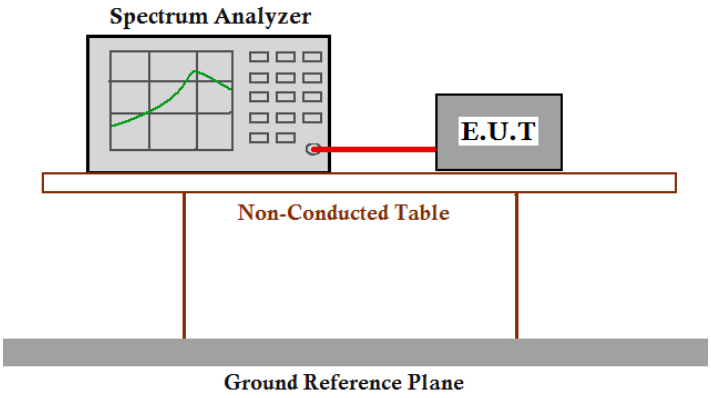
5.8 Band Edges Requirement

Test Requirement:	FCC Part 15 C section 15.247 (d) 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.
Frequency Band:	2400 MHz to 2483.5 MHz
Test Method:	FCC/KDB-558074 D01 v03r05 Clause 13.3.1
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer or power meter.
2. Set instrument center frequency to the frequency of the emission to be measured(must be within 2MHz of the authorized band edge).
3. Set span to 2MHz,RBW=100kHz,VBW≥3×RBW
4. Detector=peak,Sweep time =auto,Trace mode=max hold.
5. Allow sweep to continue until the trace stabilizes(required measurement time may increase for low duty cycle applications)
6. Compute the power by integrating the spectrum over 1MHz using the analyzer's band power measurement function with band limits set equal to the emission frequency($f_{emission}$)±0.5MHz.If the instrument does not have a band power function,the sum the amplitude levels(in power units) at 100kHz intervals extending across the 1MHz spectrum defined by femission±0.5MHz.

Test result with plots as follows:

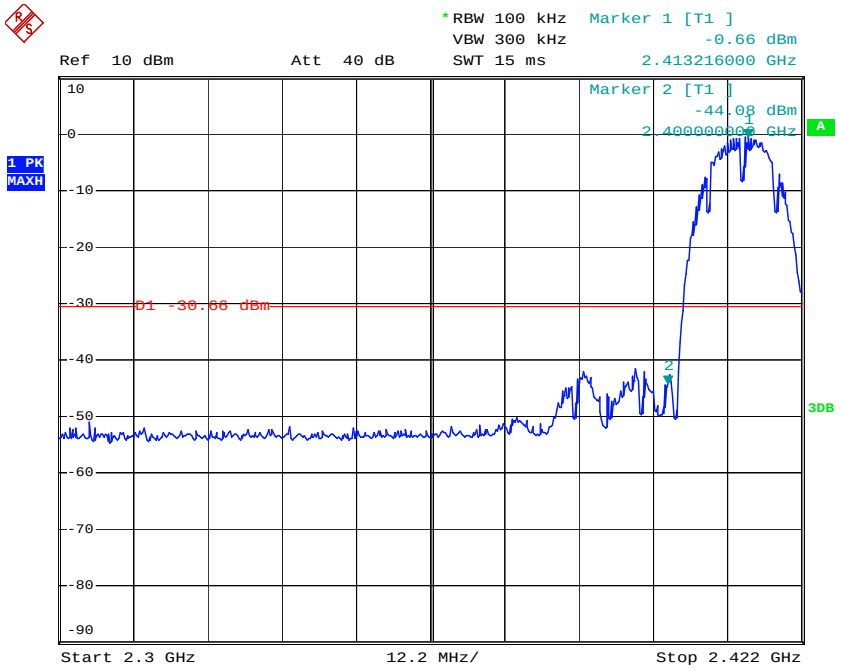
Compare with the output power of the lowest frequency, the Lower Edges attenuated more than 30dB

Compare with the output power of the highest frequency, the Upper Edges attenuated more than 30dB.

For WiFi TX:

