

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.:
KR20-SRF0037

Page (191) of (206)

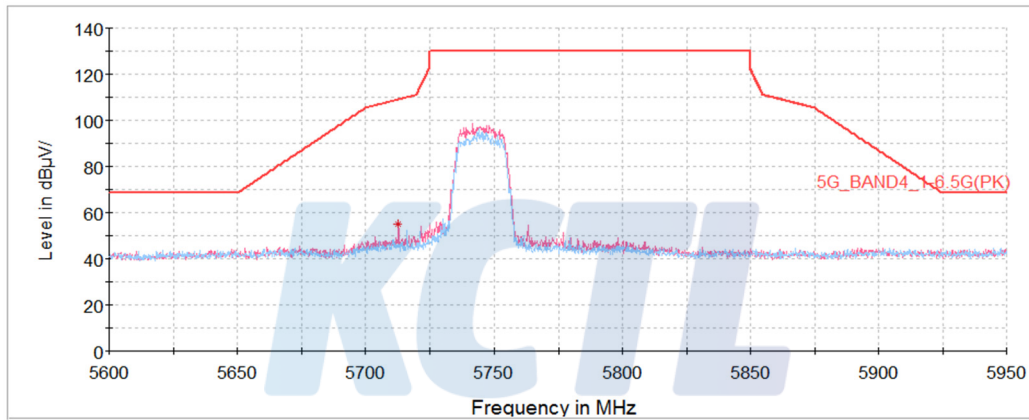


802.11ac VHT20 UNII-3

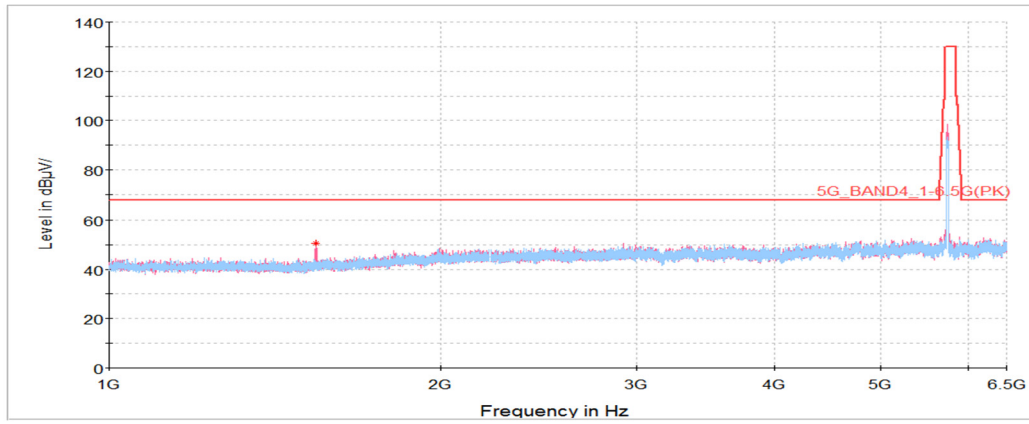
Lowest Channel (5 745 MHz)

Frequency (MHz)	Pol. (V/H)	Reading (dB(μ V))	Ant. Factor (dB)	Amp.+Cable (dB)	DCCF (dB)	Result (dB(μ V/m))	Limit (dB(μ V/m))	Margin (dB)
Peak data								
5 712.98	V	46.22	34.76	-25.75	-	55.23	108.84	53.61
11 489.20 ¹⁾	H	55.07	38.19	-48.19	-	45.07	74.00	28.93
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

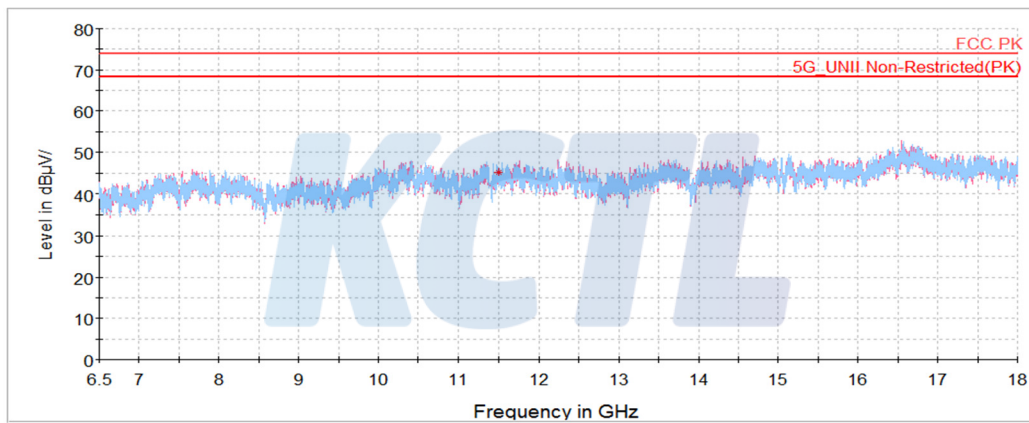
Horizontal/Vertical for Band-edge



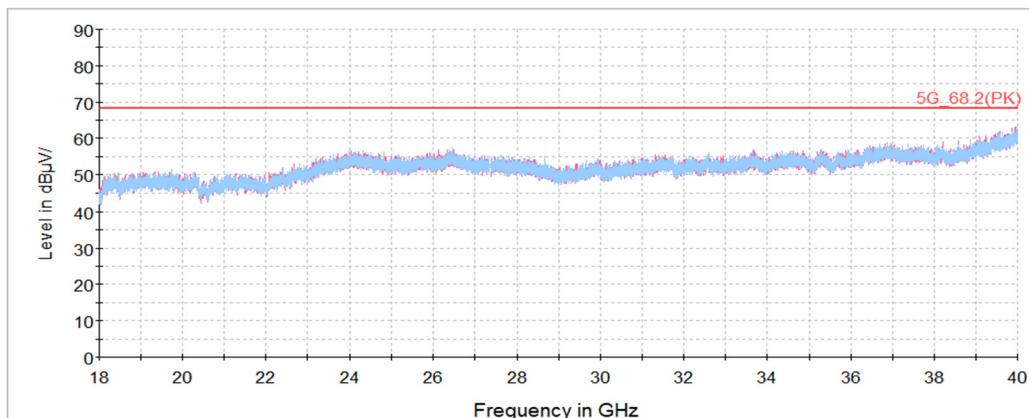
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



