

KCTL Inc.

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

Report No.:
KR19-SRF0025-A

Page (31) of (74)

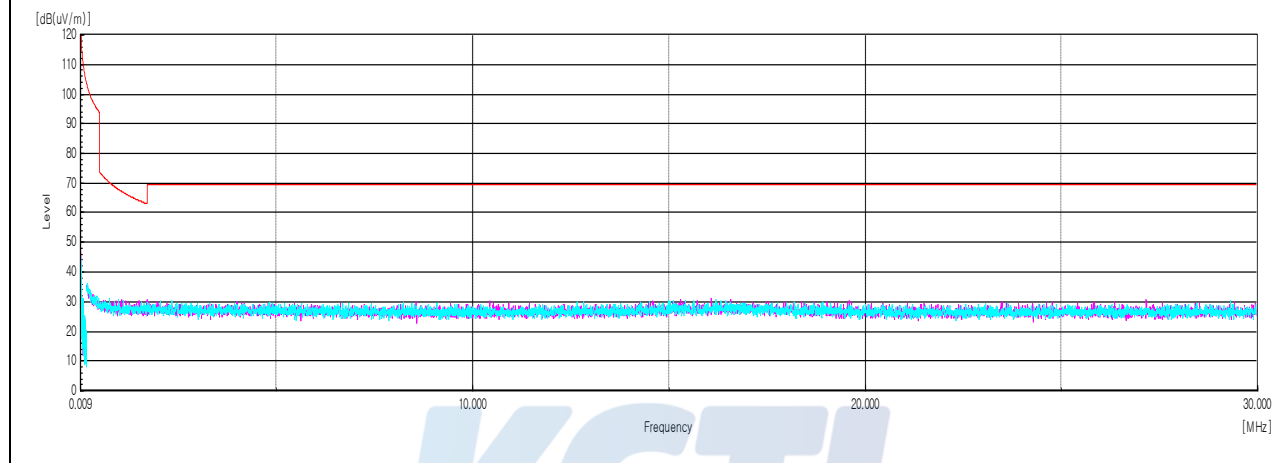


Test results (Below 30 MHz) – Worst case: 802.11b Middle frequency

| Frequency | Pol. | Reading | Cable Loss | Amp Gain | Antenna Factor | DCCF | Result | Limit | Margin |
|-----------|-------|-----------------|------------|----------|----------------|------|-------------------|-------------------|--------|
| (MHz) | (V/H) | (dB(μV)) | (dB) | (dB) | (dB) | (dB) | (dB($\mu V/m$)) | (dB($\mu V/m$)) | (dB) |

No spurious emissions were detected within 20 dB of the limit.

Horizontal/Vertical



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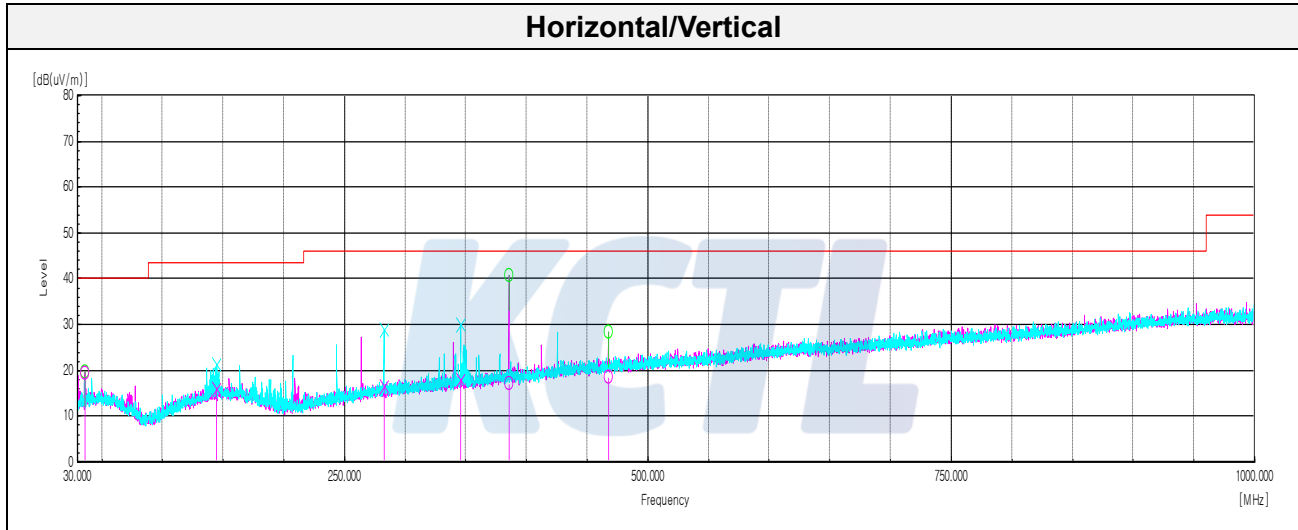
Page (32) of (74)



Test results (Below 1 000 MHz) – Worst case: 802.11b Middle frequency

| Frequency (MHz) | Pol. (V/H) | Reading (dB(μ V)) | Cable Loss (dB) | Amp Gain (dB) | Antenna Factor (dB) | DCCF (dB) | Result (dB(μ V/m)) | Limit (dB(μ V/m)) | Margin (dB) |
|------------------------|---------------|---------------------------|-----------------------|---------------------|---------------------------|--------------|----------------------------|---------------------------|----------------|
| Quasi peak data | | | | | | | | | |
| 35.82 | H | 32.80 | 1.19 | -27.17 | 12.58 | - | 19.40 | 40.00 | 20.60 |
| 144.70 | V | 26.30 | 2.61 | -25.83 | 12.82 | - | 15.90 | 43.50 | 27.60 |
| 282.44 | V | 26.10 | 3.75 | -26.05 | 12.90 | - | 16.70 | 46.00 | 29.30 |
| 345.61 | V | 25.70 | 4.19 | -26.29 | 14.50 | - | 18.10 | 46.00 | 27.90 |
| 385.51 | H | 23.30 | 4.47 | -26.15 | 15.38 | - | 17.00 | 46.00 | 29.00 |
| 467.35 | H | 22.40 | 4.95 | -26.13 | 17.18 | - | 18.40 | 46.00 | 27.60 |

Horizontal/Vertical



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Page (33) of (74)



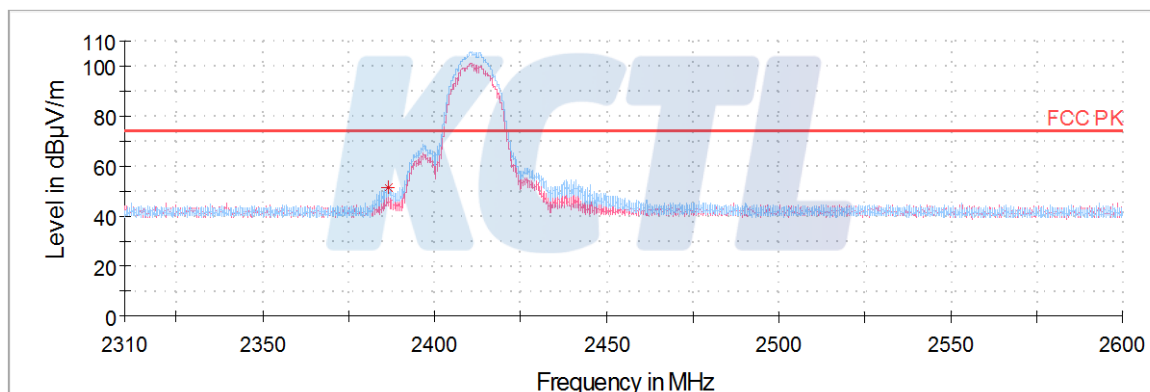
Test results (Above 1 000 MHz)

802.11b

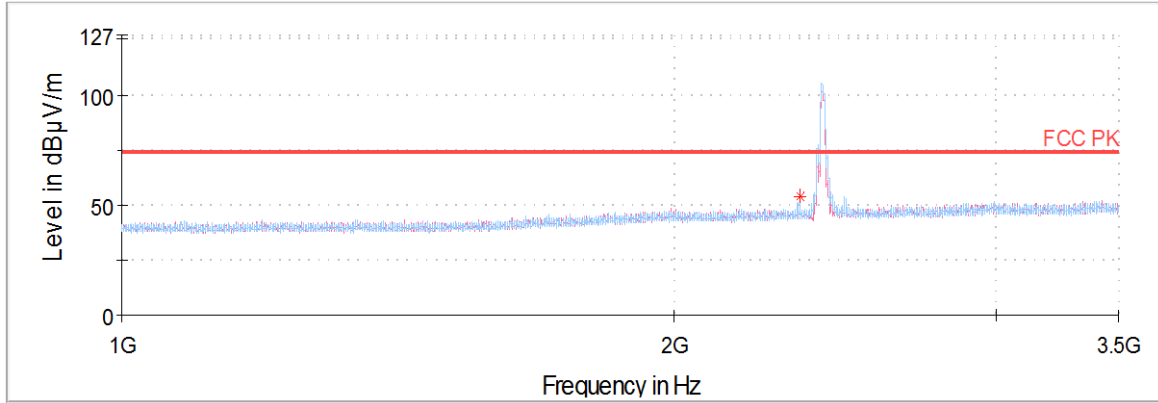
1 Channel

| Frequency | Pol. | Reading | Cable Loss | Amp Gain | Antenna Factor | DCCF | Result | Limit | Margin |
|--|-------|-----------------|------------|----------|----------------|------|-------------------|-------------------|--------|
| (MHz) | (V/H) | (dB(μV)) | (dB) | (dB) | (dB) | (dB) | (dB($\mu V/m$)) | (dB($\mu V/m$)) | (dB) |
| Peak data | | | | | | | | | |
| 2 345.39 ¹⁾ | H | 58.18 | 3.67 | -36.36 | 28.46 | - | 53.96 | 74.00 | 20.04 |
| 2 386.76 ¹⁾ | H | 49.30 | 3.70 | -30.01 | 28.53 | - | 51.51 | 74.00 | 22.49 |
| 4 824.94 ¹⁾ | V | 59.79 | 5.35 | -60.89 | 32.81 | - | 37.07 | 74.00 | 36.93 |
| 7 234.20 | H | 66.40 | 6.72 | -61.41 | 35.93 | - | 47.64 | 74.00 | 26.36 |
| Average Data | | | | | | | | | |
| No spurious emissions were detected within 20 dB of the limit. | | | | | | | | | |

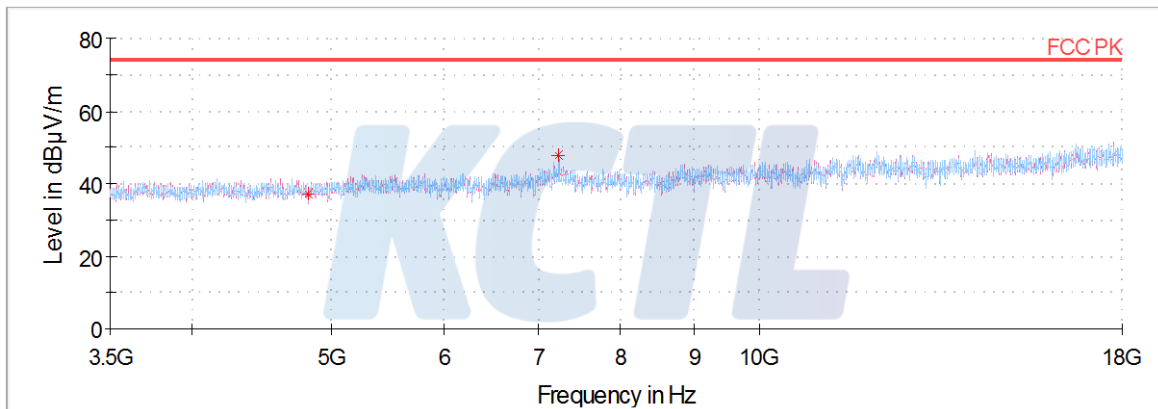
Horizontal/Vertical for Band-edge



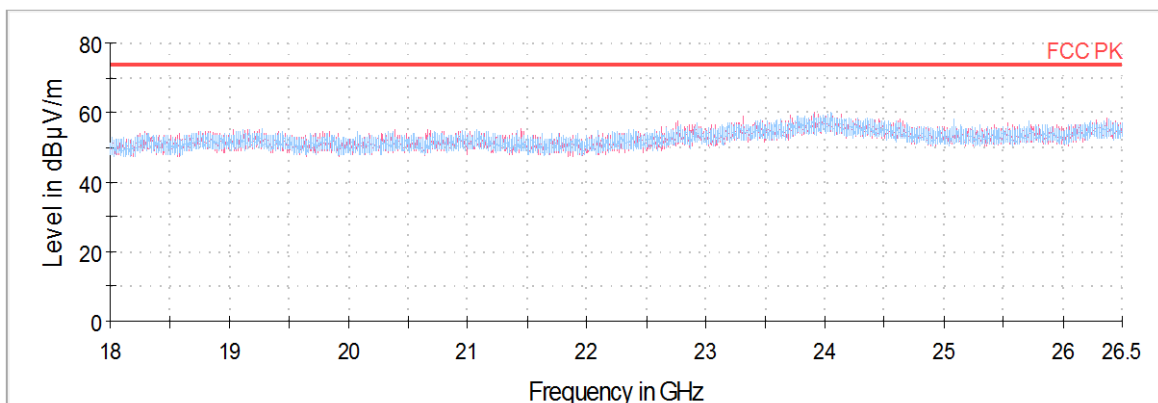
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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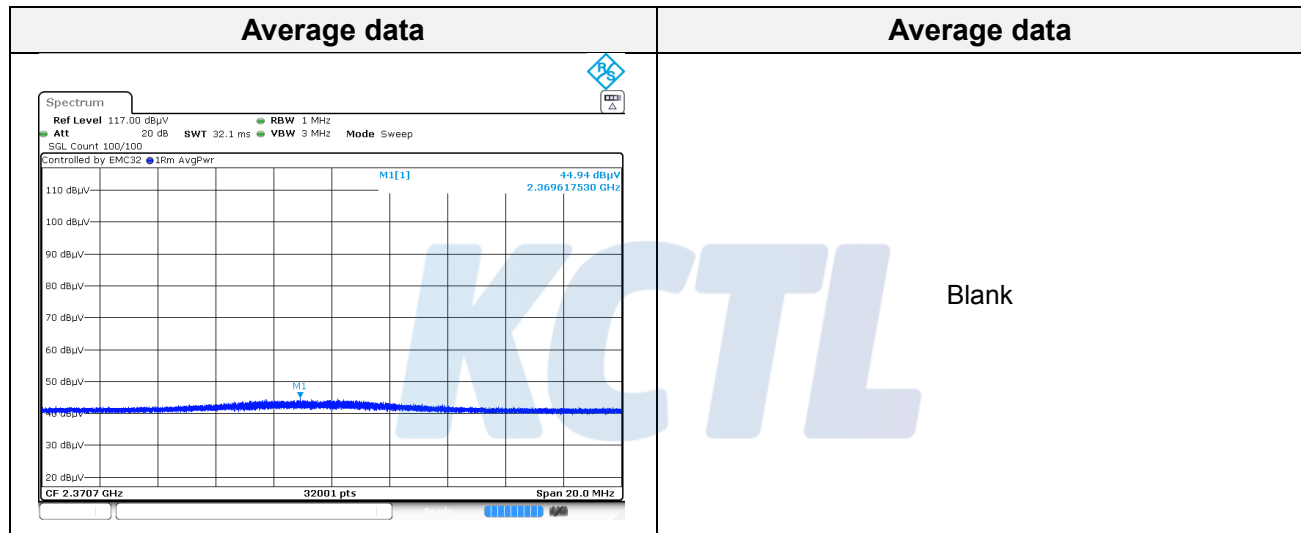
Report No.:
KR19-SRF0025-A

Page (35) of (74)

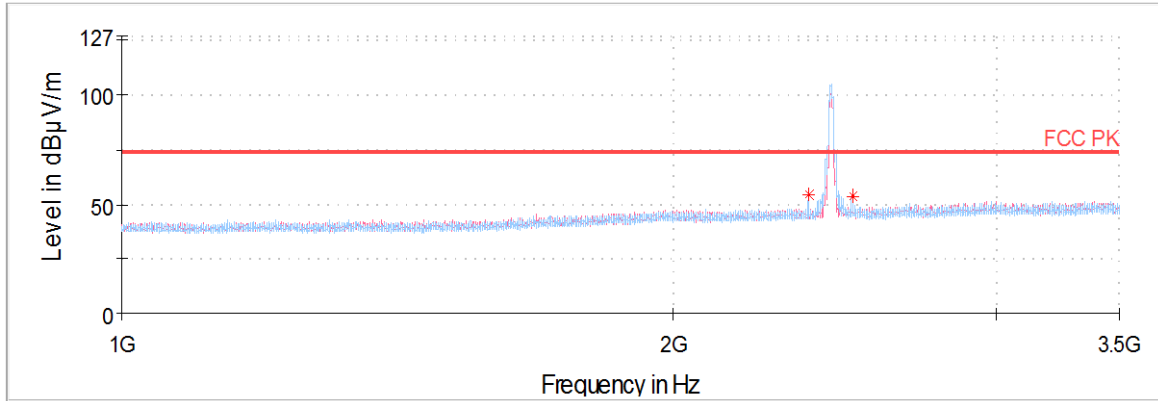


6 Channel

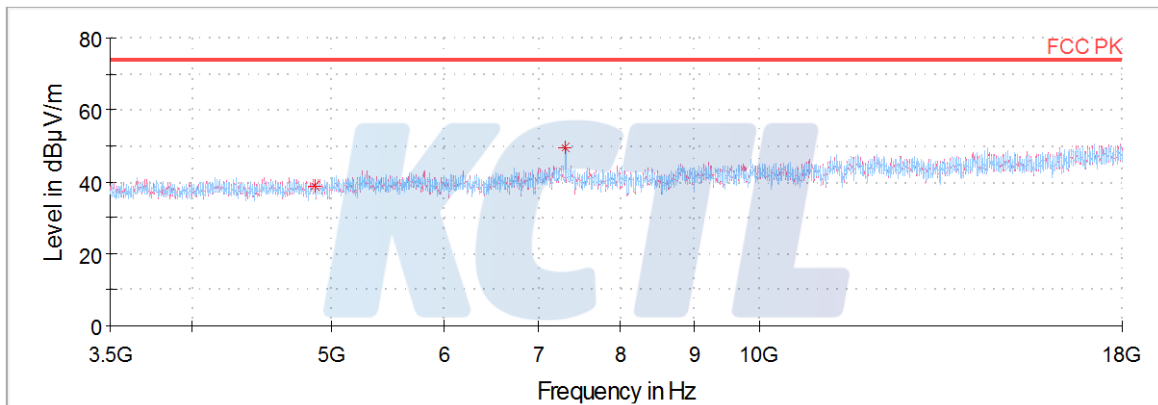
| Frequency | Pol. | Reading | Cable Loss | Amp Gain | Antenna Factor | DCCF | Result | Limit | Margin |
|------------------------|-------|----------------|------------|----------|----------------|------|------------------|------------------|--------|
| (MHz) | (V/H) | (dB(μ V)) | (dB) | (dB) | (dB) | (dB) | (dB(μ V/m)) | (dB(μ V/m)) | (dB) |
| Peak data | | | | | | | | | |
| 2 370.70 ¹⁾ | H | 58.74 | 3.69 | -36.27 | 28.50 | - | 54.66 | 74.00 | 19.34 |
| 2 505.08 | H | 57.08 | 3.79 | -35.90 | 28.76 | - | 53.74 | 74.00 | 20.26 |
| 4 874.33 ¹⁾ | V | 61.53 | 5.39 | -61.05 | 32.84 | - | 38.71 | 74.00 | 35.29 |
| 7 312.14 ¹⁾ | V | 68.29 | 6.75 | -61.56 | 36.01 | - | 49.49 | 74.00 | 24.51 |
| Average Data | | | | | | | | | |
| 2 370.70 ¹⁾ | H | 44.94 | 3.69 | -36.27 | 28.50 | - | 40.86 | 54.00 | 13.14 |



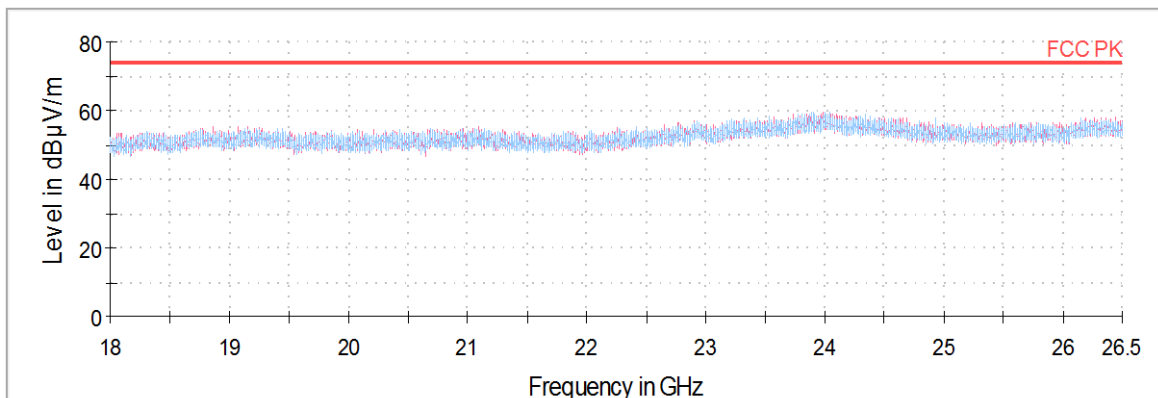
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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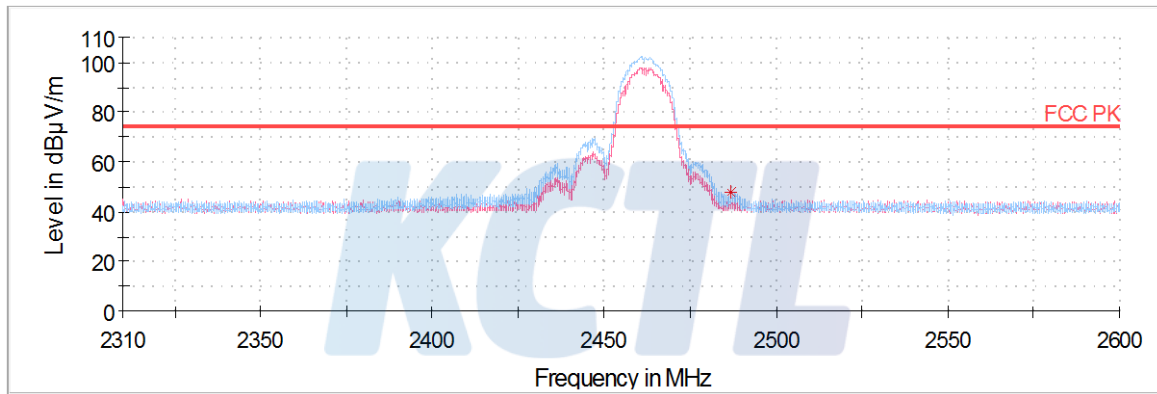
Page (37) of (74)



