



MET Laboratories, Inc. *Safety Certification - EMI - Telecom Environmental Simulation*

914 WEST PATAPSCO AVENUE • BALTIMORE, MARYLAND 21230-3432 • PHONE (410) 354-3300 • FAX (410) 354-3313
33439 WESTERN AVENUE • UNION CITY, CALIFORNIA 94587 • PHONE (510) 489-6300 • FAX (510) 489-6372
3162 BELICK STREET • SANTA CLARA, CA 95054 • PHONE (408) 748-3585 • FAX (510) 489-6372
13301 MCCALLEN PASS • AUSTIN, TX 78753 • PHONE (512) 287-2500 • FAX (512) 287-2513

January 9, 2014

Meru Networks, Inc.
894 Ross Dr.
Sunnyvale, CA 94089

Dear Rajendran Chary,

Enclosed is the EMC Wireless test report for compliance testing of the Meru Networks, Inc., AP832i and AP822i as tested to the requirements of Title 47 of the CFR, Ch. 1 (10-1-06 ed.), Part 15, Subpart B and ICES-003, Issue 5 August 2012 for a Class B Digital Device, and FCC Part 15 Subpart C and RSS-210, Issue 8, Dec. 2010 for Intentional Radiators.

Thank you for using the services of MET Laboratories, Inc. If you have any questions regarding these results or if MET can be of further service to you, please feel free to contact me.

Sincerely yours,
MET LABORATORIES, INC.

Jennifer Warnell
Documentation Department

Reference: (\Meru Networks, Inc.\EMCS408100B-FCC247)

Certificates and reports shall not be reproduced except in full, without the written permission of MET Laboratories, Inc.

Electromagnetic Compatibility Criteria Test Report

for the

**Meru Networks, Inc.
AP832i and AP822i**

Tested under
the FCC Certification Rules
contained in
Title 47 of the CFR, Parts 15 Subpart B & ICES-003
for Class B Digital Devices
&
15.247 Subpart C & RSS-210, Issue 8, Dec. 2010
for Intentional Radiators

MET Report: EMCS408100B-FCC247

January 9, 2014

Prepared For:

**Meru Networks, Inc.
894 Ross Dr.
Sunnyvale, CA 94089**

Prepared By:
MET Laboratories, Inc.
3162 Belick St.
Santa Clara, CA 95054

Electromagnetic Compatibility Criteria Test Report

for the

**Meru Networks, Inc.
AP832i and AP822i**

Tested under
the FCC Certification Rules
contained in
Title 47 of the CFR, Parts 15 Subpart B & ICES-003
for Class B Digital Devices
&
15.247 Subpart C & RSS-210, Issue 8, Dec. 2010
for Intentional Radiators



Jonathan Chao, Project Engineer
Electromagnetic Compatibility Lab



Jennifer Warnell
Documentation Department

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules Parts 15B, 15.247 and Industry Canada standards ICES-003, Issue 5 August 2012, RSS-210, Issue 8, Dec. 2010 under normal use and maintenance.



Asad Bajwa,
Director, Electromagnetic Compatibility Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
Ø	January 9, 2014	Initial Issue.

Table of Contents

I.	Executive Summary	1
	A. Purpose of Test	2
	B. Executive Summary	2
II.	Equipment Configuration	3
	A. Overview.....	4
	B. References.....	5
	C. Test Site	5
	D. Description of Test Sample.....	5
	E. Equipment Configuration.....	7
	F. Support Equipment	7
	G. Ports and Cabling Information.....	7
	H. Mode of Operation.....	8
	I. Method of Monitoring EUT Operation	8
	J. Modifications	8
	a) Modifications to EUT	8
	b) Modifications to Test Standard.....	8
	K. Disposition of EUT	8
III.	Electromagnetic Compatibility Criteria for Unintentional Radiators	9
	§ 15.107(a) Conducted Emissions Limits.....	10
	§ 15.109(a) Radiated Emissions Limits.....	15
IV.	Electromagnetic Compatibility Criteria for Intentional Radiators.....	21
	§ 15.203 Antenna Requirement	22
	§ 15.207(a) Conducted Emissions Limits.....	23
	§ 15.247(a)(a) 6 dB and 99% Bandwidth	28
	§ 15.247(b) Peak Power Output	65
	§ 15.247(d) Radiated Spurious Emissions Requirements and Band Edge	84
	Co-location	113
	§ 15.247(d) RF Conducted Spurious Emissions Requirements and Band Edge.....	148
	§ 15.247(e) Peak Power Spectral Density	204
	§ 15.247(i) Maximum Permissible Exposure	223
	RSS-GEN Receiver Spurious Emissions.....	224
V.	Test Equipment	228
VI.	Certification & User's Manual Information.....	230
	A. Certification Information	231
	B. Label and User's Manual Information	235
VII.	ICES-003 Procedural & Labeling Requirements.....	237
VIII.	Appendix.....	238

List of Tables

Table 1. Executive Summary of EMC Part 15.247 Compliance Testing	2
Table 2. EUT Summary Table.....	4
Table 3. References	5
Table 4. Equipment Configuration	7
Table 5. Support Equipment.....	7
Table 6. Conducted Limits for Radio Frequency Devices calculated from FCC Part 15 Subsections 15.107(a) (b)	10
Table 7. Conducted Emissions - Voltage, AC Power, Phase Line (120 VAC, 60 Hz), AC-DC Power Supply	11
Table 8. Conducted Emissions - Voltage, AC Power, Neutral Line (120 VAC, 60 Hz), AC-DC Power Supply	12
Table 9. Conducted Emissions - Voltage, AC Power, Phase Line (120 VAC, 60 Hz), PoE	13
Table 10. Conducted Emissions - Voltage, AC Power, Neutral Line (120 VAC, 60 Hz), PoE	14
Table 11. Radiated Emissions Limits calculated from FCC Part 15, §15.109 (a) (b)	15
Table 12. Radiated Emissions Limits, Test Results, 30 MHz – 1 GHz, FCC Limits	16
Table 13. Radiated Emissions Limits, Test Results, 30 MHz – 1 GHz, FCC Limits	17
Table 14. Radiated Emissions Limits, Test Results, ICES-003 Limits	18
Table 15. Radiated Emissions Limits, Test Results, ICES-003 Limits	19
Table 16. Antenna List	22
Table 17. Conducted Limits for Intentional Radiators from FCC Part 15 § 15.207(a)	23
Table 18. Conducted Emissions, 15.207(a), Phase Line, Test Results, AC-DC Power Supply	24
Table 19. Conducted Emissions, 15.207(a), Neutral Line, Test Results, AC-DC Power Supply.....	25
Table 20. Conducted Emissions, 15.207(a), Phase Line, Test Results, PoE	26
Table 21. Conducted Emissions, 15.207(a), Neutral Line, Test Results, PoE.....	27
Table 22. 6 dB Occupied Bandwidth, Test Results, 2.4 GHz.....	29
Table 23. 6 dB Occupied Bandwidth, Test Results, 5 GHz.....	30
Table 24. 99% Occupied Bandwidth, Test Results, 2.4 GHz.....	31
Table 25. 99% Occupied Bandwidth, Test Results, 5 GHz.....	32
Table 26. Output Power Requirements from §15.247(b)	65
Table 27. Peak Power Output, Test Results, Internal Antenna, 2.4 GHz	66
Table 28. Summed Peak Output Power, Test Results, Internal Antenna	66
Table 29. Peak Power Output, Test Results, Internal Antenna, 5 GHz	67
Table 30. Summed Peak Output Power, Test Results, Internal Antenna	67
Table 31. Restricted Bands of Operation.....	84
Table 32. Radiated Emissions Limits Calculated from FCC Part 15, § 15.209 (a)	85
Table 33. Peak Power Spectral Density, Test Results, 2.4 GHz.....	205
Table 34. Peak Power Spectral Density, Test Results, 5 GHz.....	206
Table 35. Spurious Emission Limits for Receivers	224
Table 36. Test Equipment List	229

List of Plots

Plot 1. Conducted Emission, Phase Line Plot, AC-DC Power Supply.....	11
Plot 2. Conducted Emission, Neutral Line Plot, AC-DC Power Supply	12
Plot 3. Conducted Emission, Phase Line Plot, PoE	13
Plot 4. Conducted Emission, Neutral Line Plot, PoE	14
Plot 5. Radiated Emissions, 30 MHz - 1 GHz, FCC Limits, AC-DC Power Supply	16
Plot 6. Radiated Emissions, 30 MHz - 1 GHz, FCC Limits, PoE.....	17
Plot 7. Radiated Emissions, ICES-003 Limits, AC-DC Power Supply	18
Plot 8. Radiated Emissions, ICES-003 Limits, PoE	19
Plot 9. Radiated Emissions, Above 1 GHz	20
Plot 10. Conducted Emissions, 15.207(a), Phase Line, AC-DC Power Supply	24
Plot 11. Conducted Emissions, 15.207(a), Neutral Line, AC-DC Power Supply.....	25

Plot 12. Conducted Emissions, 15.207(a), Phase Line, PoE	26
Plot 13. Conducted Emissions, 15.207(a), Neutral Line, PoE.....	27
Plot 14. 6 dB Occupied Bandwidth, 802.11b, 2412 MHz, Low Channel.....	33
Plot 15. 6 dB Occupied Bandwidth, 802.11b, 2437 MHz, Mid Channel	33
Plot 16. 6 dB Occupied Bandwidth, 802.11b, 2462 MHz, High Channel.....	33
Plot 17. 6 dB Occupied Bandwidth, 802.11g, 2412 MHz, Low Channel.....	34
Plot 18. 6 dB Occupied Bandwidth, 802.11g, 2437 MHz, Mid Channel	34
Plot 19. 6 dB Occupied Bandwidth, 802.11g, 2462 MHz, High Channel.....	34
Plot 20. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 1	35
Plot 21. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 1.....	35
Plot 22. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 1	35
Plot 23. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 2	36
Plot 24. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 2.....	36
Plot 25. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 2	36
Plot 26. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 3	37
Plot 27. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 3.....	37
Plot 28. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 3	37
Plot 29. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 1	38
Plot 30. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 1.....	38
Plot 31. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 1	38
Plot 32. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 2	39
Plot 33. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 2.....	39
Plot 34. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 2	39
Plot 35. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 3	40
Plot 36. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 3.....	40
Plot 37. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 3	40
Plot 38. 6 dB Occupied Bandwidth, 802.11a 20MHz, 5745 MHz, Low Channel, Port 1	41
Plot 39. 6 dB Occupied Bandwidth, 802.11a 20MHz, 5785 MHz, Mid Channel, Port 1.....	41
Plot 40. 6 dB Occupied Bandwidth, 802.11a 20MHz, 5825 MHz, High Channel, Port 1.....	41
Plot 41. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 1.....	42
Plot 42. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 1.....	42
Plot 43. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 1	42
Plot 44. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 2.....	43
Plot 45. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 2.....	43
Plot 46. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 2	43
Plot 47. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 3.....	44
Plot 48. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 3.....	44
Plot 49. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 3	44
Plot 50. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 1	45
Plot 51. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 1	45
Plot 52. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 2.....	46
Plot 53. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 2	46
Plot 54. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 3.....	47
Plot 55. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 3	47
Plot 56. 6 dB Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 1	48
Plot 57. 6 dB Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 2	48
Plot 58. 6 dB Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 3	48
Plot 59. 99% Occupied Bandwidth, 802.11b, 2412 MHz, Low Channel	49
Plot 60. 99% Occupied Bandwidth, 802.11b, 2437 MHz, Mid Channel.....	49
Plot 61. 99% Occupied Bandwidth, 802.11b, 2462 MHz, High Channel	49
Plot 62. 99% Occupied Bandwidth, 802.11g, 2412 MHz, Low Channel	50
Plot 63. 99% Occupied Bandwidth, 802.11g, 2437 MHz, Mid Channel.....	50
Plot 64. 99% Occupied Bandwidth, 802.11g, 2462 MHz, High Channel	50

Plot 65. 99% Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 1	51
Plot 66. 99% Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 1	51
Plot 67. 99% Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 1	51
Plot 68. 99% Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 2	52
Plot 69. 99% Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 2	52
Plot 70. 99% Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 2	52
Plot 71. 99% Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 3	53
Plot 72. 99% Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 3	53
Plot 73. 99% Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 3	53
Plot 74. 99% Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 1	54
Plot 75. 99% Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 1	54
Plot 76. 99% Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 1	54
Plot 77. 99% Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 2	55
Plot 78. 99% Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 2	55
Plot 79. 99% Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 2	55
Plot 80. 99% Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 3	56
Plot 81. 99% Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 3	56
Plot 82. 99% Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 3	56
Plot 83. 99% Occupied Bandwidth, 802.11a 20MHz, 5745 MHz, Low Channel, Port 1	57
Plot 84. 99% Occupied Bandwidth, 802.11a 20MHz, 5785 MHz, Mid Channel, Port 1	57
Plot 85. 99% Occupied Bandwidth, 802.11a 20MHz, 5825 MHz, High Channel, Port 1	57
Plot 86. 99% Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 1	58
Plot 87. 99% Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 1	58
Plot 88. 99% Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 1	58
Plot 89. 99% Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 2	59
Plot 90. 99% Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 2	59
Plot 91. 99% Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 2	59
Plot 92. 99% Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 3	60
Plot 93. 99% Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 3	60
Plot 94. 99% Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 3	60
Plot 95. 99% Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 1	61
Plot 96. 99% Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 1	61
Plot 97. 99% Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 2	62
Plot 98. 99% Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 2	62
Plot 99. 99% Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 3	63
Plot 100. 99% Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 3	63
Plot 101. 99% Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 1	64
Plot 102. 99% Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 2	64
Plot 103. 99% Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 3	64
Plot 104. Output Power, Internal Antenna, 802.11b 20 MHz, 2412 MHz, Low Channel	68
Plot 105. Output Power, Internal Antenna, 802.11b 20 MHz, 2437 MHz, Mid Channel	68
Plot 106. Output Power, Internal Antenna, 802.11b 20 MHz, 2462 MHz, High Channel	68
Plot 107. Output Power, Internal Antenna, 802.11g 20 MHz, 2412 MHz, Low Channel	69
Plot 108. Output Power, Internal Antenna, 802.11g 20 MHz, 2437 MHz, Mid Channel	69
Plot 109. Output Power, Internal Antenna, 802.11g 20 MHz, 2462 MHz, High Channel	69
Plot 110. Output Power, Internal Antenna, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 1	70
Plot 111. Output Power, Internal Antenna, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 1	70
Plot 112. Output Power, Internal Antenna, 802.11n 20 MHz, 2462 MHz, High Channel, Port 1	70
Plot 113. Output Power, Internal Antenna, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 2	71
Plot 114. Output Power, Internal Antenna, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 2	71
Plot 115. Output Power, Internal Antenna, 802.11n 20 MHz, 2462 MHz, High Channel, Port 2	71
Plot 116. Output Power, Internal Antenna, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 3	72
Plot 117. Output Power, Internal Antenna, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 3	72

Plot 118. Output Power, Internal Antenna, 802.11n 20 MHz, 2462 MHz, High Channel, Port 3.....	72
Plot 119. Output Power, Internal Antenna, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 1	73
Plot 120. Output Power, Internal Antenna, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 1	73
Plot 121. Output Power, Internal Antenna, 802.11n 40 MHz, 2452 MHz, High Channel, Port 1.....	73
Plot 122. Output Power, Internal Antenna, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 2	74
Plot 123. Output Power, Internal Antenna, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 2.....	74
Plot 124. Output Power, Internal Antenna, 802.11n 40 MHz, 2452 MHz, High Channel, Port 2.....	74
Plot 125. Output Power, Internal Antenna, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 3	75
Plot 126. Output Power, Internal Antenna, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 3.....	75
Plot 127. Output Power, Internal Antenna, 802.11n 40 MHz, 2452 MHz, High Channel, Port 3.....	75
Plot 128. Output Power, Internal Antenna, 802.11a 20 MHz, 5745 MHz, Low Channel	76
Plot 129. Output Power, Internal Antenna, 802.11a 20 MHz, 5785 MHz, Mid Channel.....	76
Plot 130. Output Power, Internal Antenna, 802.11a 20 MHz, 5825 MHz, High Channel	76
Plot 131. Output Power, Internal Antenna, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 1	77
Plot 132. Output Power, Internal Antenna, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 1.....	77
Plot 133. Output Power, Internal Antenna, 802.11n 20 MHz, 5825 MHz, High Channel, Port 1.....	77
Plot 134. Output Power, Internal Antenna, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 2	78
Plot 135. Output Power, Internal Antenna, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 2.....	78
Plot 136. Output Power, Internal Antenna, 802.11n 20 MHz, 5825 MHz, High Channel, Port 2.....	78
Plot 137. Output Power, Internal Antenna, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 3	79
Plot 138. Output Power, Internal Antenna, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 3.....	79
Plot 139. Output Power, Internal Antenna, 802.11n 20 MHz, 5825 MHz, High Channel, Port 3.....	79
Plot 140. Output Power, Internal Antenna, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 1	80
Plot 141. Output Power, Internal Antenna, 802.11n 40 MHz, 5795 MHz, High Channel, Port 1.....	80
Plot 142. Output Power, Internal Antenna, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 2	81
Plot 143. Output Power, Internal Antenna, 802.11n 40 MHz, 5795 MHz, High Channel, Port 2.....	81
Plot 144. Output Power, Internal Antenna, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 3	82
Plot 145. Output Power, Internal Antenna, 802.11n 40 MHz, 5795 MHz, High Channel, Port 3.....	82
Plot 146. Output Power, Internal Antenna, 802.11n 80 MHz, 5775 MHz, Port 1.....	83
Plot 147. Output Power, Internal Antenna, 802.11n 80 MHz, 5775 MHz, Port 2.....	83
Plot 148. Output Power, Internal Antenna, 802.11n 80 MHz, 5775 MHz, Port 3.....	83
Plot 149. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2412 MHz, Low Channel, 30 MHz - 1 GHz.....	86
Plot 150. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2412 MHz, Low Channel, 1 GHz - 18 GHz	86
Plot 151. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2437 MHz, Mid Channel, 30 MHz - 1 GHz	86
Plot 152. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2437 MHz, Mid Channel, 1 GHz - 18 GHz.....	87
Plot 153. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2462 MHz, High Channel, 30 MHz - 1 GHz.....	87
Plot 154. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2462 MHz, High Channel, 1 GHz - 18 GHz.....	87
Plot 155. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2412 MHz, Low Channel, 30 MHz - 1 GHz.....	88
Plot 156. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2412 MHz, Low Channel, 1 GHz - 18 GHz	88
Plot 157. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2437 MHz, Mid Channel, 30 MHz - 1 GHz	88
Plot 158. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2437 MHz, Mid Channel, 1 GHz - 18 GHz.....	89
Plot 159. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2462 MHz, High Channel, 30 MHz - 1 GHz.....	89
Plot 160. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2462 MHz, High Channel, 1 GHz - 18 GHz.....	89
Plot 161. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2412 MHz, Low Channel, 30 MHz - 1 GHz....	90
Plot 162. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2412 MHz, Low Channel, 1 GHz - 18 GHz	90
Plot 163. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2437 MHz, Mid Channel, 30 MHz - 1 GHz	90
Plot 164. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2437 MHz, Mid Channel, 1 GHz - 18 GHz.....	91
Plot 165. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2462 MHz, High Channel, 30 MHz - 1 GHz... 91	91
Plot 166. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2462 MHz, High Channel, 1 GHz - 18 GHz ... 91	91
Plot 167. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2422 MHz, Low Channel, 30 MHz - 1 GHz.... 92	92
Plot 168. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2422 MHz, Low Channel, 1 GHz - 18 GHz 92	92
Plot 169. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2437 MHz, Mid Channel, 30 MHz - 1 GHz 92	92
Plot 170. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2437 MHz, Mid Channel, 1 GHz - 18 GHz..... 93	93

Plot 171. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2452 MHz, High Channel, 30 MHz - 1 GHz...	93
Plot 172. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2452 MHz, High Channel, 1 GHz - 18 GHz ...	93
Plot 173. Radiated Spurious Emissions, PIFA, 802.11a, 5745, 30 MHz - 1 GHz.....	94
Plot 174. Radiated Spurious Emissions, PIFA, 802.11a, 5745 MHz, 1 GHz - 12 GHz	94
Plot 175. Radiated Spurious Emissions, PIFA, 802.11a, 5745 MHz, 12 GHz - 18 GHz	94
Plot 176. Radiated Spurious Emissions, PIFA, 802.11a, 5785 MHz, 30 MHz - 1 GHz.....	95
Plot 177. Radiated Spurious Emissions, PIFA, 802.11a, 5785 MHz, 1 GHz - 12 GHz	95
Plot 178. Radiated Spurious Emissions, PIFA, 802.11a, 5785 MHz, 12 GHz - 18 GHz	95
Plot 179. Radiated Spurious Emissions, PIFA, 802.11a, 5825 MHz, 30 MHz - 1 GHz.....	96
Plot 180. Radiated Spurious Emissions, PIFA, 802.11a, 5825 MHz, 1 GHz - 12 GHz	96
Plot 181. Radiated Spurious Emissions, PIFA, 802.11a, 5825 MHz, 12 GHz - 18 GHz	96
Plot 182. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5745, 30 MHz - 1 GHz	97
Plot 183. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5745 MHz, 1 GHz - 12 GHz.....	97
Plot 184. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5745 MHz, 12 GHz - 18 GHz	97
Plot 185. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5785 MHz, 30 MHz - 1 GHz	98
Plot 186. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5785 MHz, 1 GHz - 12 GHz	98
Plot 187. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5785 MHz, 12 GHz - 18 GHz	98
Plot 188. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5825 MHz, 30 MHz - 1 GHz	99
Plot 189. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5825 MHz, 1 GHz - 12 GHz	99
Plot 190. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5825 MHz, 12 GHz - 18 GHz	99
Plot 191. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5755 MHz, 30 MHz - 1 GHz	100
Plot 192. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5755 MHz, 1 GHz - 12 GHz	100
Plot 193. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5755 MHz, 12 GHz - 18 GHz	100
Plot 194. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5795 MHz, 30 MHz - 1 GHz	101
Plot 195. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5795 MHz, 1 GHz - 12 GHz	101
Plot 196. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5795 MHz, 12 GHz - 18 GHz	101
Plot 197. Radiated Spurious Emissions, PIFA, 802.11n 80 MHz, 5775 MHz, 30 MHz - 1 GHz	102
Plot 198. Radiated Spurious Emissions, PIFA, 802.11n 80 MHz, 5775 MHz, 1 GHz - 12 GHz	102
Plot 199. Radiated Spurious Emissions, PIFA, 802.11n 80 MHz, 5775 MHz, 12 GHz - 18 GHz	102
Plot 200. Restricted Band Edge, Internal PIFA, 802.11b 20 MHz, 2412 MHz, Average	103
Plot 201. Restricted Band Edge, Internal PIFA, 802.11b 20 MHz, 2412 MHz, Peak	103
Plot 202. Restricted Band Edge, Internal PIFA, 802.11b 20 MHz, 2462 MHz, Average	104
Plot 203. Restricted Band Edge, Internal PIFA, 802.11b 20 MHz, 2462 MHz, Peak	104
Plot 204. Restricted Band Edge, Internal PIFA, 802.11g 20 MHz, 2412 MHz, Average	105
Plot 205. Restricted Band Edge, Internal PIFA, 802.11g 20 MHz, 2412 MHz, Peak	105
Plot 206. Restricted Band Edge, Internal PIFA, 802.11g 20 MHz, 2462 MHz, Average	105
Plot 207. Restricted Band Edge, Internal PIFA, 802.11g 20 MHz, 2462 MHz, Peak	106
Plot 208. Restricted Band Edge, Internal PIFA, 802.11n 20 MHz, 2412 MHz, Average	107
Plot 209. Restricted Band Edge, Internal PIFA, 802.11n 20 MHz, 2412 MHz, Peak	107
Plot 210. Restricted Band Edge, Internal PIFA, 802.11n 20 MHz, 2462 MHz, Average	107
Plot 211. Restricted Band Edge, Internal PIFA, 802.11n 20 MHz, 2462 MHz, Peak	108
Plot 212. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2422MHz, Average	109
Plot 213. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2422MHz, Peak	109
Plot 214. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2427 MHz, Average	109
Plot 215. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2427 MHz, Peak	110
Plot 216. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2437 MHz Channel 6, Average @ 2483.5 MHz)	110
Plot 217. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2427 MHz, Channel 6, Average	110
Plot 218. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2427 MHz, Channel 6, Peak @ 2483.5 MHz	111
Plot 219. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2427 MHz, Channel 6, Peak.....	111
Plot 220. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2452 MHz, Channel 10, Average	111
Plot 221. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2452 MHz, Channel 10, Peak.....	112
Plot 222. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2452 MHz, Average	112
Plot 223. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2452 MHz, Peak	112

Plot 224. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 2412 MHz, 30 MHz – 1 GHz	114
Plot 225. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 2412 MHz, 1 GHz – 8 GHz.....	114
Plot 226. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 2437 MHz, 30 MHz – 1 GHz	114
Plot 227. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 2437 MHz, 1 GHz – 8 GHz.....	115
Plot 228. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 2462 MHz, 30 MHz – 1 GHz	115
Plot 229. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 2462 MHz, 1 GHz – 8 GHz.....	115
Plot 230. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 2437 MHz, 30 MHz – 1 GHz	116
Plot 231. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 2437 MHz, 1 GHz – 8 GHz.....	116
Plot 232. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 2462 MHz, 30 MHz – 1 GHz	116
Plot 233. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 2462 MHz, 1 GHz – 8 GHz.....	117
Plot 234. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 2462 MHz, 30 MHz – 1 GHz	117
Plot 235. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 2462 MHz, 1 GHz – 8 GHz.....	117
Plot 236. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5200 MHz, 30 MHz – 1 GHz	118
Plot 237. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5200 MHz, 1 GHz – 7 GHz, Average	118
Plot 238. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5200 MHz, 1 GHz – 7 GHz, Peak	118
Plot 239. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5200 MHz, 7 GHz – 18 GHz, Peak	119
Plot 240. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5300 MHz, 30 MHz – 1 GHz	119
Plot 241. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5300 MHz, 1 GHz – 7 GHz, Average	119
Plot 242. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5300 MHz, 1 GHz – 7 GHz, Peak	120
Plot 243. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5300 MHz, 7 GHz – 18 GHz, Peak	120
Plot 244. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5580 MHz, 30 MHz – 1 GHz	120
Plot 245. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5580 MHz, 1 GHz – 7 GHz, Average	121
Plot 246. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5580 MHz, 1 GHz – 7 GHz, Peak	121
Plot 247. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5580 MHz, 7 GHz – 18 GHz, Peak	121
Plot 248. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5785 MHz, 30 MHz – 1 GHz	122
Plot 249. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5785 MHz, 1 GHz – 7 GHz, Average	122
Plot 250. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5785 MHz, 1 GHz – 7 GHz, Peak	122
Plot 251. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2412 & 5785 MHz, 7 GHz – 18 GHz, Peak	123
Plot 252. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5200 MHz, 30 MHz – 1 GHz	123
Plot 253. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5200 MHz, 1 GHz – 7 GHz, Average	123
Plot 254. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5200 MHz, 1 GHz – 7 GHz, Peak	124
Plot 255. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5200 MHz, 7 GHz – 18 GHz, Peak	124
Plot 256. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5300 MHz, 30 MHz – 1 GHz	124
Plot 257. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5300 MHz, 1 GHz – 7 GHz, Average	125
Plot 258. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5300 MHz, 1 GHz – 7 GHz, Peak	125

Plot 259. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5300 MHz, 7 GHz – 18 GHz, Peak	125
Plot 260. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5580 MHz, 30 MHz – 1 GHz	126
Plot 261. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5580 MHz, 1 GHz – 7 GHz, Average	126
Plot 262. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5580 MHz, 1 GHz – 7 GHz, Peak	126
Plot 263. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5580 MHz, 7 GHz – 18 GHz, Peak	127
Plot 264. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5785 MHz, 30 MHz – 1 GHz	127
Plot 265. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5785 MHz, 1 GHz – 7 GHz, Average	127
Plot 266. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5785 MHz, 1 GHz – 7 GHz, Peak	128
Plot 267. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2437 & 5785 MHz, 7 GHz – 18 GHz, Peak	128
Plot 268. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5200 MHz, 30 MHz – 1 GHz	128
Plot 269. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5200 MHz, 1 GHz – 7 GHz, Average	129
Plot 270. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5200 MHz, 1 GHz – 7 GHz, Peak	129
Plot 271. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5200 MHz, 7 GHz – 18 GHz, Peak	129
Plot 272. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5300 MHz, 30 MHz – 1 GHz	130
Plot 273. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5300 MHz, 1 GHz – 7 GHz, Average	130
Plot 274. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5300 MHz, 1 GHz – 7 GHz, Peak	130
Plot 275. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5300 MHz, 7 GHz – 18 GHz, Peak	131
Plot 276. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5580 MHz, 30 MHz – 1 GHz	131
Plot 277. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5580 MHz, 1 GHz – 7 GHz, Average	131
Plot 278. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5580 MHz, 1 GHz – 7 GHz, Peak	132
Plot 279. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5580 MHz, 7 GHz – 18 GHz, Peak	132
Plot 280. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5785 MHz, 30 MHz – 1 GHz	132
Plot 281. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5785 MHz, 1 GHz – 7 GHz, Average	133
Plot 282. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5785 MHz, 1 GHz – 7 GHz, Peak	133
Plot 283. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 2462 & 5785 MHz, 7 GHz – 18 GHz, Peak	133
Plot 284. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5200 MHz, 30 MHz – 1 GHz	134
Plot 285. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5200 MHz, 1 GHz – 7 GHz, Average	134
Plot 286. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5200 MHz, 1 GHz – 7 GHz, Peak	134
Plot 287. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5200 MHz, 7 GHz – 18 GHz, Peak	135
Plot 288. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5300 MHz, 30 MHz – 1 GHz	135

Plot 289. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5300 MHz, 1 GHz – 7 GHz, Average	135
Plot 290. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5300 MHz, 1 GHz – 7 GHz, Peak	136
Plot 291. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5300 MHz, 7 GHz – 18 GHz, Peak	136
Plot 292. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5580 MHz, 30 MHz – 1 GHz	136
Plot 293. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5580 MHz, 1 GHz – 7 GHz, Average	137
Plot 294. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5580 MHz, 1 GHz – 7 GHz, Peak	137
Plot 295. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5580 MHz, 7 GHz – 18 GHz, Peak	137
Plot 296. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5785 MHz, 30 MHz – 1 GHz	138
Plot 297. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5785 MHz, 1 GHz – 7 GHz, Average	138
Plot 298. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5785 MHz, 1 GHz – 7 GHz, Peak	138
Plot 299. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5200 & 5785 MHz, 7 GHz – 18 GHz, Peak	139
Plot 300. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5300 MHz, 30 MHz – 1 GHz	139
Plot 301. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5300 MHz, 1 GHz – 7 GHz, Average	139
Plot 302. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5300 MHz, 1 GHz – 7 GHz, Peak	140
Plot 303. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5300 MHz, 7 GHz – 18 GHz, Peak	140
Plot 304. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5580 MHz, 30 MHz – 1 GHz	140
Plot 305. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5580 MHz, 1 GHz – 7 GHz, Average	141
Plot 306. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5580 MHz, 1 GHz – 7 GHz, Peak	141
Plot 307. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5580 MHz, 7 GHz – 18 GHz, Peak	141
Plot 308. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5785 MHz, 30 MHz – 1 GHz	142
Plot 309. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5785 MHz, 1 GHz – 7 GHz, Average	142
Plot 310. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5785 MHz, 1 GHz – 7 GHz, Peak	142
Plot 311. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5300 & 5785 MHz, 7 GHz – 18 GHz, Peak	143
Plot 312. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5580 & 5580 MHz, 30 MHz – 1 GHz	143
Plot 313. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5580 & 5580 MHz, 1 GHz – 7 GHz, Average	143
Plot 314. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5580 & 5580 MHz, 1 GHz – 7 GHz, Peak	144
Plot 315. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5580 & 5580 MHz, 7 GHz – 18 GHz, Peak	144
Plot 316. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5580 & 5785 MHz, 30 MHz – 1 GHz	144
Plot 317. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5580 & 5785 MHz, 1 GHz – 7 GHz, Average	145
Plot 318. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5580 & 5785 MHz, 1 GHz – 7 GHz, Peak	145

Plot 319. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5580 & 5785 MHz, 7 GHz – 18 GHz, Peak	145
Plot 320. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5785 & 5785 MHz, 30 MHz – 1 GHz	146
Plot 321. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5785 & 5785 MHz, 1 GHz – 7 GHz, Average	146
Plot 322. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5785 & 5785 MHz, 1 GHz – 7 GHz, Peak	146
Plot 323. Co-location, Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5785 & 5785 MHz, 7 GHz – 18 GHz, Peak	147
Plot 324. Conducted Spurious Emissions, 802.11b, 2412 MHz, Low Channel, 30 MHz - 1 GHz	149
Plot 325. Conducted Spurious Emissions, 802.11b, 2412 MHz, Low Channel, 1 GHz - 26 GHz	149
Plot 326. Conducted Spurious Emissions, 802.11b, 2437 MHz, Mid Channel, 30 MHz - 1 GHz	149
Plot 327. Conducted Spurious Emissions, 802.11b, 2437 MHz, Mid Channel, 1 GHz - 26 GHz.....	150
Plot 328. Conducted Spurious Emissions, 802.11b, 2462 MHz, High Channel, 30 MHz - 1 GHz.....	150
Plot 329. Conducted Spurious Emissions, 802.11b, 2462 MHz, High Channel, 1 GHz - 26 GHz	150
Plot 330. Conducted Spurious Emissions, 802.11g, 2412 MHz, Low Channel, 30 MHz - 1 GHz	151
Plot 331. Conducted Spurious Emissions, 802.11g, 2412 MHz, Low Channel, 1 GHz - 26 GHz	151
Plot 332. Conducted Spurious Emissions, 802.11g, 2437 MHz, Mid Channel, 30 MHz - 1 GHz	151
Plot 333. Conducted Spurious Emissions, 802.11g, 2437 MHz, Mid Channel, 1 GHz - 26 GHz.....	152
Plot 334. Conducted Spurious Emissions, 802.11g, 2462 MHz, High Channel, 30 MHz - 1 GHz.....	152
Plot 335. Conducted Spurious Emissions, 802.11g, 2462 MHz, High Channel, 1 GHz - 26 GHz	152
Plot 336. Conducted Spurious Emissions, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 1, 30 MHz, 1 GHz	153
Plot 337. Conducted Spurious Emissions, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 1, 1 GHz - 26 GHz	153
Plot 338. Conducted Spurious Emissions, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 1, 30 MHz, 1 GHz.....	153
Plot 339. Conducted Spurious Emissions, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 1, 1 GHz - 26 GHz	154
Plot 340. Conducted Spurious Emissions, 802.11n 20 MHz, 2462 MHz, High Channel, Port 1, 30 MHz, 1 GHz	154
Plot 341. Conducted Spurious Emissions, 802.11n 20 MHz, 2462 MHz, High Channel, Port 1, 1 GHz - 26 GHz.....	154
Plot 342. Conducted Spurious Emissions, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 2, 30 MHz, 1 GHz.....	155
Plot 343. Conducted Spurious Emissions, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 2, 1 GHz - 26 GHz	155
Plot 344. Conducted Spurious Emissions, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 2, 30 MHz, 1 GHz.....	155
Plot 345. Conducted Spurious Emissions, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 2, 1 GHz - 26 GHz	156
Plot 346. Conducted Spurious Emissions, 802.11n 20 MHz, 2462 MHz, High Channel, Port 2, 30 MHz, 1 GHz	156
Plot 347. Conducted Spurious Emissions, 802.11n 20 MHz, 2462 MHz, High Channel, Port 2, 1 GHz - 26 GHz.....	156
Plot 348. Conducted Spurious Emissions, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 3, 30 MHz, 1 GHz	157
Plot 349. Conducted Spurious Emissions, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 3, 1 GHz - 26 GHz	157
Plot 350. Conducted Spurious Emissions, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 3, 30 MHz, 1 GHz.....	157
Plot 351. Conducted Spurious Emissions, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 3, 1 GHz - 26 GHz	158
Plot 352. Conducted Spurious Emissions, 802.11n 20 MHz, 2462 MHz, High Channel, Port 3, 30 MHz, 1 GHz	158
Plot 353. Conducted Spurious Emissions, 802.11n 20 MHz, 2462 MHz, High Channel, Port 3, 1 GHz - 26 GHz.....	158
Plot 354. Conducted Spurious Emissions, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 1, 30 MHz - 1 GHz.....	159
Plot 355. Conducted Spurious Emissions, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 1, 1 GHz - 26 GHz	159
Plot 356. Conducted Spurious Emissions, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 1, 30 MHz - 1 GHz	159
Plot 357. Conducted Spurious Emissions, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 1, 1 GHz - 26 GHz	160
Plot 358. Conducted Spurious Emissions, 802.11n 40 MHz, 2452 MHz, High Channel, Port 1, 30 MHz - 1 GHz	160
Plot 359. Conducted Spurious Emissions, 802.11n 40 MHz, 2452 MHz, High Channel, Port 1, 1 GHz - 26 GHz.....	160
Plot 360. Conducted Spurious Emissions, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 2, 30 MHz, 1 GHz	161
Plot 361. Conducted Spurious Emissions, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 2, 1 GHz - 26 GHz	161
Plot 362. Conducted Spurious Emissions, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 2, 30 MHz, 1 GHz.....	161
Plot 363. Conducted Spurious Emissions, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 2, 1 GHz - 26 GHz	162
Plot 364. Conducted Spurious Emissions, 802.11n 40 MHz, 2452 MHz, High Channel, Port 2, 30 MHz, 1 GHz	162
Plot 365. Conducted Spurious Emissions, 802.11n 40 MHz, 2452 MHz, High Channel, Port 2, 1 GHz - 26 GHz.....	162
Plot 366. Conducted Spurious Emissions, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 3, 30 MHz, 1 GHz	163
Plot 367. Conducted Spurious Emissions, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 3, 1 GHz - 26 GHz	163

Plot 368. Conducted Spurious Emissions, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 3, 30 MHz, 1 GHz.....	163
Plot 369. Conducted Spurious Emissions, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 3, 1 GHz - 26 GHz.....	164
Plot 370. Conducted Spurious Emissions, 802.11n 40 MHz, 2452 MHz, High Channel, Port 3, 30 MHz, 1 GHz	164
Plot 371. Conducted Spurious Emissions, 802.11n 40 MHz, 2452 MHz, High Channel, Port 3, 1 GHz - 26 GHz.....	164
Plot 372. Conducted Spurious Emissions, 802.11a, 5745 MHz, Low Channel, Port 1, 30 MHz - 1 GHz	165
Plot 373. Conducted Spurious Emissions, 802.11a, 5745 MHz, Low Channel, Port 1, 1 GHz - 18 GHz.....	165
Plot 374. Conducted Spurious Emissions, 802.11a, 5745 MHz, Low Channel, Port 1, 18 GHz - 40 GHz.....	165
Plot 375. Conducted Spurious Emissions, 802.11a, 5785 MHz, Mid Channel, Port 1, 30 MHz - 1 GHz.....	166
Plot 376. Conducted Spurious Emissions, 802.11a, 5785 MHz, Mid Channel, Port 1, 1 GHz - 18 GHz	166
Plot 377. Conducted Spurious Emissions, 802.11a, 5785 MHz, Mid Channel, Port 1, 18 GHz - 40 GHz	166
Plot 378. Conducted Spurious Emissions, 802.11a, 5805 MHz, High Channel, Port 1, 30 MHz - 1 GHz	167
Plot 379. Conducted Spurious Emissions, 802.11a, 5805 MHz, High Channel, Port 1, 1 GHz - 18 GHz	167
Plot 380. Conducted Spurious Emissions, 802.11a, 5805 MHz, High Channel, Port 1, 18 GHz - 40 GHz	167
Plot 381. Conducted Spurious Emissions, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 1, 30 MHz - 18 GHz.....	168
Plot 382. Conducted Spurious Emissions, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 1, 1 GHz - 18 GHz	168
Plot 383. Conducted Spurious Emissions, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 1, 18 GHz - 40 GHz	168
Plot 384. Conducted Spurious Emissions, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 1, 30 MHz - 18 GHz	169
Plot 385. Conducted Spurious Emissions, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 1, 1 GHz - 18 GHz	169
Plot 386. Conducted Spurious Emissions, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 1, 18 GHz - 40 GHz	169
Plot 387. Conducted Spurious Emissions, 802.11n 20 MHz, 5805 MHz, High Channel, Port 1, 30 MHz - 18 GHz	170
Plot 388. Conducted Spurious Emissions, 802.11n 20 MHz, 5805 MHz, High Channel, Port 1, 1 GHz - 18 GHz.....	170
Plot 389. Conducted Spurious Emissions, 802.11n 20 MHz, 5805 MHz, High Channel, Port 1, 18 GHz - 40 GHz.....	170
Plot 390. Conducted Spurious Emissions, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 2, 30 MHz - 18 GHz.....	171
Plot 391. Conducted Spurious Emissions, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 2, 1 GHz - 18 GHz	171
Plot 392. Conducted Spurious Emissions, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 2, 18 GHz - 40 GHz	171
Plot 393. Conducted Spurious Emissions, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 2, 30 MHz - 18 GHz	172
Plot 394. Conducted Spurious Emissions, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 2, 1 GHz - 18 GHz.....	172
Plot 395. Conducted Spurious Emissions, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 2, 18 GHz - 40 GHz.....	172
Plot 396. Conducted Spurious Emissions, 802.11n 20 MHz, 5805 MHz, High Channel, Port 2, 30 MHz - 18 GHz	173
Plot 397. Conducted Spurious Emissions, 802.11n 20 MHz, 5805 MHz, High Channel, Port 2, 1 GHz - 18 GHz.....	173
Plot 398. Conducted Spurious Emissions, 802.11n 20 MHz, 5805 MHz, High Channel, Port 2, 18 GHz - 40 GHz.....	173
Plot 399. Conducted Spurious Emissions, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 3, 30 MHz - 18 GHz.....	174
Plot 400. Conducted Spurious Emissions, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 3, 1 GHz - 18 GHz	174
Plot 401. Conducted Spurious Emissions, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 3, 18 GHz - 40 GHz	174
Plot 402. Conducted Spurious Emissions, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 3, 30 MHz - 18 GHz	175
Plot 403. Conducted Spurious Emissions, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 3, 1 GHz - 18 GHz.....	175
Plot 404. Conducted Spurious Emissions, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 3, 18 GHz - 40 GHz.....	175
Plot 405. Conducted Spurious Emissions, 802.11n 20 MHz, 5805 MHz, High Channel, Port 3, 30 MHz - 18 GHz	176
Plot 406. Conducted Spurious Emissions, 802.11n 20 MHz, 5805 MHz, High Channel, Port 3, 1 GHz - 18 GHz.....	176
Plot 407. Conducted Spurious Emissions, 802.11n 20 MHz, 5805 MHz, High Channel, Port 3, 18 GHz - 40 GHz.....	176
Plot 408. Conducted Spurious Emissions, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 1, 30 MHz - 18 GHz.....	177
Plot 409. Conducted Spurious Emissions, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 1, 1 GHz - 18 GHz	177
Plot 410. Conducted Spurious Emissions, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 1, 18 GHz - 40 GHz	177
Plot 411. Conducted Spurious Emissions, 802.11n 40 MHz, 5795 MHz, High Channel, Port 1, 30 MHz - 1 GHz.....	178
Plot 412. Conducted Spurious Emissions, 802.11n 40 MHz, 5795 MHz, High Channel, Port 1, 1 GHz - 18 GHz.....	178
Plot 413. Conducted Spurious Emissions, 802.11n 40 MHz, 5795 MHz, High Channel, Port 1, 18 GHz - 40 GHz.....	178
Plot 414. Conducted Spurious Emissions, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 2, 30 MHz - 18 GHz.....	179
Plot 415. Conducted Spurious Emissions, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 2, 1 GHz - 18 GHz	179
Plot 416. Conducted Spurious Emissions, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 2, 18 GHz - 40 GHz	179
Plot 417. Conducted Spurious Emissions, 802.11n 40 MHz, 5795 MHz, High Channel, Port 2, 30 MHz - 1 GHz.....	180
Plot 418. Conducted Spurious Emissions, 802.11n 40 MHz, 5795 MHz, High Channel, Port 2, 1 GHz - 18 GHz.....	180
Plot 419. Conducted Spurious Emissions, 802.11n 40 MHz, 5795 MHz, High Channel, Port 2, 18 GHz - 40 GHz.....	180
Plot 420. Conducted Spurious Emissions, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 3, 30 MHz - 18 GHz.....	181

