

### 802.11ac-HT40

#### Channel 38

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17931.800       | 42.79                       | -25.55          | 42.30                 | 26.04                   | 54.00          | 11.21       | V                  |
| 17903.200       | 42.54                       | -25.55          | 42.30                 | 25.79                   | 54.00          | 11.46       | V                  |
| 13276.050       | 37.77                       | -29.75          | 40.30                 | 27.22                   | 54.00          | 16.23       | H                  |
| 13287.050       | 37.57                       | -29.75          | 40.30                 | 27.02                   | 54.00          | 16.43       | V                  |
| 5149.540        | 52.67                       | -27.27          | 32.70                 | 47.24                   | 54.00          | 1.33        | H                  |
| 5149.860        | 52.65                       | -27.27          | 32.70                 | 47.22                   | 54.00          | 1.35        | H                  |

#### Channel 62

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17931.800       | 42.49                       | -25.55          | 42.30                 | 25.74                   | 54.00          | 11.51       | H                  |
| 17925.750       | 42.47                       | -25.55          | 42.30                 | 25.72                   | 54.00          | 11.53       | H                  |
| 13255.700       | 37.40                       | -29.75          | 40.20                 | 26.95                   | 54.00          | 16.60       | V                  |
| 13274.400       | 37.40                       | -29.75          | 40.30                 | 26.85                   | 54.00          | 16.60       | V                  |
| 5350.272        | 50.66                       | -27.08          | 33.50                 | 44.24                   | 54.00          | 3.34        | H                  |
| 5350.640        | 50.66                       | -27.08          | 33.50                 | 44.24                   | 54.00          | 3.34        | H                  |

#### Channel 102

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17918.050       | 42.59                       | -25.55          | 42.30                 | 25.84                   | 54.00          | 11.41       | H                  |
| 17920.250       | 42.43                       | -25.55          | 42.30                 | 25.68                   | 54.00          | 11.57       | H                  |
| 13278.800       | 37.82                       | -29.75          | 40.30                 | 27.27                   | 54.00          | 16.18       | V                  |
| 13266.150       | 37.60                       | -29.75          | 40.20                 | 27.15                   | 54.00          | 16.40       | H                  |
| 5459.560        | 45.43                       | -27.06          | 33.70                 | 38.79                   | 54.00          | 8.57        | H                  |
| 5459.845        | 45.27                       | -27.06          | 33.70                 | 38.63                   | 54.00          | 8.73        | H                  |

### 802.11ac-HT80

#### Channel 42

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17932.900       | 42.79                       | -25.55          | 42.30                 | 26.04                   | 54.00          | 11.21       | H                  |
| 17918.600       | 42.77                       | -25.55          | 42.30                 | 26.02                   | 54.00          | 11.23       | V                  |
| 13296.400       | 37.65                       | -29.75          | 40.30                 | 27.10                   | 54.00          | 16.35       | V                  |
| 13287.600       | 37.54                       | -29.75          | 40.30                 | 26.99                   | 54.00          | 16.46       | V                  |
| 5149.620        | 52.33                       | -27.27          | 32.70                 | 46.90                   | 54.00          | 1.67        | H                  |
| 5149.460        | 52.15                       | -27.27          | 32.70                 | 46.72                   | 54.00          | 1.85        | H                  |

#### Channel 58

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17904.300       | 42.59                       | -25.55          | 42.30                 | 25.84                   | 54.00          | 11.41       | V                  |
| 17912.000       | 42.56                       | -25.55          | 42.30                 | 25.81                   | 54.00          | 11.44       | V                  |
| 13294.200       | 37.70                       | -29.75          | 40.30                 | 27.15                   | 54.00          | 16.30       | H                  |
| 13261.750       | 37.51                       | -29.75          | 40.20                 | 27.06                   | 54.00          | 16.49       | H                  |
| 5351.296        | 52.77                       | -27.08          | 33.50                 | 46.35                   | 54.00          | 1.23        | H                  |
| 5350.096        | 52.67                       | -27.08          | 33.50                 | 46.25                   | 54.00          | 1.33        | H                  |

#### Channel 106

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17930.150       | 42.77                       | -25.55          | 42.30                 | 26.02                   | 54.00          | 11.23       | V                  |
| 17910.350       | 42.69                       | -25.55          | 42.30                 | 25.94                   | 54.00          | 11.31       | V                  |
| 13280.450       | 37.68                       | -29.75          | 40.30                 | 27.13                   | 54.00          | 16.32       | H                  |
| 13320.050       | 37.64                       | -30.08          | 40.30                 | 27.42                   | 54.00          | 16.36       | H                  |
| 5458.810        | 51.07                       | -27.06          | 33.70                 | 44.43                   | 54.00          | 2.93        | H                  |
| 5457.415        | 50.46                       | -27.06          | 33.70                 | 43.82                   | 54.00          | 3.54        | H                  |

**PEAK Results:**
**802.11a**

## Channel 36

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17865.250       | 53.52                       | -25.55          | 42.30                 | 36.77                   | 74.00          | 20.48       | V                  |
| 17900.450       | 52.79                       | -25.55          | 42.30                 | 36.04                   | 74.00          | 21.21       | V                  |
| 13590.650       | 48.76                       | -29.88          | 40.60                 | 38.04                   | 68.20          | 19.44       | V                  |
| 13804.600       | 48.74                       | -29.41          | 40.90                 | 37.25                   | 68.20          | 19.46       | V                  |
| 5149.520        | 68.52                       | -27.27          | 32.70                 | 63.09                   | 74.00          | 5.48        | H                  |
| 5149.660        | 66.78                       | -27.27          | 32.70                 | 61.35                   | 74.00          | 7.22        | H                  |

## Channel 64

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17928.500       | 53.35                       | -25.55          | 42.30                 | 36.60                   | 74.00          | 20.65       | V                  |
| 17855.900       | 53.14                       | -25.55          | 42.30                 | 36.39                   | 74.00          | 20.86       | V                  |
| 13145.700       | 49.33                       | -29.74          | 40.00                 | 39.07                   | 68.20          | 18.87       | V                  |
| 14157.700       | 49.19                       | -28.86          | 40.50                 | 37.55                   | 68.20          | 19.01       | V                  |
| 5350.960        | 71.21                       | -27.08          | 33.50                 | 64.79                   | 74.00          | 2.79        | H                  |
| 5352.448        | 69.70                       | -27.08          | 33.50                 | 63.28                   | 74.00          | 4.30        | H                  |

## Channel 100

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 16498.500       | 54.34                       | -27.85          | 40.50                 | 41.69                   | 68.20          | 13.86       | V                  |
| 16501.800       | 53.71                       | -27.85          | 40.50                 | 41.06                   | 68.20          | 14.49       | V                  |
| 14034.500       | 49.45                       | -28.98          | 40.70                 | 37.73                   | 68.20          | 18.75       | V                  |
| 14097.200       | 49.15                       | -28.98          | 40.50                 | 37.63                   | 68.20          | 19.05       | V                  |
| 5456.035        | 60.83                       | -27.06          | 33.70                 | 54.19                   | 74.00          | 13.17       | H                  |
| 5469.685        | 67.88                       | -27.06          | 33.70                 | 61.24                   | 68.20          | 0.32        | H                  |

### 802.11n-HT20

#### Channel 36

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17947.200       | 53.41                       | -25.55          | 42.30                 | 36.66                   | 74.00          | 20.59       | V                  |
| 17908.700       | 52.84                       | -25.55          | 42.30                 | 36.09                   | 74.00          | 21.16       | V                  |
| 14121.950       | 48.79                       | -28.86          | 40.50                 | 37.15                   | 68.20          | 19.41       | H                  |
| 14210.500       | 48.73                       | -28.86          | 40.40                 | 37.19                   | 68.20          | 19.47       | V                  |
| 5146.880        | 66.89                       | -27.34          | 32.70                 | 61.53                   | 74.00          | 7.11        | H                  |
| 5148.980        | 65.63                       | -27.27          | 32.70                 | 60.20                   | 74.00          | 8.37        | H                  |

#### Channel 64

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17923.000       | 53.27                       | -25.55          | 42.30                 | 36.52                   | 74.00          | 20.73       | V                  |
| 17926.850       | 53.07                       | -25.55          | 42.30                 | 36.32                   | 74.00          | 20.93       | V                  |
| 14109.300       | 49.00                       | -28.86          | 40.50                 | 37.36                   | 68.20          | 19.20       | H                  |
| 14147.800       | 48.73                       | -28.86          | 40.50                 | 37.09                   | 68.20          | 19.47       | V                  |
| 5351.808        | 67.09                       | -27.08          | 33.50                 | 60.67                   | 74.00          | 6.91        | H                  |
| 5351.568        | 66.43                       | -27.08          | 33.50                 | 60.01                   | 74.00          | 7.57        | H                  |

#### Channel 100

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 16493.550       | 53.77                       | -27.85          | 40.50                 | 41.12                   | 68.20          | 14.43       | V                  |
| 17920.250       | 53.04                       | -25.55          | 42.30                 | 36.29                   | 74.00          | 20.96       | V                  |
| 14032.300       | 49.44                       | -28.98          | 40.70                 | 37.72                   | 68.20          | 18.76       | V                  |
| 13844.750       | 49.08                       | -29.41          | 40.90                 | 37.59                   | 68.20          | 19.12       | V                  |
| 5458.615        | 61.26                       | -27.06          | 33.70                 | 54.62                   | 74.00          | 12.74       | H                  |
| 5469.835        | 66.63                       | -27.06          | 33.70                 | 59.99                   | 68.20          | 1.57        | H                  |

**802.11n-HT40**
**Channel 38**

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17917.500       | 53.21                       | -25.55          | 42.30                 | 36.46                   | 74.00          | 20.79       | V                  |
| 17923.000       | 52.85                       | -25.55          | 42.30                 | 36.10                   | 74.00          | 21.15       | H                  |
| 14064.200       | 50.08                       | -28.98          | 40.50                 | 38.56                   | 68.20          | 18.12       | H                  |
| 14593.300       | 48.98                       | -28.77          | 39.70                 | 38.05                   | 68.20          | 19.22       | H                  |
| 5144.180        | 68.06                       | -27.34          | 32.70                 | 62.70                   | 74.00          | 5.94        | H                  |
| 5149.020        | 67.93                       | -27.27          | 32.70                 | 62.50                   | 74.00          | 6.07        | H                  |

**Channel 62**

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17928.500       | 53.55                       | -25.55          | 42.30                 | 36.80                   | 74.00          | 20.45       | V                  |
| 17931.250       | 53.17                       | -25.55          | 42.30                 | 36.42                   | 74.00          | 20.83       | V                  |
| 14108.750       | 49.49                       | -28.98          | 40.50                 | 37.97                   | 68.20          | 18.71       | H                  |
| 14044.400       | 49.05                       | -28.98          | 40.70                 | 37.33                   | 68.20          | 19.15       | H                  |
| 5350.080        | 68.74                       | -27.08          | 33.50                 | 62.32                   | 74.00          | 5.26        | H                  |
| 5350.512        | 68.20                       | -27.08          | 33.50                 | 61.78                   | 74.00          | 5.80        | H                  |

**Channel 102**

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17925.200       | 52.86                       | -25.55          | 42.30                 | 36.11                   | 74.00          | 21.14       | H                  |
| 17899.350       | 52.81                       | -25.55          | 42.30                 | 36.06                   | 74.00          | 21.19       | H                  |
| 14137.350       | 48.77                       | -28.86          | 40.50                 | 37.13                   | 68.20          | 19.43       | V                  |
| 14208.850       | 48.66                       | -28.86          | 40.40                 | 37.12                   | 68.20          | 19.54       | H                  |
| 5459.440        | 58.06                       | -27.06          | 33.70                 | 51.42                   | 74.00          | 15.94       | H                  |
| 5469.955        | 66.81                       | -27.06          | 33.70                 | 60.17                   | 68.20          | 1.39        | H                  |

**802.11ac-HT20**

## Channel 36

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17950.500       | 53.48                       | -25.55          | 42.30                 | 36.73                   | 74.00          | 20.52       | V                  |
| 17915.300       | 53.07                       | -25.55          | 42.30                 | 36.32                   | 74.00          | 20.93       | V                  |
| 14076.850       | 49.49                       | -28.98          | 40.50                 | 37.97                   | 68.20          | 18.71       | H                  |
| 13329.950       | 49.41                       | -30.08          | 40.30                 | 39.19                   | 74.00          | 24.59       | H                  |
| 5149.480        | 66.32                       | -27.27          | 32.70                 | 60.89                   | 74.00          | 7.68        | H                  |
| 5148.880        | 65.76                       | -27.27          | 32.70                 | 60.33                   | 74.00          | 8.24        | H                  |

