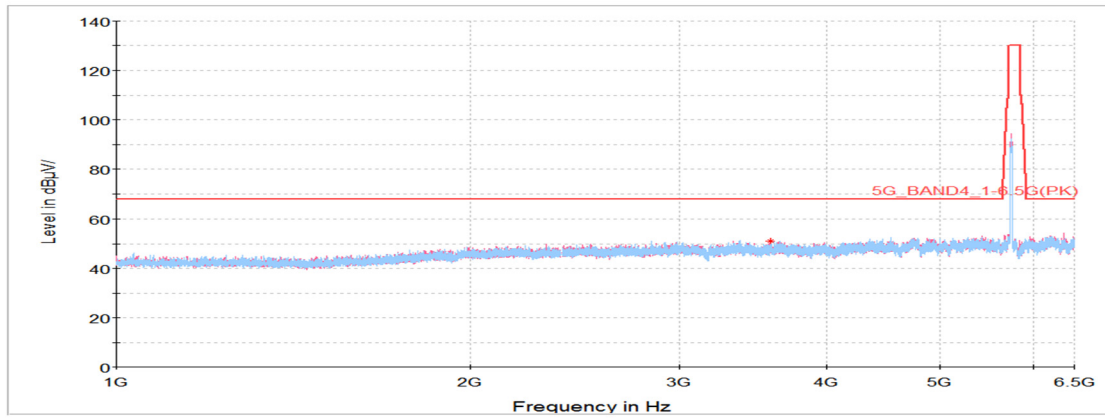
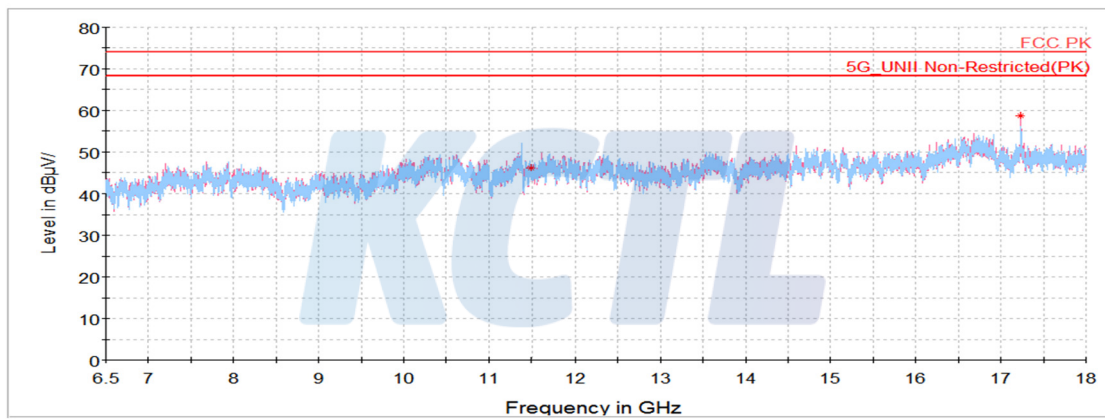
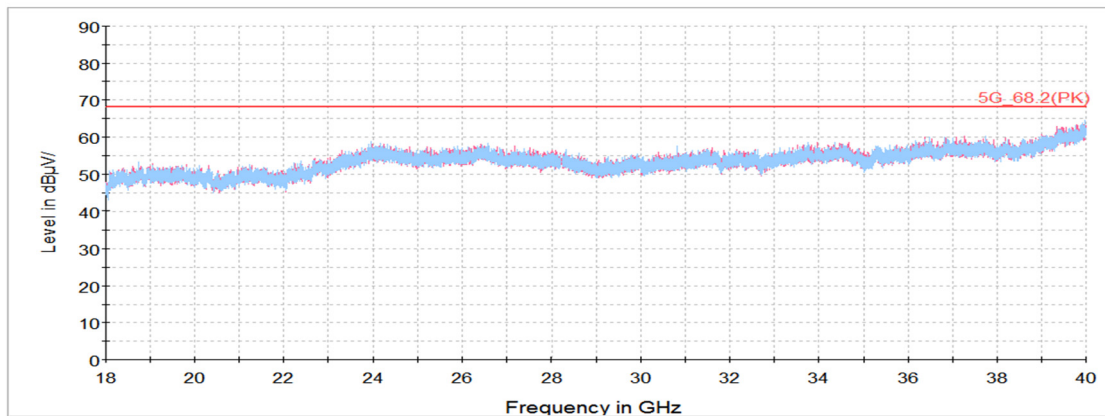
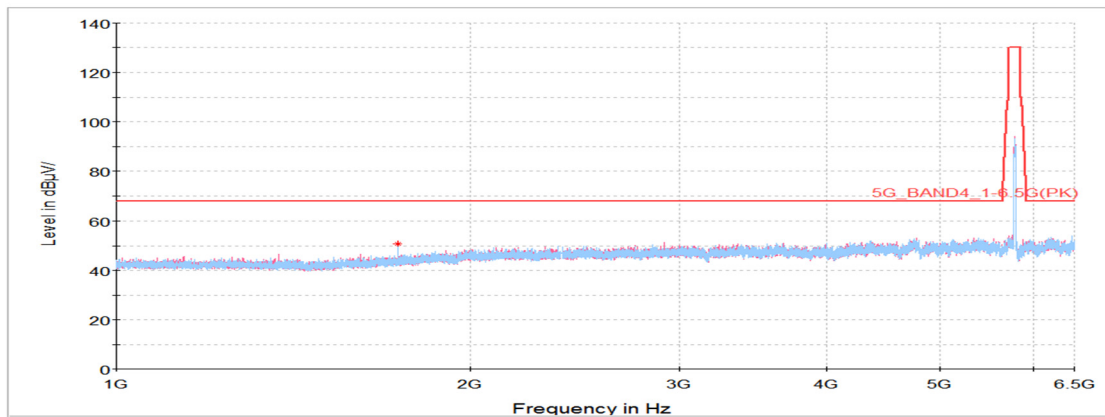
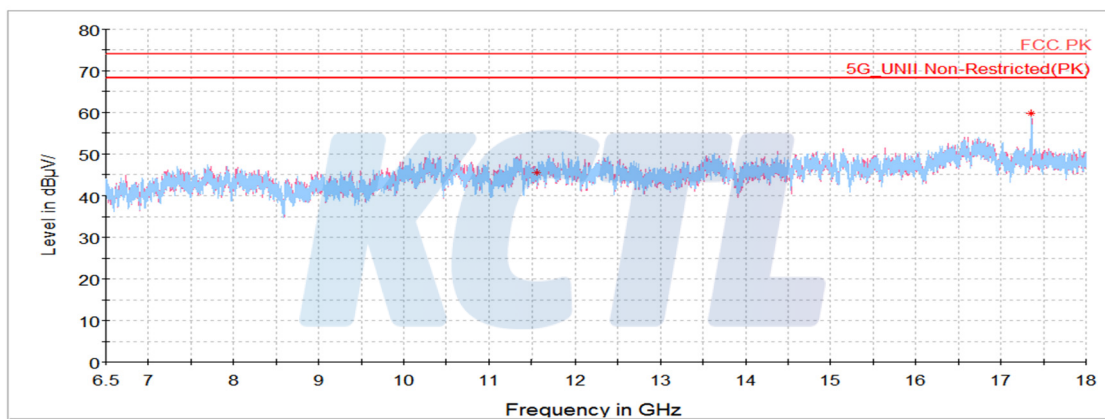
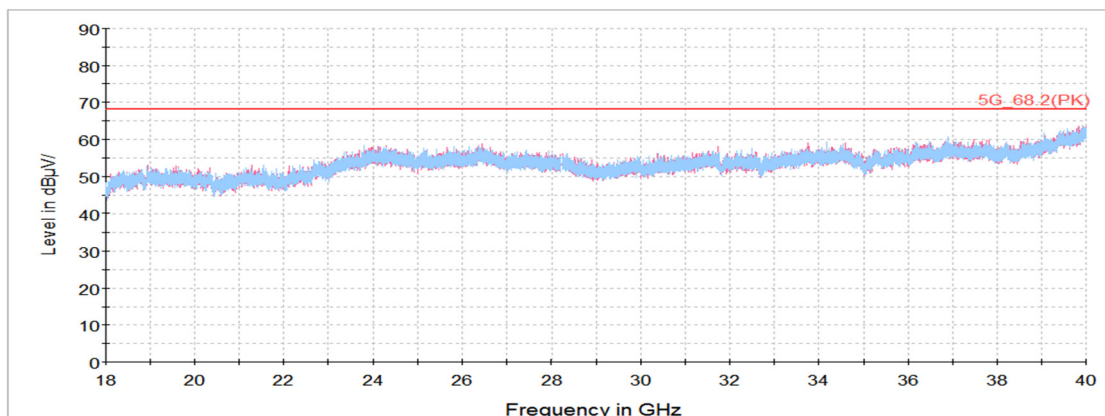


