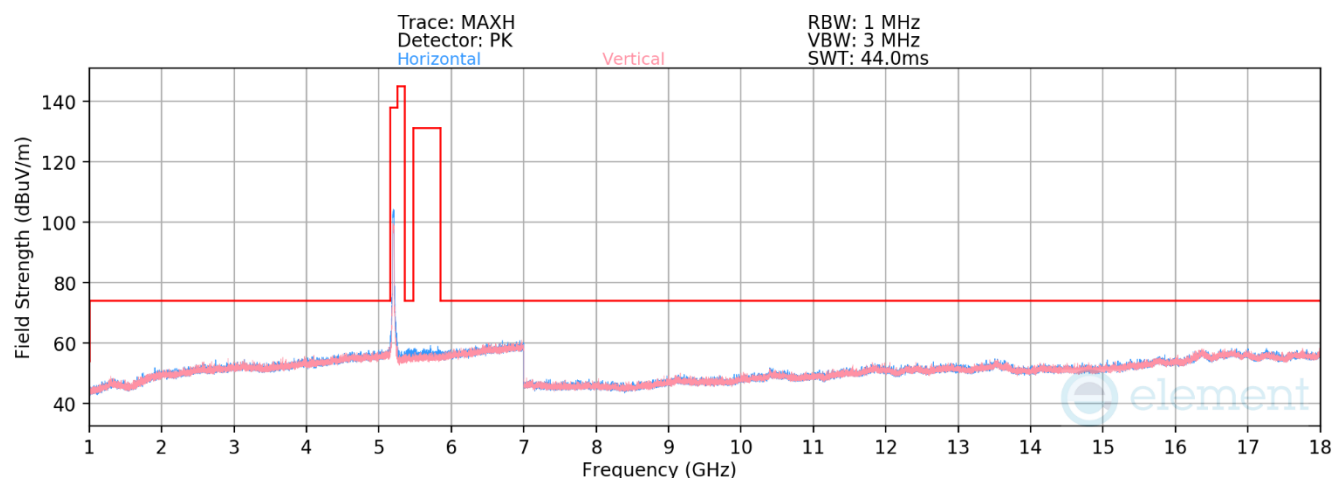




**Plot 7-29. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 40)**

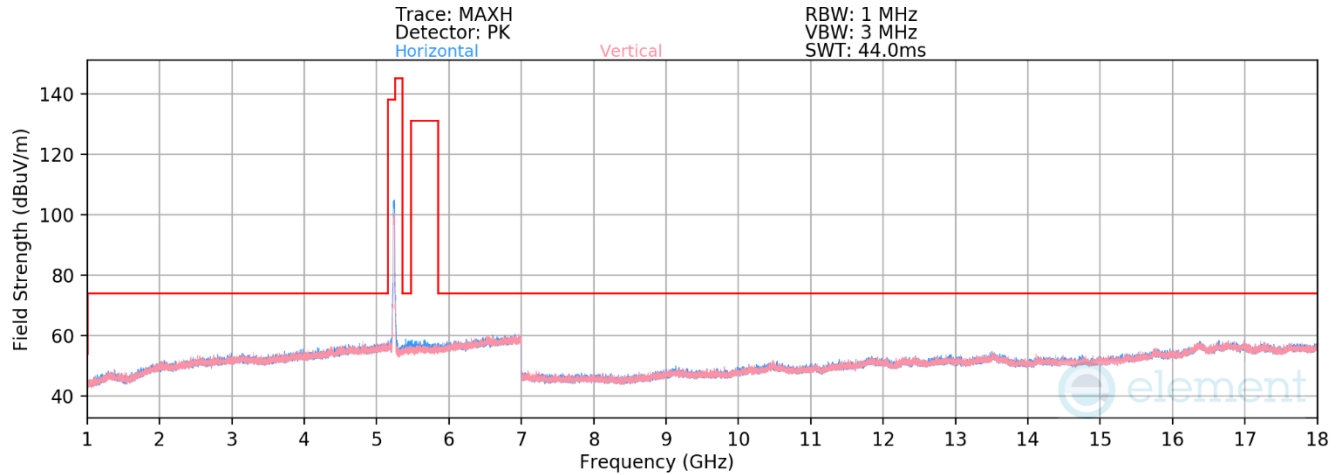
Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5200MHz  
Channel: 40

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 10400.00        | Peak     | V               | -                   | -                          | -70.02               | 14.61       | 51.60                   | 68.23          | -16.63      |
| * 15600.00      | Average  | V               | -                   | -                          | -84.56               | 20.81       | 43.25                   | 53.98          | -10.73      |
| * 15600.00      | Peak     | V               | -                   | -                          | -73.18               | 20.70       | 54.52                   | 73.98          | -19.46      |

**Table 7-11. Radiated Measurements**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 34 of 58                     |

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**Plot 7-30. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 48)**

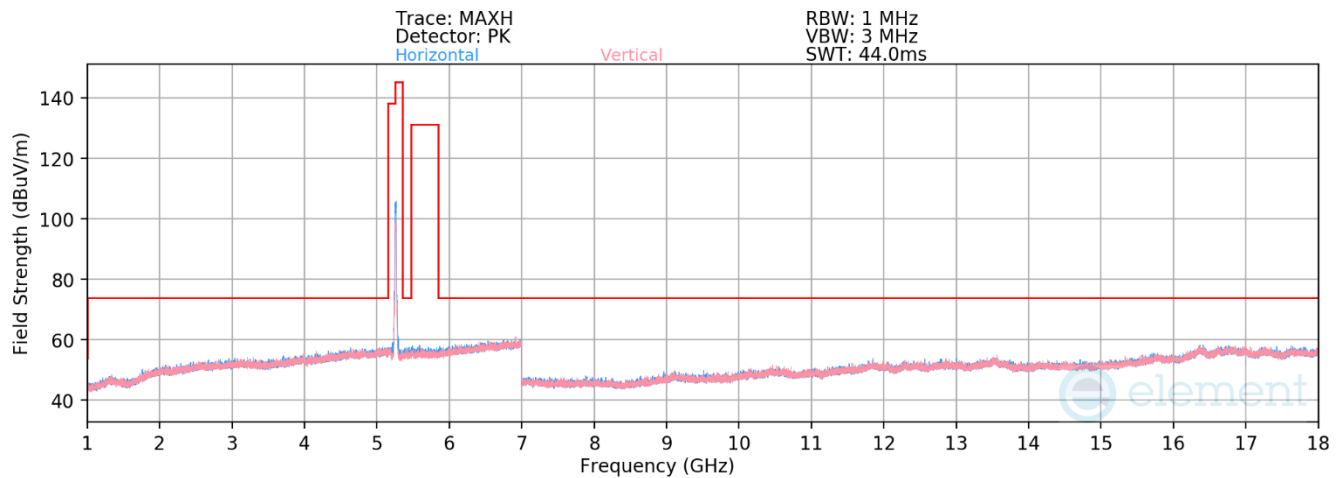
Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5240MHz  
Channel: 48

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 10480.00        | Peak     | V               | -                   | -                          | -70.43               | 14.79       | 51.35                   | 68.23          | -16.88      |
| * 15720.00      | Average  | V               | -                   | -                          | -84.02               | 21.23       | 44.20                   | 53.98          | -9.78       |
| * 15720.00      | Peak     | V               | -                   | -                          | -72.30               | 20.95       | 55.64                   | 73.98          | -18.34      |

**Table 7-12. Radiated Measurements**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 35 of 58                     |

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**Plot 7-31. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 52)**

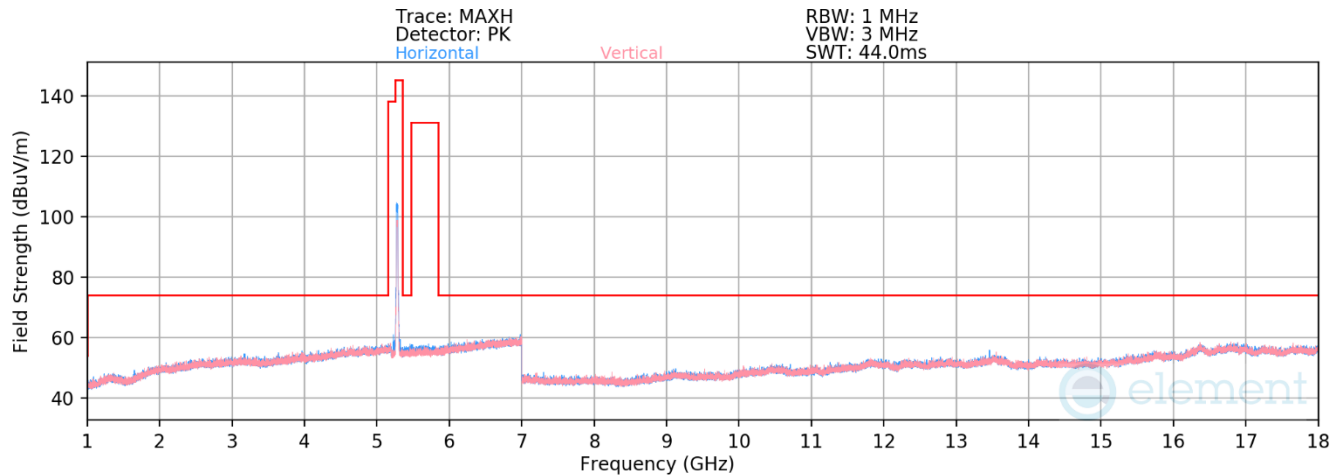
Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5260MHz  
Channel: 52

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 10520.00        | Peak     | V               | -                   | -                          | -70.81               | 14.71       | 50.89                   | 68.23          | -17.34      |
| * 15780.00      | Average  | V               | -                   | -                          | -84.82               | 22.10       | 44.27                   | 53.98          | -9.71       |
| * 15780.00      | Peak     | V               | -                   | -                          | -72.92               | 21.86       | 55.94                   | 73.98          | -18.04      |

