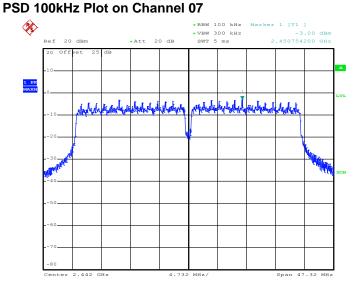


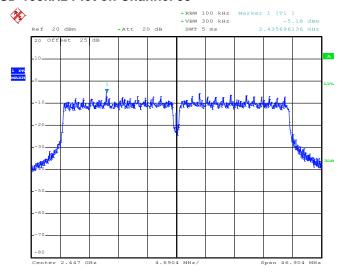
802.11n HT40 – MIMO Chain 1+2(2)



290603 15C PSD 802.11g_N40 2442 Date: 3.0CT.2012 01:10:43

802.11n HT40 - MIMO Chain 1+2(2)

PSD 100kHz Plot on Channel 08



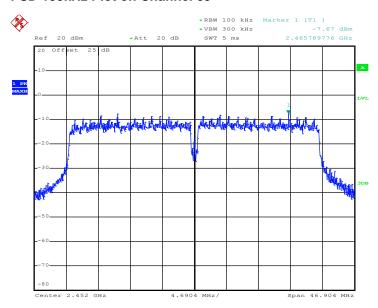
290603 15C PSD 802.11g_N40 2447
Date: 3.OCT.2012 01:21:32

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 156 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 - MIMO Chain 1+2(2) PSD 100kHz Plot on Channel 09



290603 15C PSD 802.11g_N40 2452 (ch09)

Date: 3.OCT.2012 01:24:48

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 157 of 308
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3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

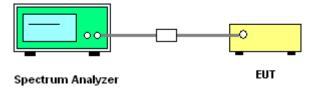
3.4.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.4.3 Test Procedures

- The testing follows the guidelines in the Measurement Procedure of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance, ANSI C63.4-2003, and ANSI C63.10-2009.
- 2. Set to the maximum power setting and enable the EUT transmit continuously.
- 3. Set RBW = 100 KHz, VBW=300 KHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz, when maximum peak conducted output power procedure is used.
- 4. Measure and record the results in the test report.

3.4.4 Test Setup



TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 158 of 308
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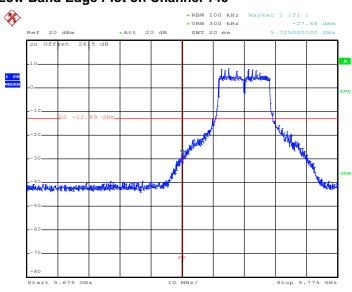
3.4.5 Test Result of Conducted Spurious at Band Edges

<Antenna 7 for 4.5V>

Test Mode :	802.11a	Temperature :	24~26 ℃
Test Band :	Low and High	Relative Humidity :	55~58%
Test Channel :	149 and 165	Test Engineer :	Alan Liu and Book Lin

802.11a - MIMO Chain 1+2(1)

Low Band Edge Plot on Channel 149



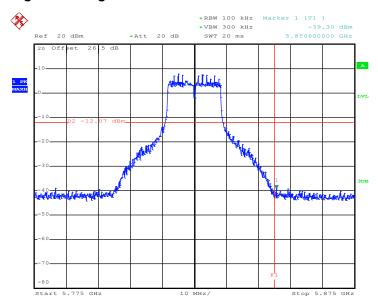
290603 15C BandEdge 802.11a 5745 (ch149)

Date: 10.0CT.2012 18:26:30

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 159 of 308
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802.11a - MIMO Chain 1+2(1) High Band Edge Plot on Channel 165



290603 15C BandEdge 802.11a 5825 (ch165)

Date: 10.0CT.2012 18:28:31

SPORTON INTERNATIONAL INC.

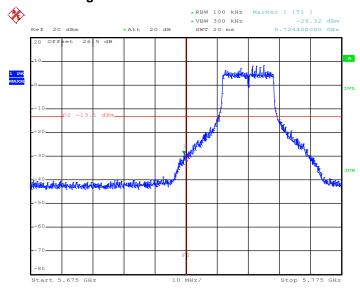
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 160 of 308
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Report No.: FR290603A

802.11a - MIMO Chain 1+2(2)

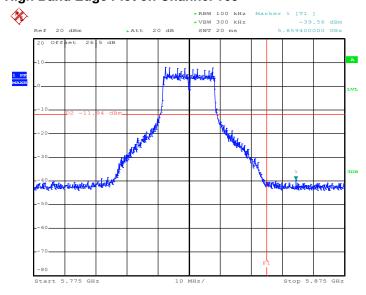
Low Band Edge Plot on Channel 149



290603 15C BandEdge 802.11a 5745 (ch149) Date: 10.0CT.2012 18:27:05

802.11a - MIMO Chain 1+2(2)

High Band Edge Plot on Channel 165



290603 15C BandEdge 802.11a 5825 (ch165) Date: 10.0CT.2012 18:27:52

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

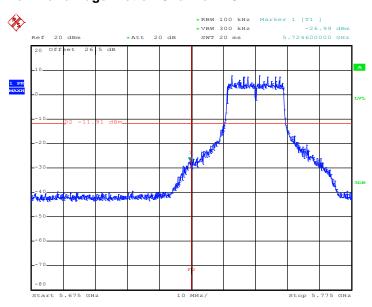
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FCC RF Test Report

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	Low and High	Relative Humidity :	55~58%
Test Channel :	149 and 165	Test Engineer :	Alan Liu and Book Lin

802.11n HT20 - MIMO Chain 1+2(1)

Low Band Edge Plot on Channel 149



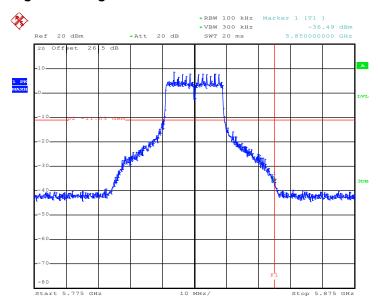
290603 15C BandEdge 802.11a_N20 5745 (ch149)

Date: 10.0CT.2012 17:45:33

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 162 of 308
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802.11n HT20 - MIMO Chain 1+2(1) High Band Edge Plot on Channel 165



290603 15C BandEdge 802.11a_N20 5825 (ch165)

Date: 10.OCT.2012 17:57:11

SPORTON INTERNATIONAL INC.

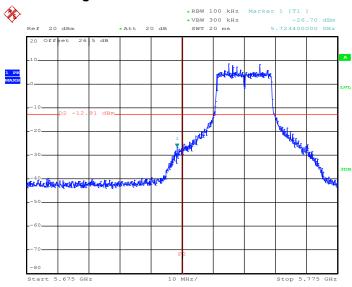
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 163 of 308
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Report No.: FR290603A

802.11n HT20 - MIMO Chain 1+2(2)

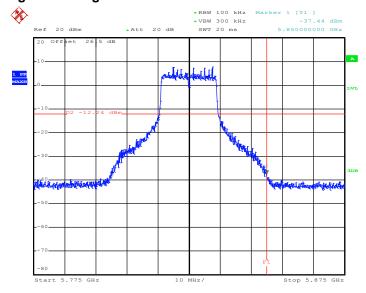
Low Band Edge Plot on Channel 149



290603 15C BandEdge 802.11a_N20 5745 (ch149) Date: 10.0CT.2012 17:41:45

802.11n HT20 - MIMO Chain 1+2(2)

High Band Edge Plot on Channel 165



290603 15C BandEdge 802.11a_N20 5825 (ch165) Date: 10.0CT.2012 17:59:54

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

Page Number : 164 of 308 Report Issued Date: Oct. 30, 2012 Report Version : Rev. 01

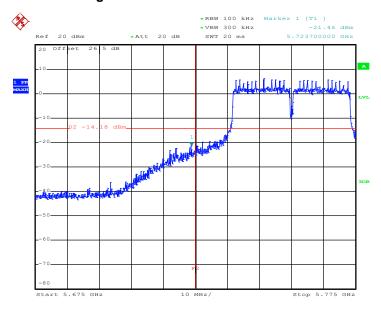


FCC RF Test Report

Test Mode :	802.11n HT40	Temperature :	24~26 ℃
Test Band :	Low and High	Relative Humidity :	55~58%
Test Channel :	151 and 159	Test Engineer :	Alan Liu and Book Lin

802.11n HT40 - MIMO Chain 1+2(1)

Low Band Edge Plot on Channel 151



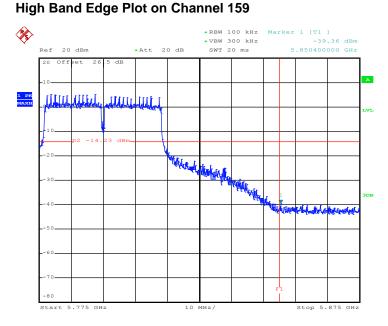
290603 15C BandEdge 802.11a_N40 5755 Date: 10.0CT.2012 17:17:51

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 165 of 308
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802.11n HT40 – MIMO Chain 1+2(1)



290603 15C BandEdge 802.11a_N40 5795

Date: 10.OCT.2012 17:07:54

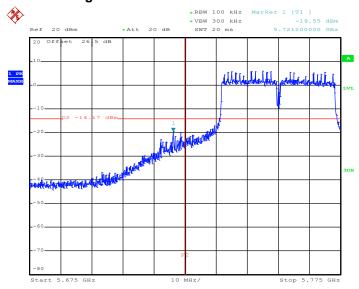
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 166 of 308
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802.11n HT40 - MIMO Chain 1+2(2)

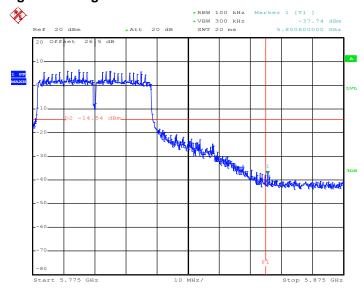
Low Band Edge Plot on Channel 151



290603 15C BandEdge 802.11a_N40 5755
Date: 10.0CT.2012 17:22:11

802.11n HT40 - MIMO Chain 1+2(2)

High Band Edge Plot on Channel 159



290603 15C BandEdge 802.11a_N40 5795 Date: 10.0CT.2012 16:58:07

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 167 of 308
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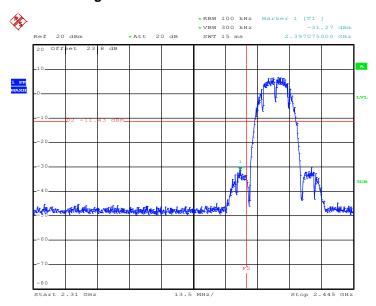
FCC RF Test Report

<Antenna 8 for 4.5V>

Test Mode :	802.11b	Temperature :	24~26 ℃
Test Band :	Low and High	Relative Humidity :	55~58%
Test Channel :	01 and 11	Test Engineer :	Alan Liu and Book Lin

802.11b - MIMO Chain 1+2(1)

Low Band Edge Plot on Channel 01



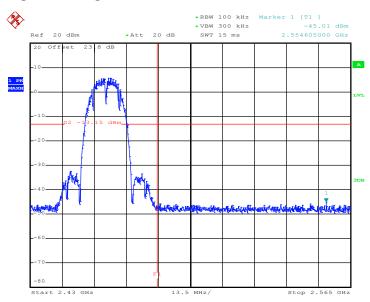
282903-1011 15C BandEdge 802.11b 2412 (ch01)

Date: 27.SEP.2012 15:44:22

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 168 of 308
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802.11b - MIMO Chain 1+2(1) High Band Edge Plot on Channel 11



282903-1011 15C BandEdge 802.11b 2462 (ch11)

Date: 27.SEP.2012 15:55:37

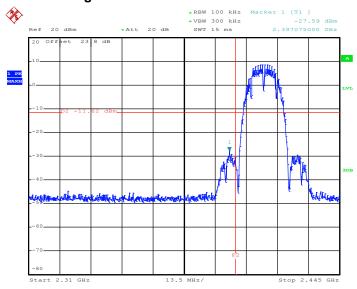
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 169 of 308
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802.11b - MIMO Chain 1+2(2)

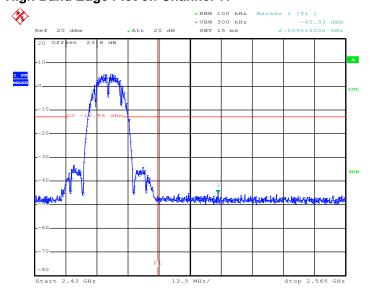
Low Band Edge Plot on Channel 01



282903-1011 15C BandEdge 802.11b 2412 (ch01) Date: 27.SEP.2012 17:39:07

802.11b - MIMO Chain 1+2(2)

High Band Edge Plot on Channel 11



282903-1011 15C BandEdge 802.11b 2462 (ch11) Date: 27.SEP.2012 17:46:10

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

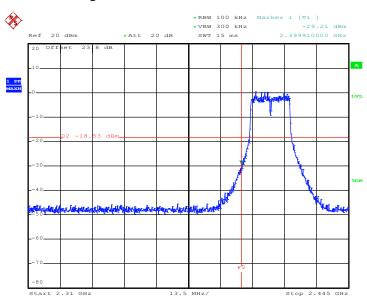
Page Number : 170 of 308 Report Issued Date: Oct. 30, 2012 Report Version : Rev. 01

FCC RF Test Report

Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	Low and High	Relative Humidity :	55~58%
Test Channel :	01 and 11	Test Engineer :	Alan Liu and Book Lin

802.11g - MIMO Chain 1+2(1)

Low Band Edge Plot on Channel 01



282903-1011 15C BandEdge 802.11g 2412 (ch01)

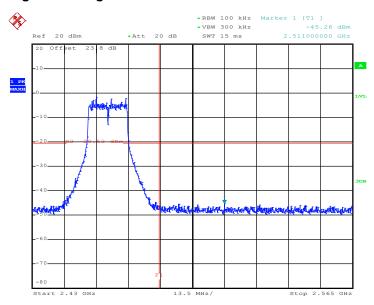
Date: 27.SEP.2012 16:05:16

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 171 of 308
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Report No.: FR290603A

802.11g - MIMO Chain 1+2(1) High Band Edge Plot on Channel 11



282903-1011 15C BandEdge 802.11g 2462 (ch11)

Date: 27.SEP.2012 15:58:21

SPORTON INTERNATIONAL INC.

