

# APPENDIX REPORT

|                 |                  |                     |               |
|-----------------|------------------|---------------------|---------------|
| Project No.     | SHT2101044701EW  | Radio Specification | WIFI 2.4G     |
| Test sample No. | YPHT202101447001 | Model No.           | ARC80         |
| Start test date | 2021-01-28       | Finish date         | 2021-01-28    |
| Temperature     | 23.9°C           | Humidity            | 33%           |
| Test Engineer   | Hailey Chen      | Auditor             | Xiaodong Zheo |

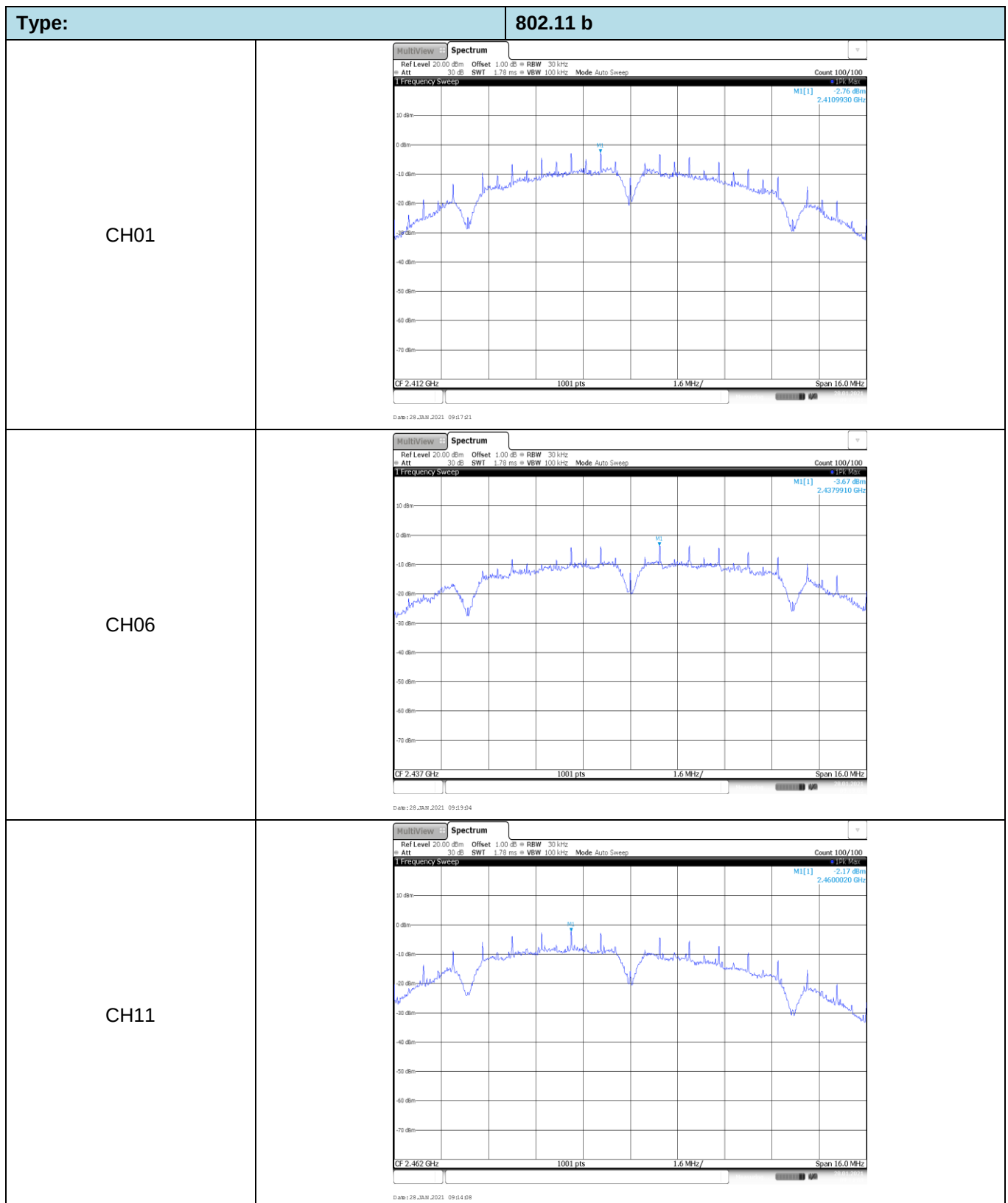
| Appendix clause | Test item                                    | Result |
|-----------------|----------------------------------------------|--------|
| A               | Conducted Peak Output Power                  | PASS   |
| B               | Power Spectral Density                       | PASS   |
| C               | 6 dB Bandwidth                               | PASS   |
| D               | 99% Occupied Bandwidth                       | PASS   |
| E               | Duty Cycle                                   | PASS   |
| F               | Band edge and Spurious Emissions (conducted) | PASS   |

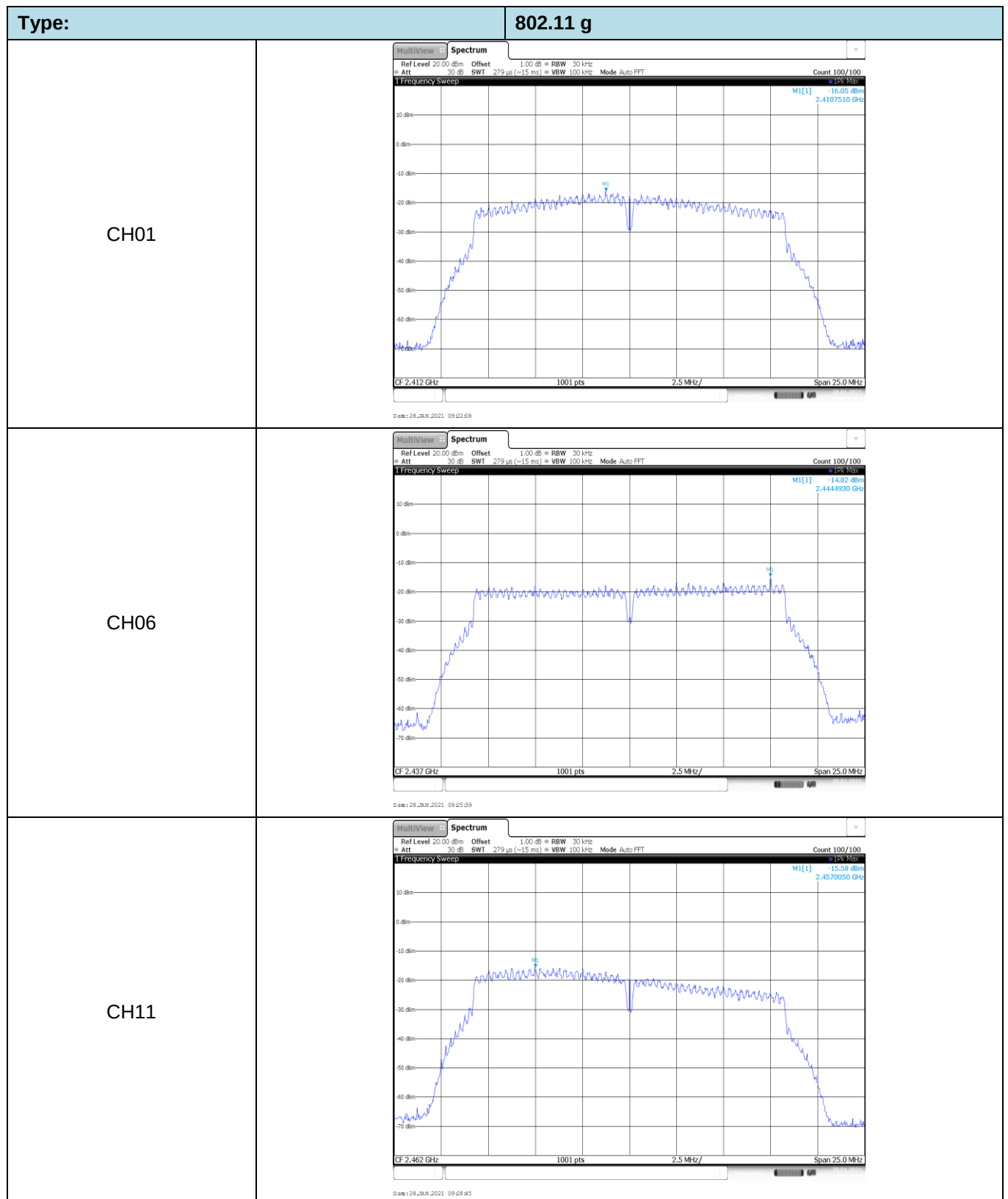
**Appendix A: Conducted Peak Output Power**

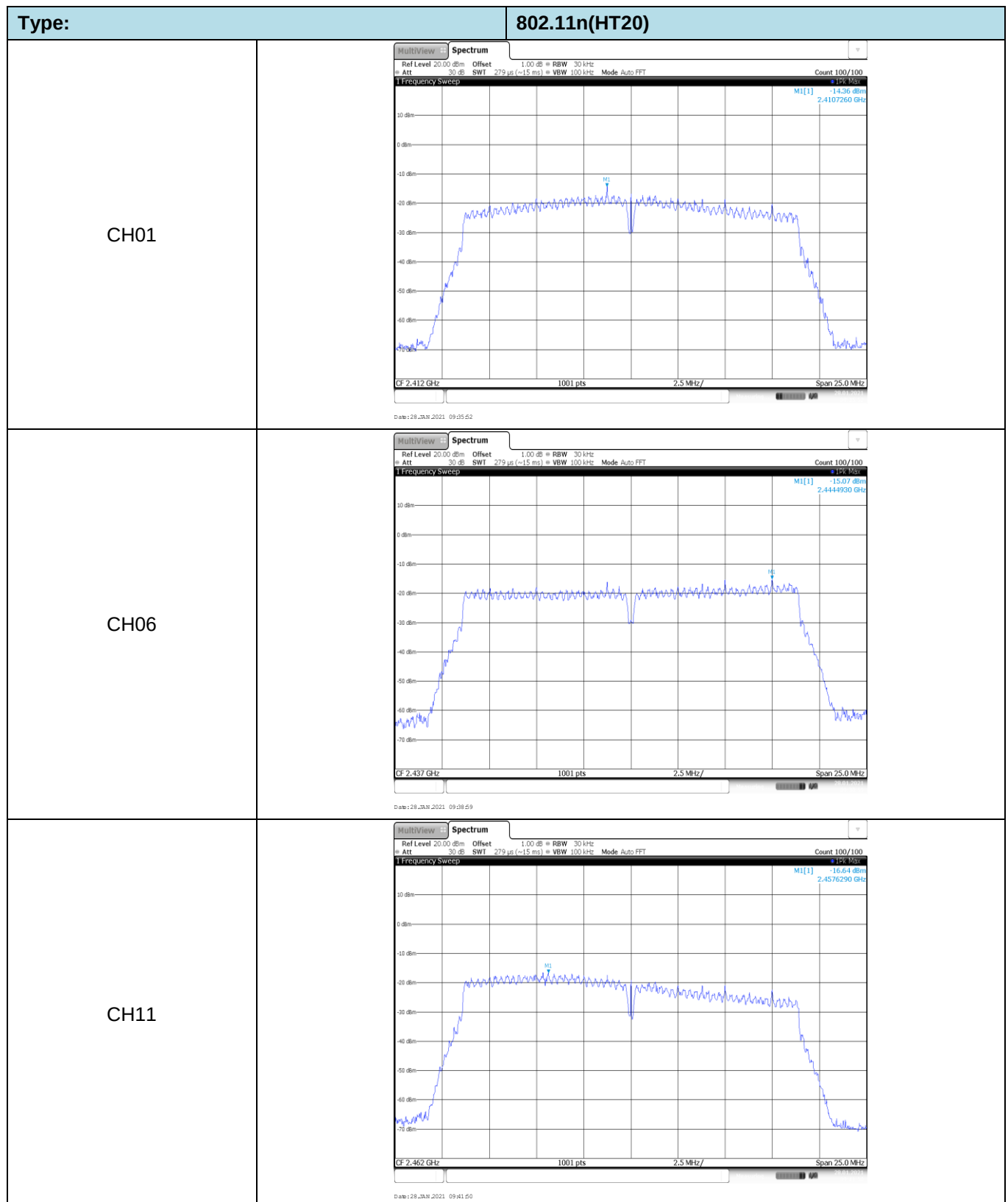
| Type           | Channel | Peak Output power (dBm) | Average Output power (dBm) | Limit (dBm)  | Result |
|----------------|---------|-------------------------|----------------------------|--------------|--------|
| 802.11b        | 01      | 8.01                    | 5.80                       | $\leq 30.00$ | Pass   |
|                | 06      | 8.52                    | 6.13                       |              |        |
|                | 11      | 8.39                    | 5.92                       |              |        |
| 802.11g        | 01      | 8.07                    | 5.58                       | $\leq 30.00$ | Pass   |
|                | 06      | 8.75                    | 6.45                       |              |        |
|                | 11      | 8.17                    | 5.66                       |              |        |
| 802.11n (HT20) | 01      | 8.07                    | 5.59                       | $\leq 30.00$ | Pass   |
|                | 06      | 8.62                    | 6.02                       |              |        |
|                | 11      | 8.09                    | 5.47                       |              |        |
| 802.11n(HT40)  | 03      | 8.15                    | 5.69                       | $\leq 30.00$ | Pass   |
|                | 06      | 8.49                    | 6.17                       |              |        |
|                | 09      | 8.21                    | 5.78                       |              |        |

