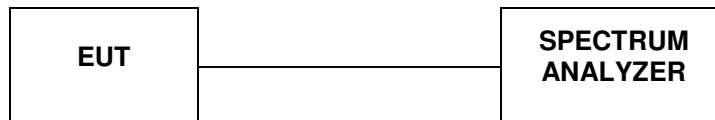


4.7. Spurious RF Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2013 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 25GHz.

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.

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 band edge measurement data.

Test Mode:	802.11b	Test channel :	01
Agilent Spectrum Analyzer - Swept SA Marker 1 2.411490000000 GHz Trig: Free Run Avg Type: Log-Pwr Attenu: 30 dB 08:04:38 PM Jun 02, 2016 1 2 3 4 5 TYPE: M DET: P 10 dB/div Ref 20.00 dBm Mkr1 2.411 49 GHz 3.100 dBm 17.00 dBm Center 2.41200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms (1001 pts) STATUS Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
Channel 01			
Agilent Spectrum Analyzer - Swept SA Marker 1 548.838000 kHz Trig: Free Run Avg Type: Log-Pwr Attenu: 30 dB 08:05:25 PM Jun 02, 2016 1 2 3 4 5 TYPE: M DET: P 10 dB/div Ref 20.00 dBm Mkr1 549 kHz -44.336 dBm 17.00 dBm Start 9 kHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.867 ms (1001 pts) STATUS Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
9KHz~30MHz			
Agilent Spectrum Analyzer - Swept SA Marker 1 809.880000000 MHz Trig: Free Run Avg Type: Log-Pwr Attenu: 30 dB 08:05:44 PM Jun 02, 2016 1 2 3 4 5 TYPE: M DET: P 10 dB/div Ref 20.00 dBm Mkr1 809.88 MHz -60.063 dBm 17.00 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) STATUS Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
30M Hz~1GHz			

Test Mode:	802.11b	Test channel :	01
Agilent Spectrum Analyzer - Sweep 5A Marker 1 2.407000000000 GHz 10 dB/div Ref 20.00 dBm Start 1.000 GHz #Res BW 100 kHz Stop 8.000 GHz #VBW 300 kHz Sweep 669.0 ms (1001 pts) SENSE:INT ALGN:Auto 08:09:56 PM Jun 02, 2016 Trig: Free Run Avg Type: Log-Pwr Avg/Hold: 5/100 Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 Mkr1 2.407 GHz 1.846 dBm -17.00 dBm			
1G Hz~8GHz			
Agilent Spectrum Analyzer - Sweep 5A Marker 1 9.648000000000 GHz 10 dB/div Ref 20.00 dBm Start 8.000 GHz #Res BW 100 kHz Stop 16.000 GHz #VBW 300 kHz Sweep 764.6 ms (1001 pts) SENSE:INT ALGN:Auto 08:09:56 PM Jun 02, 2016 Trig: Free Run Avg Type: Log-Pwr Avg/Hold: 3/100 Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 Mkr1 9.648 GHz -45.471 dBm -17.00 dBm			
8GHz~16GHz			
Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.541000000000 GHz 10 dB/div Ref 20.00 dBm Start 16.000 GHz #Res BW 100 kHz Stop 25.000 GHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) SENSE:INT ALGN:Auto 08:06:17 PM Jun 02, 2016 Trig: Free Run Avg Type: Log-Pwr Avg/Hold: 4/100 Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 Mkr1 24.541 GHz -47.053 dBm -17.00 dBm			
16Gz~25GHz			

Test Mode:	802.11b	Test channel :	06
Agilent Spectrum Analyzer - Sweep SA Marker 1 2.436490000000 GHz Trig: Free Run Avg Type: Log-Pwr Attenu: 30 dB 08:13:26 PM Jun 02, 2016 1 2 3 4 5 6 TYPE: M DET: P 10 dB/div Ref 20.00 dBm Mkr1 2.436 49 GHz 2.589 dBm Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms (1001 pts) STATUS Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
Channel 06			
Agilent Spectrum Analyzer - Sweep SA Marker 1 638.811000 kHz Trig: Free Run Avg Type: Log-Pwr Attenu: 30 dB 08:14:03 PM Jun 02, 2016 1 2 3 4 5 6 TYPE: M DET: P 10 dB/div Ref 20.00 dBm Mkr1 639 kHz -45.763 dBm Start 9 kHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.867 ms (1001 pts) STATUS Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
9KHz~30MHz			
Agilent Spectrum Analyzer - Sweep SA Marker 1 883.600000000 MHz Trig: Free Run Avg Type: Log-Pwr Attenu: 30 dB 08:14:15 PM Jun 02, 2016 1 2 3 4 5 6 TYPE: M DET: P 10 dB/div Ref 20.00 dBm Mkr1 883.60 MHz -59.671 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) STATUS Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
30M Hz~1GHz			

