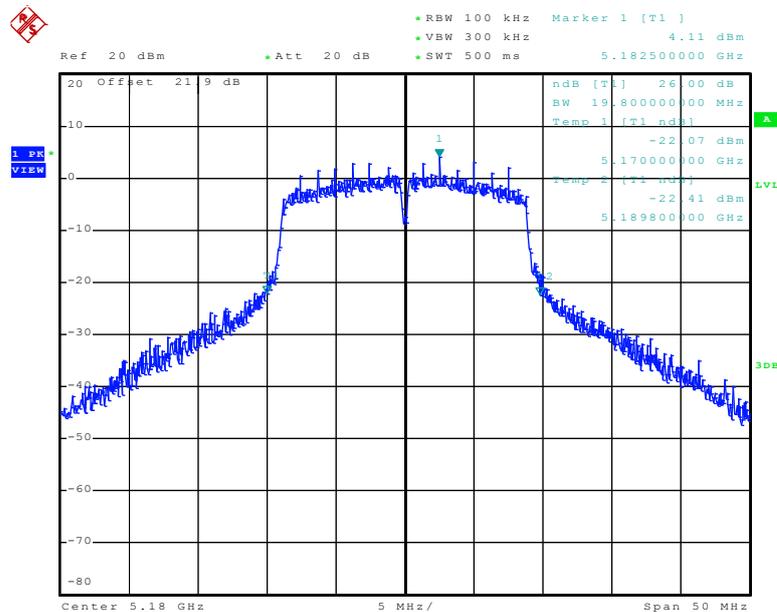




Test Mode :	Mode 10~18	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 26dB Bandwidth (MHz)	Pass/Fail
36	5180	19.80	Pass
44	5220	19.75	Pass
48	5240	19.95	Pass
52	5260	19.95	Pass
60	5300	19.55	Pass
64	5320	19.75	Pass
100	5500	20.00	Pass
116	5580	20.00	Pass
140	5700	20.15	Pass

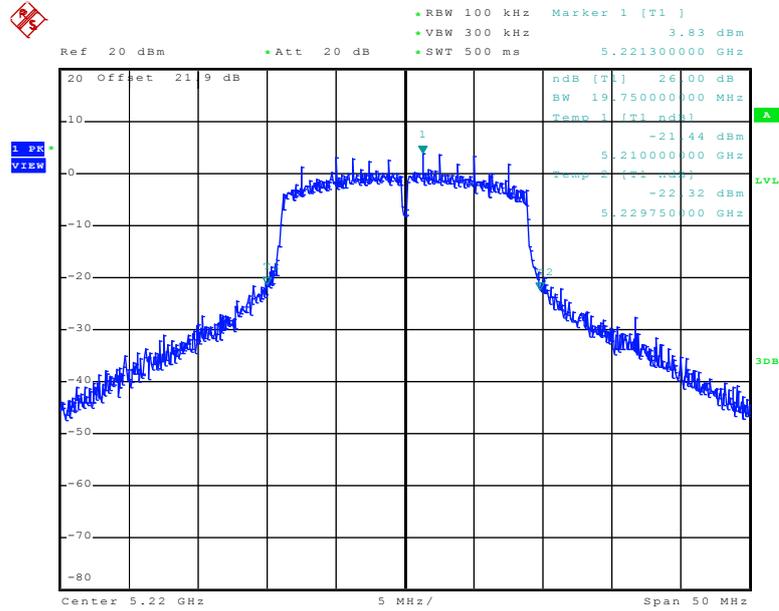
26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 36



Date: 10.DEC.2010 09:14:05

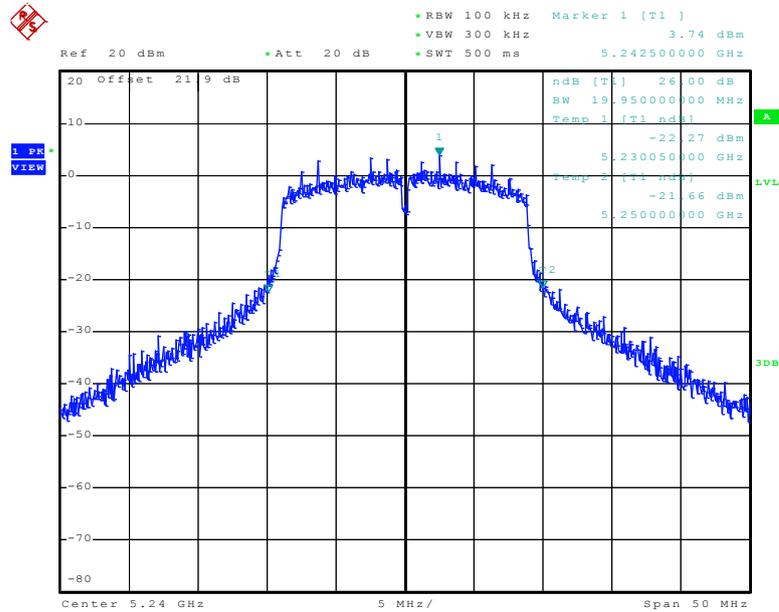


26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 44



Date: 10.DEC.2010 09:16:51

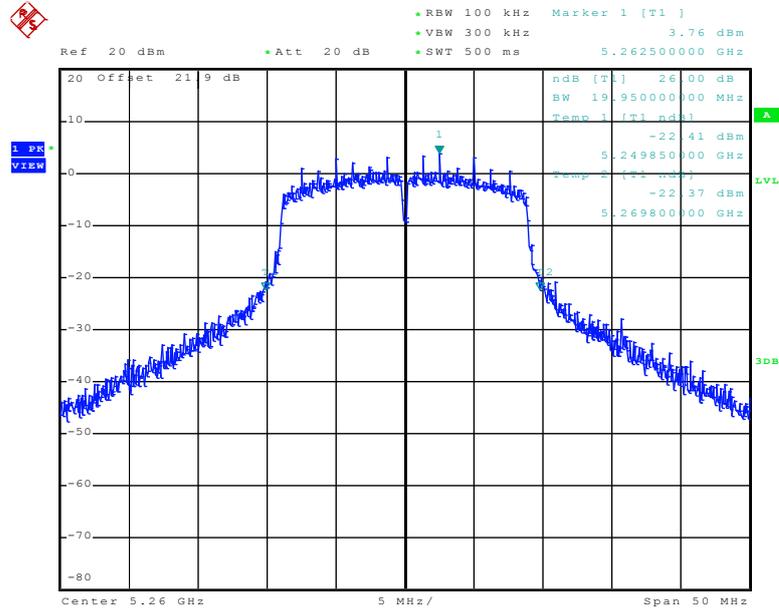
26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 48



Date: 10.DEC.2010 09:19:06

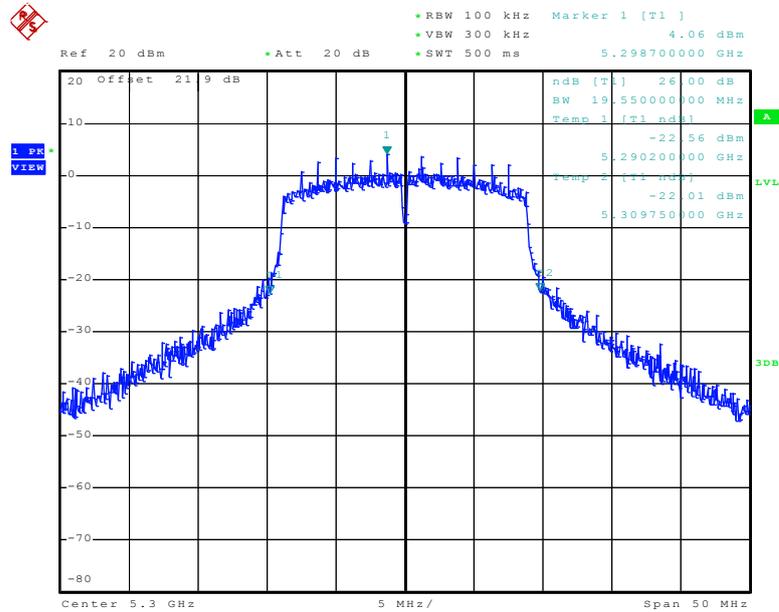


26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 52



Date: 10.DEC.2010 09:21:23

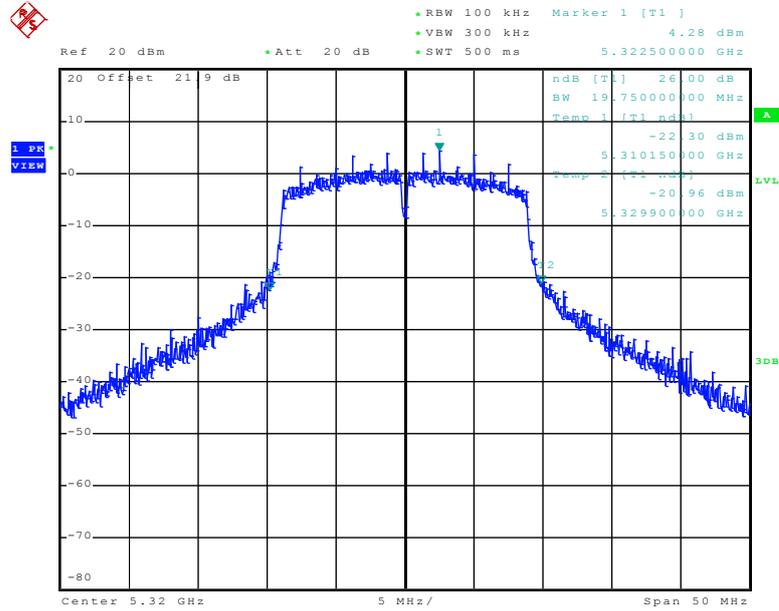
26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 60



Date: 10.DEC.2010 09:22:12

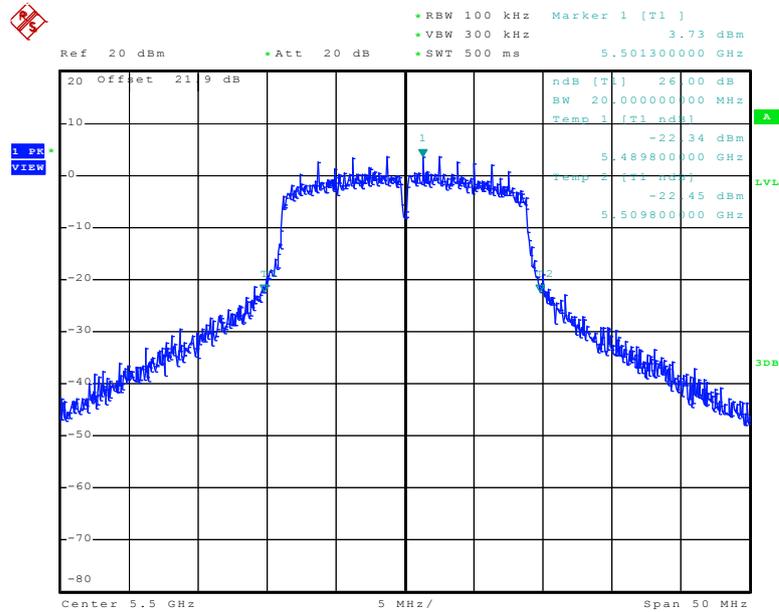


26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 64



Date: 10.DEC.2010 09:24:02

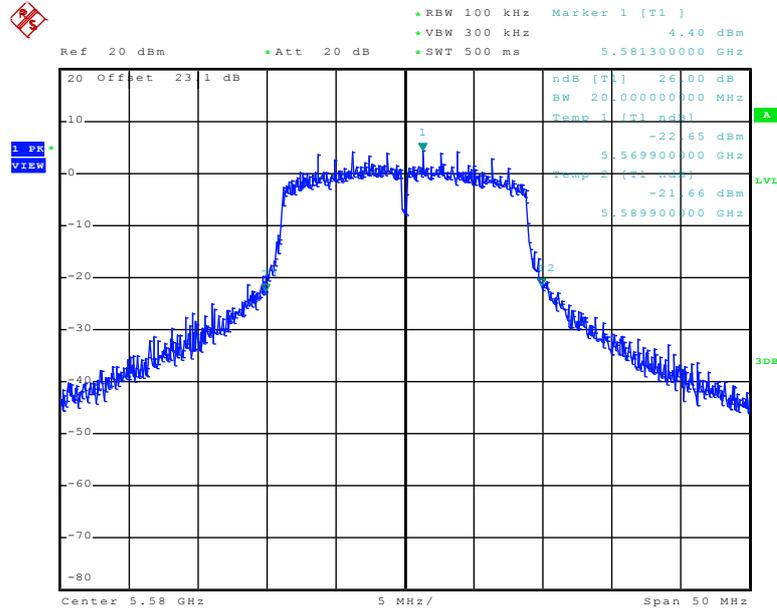
26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 100



Date: 10.DEC.2010 09:25:09

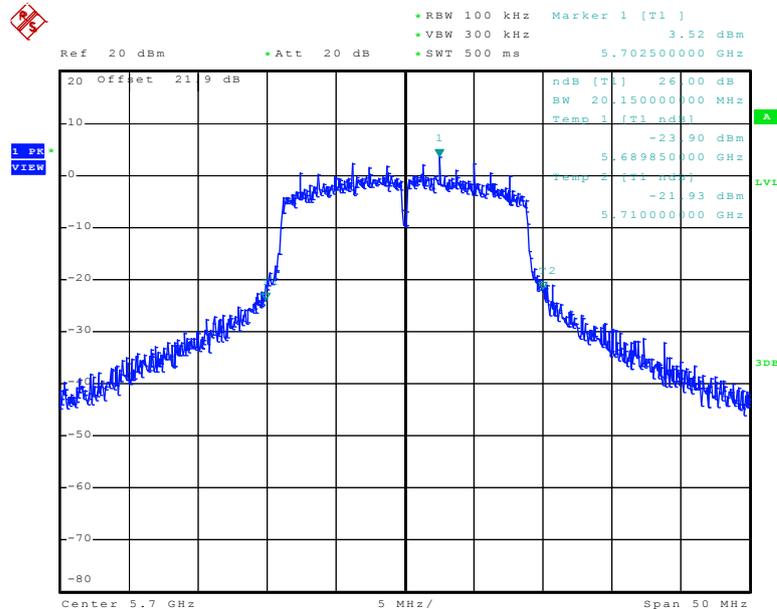


26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 116



Date: 10.FEB.2011 01:13:12

26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 140



Date: 10.DEC.2010 09:26:53

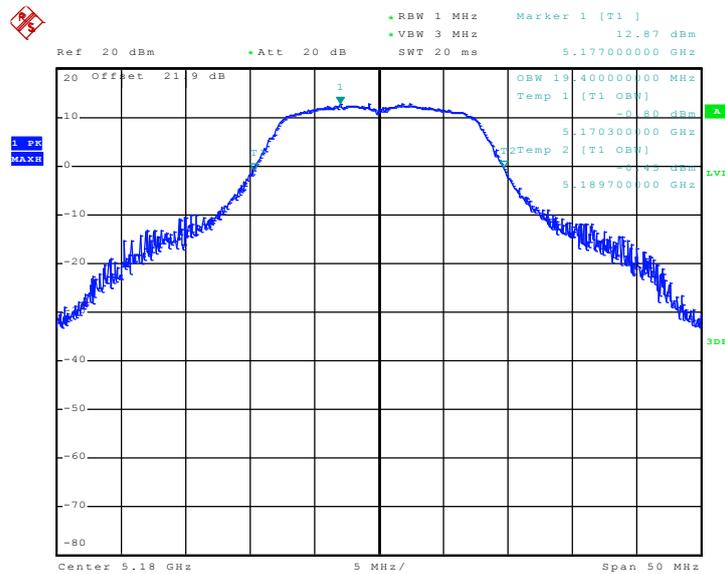


3.1.6 Test Result of 99% Occupied Bandwidth

Test Mode :	Mode 1~9	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Channel	Frequency (MHz)	802.11a 99% Occupied Bandwidth (MHz)	Pass/Fail
36	5180	19.40	Pass
44	5220	19.30	Pass
48	5240	19.25	Pass
52	5260	19.30	Pass
60	5300	19.25	Pass
64	5320	19.20	Pass
100	5500	19.20	Pass
116	5580	19.15	Pass
140	5700	19.30	Pass

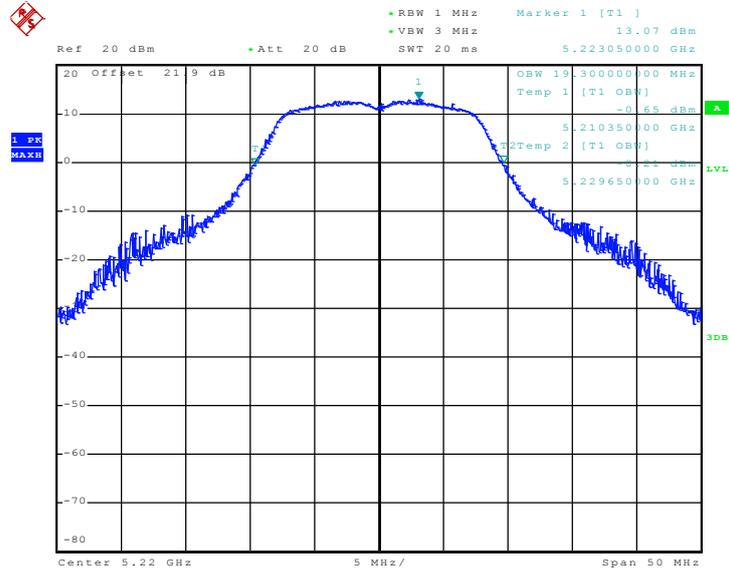
99% Occupied Bandwidth Plot on 802.11a Channel 36



Date: 10.DEC.2010 09:59:53

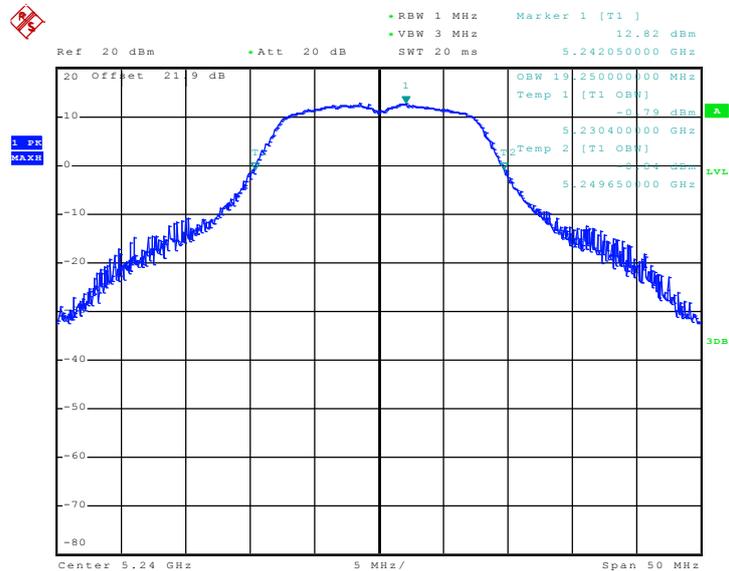


99% Occupied Bandwidth Plot on 802.11a Channel 44



Date: 10.DEC.2010 10:00:51

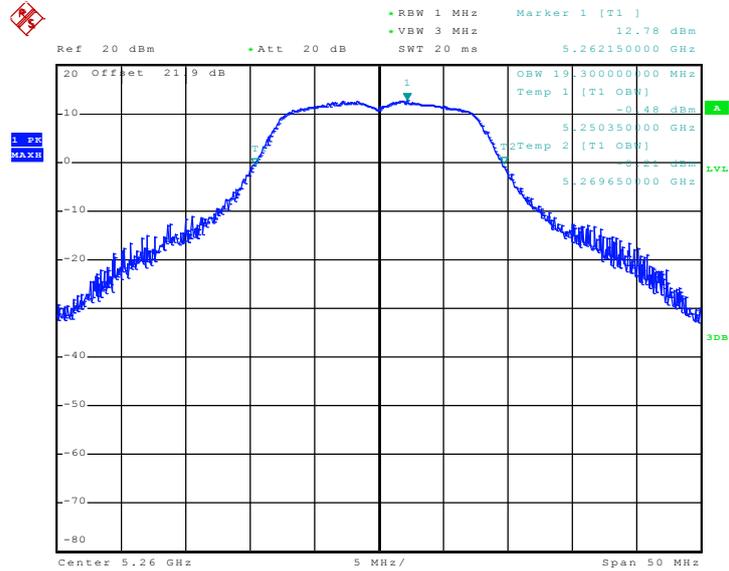
99% Occupied Bandwidth Plot on 802.11a Channel 48



Date: 10.DEC.2010 10:01:39

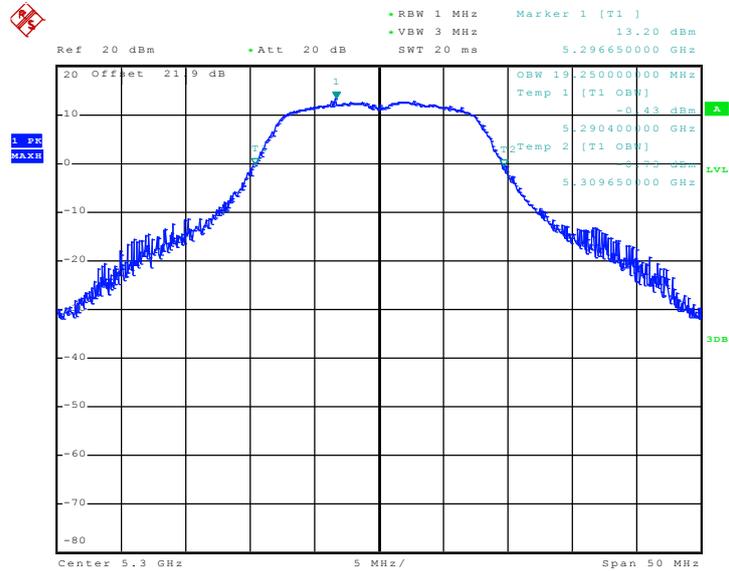


99% Occupied Bandwidth Plot on 802.11a Channel 52



Date: 10.DEC.2010 10:02:20

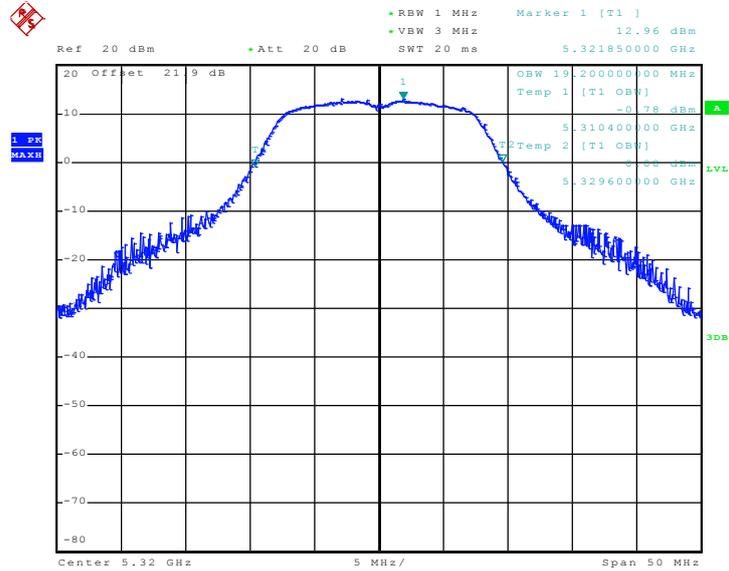
99% Occupied Bandwidth Plot on 802.11a Channel 60