## Channel 64

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17910.900       | 53.43                       | -25.55          | 42.30                 | 36.68                   | 74.00          | 20.57       | V                  |
| 17934.000       | 53.17                       | -25.55          | 42.30                 | 36.42                   | 74.00          | 20.83       | V                  |
| 14134.600       | 49.20                       | -28.86          | 40.50                 | 37.56                   | 68.20          | 19.00       | V                  |
| 14091.700       | 48.92                       | -28.98          | 40.50                 | 37.40                   | 68.20          | 19.28       | V                  |
| 5353.360        | 70.95                       | -27.08          | 33.50                 | 64.53                   | 74.00          | 3.05        | H                  |
| 5351.264        | 68.49                       | -27.08          | 33.50                 | 62.07                   | 74.00          | 5.51        | H                  |

## Channel 100

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 16501.250       | 53.93                       | -27.85          | 40.50                 | 41.28                   | 68.20          | 14.27       | V                  |
| 16499.050       | 53.78                       | -27.85          | 40.50                 | 41.13                   | 68.20          | 14.42       | V                  |
| 13810.650       | 49.30                       | -29.41          | 40.90                 | 37.81                   | 68.20          | 18.90       | V                  |
| 13894.800       | 48.89                       | -29.33          | 40.90                 | 37.32                   | 68.20          | 19.31       | H                  |
| 5455.915        | 63.42                       | -27.06          | 33.70                 | 56.78                   | 74.00          | 10.58       | H                  |
| 5467.375        | 67.82                       | -27.06          | 33.70                 | 61.18                   | 68.20          | 0.38        | H                  |

### 802.11ac-HT40

#### Channel 38

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17915.850       | 53.34                       | -25.55          | 42.30                 | 36.59                   | 74.00          | 20.66       | H                  |
| 17936.200       | 52.81                       | -25.55          | 42.30                 | 36.06                   | 74.00          | 21.19       | V                  |
| 14048.800       | 49.25                       | -28.98          | 40.70                 | 37.53                   | 68.20          | 18.95       | V                  |
| 14092.800       | 49.09                       | -28.98          | 40.50                 | 37.57                   | 68.20          | 19.11       | H                  |
| 5149.400        | 68.96                       | -27.27          | 32.70                 | 63.53                   | 74.00          | 5.04        | H                  |
| 5149.320        | 66.42                       | -27.27          | 32.70                 | 60.99                   | 74.00          | 7.58        | H                  |

#### Channel 62

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17963.700       | 53.28                       | -25.55          | 42.30                 | 36.53                   | 74.00          | 20.72       | V                  |
| 17906.500       | 52.91                       | -25.55          | 42.30                 | 36.16                   | 74.00          | 21.09       | V                  |
| 14141.750       | 49.20                       | -28.86          | 40.50                 | 37.56                   | 68.20          | 19.00       | V                  |
| 14126.350       | 49.18                       | -28.86          | 40.50                 | 37.54                   | 68.20          | 19.02       | H                  |
| 5351.344        | 67.10                       | -27.08          | 33.50                 | 60.68                   | 74.00          | 6.90        | H                  |
| 5352.064        | 66.02                       | -27.08          | 33.50                 | 59.60                   | 74.00          | 7.98        | H                  |

#### Channel 102

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17877.350       | 53.02                       | -25.55          | 42.30                 | 36.27                   | 74.00          | 20.98       | V                  |
| 17886.150       | 52.56                       | -25.55          | 42.30                 | 35.81                   | 74.00          | 21.44       | H                  |
| 13816.700       | 49.01                       | -29.41          | 40.90                 | 37.52                   | 68.20          | 19.19       | V                  |
| 13833.200       | 48.67                       | -29.41          | 40.90                 | 37.18                   | 68.20          | 19.53       | H                  |
| 5458.480        | 60.51                       | -27.06          | 33.70                 | 53.87                   | 74.00          | 13.49       | H                  |
| 5469.265        | 66.03                       | -27.06          | 33.70                 | 59.39                   | 68.20          | 2.17        | H                  |

**802.11ac-HT80**
**Channel 42**

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17936.750       | 53.73                       | -25.55          | 42.30                 | 36.98                   | 74.00          | 20.27       | H                  |
| 17985.700       | 53.34                       | -25.55          | 42.30                 | 36.59                   | 74.00          | 20.66       | V                  |
| 13824.400       | 49.30                       | -29.41          | 40.90                 | 37.81                   | 68.20          | 18.90       | V                  |
| 13790.300       | 49.29                       | -29.41          | 40.90                 | 37.80                   | 68.20          | 18.91       | V                  |
| 5135.000        | 66.90                       | -27.34          | 32.70                 | 61.54                   | 74.00          | 7.10        | H                  |
| 5146.860        | 66.63                       | -27.34          | 32.70                 | 61.27                   | 74.00          | 7.37        | H                  |

**Channel 58**

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17913.650       | 53.68                       | -25.55          | 42.30                 | 36.93                   | 74.00          | 20.32       | V                  |
| 17884.500       | 53.37                       | -25.55          | 42.30                 | 36.62                   | 74.00          | 20.63       | H                  |
| 14136.800       | 49.38                       | -28.86          | 40.50                 | 37.74                   | 68.20          | 18.82       | H                  |
| 14061.450       | 49.05                       | -28.98          | 40.50                 | 37.53                   | 68.20          | 19.15       | V                  |
| 5352.960        | 67.71                       | -27.08          | 33.50                 | 61.29                   | 74.00          | 6.29        | H                  |
| 5350.432        | 67.29                       | -27.08          | 33.50                 | 60.87                   | 74.00          | 6.71        | H                  |

**Channel 106**

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 17921.900       | 53.33                       | -25.55          | 42.30                 | 36.58                   | 74.00          | 20.67       | V                  |
| 17912.000       | 53.11                       | -25.55          | 42.30                 | 36.36                   | 74.00          | 20.89       | H                  |
| 13895.350       | 49.16                       | -29.33          | 40.90                 | 37.59                   | 68.20          | 19.04       | H                  |
| 13270.550       | 48.86                       | -29.75          | 40.30                 | 38.31                   | 74.00          | 25.14       | V                  |
| 5443.915        | 66.17                       | -27.18          | 33.60                 | 59.75                   | 74.00          | 7.83        | H                  |
| 5468.245        | 67.34                       | -27.06          | 33.70                 | 60.70                   | 68.20          | 0.86        | H                  |

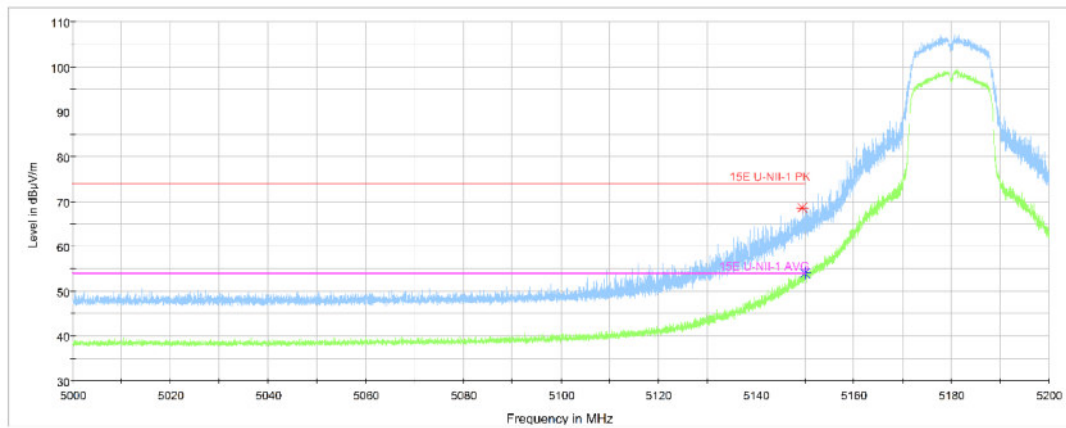
**Conclusion: PASS**

### Band edge compliance

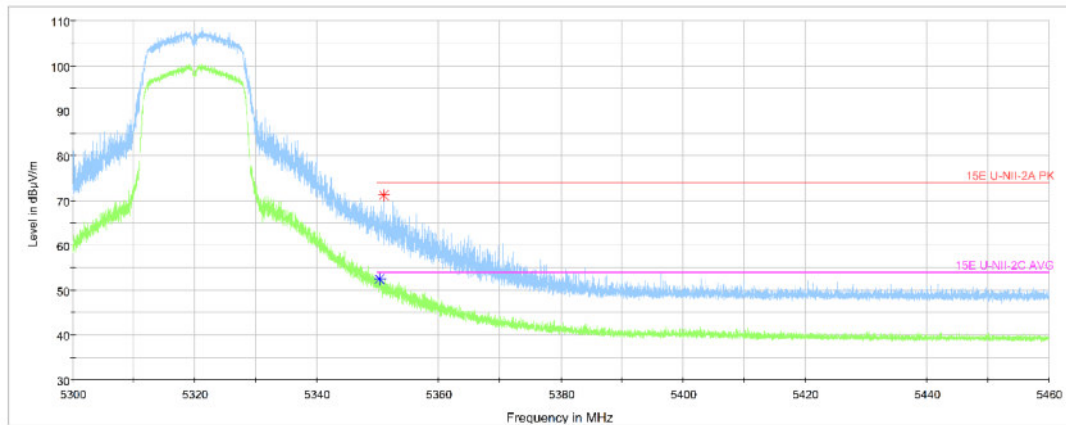
| Mode          | Channel  | Test Results | Conclusion |
|---------------|----------|--------------|------------|
| 802.11a       | 5180 MHz | Fig.1        | P          |
|               | 5320 MHz | Fig.2        | P          |
|               | 5500 MHz | Fig.3        | P          |
|               | 5700 MHz | Fig.4        | P          |
| 802.11n HT20  | 5180 MHz | Fig.5        | P          |
|               | 5320 MHz | Fig.6        | P          |
|               | 5500 MHz | Fig.7        | P          |
|               | 5700 MHz | Fig.8        | P          |
| 802.11n HT40  | 5190 MHz | Fig.9        | P          |
|               | 5310 MHz | Fig.10       | P          |
|               | 5510 MHz | Fig.11       | P          |
|               | 5670 MHz | Fig.12       | P          |
| 802.11ac HT20 | 5180 MHz | Fig.13       | P          |
|               | 5320 MHz | Fig.14       | P          |
|               | 5500 MHz | Fig.15       | P          |
|               | 5700 MHz | Fig.16       | P          |
| 802.11ac HT40 | 5190 MHz | Fig.17       | P          |
|               | 5310 MHz | Fig.18       | P          |
|               | 5510 MHz | Fig.19       | P          |
|               | 5670 MHz | Fig.20       | P          |
| 802.11ac HT80 | 5210MHz  | Fig.21       | P          |
|               | 5290MHz  | Fig.22       | P          |
|               | 5530MHz  | Fig.23       | P          |
|               | 5610MHz  | Fig.24       | P          |

