

KCTL Inc.

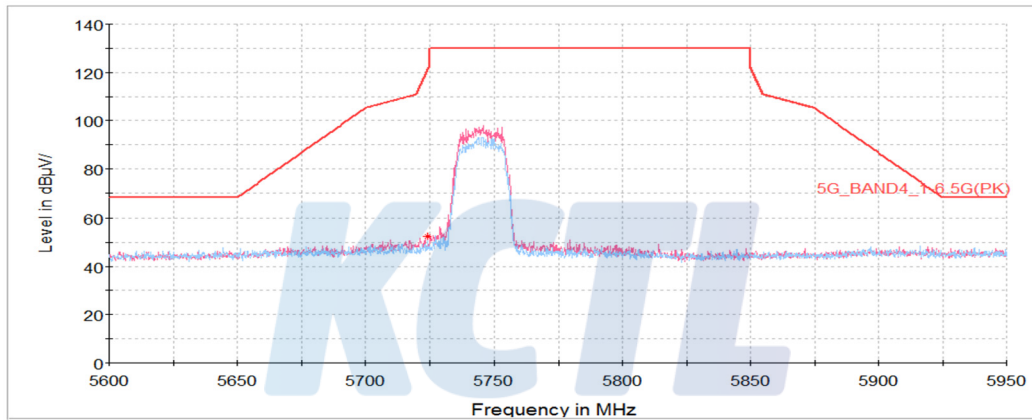
65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

Report No.:
KR20-SRF0044

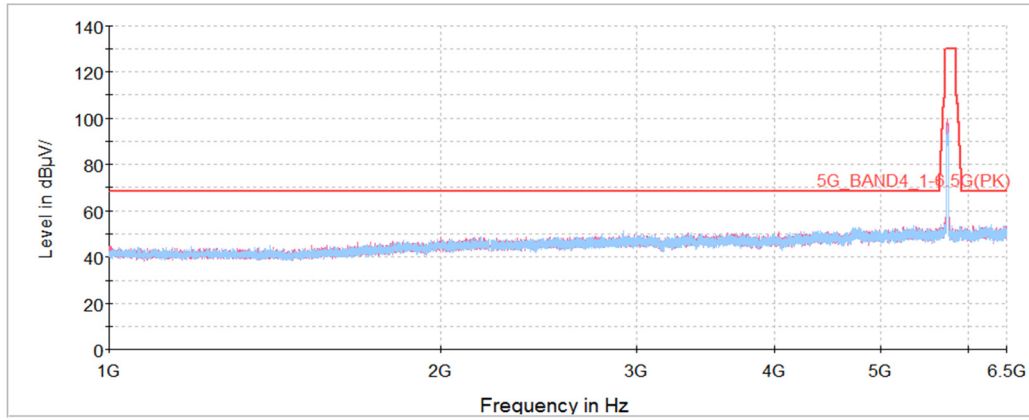
Page (189) of (203)

KCTL**802.11ac VHT20 UNII-3****Lowest Channel (5 745 MHz)**

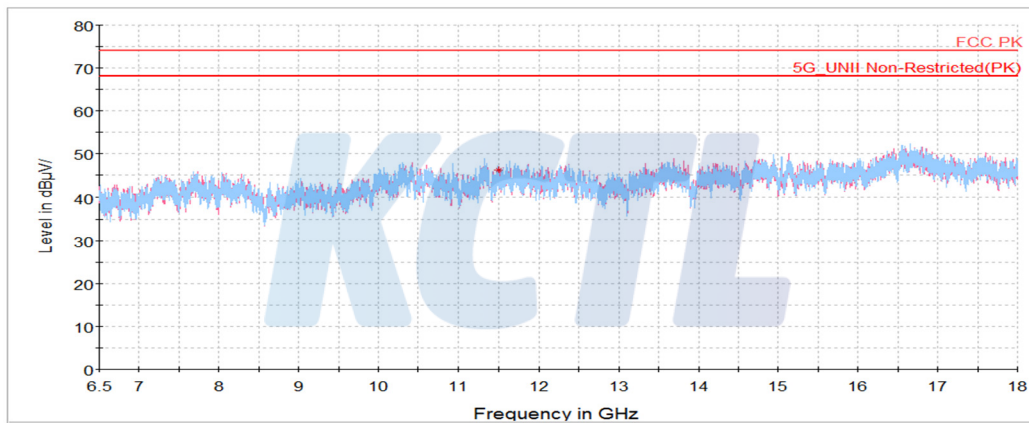
Frequency (MHz)	Pol. (V/H)	Reading (dB(μ V))	Ant. Factor (dB)	Amp.+Cable (dB)	DCCF (dB)	Result (dB(μ V/m))	Limit (dB(μ V/m))	Margin (dB)
Peak data								
5 724.33	V	43.44	34.77	-25.91	-	52.30	120.67	68.37
11 489.92 ¹⁾	V	56.16	38.19	-48.18	-	46.17	74.00	27.83
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