Date: 10.DEC.2010 10:03:06

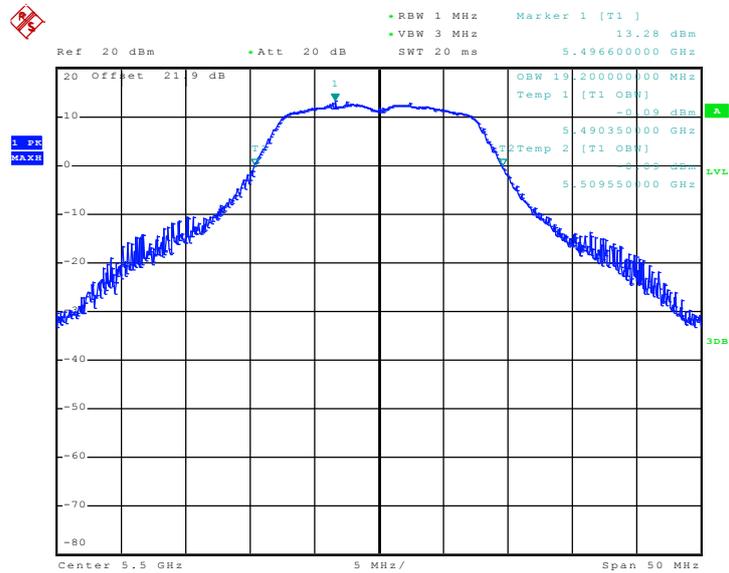


99% Occupied Bandwidth Plot on 802.11a Channel 64



Date: 10.DEC.2010 10:03:56

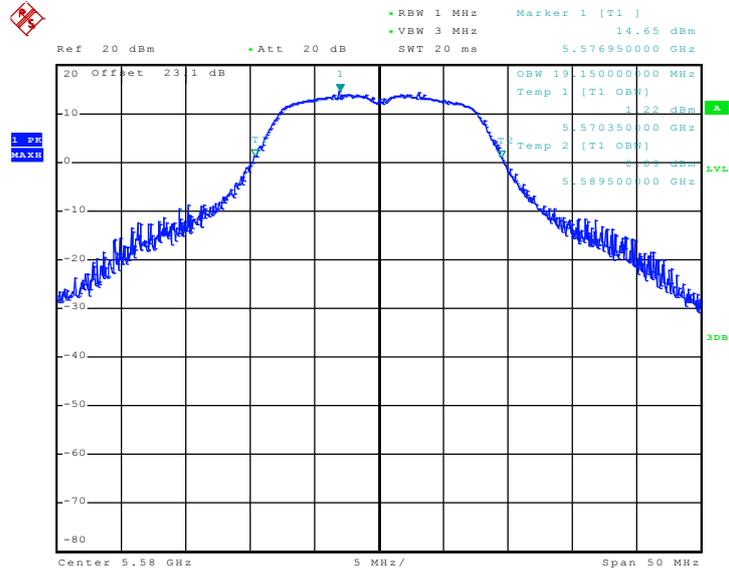
99% Occupied Bandwidth Plot on 802.11a Channel 100



Date: 10.DEC.2010 10:05:51

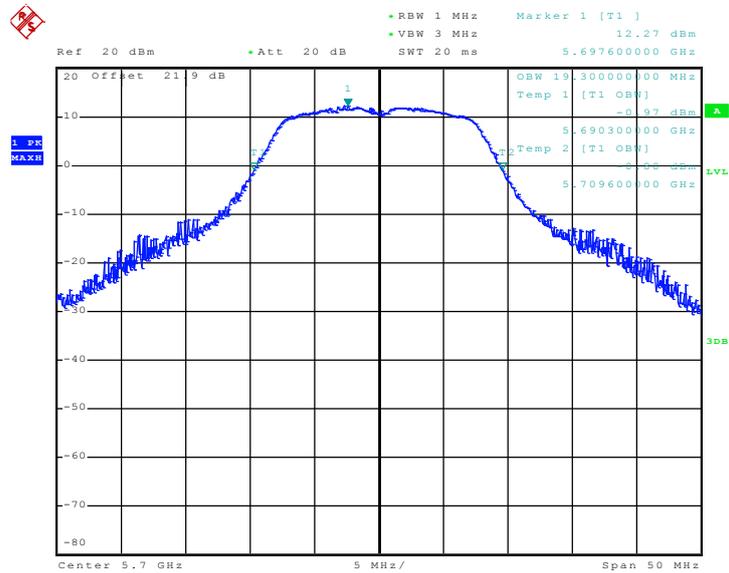


99% Occupied Bandwidth Plot on 802.11a Channel 116



Date: 10.FEB.2011 00:20:18

99% Occupied Bandwidth Plot on 802.11a Channel 140



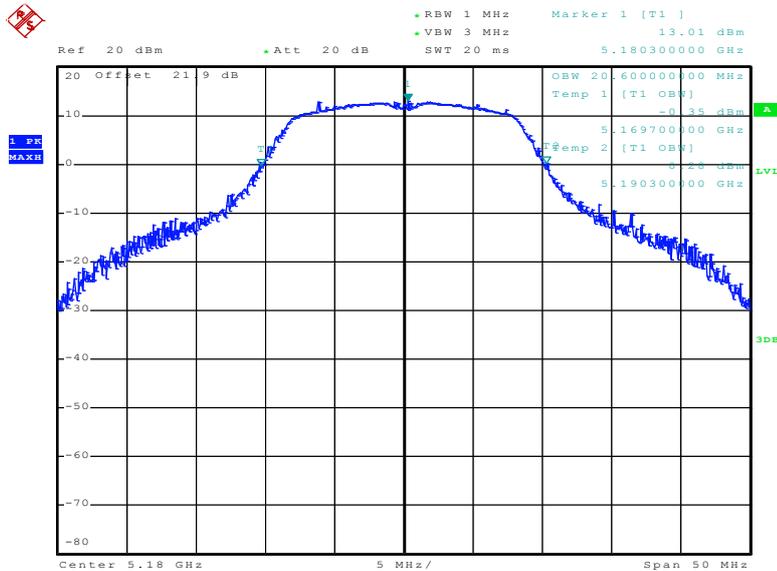
Date: 10.DEC.2010 10:07:15



Test Mode :	Mode 10~18	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 99% Occupied Bandwidth (MHz)	Pass/Fail
36	5180	20.60	Pass
44	5220	20.45	Pass
48	5240	20.45	Pass
52	5260	20.35	Pass
60	5300	20.30	Pass
64	5320	20.35	Pass
100	5500	20.30	Pass
116	5580	20.15	Pass
140	5700	20.45	Pass

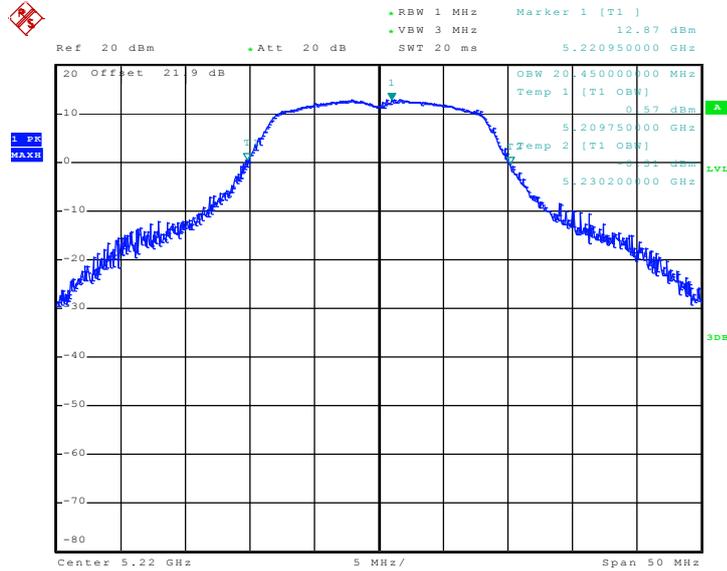
99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 36



Date: 10.DEC.2010 10:17:02

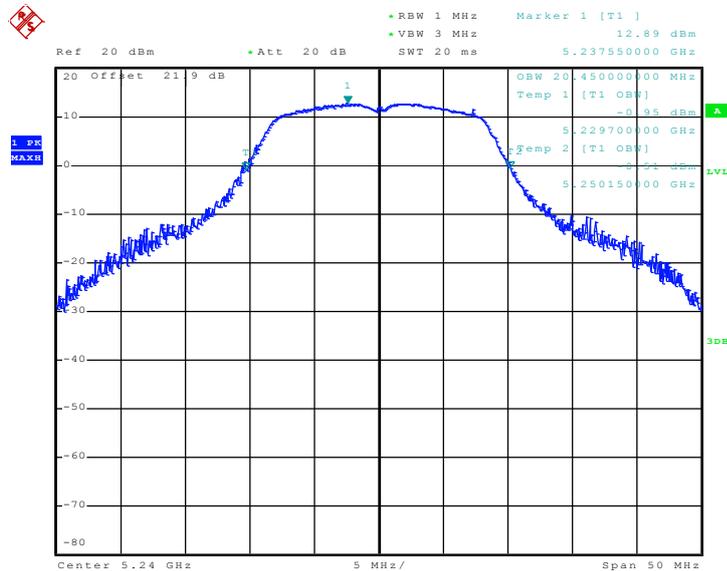


99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 44



Date: 10.DEC.2010 10:18:23

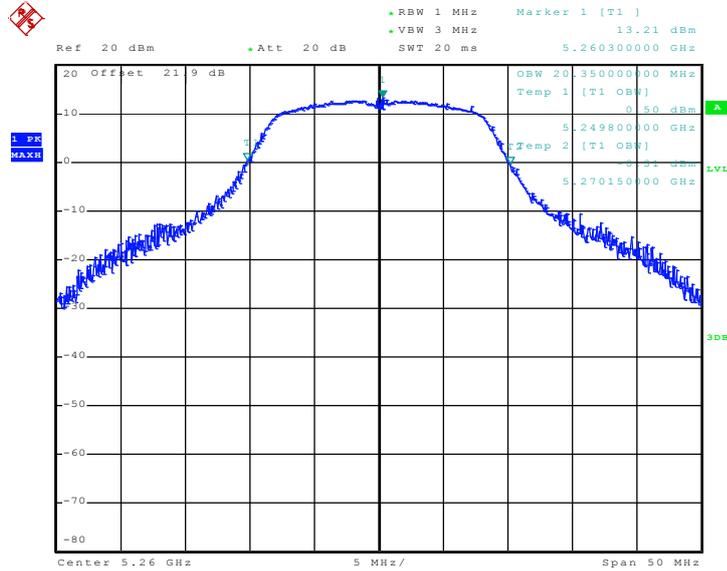
99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 48



Date: 10.DEC.2010 10:19:03

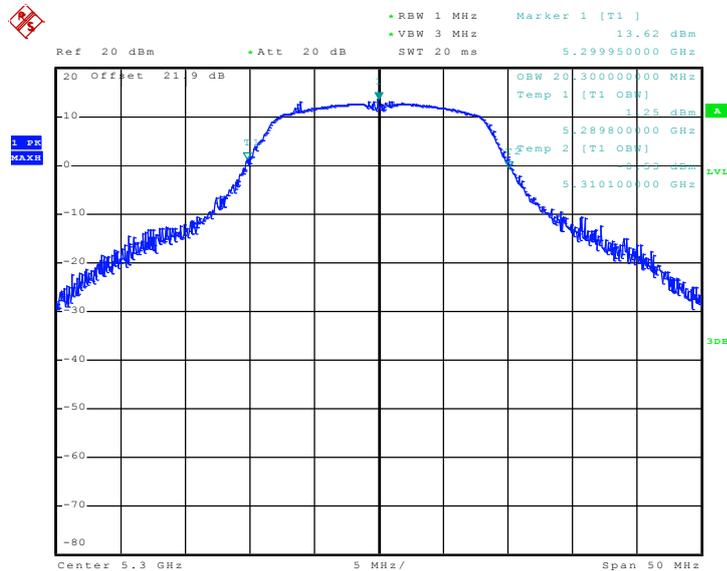


99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 52



Date: 10.DEC.2010 10:19:46

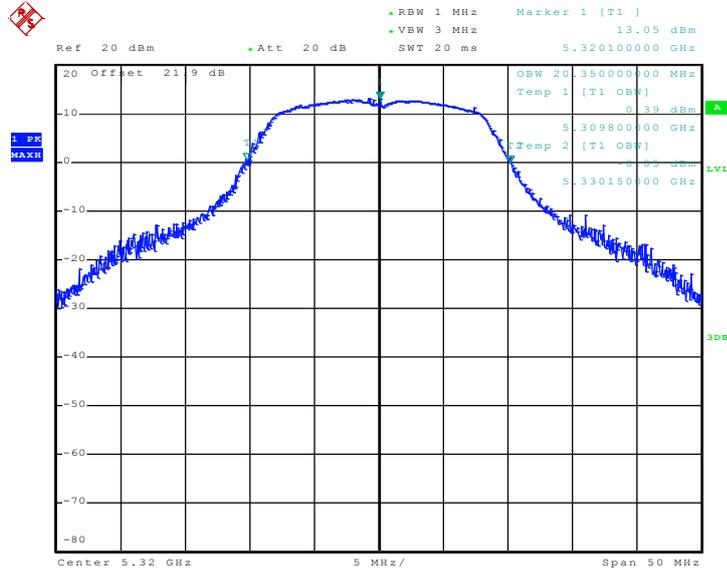
99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 60



Date: 10.DEC.2010 10:20:47

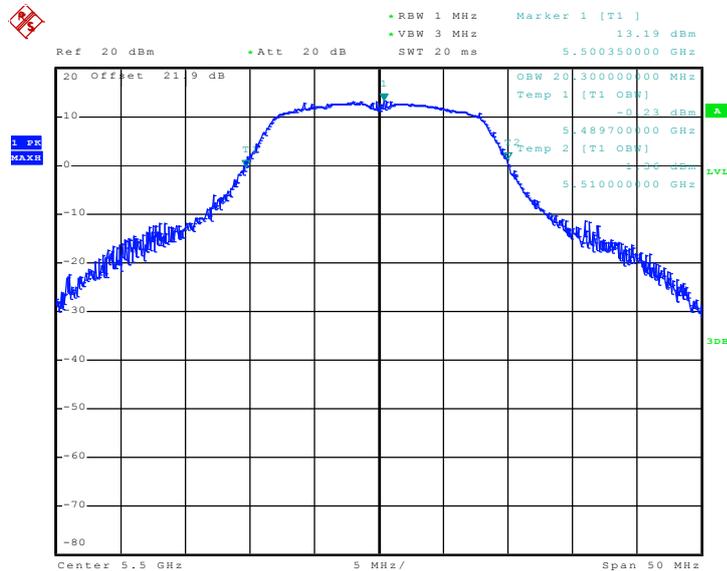


99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 64



Date: 10.DEC.2010 10:21:36

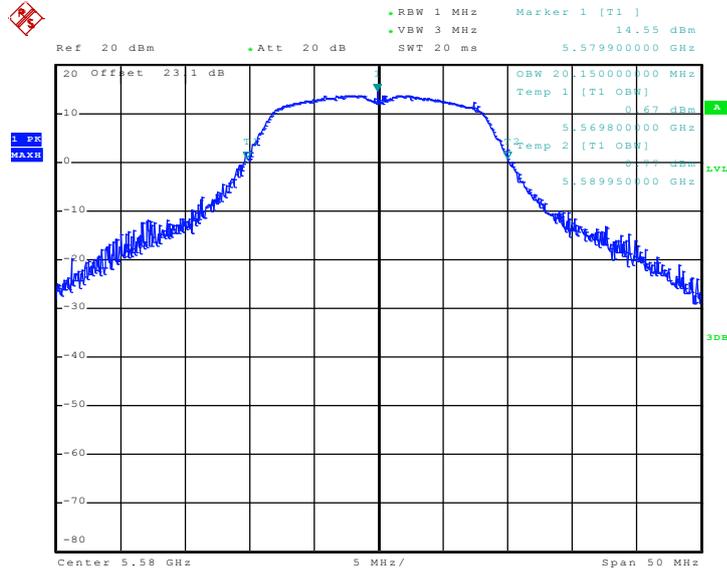
99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 100



Date: 10.DEC.2010 10:22:27

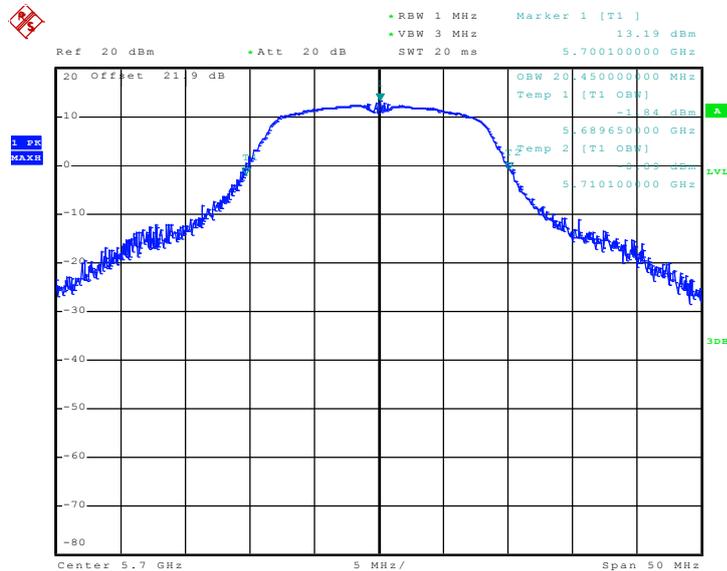


99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 116



Date: 10.FEB.2011 01:13:41

99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 140



Date: 10.DEC.2010 10:24:02

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

For the band 5.15~5.25 GHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or $4 \text{ dBm} + 10\log B$, where B is the 26 dB emissions bandwidth in MHz. If transmitting antenna directional gain is greater than 6 dBi, the peak output power and power density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power shall not exceed the lesser of 250 mW (24dBm) or $11 \text{ dBm} + 10\log B$. If transmitting antenna directional gain is greater than 6 dBi, the peak output power and power density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

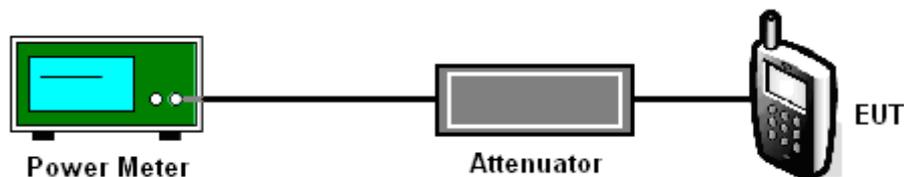
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Measure the power and record it.

3.2.4 Test Setup





3.2.5 Test Result of Maximum Conducted Output Power

Test Mode :	Mode 1~9	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Channel	Frequency (MHz)	802.11a Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	15.29	16.90	Pass
44	5220	15.27	16.81	Pass
48	5240	15.27	16.86	Pass
52	5260	15.08	23.71	Pass
60	5300	15.08	23.81	Pass
64	5320	15.20	23.72	Pass
100	5500	15.11	23.80	Pass
116	5580	15.40	23.80	Pass
140	5700	15.20	23.86	Pass

Test Mode :	Mode 10~18	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	15.10	16.97	Pass
44	5220	15.02	16.96	Pass
48	5240	15.09	17.00	Pass
52	5260	15.03	24.00	Pass
60	5300	15.08	23.91	Pass
64	5320	15.12	23.96	Pass
100	5500	15.38	24.00	Pass
116	5580	15.39	24.00	Pass
140	5700	15.40	24.00	Pass

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

For the band 5.15–5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1MHz band. For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the peak power spectral density shall not exceed 11 dBm in any 1MHz band. If transmitting antenna directional gain is greater than 6 dBi, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

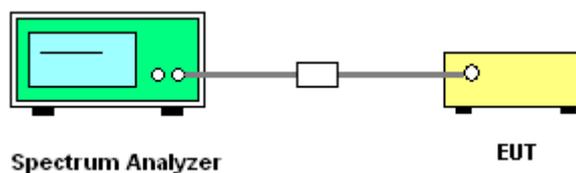
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

The transmitter output is connected to the spectrum analyzer. According to the method 3 of DA-02-2138, the resolution bandwidth is set to 1 MHz, video bandwidth is 3MHz, trace average 100 traces in power averaging mode, and sample detection is used, and the analyzer is set for video averaging.

