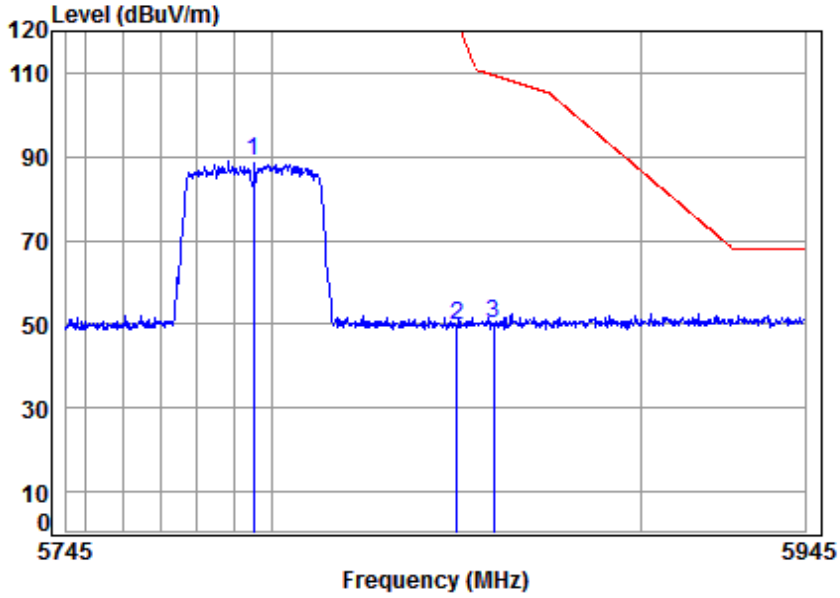
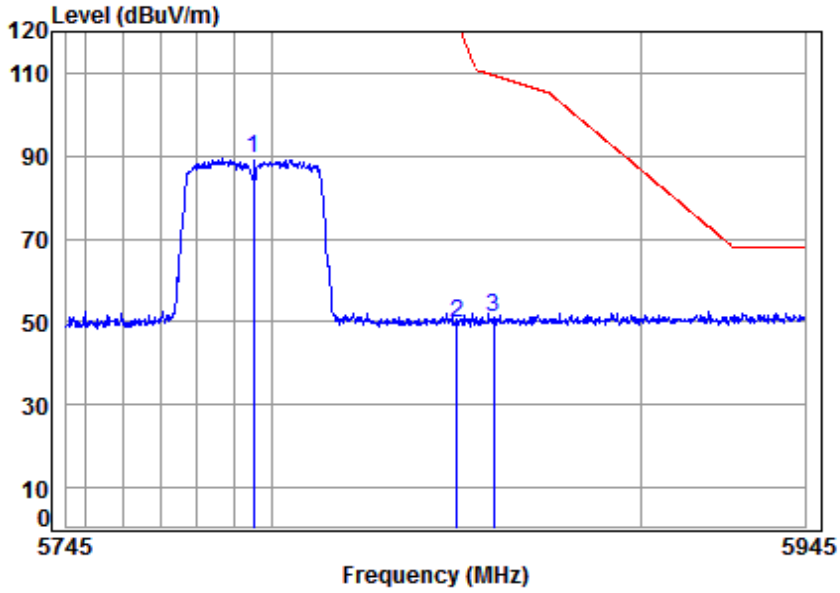
| Test mode: | 802.11n(HT40) | Frequency(MHz): | 5795 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5795 Band edge
Note : 5G11N40 CH159
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5795.000 | 9.88 | 34.90 | 41.78 | 85.79 | 88.79 | 125.20 | -36.41 | peak |
| 2 | 5850.000 | 10.07 | 34.95 | 41.73 | 46.45 | 49.74 | 122.20 | -72.46 | peak |
| 3 | 5860.000 | 10.10 | 34.96 | 41.72 | 46.90 | 50.24 | 109.40 | -59.16 | peak |

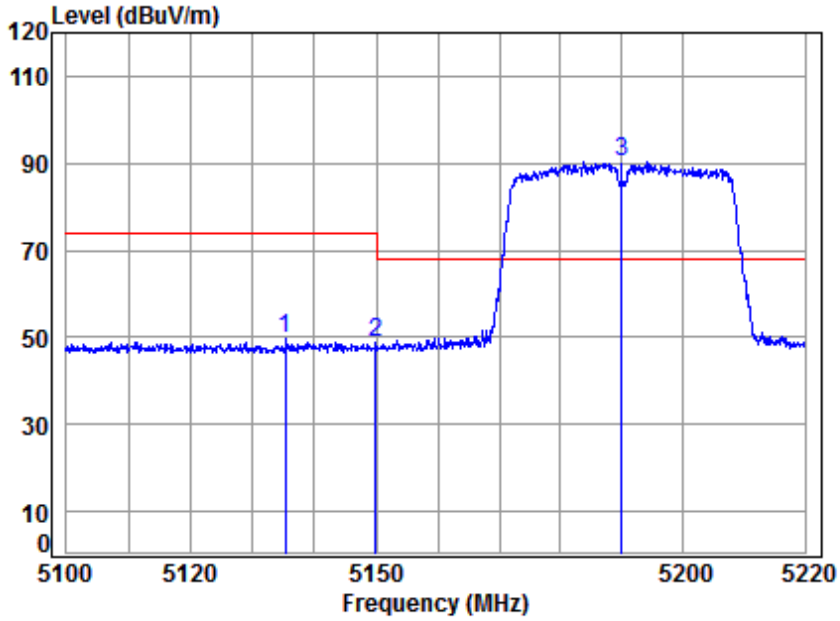
| Test mode: | 802.11n(HT40) | Frequency(MHz): | 5795 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5795 Band edge
Note : 5G11N40 CH159
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5795.000 | 9.88 | 34.90 | 41.78 | 86.44 | 89.44 | 125.20 | -35.76 | peak |
| 2 | 5850.000 | 10.07 | 34.95 | 41.73 | 46.65 | 49.94 | 122.20 | -72.26 | peak |
| 3 | 5860.000 | 10.10 | 34.96 | 41.72 | 47.74 | 51.08 | 109.40 | -58.32 | peak |

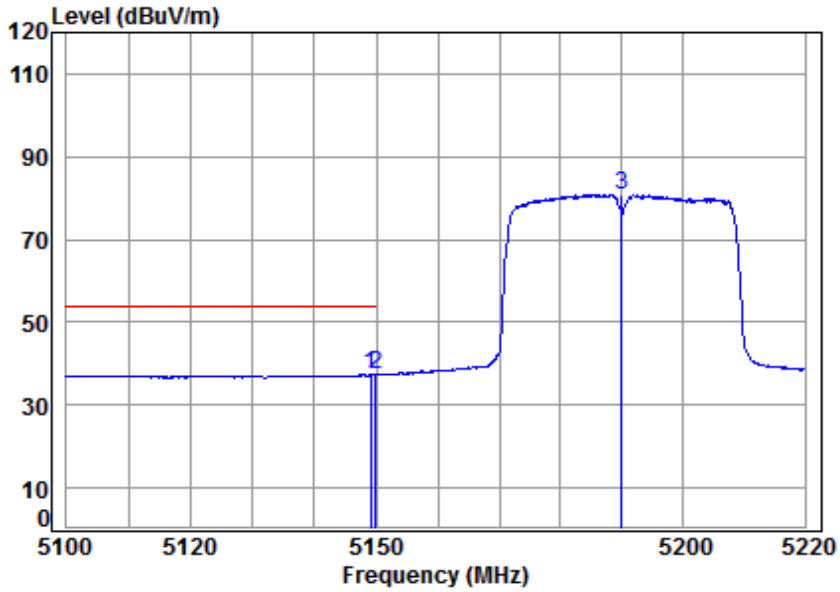
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5190 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5190 Band edge
Note : 5G11AC40 CH38
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5135.349 | 8.30 | 34.31 | 42.37 | 49.51 | 49.75 | 74.00 | -24.25 | Peak |
| 2 | 5149.980 | 8.33 | 34.32 | 42.36 | 48.32 | 48.61 | 74.00 | -25.39 | Peak |
| 3 pp | 5190.000 | 8.39 | 34.36 | 42.32 | 89.95 | 90.38 | 68.20 | 22.18 | Peak |

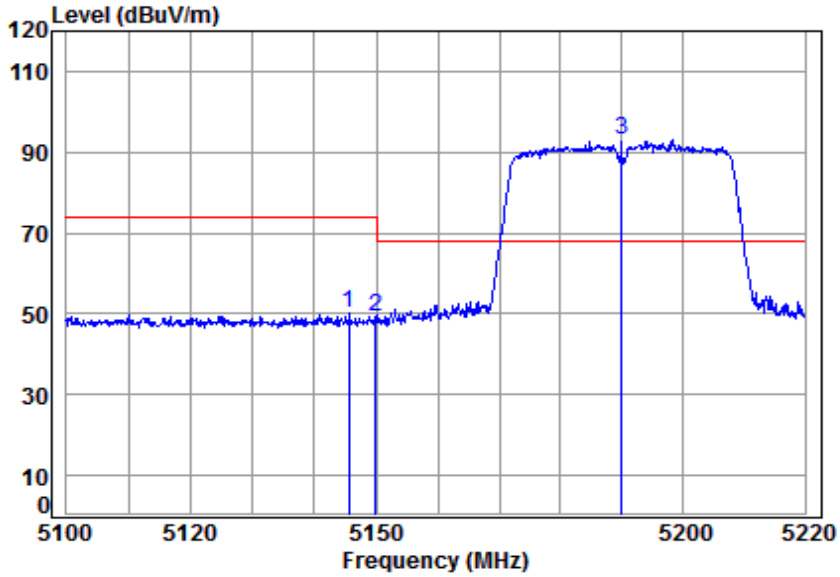
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5190 | Average | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5190 Band edge
Note : 5G11AC40 CH38
: Z

| | | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | pp | 5149.102 | 8.32 | 34.32 | 42.36 | 37.13 | 37.41 | 54.00 | -16.59 | Average |
| 2 | | 5149.980 | 8.33 | 34.32 | 42.36 | 37.06 | 37.35 | 54.00 | -16.65 | Average |
| 3 | | 5190.000 | 8.39 | 34.36 | 42.32 | 80.42 | 80.85 | ------ | ------ | Average |

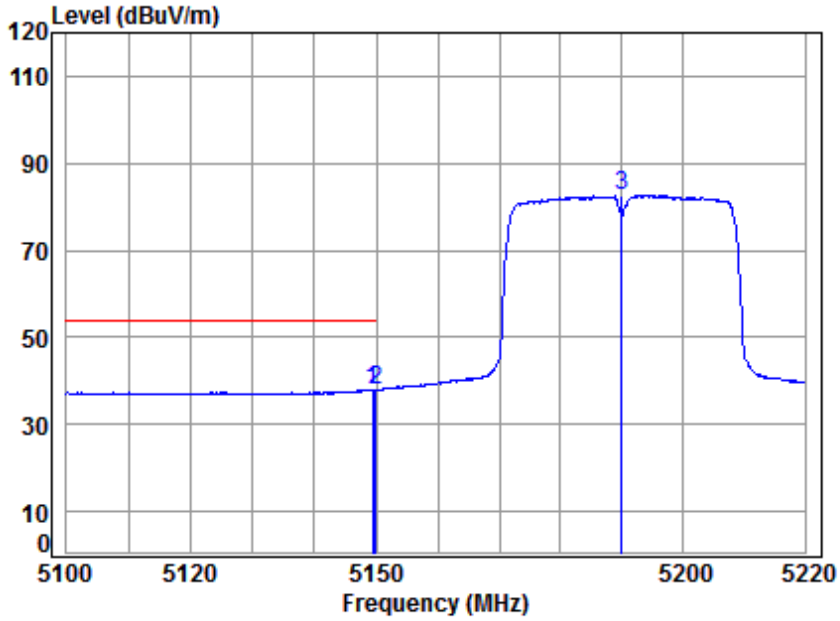
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5190 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5190 Band edge
Note : 5G11AC40 CH38
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5145.630 | 8.32 | 34.32 | 42.36 | 49.73 | 50.01 | 74.00 | -23.99 | peak |
| 2 | 5149.980 | 8.33 | 34.32 | 42.36 | 48.92 | 49.21 | 74.00 | -24.79 | peak |
| 3 pp | 5190.000 | 8.39 | 34.36 | 42.32 | 92.59 | 93.02 | 68.20 | 24.82 | peak |

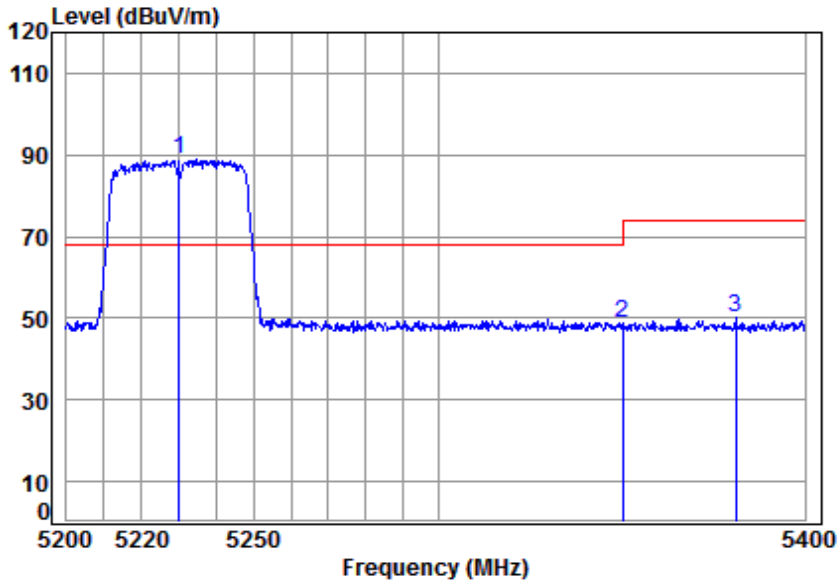
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5190 | Average | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5190 Band edge
Note : 5G11AC40 CH38
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5149.461 | 8.32 | 34.32 | 42.36 | 37.76 | 38.04 | 54.00 | -15.96 | Average |
| 2 pp | 5149.980 | 8.33 | 34.32 | 42.36 | 37.79 | 38.08 | 54.00 | -15.92 | Average |
| 3 | 5190.000 | 8.39 | 34.36 | 42.32 | 82.25 | 82.68 | ------ | ------ | Average |

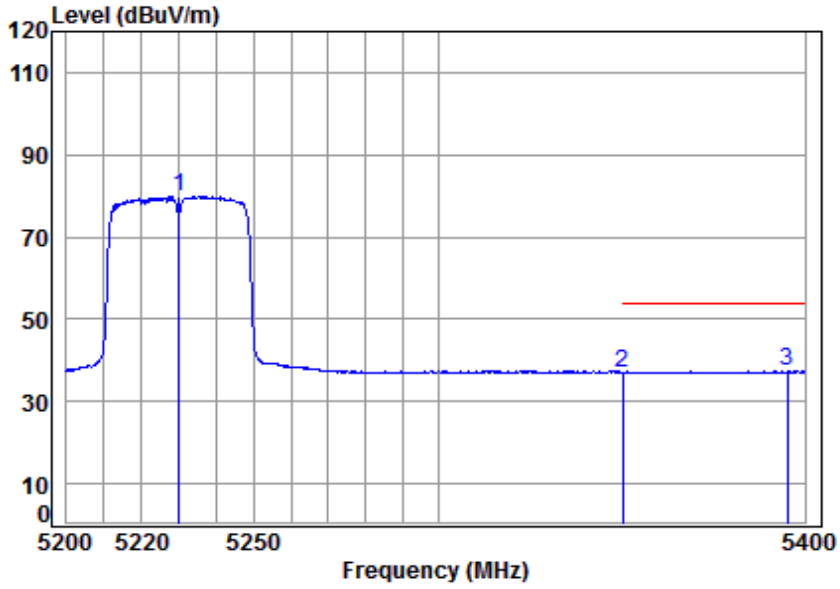
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5230 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5230 Band edge
Note : 5G11AC40 CH46
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5230.000 | 8.45 | 34.39 | 42.28 | 88.25 | 88.81 | 68.20 | 20.61 | Peak |
| 2 | 5350.020 | 8.63 | 34.48 | 42.17 | 48.06 | 49.00 | 74.00 | -25.00 | Peak |
| 3 | 5380.877 | 8.68 | 34.51 | 42.14 | 49.23 | 50.28 | 74.00 | -23.72 | Peak |

