



**FCC PART 15C  
TEST REPORT  
No. 2013WLN0620**

**for**

**TCT Mobile Limited**

**GSM quad band mobile phone**

**Type: Tahiti 1Sim Wifi+ATV**

**Market Name: ALCATEL 3041G**

**With**

**FCC ID: RAD337**

**Hardware Version: PIO**

**Software Version: V556**

**Issued Date: 2013-03-19**



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## CONTENTS

|   |           |
|---|-----------|
| <b>CONTENTS .....</b>   | <b>2</b>  |
| <b>1. TEST LABORATORY .....</b>                                       | <b>8</b>  |
| 1.1. TESTING LOCATION .....   | 8         |
| 1.2. TESTING ENVIRONMENT .....  | 8         |
| 1.3. PROJECT DATA .....   | 8         |
| 1.4. SIGNATURE .....  | 8         |
| <b>2. CLIENT INFORMATION .....</b>                                    | <b>9</b>  |
| 2.1. APPLICANT INFORMATION .....                                      | 9         |
| 2.2. MANUFACTURER INFORMATION .....                                   | 9         |
| <b>3. EQUIPMENT UNDER TEST(EUT) AND ANCILLARY EQUIPMENT(AE) .....</b> | <b>10</b> |
| 3.1. ABOUT EUT .....  | 10        |
| 3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST .....        | 10        |
| 3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST .....         | 10        |
| 3.4. GENERAL DESCRIPTION.....   | 10        |
| <b>4. REFERENCE DOCUMENTS.....</b>                                    | <b>11</b> |
| 4.1. DOCUMENTS SUPPLIED BY APPLICANT .....                            | 11        |
| 4.2. REFERENCE DOCUMENTS FOR TESTING.....                             | 11        |
| <b>5. LABORATORY ENVIRONMENT .....</b>                                | <b>12</b> |
| <b>6. SUMMARY OF TEST RESULTS.....</b>                                | <b>13</b> |
| 6.1. SUMMARY OF TEST RESULTS.....                                     | 13        |
| 6.2. STATEMENTS.....  | 13        |
| <b>7. TEST EQUIPMENTS UTILIZED.....</b>                               | <b>14</b> |
| <b>ANNEX A: MEASUREMENT RESULTS .....</b>                             | <b>15</b> |
| A.1. MEASUREMENT METHOD.....  | 15        |
| A.2. MAXIMUM OUTPUT POWER .....                                       | 16        |
| A.2.1. MAXIMUM PEAK OUTPUT POWER-CONDUCTED .....                      | 16        |
| A.2.2. MAXIMUM AVERAGE OUTPUT POWER-CONDUCTED .....                   | 18        |
| A.3. PEAK POWER SPECTRAL DENSITY.....                                 | 19        |
| FIG. 1 POWER SPECTRAL DENSITY (802.11B, CH 1).....                    | 20        |
| FIG. 2 POWER SPECTRAL DENSITY (802.11B, CH 6).....                    | 20        |
| FIG. 3 POWER SPECTRAL DENSITY (802.11B, CH 11).....                   | 21        |
| FIG. 4 POWER SPECTRAL DENSITY (802.11G, CH 1).....                    | 21        |
| FIG. 5 POWER SPECTRAL DENSITY (802.11G, CH 6).....                    | 22        |
| FIG. 6 POWER SPECTRAL DENSITY (802.11G, CH 11).....                   | 22        |
| FIG. 7 POWER SPECTRAL DENSITY (802.11N-20MHZ, CH 1).....              | 23        |
| FIG. 8 POWER SPECTRAL DENSITY (802.11N-20MHZ, CH 6).....              | 23        |
| FIG. 9 POWER SPECTRAL DENSITY (802.11N-20MHZ, CH 11).....             | 24        |

|   |  |    |
|---|--|----|
| FIG. 10   | POWER SPECTRAL DENSITY (802.11N-HT40, CH 3).....                   | 24 |
| FIG. 11   | POWER SPECTRAL DENSITY (802.11N-HT40, CH 6).....                   | 25 |
| FIG. 12   | POWER SPECTRAL DENSITY (802.11N-HT40, CH 9).....                   | 25 |
| A.4. OCCUPIED 6DB BANDWIDTH .....                     |  | 26 |
| FIG. 13   | OCCUPIED 6DB BANDWIDTH (802.11B, CH 1).....                        | 27 |
| FIG. 14   | OCCUPIED 6DB BANDWIDTH (802.11B, CH 6).....                        | 27 |
| FIG. 15   | OCCUPIED 6DB BANDWIDTH (802.11B, CH 11).....                       | 28 |
| FIG. 16   | OCCUPIED 6DB BANDWIDTH (802.11G, CH 1).....                        | 28 |
| FIG. 17   | OCCUPIED 6DB BANDWIDTH (802.11G, CH 6).....                        | 29 |
| FIG. 18   | OCCUPIED 6DB BANDWIDTH (802.11G, CH 11).....                       | 29 |
| FIG. 19   | OCCUPIED 6DB BANDWIDTH (802.11N-HT20, CH 1).....                   | 30 |
| FIG. 20   | OCCUPIED 6DB BANDWIDTH (802.11N-HT20, CH 6).....                   | 30 |
| FIG. 21   | OCCUPIED 6DB BANDWIDTH (802.11N-HT20, CH 11).....                  | 31 |
| FIG. 22   | OCCUPIED 6DB BANDWIDTH (802.11N-HT40, CH 3).....                   | 31 |
| FIG. 23   | OCCUPIED 6DB BANDWIDTH (802.11N-HT40, CH 6).....                   | 32 |
| FIG. 24   | OCCUPIED 6DB BANDWIDTH (802.11N-HT40, CH 9).....                   | 32 |
| A.5. BAND EDGES COMPLIANCE .....                      |  | 33 |
| FIG. 25   | BAND EDGES (802.11B, CH 1).....                                    | 34 |
| FIG. 26   | BAND EDGES (802.11B, CH 11).....                                   | 34 |
| FIG. 27   | BAND EDGES (802.11G, CH 1).....                                    | 35 |
| FIG. 28   | BAND EDGES (802.11G, CH 11).....                                   | 35 |
| FIG. 29   | BAND EDGES (802.11N-HT20, CH 1).....                               | 36 |
| FIG. 30   | BAND EDGES (802.11N-HT20, CH 11).....                              | 36 |
| FIG. 31   | BAND EDGES (802.11N-HT40, CH 3).....                               | 37 |
| FIG. 32   | BAND EDGES (802.11N-HT40, CH 9).....                               | 37 |
| A.6. TRANSMITTER SPURIOUS EMISSION .....              |  | 38 |
| A.6.1 TRANSMITTER SPURIOUS EMISSION - CONDUCTED ..... |  | 38 |
| FIG. 33   | CONDUCTED SPURIOUS EMISSION (802.11B, CH1, CENTER FREQUENCY).....  | 42 |
| FIG. 34   | CONDUCTED SPURIOUS EMISSION (802.11B, CH1, 30 MHz-1 GHz).....      | 42 |
| FIG. 35   | CONDUCTED SPURIOUS EMISSION (802.11B, CH1, 1 GHz-2.5 GHz).....     | 43 |
| FIG. 36   | CONDUCTED SPURIOUS EMISSION (802.11B, CH1, 2.5 GHz-7.5 GHz).....   | 43 |
| FIG. 37   | CONDUCTED SPURIOUS EMISSION (802.11B, CH1, 7.5 GHz-10 GHz).....    | 44 |
| FIG. 38   | CONDUCTED SPURIOUS EMISSION (802.11B, CH1, 10 GHz-15 GHz).....     | 44 |
| FIG. 39   | CONDUCTED SPURIOUS EMISSION (802.11B, CH1, 15 GHz-20 GHz).....     | 45 |
| FIG. 40   | CONDUCTED SPURIOUS EMISSION (802.11B, CH1, 20 GHz-26 GHz).....     | 45 |
| FIG. 41   | CONDUCTED SPURIOUS EMISSION (802.11B, CH6, CENTER FREQUENCY).....  | 46 |
| FIG. 42   | CONDUCTED SPURIOUS EMISSION (802.11B, CH6, 30 MHz-1 GHz).....      | 46 |
| FIG. 43   | CONDUCTED SPURIOUS EMISSION (802.11B, CH6, 1 GHz-2.5 GHz).....     | 47 |
| FIG. 44   | CONDUCTED SPURIOUS EMISSION (802.11B, CH6, 2.5 GHz-7.5 GHz).....   | 47 |
| FIG. 45   | CONDUCTED SPURIOUS EMISSION (802.11B, CH6, 7.5 GHz-10 GHz).....    | 48 |
| FIG. 46   | CONDUCTED SPURIOUS EMISSION (802.11B, CH6, 10 GHz-15 GHz).....     | 48 |
| FIG. 47   | CONDUCTED SPURIOUS EMISSION (802.11B, CH6, 15 GHz-20 GHz).....     | 49 |
| FIG. 48   | CONDUCTED SPURIOUS EMISSION (802.11B, CH6, 20 GHz-26 GHz).....     | 49 |
| FIG. 49   | CONDUCTED SPURIOUS EMISSION (802.11B, CH11, CENTER FREQUENCY)..... | 50 |

|         |   |    |
|---------|---|----|
| FIG. 50 | CONDUCTED SPURIOUS EMISSION (802.11B, CH11, 30 MHz-1 GHz) .....         | 50 |
| FIG. 51 | CONDUCTED SPURIOUS EMISSION (802.11B, CH11, 1 GHz-2.5 GHz).....         | 51 |
| FIG. 52 | CONDUCTED SPURIOUS EMISSION (802.11B, CH11, 2.5 GHz-7.5 GHz).....       | 51 |
| FIG. 53 | CONDUCTED SPURIOUS EMISSION (802.11B, CH11, 7.5 GHz-10 GHz).....        | 52 |
| FIG. 54 | CONDUCTED SPURIOUS EMISSION (802.11B, CH11, 10 GHz-15 GHz).....         | 52 |
| FIG. 55 | CONDUCTED SPURIOUS EMISSION (802.11B, CH11, 15 GHz-20 GHz).....         | 53 |
| FIG. 56 | CONDUCTED SPURIOUS EMISSION (802.11B, CH11, 20 GHz-26 GHz).....         | 53 |
| FIG. 57 | CONDUCTED SPURIOUS EMISSION (802.11G, CH1, CENTER FREQUENCY).....       | 54 |
| FIG. 58 | CONDUCTED SPURIOUS EMISSION (802.11G, CH1, 30 MHz-1 GHz) .....          | 54 |
| FIG. 59 | CONDUCTED SPURIOUS EMISSION (802.11G, CH1, 1 GHz-2.5 GHz) .....         | 55 |
| FIG. 60 | CONDUCTED SPURIOUS EMISSION (802.11G, CH1, 2.5 GHz-7.5 GHz) .....       | 55 |
| FIG. 61 | CONDUCTED SPURIOUS EMISSION (802.11G, CH1, 7.5 GHz-10 GHz) .....        | 56 |
| FIG. 62 | CONDUCTED SPURIOUS EMISSION (802.11G, CH1, 10 GHz-15 GHz) .....         | 56 |
| FIG. 63 | CONDUCTED SPURIOUS EMISSION (802.11G, CH1, 15 GHz-20 GHz) .....         | 57 |
| FIG. 64 | CONDUCTED SPURIOUS EMISSION (802.11G, CH1, 20 GHz-26 GHz) .....         | 57 |
| FIG. 65 | CONDUCTED SPURIOUS EMISSION (802.11G, CH6, CENTER FREQUENCY).....       | 58 |
| FIG. 66 | CONDUCTED SPURIOUS EMISSION (802.11G, CH6, 30 MHz-1 GHz) .....          | 58 |
| FIG. 67 | CONDUCTED SPURIOUS EMISSION (802.11G, CH6, 1 GHz-2.5 GHz) .....         | 59 |
| FIG. 68 | CONDUCTED SPURIOUS EMISSION (802.11G, CH6, 2.5 GHz-7.5 GHz) .....       | 59 |
| FIG. 69 | CONDUCTED SPURIOUS EMISSION (802.11G, CH6, 7.5 GHz-10 GHz) .....        | 60 |
| FIG. 70 | CONDUCTED SPURIOUS EMISSION (802.11G, CH6, 10 GHz-15 GHz) .....         | 60 |
| FIG. 71 | CONDUCTED SPURIOUS EMISSION (802.11G, CH6, 15 GHz-20 GHz) .....         | 61 |
| FIG. 72 | CONDUCTED SPURIOUS EMISSION (802.11G, CH6, 20 GHz-26 GHz) .....         | 61 |
| FIG. 73 | CONDUCTED SPURIOUS EMISSION (802.11G, CH11, CENTER FREQUENCY).....      | 62 |
| FIG. 74 | CONDUCTED SPURIOUS EMISSION (802.11G, CH11, 30 MHz-1 GHz) .....         | 62 |
| FIG. 75 | CONDUCTED SPURIOUS EMISSION (802.11G, CH11, 1 GHz-2.5 GHz).....         | 63 |
| FIG. 76 | CONDUCTED SPURIOUS EMISSION (802.11G, CH11, 2.5 GHz-7.5 GHz).....       | 63 |
| FIG. 77 | CONDUCTED SPURIOUS EMISSION (802.11G, CH11, 7.5 GHz-10 GHz).....        | 64 |
| FIG. 78 | CONDUCTED SPURIOUS EMISSION (802.11G, CH11, 10 GHz-15 GHz).....         | 64 |
| FIG. 79 | CONDUCTED SPURIOUS EMISSION (802.11G, CH11, 15 GHz-20 GHz).....         | 65 |
| FIG. 80 | CONDUCTED SPURIOUS EMISSION (802.11G, CH11, 20 GHz-26 GHz).....         | 65 |
| FIG. 81 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH1, CENTER FREQUENCY) ..... | 66 |
| FIG. 82 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH1, 30 MHz-1 GHz) .....     | 66 |
| FIG. 83 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH1, 1 GHz-2.5 GHz) .....    | 67 |
| FIG. 84 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH1, 2.5 GHz-7.5 GHz) .....  | 67 |
| FIG. 85 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH1, 7.5 GHz-10 GHz) .....   | 68 |
| FIG. 86 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH1, 10 GHz-15 GHz) .....    | 68 |
| FIG. 87 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH1, 15 GHz-20 GHz) .....    | 69 |
| FIG. 88 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH1, 20 GHz-26 GHz) .....    | 69 |
| FIG. 89 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH6, CENTER FREQUENCY) ..... | 70 |
| FIG. 90 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH6, 30 MHz-1 GHz) .....     | 70 |
| FIG. 91 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH6, 1 GHz-2.5 GHz) .....    | 71 |
| FIG. 92 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH6, 2.5 GHz-7.5 GHz) .....  | 71 |
| FIG. 93 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH6, 7.5 GHz-10 GHz) .....   | 72 |

|          |   |     |
|----------|---|-----|
| FIG. 94  | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH6, 10 GHz-15 GHz) .....        | 72  |
| FIG. 95  | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH6, 15 GHz-20 GHz) .....        | 73  |
| FIG. 96  | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH6, 20 GHz-26 GHz) .....        | 73  |
| FIG. 97  | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH11, CENTER FREQUENCY) .....    | 74  |
| FIG. 98  | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH11, 30 MHz-1 GHz) .....        | 74  |
| FIG. 99  | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH11, 1 GHz-2.5 GHz) .....       | 75  |
| FIG. 100 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH11, 2.5 GHz-7.5 GHz) .....     | 75  |
| FIG. 101 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH11, 7.5 GHz-10 GHz) .....      | 76  |
| FIG. 102 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH11, 10 GHz-15 GHz) .....       | 76  |
| FIG. 103 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH11, 15 GHz-20 GHz) .....       | 77  |
| FIG. 104 | CONDUCTED SPURIOUS EMISSION (802.11N-HT20, CH11, 20 GHz-26 GHz) .....       | 77  |
| FIG. 105 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH3, CENTER FREQUENCY) .....     | 78  |
| FIG. 106 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH3, 30 MHz-1 GHz) .....         | 78  |
| FIG. 107 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH3, 1 GHz-2.5 GHz) .....        | 79  |
| FIG. 108 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH3, 2.5 GHz-7.5 GHz) .....      | 79  |
| FIG. 109 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH3, 7.5 GHz-10 GHz) .....       | 80  |
| FIG. 110 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH3, 10 GHz-15 GHz) .....        | 80  |
| FIG. 111 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH3, 15 GHz-20 GHz) .....        | 81  |
| FIG. 112 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH3, 20 GHz-26 GHz) .....        | 81  |
| FIG. 113 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH6, CENTER FREQUENCY) .....     | 82  |
| FIG. 114 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH6, 30 MHz-1 GHz) .....         | 82  |
| FIG. 115 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH6, 1 GHz-2.5 GHz) .....        | 83  |
| FIG. 116 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH6, 2.5 GHz-7.5 GHz) .....      | 83  |
| FIG. 117 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH6, 7.5 GHz-10 GHz) .....       | 84  |
| FIG. 118 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH6, 10 GHz-15 GHz) .....        | 84  |
| FIG. 119 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH6, 15GHz-20 GHz) .....         | 85  |
| FIG. 120 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH6, 20GHz-26 GHz) .....         | 85  |
| FIG. 121 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH9, CENTER FREQUENCY) .....     | 86  |
| FIG. 122 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH9, 30 MHz-1 GHz) .....         | 86  |
| FIG. 123 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH9, 1GHz-2.5 GHz) .....         | 87  |
| FIG. 124 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH9, 2.5GHz-7.5 GHz) .....       | 87  |
| FIG. 125 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH9, 7.5GHz-10 GHz) .....        | 88  |
| FIG. 126 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH9, 10GHz-15 GHz) .....         | 88  |
| FIG. 127 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH9, 15GHz-20 GHz) .....         | 89  |
| FIG. 128 | CONDUCTED SPURIOUS EMISSION (802.11N-HT40, CH9, 20GHz-28 GHz) .....         | 89  |
| A.6.2    | TRANSMITTER SPURIOUS EMISSION - RADIATED .....                              | 90  |
| FIG. 129 | RADIATED SPURIOUS EMISSION (POWER): 802.11B, CH1, 2.38 GHz - 245GHz .....   | 97  |
| FIG. 130 | RADIATED SPURIOUS EMISSION (802.11B, CH1, 30 MHz-1 GHz) .....               | 97  |
| FIG. 131 | RADIATED SPURIOUS EMISSION (802.11B, CH1, 1 GHz-3 GHz) .....                | 98  |
| FIG. 132 | RADIATED SPURIOUS EMISSION (802.11B, CH1, 3 GHz-18 GHz) .....               | 98  |
| FIG. 133 | RADIATED SPURIOUS EMISSION (802.11B, CH6, 30 MHz-1 GHz) .....               | 99  |
| FIG. 134 | RADIATED SPURIOUS EMISSION (802.11B, CH6, 1 GHz-3 GHz) .....                | 99  |
| FIG. 135 | RADIATED SPURIOUS EMISSION (802.11B, CH6, 3 GHz-18 GHz) .....               | 100 |
| FIG. 136 | RADIATED SPURIOUS EMISSION (POWER): 802.11B, CH11, 2.45 GHz - 2.50GHz ..... | 100 |

|          |  |     |
|----------|--|-----|
| FIG. 137 | RADIATED SPURIOUS EMISSION (802.11B, CH11, 30 MHz-1 GHz).....                      | 101 |
| FIG. 138 | RADIATED SPURIOUS EMISSION (802.11B, CH11, 1 GHz-3 GHz).....                       | 101 |
| FIG. 139 | RADIATED SPURIOUS EMISSION (802.11B, CH11, 3 GHz-18 GHz).....                      | 102 |
| FIG. 140 | RADIATED SPURIOUS EMISSION (POWER): 802.11G, CH1, 2.38 GHz - 2.45GHz.....          | 102 |
| FIG. 141 | RADIATED SPURIOUS EMISSION (802.11G, CH1, 30 MHz-1 GHz) .....                      | 103 |
| FIG. 142 | RADIATED SPURIOUS EMISSION (802.11G, CH1, 1 GHz-3 GHz).....                        | 103 |
| FIG. 143 | RADIATED SPURIOUS EMISSION (802.11G, CH1, 3 GHz-18 GHz).....                       | 104 |
| FIG. 144 | RADIATED SPURIOUS EMISSION (802.11G, CH6, 30 MHz-1 GHz) .....                      | 104 |
| FIG. 145 | RADIATED SPURIOUS EMISSION (802.11G, CH6, 1 GHz-3 GHz).....                        | 105 |
| FIG. 146 | RADIATED SPURIOUS EMISSION (802.11G, CH6, 3 GHz-18 GHz).....                       | 105 |
| FIG. 147 | RADIATED SPURIOUS EMISSION (POWER): 802.11G, CH11, 2.45 GHz - 2.50GHz .....        | 106 |
| FIG. 148 | RADIATED SPURIOUS EMISSION (802.11G, CH11, 30 MHz-1 GHz).....                      | 106 |
| FIG. 149 | RADIATED SPURIOUS EMISSION (802.11G, CH11, 1 GHz-3 GHz).....                       | 107 |
| FIG. 150 | RADIATED SPURIOUS EMISSION (802.11G, CH11, 3 GHz-18 GHz).....                      | 107 |
| FIG. 151 | RADIATED SPURIOUS EMISSION (POWER): 802.11N-20MHz, CH1, 2.38 GHz - 2.45GHz<br>108  |     |
| FIG. 152 | RADIATED SPURIOUS EMISSION (802.11N-20MHz, CH1, 30 MHz-1 GHz) .....                | 108 |
| FIG. 153 | RADIATED SPURIOUS EMISSION (802.11N-20MHz, CH1, 1 GHz-3 GHz).....                  | 109 |
| FIG. 154 | RADIATED SPURIOUS EMISSION (802.11N-20MHz, CH1, 3 GHz-18 GHz).....                 | 109 |
| FIG. 155 | RADIATED SPURIOUS EMISSION (802.11N-20MHz, CH6, 30 MHz-1 GHz) .....                | 110 |
| FIG. 156 | RADIATED SPURIOUS EMISSION (802.11N-20MHz, CH6, 1 GHz-3 GHz).....                  | 110 |
| FIG. 157 | RADIATED SPURIOUS EMISSION (802.11N-20MHz, CH6, 3 GHz-18 GHz).....                 | 111 |
| FIG. 158 | RADIATED SPURIOUS EMISSION (POWER): 802.11N-20MHz, CH11, 2.45 GHz - 2.50GHz<br>111 |     |
| FIG. 159 | RADIATED SPURIOUS EMISSION (802.11N-20MHz, CH11, 30 MHz-1 GHz).....                | 112 |
| FIG. 160 | RADIATED SPURIOUS EMISSION (802.11N-20MHz, CH11, 1 GHz-3 GHz) .....                | 112 |
| FIG. 161 | RADIATED SPURIOUS EMISSION (802.11N-20MHz, CH11, 3 GHz-18 GHz).....                | 113 |
| FIG. 162 | RADIATED SPURIOUS EMISSION (POWER): 802.11N-40MHz, CH3, 2.38 GHz - 2.45GHz<br>113  |     |
| FIG. 163 | RADIATED SPURIOUS EMISSION (802.11N-40MHz, CH3, 30 MHz-1 GHz) .....                | 114 |
| FIG. 164 | RADIATED SPURIOUS EMISSION (802.11N-40MHz, CH3, 1 GHz-3 GHz).....                  | 114 |
| FIG. 165 | RADIATED SPURIOUS EMISSION (802.11N-40MHz, CH3, 3 GHz-18 GHz).....                 | 115 |
| FIG. 166 | RADIATED SPURIOUS EMISSION (802.11N-40MHz, CH6, 30 MHz-1 GHz) .....                | 115 |
| FIG. 167 | RADIATED SPURIOUS EMISSION (802.11N-40MHz, CH6, 1 GHz-3 GHz).....                  | 116 |
| FIG. 168 | RADIATED SPURIOUS EMISSION (802.11N-40MHz, CH6, 3 GHz-18 GHz).....                 | 116 |
| FIG. 169 | RADIATED SPURIOUS EMISSION (POWER): 802.11N-40MHz, CH9, 2.45 GHz - 2.50GHz<br>117  |     |
| FIG. 170 | RADIATED SPURIOUS EMISSION (802.11N-40MHz, CH9, 30 MHz-1 GHz) .....                | 117 |
| FIG. 171 | RADIATED SPURIOUS EMISSION (802.11N-40MHz, CH9, 1 GHz-3 GHz).....                  | 118 |
| FIG. 172 | RADIATED SPURIOUS EMISSION (802.11N-40MHz, CH9, 3 GHz-18 GHz).....                 | 118 |
| FIG. 173 | RADIATED SPURIOUS EMISSION (ALL CHANNELS): 18GHz – 26.5GHz.....                    | 119 |
| A.7.     | AC POWERLINE CONDUCTED EMISSION .....  | 120 |
| FIG. 174 | AC POWERLINE CONDUCTED EMISSION-802.11B .....                                      | 121 |
| FIG. 175 | AC POWERLINE CONDUCTED EMISSION-802.11G.....                                       | 122 |

|          |   |     |
|----------|---|-----|
| FIG. 176 | AC POWERLINE CONDUCTED EMISSION-802.11N-20MHZ ..... | 123 |
| FIG. 177 | AC POWERLINE CONDUCTED EMISSION-802.11N-40MHZ ..... | 124 |

## 1. TEST LABORATORY

### 1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT  
Address: No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China  
Postal Code: 100191  
Telephone: 00861062304633-2561  
Fax: 00861062304633-2504

### 1.2. Testing Environment

Normal Temperature: 15-30°C  
Extreme Temperature: -20/+55°C  
Relative Humidity: 30-60%  
Air Pressure 990hPa-1040hPa

Note: The climatic requirements above are general exclude the special requirements for dedicated test environments listed in section 5 and some specific test cases in other parts of this report.

### 1.3. Project data

Testing Start Date: 2013-02-08  
Testing End Date: 2013-03-18

### 1.4. Signature



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**Xu Zhongfei**  
(Prepared this test report)



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**Gao Hong**  
(Reviewed this test report)



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**Xiao Li**  
Deputy Director of the laboratory  
(Approved this test report)



## **2. CLIENT INFORMATION**

### **2.1. Applicant Information**

Company Name: TCT Mobile Limited  
Address /Post: 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,  
Pudong Area Shanghai, P.R. China. 201203  
Country: China  
Contact Gong Zhizhou  
Email zhizhou.gong @jrdcom.com  
Telephone: 0086-21-61460890  
Fax: 0086-21-61460602

### **2.2. Manufacturer Information**

Company Name: TCT Mobile Limited  
Address /Post: 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,  
Pudong Area Shanghai, P.R. China. 201203  
Country: China  
Contact Gong Zhizhou  
Email zhizhou.gong @jrdcom.com  
Telephone: 0086-21-61460890  
Fax: 0086-21-61460602

### **3. EQUIPMENT UNDER TEST(EUT) AND ANCILLARY**

#### **EQUIPMENT(AE)**

##### **3.1. About EUT**

|                     |                            |
|---------------------|----------------------------|
| Description         | GSM quad band mobile phone |
| Type                | Tahiti 1Sim Wifi+ATV       |
| Market name         | ALCATEL 3041G              |
| FCC ID              | RAD337                     |
| IC ID               | /                          |
| With WLAN Function  | Yes                        |
| Frequency Range     | ISM 2400MHz~2483.5MHz      |
| Type of Modulation  | DSSS/CCK/OFDM              |
| Number of Channels  | 11                         |
| Antenna             | Integral Antenna           |
| MAX Conducted Power | 23.40dBm(OFDM)             |
| Power Supply        | 3.8V DC by Battery         |

Note: Photographs of EUT are shown in ANNEX C of this test report.

##### **3.2. Internal Identification of EUT used during the test**

| <b>EUT ID*</b> | <b>IMEI</b>     | <b>HW Version</b> | <b>SW Version</b> |
|----------------|-----------------|-------------------|-------------------|
| EUT1           | 013503000101384 | PIO               | V556              |
| EUT2           | 013503000101368 | PIO               | V556              |

\*EUT ID: is used to identify the test sample in the lab internally.

##### **3.3. Internal Identification of AE used during the test**

| <b>AE ID*</b> | <b>Description</b> | <b>Type</b>  | <b>SN</b> |
|---------------|--------------------|--------------|-----------|
| AE1           | Battery            | CAB31L0000C2 | /         |
| AE2           | Battery            | CAB31L0000C1 | /         |
| AE3           | Charger            | CBA3002AG0C1 | /         |
| AE4           | Charger            | CBA3002AG0C3 | /         |

\*AE ID: is used to identify the test sample in the lab internally.

##### **3.4. General Description**

Equipment Under Test (EUT) is a model of GSM quad band mobile phone with integrated antenna.

It consists of normal options: Battery and Charger.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the Client.

#### **4. Reference Documents**

##### **4.1. Documents supplied by applicant**

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

##### **4.2. REFERENCE DOCUMENTS FOR TESTING**

The following documents listed in this section are referred for testing.

|             |  |                         |
|-------------|--|-------------------------|
| FCC Part15  | FCC CFR 47, Part 15, Subpart C:<br>15.205 Restricted bands of operation;<br>15.209 Radiated emission limits, general requirements;<br>15.247 Operation within the bands 902-928MHz,<br>2400-2483.5 MHz, and 5725-5850 MHz. | Oct,<br>2009<br>Edition |
| ANSI C63.10 | Procedures for testing compliance of a wide variety of<br>unlicensed wireless devices  | 2009                    |

## 5. LABORATORY ENVIRONMENT

**Shielding Room1** (6.0 meters×3.0 meters×2.7 meters) did not exceed following limits along the conducted RF performance testing:

|                              |  |
|------------------------------|--|
| Temperature                  | Min. = 15 °C, Max. = 30 °C                 |
| Relative humidity            | Min. = 30 %, Max. = 60 %                   |
| Shielding effectiveness      | > 110 dB                                   |
| Ground system resistance     | < 0.5 Ω                                    |
| Uniformity of field strength | Between 0 and 6 dB, from 80MHz to 3000 MHz |

**Semi-anechoic chamber** (10 meters×6.7meters×6.15meters) did not exceed following limits along the EMC testing:

|   |   |
|---|---|
| Temperature                                     | Min. = 15 °C, Max. = 30 °C              |
| Relative humidity                               | Min. = 35 %, Max. = 60 %                |
| Shielding effectiveness                         | > 110 dB                                |
| Electrical insulation                           | > 2 M ohm                               |
| Ground system resistance                        | < 0.5 Ω                                 |
| Normalised site attenuation (NSA)               | < ±3.5 dB, 3 m distance                 |
| Site voltage standing-wave ratio ( $S_{VSWR}$ ) | Between 0 and 6 dB, from 1GHz to 18GHz  |
| Uniformity of field strength                    | Between 0 and 6 dB, from 80 to 3000 MHz |

**Shielding Room2** (7.30 meters×4.00 meters×3.80 meters) did not exceed following limits along the EMC testing:

|                              |  |
|------------------------------|--|
| Temperature                  | Min. = 15 °C, Max. = 30 °C                 |
| Relative humidity            | Min. = 35 %, Max. = 60 %                   |
| Shielding effectiveness      | > 110 dB                                   |
| Electrical insulation        | > 10 kΩ                                    |
| Ground system resistance     | < 0.5 Ω                                    |
| Uniformity of field strength | Between 0 and 6 dB, from 80MHz to 3000 MHz |

## 6. SUMMARY OF TEST RESULTS

### 6.1. Summary of Test Results

| SUMMARY OF MEASUREMENT RESULTS            | Sub-clause of Part15C  | Sub-clause of IC | Verdict |
|---|------------------------|------------------|---------|
| Maximum Peak Output Power                 | 15.247 (a)             | /                | P       |
| Peak Power Spectral Density               | 15.247 (d)             | /                | P       |
| Occupied 6dB Bandwidth                    | 15.247 (d)             | /                | P       |
| Band Edges Compliance                     | 15.247 (b)             | /                | P       |
| Transmitter Spurious Emission - Conducted | 15.247                 | /                | P       |
| Transmitter Spurious Emission - Radiated  | 15.247, 15.205, 15.209 | /                | P       |
| AC Powerline Conducted Emission           | 15.107, 15.207         | /                | P       |

Please refer to **ANNEX A** for detail.

The measurement is made according to Public notice ANSI C63.10.

Terms used in Verdict column

|    |   |
|----|---|
| P  | Pass, The EUT complies with the essential requirements in the standard.       |
| NP | Not Perform, The test was not performed by TMC                                |
| NA | Not Applicable, The test was not applicable                                   |
| F  | Fail, The EUT does not comply with the essential requirements in the standard |

### 6.2. Statements

TMC has evaluated the test cases requested by the client/manufacturer as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.1.

This report only deals with the WLAN function among the features described in section 3.

Test Conditions

|       |                    |
|-------|--------------------|
| T nom | Normal Temperature |
| T min | Low Temperature    |
| T max | High Temperature   |
| V nom | Normal Voltage     |
| V min | Low Voltage        |
| V max | High Voltage       |
| H nom | Norm Humidity      |
| A nom | Norm Air Pressure  |

For this report, all the test cases listed above are tested under Normal Temperature and Normal Voltage which is using a new battery, and also under norm humidity, the specific conditions as following:

|              |       |                  |
|--------------|-------|------------------|
| Temperature  | T nom | 26°C             |
| Voltage      | V nom | 3.8V(By battery) |
| Humidity     | H nom | 44%              |
| Air Pressure | A nom | 1010hPa          |

## **7. TEST EQUIPMENTS UTILIZED**

### **Conducted test system**

| <b>No.</b> | <b>Equipment</b>       | <b>Model</b> | <b>Serial Number</b> | <b>Manufacturer</b> | <b>Calibration Due date</b> |
|------------|------------------------|--------------|----------------------|---------------------|-----------------------------|
| 1          | Vector Signal Analyzer | FSQ40        | 200089               | Rohde & Schwarz     | 2013-07-19                  |
| 2          | Test Receiver          | ESS          | 847151/015           | Rohde & Schwarz     | 2013-10-30                  |
| 3          | LISN                   | ESH2-Z5      | 829991/012           | Rohde & Schwarz     | 2013-08-12                  |

### **Radiated emission test system**

| <b>No.</b> | <b>Equipment</b>                  | <b>Model</b> | <b>Serial Number</b> | <b>Manufacturer</b> | <b>Calibration Due date</b> |
|------------|-----------------------------------|--------------|----------------------|---------------------|-----------------------------|
| 1          | Test Receiver                     | ESI40        | 831564/002           | Rohde & Schwarz     | 2014-02-12                  |
| 2          | BiLog Antenna                     | 3142B        | 9908-1403            | EMCO                | 2014-03-15                  |
| 3          | Dual-Ridge Waveguide Horn Antenna | 3115         | 9906-5827            | EMCO                | 2013-12-25                  |
| 4          | Dual-Ridge Waveguide Horn Antenna | 3116         | 2661                 | EMCO                | 2013-06-30                  |

### **Anechoic chamber**

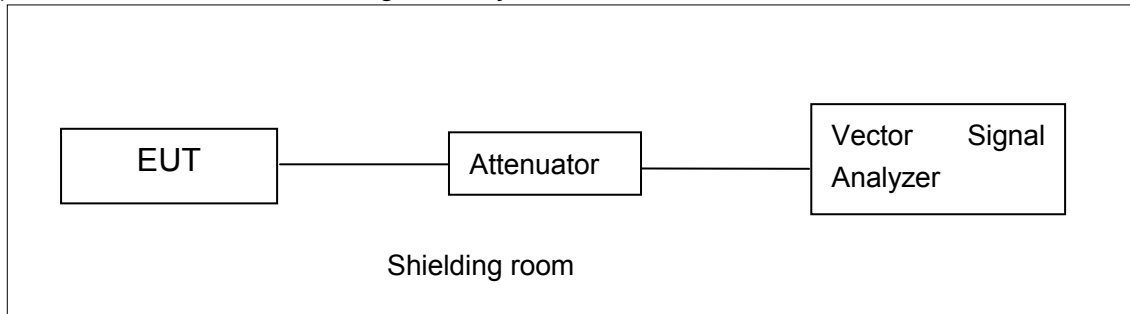
Anechoic chamber by Frankonia German.

## ANNEX A: MEASUREMENT RESULTS

### A.1. Measurement Method

#### A.1.1. Conducted Measurements

- 1). Connect the EUT to the test system correctly.
- 2). Set the EUT to the required work mode.
- 3). Set the EUT to the required channel.
- 4). Set the spectrum analyzer to start measurement.
- 5). Record the values. Vector Signal Analyzer

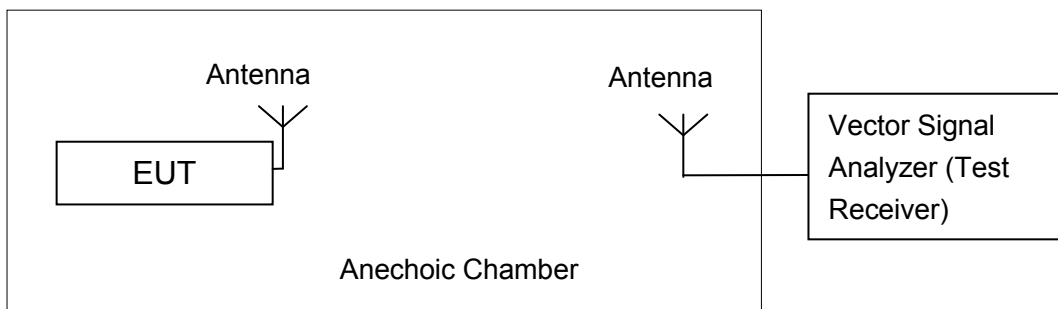


#### A.1.2. Radiated Emission Measurements

In the case of radiated emission, the used settings are as follows,

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 10Hz;



The measurement is made according to ANSI C63.10

## A.2. Maximum Output Power

### Measurement Limit and Method:

| Standard               | Limit (dBm) |
|------------------------|-------------|
| FCC CRF Part 15.247(b) | < 30        |

The measurement is made according to ANSI C63.10, and EUT is operating in continuous transmitting mode.

### Measurement Uncertainty:

|                         |        |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

### A.2.1. Maximum Peak Output Power-conducted

#### Measurement Results:

#### 802.11b/g mode

| Mode    | Data Rate (Mbps) | Test Result (dBm) |               |                 |
|---------|------------------|-------------------|---------------|-----------------|
|         |                  | 2412MHz (Ch1)     | 2437MHz (Ch6) | 2462 MHz (Ch11) |
| 802.11b | 1                | 19.64             | /             | /               |
|         | 2                | 19.70             | /             | /               |
|         | 5.5              | 21.09             | /             | /               |
|         | 11               | 22.55             | 22.51         | 23.03           |
| 802.11g | 6                | 22.65             | /             | /               |
|         | 9                | 22.71             | /             | /               |
|         | 12               | 22.54             |               |                 |
|         | 18               | 22.49             | /             | /               |
|         | 24               | 23.05             | 23.04         | 23.40           |
|         | 36               | 22.81             | /             | /               |
|         | 48               | 22.90             | /             | /               |
|         | 54               | 22.94             | /             | /               |

The data rate 11Mbps and 24Mbps are selected as worse condition, and the following cases are performed with this condition.

#### 802.11n-HT20 mode

| Mode            | Data Rate (Index) | Test Result (dBm) |               |                 |
|-----------------|-------------------|-------------------|---------------|-----------------|
|                 |                   | 2412MHz (Ch1)     | 2437MHz (Ch6) | 2462 MHz (Ch11) |
| 802.11n (20MHz) | MCS0              | 20.54             | /             | /               |
|                 | MCS1              | 20.35             | /             | /               |
|                 | MCS2              | 20.37             | /             | /               |
|                 | MCS3              | 20.84             | /             | /               |
|                 | MCS4              | 20.89             | /             | /               |
|                 | MCS5              | 21.01             | 21.03         | 21.40           |
|                 | MCS6              | 20.96             | /             | /               |



|  |      |       |   |   |
|--|------|-------|---|---|
|  | MCS7 | 20.97 | / | / |
|--|------|-------|---|---|

The data rate MCS5 is selected as worse condition, and the following cases are performed with this condition.

**802.11n-HT40 mode**

| Mode            | Data Rate (Index) | Test Result (dBm) |               |                |
|-----------------|-------------------|-------------------|---------------|----------------|
|                 |                   | 2422MHz (Ch3)     | 2437MHz (Ch6) | 2452 MHz (Ch9) |
| 802.11n (40MHz) | MCS0              | 20.38             | /             | /              |
|                 | MCS1              | 20.29             | /             | /              |
|                 | MCS2              | 20.21             | /             | /              |
|                 | MCS3              | 20.70             | 20.76         | 21.05          |
|                 | MCS4              | 20.53             | /             | /              |
|                 | MCS5              | 20.59             | /             | /              |
|                 | MCS6              | 20.57             | /             | /              |
|                 | MCS7              | 20.58             | /             | /              |

The data rate MCS3 is selected as worse condition, and the following cases are performed with this condition.

**Conclusion: PASS**

### A.2.2. Maximum Average Output Power-conducted

#### 802.11b/g mode

| Mode    | Test Result (dBm) |                  |                    |
|---------|-------------------|------------------|--------------------|
|         | 2412MHz<br>(Ch1)  | 2437MHz<br>(Ch6) | 2462 MHz<br>(Ch11) |
| 802.11b | 15.89             | 15.98            | 16.37              |
| 802.11g | 14.06             | 14.25            | 14.67              |

#### 802.11n-HT20 mode

| Mode               | Test Result (dBm) |                  |                    |
|--------------------|-------------------|------------------|--------------------|
|                    | 2412MHz<br>(Ch1)  | 2437MHz<br>(Ch6) | 2462 MHz<br>(Ch11) |
| 802.11n<br>(20MHz) | 12.18             | 12.13            | 12.47              |

#### 802.11n-HT40 mode

| Mode               | Test Result (dBm) |                  |                   |
|--------------------|-------------------|------------------|-------------------|
|                    | 2422MHz<br>(Ch3)  | 2437MHz<br>(Ch6) | 2452 MHz<br>(Ch9) |
| 802.11n<br>(40MHz) | 11.63             | 11.65            | 11.97             |

**Conclusion: PASS**

### A.3. Peak Power Spectral Density

**Measurement Limit:**

| Standard               | Limit         |
|------------------------|---------------|
| FCC CRF Part 15.247(d) | < 8 dBm/3 kHz |

The measurement is made according to ANSI C63.10

**Measurement Uncertainty:**

|                         |        |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

**Measurement Results:**

**802.11b/g mode**

| Mode    | Channel | Power Spectral Density<br>( dBm/3 kHz ) |       | Conclusion |
|---------|---------|---|-------|------------|
| 802.11b | 1       | Fig.1                                   | -4.58 | P          |
|         | 6       | Fig.2                                   | -6.31 | P          |
|         | 11      | Fig.3                                   | -4.70 | P          |
| 802.11g | 1       | Fig.4                                   | -9.41 | P          |
|         | 6       | Fig.5                                   | -8.30 | P          |
|         | 11      | Fig.6                                   | -7.13 | P          |

**802.11n-HT20 mode**

| Mode               | Channel | Power Spectral Density<br>( dBm/3 kHz ) |        | Conclusion |
|--------------------|---------|---|--------|------------|
| 802.11n<br>(20MHz) | 1       | Fig.7                                   | -12.43 | P          |
|                    | 6       | Fig.8                                   | -12.42 | P          |
|                    | 11      | Fig.9                                   | -12.02 | P          |

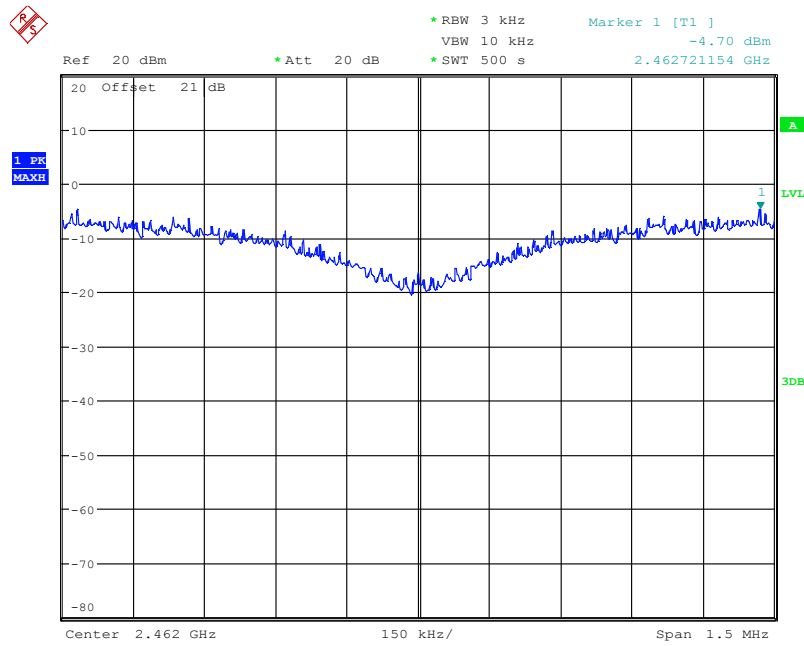
**802.11n-HT40 mode**

| Mode               | Channel | Power Spectral Density<br>( dBm/3 kHz ) |        | Conclusion |
|--------------------|---------|---|--------|------------|
| 802.11n<br>(40MHz) | 3       | Fig.10                                  | -15.69 | P          |
|                    | 6       | Fig.11                                  | -15.87 | P          |
|                    | 9       | Fig.12                                  | -16.14 | P          |

**Conclusion: PASS**

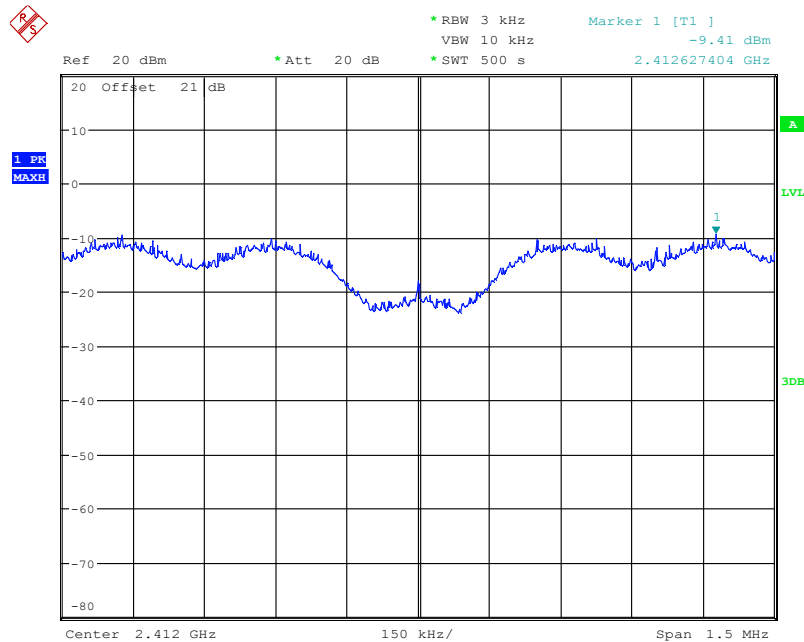
**Test graphs as below:**





Date: 2.MAR.2013 16:07:53

**Fig. 3 Power Spectral Density (802.11b, Ch 11)**

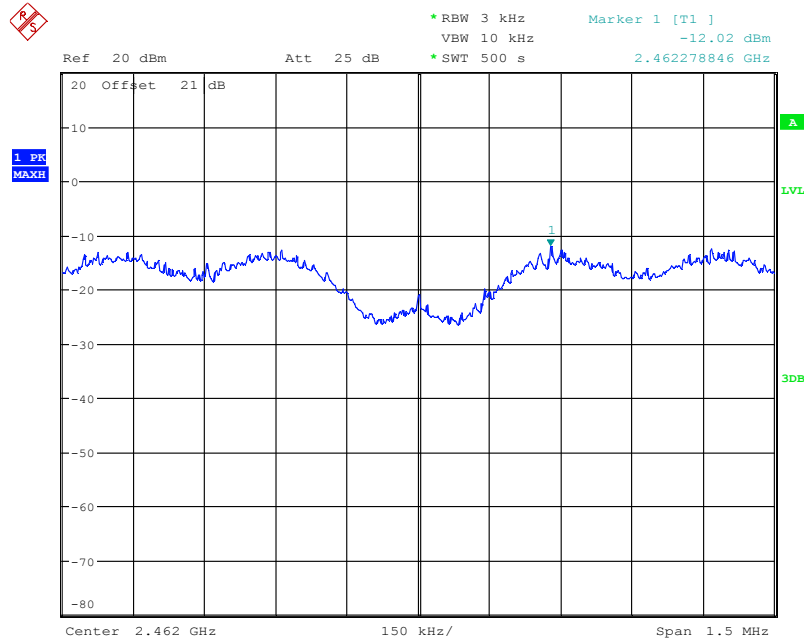


Date: 2.MAR.2013 16:17:16

**Fig. 4 Power Spectral Density (802.11g, Ch 1)**

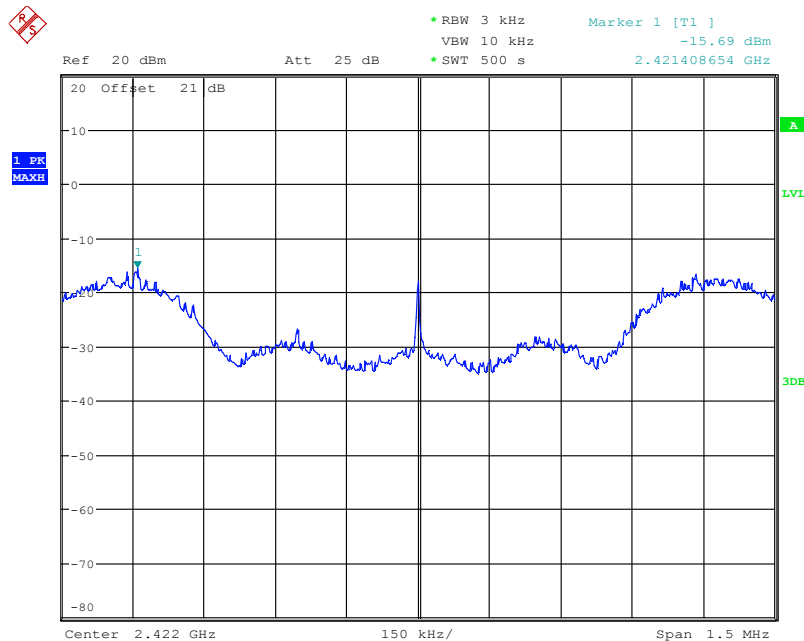






Date: 15.MAR.2013 13:16:09

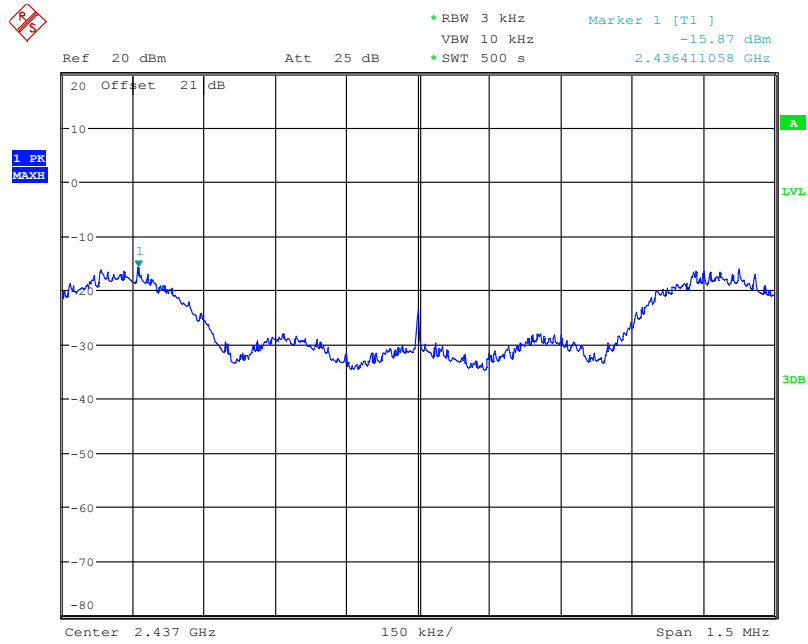
**Fig. 9 Power Spectral Density (802.11n-20MHz, Ch 11)**



