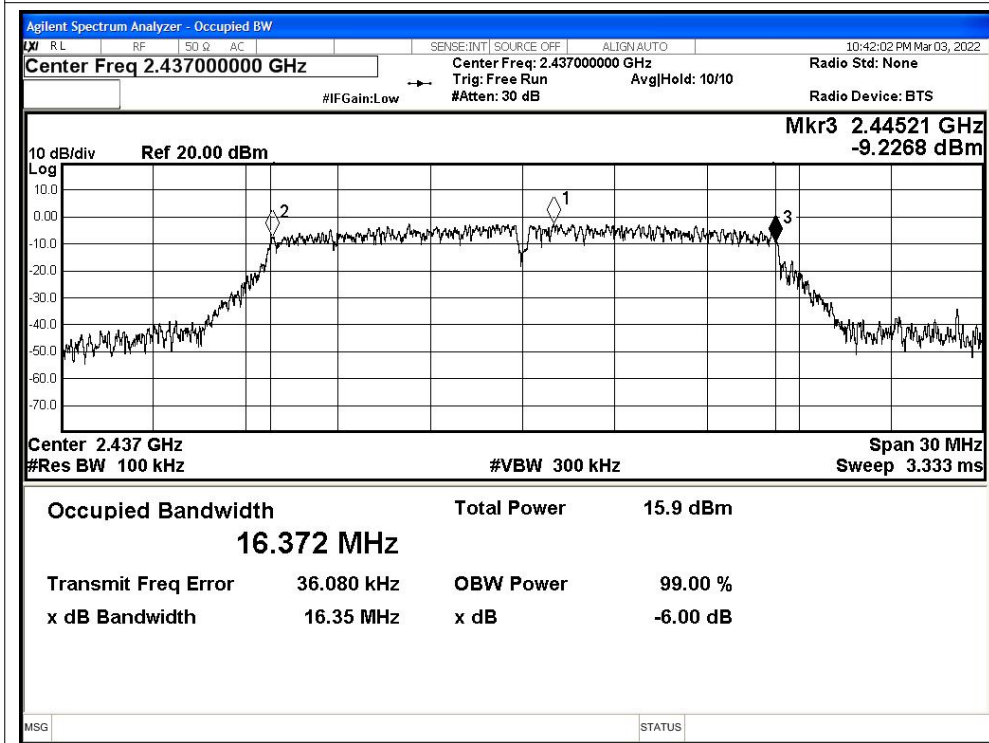


-6dB Bandwidth NVNT g 2412MHz Ant1

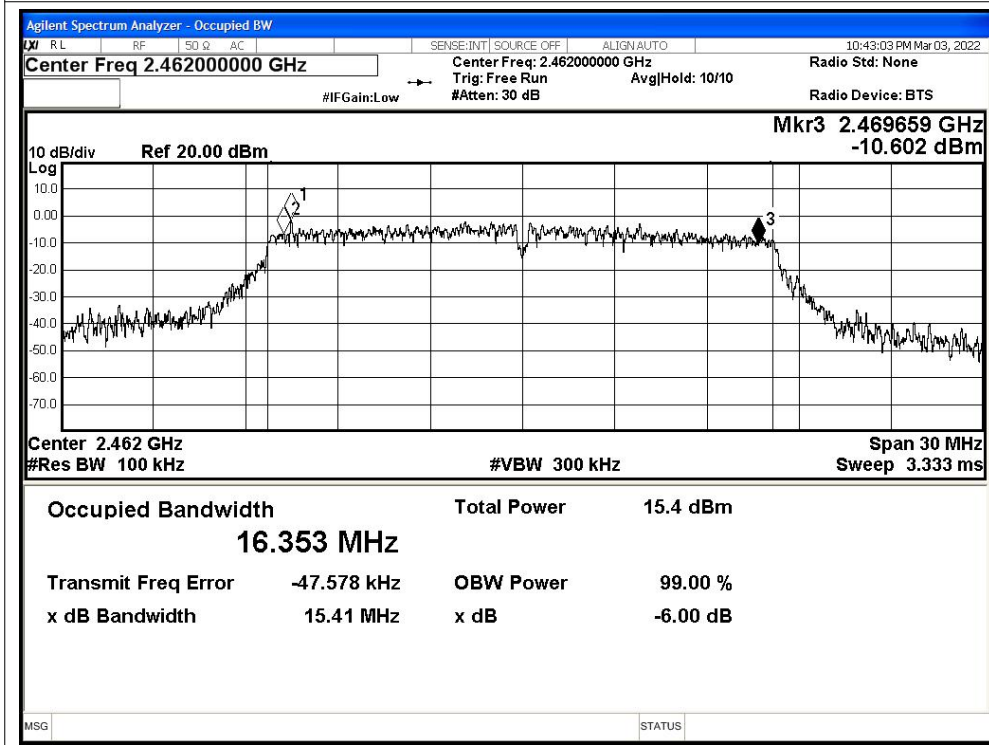




-6dB Bandwidth NVNT g 2437MHz Ant1

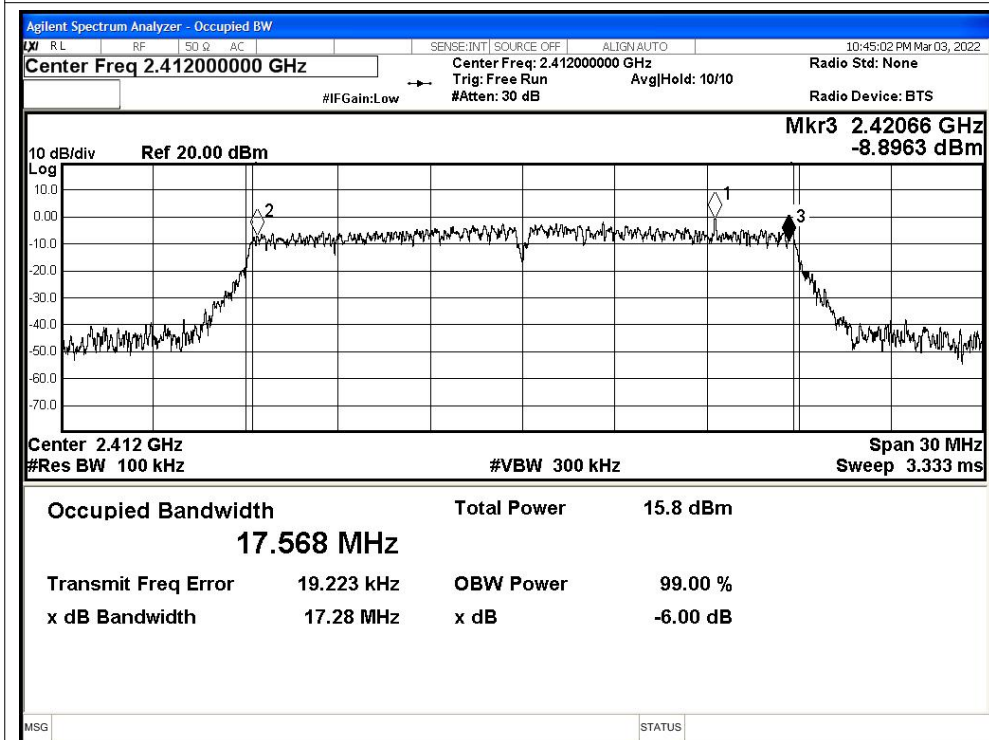


-6dB Bandwidth NVNT g 2462MHz Ant1

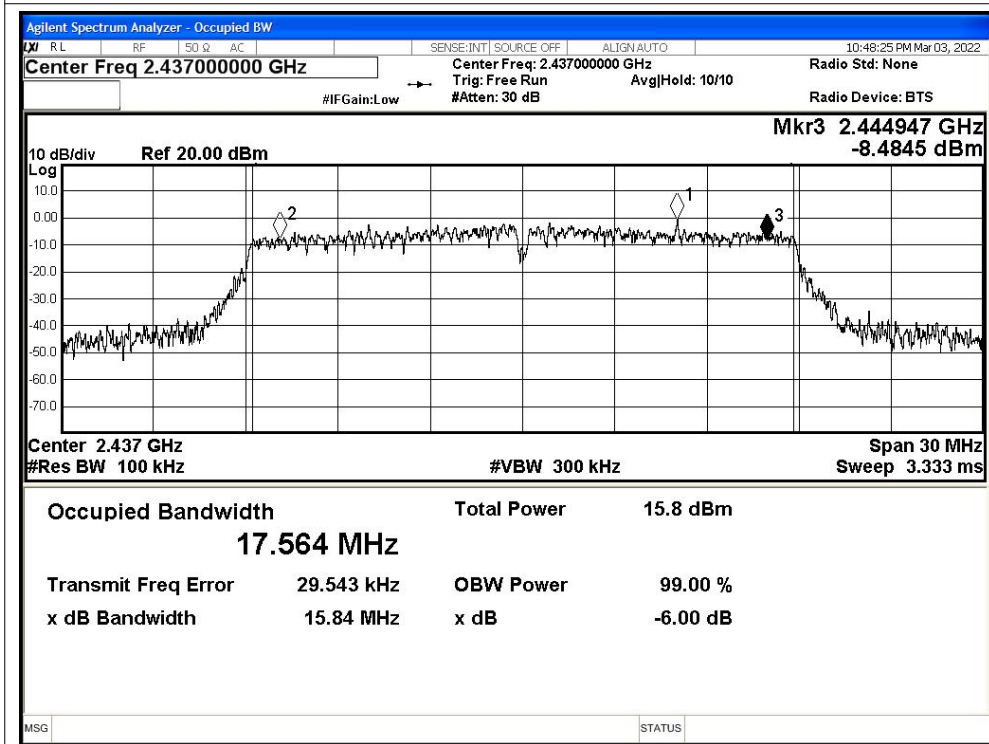


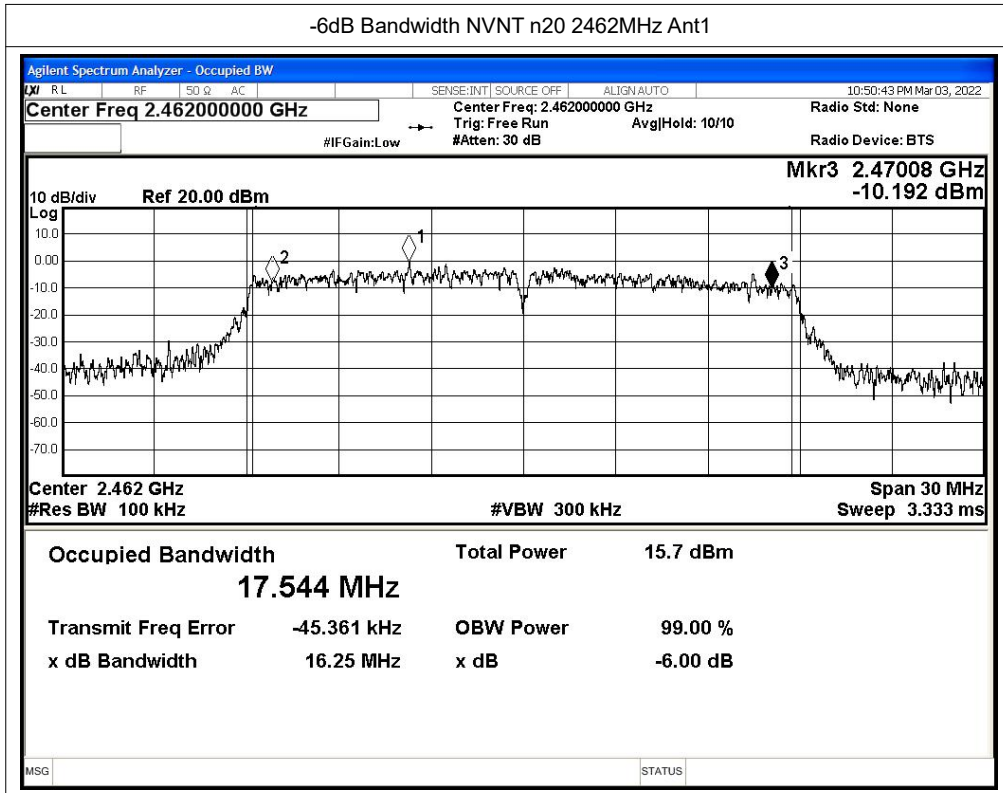


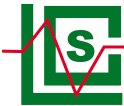
-6dB Bandwidth NVNT n20 2412MHz Ant1



-6dB Bandwidth NVNT n20 2437MHz Ant1







## B.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	14.69	0	14.69	30	Pass
NVNT	b	2437	Ant1	15.04	0	15.04	30	Pass
NVNT	b	2462	Ant1	14.68	0	14.68	30	Pass
NVNT	g	2412	Ant1	14.5	0	14.5	30	Pass