Test Mode:	802.11b	Test channel :	06								
Agilent Spectrum Analyzer - Swept SA Marker 1 2.435000000000 GHz 10 dB/div Log Ref 20.00 dBm 1 Mkr1 2.435 GHz 2.555 dBm Start 1.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 669.0 ms (1001 pts) SENSE:INT ALGN:Auto 08:16:19 PM Jun 02, 2016 Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 93/100 TRACE 1 TYPE: Max Hold DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 1G Hz~8GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Swept SA Marker 1 9.744000000000 GHz 10 dB/div Log Ref 20.00 dBm 1 Mkr1 9.744 GHz -49.234 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 764.6 ms (1001 pts) SENSE:INT ALGN:Auto 08:16:33 PM Jun 02, 2016 Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 3/100 TRACE 1 TYPE: Max Hold DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 8GHz~16GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Swept SA Marker 1 24.532000000000 GHz 10 dB/div Log Ref 20.00 dBm 1 Mkr1 24.532 GHz -47.980 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) SENSE:INT ALGN:Auto 08:16:43 PM Jun 02, 2016 Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 4/100 TRACE 1 TYPE: Max Hold DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz </td></tr> </td></tr>				Agilent Spectrum Analyzer - Swept SA Marker 1 9.744000000000 GHz 10 dB/div Log Ref 20.00 dBm 1 Mkr1 9.744 GHz -49.234 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 764.6 ms (1001 pts) SENSE:INT ALGN:Auto 08:16:33 PM Jun 02, 2016 Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 3/100 TRACE 1 TYPE: Max Hold DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 8GHz~16GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Swept SA Marker 1 24.532000000000 GHz 10 dB/div Log Ref 20.00 dBm 1 Mkr1 24.532 GHz -47.980 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) SENSE:INT ALGN:Auto 08:16:43 PM Jun 02, 2016 Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 4/100 TRACE 1 TYPE: Max Hold DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz </td></tr>				Agilent Spectrum Analyzer - Swept SA Marker 1 24.532000000000 GHz 10 dB/div Log Ref 20.00 dBm 1 Mkr1 24.532 GHz -47.980 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) SENSE:INT ALGN:Auto 08:16:43 PM Jun 02, 2016 Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 4/100 TRACE 1 TYPE: Max Hold DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz			
Agilent Spectrum Analyzer - Swept SA Marker 1 9.744000000000 GHz 10 dB/div Log Ref 20.00 dBm 1 Mkr1 9.744 GHz -49.234 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 764.6 ms (1001 pts) SENSE:INT ALGN:Auto 08:16:33 PM Jun 02, 2016 Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 3/100 TRACE 1 TYPE: Max Hold DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 8GHz~16GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Swept SA Marker 1 24.532000000000 GHz 10 dB/div Log Ref 20.00 dBm 1 Mkr1 24.532 GHz -47.980 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) SENSE:INT ALGN:Auto 08:16:43 PM Jun 02, 2016 Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 4/100 TRACE 1 TYPE: Max Hold DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz </td></tr>				Agilent Spectrum Analyzer - Swept SA Marker 1 24.532000000000 GHz 10 dB/div Log Ref 20.00 dBm 1 Mkr1 24.532 GHz -47.980 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) SENSE:INT ALGN:Auto 08:16:43 PM Jun 02, 2016 Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 4/100 TRACE 1 TYPE: Max Hold DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz							
Agilent Spectrum Analyzer - Swept SA Marker 1 24.532000000000 GHz 10 dB/div Log Ref 20.00 dBm 1 Mkr1 24.532 GHz -47.980 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) SENSE:INT ALGN:Auto 08:16:43 PM Jun 02, 2016 Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 4/100 TRACE 1 TYPE: Max Hold DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz											