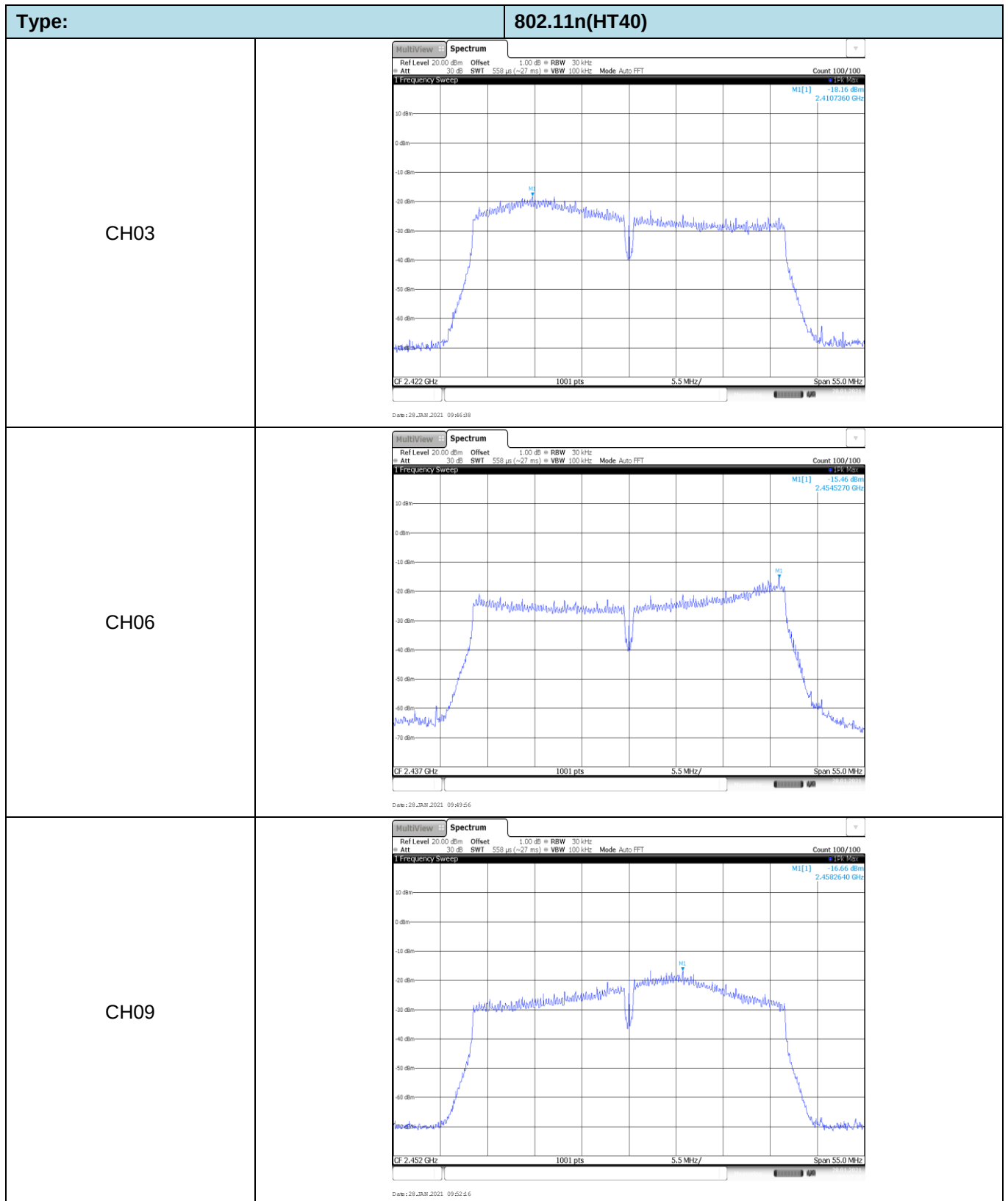
**Appendix B: Power Spectral Density**

| Type          | Channel | Power Spectral Density (dBm/30KHz) | Limit (dBm/3KHz) | Result |
|---------------|---------|------------------------------------|------------------|--------|
| 802.11b       | 01      | -2.76                              | ≤8.00            | Pass   |
|               | 06      | -3.67                              |                  |        |
|               | 11      | -2.17                              |                  |        |
| 802.11g       | 01      | -16.05                             | ≤8.00            | Pass   |
|               | 06      | -14.82                             |                  |        |
|               | 11      | -15.58                             |                  |        |
| 802.11n(HT20) | 01      | -14.36                             | ≤8.00            | Pass   |
|               | 06      | -15.07                             |                  |        |
|               | 11      | -16.64                             |                  |        |
| 802.11n(HT40) | 03      | -18.16                             | ≤8.00            | Pass   |
|               | 06      | -15.46                             |                  |        |
|               | 09      | -16.66                             |                  |        |