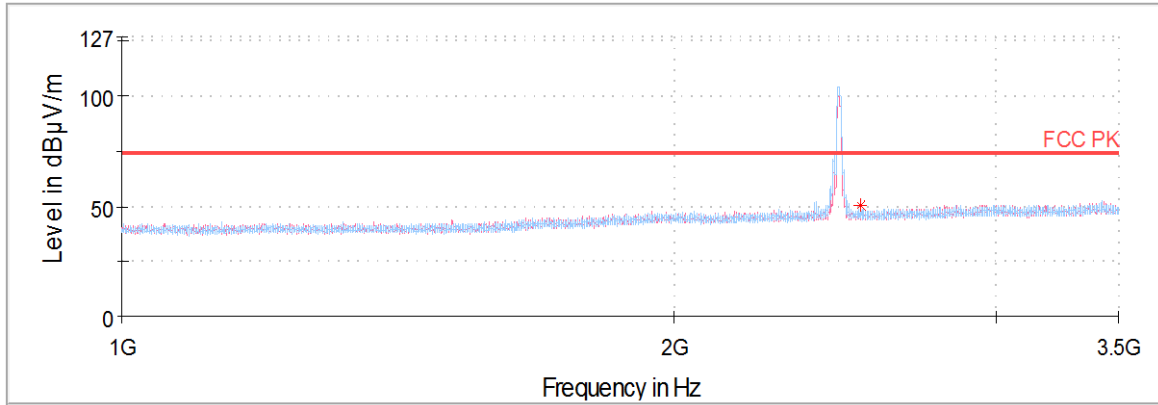
11 Channel

| Frequency (MHz) | Pol. (V/H) | Reading (dB(μ V)) | Cable Loss (dB) | Amp Gain (dB) | Antenna Factor (dB) | DCCF (dB) | Result (dB(μ V/m)) | Limit (dB(μ V/m)) | Margin (dB) |
|--|---------------|---------------------------|-----------------------|---------------------|---------------------------|--------------|----------------------------|---------------------------|----------------|
| Peak data | | | | | | | | | |
| 2 486.87 ¹⁾ | H | 46.04 | 3.77 | -30.30 | 28.73 | - | 48.24 | 74.00 | 25.76 |
| 2 531.64 | H | 53.69 | 3.80 | -36.00 | 28.81 | - | 50.29 | 74.00 | 23.71 |
| 4 924.17 ¹⁾ | H | 62.03 | 5.42 | -60.96 | 32.86 | - | 39.35 | 74.00 | 34.65 |
| 7 385.55 ¹⁾ | V | 67.23 | 6.79 | -61.71 | 36.09 | - | 48.40 | 74.00 | 25.60 |
| Average Data | | | | | | | | | |
| No spurious emissions were detected within 20 dB of the limit. | | | | | | | | | |

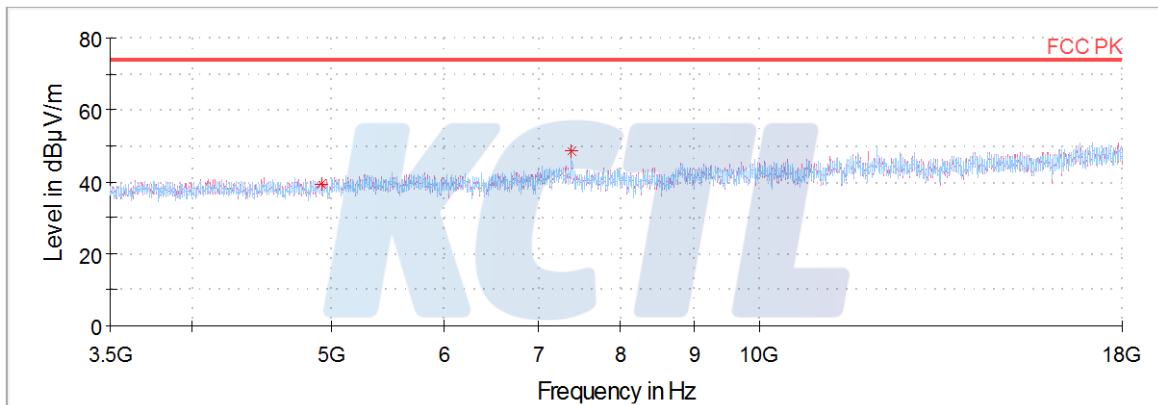
Horizontal/Vertical for Band-edge



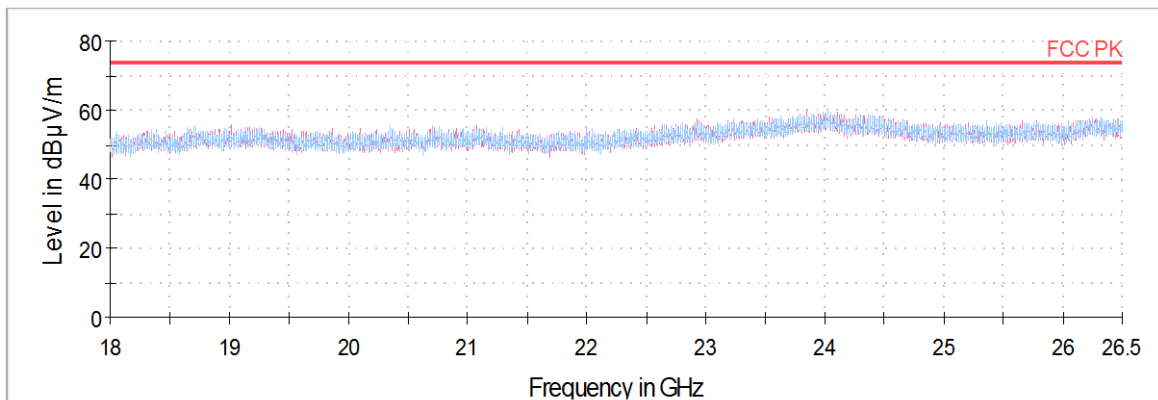
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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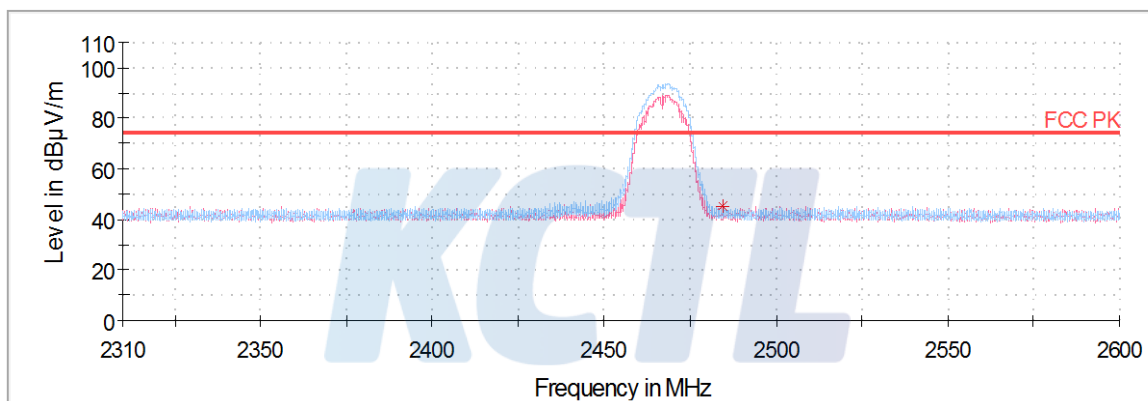
Page (39) of (74)

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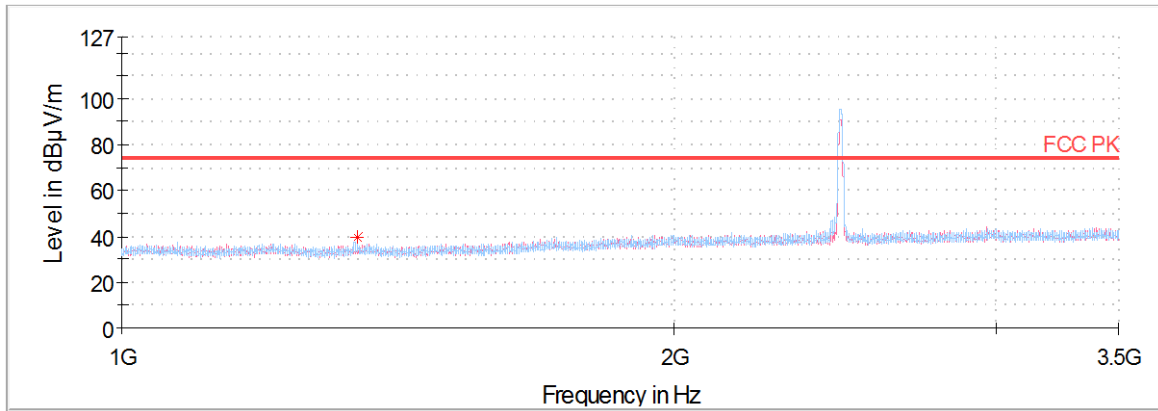
12 Channel

| Frequency (MHz) | Pol. (V/H) | Reading (dB(μ V)) | Cable Loss (dB) | Amp Gain (dB) | Antenna Factor (dB) | DCCF (dB) | Result (dB(μ V/m)) | Limit (dB(μ V/m)) | Margin (dB) |
|--|---------------|---------------------------|-----------------------|---------------------|---------------------------|--------------|----------------------------|---------------------------|----------------|
| Peak data | | | | | | | | | |
| 1 344.22 ¹⁾ | H | 48.38 | 2.80 | -36.72 | 25.18 | - | 39.64 | 74.00 | 34.36 |
| 2 484.66 ¹⁾ | H | 42.76 | 3.77 | -30.29 | 28.72 | - | 44.97 | 74.00 | 29.03 |
| 4 934.14 ¹⁾ | H | 60.04 | 5.43 | -60.90 | 32.87 | - | 37.44 | 74.00 | 36.56 |
| 7 401.86 ¹⁾ | H | 61.30 | 6.79 | -61.73 | 36.10 | - | 42.46 | 74.00 | 31.54 |
| Average Data | | | | | | | | | |
| No spurious emissions were detected within 20 dB of the limit. | | | | | | | | | |

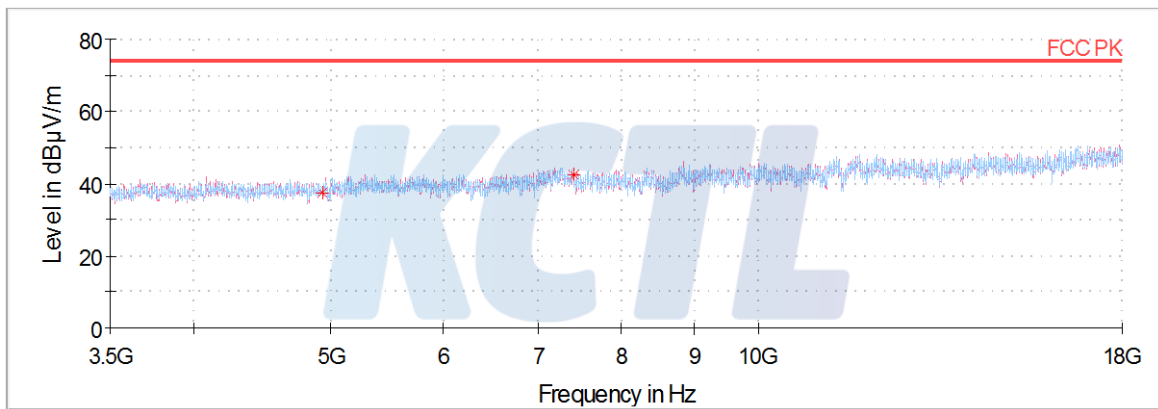
Horizontal/Vertical for Band-edge



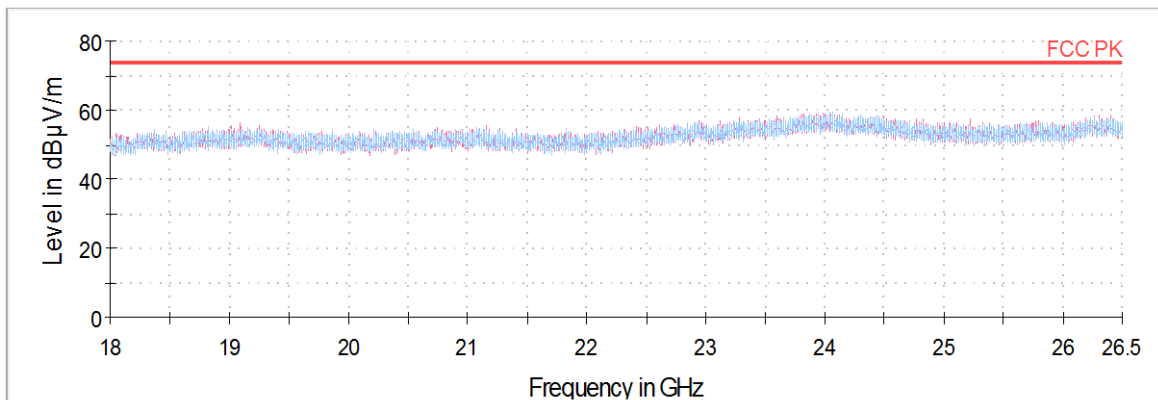
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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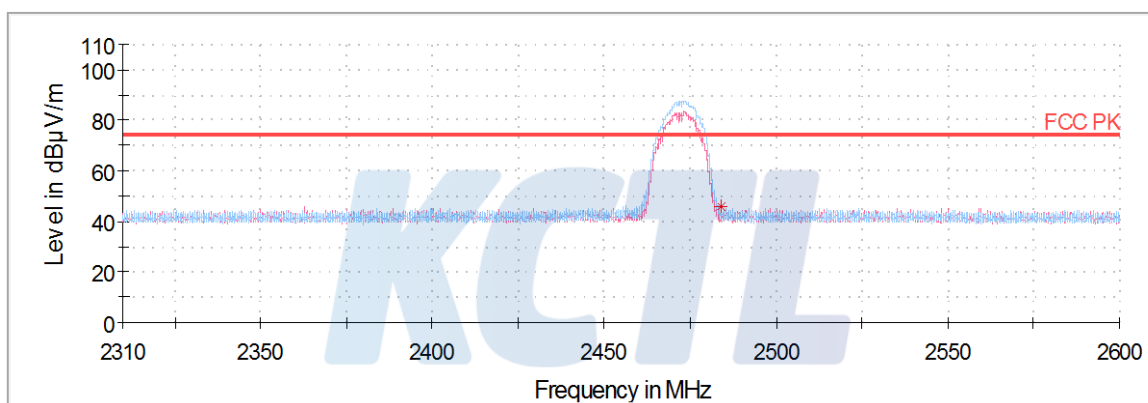
Page (41) of (74)



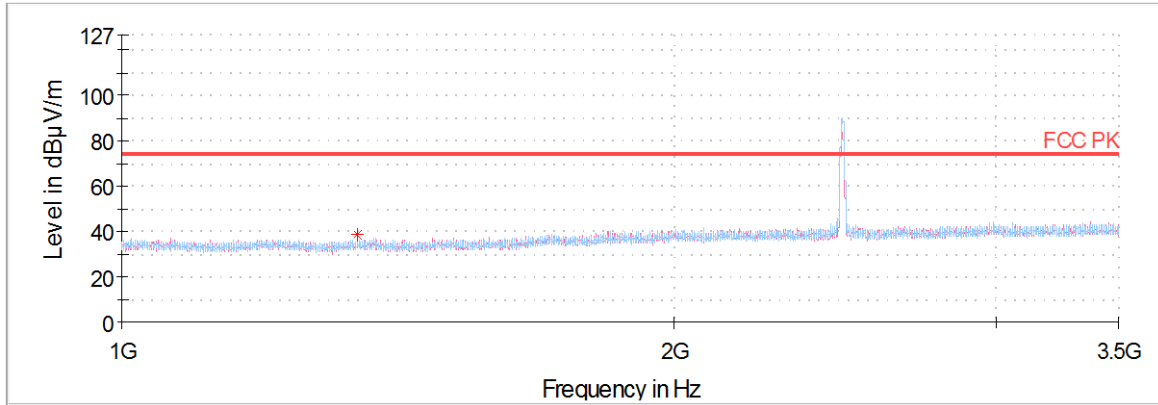
13 Channel

| Frequency (MHz) | Pol. (V/H) | Reading (dB(μ V)) | Cable Loss (dB) | Amp Gain (dB) | Antenna Factor (dB) | DCCF (dB) | Result (dB(μ V/m)) | Limit (dB(μ V/m)) | Margin (dB) |
|--|---------------|---------------------------|-----------------------|---------------------|---------------------------|--------------|----------------------------|---------------------------|----------------|
| Peak data | | | | | | | | | |
| 1 343.91 ¹⁾ | H | 47.26 | 2.80 | -36.72 | 25.18 | - | 38.52 | 74.00 | 35.48 |
| 2 483.84 ¹⁾ | H | 43.49 | 3.77 | -30.29 | 28.72 | - | 45.69 | 74.00 | 28.31 |
| 4 944.56 ¹⁾ | H | 61.18 | 5.43 | -60.82 | 32.87 | - | 38.66 | 74.00 | 35.34 |
| 7 416.36 ¹⁾ | V | 59.54 | 6.80 | -61.76 | 36.12 | - | 40.70 | 74.00 | 33.30 |
| Average Data | | | | | | | | | |
| No spurious emissions were detected within 20 dB of the limit. | | | | | | | | | |

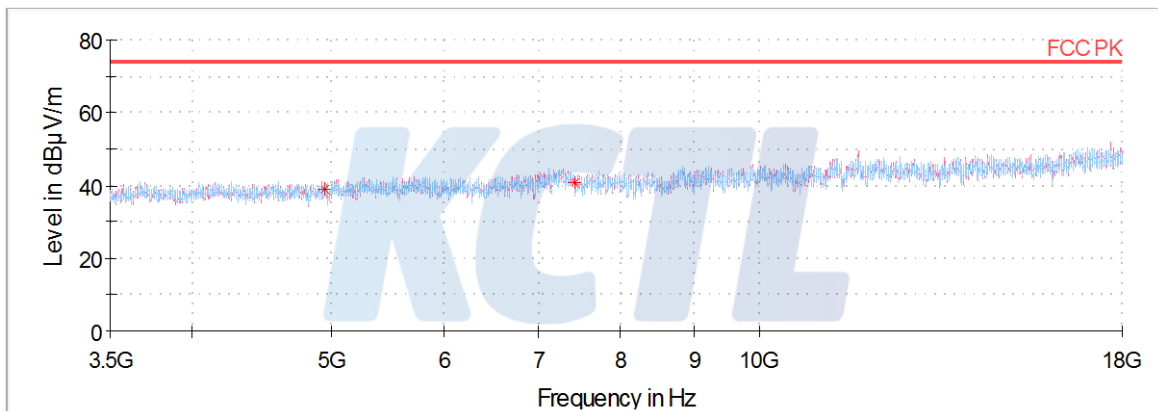
Horizontal/Vertical for Band-edge



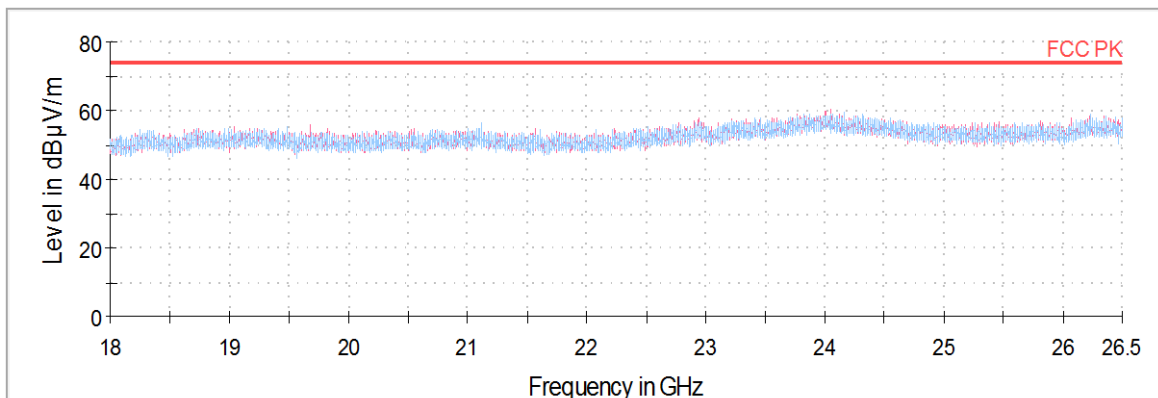
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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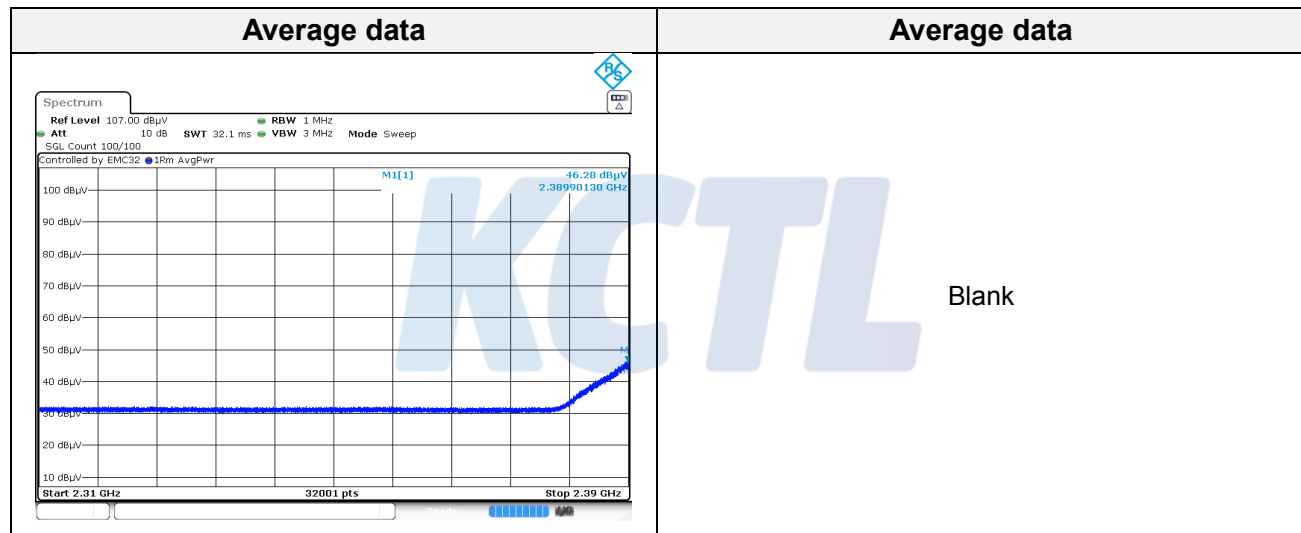
Page (43) of (74)