Horizontal/Vertical for Band-edge

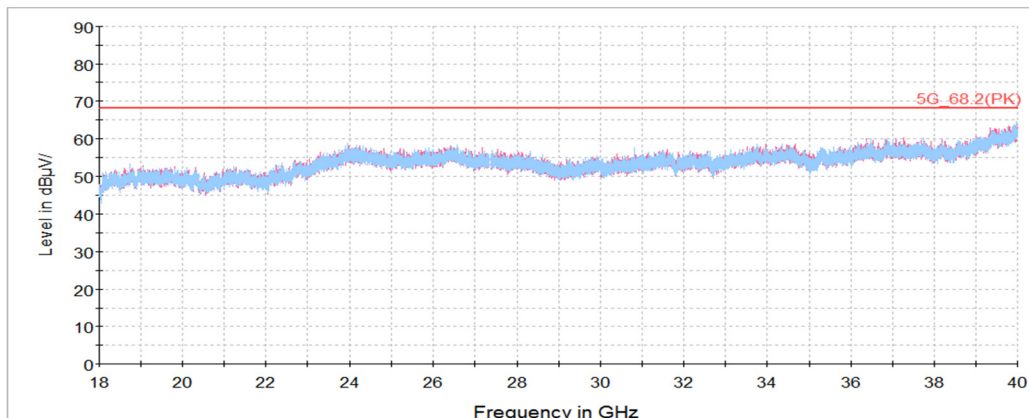
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



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-SRF0044

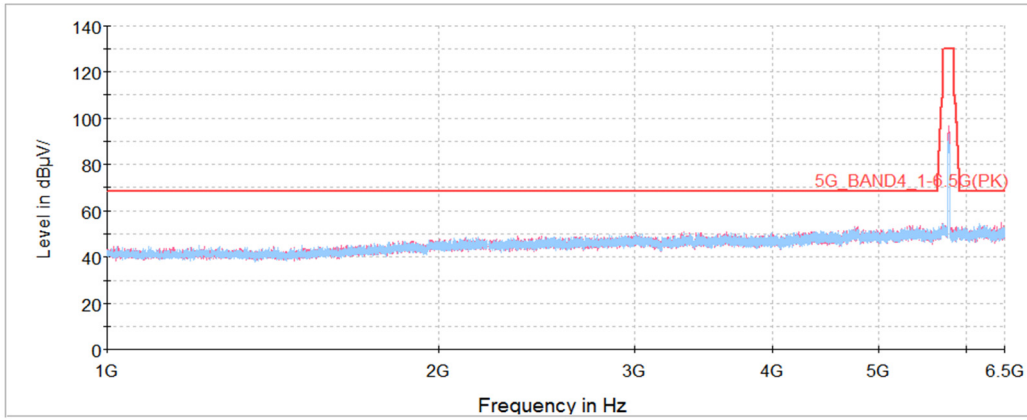
Page (191) of (203)

**Middle Channel (5 785 MHz)**

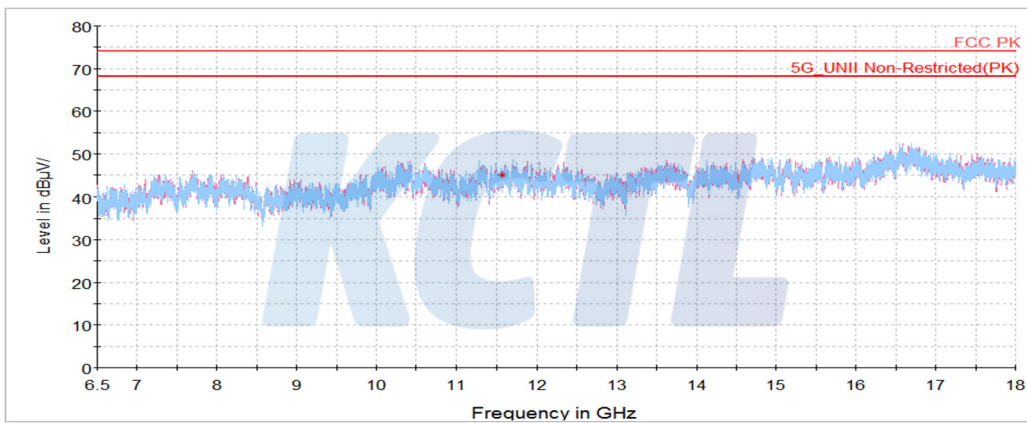
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Peak data								
11 570.42 ¹⁾	H	55.25	38.28	-48.41	-	45.12	74.00	28.88
Average Data								
No spurious emissions were detected within 20 dB of the limit.								



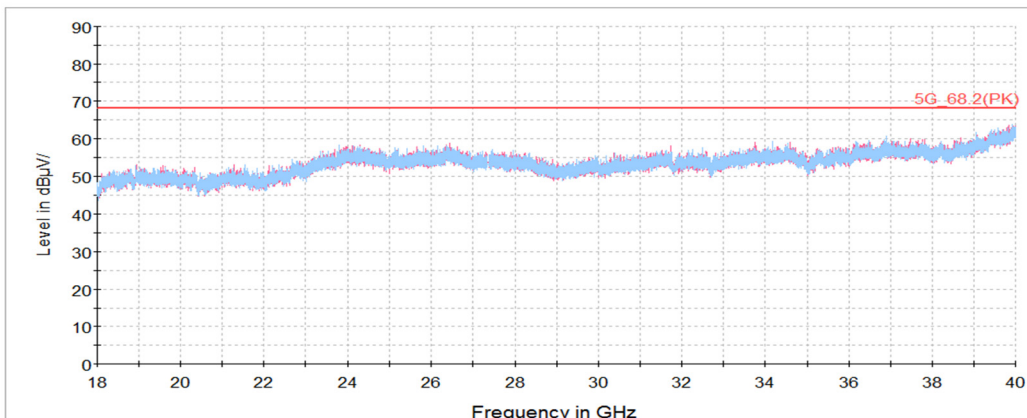
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



