7.7 CONDUCTED BAND EDGE MEASUREMENT

7.7.1 Applicable Standard

According to FCC Part 15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05 Section 8.7.

7.7.2 Conformance 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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

7.7.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.7.4 Test Setup

Please refer to Section 6.1 of this test report.

7.7.5 Test Procedure

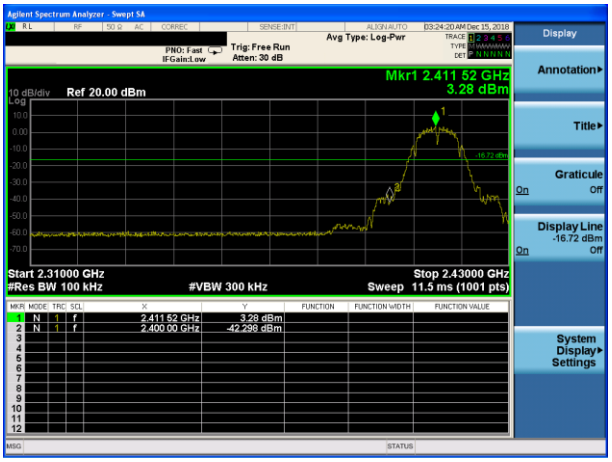
The testing follows FCC KDB 558074 D01 15.247 Meas Guidance v05 Section 8.7.
The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
The path loss was compensated to the results for each measurement.
Set to the maximum power setting and enable the EUT transmit continuously.
The EUT was operating in controlled its channel.
Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
Repeat above procedures until all measured frequencies were complete.

7.7.6 Test Results

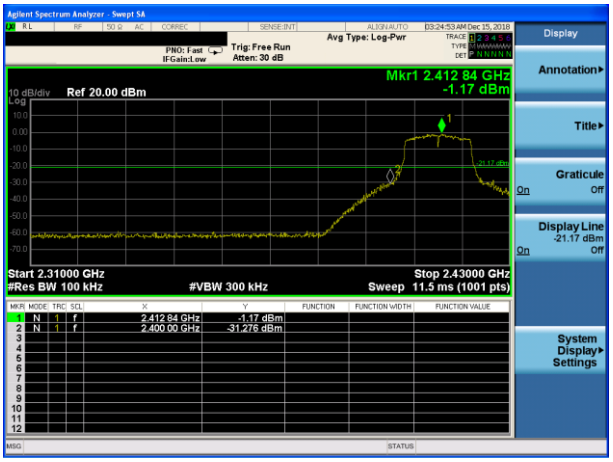
EUT:	Smartphone	Model No.:	SMARTPHONE 3.4
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	802.11b/g/n20/n40	Test By:	Cheng Jiawen

Test plot For

802.11b: Band Edge-Low Channel



802.11g: Band Edge-Low Channel

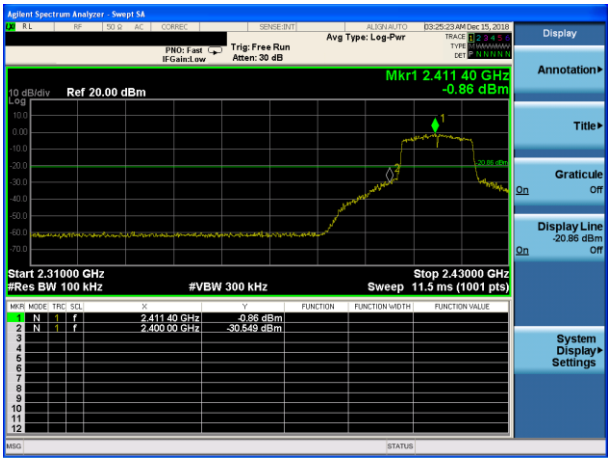


802.11b: Band Edge-High Channel

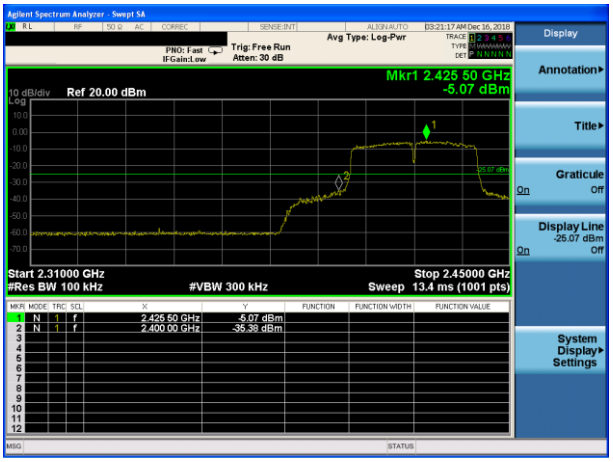
802.11g: Band Edge-High Channel

Test plot For

802.11n20: Band Edge-Low Channel

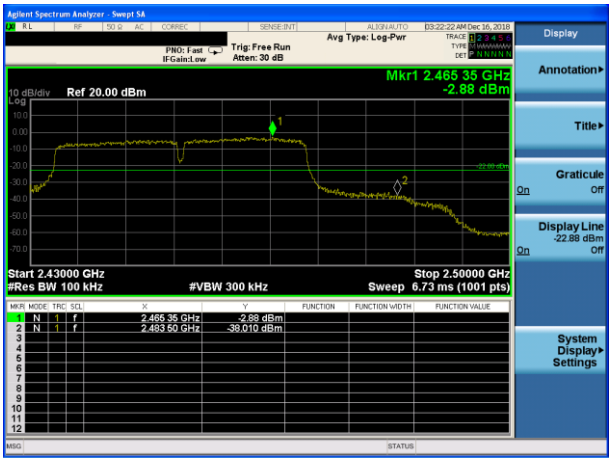


802.11n40: Band Edge-Low Channel



802.11n20: Band Edge-High Channel

802.11n40: Band Edge-High Channel



7.8 SPURIOUS RF CONDUCTED EMISSIONS

7.8.1 Conformance Limit

1. Below -20dB of the highest emission level in operating band.
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

7.8.2 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.8.3 Test Setup

Please refer to Section 6.1 of this test report.