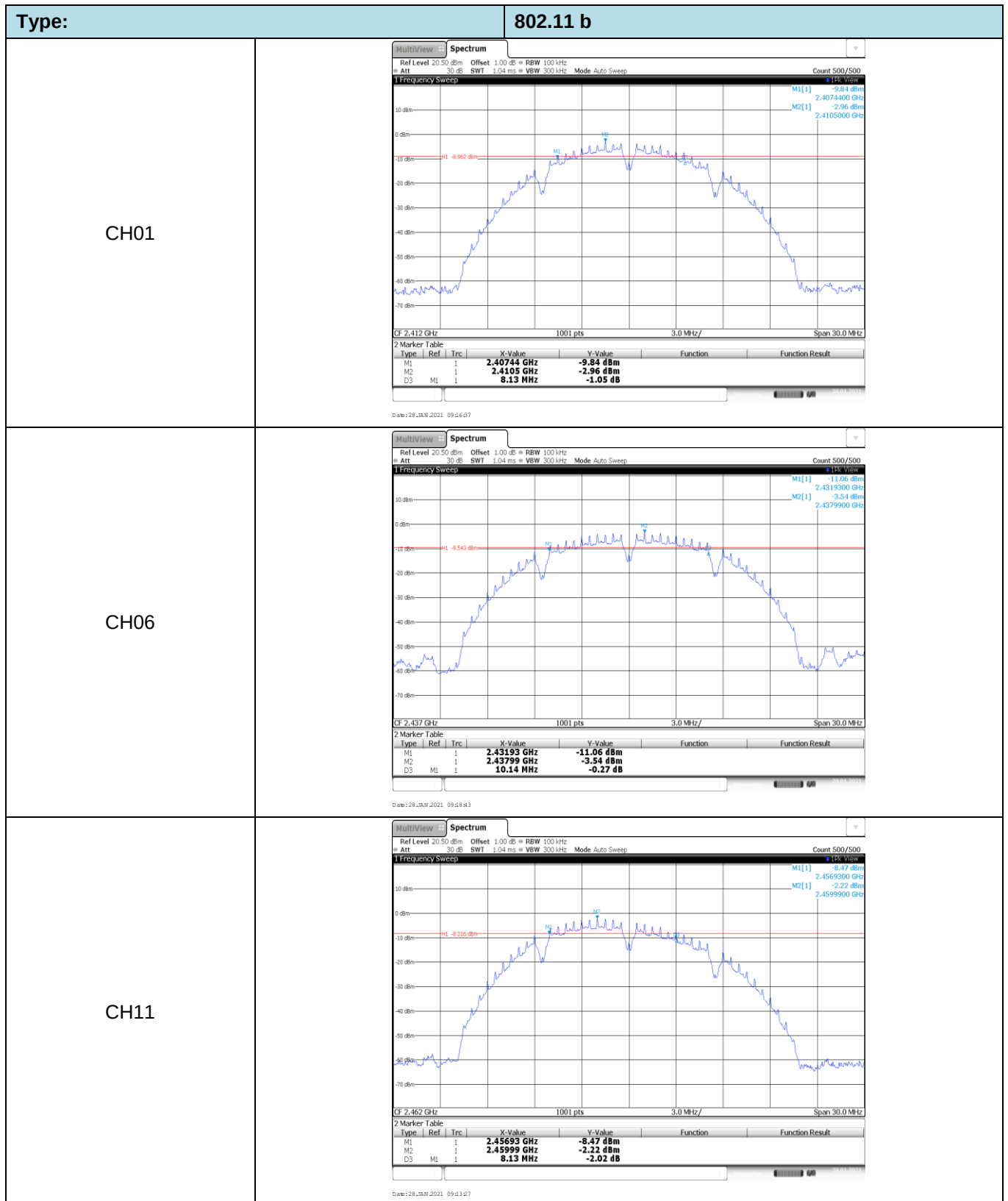


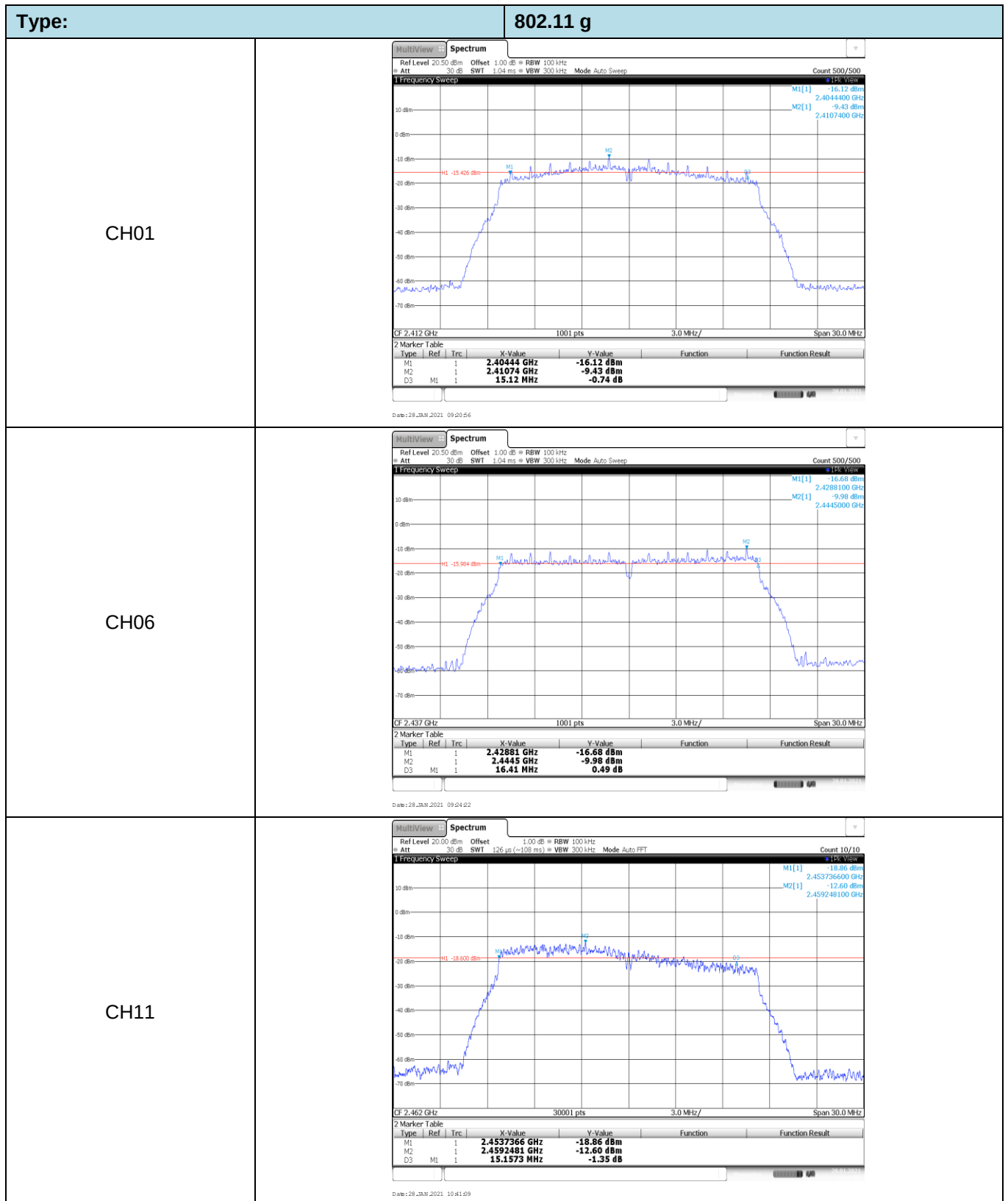


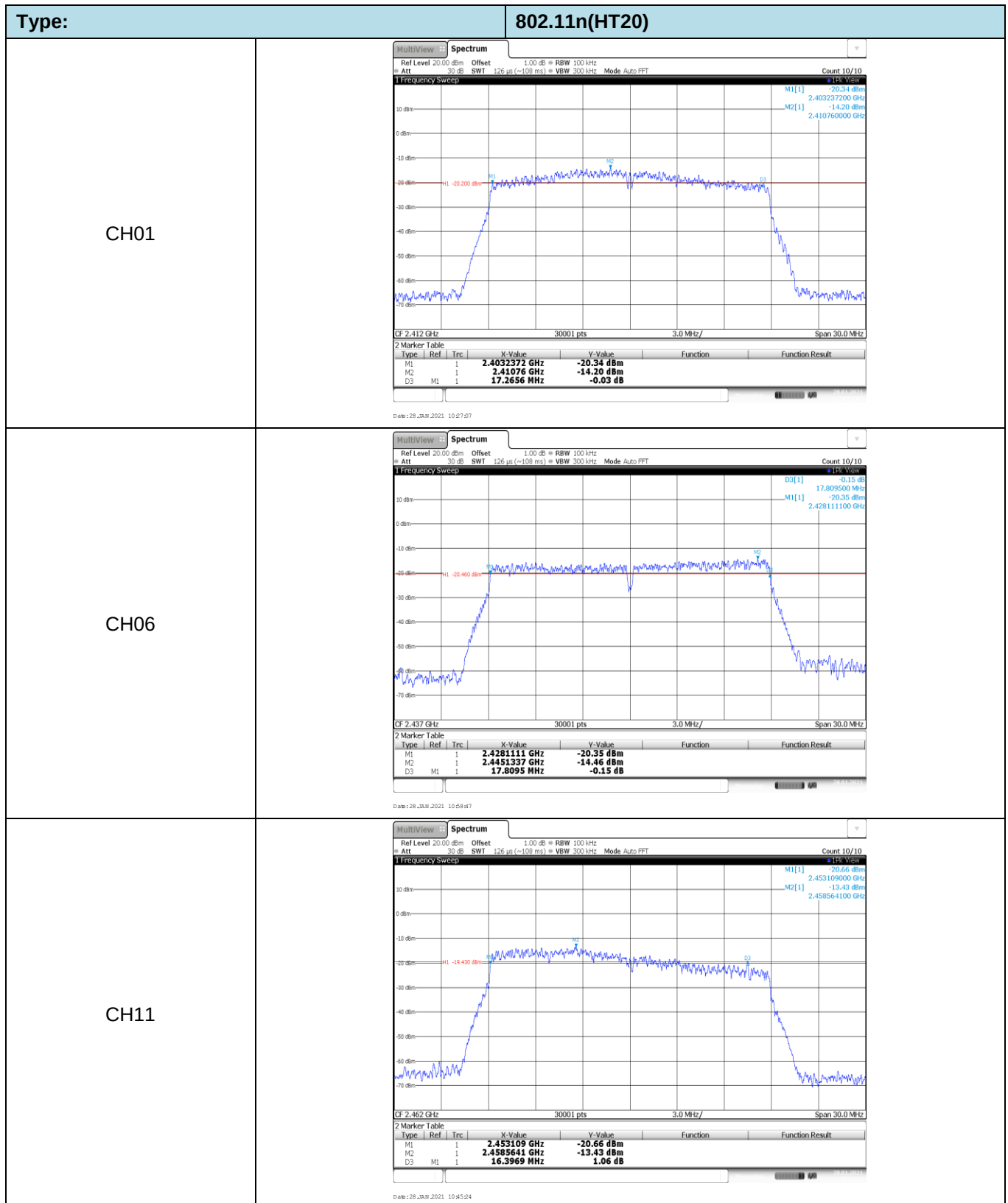


**Appendix C: 6dB bandwidth**

| Type          | Channel | 6dB Bandwidth (MHz) | Limit (MHz) | Result |
|---------------|---------|---------------------|-------------|--------|
| 802.11b       | 01      | 8.13                | ≥0.5        | Pass   |
|               | 06      | 10.14               |             |        |
|               | 11      | 8.13                |             |        |
| 802.11g       | 01      | 15.12               | ≥0.5        | Pass   |
|               | 06      | 16.41               |             |        |
|               | 11      | 15.16               |             |        |
| 802.11n(HT20) | 01      | 17.27               | ≥0.5        | Pass   |
|               | 06      | 17.81               |             |        |
|               | 11      | 16.40               |             |        |
| 802.11n(HT40) | 03      | 35.01               | ≥0.5        | Pass   |
|               | 06      | 35.80               |             |        |
|               | 09      | 30.05               |             |        |



