

-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | 9.06 | 10.89 | 1.83 |
| | Middle | 5 220 | 9.26 | 10.89 | 1.63 |
| | High | 5 240 | 9.69 | 10.89 | 1.20 |
| 5 250 ~ 5 350 | Low | 5 260 | 13.95 | 17.88 | 3.93 |
| | Middle | 5 300 | 14.02 | 17.88 | 3.86 |
| | High | 5 320 | 14.02 | 17.88 | 3.86 |
| 5 470 ~ 5 725 | Low | 5 500 | 12.70 | 17.91 | 5.21 |
| | Middle | 5 560 | 14.79 | 17.91 | 3.12 |
| | High | 5 720 | 15.13 | 17.91 | 2.78 |
| 5 725 ~ 5 825 | Low | 5 745 | 16.11 | 25.64 | 9.53 |
| | Middle | 5 785 | 15.29 | 25.64 | 10.35 |
| | High | 5 825 | 14.59 | 25.64 | 11.05 |

Remark 1 : Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log (10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$



Tested by: Min-Gu, Ji / Project Engineer

9.5.4.6 Test data for Staddle Channel_Antenna 0

-. Test Date : June 24, 2016

-. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | 15.54 | 10.94 | 24.00 | 13.06 |
| 5 725 ~ 5 825 | 5 720 | 5.39 | 5.97 | 30.00 | 24.03 |

9.5.4.7 Test data for Staddle Channel_Antenna 1

-. Test Date : June 24, 2016

-. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | 15.59 | 10.75 | 24.00 | 13.25 |
| 5 725 ~ 5 825 | 5 720 | 5.49 | 5.76 | 30.00 | 24.24 |

9.5.4.8 Test data for Staddle Channel_Antenna 2

-. Test Date : June 24, 2016

-. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | 15.53 | 10.78 | 24.00 | 13.22 |
| 5 725 ~ 5 825 | 5 720 | 5.54 | 4.70 | 30.00 | 25.30 |

9.5.4.9 Test data for Staddle Channel_Antenna 3

-. Test Date : June 24, 2016
 -. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | 15.44 | 9.83 | 24.00 | 14.17 |
| 5 725 ~ 5 825 | 5 720 | 5.54 | 3.87 | 30.00 | 26.13 |

9.5.4.10 Test data for Staddle Channel_Multiple Transmit

-. Test Date : June 24, 2016
 -. Test Result : Pass

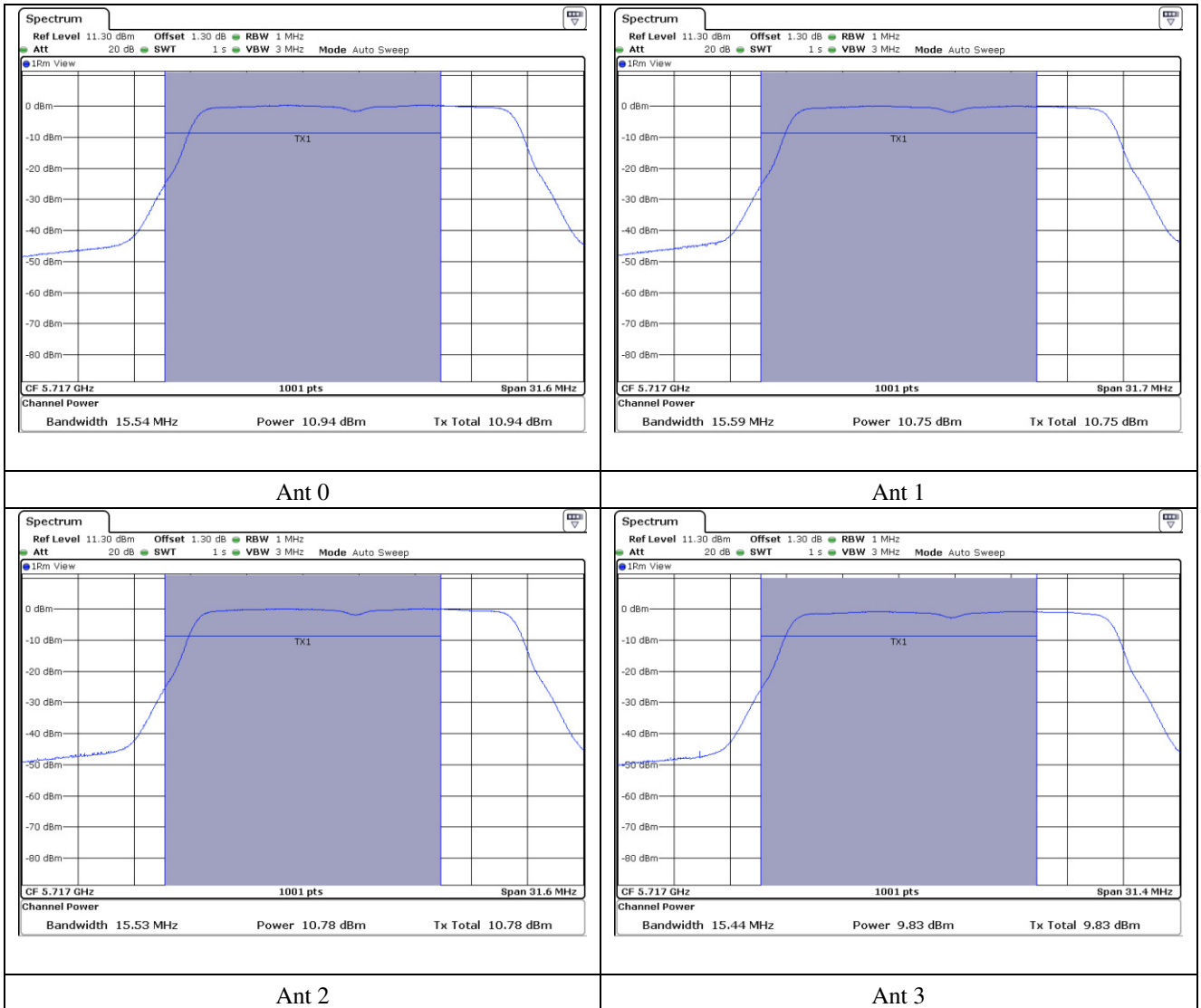
| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | 16.62 | 18.89 | 2.27 |
| 5 725 ~ 5 850 | 5 720 | 11.18 | 25.64 | 14.46 |

Remark 1 : Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log(10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

9.5.5 Test data for 802.11ac_VHT40 RLAN Mode

9.5.5.1 Test data for Antenna 0

-. Test Date : June 24, 2016

-. Test Result : Pass

-. FCC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | 39.06 | 9.74 | 30 | 20.26 |
| | High | 5 230 | 38.96 | 10.22 | 30 | 19.78 |
| 5 250 ~ 5 350 | Low | 5 270 | 39.16 | 10.93 | 24 | 13.07 |
| | High | 5 310 | 38.86 | 11.66 | 24 | 12.34 |
| 5 470 ~ 5 725 | Low | 5 510 | 39.16 | 7.44 | 24 | 16.56 |
| | Middle | 5 550 | 39.16 | 11.90 | 24 | 12.10 |
| | High | 5 710 | 39.06 | 11.66 | 24 | 12.34 |
| 5 725 ~ 5 850 | Low | 5 755 | 39.26 | 17.72 | 30 | 12.28 |
| | High | 5 795 | 39.06 | 10.82 | 30 | 19.18 |

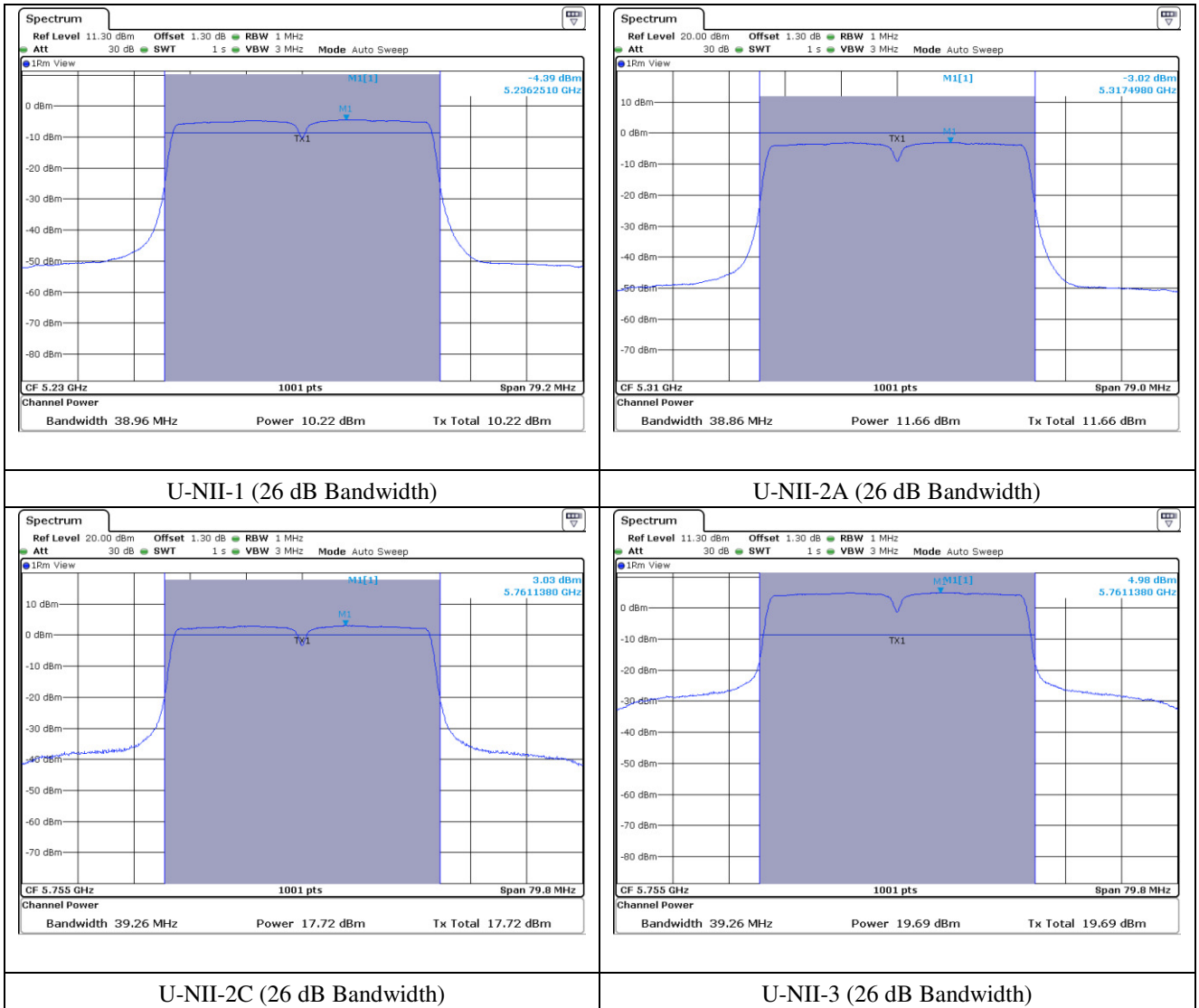
-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 99 % bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | 36.16 | 5.25 | 17.94 | 12.69 |
| | High | 5 230 | 36.16 | 5.66 | 17.94 | 12.28 |
| 5 250 ~ 5 350 | Low | 5 270 | 36.16 | 10.29 | 24 | 13.71 |
| | High | 5 310 | 36.16 | 10.93 | 24 | 13.07 |
| 5 470 ~ 5 725 | Low | 5 510 | 36.16 | 5.74 | 24 | 18.26 |
| | Middle | 5 550 | 36.16 | 9.11 | 24 | 14.89 |
| | High | 5 710 | 36.16 | 9.06 | 24 | 14.94 |
| 5 725 ~ 5 825 | Low | 5 755 | 36.26 | 17.41 | 30 | 12.59 |
| | High | 5 795 | 36.16 | 8.88 | 30 | 21.12 |

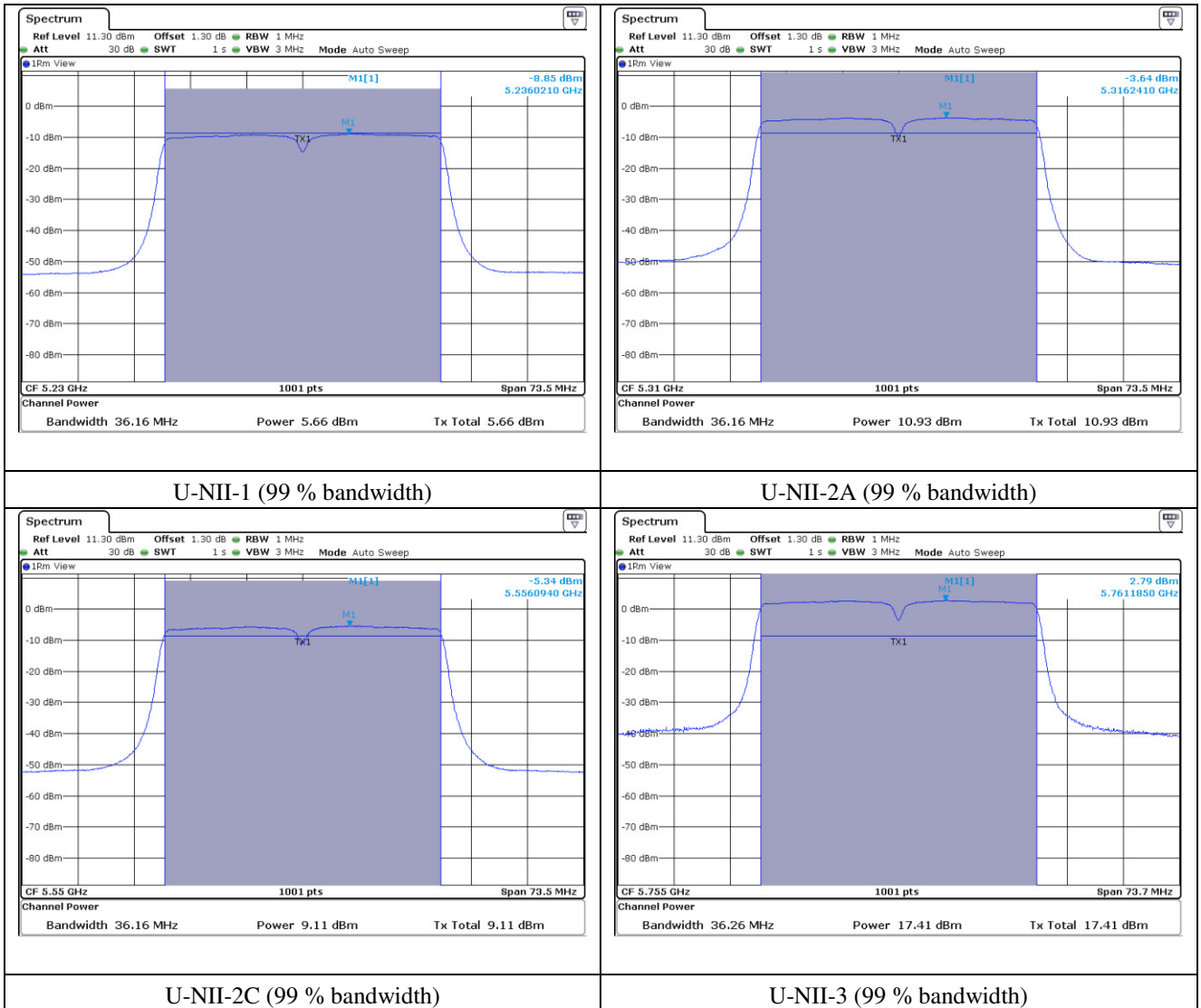
Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.



Note: In order to simplify the report, attached plots were only the most wide channel.

9.5.5.2 Test data for Antenna 1

-. Test Date : June 24, 2016

-. Test Result : Pass

-. FCC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | 38.96 | 8.80 | 30 | 21.20 |
| | High | 5 230 | 38.86 | 9.77 | 30 | 20.23 |
| 5 250 ~ 5 350 | Low | 5 270 | 38.96 | 10.66 | 24 | 13.34 |
| | High | 5 310 | 39.06 | 11.01 | 24 | 12.99 |
| 5 470 ~ 5 725 | Low | 5 510 | 39.06 | 7.32 | 24 | 16.68 |
| | Middle | 5 550 | 38.96 | 11.39 | 24 | 12.61 |
| | High | 5 710 | 38.96 | 11.20 | 24 | 12.80 |
| 5 725 ~ 5 850 | Low | 5 755 | 39.66 | 18.33 | 30 | 11.67 |
| | High | 5 795 | 38.96 | 10.57 | 30 | 19.43 |

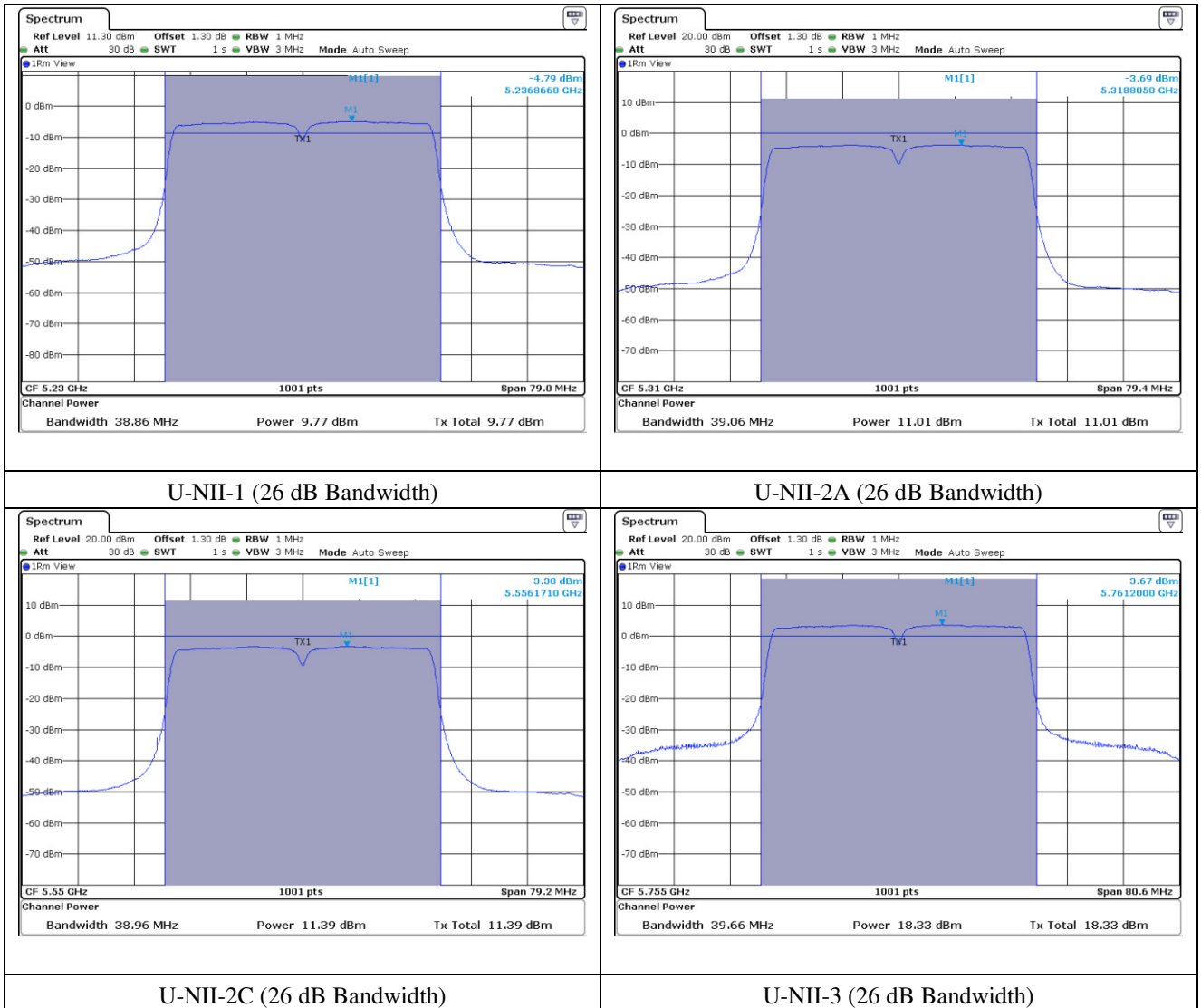
-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 99 % bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | 36.16 | 4.48 | 17.62 | 13.14 |
| | High | 5 230 | 36.16 | 5.51 | 17.62 | 12.11 |
| 5 250 ~ 5 350 | Low | 5 270 | 36.16 | 10.18 | 24 | 13.82 |
| | High | 5 310 | 36.16 | 10.42 | 24 | 13.58 |
| 5 470 ~ 5 725 | Low | 5 510 | 36.16 | 5.89 | 24 | 18.11 |
| | Middle | 5 550 | 36.16 | 8.68 | 24 | 15.32 |
| | High | 5 710 | 36.26 | 8.65 | 24 | 15.35 |
| 5 725 ~ 5 825 | Low | 5 755 | 36.36 | 17.99 | 30 | 12.01 |
| | High | 5 795 | 36.16 | 8.81 | 30 | 21.19 |

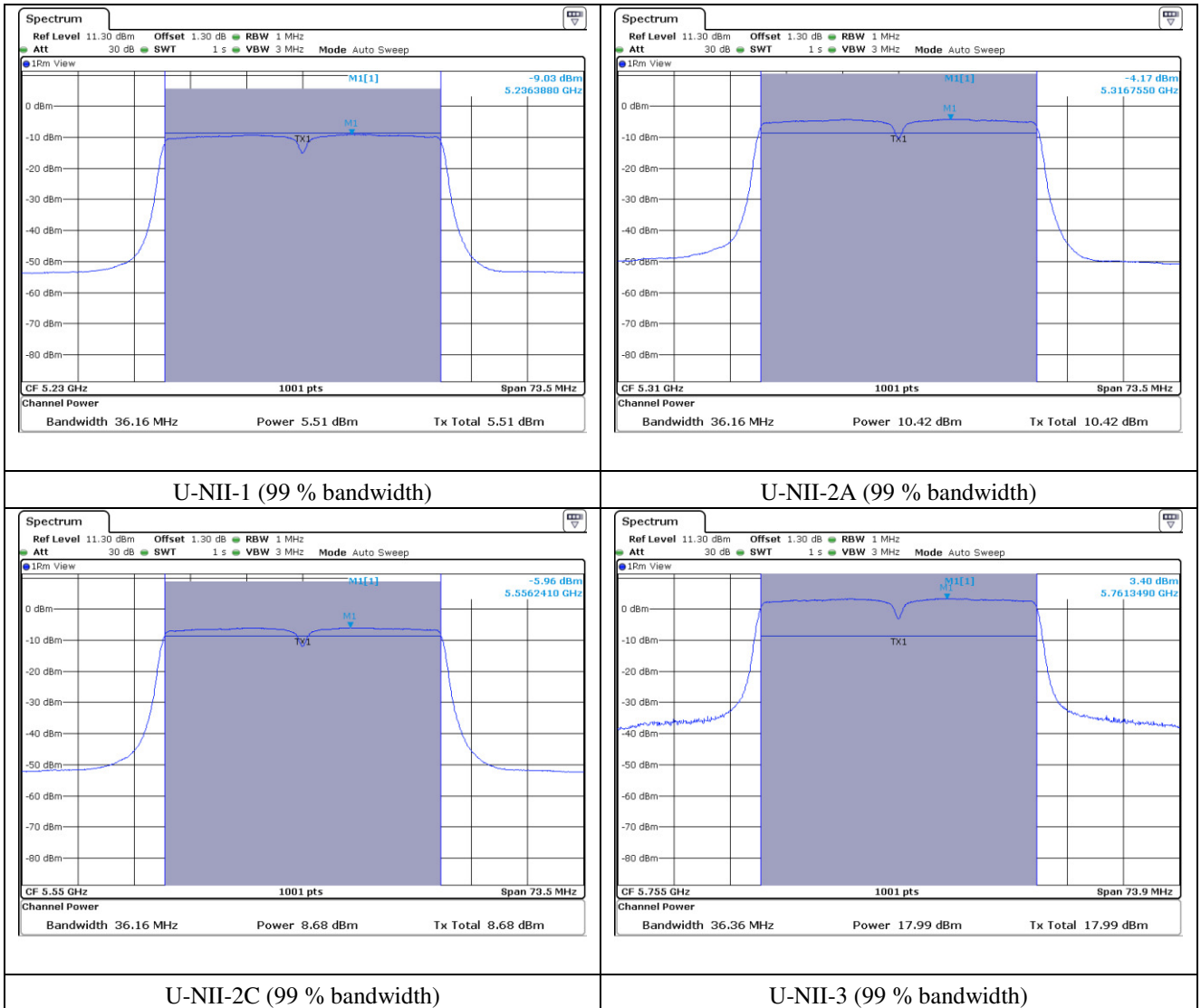
Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.