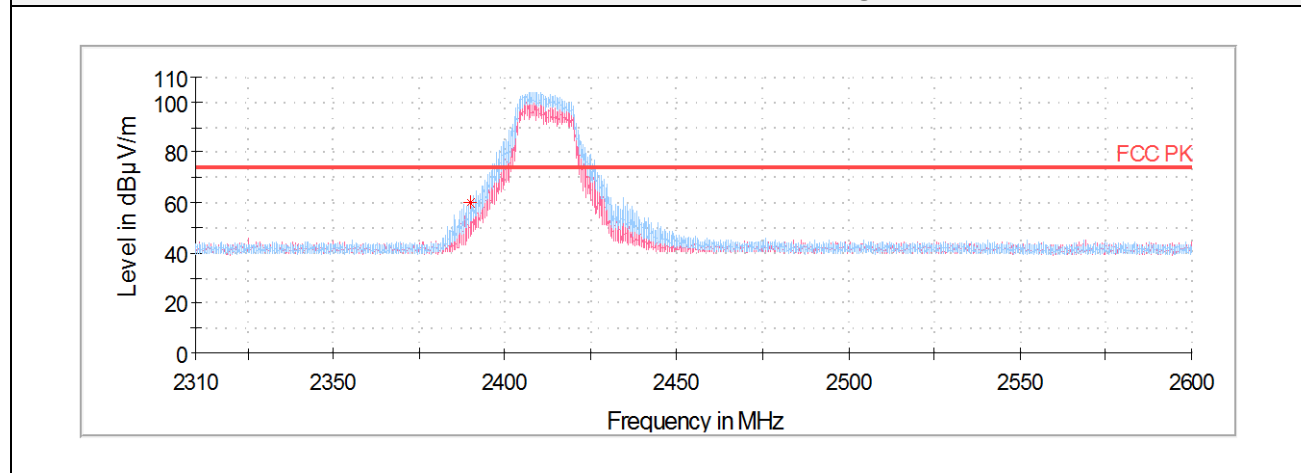
802.11g

1 Channel

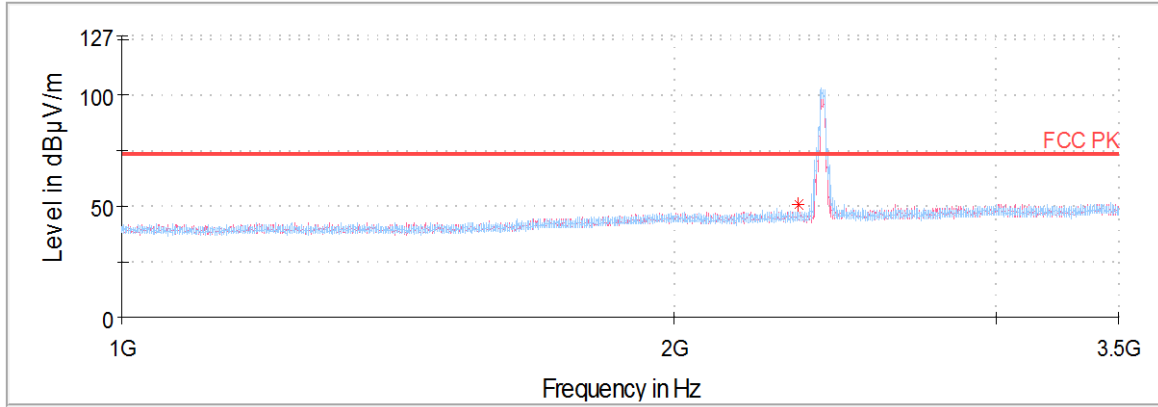
| Frequency | Pol. | Reading | Cable Loss | Amp Gain | Antenna Factor | DCCF | Result | Limit | Margin |
|------------------------|-------|----------------|------------|----------|----------------|------|------------------|------------------|--------|
| (MHz) | (V/H) | (dB(μ V)) | (dB) | (dB) | (dB) | (dB) | (dB(μ V/m)) | (dB(μ V/m)) | (dB) |
| Peak data | | | | | | | | | |
| 2 340.00 ¹⁾ | H | 54.89 | 3.67 | -36.38 | 28.45 | - | 50.64 | 74.00 | 23.36 |
| 2 389.98 ¹⁾ | H | 57.52 | 3.70 | -30.01 | 28.54 | - | 59.75 | 74.00 | 14.25 |
| 4 824.48 ¹⁾ | V | 59.46 | 5.35 | -60.89 | 32.81 | - | 36.73 | 74.00 | 37.27 |
| 7 236.47 | V | 62.27 | 6.72 | -61.42 | 35.94 | - | 43.50 | 74.00 | 30.50 |
| Average Data | | | | | | | | | |
| 2 389.98 ¹⁾ | H | 46.28 | 3.70 | -30.01 | 28.54 | 0.37 | 48.87 | 54.00 | 5.13 |



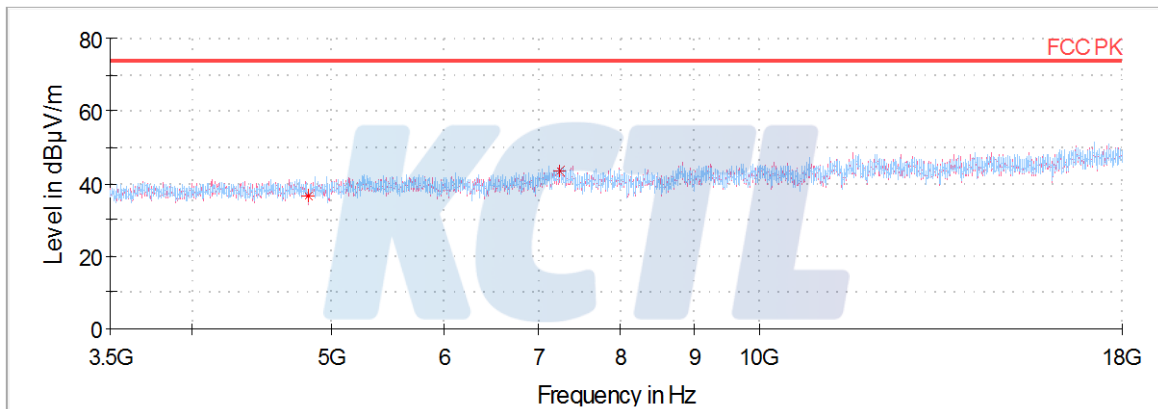
Horizontal/Vertical for Band-edge



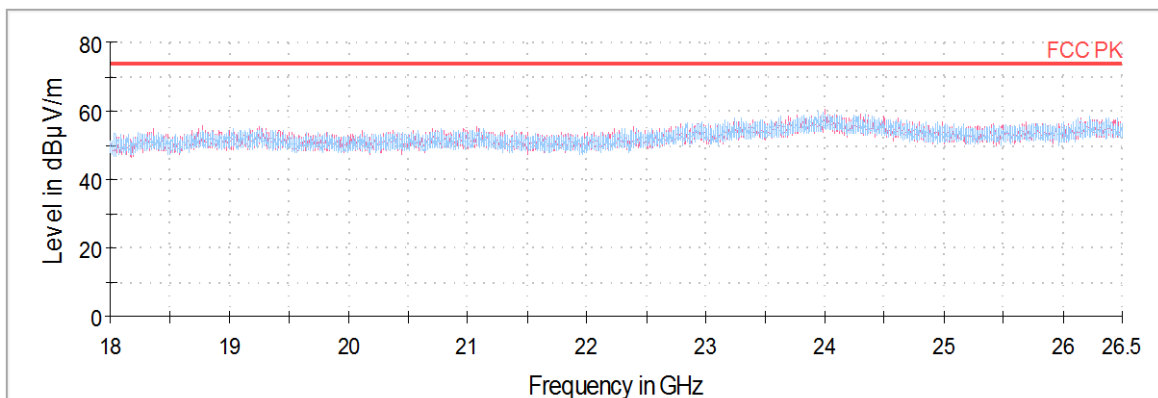
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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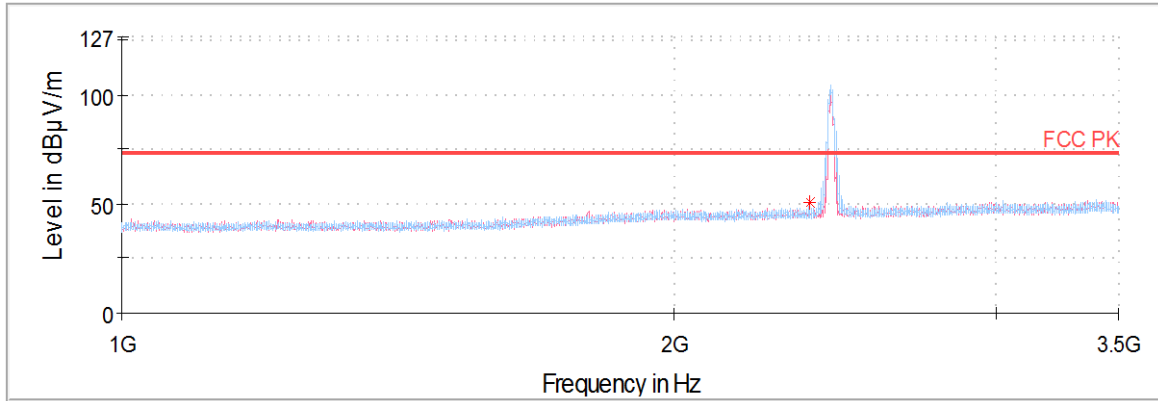
Page (45) of (74)

**6 Channel**

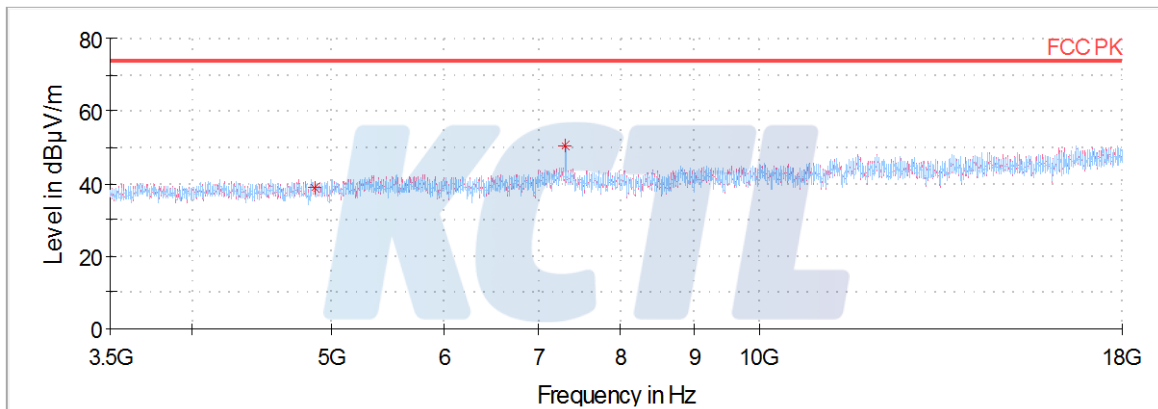
| Frequency (MHz) | Pol. (V/H) | Reading (dB(μV)) | Cable Loss (dB) | Amp Gain (dB) | Antenna Factor (dB) | DCCF (dB) | Result (dB($\mu V/m$)) | Limit (dB($\mu V/m$)) | Margin (dB) |
|--|---------------|----------------------------|-----------------------|---------------------|---------------------------|--------------|-----------------------------|----------------------------|----------------|
| Peak data | | | | | | | | | |
| 2 375.00 ¹⁾ | H | 55.07 | 3.69 | -36.26 | 28.51 | - | 51.01 | 74.00 | 22.99 |
| 4 874.33 ¹⁾ | V | 61.73 | 5.39 | -61.05 | 32.84 | - | 38.91 | 74.00 | 35.09 |
| 7 312.14 ¹⁾ | H | 69.23 | 6.75 | -61.56 | 36.01 | - | 50.43 | 74.00 | 23.57 |
| Average Data | | | | | | | | | |
| No spurious emissions were detected within 20 dB of the limit. | | | | | | | | | |



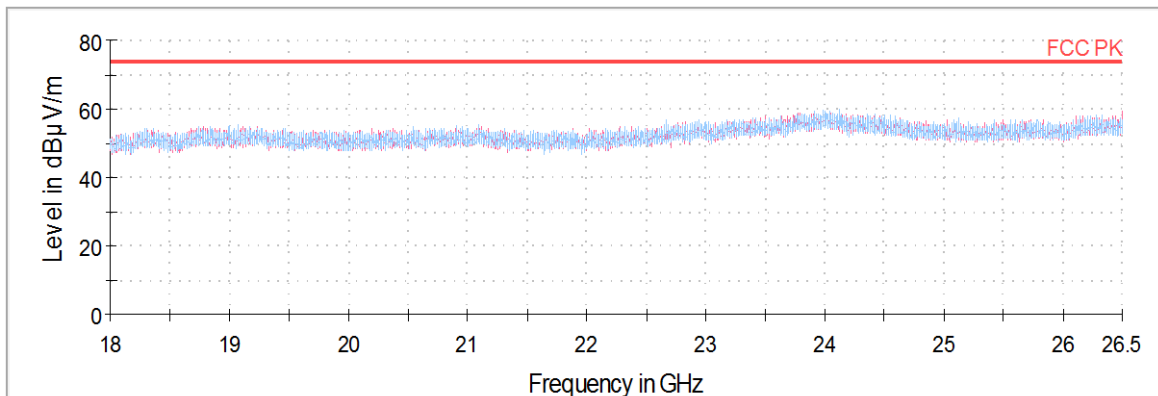
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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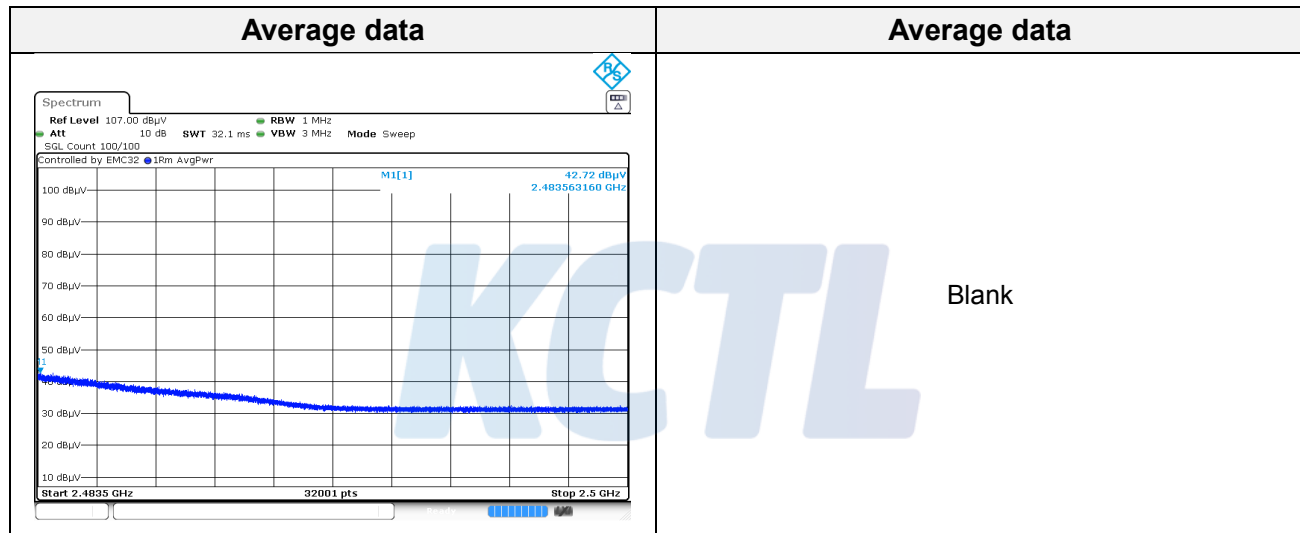
Report No.:
KR19-SRF0025-A

Page (47) of (74)

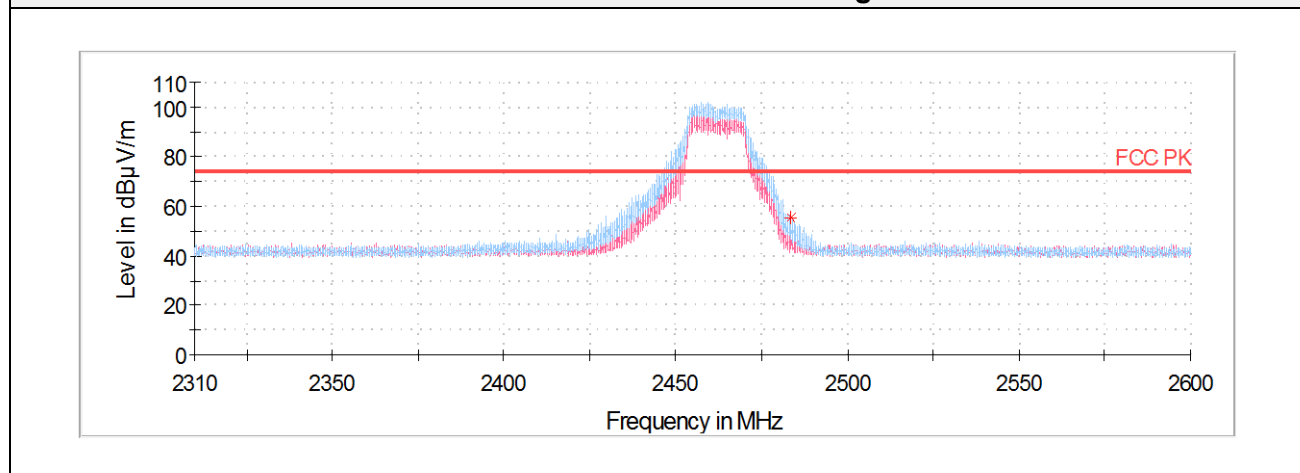


11 Channel

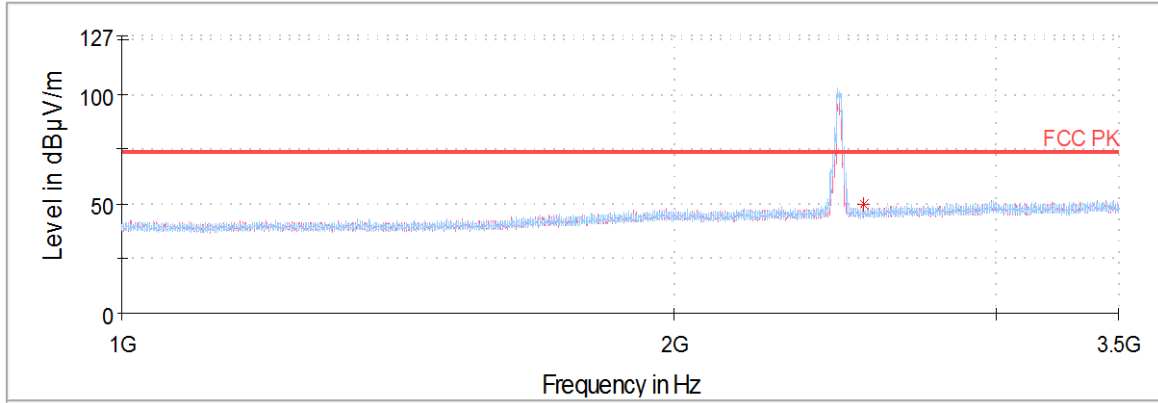
| Frequency | Pol. | Reading | Cable Loss | Amp Gain | Antenna Factor | DCCF | Result | Limit | Margin |
|------------------------|-------|----------|------------|----------|----------------|------|------------|------------|--------|
| (MHz) | (V/H) | (dB(μV)) | (dB) | (dB) | (dB) | (dB) | (dB(μV/m)) | (dB(μV/m)) | (dB) |
| Peak data | | | | | | | | | |
| 2 483.66 ¹⁾ | H | 52.80 | 3.77 | -30.29 | 28.72 | - | 55.01 | 74.00 | 18.99 |
| 2 541.88 | H | 53.21 | 3.81 | -36.05 | 28.83 | - | 49.80 | 74.00 | 24.20 |
| 4 924.17 ¹⁾ | H | 61.90 | 5.42 | -60.96 | 32.86 | - | 39.22 | 74.00 | 34.78 |
| 7 386.91 ¹⁾ | H | 62.81 | 6.79 | -61.71 | 36.09 | - | 43.98 | 74.00 | 30.02 |
| Average Data | | | | | | | | | |
| 2 483.66 ¹⁾ | H | 42.72 | 3.77 | -30.29 | 28.72 | 0.37 | 45.29 | 54.00 | 8.71 |