**Table 7-13. Radiated Measurements**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 36 of 58                     |

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**Plot 7-32. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 56)**

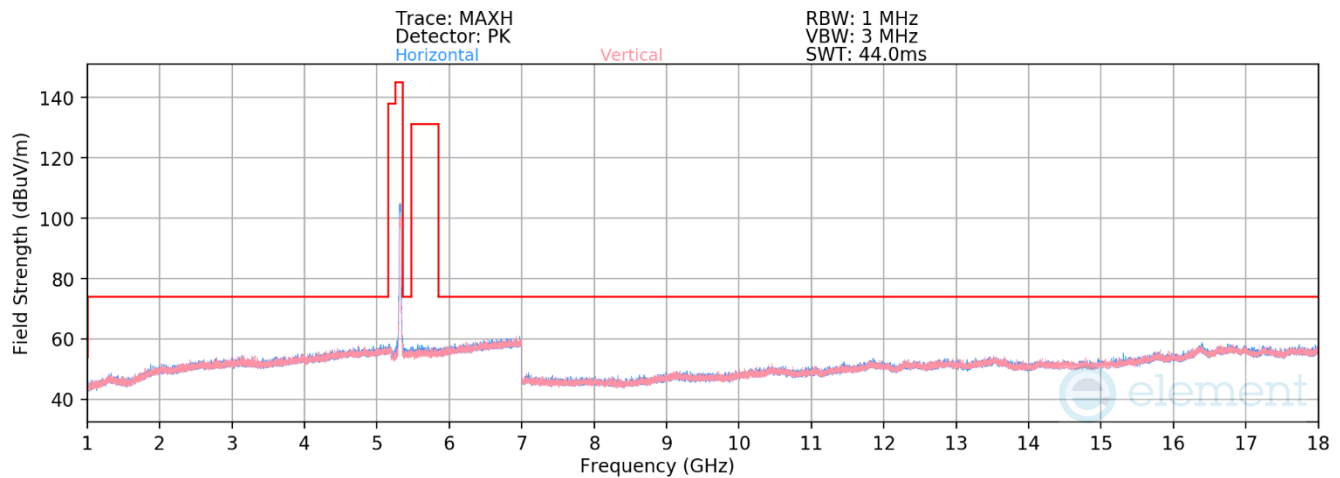
Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5280MHz  
Channel: 56

|   | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBuV/m] | Limit [dBuV/m] | Margin [dB] |
|---|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
|   | 10560.00        | Peak     | V               | 398                 | 181                        | -70.27               | 14.51       | 51.23                   | 68.23          | -17.00      |
| * | 15840.00        | Average  | H               | -                   | -                          | -84.80               | 21.92       | 44.12                   | 53.98          | -9.86       |
| * | 15840.00        | Peak     | H               | -                   | -                          | -72.96               | 21.59       | 55.63                   | 73.98          | -18.35      |

**Table 7-14. Radiated Measurements**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 37 of 58                     |

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**Plot 7-33. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 64)**

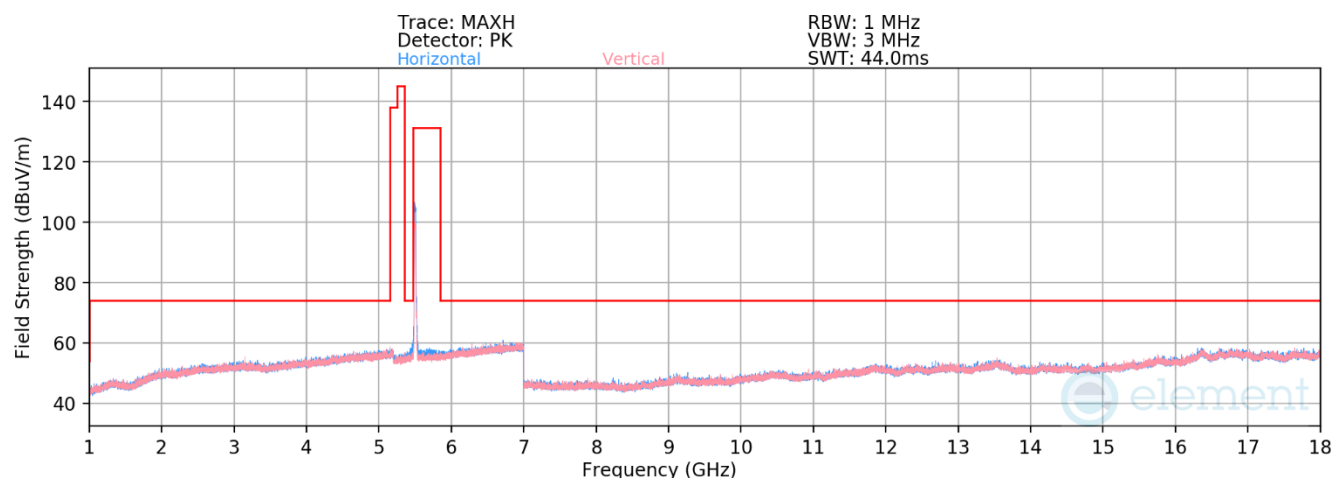
Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5320MHz  
Channel: 64

|   | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBuV/m] | Limit [dBuV/m] | Margin [dB] |
|---|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| * | 10640.00        | Average  | V               | -                   | -                          | -82.31               | 14.90       | 39.59                   | 53.98          | -14.39      |
| * | 10640.00        | Peak     | V               | -                   | -                          | -70.52               | 14.98       | 51.46                   | 73.98          | -22.52      |
| * | 15960.00        | Average  | V               | -                   | -                          | -84.86               | 21.60       | 43.74                   | 53.98          | -10.24      |
| * | 15960.00        | Peak     | V               | -                   | -                          | -72.62               | 21.40       | 55.78                   | 73.98          | -18.20      |

**Table 7-15. Radiated Measurements**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 38 of 58                     |

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**Plot 7-34. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 100)**

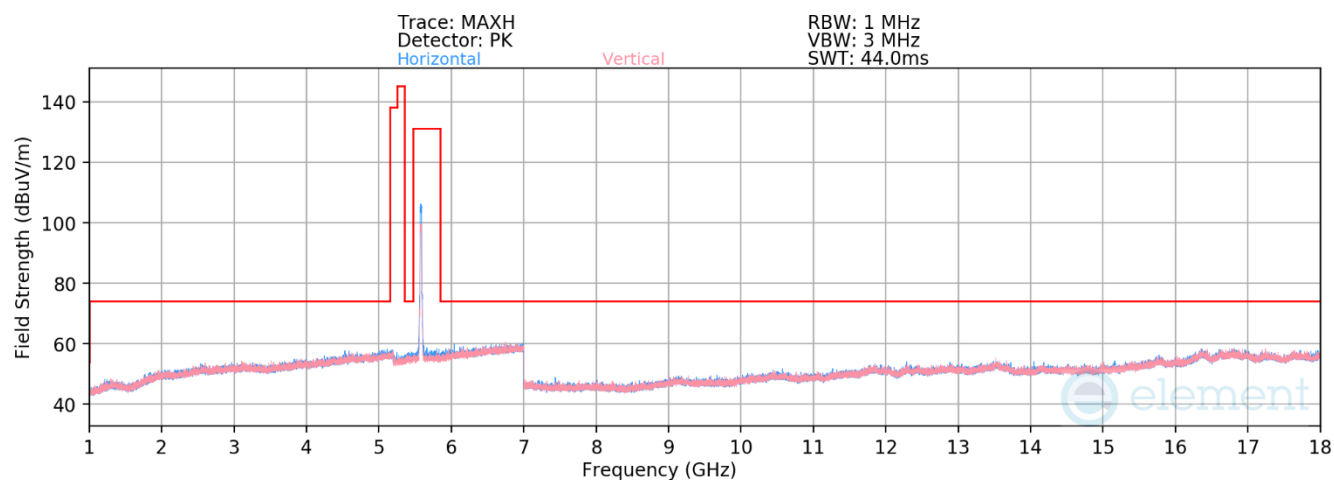
Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5500MHz  
Channel: 100

|   | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBuV/m] | Limit [dBuV/m] | Margin [dB] |
|---|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| * | 11000.00        | Average  | V               | -                   | -                          | -82.80               | 15.31       | 39.51                   | 53.98          | -14.47      |
| * | 11000.00        | Peak     | V               | -                   | -                          | -71.59               | 15.34       | 50.75                   | 73.98          | -23.23      |
|   | 16500.00        | Peak     | H               | -                   | -                          | -73.16               | 22.18       | 56.02                   | 68.23          | -12.21      |

**Table 7-16. Radiated Measurements**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 39 of 58                     |

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**Plot 7-35. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 116)**