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-SRF0044

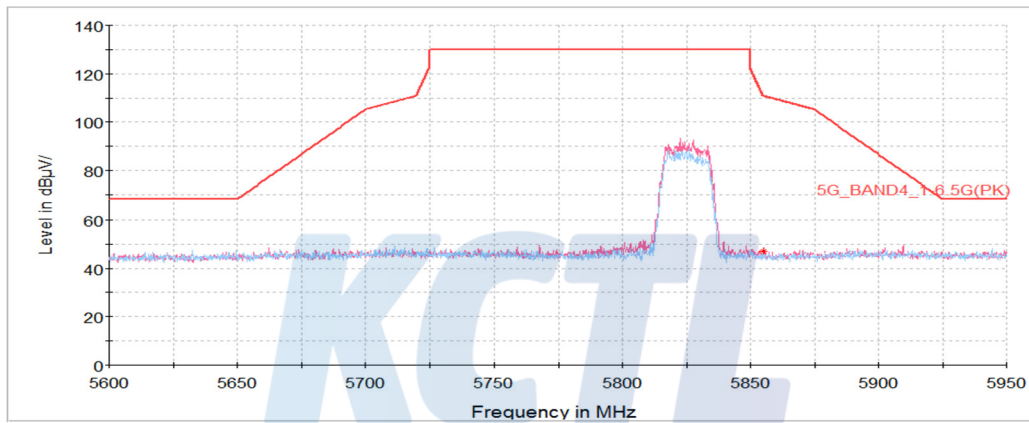
Page (193) of (203)



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								
5 854.78	V	40.04	34.93	-26.65	-	48.32	111.30	62.98
11 650.56 ¹⁾	V	56.27	38.38	-48.74	-	45.91	74.00	28.09
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

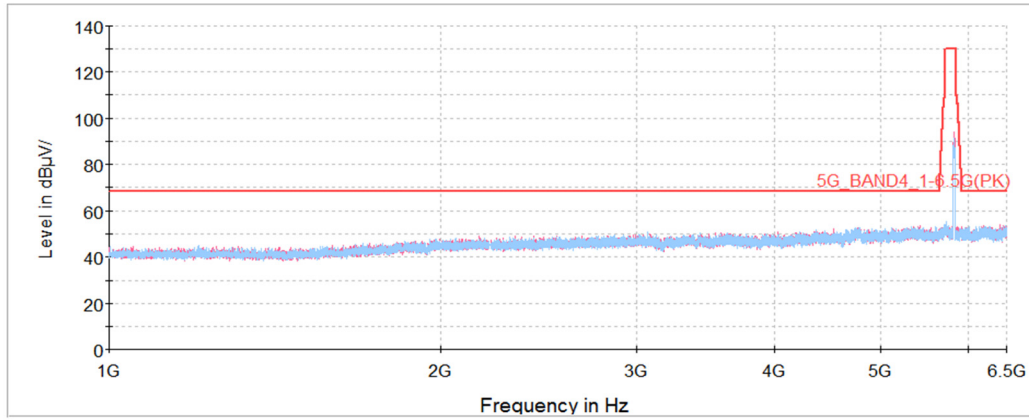
Horizontal/Vertical for Band-edge



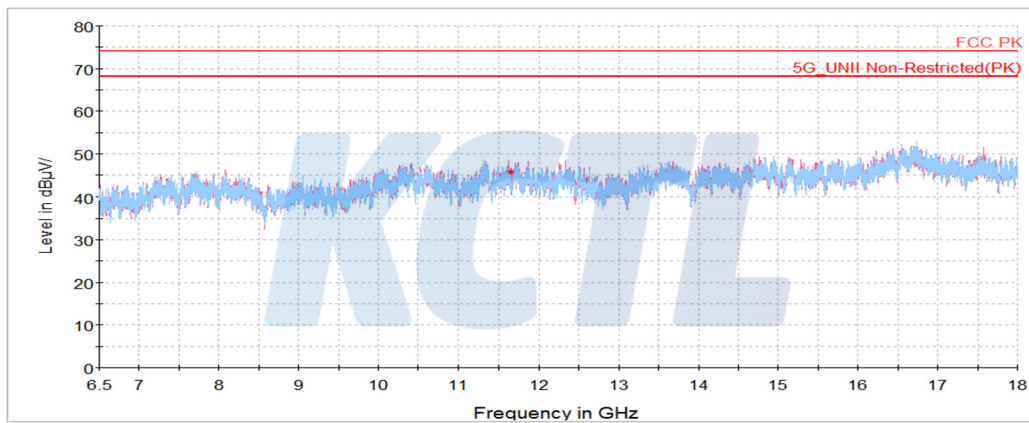
This test report shall not be reproduced, except in full, without the written approval

KCTL-TIR001-003/2

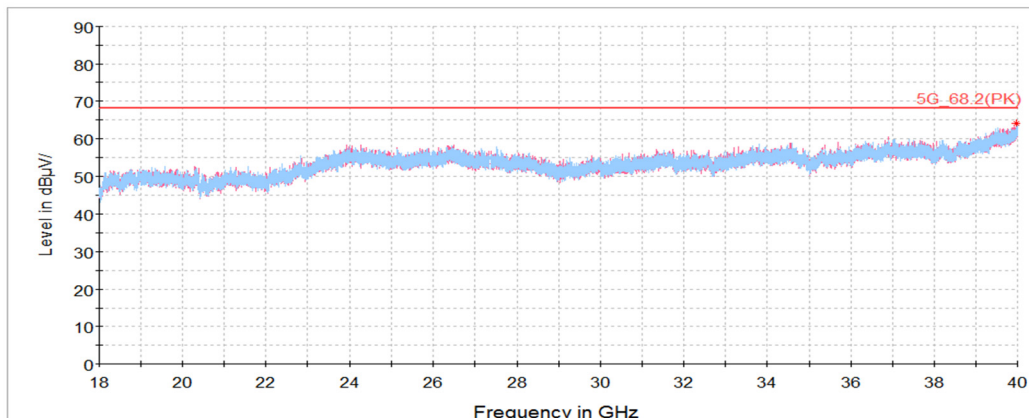
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