Plot 421. Conducted Spurious Emissions, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 3, 1 GHz - 18 GHz	181
Plot 422. Conducted Spurious Emissions, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 3, 18 GHz - 40 GHz	181
Plot 423. Conducted Spurious Emissions, 802.11n 40 MHz, 5795 MHz, High Channel, Port 3, 30 MHz - 1 GHz	182
Plot 424. Conducted Spurious Emissions, 802.11n 40 MHz, 5795 MHz, High Channel, Port 3, 1 GHz - 18 GHz	182
Plot 425. Conducted Spurious Emissions, 802.11n 40 MHz, 5795 MHz, High Channel, Port 3, 18 GHz - 40 GHz	182
Plot 426. Conducted Spurious Emissions, 802.11n 80MHz, 5775 MHz, Port 1, 30 MHz - 18 GHz	183
Plot 427. Conducted Spurious Emissions, 802.11n 80MHz, 5775 MHz, Port 1, 1 GHz - 18 GHz	183
Plot 428. Conducted Spurious Emissions, 802.11n 80MHz, 5775 MHz, Port 1, 18 GHz - 40 GHz	183
Plot 429. Conducted Spurious Emissions, 802.11n 80MHz, 5775 MHz, Port 2, 30 MHz - 18 GHz	184
Plot 430. Conducted Spurious Emissions, 802.11n 80MHz, 5775 MHz, Port 2, 1 GHz - 18 GHz	184
Plot 431. Conducted Spurious Emissions, 802.11n 80MHz, 5775 MHz, Port 2, 18 GHz - 40 GHz	184
Plot 432. Conducted Spurious Emissions, 802.11n 80MHz, 5775 MHz, Port 3, 30 MHz - 18 GHz	185
Plot 433. Conducted Spurious Emissions, 802.11n 80MHz, 5775 MHz, Port 3, 1 GHz - 18 GHz	185
Plot 434. Conducted Spurious Emissions, 802.11n 80MHz, 5775 MHz, Port 3, 18 GHz - 40 GHz	185
Plot 435. Conducted Band Edge, 802.11b, 2412 MHz, Port 1	186
Plot 436. Conducted Band Edge, 802.11b, 2462 MHz, Port 1	186
Plot 437. Conducted Band Edge, 802.11g, 2412 MHz, Port 1	187
Plot 438. Conducted Band Edge, 802.11g, 2462 MHz, Port 1	187
Plot 439. Conducted Band Edge, 802.11n 20 MHz, 2412 MHz, Port 1	188
Plot 440. Conducted Band Edge, 802.11n 20 MHz, 2462 MHz, Port 1	188
Plot 441. Conducted Band Edge, 802.11n 20 MHz, 2412 MHz, Port 2	189
Plot 442. Conducted Band Edge, 802.11n 20 MHz, 2462 MHz, Port 2	189
Plot 443. Conducted Band Edge, 802.11n 20 MHz, 2412 MHz, Port 3	190
Plot 444. Conducted Band Edge, 802.11n 20 MHz, 2462 MHz, Port 3	190
Plot 445. Conducted Band Edge, 802.11n 40 MHz, 2422 MHz, Port 1	191
Plot 446. Conducted Band Edge, 802.11n 40 MHz, 2452 MHz, Port 1	191
Plot 447. Conducted Band Edge, 802.11n 40 MHz, 2422 MHz, Port 2	192
Plot 448. Conducted Band Edge, 802.11n 40 MHz, 2452 MHz, Port 2	192
Plot 449. Conducted Band Edge, 802.11n 40 MHz, 2422 MHz, Port 3	193
Plot 450. Conducted Band Edge, 802.11n 40 MHz, 2452 MHz, Port 3	193
Plot 451. Conducted Band Edge, 802.11a 20 MHz, 5745 MHz, Low Channel, Port 1	194
Plot 452. Conducted Band Edge, 802.11a 20 MHz, 5805 MHz, High Channel, Port 1	194
Plot 453. Conducted Band Edge, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 1	195
Plot 454. Conducted Band Edge, 802.11n 20 MHz, 5805 MHz, High Channel, Port 1	195
Plot 455. Conducted Band Edge, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 2	196
Plot 456. Conducted Band Edge, 802.11n 20 MHz, 5805 MHz, High Channel, Port 2	196
Plot 457. Conducted Band Edge, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 3	197
Plot 458. Conducted Band Edge, 802.11n 20 MHz, 5805 MHz, High Channel, Port 3	197
Plot 459. Conducted Band Edge, 802.11n 40 MHz, 5755 MHz Low Channel, Port 1	198
Plot 460. Conducted Band Edge, 802.11n 40 MHz, 5795 MHz, High Channel, Port 1	198
Plot 461. Conducted Band Edge, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 2	199
Plot 462. Conducted Band Edge, 802.11n 40 MHz, 5795 MHz, High Channel, Port 2	199
Plot 463. Conducted Band Edge, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 3	200
Plot 464. Conducted Band Edge, 802.11n 40 MHz, 5795 MHz, High Channel, Port 3	200
Plot 465. Conducted Band Edge, 802.11n 80 MHz, 5775 MHz, Port 1, Low Band Edge	201
Plot 466. Conducted Band Edge, 802.11n 80 MHz, 5775 MHz, Port 1, High Band Edge	201
Plot 467. Conducted Band Edge, 802.11n 80 MHz, 5775 MHz, Port 2, Low Band Edge	202
Plot 468. Conducted Band Edge, 802.11n 80 MHz, 5775 MHz, Port 2, High Band Edge	202
Plot 469. Conducted Band Edge, 802.11n 80 MHz, 5775 MHz, Port 3, Low Band Edge	203
Plot 470. Band Edge, 802.11n 80 MHz, 5775 MHz, Port 3, High Band Edge	203
Plot 471. Peak Spectral Density, 802.11b 20 MHz, 2412 MHz, Low Channel	207
Plot 472. Peak Spectral Density, 802.11b 20 MHz, 2437 MHz, Mid Channel	207
Plot 473. Peak Spectral Density, 802.11b 20 MHz, 2462 MHz, High Channel	207

Plot 474. Peak Spectral Density, 802.11g 20 MHz, 2412 MHz, Low Channel	208
Plot 475. Peak Spectral Density, 802.11g 20 MHz, 2437 MHz, Mid Channel	208
Plot 476. Peak Spectral Density, 802.11g 20 MHz, 2462 MHz, High Channel	208
Plot 477. Peak Spectral Density, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 1	209
Plot 478. Peak Spectral Density, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 1	209
Plot 479. Peak Spectral Density, 802.11n 20 MHz, 2462 MHz, High Channel, Port 1	209
Plot 480. Peak Spectral Density, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 2	210
Plot 481. Peak Spectral Density, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 2	210
Plot 482. Peak Spectral Density, 802.11n 20 MHz, 2462 MHz, High Channel, Port 2	210
Plot 483. Peak Spectral Density, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 3	211
Plot 484. Peak Spectral Density, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 3	211
Plot 485. Peak Spectral Density, 802.11n 20 MHz, 2462 MHz, High Channel, Port 3	211
Plot 486. Peak Spectral Density, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 1	212
Plot 487. Peak Spectral Density, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 1	212
Plot 488. Peak Spectral Density, 802.11n 40 MHz, 2452 MHz, High Channel, Port 1	212
Plot 489. Peak Spectral Density, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 2	213
Plot 490. Peak Spectral Density, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 2	213
Plot 491. Peak Spectral Density, 802.11n 40 MHz, 2452 MHz, High Channel, Port 2	213
Plot 492. Peak Spectral Density, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 3	214
Plot 493. Peak Spectral Density, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 3	214
Plot 494. Peak Spectral Density, 802.11n 40 MHz, 2452 MHz, High Channel, Port 3	214
Plot 495. Power Spectral Density, 802.11a, 5745 MHz, Low Channel, Port 1	215
Plot 496. Power Spectral Density, 802.11a, 5785 MHz, Mid Channel, Port 1	215
Plot 497. Power Spectral Density, 802.11a, 5825 MHz, High Channel, Port 1	215
Plot 498. Power Spectral Density, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 1	216
Plot 499. Power Spectral Density, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 1	216
Plot 500. Power Spectral Density, 802.11n 20 MHz, 5825 MHz, High Channel, Port 1	216
Plot 501. Power Spectral Density, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 2	217
Plot 502. Power Spectral Density, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 2	217
Plot 503. Power Spectral Density, 802.11n 20 MHz, 5825 MHz, High Channel, Port 2	217
Plot 504. Power Spectral Density, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 3	218
Plot 505. Power Spectral Density, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 3	218
Plot 506. Power Spectral Density, 802.11n 20 MHz, 5825 MHz, High Channel, Port 3	218
Plot 507. Power Spectral Density, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 1	219
Plot 508. Power Spectral Density, 802.11n 40 MHz, 5795 MHz, High Channel, Port 1	219
Plot 509. Power Spectral Density, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 2	220
Plot 510. Power Spectral Density, 802.11n 40 MHz, 5795 MHz, High Channel, Port 2	220
Plot 511. Power Spectral Density, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 3	221
Plot 512. Power Spectral Density, 802.11n 40 MHz, 5795 MHz, High Channel, Port 3	221
Plot 513. Power Spectral Density, 802.11n 80 MHz, 5775 MHz, Port 1	222
Plot 514. Power Spectral Density, 802.11n 80 MHz, 5775 MHz, Port 2	222
Plot 515. Power Spectral Density, 802.11n 80 MHz, 5775 MHz, Port 3	222
Plot 516. Receiver Spurious Emission, 30 MHz – 1 GHz, Port 1	225
Plot 517. Receiver Spurious Emission, 1 GHz – 18 GHz, Port 1	225
Plot 518. Receiver Spurious Emission, 30 MHz – 1 GHz, Port 2	226
Plot 519. Receiver Spurious Emission, 1 GHz – 18 GHz, Port 2	226
Plot 520. Receiver Spurious Emission, 30 MHz – 1 GHz, Port 3	227
Plot 521. Receiver Spurious Emission, 1 GHz – 18 GHz, Port 3	227

List of Figures

Figure 1. Block Diagram of Test Configuration.....	6
--	---

Figure 2. Block Diagram, Occupied Bandwidth Test Setup.....	28
Figure 3. Peak Power Output Test Setup.....	65
Figure 4. Block Diagram, Conducted Spurious Emissions Test Setup.....	148
Figure 5. Block Diagram, Peak Power Spectral Density Test Setup	204
Figure 6. Block Diagram, Conducted Receiver Spurious Emissions Test Setup	224

List of Terms and Abbreviations

AC	Alternating Current
ACF	Antenna Correction Factor
Cal	Calibration
<i>d</i>	Measurement Distance
dB	Decibels
dB μ A	Decibels above one microamp
dB μ V	Decibels above one microvolt
dB μ A/m	Decibels above one microamp per meter
dB μ V/m	Decibels above one microvolt per meter
DC	Direct Current
E	Electric Field
DSL	Digital Subscriber Line
ESD	Electrostatic Discharge
EUT	Equipment Under Test
<i>f</i>	Frequency
FCC	Federal Communications Commission
GRP	Ground Reference Plane
H	Magnetic Field
HCP	Horizontal Coupling Plane
Hz	Hertz
IEC	International Electrotechnical Commission
kHz	kilohertz
kPa	kilopascal
kV	kilovolt
LISN	Line Impedance Stabilization Network
MHz	Megahertz
μ H	microhenry
μ	microfarad
μ s	microseconds
NEBS	Network Equipment-Building System
PRF	Pulse Repetition Frequency
RF	Radio Frequency
RMS	Root-Mean-Square
TWT	Traveling Wave Tube
V/m	Volts per meter
VCP	Vertical Coupling Plane

I. Executive Summary

A. Purpose of Test

An EMC evaluation was performed to determine compliance of the Meru Networks, Inc. AP832i and AP822i, with the requirements of Part 15, §15.247. All references are to the most current version of Title 47 of the Code of Federal Regulations in effect. In accordance with §2.1033, the following data is presented in support of the Certification of the AP832i and AP822i. Meru Networks, Inc. should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the AP832i and AP822i, has been **permanently** discontinued.

B. Executive Summary

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, §15.247, in accordance with Meru Networks, Inc., purchase order number 106321. All tests were conducted using measurement procedure ANSI C63.4-2003.

FCC Reference 47 CFR Part 15.247:2005	IC Reference RSS-210 Issue 8: 2010; RSS-GEN Issue 3: 2010	Description	Compliance
47 CFR Part 15.107 (a)	ICES-003 Issue 5 August 2012	Conducted Emission Limits for a Class B Digital Device	Compliant
47 CFR Part 15.109 (a)	ICES-003 Issue 5 August 2012	Radiated Emission Limits for a Class B Digital Device	Compliant
Title 47 of the CFR, Part 15 §15.203	N/A	Antenna Requirement	Compliant
Title 47 of the CFR, Part 15 §15.207(a)	RSS-GEN (7.2.4)	Conducted Emission Limits	Compliant
Title 47 of the CFR, Part 15 §15.247(a)(2)	RSS-Gen(4.6)	6dB Occupied Bandwidth	Compliant
		99% Occupied Bandwidth	Compliant
Title 47 of the CFR, Part 15 §15.247(b)	RSS-210(A8.4)	Peak Power Output	Compliant
Title 47 of the CFR, Part 15 §15.247(d); §15.209; §15.205	RSS-210(A8.5)	Radiated Spurious Emissions Requirements	Compliant
Title 47 of the CFR, Part 15 §15.247(d)	RSS-210(A8.5)	RF Conducted Spurious Emissions Requirements	Compliant
Title 47 of the CFR, Part 15 §15.247(d)	RSS-210(A8.5)	RF Conducted Band Edge	Compliant
Title 47 of the CFR, Part 15; §15.247(e)	RSS-210(A8.2)	Peak Power Spectral Density	Compliant
Title 47 of the CFR, Part 15 §15.247(i)	RSS-Gen(5.6)	Maximum Permissible Exposure (MPE)	Compliant
N/A	RSS-Gen(4.10)	Receiver Spurious Emissions	Compliant

Table 1. Executive Summary of EMC Part 15.247 Compliance Testing

II. Equipment Configuration

A. Overview

MET Laboratories, Inc. was contracted by Meru Networks, Inc. to perform testing on the AP832i and AP822i, under Meru Networks, Inc.'s purchase order number 106321.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the Meru Networks, Inc., AP832i and AP822i.

The results obtained relate only to the item(s) tested.

Model(s) Tested:	AP832i and AP822i	
Model(s) Covered:	AP832i and AP822i	
EUT Specifications:	Primary Power: 120 VAC, 60 Hz	
	FCC ID: RE7-AP832I IC: 6749A-AP832I	
	Type of Modulations:	DSSS/OFDM
	Equipment Code:	DTS
	Peak RF Output Power:	26.00 dBm
	EUT Frequency Ranges:	20MHz BW– 2412-2462MHz, 5745-5825MHz 40MHz BW– 2422-2452MHz, 5755-5795MHz 80MHz BW– 5775MHz
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature: 15-35° C	
	Relative Humidity: 30-60%	
	Barometric Pressure: 860-1060 mbar	
Evaluated by:	Jonathan Chao	
Report Date(s):	January 9, 2014	

Table 2. EUT Summary Table

B. References

CFR 47, Part 15, Subpart C	Federal Communication Commission, Code of Federal Regulations, Title 47, Part 15: General Rules and Regulations, Allocation, Assignment, and Use of Radio Frequencies
CFR 47, Part 15, Subpart B	Electromagnetic Compatibility: Criteria for Radio Frequency Devices
RSS-210, Issue 8, Dec. 2010	Low-power Licence-exempt Radiocommunications Devices (All Frequency Bands): Category I Equipment
RSS-GEN, Issue 3, Dec. 2010	General Requirements and Information for the Certification of Radio Apparatus
ICES-003, Issue 5 August 2012	Information Technology Equipment (ITE) — Limits and methods of measurement
ANSI C63.4:2003	Methods and Measurements of Radio-Noise Emissions from Low-Voltage Electrical And Electronic Equipment in the Range of 9 kHz to 40 GHz
ISO/IEC 17025:2005	General Requirements for the Competence of Testing and Calibration Laboratories
ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices

Table 3. References

C. Test Site

All testing was performed at MET Laboratories, Inc., 3162 Belick St., Santa Clara, CA 95054. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

Radiated Emissions measurements were performed in a 10 meter semi-anechoic chamber (equivalent to an Open Area Test Site). In accordance with §2.948(a)(3), a complete site description is contained at MET Laboratories.

D. Description of Test Sample

The Meru Networks, Inc. AP832i and AP822i, Equipment Under Test (EUT), is an 802.11AC wireless access point (WAP) that allows wireless devices to connect to a wired network using Wi-Fi, standard. The WAP usually connects to a router (via a wired network), and can relay data between the wireless devices (such as computers or printers) and wired devices on the network.

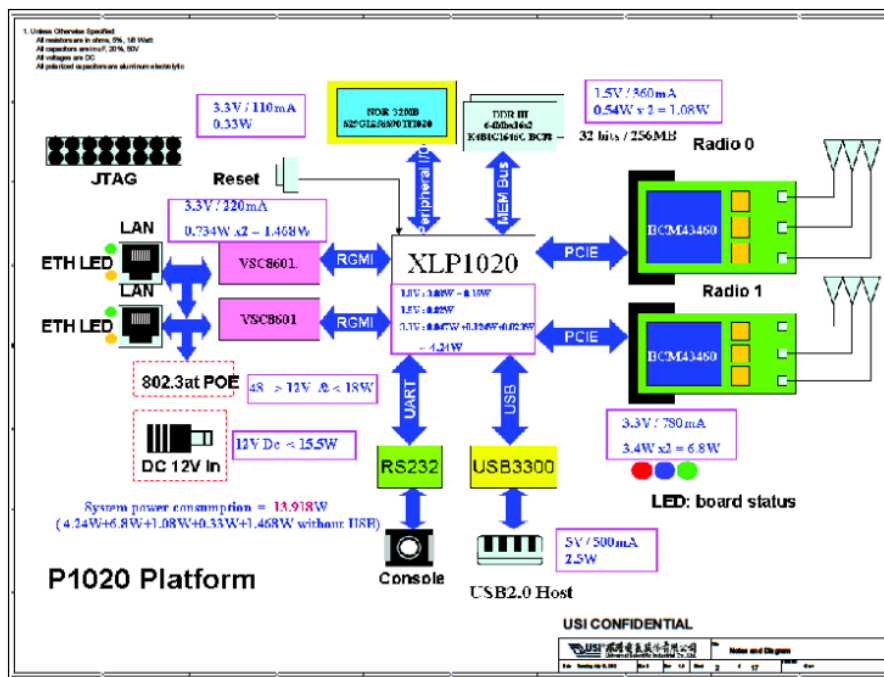


Figure 1. Block Diagram of Test Configuration

E. Equipment Configuration

The EUT was set up as outlined in Figure 1, Block Diagram of Test Setup. All cards, racks, etc., incorporated as part of the EUT is included in the following list.

Ref. ID	Name / Description	Model Number	Serial Number
1	Dual Radio Access Point	AP832i	4812A832i112533
2	Dual Radio Access Point	AP832i	4812A832i112523

Table 4. Equipment Configuration

F. Support Equipment

Support equipment necessary for the operation and testing of the EUT is included in the following list.

Type	Model and Serial Number
PoE	PD-9001GR/AC
AC/DC	DC Adapter - GS18A12-P1J
Cable	Serial cable
Cable	Shielded Ethernet cable

Table 5. Support Equipment

G. Ports and Cabling Information

The EUT did not require any support equipment for operation or monitoring.

H. Mode of Operation

During the normal operation the configuration is controlled by the Meru controller which sets the country code, ESSID, Operating frequency band and Channel etc.

I. Method of Monitoring EUT Operation

During the normal operation with controller Green or Blue LED indication on the Access point indicate the normal operation of the Access point. A Red LED indicates a failure of hardware or software settings.

J. Modifications

a) Modifications to EUT

No modifications were made to the EUT.

b) Modifications to Test Standard

No modifications were made to the test standard.

K. Disposition of EUT

The test sample including all support equipment submitted to the Electro-Magnetic Compatibility Lab for testing was returned to Meru Networks, Inc. upon completion of testing.



III. Electromagnetic Compatibility Criteria for Unintentional Radiators

Electromagnetic Compatibility Criteria

§ 15.107 Conducted Emissions Limits

Test Requirement(s): **15.107 (a)** Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in Table 6. Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

15.107 (b) For a Class A digital device that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in Table 6. Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals. The lower limit applies at the band edges.

Frequency range (MHz)	Class A Conducted Limits (dB μ V)		*Class B Conducted Limits (dB μ V)	
	Quasi-Peak	Average	Quasi-Peak	Average
* 0.15- 0.45	79	66	66 - 56	56 - 46
0.45 - 0.5	79	66	56	46
0.5 - 30	73	60	60	50
Note 1 — The lower limit shall apply at the transition frequencies. Note 2 — The limit decreases linearly with the logarithm if the frequency in the range 0.15 MHz to 0.5 MHz.				

Table 6. Conducted Limits for Radio Frequency Devices calculated from FCC Part 15 Subsections 15.107(a) (b)

Test Procedures: The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a screen room. The method of testing, test conditions, and test procedures of ANSI C63.4 were used. The EUT was powered through a 50 Ω /50 μ H LISN. An EMI receiver, connected to the measurement port of the LISN, scanned the frequency range from 150 kHz to 30 MHz in order to find the peak conducted emissions. All peak emissions within 6 dB of the limit were re-measured using a quasi-peak and/or average detector as appropriate.

Test Results: The EUT was compliant with the Class B requirement(s) of this section. Measured emissions were below applicable limits.

Test Engineer(s): Joseph Dizon

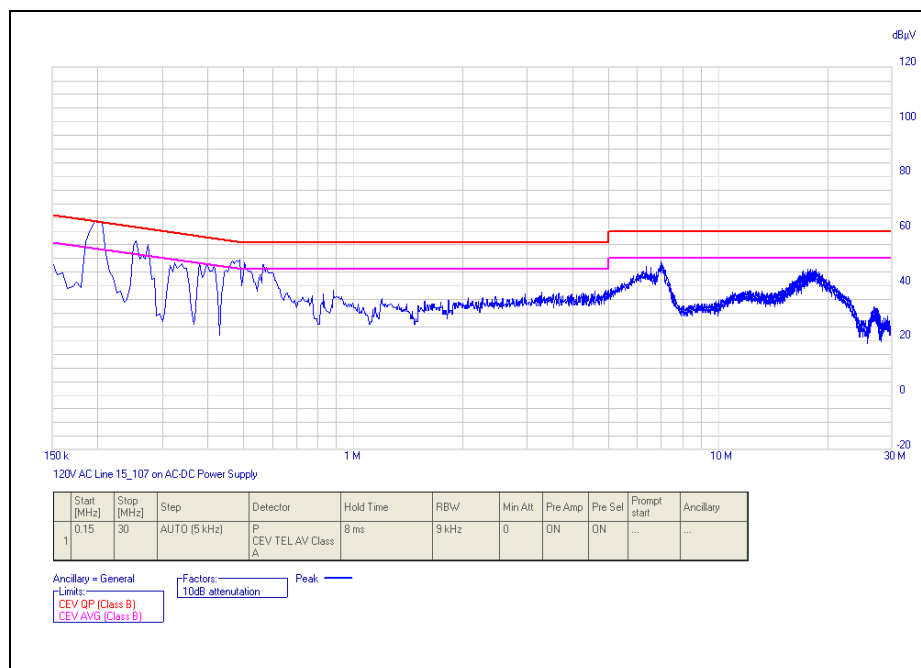
Test Date(s): 01/31/13 & 02/01/13



Conducted Emissions - Voltage, AC Power, Phase Line (120 VAC, 60 Hz), AC-DC Power Supply

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
120V AC Line 15.107	0.195	63.56	63.827	-0.267	Pass	42.56	53.827	-11.267	Pass
120V AC Line 15.107	0.255	55.66	61.605	-5.945	Pass	33.14	51.605	-18.465	Pass
120V AC Line 15.107	0.275	54.34	60.979	-6.639	Pass	32.31	50.979	-18.669	Pass

Table 7. Conducted Emissions - Voltage, AC Power, Phase Line (120 VAC, 60 Hz), AC-DC Power Supply



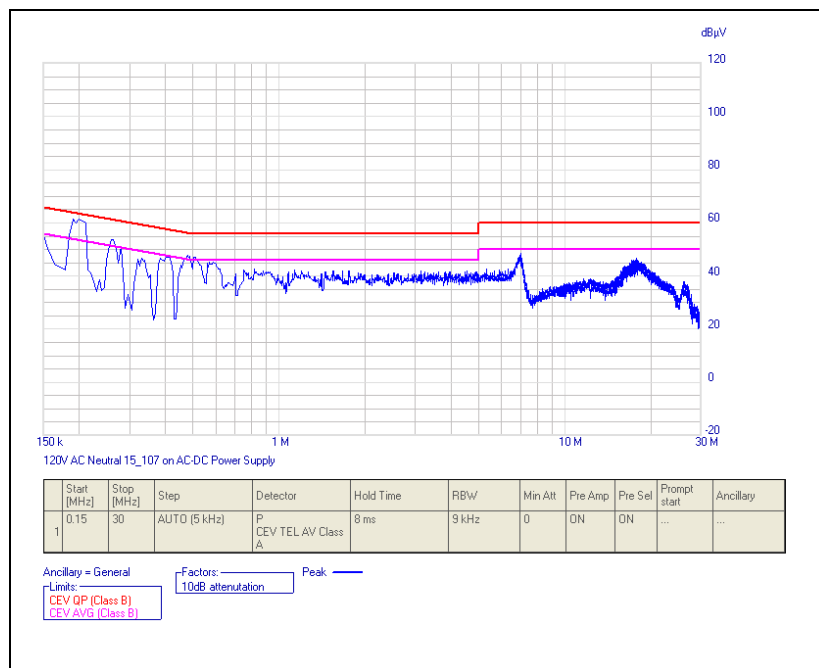
Plot 1. Conducted Emission, Phase Line Plot, AC-DC Power Supply



Conducted Emissions - Voltage, AC Power, Neutral Line (120 VAC, 60 Hz), AC-DC Power Supply

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
120V AC Neutral 15.107	0.15	53.23	66	-12.77	Pass	23.71	56	-32.29	Pass
120V AC Neutral 15.107	0.2	57.39	63.617	-6.227	Pass	38.46	53.617	-15.157	Pass
120V AC Neutral 15.107	0.265	48.4	61.286	-12.886	Pass	33.07	51.286	-18.216	Pass

Table 8. Conducted Emissions - Voltage, AC Power, Neutral Line (120 VAC, 60 Hz), AC-DC Power Supply

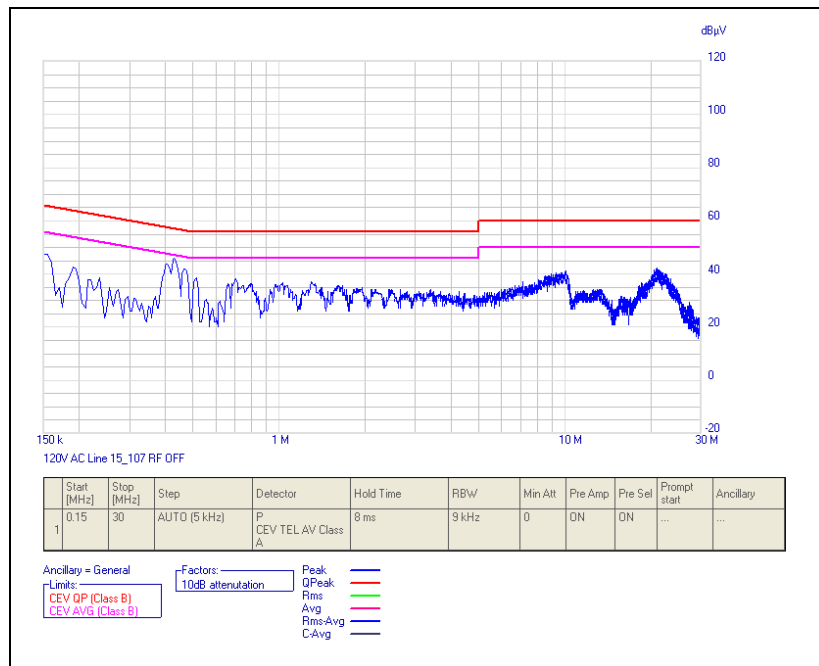


Plot 2. Conducted Emission, Neutral Line Plot, AC-DC Power Supply

Conducted Emissions - Voltage, AC Power, Phase Line (120 VAC, 60 Hz), PoE

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
120V AC Line 15.107	0.155	51.05	65.728	-14.678	Pass	34.3	55.728	-21.428	Pass
120V AC Line 15.107	0.405	44	57.773	-13.773	Pass	34.78	47.773	-12.993	Pass
120V AC Line 15.107	0.43	46.68	57.277	-10.597	Pass	39	47.277	-8.277	Pass

Table 9. Conducted Emissions - Voltage, AC Power, Phase Line (120 VAC, 60 Hz), PoE

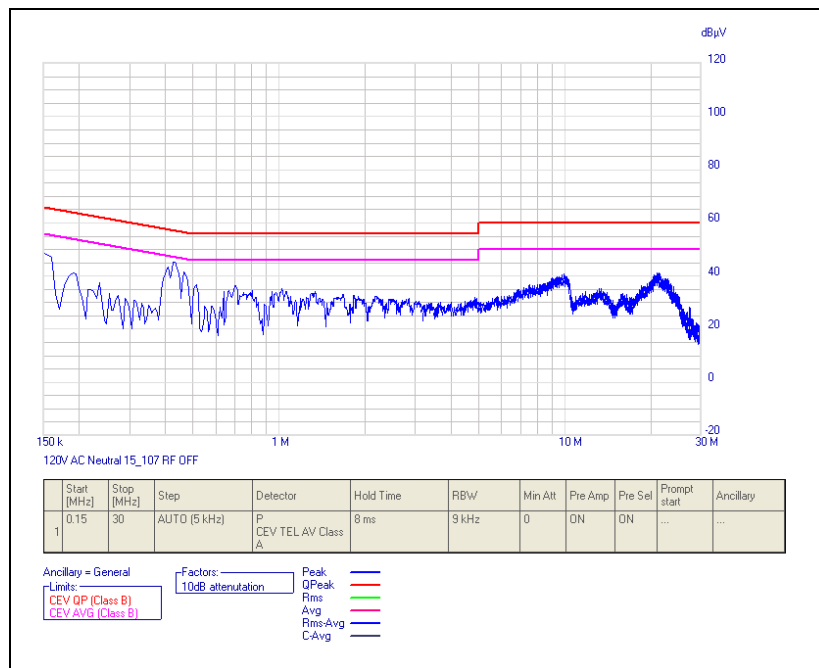


Plot 3. Conducted Emission, Phase Line Plot, PoE

Conducted Emissions - Voltage, AC Power, Neutral Line (120 VAC, 60 Hz), PoE

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
120V AC Neutral 15.107	0.15	53.73	66	-12.27	Pass	31.84	56	-24.16	Pass
120V AC Neutral 15.107	0.41	43.5	57.671	-14.171	Pass	28.96	47.671	-18.711	Pass
120V AC Neutral 15.107	0.43	46.04	57.277	-11.237	Pass	38.26	47.277	-9.017	Pass

Table 10. Conducted Emissions - Voltage, AC Power, Neutral Line (120 VAC, 60 Hz), PoE



Plot 4. Conducted Emission, Neutral Line Plot, PoE

Radiated Emission Limits

§ 15.109 Radiated Emissions Limits

Test Requirement(s): **15.109 (a)** Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the Class B limits expressed in Table 11.

15.109 (b) The field strength of radiated emissions from a Class A digital device, as determined at a distance of 10 meters, shall not exceed the Class A limits expressed in Table 11.

Frequency (MHz)	Field Strength (dB μ V/m)	
	§15.109 (b), Class A Limit (dB μ V) @ 10m	§15.109 (a), Class B Limit (dB μ V) @ 3m
30 - 88	39.00	40.00
88 - 216	43.50	43.50
216 - 960	46.40	46.00
Above 960	49.50	54.00

Table 11. Radiated Emissions Limits calculated from FCC Part 15, §15.109 (a) (b)

Test Procedures: The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. The method of testing and test conditions of ANSI C63.4 were used. An antenna was located 10m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. Unless otherwise specified, measurements were made using a quasi-peak detector with a 120 kHz bandwidth.

Test Results: The EUT was compliant with the Class B requirement(s) of this section. Measured emissions were below applicable limits.

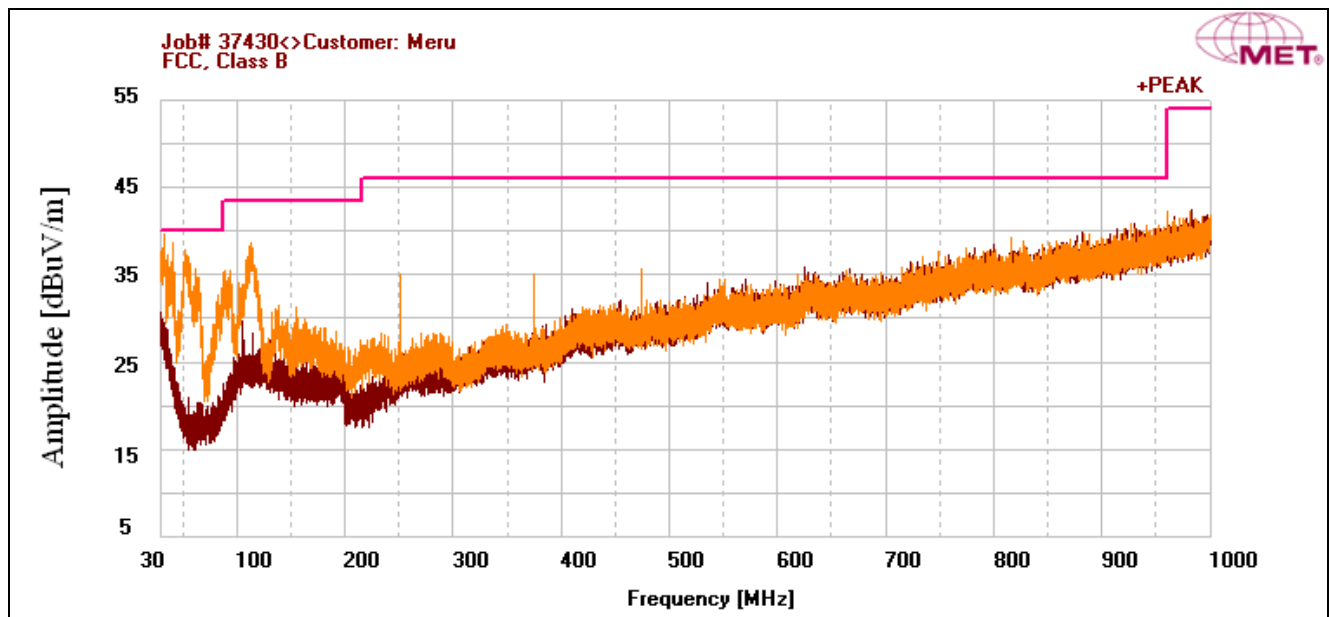
Test Engineer(s): John Frank & Joseph Dizon

Test Date(s): 01/18/13

Radiated Emissions Limits Test Results, Class B

Frequency (MHz)	Antenna Polarity	EUT Azimuth (Degrees)	Antenna Height (cm)	Uncorrected Amplitude (dBuV)	ACF (dB/m)	Pre Amp Gain (dB)	CBL (dB)	DCF (dB)	Corrected Amplitude (dBuV)	Limit (dBuV)	Margin (dB)
32.64	V	330	100	38.854	17.116	30.506	0	10.46	35.924	40	-4.076
53.244	V	190	100	48.646	7.051	30.299	0	10.46	35.858	40	-4.142
113.707	V	235	100	44.356	12.3	29.496	0	10.46	37.62	43.5	-5.88
249.977	V	150	100	28.837	12.098	28.335	0	10.46	23.06	46	-22.94
374.978	V	150	100	28.837	12.098	28.335	0	10.46	23.06	46	-22.94
475.008	V	172	100	34.121	16.801	27.167	0	10.46	34.215	46	-11.785

Table 12. Radiated Emissions Limits, Test Results, 30 MHz – 1 GHz, FCC Limits

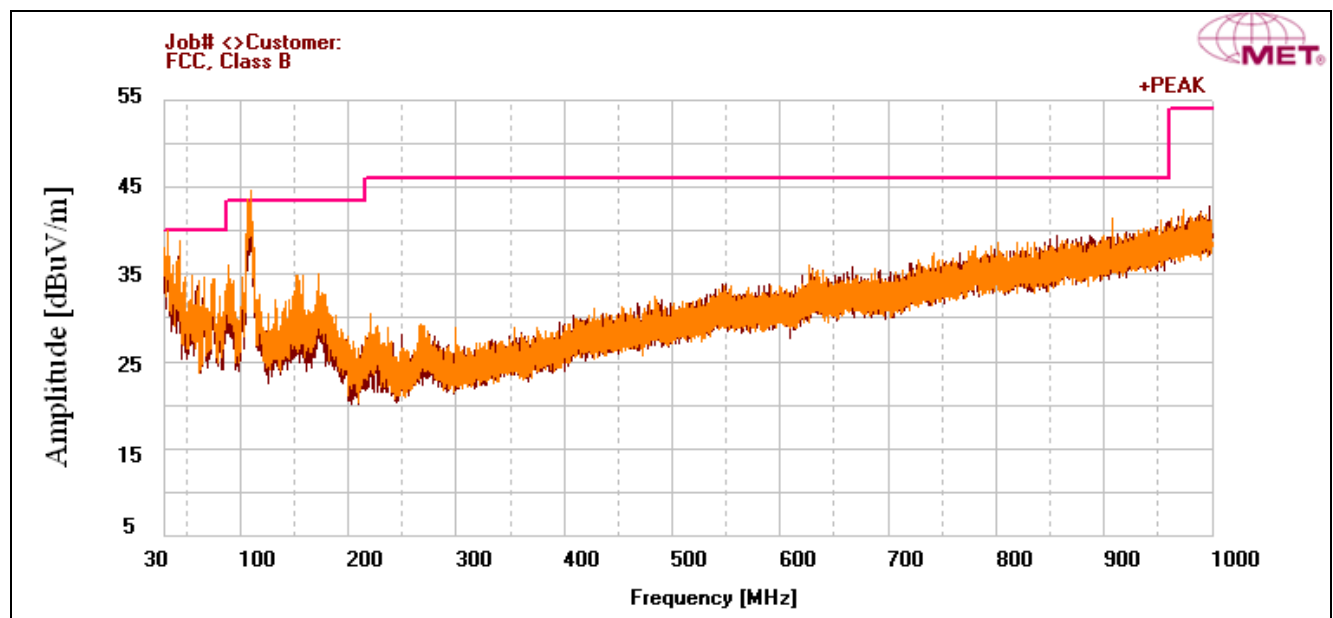


Plot 5. Radiated Emissions, 30 MHz - 1 GHz, FCC Limits, AC-DC Power Supply



Frequency (MHz)	Antenna Polarity	EUT Azimuth (Degrees)	Antenna Height (cm)	Uncorrected Amplitude (dBuV)	ACF (dB/m)	Pre Amp Gain (dB)	CBL (dB)	DCF (dB)	Corrected Amplitude (dBuV)	Limit (dBuV)	Margin (dB)
109.416	V	227	100	47.163	12.1	29.538	0	10.46	40.185	43.5	-3.315
109.696	V	260	100	47.27	12.1	29.535	0	10.46	40.295	43.5	-3.205
32.68	V	35	100	38.483	17.092	30.505	0	10.46	35.53	40	-4.47
43.826	V	337	100	45.557	10.722	30.399	0	10.46	36.34	40	-3.66
157.394	V	296	100	37.557	10	29.068	0	10.46	28.949	43.5	-14.551
173.118	V	43	100	41.059	9.7	28.913	0	10.46	32.306	43.5	-11.194