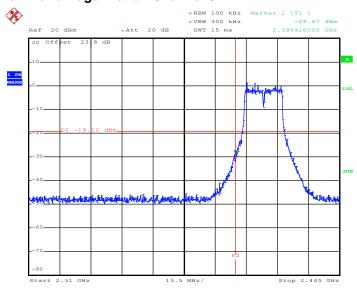
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 172 of 308
Report Issued Date : Oct. 30, 2012
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Report No.: FR290603A

802.11g - MIMO Chain 1+2(2)

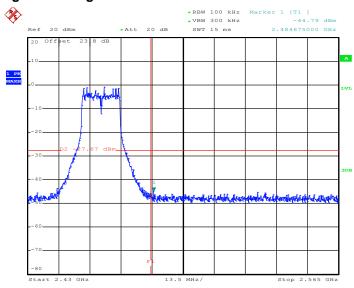
Low Band Edge Plot on Channel 01



282903-1011 15C BandEdge 802.11g 2412 (ch01) Date: 27.SEP.2012 17:37:31

802.11g - MIMO Chain 1+2(2)

High Band Edge Plot on Channel 11



282903-1011 15C BandEdge 802.11g 2462 (ch11) Date: 27.SEP.2012 17:28:43

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

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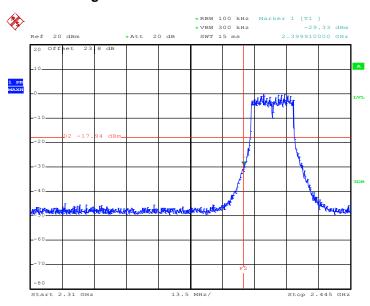


FCC RF Test Report

Test Mode :	802.11n HT20	Temperature :	24~26 ℃
Test Band :	Low and High	Relative Humidity :	55~58%
Test Channel :	01 and 11	Test Engineer :	Alan Liu and Book Lin

802.11n HT20 - MIMO Chain 1+2(1)

Low Band Edge Plot on Channel 01



282903-1011 15C BandEdge 802.11g_N20 2412 (ch01)

Date: 27.SEP.2012 16:08:56

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

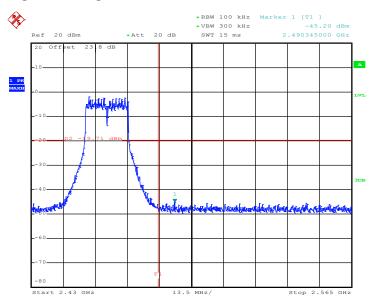
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Report No.: FR290603A

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802.11n HT20 - MIMO Chain 1+2(1) High Band Edge Plot on Channel 11



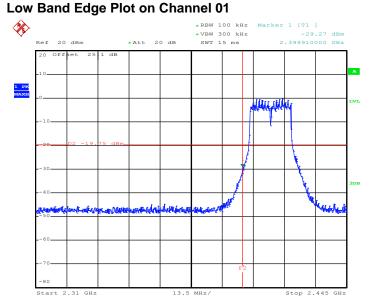
282903-1011 15C BandEdge 802.11g_N20 2462 (ch11)

Date: 27.SEP.2012 16:16:14

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 175 of 308
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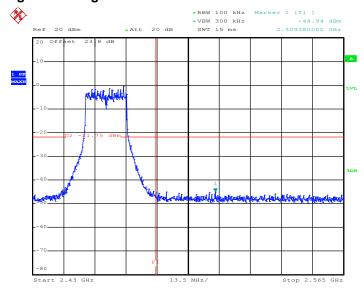
802.11n HT20 – MIMO Chain 1+2(2)



USI 15C BandEdge 802.11g_N20 2412 (ch01)
Date: 22.OCT.2012 19:22:29

802.11n HT20 - MIMO Chain 1+2(2)

High Band Edge Plot on Channel 11



282903-1011 15C BandEdge 802.11a_N20 2462 (ch11)
Date: 27.SEP.2012 17:06:21

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 176 of 308
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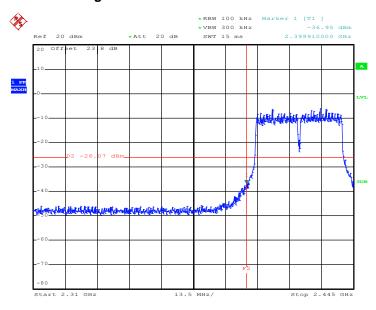


FCC RF Test Report

Test Mode :	802.11n HT40	Temperature :	24~26 ℃
Test Band :	Low and High	Relative Humidity :	55~58%
Test Channel :	03 and 09	Test Engineer :	Alan Liu and Book Lin

802.11n HT40 - MIMO Chain 1+2(1)

Low Band Edge Plot on Channel 03



282903-1011 15C BandEdge 802.11g_N40 2422 (ch03)

Date: 27.SEP.2012 16:41:13

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

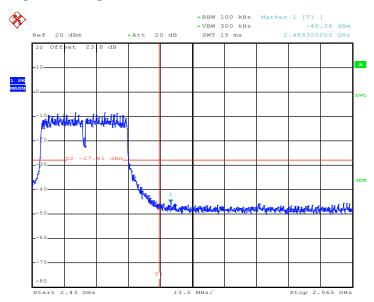
Page Number : 177 of 308 Report Issued Date : Oct. 30, 2012

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802.11n HT40 - MIMO Chain 1+2(1) High Band Edge Plot on Channel 09



282903-1011 15C BandEdge 802.11g_N40 2452 (ch09)

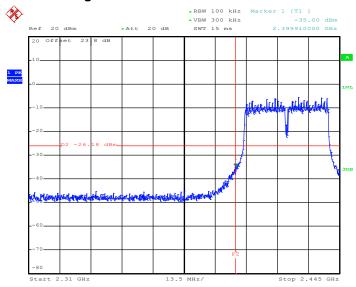
Date: 27.SEP.2012 16:23:46

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 178 of 308
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802.11n HT40 - MIMO Chain 1+2(2)

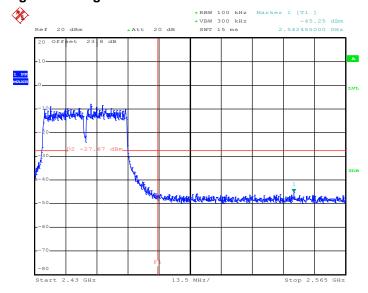
Low Band Edge Plot on Channel 03



282903-1011 15C BandEdge 802.11g_N40 2422 (ch03)
Date: 27.SEP.2012 16:49:36

802.11n HT40 - MIMO Chain 1+2(2)

High Band Edge Plot on Channel 09



282903-1011 15C BandEdge 802.11g_N40 2452 (ch09)
Date: 27.SEP.2012 17:02:55

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 179 of 308
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3.4.5 Test Result of Conducted Spurious Emission

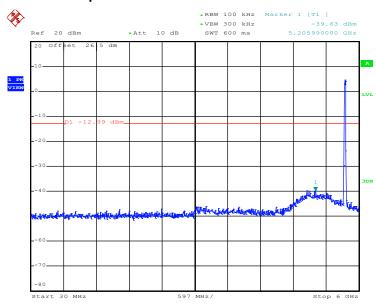
<Antenna 7 for 4.5V>

Test Mode :	802.11a <mimo 1+2(1)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	55~58%
Test Channel :	149, 157, 165	Test Engineer :	Alan Liu and Book Lin

802.11a <MIMO Chain 1+2(1)>

30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 149



290603 15C Spurious 802.11a 5745 (ch149)

Date: 10.OCT.2012 17:48:36

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

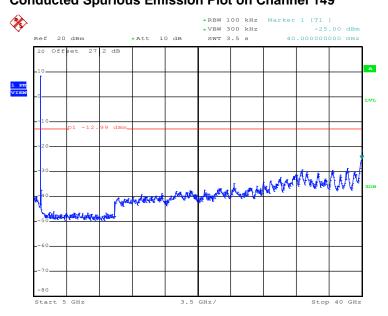
Page Number : 180 of 308 Report Issued Date : Oct. 30, 2012

Report No.: FR290603A

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802.11a <MIMO Chain 1+2(1)> 5 GHz~40 GHz Conducted Spurious Emission Plot on Channel 149



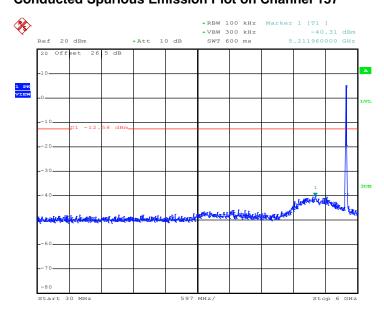
290603 15C Spurious 802.11a 5745 (ch149)

Date: 10.0CT.2012 17:48:54

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 181 of 308
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802.11a <MIMO Chain 1+2(1)> 30 MHz~6 GHz Conducted Spurious Emission Plot on Channel 157



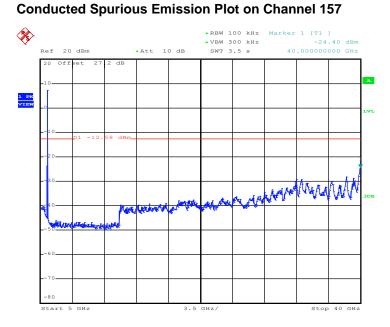
290603 15C Spurious 802.11a 5785 (ch157)

Date: 10.OCT.2012 18:17:19

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 182 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11a <MIMO Chain 1+2(1)>
5 GHz~40 GHz
Conducted Spurious Emission Blot on Channel 15



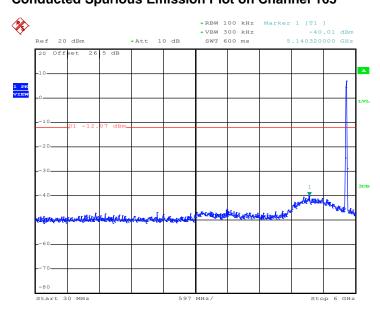
290603 15C Spurious 802.11a 5785 (ch157)

Date: 10.0CT.2012 18:17:37

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 183 of 308
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802.11a <MIMO Chain 1+2(1)> 30 MHz~6 GHz Conducted Spurious Emission Plot on Channel 165



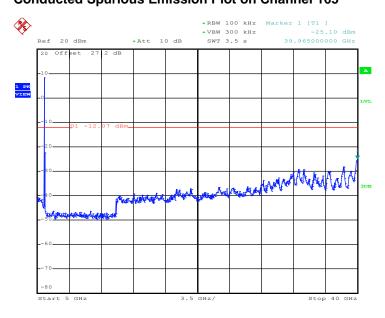
290603 15C Spurious 802.11a 5825 (ch165)

Date: 10.0CT.2012 17:55:30

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 184 of 308
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Report Version : Rev. 01



802.11a <MIMO Chain 1+2(1)>
5 GHz~40 GHz
Conducted Spurious Emission Plot on Channel 165



290603 15C Spurious 802.11a 5825 (ch165)

