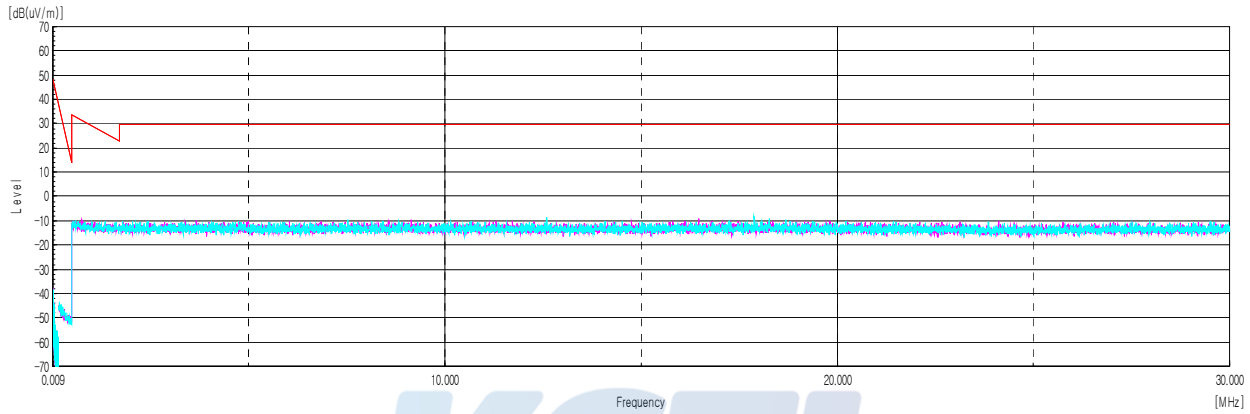
Test results (Below 30 ㎒) – Worst case: 802.11g mode / 2 437 ㎒

Frequency	Pol.	Reading	Cable Loss	Amp Gain	Antenna Factor	DCF	Result	Limit	Margin
[MHz]	[V/H]	[dB(μV)]	[dB]	[dB]	[dB]	[dB]	[dB(μV/m)]	[dB(μV/m)]	[dB]
No spurious emissions were detected within 20 ㏈ of the limit.									

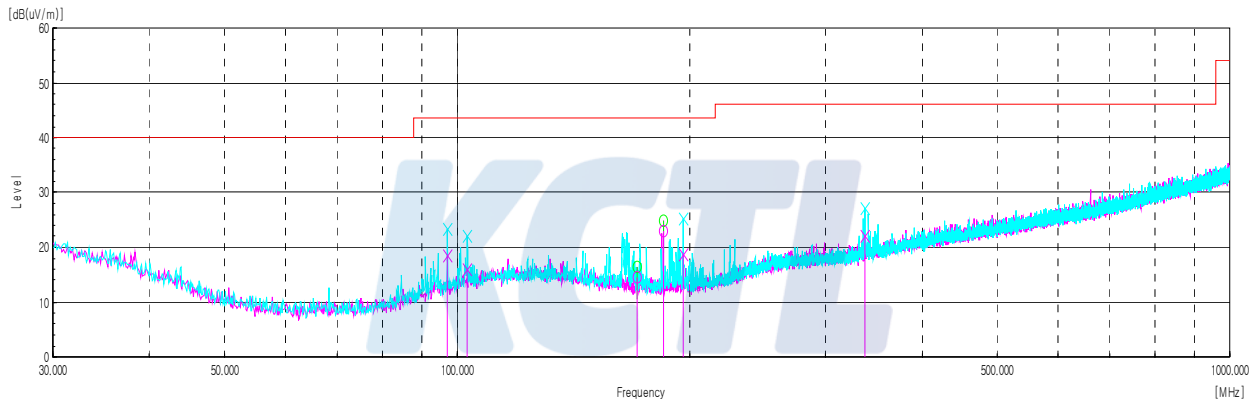
Horizontal/Vertical



Test results (Below 1 000 ㎒) – Worst case: 802.11g mode / 2 437 ㎒

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Quasi peak data								
97.29	V	31.20	15.40	-12.60	-	18.60	43.50	24.90
103.11	V	27.80	17.96	-11.70	-	16.10	43.50	27.40
170.89	H	26.90	22.03	-12.40	-	14.50	43.50	29.00
184.96	H	35.40	23.52	-12.50	-	22.90	43.50	20.60
196.36	V	31.00	27.59	-12.30	-	18.70	43.50	24.80
337.13	V	28.20	27.70	-6.00	-	22.20	46.00	23.80

Horizontal/Vertical

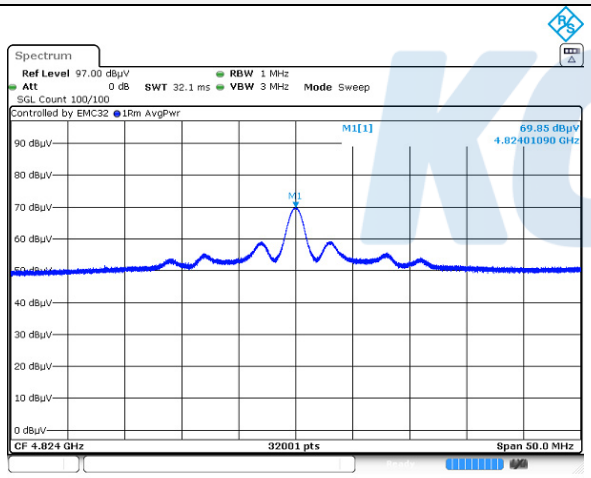


Test results (Above 1 000 ㎒)
802.11b

2 412 ㎒

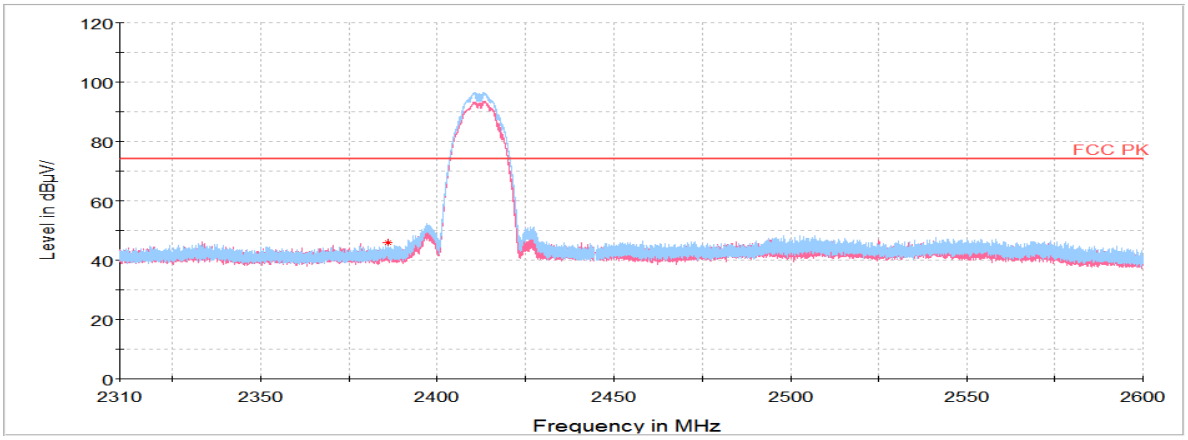
Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
2 386.14[1)]	H	43.12	31.87	-29.06	-	45.93	74.00	28.07
4 018.83[1)]	V	72.67	33.03	-56.62	-	49.08	74.00	24.92
4 824.01[1)]	H	72.46	33.93	-53.58	-	52.81	74.00	21.19
6 431.72	H	76.23	35.40	-54.89	-	56.74	74.00	17.26
12 864.28	H	62.09	38.95	-50.40	-	50.64	74.00	23.36
Average Data								
4 824.01[1)]	H	69.85	33.93	-53.58	0.13	50.33	54.00	3.67