3.3.4 Test Setup



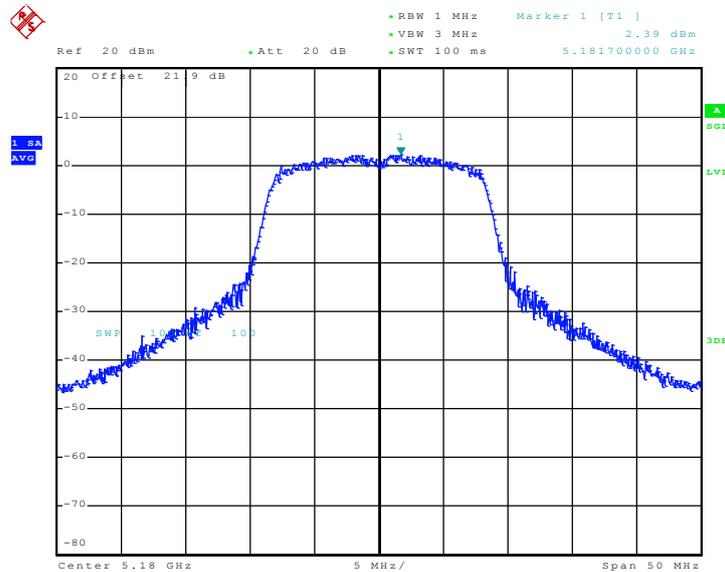


3.3.5 Test Result of Power Spectral Density

Test Mode :	Mode 1~9	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Channel	Frequency (MHz)	802.11a Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	2.39	4	Pass
44	5220	2.74	4	Pass
48	5240	2.21	4	Pass
52	5260	2.98	11	Pass
60	5300	3.34	11	Pass
64	5320	2.58	11	Pass
100	5500	2.61	11	Pass
116	5580	5.44	11	Pass
140	5700	1.62	11	Pass

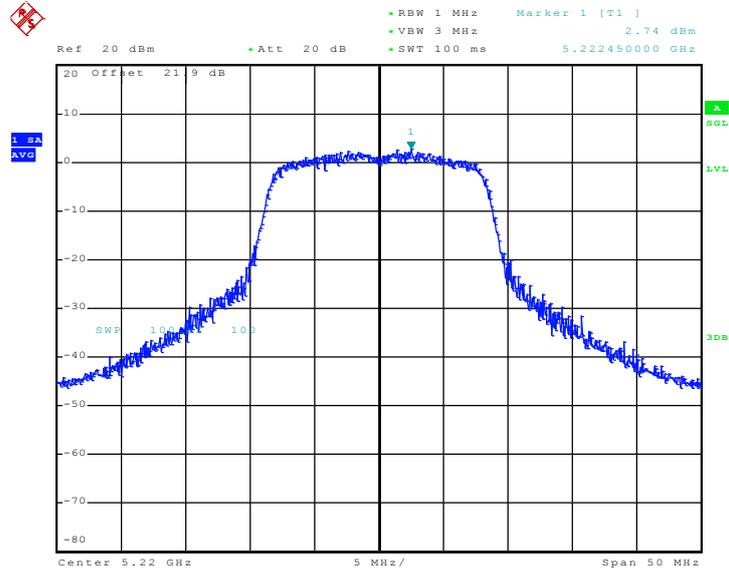
PSD Plot on 802.11a Channel 36



Date: 8.DEC.2010 16:49:43

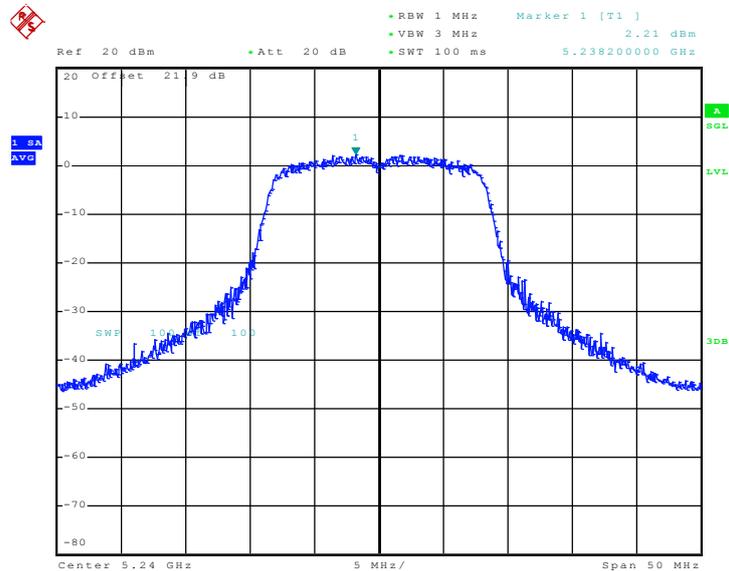


PSD Plot on 802.11a Channel 44



Date: 8.DEC.2010 16:50:33

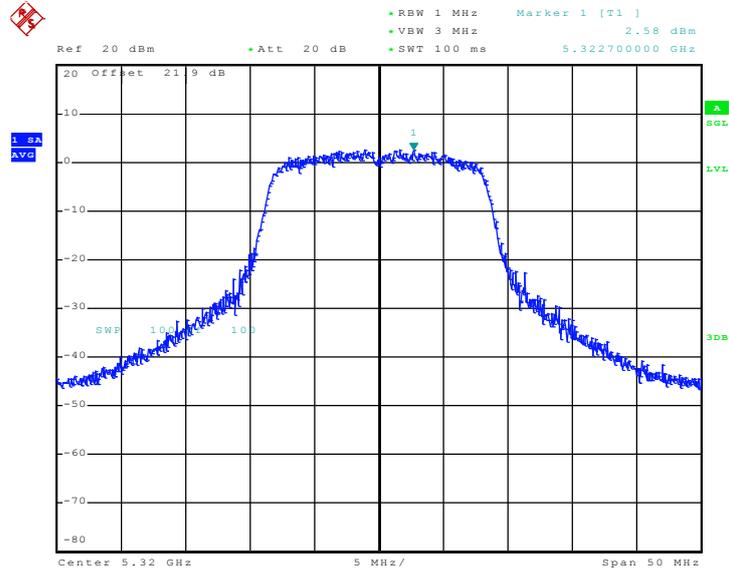
PSD Plot on 802.11a Channel 48



Date: 8.DEC.2010 16:51:50

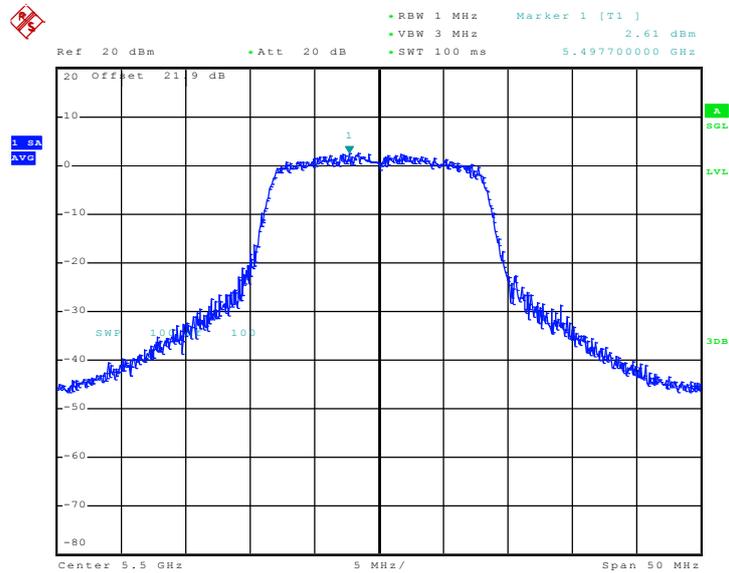


PSD Plot on 802.11a Channel 64



Date: 8.DEC.2010 16:55:11

PSD Plot on 802.11a Channel 100



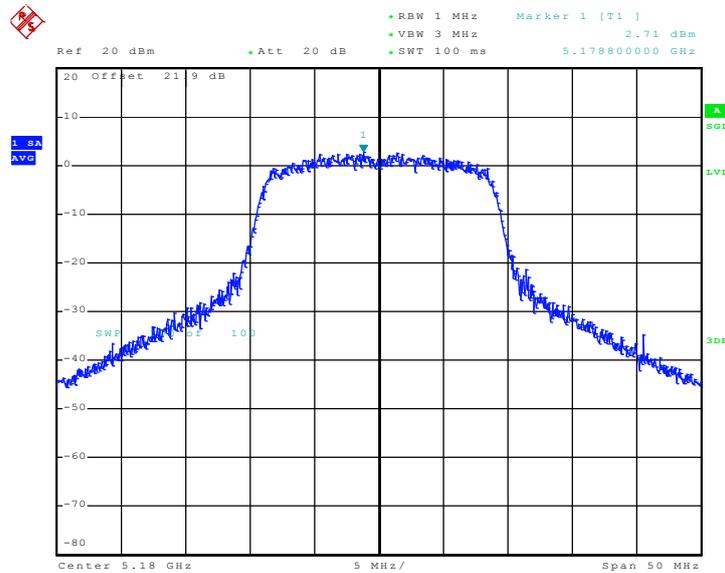
Date: 8.DEC.2010 16:56:31



Test Mode :	Mode 10~18	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	2.71	4	Pass
44	5220	2.33	4	Pass
48	5240	2.98	4	Pass
52	5260	2.46	11	Pass
60	5300	2.25	11	Pass
64	5320	2.84	11	Pass
100	5500	2.69	11	Pass
116	5580	5.66	11	Pass
140	5700	1.41	11	Pass

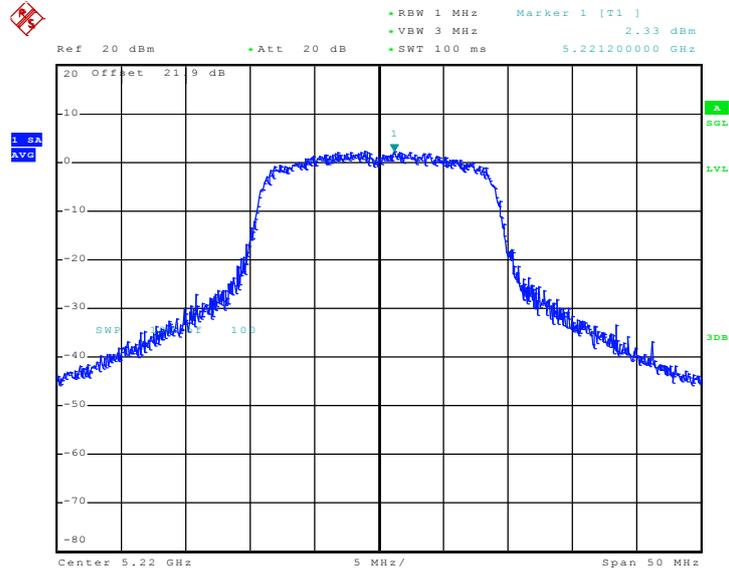
PSD Plot on 802.11n (BW 20MHz) Channel 36



Date: 8.DEC.2010 17:21:27

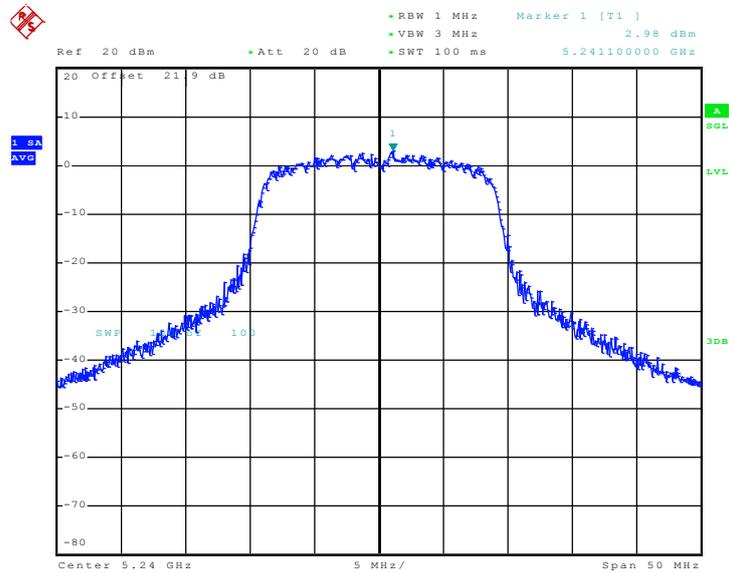


PSD Plot on 802.11n (BW 20MHz) Channel 44



Date: 8.DEC.2010 17:22:22

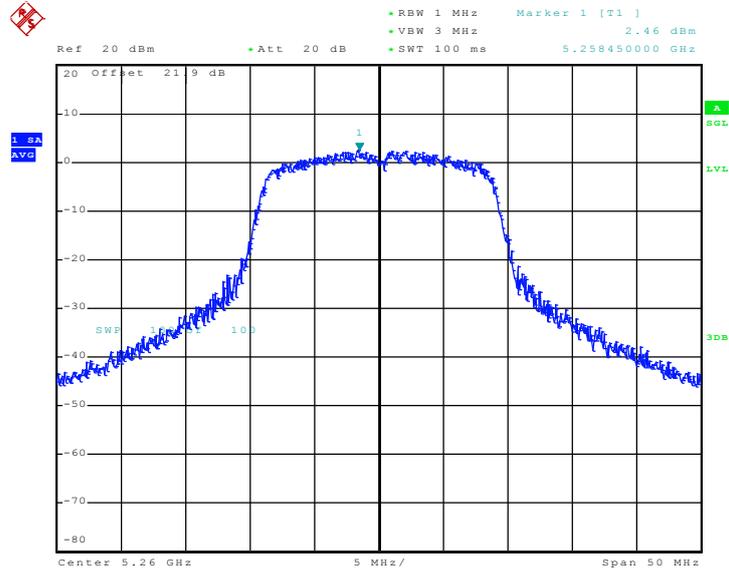
PSD Plot on 802.11n (BW 20MHz) Channel 48



Date: 8.DEC.2010 17:23:27

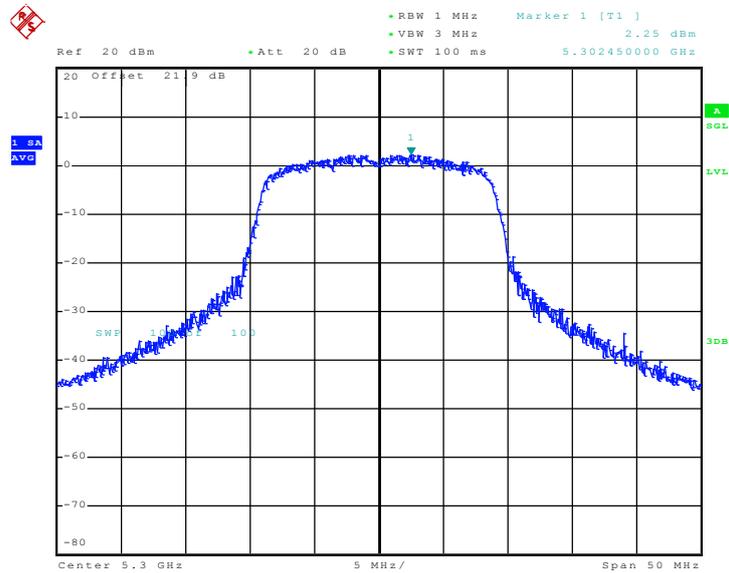


PSD Plot on 802.11n (BW 20MHz) Channel 52



Date: 8.DEC.2010 17:24:31

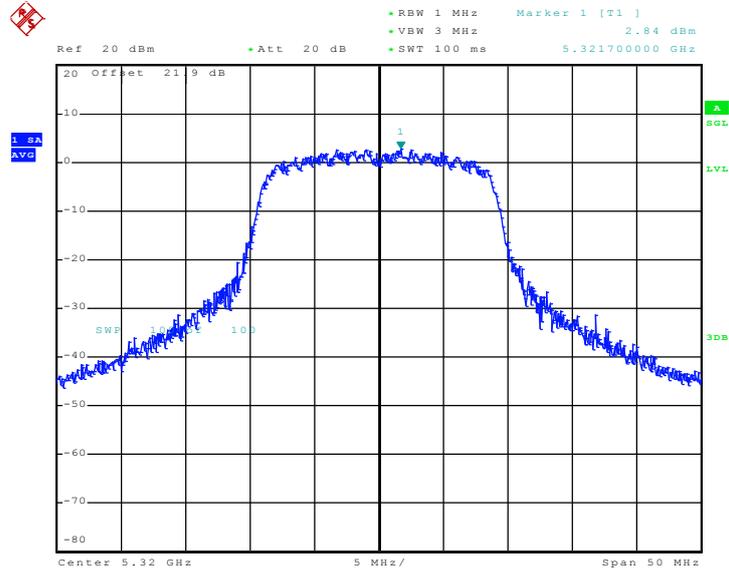
PSD Plot on 802.11n (BW 20MHz) Channel 60



Date: 8.DEC.2010 17:27:46

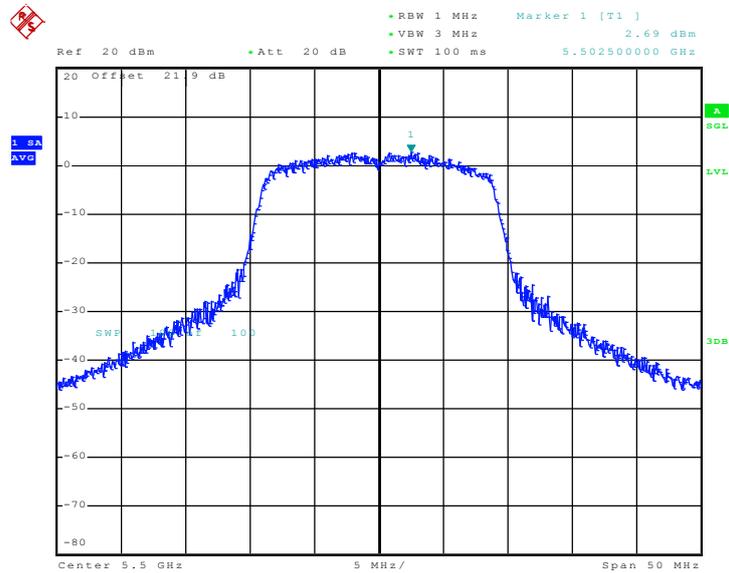


PSD Plot on 802.11n (BW 20MHz) Channel 64



Date: 8.DEC.2010 17:26:51

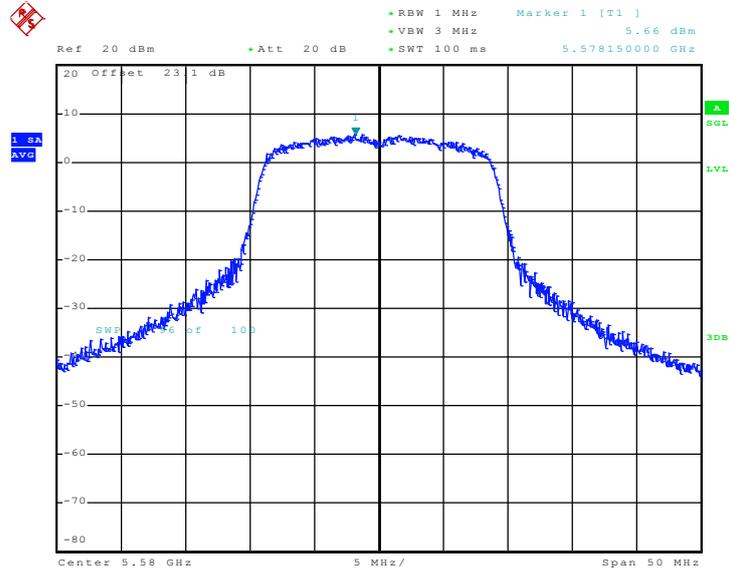
PSD Plot on 802.11n (BW 20MHz) Channel 100



Date: 8.DEC.2010 17:28:40

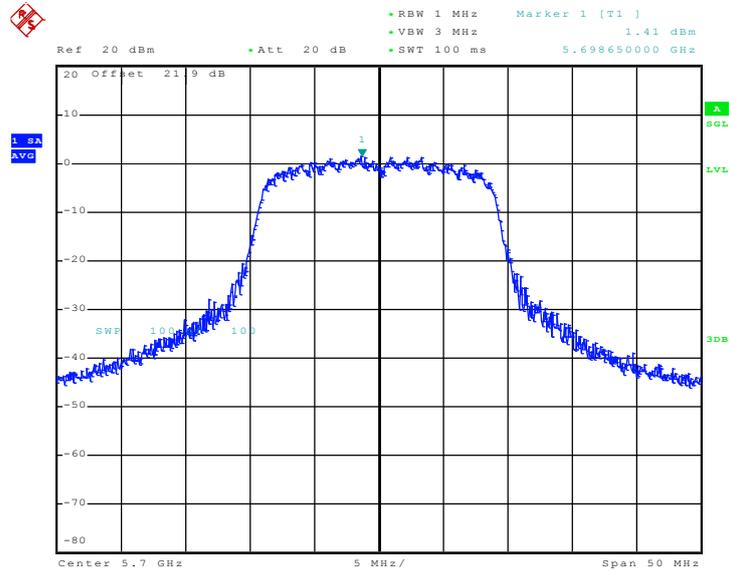


PSD Plot on 802.11n (BW 20MHz) Channel 116



Date: 10.FEB.2011 01:14:02

PSD Plot on 802.11n (BW 20MHz) Channel 140



Date: 8.DEC.2010 17:29:46



3.4 Band Edges Measurement

3.4.1 Limit of Band Edges

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15–5.25 GHz band. For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- (2) The provisions of Section 15.205 Restricted bands of operation of this part apply to intentional radiators operating under this section.

3.4.2 Measuring Instruments

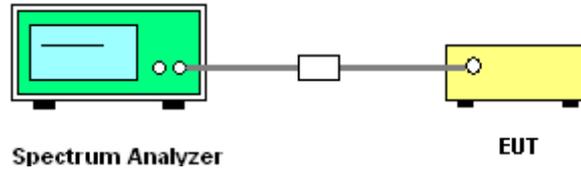
See list of measuring instruments of this test report.

3.4.3 Test Procedures

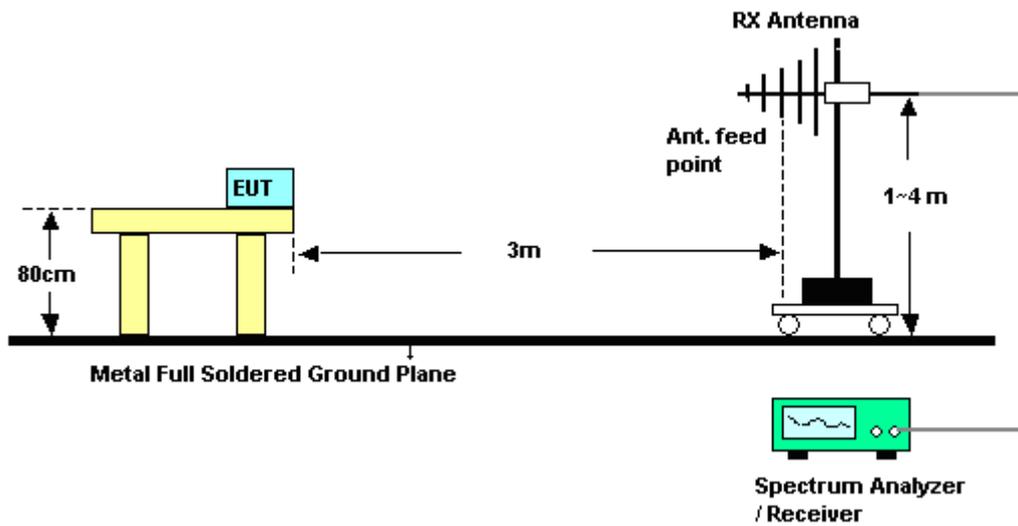
1. Set both RBW and VBW of spectrum analyzer to 1MHz with convenient frequency span including 1MHz bandwidth from band edge.
2. The band edges was measured and recorded.