**Conclusion: PASS**

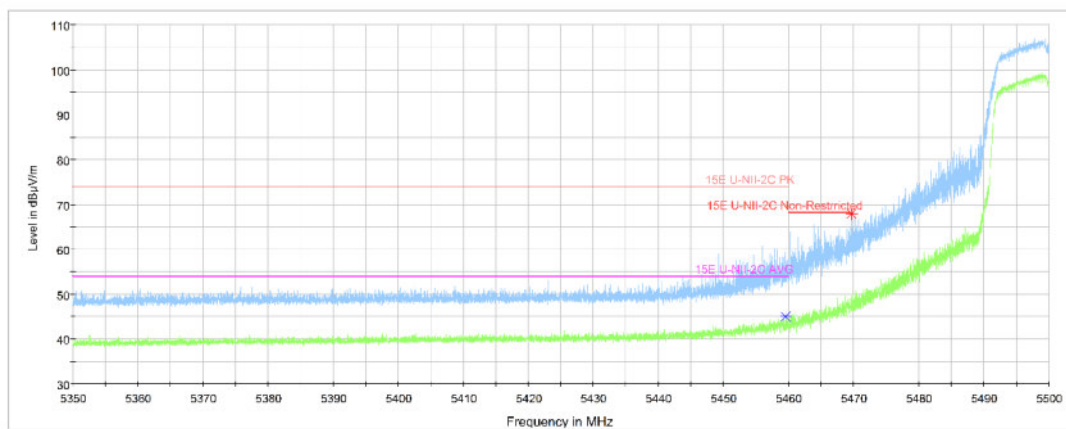
**Test graphs as below:**



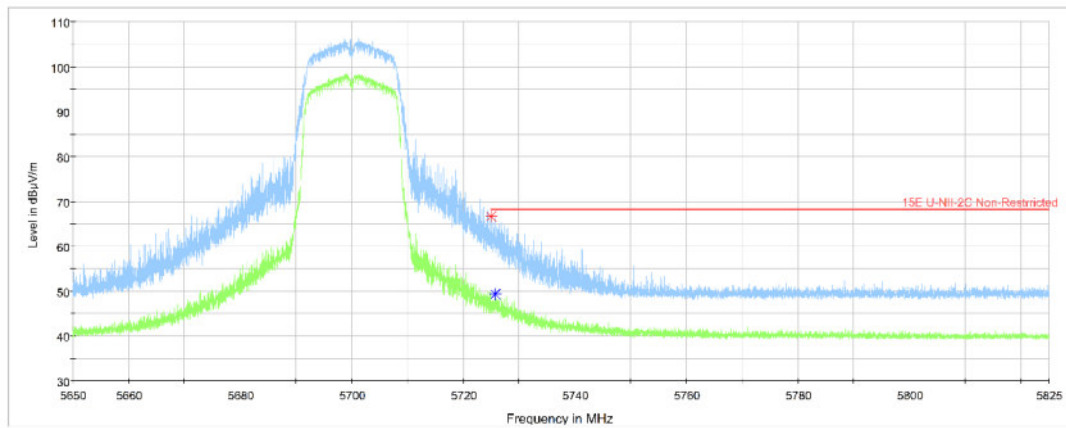
**Fig. 1 Band Edges (802.11a Ch36, 5180MHz)**



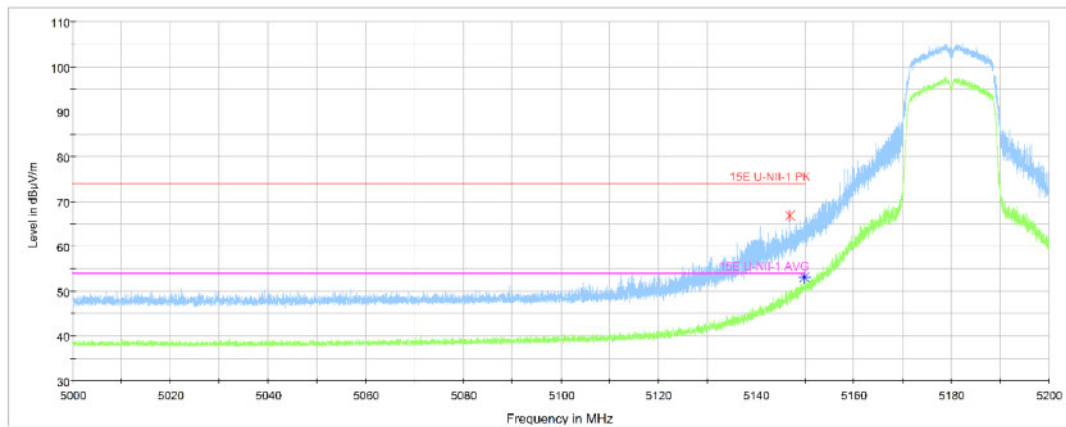
**Fig. 2 Band Edges (802.11a Ch64, 5320MHz)**



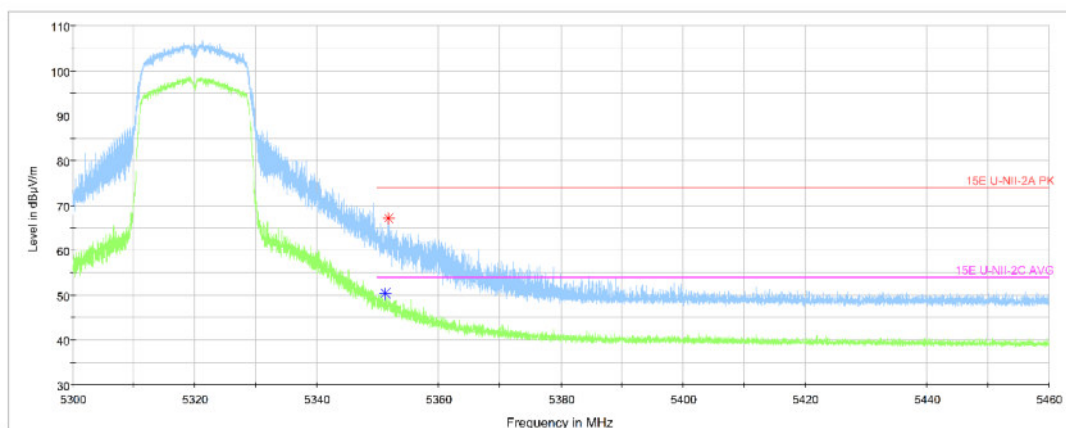
**Fig. 3 Band Edges (802.11a Ch100, 5500MHz)**



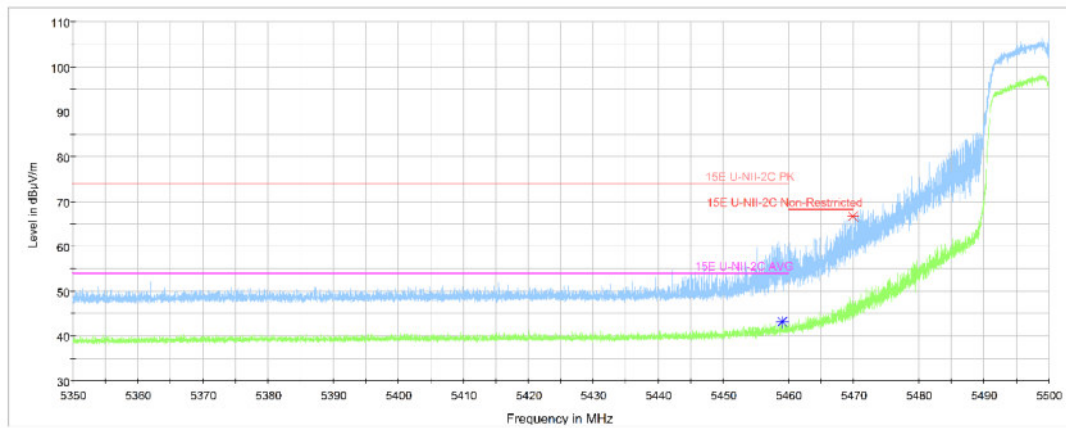
**Fig. 4 Band Edges (802.11a Ch140, 5700MHz)**



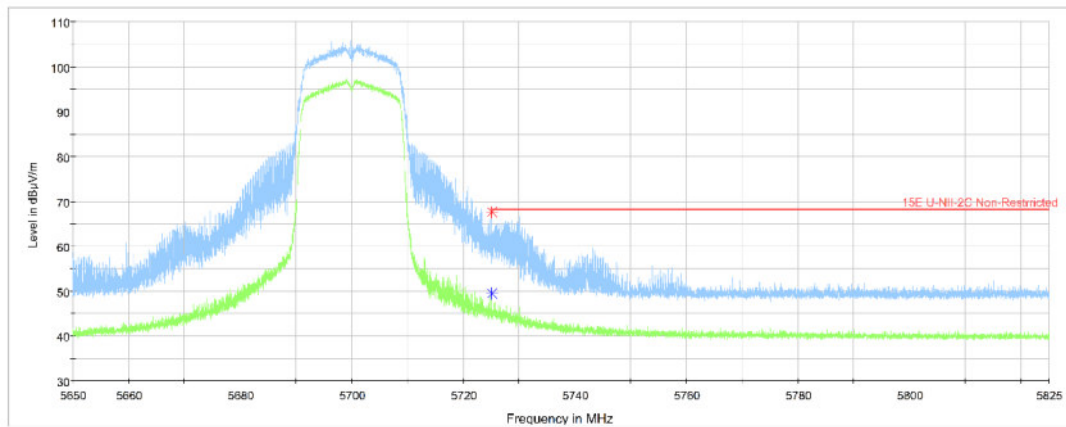
**Fig. 5 Band Edges (802.11n-HT20 Ch36, 5180MHz)**



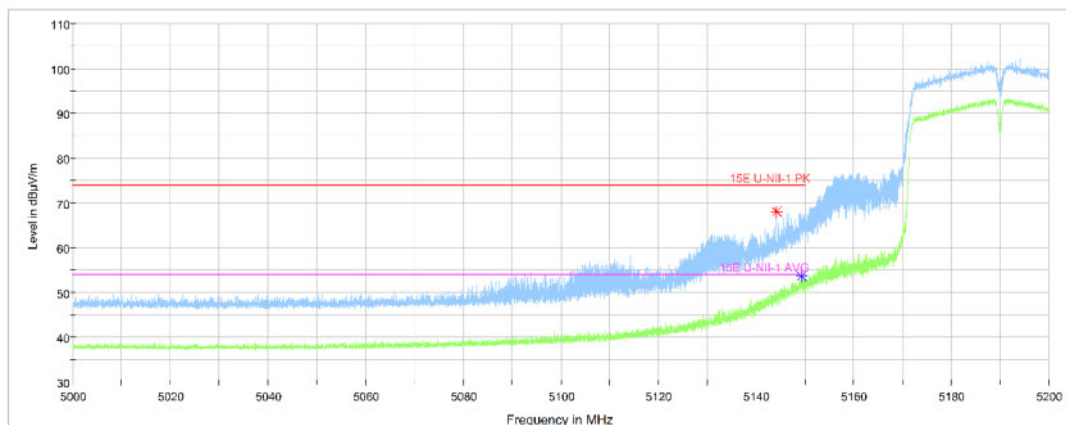
**Fig. 6 Band Edges (802.11n-HT20 Ch64, 5320MHz)**



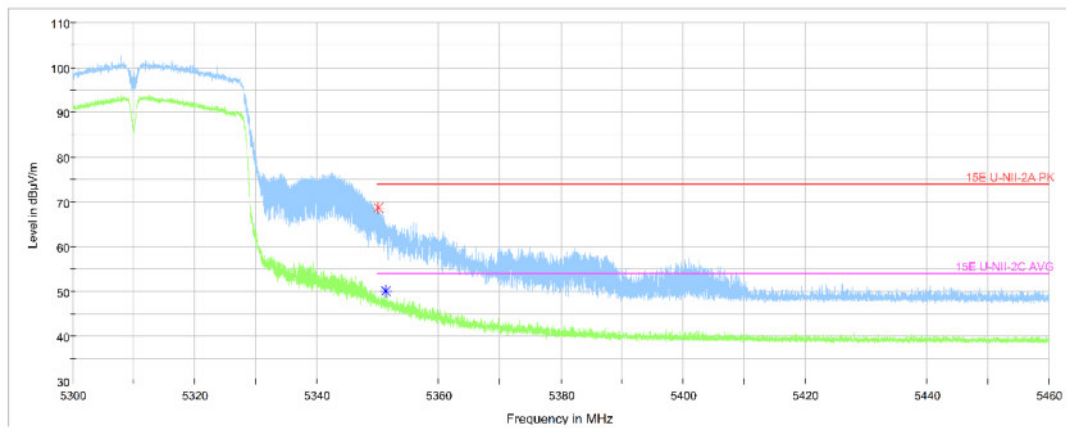
**Fig. 7 Band Edges (802.11n-HT20 Ch100, 5500MHz)**