Note: In order to simplify the report, attached plots were only the most wide channel.

9.5.5.3 Test data for Antenna 2

-. Test Date : June 24, 2016

-. Test Result : Pass

-. FCC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | 38.86 | 8.09 | 30 | 21.91 |
| | High | 5 230 | 38.96 | 9.65 | 30 | 20.35 |
| 5 250 ~ 5 350 | Low | 5 270 | 38.96 | 10.97 | 24 | 13.03 |
| | High | 5 310 | 38.76 | 11.40 | 24 | 12.60 |
| 5 470 ~ 5 725 | Low | 5 510 | 38.96 | 7.62 | 24 | 16.38 |
| | Middle | 5 550 | 38.96 | 11.63 | 24 | 12.37 |
| | High | 5 710 | 39.06 | 11.32 | 24 | 12.68 |
| 5 725 ~ 5 850 | Low | 5 755 | 38.86 | 18.24 | 30 | 11.76 |
| | High | 5 795 | 38.96 | 10.40 | 30 | 19.60 |

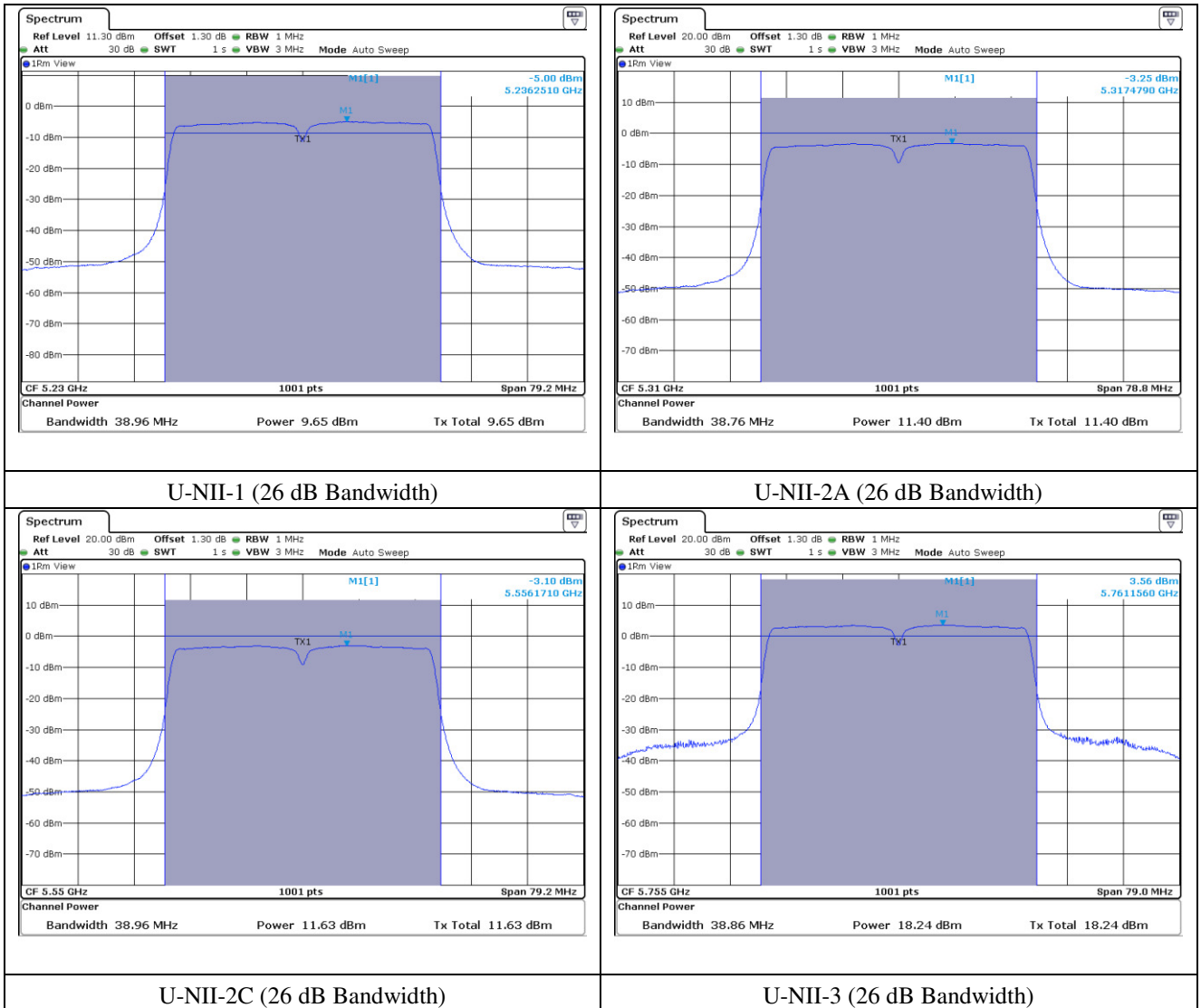
-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 99 % bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | 36.16 | 4.17 | 18.01 | 13.84 |
| | High | 5 230 | 36.16 | 5.24 | 18.01 | 12.77 |
| 5 250 ~ 5 350 | Low | 5 270 | 36.16 | 10.32 | 24 | 13.68 |
| | High | 5 310 | 36.16 | 10.67 | 24 | 13.33 |
| 5 470 ~ 5 725 | Low | 5 510 | 36.16 | 6.24 | 24 | 13.68 |
| | Middle | 5 550 | 36.16 | 9.04 | 24 | 13.33 |
| | High | 5 710 | 36.26 | 8.38 | 24 | 13.68 |
| 5 725 ~ 5 825 | Low | 5 755 | 36.26 | 17.21 | 30 | 12.79 |
| | High | 5 795 | 36.16 | 8.47 | 30 | 21.53 |

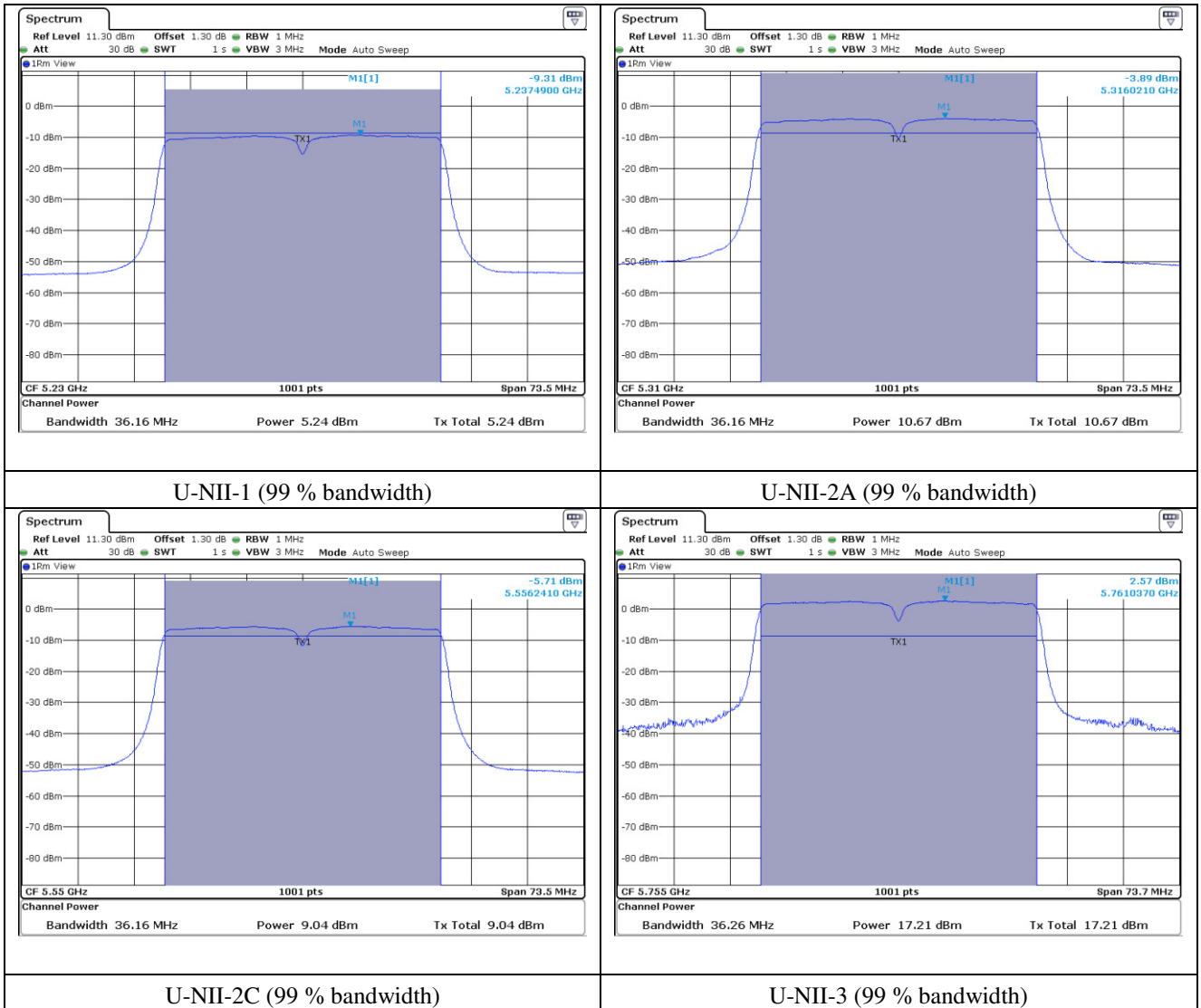
Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.



Note: In order to simplify the report, attached plots were only the most wide channel.

9.5.5.4 Test data for Antenna 3

-. Test Date : June 24, 2016

-. Test Result : Pass

-. FCC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | 38.86 | 7.80 | 30 | 22.20 |
| | High | 5 230 | 38.96 | 8.70 | 30 | 21.30 |
| 5 250 ~ 5 350 | Low | 5 270 | 38.86 | 9.88 | 24 | 14.12 |
| | High | 5 310 | 38.86 | 10.17 | 24 | 13.83 |
| 5 470 ~ 5 725 | Low | 5 510 | 38.86 | 6.20 | 24 | 17.80 |
| | Middle | 5 550 | 38.96 | 10.06 | 24 | 13.94 |
| | High | 5 710 | 38.96 | 10.49 | 24 | 13.51 |
| 5 725 ~ 5 850 | Low | 5 755 | 39.46 | 17.97 | 30 | 12.03 |
| | High | 5 795 | 38.86 | 9.87 | 30 | 20.13 |

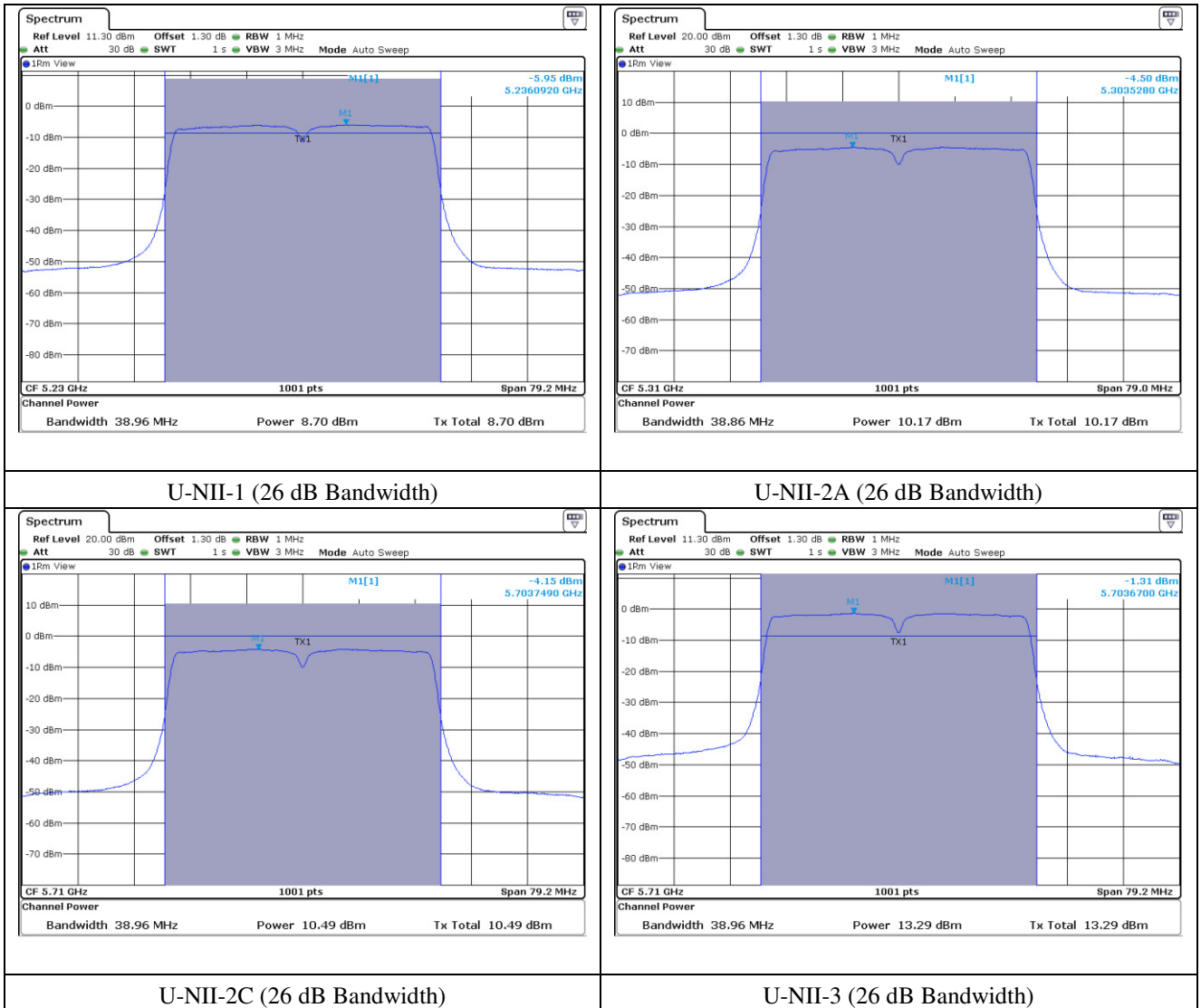
-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 99 % bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | 36.16 | 3.26 | 17.41 | 14.15 |
| | High | 5 230 | 36.16 | 4.42 | 17.41 | 12.99 |
| 5 250 ~ 5 350 | Low | 5 270 | 36.16 | 9.16 | 24 | 14.84 |
| | High | 5 310 | 36.16 | 9.46 | 24 | 14.54 |
| 5 470 ~ 5 725 | Low | 5 510 | 36.16 | 4.46 | 24 | 19.54 |
| | Middle | 5 550 | 36.16 | 7.36 | 24 | 16.64 |
| | High | 5 710 | 36.16 | 7.57 | 24 | 16.43 |
| 5 725 ~ 5 825 | Low | 5 755 | 36.26 | 17.17 | 30 | 12.83 |
| | High | 5 795 | 36.16 | 7.88 | 30 | 22.12 |

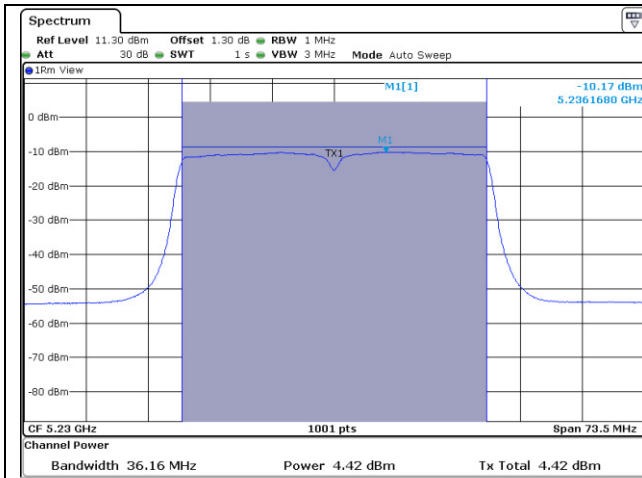
Remark: See next page for measurement data.



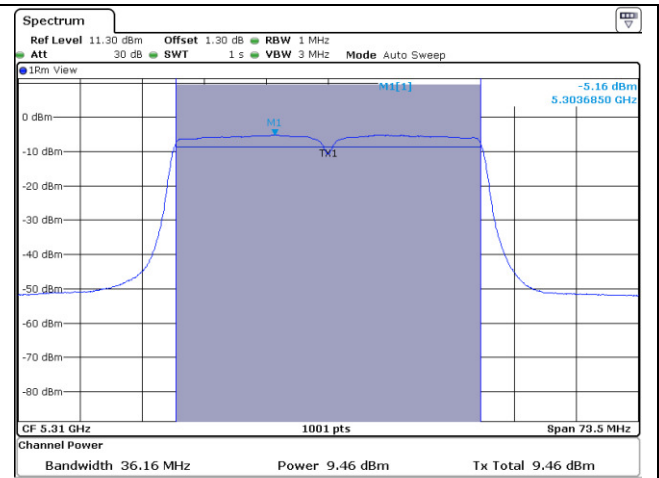
Tested by: Min-Gu, Ji / Project Engineer



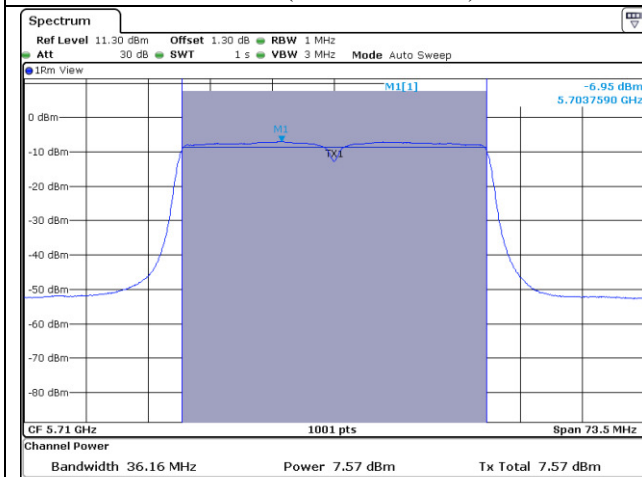
Note: In order to simplify the report, attached plots were only the most wide channel.



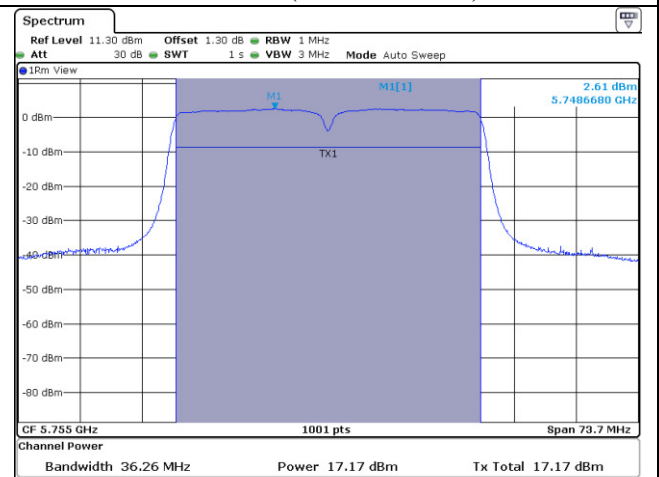
U-NII-1 (99 % bandwidth)



U-NII-2A (99 % bandwidth)



U-NII-2C (99 % bandwidth)



U-NII-3 (99 % bandwidth)

Note: In order to simplify the report, attached plots were only the most wide channel.

9.5.5.5 Test data for Multiple Transmit

- Test Date : June 24, 2016

- Test Result : Pass

- FCC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | 14.69 | 24.72 | 10.03 |
| | High | 5 230 | 15.64 | 24.72 | 9.08 |
| 5 250 ~ 5 350 | Low | 5 270 | 16.03 | 18.71 | 2.06 |
| | High | 5 310 | 17.12 | 18.71 | 1.59 |
| 5 470 ~ 5 725 | Low | 5 510 | 13.20 | 18.89 | 5.69 |
| | Middle | 5 550 | 17.32 | 18.89 | 1.57 |
| | High | 5 710 | 17.21 | 18.89 | 1.68 |
| 5 725 ~ 5 850 | Low | 5 755 | 24.09 | 25.64 | 1.55 |
| | High | 5 795 | 16.45 | 25.64 | 9.19 |

Remark 1 : Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log (10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$

-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | 10.37 | 11.72 | 1.35 |
| | High | 5 230 | 11.25 | 11.72 | 0.47 |
| 5 250 ~ 5 350 | Low | 5 270 | 16.24 | 18.71 | 2.68 |
| | High | 5 310 | 16.42 | 18.71 | 2.29 |
| 5 470 ~ 5 725 | Low | 5 510 | 11.65 | 18.89 | 7.24 |
| | Middle | 5 550 | 14.62 | 18.89 | 4.27 |
| | High | 5 710 | 14.47 | 18.89 | 4.42 |
| 5 725 ~ 5 825 | Low | 5 755 | 23.48 | 25.64 | 2.16 |
| | High | 5 795 | 14.55 | 25.64 | 11.09 |

Remark 1 : Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log(10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$



Tested by: Min-Gu, Ji / Project Engineer

9.5.5.6 Test data for Staddle Channel_Antenna 0

-. Test Date : June 24, 2016

-. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 710 | 34.47 | 8.69 | 24.00 | 15.31 |
| 5 725 ~ 5 825 | 5 710 | 4.49 | -3.20 | 30.00 | 33.20 |

9.5.5.7 Test data for Staddle Channel_Antenna 1

-. Test Date : June 24, 2016

-. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 710 | 34.47 | 8.06 | 24.00 | 15.94 |
| 5 725 ~ 5 825 | 5 710 | 4.49 | -3.44 | 30.00 | 33.44 |

9.5.5.8 Test data for Staddle Channel_Antenna 2

-. Test Date : June 24, 2016

-. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 710 | 34.47 | 8.17 | 24.00 | 15.83 |
| 5 725 ~ 5 825 | 5 710 | 4.59 | -3.32 | 30.00 | 33.32 |

9.5.5.9 Test data for Staddle Channel_Antenna 3

-. Test Date : June 24, 2016

-. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 710 | 34.47 | 7.22 | 24.00 | 16.78 |
| 5 725 ~ 5 825 | 5 710 | 4.49 | -4.27 | 30.00 | 34.27 |