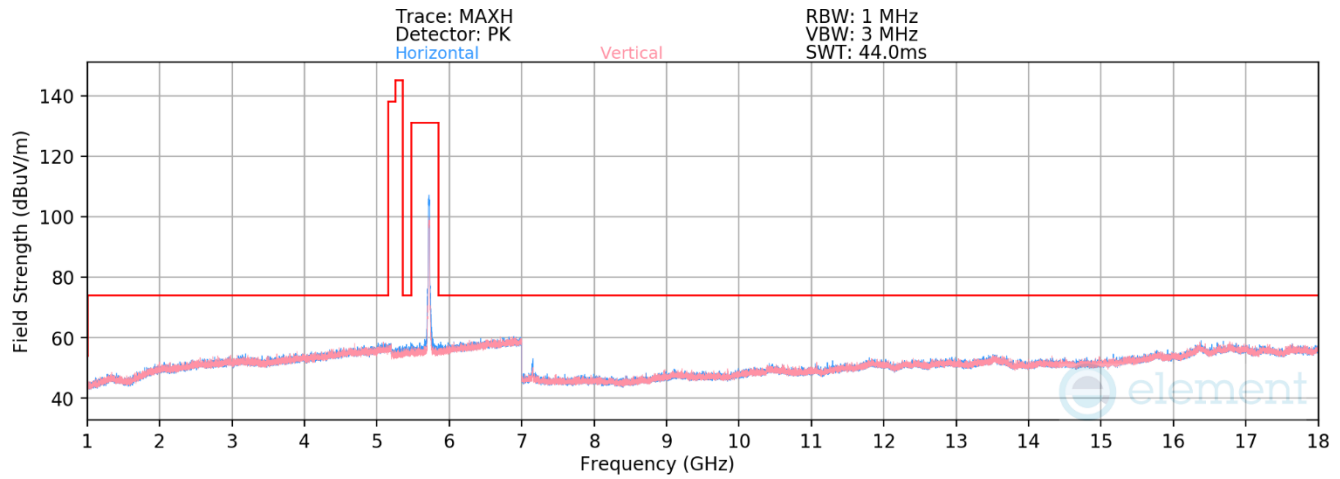
Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5580Hz  
Channel: 116

|   | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBuV/m] | Limit [dBuV/m] | Margin [dB] |
|---|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| * | 11160.00        | Average  | V               | -                   | -                          | -82.66               | 14.90       | 39.23                   | 53.98          | -14.75      |
| * | 11160.00        | Peak     | V               | -                   | -                          | -71.04               | 14.81       | 50.76                   | 73.98          | -23.22      |
|   | 16740.00        | Peak     | H               | -                   | -                          | -72.48               | 23.17       | 57.68                   | 68.23          | -10.55      |

**Table 7-17. Radiated Measurements**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 40 of 58                     |

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**Plot 7-36. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 144)**

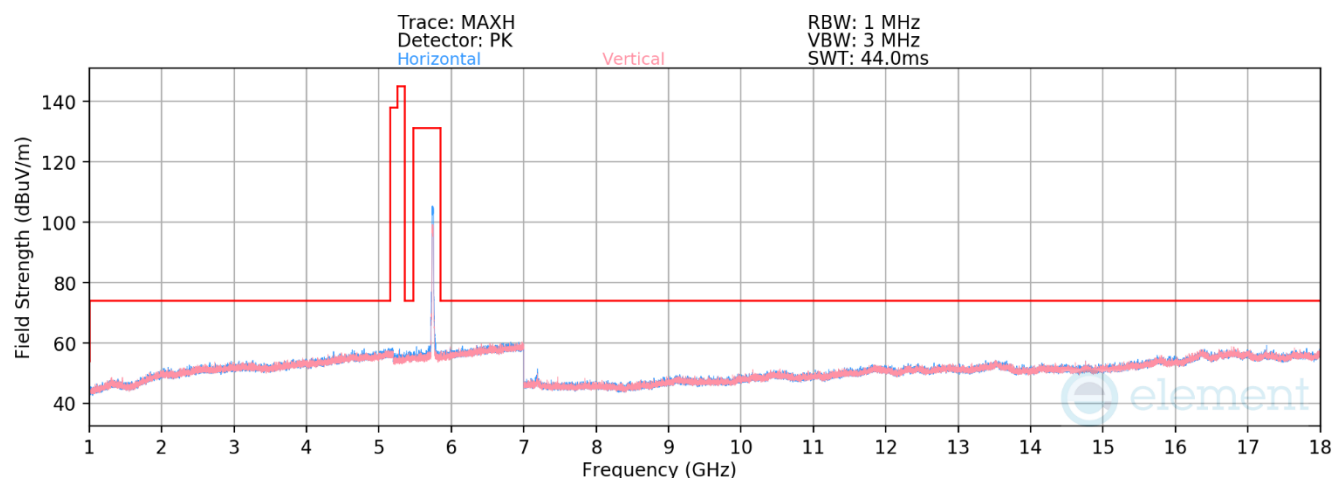
Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5720  
Channel: 144

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBuV/m] | Limit [dBuV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 7157.50         | Peak     | H               | 282                 | 221                        | -73.65               | 11.33       | 44.68                   | 68.20          | -23.52      |
| * 11440.00      | Average  | H               | -                   | -                          | -82.72               | 15.62       | 39.90                   | 53.98          | -14.08      |
| * 11440.00      | Peak     | H               | -                   | -                          | -71.50               | 15.62       | 51.12                   | 73.98          | -22.86      |
| 17160.00        | Peak     | H               | -                   | -                          | -72.98               | 22.91       | 56.94                   | 68.20          | -11.26      |

**Table 7-18. Radiated Measurements**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 41 of 58                     |

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**Plot 7-37. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 149)**

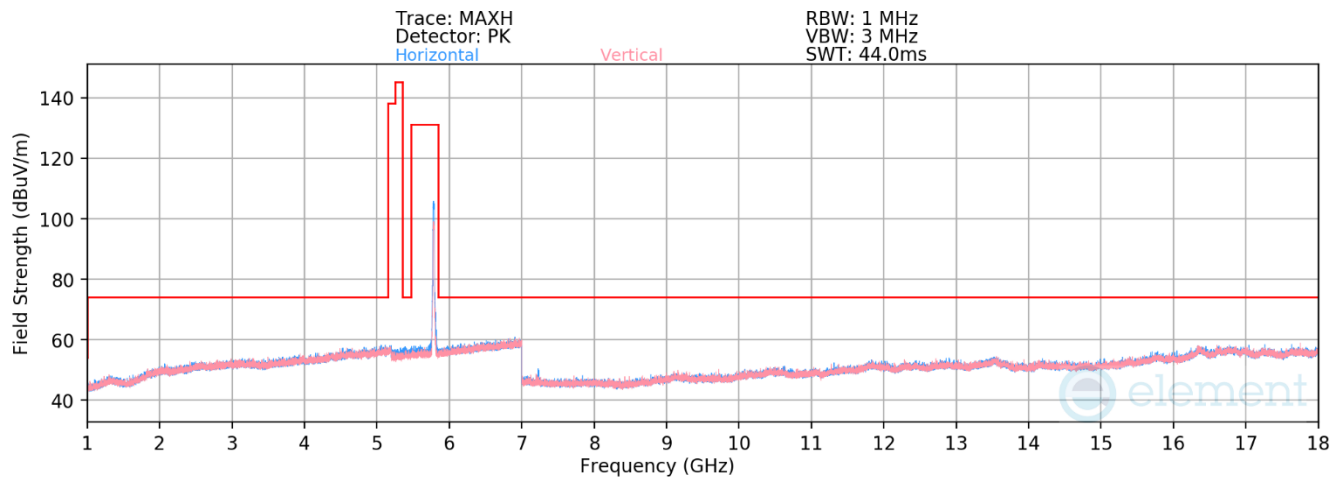
Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5745MHz  
Channel: 149

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 7189.00         | Peak     | H               | 282                 | 229                        | -72.45               | 11.51       | 46.06                   | 68.20          | -22.14      |
| * 11490.00      | Average  | V               | -                   | -                          | -82.35               | 15.63       | 40.28                   | 53.98          | -13.70      |
| * 11490.00      | Peak     | V               | -                   | -                          | -70.79               | 15.59       | 51.80                   | 73.98          | -22.18      |
| 17235.00        | Peak     | H               | -                   | -                          | -73.20               | 23.25       | 57.06                   | 68.20          | -11.14      |

**Table 7-19. Radiated Measurements**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 42 of 58                     |

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**Plot 7-38. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 157)**

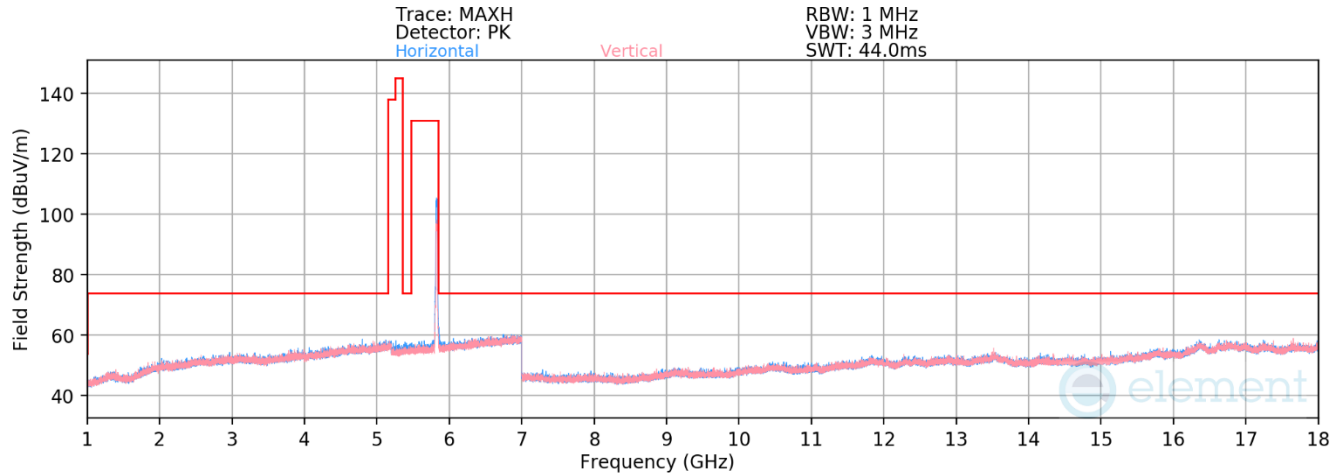
Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5785MHz  
Channel: 157

