

3.4 Peak Excursion Ratio Measurement

3.4.1 Limit of Peak Excursion Ratio

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

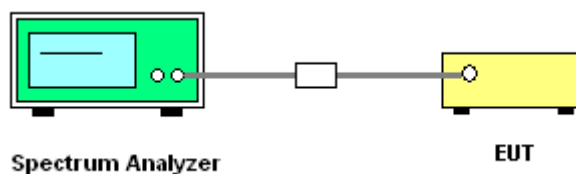
3.4.3 Test Procedures

The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r03.

Section G) Peak excursion measurement

1. The transmitter output is connected to the spectrum analyzer.
2. Set the spectrum analyzer span to view the entire emission bandwidth.
3. Find the maximum of the peak-max-hold spectrum.
 - *Set RBW = 1MHz.
 - *Set VBW $\geq$ 3MHz.
 - *Detector = peak.
 - *Trace mode = max-hold.
 - *Allow the sweeps to continue until the trace stabilizes.
 - *Use the peak search function to find the peak of the spectrum.
4. Use the procedure found under section 3.3 to measure the PPSD.
5. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

3.4.4 Test Setup

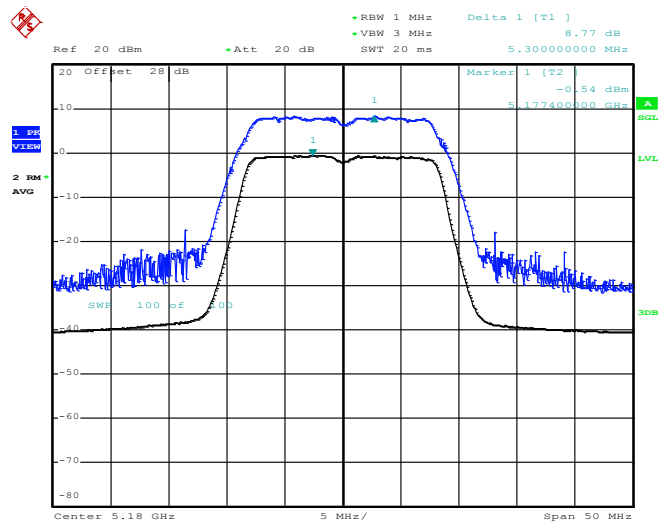




3.4.5 Test Result of Peak Excursion Ratio

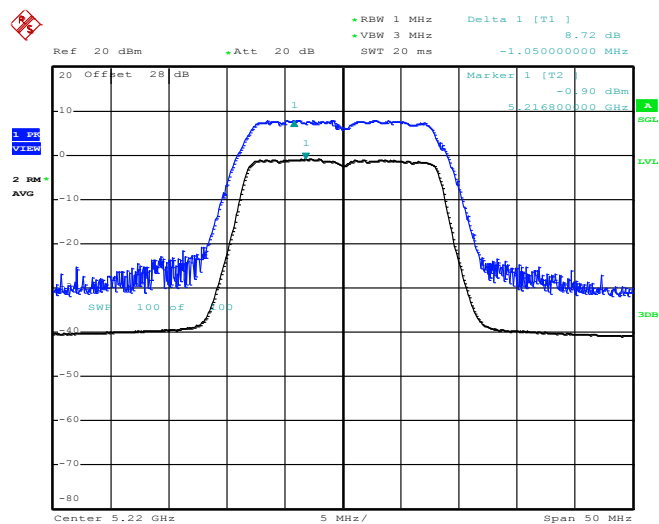
Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11a Channel 36



Date: 11.APR.2013 22:44:47

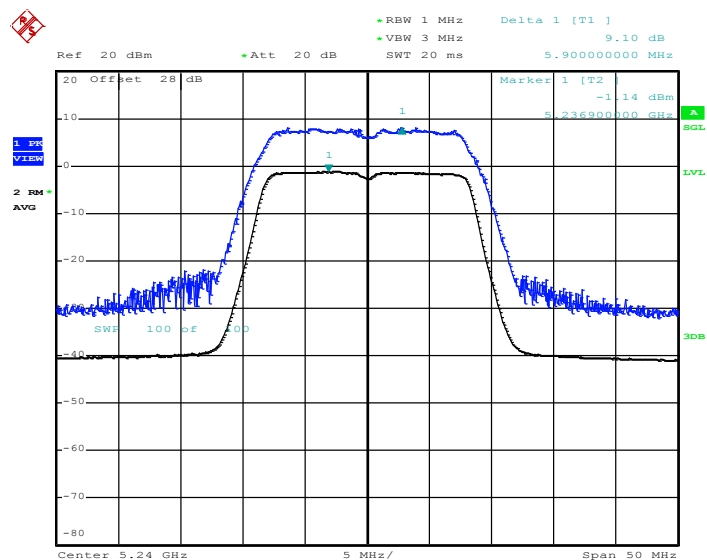
Peak Excursion Ratio Plot on 802.11a Channel 44



Date: 11.APR.2013 22:48:02

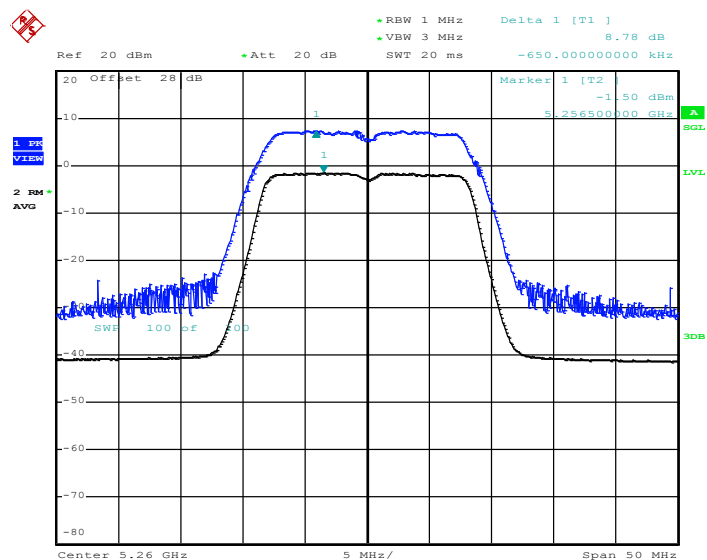


Peak Excursion Ratio Plot on 802.11a Channel 48



Date: 11.APR.2013 22:51:56

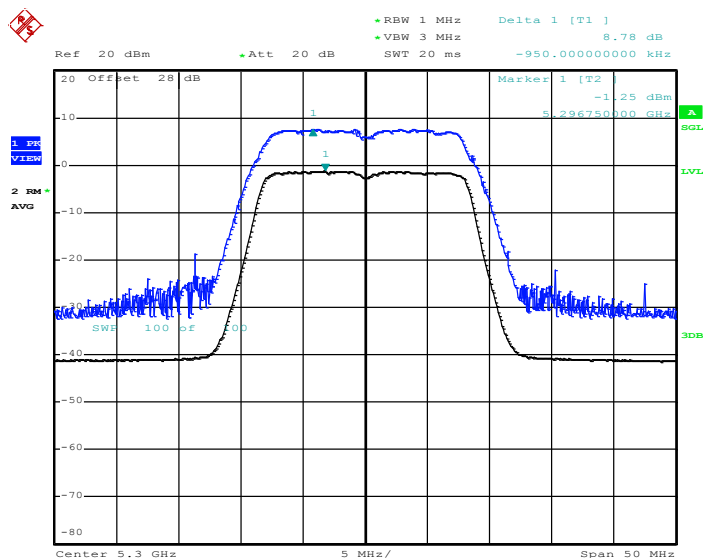
Peak Excursion Ratio Plot on 802.11a Channel 52



Date: 19.APR.2013 19:18:31

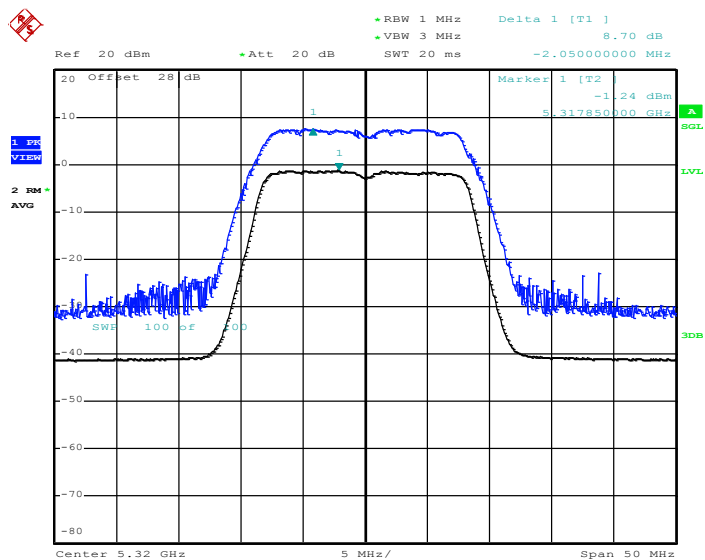


Peak Excursion Ratio Plot on 802.11a Channel 60



Date: 19.APR.2013 19:31:43

Peak Excursion Ratio Plot on 802.11a Channel 64



Date: 19.APR.2013 19:35:50



Ref 20 dBm Att 20 dB VBW 3 MHz Delta 1 [T1] 8.69 dB
 SWT 20 ms 6.05000000 MHz

1 Freq View 2 RM AVG

1 10.775000 GHz 0.76 dBm
 1 10.775000 GHz

SWF 100 100

Center 5.5 GHz 5 MHz/ Span 50 MHz

Date: 11.APR.2013 23:08:26

Ref 20 dBm Att 20 dB VBW 3 MHz SWT 20 ms Delta 1 [T1] 8.71 dB 150.00000000 kHz

10 Offset 28.2 dB

1 RBW 1 MHz Delta 1 [T1] 8.71 dB VBW 3 MHz SWT 20 ms 150.00000000 kHz

2 RM AVG

Marker 1 [T2] 0.33 dBm 5.582550000 GHz

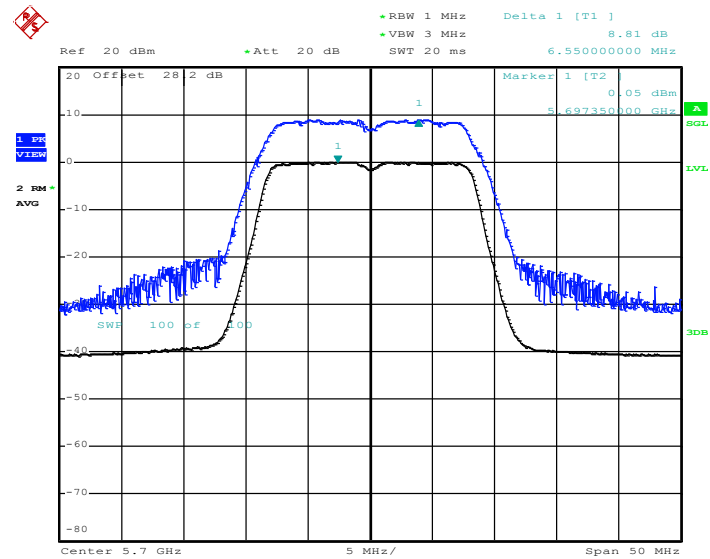
Center 5.58 GHz 5 MHz/ Span 50 MHz

A SGL LVL 3DB

Date: 11.APR.2013 23:12:19



Peak Excursion Ratio Plot on 802.11a Channel 140

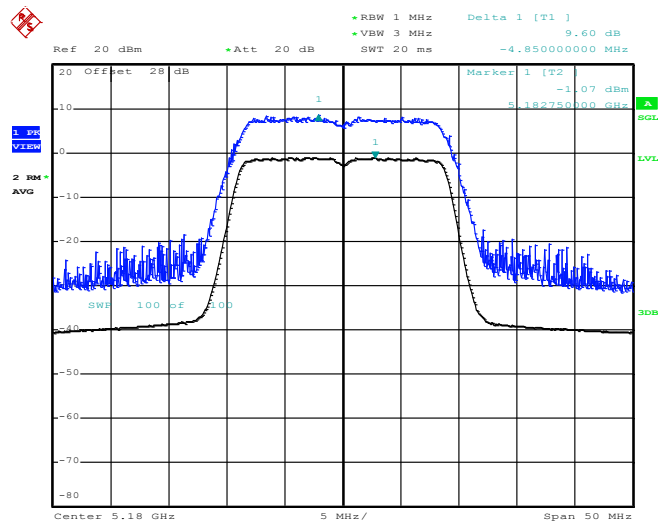


Date: 11.APR.2013 23:15:12



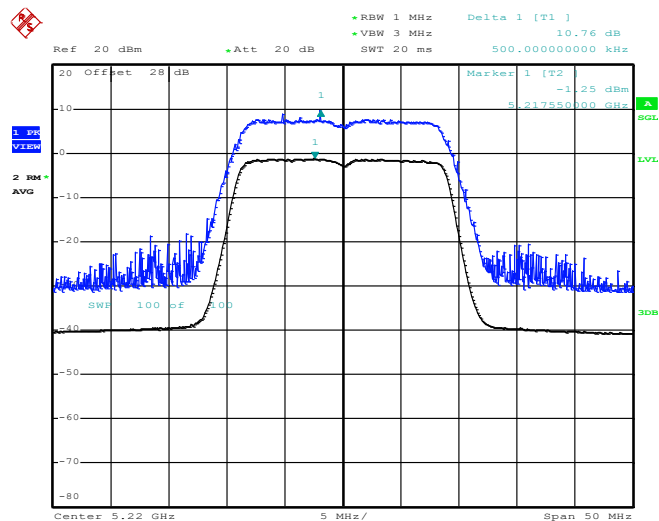
Test Mode :	802.11n HT20 MCS0	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT20 Channel 36

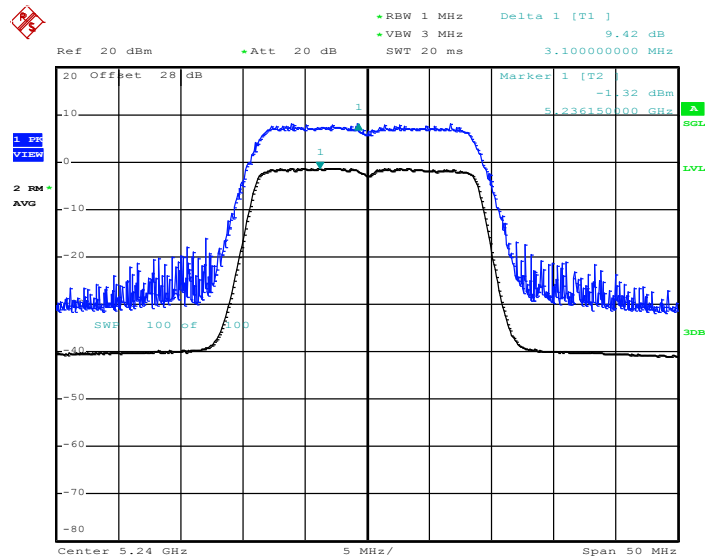


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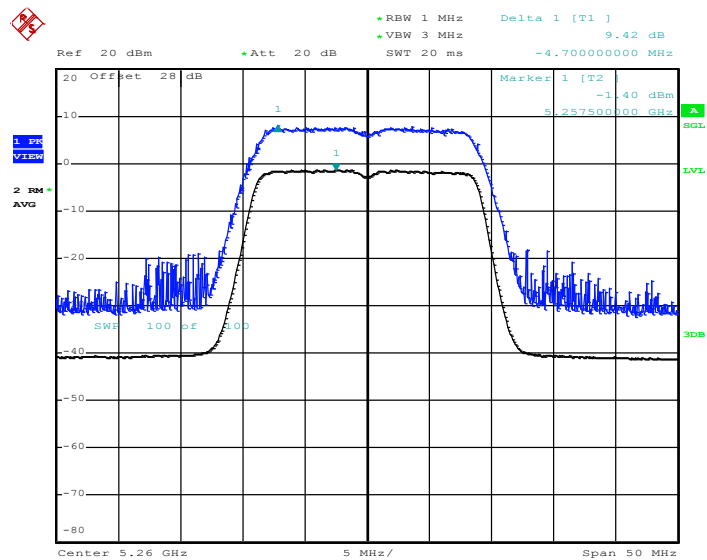
Peak Excursion Ratio Plot on 802.11n HT20 Channel 44



Date: 12.APR.2013 00:18:09

Peak Excursion Ratio Plot on 802.11n HT20 Channel 48


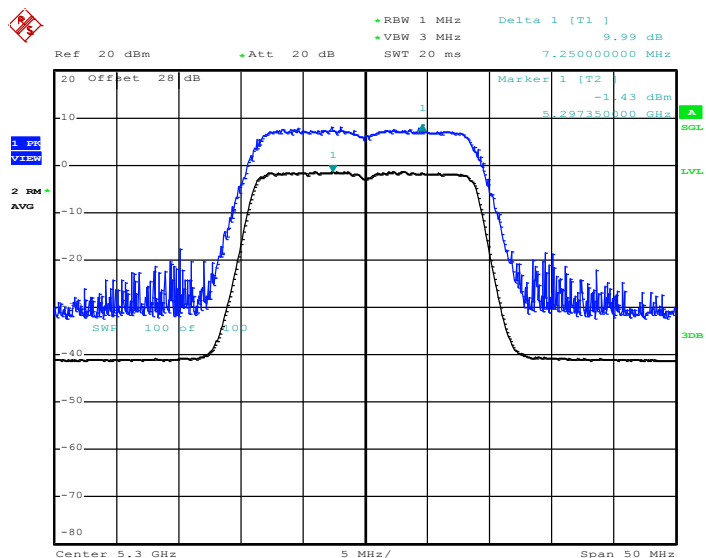
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Peak Excursion Ratio Plot on 802.11n HT20 Channel 52


Date: 19.APR.2013 19:55:33

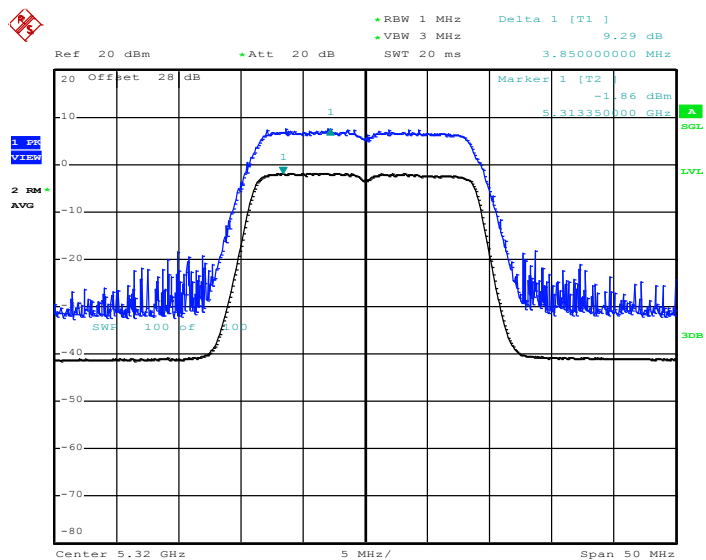


Peak Excursion Ratio Plot on 802.11n HT20 Channel 60



Date: 19.APR.2013 19:46:19

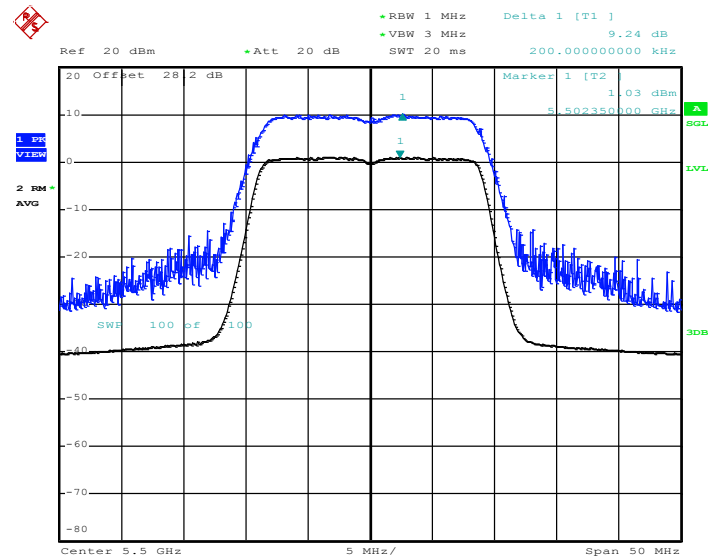
Peak Excursion Ratio Plot on 802.11n HT20 Channel 64



Date: 19.APR.2013 19:39:32

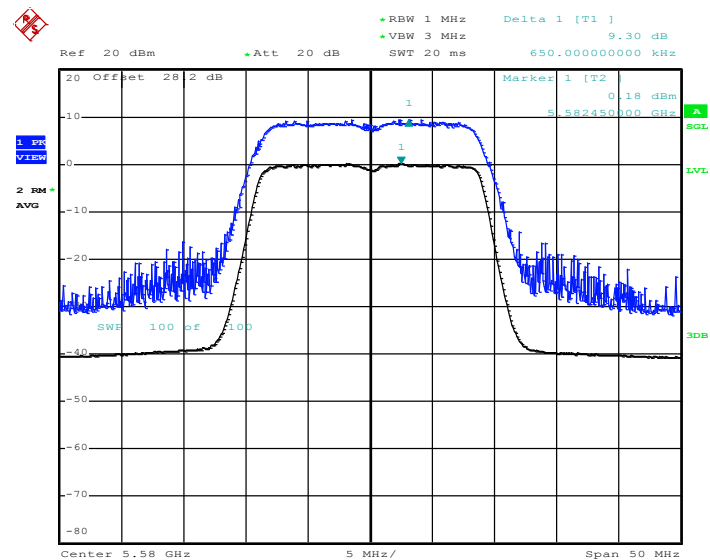


Peak Excursion Ratio Plot on 802.11n HT20 Channel 100



Date: 12.APR.2013 20:21:39

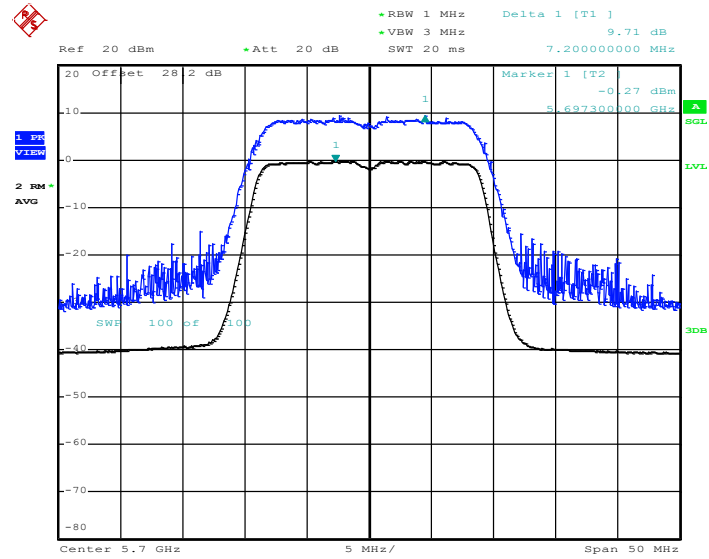
Peak Excursion Ratio Plot on 802.11n HT20 Channel 116



Date: 11.APR.2013 23:47:47



Peak Excursion Ratio Plot on 802.11n HT20 Channel 140

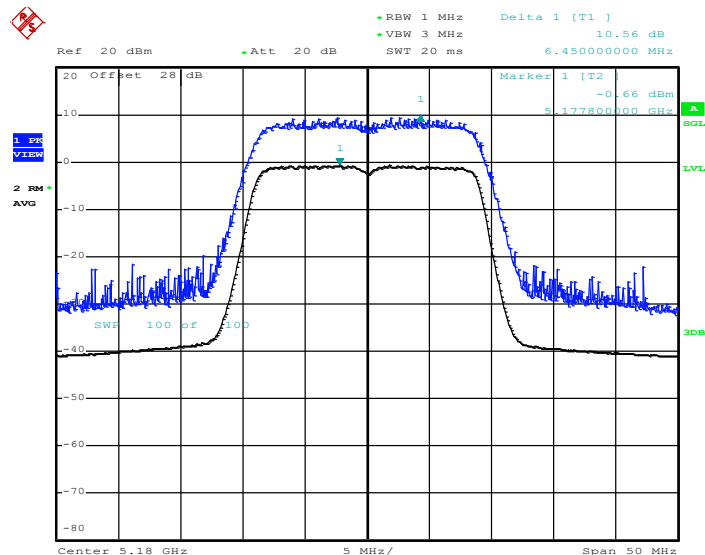


Date: 11.APR.2013 23:27:37



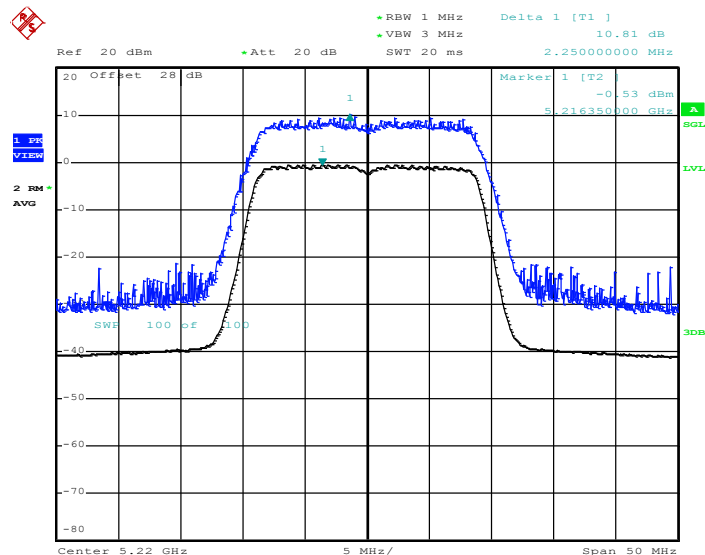
Test Mode :	802.11n HT20 MCS1	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT20 Channel 36



Date: 19.APR.2013 20:00:54

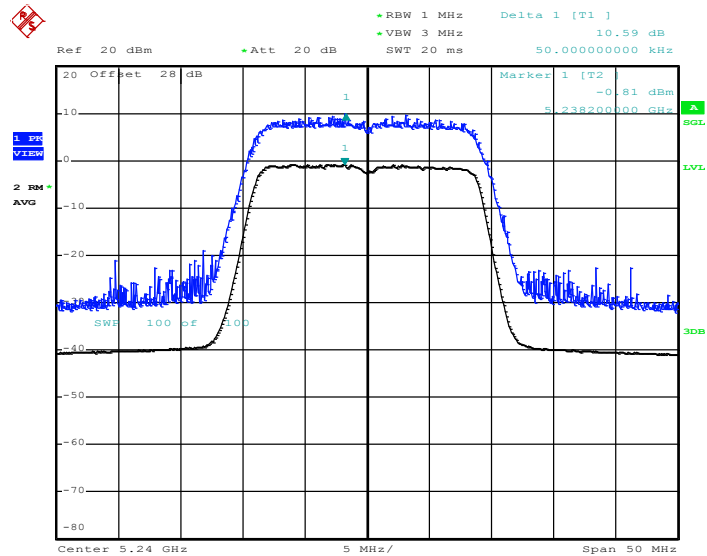
Peak Excursion Ratio Plot on 802.11n HT20 Channel 44



Date: 19.APR.2013 20:04:42

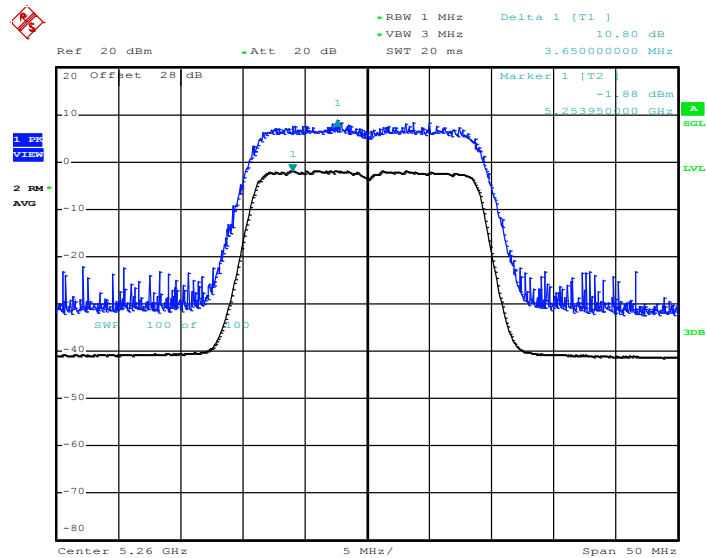


Peak Excursion Ratio Plot on 802.11n HT20 Channel 48



Date: 29.APR.2013 19:48:28

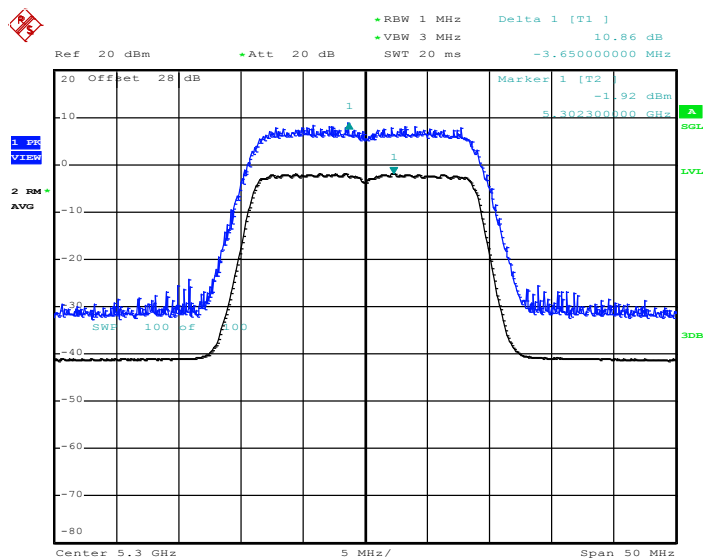
Peak Excursion Ratio Plot on 802.11n HT20 Channel 52



Date: 19.APR.2013 19:58:09

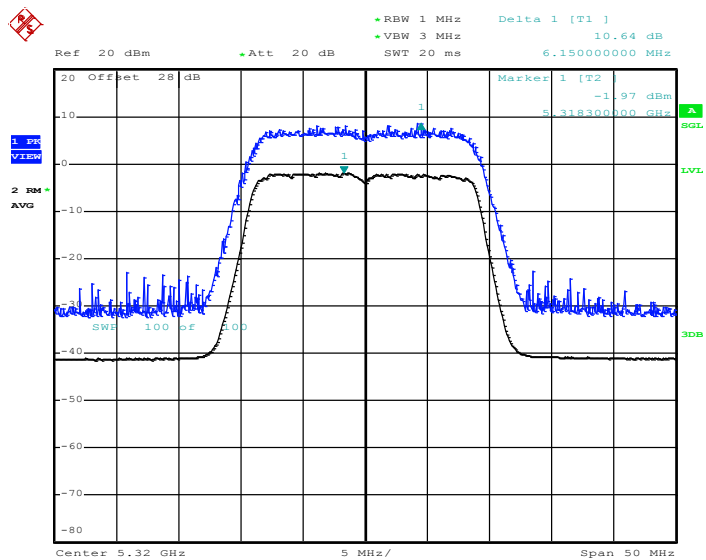


Peak Excursion Ratio Plot on 802.11n HT20 Channel 60

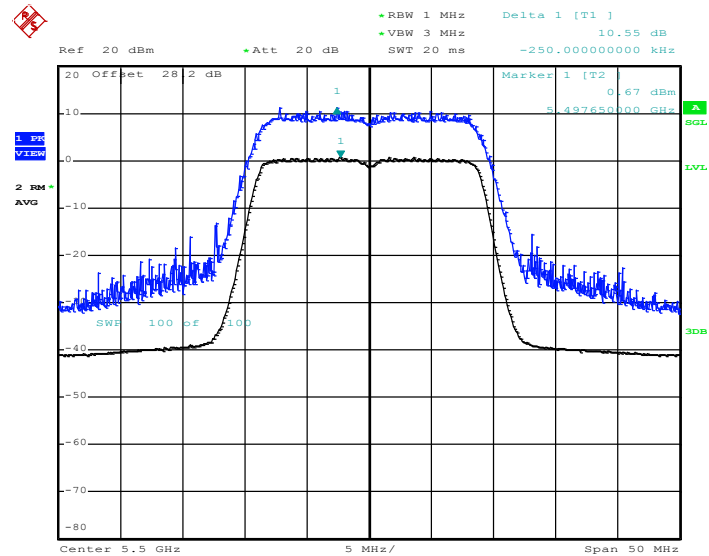


Date: 19.APR.2013 19:48:31

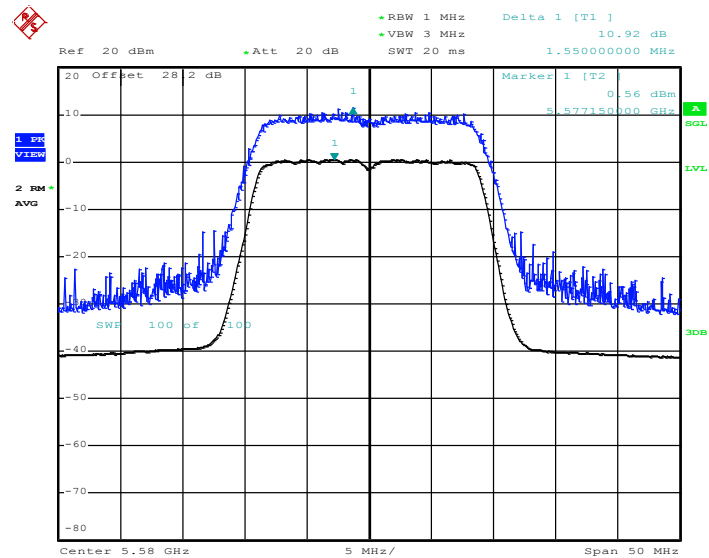
Peak Excursion Ratio Plot on 802.11n HT20 Channel 64