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-SRF0044

Page (195) of (203)

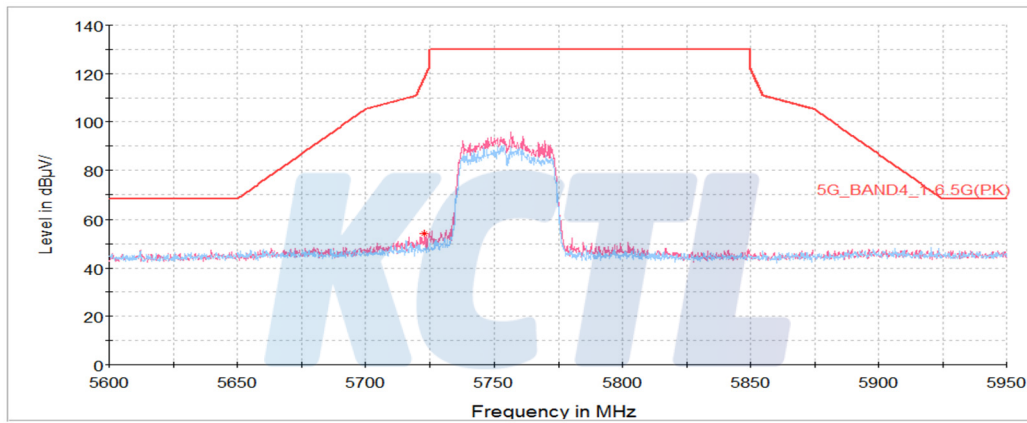


802.11ac VHT40 UNII-3

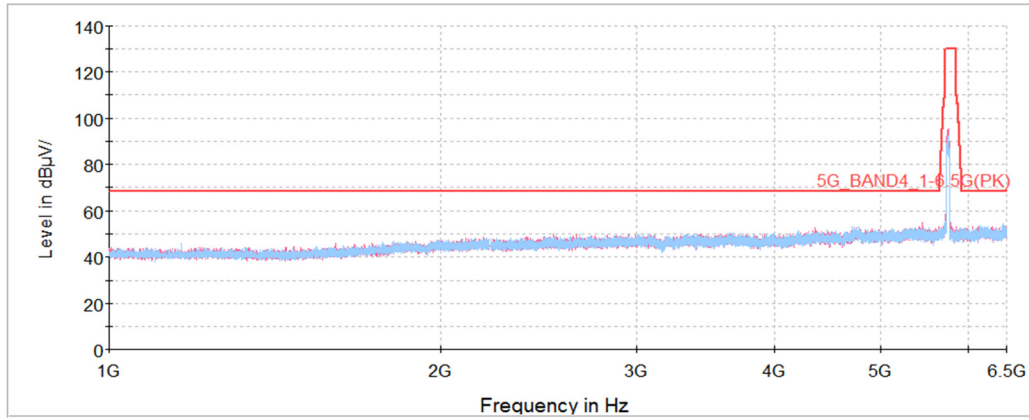
Lowest Channel (5 755 MHz)

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								
5 723.13	V	45.15	34.77	-25.89	-	54.03	117.93	63.90
11 510.05 ¹⁾	H	56.13	38.21	-48.16	-	46.18	74.00	27.82
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