Test Mode:	802.11b	Test channel :	11
Agilent Spectrum Analyzer - Sweep SA Marker 1 2.461490000000 GHz Trig: Free Run Avg Type: Log-Pwr Attenu: 30 dB 08:36:29 PM Jun 07, 2016 1 2 3 4 5 TYPE: M DET: P 10 dB/div Ref 20.00 dBm Mkr1 2.461 49 GHz 2.010 dBm Center 2.46200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms (1001 pts) STATUS Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
Channel 11			
Agilent Spectrum Analyzer - Sweep SA Marker 1 668.802000 kHz Trig: Free Run Avg Type: Log-Pwr Attenu: 30 dB 08:36:41 PM Jun 07, 2016 1 2 3 4 5 TYPE: M DET: P 10 dB/div Ref 20.00 dBm Mkr1 668 kHz -47.590 dBm Start 9 kHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.867 ms (1001 pts) STATUS Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
9KHz~30MHz			
Agilent Spectrum Analyzer - Sweep SA Marker 1 215.270000000 MHz Trig: Free Run Avg Type: Log-Pwr Attenu: 30 dB 08:36:51 PM Jun 07, 2016 1 2 3 4 5 TYPE: M DET: P 10 dB/div Ref 20.00 dBm Mkr1 215.27 MHz -59.656 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) STATUS Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
30M Hz~1GHz			

Test Mode:	802.11b	Test channel :	11								
Agilent Spectrum Analyzer - Sweep 5A Marker 1 2.463000000000 GHz Trig: Free Run Atten: 30 dB 10 dB/div Ref 20.00 dBm 1 Mkr1 2.463 GHz 1.654 dBm Start 1.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 8.000 GHz Sweep 669.0 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 1G Hz~8GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Sweep 5A Marker 1 15.600000000000 GHz Trig: Free Run Atten: 30 dB 10 dB/div Ref 20.00 dBm 1 Mkr1 15.600 GHz -52.716 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 16.000 GHz Sweep 764.6 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 8GHz~16GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.478000000000 GHz Trig: Free Run Atten: 30 dB 10 dB/div Ref 20.00 dBm 1 Mkr1 24.478 GHz -46.070 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 25.000 GHz Sweep 860.1 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz </td></tr> </td></tr>				Agilent Spectrum Analyzer - Sweep 5A Marker 1 15.600000000000 GHz Trig: Free Run Atten: 30 dB 10 dB/div Ref 20.00 dBm 1 Mkr1 15.600 GHz -52.716 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 16.000 GHz Sweep 764.6 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 8GHz~16GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.478000000000 GHz Trig: Free Run Atten: 30 dB 10 dB/div Ref 20.00 dBm 1 Mkr1 24.478 GHz -46.070 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 25.000 GHz Sweep 860.1 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz </td></tr>				Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.478000000000 GHz Trig: Free Run Atten: 30 dB 10 dB/div Ref 20.00 dBm 1 Mkr1 24.478 GHz -46.070 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 25.000 GHz Sweep 860.1 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz			
Agilent Spectrum Analyzer - Sweep 5A Marker 1 15.600000000000 GHz Trig: Free Run Atten: 30 dB 10 dB/div Ref 20.00 dBm 1 Mkr1 15.600 GHz -52.716 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 16.000 GHz Sweep 764.6 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 8GHz~16GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.478000000000 GHz Trig: Free Run Atten: 30 dB 10 dB/div Ref 20.00 dBm 1 Mkr1 24.478 GHz -46.070 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 25.000 GHz Sweep 860.1 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz </td></tr>				Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.478000000000 GHz Trig: Free Run Atten: 30 dB 10 dB/div Ref 20.00 dBm 1 Mkr1 24.478 GHz -46.070 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 25.000 GHz Sweep 860.1 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz							
Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.478000000000 GHz Trig: Free Run Atten: 30 dB 10 dB/div Ref 20.00 dBm 1 Mkr1 24.478 GHz -46.070 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 25.000 GHz Sweep 860.1 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz											