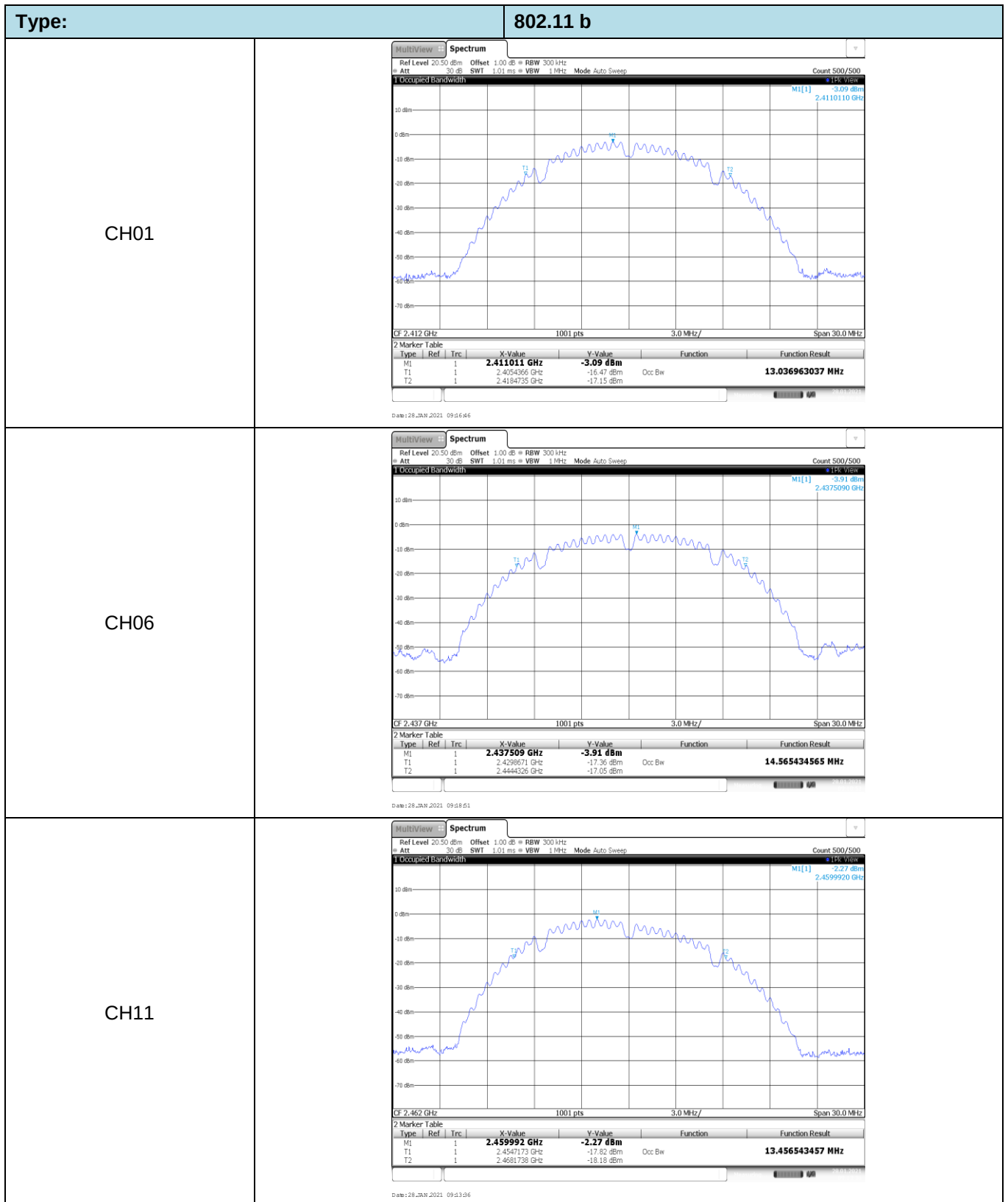


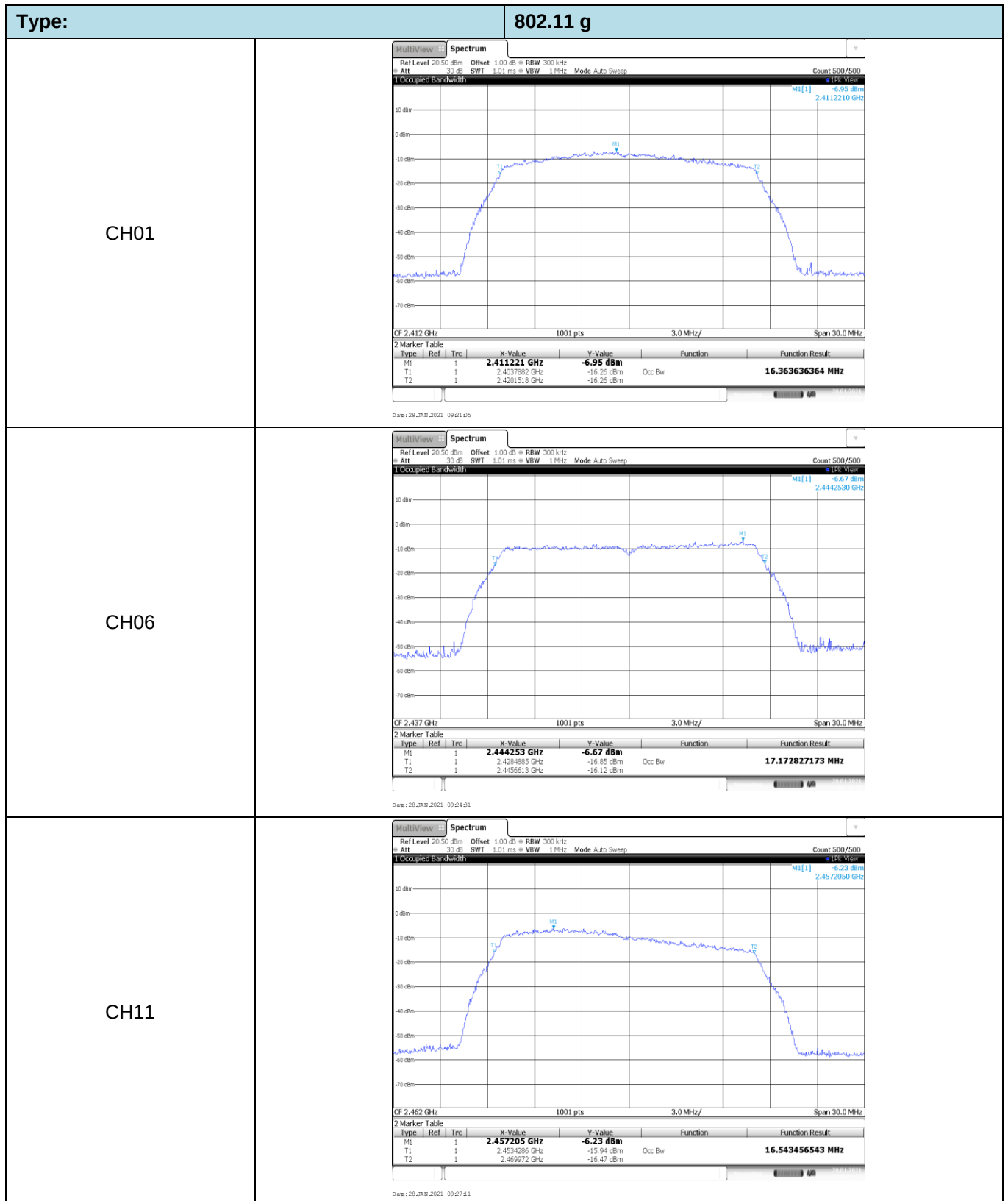


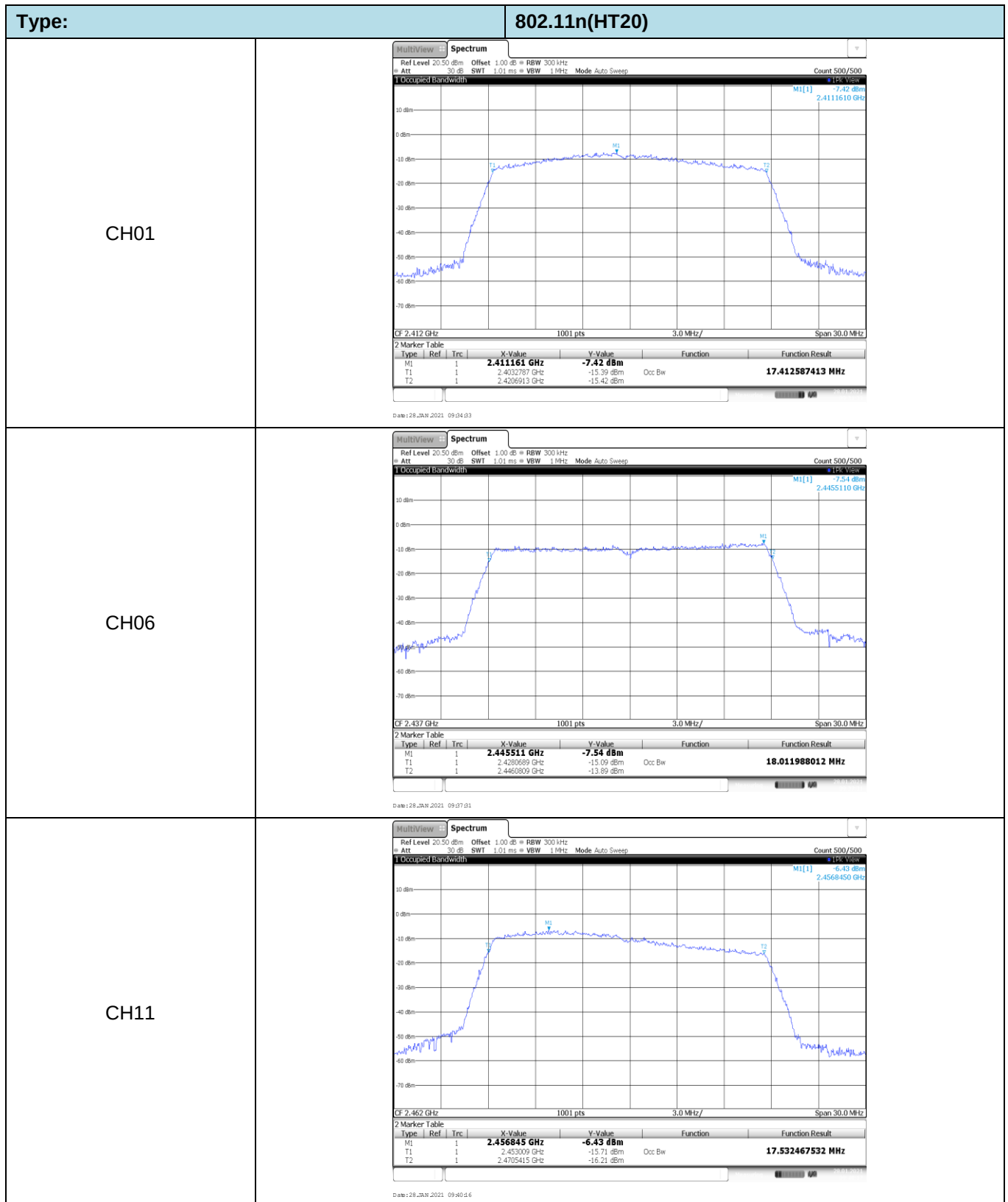
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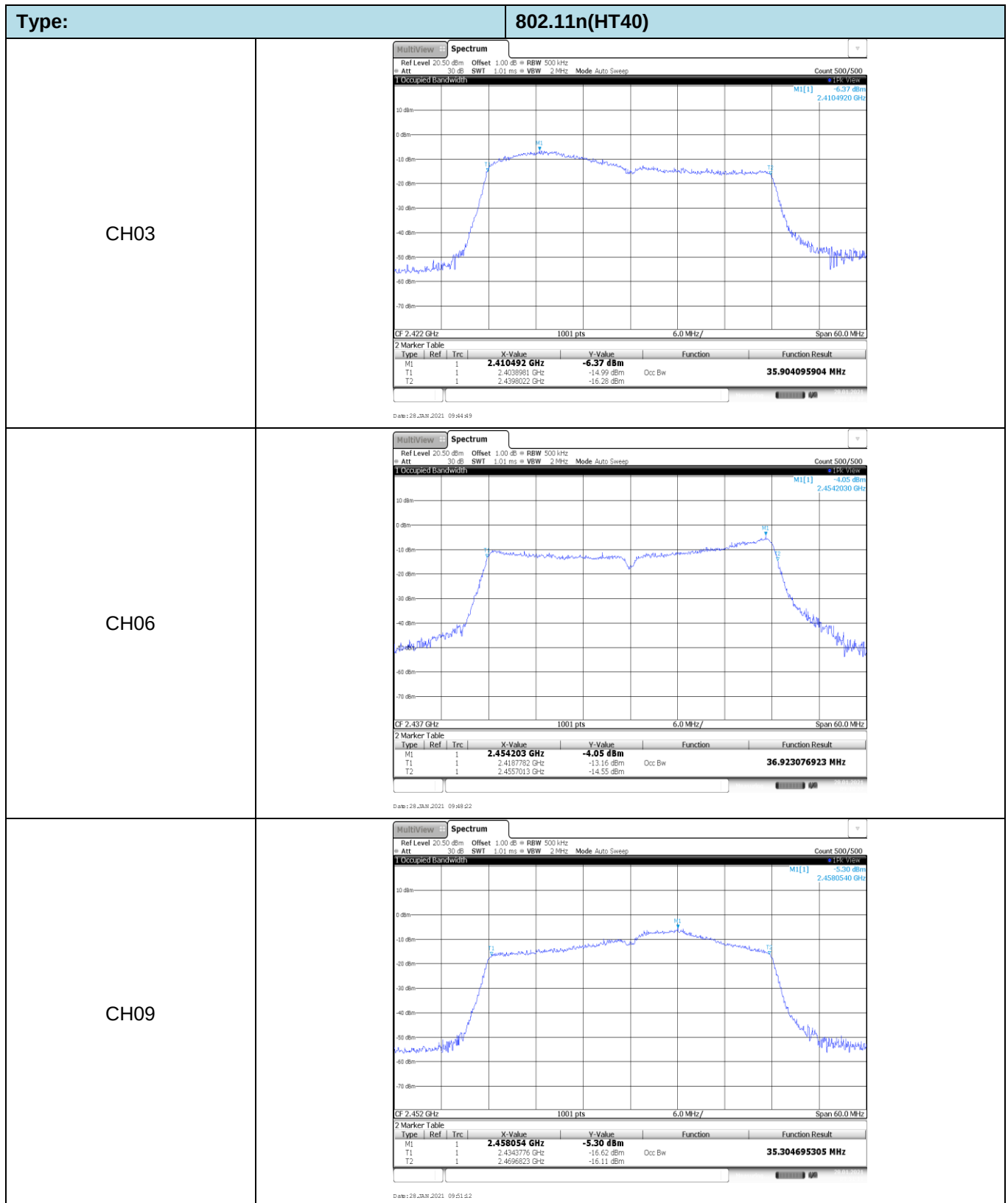
**Appendix D: 99% Occupied Bandwidth**

| Type          | Channel | 99% Bandwidth (MHz) | Limit (kHz) | Result |
|---------------|---------|---------------------|-------------|--------|
| 802.11b       | 01      | 13.04               | -           | Pass   |
|               | 06      | 14.57               |             |        |
|               | 11      | 13.46               |             |        |
| 802.11g       | 01      | 16.36               | -           | Pass   |
|               | 06      | 17.17               |             |        |
|               | 11      | 16.54               |             |        |
| 802.11n(HT20) | 01      | 17.41               | -           | Pass   |
|               | 06      | 18.01               |             |        |
|               | 11      | 17.53               |             |        |
| 802.11n(HT40) | 03      | 35.90               | -           | Pass   |
|               | 06      | 36.92               |             |        |
|               | 09      | 35.30               |             |        |





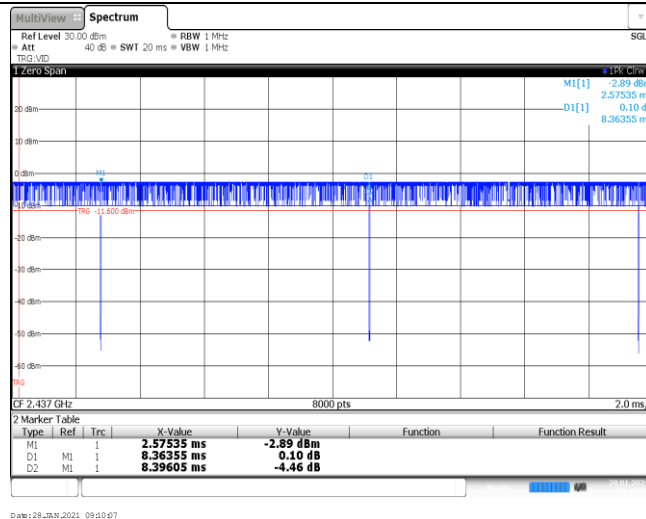




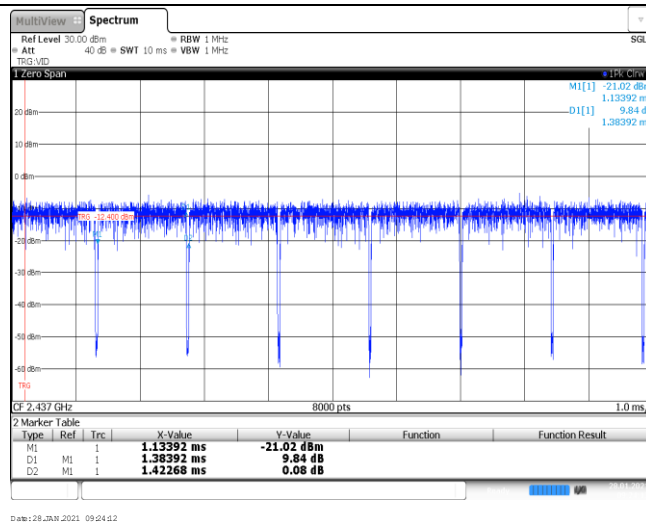
**Appendix E: Duty Cycle**

| Modulation Type | Test Frequency (MHz) | T <sub>on time</sub> for single burst (ms) | T <sub>period</sub> (ms) | Duty cycle | 1/T <sub>on time</sub> (kHz) |
|-----------------|----------------------|--------------------------------------------|--------------------------|------------|------------------------------|
| 11b             | 2437                 | 8.36                                       | 8.40                     | 99.5%      | 0.1                          |
| 11g             | 2437                 | 1.38                                       | 1.42                     | 97.2%      | 0.7                          |
| 11n20           | 2437                 | 1.29                                       | 1.33                     | 97.0%      | 0.8                          |
| 11n40           | 2437                 | 0.64                                       | 0.68                     | 94.1%      | 1.6                          |

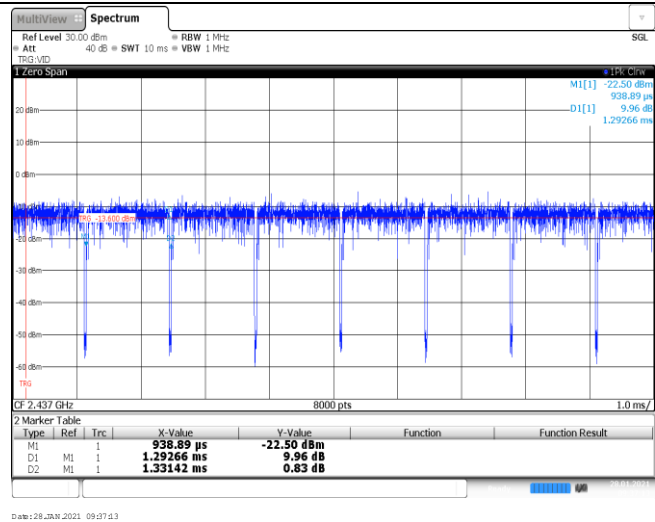
11b



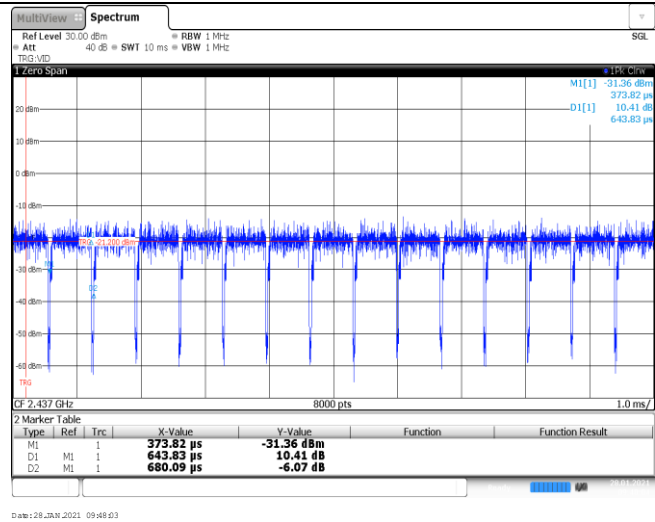
11g



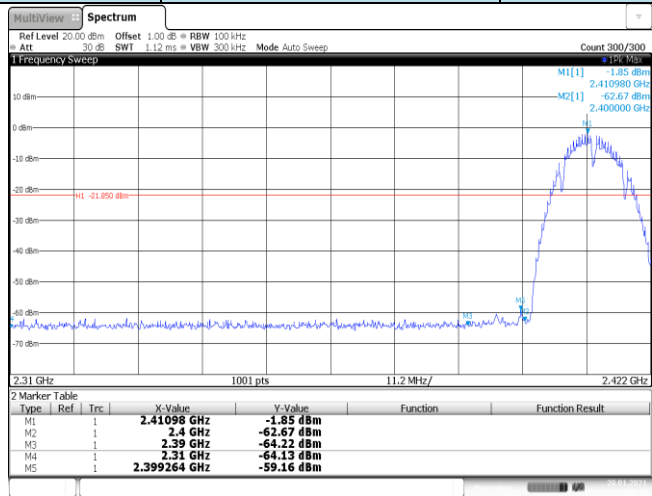
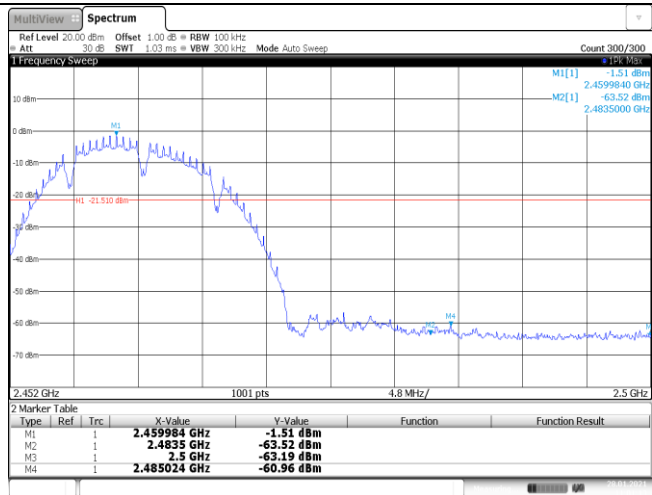
11n20