NVNT	g	2437	Ant1	14.64	0	14.64	30	Pass
NVNT	g	2462	Ant1	14.07	0	14.07	30	Pass
NVNT	n20	2412	Ant1	14.34	0	14.34	30	Pass
NVNT	n20	2437	Ant1	14.68	0	14.68	30	Pass
NVNT	n20	2462	Ant1	14.46	0	14.46	30	Pass





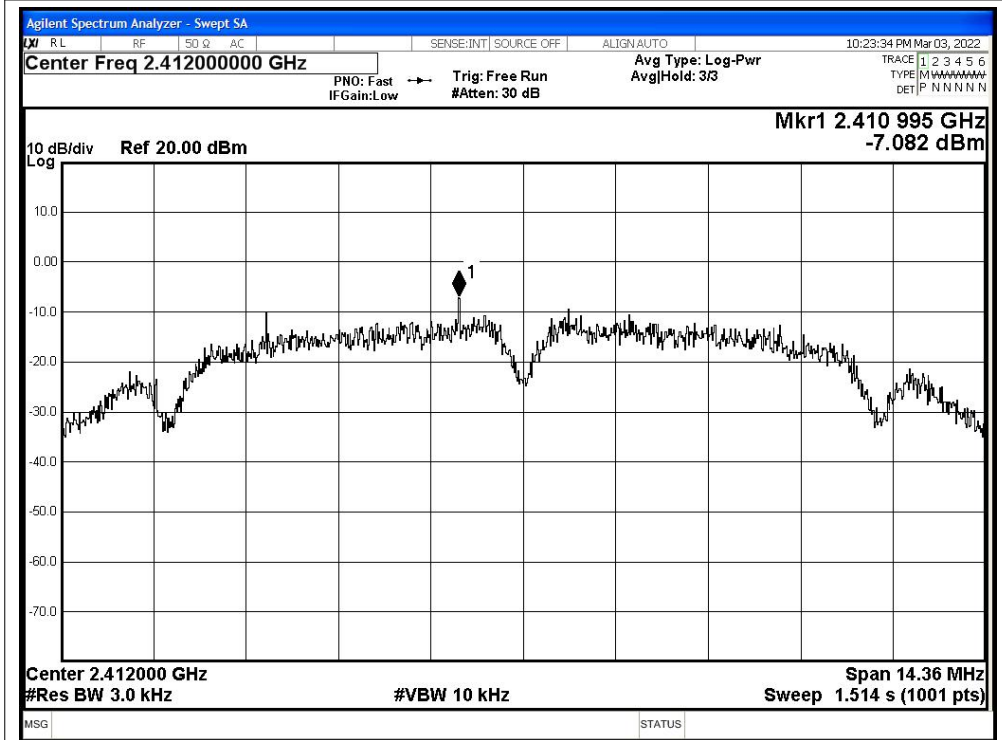
## B.3 Power Spectral Density

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-7.08	0	-7.08	8	Pass
NVNT	b	2437	Ant1	-6.42	0	-6.42	8	Pass
NVNT	b	2462	Ant1	-10.07	0	-10.07	8	Pass
NVNT	g	2412	Ant1	-12.84	0	-12.84	8	Pass
NVNT	g	2437	Ant1	-12.62	0	-12.62	8	Pass
NVNT	g	2462	Ant1	-12.78	0	-12.78	8	Pass
NVNT	n20	2412	Ant1	-13.84	0	-13.84	8	Pass
NVNT	n20	2437	Ant1	-12.68	0	-12.68	8	Pass
NVNT	n20	2462	Ant1	-13.06	0	-13.06	8	Pass