9.5.5.10 Test data for Staddle Channel_Multiple Transmit

-. Test Date : June 24, 2016

-. Test Result : Pass

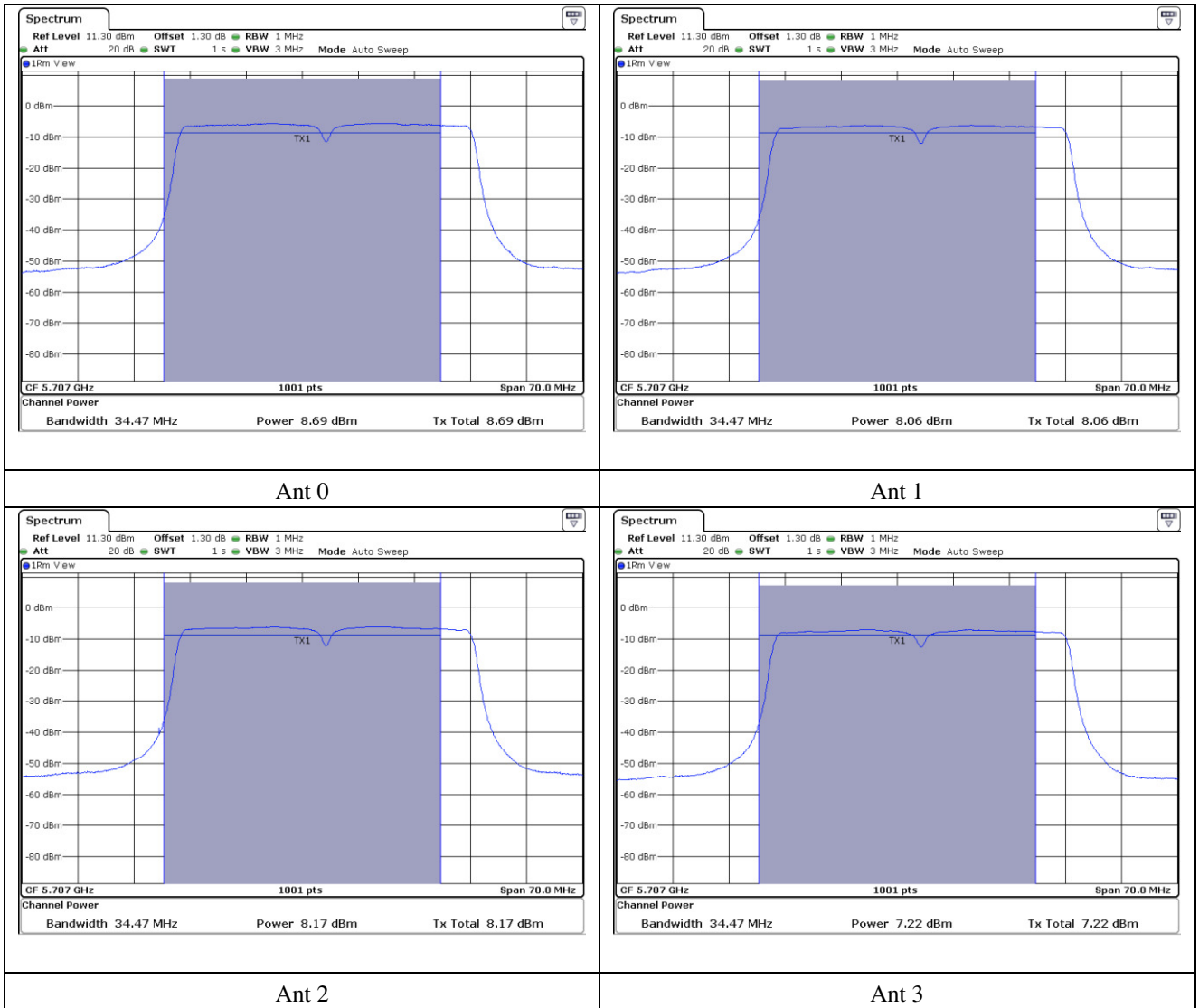
| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 710 | 14.09 | 18.89 | 4.80 |
| 5 725 ~ 5 850 | 5 710 | 2.48 | 25.64 | 23.16 |

Remark 1 : Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log(10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

9.5.6 Test data for 802.11ac_VHT80 RLAN Mode

9.5.6.1 Test data for Antenna 0

-. Test Date : June 24, 2016

-. Test Result : Pass

-. FCC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 210 | 78.32 | 9.61 | 30.00 | 20.39 |
| 5 250 ~ 5 350 | Low | 5 290 | 79.32 | 13.18 | 24.00 | 14.41 |
| 5 470 ~ 5 725 | Low | 5 530 | 79.52 | 6.50 | 24.00 | 17.50 |
| 5 725 ~ 5 850 | Low | 5 775 | 79.52 | 15.10 | 30.00 | 14.90 |

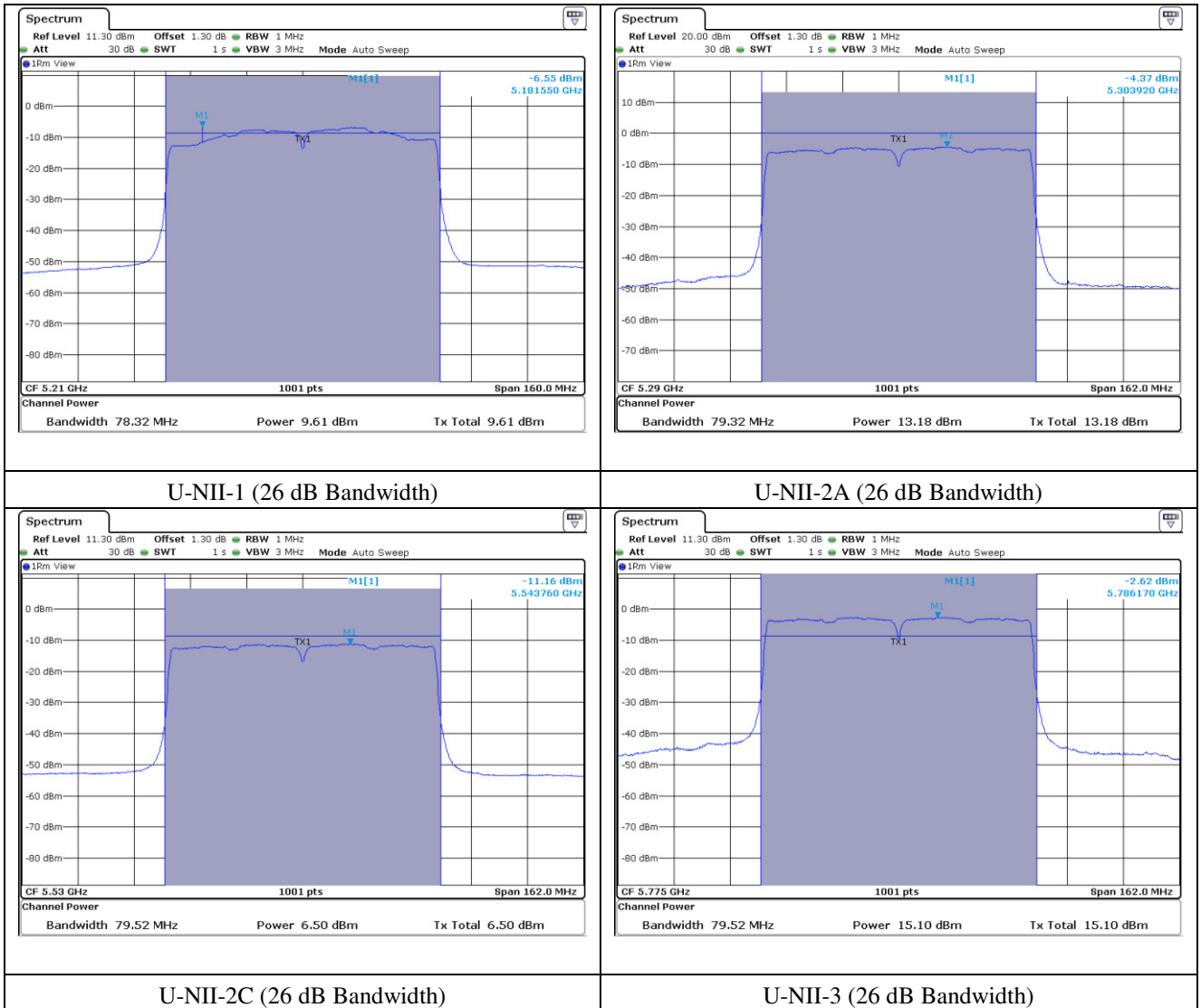
-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 99 % bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 210 | 74.93 | 5.37 | 17.94 | 12.57 |
| 5 250 ~ 5 350 | Low | 5 290 | 75.52 | 9.59 | 24 | 14.41 |
| 5 470 ~ 5 725 | Low | 5 530 | 75.52 | 5.50 | 24 | 18.50 |
| 5 725 ~ 5 825 | Low | 5 775 | 75.52 | 4.44 | 30 | 25.56 |

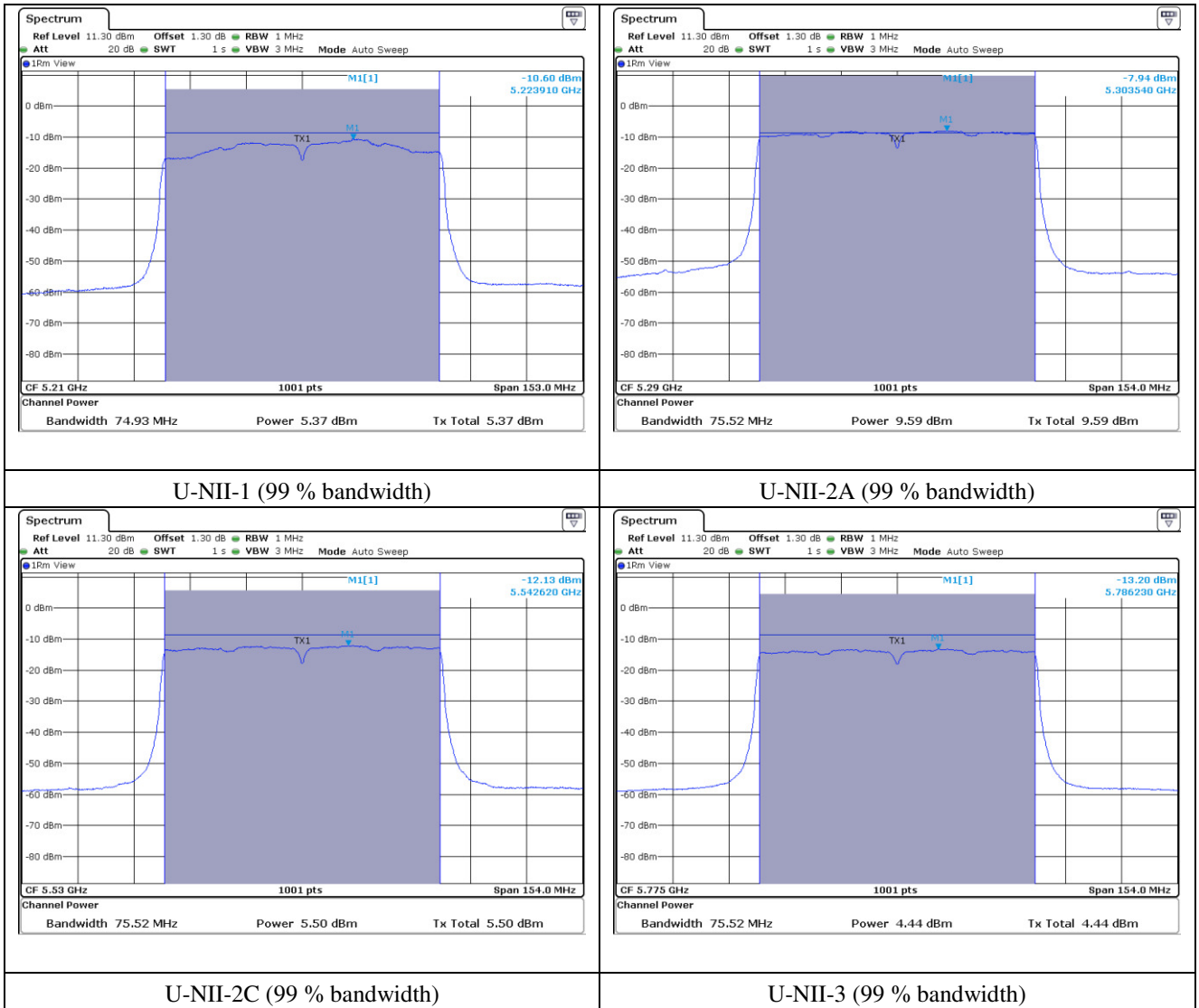
Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.



Note: In order to simplify the report, attached plots were only the most wide channel.

9.5.6.2 Test data for Antenna 1

-. Test Date : June 24, 2016

-. Test Result : Pass

-. FCC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 210 | 77.92 | 9.18 | 30.00 | 20.82 |
| 5 250 ~ 5 350 | Low | 5 290 | 79.52 | 11.65 | 24.00 | 12.35 |
| 5 470 ~ 5 725 | Low | 5 530 | 79.12 | 7.10 | 24.00 | 16.90 |
| 5 725 ~ 5 850 | Low | 5 775 | 79.32 | 14.61 | 30.00 | 15.39 |

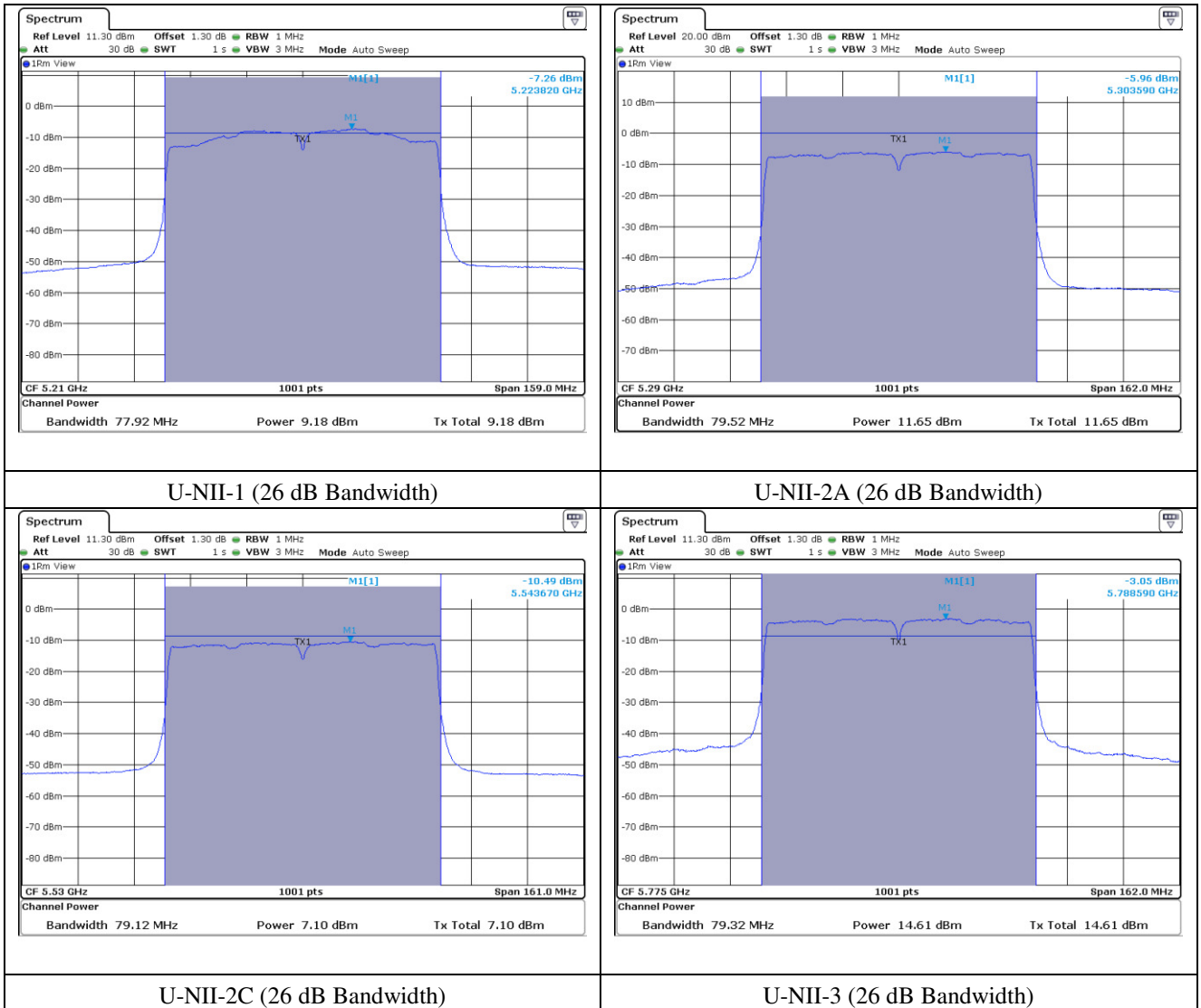
-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 99 % bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 210 | 74.93 | 4.40 | 17.62 | 13.22 |
| 5 250 ~ 5 350 | Low | 5 290 | 75..52 | 9.05 | 24 | 14.95 |
| 5 470 ~ 5 725 | Low | 5 530 | 75.72 | 5.62 | 24 | 18.38 |
| 5 725 ~ 5 825 | Low | 5 775 | 75.52 | 3.67 | 30 | 26.33 |

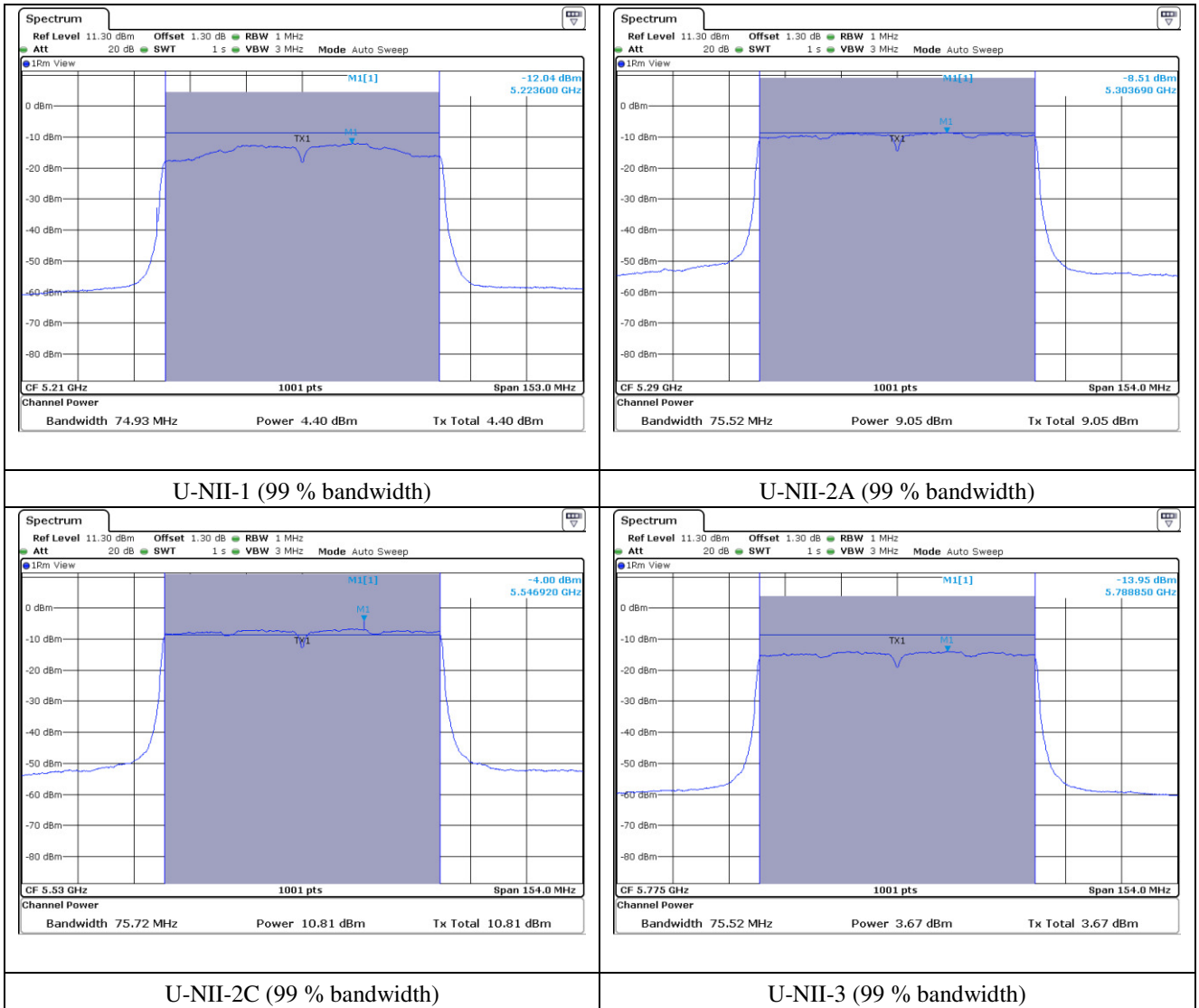
Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.



Note: In order to simplify the report, attached plots were only the most wide channel.

