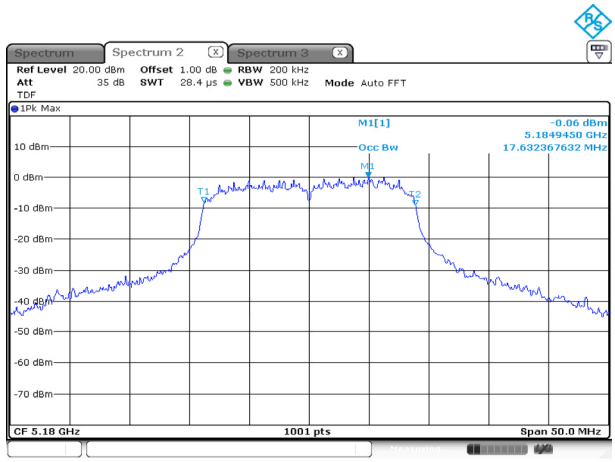
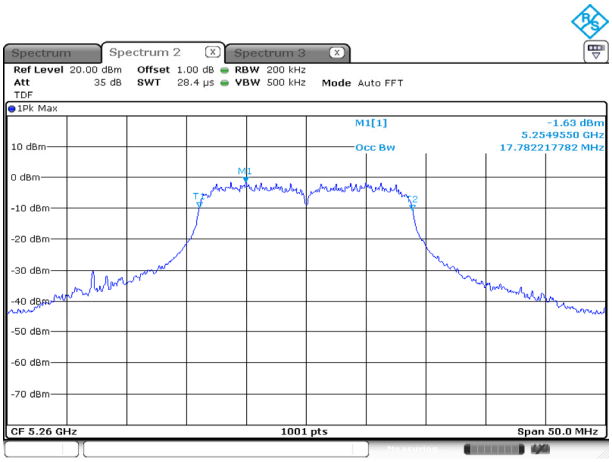
UNII-1 / 802.11n HT20 / Low ch.	UNII-2A / 802.11n HT20 / Low ch.
	
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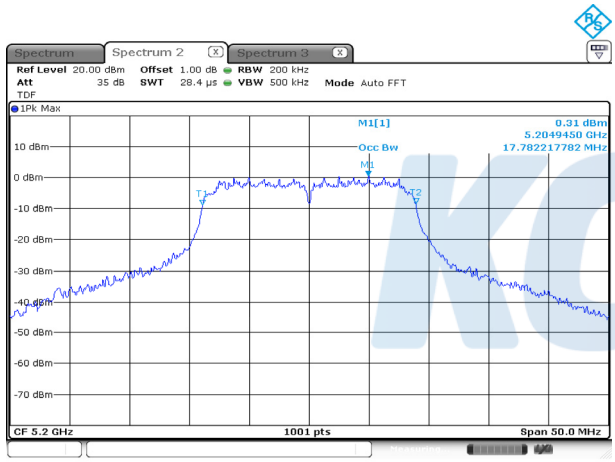
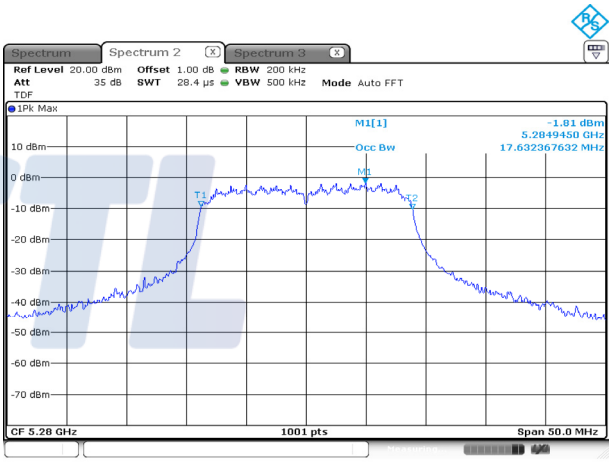
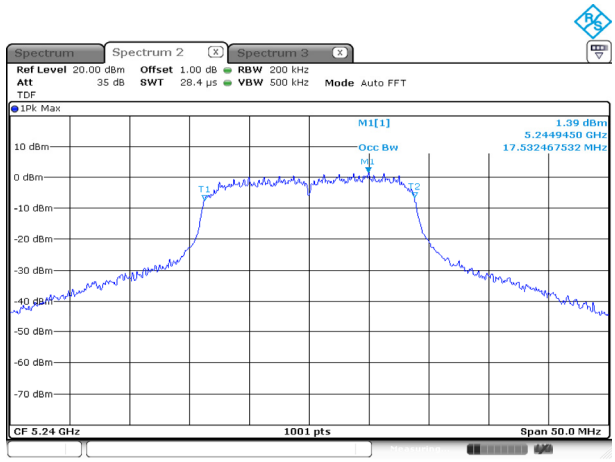
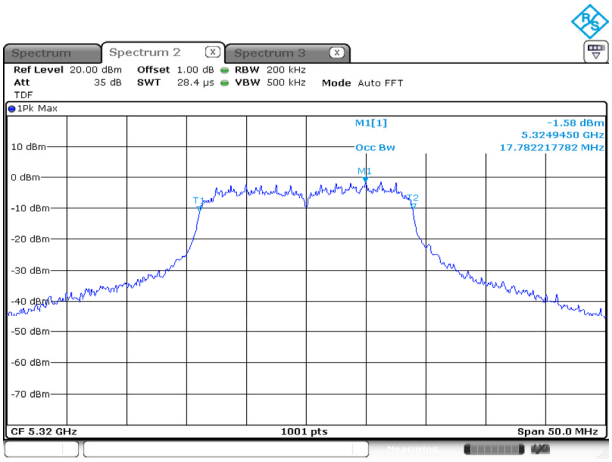
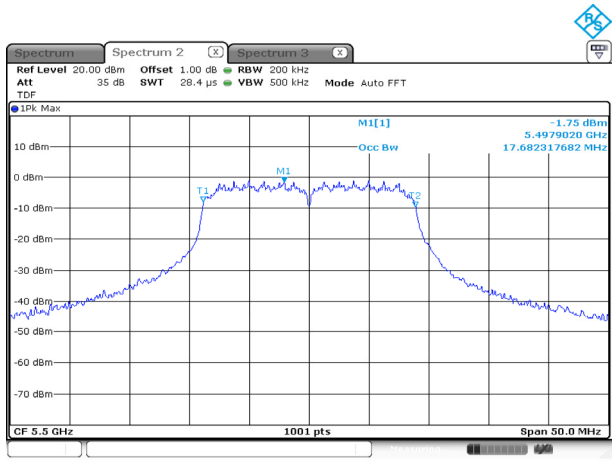
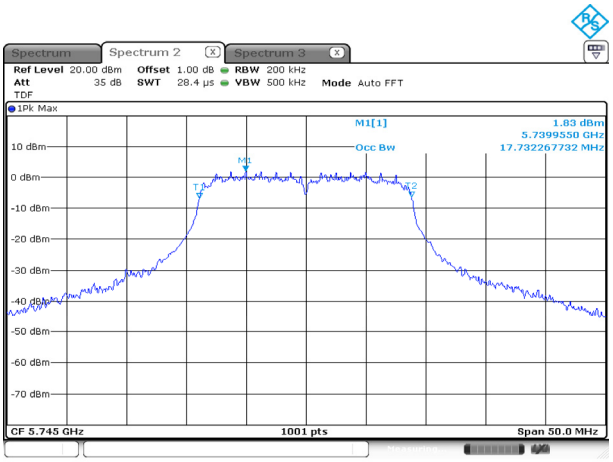
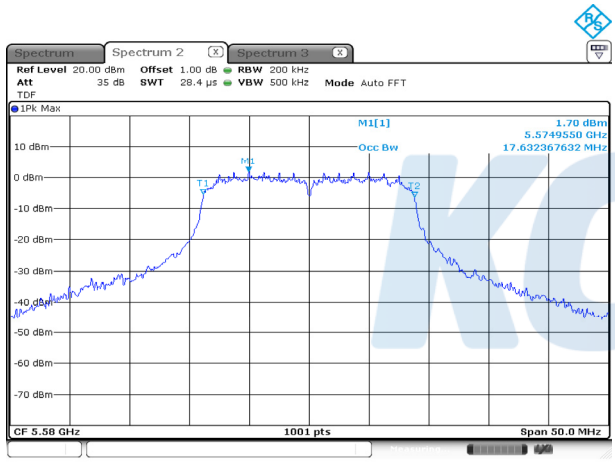
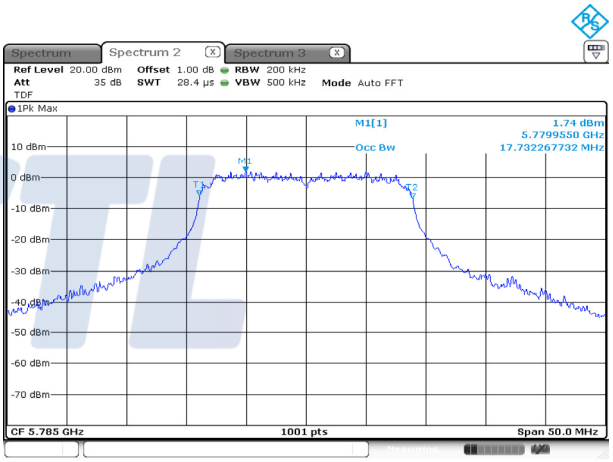
	
UNII-1 / 802.11n HT20 / High ch.	**UNII-2A / 802.11n HT20 / High ch.**
	

UNII-2C / 802.11n HT20 / Low ch.	UNII-3 / 802.11n HT20 / Low ch.
	
UNII-2C / 802.11n HT20 / Mid ch.	**UNII-3 / 802.11n HT20 / Mid ch.**
	
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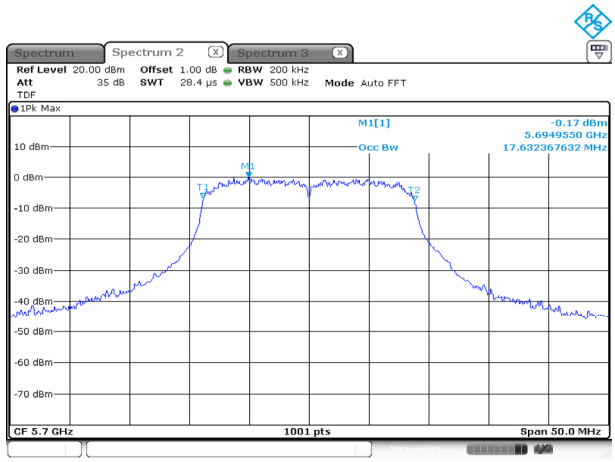
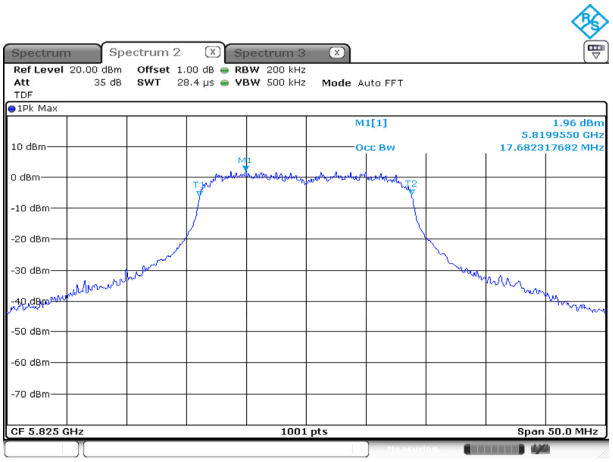
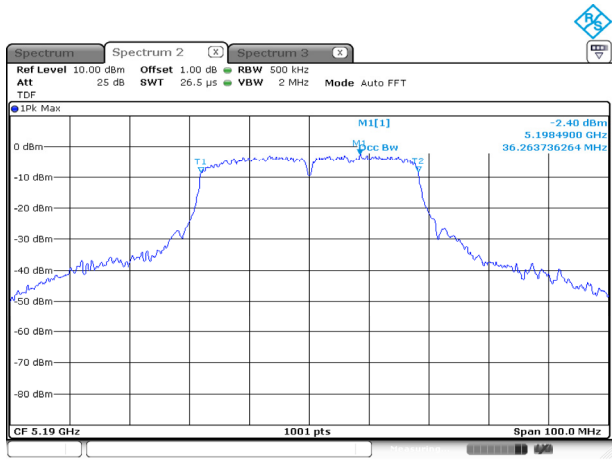
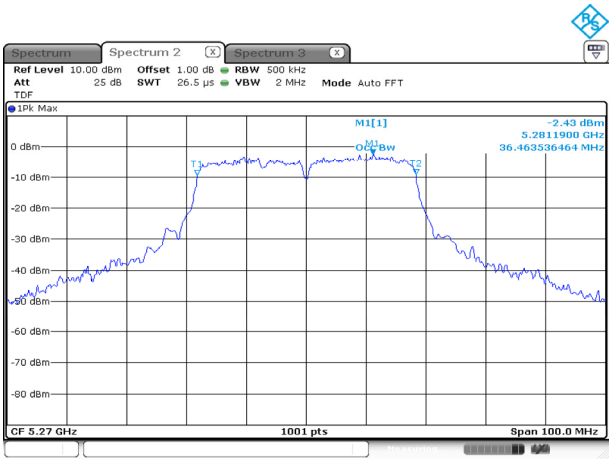
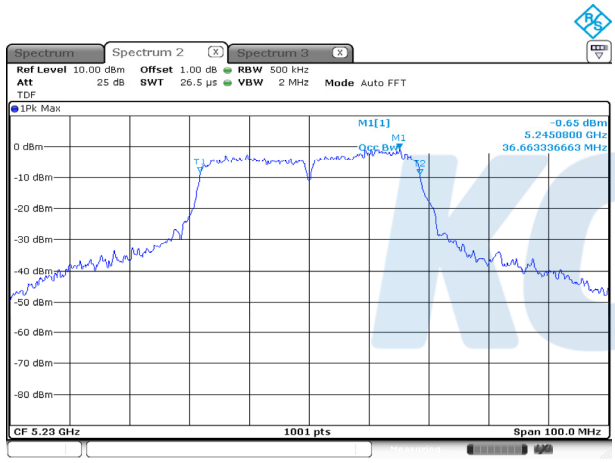
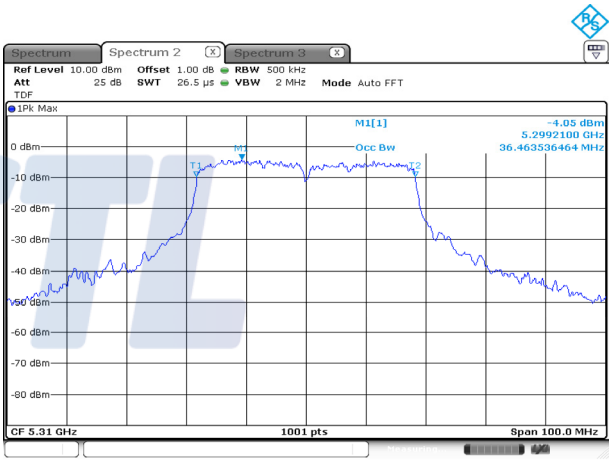
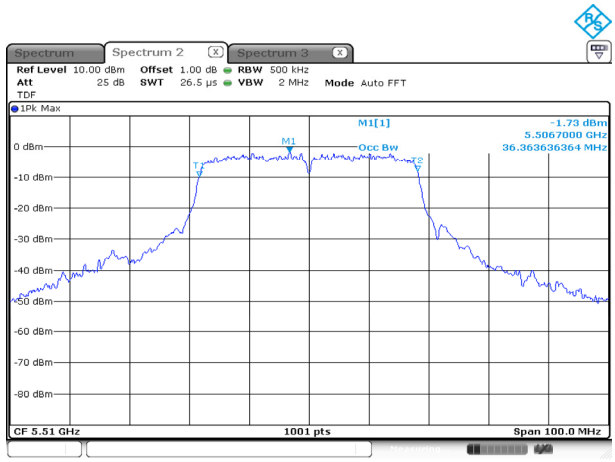
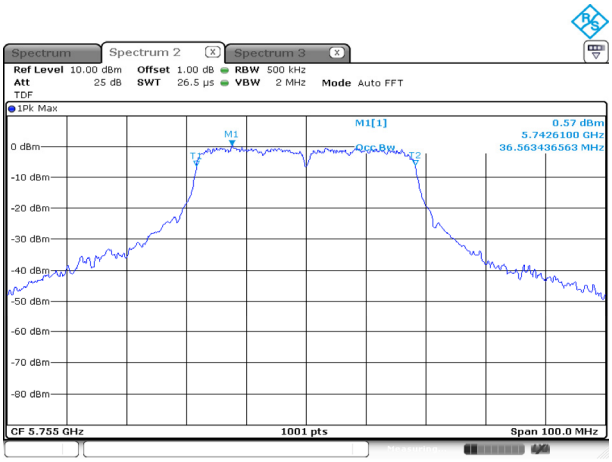
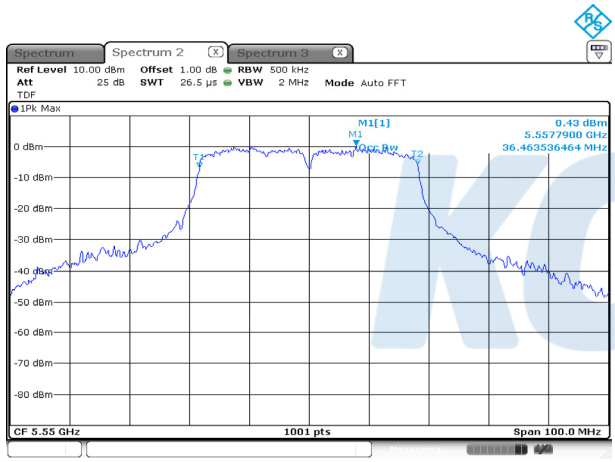
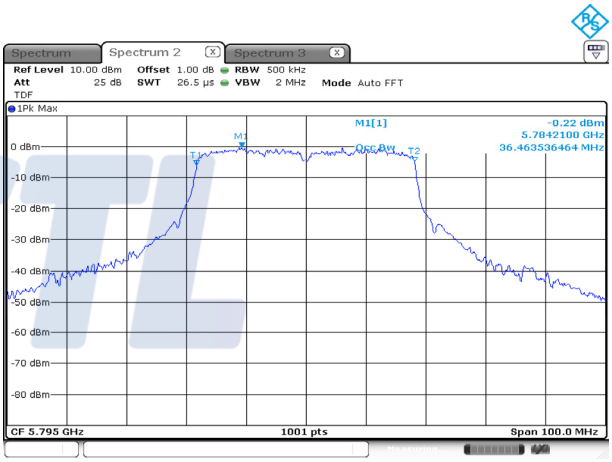
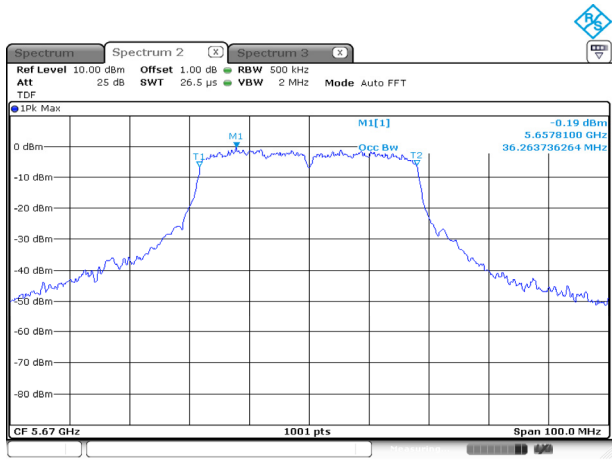
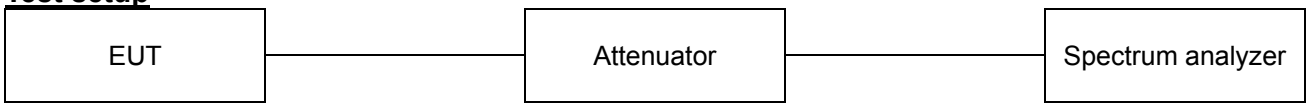
	