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 7238.00         | Peak     | H               | 279                 | 224                        | -66.33               | 11.99       | 52.66                   | 68.20          | -15.54      |
| * 11570.00      | Average  | V               | -                   | -                          | -82.38               | 15.51       | 40.12                   | 53.98          | -13.85      |
| * 11570.00      | Peak     | V               | -                   | -                          | -70.80               | 15.63       | 51.82                   | 73.98          | -22.16      |
| 17355.00        | Peak     | H               | -                   | -                          | -72.66               | 23.73       | 58.07                   | 68.20          | -10.13      |

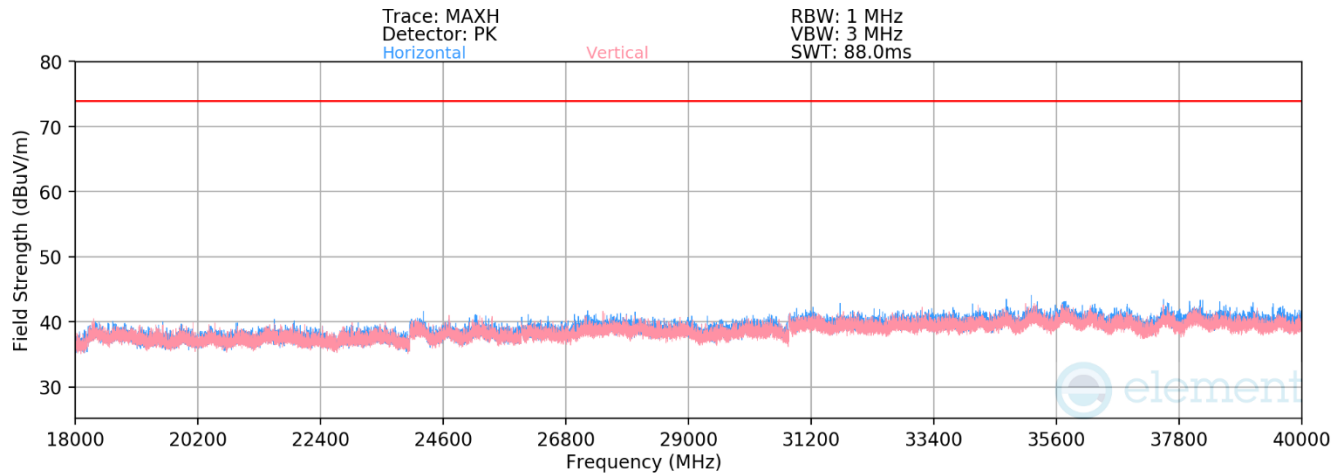
**Table 7-20. Radiated Measurements**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 43 of 58                     |

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**Plot 7-39. Radiated Spurious Emissions above 1GHz (802.11n – Ch. 165)**



**Plot 7-40. Radiated Spurious Emissions 18-40GHz (802.11n – Ch. 165)**

Mode: 802.11n  
Data Rate: MCS0  
Distance of Measurements: 3 Meters  
Operating Frequency: 5825MHz  
Channel: 165

|   | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBuV/m] | Limit [dBuV/m] | Margin [dB] |
|---|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| * | 11650.00        | Average  | H               | -                   | -                          | -82.58               | 15.89       | 40.32                   | 53.98          | -13.66      |
| * | 11650.00        | Peak     | H               | -                   | -                          | -70.91               | 15.79       | 51.87                   | 73.98          | -22.11      |
|   | 17475.00        | Peak     | V               | -                   | -                          | -73.05               | 23.31       | 57.26                   | 68.23          | -10.97      |

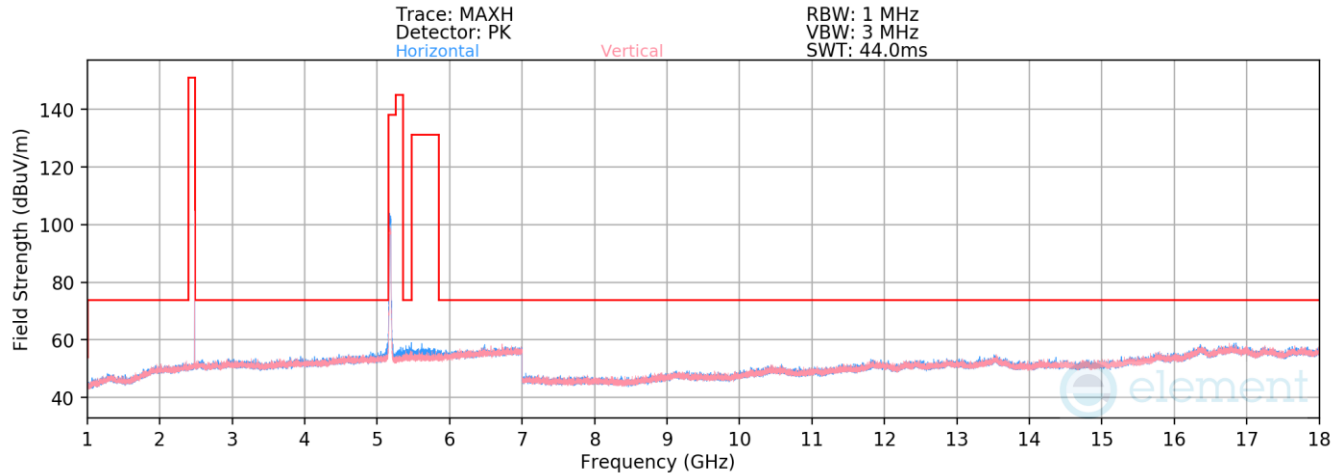
**Table 7-21. Radiated Measurements**

|                                         |                                                                                     |                                       |  |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|--|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    |  | Page 44 of 58                     |

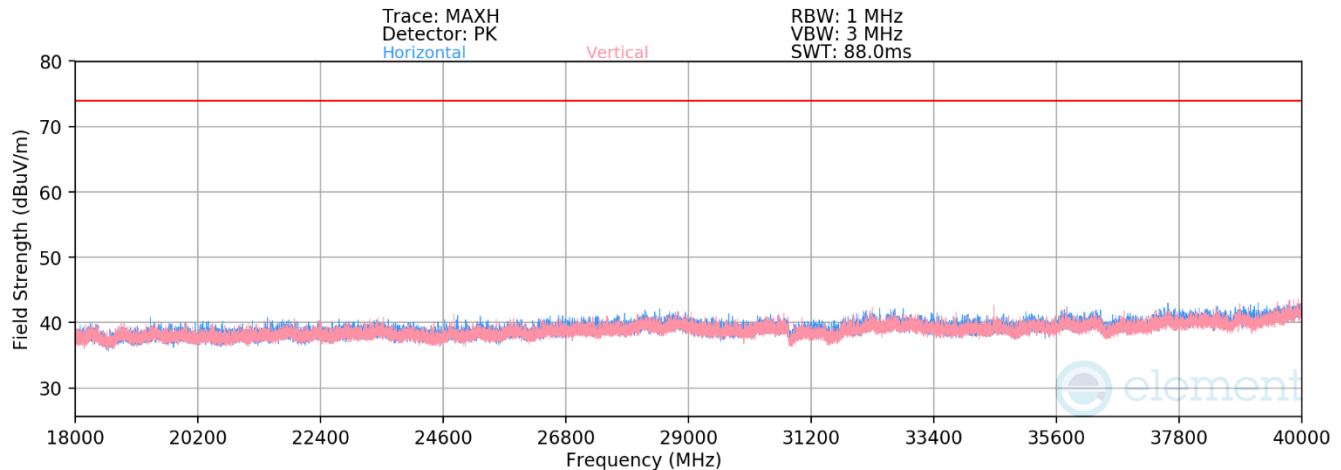
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| Description               | Bluetooth | UNII    |
|---------------------------|-----------|---------|
| Antenna                   | FCM       | FCM     |
| Channel                   | 78        | 36      |
| Operating Frequency (MHz) | 2480      | 5180    |
| Mode/Modulation           | GFSK ePA  | 802.11n |

**Table 7-22. Worst Case Simultaneous Transmission Configuration**



**Plot 7-41. Radiated Spurious Emissions – Simultaneous Transmission Configuration 1GHz-18GHz**



**Plot 7-42. Radiated Spurious Emissions – Simultaneous Transmission Configuration 18GHz-40GHz**

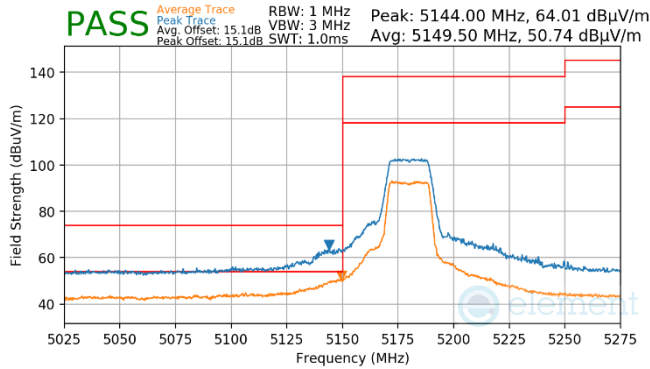
| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBuV/m] | Limit [dBuV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 4960.00         | Peak     | V               | -                   | -                          | -69.88               | 17.58       | 54.70                   | 73.98          | -19.28      |
| 7440.00         | Peak     | V               | -                   | -                          | -71.91               | 11.20       | 46.29                   | 73.98          | -27.69      |
| 12400.00        | Peak     | V               | -                   | -                          | -74.02               | 17.34       | 50.32                   | 73.98          | -23.66      |
| 10360.00        | Peak     | V               | -                   | -                          | -72.04               | 14.43       | 49.39                   | 68.20          | -18.81      |
| * 15540.00      | Avg      | V               | -                   | -                          | -85.02               | 20.09       | 42.07                   | 53.98          | -11.91      |
| * 15540.00      | Peak     | V               | -                   | -                          | -74.67               | 20.09       | 52.42                   | 73.98          | -21.56      |