Average data

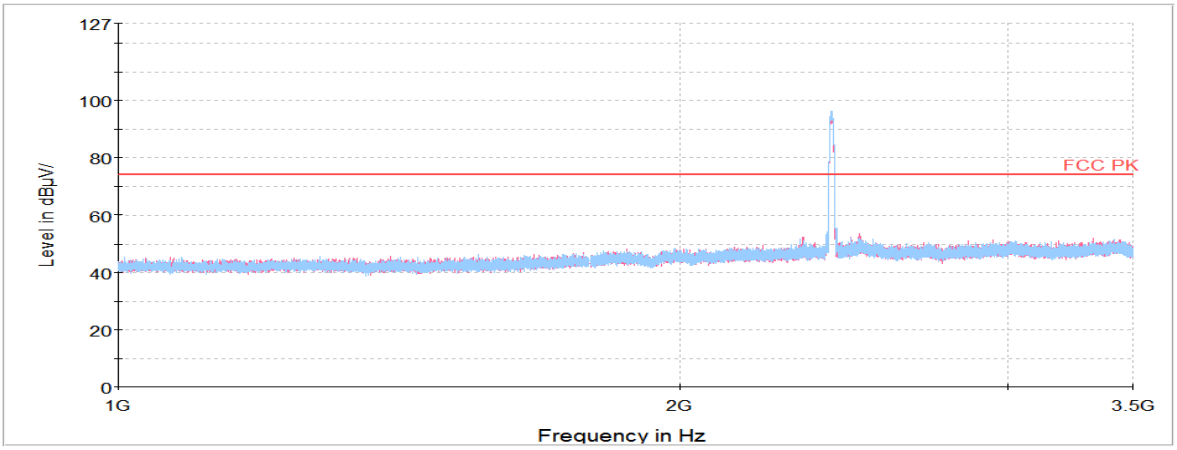


Blank

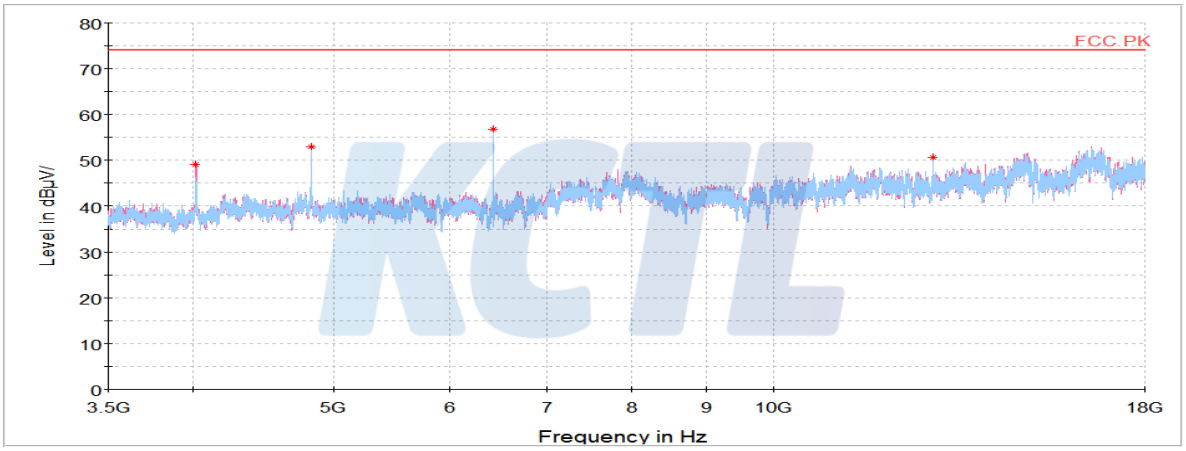
Horizontal/Vertical for Band-edge



Horizontal/Vertical for 1 ㎓ ~ 3.5 ㎓



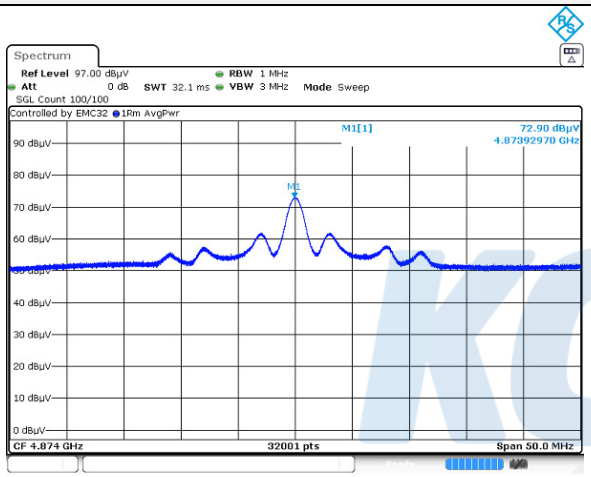
Horizontal/Vertical for 3.5 ㎓ ~ 18 ㎓



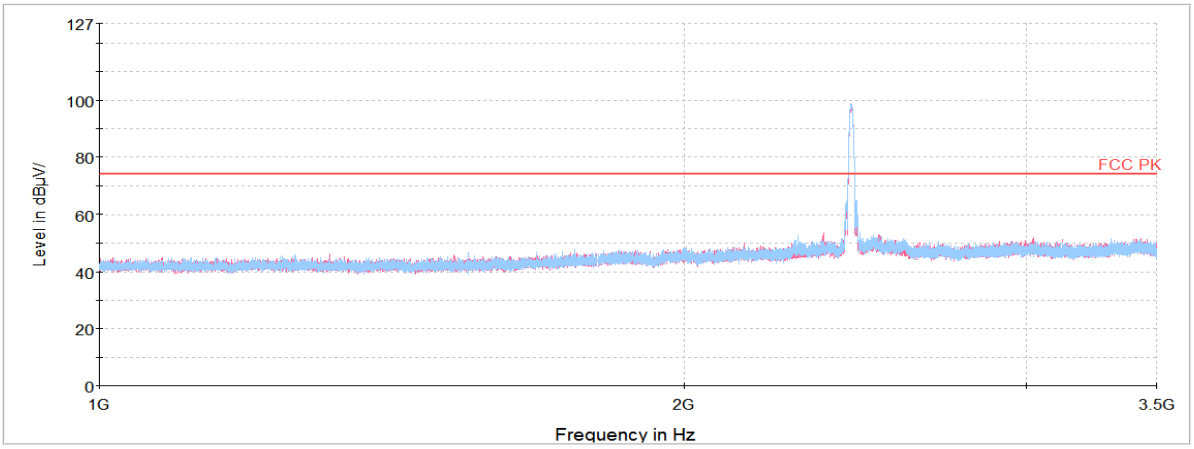
Horizontal/Vertical for 18 ㎓ ~ 26.5 ㎓

2 437 ㎒

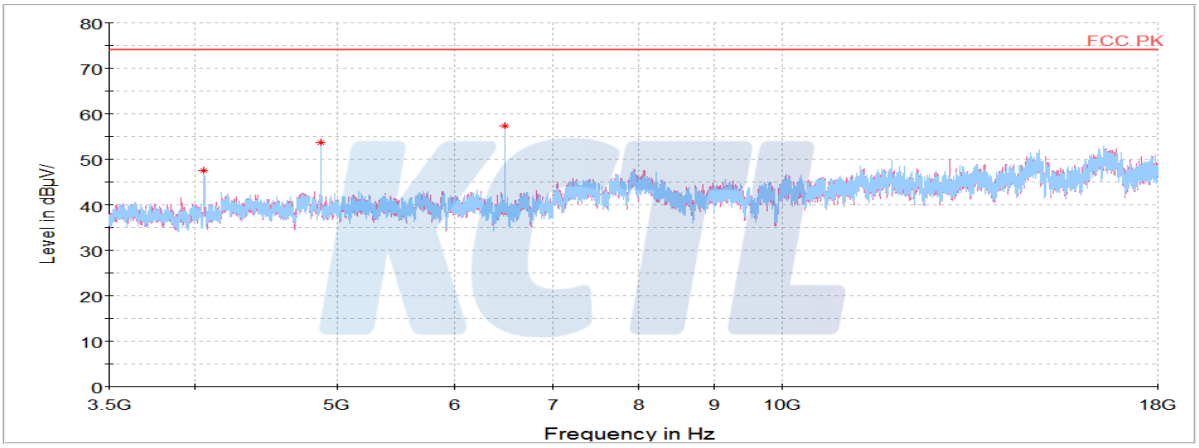
Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
4 060.97[1)]	V	70.94	33.10	-56.56	-	47.48	74.00	26.52
4 873.93[1)]	H	74.58	33.95	-55.00	-	53.53	74.00	20.47
6 498.78	H	76.70	35.40	-54.79	-	57.31	74.00	16.69
Average Data								
4 873.93[1)]	H	72.90	33.95	-55.00	0.13	51.98	54.00	2.02

Average data	
	Blank

Horizontal/Vertical for 1 ㎓ ~ 3.5 ㎓



Horizontal/Vertical for 3.5 ㎓ ~ 18 ㎓

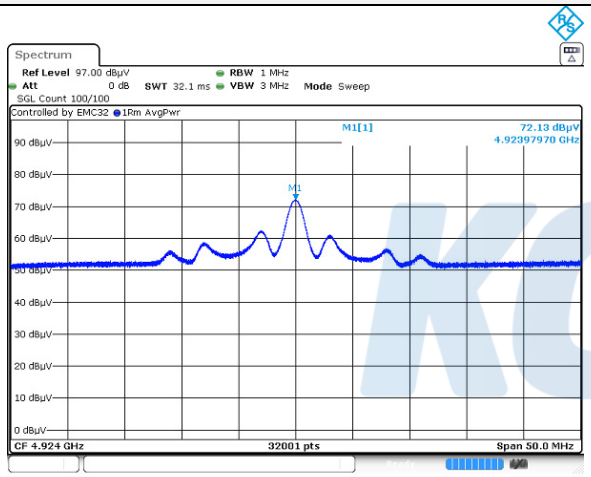


Horizontal/Vertical for 18 ㎓ ~ 26.5 ㎓

2 462 MHz

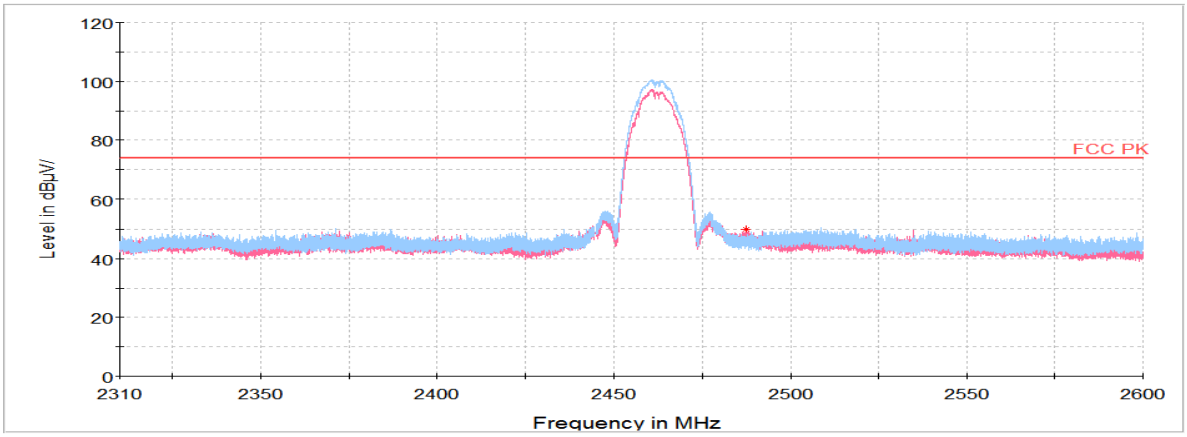
Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
2 487.56[1)]	V	47.00	32.08	-29.22	-	49.86	74.00	24.14
4 104.47[1)]	H	72.72	33.17	-56.42	-	49.47	74.00	24.53
4 923.98[1)]	H	72.83	33.97	-55.31	-	51.49	74.00	22.51
6 565.39	H	75.92	35.40	-54.67	-	56.65	74.00	17.35
Average Data								
4 923.98[1)]	H	72.13	33.97	-55.31	0.13	50.92	54.00	3.08