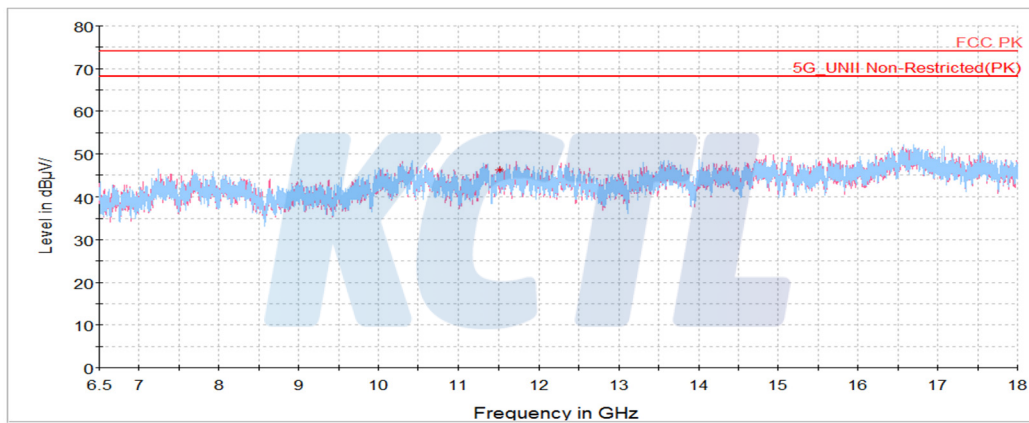
Horizontal/Vertical for Band-edge



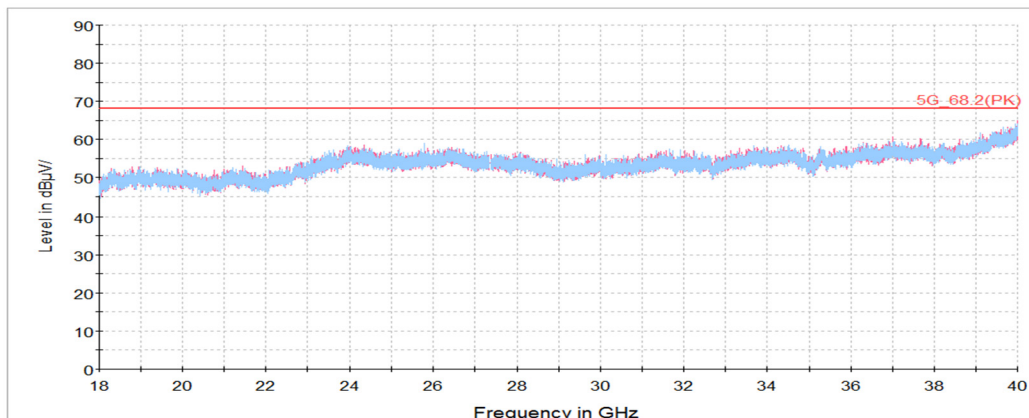
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



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-SRF0044

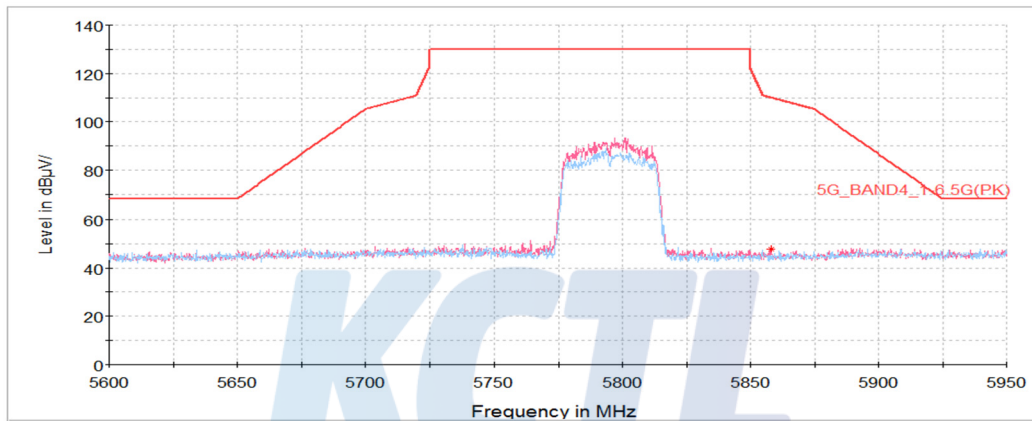
Page (197) of (203)



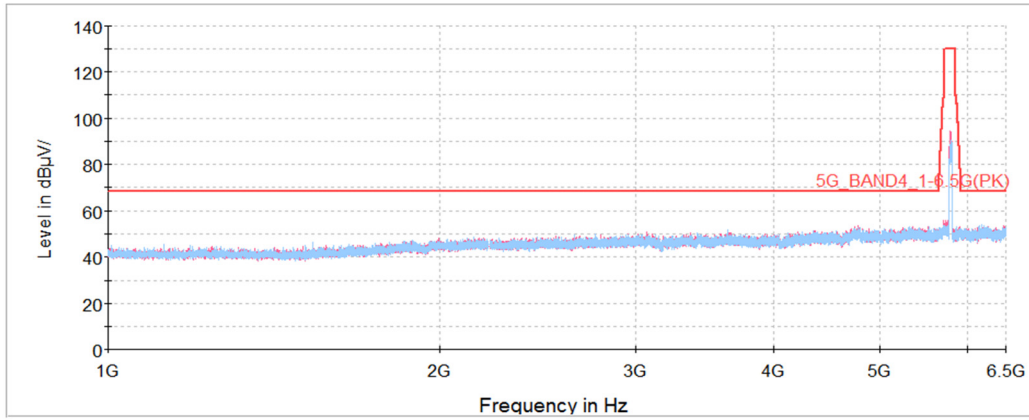
Highest Channel (5 795 MHz)

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								
5 858.05	V	39.45	34.93	-26.63	-	47.75	109.95	62.19
11 590.19 ¹⁾	H	57.32	38.31	-48.49	-	47.14	74.00	26.86
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