Date: 19.APR.2013 19:42:40

Peak Excursion Ratio Plot on 802.11n HT20 Channel 100


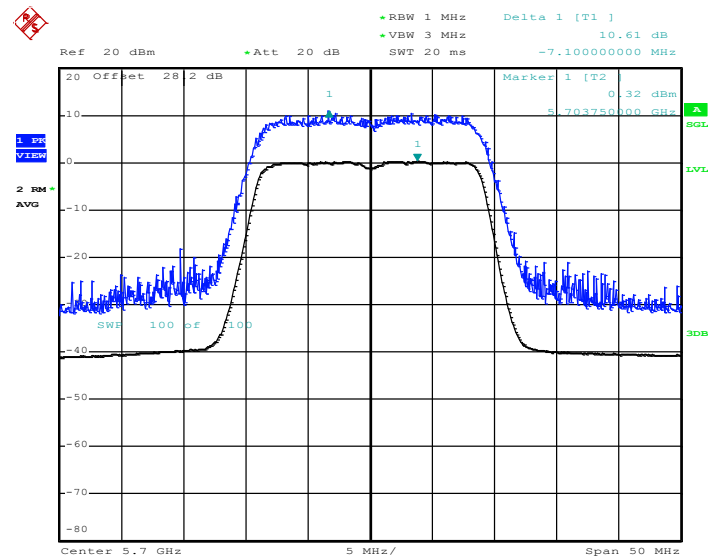
Date: 19.APR.2013 20:06:32

Peak Excursion Ratio Plot on 802.11n HT20 Channel 116


Date: 19.APR.2013 20:45:02



Peak Excursion Ratio Plot on 802.11n HT20 Channel 140

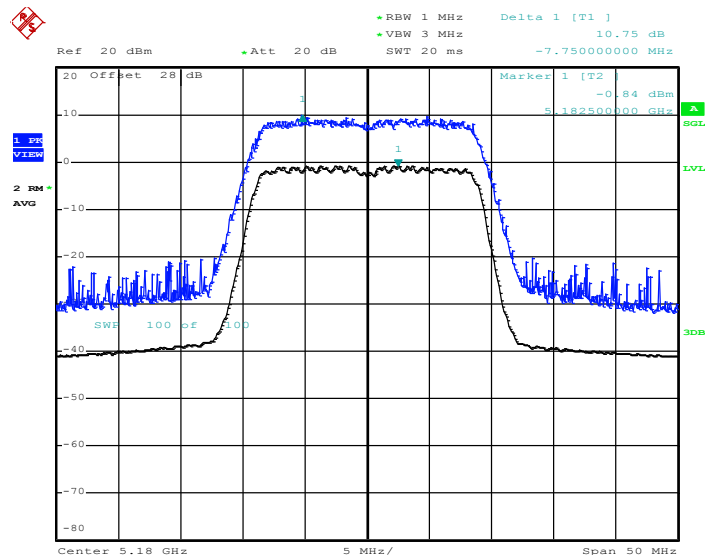


Date: 19.APR.2013 20:46:23



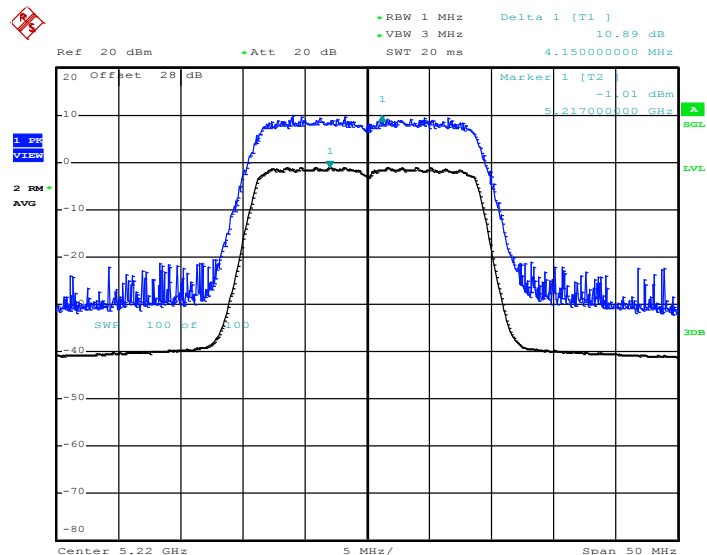
Test Mode :	802.11n HT20 MCS3	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT20 Channel 36



Date: 19.APR.2013 20:01:33

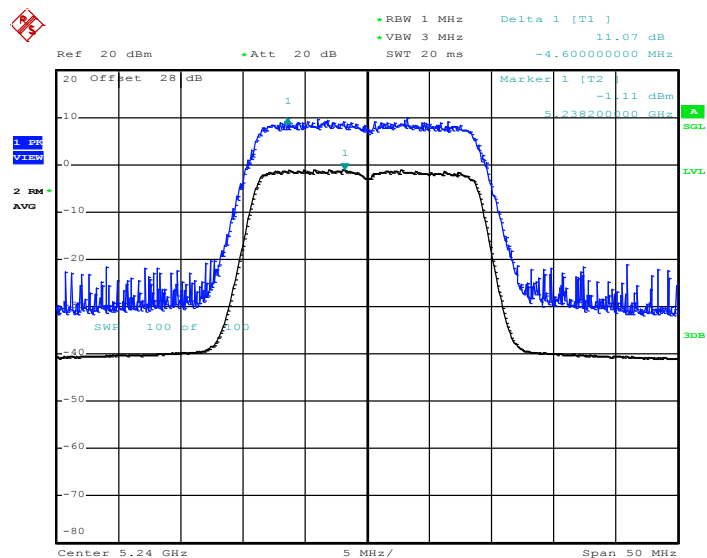
Peak Excursion Ratio Plot on 802.11n HT20 Channel 44



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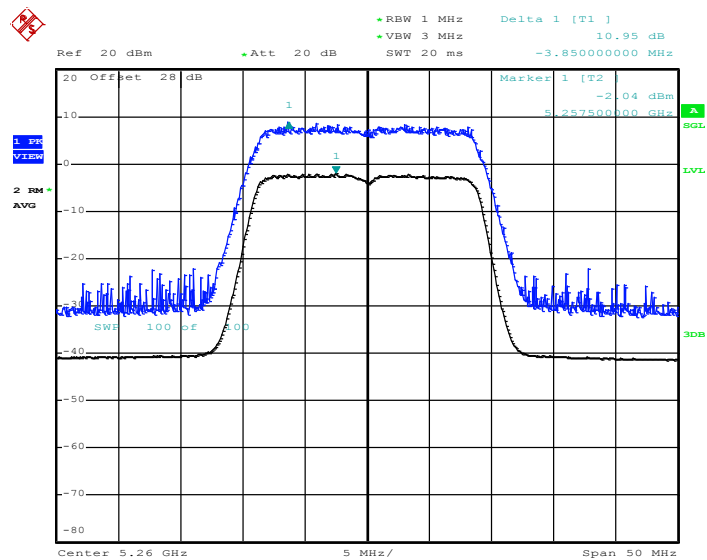


Peak Excursion Ratio Plot on 802.11n HT20 Channel 48



Date: 29.APR.2013 19:49:09

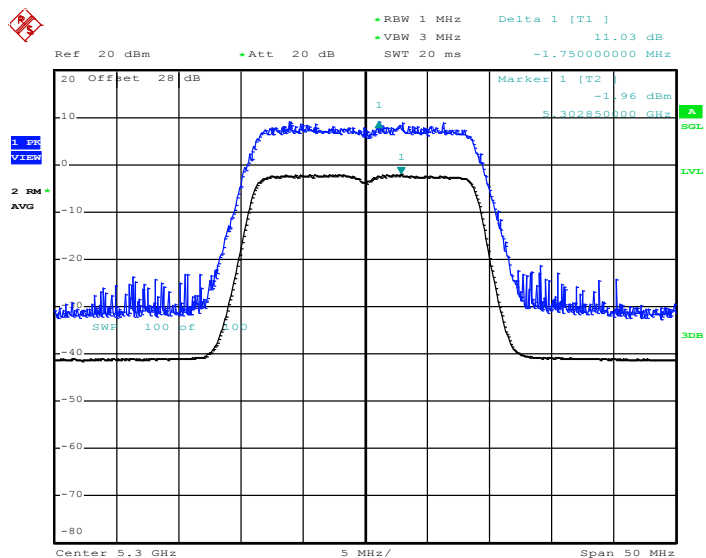
Peak Excursion Ratio Plot on 802.11n HT20 Channel 52



Date: 19.APR.2013 19:58:49

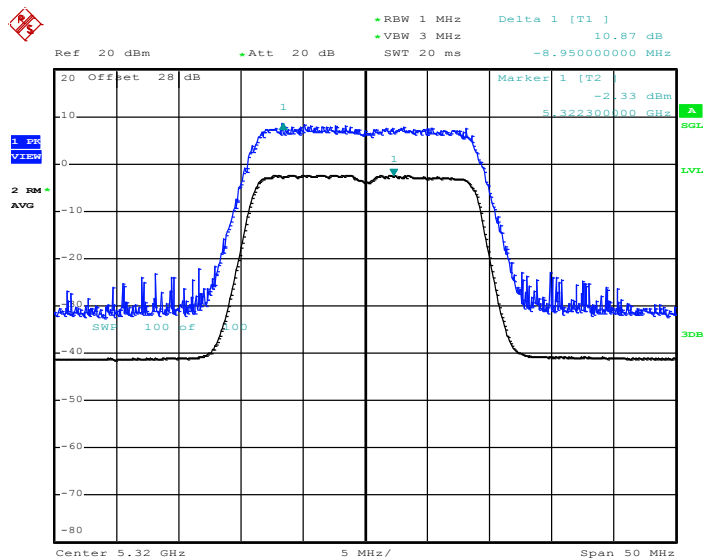


Peak Excursion Ratio Plot on 802.11n HT20 Channel 60



Date: 19.APR.2013 19:49:12

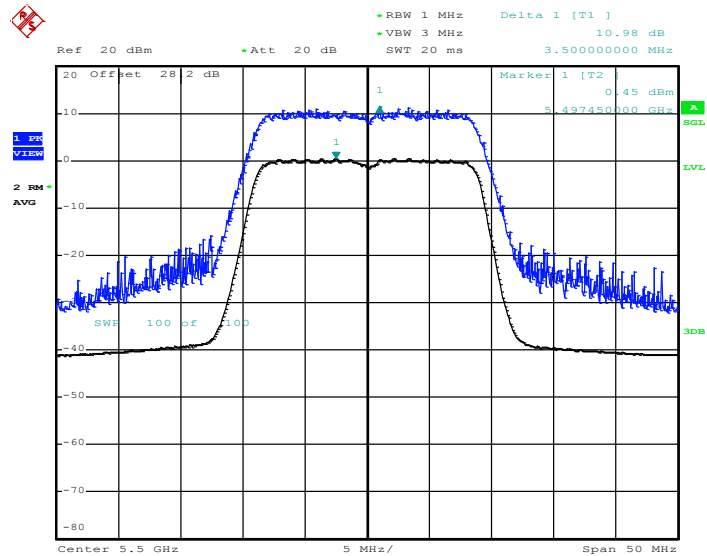
Peak Excursion Ratio Plot on 802.11n HT20 Channel 64



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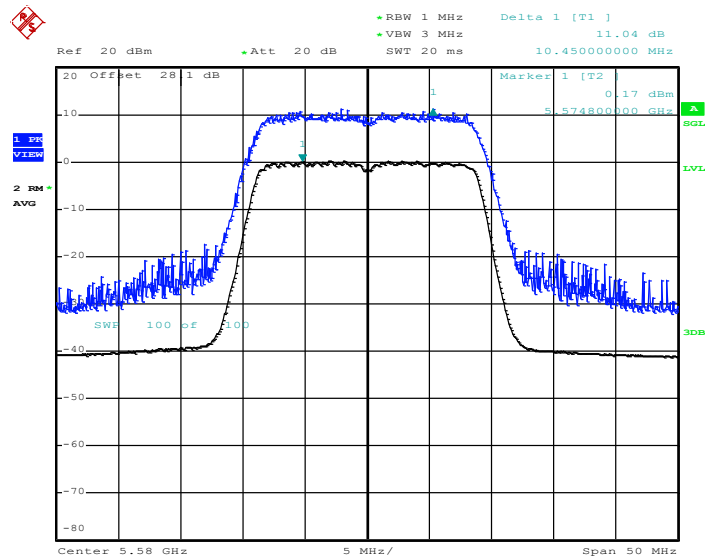


Peak Excursion Ratio Plot on 802.11n HT20 Channel 100



Date: 19.APR.2013 20:38:46

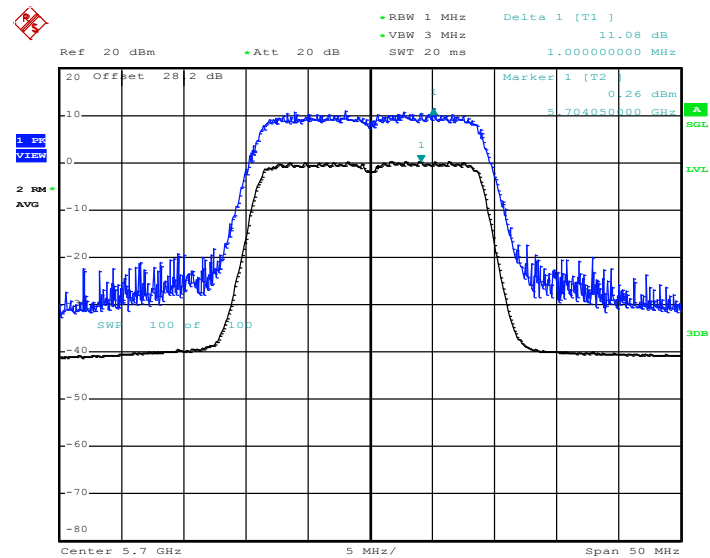
Peak Excursion Ratio Plot on 802.11n HT20 Channel 116



Date: 29.APR.2013 19:50:49



Peak Excursion Ratio Plot on 802.11n HT20 Channel 140

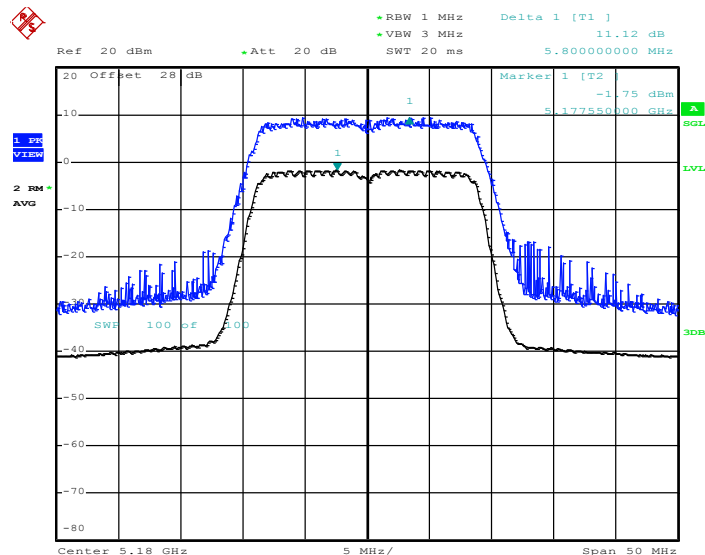


Date: 19.APR.2013 20:47:04



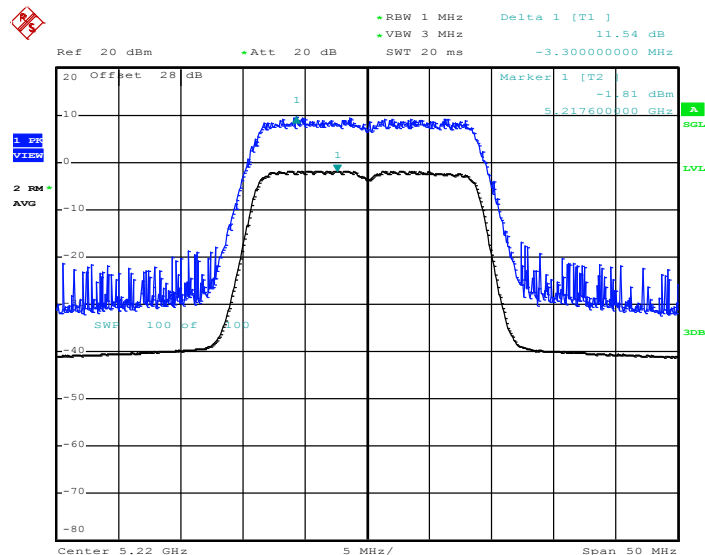
Test Mode :	802.11n HT20 MCS5	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT20 Channel 36



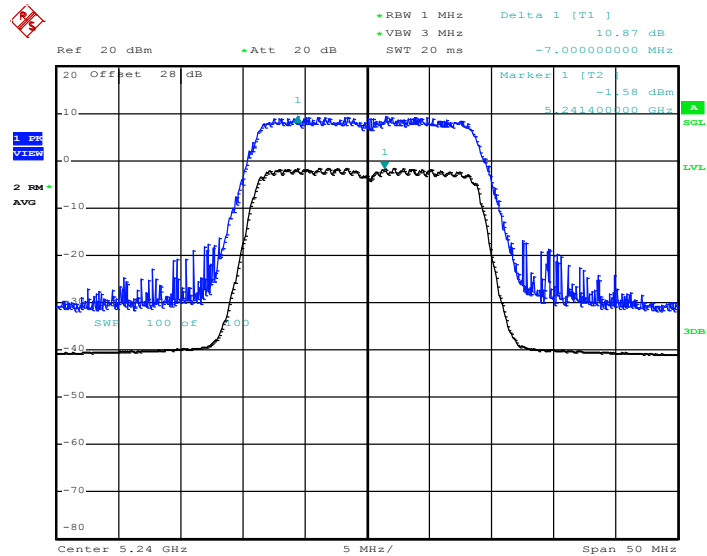
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Peak Excursion Ratio Plot on 802.11n HT20 Channel 44



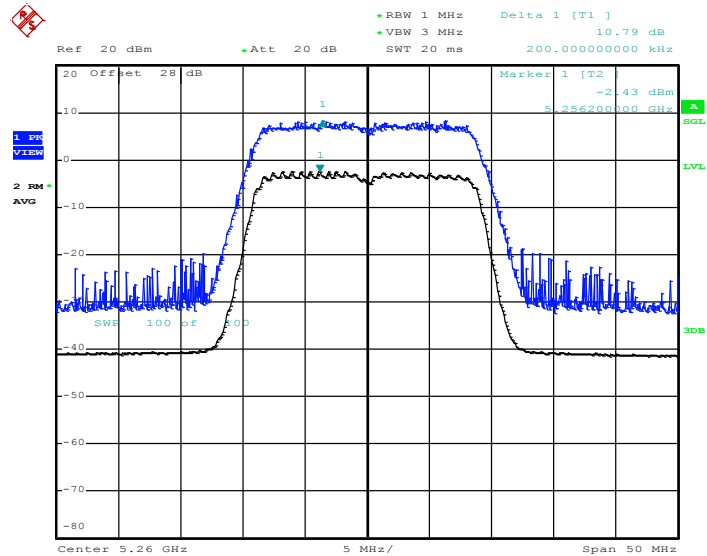
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Peak Excursion Ratio Plot on 802.11n HT20 Channel 48

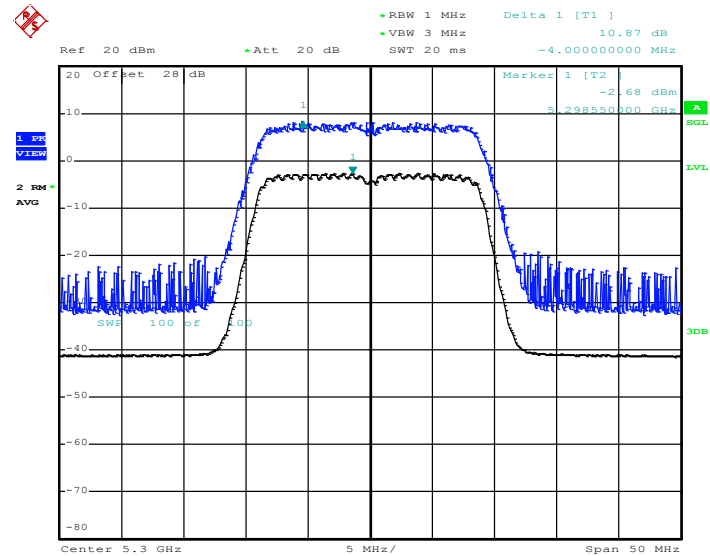


Date: 29.APR.2013 19:49:49

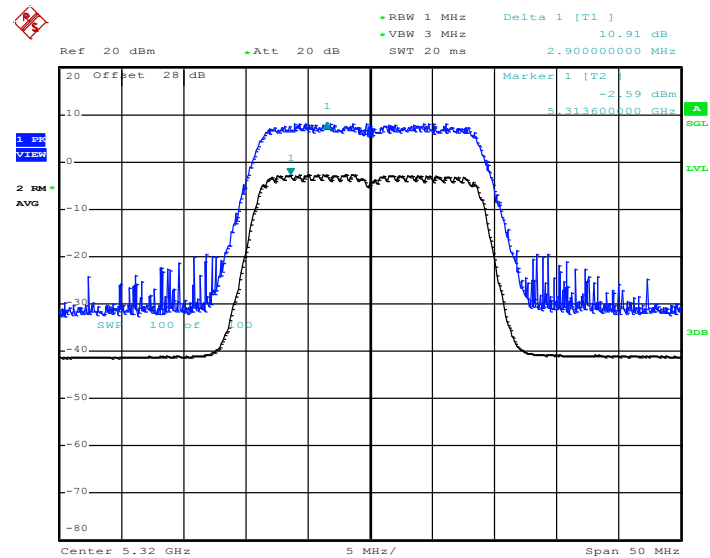
Peak Excursion Ratio Plot on 802.11n HT20 Channel 52



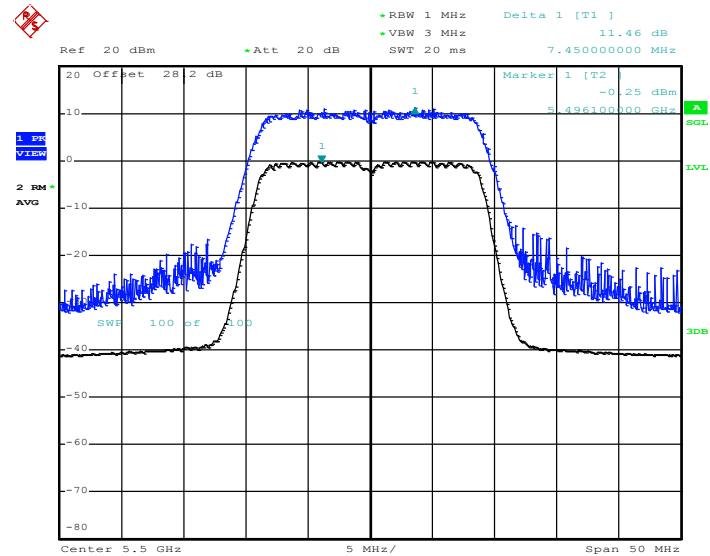
Date: 19.APR.2013 19:59:53

Peak Excursion Ratio Plot on 802.11n HT20 Channel 60


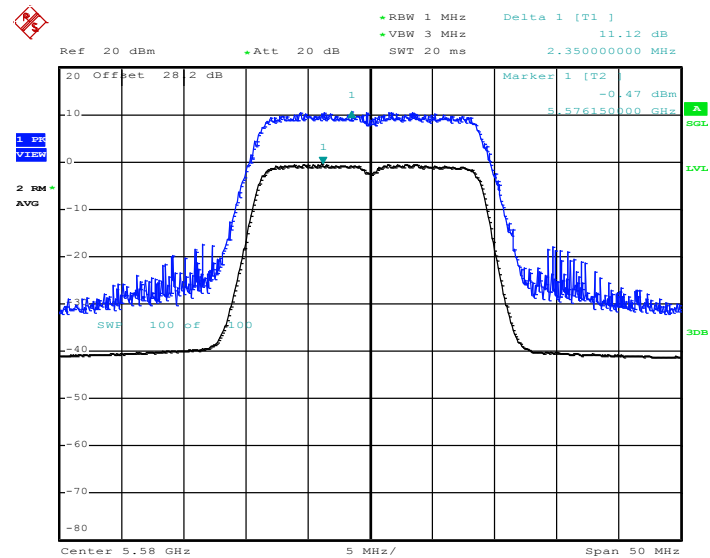
Date: 19.APR.2013 19:53:53

Peak Excursion Ratio Plot on 802.11n HT20 Channel 64


Date: 19.APR.2013 19:44:31

Peak Excursion Ratio Plot on 802.11n HT20 Channel 100


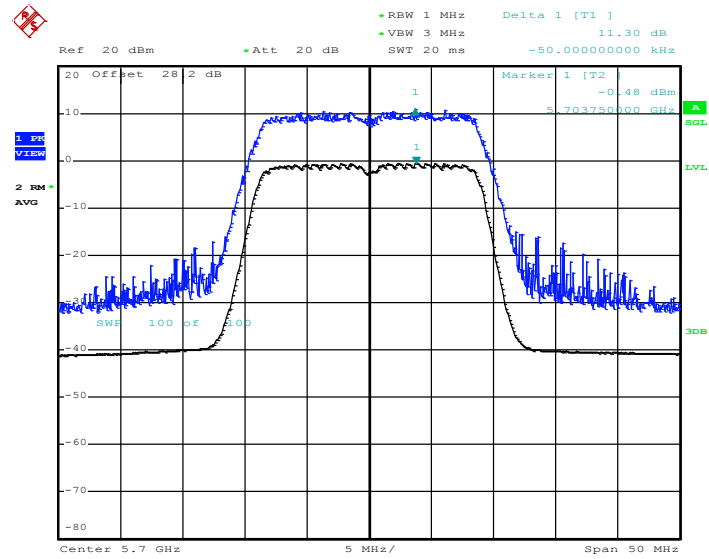
Date: 19.APR.2013 20:39:39

Peak Excursion Ratio Plot on 802.11n HT20 Channel 116


Date: 19.APR.2013 20:42:31



Peak Excursion Ratio Plot on 802.11n HT20 Channel 140

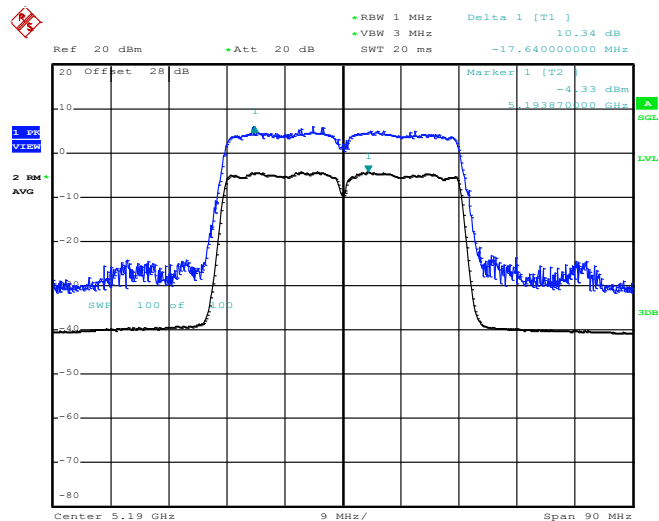


Date: 19.APR.2013 20:47:44



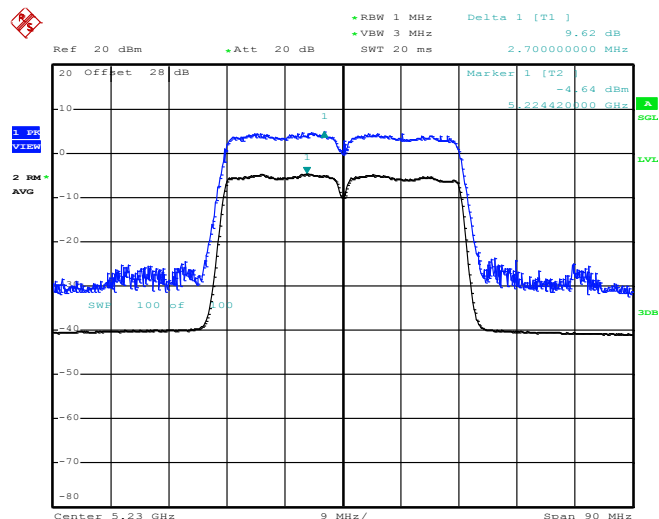
Test Mode :	802.11n HT40 MCS0	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT40 Channel 38

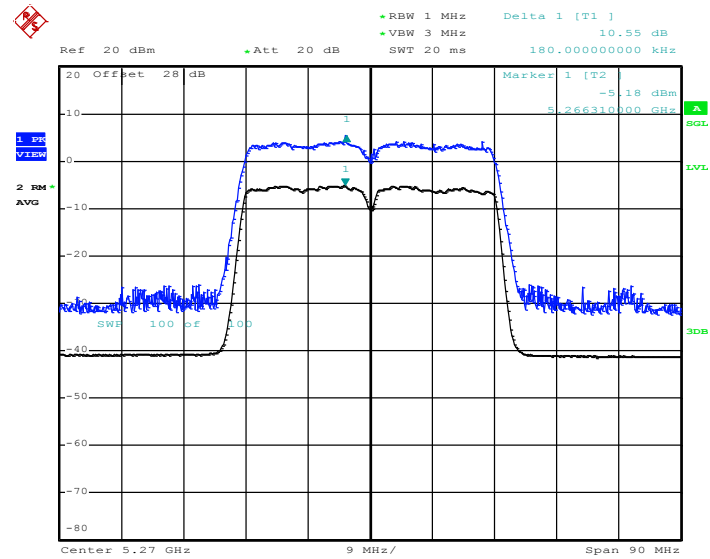


Date: 12.APR.2013 00:36:02

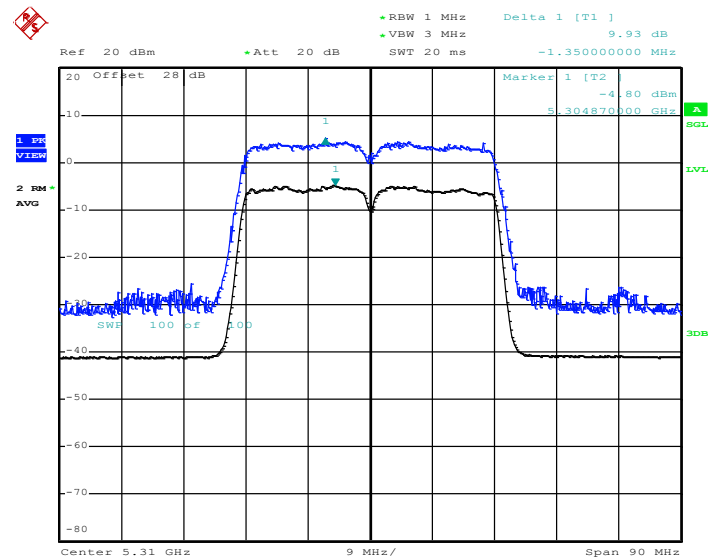
Peak Excursion Ratio Plot on 802.11n HT40 Channel 46