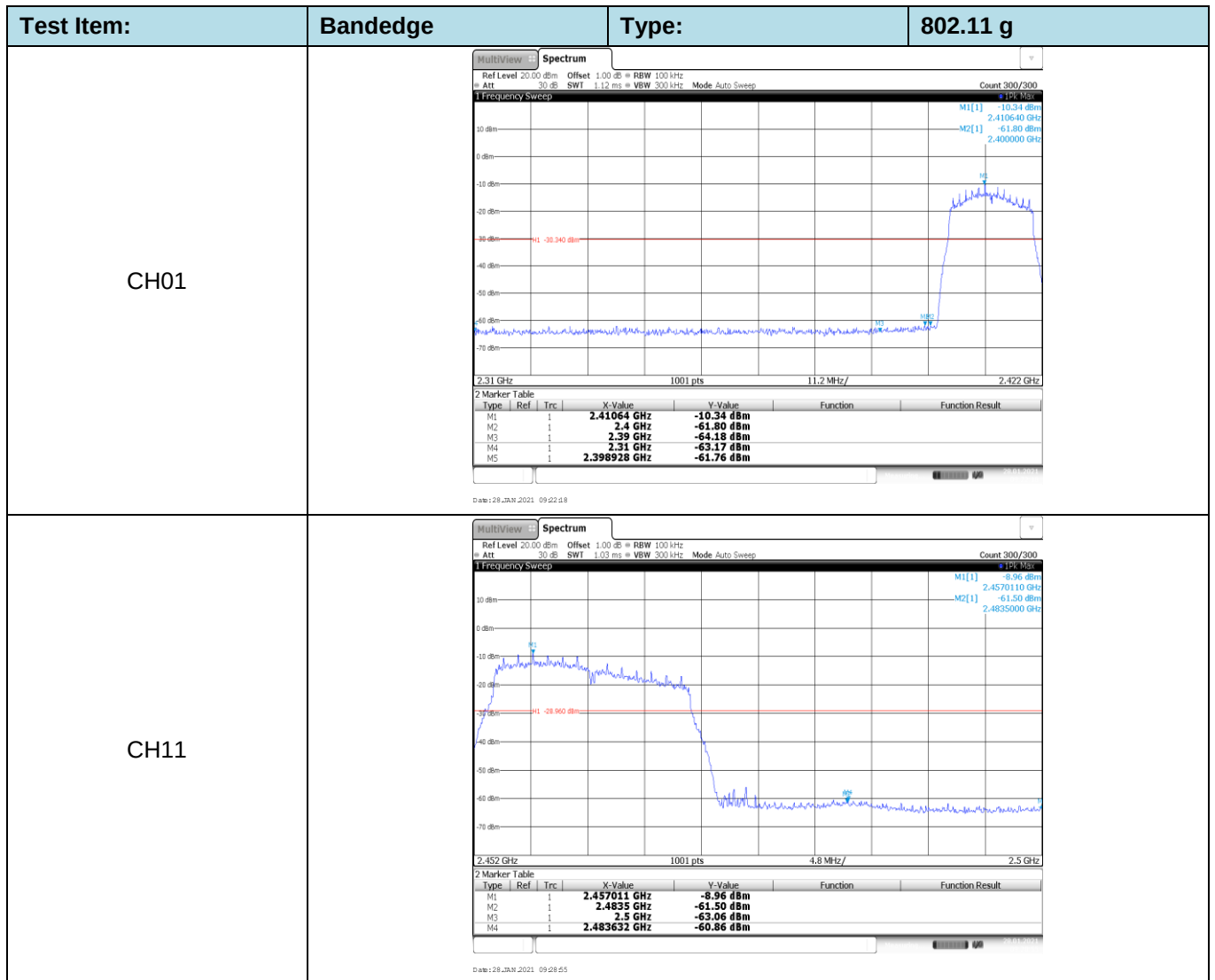


11n40



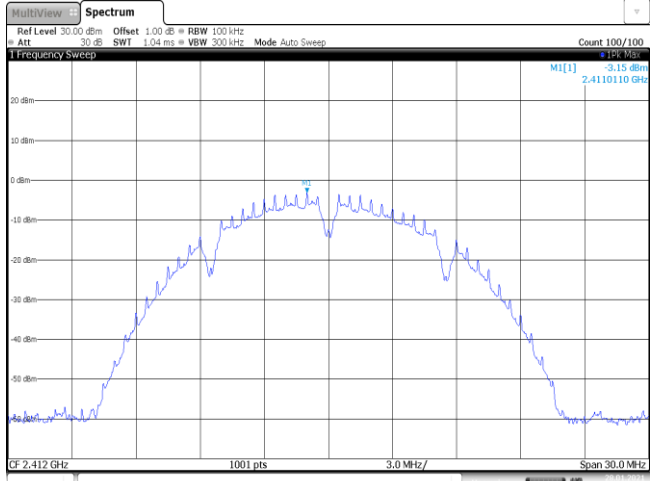
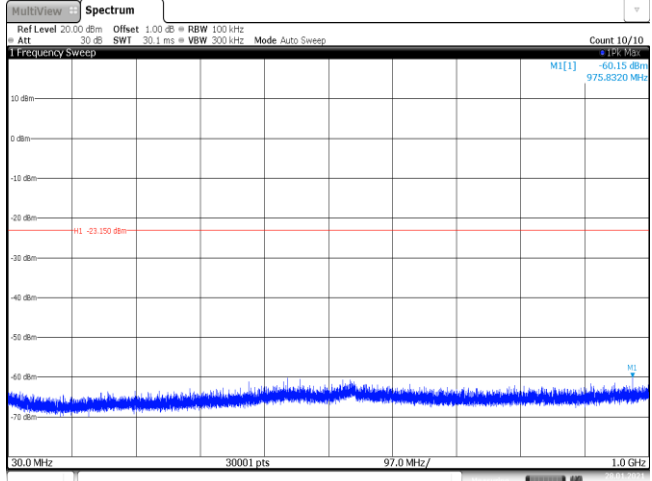
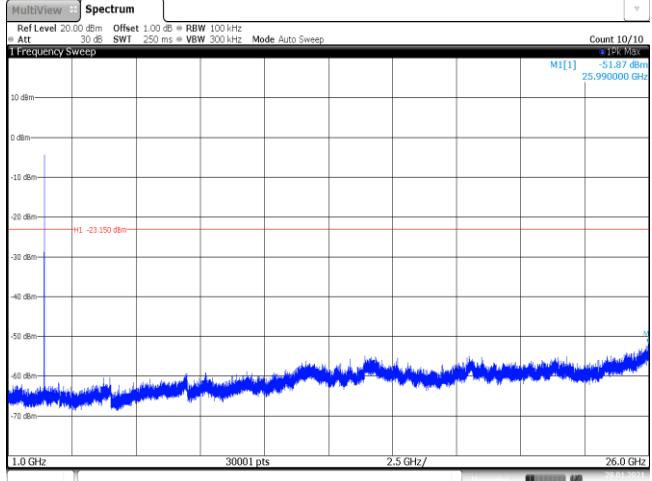
## Appendix F: Band edge and Spurious Emissions (conducted)

| Test Item: | Bandedge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Type: | 802.11 b     |            |          |                 |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------|------------|----------|-----------------|---------|---------|----------|-----------------|----|---|--|--------------|-----------|--|--|----|---|--|------------|------------|--|--|----|---|--|----------|------------|--|--|----|---|--|--------------|------------|--|--|----|---|--|--------------|------------|--|--|
| CH01       | <div><div>MultViewSpectrum</div><div>Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Count 300/300<br/>ATT 30 dB SWI 1.12 ms VBW 300 kHz Mode Auto Sweep</div><div>1 Frequency Sweep</div><div><table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>2.41098 GHz</td><td>-1.85 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-62.67 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-64.22 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.13 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399264 GHz</td><td>-59.16 dBm</td><td></td><td></td></tr></table></div><div>Date: 28 JAN 2021 11:00:48</div></div> |       |              | Type       | Ref      | Trc             | X-Value | Y-Value | Function | Function Result | M1 | 1 |  | 2.41098 GHz  | -1.85 dBm |  |  | M2 | 1 |  | 2.4 GHz    | -62.67 dBm |  |  | M3 | 1 |  | 2.39 GHz | -64.22 dBm |  |  | M4 | 1 |  | 2.31 GHz     | -64.13 dBm |  |  | M5 | 1 |  | 2.399264 GHz | -59.16 dBm |  |  |
| Type       | Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Trc   | X-Value      | Y-Value    | Function | Function Result |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
| M1         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 2.41098 GHz  | -1.85 dBm  |          |                 |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
| M2         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 2.4 GHz      | -62.67 dBm |          |                 |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
| M3         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 2.39 GHz     | -64.22 dBm |          |                 |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
| M4         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 2.31 GHz     | -64.13 dBm |          |                 |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
| M5         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 2.399264 GHz | -59.16 dBm |          |                 |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
| CH11       | <div><div>MultViewSpectrum</div><div>Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Count 300/300<br/>ATT 30 dB SWI 1.03 ms VBW 300 kHz Mode Auto Sweep</div><div>1 Frequency Sweep</div><div><table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>2.459984 GHz</td><td>-1.51 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-63.52 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-63.19 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.485024 GHz</td><td>-60.96 dBm</td><td></td><td></td></tr></table></div><div>Date: 28 JAN 2021 11:01:13</div></div>                                                                                          |       |              | Type       | Ref      | Trc             | X-Value | Y-Value | Function | Function Result | M1 | 1 |  | 2.459984 GHz | -1.51 dBm |  |  | M2 | 1 |  | 2.4835 GHz | -63.52 dBm |  |  | M3 | 1 |  | 2.5 GHz  | -63.19 dBm |  |  | M4 | 1 |  | 2.485024 GHz | -60.96 dBm |  |  |    |   |  |              |            |  |  |
| Type       | Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Trc   | X-Value      | Y-Value    | Function | Function Result |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
| M1         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 2.459984 GHz | -1.51 dBm  |          |                 |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
| M2         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 2.4835 GHz   | -63.52 dBm |          |                 |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
| M3         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 2.5 GHz      | -63.19 dBm |          |                 |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |
| M4         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 2.485024 GHz | -60.96 dBm |          |                 |         |         |          |                 |    |   |  |              |           |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |              |            |  |  |    |   |  |              |            |  |  |