UNII-1 / 802.11n HT40 / Low ch.	UNII-2A / 802.11n HT40 / Low ch.
	
UNII-1 / 802.11n HT40 / High ch.	**UNII-2A / 802.11n HT40 / High ch.**
	

UNII-2C / 802.11n HT40 / Low ch.	UNII-3 / 802.11n HT40 / Low ch.
	
UNII-2C / 802.11n HT40 / Mid ch.	**UNII-3 / 802.11n HT40 / High ch.**
	
UNII-2C / 802.11n HT40 / High ch.	
	Blank

7.4. 6 dB Bandwidth

Test setup



Limit

According to §15.407(e), RSS-247(6.2.4)
Within the 5.725-5.85 ㎓ band, the minimum 6 dB bandwidth if U-NII devices shall be at least 500㎑

Test procedure

ANSI C63.10-2013 Section 6.9.2
KDB 789033 D02 v02r01 - Section C.2

Test settings

Minimum Emission Bandwidth for the band 5.725−5.85 ㎓

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 ㎑ for the band 5.725−5.85 ㎓. The following procedure shall be used for measuring this bandwidth:

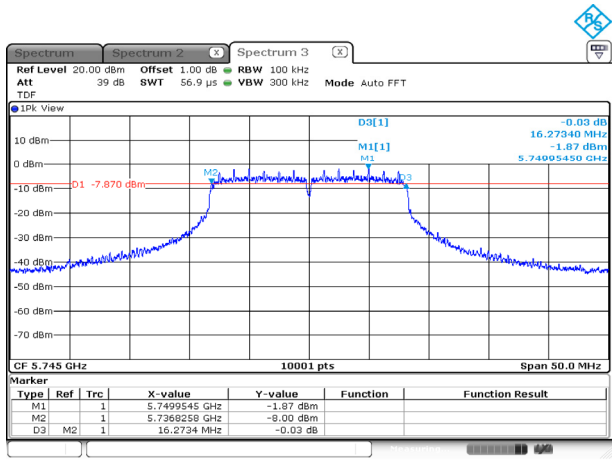
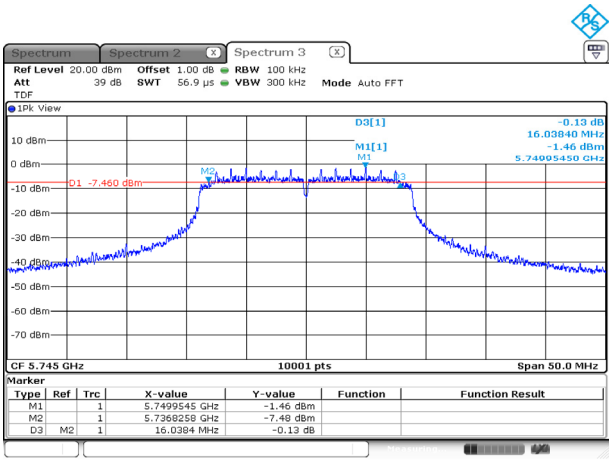
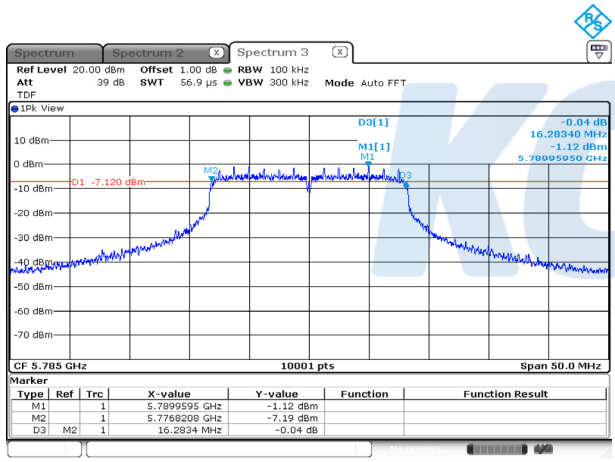
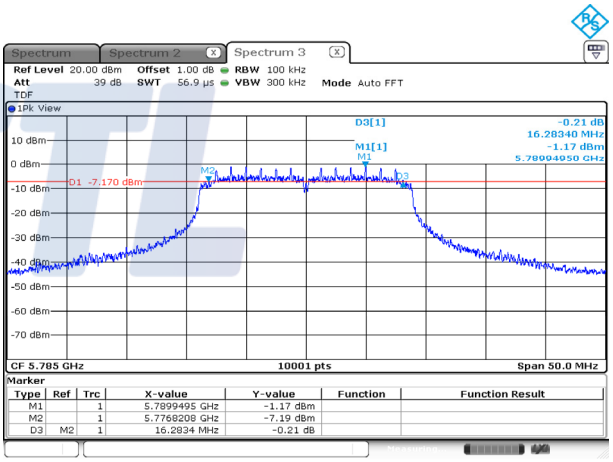
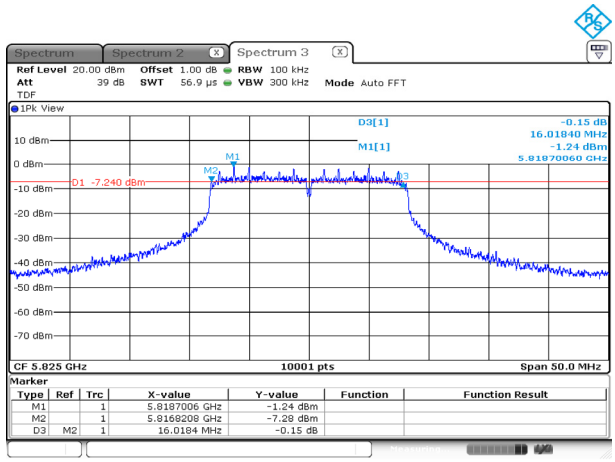
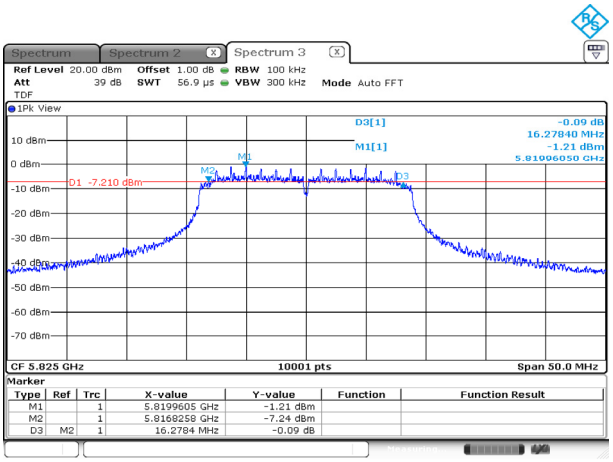
1. Set RBW = 100 ㎑.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

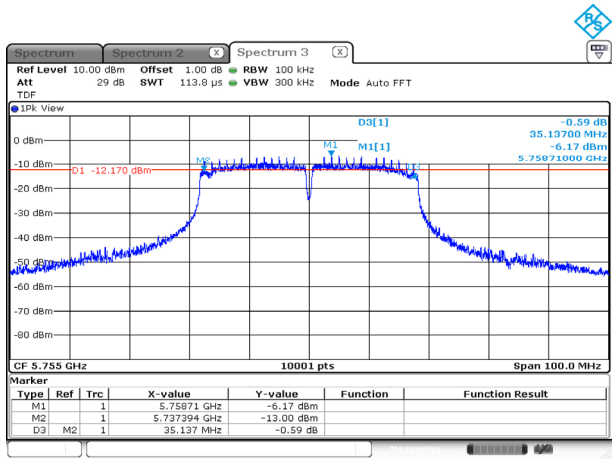
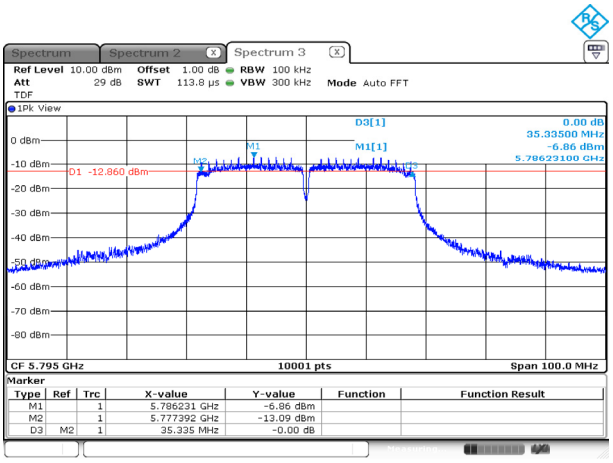
Test results

Test mode	Band	Frequency (㎒)	Measured Bandwidth ANT 0 (㎒)	Measured Bandwidth ANT 1 (㎒)	Minimum Bandwidth (㎒)
802.11a	UNII-3	5 745	16.27	16.29	0.50
		5 785	16.28	16.28	0.50
		5 825	16.02	16.29	0.50
802.11n HT20	UNII-3	5 745	16.04	16.65	0.50
		5 785	16.28	16.53	0.50
		5 825	16.28	16.28	0.50
802.11n HT40	UNII-3	5 755	35.14	35.93	0.50
		5 795	35.34	35.93	0.50

6 dB bandwidth

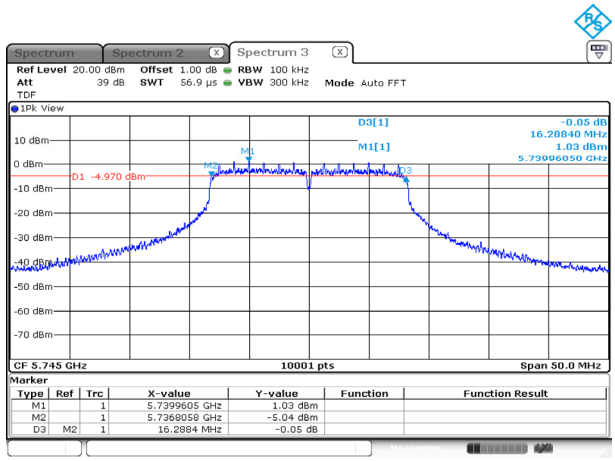
ANT 0

UNII-3 / 802.11a / Low ch.	UNII-3 / 802.11n HT20 / Low ch.
	
UNII-3 / 802.11a / Mid ch.	**UNII-3 / 802.11n HT20 / Mid ch.**
	
UNII-3 / 802.11a / High ch.	**UNII-3 / 802.11n HT20 / High ch.**
	

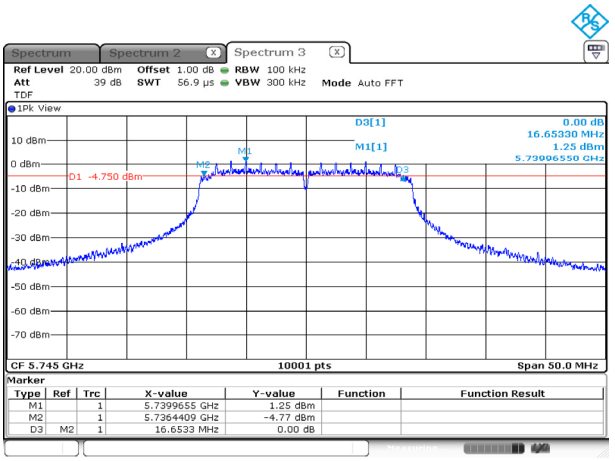
UNII-3 / 802.11n HT40 / Low ch.	UNII-3 / 802.11n HT40 / High ch.
	

ANT 1

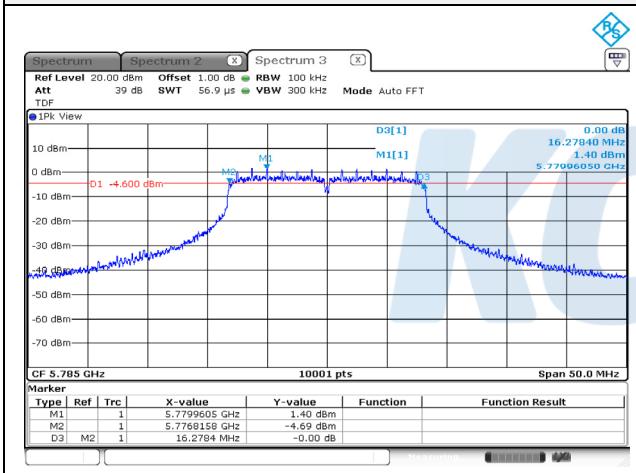
UNII-3 / 802.11a / Low ch.



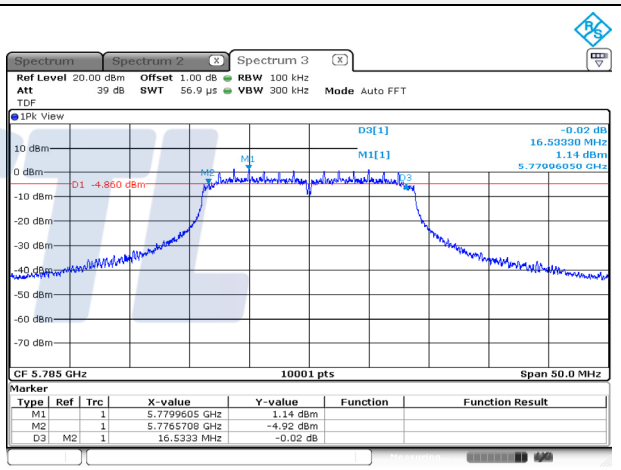
UNII-3 / 802.11n HT20 / Low ch.