Date: 12.APR.2013 00:38:59

Peak Excursion Ratio Plot on 802.11n HT40 Channel 54


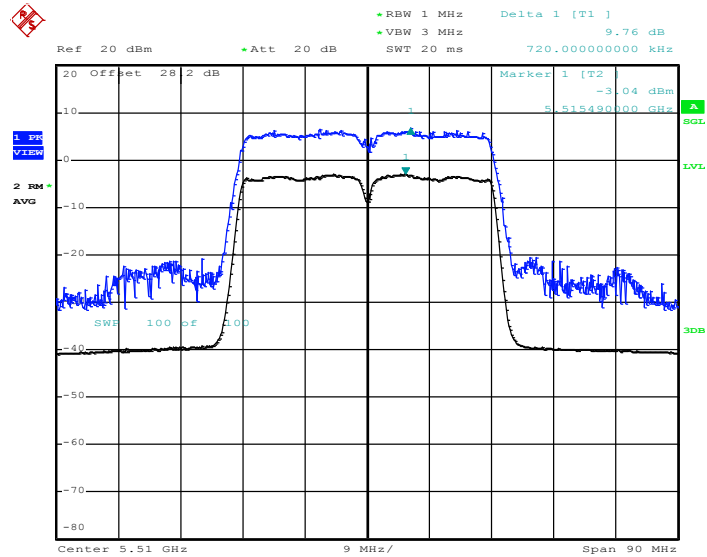
Date: 19.APR.2013 21:07:02

Peak Excursion Ratio Plot on 802.11n HT40 Channel 62


Date: 19.APR.2013 21:12:41

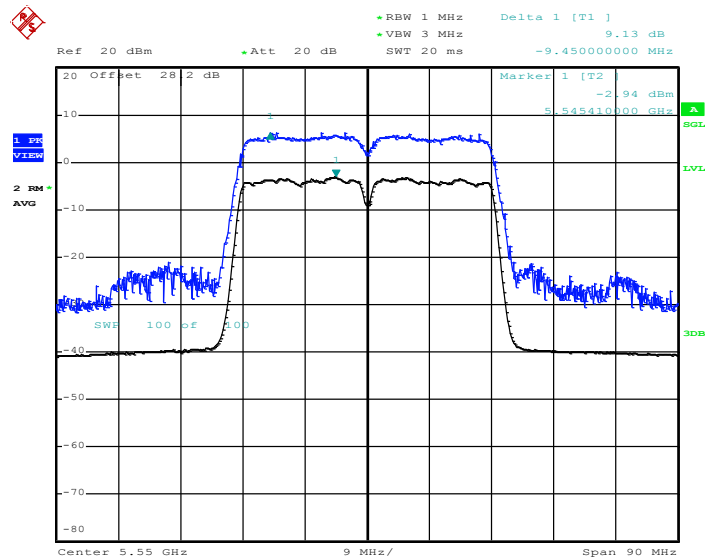


Peak Excursion Ratio Plot on 802.11n HT40 Channel 102

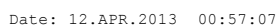


Date: 12.APR.2013 00:49:25

Peak Excursion Ratio Plot on 802.11n HT40 Channel 110



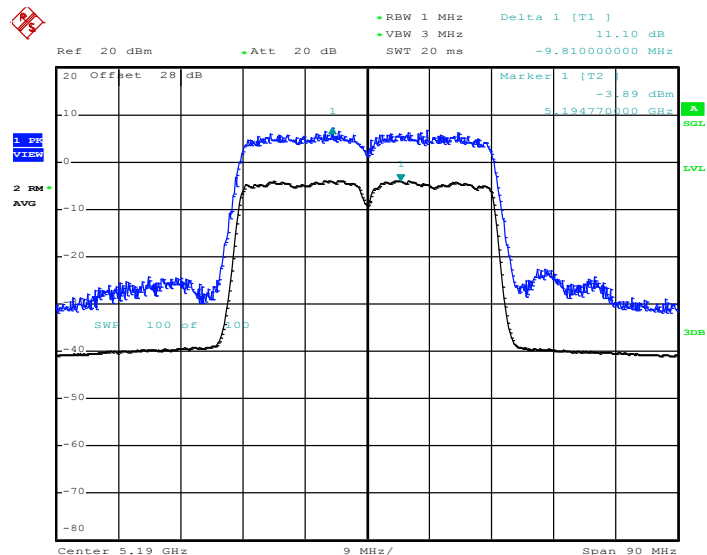
Date: 12.APR.2013 00:53:25





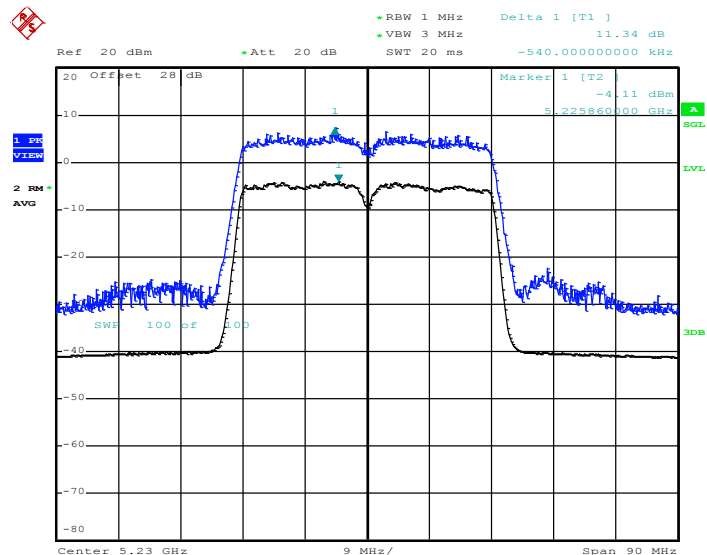
Test Mode :	802.11n HT40 MCS1	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT40 Channel 38

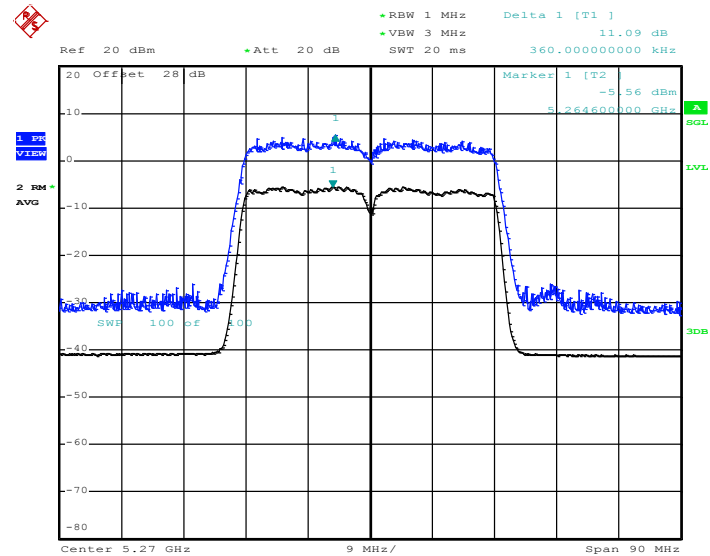


Date: 19.APR.2013 20:59:31

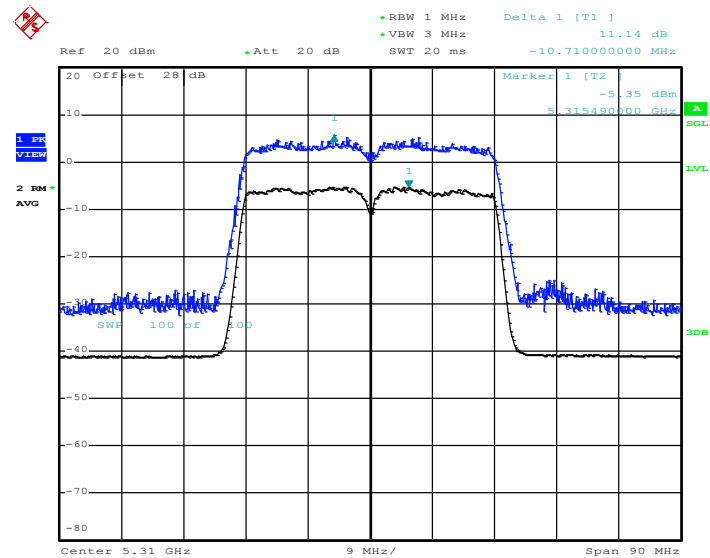
Peak Excursion Ratio Plot on 802.11n HT40 Channel 46



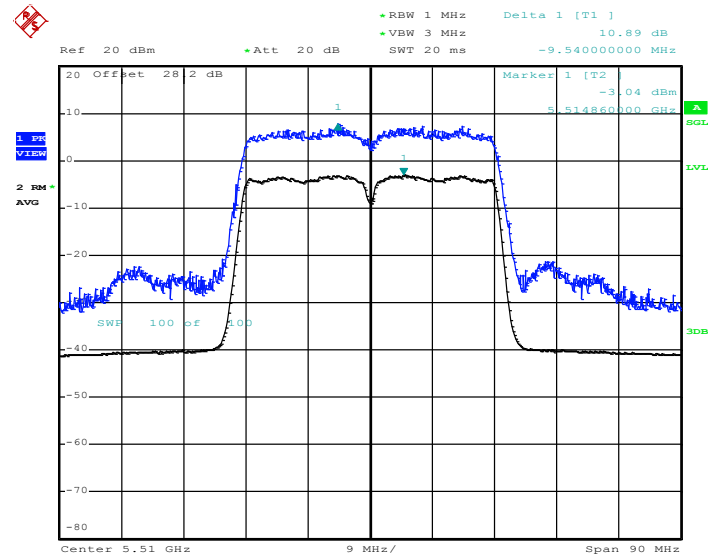
Date: 19.APR.2013 21:03:44

Peak Excursion Ratio Plot on 802.11n HT40 Channel 54


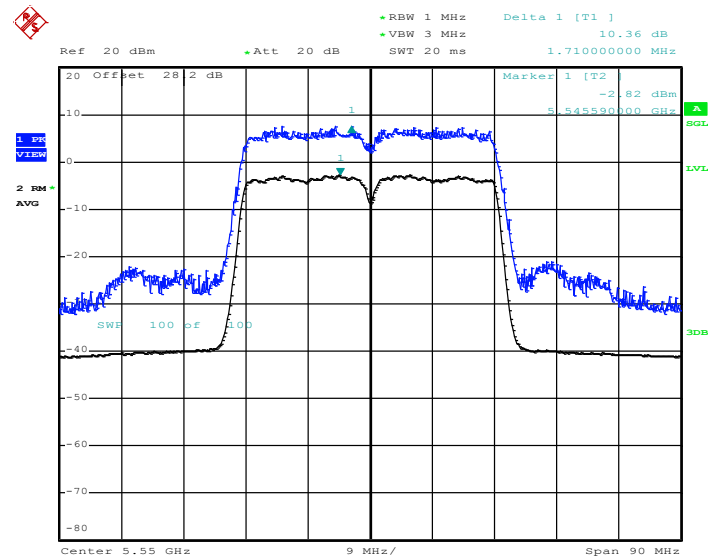
Date: 19.APR.2013 21:09:24

Peak Excursion Ratio Plot on 802.11n HT40 Channel 62


Date: 19.APR.2013 21:14:38

Peak Excursion Ratio Plot on 802.11n HT40 Channel 102


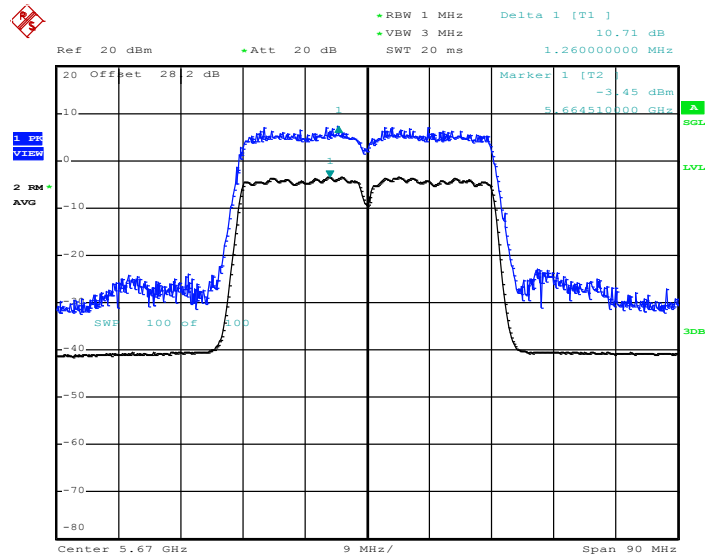
Date: 19.APR.2013 20:50:19

Peak Excursion Ratio Plot on 802.11n HT40 Channel 110


Date: 19.APR.2013 20:53:49



Peak Excursion Ratio Plot on 802.11n HT40 Channel 134

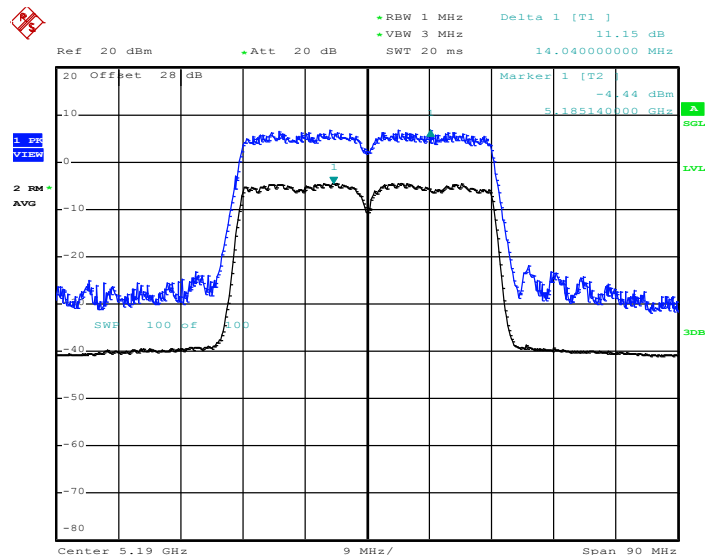


Date: 19.APR.2013 20:56:48



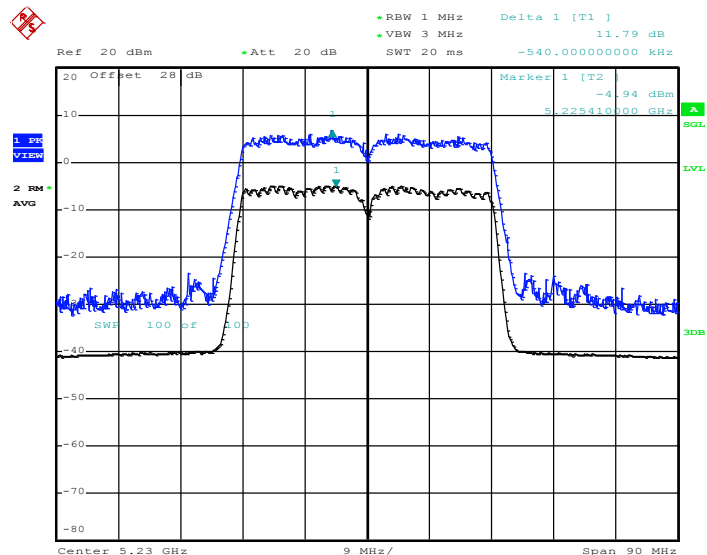
Test Mode :	802.11n HT40 MCS3	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT40 Channel 38



Date: 19.APR.2013 21:00:18

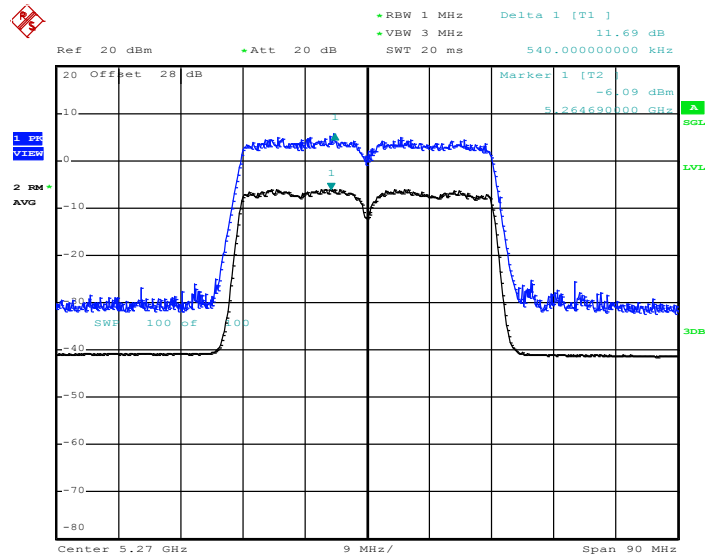
Peak Excursion Ratio Plot on 802.11n HT40 Channel 46



Date: 19.APR.2013 21:04:42

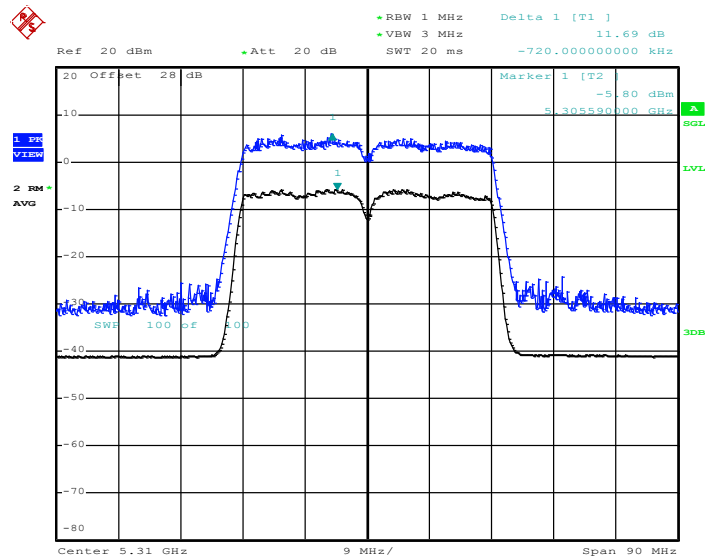


Peak Excursion Ratio Plot on 802.11n HT40 Channel 54

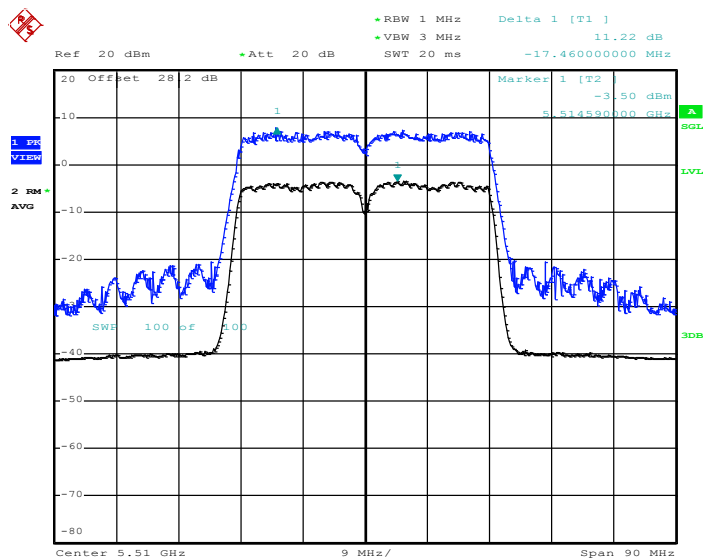


Date: 19.APR.2013 21:10:23

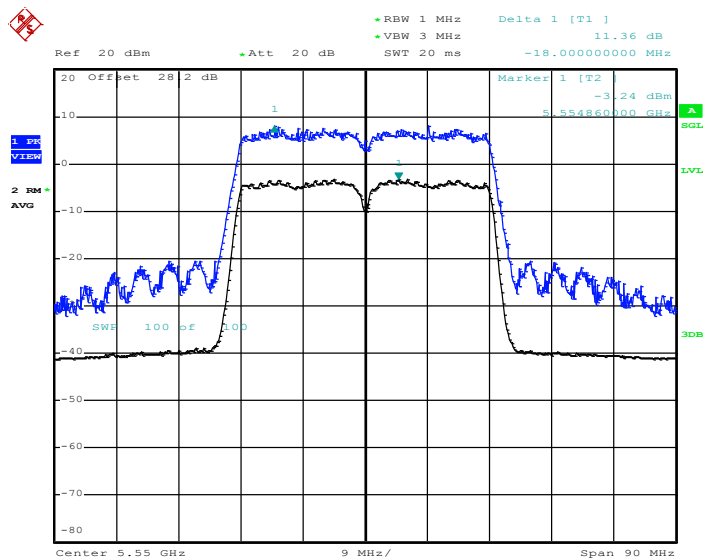
Peak Excursion Ratio Plot on 802.11n HT40 Channel 62



Date: 19.APR.2013 21:15:18

Peak Excursion Ratio Plot on 802.11n HT40 Channel 102


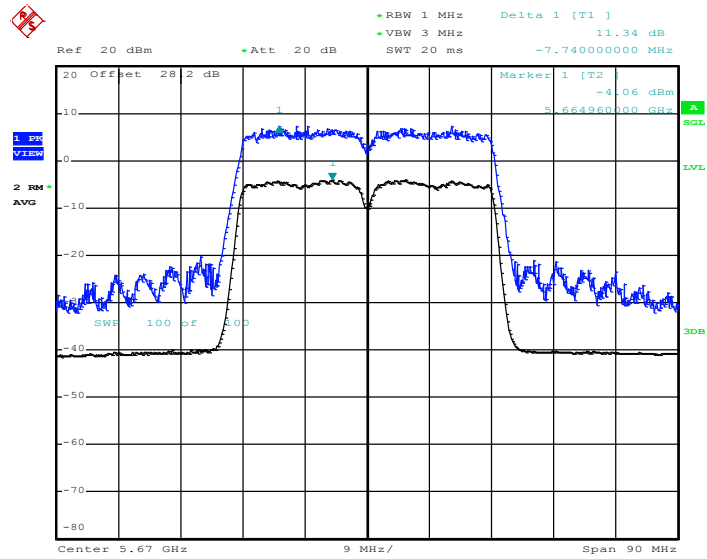
Date: 19.APR.2013 20:51:23

Peak Excursion Ratio Plot on 802.11n HT40 Channel 110


Date: 19.APR.2013 20:54:32



Peak Excursion Ratio Plot on 802.11n HT40 Channel 134

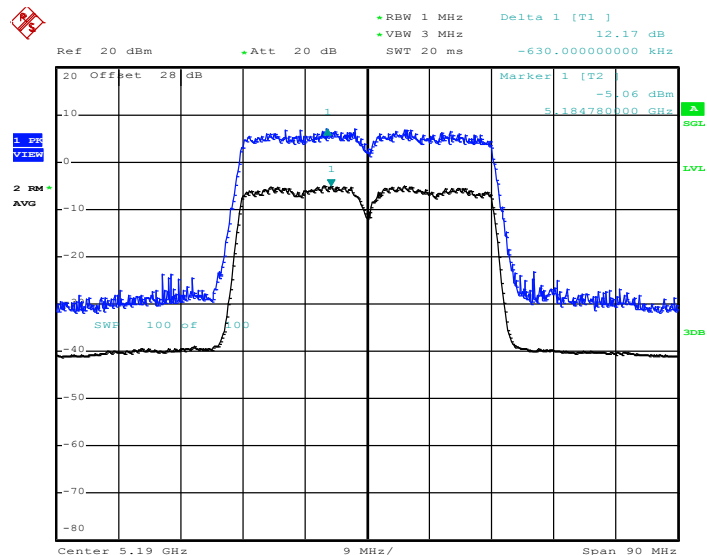


Date: 19.APR.2013 20:57:28



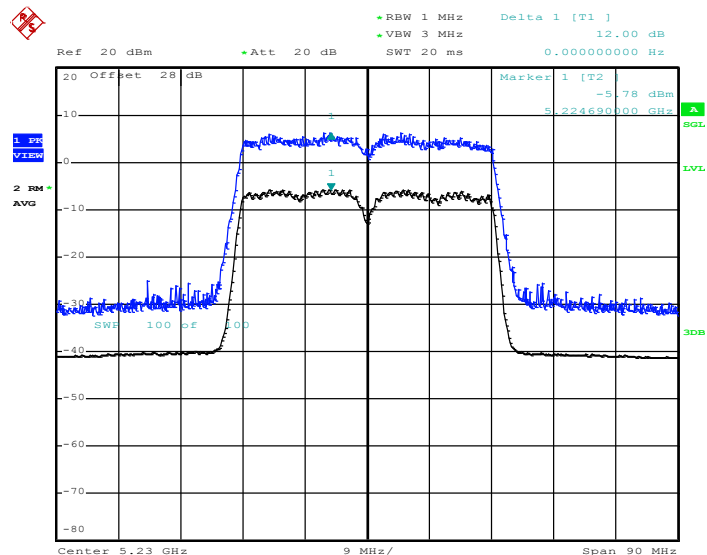
Test Mode :	802.11n HT40 MCS5	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT40 Channel 38

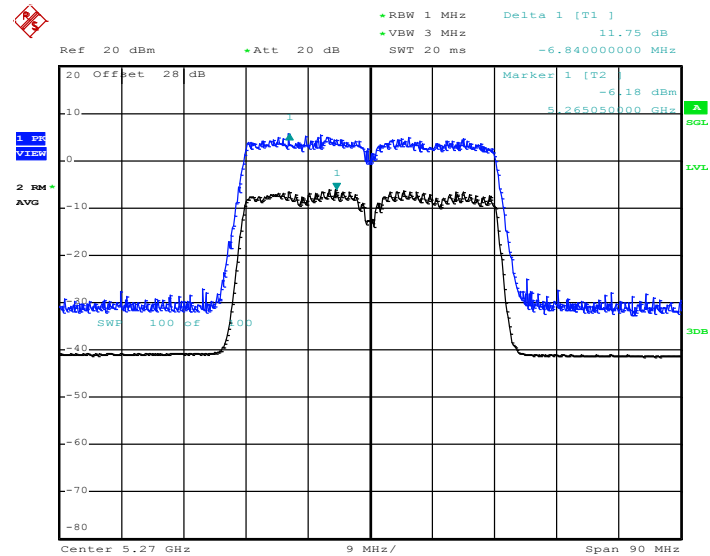


Date: 19.APR.2013 21:01:54

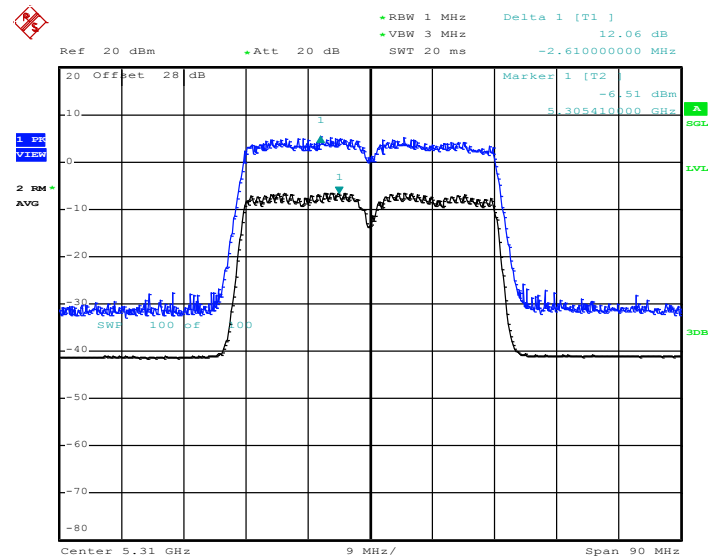
Peak Excursion Ratio Plot on 802.11n HT40 Channel 46



Date: 19.APR.2013 21:05:24

Peak Excursion Ratio Plot on 802.11n HT40 Channel 54


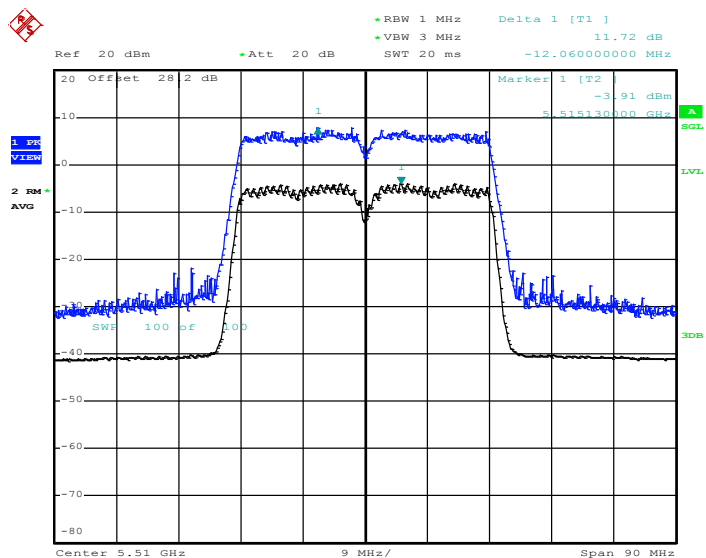
Date: 19.APR.2013 21:11:08

Peak Excursion Ratio Plot on 802.11n HT40 Channel 62


Date: 19.APR.2013 21:16:00

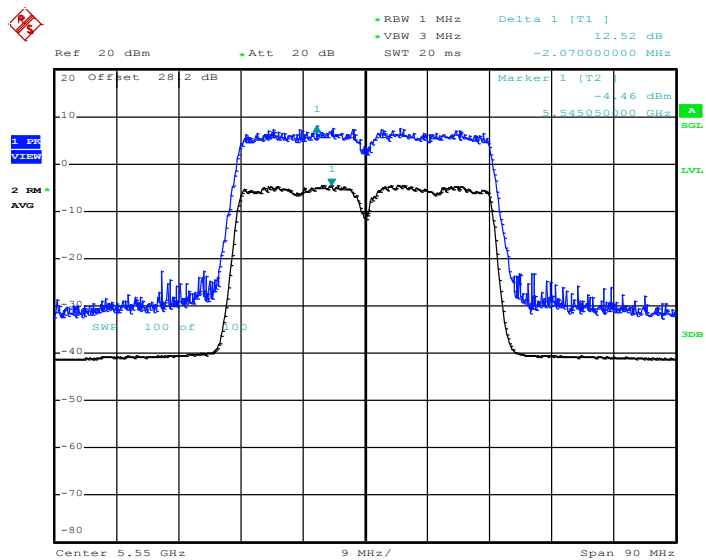


Peak Excursion Ratio Plot on 802.11n HT40 Channel 102



Date: 19.APR.2013 20:52:35

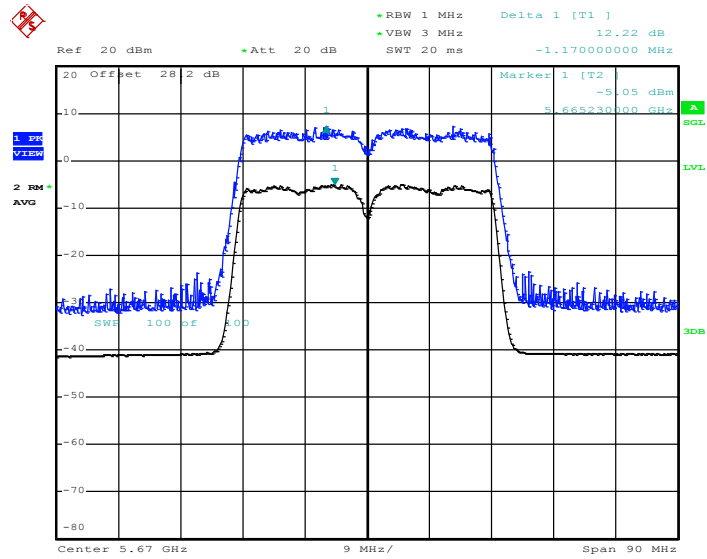
Peak Excursion Ratio Plot on 802.11n HT40 Channel 110



Date: 19.APR.2013 20:55:17



Peak Excursion Ratio Plot on 802.11n HT40 Channel 134

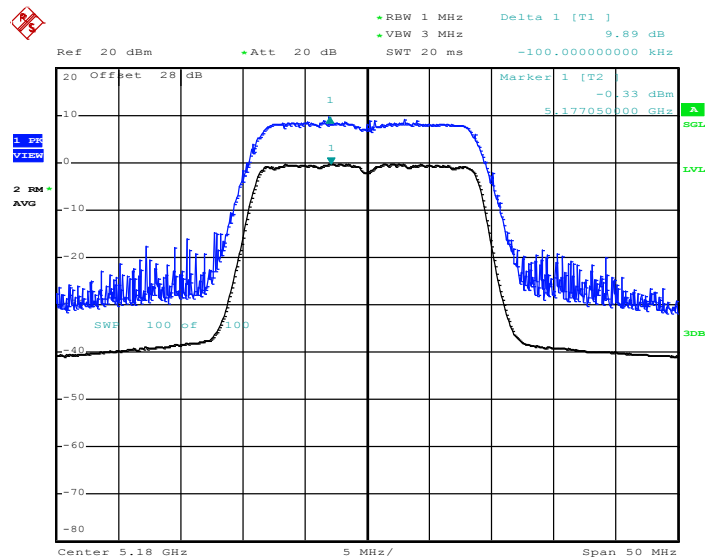


Date: 19.APR.2013 20:58:10



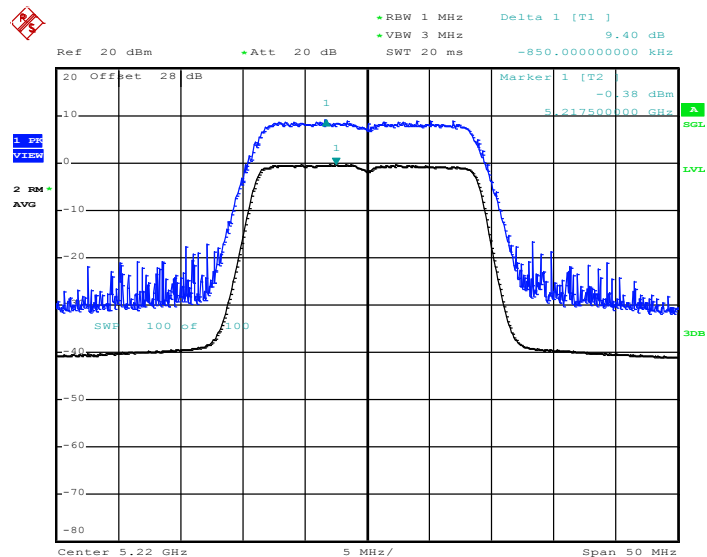
Test Mode :	802.11ac VHT20 MCS0	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 36

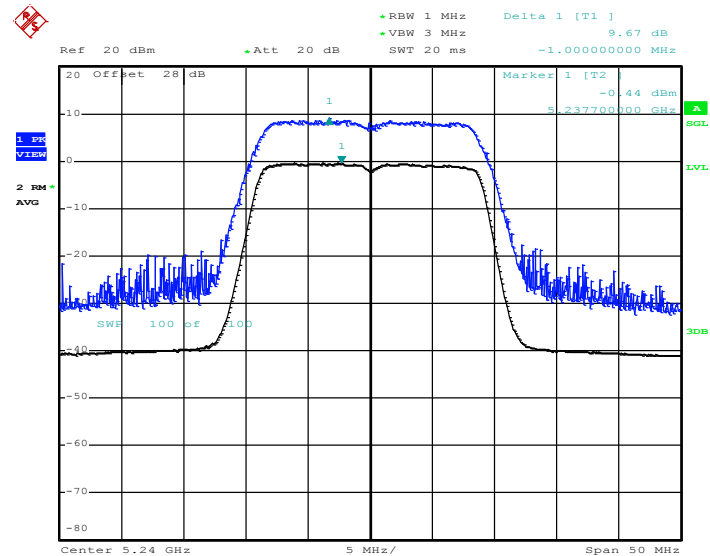


Date: 26.APR.2013 20:54:57

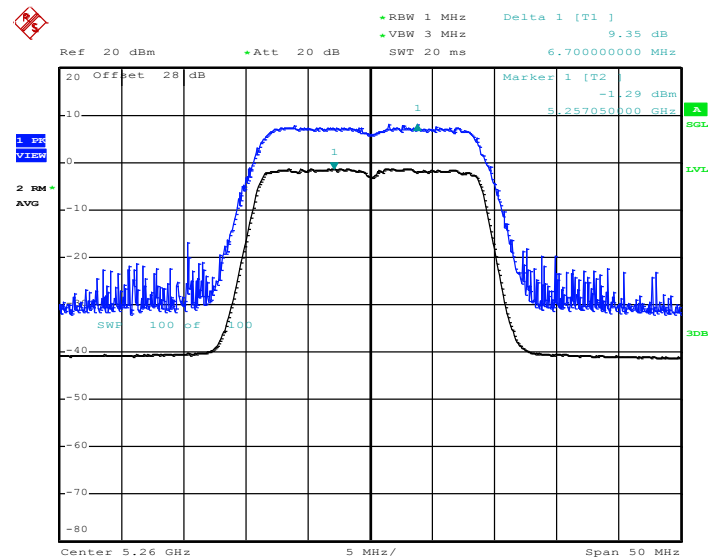
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 44