Date: 15.MAR.2013 13:26:40

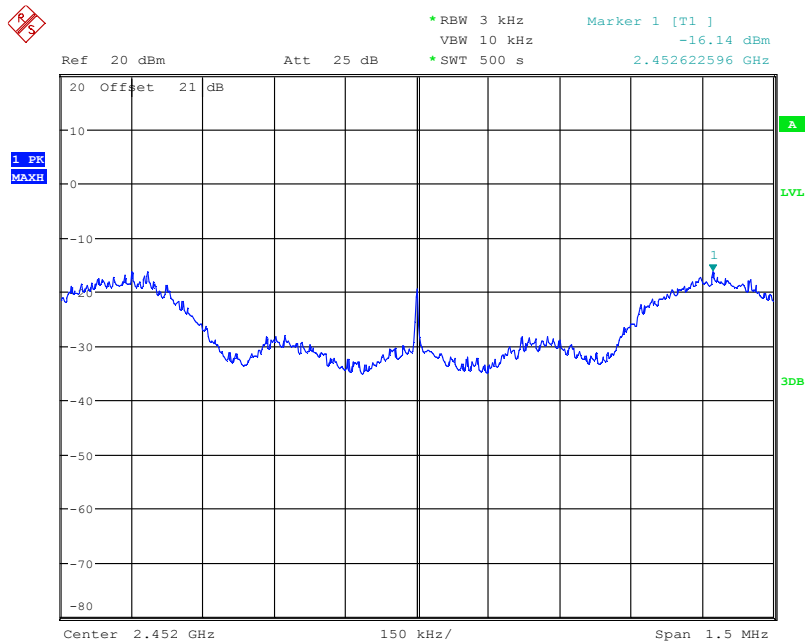
**Fig. 10 Power Spectral Density (802.11n-HT40, Ch 3)**





Date: 15.MAR.2013 13:54:36

**Fig. 11 Power Spectral Density (802.11n-HT40, Ch 6)**



Date: 15.MAR.2013 14:12:19

**Fig. 12 Power Spectral Density (802.11n-HT40, Ch 9)**

#### A.4. Occupied 6dB Bandwidth

##### Measurement Limit:

| Standard                   | Limit (kHz) |
|----------------------------|-------------|
| FCC 47 CFR Part 15.247 (a) | ≥ 500       |

The measurement is made according to ANSI C63.10

##### Measurement Uncertainty:

|                         |         |
|-------------------------|---------|
| Measurement Uncertainty | 60.80Hz |
|-------------------------|---------|

##### Measurement Result:

###### 802.11b/g mode

| Mode    | Channel | Occupied 6dB Bandwidth ( kHz) |          | conclusion |
|---------|---------|-------------------------------|----------|------------|
| 802.11b | 1       | Fig.13                        | 10705.13 | P          |
|         | 6       | Fig.14                        | 98717.95 | P          |
|         | 11      | Fig.15                        | 96153.85 | P          |
| 802.11g | 1       | Fig.16                        | 16602.56 | P          |
|         | 6       | Fig.17                        | 16602.56 | P          |
|         | 11      | Fig.18                        | 16538.46 | P          |

###### 802.11n-HT20 mode

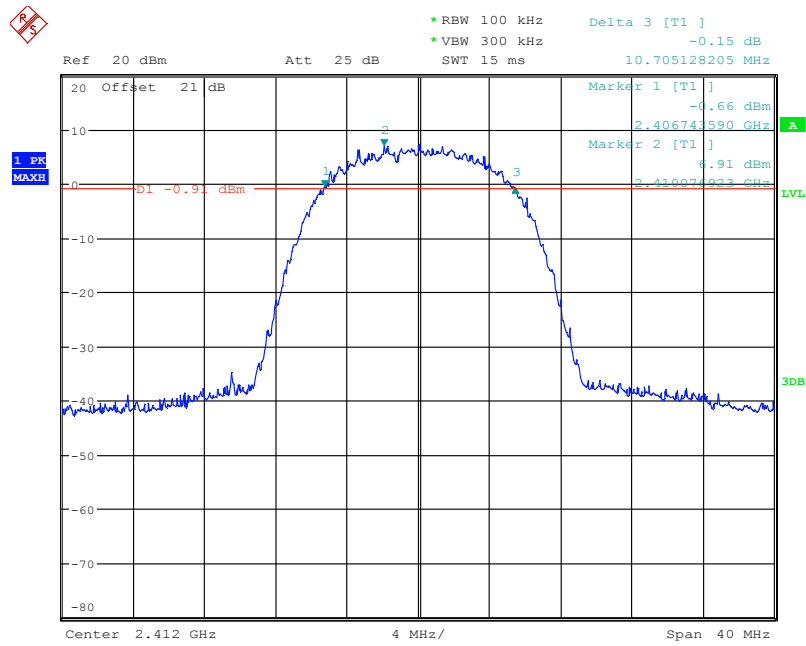
| Mode               | Channel | Occupied 6dB Bandwidth ( kHz) |          | conclusion |
|--------------------|---------|-------------------------------|----------|------------|
| 802.11n<br>(20MHz) | 1       | Fig.19                        | 17820.51 | P          |
|                    | 6       | Fig.20                        | 17820.51 | P          |
|                    | 11      | Fig.21                        | 17820.51 | P          |

###### 802.11n-HT40 mode

| Mode               | Channel | Occupied 6dB Bandwidth ( kHz) |          | conclusion |
|--------------------|---------|-------------------------------|----------|------------|
| 802.11n<br>(40MHz) | 3       | Fig.22                        | 36666.67 | P          |
|                    | 6       | Fig.23                        | 36666.67 | P          |
|                    | 9       | Fig.24                        | 36538.46 | P          |

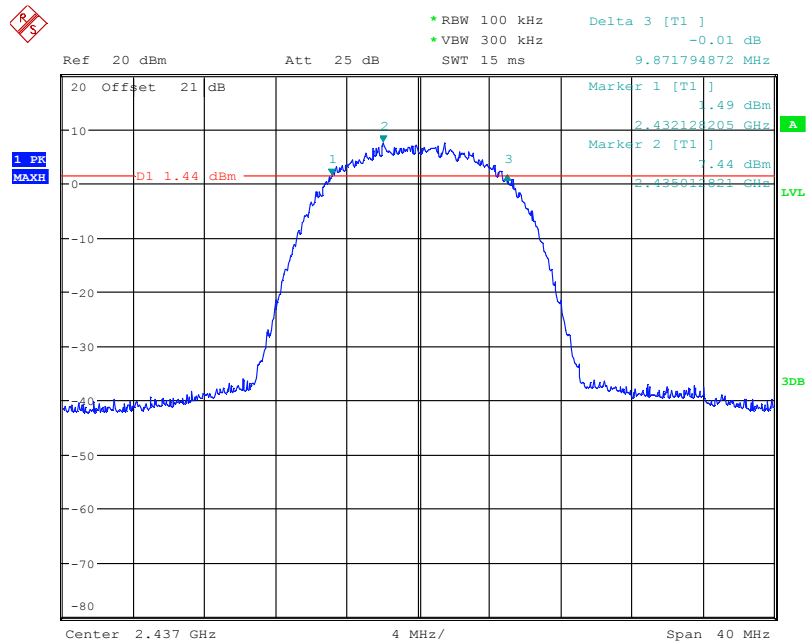
**Conclusion: PASS**

Test graphs as below:



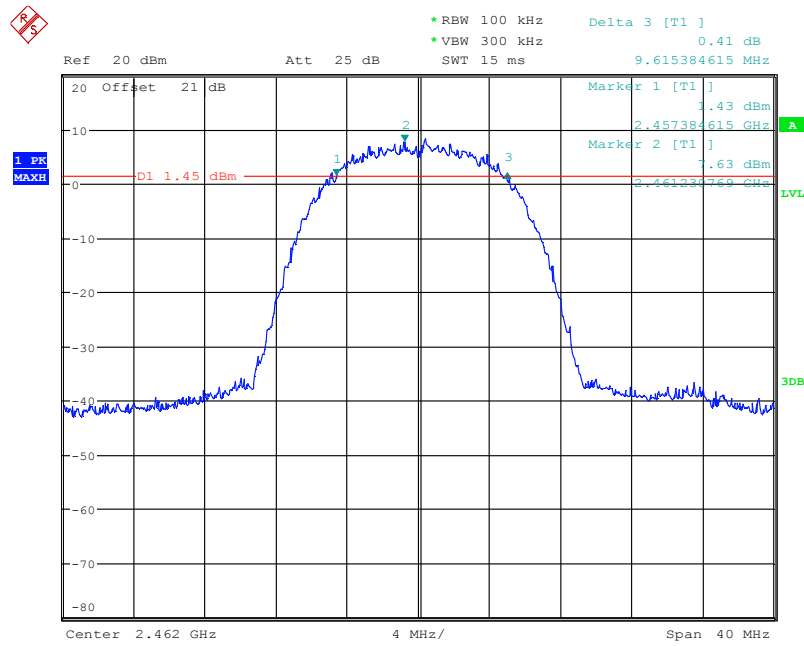
Date: 16.MAR.2013 13:59:45

**Fig. 13 Occupied 6dB Bandwidth (802.11b, Ch 1)**



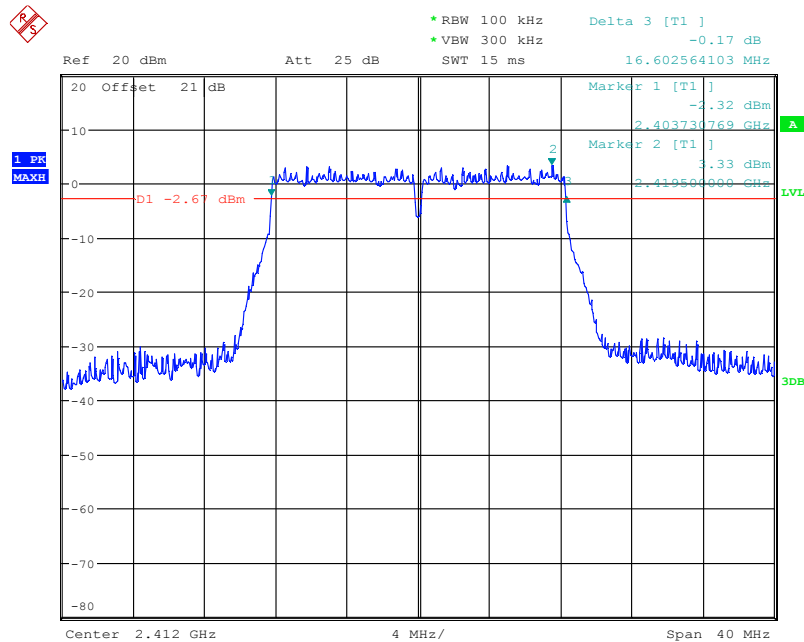
Date: 16.MAR.2013 14:01:00

**Fig. 14 Occupied 6dB Bandwidth (802.11b, Ch 6)**



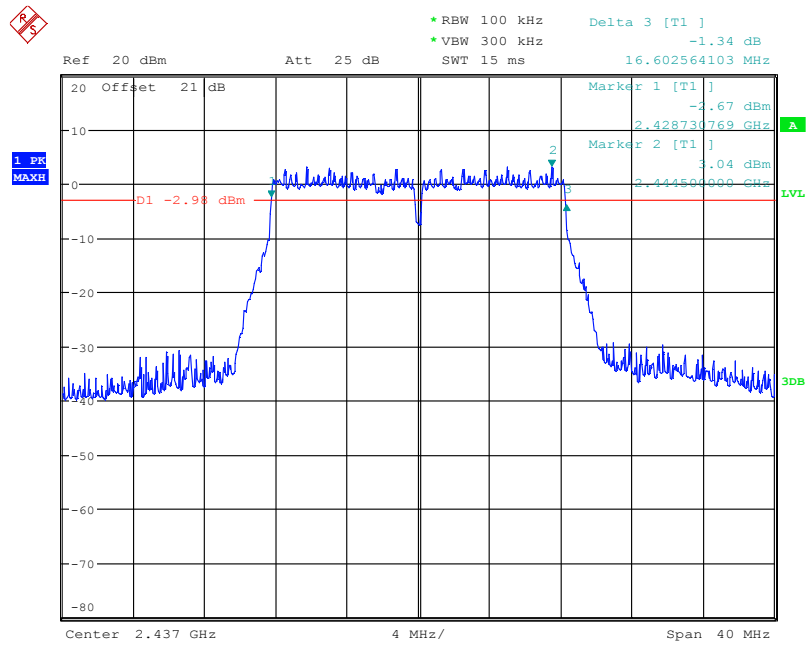
Date: 16.MAR.2013 14:02:04

**Fig. 15 Occupied 6dB Bandwidth (802.11b, Ch 11)**



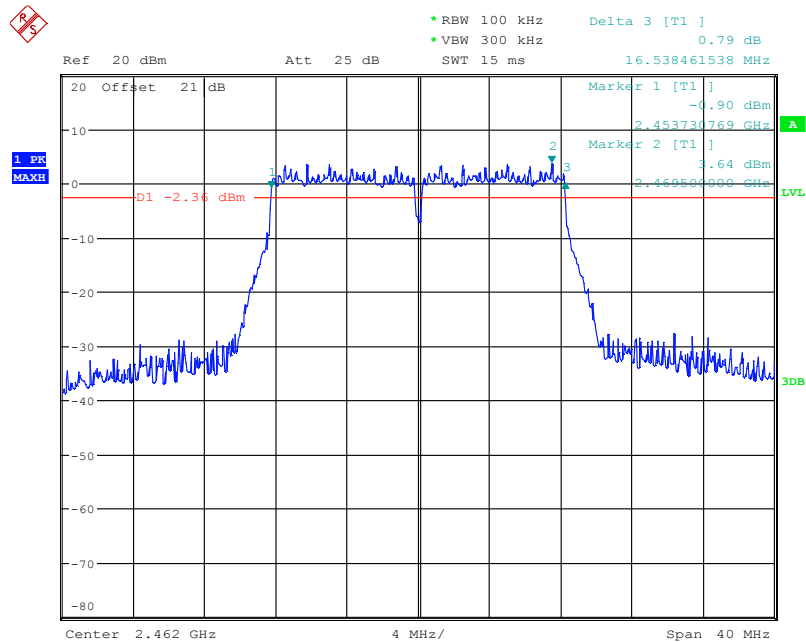
Date: 16.MAR.2013 14:39:51

**Fig. 16 Occupied 6dB Bandwidth (802.11g, Ch 1)**



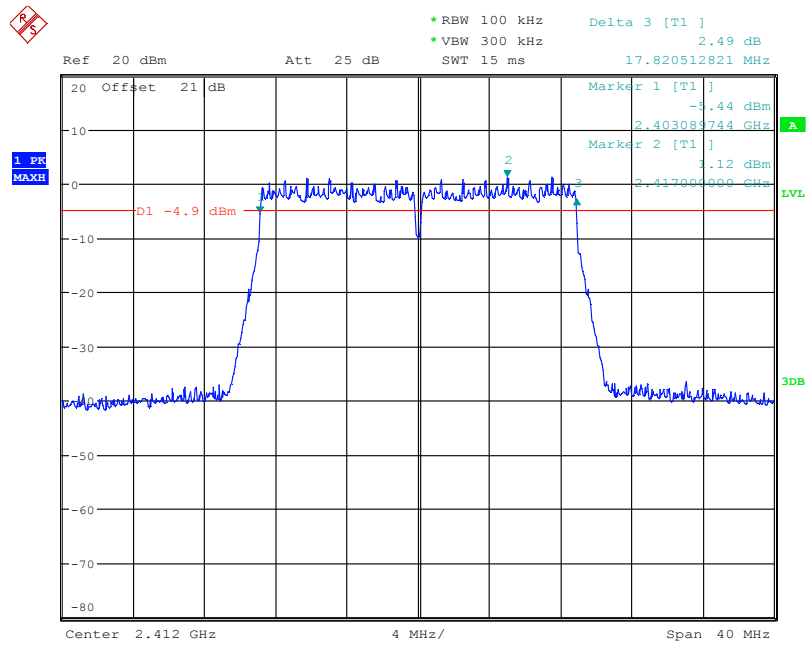
Date: 16.MAR.2013 14:40:47

**Fig. 17 Occupied 6dB Bandwidth (802.11g, Ch 6)**



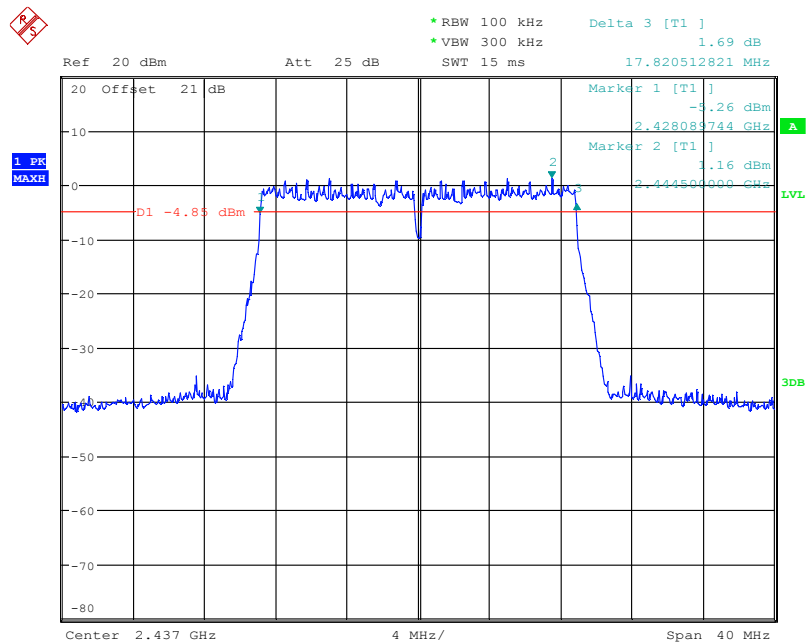
Date: 16.MAR.2013 14:42:10

**Fig. 18 Occupied 6dB Bandwidth (802.11g, Ch 11)**



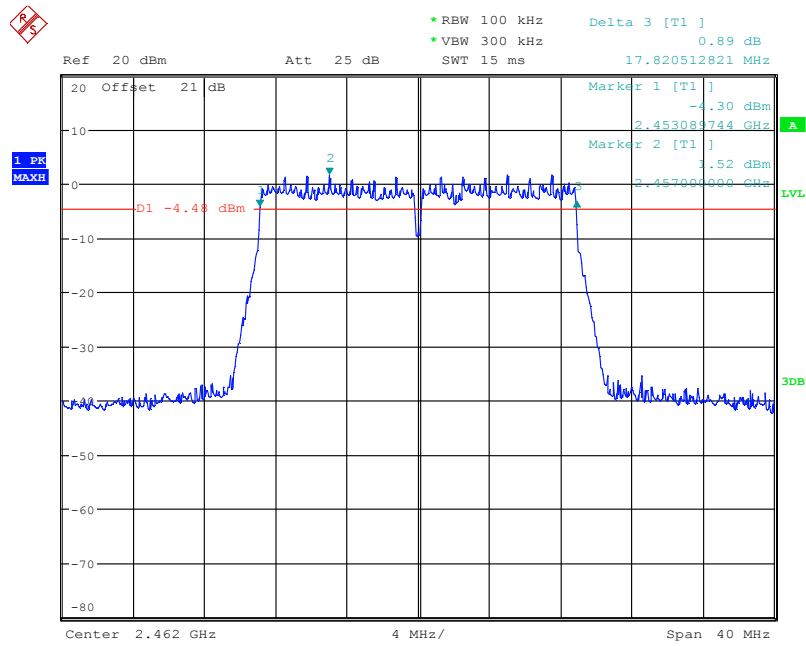
Date: 16.MAR.2013 14:43:41

**Fig. 19 Occupied 6dB Bandwidth (802.11n-HT20, Ch 1)**



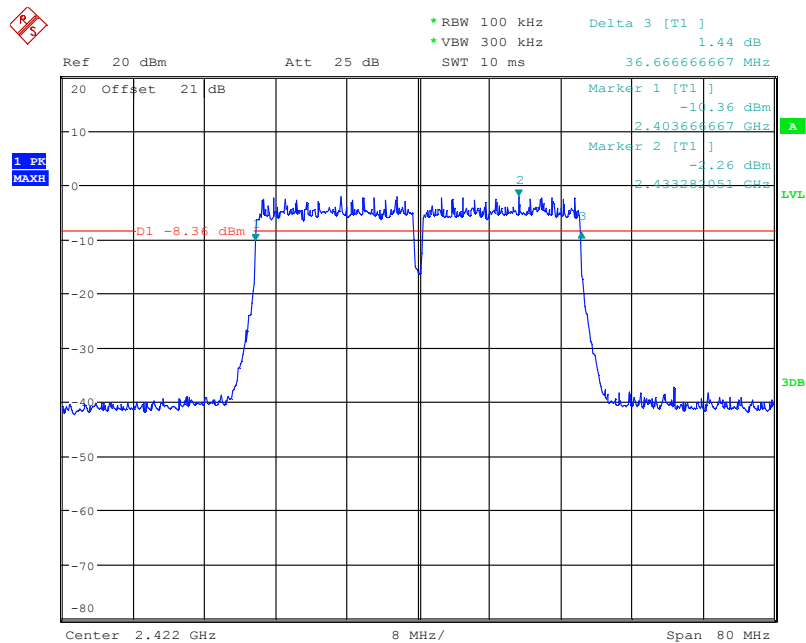
Date: 16.MAR.2013 14:44:52

**Fig. 20 Occupied 6dB Bandwidth (802.11n-HT20, Ch 6)**



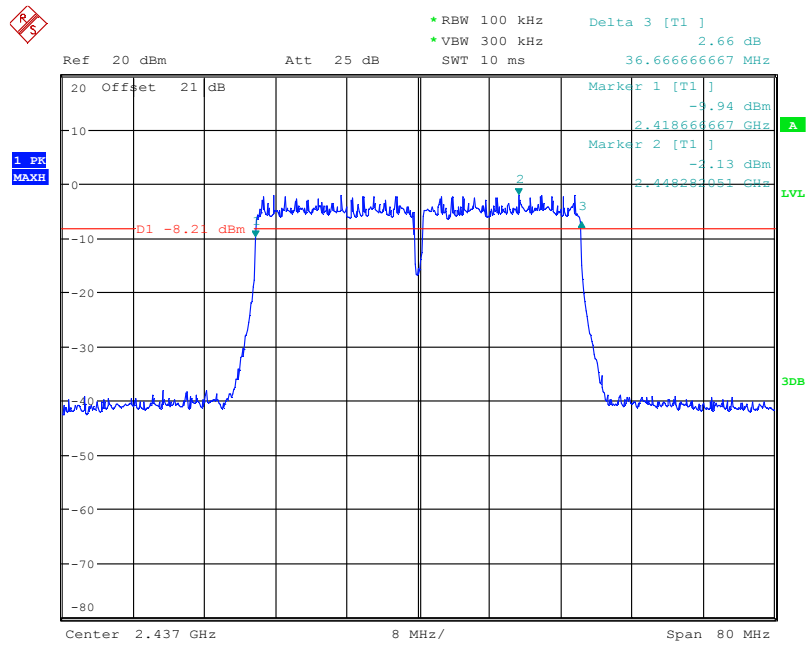
Date: 16.MAR.2013 14:45:43

**Fig. 21 Occupied 6dB Bandwidth (802.11n-HT20, Ch 11)**



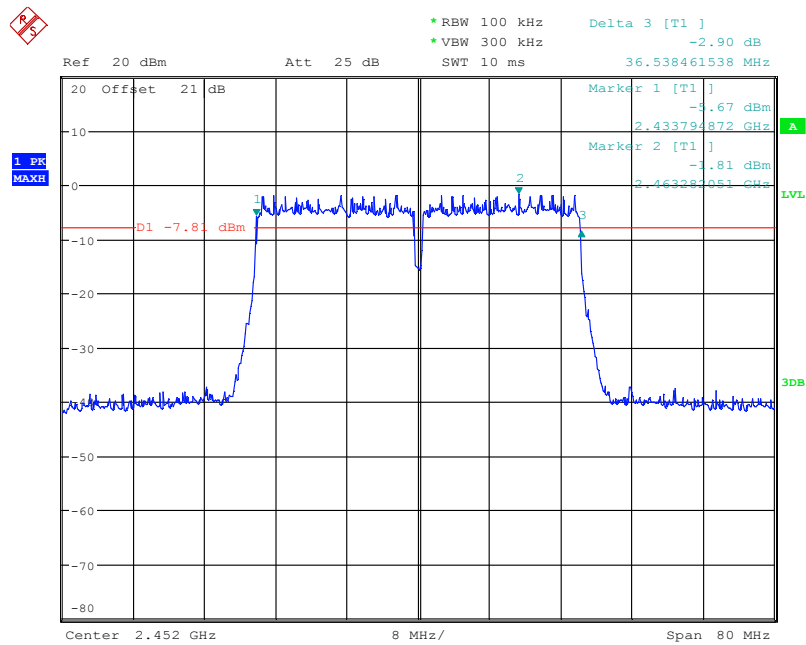
Date: 16.MAR.2013 14:47:20

**Fig. 22 Occupied 6dB Bandwidth (802.11n-HT40, Ch 3)**



Date: 16.MAR.2013 14:48:36

**Fig. 23 Occupied 6dB Bandwidth (802.11n-HT40, Ch 6)**



Date: 16.MAR.2013 14:49:46

**Fig. 24 Occupied 6dB Bandwidth (802.11n-HT40, Ch 9)**



### A.5. Band Edges Compliance

**Measurement Limit:**

| Standard                   | Limit (dBc) |
|----------------------------|-------------|
| FCC 47 CFR Part 15.247 (d) | > 20        |

The measurement is made according to ANSI C63.10

**Measurement Uncertainty:**

|                         |        |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

**Measurement Result:**

**802.11b/g mode**

| Mode    | Channel | Test Results | Conclusion |
|---------|---------|--------------|------------|
| 802.11b | 1       | Fig.25       | P          |
|         | 11      | Fig.26       | P          |
| 802.11g | 1       | Fig.27       | P          |
|         | 11      | Fig.28       | P          |

**802.11n-HT20 mode**

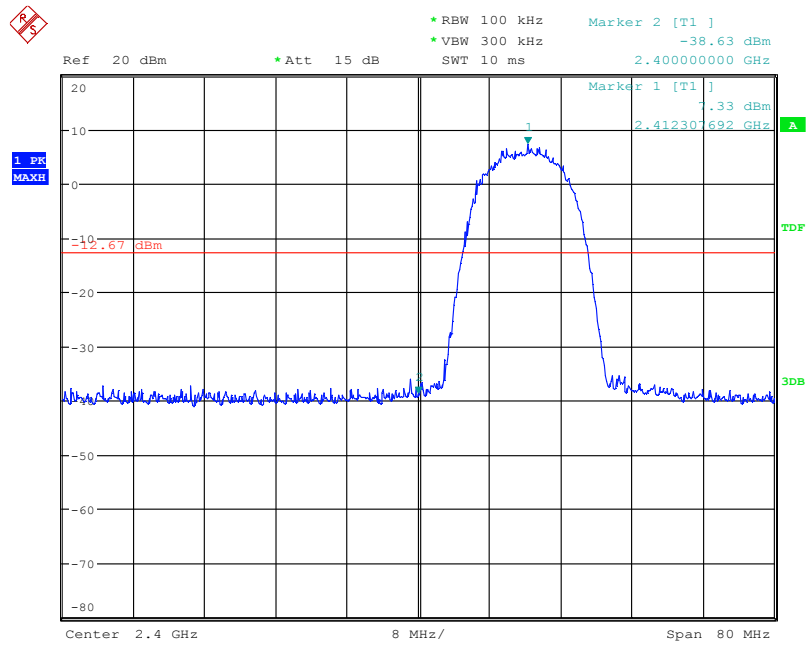
| Mode               | Channel | Test Results | Conclusion |
|--------------------|---------|--------------|------------|
| 802.11n<br>(20MHz) | 1       | Fig.29       | P          |
|                    | 11      | Fig.30       | P          |

**802.11n-HT40 mode**

| Mode               | Channel | Test Results | Conclusion |
|--------------------|---------|--------------|------------|
| 802.11n<br>(40MHz) | 3       | Fig.31       | P          |
|                    | 9       | Fig.32       | P          |

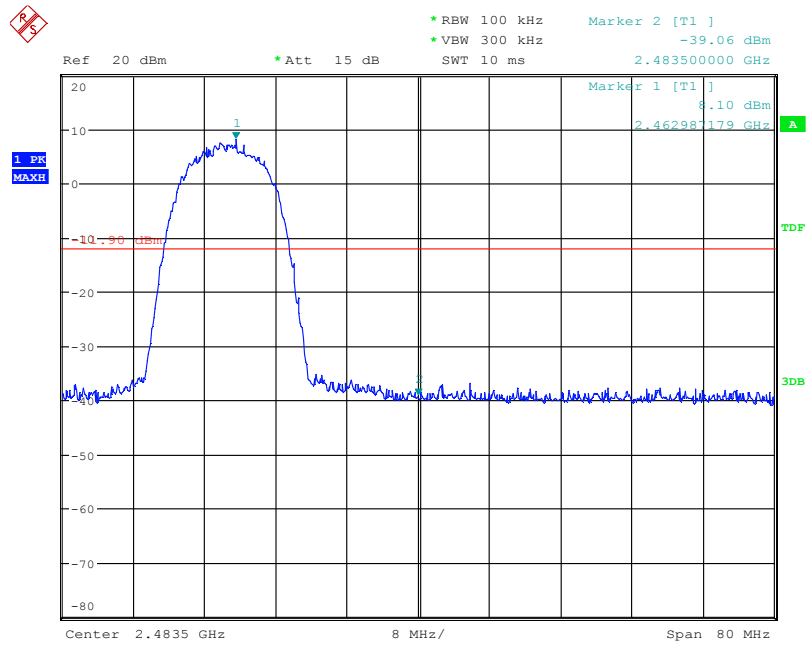
**Conclusion: PASS**

**Test graphs as below:**



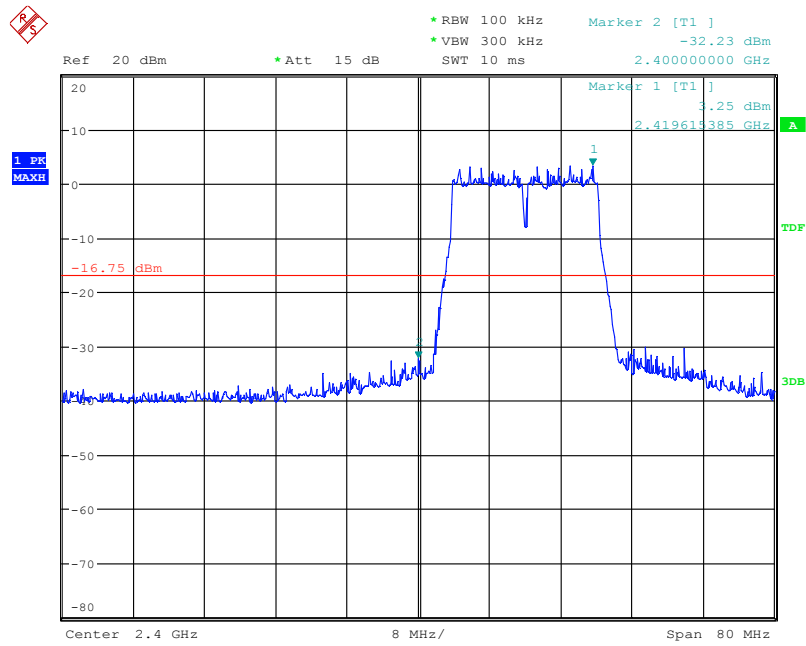
Date: 16.MAR.2013 14:52:37

**Fig. 25 Band Edges (802.11b, Ch 1)**



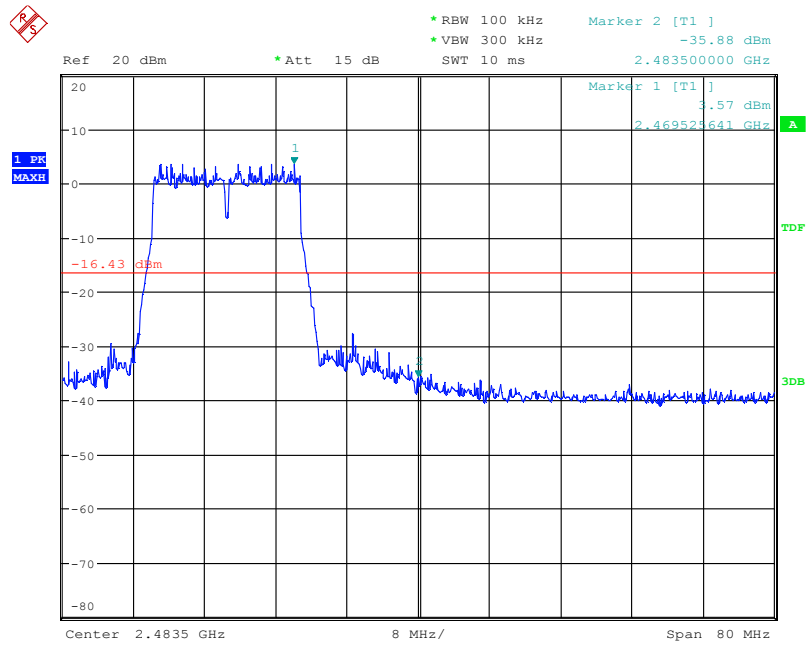
Date: 16.MAR.2013 14:53:01

**Fig. 26 Band Edges (802.11b, Ch 11)**



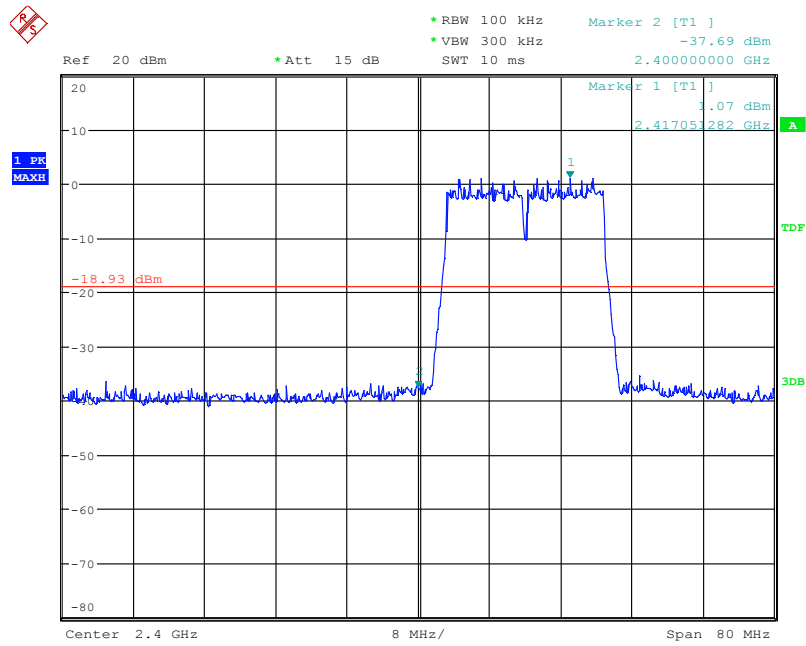
Date: 16.MAR.2013 14:53:43

**Fig. 27 Band Edges (802.11g, Ch 1)**



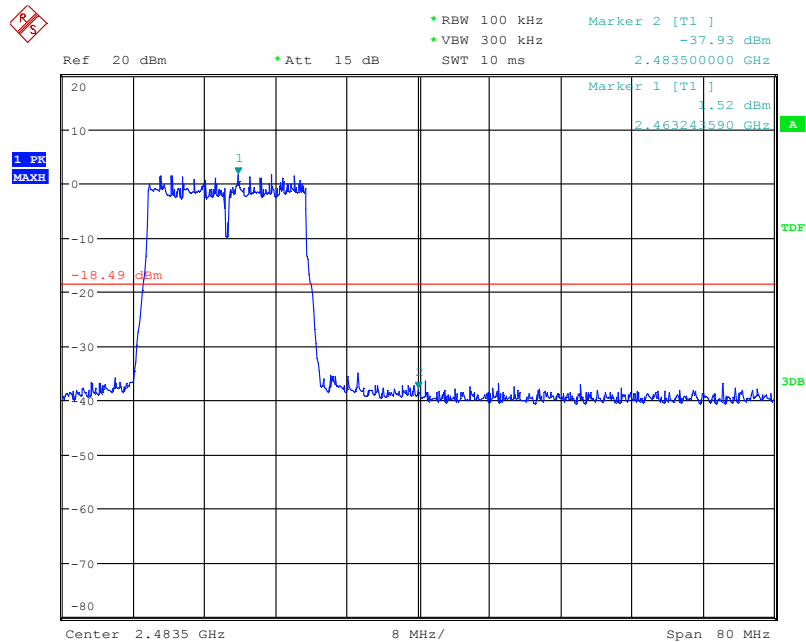
Date: 16.MAR.2013 14:54:15

**Fig. 28 Band Edges (802.11g, Ch 11)**



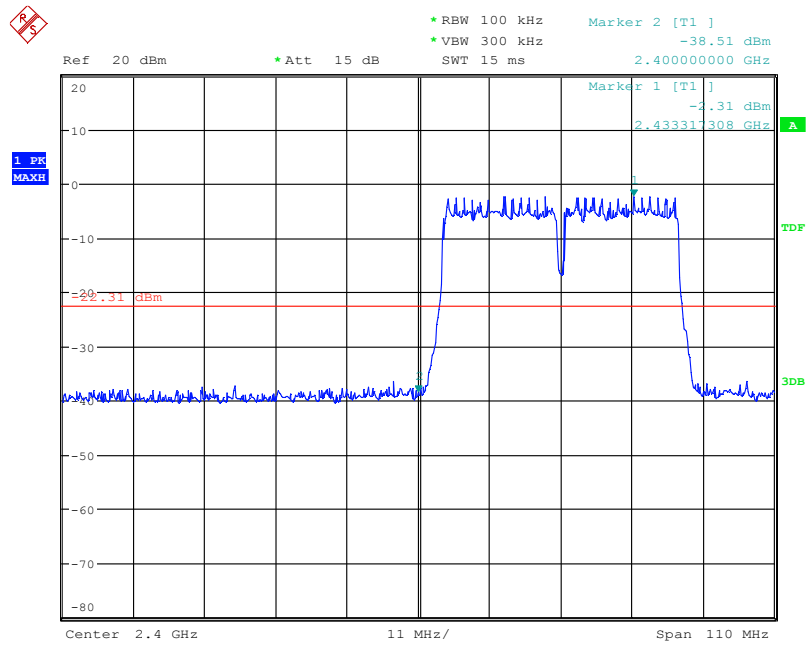
Date: 16.MAR.2013 14:54:56

**Fig. 29 Band Edges (802.11n-HT20, Ch 1)**



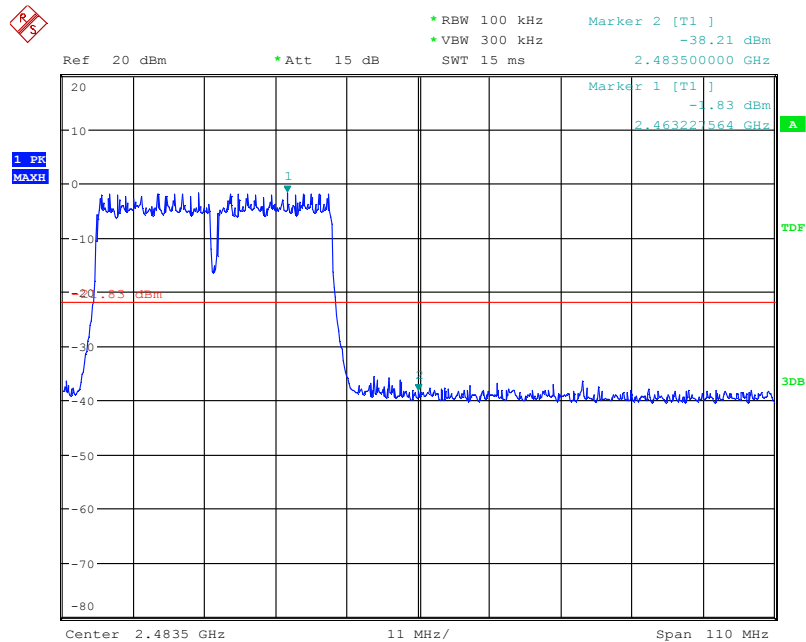
Date: 16.MAR.2013 14:55:15

**Fig. 30 Band Edges (802.11n-HT20, Ch 11)**



Date: 16.MAR.2013 14:56:05

**Fig. 31 Band Edges (802.11n-HT40, Ch 3)**



Date: 16.MAR.2013 14:56:31

**Fig. 32 Band Edges (802.11n-HT40, Ch 9)**

## A.6. Transmitter Spurious Emission

### A.6.1 Transmitter Spurious Emission - Conducted

#### Measurement Limit:

| Standard                   | Limit   |
|----------------------------|---|
| FCC 47 CFR Part 15.247 (d) | 20dB below peak output power in 100 kHz bandwidth |

The measurement is made according to ANSI C63.10

#### Measurement Uncertainty:

| Frequency Range                         | Uncertainty |
|---|-------------|
| $30\text{MHz} \leq f \leq 2\text{GHz}$  | 0.63        |
| $2\text{GHz} \leq f \leq 3.6\text{GHz}$ | 0.82        |
| $3.6\text{GHz} \leq f \leq 8\text{GHz}$ | 1.55        |
| $8\text{GHz} \leq f \leq 20\text{GHz}$  | 1.86        |
| $20\text{GHz} \leq f \leq 22\text{GHz}$ | 1.90        |
| $22\text{GHz} \leq f \leq 26\text{GHz}$ | 2.20        |

#### Measurement Results:

##### 802.11b/g mode

| MODE    | Channel | Frequency Range   | Test Results | Conclusion |
|---------|---------|-------------------|--------------|------------|
| 802.11b | 1       | 2.412 GHz         | Fig.33       | P          |
|         |         | 30 MHz ~ 1 GHz    | Fig.34       | P          |
|         |         | 1 GHz ~ 2.5 GHz   | Fig.35       | P          |
|         |         | 2.5 GHz ~ 7.5 GHz | Fig.36       | P          |
|         |         | 7.5 GHz ~ 10 GHz  | Fig.37       | P          |
|         |         | 10 GHz ~ 15 GHz   | Fig.38       | P          |
|         |         | 15 GHz ~ 20 GHz   | Fig.39       | P          |
|         |         | 20 GHz ~ 26 GHz   | Fig.40       | P          |
|         | 6       | 2.437 GHz         | Fig.41       | P          |
|         |         | 30 MHz ~ 1 GHz    | Fig.42       | P          |
|         |         | 1 GHz ~ 2.5 GHz   | Fig.43       | P          |
|         |         | 2.5 GHz ~ 7.5 GHz | Fig.44       | P          |
|         |         | 7.5 GHz ~ 10 GHz  | Fig.45       | P          |
|         |         | 10 GHz ~ 15 GHz   | Fig.46       | P          |
|         |         | 15 GHz ~ 20 GHz   | Fig.47       | P          |
|         |         | 20 GHz ~ 26 GHz   | Fig.48       | P          |
|         | 11      | 2.462 GHz         | Fig.49       | P          |
|         |         | 30 MHz ~ 1 GHz    | Fig.50       | P          |
|         |         | 1 GHz ~ 2.5 GHz   | Fig.51       | P          |
|         |         | 2.5 GHz ~ 7.5 GHz | Fig.52       | P          |

|         |    |                   |        |   |
|---------|----|-------------------|--------|---|
|         |    | 7.5 GHz ~ 10 GHz  | Fig.53 | P |
|         |    | 10 GHz ~ 15 GHz   | Fig.54 | P |
|         |    | 15 GHz ~ 20 GHz   | Fig.55 | P |
|         |    | 20 GHz ~ 26 GHz   | Fig.56 | P |
| 802.11g | 1  | 2.412 GHz         | Fig.57 | P |
|         |    | 30 MHz ~ 1 GHz    | Fig.58 | P |
|         |    | 1 GHz ~ 2.5 GHz   | Fig.59 | P |
|         |    | 2.5 GHz ~ 7.5 GHz | Fig.60 | P |
|         |    | 7.5 GHz ~ 10 GHz  | Fig.61 | P |
|         |    | 10 GHz ~ 15 GHz   | Fig.62 | P |
|         |    | 15 GHz ~ 20 GHz   | Fig.63 | P |
|         |    | 20 GHz ~ 26 GHz   | Fig.64 | P |
|         | 6  | 2.437 GHz         | Fig.65 | P |
|         |    | 30 MHz ~ 1 GHz    | Fig.66 | P |
|         |    | 1 GHz ~ 2.5 GHz   | Fig.67 | P |
|         |    | 2.5 GHz ~ 7.5 GHz | Fig.68 | P |
|         |    | 7.5 GHz ~ 10 GHz  | Fig.69 | P |
|         |    | 10 GHz ~ 15 GHz   | Fig.70 | P |
|         |    | 15 GHz ~ 20 GHz   | Fig.71 | P |
|         |    | 20 GHz ~ 26 GHz   | Fig.72 | P |
|         | 11 | 2.462 GHz         | Fig.73 | P |
|         |    | 30 MHz ~ 1 GHz    | Fig.74 | P |
|         |    | 1 GHz ~ 2.5 GHz   | Fig.75 | P |
|         |    | 2.5 GHz ~ 7.5 GHz | Fig.76 | P |
|         |    | 7.5 GHz ~ 10 GHz  | Fig.77 | P |
|         |    | 10 GHz ~ 15 GHz   | Fig.78 | P |
|         |    | 15 GHz ~ 20 GHz   | Fig.79 | P |
|         |    | 20 GHz ~ 26 GHz   | Fig.80 | P |

**802.11n-HT20 mode**

| MODE               | Channel | Frequency Range   | Test Results | Conclusion |
|--------------------|---------|-------------------|--------------|------------|
| 802.11n<br>(20MHz) | 1       | 2.412 GHz         | Fig.81       | P          |
|                    |         | 30 MHz ~ 1 GHz    | Fig.82       | P          |
|                    |         | 1 GHz ~ 2.5 GHz   | Fig.83       | P          |
|                    |         | 2.5 GHz ~ 7.5 GHz | Fig.84       | P          |
|                    |         | 7.5 GHz ~ 10 GHz  | Fig.85       | P          |
|                    |         | 10 GHz ~ 15 GHz   | Fig.86       | P          |
|                    |         | 15 GHz ~ 20 GHz   | Fig.87       | P          |
|                    |         | 20 GHz ~ 26 GHz   | Fig.88       | P          |
|                    | 6       | 2.437 GHz         | Fig.89       | P          |
|                    |         | 30 MHz ~ 1 GHz    | Fig.90       | P          |
|                    |         | 1 GHz ~ 2.5 GHz   | Fig.91       | P          |
|                    |         | 2.5 GHz ~ 7.5 GHz | Fig.92       | P          |
|                    |         | 7.5 GHz ~ 10 GHz  | Fig.93       | P          |
|                    |         | 10 GHz ~ 15 GHz   | Fig.94       | P          |
|                    |         | 15 GHz ~ 20 GHz   | Fig.95       | P          |
|                    |         | 20 GHz ~ 26 GHz   | Fig.96       | P          |
|                    | 11      | 2.462 GHz         | Fig.97       | P          |
|                    |         | 30 MHz ~ 1 GHz    | Fig.98       | P          |
|                    |         | 1 GHz ~ 2.5 GHz   | Fig.99       | P          |
|                    |         | 2.5 GHz ~ 7.5 GHz | Fig.100      | P          |
|                    |         | 7.5 GHz ~ 10 GHz  | Fig.101      | P          |
|                    |         | 10 GHz ~ 15 GHz   | Fig.102      | P          |
|                    |         | 15 GHz ~ 20 GHz   | Fig.103      | P          |
|                    |         | 20 GHz ~ 26 GHz   | Fig.104      | P          |