Table 13. Radiated Emissions Limits, Test Results, 30 MHz – 1 GHz, FCC Limits

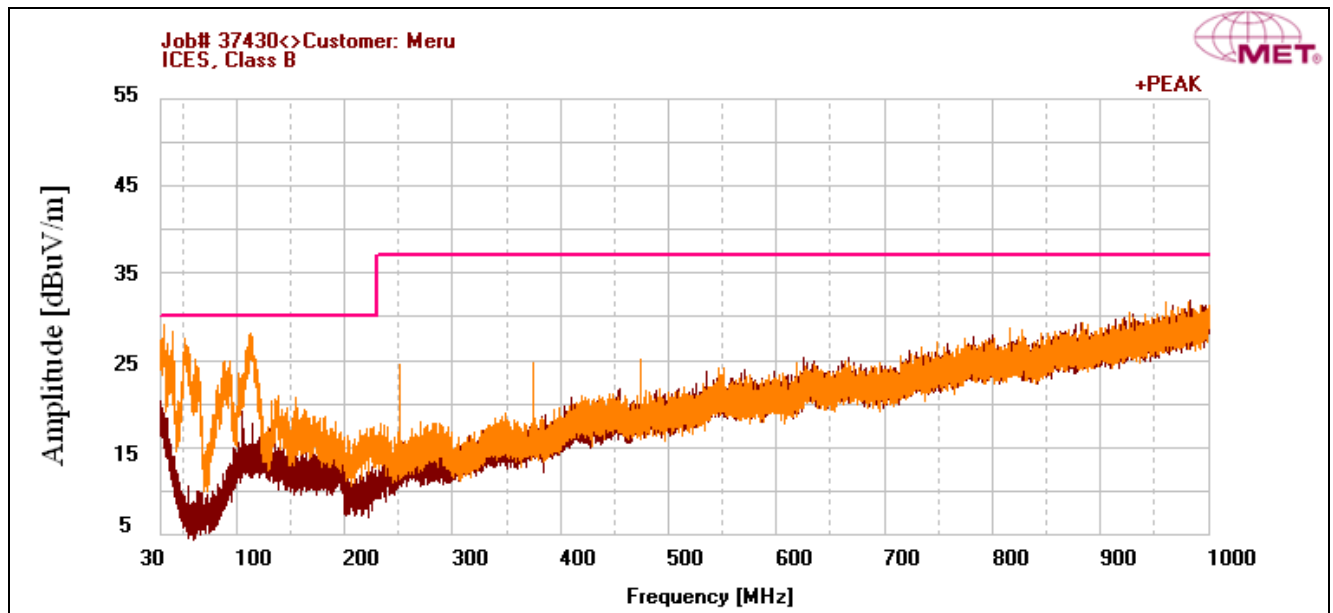


Plot 6. Radiated Emissions, 30 MHz - 1 GHz, FCC Limits, PoE

Radiated Emissions Limits Test Results, Class B

Frequency (MHz)	Antenna Polarity	EUT Azimuth (Degrees)	Antenna Height (cm)	Uncorrected Amplitude (dBuV)	ACF (dB/m)	Pre Amp Gain (dB)	CBL (dB)	DCF (dB)	Corrected Amplitude (dBuV)	Limit (dBuV)	Margin (dB)
32.64	V	330	100	38.854	17.116	30.506	0	0	25.464	30	-4.536
53.244	V	190	100	48.646	7.051	30.299	0	0	25.398	30	-4.602
113.707	V	235	100	44.356	12.3	29.496	0	0	27.16	30	-2.84
249.977	V	150	100	28.837	12.098	28.335	0	0	12.6	37	-24.4
374.978	V	150	100	28.837	12.098	28.335	0	0	12.6	37	-24.4
475.008	V	172	100	34.121	16.801	27.167	0	0	23.755	37	-13.245

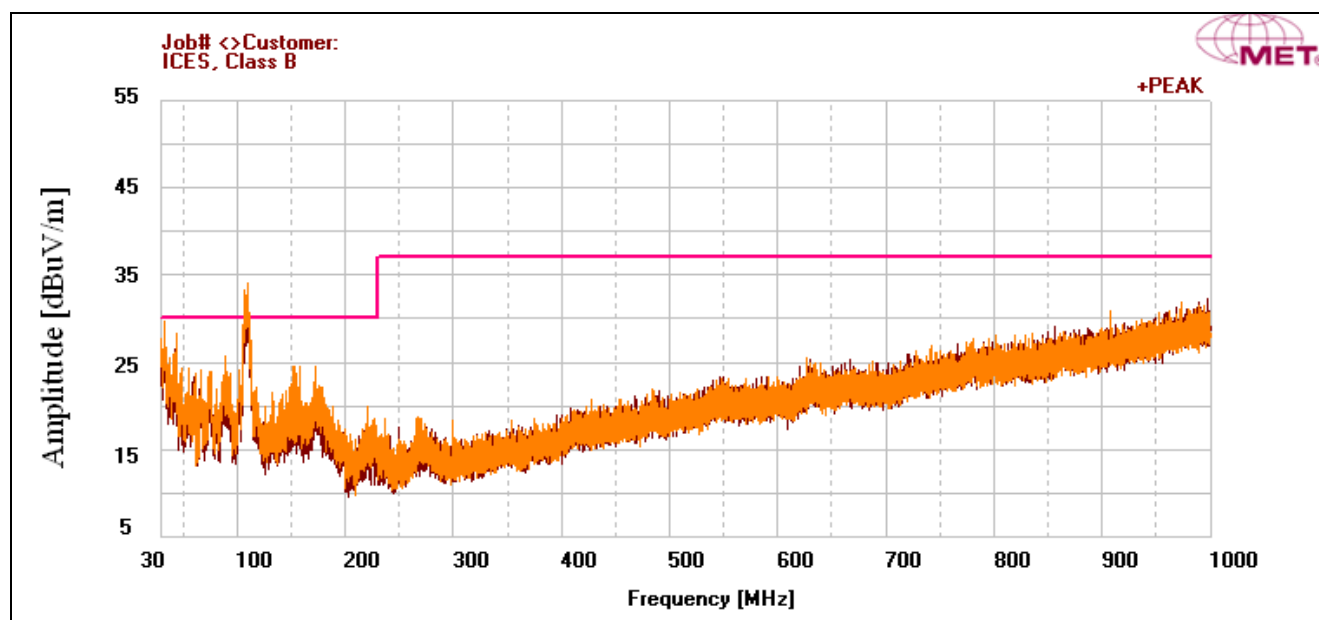
Table 14. Radiated Emissions Limits, Test Results, ICES-003 Limits



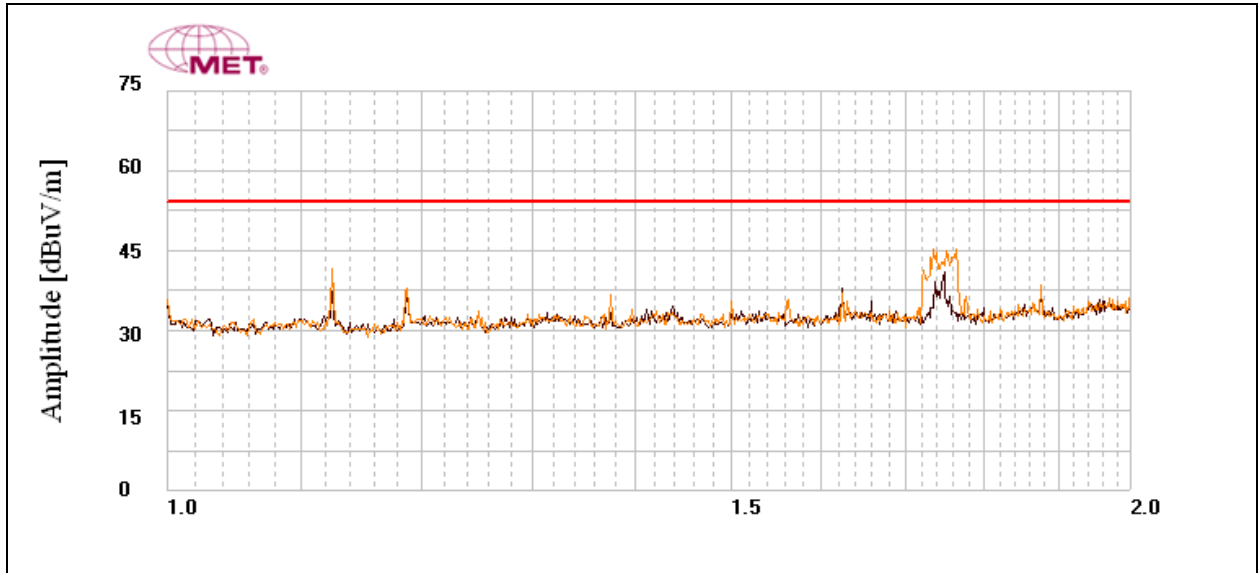
Plot 7. Radiated Emissions, ICES-003 Limits, AC-DC Power Supply

Frequency (MHz)	Antenna Polarity	EUT Azimuth (Degrees)	Antenna Height (cm)	Uncorrected Amplitude (dBuV)	ACF (dB/m)	Pre Amp Gain (dB)	CBL (dB)	DCF (dB)	Corrected Amplitude (dBuV)	Limit (dBuV)	Margin (dB)
109.416	V	227	100	47.163	12.1	29.538	0	0	29.725	30	-0.275
109.696	V	260	100	47.27	12.1	29.535	0	0	29.835	30	-0.165
32.68	V	35	100	38.483	17.092	30.505	0	0	25.07	30	-4.93
43.826	V	337	100	45.557	10.722	30.399	0	0	25.88	30	-4.12
157.394	V	296	100	37.557	10	29.068	0	0	18.489	30	-11.511
173.118	V	43	100	41.059	9.7	28.913	0	0	21.846	30	-8.154

Table 15. Radiated Emissions Limits, Test Results, ICES-003 Limits



Plot 8. Radiated Emissions, ICES-003 Limits, PoE



Plot 9. Radiated Emissions, Above 1 GHz

IV. Electromagnetic Compatibility Criteria for Intentional Radiators

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.203 Antenna Requirement

Test Requirement:

§ 15.203: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. 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 provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

The structure and application of the EUT were analyzed to determine compliance with Section 15.203 of the Rules. Section 15.203 states that the subject device must meet at least one of the following criteria:

- a.) Antenna must be permanently attached to the unit.
- b.) Antenna must use a unique type of connector to attach to the EUT.
- c.) Unit must be professionally installed. Installer shall be responsible for verifying that the correct antenna is employed with the unit.

Results: The EUT as tested is compliant the criteria of §15.203. Antenna is permanently attached to unit and requires professional installation.

Test Engineer(s): Jonathan Chao

Test Date(s): 02/18/13

Gain (dBi)		Antenna Type	Antenna Description	Manufacturer	Model Number
2.4 GHz	5 GHz				
3	4	Dipole	Internal PIFA Dual-Band 3 x 3	Meru	MERU-PI623

Table 16. Antenna List

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.207(a) Conducted Emissions Limits

Test Requirement(s): § 15.207 (a): For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 Σ line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency range (MHz)	§ 15.207(a), Conducted Limit (dB μ V)	
	Quasi-Peak	Average
* 0.15- 0.45	66 - 56	56 - 46
0.45 - 0.5	56	46
0.5 - 30	60	50

Table 17. Conducted Limits for Intentional Radiators from FCC Part 15 § 15.207(a)

Test Procedure: The EUT was placed on a 0.8 m-high wooden table inside a screen room. The EUT was situated such that the back of the EUT was 0.4 m from one wall of the vertical ground plane, and the remaining sides of the EUT were no closer than 0.8 m from any other conductive surface. The EUT was powered from a 50 Ω /50 μ H Line Impedance Stabilization Network (LISN). The EMC receiver scanned the frequency range from 150 kHz to 30 MHz. Conducted Emissions measurements were made in accordance with ANSI C63.4-2003 "Methods and Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40 GHz". The measurements were performed over the frequency range of 0.15 MHz to 30 MHz using a 50 Ω /50 μ H LISN as the input transducer to an EMC/field intensity meter. For the purpose of this testing, the transmitter was turned on. Scans were performed with the transmitter on.

Test Results: The EUT was compliant with this requirement.

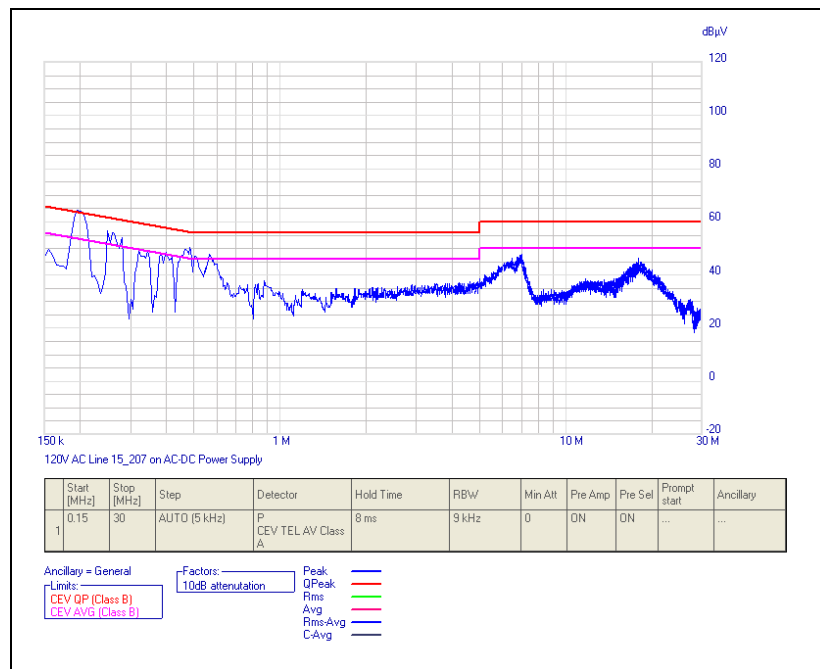
Test Engineer(s): Joseph Dizon

Test Date(s): 01/31/13 & 02/01/13

15.207(a) Conducted Emissions Test Results, AC-DC Power Supply

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
120V AC Line 15.207	0.195	63.35	63.827	-0.477	Pass	43.02	53.827	-10.807	Pass
120V AC Line 15.207	0.25	55.66	61.769	-6.109	Pass	30.01	51.769	-21.759	Pass
120V AC Line 15.207	0.485	51.48	56.26	-4.78	Pass	32.42	46.26	-13.84	Pass

Table 18. Conducted Emissions, 15.207(a), Phase Line, Test Results, AC-DC Power Supply

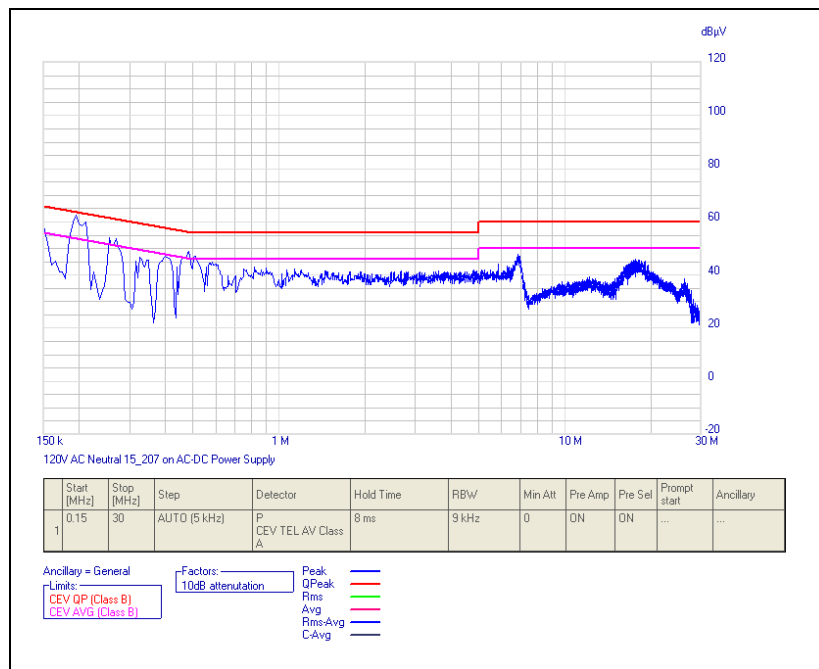


Plot 10. Conducted Emissions, 15.207(a), Phase Line, AC-DC Power Supply

15.207(a) Conducted Emissions Test Results, AC-DC Power Supply

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
120V AC Neutral 15.207	0.15	53.37	66	-12.63	Pass	23.86	56	-32.14	Pass
120V AC Neutral 15.207	0.195	62.75	63.827	-1.077	Pass	39.32	53.827	-14.507	Pass
120V AC Neutral 15.207	0.255	54.71	61.605	-6.895	Pass	30.65	51.605	-20.955	Pass

Table 19. Conducted Emissions, 15.207(a), Neutral Line, Test Results, AC-DC Power Supply

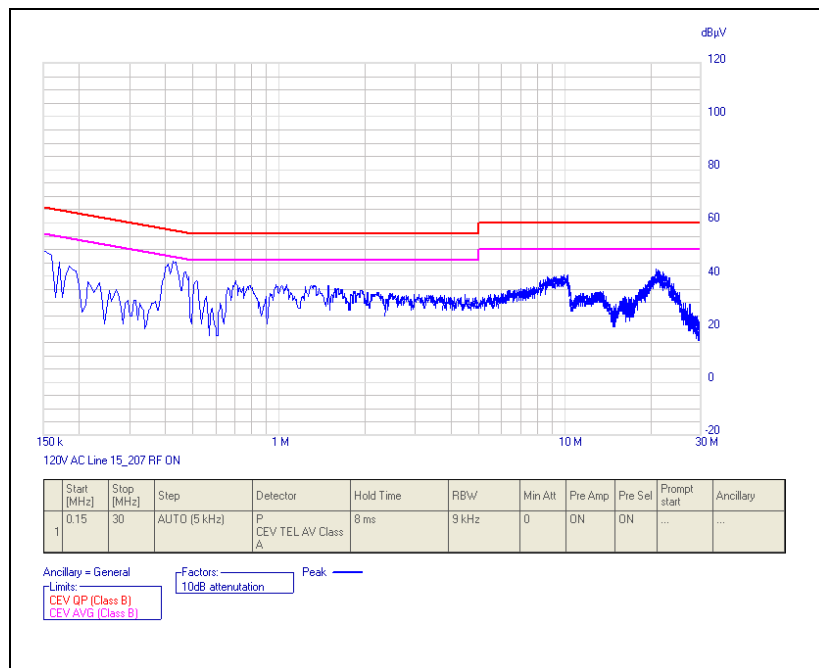


Plot 11. Conducted Emissions, 15.207(a), Neutral Line, AC-DC Power Supply

15.207(a) Conducted Emissions Test Results, PoE

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
120V AC Line 15.207	0.15	62.57	66	-3.43	Pass	45.33	56	-10.67	Pass
120V AC Line 15.207	0.17	45.72	64.963	-19.243	Pass	18.68	54.963	-36.283	Pass
120V AC Line 15.207	0.425	46.58	57.373	-10.793	Pass	33.82	47.373	-13.553	Pass

Table 20. Conducted Emissions, 15.207(a), Phase Line, Test Results, PoE

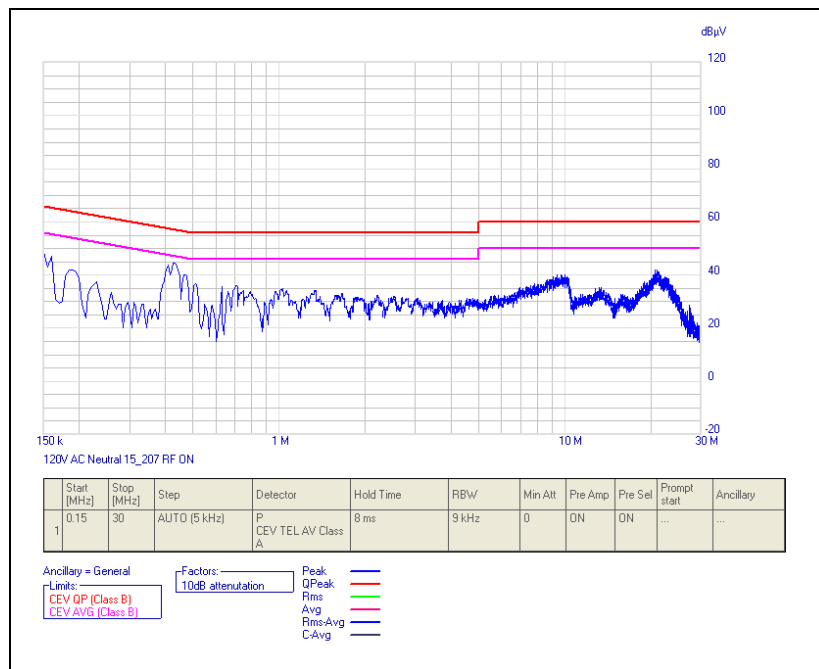


Plot 12. Conducted Emissions, 15.207(a), Phase Line, PoE

15.207(a) Conducted Emissions Test Results, PoE

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
120V AC Neutral 15.207	0.15	62.65	66	-3.35	Pass	44.02	56	-11.98	Pass
120V AC Neutral 15.207	0.43	43.2	57.277	-14.077	Pass	38.2	47.277	-9.077	Pass
120V AC Neutral 15.207	21.095	56.84	60	-3.16	Pass	48.62	50	-1.38	Pass

Table 21. Conducted Emissions, 15.207(a), Neutral Line, Test Results, PoE



Plot 13. Conducted Emissions, 15.207(a), Neutral Line, PoE

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.247(a)(2) 6 dB and 99% Bandwidth

Test Requirements: § 15.247(a)(2): Operation under the provisions of this section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions:

For systems using digital modulation techniques, the EUT may operate in the 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz bands. The minimum 6dB bandwidth shall be at least 500 kHz.

Test Procedure: The transmitter was on and transmitting at the highest output power. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using a RBW approximately 1% of the total emission bandwidth, VBW > RBW. The 6 dB Bandwidth was measured and recorded. The measurements were performed on the low, mid and high channels.

Test Results The EUT was compliant with § 15.247 (a)(2).

The 6 dB and 99% Bandwidth was determined from the plots on the following pages.

Test Engineer(s): Jonathan Chao

Test Date(s): 02/18/13



Figure 2. Block Diagram, Occupied Bandwidth Test Setup

Occupied Bandwidth Test Results

Occupied Bandwidth			
	Carrier Channel	Frequency (MHz)	Measured 6 dB Bandwidth (MHz)
802.11b	Low	2412	10.876
	Mid	2437	11.066
	High	2462	10.802
802.11g	Low	2412	15.821
	Mid	2437	15.911
	High	2462	16.385
802.11n 20 MHz Port 1	Low	2412	17.668
	Mid	2437	17.455
	High	2462	17.733
802.11n 20 MHz Port 2	Low	2412	17.272
	Mid	2437	16.967
	High	2462	16.607
802.11n 20 MHz Port 3	Low	2412	16.402
	Mid	2437	17.063
	High	2462	15.178
802.11n 40 MHz Port 1	Low	2422	35.349
	Mid	2437	36.220
	High	2452	36.534
802.11n 40 MHz Port 2	Low	2422	35.222
	Mid	2437	35.321
	High	2452	36.524
802.11n 40 MHz Port 3	Low	2422	33.976
	Mid	2437	35.859
	High	2452	36.412

Table 22. 6 dB Occupied Bandwidth, Test Results, 2.4 GHz

Occupied Bandwidth			
	Carrier Channel	Frequency (MHz)	Measured 6 dB Bandwidth (MHz)
802.11a 20 MHz Port 1	Low	5745	16.381
	Mid	5785	16.400
	High	5825	16.417
802.11n 20 MHz Port 1	Low	5745	17.581
	Mid	5785	17.562
	High	5825	17.301
802.11n 20 MHz Port 2	Low	5745	17.532
	Mid	5785	17.630
	High	5825	17.608
802.11n 20 MHz Port 3	Low	5745	17.664
	Mid	5785	17.613
	High	5825	17.588
802.11n 40 MHz Port 1	Low	5755	36.392
	High	5795	36.334
802.11n 40 MHz Port 2	Low	5755	36.430
	High	5795	36.413
802.11n 40 MHz Port 3	Low	5755	36.458
	High	5795	36.403
802.11n 80 MHz Port 1	--	5775	75.902
802.11n 80 MHz Port 2	--	5775	75.906
802.11n 80 MHz Port 3	--	5775	75.351

Table 23. 6 dB Occupied Bandwidth, Test Results, 5 GHz

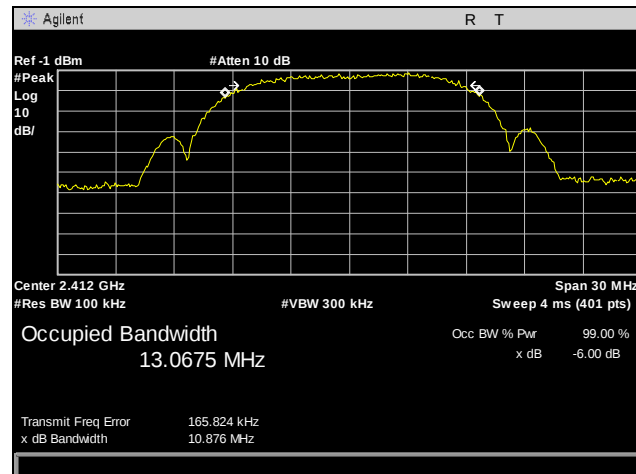
Occupied Bandwidth			
	Carrier Channel	Frequency (MHz)	Measured 99% Bandwidth (MHz)
802.11b	Low	2412	12.9191
	Mid	2437	13.2305
	High	2462	13.2037
802.11g	Low	2412	16.5514
	Mid	2437	16.5929
	High	2462	16.5990
802.11n 20 MHz Port 1	Low	2412	17.3189
	Mid	2437	17.4692
	High	2462	17.5905
802.11n 20 MHz Port 2	Low	2412	17.6307
	Mid	2437	17.5822
	High	2462	17.7461
802.11n 20 MHz Port 3	Low	2412	17.6929
	Mid	2437	17.6197
	High	2462	17.7379
802.11n 40 MHz Port 1	Low	2422	35.7562
	Mid	2437	36.2513
	High	2452	36.6387
802.11n 40 MHz Port 2	Low	2422	36.2491
	Mid	2437	36.5363
	High	2452	36.8075
802.11n 40 MHz Port 3	Low	2422	35.8107
	Mid	2437	36.5948
	High	2452	36.9918

Table 24. 99% Occupied Bandwidth, Test Results, 2.4 GHz

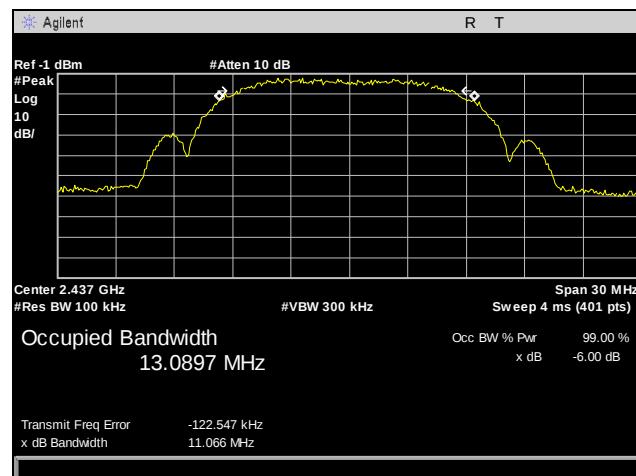
Occupied Bandwidth			
	Carrier Channel	Frequency (MHz)	Measured 99% Bandwidth (MHz)
802.11a 20 MHz Port 1	Low	5745	16.5588
	Mid	5785	16.5358
	High	5825	16.7396
802.11n 20 MHz Port 1	Low	5745	17.6860
	Mid	5785	17.6796
	High	5825	17.6917
802.11n 20 MHz Port 2	Low	5745	17.7002
	Mid	5785	17.6751
	High	5825	17.7840
802.11n 20 MHz Port 3	Low	5745	17.6622
	Mid	5785	17.5904
	High	5825	17.7076
802.11n 40 MHz Port 1	Low	5755	36.2874
	High	5795	36.2672
802.11n 40 MHz Port 2	Low	5755	36.2689
	High	5795	36.2832
802.11n 40 MHz Port 3	Low	5755	36.4097
	High	5795	36.3257
802.11n 80 MHz Port 1	--	5775	75.6760
802.11n 80 MHz Port 2	--	5775	75.8576
802.11n 80 MHz Port 3	--	5775	75.6937

Table 25. 99% Occupied Bandwidth, Test Results, 5 GHz

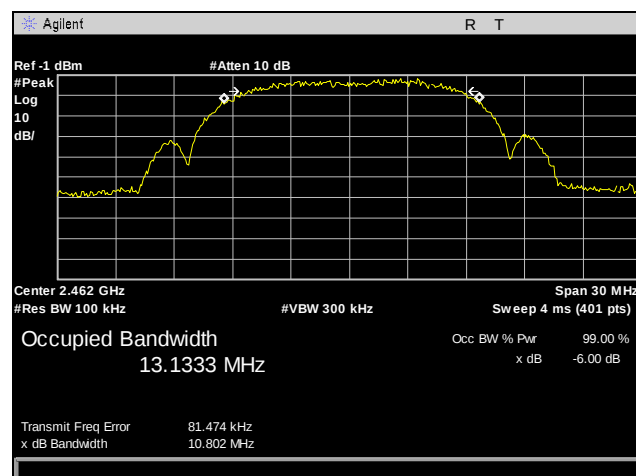
6 dB Occupied Bandwidth Test Results, 802.11b, 2.4 GHz



Plot 14. 6 dB Occupied Bandwidth, 802.11b, 2412 MHz, Low Channel

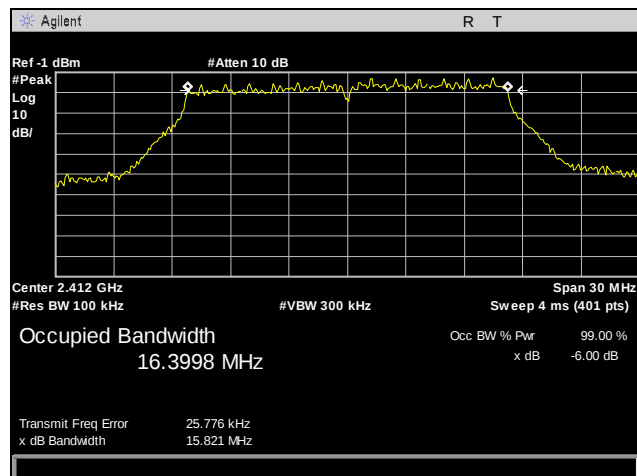


Plot 15. 6 dB Occupied Bandwidth, 802.11b, 2437 MHz, Mid Channel

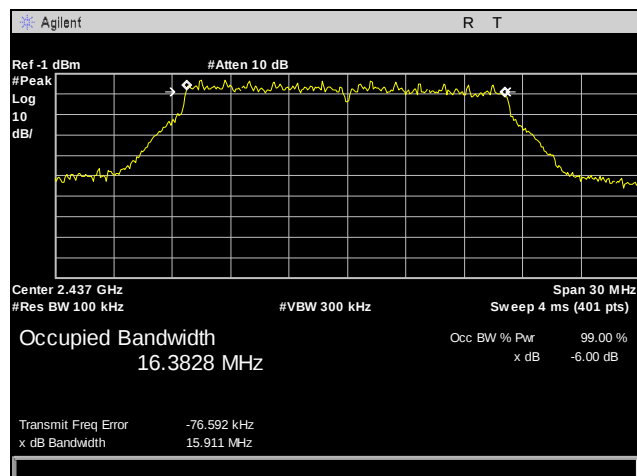


Plot 16. 6 dB Occupied Bandwidth, 802.11b, 2462 MHz, High Channel

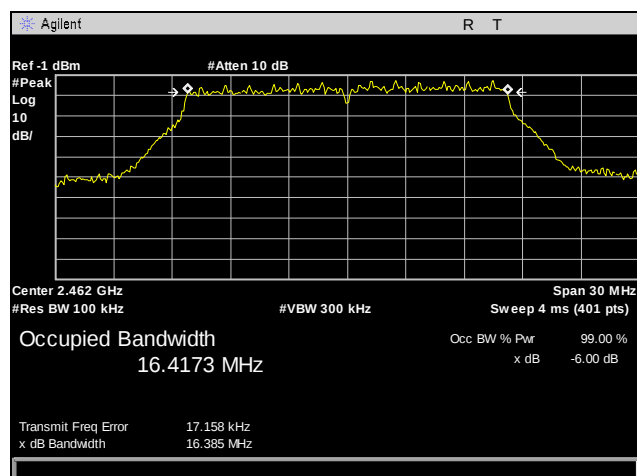
6 dB Occupied Bandwidth Test Results, 802.11g, 2.4 GHz



Plot 17. 6 dB Occupied Bandwidth, 802.11g, 2412 MHz, Low Channel

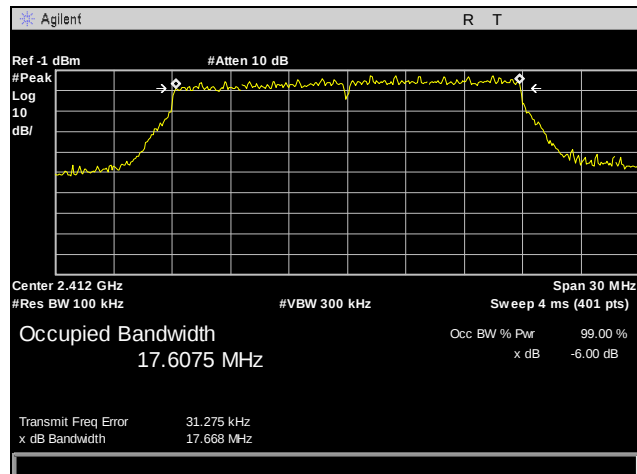


Plot 18. 6 dB Occupied Bandwidth, 802.11g, 2437 MHz, Mid Channel

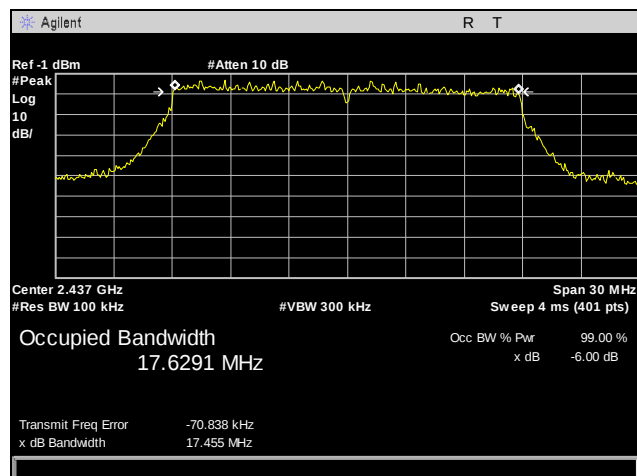


Plot 19. 6 dB Occupied Bandwidth, 802.11g, 2462 MHz, High Channel

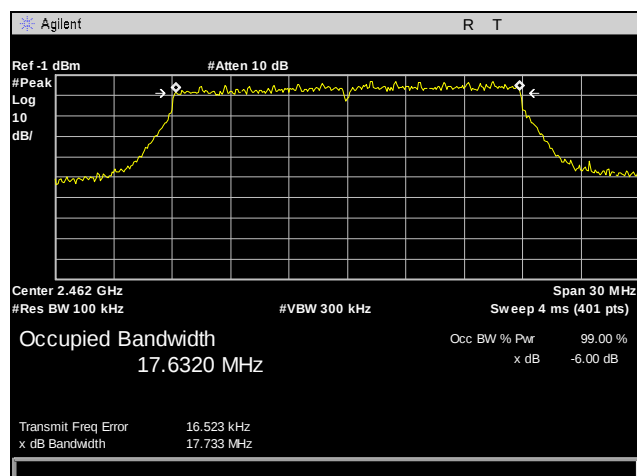
6 dB Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 1, 2.4 GHz



Plot 20. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 1

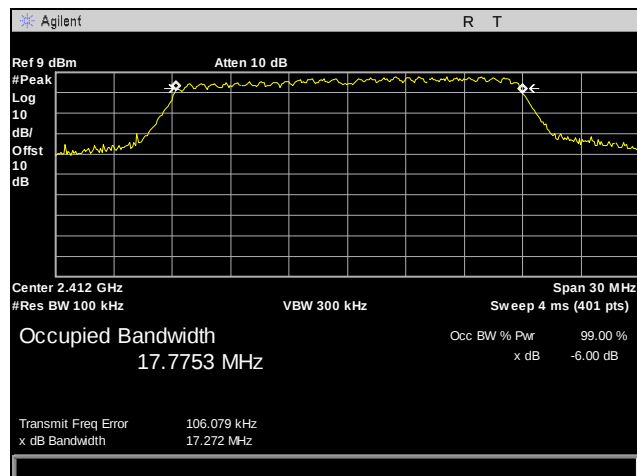


Plot 21. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 1

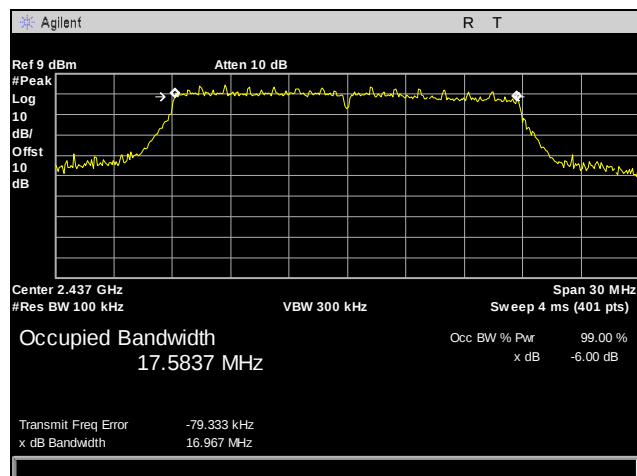


Plot 22. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 1

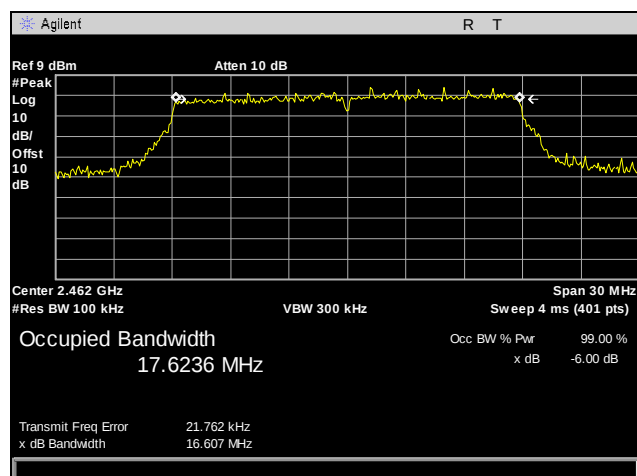
6 dB Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 2, 2.4 GHz



Plot 23. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 2

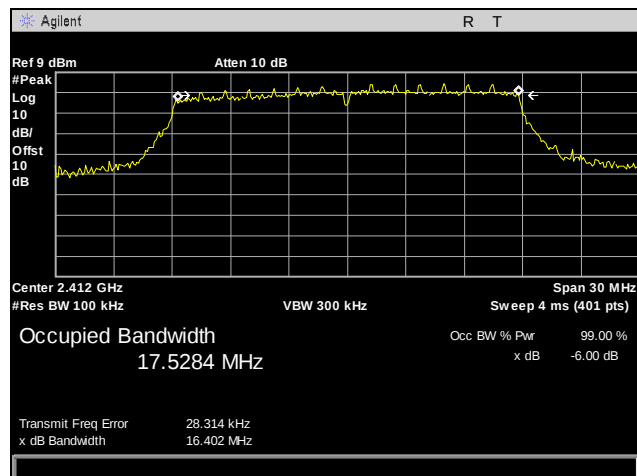


Plot 24. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 2

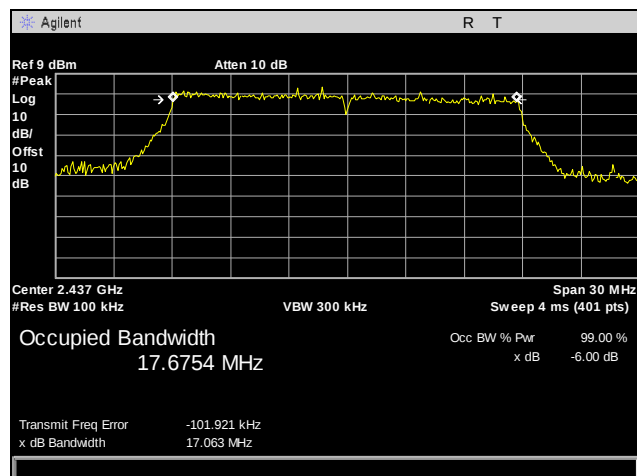


Plot 25. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 2

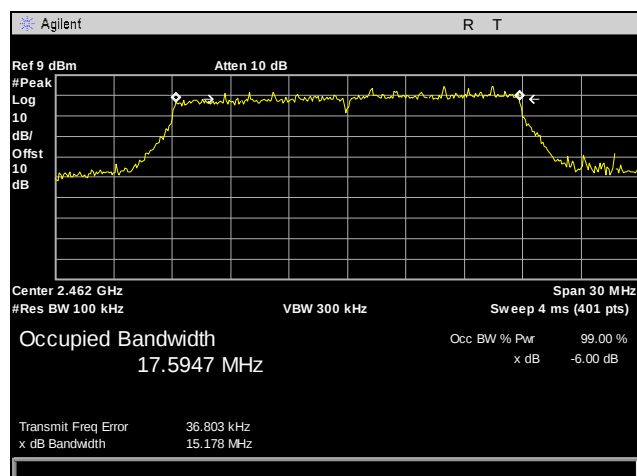
6 dB Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 3, 2.4 GHz