Date: 26.APR.2013 21:01:56

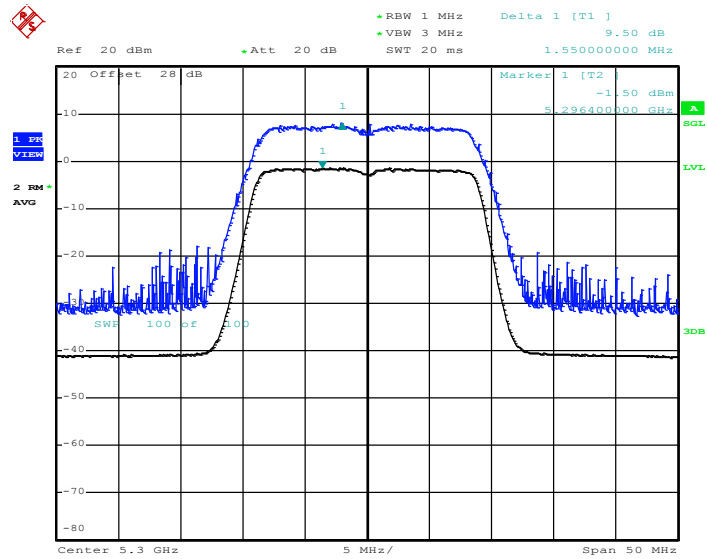
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 48


Date: 26.APR.2013 21:07:21

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 52


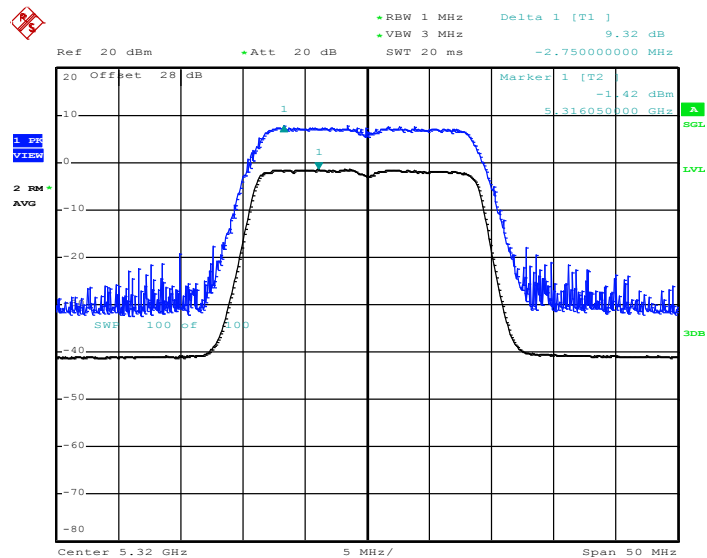
Date: 26.APR.2013 21:12:42

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 60

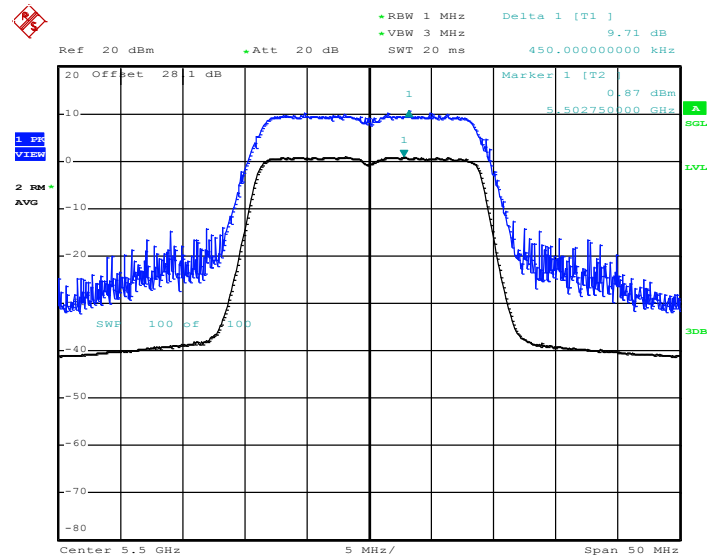


Date: 26.APR.2013 21:18:42

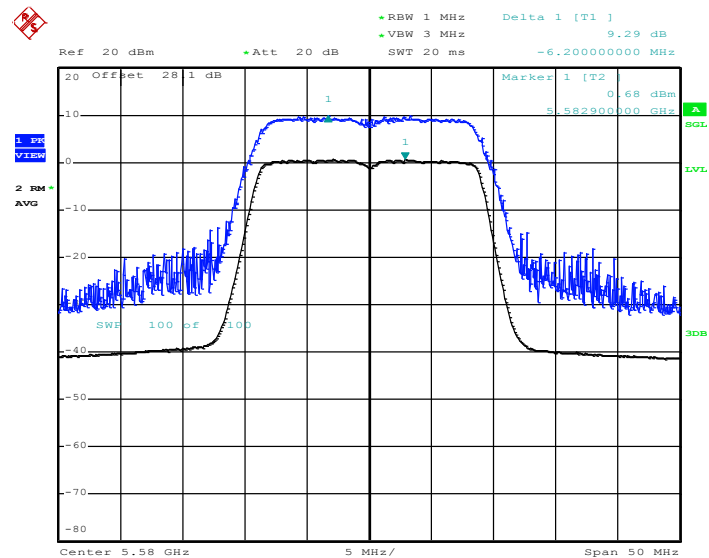
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 64



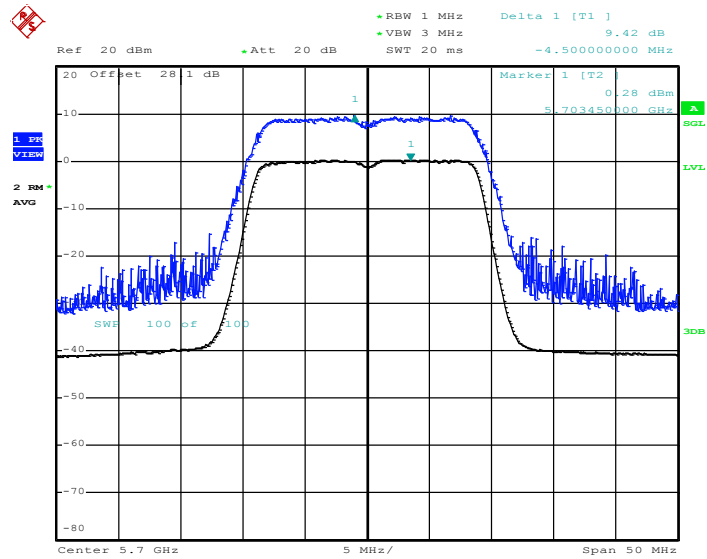
Date: 26.APR.2013 21:24:52

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 100


Date: 26.APR.2013 21:37:07

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 116


Date: 26.APR.2013 21:42:07

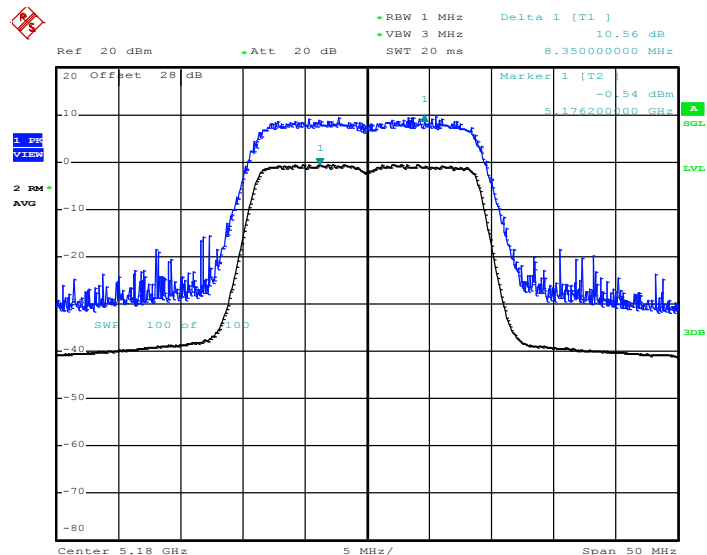
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 140


Date: 26.APR.2013 21:48:51



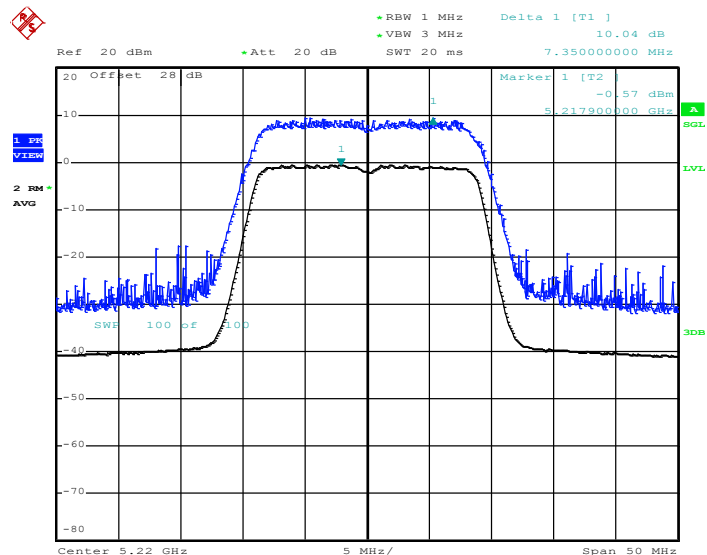
Test Mode :	802.11ac VHT20 MCS1	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 36



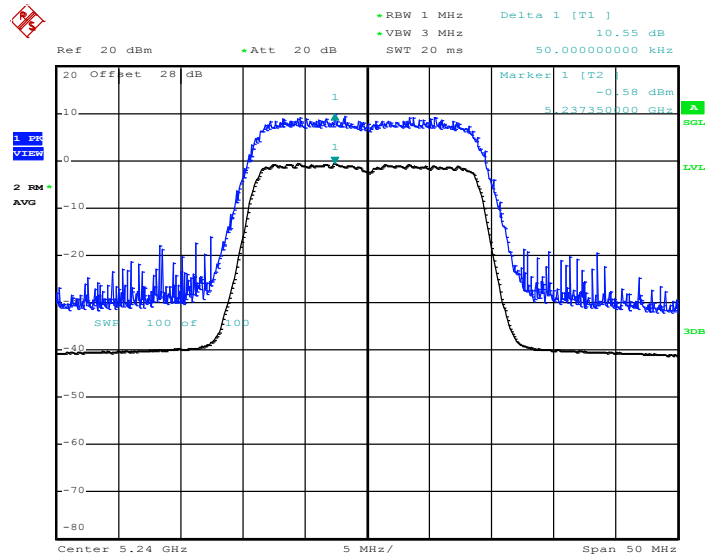
Date: 26.APR.2013 20:57:14

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 44



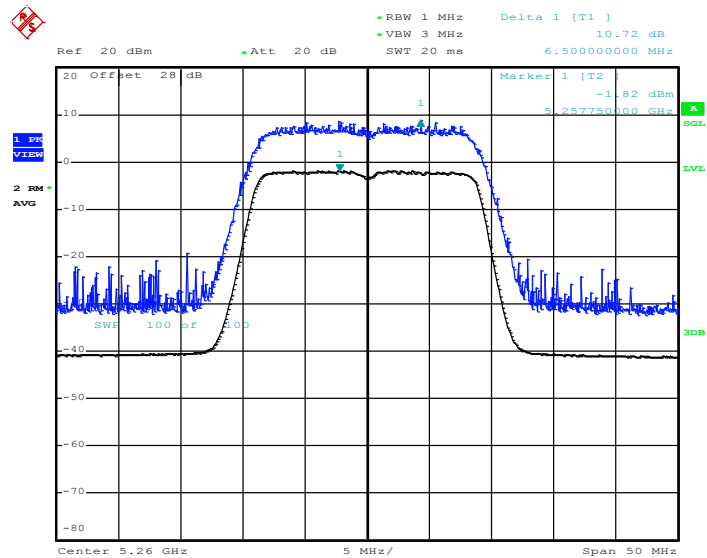
Date: 26.APR.2013 21:03:58

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 48



Date: 26.APR.2013 21:09:30

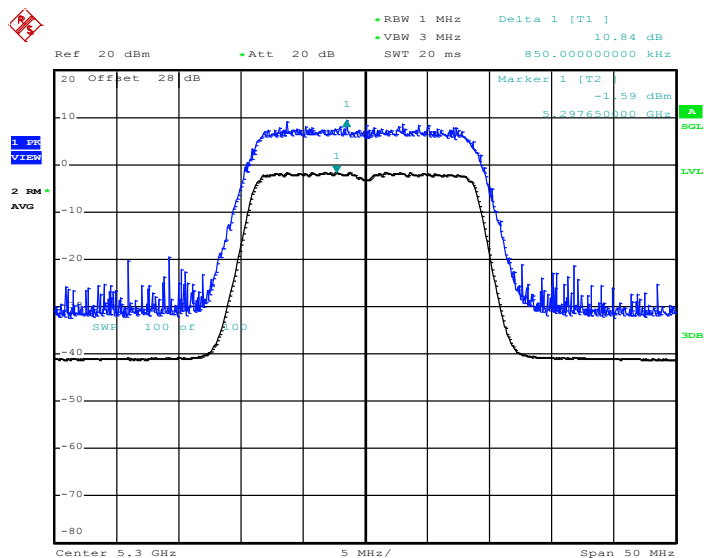
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 52



Date: 26.APR.2013 21:14:41

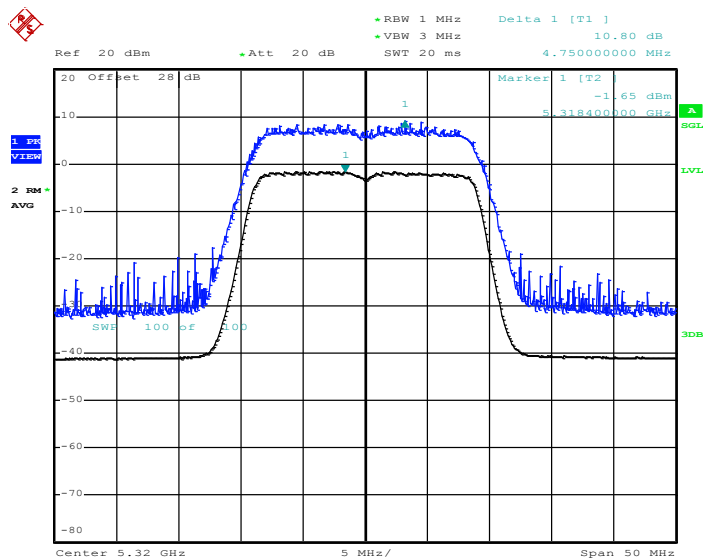


Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 60

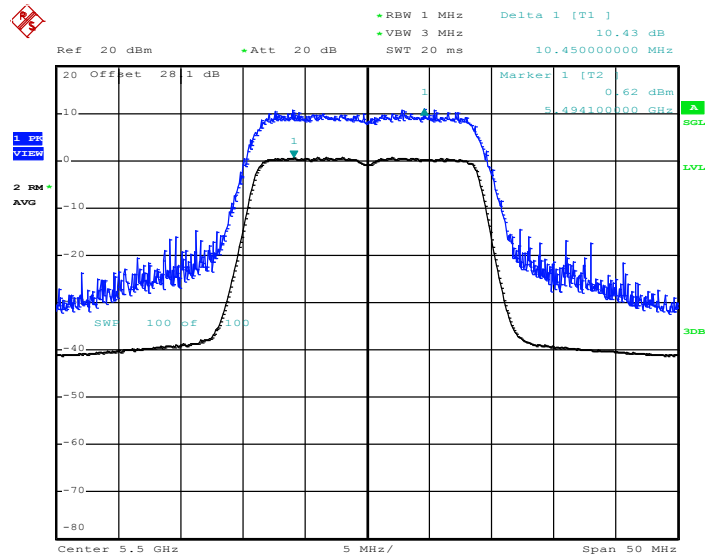


Date: 26.APR.2013 21:20:21

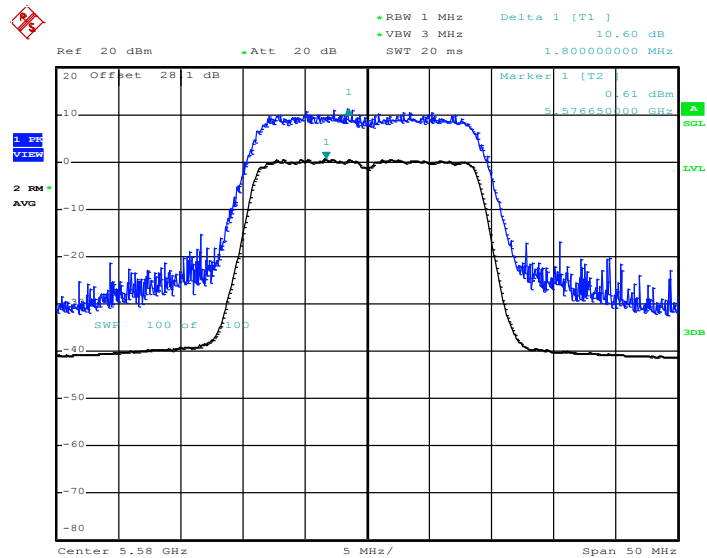
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 64



Date: 26.APR.2013 21:29:37

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 100


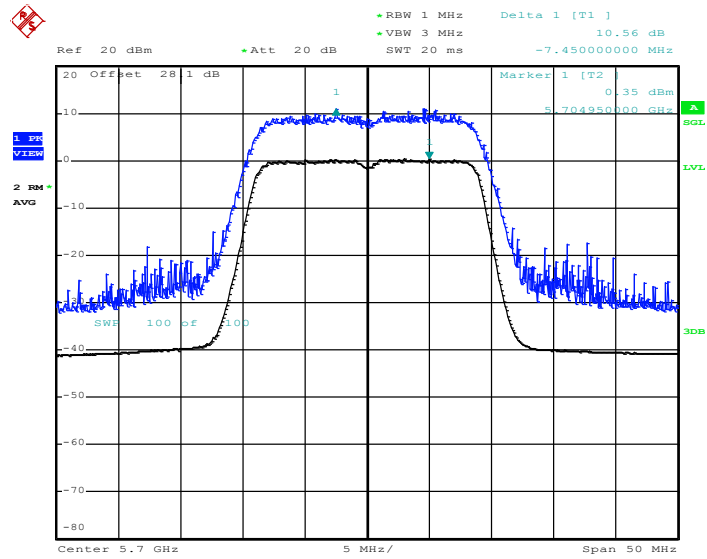
Date: 26.APR.2013 21:38:51

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 116


Date: 26.APR.2013 21:43:37



Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 140

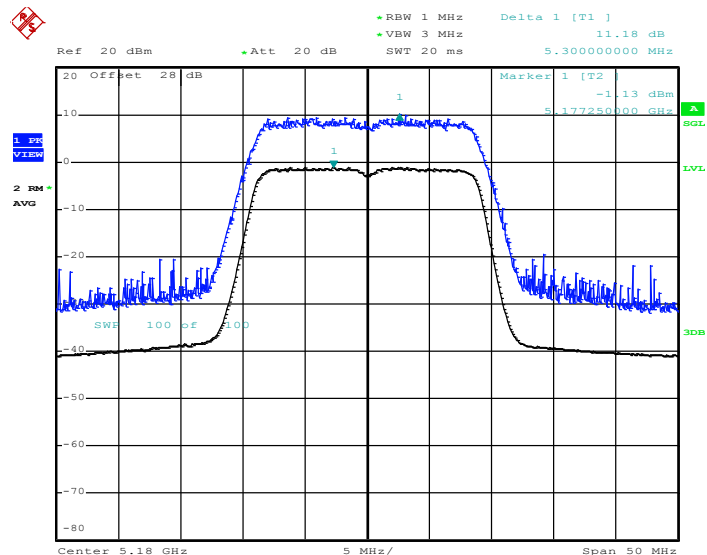


Date: 26.APR.2013 21:50:40



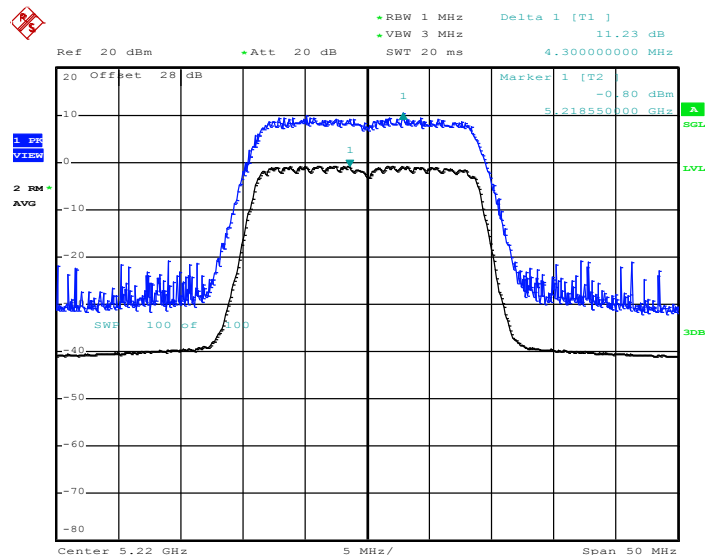
Test Mode :	802.11ac VHT20 MCS3	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 36

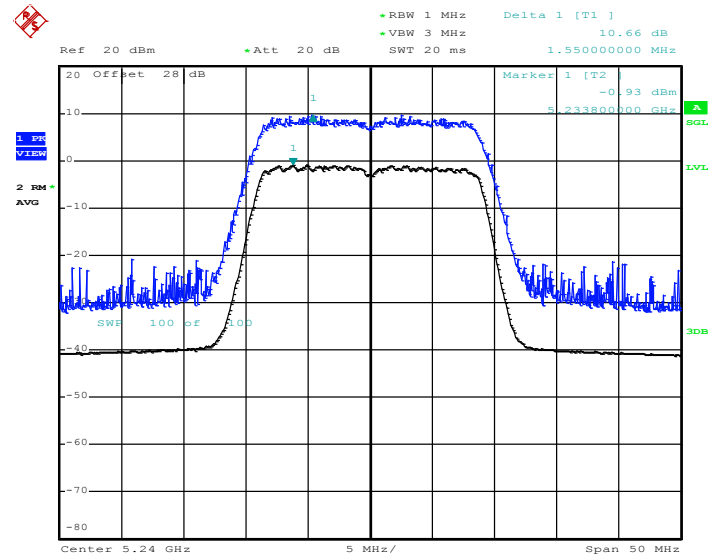


Date: 26.APR.2013 20:57:56

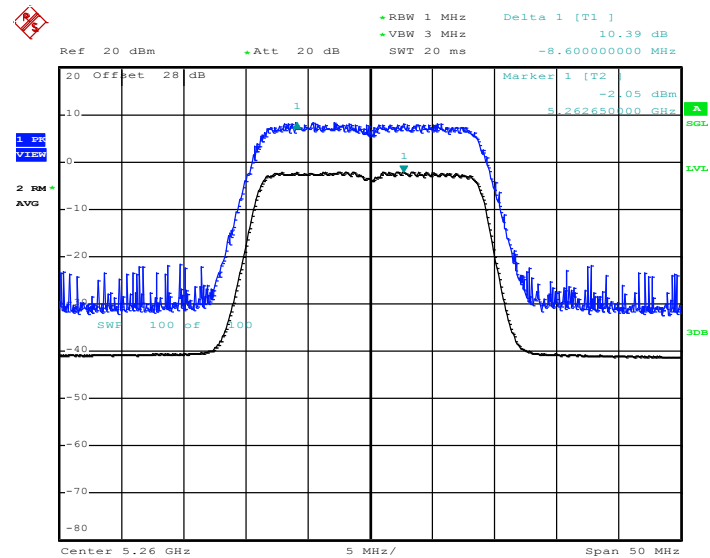
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 44



Date: 26.APR.2013 21:05:02

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 48


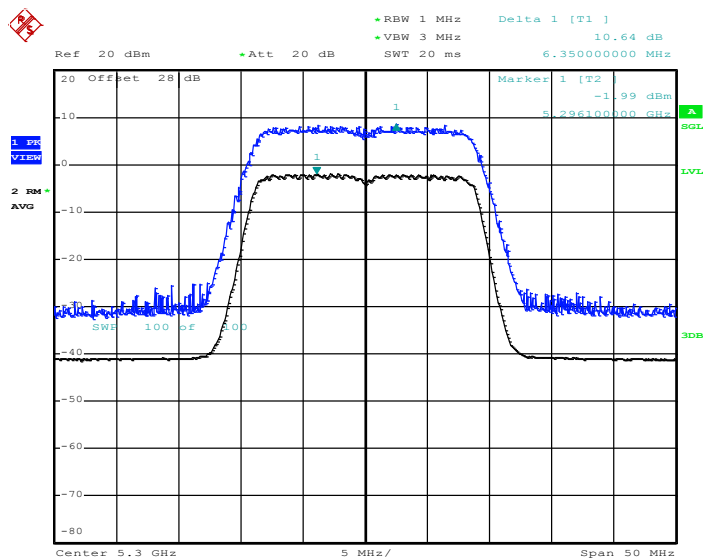
Date: 26.APR.2013 21:10:14

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 52


Date: 26.APR.2013 21:15:28

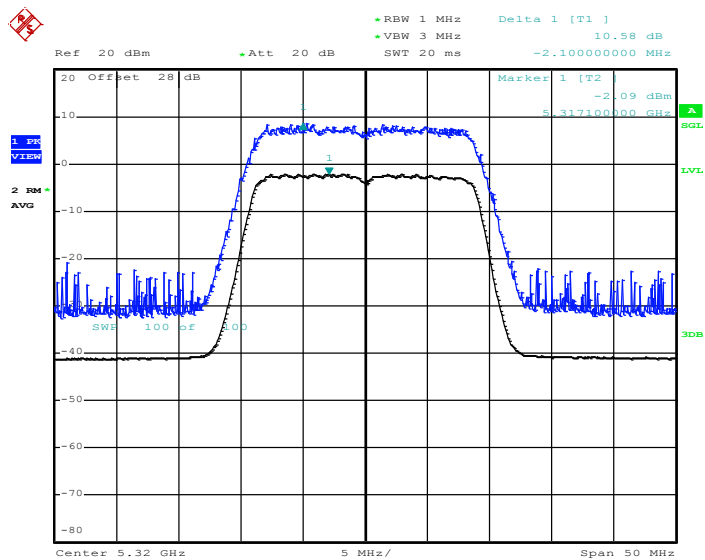


Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 60

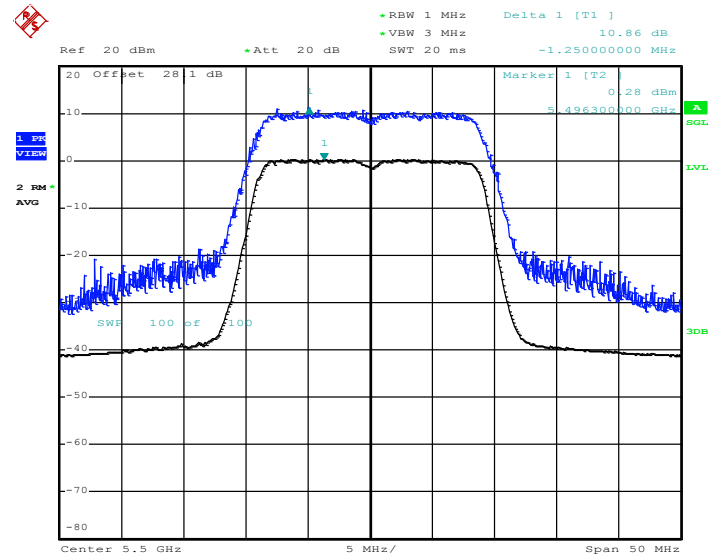


Date: 26.APR.2013 21:21:03

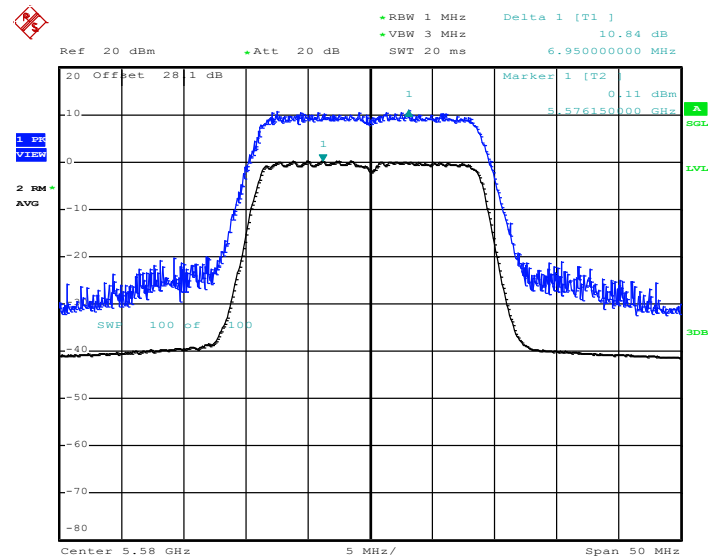
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 64



Date: 26.APR.2013 21:30:21

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 100


Date: 26.APR.2013 21:39:31

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 116


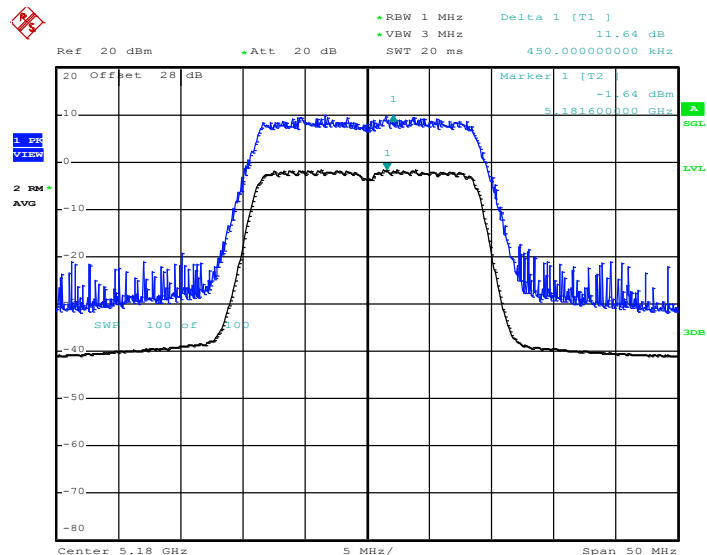
Date: 26.APR.2013 21:44:26





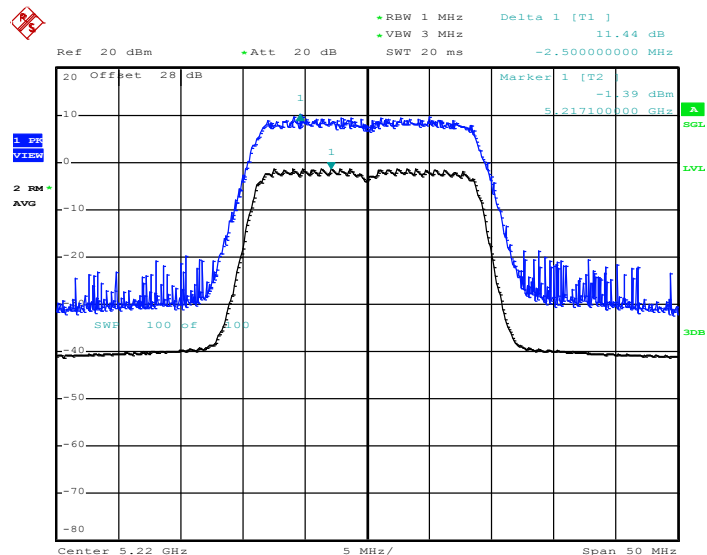
Test Mode :	802.11ac VHT20 MCS5	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 36



Date: 26.APR.2013 20:58:58

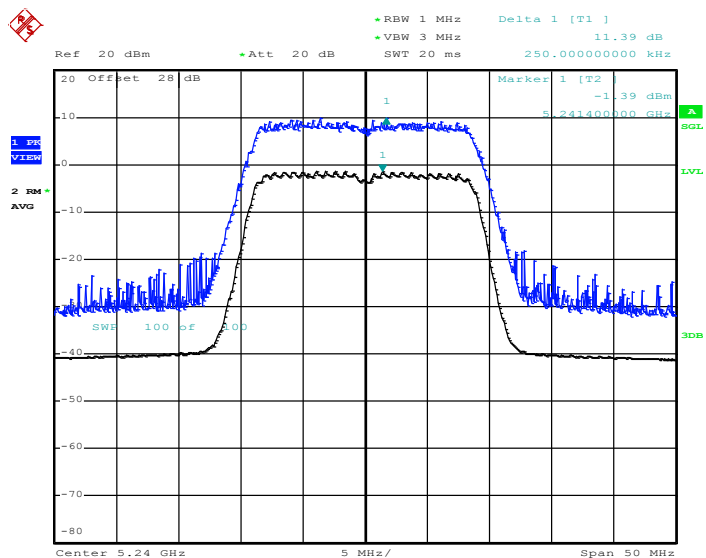
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 44