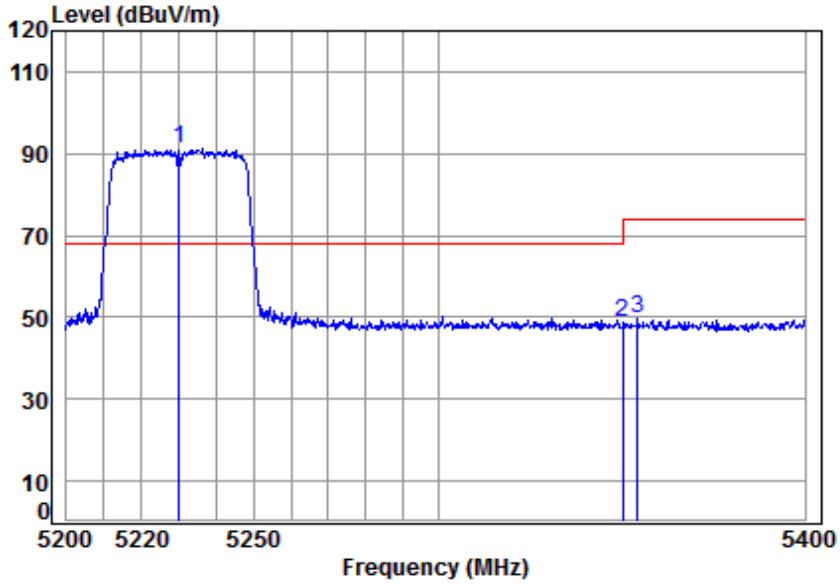
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5230 | Average | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5230 Band edge
Note : 5G11AC40 CH46
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5230.000 | 8.45 | 34.39 | 42.28 | 79.26 | 79.82 | ------ | ------ | Average |
| 2 | 5350.020 | 8.63 | 34.48 | 42.17 | 36.20 | 37.14 | 54.00 | -16.86 | Average |
| 3 pp | 5395.111 | 8.70 | 34.52 | 42.13 | 36.15 | 37.24 | 54.00 | -16.76 | Average |

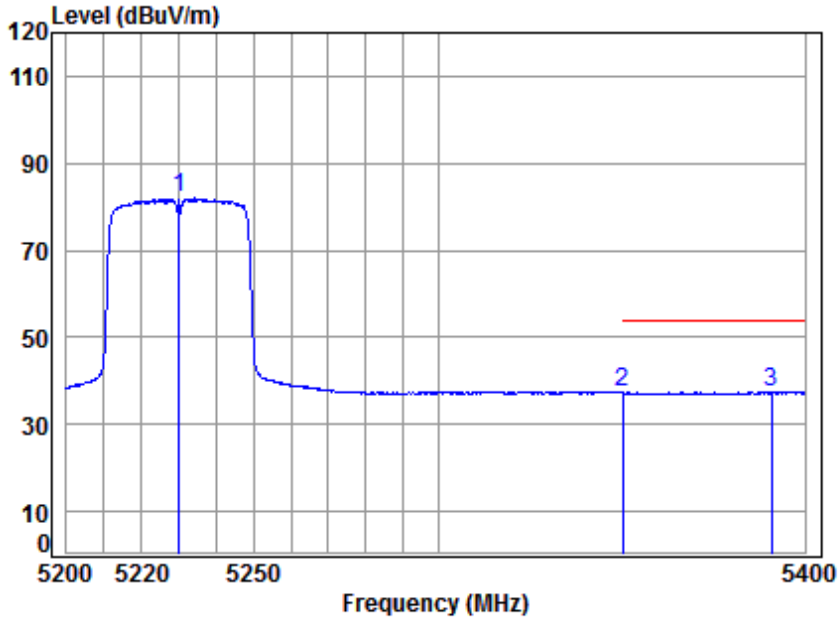
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5230 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5230 Band edge
Note : 5G11AC40 CH46
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5230.000 | 8.45 | 34.39 | 42.28 | 90.53 | 91.09 | 68.20 | 22.89 | peak |
| 2 | 5350.020 | 8.63 | 34.48 | 42.17 | 47.73 | 48.67 | 74.00 | -25.33 | peak |
| 3 | 5354.138 | 8.64 | 34.49 | 42.17 | 48.88 | 49.84 | 74.00 | -24.16 | peak |

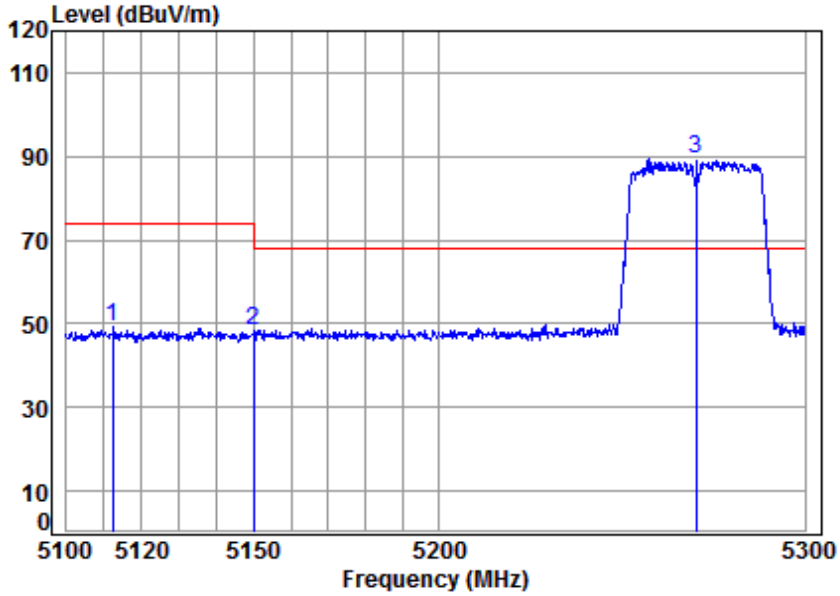
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5230 | Average | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5230 Band edge
Note : 5G11AC40 CH46
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5230.000 | 8.45 | 34.39 | 42.28 | 81.37 | 81.93 | ------ | ------ | Average |
| 2 | 5350.020 | 8.63 | 34.48 | 42.17 | 36.37 | 37.31 | 54.00 | -16.69 | Average |
| 3 pp | 5390.837 | 8.69 | 34.52 | 42.13 | 36.25 | 37.33 | 54.00 | -16.67 | Average |

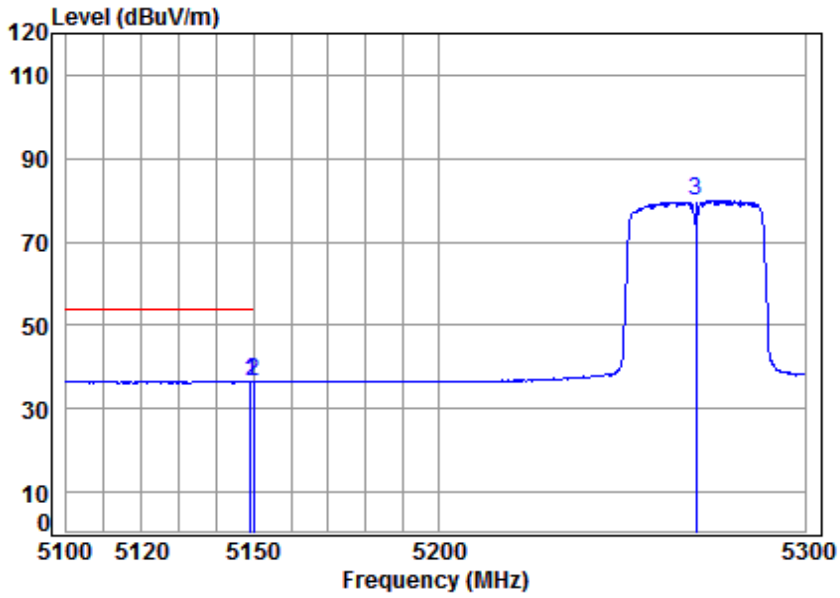
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5270 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5270 Band edge
Note : 5G11AC40 CH54
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5112.374 | 8.27 | 34.29 | 42.39 | 49.23 | 49.40 | 74.00 | -24.60 | Peak |
| 2 | 5149.980 | 8.33 | 34.32 | 42.36 | 47.94 | 48.23 | 74.00 | -25.77 | Peak |
| 3 pp | 5270.000 | 8.51 | 34.42 | 42.24 | 88.95 | 89.64 | 68.20 | 21.44 | Peak |

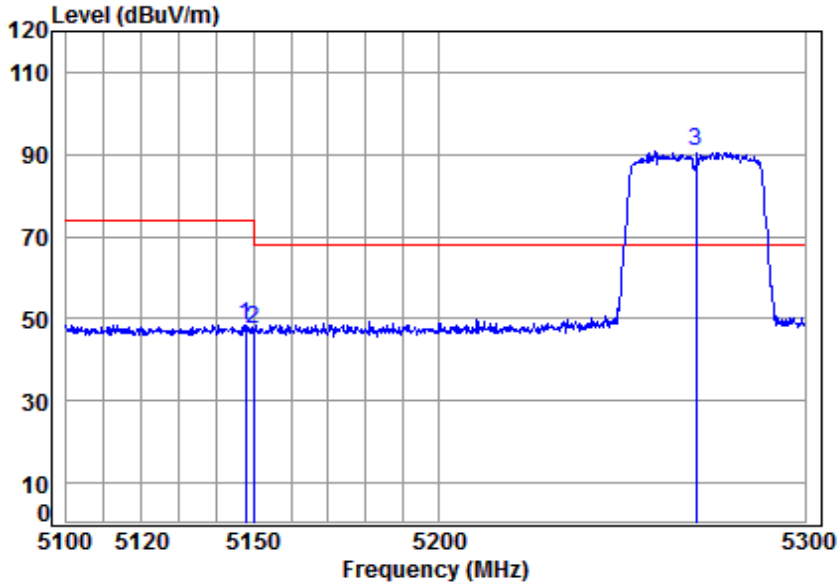
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5270 | Average | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5270 Band edge
Note : 5G11AC40 CH54
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5149.281 | 8.32 | 34.32 | 42.36 | 36.21 | 36.49 | 54.00 | -17.51 | Average |
| 2 | 5149.980 | 8.33 | 34.32 | 42.36 | 36.20 | 36.49 | 54.00 | -17.51 | Average |
| 3 | 5270.000 | 8.51 | 34.42 | 42.24 | 79.31 | 80.00 | ------ | ------ | Average |

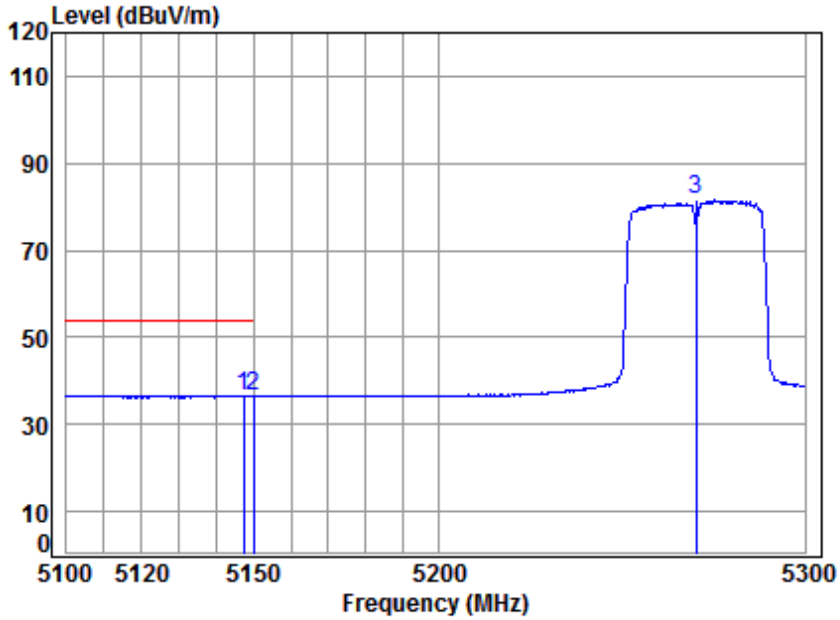
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5270 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5270 Band edge
Note : 5G11AC40 CH54
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5147.895 | 8.32 | 34.32 | 42.36 | 48.31 | 48.59 | 74.00 | -25.41 | peak |
| 2 | 5149.980 | 8.33 | 34.32 | 42.36 | 47.09 | 47.38 | 74.00 | -26.62 | peak |
| 3 pp | 5270.000 | 8.51 | 34.42 | 42.24 | 90.19 | 90.88 | 68.20 | 22.68 | peak |

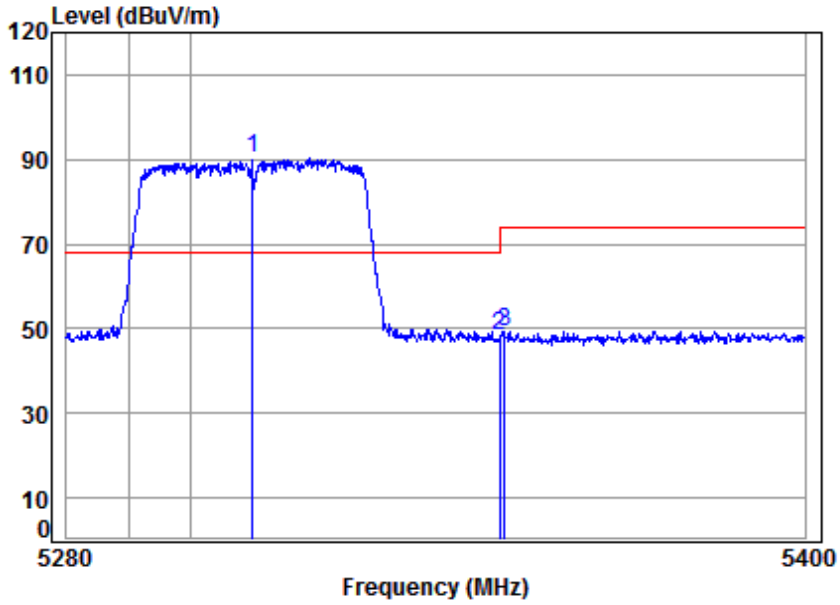
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5270 | Average | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5270 Band edge
Note : 5G11AC40 CH54
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5147.301 | 8.32 | 34.32 | 42.36 | 36.31 | 36.59 | 54.00 | -17.41 | Average |
| 2 | 5149.980 | 8.33 | 34.32 | 42.36 | 36.22 | 36.51 | 54.00 | -17.49 | Average |
| 3 | 5270.000 | 8.51 | 34.42 | 42.24 | 80.76 | 81.45 | ------ | ------ | Average |

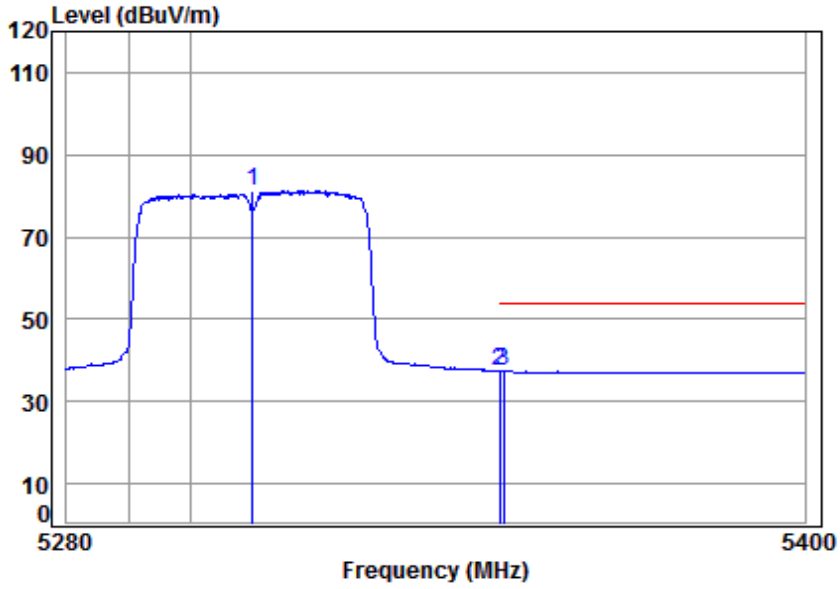
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5310 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5310 Band edge
Note : 5G11AC40 CH62
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5310.000 | 8.57 | 34.45 | 42.21 | 89.34 | 90.15 | 68.20 | 21.95 | Peak |
| 2 | 5350.020 | 8.63 | 34.48 | 42.17 | 47.28 | 48.22 | 74.00 | -25.78 | Peak |
| 3 | 5350.834 | 8.63 | 34.48 | 42.17 | 48.49 | 49.43 | 74.00 | -24.57 | Peak |