Plot 26. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 3

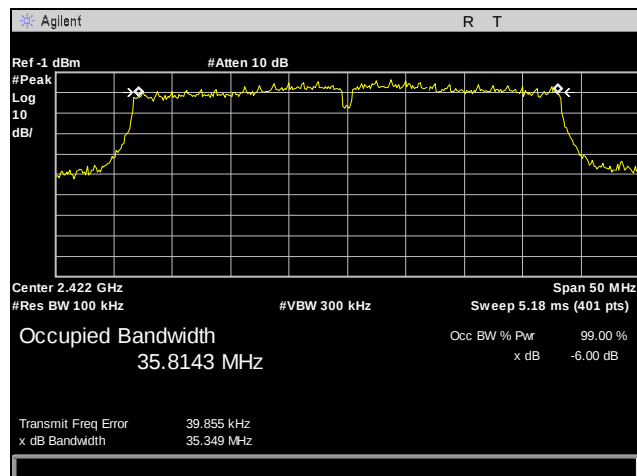


Plot 27. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 3

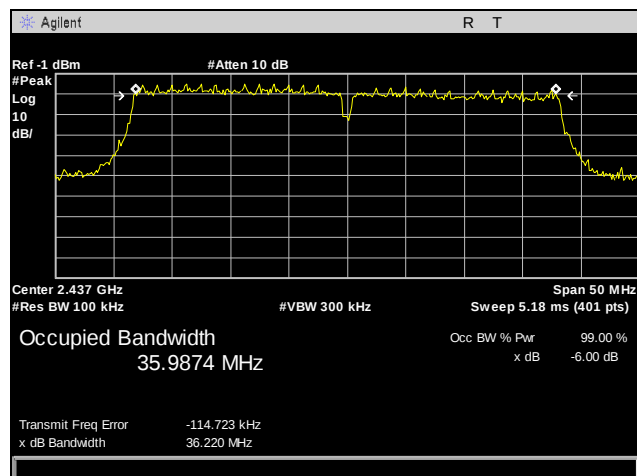


Plot 28. 6 dB Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 3

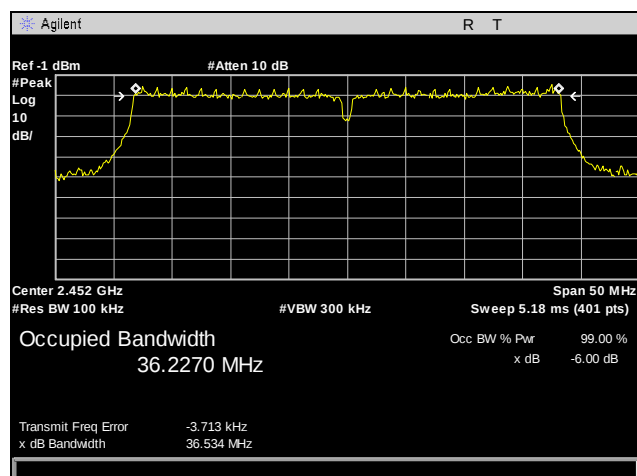
6 dB Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 1, 2.4 GHz



Plot 29. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 1

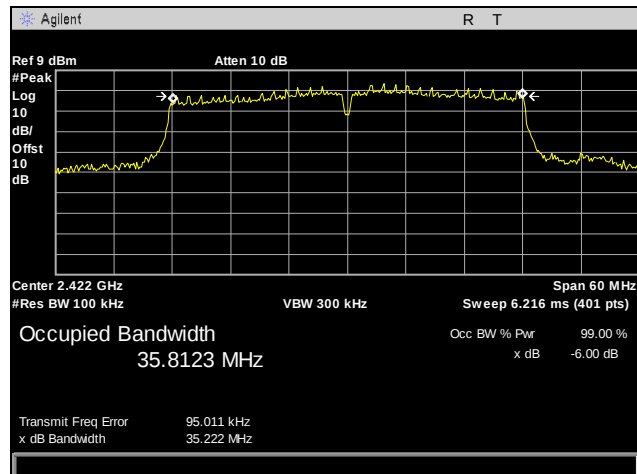


Plot 30. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 1

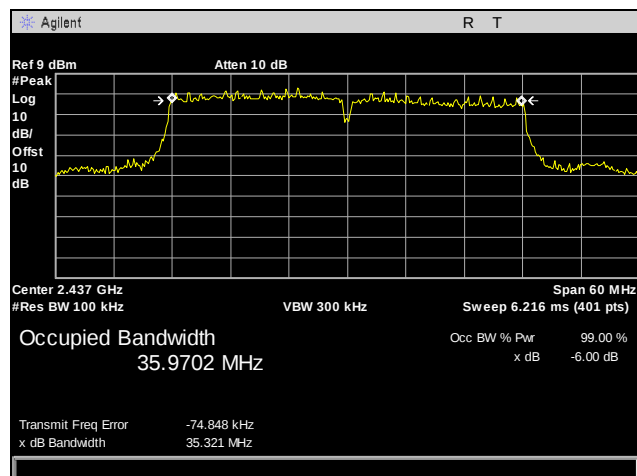


Plot 31. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 1

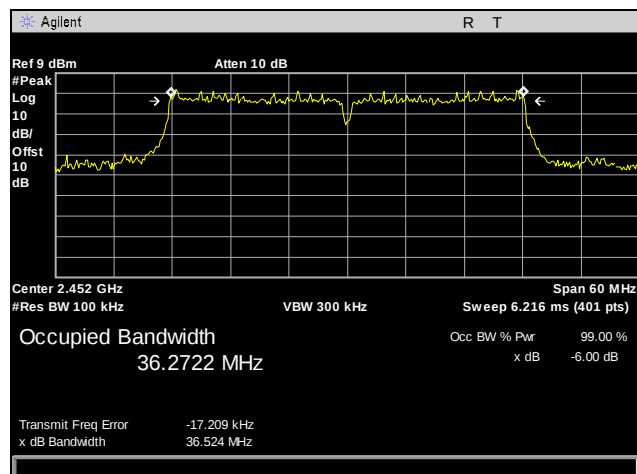
6 dB Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 2, 2.4 GHz



Plot 32. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 2

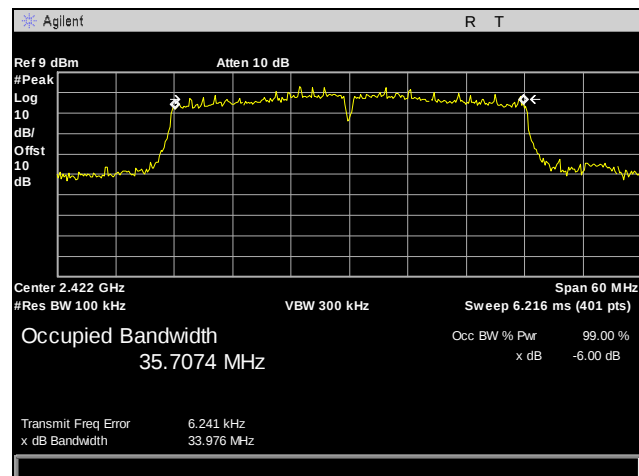


Plot 33. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 2

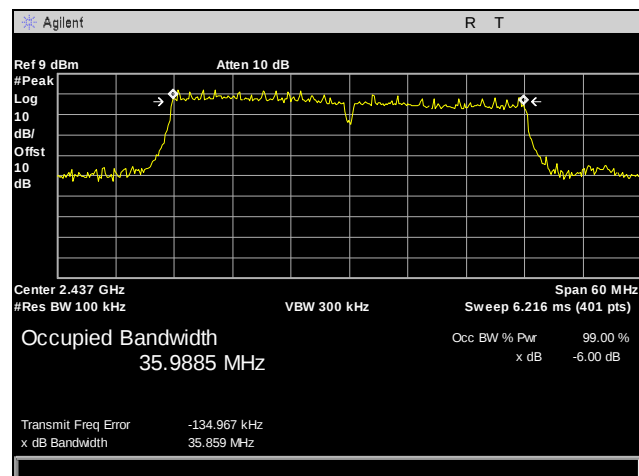


Plot 34. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 2

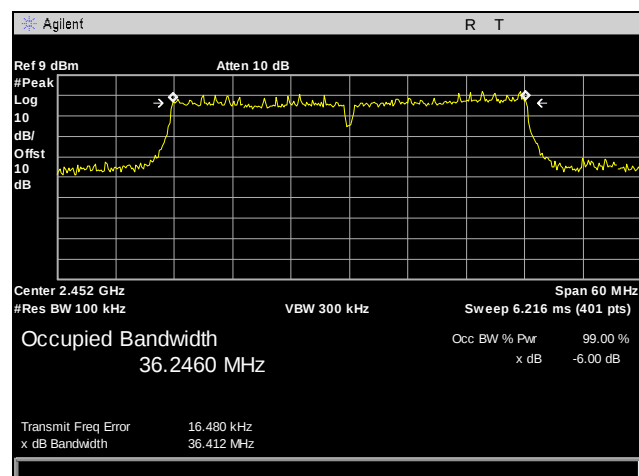
6 dB Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 3, 2.4 GHz



Plot 35. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 3

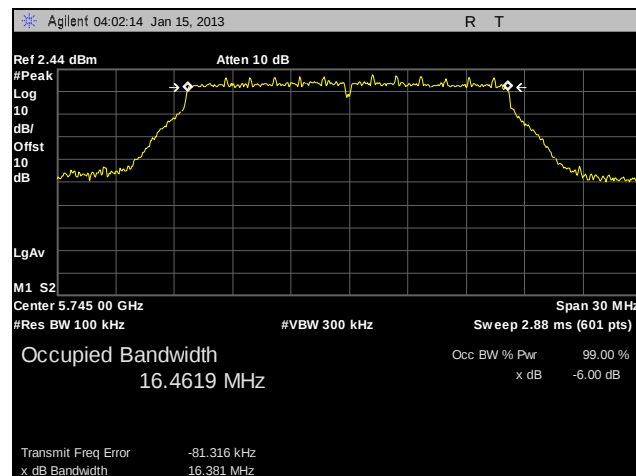


Plot 36. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 3

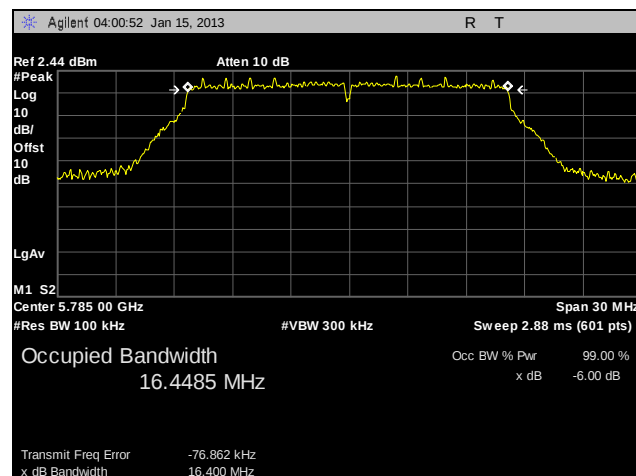


Plot 37. 6 dB Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 3

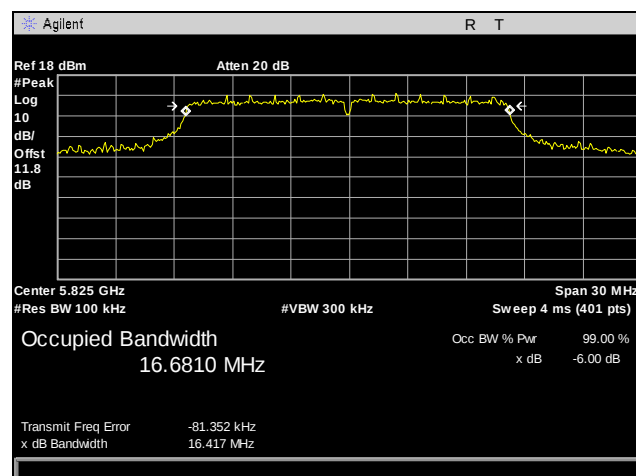
6 dB Occupied Bandwidth Test Results, 802.11a 20 MHz, Port 1, 5 GHz



Plot 38. 6 dB Occupied Bandwidth, 802.11a 20MHz, 5745 MHz, Low Channel, Port 1

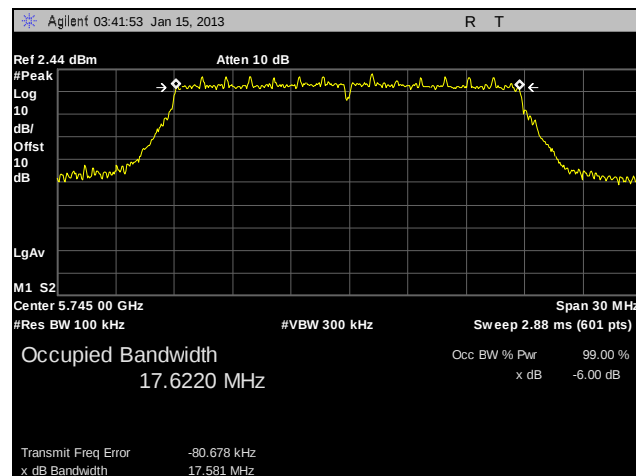


Plot 39. 6 dB Occupied Bandwidth, 802.11a 20MHz, 5785 MHz, Mid Channel, Port 1

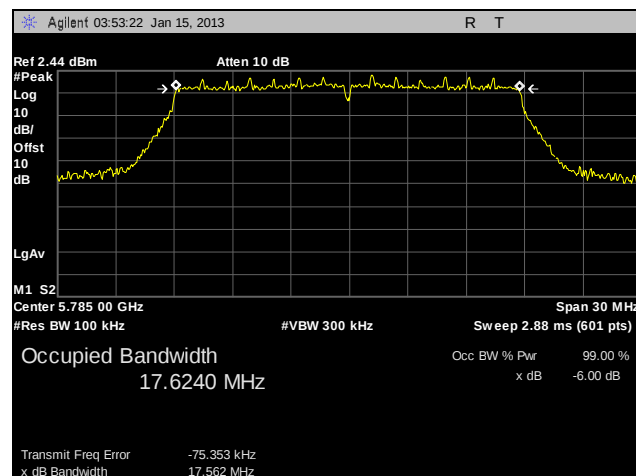


Plot 40. 6 dB Occupied Bandwidth, 802.11a 20MHz, 5825 MHz, High Channel, Port 1

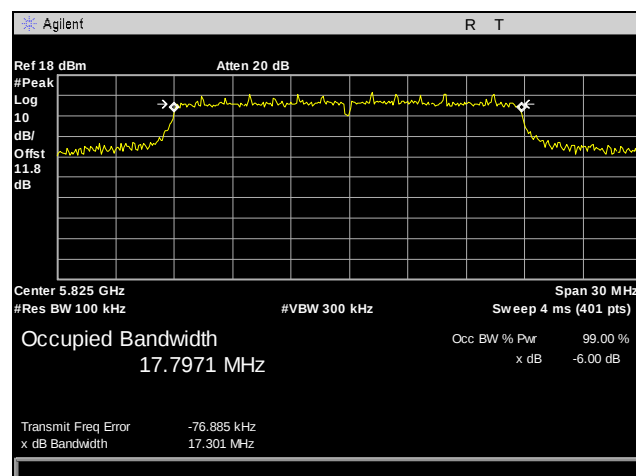
6 dB Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 1, 5 GHz



Plot 41. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 1

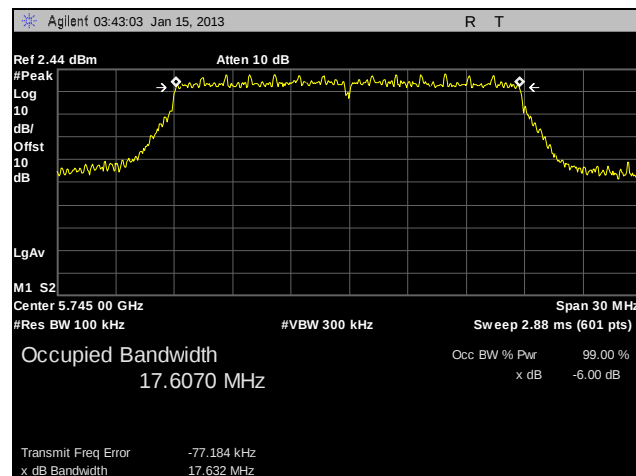


Plot 42. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 1

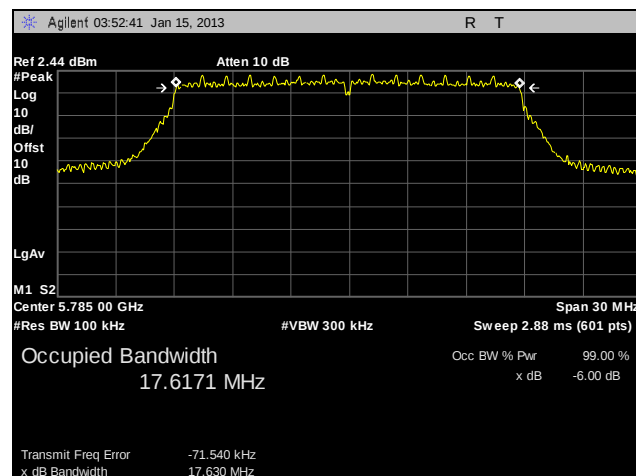


Plot 43. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 1

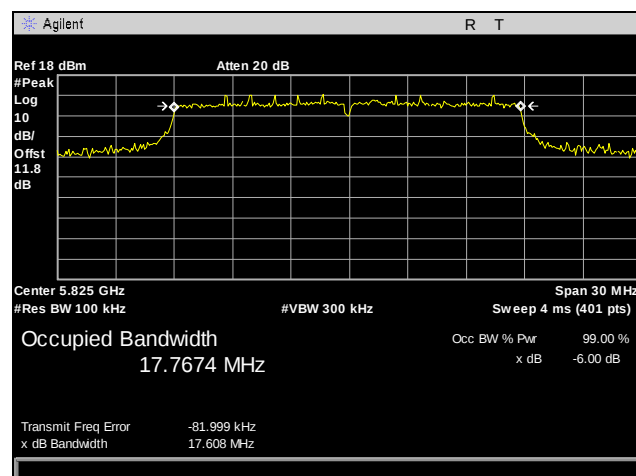
6 dB Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 2, 5 GHz



Plot 44. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 2

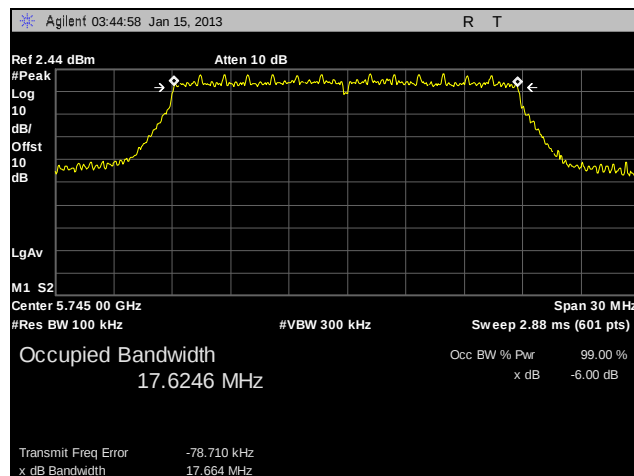


Plot 45. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 2

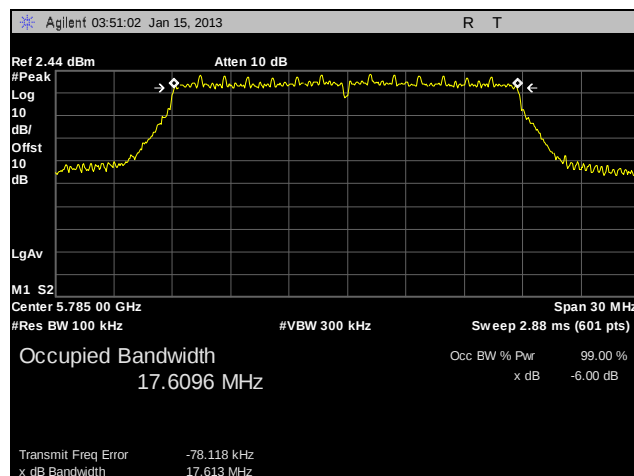


Plot 46. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 2

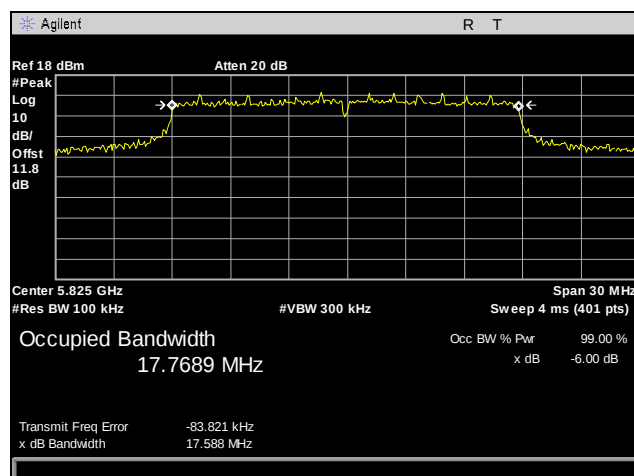
6 dB Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 3, 5 GHz



Plot 47. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 3

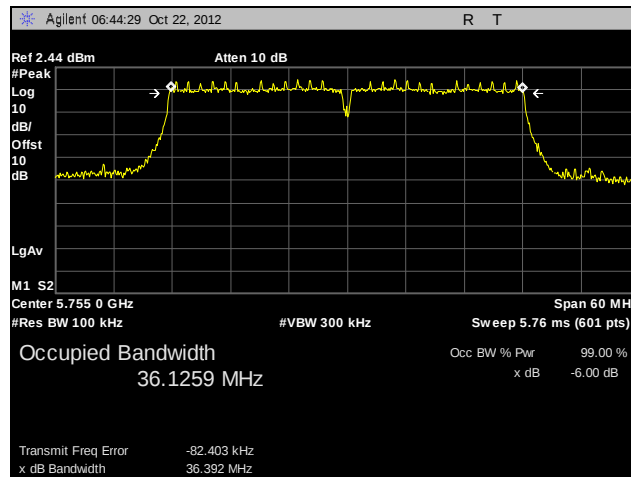


Plot 48. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 3

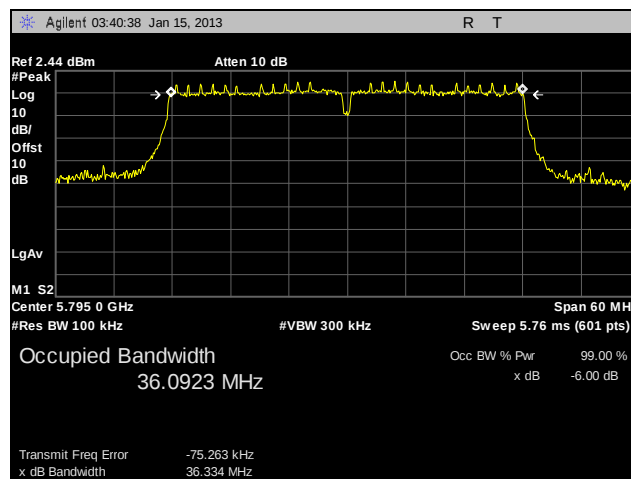


Plot 49. 6 dB Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 3

6 dB Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 1, 5 GHz

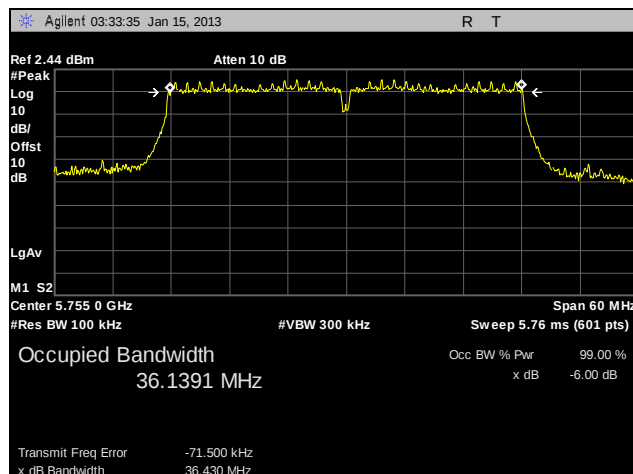


Plot 50. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 1

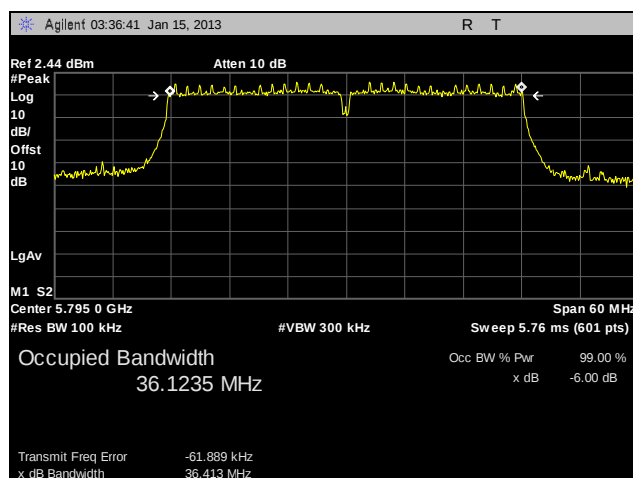


Plot 51. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 1

6 dB Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 2, 5 GHz

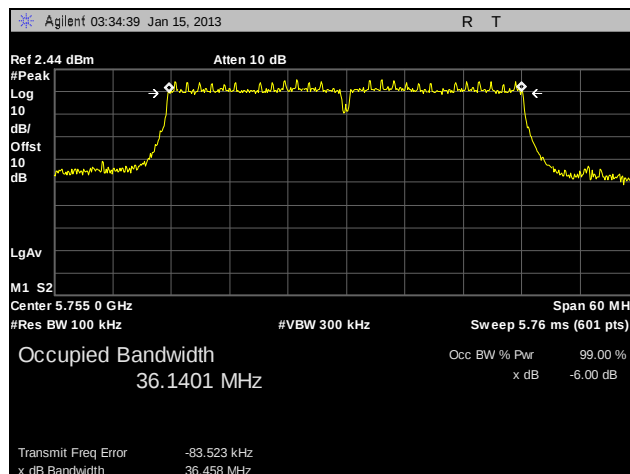


Plot 52. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 2

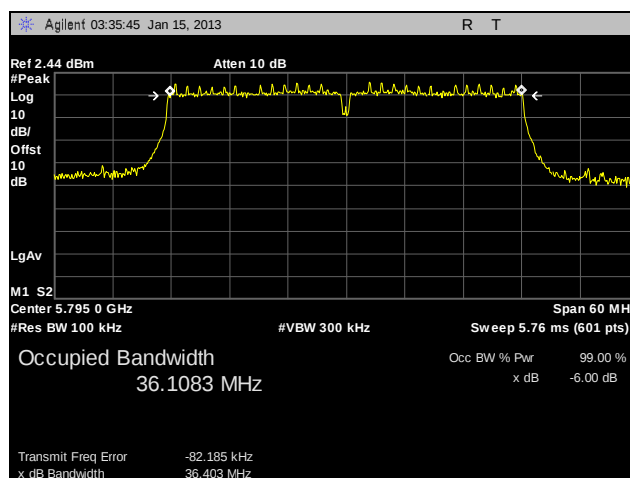


Plot 53. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 2

6 dB Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 3, 5 GHz

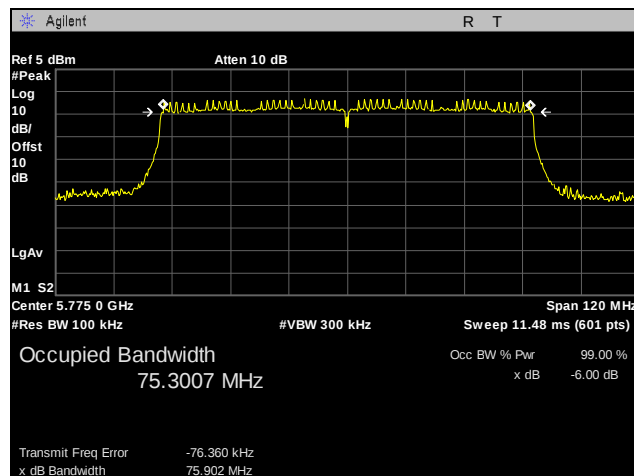


Plot 54. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 3

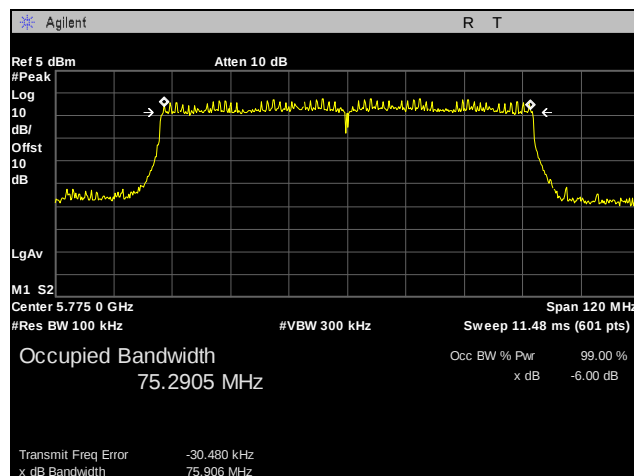


Plot 55. 6 dB Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 3

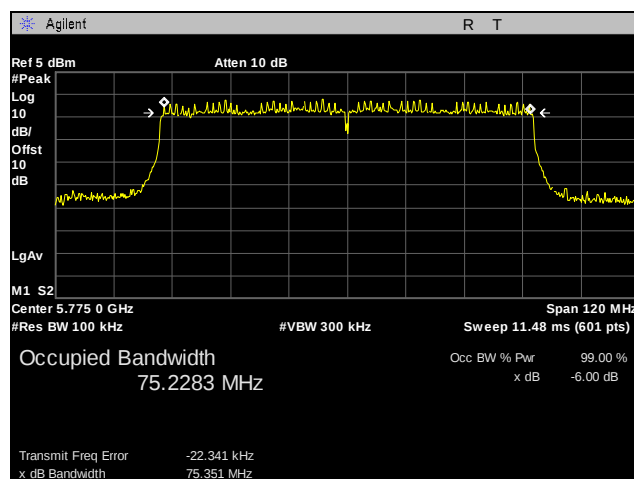
6 dB Occupied Bandwidth Test Results, 802.11n 80 MHz, 5 GHz



Plot 56. 6 dB Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 1

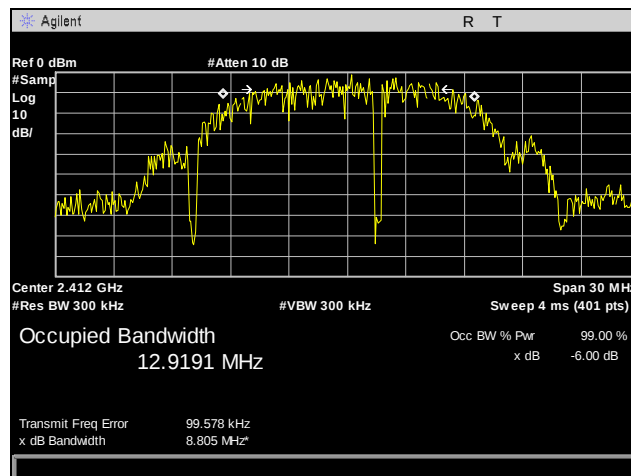


Plot 57. 6 dB Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 2

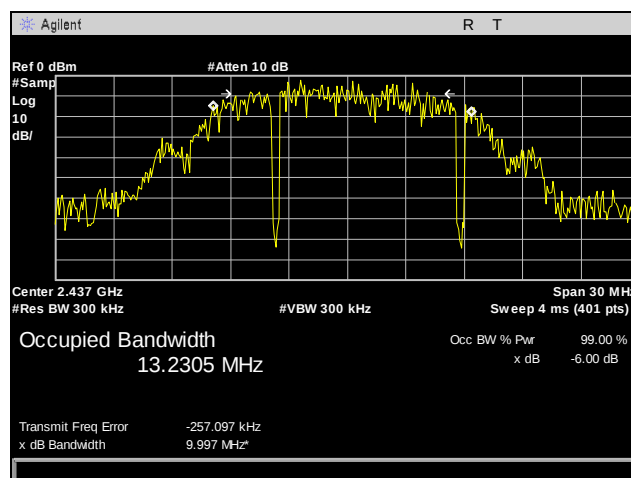


Plot 58. 6 dB Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 3

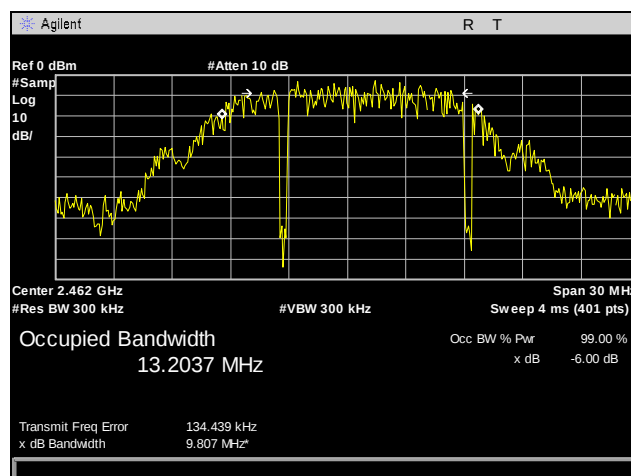
99% Occupied Bandwidth Test Results, 802.11b, 2.4 GHz



Plot 59. 99% Occupied Bandwidth, 802.11b, 2412 MHz, Low Channel

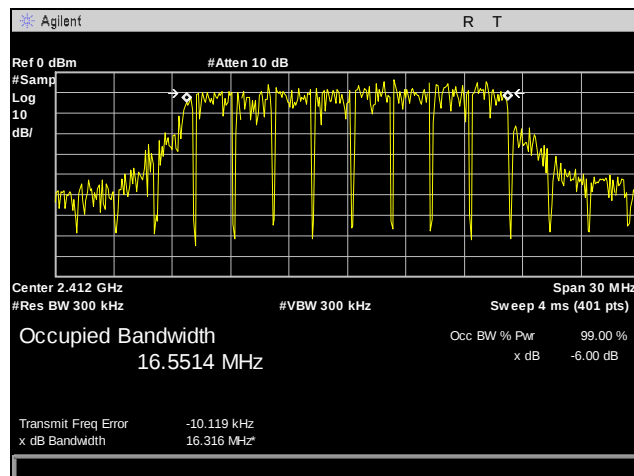


Plot 60. 99% Occupied Bandwidth, 802.11b, 2437 MHz, Mid Channel

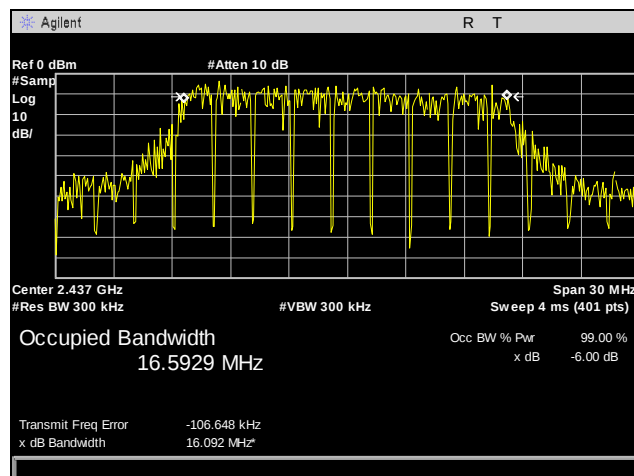


Plot 61. 99% Occupied Bandwidth, 802.11b, 2462 MHz, High Channel

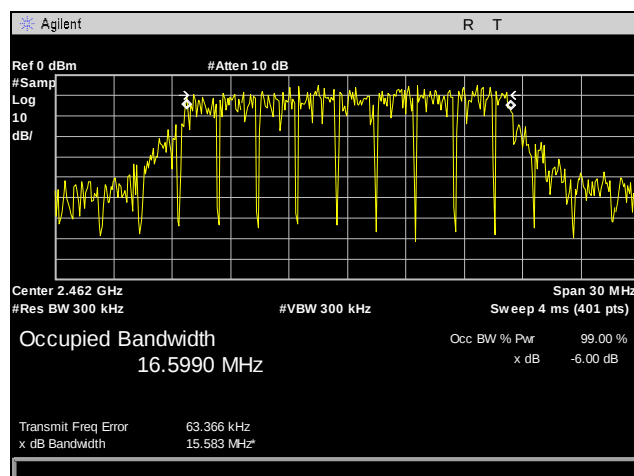
99% Occupied Bandwidth Test Results, 802.11g, 2.4 GHz



Plot 62. 99% Occupied Bandwidth, 802.11g, 2412 MHz, Low Channel

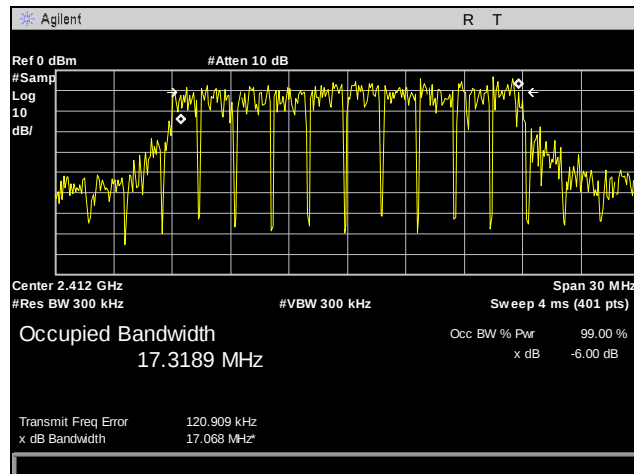


Plot 63. 99% Occupied Bandwidth, 802.11g, 2437 MHz, Mid Channel

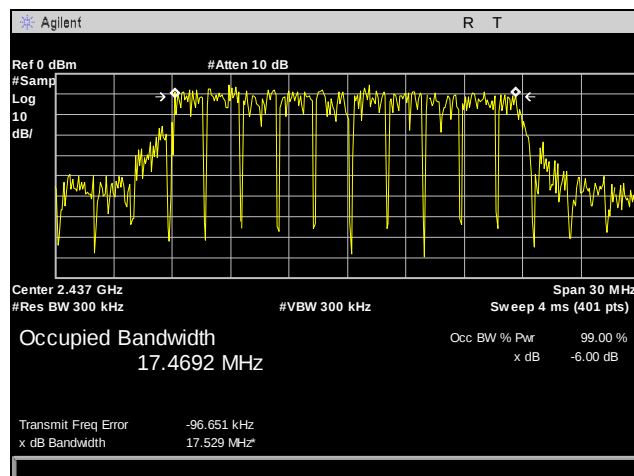


Plot 64. 99% Occupied Bandwidth, 802.11g, 2462 MHz, High Channel

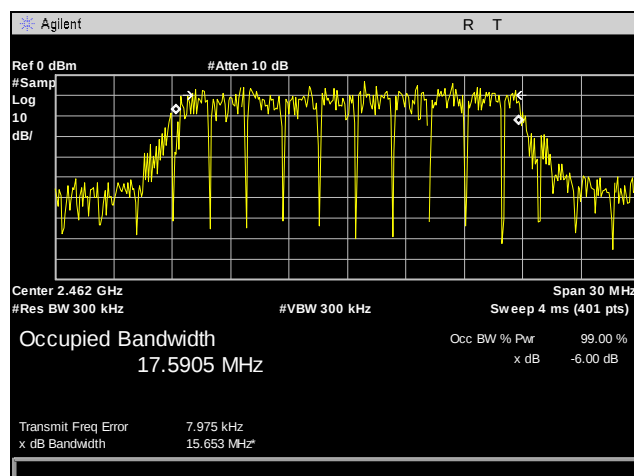
99% Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 1, 2.4 GHz