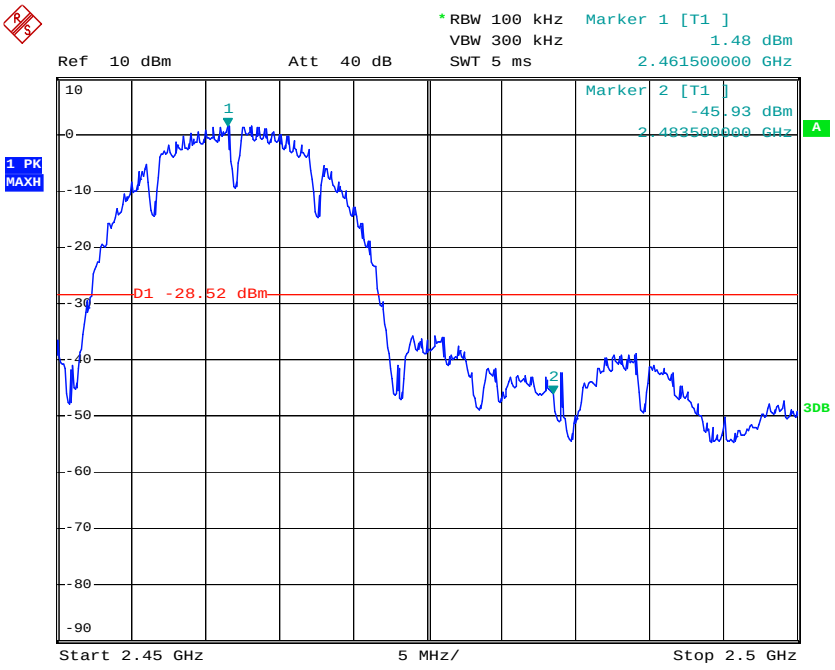
802.11b mode with 1 Mbps data rate

Channel1: 2.412 GHz



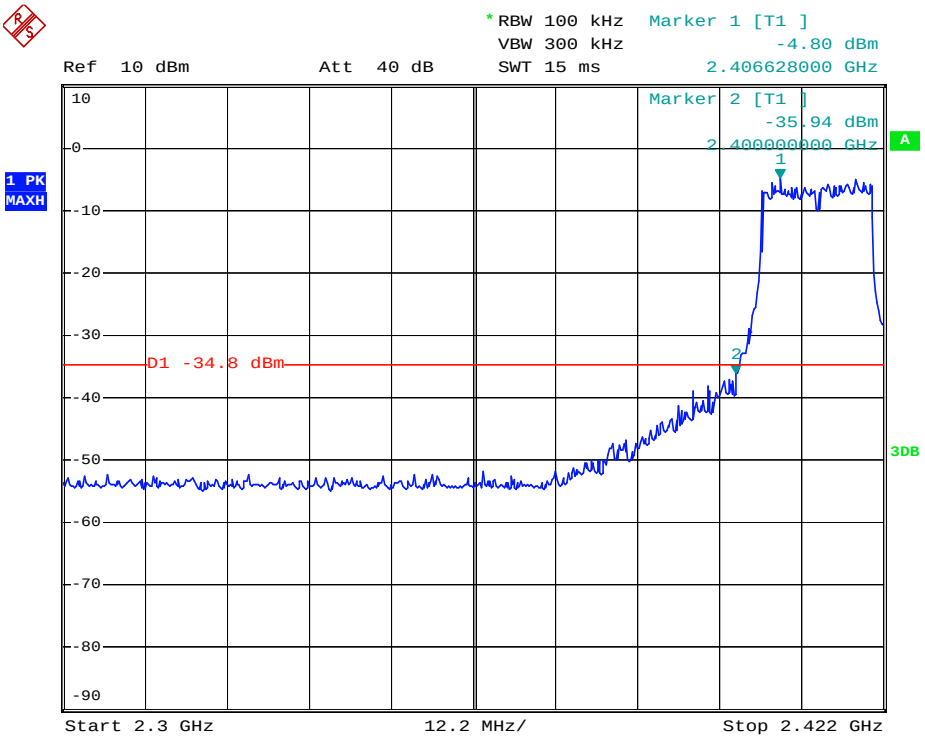
802.11b mode with 1 Mbps data rate

Channel11: 2.462 GHz



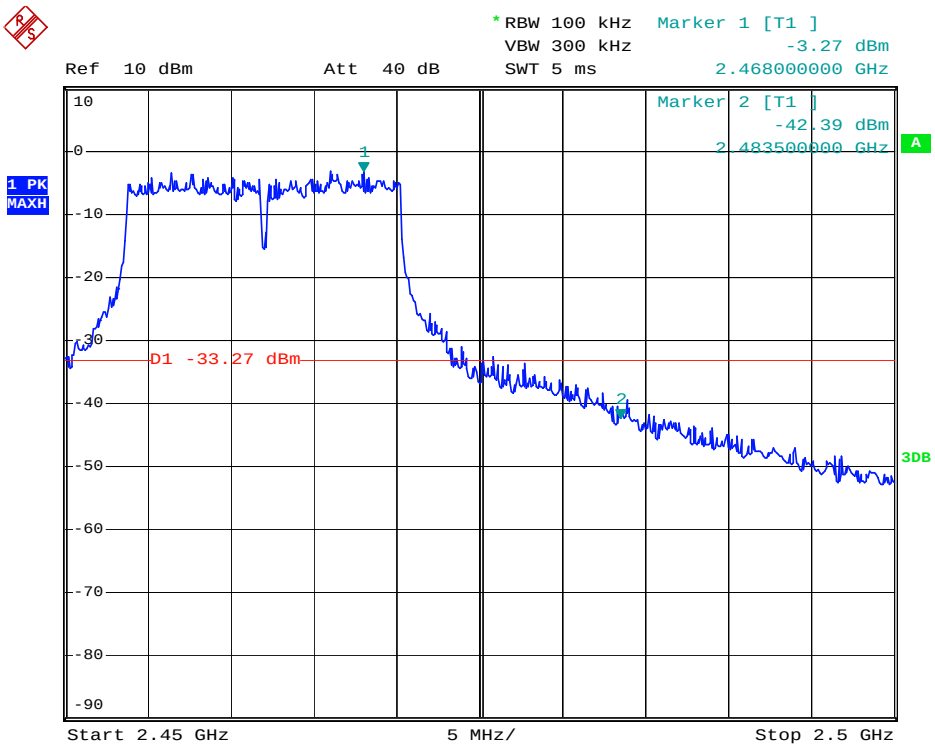
802.11g mode with 6 Mbps data rate

Channel1: 2.412 GHz



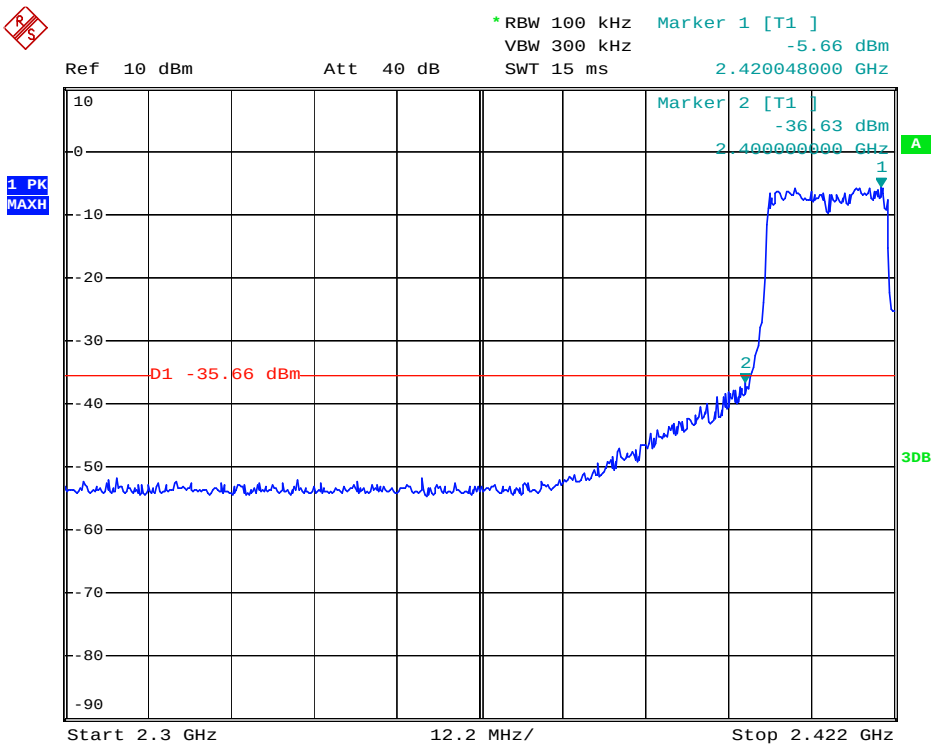
802.11g mode with 6 Mbps data rate

Channel11: 2.462 GHz



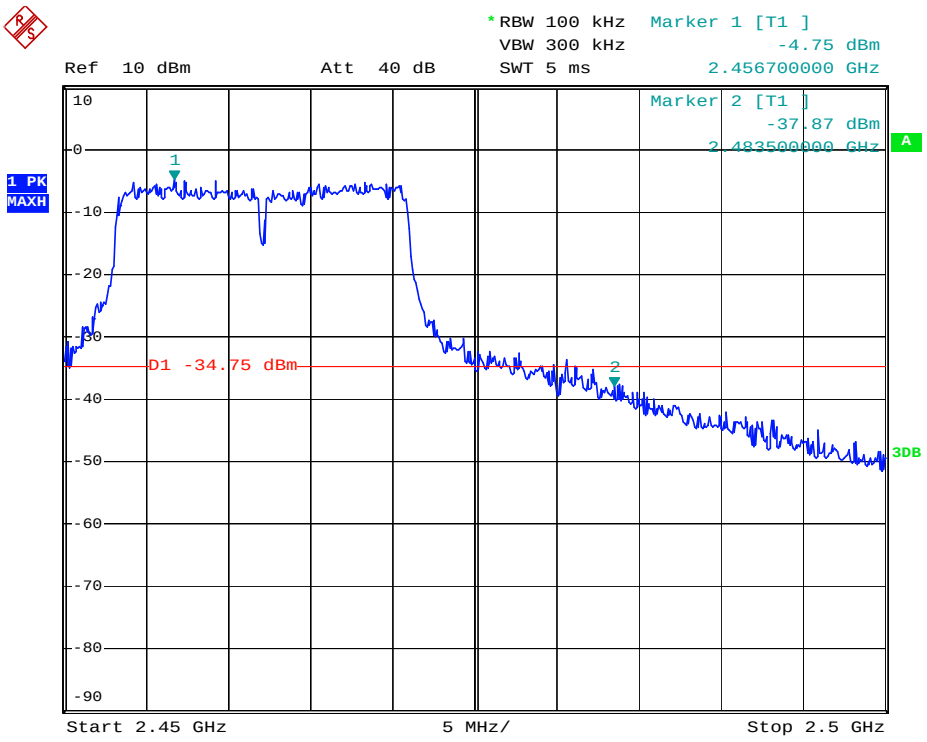
802.11n(HT20) mode with 7.2Mbps data rate