7.8.4 Test Procedure

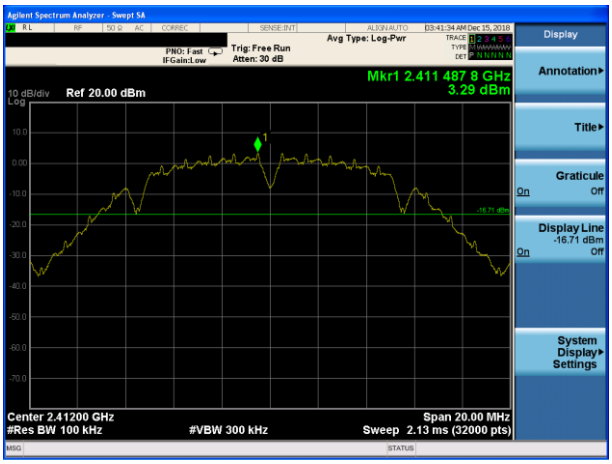
The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBW= 300KHz to measure the peak field strength , and measure frequency range from 9KHz to 26.5GHz.

7.8.5 Test Results

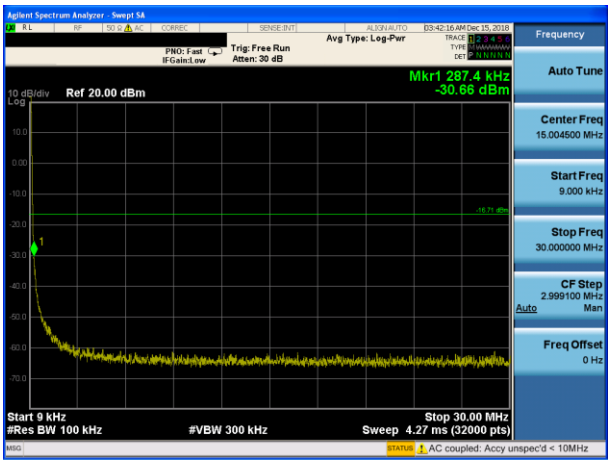
Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.