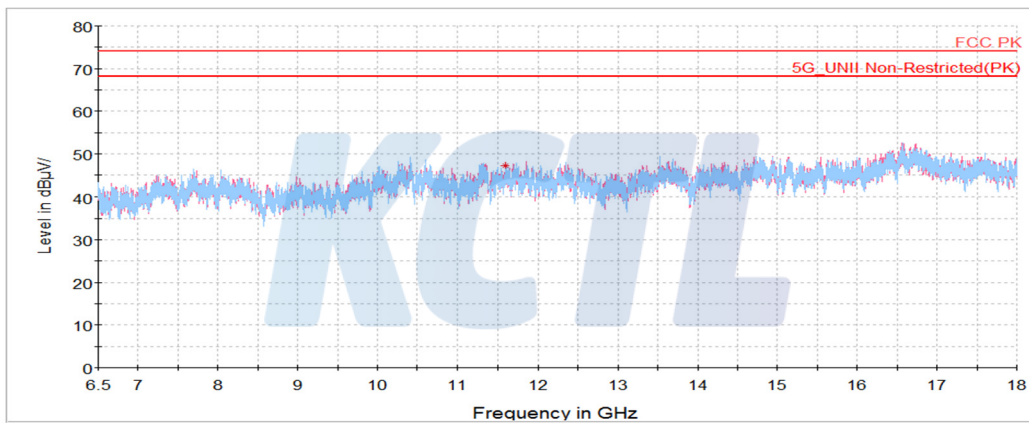
Horizontal/Vertical for Band-edge



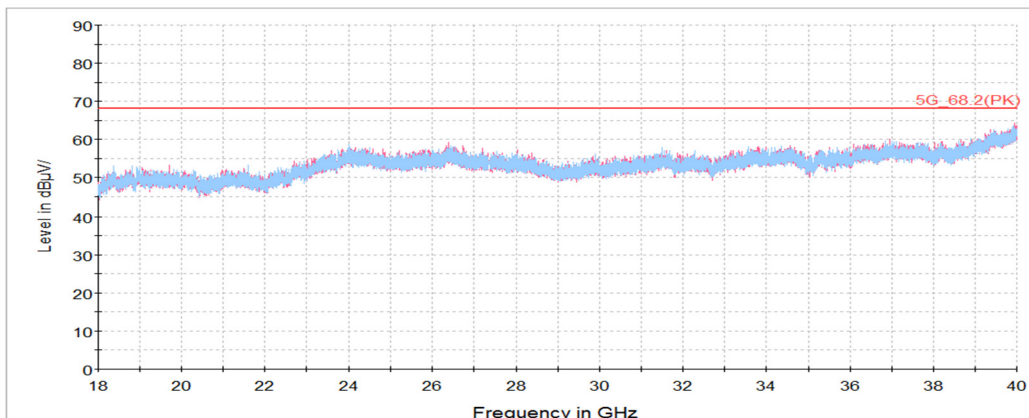
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



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-SRF0044

Page (199) of (203)

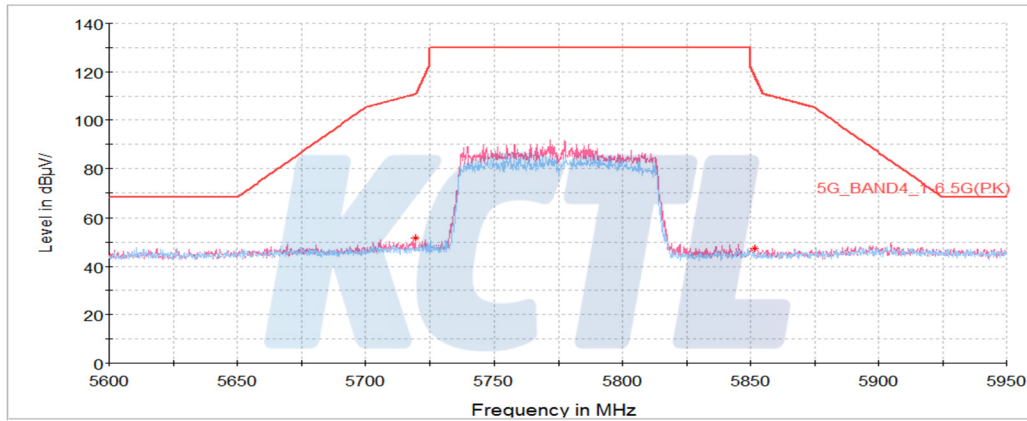


802.11ac VHT80 UNII-3

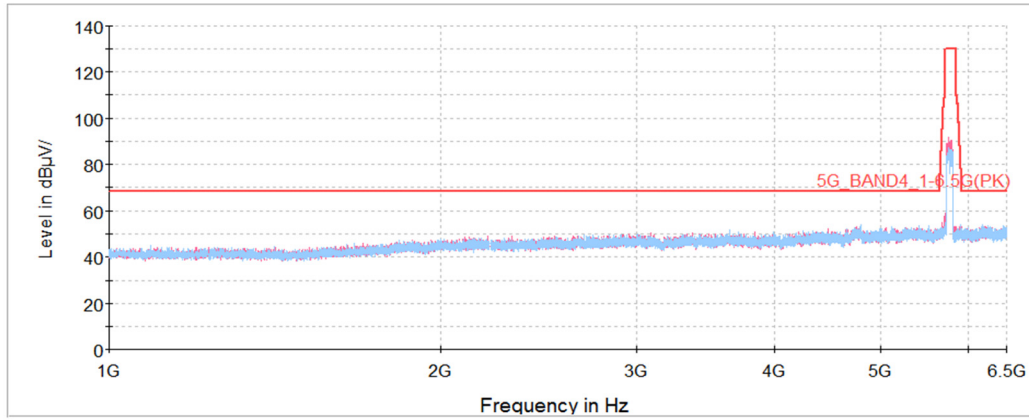
Lowest Channel (5 775 MHz)

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								
5 719.52	V	42.74	34.76	-25.84	-	51.66	110.66	59.00
5 851.69	V	38.99	34.92	-26.67	-	47.24	118.35	71.11
11 550.30 ¹⁾	H	55.75	38.26	-48.32	-	45.69	74.00	28.31
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