Plot 65. 99% Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 1

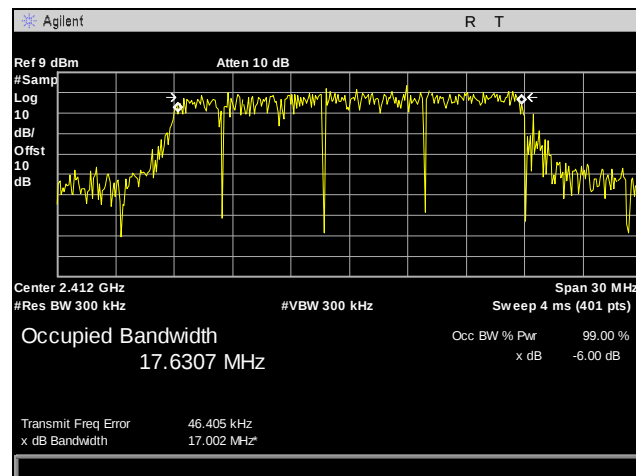


Plot 66. 99% Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 1

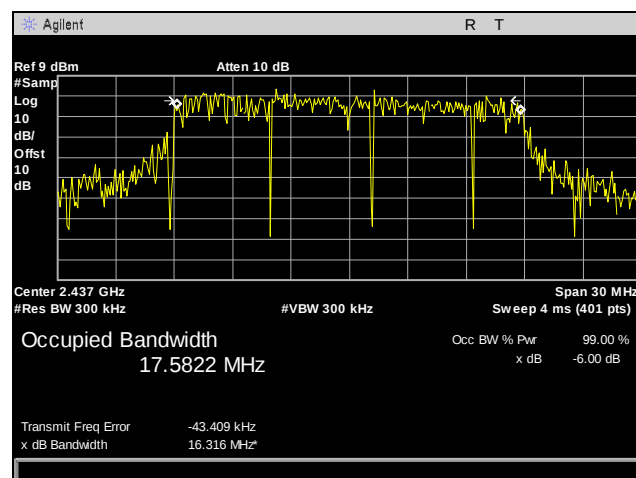


Plot 67. 99% Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 1

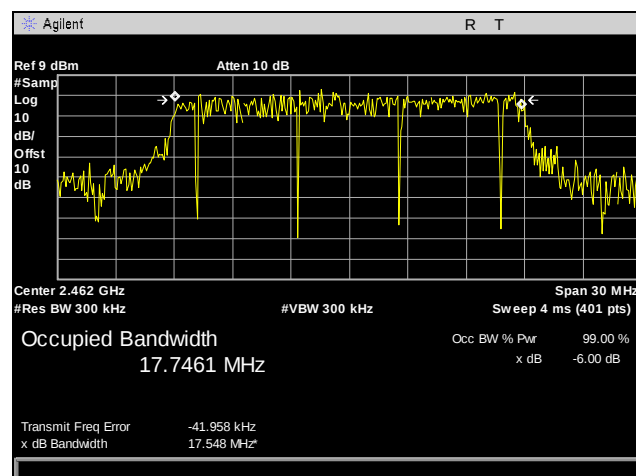
99% Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 2, 2.4 GHz



Plot 68. 99% Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 2

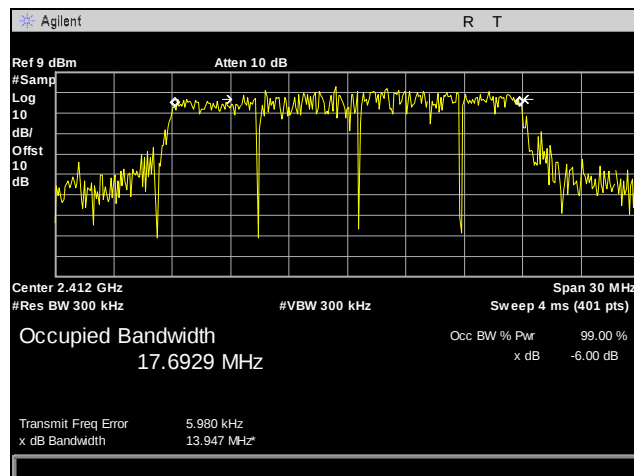


Plot 69. 99% Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 2

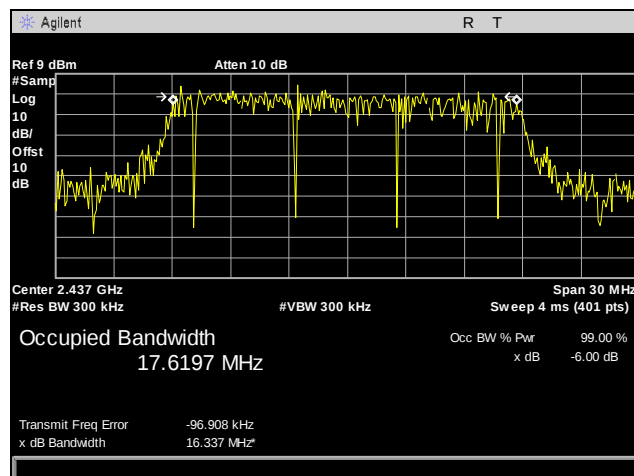


Plot 70. 99% Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 2

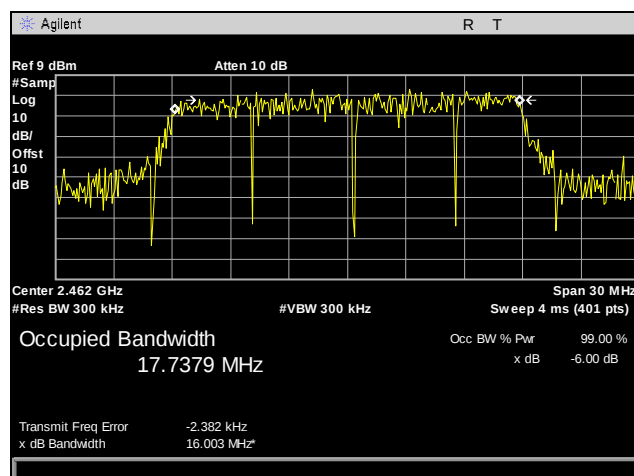
99% Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 3, 2.4 GHz



Plot 71. 99% Occupied Bandwidth, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 3

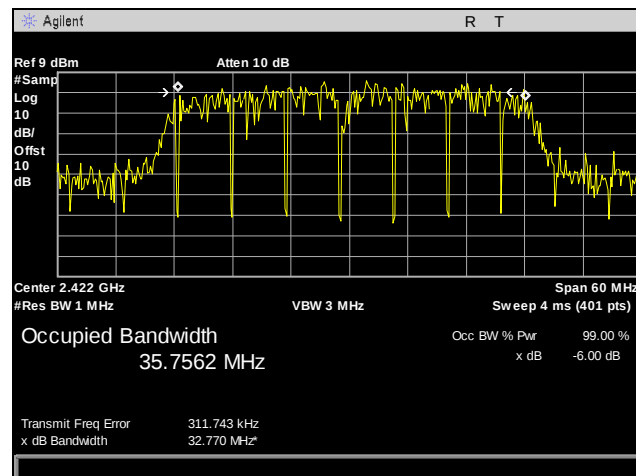


Plot 72. 99% Occupied Bandwidth, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 3

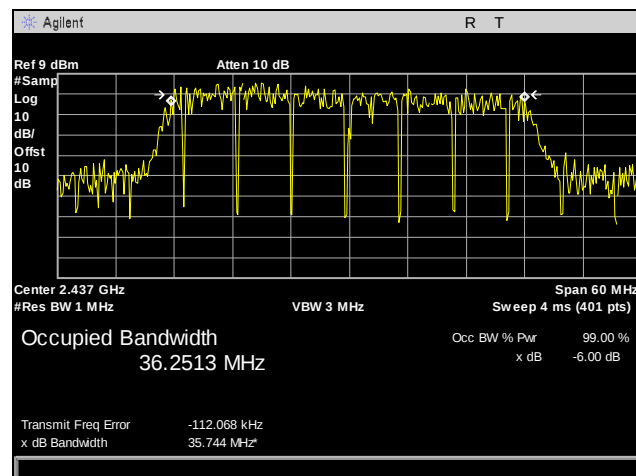


Plot 73. 99% Occupied Bandwidth, 802.11n 20 MHz, 2462 MHz, High Channel, Port 3

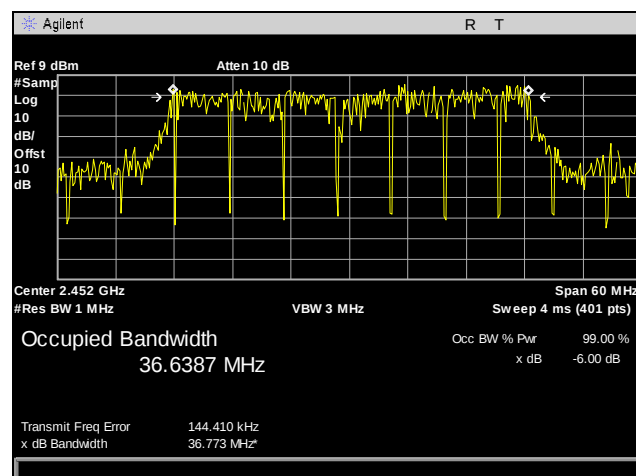
99% Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 1, 2.4 GHz



Plot 74. 99% Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 1

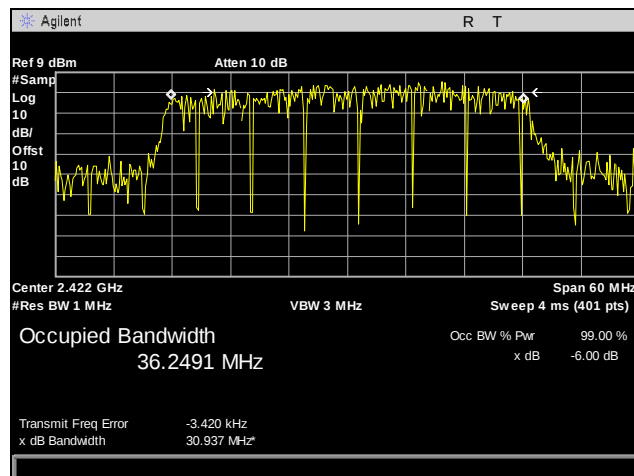


Plot 75. 99% Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 1

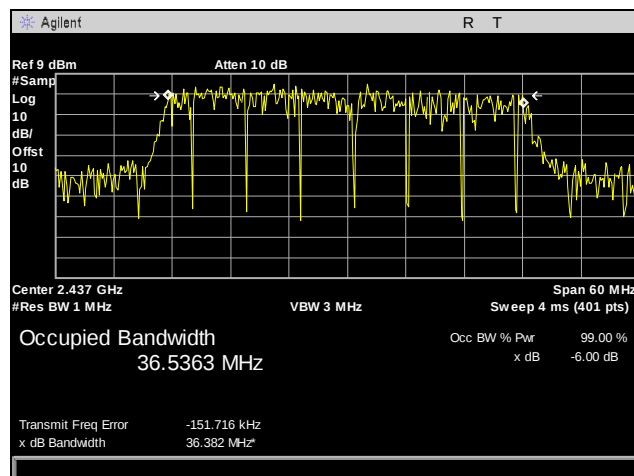


Plot 76. 99% Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 1

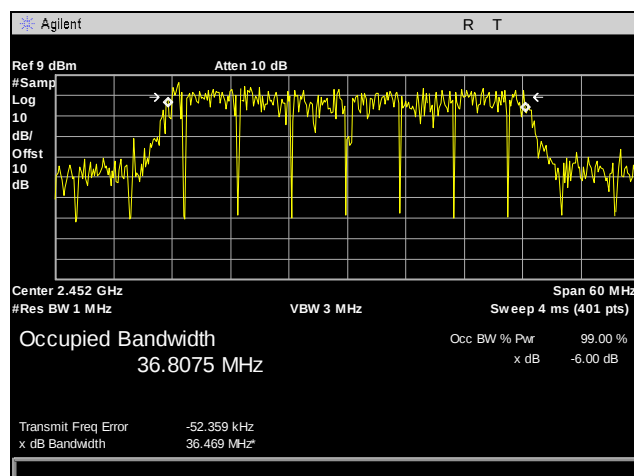
99% Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 2, 2.4 GHz



Plot 77. 99% Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 2

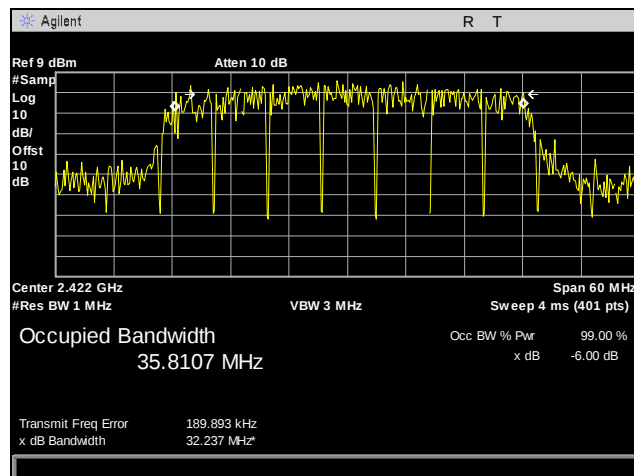


Plot 78. 99% Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 2

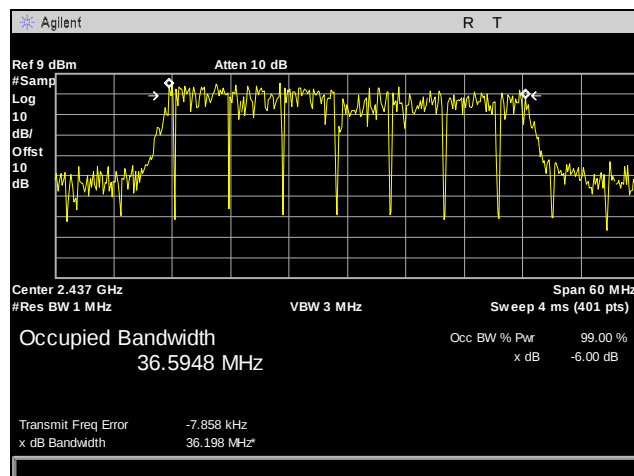


Plot 79. 99% Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 2

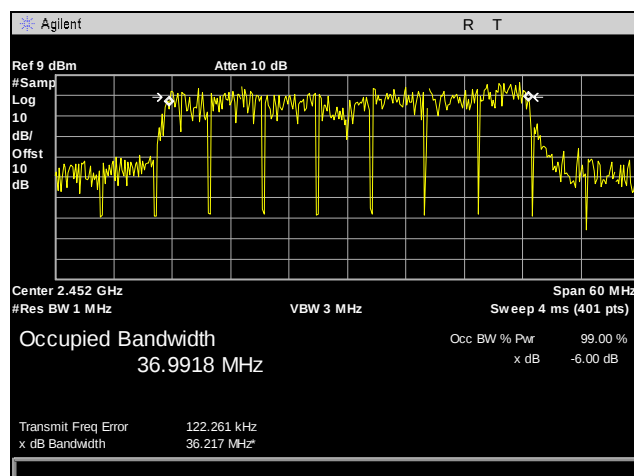
99% Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 3, 2.4 GHz



Plot 80. 99% Occupied Bandwidth, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 3

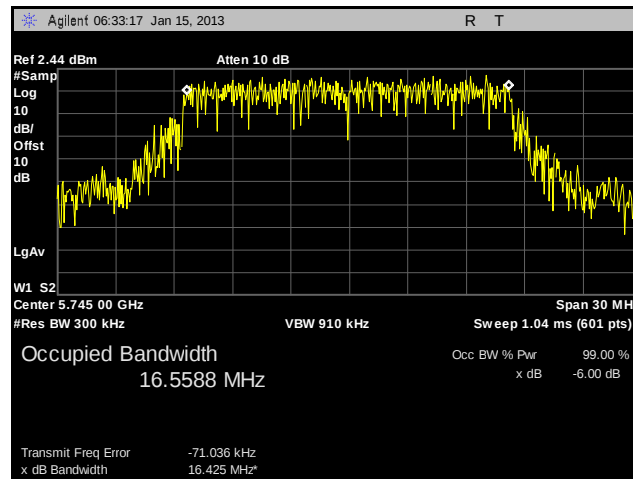


Plot 81. 99% Occupied Bandwidth, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 3

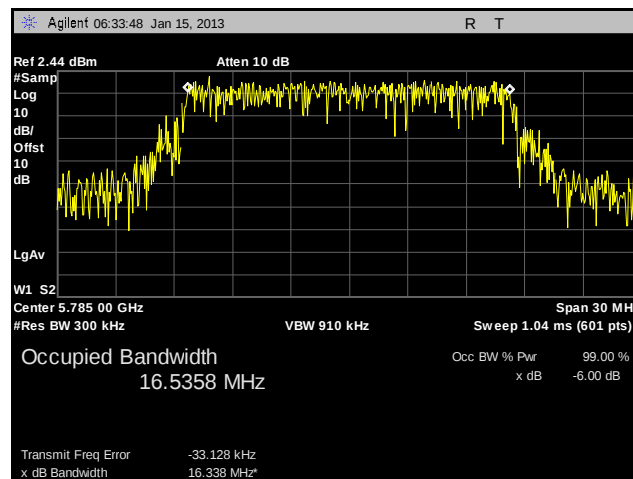


Plot 82. 99% Occupied Bandwidth, 802.11n 40 MHz, 2452 MHz, High Channel, Port 3

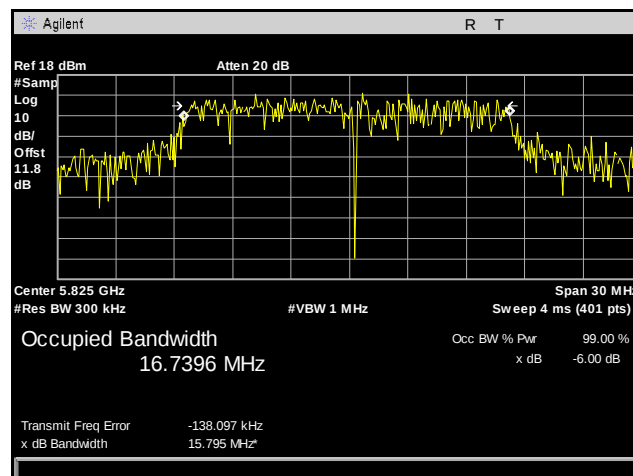
99% Occupied Bandwidth Test Results, 802.11a 20 MHz, Port 1, 5 GHz



Plot 83. 99% Occupied Bandwidth, 802.11a 20MHz, 5745 MHz, Low Channel, Port 1

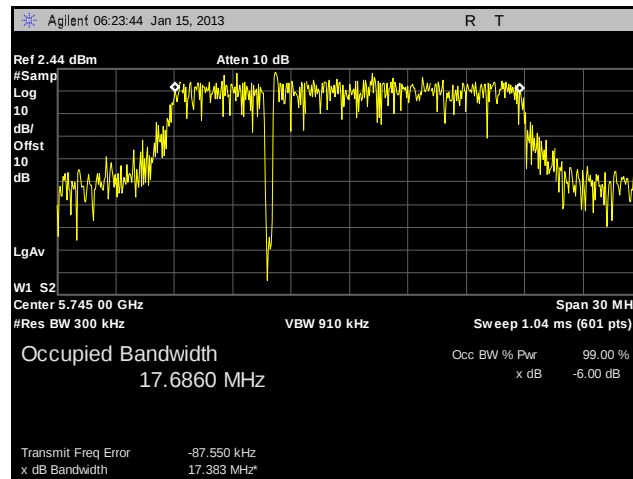


Plot 84. 99% Occupied Bandwidth, 802.11a 20MHz, 5785 MHz, Mid Channel, Port 1

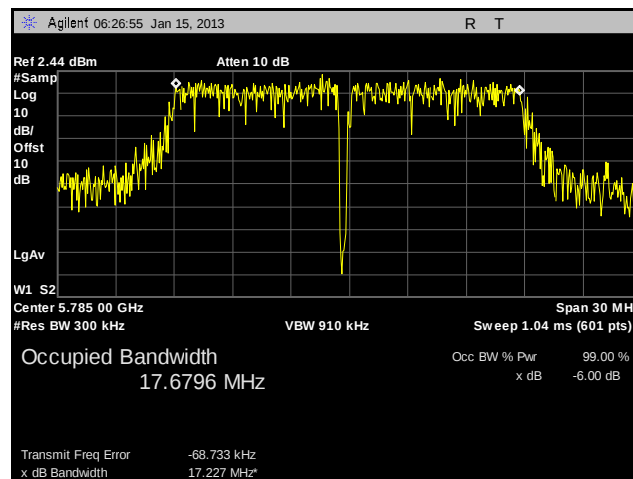


Plot 85. 99% Occupied Bandwidth, 802.11a 20MHz, 5825 MHz, High Channel, Port 1

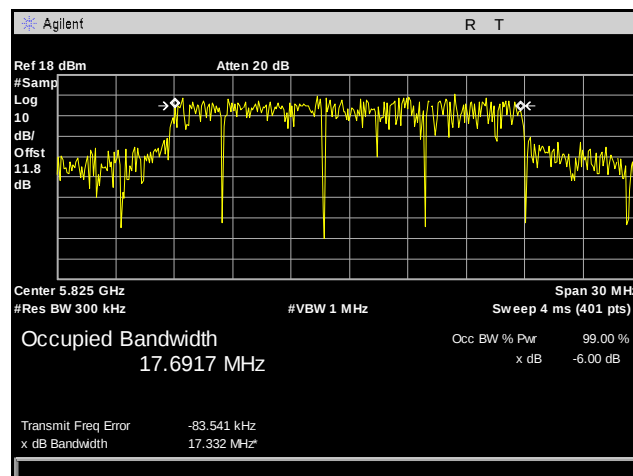
99% Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 1, 5 GHz



Plot 86. 99% Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 1

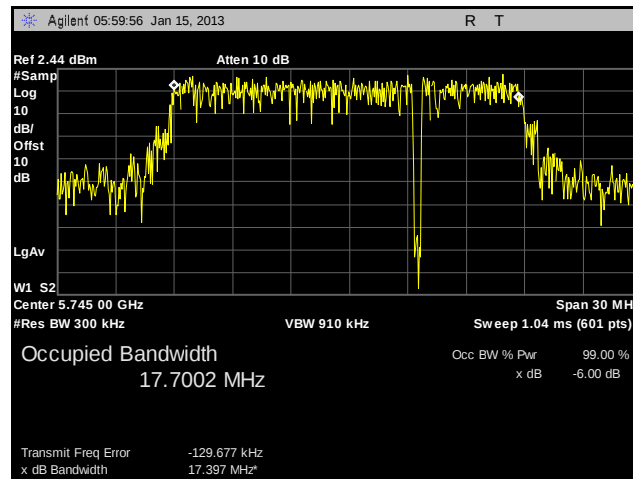


Plot 87. 99% Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 1

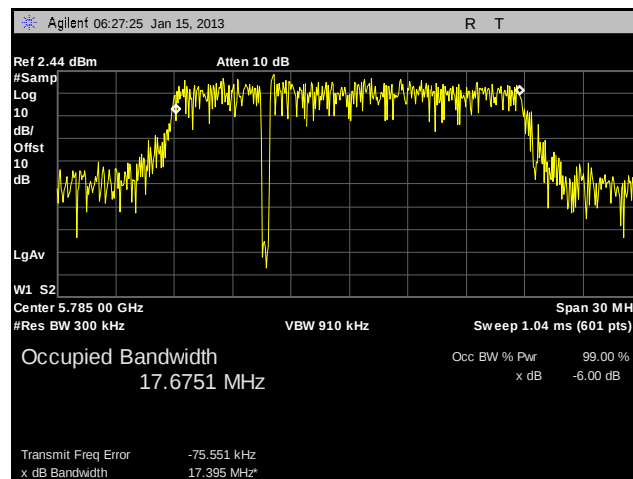


Plot 88. 99% Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 1

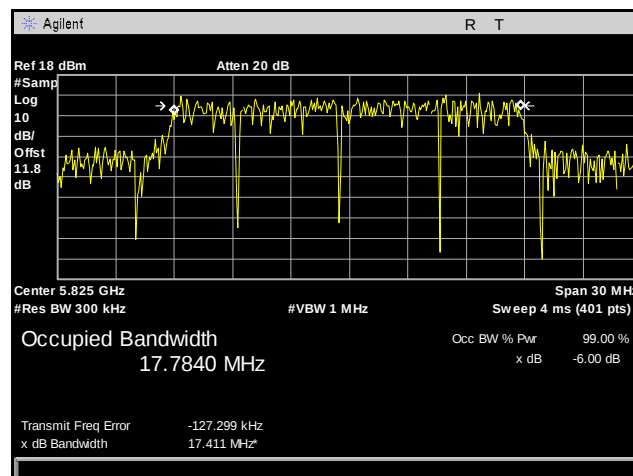
99% Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 2, 5 GHz



Plot 89. 99% Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 2

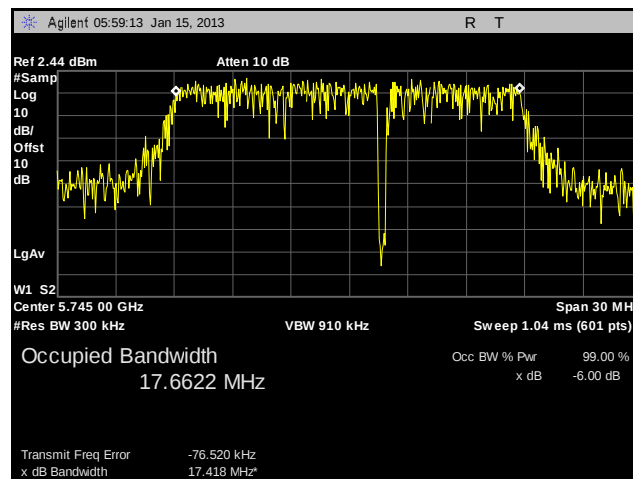


Plot 90. 99% Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 2

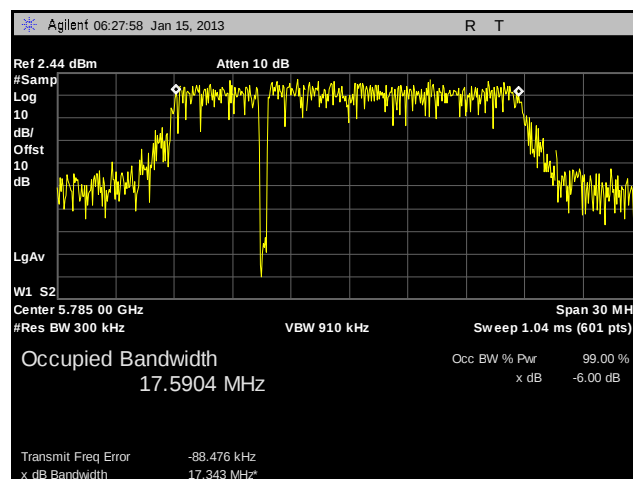


Plot 91. 99% Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 2

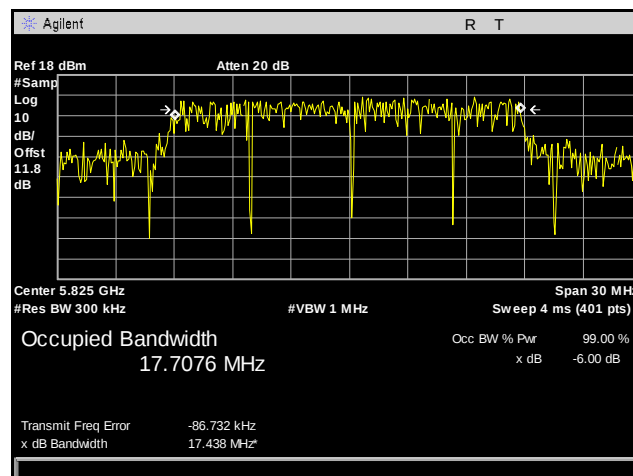
99% Occupied Bandwidth Test Results, 802.11n 20 MHz, Port 3, 5 GHz



Plot 92. 99% Occupied Bandwidth, 802.11n 20MHz, 5745 MHz, Low Channel, Port 3

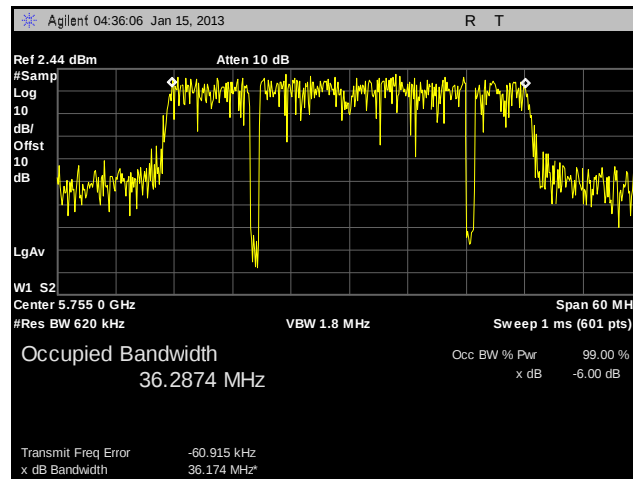


Plot 93. 99% Occupied Bandwidth, 802.11n 20MHz, 5785 MHz, Mid Channel, Port 3

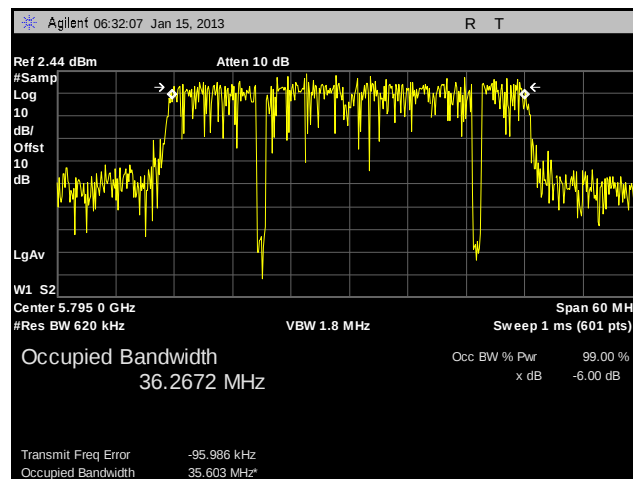


Plot 94. 99% Occupied Bandwidth, 802.11n 20MHz, 5825 MHz, High Channel, Port 3

99% Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 1, 5 GHz

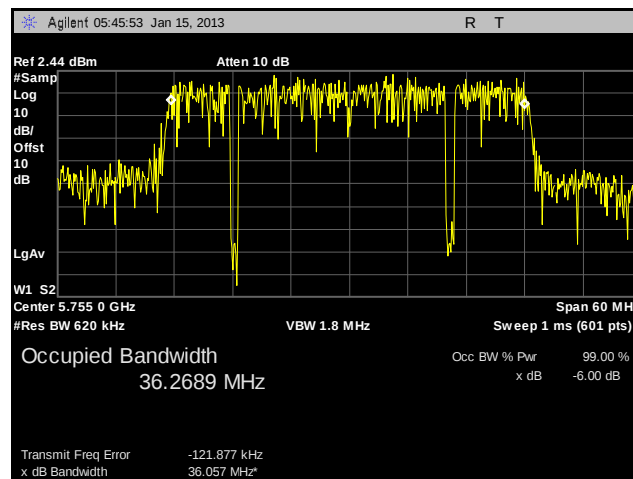


Plot 95. 99% Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 1

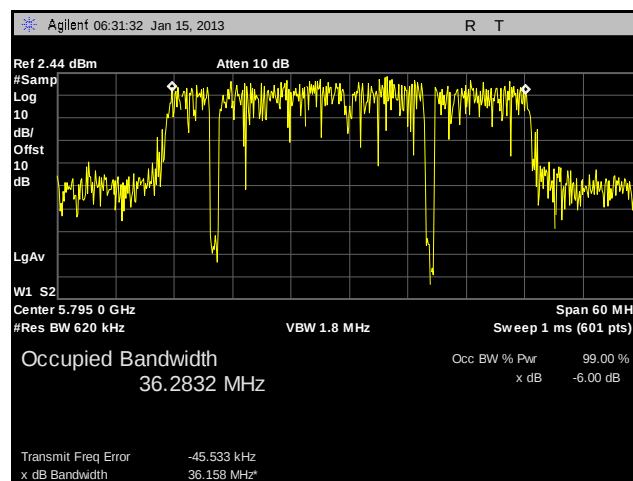


Plot 96. 99% Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 1

99% Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 2, 5 GHz

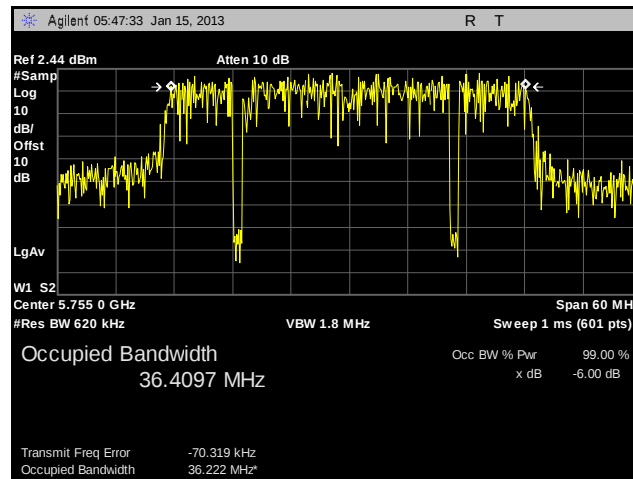


Plot 97. 99% Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 2

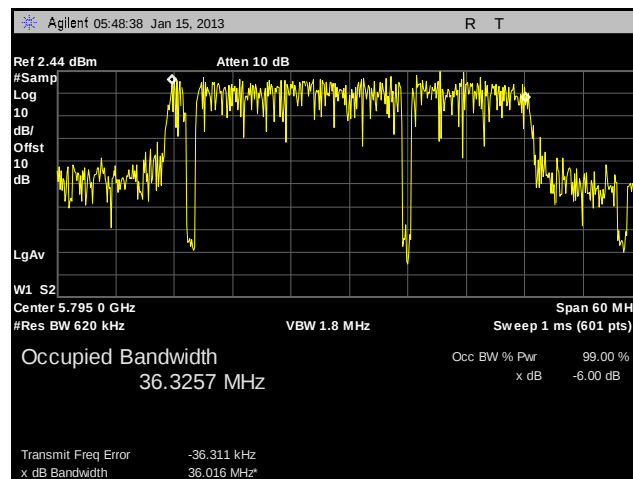


Plot 98. 99% Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 2

99% Occupied Bandwidth Test Results, 802.11n 40 MHz, Port 3, 5 GHz

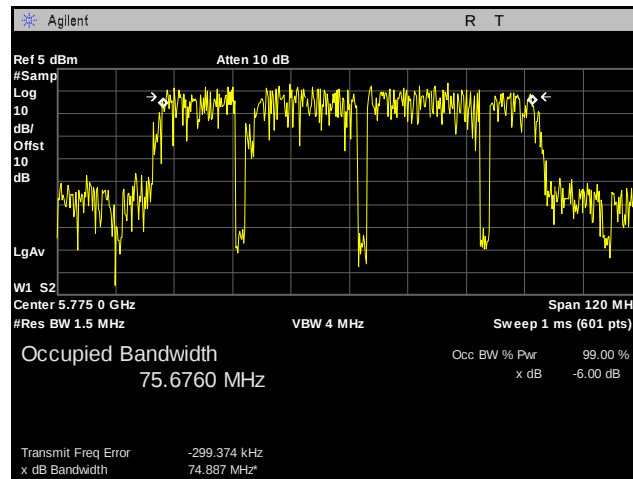


Plot 99. 99% Occupied Bandwidth, 802.11n 40MHz, 5755 MHz, Low Channel, Port 3

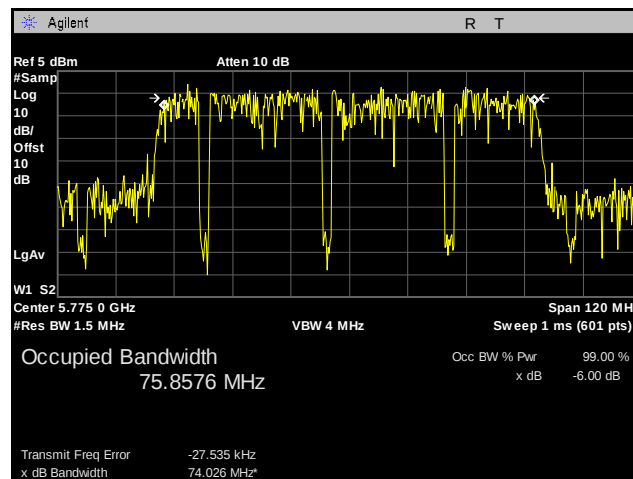


Plot 100. 99% Occupied Bandwidth, 802.11n 40MHz, 5795 MHz, High Channel, Port 3

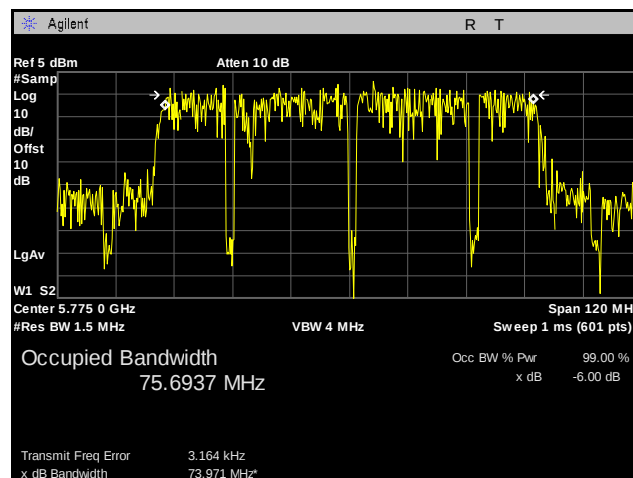
99% Occupied Bandwidth Test Results, 802.11n 80 MHz, 5 GHz



Plot 101. 99% Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 1



Plot 102. 99% Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 2



Plot 103. 99% Occupied Bandwidth, 802.11n 80 MHz, 5775 MHz, Port 3

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.247(b) Peak Power Output

Test Requirements: §15.247(b): The maximum peak output power of the intentional radiator shall not exceed the following:

Digital Transmission Systems (MHz)	Output Limit (Watts)
902-928	1.000
2400-2483.5	1.000
5725- 5850	1.000

Table 26. Output Power Requirements from §15.247(b)

§15.247(c): if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in the Table 26, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Systems operating in the 2400 – 2483.5 MHz band and using a point to point application may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Systems operating in the 5725 – 5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter peak output power.

Test Procedure: The transmitter was connected to a calibrated spectrum analyzer. The EUT was measured at the low, mid and high channels of each band at the maximum power level. Plots were corrected for both cable loss and attenuation. Radio setups are professionally installed and output power will be lowered accordingly when both radios are operating simultaneously and operating in the same band.

Test Results: The EUT was compliant with the Peak Power Output limits of §15.247(b).