Test Plot

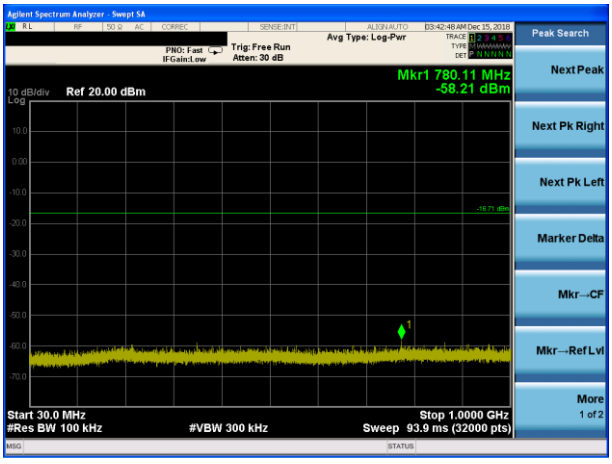
802.11b on channel 01



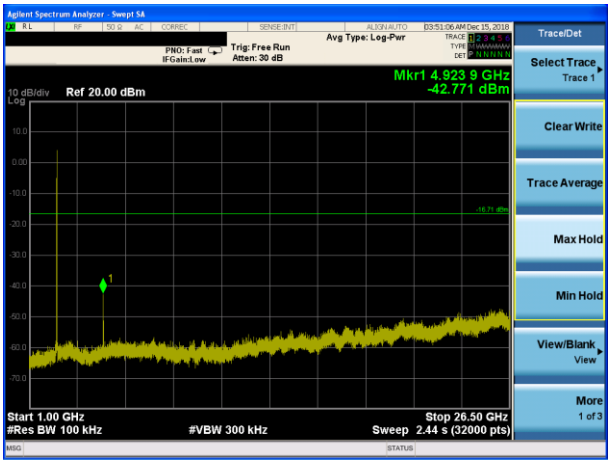
802.11b on channel 01



802.11b on channel 01

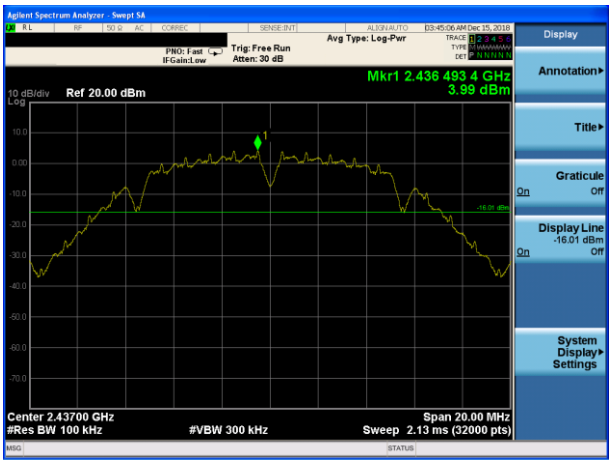


802.11b on channel 01

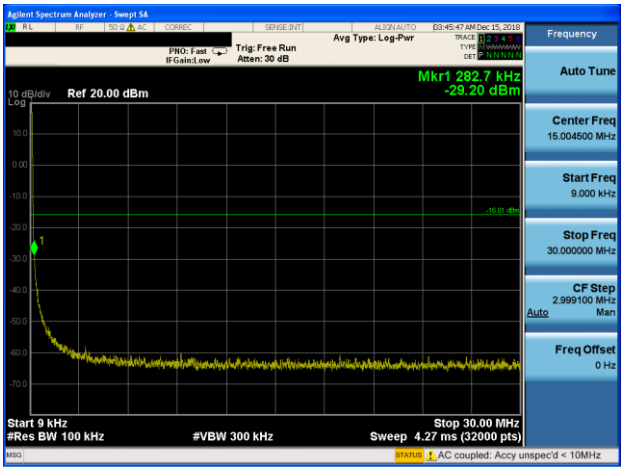


Test Plot

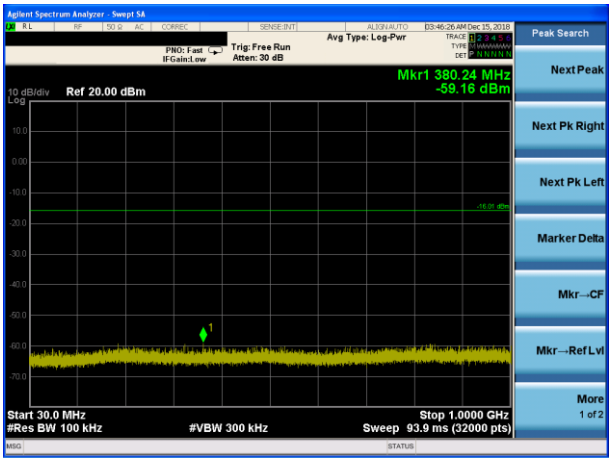
802.11b on channel 06



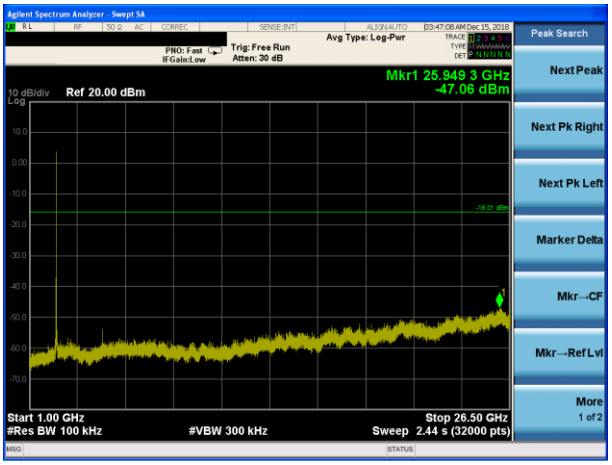
802.11b on channel 06



802.11b on channel 06



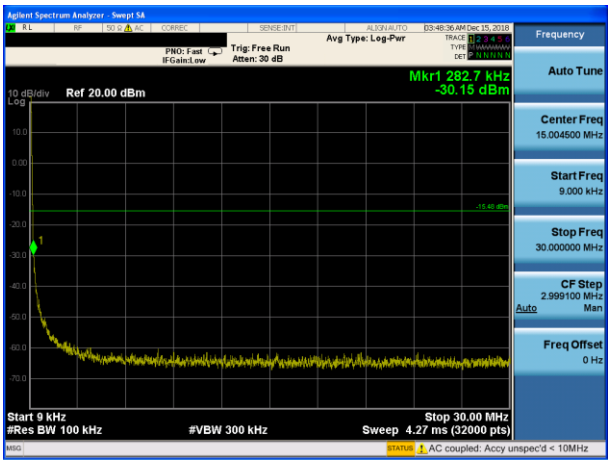
802.11b on channel 06



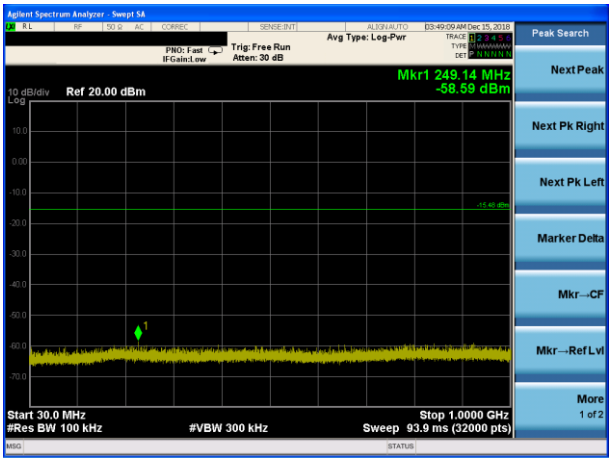
Test Plot