**Table 7-23. Radiated Measurements**

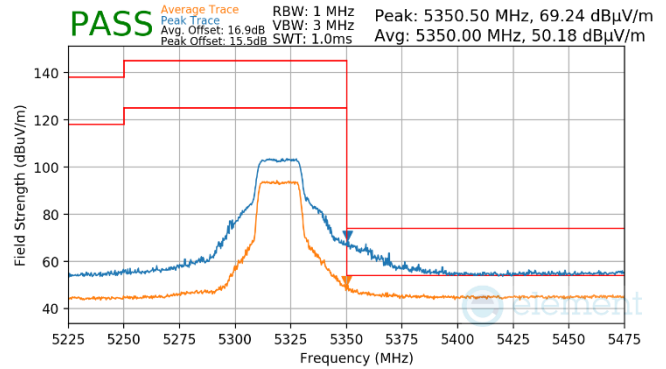
|                                         |                                                                                     |                                       |  |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|--|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    |  | Page 45 of 58                     |

## 7.6.2 Radiated Band Edge Measurements (20MHz BW)

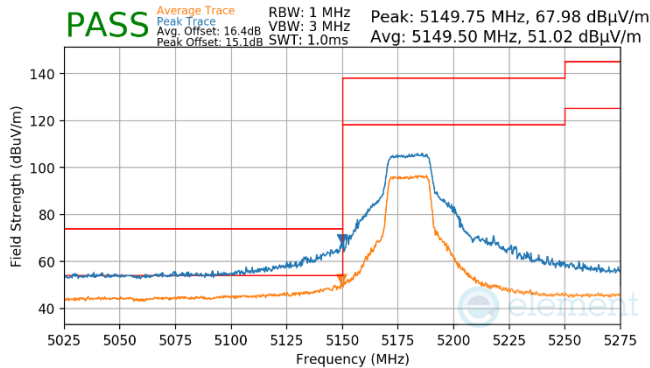
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]



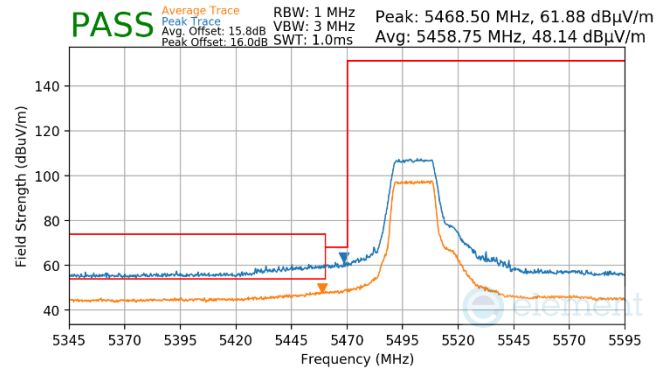
Plot 7-43. (Pk & Avg, Ch.36, 802.11n, MCS0)



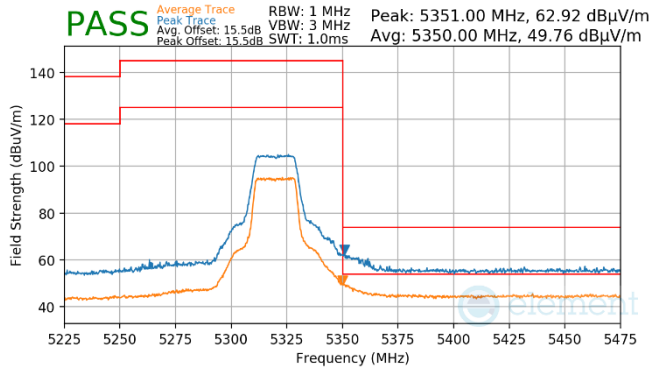
Plot 7-46. (Pk & Avg, Ch.64, 802.11n, MCS7)



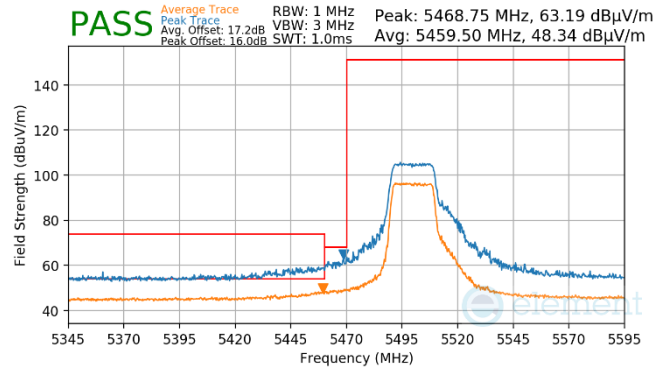
Plot 7-44. (Pk & Avg, Ch.36, 802.11n, MCS7)



Plot 7-47. (Pk & Avg, Ch.100, 802.11n, MCS0)



Plot 7-45. (Pk & Avg, Ch.64, 802.11n, MCS0)

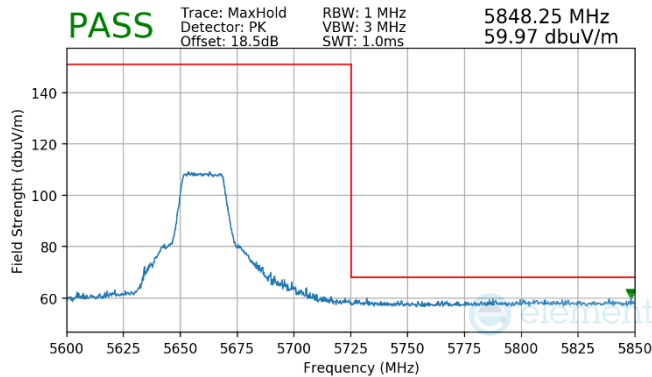


Plot 7-48. (Pk & Avg, Ch.100, 802.11n, MCS7)

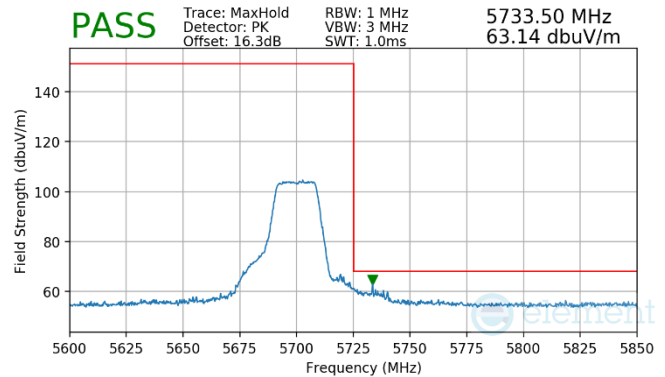
|                                         |                                                                                     |                    |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|--------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  |                    | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch | Page 46 of 58                         |                                   |

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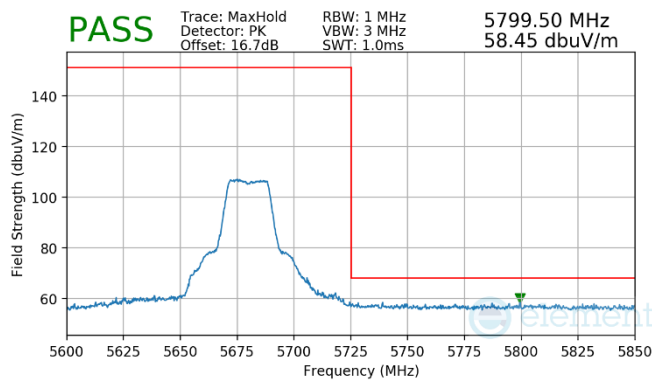
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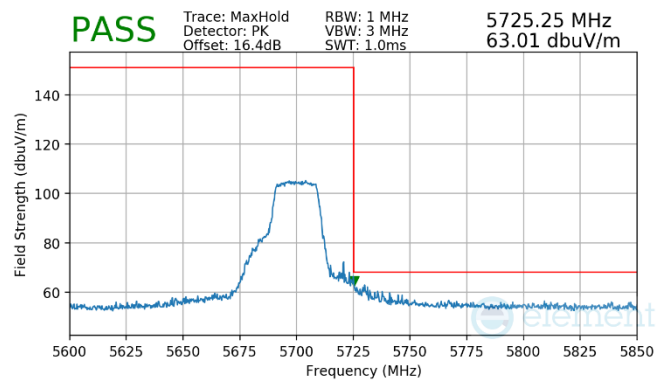
Plot 7-49. (Pk & Avg, Ch.132, 802.11n, MCS0)



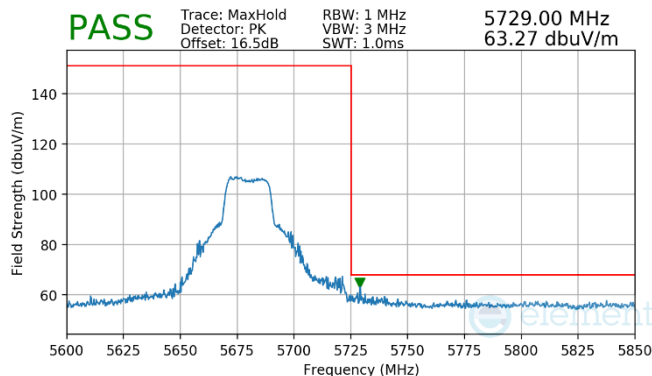
Plot 7-52. (Pk & Avg, Ch.140, 802.11n, MCS0)