Average data

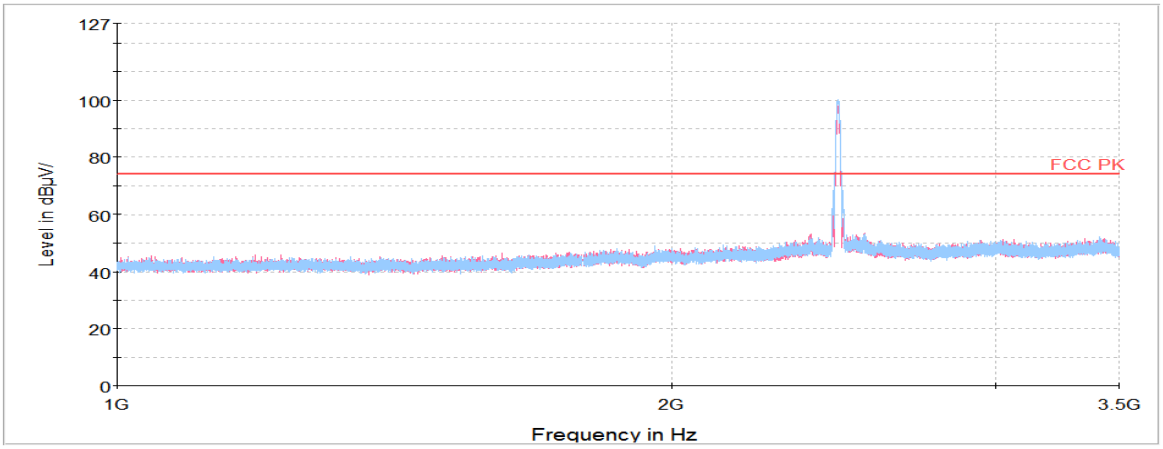


Blank

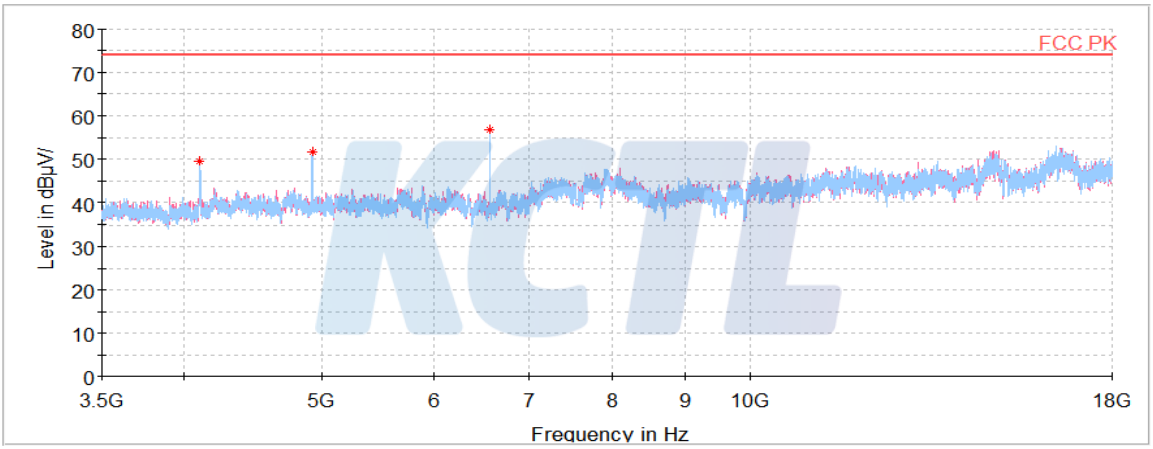
Horizontal/Vertical for Band-edge



Horizontal/Vertical for 1 ㎓ ~ 3.5 ㎓



Horizontal/Vertical for 3.5 ㎓ ~ 18 ㎓



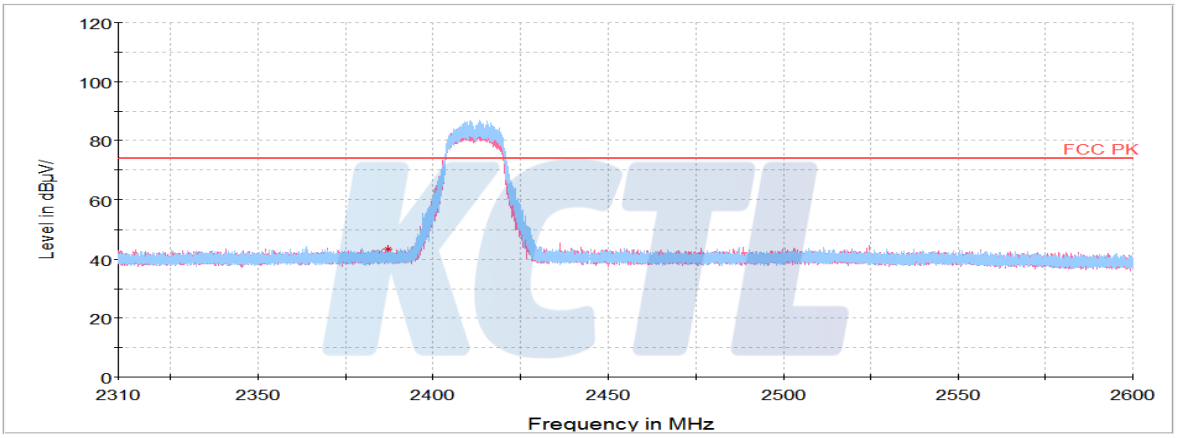
Horizontal/Vertical for 18 ㎓ ~ 26.5 ㎓

802.11g

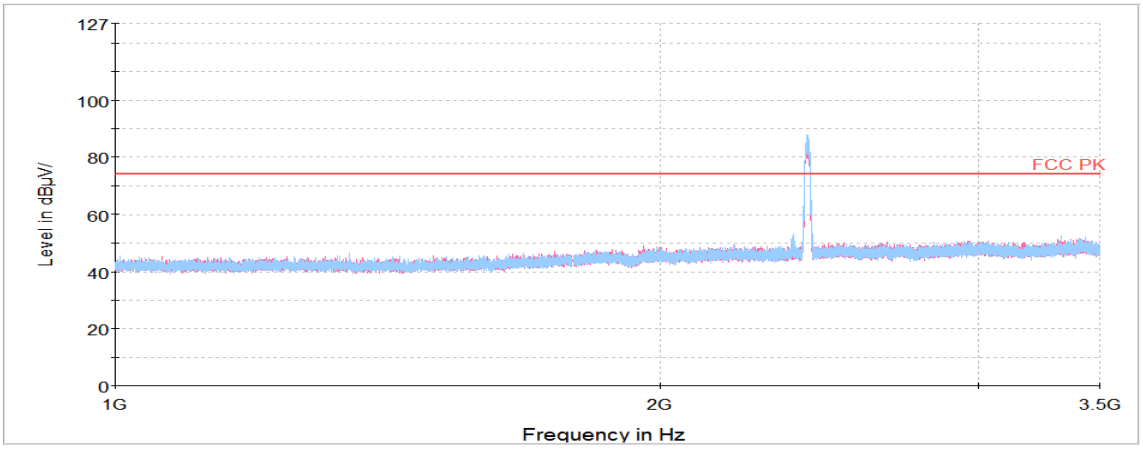
2 412 MHz

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
2 387.10[1)]	H	40.62	31.87	-29.05	-	43.44	74.00	30.56
6 431.72	H	74.58	35.40	-54.89	-	55.09	74.00	18.91
12 864.28	H	62.69	38.95	-50.40	-	51.24	74.00	22.76
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