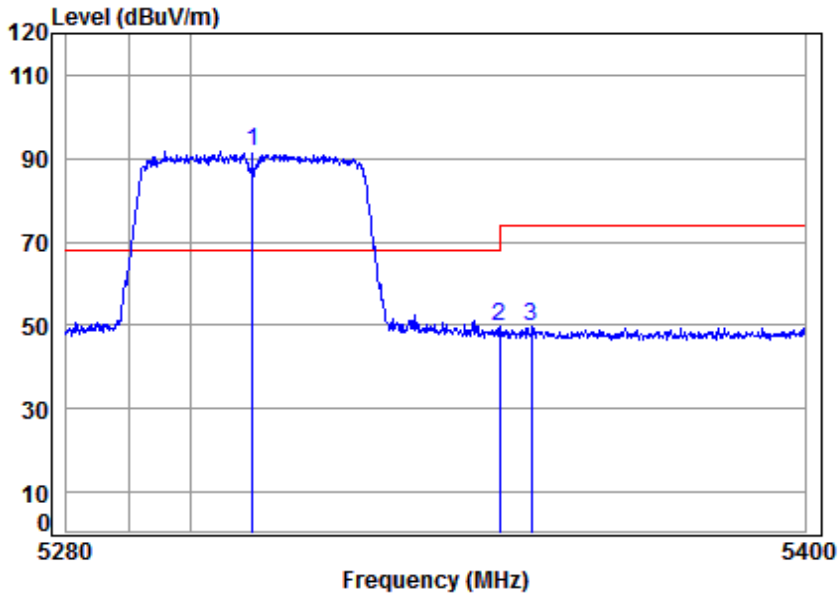
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5310 | Average | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5310 Band edge
Note : 5G11AC40 CH62
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5310.000 | 8.57 | 34.45 | 42.21 | 80.27 | 81.08 | ------ | ------ | Average |
| 2 pp | 5350.020 | 8.63 | 34.48 | 42.17 | 36.59 | 37.53 | 54.00 | -16.47 | Average |
| 3 | 5350.714 | 8.63 | 34.48 | 42.17 | 36.47 | 37.41 | 54.00 | -16.59 | Average |

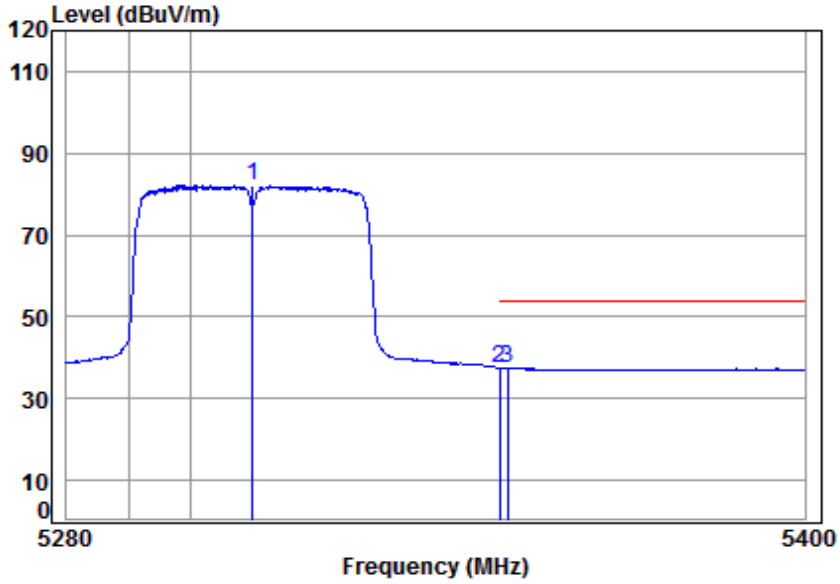
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5310 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5310 Band edge
Note : 5G11AC40 CH62
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | pp 5310.000 | 8.57 | 34.45 | 42.21 | 90.93 | 91.74 | 68.20 | 23.54 | peak |
| 2 | 5350.020 | 8.63 | 34.48 | 42.17 | 48.74 | 49.68 | 74.00 | -24.32 | peak |
| 3 | 5355.285 | 8.64 | 34.49 | 42.16 | 48.76 | 49.73 | 74.00 | -24.27 | peak |

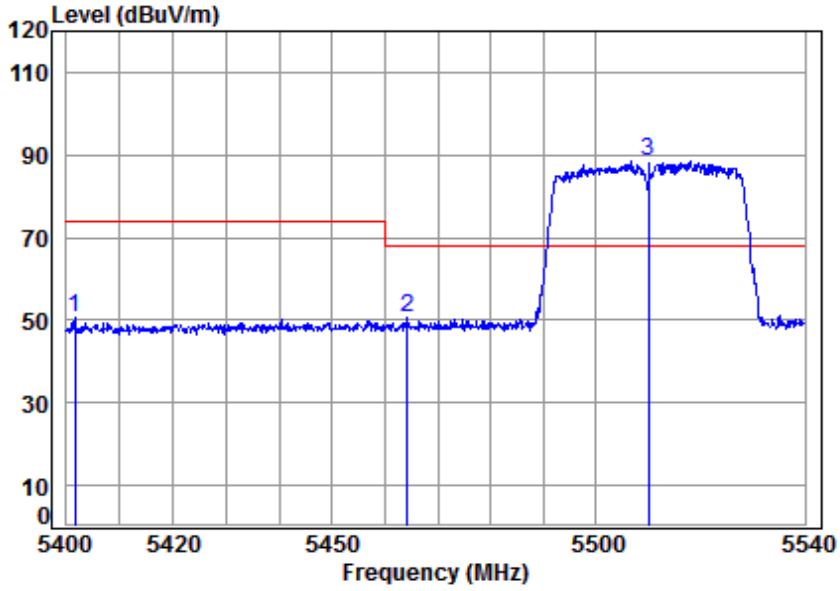
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5310 | Average | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5310 Band edge
Note : 5G11AC40 CH62
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5310.000 | 8.57 | 34.45 | 42.21 | 81.28 | 82.09 | ------ | ------ | Average |
| 2 pp | 5350.020 | 8.63 | 34.48 | 42.17 | 36.69 | 37.63 | 54.00 | -16.37 | Average |
| 3 | 5351.436 | 8.63 | 34.49 | 42.17 | 36.67 | 37.62 | 54.00 | -16.38 | Average |

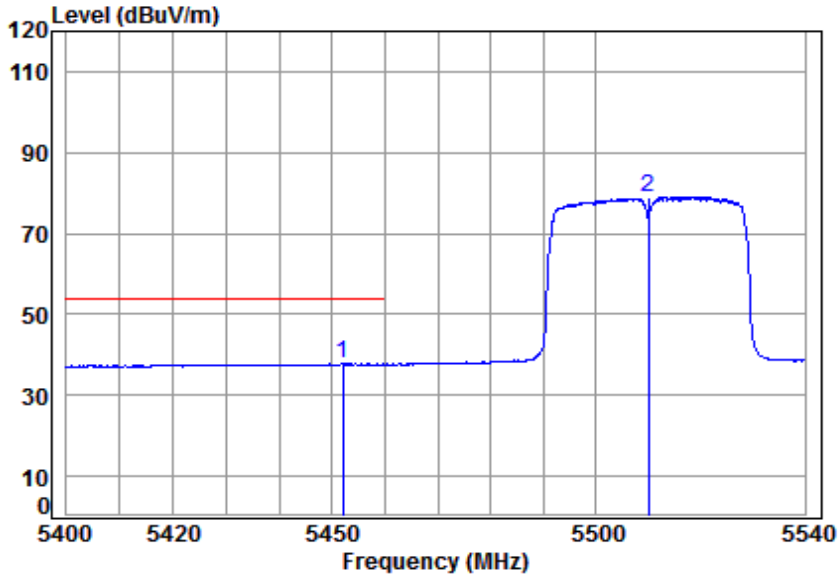
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5510 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5510 Band edge
Note : 5G11AC40 CH102
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5401.659 | 8.71 | 34.52 | 42.12 | 49.44 | 50.55 | 74.00 | -23.45 | Peak |
| 2 | 5464.235 | 8.80 | 34.57 | 42.07 | 49.20 | 50.50 | 68.20 | -17.70 | peak |
| 3 pp | 5510.000 | 8.89 | 34.61 | 42.02 | 87.19 | 88.67 | 68.20 | 20.47 | Peak |

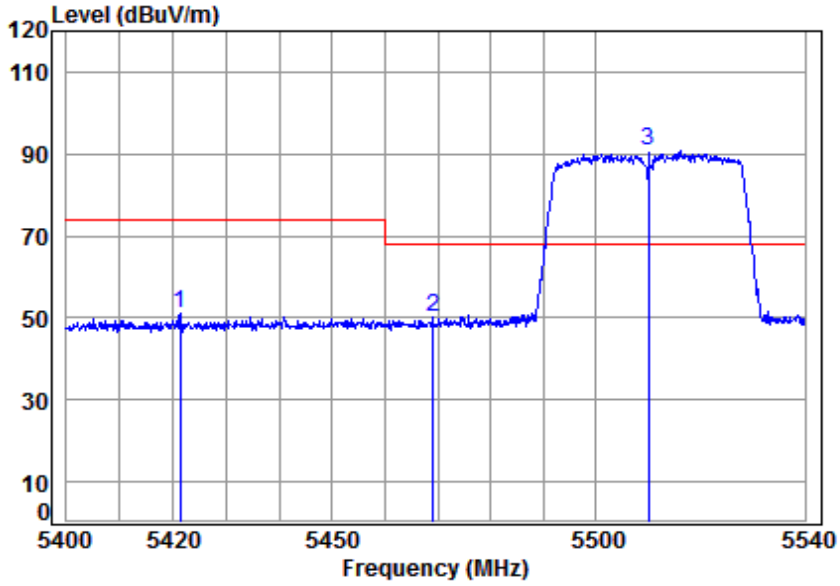
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5510 | Average | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5510 Band edge
Note : 5G11AC40 CH102
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5452.081 | 8.78 | 34.56 | 42.08 | 36.49 | 37.75 | 54.00 | -16.25 | Average |
| 2 | 5510.000 | 8.89 | 34.61 | 42.02 | 77.65 | 79.13 | ------ | ------ | Average |

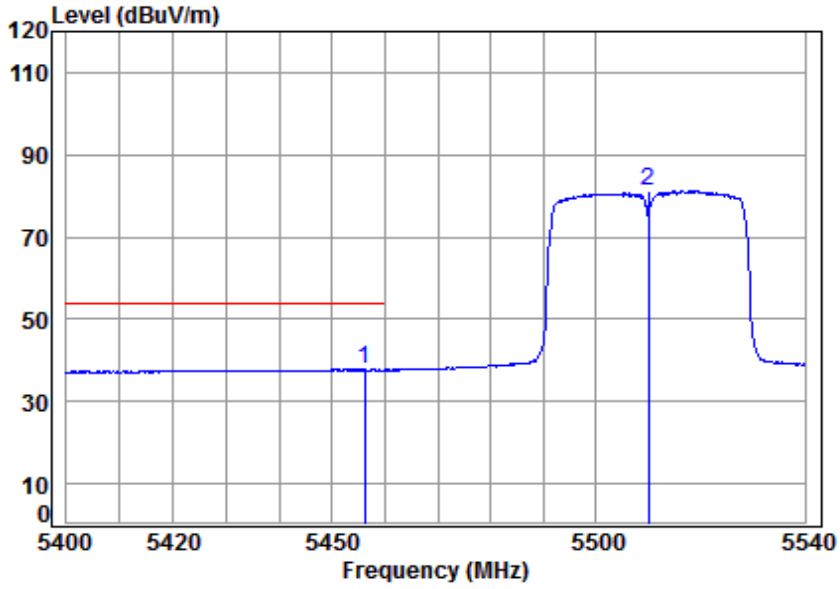
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5510 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5510 Band edge
Note : 5G11AC40 CH102
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5421.327 | 8.74 | 34.54 | 42.10 | 49.86 | 51.04 | 74.00 | -22.96 | peak |
| 2 | 5468.992 | 8.80 | 34.58 | 42.06 | 48.77 | 50.09 | 68.20 | -18.11 | peak |
| 3 pp | 5510.000 | 8.89 | 34.61 | 42.02 | 89.53 | 91.01 | 68.20 | 22.81 | peak |

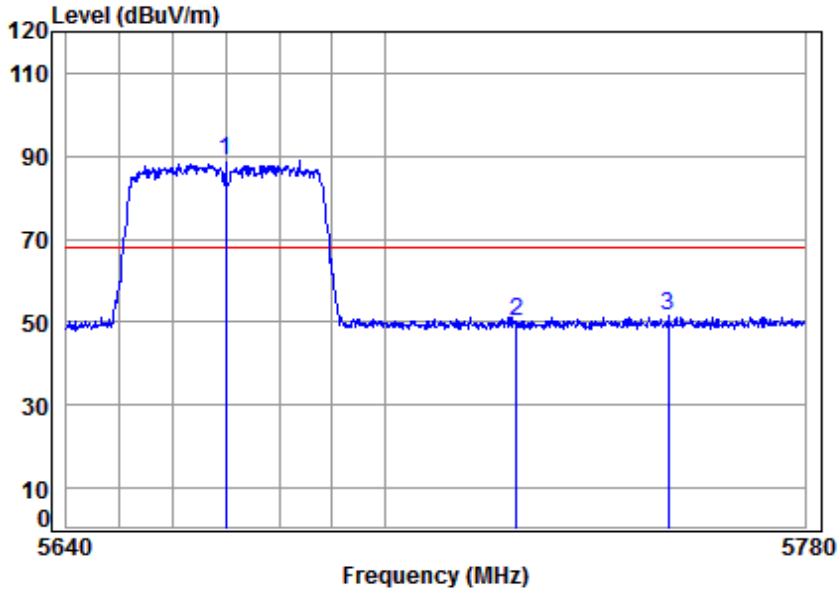
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5510 | Average | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5510 Band edge
Note : 5G11AC40 CH102
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5456.129 | 8.79 | 34.57 | 42.07 | 36.53 | 37.82 | 54.00 | -16.18 | Average |
| 2 | 5510.000 | 8.89 | 34.61 | 42.02 | 79.81 | 81.29 | ------ | ------ | Average |

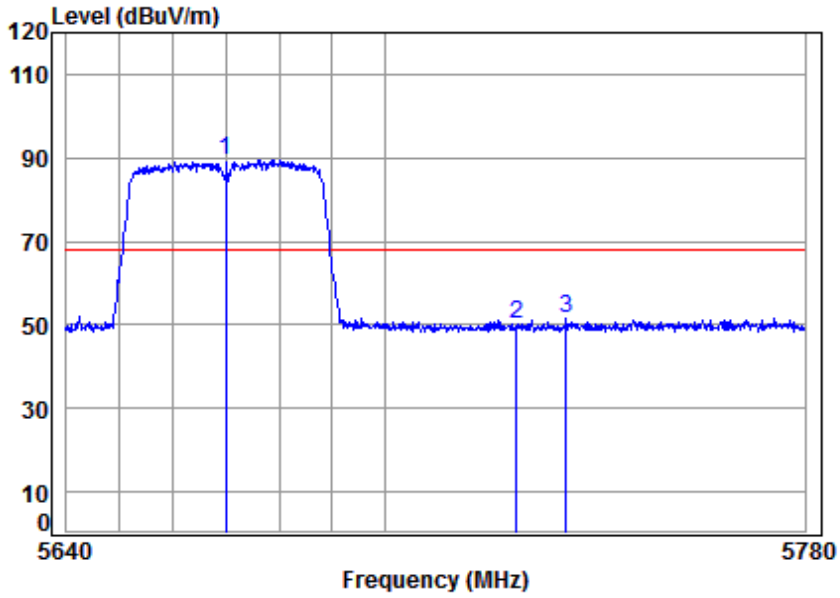
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5670 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5670 Band edge
Note : 5G11AC40 CH134
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5670.000 | 9.45 | 34.77 | 41.88 | 86.58 | 88.92 | 68.20 | 20.72 | Peak |
| 2 | 5725.000 | 9.64 | 34.83 | 41.84 | 47.40 | 50.03 | 68.20 | -18.17 | Peak |
| 3 | 5753.840 | 9.74 | 34.86 | 41.81 | 48.65 | 51.44 | 68.20 | -16.76 | Peak |