Channel1: 2.412 GHz



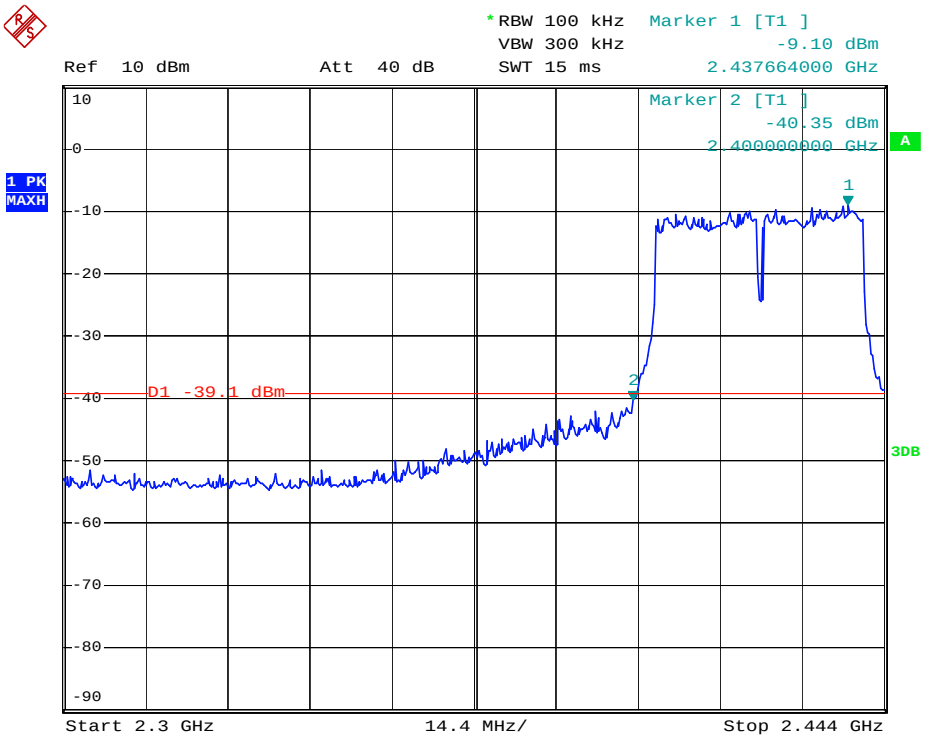
802.11n(HT20) mode with 7.2Mbps data rate

Channel11: 2.462 GHz



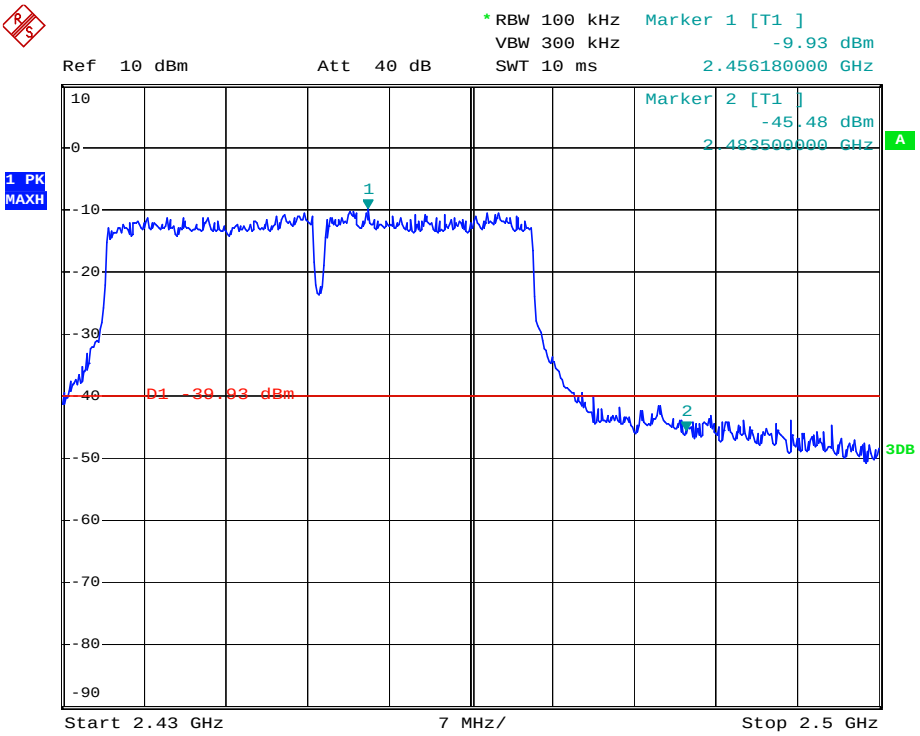
802.11n(HT40) mode with 15Mbps data rate

Channel1: 2.412 GHz



802.11n(HT40) mode with 15Mbps data rate

Channel11: 2.462 GHz



5.9 Conducted Spurious Emissions

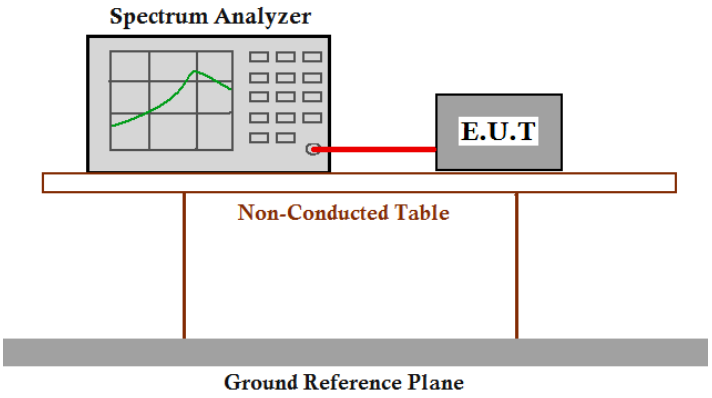
Test Requirement: FCC Part 15 C section 15.247

(d) 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 Method: ANSI C63.10: Clause 6.7

Test Status: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.

Test Configuration:



Test Procedure:

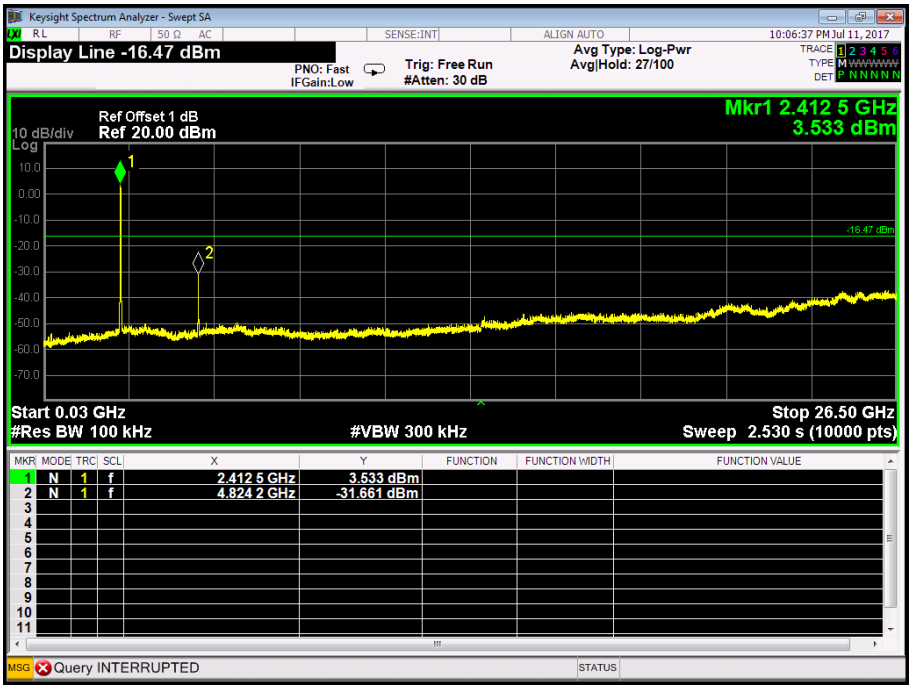
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum analyzer or power meter.
2. Set the spectrum analyzer: RBW=100 KHz, VBW = 300KHz. Sweep = auto; Detector Function = Peak. Trace = Max Hold, Scan up through 10th harmonic.
3. Measure the Conducted Spurious Emissions of the test frequency with special test status.
4. Repeat until all the test status is investigated.
5. Report the worse case.