3.4.4 Test Setup

<Conducted>



<Radiated>

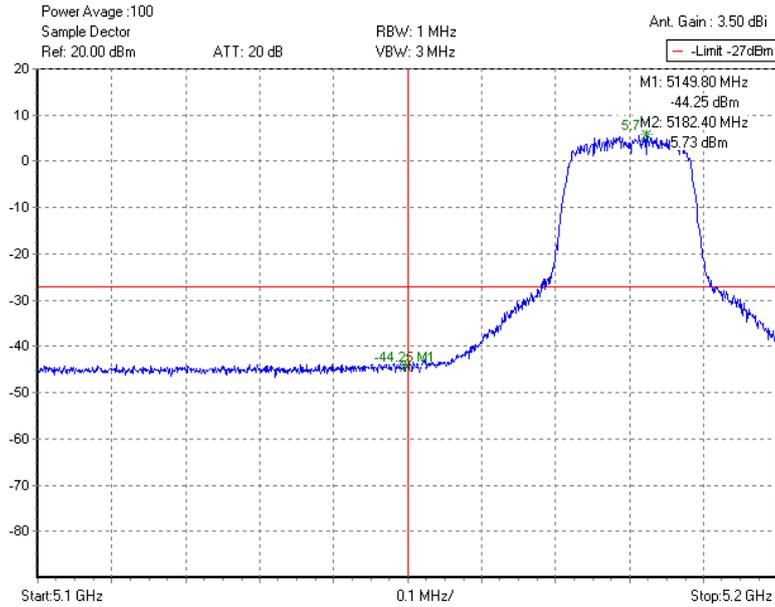




3.4.5 Test Result of Conducted Band Edges

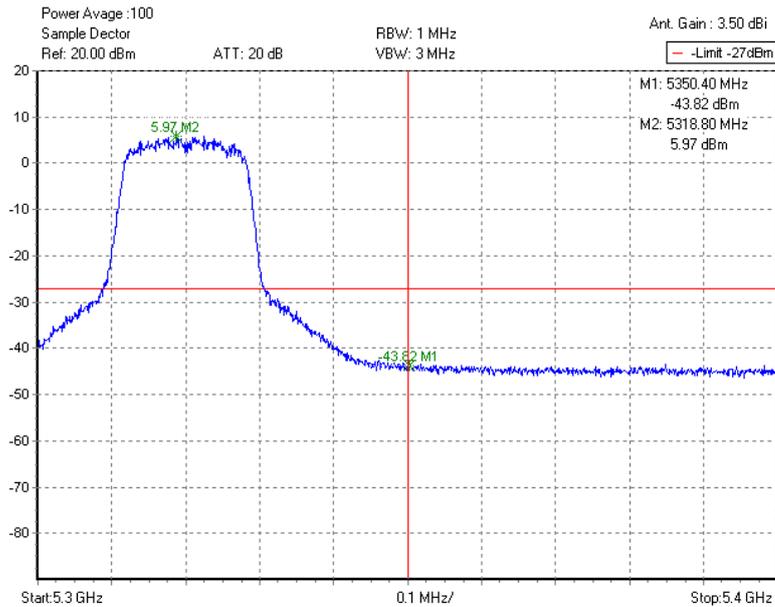
Test Mode :	Mode 1 and 6	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Low Band Edge Plot on Channel 36



Test result was offsetted with path loss, and antenna gain.

High Band Edge Plot on Channel 64

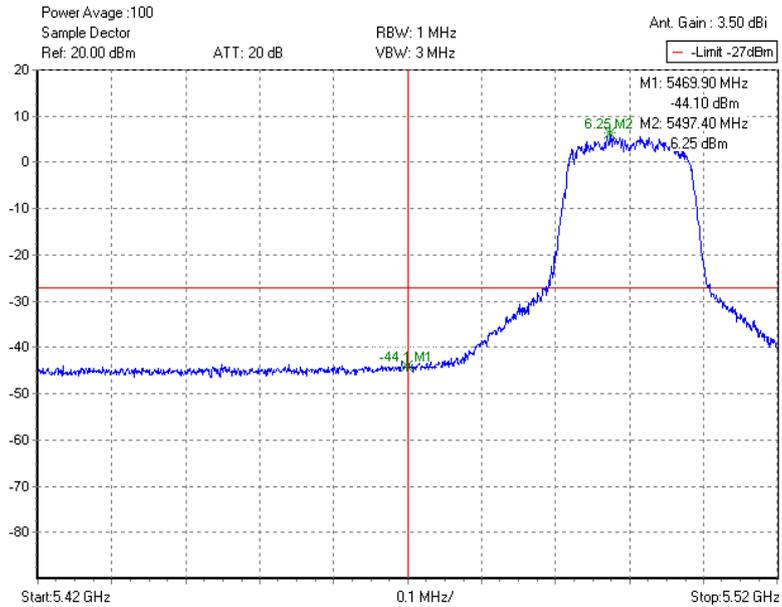


Test result was offsetted with path loss, and antenna gain.



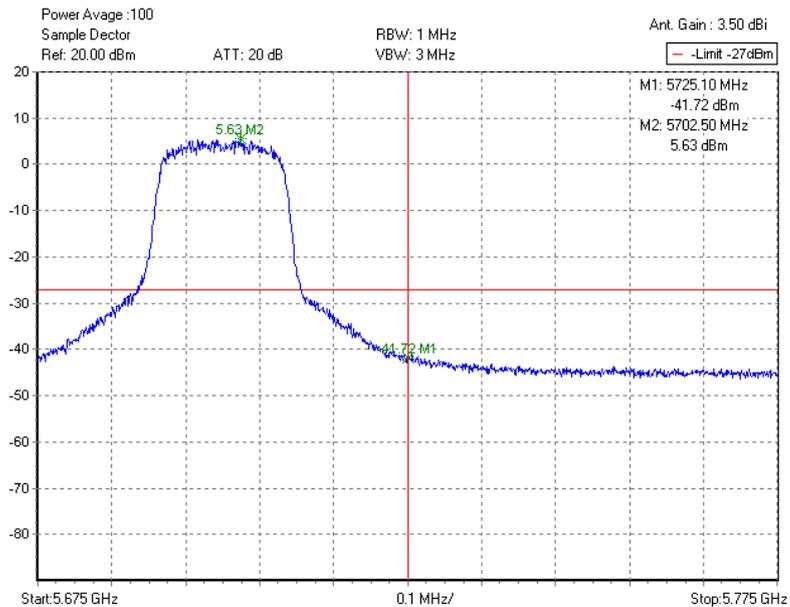
Test Mode :	Mode 7 and 9	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Low Band Edge Plot on Channel 100



Test result was offsetted with path loss, and antenna gain.

High Band Edge Plot on Channel 140

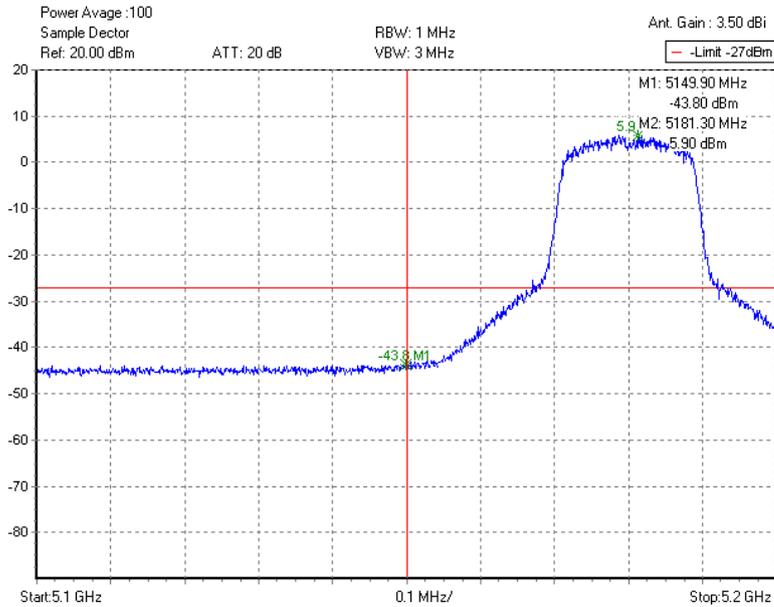


Test result was offsetted with path loss, and antenna gain.



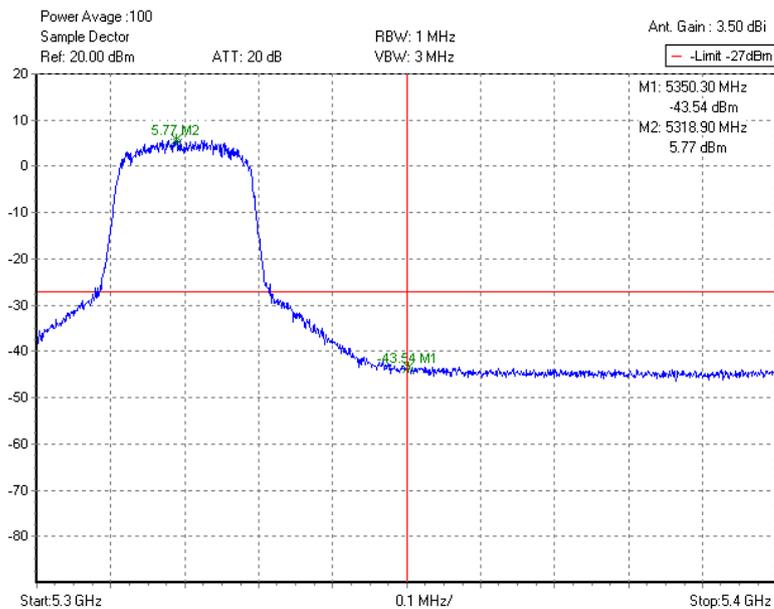
Test Mode :	Mode 10 and 15	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Low Band Edge Plot on Channel 36



Test result was offsetted with path loss, and antenna gain.

High Band Edge Plot on Channel 64

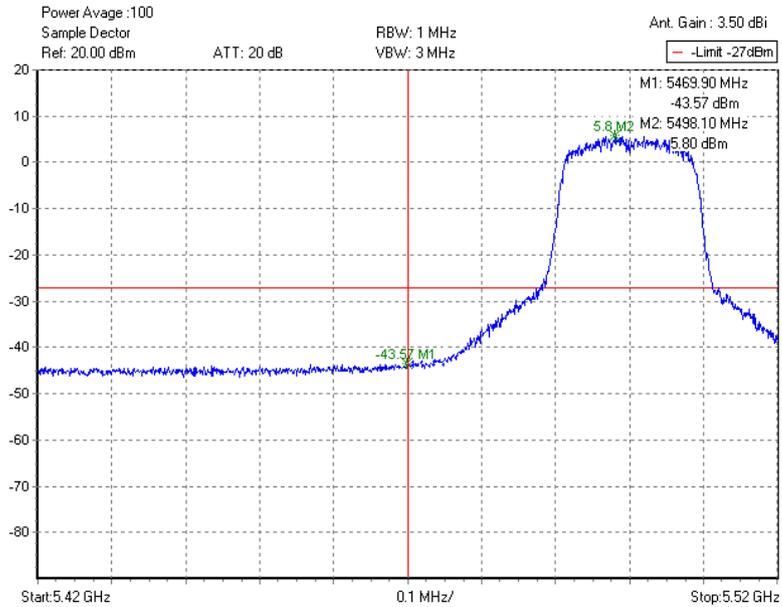


Test result was offsetted with path loss, and antenna gain.



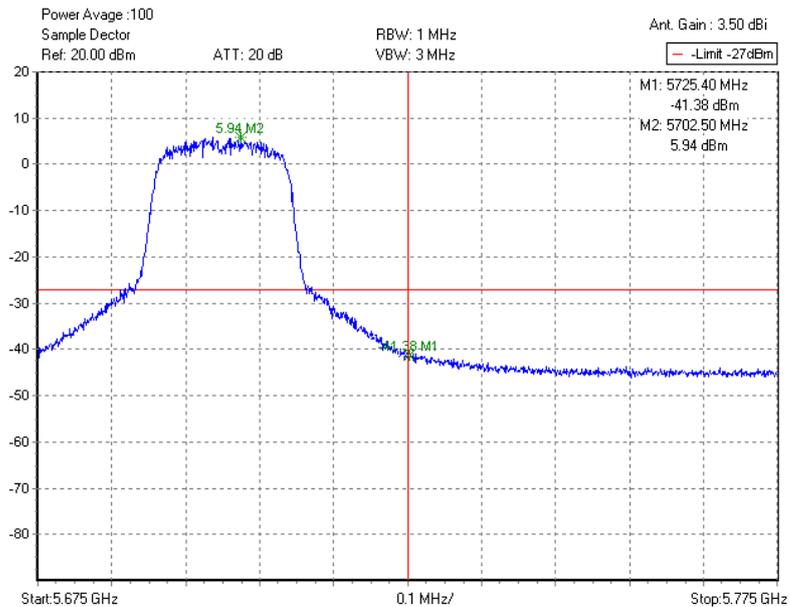
Test Mode :	Mode 16 and 18	Temperature :	25~27°C
Test Engineer :	Ken Hsu	Relative Humidity :	54~57%

Low Band Edge Plot on Channel 100



Test result was offsetted with path loss, and antenna gain.

High Band Edge Plot on Channel 140



Test result was offsetted with path loss, and antenna gain.



3.4.6 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	49~50%
Test Channel :	36	Test Engineer :	Ivan Jiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150.00	55.14	-18.86	74.00	46.13	34.25	9.41	34.65	112	271	Peak
5150.00	40.10	-13.90	54.00	31.09	34.25	9.41	34.65	112	271	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150.00	62.53	-11.47	74.00	53.52	34.25	9.41	34.65	135	352	Peak
5150.00	42.51	-11.49	54.00	33.50	34.25	9.41	34.65	135	352	Average

Test Mode :	Mode 6	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	49~50%
Test Channel :	64	Test Engineer :	Ivan Jiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350.00	58.23	-15.77	74.00	49.44	34.45	9.74	35.40	100	264	Peak
5350.00	41.74	-12.26	54.00	32.95	34.45	9.74	35.40	100	264	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350.00	56.57	-17.43	74.00	47.78	34.45	9.74	35.40	100	24	Peak
5350.00	41.30	-12.70	54.00	32.51	34.45	9.74	35.40	100	24	Average



Test Mode :	Mode 7	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	49~50%
Test Channel :	100	Test Engineer :	Ivan Jiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5470.00	51.96	-36.34	88.30	43.29	34.57	9.94	35.84	100	255	Peak
5470.00	39.07	-29.23	68.30	30.40	34.57	9.94	35.84	100	255	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5470.00	54.48	-33.82	88.30	45.81	34.57	9.94	35.84	100	48	Peak
5470.00	40.63	-27.67	68.30	31.96	34.57	9.94	35.84	100	48	Average

Test Mode :	Mode 9	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	49~50%
Test Channel :	140	Test Engineer :	Ivan Jiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725.00	60.83	-27.47	88.30	51.93	34.82	9.92	35.84	100	273	Peak
5725.00	43.79	-24.51	68.30	34.89	34.82	9.92	35.84	100	273	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725.00	62.31	-25.99	88.30	53.41	34.82	9.92	35.84	111	5	Peak
5725.00	47.37	-20.93	68.30	38.47	34.82	9.92	35.84	111	5	Average



Test Mode :	Mode 10	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~50%
Test Channel :	36	Test Engineer :	Ivan Jiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150.00	55.98	-18.02	74.00	46.97	34.25	9.41	34.65	100	271	Peak
5150.00	40.83	-13.17	54.00	31.82	34.25	9.41	34.65	100	271	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150.00	57.59	-16.41	74.00	48.58	34.25	9.41	34.65	123	1	Peak
5150.00	42.08	-11.92	54.00	33.07	34.25	9.41	34.65	123	1	Average

Test Mode :	Mode 15	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~50%
Test Channel :	64	Test Engineer :	Ivan Jiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350.00	59.35	-14.65	74.00	50.56	34.45	9.74	35.40	100	265	Peak
5350.00	41.78	-12.22	54.00	32.99	34.45	9.74	35.40	100	265	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350.00	58.10	-15.90	74.00	49.31	34.45	9.74	35.40	100	30	Peak
5350.00	42.25	-11.75	54.00	33.46	34.45	9.74	35.40	100	30	Average



Test Mode :	Mode 16	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~50%
Test Channel :	100	Test Engineer :	Ivan Jiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5470.00	58.04	-30.26	88.30	49.37	34.57	9.94	35.84	173	120	Peak
5470.00	40.04	-28.26	68.30	31.37	34.57	9.94	35.84	173	120	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5470.00	55.50	-32.80	88.30	46.83	34.57	9.94	35.84	100	47	Peak
5470.00	41.17	-27.13	68.30	32.50	34.57	9.94	35.84	100	47	Average

Test Mode :	Mode 18	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~50%
Test Channel :	140	Test Engineer :	Ivan Jiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725.00	62.09	-26.21	88.30	53.19	34.82	9.92	35.84	100	272	Peak
5725.00	45.45	-22.85	68.30	36.55	34.82	9.92	35.84	100	272	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725.00	66.85	-21.45	88.30	57.95	34.82	9.92	35.84	122	4	Peak
5725.00	48.39	-19.91	68.30	39.49	34.82	9.92	35.84	122	4	Average

3.5 Conducted Spurious Emission

3.5.1 Limit of Spurious Emission Measurement

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15–5.25 GHz band.
- (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

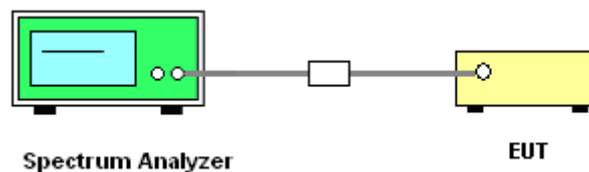
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set RBW = VBW = 1 MHz, Video bandwidth (VBW), scan from 30 MHz to 40 GHz.

3.5.4 Test Setup





3.5.5 Test Result

Test Mode :	Mode 1~9	Temperature :	25~27°C
Test Band :	802.11a	Relative Humidity :	54~57%
Test Channel :	36, 44, 48, 52, 60, 64, 100, 116, 140	Test Engineer :	Ken Hsu

<30 MHz ~ 3 GHz>

Channel	Frequency (MHz)	Frequency (MHz)	Level (dBm)	Antenna Gain (dBi)	EIRP Test Result (dBm)	Limit (dBm)
36	5180	903.18	-42.69	3.5	-39.19	-27
44	5220	903.18	-44.85	3.5	-41.35	-27
48	5240	65.64	-50.02	3.5	-46.52	-27
52	5260	2904.96	-49.67	3.5	-46.17	-27
60	5300	2869.32	-49.89	3.5	-46.39	-27
64	5320	65.64	-49.47	3.5	-45.97	-27
100	5500	65.64	-49.90	3.5	-46.40	-27
116	5580	2584.20	-48.65	3.5	-45.15	-27
140	5700	2922.78	-49.85	3.5	-46.35	-27

<3 GHz ~ 13.6 GHz>

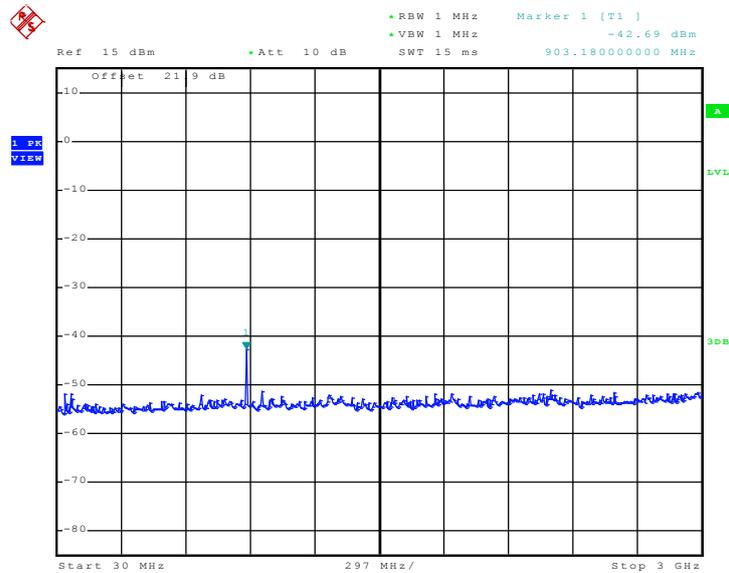
Channel	Frequency (MHz)	Frequency (MHz)	Level (dBm)	Antenna Gain (dBi)	EIRP Test Result (dBm)	Limit (dBm)
36	5180	6922.0	-34.49	3.5	-30.99	-27
44	5220	6922.0	-35.07	3.5	-31.57	-27
48	5240	6922.0	-36.36	3.5	-32.86	-27
52	5260	6922.0	-35.43	3.5	-31.93	-27
60	5300	6922.0	-35.50	3.5	-32.00	-27
64	5320	6922.0	-36.83	3.5	-33.33	-27
100	5500	6900.8	-33.72	3.5	-30.22	-27
116	5580	6922.0	-35.40	3.5	-31.90	-27
140	5700	6943.2	-42.21	3.5	-38.71	-27



<13.6 GHz ~ 40 GHz>

Channel	Frequency (MHz)	Frequency (MHz)	Level (dBm)	Antenna Gain (dBi)	EIRP Test Result (dBm)	Limit (dBm)
36	5180	40000.0	-33.44	3.5	-29.94	-27
44	5220	39947.2	-33.73	3.5	-30.23	-27
48	5240	40000.0	-34.11	3.5	-30.61	-27
52	5260	40000.0	-33.77	3.5	-30.27	-27
60	5300	40000.0	-33.96	3.5	-30.46	-27
64	5320	40000.0	-33.75	3.5	-30.25	-27
100	5500	40000.0	-33.91	3.5	-30.41	-27
116	5580	40000.0	-31.17	3.5	-27.67	-27
140	5700	40000.0	-33.50	3.5	-30.00	-27