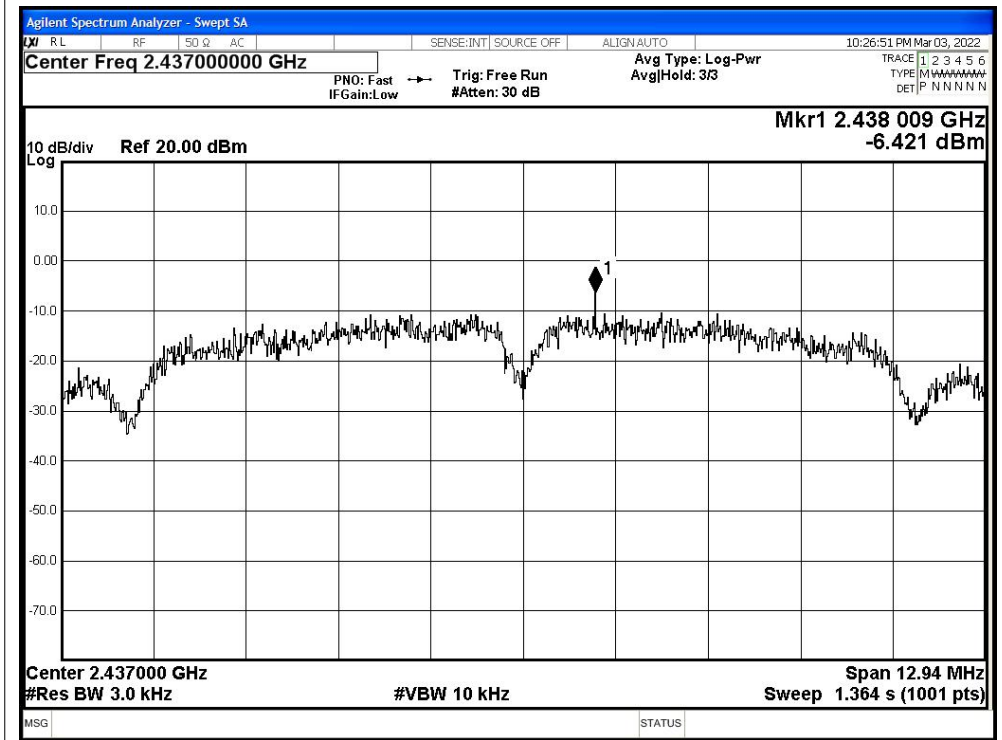


Test Graphs

PSD NVNT b 2412MHz Ant1

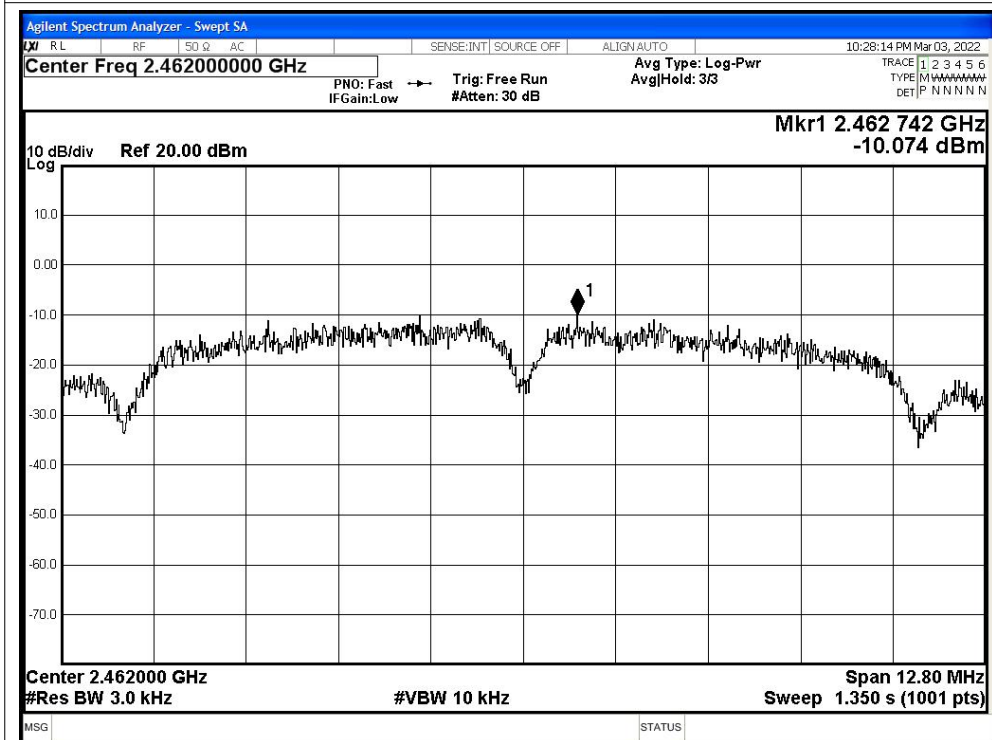


PSD NVNT b 2437MHz Ant1

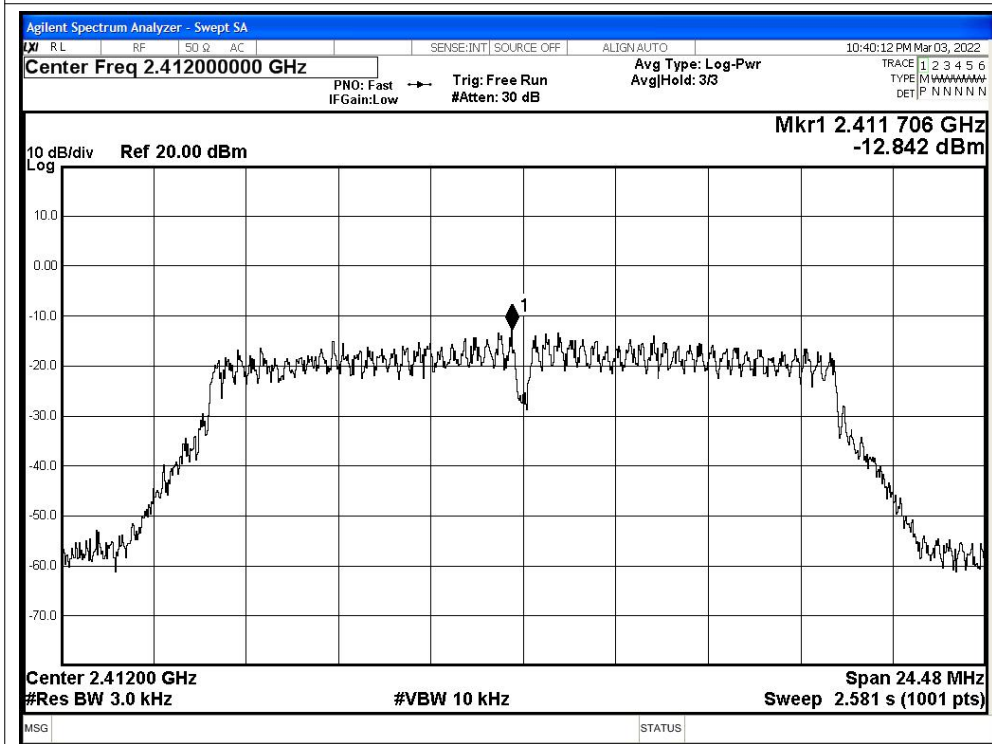




PSD NVNT b 2462MHz Ant1

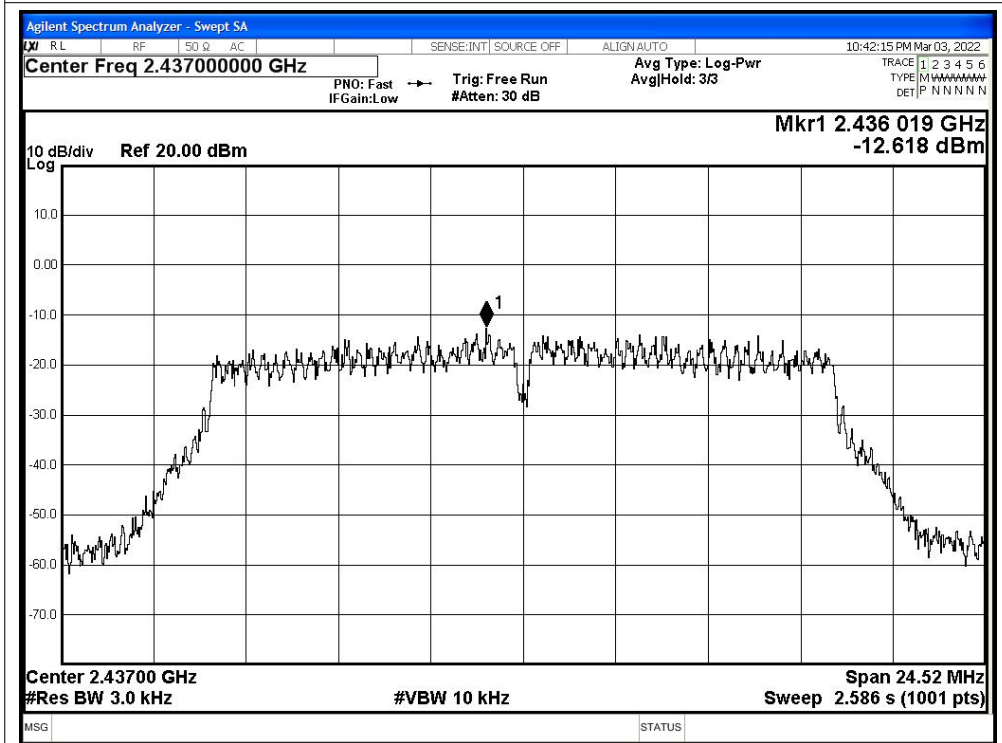


PSD NVNT g 2412MHz Ant1

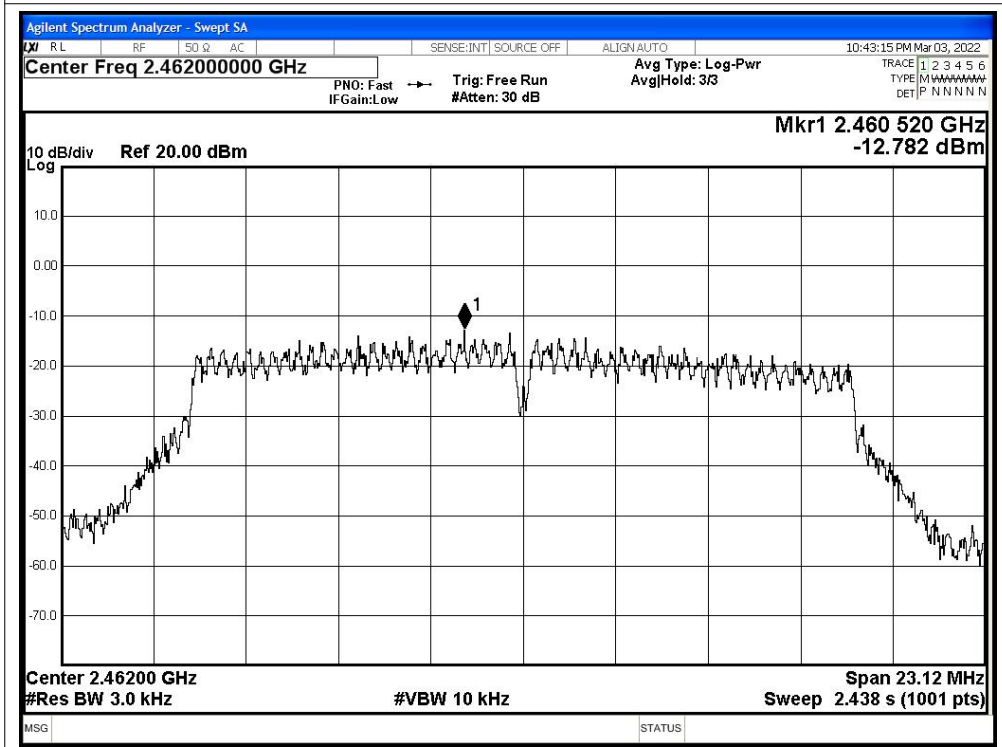


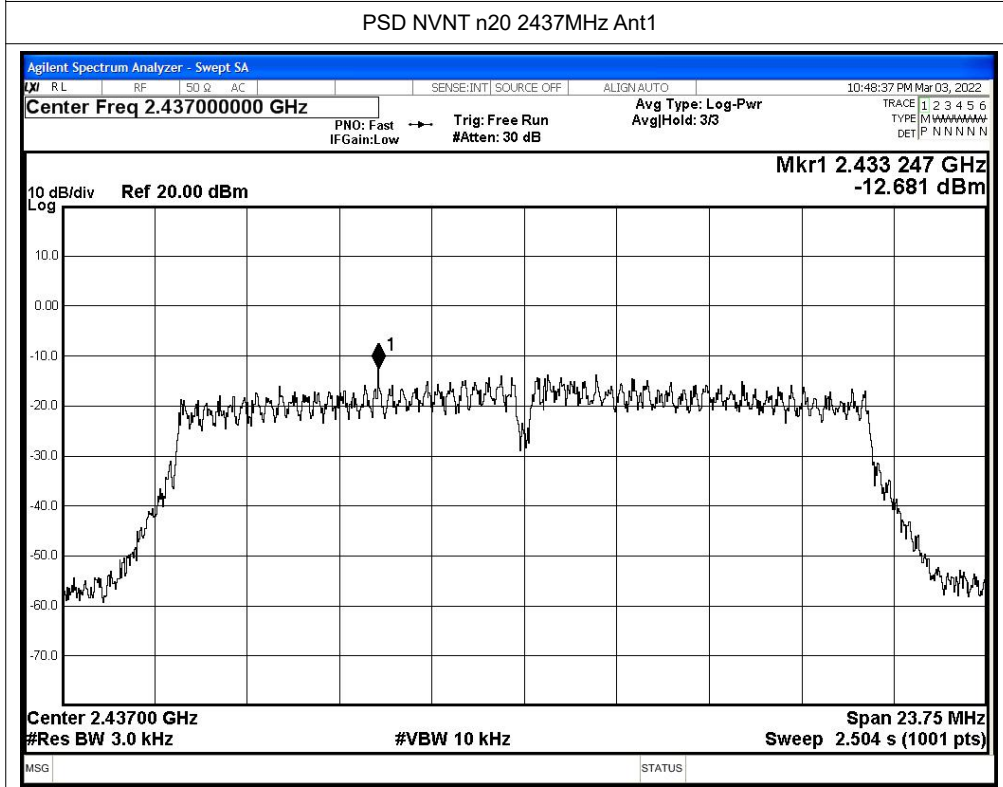
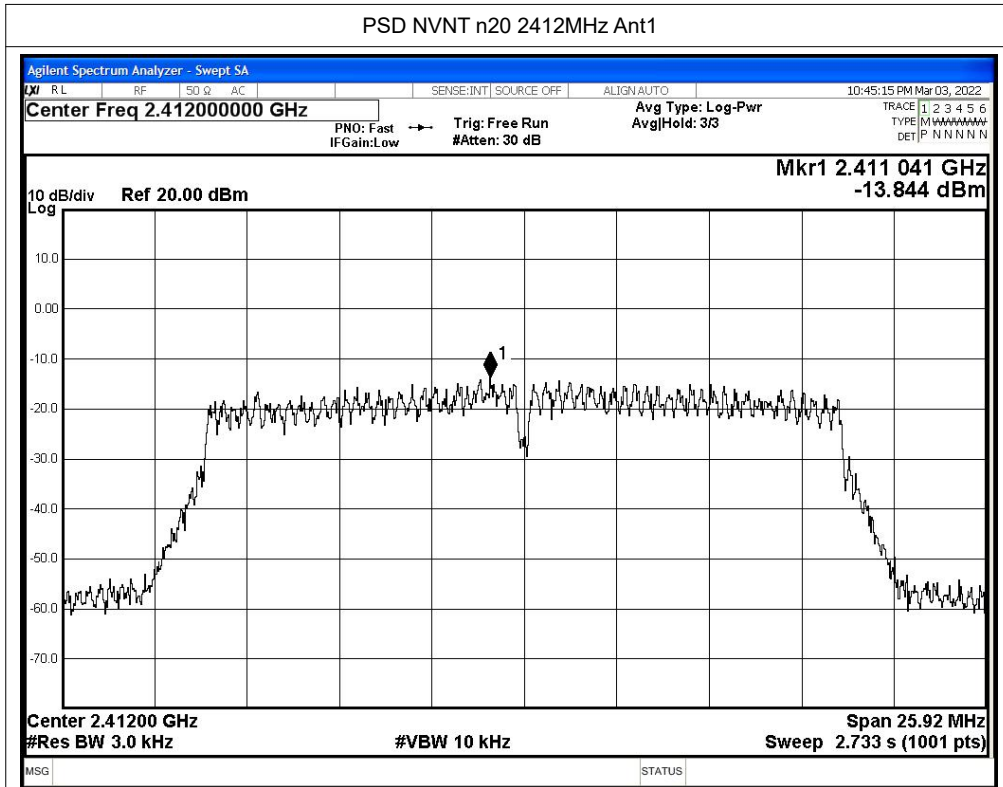
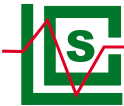