Date: 26.APR.2013 21:05:43

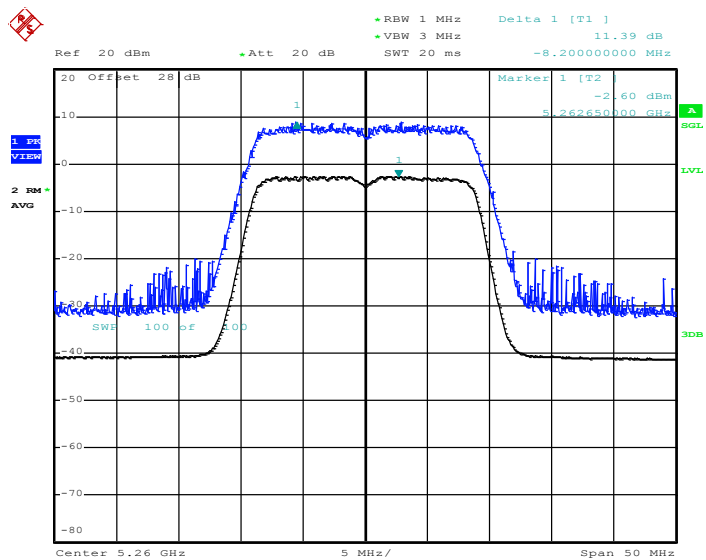


Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 48

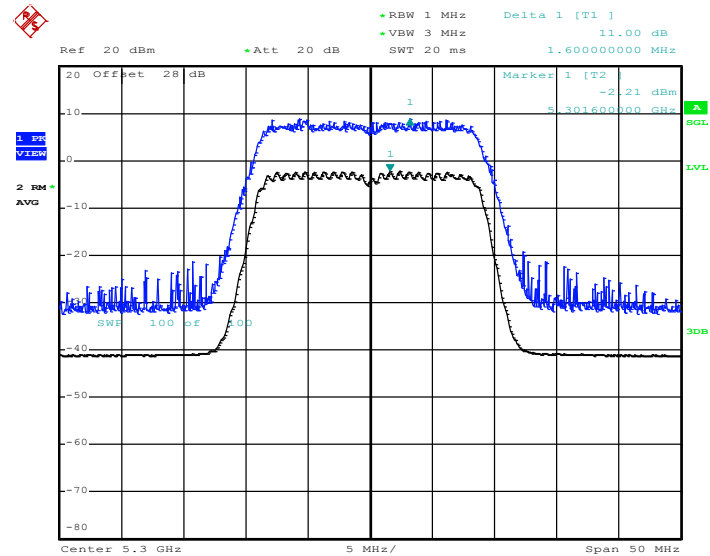


Date: 26.APR.2013 21:10:57

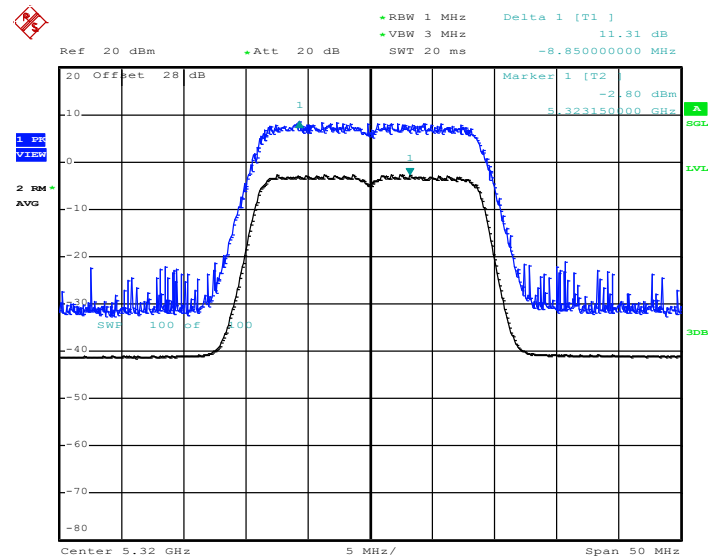
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 52



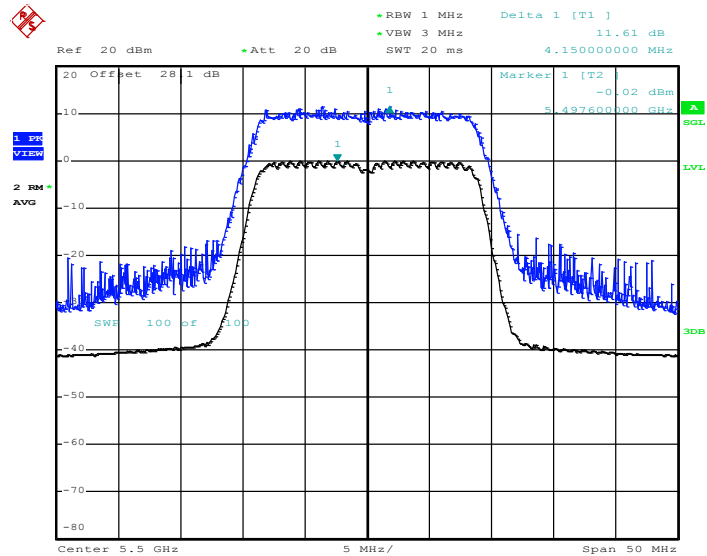
Date: 26.APR.2013 21:16:49

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 60


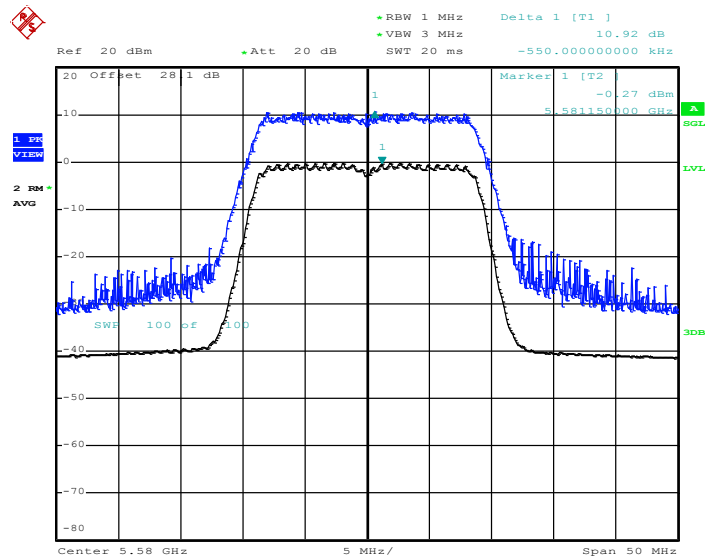
Date: 26.APR.2013 21:21:47

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 64


Date: 26.APR.2013 21:31:10

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 100


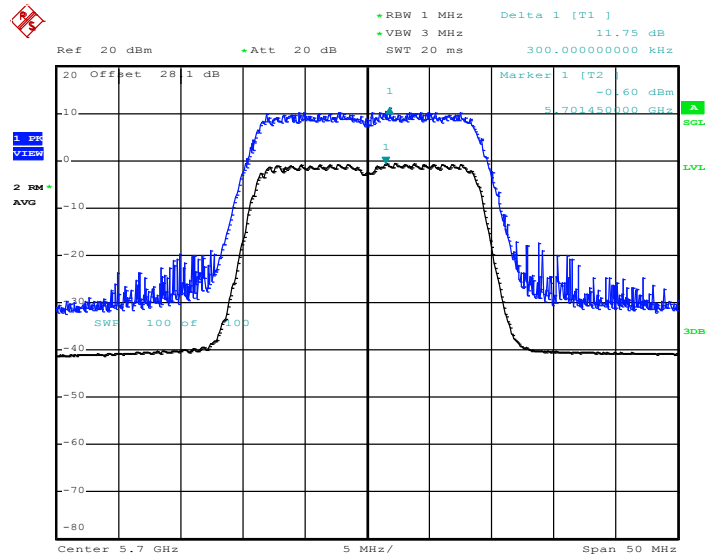
Date: 26.APR.2013 21:40:17

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 116


Date: 26.APR.2013 21:45:06



Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 140

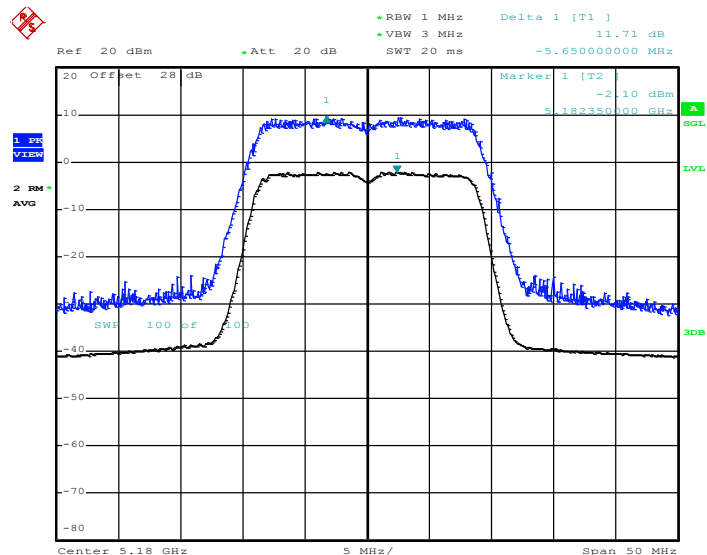


Date: 26.APR.2013 21:52:14



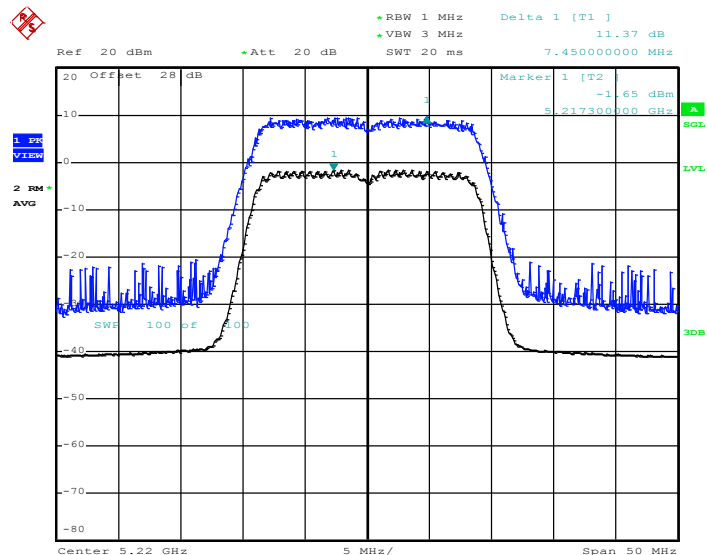
Test Mode :	802.11ac VHT20 MCS8	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 36

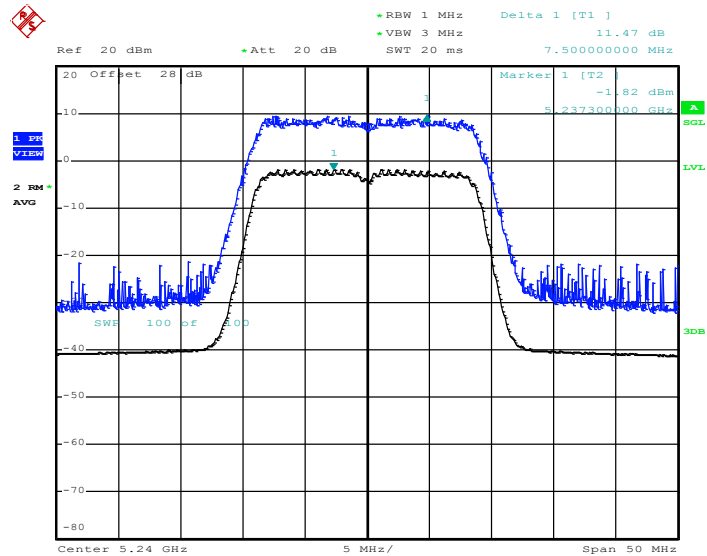


Date: 26.APR.2013 21:00:19

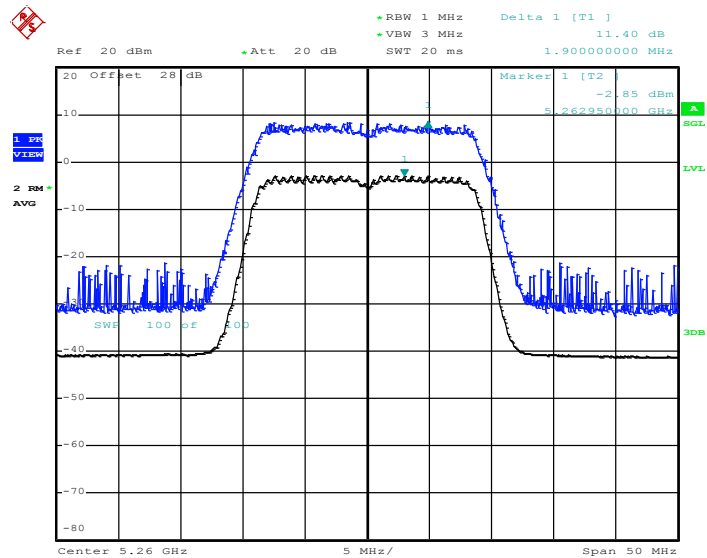
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 44



Date: 26.APR.2013 21:06:25

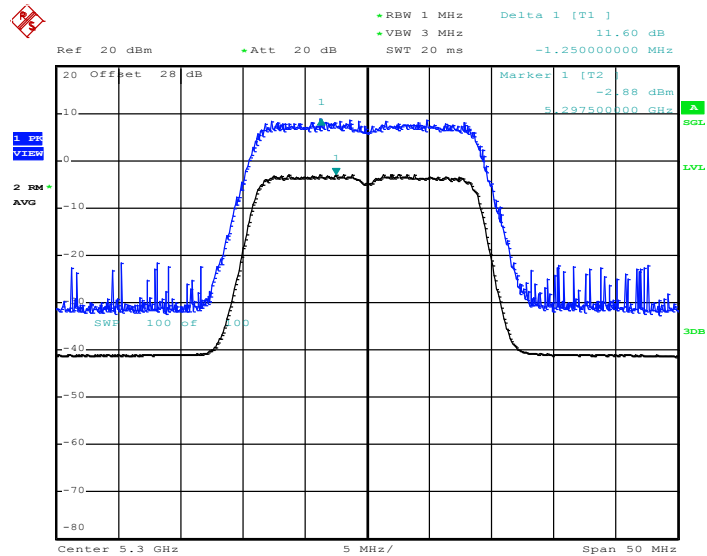
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 48


Date: 26.APR.2013 21:11:36

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 52


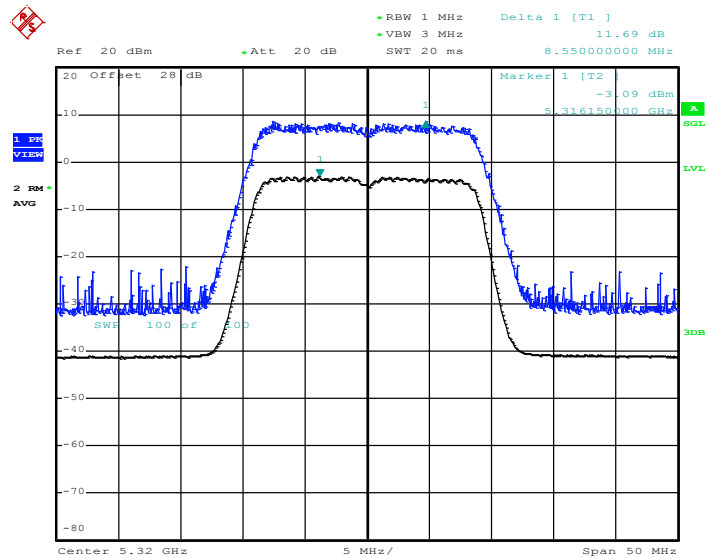
Date: 26.APR.2013 21:17:32

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 60

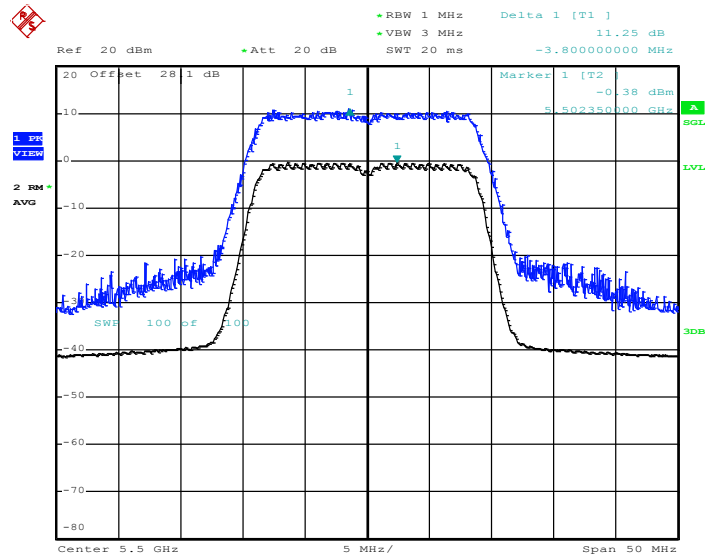


Date: 26.APR.2013 21:22:36

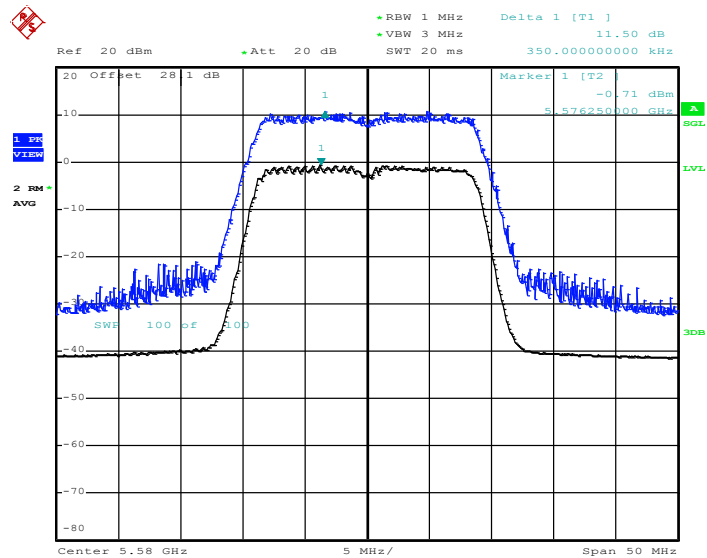
Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 64



Date: 26.APR.2013 21:34:01

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 100


Date: 26.APR.2013 21:41:02

Peak Excursion Ratio Plot on 802.11ac VHT20 Channel 116


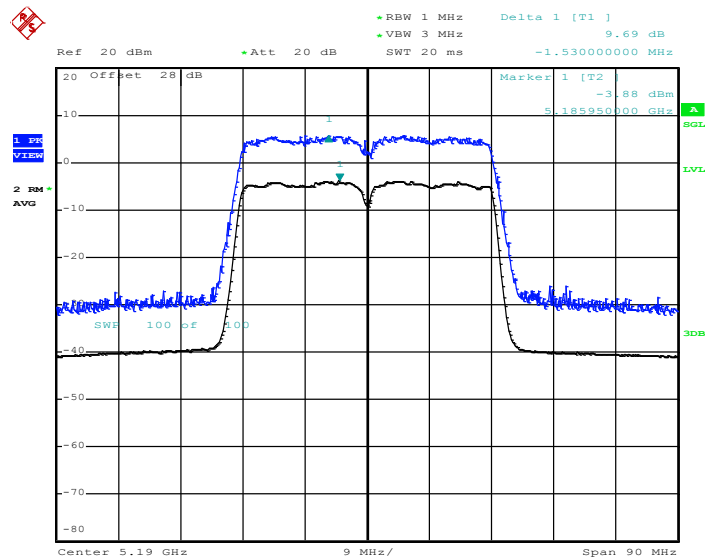
Date: 26.APR.2013 21:45:52





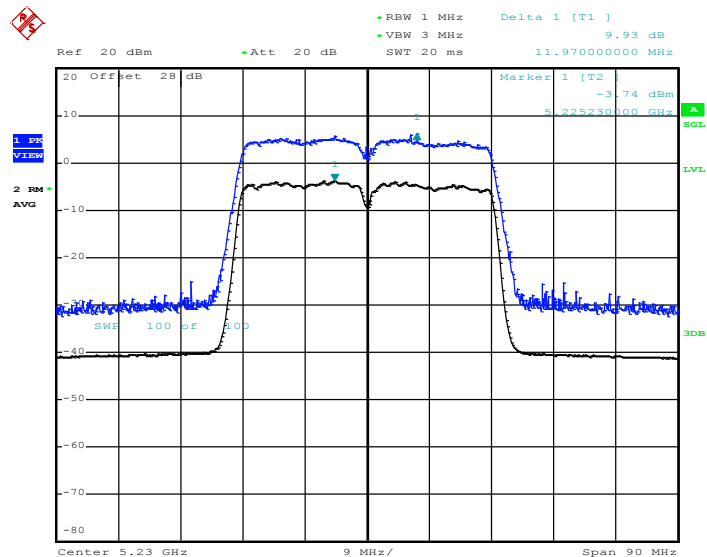
Test Mode :	802.11ac VHT40 MCS0	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 38



Date: 26.APR.2013 22:04:16

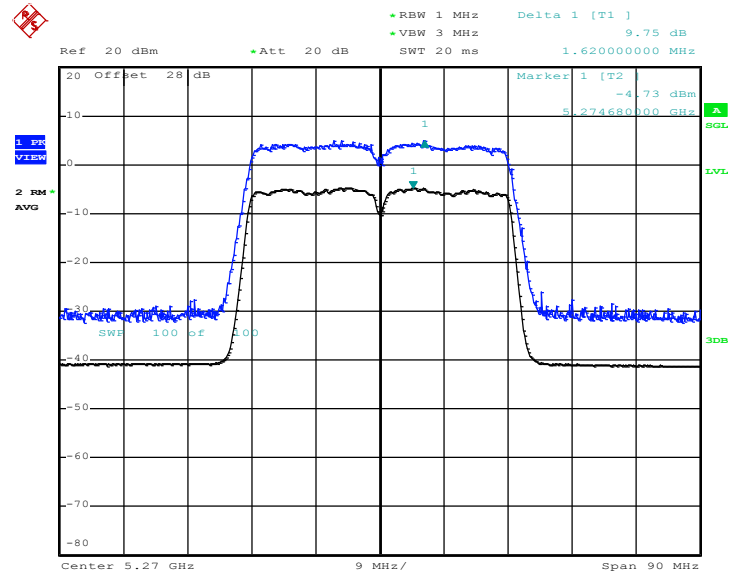
Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 46



Date: 26.APR.2013 22:12:04

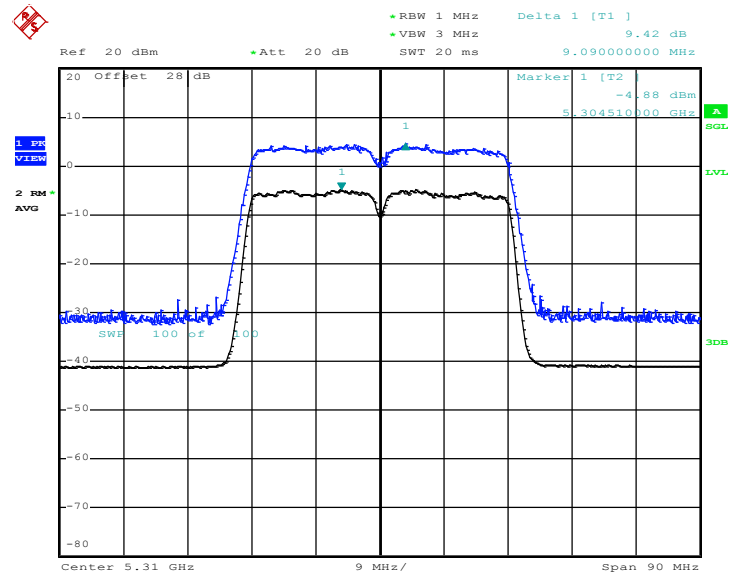


Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 54

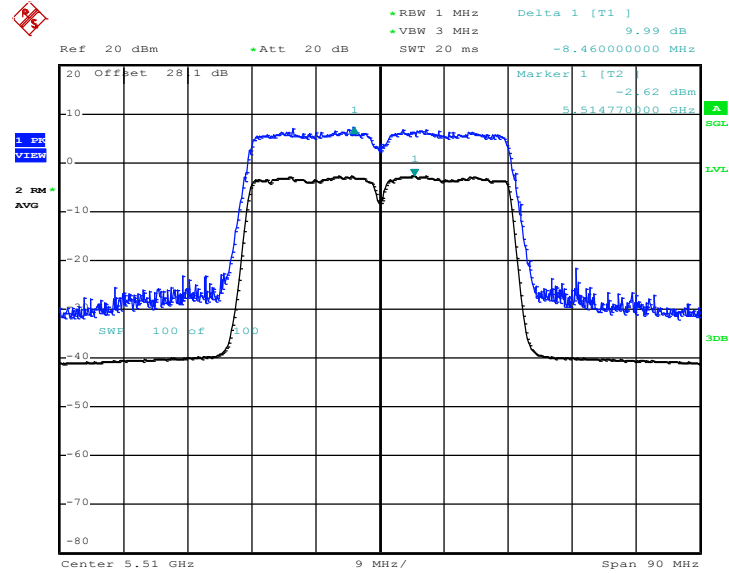


Date: 26.APR.2013 22:25:11

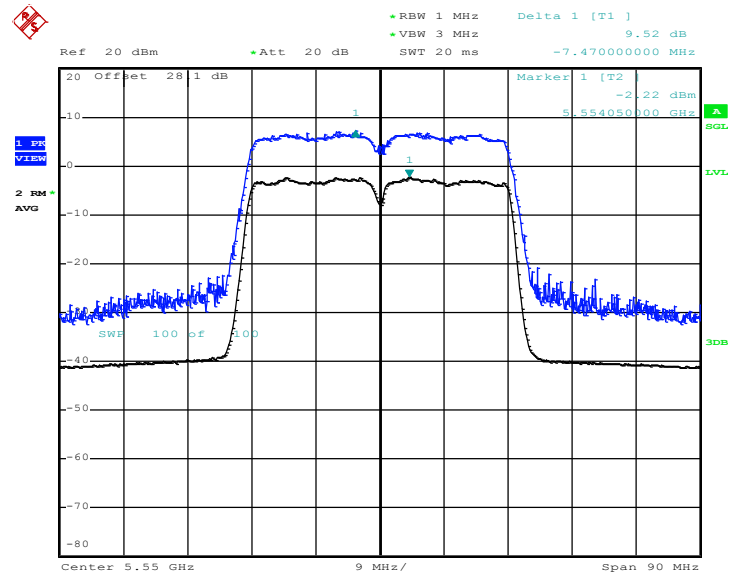
Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 62



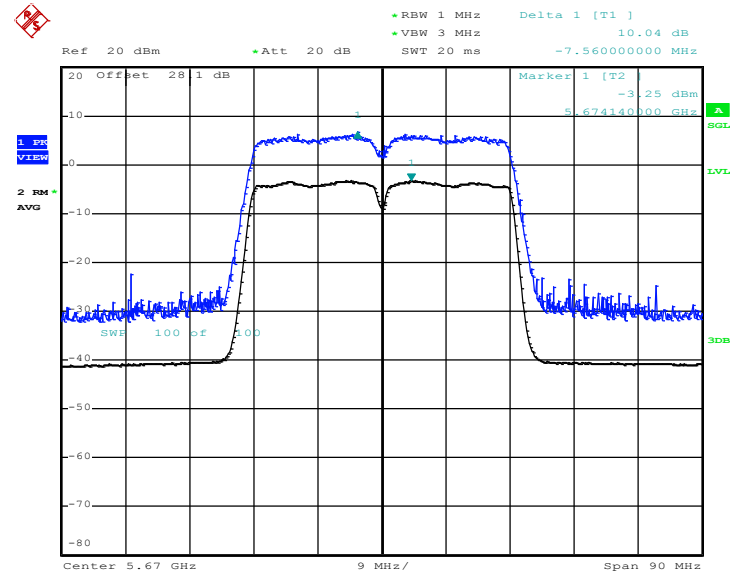
Date: 26.APR.2013 22:30:19

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 102


Date: 26.APR.2013 22:36:15

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 110


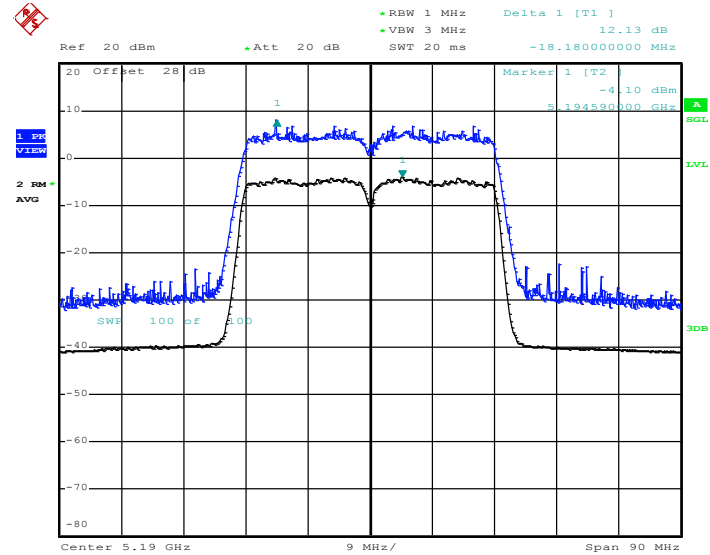
Date: 26.APR.2013 22:43:50

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 134


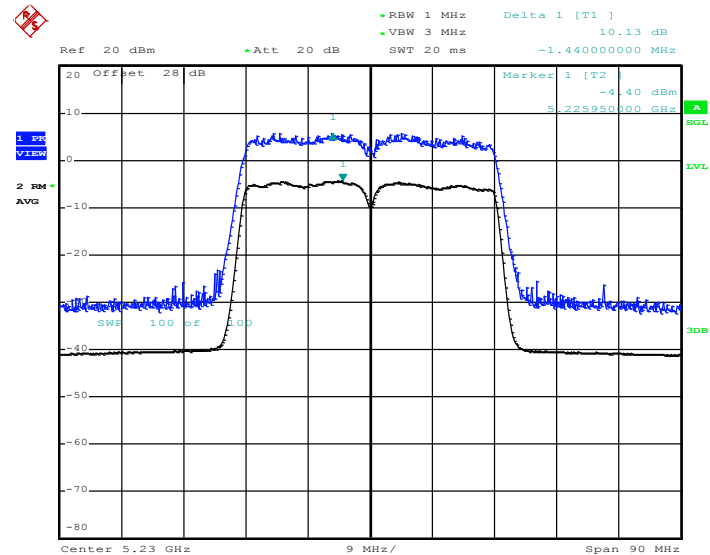
Date: 26.APR.2013 22:52:04



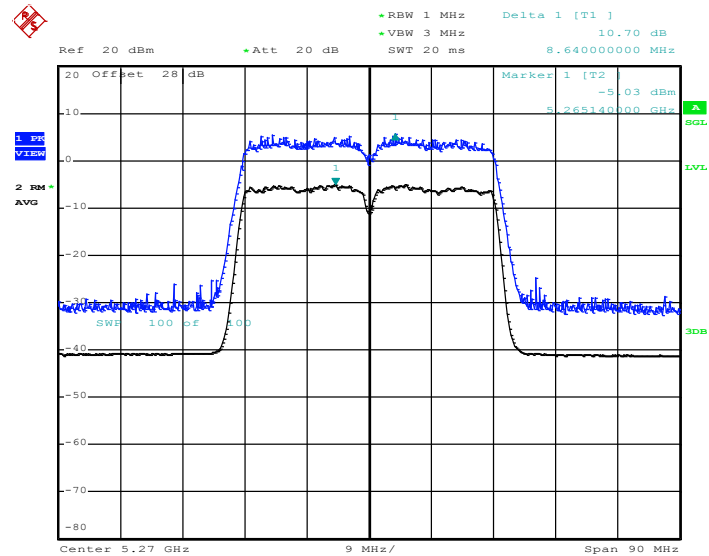
Test Mode :	802.11ac VHT40 MCS1	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 38