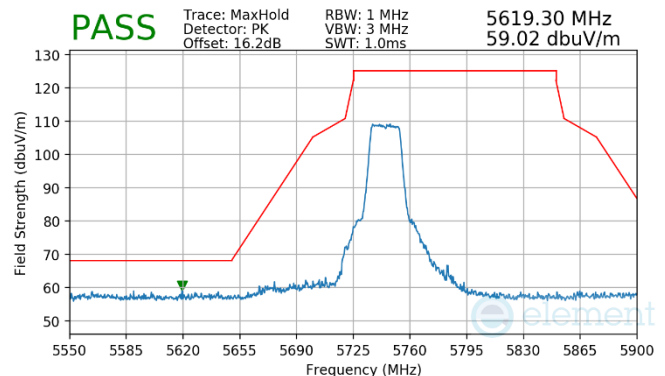
Plot 7-50. (Pk & Avg, Ch.136, 802.11n, MCS0)



Plot 7-53. (Pk & Avg, Ch.140, 802.11n, MCS7)



Plot 7-51. (Pk & Avg, Ch.136, 802.11n, MCS7)

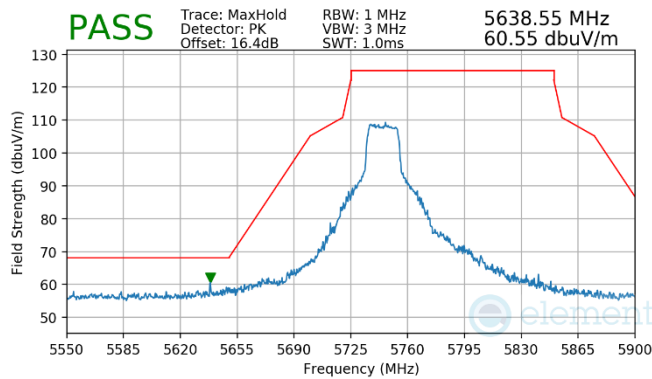


Plot 7-54. (Pk & Avg, Ch.149, 802.11n, MCS0)

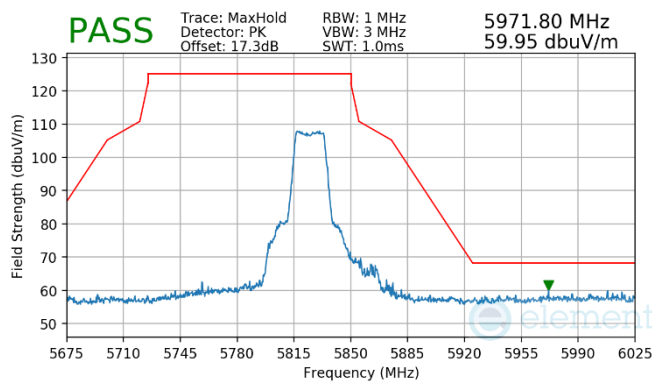
|                                         |                                                                                                                                  |                    |                                   |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  <b>MEASUREMENT REPORT</b><br>(CERTIFICATION) |                    | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                                                             | EUT Type:<br>Watch | Page 47 of 58                     |

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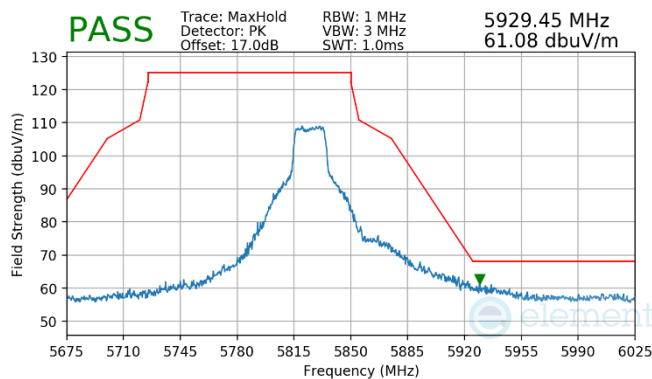
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Plot 7-55. (Pk & Avg, Ch.149, 802.11n, MCS7)



Plot 7-56. (Pk & Avg, Ch.165, 802.11n, MCS0)



Plot 7-57. (Pk & Avg, Ch.165, 802.11n, MCS7)

|                                         |                                                                                                                                  |                    |                                          |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  <b>MEASUREMENT REPORT</b><br>(CERTIFICATION) |                    | <b>Approved by:</b><br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                                                             | EUT Type:<br>Watch | Page 48 of 58                            |

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## 7.7 Radiated Spurious Emissions – Below 1GHz

§15.209; RSS-Gen [8.9]

### Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

***All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 7 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-24 per Section 15.209 and RSS-Gen (8.9).***

| Frequency         | Field Strength<br>[μV/m] | Measured Distance<br>[Meters] |
|-------------------|--------------------------|-------------------------------|
| 0.009 – 0.490 MHz | 2400/F (kHz)             | 300                           |
| 0.490 – 1.705 MHz | 24000/F (kHz)            | 30                            |
| 1.705 – 30.00 MHz | 30                       | 30                            |
| 30.00 – 88.00 MHz | 100                      | 3                             |
| 88.00 – 216.0 MHz | 150                      | 3                             |
| 216.0 – 960.0 MHz | 200                      | 3                             |
| Above 960.0 MHz   | 500                      | 3                             |

**Table 7-24. Radiated Limits**

### Test Procedures Used

ANSI C63.10-2020

### Test Settings

#### Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

#### Peak Field Strength Measurements

7. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
8. RBW = 120kHz (for emissions from 30MHz – 1GHz)
9. VBW = 300kHz
10. Detector = quasi-peak
11. Sweep time = auto couple
12. Trace mode = max hold
13. Trace was allowed to stabilize

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 49 of 58                     |

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**Test Setup**

The EUT and measurement equipment were set up as shown in the diagrams below.

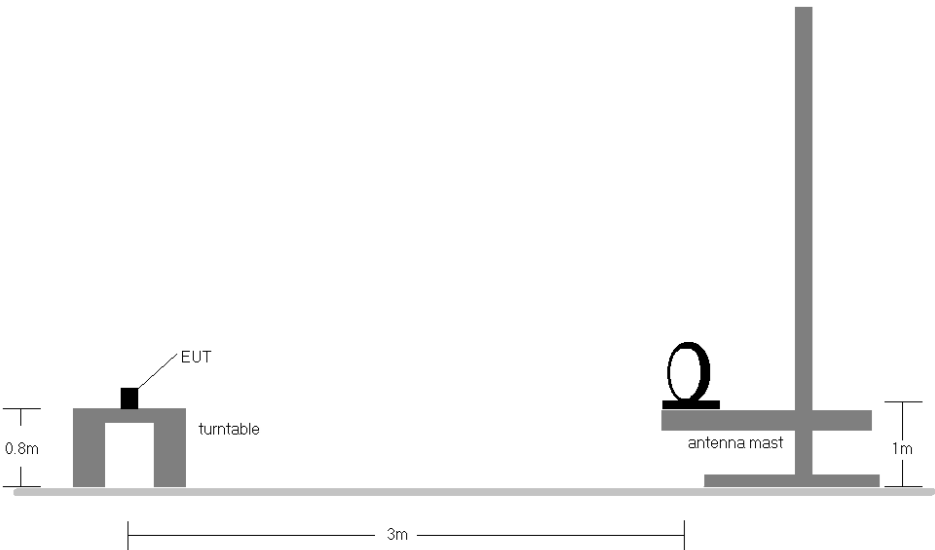


**Figure 7-6. Radiated Test Setup < 30MHz**

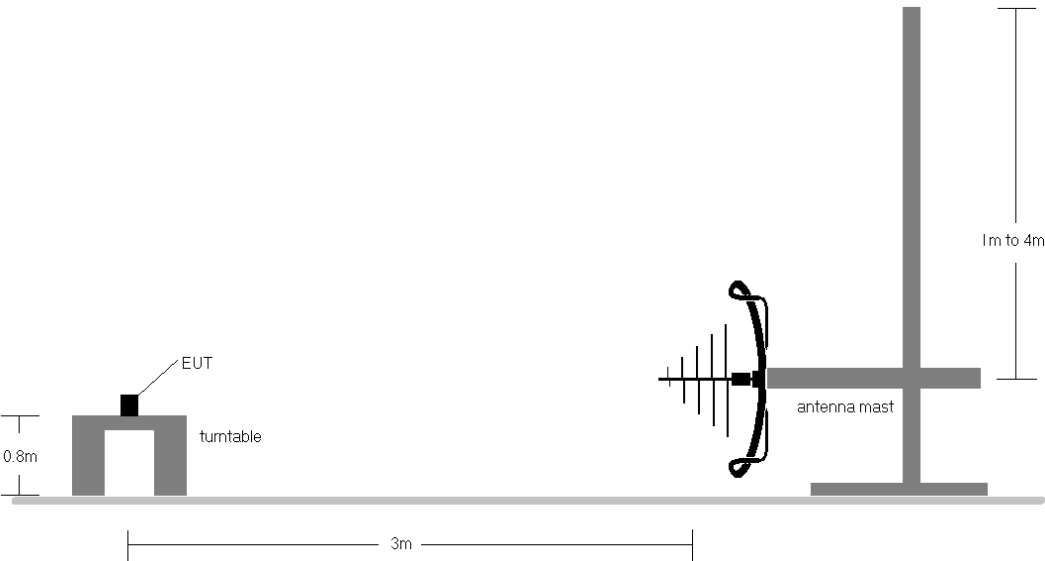


**Figure 7-7. Radiated Test Setup < 1GHz**

|                                         |                                                                                                                                   |                    |                                          |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b> |                    | <b>Approved by:</b><br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                                                              | EUT Type:<br>Watch | Page 50 of 58                            |

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## Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-24.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes. For below 30MHz the loop antenna was positioned in 3 orthogonal planes (X front, Y side, Z top) to determine the orientation resulting in the worst case emissions.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector on emissions that were within 6dB of the limit.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
9. Both configurations below were investigated, and the worst case has been reported.
  - a. EUT powered by AC/DC adaptor via USB-C cable with magnetic charger
  - b. EUT powered by host PC via USB-C cable with magnetic charger
10. All antenna configurations were investigated and only the worst case is reported.