**Horizontal/Vertical for 1 GHz ~ 6.5 GHz****Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

**Middle Channel (5 785 MHz)**

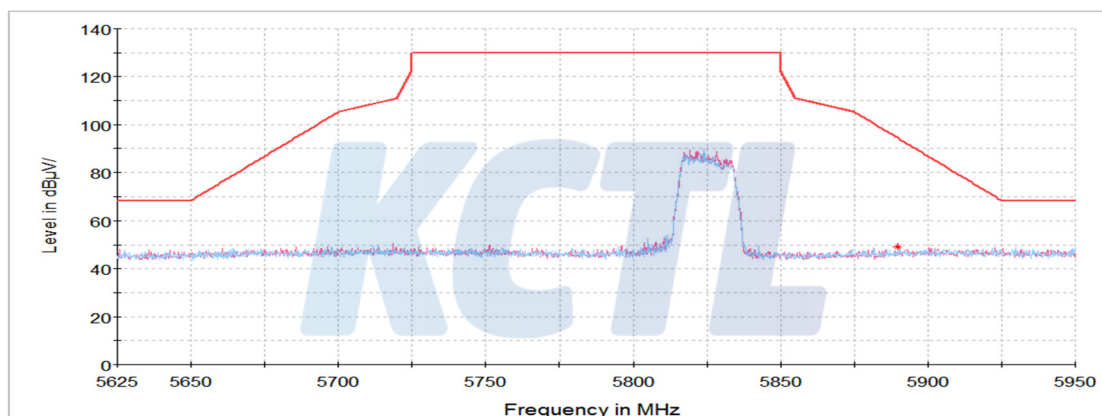
| Frequency                                                      | Pol.  | Reading  | Ant. Factor | Amp.+Cable | DCCF | Result     | Limit      | Margin |
|----------------------------------------------------------------|-------|----------|-------------|------------|------|------------|------------|--------|
| (MHz)                                                          | (V/H) | (dB(μV)) | (dB)        | (dB)       | (dB) | (dB(μV/m)) | (dB(μV/m)) | (dB)   |
| <b>Peak data</b>                                               |       |          |             |            |      |            |            |        |
| 1 733.91                                                       | H     | 70.67    | 29.73       | -49.73     | -    | 50.67      | 68.20      | 17.53  |
| 11 570.42 <sup>1)</sup>                                        | H     | 55.63    | 38.28       | -48.41     | -    | 45.50      | 74.00      | 28.50  |
| 17 360.67                                                      | H     | 64.88    | 41.84       | -46.94     | -    | 59.78      | 68.20      | 8.42   |
| <b>Average Data</b>                                            |       |          |             |            |      |            |            |        |
| No spurious emissions were detected within 20 dB of the limit. |       |          |             |            |      |            |            |        |

