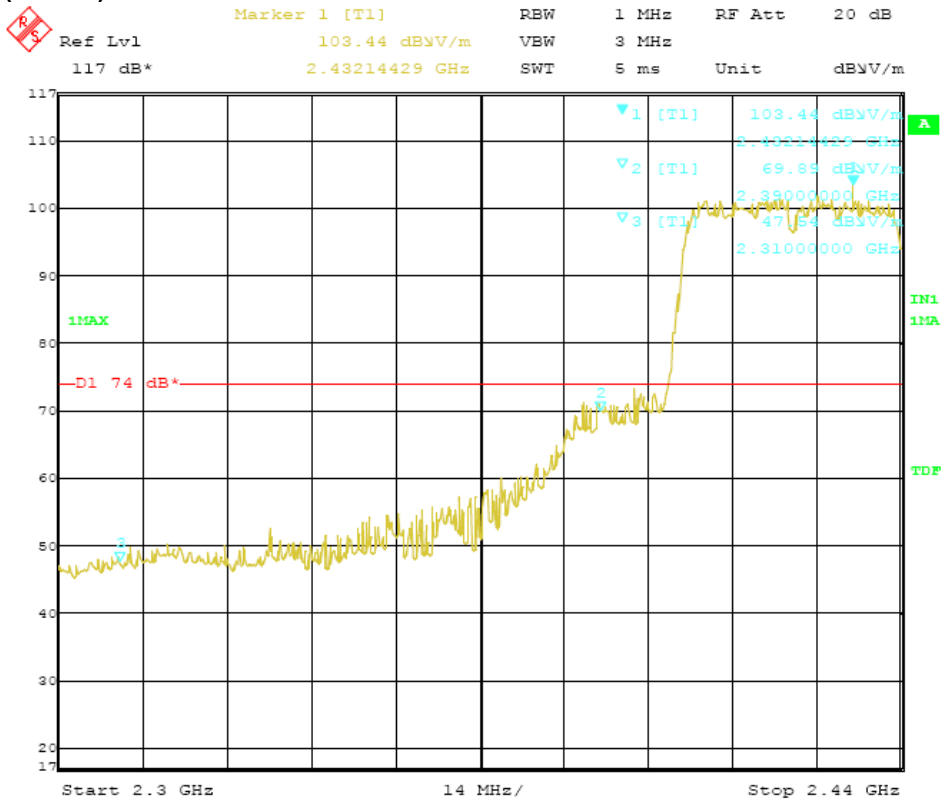
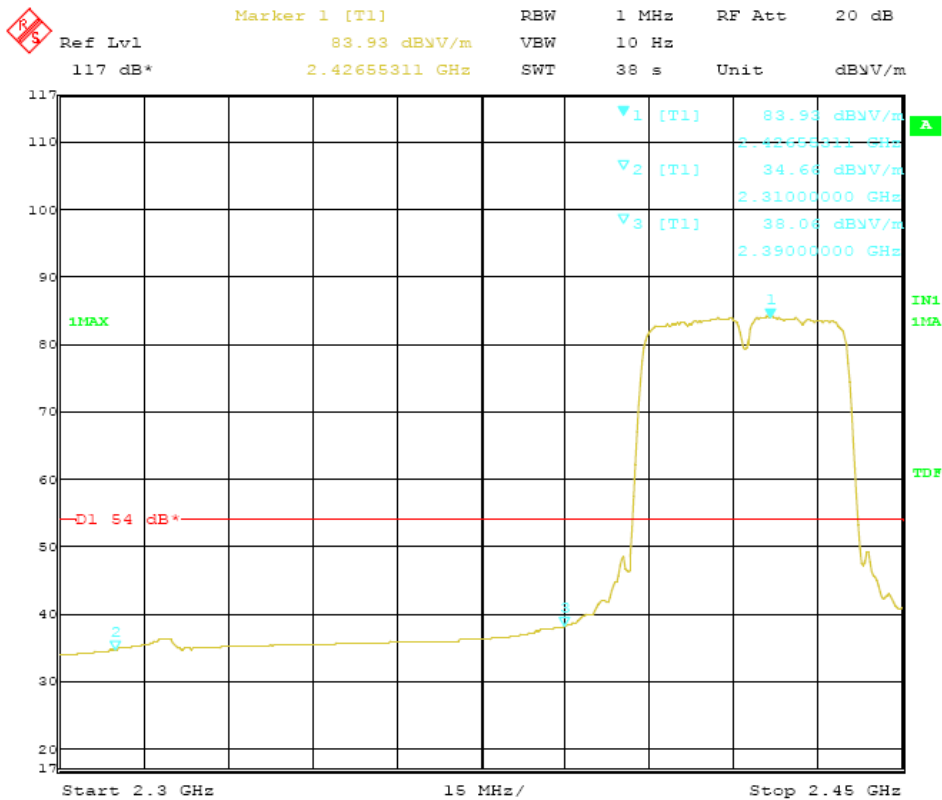


Note : For 802.11n (40MHz) Mode:



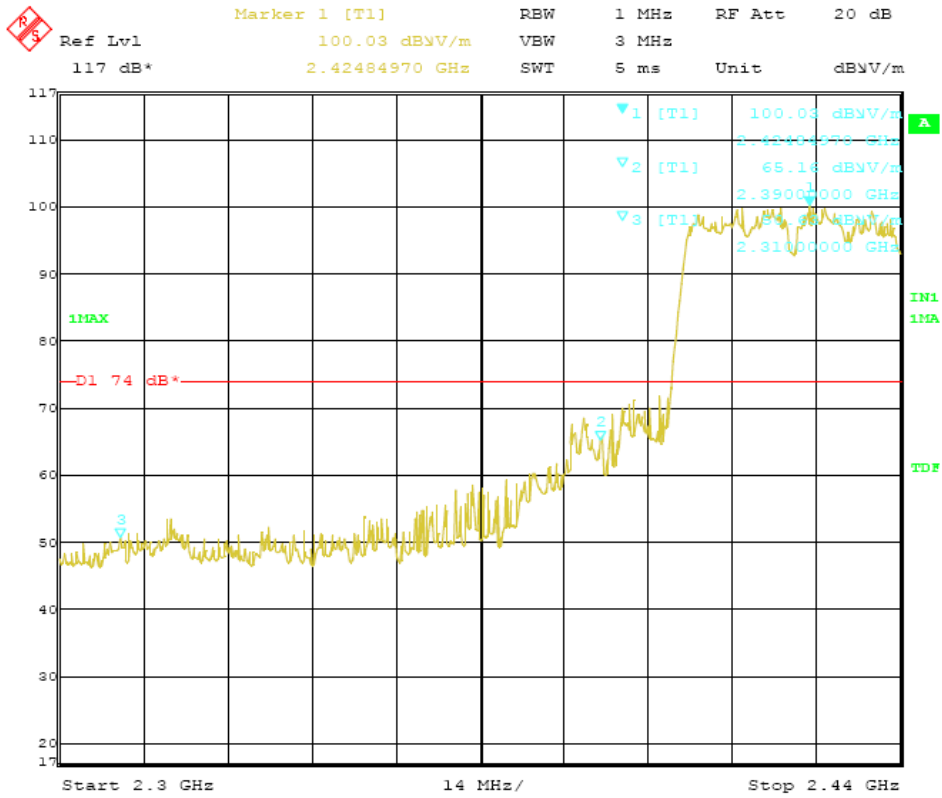
Note:

1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209, the peak radiated field strength shall blow 74dB μ v/m.
2. Antenna Polarization vertical.



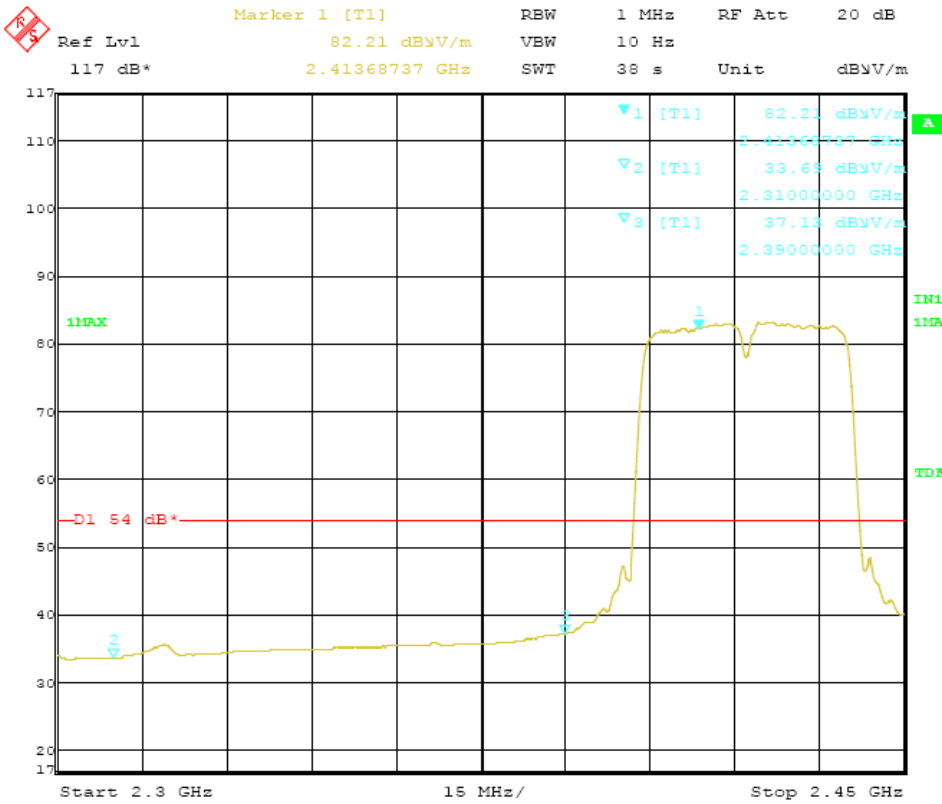
Note:

1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209, the average radiated field strength shall blow 54dB μ v/m.
2. Antenna Polarization vertical.



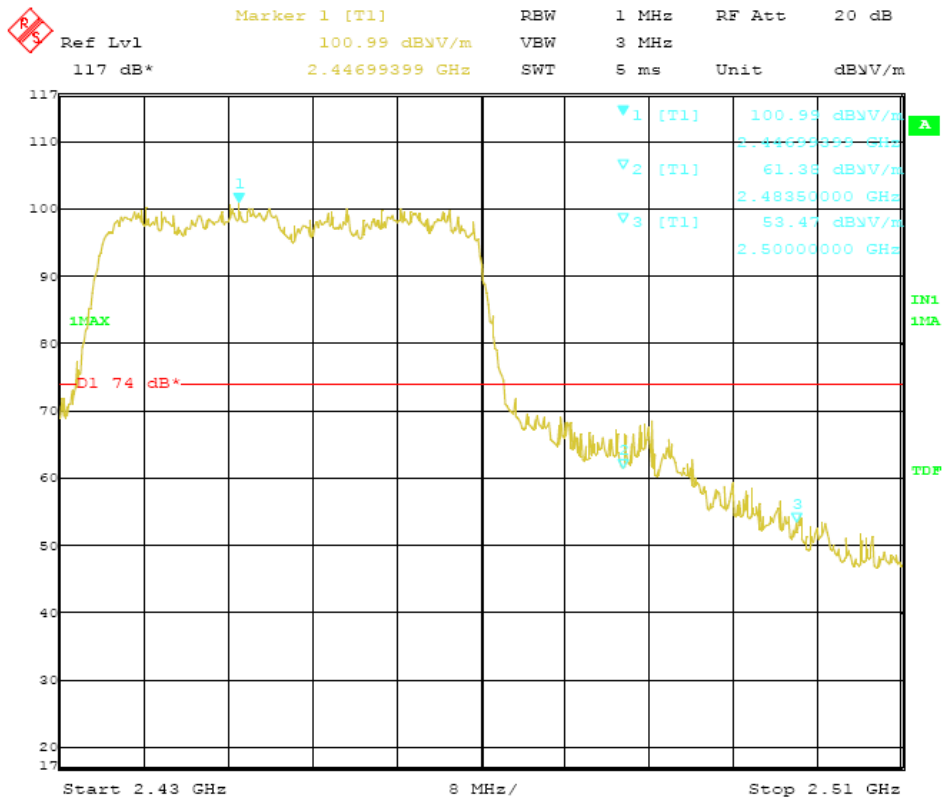
Note:

- 1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209, the peak radiated field strength shall blow 74dB μ V/m.
- 2. Antenna Polarization horizontal.



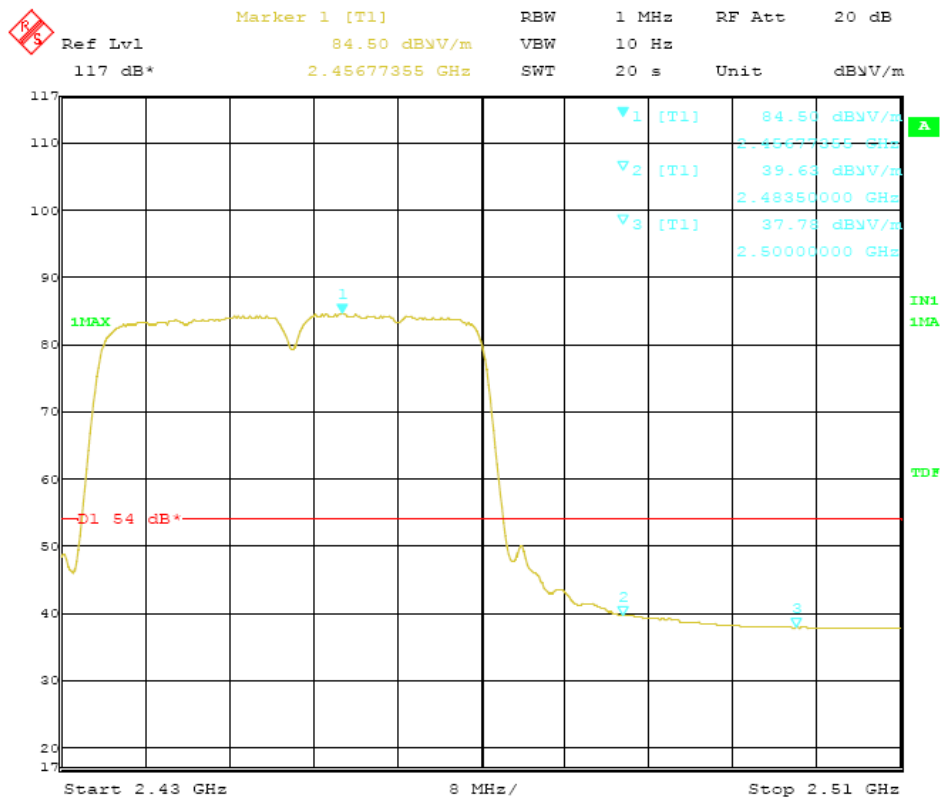
Note:

- 1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209, the average radiated field strength shall blow 54dB μ V/m.
- 2. Antenna Polarization horizontal.



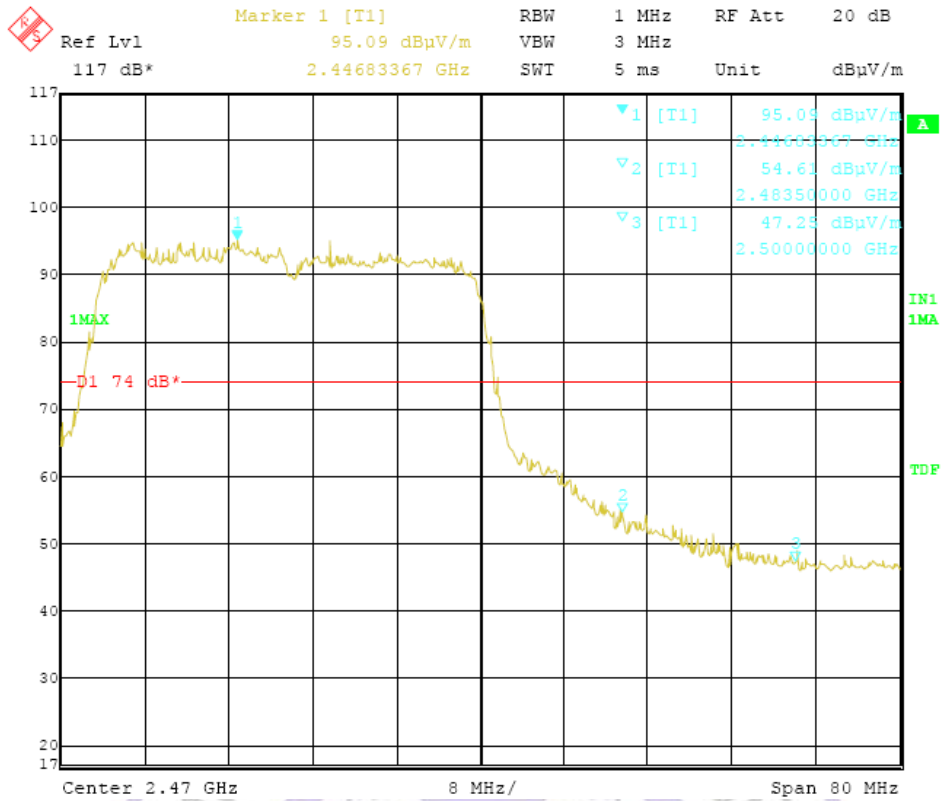
Note:

1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209, the peak radiated field strength shall blow 74dB μ v/m.
2. Antenna Polarization vertical.



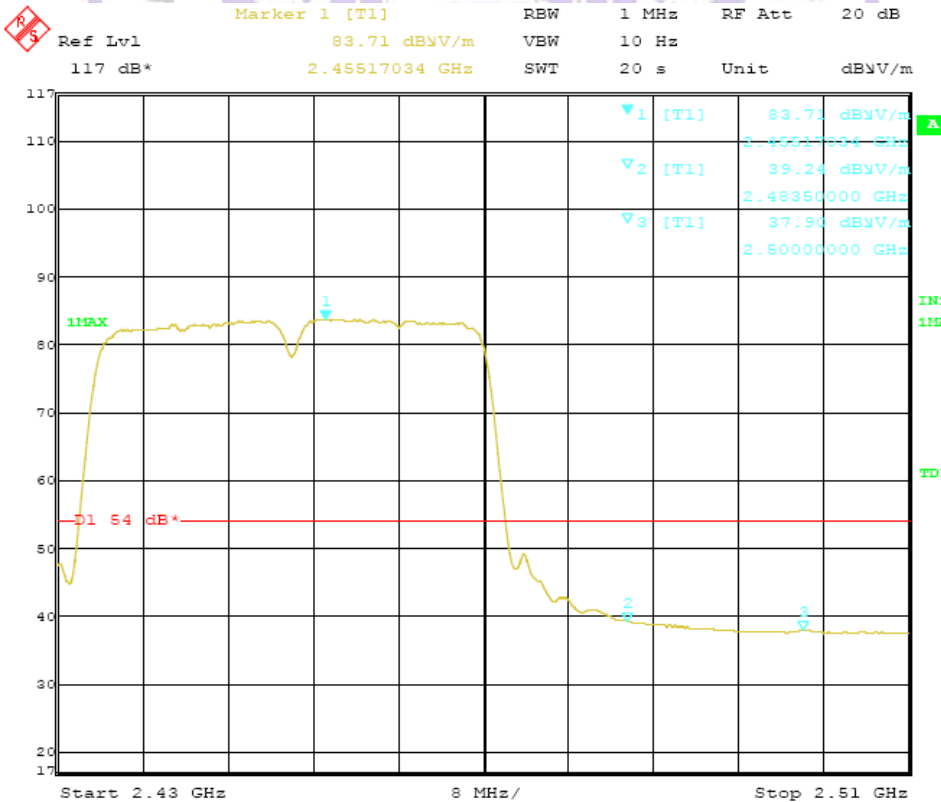
Note:

1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209, the average radiated field strength shall blow 54dB μ v/m.
2. Antenna Polarization vertical.



Note:

- 1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209, the peak radiated field strength shall blow 74dBuV/m.
- 2. Antenna Polarization horizontal.

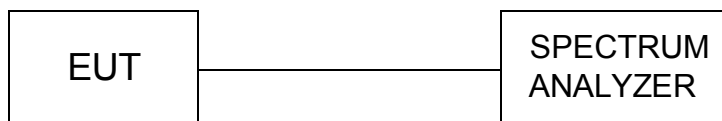


Note:

- 1. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209, the average radiated field strength shall blow 54dBuV/m.
- 2. Antenna Polarization horizontal.

4.6. Power Spectral Density Measurement

TEST CONFIGURATION



TEST PROCEDURE

1. The testing follows the FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Set SPAN = 20 MHz (For devices with a nominal 40 MHz BW, 50 MHz span will be needed)
3. Set REFERENCE LEVEL = 20 dBm
4. Set ATTENUATION = 0 dB (add internal attenuation, if necessary)
5. Set SWEEP TIME = Coupled
6. Set RBW = 3 kHz
7. Set VBW = 10 kHz
8. Set DETECTOR = Peak
9. Set MKR = Center Frequency
10. Set TRACE = CLEAR WRITE

Place the radio in continuous transmit mode. Set the TRACE to MAX HOLD, and after the trace stabilizes, the TRACE to VIEW. Set the marker on the peak of the signal and then adjust the center frequency of the spectrum analyzer to the marker frequency. After viewing the EUT waveform on the spectrum analyzer, perform the following spectrum analyzer functions to capture the trace:

11. Set SPAN = 300 kHz
12. Set SWEEP TIME = 100 s
13. Set TRACE = MAX HOLD
14. Set MKR = PEAK SEARCH
15. Record the marker level for the particular mode. Repeat these steps for other device modes.