802.11b on channel 11

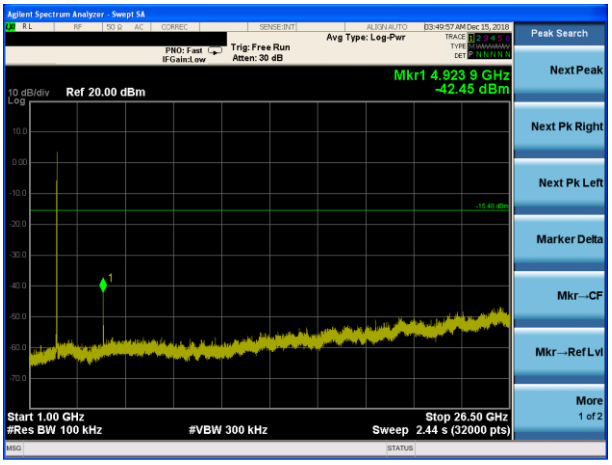
802.11b on channel 11



802.11b on channel 11

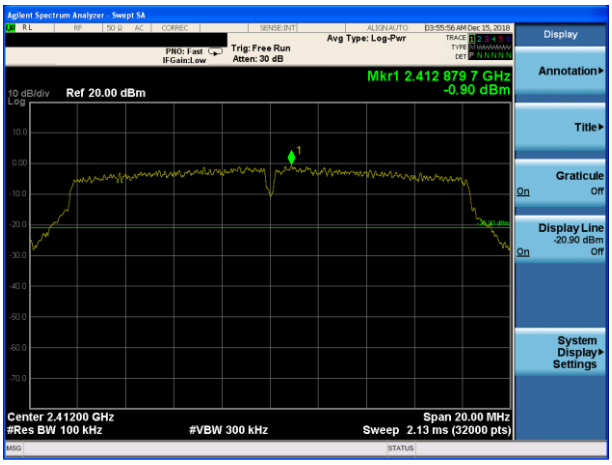


802.11b on channel 11

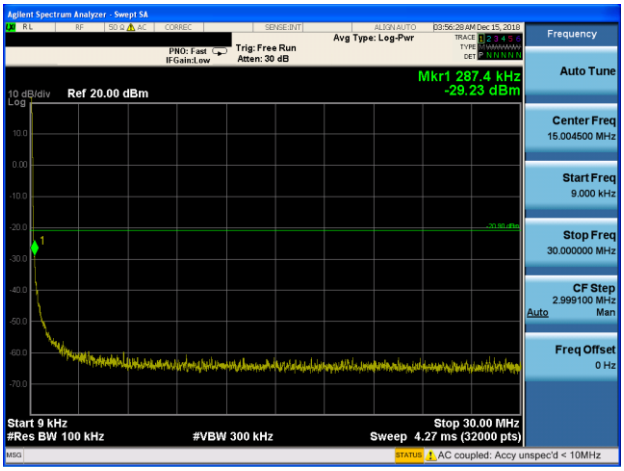


Test Plot

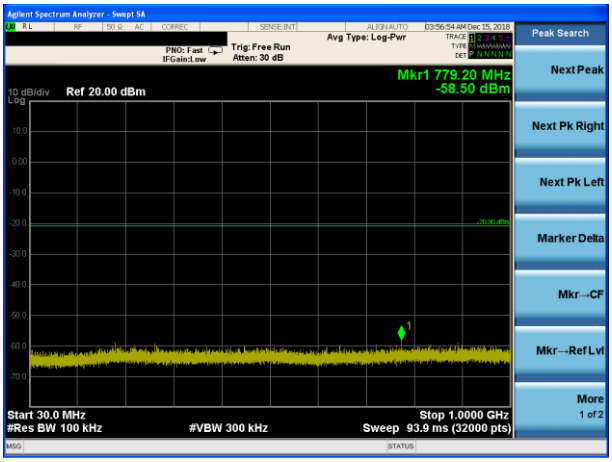
802.11g on channel 01



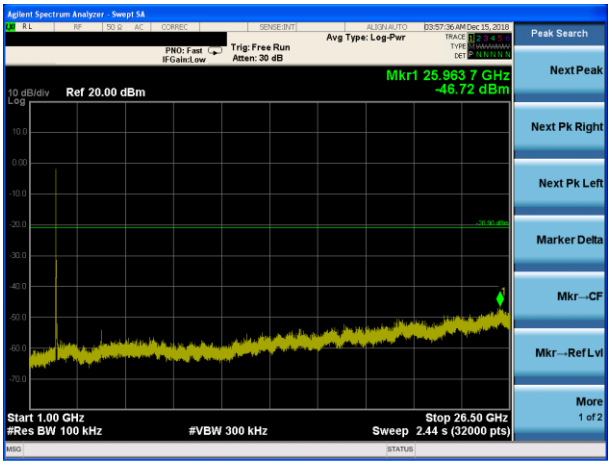
802.11g on channel 01



802.11g on channel 01

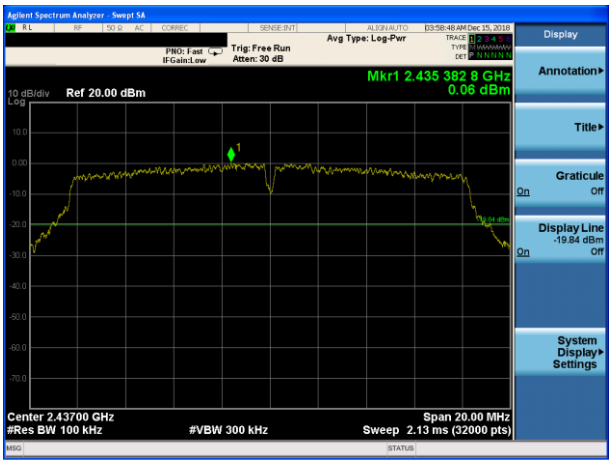


802.11g on channel 01

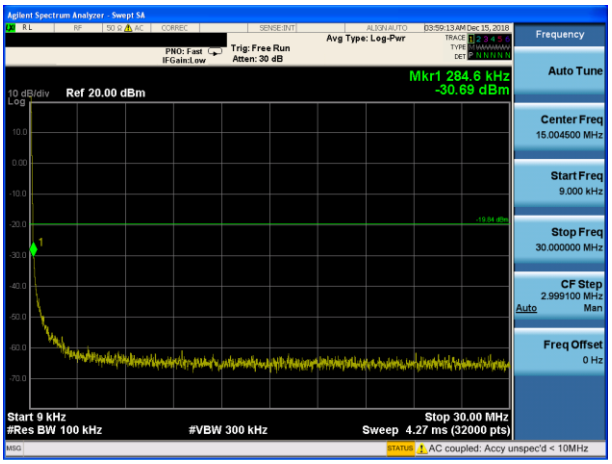


Test Plot

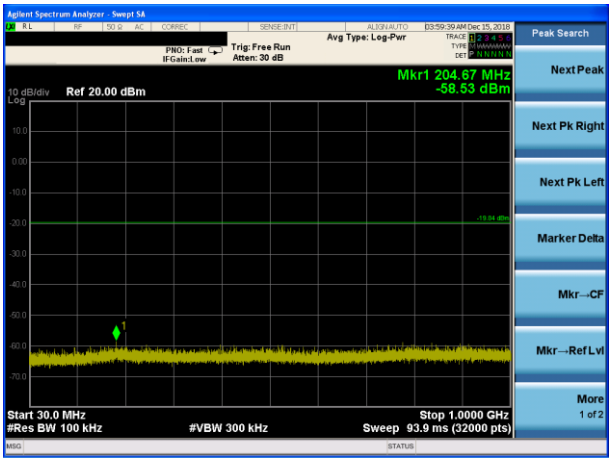
802.11g on channel 06