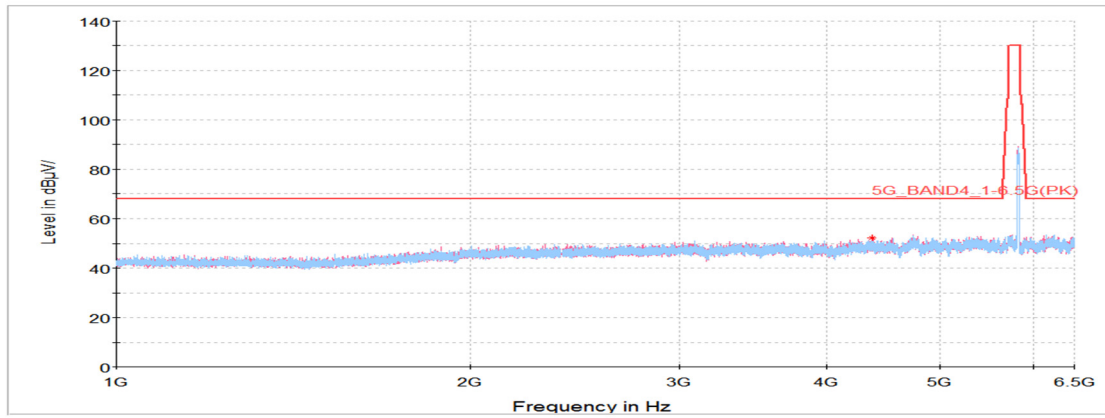
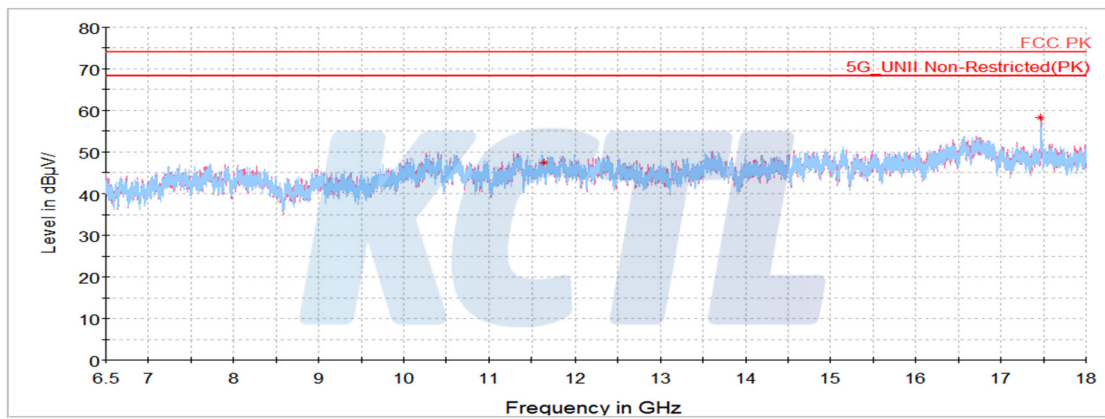
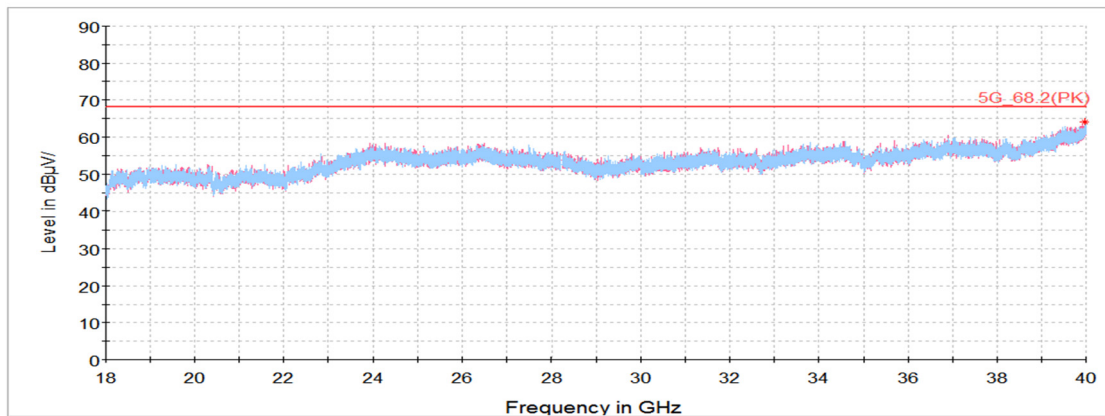


**Horizontal/Vertical for 1 GHz ~ 6.5 GHz****Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

**Highest Channel (5 825 MHz)**

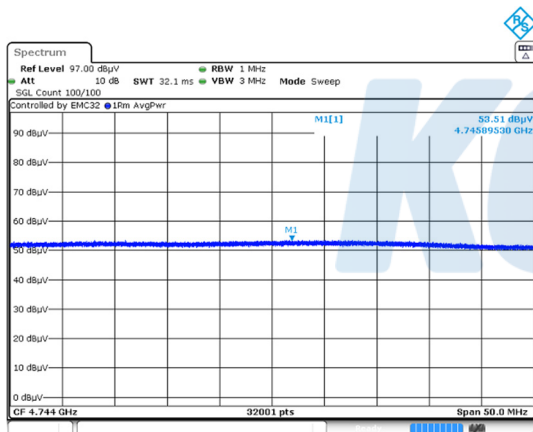
| Frequency                                                             | Pol.  | Reading        | Amp. + Cable | Antenna Factor | DCCF | Result           | Limit            | Margin |
|-----------------------------------------------------------------------|-------|----------------|--------------|----------------|------|------------------|------------------|--------|
| (MHz)                                                                 | (V/H) | (dB( $\mu$ V)) | (dB)         | (dB)           | (dB) | (dB( $\mu$ V/m)) | (dB( $\mu$ V/m)) | (dB)   |
| <b>Peak data</b>                                                      |       |                |              |                |      |                  |                  |        |
| 4 369.65 <sup>1)</sup>                                                | V     | 64.30          | 33.37        | -45.39         | -    | 52.28            | 74.00            | 21.72  |
| 5 889.84                                                              | H     | 40.84          | 34.97        | -26.44         | -    | 49.37            | 94.22            | 44.85  |
| 11 650.20                                                             | V     | 57.67          | 38.38        | -48.74         | -    | 47.31            | 74.00            | 26.69  |
| 17 465.61                                                             | H     | 63.58          | 41.89        | -47.19         | -    | 58.28            | 68.20            | 9.92   |
| <b>Average Data</b>                                                   |       |                |              |                |      |                  |                  |        |
| <b>No spurious emissions were detected within 20 dB of the limit.</b> |       |                |              |                |      |                  |                  |        |