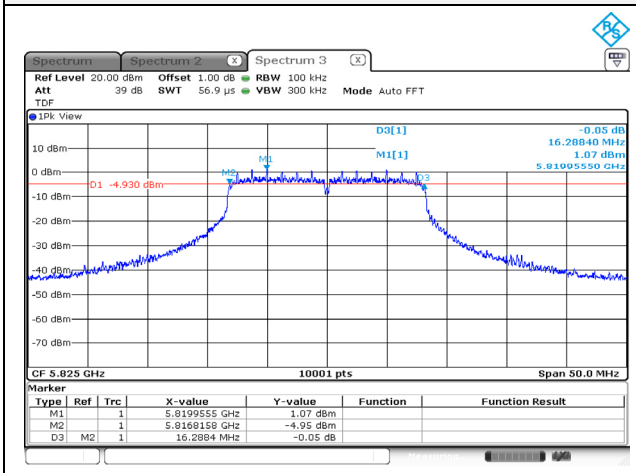
UNII-3 / 802.11a / Mid ch.



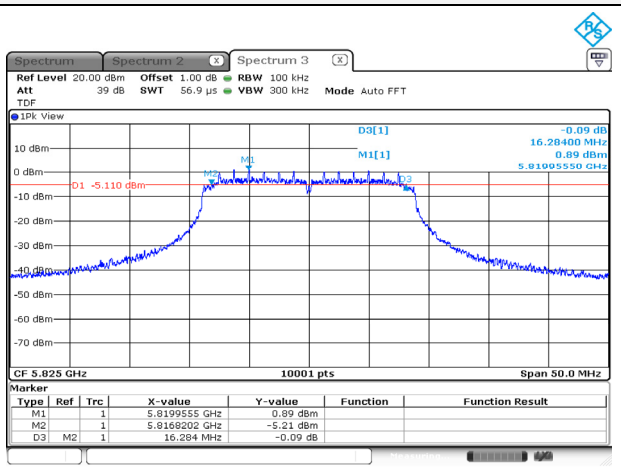
UNII-3 / 802.11n HT20 / Mid ch.

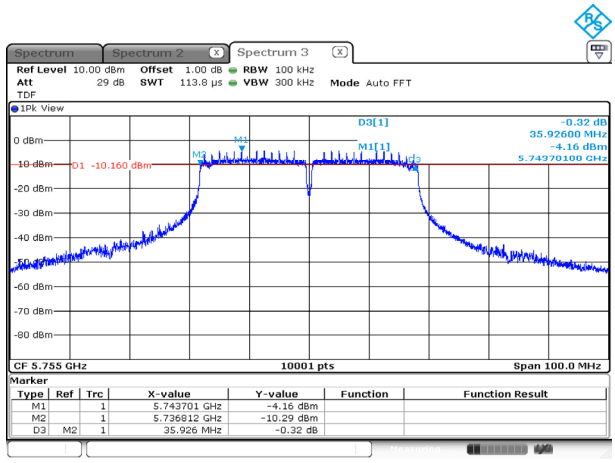
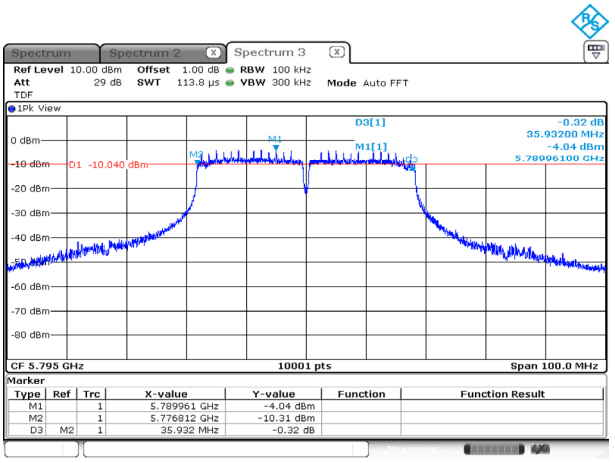


UNII-3 / 802.11a / High ch.



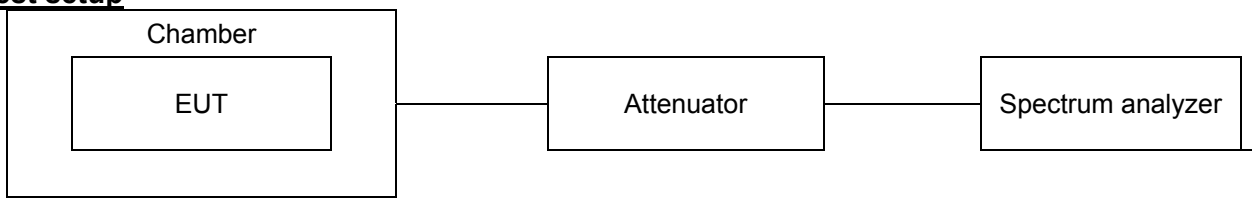
UNII-3 / 802.11n HT20 / High ch.



UNII-3 / 802.11n HT40 / Low ch.	UNII-3 / 802.11n HT40 / High ch.
	

7.5. Frequency Stability

Test setup



Limit

N/A

Test procedure

ANSI C63.10-2013, clause 6.8.1

Test settings

The frequency stability of the carrier frequency of the intentional radiator shall be maintained all conditions of normal operation as specified in the user manual. The frequency stability shall be maintained over a temperature variation of specified in the user manual at normal supply voltage, and over a variation in the primary supply voltage of specified in the user manual of the rated supply voltage at a temperature of 20 °C. For equipment that is capable only of operating from a battery, the frequency stability tests shall be performed using a new battery without any further requirement to vary supply voltage.

1. The EUT was placed inside the environmental test chamber.
2. The temperature was incremented by 10 °C intervals from lowest temperature.
3. Each increase step of temperature measured the frequency.
4. The test temperature was set 20°C and the supply voltage was then adjusted on the EUT from 85 % to 115% and the frequency record.
5. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

Test results

Test mode : UNII-1

Frequency(㎐) : 5 180 000 000

Voltage	Voltage	TEMP	Maintaining time	Measure frequency	Frequency deviation	Deviation
[%]	[V]	[℃]		[㎐]	[㎐]	[%]
100	5	+22(Ref)	Startup	5 179 965 766	-34 234	-0.000 66
			2 minutes	5 179 964 511	-35 489	-0.000 69
			5 minutes	5 179 965 555	-34 445	-0.000 66
			10 minutes	5 179 965 865	-34 135	-0.000 66
		-10	Startup	5 180 018 075	18 075	0.000 35
			2 minutes	5 180 018 090	18 090	0.000 35
			5 minutes	5 180 018 015	18 015	0.000 35
			10 minutes	5 180 017 991	17 991	0.000 35
		0	Startup	5 180 009 995	9 995	0.000 19
			2 minutes	5 180 009 994	9 994	0.000 19
			5 minutes	5 180 009 910	9 910	0.000 19
			10 minutes	5 180 009 873	9 873	0.000 19
		10	Startup	5 179 997 713	-2 287	-0.000 04
			2 minutes	5 179 997 609	-2 391	-0.000 05
			5 minutes	5 179 997 563	-2 437	-0.000 05
			10 minutes	5 179 997 551	-2 449	-0.000 05
		20	Startup	5 179 984 007	-15 993	-0.000 31
			2 minutes	5 179 983 959	-16 041	-0.000 31
			5 minutes	5 179 983 878	-16 122	-0.000 31
			10 minutes	5 179 983 890	-16 110	-0.000 31
		30	Startup	5 179 972 615	-27 385	-0.000 53
			2 minutes	5 179 972 538	-27 462	-0.000 53
			5 minutes	5 179 972 393	-27 607	-0.000 53
			10 minutes	5 179 972 370	-27 630	-0.000 53
		40	Startup	5 179 965 760	-34 240	-0.000 66
			2 minutes	5 179 965 744	-34 256	-0.000 66
			5 minutes	5 179 965 686	-34 314	-0.000 66
			10 minutes	5 179 965 627	-34 373	-0.000 66
		50	Startup	5 179 967 256	-32 744	-0.000 63
			2 minutes	5 179 967 127	-32 873	-0.000 63
			5 minutes	5 179 967 228	-32 772	-0.000 63
			10 minutes	5 179 967 055	-32 945	-0.000 64
85	4.25	+22(Ref)	Startup	5 179 964 977	-35 023	-0.000 68
			2 minutes	5 179 965 313	-34 687	-0.000 67
			5 minutes	5 179 965 406	-34 594	-0.000 67
			10 minutes	5 179 965 758	-34 242	-0.000 66
115	5.75	+22(Ref)	Startup	5 179 965 344	-34 656	-0.000 67
			2 minutes	5 179 965 306	-34 694	-0.000 67
			5 minutes	5 179 965 493	-34 507	-0.000 67
			10 minutes	5 179 965 584	-34 416	-0.000 66

Test mode : UNII-2A

Frequency(㎐) : 5 260 000 000

Voltage	Voltage	TEMP	Maintaining time	Measure frequency	Frequency deviation	Deviation
[%]	[V]	[℃]		[㎐]	[㎐]	[%]
100	5	+22(Ref)	Startup	5 259 966 427	-33 573	-0.000 64
			2 minutes	5 259 966 507	-33 493	-0.000 64
			5 minutes	5 259 966 534	-33 466	-0.000 64
			10 minutes	5 259 966 616	-33 384	-0.000 63
		-10	Startup	5 260 018 631	18 631	0.000 35
			2 minutes	5 260 018 632	18 632	0.000 35
			5 minutes	5 260 018 641	18 641	0.000 35
			10 minutes	5 260 018 645	18 645	0.000 35
		0	Startup	5 260 010 279	10 279	0.000 20
			2 minutes	5 260 010 053	10 053	0.000 19
			5 minutes	5 260 010 046	10 046	0.000 19
			10 minutes	5 260 010 009	10 009	0.000 19
		10	Startup	5 259 997 427	-2 573	-0.000 05
			2 minutes	5 259 997 372	-2 628	-0.000 05
			5 minutes	5 259 997 350	-2 650	-0.000 05
			10 minutes	5 259 997 311	-2 689	-0.000 05
		20	Startup	5 259 984 092	-15 908	-0.000 30
			2 minutes	5 259 983 920	-16 080	-0.000 31
			5 minutes	5 259 983 950	-16 050	-0.000 31
			10 minutes	5 259 983 757	-16 243	-0.000 31
		30	Startup	5 259 972 805	-27 195	-0.000 52
			2 minutes	5 259 972 708	-27 292	-0.000 52
			5 minutes	5 259 972 575	-27 425	-0.000 52
			10 minutes	5 259 972 242	-27 758	-0.000 53
		40	Startup	5 259 965 606	-34 394	-0.000 65
			2 minutes	5 259 965 638	-34 362	-0.000 65
			5 minutes	5 259 965 616	-34 384	-0.000 65
			10 minutes	5 259 965 503	-34 497	-0.000 66
		50	Startup	5 259 967 159	-32 841	-0.000 62
			2 minutes	5 259 967 280	-32 720	-0.000 62
			5 minutes	5 259 967 364	-32 636	-0.000 62
			10 minutes	5 259 967 332	-32 668	-0.000 62
85	4.25	+22(Ref)	Startup	5 259 966 527	-33 473	-0.000 64
			2 minutes	5 259 966 515	-33 485	-0.000 64
			5 minutes	5 259 966 627	-33 373	-0.000 63
			10 minutes	5 259 966 685	-33 315	-0.000 63
115	5.75	+22(Ref)	Startup	5 259 966 483	-33 517	-0.000 64
			2 minutes	5 259 966 571	-33 429	-0.000 64
			5 minutes	5 259 966 635	-33 365	-0.000 63
			10 minutes	5 259 966 667	-33 333	-0.000 63

Test mode : UNII-2C

Frequency(㎐) : 5 500 000 000

Voltage	Voltage	TEMP	Maintaining time	Measure frequency	Frequency deviation	Deviation
[%]	[V]	[℃]		[㎐]	[㎐]	[%]
100	5	+22(Ref)	Startup	5 499 964 273	-35 727	-0.000 65
			2 minutes	5 499 964 387	-35 613	-0.000 65
			5 minutes	5 499 964 480	-35 520	-0.000 65
			10 minutes	5 499 964 552	-35 448	-0.000 64
		-10	Startup	5 500 022 009	22 009	0.000 40
			2 minutes	5 500 021 090	21 090	0.000 38
			5 minutes	5 500 020 738	20 738	0.000 38
			10 minutes	5 500 020 525	20 525	0.000 37
		0	Startup	5 500 010 985	10 985	0.000 20
			2 minutes	5 500 010 891	10 891	0.000 20
			5 minutes	5 500 010 974	10 974	0.000 20
			10 minutes	5 500 010 907	10 907	0.000 20
		10	Startup	5 499 997 841	-2 159	-0.000 04
			2 minutes	5 499 997 825	-2 175	-0.000 04
			5 minutes	5 499 997 695	-2 305	-0.000 04
			10 minutes	5 499 997 758	-2 242	-0.000 04
		20	Startup	5 499 984 111	-15 889	-0.000 29
			2 minutes	5 499 983 972	-16 028	-0.000 29
			5 minutes	5 499 983 506	-16 494	-0.000 30
			10 minutes	5 499 983 570	-16 430	-0.000 30
		30	Startup	5 499 971 251	-28 749	-0.000 52
			2 minutes	5 499 971 258	-28 742	-0.000 52
			5 minutes	5 499 971 214	-28 786	-0.000 52
			10 minutes	5 499 971 179	-28 821	-0.000 52
		40	Startup	5 499 964 075	-35 925	-0.000 65
			2 minutes	5 499 964 090	-35 910	-0.000 65
			5 minutes	5 499 964 101	-35 899	-0.000 65
			10 minutes	5 499 964 001	-35 999	-0.000 65
		50	Startup	5 499 965 568	-34 432	-0.000 63
			2 minutes	5 499 965 710	-34 290	-0.000 62
			5 minutes	5 499 965 818	-34 182	-0.000 62
			10 minutes	5 499 965 855	-34 145	-0.000 62
85	4.25	+22(Ref)	Startup	5 499 964 032	-35 968	-0.000 65
			2 minutes	5 499 964 249	-35 751	-0.000 65
			5 minutes	5 499 964 391	-35 609	-0.000 65
			10 minutes	5 499 964 599	-35 401	-0.000 64
115	5.75	+22(Ref)	Startup	5 499 964 808	-35 192	-0.000 64
			2 minutes	5 499 964 923	-35 077	-0.000 64
			5 minutes	5 499 964 962	-35 038	-0.000 64
			10 minutes	5 499 964 987	-35 013	-0.000 64

Test mode : UNII-3

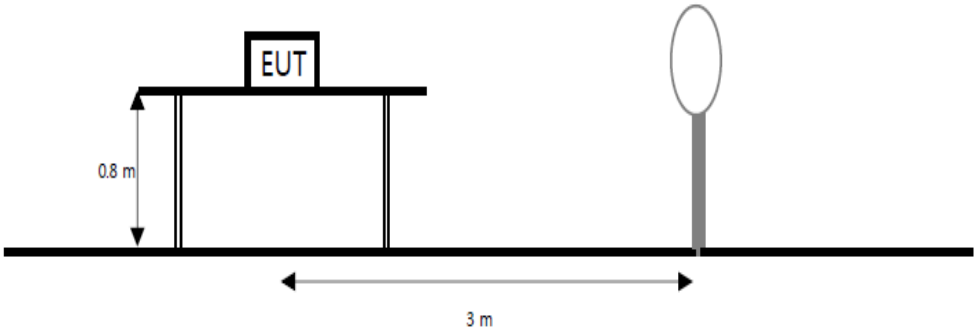
Frequency(㎐) : 5 745 000 000

Voltage	Voltage	TEMP	Maintaining time	Measure frequency	Frequency deviation	Deviation
[%]	[V]	[℃]		[㎐]	[㎐]	[%]
100	5	+22(Ref)	Startup	5 744 961 957	-38 043	-0.000 66
			2 minutes	5 744 962 066	-37 934	-0.000 66
			5 minutes	5 744 962 254	-37 746	-0.000 66
			10 minutes	5 744 962 383	-37 617	-0.000 65
		-10	Startup	5 745 021 225	21 225	0.000 37
			2 minutes	5 745 021 159	21 159	0.000 37
			5 minutes	5 745 021 179	21 179	0.000 37
			10 minutes	5 745 021 066	21 066	0.000 37
		0	Startup	5 745 011 318	11 318	0.000 20
			2 minutes	5 745 011 361	11 361	0.000 20
			5 minutes	5 745 011 374	11 374	0.000 20
			10 minutes	5 745 011 420	11 420	0.000 20
		10	Startup	5 744 997 607	-2 393	-0.000 04
			2 minutes	5 744 997 623	-2 377	-0.000 04
			5 minutes	5 744 997 616	-2 384	-0.000 04
			10 minutes	5 744 997 516	-2 484	-0.000 04
		20	Startup	5 744 982 679	-17 321	-0.000 30
			2 minutes	5 744 982 477	-17 523	-0.000 31
			5 minutes	5 744 982 618	-17 382	-0.000 30
			10 minutes	5 744 982 620	-17 380	-0.000 30
		30	Startup	5 744 969 678	-30 322	-0.000 53
			2 minutes	5 744 969 697	-30 303	-0.000 53
			5 minutes	5 744 969 673	-30 327	-0.000 53
			10 minutes	5 744 969 648	-30 352	-0.000 53
		40	Startup	5 744 962 334	-37 666	-0.000 66
			2 minutes	5 744 962 258	-37 742	-0.000 66
			5 minutes	5 744 962 214	-37 786	-0.000 66
			10 minutes	5 744 962 206	-37 794	-0.000 66
		50	Startup	5 744 963 936	-36 064	-0.000 63
			2 minutes	5 744 964 036	-35 964	-0.000 63
			5 minutes	5 744 963 840	-36 160	-0.000 63
			10 minutes	5 744 963 814	-36 186	-0.000 63
85	4.25	+22(Ref)	Startup	5 744 961 442	-38 558	-0.000 67
			2 minutes	5 744 961 560	-38 440	-0.000 67
			5 minutes	5 744 961 883	-38 117	-0.000 66
			10 minutes	5 744 961 873	-38 127	-0.000 66
115	5.75	+22(Ref)	Startup	5 744 961 957	-38 043	-0.000 66
			2 minutes	5 744 961 913	-38 087	-0.000 66
			5 minutes	5 744 961 962	-38 038	-0.000 66
			10 minutes	5 744 962 081	-37 919	-0.000 66