LIMIT

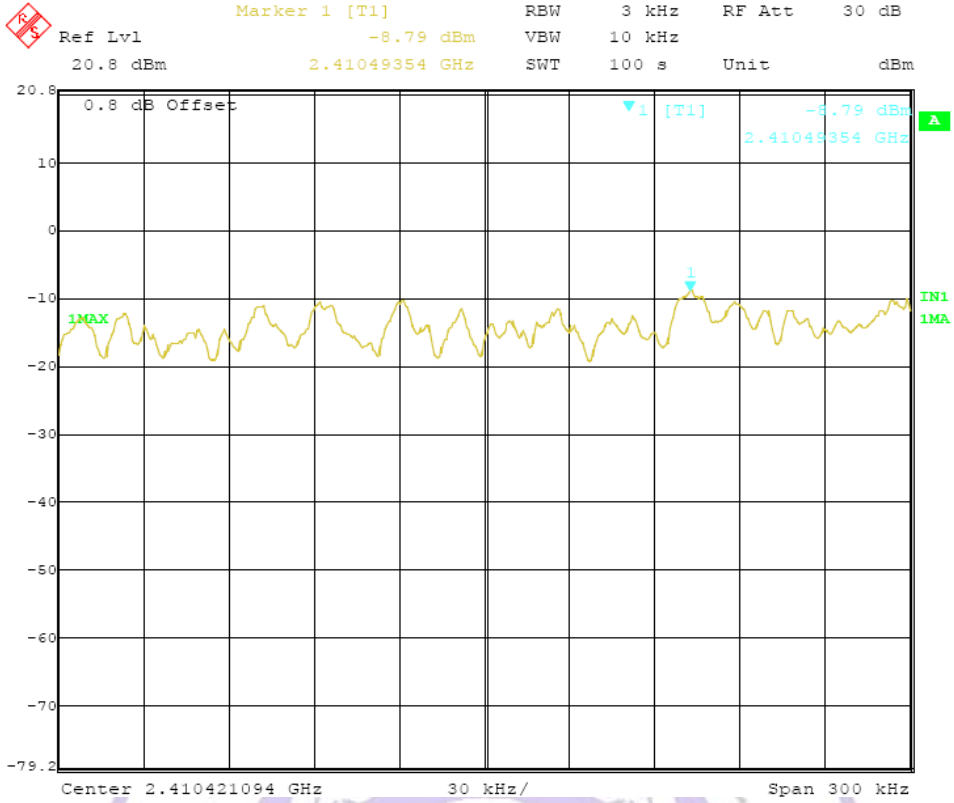
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST RESULTS

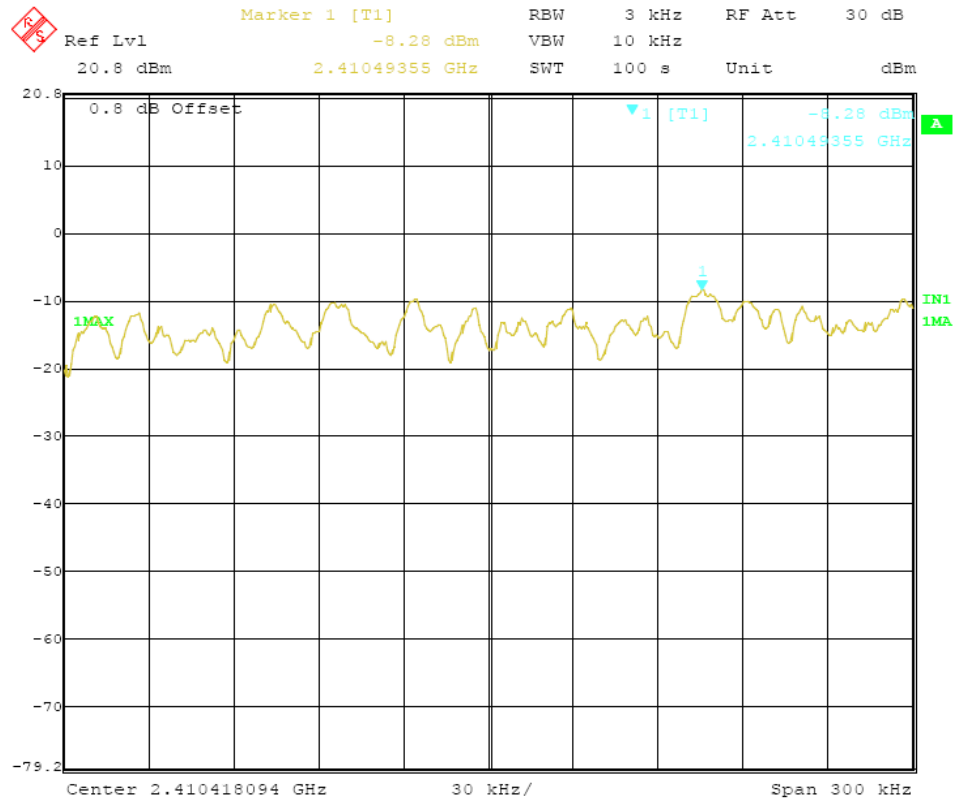
Channel	Channel Frequency (MHz)	RF power level in 3 KHz BW (dBm)			Maximum limit (dBm)	PASS / FAIL
		Ant1	Ant 2	Total		
1	2412	-8.79	-8.28	N/A	8	PASS
6	2437	-8.92	-8.41	N/A	8	PASS
11	2462	-8.41	-7.92	N/A	8	PASS
1	2412	-13.31	-13.27	N/A	8	PASS
6	2437	-13.86	-12.84	N/A	8	PASS
11	2462	-12.45	-12.02	N/A	8	PASS
1	2412	-14.21	-14.21	-11.20	8	PASS
6	2437	-12.84	-15.26	-10.87	8	PASS
11	2462	-12.74	-13.85	-10.25	8	PASS
3	2422	-17.58	-18.42	-14.97	8	PASS
6	2437	-17.16	-18.12	-14.60	8	PASS
9	2452	-17.05	-18.50	-14.70	8	PASS

For 802.11b Mode:

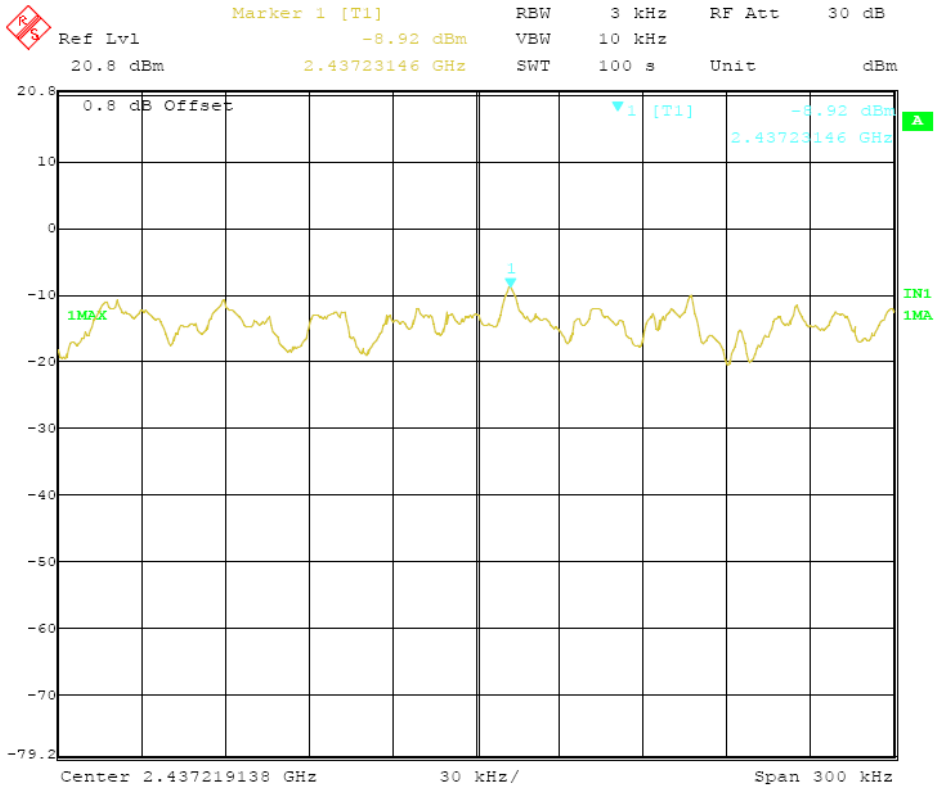
CH1 @ANT 1



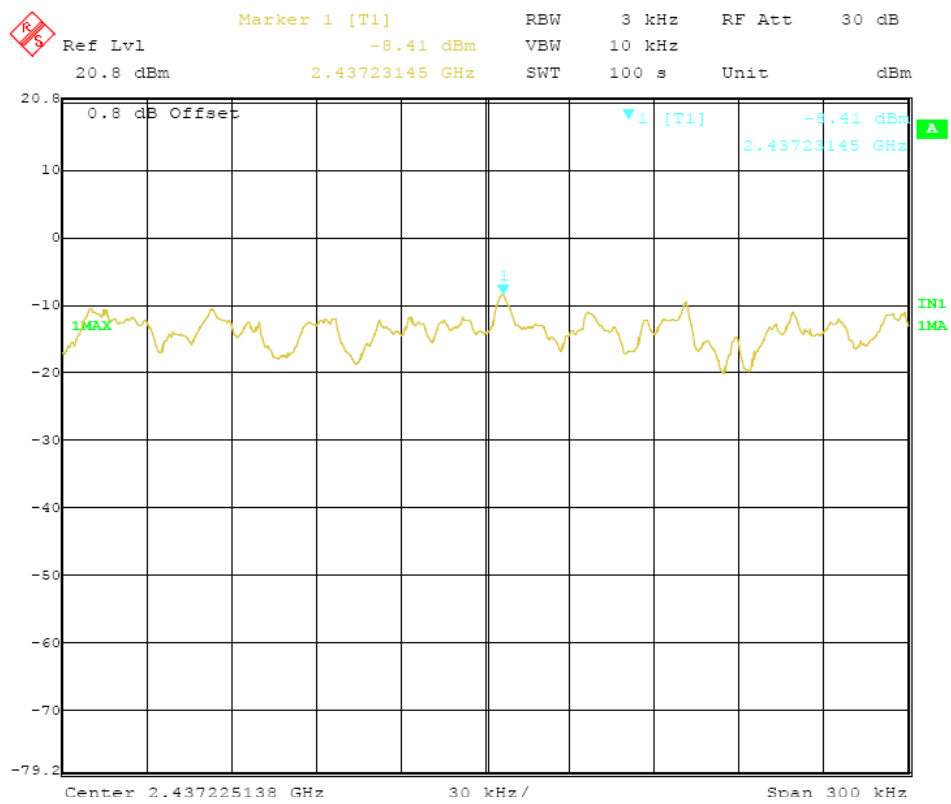
CH1 @ANT 2



CH6 @ANT 1

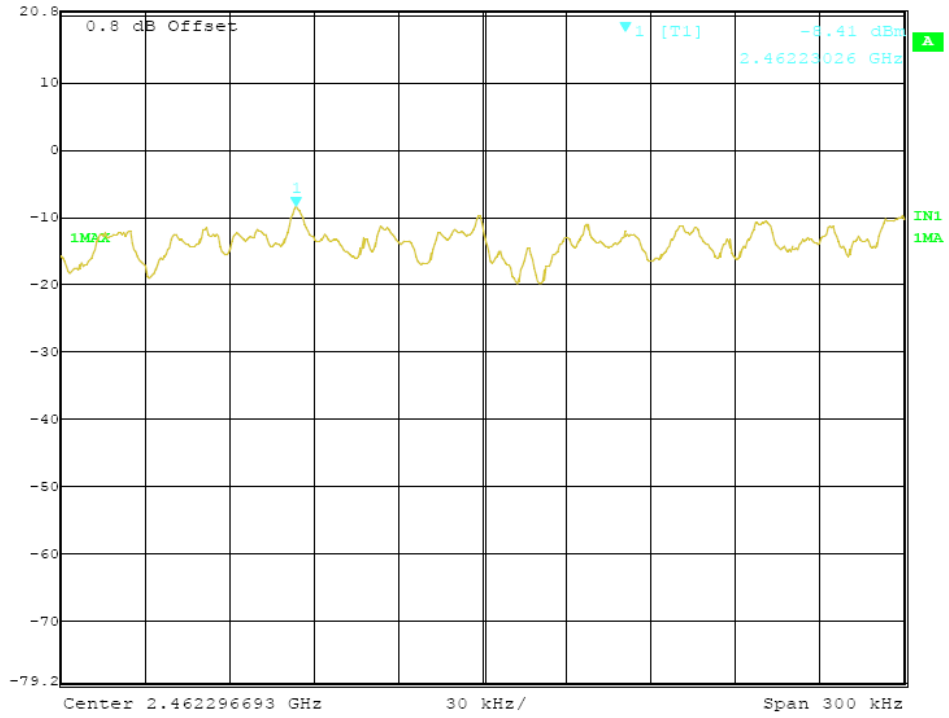


CH6 @ANT 2



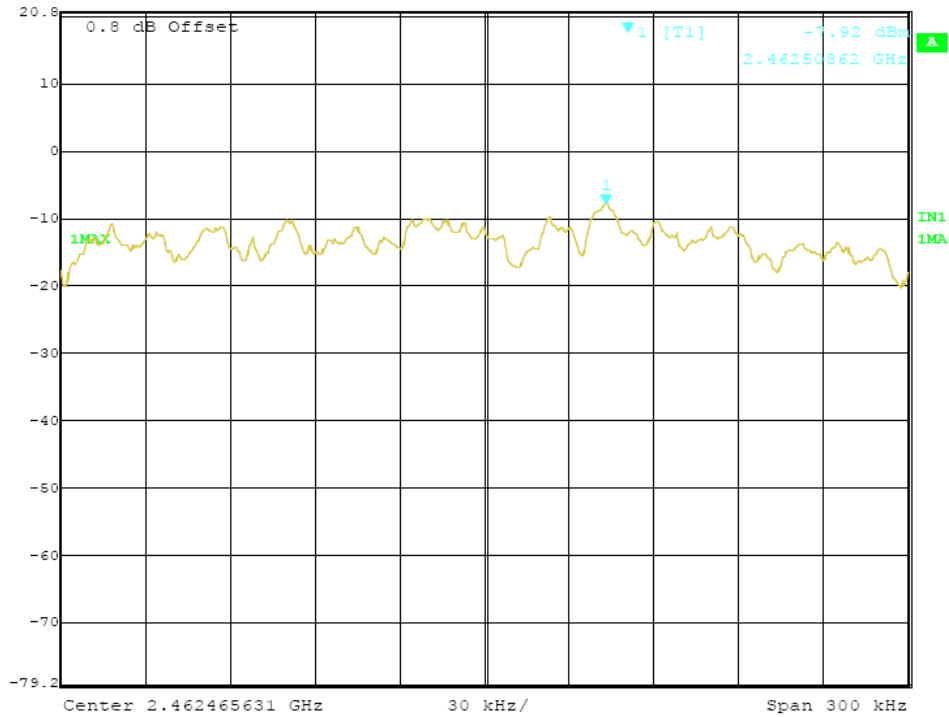
CH11 @ANT 1

Ref Lvl	Marker 1 [T1]	RBW	3 kHz	RF Att	30 dB
20.8 dBm	-8.41 dBm	VBW	10 kHz		
	2.46223026 GHz	SWT	100 s	Unit	dBm




CH11 @ANT 2

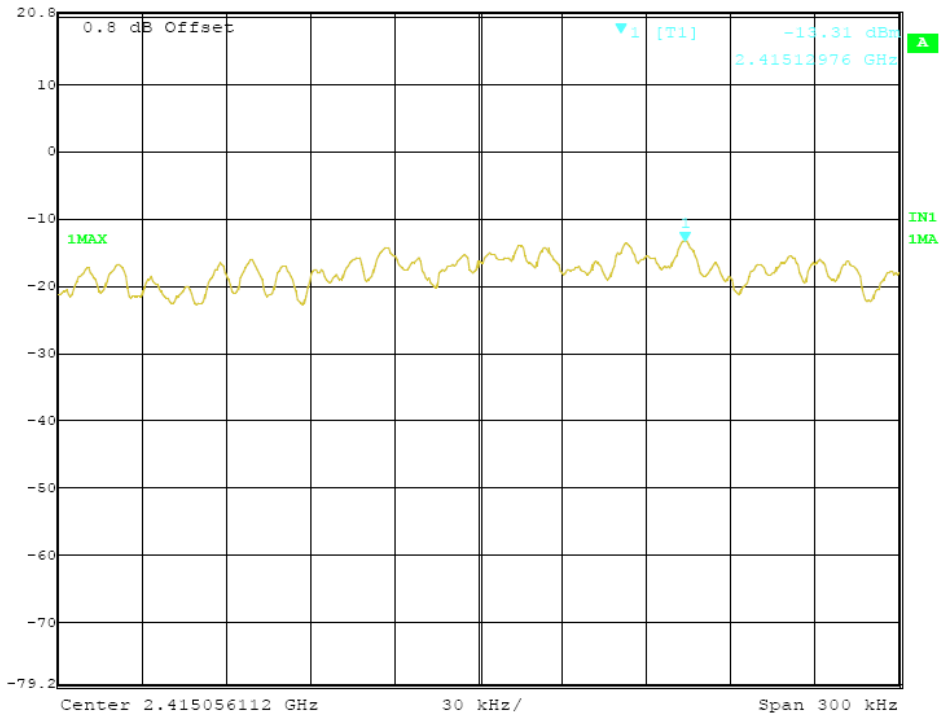
Ref Lvl	Marker 1 [T1]	RBW	3 kHz	RF Att	30 dB
20.8 dBm	-7.92 dBm	VBW	10 kHz		
	2.46250862 GHz	SWT	100 s	Unit	dBm




For 802.11g Mode:

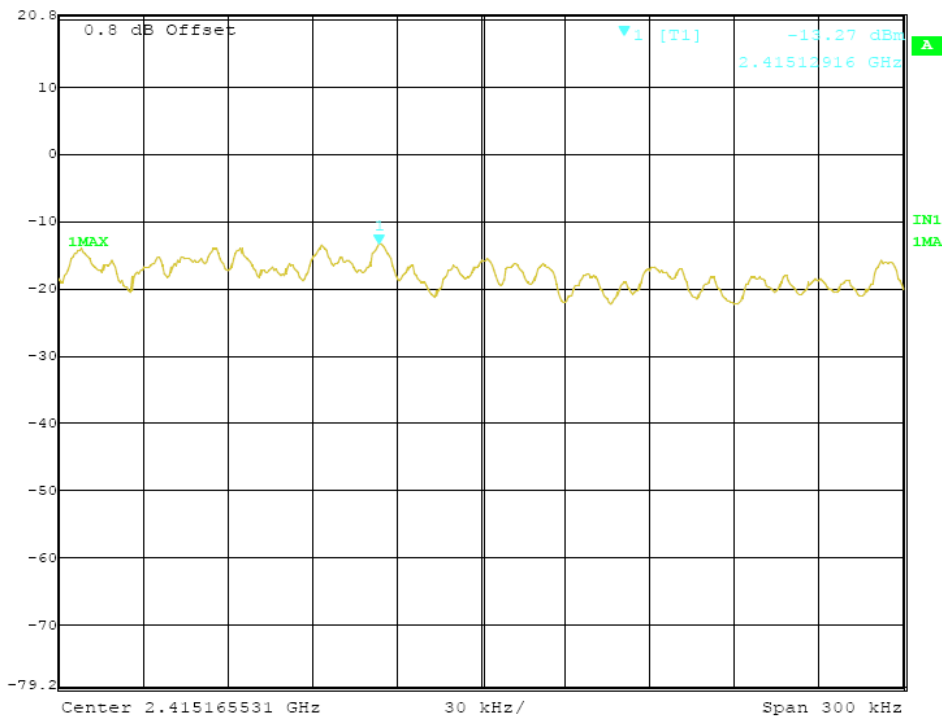
CH1 @ANT 1

	Marker 1 [T1]	RBW	3 kHz	RF Att	30 dB
Ref Lvl	-13.31 dBm	VBW	10 kHz		
20.8 dBm	2.41512976 GHz	SWT	100 s	Unit	dBm