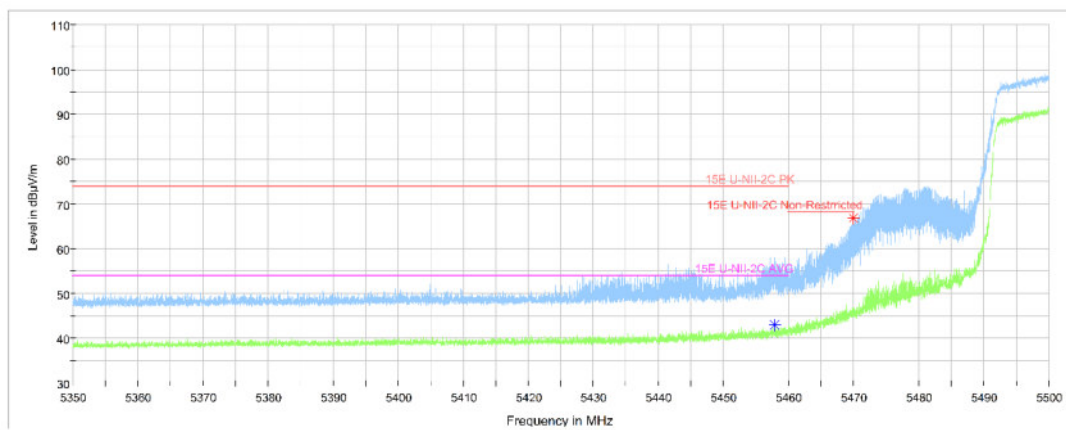
**Fig. 8 Band Edges (802.11n-HT20 Ch140, 5700MHz)**



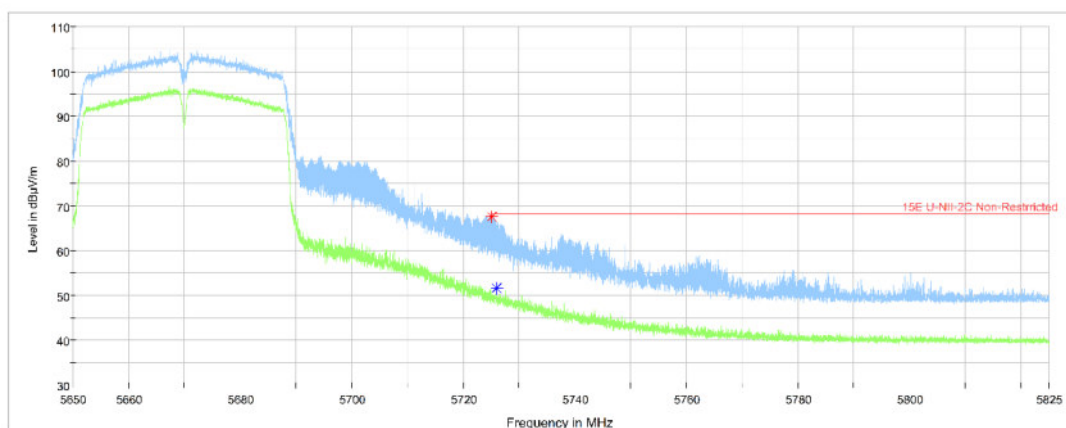
**Fig. 9 Band Edges (802.11n-HT40 Ch38, 5190MHz)**



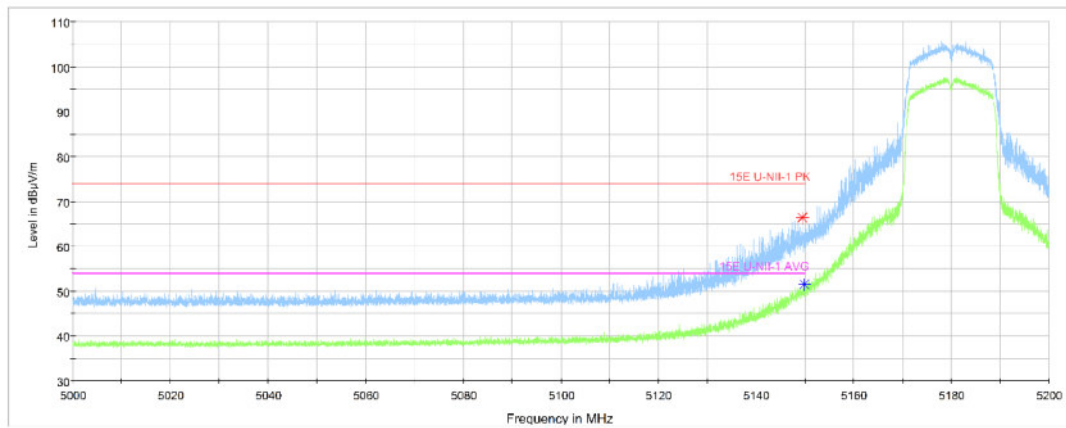
**Fig. 10 Band Edges (802.11n-HT40 Ch62, 5310MHz)**



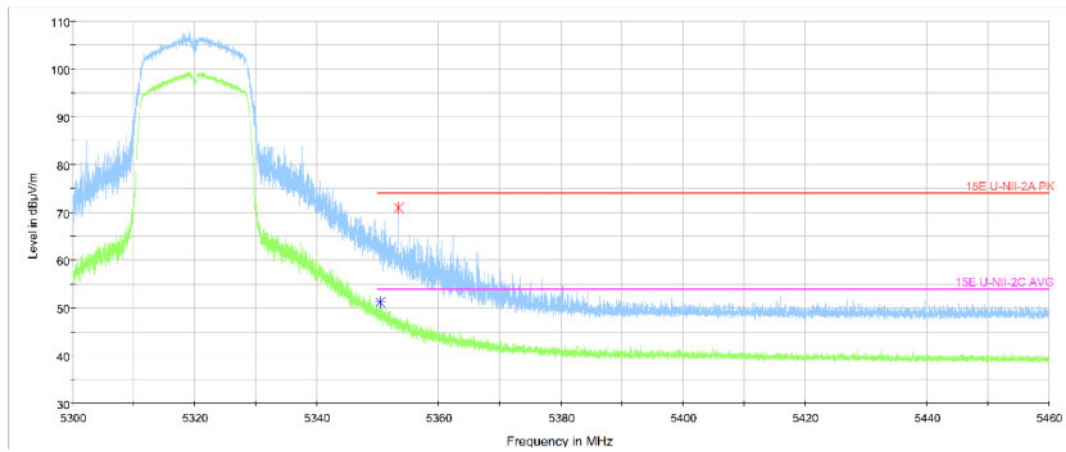
**Fig. 11 Band Edges (802.11n-HT40 Ch102, 5510MHz)**



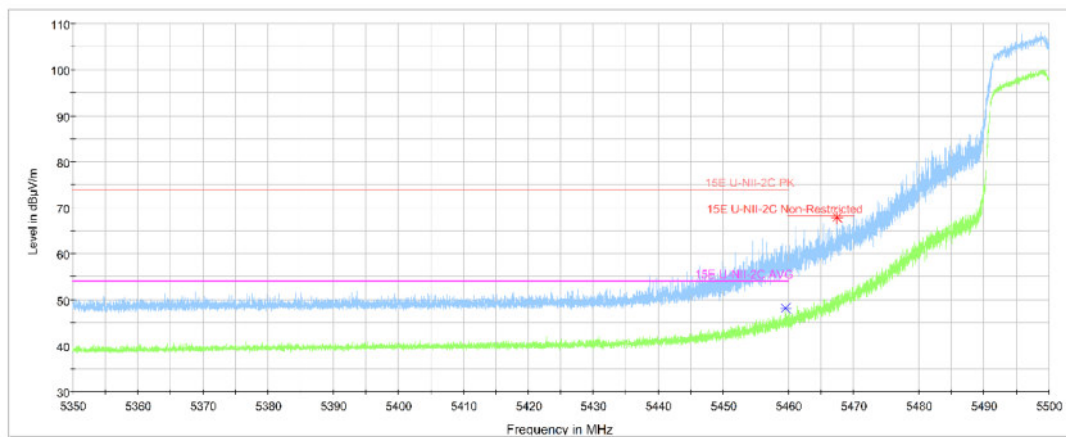
**Fig. 12 Band Edges (802.11n-HT40 Ch134, 5670MHz)**



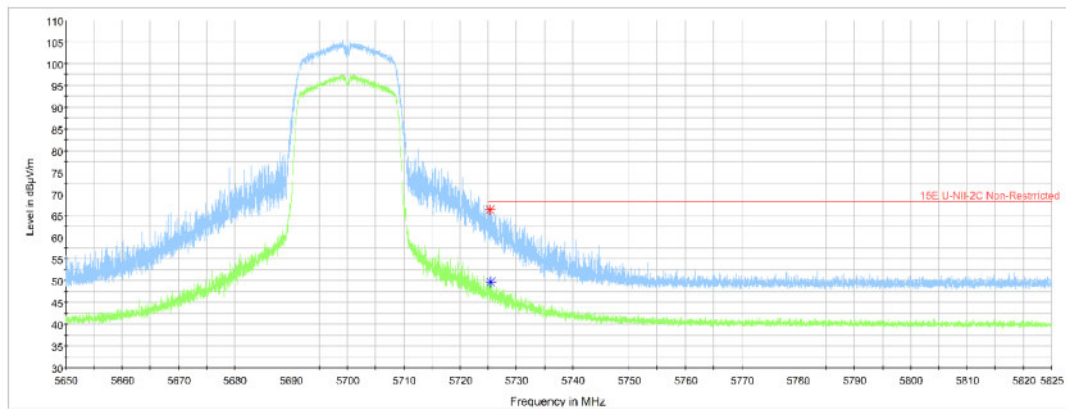
**Fig. 13 Band Edges (802.11ac-HT20 Ch36, 5180MHz)**



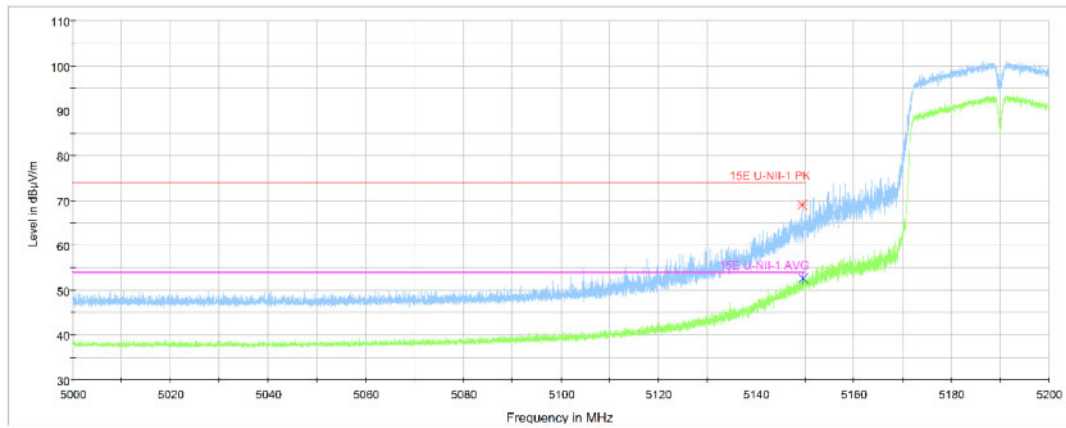
**Fig. 14 Band Edges (802.11ac-HT20 Ch64, 5320MHz)**



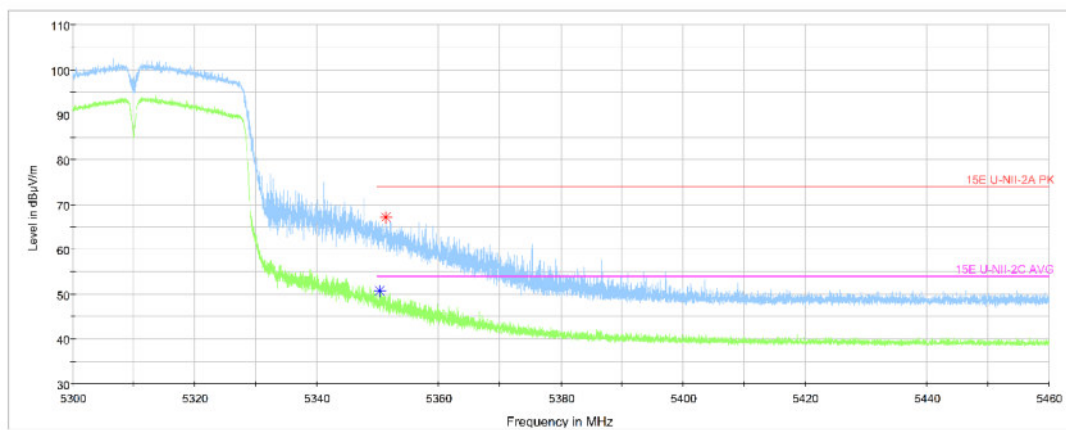
**Fig. 15 Band Edges (802.11ac-HT20 Ch100, 5500MHz)**