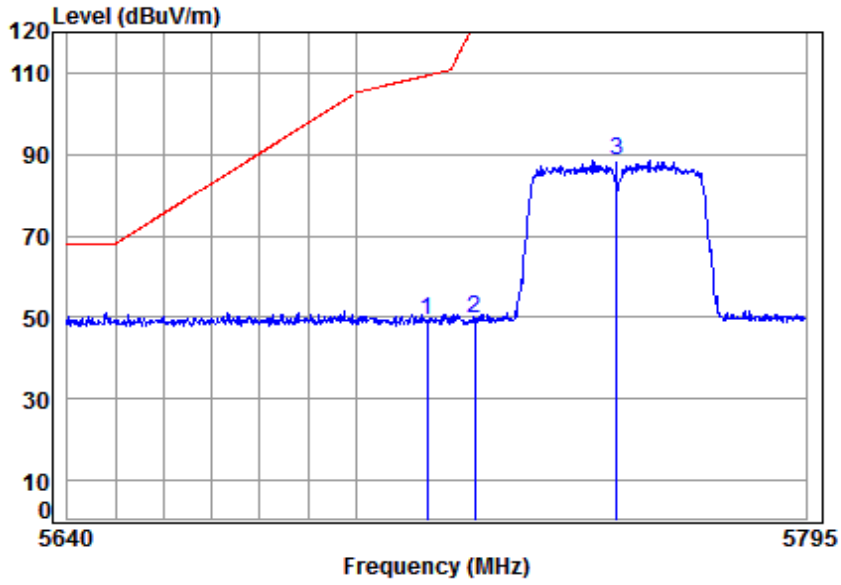
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5670 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5670 Band edge
Note : 5G11AC40 CH134
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5670.000 | 9.45 | 34.77 | 41.88 | 87.31 | 89.65 | 68.20 | 21.45 | peak |
| 2 | 5725.000 | 9.64 | 34.83 | 41.84 | 47.72 | 50.35 | 68.20 | -17.85 | peak |
| 3 | 5734.404 | 9.68 | 34.84 | 41.83 | 48.71 | 51.40 | 68.20 | -16.80 | peak |

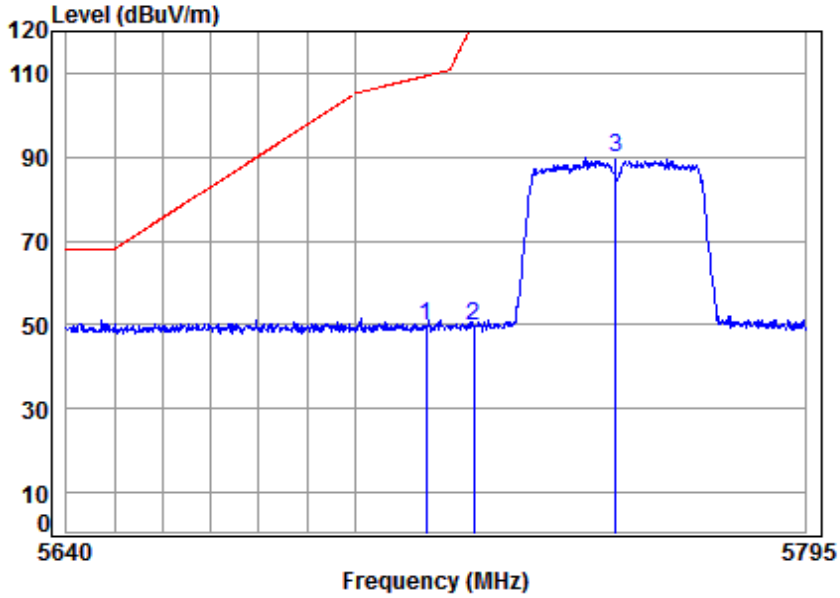
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5755 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5755 Band edge
Note : 5G11AC40 CH151
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5715.000 | 9.61 | 34.82 | 41.85 | 46.81 | 49.39 | 109.40 | -60.01 | peak |
| 2 | 5725.000 | 9.64 | 34.83 | 41.84 | 47.16 | 49.79 | 122.20 | -72.41 | peak |
| 3 pp | 5755.000 | 9.75 | 34.86 | 41.81 | 85.63 | 88.43 | 125.20 | -36.77 | peak |

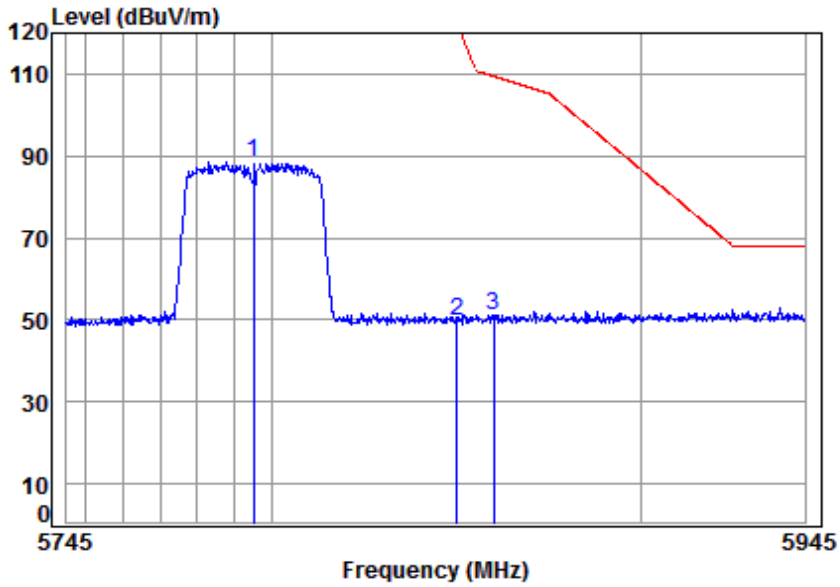
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5755 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5755 Band edge
Note : 5G11AC40 CH151
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5715.000 | 9.61 | 34.82 | 41.85 | 47.08 | 49.66 | 109.40 | -59.74 | peak |
| 2 | 5725.000 | 9.64 | 34.83 | 41.84 | 47.07 | 49.70 | 122.20 | -72.50 | peak |
| 3 pp | 5755.000 | 9.75 | 34.86 | 41.81 | 87.26 | 90.06 | 125.20 | -35.14 | peak |

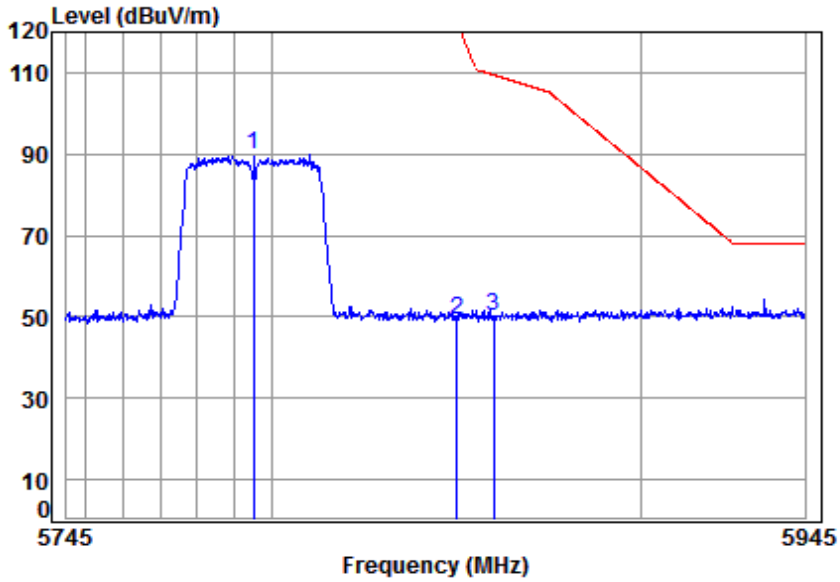
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5795 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5795 Band edge
Note : 5G11AC40 CH159
: Z

| | | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | pp | 5795.000 | 9.88 | 34.90 | 41.78 | 85.40 | 88.40 | 125.20 | -36.80 | peak |
| 2 | | 5850.000 | 10.07 | 34.95 | 41.73 | 46.62 | 49.91 | 122.20 | -72.29 | peak |
| 3 | | 5860.000 | 10.10 | 34.96 | 41.72 | 47.86 | 51.20 | 109.40 | -58.20 | peak |

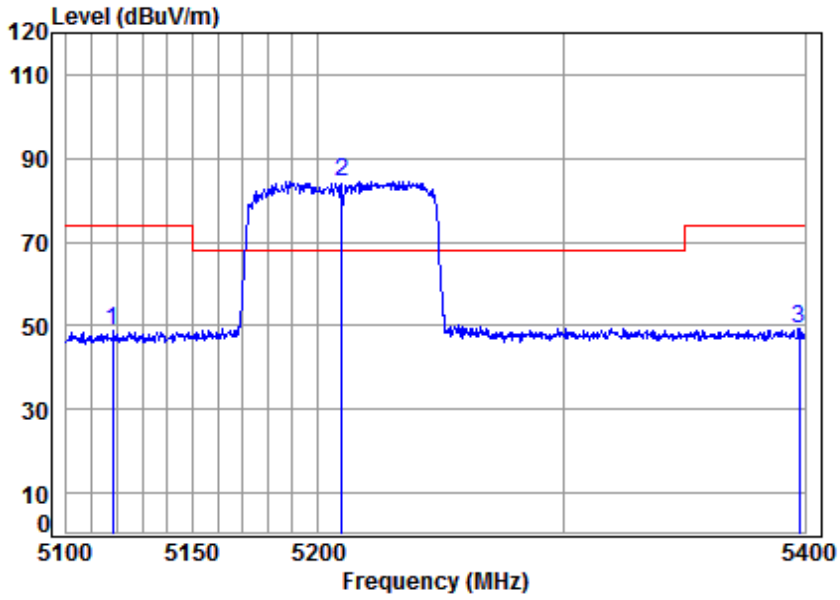
| Test mode: | 802.11ac(HT40) | Frequency(MHz): | 5795 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5795 Band edge
Note : 5G11AC40 CH159
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | pp 5795.000 | 9.88 | 34.90 | 41.78 | 86.82 | 89.82 | 125.20 | -35.38 | peak |
| 2 | 5850.000 | 10.07 | 34.95 | 41.73 | 45.98 | 49.27 | 122.20 | -72.93 | peak |
| 3 | 5860.000 | 10.10 | 34.96 | 41.72 | 46.91 | 50.25 | 109.40 | -59.15 | peak |

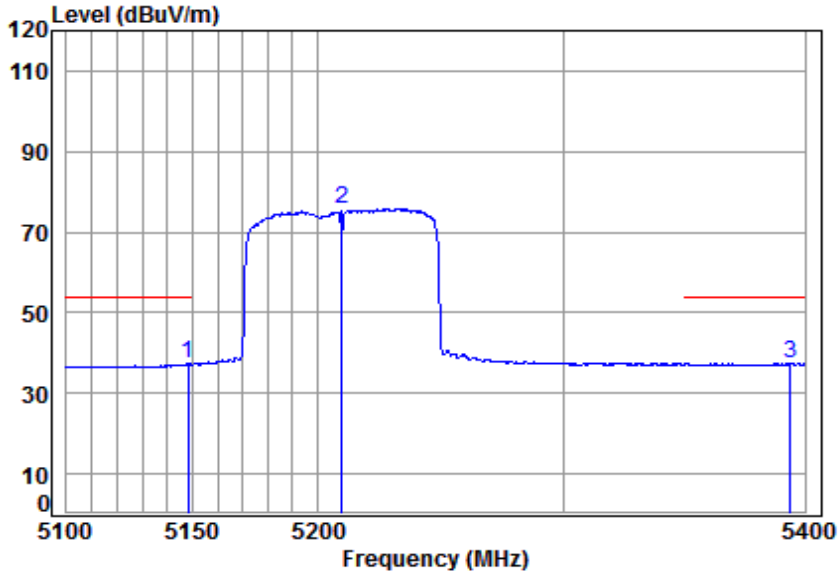
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5210 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5210 Band edge
Note : 5G11AC80 CH42
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5118.398 | 8.28 | 34.30 | 42.39 | 48.52 | 48.71 | 74.00 | -25.29 | Peak |
| 2 pp | 5210.000 | 8.42 | 34.37 | 42.30 | 84.10 | 84.59 | 68.20 | 16.39 | Peak |
| 3 | 5397.531 | 8.70 | 34.52 | 42.13 | 48.16 | 49.25 | 74.00 | -24.75 | Peak |

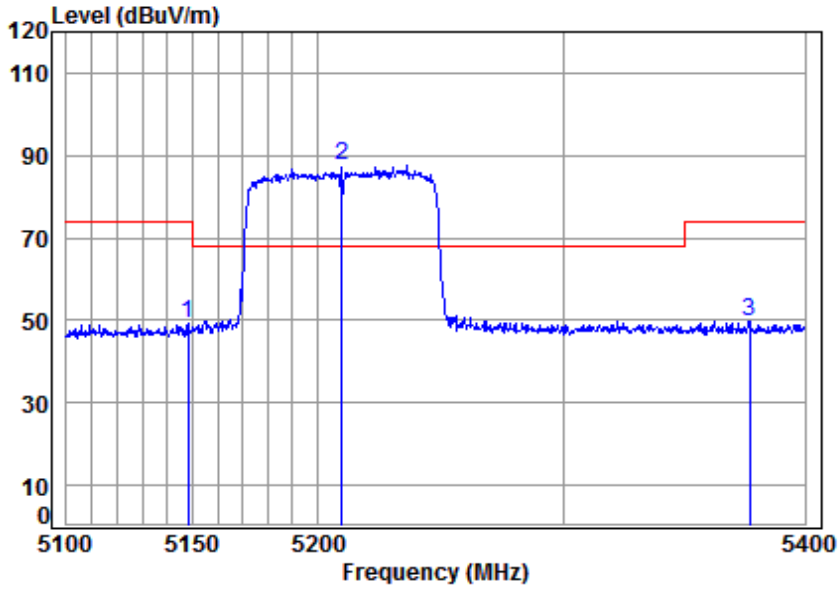
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5210 | Average | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5210 Band edge
Note : 5G11AC80 CH42
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5148.326 | 8.32 | 34.32 | 42.36 | 36.96 | 37.24 | 54.00 | -16.76 | Average |
| 2 | 5210.000 | 8.42 | 34.37 | 42.30 | 75.40 | 75.89 | ------ | ------ | Average |
| 3 pp | 5393.831 | 8.69 | 34.52 | 42.13 | 36.24 | 37.32 | 54.00 | -16.68 | Average |

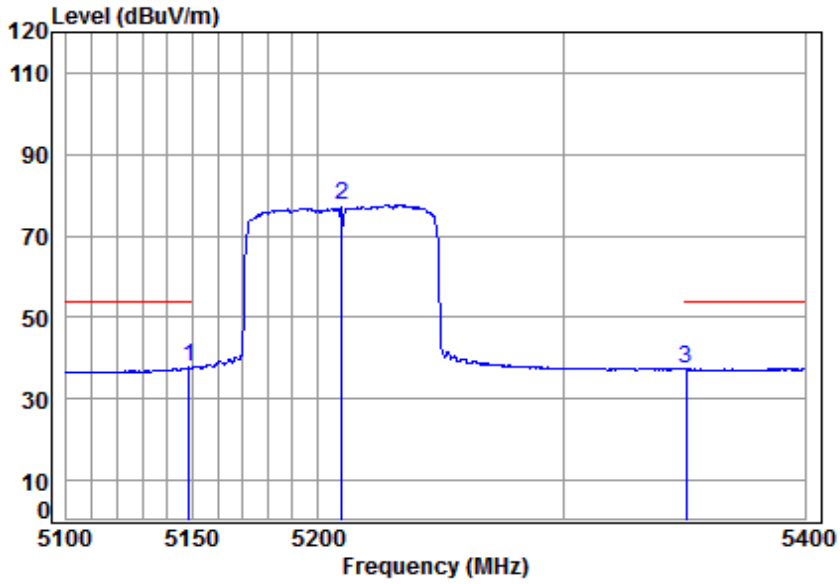
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5210 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5210 Band edge
Note : 5G11AC80 CH42
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5148.326 | 8.32 | 34.32 | 42.36 | 48.95 | 49.23 | 74.00 | -24.77 | peak |
| 2 pp | 5210.000 | 8.42 | 34.37 | 42.30 | 86.91 | 87.40 | 68.20 | 19.20 | peak |
| 3 | 5376.900 | 8.67 | 34.51 | 42.14 | 48.76 | 49.80 | 74.00 | -24.20 | peak |