**802.11n-HT40 mode**

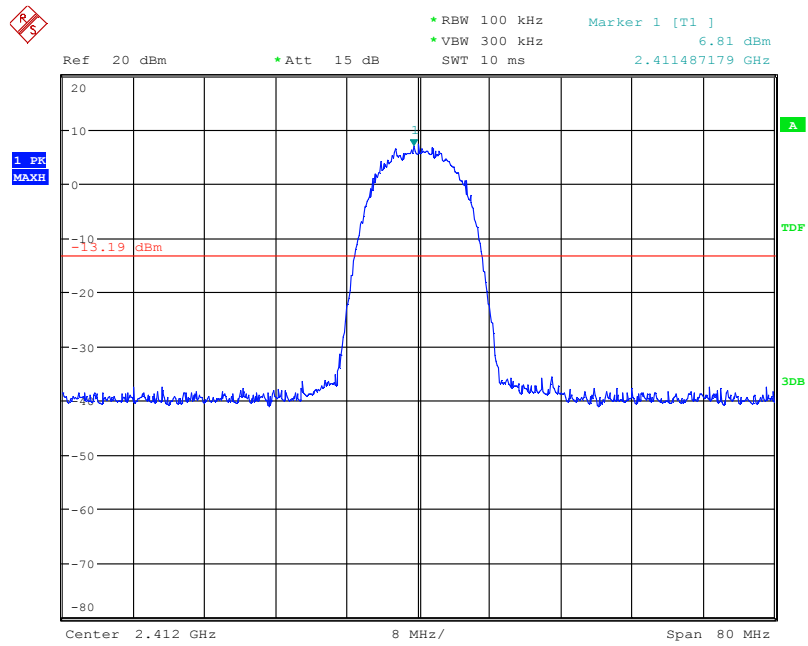
| MODE               | Channel | Frequency Range   | Test Results | Conclusion |
|--------------------|---------|-------------------|--------------|------------|
| 802.11n<br>(40MHz) | 3       | 2.422 GHz         | Fig.105      | P          |
|                    |         | 30 MHz ~ 1 GHz    | Fig.106      | P          |
|                    |         | 1 GHz ~ 2.5 GHz   | Fig.107      | P          |
|                    |         | 2.5 GHz ~ 7.5 GHz | Fig.108      | P          |
|                    |         | 7.5 GHz ~ 10 GHz  | Fig.109      | P          |
|                    |         | 10 GHz ~ 15 GHz   | Fig.110      | P          |
|                    |         | 15 GHz ~ 20 GHz   | Fig.111      | P          |
|                    |         | 20 GHz ~ 26 GHz   | Fig.112      | P          |
|                    | 6       | 2.437 GHz         | Fig.113      | P          |
|                    |         | 30 MHz ~ 1 GHz    | Fig.114      | P          |
|                    |         | 1 GHz ~ 2.5 GHz   | Fig.115      | P          |
|                    |         | 2.5 GHz ~ 7.5 GHz | Fig.116      | P          |
|                    |         | 7.5 GHz ~ 10 GHz  | Fig.117      | P          |
|                    |         | 10 GHz ~ 15 GHz   | Fig.118      | P          |



|  |   |                   |         |   |
|--|---|-------------------|---------|---|
|  |   | 15 GHz ~ 20 GHz   | Fig.119 | P |
|  |   | 20 GHz ~ 26 GHz   | Fig.120 | P |
|  | 9 | 2.452 GHz         | Fig.121 | P |
|  |   | 30 MHz ~ 1 GHz    | Fig.122 | P |
|  |   | 1 GHz ~ 2.5 GHz   | Fig.123 | P |
|  |   | 2.5 GHz ~ 7.5 GHz | Fig.124 | P |
|  |   | 7.5 GHz ~ 10 GHz  | Fig.125 | P |
|  |   | 10 GHz ~ 15 GHz   | Fig.126 | P |
|  |   | 15 GHz ~ 20 GHz   | Fig.127 | P |
|  |   | 20 GHz ~ 26 GHz   | Fig.128 | P |

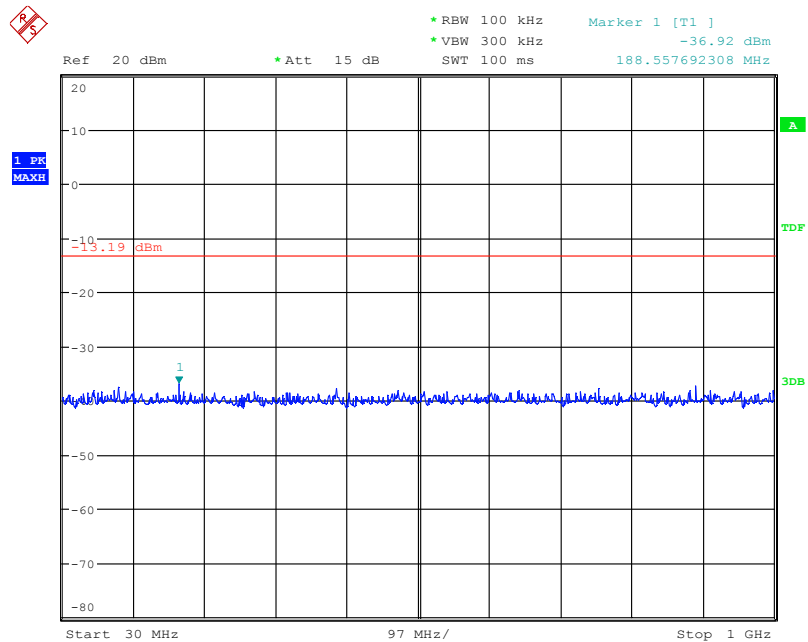
**Conclusion: PASS**

**Test graphs as below:**



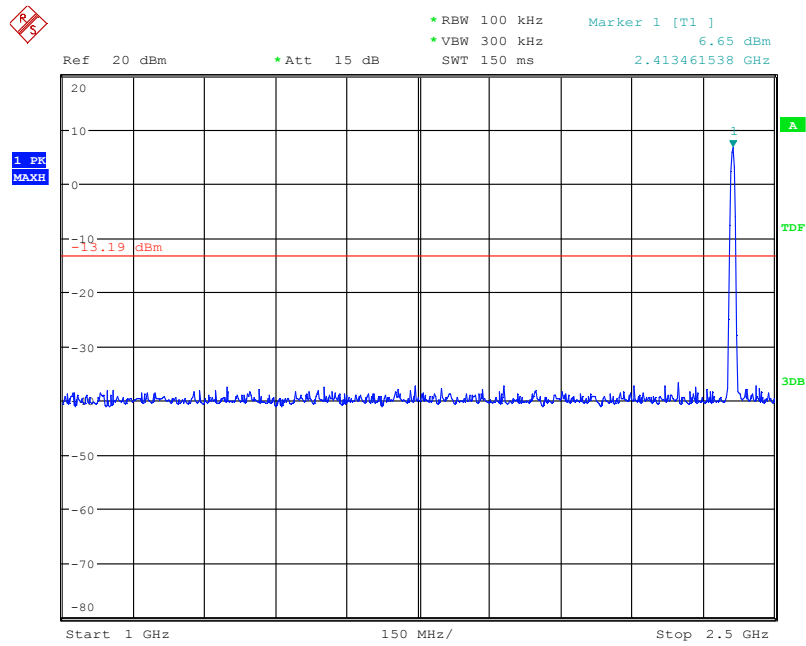
Date: 16.MAR.2013 15:05:05

**Fig. 33 Conducted Spurious Emission (802.11b, Ch1, Center Frequency)**



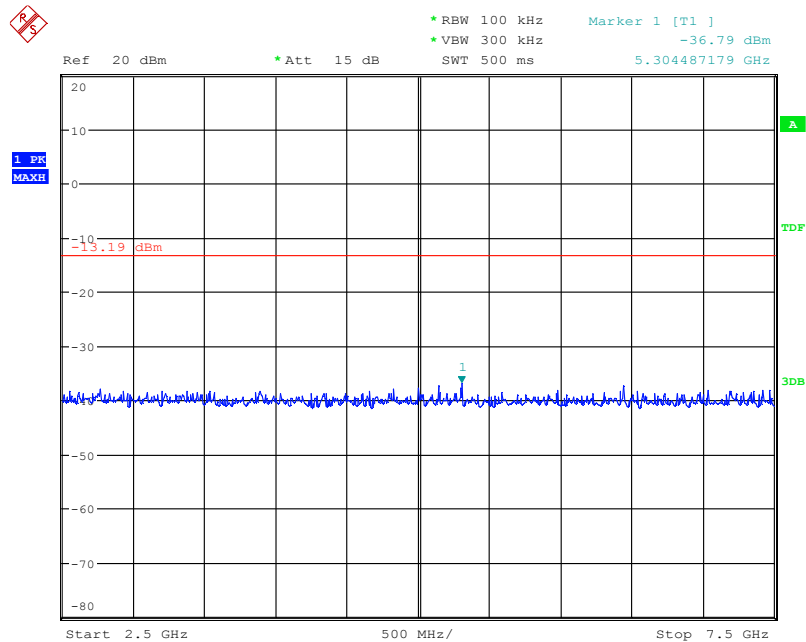
Date: 16.MAR.2013 15:05:11

**Fig. 34 Conducted Spurious Emission (802.11b, Ch1, 30 MHz-1 GHz)**



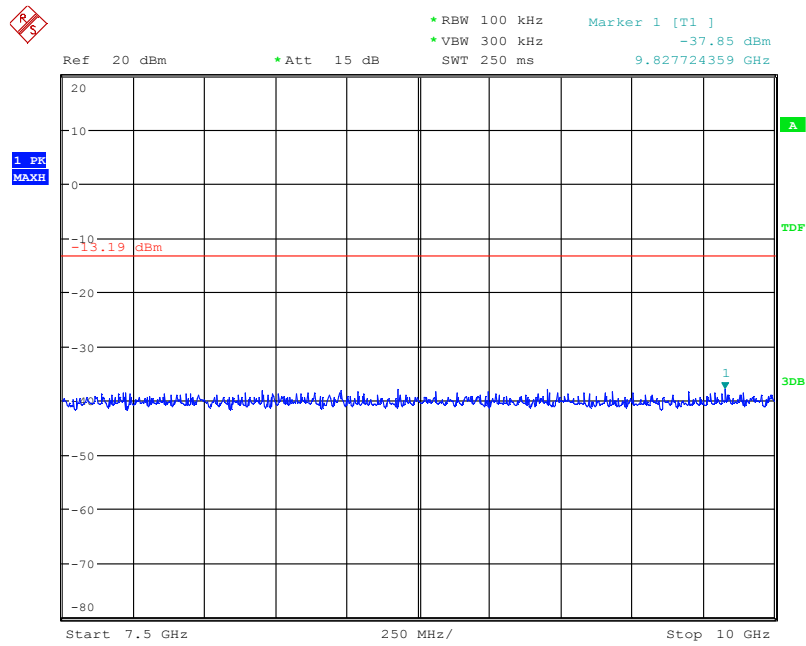
Date: 16.MAR.2013 15:05:18

**Fig. 35 Conducted Spurious Emission (802.11b, Ch1, 1 GHz-2.5 GHz)**



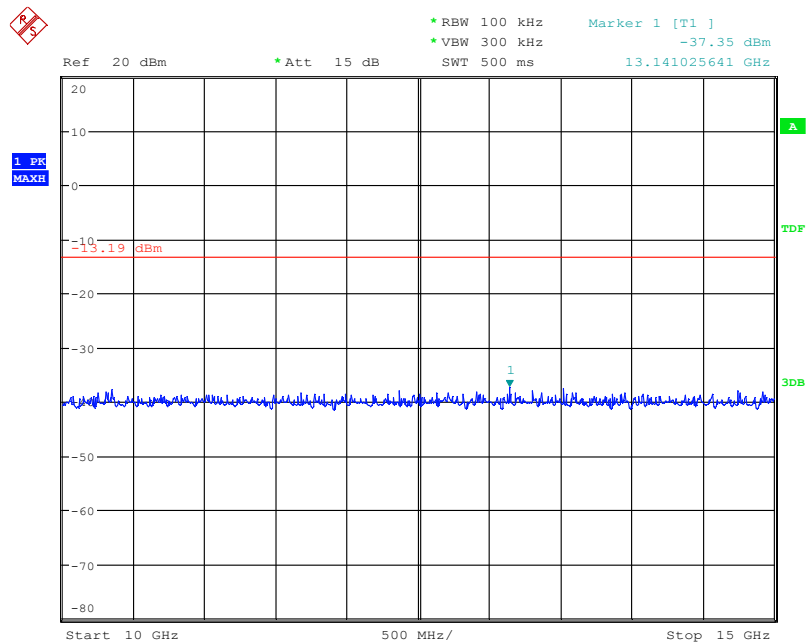
Date: 16.MAR.2013 15:05:25

**Fig. 36 Conducted Spurious Emission (802.11b, Ch1, 2.5 GHz-7.5 GHz)**



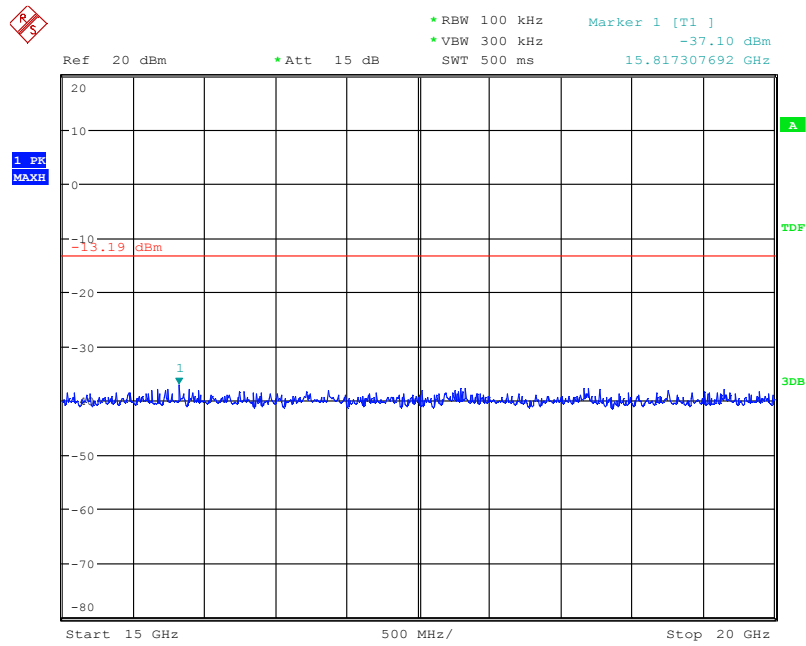
Date: 16.MAR.2013 15:05:32

**Fig. 37 Conducted Spurious Emission (802.11b, Ch1, 7.5 GHz-10 GHz)**



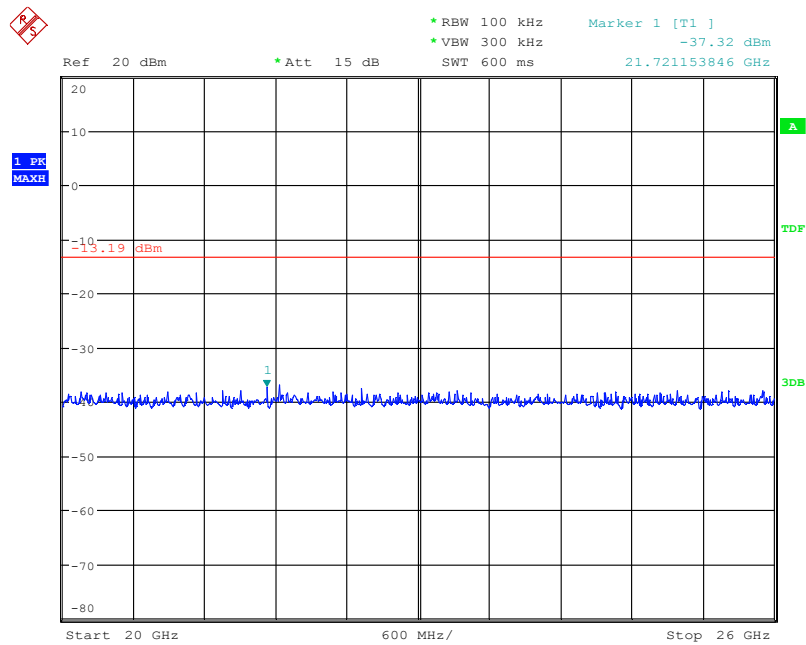
Date: 16.MAR.2013 15:05:39

**Fig. 38 Conducted Spurious Emission (802.11b, Ch1, 10 GHz-15 GHz)**



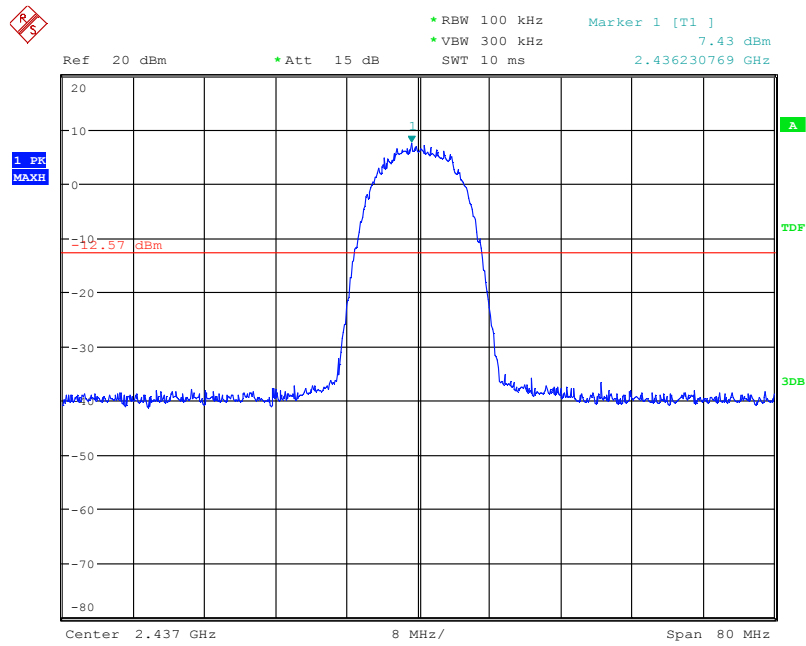
Date: 16.MAR.2013 15:05:46

**Fig. 39 Conducted Spurious Emission (802.11b, Ch1, 15 GHz-20 GHz)**



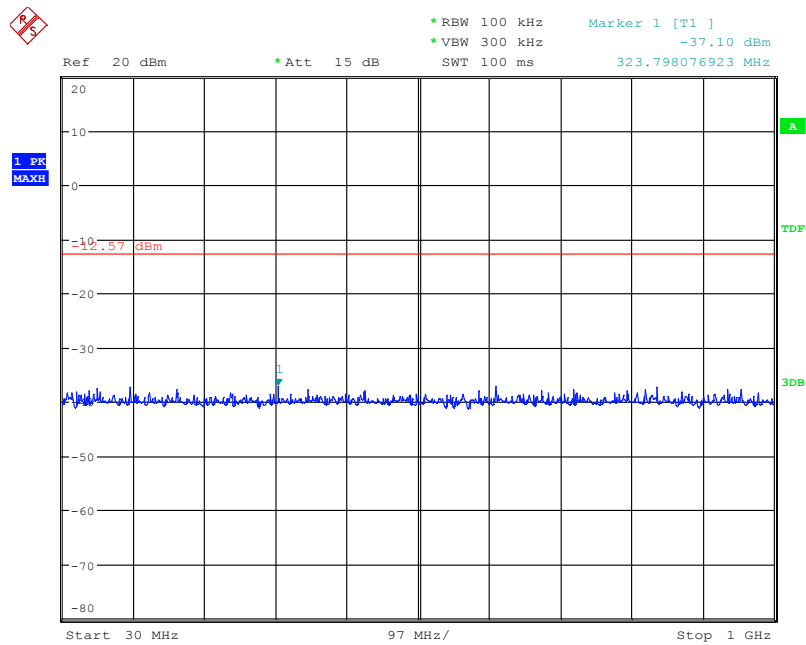
Date: 16.MAR.2013 15:05:53

**Fig. 40 Conducted Spurious Emission (802.11b, Ch1, 20 GHz-26 GHz)**



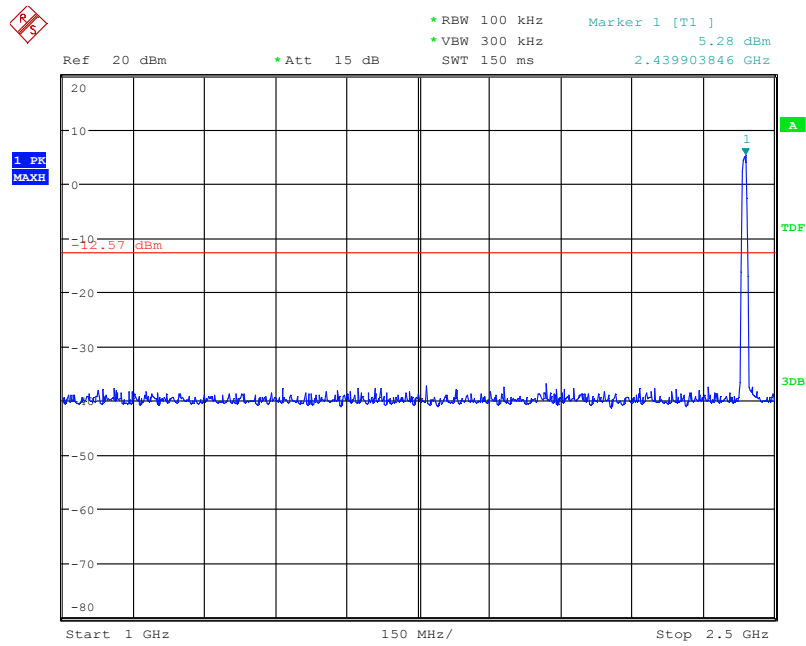
Date: 16.MAR.2013 15:06:16

**Fig. 41 Conducted Spurious Emission (802.11b, Ch6, Center Frequency)**



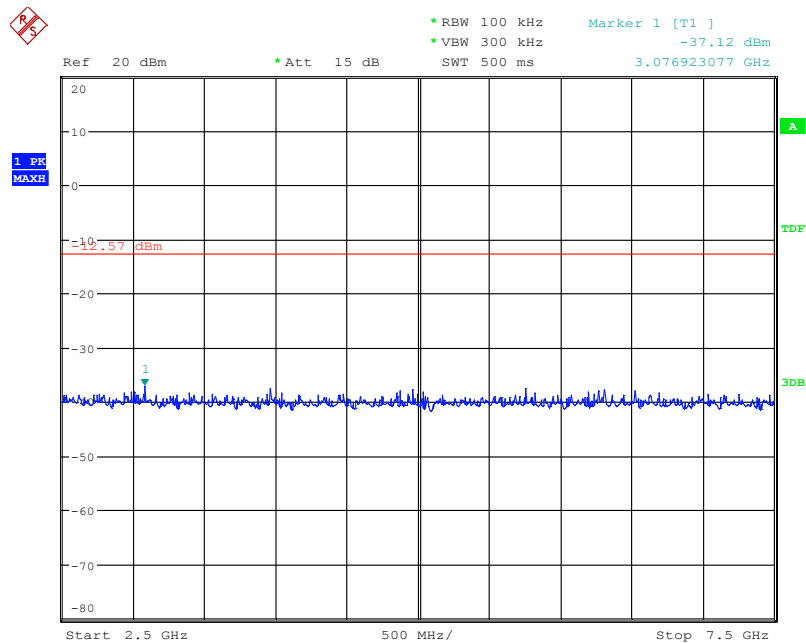
Date: 16.MAR.2013 15:06:23

**Fig. 42 Conducted Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)**



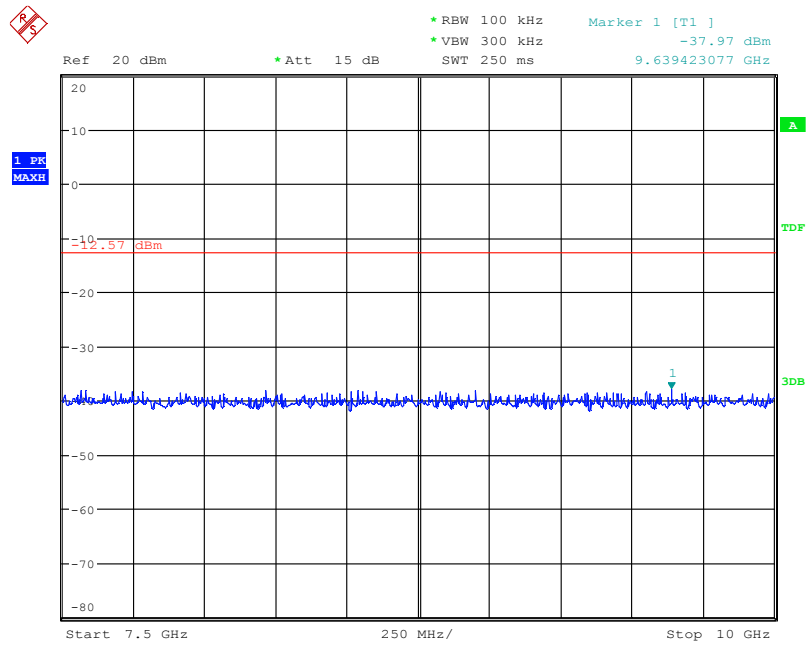
Date: 16.MAR.2013 15:06:30

**Fig. 43 Conducted Spurious Emission (802.11b, Ch6, 1 GHz-2.5 GHz)**



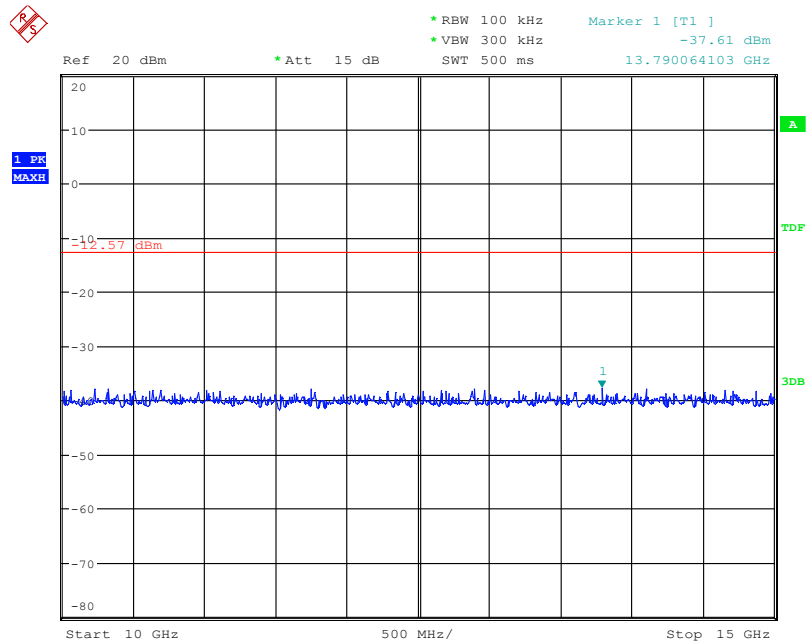
Date: 16.MAR.2013 15:06:37

**Fig. 44 Conducted Spurious Emission (802.11b, Ch6, 2.5 GHz-7.5 GHz)**



Date: 16.MAR.2013 15:06:44

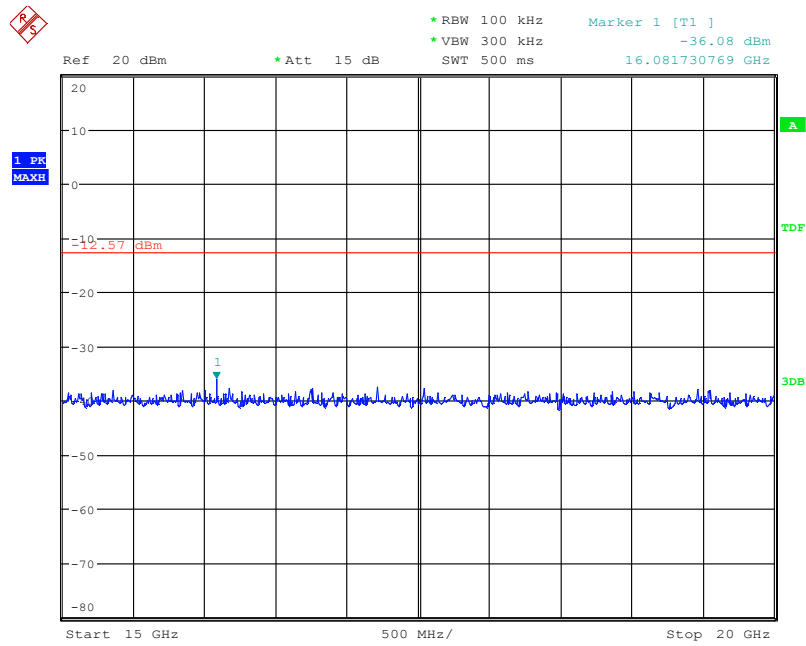
**Fig. 45 Conducted Spurious Emission (802.11b, Ch6, 7.5 GHz-10 GHz)**



Date: 16.MAR.2013 15:06:50

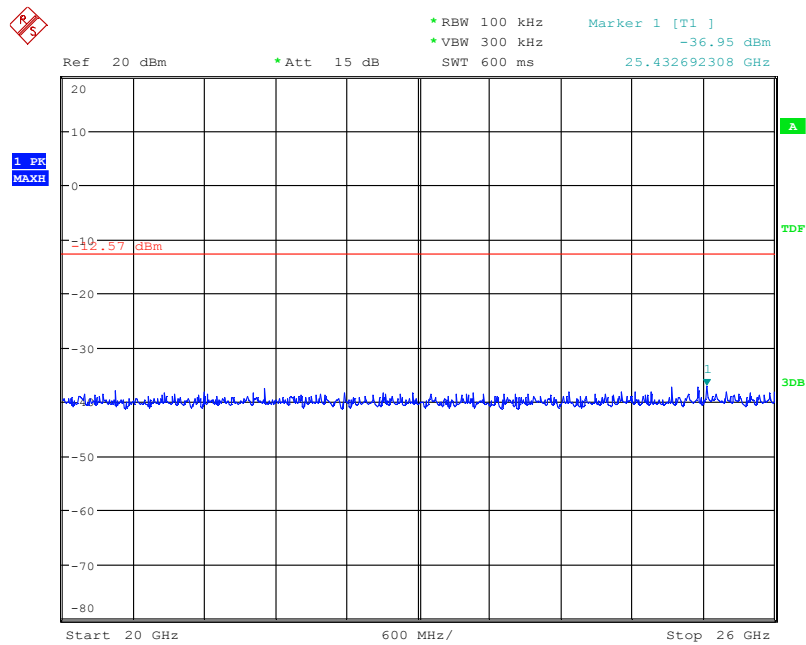
**Fig. 46 Conducted Spurious Emission (802.11b, Ch6, 10 GHz-15 GHz)**