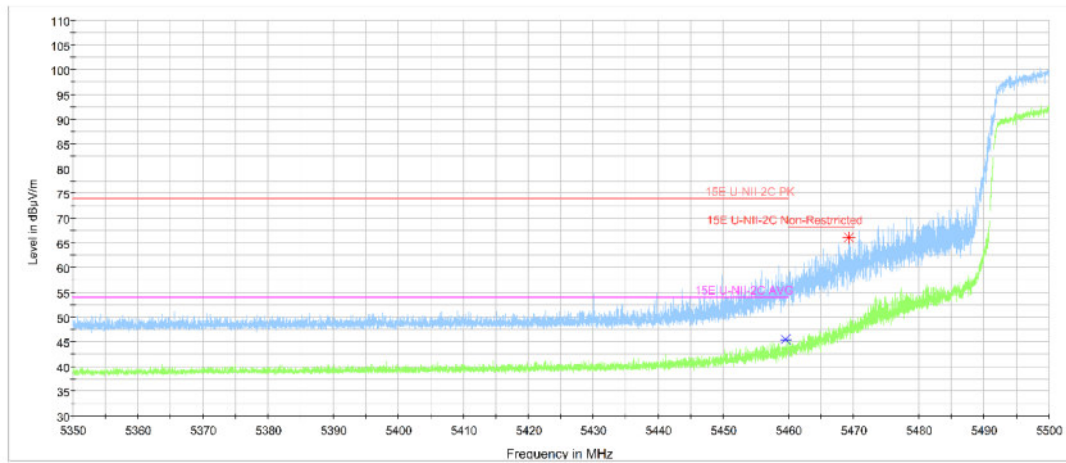
**Fig. 16 Band Edges (802.11ac-HT20 Ch140, 5700MHz)**



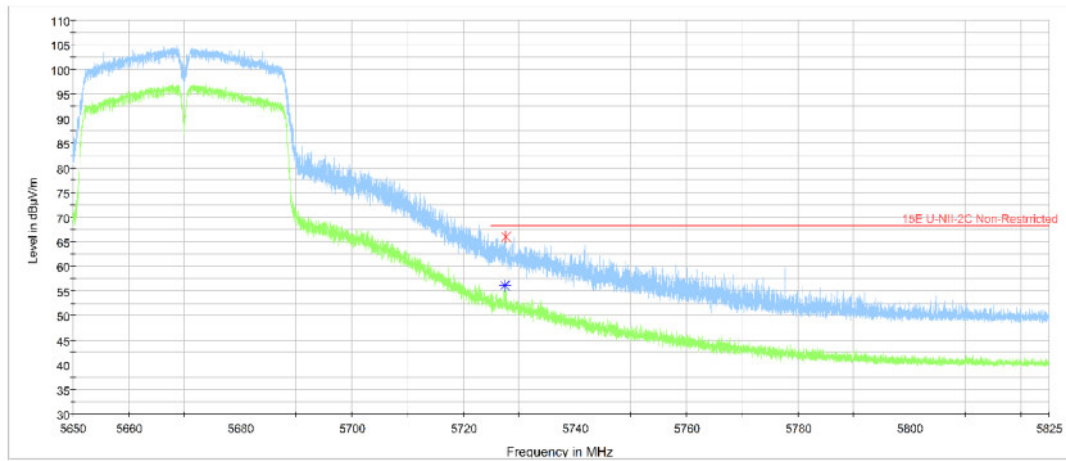
**Fig. 17 Band Edges (802.11ac-HT40 Ch38, 5190MHz)**



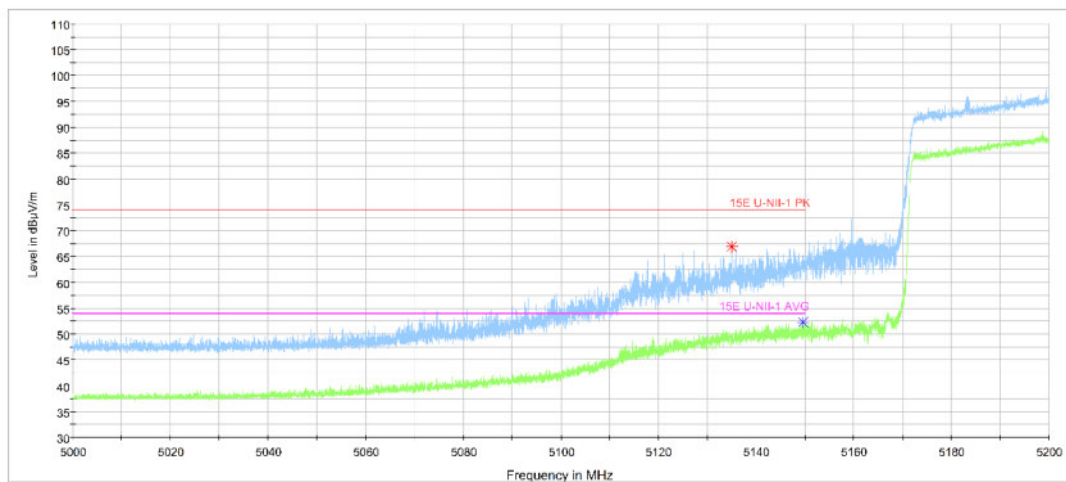
**Fig. 18 Band Edges (802.11ac-HT40 Ch62, 5310MHz)**



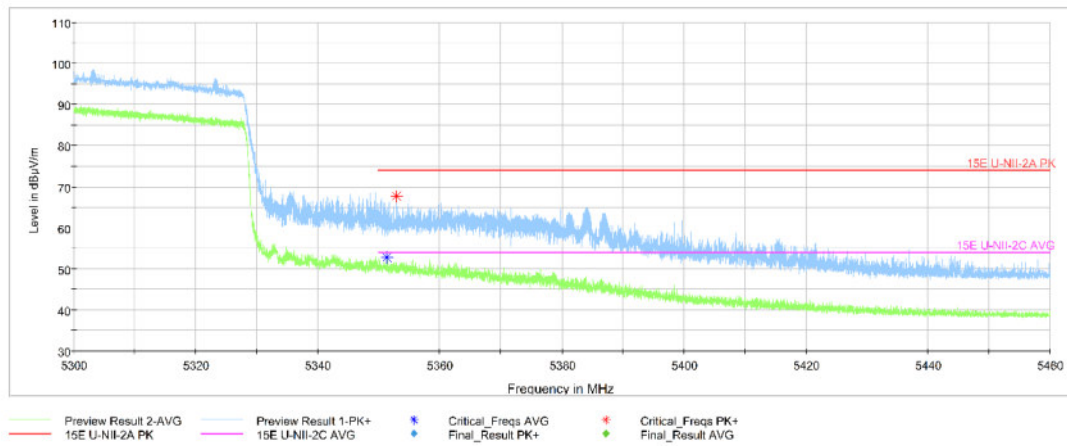
**Fig. 19 Band Edges (802.11ac-HT40 Ch102, 5510MHz)**



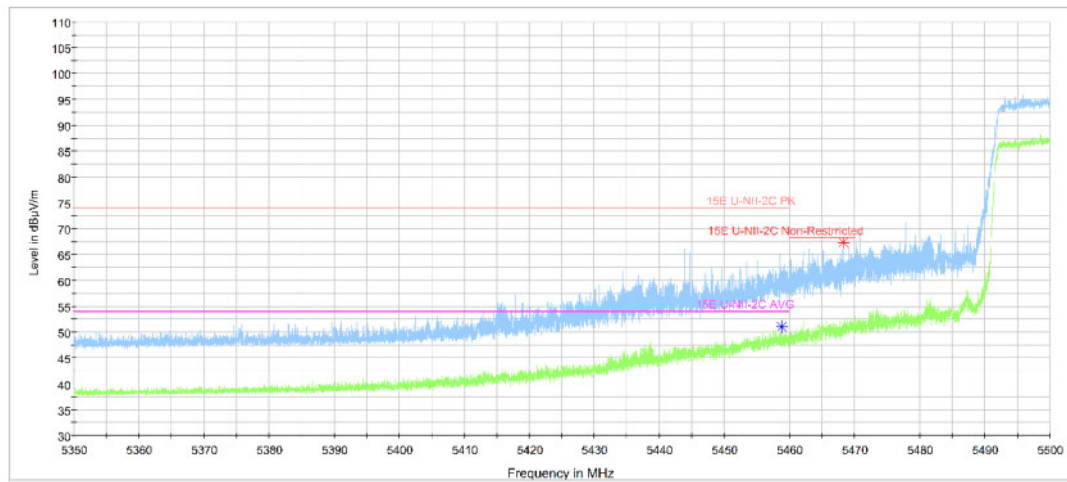
**Fig. 20 Band Edges (802.11ac-HT40 Ch134, 5670MHz)**



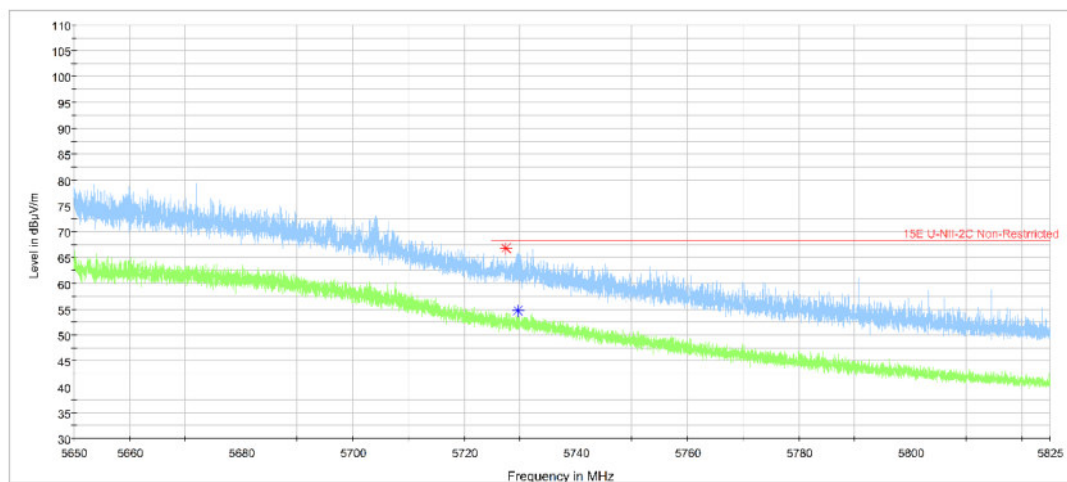
**Fig. 21 Band Edges (802.11ac-HT80 Ch42, 5210MHz)**



**Fig. 22 Band Edges (802.11ac-HT80 Ch58, 5290MHz)**



**Fig. 23 Band Edges (802.11ac-HT80 Ch106, 5530MHz)**



**Fig. 24 Band Edges (802.11ac-HT80 Ch122, 5610MHz)**

### **A.6. AC Powerline Conducted Emission (150kHz- 30MHz)**

### A.6.1 Summary

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 conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section

### A.6.2 Method of Measurement

See Clause 6.2 of ANSI C63.10 specifically.

See Clause 4 and Clause 5 of ANSI C63.10 generally.

The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector.

The conducted emission measurements were made with the following detector of the test receiver:  
Quasi-Peak / Average Detector.