Date: 10.OCT.2012 17:55:48

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 185 of 308
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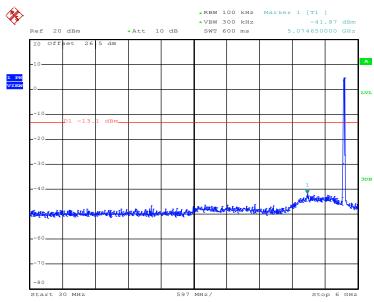
FCC RF Test Report

Test Mode :	802.11a <mimo 1+2(2)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	55~58%
Test Channel :	149, 157, 165	Test Engineer :	Alan Liu and Book Lin

802.11a <MIMO Chain 1+2(2)>

30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 149



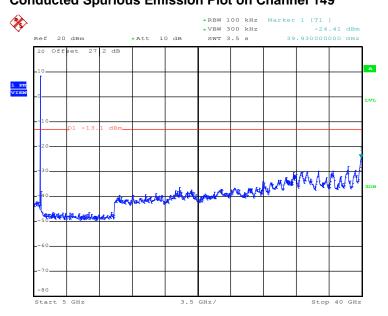
290603 15C Spurious 802.11a 5745 (ch149)

Date: 10.OCT.2012 17:50:41

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 186 of 308
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802.11a <MIMO Chain 1+2(2)> 5 GHz~40 GHz Conducted Spurious Emission Plot on Channel 149



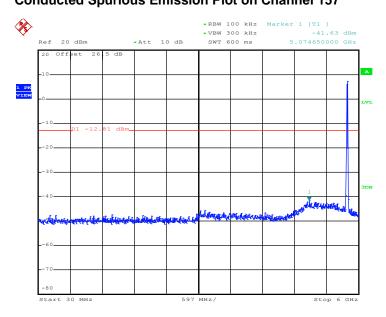
290603 15C Spurious 802.11a 5745 (ch149)

Date: 10.0CT.2012 17:50:58

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 187 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11a <MIMO Chain 1+2(2)> 30 MHz~6 GHz Conducted Spurious Emission Plot on Channel 157



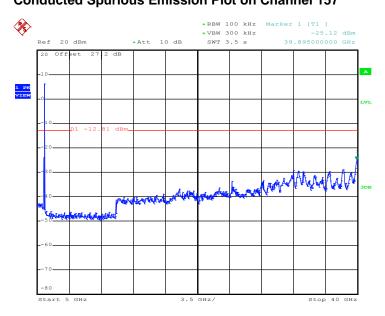
290603 15C Spurious 802.11a 5785 (ch157)

Date: 10.OCT.2012 18:06:34

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 188 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11a <MIMO Chain 1+2(2)> 5 GHz~40 GHz Conducted Spurious Emission Plot on Channel 157



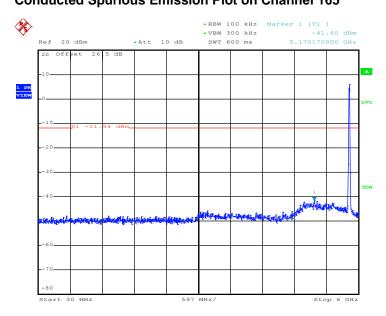
290603 15C Spurious 802.11a 5785 (ch157)

Date: 10.OCT.2012 18:06:52

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 189 of 308
Report Issued Date : Oct. 30, 2012
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802.11a <MIMO Chain 1+2(2)> 30 MHz~6 GHz Conducted Spurious Emission Plot on Channel 165



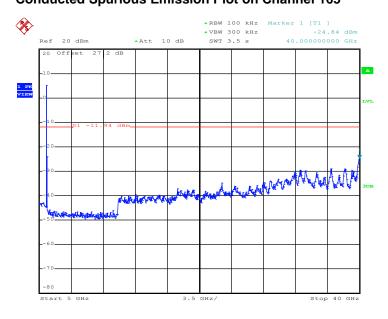
290603 15C Spurious 802.11a 5825 (ch165)

Date: 10.OCT.2012 17:53:15

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 190 of 308
Report Issued Date : Oct. 30, 2012
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802.11a <MIMO Chain 1+2(2)> 5 GHz~40 GHz Conducted Spurious Emission Plot on Channel 165



290603 15C Spurious 802.11a 5825 (ch165)

Date: 10.0CT.2012 17:53:33

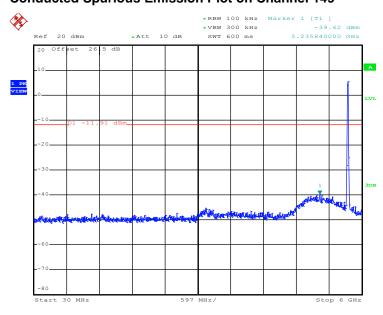
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 191 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01

FCC RF Test Report

Test Mode :	802.11n HT20 <mimo 1+2(1)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	55~58%
Test Channel :	149, 157, 165	Test Engineer :	Alan Liu and Book Lin

802.11n HT20 <MIMO Chain 1+2(1)> 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 149



290603 15C Spurious 802.11a_N20 5745 (ch149)

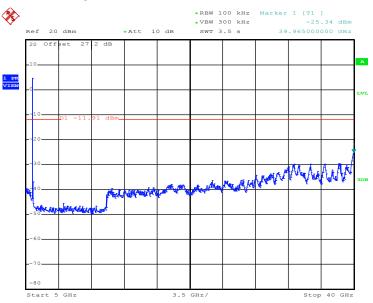
Date: 10.OCT.2012 17:45:57

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 192 of 308
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802.11n HT20 <MIMO Chain 1+2(1)> 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 149



290603 15C Spurious 802.11a_N20 5745 (ch149)

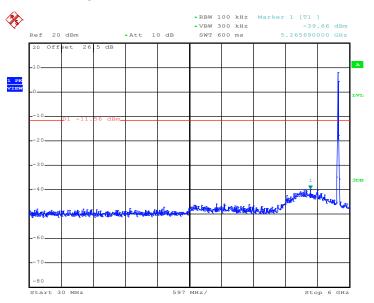
Date: 10.0CT.2012 17:46:15

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 193 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT20 <MIMO Chain 1+2(1)> 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 157



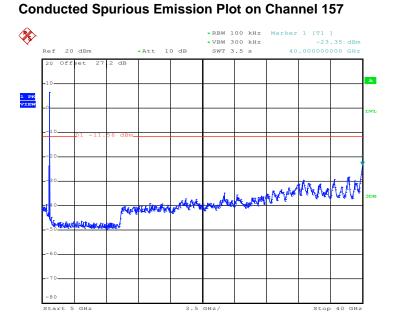
290603 15C Spurious 802.11a_N20 5785 (ch157)

Date: 10.0CT.2012 18:03:47

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 194 of 308
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802.11n HT20 <MIMO Chain 1+2(1)> 5 GHz~40 GHz



290603 15C Spurious 802.11a_N20 5785 (ch157)

Date: 10.0CT.2012 18:04:05

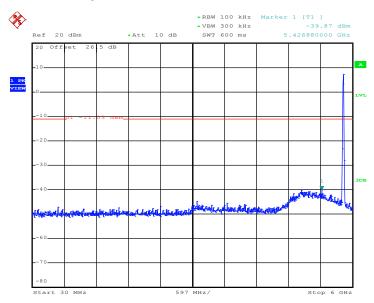
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 195 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT20 <MIMO Chain 1+2(1)> 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 165



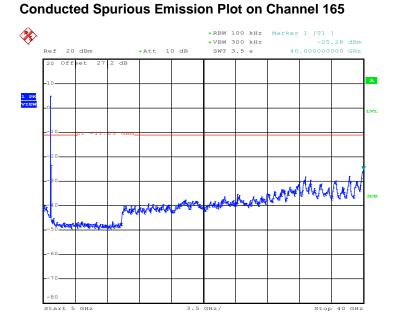
290603 15C Spurious 802.11a_N20 5825 (ch165)

Date: 10.0CT.2012 17:57:56

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 196 of 308
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802.11n HT20 <MIMO Chain 1+2(1)> 5 GHz~40 GHz



290603 15C Spurious 802.11a_N20 5825 (ch165)

Date: 10.0CT.2012 17:58:14

SPORTON INTERNATIONAL INC.

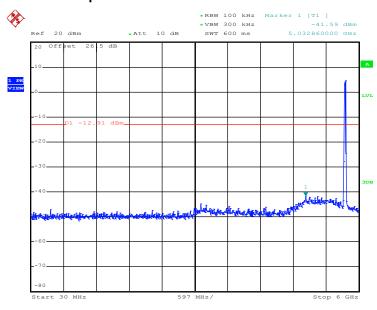
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 197 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01

FCC RF Test Report

Test Mode :	802.11n HT20 <mimo 1+2(2)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	55~58%
Test Channel :	149, 157, 165	Test Engineer :	Alan Liu and Book Lin

802.11n HT20 < MIMO Chain 1+2(2)> 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 149



290603 15C Spurious 802.11a_N20 5745 (ch149)

Date: 10.0CT.2012 17:43:45

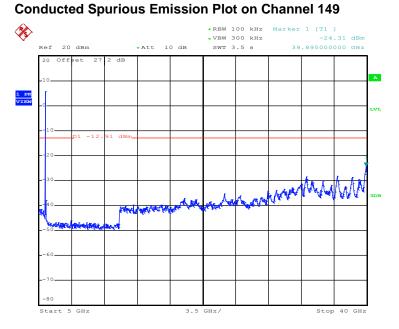
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

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802.11n HT20 <MIMO Chain 1+2(2)> 5 GHz~40 GHz



290603 15C Spurious 802.11a_N20 5745 (ch149)

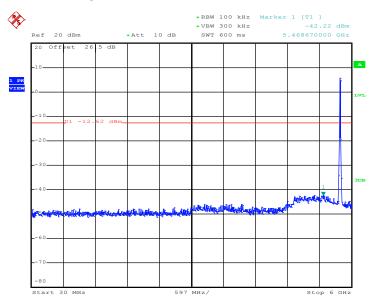
Date: 10.0CT.2012 17:44:03

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 199 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT20 <MIMO Chain 1+2(2)> 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 157



290603 15C Spurious 802.11a_N20 5785 (ch157)

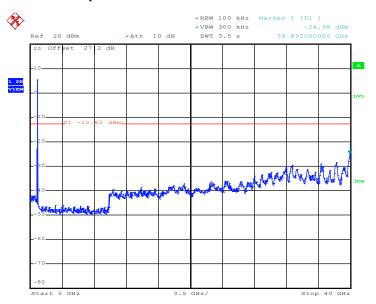
Date: 10.OCT.2012 18:02:03

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 200 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT20 <MIMO Chain 1+2(2)> 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 157



290603 15C Spurious 802.11a_N20 5785 (ch157)

Date: 10.OCT.2012 18:02:21

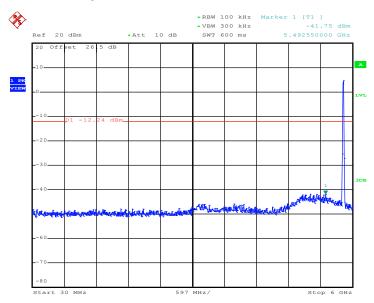
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 201 of 308
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802.11n HT20 <MIMO Chain 1+2(2)> 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 165



290603 15C Spurious 802.11a_N20 5825 (ch165)

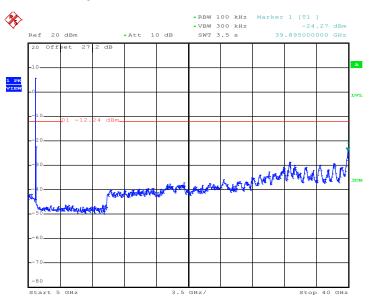
Date: 10.0CT.2012 18:00:37

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 202 of 308
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802.11n HT20 <MIMO Chain 1+2(2)> 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 165



290603 15C Spurious 802.11a_N20 5825 (ch165)

Date: 10.0CT.2012 18:00:54

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 203 of 308
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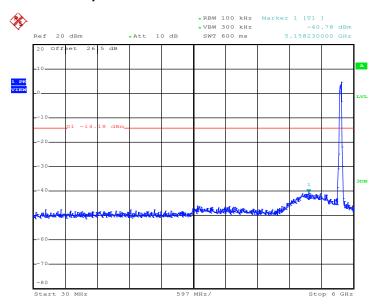
FCC RF Test Report

ITest Mode :	802.11n HT40 <mimo 1+2(1)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	55~58%
Test Channel :	151 and 159	Test Engineer :	Alan Liu and Book Lin

802.11n HT40 <MIMO Chain 1+2(1)>

30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 151



290603 15C Spurious 802.11a_N40 5755

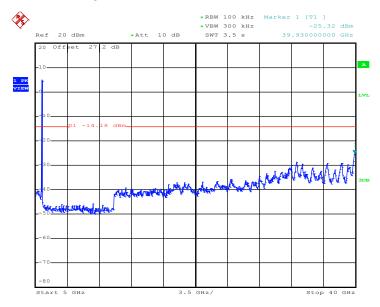
Date: 10.0CT.2012 18:22:57

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 204 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(1)> 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 151