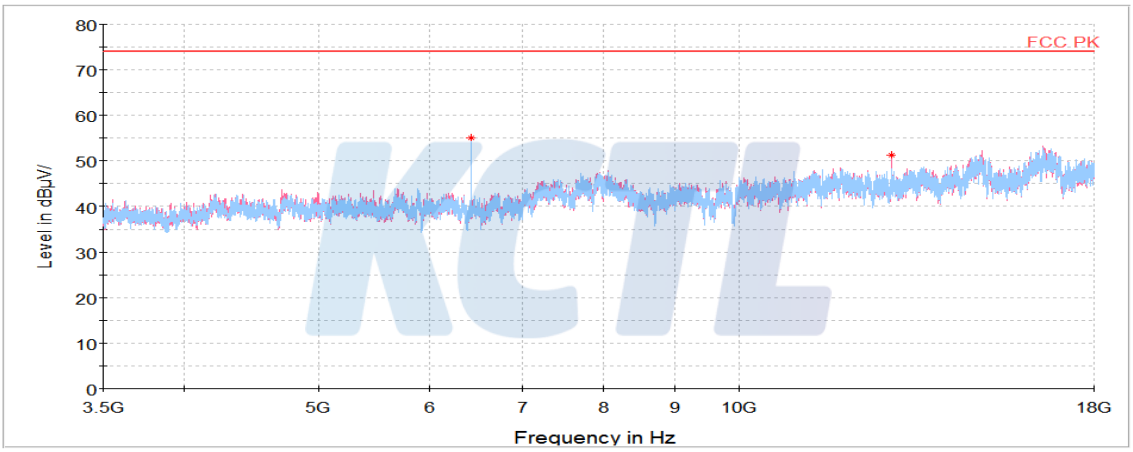
Horizontal/Vertical for Band-edge



Horizontal/Vertical for 1 ㎓ ~ 3.5 ㎓



Horizontal/Vertical for 3.5 ㎓ ~ 18 ㎓



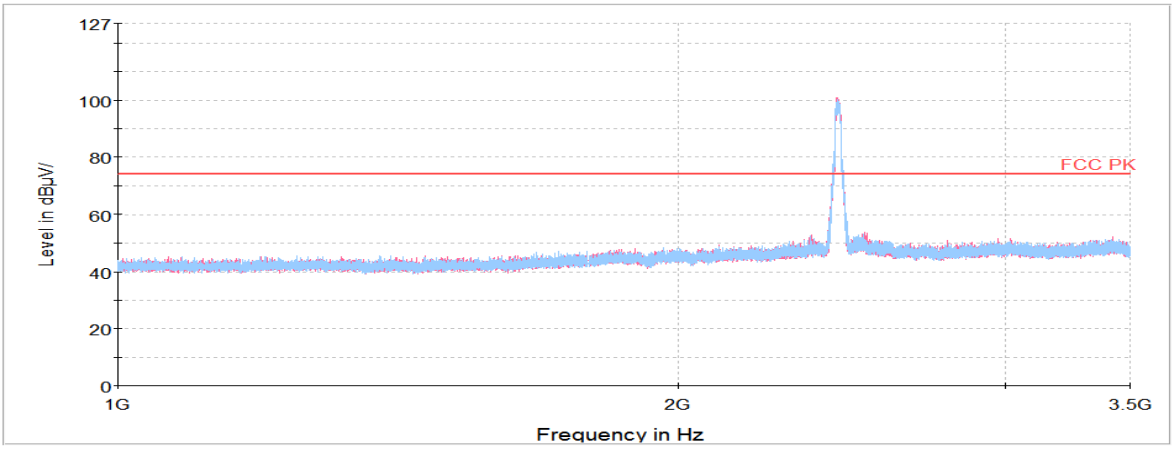
Horizontal/Vertical for 18 ㎓ ~ 26.5 ㎓

2 437 ㎒

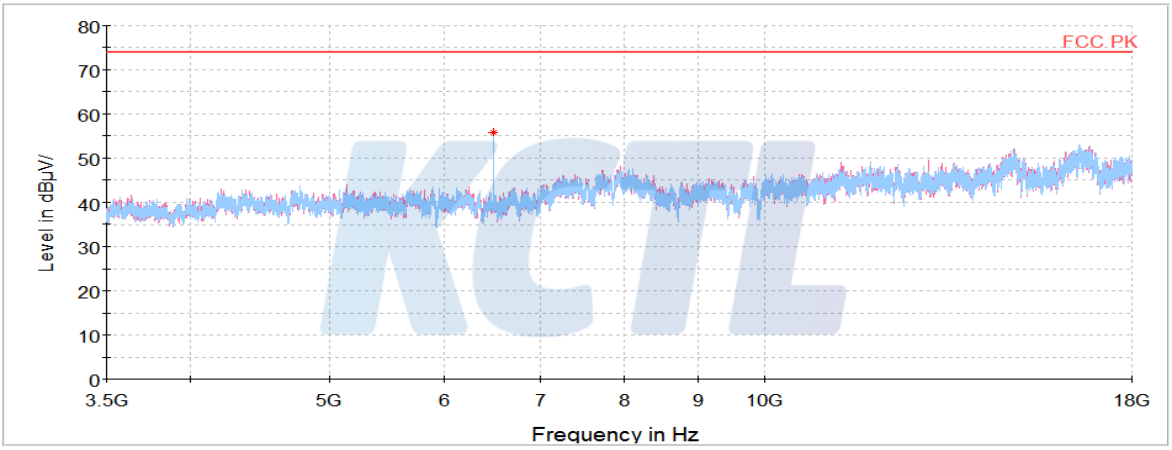
Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
6 498.78	H	75.10	35.40	-54.79	-	55.71	74.00	18.29
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

KCTL

Horizontal/Vertical for 1 ㎓ ~ 3.5 ㎓



Horizontal/Vertical for 3.5 ㎓ ~ 18 ㎓

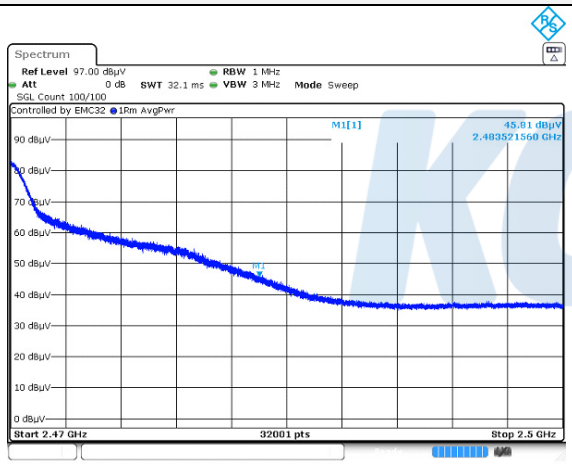


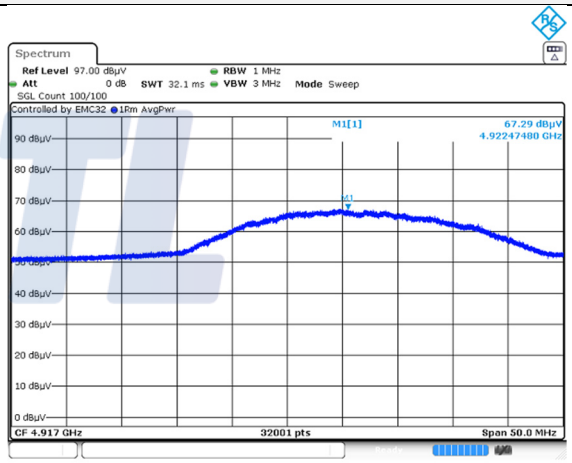
Horizontal/Vertical for 18 ㎓ ~ 26.5 ㎓

2 462 ㎒

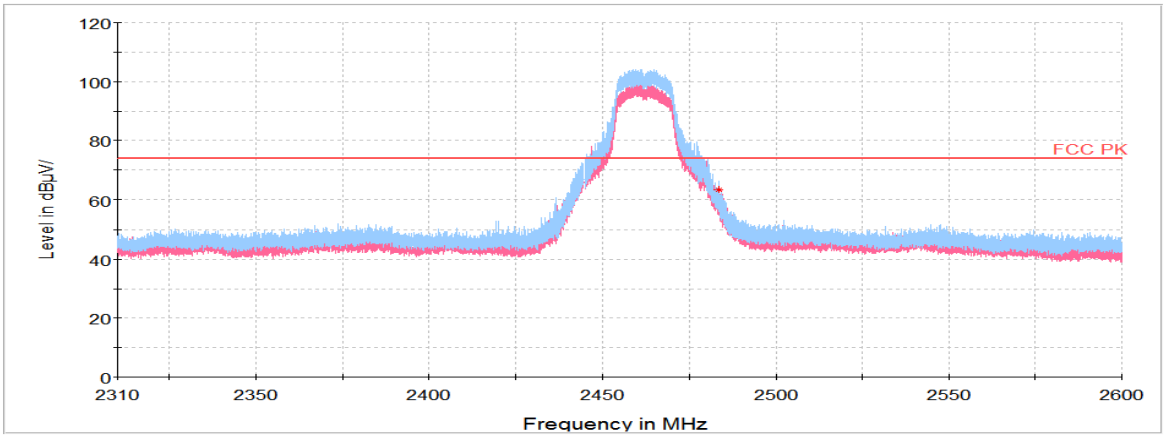
Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
2 483.52[1)]	H	60.39	32.07	-29.21	-	63.25	74.00	10.75
4 106.28[1)]	V	72.67	33.17	-56.39	-	49.45	74.00	24.55
4 922.47[1)]	H	75.69	33.97	-55.33	-	54.33	74.00	19.67
6 565.39	H	74.92	35.40	-54.67	-	55.65	74.00	18.35
7 385.09[1)]	V	66.11	35.40	-52.41	-	49.10	74.00	24.90
Average Data								
2 483.52[1)]	H	45.81	32.07	-29.21	0.43	49.10	54.00	4.90
4 922.47[1)]	H	67.29	33.97	-55.33	0.43	46.36	54.00	7.64