Test Engineer(s): Jonathan Chao

Test Date(s): 02/18/13



Figure 3. Peak Power Output Test Setup

Peak Power Output Test Results

Peak Conducted Output Power – Internal Antenna			
	Carrier Channel	Frequency (MHz)	Measured Peak Output Power dBm
802.11b	Low	2412	17.27
	Mid	2437	17.33
	High	2462	17.32
802.11g	Low	2412	19.44
	Mid	2437	19.26
	High	2462	19.35
802.11n 20 MHz Port 1	Low	2412	19.29
	Mid	2437	19.32
	High	2462	19.11
802.11n 20 MHz Port 2	Low	2412	19.40
	Mid	2437	19.36
	High	2462	19.41
802.11n 20 MHz Port 3	Low	2412	19.28
	Mid	2437	19.44
	High	2462	19.33
802.11n 40 MHz Port 1	Low	2422	16.02
	Mid	2437	18.59
	High	2452	15.94
802.11n 40 MHz Port 2	Low	2422	16.02
	Mid	2437	18.57
	High	2452	16.08
802.11n 40 MHz Port 3	Low	2422	15.92
	Mid	2437	18.71
	High	2452	15.90

Table 27. Peak Power Output, Test Results, Internal Antenna, 2.4 GHz

Summed Peak Conducted Output Power – Internal Antenna			
	Carrier Channel	Frequency (MHz)	Measured Peak Output Power dBm
802.11n 20 MHz Summed	Low	2412	24.094887
	Mid	2437	24.144833
	High	2462	24.056389
802.11n 40 MHz Summed	Low	2422	20.758134
	Mid	2437	23.394987
	High	2452	20.745234

Table 28. Summed Peak Output Power, Test Results, Internal Antenna

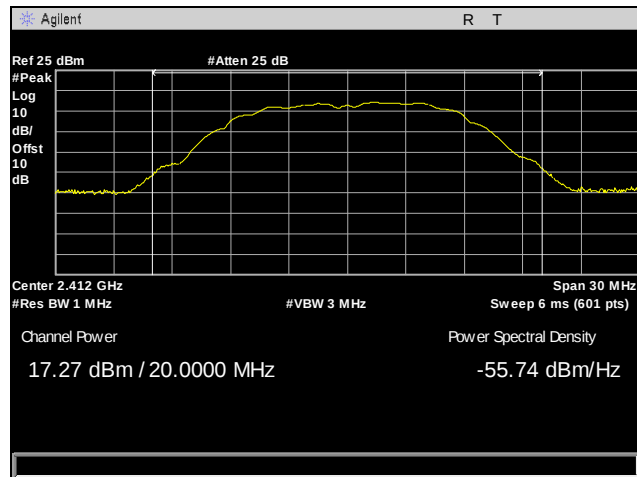
Peak Conducted Output Power – Internal Antenna			
	Carrier Channel	Frequency (MHz)	Measured Peak Output Power dBm
802.11a	Low	5745	21.03
	Mid	5785	21.23
	High	5825	21.13
802.11n 20 MHz Port 1	Low	5745	20.80
	Mid	5785	20.94
	High	5825	21.01
802.11n 20 MHz Port 2	Low	5745	21.06
	Mid	5785	21.32
	High	5825	21.35
802.11n 20 MHz Port 3	Low	5745	21.08
	Mid	5785	21.26
	High	5825	21.34
802.11n 40 MHz Port 1	Low	5755	21.11
	High	5795	21.03
802.11n 40 MHz Port 2	Low	5755	20.77
	High	5795	20.85
802.11n 40 MHz Port 3	Low	5755	20.93
	High	5795	21.01
802.11n 80 MHz Port 1	--	5775	20.62
802.11n 80 MHz Port 2	--	5775	20.56
802.11n 80 MHz Port 3	--	5775	20.63

Table 29. Peak Power Output, Test Results, Internal Antenna, 5 GHz

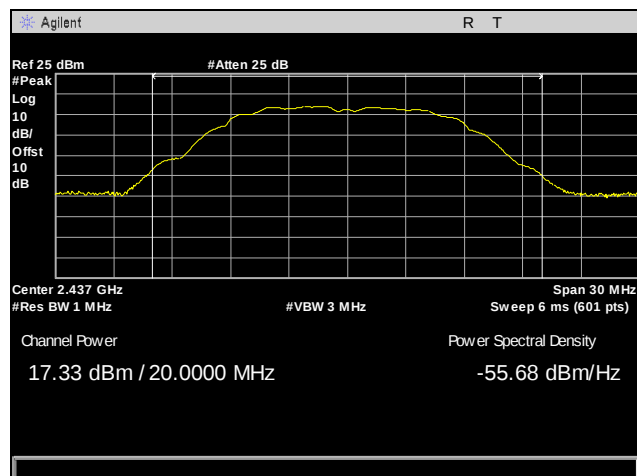
Summed Peak Conducted Output Power – Internal Antenna			
	Carrier Channel	Frequency (MHz)	Measured Peak Output Power dBm
802.11n 20 MHz Summed	Low	5745	25.75
	Mid	5785	25.94
	High	5825	26.00
802.11n 40 MHz Summed	Low	5755	25.71
	High	5795	25.73
802.11n 80 MHz Summed	--	5775	25.37

Table 30. Summed Peak Output Power, Test Results, Internal Antenna

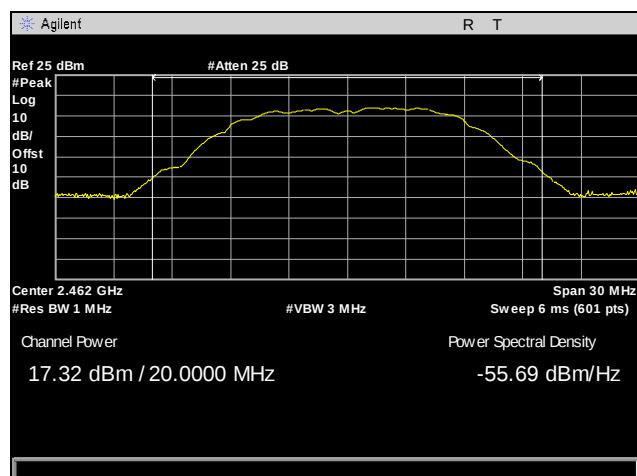
Peak Power Output Test Results, Internal Antenna, 802.11b 20 MHz, 2.4 GHz



Plot 104. Output Power, Internal Antenna, 802.11b 20 MHz, 2412 MHz, Low Channel

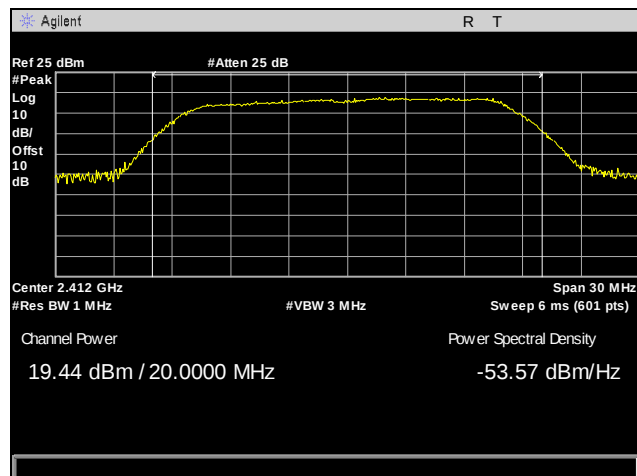


Plot 105. Output Power, Internal Antenna, 802.11b 20 MHz, 2437 MHz, Mid Channel

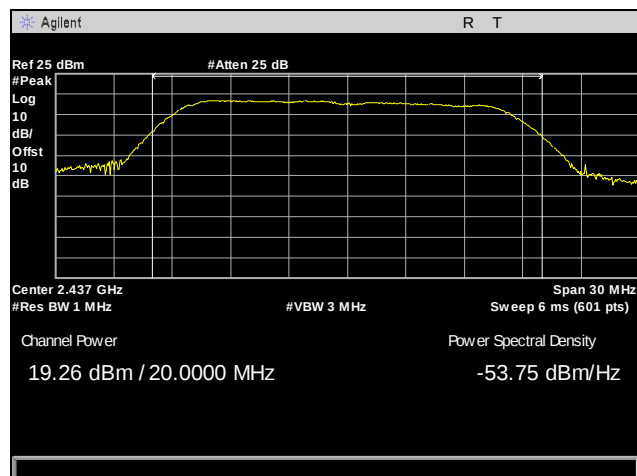


Plot 106. Output Power, Internal Antenna, 802.11b 20 MHz, 2462 MHz, High Channel

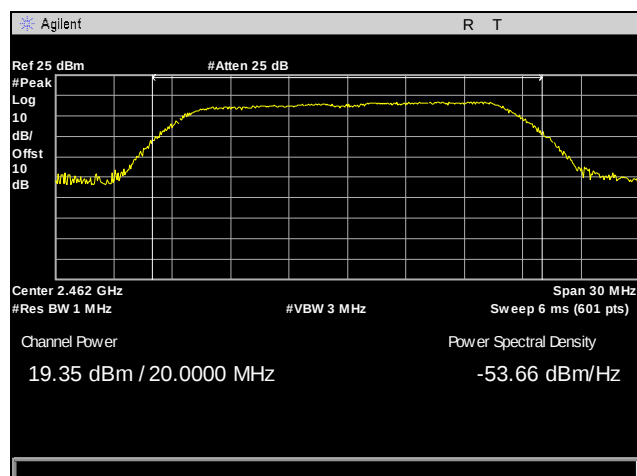
Peak Power Output Test Results, Internal Antenna, 802.11g 20 MHz, 2.4 GHz



Plot 107. Output Power, Internal Antenna, 802.11g 20 MHz, 2412 MHz, Low Channel

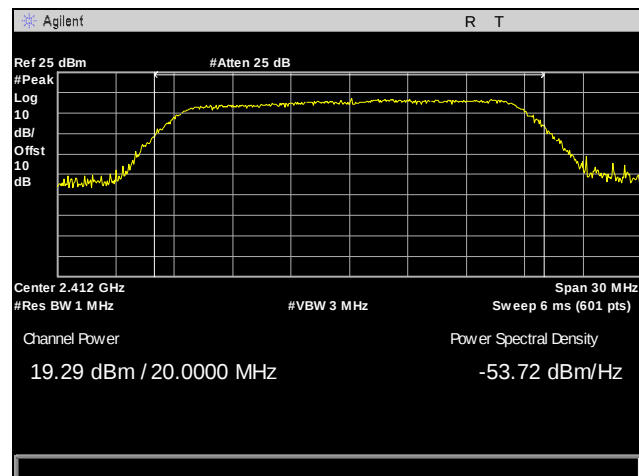


Plot 108. Output Power, Internal Antenna, 802.11g 20 MHz, 2437 MHz, Mid Channel

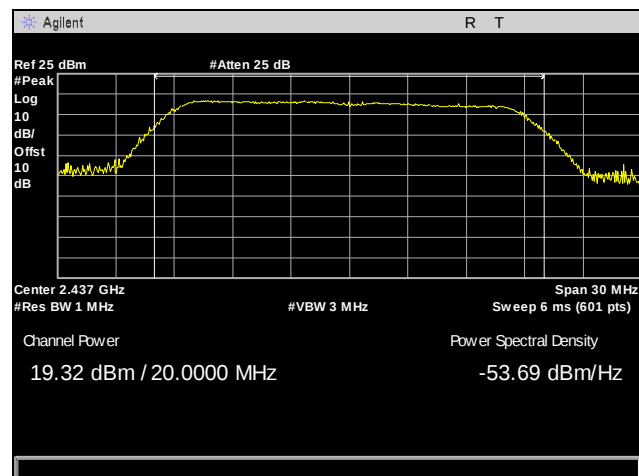


Plot 109. Output Power, Internal Antenna, 802.11g 20 MHz, 2462 MHz, High Channel

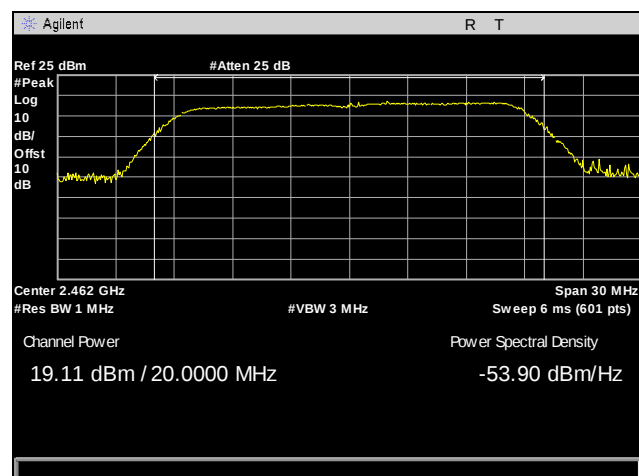
Peak Power Output Test Results, Internal Antenna, 802.11n 20 MHz, Port 1, 2.4 GHz



Plot 110. Output Power, Internal Antenna, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 1

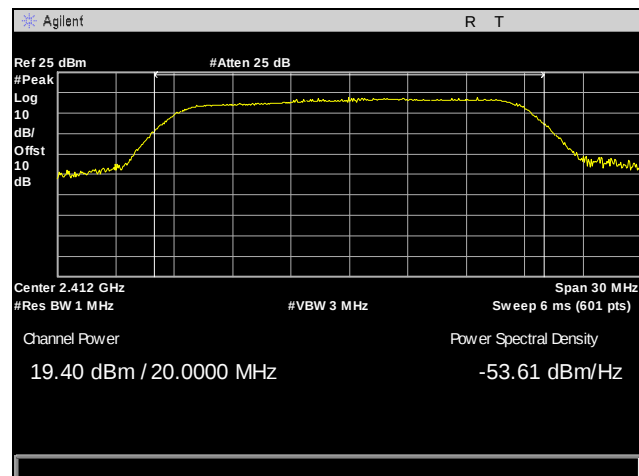


Plot 111. Output Power, Internal Antenna, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 1

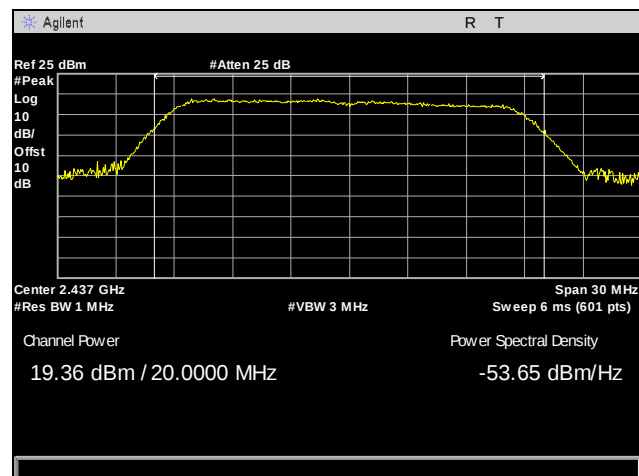


Plot 112. Output Power, Internal Antenna, 802.11n 20 MHz, 2462 MHz, High Channel, Port 1

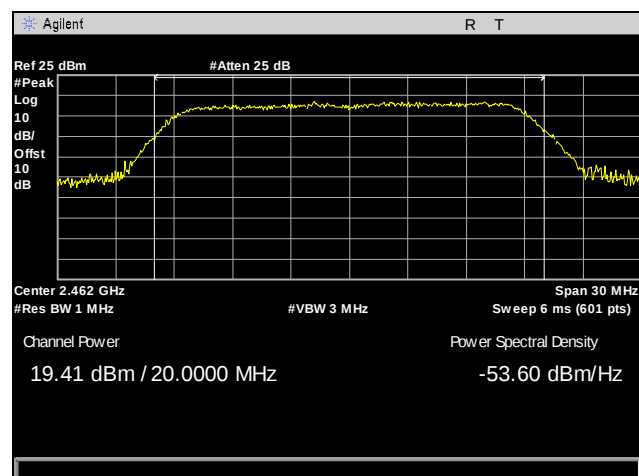
Peak Power Output Test Results, Internal Antenna, 802.11n 20 MHz, Port 2, 2.4 GHz



Plot 113. Output Power, Internal Antenna, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 2

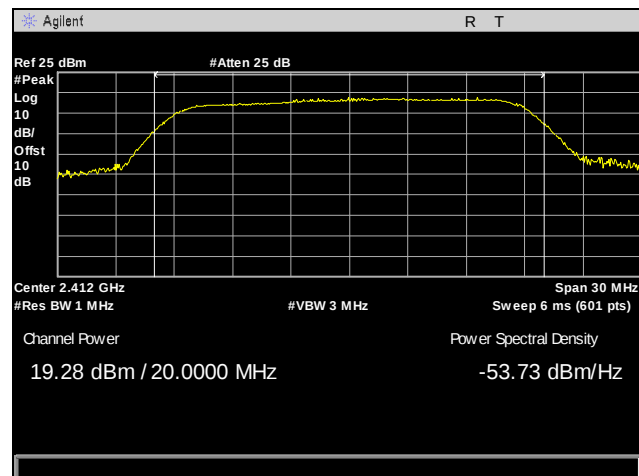


Plot 114. Output Power, Internal Antenna, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 2

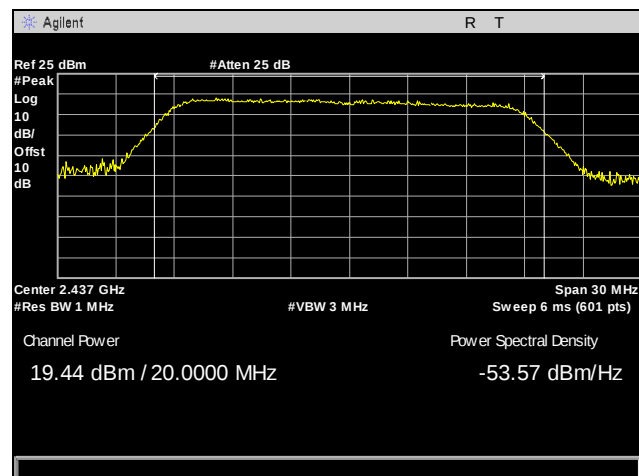


Plot 115. Output Power, Internal Antenna, 802.11n 20 MHz, 2462 MHz, High Channel, Port 2

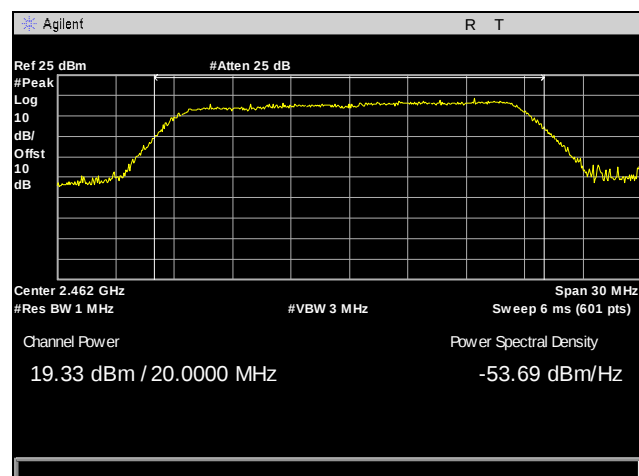
Peak Power Output Test Results, Internal Antenna, 802.11n 20 MHz, Port 3, 2.4 GHz



Plot 116. Output Power, Internal Antenna, 802.11n 20 MHz, 2412 MHz, Low Channel, Port 3

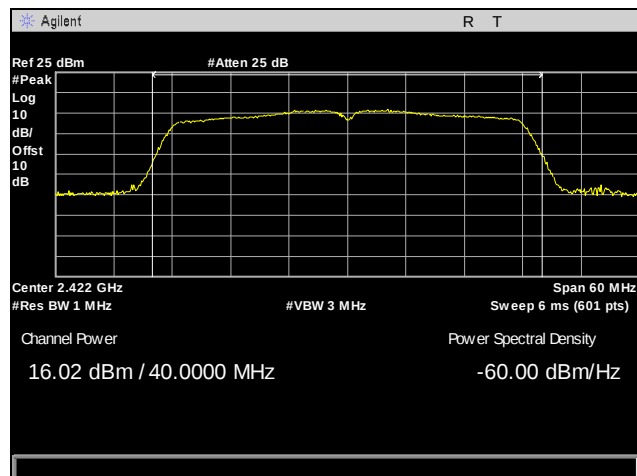


Plot 117. Output Power, Internal Antenna, 802.11n 20 MHz, 2437 MHz, Mid Channel, Port 3

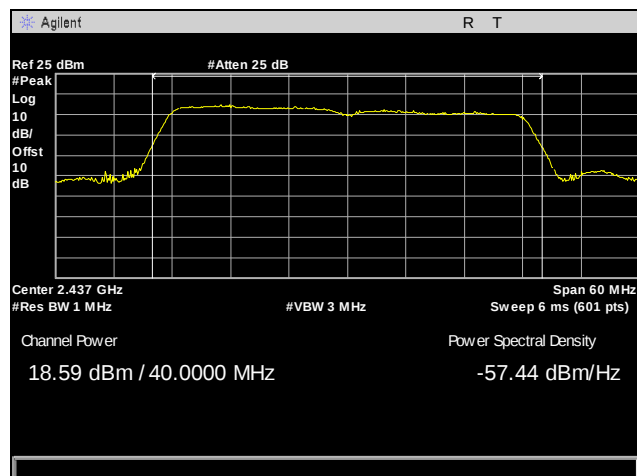


Plot 118. Output Power, Internal Antenna, 802.11n 20 MHz, 2462 MHz, High Channel, Port 3

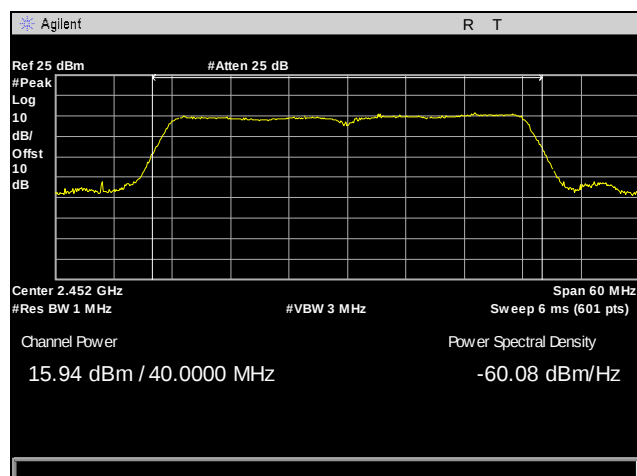
Peak Power Output Test Results, Internal Antenna, 802.11n 40 MHz, Port 1, 2.4 GHz



Plot 119. Output Power, Internal Antenna, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 1

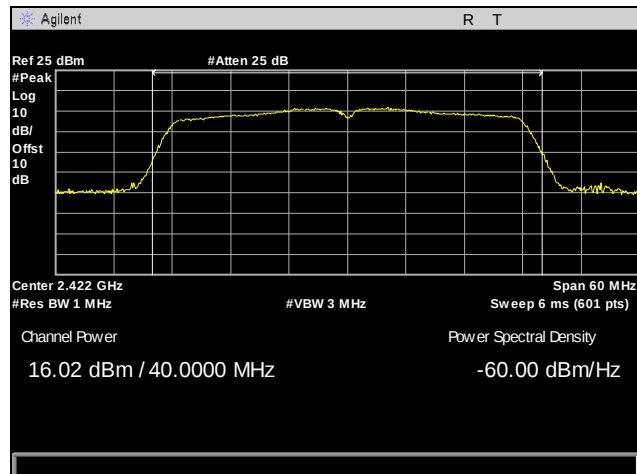


Plot 120. Output Power, Internal Antenna, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 1

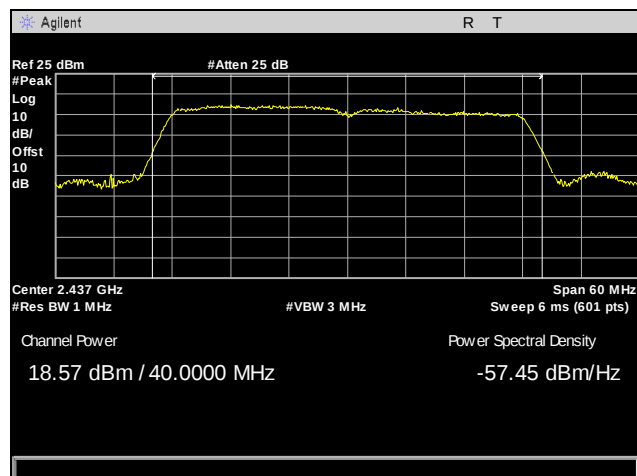


Plot 121. Output Power, Internal Antenna, 802.11n 40 MHz, 2452 MHz, High Channel, Port 1

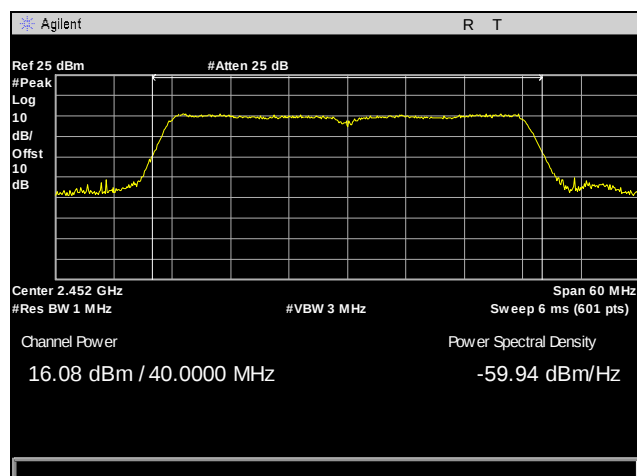
Peak Power Output Test Results, Internal Antenna, 802.11n 40 MHz, Port 2, 2.4 GHz



Plot 122. Output Power, Internal Antenna, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 2

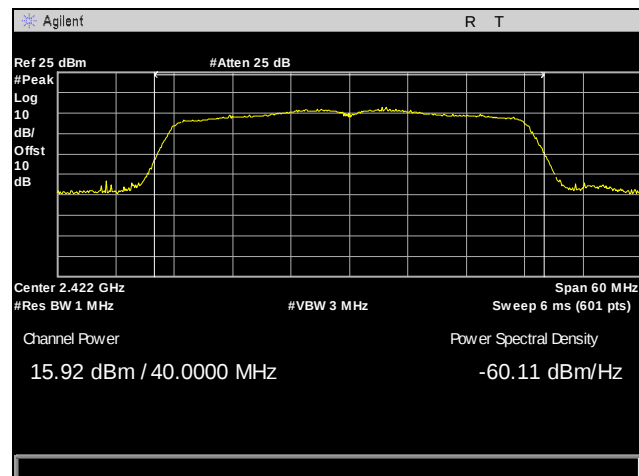


Plot 123. Output Power, Internal Antenna, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 2

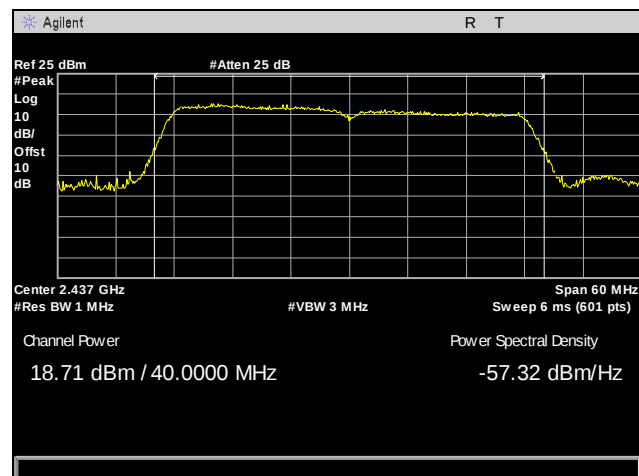


Plot 124. Output Power, Internal Antenna, 802.11n 40 MHz, 2452 MHz, High Channel, Port 2

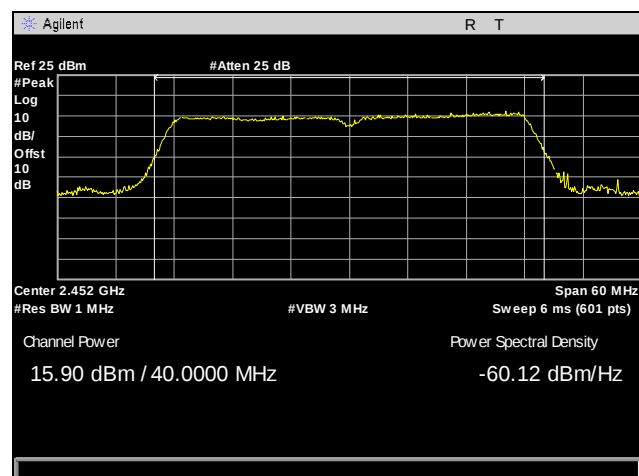
Peak Power Output Test Results, Internal Antenna, 802.11n 40 MHz, Port 3, 2.4 GHz



Plot 125. Output Power, Internal Antenna, 802.11n 40 MHz, 2422 MHz, Low Channel, Port 3

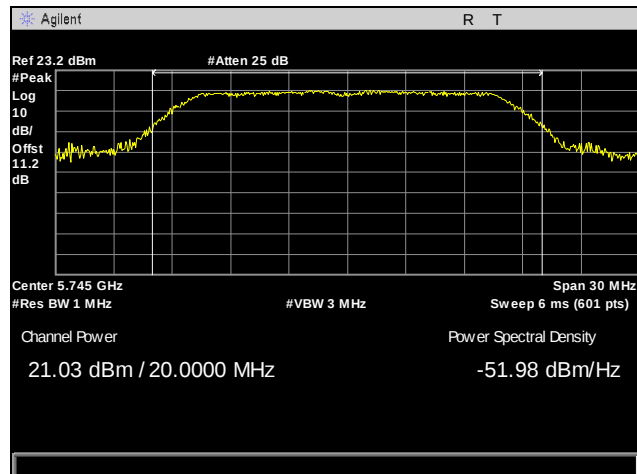


Plot 126. Output Power, Internal Antenna, 802.11n 40 MHz, 2437 MHz, Mid Channel, Port 3

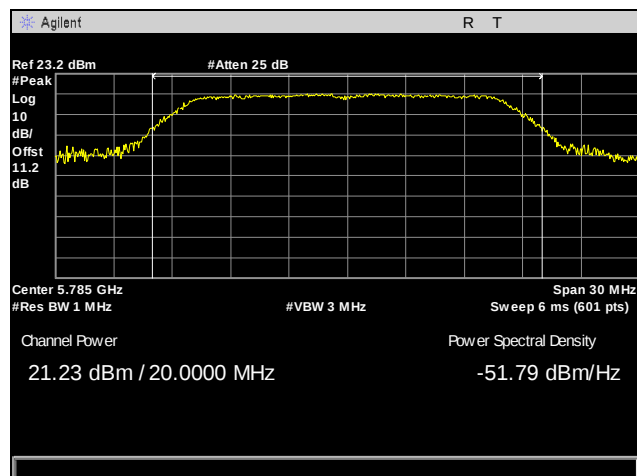


Plot 127. Output Power, Internal Antenna, 802.11n 40 MHz, 2452 MHz, High Channel, Port 3

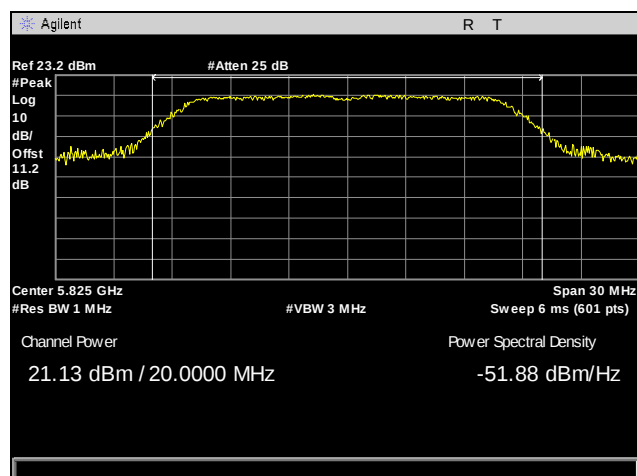
Peak Power Output Test Results, Internal Antenna, 802.11a 20 MHz, 5 GHz



Plot 128. Output Power, Internal Antenna, 802.11a 20 MHz, 5745 MHz, Low Channel

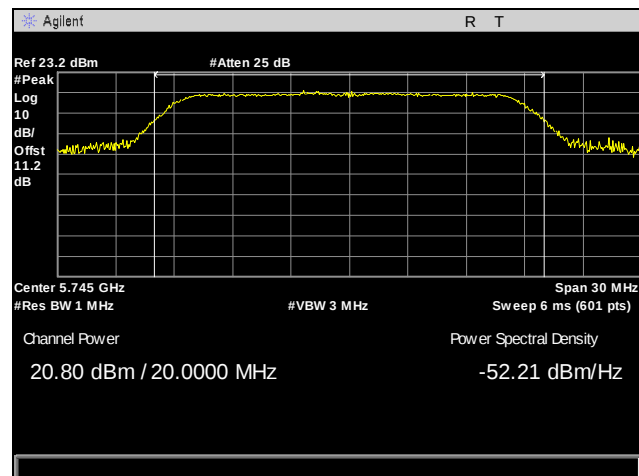


Plot 129. Output Power, Internal Antenna, 802.11a 20 MHz, 5785 MHz, Mid Channel

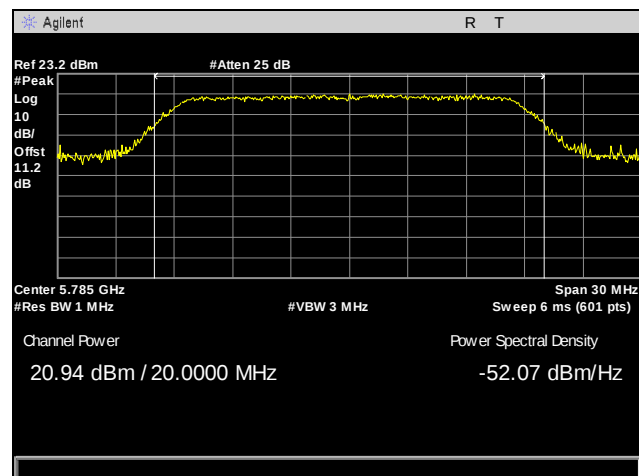


Plot 130. Output Power, Internal Antenna, 802.11a 20 MHz, 5825 MHz, High Channel

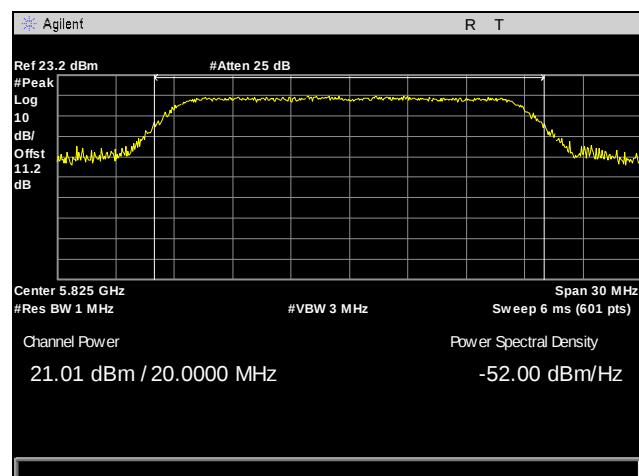
Peak Power Output Test Results, Internal Antenna, 802.11n 20 MHz, Port 1, 5 GHz



Plot 131. Output Power, Internal Antenna, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 1

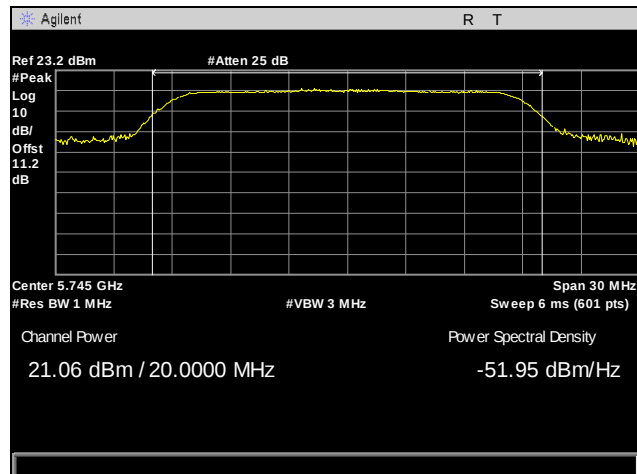


Plot 132. Output Power, Internal Antenna, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 1

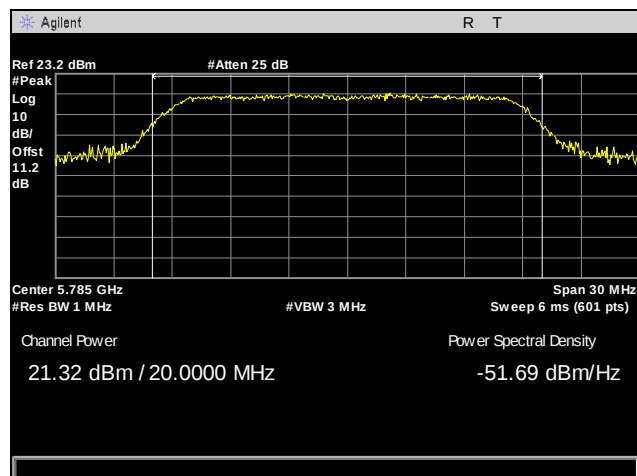


Plot 133. Output Power, Internal Antenna, 802.11n 20 MHz, 5825 MHz, High Channel, Port 1

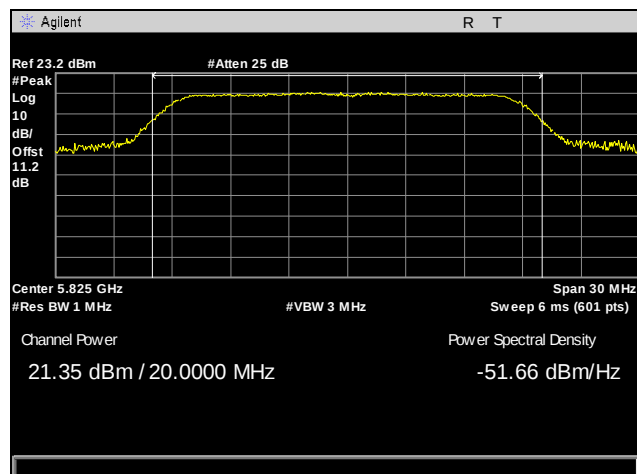
Peak Power Output Test Results, Internal Antenna, 802.11n 20 MHz, Port 2, 5 GHz



Plot 134. Output Power, Internal Antenna, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 2

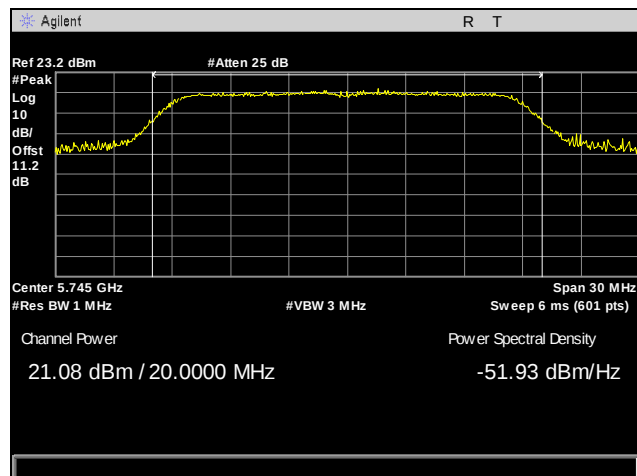


Plot 135. Output Power, Internal Antenna, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 2

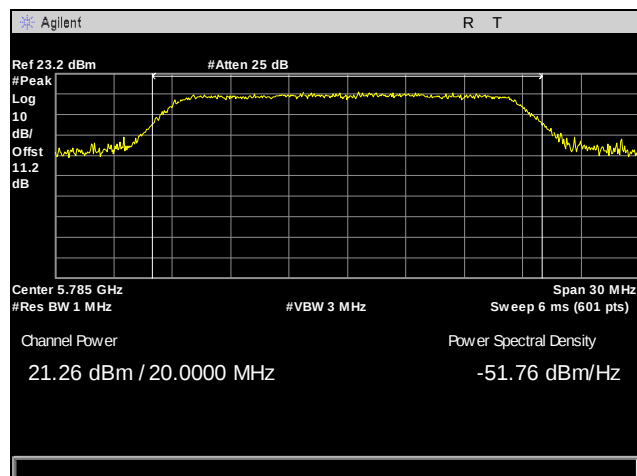


Plot 136. Output Power, Internal Antenna, 802.11n 20 MHz, 5825 MHz, High Channel, Port 2

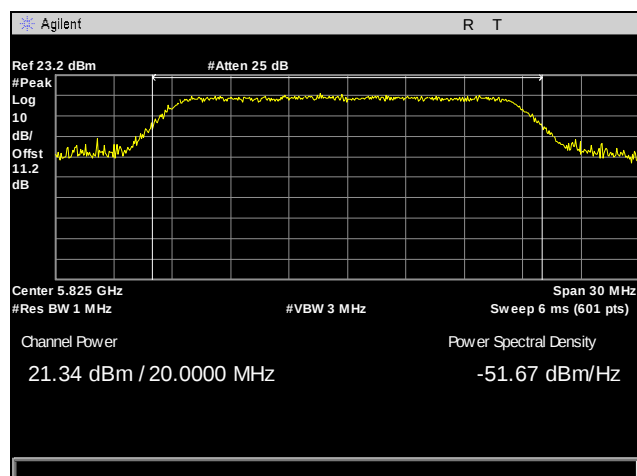
Peak Power Output Test Results, Internal Antenna, 802.11n 20 MHz, Port 3, 5 GHz



Plot 137. Output Power, Internal Antenna, 802.11n 20 MHz, 5745 MHz, Low Channel, Port 3

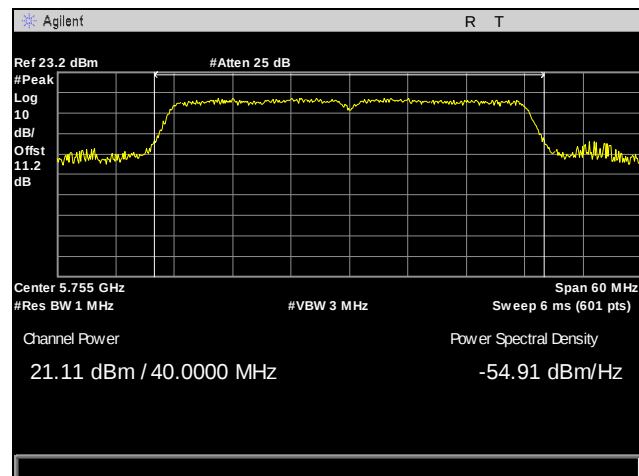


Plot 138. Output Power, Internal Antenna, 802.11n 20 MHz, 5785 MHz, Mid Channel, Port 3

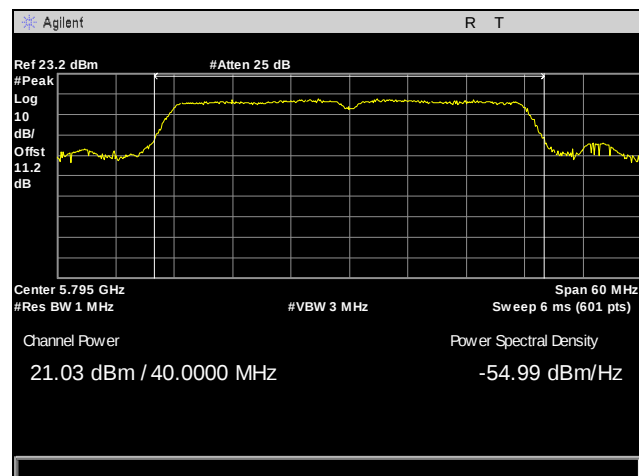


Plot 139. Output Power, Internal Antenna, 802.11n 20 MHz, 5825 MHz, High Channel, Port 3

Peak Power Output Test Results, Internal Antenna, 802.11n 40 MHz, Port 1, 5 GHz

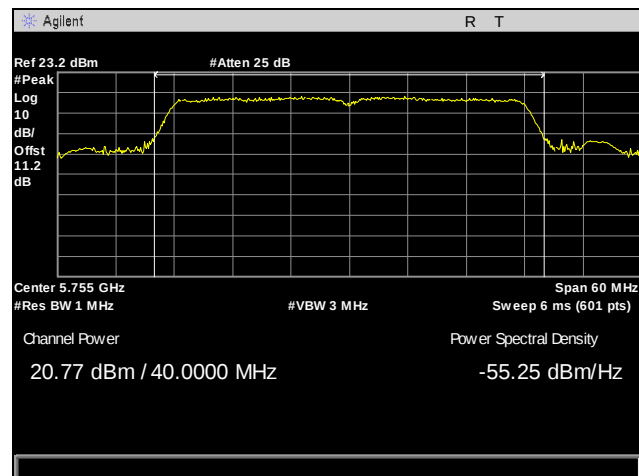


Plot 140. Output Power, Internal Antenna, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 1