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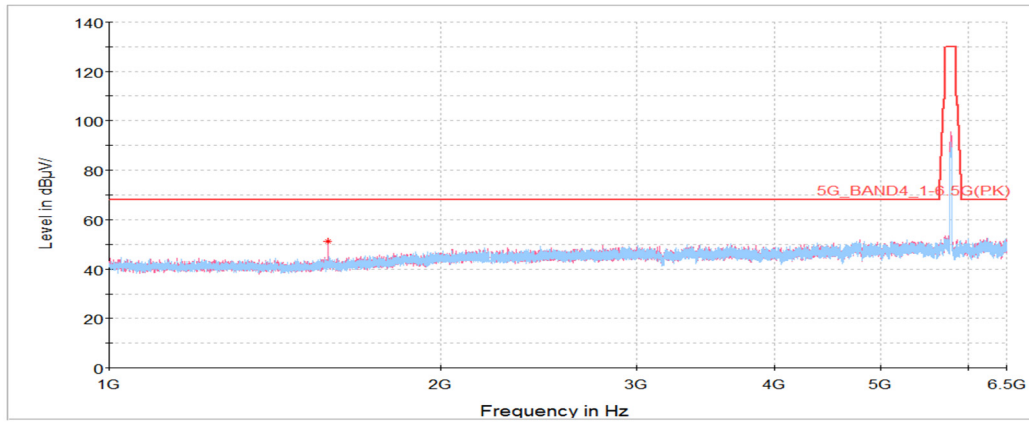
Page (193) of (206)

**Middle Channel (5 785 MHz)**

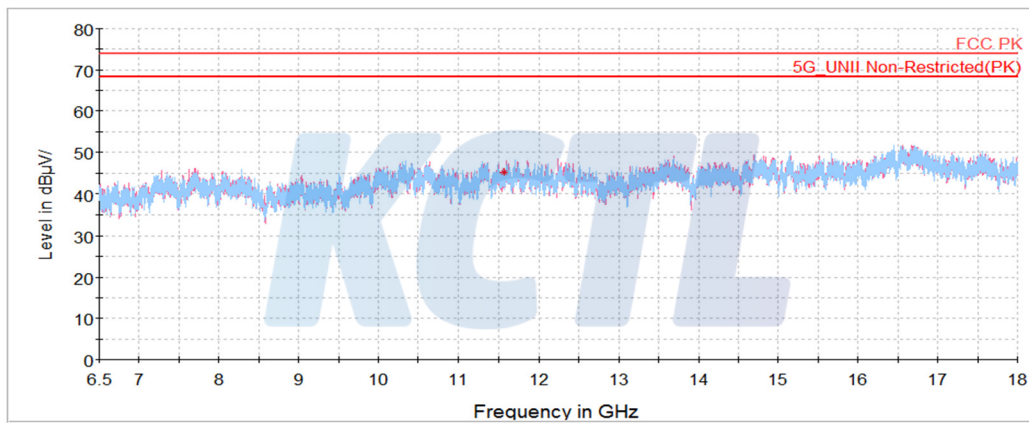
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Peak data								
11 569.34 ¹⁾	H	55.16	38.28	-48.40	-	45.04	74.00	28.96
Average Data								
No spurious emissions were detected within 20 dB of the limit.								



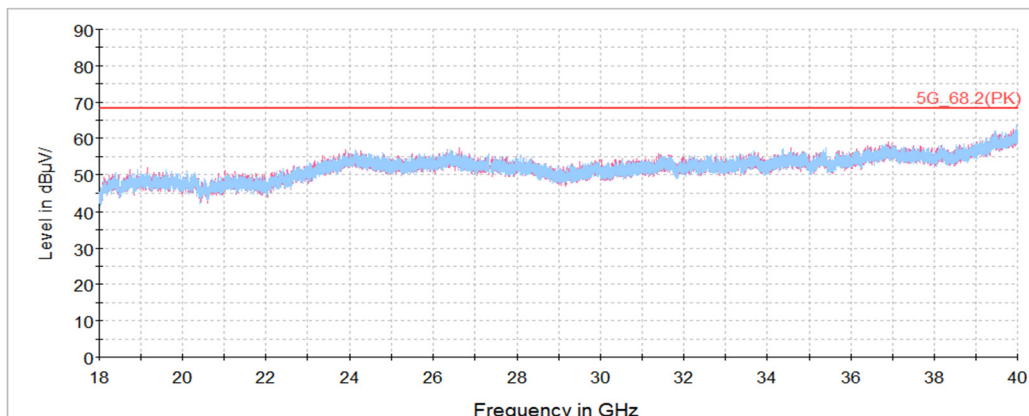
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



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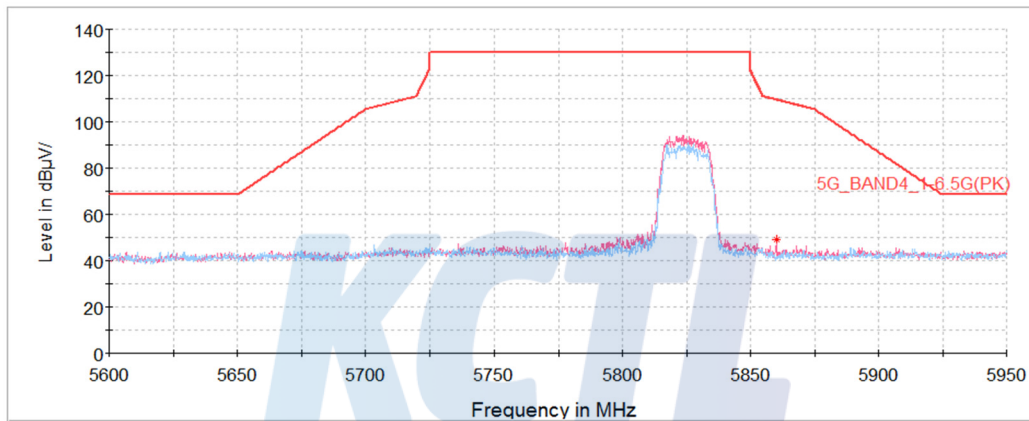
Page (195) of (206)