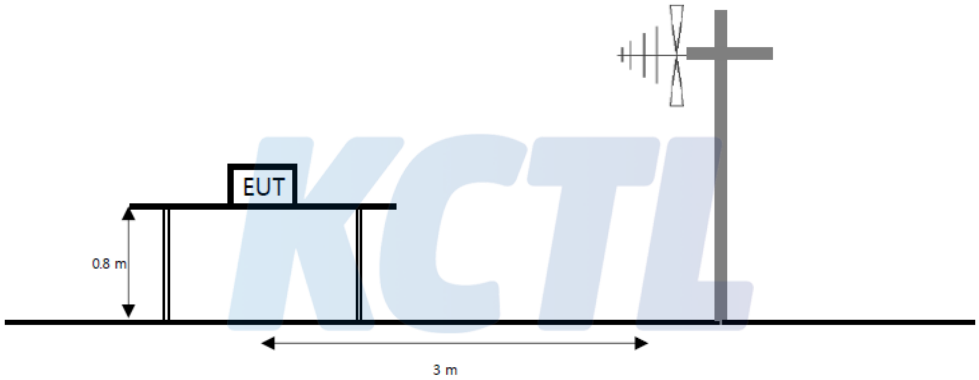
7.6. Spurious Emission, Band Edge and Restricted bands

Test setup

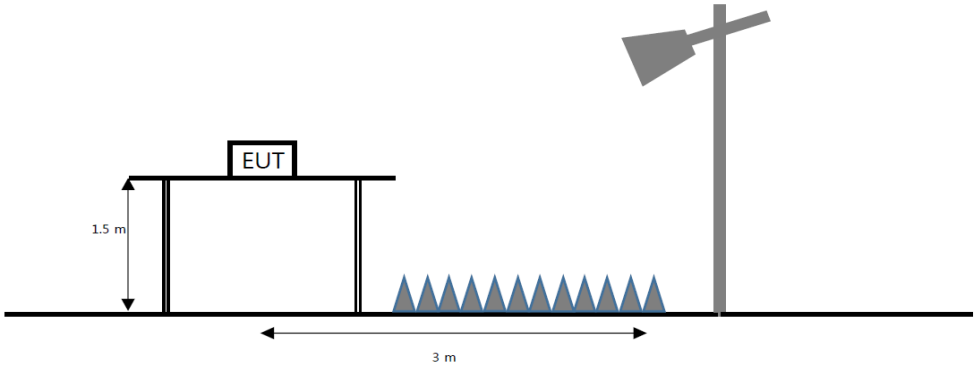
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 ㎑ to 30 ㎒ Emissions



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 ㎓ to the tenth harmonic of the highest fundamental frequency or to 40 ㎓ emissions, whichever is lower.



Limit

According to section 15.209(a), RSS-Gen(8.9) except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (㎒)	Field strength (㎶/m)	Measurement distance (m)
0.009 - 0.490	2 400/F(㎑)	300
0.490 - 1.705	24 000/F(㎑)	30
1.705 - 30	30	30
30 - 88	100**	3
88 - 216	150**	3
216 - 960	200**	3
Above 960	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 ㎒, 76–88 ㎒, 174–216 ㎒ or 470–806 ㎒. However, operation within these frequency bands is permitted under other sections of this part, e.g., Section15.231 and 15.241.

According to section 15.205(a) and (b), RSS-Gen(8.10) only spurious emissions are permitted in any of the frequency bands listed below:

㎒	㎒	㎒	㎓
0.009 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.694 75 - 16.695 25	608 - 614	5.35 - 5.46
2.173 5 - 2.190 5	16.804 25 - 16.804 75	960 – 1 240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1 300 – 1 427	8.025 - 8.5
4.177 25 - 4.177 75	37.5 - 38.25	1 435 – 1 626.5	9.0 - 9.2
4.207 25 - 4.207 75	73 - 74.6	1 645.5 – 1 646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1 660 – 1 710	10.6 - 12.7
6.267 75 - 6.268 25	108 - 121.94	1 718.8 – 1 722.2	13.25 - 13.4
6.311 75 - 6.312 25	123 - 138	2 200 – 2 300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2 310 – 2 390	15.35 - 16.2
8.362 - 8.366	156.524 75 - 156.525	2 483.5 – 2 500	17.7 - 21.4
8.376 25 - 8.386 75	25	2 690 – 2 900	22.01 - 23.12
8.414 25 - 8.414 75	156.7 - 156.9	3 260 – 3 267	23.6 - 24.0
12.29 - 12.293	162.012 5 - 167.17	3 332 – 3 339	31.2 - 31.8
12.519 75 - 12.520 25	167.72 - 173.2	3 345.8 – 3 358	36.43 - 36.5
12.576 75 - 12.577 25	240 - 285	3 600 – 4 400	Above 38.6
13.36 - 13.41	322 - 335.4		

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in section 15.209. At frequencies equal to or less than 1 000 ㎒, compliance with the limits in section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1 000 ㎒, compliance with the emission limits in section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in section 15.35 apply to these measurements.

According to section 15.407(b), undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

For transmitters operating in the 5.15-5.25 ㎓ band: All emissions outside of the 5.15-5.35 ㎓ band shall not exceed an e.i.r.p. of −27 ㏈m/㎒
For transmitters operating in the 5.25-5.35 ㎓ band: All emissions outside of the 5.15-5.35 ㎓ band shall not exceed an e.i.r.p. of −27 ㏈m/㎒.

For transmitters operating in the 5.725-5.85 ㎓ band: All emissions shall be limited to a level of -27 ㏈m/㎒ at 75 ㎒ or more above or below the band edge increasing linearly to 10 ㏈m/㎒ at 25 ㎒ above or below the band edge, and form 25 ㎒ above or below the band edge increasing linearly to a level of 15.6 ㏈m/㎒ at 5 ㎒ above or below the band edge, and from 5 ㎒ above or below the band edge increasing linearly to a level of 27 ㏈m/㎒ at the band edge.

Test procedure

ANSI C63.10-2013 Section 12.7.7.2, 12.7.5, 12.7.6
KDB 789033 D02 v02r01 – Section G

Test settings

Peak field strength measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in table
3. VBW ≥ (3×RBW)
4. Detector = peak
5. Sweep time = auto
6. Trace mode = max hold
7. Allow sweeps to continue until the trace stabilizes

Table. RBW as a function of frequency

Frequency	RBW
9 ㎑ to 150 ㎑	200 ㎐ to 300 ㎐
0.15 ㎒ to 30 ㎒	9 ㎑ to 10 ㎑
30 ㎒ to 1 000 ㎒	100 ㎑ to 120 ㎑
> 1 000 ㎒	1 ㎒

Average field strength measurements

Trace averaging with continuous EUT transmission at full power

If the EUT can be configured or modified to transmit continuously (D ≥ 98%), then the average emission levels shall be measured using the following method (with EUT transmitting continuously):

1. RBW = 1 ㎒ (unless otherwise specified).
2. VBW ≥ (3×RBW).
3. Detector = RMS (power averaging), if [span / (# of points in sweep)] ≤ (RBW / 2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
4. Averaging type = power (i.e., rms):
   1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
   2) Some instruments require linear display mode to use linear voltage averaging. Log or ㏈ averaging shall not be used.
5. Sweep time = auto.
6. Perform a trace average of at least 100 traces.

Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction

If continuous transmission of the EUT (D ≥ 98%) cannot be achieved and the duty cycle is constant (duty cycle variations are less than ±2%), then the following procedure shall be used:

1. The EUT shall be configured to operate at the maximum achievable duty cycle.
2. Measure the duty cycle D of the transmitter output signal as described in 11.6.
3. RBW = 1 ㎒ (unless otherwise specified).
4. VBW ≥ [3 × RBW].
5. Detector = RMS (power averaging), if [span / (# of points in sweep)] ≤ (RBW / 2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this

condition cannot be satisfied, then the detector mode shall be set to peak.

6. Averaging type = power (i.e., rms):
   1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
   2) Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.
7. Sweep time = auto.
8. Perform a trace average of at least 100 traces.
9. A correction factor shall be added to the measurement results prior to comparing with the emission limit to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:
   1) If power averaging (rms) mode was used in step f), then the applicable correction factor is [10 log (1 / D)], where D is the duty cycle.
   2) If linear voltage averaging mode was used in step f), then the applicable correction factor is [20 log (1 / D)], where D is the duty cycle.
   3) If a specific emission is demonstrated to be continuous (D ≥ 98%) rather than turning ON and OFF with with the transmit cycle, then no duty cycle correction is required for that emission.

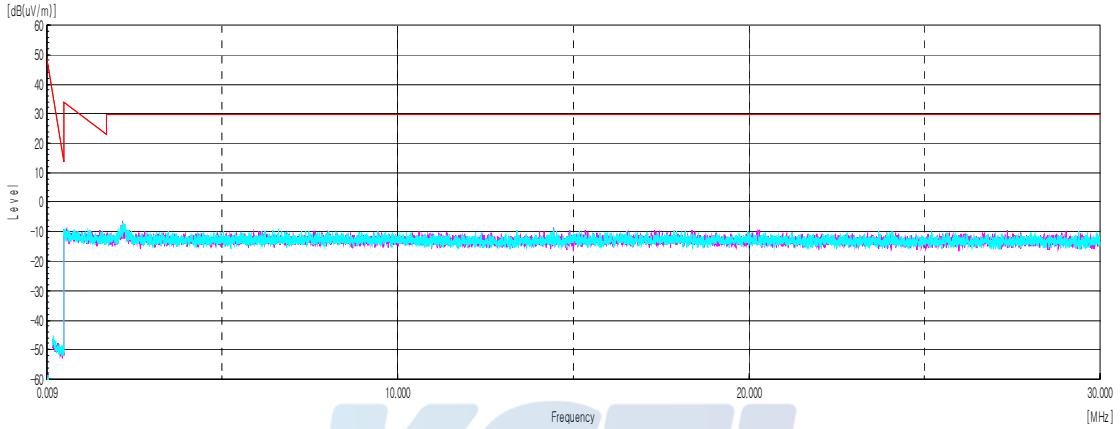
Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 ㎒ for Peak detection and frequency above 1 ㎓. The resolution bandwidth of test receiver/spectrum analyzer is 1 ㎒ and the video bandwidth is 1 ㎑(≥1/T) for Average detection (AV) at frequency above 1 ㎓. (where T = pulse width)
2. *f* <30 ㎒, extrapolation factor of 40 dB/decade of distance. F_d = 40log(D_m/Ds)
   f ≥30 ㎒, extrapolation factor of 20 dB/decade of distance. F_d = 20log(D_m/Ds)
   Where:
   F_d= Distance factor in dB
   D_m= Measurement distance in meters
   D_s= Specification distance in meters
3. Factors(dB) = Antenna factor(dB/m) + Cable loss(dB) + or Amp. gain(dB) + or F_d(dB)
4. The worst-case emissions are reported however emissions whose levels were not within 20 dB of respective limits were not reported.
5. Average test would be performed if the peak result were greater than the average limit.
6. 1) means restricted band.
7. According to part 15.31(f)(2), an extrapolation factor of 40 dB/decade is applied because measured distance of radiated emission is 3 m.
8. Below 30 ㎒ frequency range, In order to search for the worst result, all orientations about parallel, perpendicular, and ground-parallel were investigated then reported. when the emission level was higher than 20 dB of the limit, then the following statement shall be made: “No spurious emissions were detected within 20 dB of the limit.”

Test results (Below 30 ㎒) – Worst case: 802.11a / ANT 0 / UNII-1 Low frequency

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
No spurious emissions were detected within 20 ㏈ of the limit.								

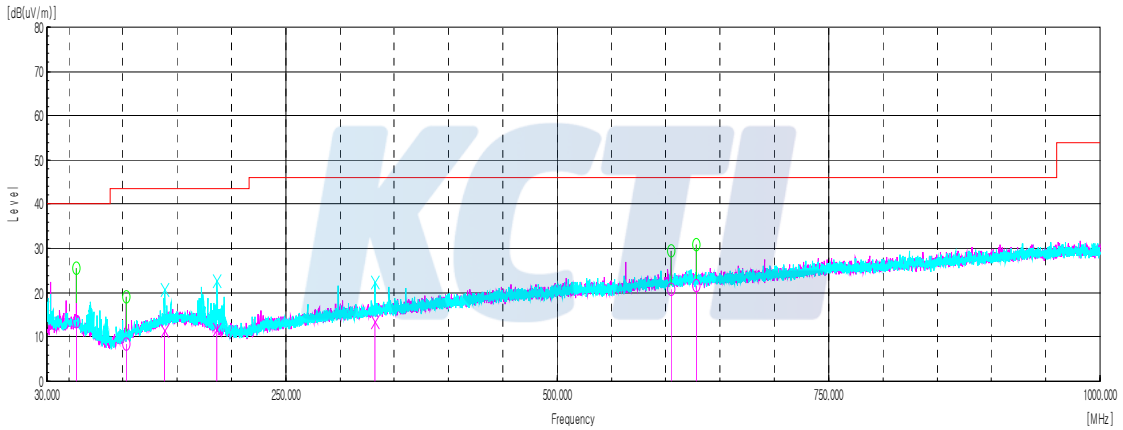
Horizontal/Vertical



Test results (Below 1 000 ㎒) – Worst case: 802.11a / ANT 0 / UNII-1 Low frequency

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Quasi peak data								
57.04	H	25.80	18.14	-30.43	-	13.51	40.00	26.49
102.87	H	23.10	15.40	-29.99	-	8.51	43.50	34.99
138.64	V	22.50	18.69	-29.56	-	11.63	43.50	31.87
186.78	V	24.10	16.59	-29.04	-	11.65	43.50	31.85
332.03	V	21.50	20.04	-27.98	-	13.56	46.00	32.44
604.85	H	21.60	25.85	-26.53	-	20.92	46.00	25.08
628.25	H	21.70	26.20	-26.39	-	21.51	46.00	24.49

Horizontal/Vertical



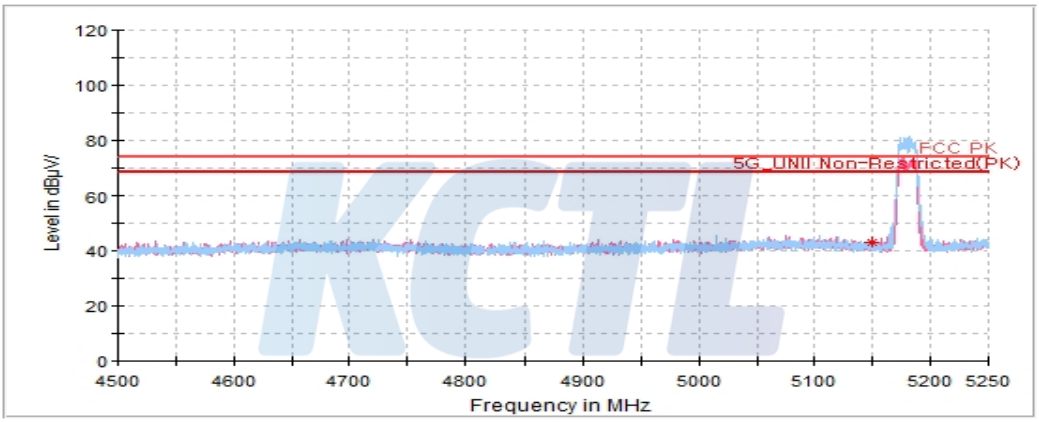
Test results (Above 1 000 ㎒)