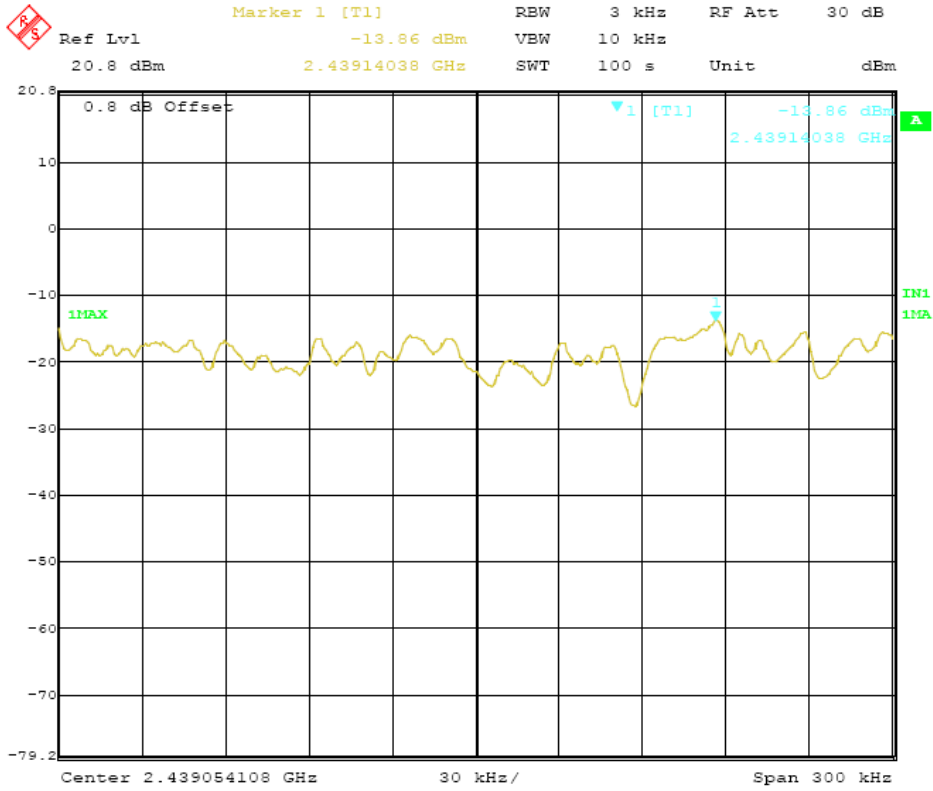


CH1 @ANT 2

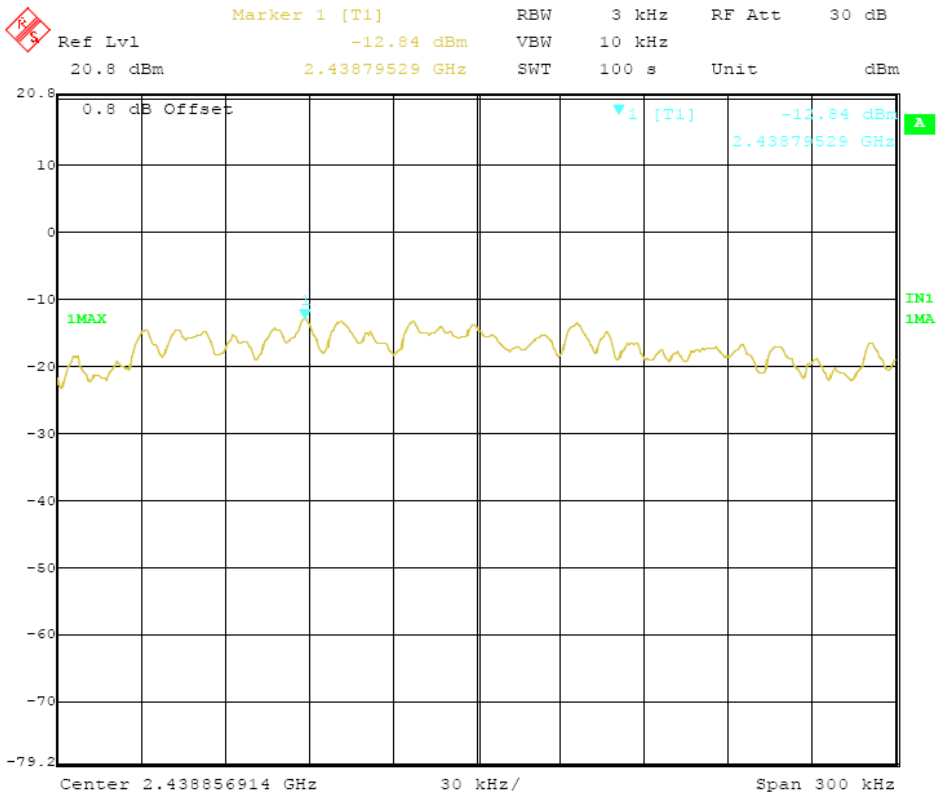
	Marker 1 [T1]	RBW	3 kHz	RF Att	30 dB
Ref Lvl	-13.27 dBm	VBW	10 kHz		
20.8 dBm	2.41512916 GHz	SWT	100 s	Unit	dBm



CH6 @ANT 1

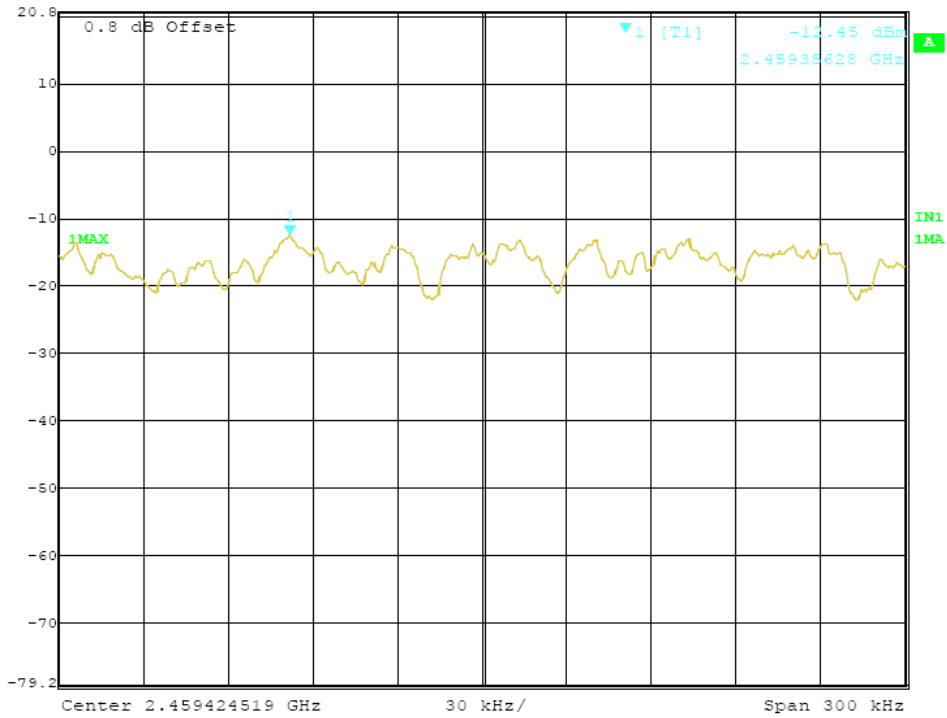


CH6 @ANT 2



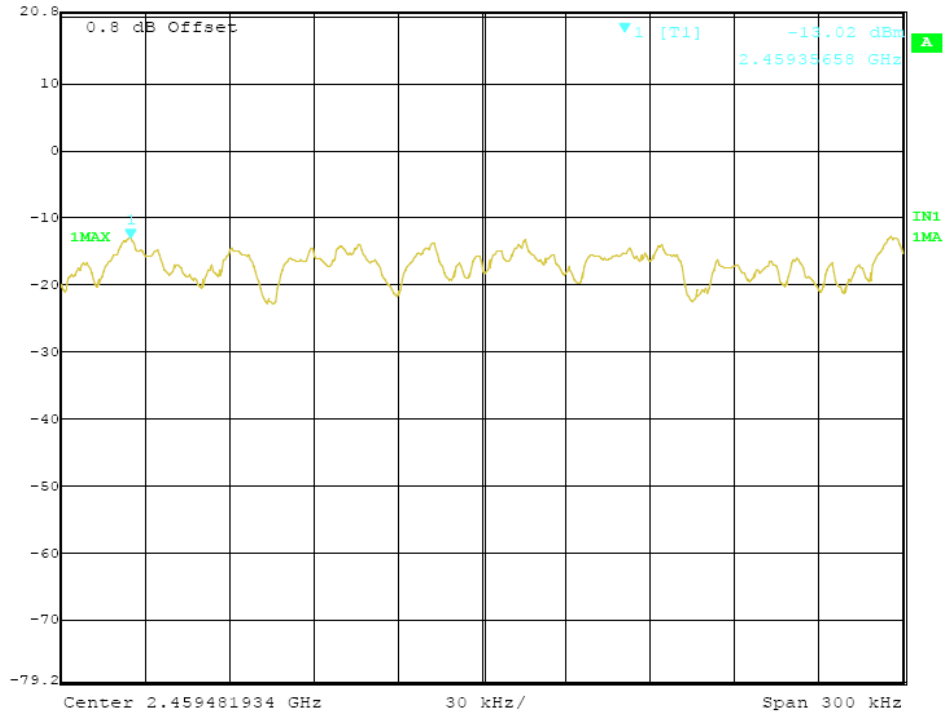
CH11 @ANT 1

Marker 1 [T1] RBW 3 kHz RF Att 30 dB
Ref Lvl -12.45 dBm VBW 10 kHz
20.8 dBm 2.45935628 GHz SWT 100 s Unit dBm



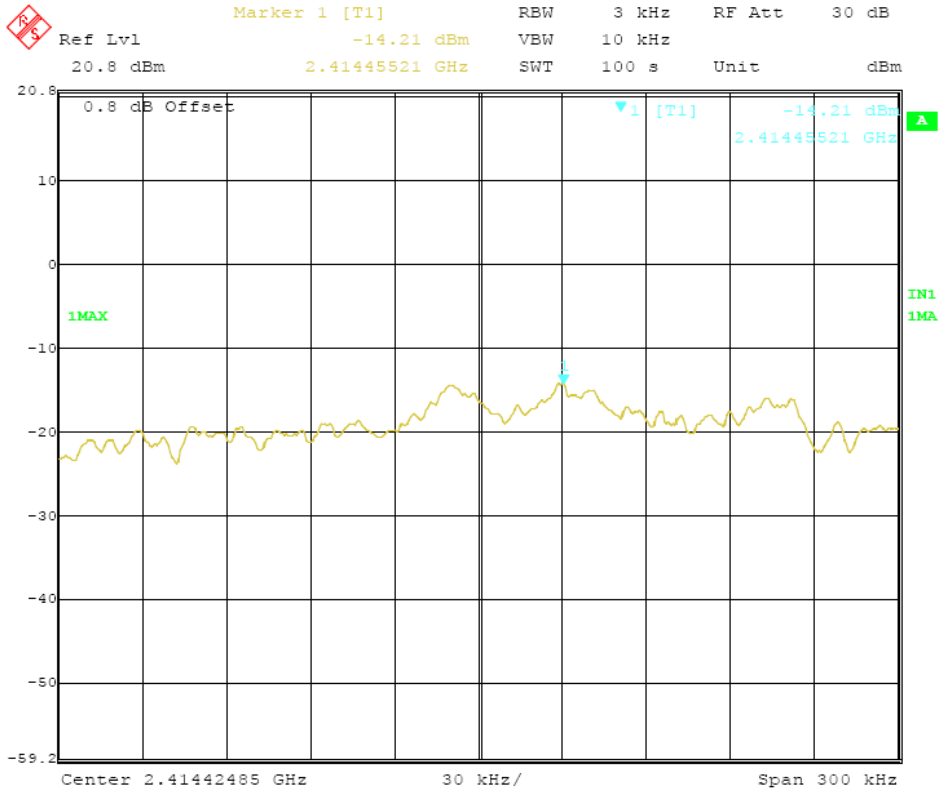
CH11 @ANT 2

Marker 1 [T1] RBW 3 kHz RF Att 30 dB
Ref Lvl -13.02 dBm VBW 10 kHz
20.8 dBm 2.45935658 GHz SWT 100 s Unit dBm

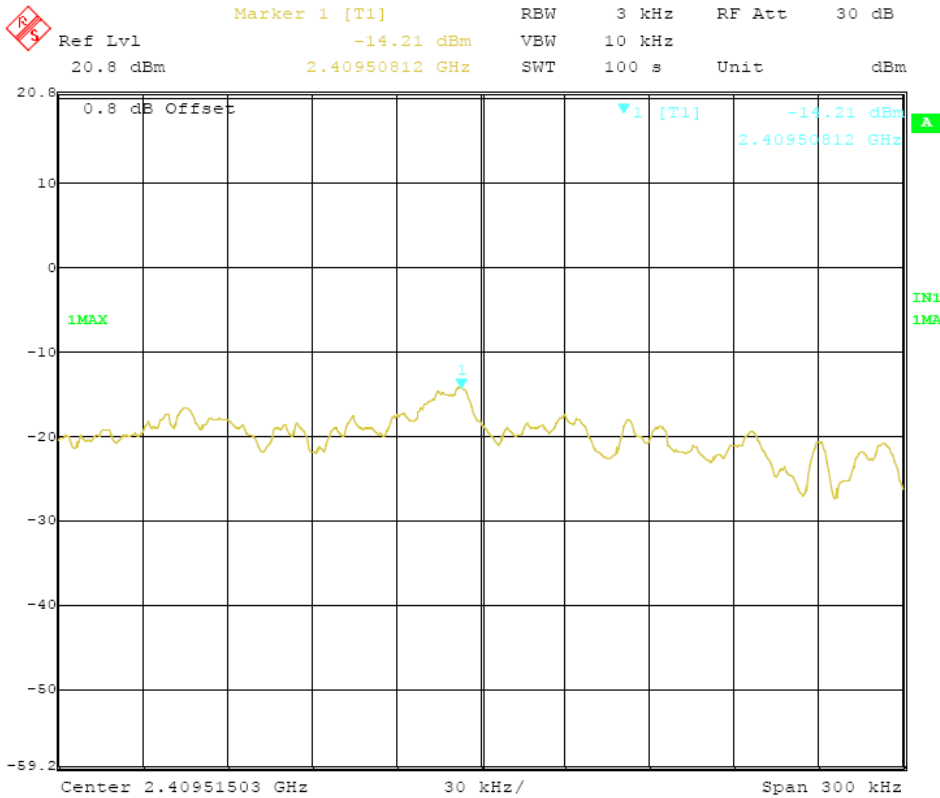


For 802.11n (20MHz) Mode:

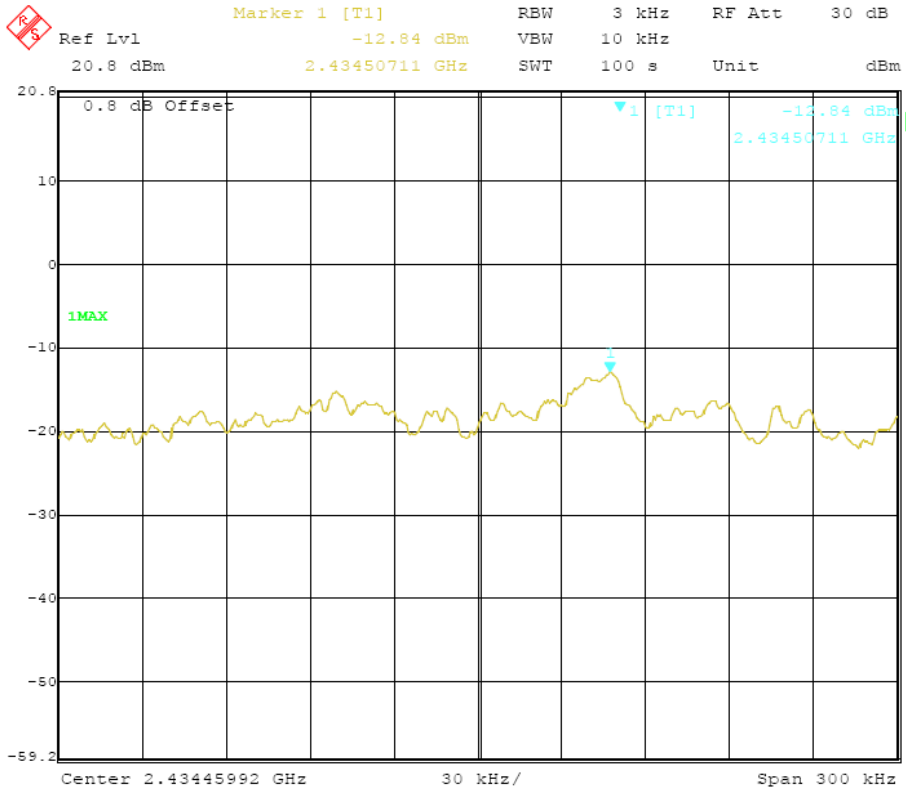
CH1 @ANT 1



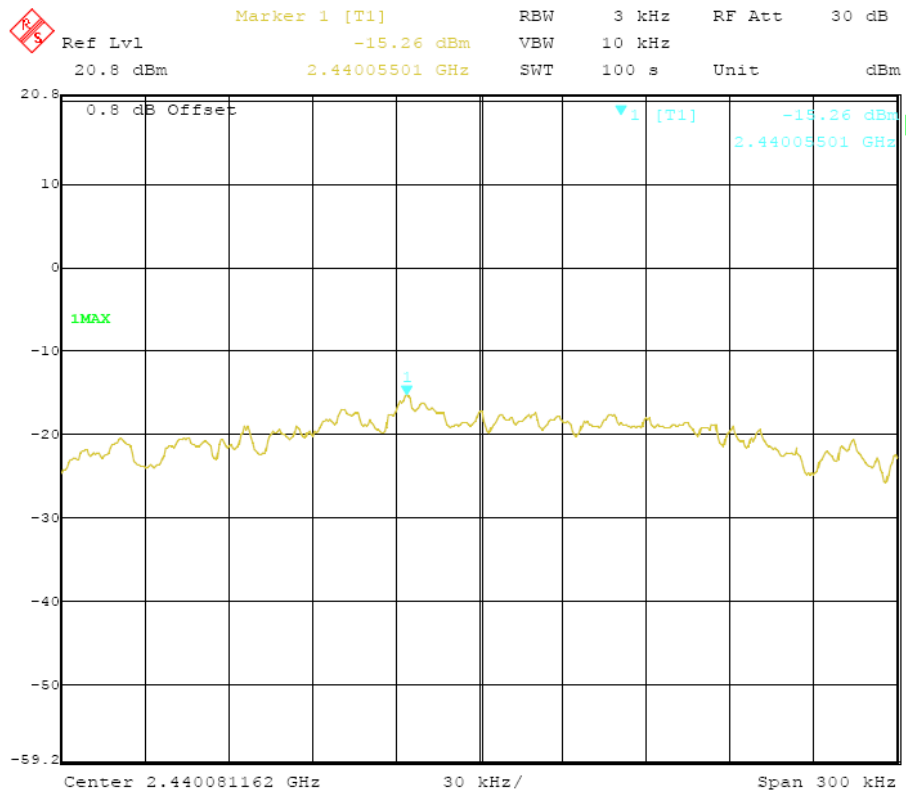
CH1 @ANT 2



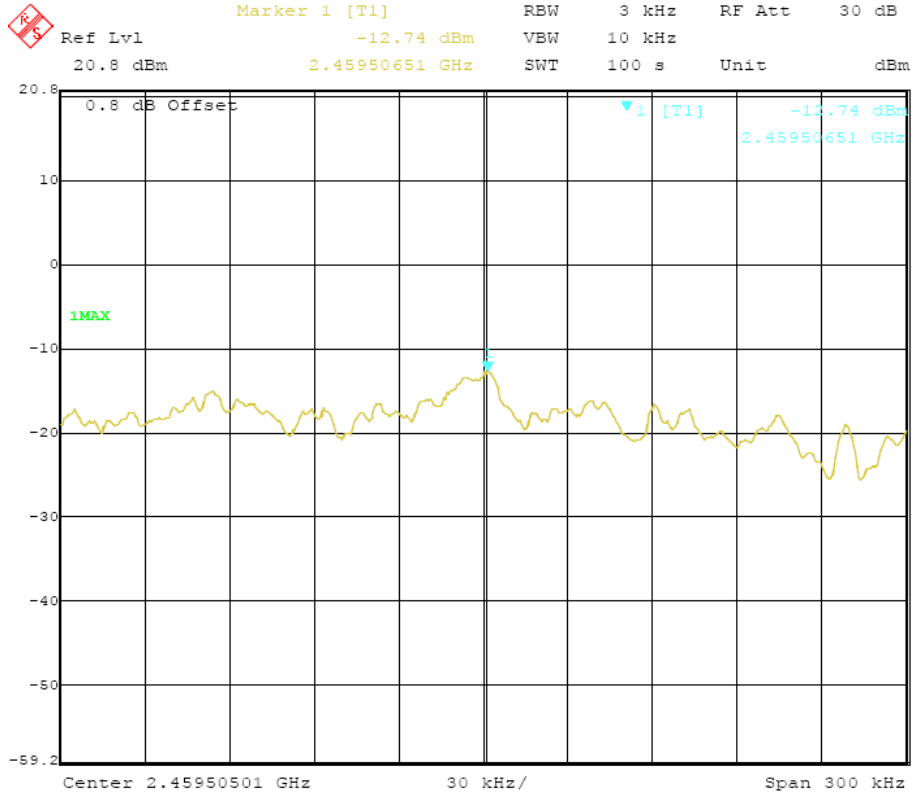
CH6 @ANT 1



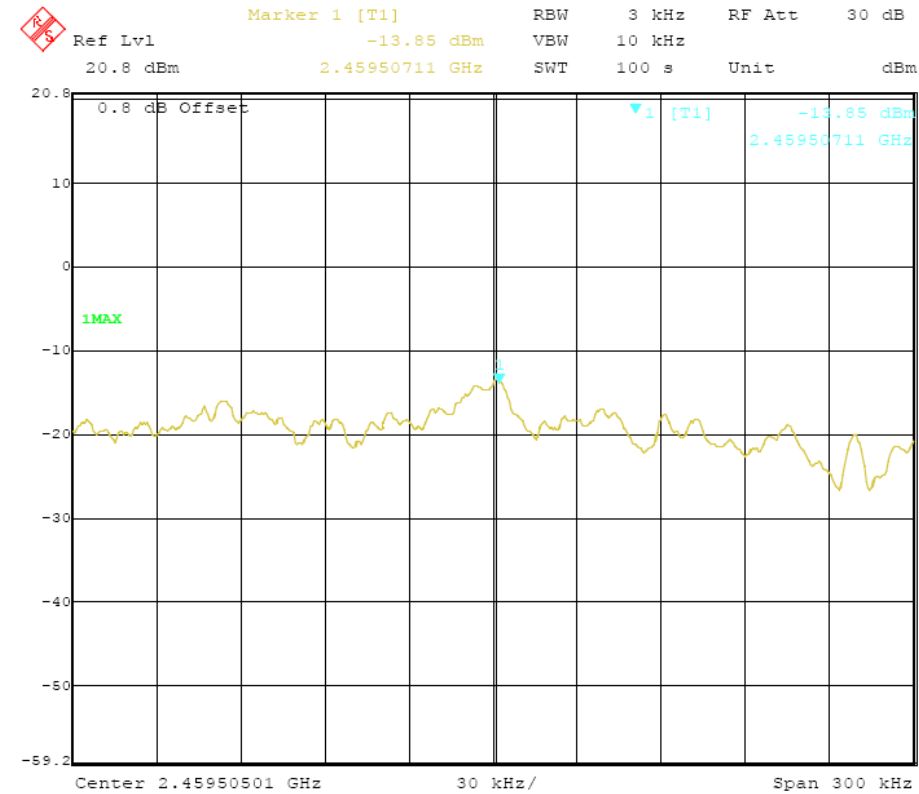
CH6 @ANT 2



CH11 @ANT 1



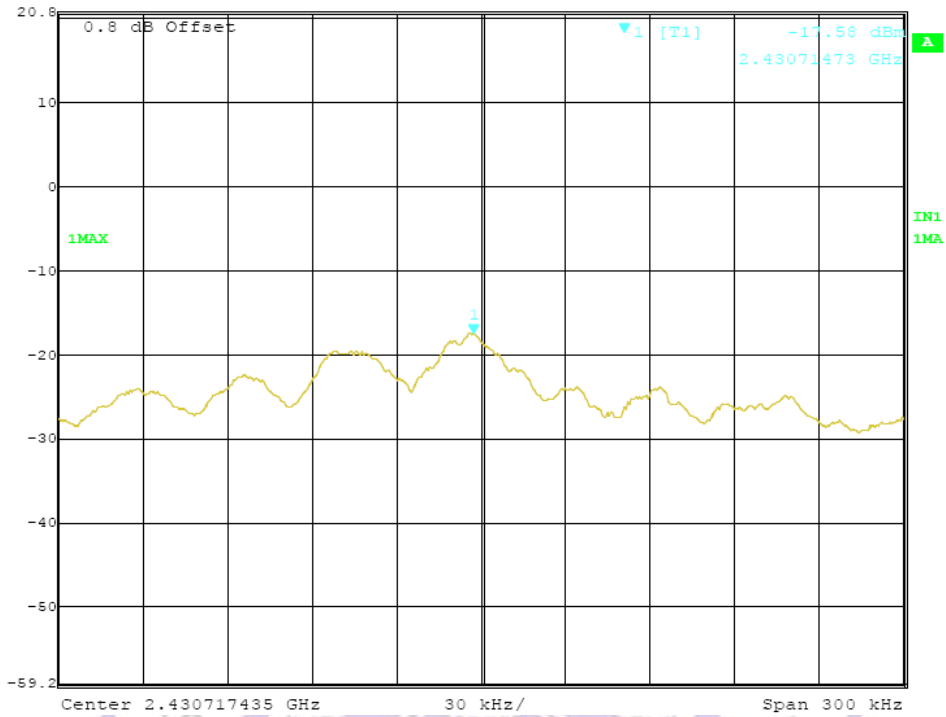
CH11 @ANT 2



For 802.11n (40MHz) Mode:

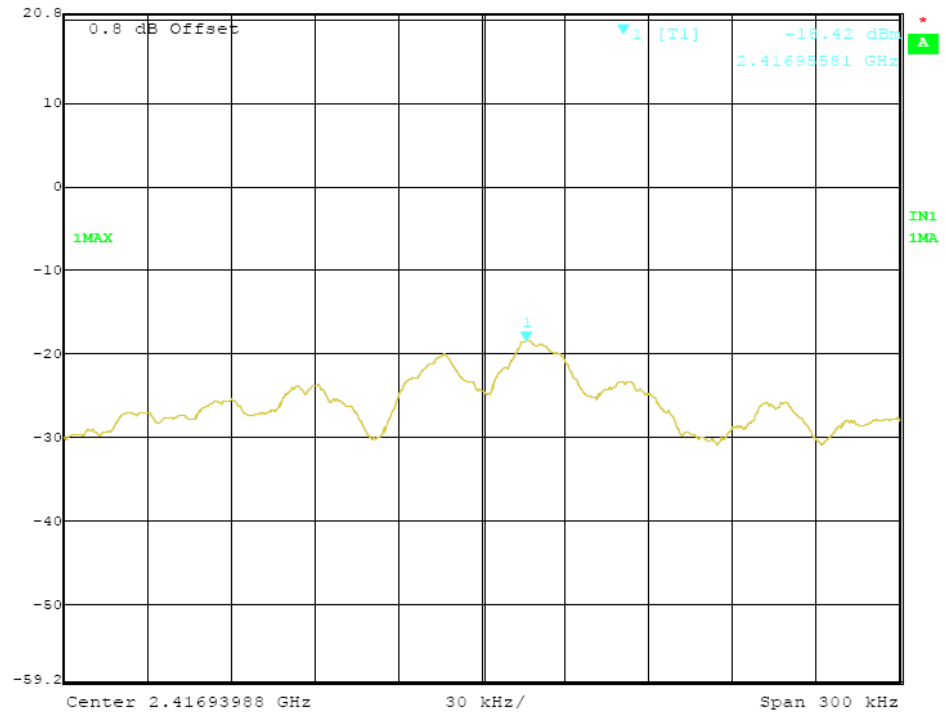
CH3 @ANT 1

RS	Marker 1 [T1]	RBW	3 kHz	RF Att	30 dB
	Ref Lvl	-17.58 dBm	VBW	10 kHz	
	20.8 dBm	2.43071473 GHz	SWT	100 s	Unit dBm




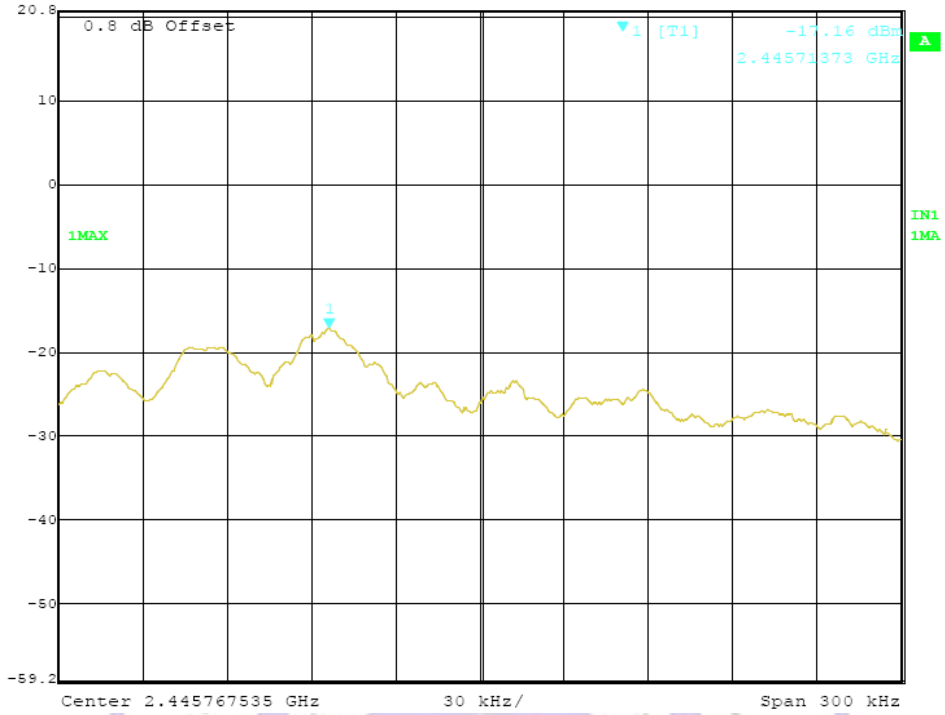
CH3 @ANT 2

RS	Marker 1 [T1]	RBW	3 kHz	RF Att	30 dB
	Ref Lvl	-18.42 dBm	VBW	10 kHz	
	20.8 dBm	2.41695581 GHz	SWT	100 s	Unit dBm




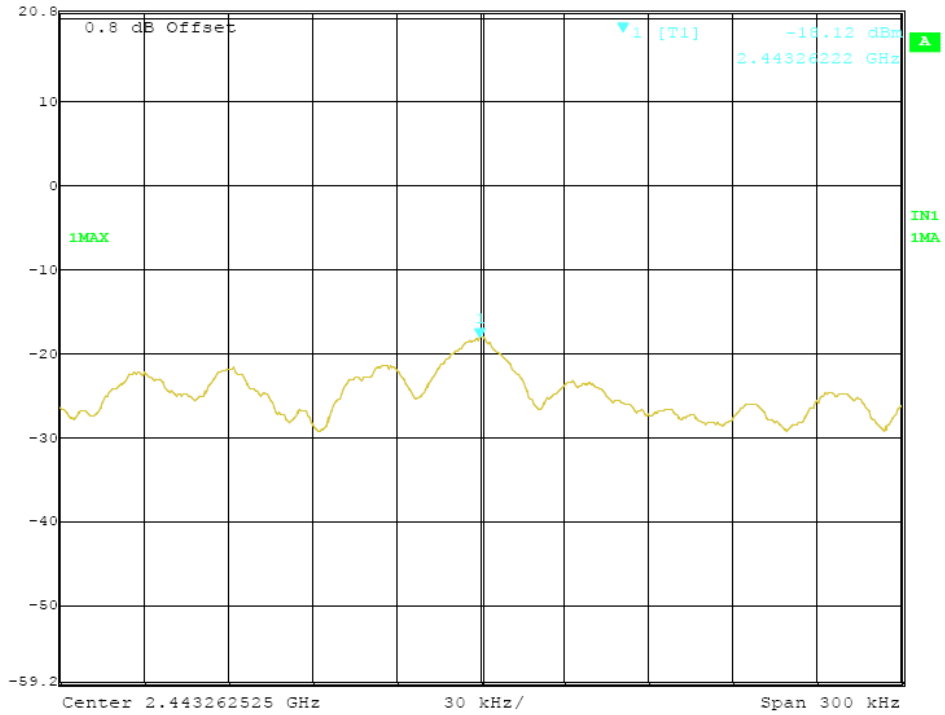
CH6 @ANT 1

 **Marker 1 [T1]** RBW 3 kHz RF Att 30 dB
Ref Lvl -17.16 dBm VBW 10 kHz
20.8 dBm 2.44571373 GHz SWT 100 s Unit dBm




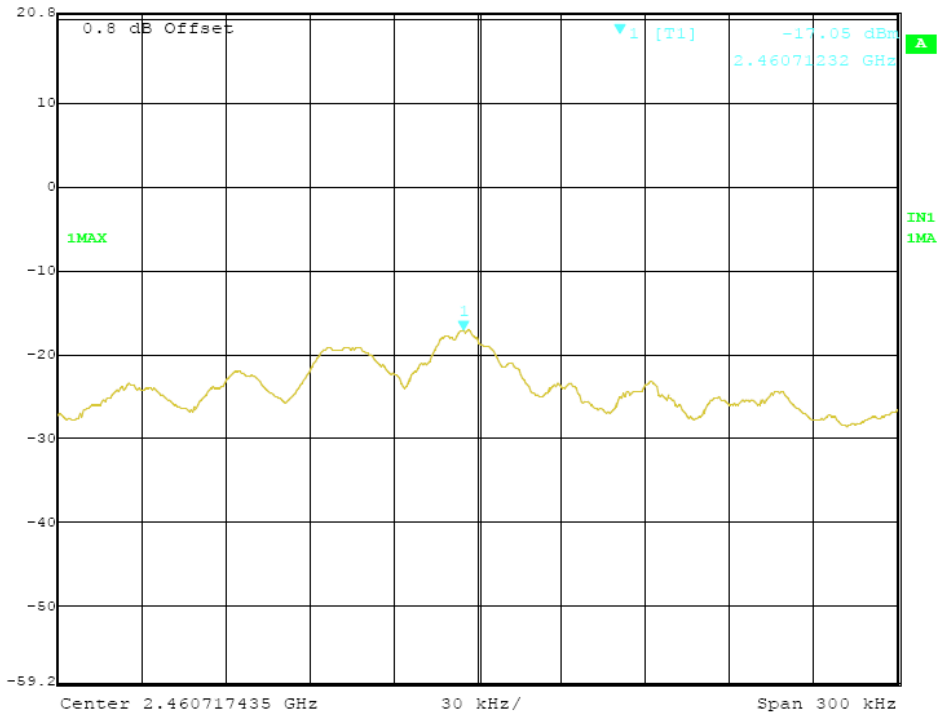
CH6 @ANT 2

 **Marker 1 [T1]** RBW 3 kHz RF Att 30 dB
Ref Lvl -18.12 dBm VBW 10 kHz
20.8 dBm 2.44326222 GHz SWT 100 s Unit dBm




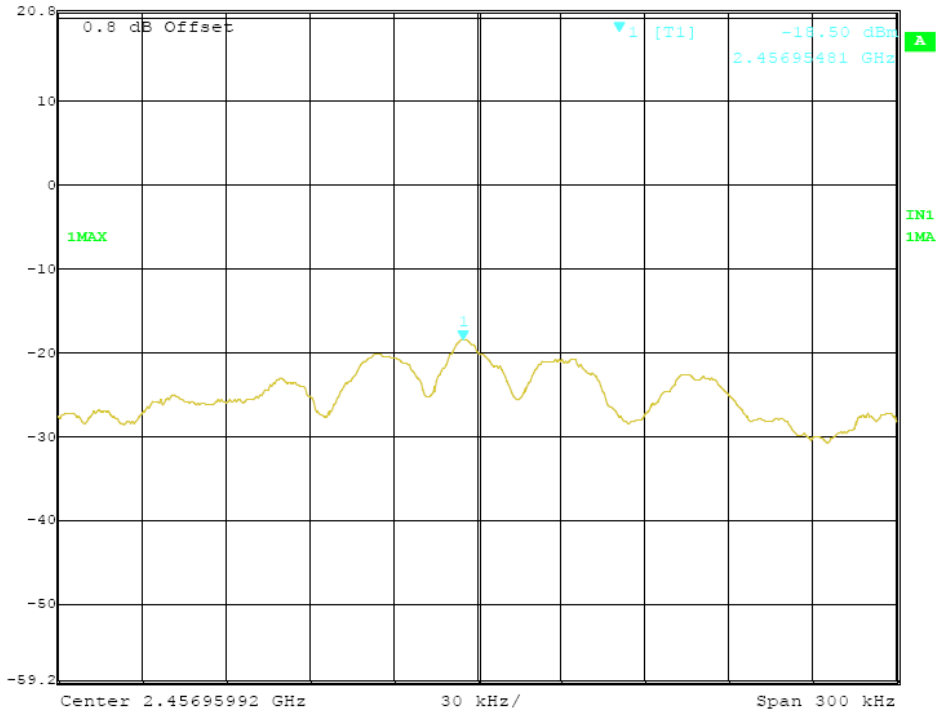
CH9 @ANT 1

 Marker 1 [T1] RBW 3 kHz RF Att 30 dB
Ref Lvl -17.05 dBm VBW 10 kHz
20.8 dBm 2.46071232 GHz SWT 100 s Unit dBm



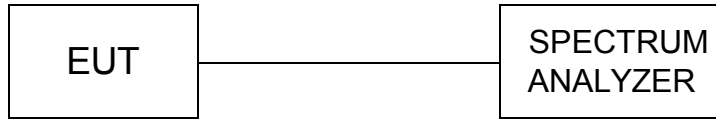
CH9 @ANT 2

 Marker 1 [T1] RBW 3 kHz RF Att 30 dB
Ref Lvl -18.50 dBm VBW 10 kHz
20.8 dBm 2.45695481 GHz SWT 100 s Unit dBm



4.7. Spurious RF Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2009 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBM= 300KHz to measure the peak field strength , and measure frequency range from 30MHz to 26.5GHz.

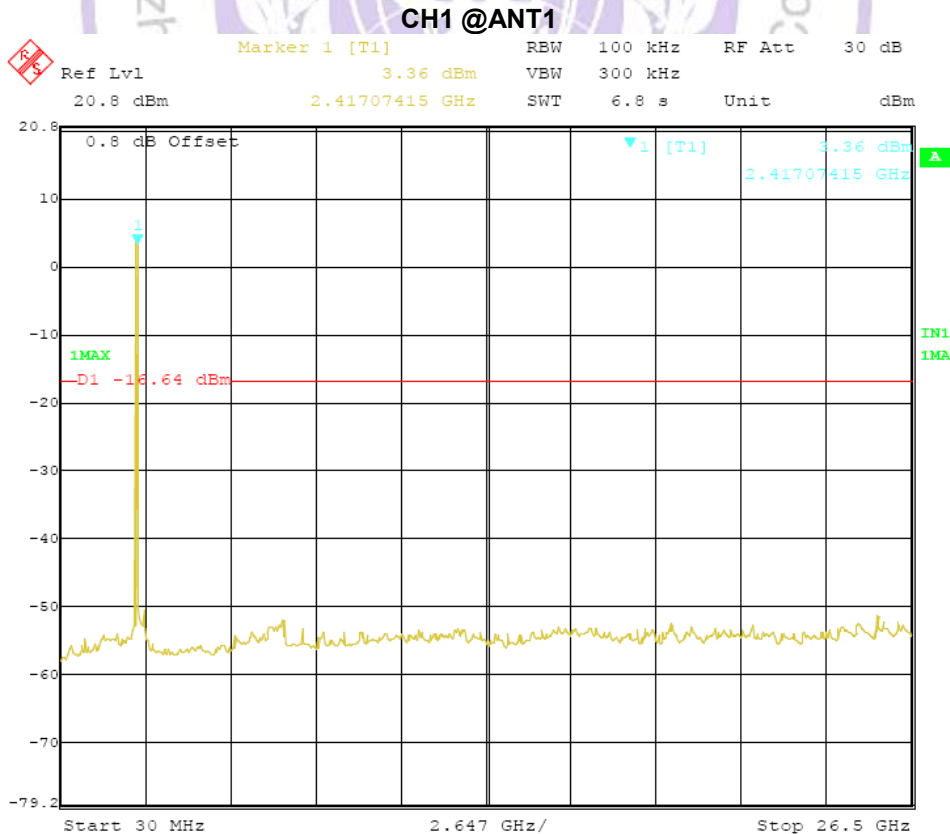
LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

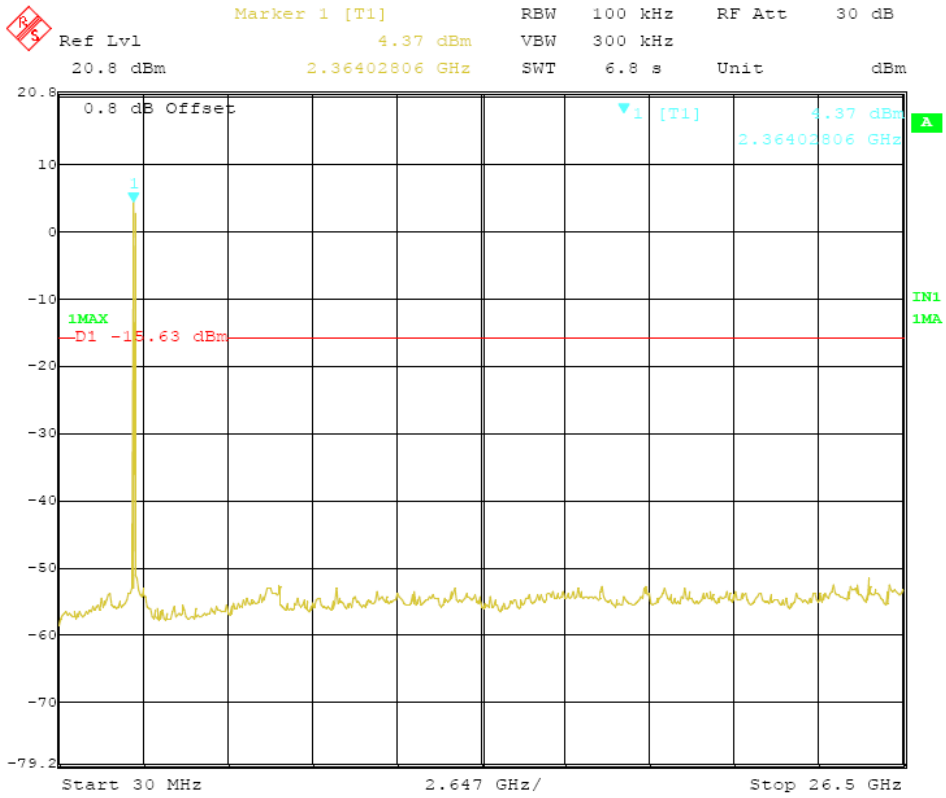
TEST RESULTS

Photos of Spurious RF Conducted Emission Measurement

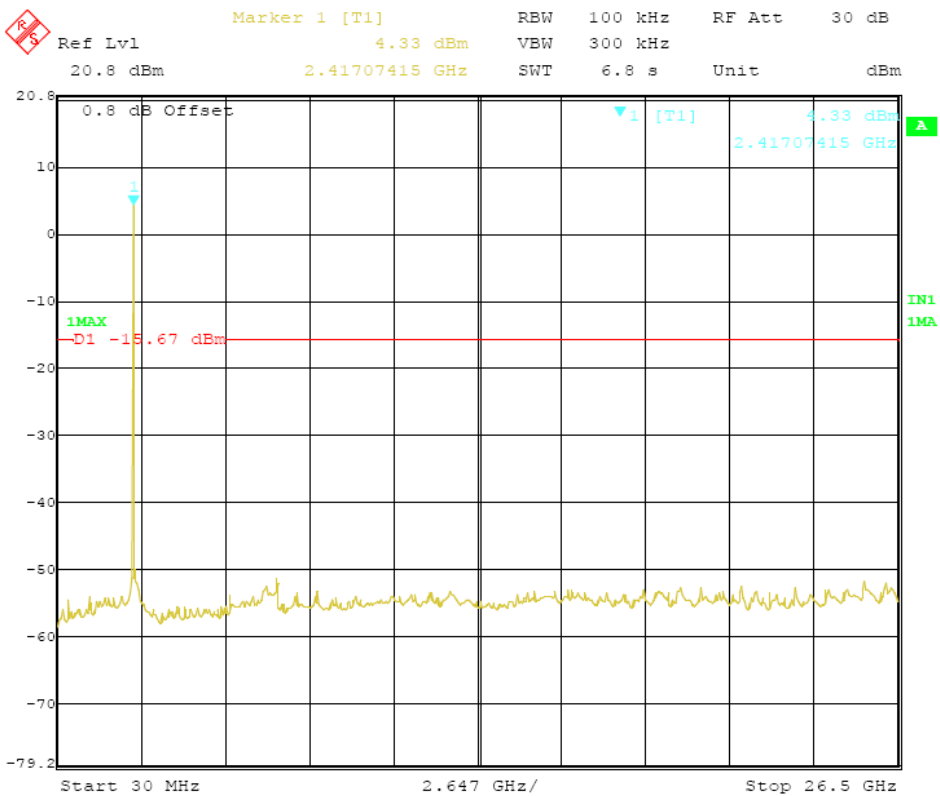
For 802.11b Mode:



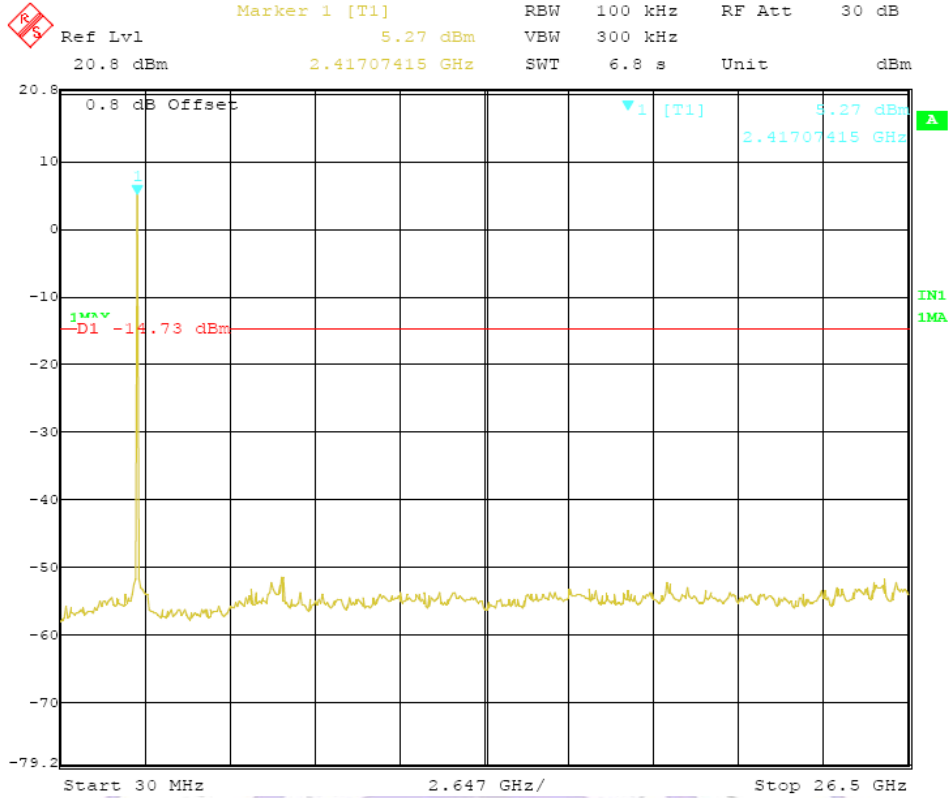
CH1 @ANT 2



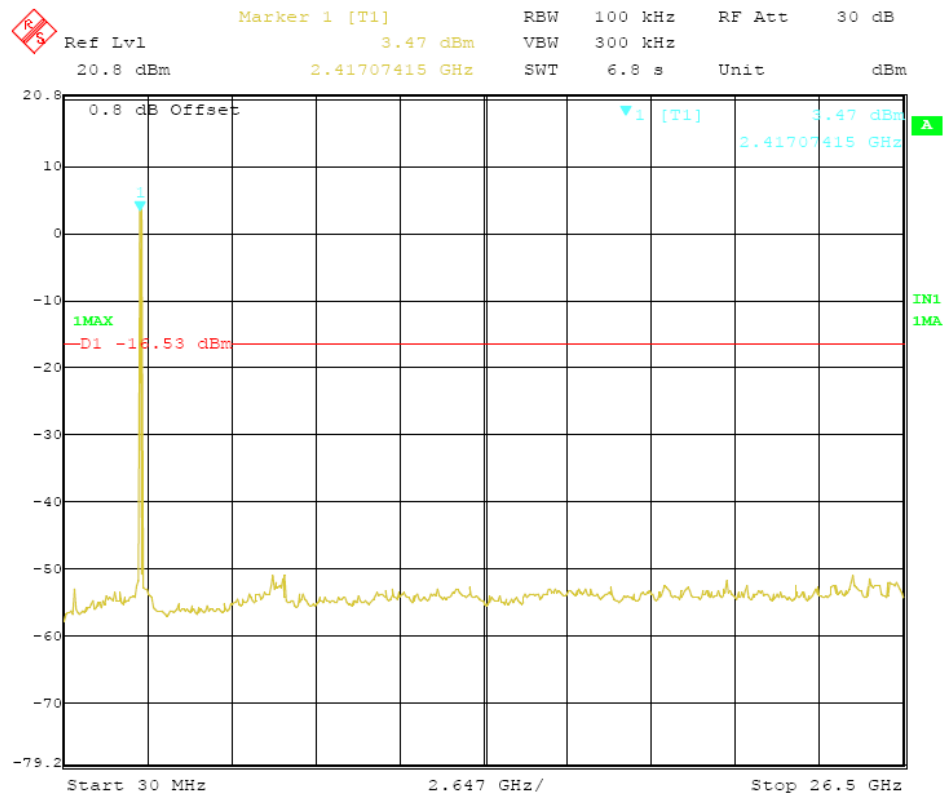
CH6 @ANT 1



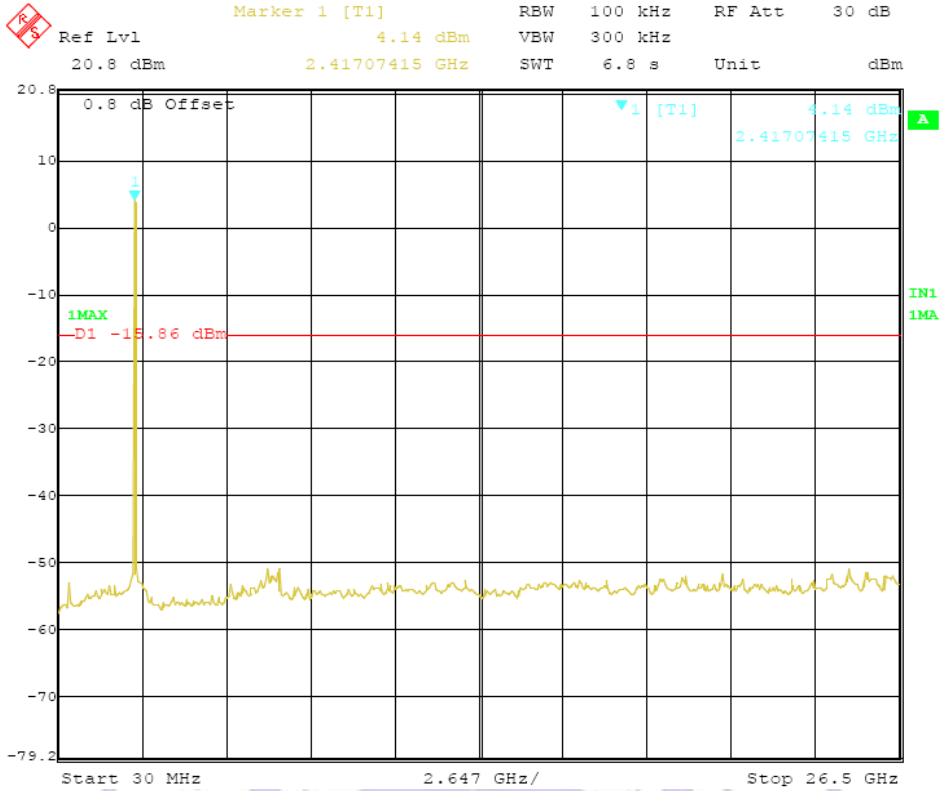
CH6 @ANT 2



CH11 @ANT 1

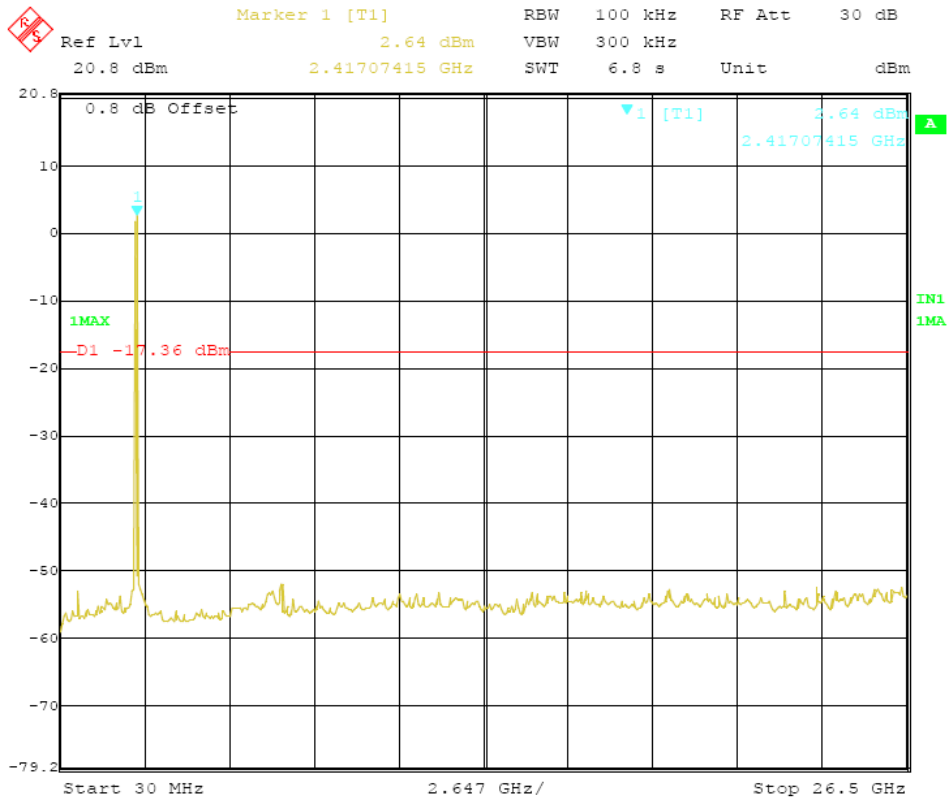


CH11 @ANT 2

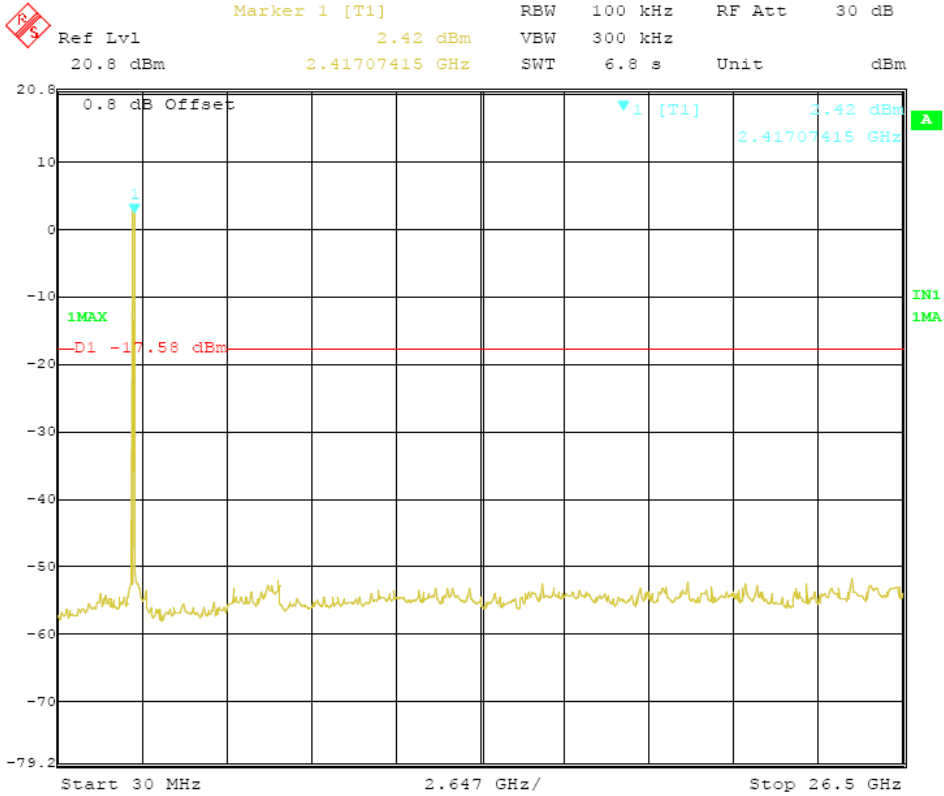


For 802.11g Mode:

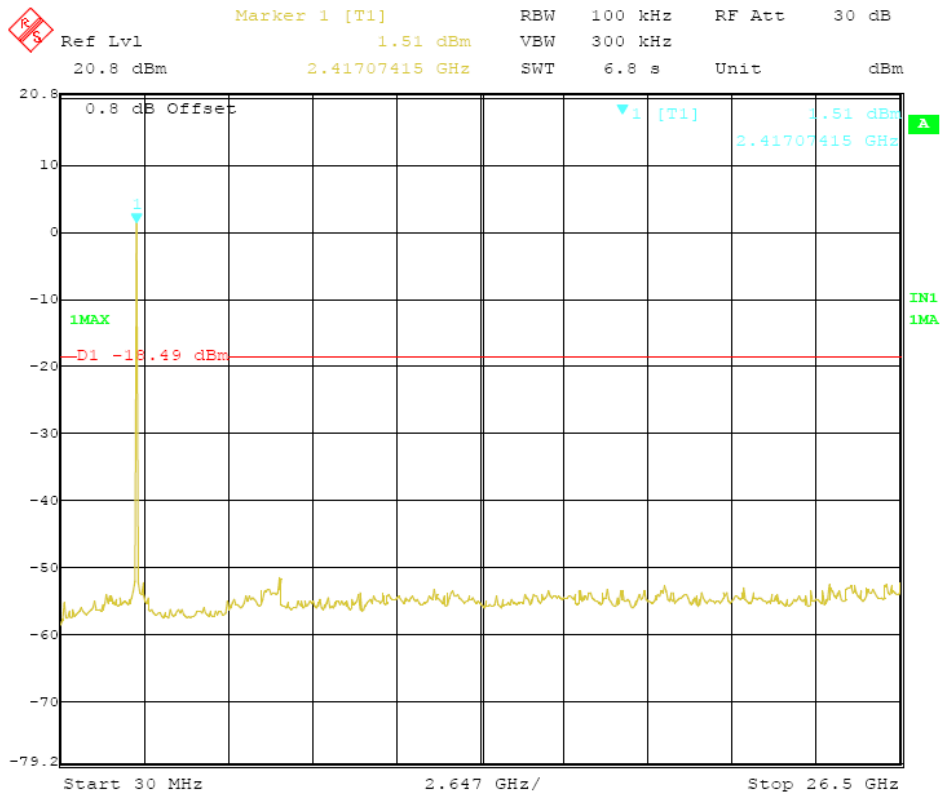
CH1 @ANT1



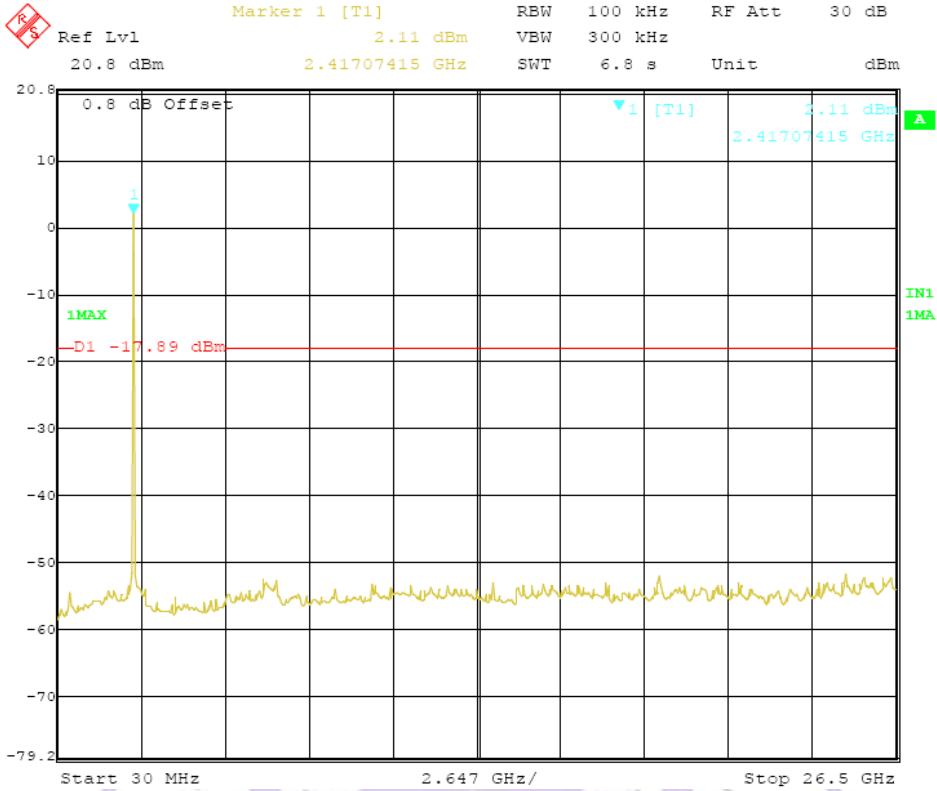
CH1 @ANT 2



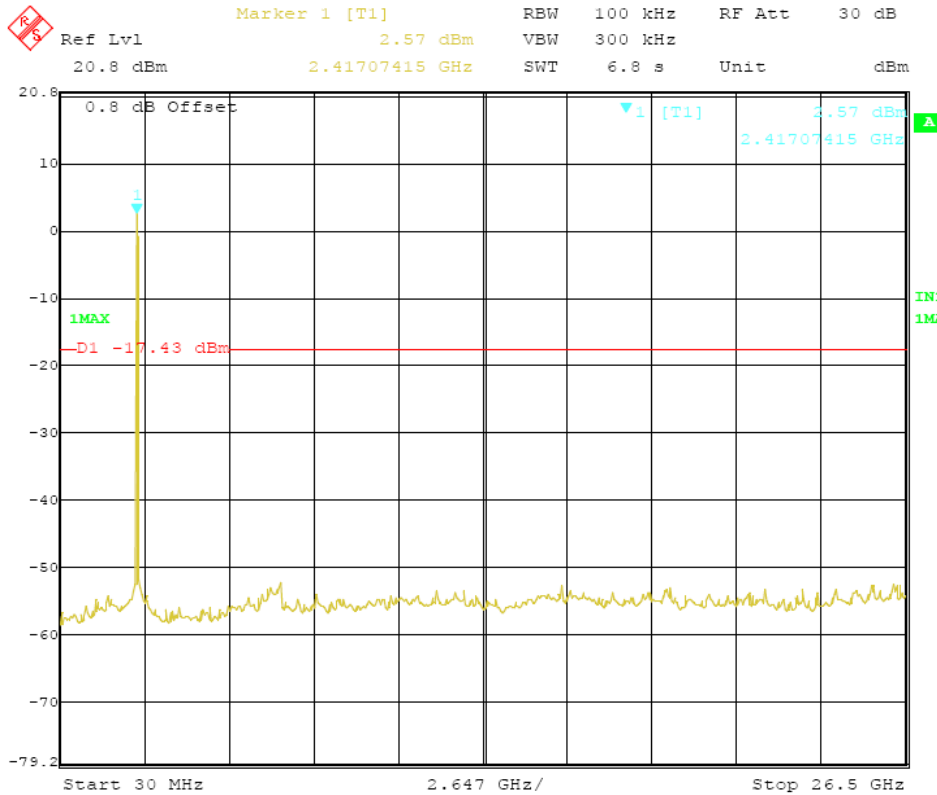
CH6 @ANT 1



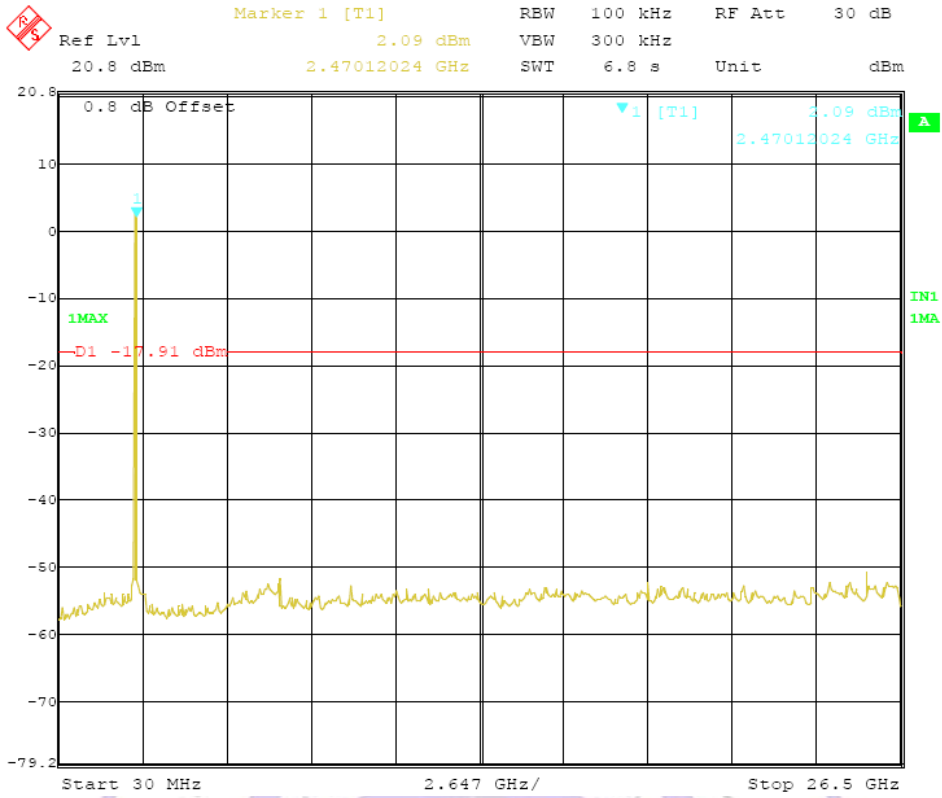
CH6 @ANT 2



CH11 @ANT 1

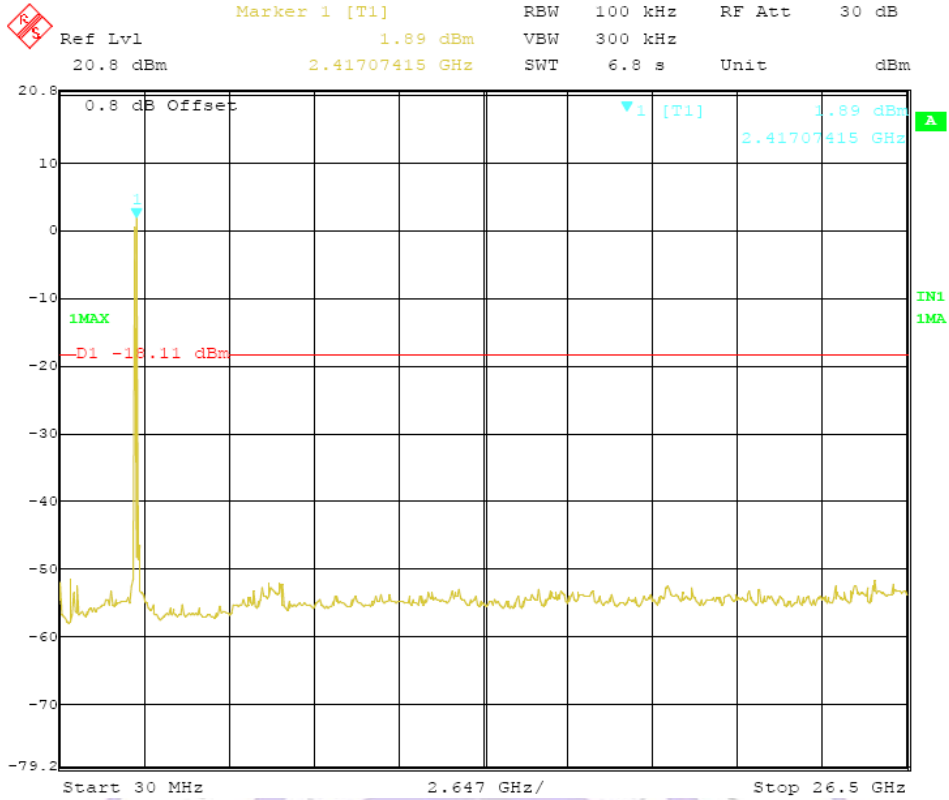


CH11 @ANT 2

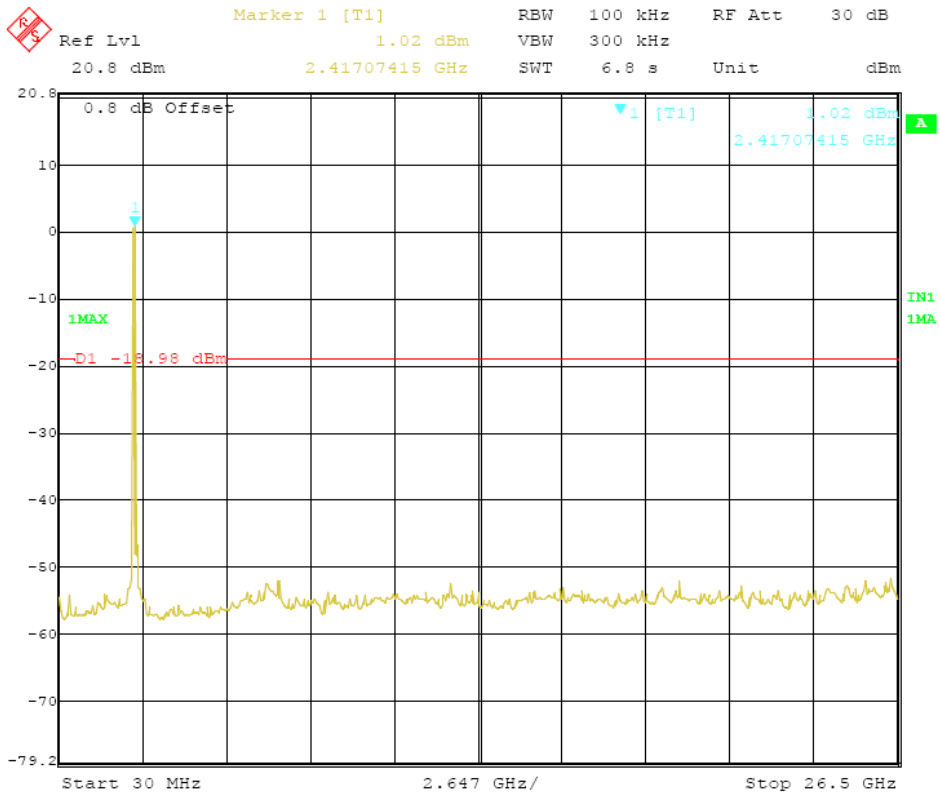


For 802.11n (20MHz) Mode:

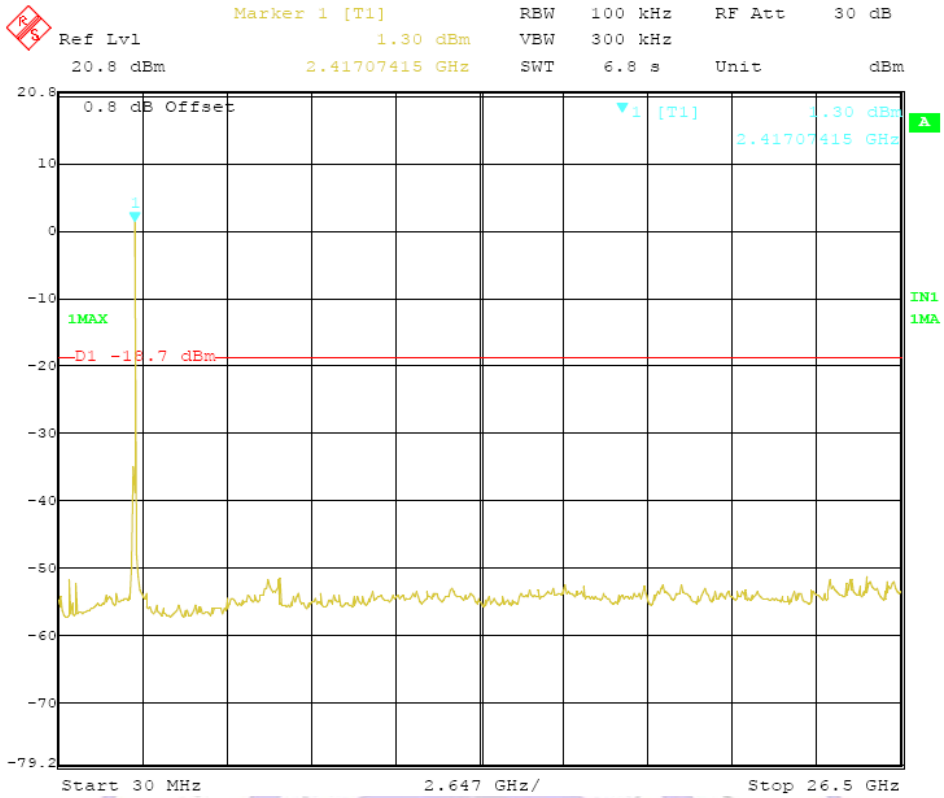
CH1 @ANT1



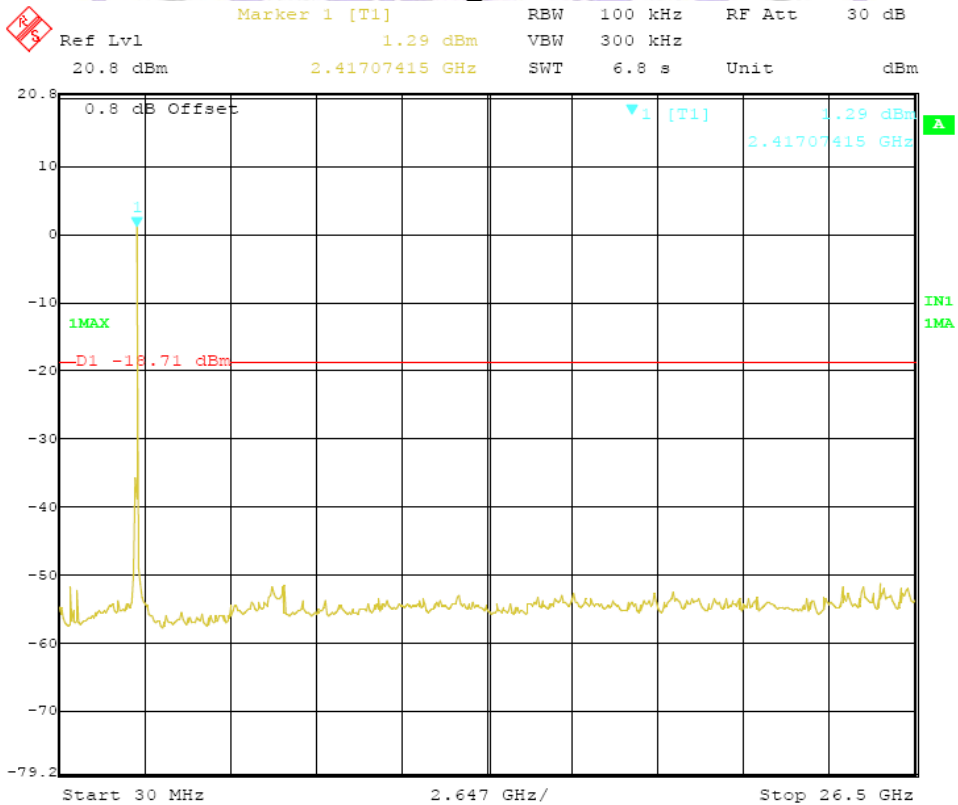
CH1 @ANT 2



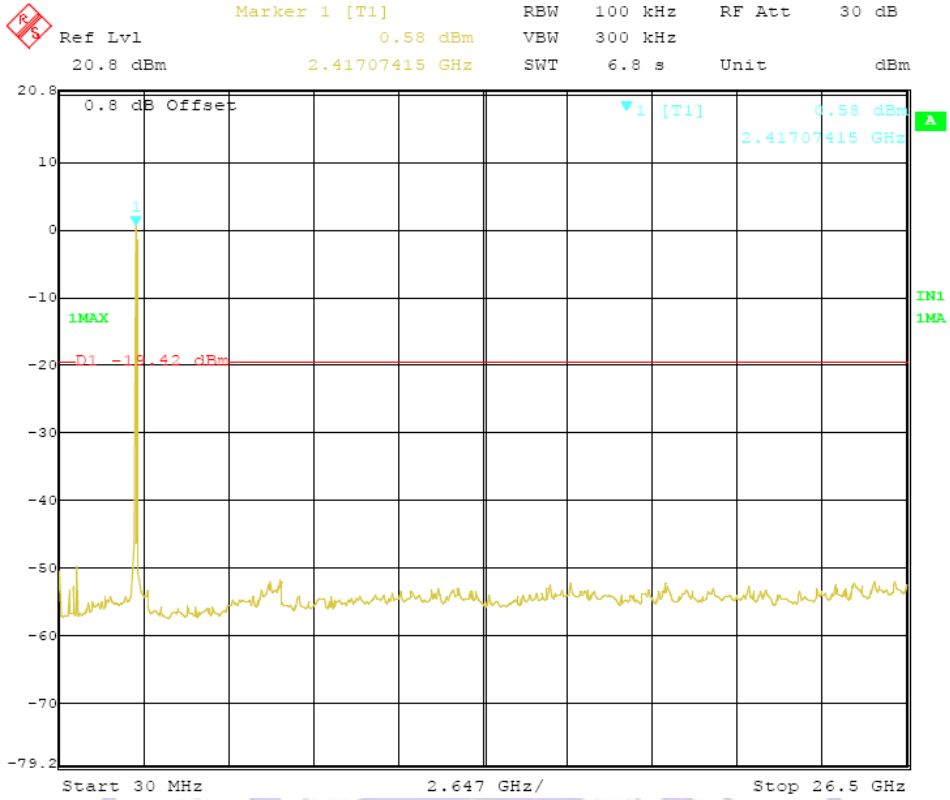
CH6 @ANT 1



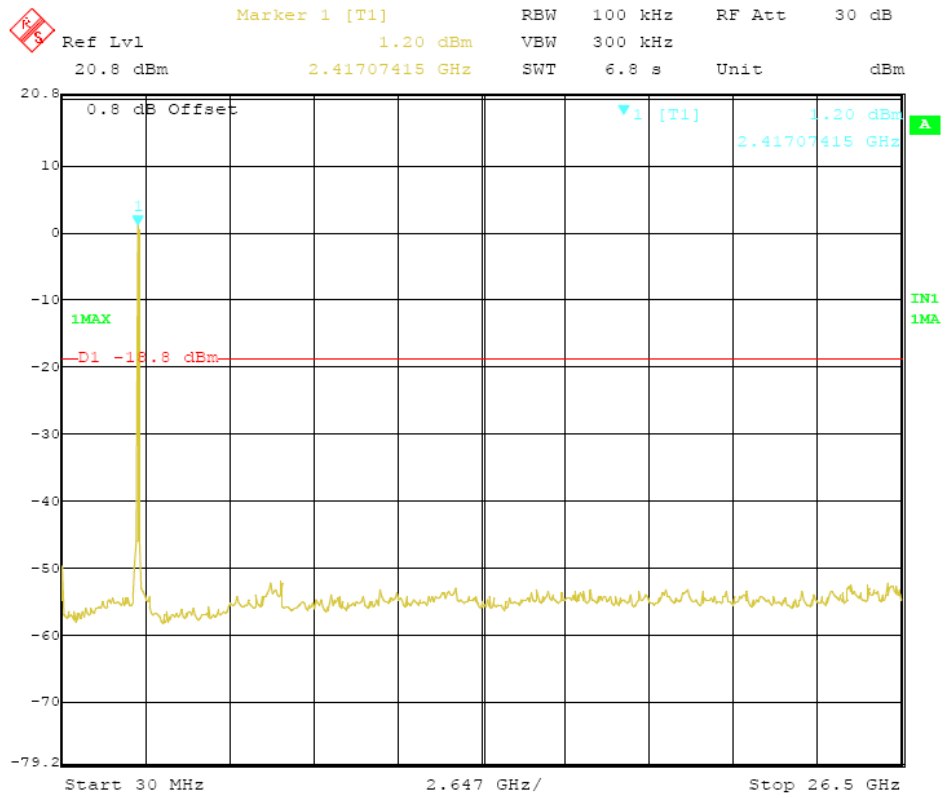
CH6 @ANT 2



CH11 @ANT 1

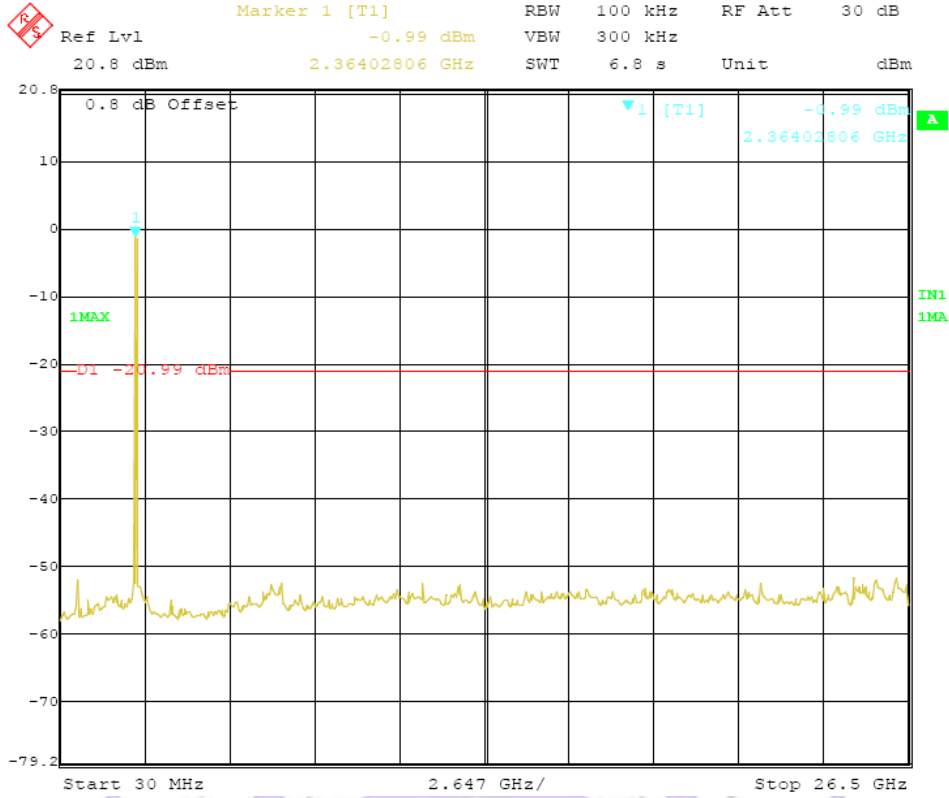


CH11 @ANT 2

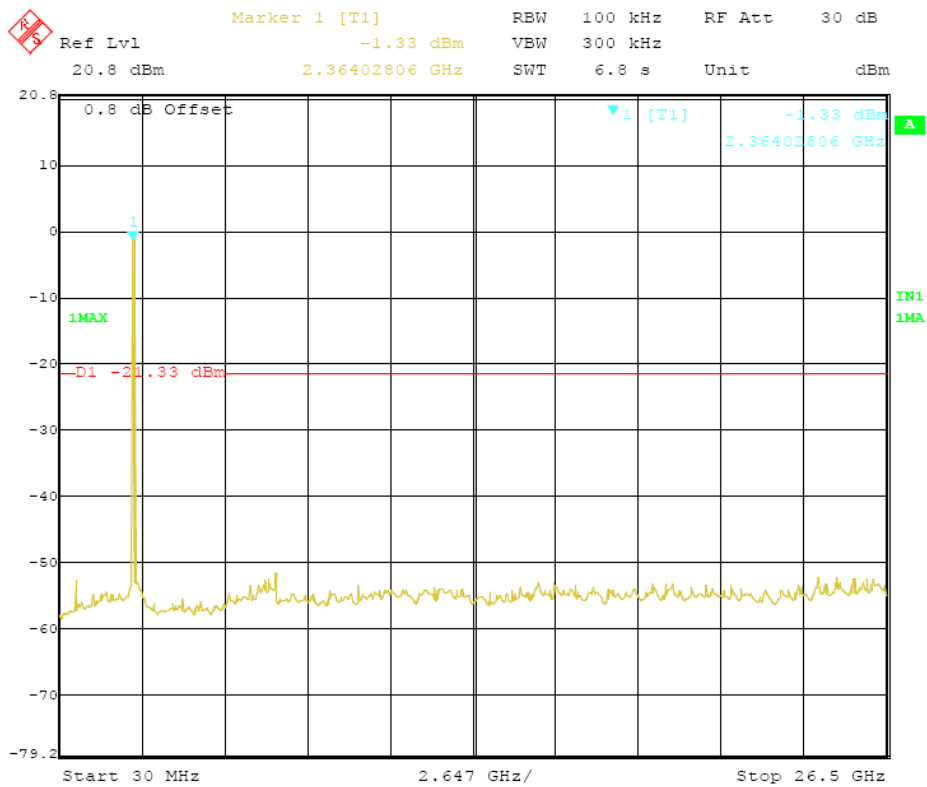


For 802.11n (40MHz) Mode:

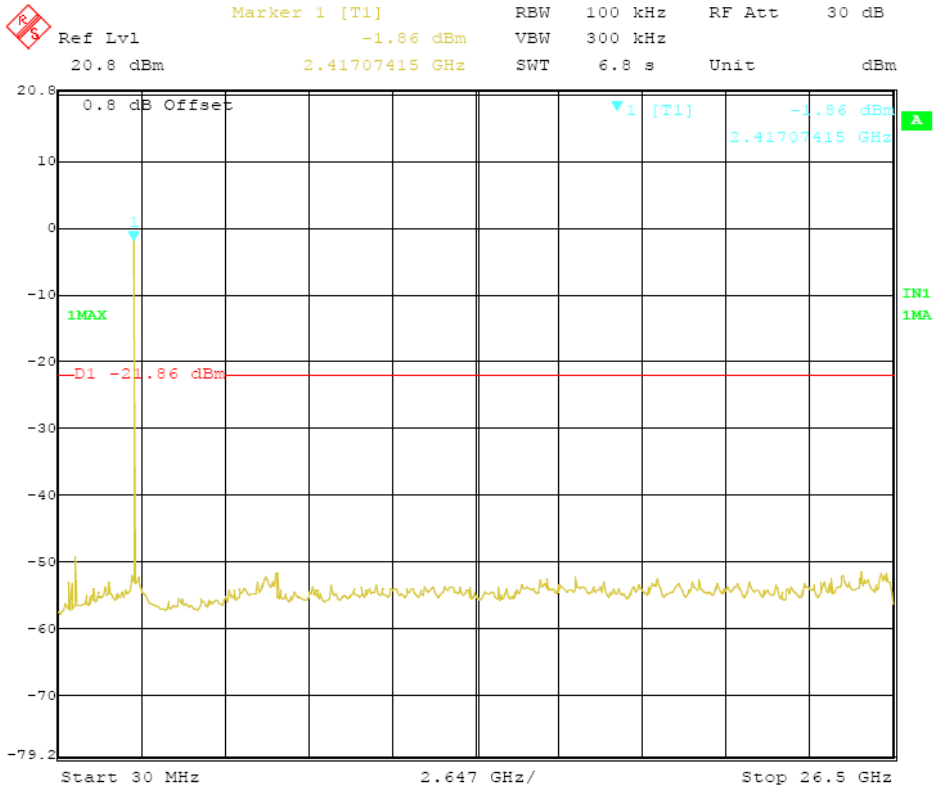
CH3 @ANT1



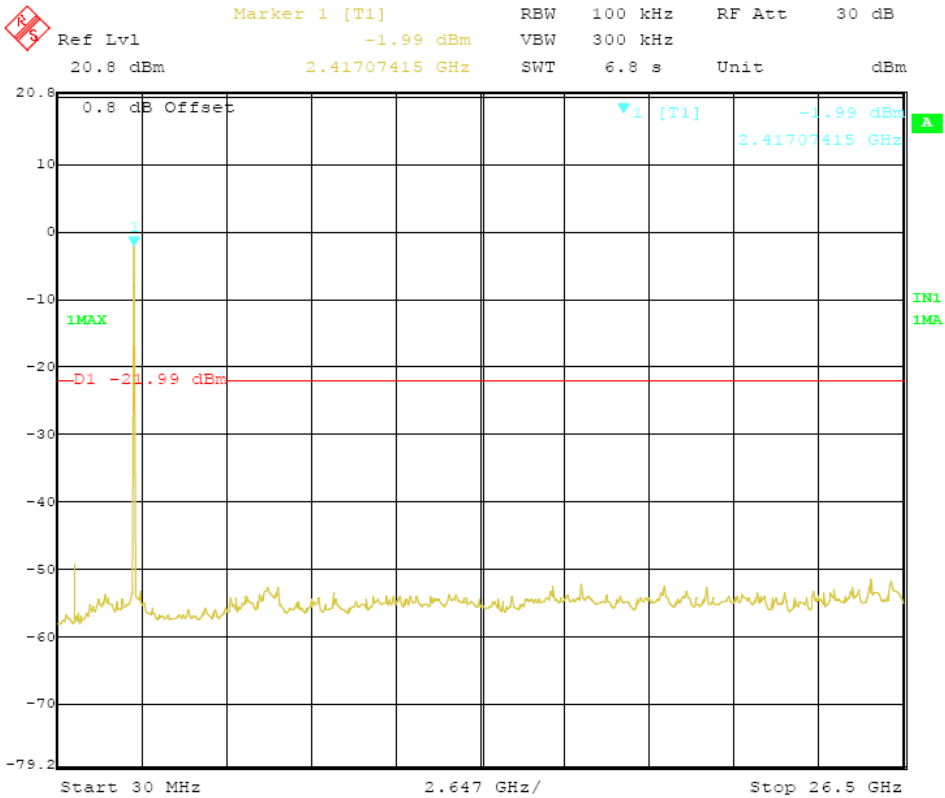
CH3 @ANT 2



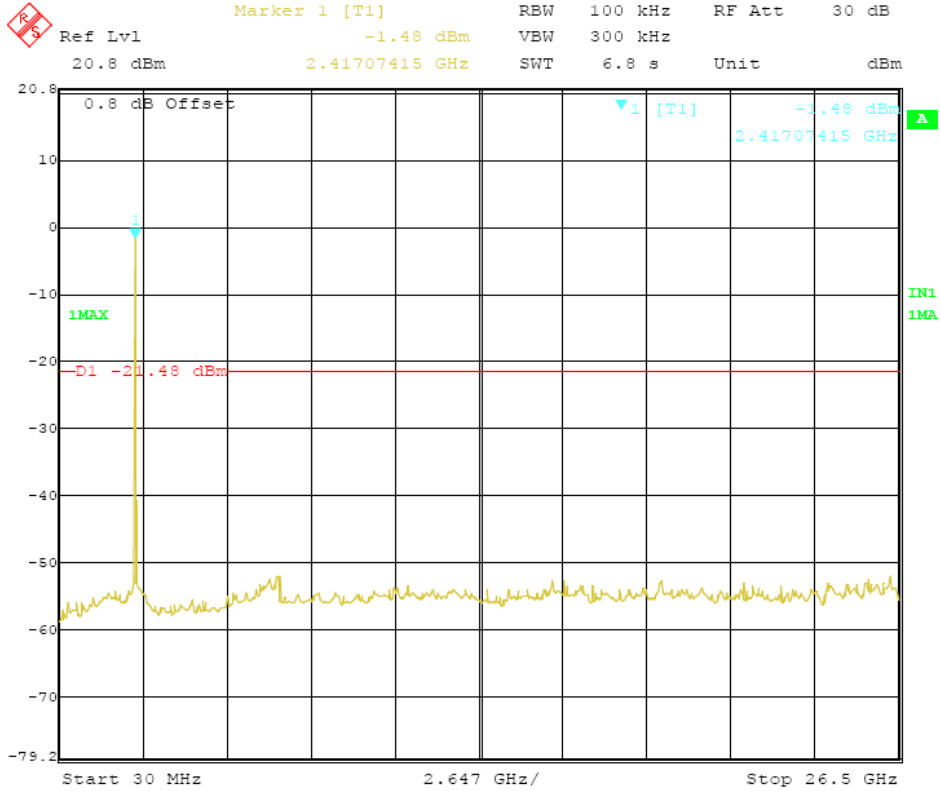
CH6 @ANT 1



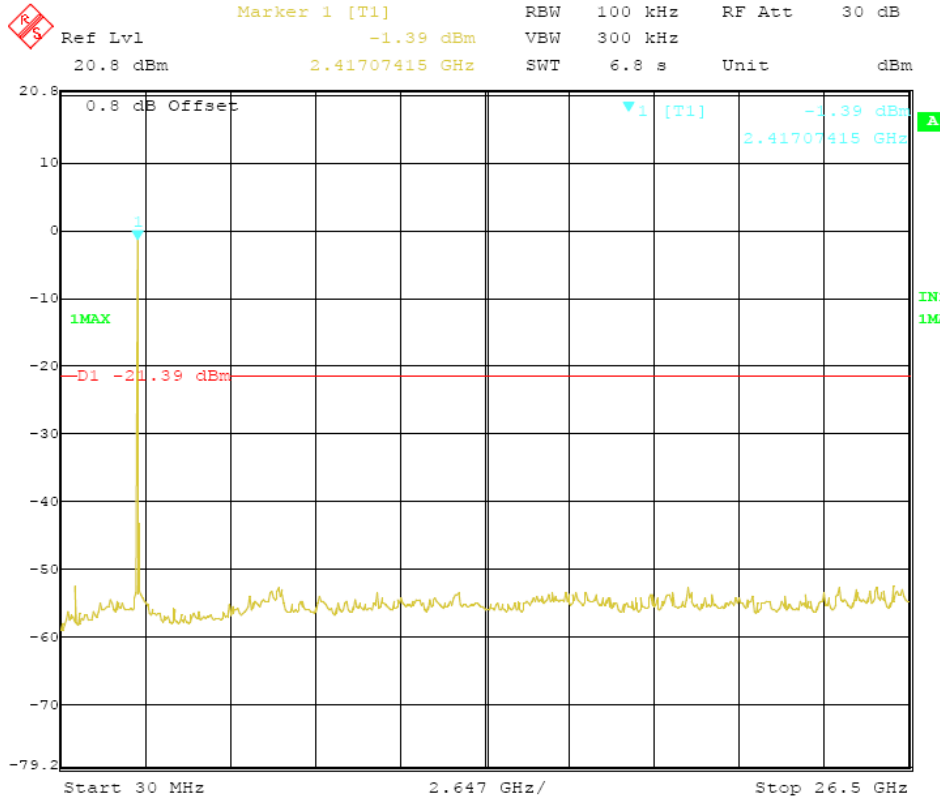
CH6 @ANT 2



CH9 @ANT 1

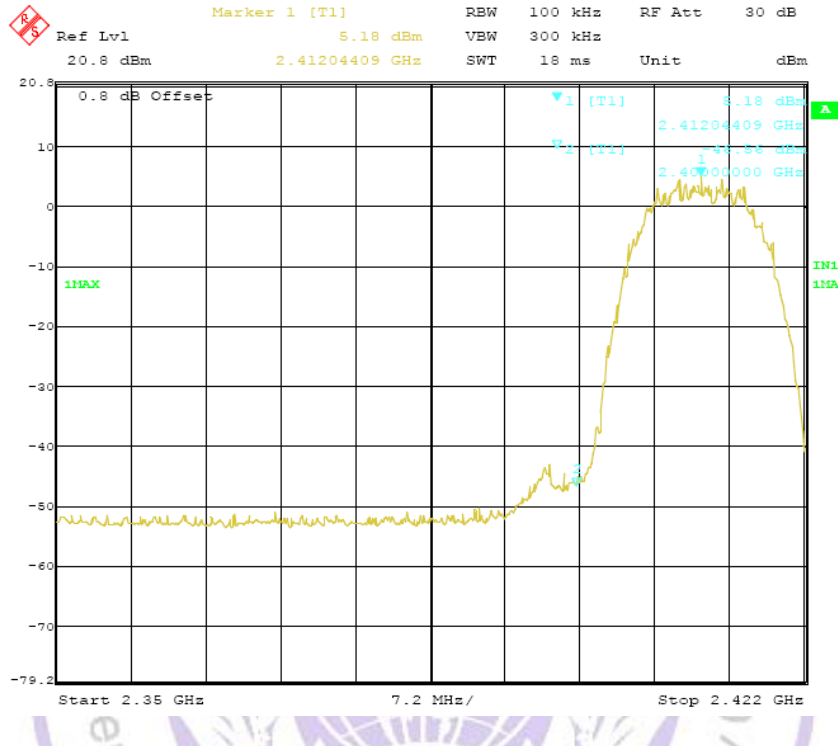


CH9 @ANT 2

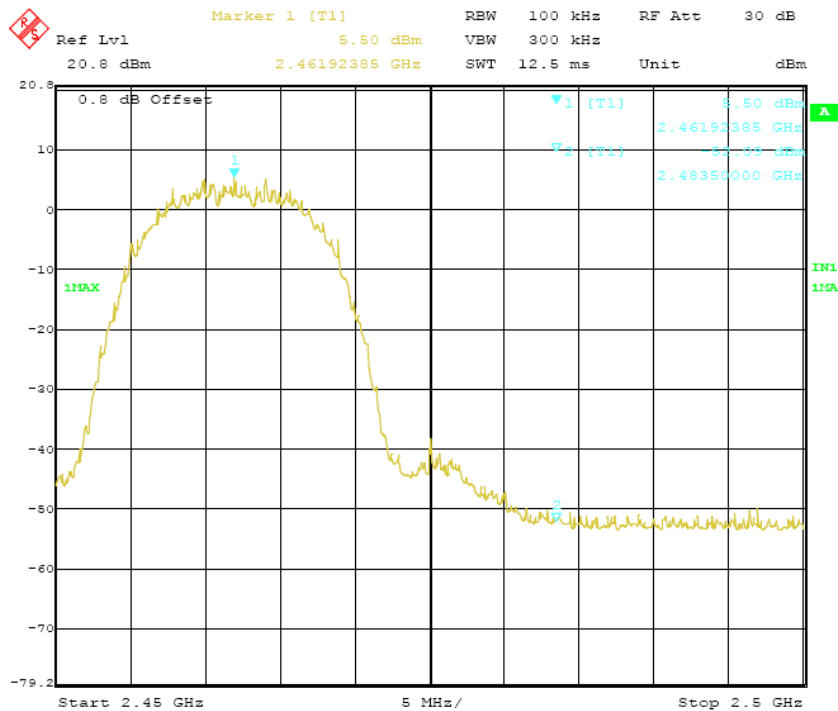


Test mode	Frequency	Delta peak to band emission	Limit(dBc)
802.11b Ant 1	2400MHz	51.74	20
	2483.5MHz	57.59	20

Channel 1

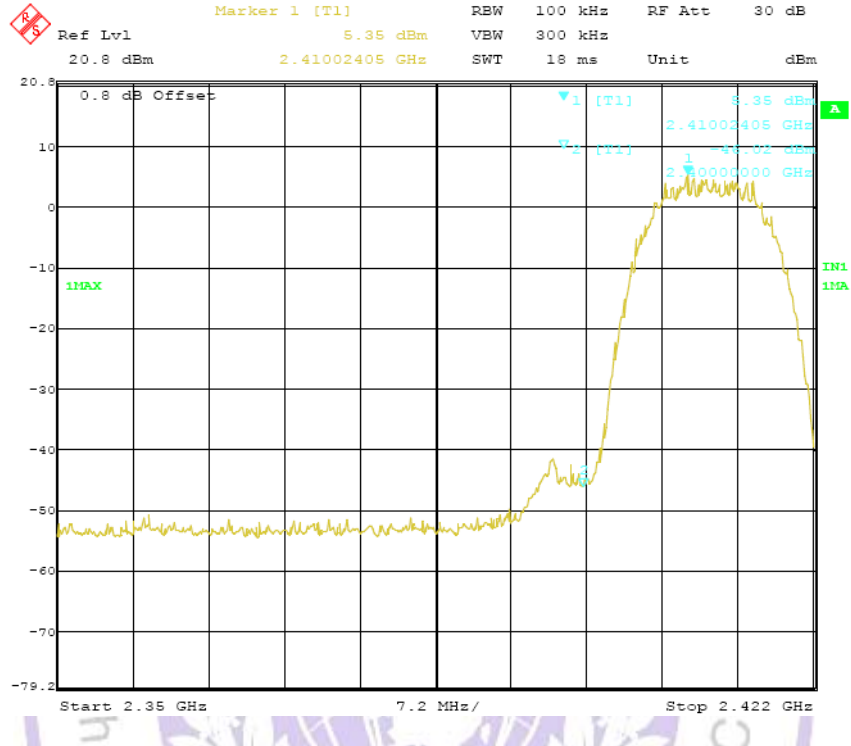


Channel 11

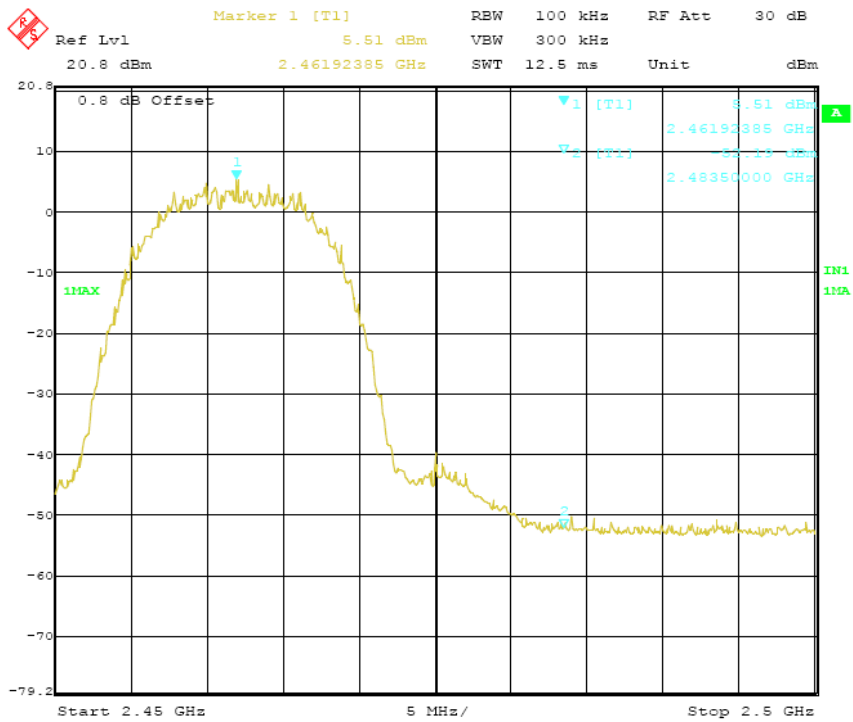


Test mode	Frequency	Delta peak to band emission	Limit(dBc)
802.11b Ant 2	2400MHz	51.37	20
	2483.5MHz	57.70	20

Channel 1

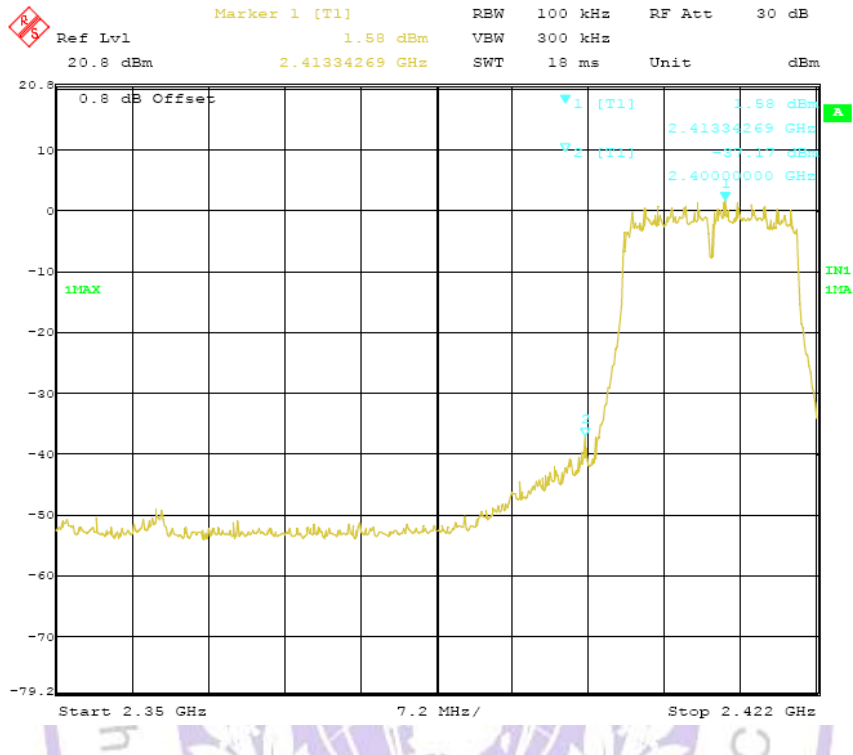


Channel 11

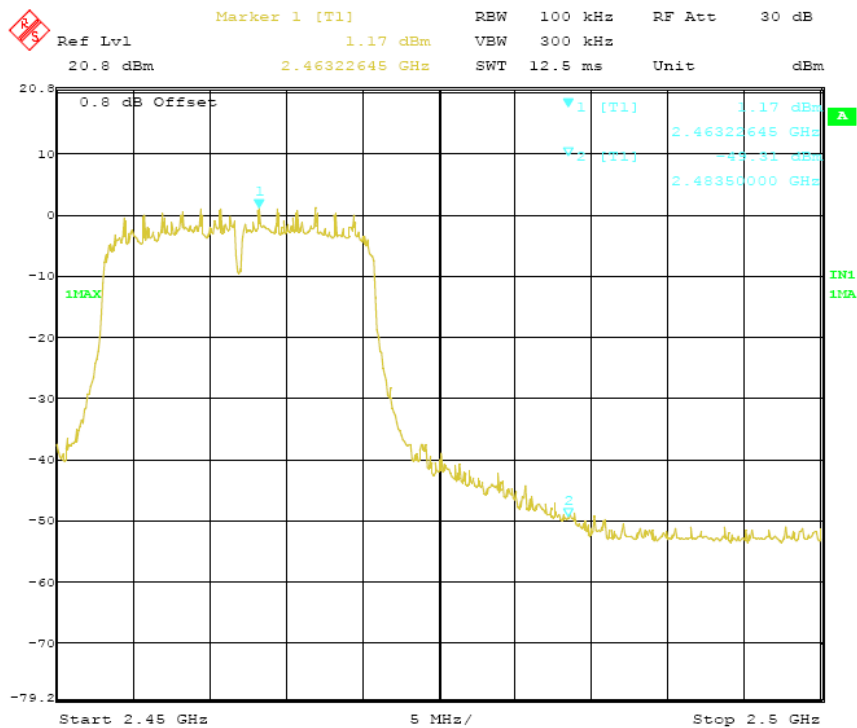


Test mode	Frequency	Delta peak to band emission	Limit(dBc)
802.11g Ant 1	2400MHz	38.75	20
	2483.5MHz	50.48	20

Channel 1

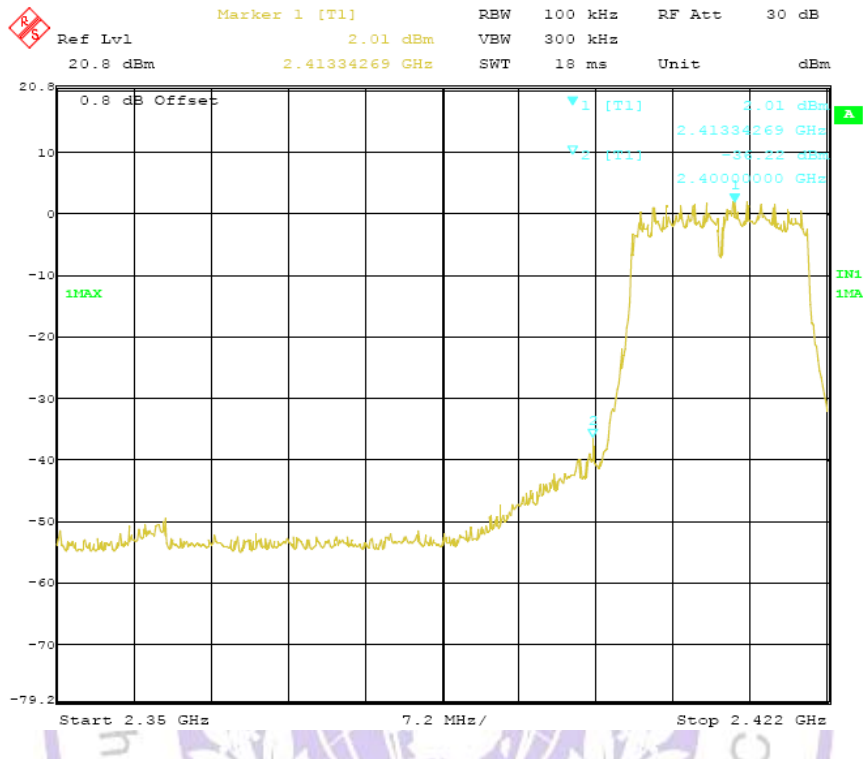


Channel 11

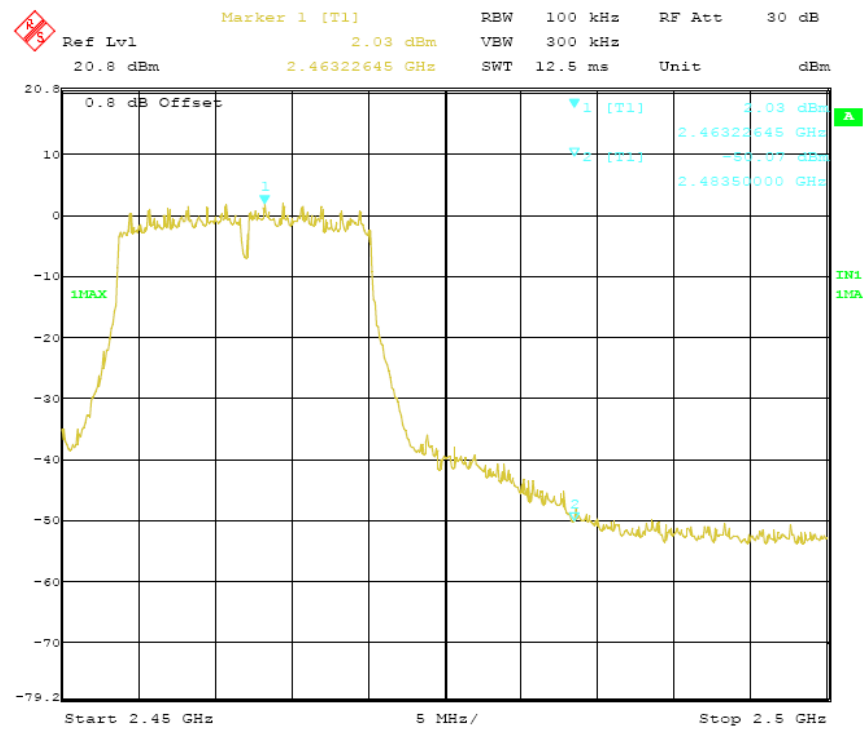


Test mode	Frequency	Delta peak to band emission	Limit(dBc)
802.11g Ant 2	2400MHz	38.23	20
	2483.5MHz	52.10	20