Average data

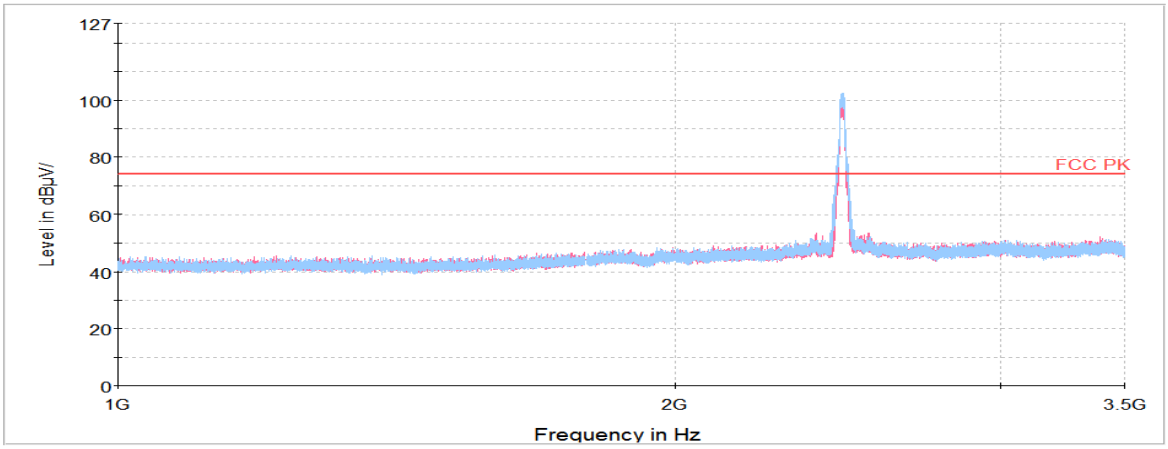




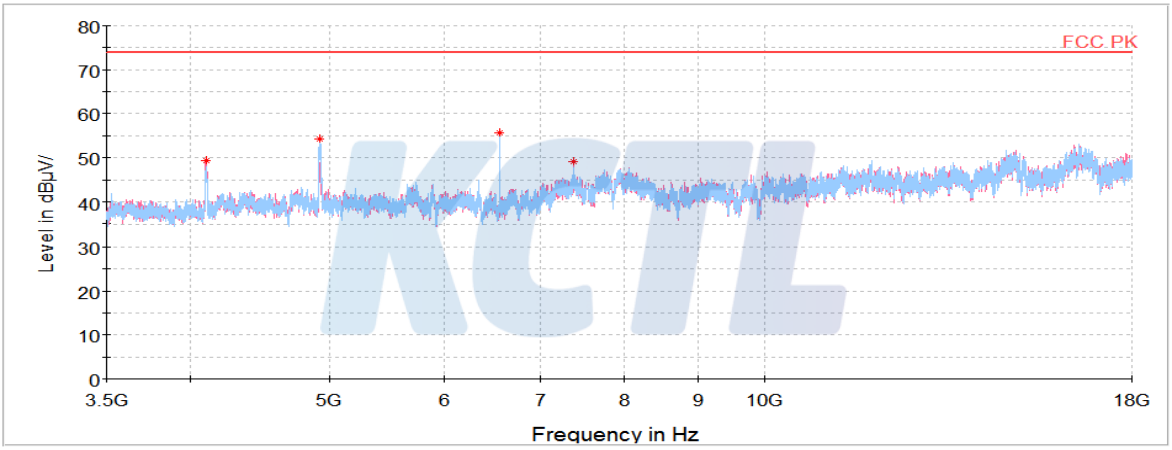
Horizontal/Vertical for Band-edge



Horizontal/Vertical for 1 ㎓ ~ 3.5 ㎓



Horizontal/Vertical for 3.5 ㎓ ~ 18 ㎓



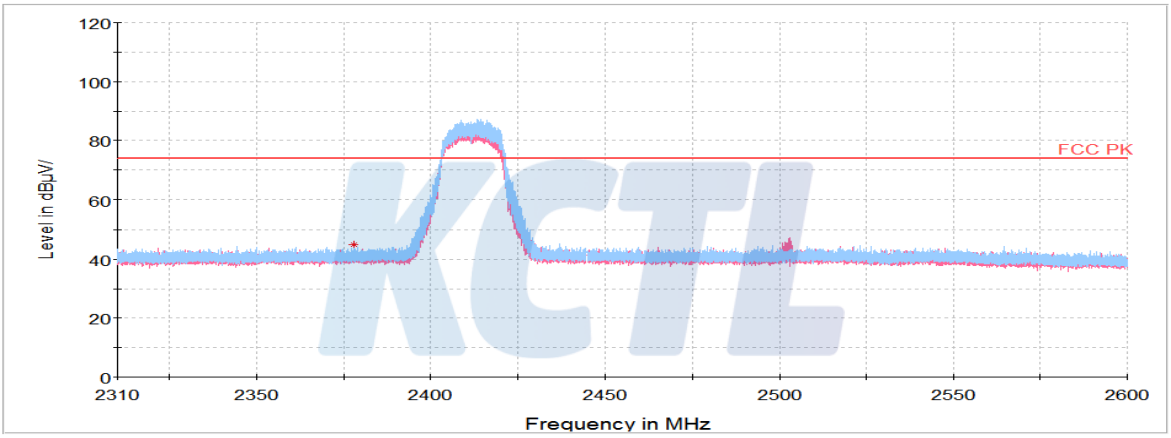
Horizontal/Vertical for 18 ㎓ ~ 26.5 ㎓

802.11n_HT20

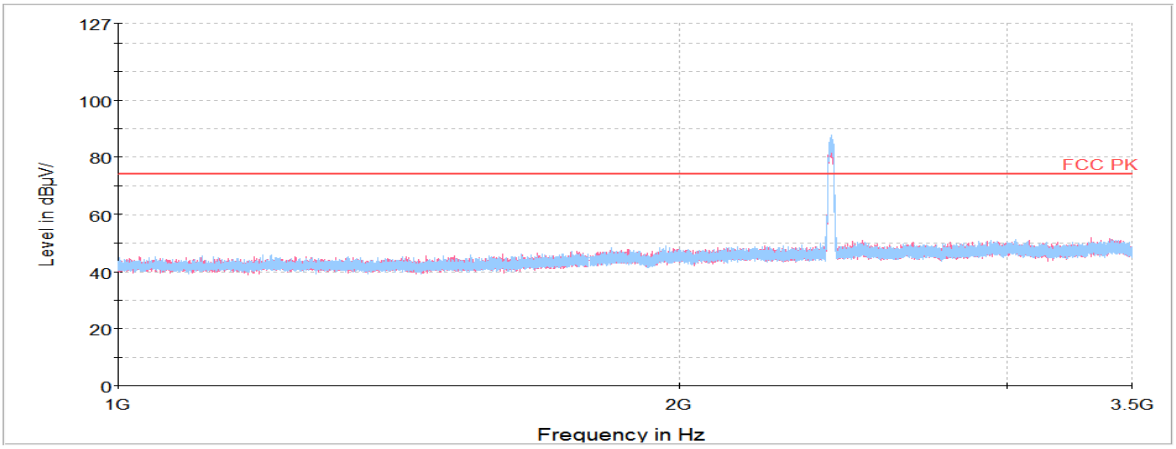
2 412 ㎒

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
2 377.98[1)]	H	42.23	31.86	-29.10	-	44.99	74.00	29.01
6 432.17	H	74.25	35.40	-54.89	-	54.76	74.00	19.24
12 864.28	V	62.19	38.95	-50.40	-	50.74	74.00	23.26
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

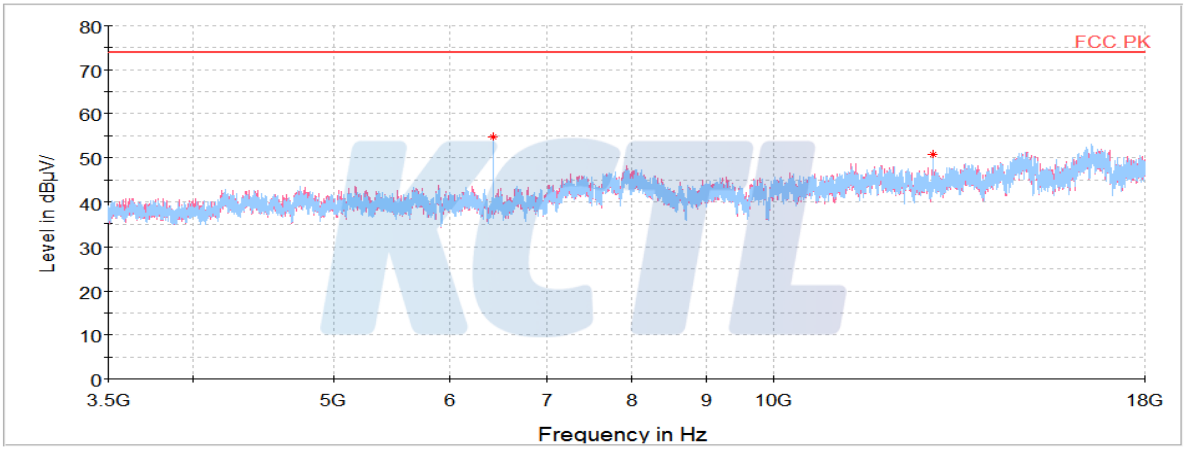
Horizontal/Vertical for Band-edge



Horizontal/Vertical for 1 ㎓ ~ 3.5 ㎓



Horizontal/Vertical for 3.5 ㎓ ~ 18 ㎓

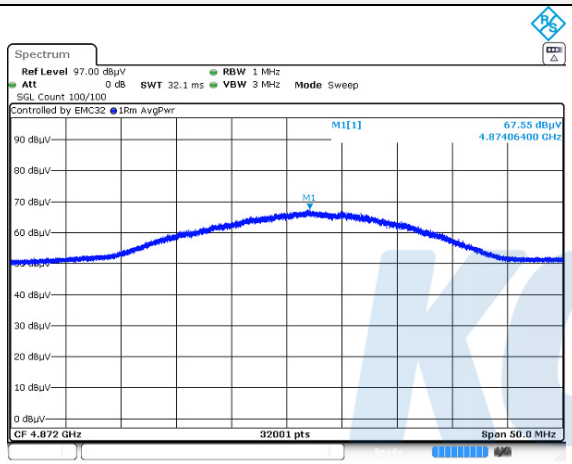


Horizontal/Vertical for 18 ㎓ ~ 26.5 ㎓

2 437 MHz

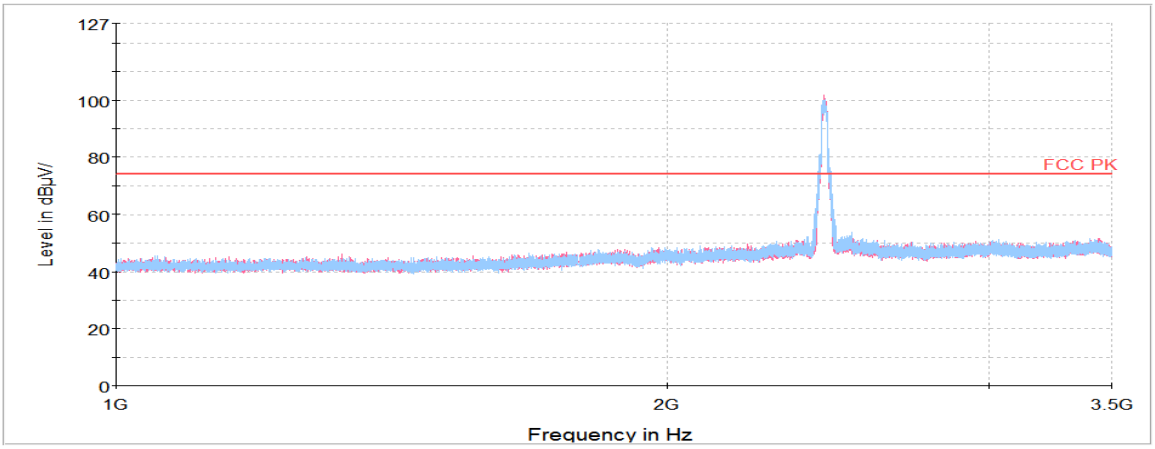
Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
4 057.80[1)]	V	73.03	33.09	-56.57	-	49.55	74.00	24.45
4 874.06[1)]	H	77.15	33.95	-55.00	-	56.10	74.00	17.90
6 498.78	H	76.17	35.40	-54.79	-	56.78	74.00	17.22
Average Data								
4 874.06[1)]	H	67.55	33.95	-55.00	0.38	46.88	54.00	7.12