9.5.6.3 Test data for Antenna 2

-. Test Date : June 24, 2016

-. Test Result : Pass

-. FCC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 210 | 77.92 | 8.76 | 30.00 | 21.24 |
| 5 250 ~ 5 350 | Low | 5 290 | 78.92 | 11.73 | 24.00 | 12.27 |
| 5 470 ~ 5 725 | Low | 5 530 | 79.32 | 7.50 | 24.00 | 16.50 |
| 5 725 ~ 5 850 | Low | 5 775 | 79.12 | 14.55 | 30.00 | 15.45 |

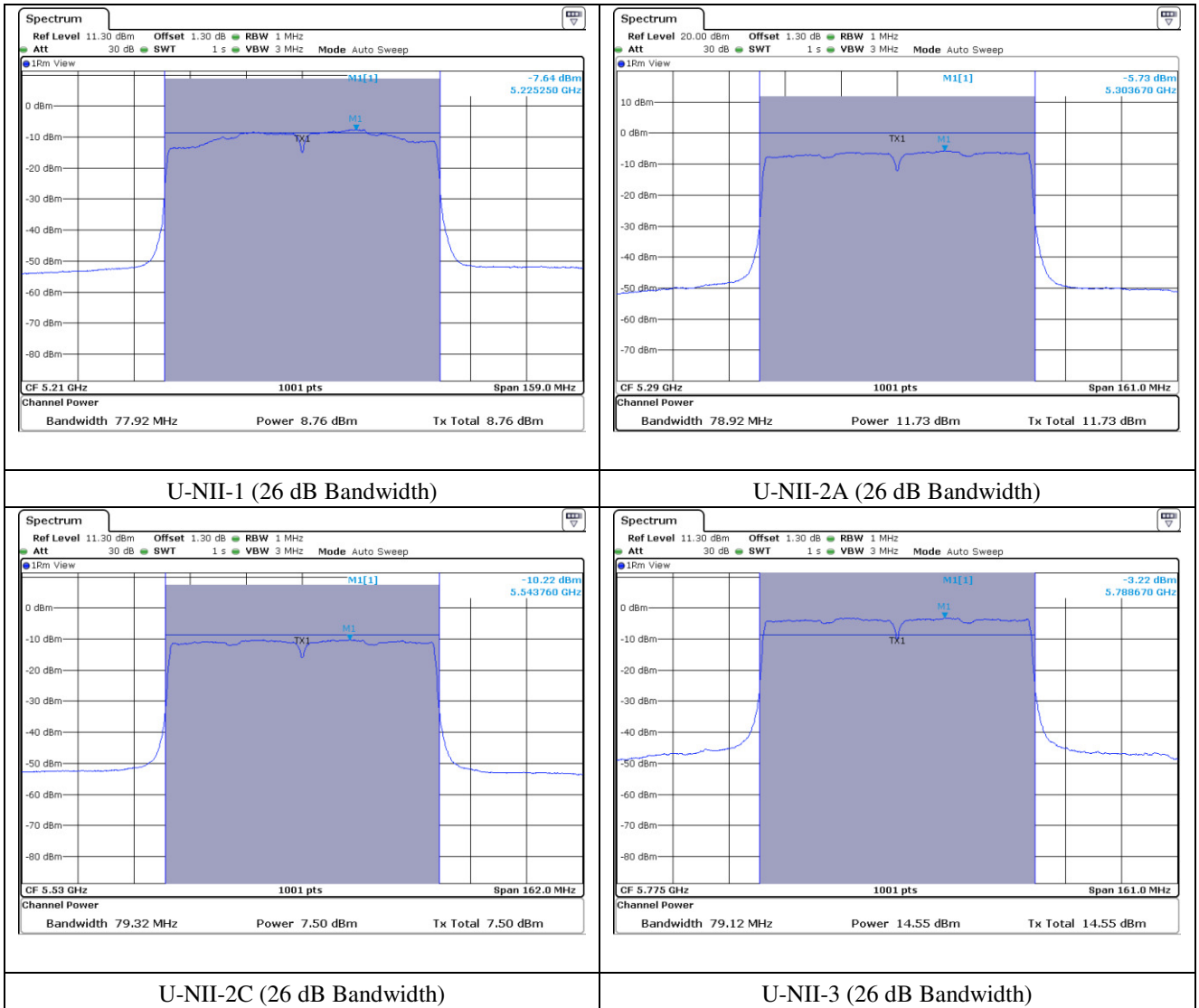
-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 99 % bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 210 | 74.93 | 4.61 | 18.01 | 13.40 |
| 5 250 ~ 5 350 | Low | 5 290 | 75.52 | 9.27 | 24 | 14.73 |
| 5 470 ~ 5 725 | Low | 5 530 | 75.52 | 5.48 | 24 | 18.52 |
| 5 725 ~ 5 825 | Low | 5 775 | 75.52 | 3.76 | 30 | 26.24 |

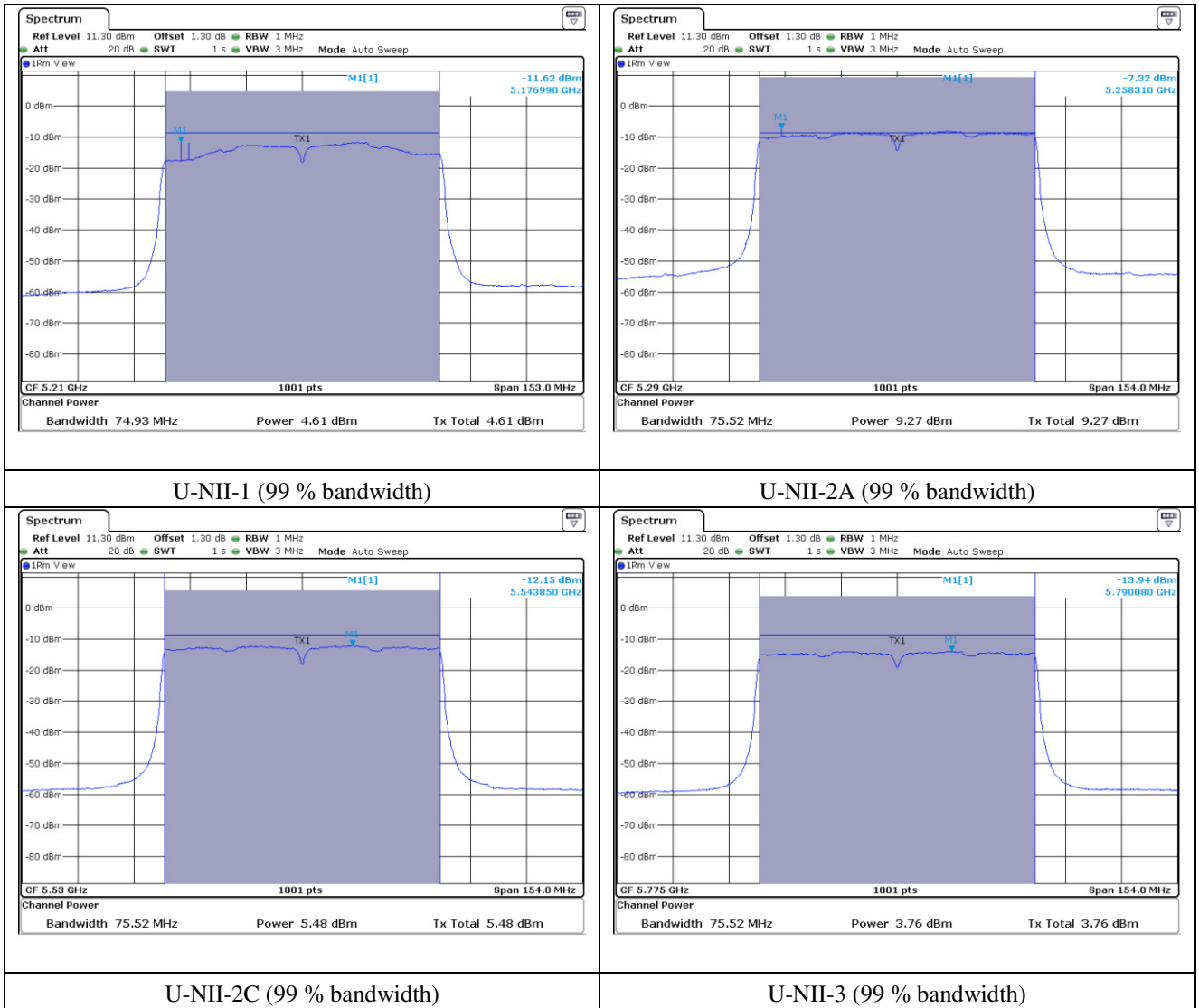
Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.



Note: In order to simplify the report, attached plots were only the most wide channel.

9.5.6.4 Test data for Antenna 3

-. Test Date : June 24, 2016

-. Test Result : Pass

-. FCC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 210 | 78.12 | 7.79 | 30.00 | 22.21 |
| 5 250 ~ 5 350 | Low | 5 290 | 79.32 | 10.65 | 24.00 | 13.35 |
| 5 470 ~ 5 725 | Low | 5 530 | 79.12 | 5.88 | 24.00 | 18.12 |
| 5 725 ~ 5 850 | Low | 5 775 | 79.12 | 13.80 | 30.00 | 16.20 |

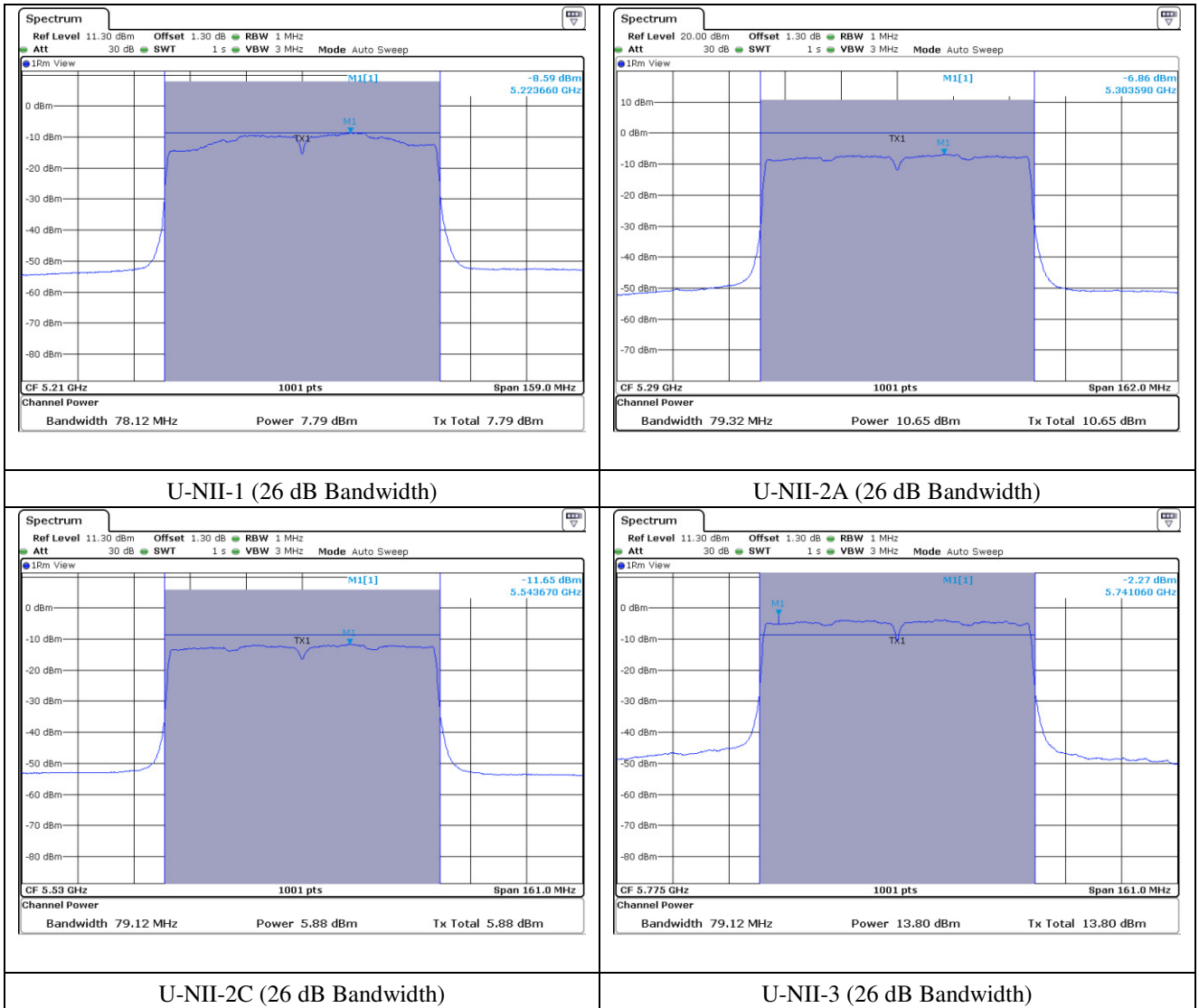
-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | 99 % bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 210 | 74.93 | 3.12 | 17.41 | 14.29 |
| 5 250 ~ 5 350 | Low | 5 290 | 75.52 | 8.19 | 24 | 15.81 |
| 5 470 ~ 5 725 | Low | 5 530 | 75.52 | 4.24 | 24 | 19.76 |
| 5 725 ~ 5 825 | Low | 5 775 | 75.52 | 2.78 | 30 | 27.22 |

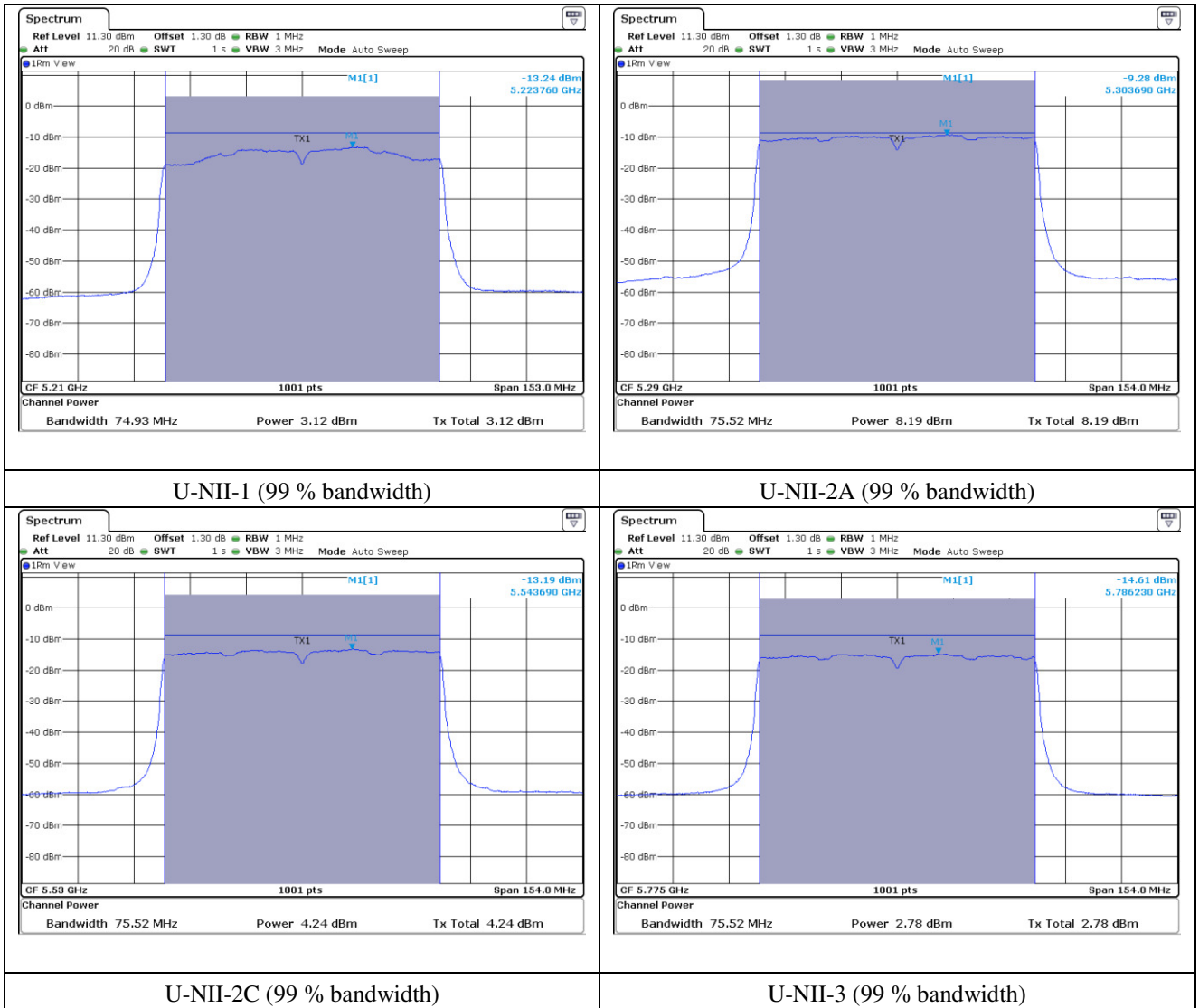
Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.



Note: In order to simplify the report, attached plots were only the most wide channel.

9.5.6.5 Test data for Multiple Transmit

-. Test Date : June 24, 2016

-. Test Result : Pass

-. FCC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 210 | 14.91 | 24.72 | 9.81 |
| 5 250 ~ 5 350 | Low | 5 290 | 17.93 | 18.71 | 1.70 |
| 5 470 ~ 5 725 | Low | 5 530 | 12.81 | 18.89 | 6.08 |
| 5 725 ~ 5 850 | Low | 5 775 | 20.56 | 25.64 | 5.08 |

Remark 1 : Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log (10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$

-. IC Test data

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 210 | 10.47 | 11.72 | 1.25 |
| 5 250 ~ 5 350 | Low | 5 290 | 15.08 | 18.71 | 3.63 |
| 5 470 ~ 5 725 | Low | 5 530 | 11.25 | 18.89 | 7.62 |
| 5 725 ~ 5 825 | Low | 5 775 | 9.72 | 25.64 | 15.92 |

Remark 1 : Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log (10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$



Tested by: Min-Gu, Ji / Project Engineer

9.5.6.6 Test data for Staddle Channel_Antenna 0

-. Test Date : June 24, 2016

-. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 690 | 74.76 | 11.31 | 24.00 | 12.69 |
| 5 725 ~ 5 825 | 5 690 | 4.76 | -3.84 | 30.00 | 33.84 |

9.5.6.7 Test data for Staddle Channel_Antenna 1

-. Test Date : June 24, 2016

-. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 690 | 74.76 | 10.89 | 24.00 | 13.11 |
| 5 725 ~ 5 825 | 5 690 | 4.56 | -3.77 | 30.00 | 33.77 |

9.5.6.8 Test data for Staddle Channel_Antenna 2

-. Test Date : June 24, 2016

-. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 690 | 74.76 | 10.97 | 24.00 | 13.03 |
| 5 725 ~ 5 825 | 5 690 | 4.56 | -3.85 | 30.00 | 33.85 |

9.5.6.9 Test data for Staddle Channel_Antenna 3

-. Test Date : June 24, 2016
 -. Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | 26 dB Bandwidth (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|-----------------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 690 | 74.76 | 10.44 | 24.00 | 13.56 |
| 5 725 ~ 5 825 | 5 690 | 4.56 | -4.68 | 30.00 | 34.68 |

9.5.6.10 Test data for Staddle Channel_Multiple Transmit

-. Test Date : June 24, 2016
 -. Test Result : Pass

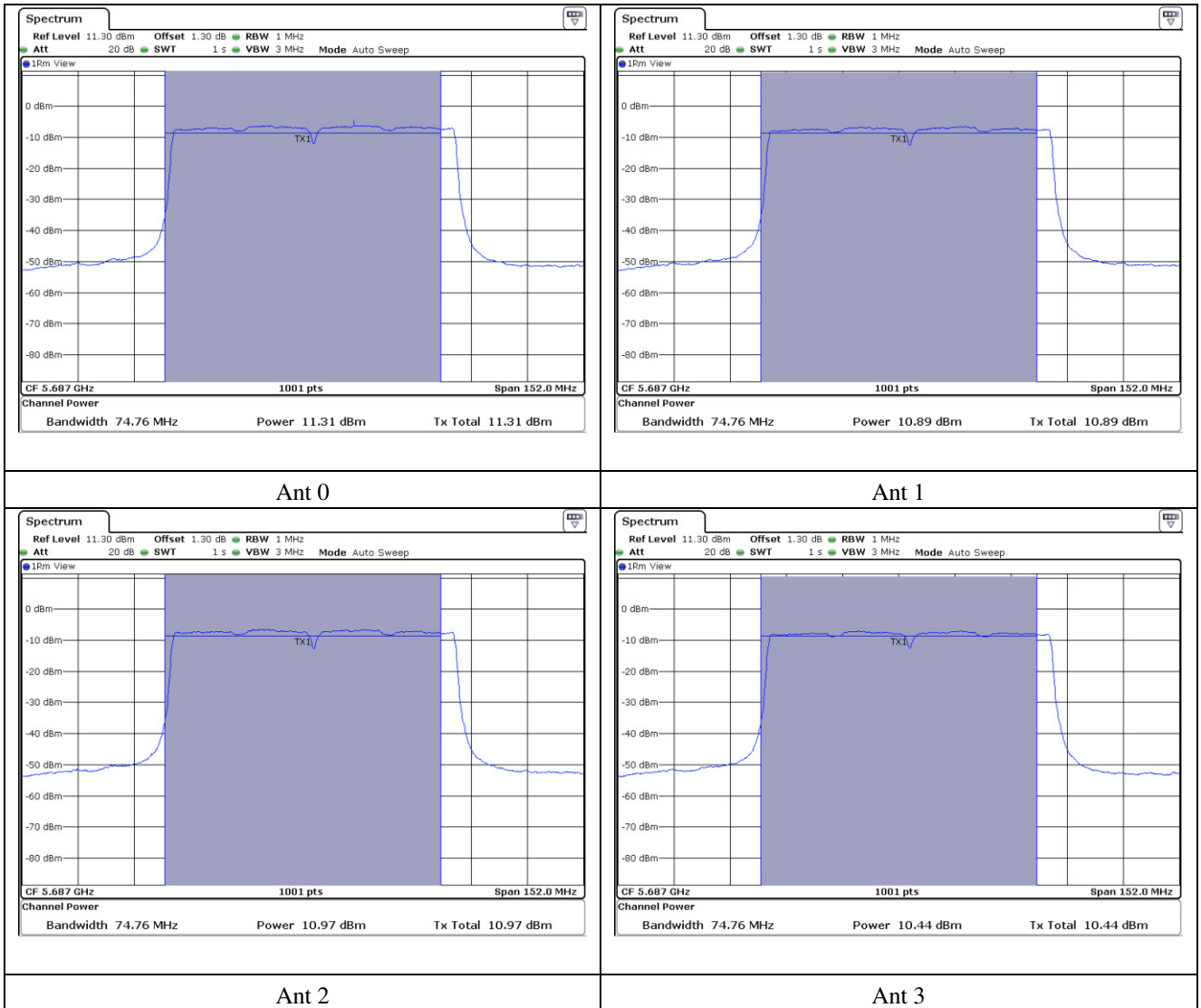
| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 690 | 16.93 | 18.89 | 1.96 |
| 5 725 ~ 5 850 | 5 690 | 2.00 | 25.64 | 23.64 |

Remark 1 : Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log(10^{(\text{Antenna1 Output Power}/10)}+10^{(\text{Antenna2 Output Power}/10)})$



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

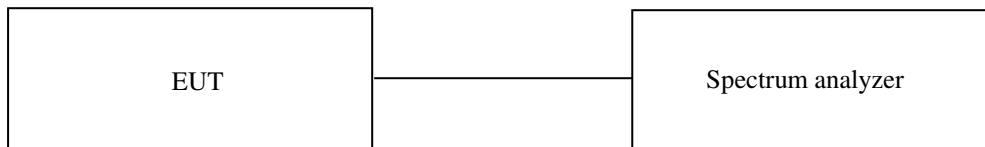
10. PEAK POWER SPECTRUL DENSITY

10.1 Operating environment

Temperature : 25 °C
 Relative humidity : 47 % R.H.

10.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 1 MHz, the video bandwidth is set to 3 times the resolution bandwidth. The maximum level form the EUT in 1 MHz bandwidth was measured with above condition.



10.3 Test equipment used

| Model Number | Manufacturer | Description | Serial Number | Last Cal. |
|--------------|-----------------|-----------------|---------------|-------------------|
| ■ - FSV30 | Rohde & Schwarz | Signal Analyzer | 101199 | May.04, 2016 (1Y) |

All test equipment used is calibrated on a regular basis.