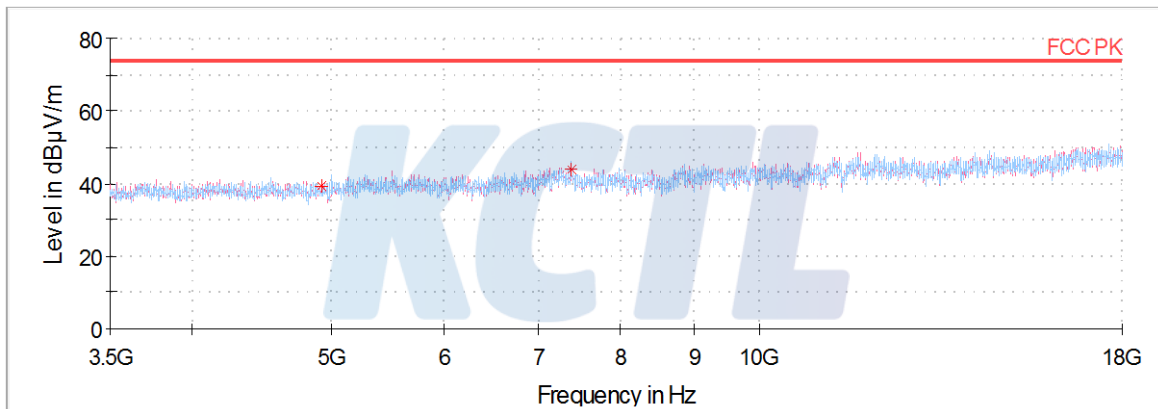
Horizontal/Vertical for Band-edge



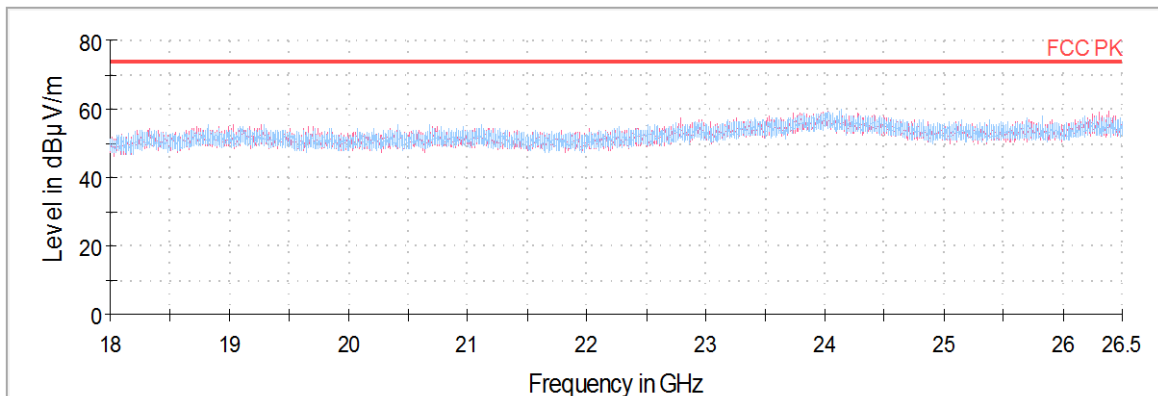
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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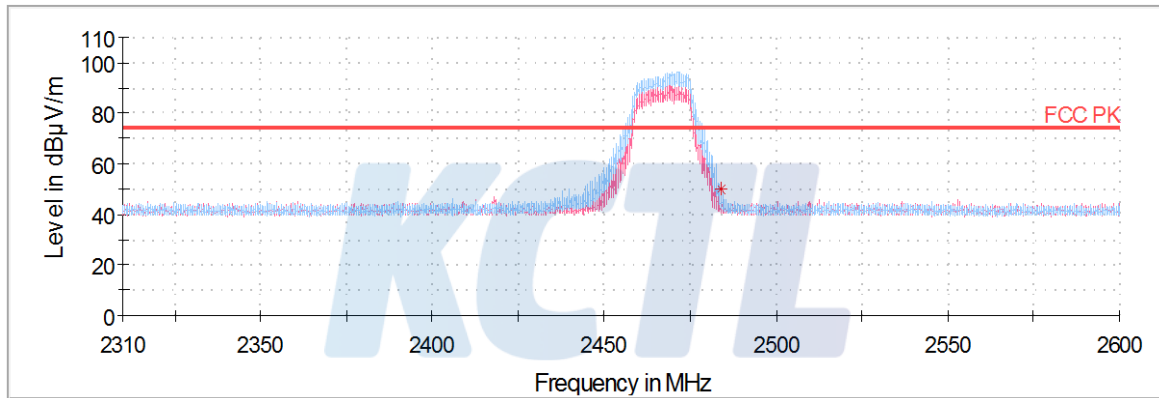
Page (49) of (74)



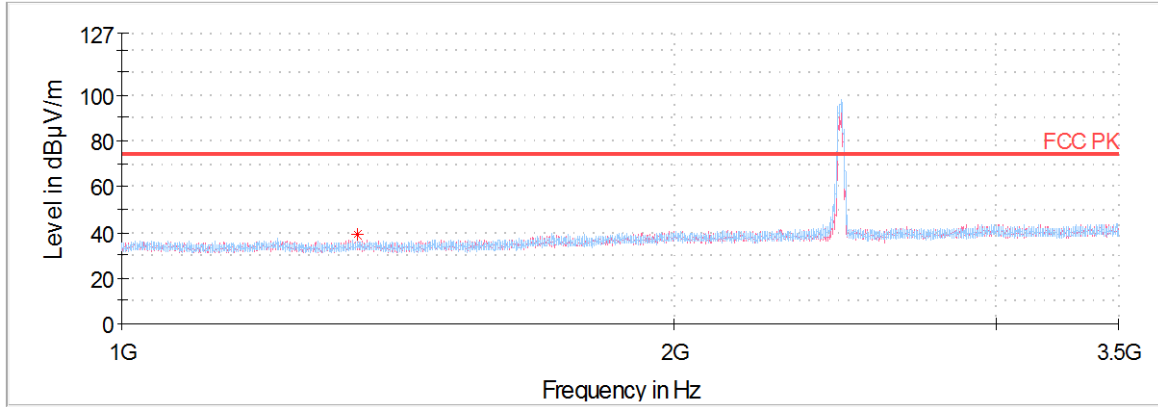
12 Channel

| Frequency (MHz) | Pol. (V/H) | Reading (dB(μ V)) | Cable Loss (dB) | Amp Gain (dB) | Antenna Factor (dB) | DCCF (dB) | Result (dB(μ V/m)) | Limit (dB(μ V/m)) | Margin (dB) |
|--|---------------|---------------------------|-----------------------|---------------------|---------------------------|--------------|----------------------------|---------------------------|----------------|
| Peak data | | | | | | | | | |
| 1 343.67 ¹⁾ | H | 47.88 | 2.80 | -36.71 | 25.17 | - | 39.15 | 74.00 | 34.85 |
| 2 483.82 ¹⁾ | H | 47.41 | 3.77 | -30.29 | 28.72 | - | 49.61 | 74.00 | 24.39 |
| 4 934.14 ¹⁾ | H | 60.66 | 5.43 | -60.90 | 32.87 | - | 38.06 | 74.00 | 35.94 |
| 7 401.86 ¹⁾ | V | 60.85 | 6.79 | -61.73 | 36.10 | - | 42.01 | 74.00 | 31.99 |
| Average Data | | | | | | | | | |
| No spurious emissions were detected within 20 dB of the limit. | | | | | | | | | |

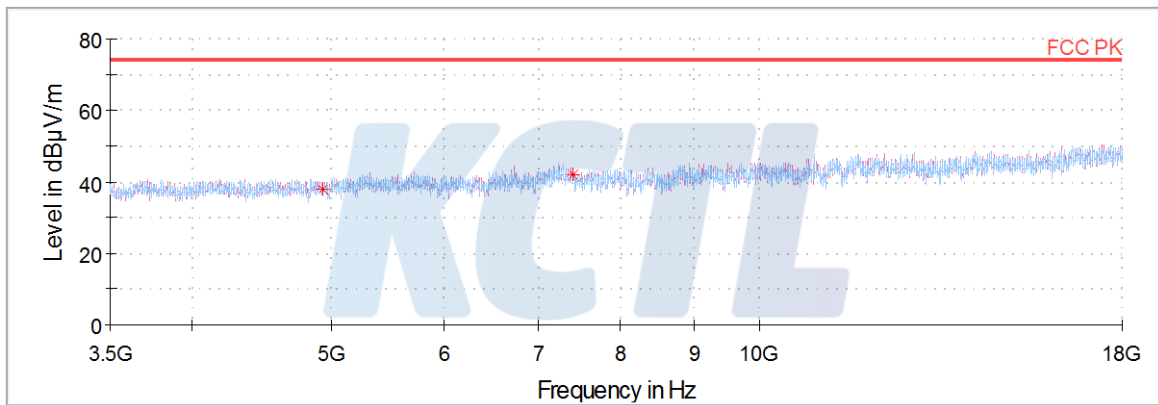
Horizontal/Vertical for Band-edge



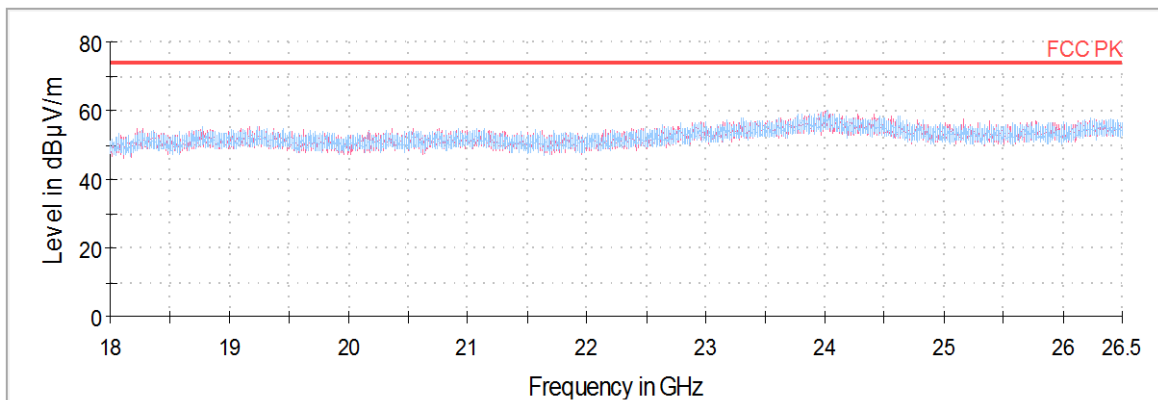
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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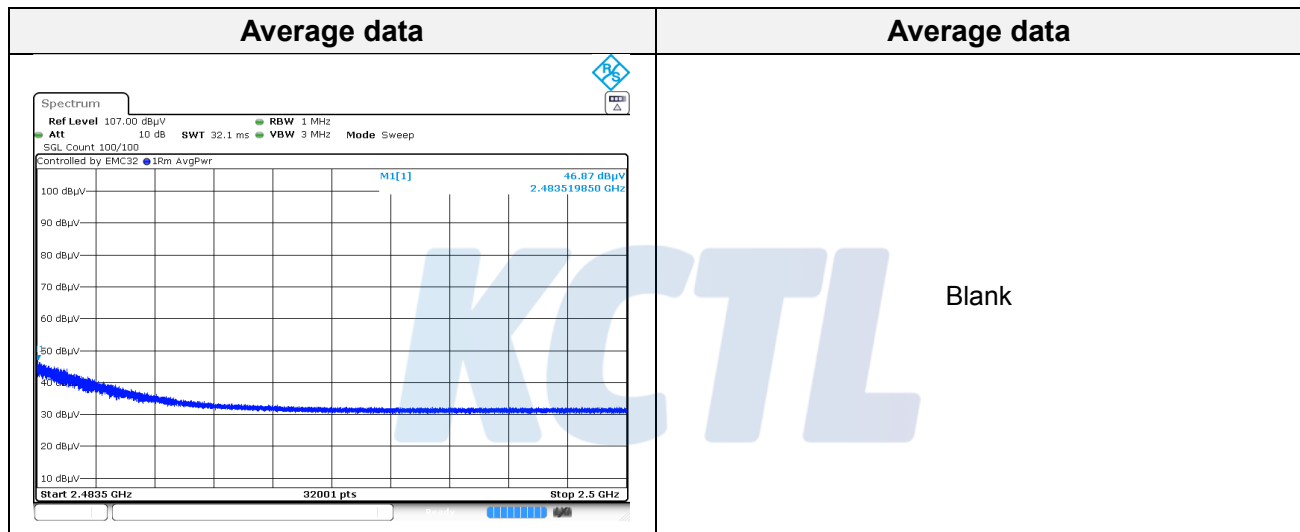
Report No.:
KR19-SRF0025-A

Page (51) of (74)

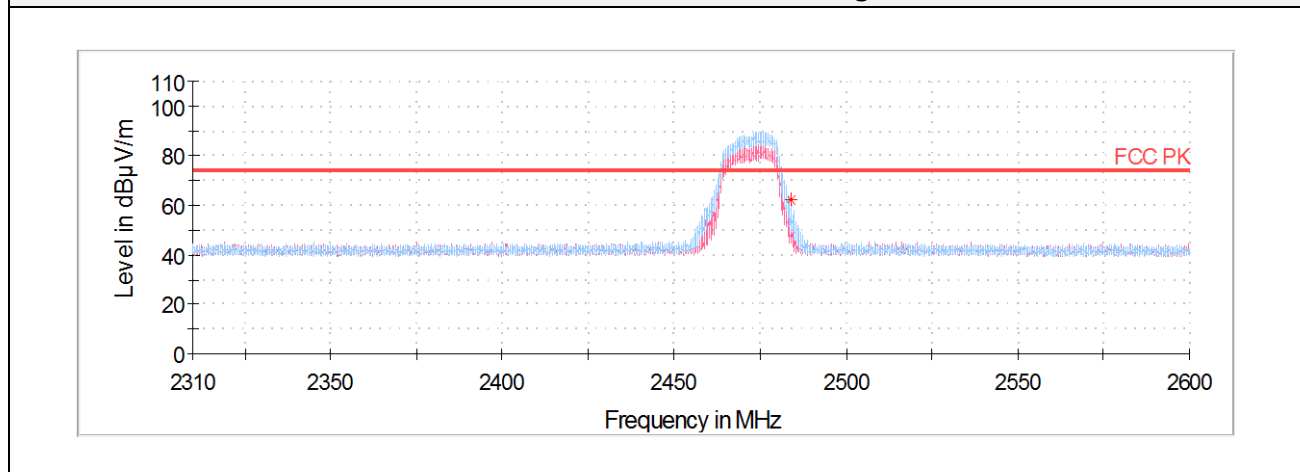


13 Channel

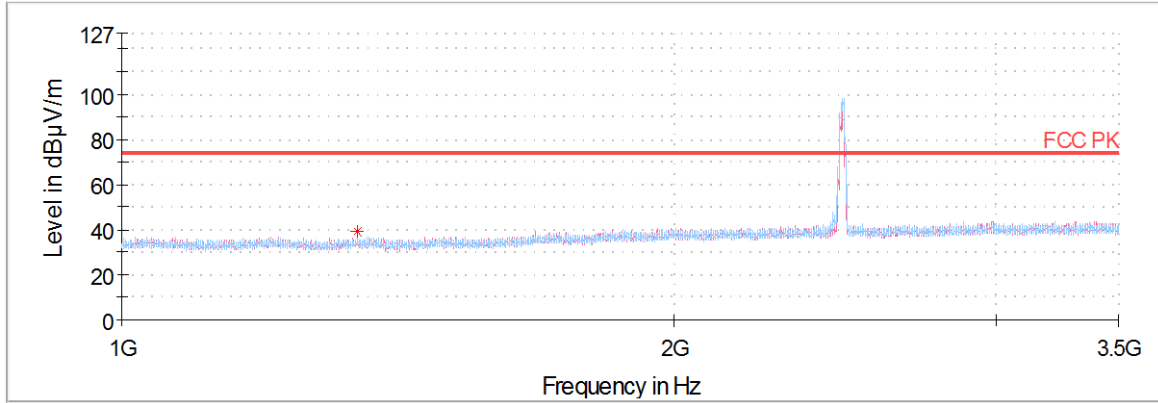
| Frequency | Pol. | Reading | Cable Loss | Amp Gain | Antenna Factor | DCCF | Result | Limit | Margin |
|------------------------|-------|----------|------------|----------|----------------|------|------------|------------|--------|
| (MHz) | (V/H) | (dB(μV)) | (dB) | (dB) | (dB) | (dB) | (dB(μV/m)) | (dB(μV/m)) | (dB) |
| Peak data | | | | | | | | | |
| 1 344.22 ¹⁾ | H | 47.84 | 2.80 | -36.72 | 25.18 | - | 39.11 | 74.00 | 34.89 |
| 2 483.80 ¹⁾ | H | 60.13 | 3.77 | -30.29 | 28.72 | - | 62.33 | 74.00 | 11.67 |
| 4 944.11 ¹⁾ | H | 62.06 | 5.43 | -60.82 | 32.87 | - | 39.54 | 74.00 | 34.46 |
| 7 416.36 ¹⁾ | V | 59.69 | 6.80 | -61.76 | 36.12 | - | 40.85 | 74.00 | 33.15 |
| Average Data | | | | | | | | | |
| 2 483.80 ¹⁾ | H | 46.87 | 3.77 | -30.29 | 28.72 | 0.37 | 49.44 | 54.00 | 4.56 |



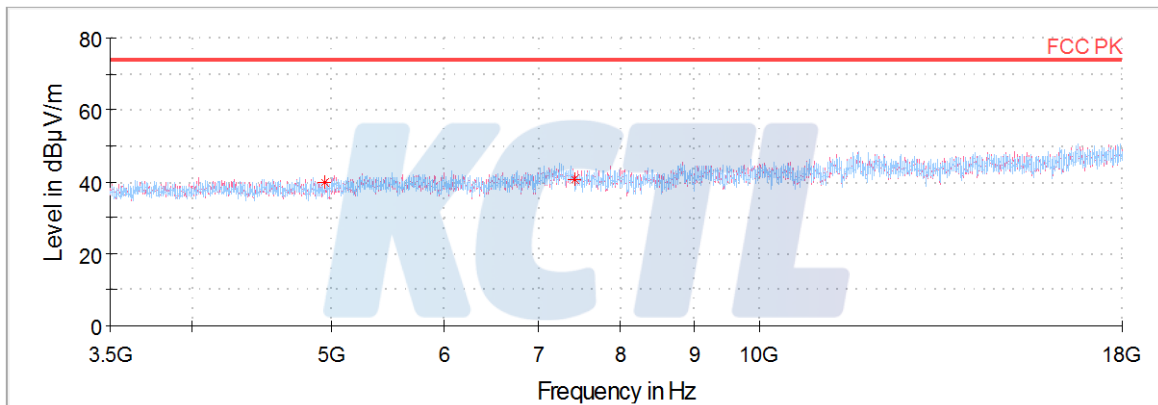
Horizontal/Vertical for Band-edge



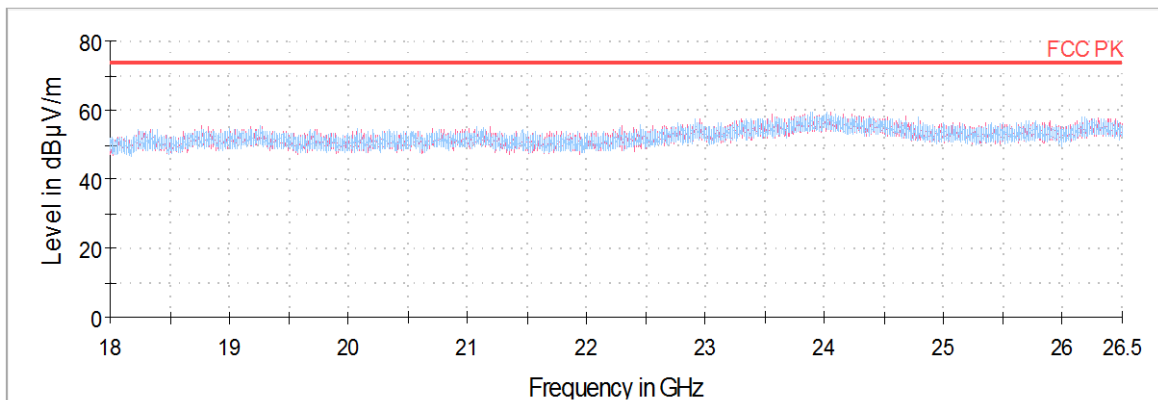
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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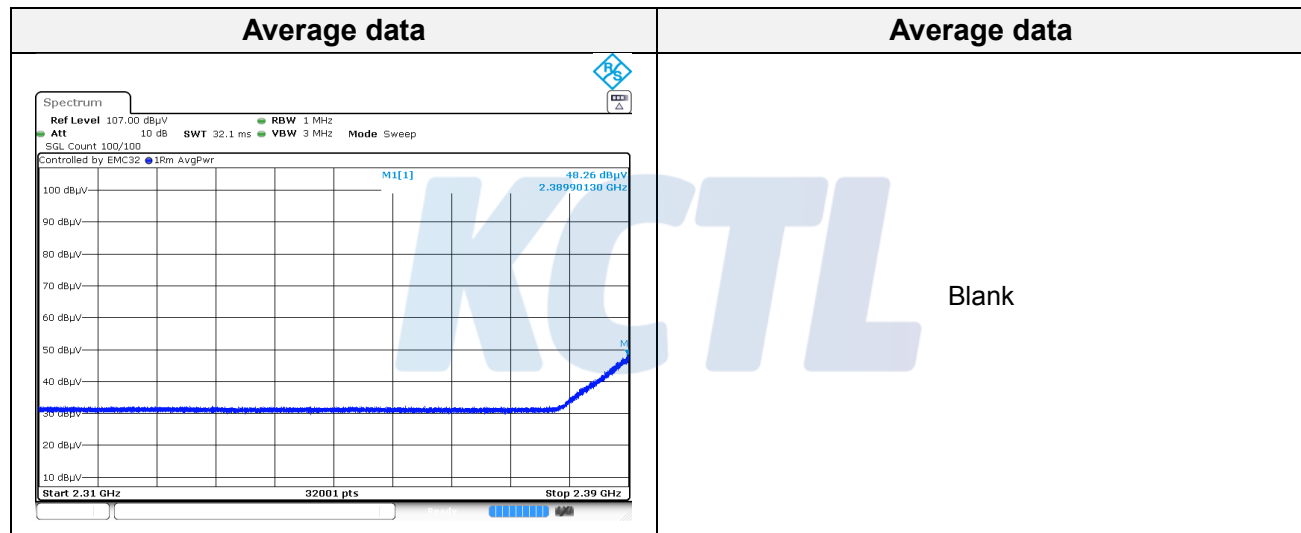
Page (53) of (74)