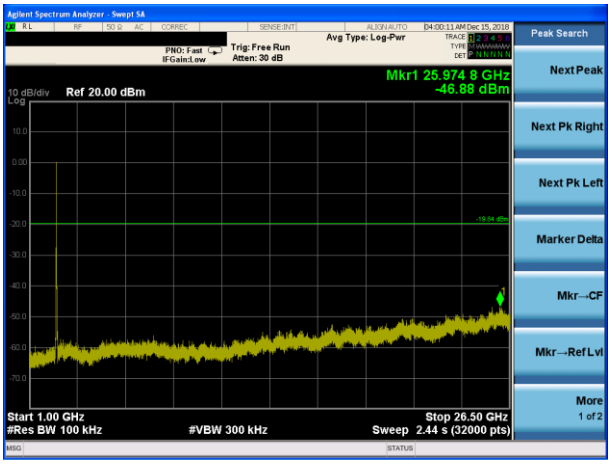
802.11g on channel 06



802.11g on channel 06

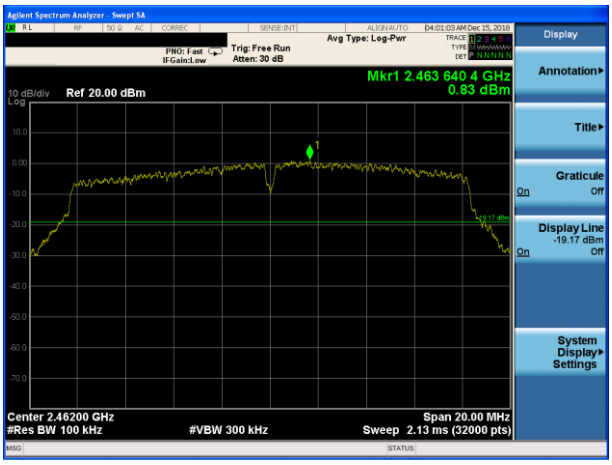


802.11g on channel 06

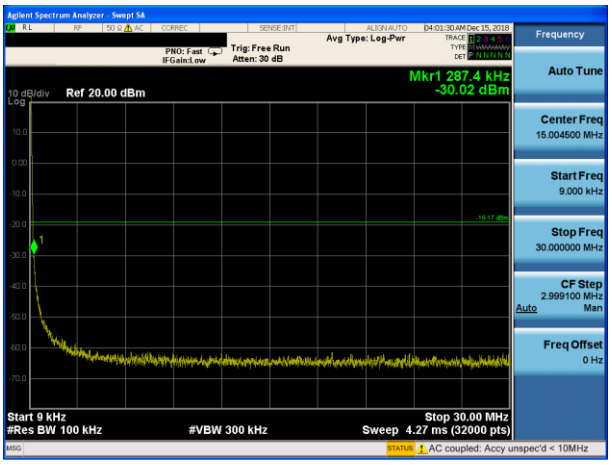


Test Plot

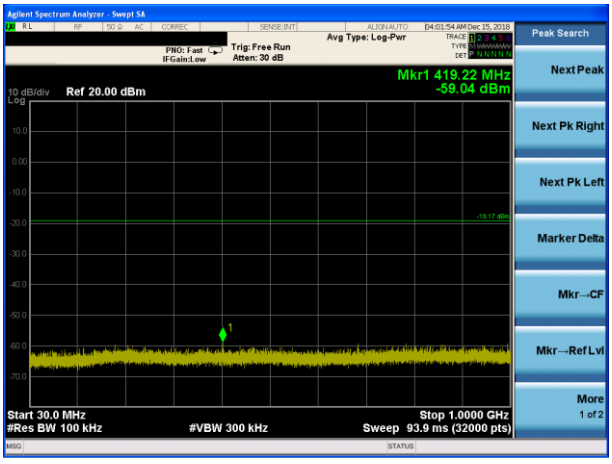
802.11g on channel 11



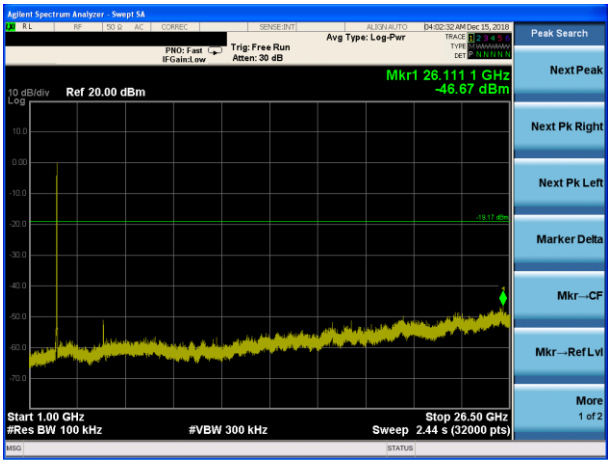
802.11g on channel 11



802.11g on channel 11

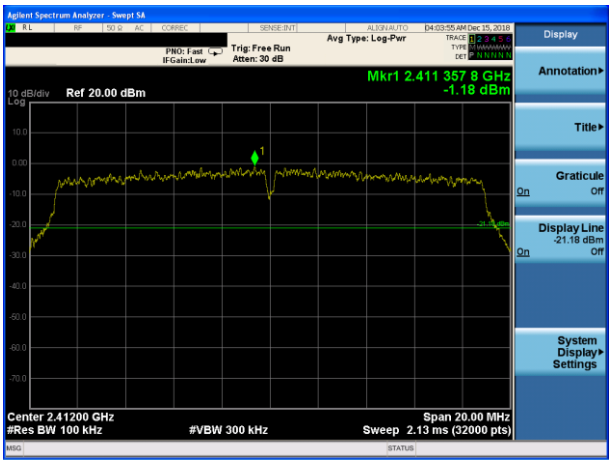


802.11g on channel 11

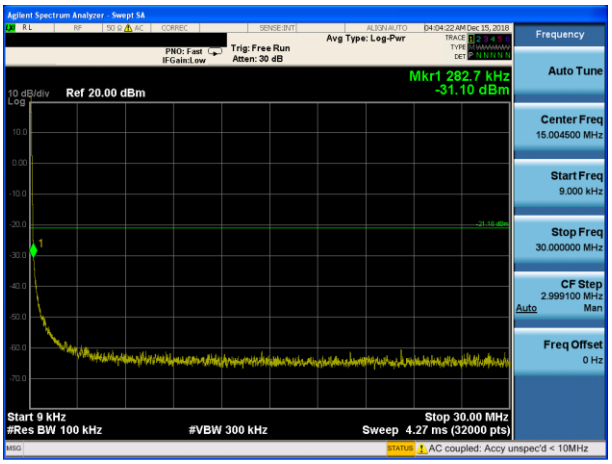


Test Plot

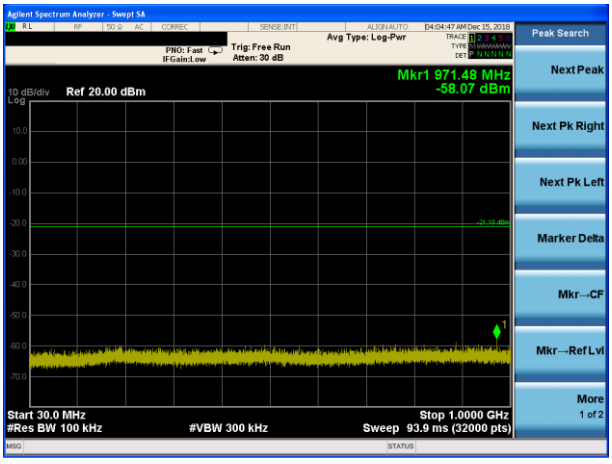
802.11n20 on channel 01