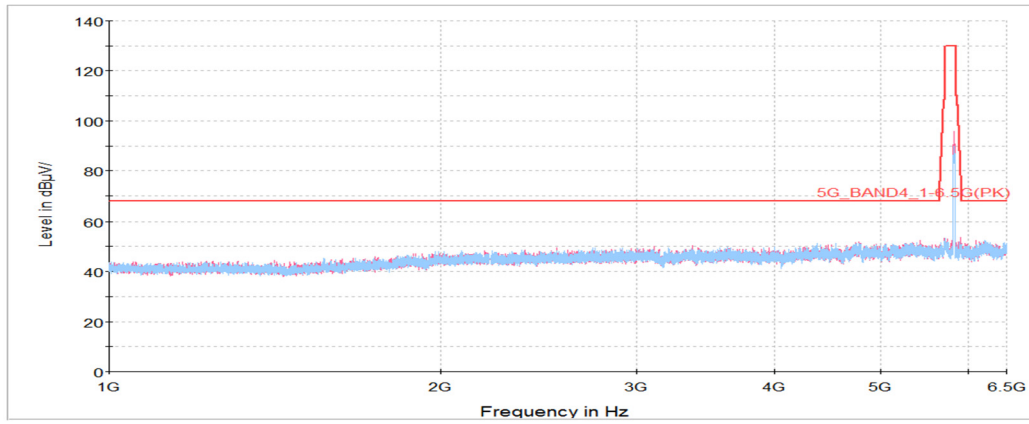
Highest Channel (5 825 MHz)

Frequency (MHz)	Pol. (V/H)	Reading (dB(μ V))	Amp. + Cable (dB)	Antenna Factor (dB)	DCCF (dB)	Result (dB(μ V/m))	Limit (dB(μ V/m))	Margin (dB)
Peak data								
5 860.11	V	40.71	34.93	-26.62	-	49.02	109.37	60.35
11 649.13 ¹⁾	V	55.11	38.38	-48.73	-	44.76	74.00	29.24
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

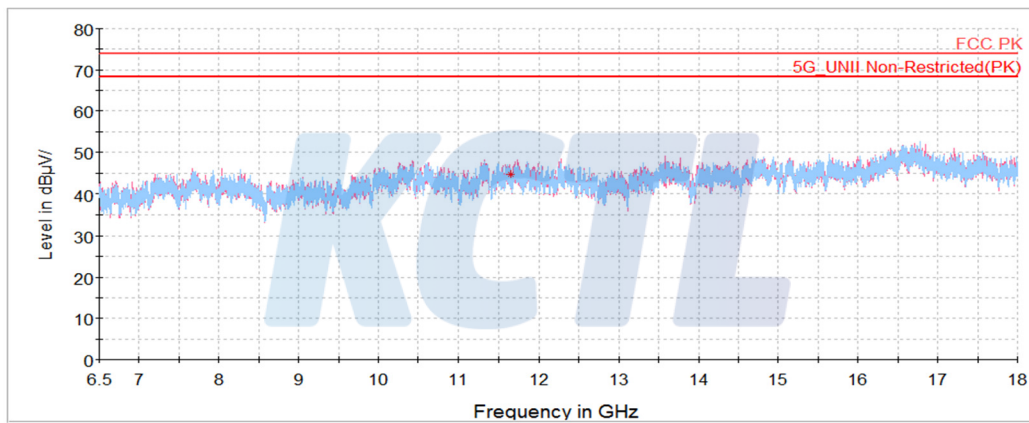
Horizontal/Vertical for Band-edge



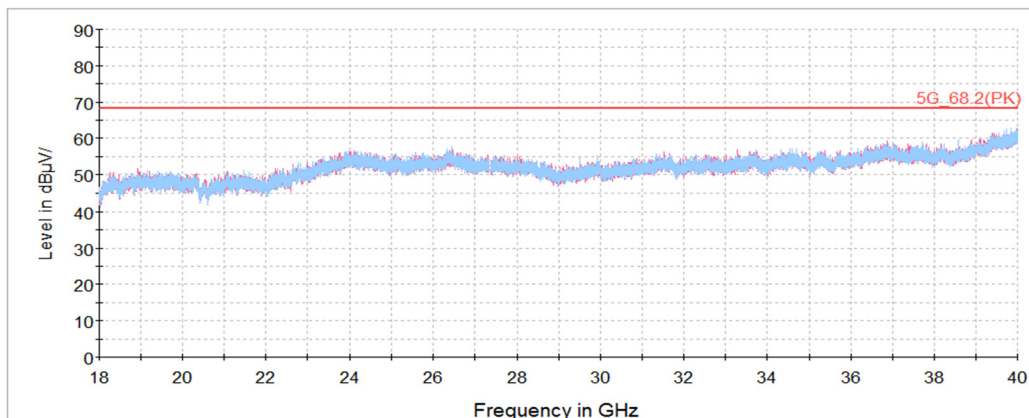
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz