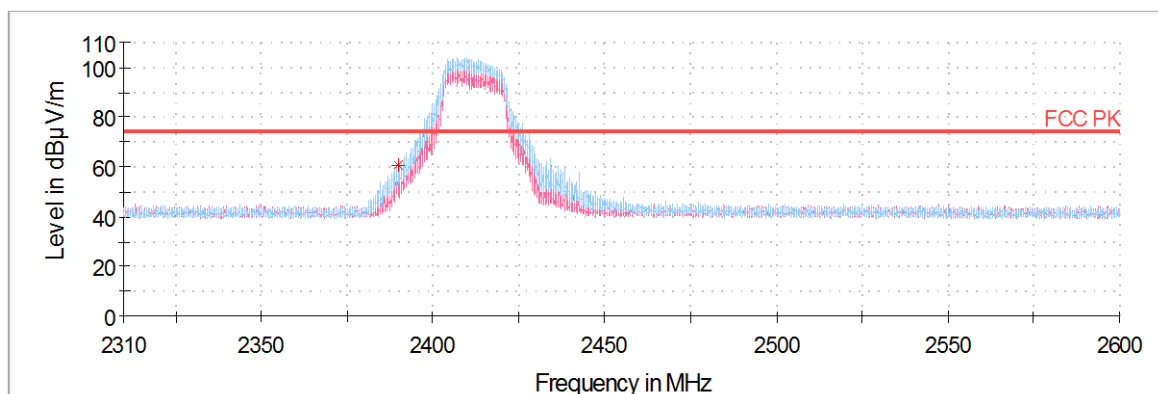
802.11n20

1 Channel

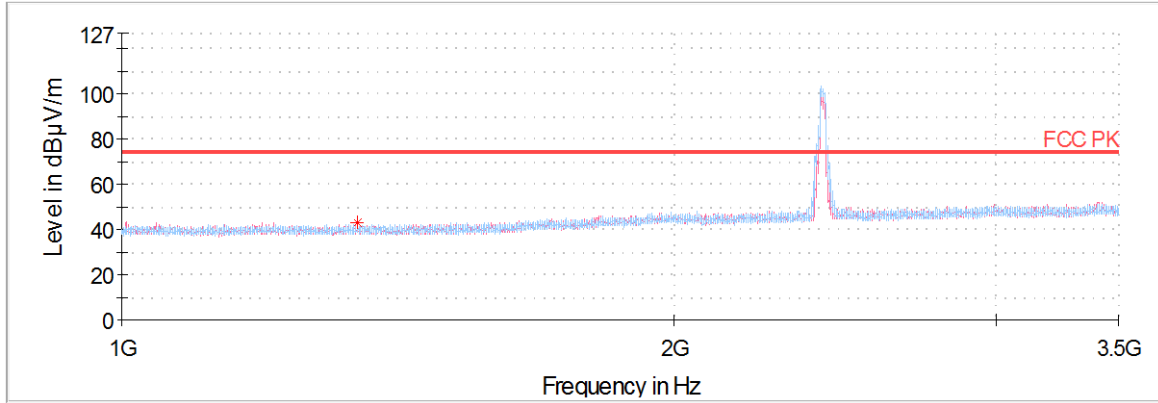
| Frequency | Pol. | Reading | Cable Loss | Amp Gain | Antenna Factor | DCCF | Result | Limit | Margin |
|------------------------|-------|----------|------------|----------|----------------|------|------------|------------|--------|
| (MHz) | (V/H) | (dB(μV)) | (dB) | (dB) | (dB) | (dB) | (dB(μV/m)) | (dB(μV/m)) | (dB) |
| Peak data | | | | | | | | | |
| 1 344.06 ¹⁾ | H | 51.45 | 2.80 | -36.72 | 25.18 | - | 42.72 | 74.00 | 31.28 |
| 2 389.90 ¹⁾ | H | 58.52 | 3.70 | -30.01 | 28.54 | - | 60.74 | 74.00 | 13.26 |
| 4 824.48 ¹⁾ | V | 58.52 | 5.35 | -60.89 | 32.81 | - | 35.79 | 74.00 | 38.21 |
| 7 236.47 | V | 62.08 | 6.72 | -61.42 | 35.94 | - | 43.32 | 74.00 | 30.68 |
| Average Data | | | | | | | | | |
| 2 389.90 ¹⁾ | H | 48.26 | 3.70 | -30.01 | 28.54 | 0.44 | 50.92 | 54.00 | 3.08 |



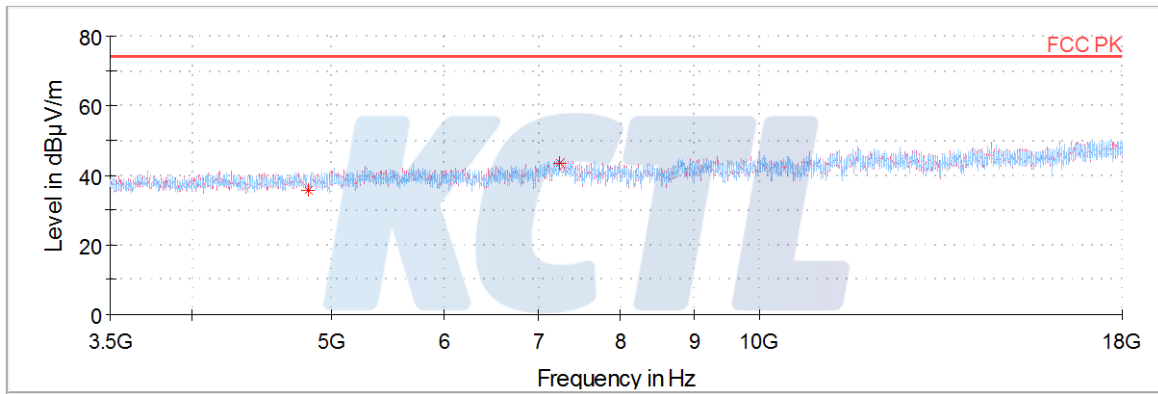
Horizontal/Vertical for Band-edge



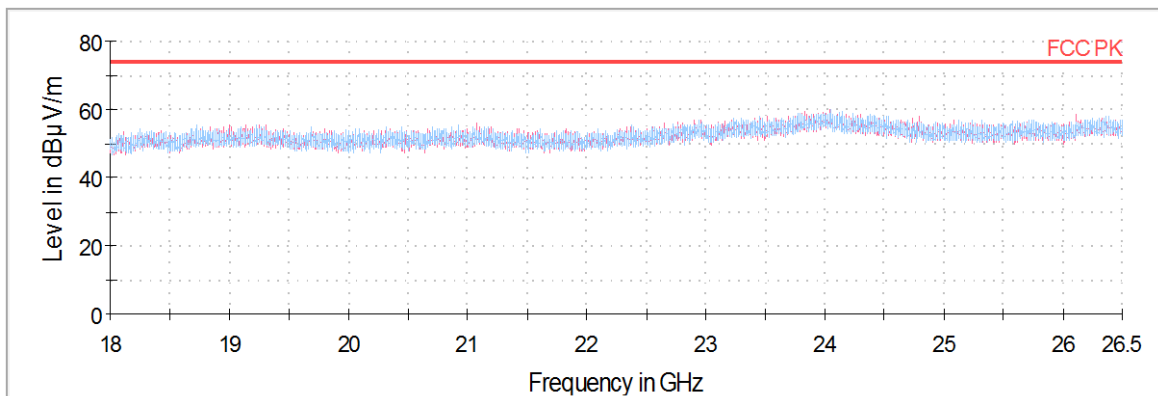
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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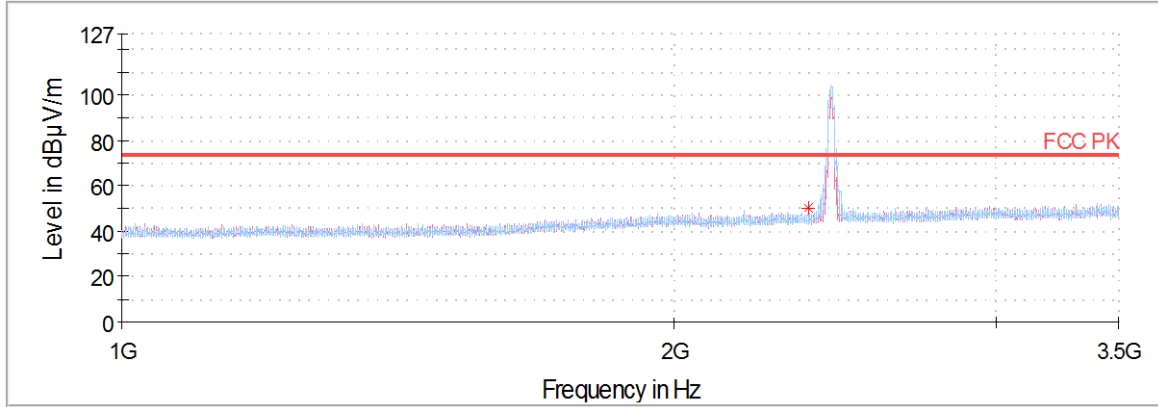
Page (55) of (74)

**6 Channel**

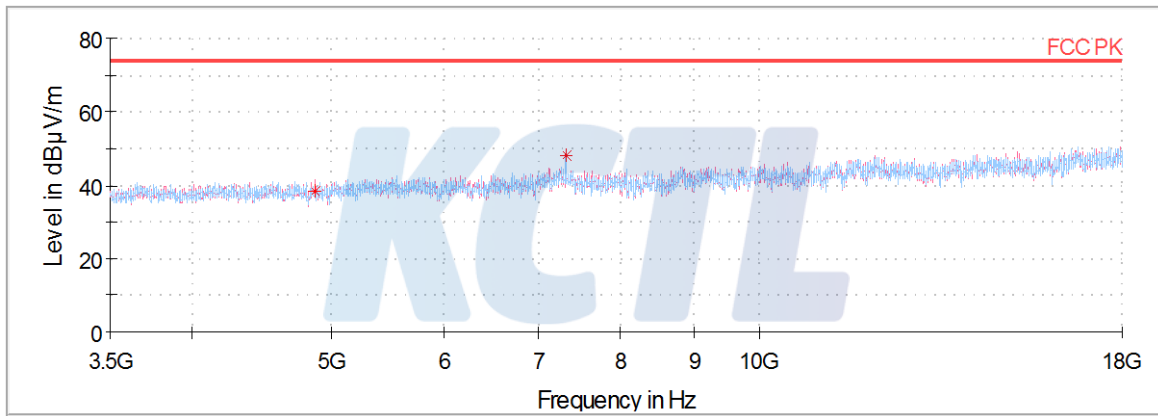
| Frequency (MHz) | Pol. (V/H) | Reading (dB(μ V)) | Cable Loss (dB) | Amp Gain (dB) | Antenna Factor (dB) | DCCF (dB) | Result (dB(μ V/m)) | Limit (dB(μ V/m)) | Margin (dB) |
|--|---------------|---------------------------|-----------------------|---------------------|---------------------------|--------------|----------------------------|---------------------------|----------------|
| Peak data | | | | | | | | | |
| 2 367.50 ¹⁾ | H | 54.49 | 3.69 | -36.29 | 28.50 | - | 50.39 | 74.00 | 23.61 |
| 4 874.78 ¹⁾ | H | 61.18 | 5.39 | -61.05 | 32.84 | - | 38.36 | 74.00 | 35.64 |
| 7 319.84 ¹⁾ | V | 66.97 | 6.76 | -61.58 | 36.02 | - | 48.18 | 74.00 | 25.82 |
| Average Data | | | | | | | | | |
| No spurious emissions were detected within 20 dB of the limit. | | | | | | | | | |



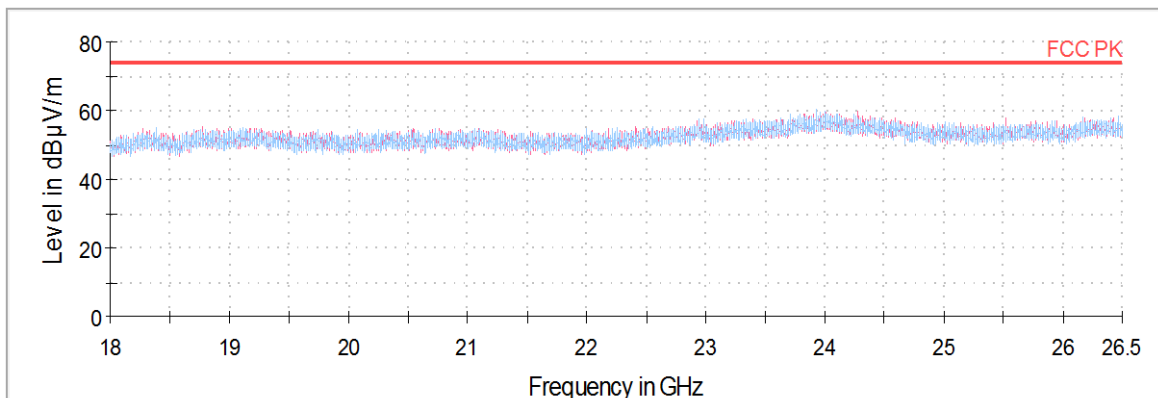
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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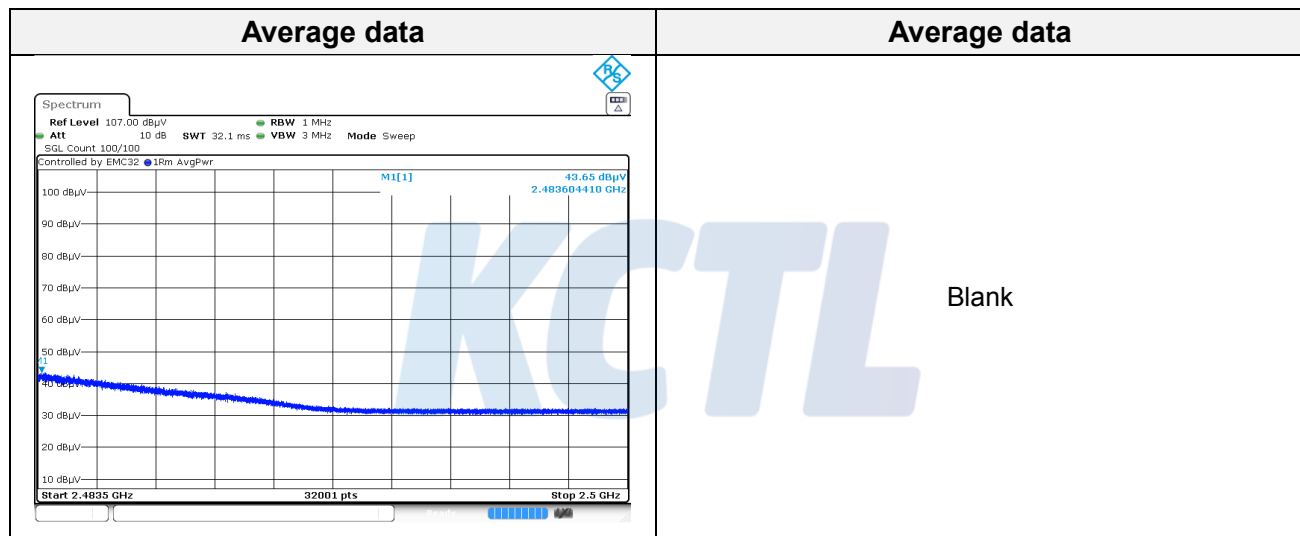
Report No.:
KR19-SRF0025-A

Page (57) of (74)

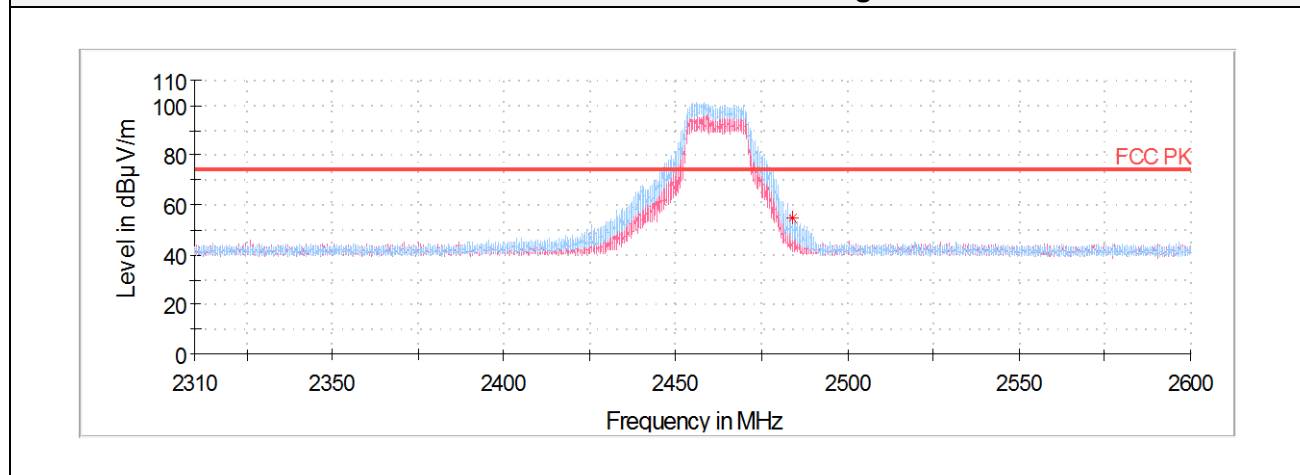


11 Channel

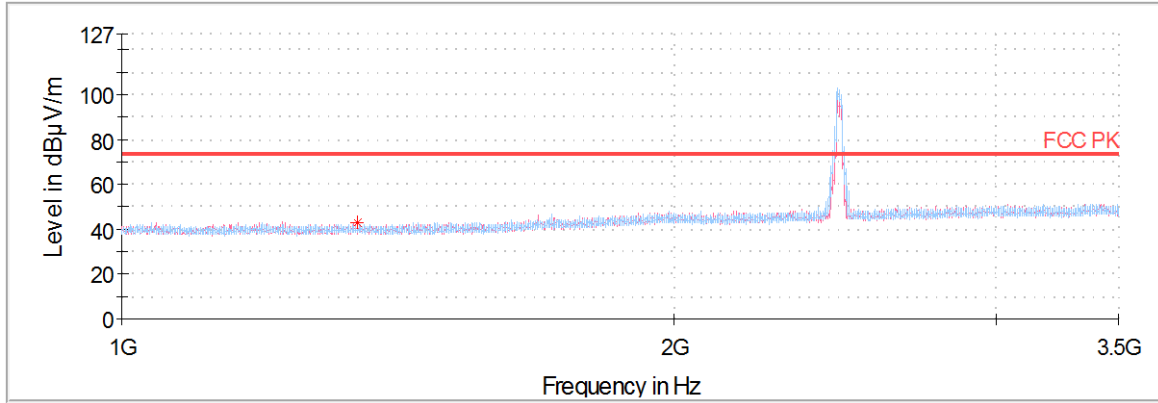
| Frequency | Pol. | Reading | Cable Loss | Amp Gain | Antenna Factor | DCCF | Result | Limit | Margin |
|------------------------|-------|----------|------------|----------|----------------|------|------------|------------|--------|
| (MHz) | (V/H) | (dB(μV)) | (dB) | (dB) | (dB) | (dB) | (dB(μV/m)) | (dB(μV/m)) | (dB) |
| Peak data | | | | | | | | | |
| 1 344.30 ¹⁾ | H | 51.68 | 2.80 | -36.72 | 25.18 | - | 42.95 | 74.00 | 31.05 |
| 2 483.82 ¹⁾ | H | 52.59 | 3.77 | -30.29 | 28.72 | - | 54.79 | 74.00 | 19.21 |
| 4 924.17 ¹⁾ | V | 62.24 | 5.42 | -60.96 | 32.86 | - | 39.57 | 74.00 | 34.43 |
| 7 387.81 ¹⁾ | H | 65.06 | 6.79 | -61.71 | 36.09 | - | 46.23 | 74.00 | 27.77 |
| Average Data | | | | | | | | | |
| 2 483.82 ¹⁾ | H | 43.65 | 3.77 | -30.29 | 28.72 | 0.44 | 46.29 | 54.00 | 7.71 |