16Gz~25GHz

Test Mode:	802.11g	Test channel :	06
Agilent Spectrum Analyzer - Sweep SA Display Line -23.80 dBm 10 dB/div Ref 20.00 dBm Mkr1 2.438 65 GHz -3.344 dBm Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms (1001 pts) Span 30.00 MHz Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 100/100 08:24:53 PM Jun 02, 2016 Display Annotation▶ Title▶ Graticule Off Display Line -23.80 dBm Off System Display▶ Settings			
Channel 06			
Agilent Spectrum Analyzer - Sweep SA Marker 1 638.811000 kHz 10 dB/div Ref 20.00 dBm Mkr1 639 kHz -47.219 dBm Start 9 kHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.867 ms (1001 pts) Stop 30.00 MHz Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 100/100 08:25:03 PM Jun 02, 2016 Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
9KHz~30MHz			
Agilent Spectrum Analyzer - Sweep SA Marker 1 442.250000000 MHz 10 dB/div Ref 20.00 dBm Mkr1 442.25 MHz -58.317 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Stop 1.0000 GHz Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 37/100 08:25:14 PM Jun 02, 2016 Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
30M Hz~1GHz			

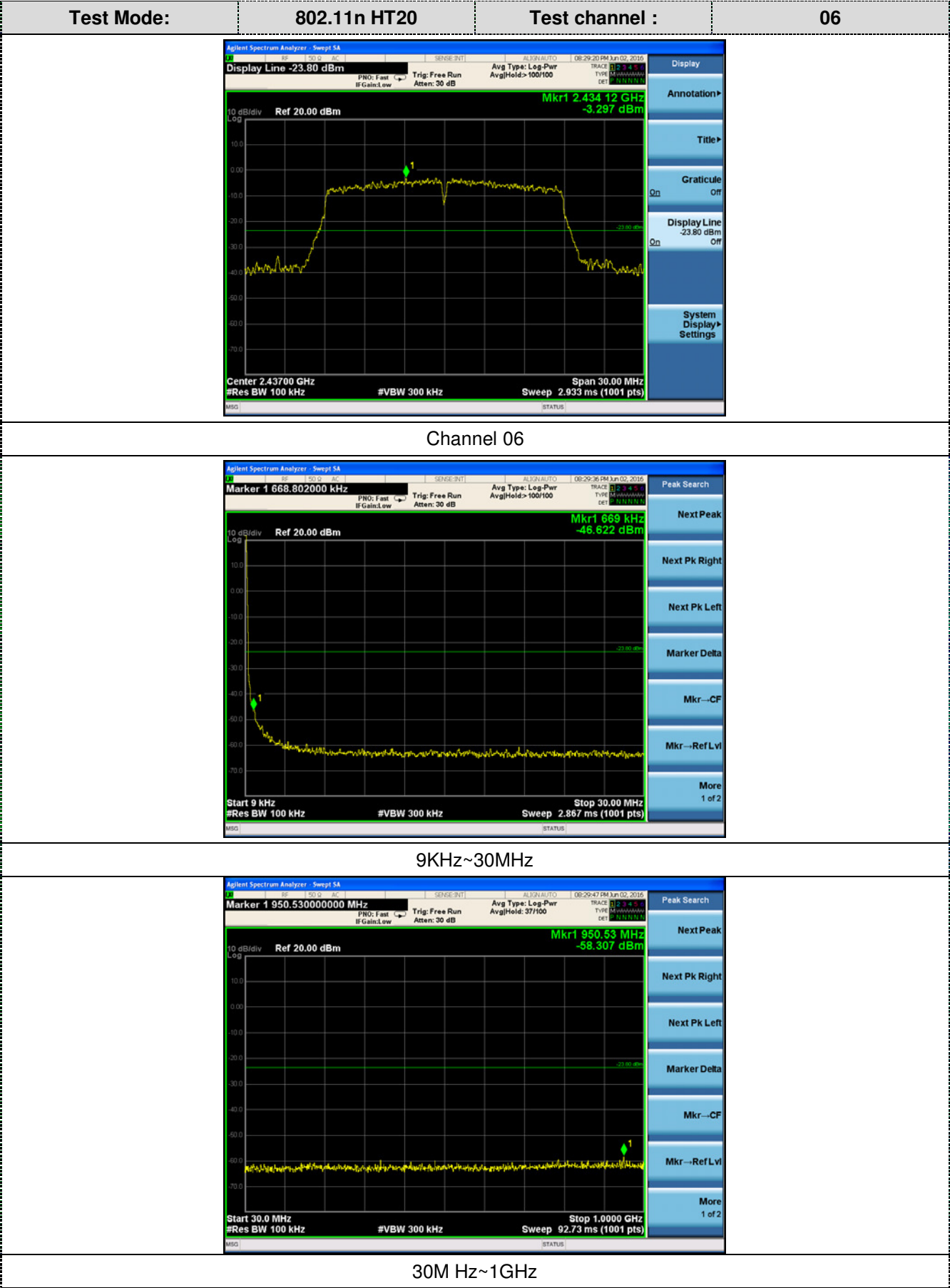
Test Mode:	802.11g	Test channel :	06
Agilent Spectrum Analyzer - Sweep 5A Marker 1 2.435000000000 GHz 10 dB/div Ref 20.00 dBm Log 1 2.435 GHz -3.698 dBm Start 1.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 669.0 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
1G Hz~8GHz			
Agilent Spectrum Analyzer - Sweep 5A Marker 1 12.944000000000 GHz 10 dB/div Ref 20.00 dBm Log 1 12.944 GHz -54.863 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 764.6 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
8GHz~16GHz			
Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.523000000000 GHz 10 dB/div Ref 20.00 dBm Log 1 24.523 GHz -46.618 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
16Gz~25GHz			