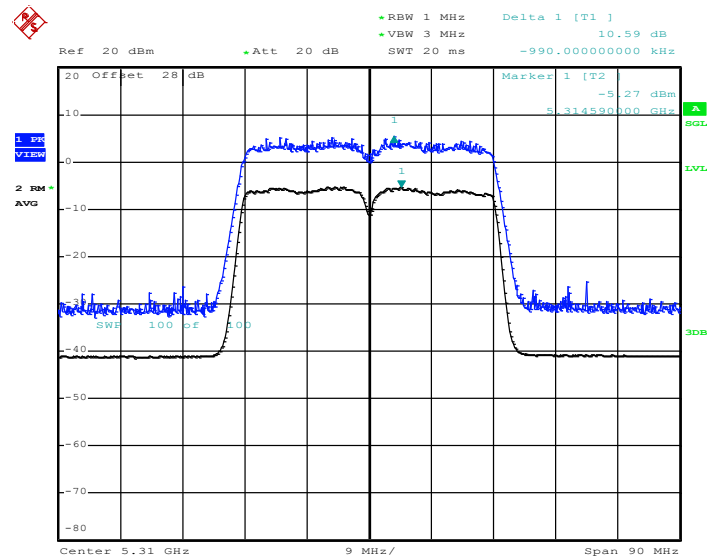
Date: 26.APR.2013 22:06:19

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 46

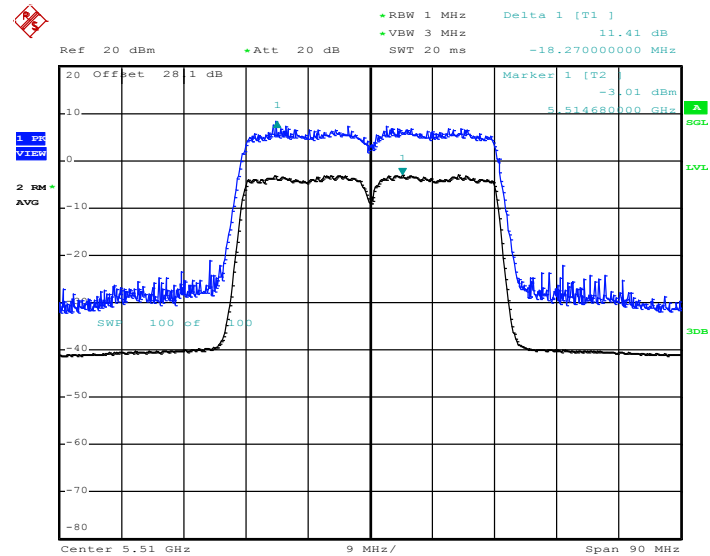
Date: 26.APR.2013 22:14:01

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 54


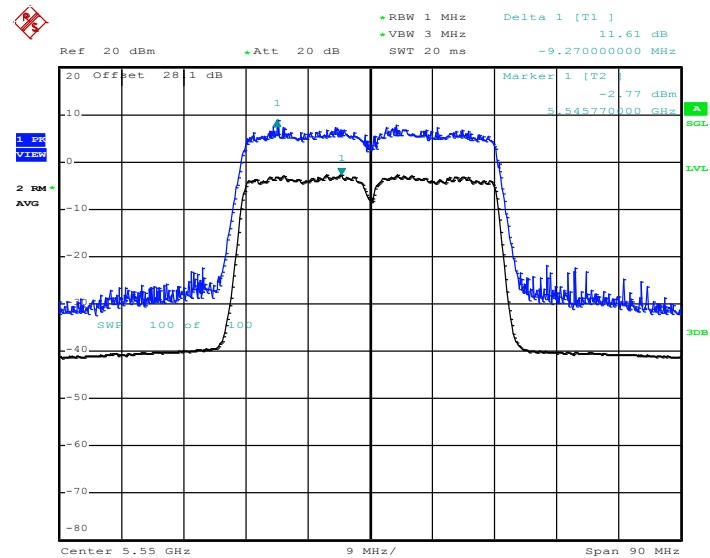
Date: 26.APR.2013 22:26:58

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 62


Date: 26.APR.2013 22:31:47

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 102


Date: 26.APR.2013 22:38:51

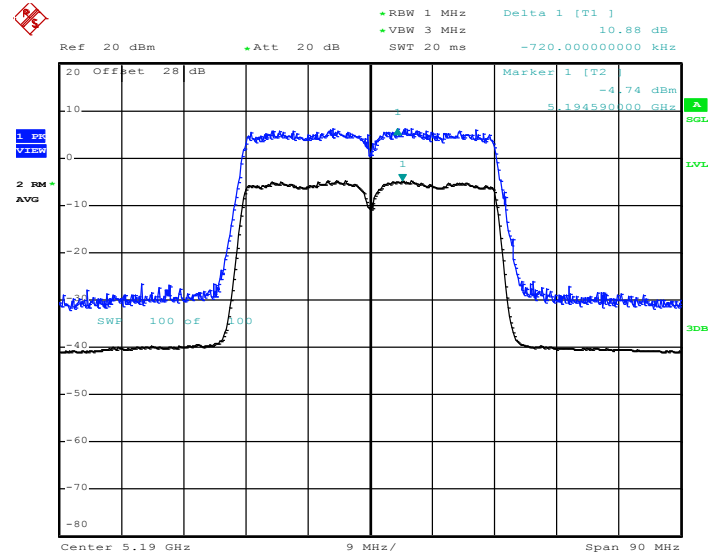
Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 110


Date: 26.APR.2013 22:46:00

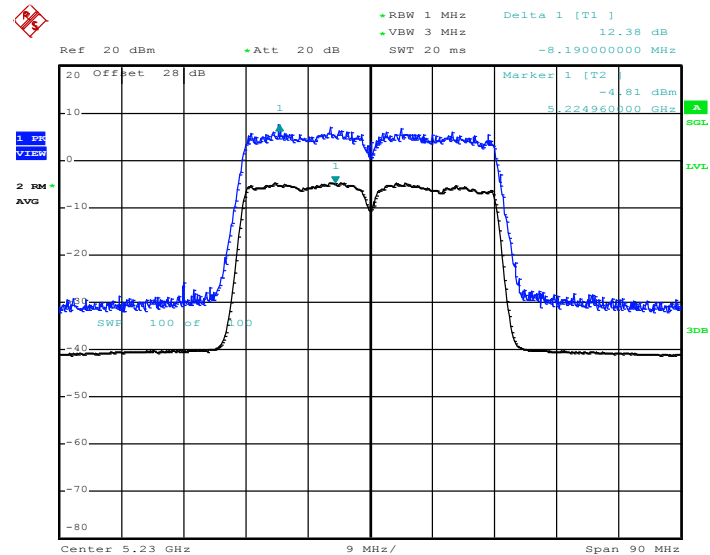




Test Mode :	802.11ac VHT40 MCS3	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

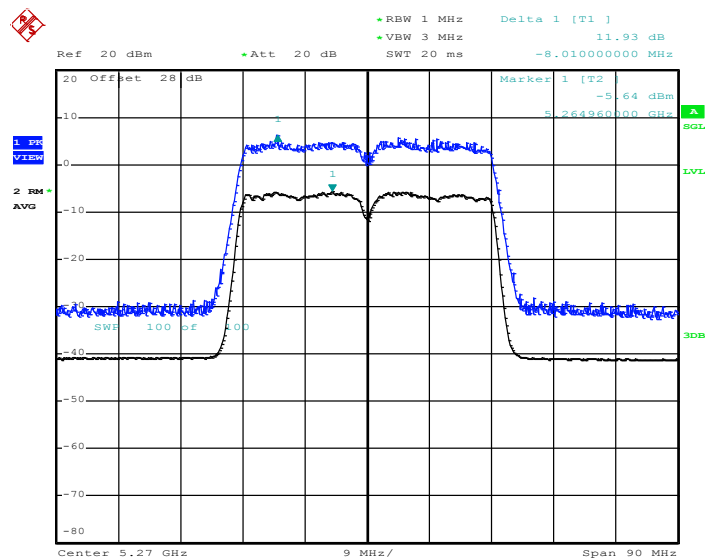
Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 38

Date: 26.APR.2013 22:07:15

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 46

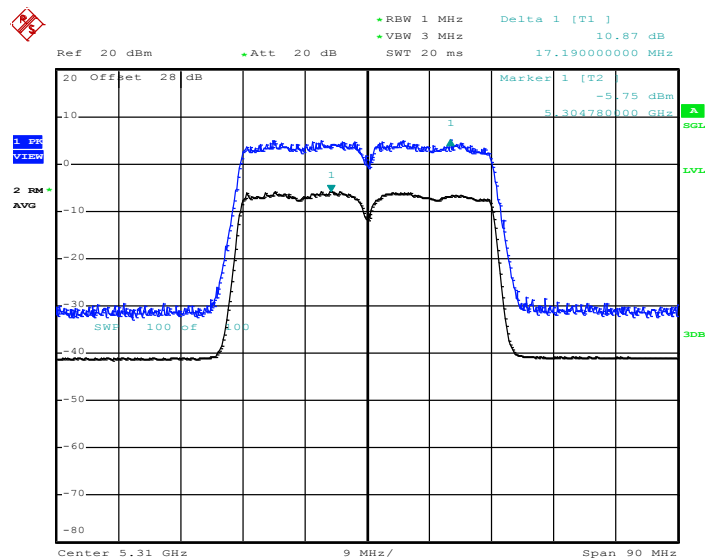
Date: 26.APR.2013 22:15:47

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 54

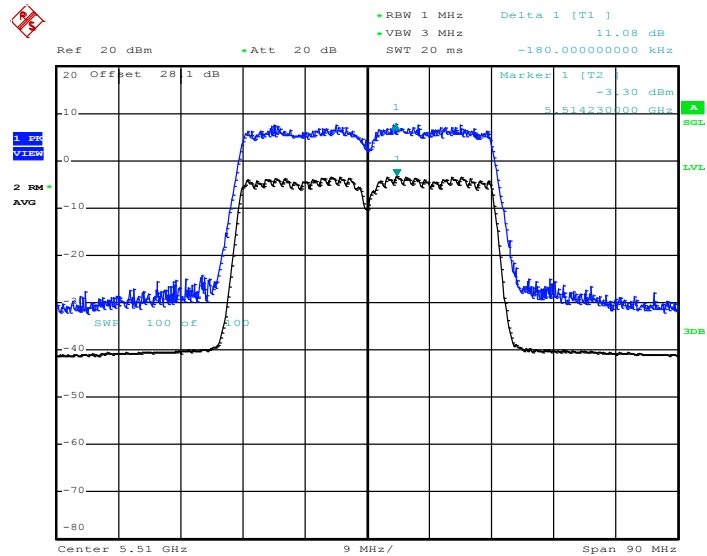


Date: 26.APR.2013 22:27:47

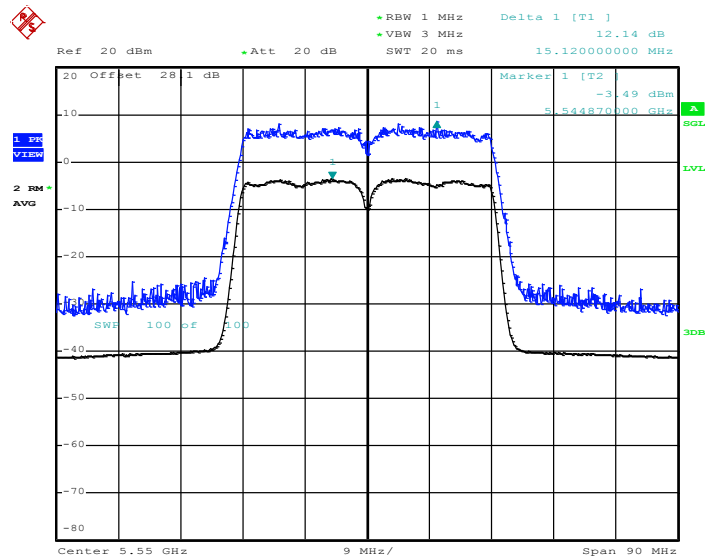
Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 62



Date: 26.APR.2013 22:32:19

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 102


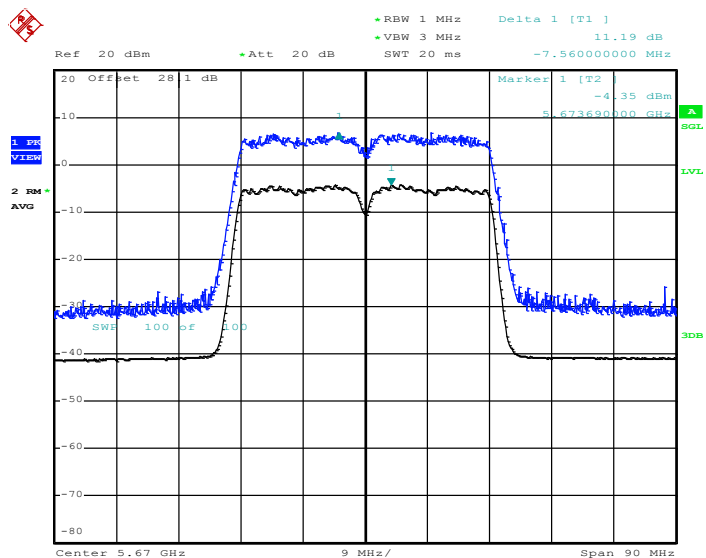
Date: 26.APR.2013 22:39:41

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 110


Date: 26.APR.2013 22:47:54



Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 134

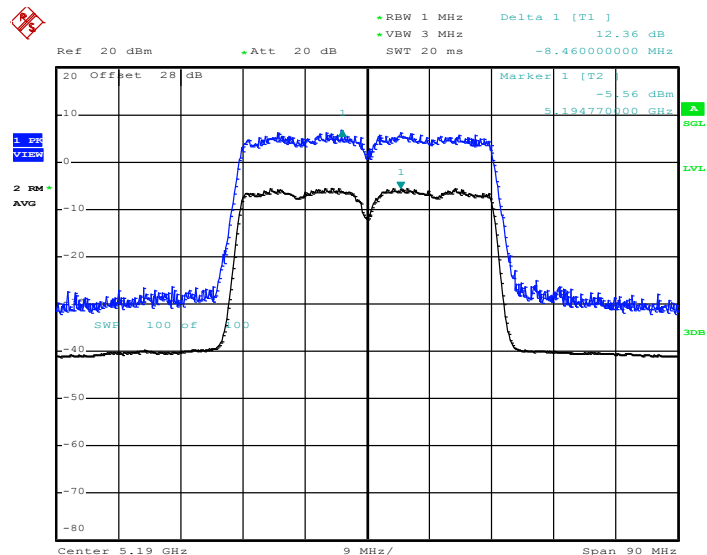


Date: 26.APR.2013 22:55:45



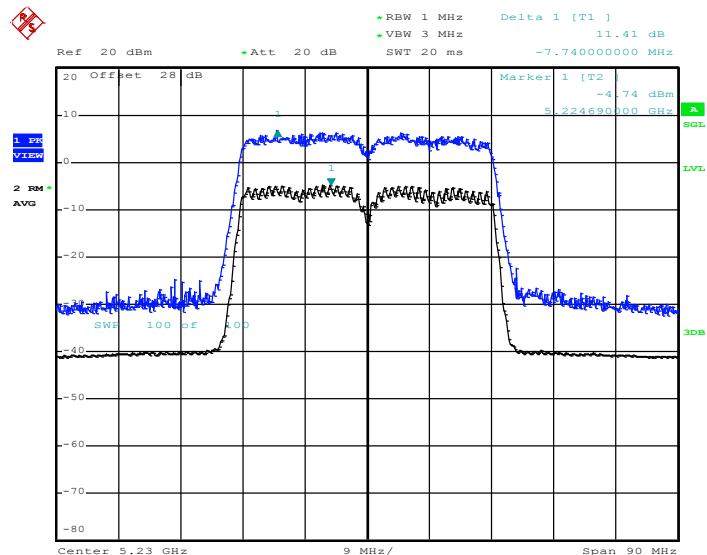
Test Mode :	802.11ac VHT40 MCS5	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 38



Date: 26.APR.2013 22:07:56

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 46

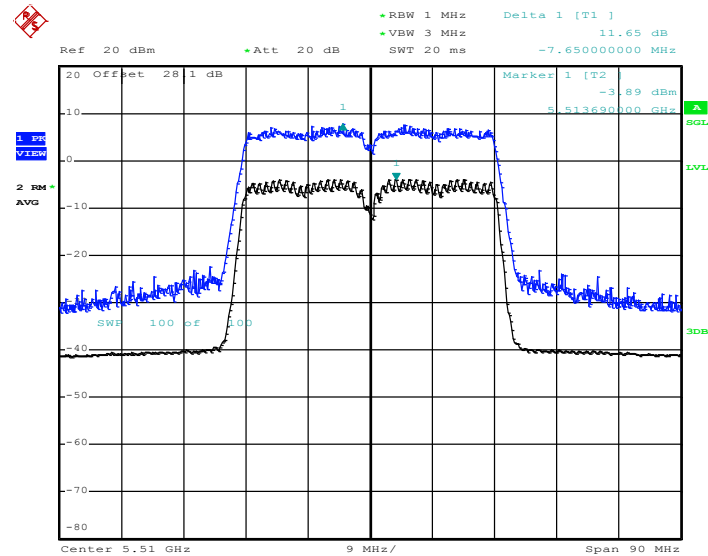


Date: 26.APR.2013 22:16:41

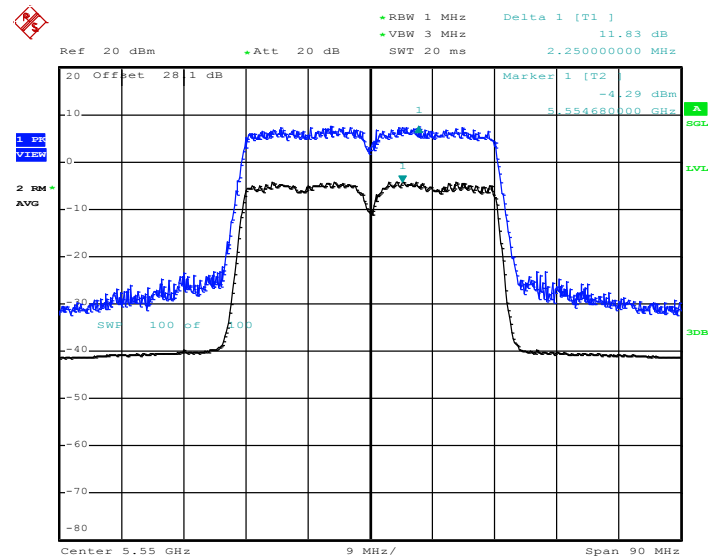


Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 62



Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 102


Date: 26.APR.2013 22:40:45

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 110


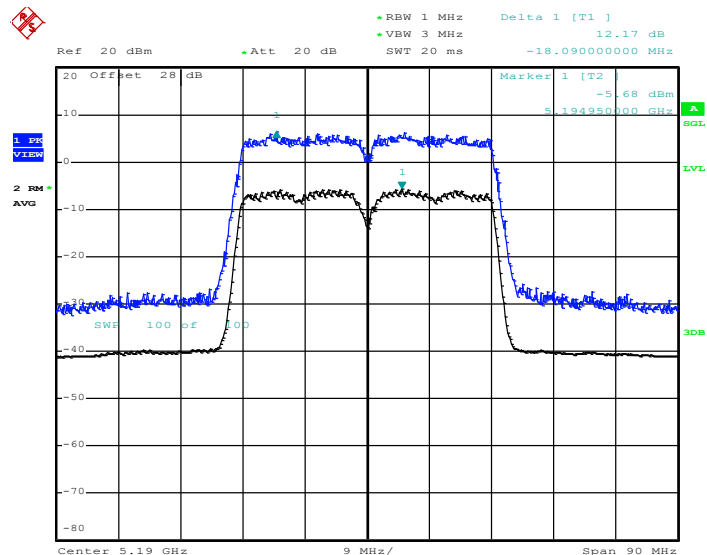
Date: 26.APR.2013 22:48:35





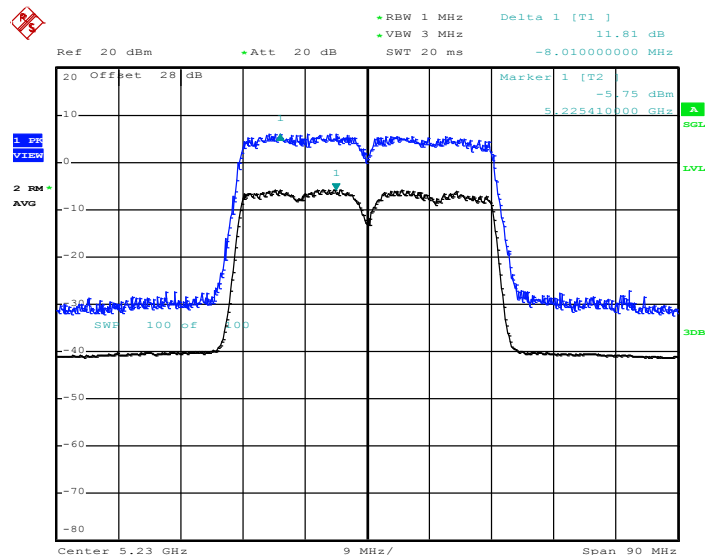
Test Mode :	802.11ac VHT40 MCS8	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 38

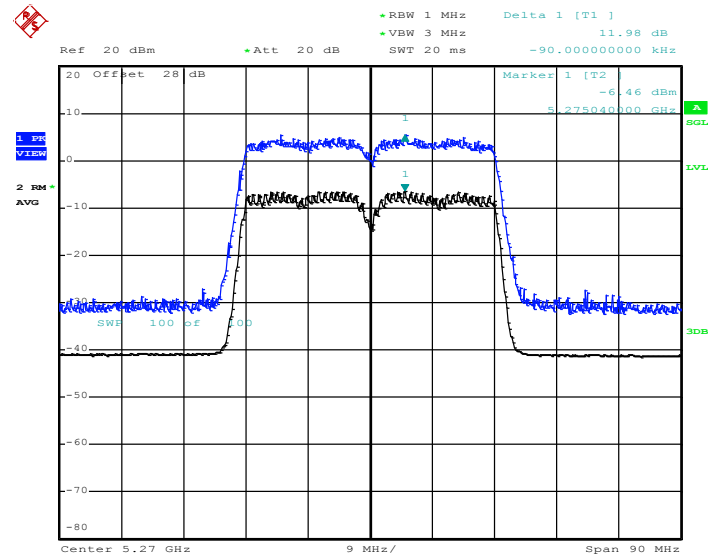


Date: 26.APR.2013 22:10:19

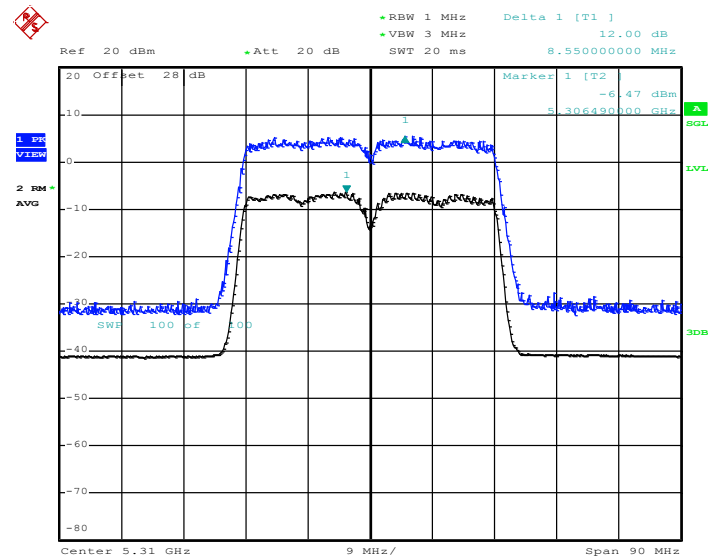
Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 46



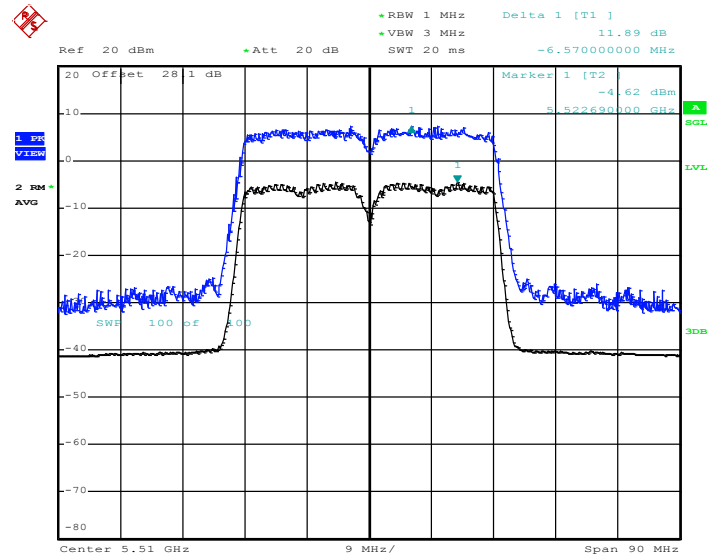
Date: 26.APR.2013 22:19:03

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 54


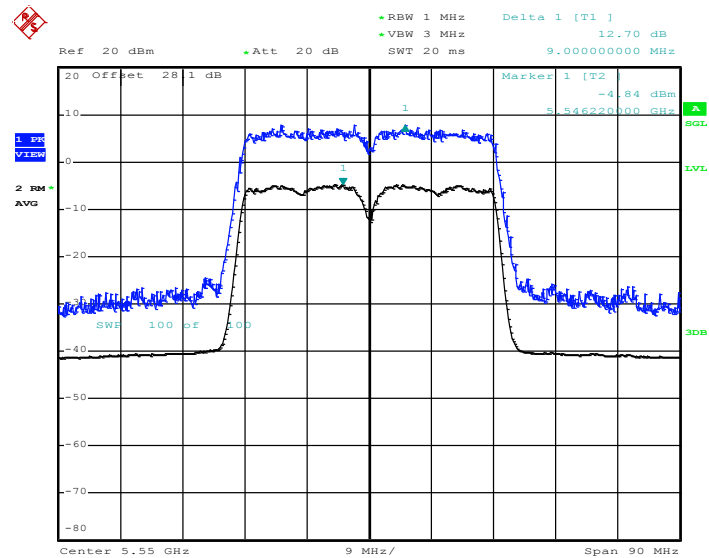
Date: 26.APR.2013 22:28:51

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 62


Date: 26.APR.2013 22:34:05

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 102


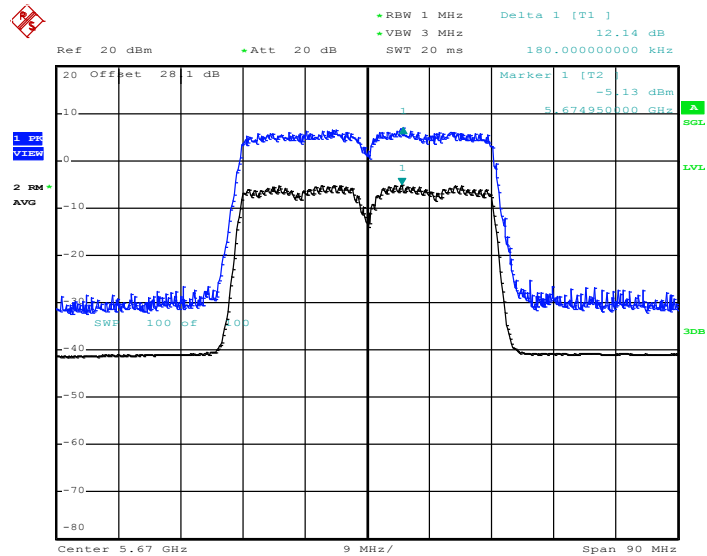
Date: 26.APR.2013 22:41:24

Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 110


Date: 26.APR.2013 22:50:06



Peak Excursion Ratio Plot on 802.11ac VHT40 Channel 134

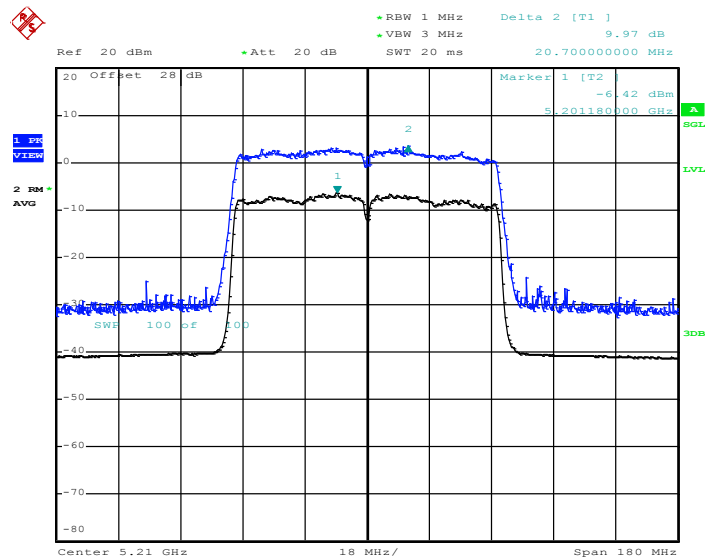


Date: 26.APR.2013 22:57:50



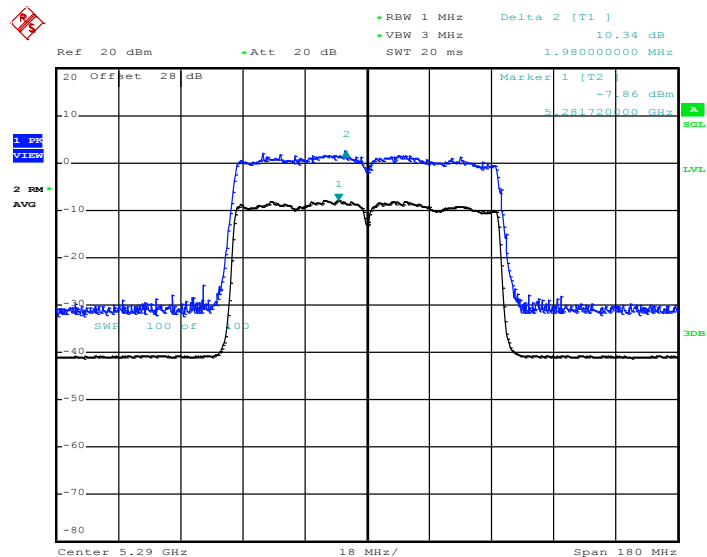
Test Mode :	802.11ac VHT80 MCS0	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 42



Date: 26.APR.2013 23:20:55

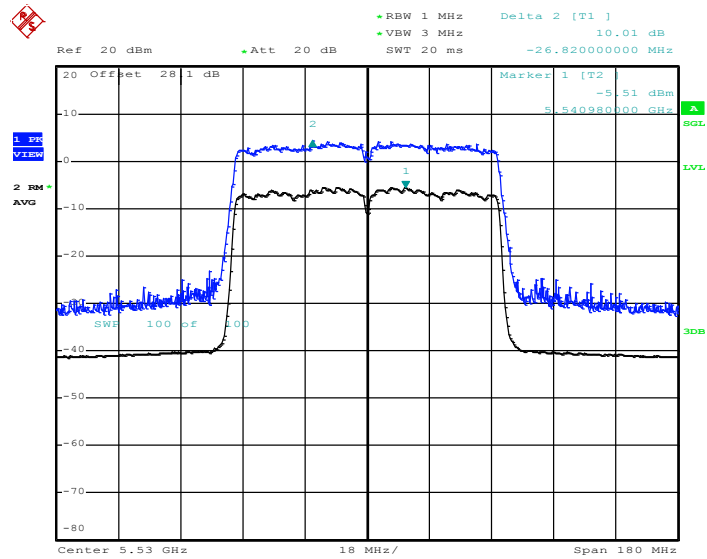
Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 58



Date: 26.APR.2013 23:30:09



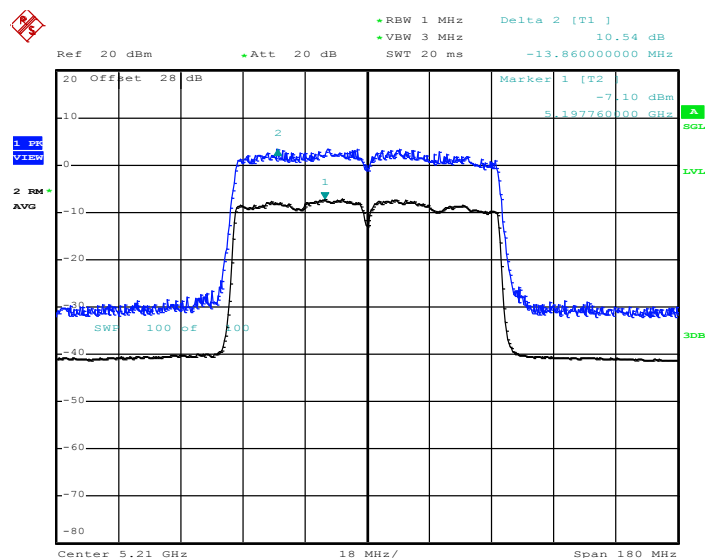
Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 106



Date: 26.APR.2013 23:38:15

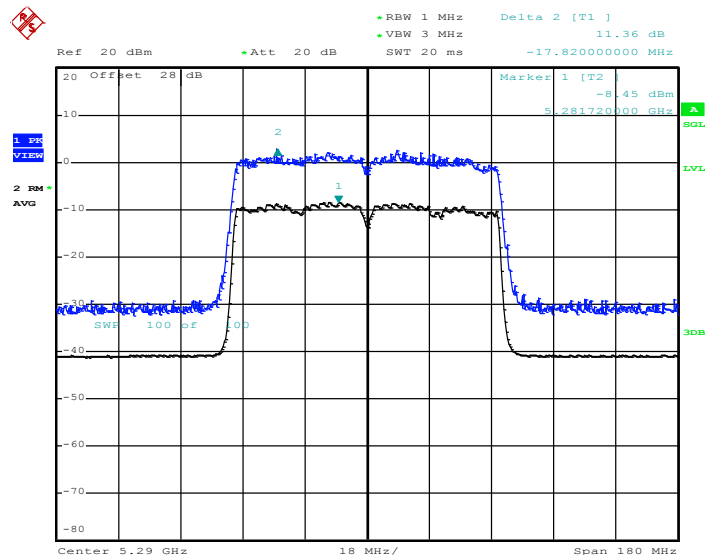
Test Mode :	802.11ac VHT80 MCS1	Temperature :	24~26℃
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 42



Date: 26.APR.2013 23:23:04

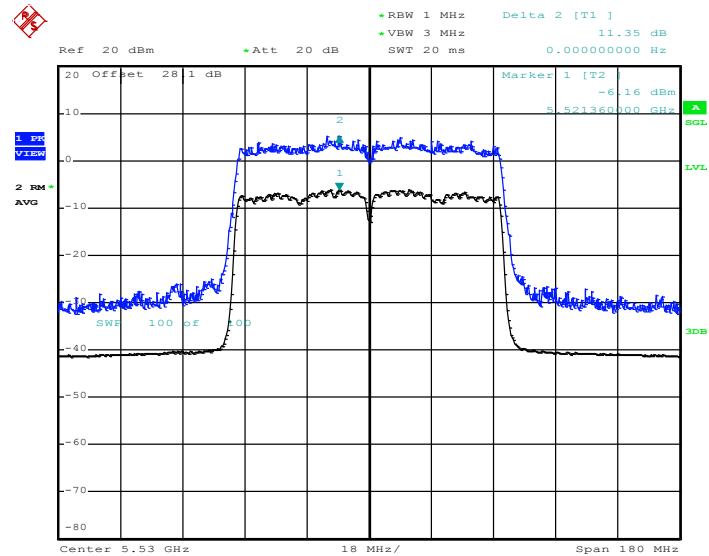
Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 58