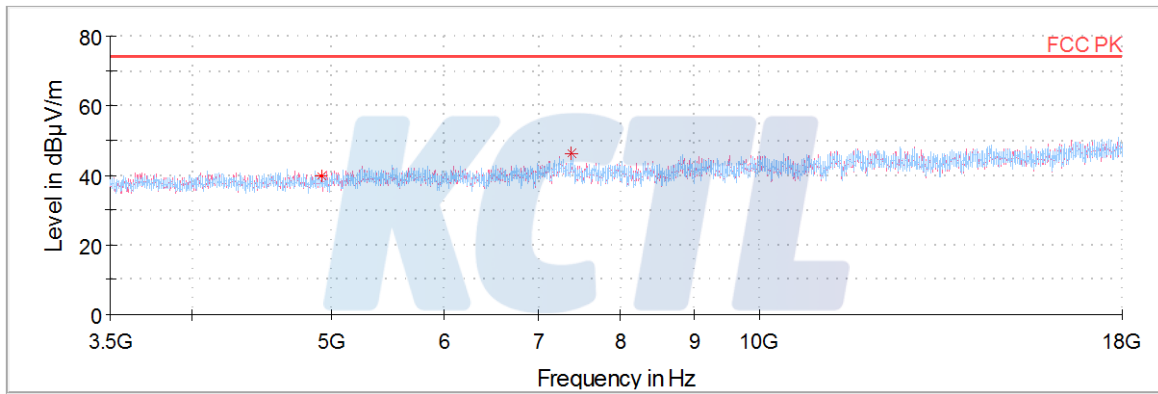
Horizontal/Vertical for Band-edge



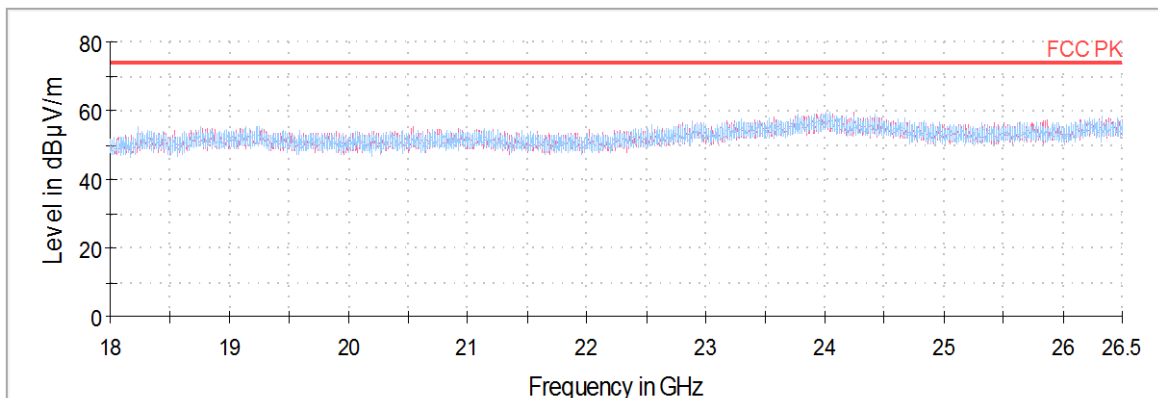
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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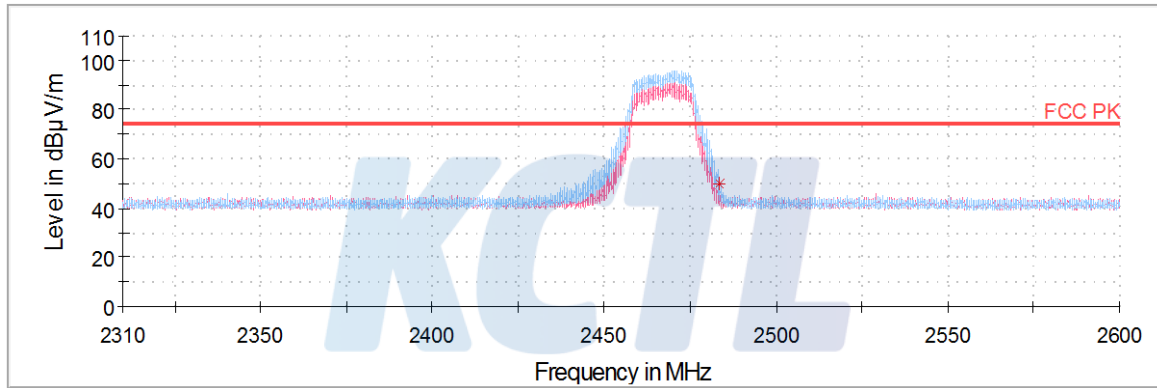
Page (59) of (74)



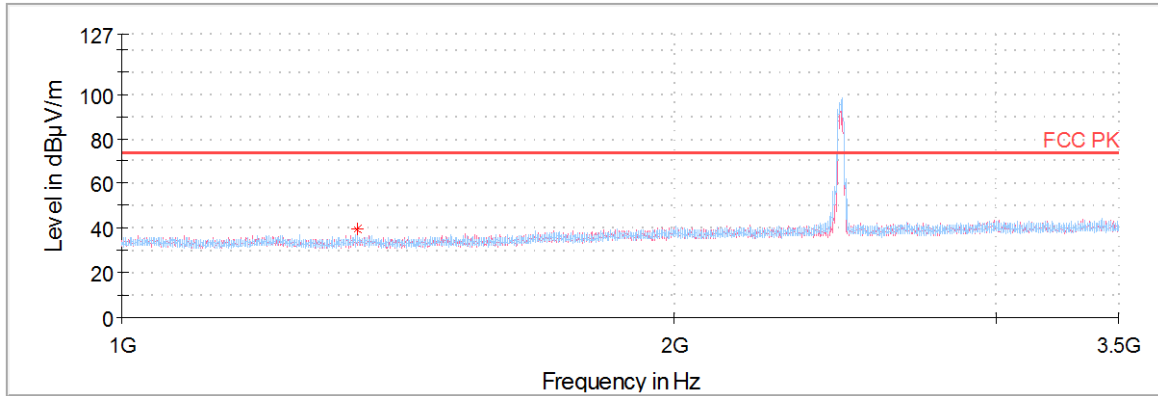
12 Channel

| Frequency (MHz) | Pol. (V/H) | Reading (dB(μ V)) | Cable Loss (dB) | Amp Gain (dB) | Antenna Factor (dB) | DCCF (dB) | Result (dB(μ V/m)) | Limit (dB(μ V/m)) | Margin (dB) |
|--|---------------|---------------------------|-----------------------|---------------------|---------------------------|--------------|----------------------------|---------------------------|----------------|
| Peak data | | | | | | | | | |
| 1 343.75 ¹⁾ | H | 48.44 | 2.80 | -36.72 | 25.18 | - | 39.70 | 74.00 | 34.30 |
| 2 483.53 ¹⁾ | H | 47.85 | 3.77 | -30.29 | 28.72 | - | 50.06 | 74.00 | 23.94 |
| 4 934.14 ¹⁾ | H | 60.89 | 5.43 | -60.90 | 32.87 | - | 38.29 | 74.00 | 35.71 |
| 7 401.41 ¹⁾ | V | 60.52 | 6.79 | -61.73 | 36.10 | - | 41.68 | 74.00 | 32.32 |
| Average Data | | | | | | | | | |
| No spurious emissions were detected within 20 dB of the limit. | | | | | | | | | |

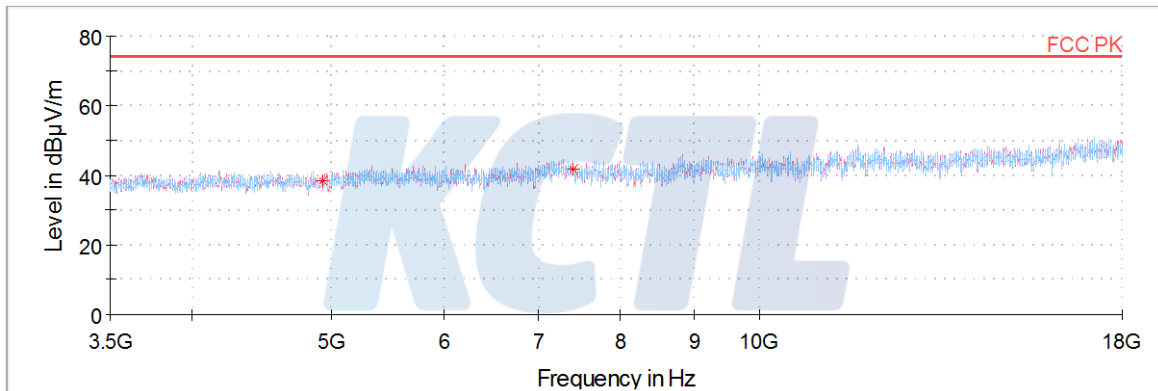
Horizontal/Vertical for Band-edge



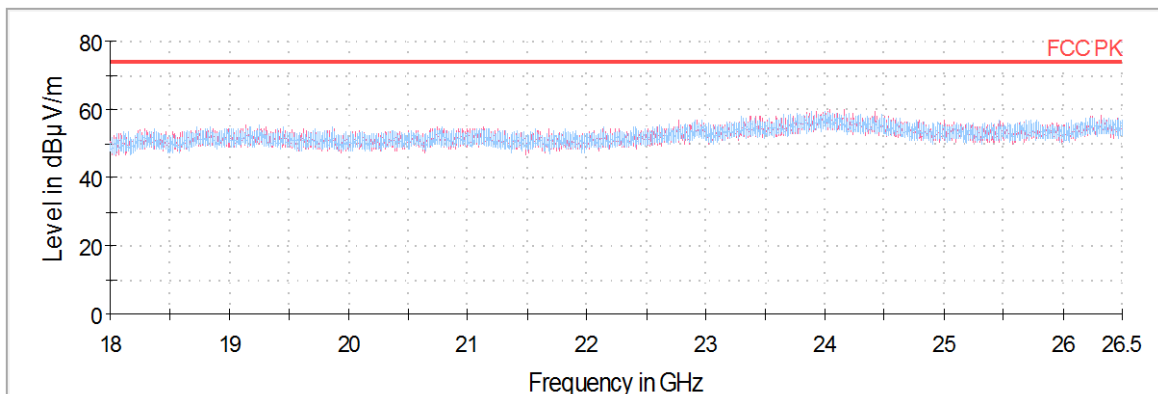
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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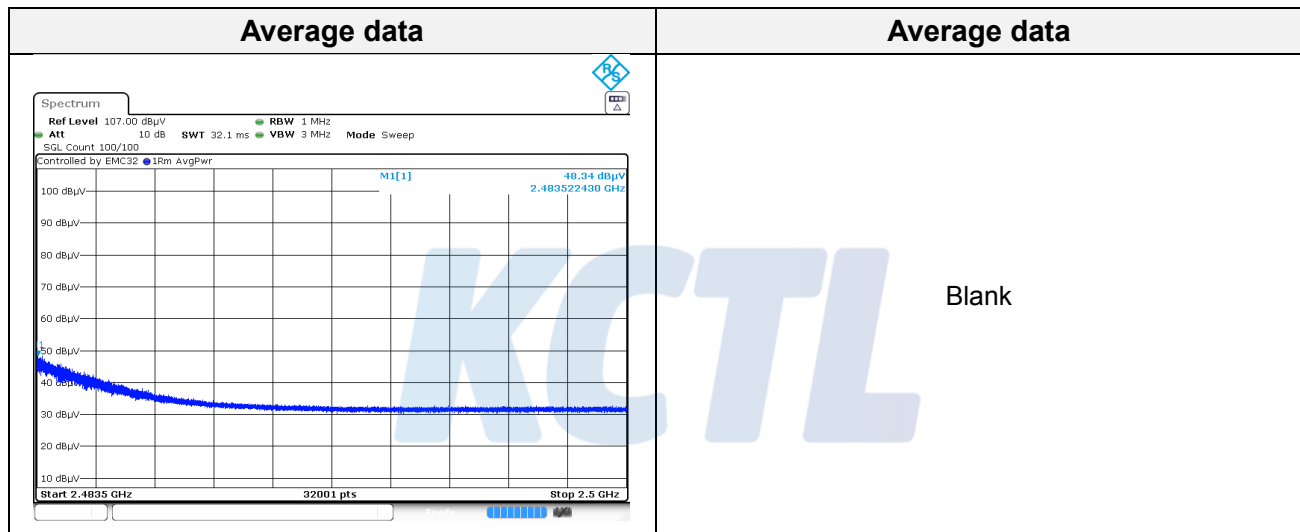
Report No.:
KR19-SRF0025-A

Page (61) of (74)

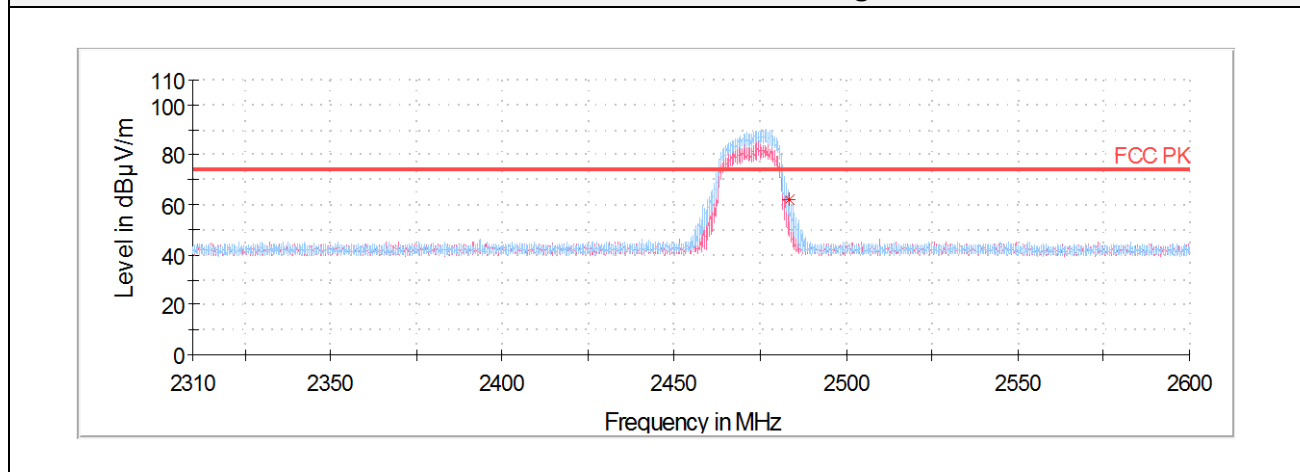


13 Channel

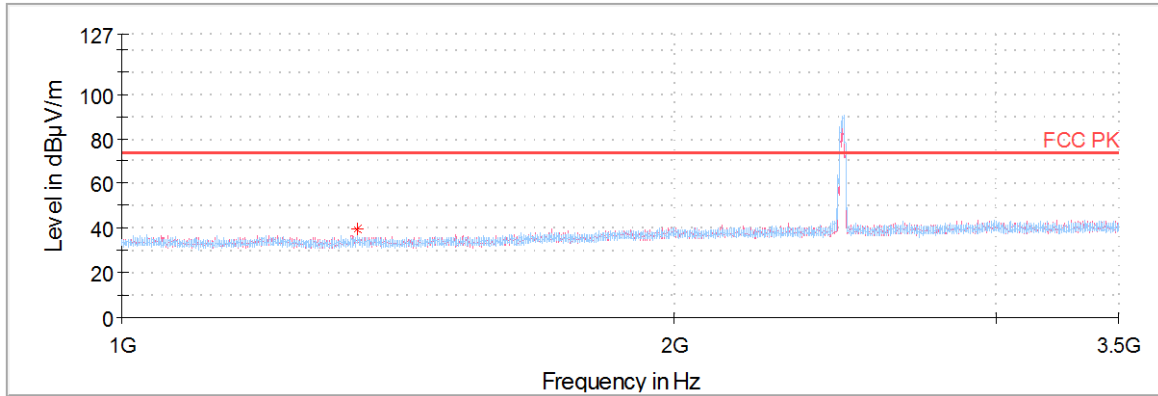
| Frequency | Pol. | Reading | Cable Loss | Amp Gain | Antenna Factor | DCCF | Result | Limit | Margin |
|------------------------|-------|----------|------------|----------|----------------|------|------------|------------|--------|
| (MHz) | (V/H) | (dB(μV)) | (dB) | (dB) | (dB) | (dB) | (dB(μV/m)) | (dB(μV/m)) | (dB) |
| Peak data | | | | | | | | | |
| 1 344.14 ¹⁾ | H | 47.92 | 2.80 | -36.72 | 25.18 | - | 39.19 | 74.00 | 34.81 |
| 2 483.65 ¹⁾ | H | 59.58 | 3.77 | -30.29 | 28.72 | - | 61.79 | 74.00 | 12.21 |
| 4 944.56 ¹⁾ | H | 61.95 | 5.43 | -60.82 | 32.87 | - | 39.44 | 74.00 | 34.56 |
| 7 416.81 ¹⁾ | H | 60.86 | 6.80 | -61.76 | 36.12 | - | 42.02 | 74.00 | 31.98 |
| Average Data | | | | | | | | | |
| 2 483.65 ¹⁾ | H | 48.34 | 3.77 | -30.29 | 28.72 | 0.44 | 50.98 | 54.00 | 3.02 |



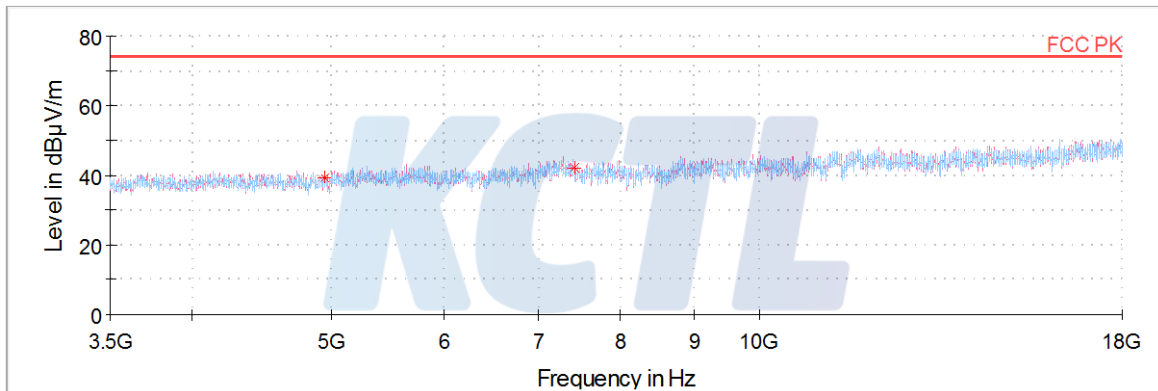
Horizontal/Vertical for Band-edge



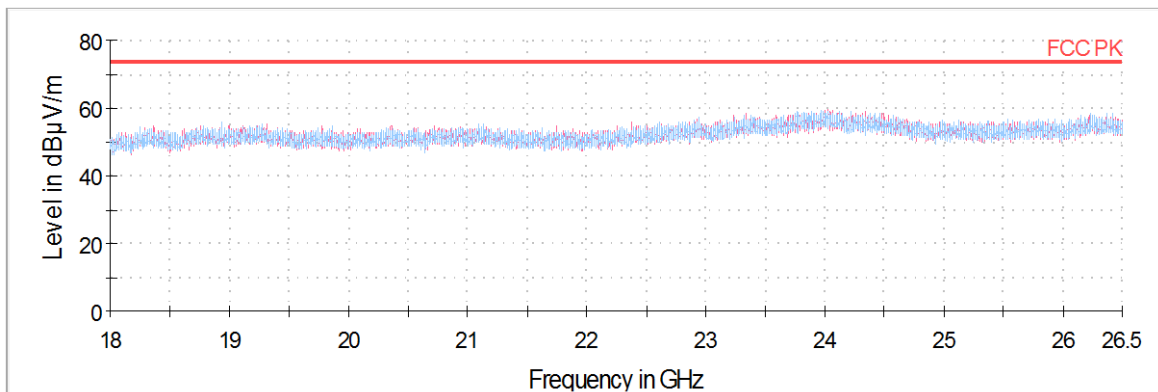
Horizontal/Vertical for 1 GHz ~ 3.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 26.5 GHz



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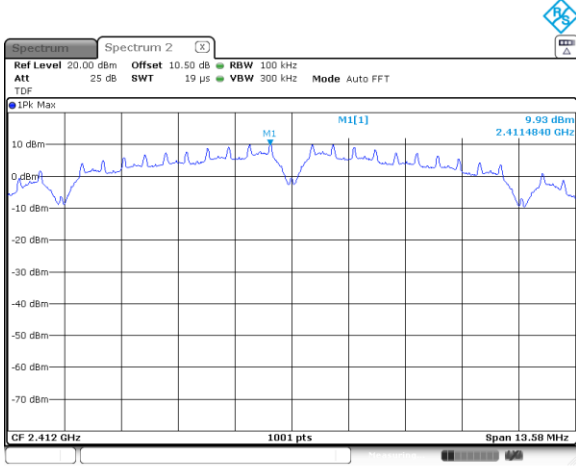
Page (63) of (74)



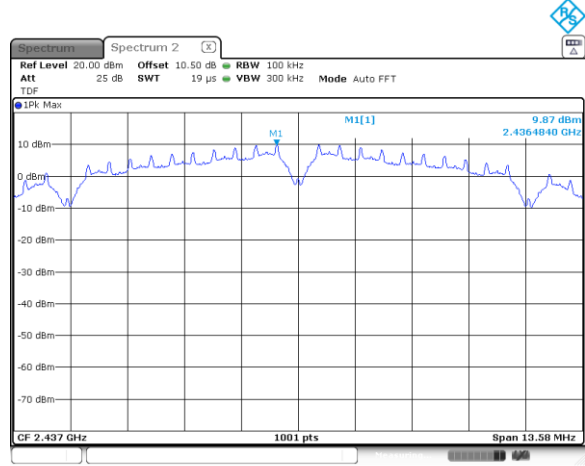
Test results

802.11b

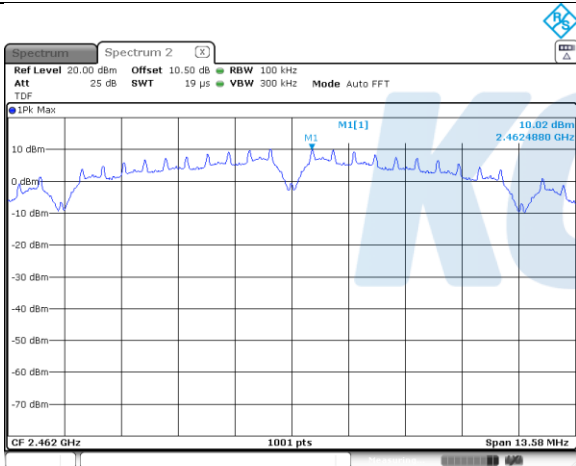
Reference



2 412 MHz



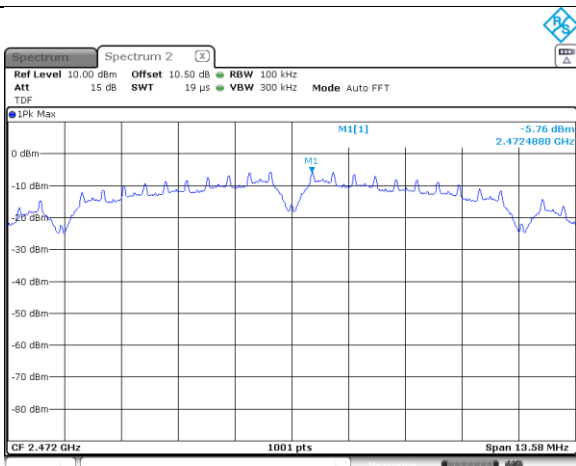
2 437 MHz



2 462 MHz



2 467 MHz



2 472 MHz

Blank

KCTL Inc.