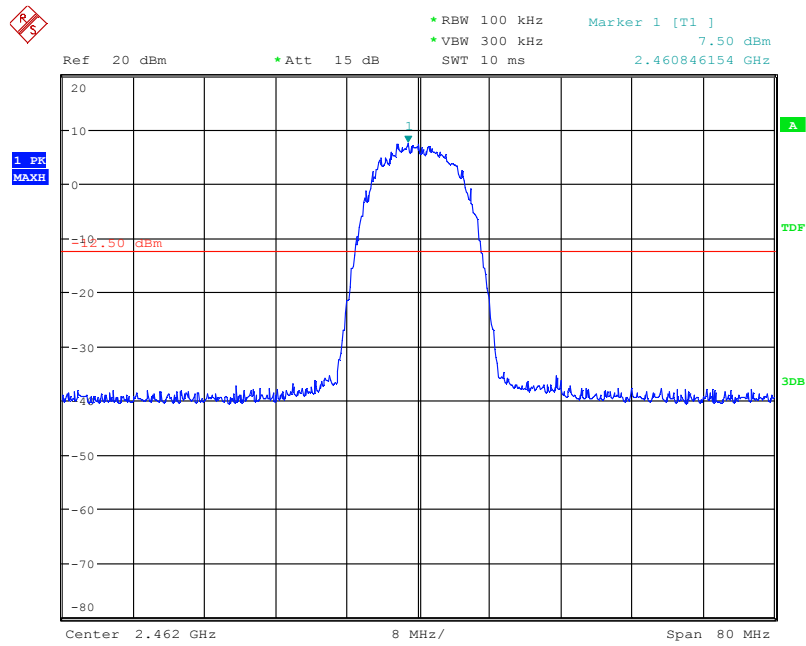
Date: 16.MAR.2013 15:06:57

**Fig. 47 Conducted Spurious Emission (802.11b, Ch6, 15 GHz-20 GHz)**



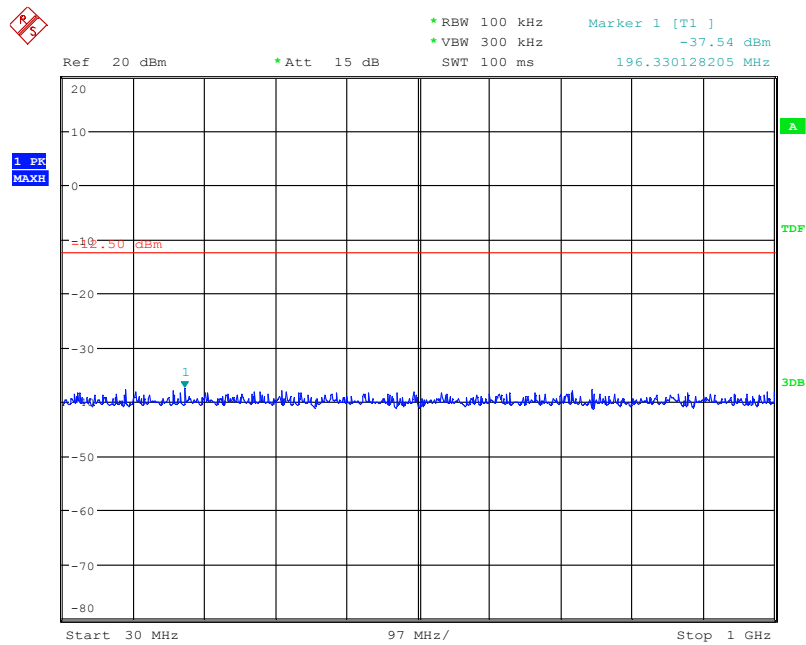
Date: 16.MAR.2013 15:07:04

**Fig. 48 Conducted Spurious Emission (802.11b, Ch6, 20 GHz-26 GHz)**



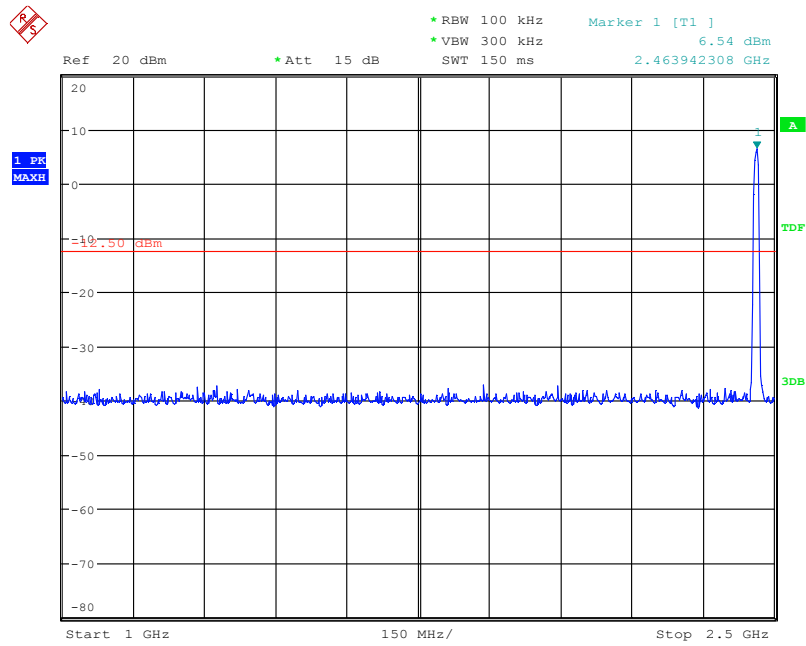
Date: 16.MAR.2013 15:07:25

**Fig. 49 Conducted Spurious Emission (802.11b, Ch11, Center Frequency)**



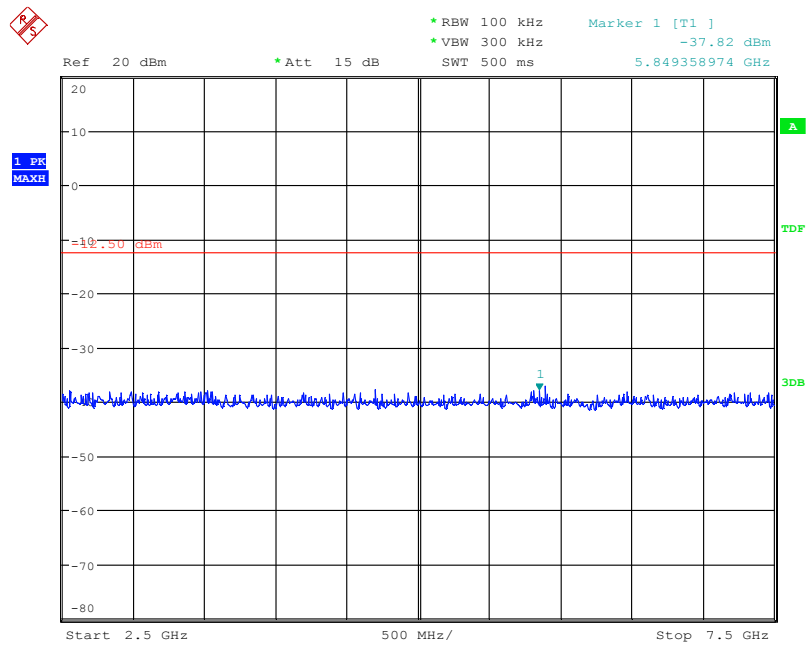
Date: 16.MAR.2013 15:07:32

**Fig. 50 Conducted Spurious Emission (802.11b, Ch11, 30 MHz-1 GHz)**



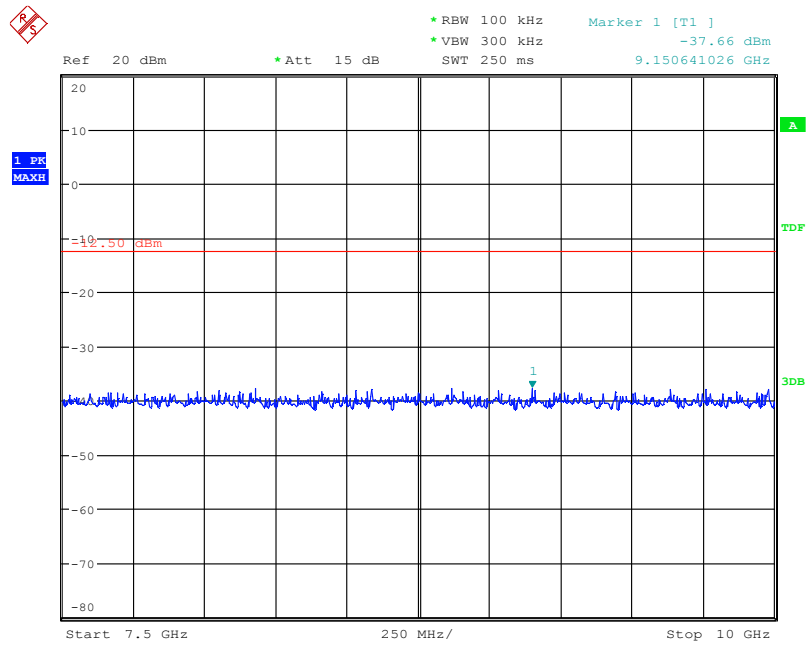
Date: 16.MAR.2013 15:07:38

**Fig. 51 Conducted Spurious Emission (802.11b, Ch11, 1 GHz-2.5 GHz)**



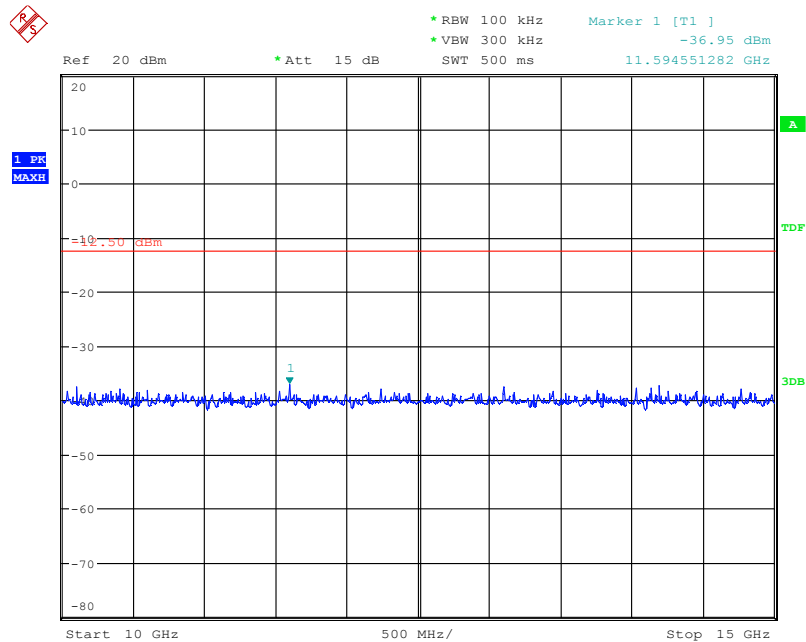
Date: 16.MAR.2013 15:07:45

**Fig. 52 Conducted Spurious Emission (802.11b, Ch11, 2.5 GHz-7.5 GHz)**



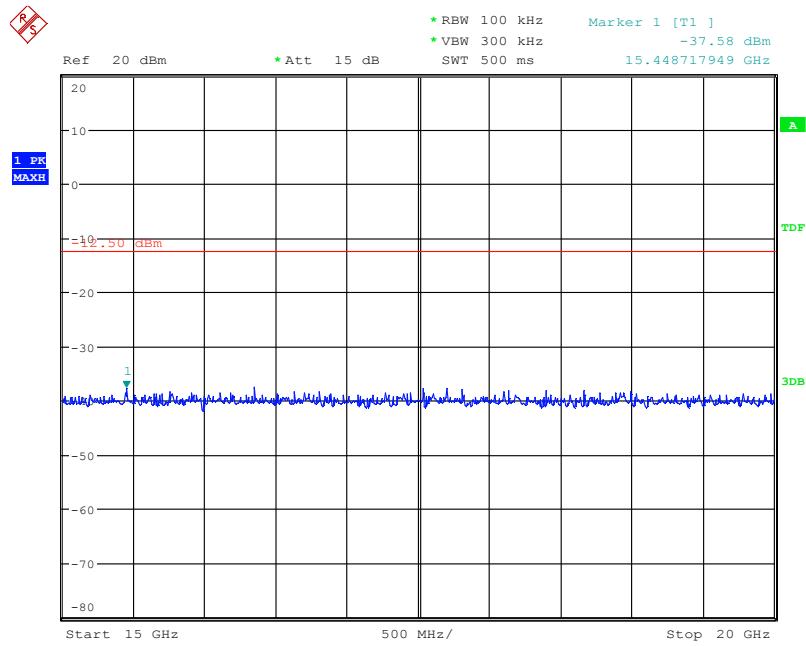
Date: 16.MAR.2013 15:07:52

**Fig. 53 Conducted Spurious Emission (802.11b, Ch11, 7.5 GHz-10 GHz)**



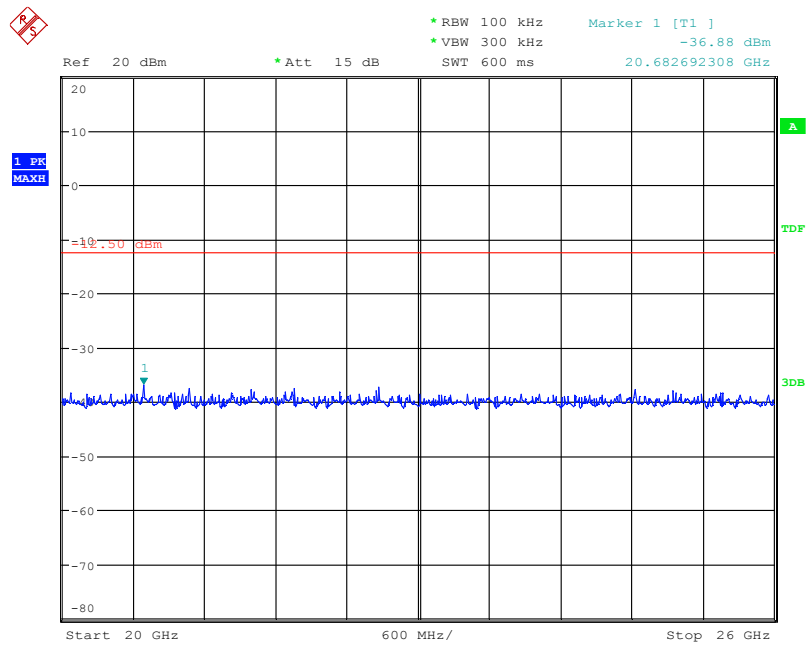
Date: 16.MAR.2013 15:07:59

**Fig. 54 Conducted Spurious Emission (802.11b, Ch11, 10 GHz-15 GHz)**



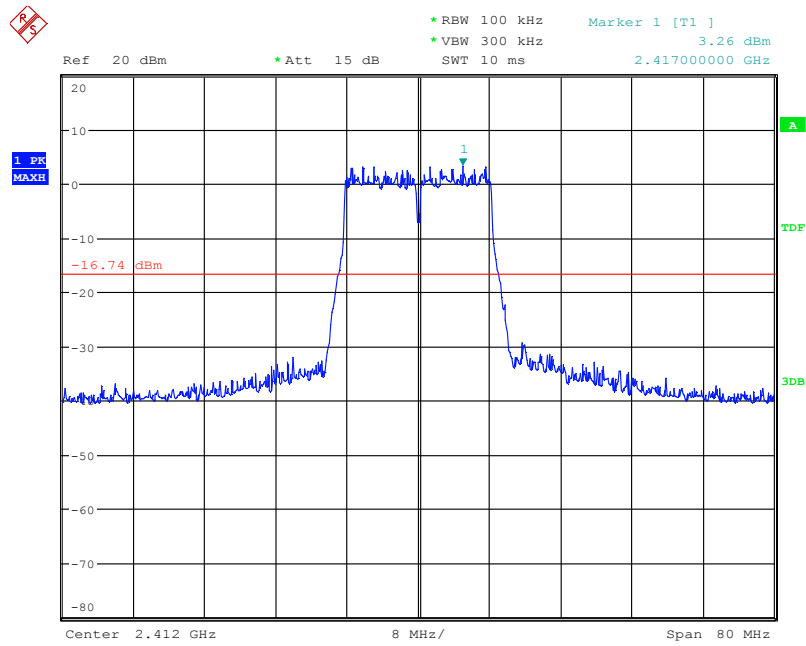
Date: 16.MAR.2013 15:08:06

**Fig. 55 Conducted Spurious Emission (802.11b, Ch11, 15 GHz-20 GHz)**



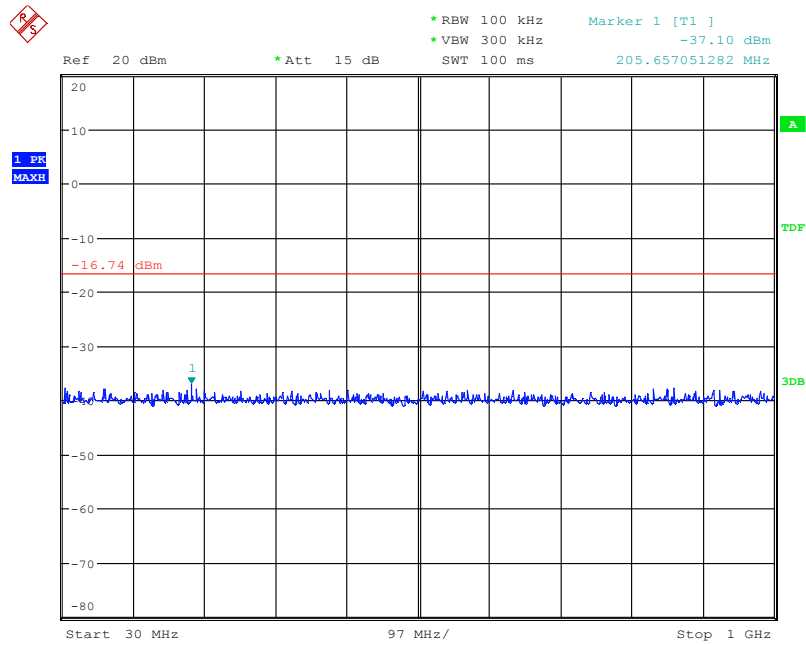
Date: 16.MAR.2013 15:08:12

**Fig. 56 Conducted Spurious Emission (802.11b, Ch11, 20 GHz-26 GHz)**



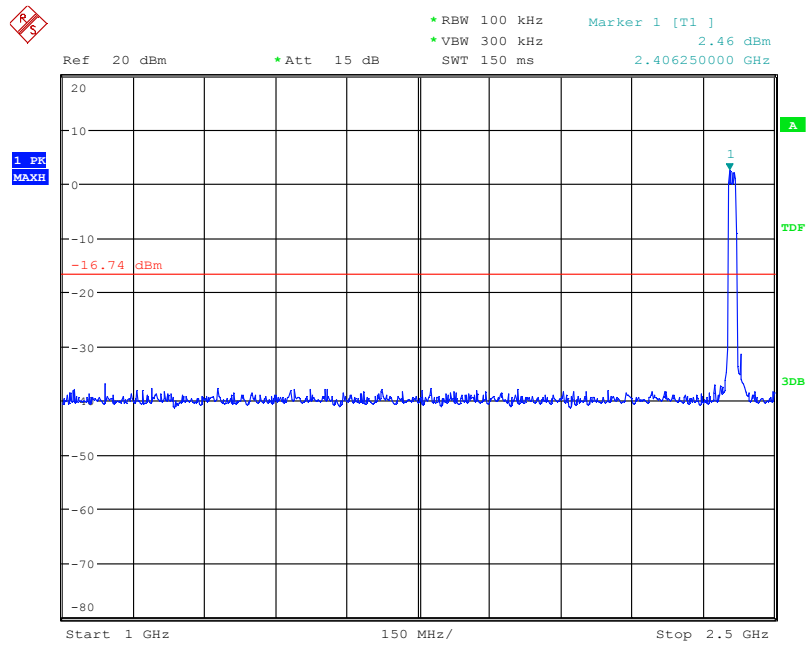
Date: 16.MAR.2013 15:09:11

**Fig. 57 Conducted Spurious Emission (802.11g, Ch1, Center Frequency)**



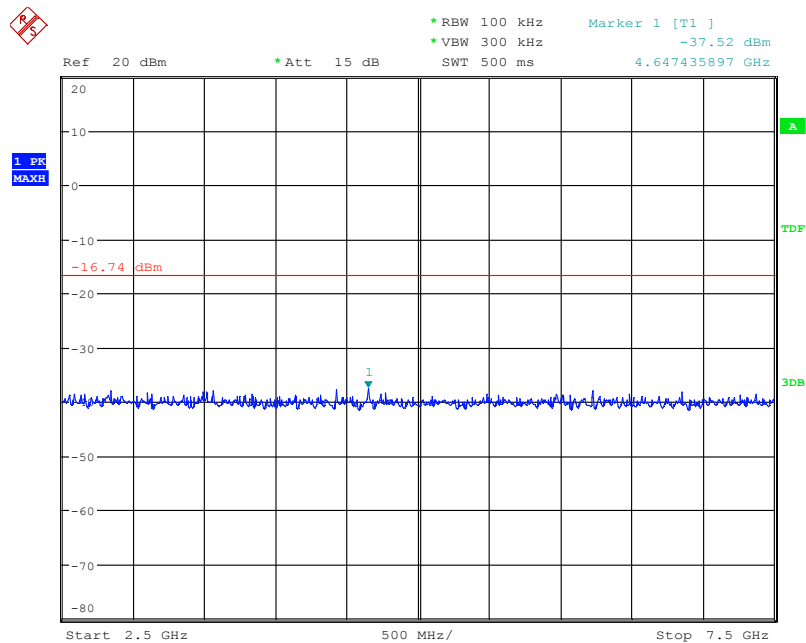
Date: 16.MAR.2013 15:09:18

**Fig. 58 Conducted Spurious Emission (802.11g, Ch1, 30 MHz-1 GHz)**



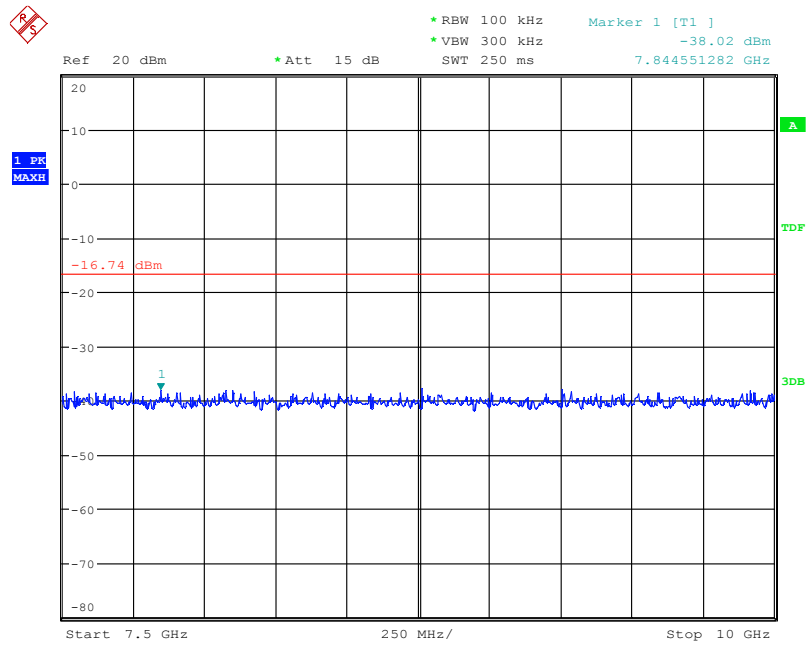
Date: 16.MAR.2013 15:09:25

**Fig. 59 Conducted Spurious Emission (802.11g, Ch1, 1 GHz-2.5 GHz)**



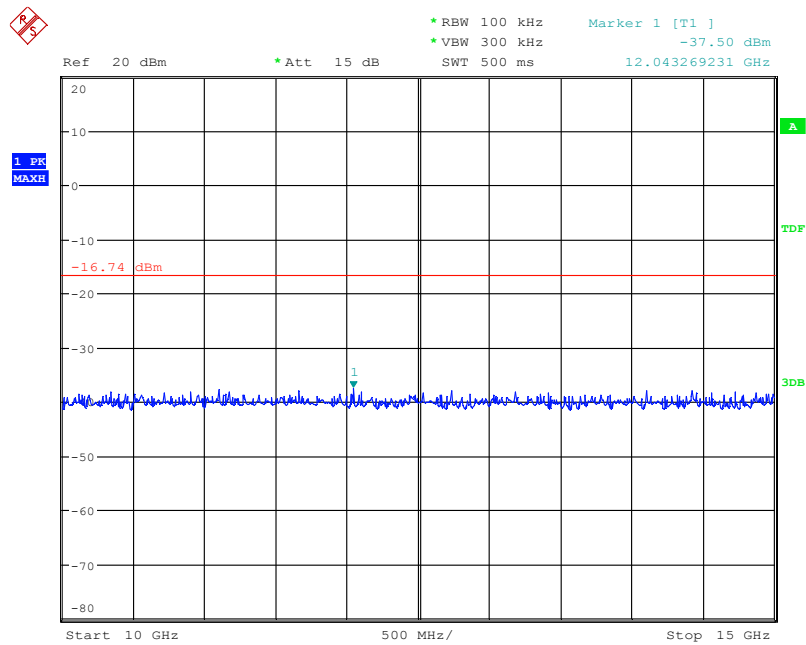
Date: 16.MAR.2013 15:09:32

**Fig. 60 Conducted Spurious Emission (802.11g, Ch1, 2.5 GHz-7.5 GHz)**



Date: 16.MAR.2013 15:09:39

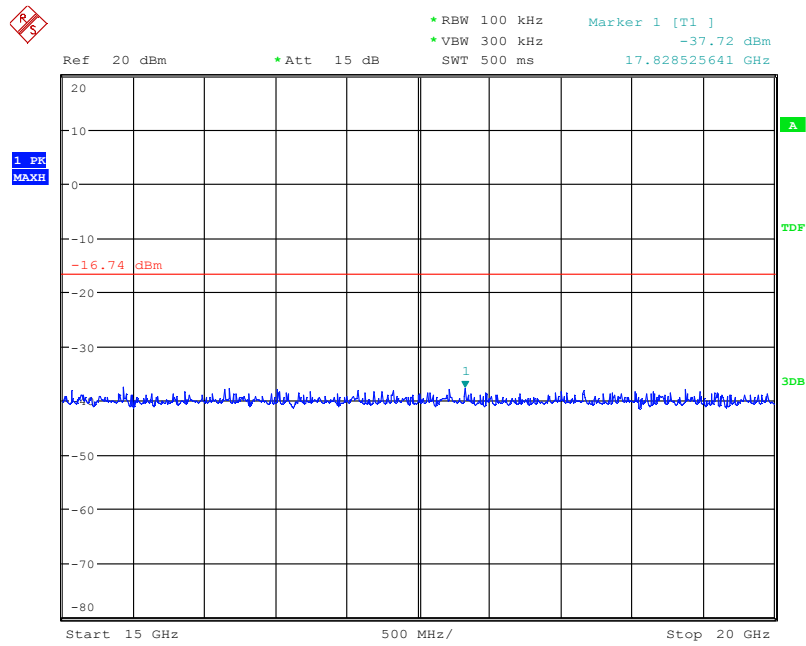
**Fig. 61 Conducted Spurious Emission (802.11g, Ch1, 7.5 GHz-10 GHz)**



Date: 16.MAR.2013 15:09:45

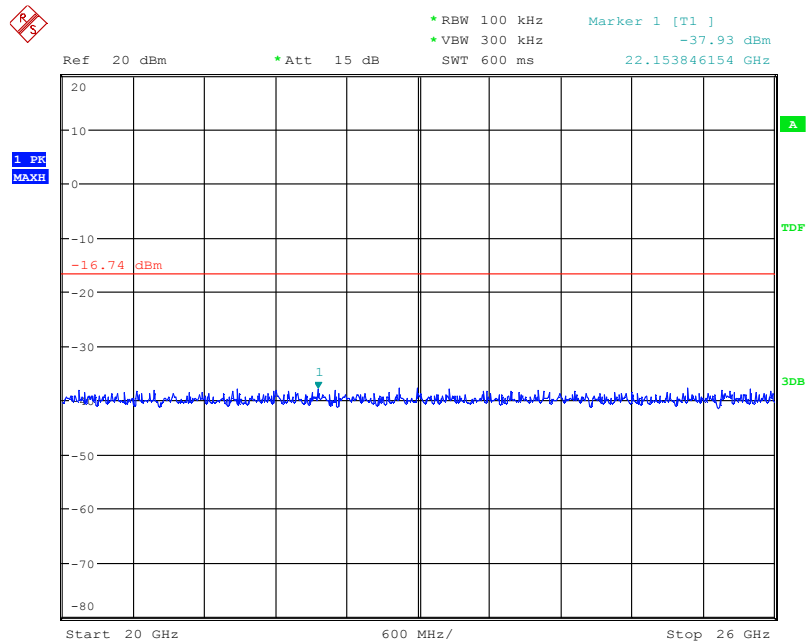
**Fig. 62 Conducted Spurious Emission (802.11g, Ch1, 10 GHz-15 GHz)**





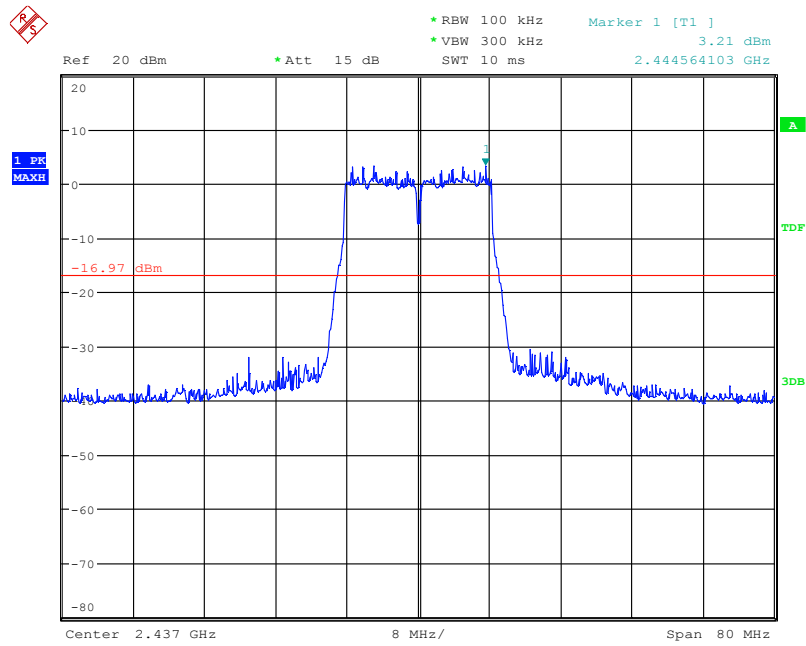
Date: 16.MAR.2013 15:09:52

**Fig. 63 Conducted Spurious Emission (802.11g, Ch1, 15 GHz-20 GHz)**



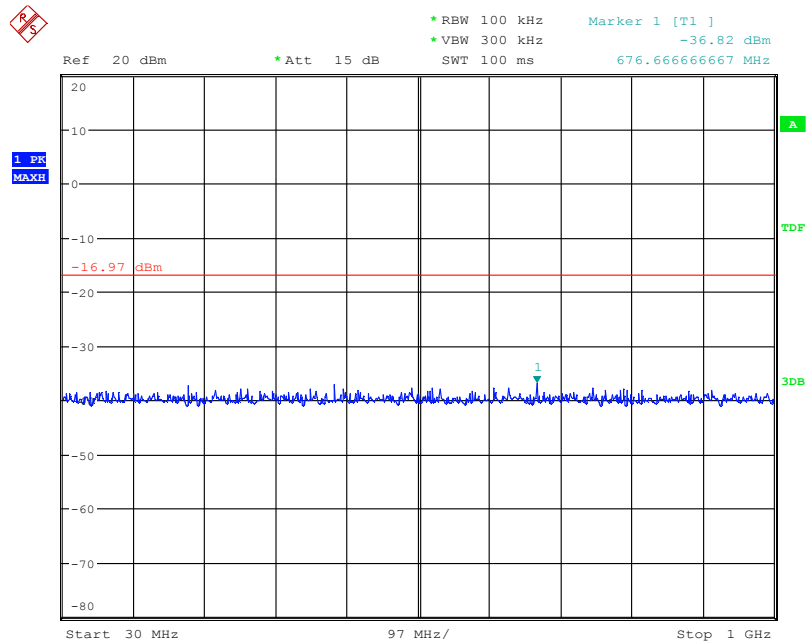
Date: 16.MAR.2013 15:09:59

**Fig. 64 Conducted Spurious Emission (802.11g, Ch1, 20 GHz-26 GHz)**



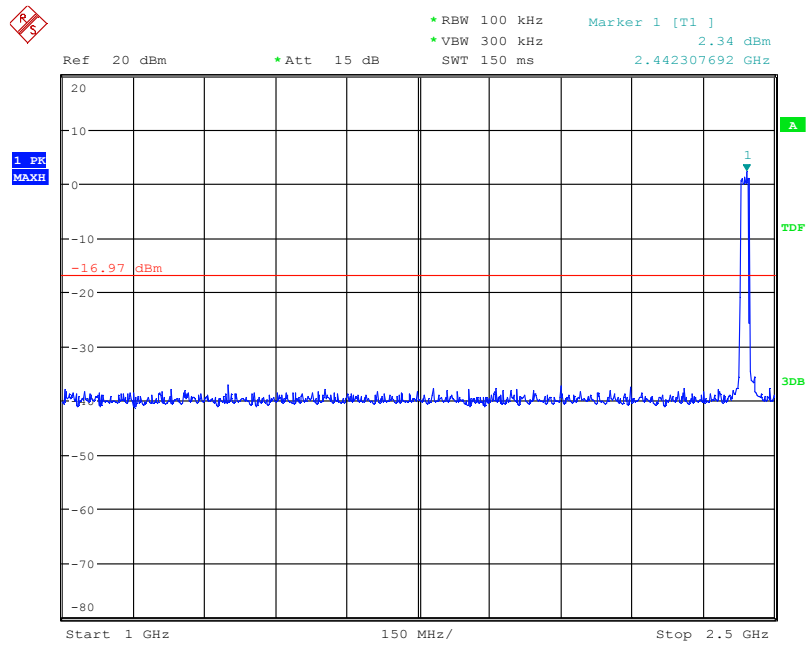
Date: 16.MAR.2013 15:10:38

**Fig. 65 Conducted Spurious Emission (802.11g, Ch6, Center Frequency)**



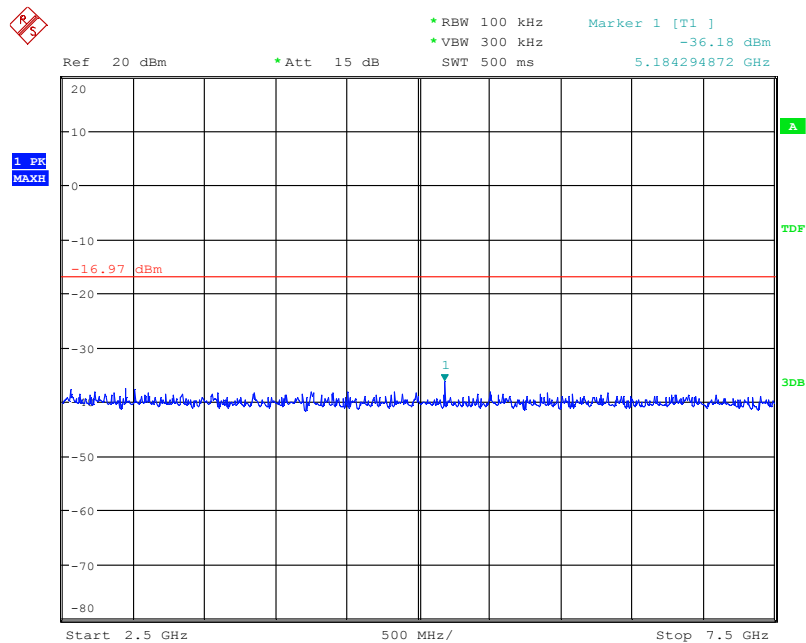
Date: 16.MAR.2013 15:10:45

**Fig. 66 Conducted Spurious Emission (802.11g, Ch6, 30 MHz-1 GHz)**



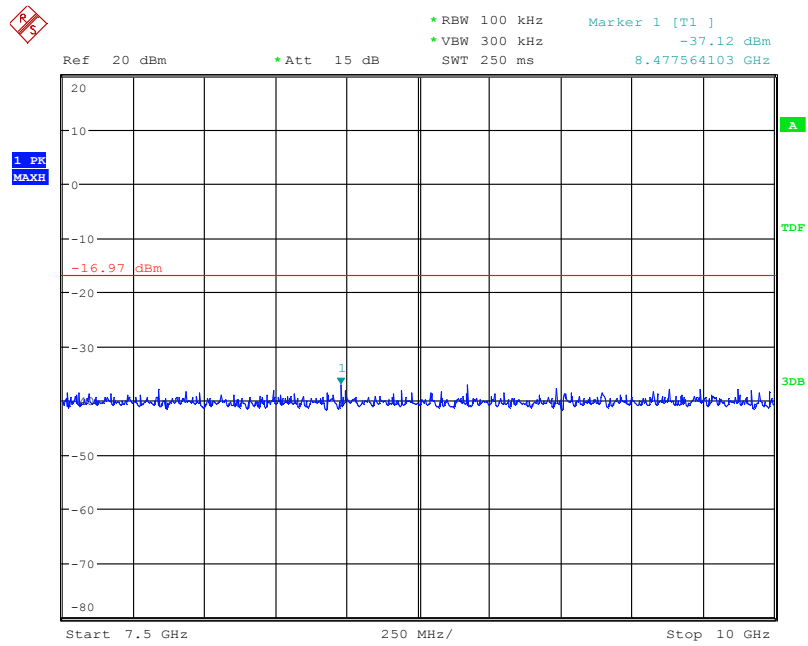
Date: 16.MAR.2013 15:10:52

**Fig. 67 Conducted Spurious Emission (802.11g, Ch6, 1 GHz-2.5 GHz)**



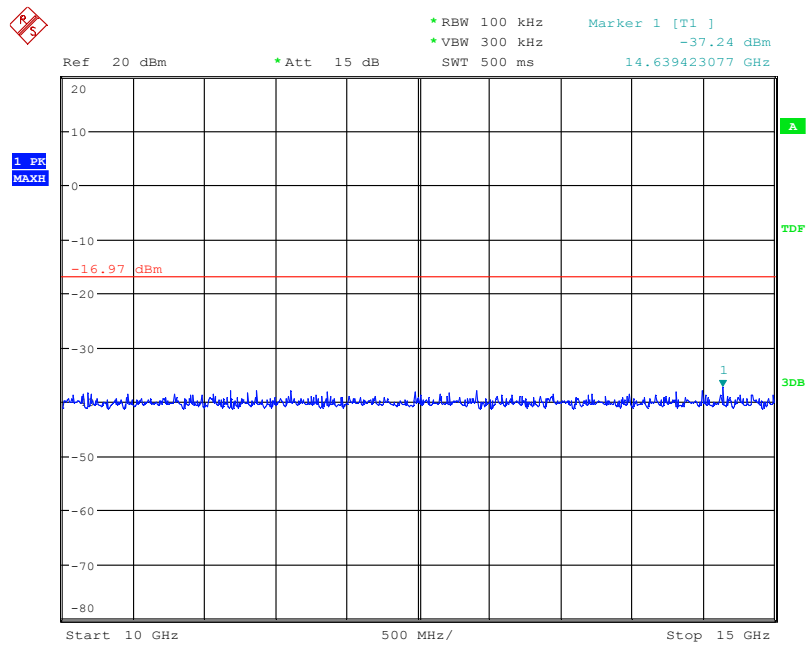
Date: 16.MAR.2013 15:10:59

**Fig. 68 Conducted Spurious Emission (802.11g, Ch6, 2.5 GHz-7.5 GHz)**



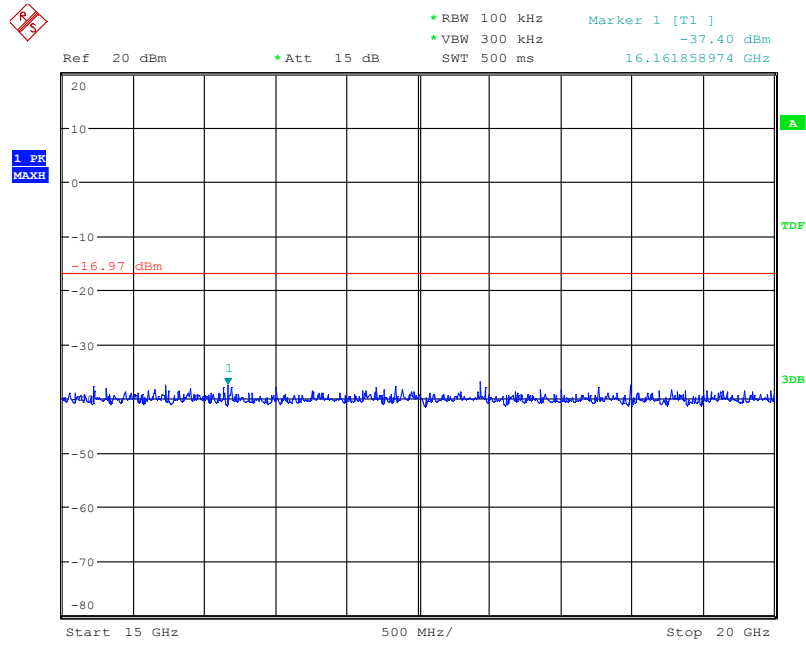
Date: 16.MAR.2013 15:11:06

**Fig. 69 Conducted Spurious Emission (802.11g, Ch6, 7.5 GHz-10 GHz)**



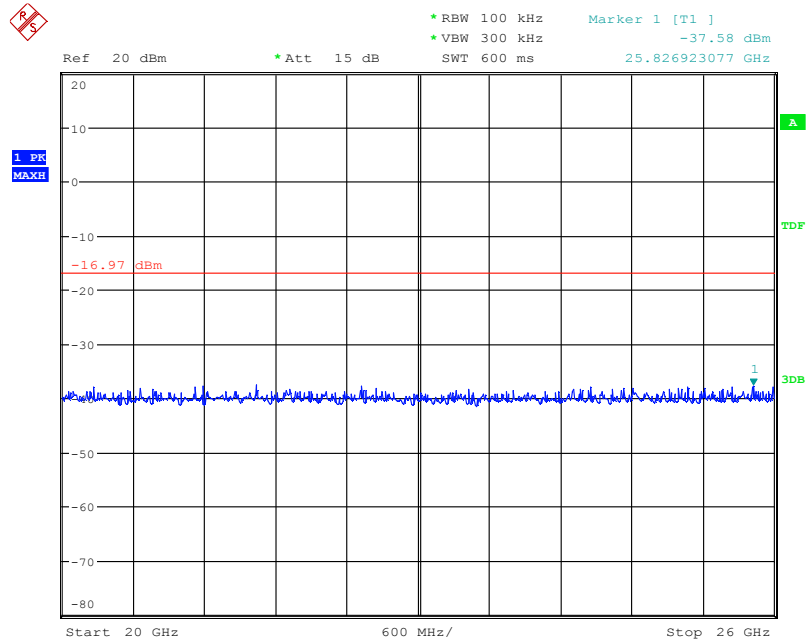
Date: 16.MAR.2013 15:11:13

**Fig. 70 Conducted Spurious Emission (802.11g, Ch6, 10 GHz-15 GHz)**



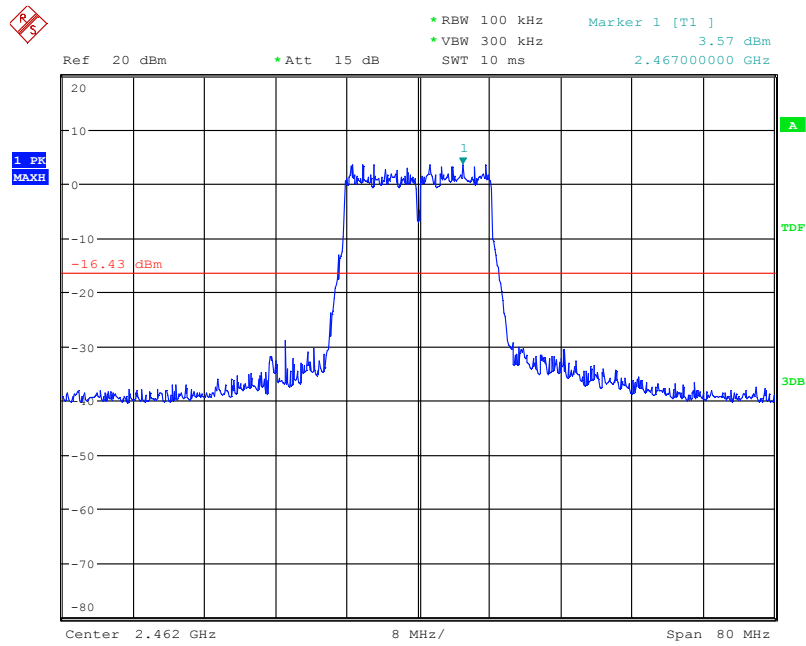
Date: 16.MAR.2013 15:11:20

**Fig. 71 Conducted Spurious Emission (802.11g, Ch6, 15 GHz-20 GHz)**



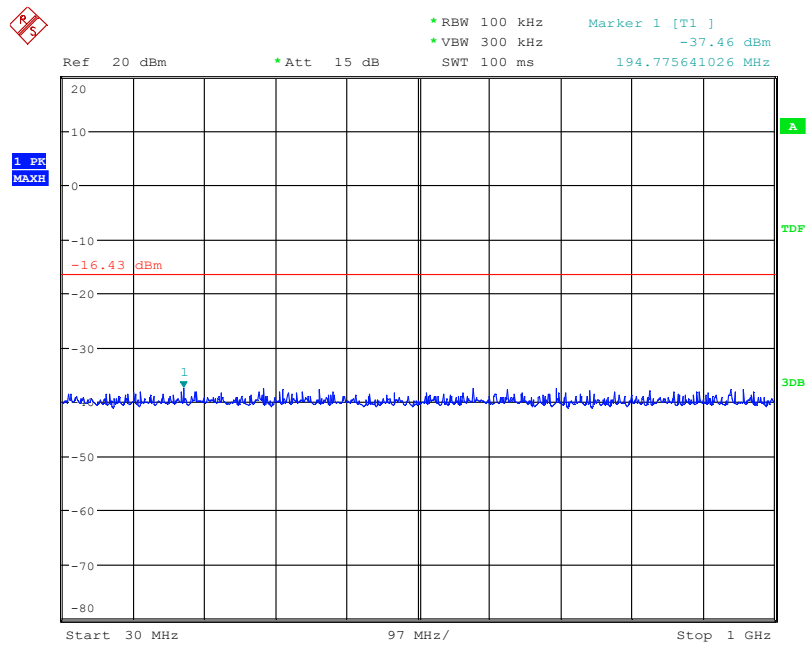
Date: 16.MAR.2013 15:11:26

**Fig. 72 Conducted Spurious Emission (802.11g, Ch6, 20 GHz-26 GHz)**



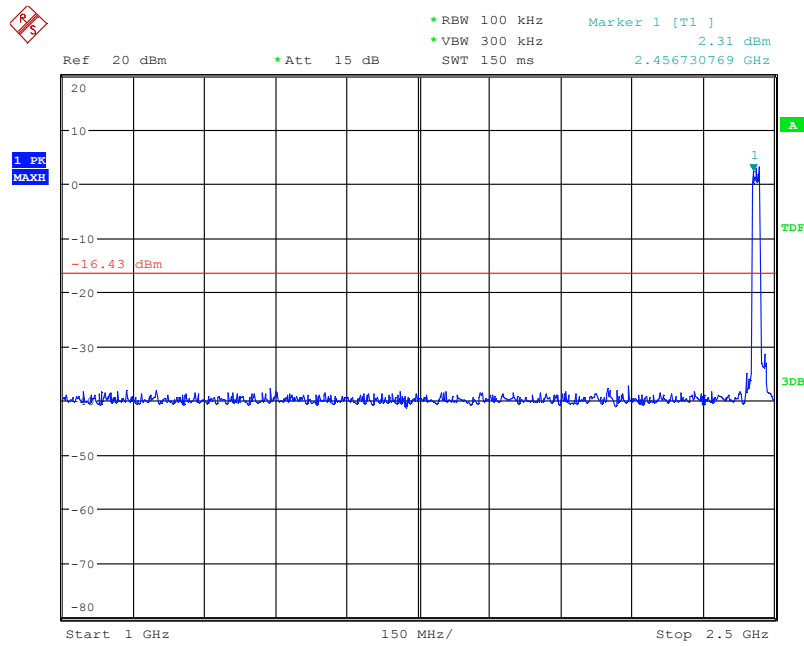
Date: 16.MAR.2013 15:11:53

**Fig. 73 Conducted Spurious Emission (802.11g, Ch11, Center Frequency)**



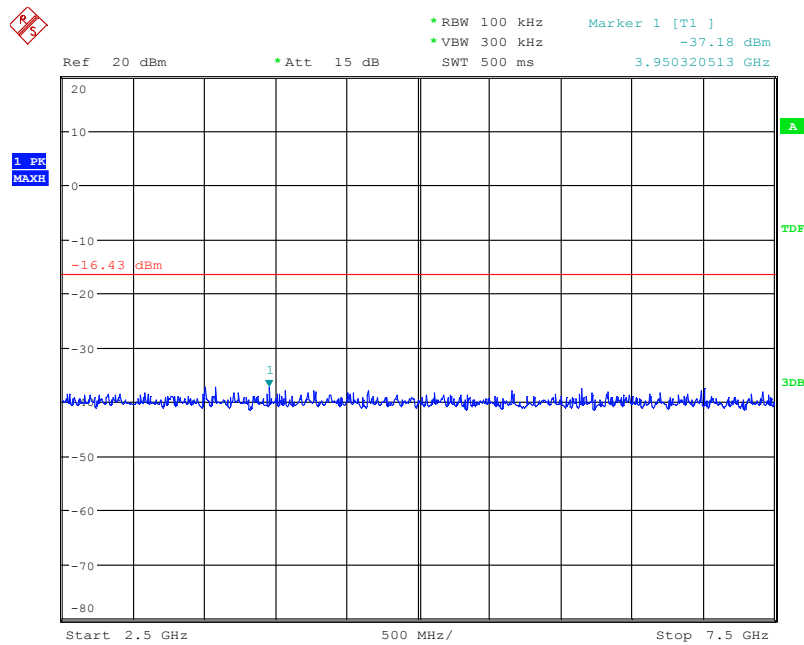
Date: 16.MAR.2013 15:12:00

**Fig. 74 Conducted Spurious Emission (802.11g, Ch11, 30 MHz-1 GHz)**



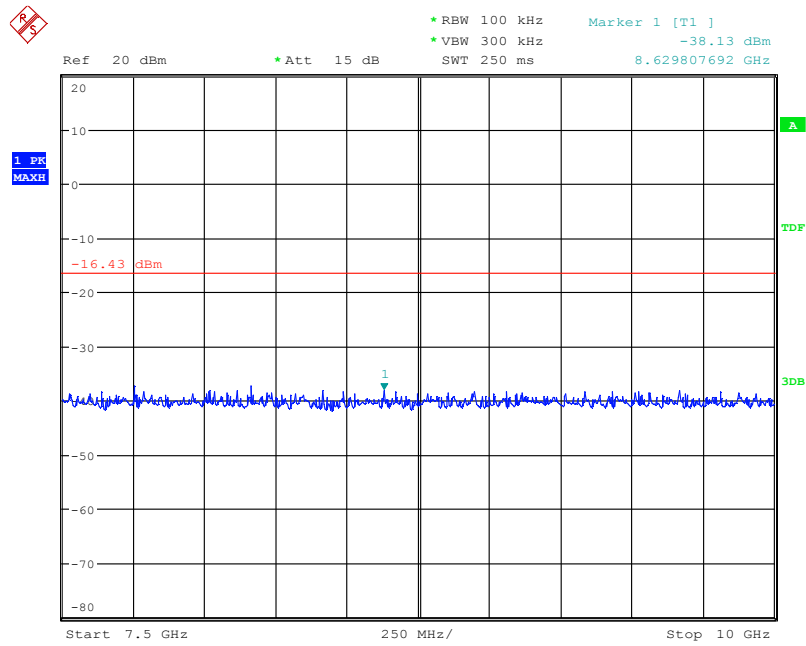
Date: 16.MAR.2013 15:12:06

**Fig. 75 Conducted Spurious Emission (802.11g, Ch11, 1 GHz-2.5 GHz)**



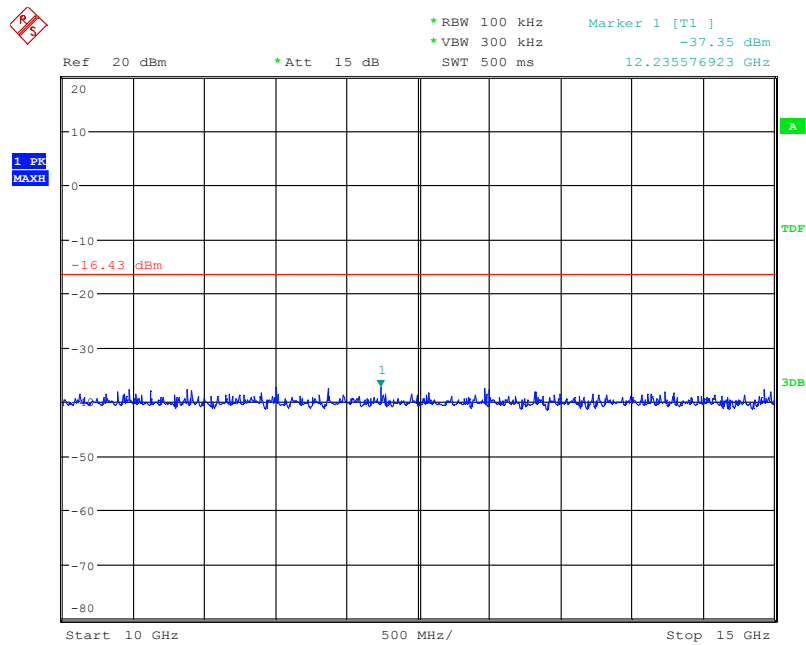
Date: 16.MAR.2013 15:12:13

**Fig. 76 Conducted Spurious Emission (802.11g, Ch11, 2.5 GHz-7.5 GHz)**



Date: 16.MAR.2013 15:12:20

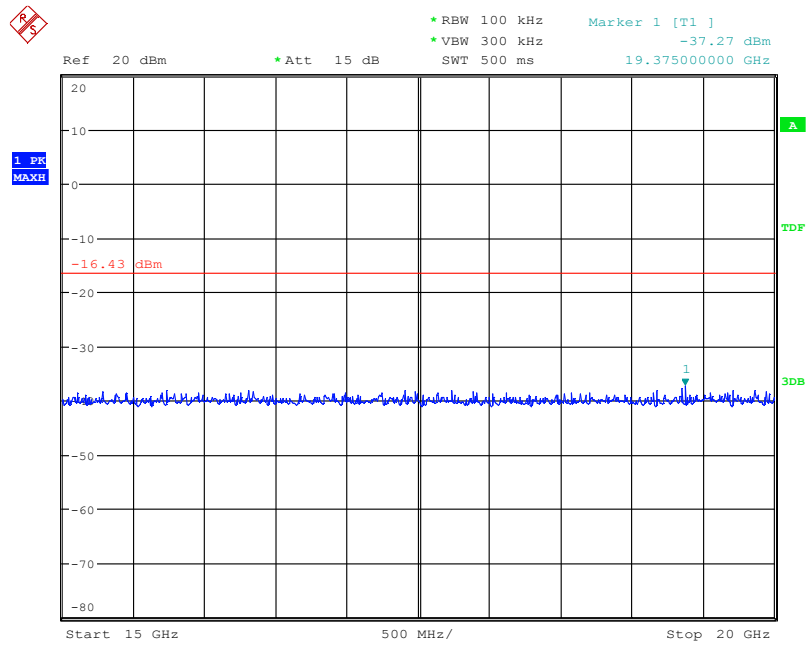
**Fig. 77 Conducted Spurious Emission (802.11g, Ch11, 7.5 GHz-10 GHz)**



Date: 16.MAR.2013 15:12:27

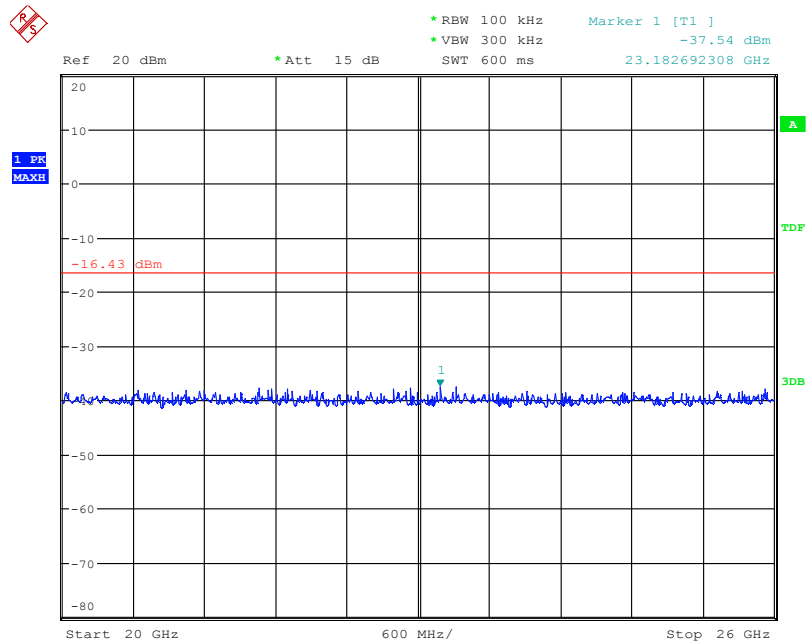
**Fig. 78 Conducted Spurious Emission (802.11g, Ch11, 10 GHz-15 GHz)**