290603 15C Spurious 802.11a_N40 5755

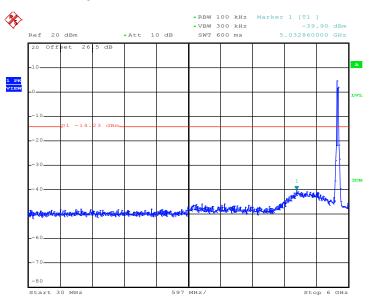
Date: 10.0CT.2012 18:23:14

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 205 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT40 <MIMO Chain 1+2(1)> 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 159



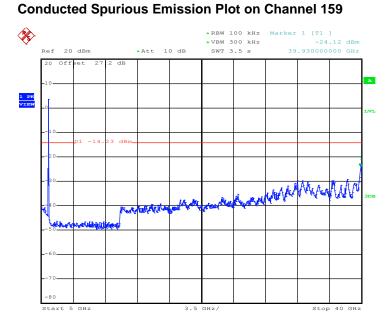
290603 15C Spurious 802.11a_N40 5795

Date: 10.OCT.2012 18:19:14

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 206 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT40 <MIMO Chain 1+2(1)> 5 GHz~40 GHz



290603 15C Spurious 802.11a_N40 5795

Date: 10.OCT.2012 18:19:31

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 207 of 308
Report Issued Date : Oct. 30, 2012
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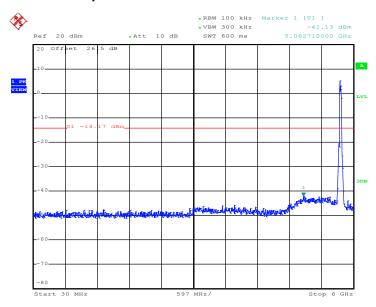
FCC RF Test Report

Test Mode :	802.11n HT40 <mimo 1+2(2)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	55~58%
Test Channel :	151 and 159	Test Engineer :	Alan Liu and Book Lin

Report No.: FR290603A

802.11n HT40 <MIMO Chain 1+2(2)> 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 151



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Report Issued Date: Oct. 30, 2012

290603 15C Spurious 802.11a_N40 5755

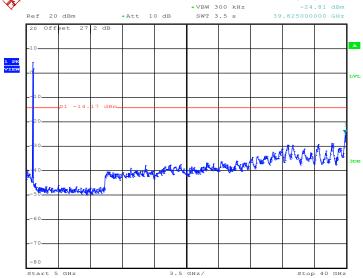
Date: 10.0CT.2012 18:21:31

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6



802.11n HT40 <MIMO Chain 1+2(2)> 5 GHz~40 GHz Conducted Spurious Emission Plot on Channel 151





290603 15C Spurious 802.11a_N40 5755

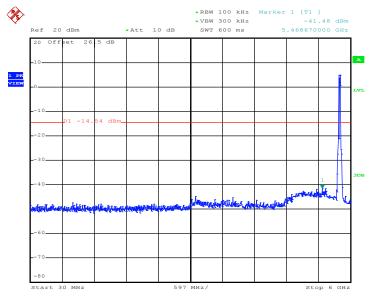
Date: 10.0CT.2012 18:21:48

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 209 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT40 <MIMO Chain 1+2(2)> 30 MHz~6 GHz





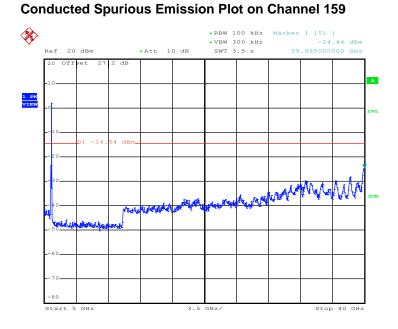
290603 15C Spurious 802.11a_N40 5795

Date: 10.0CT.2012 18:20:22

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 210 of 308
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802.11n HT40 <MIMO Chain 1+2(2)> 5 GHz~40 GHz



290603 15C Spurious 802.11a_N40 5795

Date: 10.0CT.2012 18:20:40

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 211 of 308
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FCC RF Test Report

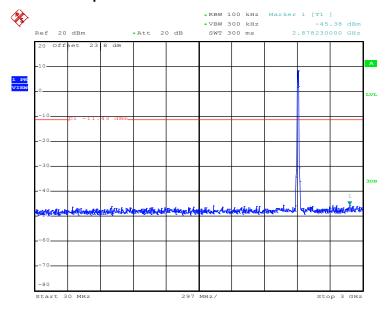
<Antenna 8 for 4.5V>

Test Mode :	802.11b <mimo 1+2(1)="" chain=""></mimo>	Temperature :	24~26℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	55~58%
Test Channel :	01, 02, 06, 10, 11	Test Engineer :	Alan Liu and Book Lin

802.11b <MIMO Chain 1+2(1)>

30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01



282903-1011 15C Spurious 802.11b 2412 (ch01)

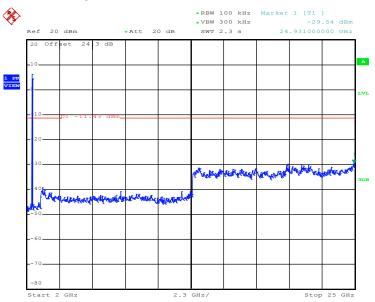
Date: 27.SEP.2012 17:55:31

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 212 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11b <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01



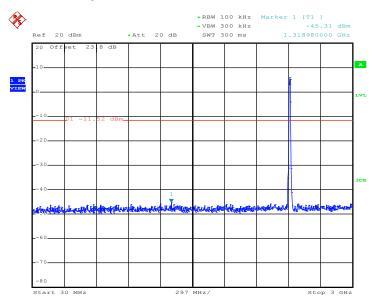
282903-1011 15C Spurious 802.11b 2412 (ch01)

Date: 27.SEP.2012 17:55:49

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 213 of 308
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802.11b <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 02



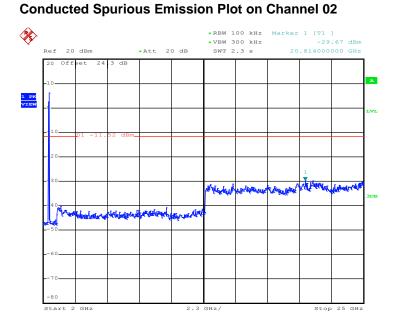
282903-1011 15C Spurious 802.11b 2417

Date: 27.SEP.2012 17:54:12

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 214 of 308
Report Issued Date : Oct. 30, 2012
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802.11b <MIMO Chain 1+2(1)>
2 GHz~25 GHz



282903-1011 15C Spurious 802.11b 2417

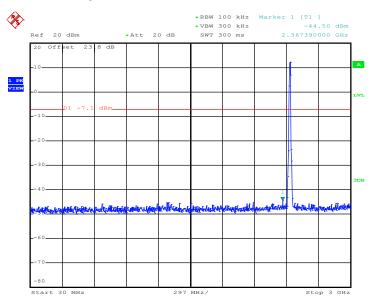
Date: 27.SEP.2012 17:54:34

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 215 of 308
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802.11b <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 06



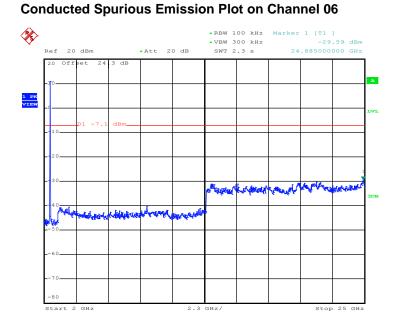
282903-1011 15C Spurious 802.11b 2437 (ch06)

Date: 27.SEP.2012 17:53:00

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 216 of 308
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802.11b <MIMO Chain 1+2(1)> 2 GHz~25 GHz



282903-1011 15C Spurious 802.11b 2437 (ch06)

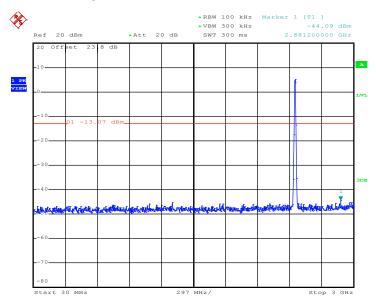
Date: 27.SEP.2012 17:53:21

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 217 of 308
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802.11b <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 10



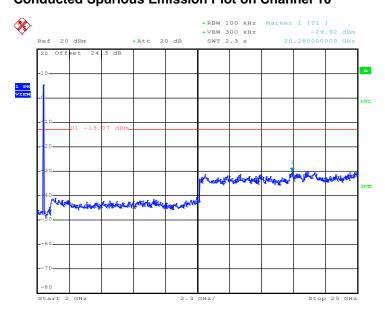
282903-1011 15C Spurious 802.11b 2457

Date: 27.SEP.2012 17:51:58

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 218 of 308
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802.11b <MIMO Chain 1+2(1)>
2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 10



282903-1011 15C Spurious 802.11b 2457

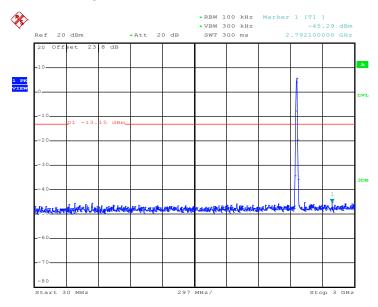
Date: 27.SEP.2012 17:52:16

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 219 of 308
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802.11b <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 11



282903-1011 15C Spurious 802.11b 2462 (chl1)

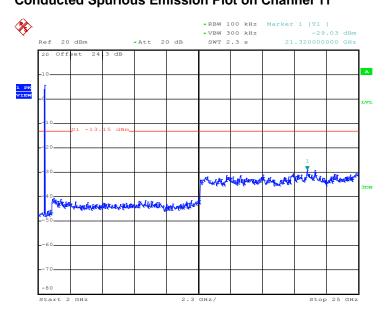
Date: 27.SEP.2012 17:50:40

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 220 of 308
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Report No.: FR290603A

802.11b <MIMO Chain 1+2(1)> 2 GHz~25 GHz Conducted Spurious Emission Plot on Channel 11



282903-1011 15C Spurious 802.11b 2462 (chl1)

Date: 27.SEP.2012 17:51:00

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 221 of 308
Report Issued Date : Oct. 30, 2012
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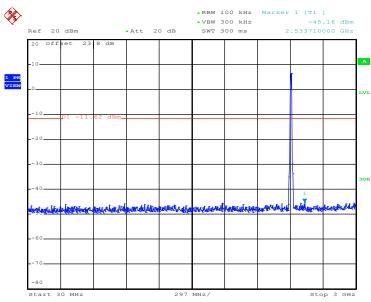
FCC RF Test Report

Test Mode :	802.11b <mimo 1+2(2)="" chain=""></mimo>	Temperature :	24~26℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	55~58%
Test Channel :	01, 02, 06, 10, 11	Test Engineer :	Alan Liu and Book Lin

802.11b <MIMO Chain 1+2(2)>

30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01



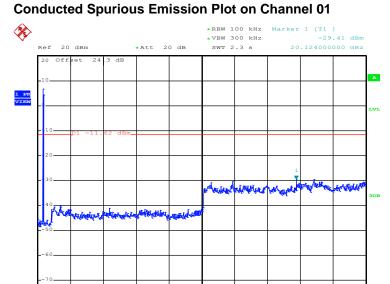
282903-1011 15C Spurious 802.11b 2412 (ch01)

Date: 27.SEP.2012 17:39:42

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 222 of 308
Report Issued Date : Oct. 30, 2012
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802.11b <MIMO Chain 1+2(2)> 2 GHz~25 GHz



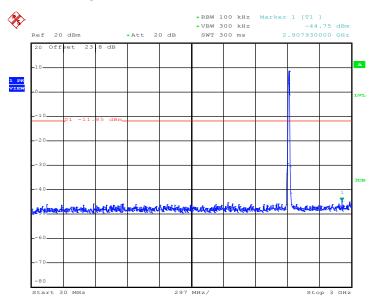
282903-1011 15C Spurious 802.11b 2412 (ch01)

Date: 27.SEP.2012 17:40:02

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 223 of 308
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802.11b <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 02



282903-1011 15C Spurious 802.11b 2417

Date: 27.SEP.2012 17:41:37

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

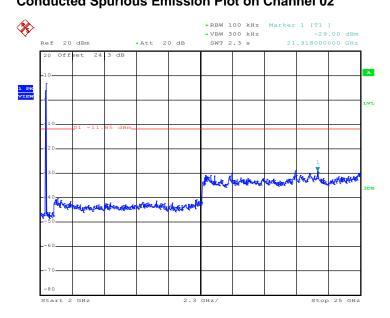
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Report No.: FR290603A