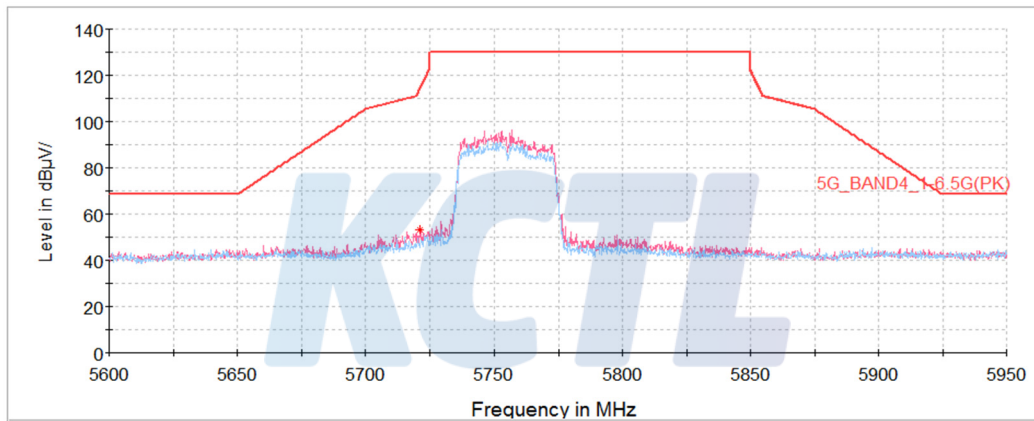


Horizontal/Vertical for 18 GHz ~ 40 GHz

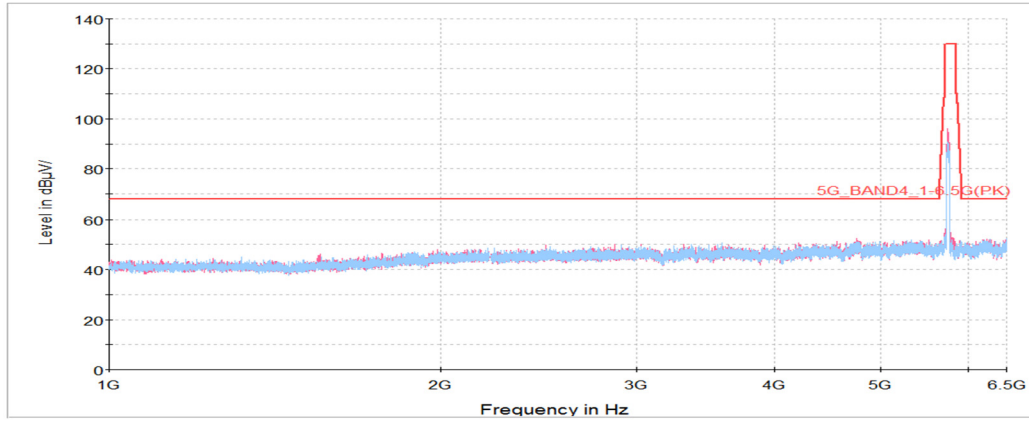


802.11ac VHT40 UNII-3**Lowest Channel (5 755 MHz)**

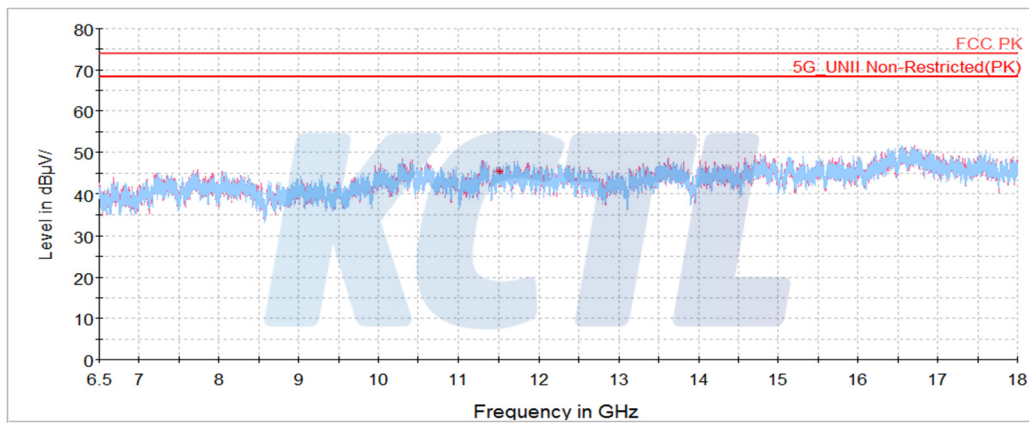
Frequency (MHz)	Pol. (V/H)	Reading (dB(μ V))	Ant. Factor (dB)	Amp.+Cable (dB)	DCCF (dB)	Result (dB(μ V/m))	Limit (dB(μ V/m))	Margin (dB)
Peak data								
5 721.23	V	44.46	34.77	-25.86	-	53.37	113.61	60.24
11 510.41 ¹⁾	V	55.27	38.21	-48.16	-	45.32	74.00	28.68
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

Horizontal/Vertical for Band-edge

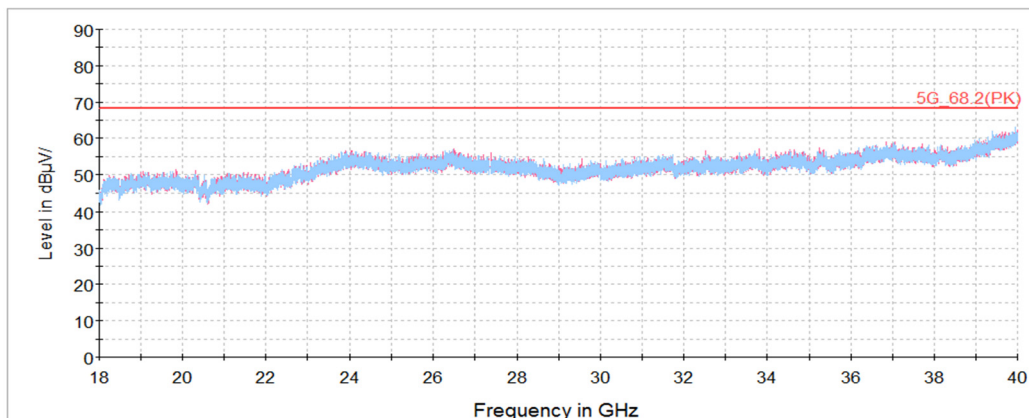
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