**Horizontal/Vertical for Band-edge**

**Horizontal/Vertical for 1 GHz ~ 6.5 GHz****Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

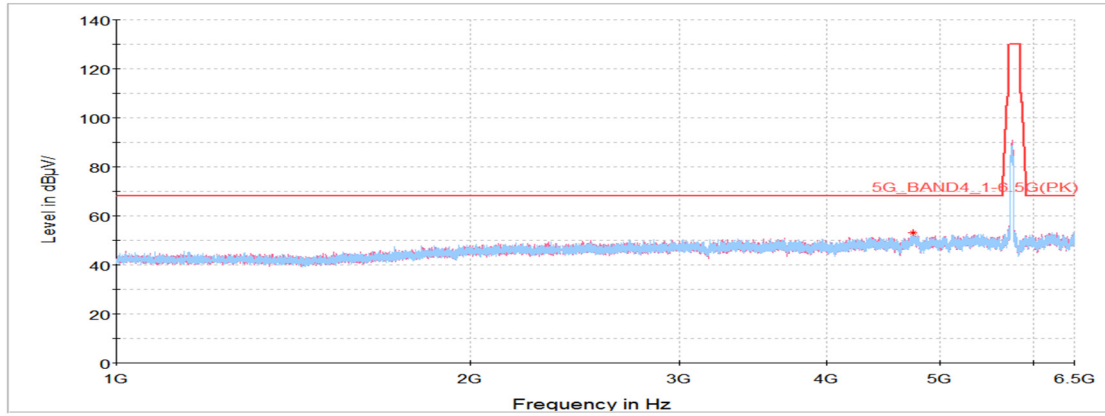
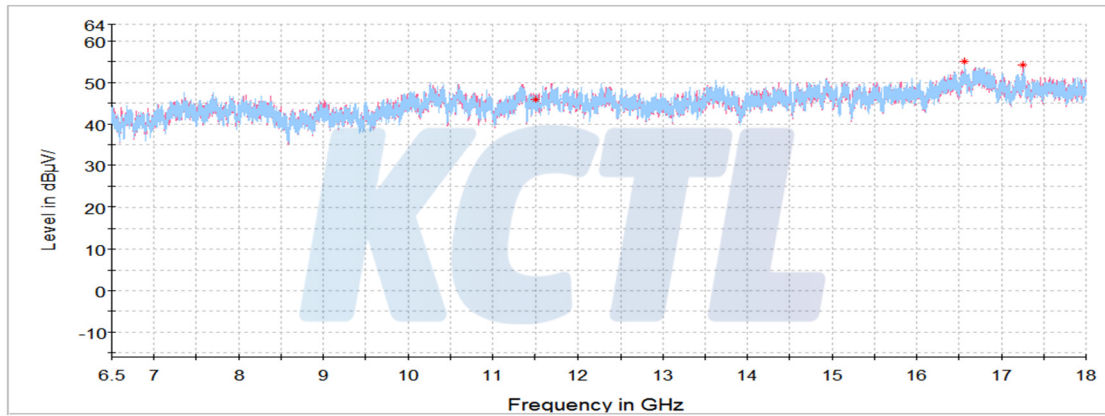
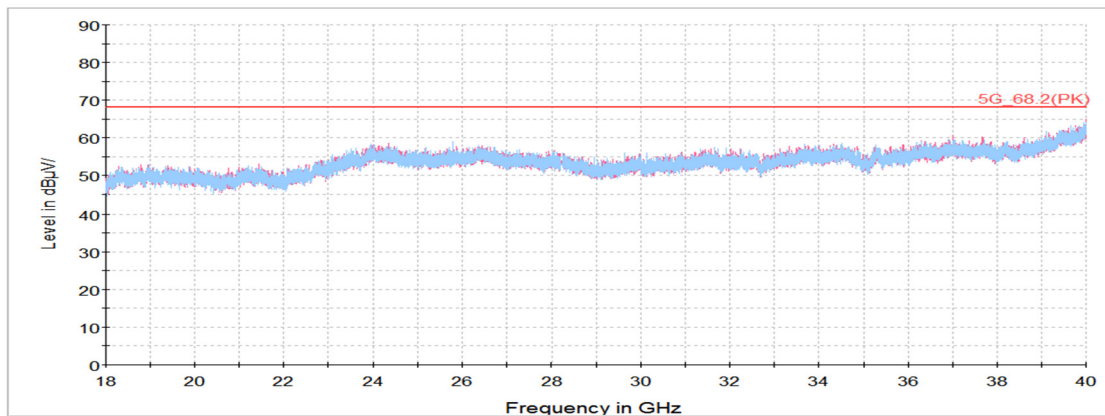
**802.11ac VHT40 UNII-3****Lowest Channel (5 755 MHz)**

| Frequency               | Pol.  | Reading        | Ant. Factor | Amp.+Cable | DCCF | Result           | Limit            | Margin |
|-------------------------|-------|----------------|-------------|------------|------|------------------|------------------|--------|
| (MHz)                   | (V/H) | (dB( $\mu$ V)) | (dB)        | (dB)       | (dB) | (dB( $\mu$ V/m)) | (dB( $\mu$ V/m)) | (dB)   |
| <b>Peak data</b>        |       |                |             |            |      |                  |                  |        |
| 4 745.90 <sup>1)</sup>  | V     | 63.77          | 33.75       | -44.29     | -    | 53.23            | 74.00            | 20.77  |
| 5 719.00                | V     | 43.85          | 34.76       | -25.83     | -    | 52.78            | 110.52           | 57.74  |
| 11 510.77 <sup>1)</sup> | V     | 55.75          | 38.21       | -48.16     | -    | 45.80            | 74.00            | 28.20  |
| 16 568.97               | V     | 58.85          | 41.60       | -45.43     | -    | 55.02            | 68.20            | 13.18  |
| 17 258.61               | V     | 59.10          | 41.80       | -46.7      | -    | 54.20            | 68.20            | 14.00  |
| <b>Average Data</b>     |       |                |             |            |      |                  |                  |        |
| 4 745.90 <sup>1)</sup>  | V     | 53.51          | 33.75       | -44.29     | 0.44 | 43.41            | 54.00            | 10.59  |