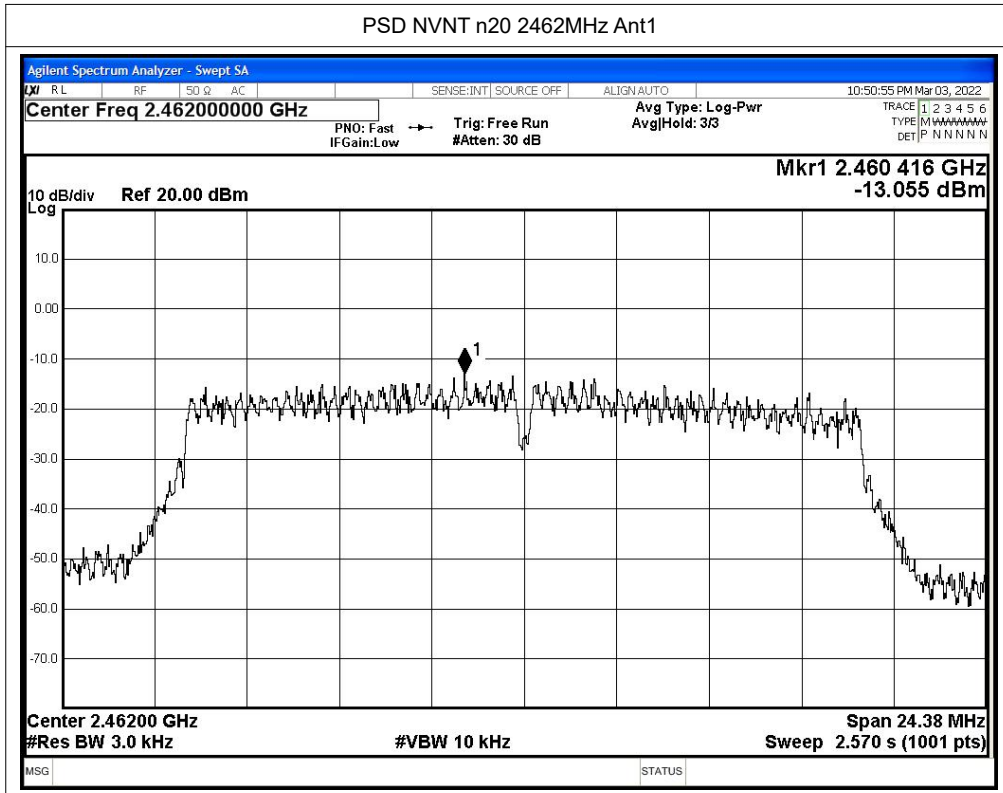
PSD NVNT g 2437MHz Ant1



PSD NVNT g 2462MHz Ant1



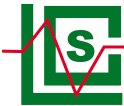






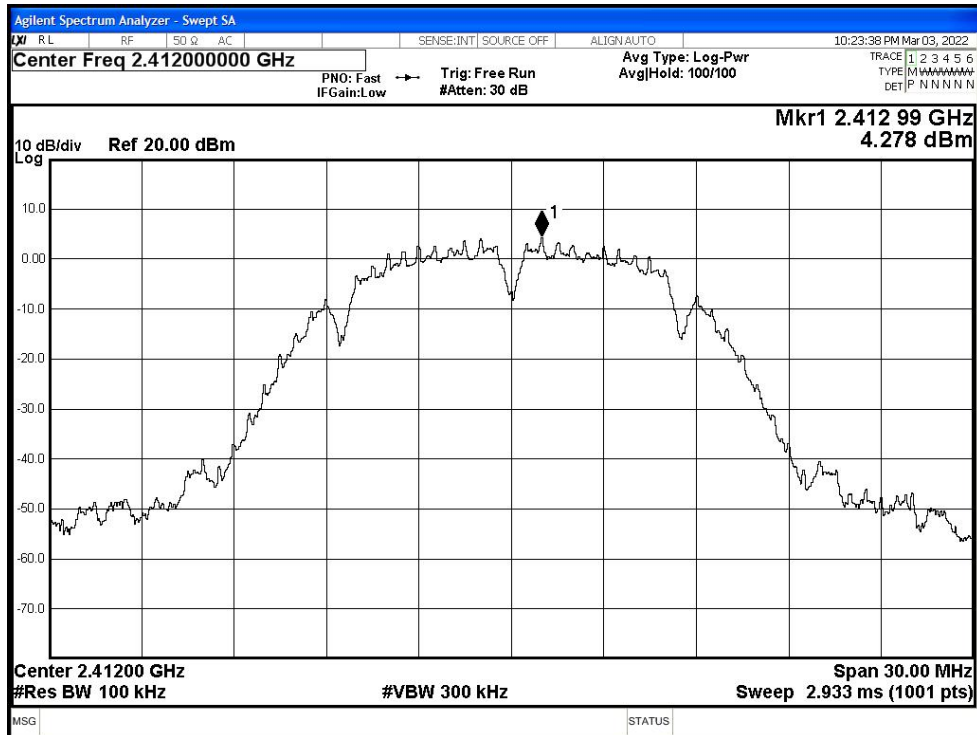
## B.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-54.3	-20	Pass
NVNT	b	2462	Ant1	-55.65	-20	Pass
NVNT	g	2412	Ant1	-40.6	-20	Pass
NVNT	g	2462	Ant1	-47.46	-20	Pass
NVNT	n20	2412	Ant1	-40.78	-20	Pass
NVNT	n20	2462	Ant1	-47.88	-20	Pass