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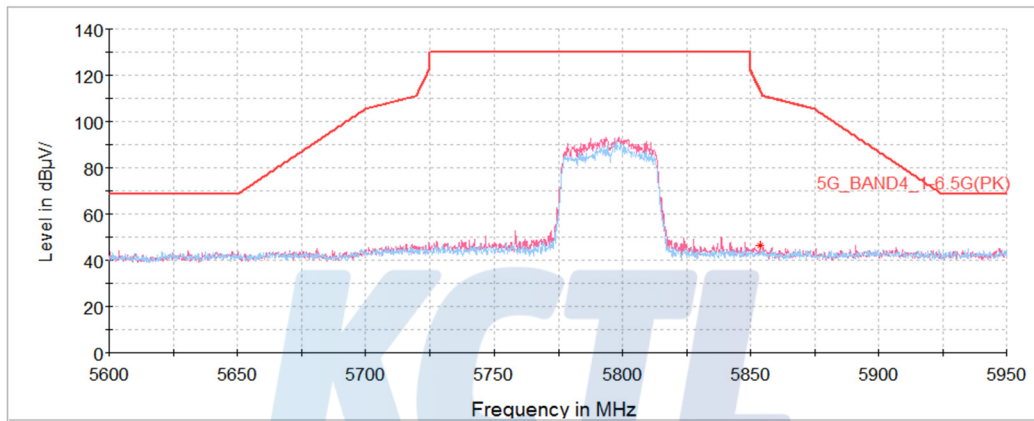
Page (199) of (206)

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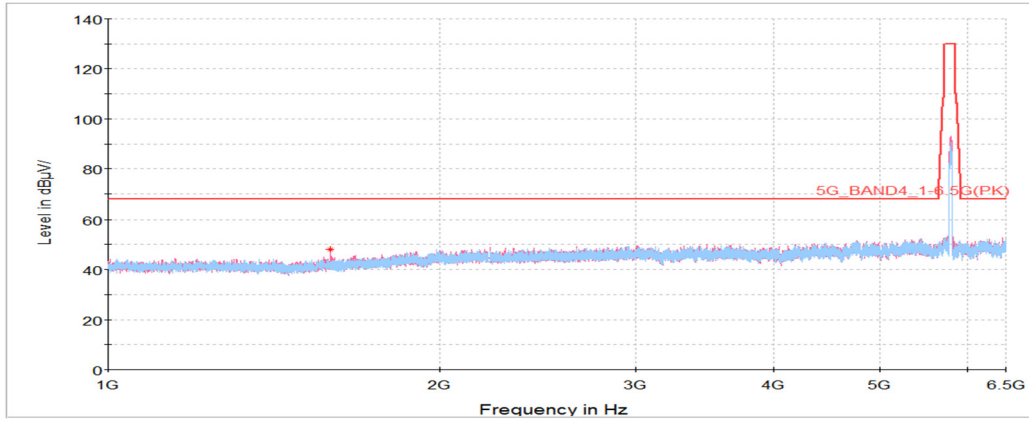
Highest Channel (5 795 MHz)

Frequency (MHz)	Pol. (V/H)	Reading (dB(μ V))	Ant. Factor (dB)	Amp.+Cable (dB)	DCCF (dB)	Result (dB(μ V/m))	Limit (dB(μ V/m))	Margin (dB)
Peak data								
5 853.75	V	38.19	34.92	-26.66	-	46.45	113.65	67.20
11 590.91 ¹⁾	V	56.12	38.31	-48.49	-	45.94	74.00	28.06
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

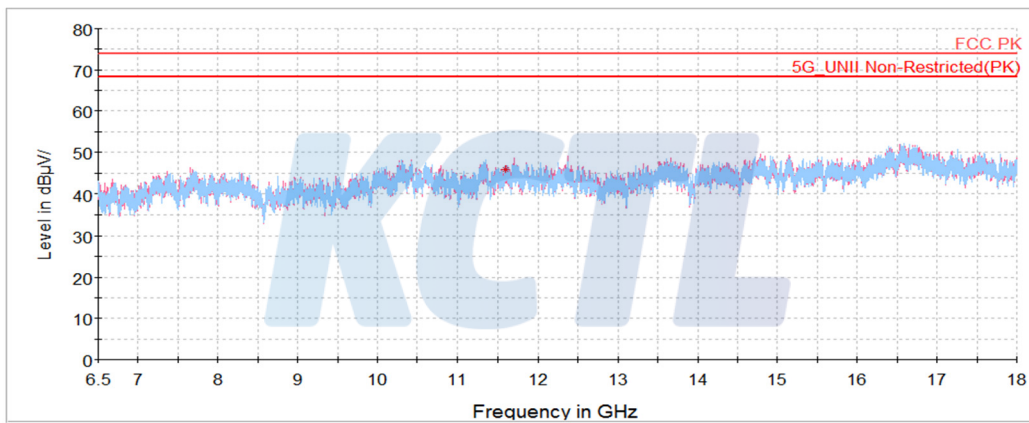
Horizontal/Vertical for Band-edge



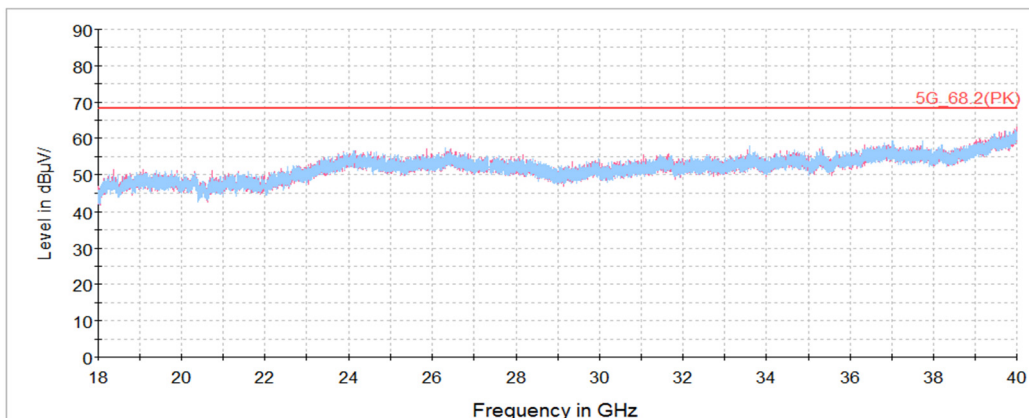
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz

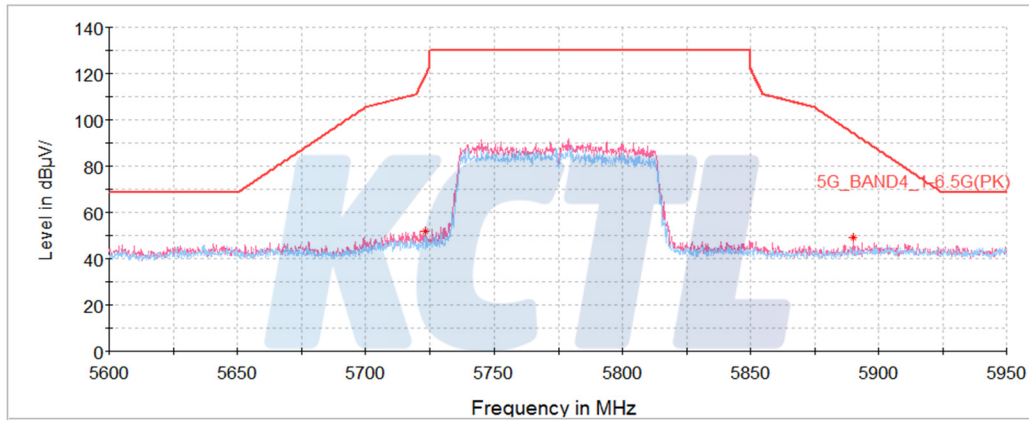


Horizontal/Vertical for 18 GHz ~ 40 GHz

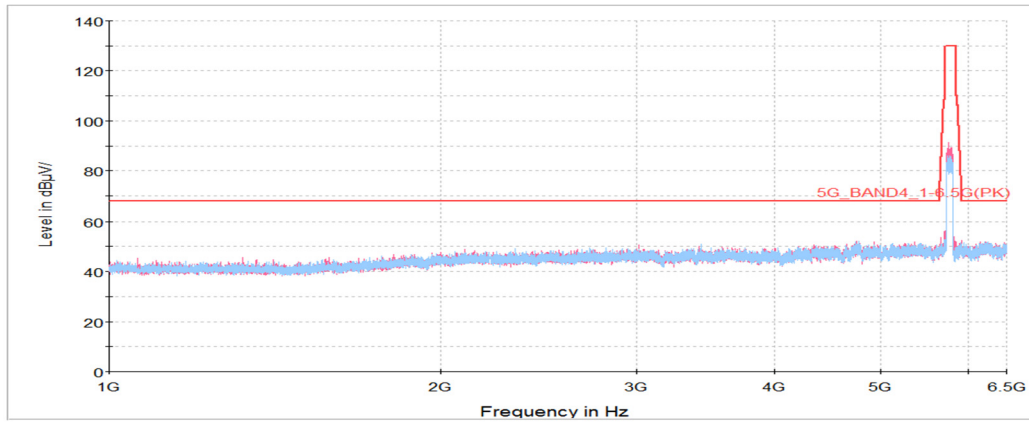


802.11ac VHT80 UNII-3**Lowest Channel (5 775 MHz)**

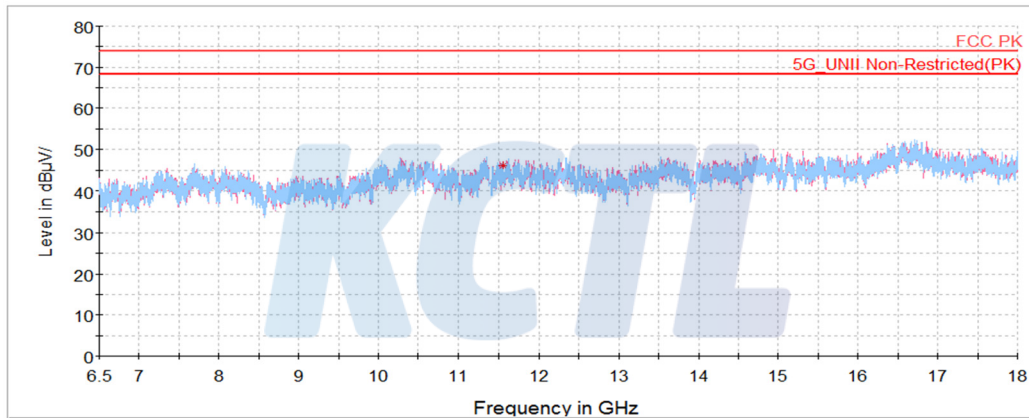
Frequency (MHz)	Pol. (V/H)	Reading (dB(μ V))	Ant. Factor (dB)	Amp.+Cable (dB)	DCCF (dB)	Result (dB(μ V/m))	Limit (dB(μ V/m))	Margin (dB)
Peak data								
5 723.30	V	43.12	34.77	-25.89	-	52.00	118.32	66.32
5 890.36	V	40.68	34.97	-26.44	-	49.21	93.83	44.62
11 549.22 ¹⁾	V	56.14	38.26	-48.32	-	46.08	74.00	27.92
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