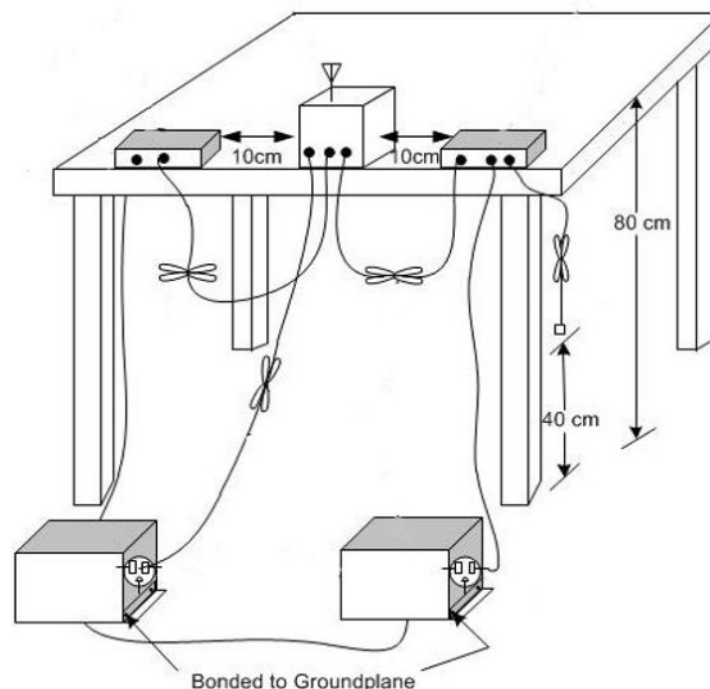
The measurement bandwidth is:

|                             |                  |
|-----------------------------|------------------|
| Frequency of Emission (MHz) | RBW/IF bandwidth |
| 0.15-30                     | 9kHz             |

### A.6.3 Test Condition

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

### A.6.4 Test setup



**Measurement Result and limit:**

WLAN (Quasi-peak Limit)

| Frequency range<br>(MHz) | Quasi-peak<br>Limit (dBμV) | Result (dBμV) |        | Conclusion |
|--------------------------|----------------------------|---------------|--------|------------|
|                          |                            | With charger  |        |            |
|                          |                            | 11a mode      | Idle   |            |
| 0.15 to 0.5              | 66 to 56                   | Fig.25        | Fig.26 | P          |
| 0.5 to 5                 | 56                         |               |        |            |
| 5 to 30                  | 60                         |               |        |            |

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

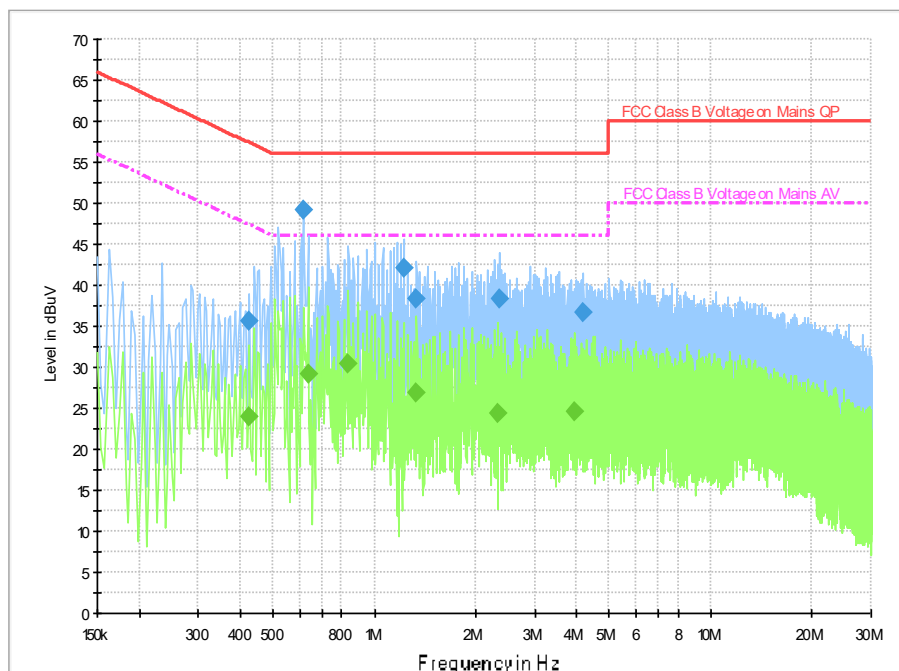
WLAN (Average Limit)

| Frequency range<br>(MHz) | Average Limit<br>(dBμV) | Result (dBμV) |        | Conclusion |
|--------------------------|-------------------------|---------------|--------|------------|
|                          |                         | With charger  |        |            |
|                          |                         | 11a mode      | Idle   |            |
| 0.15 to 0.5              | 56 to 46                | Fig.25        | Fig.26 | P          |
| 0.5 to 5                 | 46                      |               |        |            |
| 5 to 30                  | 50                      |               |        |            |

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

**Conclusion: PASS**

Test graphs as below:


**Fig. 25 Conducted Emission(802.11a, Ch36, TX)**

### Final Result 1

| Frequency (MHz) | QuasiPeak (dBμV) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|------------------|------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.426000        | 35.5             | 2000.0     | 9.000           | On     | N    | 19.9       | 21.8        | 57.3         |         |
| 0.614000        | 49.2             | 2000.0     | 9.000           | On     | L1   | 20.0       | 6.8         | 56.0         |         |
| 1.222000        | 42.1             | 2000.0     | 9.000           | On     | L1   | 19.9       | 13.9        | 56.0         |         |
| 1.334000        | 38.3             | 2000.0     | 9.000           | On     | L1   | 19.9       | 17.7        | 56.0         |         |
| 2.358000        | 38.4             | 2000.0     | 9.000           | On     | L1   | 19.8       | 17.6        | 56.0         |         |
| 4.174000        | 36.6             | 2000.0     | 9.000           | On     | L1   | 19.8       | 19.4        | 56.0         |         |

### Final Result 2

| Frequency (MHz) | CAverage (dBμV) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|-----------------|------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.426000        | 24.0            | 2000.0     | 9.000           | On     | N    | 19.9       | 23.4        | 0.42600      |         |
| 0.634000        | 29.2            | 2000.0     | 9.000           | On     | N    | 19.8       | 16.8        | 0.63400      |         |
| 0.838000        | 30.5            | 2000.0     | 9.000           | On     | L1   | 19.9       | 15.5        | 0.83800      |         |
| 1.334000        | 26.9            | 2000.0     | 9.000           | On     | L1   | 19.9       | 19.1        | 1.33400      |         |
| 2.334000        | 24.4            | 2000.0     | 9.000           | On     | L1   | 19.8       | 21.6        | 2.33400      |         |
| 3.954000        | 24.6            | 2000.0     | 9.000           | On     | L1   | 19.8       | 21.4        | 3.95400      |         |

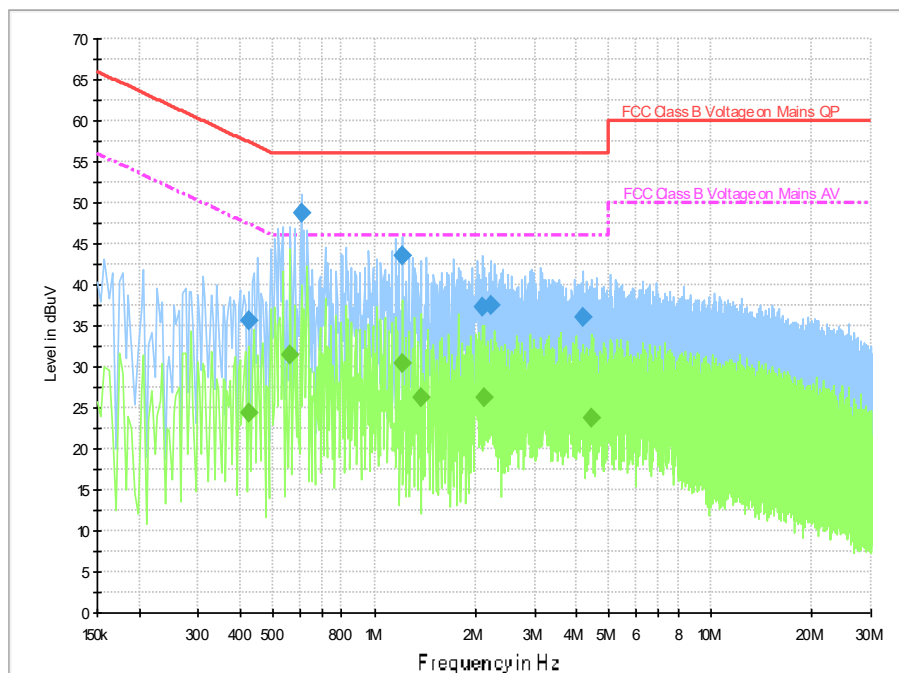


Fig. 26 Conducted Emission(802.11a, IDLE)

### Final Result 1

| Frequency<br>(MHz) | QuasiPeak<br>(dBμV) | Meas.<br>Time | Bandwidth<br>(kHz) | Filter | Line | Corr.<br>(dB) | Margin<br>(dB) | Limit<br>(dBμV) | Comment |
|--------------------|---------------------|---------------|--------------------|--------|------|---------------|----------------|-----------------|---------|
| 0.426000           | 35.6                | 2000.0        | 9.000              | On     | L1   | 20.0          | 21.7           | 57.3            |         |
| 0.606000           | 48.7                | 2000.0        | 9.000              | On     | L1   | 20.0          | 7.3            | 56.0            |         |
| 1.214000           | 43.6                | 2000.0        | 9.000              | On     | L1   | 19.9          | 12.4           | 56.0            |         |
| 2.102000           | 37.3                | 2000.0        | 9.000              | On     | L1   | 19.8          | 18.7           | 56.0            |         |
| 2.226000           | 37.6                | 2000.0        | 9.000              | On     | L1   | 19.8          | 18.4           | 56.0            |         |
| 4.162000           | 36.0                | 2000.0        | 9.000              | On     | L1   | 19.8          | 20.0           | 56.0            |         |

### Final Result 2

| Frequency<br>(MHz) | CAverage<br>(dBμV) | Meas.<br>Time | Bandwidth<br>(kHz) | Filter | Line | Corr.<br>(dB) | Margin<br>(dB) | Limit<br>(dBμV) | Comment |
|--------------------|--------------------|---------------|--------------------|--------|------|---------------|----------------|-----------------|---------|
| 0.422000           | 24.4               | 2000.0        | 9.000              | On     | N    | 19.9          | 23.0           | 0.42200         |         |
| 0.562000           | 31.4               | 2000.0        | 9.000              | On     | L1   | 20.0          | 14.6           | 0.56200         |         |
| 1.214000           | 30.4               | 2000.0        | 9.000              | On     | L1   | 19.9          | 15.6           | 1.21400         |         |
| 1.378000           | 26.3               | 2000.0        | 9.000              | On     | L1   | 19.9          | 19.7           | 1.37800         |         |
| 2.126000           | 26.2               | 2000.0        | 9.000              | On     | L1   | 19.8          | 19.8           | 2.12600         |         |
| 4.406000           | 23.7               | 2000.0        | 9.000              | On     | L1   | 19.8          | 22.3           | 4.40600         |         |

### **A.7. 99% Occupied bandwidth**

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

- a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than  $[10 \log (OBW/RBW)]$  below the reference level. Specific guidance is given in 4.1.5.2.
- d) Step a) through step c) might require iteration to adjust within the specified range.
- e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
- h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