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802.11b <MIMO Chain 1+2(2)>
2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 02



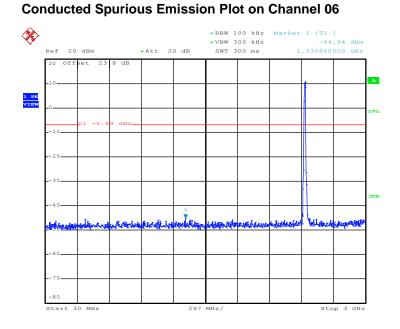
282903-1011 15C Spurious 802.11b 2417

Date: 27.SEP.2012 17:41:58

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 225 of 308
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802.11b <MIMO Chain 1+2(2)> 30 MHz~3 GHz



282903-1011 15C Spurious 802.11b 2437 (ch06)

Date: 27.SEP.2012 17:43:25

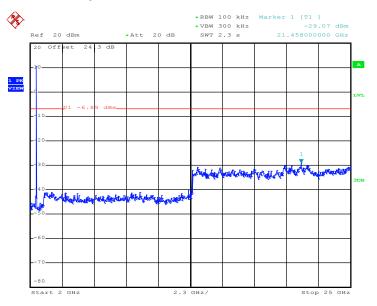
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 226 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11b <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06



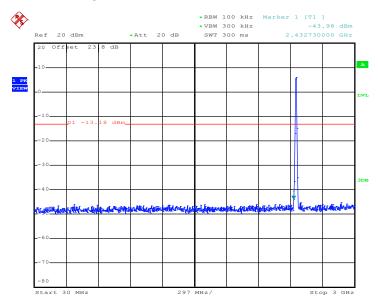
282903-1011 15C Spurious 802.11b 2437 (ch06)

Date: 27.SEP.2012 17:43:46

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 227 of 308
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802.11b <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 10



282903-1011 15C Spurious 802.11b 2457

Date: 27.SEP.2012 17:44:51

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

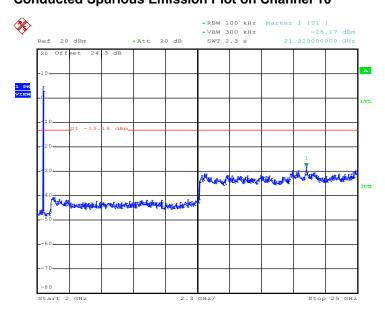
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Report No.: FR290603A

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802.11b <MIMO Chain 1+2(2)> 2 GHz~25 GHz Conducted Spurious Emission Plot on Channel 10



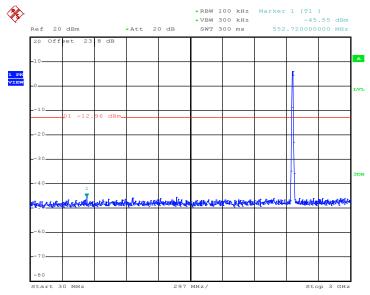
282903-1011 15C Spurious 802.11b 2457

Date: 27.SEP.2012 17:45:09

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 229 of 308
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802.11b <MIMO Chain 1+2(2)> 30 MHz~3 GHz





282903-1011 15C Spurious 802.11b 2462 (chl1)

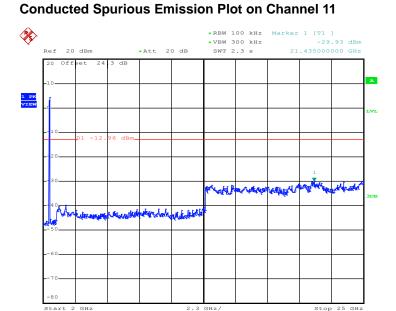
Date: 27.SEP.2012 17:46:31

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 230 of 308
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802.11b <MIMO Chain 1+2(2)> 2 GHz~25 GHz



282903-1011 15C Spurious 802.11b 2462 (chl1)

Date: 27.SEP.2012 17:46:49

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 231 of 308
Report Issued Date : Oct. 30, 2012
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FCC RF Test Report

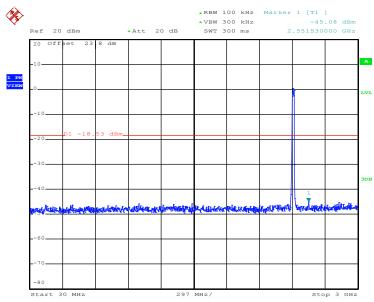
Test Mode :	802.11g <mimo 1+2(1)="" chain=""></mimo>	Temperature :	24~26℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	55~58%
Test Channel :	01, 02, 06, 10, 11	Test Engineer :	Alan Liu and Book Lin

Report No.: FR290603A

802.11g <MIMO Chain 1+2(1)>

30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01



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Report Issued Date : Oct. 30, 2012

282903-1011 15C Spurious 802.11g 2412 (ch01)

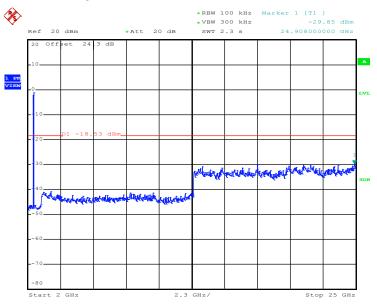
Date: 27.SEP.2012 17:57:49

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6



802.11g <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01



282903-1011 15C Spurious 802.11g 2412 (ch01)

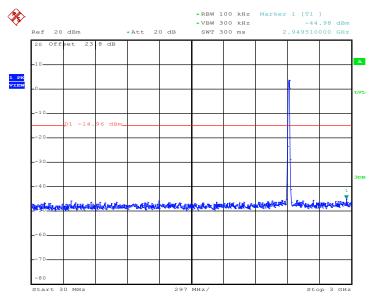
Date: 27.SEP.2012 17:58:10

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 233 of 308
Report Issued Date : Oct. 30, 2012
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802.11g <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 02



282903-1011 15C Spurious 802.11g 2417

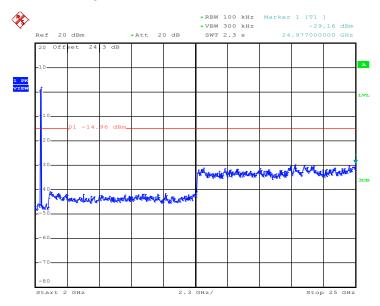
Date: 27.SEP.2012 17:59:40

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 234 of 308
Report Issued Date : Oct. 30, 2012
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802.11g <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 02



282903-1011 15C Spurious 802.11g 2417

Date: 27.SEP.2012 18:00:00

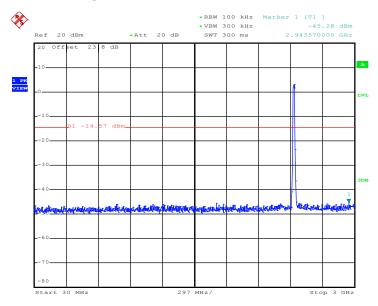
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 235 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11g <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11g 2437 (ch06)

Date: 27.SEP.2012 18:00:47

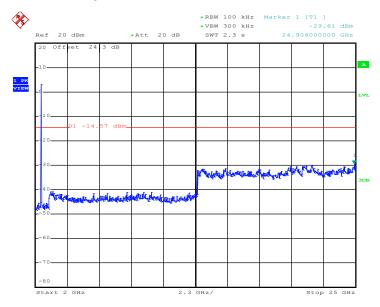
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 236 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11g <MIMO Chain 1+2(1)> 2 GHz~25 GHz





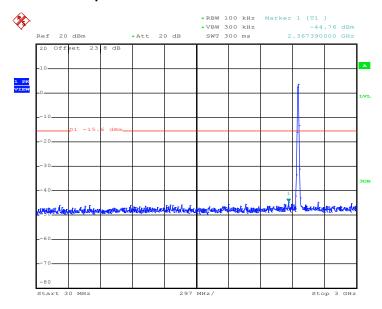
282903-1011 15C Spurious 802.11g 2437 (ch06)

Date: 27.SEP.2012 18:01:06

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 237 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01

802.11g <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 10



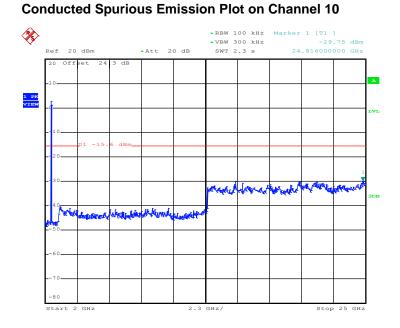
282903-1011 15C Spurious 802.11g 2457

Date: 27.SEP.2012 18:01:55

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 238 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11g <MIMO Chain 1+2(1)> 2 GHz~25 GHz



282903-1011 15C Spurious 802.11g 2457

Date: 27.SEP.2012 18:02:15

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

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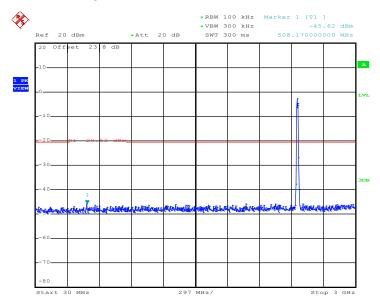
Report No.: FR290603A

: Rev. 01 Report Version



802.11g <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 11



282903-1011 15C Spurious 802.11g 2462 (ch11)

Date: 27.SEP.2012 18:03:11

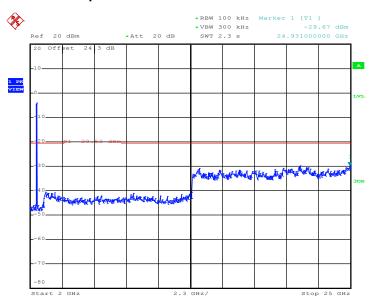
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 240 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11g <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



282903-1011 15C Spurious 802.11g 2462 (chl1)

Date: 27.SEP.2012 18:03:29

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 241 of 308
Report Issued Date : Oct. 30, 2012
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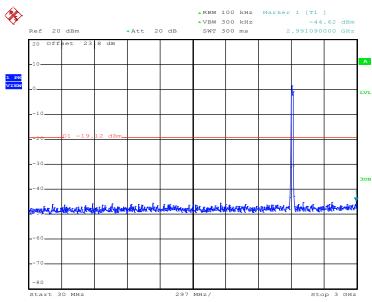
FCC RF Test Report

Test Mode :	802.11g <mimo 1+2(2)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	55~58%
Test Channel :	01, 02, 06, 10, 11	Test Engineer :	Alan Liu and Book Lin

802.11g <MIMO Chain 1+2(2)>

30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01



282903-1011 15C Spurious 802.11g 2412 (ch01)

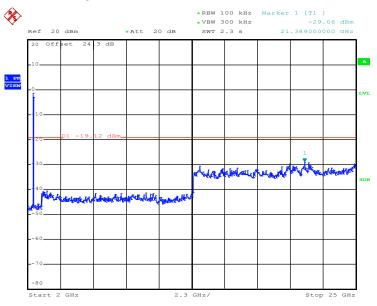
Date: 27.SEP.2012 17:36:41

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 242 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11g <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01



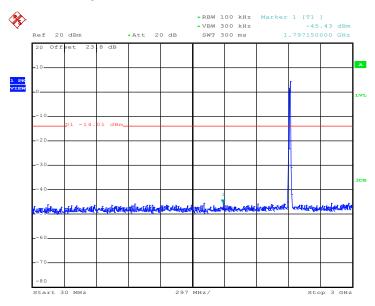
282903-1011 15C Spurious 802.11g 2412 (ch01)

Date: 27.SEP.2012 17:36:59

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 243 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01

802.11g <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 02



282903-1011 15C Spurious 802.11g 2417

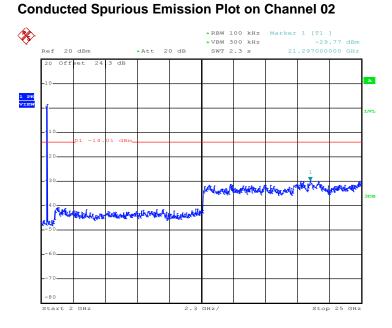
Date: 27.SEP.2012 17:35:10

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 244 of 308
Report Issued Date : Oct. 30, 2012
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Report No.: FR290603A

802.11g <MIMO Chain 1+2(2)> 2 GHz~25 GHz



282903-1011 15C Spurious 802.11g 2417

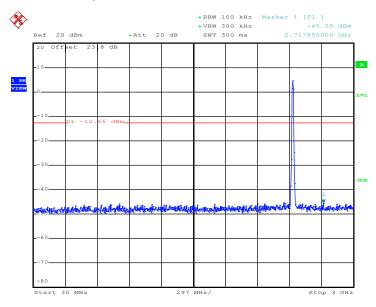
Date: 27.SEP.2012 17:35:29

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 245 of 308
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802.11g <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11g 2437 (ch06)