10.4 Test data for Service Port

10.4.1 Test data for 802.11a RLAN Mode

10.4.1.1 Test data for Antenna 0

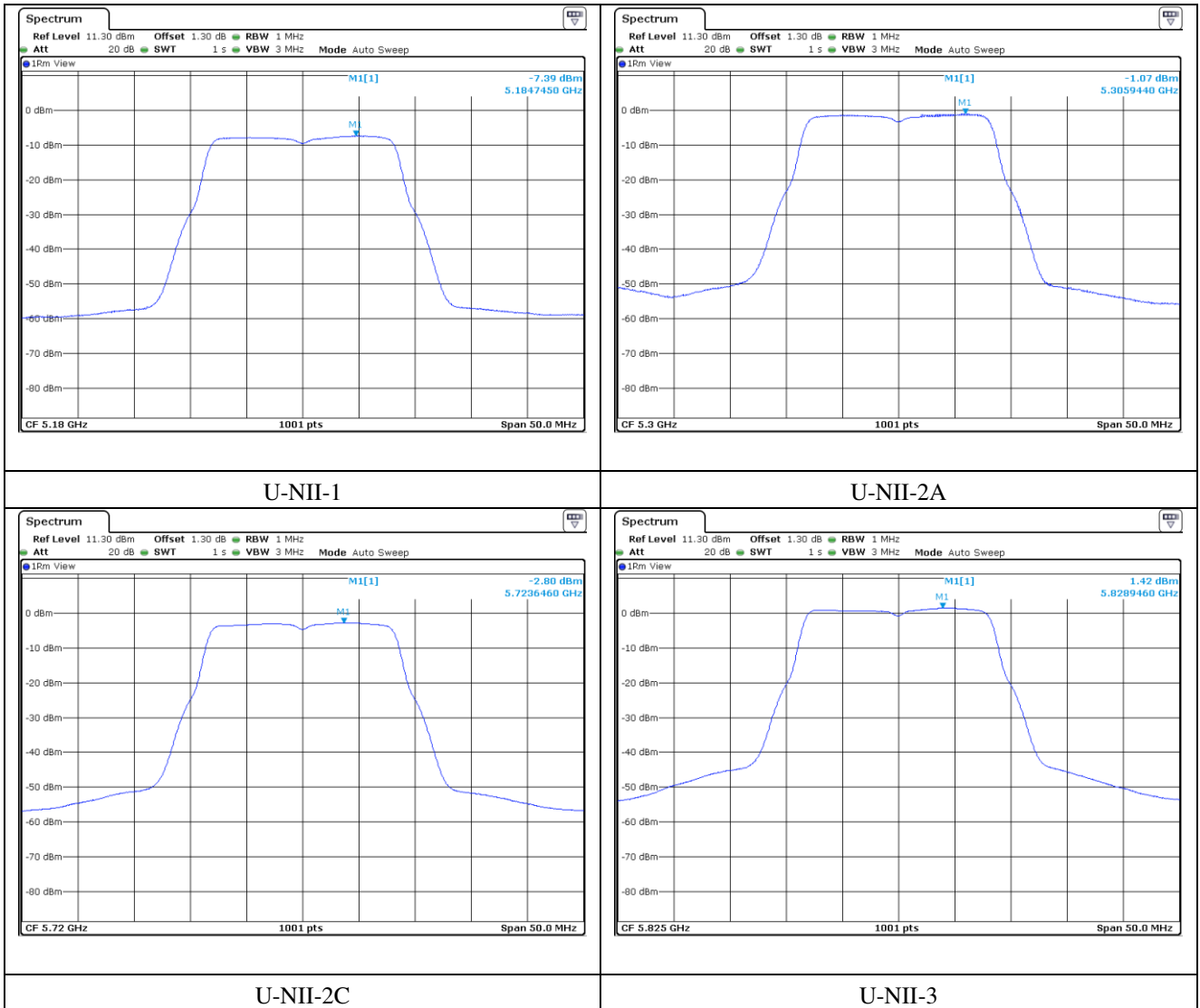
- . Test Date : June 30, 2016
- . Operating condition : Highest Output Power Transmitting Mode
- . Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -7.39 | 4.94 | 12.33 |
| | Middle | 5 220 | -7.47 | 4.94 | 12.41 |
| | High | 5 240 | -8.39 | 4.94 | 13.33 |
| 5 250 ~ 5 350 | Low | 5 260 | -3.67 | 11 | 14.67 |
| | Middle | 5 300 | -1.07 | 11 | 12.07 |
| | High | 5 320 | -2.14 | 11 | 13.14 |
| 5 470 ~ 5 725 | Low | 5 500 | -4.96 | 11.00 | 15.96 |
| | Middle | 5 560 | -2.93 | 11.00 | 13.93 |
| | High | 5 720 | -2.80 | 11.00 | 13.80 |
| 5 725 ~ 5 850 | Low | 5 745 | 0.70 | 30.00 | 29.30 |
| | Middle | 5 785 | 0.93 | 30.00 | 29.07 |
| | High | 5 825 | 1.42 | 30.00 | 28.58 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.1.2 Test data for Antenna 1

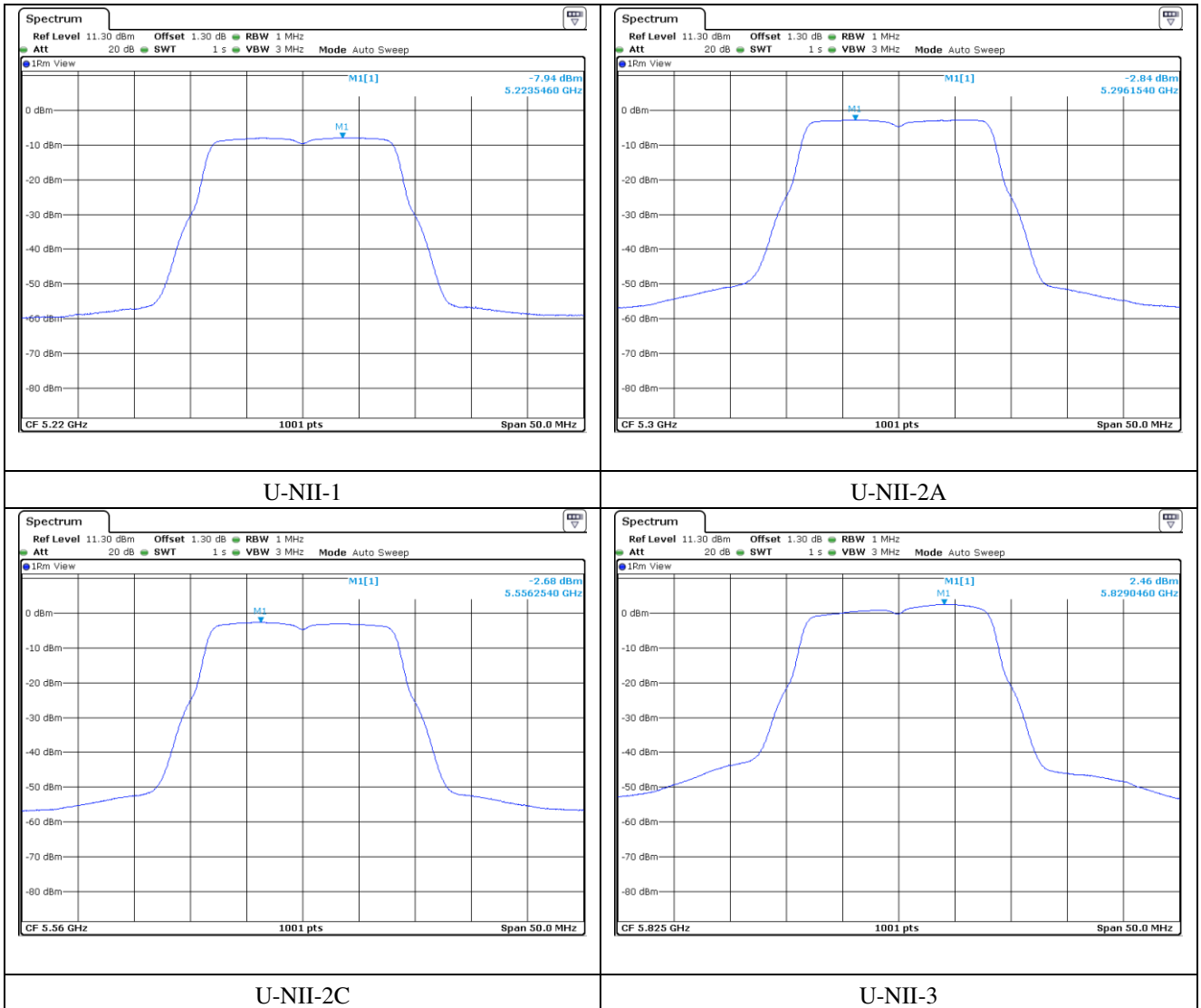
- . Test Date : June 30, 2016
- . Operating condition : Highest Output Power Transmitting Mode
- . Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -8.33 | 4.62 | 12.95 |
| | Middle | 5 220 | -7.94 | 4.62 | 12.56 |
| | High | 5 240 | -8.71 | 4.62 | 13.33 |
| 5 250 ~ 5 350 | Low | 5 260 | -4.34 | 11 | 15.34 |
| | Middle | 5 300 | -2.84 | 11 | 13.84 |
| | High | 5 320 | -3.01 | 11 | 14.01 |
| 5 470 ~ 5 725 | Low | 5 500 | -4.64 | 11.00 | 15.64 |
| | Middle | 5 560 | -2.68 | 11.00 | 13.68 |
| | High | 5 720 | -2.87 | 11.00 | 13.87 |
| 5 725 ~ 5 850 | Low | 5 745 | 0.65 | 30.00 | 29.35 |
| | Middle | 5 785 | 0.11 | 30.00 | 29.89 |
| | High | 5 825 | 2.46 | 30.00 | 27.54 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.1.3 Test data for Antenna 2

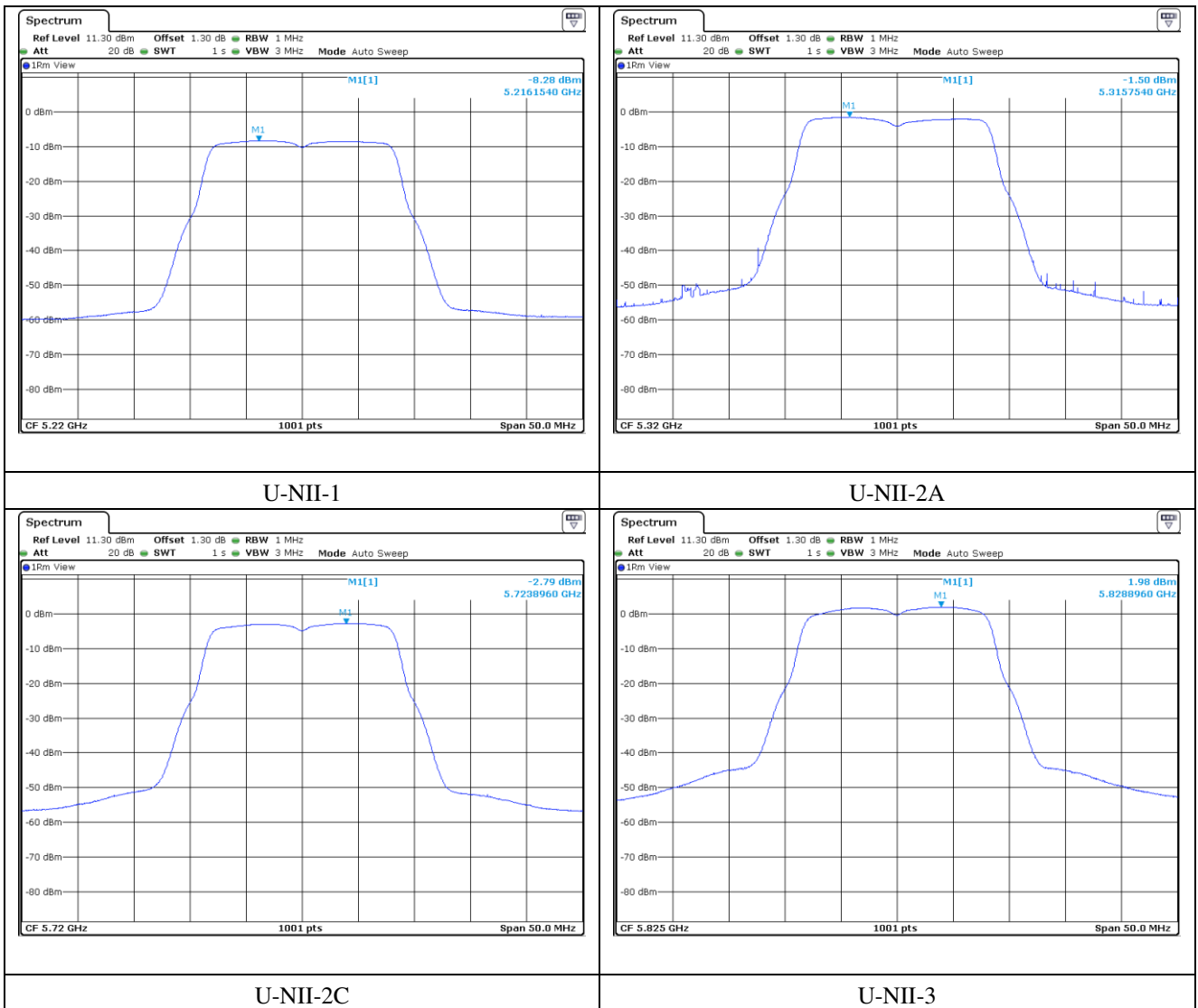
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -8.56 | 5.01 | 13.57 |
| | Middle | 5 220 | -8.28 | 5.01 | 13.29 |
| | High | 5 240 | -8.97 | 5.01 | 13.98 |
| 5 250 ~ 5 350 | Low | 5 260 | -4.24 | 11 | 15.24 |
| | Middle | 5 300 | -2.44 | 11 | 13.44 |
| | High | 5 320 | -1.5 | 11 | 12.50 |
| 5 470 ~ 5 725 | Low | 5 500 | -4.64 | 11.00 | 15.64 |
| | Middle | 5 560 | -2.88 | 11.00 | 13.88 |
| | High | 5 720 | -2.79 | 11.00 | 13.79 |
| 5 725 ~ 5 850 | Low | 5 745 | 0.60 | 30.00 | 29.40 |
| | Middle | 5 785 | -0.18 | 30.00 | 30.18 |
| | High | 5 825 | 1.98 | 30.00 | 28.02 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.1.4 Test data for Antenna 3

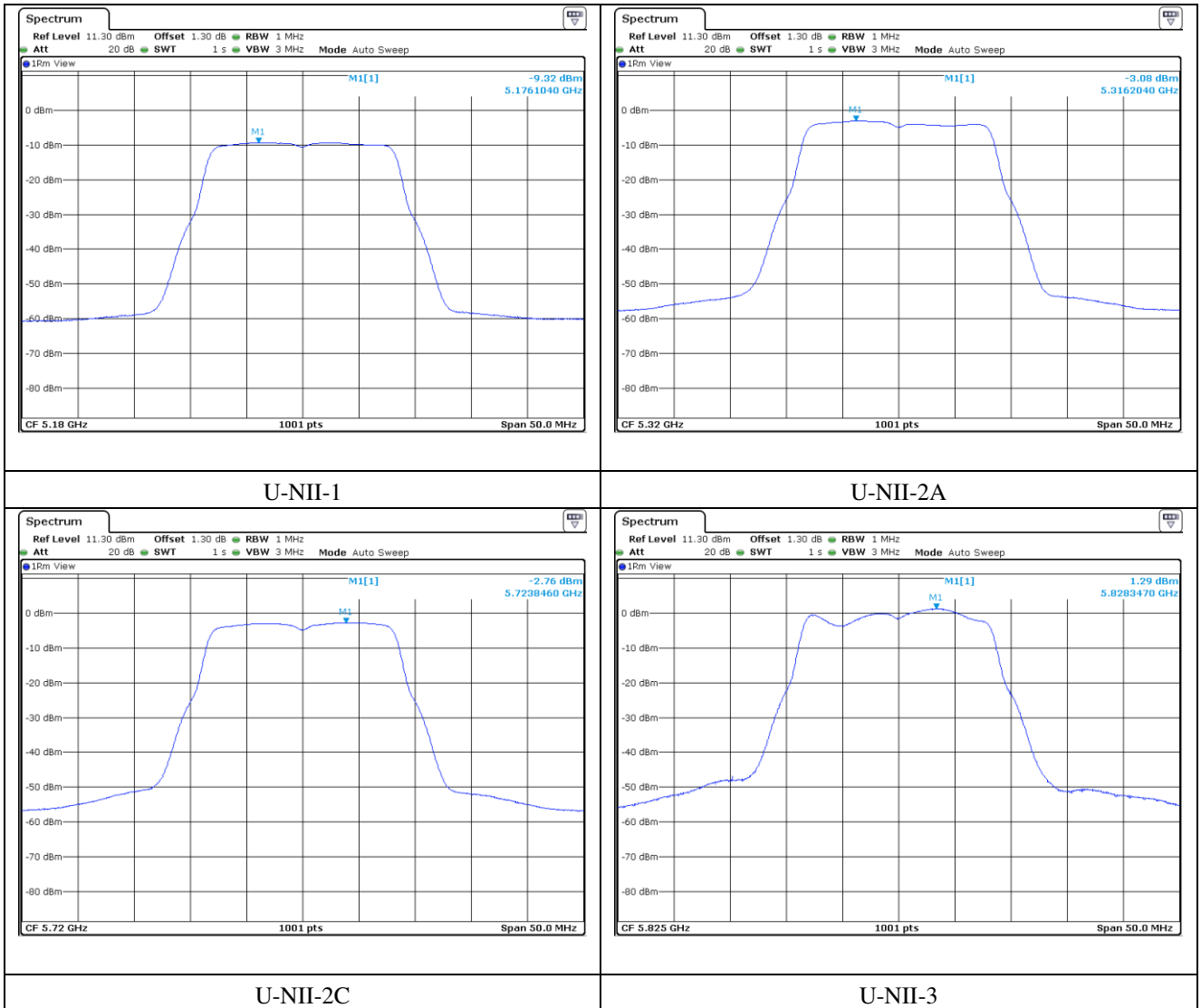
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -9.32 | 4.41 | 13.73 |
| | Middle | 5 220 | -9.64 | 4.41 | 14.05 |
| | High | 5 240 | -9.45 | 4.41 | 13.86 |
| 5 250 ~ 5 350 | Low | 5 260 | -3.54 | 11 | 14.54 |
| | Middle | 5 300 | -3.16 | 11 | 14.16 |
| | High | 5 320 | -3.08 | 11 | 14.08 |
| 5 470 ~ 5 725 | Low | 5 500 | -6.06 | 11.00 | 17.06 |
| | Middle | 5 560 | -3.72 | 11.00 | 14.72 |
| | High | 5 720 | -2.76 | 11.00 | 13.76 |
| 5 725 ~ 5 850 | Low | 5 745 | 0.19 | 30.00 | 29.81 |
| | Middle | 5 785 | -0.30 | 30.00 | 30.30 |
| | High | 5 825 | 1.29 | 30.00 | 28.71 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

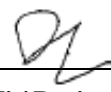
10.4.1.5 Test data for Multiple Transmit

- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -2.32 | -1.28 | 1.04 |
| | Middle | 5 220 | -2.24 | -1.28 | 0.96 |
| | High | 5 240 | -2.84 | -1.28 | 1.56 |
| 5 250 ~ 5 350 | Low | 5 260 | 2.09 | 5.71 | 3.62 |
| | Middle | 5 300 | 3.72 | 5.71 | 1.99 |
| | High | 5 320 | 3.64 | 5.71 | 2.07 |
| 5 470 ~ 5 725 | Low | 5 500 | 0.98 | 5.89 | 4.91 |
| | Middle | 5 560 | 2.99 | 5.89 | 2.90 |
| | High | 5 720 | 3.22 | 5.89 | 2.67 |
| 5 725 ~ 5 850 | Low | 5 745 | 6.56 | 25.64 | 19.08 |
| | Middle | 5 785 | 6.19 | 25.64 | 19.45 |
| | High | 5 825 | 7.83 | 25.64 | 17.81 |

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna1 Power Density}/10)} + 10^{(\text{Antenna2 Power Density}/10)})$



Tested by: Min-Gu, Ji / Project Engineer

10.4.1.6 Test data for Staddle Channel_Antenna 0

- . Test Date : June 30, 2016
- . Operating condition : Highest Output Power Transmitting Mode
- . Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|--------------------------|--------------------|-------------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | -3.80 | 11.00 | 14.80 |
| 5 725 ~ 5 850 | 5 720 | -5.75 | 30.00 | 35.75 |

Remark: See next page for measurement data.

10.4.1.7 Test data for Staddle Channel_Antenna 1

- . Test Date : June 30, 2016
- . Operating condition : Highest Output Power Transmitting Mode
- . Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|--------------------------|--------------------|-------------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | -3.66 | 11.00 | 14.66 |
| 5 725 ~ 5 850 | 5 720 | -6.48 | 30.00 | 36.48 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer

10.4.1.8 Test data for Staddle Channel_Antenna 2

- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | -3.60 | 11.00 | 14.60 |
| 5 725 ~ 5 850 | 5 720 | -6.25 | 30.00 | 36.25 |

Remark: See next page for measurement data.

10.4.1.9 Test data for Staddle Channel_Antenna 3

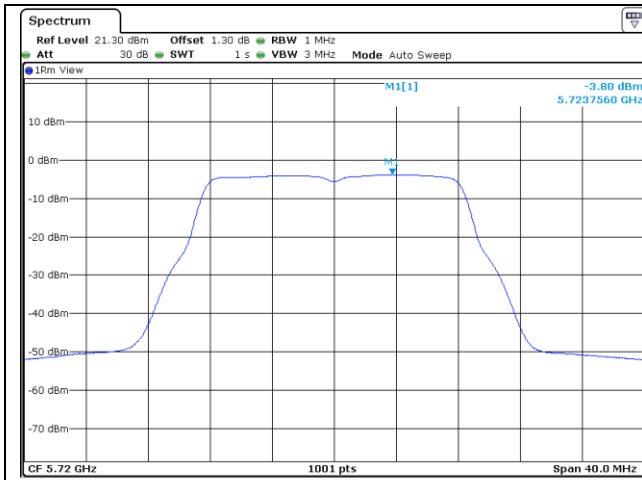
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | -3.92 | 11.00 | 14.92 |
| 5 725 ~ 5 850 | 5 720 | -7.17 | 30.00 | 37.17 |

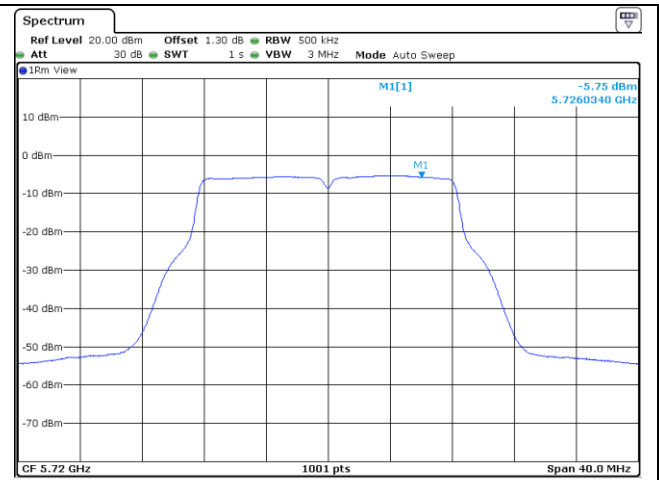
Remark: See next page for measurement data.