Horizontal/Vertical for Band-edge

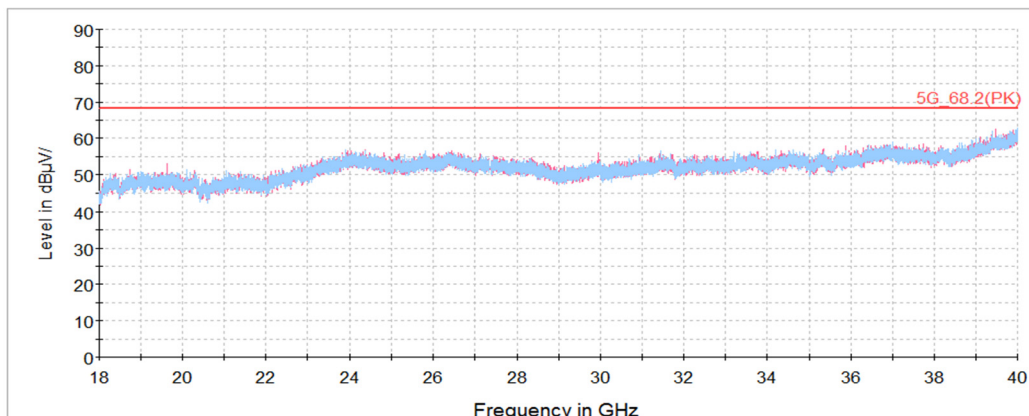
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



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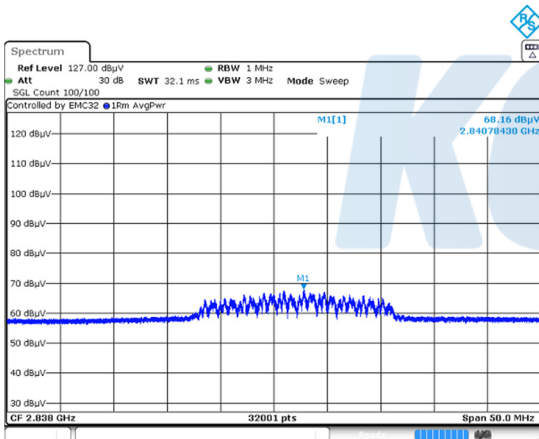
Page (203) of (206)



Simultaneously_802.11a_ / UNII-2A Highest(5 320 MHz)+BT,GFSK(2 480 MHz)

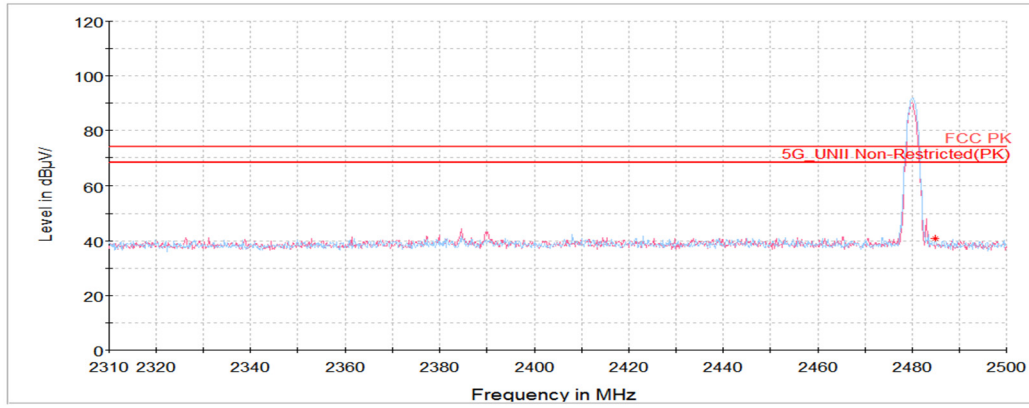
Frequency (MHz)	Pol. (V/H)	Reading (dB(μV))	Ant. Factor (dB)	Amp.+Cable (dB)	DCCF (dB)	Result (dB(μV/m))	Limit (dB(μV/m))	Margin (dB)
Peak data								
2 484.83 ¹⁾	H	37.95	32.07	-29.22	-	40.80	74.00	33.20
2 840.78 ¹⁾	V	80.09	32.37	-48.47	-	63.99	74.00	10.01
4 959.48 ¹⁾	V	67.79	33.98	-54.81	-	46.96	74.00	27.04
5 352.05 ¹⁾	V	41.78	34.56	-26.84	-	49.50	74.00	24.50
7 441.56 ¹⁾	H	59.31	35.40	-50.62	-	44.09	74.00	29.91
10 640.36 ¹⁾	V	54.86	37.48	-49.96	-	42.38	74.00	31.62
15 960.91 ¹⁾	V	53.47	40.09	-48.79	-	44.77	74.00	29.23
Average Data								
2 840.78 ¹⁾	V	68.16	32.37	-48.47	0.30	52.36	54.00	1.64