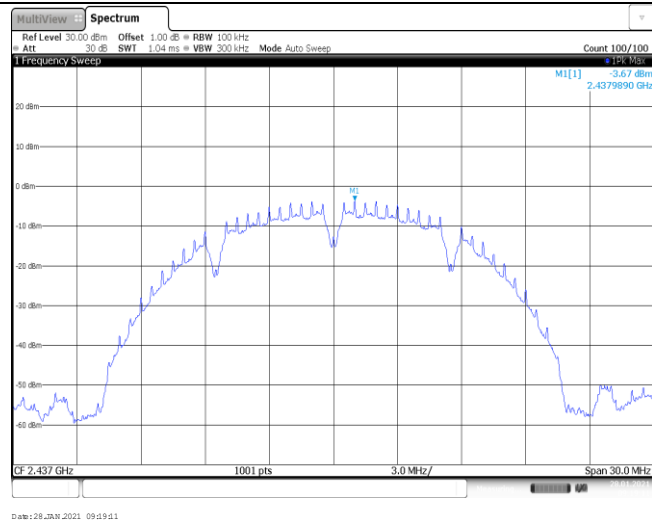




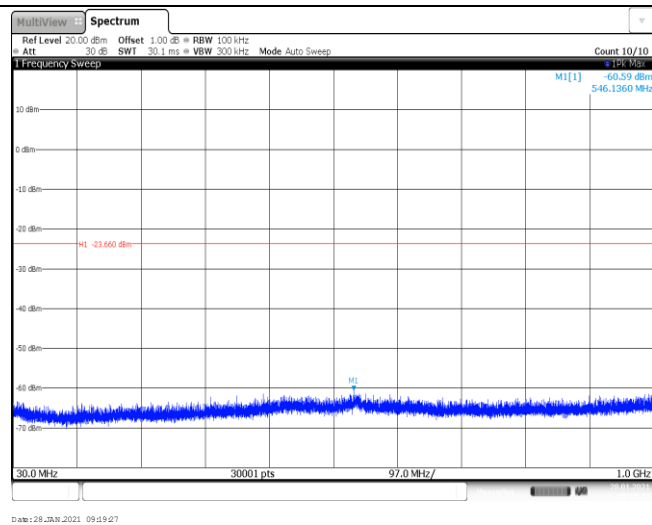
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| Test Item:              | SE | Type:                                                                                                                                                                                                                                                                                                                                                                                                                                        | 802.11b |
|-------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| CH01<br>Reference level |    |  <p>Ref Level 30.00 dBm Offset 1.00 dB BW 100 kHz<br/>Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep<br/>Count 100/100<br/>MI[1] 3.15 dBm 2.410110 GHz<br/>20 dBm<br/>10 dBm<br/>0 dBm<br/>-10 dBm<br/>-20 dBm<br/>-30 dBm<br/>-40 dBm<br/>-50 dBm<br/>-60 dBm<br/>CF 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz<br/>Date: 28_JAN 2021 09:17:38</p>      |         |
| CH01<br>30MHz~1000MHz   |    |  <p>Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz<br/>Att 30 dB SWI 30.1 ms VBW 300 kHz Mode Auto Sweep<br/>Count 10/10<br/>MI[1] -60.15 dBm 975.8320 MHz<br/>20 dBm<br/>10 dBm<br/>0 dBm<br/>-10 dBm<br/>-20 dBm<br/>-30 dBm<br/>-40 dBm<br/>-50 dBm<br/>-60 dBm<br/>-70 dBm<br/>30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz<br/>Date: 28_JAN 2021 09:17:54</p> |         |
| CH01<br>1GHz~26GHz      |    |  <p>Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz<br/>Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep<br/>Count 10/10<br/>MI[1] -51.87 dBm 25.990000 GHz<br/>20 dBm<br/>10 dBm<br/>0 dBm<br/>-10 dBm<br/>-20 dBm<br/>-30 dBm<br/>-40 dBm<br/>-50 dBm<br/>-60 dBm<br/>-70 dBm<br/>1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz<br/>Date: 28_JAN 2021 09:18:11</p> |         |

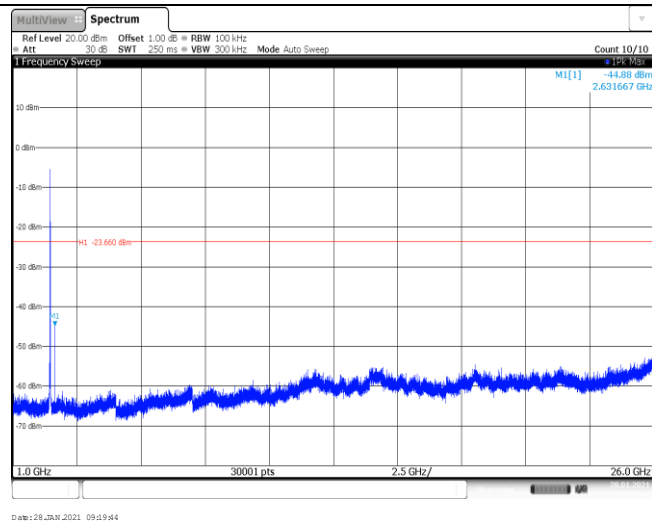
CH06  
Reference level



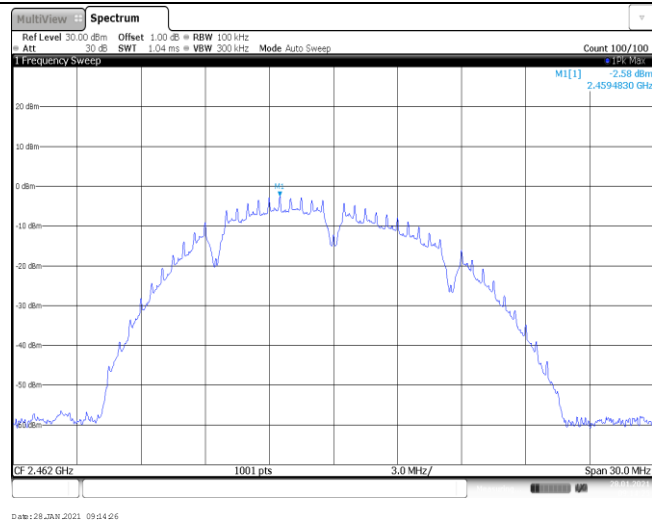
CH06  
30MHz~1000MHz



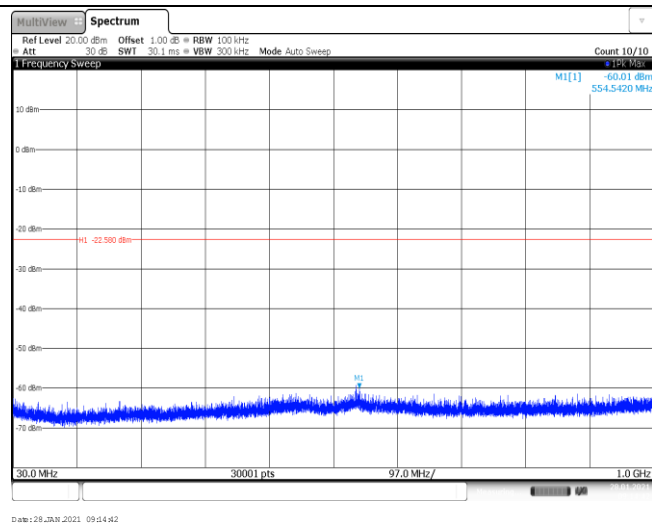
CH06  
1GHz~26GHz



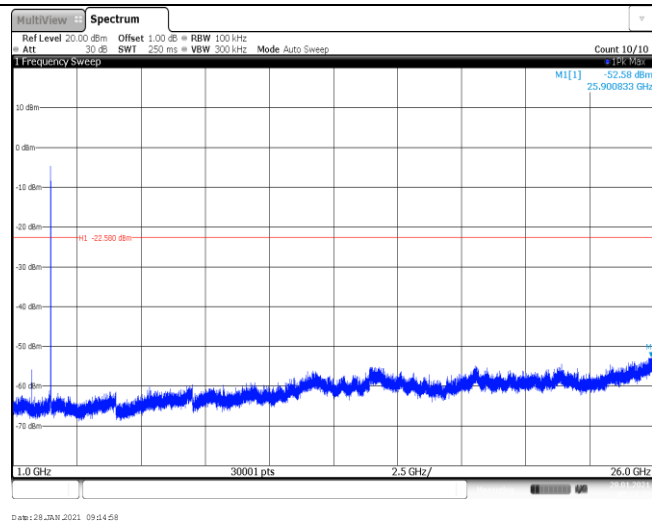
CH11  
Reference level

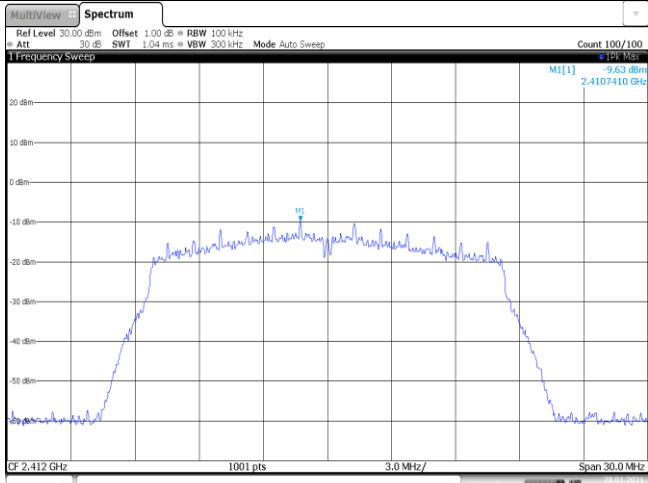
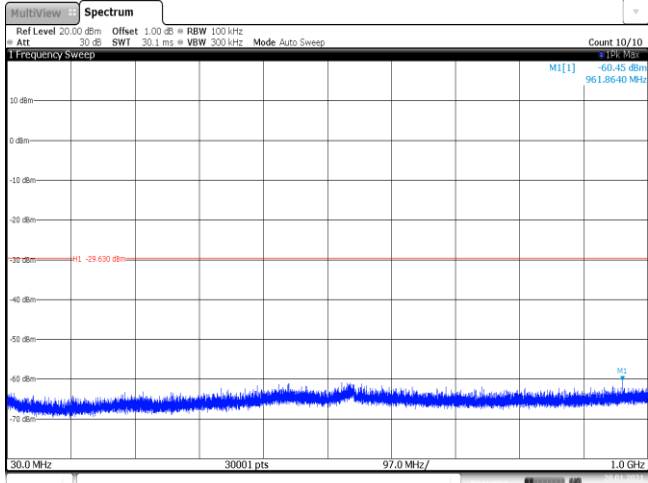
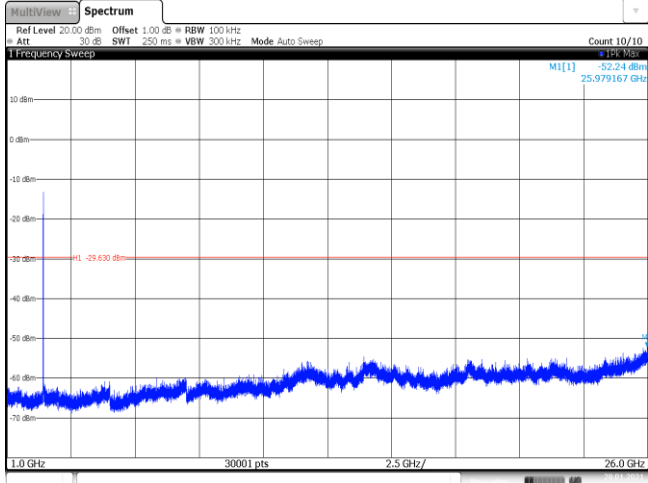


CH11  
30MHz~1000MHz

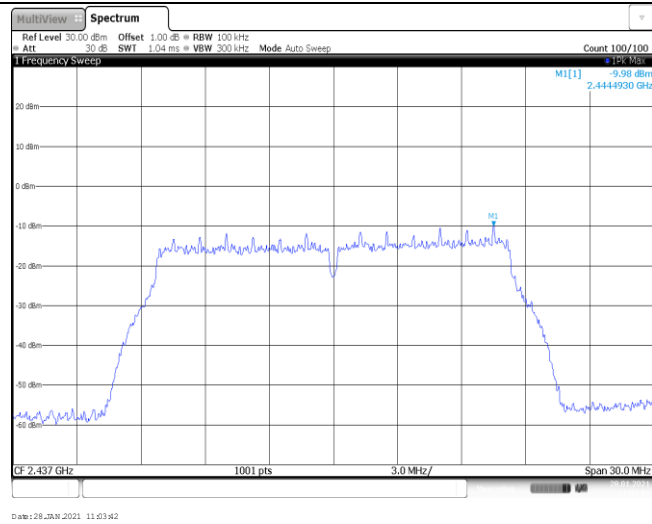


CH11  
1GHz~26GHz

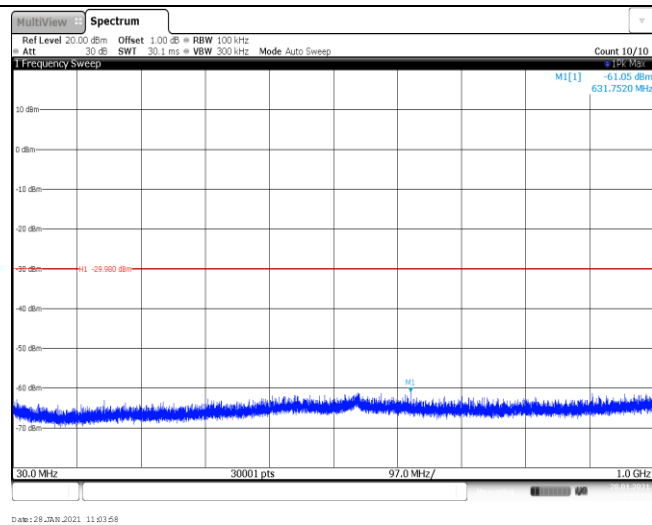


| Test Item:              | SE | Type:                                                                                | 802.11g |
|-------------------------|----|--------------------------------------------------------------------------------------|---------|
| CH01<br>Reference level |    |    |         |
| CH01<br>30MHz~1000MHz   |    |   |         |
| CH01<br>1GHz~26GHz      |    |  |         |