Date: 26.APR.2013 23:32:00



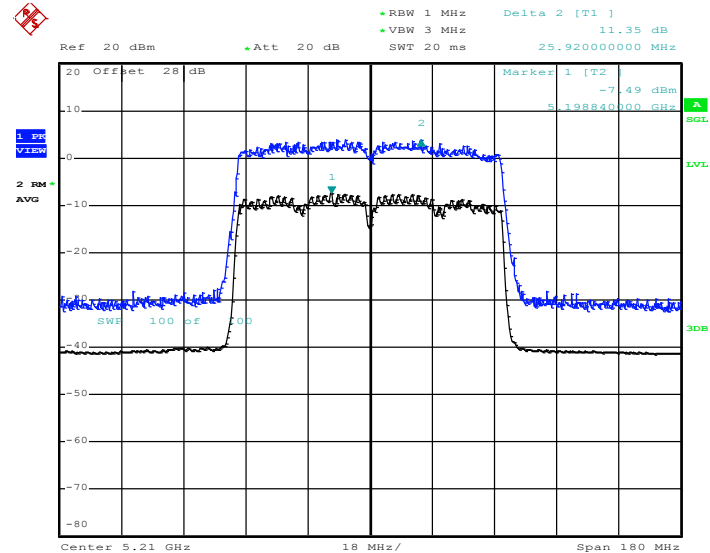
Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 106



Date: 26.APR.2013 23:39:09

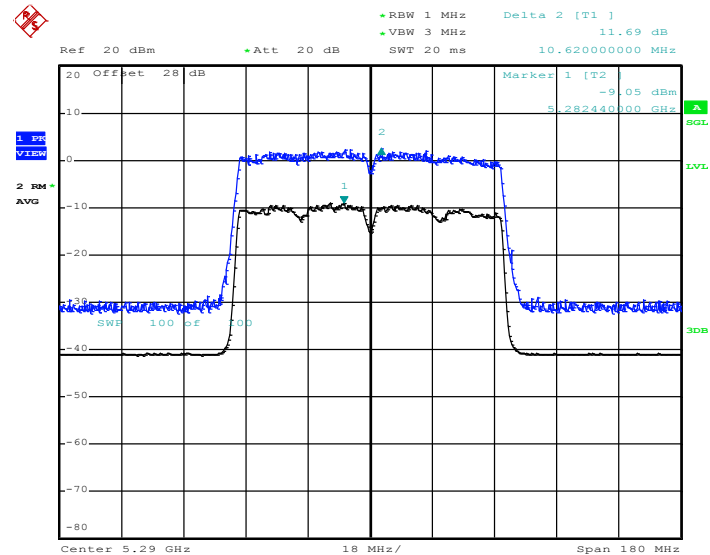
Test Mode :	802.11ac VHT80 MCS3	Temperature :	24~26℃
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 42



Date: 26.APR.2013 23:24:22

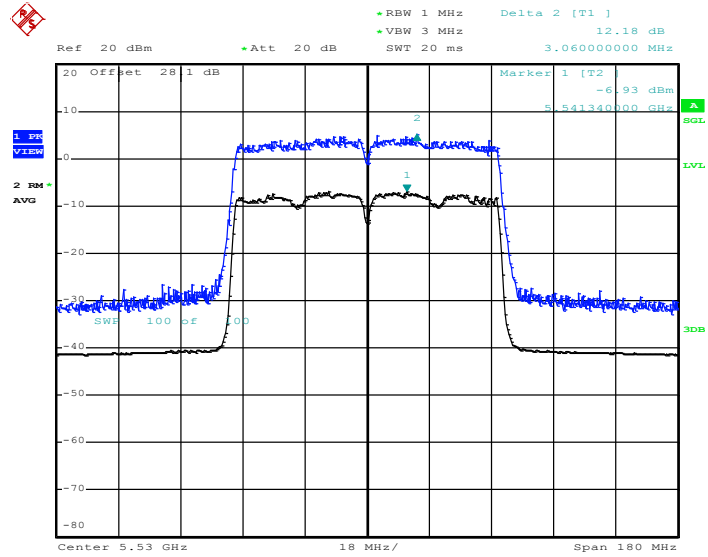
Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 58



Date: 26.APR.2013 23:33:04



Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 106

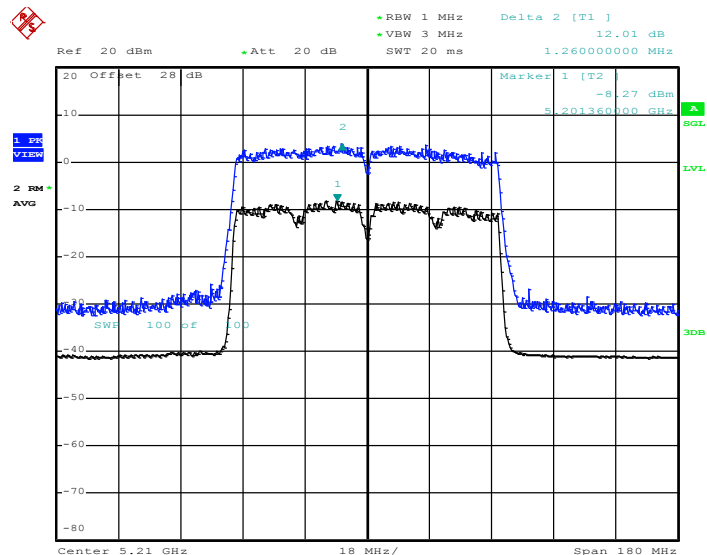


Date: 26.APR.2013 23:39:58



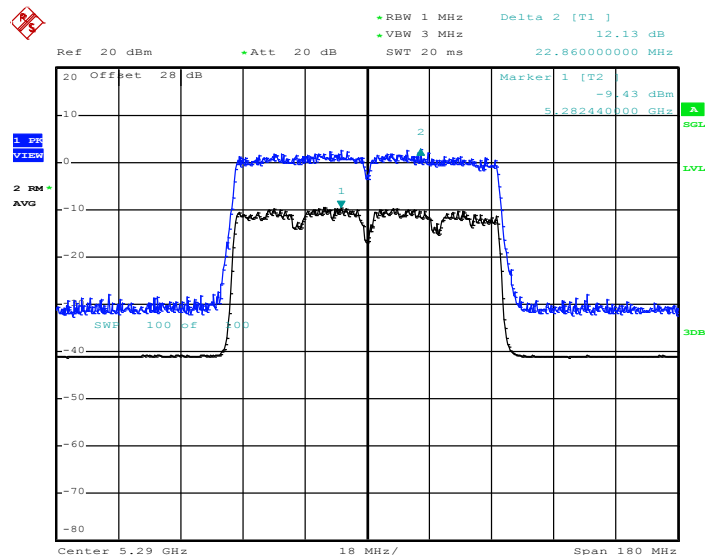
Test Mode :	802.11ac VHT80 MCS5	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 42



Date: 26.APR.2013 23:25:49

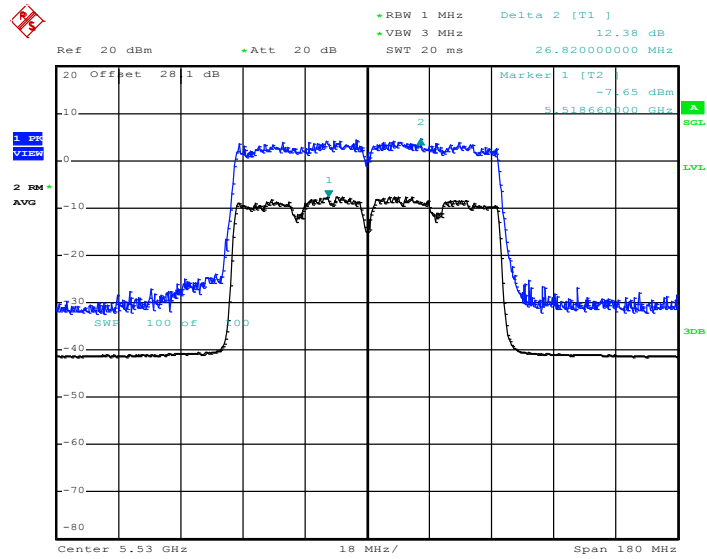
Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 58



Date: 26.APR.2013 23:34:23



Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 106

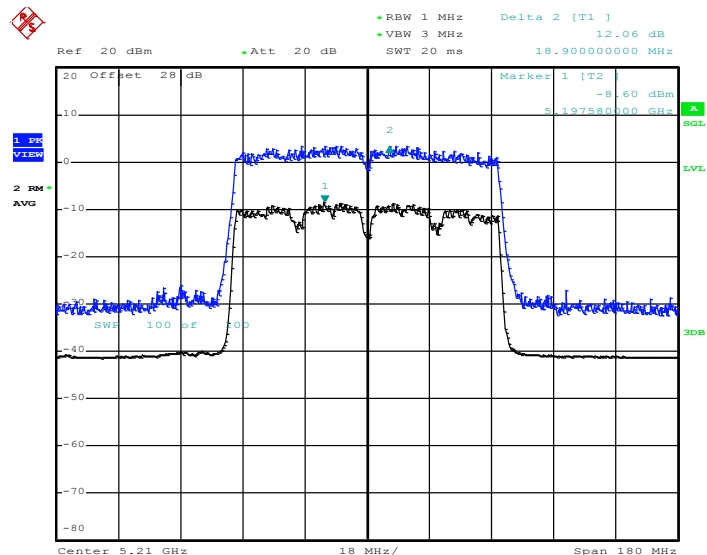


Date: 26.APR.2013 23:40:52



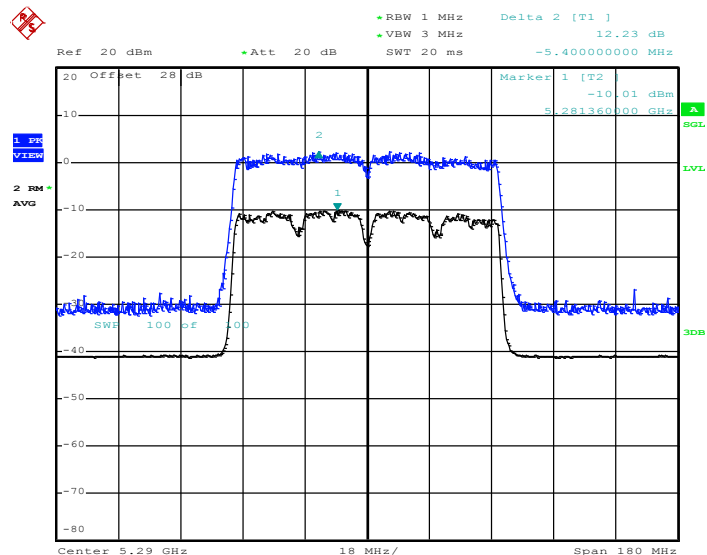
Test Mode :	802.11ac VHT80 MCS8	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 42



Date: 26.APR.2013 23:26:59

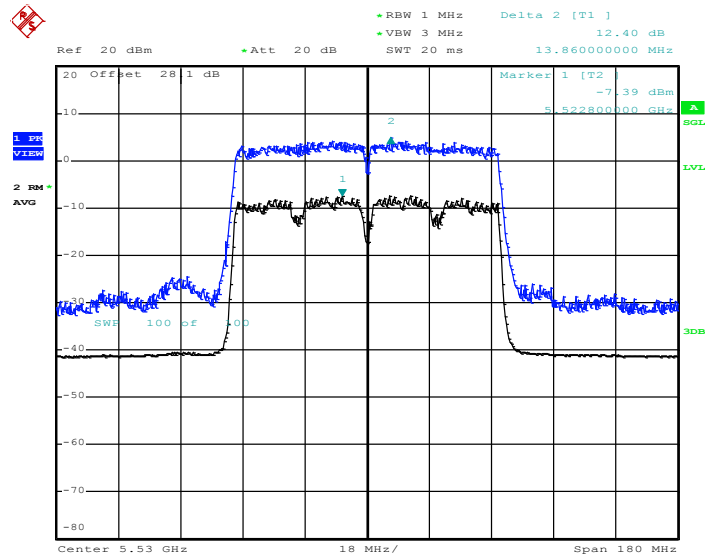
Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 58



Date: 26.APR.2013 23:35:13



Peak Excursion Ratio Plot on 802.11ac VHT80 Channel 106



Date: 26.APR.2013 23:41:44

3.5 Unwanted Radiated Emission Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

3.5.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

- (2) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

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

Note: The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

- (3) KDB789033 v01r03 H)2)c)(i) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.10-2009 and FCC KDB 789033 D01 General UNII Test Procedures v01r03.

Section H) Unwanted emissions measurement.

(1) Procedure for Unwanted Emissions Measurements Below 1000MHz

- RBW = 120 KHz
- VBW = 300 KHz
- Detector = Peak
- Trace mode = max hold

(2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

- The setting follows the H) 5) of FCC KDB 789033.
- RBW = 1 MHz
- VBW $\geq$ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

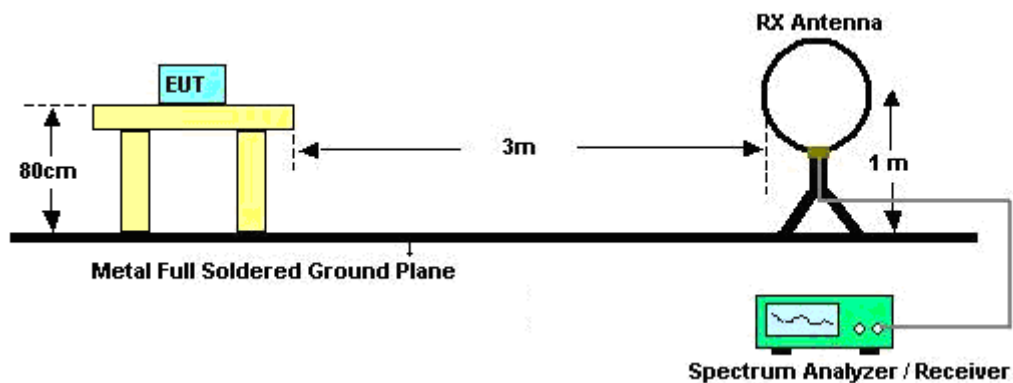
- The setting follows H) 6) of FCC KDB 789033.
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW $\geq$ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(μ s)	1/T(kHz)	VBW Setting
802.11a	93.46	1430	0.699	1kHz
802.11n HT20	92.36	1330	0.752	1kHz
802.11n HT40	86.72	666	1.502	3kHz
802.11ac VHT80	77.06	336	2.976	3kHz

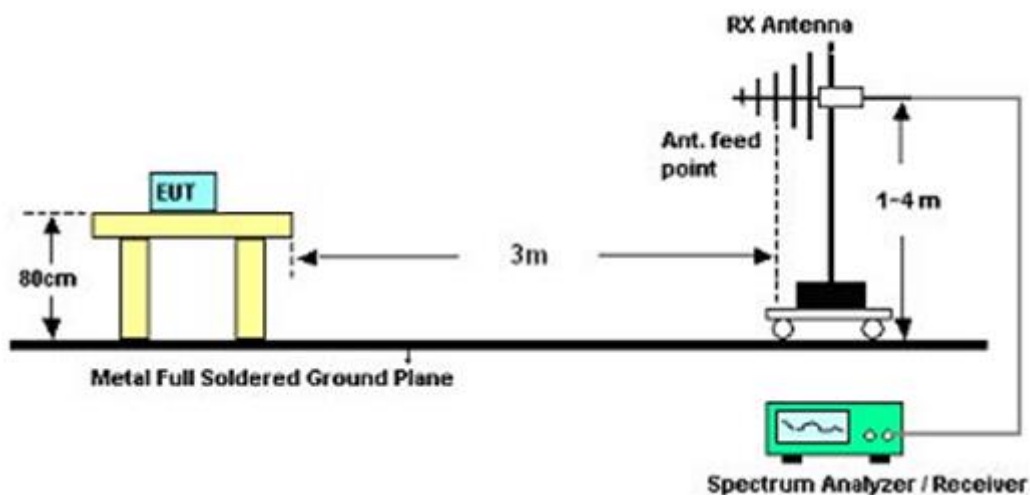
- The EUT was placed on a rotatable table top 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
- For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.5.4 Test Setup

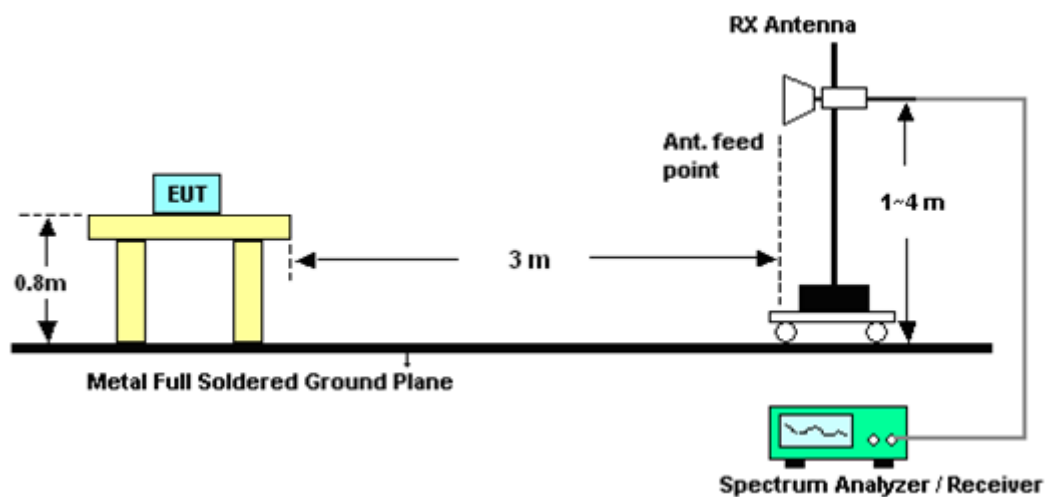
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Emissions (9 KHz ~ 30 MHz)

The low frequency, which started from 9 KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.5.6 Test Result

3.5.6.1 Test Result of Radiated Band Edges

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	62.61	-11.39	74	51.13	34.89	10.44	33.85	144	45	Peak
5149.85	48.17	-5.83	54	36.69	34.89	10.44	33.85	144	45	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5142.95	55.9	-18.1	74	44.42	34.89	10.44	33.85	108	103	Peak
5149.4	45.18	-8.82	54	33.7	34.89	10.44	33.85	108	103	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5144.3	57.99	-16.01	74	46.51	34.89	10.44	33.85	103	41	Peak
5021.6	47.89	-6.11	54	36.66	34.82	10.26	33.85	103	41	Average
5400.05	56.45	-17.55	74	44.46	35.04	10.79	33.84	103	41	Peak
5382.89	45.46	-8.54	54	33.48	35.03	10.79	33.84	103	41	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5022.05	56.25	-17.75	74	45.02	34.82	10.26	33.85	100	115	Peak
5021.6	46.99	-7.01	54	35.76	34.82	10.26	33.85	100	115	Average
5454.17	55.63	-18.37	74	43.51	35.07	10.89	33.84	100	115	Peak
5457.8	44.98	-9.02	54	32.86	35.07	10.89	33.84	100	115	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5040.5	56.24	-17.76	74	45	34.83	10.26	33.85	103	40	Peak
5040.8	46.7	-7.3	54	35.46	34.83	10.26	33.85	103	40	Average
5422.82	55.87	-18.13	74	43.84	35.05	10.82	33.84	103	40	Peak
5451.09	44.84	-9.16	54	32.75	35.07	10.86	33.84	103	40	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5132.9	55.89	-18.11	74	44.46	34.88	10.4	33.85	100	120	Peak
5040.8	46.19	-7.81	54	34.95	34.83	10.26	33.85	100	120	Average
5416.55	55.37	-18.63	74	43.34	35.05	10.82	33.84	100	120	Peak
5411.49	44.95	-9.05	54	32.93	35.04	10.82	33.84	100	120	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5367.93	71.12	-2.88	74	59.19	35.02	10.75	33.84	100	33	Peak
5398.84	47.16	-6.84	54	35.17	35.04	10.79	33.84	100	33	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5361.66	62.59	-11.41	74	50.66	35.02	10.75	33.84	102	114	Peak
5388.06	44.94	-9.06	54	32.96	35.03	10.79	33.84	102	114	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5470	60.03	-13.97	74	47.9	35.08	10.89	33.84	100	343	Peak
5456.4	46.78	-7.22	54	34.66	35.07	10.89	33.84	100	343	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5464.88	56.15	-17.85	74	44.02	35.08	10.89	33.84	100	116	Peak
5458	45.17	-8.83	54	33.05	35.07	10.89	33.84	100	116	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5732.84	72.49	-1.51	74	59.58	35.41	11.34	33.84	103	357	Peak
5731.24	46.97	-7.03	54	34.06	35.41	11.34	33.84	103	357	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5738.44	65.2	-8.8	74	52.26	35.44	11.34	33.84	108	106	Peak
5754.12	45.92	-8.08	54	32.91	35.46	11.39	33.84	108	106	Average



Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5149.25	66.62	-7.38	74	55.14	34.89	10.44	33.85	130	29	Peak
5149.7	47.79	-6.21	54	36.31	34.89	10.44	33.85	130	29	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5149.7	57.46	-16.54	74	45.98	34.89	10.44	33.85	100	115	Peak
5149.85	45	-9	54	33.52	34.89	10.44	33.85	100	115	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5021.15	55.95	-18.05	74	44.72	34.82	10.26	33.85	114	31	Peak
5021.6	47.3	-6.7	54	36.07	34.82	10.26	33.85	114	31	Average
5356.05	56.89	-17.11	74	44.97	35.01	10.75	33.84	114	31	Peak
5395.54	45.78	-8.22	54	33.79	35.04	10.79	33.84	114	31	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5021.45	55.42	-18.58	74	44.19	34.82	10.26	33.85	100	121	Peak
5021.45	45.87	-8.13	54	34.64	34.82	10.26	33.85	100	121	Average
5446.8	55.59	-18.41	74	43.5	35.07	10.86	33.84	100	121	Peak
5455.49	44.98	-9.02	54	32.86	35.07	10.89	33.84	100	121	Average



Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5109.5	56.43	-17.57	74	45.04	34.87	10.37	33.85	104	30	Peak
5040.8	46.85	-7.15	54	35.61	34.83	10.26	33.85	104	30	Average
5366.39	56.13	-17.87	74	44.2	35.02	10.75	33.84	104	30	Peak
5412.92	45.18	-8.82	54	33.15	35.05	10.82	33.84	104	30	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5040.65	56.81	-17.19	74	45.57	34.83	10.26	33.85	100	116	Peak
5040.8	46.28	-7.72	54	35.04	34.83	10.26	33.85	100	116	Average
5391.47	55.24	-18.76	74	43.26	35.03	10.79	33.84	100	116	Peak
5454.06	44.86	-9.14	54	32.74	35.07	10.89	33.84	100	116	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5351.21	61.77	-12.23	74	49.88	35.01	10.72	33.84	102	31	Peak
5398.51	46.6	-7.4	54	34.61	35.04	10.79	33.84	102	31	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5369.58	55.89	-18.11	74	43.96	35.02	10.75	33.84	105	110	Peak
5396.53	45.05	-8.95	54	33.06	35.04	10.79	33.84	105	110	Average



Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5436.4	62.07	-11.93	74	49.99	35.06	10.86	33.84	100	345	Peak
5468.72	46.78	-7.22	54	34.65	35.08	10.89	33.84	100	345	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5448.72	61.78	-12.22	74	49.69	35.07	10.86	33.84	102	113	Peak
5454.16	45.1	-8.9	54	32.98	35.07	10.89	33.84	102	113	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5729	72.1	-1.9	74	59.19	35.41	11.34	33.84	106	355	Peak
5730.36	46.94	-7.06	54	34.03	35.41	11.34	33.84	106	355	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5730.44	66.65	-7.35	74	53.74	35.41	11.34	33.84	193	173	Peak
5729.64	45.93	-8.07	54	33.02	35.41	11.34	33.84	193	173	Average



Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	38	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5149.4	70.7	-3.3	74	59.22	34.89	10.44	33.85	116	29	Peak
5150	51.82	-2.18	54	40.34	34.89	10.44	33.85	116	29	Average
5359.24	55.87	-18.13	74	43.95	35.01	10.75	33.84	116	29	Peak
5354.18	45.57	-8.43	54	33.68	35.01	10.72	33.84	116	29	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5141.9	61.28	-12.72	74	49.8	34.89	10.44	33.85	100	113	Peak
5148.5	46.32	-7.68	54	34.84	34.89	10.44	33.85	100	113	Average
5372.88	55.37	-18.63	74	43.44	35.02	10.75	33.84	100	113	Peak
5426.23	45.17	-8.83	54	33.14	35.05	10.82	33.84	100	113	Average



Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	46	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5148.35	57.65	-16.35	74	46.17	34.89	10.44	33.85	116	29	Peak
5149.4	46.93	-7.07	54	35.45	34.89	10.44	33.85	116	29	Average
5362.1	56.09	-17.91	74	44.16	35.02	10.75	33.84	116	29	Peak
5372.77	45.48	-8.52	54	33.55	35.02	10.75	33.84	116	29	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5147.6	55.75	-18.25	74	44.27	34.89	10.44	33.85	100	114	Peak
5148.2	44.87	-9.13	54	33.39	34.89	10.44	33.85	100	114	Average
5367.27	55.33	-18.67	74	43.4	35.02	10.75	33.84	100	114	Peak
5451.53	45.14	-8.86	54	33.05	35.07	10.86	33.84	100	114	Average



Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	54	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5109.05	56.34	-17.66	74	44.95	34.87	10.37	33.85	103	28	Peak
5138.45	45.35	-8.65	54	33.92	34.88	10.4	33.85	103	28	Average
5363.75	56.06	-17.94	74	44.13	35.02	10.75	33.84	103	28	Peak
5356.38	45.69	-8.31	54	33.77	35.01	10.75	33.84	103	28	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5147.6	55.5	-18.5	74	44.02	34.89	10.44	33.85	100	116	Peak
5135.9	44.85	-9.15	54	33.42	34.88	10.4	33.85	100	116	Average
5393.67	55.45	-18.55	74	43.47	35.03	10.79	33.84	100	116	Peak
5445.92	45.15	-8.85	54	33.06	35.07	10.86	33.84	100	116	Average



Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	62	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5145.95	55.37	-18.63	74	43.89	34.89	10.44	33.85	114	26	Peak
5148.8	45.33	-8.67	54	33.85	34.89	10.44	33.85	114	26	Average
5352.53	66.86	-7.14	74	54.97	35.01	10.72	33.84	114	26	Peak
5350.66	47.79	-6.21	54	35.9	35.01	10.72	33.84	114	26	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5121.5	54.8	-19.2	74	43.38	34.87	10.4	33.85	100	162	Peak
5146.1	44.69	-9.31	54	33.21	34.89	10.44	33.85	100	162	Average
5429.97	55.42	-18.58	74	43.34	35.06	10.86	33.84	100	162	Peak
5446.25	45.2	-8.8	54	33.11	35.07	10.86	33.84	100	162	Average



Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	102	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5469.36	71.3	-2.7	74	59.17	35.08	10.89	33.84	100	32	Peak
5470	50.12	-3.88	54	37.99	35.08	10.89	33.84	100	32	Average
5756.52	56.38	-17.62	74	43.37	35.46	11.39	33.84	100	32	Peak
5736.76	45.69	-8.31	54	32.75	35.44	11.34	33.84	100	32	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5467.92	59.28	-14.72	74	47.15	35.08	10.89	33.84	101	94	Peak
5470	45.81	-8.19	54	33.68	35.08	10.89	33.84	101	94	Average
5734.92	57.12	-16.88	74	44.18	35.44	11.34	33.84	101	94	Peak
5738.36	45.74	-8.26	54	32.8	35.44	11.34	33.84	101	94	Average



Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	134	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5420.08	56	-18	74	43.97	35.05	10.82	33.84	106	355	Peak
5454.16	45.32	-8.68	54	33.2	35.07	10.89	33.84	106	355	Average
5726.68	62.51	-11.49	74	49.6	35.41	11.34	33.84	106	355	Peak
5729.08	46.6	-7.4	54	33.69	35.41	11.34	33.84	106	355	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5431.6	56.12	-17.88	74	44.04	35.06	10.86	33.84	100	171	Peak
5466.32	45.26	-8.74	54	33.13	35.08	10.89	33.84	100	171	Average
5731.4	56.68	-17.32	74	43.77	35.41	11.34	33.84	100	171	Peak
5757.72	45.84	-8.16	54	32.83	35.46	11.39	33.84	100	171	Average



Test Mode :	802.11ac VHT80	Temperature :	27~28°C
Test Channel :	42	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5140.55	71.34	-2.66	74	59.86	34.89	10.44	33.85	104	31	Peak
5141.9	53.58	-0.42	54	42.1	34.89	10.44	33.85	104	31	Average
5351.1	56.77	-17.23	74	44.88	35.01	10.72	33.84	104	31	Peak
5443.06	45.22	-8.78	54	33.14	35.06	10.86	33.84	104	31	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5149.4	63.11	-10.89	74	51.63	34.89	10.44	33.85	107	110	Peak
5148.05	46.92	-7.08	54	35.44	34.89	10.44	33.85	107	110	Average
5388.83	55.71	-18.29	74	43.73	35.03	10.79	33.84	107	110	Peak
5444.93	45.1	-8.9	54	33.02	35.06	10.86	33.84	107	110	Average



Test Mode :	802.11ac VHT80	Temperature :	27~28°C
Test Channel :	58	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5017.25	55.78	-18.22	74	44.59	34.81	10.23	33.85	100	41	Peak
5137.7	45.23	-8.77	54	33.8	34.88	10.4	33.85	100	41	Average
5354.18	70.19	-3.81	74	58.3	35.01	10.72	33.84	100	41	Peak
5353.19	49.3	-4.7	54	37.41	35.01	10.72	33.84	100	41	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5147.6	55.03	-18.97	74	43.55	34.89	10.44	33.85	100	165	Peak
5149.7	44.8	-9.2	54	33.32	34.89	10.44	33.85	100	165	Average
5389.93	55.85	-18.15	74	43.87	35.03	10.79	33.84	100	165	Peak
5428.43	45.15	-8.85	54	33.08	35.05	10.86	33.84	100	165	Average



Test Mode :	802.11ac VHT80	Temperature :	27~28°C
Test Channel :	106	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5467.6	70.57	-3.43	74	58.44	35.08	10.89	33.84	100	346	Peak
5470	52.73	-1.27	54	40.6	35.08	10.89	33.84	100	346	Average
5763.88	56.6	-17.4	74	43.59	35.46	11.39	33.84	100	346	Peak
5748.04	45.77	-8.23	54	32.78	35.44	11.39	33.84	100	346	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5468.08	61.11	-12.89	74	48.98	35.08	10.89	33.84	100	99	Peak
5469.04	46.87	-7.13	54	34.74	35.08	10.89	33.84	100	99	Average
5747.16	56.47	-17.53	74	43.48	35.44	11.39	33.84	100	99	Peak
5739	45.76	-8.24	54	32.82	35.44	11.34	33.84	100	99	Average