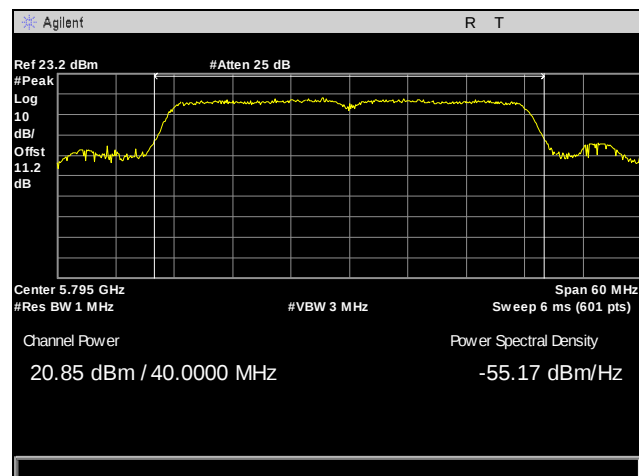


Plot 141. Output Power, Internal Antenna, 802.11n 40 MHz, 5795 MHz, High Channel, Port 1

Peak Power Output Test Results, Internal Antenna, 802.11n 40 MHz, Port 2, 5 GHz

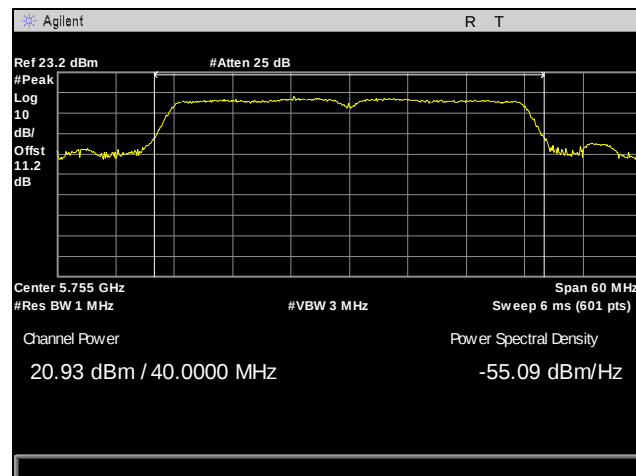


Plot 142. Output Power, Internal Antenna, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 2

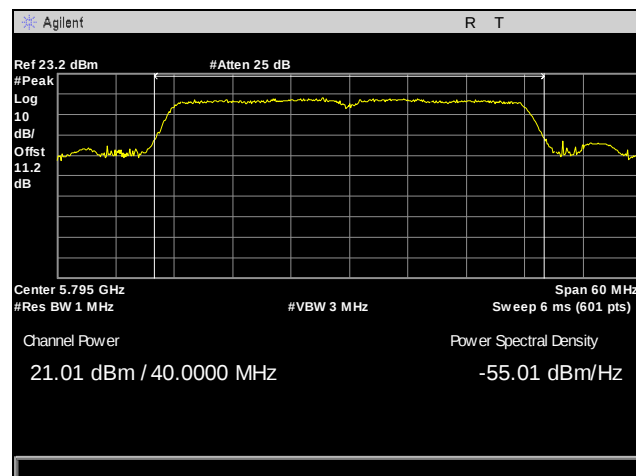


Plot 143. Output Power, Internal Antenna, 802.11n 40 MHz, 5795 MHz, High Channel, Port 2

Peak Power Output Test Results, Internal Antenna, 802.11n 40 MHz, Port 3, 5 GHz

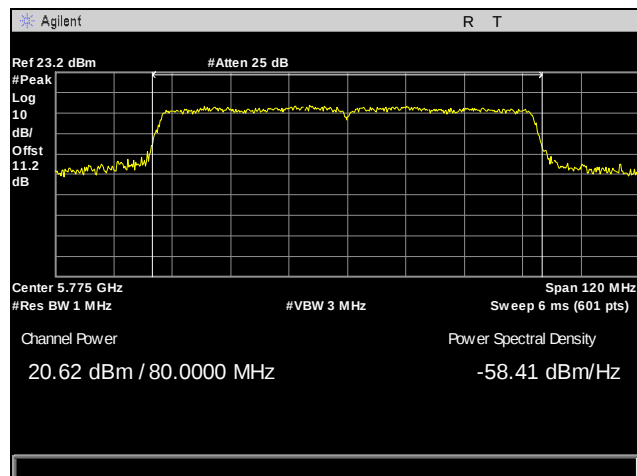


Plot 144. Output Power, Internal Antenna, 802.11n 40 MHz, 5755 MHz, Low Channel, Port 3

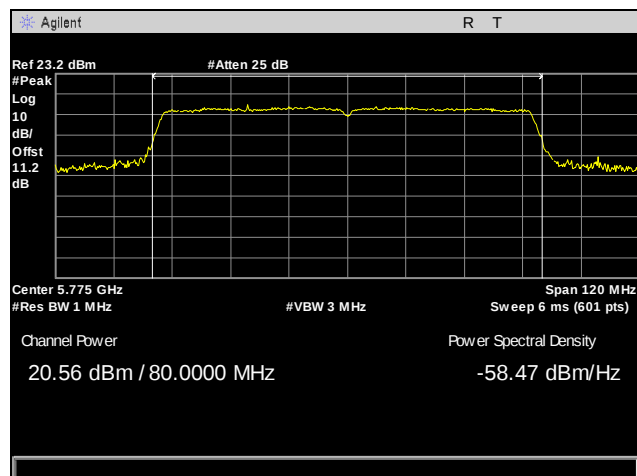


Plot 145. Output Power, Internal Antenna, 802.11n 40 MHz, 5795 MHz, High Channel, Port 3

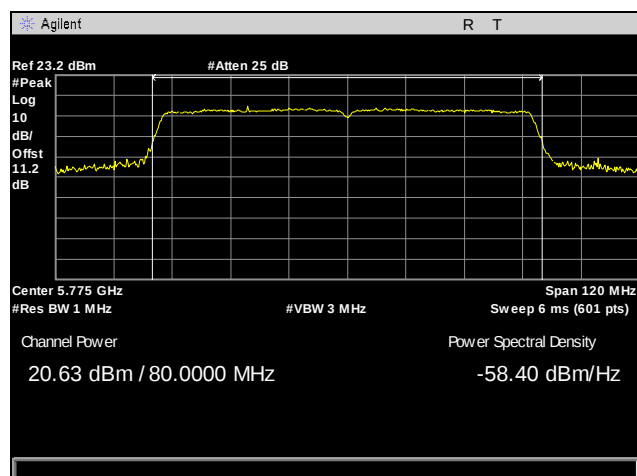
Peak Power Output Test Results, Internal Antenna, 802.11n 80 MHz, 5 GHz



Plot 146. Output Power, Internal Antenna, 802.11n 80 MHz, 5775 MHz, Port 1



Plot 147. Output Power, Internal Antenna, 802.11n 80 MHz, 5775 MHz, Port 2



Plot 148. Output Power, Internal Antenna, 802.11n 80 MHz, 5775 MHz, Port 3

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.247(d) Radiated Spurious Emissions Requirements and Band Edge

Test Requirements: §15.247(d); §15.205: Emissions outside the frequency band.

§15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a).

§15.205(a): Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090–0.110-----	16.42–16.423	399.9–410	4.5–5.15
¹ 0.495–0.505-----	16.69475–16.69525	608–614	5.35–5.46
2.1735–2.1905-----	16.80425–16.80475	960–1240	7.25–7.75
4.125–4.128-----	25.5–25.67	1300–1427	8.025–8.5
4.17725–4.17775-----	37.5–38.25	1435–1626.5	9.0–9.2
4.20725–4.20775-----	73–74.6	1645.5–1646.5	9.3–9.5
6.215–6.218-----	74.8–75.2	1660–1710	10.6–12.7
6.26775–6.26825-----	108–121.94	1718.8–1722.2	13.25–13.4
6.31175–6.31225-----	123–138	2200–2300	14.47–14.5
8.291–8.294-----	149.9–150.05	2310–2390	15.35–16.2
8.362–8.366-----	156.52475–156.52525	2483.5–2500	17.7–21.4
8.37625–8.38675-----	156.7–156.9	2655–2900	22.01–23.12
8.41425–8.41475-----	162.0125–167.17	3260–3267	23.6–24.0
12.29–12.293-----	167.72–173.2	3332–3339	31.2–31.8
12.51975–12.52025-----	240–285	3345.8–3358 36.	43–36.5
12.57675–12.57725-----	322–335.4	3600–4400	(²)

Table 31. Restricted Bands of Operation

¹ Until February 1, 1999, this restricted band shall be 0.490 – 0.510 MHz.

² Above 38.6

Test Requirement(s): § 15.209 (a): Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in Table 32.

Frequency (MHz)	§ 15.209(a), Radiated Emission Limits (dBμV) @ 3m
30 - 88	40.00
88 - 216	43.50
216 - 960	46.00
Above 960	54.00

Table 32. Radiated Emissions Limits Calculated from FCC Part 15, § 15.209 (a)

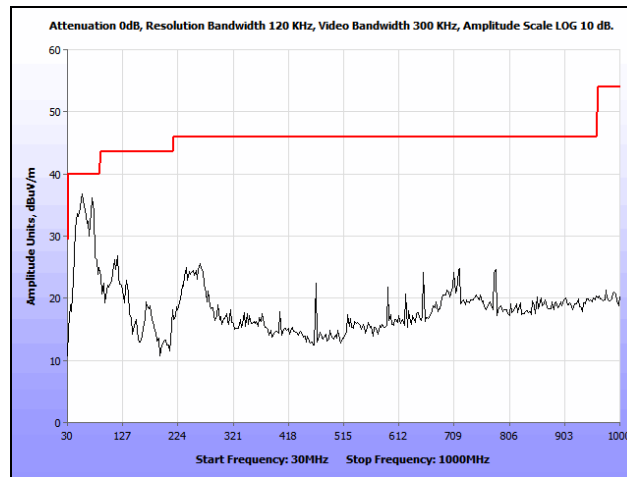
Test Procedures: The transmitter was turned on. Measurements were performed of the low, mid and high Channels. The EUT was rotated orthogonally through all three axes. Plots shown are corrected for both antenna correction factor, cable loss, preamp gain and distance and compared to a 3 m limit line. For 1-18GHz plots, a peak detector was used against a average limit and a notch filter was used to notch out the fundamental frequency. Only noise floor was measured above 18 GHz.

Test Results: The EUT was compliant with the Radiated Spurious Emission limits of § 15.247(d).

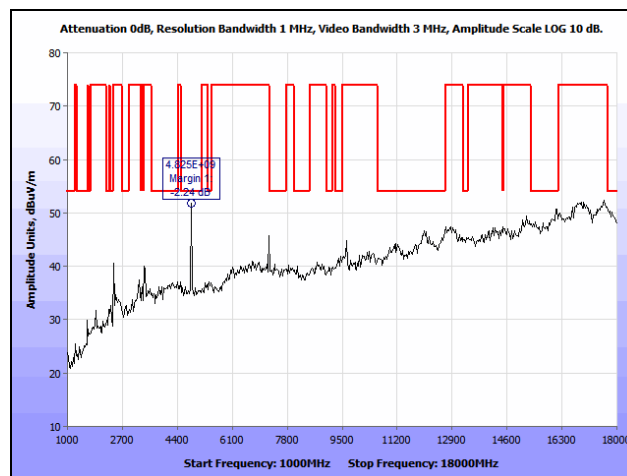
Test Engineer(s): Jonathan Chao

Test Date(s): 02/18/13

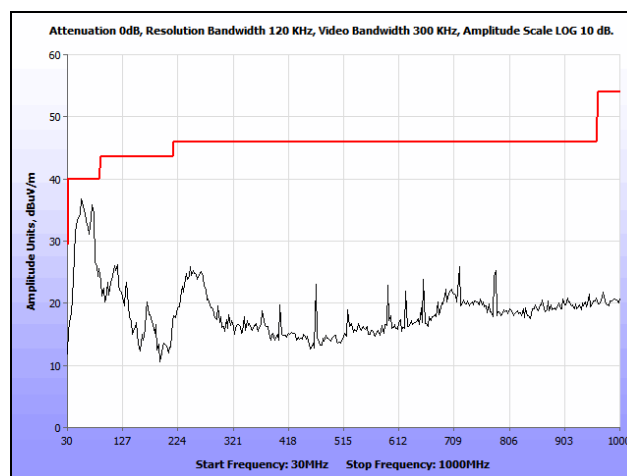
Radiated Spurious Emissions Test Results, Internal PIFA, 802.11 b, 2.4 GHz



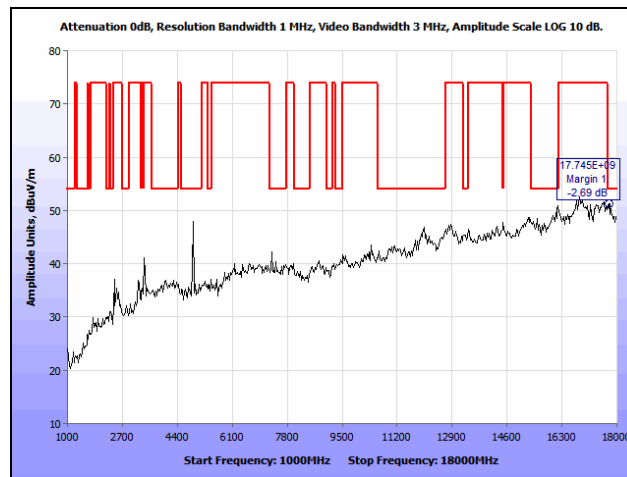
Plot 149. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2412 MHz, Low Channel, 30 MHz - 1 GHz



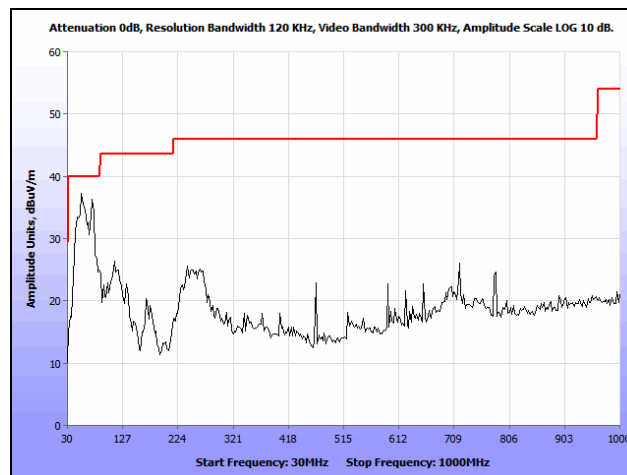
Plot 150. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2412 MHz, Low Channel, 1 GHz - 18 GHz



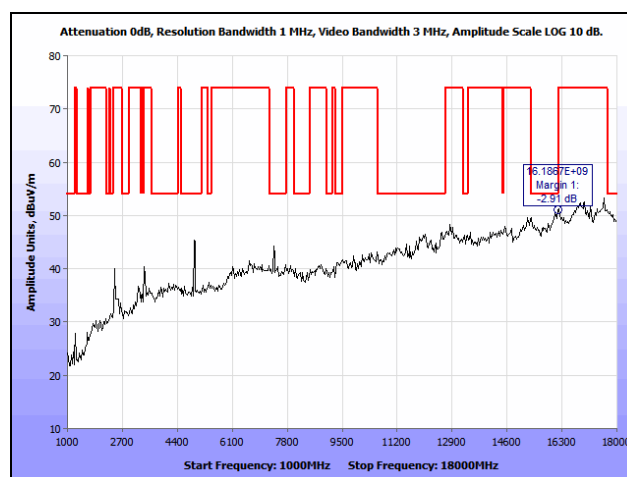
Plot 151. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2437 MHz, Mid Channel, 30 MHz - 1 GHz



Plot 152. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2437 MHz, Mid Channel, 1 GHz - 18 GHz

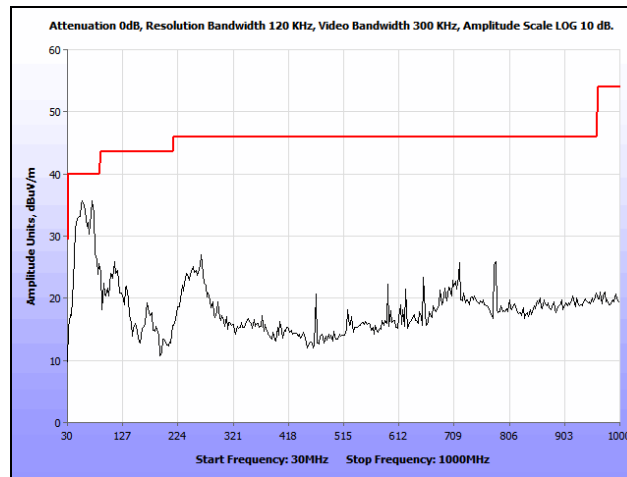


Plot 153. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2462 MHz, High Channel, 30 MHz - 1 GHz

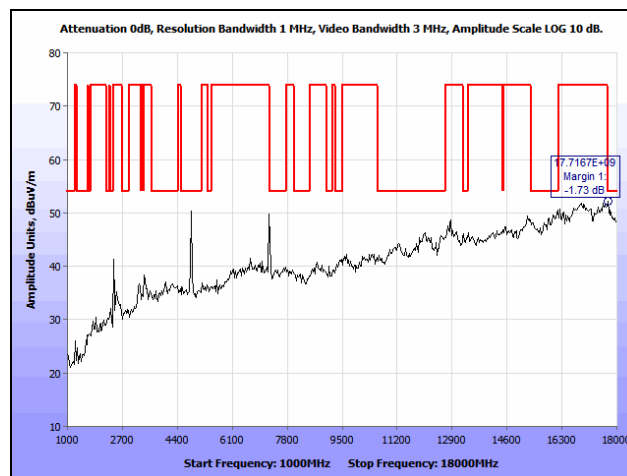


Plot 154. Radiated Spurious Emissions, Internal PIFA, 802.11b, 2462 MHz, High Channel, 1 GHz - 18 GHz

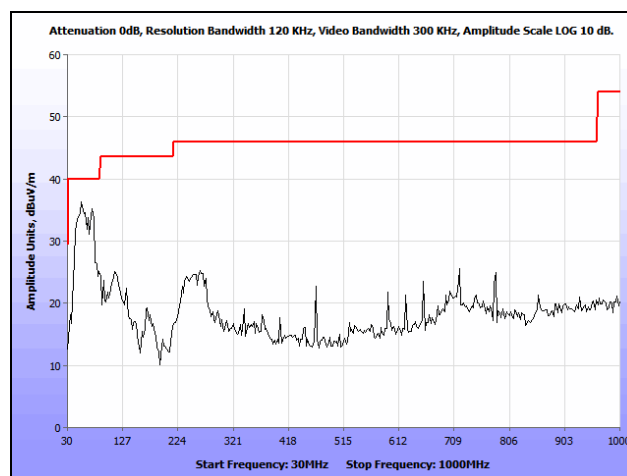
Radiated Spurious Emissions Test Results, Internal PIFA, 802.11 g, 2.4 GHz



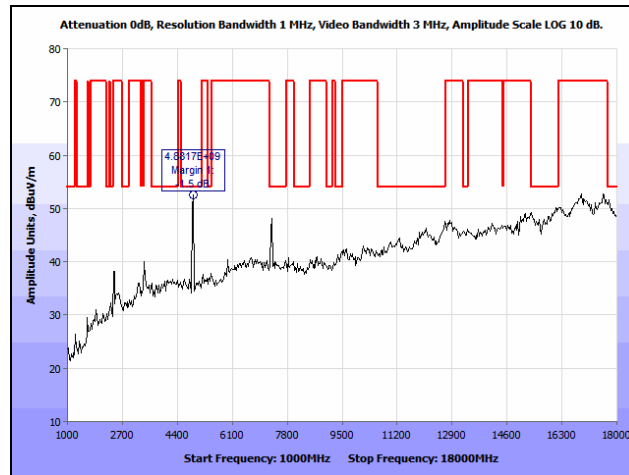
Plot 155. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2412 MHz, Low Channel, 30 MHz - 1 GHz



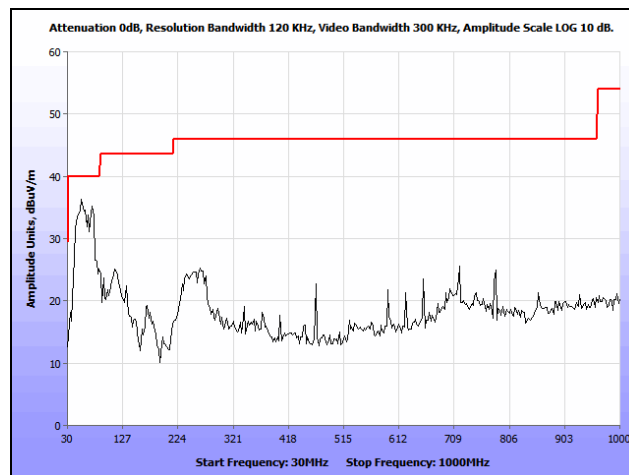
Plot 156. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2412 MHz, Low Channel, 1 GHz - 18 GHz



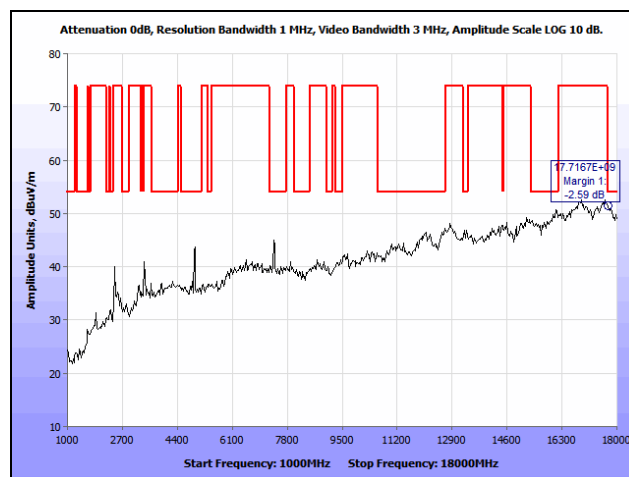
Plot 157. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2437 MHz, Mid Channel, 30 MHz - 1 GHz



Plot 158. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2437 MHz, Mid Channel, 1 GHz - 18 GHz

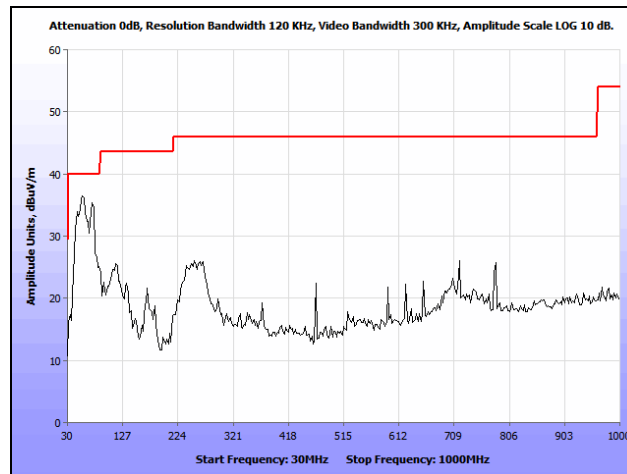


Plot 159. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2462 MHz, High Channel, 30 MHz - 1 GHz

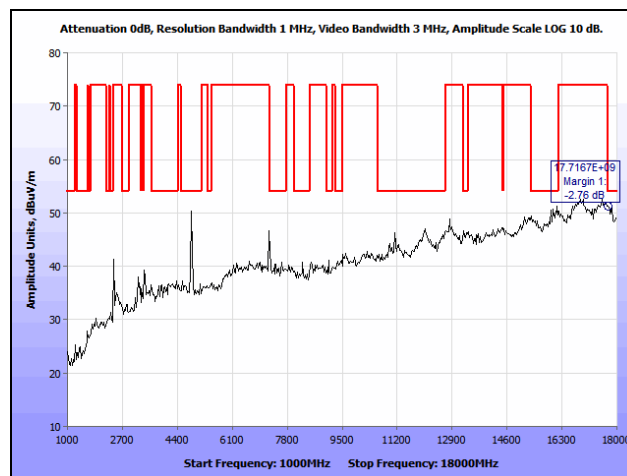


Plot 160. Radiated Spurious Emissions, Internal PIFA, 802.11g, 2462 MHz, High Channel, 1 GHz - 18 GHz

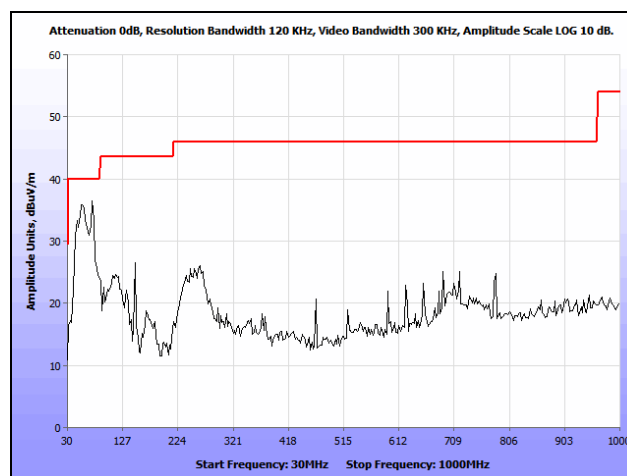
Radiated Spurious Emissions Test Results, Internal PIFA, 802.11 n 20 MHz, 2.4 GHz



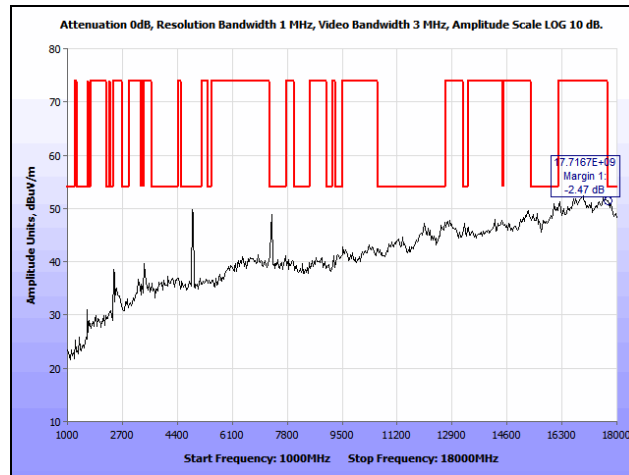
Plot 161. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2412 MHz, Low Channel, 30 MHz - 1 GHz



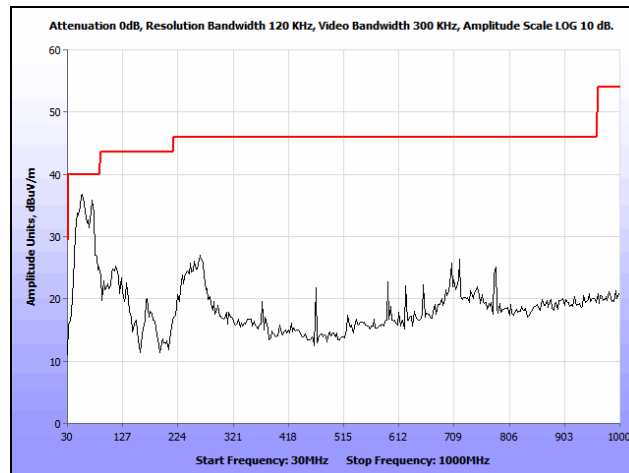
Plot 162. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2412 MHz, Low Channel, 1 GHz - 18 GHz



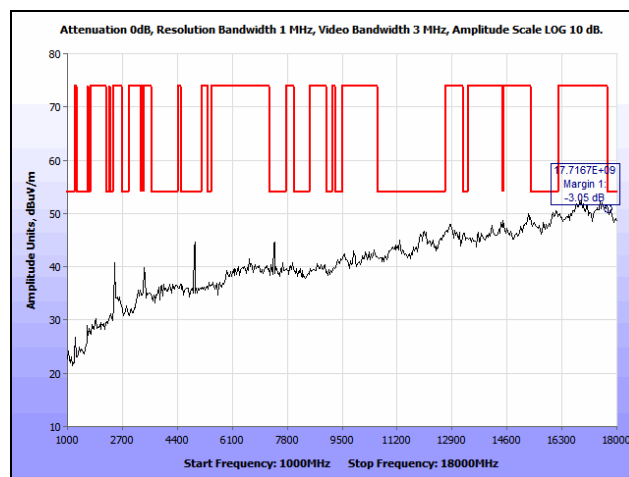
Plot 163. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2437 MHz, Mid Channel, 30 MHz - 1 GHz



Plot 164. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2437 MHz, Mid Channel, 1 GHz - 18 GHz

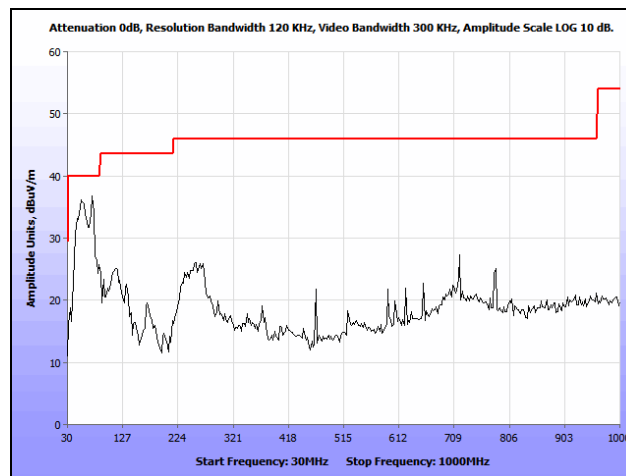


Plot 165. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2462 MHz, High Channel, 30 MHz - 1 GHz

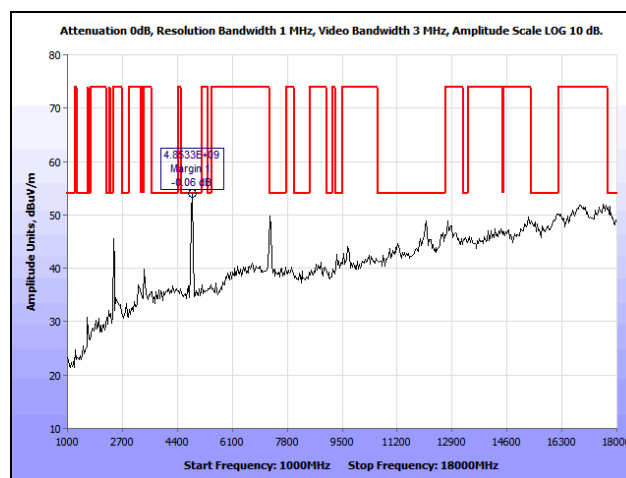


Plot 166. Radiated Spurious Emissions, Internal PIFA, 802.11n 20 MHz, 2462 MHz, High Channel, 1 GHz - 18 GHz

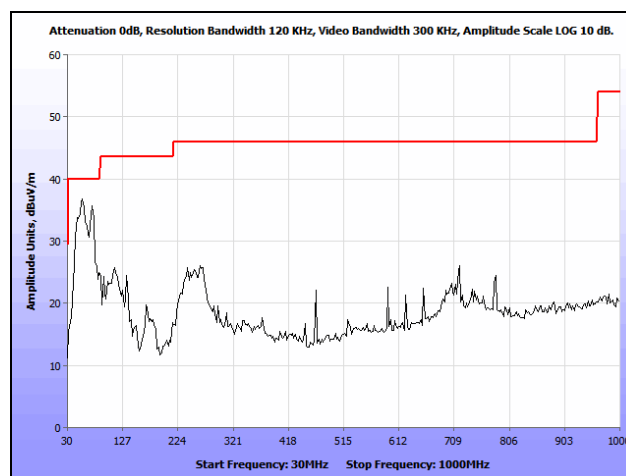
Radiated Spurious Emissions Test Results, Internal PIFA, 802.11n 40 MHz, 2.4 GHz



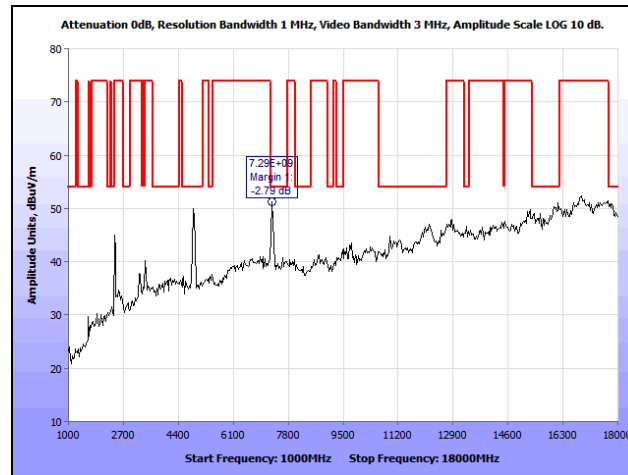
Plot 167. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2422 MHz, Low Channel, 30 MHz - 1 GHz



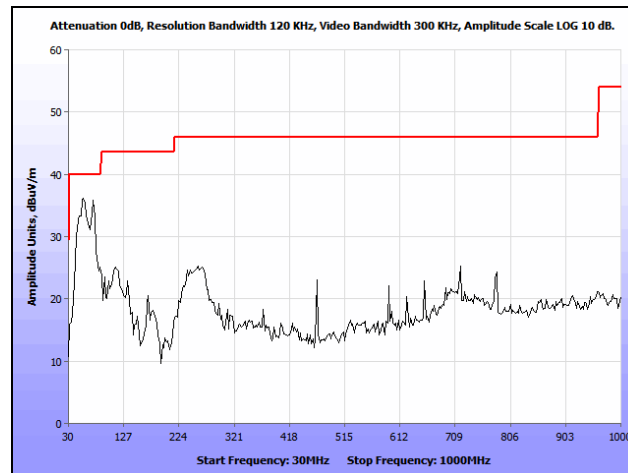
Plot 168. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2422 MHz, Low Channel, 1 GHz - 18 GHz



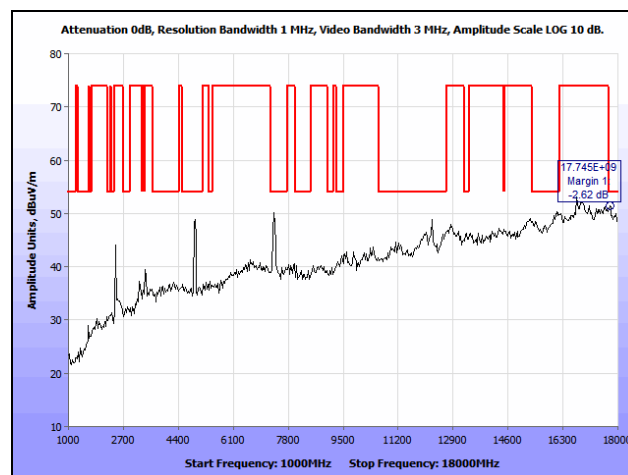
Plot 169. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2437 MHz, Mid Channel, 30 MHz - 1 GHz



Plot 170. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2437 MHz, Mid Channel, 1 GHz - 18 GHz

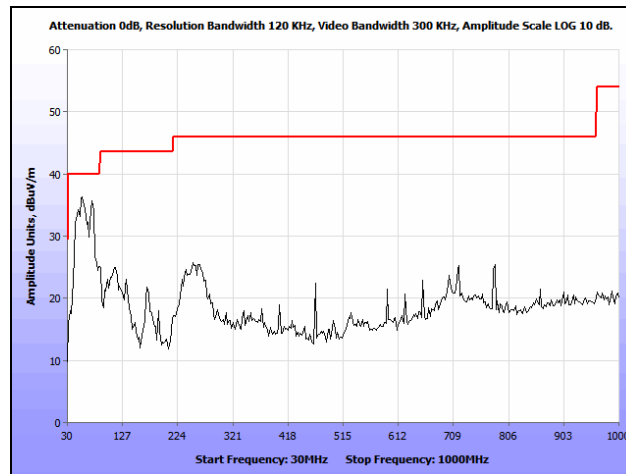


Plot 171. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2452 MHz, High Channel, 30 MHz - 1 GHz

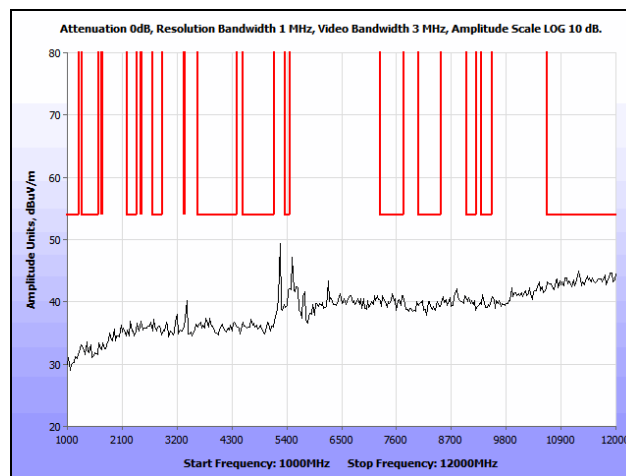


Plot 172. Radiated Spurious Emissions, Internal PIFA, 802.11n 40 MHz, 2452 MHz, High Channel, 1 GHz - 18 GHz

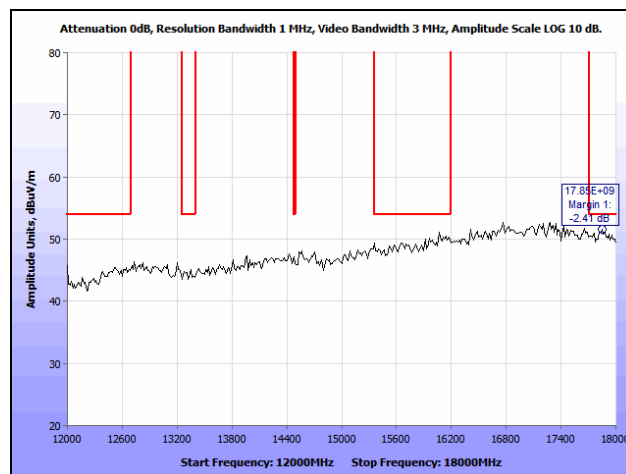
Radiated Spurious Emissions Test Results, PIFA, 802.11a, 5 GHz



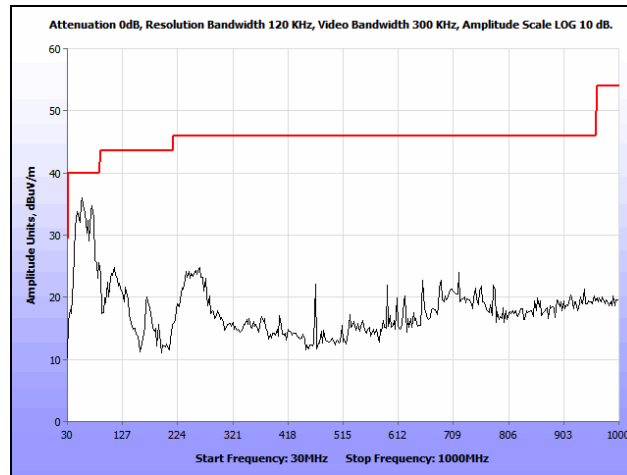
Plot 173. Radiated Spurious Emissions, PIFA, 802.11a, 5745, 30 MHz - 1 GHz



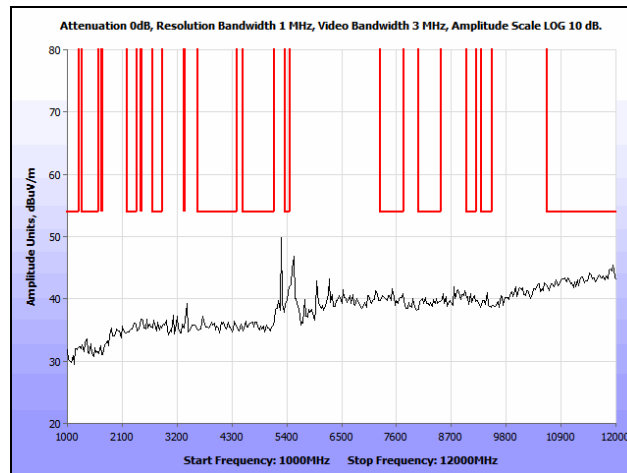
Plot 174. Radiated Spurious Emissions, PIFA, 802.11a, 5745 MHz, 1 GHz - 12 GHz



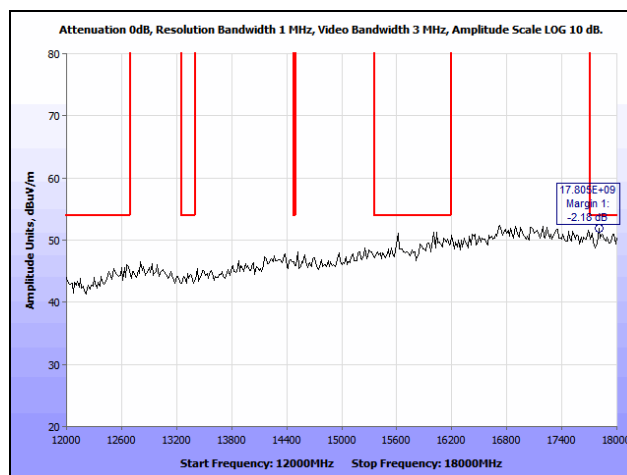
Plot 175. Radiated Spurious Emissions, PIFA, 802.11a, 5745 MHz, 12 GHz - 18 GHz



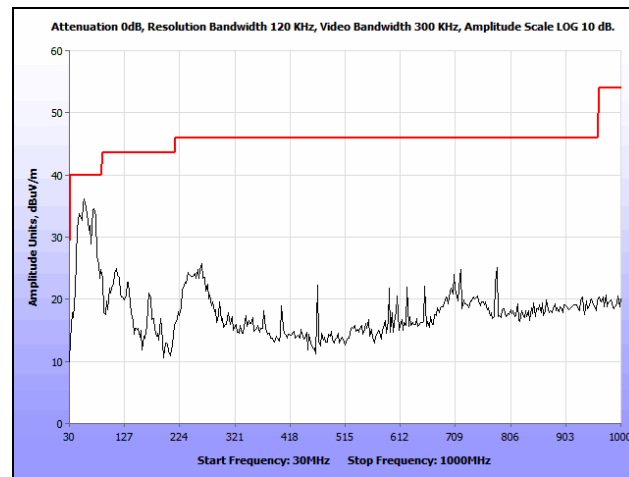
Plot 176. Radiated Spurious Emissions, PIFA, 802.11a, 5785 MHz, 30 MHz - 1 GHz