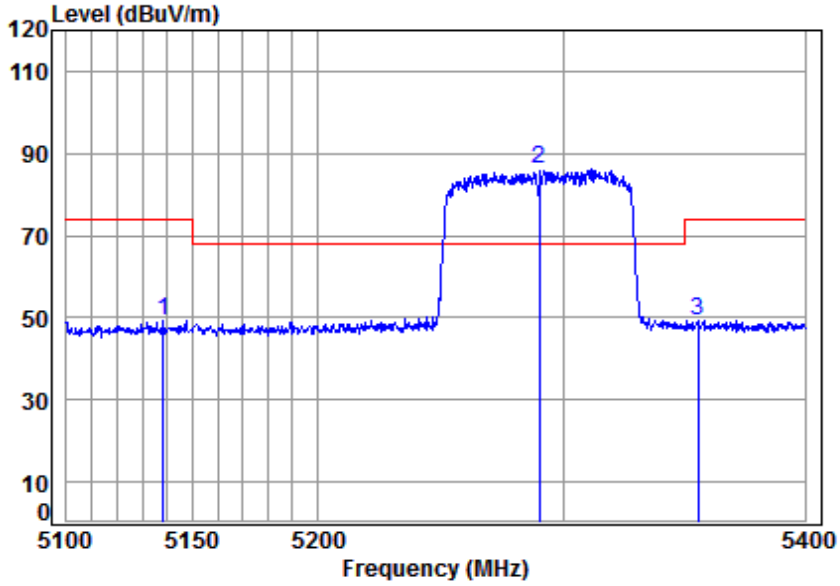
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5210 | Average | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5210 Band edge
Note : 5G11AC80 CH42
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5148.621 | 8.32 | 34.32 | 42.36 | 37.39 | 37.67 | 54.00 | -16.33 | Average |
| 2 | 5210.000 | 8.42 | 34.37 | 42.30 | 77.21 | 77.70 | ------ | ------ | Average |
| 3 | 5350.535 | 8.63 | 34.48 | 42.17 | 36.36 | 37.30 | 54.00 | -16.70 | Average |

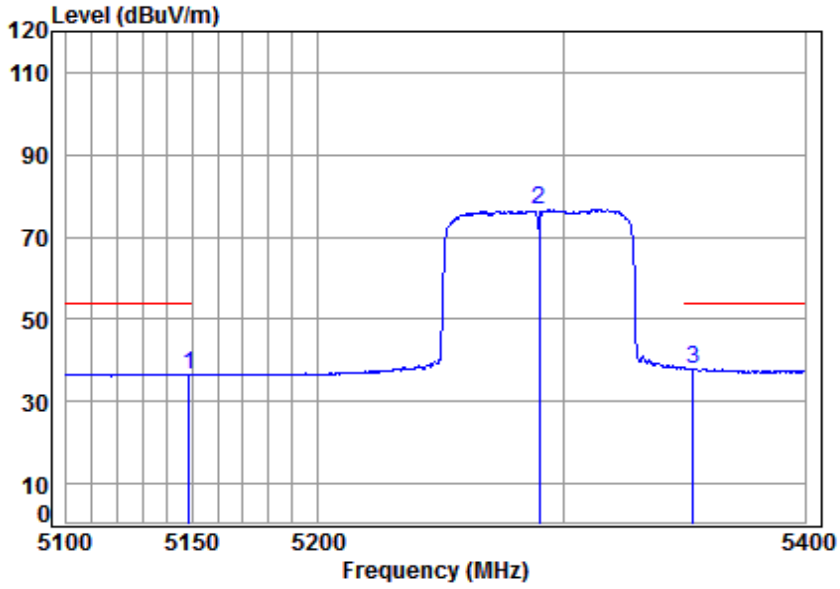
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5290 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5290 Band edge
Note : 5G11AC80 CH58
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5138.331 | 8.31 | 34.31 | 42.37 | 48.85 | 49.10 | 74.00 | -24.90 | Peak |
| 2 pp | 5290.000 | 8.54 | 34.44 | 42.22 | 85.68 | 86.44 | 68.20 | 18.24 | Peak |
| 3 | 5355.430 | 8.64 | 34.49 | 42.16 | 48.31 | 49.28 | 74.00 | -24.72 | Peak |

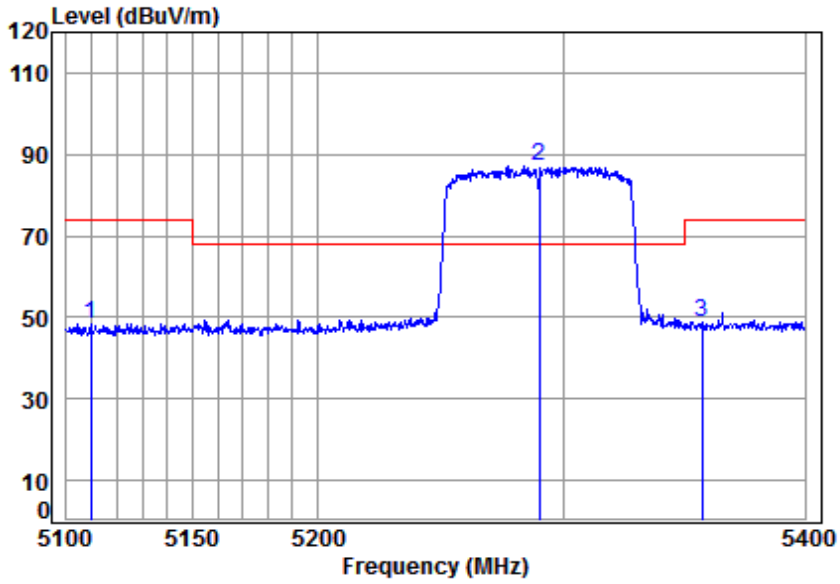
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5290 | Average | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5290 Band edge
Note : 5G11AC80 CH58
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5148.621 | 8.32 | 34.32 | 42.36 | 36.29 | 36.57 | 54.00 | -17.43 | Average |
| 2 | 5290.000 | 8.54 | 34.44 | 42.22 | 75.94 | 76.70 | ------ | ------ | Average |
| 3 pp | 5353.594 | 8.63 | 34.49 | 42.17 | 37.05 | 38.00 | 54.00 | -16.00 | Average |

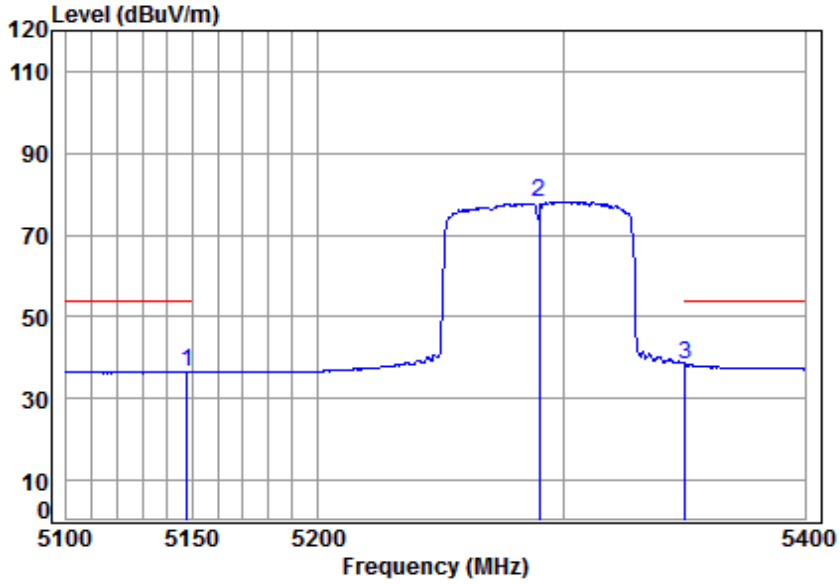
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5290 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5290 Band edge
Note : 5G11AC80 CH58
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5109.629 | 8.26 | 34.29 | 42.39 | 48.33 | 48.49 | 74.00 | -25.51 | peak |
| 2 pp | 5290.000 | 8.54 | 34.44 | 42.22 | 86.26 | 87.02 | 68.20 | 18.82 | peak |
| 3 | 5357.267 | 8.64 | 34.49 | 42.16 | 48.02 | 48.99 | 74.00 | -25.01 | peak |

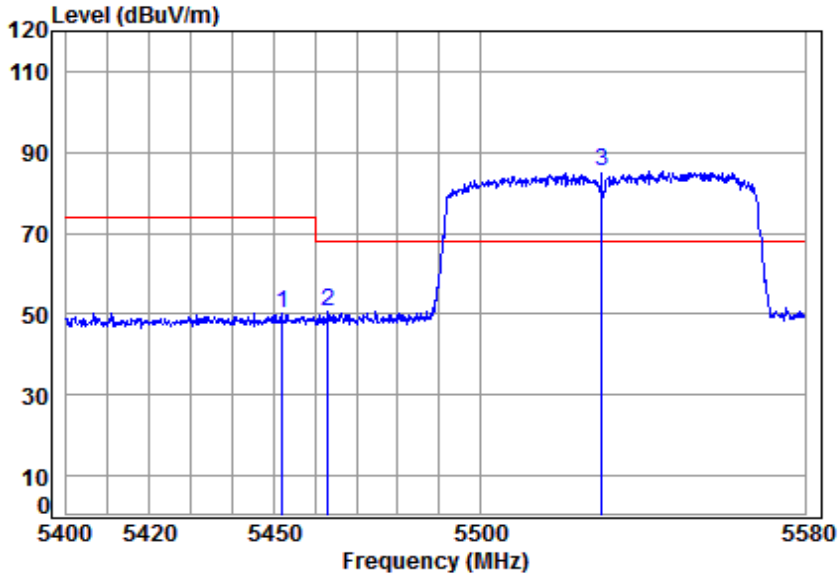
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5290 | Average | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5290 Band edge
Note : 5G11AC80 CH58
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5147.738 | 8.32 | 34.32 | 42.36 | 36.28 | 36.56 | 54.00 | -17.44 | Average |
| 2 | 5290.000 | 8.54 | 34.44 | 42.22 | 77.45 | 78.21 | ------ | ------ | Average |
| 3 pp | 5350.229 | 8.63 | 34.48 | 42.17 | 37.40 | 38.34 | 54.00 | -15.66 | Average |

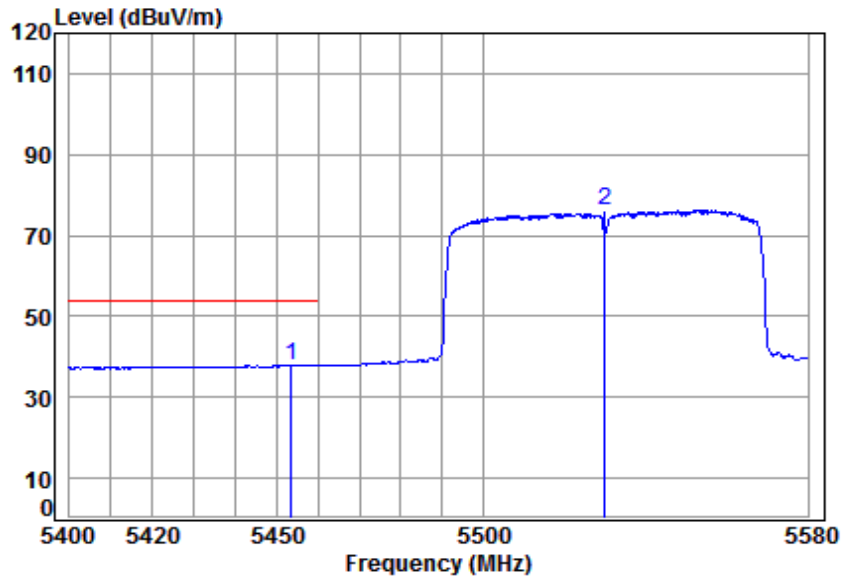
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5530 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5530 Band edge
Note : 5G11AC80 CH106
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5451.951 | 8.78 | 34.56 | 42.08 | 49.01 | 50.27 | 74.00 | -23.73 | Peak |
| 2 | 5463.046 | 8.80 | 34.57 | 42.07 | 49.26 | 50.56 | 68.20 | -17.64 | peak |
| 3 pp | 5530.000 | 8.96 | 34.63 | 42.01 | 83.86 | 85.44 | 68.20 | 17.24 | Peak |

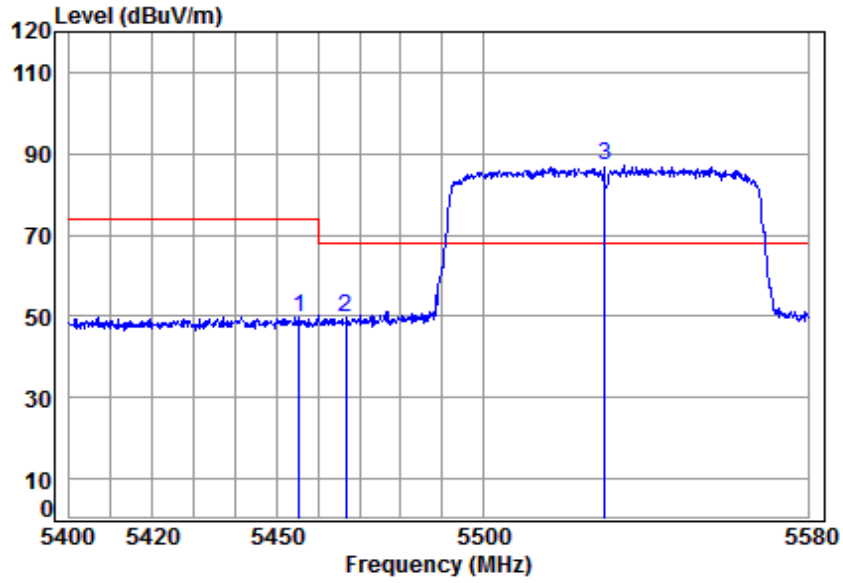
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5530 | Average | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5530 Band edge
Note : 5G11AC80 CH106
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5453.382 | 8.78 | 34.56 | 42.08 | 36.74 | 38.00 | 54.00 | -16.00 | Average |
| 2 | 5530.000 | 8.96 | 34.63 | 42.01 | 74.80 | 76.38 | ------ | ------ | Average |

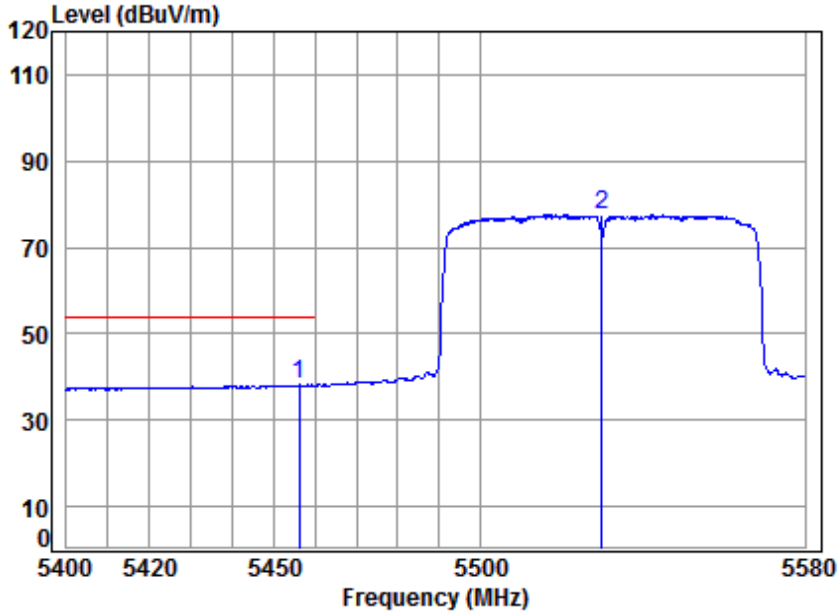
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5530 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5530 Band edge
Note : 5G11AC80 CH106
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5455.349 | 8.79 | 34.57 | 42.07 | 48.54 | 49.83 | 74.00 | -24.17 | peak |
| 2 | 5466.809 | 8.80 | 34.57 | 42.06 | 48.35 | 49.66 | 68.20 | -18.54 | peak |
| 3 pp | 5530.000 | 8.96 | 34.63 | 42.01 | 85.48 | 87.06 | 68.20 | 18.86 | peak |

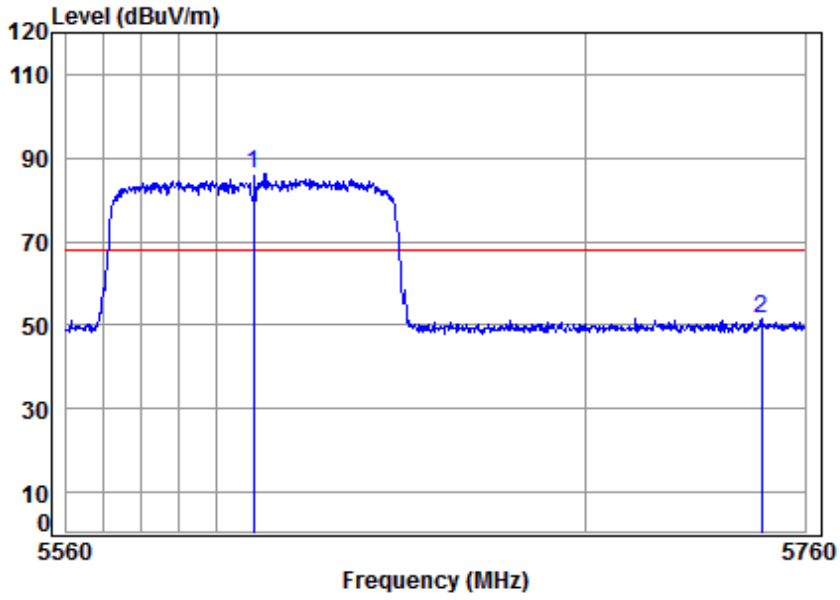
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5530 | Average | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5530 Band edge
Note : 5G11AC80 CH106
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5456.064 | 8.79 | 34.57 | 42.07 | 36.96 | 38.25 | 54.00 | -15.75 | Average |
| 2 | 5530.000 | 8.96 | 34.63 | 42.01 | 75.98 | 77.56 | ------ | ------ | Average |