802.11a_UNII-1 ANT 0

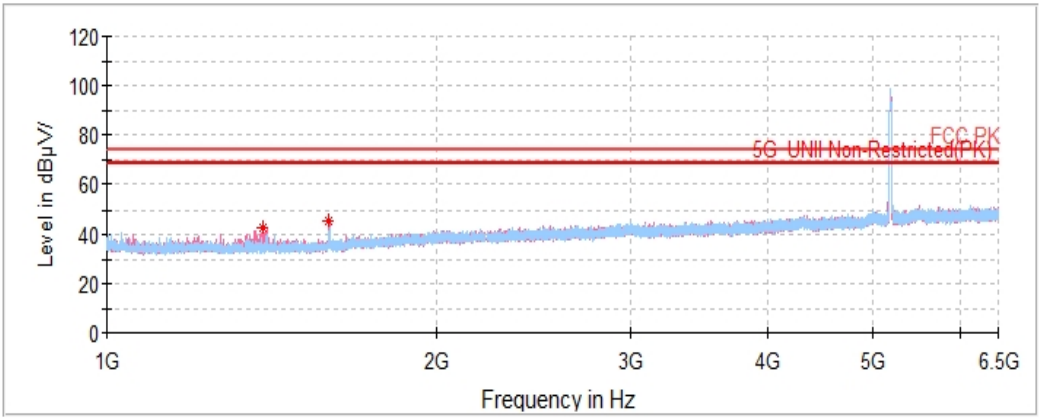
Lowest Channel (5 180 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 148.89[1)]	H	37.06	34.08	-28.12	-	43.02	74.00	30.98
10 360.41	V	61.42	37.32	-52.50	-	46.24	68.20	21.96
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

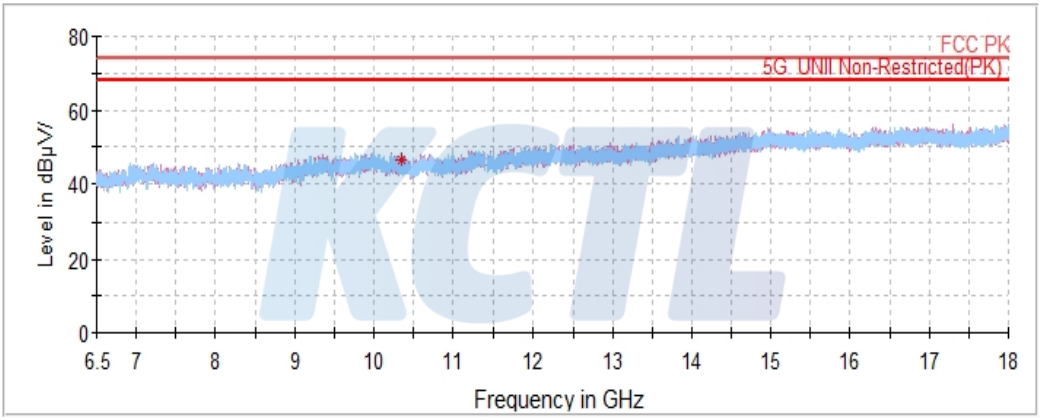
Horizontal/Vertical for Band-edge



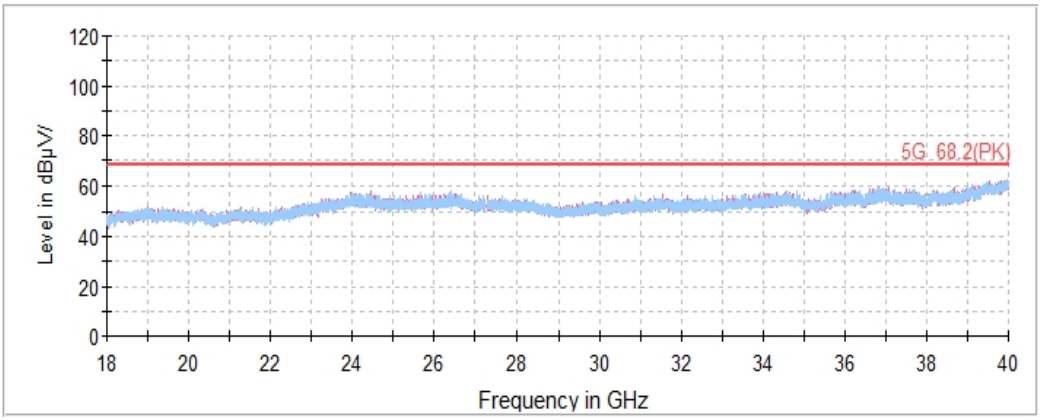
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



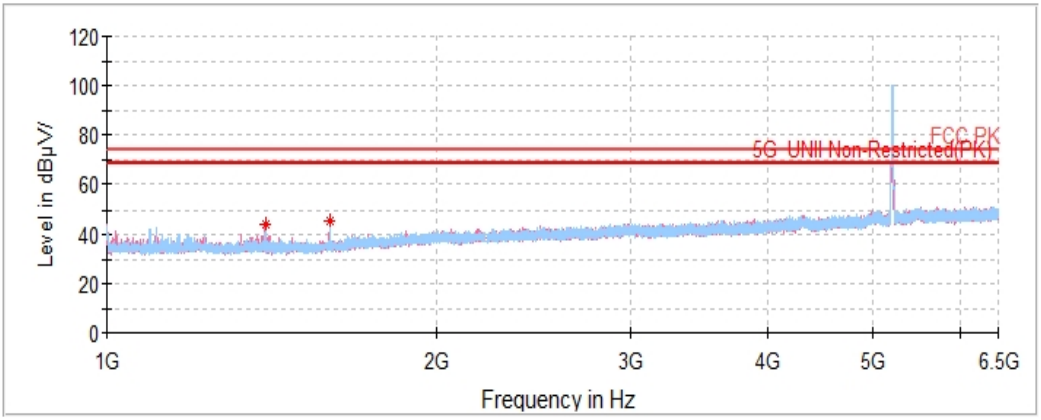
Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



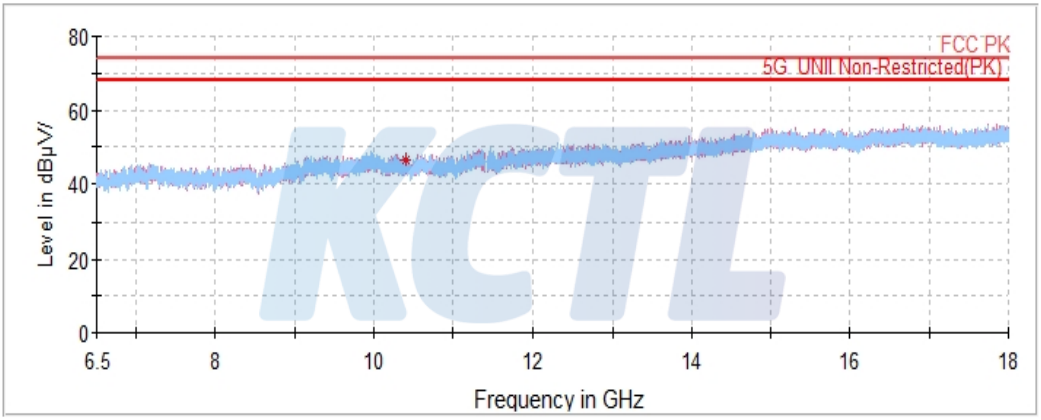
Middle Channel (5 200 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
10 399.22	V	61.83	37.34	-52.56	-	46.61	68.20	21.59
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

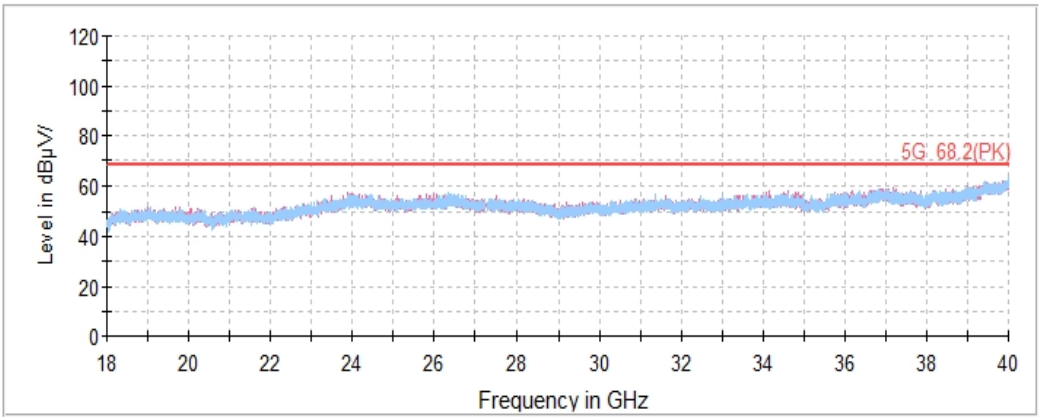
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



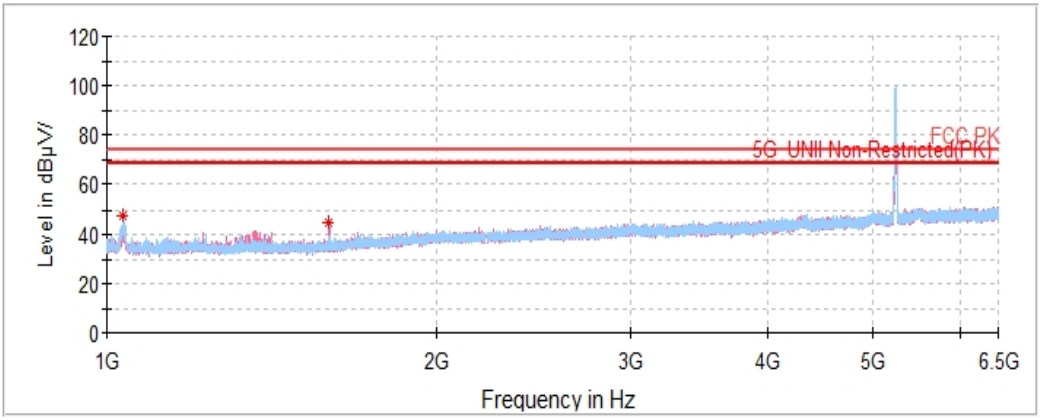
Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



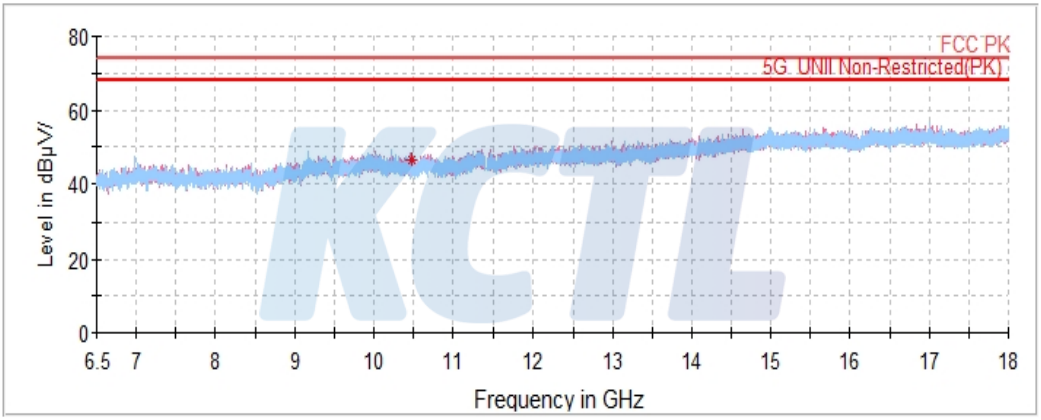
Highest Channel (5 240 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
10 480.08	H	59.67	37.39	-52.69	-	44.37	68.20	23.83
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

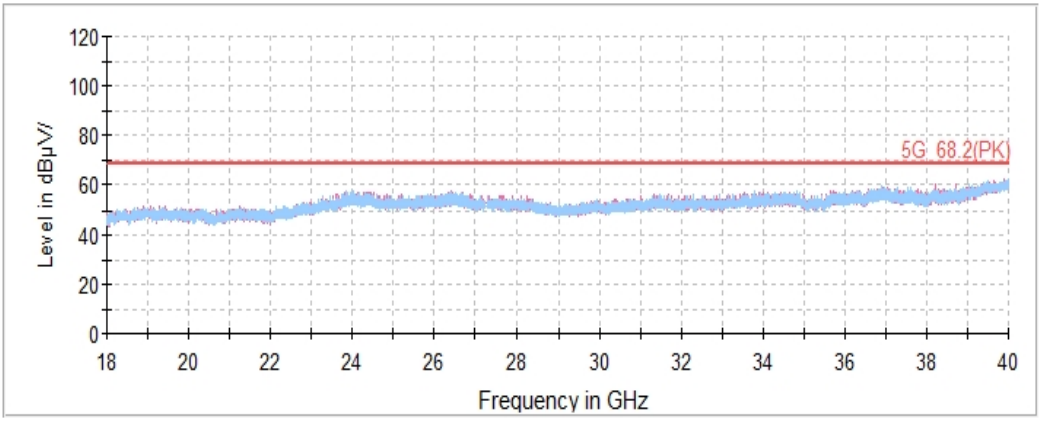
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



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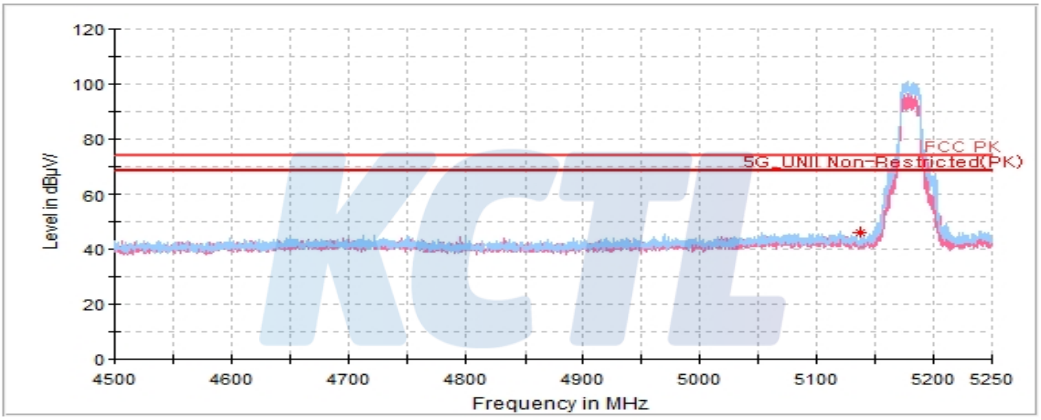
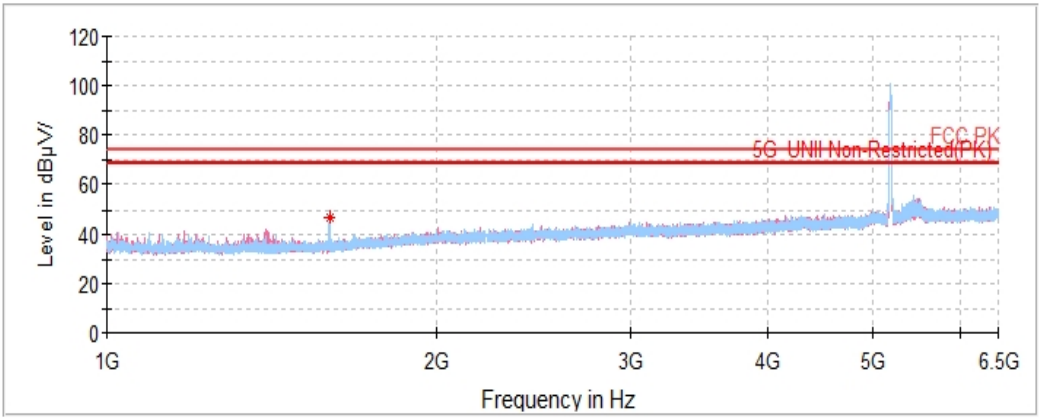
Lowest Channel (5 180 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 136.69[1)]	H	40.22	34.06	-27.97	-	46.31	74.00	27.69
6 906.45	H	68.34	35.48	-53.99	-	49.83	68.20	18.37
10 361.48	V	69.63	37.32	-52.50	-	54.45	68.20	13.75
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