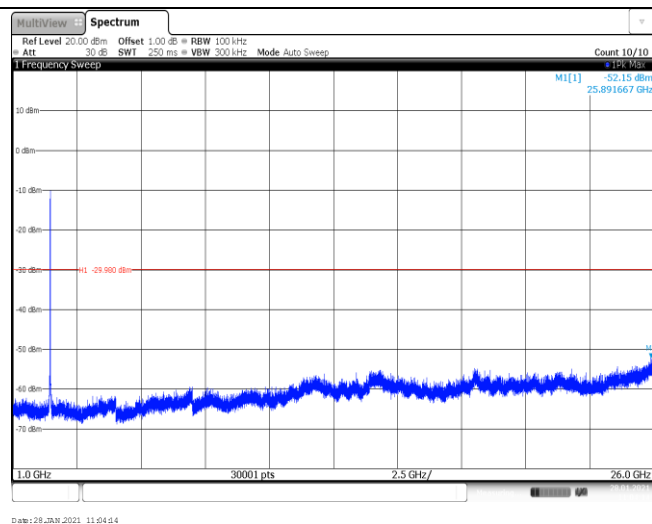
CH06  
Reference level



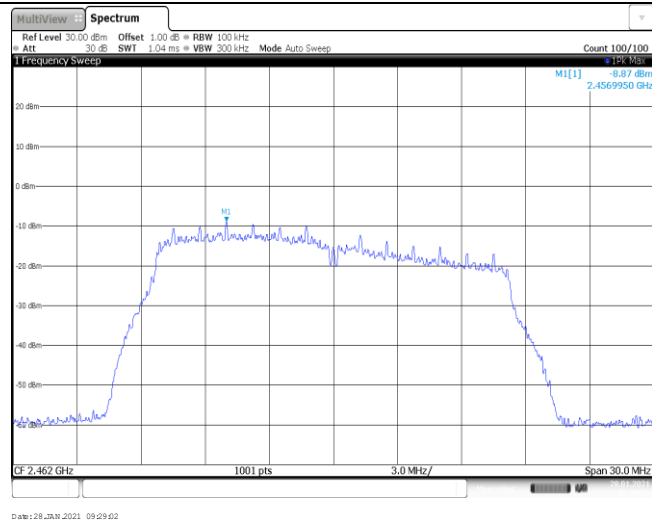
CH06  
30MHz~1000MHz



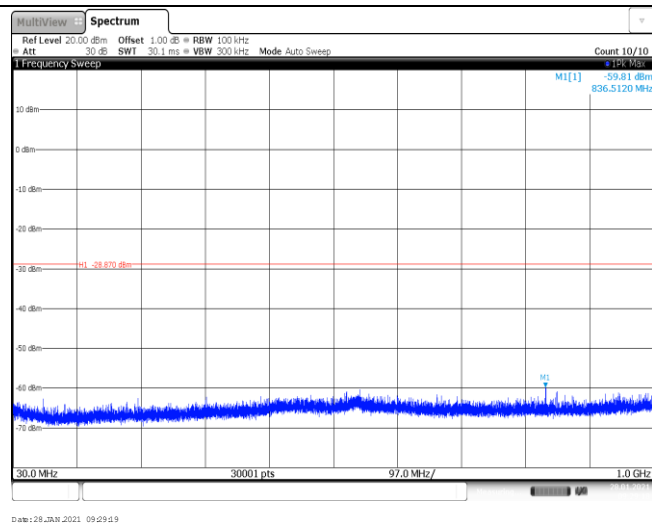
CH06  
1GHz~26GHz



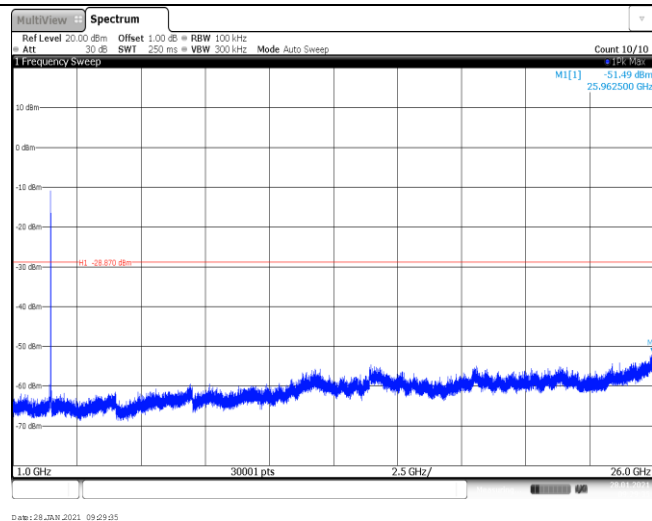
CH11  
Reference level

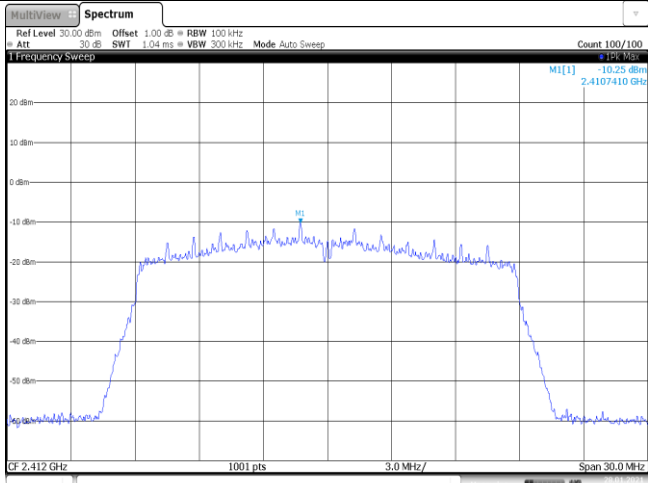
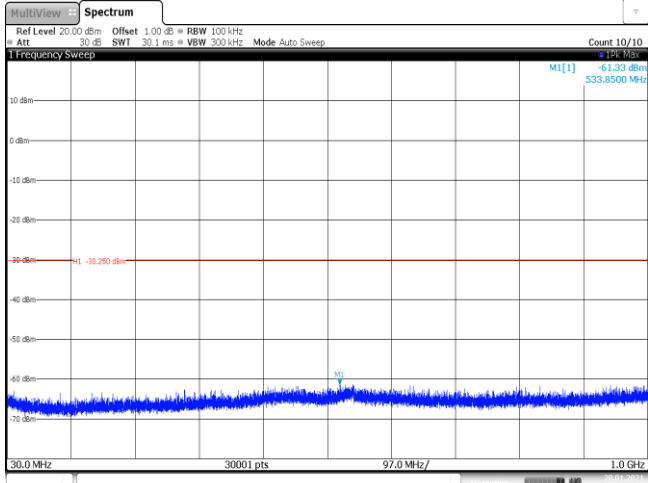
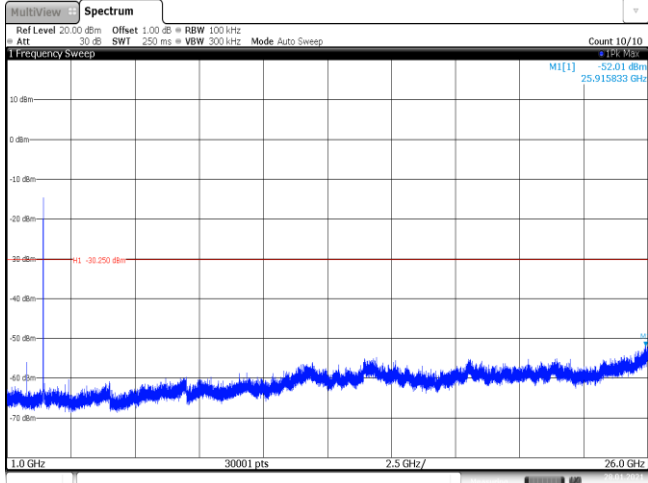


CH11  
30MHz~1000MHz

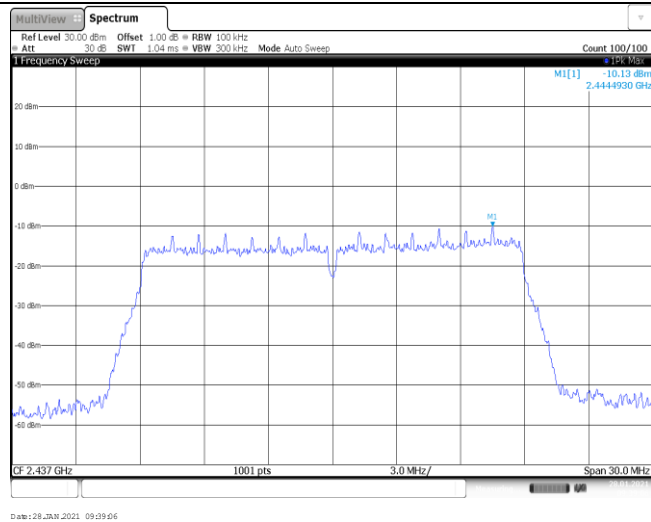


CH11  
1GHz~26GHz

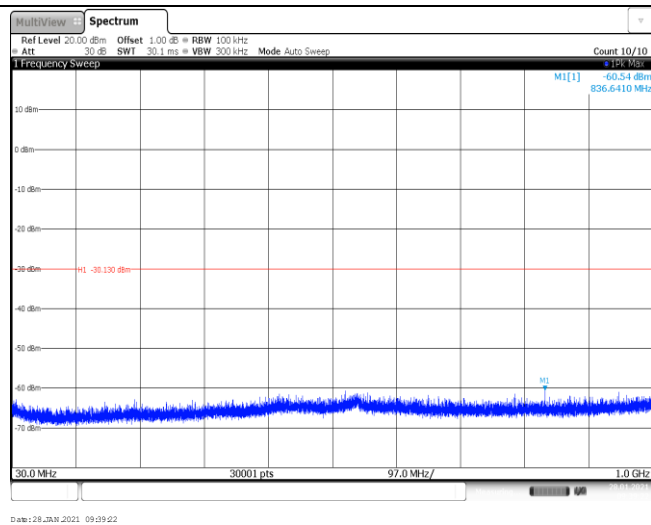


| Test Item:              | SE | Type:                                                                                | 802.11n(HT20) |
|-------------------------|----|--------------------------------------------------------------------------------------|---------------|
| CH01<br>Reference level |    |    |               |
| CH01<br>30MHz~1000MHz   |    |   |               |
| CH01<br>1GHz~26GHz      |    |  |               |