**Average data****Average data**

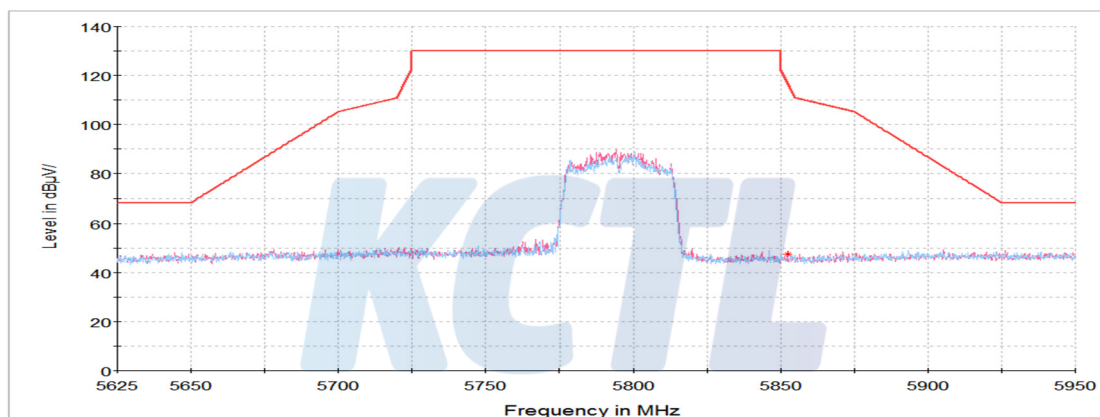
Blank

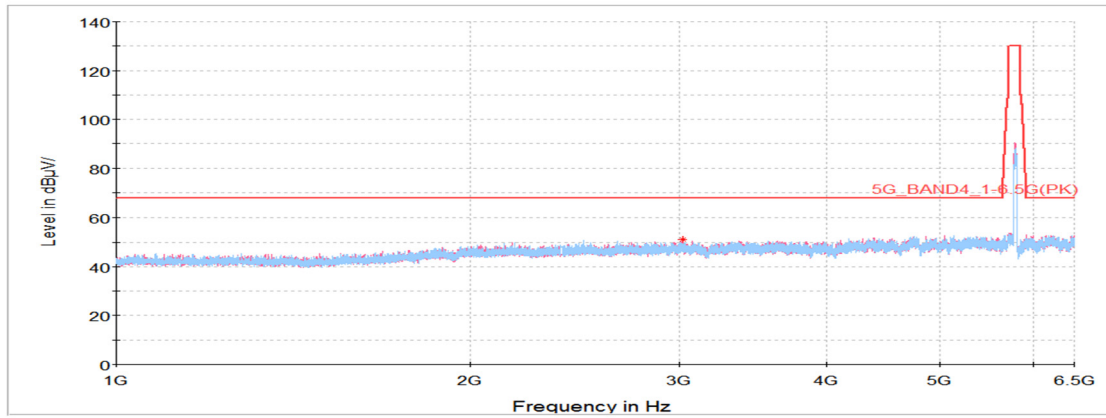
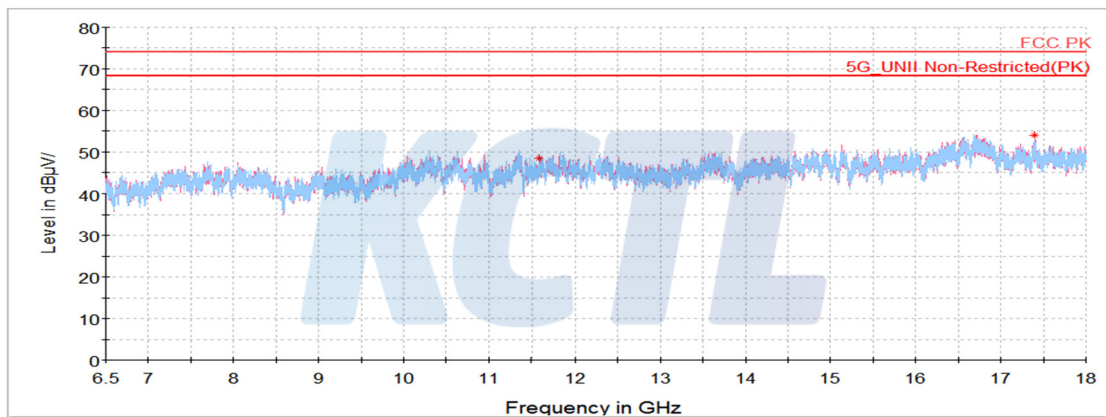
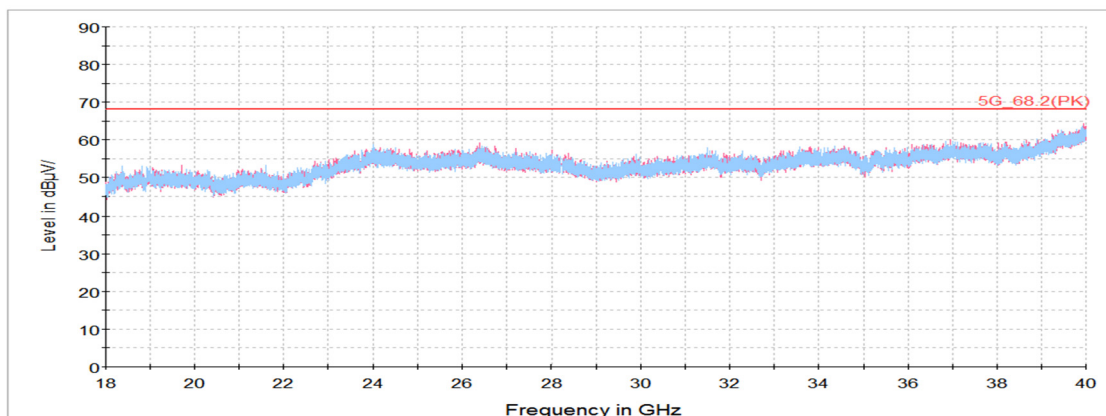
**Horizontal/Vertical for Band-edge**

**Horizontal/Vertical for 1 GHz ~ 6.5 GHz****Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

**Highest Channel (5 795 MHz)**

| Frequency                                                      | Pol.  | Reading  | Ant. Factor | Amp.+Cable | DCCF | Result     | Limit      | Margin |
|----------------------------------------------------------------|-------|----------|-------------|------------|------|------------|------------|--------|
| (MHz)                                                          | (V/H) | (dB(μV)) | (dB)        | (dB)       | (dB) | (dB(μV/m)) | (dB(μV/m)) | (dB)   |
| <b>Peak data</b>                                               |       |          |             |            |      |            |            |        |
| 3 020.56                                                       | V     | 65.79    | 32.89       | -47.49     | -    | 51.19      | 68.20      | 17.01  |
| 5 852.20                                                       | V     | 39.27    | 34.92       | -26.67     | -    | 47.52      | 117.18     | 69.66  |
| 11 592.70 <sup>1)</sup>                                        | H     | 58.51    | 38.31       | -48.50     | -    | 48.32      | 74.00      | 25.68  |
| 17 396.61                                                      | H     | 59.23    | 41.86       | -47.02     | -    | 54.07      | 68.20      | 14.13  |
| <b>Average Data</b>                                            |       |          |             |            |      |            |            |        |
| No spurious emissions were detected within 20 dB of the limit. |       |          |             |            |      |            |            |        |

**Horizontal/Vertical for Band-edge**

**Horizontal/Vertical for 1 GHz ~ 6.5 GHz****Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

**KCTL Inc.**

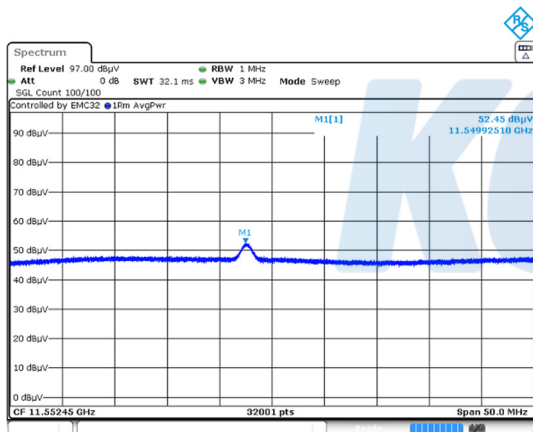
65, Sinwon-ro, Yeongtong-gu,  
Suwon-si, Gyeonggi-do, 16677, Korea  
TEL: 82-31-285-0894 FAX: 82-505-299-8311  
[www.kctl.co.kr](http://www.kctl.co.kr)