Date: 27.SEP.2012 17:33:53

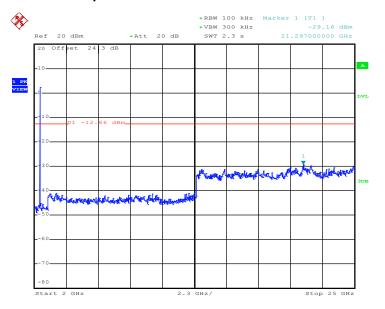
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 246 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11g <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11g 2437 (ch06)

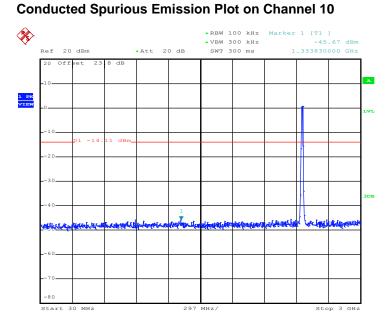
Date: 27.SEP.2012 17:34:11

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 247 of 308
Report Issued Date : Oct. 30, 2012
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802.11g <MIMO Chain 1+2(2)>
30 MHz~3 GHz



282903-1011 15C Spurious 802.11g 2457

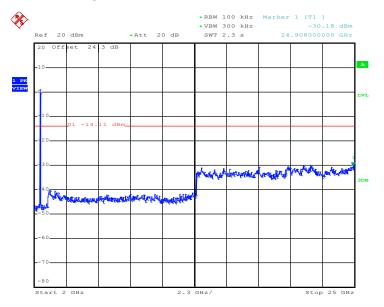
Date: 27.SEP.2012 17:31:06

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 248 of 308
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802.11g <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 10



282903-1011 15C Spurious 802.11g 2457

Date: 27.SEP.2012 17:31:26

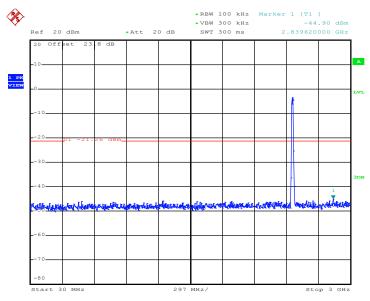
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 249 of 308
Report Issued Date : Oct. 30, 2012
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802.11g <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 11



282903-1011 15C Spurious 802.11g 2462 (ch11)

Date: 27.SEP.2012 17:32:21

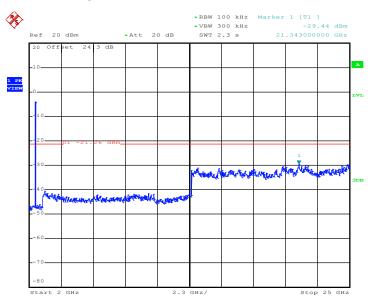
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 250 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11g <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



282903-1011 15C Spurious 802.11g 2462 (chl1)

Date: 27.SEP.2012 17:32:39

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 251 of 308
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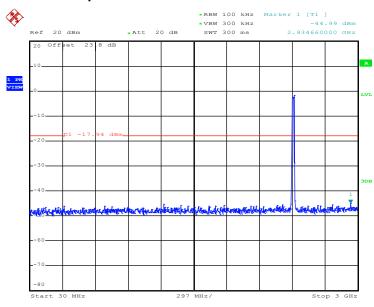
FCC RF Test Report

ITest Mode :	802.11n HT20 <mimo 1+2(1)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	55~58%
Test Channel:	01, 02, 06, 10, 11	Test Engineer :	Alan Liu and Book Lin

802.11n HT20 <MIMO Chain 1+2(1)>

30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01



282903-1011 15C Spurious 802.11g_N20 2412 (ch01)

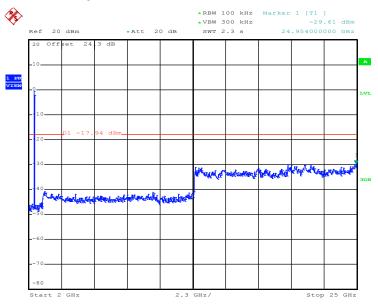
Date: 27.SEP.2012 18:32:07

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 252 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT20 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01



282903-1011 15C Spurious 802.11g_N20 2412 (ch01)

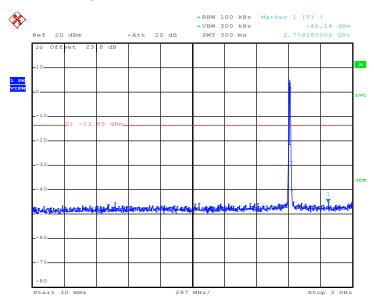
Date: 27.SEP.2012 18:32:26

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 253 of 308
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802.11n HT20 <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 02



282903-1011 15C Spurious 802.11g_N20 2417

Date: 27.SEP.2012 18:31:08

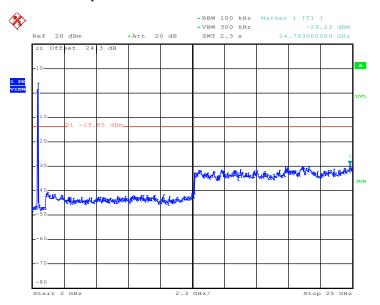
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 254 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT20 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 02



282903-1011 15C Spurious 802.11g_N20 2417

Date: 27.SEP.2012 18:31:29

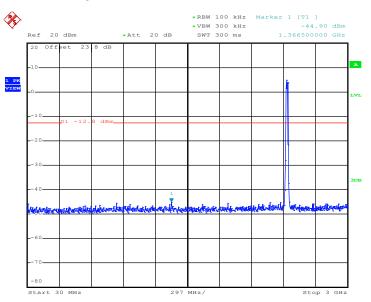
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 255 of 308
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802.11n HT20 <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11g_N20 2437 (ch06)

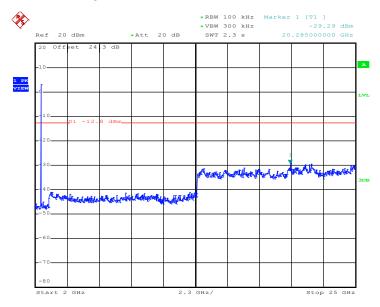
Date: 27.SEP.2012 18:30:12

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 256 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT20 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11g_N20 2437 (ch06)

Date: 27.SEP.2012 18:30:30

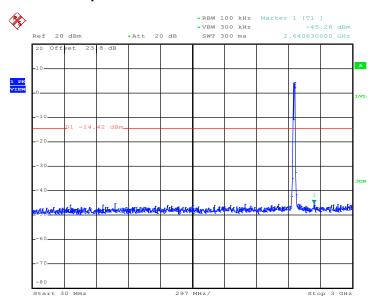
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 257 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT20 <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 10



282903-1011 15C Spurious 802.11g_N20 2457

Date: 27.SEP.2012 18:29:20

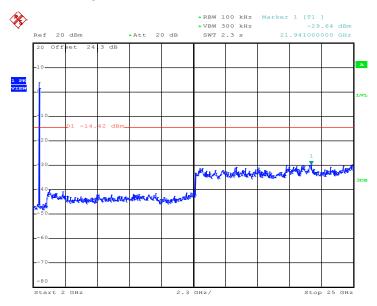
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 258 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT20 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 10



282903-1011 15C Spurious 802.11g_N20 2457

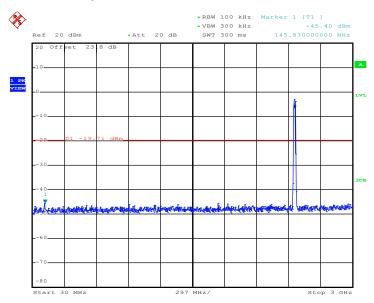
Date: 27.SEP.2012 18:29:38

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 259 of 308
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802.11n HT20 <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 11



282903-1011 15C Spurious 802.11g_N20 2462 (chl1)

Date: 27.SEP.2012 18:28:12

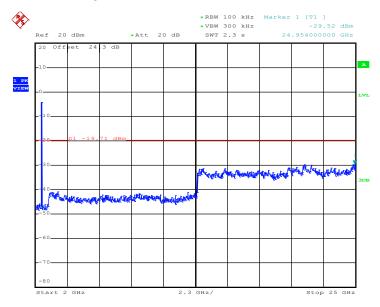
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 260 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT20 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



282903-1011 15C Spurious 802.11g_N20 2462 (chl1)

Date: 27.SEP.2012 18:28:32

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 261 of 308
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Report Version : Rev. 01



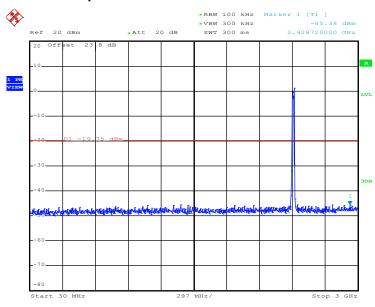
FCC RF Test Report

Test Mode :	802.11n HT20 <mimo 1+2(2)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	55~58%
Test Channel :	01, 02, 06, 10, 11	Test Engineer :	Alan Liu and Book Lin

802.11n HT20 <MIMO Chain 1+2(2)>

30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01



282903-1011 15C Spurious 802.11g_N20 2412 (ch01)

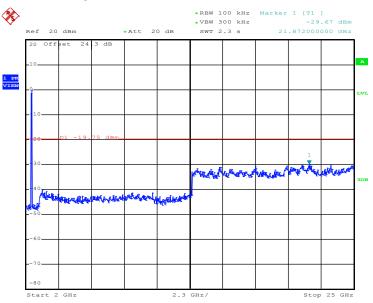
Date: 27.SEP.2012 17:15:29

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 262 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT20 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01



282903-1011 15C Spurious 802.11g_N20 2412 (ch01)

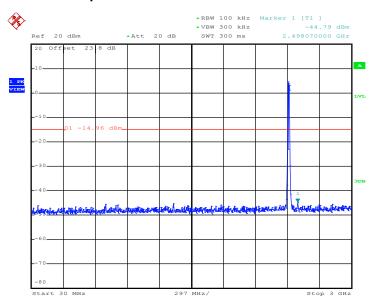
Date: 27.SEP.2012 17:15:51

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 263 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT20 <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 02



282903-1011 15C Spurious 802.11a_N20 2417

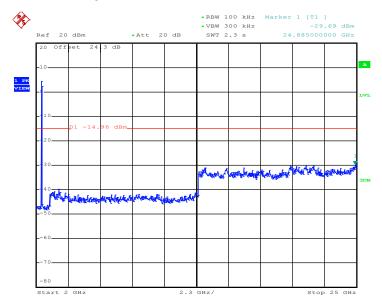
Date: 27.SEP.2012 17:11:09

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 264 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT20 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 02



282903-1011 15C Spurious 802.11a_N20 2417

Date: 27.SEP.2012 17:11:28

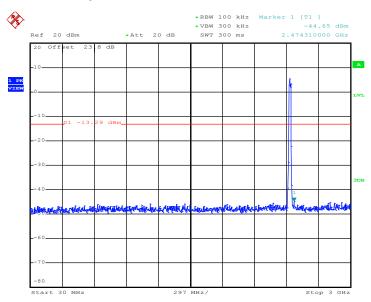
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 265 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01

FCC RF Test Report

802.11n HT20 <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11a_N20 2437 (ch06)

Date: 27.SEP.2012 17:09:24

SPORTON INTERNATIONAL INC.