## Sample Calculations

### Determining Spurious Emissions Levels

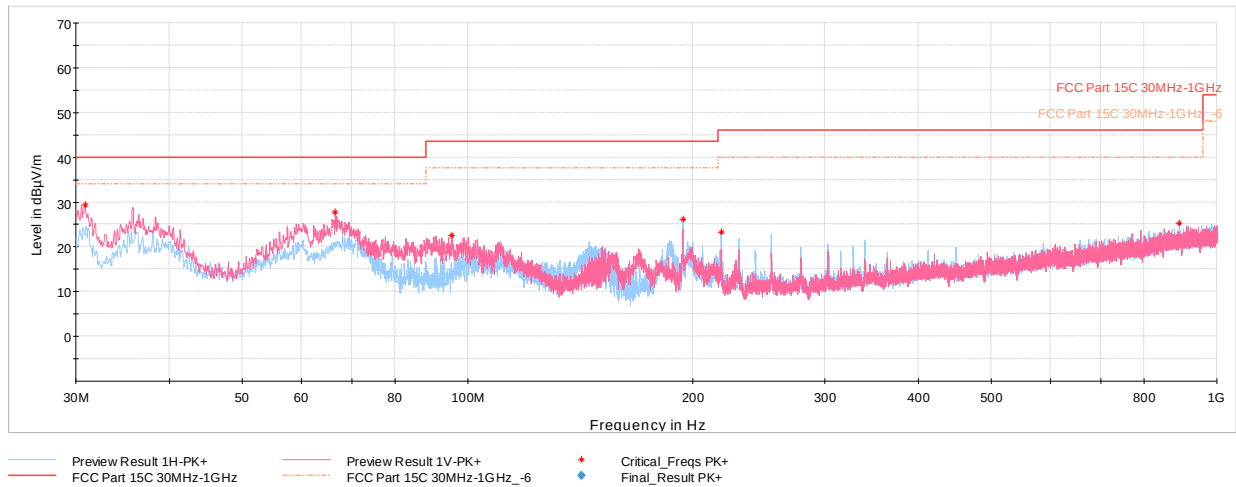
- Field Strength Level  $_{[dB\mu V/m]} = \text{Analyzer Level}_{[dBm]} + 107 + \text{AFCL}_{[dB/m]}$
- $\text{AFCL}_{[dB/m]} = \text{Antenna Factor}_{[dB/m]} + \text{Cable Loss}_{[dB]} - \text{Preamp Gain}_{[dB]}$
- $\text{Margin}_{[dB]} = \text{Field Strength Level}_{[dB\mu V/m]} - \text{Limit}_{[dB\mu V/m]}$

|                                         |                                                                                                                                   |                    |                                          |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b> |                    | <b>Approved by:</b><br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                                                              | EUT Type:<br>Watch | Page 51 of 58                            |

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## 7.7.1 Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



**Plot 7-58. Radiated Spurious Emissions below 1GHz, 802.11n, Ch.165 with AC/DC Adapter & magnetic Charger**

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 30.87           | Max-Peak | V               | 100                 | 63                         | -60.92               | -16.71      | 29.37                   | 40.00          | -10.63      |
| 66.57           | Max-Peak | V               | 100                 | 298                        | -61.33               | -17.97      | 27.70                   | 40.00          | -12.30      |
| 95.28           | Max-Peak | V               | 100                 | 220                        | -66.83               | -17.56      | 22.61                   | 43.52          | -20.91      |
| 193.79          | Max-Peak | H               | 200                 | 149                        | -63.27               | -17.62      | 26.11                   | 43.52          | -17.41      |
| 218.04          | Max-Peak | H               | 100                 | 145                        | -66.36               | -17.34      | 23.30                   | 46.02          | -22.72      |
| 891.51          | Max-Peak | H               | 100                 | 98                         | -77.84               | -3.93       | 25.23                   | 46.02          | -20.79      |

**Table 7-25. Radiated Spurious Emissions below 1GHz, 802.11n, Ch.165 with AC/DC Adapter & magnetic charger**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 52 of 58                     |

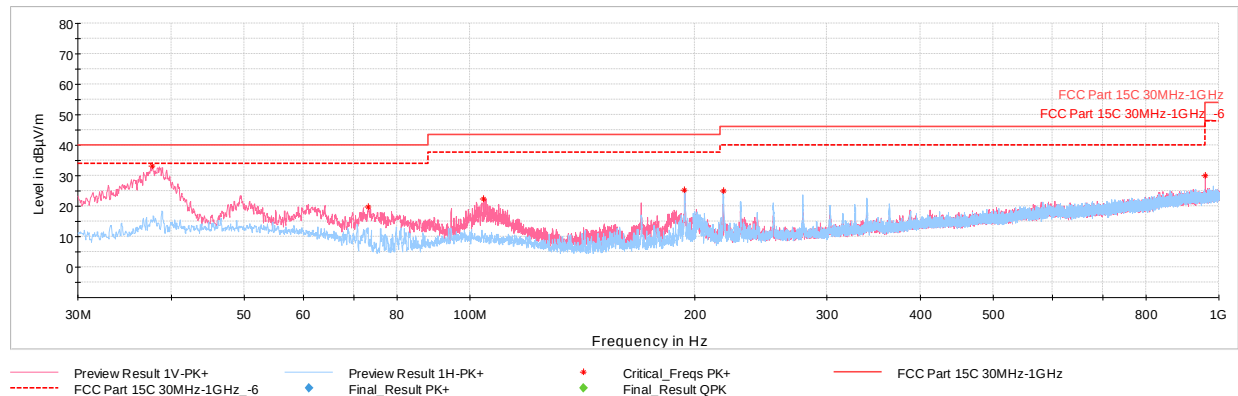
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## 7.7.2 Simultaneous TX Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]

| Description               | Bluetooth | UNII    |
|---------------------------|-----------|---------|
| Antenna                   | FCM       | FCM     |
| Channel                   | 78        | 36      |
| Operating Frequency (MHz) | 2480      | 5180    |
| Mode/Modulation           | GFSK ePA  | 802.11n |

Table 7-26. Worst Case Simultaneous Transmission Configuration



Plot 7-59. Radiated Spurious Emissions – Simultaneous Transmission 30MHz – 1GHz, with AC/DC Adapter & magnetic charger)

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 37.71           | Max-Peak | V               | 100                 | 236                        | -59.50               | -14.43      | 33.07                   | 40.00          | -6.93       |
| 73.26           | Max-Peak | V               | 100                 | 15                         | -67.43               | -19.70      | 19.87                   | 40.00          | -20.13      |
| 104.45          | Max-Peak | V               | 100                 | 140                        | -68.44               | -16.11      | 22.45                   | 43.52          | -21.07      |
| 193.69          | Max-Peak | H               | 100                 | 150                        | -65.43               | -16.37      | 25.20                   | 43.52          | -18.32      |
| 217.99          | Max-Peak | H               | 100                 | 127                        | -65.77               | -16.27      | 24.96                   | 46.02          | -21.06      |
| 960.09          | Max-Peak | V               | 100                 | 201                        | -75.36               | -1.75       | 29.89                   | 53.98          | -24.09      |

Table 7-27. Radiated Spurious Emissions – Simultaneous Transmission 30MHz – 1GHz, with AC/DC Adapter & magnetic charger)

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 53 of 58                     |

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## 7.8 AC Line-Conducted Emissions Measurement

§15.407; RSS-Gen [8.8]

### Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for AC Line conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

***All conducted emissions must not exceed the limits shown in the table below, per Section 15.207 and RSS-Gen (8.8).***

| Frequency of emission (MHz) | Conducted Limit (dBμV) |           |
|-----------------------------|------------------------|-----------|
|                             | Quasi-peak             | Average   |
| 0.15 – 0.5                  | 66 to 56*              | 56 to 46* |
| 0.5 – 5                     | 56                     | 46        |
| 5 – 30                      | 60                     | 50        |

**Table 7-28. Conducted Limits**

\*Decreases with the logarithm of the frequency.

### Test Procedures Used

ANSI C63.10-2020, Section 6.2

### Test Settings

#### Quasi-Peak Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

#### Average Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

|                                         |                                                                                                                                   |                    |                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b> |                    | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                                                              | EUT Type:<br>Watch | Page 54 of 58                     |

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## Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