Report No.:  
KR19-SRF0192-B

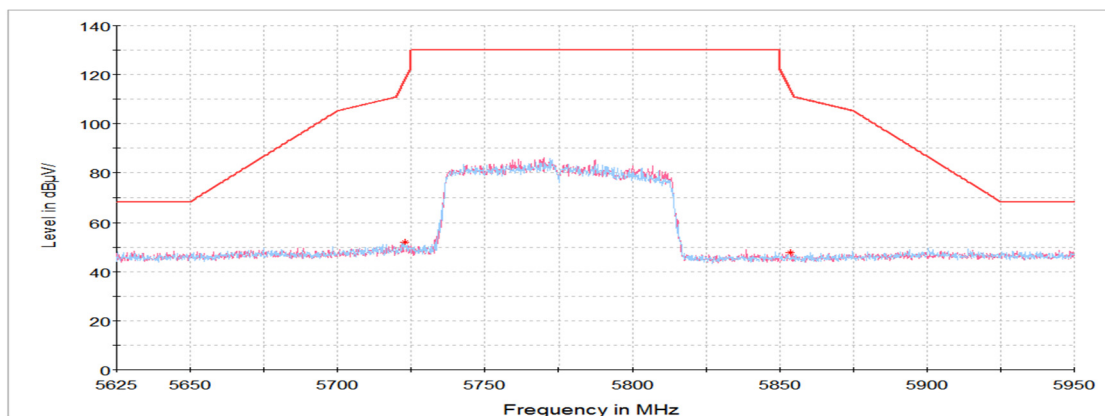
Page (108) of (112)

**KCTL****802.11ac VHT80 UNII-3****Lowest Channel (5 775 MHz)**

| Frequency               | Pol.  | Reading  | Ant. Factor | Amp.+Cable | DCCF | Result     | Limit      | Margin |
|-------------------------|-------|----------|-------------|------------|------|------------|------------|--------|
| (MHz)                   | (V/H) | (dB(μV)) | (dB)        | (dB)       | (dB) | (dB(μV/m)) | (dB(μV/m)) | (dB)   |
| Peak data               |       |          |             |            |      |            |            |        |
| 3 323.75                | V     | 65.91    | 32.71       | -46.99     | -    | 51.63      | 68.20      | 16.57  |
| 5 723.13                | V     | 43.02    | 34.77       | -25.89     | -    | 51.90      | 117.93     | 66.03  |
| 5 853.58                | V     | 39.61    | 34.92       | -26.66     | -    | 47.87      | 114.04     | 66.17  |
| 11 549.33 <sup>1)</sup> | H     | 59.26    | 38.06       | -50.08     | -    | 47.24      | 74.00      | 26.76  |
| 17 325.45               | H     | 54.88    | 41.83       | -46.85     | -    | 49.86      | 68.20      | 18.34  |
| Average Data            |       |          |             |            |      |            |            |        |
| 11 549.33 <sup>1)</sup> | H     | 52.45    | 38.06       | -50.08     | 0.86 | 41.29      | 54.00      | 12.71  |

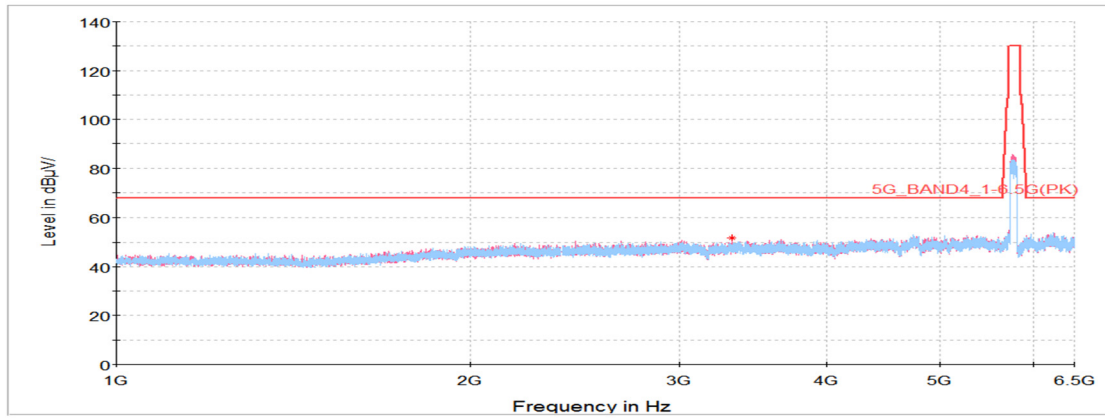
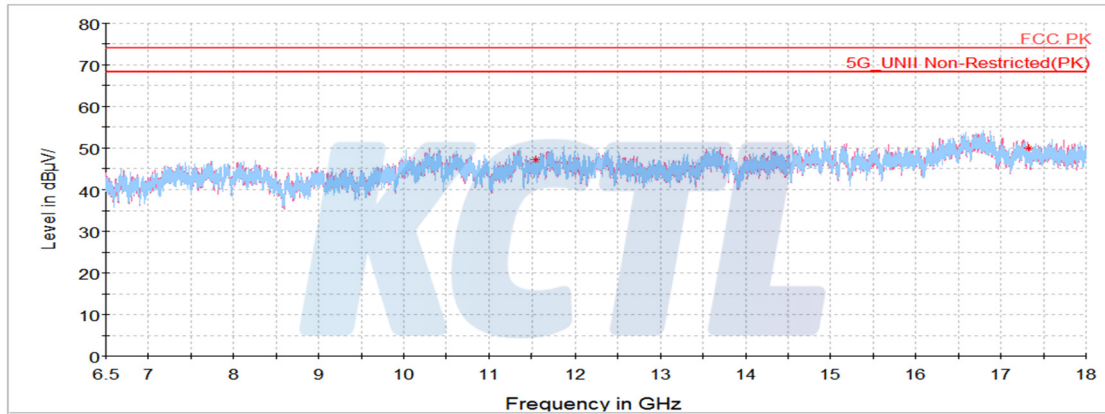
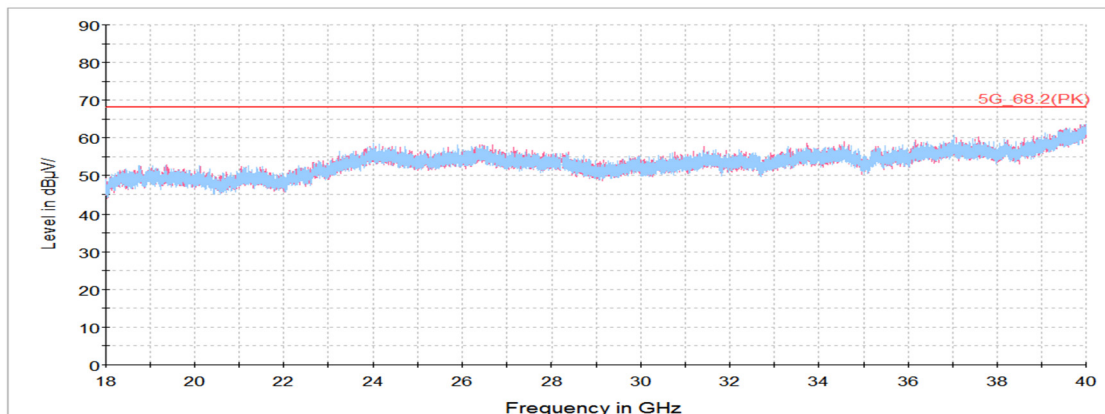
**Average data****Average data**