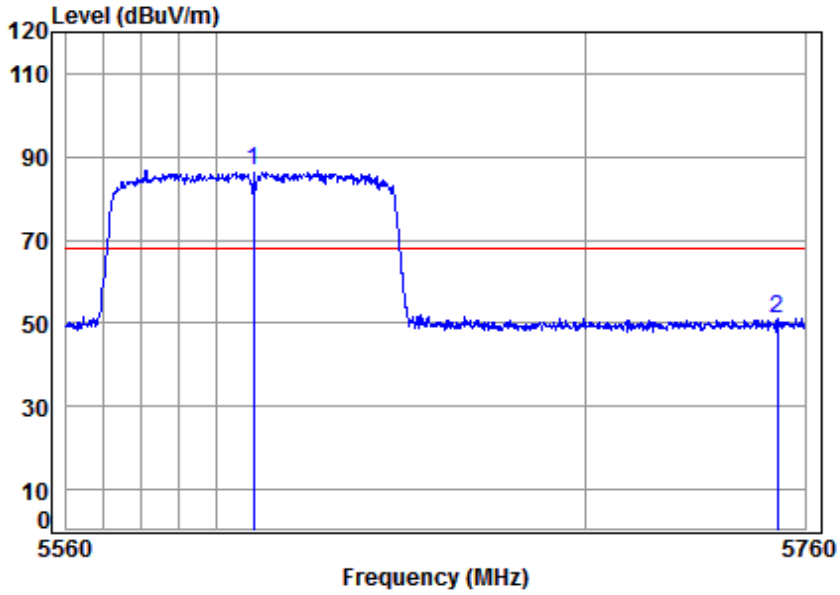
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5610 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5610 Band edge
Note : 5G11AC80 CH122
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5610.000 | 9.24 | 34.71 | 41.94 | 84.37 | 86.38 | 68.20 | 18.18 | Peak |
| 2 | 5748.003 | 9.72 | 34.85 | 41.82 | 48.66 | 51.41 | 68.20 | -16.79 | Peak |

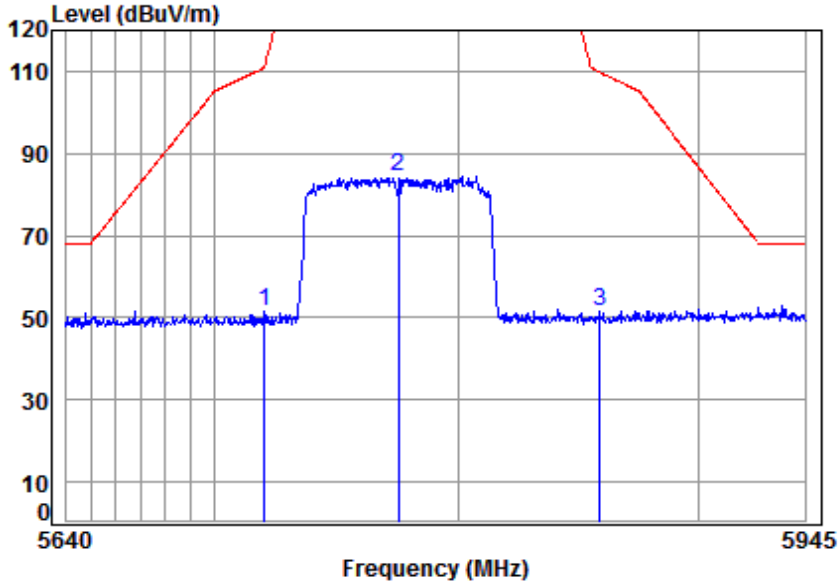
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5610 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5610 Band edge
Note : 5G11AC80 CH122
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 pp | 5610.000 | 9.24 | 34.71 | 41.94 | 84.77 | 86.78 | 68.20 | 18.58 | peak |
| 2 | 5752.474 | 9.74 | 34.86 | 41.81 | 48.43 | 51.22 | 68.20 | -16.98 | peak |

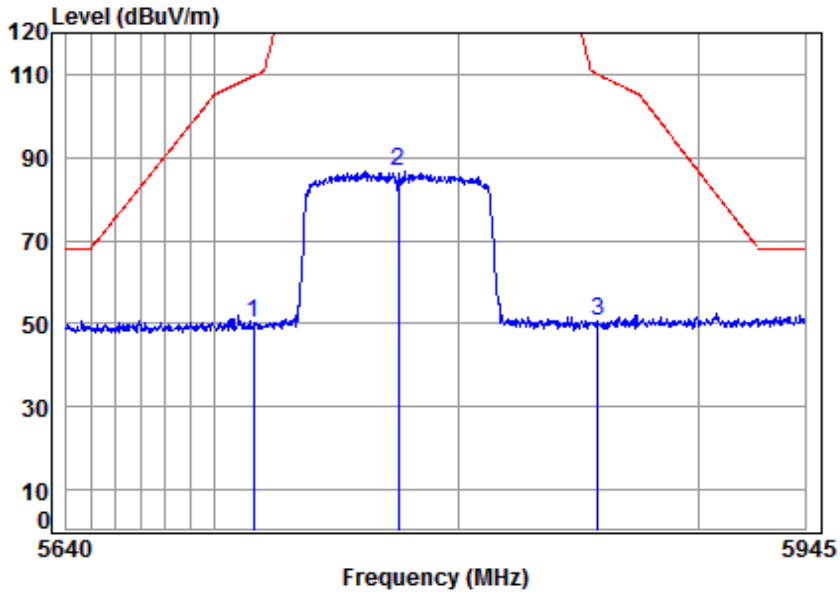
| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5775 | Peak | Vertical |
|---|---|---|---|---|---|




Condition: 3m VERTICAL
Job No : 6244RG
Mode : 5775 Band edge
Note : 5G11AC80 CH155
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5720.171 | 9.63 | 34.83 | 41.84 | 48.79 | 51.41 | 111.19 | -59.78 | peak |
| 2 pp | 5775.000 | 9.81 | 34.88 | 41.79 | 81.58 | 84.48 | 125.20 | -40.72 | peak |
| 3 | 5858.900 | 10.10 | 34.96 | 41.72 | 48.01 | 51.35 | 109.71 | -58.36 | peak |

| Test mode: | 802.11ac(HT80) | Frequency(MHz): | 5775 | Peak | Horizontal |
|---|---|---|---|---|---|




Condition: 3m HORIZONTAL
Job No : 6244RG
Mode : 5775 Band edge
Note : 5G11AC80 CH155
: Z

| | Freq | Cable Loss | Ant Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 5715.955 | 9.61 | 34.82 | 41.85 | 47.84 | 50.42 | 109.67 | -59.25 | peak |
| 2 pp | 5775.000 | 9.81 | 34.88 | 41.79 | 83.71 | 86.61 | 125.20 | -38.59 | peak |
| 3 | 5857.975 | 10.10 | 34.96 | 41.73 | 47.27 | 50.60 | 109.97 | -59.37 | peak |

Note:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

## 5.9 Frequencies Stability

Frequency Error vs. Voltage:

| Test Conditions | Measured Fequency ( MHz ) |
|---|---|
| | 5180 |
| V nom(V) | 5180.004218 |
| V max(V) | 5180.000872 |
| V min(V) | 5180.009972 |
| Max. Deviation Frequency | 0.009972189 |
| Max. Frequency Error (ppm) | 1.93 |

Frequency Error vs. Temperature:

| Test Conditions (°C) | Measured Fequency ( MHz ) |
|---|---|
| | 5180 |
| -5 | 5180.002252 |
| 5 | 5180.009892 |
| 15 | 5180.007232 |
| 25 | 5180.004815 |
| 35 | 5180.001967 |
| 45 | 5180.005735 |
| 50 | 5180.003898 |
| Max. Deviation Frequency | 0.009892368 |
| Max. Frequency Error (ppm) | 1.91 |

Frequency Error vs. Voltage:

| Test Conditions | Measured Fequency ( MHz ) |
|---|---|
| | 5825 |
| V nom(V) | 5825.000413 |
| V max(V) | 5825.008802 |
| V min(V) | 5825.007445 |
| Max. Deviation Frequency | 0.00880204 |
| Max. Frequency Error (ppm) | 1.51 |

Frequency Error vs. Temperature:

| Test Conditions (°C) | Measured Fequency ( MHz ) |
|---|---|
| | 5825 |
| -5 | 5825.00249 |
| 5 | 5825.004816 |
| 15 | 5825.000413 |
| 25 | 5825.000713 |
| 35 | 5825.009834 |
| 45 | 5825.001707 |
| 50 | 5825.004302 |
| Max. Deviation Frequency | 0.004816226 |
| Max. Frequency Error (ppm) | 0.83 |

# 5.10 (DFS: Channel Move Time; DFS: Channel Closing Transmission Time)

## 5.10.1 DFS: Non-occupancy period

Test Requirement KDB 905462 D02 Section 5.1
Test Method: KDB 905462 D02 Section 7.8.3
Limit: Minimum 30 minutes

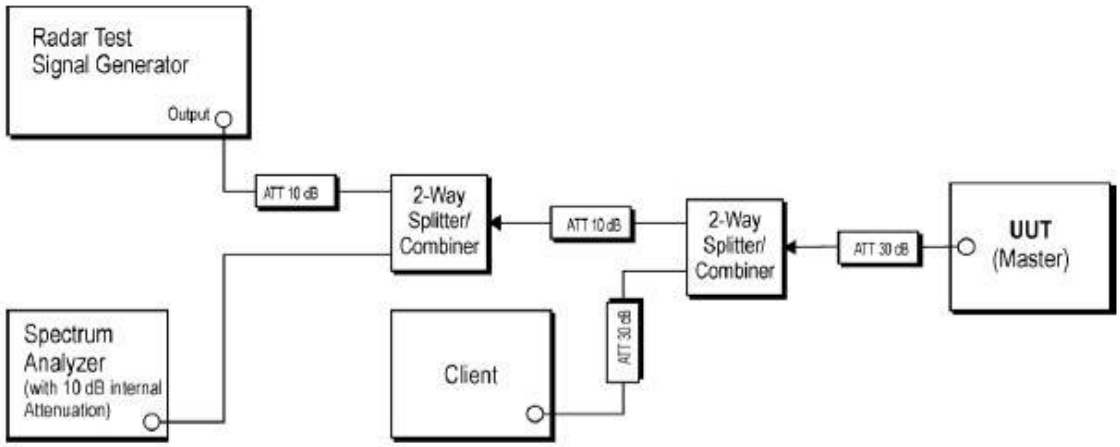
### 5.10.1.1 E.U.T. Operation

Operating Environment:

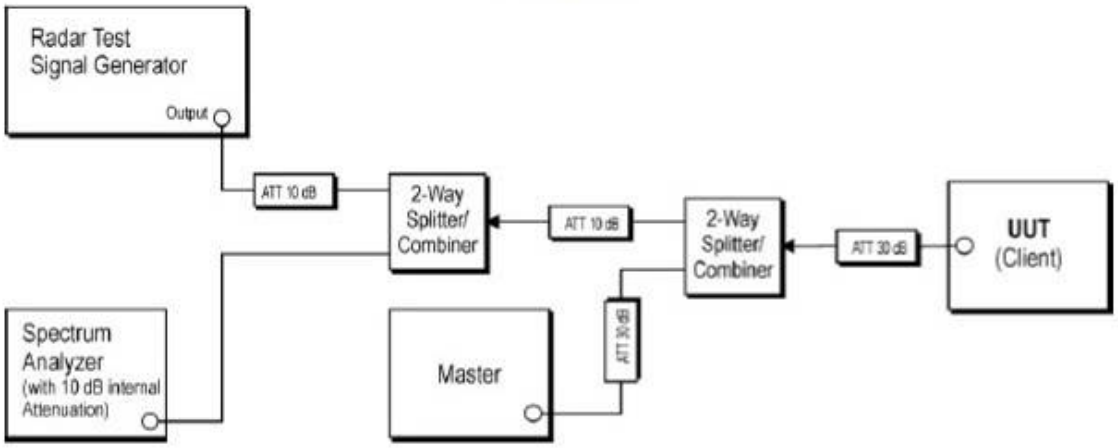
Temperature: 24 °C Humidity: 52 % RH Atmospheric Pressure: 101.3 KPa

Test mode g:TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

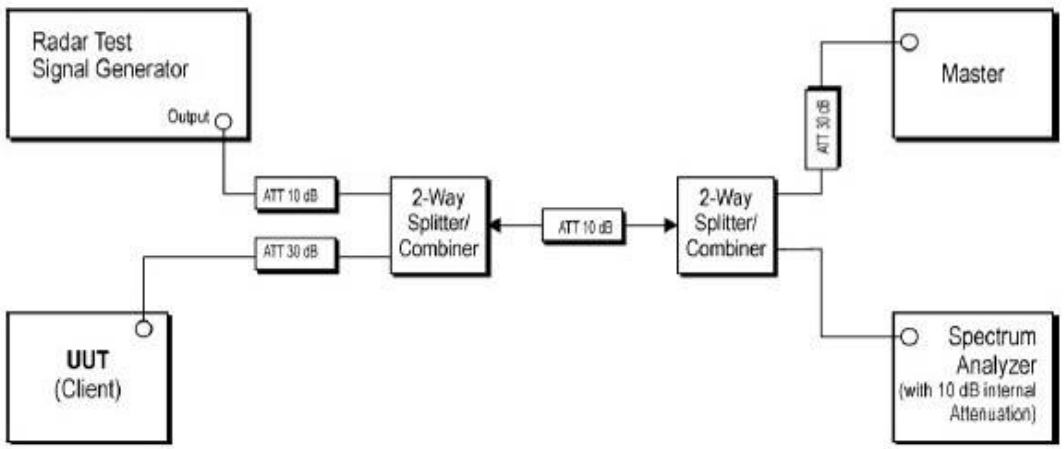
### 5.10.1.2 Test Setup Diagram




DFS master




DFS slave with radar detection




DFS slave without radar detection

### 5.10.1.3 Measurement Procedure and Data

1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
4) EUT will associate with the master at channel. The file “iperf.exe” specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) =S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms)= N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

The detailed test data see: Appendix 15.407

## 5.10.2 DFS: Channel Move Time

Test Requirement: KDB 905462 D02 Section 5.1
Test Method: KDB 905462 D02 Section 7.8.3
Limit: 10 seconds(should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst)

### 5.10.2.1 E.U.T. Operation

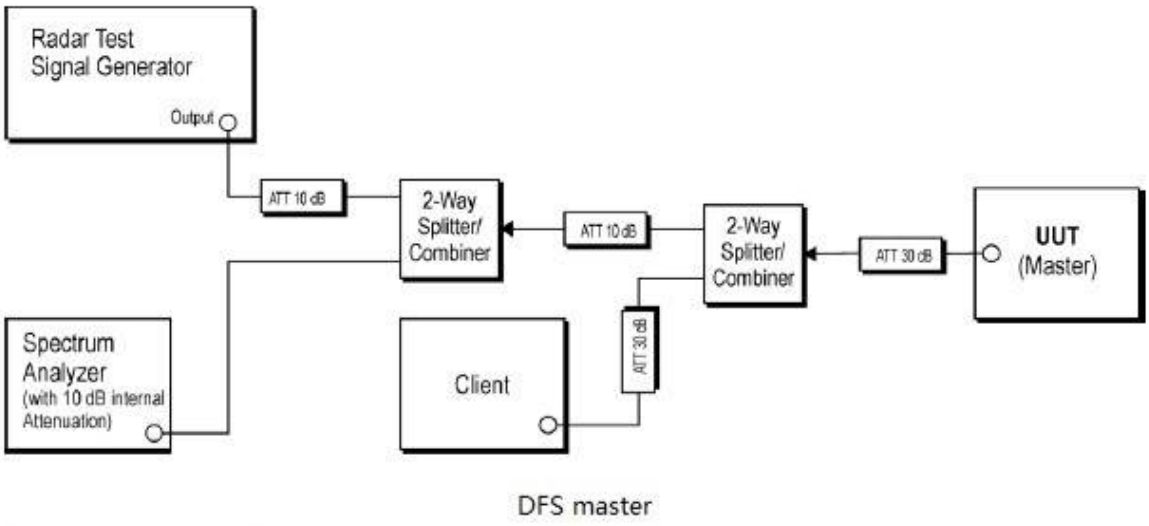
Operating Environment:

Temperature: 24 °C Humidity: 52 % RH Atmospheric Pressure: 101.3 KPa

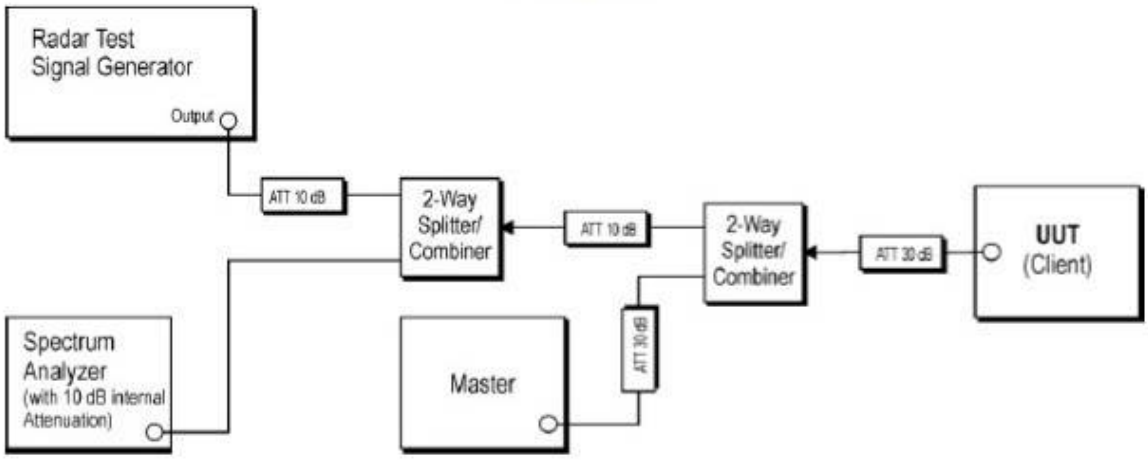
Pretest these modes to find the worst case: f:TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.
g:TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

The worst case for final test: f:TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.
g:TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.