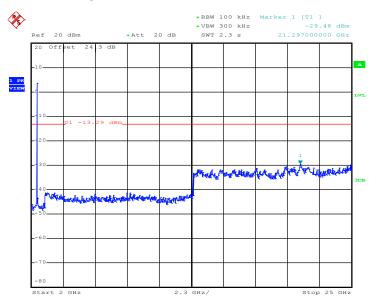
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6

Page Number : 266 of 308 Report Issued Date : Oct. 30, 2012 : Rev. 01 Report Version



802.11n HT20 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11a_N20 2437 (ch06)

Date: 27.SEP.2012 17:09:42

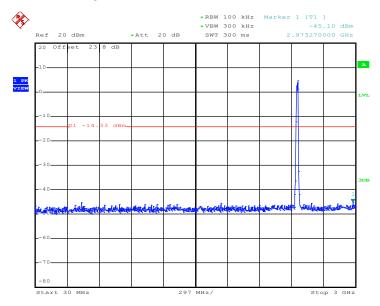
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 267 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT20 <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 10



282903-1011 15C Spurious 802.11a_N20 2457

Date: 27.SEP.2012 17:08:17

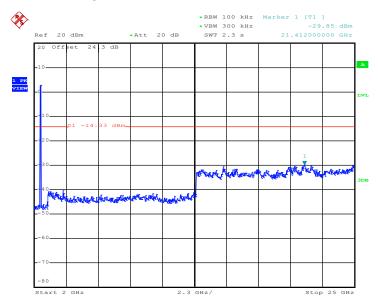
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 268 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT20 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 10



282903-1011 15C Spurious 802.11a_N20 2457

Date: 27.SEP.2012 17:08:35

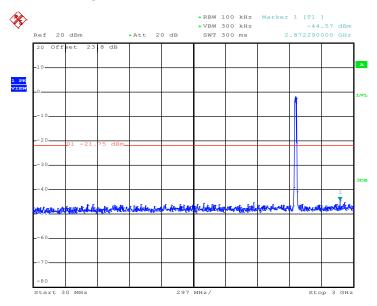
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 269 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT20 <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 11



282903-1011 15C Spurious 802.11a_N20 2462 (chl1)

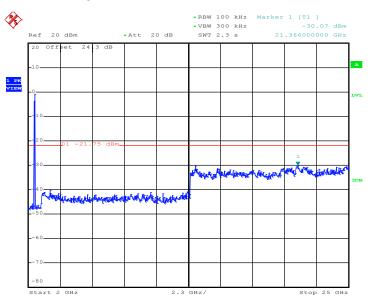
Date: 27.SEP.2012 17:06:43

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 270 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT20 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



282903-1011 15C Spurious 802.11a_N20 2462 (chl1)

Date: 27.SEP.2012 17:07:00

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 271 of 308
Report Issued Date : Oct. 30, 2012
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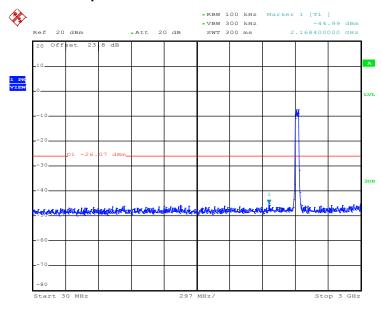
FCC RF Test Report

Test Mode :	802.11n HT40 <mimo 1+2(1)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	55~58%
Test Channel :	03, 04, 05, 06, 07, 08, 09	Test Engineer :	Alan Liu and Book Lin

802.11n HT40 <MIMO Chain 1+2(1)>

30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 03



282903-1011 15C Spurious 802.11g_N40 2422 (ch03)

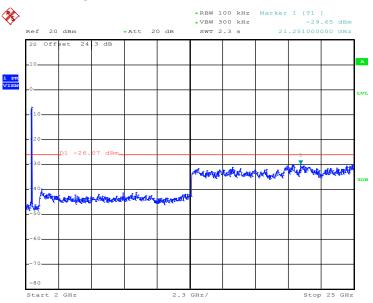
Date: 27.SEP.2012 18:15:12

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 272 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 03



282903-1011 15C Spurious 802.11g_N40 2422 (ch03)

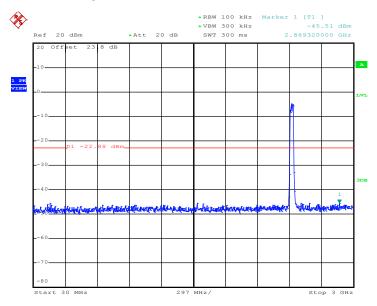
Date: 27.SEP.2012 18:15:30

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 273 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT40 <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 04



282903-1011 15C Spurious 802.11g_N40 2427

Date: 27.SEP.2012 18:17:33

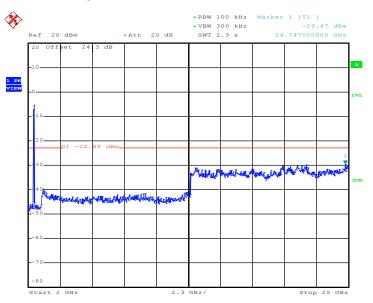
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 274 of 308
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Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 04



282903-1011 15C Spurious 802.11g_N40 2427

Date: 27.SEP.2012 18:17:54

SPORTON INTERNATIONAL INC.

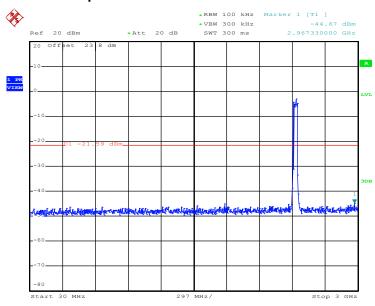
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 275 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 < MIMO Chain 1+2(1)>

30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 05



282903-1011 15C Spurious 802.11g_N40 2432

Date: 27.SEP.2012 18:19:00

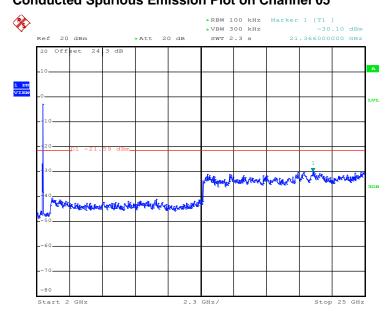
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 276 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



Report No.: FR290603A

2 GHz~25 GHz Conducted Spurious Emission Plot on Channel 05

802.11n HT40 < MIMO Chain 1+2(1)>



282903-1011 15C Spurious 802.11g_N40 2432

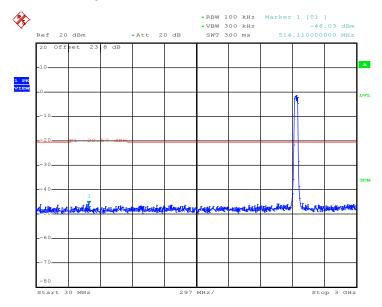
Date: 27.SEP.2012 18:19:20

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 277 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11g_N40 2437 (ch06)

Date: 27.SEP.2012 18:21:11

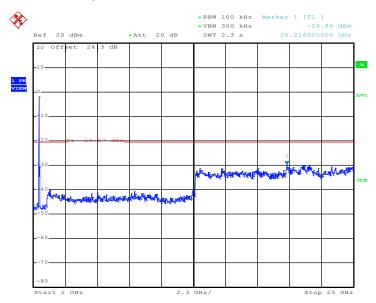
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 278 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11g_N40 2437 (ch06)

Date: 27.SEP.2012 18:21:31

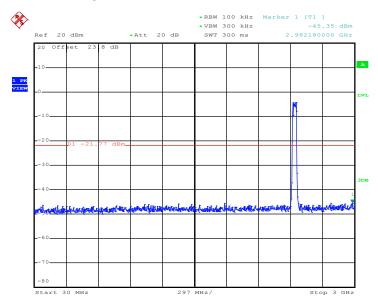
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 279 of 308
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802.11n HT40 <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 07



282903-1011 15C Spurious 802.11g_N40 2442 (ch07)

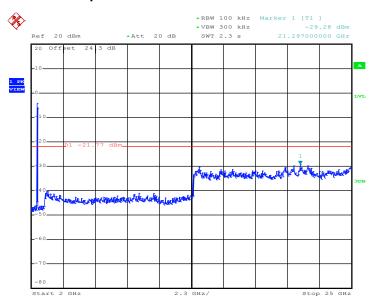
Date: 27.SEP.2012 18:23:19

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 280 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 07



282903-1011 15C Spurious 802.11g_N40 2442 (ch07)

Date: 27.SEP.2012 18:23:38

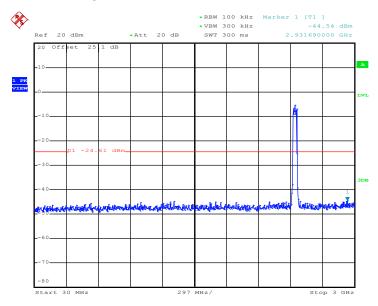
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 281 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 08



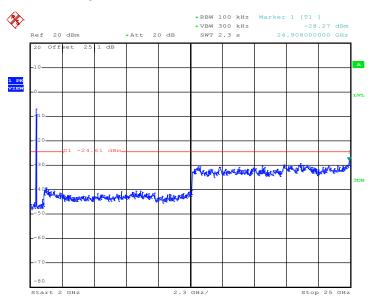
USI 15C Spurious 802.11g_N40 2447
Date: 22.0CT.2012 19:29:54

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 282 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 08



USI 15C Spurious 802.11g_N40 2447
Date: 22.0CT.2012 19:30:11

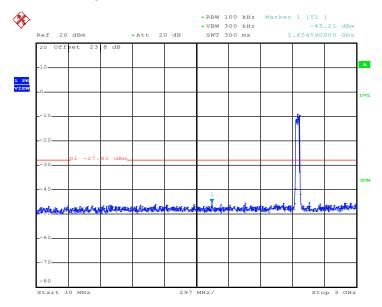
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 283 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(1)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 09



282903-1011 15C Spurious 802.11g_N40 2452 (ch09)

Date: 27.SEP.2012 18:25:17

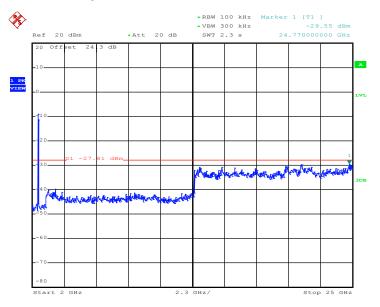
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 284 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(1)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 09



282903-1011 15C Spurious 802.11g_N40 2452 (ch09)

Date: 27.SEP.2012 18:25:36

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 285 of 308
Report Issued Date : Oct. 30, 2012
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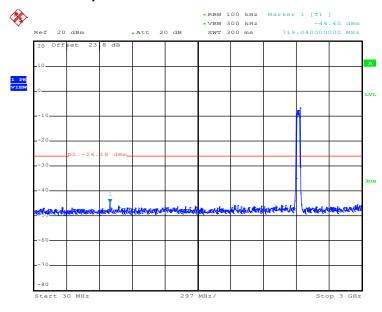
FCC RF Test Report

ITest Mode :	802.11n HT40 <mimo 1+2(2)="" chain=""></mimo>	Temperature :	24~26 ℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	55~58%
Test Channel :	03, 04, 05, 06, 07, 08, 09	Test Engineer :	Alan Liu and Book Lin

802.11n HT40 <MIMO Chain 1+2(2)>

30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 03



282903-1011 15C Spurious 802.11g_N40 2422 (ch03)

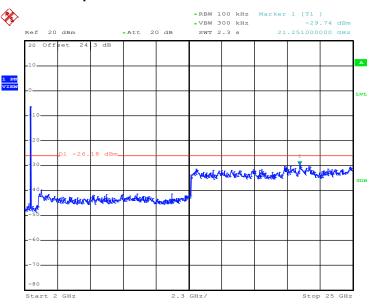
Date: 27.SEP.2012 16:52:03

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 286 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT40 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 03



282903-1011 15C Spurious 802.11g_N40 2422 (ch03)

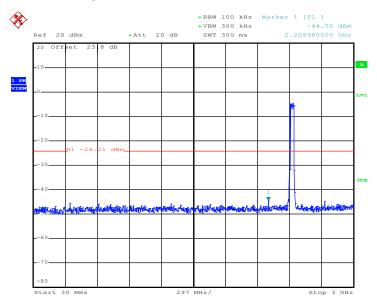
Date: 27.SEP.2012 16:52:22

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 287 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 04



282903-1011 15C Spurious 802.11g_N40 2427

Date: 27.SEP.2012 16:54:35

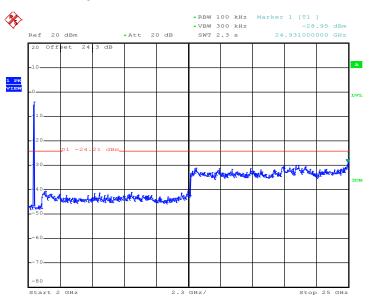
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 288 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 04



282903-1011 15C Spurious 802.11g_N40 2427

Date: 27.SEP.2012 16:54:53

SPORTON INTERNATIONAL INC.