Average data

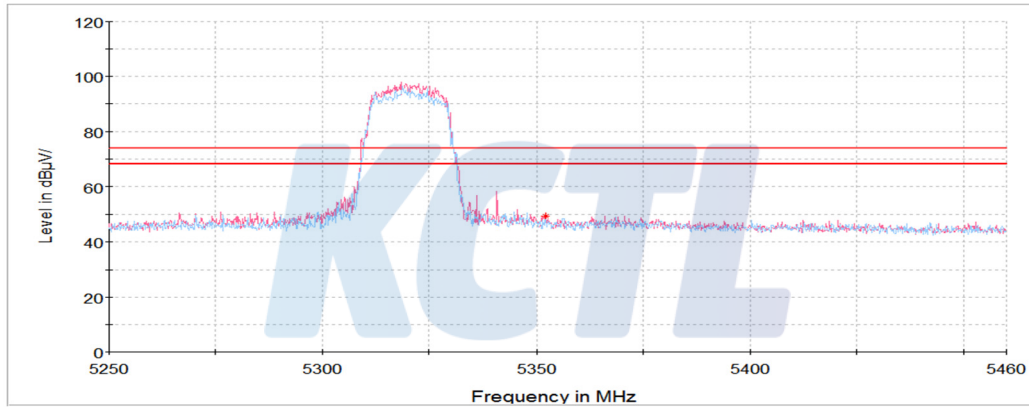


Blank

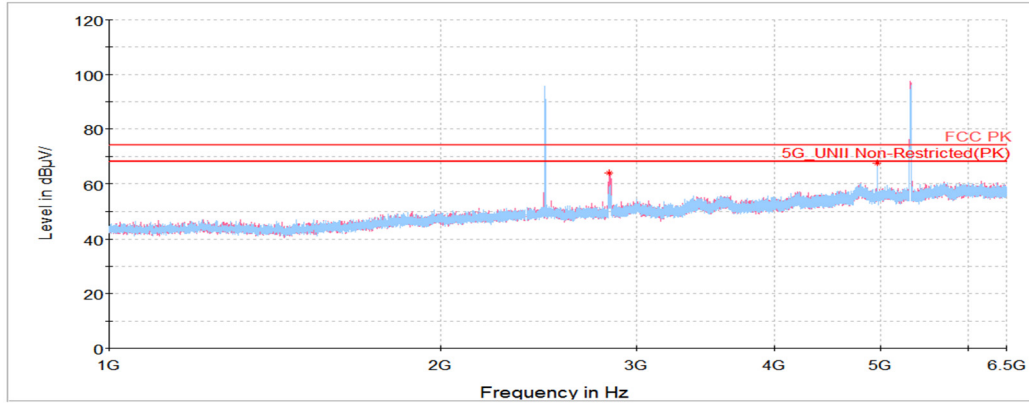
Horizontal/Vertical for BT Band-edge



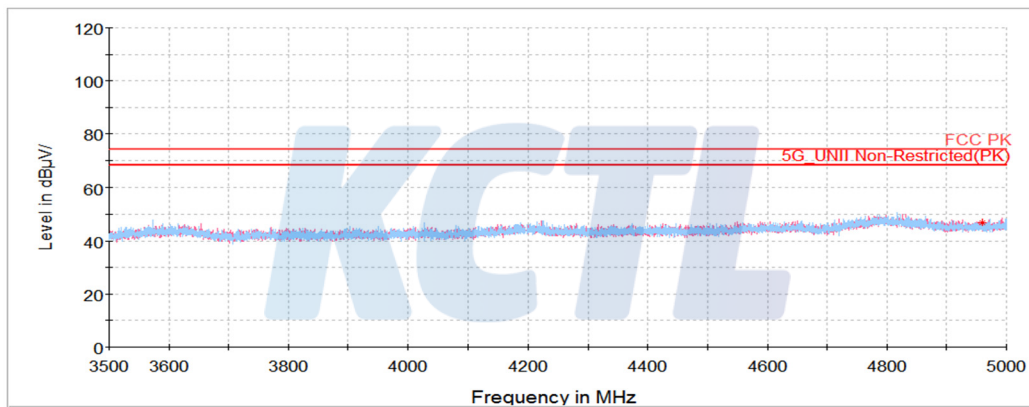
Horizontal/Vertical for 5G WIFI Band-edge



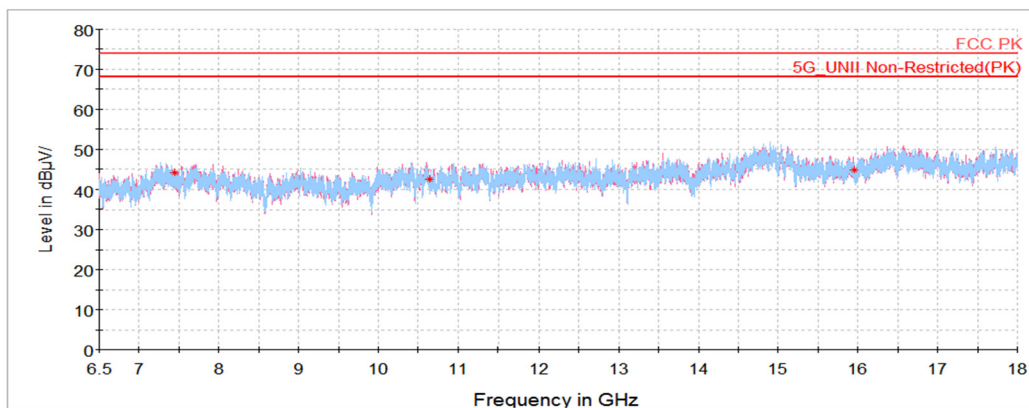
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 3.5 GHz ~ 5 GHz (BT Harmonic)



Horizontal/Vertical for 6.5 GHz ~ 18 GHz (BT, 5G WIFI Harmonic)



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Report No.:
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Page (206) of (206)



8. Measurement equipment

Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
Spectrum Analyzer	R&S	FSW50	101013	20.05.30
Spectrum Analyzer	R&S	FSV40	100988	20.01.04
ATTENUATOR	R&S	DNF Dämpfungsglied 10 dB in N-50 Ohm	31212	20.05.13
ATTENUATOR	API Inmet	40AH2W-10	11	20.05.15
EMI TEST RECEIVER	R&S	ESC17	100732	20.08.22
Bi-Log Antenna	SCHWARZBECK	VULB 9168	583	20.05.04
Amplifier	SONOMA INSTRUMENT	310N	284608	20.08.22
COAXIAL FIXED ATTENUATOR	Agilent	8491B-003	2708A18758	20.05.04
Horn antenna	ETS.lindgren	3116	00086632	20.02.15
Horn antenna	ETS.lindgren	3117	155787	20.02.15
Attenuator	API Inmet	40AH2W-10	12	20.05.15
Broadband PreAmplifier	SCHWARZBECK	BBV9718	216	20.07.30
AMPLIFIER	L-3 Narda-MITEQ	AMF-7D-01001800 -22-10P	2031196	20.02.21
AMPLIFIER	L-3 Narda-MITEQ	JS44-18004000-33 -8P	2000997	20.08.01
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-A1699-HS	WT160411002	20.05.14
Vector Signal Generator	R&S	SMBV100A	257566	20.01.04
Signal Generator	R&S	SMR40	100007	20.05.13

End of test report