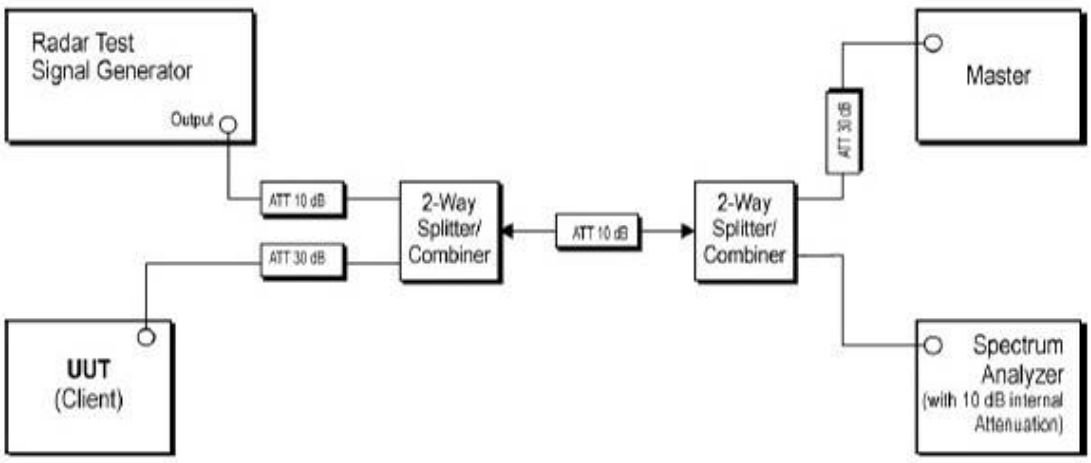
### 5.10.2.2 Test Setup Diagram




DFS master




DFS slave with radar detection




DFS slave without radar detection

### 5.10.2.3 Measurement Procedure and Data

1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
4) EUT will associate with the master at channel. The file “iperf.exe” specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) =S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms)= N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

The detailed test data see: Appendix 15.407

## 5.10.3 DFS: Channel Closing Transmission Time

| | |
|---|---|
| Test Requirement | KDB 905462 D02 Section 5.1 |
| Test Method: | KDB 905462 D02 Section 7.8.3 |
| Limit: | 200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period(should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. It is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions) |

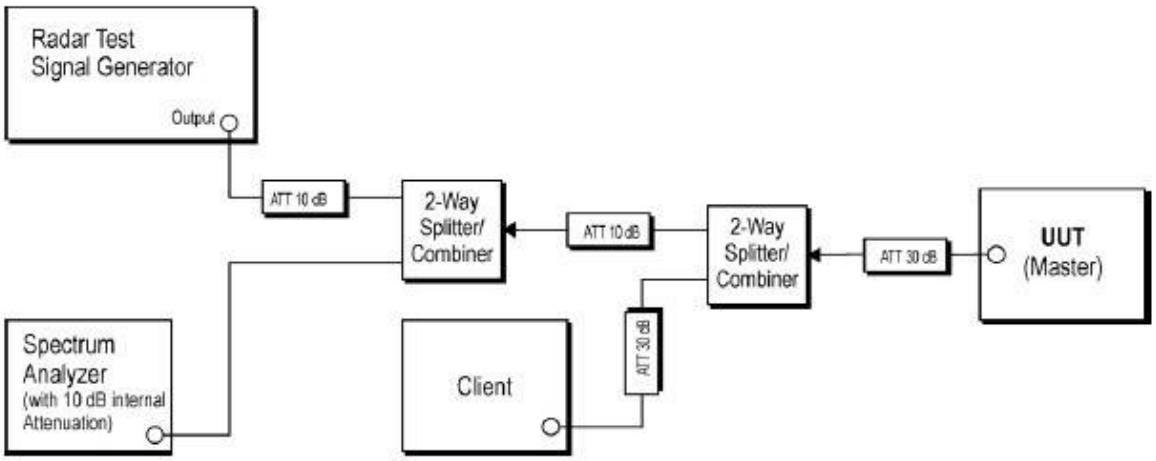
### 5.10.3.1 E.U.T. Operation

Operating Environment:

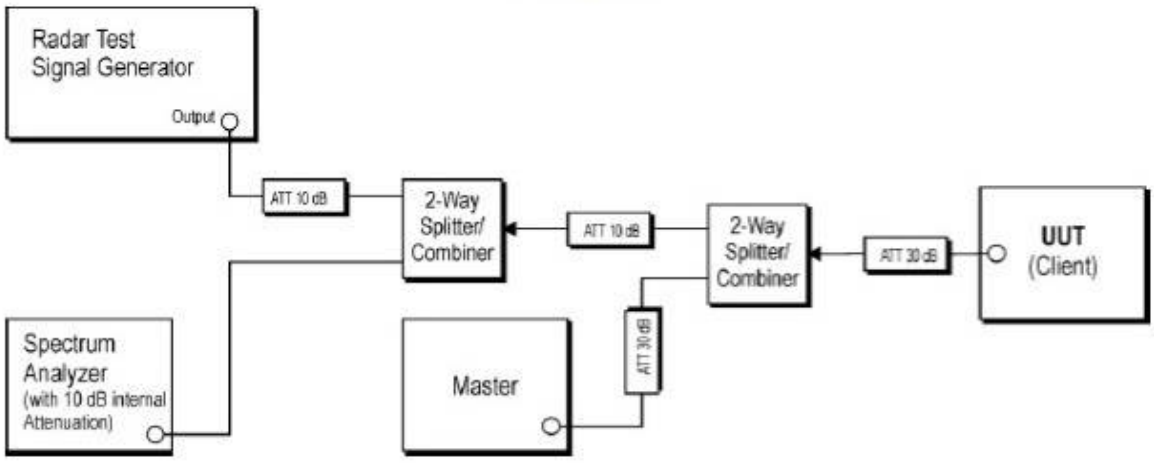
Temperature: 24 °C Humidity: 52 % RH Atmospheric Pressure: 101.3 KPa

| | |
|---|---|
| Pretest these modes to find the worst case: | f:TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.<br>g:TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40) ;data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report. |
| The worst case for final test: | f:TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report.<br>g:TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40);data rate @ MCS0 is the worst case of IEEE 802.11n(HT80); Only the data of worst case is recorded in the report. |

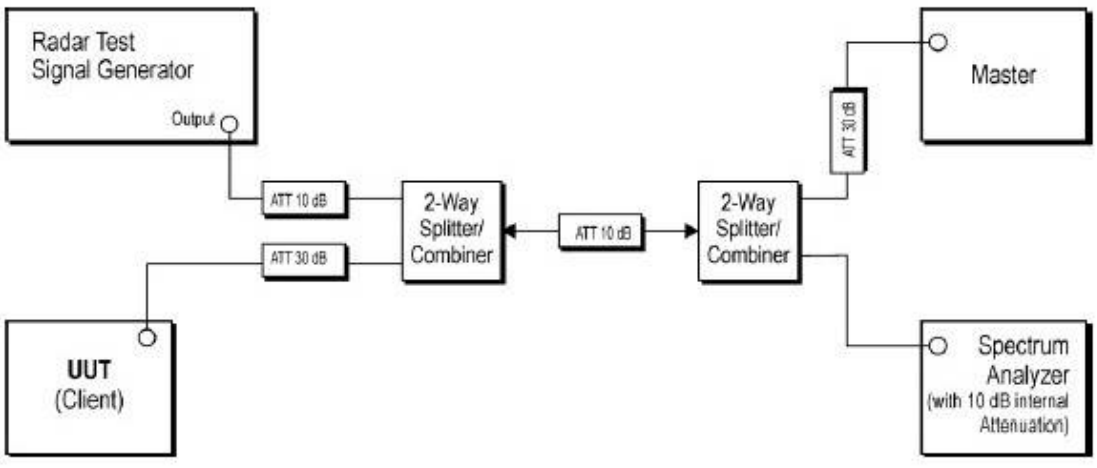
### 5.10.3.2 Test Setup Diagram




DFS master




DFS slave with radar detection




DFS slave without radar detection

### 5.10.3.3 Measurement Procedure and Data

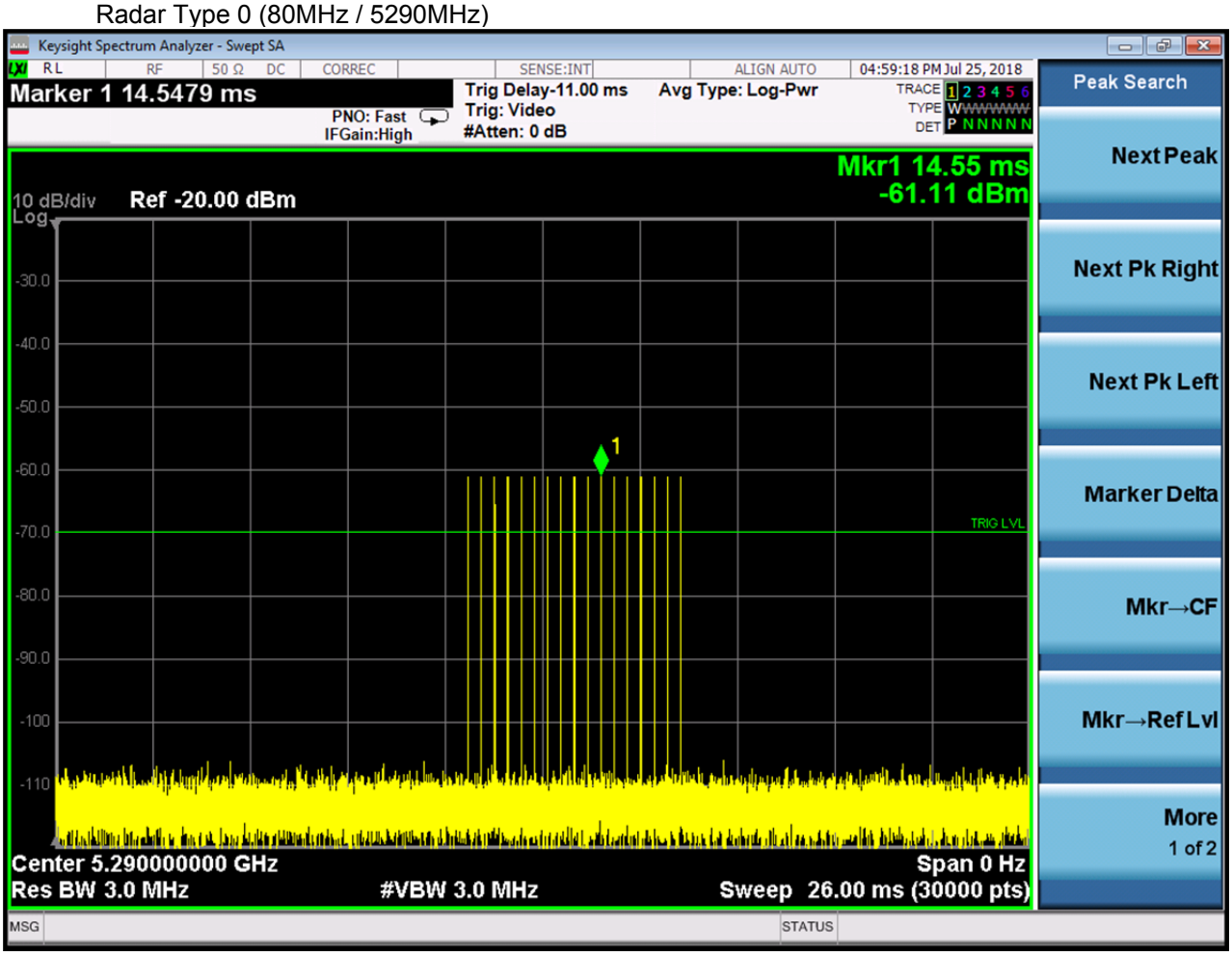
1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
4) EUT will associate with the master at channel. The file “iperf.exe” specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) =S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms)= N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

The detailed test data see: Appendix 15.407

### 5.10.4 Test plots as follows:

Radar Waveform Calibration Result

Radar Type 0 (80MHz / 5290MHz)