Test Mode:	802.11g	Test channel :	11
Agilent Spectrum Analyzer - Sweep SA Display Line -22.90 dBm 10 dB/div Ref 20.00 dBm Mkr1 2.461 04 GHz -2.693 dBm Center 2.46200 GHz #Res BW 100 kHz #VBW 300 kHz Span 30.00 MHz Sweep 2.933 ms (1001 pts) Display Annotation▶ Title▶ Graticule Off Display Line -22.90 dBm Off System Display▶ Settings			
Channel 11			
Agilent Spectrum Analyzer - Sweep SA Marker 1 638.811000 kHz 10 dB/div Ref 20.00 dBm Mkr1 639 kHz -45.100 dBm Start 9 kHz #Res BW 100 kHz #VBW 300 kHz Stop 30.00 MHz Sweep 2.867 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
9KHz~30MHz			
Agilent Spectrum Analyzer - Sweep SA Marker 1 783.690000000 MHz 10 dB/div Ref 20.00 dBm Mkr1 783.69 MHz -60.391 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Stop 1.0000 GHz Sweep 92.73 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
30M Hz~1GHz			

Test Mode:	802.11g	Test channel :	11
Agilent Spectrum Analyzer - Sweep 5A Marker 1 2.463000000000 GHz 10 dB/div Ref 20.00 dBm Start 1.000 GHz #Res BW 100 kHz Stop 8.000 GHz #VBW 300 kHz Sweep 669.0 ms (1001 pts) SENSE:INT Trig: Free Run Avg Type: Log-Pwr Mkr1 2.463 GHz -3.438 dBm 08:41:35 PM Jun 07, 2016 TRAC 1 2 3 4 5 6 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
1G Hz~8GHz			
Agilent Spectrum Analyzer - Sweep 5A Marker 1 11.848000000000 GHz 10 dB/div Ref 20.00 dBm Start 8.000 GHz #Res BW 100 kHz Stop 16.000 GHz #VBW 300 kHz Sweep 764.6 ms (1001 pts) SENSE:INT Trig: Free Run Avg Type: Log-Pwr Mkr1 11.848 GHz -55.120 dBm 08:41:44 PM Jun 07, 2016 TRAC 1 2 3 4 5 6 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
8GHz~16GHz			
Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.523000000000 GHz 10 dB/div Ref 20.00 dBm Start 16.000 GHz #Res BW 100 kHz Stop 25.000 GHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) SENSE:INT Trig: Free Run Avg Type: Log-Pwr Mkr1 24.523 GHz -47.302 dBm 08:41:53 PM Jun 07, 2016 TRAC 1 2 3 4 5 6 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
16Gz~25GHz			