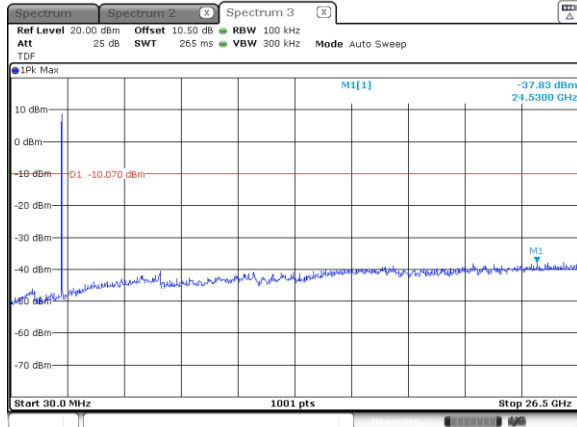
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Report No.:
KR19-SRF0025-A

Page (64) of (74)

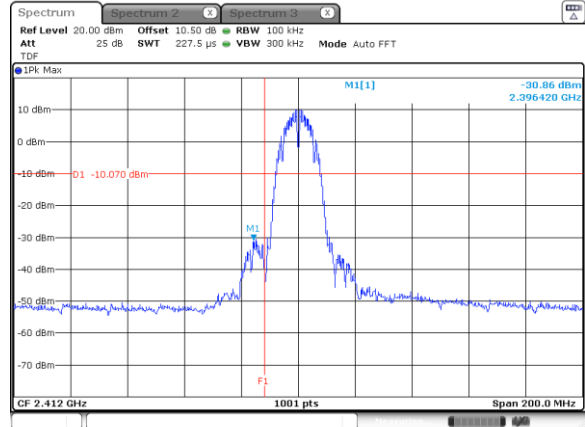


Conducted Emissions

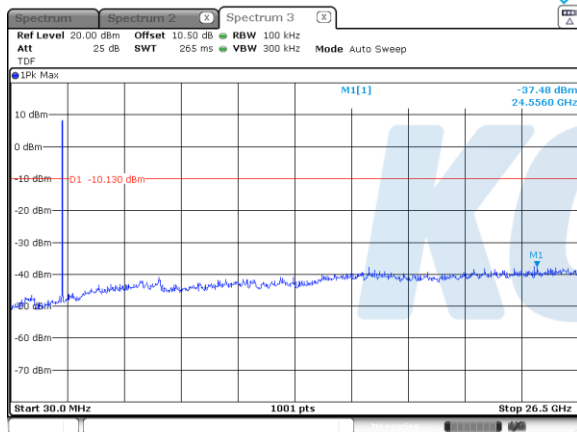


2 412 MHz

Band edge

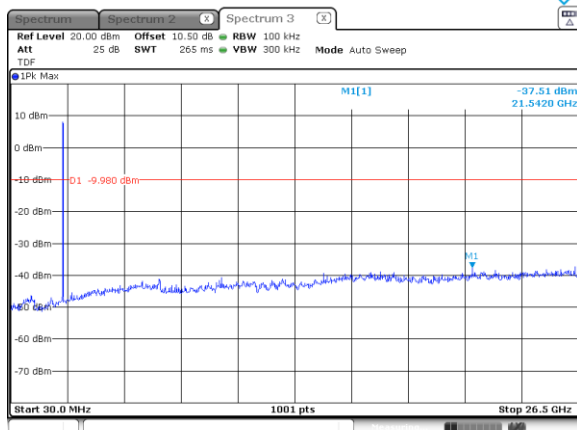


2 412 MHz

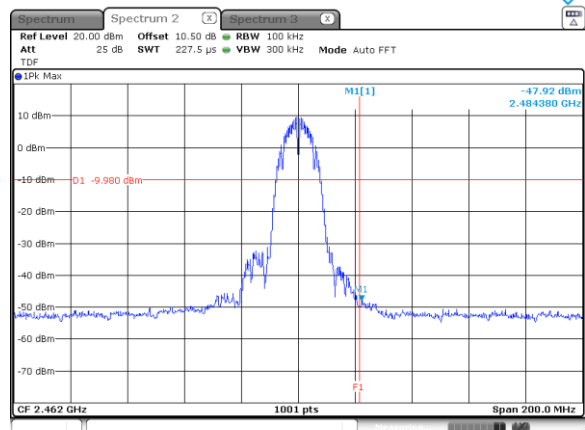


2 437 MHz

Blank



2 462 MHz



2 462 MHz

KCTL Inc.

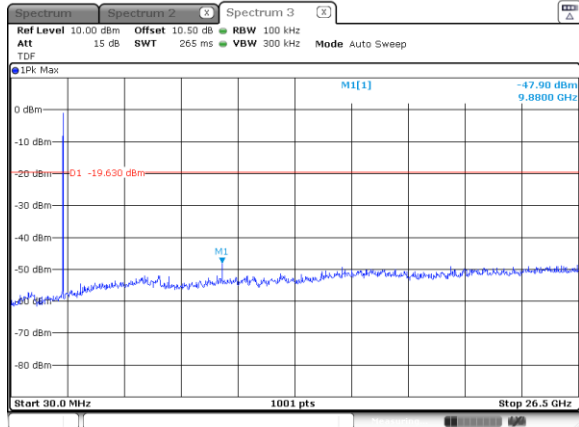
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Report No.:
KR19-SRF0025-A

Page (65) of (74)

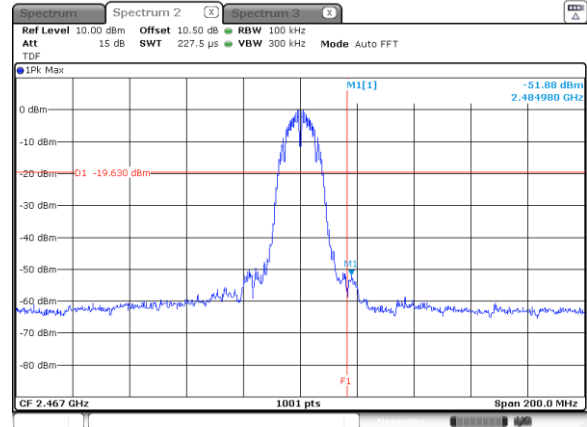


Conducted Emissions

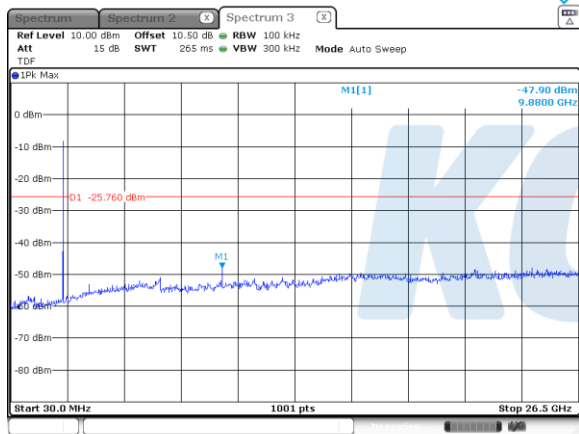


2 467 MHz

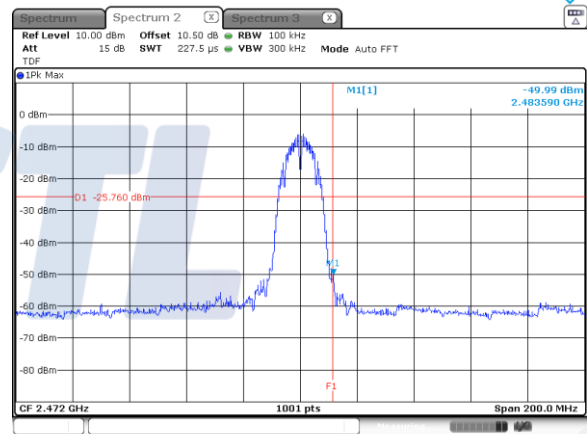
Band edge



2 467 MHz



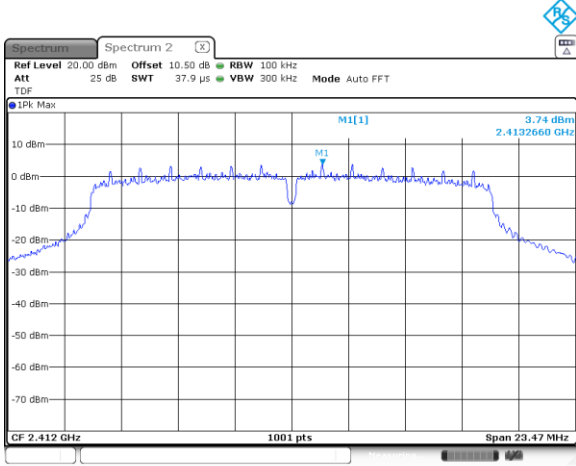
2 472 MHz



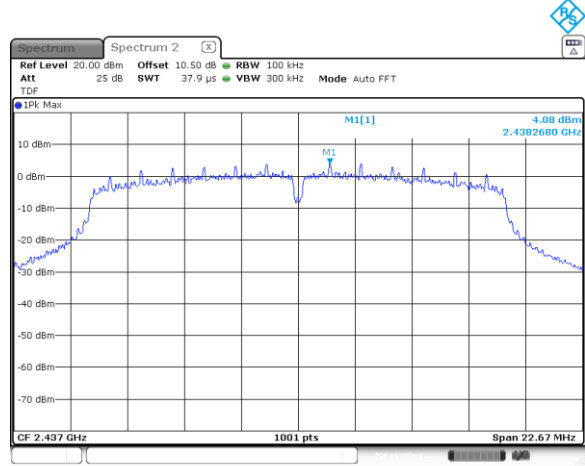
2 472 MHz

Test results
802.11g

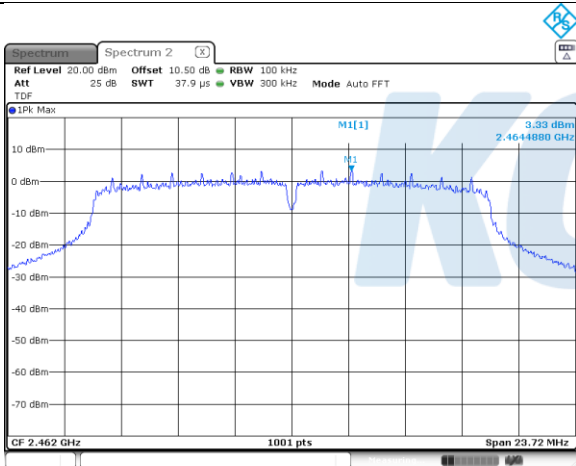
Reference



2 412 MHz



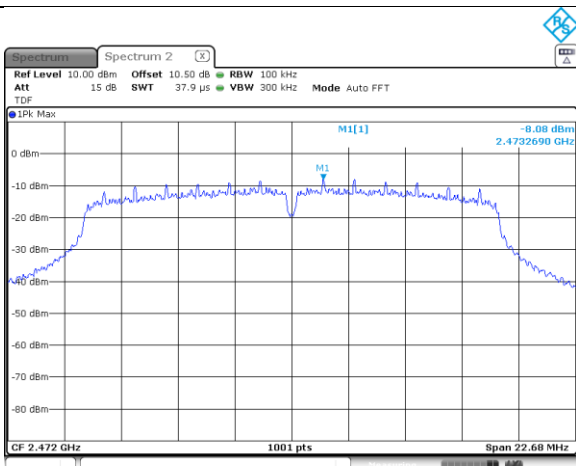
2 437 MHz



2 462 MHz



2 467 MHz



2 472 MHz

Blank

KCTL Inc.

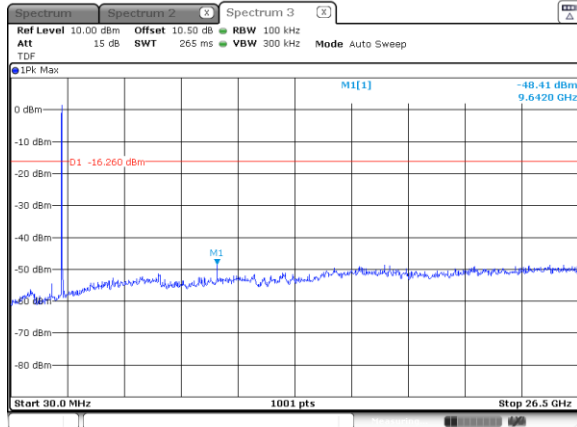
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Report No.:
KR19-SRF0025-A

Page (67) of (74)

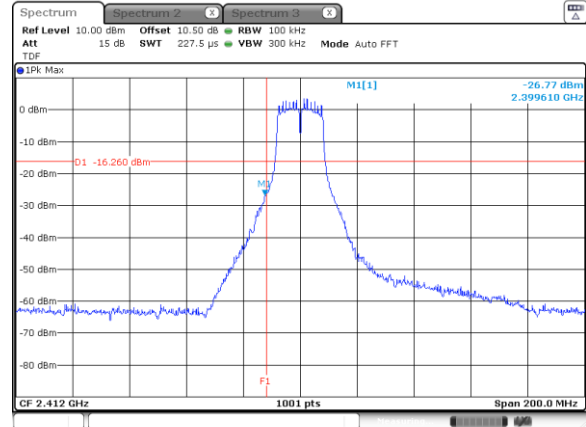


Conducted Emissions

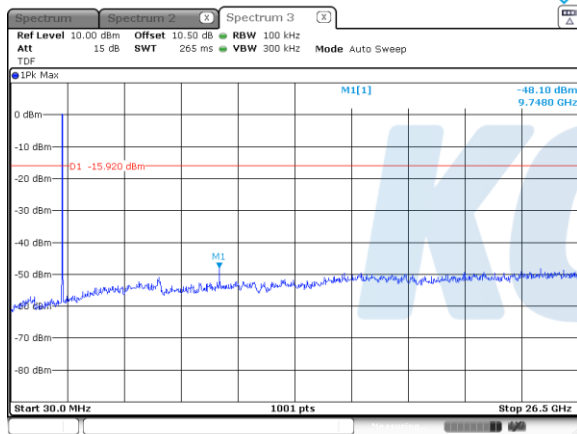


2 412 MHz

Band edge

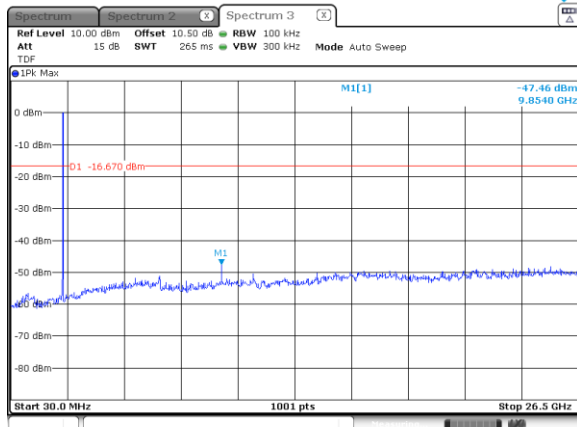


2 412 MHz

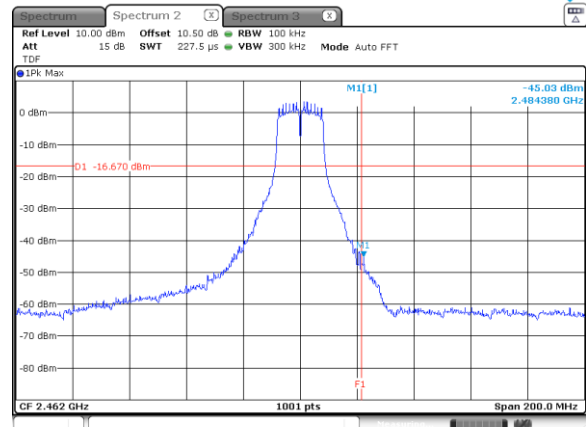


2 437 MHz

Blank



2 462 MHz



2 462 MHz

KCTL Inc.