Average data

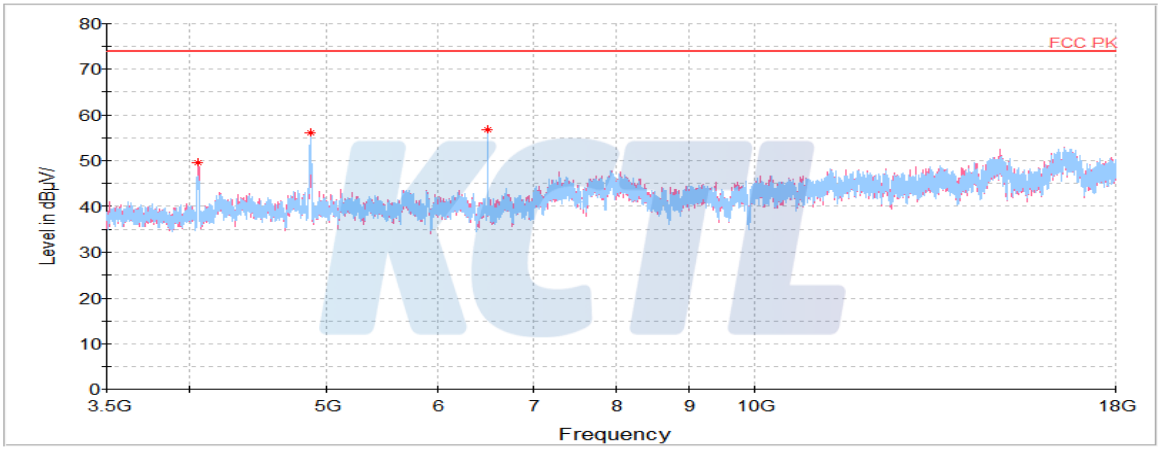


Blank

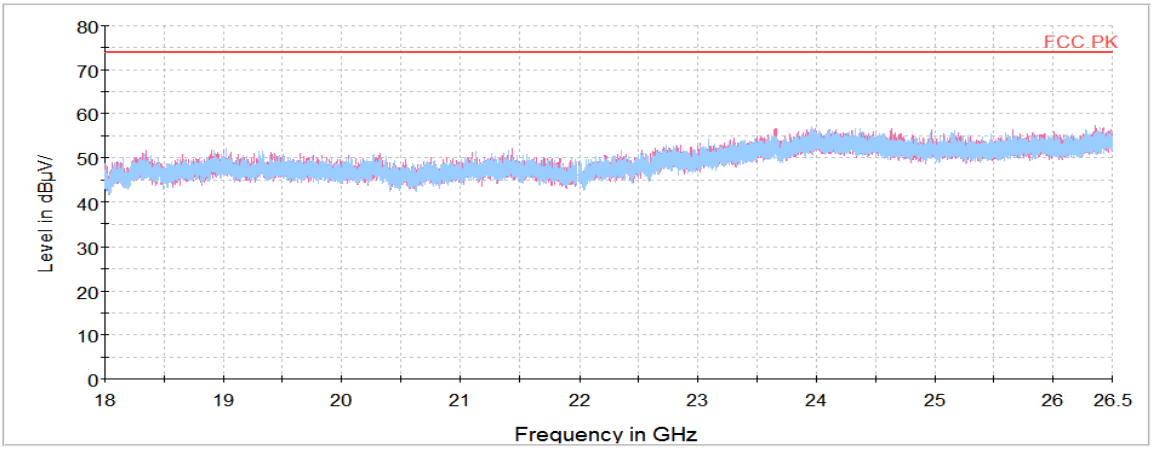
Horizontal/Vertical for 1 ㎓ ~ 3.5 ㎓



Horizontal/Vertical for 3.5 ㎓ ~ 18 ㎓



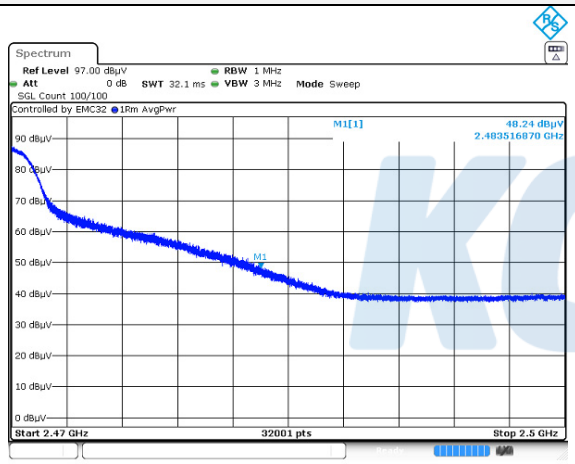
Horizontal/Vertical for 18 ㎓ ~ 26.5 ㎓

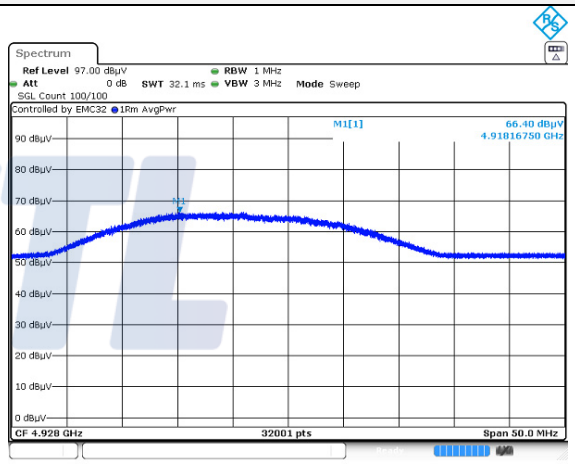


2 462 ㎒

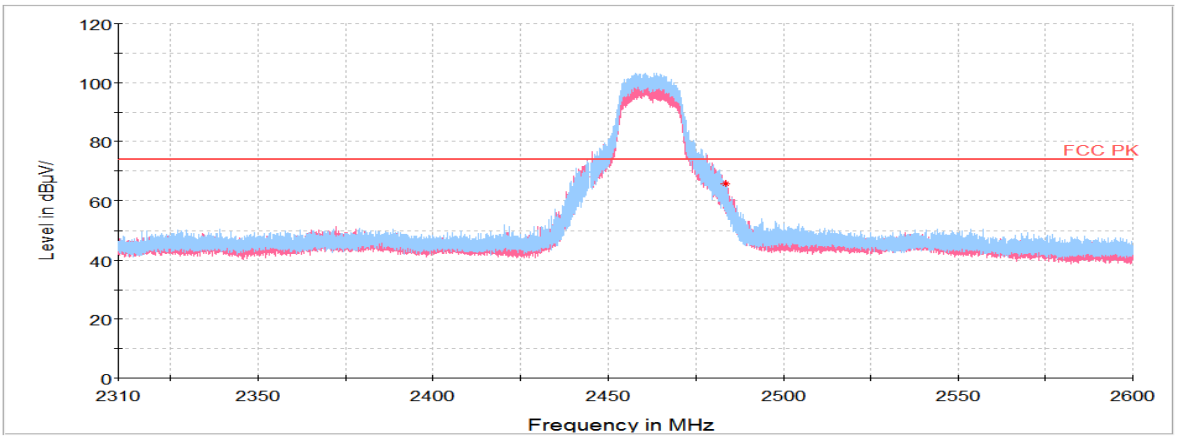
Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
2 483.52[1)]	H	62.83	32.07	-29.21	-	65.69	74.00	8.31
4 107.64[1)]	V	73.50	33.17	-56.37	-	50.30	74.00	23.70
4 918.17[1)]	H	76.47	33.97	-55.41	-	55.03	74.00	18.97
6 565.39	H	74.77	35.40	-54.67	-	55.50	74.00	18.50
Average Data								
2 483.52[1)]	H	48.24	32.07	-29.21	0.38	51.48	54.00	2.52
4 918.17[1)]	H	66.40	33.97	-55.41	0.38	45.34	54.00	8.66