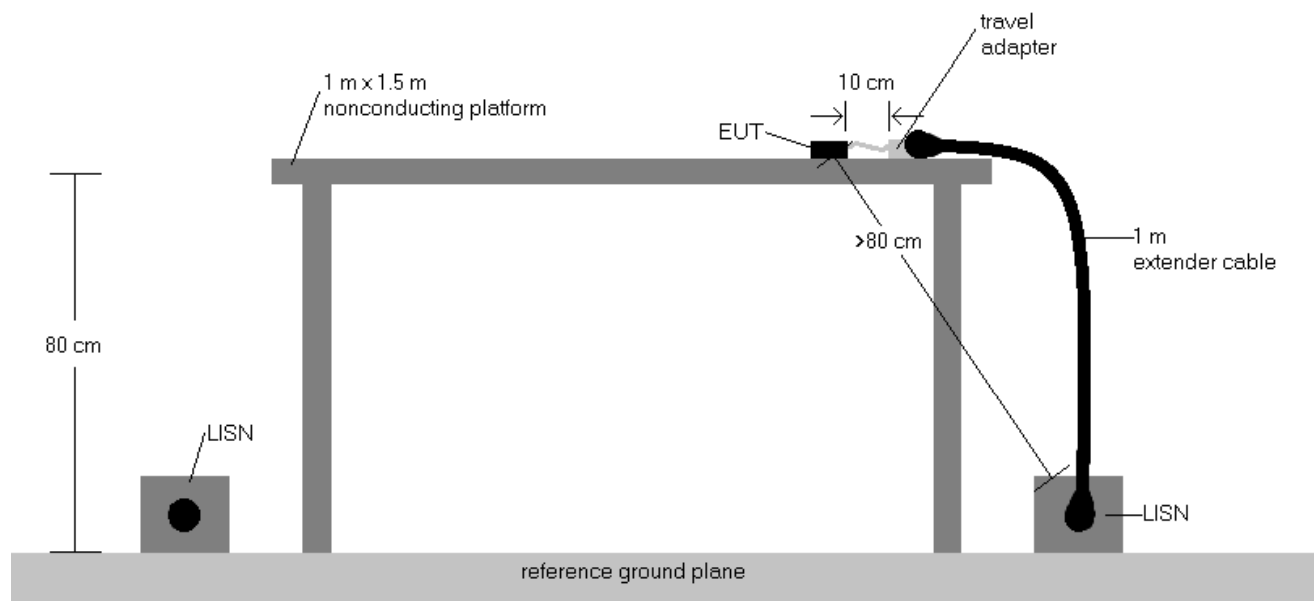


**Figure 7-8. Test Instrument & Measurement Setup**

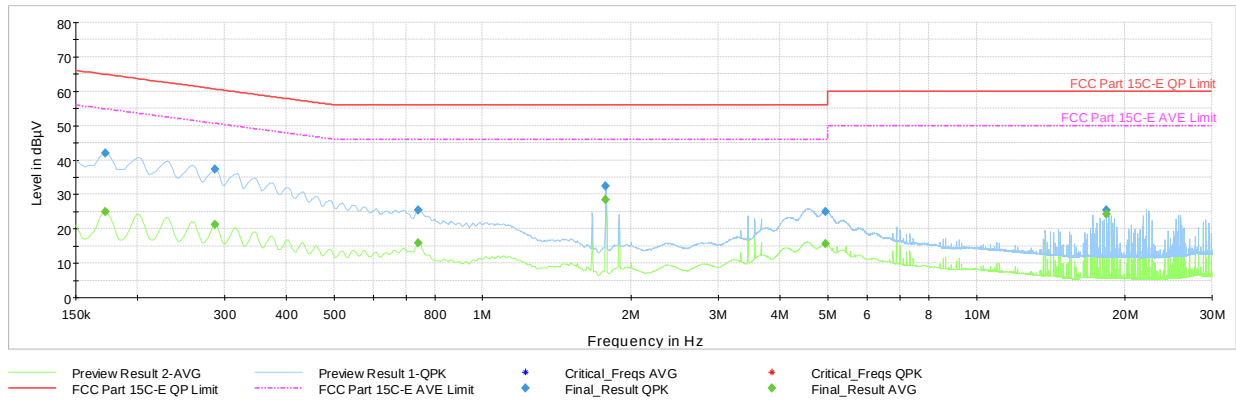
## Test Notes

- All modes of operation were investigated and the worst-case emissions are reported. The emissions found were not affected by the choice of channel used during testing.
- Both configurations below were investigated, and the worst case has been reported.
  - EUT powered by AC/DC adaptor via USB-C cable with magnetic charger
  - EUT powered by host PC via USB-C cable with magnetic charger
- The limit for an intentional radiator from 150kHz to 30MHz are specified in 15.207 and RSS-Gen (8.8).
- $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
- $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Correction Factor (dB)}$
- $\text{Margin (dB)} = \text{QP/AV Level (dB}\mu\text{V)} - \text{QP/AV Limit (dB}\mu\text{V)}$
- Traces shown in plots are made using quasi-peak and average detectors.
- Deviations to the Specifications: None.
- The unit was tested with all possible modes and only the highest emission is reported.

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 55 of 58                     |

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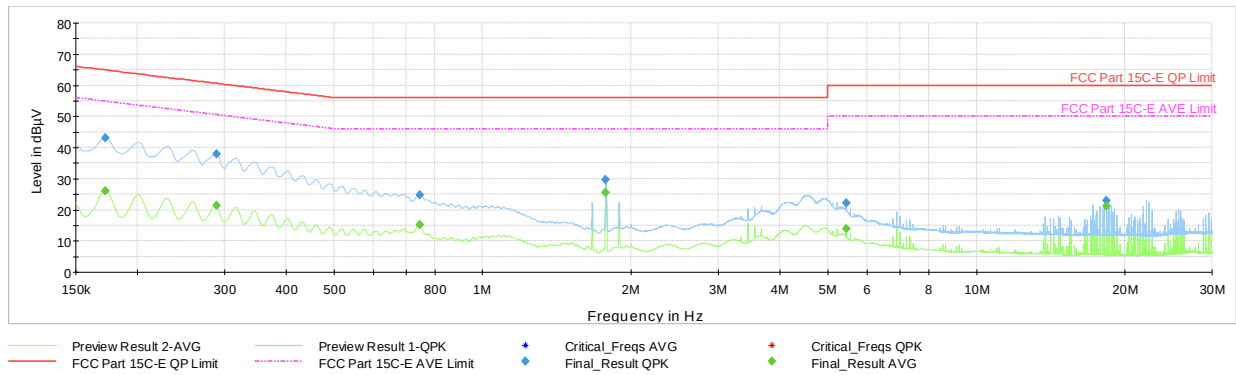
**Plot 7-60. AC Line Conducted Plot with 802.11n Ch.165 (L1), with AC/DC adapter & magnetic charger**

| Frequency [MHz] | Process State | QuasiPeak [dBµV] | Average [dBµV] | Limit [dBµV] | Margin [dB] | Line | PE  |
|-----------------|---------------|------------------|----------------|--------------|-------------|------|-----|
| 0.173           | FINAL         | —                | 24.88          | 54.84        | 29.96       | L1   | GND |
| 0.173           | FINAL         | 42.0             | —              | 64.84        | 22.87       | L1   | GND |
| 0.287           | FINAL         | —                | 21.32          | 50.60        | 29.28       | L1   | GND |
| 0.287           | FINAL         | 37.3             | —              | 60.60        | 23.29       | L1   | GND |
| 0.740           | FINAL         | —                | 15.82          | 46.00        | 30.18       | L1   | GND |
| 0.740           | FINAL         | 25.5             | —              | 56.00        | 30.52       | L1   | GND |
| 1.777           | FINAL         | 32.4             | —              | 56.00        | 23.56       | L1   | GND |
| 1.777           | FINAL         | —                | 28.50          | 46.00        | 17.50       | L1   | GND |
| 4.949           | FINAL         | 25.0             | —              | 56.00        | 30.97       | L1   | GND |
| 4.949           | FINAL         | —                | 15.63          | 46.00        | 30.37       | L1   | GND |
| 18.332          | FINAL         | —                | 24.24          | 50.00        | 25.76       | L1   | GND |
| 18.332          | FINAL         | 25.3             | —              | 60.00        | 34.67       | L1   | GND |

**Table 7-29. AC Line Conducted Data with 802.11n Ch.165 (L1) with AC/DC adapter & magnetic charger**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 56 of 58                     |

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**Plot 7-61. AC Line Conducted Plot with 802.11n Ch.165 (N), with AC/DC adapter & magnetic charger**

| Frequency [MHz] | Process State | QuasiPeak [dBμV] | Average [dBμV] | Limit [dBμV] | Margin [dB] | Line | PE  |
|-----------------|---------------|------------------|----------------|--------------|-------------|------|-----|
| 0.173           | FINAL         | —                | 26.00          | 54.84        | 28.84       | N    | GND |
| 0.173           | FINAL         | 43.0             | —              | 64.84        | 21.86       | N    | GND |
| 0.290           | FINAL         | —                | 21.53          | 50.54        | 29.01       | N    | GND |
| 0.290           | FINAL         | 37.9             | —              | 60.54        | 22.65       | N    | GND |
| 0.746           | FINAL         | —                | 15.16          | 46.00        | 30.84       | N    | GND |
| 0.746           | FINAL         | 24.8             | —              | 56.00        | 31.25       | N    | GND |
| 1.777           | FINAL         | 29.7             | —              | 56.00        | 26.30       | N    | GND |
| 1.777           | FINAL         | —                | 25.63          | 46.00        | 20.37       | N    | GND |
| 5.444           | FINAL         | 22.3             | —              | 60.00        | 37.73       | N    | GND |
| 5.444           | FINAL         | —                | 13.92          | 50.00        | 36.08       | N    | GND |
| 18.332          | FINAL         | —                | 21.17          | 50.00        | 28.83       | N    | GND |
| 18.332          | FINAL         | 22.9             | —              | 60.00        | 37.10       | N    | GND |

**Table 7-30. AC Line Conducted Data Ch.165 (N), with AC/DC adapter & magnetic charger.**

|                                         |                                                                                     |                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| FCC ID: BCG-A2999<br>IC: 579C-A2999     |  | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1C2405230020-09.BCG | Test Dates:<br>6/12/2024 - 7/05/2024                                                | EUT Type:<br>Watch                    | Page 57 of 58                     |

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## 8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Apple Watch** **FCC ID: BCG-A2999** and **IC: 579C-A2999** is in compliance with Part 15 Subpart E (15.407) of the FCC Rules and RSS-247 of the Innovation, Science and Economic Development Canada Rules.

|                                                   |                                                                                                                                   |                           |                                          |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------|
| <b>FCC ID:</b> BCG-A2999<br><b>IC:</b> 579C-A2999 |  <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b> |                           | <b>Approved by:</b><br>Technical Manager |
| <b>Test Report S/N:</b><br>1C2405230020-09.BCG    | <b>Test Dates:</b><br>6/12/2024 - 7/05/2024                                                                                       | <b>EUT Type:</b><br>Watch | Page 58 of 58                            |

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