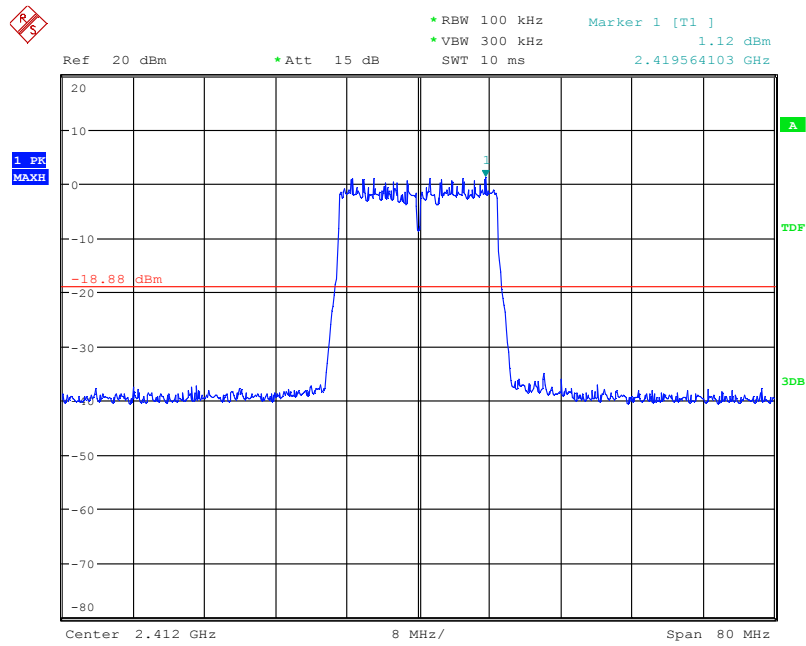
Date: 16.MAR.2013 15:12:33

**Fig. 79 Conducted Spurious Emission (802.11g, Ch11, 15 GHz-20 GHz)**



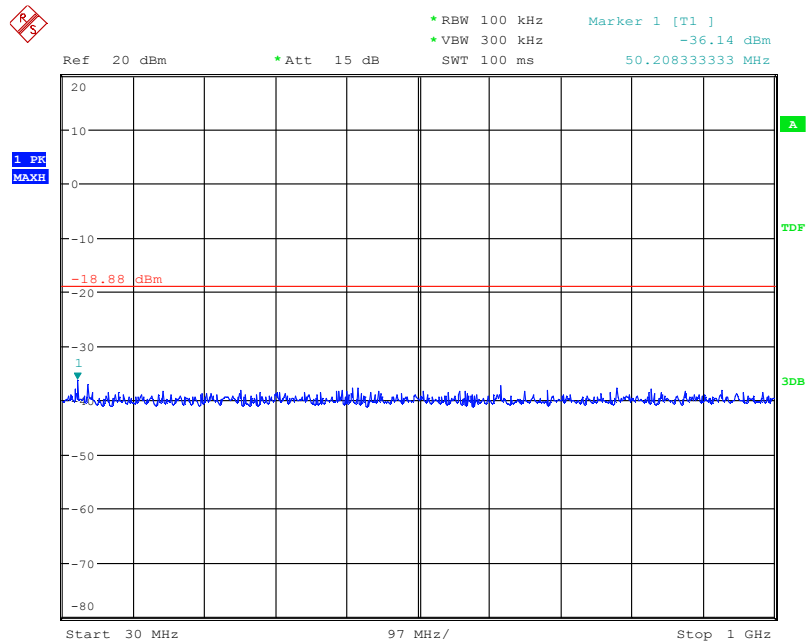
Date: 16.MAR.2013 15:12:40

**Fig. 80 Conducted Spurious Emission (802.11g, Ch11, 20 GHz-26 GHz)**



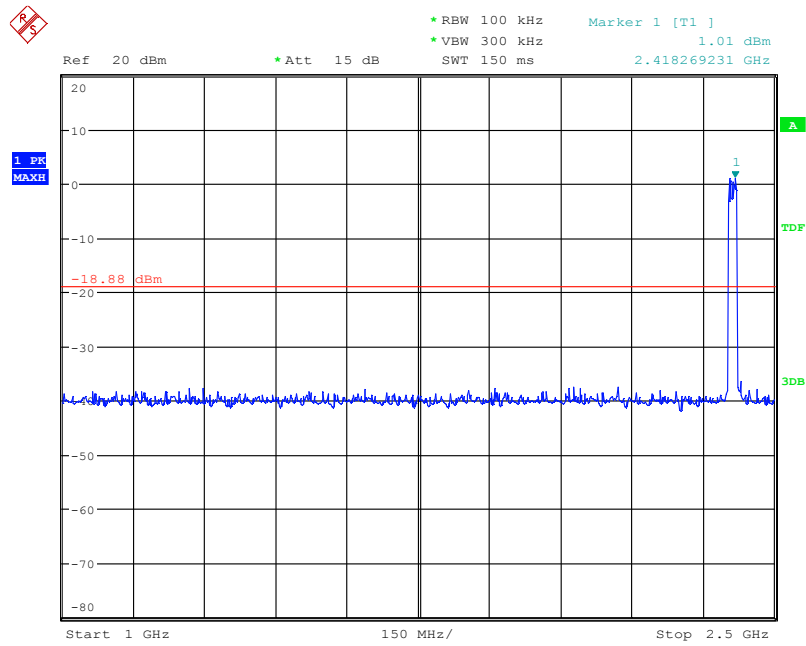
Date: 16.MAR.2013 15:13:20

**Fig. 81 Conducted Spurious Emission (802.11n-HT20, Ch1, Center Frequency)**



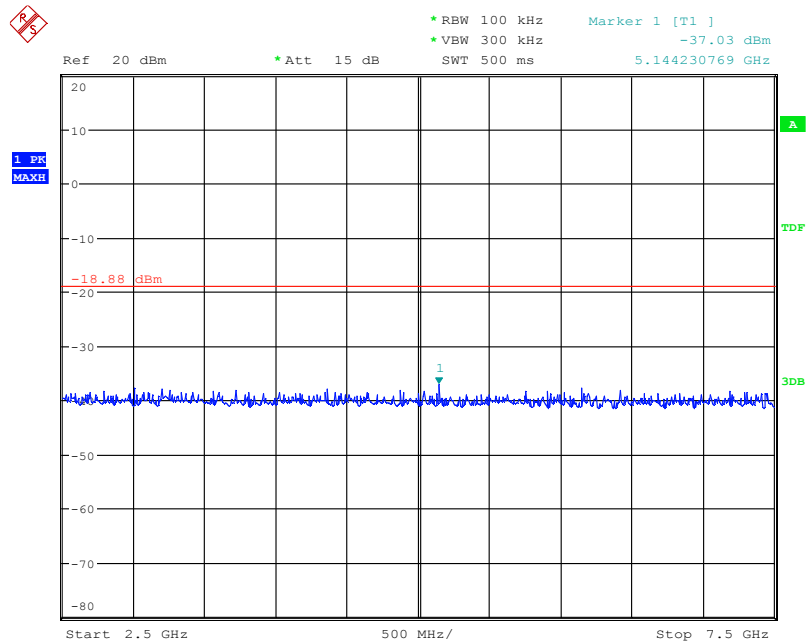
Date: 16.MAR.2013 15:13:26

**Fig. 82 Conducted Spurious Emission (802.11n-HT20, Ch1, 30 MHz-1 GHz)**



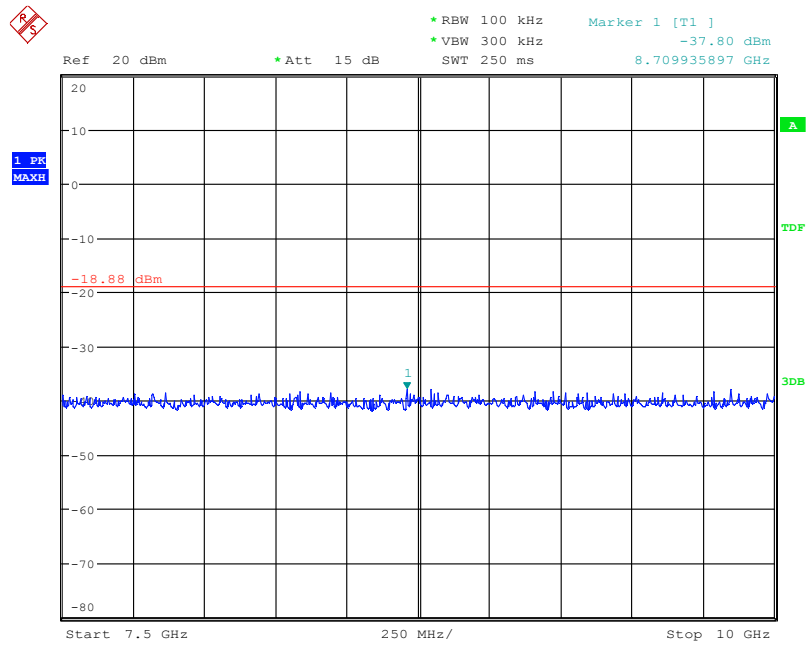
Date: 16.MAR.2013 15:13:32

**Fig. 83 Conducted Spurious Emission (802.11n-HT20, Ch1, 1 GHz-2.5 GHz)**



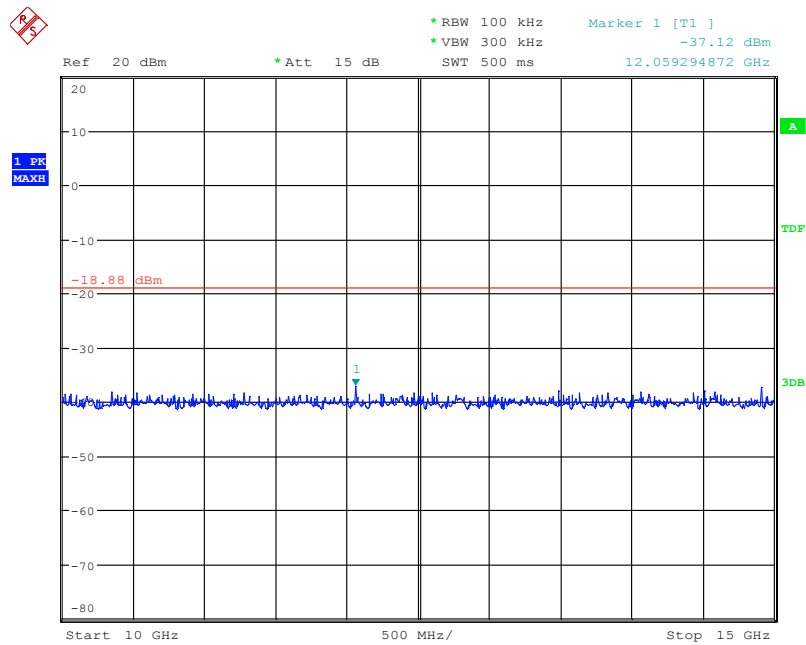
Date: 16.MAR.2013 15:13:38

**Fig. 84 Conducted Spurious Emission (802.11n-HT20, Ch1, 2.5 GHz-7.5 GHz)**



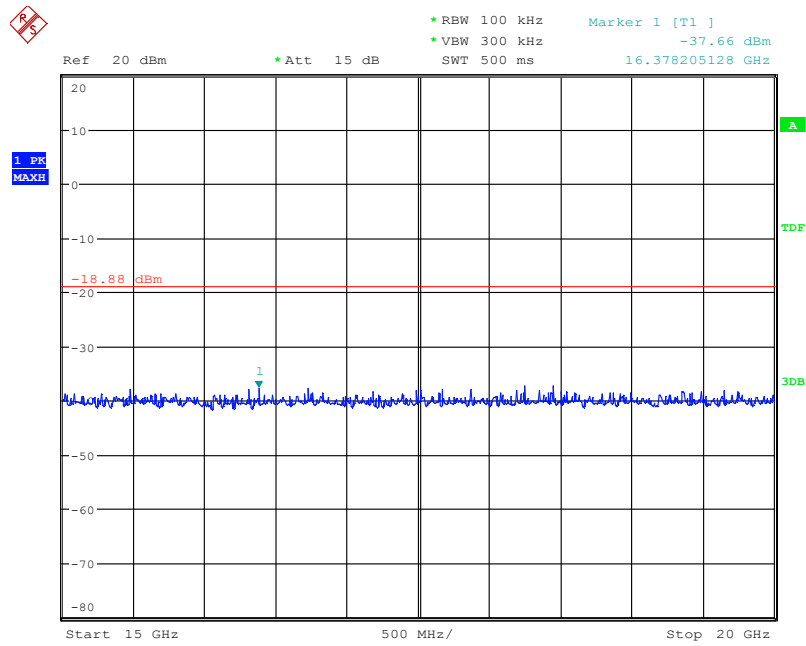
Date: 16.MAR.2013 15:13:44

**Fig. 85 Conducted Spurious Emission (802.11n-HT20, Ch1, 7.5 GHz-10 GHz)**



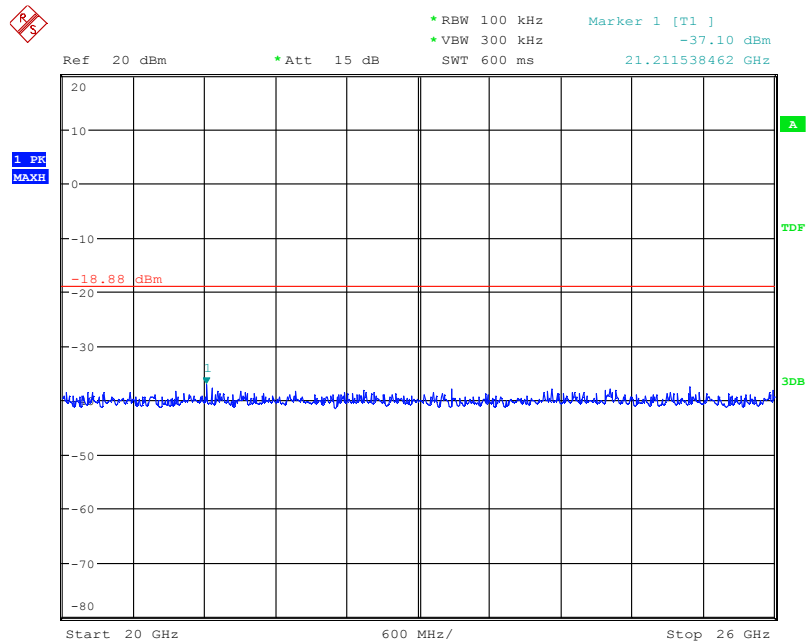
Date: 16.MAR.2013 15:13:50

**Fig. 86 Conducted Spurious Emission (802.11n-HT20, Ch1, 10 GHz-15 GHz)**



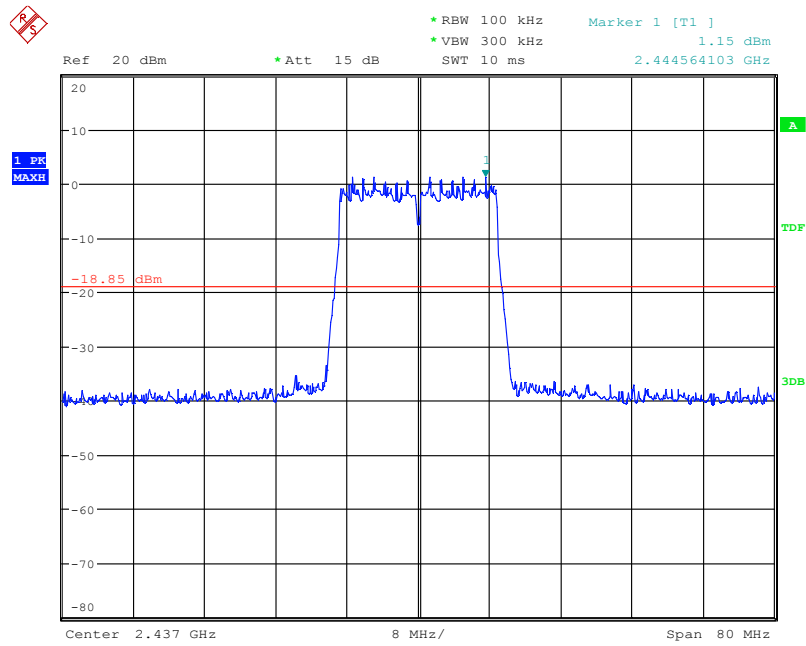
Date: 16.MAR.2013 15:13:55

**Fig. 87 Conducted Spurious Emission (802.11n-HT20, Ch1, 15 GHz-20 GHz)**



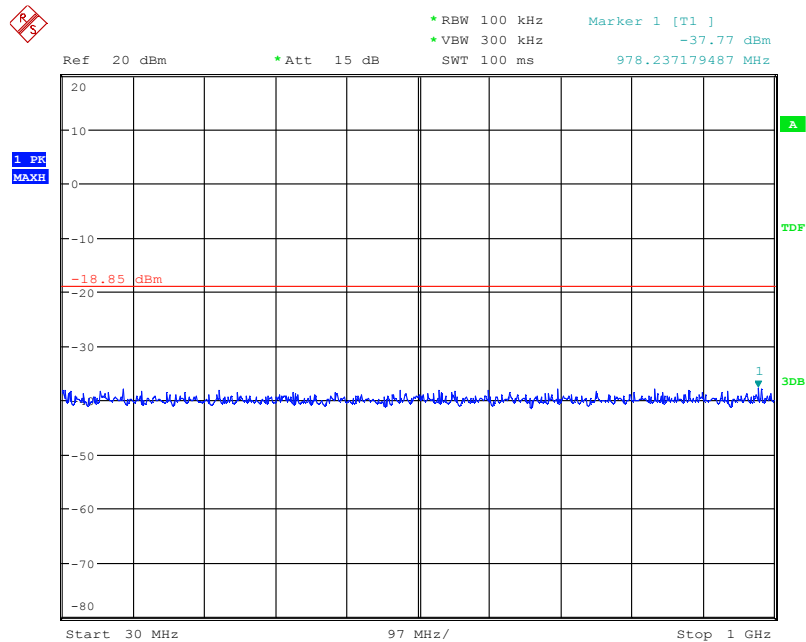
Date: 16.MAR.2013 15:14:01

**Fig. 88 Conducted Spurious Emission (802.11n-HT20, Ch1, 20 GHz-26 GHz)**



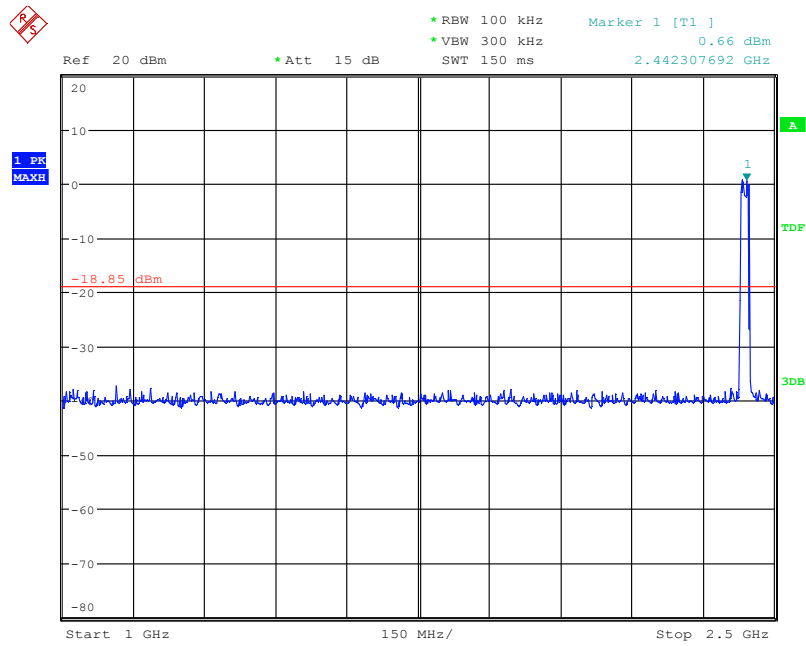
Date: 16.MAR.2013 15:14:31

**Fig. 89 Conducted Spurious Emission (802.11n-HT20, Ch6, Center Frequency)**



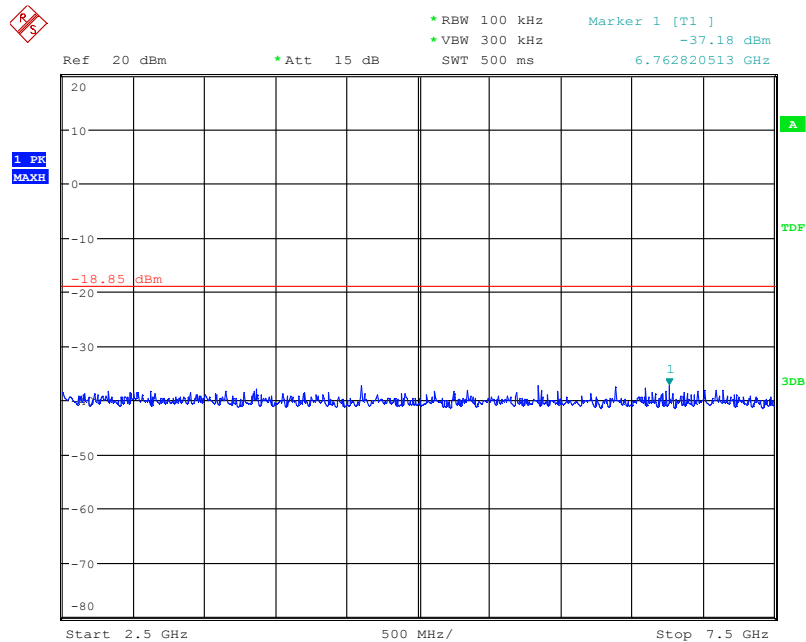
Date: 16.MAR.2013 15:14:37

**Fig. 90 Conducted Spurious Emission (802.11n-HT20, Ch6, 30 MHz-1 GHz)**



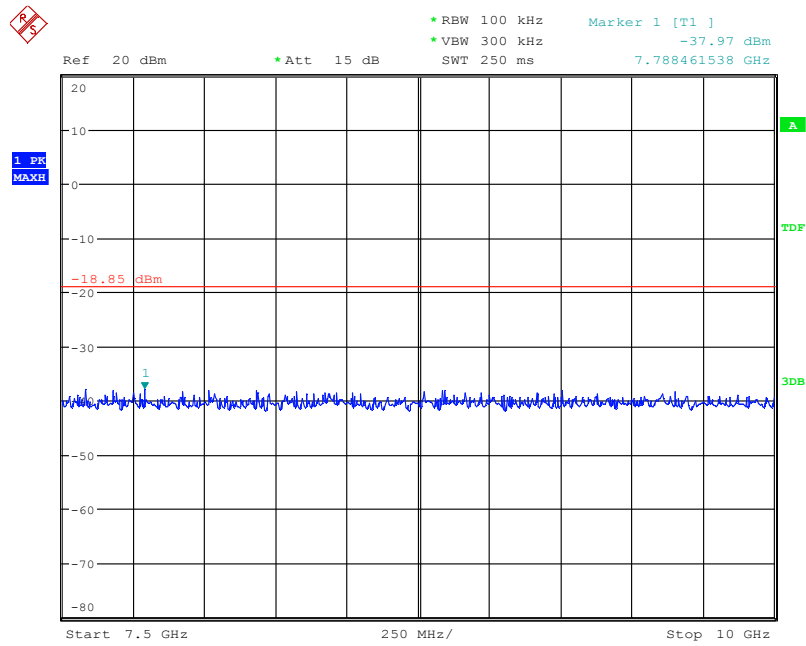
Date: 16.MAR.2013 15:14:43

**Fig. 91 Conducted Spurious Emission (802.11n-HT20, Ch6, 1 GHz-2.5 GHz)**



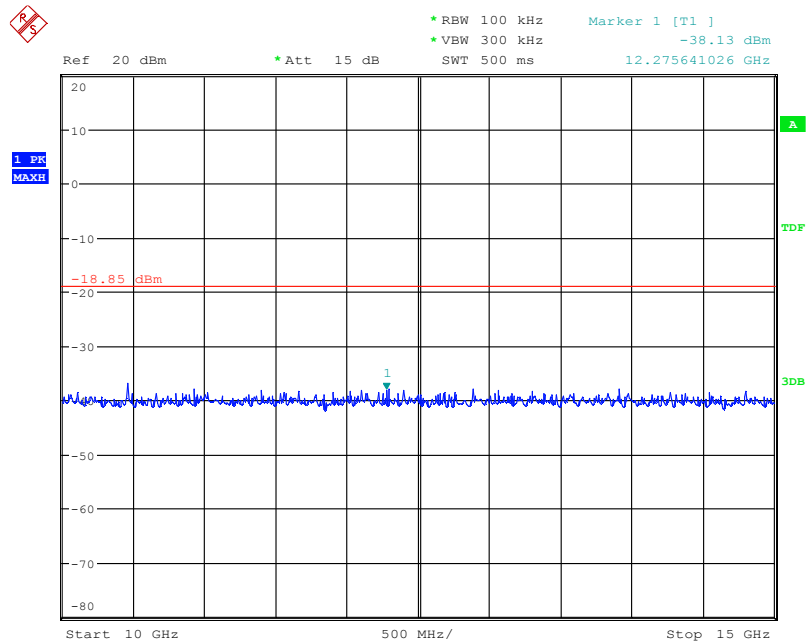
Date: 16.MAR.2013 15:14:49

**Fig. 92 Conducted Spurious Emission (802.11n-HT20, Ch6, 2.5 GHz-7.5 GHz)**



Date: 16.MAR.2013 15:14:54

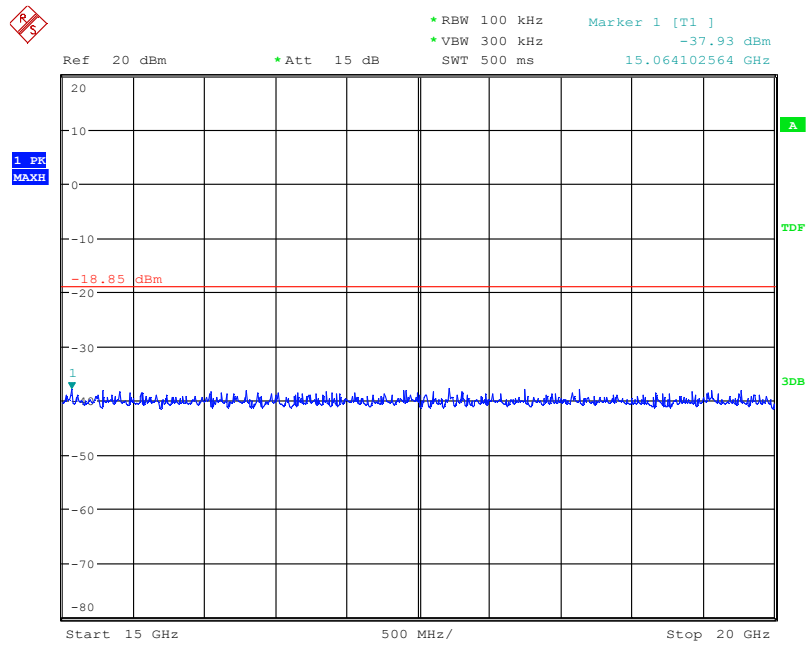
**Fig. 93 Conducted Spurious Emission (802.11n-HT20, Ch6, 7.5 GHz-10 GHz)**



Date: 16.MAR.2013 15:15:00

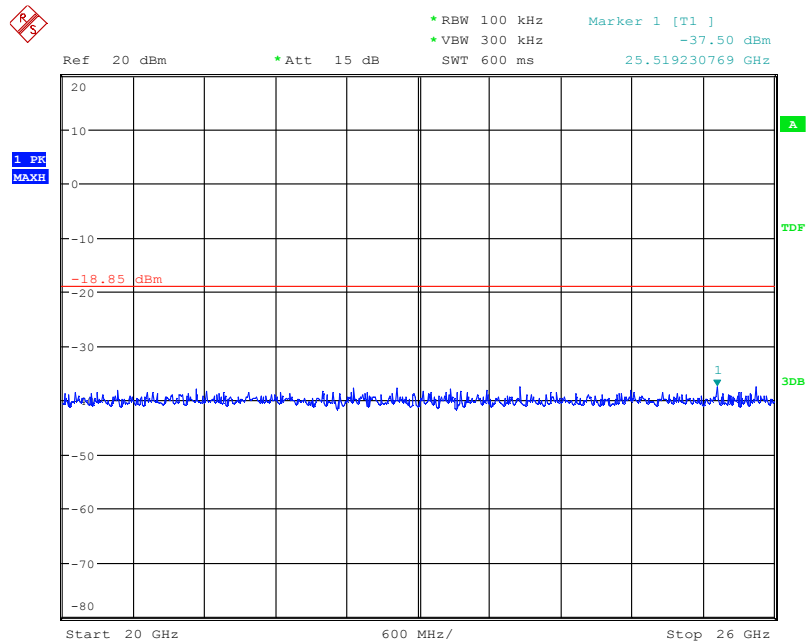
**Fig. 94 Conducted Spurious Emission (802.11n-HT20, Ch6, 10 GHz-15 GHz)**





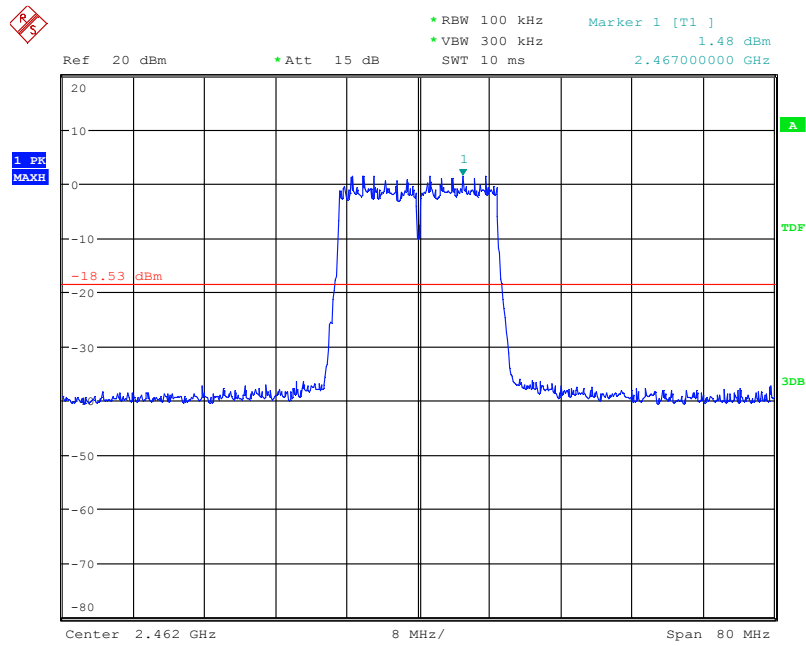
Date: 16.MAR.2013 15:15:06

**Fig. 95 Conducted Spurious Emission (802.11n-HT20, Ch6, 15 GHz-20 GHz)**



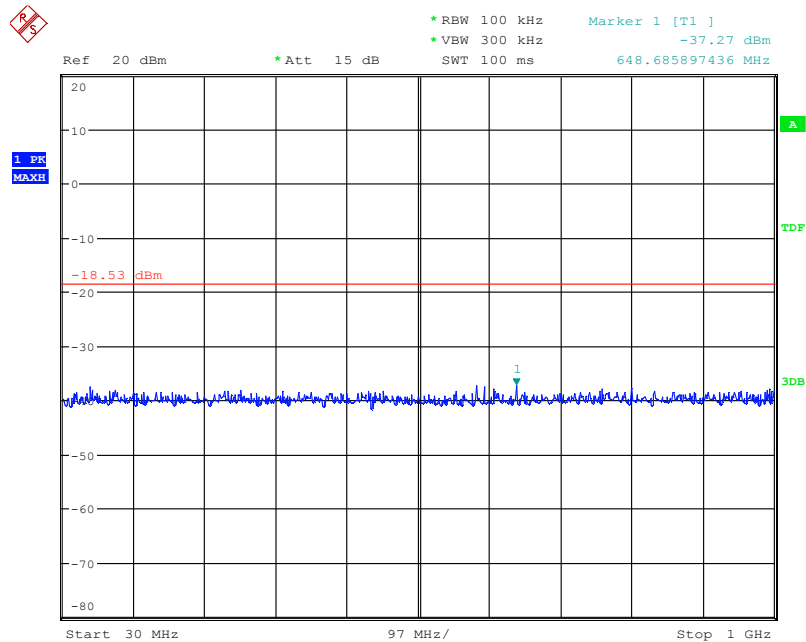
Date: 16.MAR.2013 15:15:12

**Fig. 96 Conducted Spurious Emission (802.11n-HT20, Ch6, 20 GHz-26 GHz)**



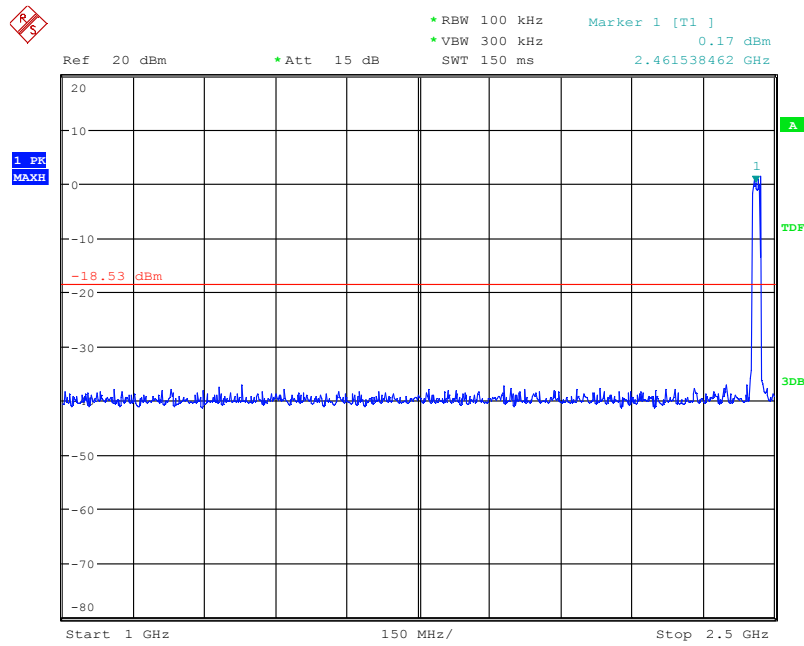
Date: 16.MAR.2013 15:15:55

**Fig. 97 Conducted Spurious Emission (802.11n-HT20, Ch11, Center Frequency)**



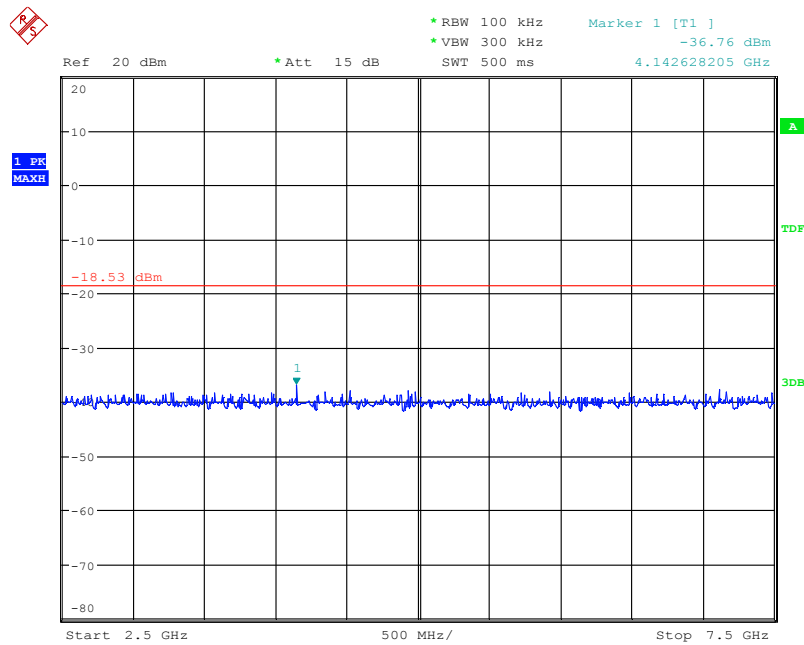
Date: 16.MAR.2013 15:16:02

**Fig. 98 Conducted Spurious Emission (802.11n-HT20, Ch11, 30 MHz-1 GHz)**



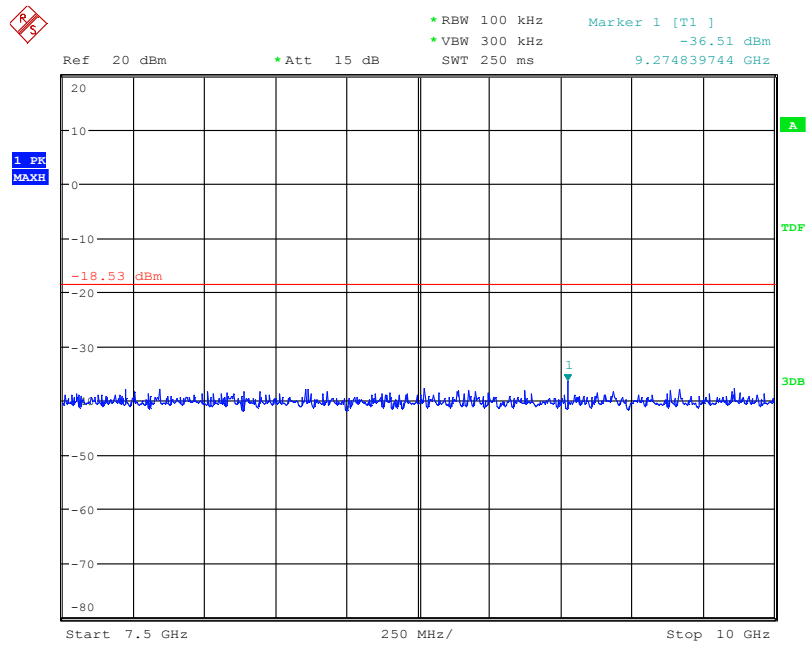
Date: 16.MAR.2013 15:16:08

**Fig. 99 Conducted Spurious Emission (802.11n-HT20, Ch11, 1 GHz-2.5 GHz)**



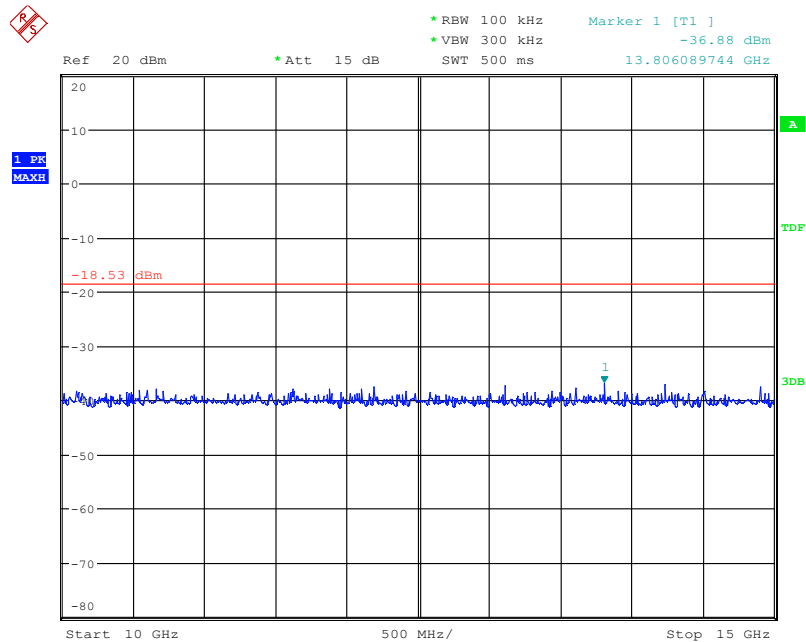
Date: 16.MAR.2013 15:16:15

**Fig. 100 Conducted Spurious Emission (802.11n-HT20, Ch11, 2.5 GHz-7.5 GHz)**



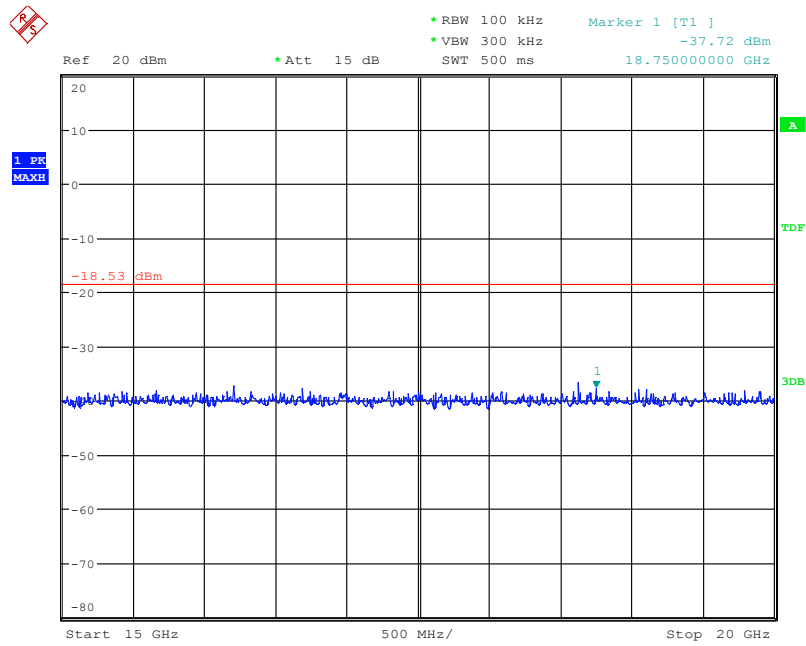
Date: 16.MAR.2013 15:16:22

**Fig. 101 Conducted Spurious Emission (802.11n-HT20, Ch11, 7.5 GHz-10 GHz)**



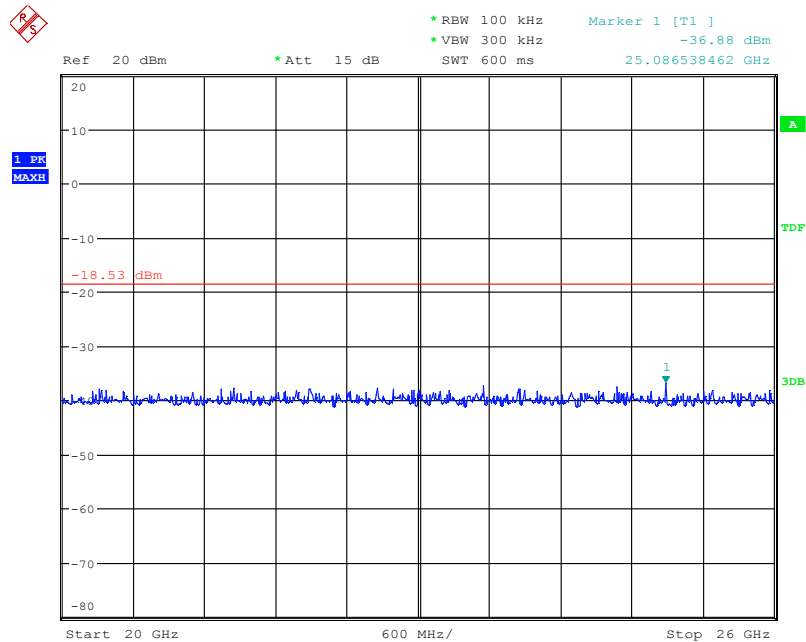
Date: 16.MAR.2013 15:16:29

**Fig. 102 Conducted Spurious Emission (802.11n-HT20, Ch11, 10 GHz-15 GHz)**



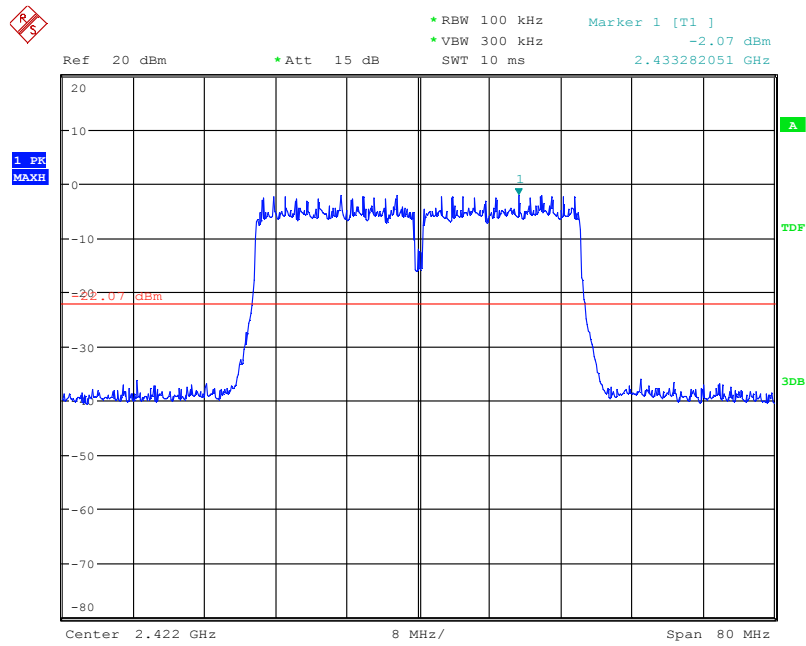
Date: 16.MAR.2013 15:16:35

**Fig. 103 Conducted Spurious Emission (802.11n-HT20, Ch11, 15 GHz-20 GHz)**



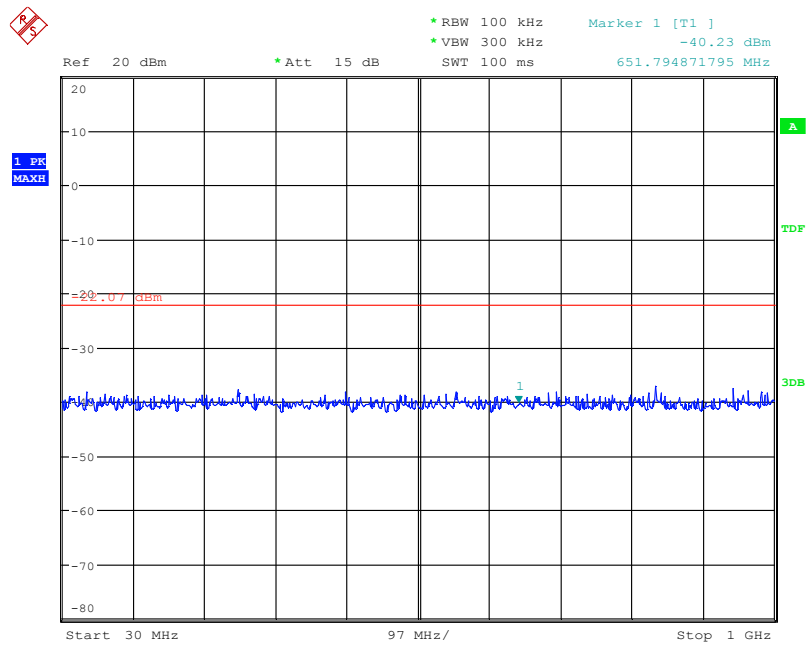
Date: 16.MAR.2013 15:16:42

**Fig. 104 Conducted Spurious Emission (802.11n-HT20, Ch11, 20 GHz-26 GHz)**



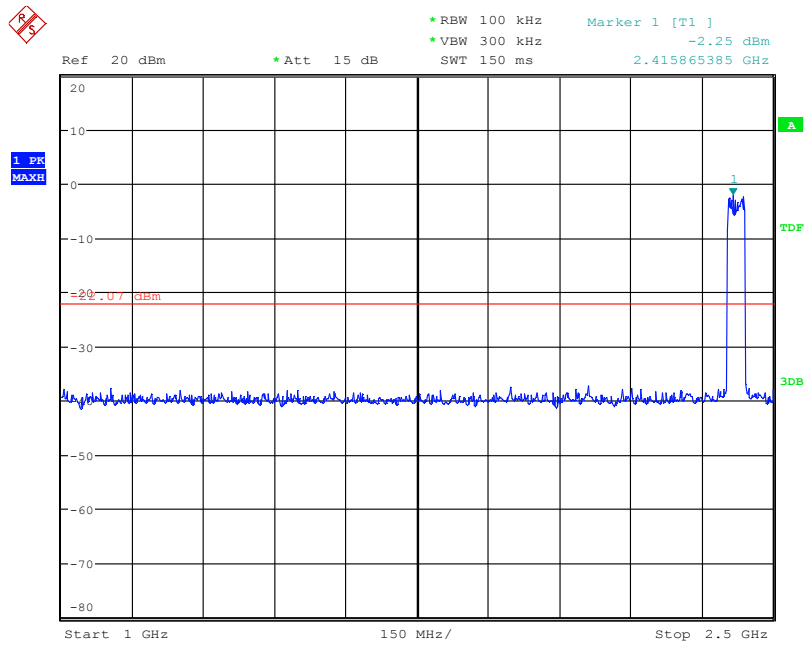
Date: 16.MAR.2013 15:17:33

**Fig. 105 Conducted Spurious Emission (802.11n-HT40, Ch3, Center Frequency)**



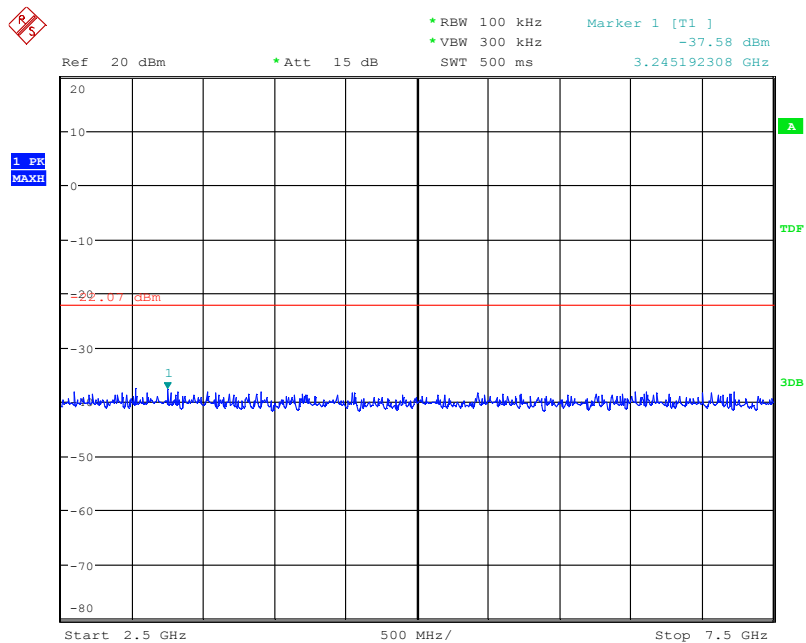
Date: 16.MAR.2013 15:17:36

**Fig. 106 Conducted Spurious Emission (802.11n-HT40, Ch3, 30 MHz-1 GHz)**



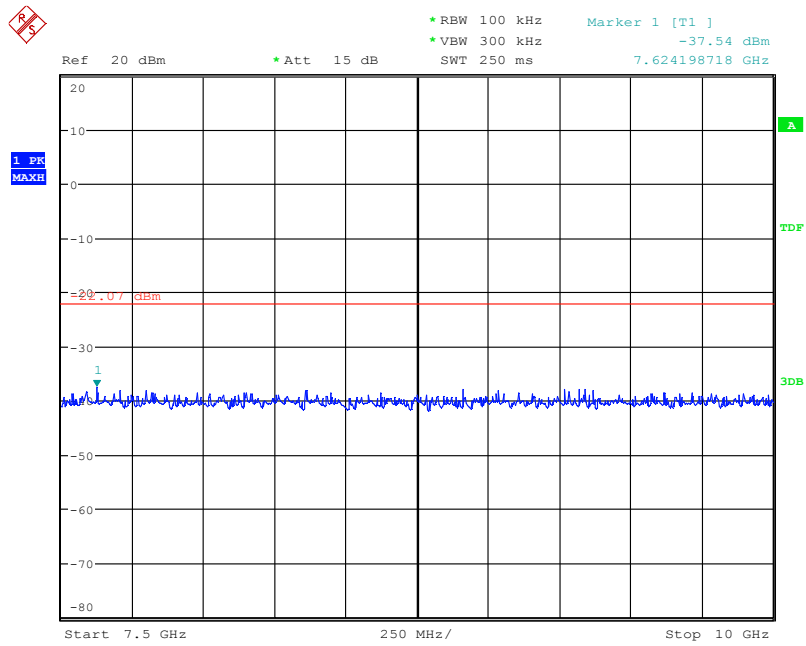
Date: 16.MAR.2013 15:17:43

**Fig. 107 Conducted Spurious Emission (802.11n-HT40, Ch3, 1 GHz-2.5 GHz)**



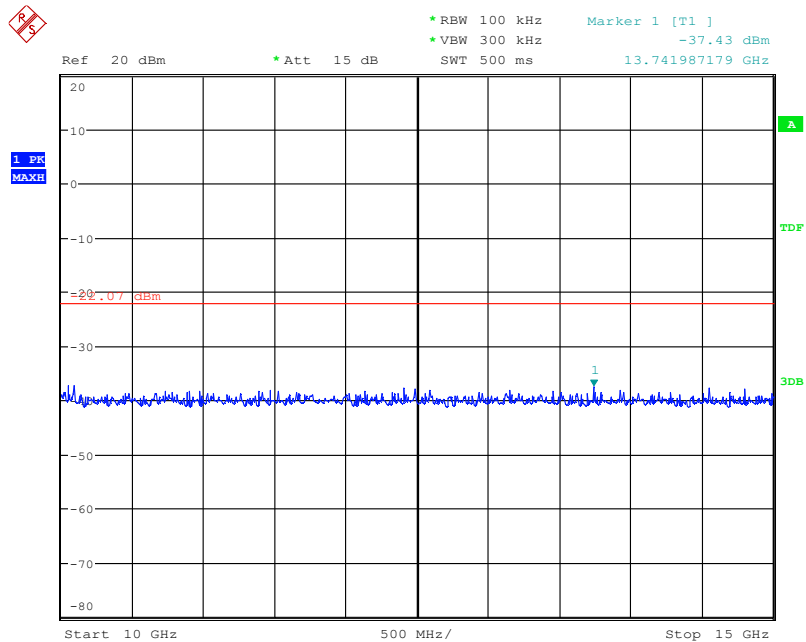
Date: 16.MAR.2013 15:17:49

**Fig. 108 Conducted Spurious Emission (802.11n-HT40, Ch3, 2.5 GHz-7.5 GHz)**



Date: 16.MAR.2013 15:17:56

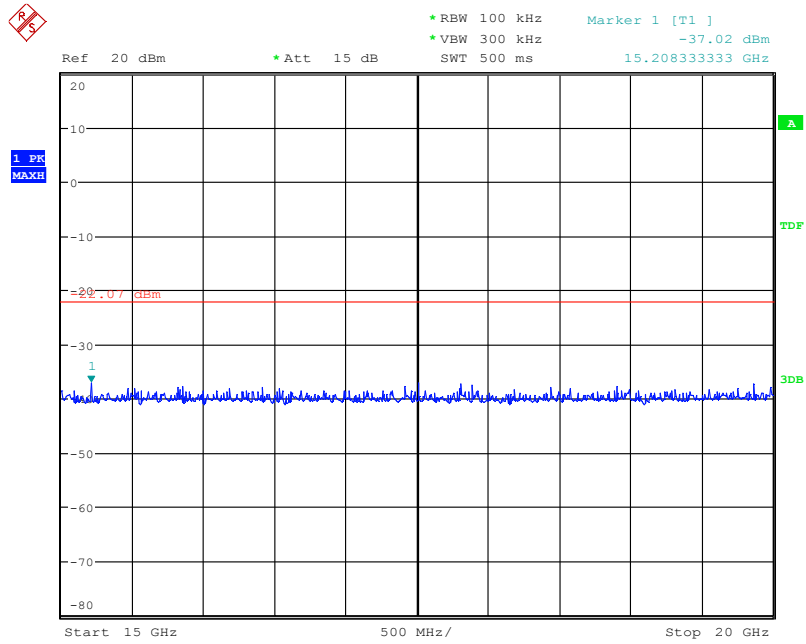
**Fig. 109 Conducted Spurious Emission (802.11n-HT40, Ch3, 7.5 GHz-10 GHz)**



Date: 16.MAR.2013 15:18:03

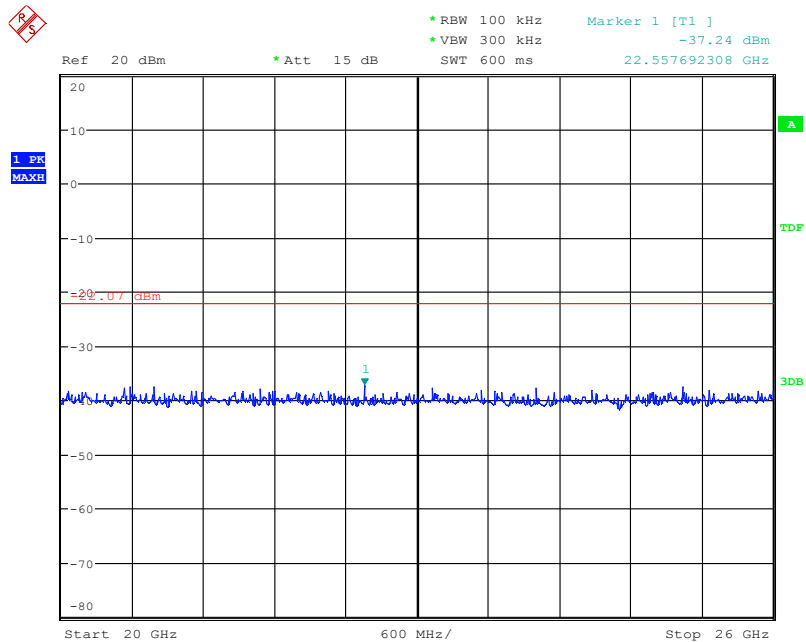
**Fig. 110 Conducted Spurious Emission (802.11n-HT40, Ch3, 10 GHz-15 GHz)**