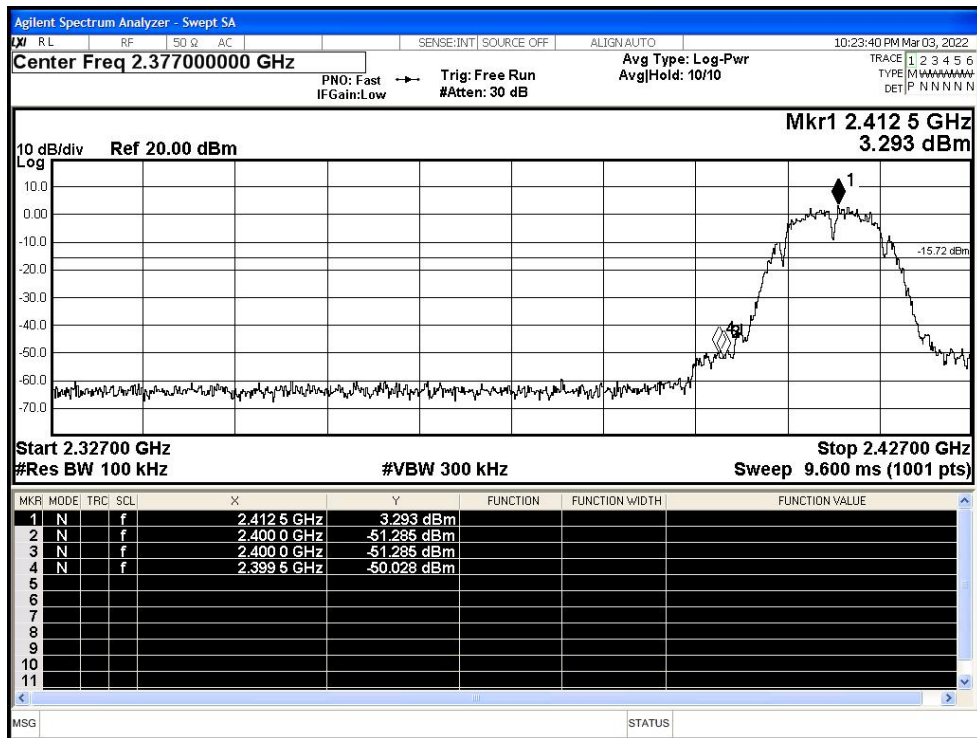


Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref



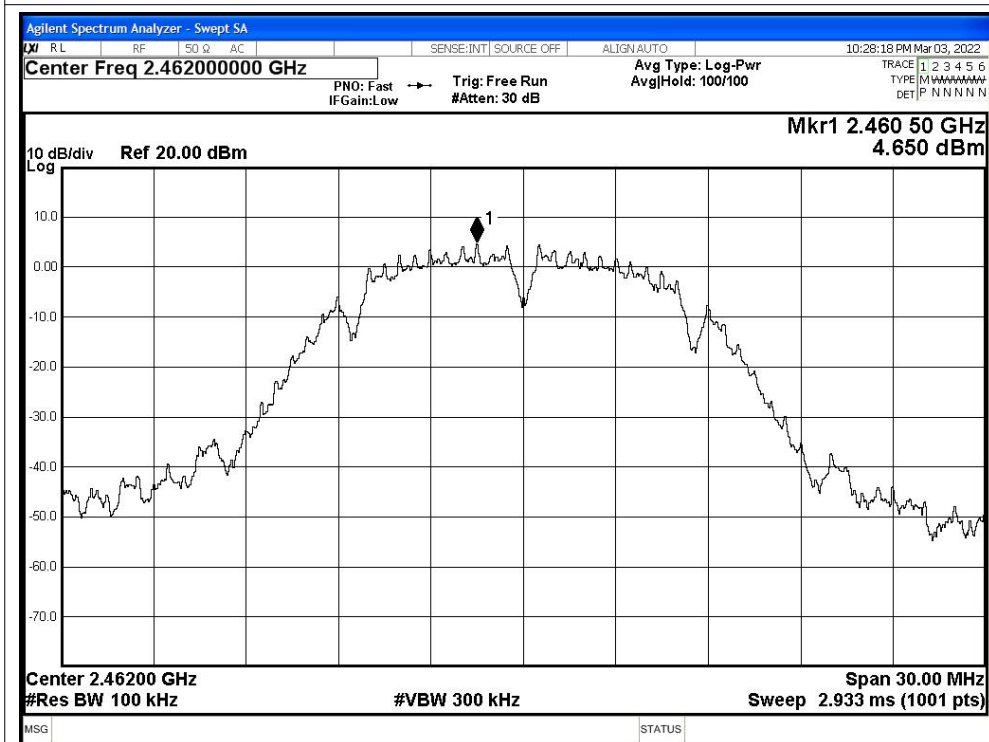
Band Edge NVNT b 2412MHz Ant1 Emission



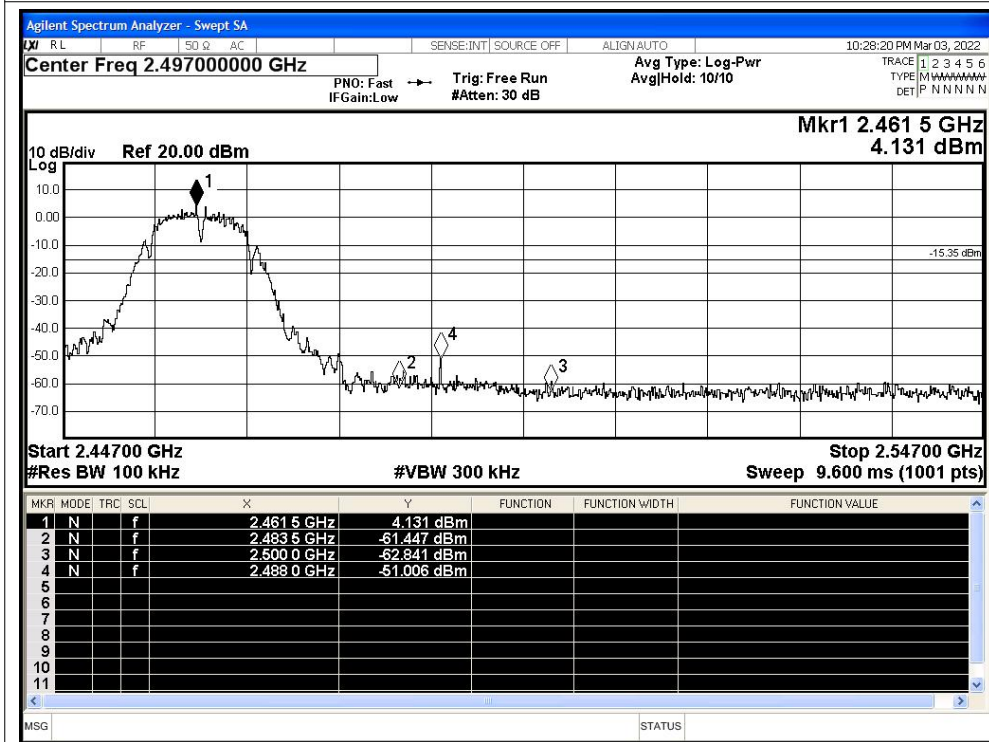




Band Edge NVNT b 2462MHz Ant1 Ref

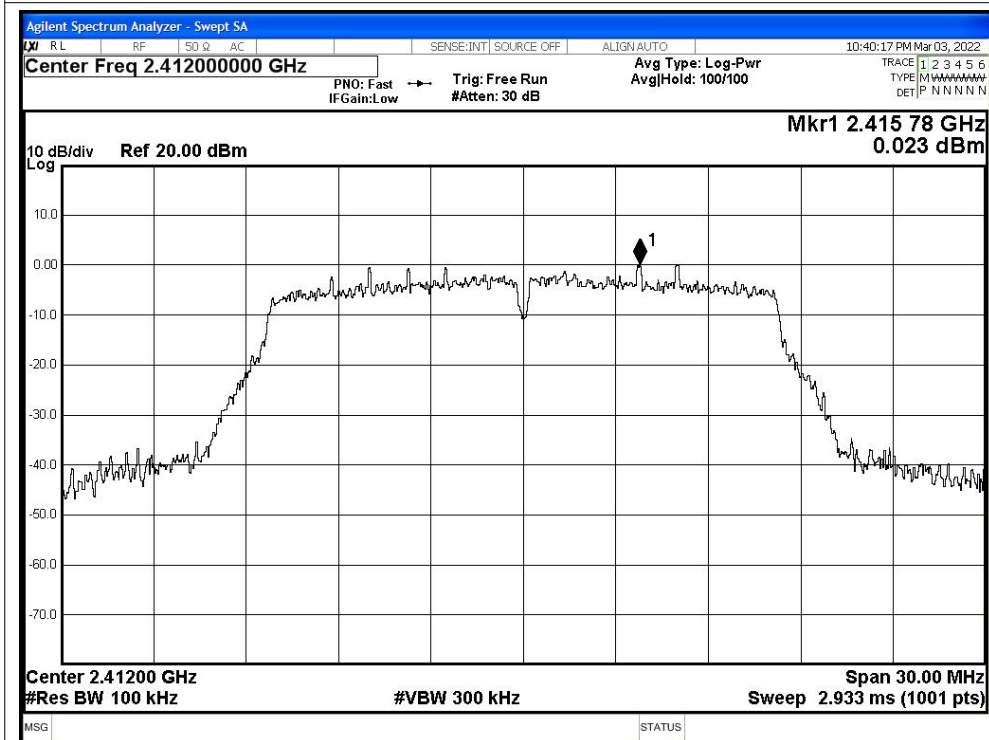


Band Edge NVNT b 2462MHz Ant1 Emission

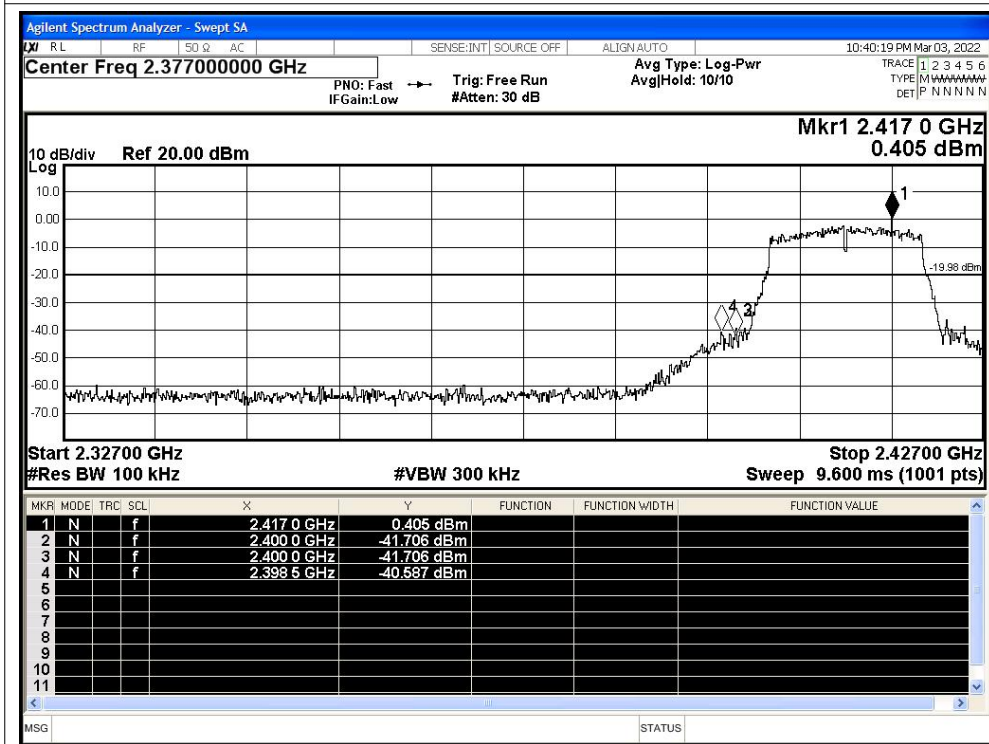




Band Edge NVNT g 2412MHz Ant1 Ref

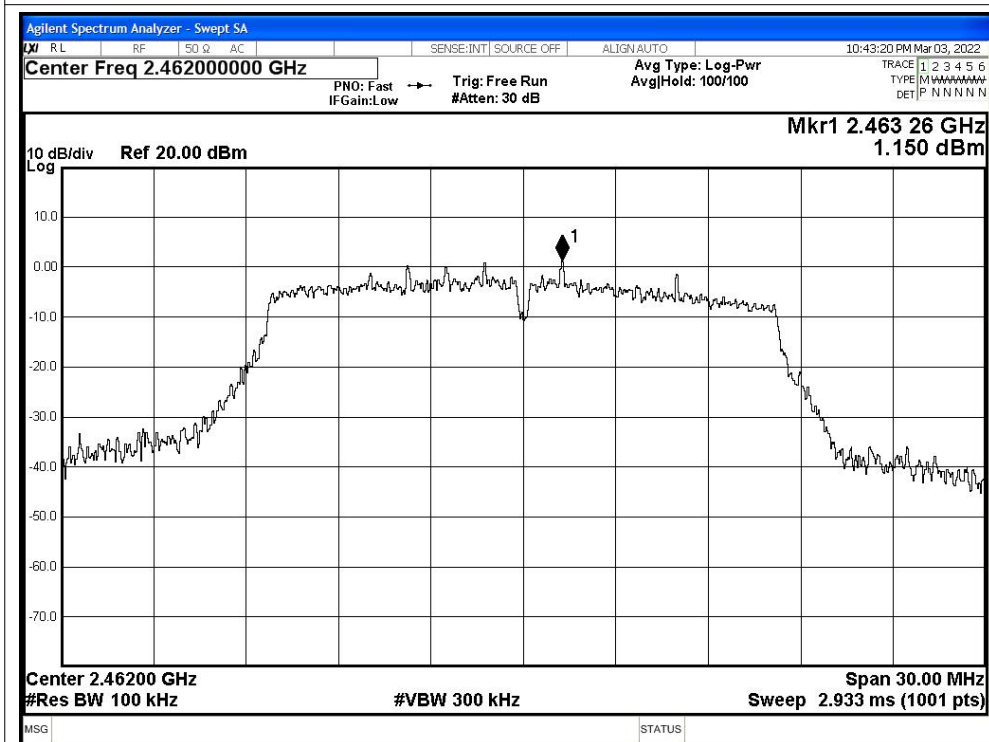


Band Edge NVNT g 2412MHz Ant1 Emission

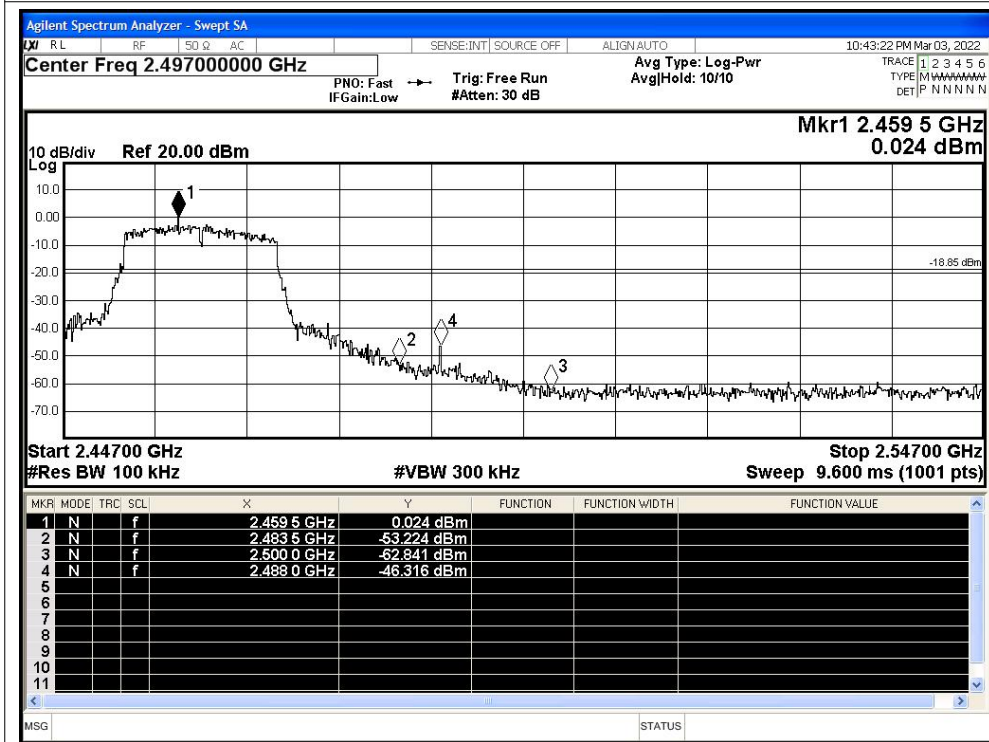




Band Edge NVNT g 2462MHz Ant1 Ref

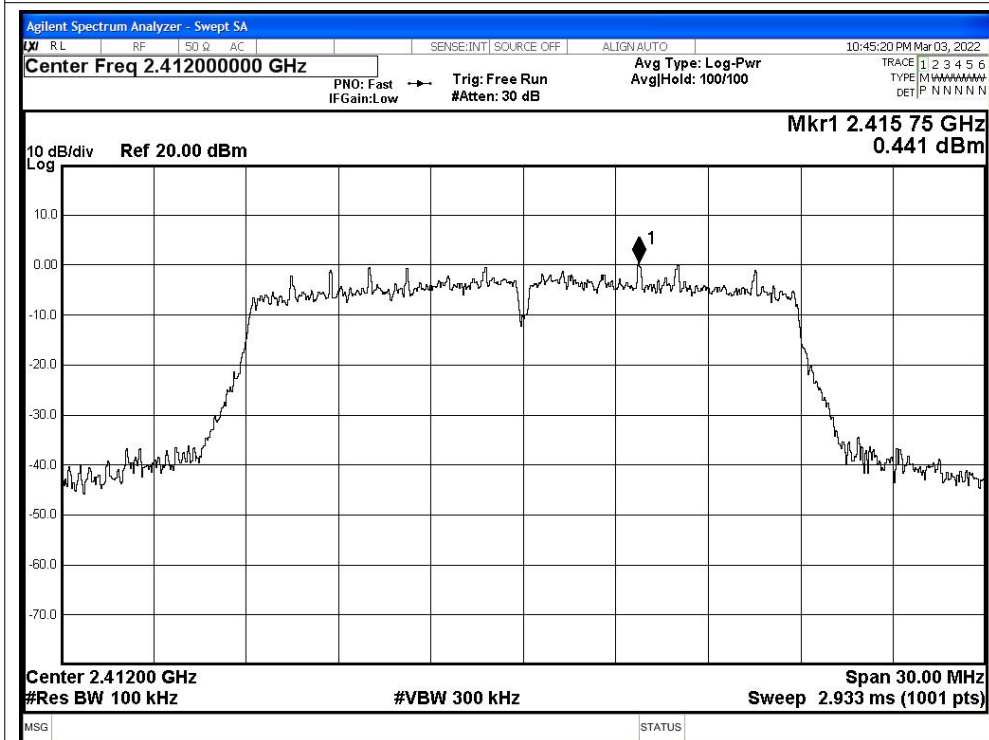


Band Edge NVNT g 2462MHz Ant1 Emission

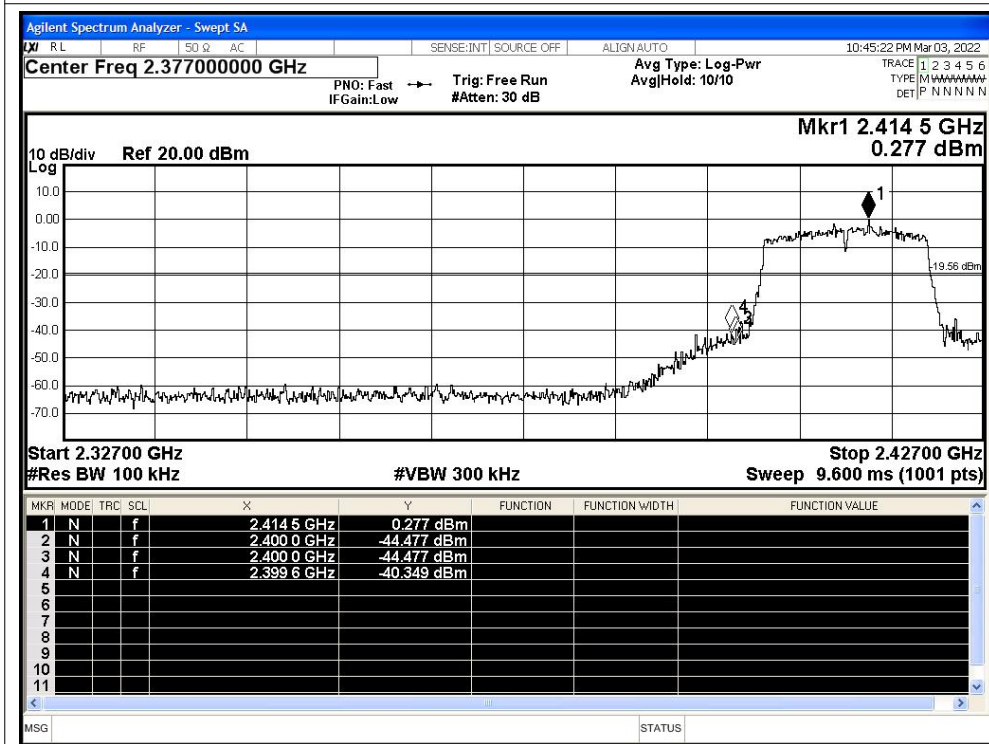