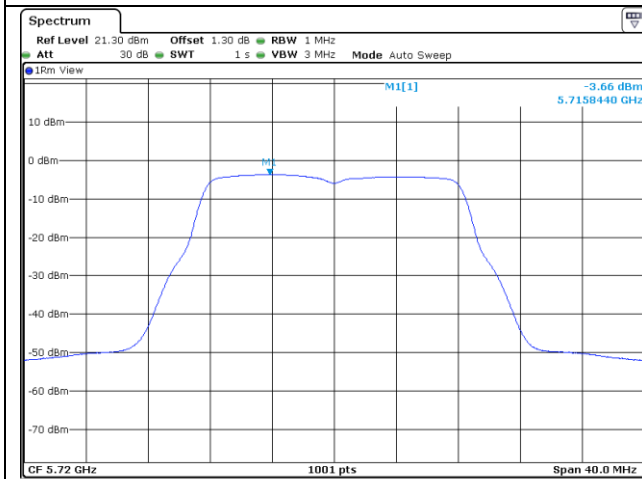
Tested by: Min-Gu, Ji / Project Engineer



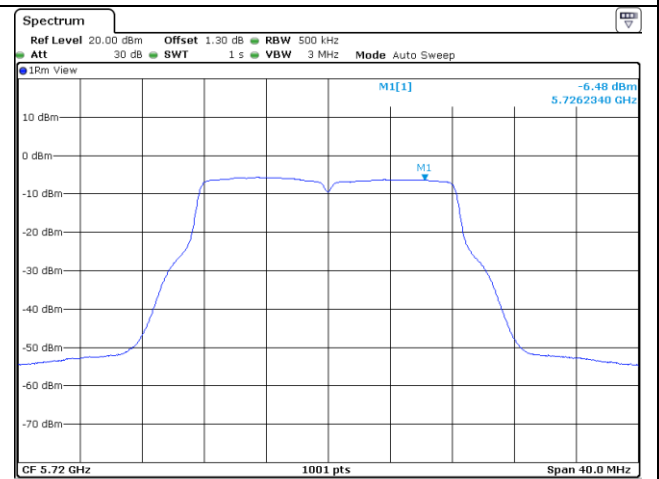
U-NII-2C Ant 0



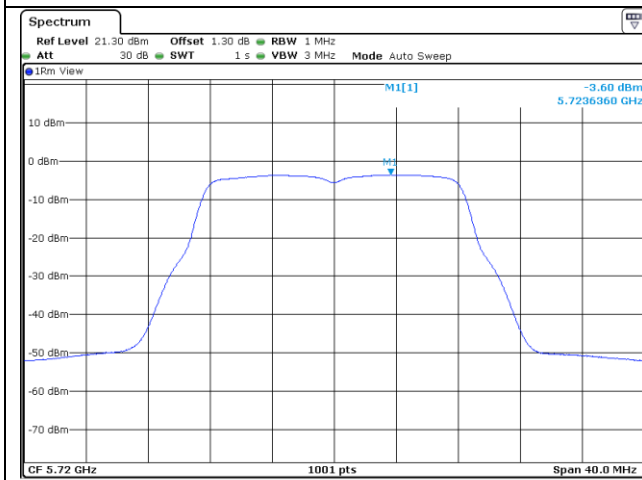
U-NII-3 Ant 0



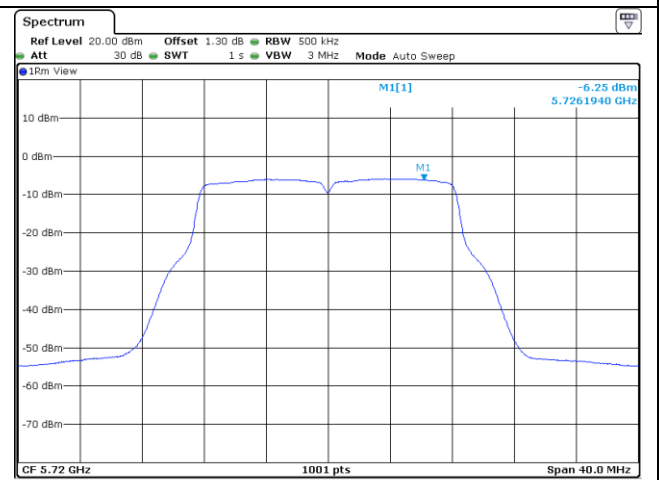
U-NII-2C Ant 1



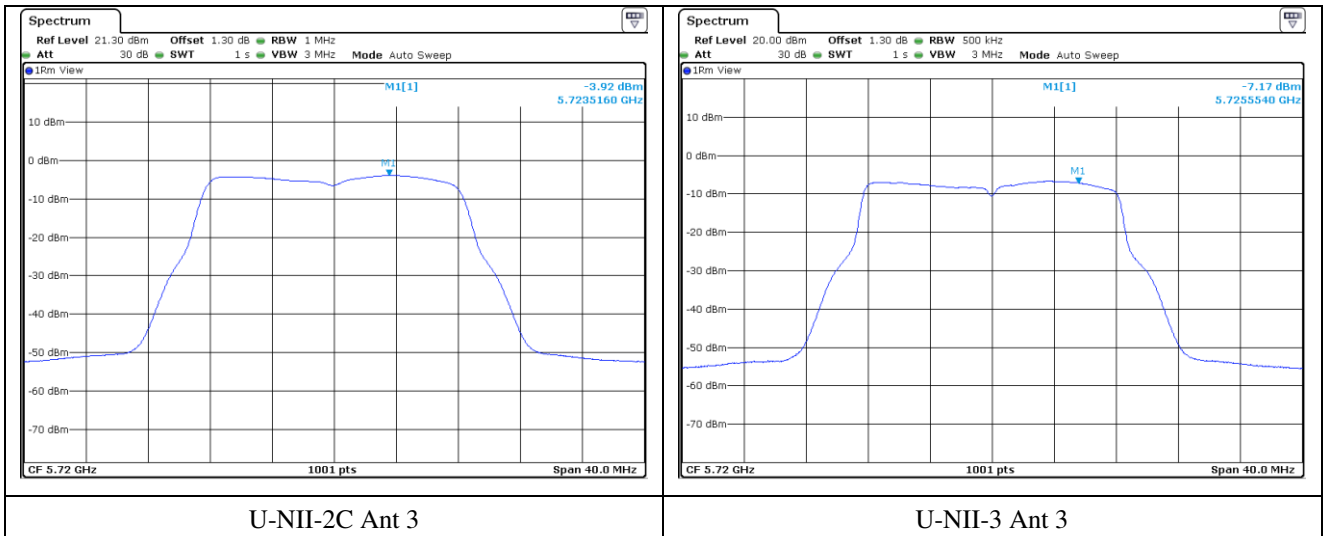
U-NII-3 Ant 1



U-NII-2C Ant 2



U-NII-3 Ant 2



Note: In order to simplify the report, attached plots were only the most wide channel.


10.4.2 Test data for 802.11n_HT20 RLAN Mode

10.4.2.1 Test data for Antenna 0

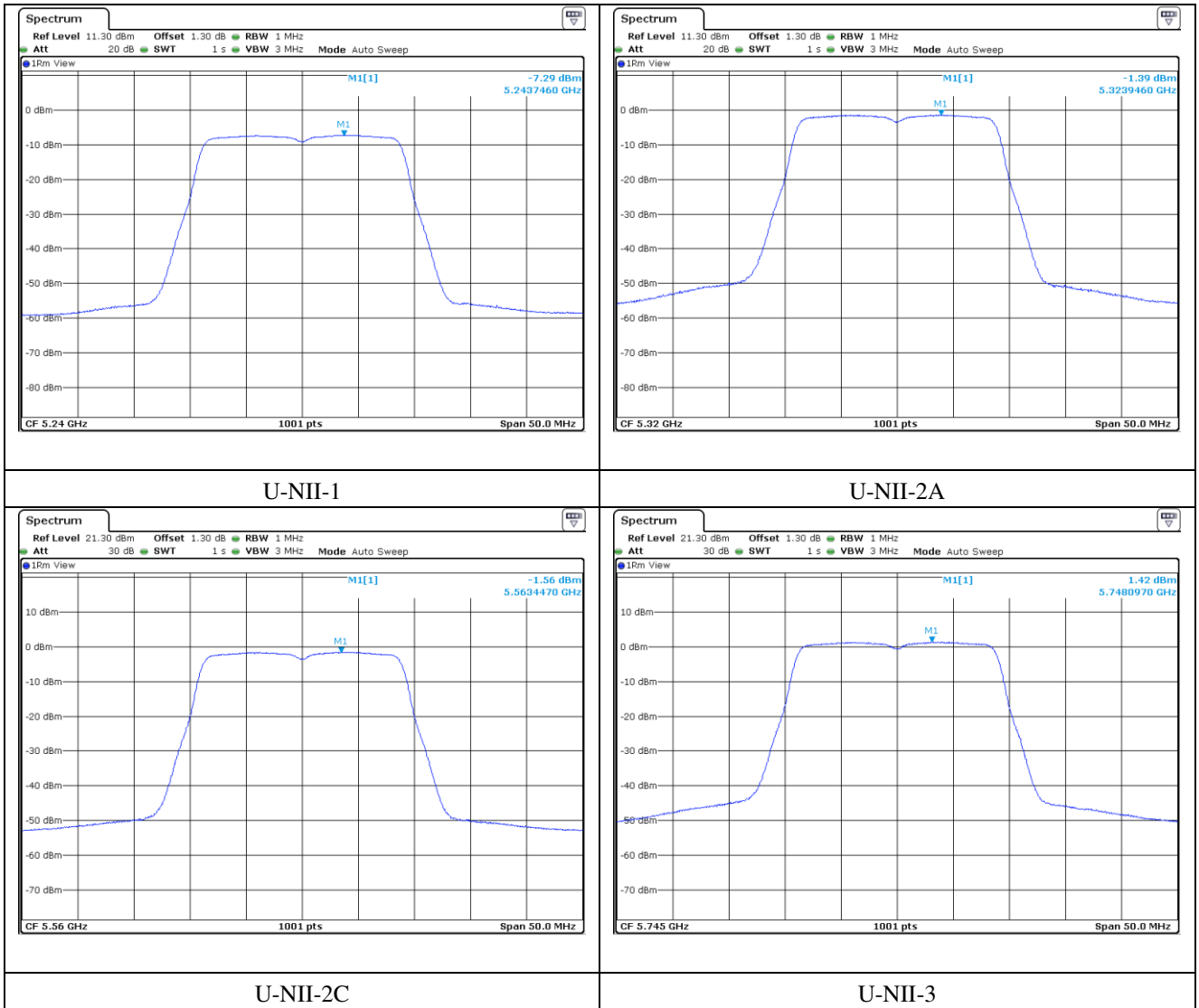
- . Test Date : June 30, 2016
- . Operating condition : Highest Output Power Transmitting Mode
- . Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -7.58 | 4.94 | 12.52 |
| | Middle | 5 220 | -7.6 | 4.94 | 12.54 |
| | High | 5 240 | -7.29 | 4.94 | 12.23 |
| 5 250 ~ 5 350 | Low | 5 260 | -2.02 | 11 | 13.02 |
| | Middle | 5 300 | -2.25 | 11 | 13.25 |
| | High | 5 320 | -1.39 | 11 | 12.39 |
| 5 470 ~ 5 725 | Low | 5 500 | -4.18 | 11.00 | 15.18 |
| | Middle | 5 560 | -1.56 | 11.00 | 12.56 |
| | High | 5 720 | -2.15 | 11.00 | 13.15 |
| 5 725 ~ 5 850 | Low | 5 745 | 1.42 | 30.00 | 28.58 |
| | Middle | 5 785 | 0.18 | 30.00 | 29.82 |
| | High | 5 825 | -2.94 | 30.00 | 32.94 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.2.2 Test data for Antenna 1

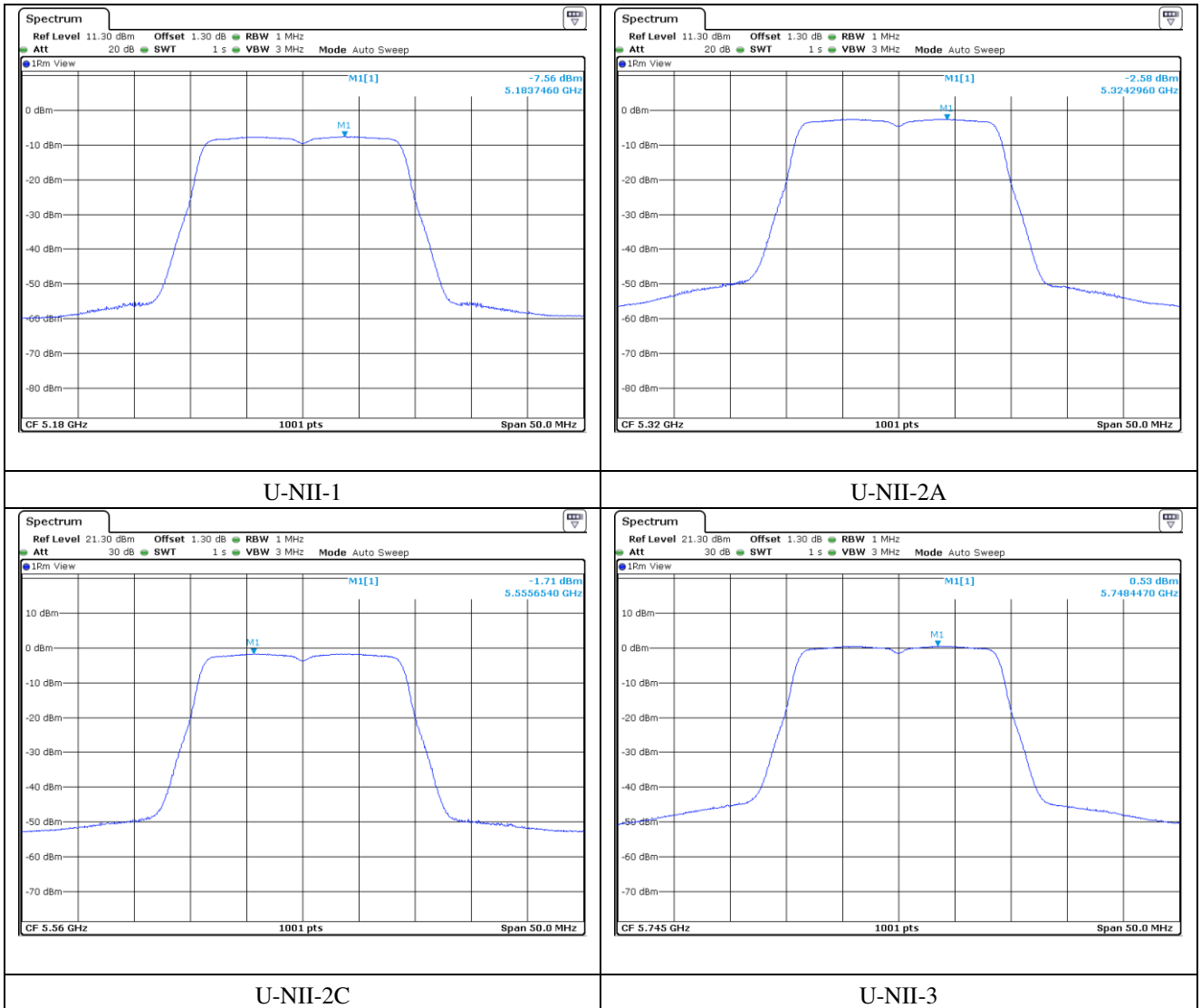
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -7.56 | 4.62 | 12.18 |
| | Middle | 5 220 | -8.12 | 4.62 | 12.74 |
| | High | 5 240 | -7.65 | 4.62 | 12.27 |
| 5 250 ~ 5 350 | Low | 5 260 | -2.99 | 11 | 13.99 |
| | Middle | 5 300 | -2.79 | 11 | 13.79 |
| | High | 5 320 | -2.58 | 11 | 13.58 |
| 5 470 ~ 5 725 | Low | 5 500 | -4.51 | 11.00 | 15.51 |
| | Middle | 5 560 | -1.71 | 11.00 | 12.71 |
| | High | 5 720 | -2.52 | 11.00 | 13.52 |
| 5 725 ~ 5 850 | Low | 5 745 | 0.53 | 30.00 | 29.47 |
| | Middle | 5 785 | -0.18 | 30.00 | 30.18 |
| | High | 5 825 | -4.21 | 30.00 | 34.21 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.2.3 Test data for Antenna 2

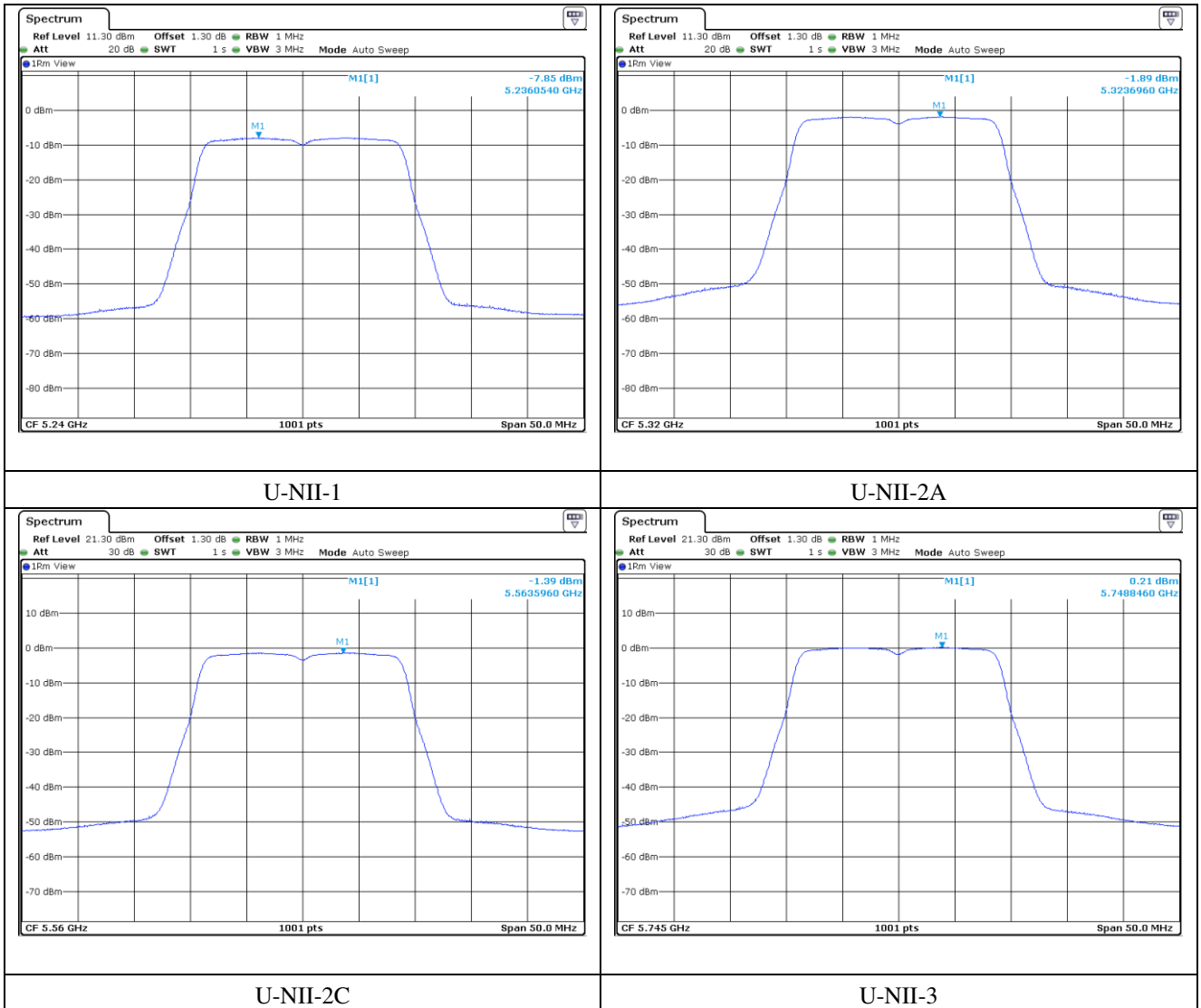
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -8.09 | 5.01 | 13.10 |
| | Middle | 5 220 | -8.07 | 5.01 | 13.08 |
| | High | 5 240 | -7.85 | 5.01 | 12.86 |
| 5 250 ~ 5 350 | Low | 5 260 | -3.13 | 11 | 14.13 |
| | Middle | 5 300 | -2.4 | 11 | 13.40 |
| | High | 5 320 | -1.89 | 11 | 12.89 |
| 5 470 ~ 5 725 | Low | 5 500 | -4.29 | 11.00 | 15.29 |
| | Middle | 5 560 | -1.39 | 11.00 | 12.39 |
| | High | 5 720 | -2.30 | 11.00 | 13.30 |
| 5 725 ~ 5 850 | Low | 5 745 | 0.21 | 30.00 | 29.79 |
| | Middle | 5 785 | -0.39 | 30.00 | 30.39 |
| | High | 5 825 | -3.68 | 30.00 | 33.68 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.2.4 Test data for Antenna 3

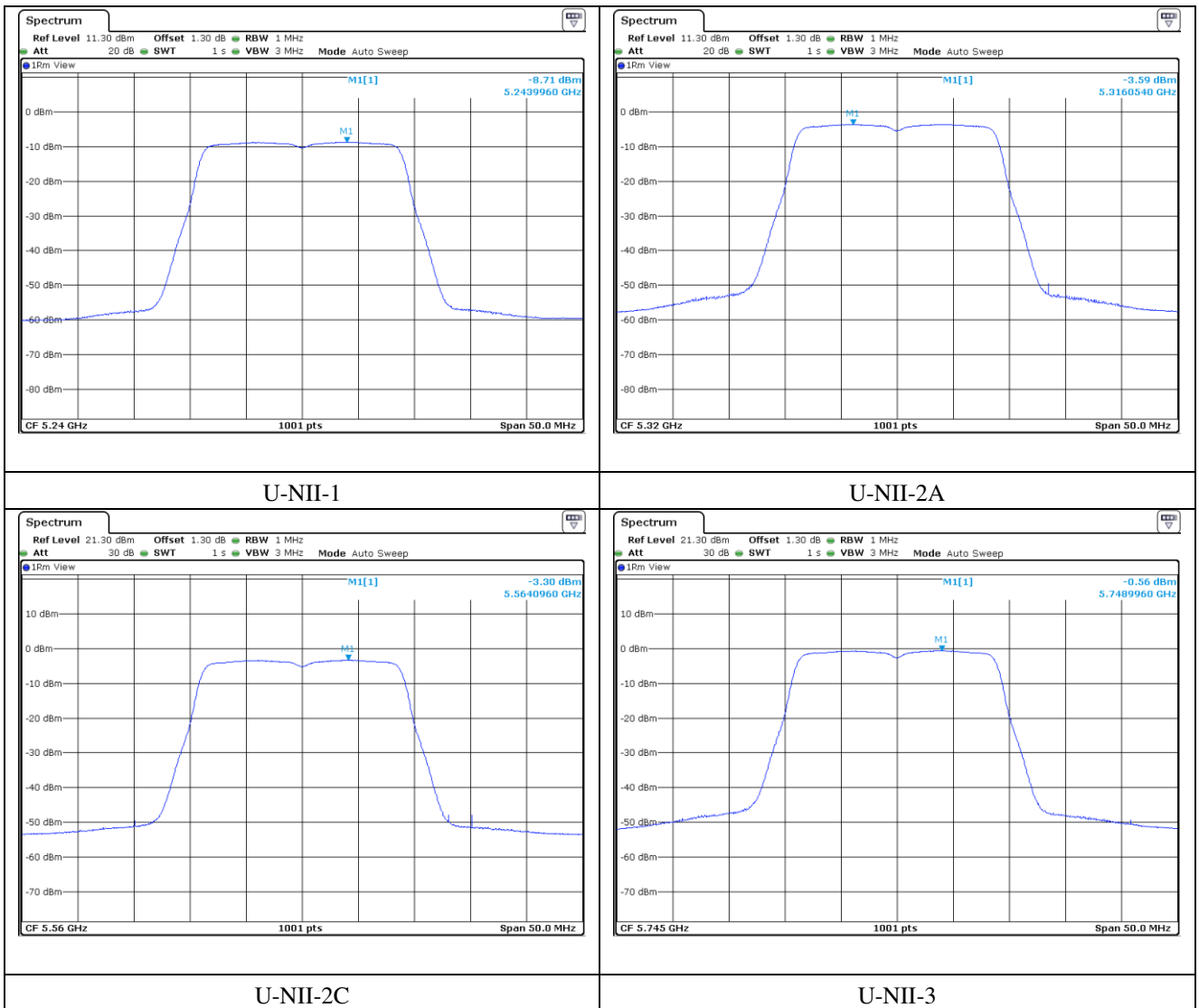
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -8.72 | 4.41 | 13.13 |
| | Middle | 5 220 | -8.90 | 4.41 | 13.31 |
| | High | 5 240 | -8.71 | 4.41 | 13.12 |
| 5 250 ~ 5 350 | Low | 5 260 | -3.89 | 11 | 14.89 |
| | Middle | 5 300 | -3.67 | 11 | 14.67 |
| | High | 5 320 | -3.59 | 11 | 14.59 |
| 5 470 ~ 5 725 | Low | 5 500 | -6.27 | 11.00 | 17.27 |
| | Middle | 5 560 | -3.30 | 11.00 | 14.30 |
| | High | 5 720 | -3.52 | 11.00 | 14.52 |
| 5 725 ~ 5 850 | Low | 5 745 | -0.56 | 30.00 | 30.56 |
| | Middle | 5 785 | -1.16 | 30.00 | 31.16 |
| | High | 5 825 | -5.12 | 30.00 | 35.12 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.2.5 Test data for Multiple Transmit

- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -1.94 | -1.28 | 0.66 |
| | Middle | 5 220 | -2.13 | -1.28 | 0.85 |
| | High | 5 240 | -1.82 | -1.28 | 0.54 |
| 5 250 ~ 5 350 | Low | 5 260 | 3.06 | 5.71 | 2.65 |
| | Middle | 5 300 | 3.28 | 5.71 | 2.43 |
| | High | 5 320 | 3.73 | 5.71 | 1.98 |
| 5 470 ~ 5 725 | Low | 5 500 | 1.29 | 5.89 | 4.60 |
| | Middle | 5 560 | 4.09 | 5.89 | 1.80 |
| | High | 5 720 | 3.43 | 5.89 | 2.46 |
| 5 725 ~ 5 850 | Low | 5 745 | 6.48 | 25.64 | 19.16 |
| | Middle | 5 785 | 5.66 | 25.64 | 19.98 |
| | High | 5 825 | 2.10 | 25.64 | 23.54 |

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna1 Power Density}/10)} + 10^{(\text{Antenna2 Power Density}/10)})$



Tested by: Min-Gu, Ji / Project Engineer

10.4.2.6 Test data for Staddle Channel_Antenna 0

- . Test Date : June 30, 2016
- . Operating condition : Highest Output Power Transmitting Mode
- . Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|--------------------------|--------------------|-------------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | -2.67 | 11.00 | 13.67 |
| 5 725 ~ 5 850 | 5 720 | -5.11 | 30.00 | 35.11 |

Remark: See next page for measurement data.