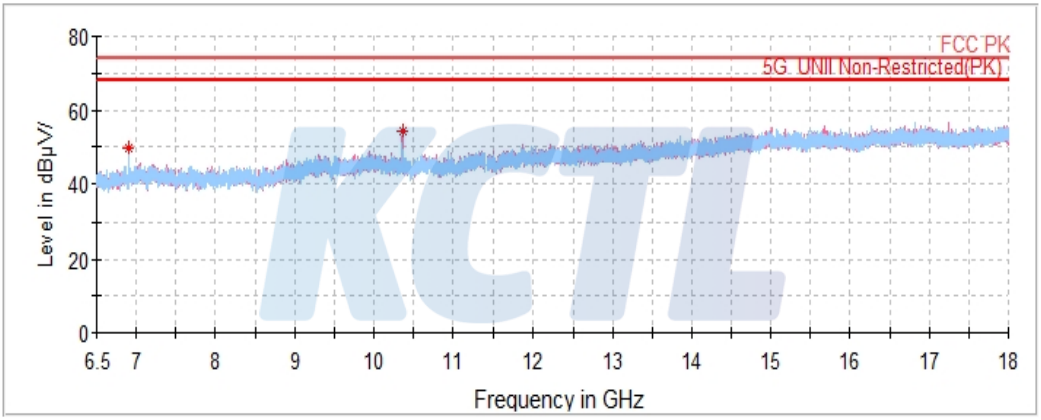
Horizontal/Vertical for Band-edge



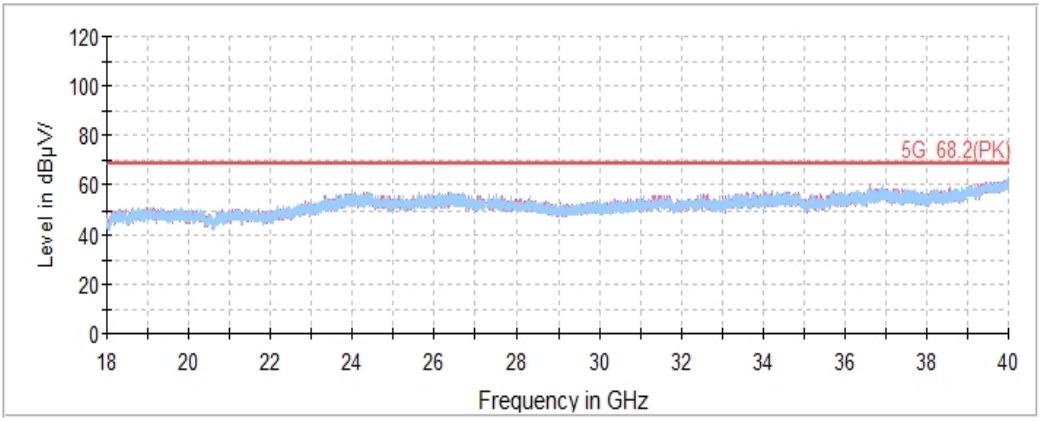
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



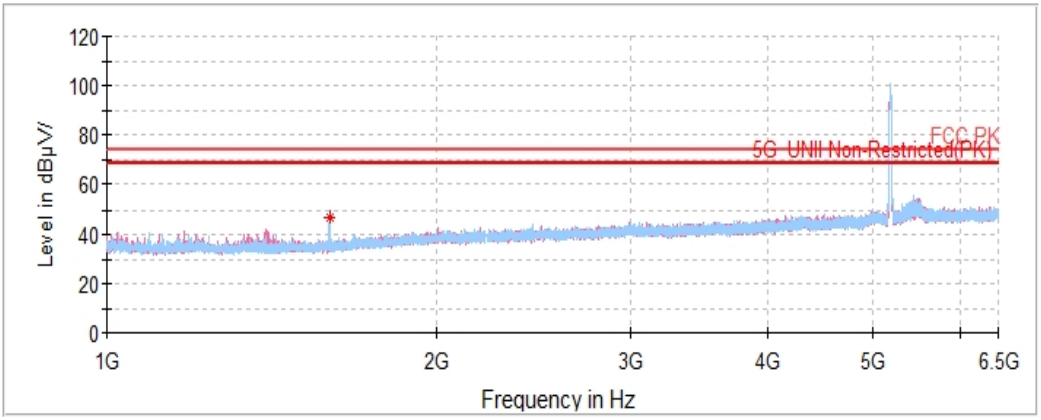
Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



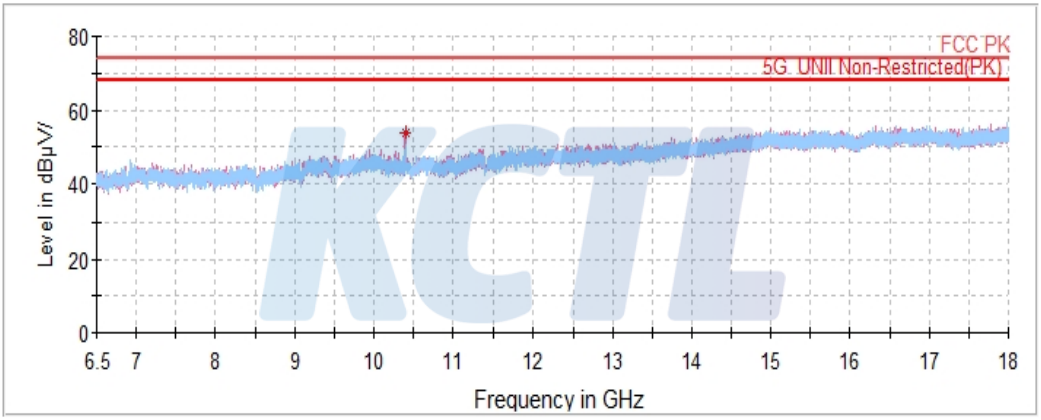
Middle Channel (5 200 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
10 401.02[1)]	V	68.80	37.34	-52.56	-	53.58	68.20	14.62
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

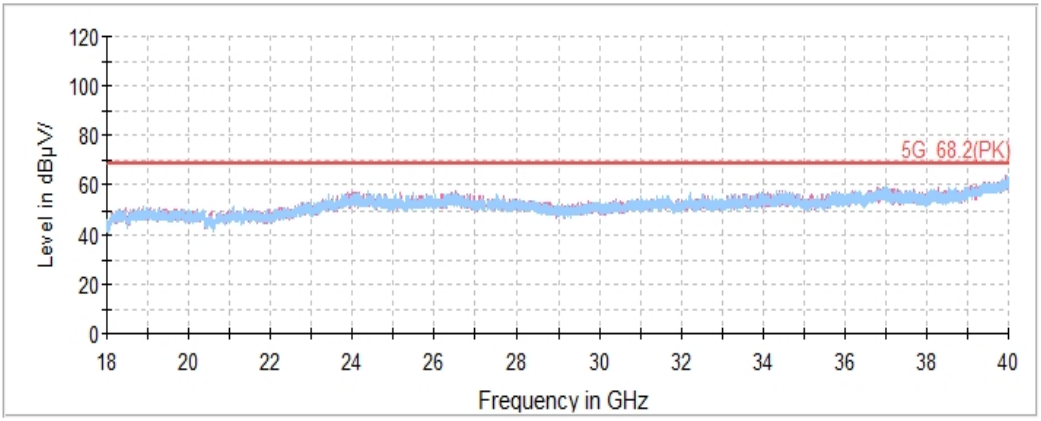
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



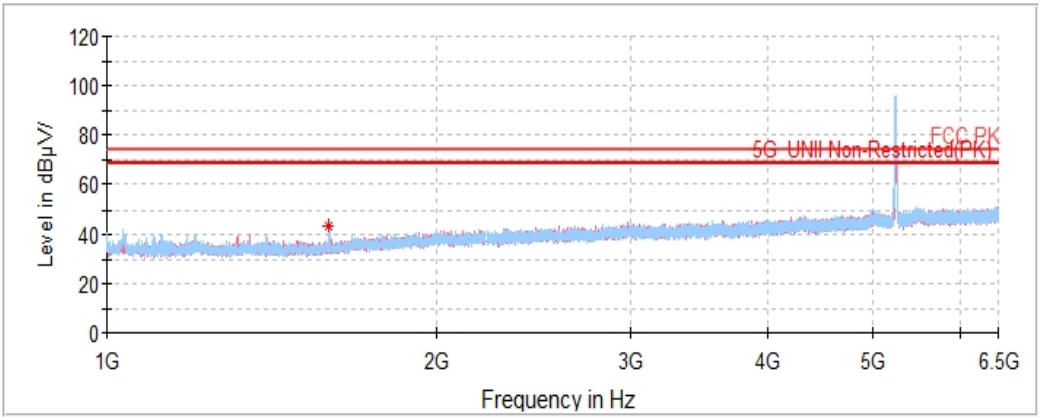
Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



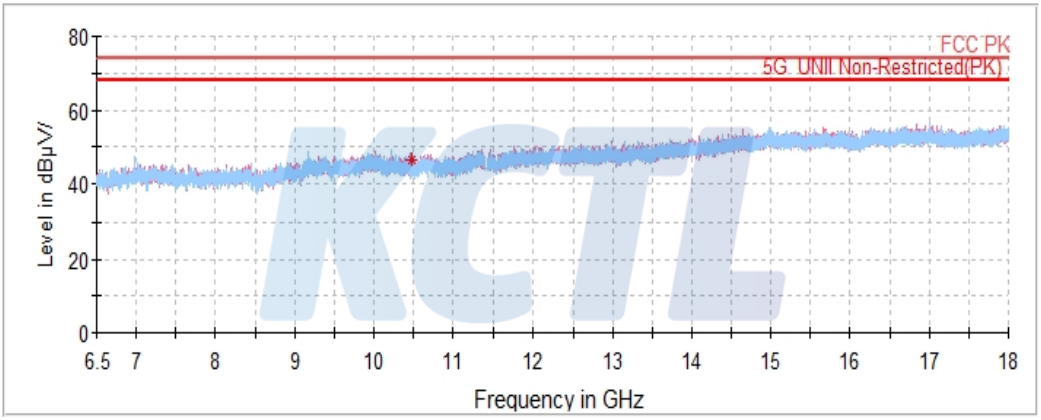
Highest Channel (5 240 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
10 480.44	V	61.65	37.39	-52.69	-	46.35	68.20	21.85
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

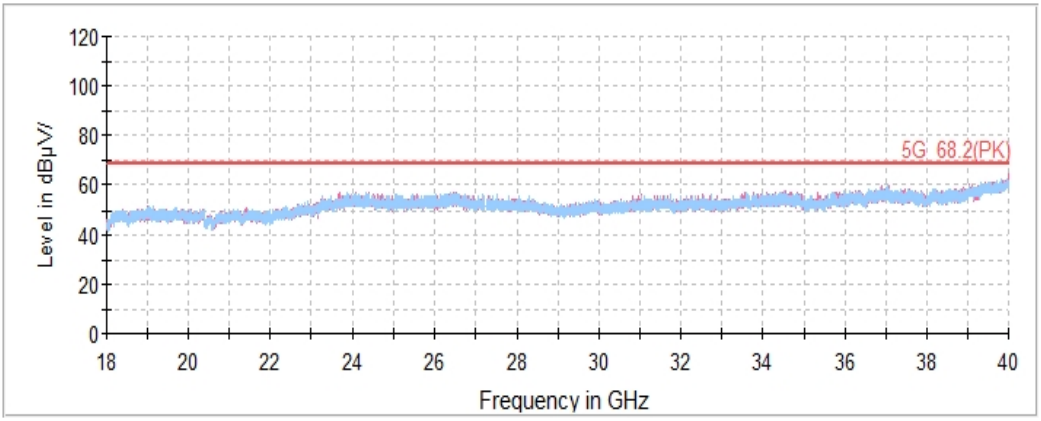
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



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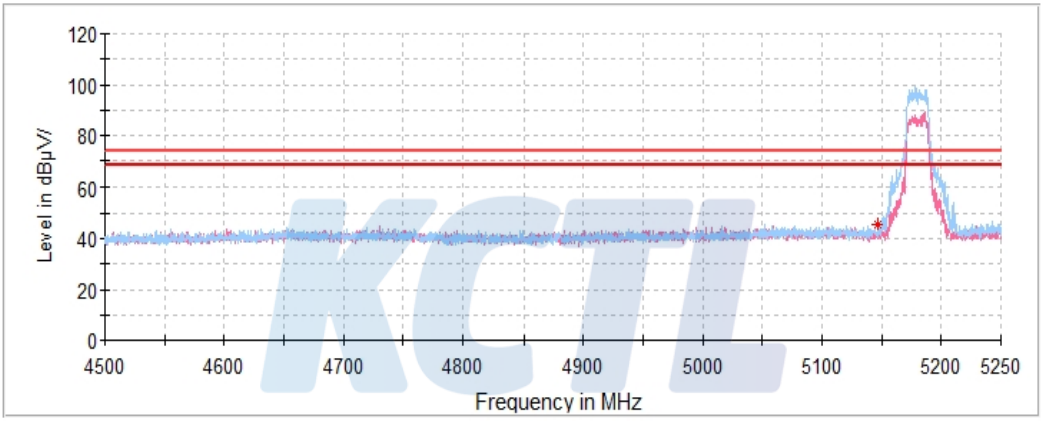
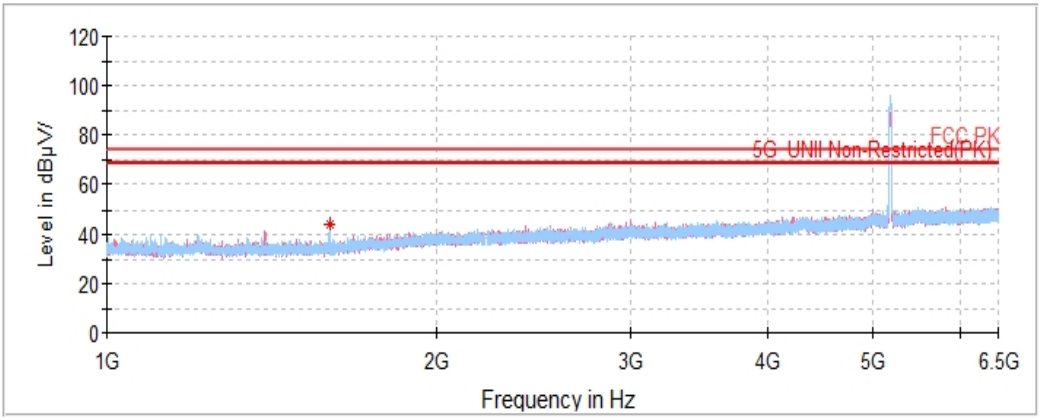
Lowest Channel (5 180 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 147.34[1)]	H	39.72	34.08	-28.10	-	45.70	74.00	28.30
10 364.36	V	59.62	37.32	-52.51	-	44.43	68.20	23.77
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

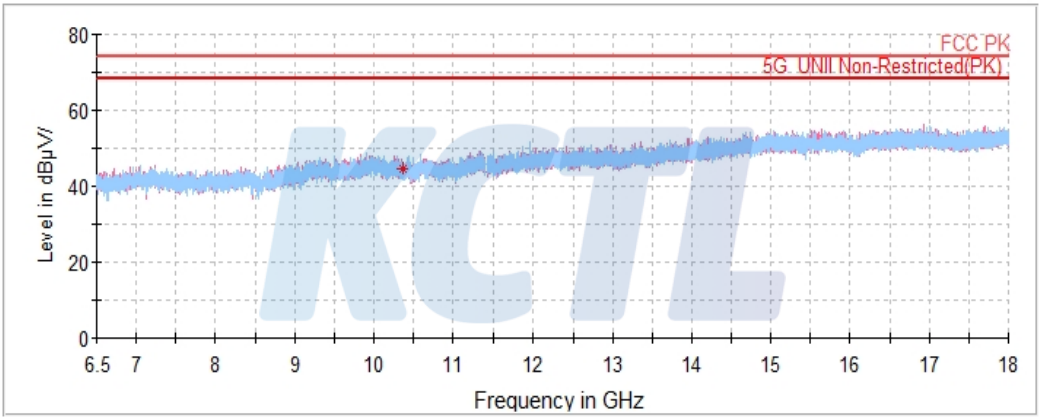
Horizontal/Vertical for Band-edge



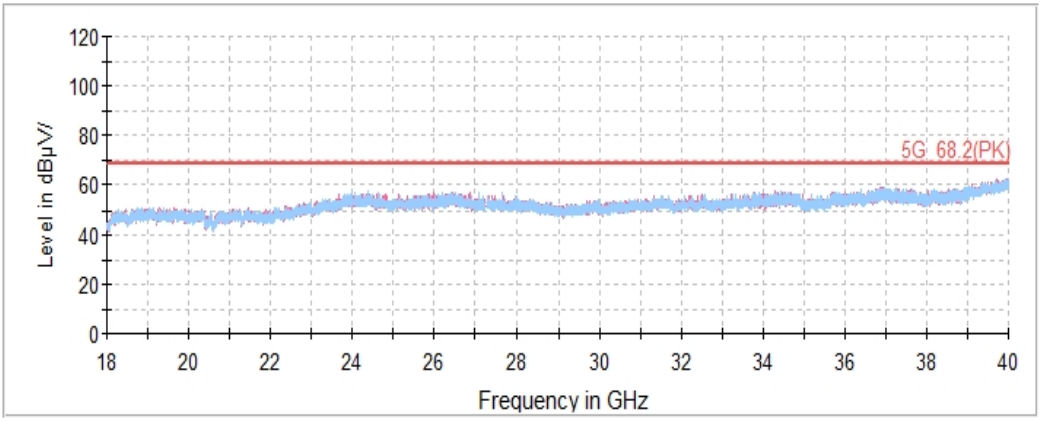
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