Blank

**Horizontal/Vertical for Band-edge**

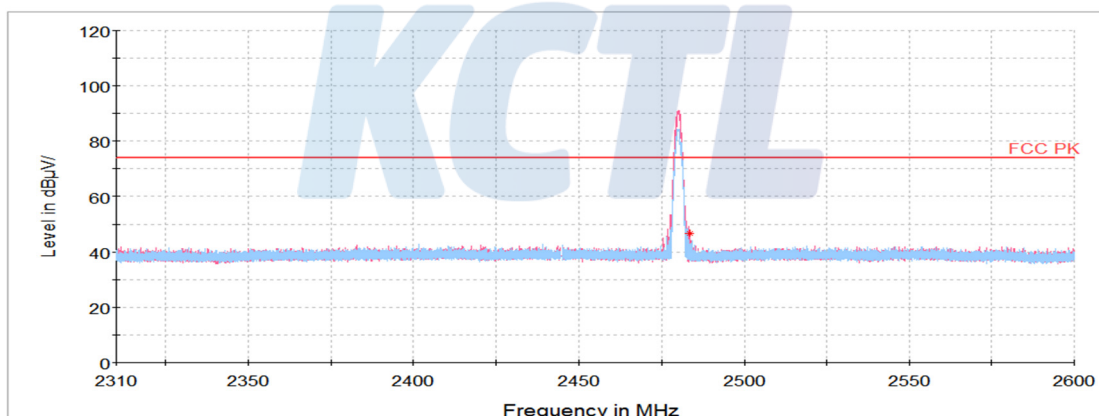
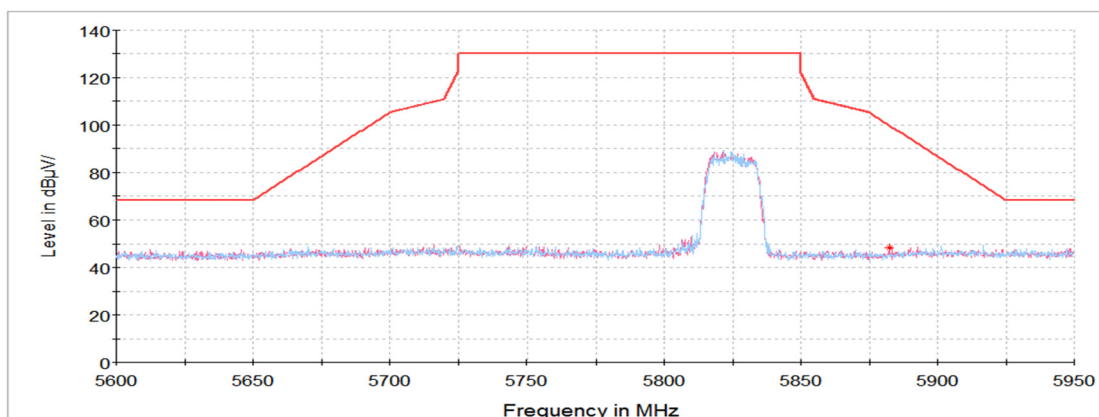
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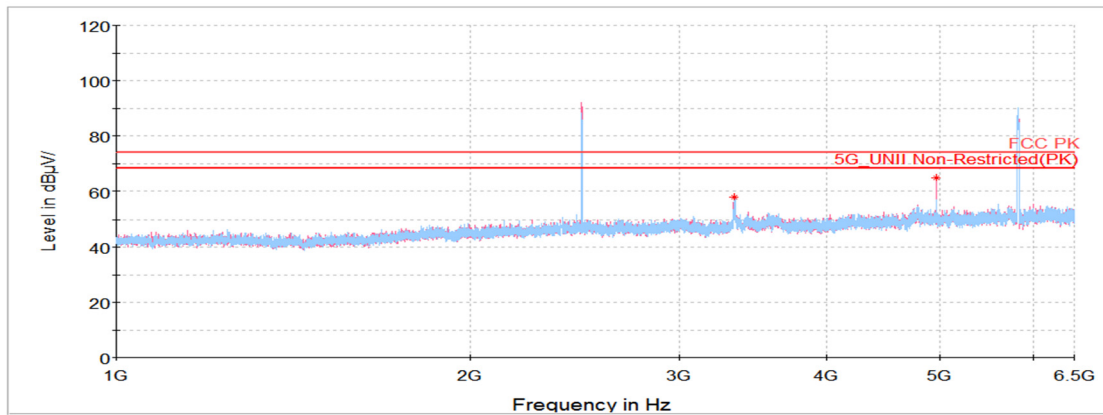
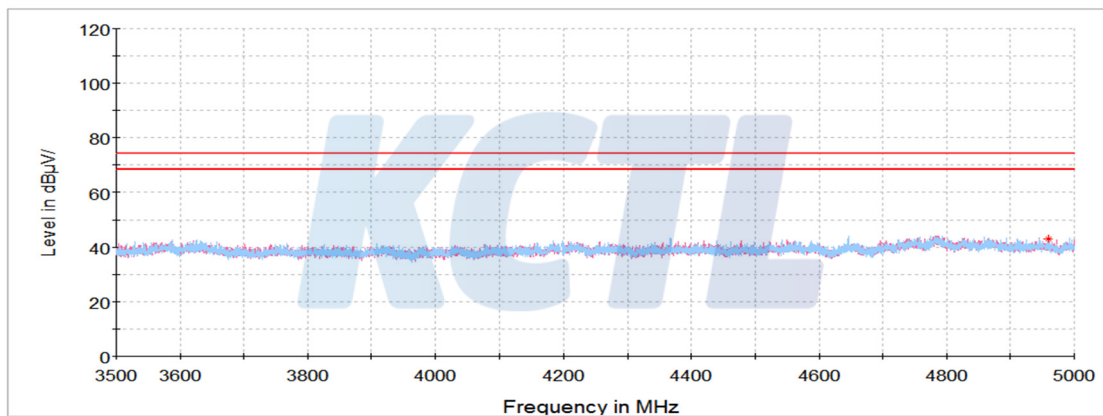
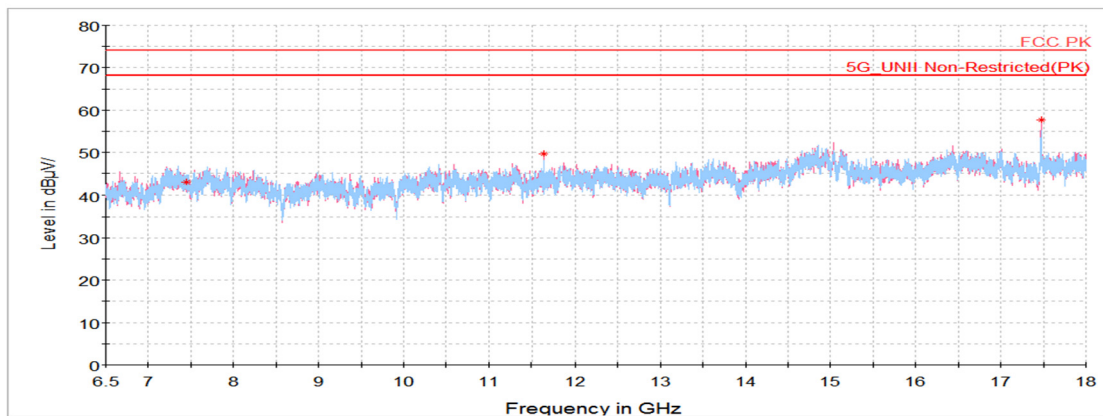
KCTL-TIR001-003/2