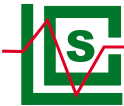


Band Edge NVNT n20 2412MHz Ant1 Ref

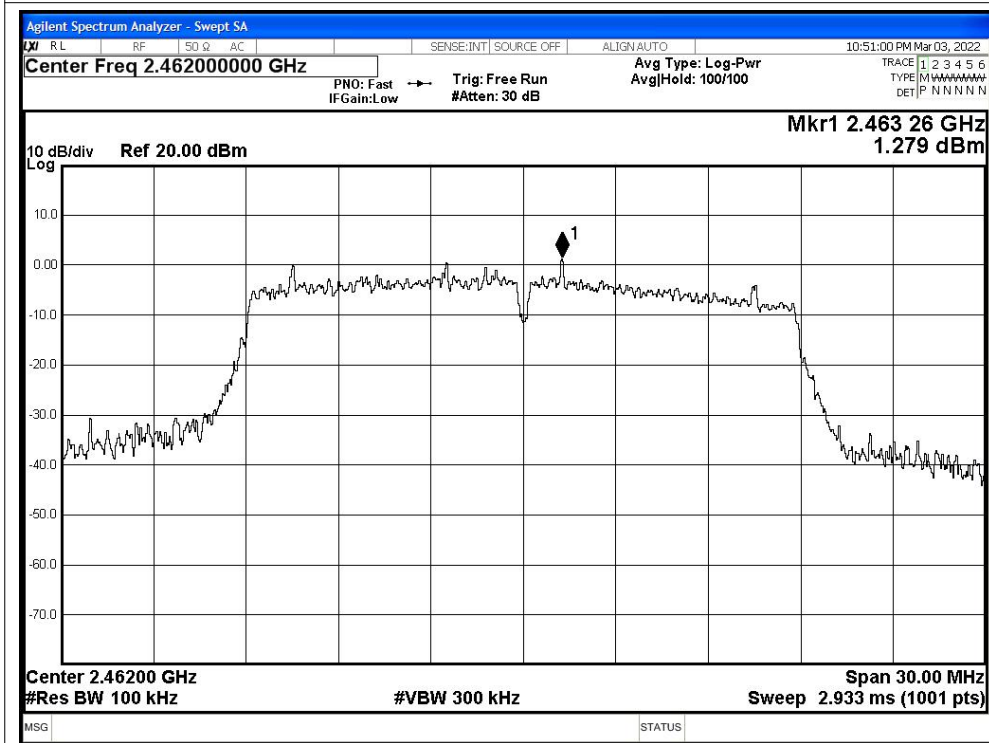


Band Edge NVNT n20 2412MHz Ant1 Emission

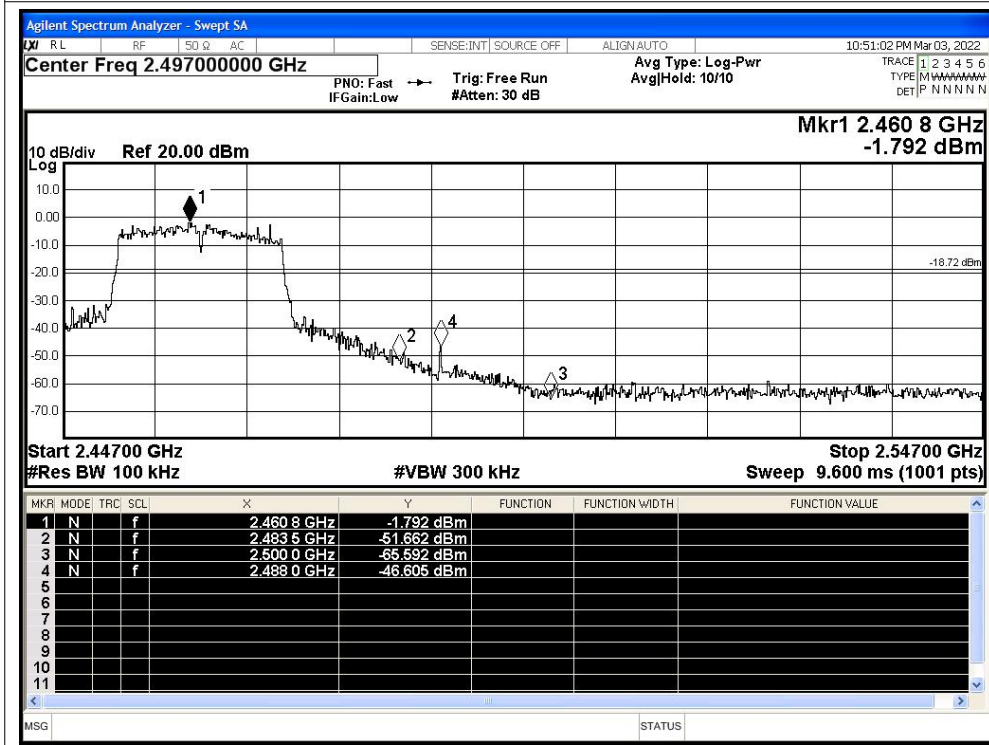




### Band Edge NVNT n20 2462MHz Ant1 Ref



### Band Edge NVNT n20 2462MHz Ant1 Emission





## B.5 Conducted Spurious Emission

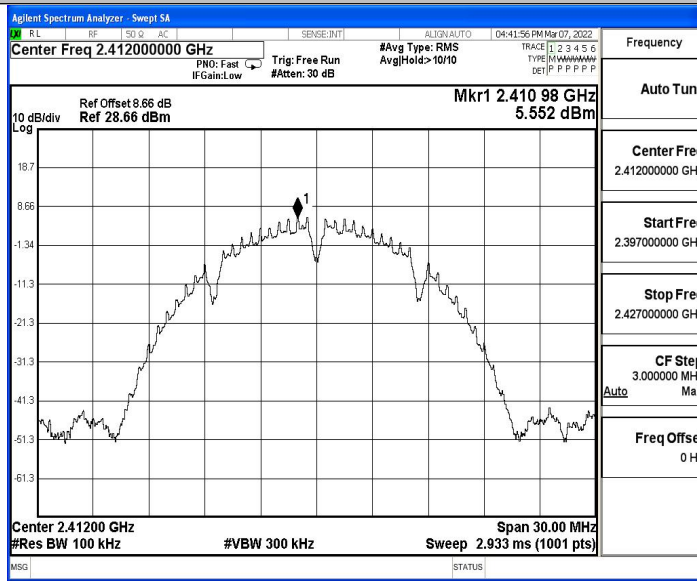
### Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
b	Ant1	2412	Reference	5.55	5.55	---	PASS
			30~1000	5.55	-57.64	≤-14.45	PASS
			1000~26500	5.55	-45.92	≤-14.45	PASS
		2437	Reference	4.61	4.61	---	PASS
			30~1000	4.61	-57.79	≤-15.39	PASS
			Reference	4.78	4.78	---	PASS
		2462	30~1000	4.78	-47.34	≤-15.22	PASS
			1000~26500	4.78	-45.59	≤-15.22	PASS
			Reference	-2.11	-2.11	---	PASS
g	Ant1	2412	30~1000	-2.11	-47.4	≤-22.11	PASS
			1000~26500	-2.11	-45.97	≤-22.11	PASS
			Reference	-3.49	-3.49	---	PASS
		2437	30~1000	-3.49	-53.25	≤-23.49	PASS
			1000~26500	-3.49	-45.76	≤-23.49	PASS
			Reference	-3.00	-3.00	---	PASS
		2462	30~1000	-3.00	-50.47	≤-23	PASS
			1000~26500	-3.00	-46.56	≤-23	PASS
			Reference	-3.45	-3.45	---	PASS
n20	Ant1	2412	30~1000	-3.45	-40.42	≤-23.45	PASS
			1000~26500	-3.45	-45.94	≤-23.45	PASS
			Reference	-4.11	-4.11	---	PASS
		2437	30~1000	-4.11	-54.72	≤-24.11	PASS
			1000~26500	-4.11	-46.47	≤-24.11	PASS
			Reference	-4.10	-4.10	---	PASS
		2462	30~1000	-4.10	-55.41	≤-24.1	PASS
			1000~26500	-4.10	-46.14	≤-24.1	PASS