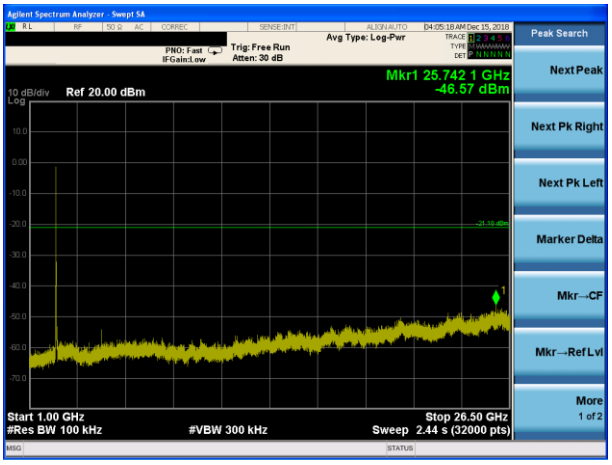
802.11n20 on channel 01



802.11 n20 on channel 01

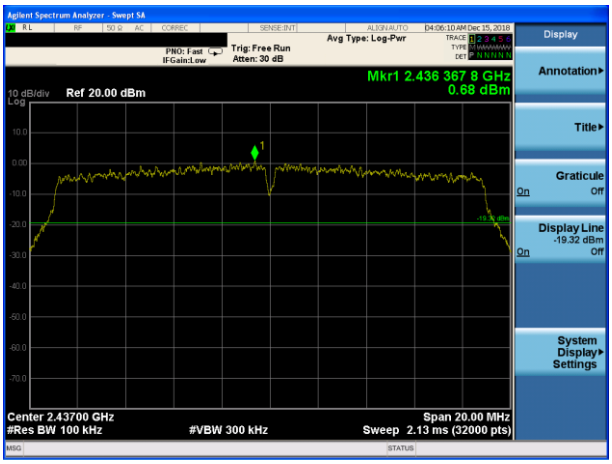


802.11 n20 on channel 01

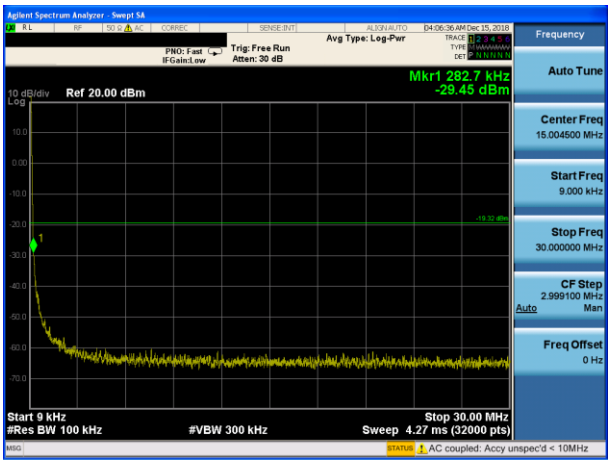


Test Plot

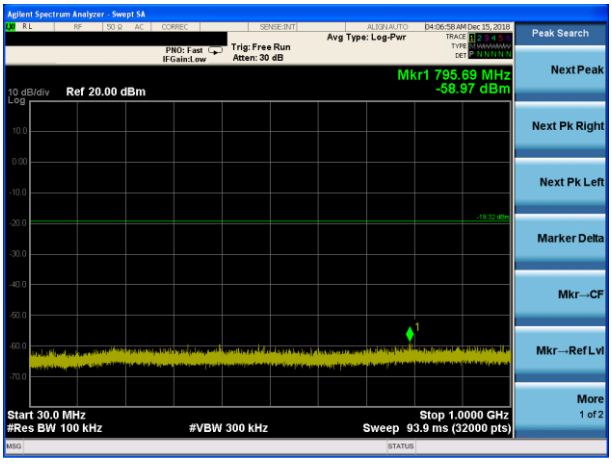
802.11 n20 on channel 06



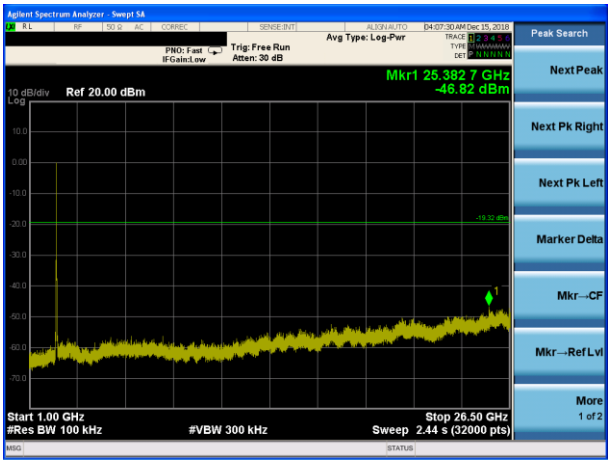
802.11 n20 on channel 06



802.11 n20 on channel 06

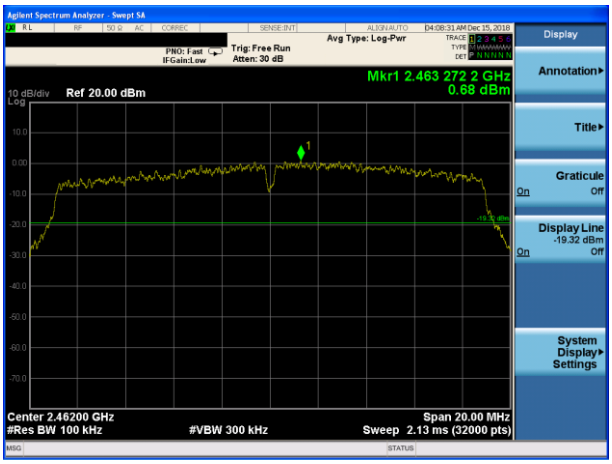


802.11 n20 on channel 06

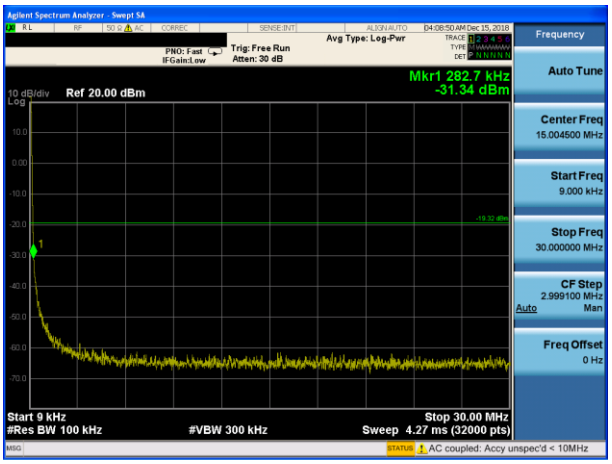


Test Plot

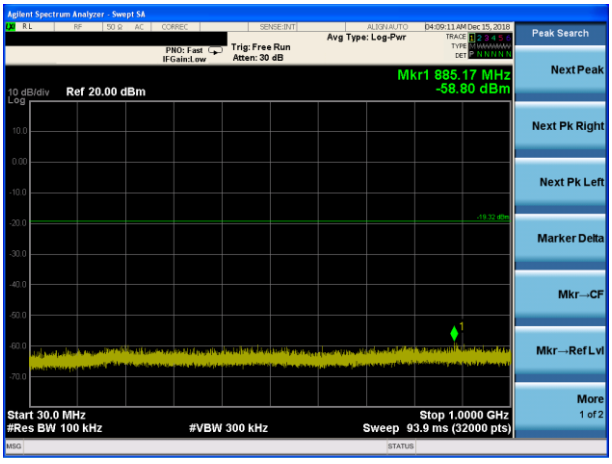
802.11 n20 on channel 11