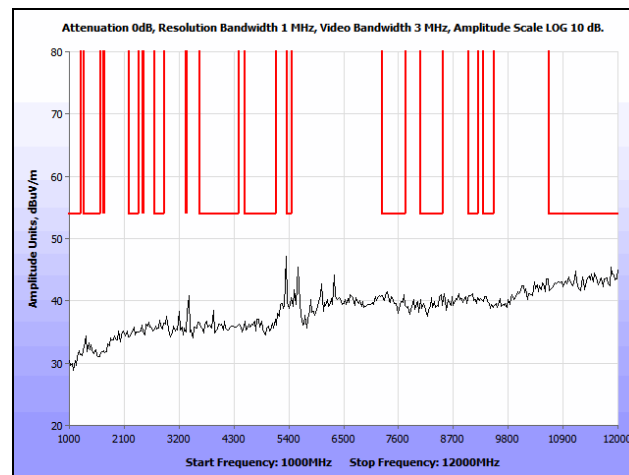
Plot 177. Radiated Spurious Emissions, PIFA, 802.11a, 5785 MHz, 1 GHz - 12 GHz



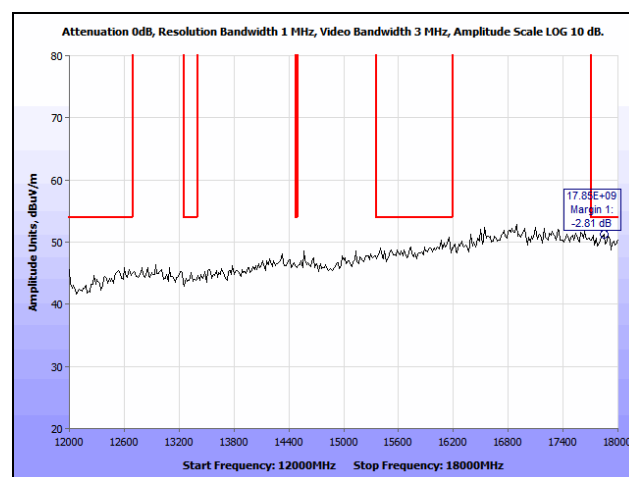
Plot 178. Radiated Spurious Emissions, PIFA, 802.11a, 5785 MHz, 12 GHz - 18 GHz



Plot 179. Radiated Spurious Emissions, PIFA, 802.11a, 5825 MHz, 30 MHz - 1 GHz

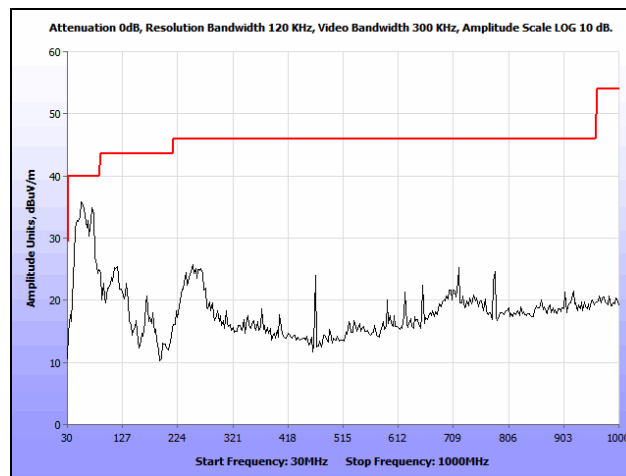


Plot 180. Radiated Spurious Emissions, PIFA, 802.11a, 5825 MHz, 1 GHz - 12 GHz

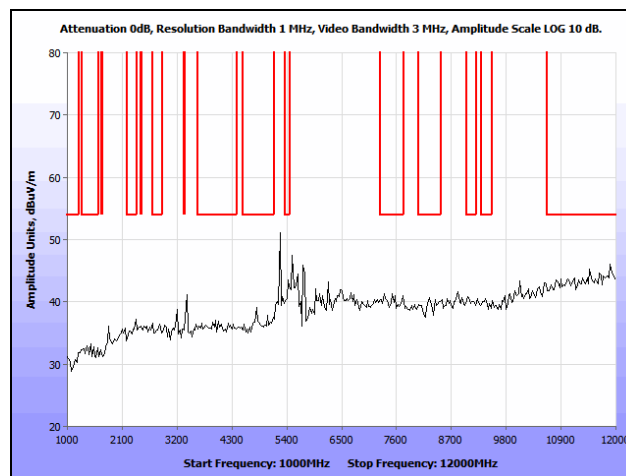


Plot 181. Radiated Spurious Emissions, PIFA, 802.11a, 5825 MHz, 12 GHz - 18 GHz

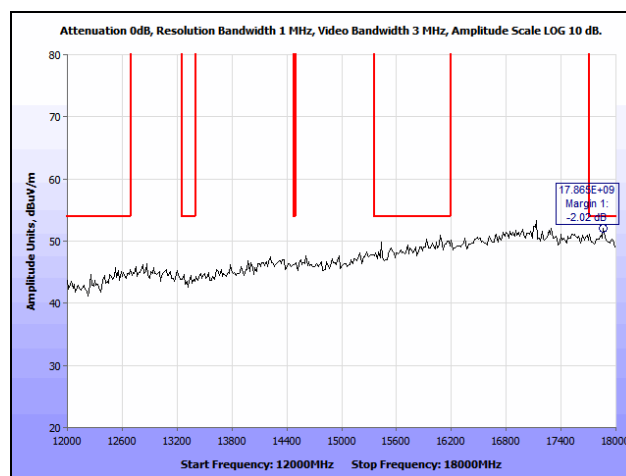
Radiated Spurious Emissions Test Results, PIFA, 802.11n 20 MHz, 5 GHz



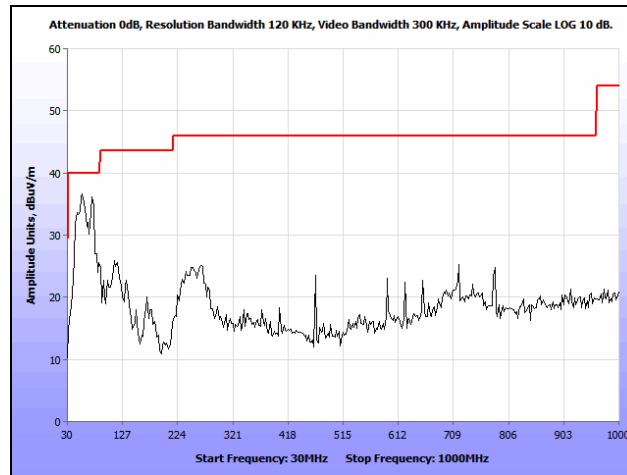
Plot 182. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5745, 30 MHz - 1 GHz



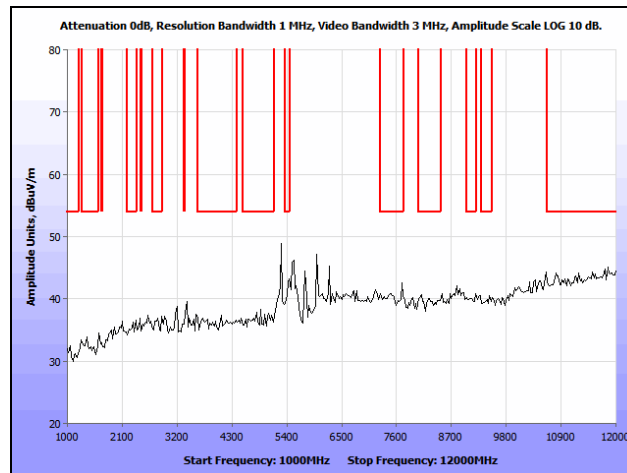
Plot 183. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5745 MHz, 1 GHz - 12 GHz



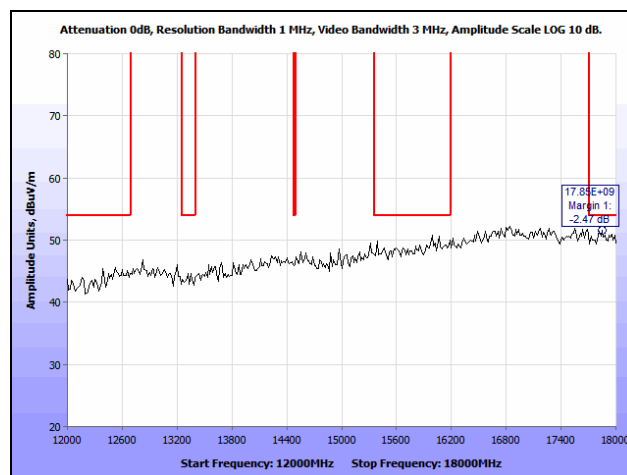
Plot 184. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5745 MHz, 12 GHz - 18 GHz



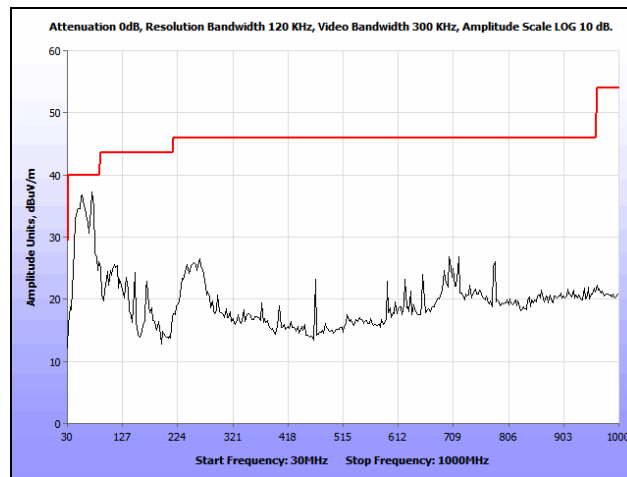
Plot 185. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5785 MHz, 30 MHz - 1 GHz



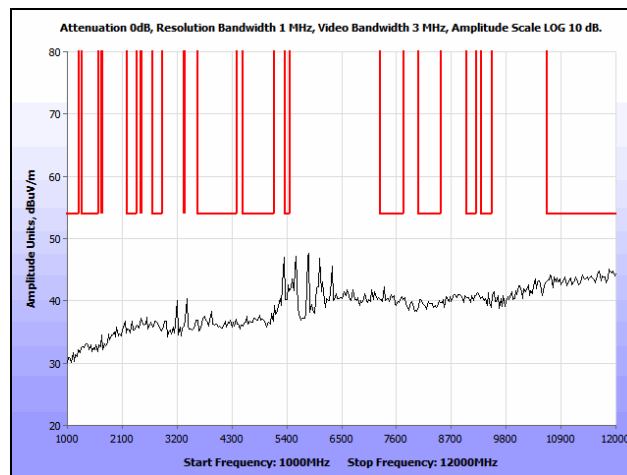
Plot 186. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5785 MHz, 1 GHz - 12 GHz



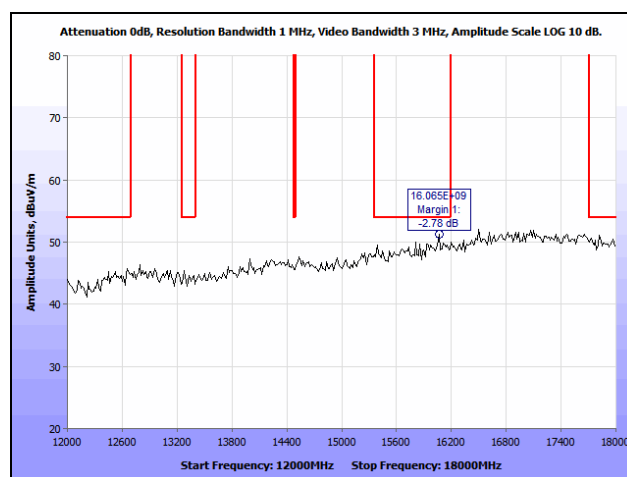
Plot 187. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5785 MHz, 12 GHz - 18 GHz



Plot 188. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5825 MHz, 30 MHz - 1 GHz

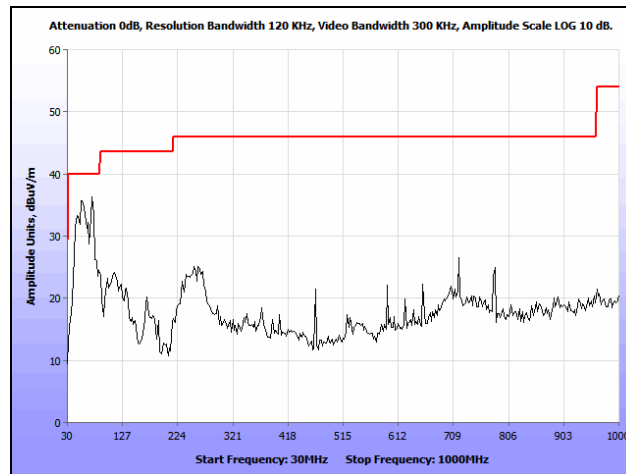


Plot 189. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5825 MHz, 1 GHz - 12 GHz

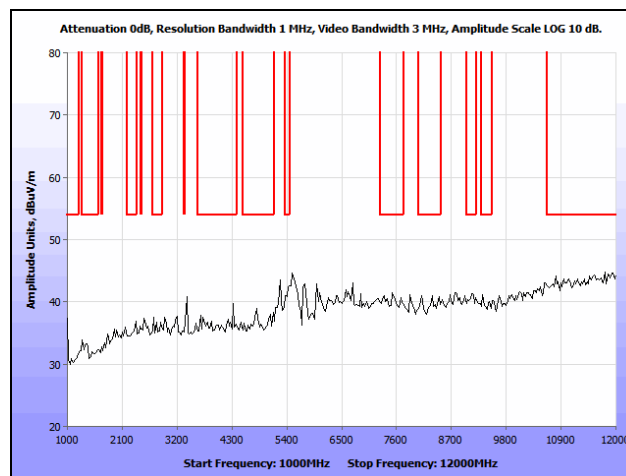


Plot 190. Radiated Spurious Emissions, PIFA, 802.11n 20 MHz, 5825 MHz, 12 GHz - 18 GHz

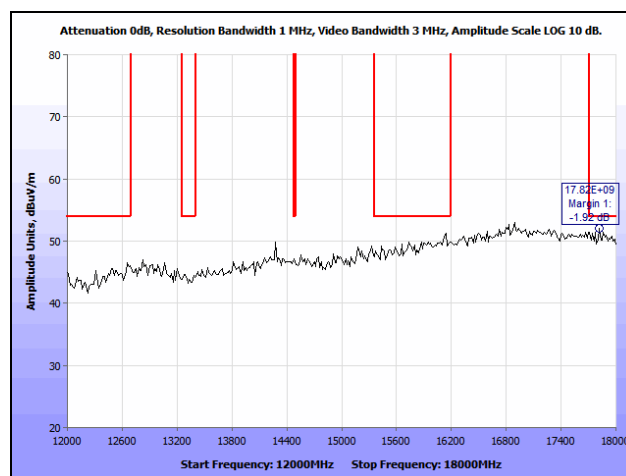
Radiated Spurious Emissions Test Results, PIFA, 802.11n 40 MHz, 5 GHz



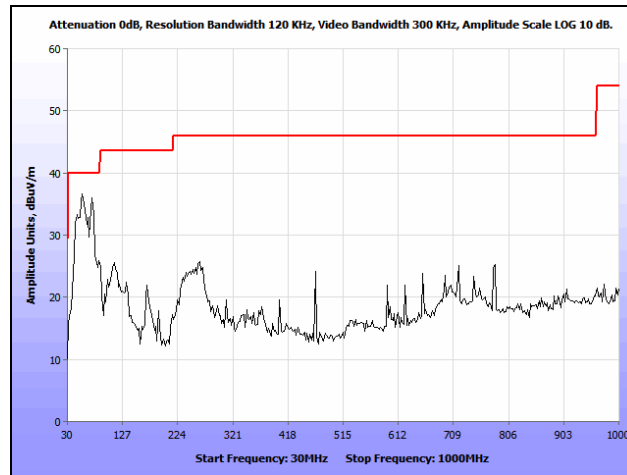
Plot 191. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5755 MHz, 30 MHz - 1 GHz



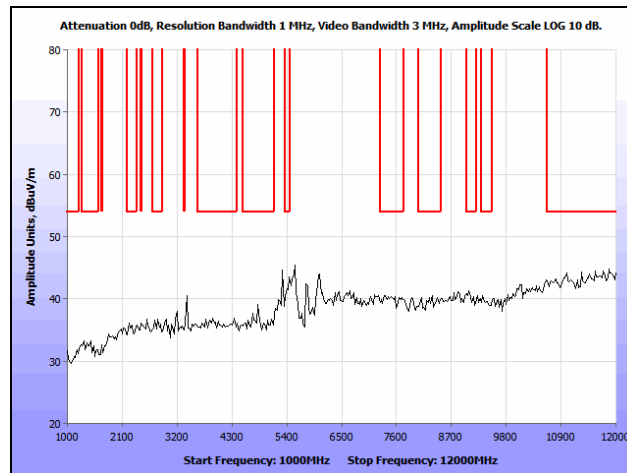
Plot 192. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5755 MHz, 1 GHz - 12 GHz



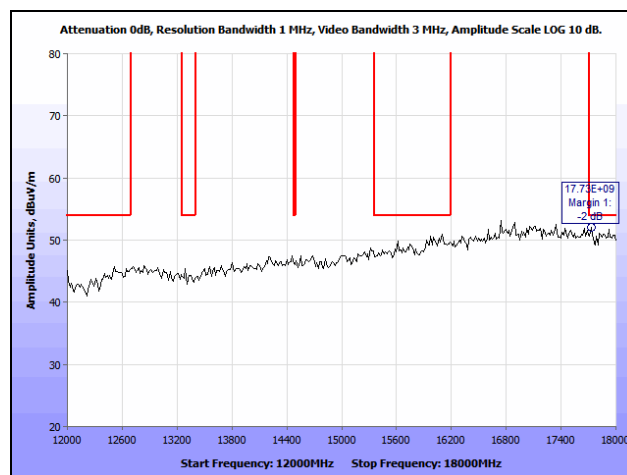
Plot 193. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5755 MHz, 12 GHz - 18 GHz



Plot 194. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5795 MHz, 30 MHz - 1 GHz

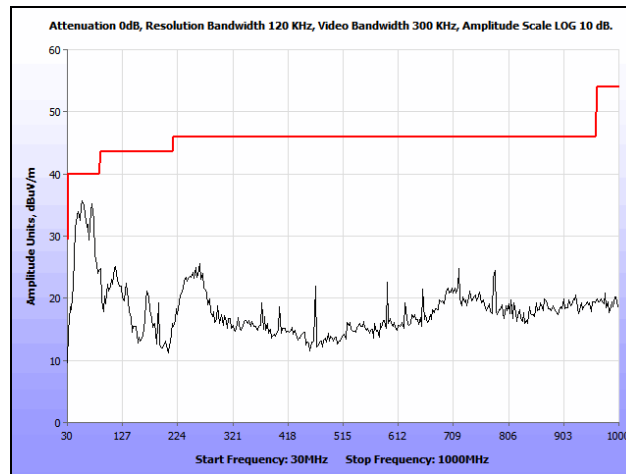


Plot 195. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5795 MHz, 1 GHz - 12 GHz

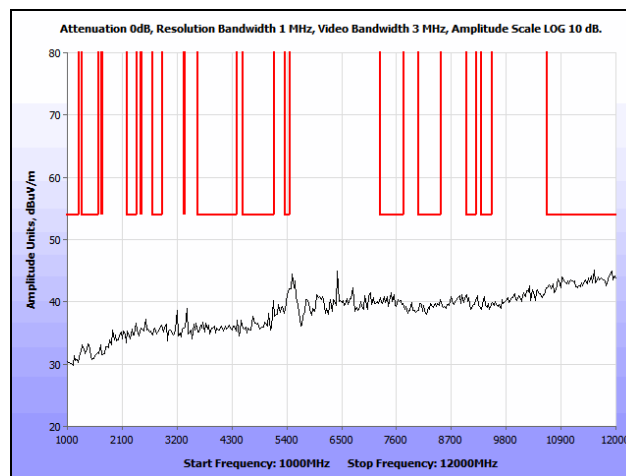


Plot 196. Radiated Spurious Emissions, PIFA, 802.11n 40 MHz, 5795 MHz, 12 GHz - 18 GHz

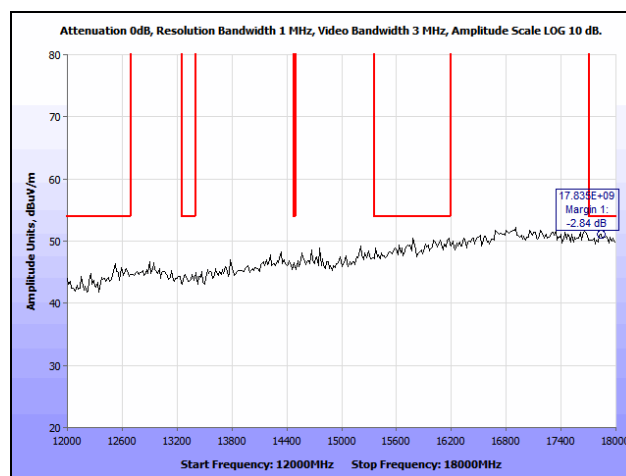
Radiated Spurious Emissions Test Results, PIFA, 802.11n 80 MHz, 5 GHz



Plot 197. Radiated Spurious Emissions, PIFA, 802.11n 80 MHz, 5775 MHz, 30 MHz - 1 GHz



Plot 198. Radiated Spurious Emissions, PIFA, 802.11n 80 MHz, 5775 MHz, 1 GHz - 12 GHz

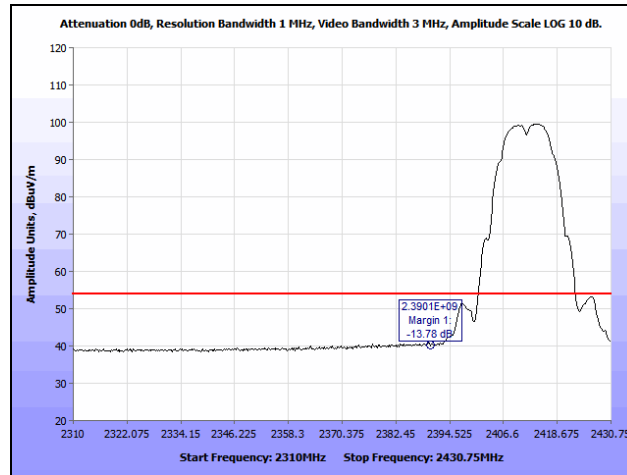


Plot 199. Radiated Spurious Emissions, PIFA, 802.11n 80 MHz, 5775 MHz, 12 GHz - 18 GHz

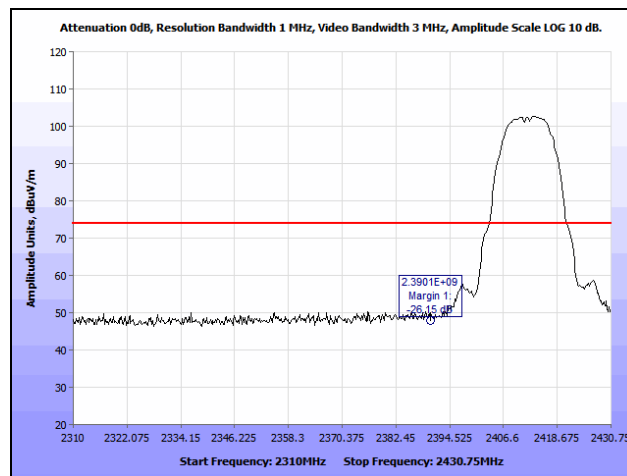
Radiated Band Edge Measurements

Test Procedures: The transmitter was turned on. Measurements were performed of the low and high Channels. The EUT was rotated orthogonally through all three axes. Plots shown are corrected for both antenna correction factor and distance and compared to a 3 m limit line. The number of points used for average measurements were (2xspan/RBW).

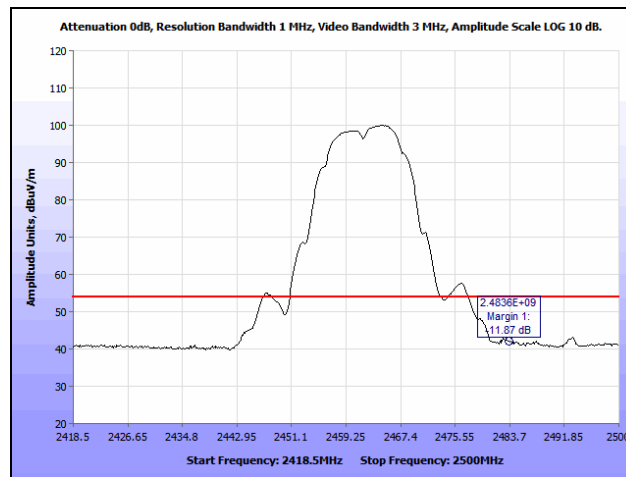
Restricted Band Edge Test Results, Internal PIFA, 802.11b 20 MHz, 2.4 GHz



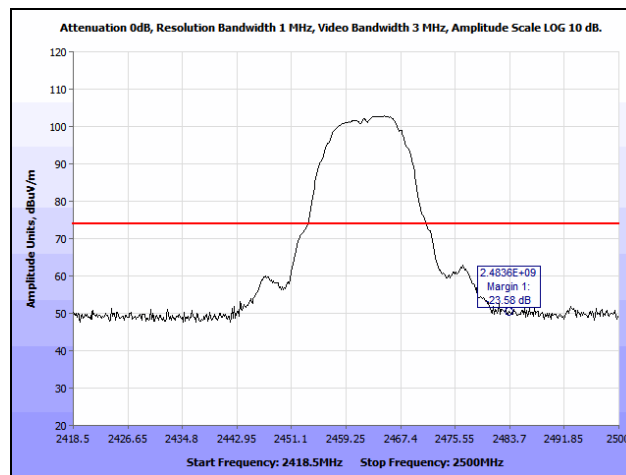
Plot 200. Restricted Band Edge, Internal PIFA, 802.11b 20 MHz, 2412 MHz, Average



Plot 201. Restricted Band Edge, Internal PIFA, 802.11b 20 MHz, 2412 MHz, Peak

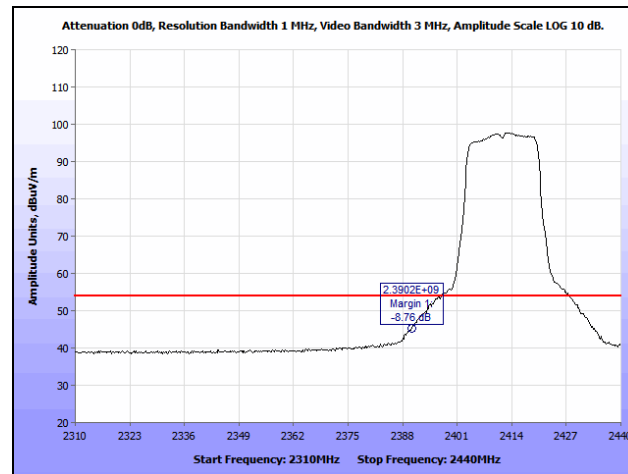


Plot 202. Restricted Band Edge, Internal PIFA, 802.11b 20 MHz, 2462 MHz, Average

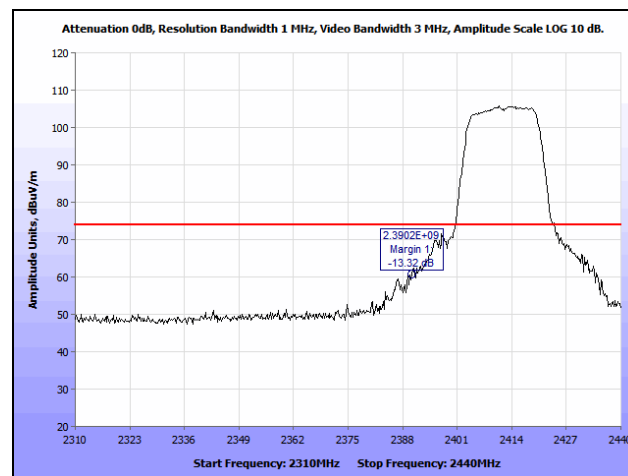


Plot 203. Restricted Band Edge, Internal PIFA, 802.11b 20 MHz, 2462 MHz, Peak

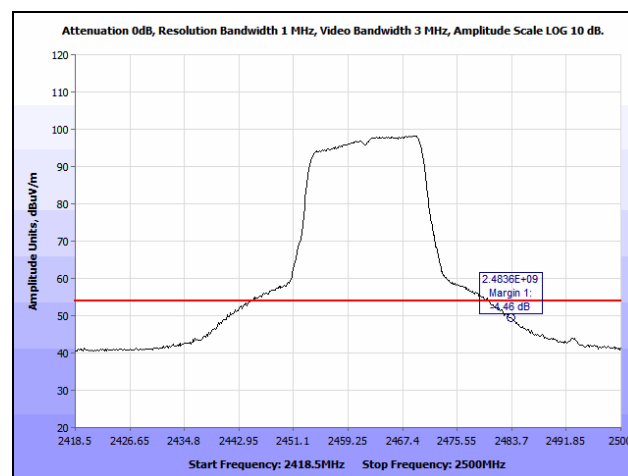
Restricted Band Edge Test Results, Internal PIFA, 802.11g 20 MHz, 2.4 GHz



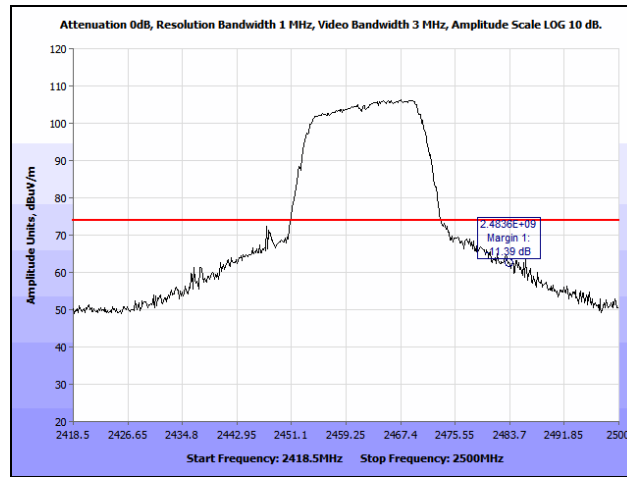
Plot 204. Restricted Band Edge, Internal PIFA, 802.11g 20 MHz, 2412 MHz, Average



Plot 205. Restricted Band Edge, Internal PIFA, 802.11g 20 MHz, 2412 MHz, Peak

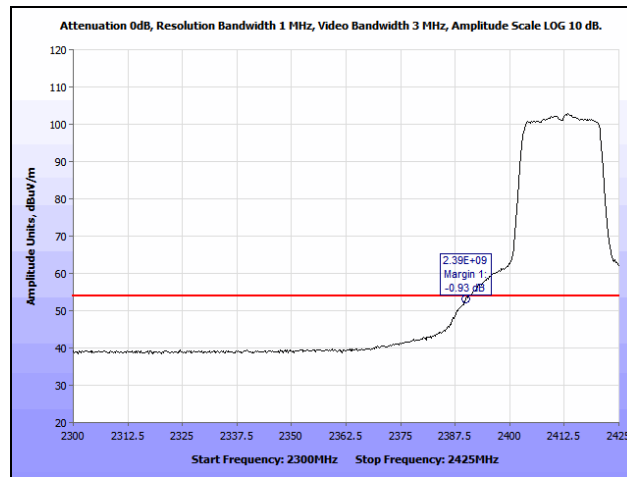


Plot 206. Restricted Band Edge, Internal PIFA, 802.11g 20 MHz, 2462 MHz, Average

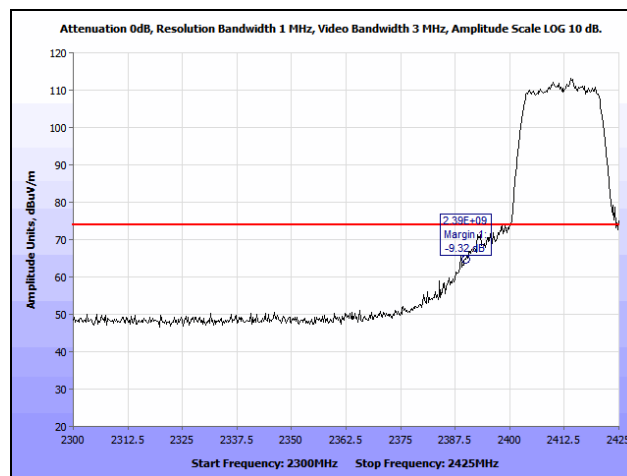


Plot 207. Restricted Band Edge, Internal PIFA, 802.11g 20 MHz, 2462 MHz, Peak

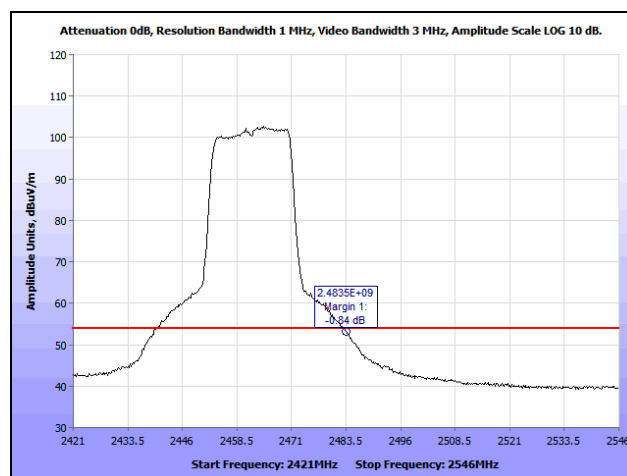
Restricted Band Edge Test Results, Internal PIFA, 802.11n 20 MHz, 2.4 GHz



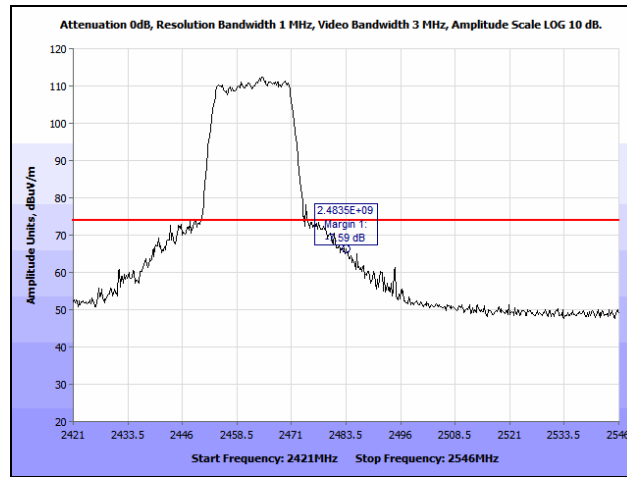
Plot 208. Restricted Band Edge, Internal PIFA, 802.11n 20 MHz, 2412 MHz, Average



Plot 209. Restricted Band Edge, Internal PIFA, 802.11n 20 MHz, 2412 MHz, Peak

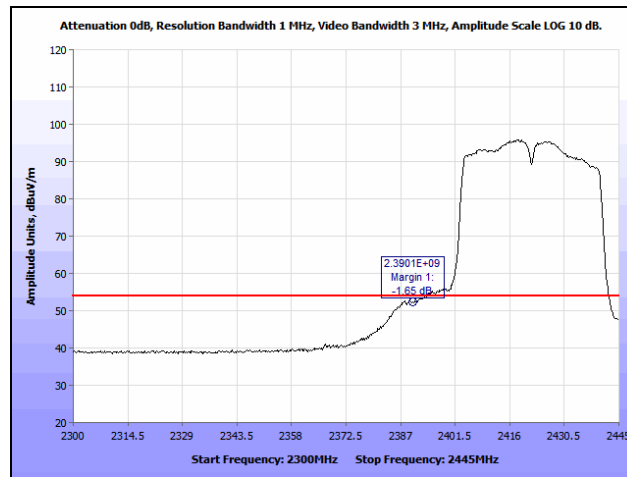


Plot 210. Restricted Band Edge, Internal PIFA, 802.11n 20 MHz, 2462 MHz, Average

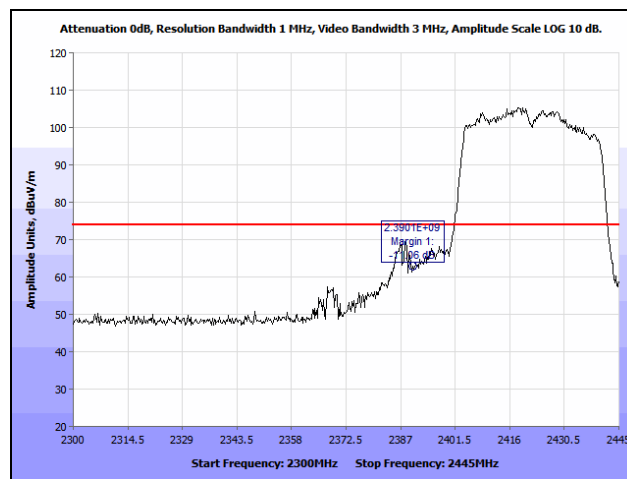


Plot 211. Restricted Band Edge, Internal PIFA, 802.11n 20 MHz, 2462 MHz, Peak

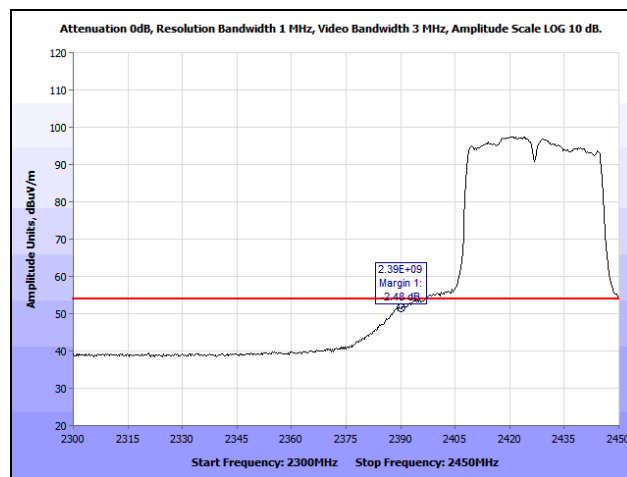
Restricted Band Edge Test Results, Internal PIFA, 802.11n 40 MHz, 2.4 GHz



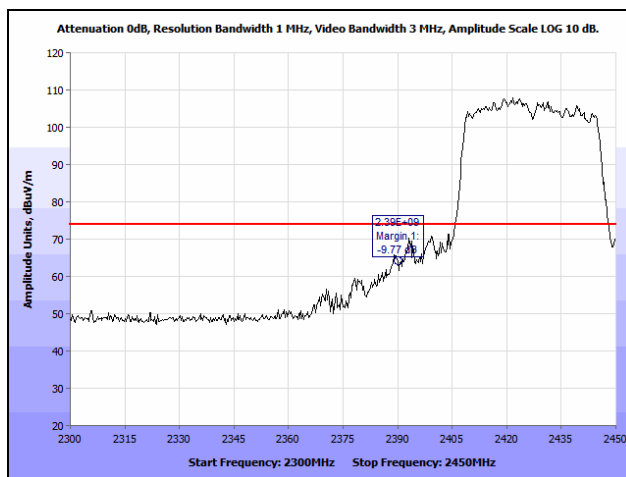
Plot 212. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2422MHz, Average



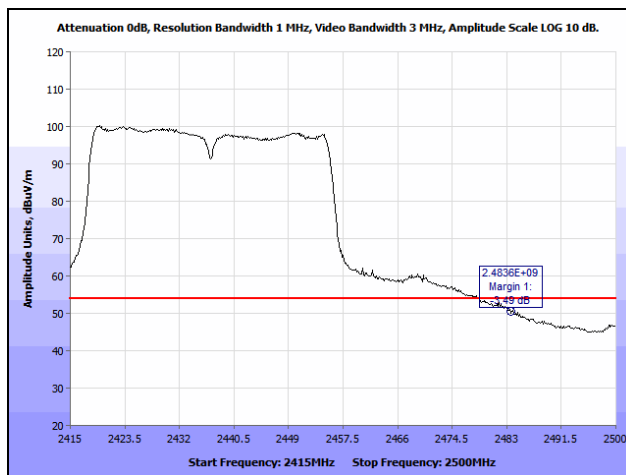
Plot 213. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2422MHz, Peak



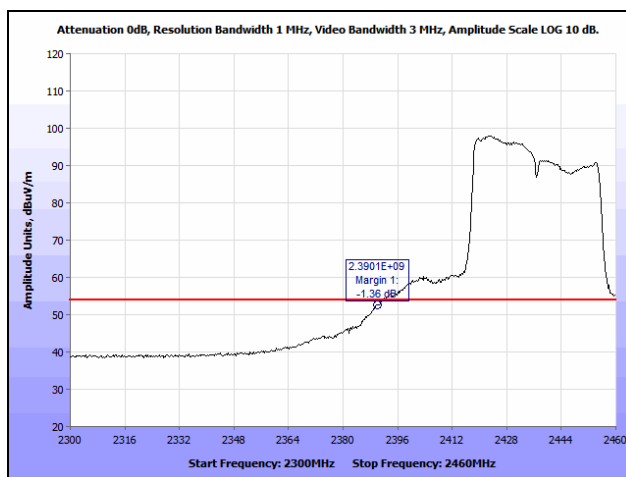
Plot 214. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2427 MHz, Average



Plot 215. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2427 MHz, Peak



Plot 216. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2437 MHz Channel 6, Average @ 2483.5 MHz)



Plot 217. Restricted Band Edge, Internal PIFA, 802.11n 40 MHz, 2427 MHz, Channel 6, Average