10.4.2.7 Test data for Staddle Channel_Antenna 1

- . Test Date : June 30, 2016
- . Operating condition : Highest Output Power Transmitting Mode
- . Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|--------------------------|--------------------|-------------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | -2.80 | 11.00 | 13.80 |
| 5 725 ~ 5 850 | 5 720 | -6.15 | 30.00 | 36.15 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer

10.4.2.8 Test data for Staddle Channel_Antenna 2

- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|--------------------------|--------------------|-------------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | -2.62 | 11.00 | 13.62 |
| 5 725 ~ 5 850 | 5 720 | -5.85 | 30.00 | 35.85 |

Remark: See next page for measurement data.

10.4.2.9 Test data for Staddle Channel_Antenna 3

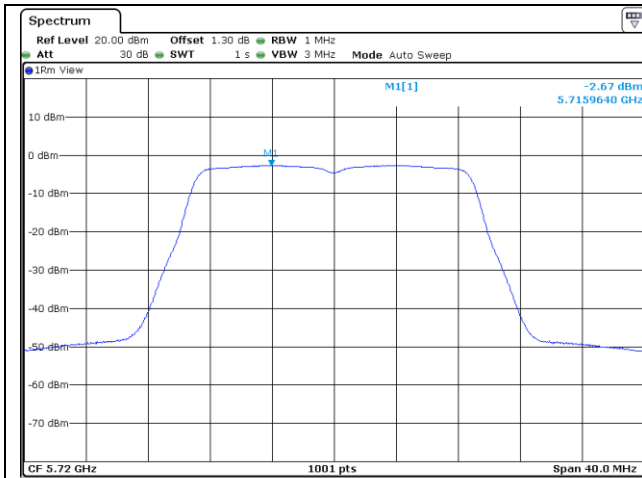
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|--------------------------|--------------------|-------------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 720 | -3.74 | 11.00 | 14.74 |
| 5 725 ~ 5 850 | 5 720 | -7.00 | 30.00 | 37.00 |

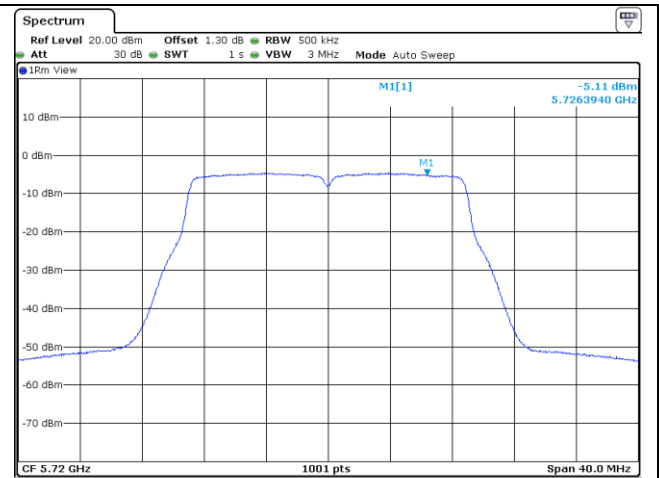
Remark: See next page for measurement data.



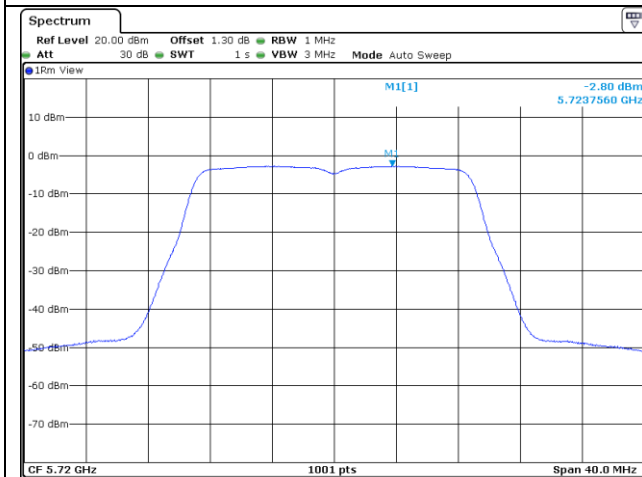
Tested by: Min-Gu, Ji / Project Engineer



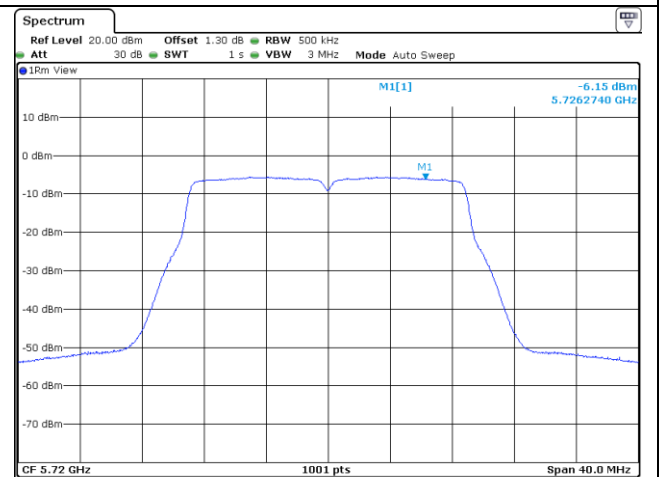
U-NII-2C Ant 0



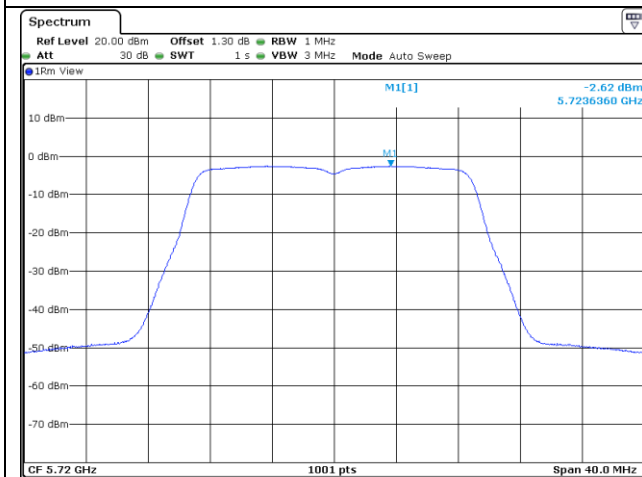
U-NII-3 Ant 0



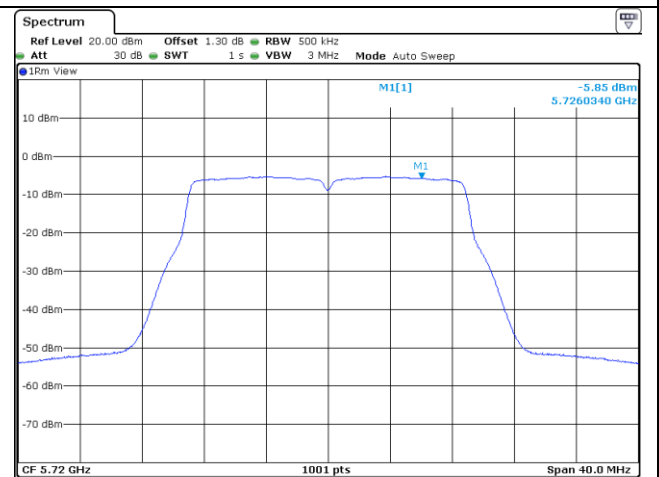
U-NII-2C Ant 1



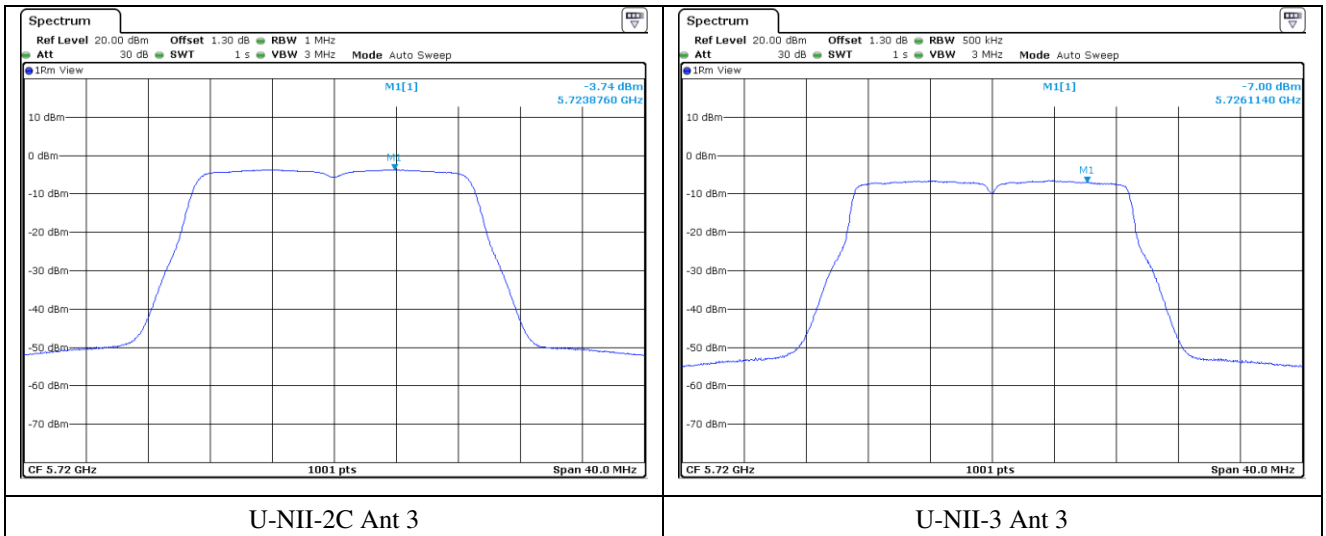
U-NII-3 Ant 1



U-NII-2C Ant 2



U-NII-3 Ant 2



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.3 Test data for 802.11n_HT40 RLAN Mode

10.4.3.1 Test data for Antenna 0

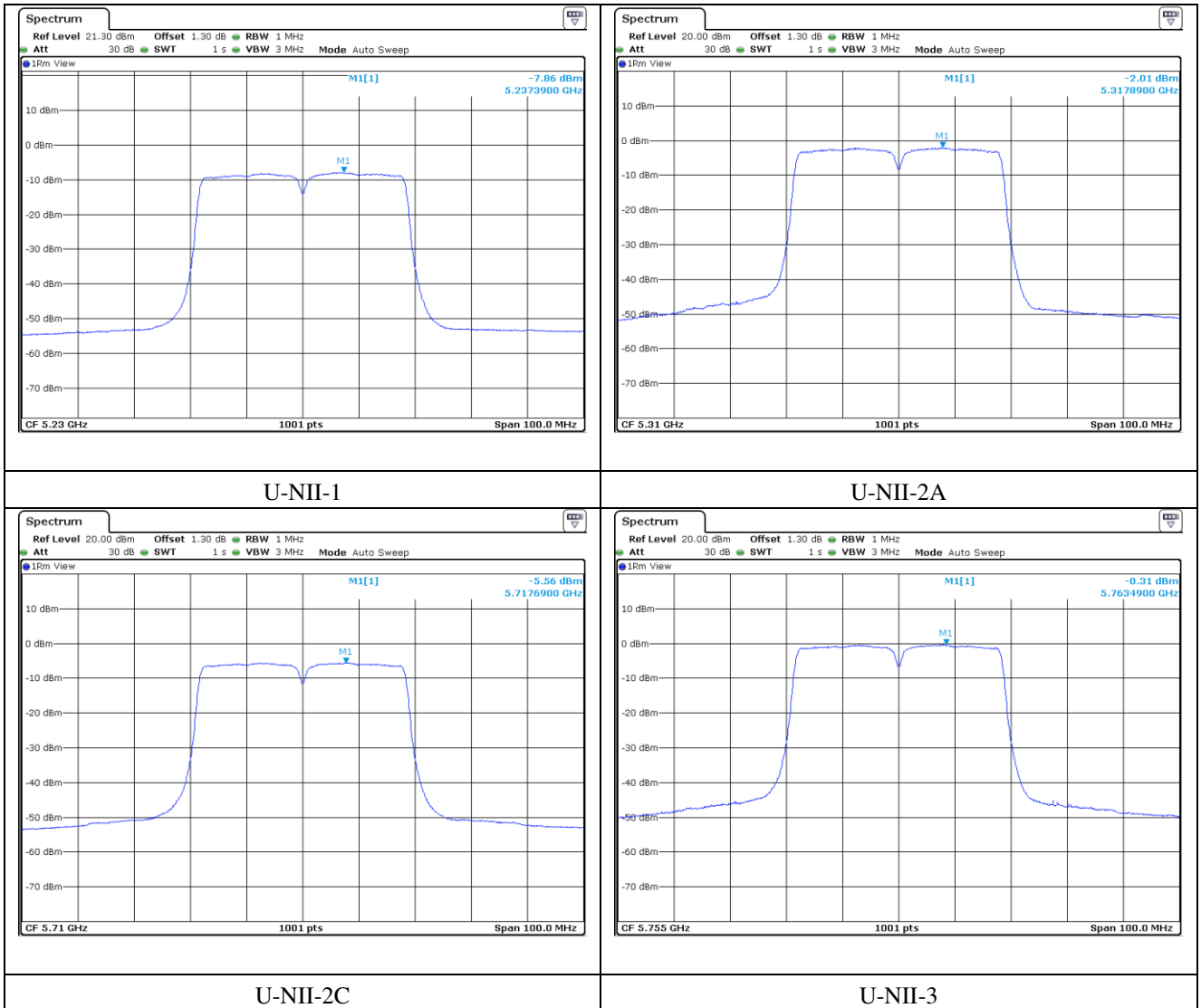
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | -8.06 | 4.94 | 13.00 |
| | High | 5 230 | -7.86 | 4.94 | 12.80 |
| 5 250 ~ 5 350 | Low | 5 270 | -2.69 | 11 | 13.69 |
| | High | 5 310 | -2.01 | 11 | 13.01 |
| 5 470 ~ 5 725 | Low | 5 510 | -5.89 | 11.00 | 16.89 |
| | Middle | 5 550 | -6.30 | 11.00 | 17.30 |
| | High | 5 710 | -5.56 | 11.00 | 16.56 |
| 5 725 ~ 5 850 | Low | 5 755 | -0.31 | 30.00 | 30.31 |
| | High | 5 795 | -2.90 | 30.00 | 32.90 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.3.2 Test data for Antenna 1

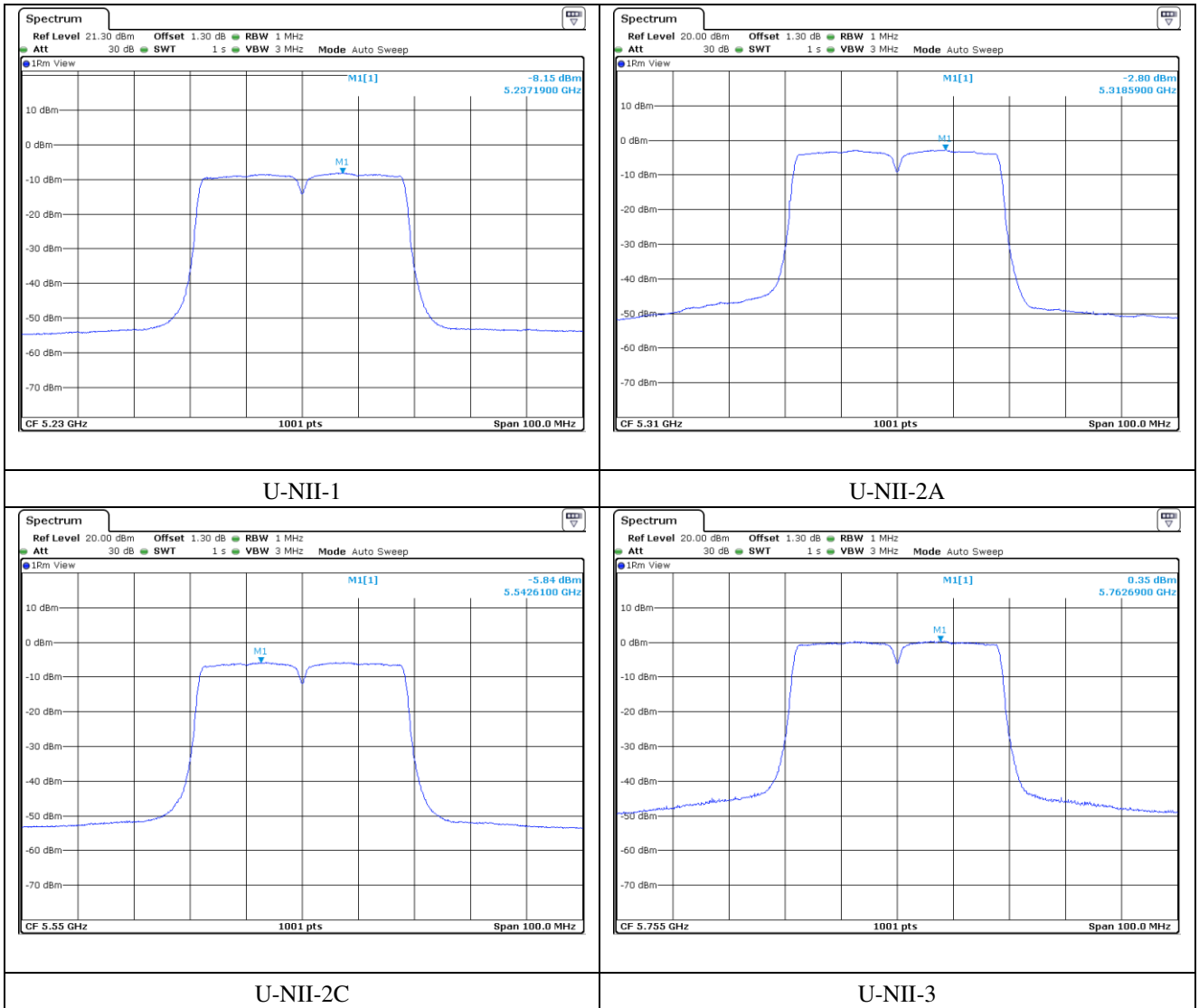
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | -8.60 | 4.62 | 13.22 |
| | High | 5 230 | -8.15 | 4.62 | 12.77 |
| 5 250 ~ 5 350 | Low | 5 270 | -3.62 | 11 | 14.62 |
| | High | 5 310 | -2.80 | 11 | 13.80 |
| 5 470 ~ 5 725 | Low | 5 510 | -5.94 | 11.00 | 16.94 |
| | Middle | 5 550 | -5.84 | 11.00 | 16.84 |
| | High | 5 710 | -5.89 | 11.00 | 16.89 |
| 5 725 ~ 5 850 | Low | 5 755 | 0.35 | 30.00 | 29.65 |
| | High | 5 795 | -3.14 | 30.00 | 33.14 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.3.3 Test data for Antenna 2

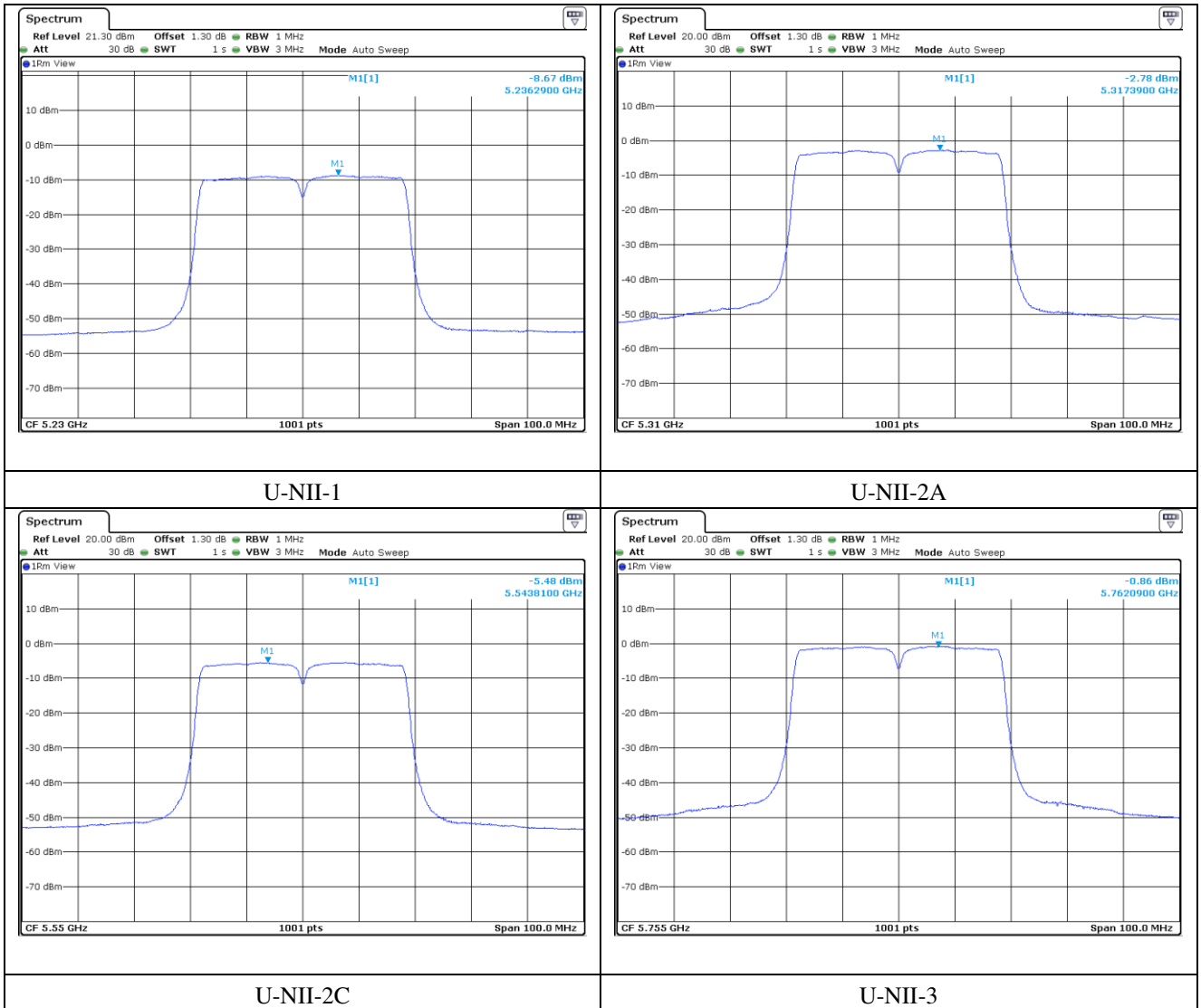
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | -8.82 | 5.01 | 13.83 |
| | High | 5 230 | -8.67 | 5.01 | 13.68 |
| 5 250 ~ 5 350 | Low | 5 270 | -3.38 | 11 | 14.38 |
| | High | 5 310 | -2.78 | 11 | 13.78 |
| 5 470 ~ 5 725 | Low | 5 510 | -5.68 | 11.00 | 16.68 |
| | Middle | 5 550 | -5.48 | 11.00 | 16.48 |
| | High | 5 710 | -5.63 | 11.00 | 16.63 |
| 5 725 ~ 5 850 | Low | 5 755 | -0.86 | 30.00 | 30.86 |
| | High | 5 795 | -3.52 | 30.00 | 33.52 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.3.4 Test data for Antenna 3