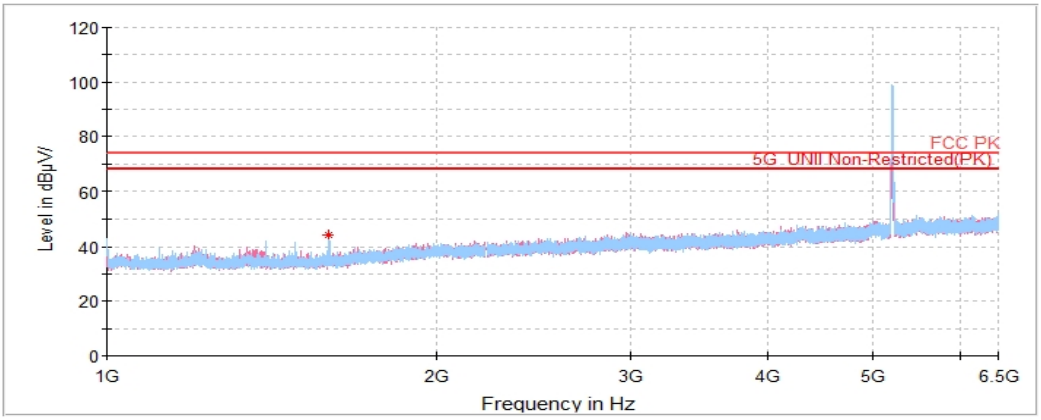
Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



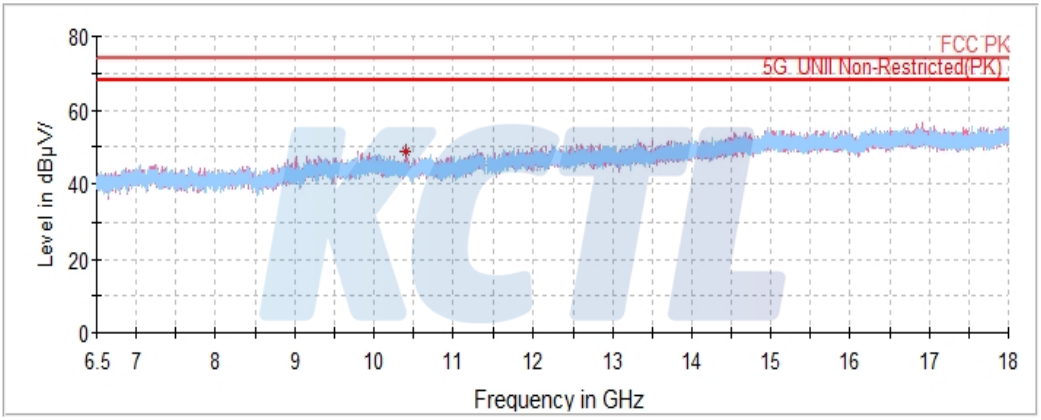
Middle Channel (5 200 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
10 402.09	V	63.96	37.34	-52.57	-	48.73	68.20	19.47
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

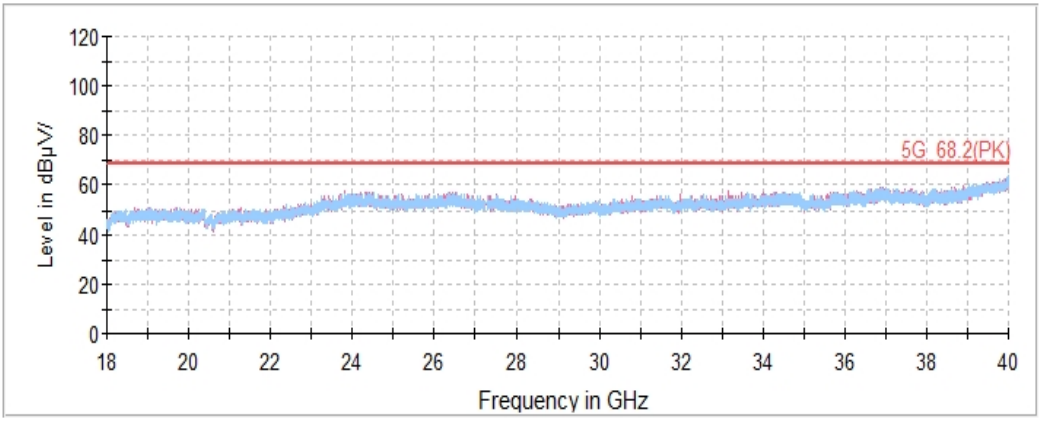
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



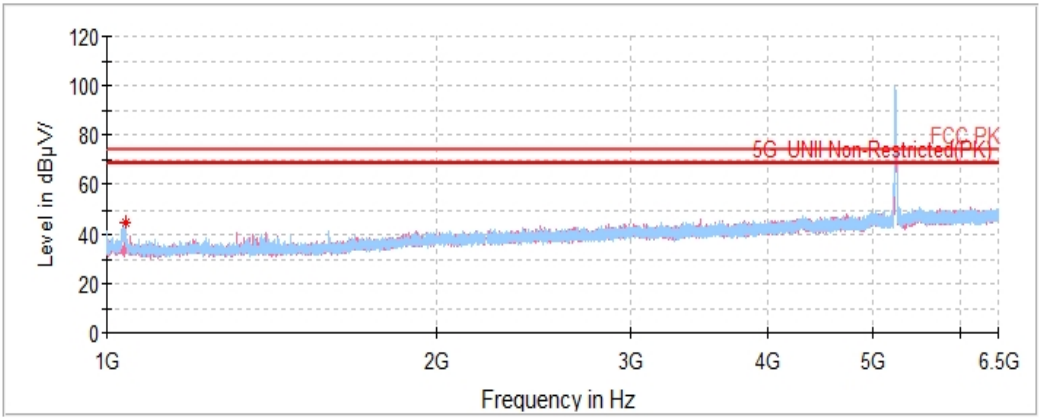
Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



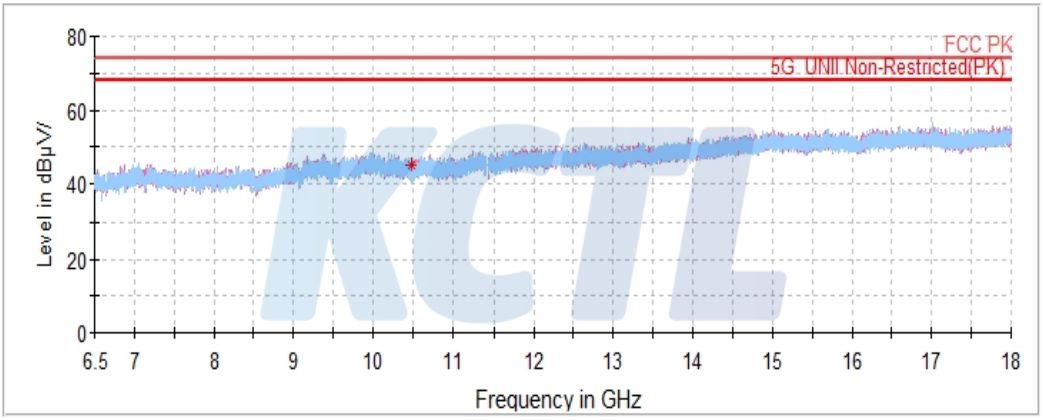
Highest Channel (5 240 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
10 480.44	V	60.28	37.39	-52.69	-	44.98	68.20	23.22
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

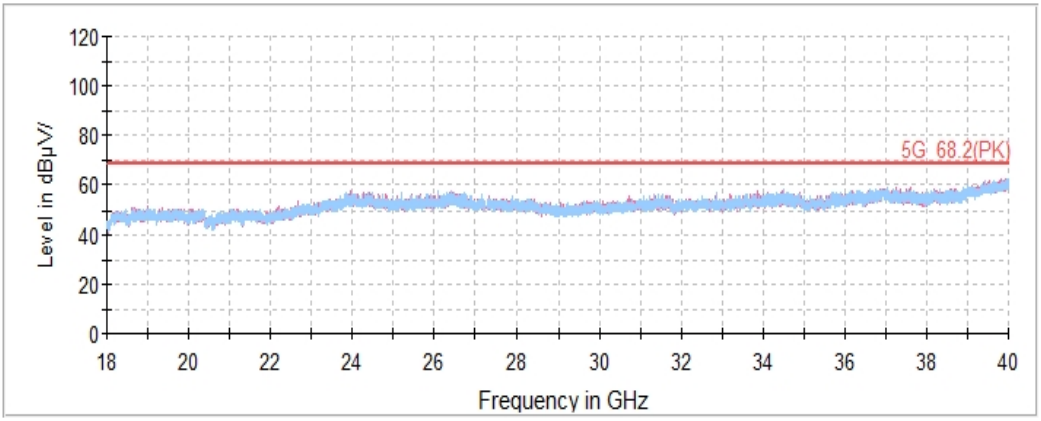
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



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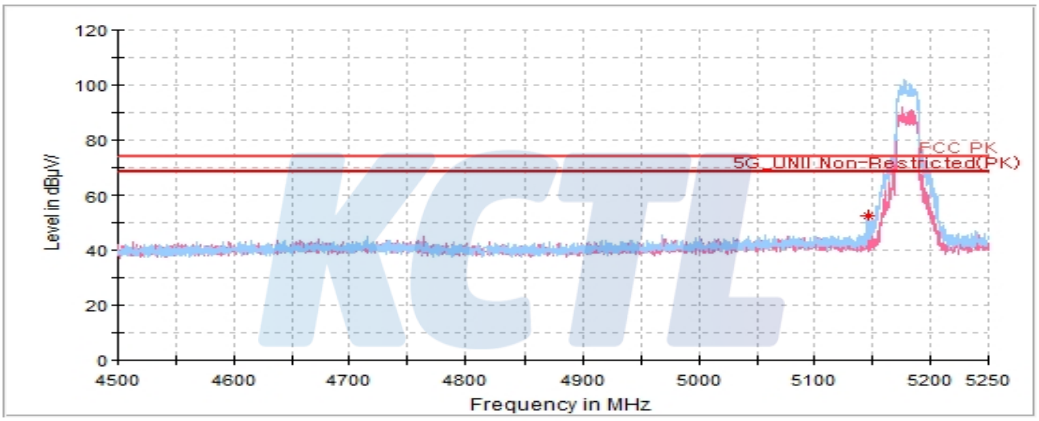
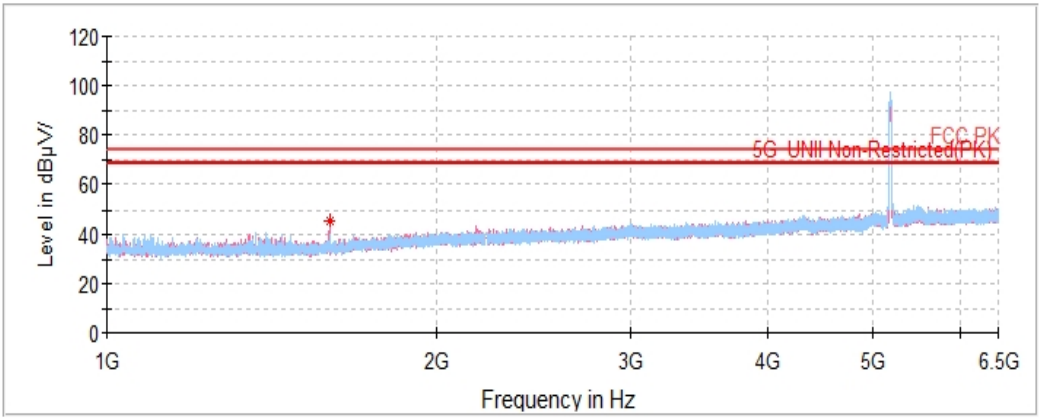
Lowest Channel (5 180 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 146.14[1)]	H	46.75	34.08	-28.09	-	52.74	74.00	21.26
6 906.45	H	68.74	35.48	-53.99	-	50.23	68.20	17.97
10 358.61	V	70.33	37.32	-52.50	-	55.15	68.20	13.05
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

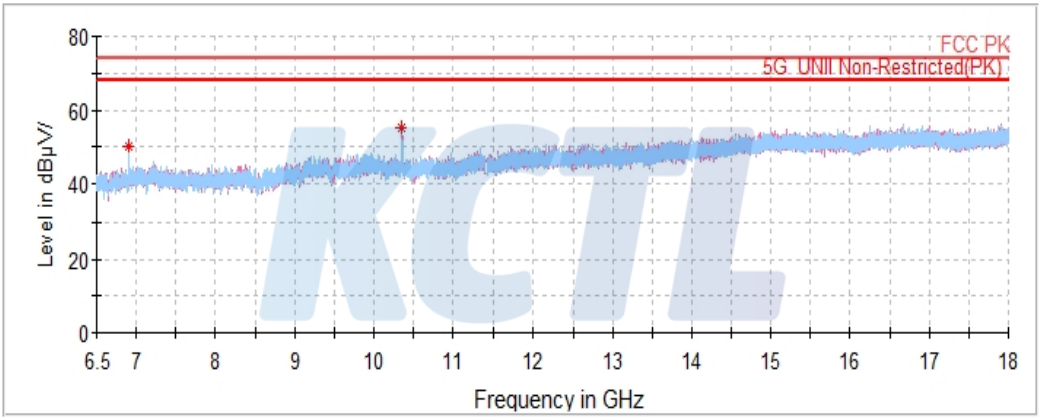
Horizontal/Vertical for Band-edge



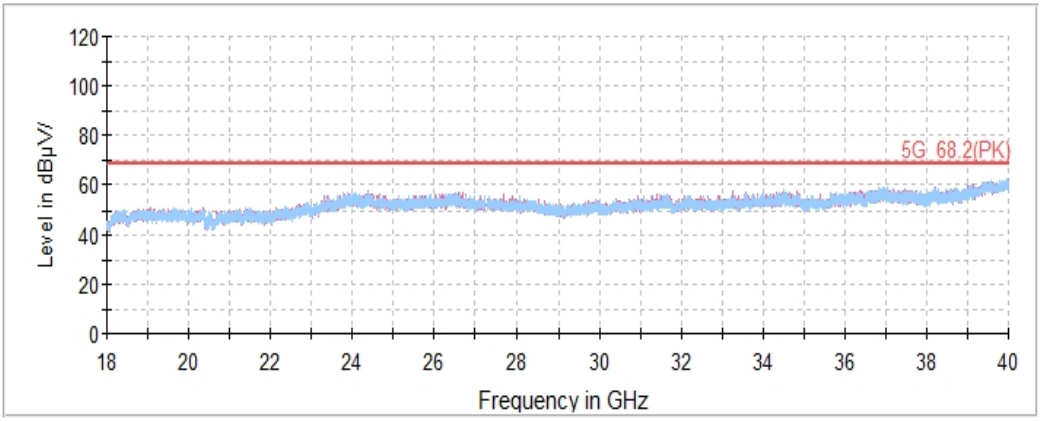
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



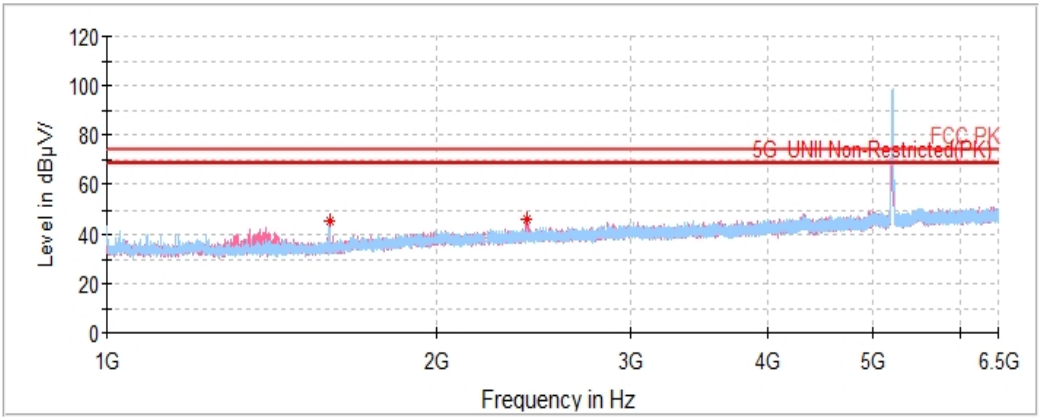
Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



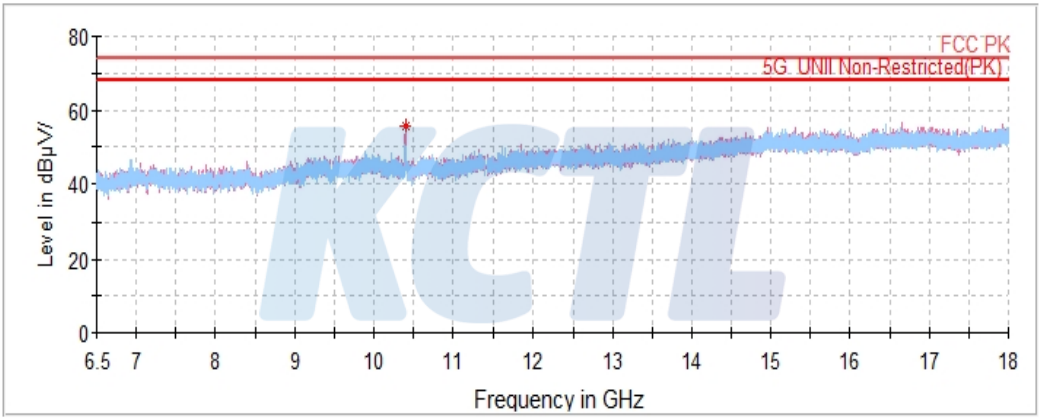
Middle Channel (5 200 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
10 404.61	V	70.66	37.34	-52.57	-	55.43	68.20	12.77
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