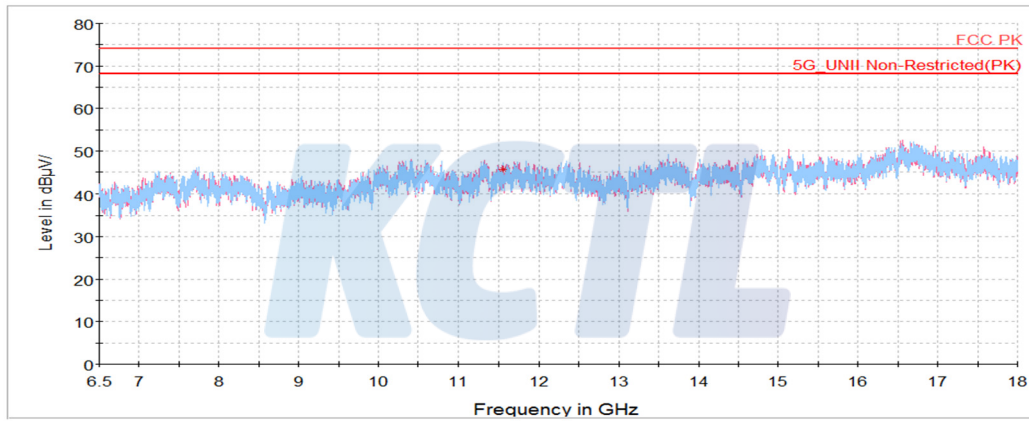
Horizontal/Vertical for Band-edge



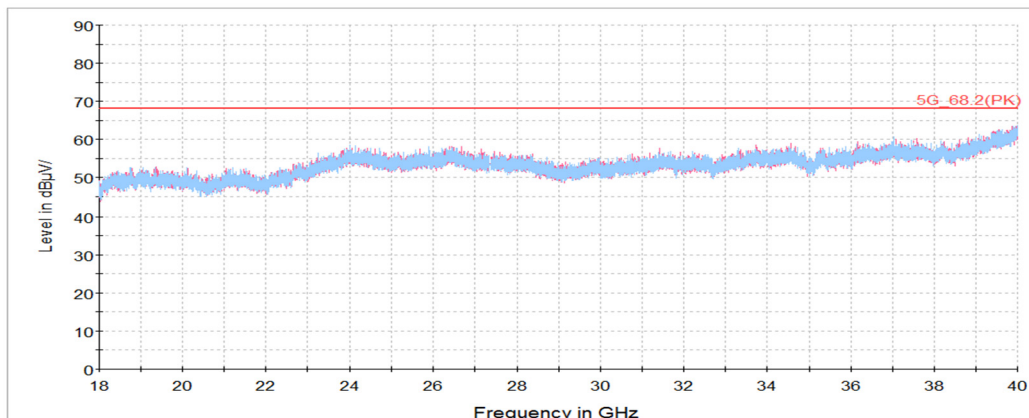
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



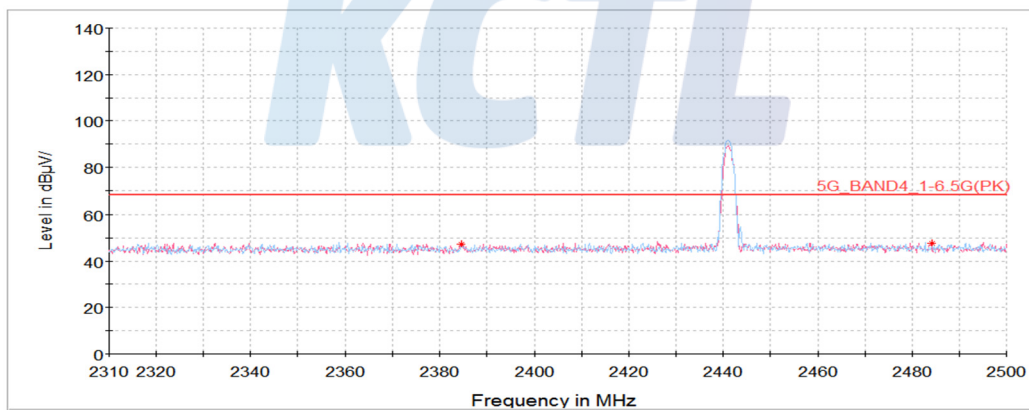
Horizontal/Vertical for 18 GHz ~ 40 GHz



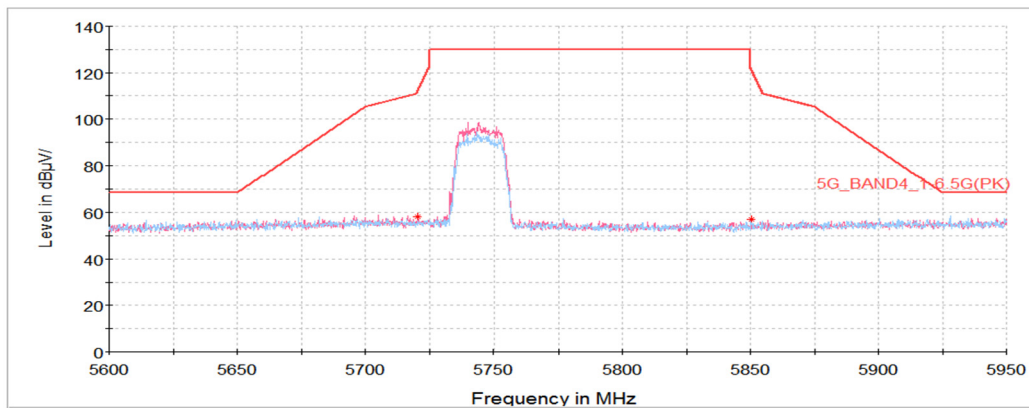
Simultaneously_802.11ac VHT20 / UNII-3 Lowest(5 745 MHz)+BT,GFSK(2 441 MHz)