Test Mode:	802.11n HT20	Test channel :	01
Agilent Spectrum Analyzer - Swept SA Display Line -22.90 dBm 10 dB/div Ref 20.00 dBm Mkr1 2.411 37 GHz -2.448 dBm Center 2.41200 GHz #Res BW 100 kHz #VBW 300 kHz Span 30.00 MHz Sweep 2.933 ms (1001 pts) Display Annotation▶ Title▶ Graticule Off Display Line -22.90 dBm Off System Display▶ Settings			
Channel 01			
Agilent Spectrum Analyzer - Swept SA Marker 1 728.784000 kHz 10 dB/div Ref 20.00 dBm Mkr1 729 kHz -48.010 dBm Start 9 kHz #Res BW 100 kHz #VBW 300 kHz Stop 30.00 MHz Sweep 2.867 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
9KHz~30MHz			
Agilent Spectrum Analyzer - Swept SA Marker 1 831.220000000 MHz 10 dB/div Ref 20.00 dBm Mkr1 831.22 MHz -59.617 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Stop 1.0000 GHz Sweep 92.73 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
30M Hz~1GHz			

Test Mode:	802.11n HT20	Test channel :	01								
Agilent Spectrum Analyzer - Sweep 5A Marker 1 2.414000000000 GHz SENSE:INT1 ALIGN:AUTO 08:28:28 PM Jun 02, 2016 Ref 20.00 dBm 10 dB/div Log Mkr1 2.414 GHz -2.853 dBm Start 1.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 669.0 ms (1001 pts) Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 3/100 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 1G Hz~8GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Sweep 5A Marker 1 15.512000000000 GHz SENSE:INT1 ALIGN:AUTO 08:28:37 PM Jun 02, 2016 Ref 20.00 dBm 10 dB/div Log Mkr1 15.512 GHz -53.225 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 764.6 ms (1001 pts) Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 4/100 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 8GHz~16GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.505000000000 GHz SENSE:INT1 ALIGN:AUTO 08:28:51 PM Jun 02, 2016 Ref 20.00 dBm 10 dB/div Log Mkr1 24.505 GHz -47.091 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 7/100 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz </td></tr> </td></tr>				Agilent Spectrum Analyzer - Sweep 5A Marker 1 15.512000000000 GHz SENSE:INT1 ALIGN:AUTO 08:28:37 PM Jun 02, 2016 Ref 20.00 dBm 10 dB/div Log Mkr1 15.512 GHz -53.225 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 764.6 ms (1001 pts) Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 4/100 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 8GHz~16GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.505000000000 GHz SENSE:INT1 ALIGN:AUTO 08:28:51 PM Jun 02, 2016 Ref 20.00 dBm 10 dB/div Log Mkr1 24.505 GHz -47.091 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 7/100 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz </td></tr>				Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.505000000000 GHz SENSE:INT1 ALIGN:AUTO 08:28:51 PM Jun 02, 2016 Ref 20.00 dBm 10 dB/div Log Mkr1 24.505 GHz -47.091 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 7/100 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz			
Agilent Spectrum Analyzer - Sweep 5A Marker 1 15.512000000000 GHz SENSE:INT1 ALIGN:AUTO 08:28:37 PM Jun 02, 2016 Ref 20.00 dBm 10 dB/div Log Mkr1 15.512 GHz -53.225 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 764.6 ms (1001 pts) Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 4/100 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 8GHz~16GHz <tr><td colspan="4"> Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.505000000000 GHz SENSE:INT1 ALIGN:AUTO 08:28:51 PM Jun 02, 2016 Ref 20.00 dBm 10 dB/div Log Mkr1 24.505 GHz -47.091 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 7/100 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz </td></tr>				Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.505000000000 GHz SENSE:INT1 ALIGN:AUTO 08:28:51 PM Jun 02, 2016 Ref 20.00 dBm 10 dB/div Log Mkr1 24.505 GHz -47.091 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 7/100 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz							
Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.505000000000 GHz SENSE:INT1 ALIGN:AUTO 08:28:51 PM Jun 02, 2016 Ref 20.00 dBm 10 dB/div Log Mkr1 24.505 GHz -47.091 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) Trig: Free Run Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 7/100 TYPE: M DET: P Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz											