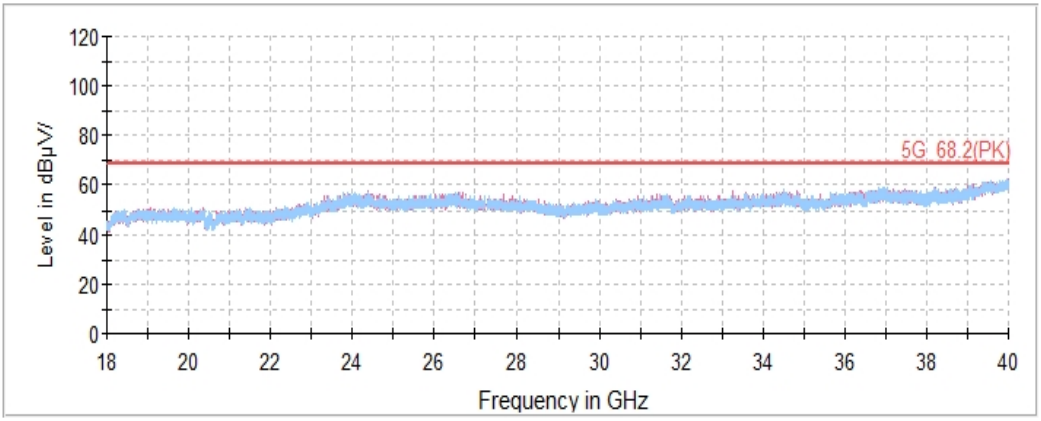
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



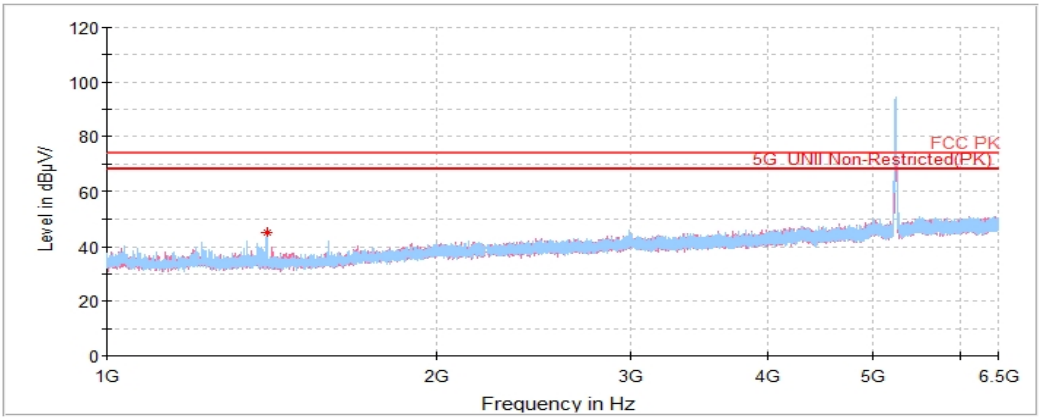
Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



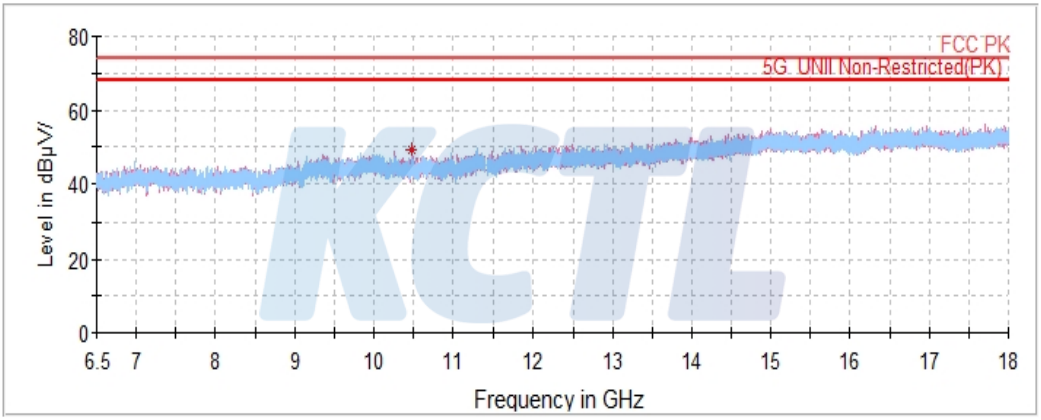
Highest Channel (5 240 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
10 484.03	V	64.36	37.39	-52.69	-	49.06	68.20	19.14
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

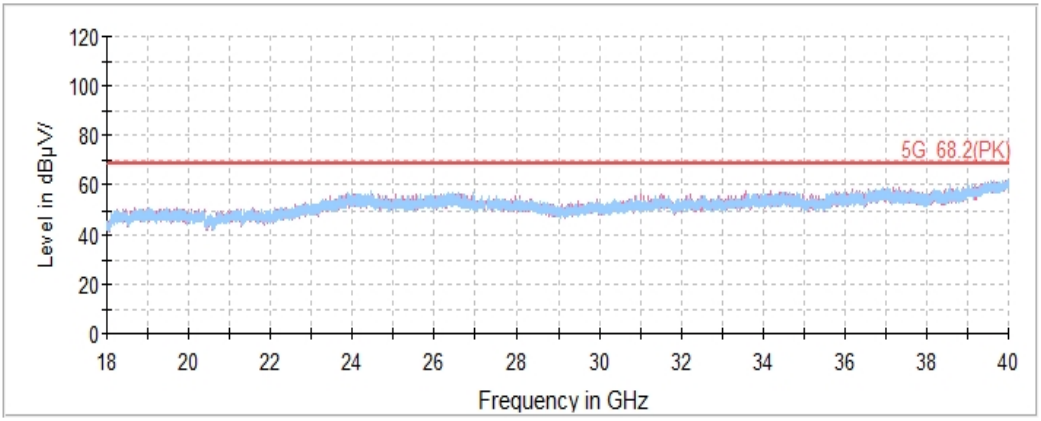
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



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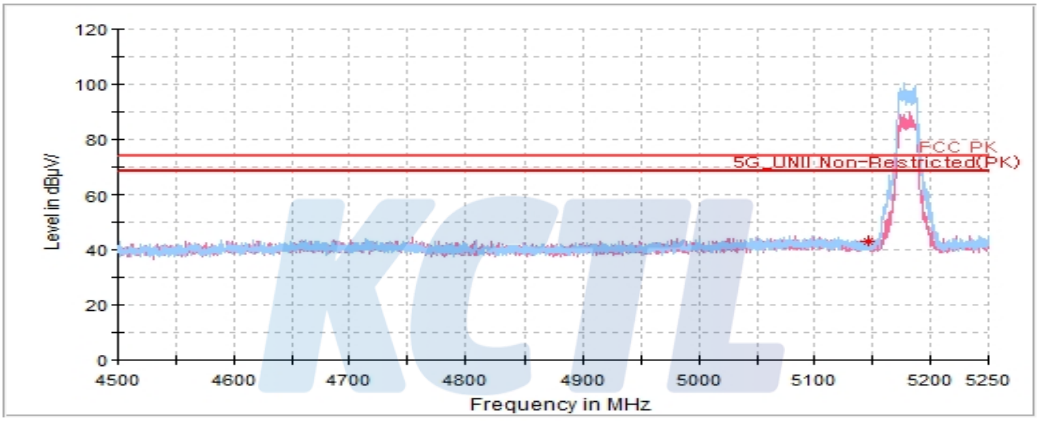
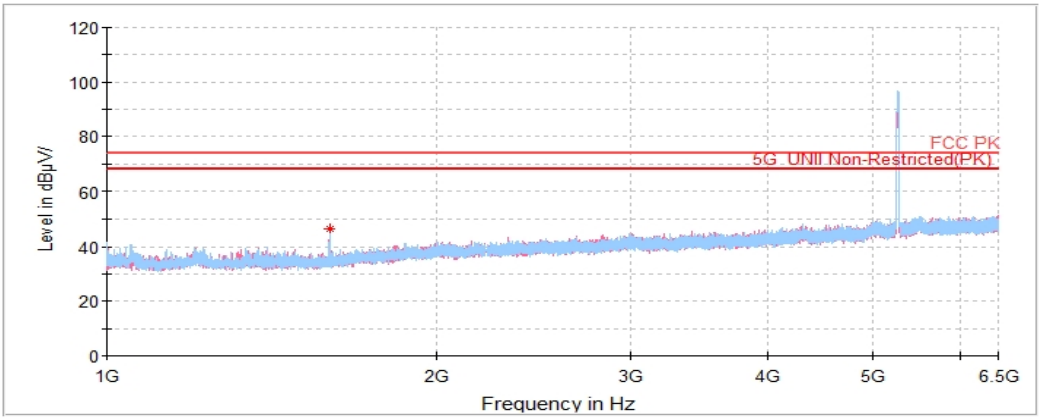
Lowest Channel (5 180 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 146.31[1)]	V	37.42	34.08	-28.09	-	43.41	74.00	30.59
10 357.53	V	63.17	37.31	-52.50	-	47.98	68.20	20.22
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

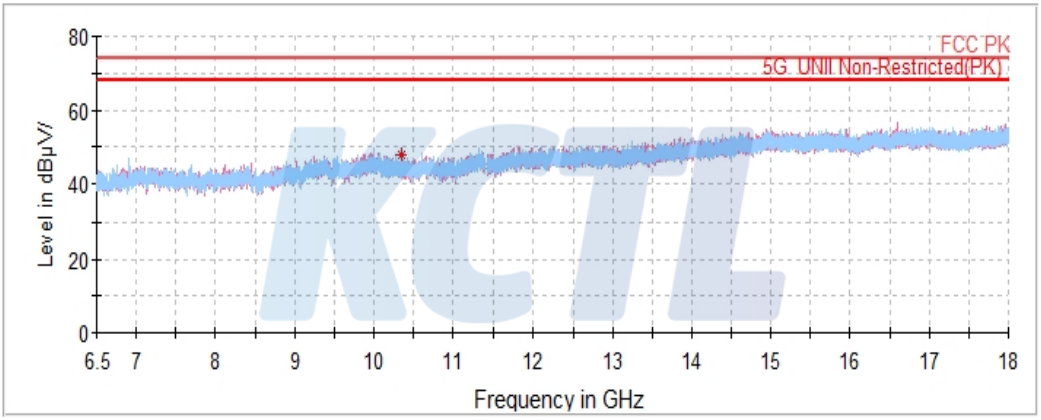
Horizontal/Vertical for Band-edge



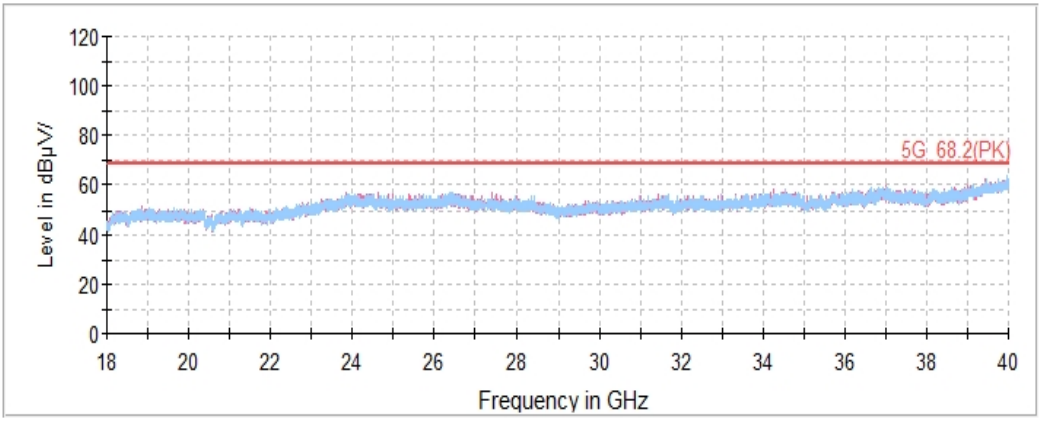
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



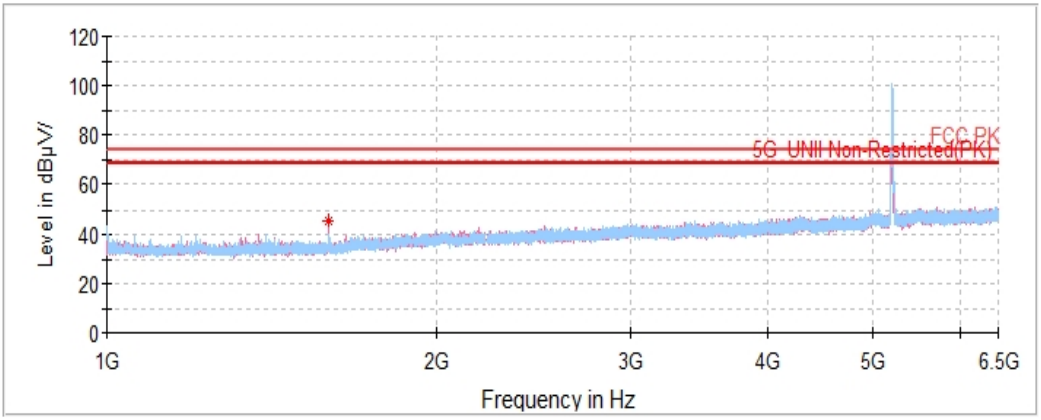
Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



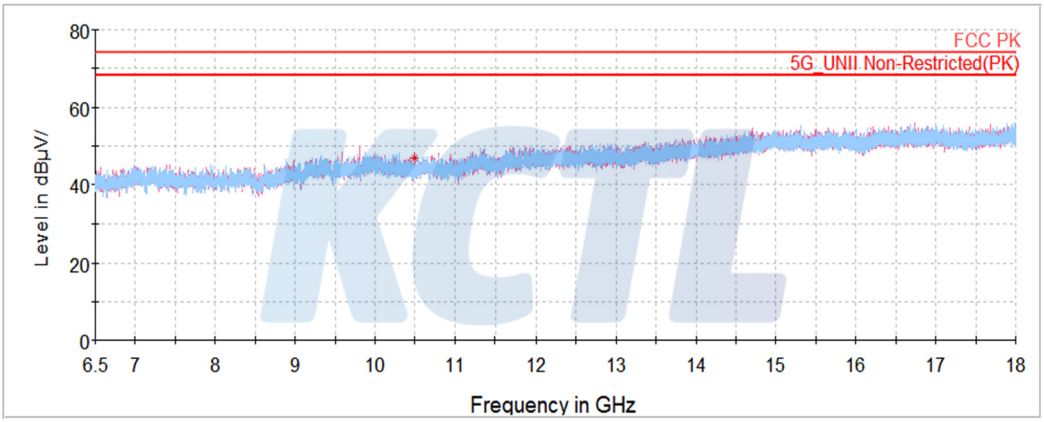
Middle Channel (5 200 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
6 933.41	H	67.24	35.49	-53.96	-	48.77	68.20	19.43
10 405.69	H	62.01	37.34	-52.57	-	46.78	68.20	21.42
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

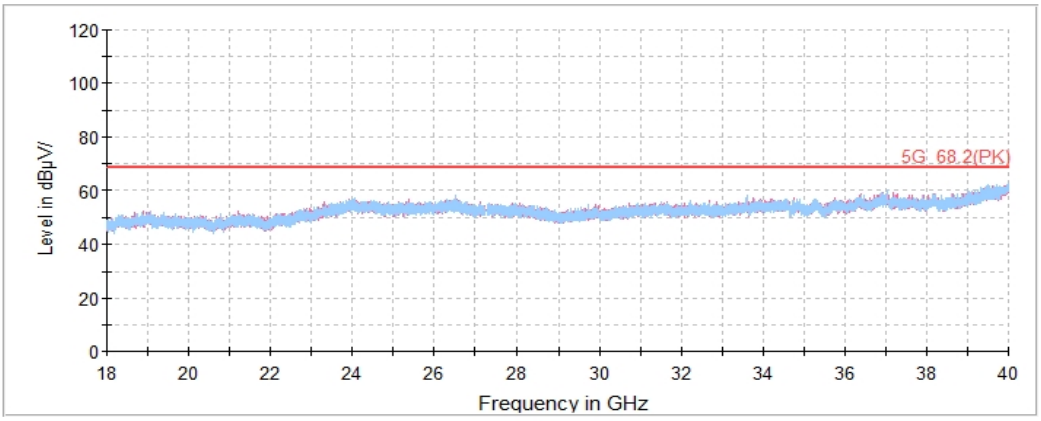
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



Highest Channel (5 240 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
10 491.94	V	62.22	37.40	-52.71	-	46.91	68.20	21.29
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								