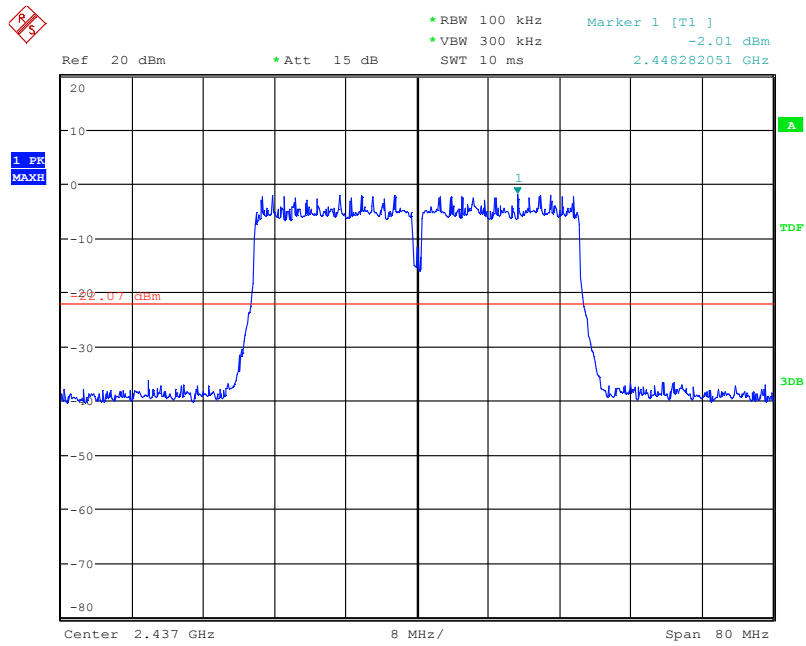
Date: 16.MAR.2013 15:18:12

**Fig. 111 Conducted Spurious Emission (802.11n-HT40, Ch3, 15 GHz-20 GHz)**



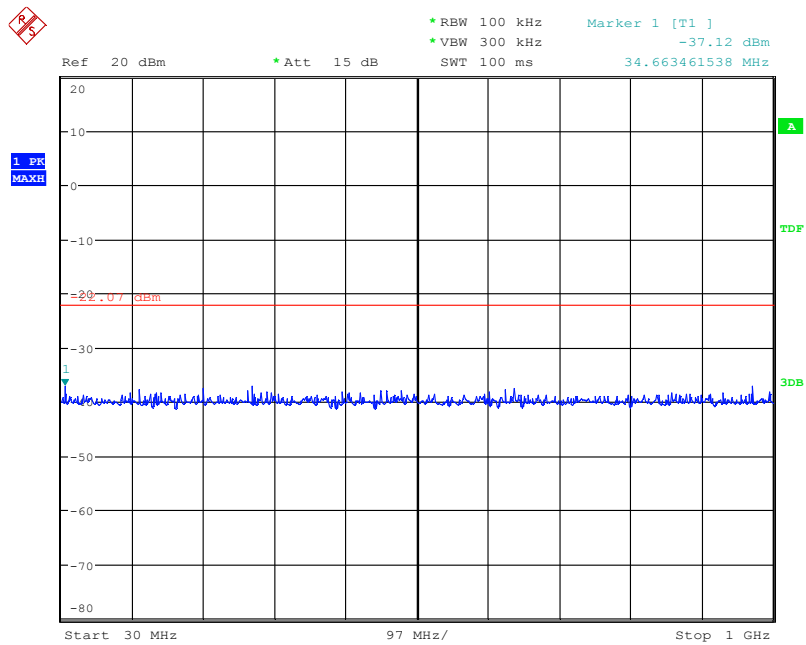
Date: 16.MAR.2013 15:18:18

**Fig. 112 Conducted Spurious Emission (802.11n-HT40, Ch3, 20 GHz-26 GHz)**



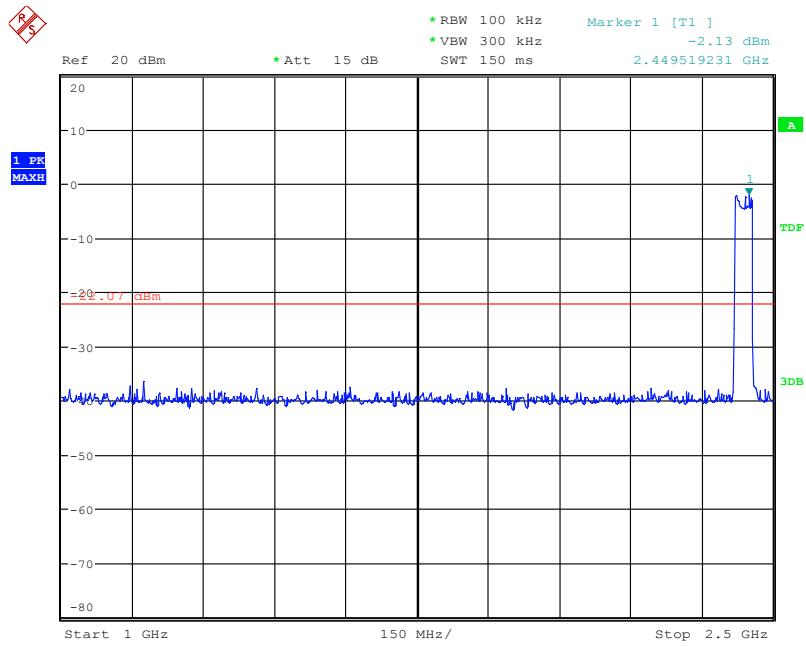
Date: 16.MAR.2013 15:18:42

**Fig. 113 Conducted Spurious Emission (802.11n-HT40, Ch6, Center Frequency)**



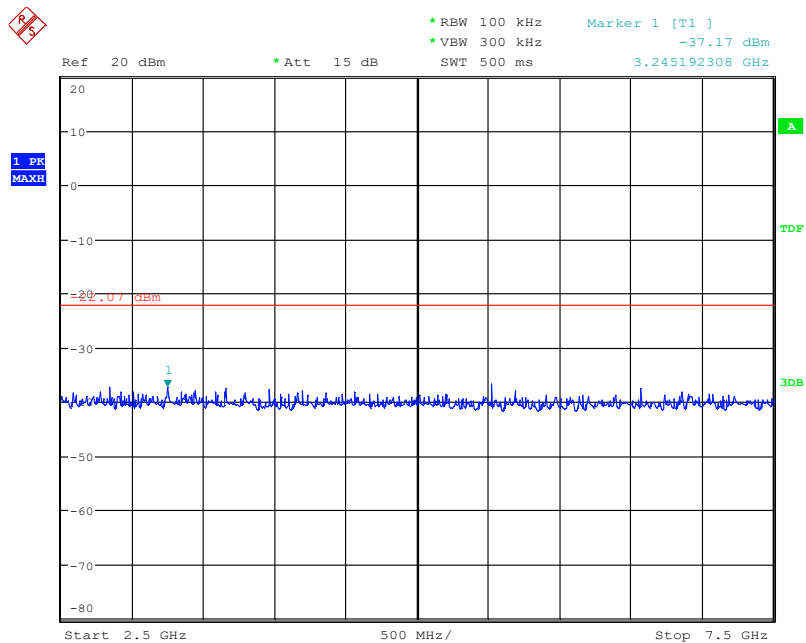
Date: 16.MAR.2013 15:18:49

**Fig. 114 Conducted Spurious Emission (802.11n-HT40, Ch6, 30 MHz-1 GHz)**



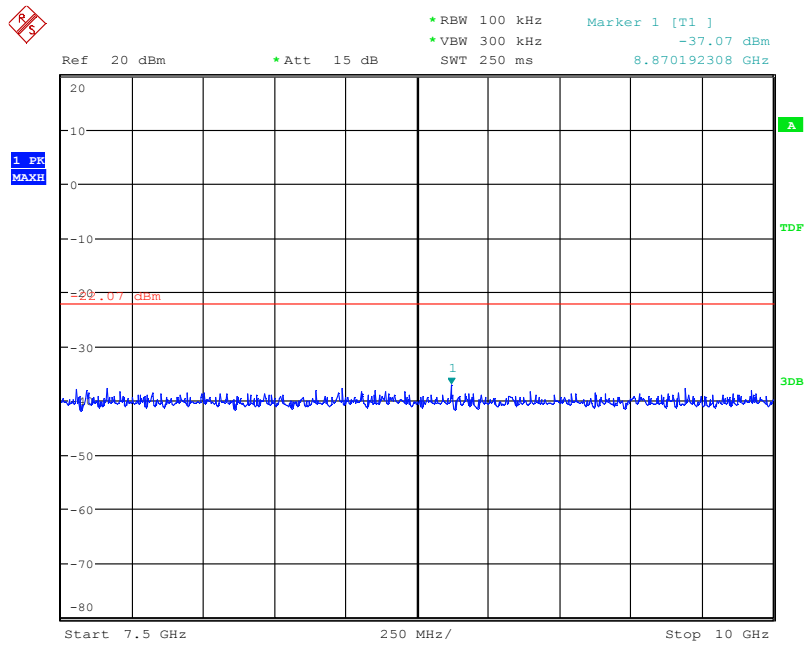
Date: 16.MAR.2013 15:18:55

**Fig. 115 Conducted Spurious Emission (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)**



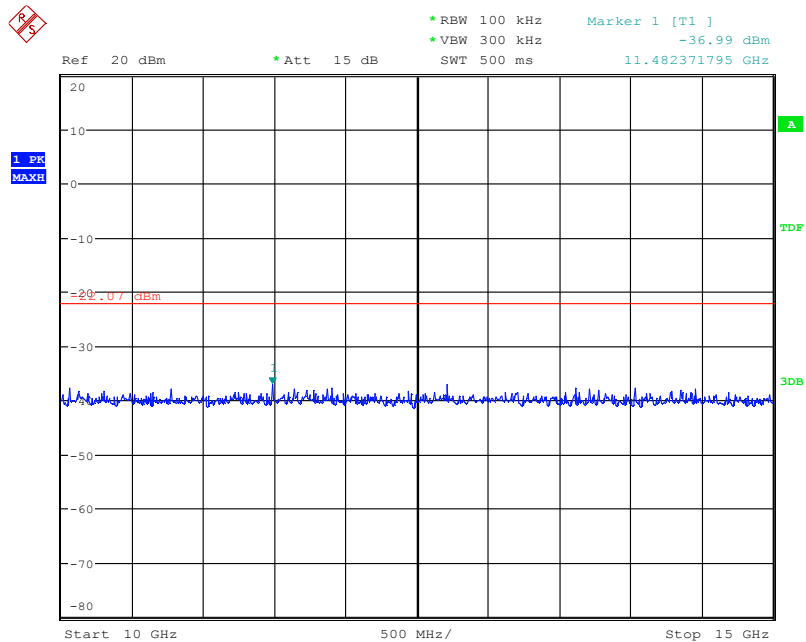
Date: 16.MAR.2013 15:19:01

**Fig. 116 Conducted Spurious Emission (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)**



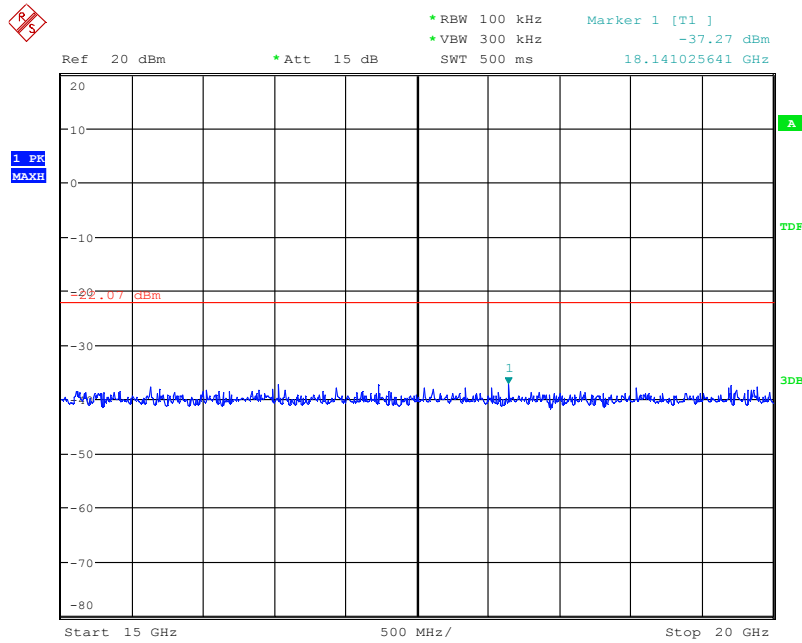
Date: 16.MAR.2013 15:19:08

**Fig. 117 Conducted Spurious Emission (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)**



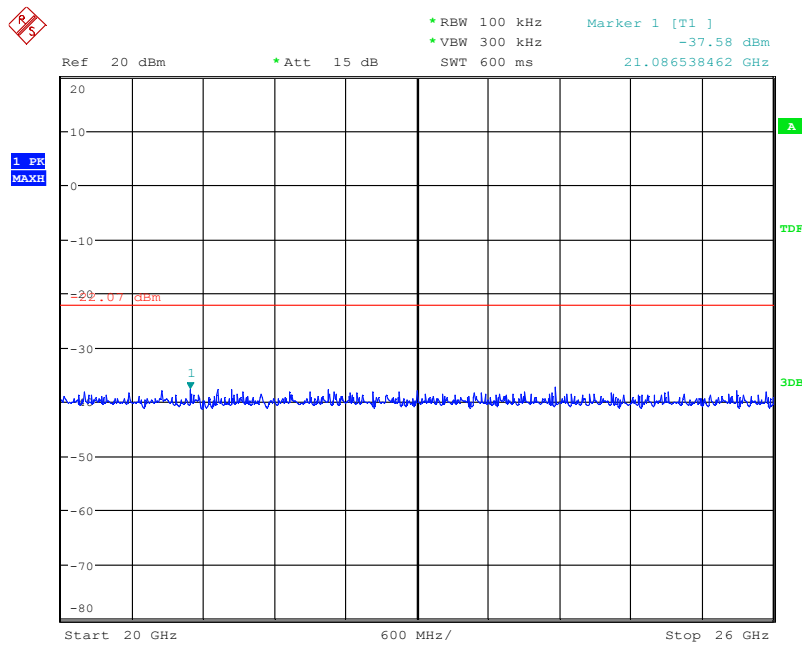
Date: 16.MAR.2013 15:19:15

**Fig. 118 Conducted Spurious Emission (802.11n-HT40, Ch6, 10 GHz-15 GHz)**



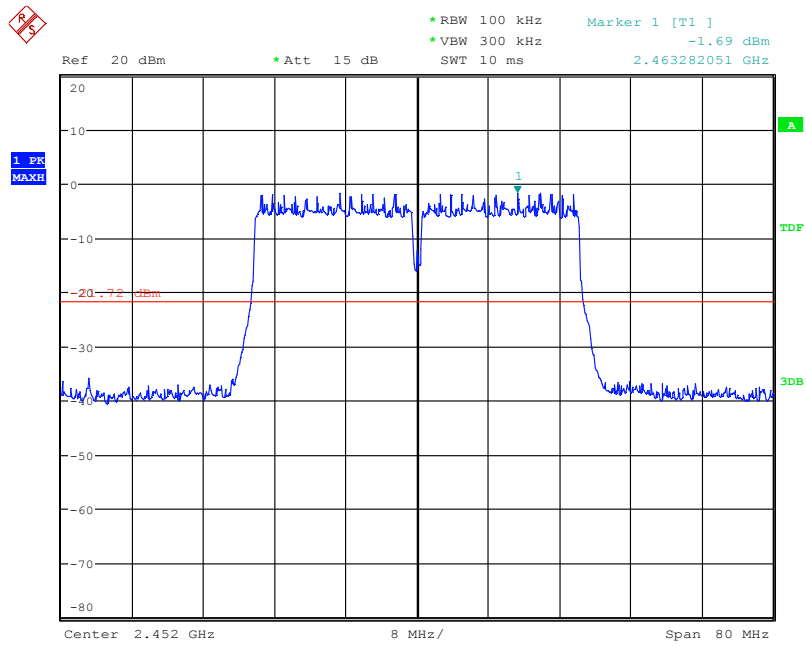
Date: 16.MAR.2013 15:19:22

**Fig. 119 Conducted Spurious Emission (802.11n-HT40, Ch6, 15GHz-20 GHz)**



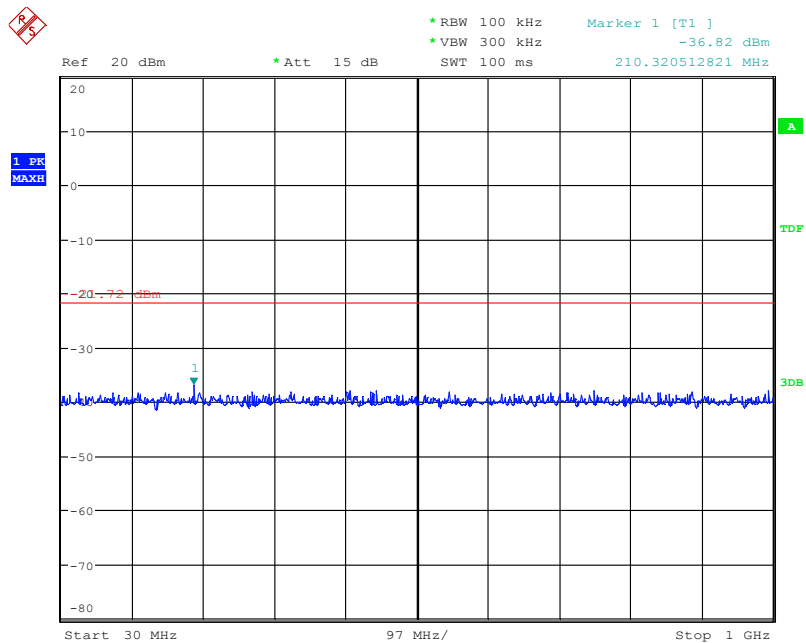
Date: 16.MAR.2013 15:19:29

**Fig. 120 Conducted Spurious Emission (802.11n-HT40, Ch6, 20GHz-26 GHz)**



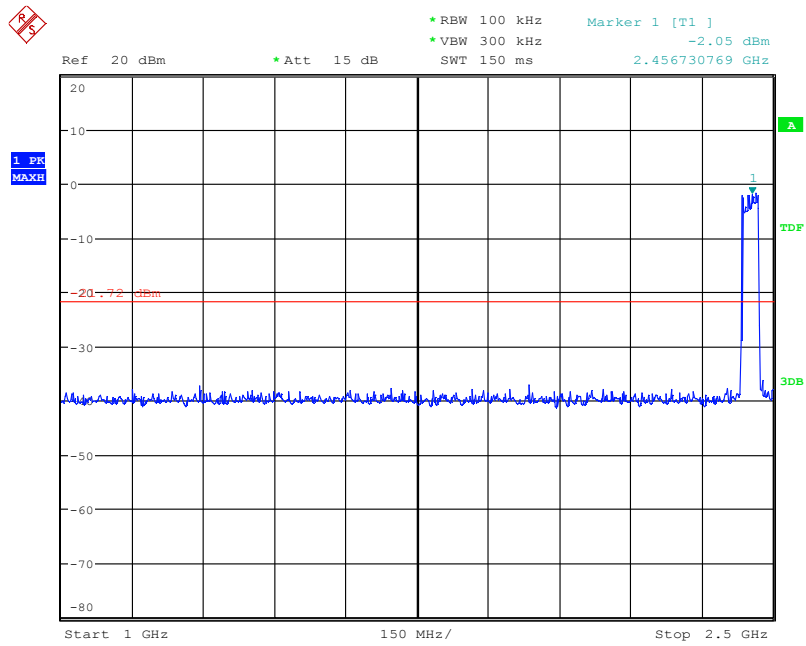
Date: 16.MAR.2013 15:19:59

**Fig. 121 Conducted Spurious Emission (802.11n-HT40, Ch9, Center Frequency)**



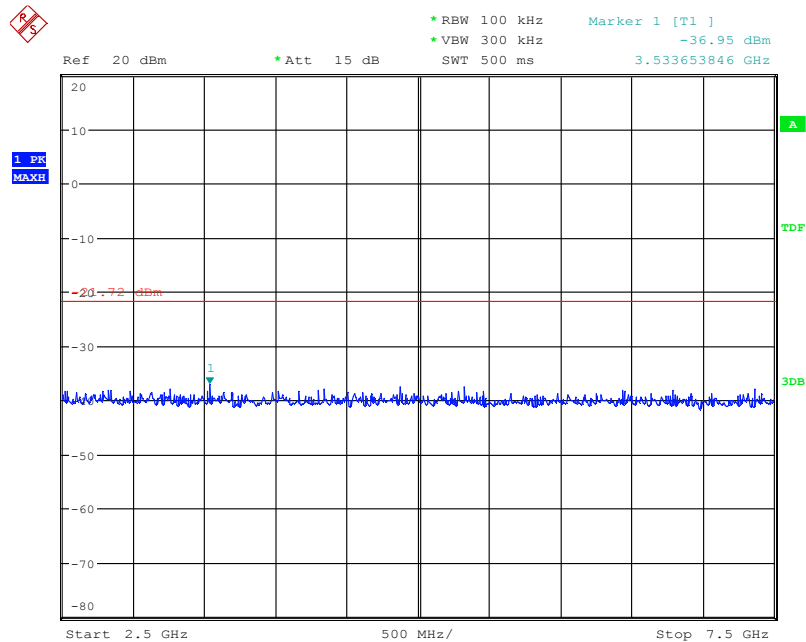
Date: 16.MAR.2013 15:20:06

**Fig. 122 Conducted Spurious Emission (802.11n-HT40, Ch9, 30 MHz-1 GHz)**



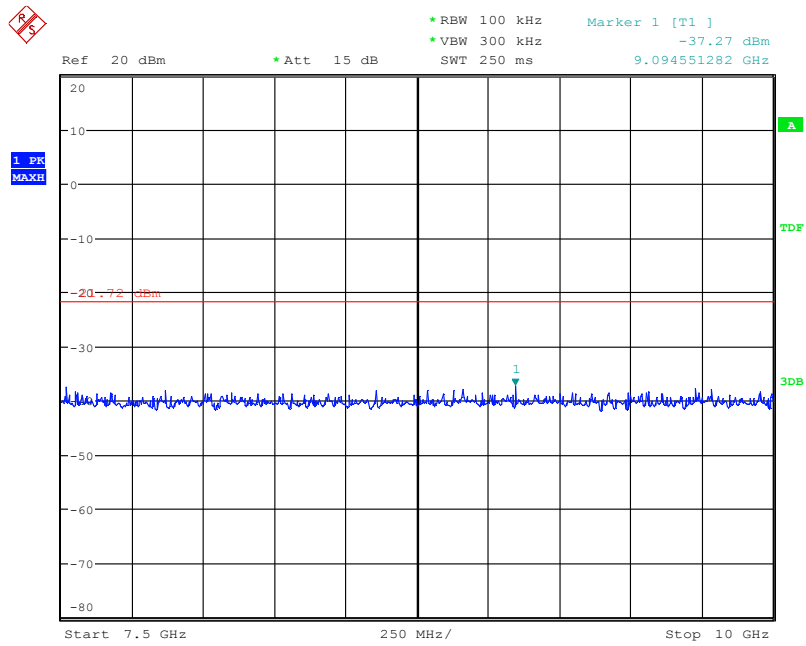
Date: 16.MAR.2013 15:20:13

**Fig. 123 Conducted Spurious Emission (802.11n-HT40, Ch9, 1GHz-2.5 GHz)**



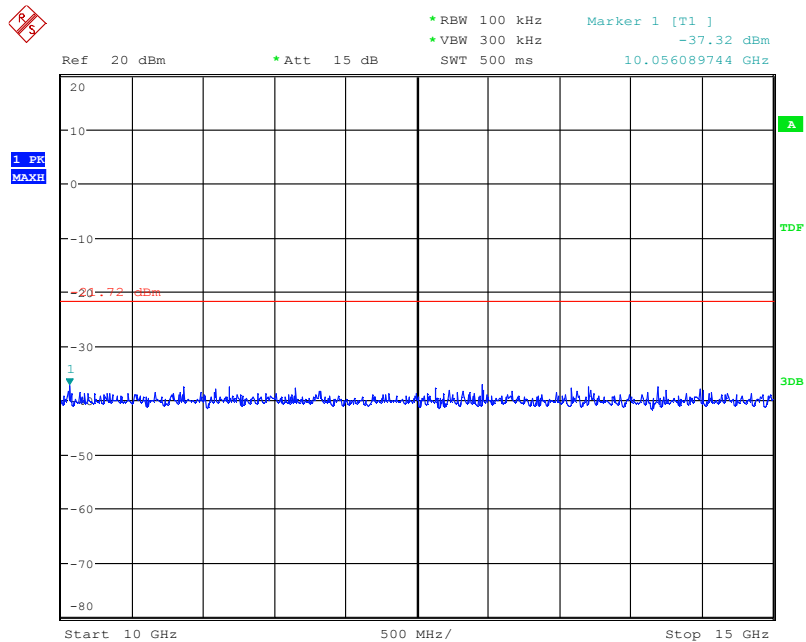
Date: 16.MAR.2013 15:20:19

**Fig. 124 Conducted Spurious Emission (802.11n-HT40, Ch9, 2.5GHz-7.5 GHz)**



Date: 16.MAR.2013 15:20:26

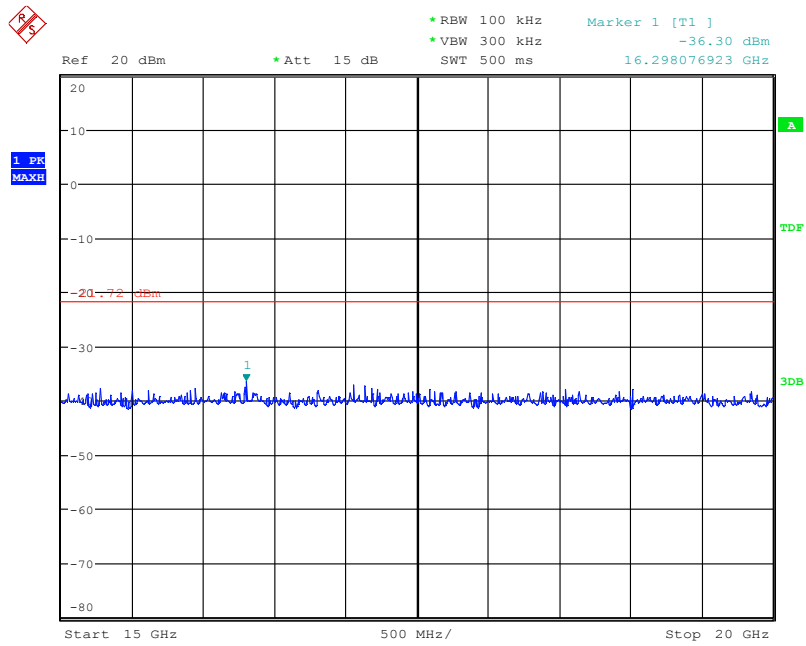
**Fig. 125 Conducted Spurious Emission (802.11n-HT40, Ch9, 7.5GHz-10 GHz)**



Date: 16.MAR.2013 15:20:33

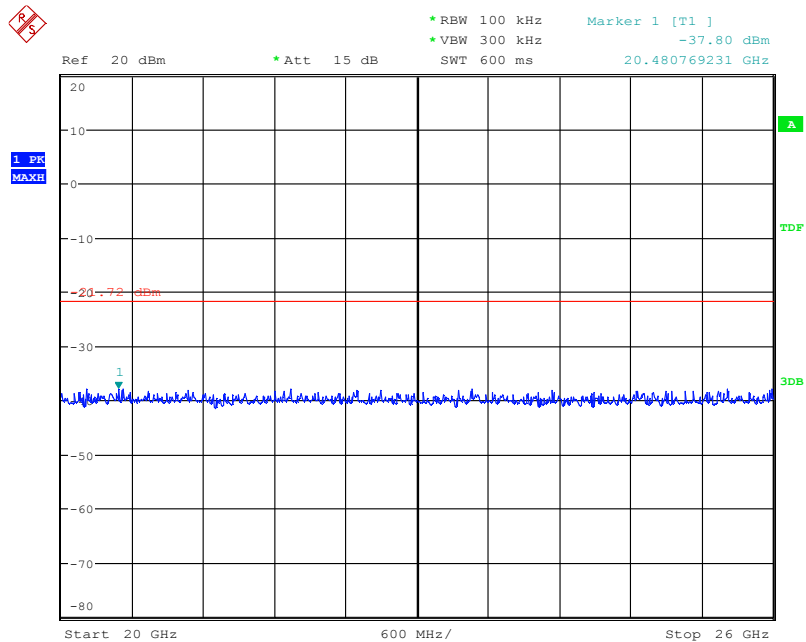
**Fig. 126 Conducted Spurious Emission (802.11n-HT40, Ch9, 10GHz-15 GHz)**





Date: 16.MAR.2013 15:20:40

**Fig. 127 Conducted Spurious Emission (802.11n-HT40, Ch9, 15GHz-20 GHz)**



Date: 16.MAR.2013 15:20:46

**Fig. 128 Conducted Spurious Emission (802.11n-HT40, Ch9, 20GHz-28 GHz)**

### A.6.2 Transmitter Spurious Emission - Radiated

#### Measurement Limit:

| Standard                               | Limit                        |
|--|------------------------------|
| FCC 47 CFR Part 15.247, 15.205, 15.209 | 20dB below peak output power |

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) (see § 15.205(c)).

The measurement is made according to ANSI C63.10.

#### Limit in restricted band:

| Frequency of emission (MHz) | Field strength(uV/m) | Field strength(dBuV/m) |
|-----------------------------|----------------------|------------------------|
| 30-88                       | 100                  | 40                     |
| 88-216                      | 150                  | 43.5                   |
| 216-960                     | 200                  | 46                     |
| Above 960                   | 500                  | 54                     |

#### Test Condition

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

| Frequency of emission (MHz) | RBW/VBW       | Sweep Time(s) |
|-----------------------------|---------------|---------------|
| 30-1000                     | 100KHz/300KHz | 5             |
| 1000-4000                   | 1MHz/1MHz     | 15            |
| 4000-18000                  | 1MHz/1MHz     | 40            |
| 18000-26500                 | 1MHz/1MHz     | 20            |

**Measurement Results:**

**802.11b/g mode**

| Mode    | Channel | Frequency Range  | Test Results     | Conclusion |
|---------|---------|------------------|------------------|------------|
| 802.11b | Power   | 2.38GHz ~2.45GHz | Fig.129          | P          |
|         | 1       | 30 MHz ~1 GHz    | Fig.130          | P          |
|         |         | 1 GHz ~ 3 GHz    | Fig.131          | P          |
|         |         | 3 GHz ~ 18 GHz   | Fig.132          | P          |
|         | 6       | 30 MHz ~1 GHz    | Fig.133          | P          |
|         |         | 1 GHz ~ 3 GHz    | Fig.134          | P          |
|         |         | 3 GHz ~ 18 GHz   | Fig.135          | P          |
|         | Power   | 2.45GHz ~2.5GHz  | Fig.136          | P          |
|         | 11      | 30 MHz ~1 GHz    | Fig.137          | P          |
|         |         | 1 GHz ~ 3 GHz    | Fig.138          | P          |
|         |         | 3 GHz ~ 18 GHz   | Fig.139          | P          |
|         | 802.11g | Power            | 2.38GHz ~2.43GHz | Fig.140    |
| 1       |         | 30 MHz ~1 GHz    | Fig.141          | P          |
|         |         | 1 GHz ~ 3 GHz    | Fig.142          | P          |
|         |         | 3 GHz ~ 18 GHz   | Fig.143          | P          |
| 6       |         | 30 MHz ~1 GHz    | Fig.144          | P          |
|         |         | 1 GHz ~ 3 GHz    | Fig.145          | P          |
|         |         | 3 GHz ~ 18 GHz   | Fig.146          | P          |
| Power   |         | 2.45GHz ~2.5GHz  | Fig.147          | P          |
| 11      |         | 30 MHz ~1 GHz    | Fig.148          | P          |
|         |         | 1 GHz ~ 3 GHz    | Fig.149          | P          |
|         |         | 3 GHz ~ 18 GHz   | Fig.150          | P          |

**802.11n mode**

| Mode               | Channel            | Frequency Range  | Test Results     | Conclusion |
|--------------------|--------------------|------------------|------------------|------------|
| 802.11n<br>(20MHz) | Power              | 2.38GHz ~2.45GHz | Fig.151          | P          |
|                    | 1                  | 30 MHz ~1 GHz    | Fig.152          | P          |
|                    |                    | 1 GHz ~ 3 GHz    | Fig.153          | P          |
|                    |                    | 3 GHz ~ 18 GHz   | Fig.154          | P          |
|                    | 6                  | 30 MHz ~1 GHz    | Fig.155          | P          |
|                    |                    | 1 GHz ~ 3 GHz    | Fig.156          | P          |
|                    |                    | 3 GHz ~ 18 GHz   | Fig.157          | P          |
|                    | Power              | 2.45GHz ~2.5GHz  | Fig.158          | P          |
|                    | 11                 | 30 MHz ~1 GHz    | Fig.159          | P          |
|                    |                    | 1 GHz ~ 3 GHz    | Fig.160          | P          |
|                    |                    | 3 GHz ~ 18 GHz   | Fig.161          | P          |
|                    | 802.11n<br>(40MHz) | Power            | 2.38GHz ~2.45GHz | Fig.162    |
| 3                  |                    | 30 MHz ~1 GHz    | Fig.163          | P          |
|                    |                    | 1 GHz ~ 3 GHz    | Fig.164          | P          |

|   |              |                  |         |   |
|---|--------------|------------------|---------|---|
|   |              | 3 GHz ~ 18 GHz   | Fig.165 | P |
|   | 6            | 30 MHz ~1 GHz    | Fig.166 | P |
|   |              | 1 GHz ~ 3 GHz    | Fig.167 | P |
|   |              | 3 GHz ~ 18 GHz   | Fig.168 | P |
|   | Power        | 2.45GHz ~2.5GHz  | Fig.169 | P |
|   | 9            | 30 MHz ~1 GHz    | Fig.170 | P |
|   |              | 1 GHz ~ 3 GHz    | Fig.171 | P |
|   |              | 3 GHz ~ 18 GHz   | Fig.172 | P |
| / | All channels | 18 GHz~ 26.5 GHz | Fig.173 | P |

**Conclusion: PASS**

**Note:**

A "reference path loss" is established and the  $A_{Rpl}$  is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

$P_{Mea}$  is the field strength recorded from the instrument.

The measurement results are obtained as described below:

$$\text{Result} = P_{Mea} + A_{Rpl} = P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$$

**802.11b**

Ch1

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17502.750      | 44.0            | -25.3      | 42.8           | 26.527                    | VERTICAL     |
| 17509.500      | 43.8            | -25.3      | 42.8           | 26.327                    | VERTICAL     |
| 17521.500      | 43.8            | -25.3      | 42.8           | 26.327                    | VERTICAL     |
| 17485.500      | 43.8            | -25.3      | 43.0           | 26.057                    | VERTICAL     |
| 17997.000      | 43.7            | -24.7      | 42.3           | 26.154                    | HORIZONTAL   |
| 17522.250      | 43.7            | -25.3      | 42.8           | 26.227                    | HORIZONTAL   |

Ch6

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17494.500      | 43.9            | -25.3      | 43.0           | 26.157                    | VERTICAL     |
| 17482.500      | 43.9            | -25.3      | 43.0           | 26.157                    | HORIZONTAL   |
| 17498.250      | 43.8            | -25.3      | 43.0           | 26.057                    | HORIZONTAL   |
| 17503.500      | 43.8            | -25.3      | 42.8           | 26.327                    | VERTICAL     |
| 17510.250      | 43.8            | -25.3      | 42.8           | 26.327                    | VERTICAL     |
| 17517.000      | 43.8            | -25.3      | 42.8           | 26.327                    | HORIZONTAL   |

Ch11

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17536.500      | 43.9            | -25.3      | 42.9           | 26.267                    | HORIZONTAL   |
| 17994.750      | 43.9            | -24.7      | 42.3           | 26.354                    | VERTICAL     |
| 17483.250      | 43.8            | -25.3      | 43.0           | 26.057                    | HORIZONTAL   |
| 17500.500      | 43.8            | -25.3      | 42.8           | 26.327                    | VERTICAL     |
| 17482.500      | 43.8            | -25.3      | 43.0           | 26.057                    | VERTICAL     |
| 17996.250      | 43.8            | -24.7      | 42.3           | 26.254                    | HORIZONTAL   |

**802.11g**

Ch1

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17512.500      | 43.9            | -25.3      | 42.8           | 26.427                    | VERTICAL     |
| 17997.750      | 43.8            | -24.7      | 42.3           | 26.254                    | VERTICAL     |
| 17499.750      | 43.8            | -25.3      | 43.0           | 26.057                    | HORIZONTAL   |
| 17497.500      | 43.8            | -25.3      | 43.0           | 26.057                    | HORIZONTAL   |
| 17518.500      | 43.7            | -25.3      | 42.8           | 26.227                    | HORIZONTAL   |
| 17992.500      | 43.7            | -24.7      | 42.3           | 26.154                    | HORIZONTAL   |

Ch6

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17511.000      | 43.9            | -25.3      | 42.8           | 26.427                    | VERTICAL     |
| 17952.750      | 43.9            | -25.2      | 42.7           | 26.428                    | VERTICAL     |
| 17993.250      | 43.9            | -24.7      | 42.3           | 26.354                    | VERTICAL     |
| 17503.500      | 43.9            | -25.3      | 42.8           | 26.427                    | VERTICAL     |
| 17484.750      | 43.9            | -25.3      | 43.0           | 26.157                    | VERTICAL     |
| 17533.500      | 43.8            | -25.3      | 42.9           | 26.167                    | VERTICAL     |

Ch11

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17517.750      | 43.9            | -25.3      | 42.8           | 26.427                    | HORIZONTAL   |
| 17493.750      | 43.9            | -25.3      | 43.0           | 26.157                    | VERTICAL     |
| 17483.250      | 43.8            | -25.3      | 43.0           | 26.057                    | HORIZONTAL   |
| 17465.250      | 43.8            | -25.3      | 42.6           | 26.497                    | VERTICAL     |
| 17527.500      | 43.8            | -25.3      | 42.9           | 26.167                    | VERTICAL     |
| 17988.000      | 43.7            | -24.7      | 42.3           | 26.154                    | VERTICAL     |

**802.11n-HT20**

Ch1

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17498.250      | 43.8            | -25.3      | 43.0           | 26.057                    | VERTICAL     |
| 17502.000      | 43.8            | -25.3      | 42.8           | 26.327                    | HORIZONTAL   |
| 17496.750      | 43.8            | -25.3      | 43.0           | 26.057                    | HORIZONTAL   |
| 17473.500      | 43.8            | -25.3      | 42.6           | 26.497                    | HORIZONTAL   |
| 17505.000      | 43.8            | -25.3      | 42.8           | 26.327                    | HORIZONTAL   |
| 17990.250      | 43.8            | -24.7      | 42.3           | 26.254                    | HORIZONTAL   |

Ch6

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17479.500      | 43.8            | -25.3      | 43.0           | 26.057                    | VERTICAL     |
| 17497.500      | 43.8            | -25.3      | 43.0           | 26.057                    | HORIZONTAL   |
| 17982.000      | 43.8            | -25.2      | 42.3           | 26.768                    | VERTICAL     |
| 17487.750      | 43.8            | -25.3      | 43.0           | 26.057                    | VERTICAL     |
| 17473.500      | 43.8            | -25.3      | 42.6           | 26.497                    | VERTICAL     |
| 17529.750      | 43.8            | -25.3      | 42.9           | 26.167                    | VERTICAL     |

Ch11

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17485.500      | 43.9            | -25.3      | 43.0           | 26.157                    | HORIZONTAL   |
| 17511.750      | 43.8            | -25.3      | 42.8           | 26.327                    | VERTICAL     |
| 17508.750      | 43.8            | -25.3      | 42.8           | 26.327                    | HORIZONTAL   |
| 17503.500      | 43.7            | -25.3      | 42.8           | 26.227                    | HORIZONTAL   |
| 17519.250      | 43.7            | -25.3      | 42.8           | 26.227                    | VERTICAL     |
| 17526.750      | 43.7            | -25.3      | 42.9           | 26.067                    | HORIZONTAL   |

**802.11n-HT40**

Ch3

| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17991.750      | 43.9            | -24.7      | 42.3           | 26.354                    | HORIZONTAL   |
| 17509.500      | 43.9            | -25.3      | 42.8           | 26.427                    | VERTICAL     |
| 17498.250      | 43.9            | -25.3      | 43.0           | 26.157                    | HORIZONTAL   |
| 17485.500      | 43.8            | -25.3      | 43.0           | 26.057                    | VERTICAL     |
| 17464.500      | 43.7            | -25.3      | 42.6           | 26.397                    | VERTICAL     |
| 17997.000      | 43.7            | -24.7      | 42.3           | 26.154                    | HORIZONTAL   |

Ch6

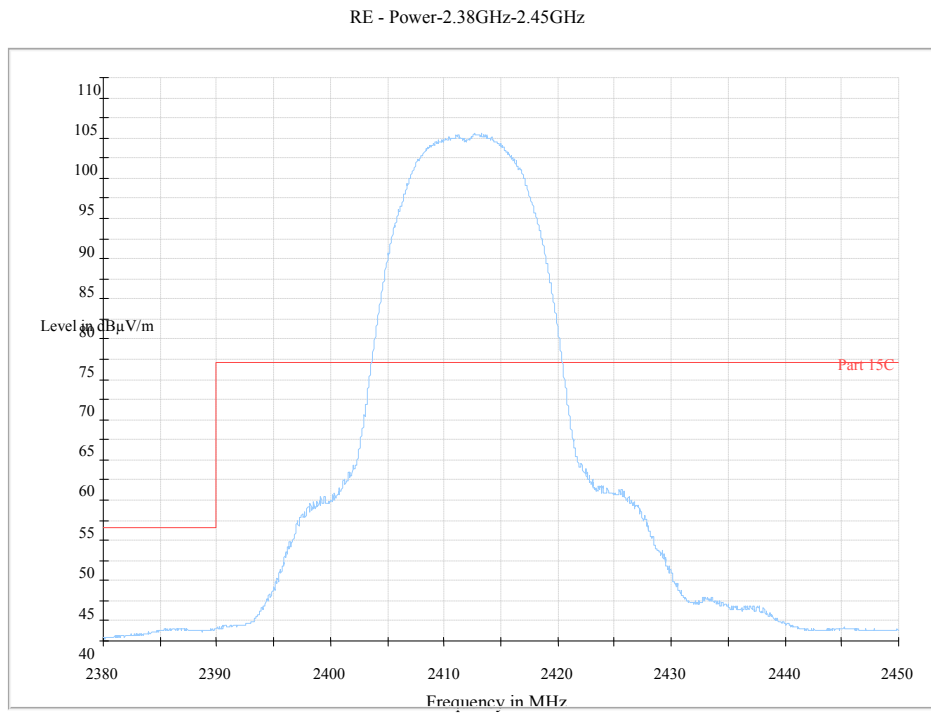
| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17499.000      | 43.9            | -25.3      | 43.0           | 26.157                    | HORIZONTAL   |
| 17997.000      | 43.8            | -24.7      | 42.3           | 26.254                    | VERTICAL     |
| 18000.000      | 43.8            | -24.6      | 42.7           | 25.704                    | VERTICAL     |
| 17526.000      | 43.8            | -25.3      | 42.9           | 26.167                    | HORIZONTAL   |
| 17508.750      | 43.7            | -25.3      | 42.8           | 26.227                    | HORIZONTAL   |
| 17491.500      | 43.7            | -25.3      | 43.0           | 25.957                    | VERTICAL     |

Ch9

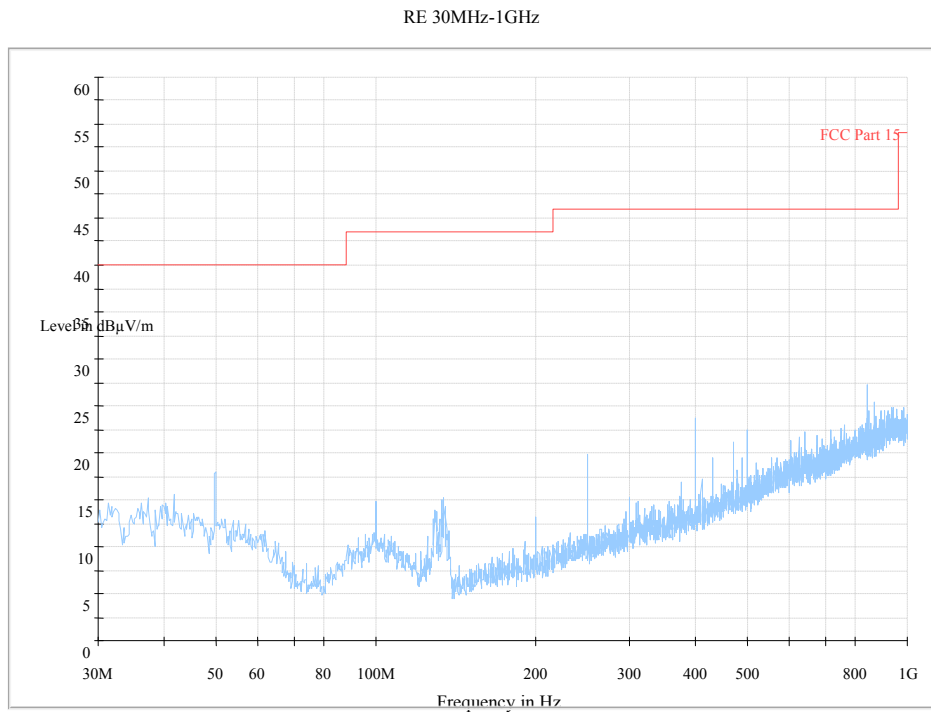
| Frequency(MHz) | Result (dBuV/m) | Cable Loss | Antenna Factor | P <sub>Mea</sub> (dBuV/m) | Polarization |
|----------------|-----------------|------------|----------------|---------------------------|--------------|
| 17501.250      | 43.8            | -25.3      | 42.8           | 26.327                    | VERTICAL     |
| 17484.000      | 43.8            | -25.3      | 43.0           | 26.057                    | VERTICAL     |
| 17520.000      | 43.8            | -25.3      | 42.8           | 26.327                    | VERTICAL     |
| 17522.250      | 43.7            | -25.3      | 42.8           | 26.227                    | VERTICAL     |
| 17505.750      | 43.7            | -25.3      | 42.8           | 26.227                    | HORIZONTAL   |
| 18000.000      | 43.7            | -24.6      | 42.7           | 25.604                    | VERTICAL     |

**Test graphs as below:**

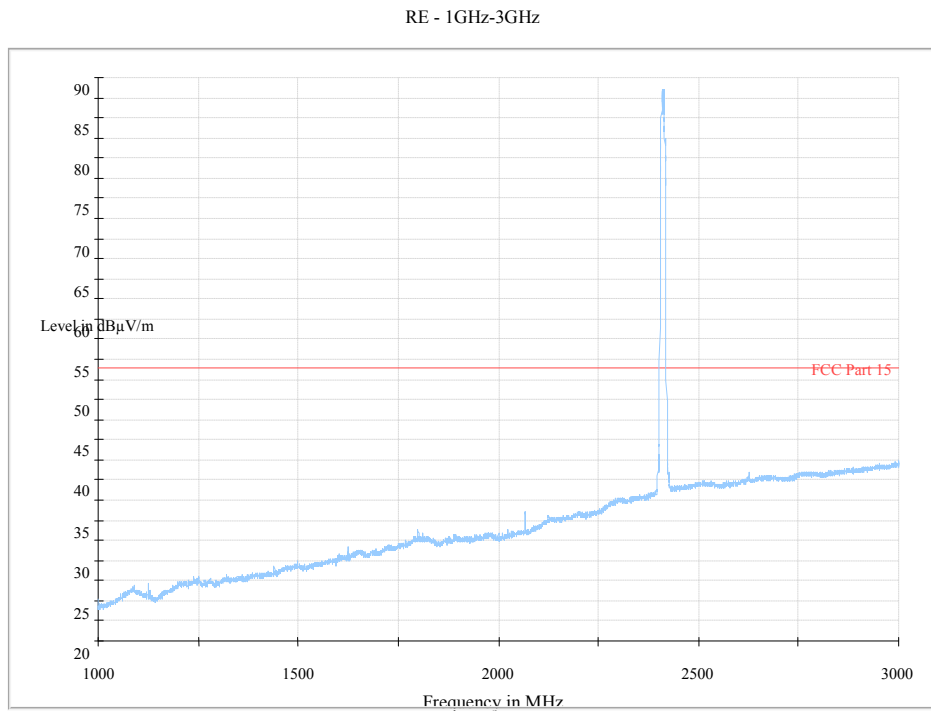




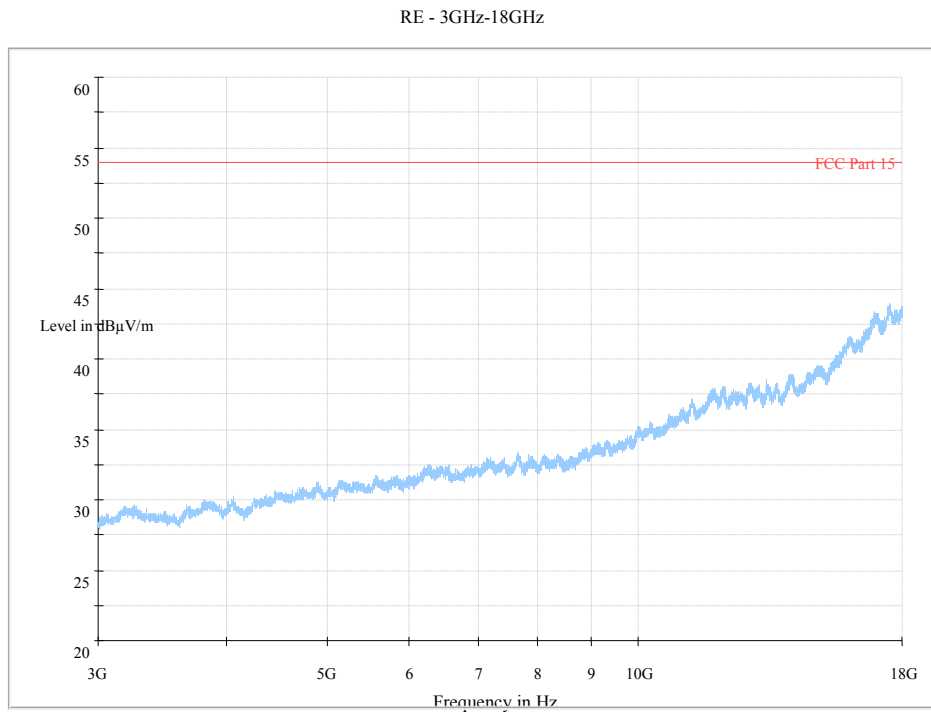
**Fig. 129 Radiated Spurious Emission (Power): 802.11b, ch1, 2.38 GHz - 245GHz**