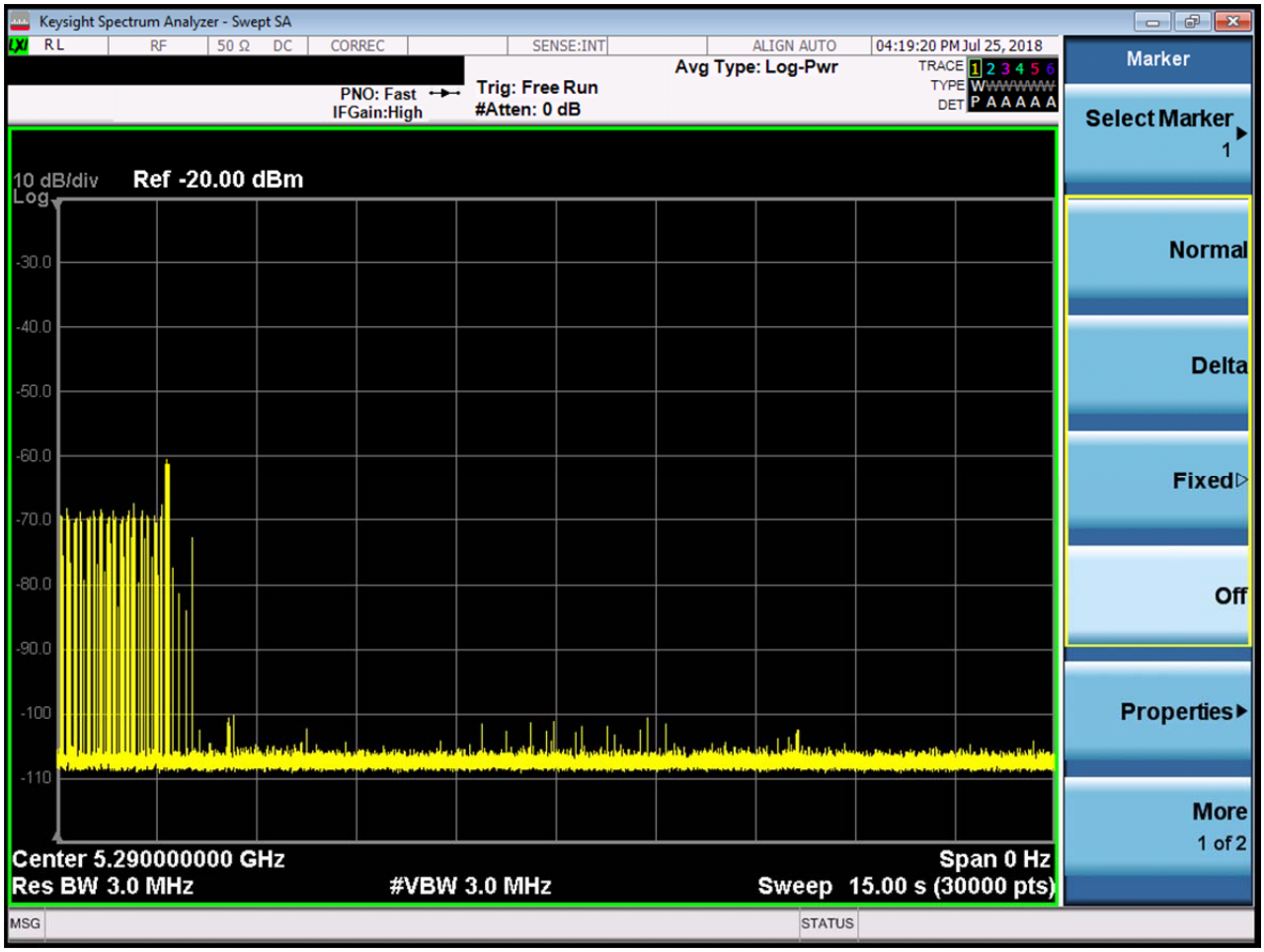


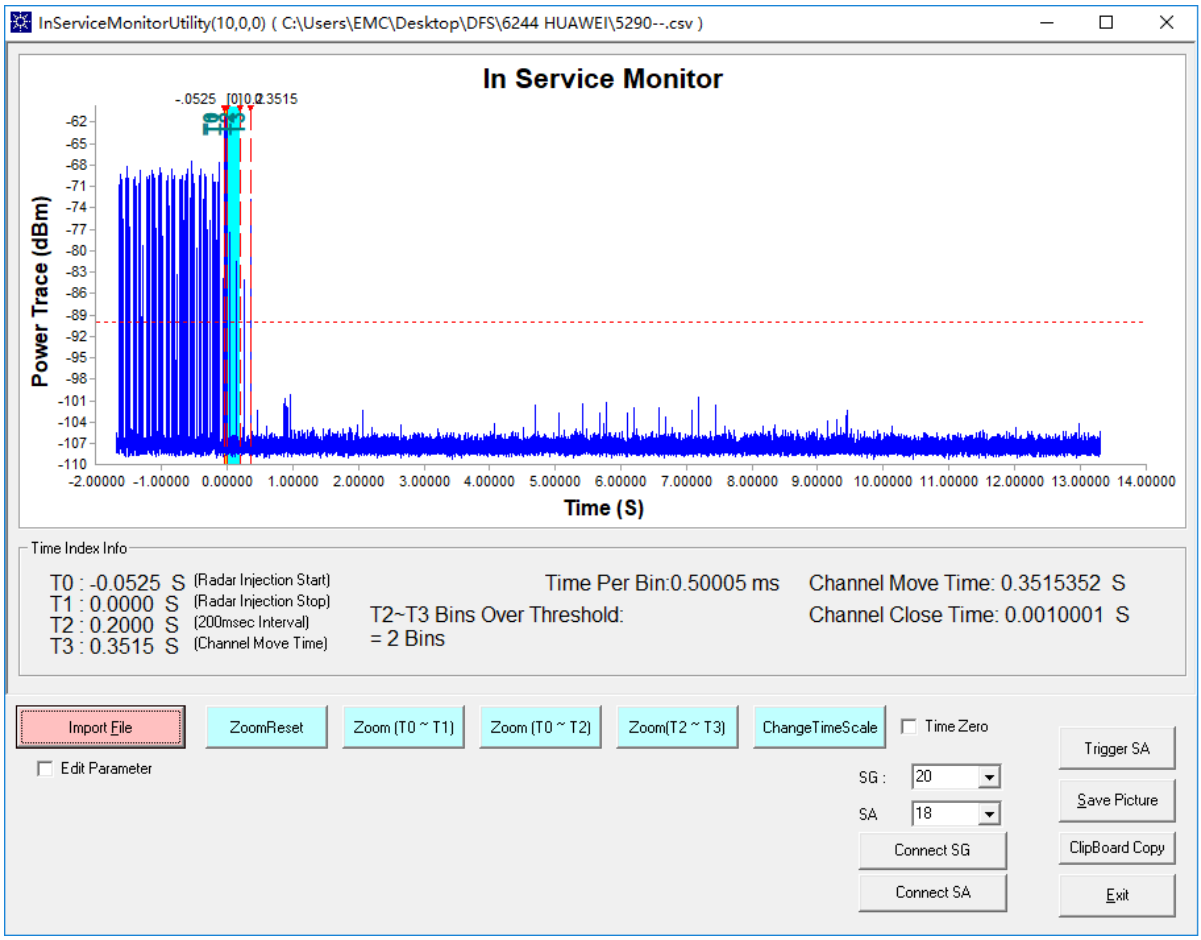
**Test Data:**

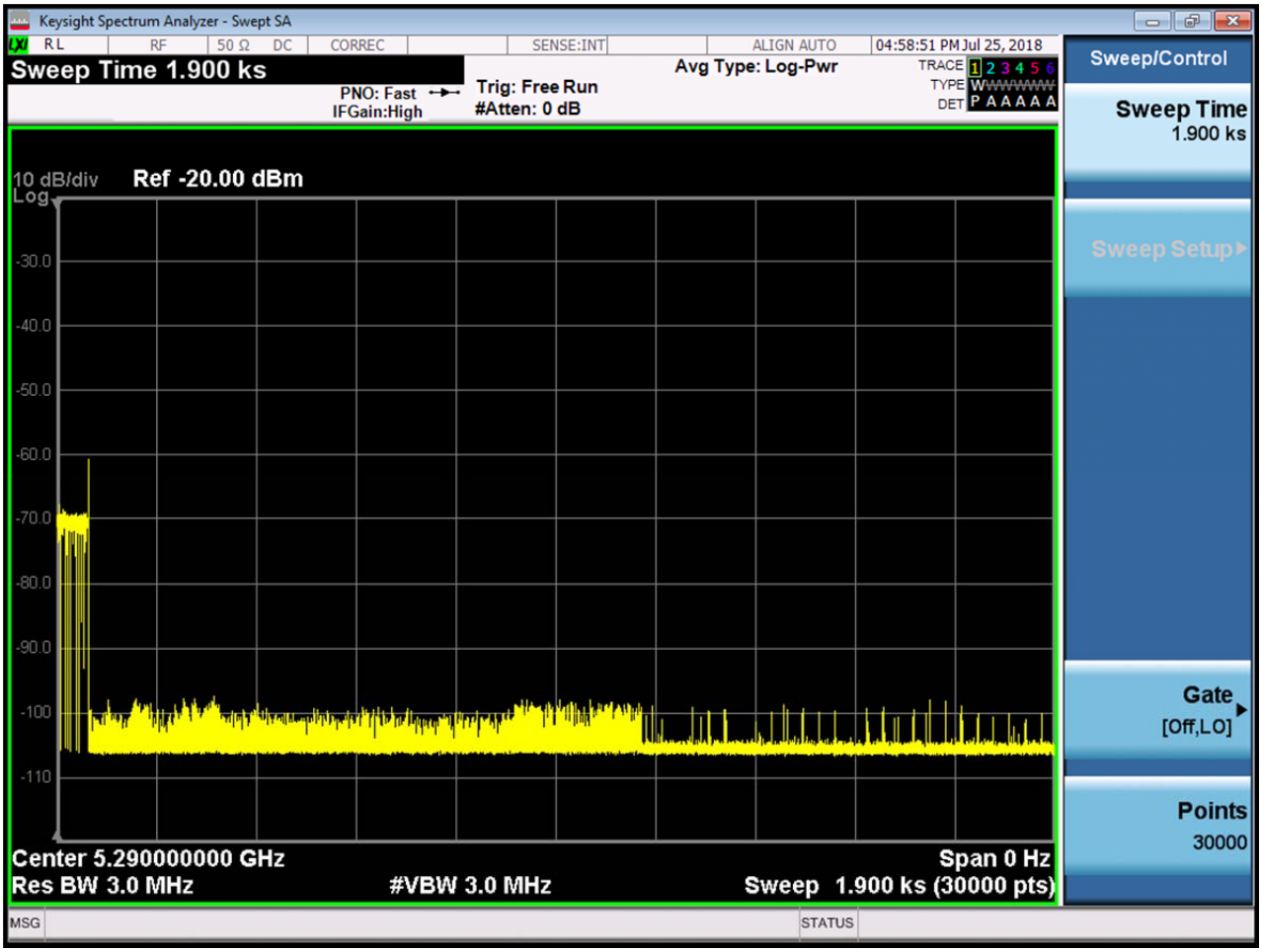
| BW/Channel | Test Item | Test Result | Limit | Results |
|---|---|---|---|---|
| 80MHz / 5290MHz | Channel Move Time | 0.35s | ＜10s | Pass |
| | Channel Closing Transmission Time | 1ms | ＜60ms | Pass |

**Test plots as follows:**

80MHz / 5290MHz







## 5.11 Measurement Uncertainty (95% confidence levels, k=2)

| No. | Item | Measurement Uncertainty |
|---|---|---|
| 1 | Total RF power, conducted | ±0.75dB |
| 2 | RF power density, conducted | ±2.84dB |
| 3 | Spurious emissions, conducted | ±0.75dB |
| 4 | Radiated Spurious emission test | ±4.5dB (30MHz-1GHz) |
| | | ±4.8dB (1GHz-25GHz) |
| 5 | Conduct emission test | ±3.12 dB(9KHz- 30MHz) |
| 6 | Temperature test | ±1°C |
| 7 | Humidity test | ±3% |
| 8 | DC and low frequency voltages | ±0.5% |

## 5.12 Equipment List

| Conducted Emission | | | | | | |
|---|---|---|---|---|---|---|
| Item | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal. Date (yyyy-mm-dd) | Cal. Due date (yyyy-mm-dd) |
| 1 | Shielding Room | ZhongYu Electron | GB-88 | SEM001-06 | 2018/3/10 | 2019/3/9 |
| 2 | LISN | Rohde & Schwarz | ENV216 | SEM007-01 | 2017/10/09 | 2018/10/09 |
| 3 | LISN | ETS-LINDGREN | 3816/2 | SEM007-02 | 2018/2/14 | 2019/2/13 |
| 4 | 8 Line ISN | Fischer Custom Communications Inc. | FCC-TLISN-T8-02 | EMC0120 | 2017/09/28 | 2018/09/28 |
| 5 | 4 Line ISN | Fischer Custom Communications Inc. | FCC-TLISN-T4-02 | EMC0121 | 2017/09/28 | 2018/09/28 |
| 6 | 2 Line ISN | Fischer Custom Communications Inc. | FCC-TLISN-T2-02 | EMC0122 | 2017/09/28 | 2018/09/28 |
| 7 | EMI Test Receiver | Rohde & Schwarz | ESCI | SEM004-02 | 2018/2/14 | 2019/2/13 |
| 8 | DC Power Supply | Zhao Xin | RXN-305D | SEM011-02 | 2017/10/09 | 2018/10/09 |

| RF conducted test | | | | | | |
|---|---|---|---|---|---|---|
| Item | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal. Date (yyyy-mm-dd) | Cal. Due date (yyyy-mm-dd) |
| 1 | DC Power Supply | ZhaoXin | RXN-305D | SEM011-02 | 2017-09-27 | 2018-09-26 |
| 2 | Signal Analyzer | Rohde &Schwarz | FSV | W005-02 | 2018/03/13 | 2019/03/13 |
| 3 | Signal Generator | Rohde &Schwarz | SML03 | SEM006-02 | 2018/2/14 | 2019/2/13 |
| 4 | Power Meter | Rohde &Schwarz | NRVS | SEM014-02 | 2017-09-27 | 2018-09-26 |
| 5 | Power Sensor | Agilent Technologies | U2021XA | SEM009-01 | 2017/10/09 | 2018/10/09 |
| 6 | Spectrum Analyzer | Rohde & Schwarz | FSU43 | SEM004-08 | 2017-04-14 | 2018-04-13 |
| 7 | Measurement Software | JS Tonscend | JS1120-2 BT/WIFI V2. | N/A | N/A | N/A |
| 8 | Coaxial Cable | SGS | N/A | SEM031-01 | 2018-05-13 | 2019-05-12 |
| 9 | Attenuator | Weinschel Associates | WA41 | SEM021-09 | N/A | N/A |
| 10 | Signal Generator | KEYSIGHT | N5173B | SEM006-05 | 2017-09-27 | 2018-09-26 |

| RE in Chamber | | | | | | |
|---|---|---|---|---|---|---|
| Item | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal. Date (yyyy-mm-dd) | Cal. Due date (yyyy-mm-dd) |
| 1 | 3m Semi-Anechoic Chamber | ETS-LINDGREN | N/A | SEM001-01 | 2018/3/10 | 2019/3/9 |
| 2 | EMI Test Receiver | Agilent Technologies | N9038A | SEM004-05 | 2017/10/09 | 2018/10/09 |
| 3 | BiConiLog Antenna (26-3000MHz) | ETS-LINDGREN | 3142C | SEM003-01 | 2017/11/01 | 2020/11/01 |
| 4 | Double-ridged horn (1-18GHz) | ETS-LINDGREN | 3117 | SEM003-11 | 2015/10/17 | 2018/10/17 |
| 5 | Horn Antenna (18-26GHz) | ETS-LINDGREN | 3160 | SEM003-12 | 2017/11/24 | 2020/11/24 |
| 6 | Pre-amplifier (0.1-1300MHz) | Agilent Technologies | 8447D | SEM005-01 | 2018/2/14 | 2019/2/13 |
| 7 | Band filter | Amindeon | Asi 3314 | SEM023-01 | N/A | N/A |
| 8 | DC Power Supply | Zhao Xin | RXN-305D | SEM011-02 | 2017/10/09 | 2018/10/09 |
| 9 | Loop Antenna | Beijing Daze | ZN30401 | SEM003-09 | 2018/3/10 | 2019/3/9 |

| RE in Chamber | | | | | | |
|---|---|---|---|---|---|---|
| Item | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal. Date (yyyy-mm-dd) | Cal. Due date (yyyy-mm-dd) |
| 1 | 10m Semi-Anechoic Chamber | SAEMC | FSAC1018 | SEM001-03 | 2018/3/10 | 2019/3/9 |
| 2 | EMI Test Receiver (9k-7GHz) | Rohde & Schwarz | ESR | SEM004-03 | 2018/2/14 | 2019/2/13 |
| 3 | Trilog-Broadband Antenna(30M-1GHz) | Schwarzbeck | VULB9168 | SEM003-18 | 2016/06/29 | 2019/06/29 |
| 4 | Pre-amplifier | Sonoma Instrument Co | 310N | SEM005-03 | 2018/6/18 | 2019/6/17 |
| 5 | .Loop Antenna | ETS-Lindgren | 6502 | SEM003-08 | 2015/08/14 | 2018/08/14 |

| RE in Chamber | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | **Test Equipment** | **Manufacturer** | **Model No.** | **Inventory No.** | **Cal. Date (yyyy-mm-dd)** | **Cal. Due date (yyyy-mm-dd)** |
| 1 | 3m Semi-Anechoic Chamber | AUDIX | N/A | SEM001-02 | 2018/3/10 | 2019/3/9 |
| 2 | EXA Spectrum Analyzer | Agilent Technologies Inc | N9010A | SEM004-09 | 2018/6/18 | 2019/6/17 |
| 3 | BiConiLog Antenna (26-3000MHz) | ETS-Lindgren | 3142C | SEM003-02 | 2017/11/15 | 2020/11/15 |
| 4 | Amplifier (0.1-1300MHz) | HP | 8447D | SEM005-02 | 2017/10/9 | 2018/10/9 |
| 5 | Horn Antenna (1-18GHz) | Rohde & Schwarz | HF907 | SEM003-07 | 2018/5/14 | 2020/5/13 |
| 6 | Horn Antenna (18-26GHz) | ETS-Lindgren | 3160 | SEM003-12 | 2017/11/24 | 2020/11/24 |
| 7 | HornAntenna (26GHz-40GHz) | A.H.Systems, inc. | SAS-573 | SEM003-13 | 2017/10/17 | 2020/10/16 |
| 8 | Low Noise Amplifier | Black Diamond Series | BDLNA-0118-352810 | SEM005-05 | 2017/10/9 | 2018/10/9 |
| 9 | Band filter | Amindeon | Asi 3314 | SEM023-01 | 2018/2/14 | 2019/2/13 |

# 6 Photographs - EUT Test Setup Details

Refer to Appendix A - Photographs of EUT Test Setup Details for SZEM1807006244RG.

The End