Channel 1

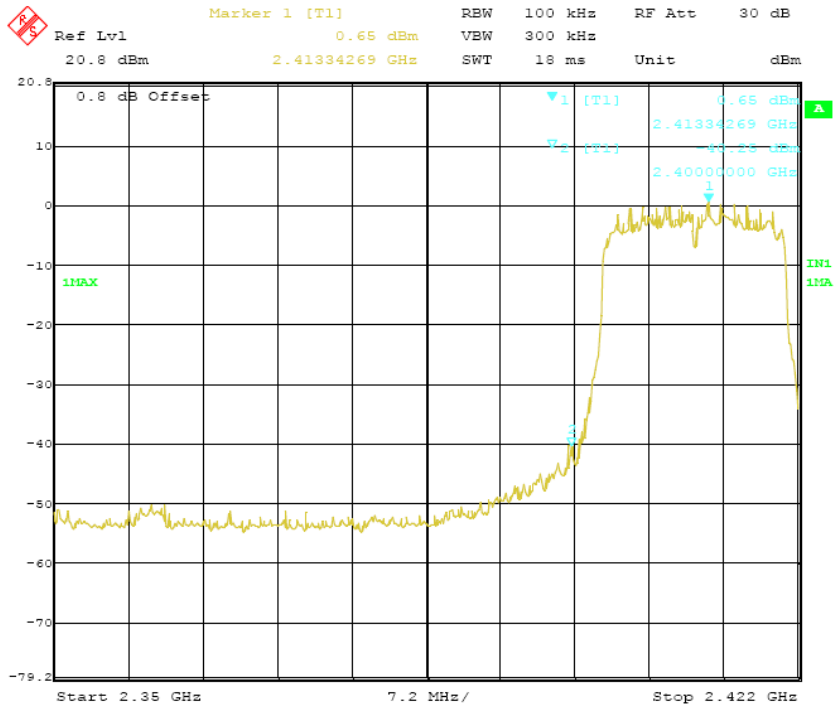


Channel 11

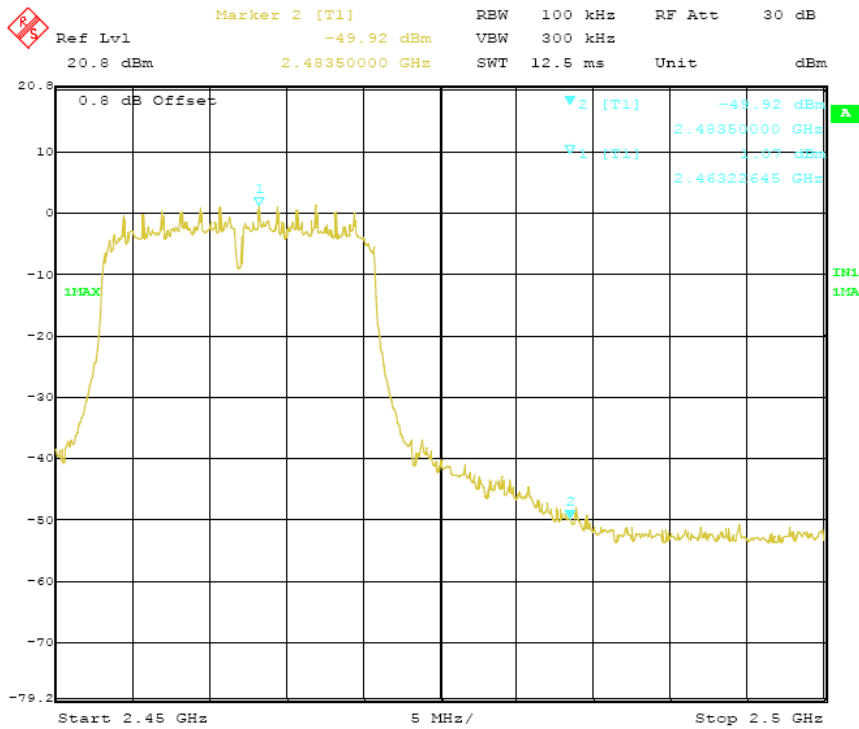


Test mode	Frequency	Delta peak to band emission	Limit(dBc)
802.11N 20M-ANT1	2400MHz	40.90	20
	2483.5MHz	50.99	20

Channel 1

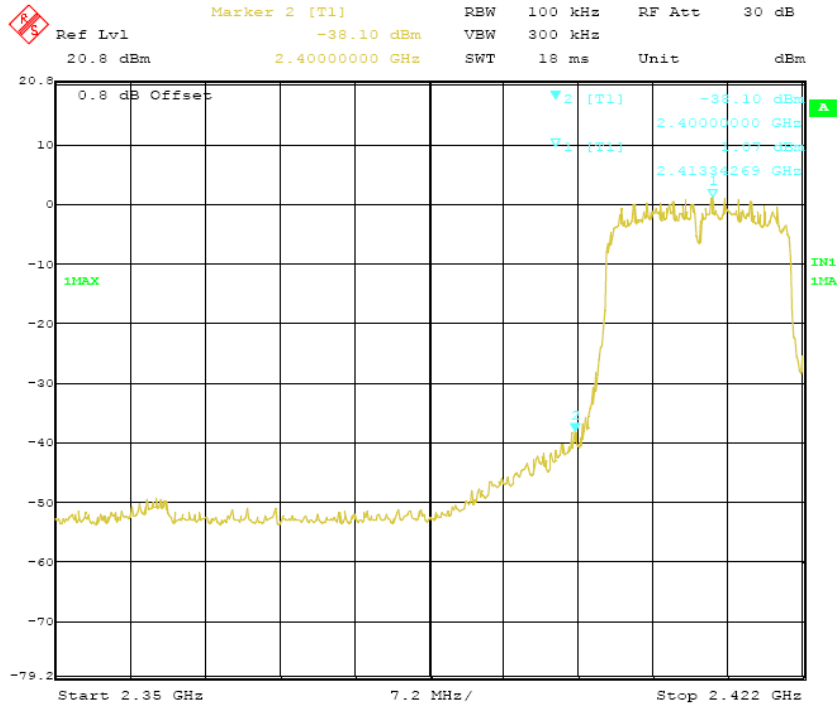


Channel 11

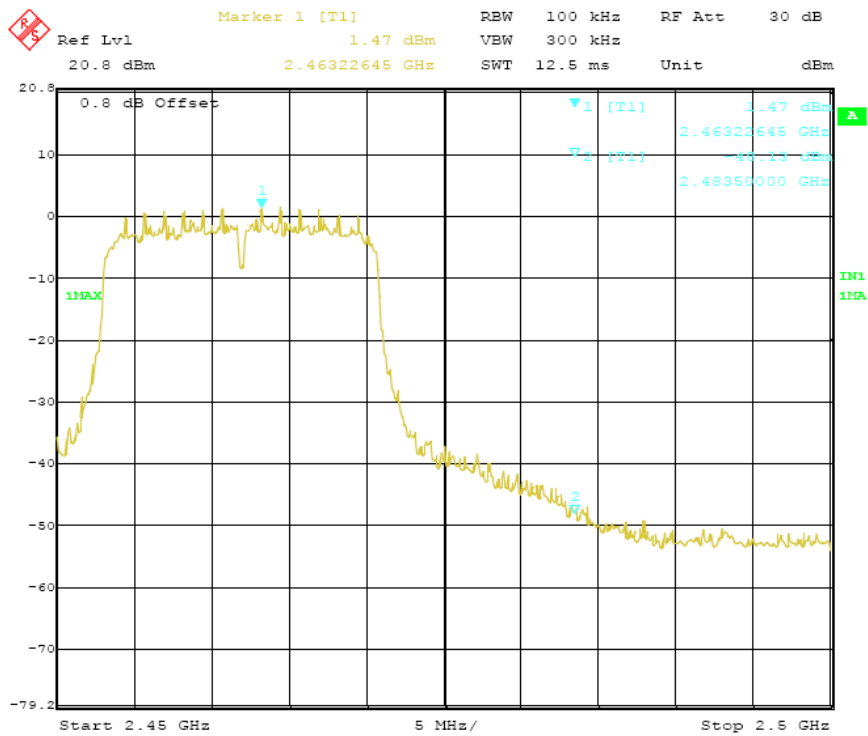


Test mode	Frequency	Delta peak to band emission	Limit(dBc)
802.11N 20M-ANT2	2400MHz	39.17	20
	2483.5MHz	49.60	20

Channel 1

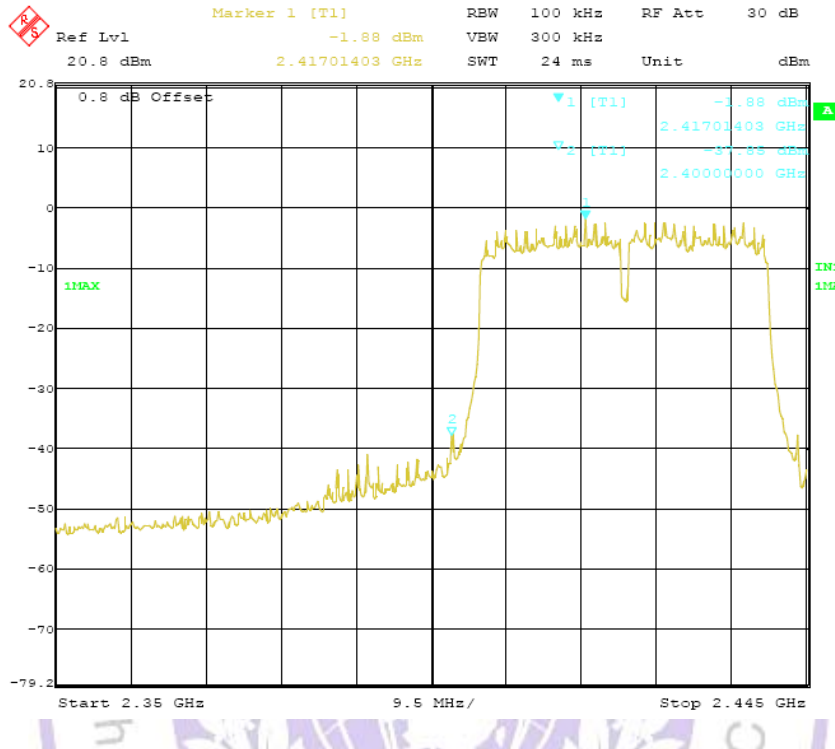


Channel 11

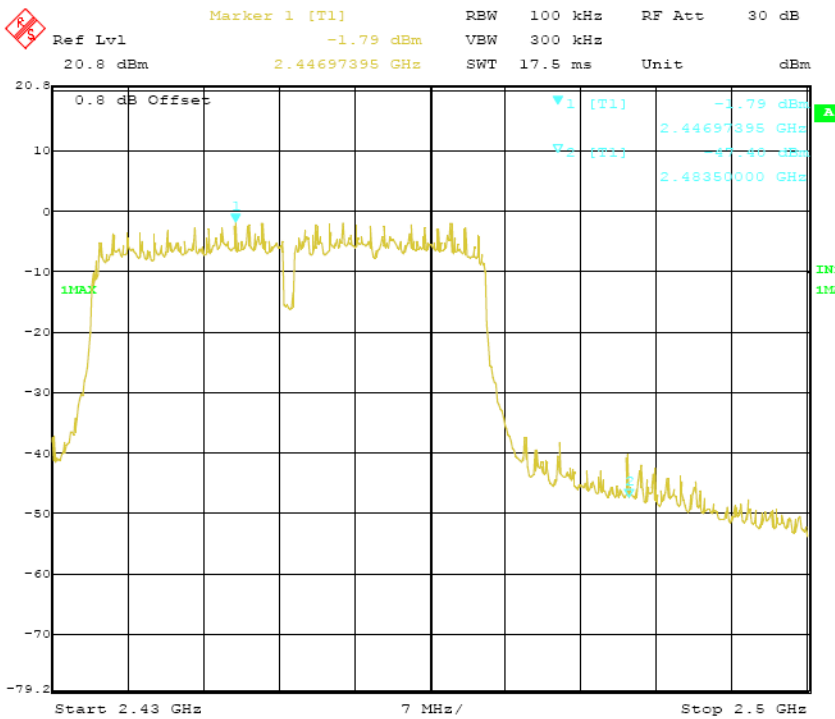


Test mode	Frequency	Delta peak to band emission	Limit(dBc)
802.11N 40M-ANT1	2400MHz	35.97	20
	2483.5MHz	45.61	20

Channel 3

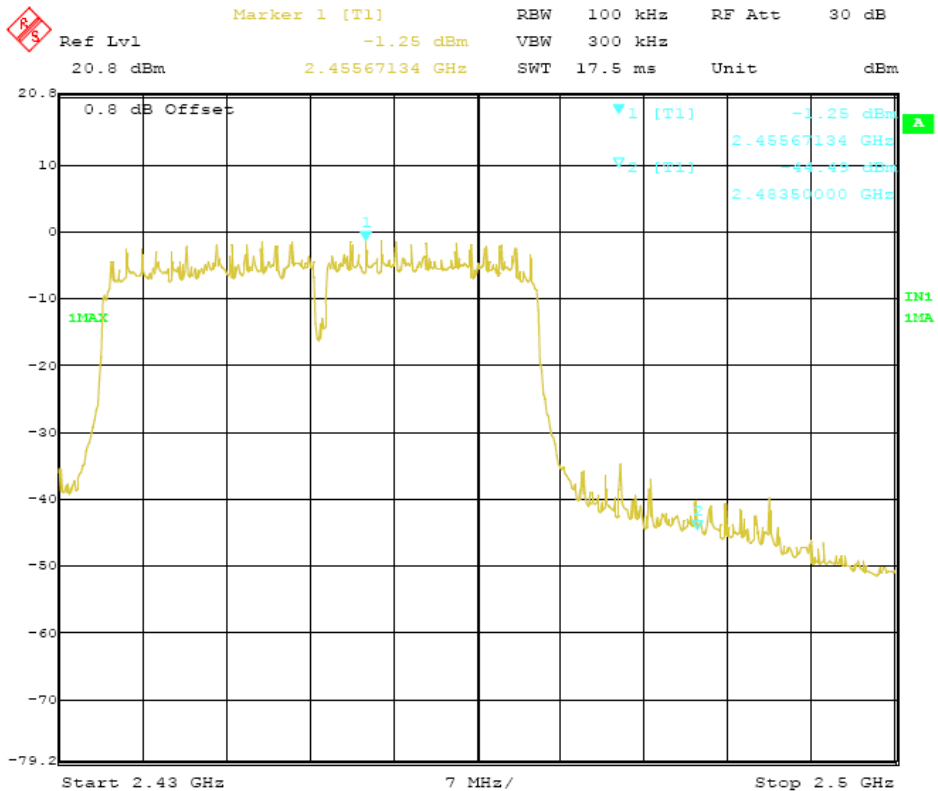
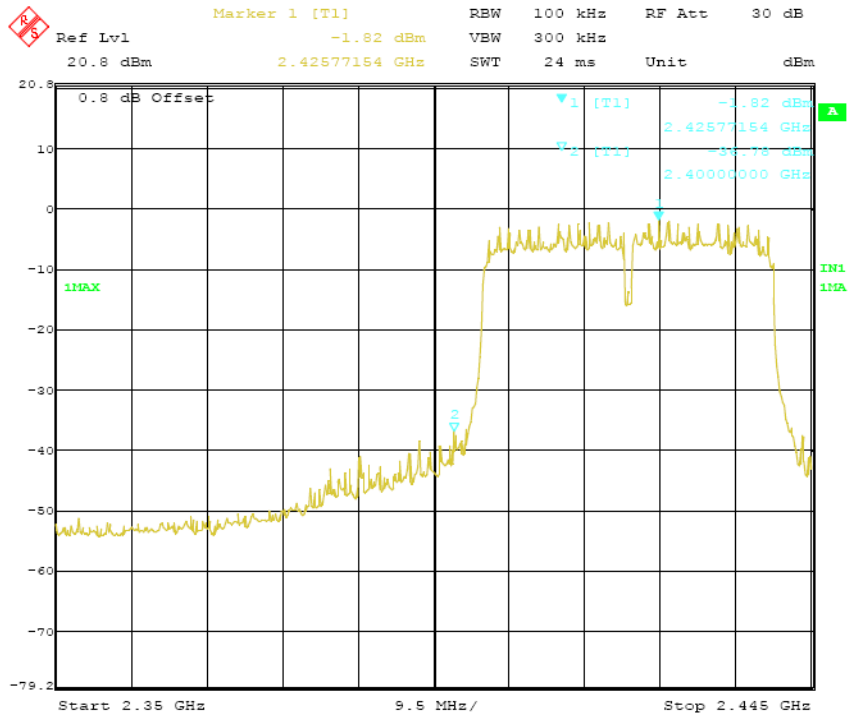


Channel 9



Test mode	Frequency	Delta peak to band emission	Limit(dBc)
802.11N 40M-ANT2	2400MHz	34.96	20
	2483.5MHz	43.24	20

Channel 3



4.8. Antenna Requirement

STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

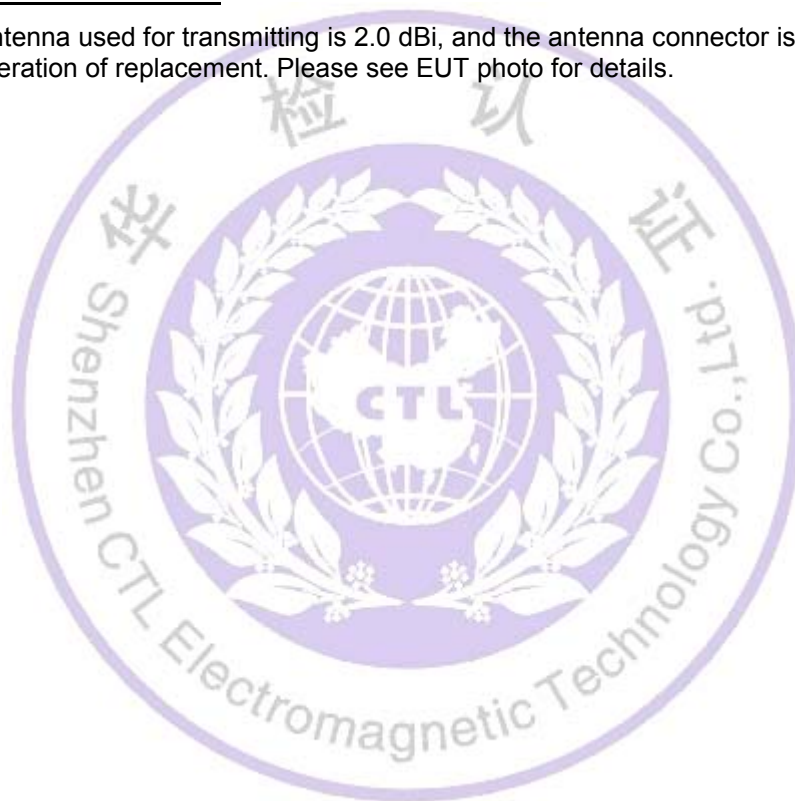
And according to FCC 47 CFR Section 15.247 (c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

ANTENNA CONNECTED CONSTRUCTION

The directional gains of antenna used for transmitting is 2.0 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Please see EUT photo for details.



5. Test Setup Photos of the EUT



6. External and Internal Photos of the EUT

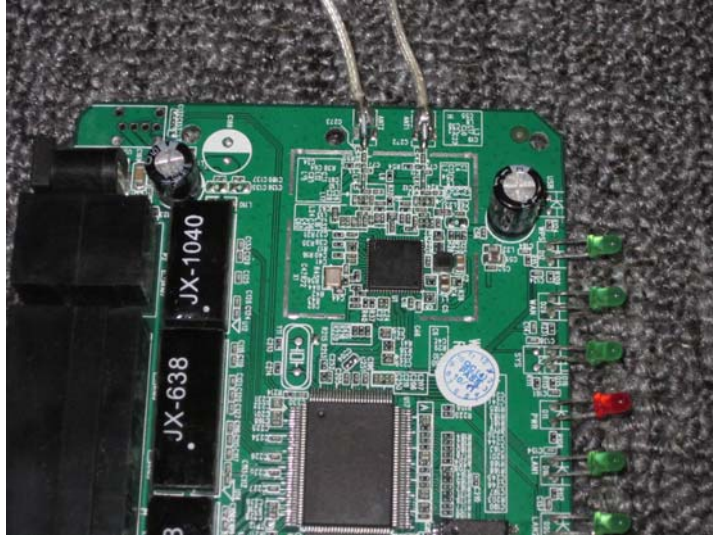
External Photos



Electromagnetic Te

Internal Photos





.....End of Report.....