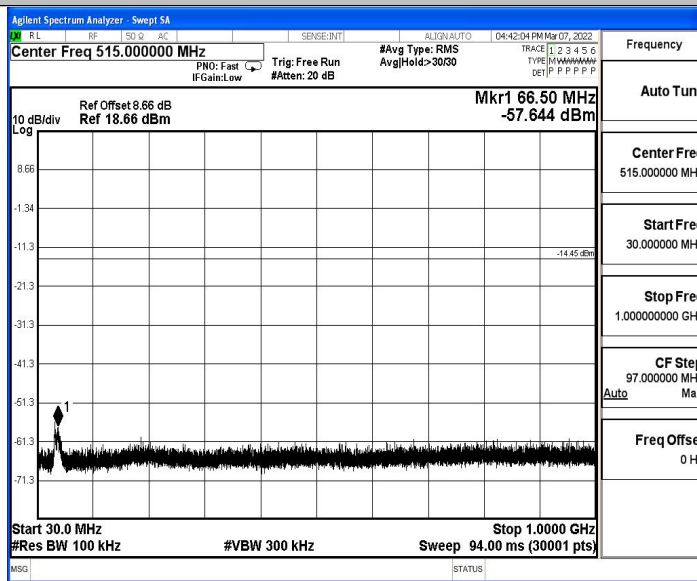


### Test Graphs

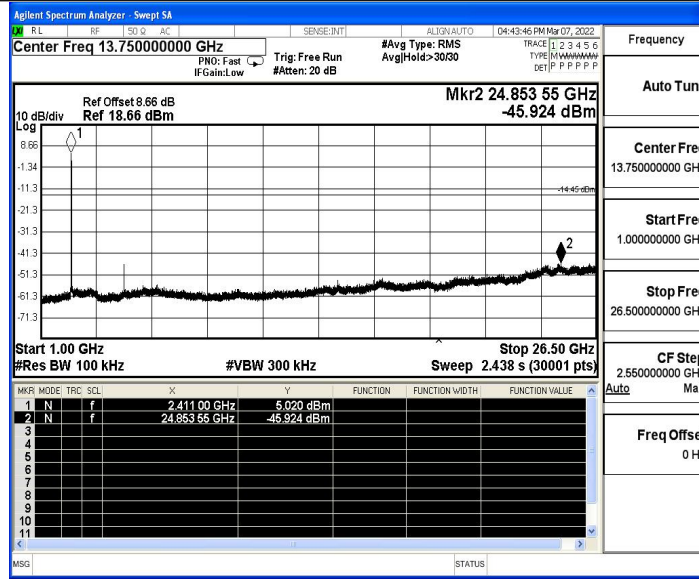
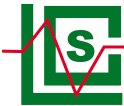
b\_Ant1\_2412\_0~Reference



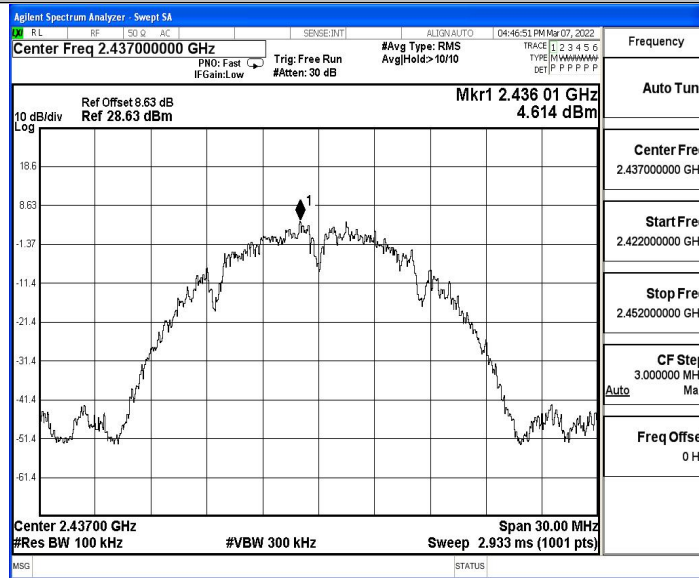
b\_Ant1\_2412\_30~1000



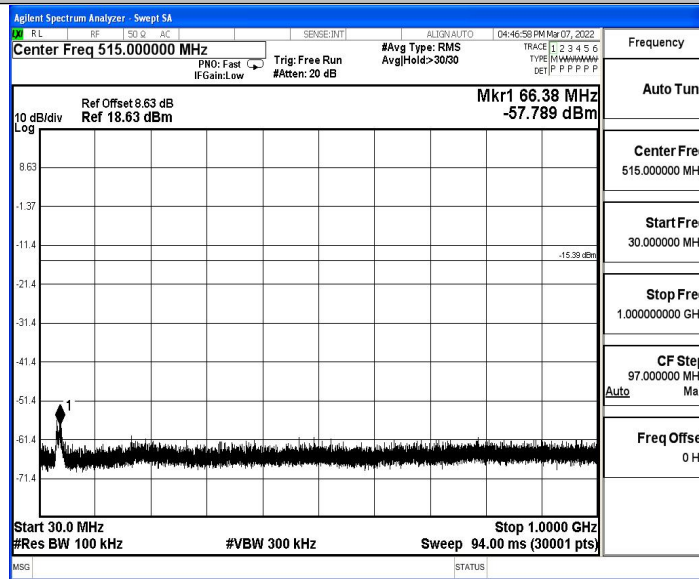
b\_Ant1\_2412\_1000~26500



b\_Ant1\_2437\_0~Reference



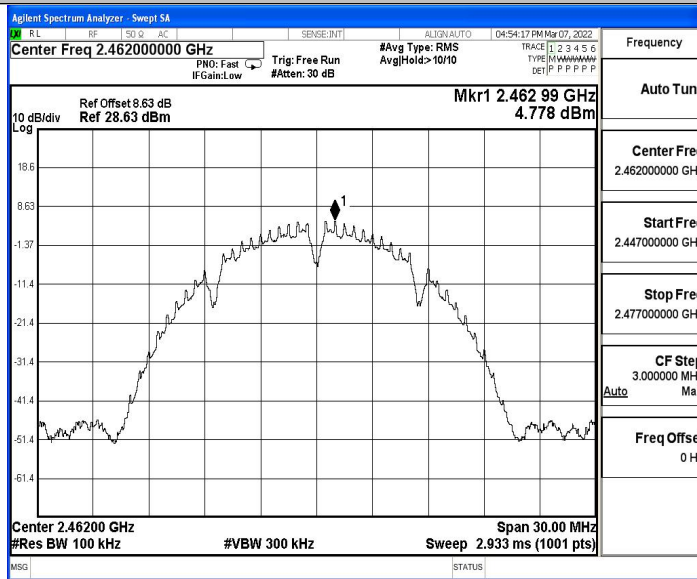
b\_Ant1\_2437\_30~1000



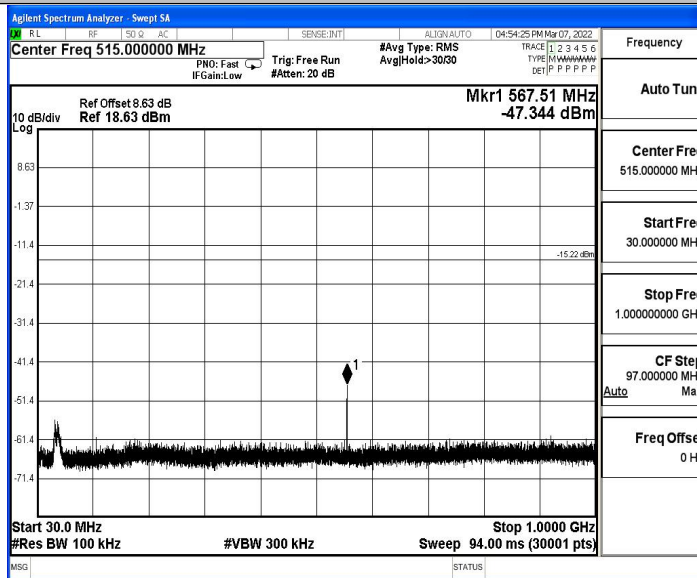




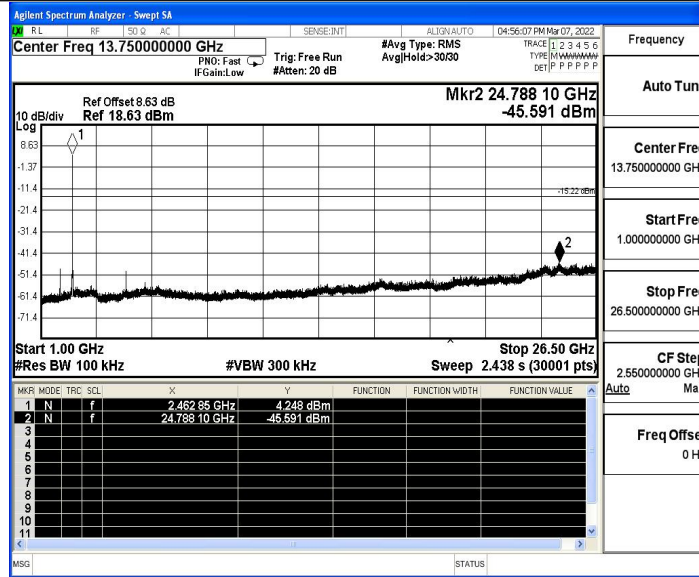
b\_Ant1\_2462\_0~Reference



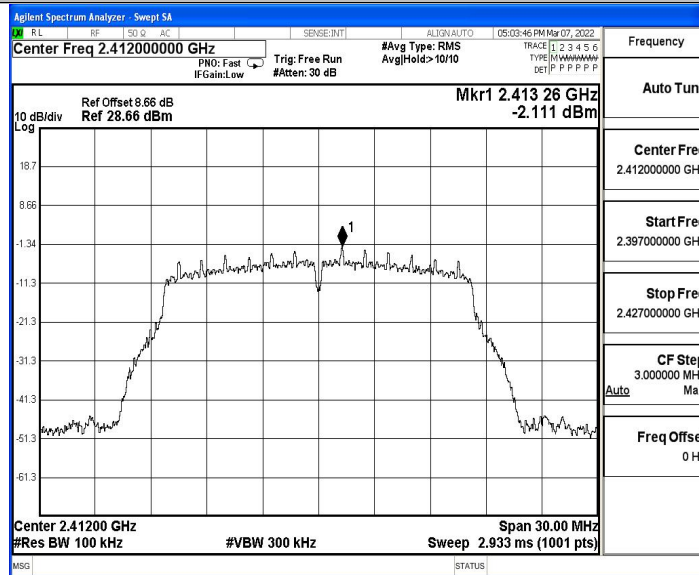
b\_Ant1\_2462\_30~1000



b\_Ant1\_2462\_1000~26500



g\_Ant1\_2412\_0~Reference



g\_Ant1\_2412\_30~1000