#### **Measurement Uncertainty:**

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

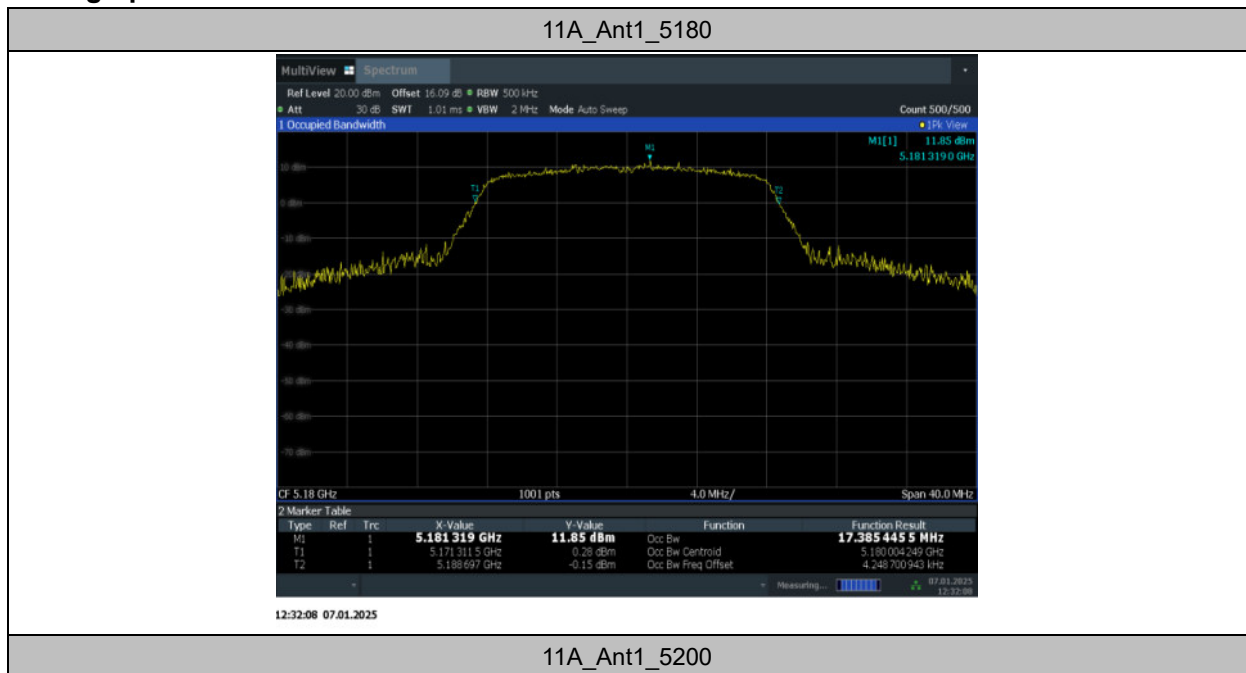
**EUT ID: UT12a**

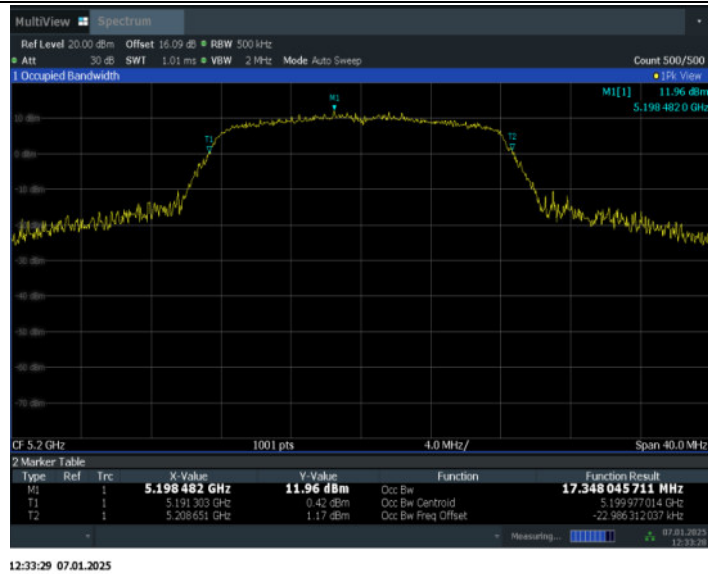
#### **Measurement Result:**

| TestMode  | Antenna | Frequency[MHz] | OCB [MHz] | FL[MHz]   | FH[MHz]   | Limit[MHz] | Verdict |
|-----------|---------|----------------|-----------|-----------|-----------|------------|---------|
| 11A       | Ant1    | 5180           | 17.385    | 5171.3115 | 5188.6970 | ---        | ---     |
|           |         | 5200           | 17.348    | 5191.3030 | 5208.6510 | ---        | ---     |
|           |         | 5240           | 17.416    | 5231.3172 | 5248.7334 | ---        | ---     |
|           |         | 5260           | 17.49     | 5251.2423 | 5268.7321 | ---        | ---     |
|           |         | 5280           | 17.436    | 5271.2936 | 5288.7293 | ---        | ---     |
|           |         | 5320           | 17.425    | 5311.2812 | 5328.7065 | ---        | ---     |
|           |         | 5500           | 17.394    | 5491.2689 | 5508.6631 | ---        | ---     |
|           |         | 5580           | 17.405    | 5571.2797 | 5588.6846 | ---        | ---     |
|           |         | 5700           | 17.412    | 5691.2768 | 5708.6887 | ---        | ---     |
|           |         | 5720           | 17.507    | 5711.2243 | 5728.7308 | ---        | ---     |
| 11N40SISO | Ant1    | 5190           | 36.895    | 5171.5531 | 5208.4485 | ---        | ---     |

|            |      |      |        |           |           |     |     |
|------------|------|------|--------|-----------|-----------|-----|-----|
|            |      | 5230 | 36.977 | 5211.5418 | 5248.5193 | --- | --- |
|            |      | 5270 | 36.858 | 5251.5829 | 5288.4412 | --- | --- |
|            |      | 5310 | 37.024 | 5291.4499 | 5328.4736 | --- | --- |
|            |      | 5510 | 36.764 | 5491.6353 | 5528.3996 | --- | --- |
|            |      | 5550 | 36.954 | 5531.5232 | 5568.4774 | --- | --- |
|            |      | 5670 | 36.923 | 5651.5372 | 5688.4607 | --- | --- |
|            |      | 5710 | 36.867 | 5691.5612 | 5728.4286 | --- | --- |
| 11AC20SISO | Ant1 | 5180 | 18.184 | 5170.9398 | 5189.1235 | --- | --- |
|            |      | 5200 | 18.13  | 5190.9055 | 5209.0352 | --- | --- |
|            |      | 5240 | 18.202 | 5230.9000 | 5249.1021 | --- | --- |
|            |      | 5260 | 18.218 | 5250.8938 | 5269.1121 | --- | --- |
|            |      | 5280 | 18.12  | 5270.9361 | 5289.0561 | --- | --- |
|            |      | 5320 | 18.175 | 5310.9415 | 5329.1170 | --- | --- |
|            |      | 5500 | 18.252 | 5490.8737 | 5509.1257 | --- | --- |
|            |      | 5580 | 18.2   | 5570.8663 | 5589.0665 | --- | --- |
|            |      | 5700 | 18.104 | 5690.9570 | 5709.0613 | --- | --- |
|            |      | 5720 | 18.18  | 5710.8749 | 5729.0550 | --- | --- |
| 11AC80SISO | Ant1 | 5210 | 75.435 | 5172.2376 | 5247.6722 | --- | --- |
|            |      | 5290 | 75.587 | 5252.2491 | 5327.8359 | --- | --- |
|            |      | 5530 | 75.488 | 5492.1501 | 5567.6383 | --- | --- |
|            |      | 5610 | 75.61  | 5572.1215 | 5647.7314 | --- | --- |
|            |      | 5690 | 75.559 | 5652.1056 | 5727.6645 | --- | --- |

Test graphs as below:





11A\_Ant1\_5240



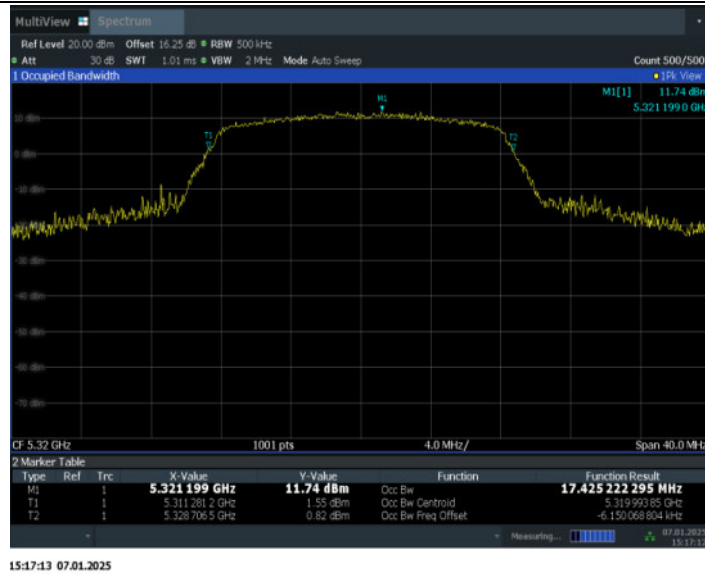
11A\_Ant1\_5260



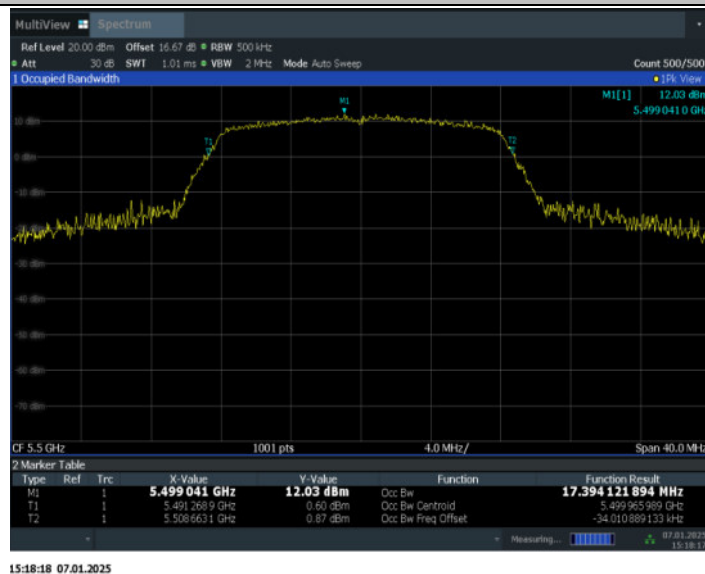
11A\_Ant1\_5280



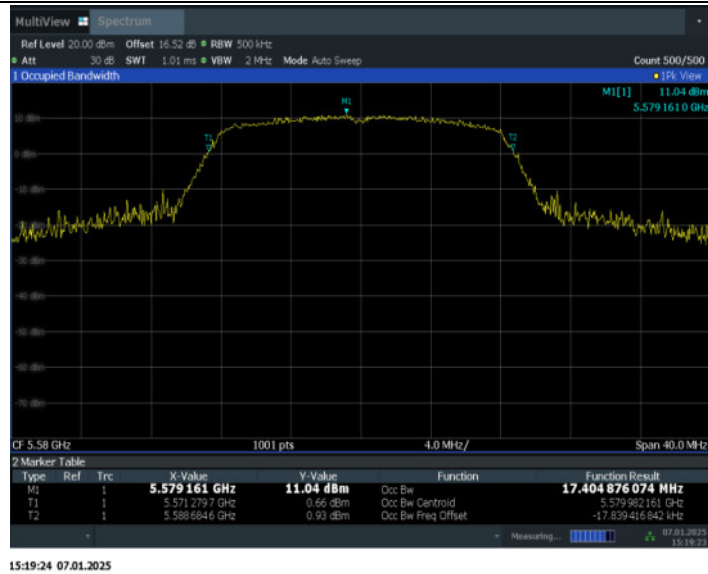
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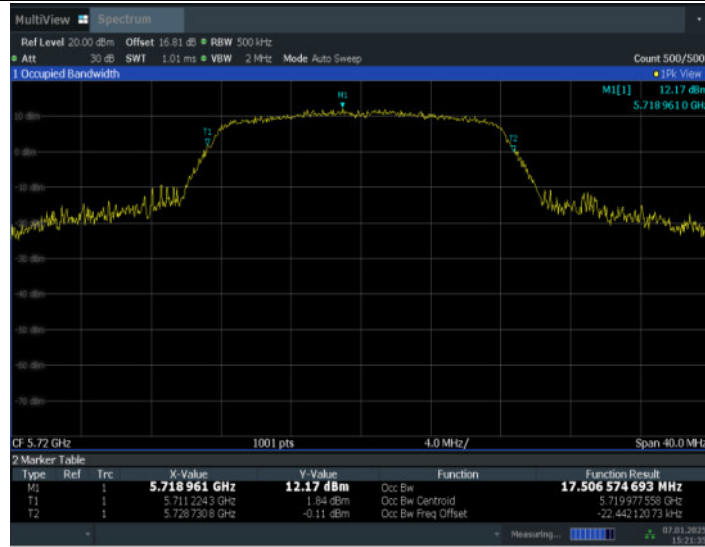
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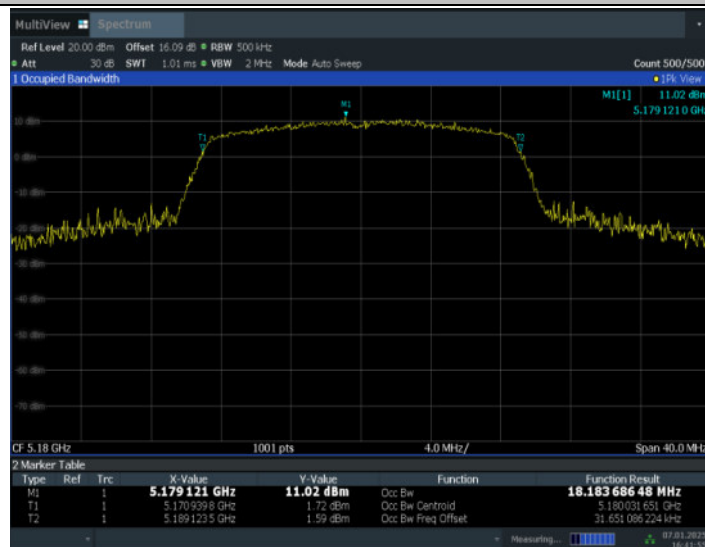