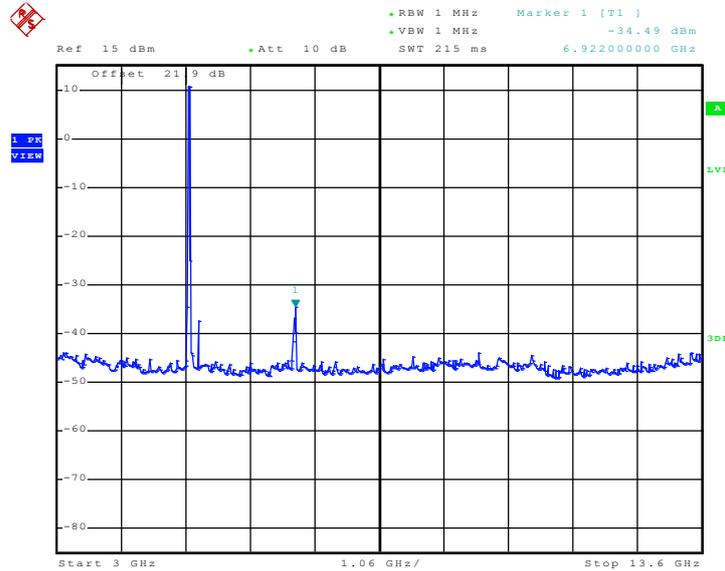
Mode 1 : Conducted Spurious Emission Plot between 802.11a 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:11:40

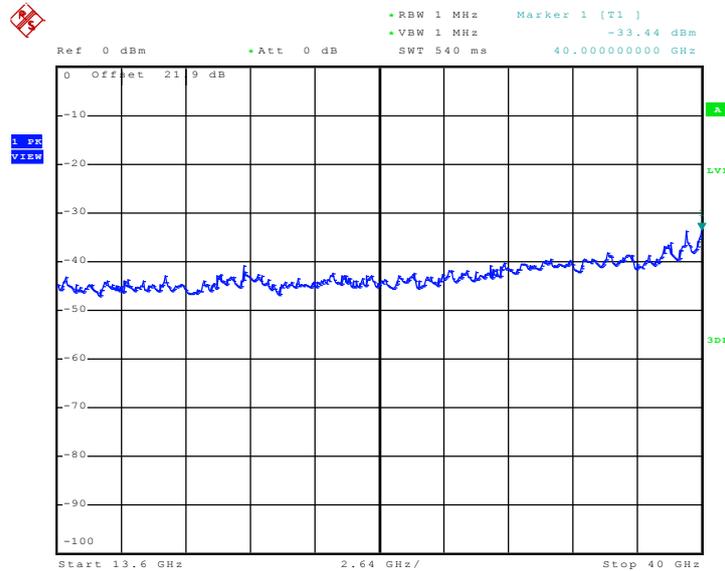


Mode 1 : Conducted Spurious Emission Plot between 802.11a 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:11:52

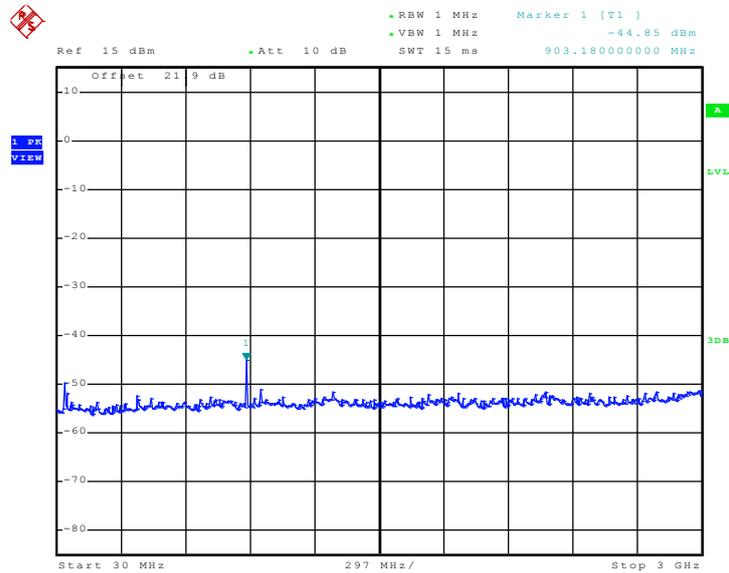
Mode 1 : Conducted Spurious Emission Plot between 802.11a 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:12:07

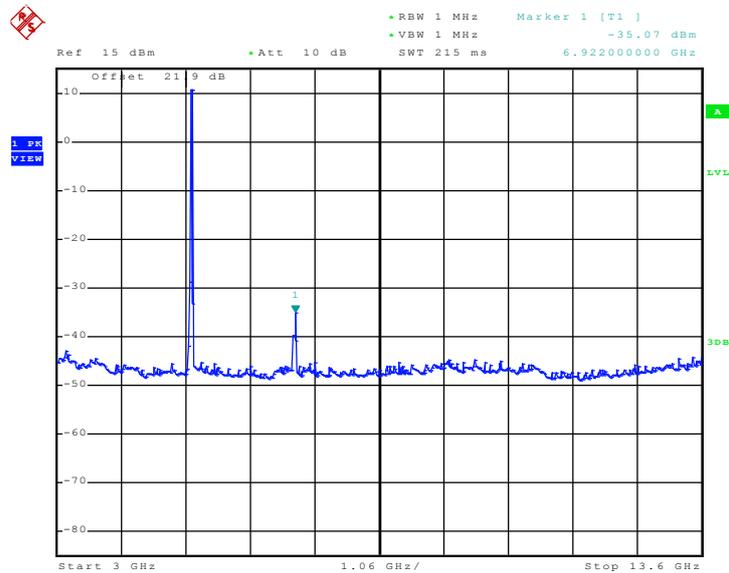


Mode 2 : Conducted Spurious Emission Plot between 802.11a 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:12:39

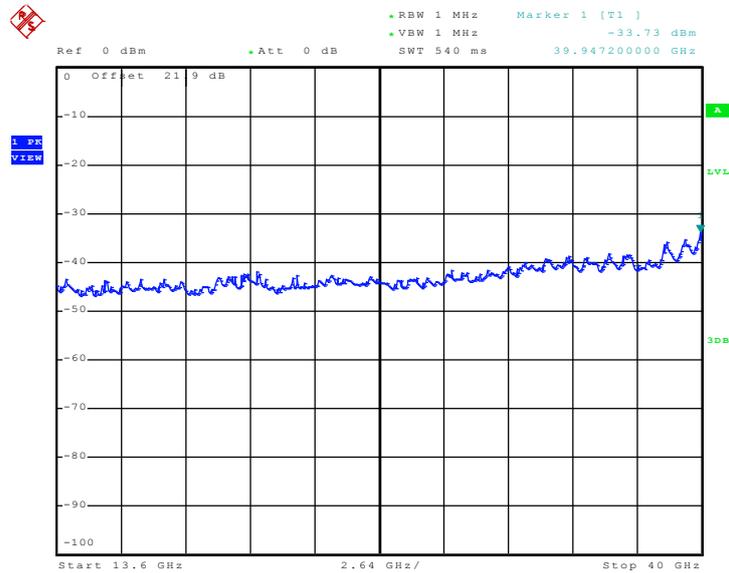
Mode 2 : Conducted Spurious Emission Plot between 802.11a 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:12:51

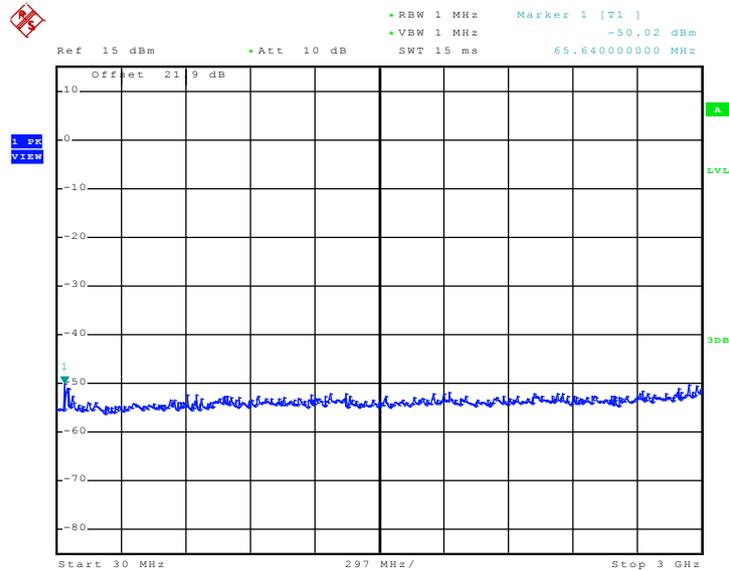


Mode 2 : Conducted Spurious Emission Plot between 802.11a 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:13:03

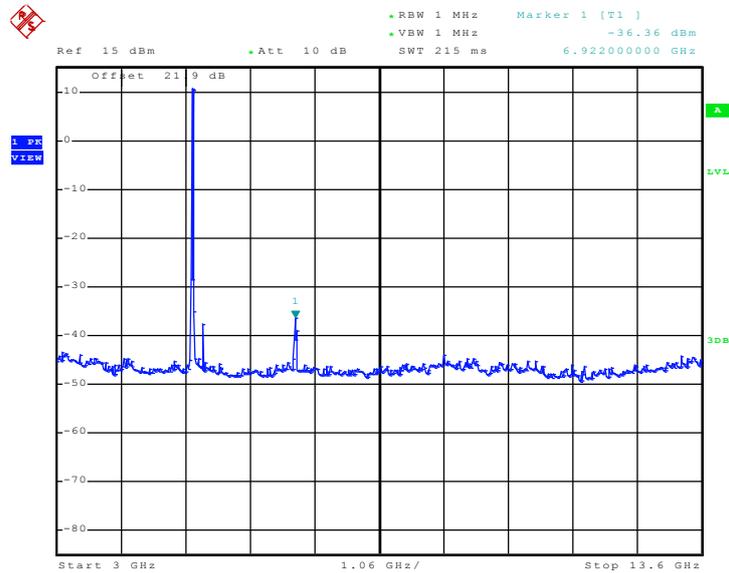
Mode 3 : Conducted Spurious Emission Plot between 802.11a 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:13:24

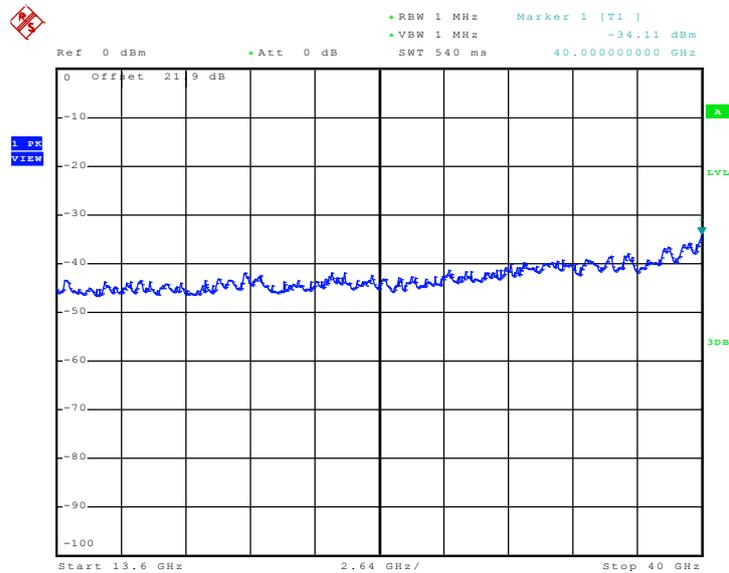


Mode 3 : Conducted Spurious Emission Plot between 802.11a 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:13:36

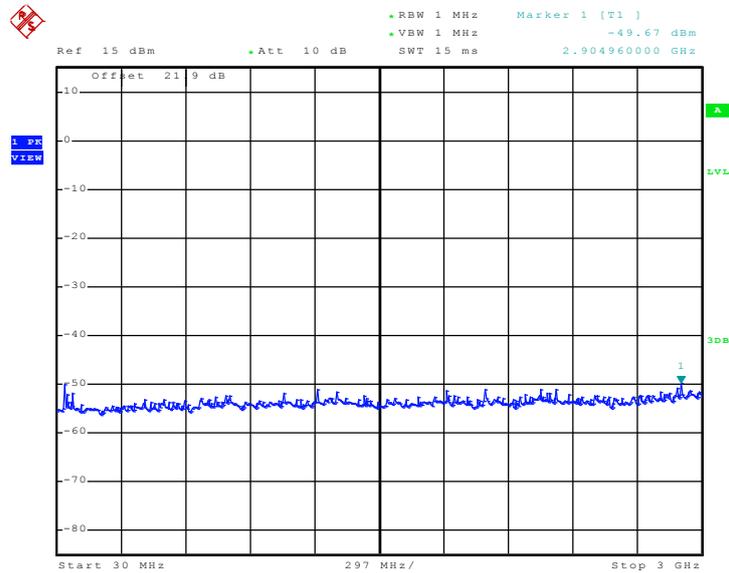
Mode 3 : Conducted Spurious Emission Plot between 802.11a 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:13:48

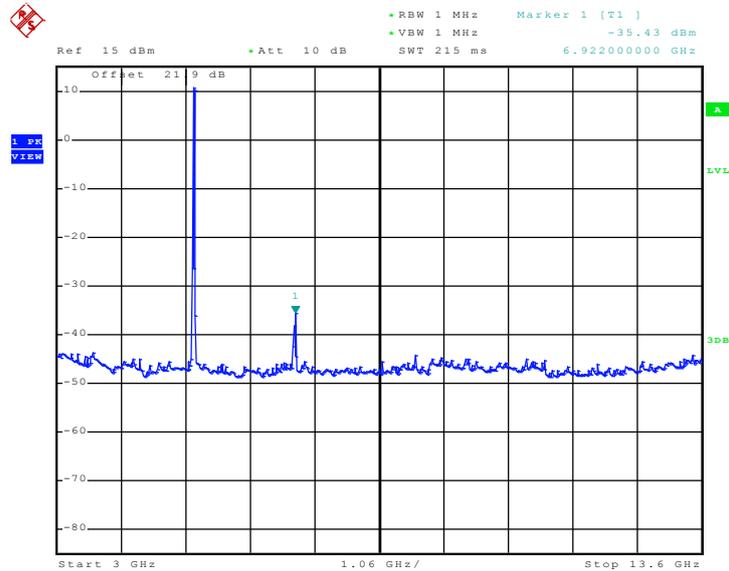


Mode 4 : Conducted Spurious Emission Plot between 802.11a 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:14:10

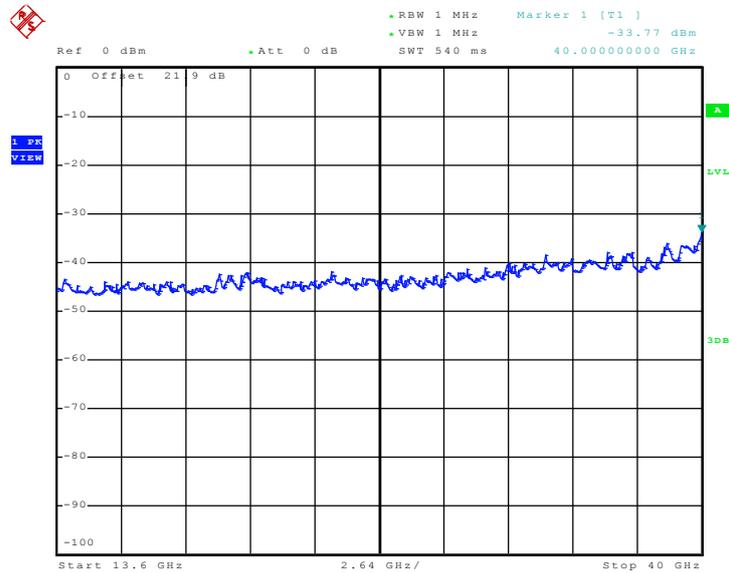
Mode 4 : Conducted Spurious Emission Plot between 802.11a 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:14:22

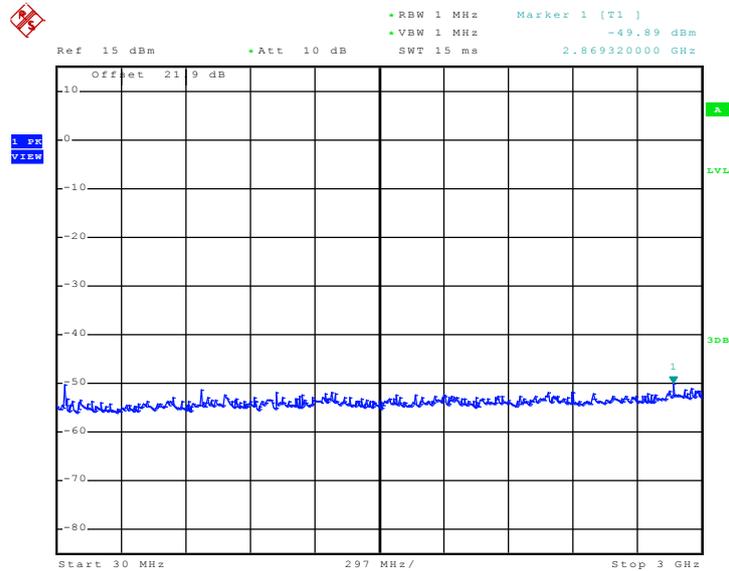


Mode 4 : Conducted Spurious Emission Plot between 802.11a 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:14:34

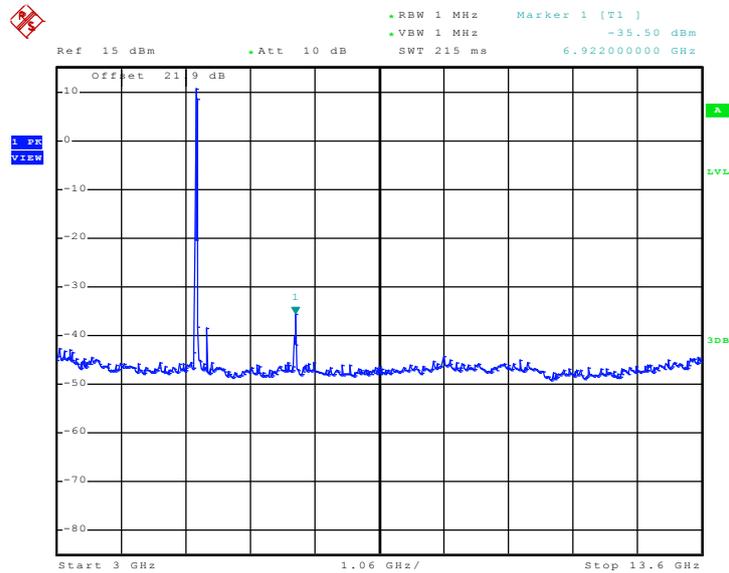
Mode 5 : Conducted Spurious Emission Plot between 802.11a 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:14:58

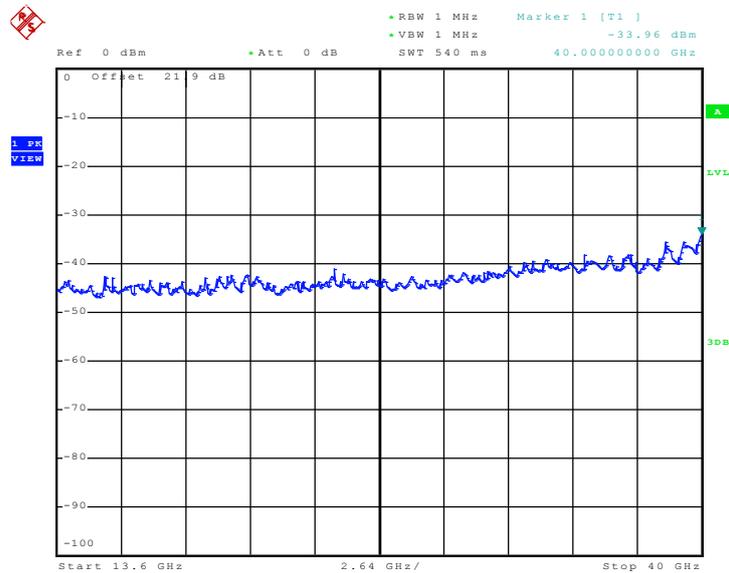


Mode 5 : Conducted Spurious Emission Plot between 802.11a 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:15:09

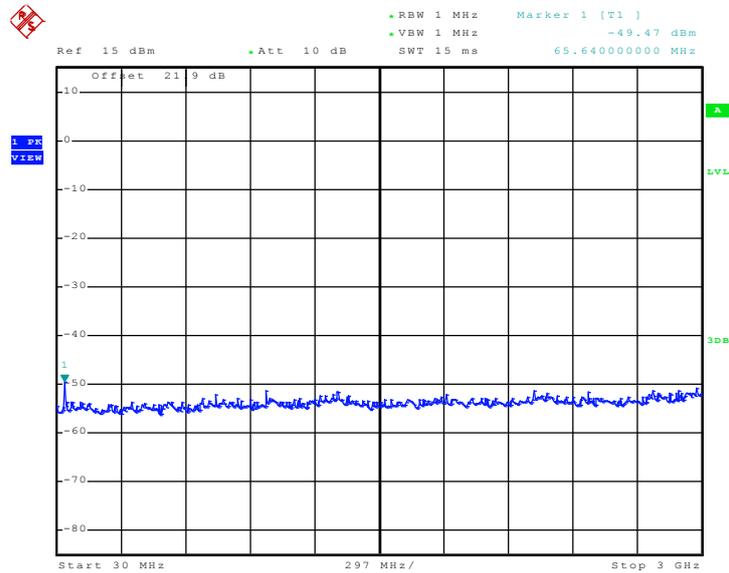
Mode 5 : Conducted Spurious Emission Plot between 802.11a 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:15:21

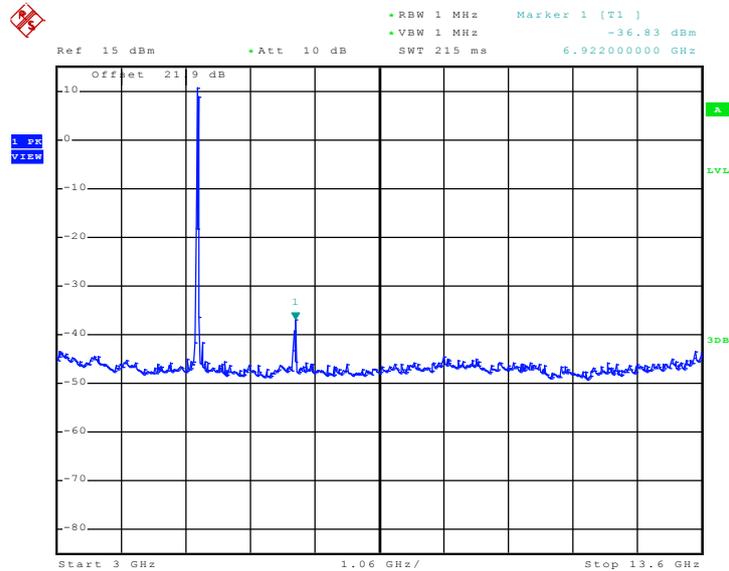


Mode 6 : Conducted Spurious Emission Plot between 802.11a 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:16:03