**Horizontal/Vertical for 1 GHz ~ 6.5 GHz****Horizontal/Vertical for 6.5 GHz ~ 18 GHz****Horizontal/Vertical for 18 GHz ~ 40 GHz**

**802.11n HT20 / UNII-3 Highest(5 825 MHz)+BT,GFSK Highest(2 480 MHz)**

| Frequency                                                      | Pol.  | Reading  | Ant. Factor | Amp.+Cable | DCCF | Result     | Limit      | Margin |
|----------------------------------------------------------------|-------|----------|-------------|------------|------|------------|------------|--------|
| (MHz)                                                          | (V/H) | (dB(μV)) | (dB)        | (dB)       | (dB) | (dB(μV/m)) | (dB(μV/m)) | (dB)   |
| <b>Peak data</b>                                               |       |          |             |            |      |            |            |        |
| 2 483.52                                                       | V     | 43.79    | 32.07       | -29.21     | -    | 46.65      | 74.00      | 27.35  |
| 3 343.52                                                       | V     | 71.97    | 32.57       | -46.71     | -    | 57.83      | 74.00      | 16.17  |
| 4 960.00                                                       | V     | 63.83    | 33.98       | -54.80     |      | 43.01      | 74.00      | 30.99  |
| 5 882.45                                                       | V     | 39.80    | 35.26       | -26.48     | -    | 48.58      | 99.69      | 51.11  |
| 7 440.13                                                       | H     | 58.27    | 35.40       | -50.63     | -    | 43.04      | 74.00      | 30.96  |
| 11 650.56                                                      | V     | 61.46    | 38.18       | -49.98     |      | 49.66      | 74.00      | 24.34  |
| 17 475.31                                                      | V     | 65.15    | 41.11       | -48.55     | -    | 57.71      | 68.20      | 10.49  |
| <b>Average Data</b>                                            |       |          |             |            |      |            |            |        |
| No spurious emissions were detected within 20 dB of the limit. |       |          |             |            |      |            |            |        |

**Horizontal/Vertical for BT Band-edge****Horizontal/Vertical for 5G WIFI Band-edge**

**Horizontal/Vertical for 1 GHz ~ 6.5 GHz****Horizontal/Vertical for 3.5 GHz ~ 5 GHz (BT Harmonic)****Horizontal/Vertical for 6.5 GHz ~ 18 GHz (BT, 5G WIFI Harmonic)**

## 8. Measurement equipment

| Equipment Name              | Manufacturer         | Model No.                                     | Serial No.  | Next Cal. Date |
|-----------------------------|----------------------|-----------------------------------------------|-------------|----------------|
| Spectrum Analyzer           | R&S                  | FSW50                                         | 101013      | 20.05.30       |
| Spectrum Analyzer           | R&S                  | FSV40                                         | 100988      | 20.01.04       |
| ATTENUATOR                  | R&S                  | DNF<br>Dämpfungsglied<br>10 dB in<br>N-50 Ohm | 31212       | 20.05.13       |
| ATTENUATOR                  | API Inmet            | 40AH2W-10                                     | 11          | 20.05.15       |
| EMI TEST RECEIVER           | R&S                  | ESC17                                         | 100732      | 20.08.22       |
| Bi-Log Antenna              | SCHWARZBECK          | VULB 9168                                     | 583         | 20.05.04       |
| Amplifier                   | SONOMA<br>INSTRUMENT | 310N                                          | 284608      | 20.08.22       |
| COAXIAL FIXED<br>ATTENUATOR | Agilent              | 8491B-003                                     | 2708A18758  | 20.05.04       |
| Horn antenna                | ETS.lindgren         | 3116                                          | 00086632    | 20.02.15       |
| Horn antenna                | ETS.lindgren         | 3117                                          | 155787      | 20.10.24       |
| Attenuator                  | API Inmet            | 40AH2W-10                                     | 12          | 20.05.15       |
| Broadband<br>PreAmplifier   | SCHWARZBECK          | BBV9718                                       | 216         | 20.07.30       |
| AMPLIFIER                   | L-3 Narda-MITEQ      | AMF-7D-01001800<br>-22-10P                    | 2031196     | 20.02.21       |
| AMPLIFIER                   | L-3 Narda-MITEQ      | JS44-18004000-33<br>-8P                       | 2000997     | 20.08.01       |
| LOOP Antenna                | R&S                  | HFH2-Z2                                       | 100355      | 20.08.24       |
| Antenna Mast                | Innco Systems        | MA4640-XP-ET                                  | -           | -              |
| Turn Table                  | Innco Systems        | DT2000                                        | 79          | -              |
| Antenna Mast                | Innco Systems        | MA4000-EP                                     | 303         | -              |
| Turn Table                  | Innco Systems        | DT2000                                        | 79          | -              |
| Highpass Filter             | WT                   | WT-A1699-HS                                   | WT160411002 | 20.05.14       |
| Vector Signal<br>Generator  | R&S                  | SMBV100A                                      | 257566      | 20.01.04       |
| Signal Generator            | R&S                  | SMR40                                         | 100007      | 20.05.13       |
| Cable Assembly              | RadiAll              | 2301761768000PJ                               | 1724.659    | -              |
| Cable Assembly              | gigalane             | RG-400                                        | -           | -              |
| Cable Assembly              | HUER+SUHNER          | SUCOFLEX 104                                  | MY4342/4    | -              |

**End of test report**