Average data

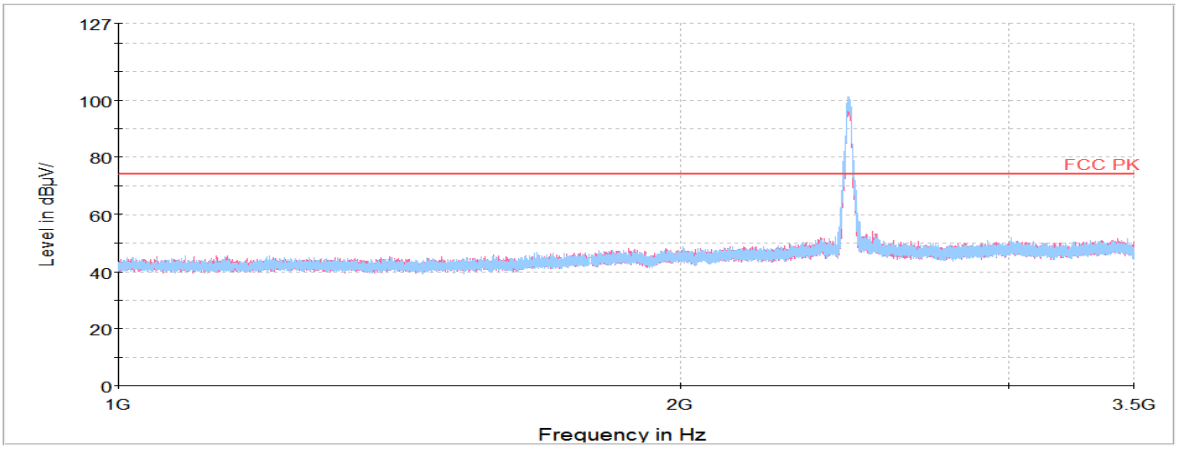




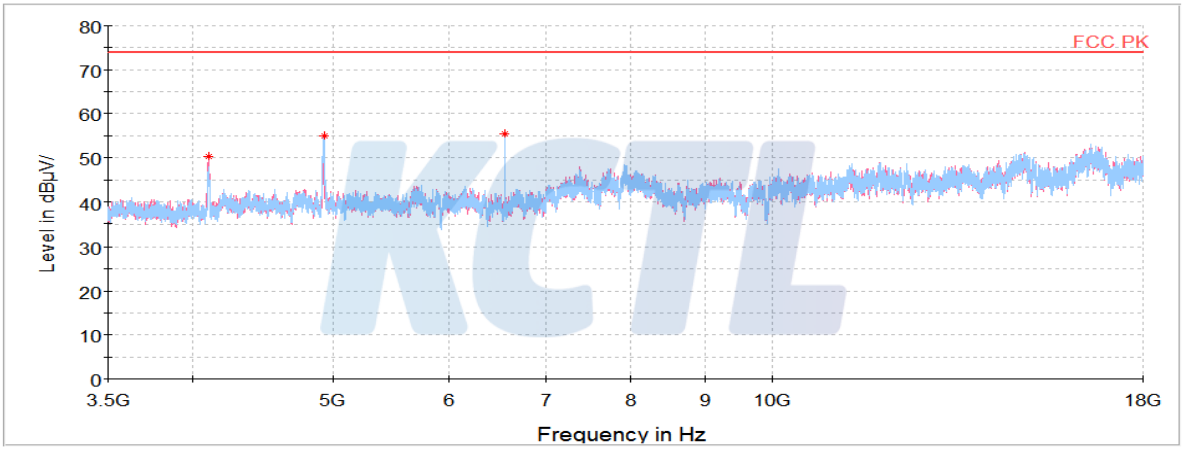
Horizontal/Vertical for Band-edge



Horizontal/Vertical for 1 ㎓ ~ 3.5 ㎓



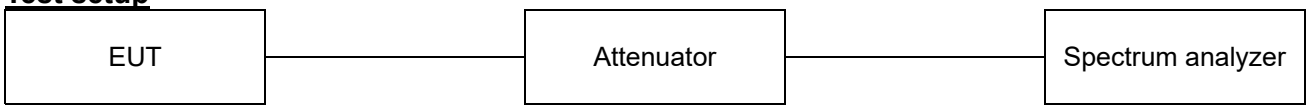
Horizontal/Vertical for 3.5 ㎓ ~ 18 ㎓



Horizontal/Vertical for 18 ㎓ ~ 26.5 ㎓

7.5. Conducted Spurious Emission

Test setup



Limit

According to §15.247(d) and RSS-247(5.5), In any 100 ㎑ bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operation, the radio frequency power that is produced by the intentional radiator shall be at least 20 ㏈ below that in the 100 ㎑ bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation specified in §15.209(a) is not required. In addition, radiated emission limits specified in §15.209(a) (see §15.205(c)).
Limit : 20 ㏈c

Test procedure

ANSI C63.10-2013 - Section 11.11.3
KDB 558074 D01 v05 - Section 8.5
KDB 662911 D01 v02r01 – section (E)(3)(b)

Test settings

Establish an emission level by using the following procedure:

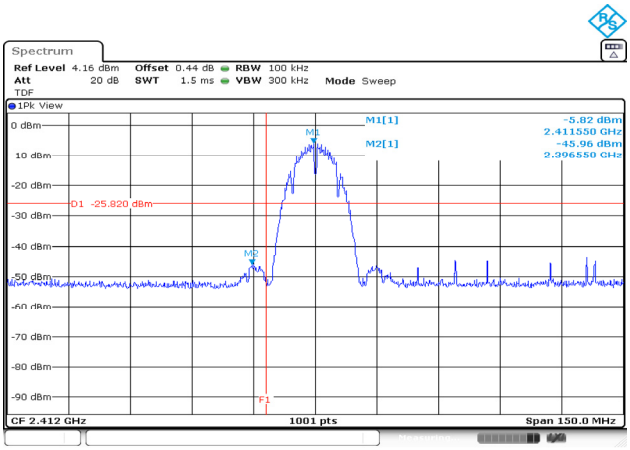
1) Set the center frequency and span to encompass frequency range to be measured.
2) Set the RBW = 100 ㎑
3) Set the VBW ≥ [3 x RBW]
4) Detector = peak
5) Sweep time = auto couple
6) Trace mode = max hold
7) Allow trace to fully stabilize.
8) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