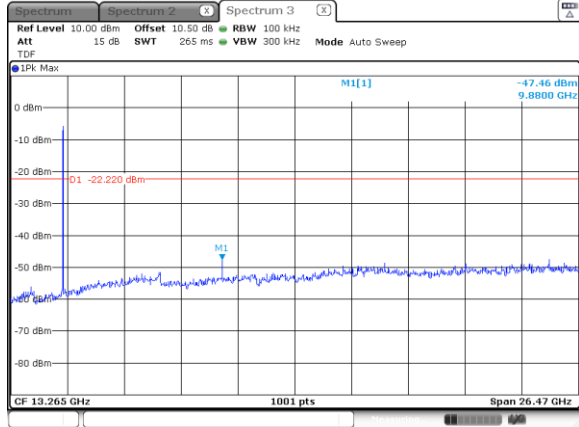
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Report No.:
KR19-SRF0025-A

Page (68) of (74)

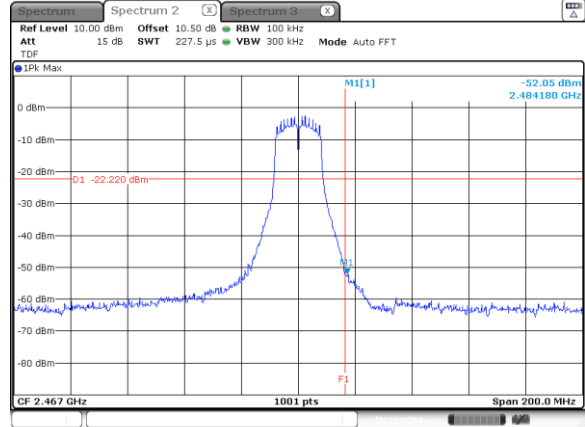


Conducted Emissions

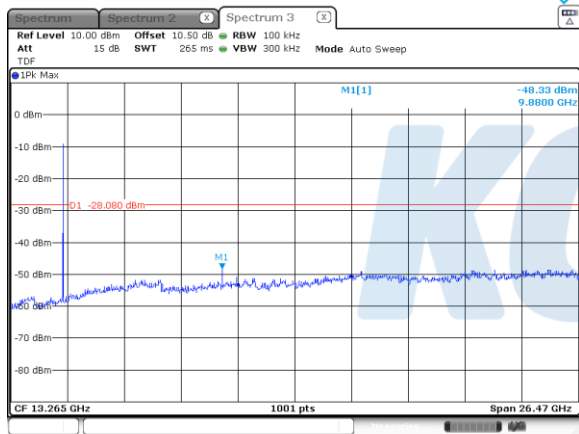


2 467 MHz

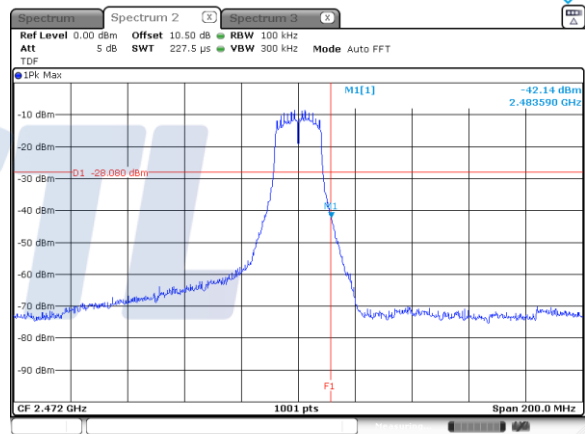
Band edge



2 467 MHz



2 472 MHz



2 472 MHz

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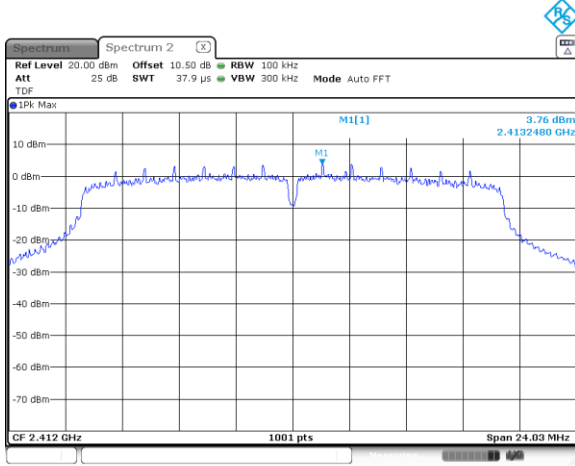
Report No.:
KR19-SRF0025-A

Page (69) of (74)

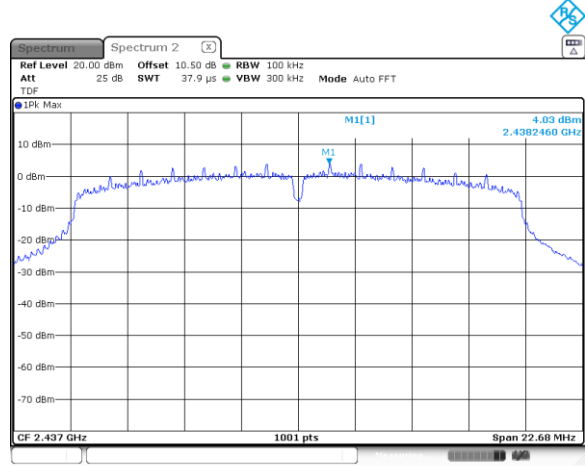


Test results 802.11n HT20

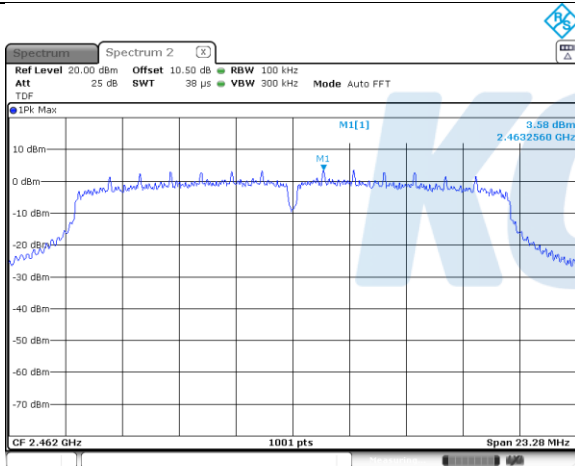
Reference



2 412 MHz



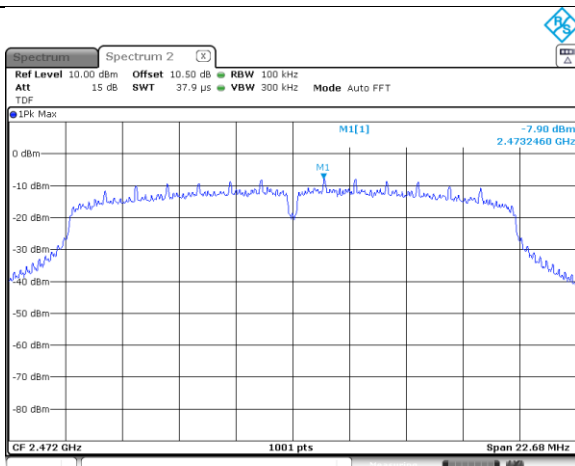
2 437 MHz



2 462 MHz



2 467 MHz



2 472 MHz

Blank

KCTL Inc.

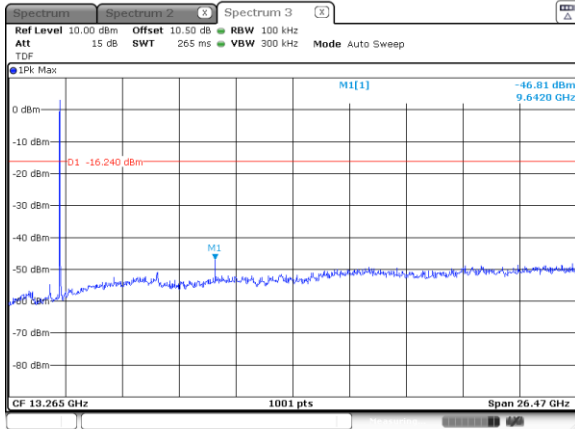
65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
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Report No.:
KR19-SRF0025-A

Page (70) of (74)

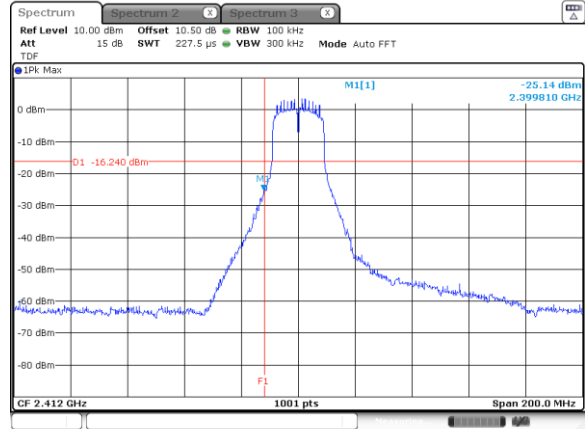


Conducted Emissions

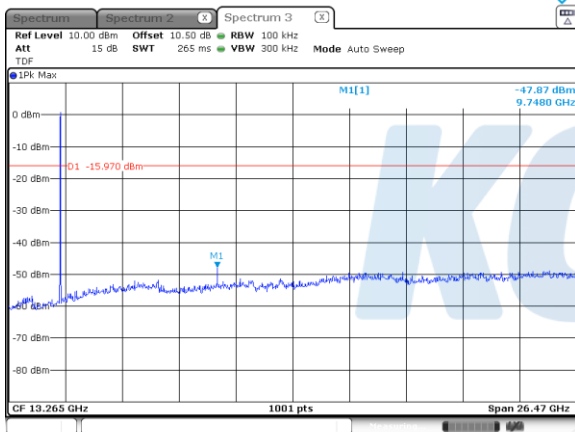


2 412 MHz

Band edge

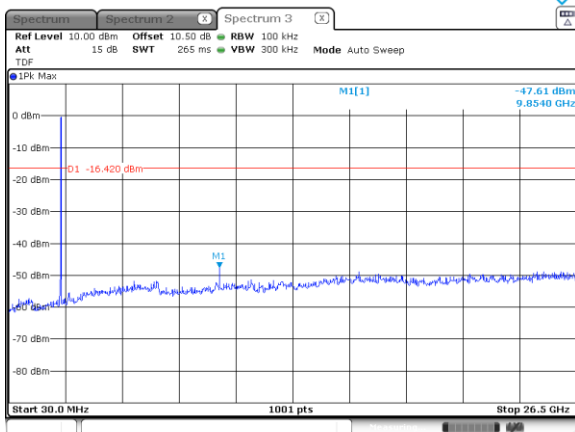


2 412 MHz

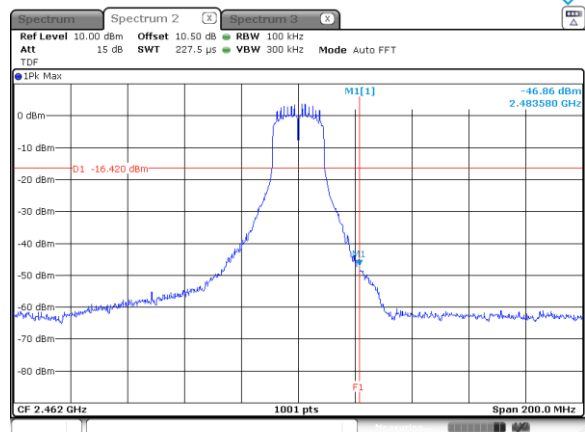


2 437 MHz

Blank



2 462 MHz



2 462 MHz

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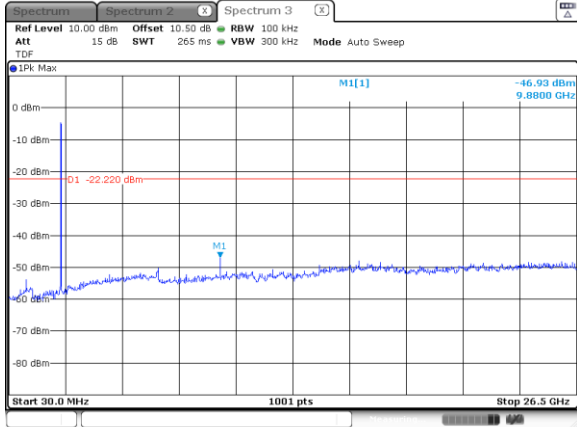
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Report No.:
KR19-SRF0025-A

Page (71) of (74)

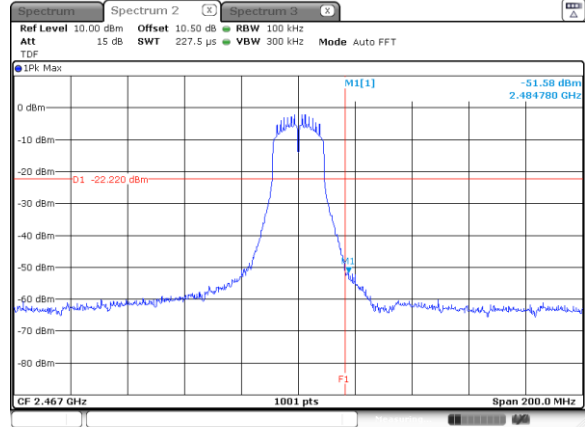


Conducted Emissions

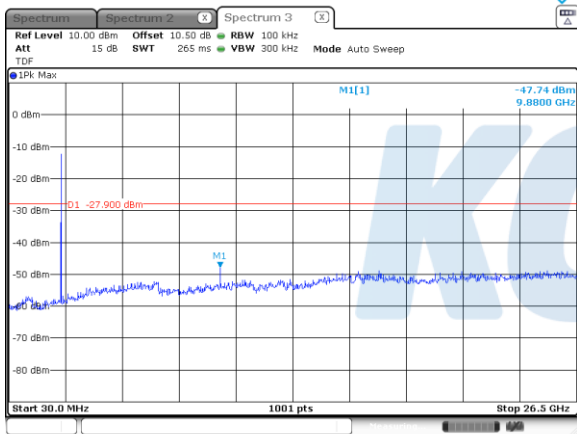


2 467 MHz

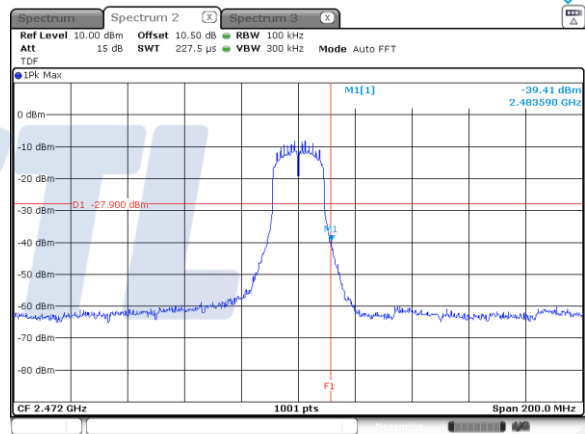
Band edge



2 467 MHz



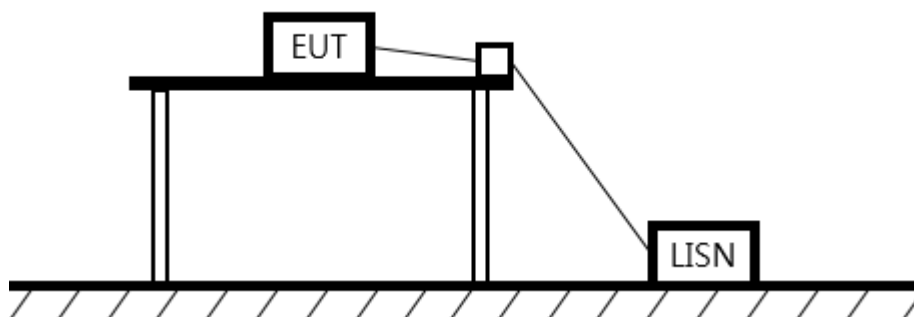
2 472 MHz



2 472 MHz

7.5. AC Conducted emission

Test setup



Limit

According to 15.207(a), for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohm line impedance stabilization network (LISN). Compliance with the provision of this paragraph shall be on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower value applies at the boundary between the frequency ranges.

| Frequency of Emission (MHz) | Conducted limit (dB μ V/m) | |
|-----------------------------|--------------------------------|----------|
| | Quasi-peak | Average |
| 0.15 – 0.50 | 66 - 56* | 56 - 46* |
| 0.50 – 5.00 | 56 | 46 |
| 5.00 – 30.0 | 60 | 50 |

Measurement procedure

1. The EUT was placed on a wooden table of size, 1 m by 1.5 m, raised 80 cm in which is located 40 cm away from the vertical wall and 1.5m away from the side wall of the shielded room.
2. Each current-carrying conductor of the EUT power cord was individually connected through a 50 Ω /50 μ H LISN, which is an input transducer to a spectrum analyzer or an EMI/Field Intensity Meter, to the input power source.
3. Exploratory measurements were made to identify the frequency of the emission that had the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable position, and with a typical system equipment configuration and arrangement. Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that had produced the emission with the highest amplitude relative to the limit was selected for the final measurement.
4. The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment in the system) was then performed over the frequency range of 0.15 MHz to 30 MHz.
5. The measurements were made with the detector set to peak amplitude within a bandwidth of 10 kHz or to quasi-peak and average within a bandwidth of 9 kHz. The EUT was in transmitting mode during the measurements.

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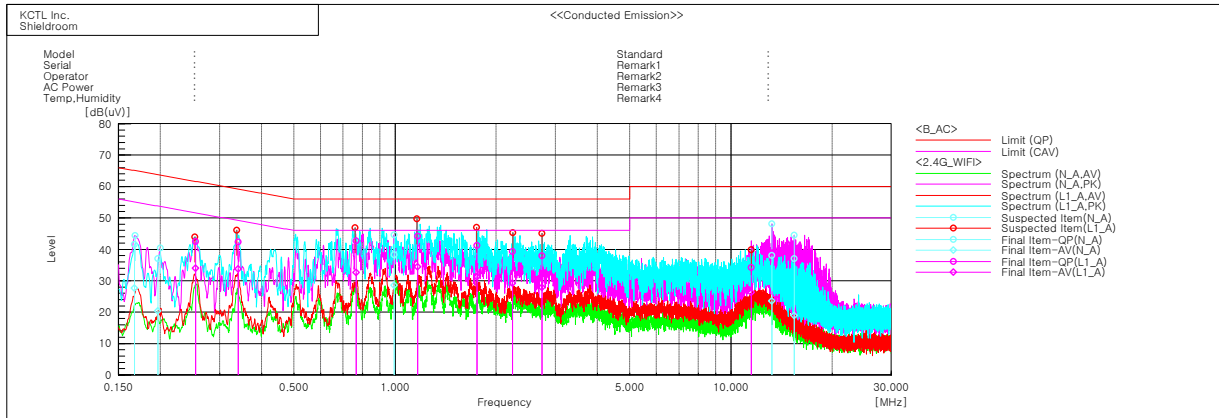
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Report No.:
KR19-SRF0025-A

Page (73) of (74)



Test results



Final Result

| --- N_A Phase --- | | | | | | | | | | |
|-------------------|-----------------|---------------------|----------------------|----------|--------------------|---------------------|-------------------|-------------------|----------------|-----------------|
| No. | Frequency [MHz] | Reading QP [dB(uV)] | Reading CAV [dB(uV)] | c.f [dB] | Result QP [dB(uV)] | Result CAV [dB(uV)] | Limit QP [dB(uV)] | Limit AV [dB(uV)] | Margin QP [dB] | Margin CAV [dB] |
| 1 | 0.16736 | 31.3 | 17.4 | 10.2 | 41.5 | 27.6 | 65.1 | 55.1 | 23.6 | 27.5 |
| 2 | 0.19643 | 26.9 | 10.2 | 10.1 | 37.0 | 20.3 | 63.8 | 53.8 | 26.8 | 33.5 |
| 3 | 0.99256 | 28.4 | 18.6 | 9.9 | 38.3 | 28.5 | 56.0 | 46.0 | 17.7 | 17.5 |
| 4 | 13.24888 | 27.5 | 13.0 | 10.5 | 38.0 | 23.5 | 60.0 | 50.0 | 22.0 | 26.5 |
| 5 | 15.43336 | 26.4 | 8.3 | 10.6 | 37.0 | 18.9 | 60.0 | 50.0 | 23.0 | 31.1 |

| --- L1_A Phase --- | | | | | | | | | | |
|--------------------|-----------------|---------------------|----------------------|----------|--------------------|---------------------|-------------------|-------------------|----------------|-----------------|
| No. | Frequency [MHz] | Reading QP [dB(uV)] | Reading CAV [dB(uV)] | c.f [dB] | Result QP [dB(uV)] | Result CAV [dB(uV)] | Limit QP [dB(uV)] | Limit AV [dB(uV)] | Margin QP [dB] | Margin CAV [dB] |
| 1 | 0.25453 | 32.7 | 24.1 | 9.8 | 42.5 | 33.9 | 61.6 | 51.6 | 19.1 | 17.7 |
| 2 | 0.34058 | 32.4 | 23.9 | 9.9 | 42.3 | 33.8 | 59.2 | 49.2 | 16.9 | 15.4 |
| 3 | 0.76464 | 32.7 | 22.6 | 10.0 | 42.7 | 32.6 | 56.0 | 46.0 | 13.3 | 13.4 |
| 4 | 1.16522 | 34.2 | 24.5 | 9.9 | 44.1 | 34.4 | 56.0 | 46.0 | 11.9 | 11.6 |
| 5 | 1.75011 | 31.2 | 21.4 | 9.9 | 41.1 | 31.3 | 56.0 | 46.0 | 14.9 | 14.7 |
| 6 | 2.23804 | 29.4 | 19.3 | 9.9 | 39.3 | 29.2 | 56.0 | 46.0 | 16.7 | 16.8 |
| 7 | 2.73473 | 26.1 | 17.9 | 9.9 | 38.0 | 27.8 | 56.0 | 46.0 | 18.0 | 18.2 |
| 8 | 11.48584 | 23.8 | 15.9 | 10.3 | 34.1 | 26.2 | 60.0 | 50.0 | 25.9 | 23.8 |

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Report No.:
KR19-SRF0025-A

Page (74) of (74)



8. Measurement equipment

| Equipment Name | Manufacturer | Model No. | Serial No. | Next Cal. Date |
|-----------------------------|----------------------|---|-------------|----------------|
| Spectrum Analyzer | R & S | FSV30 | 101437 | 19.08.01 |
| Wideband Power Sensor | R & S | NRP-Z81 | 102398 | 20.01.25 |
| ATTENUATOR | R & S | DNF Dämpfungsglied 10 dB in N-50 Ohm | 31212 | 19.05.14 |
| EMI TEST RECEIVER | R & S | ESCI | 100732 | 19.08.23 |
| Bi-Log Antenna | SCHWARZBECK | VULB 9168 | 583 | 20.05.04 |
| Amplifier | SONOMA INSTRUMENT | 310N | 284608 | 19.08.23 |
| COAXIAL FIXED ATTENUATOR | Agilent | 8491B-003 | 2708A18758 | 20.05.04 |
| Horn antenna | ETS.lindgren | 3116 | 00086635 | 19.05.10 |
| Horn antenna | ETS.lindgren | 3117 | 161225 | 19.05.18 |
| Broadband PreAmplifier | SCHWARZBECK | BBV9718 | 216 | 19.08.01 |
| AMPLIFIER | L-3 Narda-MITEQ | AFS5-00101800-25-S- 5 | 2054571 | 20.02.21 |
| AMPLIFIER | L-3 Narda-MITEQ | AMF-7D-01001800 -22-10P | 2003683 | 19.05.15 |
| AMPLIFIER | L-3 Narda-MITEQ | JS44-18004000-33 -8P | 2000997 | 19.08.02 |
| LOOP Antenna | R & S | HFH2-Z2 | 100355 | 20.08.24 |
| Antenna Mast | Innco Systems | MA4640-XP-ET | - | - |
| Turn Table | Innco Systems | DT2000 | 79 | - |
| Antenna Mast | Innco Systems | MA4000-EP | 303 | - |
| Turn Table | Innco Systems | DT2000 | 79 | - |
| Highpass Filter | WT | WT-A1698-HS | WT160411001 | 19.05.14 |
| TWO-LINE V - NETWORK | R&S | ENV216 | 101584 | 19.04.05 |
| EMI TEST RECEIVER | R & S | ESCI | 101408 | 19.08.23 |
| Vector Signal Generator | R & S | SMBV100A | 257566 | 20.01.04 |
| Signal Generator | R & S | SMR40 | 100007 | 19.05.15 |
| Cable Assembly | RadiAll | 2301761768000PJ | 1724.659 | - |
| Cable Assembly | gigalane | RG-400 | - | - |
| Cable Assembly | HUER+SUHNER | SUCOFLEX 104 | MY4342/4 | - |

End of test report