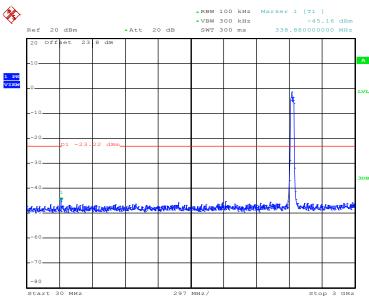
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 289 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 < MIMO Chain 1+2(2)>

30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 05



282903-1011 15C Spurious 802.11g_N40 2432

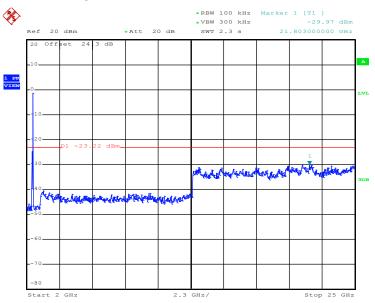
Date: 27.SEP.2012 16:55:50

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 290 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 05



282903-1011 15C Spurious 802.11g_N40 2432

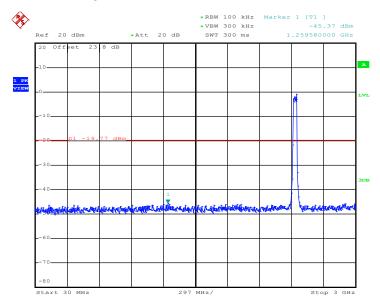
Date: 27.SEP.2012 16:56:10

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 291 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11g_N40 2437 (ch06)

Date: 27.SEP.2012 16:57:33

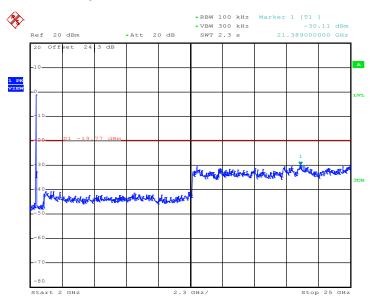
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 292 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06



282903-1011 15C Spurious 802.11g_N40 2437 (ch06)

Date: 27.SEP.2012 16:57:53

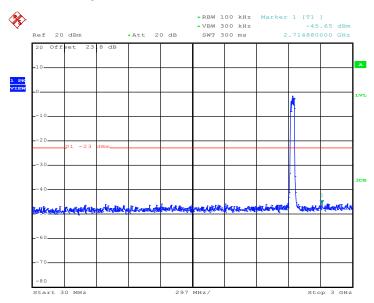
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 293 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 07



282903-1011 15C Spurious 802.11g_N40 2442 (ch07)

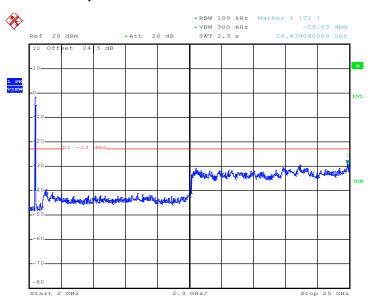
Date: 27.SEP.2012 16:59:12

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 294 of 308
Report Issued Date : Oct. 30, 2012
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802.11n HT40 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 07



282903-1011 15C Spurious 802.11g_N40 2442 (ch07)

Date: 27.SEP.2012 16:59:31

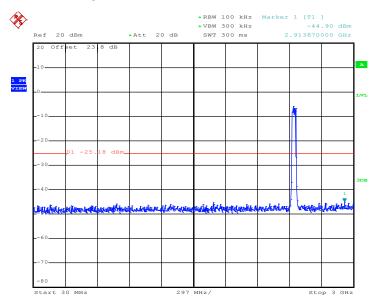
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 295 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01

SPORTON LAB. FCC RF Test Report

802.11n HT40 <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 08



282903-1011 15C Spurious 802.11g_N40 2447

Date: 27.SEP.2012 17:00:43

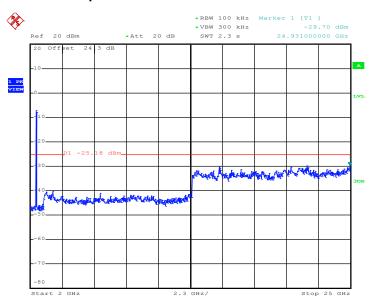
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 296 of 308
Report Issued Date : Oct. 30, 2012
Report Version : Rev. 01



802.11n HT40 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 08



282903-1011 15C Spurious 802.11g_N40 2447

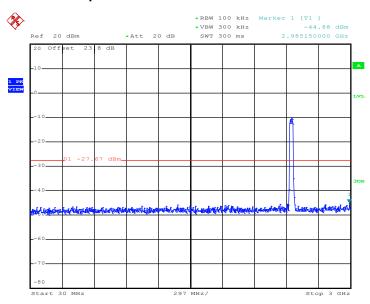
Date: 27.SEP.2012 17:01:05

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 297 of 308
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802.11n HT40 <MIMO Chain 1+2(2)> 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 09



282903-1011 15C Spurious 802.11g_N40 2452 (ch09)

Date: 27.SEP.2012 17:03:17

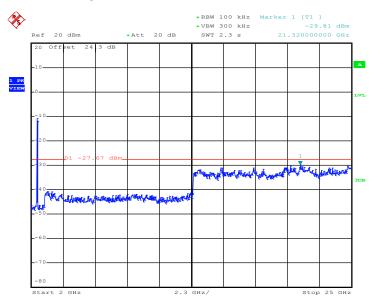
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: UZ7AP6 Page Number : 298 of 308
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Report No.: FR290603A

802.11n HT40 <MIMO Chain 1+2(2)> 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 09



282903-1011 15C Spurious 802.11g_N40 2452 (ch09)

Date: 27.SEP.2012 17:03:35

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3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 KHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(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

3.5.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

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3.5.3 Test Procedure

- 1. The testing follows the guidelines in ANSI C63.10-2009 and ANSI C63.4-2003 test site requirement.
- 2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
- 3. The EUT was placed on a turntable with 0.8 meter above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 5. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level
- 6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the guasi-peak detector and reported.
- 7. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 KHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \ge 1$ GHz for peak measurement. For average measurement:
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW ≥ 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.

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Antenna	Band	Duty Cycle(%)	T(us)	1/T(KHz)	VBW Setting	
6	802.11b for MIMO Chain 1+2(1)	100.00	-	-	4011	
6	802.11b for MIMO Chain 1+2(2)	100.00	-	10Hz		
6	802.11g for MIMO Chain 1+2(1)	100.00	-	-	4011-	
6	802.11g for MIMO Chain 1+2(2)	100.00	-	-	- 10Hz	
6	2.4G 802.11n HT20 for MIMO Chain 1+2(1)	98.93	-	-	4011-	
6	2.4G 802.11n HT20 for MIMO Chain 1+2(2)	98.94	-	-	10Hz	
6	2.4G 802.11n HT40 for MIMO Chain 1+2(1)	98.41	-	-	4011-	
6	2.4G 802.11n HT40 for MIMO Chain 1+2(2)	98.41	-	-	- 10Hz	
7	802.11a for Chain 1+2(1)	100.00	=	-	4011	
7	802.11a for Chain 1+2(2)	100.00	-	-	10Hz	
7	5G 802.11n HT20 for MIMO Chain 1+2(1)	99.15	-	-		
7	5G 802.11n HT20 for MIMO Chain 1+2(2)	99.15	-	-	10Hz	
7	5G 802.11n HT40 for MIMO Chain 1+2(1)	98.30	-	-	4011-	
7	5G 802.11n HT40 for MIMO Chain 1+2(2)	98.30	-	-	10Hz	
8	802.11b for MIMO Chain 1+2(1)	100.00	-	-	4011-	
8	802.11b for MIMO Chain 1+2(2)	100.00	-	-	10Hz	
8	802.11g for MIMO Chain 1+2(1)	100.00	-	-	10Hz	
8	802.11g for MIMO Chain 1+2(2)	100.00	-	-	TUHZ	
8	2.4G 802.11n HT20 for MIMO Chain 1+2(1)	98.93			1047	
8	2.4G 802.11n HT20 for MIMO Chain 1+2(2)	98.94	-		- 10Hz	
8	2.4G 802.11n HT40 for MIMO Chain 1+2(1)	98.41	-	-	10Hz	
8	2.4G 802.11n HT40 for MIMO Chain 1+2(2)	98.41	=	-	TUMZ	

Note: For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.

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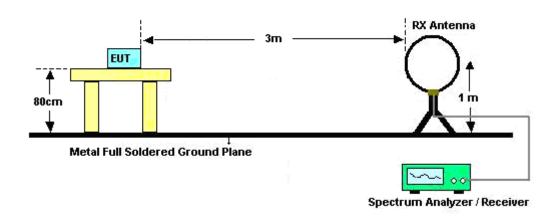
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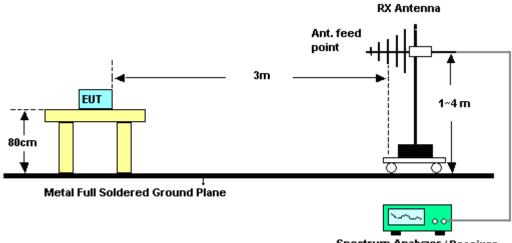
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3.5.4 Test Setup

For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



Spectrum Analyzer / Receiver

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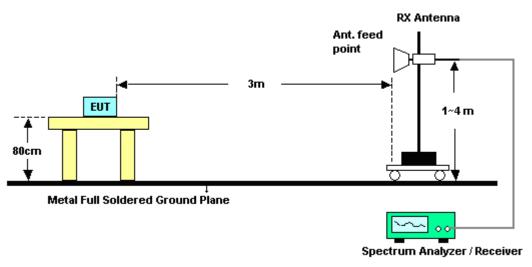
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For radiated emissions above 1GHz



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

Test Engineer :	Kyle Jhuang	Temperature :	22~24°C
		Relative Humidity :	50~52%

Frequency	Level	Over Limit	Limit Line	Remark
(MHz)	(dBuV)	(dB)	(dBuV)	
-	-	-	-	See Note

Note:

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 of Radiated Spurious at Band Edges

Please refer to Appendix A to C.

3.5.7 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix A to C.

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3.6 Antenna Requirements

3.6.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the Antenna exceeds 6 dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

3.6.2 Antenna Connected Construction

Non-standard connector is used.

3.6.3 Antenna Gain

When the antenna gain of EUT is over 6 dBi, the maximum peak output power and PSD limit should be reduced as following table.

Antenna 6	11b/g	11n
Composite gain (dBi)	9.2	9.2
PSD Array gain (dBi)	3.01	0
Power limit reduction (dBi)	3.2	3.2
PSD limit reduction	6.21	3.2

Antenna 7	11a	11n
Composite gain (dBi)	3.5	3.5
PSD Array gain (dBi)	3.01	0
Power limit reduction (dBi)	0	0
PSD limit reduction	0.51	0

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Antenna 8	11b/g	11n
Composite gain (dBi)	6.2	6.2
PSD Array gain (dBi)	3.01	0
Power limit reduction (dBi)	0.2	0.2
PSD limit reduction	3.21	0

Power limit reduction = Composite gain - 6dBi, (min = 0)

PSD limit reduction = Composite gain + PSD Array gain - 6dBi, (min = 0)

FCC KDB 662911 D01 Multiple Transmitter Output v01r02

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(N_{ANT}/N_{SS}=1) dB$.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \le 4$;

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4 List of Measuring Equipment

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	Sep. 11, 2012~ Oct. 10, 2012	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GH z	Sep. 08, 2012	Sep. 11, 2012~ Oct. 10, 2012	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GH z	Sep. 08, 2012	Sep. 11, 2012~ Oct. 10, 2012	Sep. 07, 2013	Conducted (TH02-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 22, 2011	Sep. 22, 2012~ Oct. 09, 2012	Oct. 21, 2012	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP30	101067	9KHz ~ 30GHz	Dec. 06, 2011	Sep. 22, 2012~ Oct. 09, 2012	Dec. 05, 2012	Radiation (03CH07-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Sep. 22, 2012~ Oct. 09, 2012-	Jul. 31, 2013	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A023 62	1GHz ~ 26.5GHz	Dec. 05, 2011	Sep. 22, 2012~ Oct. 09, 2012	Dec. 04, 2012	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32 dB.GAIN	Feb. 27, 2012	Sep. 22, 2012~ Oct. 09, 2012	Feb. 26, 2013	Radiation (03CH07-HY)
Signal Analyzer	Rohde & Schwarz	FSQ	200578/02 6	20Hz~26.5GHz	Feb. 06, 2012	Sep. 22, 2012~ Oct. 09, 2012	Feb. 05, 2013	Radiation (03CH07-HY)
Pre Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	159088	1GHz ~ 18GHz	Mar. 10, 2012	Sep. 22, 2012~ Oct. 09, 2012	Mar. 09, 2013	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 251	15GHz ~ 40GHz	Oct. 21, 2011	Sep. 22, 2012~ Oct. 09, 2012	Oct. 20, 2012	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/00 1	9KHz ~ 30MHz	Jul. 03, 2012	Sep. 22, 2012~ Oct. 09, 2012	Jul. 02, 2014	Radiation (03CH07-HY)

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5 Uncertainty of Evaluation

<u>Uncertainty of Conducted Emission Measurement (150KHz ~ 30MHz)</u>

Measuring Uncertainty for a Level of	2.26
Confidence of 95% (U = 2Uc(y))	2.20

<u>Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)</u>

Measuring Uncertainty for a Level of	0.54
Confidence of 95% (U = 2Uc(y))	2.54

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of	4.72
Confidence of 95% (U = 2Uc(y))	4.72

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