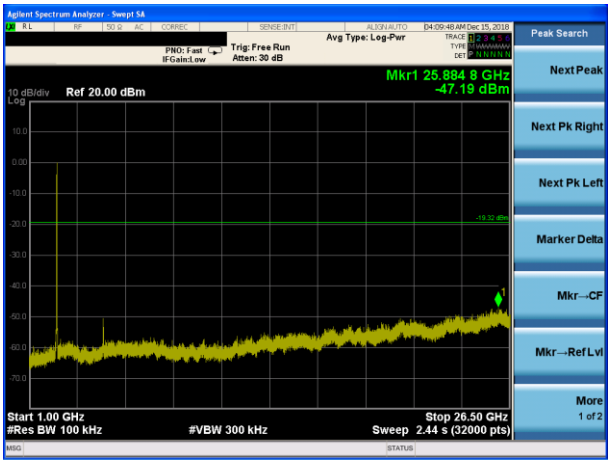
802.11 n20 on channel 11



802.11 n20 on channel 11

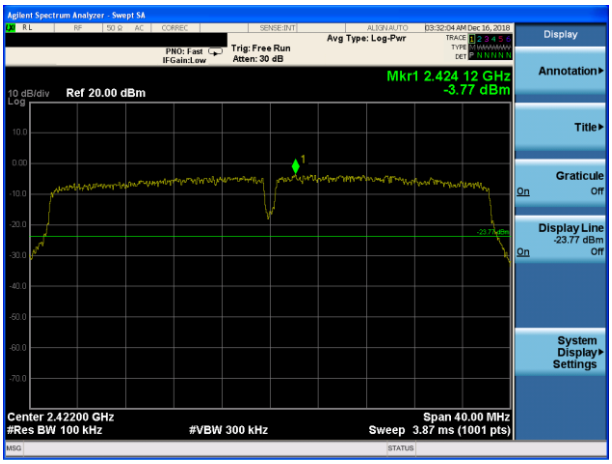


802.11 n20 on channel 11

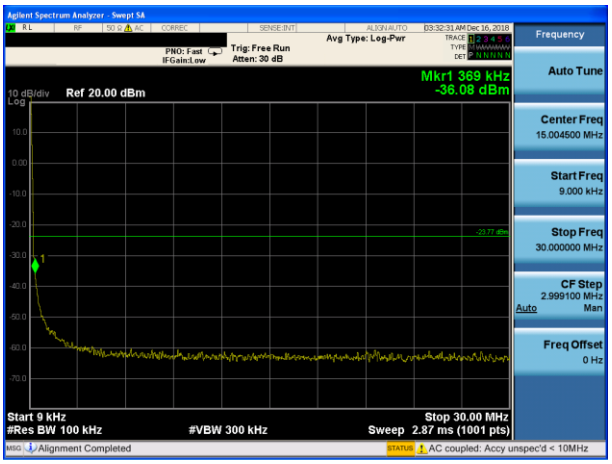


Test Plot

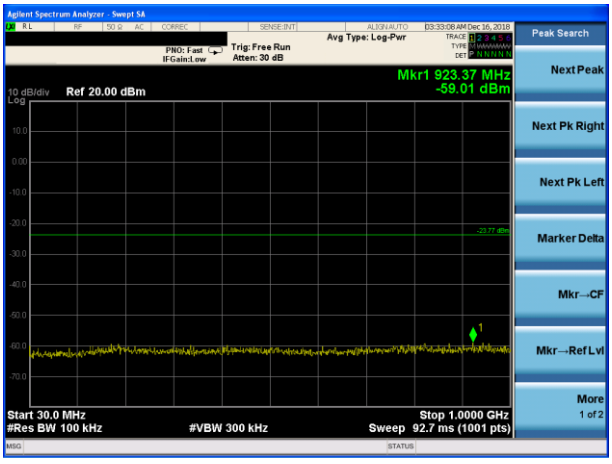
802.11n40 on channel 03



802.11n40 on channel 03



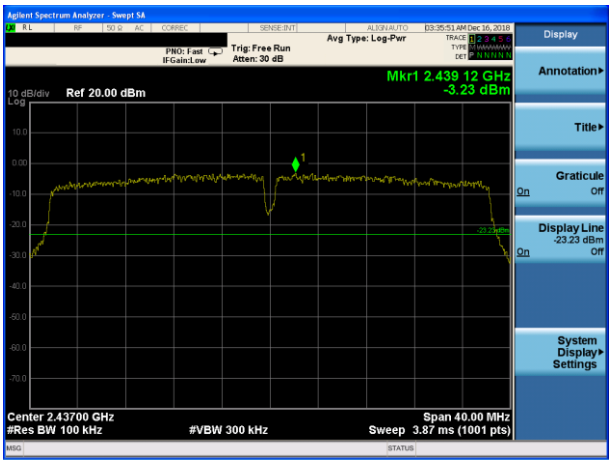
802.11n40 on channel 03



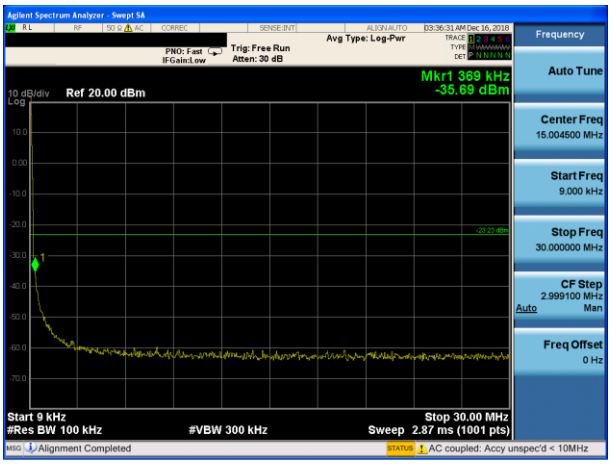
802.11n40 on channel 03

Test Plot

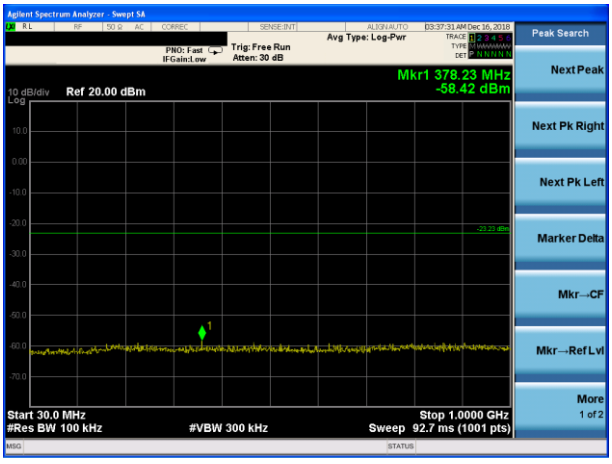
802.11n40 on channel 06



802.11 n40 on channel 06



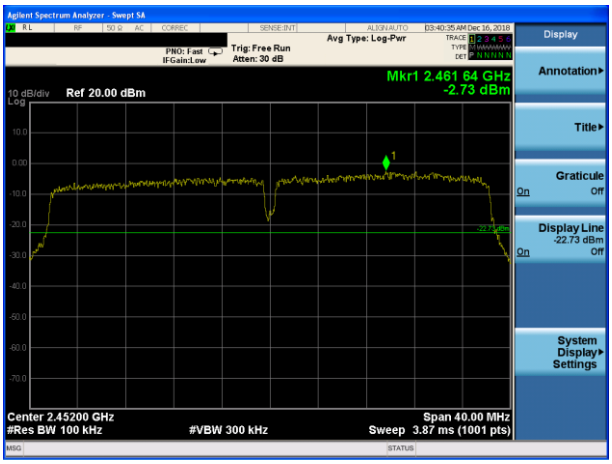