3.5.6.2 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5178 MHz is fundamental signal which can be ignored. 2. 10359 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5178	99.37	-	-	87.84	34.91	10.47	33.85	144	45	Average
5178	109.63	-	-	98.1	34.91	10.47	33.85	144	45	Peak
10359	50.83	-23.17	74	57.86	37.69	10.64	55.36	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5184 MHz is fundamental signal which can be ignored. 2. 10359 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5184	91.96	-	-	80.43	34.91	10.47	33.85	108	103	Average
5184	102.26	-	-	90.73	34.91	10.47	33.85	108	103	Peak
10359	50.08	-23.92	74	57.11	37.69	10.64	55.36	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5218 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5218	96.87	-	-	85.25	34.93	10.54	33.85	103	62	Average
5218	107.23	-	-	95.61	34.93	10.54	33.85	103	62	Peak
10440	50.51	-23.49	74	57.39	37.75	10.65	55.28	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5220	90.77	-	-	79.14	34.94	10.54	33.85	100	114	Average
5220	101.71	-	-	90.08	34.94	10.54	33.85	100	114	Peak
10440	49.68	-24.32	74	56.56	37.75	10.65	55.28	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5238 MHz is fundamental signal which can be ignored. 2. 10479 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5238	99.41	-	-	87.74	34.94	10.58	33.85	103	41	Average
5238	109.35	-	-	97.68	34.94	10.58	33.85	103	41	Peak
10479	50.14	-23.86	74	56.91	37.79	10.66	55.22	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5238 MHz is fundamental signal which can be ignored. 2. 10479 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5238	89.88	-	-	78.25	34.94	10.54	33.85	100	115	Average
5238	100.01	-	-	88.38	34.94	10.54	33.85	100	115	Peak
10479	50.68	-23.32	74	57.45	37.79	10.66	55.22	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5258 MHz is fundamental signal which can be ignored. 2. 10521 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5258	97.67	-	-	85.98	34.95	10.58	33.84	103	40	Average
5258	107.99	-	-	96.3	34.95	10.58	33.84	103	40	Peak
10521	50.86	-23.14	74	57.56	37.81	10.67	55.18	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5262 MHz is fundamental signal which can be ignored. 2. 10521 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5262	87.33	-	-	75.6	34.96	10.61	33.84	100	120	Average
5262	97.44	-	-	85.71	34.96	10.61	33.84	100	120	Peak
10521	50.77	-23.23	74	57.47	37.81	10.67	55.18	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5301 MHz is fundamental signal which can be ignored. 2. 10599 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5301	98.65	-	-	86.86	34.98	10.65	33.84	100	35	Average
5301	108.96	-	-	97.17	34.98	10.65	33.84	100	35	Peak
10599	50.3	-23.7	74	56.86	37.84	10.68	55.08	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5301 MHz is fundamental signal which can be ignored. 2. 10599 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5301	89.4	-	-	77.61	34.98	10.65	33.84	103	116	Average
5301	99.7	-	-	87.91	34.98	10.65	33.84	103	116	Peak
10599	50.08	-23.92	74	56.64	37.84	10.68	55.08	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5321 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5321	97.92	-	-	86.09	34.99	10.68	33.84	100	33	Average
5321	108.49	-	-	96.66	34.99	10.68	33.84	100	33	Peak
10641	50.06	-23.94	74	56.54	37.86	10.69	55.03	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5319 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5319	89.96	-	-	78.13	34.99	10.68	33.84	102	114	Average
5319	100	-	-	88.17	34.99	10.68	33.84	102	114	Peak
10641	50.01	-23.99	74	56.49	37.86	10.69	55.03	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5502 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5502	98.05	-	-	85.83	35.1	10.96	33.84	100	343	Average
5502	107.33	-	-	95.11	35.1	10.96	33.84	100	343	Peak
11001	50.21	-23.79	74	56.05	38	10.76	54.6	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5499 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5499	91.26	-	-	79.07	35.1	10.93	33.84	100	116	Average
5499	101.76	-	-	89.57	35.1	10.93	33.84	100	116	Peak
11001	50.84	-23.16	74	56.68	38	10.76	54.6	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5581 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5581	97.3	-	-	84.85	35.2	11.09	33.84	107	345	Average
5581	107.49	-	-	95.04	35.2	11.09	33.84	107	345	Peak
11160	50.46	-23.54	74	55.82	38.13	10.84	54.33	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5581 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5581	91.12	-	-	78.67	35.2	11.09	33.84	100	106	Average
5581	101.85	-	-	89.4	35.2	11.09	33.84	100	106	Peak
11160	50.8	-23.2	74	56.16	38.13	10.84	54.33	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5699 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
71.85	12.78	-27.22	40	37.22	6.48	0.78	31.7	-	-	Peak
136.65	17.4	-26.1	43.5	36.36	11.34	1.4	31.7	-	-	Peak
229.8	13.99	-32.01	46	33.22	10.2	2.16	31.59	-	-	Peak
597.5	22.58	-23.42	46	32.87	18.8	3.03	32.12	-	-	Peak
748	22.8	-23.2	46	31.54	19.8	3.57	32.11	-	-	Peak
903.4	24.3	-21.7	46	31.41	20.7	3.75	31.56	100	11	Peak
5699	96.51	-	-	83.68	35.37	11.3	33.84	103	357	Average
5699	106.85	-	-	94.02	35.37	11.3	33.84	103	357	Peak
11400	50.38	-23.62	74	55.03	38.32	10.99	53.96	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5699 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
63.75	9.92	-30.08	40	34.69	6.22	0.69	31.68	-	-	Peak
177.42	13.63	-29.87	43.5	34.06	9.25	2	31.68	-	-	Peak
242.76	14.88	-31.12	46	32.69	11.6	2.25	31.66	-	-	Peak
496	21.25	-24.75	46	32.53	17.6	2.9	31.78	-	-	Peak
707.4	24.57	-21.43	46	33.98	19.07	3.55	32.03	100	26	Peak
882.4	24.29	-21.71	46	31.56	20.63	3.81	31.71	-	-	Peak
5699	88.16	-	-	75.33	35.37	11.3	33.84	108	106	Average
5699	98.42	-	-	85.59	35.37	11.3	33.84	108	106	Peak
11400	50.07	-23.93	74	54.72	38.32	10.99	53.96	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5182 MHz is fundamental signal which can be ignored. 2. 10359 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5182	98.89	-	-	87.36	34.91	10.47	33.85	130	29	Average
5182	109.22	-	-	97.69	34.91	10.47	33.85	130	29	Peak
10359	50.21	-23.79	74	57.24	37.69	10.64	55.36	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5178 MHz is fundamental signal which can be ignored. 2. 10359 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5178	90.45	-	-	78.92	34.91	10.47	33.85	100	115	Average
5178	100.89	-	-	89.36	34.91	10.47	33.85	100	115	Peak
10359	50.72	-23.28	74	57.75	37.69	10.64	55.36	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5220	99.05	-	-	87.42	34.94	10.54	33.85	104	31	Average
5220	108.91	-	-	97.28	34.94	10.54	33.85	104	31	Peak
10440	50.75	-23.25	74	57.63	37.75	10.65	55.28	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5218 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5218	89.18	-	-	77.55	34.94	10.54	33.85	100	114	Average
5218	99.24	-	-	87.61	34.94	10.54	33.85	100	114	Peak
10440	50.14	-23.86	74	57.02	37.75	10.65	55.28	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5238 MHz is fundamental signal which can be ignored. 2. 10479 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5238	98.83	-	-	87.2	34.94	10.54	33.85	114	31	Average
5238	108.61	-	-	96.98	34.94	10.54	33.85	114	31	Peak
10479	50.56	-23.44	74	57.33	37.79	10.66	55.22	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5238 MHz is fundamental signal which can be ignored. 2. 10479 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5238	90.59	-	-	78.96	34.94	10.54	33.85	100	121	Average
5238	100.43	-	-	88.8	34.94	10.54	33.85	100	121	Peak
10479	50.74	-23.26	74	57.51	37.79	10.66	55.22	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5261 MHz is fundamental signal which can be ignored. 2. 10521 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5261	97.87	-	-	86.18	34.95	10.58	33.84	104	30	Average
5261	107.95	-	-	96.26	34.95	10.58	33.84	104	30	Peak
10521	50.17	-23.83	74	56.87	37.81	10.67	55.18	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5262 MHz is fundamental signal which can be ignored. 2. 10521 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5262	88.1	-	-	76.37	34.96	10.61	33.84	100	116	Average
5262	98.49	-	-	86.76	34.96	10.61	33.84	100	116	Peak
10521	50.33	-23.67	74	57.03	37.81	10.67	55.18	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5298 MHz is fundamental signal which can be ignored. 2. 10599 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5298	97.64	-	-	85.85	34.98	10.65	33.84	102	29	Average
5298	107.83	-	-	96.04	34.98	10.65	33.84	102	29	Peak
10599	50.74	-23.26	74	57.3	37.84	10.68	55.08	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5302 MHz is fundamental signal which can be ignored. 2. 10599 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5302	88.73	-	-	76.94	34.98	10.65	33.84	104	102	Average
5302	98.75	-	-	86.96	34.98	10.65	33.84	104	102	Peak
10599	50.56	-23.44	74	57.12	37.84	10.68	55.08	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5322 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5322	97.08	-	-	85.25	34.99	10.68	33.84	102	31	Average
5322	107.48	-	-	95.65	34.99	10.68	33.84	102	31	Peak
10641	50.73	-23.27	74	57.21	37.86	10.69	55.03	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5318 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5318	89.28	-	-	77.45	34.99	10.68	33.84	105	110	Average
5318	99.61	-	-	87.78	34.99	10.68	33.84	105	110	Peak
10641	50.14	-23.86	74	56.62	37.86	10.69	55.03	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5498 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5498	98.28	-	-	86.1	35.09	10.93	33.84	100	345	Average
5498	108.41	-	-	96.23	35.09	10.93	33.84	100	345	Peak
11001	50.48	-23.52	74	56.32	38	10.76	54.6	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5502 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5502	89.46	-	-	77.24	35.1	10.96	33.84	102	113	Average
5502	99.81	-	-	87.59	35.1	10.96	33.84	102	113	Peak
11001	50.03	-23.97	74	55.87	38	10.76	54.6	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5582 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5582	96.69	-	-	84.22	35.22	11.09	33.84	100	346	Average
5582	107.11	-	-	94.64	35.22	11.09	33.84	100	346	Peak
11160	50.13	-23.87	74	55.49	38.13	10.84	54.33	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5582 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5582	90.19	-	-	77.72	35.22	11.09	33.84	102	104	Average
5582	100.26	-	-	87.79	35.22	11.09	33.84	102	104	Peak
11160	50.51	-23.49	74	55.87	38.13	10.84	54.33	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5702 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
160.14	21.33	-22.17	43.5	41.52	9.9	1.56	31.65	100	38	Peak
210.36	15.84	-27.66	43.5	36.7	8.9	1.86	31.62	-	-	Peak
259.5	17.74	-28.26	46	33.59	13.7	2.17	31.72	-	-	Peak
403.6	19.35	-26.65	46	32.72	16.05	2.38	31.8	-	-	Peak
559	21.98	-24.02	46	31.82	19.1	2.99	31.93	-	-	Peak
800.5	23.3	-22.7	46	31.83	20	3.44	31.97	-	-	Peak
5702	96.13	-	-	83.28	35.39	11.3	33.84	106	355	Average
5702	106.27	-	-	93.42	35.39	11.3	33.84	106	355	Peak
11400	50.07	-23.93	74	54.72	38.32	10.99	53.96	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5702 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
49.44	9.84	-30.16	40	32.28	8.63	0.64	31.71	-	-	Peak
79.95	10.96	-29.04	40	34.87	6.85	0.94	31.7	-	-	Peak
211.44	18.98	-24.52	43.5	39.81	8.92	1.88	31.63	-	-	Peak
360.9	17.96	-28.04	46	32.52	14.62	2.39	31.57	-	-	Peak
475	19.9	-26.1	46	31.64	17.3	2.75	31.79	-	-	Peak
627.6	21.6	-24.4	46	31.23	19.17	3.24	32.04	100	49	Peak
5702	90.57	-	-	77.72	35.39	11.3	33.84	193	173	Average
5702	100.93	-	-	88.08	35.39	11.3	33.84	193	173	Peak
11400	50.41	-23.59	74	55.06	38.32	10.99	53.96	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	38	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5192 MHz is fundamental signal which can be ignored. 2. 10380 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
56.73	10.01	-29.99	40	34.37	6.66	0.66	31.68	-	-	Peak
198.21	15.62	-27.88	43.5	36.16	9.18	1.93	31.65	-	-	Peak
251.94	16.07	-29.93	46	32.81	12.66	2.26	31.66	-	-	Peak
434.4	18.92	-27.08	46	31.71	16.55	2.5	31.84	-	-	Peak
643	22.43	-23.57	46	31.86	19.2	3.36	31.99	-	-	Peak
721.4	22.92	-23.08	46	32.06	19.35	3.56	32.05	100	61	Peak
5192	96.83	-	-	85.25	34.92	10.51	33.85	116	29	Average
5192	106.82	-	-	95.24	34.92	10.51	33.85	116	29	Peak
10380	48.32	-25.68	74	55.31	37.71	10.64	55.34	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	38	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5188 MHz is fundamental signal which can be ignored. 2. 10380 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
52.14	14.46	-25.54	40	37.69	7.8	0.66	31.69	-	-	Peak
152.04	18.18	-25.32	43.5	38.31	10.06	1.5	31.69	-	-	Peak
258.96	15.95	-30.05	46	31.91	13.57	2.18	31.71	-	-	Peak
403.6	19.23	-26.77	46	32.6	16.05	2.38	31.8	-	-	Peak
688.5	21.82	-24.18	46	31.38	18.92	3.52	32	-	-	Peak
928.6	24.58	-21.42	46	31.4	20.7	3.8	31.32	100	99	Peak
5188	87.48	-	-	75.95	34.91	10.47	33.85	100	113	Average
5188	97.21	-	-	85.68	34.91	10.47	33.85	100	113	Peak
10380	50.41	-23.59	74	57.4	37.71	10.64	55.34	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	46	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5228 MHz is fundamental signal which can be ignored. 2. 10461 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5228	97.79	-	-	86.17	34.93	10.54	33.85	116	29	Average
5228	107.74	-	-	96.12	34.93	10.54	33.85	116	29	Peak
10461	48.73	-25.27	74	55.54	37.77	10.66	55.24	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	46	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5226 MHz is fundamental signal which can be ignored. 2. 10461 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5226	87.63	-	-	76	34.94	10.54	33.85	100	114	Average
5226	97.79	-	-	86.16	34.94	10.54	33.85	100	114	Peak
10461	50.74	-23.26	74	57.55	37.77	10.66	55.24	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	54	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5273 MHz is fundamental signal which can be ignored. 2. 10539 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5273	94.23	-	-	82.5	34.96	10.61	33.84	103	28	Average
5273	104.25	-	-	92.52	34.96	10.61	33.84	103	28	Peak
10539	48.45	-25.55	74	55.13	37.81	10.67	55.16	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	54	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5268 MHz is fundamental signal which can be ignored. 2. 10539 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5268	84.24	-	-	72.51	34.96	10.61	33.84	100	116	Average
5268	94.12	-	-	82.39	34.96	10.61	33.84	100	116	Peak
10539	50.56	-23.44	74	57.24	37.81	10.67	55.16	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	62	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5308 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5308	94.86	-	-	83.04	34.98	10.68	33.84	114	26	Average
5308	104.06	-	-	92.24	34.98	10.68	33.84	114	26	Peak
10620	48.67	-25.33	74	55.19	37.85	10.69	55.06	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	62	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5308 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5308	84.56	-	-	72.74	34.98	10.68	33.84	100	162	Average
5308	94.34	-	-	82.52	34.98	10.68	33.84	100	162	Peak
10620	50.43	-23.57	74	56.95	37.85	10.69	55.06	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	102	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5508 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5508	96.3	-	-	84.08	35.1	10.96	33.84	100	32	Average
5508	106.15	-	-	93.93	35.1	10.96	33.84	100	32	Peak
11019	50.18	-23.82	74	55.98	38.01	10.76	54.57	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	102	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5512 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5512	86.2	-	-	73.98	35.1	10.96	33.84	101	94	Average
5512	96.04	-	-	83.82	35.1	10.96	33.84	101	94	Peak
11019	50.69	-23.31	74	56.49	38.01	10.76	54.57	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	110	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5548 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5548	94.31	-	-	81.93	35.17	11.05	33.84	100	351	Average
5548	104.07	-	-	91.69	35.17	11.05	33.84	100	351	Peak
11100	47.6	-26.4	74	53.14	38.08	10.82	54.44	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	110	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5548 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5548	86.19	-	-	73.81	35.17	11.05	33.84	100	106	Average
5548	95.69	-	-	83.31	35.17	11.05	33.84	100	106	Peak
11100	50.33	-23.67	74	55.87	38.08	10.82	54.44	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	134	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5672 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5672	95.88	-	-	83.12	35.34	11.26	33.84	106	355	Average
5672	105.1	-	-	92.34	35.34	11.26	33.84	106	355	Peak
11340	48.74	-25.26	74	53.58	38.27	10.96	54.07	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	134	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5668 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5668	86.27	-	-	73.55	35.34	11.22	33.84	100	171	Average
5668	95.46	-	-	82.74	35.34	11.22	33.84	100	171	Peak
11340	50.03	-23.97	74	54.87	38.27	10.96	54.07	100	0	Peak

Test Mode :	802.11ac VHT80	Temperature :	27~28°C
Test Channel :	42	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5208 MHz is fundamental signal which can be ignored. 2. 10419 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
84	10.44	-29.56	40	33.64	7.54	0.97	31.71	-	-	Peak
203.34	18.53	-24.97	43.5	39.11	9.15	1.91	31.64	-	-	Peak
258.96	17.97	-28.03	46	33.93	13.57	2.18	31.71	-	-	Peak
671	23.46	-22.54	46	32.88	19.1	3.47	31.99	-	-	Peak
760.6	22.88	-23.12	46	31.52	19.9	3.54	32.08	-	-	Peak
863.5	24.26	-21.74	46	31.78	20.43	3.87	31.82	100	19	Peak
5208	93.84	-	-	82.25	34.93	10.51	33.85	104	31	Average
5208	103	-	-	91.41	34.93	10.51	33.85	104	31	Peak
10419	50.84	-23.16	74	57.76	37.73	10.65	55.3	100	0	Peak

Test Mode :	802.11ac VHT80	Temperature :	27~28°C
Test Channel :	42	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5208 MHz is fundamental signal which can be ignored. 2. 10419 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
195.24	14.53	-28.97	43.5	35.27	9	1.91	31.65	-	-	Peak
254.64	15.3	-30.7	46	31.71	13.05	2.22	31.68	-	-	Peak
279.75	19.42	-26.58	46	36.04	12.9	2.21	31.73	-	-	Peak
448.4	19.14	-26.86	46	31.68	16.76	2.54	31.84	-	-	Peak
690.6	21.78	-24.22	46	31.35	18.91	3.52	32	-	-	Peak
860	24.31	-21.69	46	31.88	20.4	3.88	31.85	100	68	Peak
5208	86.16	-	-	74.57	34.93	10.51	33.85	107	110	Average
5208	96.31	-	-	84.72	34.93	10.51	33.85	107	110	Peak
10419	50.43	-23.57	74	57.35	37.73	10.65	55.3	100	0	Peak

Test Mode :	802.11ac VHT80	Temperature :	27~28°C
Test Channel :	58	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5288 MHz is fundamental signal which can be ignored. 2. 10580 MHz is not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5288	91.7	-	-	79.92	34.97	10.65	33.84	100	41	Average
5288	101.6	-	-	89.82	34.97	10.65	33.84	100	41	Peak
10580	50.72	-23.28	74	57.31	37.83	10.68	55.1	100	0	Peak

Test Mode :	802.11ac VHT80	Temperature :	27~28°C
Test Channel :	58	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5288 MHz is fundamental signal which can be ignored. 2. 10581 MHz is not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5288	82.9	-	-	71.12	34.97	10.65	33.84	100	165	Average
5288	92.45	-	-	80.67	34.97	10.65	33.84	100	165	Peak
10581	50.8	-23.2	74	57.39	37.83	10.68	55.1	100	0	Peak

Test Mode :	802.11ac VHT80	Temperature :	27~28°C
Test Channel :	106	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5528 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5528	91.48	-	-	79.2	35.12	11	33.84	100	346	Average
5528	101.55	-	-	89.27	35.12	11	33.84	100	346	Peak
11060	50.77	-23.23	74	56.42	38.05	10.79	54.49	100	0	Peak

Test Mode :	802.11ac VHT80	Temperature :	27~28°C
Test Channel :	106	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5532 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5532	84	-	-	71.69	35.15	11	33.84	100	99	Average
5532	93.26	-	-	80.95	35.15	11	33.84	100	99	Peak
11060	50.67	-23.33	74	56.32	38.05	10.79	54.49	100	0	Peak

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 (dB μ V)	
	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.

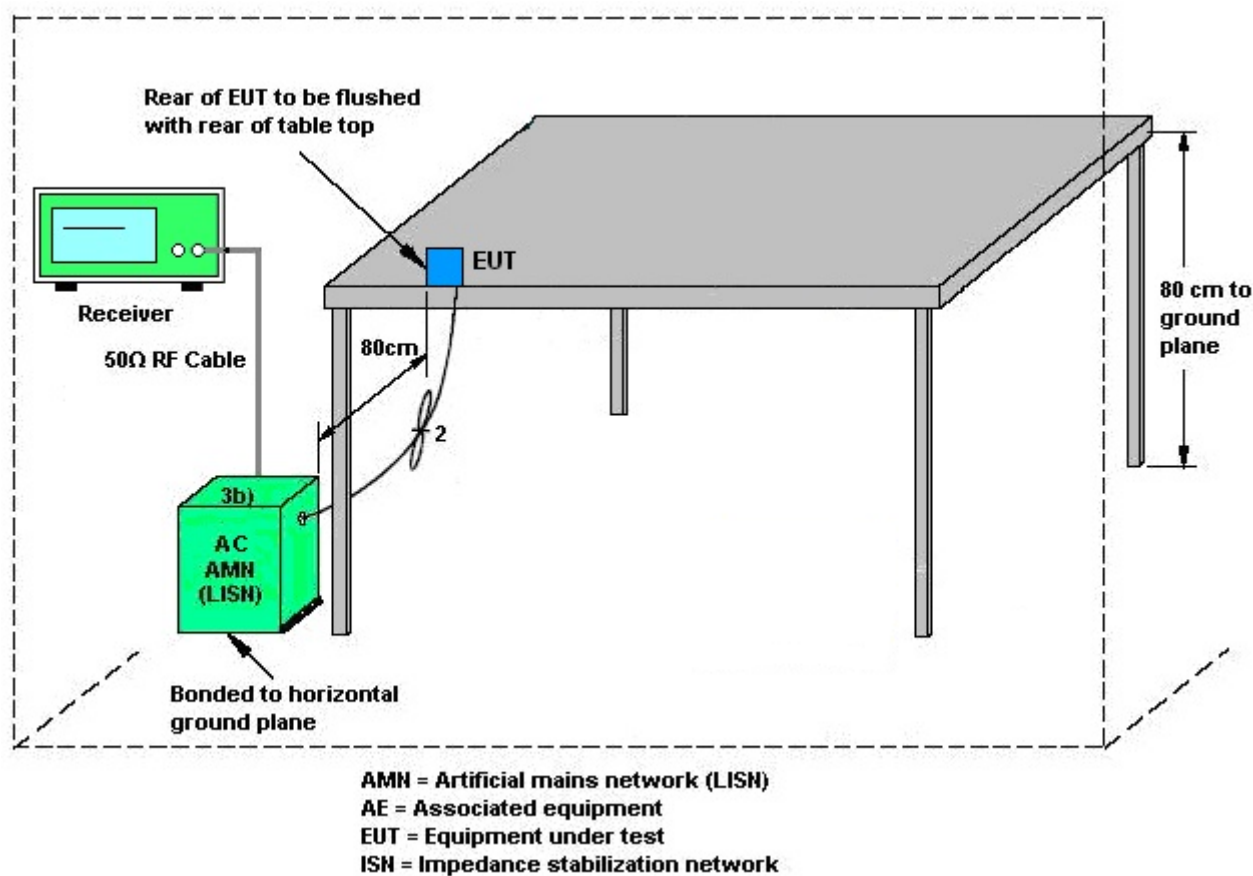
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

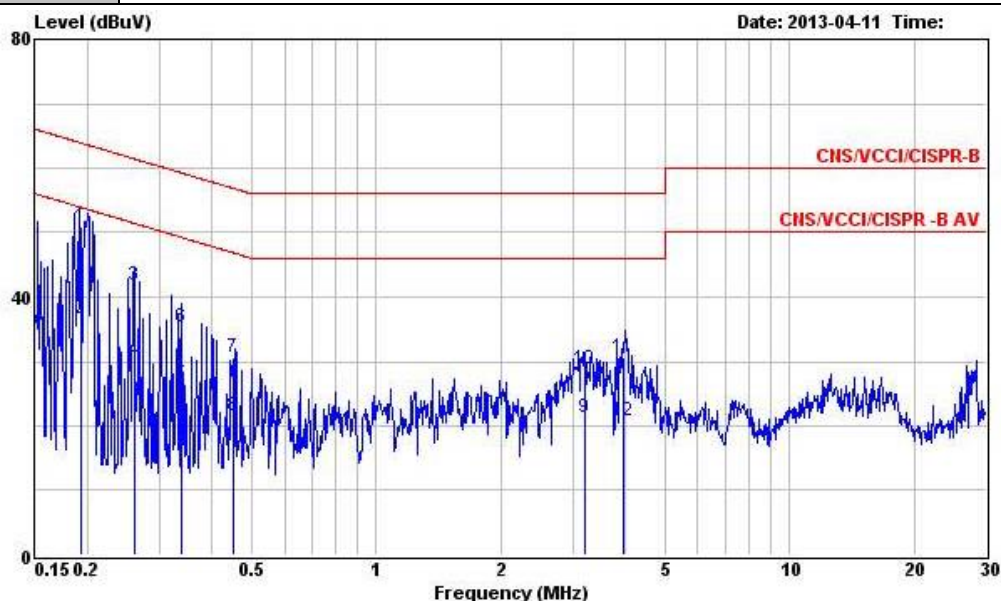
1. The testing follows the guidelines in ANSI C63.10-2009 test site requirement.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization 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

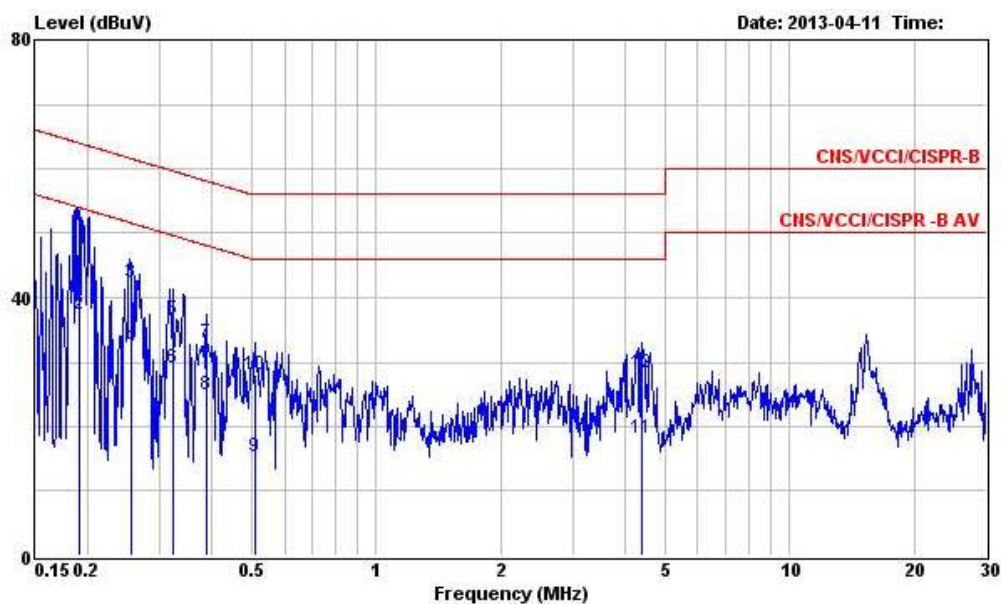
Test Mode :	Mode 1	Temperature :	23~24℃
Test Engineer :	Davi Du	Relative Humidity :	55~56%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link + Bluetooth Link + NFC On + Earphone + SD Card + MP3 + H pattern + HDMI Cable + USB Cable (Data Link with PC) + Adapter		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-HY
Condition : CNS/VCCI/CISPR-B LISN 2001/004-121228 LINE

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.193	51.03	-12.88	63.91	50.67	0.14	0.22	QP
2	0.193	36.57	-17.34	53.91	36.21	0.14	0.22	Average
3	0.259	41.82	-19.64	61.46	41.48	0.14	0.20	QP
4	0.259	30.03	-21.43	51.46	29.69	0.14	0.20	Average
5	0.337	26.60	-22.68	49.28	26.25	0.15	0.20	Average
6	0.337	35.21	-24.07	59.28	34.86	0.15	0.20	QP
7	0.452	30.52	-26.32	56.84	30.18	0.15	0.19	QP
8	0.452	21.51	-25.33	46.84	21.17	0.15	0.19	Average
9	3.190	21.34	-24.66	46.00	20.99	0.22	0.13	Average
10	3.190	28.72	-27.28	56.00	28.37	0.22	0.13	QP
11	3.950	30.68	-25.32	56.00	30.35	0.23	0.10	QP
12	3.950	20.73	-25.27	46.00	20.40	0.23	0.10	Average

Test Mode :	Mode 1	Temperature :	23~24°C
Test Engineer :	Davi Du	Relative Humidity :	55~56%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link + Bluetooth Link + NFC On + Earphone + SD Card + MP3 + H pattern + HDMI Cable + USB Cable (Data Link with PC) + Adapter		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-HY
Condition : CNS/VCCI/CISPR-B LISN 2001/004-121228 NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.191	51.24	-12.75	63.99	50.91	0.10	0.23	QP
2	0.191	37.28	-16.71	53.99	36.95	0.10	0.23	Average
3	0.255	42.39	-19.20	61.59	42.08	0.11	0.20	QP
4	0.255	32.18	-19.41	51.59	31.87	0.11	0.20	Average
5	0.322	36.55	-23.11	59.66	36.24	0.11	0.20	QP
6	0.322	29.00	-20.66	49.66	28.69	0.11	0.20	Average
7	0.387	33.06	-25.07	58.13	32.74	0.12	0.20	QP
8	0.387	24.82	-23.31	48.13	24.50	0.12	0.20	Average
9	0.510	15.22	-30.78	46.00	14.92	0.13	0.17	Average
10	0.510	28.15	-27.85	56.00	27.85	0.13	0.17	QP
11	4.410	18.16	-27.84	46.00	17.82	0.22	0.12	Average
12	4.410	28.28	-27.72	56.00	27.94	0.22	0.12	QP

3.7 Frequency Stability Measurement

3.7.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

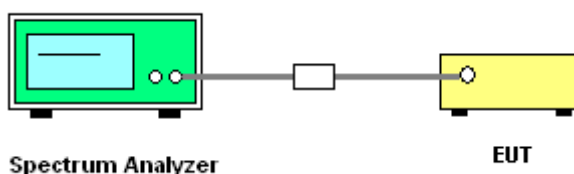
3.7.2 Measuring Instruments

See list of measuring instruments of this test report.

3.7.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

3.7.4 Test Setup



3.7.5 Test Result of Frequency Stability

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	36	5180	5171.70	5188.30	0.00
	44	5220	5211.70	5228.30	0.00
	48	5240	5231.70	5248.30	0.00
NII Band 2	52	5260	5251.70	5268.25	-4.75
	60	5300	5291.70	5308.30	0.00
	64	5320	5311.75	5328.25	0.00
NII Band 3	100	5500	5491.75	5508.25	0.00
	116	5580	5571.75	5588.30	4.48
	140	5700	5691.70	5708.30	0.00

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	36	5180	5171.05	5188.90	-4.83
	44	5220	5211.10	5228.95	4.79
	48	5240	5231.05	5248.95	0.00
NII Band 2	52	5260	5251.10	5268.95	4.75
	60	5300	5291.10	5308.90	0.00
	64	5320	5311.10	5328.95	4.70
NII Band 3	100	5500	5491.15	5508.95	9.09
	116	5580	5571.15	5588.90	4.48
	140	5700	5691.10	5708.95	4.39

Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	38	5190	5171.82	5208.27	8.67
	46	5230	5211.82	5248.27	8.60
NII Band 2	54	5270	5251.82	5288.18	0.00
	62	5310	5291.82	5328.18	0.00
NII Band 3	102	5510	5491.82	5528.36	16.33
	110	5550	5531.73	5568.27	0.00
	134	5670	5651.82	5688.18	0.00

Test Mode :	802.11ac VHT20	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	36	5180	5171.05	5188.90	-4.83
	44	5220	5211.10	5228.95	4.79
	48	5240	5231.05	5248.85	-9.54
NII Band 2	52	5260	5251.05	5268.90	-4.75
	60	5300	5291.05	5308.95	0.00
	64	5320	5311.05	5328.95	0.00
NII Band 3	100	5500	5491.15	5508.95	9.09
	116	5580	5571.10	5588.95	4.48
	140	5700	5691.10	5708.90	0.00



Test Mode :	802.11ac VHT40	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	38	5190	5171.82	5208.36	17.34
	46	5230	5211.73	5248.27	0.00
NII Band 2	54	5270	5251.64	5288.18	-17.08
	62	5310	5291.82	5328.18	0.00
NII Band 3	102	5510	5491.82	5528.36	16.33
	110	5550	5531.73	5568.27	0.00
	134	5670	5651.73	5688.36	7.94

Test Mode :	802.11av VHT80	Temperature :	24~26°C
Test Engineer :	Reece Lee	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	42	5210	5171.76	5248.16	-7.68
NII Band 2	58	5290	5251.84	5328.16	0.00
NII Band 3	106	5530	5491.84	5568.34	16.27

3.8 Automatically Discontinue Transmission

3.8.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.8.2 Measuring Instruments

See list of measuring instruments of this test report.

3.8.3 Test Result of Automatically Discontinue Transmission

During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

3.9 Antenna Requirements

3.9.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2) ,if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit 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.

3.9.2 Antenna Connected Construction

Non-standard connector used.

3.9.3 Antenna Gain

The antenna gain is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 06, 2012	Apr. 01, 2013 ~ Apr. 29, 2013	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Apr. 01, 2013 ~ Apr. 29, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Apr. 01, 2013 ~ Apr. 29, 2013	Sep. 07, 2013	Conducted (TH02-HY)
EMC Receiver	R&S	ESCS 30	100132	9kHz ~ 2.75GHz	Nov. 14, 2012	Apr. 11, 2013	Nov. 13, 2013	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/004	9kHz ~ 30MHz	Dec. 28, 2012	Apr. 11, 2013	Dec. 27, 2013	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	2001/009	9kHz ~ 30MHz	Jan. 08, 2013	Apr. 11, 2013	Jan. 07, 2014	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	Apr. 11, 2013	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0~60Hz	N/A	Apr. 11, 2013	N/A	Conduction (CO01-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832010001	9kHz ~ 30MHz	Mar. 01, 2013	Apr. 11, 2013	Feb. 28, 2014	Conduction (CO01-HY)
Spectrum Analyzer	R&S	FSP30	101352	9KHz~30GHz	Nov. 07, 2012	Apr. 25, 2013 ~ May 01, 2013	Nov. 06, 2013	Radiation (03CH06-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211030	9KHz ~ 26.5GHz	Nov. 26, 2012	Apr. 25, 2013 ~ May 01, 2013	Nov. 25, 2013	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/0003	20MHz ~ 1000MHz	May 04, 2012	Apr. 25, 2013 ~ May 01, 2013	May 03, 2013	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz ~ 2GHz	Oct. 06, 2012	Apr. 25, 2013 ~ May 01, 2013	Oct. 05, 2013	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Apr. 25, 2013 ~ May 01, 2013	Jul. 31, 2013	Radiation (03CH06-HY)
Double Ridge Horn Antenna	COM-POWER	AH-118	071025	1GHz~18GHz	Aug. 09, 2012	Apr. 25, 2013 ~ May 01, 2013	Aug. 08, 2013	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz ~ 40GHz	Sep. 28, 2012	Apr. 25, 2013 ~ May 01, 2013	Sep. 27, 2013	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A01917	1GHz ~ 26.5GHz	Apr. 12, 2013	Apr. 25, 2013 ~ May 01, 2013	Apr. 11, 2014	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz ~ 1GHz	Apr. 12, 2013	Apr. 25, 2013 ~ May 01, 2013	Apr. 11, 2014	Radiation (03CH06-HY)
Pre Amplifier	EMCI	EMC051845	SN980048	1GHz ~ 18GHz	Jul. 21, 2012	Apr. 25, 2013 ~ May 01, 2013	Jul. 20, 2013	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	159087	1GHz~18GHz	Feb. 26, 2013	Apr. 25, 2013 ~ May 01, 2013	Feb. 25, 2014	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz ~ 30MHz	Jul. 03, 2012	Apr. 25, 2013 ~ May 01, 2013	Jul. 02, 2013	Radiation (03CH06-HY)

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.26
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Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP332221 as below.