Test Mode:	802.11n HT20	Test channel :	06
Agilent Spectrum Analyzer - Sweep 5A Marker 1 2.435000000000 GHz Trig: Free Run Atten: 30 dB SENSE:INT ALGN: AUTO 08:29:50 PM Jun 02, 2016 10 dB/div Ref 20.00 dBm Mkr1 2.435 GHz -3.667 dBm Start 1.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 8.000 GHz Sweep 669.0 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 1G Hz~8GHz			
Agilent Spectrum Analyzer - Sweep 5A Marker 1 15.632000000000 GHz Trig: Free Run Atten: 30 dB SENSE:INT ALGN: AUTO 08:30:07 PM Jun 02, 2016 10 dB/div Ref 20.00 dBm Mkr1 15.632 GHz -54.131 dBm Start 8.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 16.000 GHz Sweep 764.6 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 8GHz~16GHz			
Agilent Spectrum Analyzer - Sweep 5A Marker 1 24.514000000000 GHz Trig: Free Run Atten: 30 dB SENSE:INT ALGN: AUTO 08:30:20 PM Jun 02, 2016 10 dB/div Ref 20.00 dBm Mkr1 24.514 GHz -46.329 dBm Start 16.000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 25.000 GHz Sweep 860.1 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2 16Gz~25GHz			

Test Mode:	802.11n HT20	Test channel :	11
Agilent Spectrum Analyzer - Swept SA Display Line -23.30 dBm 10 dB/div Ref 20.00 dBm Mkr1 2.461 37 GHz -2.899 dBm Center 2.46200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms (1001 pts) Display Annotation▶ Title▶ Graticule Off Display Line -23.30 dBm Off System Display▶ Settings			
Channel 11			
Agilent Spectrum Analyzer - Swept SA Marker 1 668.802000 kHz 10 dB/div Ref 20.00 dBm Mkr1 668 kHz -47.619 dBm Start 9 kHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.867 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
9KHz~30MHz			
Agilent Spectrum Analyzer - Swept SA Marker 1 785.630000000 MHz 10 dB/div Ref 20.00 dBm Mkr1 785.63 MHz -59.755 dBm Start 30.0 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 92.73 ms (1001 pts) Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
30M Hz~1GHz			

Test Mode:	802.11n HT20	Test channel :	11
Agilent Spectrum Analyzer - Sweep SA Marker 1 2.463000000000 GHz 10 dB/div Ref 20.00 dBm Start 1.000 GHz #Res BW 100 kHz Stop 8.000 GHz #VBW 300 kHz Sweep 669.0 ms (1001 pts) SENSE:INT Trig: Free Run Avg Type: Log-Pwr Mkr1 2.463 GHz -4.715 dBm ALGN: AUTO 08:45:43 PM Jun 07, 2016 TRACE 1 TYPE: Normal DET: Peak Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
1G Hz~8GHz			
Agilent Spectrum Analyzer - Sweep SA Marker 1 15.680000000000 GHz 10 dB/div Ref 20.00 dBm Start 8.000 GHz #Res BW 100 kHz Stop 16.000 GHz #VBW 300 kHz Sweep 764.6 ms (1001 pts) SENSE:INT Trig: Free Run Avg Type: Log-Pwr Mkr1 15.680 GHz -53.149 dBm ALGN: AUTO 08:45:54 PM Jun 07, 2016 TRACE 2 TYPE: Normal DET: Peak Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
8GHz~16GHz			
Agilent Spectrum Analyzer - Sweep SA Marker 1 24.523000000000 GHz 10 dB/div Ref 20.00 dBm Start 16.000 GHz #Res BW 100 kHz Stop 25.000 GHz #VBW 300 kHz Sweep 860.1 ms (1001 pts) SENSE:INT Trig: Free Run Avg Type: Log-Pwr Mkr1 24.523 GHz -47.438 dBm ALGN: AUTO 08:46:03 PM Jun 07, 2016 TRACE 3 TYPE: Normal DET: Peak Peak Search Next Peak Next Pk Right Next Pk Left Marker Delta Mkr--CF Mkr--Ref Lvl More 1 of 2			
16Gz~25GHz			

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.