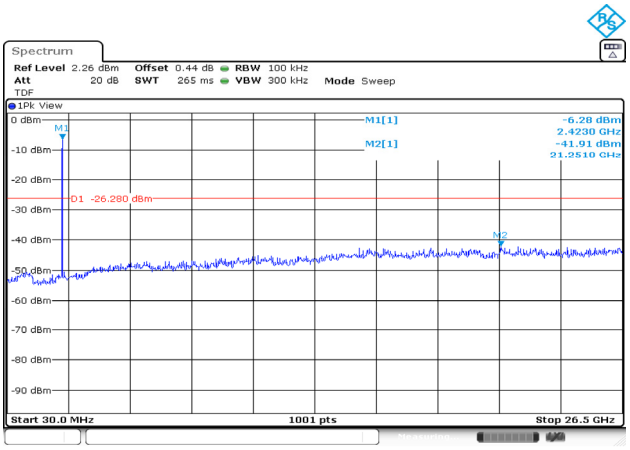
Test results

802.11b

Conducted band-edge / 2 412 ㎒



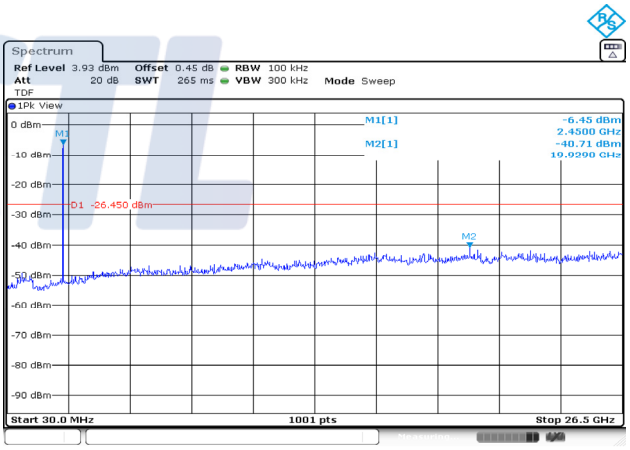
Conducted spurious / 2 412 ㎒



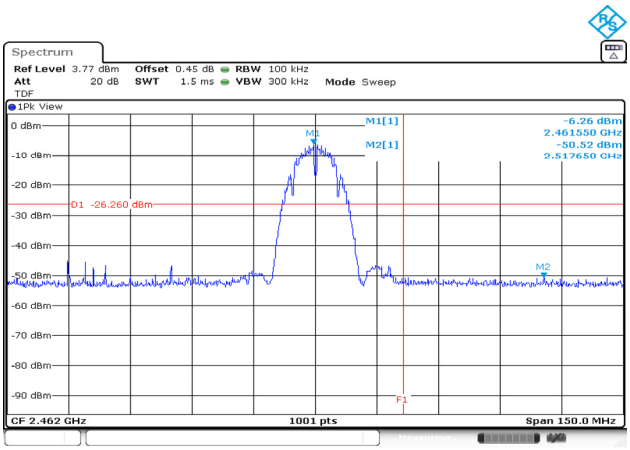
Conducted band-edge / 2 437 ㎒

Blank

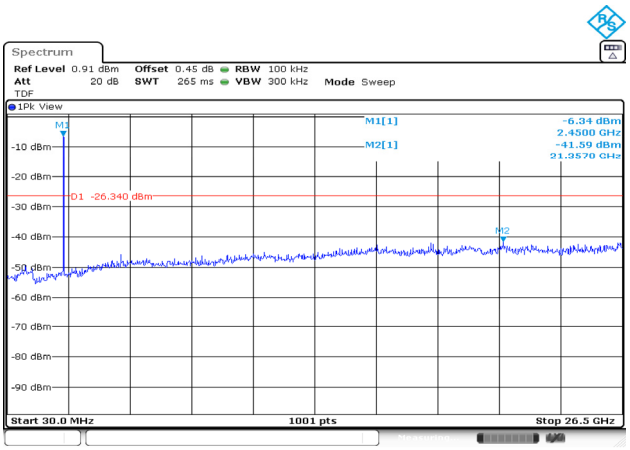
Conducted spurious / 2 437 ㎒



Conducted band-edge / 2 462 ㎒

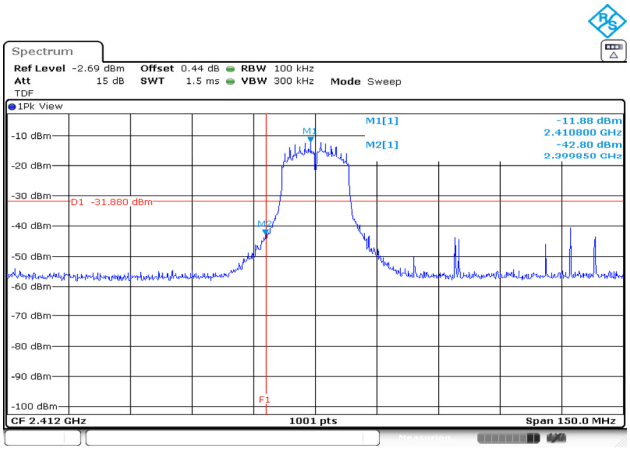


Conducted spurious / 2 462 ㎒

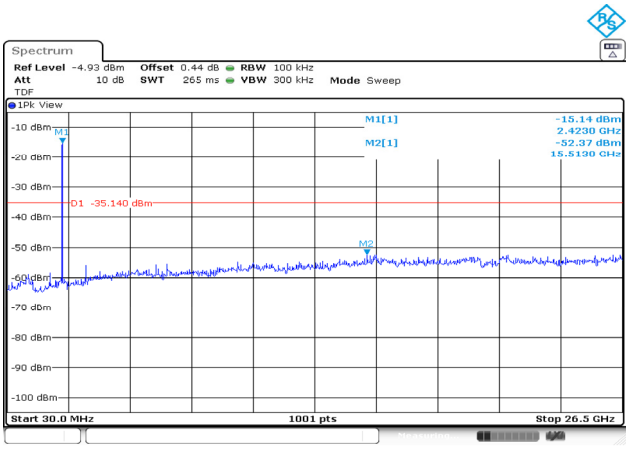


802.11g

Conducted band-edge / 2 412 ㎒



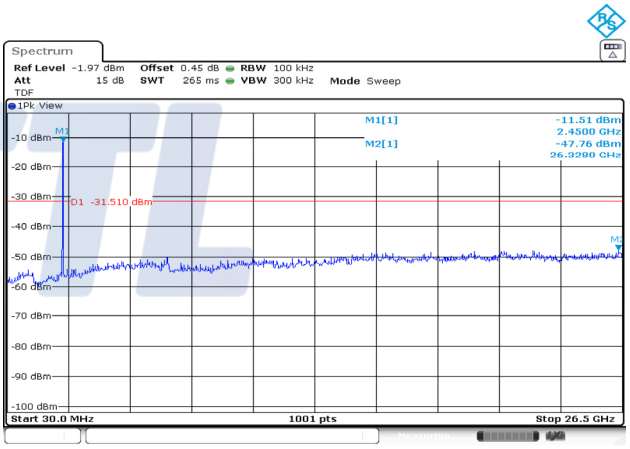
Conducted spurious / 2 412 ㎒



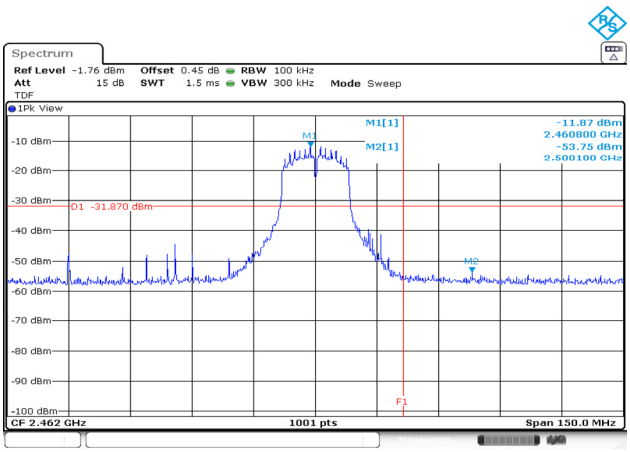
Conducted band-edge / 2 437 ㎒

Blank

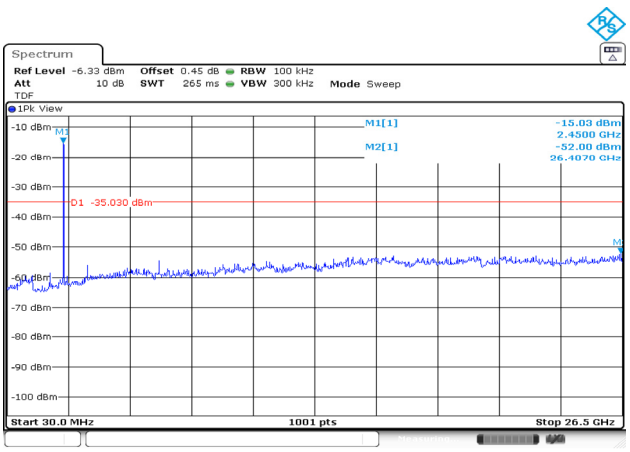
Conducted spurious / 2 437 ㎒



Conducted band-edge / 2 462 ㎒

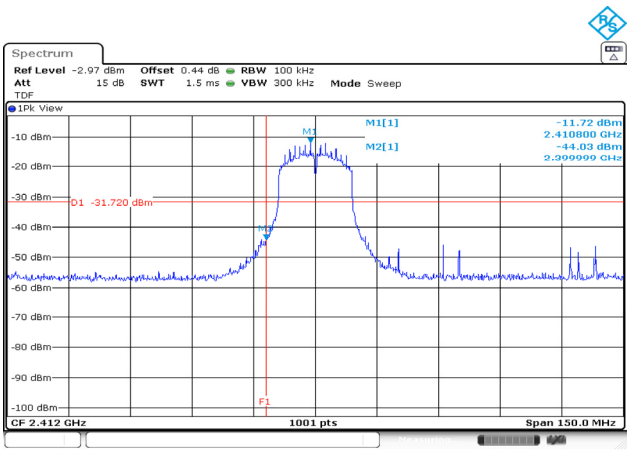


Conducted spurious / 2 462 ㎒

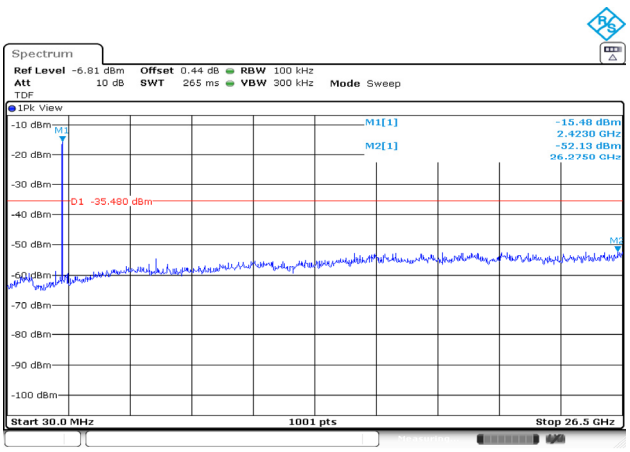


802.11n_HT20

Conducted band-edge / 2 412 ㎒



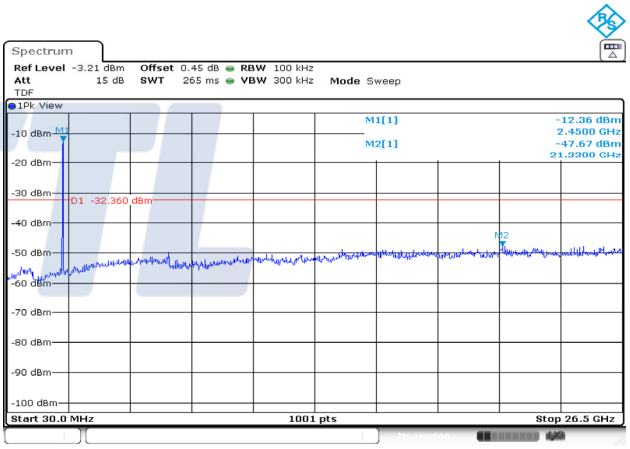
Conducted spurious / 2 412 ㎒



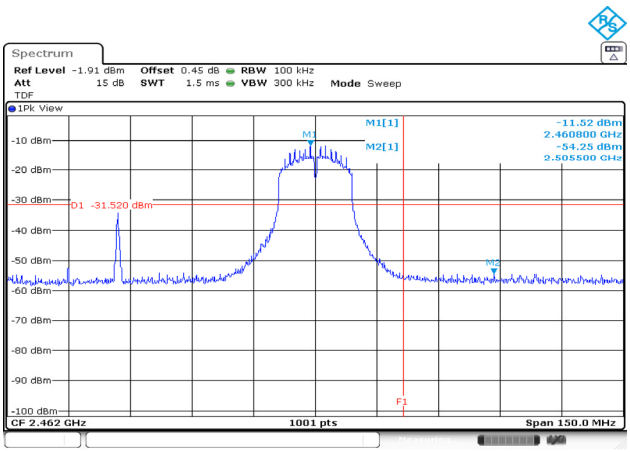
Conducted band-edge / 2 437 ㎒

Blank

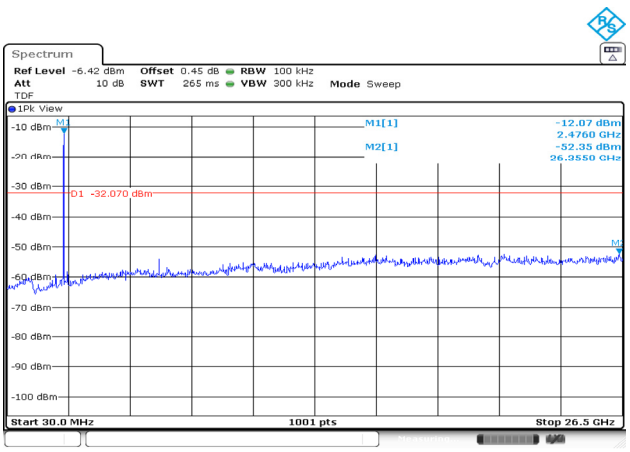
Conducted spurious / 2 437 ㎒



Conducted band-edge / 2 462 ㎒



Conducted spurious / 2 462 ㎒



8. Measurement equipment

Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
Signal Generator	R&S	SMB100A	176206	21.01.21
Spectrum Analyzer	R&S	FSV30	100732	21.01.21
DC Power Supply	AGILENT	E3632A	MY40000265	21.05.11
Attenuator	Weinschel ENGINEERING	21-10	0007	21.01.21
Pulse Power Meter	ANRITSU	ML2495A	1608009	20.07.31
Pulse Power Sensor	ANRITSU	MA2411B	1726174	20.07.31
Attenuator	API Inmet	40AH2W-10	10	20.08.01
Spectrum Analyzer	R&S	FSV40	100989	21.01.03
Bi-Log Antenna	TESEQ	CBL 6112D	37876	20.07.20
Amplifier	SONOMA INSTRUMENT	310N	284608	20.08.22
ATTENUATOR	Agilent	8491B	MY39270292	20.07.20
Horn antenna	ETS.lindgren	3117	155787	20.10.24
Horn antenna	ETS.lindgren	3116	00086632	21.02.17
Attenuator	API Inmet	40AH2W-10	12	21.05.12
Broadband PreAmplifier	SCHWARZBECK	BBV9718	216	20.07.30
AMPLIFIER	L-3 Narda-MITEQ	AMF-7D-01001800 -22-10P	2031196	21.02.12
AMPLIFIER	L-3 Narda-MITEQ	JS44-18004000-33-8P	2000996	21.01.22
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	21.05.11
TWO-LINE V - NETWORK	R&S	ENV216	101358	20.10.02
EMI TEST RECEIVER	R&S	ESCI	100001	20.08.22
Vector Signal Generator	R&S	SMBV100A	257566	20.07.16
Signal Generator	R&S	SMR40	100007	21.04.08
Cable Assembly	RadiAll	2301761768000PJ	1724.659	-
Cable Assembly	gigalane	RG-400	-	-
Cable Assembly	HUER+SUHNER	SUCOFLEX 104	MY4342/4	-

End of test report

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