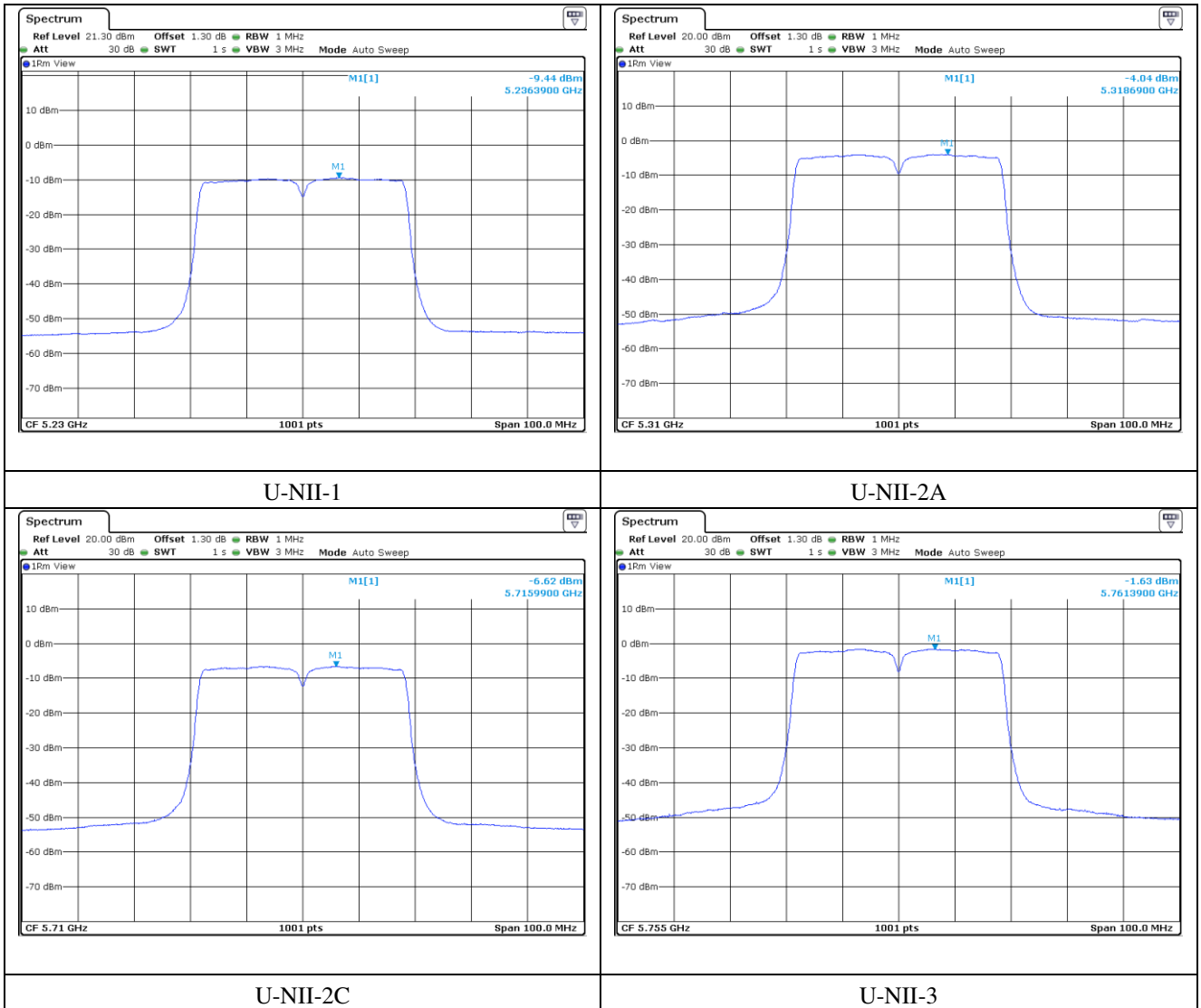
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | -9.63 | 4.41 | 14.04 |
| | High | 5 230 | -9.44 | 4.41 | 13.85 |
| 5 250 ~ 5 350 | Low | 5 270 | -4.22 | 11 | 15.22 |
| | High | 5 310 | -4.04 | 11 | 15.04 |
| 5 470 ~ 5 725 | Low | 5 510 | -7.62 | 11.00 | 18.62 |
| | Middle | 5 550 | -7.04 | 11.00 | 18.04 |
| | High | 5 710 | -6.62 | 11.00 | 17.62 |
| 5 725 ~ 5 850 | Low | 5 755 | -1.63 | 30.00 | 31.63 |
| | High | 5 795 | -3.60 | 30.00 | 33.60 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.3.5 Test data for Multiple Transmit

- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 190 | -2.72 | -1.28 | 1.44 |
| | High | 5 230 | -2.47 | -1.28 | 1.19 |
| 5 250 ~ 5 350 | Low | 5 270 | 2.58 | 5.71 | 3.13 |
| | High | 5 310 | 3.17 | 5.71 | 2.54 |
| 5 470 ~ 5 725 | Low | 5 510 | -0.20 | 5.89 | 6.09 |
| | Middle | 5 550 | -0.11 | 5.89 | 6.00 |
| | High | 5 710 | 0.12 | 5.89 | 5.77 |
| 5 725 ~ 5 850 | Low | 5 755 | 5.47 | 25.64 | 20.17 |
| | High | 5 795 | 2.74 | 25.64 | 22.90 |

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log (10^{(\text{Antenna1 Power Density}/10)}+10^{(\text{Antenna2 Power Density}/10)})$



Tested by: Min-Gu, Ji / Project Engineer

10.4.3.6 Test data for Staddle Channel_Antenna 0

- . Test Date : June 30, 2016
- . Operating condition : Highest Output Power Transmitting Mode
- . Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|--------------------------|--------------------|-------------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 710 | -5.87 | 11.00 | 16.87 |
| 5 725 ~ 5 850 | 5 710 | -9.88 | 30.00 | 39.88 |

Remark: See next page for measurement data.

10.4.3.7 Test data for Staddle Channel_Antenna 1

- . Test Date : June 30, 2016
- . Operating condition : Highest Output Power Transmitting Mode
- . Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|--------------------------|--------------------|-------------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 710 | -6.19 | 11.00 | 17.19 |
| 5 725 ~ 5 850 | 5 710 | -9.74 | 30.00 | 39.74 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer

10.4.3.8 Test data for Staddle Channel_Antenna 2

- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 710 | -4.97 | 11.00 | 15.97 |
| 5 725 ~ 5 850 | 5 710 | -9.57 | 30.00 | 39.57 |

Remark: See next page for measurement data.

10.4.3.9 Test data for Staddle Channel_Antenna 3

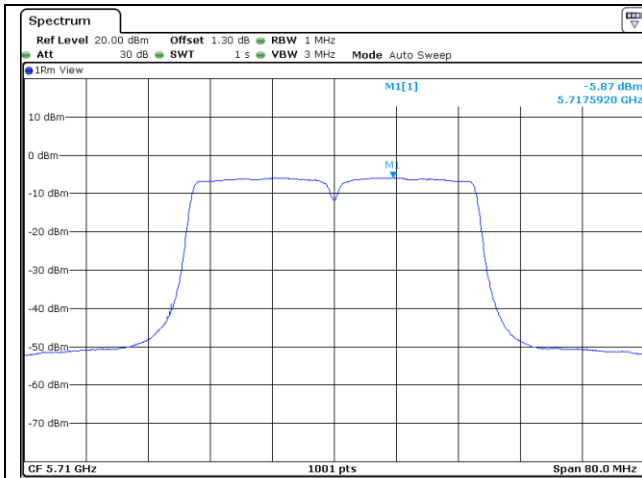
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|-----------------|----------------------|-------------|-------------|
| 5 470 ~ 5 725 | 5 710 | -7.01 | 11.00 | 18.01 |
| 5 725 ~ 5 850 | 5 710 | -10.72 | 30.00 | 40.72 |

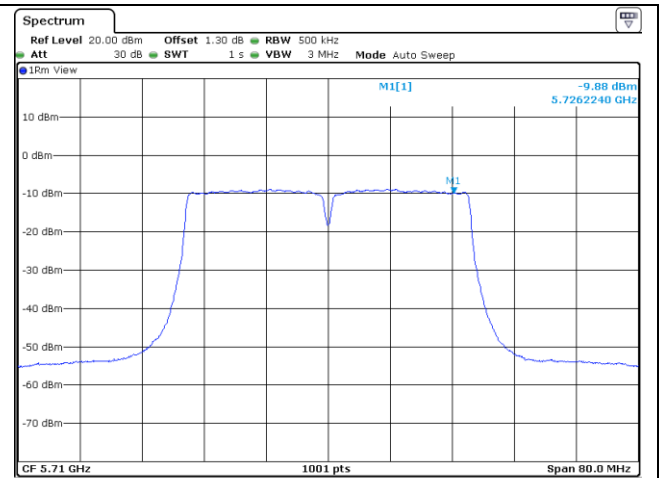
Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



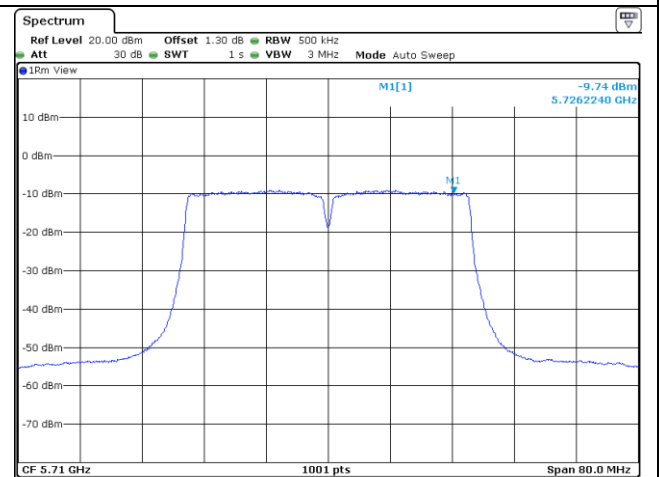
U-NII-2C Ant 0



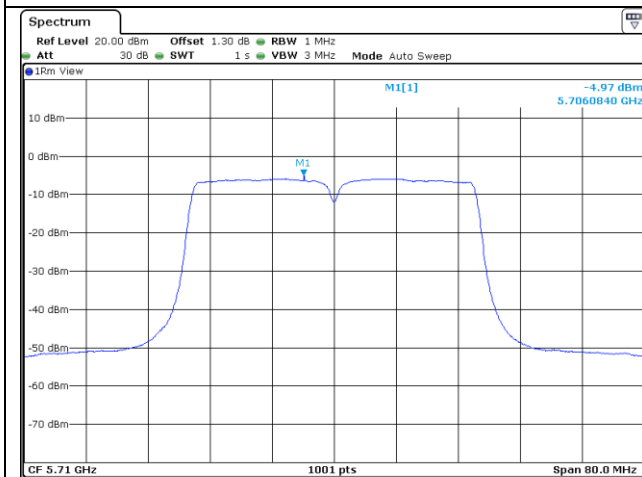
U-NII-3 Ant 0



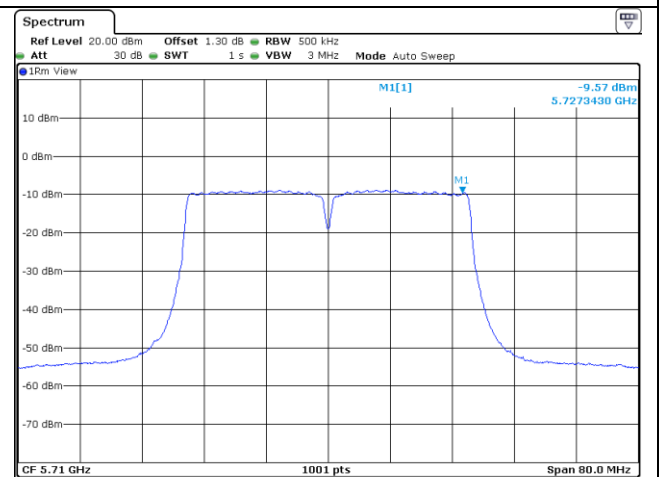
U-NII-2C Ant 1



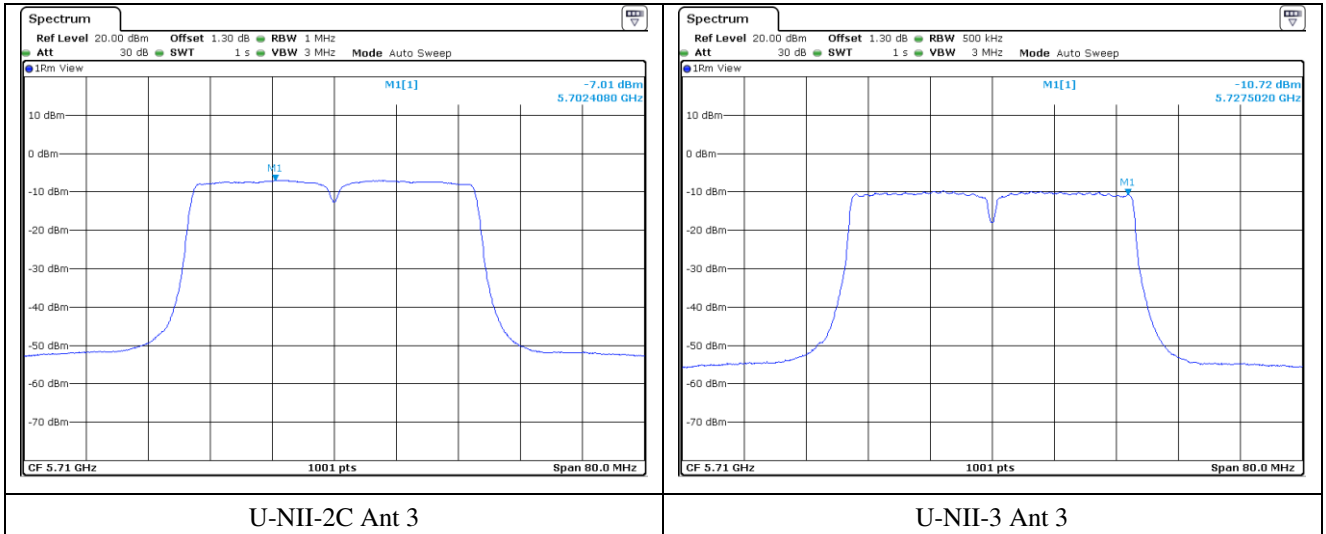
U-NII-3 Ant 1



U-NII-2C Ant 2



U-NII-3 Ant 2



\Note: In order to simplify the report, attached plots were only the most wide channel.


10.4.4 Test data for 802.11ac_VHT20 RLAN Mode

10.4.4.1 Test data for Antenna 0

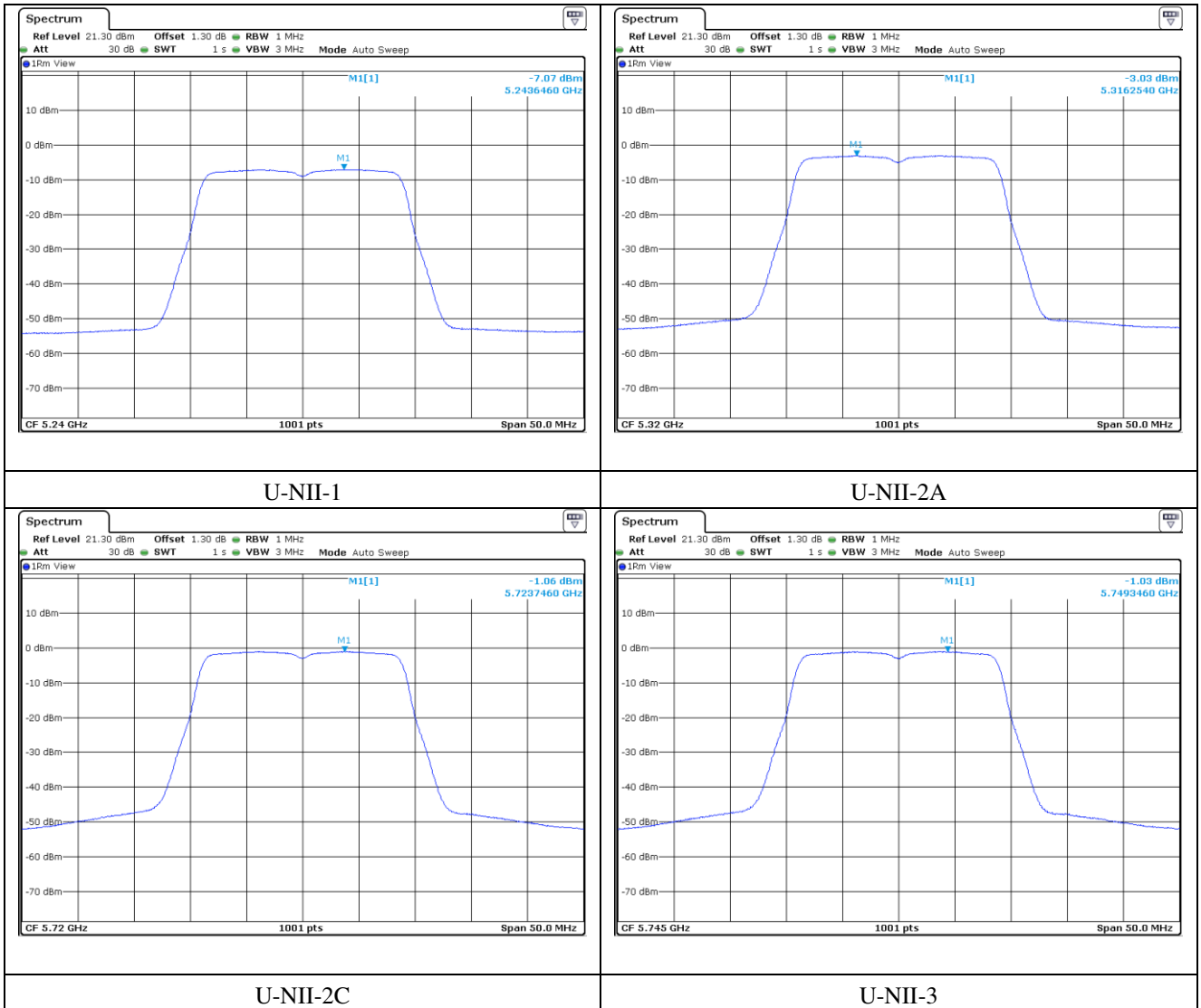
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -7.84 | 4.94 | 12.78 |
| | Middle | 5 220 | -7.53 | 4.94 | 12.47 |
| | High | 5 240 | -7.07 | 4.94 | 12.01 |
| 5 250 ~ 5 350 | Low | 5 260 | -3.11 | 11 | 14.11 |
| | Middle | 5 300 | -3.48 | 11 | 14.48 |
| | High | 5 320 | -3.03 | 11 | 14.03 |
| 5 470 ~ 5 725 | Low | 5 500 | -5.49 | 11.00 | 16.49 |
| | Middle | 5 560 | -1.54 | 11.00 | 12.54 |
| | High | 5 720 | -1.06 | 11.00 | 12.06 |
| 5 725 ~ 5 850 | Low | 5 745 | -1.03 | 30.00 | 31.03 |
| | Middle | 5 785 | -2.08 | 30.00 | 32.08 |
| | High | 5 825 | -2.86 | 30.00 | 32.86 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.

10.4.4.2 Test data for Antenna 1

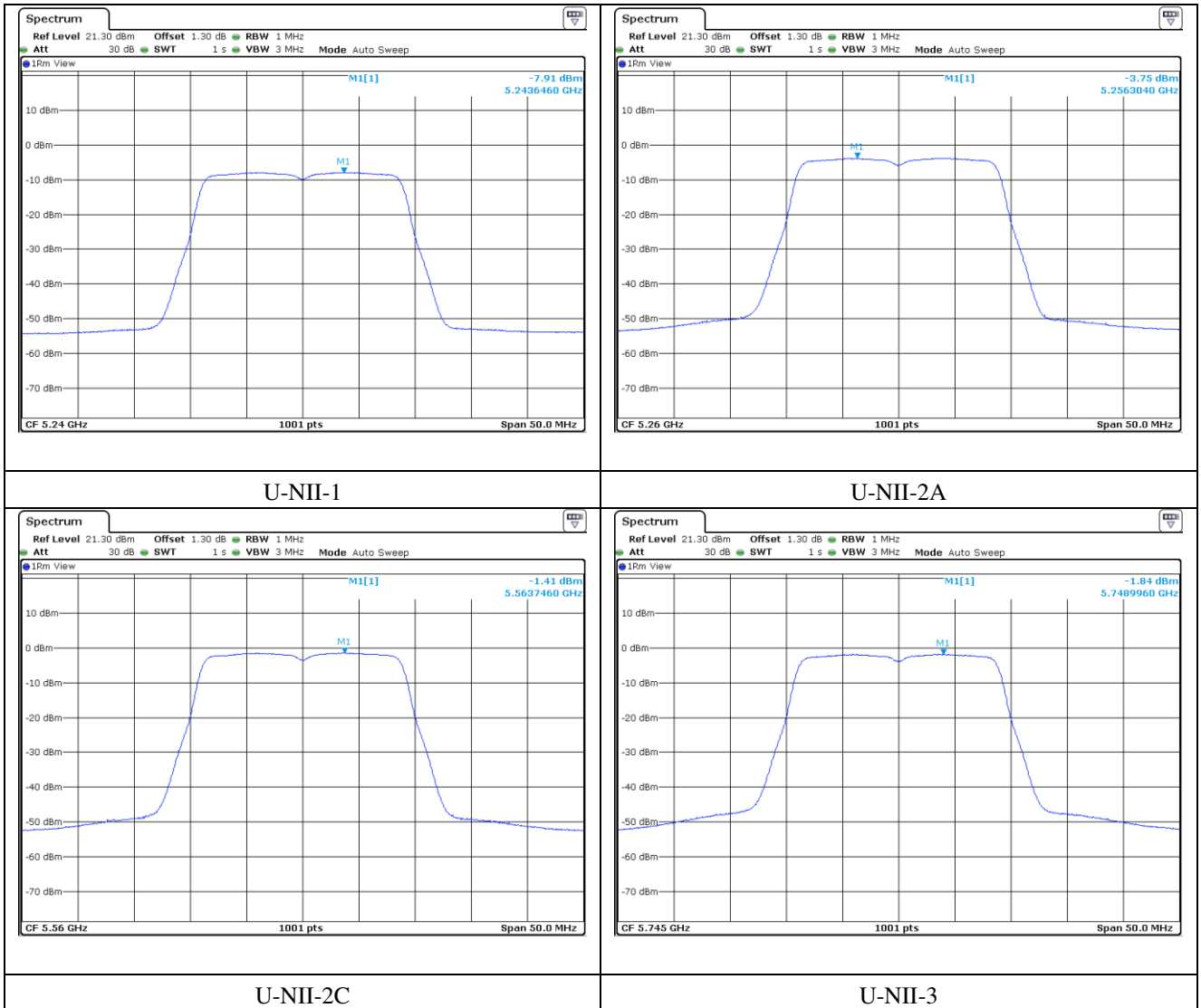
- Test Date : June 30, 2016
- Operating condition : Highest Output Power Transmitting Mode
- Test Result : Pass

| FREQUENCY RANGE (MHz) | CHANNEL | FREQUENCY (MHz) | MEASURED VALUE (dBm) | LIMIT (dBm) | MARGIN (dB) |
|-----------------------|---------|-----------------|----------------------|-------------|-------------|
| 5 150 ~ 5 250 | Low | 5 180 | -8.58 | 4.62 | 13.20 |
| | Middle | 5 220 | -8.16 | 4.62 | 12.78 |
| | High | 5 240 | -7.91 | 4.62 | 12.53 |
| 5 250 ~ 5 350 | Low | 5 260 | -3.75 | 11 | 14.75 |
| | Middle | 5 300 | -4.09 | 11 | 15.09 |
| | High | 5 320 | -3.94 | 11 | 14.94 |
| 5 470 ~ 5 725 | Low | 5 500 | -5.22 | 11.00 | 16.22 |
| | Middle | 5 560 | -1.41 | 11.00 | 12.41 |
| | High | 5 720 | -1.43 | 11.00 | 12.43 |
| 5 725 ~ 5 850 | Low | 5 745 | -1.84 | 30.00 | 31.84 |
| | Middle | 5 785 | -2.33 | 30.00 | 32.33 |
| | High | 5 825 | -3.43 | 30.00 | 33.43 |

Remark: See next page for measurement data.



Tested by: Min-Gu, Ji / Project Engineer



Note: In order to simplify the report, attached plots were only the most wide channel.