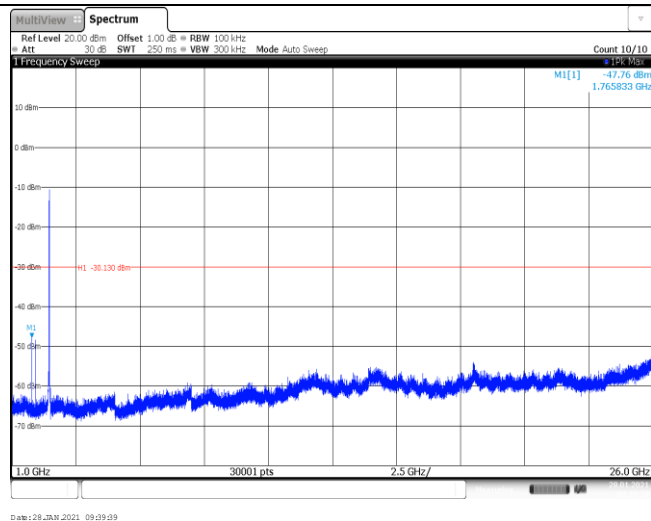
CH06  
Reference level



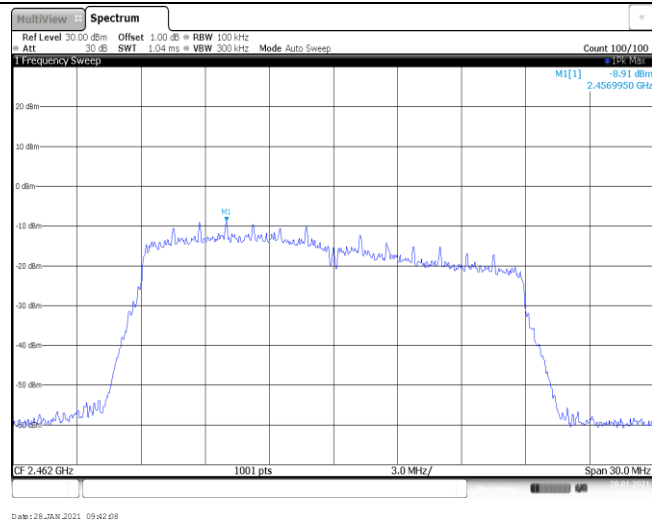
CH06  
30MHz~1000MHz



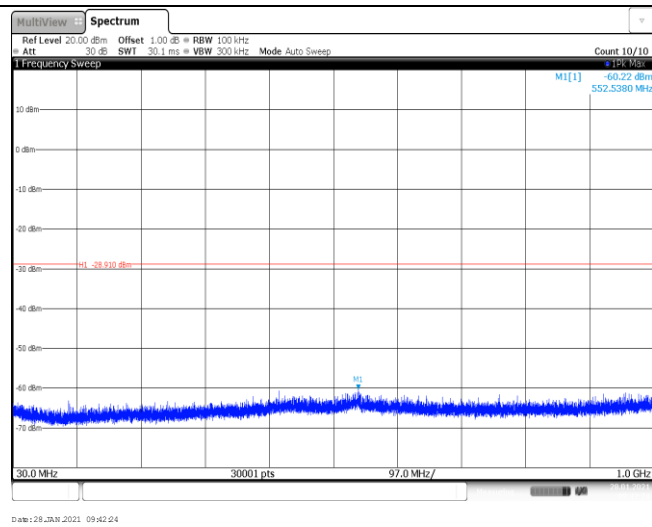
CH06  
1GHz~26GHz



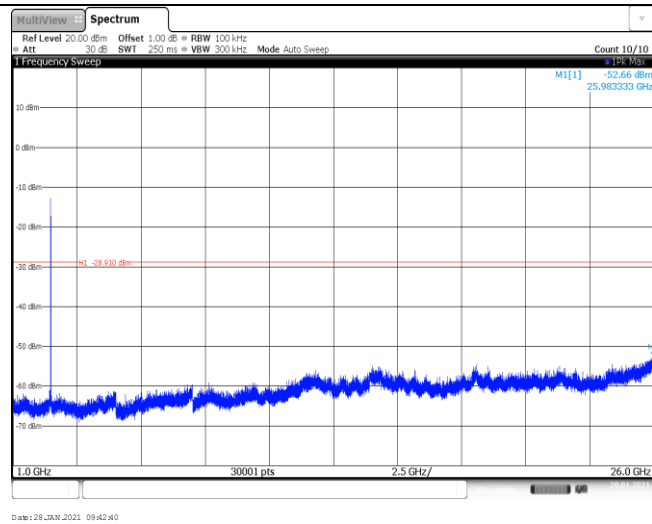
CH11  
Reference level

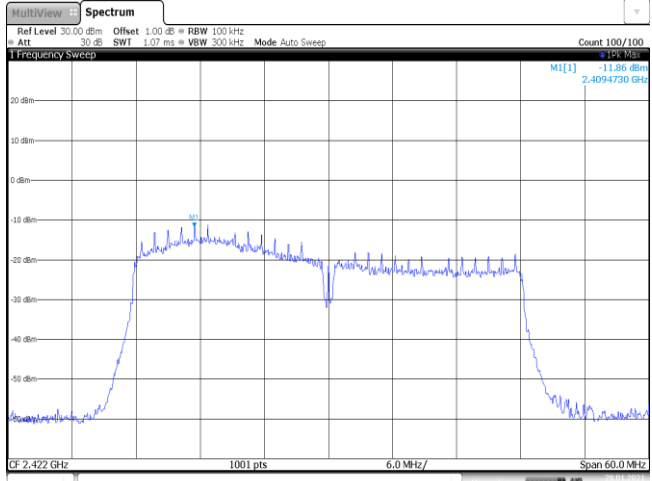
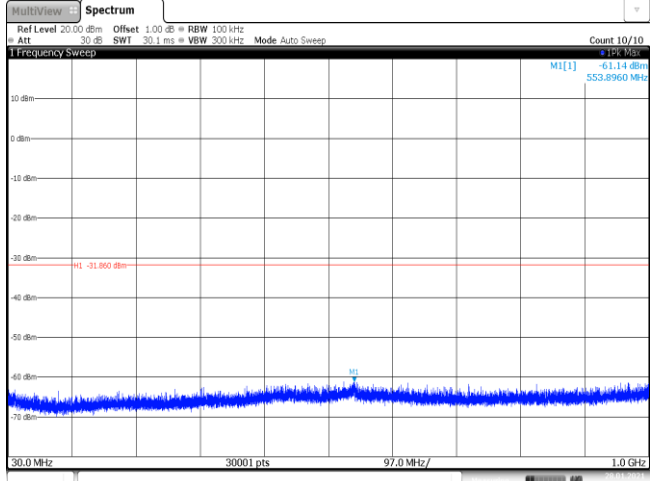
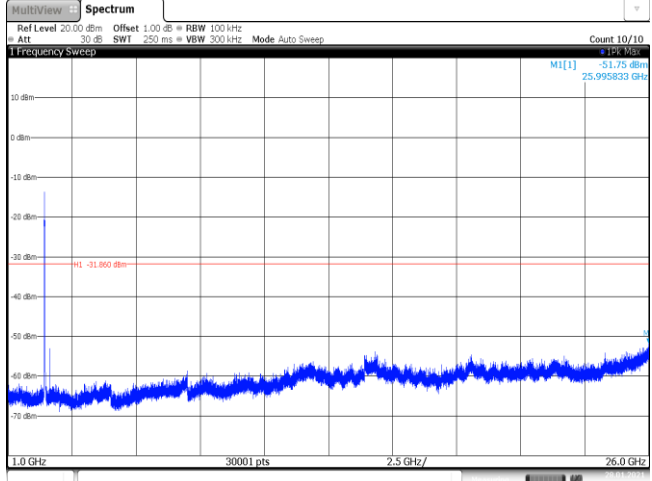


CH11  
30MHz~1000MHz

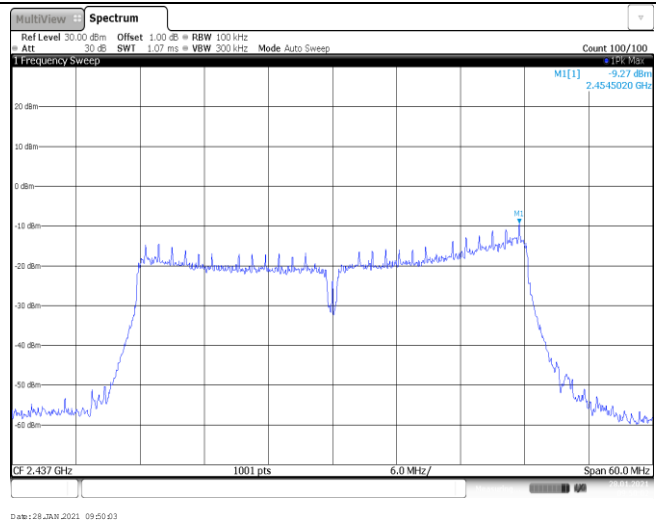


CH11  
1GHz~26GHz

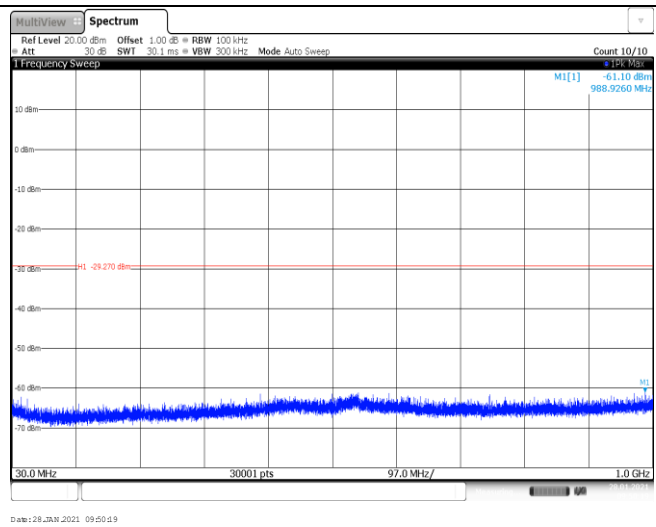


| Test Item:              | SE | Type:                                                                                | 802.11n(HT40) |
|-------------------------|----|--------------------------------------------------------------------------------------|---------------|
| CH03<br>Reference level |    |    |               |
| CH03<br>30MHz~1000MHz   |    |   |               |
| CH03<br>1GHz~26GHz      |    |  |               |

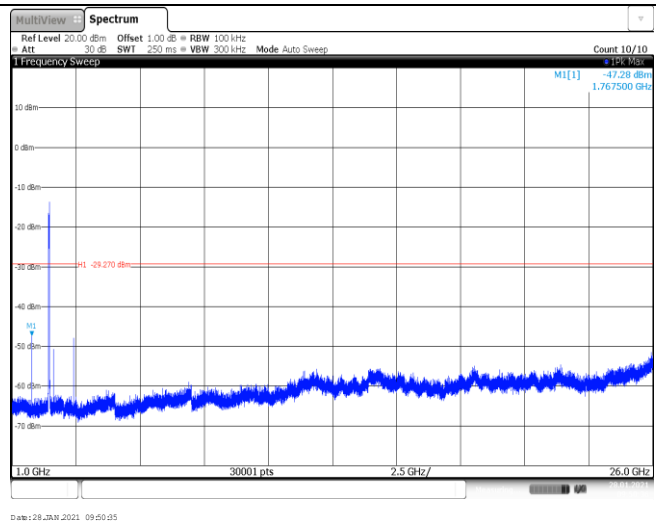
CH06  
Reference level



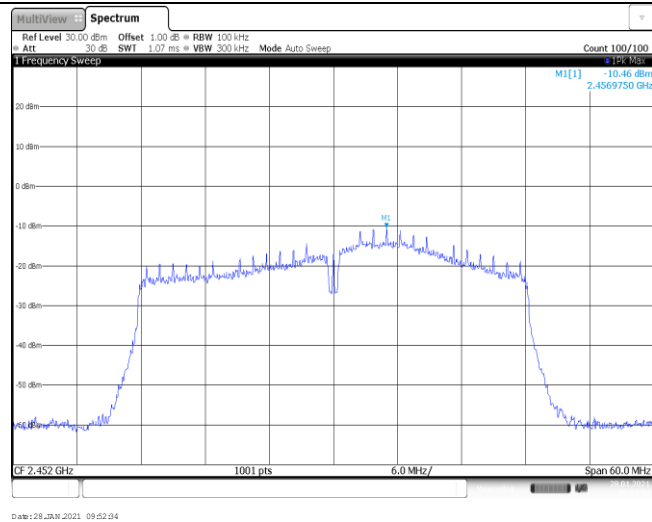
CH06  
30MHz~1000MHz



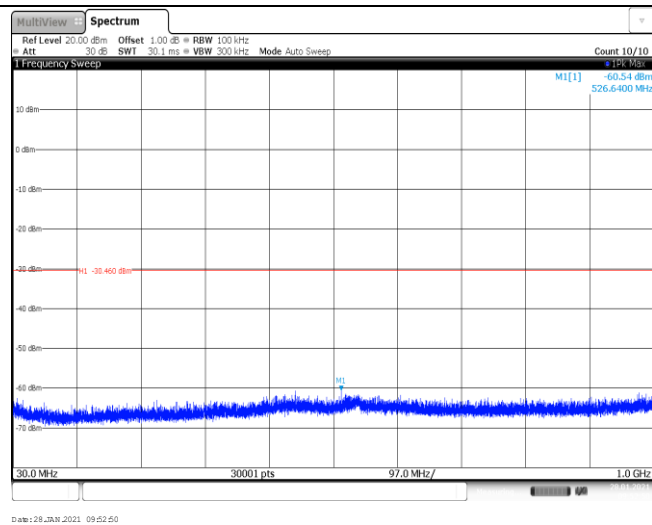
CH06  
1GHz~26GHz



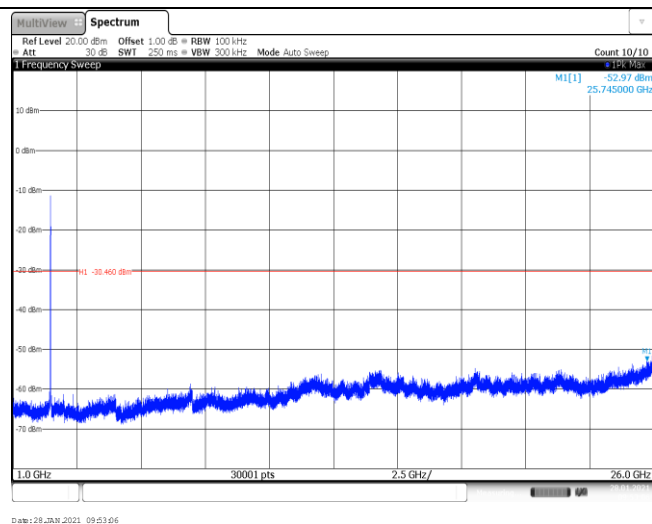
CH09  
Reference level



CH09  
30MHz~1000MHz



CH09  
1GHz~26GHz



-----End of Report-----