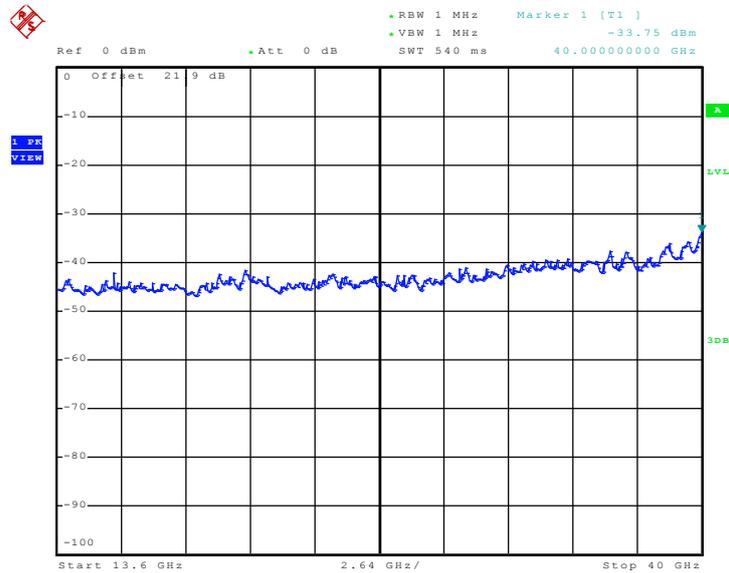
Mode 6 : Conducted Spurious Emission Plot between 802.11a 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:16:14

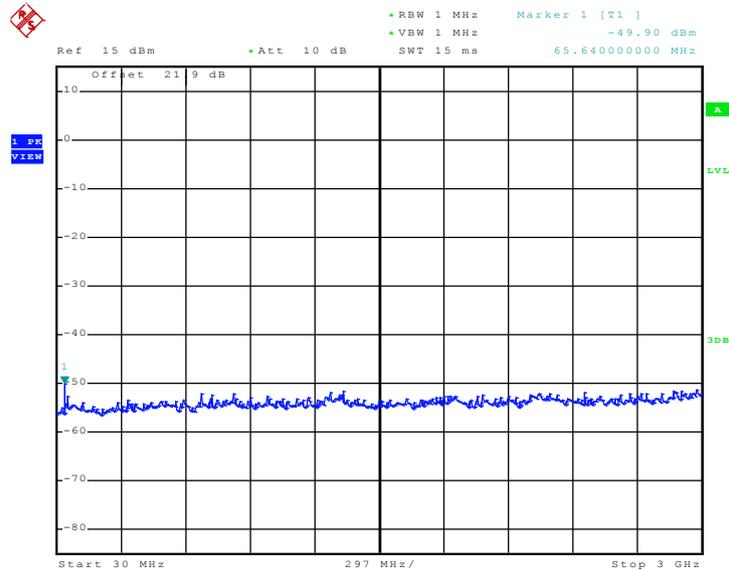


Mode 6 : Conducted Spurious Emission Plot between 802.11a 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:16:26

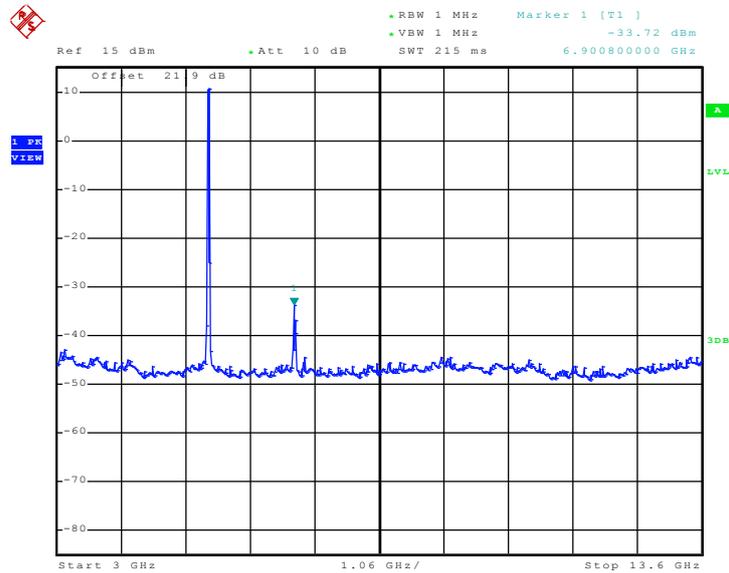
Mode 7 : Conducted Spurious Emission Plot between 802.11a 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:17:02

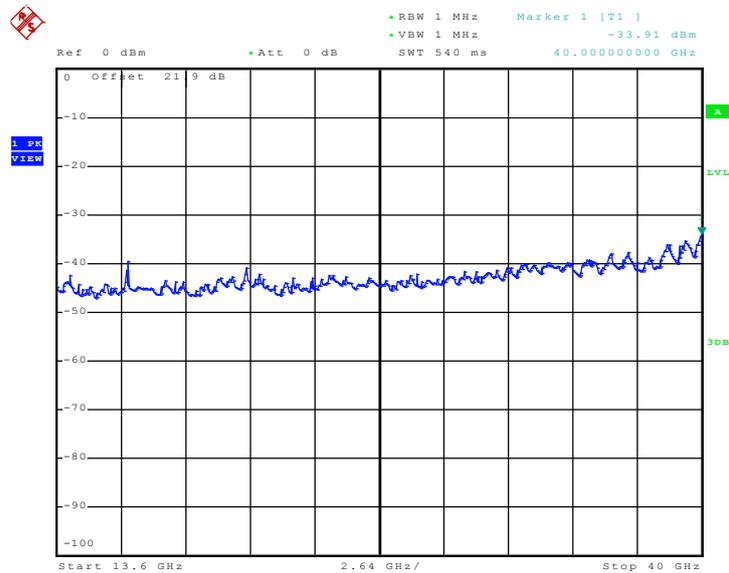


Mode 7 : Conducted Spurious Emission Plot between 802.11a 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:17:14

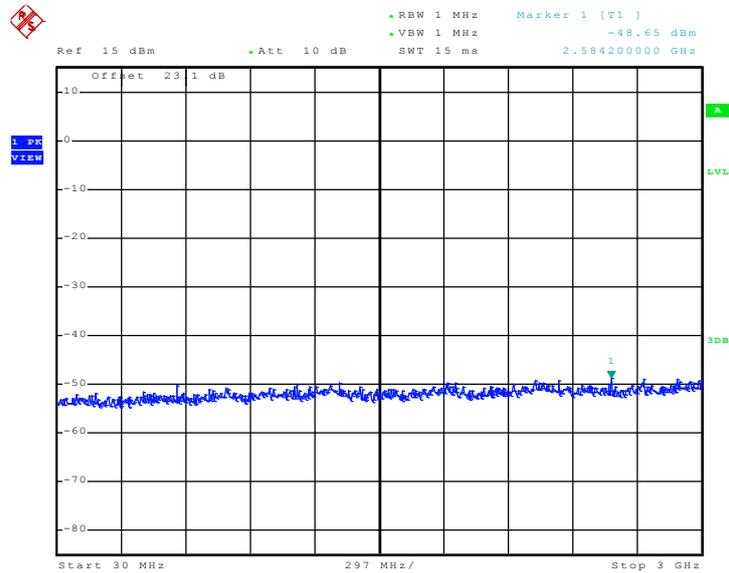
Mode 7 : Conducted Spurious Emission Plot between 802.11a 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:17:26

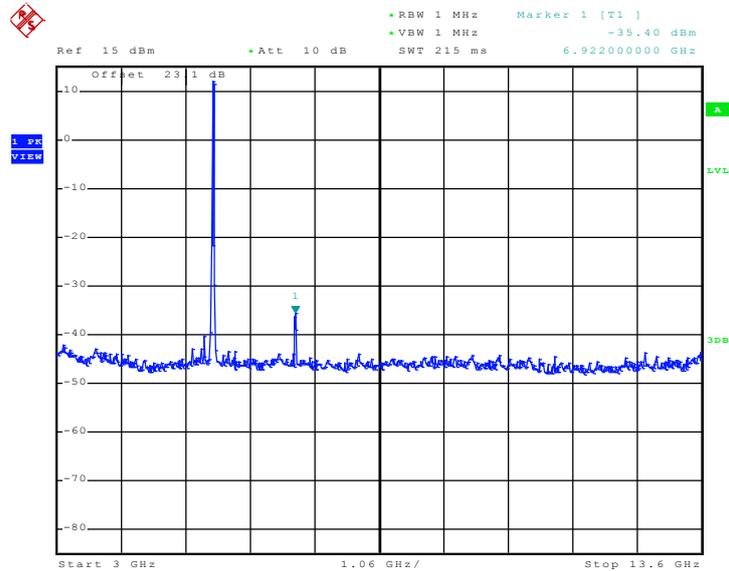


Mode 8 : Conducted Spurious Emission Plot between 802.11a 30 MHz ~ 3 GHz



Date: 10.FEB.2011 00:45:27

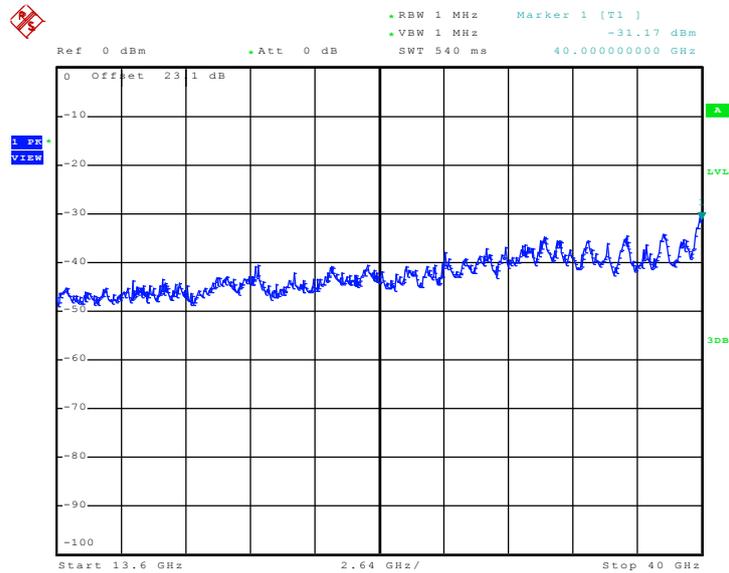
Mode 8 : Conducted Spurious Emission Plot between 802.11a 3 GHz ~ 13.6 GHz



Date: 10.FEB.2011 00:50:01

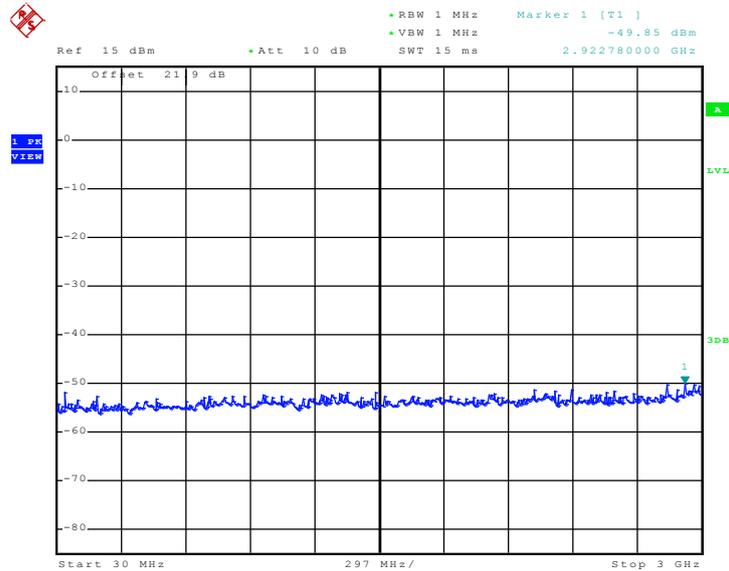


Mode 8 : Conducted Spurious Emission Plot between 802.11a 13.6 GHz ~ 40 GHz



Date: 10.FEB.2011 00:53:52

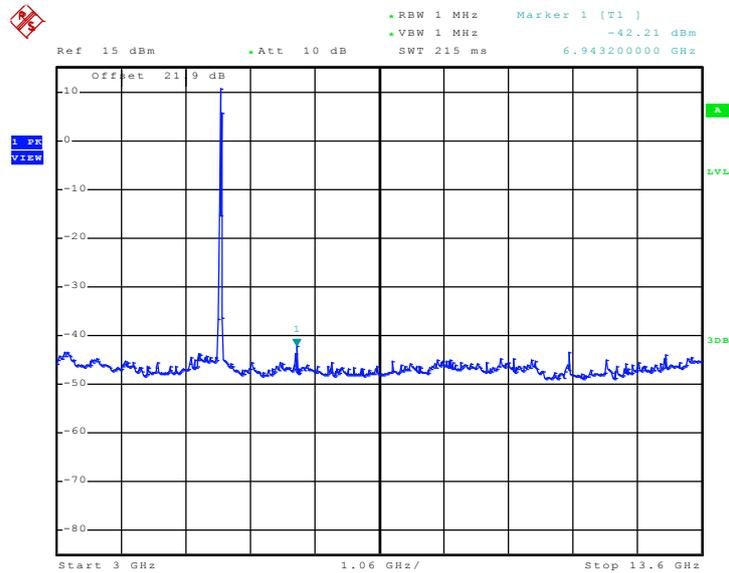
Mode 9 : Conducted Spurious Emission Plot between 802.11a 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:22:04

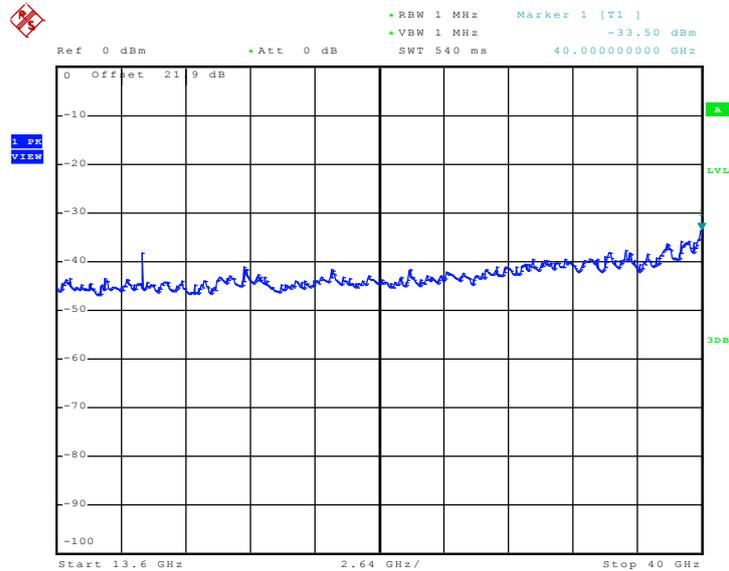


Mode 9 : Conducted Spurious Emission Plot between 802.11a 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:22:15

Mode 9 : Conducted Spurious Emission Plot between 802.11a 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:22:27



Test Mode :	Mode 10~18	Temperature :	25~27°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	54~57%
Test Channel :	36, 44, 48, 52, 60, 64, 100, 116, 140	Test Engineer :	Ken Hsu

<30 MHz ~ 3 GHz>

Channel	Frequency (MHz)	Frequency (MHz)	Level (dBm)	Antenna Gain (dBi)	EIRP Test Result (dBm)	Limit (dBm)
36	5180	2893.08	-50.26	3.5	-46.76	-27
44	5220	77.52	-33.08	3.5	-29.58	-27
48	5240	65.64	-49.93	3.5	-46.43	-27
52	5260	903.18	-46.01	3.5	-42.51	-27
60	5300	903.18	-40.75	3.5	-37.25	-27
64	5320	903.18	-42.49	3.5	-38.99	-27
100	5500	35.94	-46.45	3.5	-42.95	-27
116	5580	2221.86	-48.47	3.5	-44.97	-27
140	5700	903.18	-42.73	3.5	-39.23	-27

<3 GHz ~ 13.6 GHz>

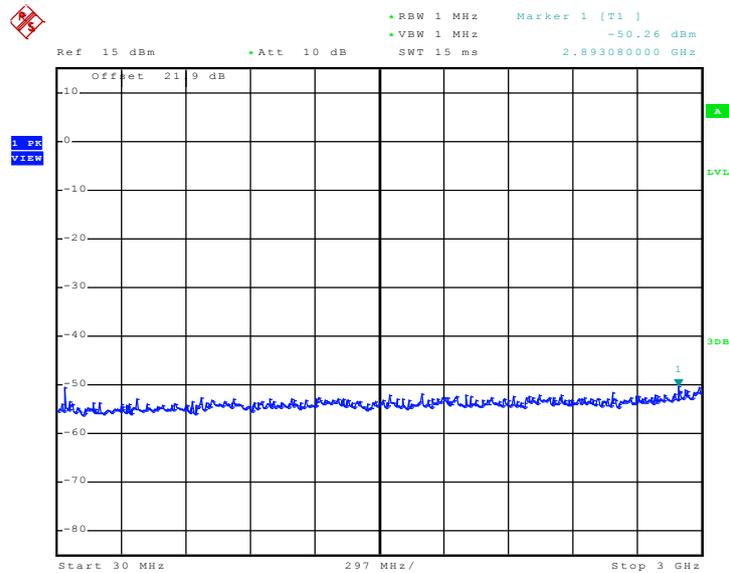
Channel	Frequency (MHz)	Frequency (MHz)	Level (dBm)	Antenna Gain (dBi)	EIRP Test Result (dBm)	Limit (dBm)
36	5180	6922.0	-36.99	3.5	-33.49	-27
44	5220	6900.8	-37.35	3.5	-33.85	-27
48	5240	6922.0	-33.94	3.5	-30.44	-27
52	5260	6922.0	-35.34	3.5	-31.84	-27
60	5300	6922.0	-36.26	3.5	-32.76	-27
64	5320	6922.0	-39.15	3.5	-35.65	-27
100	5500	6922.0	-35.55	3.5	-32.05	-27
116	5580	6922.0	-34.93	3.5	-31.43	-27
140	5700	5544.0	-39.98	3.5	-36.48	-27



<13.6 GHz ~ 40 GHz>

Channel	Frequency (MHz)	Frequency (MHz)	Level (dBm)	Antenna Gain (dBi)	EIRP Test Result (dBm)	Limit (dBm)
36	5180	40000.0	-33.40	3.5	-29.90	-27
44	5220	39894.4	-33.57	3.5	-30.07	-27
48	5240	40000.0	-33.11	3.5	-29.61	-27
52	5260	40000.0	-33.33	3.5	-29.83	-27
60	5300	40000.0	-33.11	3.5	-29.61	-27
64	5320	40000.0	-33.78	3.5	-30.28	-27
100	5500	40000.0	-33.51	3.5	-30.01	-27
116	5580	40000.0	-30.90	3.5	-27.40	-27
140	5700	40000.0	-33.98	3.5	-30.48	-27

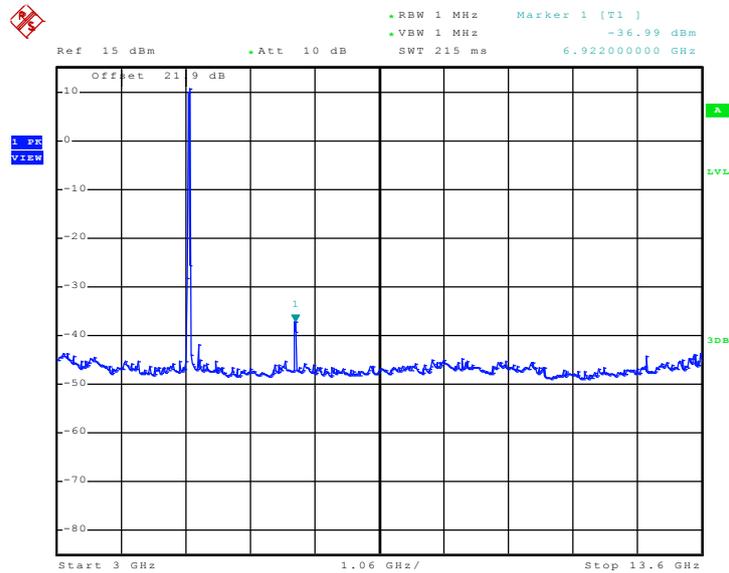
Mode 10 : Conducted Spurious Emission Plot between 802.11n 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:28:36

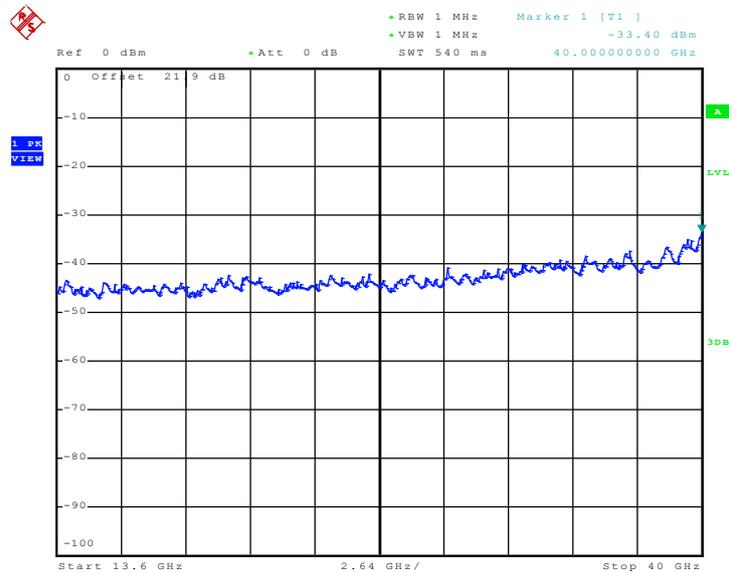


Mode 10 : Conducted Spurious Emission Plot between 802.11n 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:28:48