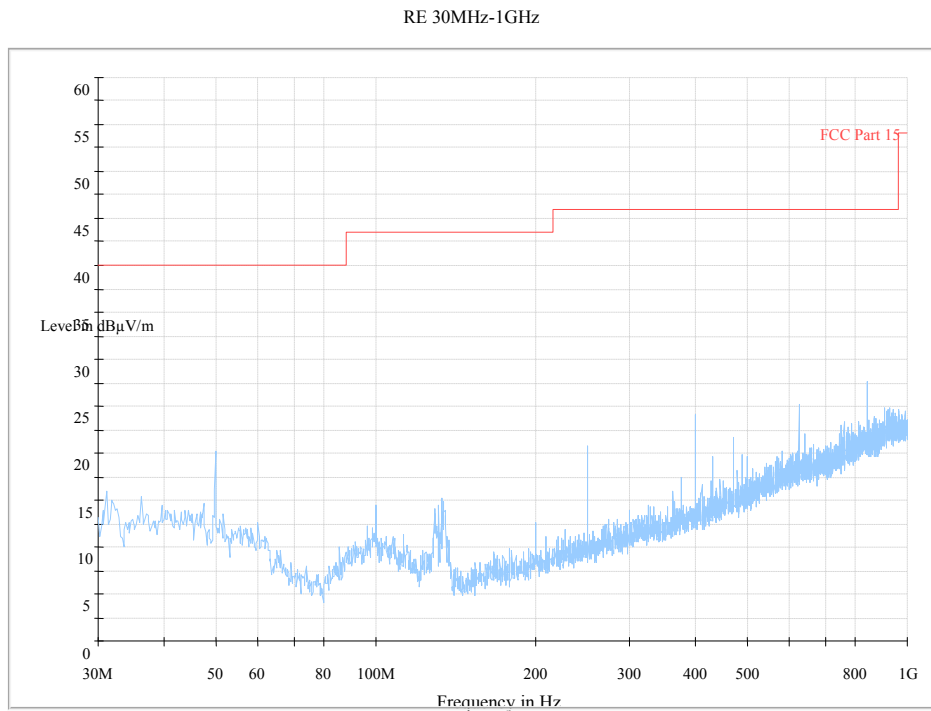
**Fig. 130 Radiated Spurious Emission (802.11b, Ch1, 30 MHz-1 GHz)**



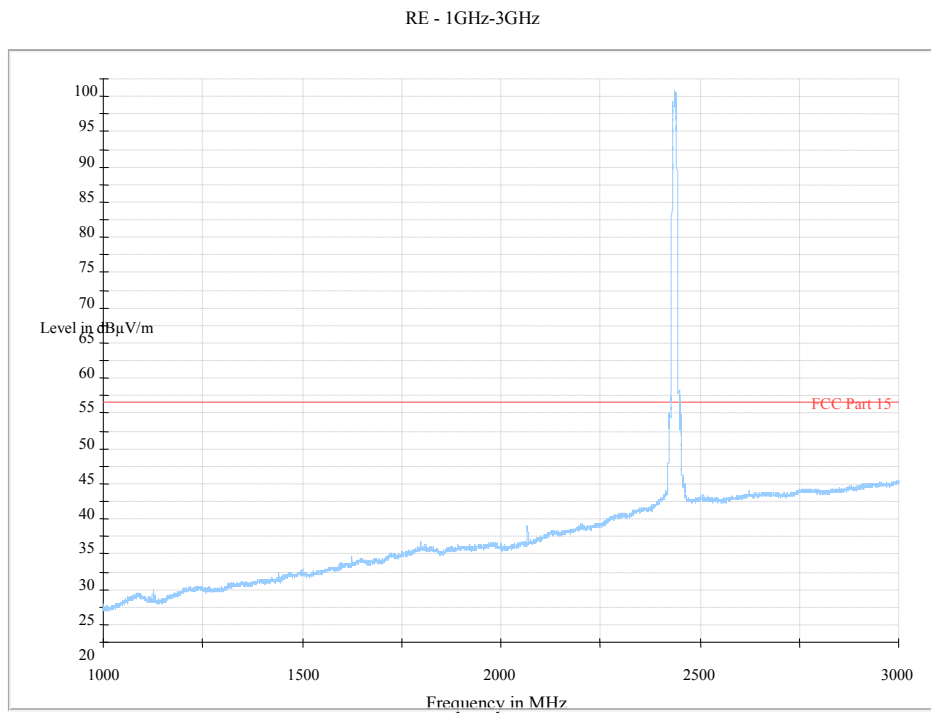
**Fig. 131 Radiated Spurious Emission (802.11b, Ch1, 1 GHz-3 GHz)**



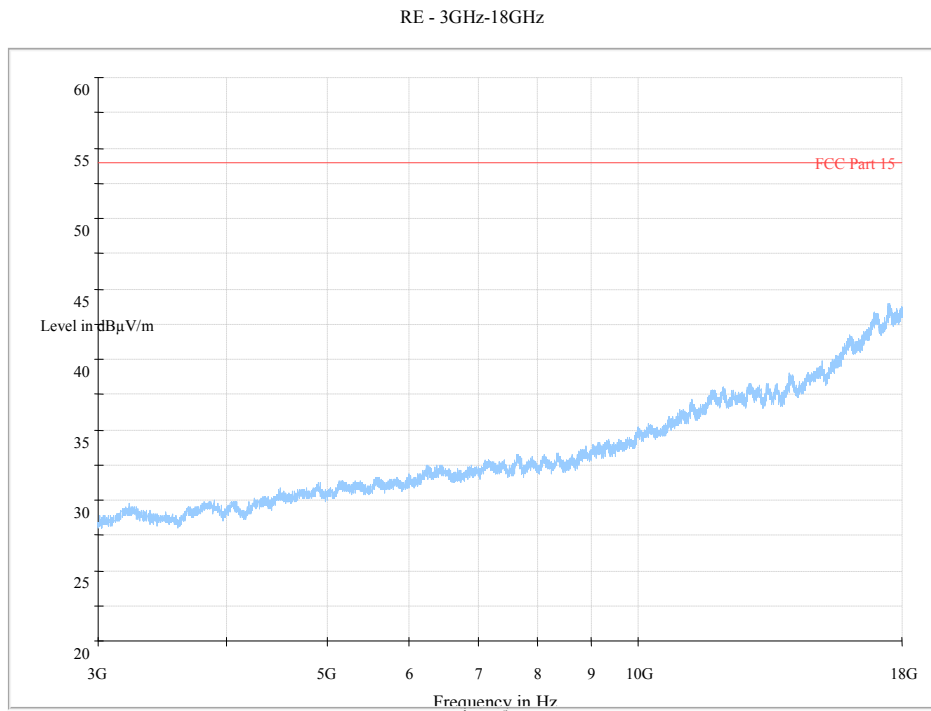
**Fig. 132 Radiated Spurious Emission (802.11b, Ch1, 3 GHz-18 GHz)**



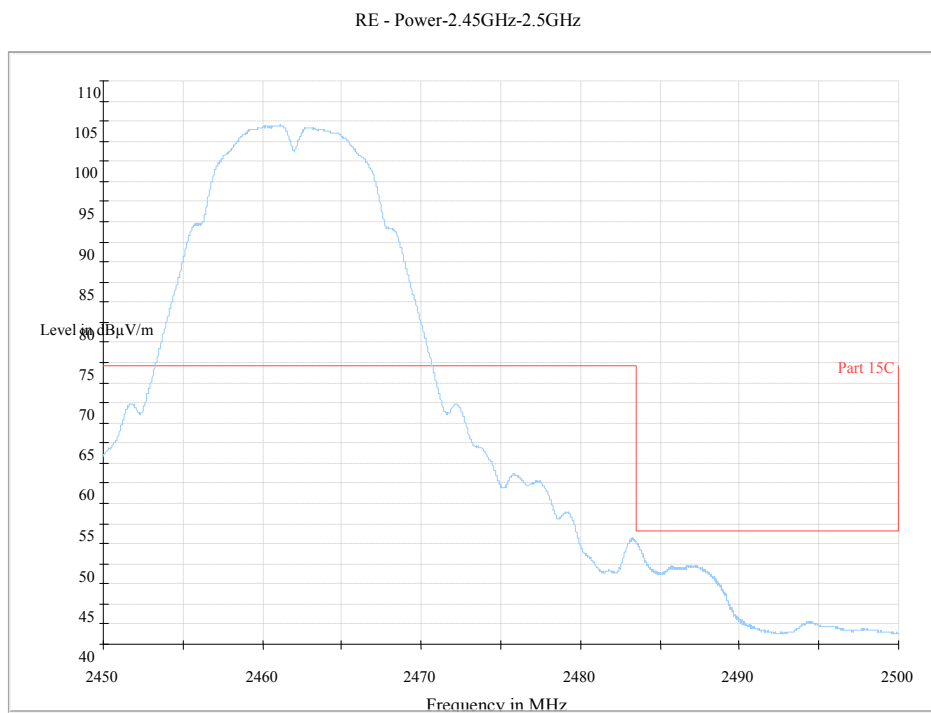
**Fig. 133 Radiated Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)**



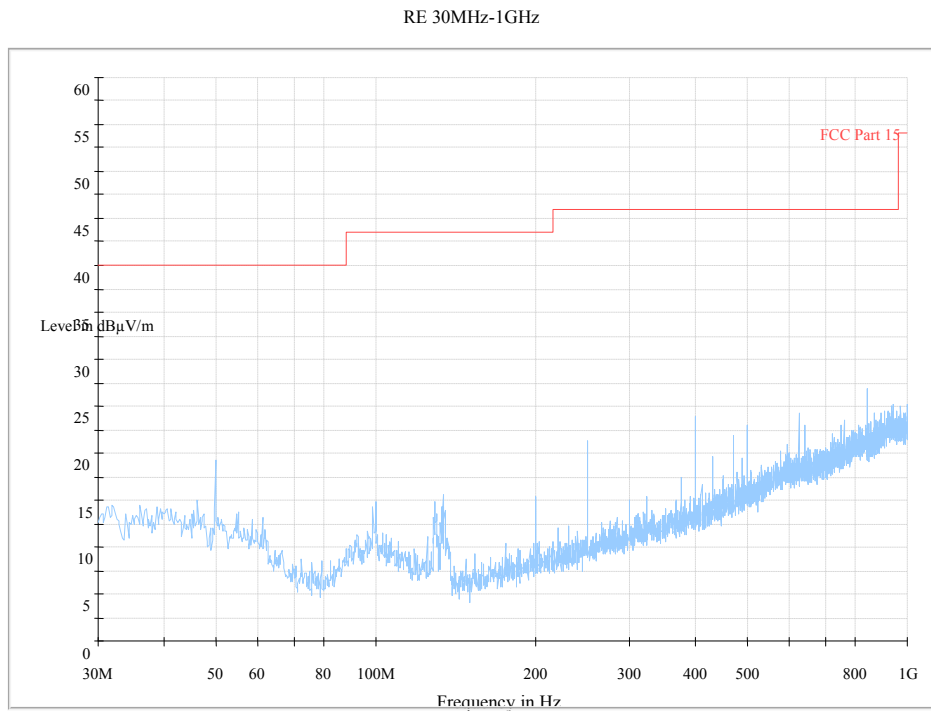
**Fig. 134 Radiated Spurious Emission (802.11b, Ch6, 1 GHz-3 GHz)**



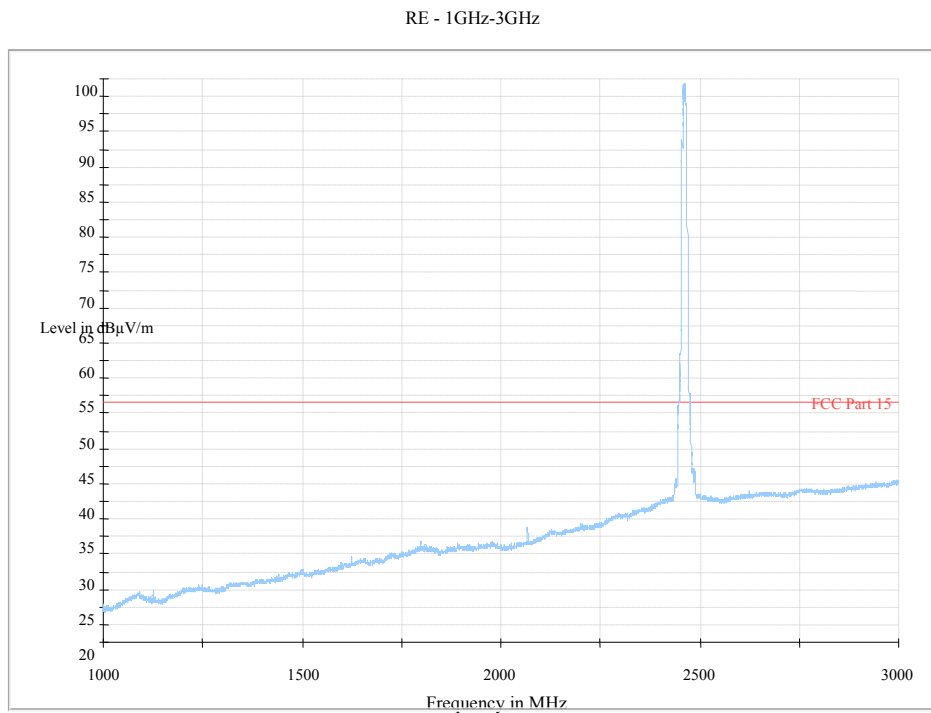
**Fig. 135 Radiated Spurious Emission (802.11b, Ch6, 3 GHz-18 GHz)**



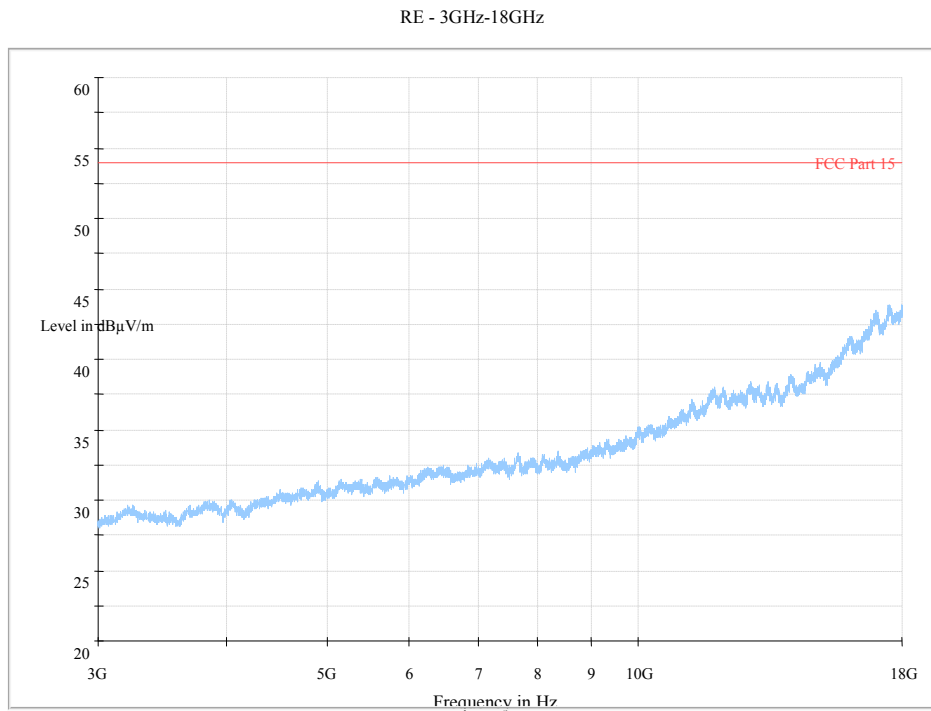
**Fig. 136 Radiated Spurious Emission (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**



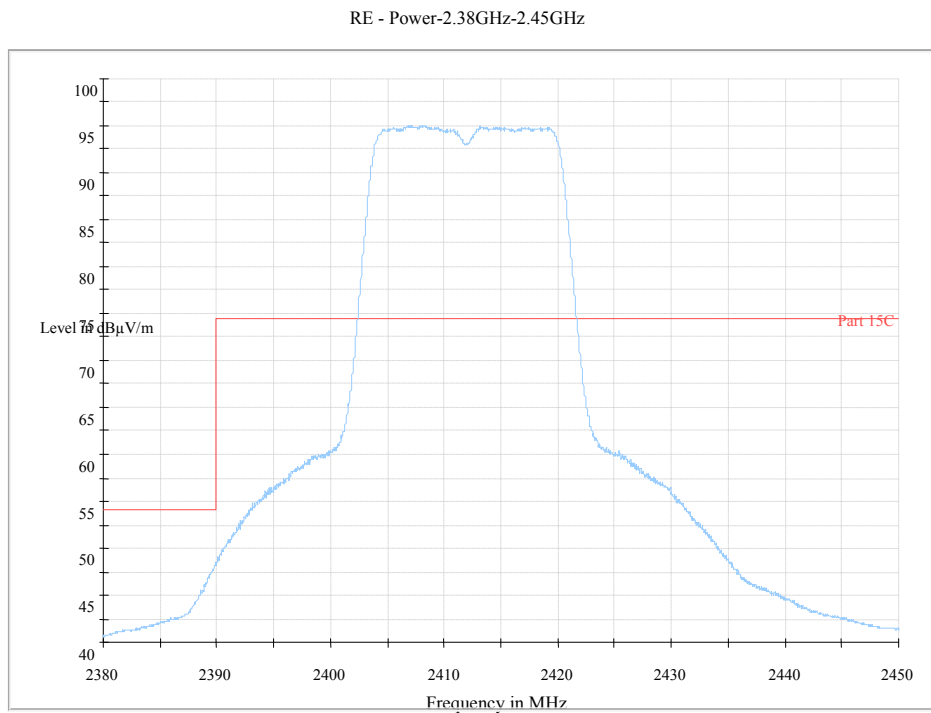
**Fig. 137 Radiated Spurious Emission (802.11b, Ch11, 30 MHz-1 GHz)**



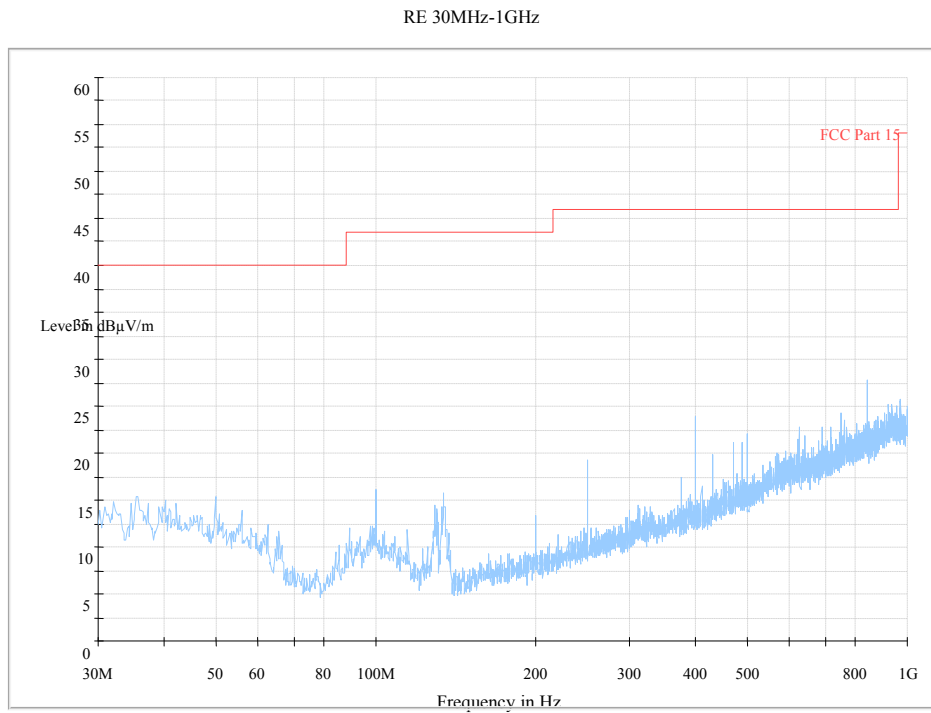
**Fig. 138 Radiated Spurious Emission (802.11b, Ch11, 1 GHz-3 GHz)**



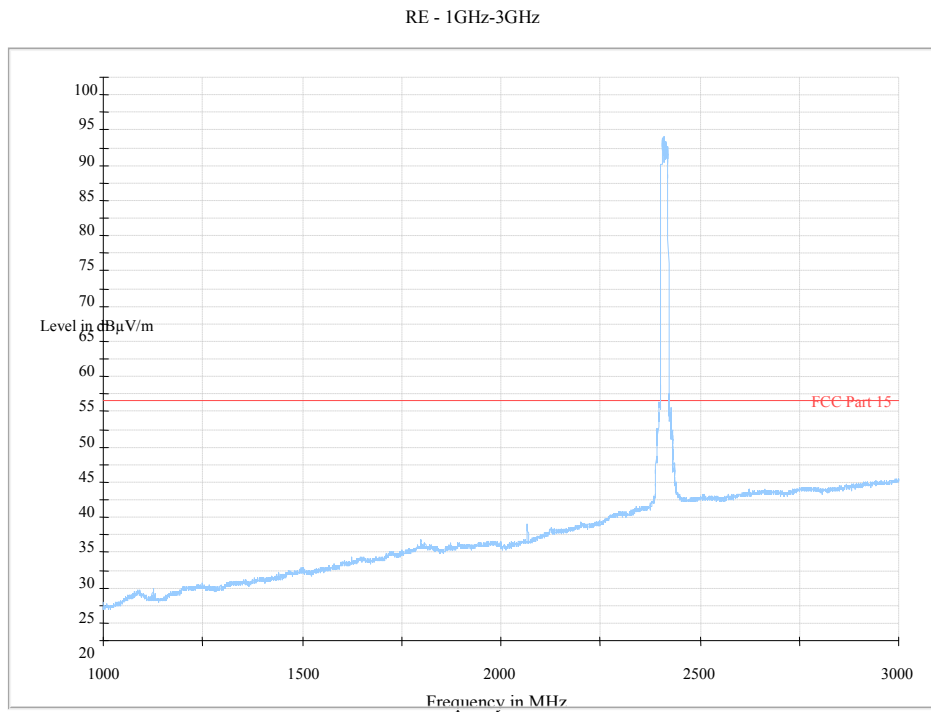
**Fig. 139 Radiated Spurious Emission (802.11b, Ch11, 3 GHz-18 GHz)**



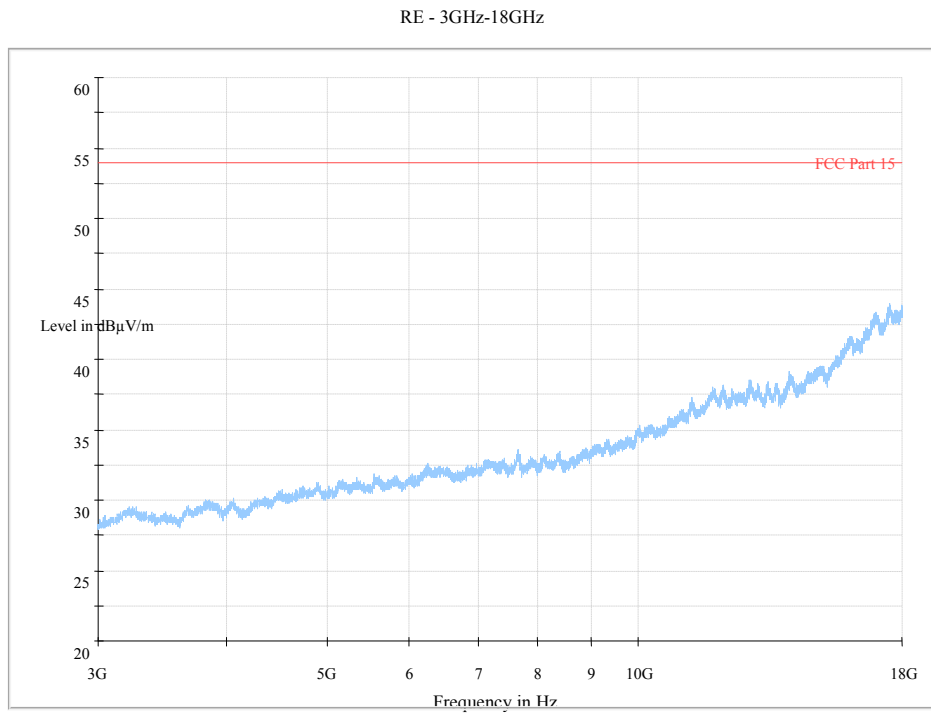
**Fig. 140 Radiated Spurious Emission (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz**



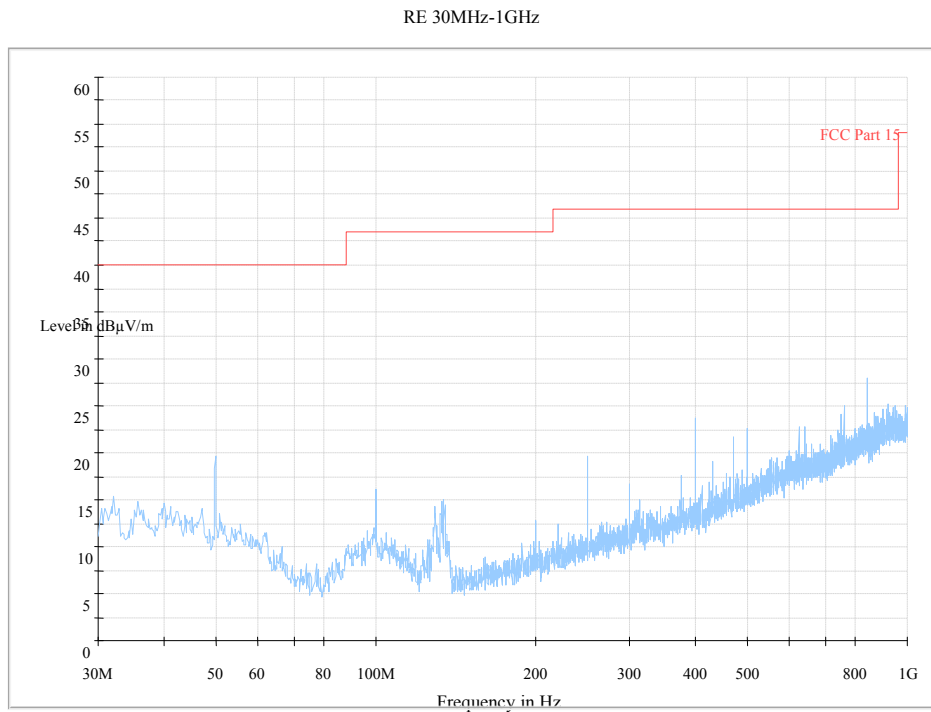
**Fig. 141 Radiated Spurious Emission (802.11g, Ch1, 30 MHz-1 GHz)**



**Fig. 142 Radiated Spurious Emission (802.11g, Ch1, 1 GHz-3 GHz)**

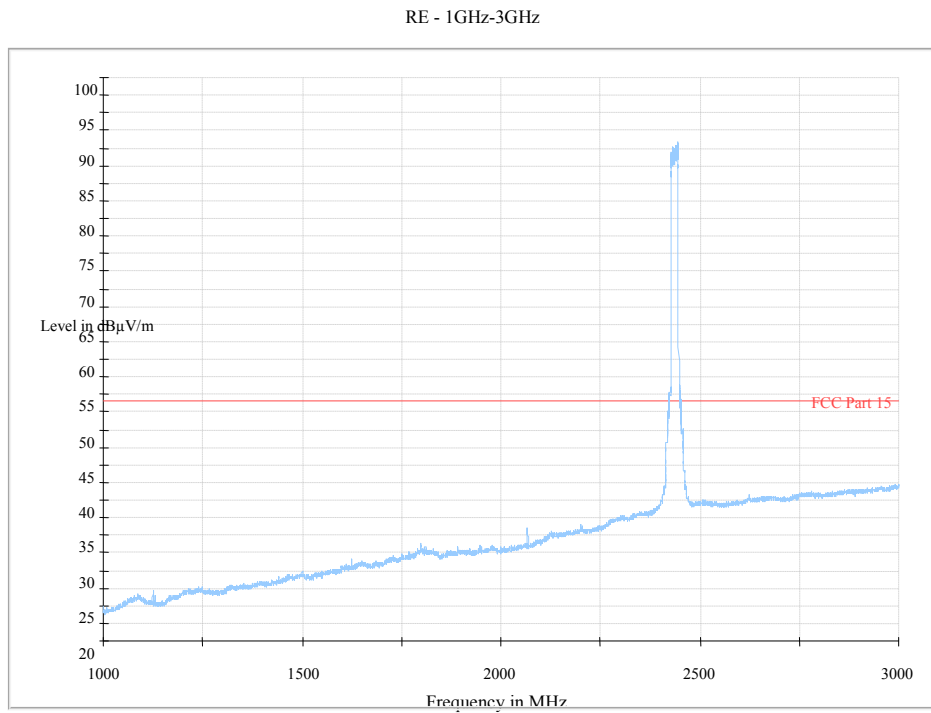


**Fig. 143 Radiated Spurious Emission (802.11g, Ch1, 3 GHz-18 GHz)**

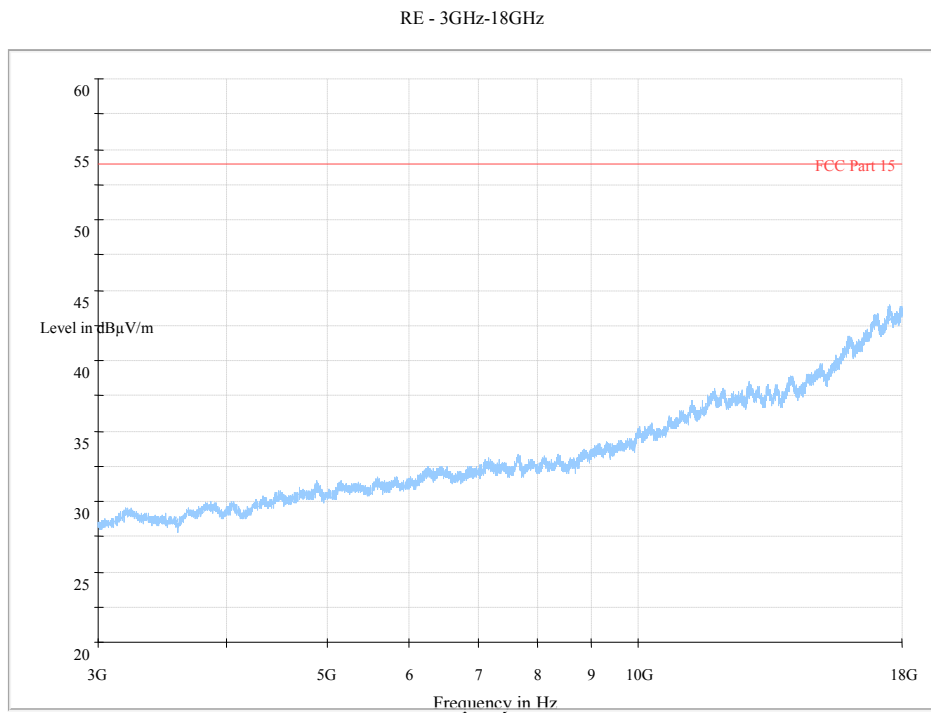


**Fig. 144 Radiated Spurious Emission (802.11g, Ch6, 30 MHz-1 GHz)**





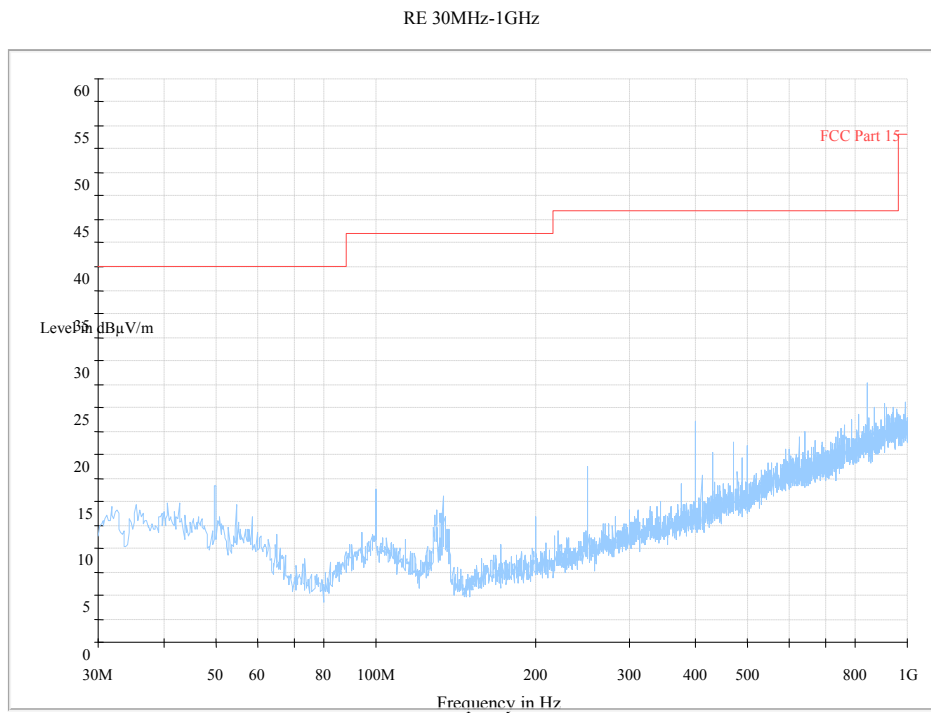
**Fig. 145 Radiated Spurious Emission (802.11g, Ch6, 1 GHz-3 GHz)**



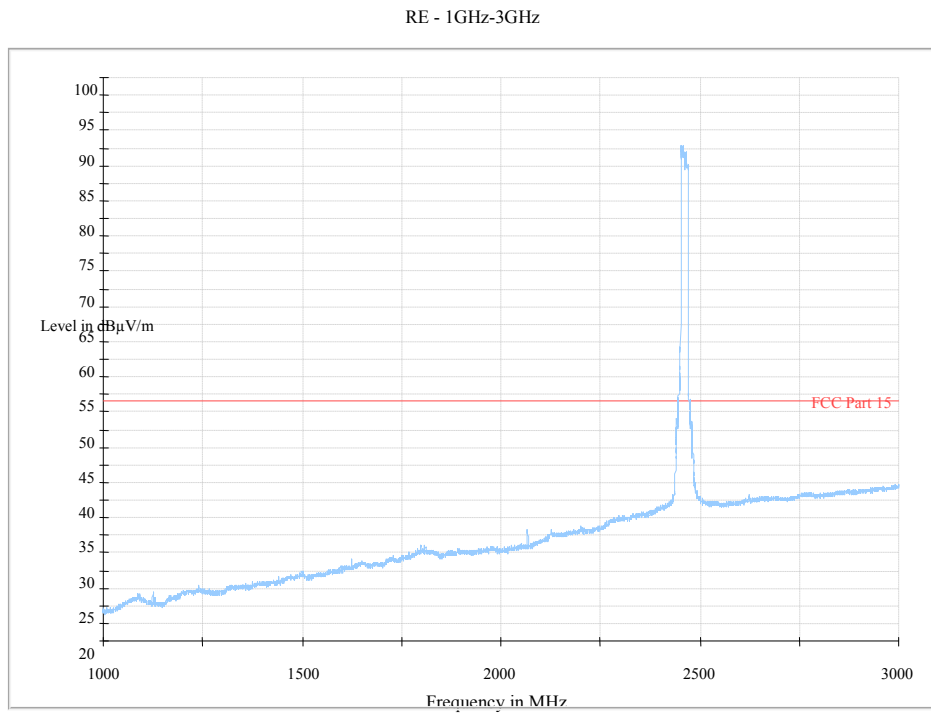
**Fig. 146 Radiated Spurious Emission (802.11g, Ch6, 3 GHz-18 GHz)**



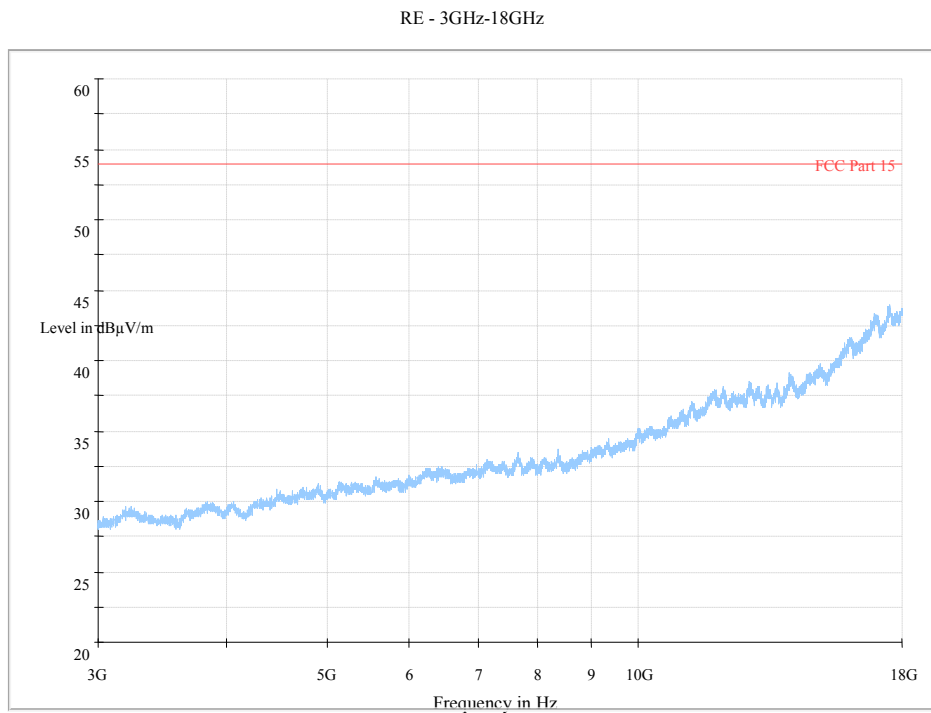
**Fig. 147 Radiated Spurious Emission (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**



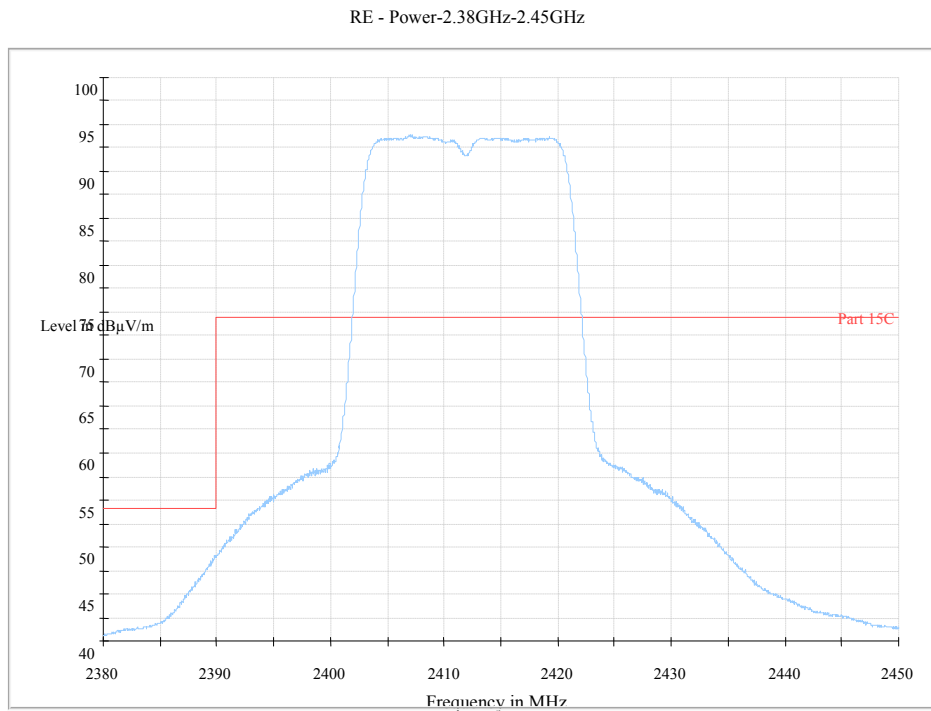
**Fig. 148 Radiated Spurious Emission (802.11g, Ch11, 30 MHz-1 GHz)**



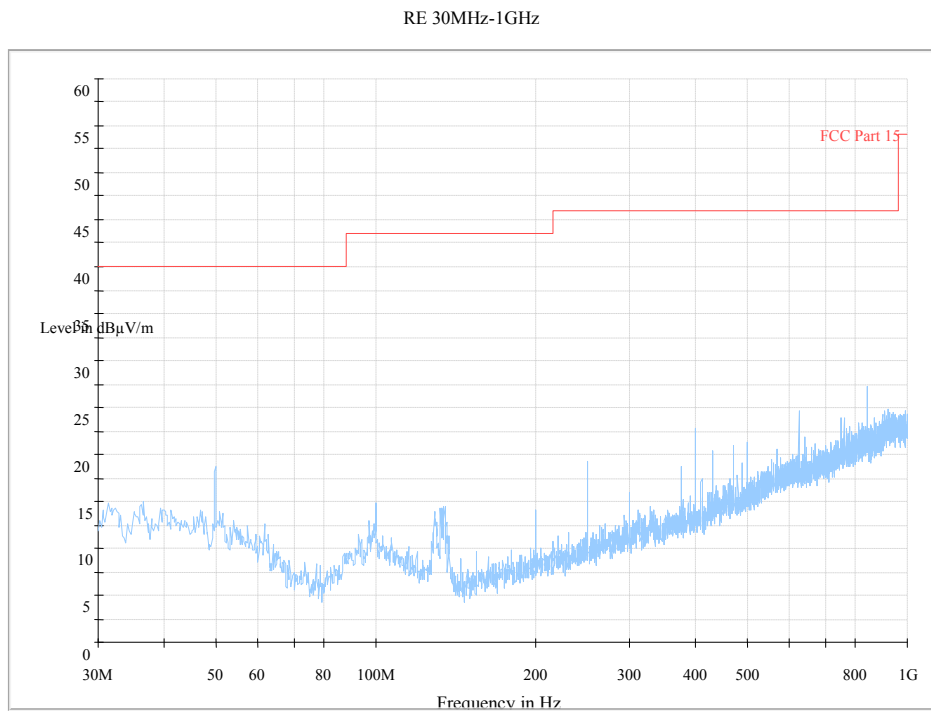
**Fig. 149 Radiated Spurious Emission (802.11g, Ch11, 1 GHz-3 GHz)**



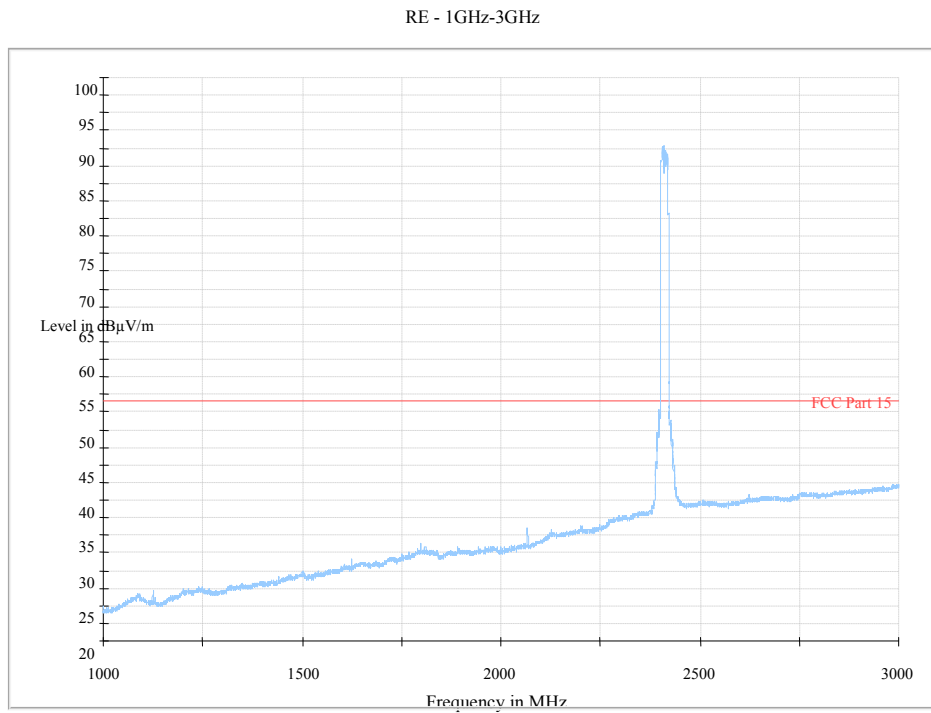
**Fig. 150 Radiated Spurious Emission (802.11g, Ch11, 3 GHz-18 GHz)**



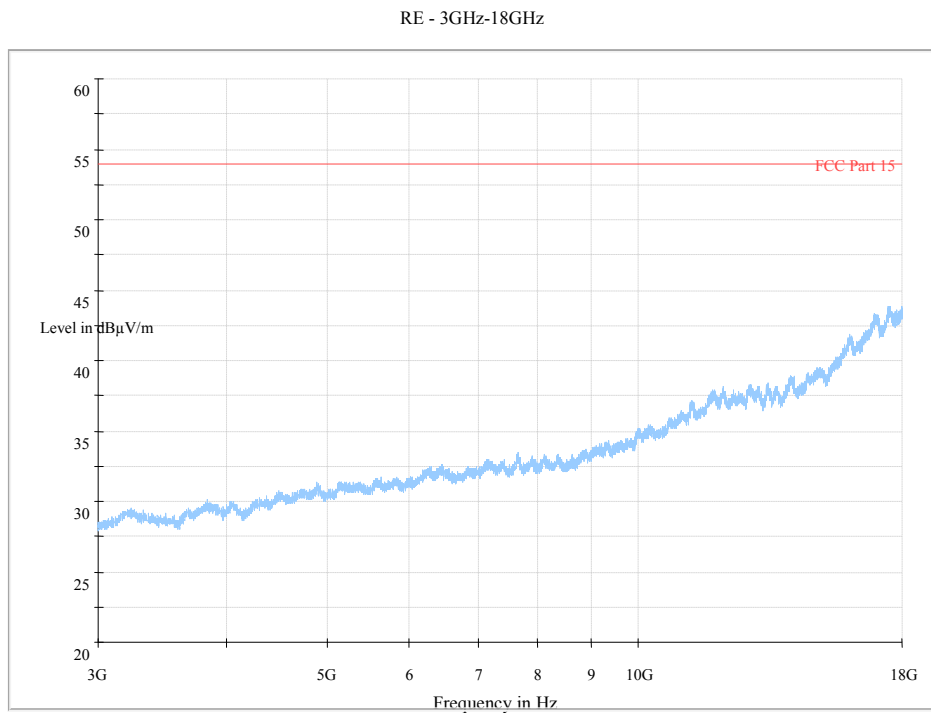
**Fig. 151 Radiated Spurious Emission (Power): 802.11n-20MHz, ch1, 2.38 GHz - 2.45GHz**



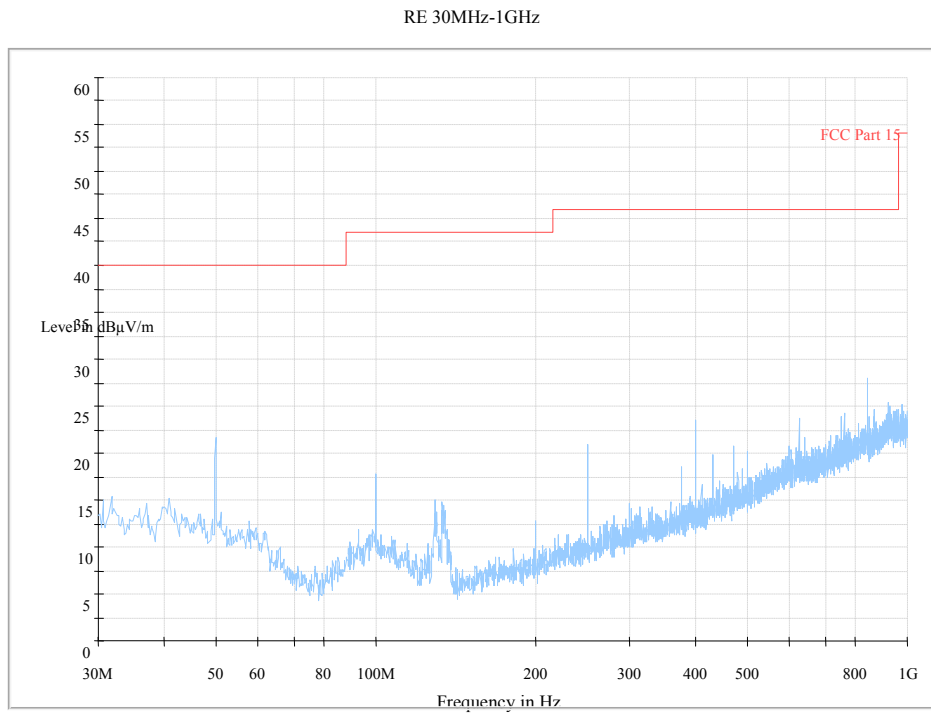
**Fig. 152 Radiated Spurious Emission (802.11n-20MHz, Ch1, 30 MHz-1 GHz)**



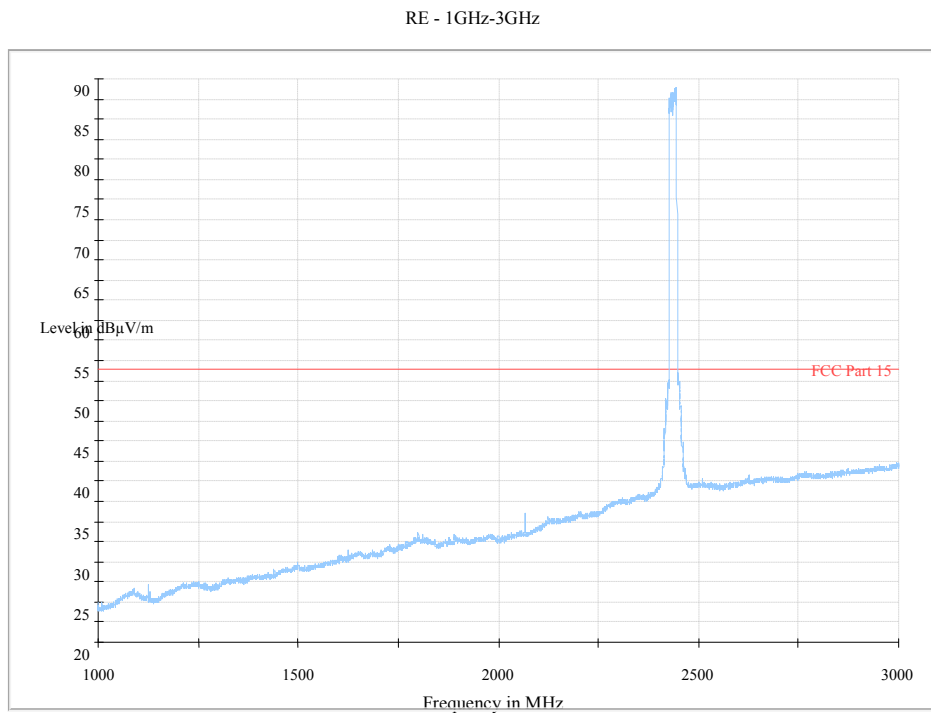
**Fig. 153 Radiated Spurious Emission (802.11n-20MHz, Ch1, 1 GHz-3 GHz)**