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								
2 384.63 ¹⁾	H	44.60	31.87	-29.07	-	47.40	74.00	26.60
2 484.31 ¹⁾	H	44.69	32.07	-29.22	-	47.54	74.00	26.46
3 302.95	V	78.38	32.56	-47.71	-	63.23	68.20	4.97
4 880.59 ¹⁾	H	62.36	33.95	-54.39	-	41.92	74.00	32.08
5 720.55	V	48.87	35.06	-25.85	-	58.08	112.05	53.96
5 850.48	H	48.40	35.22	-26.68	-	56.94	121.10	64.16
7 319.73 ¹⁾	H	58.48	35.40	-51.19	-	42.69	74.00	31.31
11 489.56 ¹⁾	V	57.78	37.99	-50.07	-	45.70	74.00	28.30
17 236.33	H	54.05	41.21	-47.72	-	47.54	68.20	20.66
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

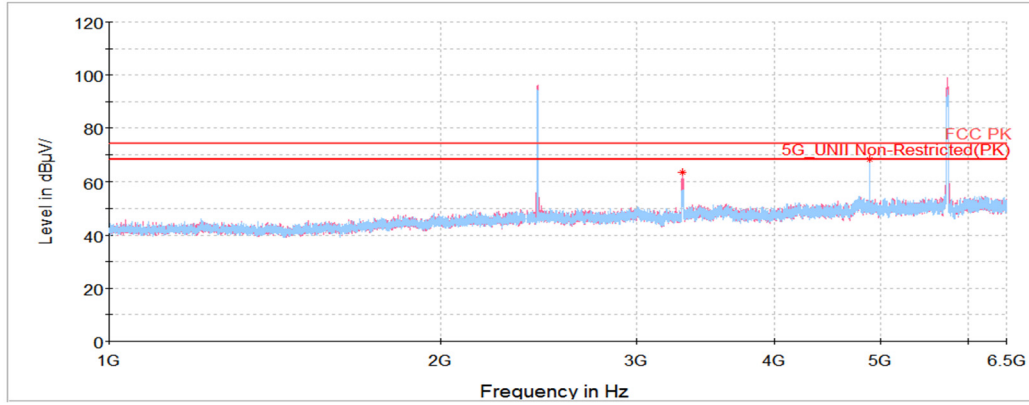
Horizontal/Vertical for BT Band-edge



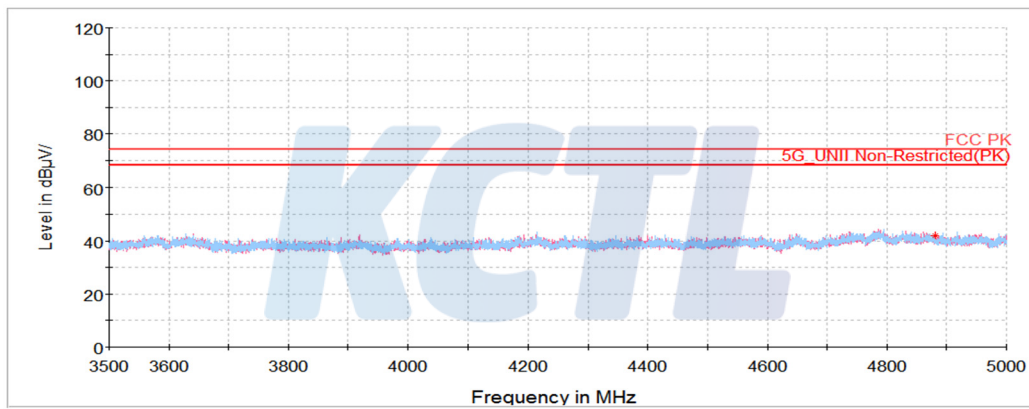
Horizontal/Vertical for 5G WIFI Band-edge



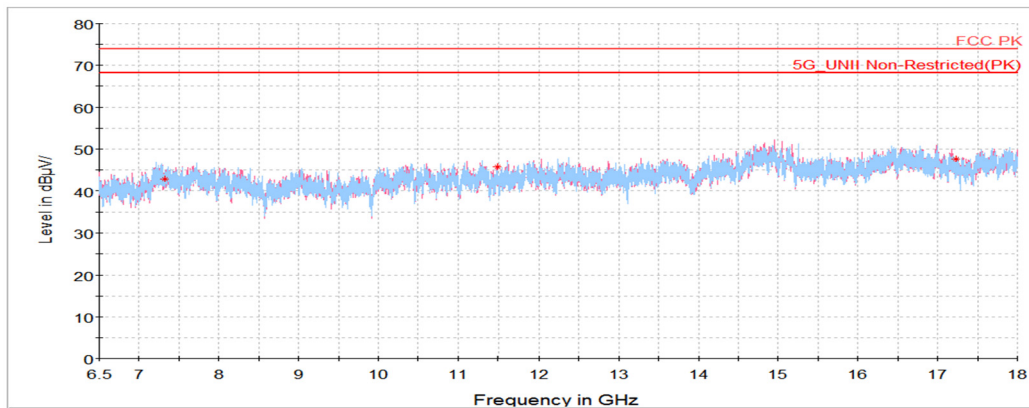
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



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



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



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-SRF0044

Page (203) of (203)



8. Measurement equipment

Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
Spectrum Analyzer	AGILENT	E4440A	MY46186407	20.07.30
Spectrum Analyzer	R&S	FSV40	100988	20.01.04
Vector Signal Generator	R&S	SMBV100A	257566	20.01.04
Signal Generator	R&S	SMR40	100007	20.05.13
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	20.10.24
Attenuator	API Inmet	40AH2W-10	17	20.05.15
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	2000996	20.01.28
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	WT160411002	20.05.14

End of test report