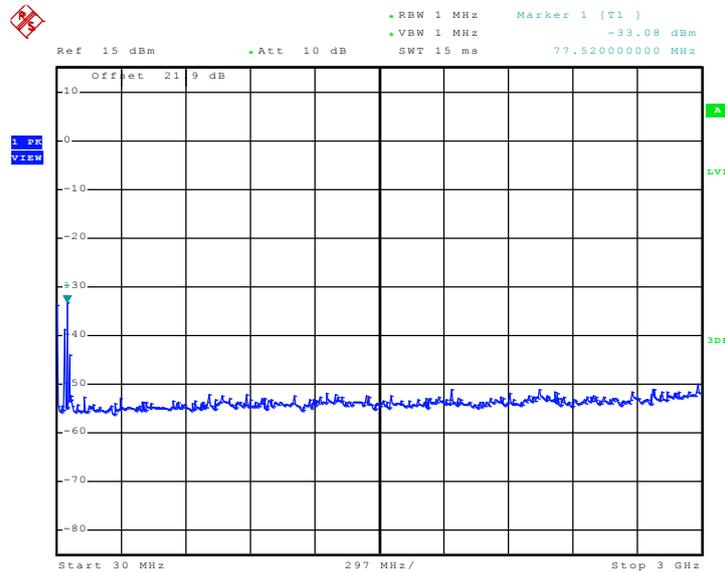
Mode 10 : Conducted Spurious Emission Plot between 802.11n 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:29:00

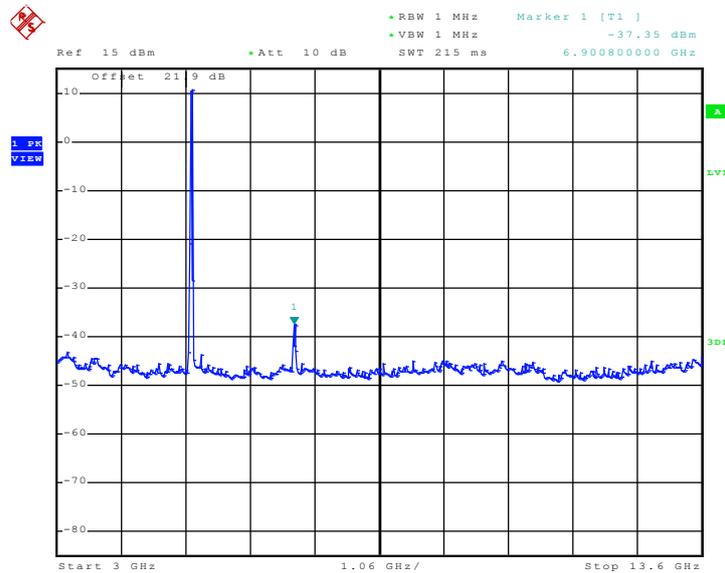


Mode 11 : Conducted Spurious Emission Plot between 802.11n 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:29:48

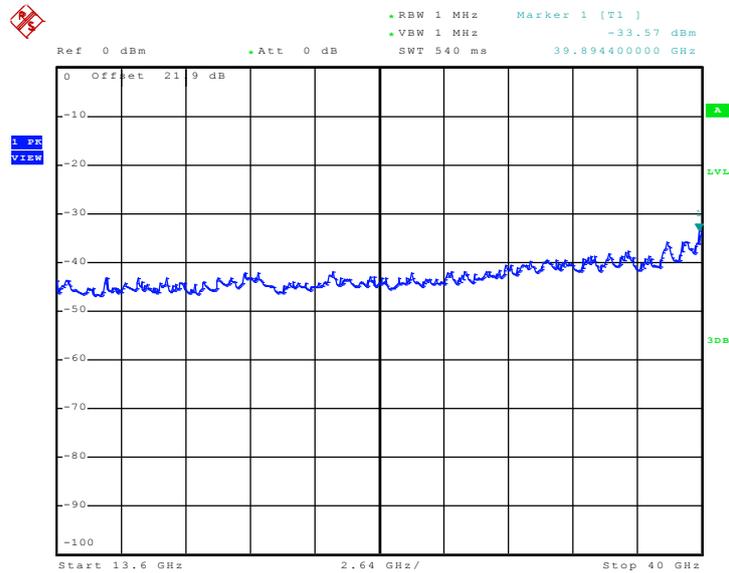
Mode 11 : Conducted Spurious Emission Plot between 802.11n 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:30:00

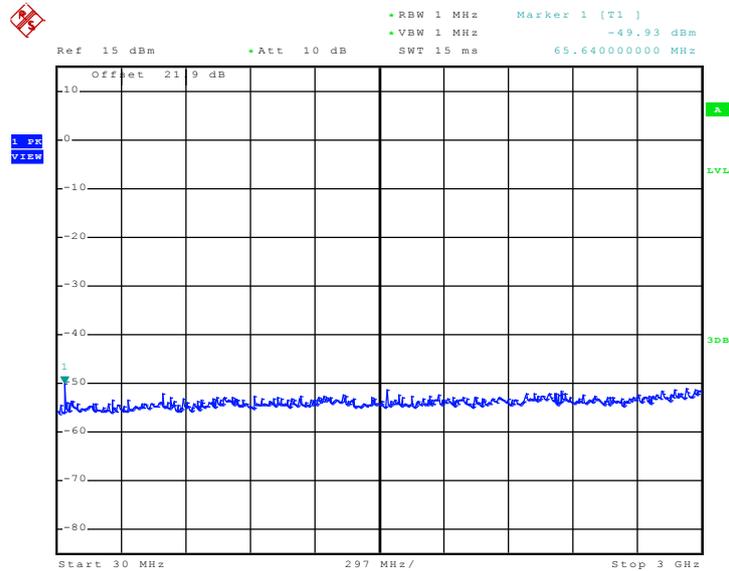


Mode 11 : Conducted Spurious Emission Plot between 802.11n 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:30:12

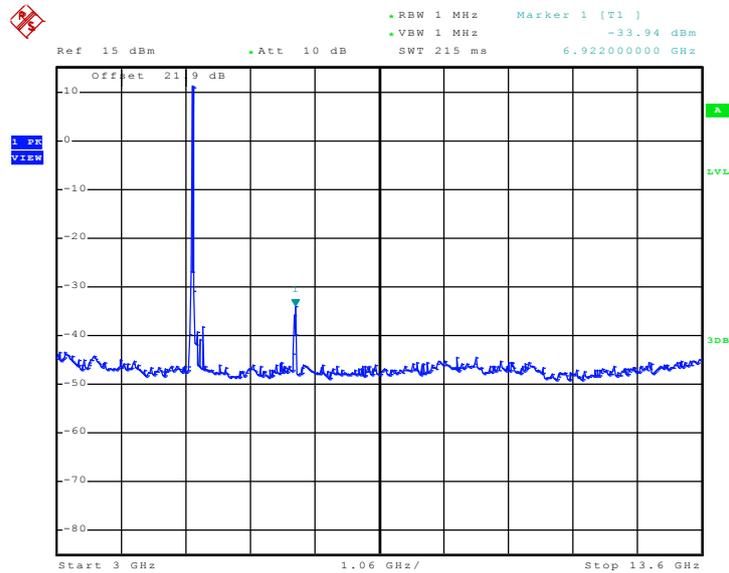
Mode 12 : Conducted Spurious Emission Plot between 802.11n 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:30:41

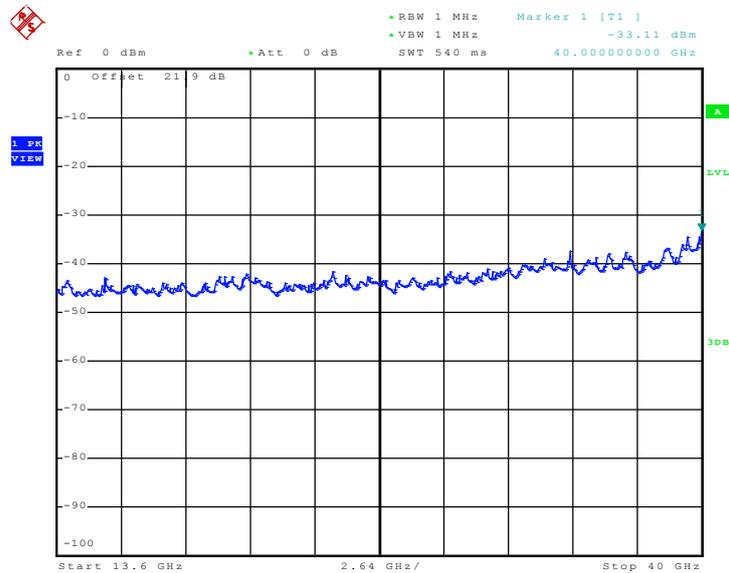


Mode 12 : Conducted Spurious Emission Plot between 802.11n 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:30:53

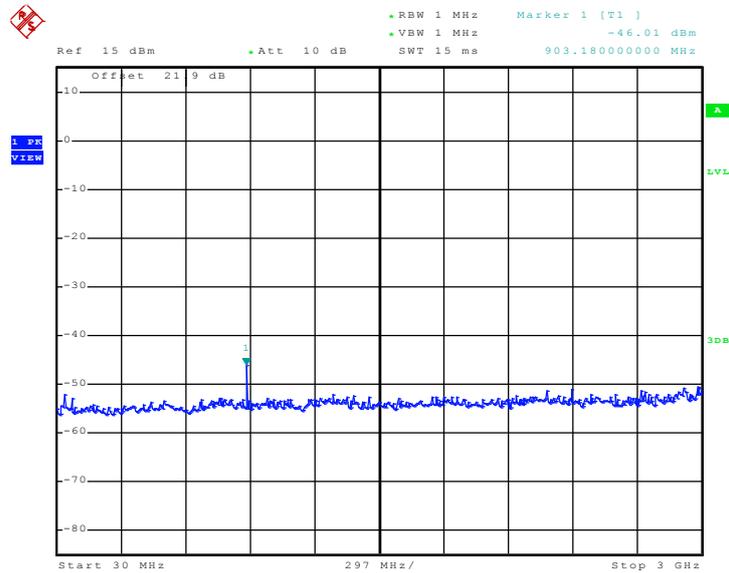
Mode 12 : Conducted Spurious Emission Plot between 802.11n 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:31:05

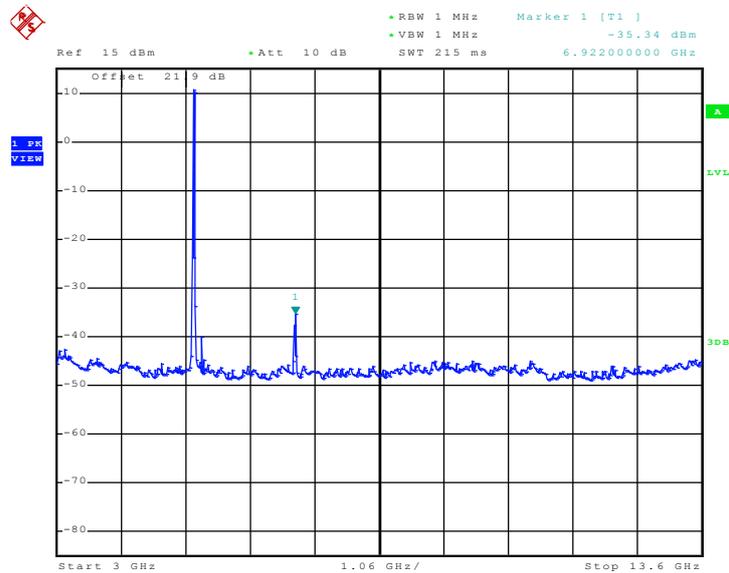


Mode 13 : Conducted Spurious Emission Plot between 802.11n 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:38:47

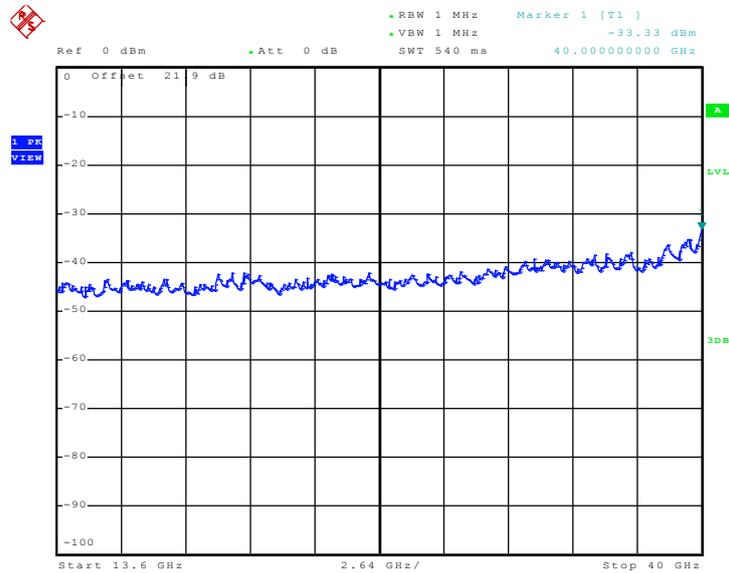
Mode 13 : Conducted Spurious Emission Plot between 802.11n 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:38:59

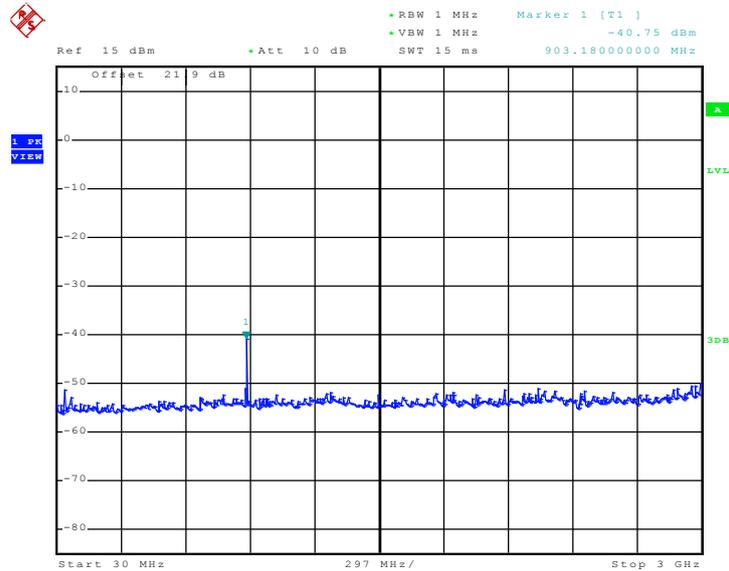


Mode 13 : Conducted Spurious Emission Plot between 802.11n 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:39:11

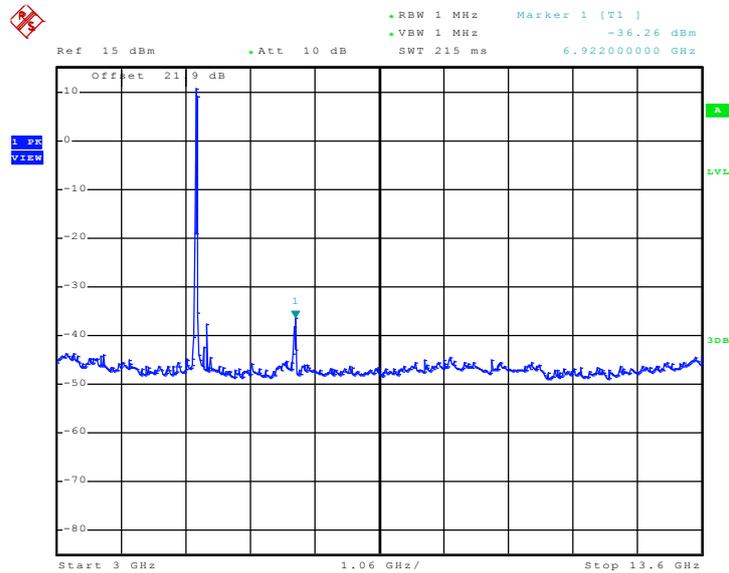
Mode 14 : Conducted Spurious Emission Plot between 802.11n 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:40:16

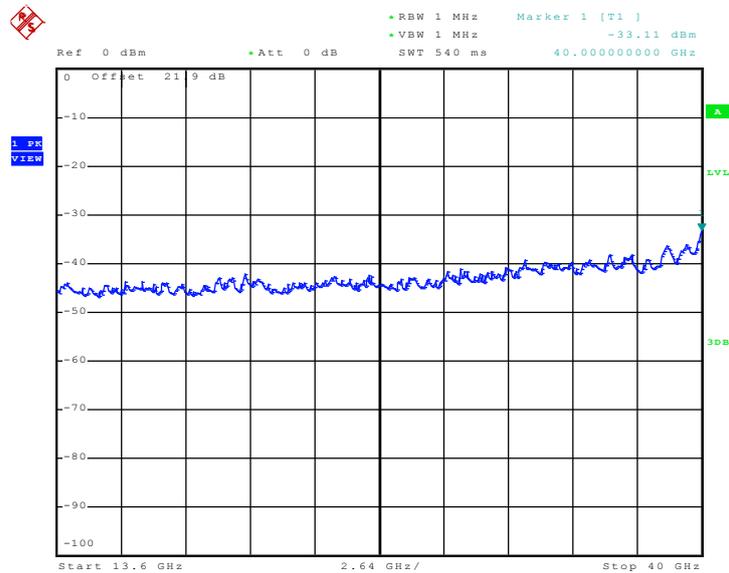


Mode 14 : Conducted Spurious Emission Plot between 802.11n 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:40:28

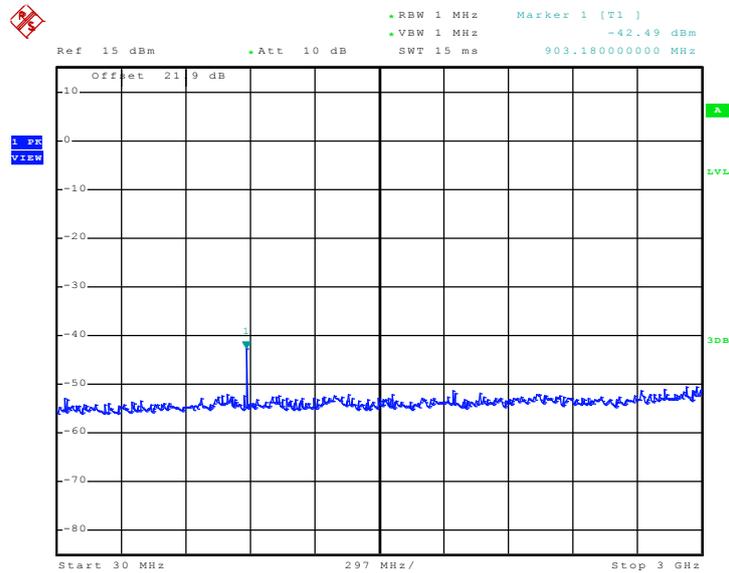
Mode 14 : Conducted Spurious Emission Plot between 802.11n 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:40:40

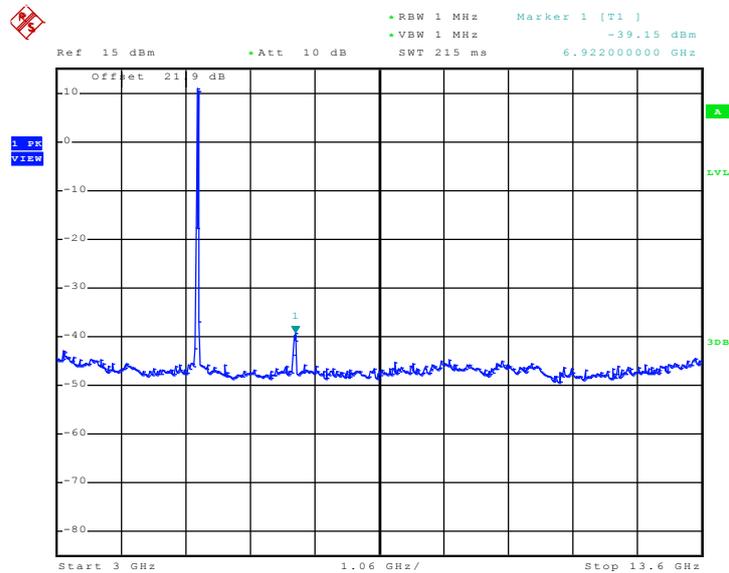


Mode 15 : Conducted Spurious Emission Plot between 802.11n 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:41:03

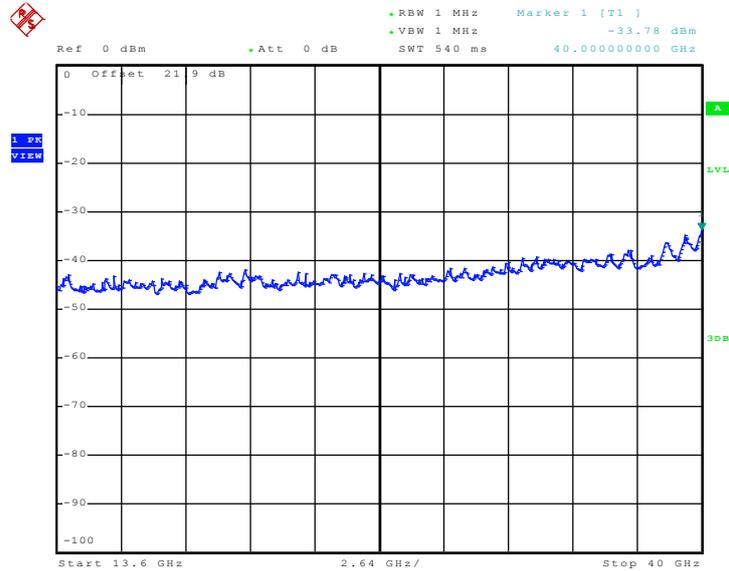
Mode 15 : Conducted Spurious Emission Plot between 802.11n 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:41:15

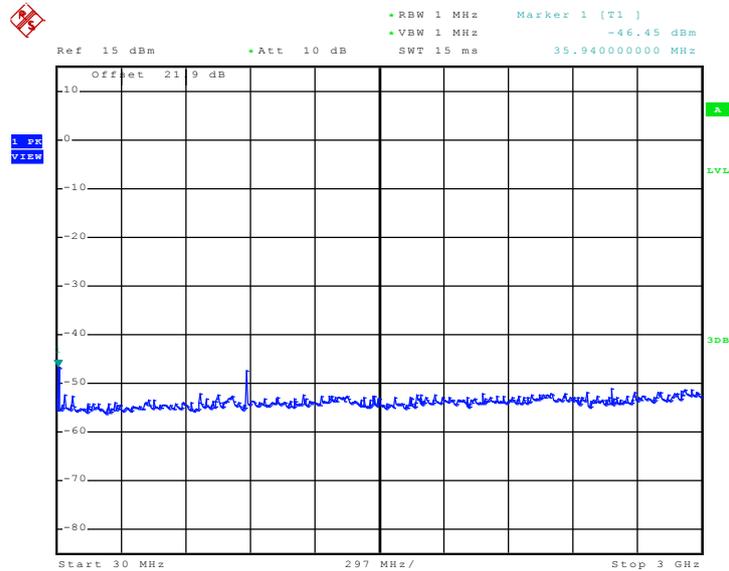


Mode 15 : Conducted Spurious Emission Plot between 802.11n 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:41:27