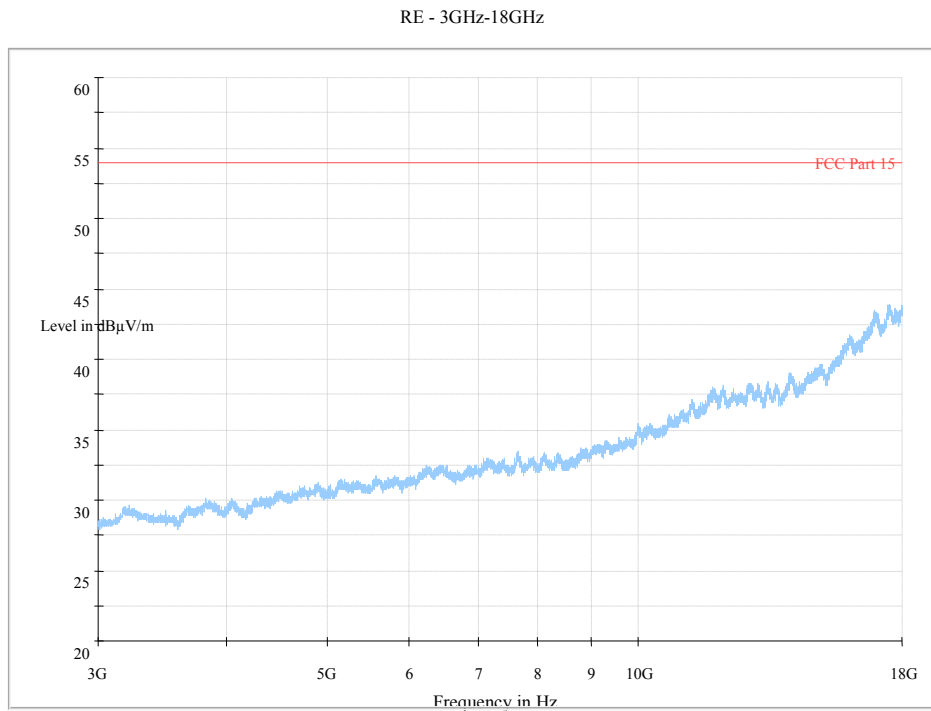
**Fig. 154 Radiated Spurious Emission (802.11n-20MHz, Ch1, 3 GHz-18 GHz)**



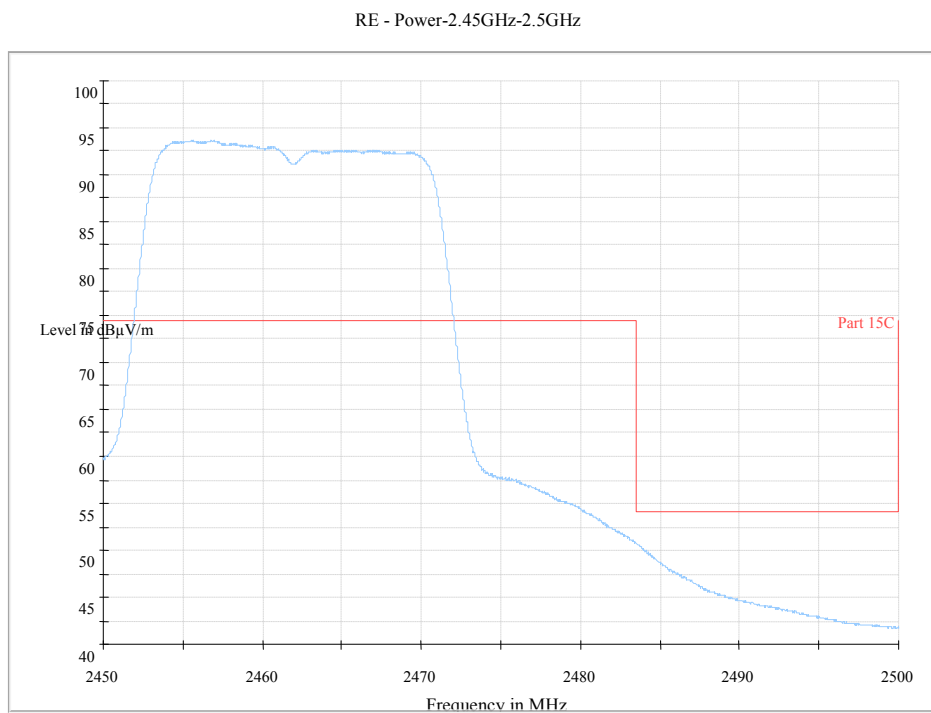
**Fig. 155 Radiated Spurious Emission (802.11n-20MHz, Ch6, 30 MHz-1 GHz)**



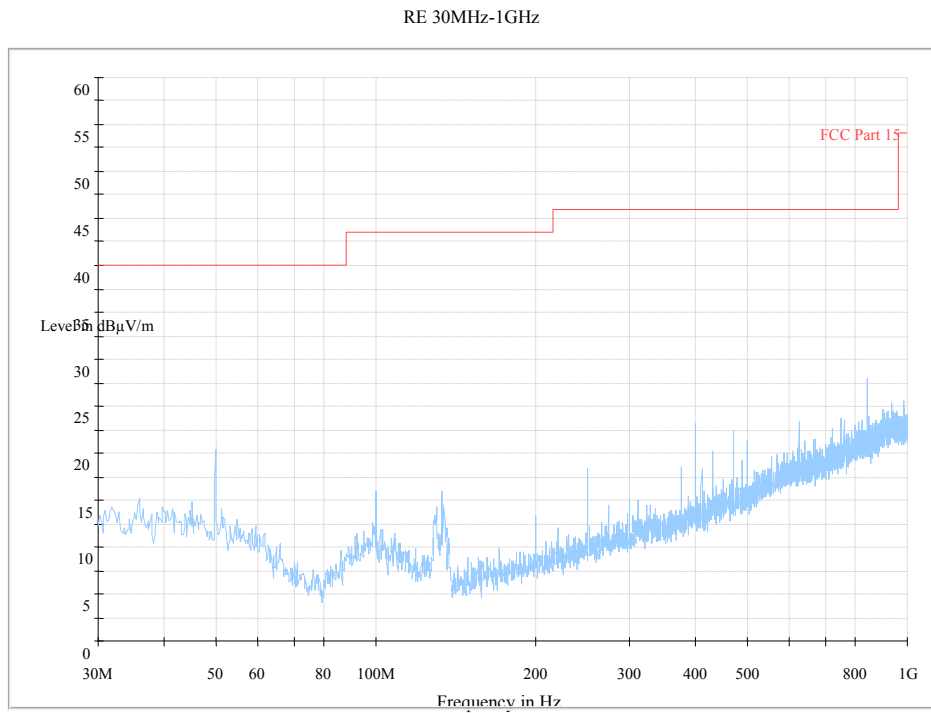
**Fig. 156 Radiated Spurious Emission (802.11n-20MHz, Ch6, 1 GHz-3 GHz)**



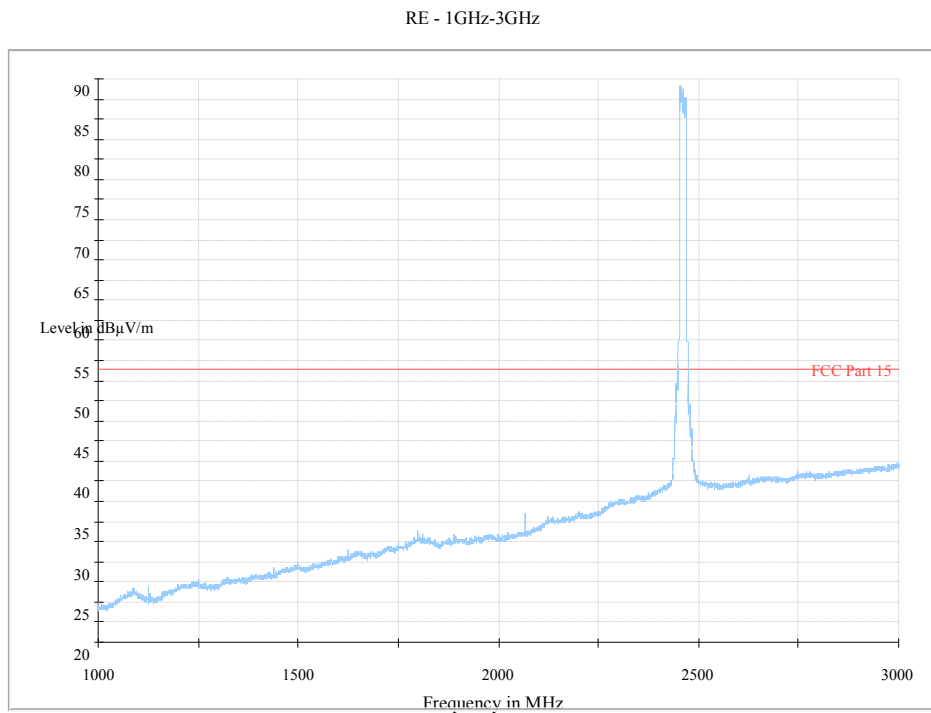
**Fig. 157 Radiated Spurious Emission (802.11n-20MHz, Ch6, 3 GHz-18 GHz)**



**Fig. 158 Radiated Spurious Emission (Power): 802.11n-20MHz, ch11, 2.45 GHz - 2.50GHz**

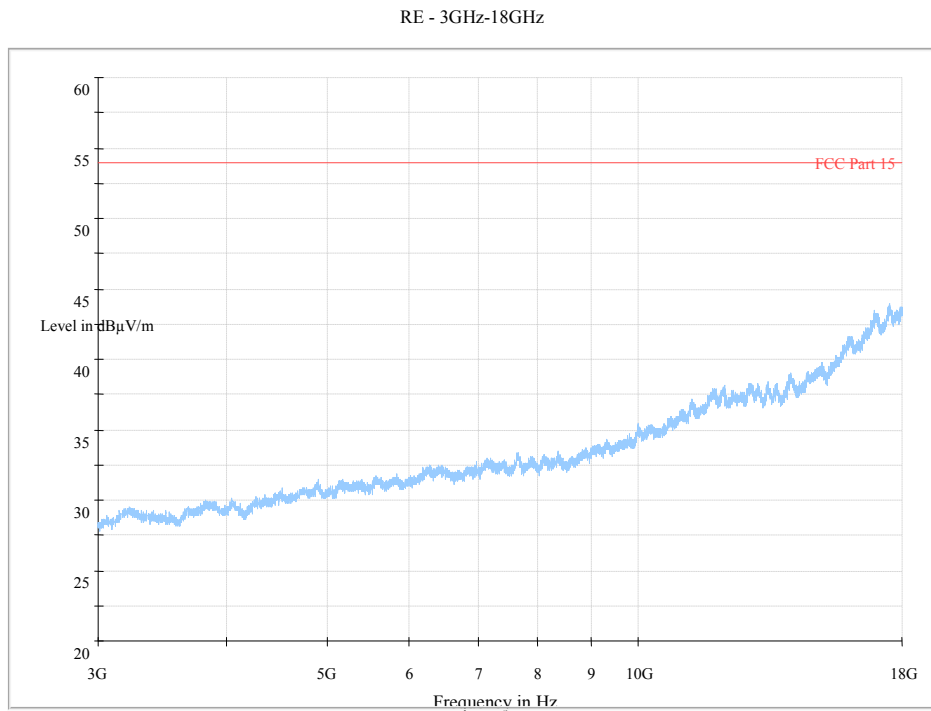


**Fig. 159 Radiated Spurious Emission (802.11n-20MHz, Ch11, 30 MHz-1 GHz)**



**Fig. 160 Radiated Spurious Emission (802.11n-20MHz, Ch11, 1 GHz-3 GHz)**

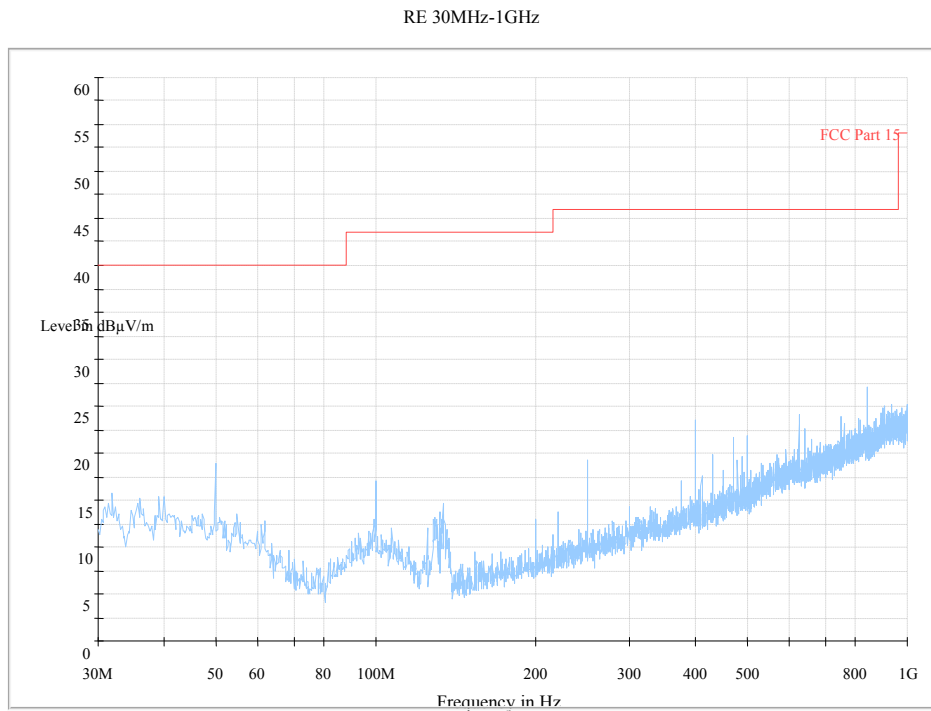




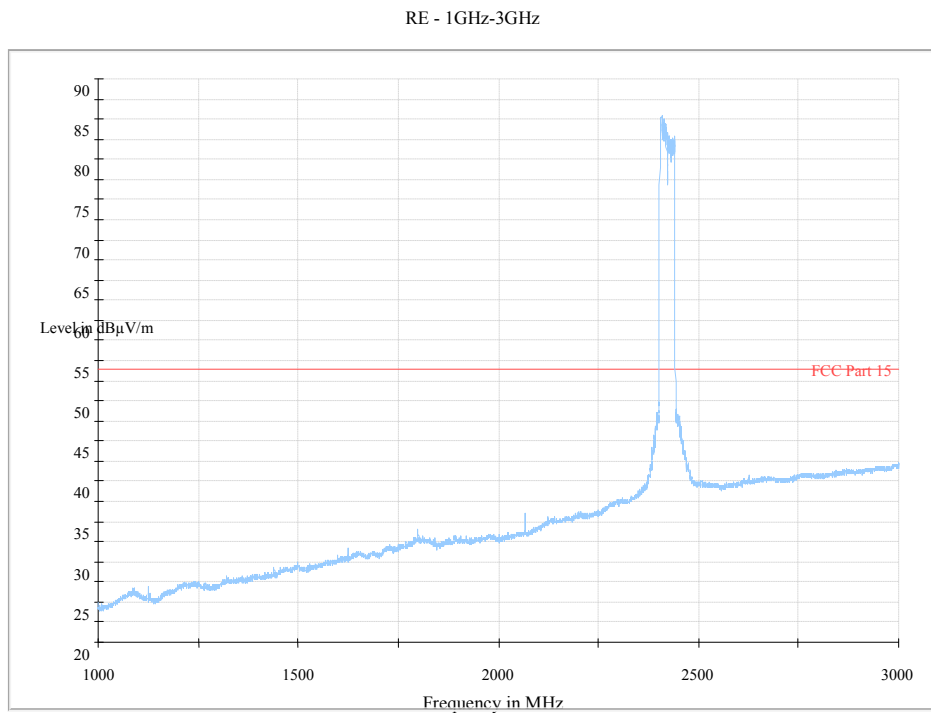
**Fig. 161 Radiated Spurious Emission (802.11n-20MHz, Ch11, 3 GHz-18 GHz)**



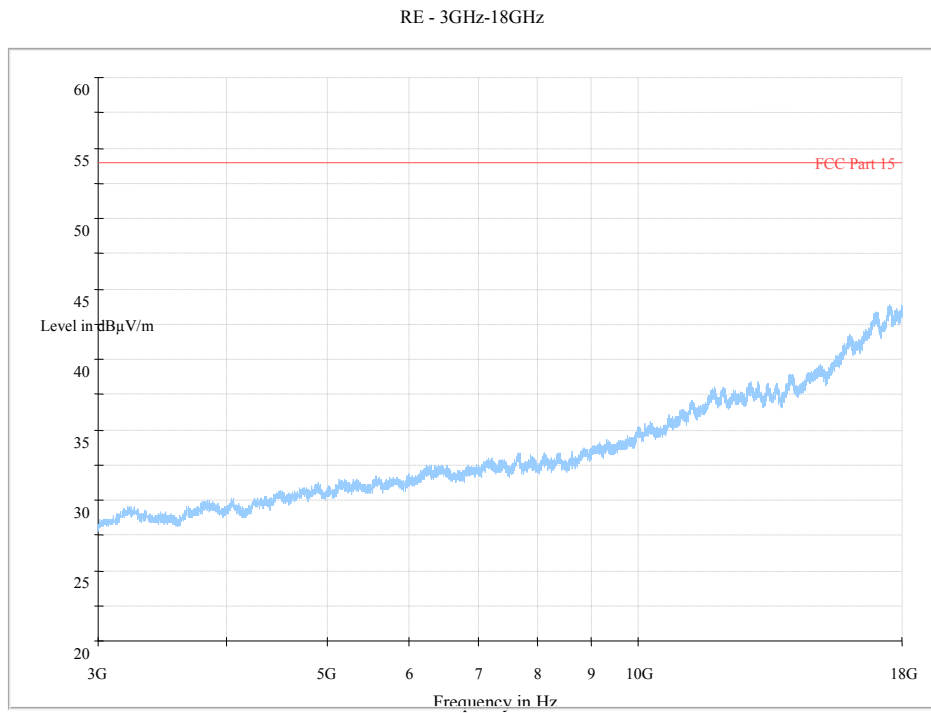
**Fig. 162 Radiated Spurious Emission (Power): 802.11n-40MHz, ch3, 2.38 GHz - 2.45GHz**



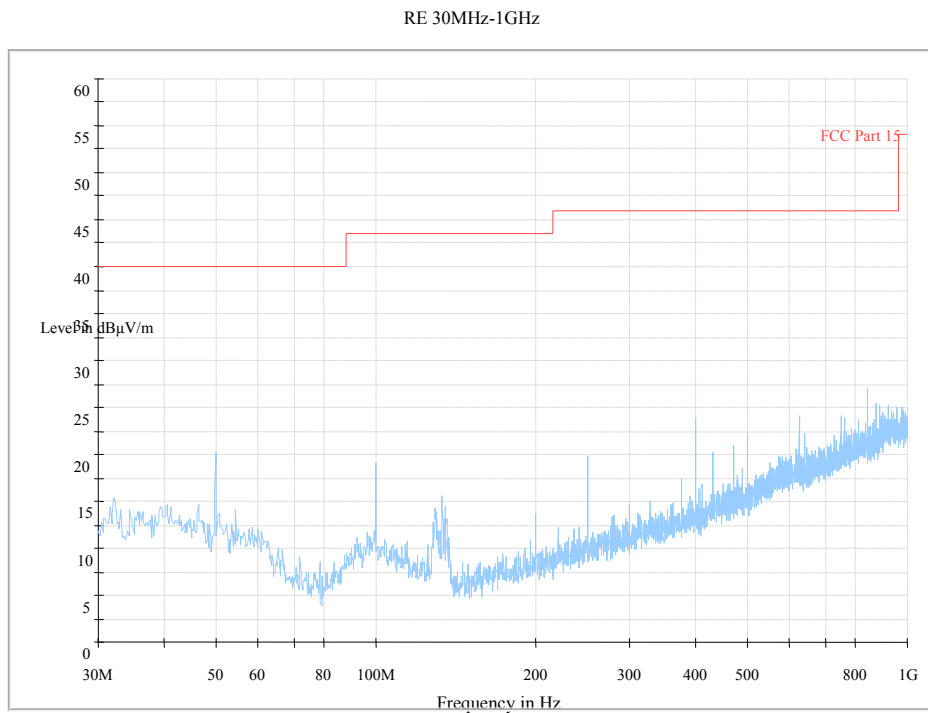
**Fig. 163 Radiated Spurious Emission (802.11n-40MHz, Ch3, 30 MHz-1 GHz)**



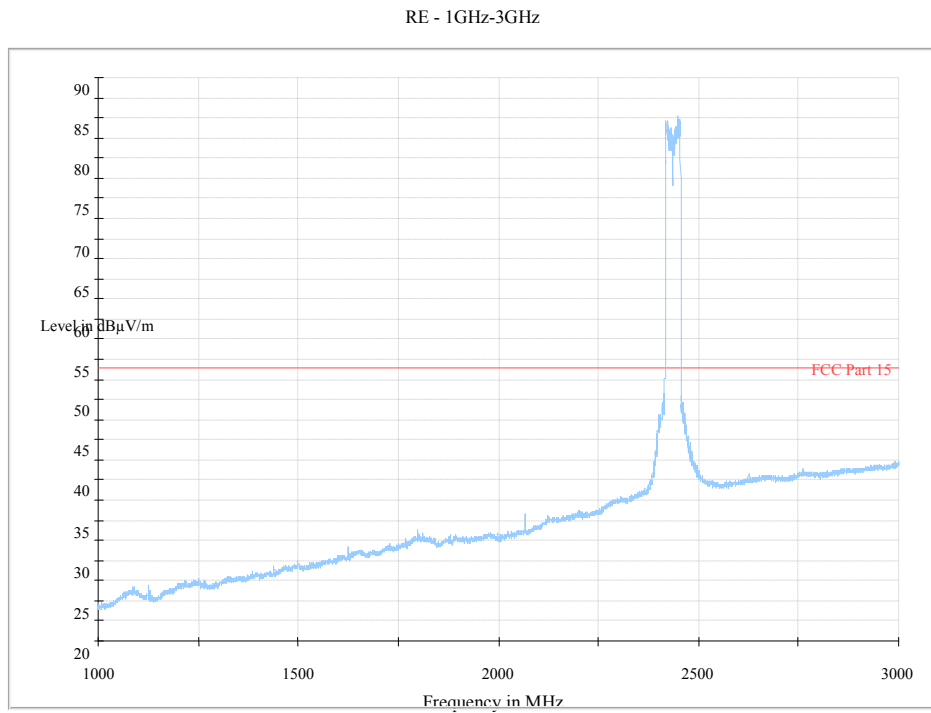
**Fig. 164 Radiated Spurious Emission (802.11n-40MHz, Ch3, 1 GHz-3 GHz)**



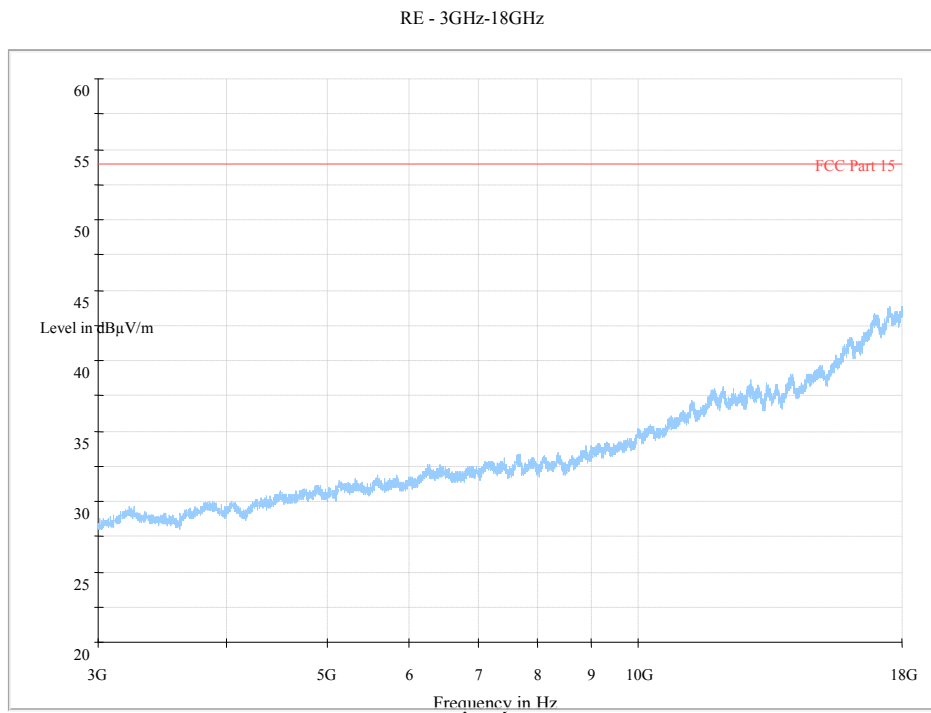
**Fig. 165 Radiated Spurious Emission (802.11n-40MHz, Ch3, 3 GHz-18 GHz)**



**Fig. 166 Radiated Spurious Emission (802.11n-40MHz, Ch6, 30 MHz-1 GHz)**



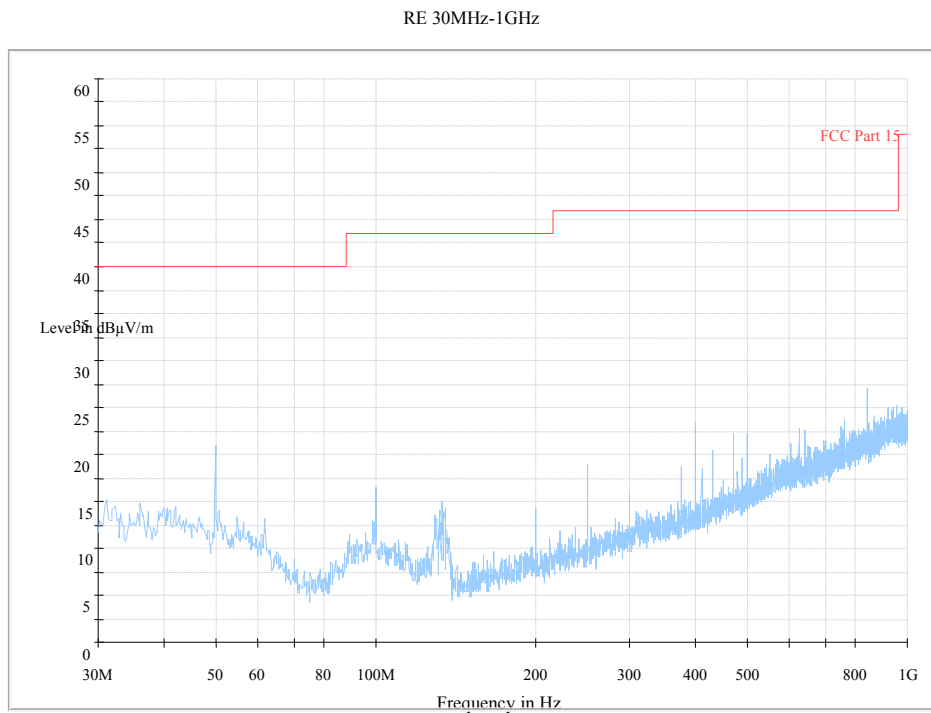
**Fig. 167 Radiated Spurious Emission (802.11n-40MHz, Ch6, 1 GHz-3 GHz)**



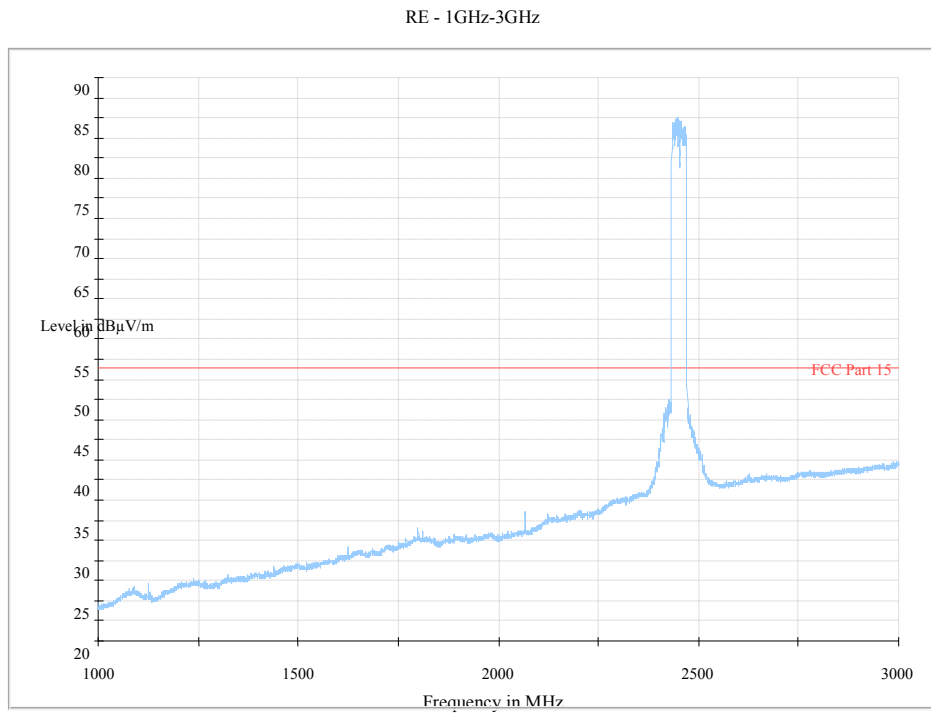
**Fig. 168 Radiated Spurious Emission (802.11n-40MHz, Ch6, 3 GHz-18 GHz)**



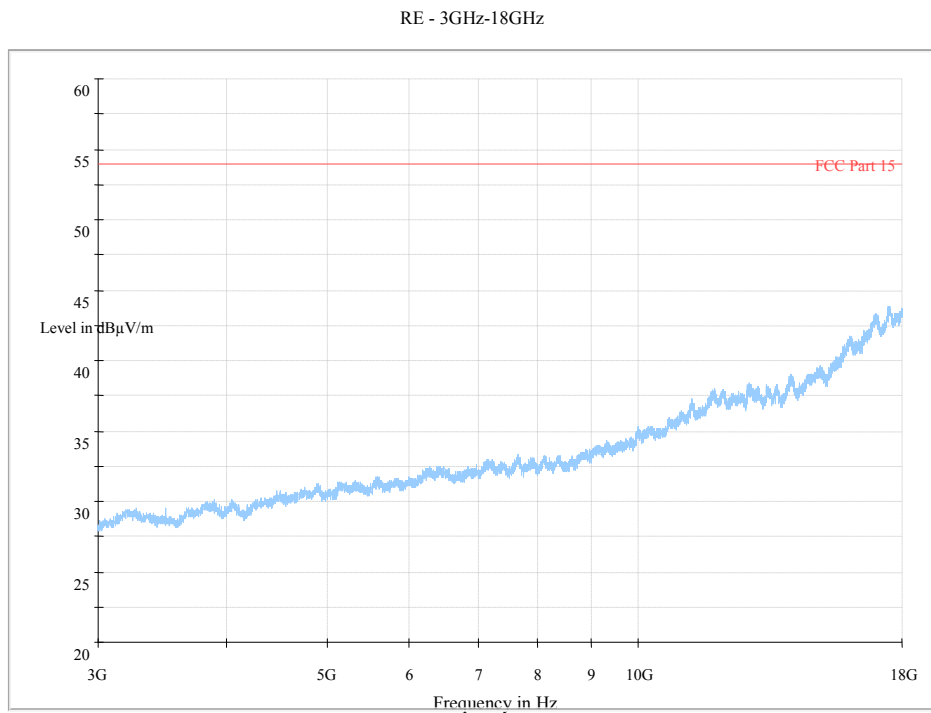
**Fig. 169 Radiated Spurious Emission (Power): 802.11n-40MHz, ch9, 2.45 GHz - 2.50GHz**



**Fig. 170 Radiated Spurious Emission (802.11n-40MHz, Ch9, 30 MHz-1 GHz)**

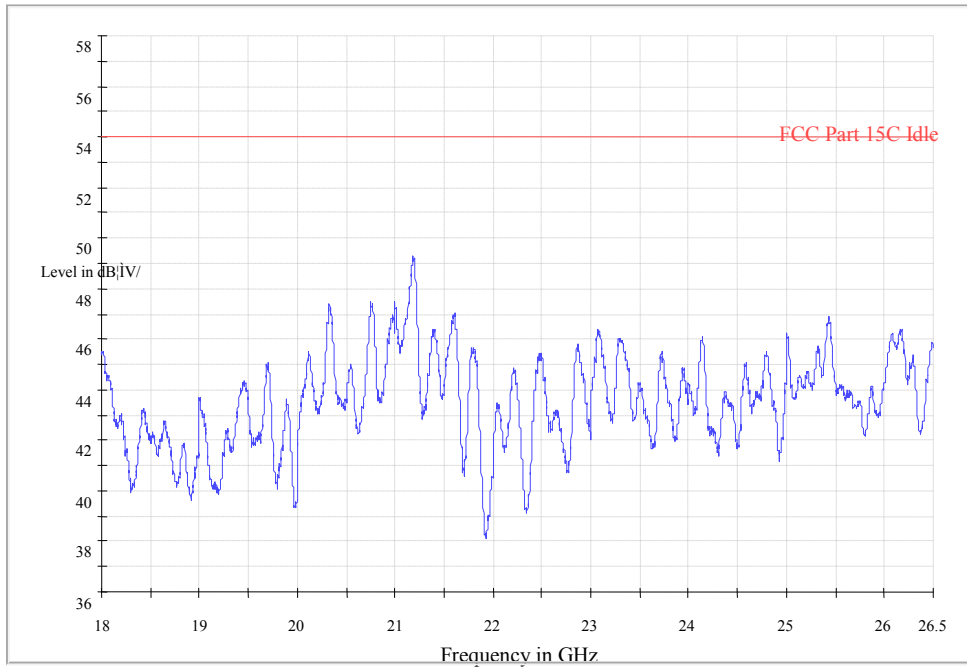


**Fig. 171 Radiated Spurious Emission (802.11n-40MHz, Ch9, 1 GHz-3 GHz)**



**Fig. 172 Radiated Spurious Emission (802.11n-40MHz, Ch9, 3 GHz-18 GHz)**

EMI 18GHz-26.5GHz



**Fig. 173 Radiated Spurious Emission (All channels): 18GHz – 26.5GHz**

### A.7. AC Powerline Conducted Emission

**Test Condition:**

| Voltage (V) | Frequency (Hz) |
|-------------|----------------|
| 120         | 60             |

**Measurement Result and limit:**

WLAN (Quasi-peak Limit)

| Frequency range (MHz)  | Quasi-peak Limit (dB $\mu$ V) | Result (dB $\mu$ V) |         |                |                 | Conclusion |
|--|-------------------------------|---------------------|---------|----------------|-----------------|------------|
|  |                               | With charger        |         |                |                 |            |
|  |                               | 802.11b             | 802.11g | 802.11n -20MHz | 802.11n -40 MHz |            |
| 0.15 to 0.5  | 66 to 56                      | Fig. 174            | Fig.175 | Fig. 176       | Fig.177         | P          |
| 0.5 to 5   | 56                            |                     |         |                |                 |            |
| 5 to 30  | 60                            |                     |         |                |                 |            |
| NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz. |                               |                     |         |                |                 |            |

WLAN (Average Limit)

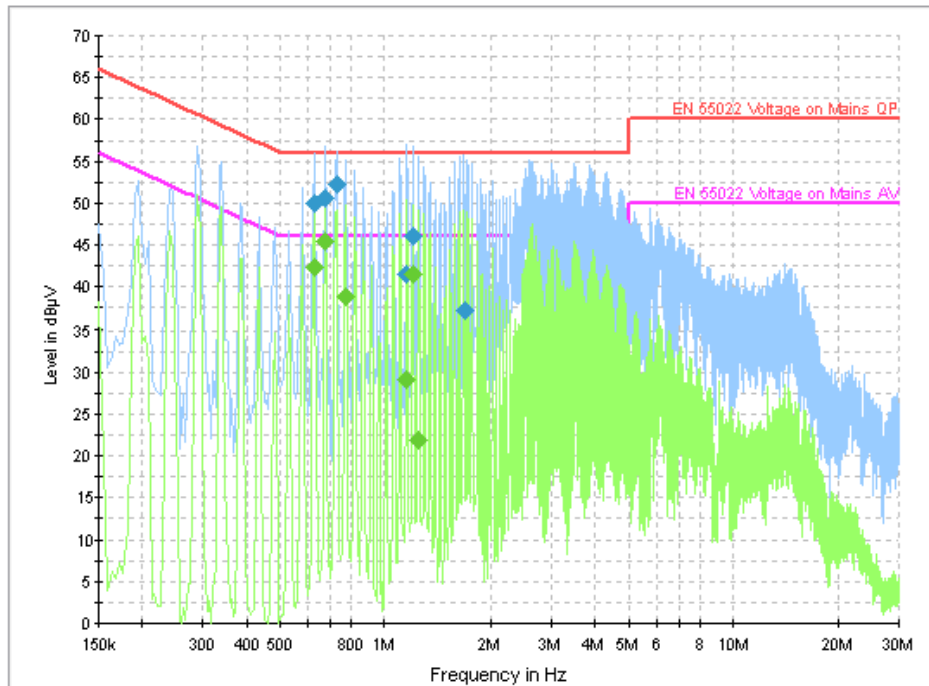
| Frequency range (MHz)  | Average Limit (dB $\mu$ V) | Result (dB $\mu$ V) |         |                 |                 | Conclusion |
|--|----------------------------|---------------------|---------|-----------------|-----------------|------------|
|  |                            | With charger        |         |                 |                 |            |
|  |                            | 802.11b             | 802.11g | 802.11n -20 MHz | 802.11n -40 MHz |            |
| 0.15 to 0.5  | 56 to 46                   | Fig.174             | Fig.175 | Fig.176         | Fig.177         | P          |
| 0.5 to 5   | 46                         |                     |         |                 |                 |            |
| 5 to 30  | 50                         |                     |         |                 |                 |            |
| NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz. |                            |                     |         |                 |                 |            |

The measurement is made according to ANSI C63.10

**Conclusion: PASS**

**Test graphs as below:**





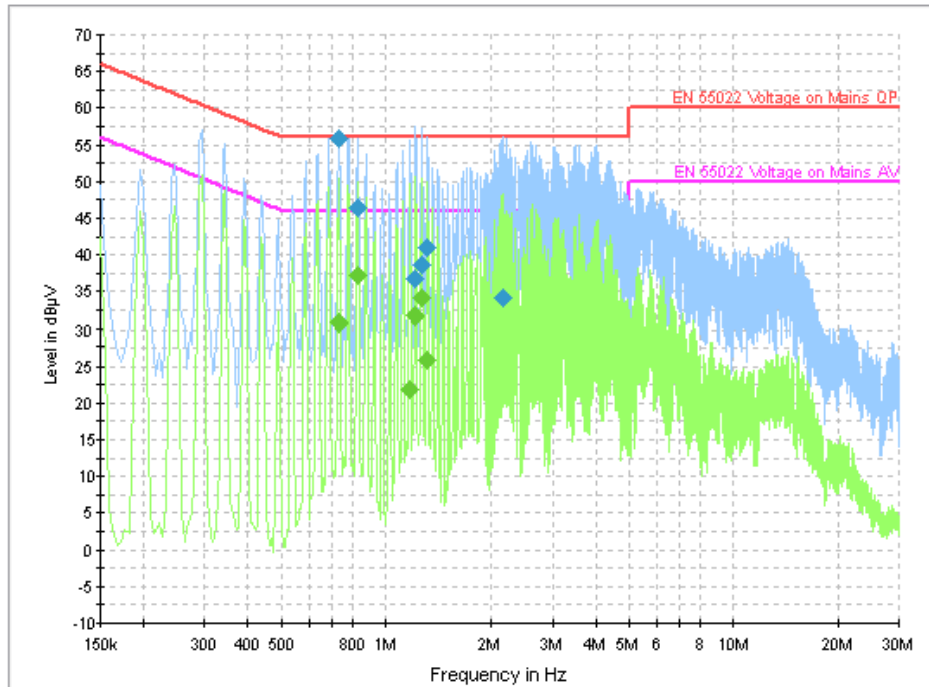
**Fig. 174 AC Powerline Conducted Emission-802.11b**

Final Result 1

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.627000        | 50.0             | GND | L1   | 10.0       | 6.0         | 56.0         |
| 0.676500        | 50.7             | GND | L1   | 10.0       | 5.3         | 56.0         |
| 0.726000        | 52.3             | GND | L1   | 10.0       | 3.7         | 56.0         |
| 1.158000        | 41.5             | GND | L1   | 10.0       | 14.5        | 56.0         |
| 1.207500        | 46.1             | GND | L1   | 10.0       | 9.9         | 56.0         |
| 1.689000        | 37.1             | GND | L1   | 10.0       | 18.9        | 56.0         |

Final Result 2

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.627000        | 42.3           | GND | L1   | 10.0       | 3.7         | 46.0         |
| 0.676500        | 45.5           | GND | L1   | 10.0       | 0.5         | 46.0         |
| 0.771000        | 38.8           | GND | L1   | 10.0       | 7.2         | 46.0         |
| 1.158000        | 29.1           | GND | L1   | 10.0       | 16.9        | 46.0         |
| 1.207500        | 41.4           | GND | L1   | 10.0       | 4.6         | 46.0         |
| 1.252500        | 21.8           | GND | L1   | 10.0       | 24.2        | 46.0         |



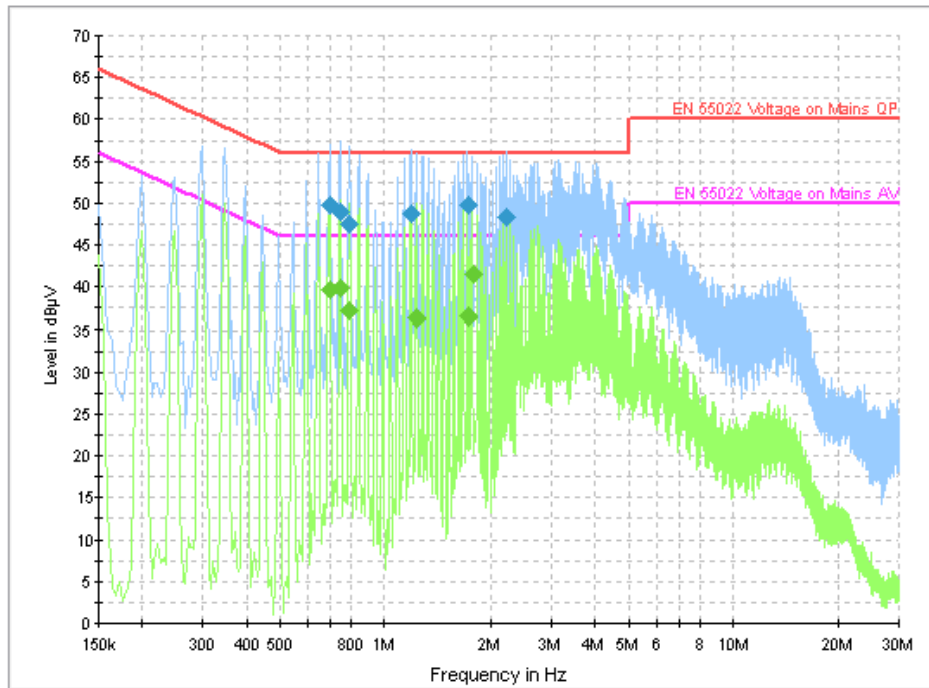
**Fig. 175 AC Powerline Conducted Emission-802.11g**

Final Result 1

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.735000        | 55.8             | GND | L1   | 10.0       | 0.2         | 56.0         |
| 0.829500        | 46.4             | GND | L1   | 10.0       | 9.6         | 56.0         |
| 1.221000        | 36.7             | GND | L1   | 10.0       | 19.3        | 56.0         |
| 1.270500        | 38.7             | GND | L1   | 10.0       | 17.3        | 56.0         |
| 1.320000        | 41.1             | GND | L1   | 10.0       | 14.9        | 56.0         |
| 2.148000        | 34.0             | GND | L1   | 10.0       | 22.0        | 56.0         |

Final Result 2

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.730500        | 30.9           | GND | L1   | 10.0       | 15.1        | 46.0         |
| 0.829500        | 37.1           | GND | L1   | 10.0       | 8.9         | 46.0         |
| 1.171500        | 21.8           | GND | L1   | 10.0       | 24.2        | 46.0         |
| 1.221000        | 31.7           | GND | L1   | 10.0       | 14.3        | 46.0         |
| 1.270500        | 34.1           | GND | L1   | 10.0       | 11.9        | 46.0         |
| 1.320000        | 25.8           | GND | L1   | 10.0       | 20.2        | 46.0         |



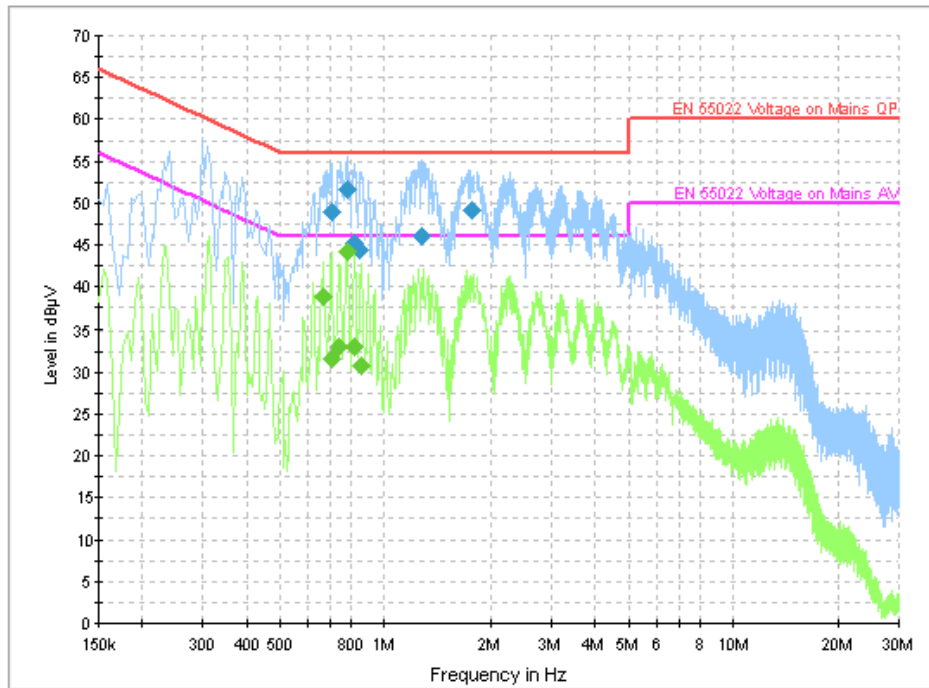
**Fig. 176 AC Powerline Conducted Emission-802.11n-20MHz**

Final Result 1

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.694500        | 49.7             | GND | L1   | 10.0       | 6.3         | 56.0         |
| 0.744000        | 48.9             | GND | L1   | 10.0       | 7.1         | 56.0         |
| 0.793500        | 47.5             | GND | L1   | 10.0       | 8.5         | 56.0         |
| 1.189500        | 48.8             | GND | L1   | 10.0       | 7.2         | 56.0         |
| 1.729500        | 49.8             | GND | L1   | 10.0       | 6.2         | 56.0         |
| 2.229000        | 48.3             | GND | L1   | 10.0       | 7.7         | 56.0         |

Final Result 2

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.694500        | 39.7           | GND | L1   | 10.0       | 6.3         | 46.0         |
| 0.744000        | 39.8           | GND | L1   | 10.0       | 6.2         | 46.0         |
| 0.793500        | 37.1           | GND | L1   | 10.0       | 8.9         | 46.0         |
| 1.234500        | 36.2           | GND | L1   | 10.0       | 9.8         | 46.0         |
| 1.729500        | 36.5           | GND | L1   | 10.0       | 9.5         | 46.0         |
| 1.779000        | 41.5           | GND | L1   | 10.0       | 4.5         | 46.0         |



**Fig. 177 AC Powerline Conducted Emission-802.11n-40MHz**

Final Result 1

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.703500        | 49.0             | GND | L1   | 10.0       | 7.0         | 56.0         |
| 0.780000        | 51.6             | GND | L1   | 10.0       | 4.4         | 56.0         |
| 0.820500        | 45.2             | GND | L1   | 10.0       | 10.8        | 56.0         |
| 0.852000        | 44.4             | GND | L1   | 10.0       | 11.6        | 56.0         |
| 1.284000        | 46.0             | GND | L1   | 10.0       | 10.0        | 56.0         |
| 1.756500        | 49.2             | GND | L1   | 10.0       | 6.8         | 56.0         |

Final Result 2

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.663000        | 38.8           | GND | L1   | 10.0       | 7.2         | 46.0         |
| 0.703500        | 31.7           | GND | L1   | 10.0       | 14.3        | 46.0         |
| 0.739500        | 33.1           | GND | L1   | 10.0       | 12.9        | 46.0         |
| 0.780000        | 44.3           | GND | L1   | 10.0       | 1.7         | 46.0         |
| 0.820500        | 33.0           | GND | L1   | 10.0       | 13.0        | 46.0         |
| 0.856500        | 30.7           | GND | L1   | 10.0       | 15.3        | 46.0         |

**\*\*\* END OF REPORT BODY \*\*\***