802.11 n40 on channel 06



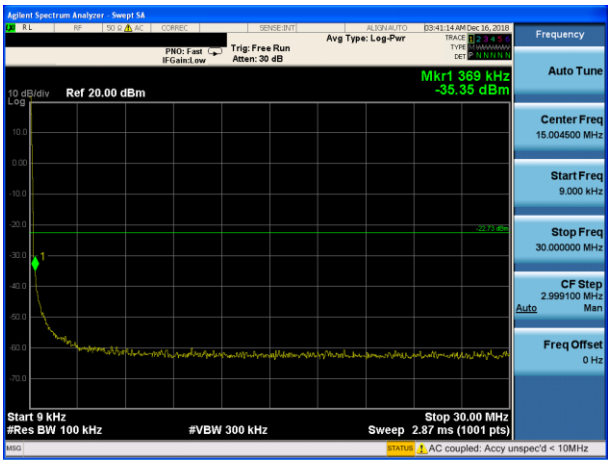
802.11 n40 on channel 06

Test Plot

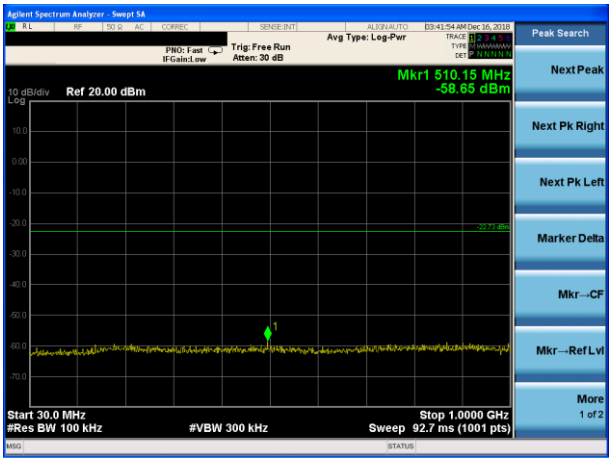
802.11 n40 on channel 9



802.11 n40 on channel 9



802.11 n40 on channel 9



802.11 n40 on channel 9

7.9 ANTENNA APPLICATION

7.9.1 Antenna Requirement

15.203 requirement: For intentional device, according to 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.

7.9.2 Result

The EUT antenna is permanent attached PIFA antenna(Gain:-0.22dBi). It comply with the standard requirement.

END OF REPORT