Measurement

The antenna gain of the complete system is calculated by the difference of radiated power in EIRP and the conducted power of the module. For normal WLAN devices, the DSSS mode is used.

Measurement parameters

Measurement parameter	
Detector:	Peak
Sweep time:	Auto
Resolution bandwidth:	1MHz
Video bandwidth:	3MHz
Trace-Mode:	Max hold

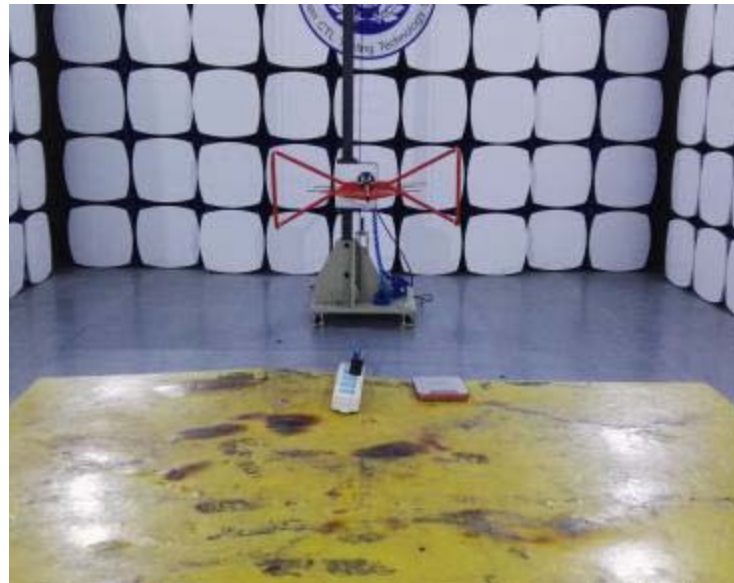
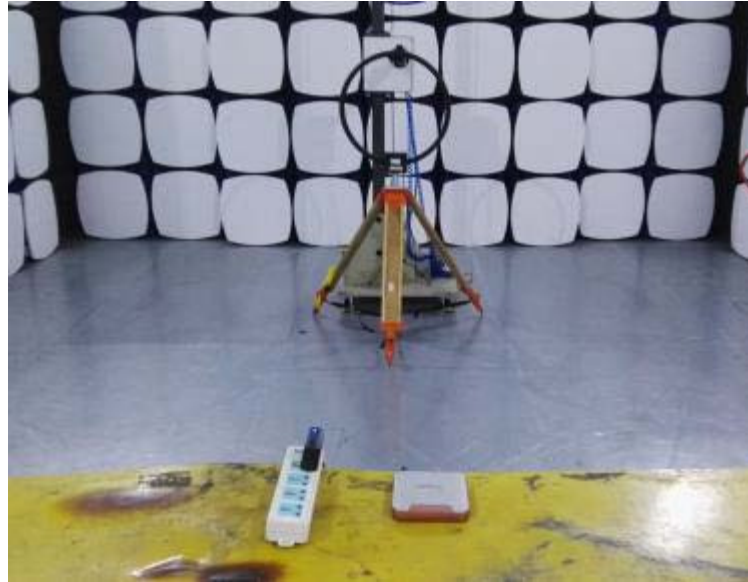
Limits

Antenna Gain	6 dBi
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Results

T_{nom}	V_{nom}	Lowest Channel 2412 MHz	Middle Channel 2437 MHz	Highest Channel 2472 MHz
Conducted power [dBm] Measured with DSSS modulation		12.74	12.90	12.71
Radiated power [dBm] Measured with DSSS modulation		13.41	13.66	13.63
Gain [dBi] Calculated		0.67	0.76	0.92
Measurement uncertainty		± 0.6 dB (cond.) / ± 4.32 dB (rad.)		

5. Test Setup Photos of the EUT





6. External and Internal Photos of the EUT

Reference to the test report No. GTSR16050040-BLE.

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