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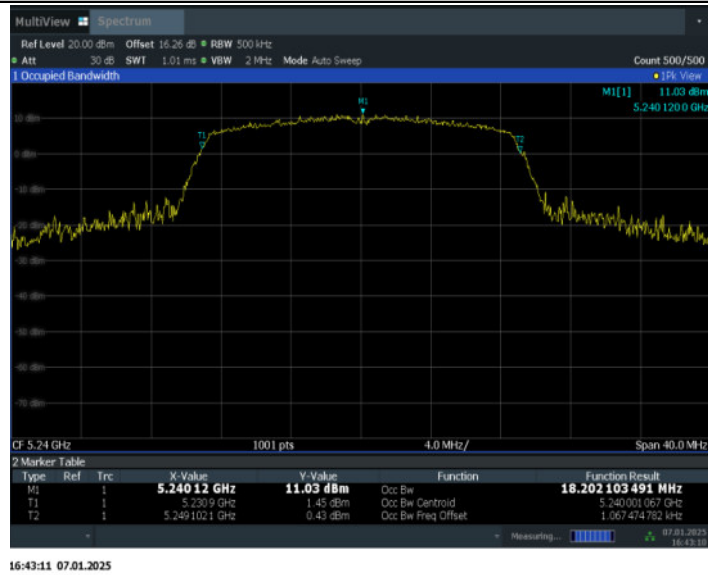


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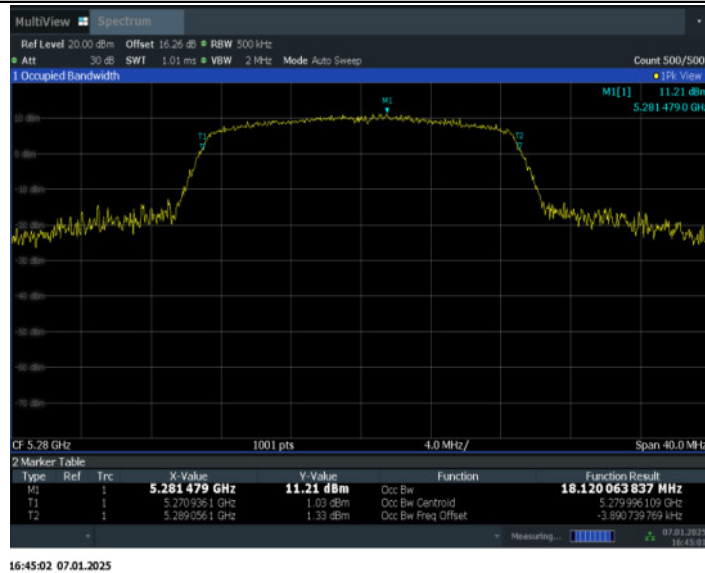
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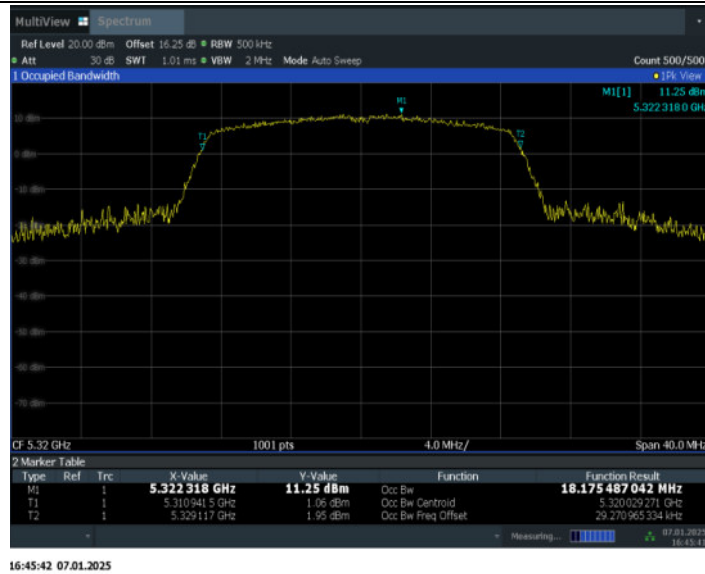
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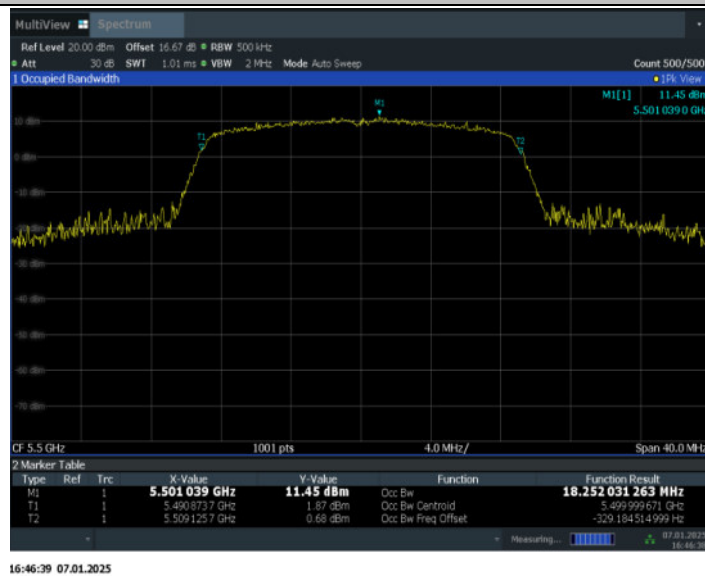
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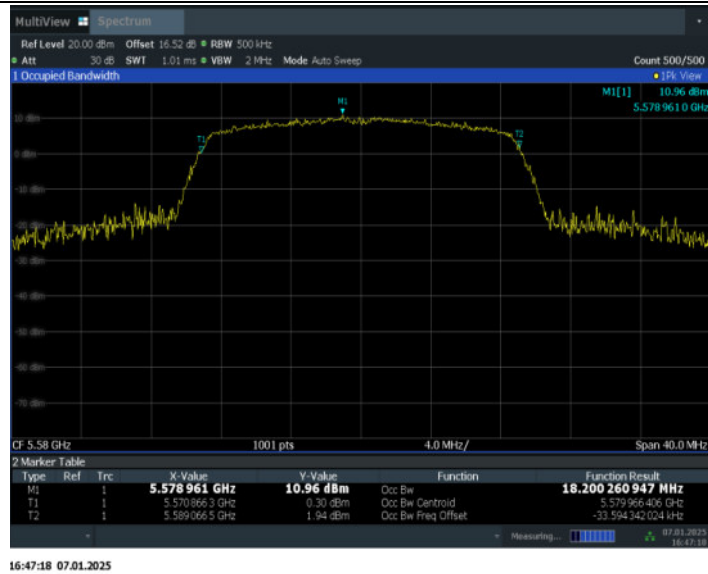
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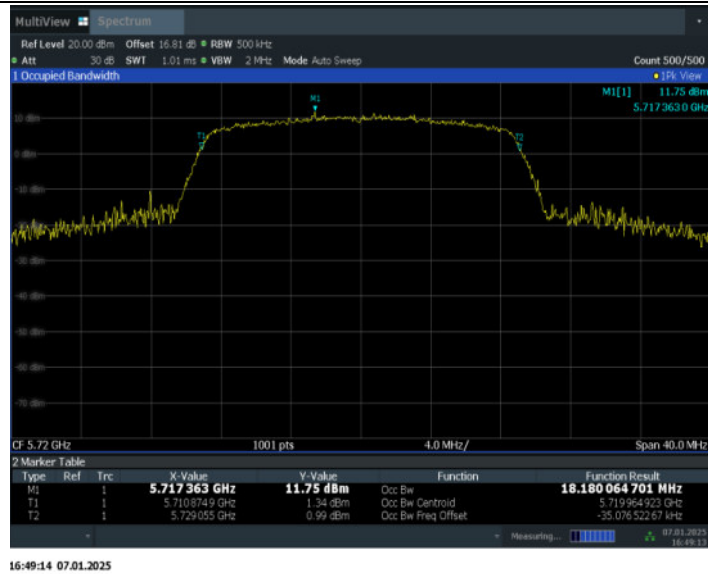
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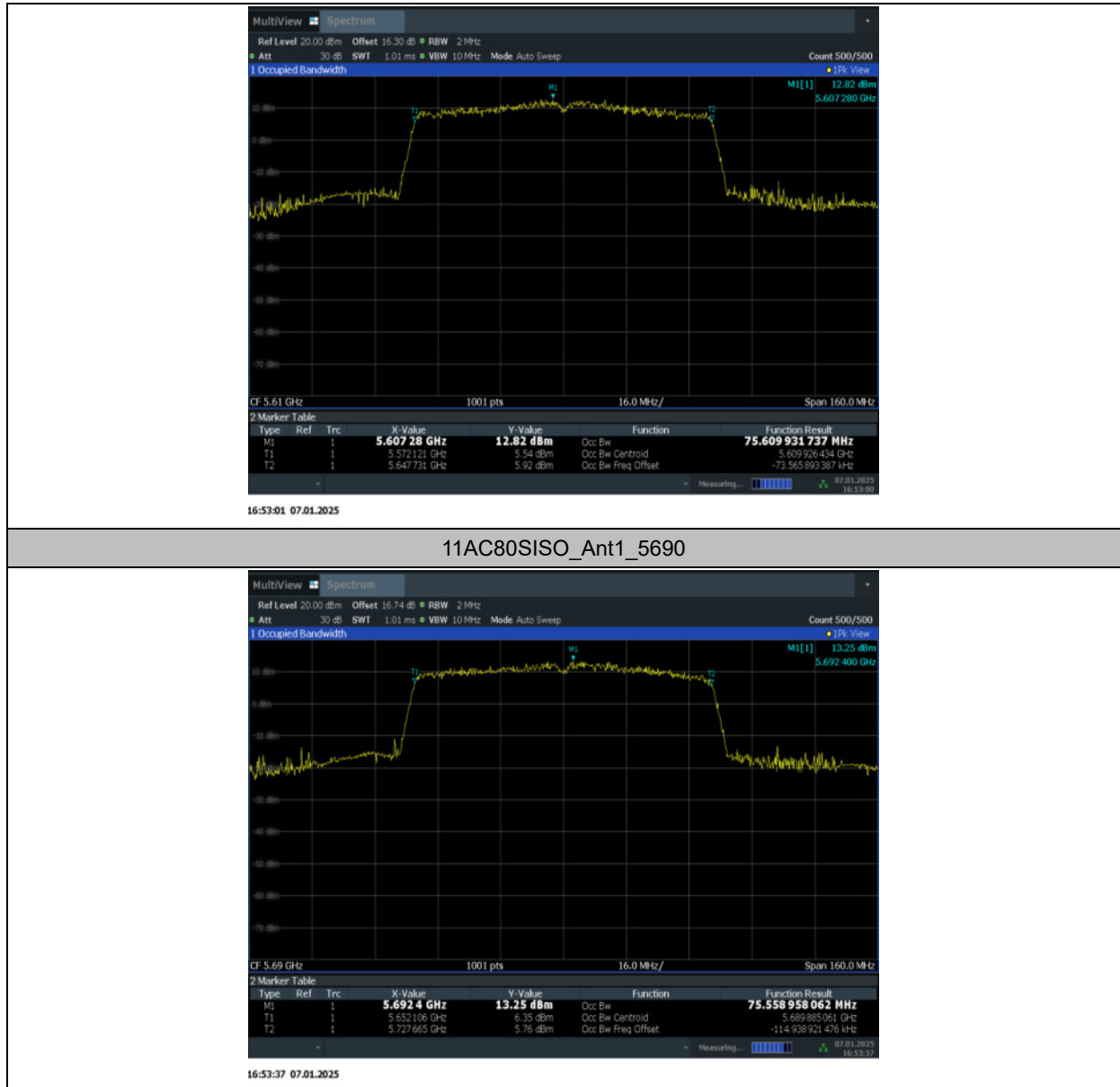
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11AC80SISO\_Ant1\_5610



## A.8. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

## A.9. Antenna Requirement

The antenna of the device is permanently attached. There are no provisions for connection to an external antenna.

The unit complies with the requirement of FCC Part 15.203.

## **ANNEX B: EUT parameters**

Disclaimer: The antenna gain and worse case provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

## **ANNEX C: Accreditation Certificate**



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