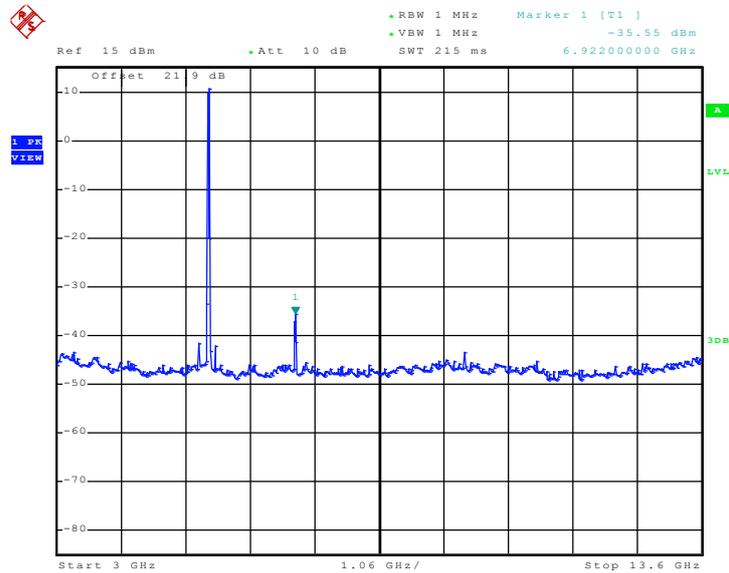
Mode 16 : Conducted Spurious Emission Plot between 802.11n 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:48:14

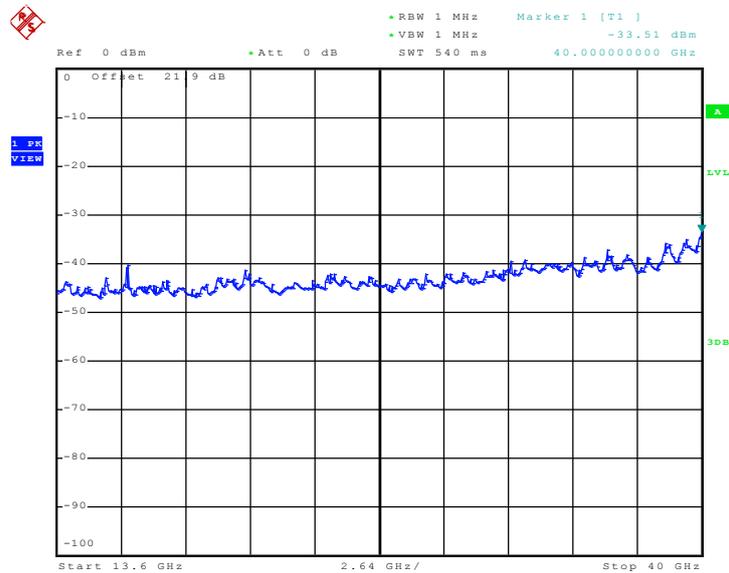


Mode 16 : Conducted Spurious Emission Plot between 802.11n 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:48:26

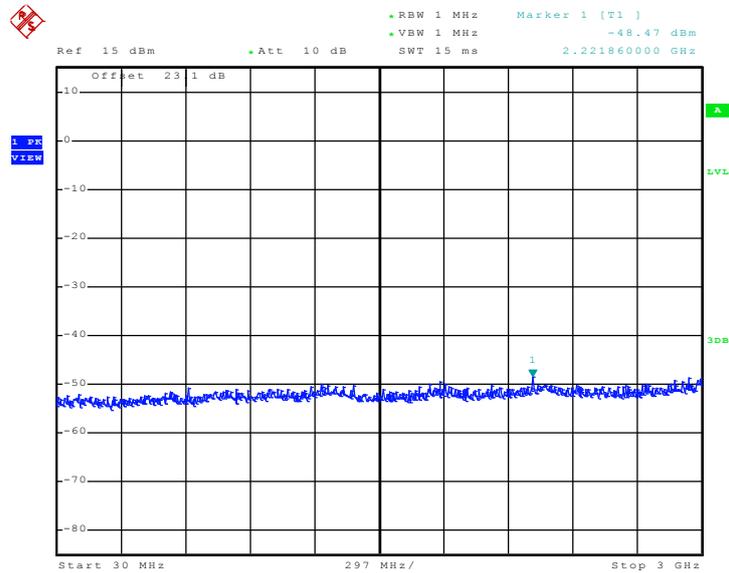
Mode 16 : Conducted Spurious Emission Plot between 802.11n 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:48:38

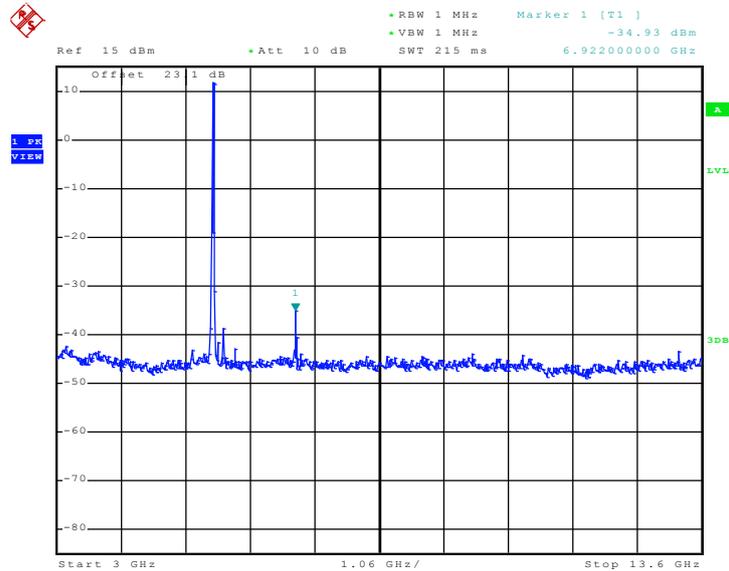


Mode 17 : Conducted Spurious Emission Plot between 802.11n 30 MHz ~ 3 GHz



Date: 10.FEB.2011 01:04:45

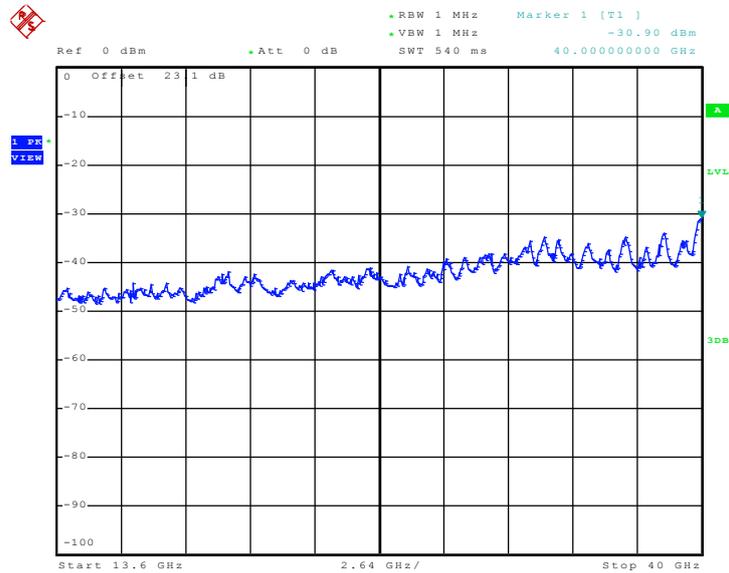
Mode 17 : Conducted Spurious Emission Plot between 802.11n 3 GHz ~ 13.6 GHz



Date: 10.FEB.2011 01:03:34

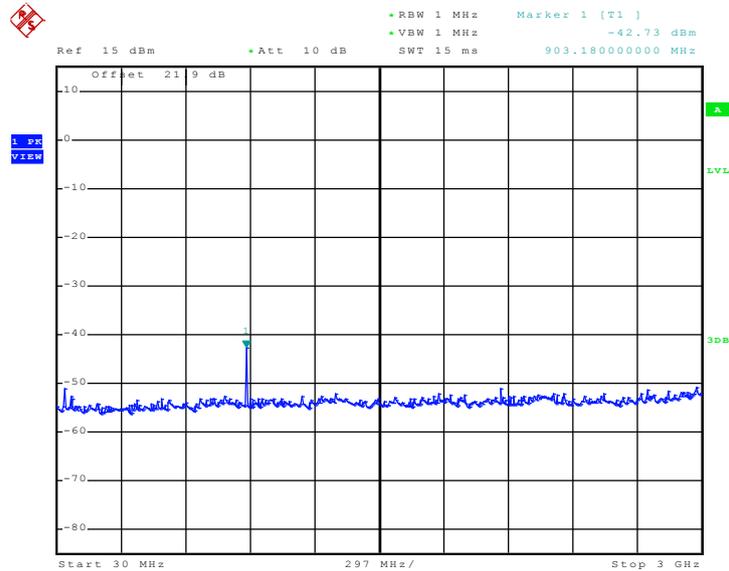


Mode 17 : Conducted Spurious Emission Plot between 802.11n 13.6 GHz ~ 40 GHz



Date: 10.FEB.2011 01:02:04

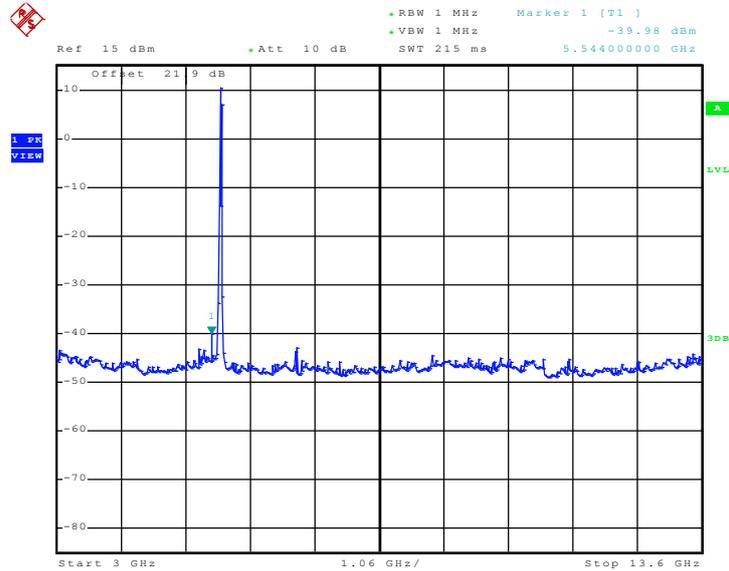
Mode 18 : Conducted Spurious Emission Plot between 802.11n 30 MHz ~ 3 GHz



Date: 10.DEC.2010 17:43:21

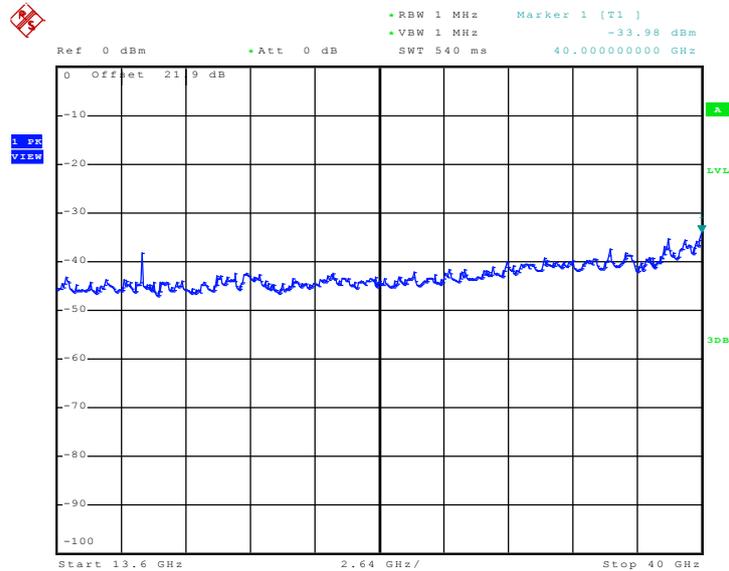


Mode 18 : Conducted Spurious Emission Plot between 802.11n 3 GHz ~ 13.6 GHz



Date: 10.DEC.2010 17:43:33

Mode 18 : Conducted Spurious Emission Plot between 802.11n 13.6 GHz ~ 40 GHz



Date: 10.DEC.2010 17:43:45

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

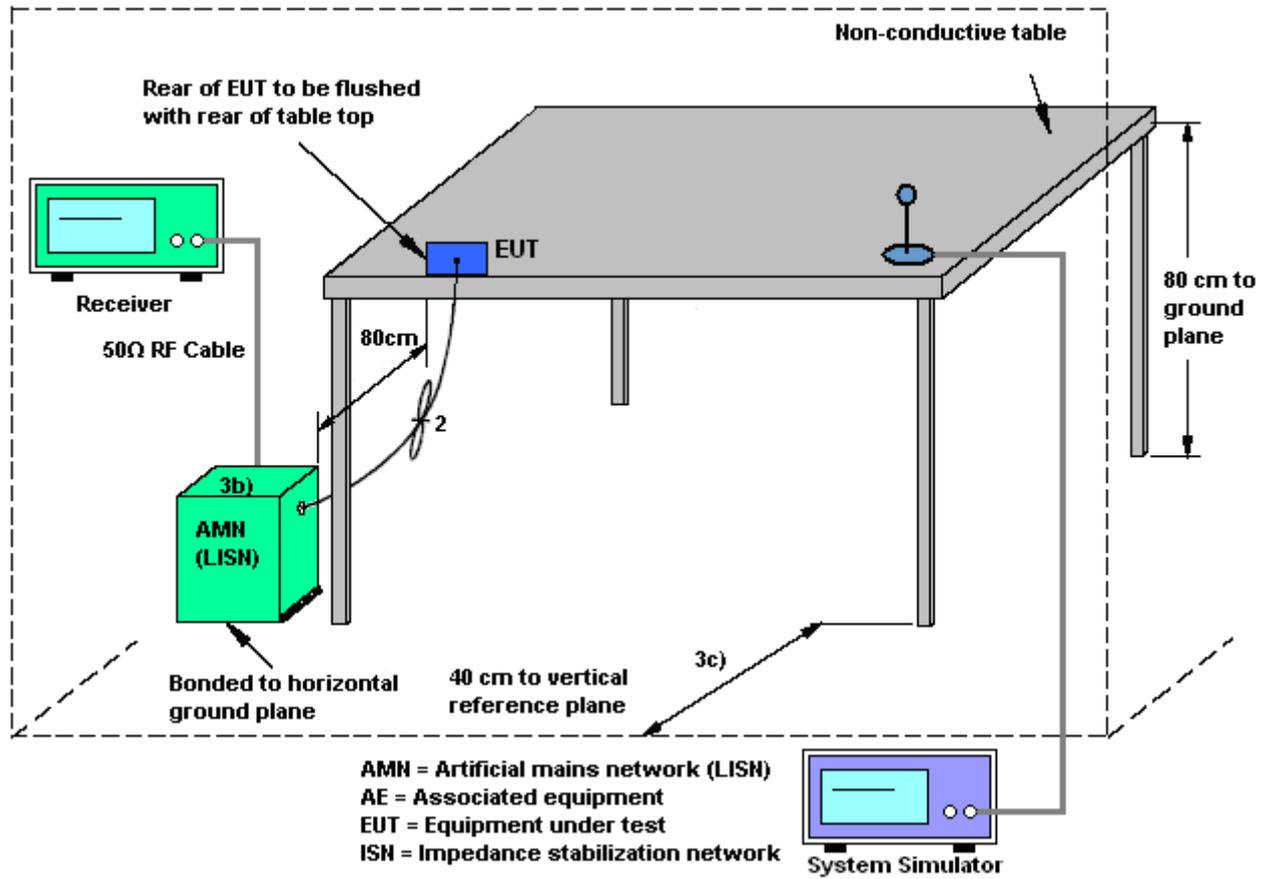
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

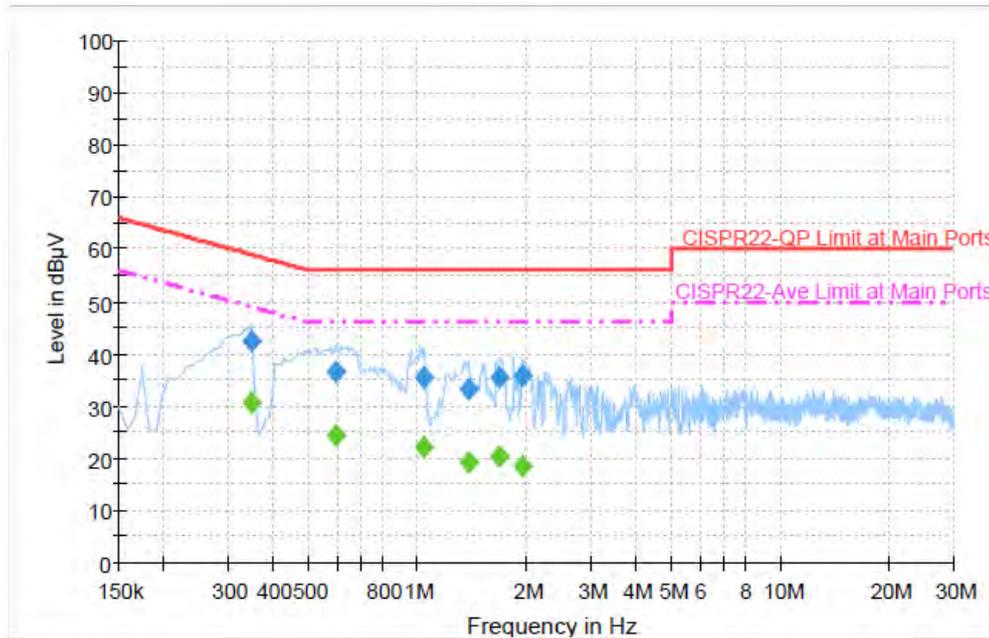
1. Please follow the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 kHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~23°C
Test Engineer :	Cona Huang	Relative Humidity :	43~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Idle + Bluetooth Link + WLAN (5G) Link + GPS Rx + Scanner + Cradle + Adapter + RS232 Terminal + USB Cable (Link with Notebook)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



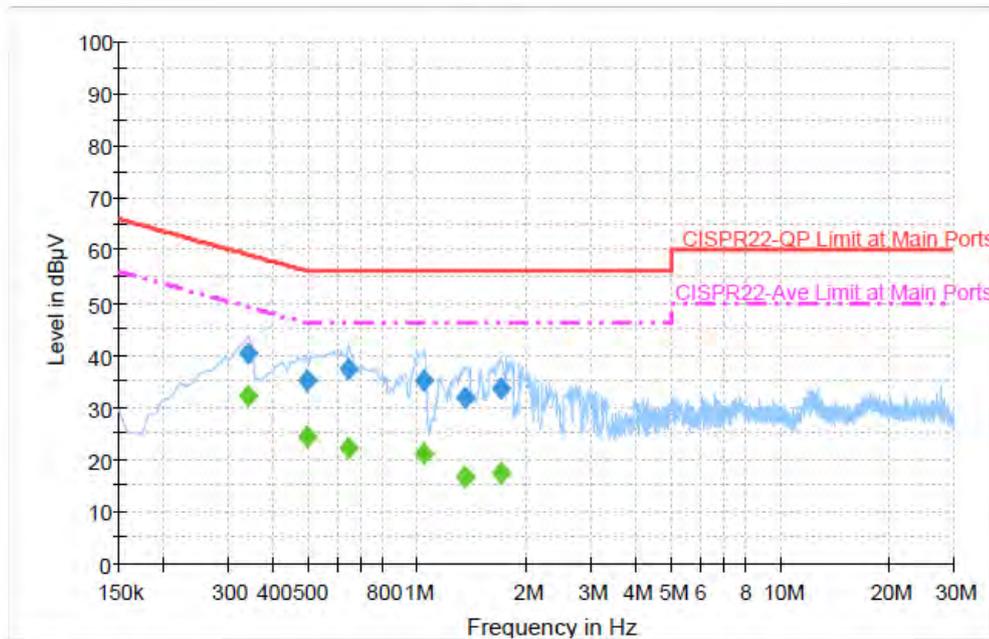
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.350000	42.6	Off	L1	19.3	16.4	59.0
0.598000	36.4	Off	L1	19.4	19.6	56.0
1.046000	35.3	Off	L1	19.4	20.7	56.0
1.382000	33.2	Off	L1	19.4	22.8	56.0
1.686000	35.4	Off	L1	19.4	20.6	56.0
1.950000	35.8	Off	L1	19.4	20.2	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.350000	30.6	Off	L1	19.3	18.4	49.0
0.598000	24.4	Off	L1	19.4	21.6	46.0
1.046000	22.0	Off	L1	19.4	24.0	46.0
1.382000	19.2	Off	L1	19.4	26.8	46.0
1.686000	20.2	Off	L1	19.4	25.8	46.0
1.950000	18.6	Off	L1	19.4	27.4	46.0

Test Mode :	Mode 1	Temperature :	20~23°C
Test Engineer :	Cona Huang	Relative Humidity :	43~48%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + Bluetooth Link + WLAN (5G) Link + GPS Rx + Scanner + Cradle + Adapter + RS232 Terminal + USB Cable (Link with Notebook)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.342000	40.1	Off	N	19.3	19.1	59.2
0.494000	34.9	Off	N	19.3	21.2	56.1
0.646000	37.2	Off	N	19.3	18.8	56.0
1.046000	35.1	Off	N	19.4	20.9	56.0
1.350000	31.8	Off	N	19.5	24.2	56.0
1.694000	33.4	Off	N	19.5	22.6	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.342000	32.0	Off	N	19.3	17.2	49.2
0.494000	24.3	Off	N	19.3	21.8	46.1
0.646000	22.0	Off	N	19.3	24.0	46.0
1.046000	21.1	Off	N	19.4	24.9	46.0
1.350000	16.4	Off	N	19.5	29.6	46.0
1.694000	17.3	Off	N	19.5	28.7	46.0



3.7 Radiated Emission Measurement

3.7.1 Limit of Radiated Emission

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15–5.25 GHz band.
- (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- (4) The provisions of Section 15.205 Restricted bands of operation of this part apply to intentional radiators operating under this section.

3.7.2 Measuring Instruments

See list of measuring instruments of this test report.