Result plot as follows:

802.11b mode with 1Mbps data rate

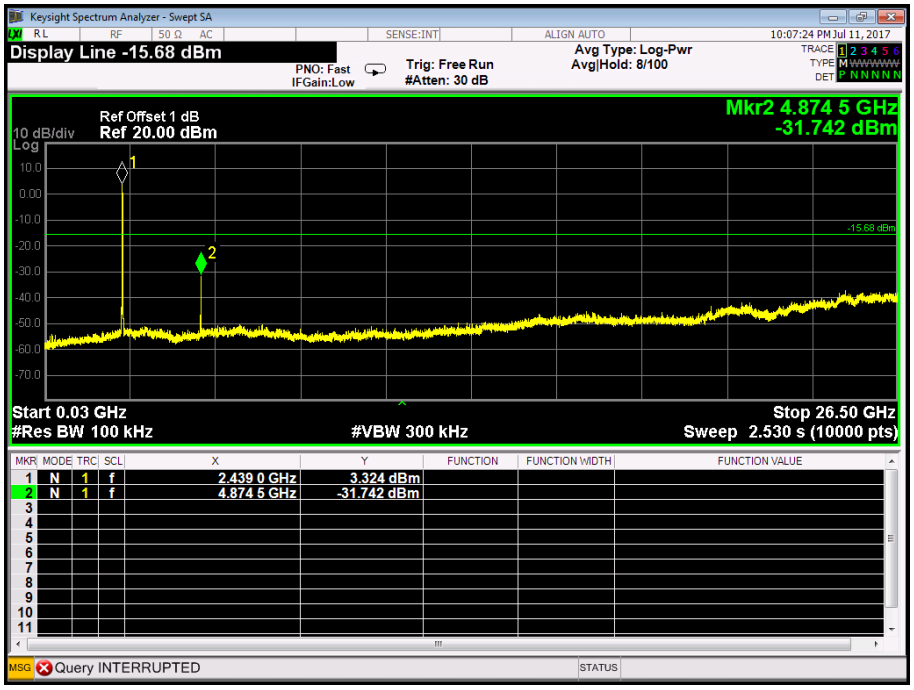
Channel 1: 2.412GHz:

30 MHz to 26.5 GHz



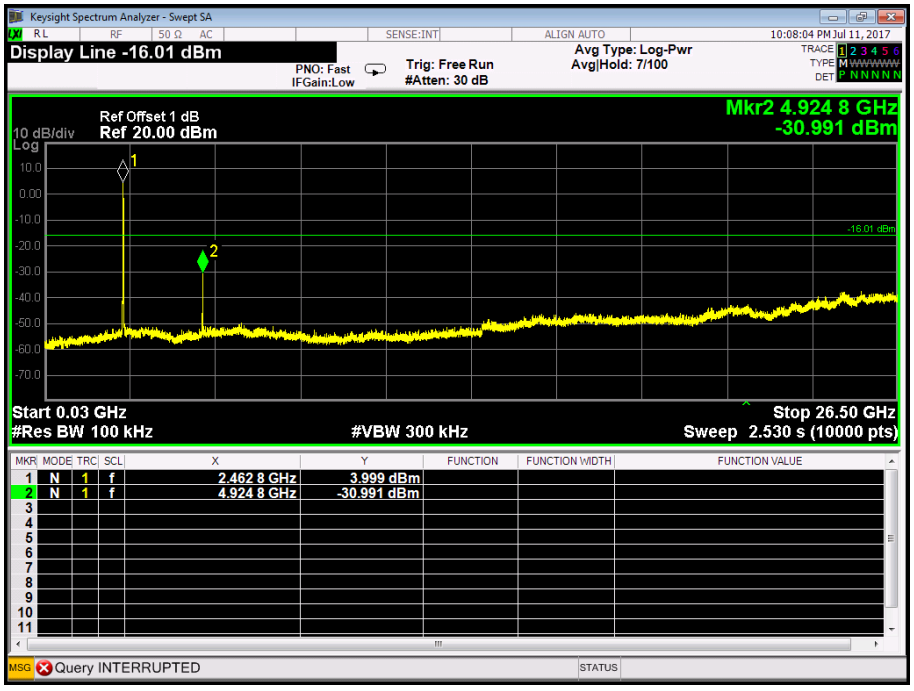
Channel 6: 2.437GHz:

30 MHz to 26.5 GHz



Channel 11:2.462 GHz

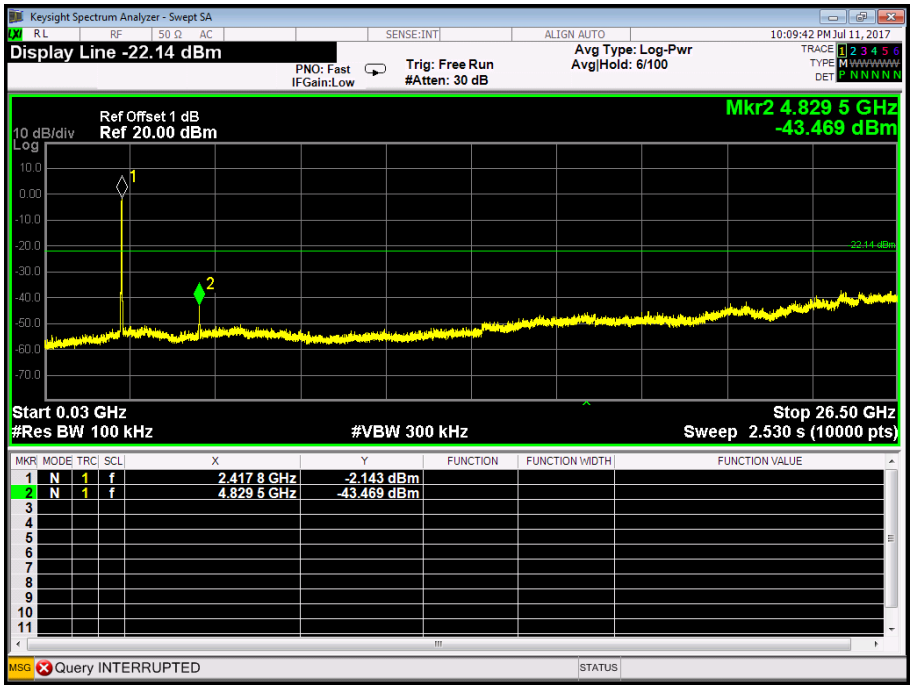
30 MHz to 26.5 GHz



802.11g mode with 6Mbps data rate

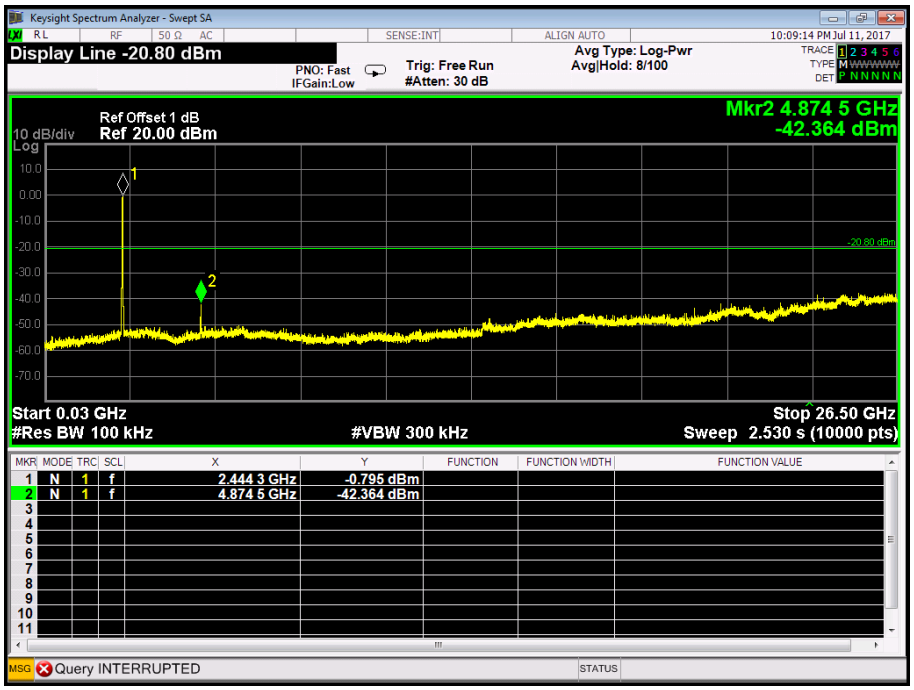
Channel 1: 2.412GHz:

30 MHz to 26.5 GHz



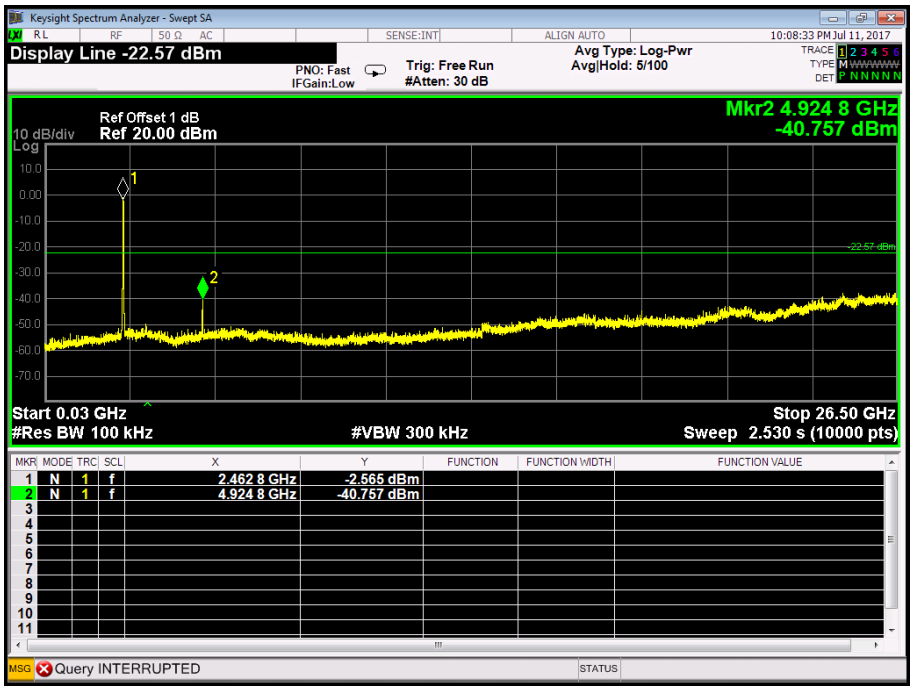
Channel 6: 2.437GHz:

30 MHz to 26.5 GHz



Channel 11:2.462 GHz

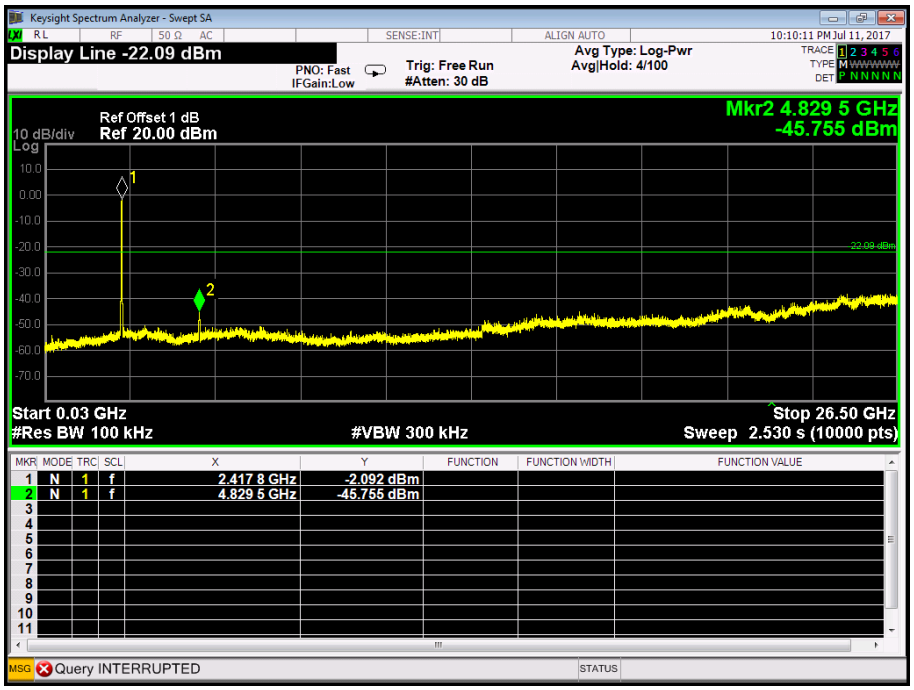
30 MHz to 26.5 GHz



802.11n(HT20) mode with 7.2Mbps data rate

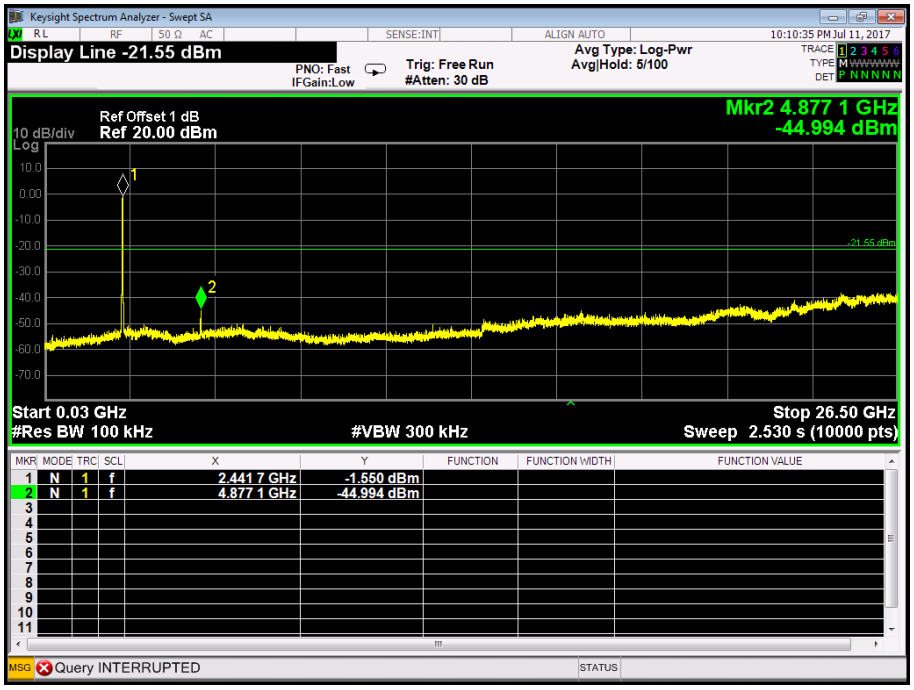
Channel 1: 2.412GHz:

30 MHz to 26.5 GHz



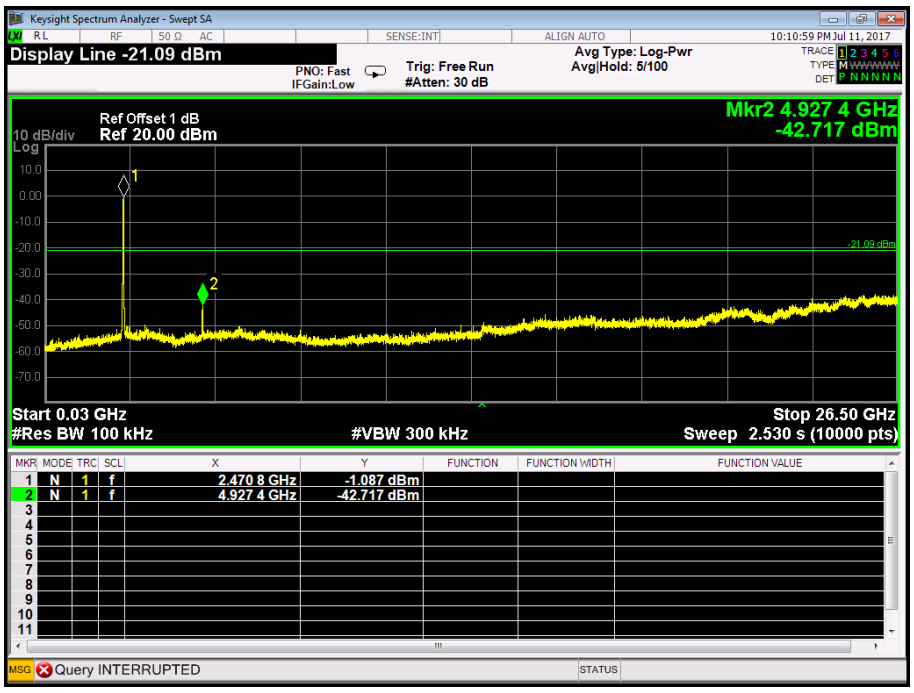
Channel 6: 2.437GHz:

30 MHz to 26.5 GHz



Channel 11:2.462 GHz

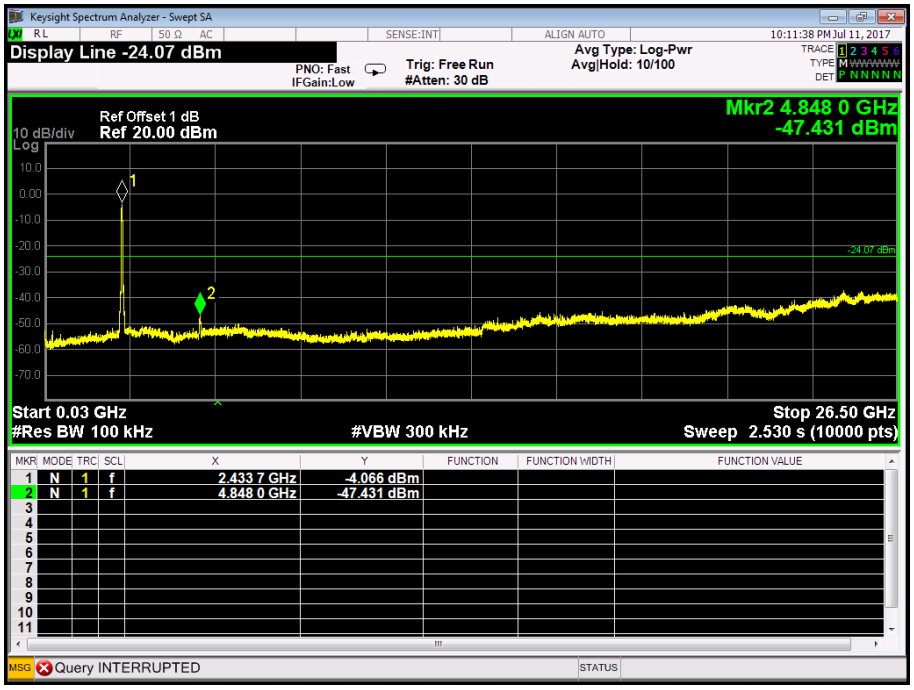
30 MHz to 26.5 GHz



802.11n(HT40) mode with 15Mbps data rate

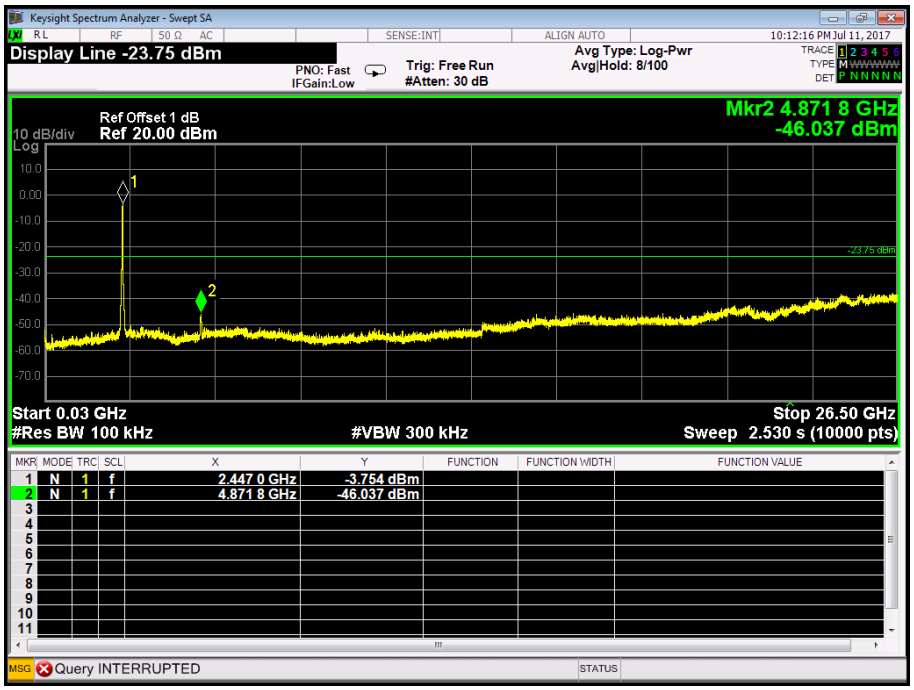
Channel 3: 2.422GHz:

30 MHz to 26.5 GHz



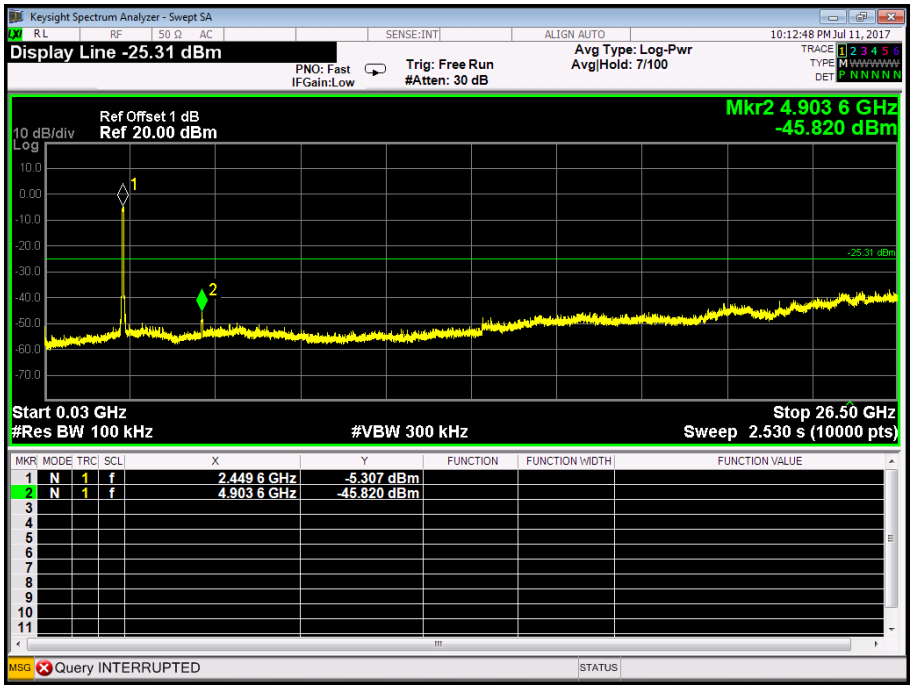
Channel 6: 2.437GHz:

30 MHz to 26.5 GHz



Channel 9:2.452 GHz

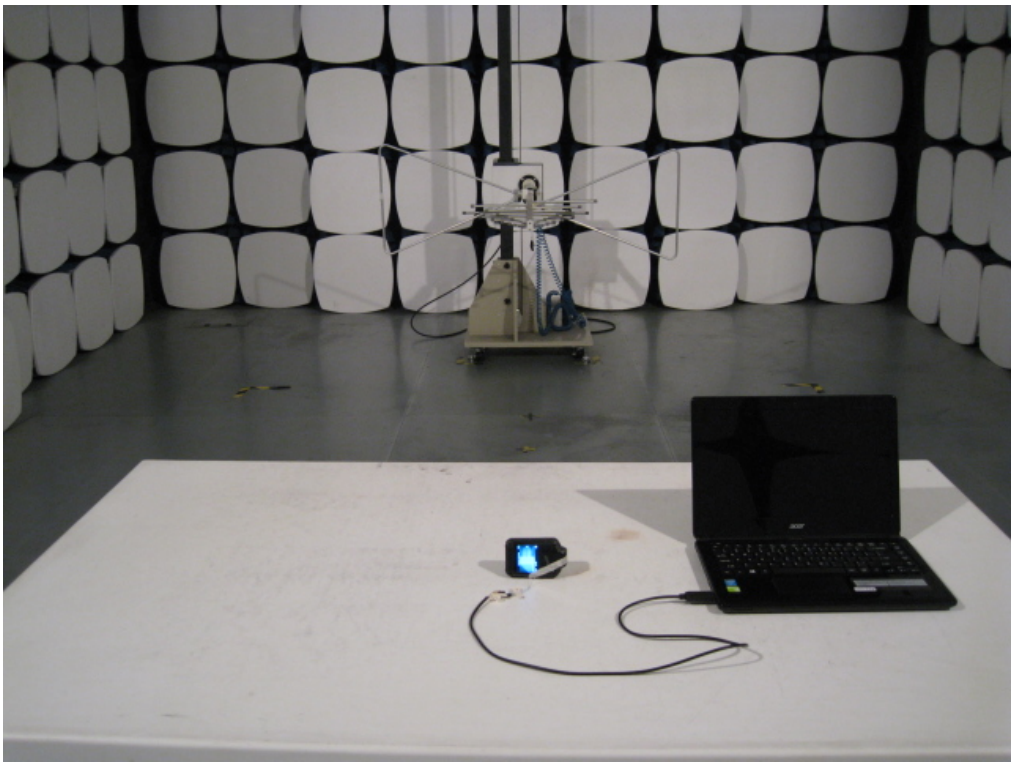
30 MHz to 26.5 GHz



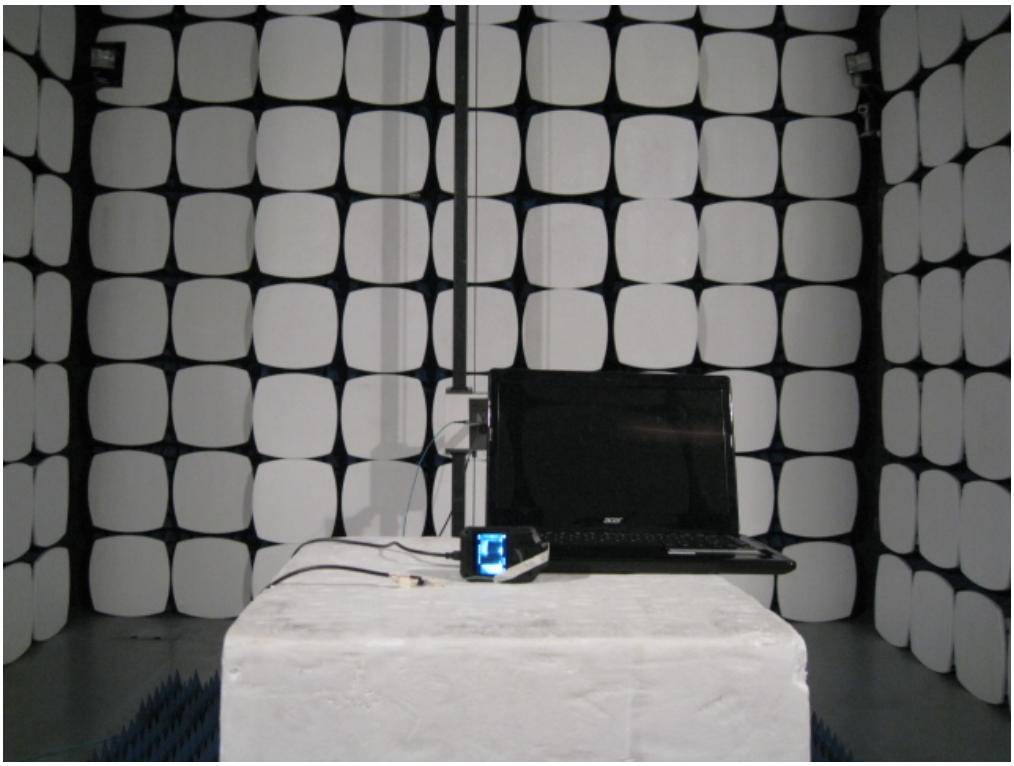
6 Photographs

6.1 Radiated Spurious Emission Test Setup

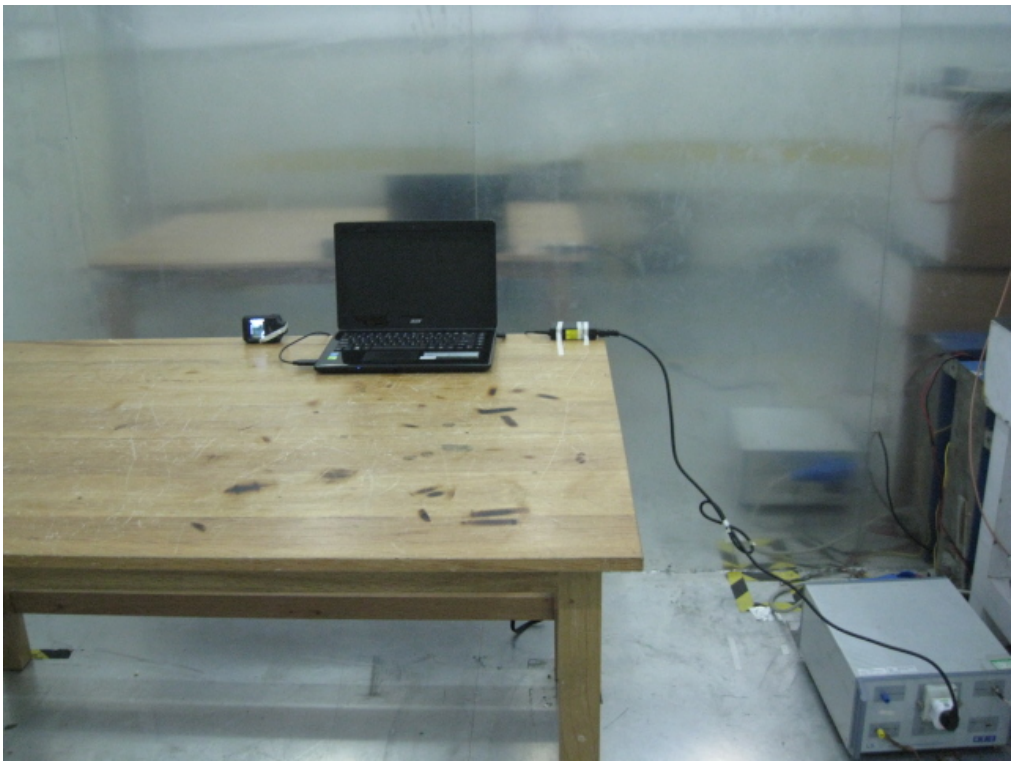
Below 1GHz:



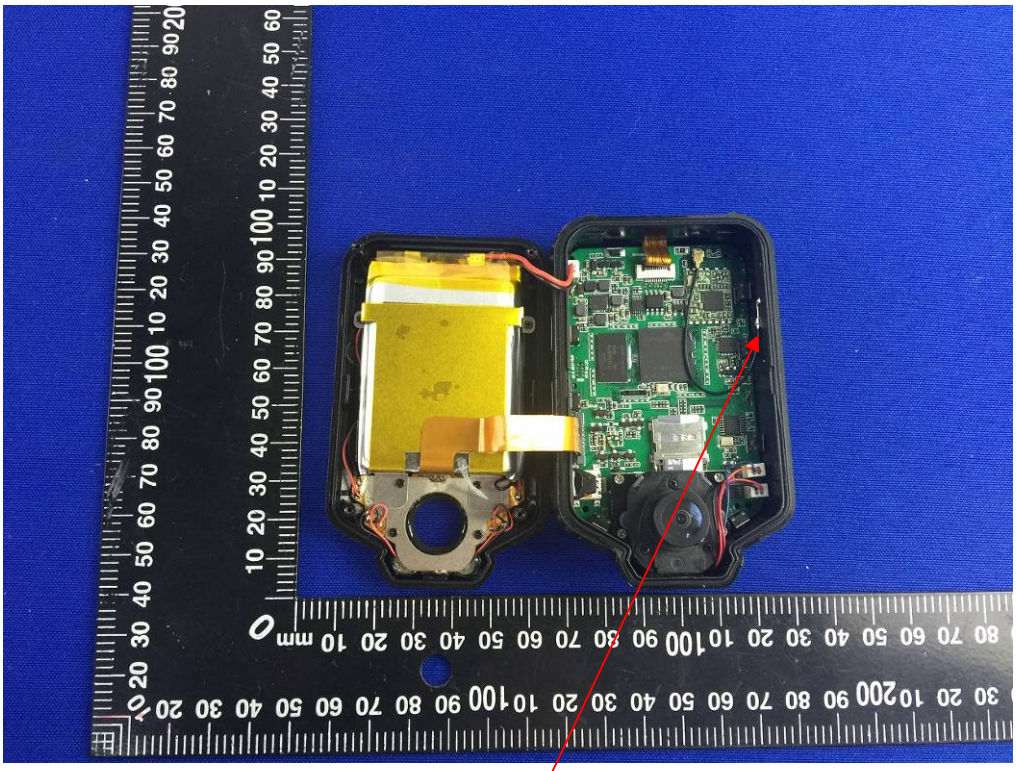
Above 1GHz:



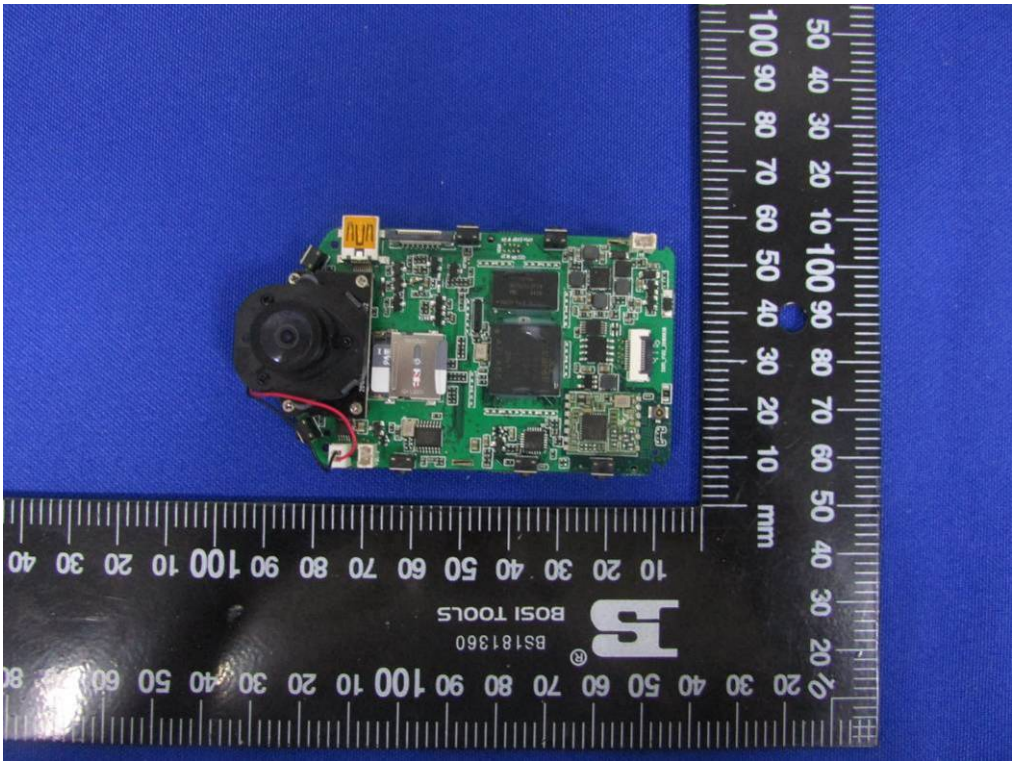
6.2 Conducted Emission Test Setup

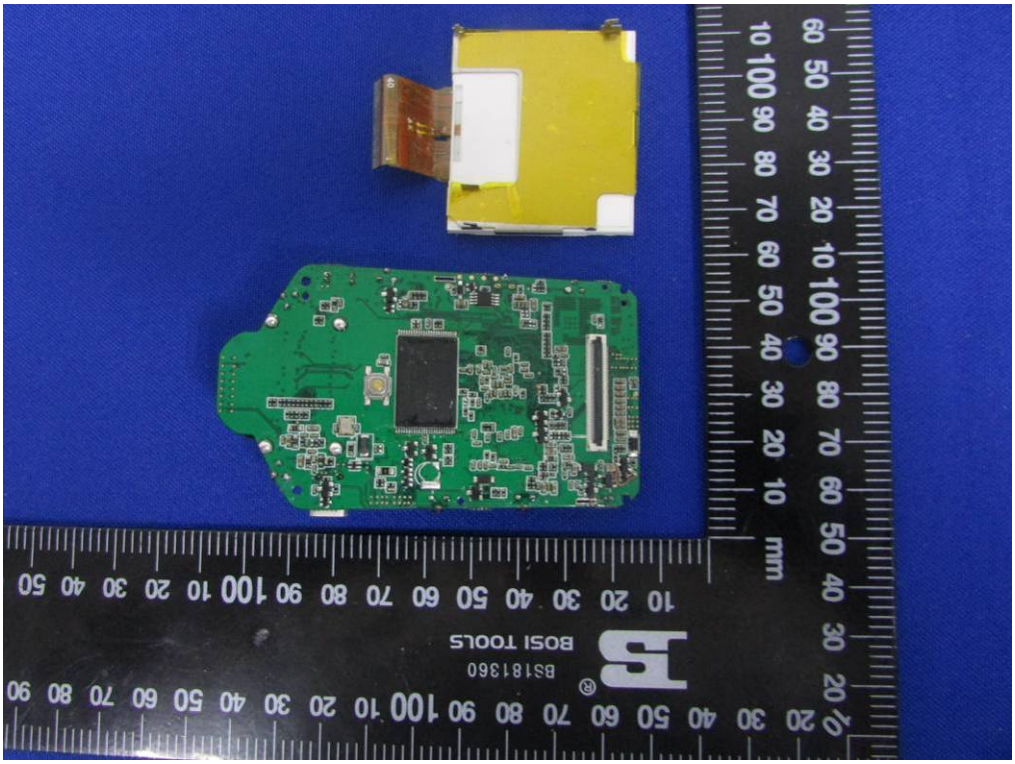


7 APPENDIX-Photographs of EUT Constructional Details



WiFi Antenna





**** End of report ****