

MU4

EMISSIONS DATA

Template	260585 iss 1
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Test results are reference data based on our standard measurement condition.

1. Summary of Emissions Test Result

MODELS : MU4, see individual pages for details.

Item	Standard	Test Class	Result	Page	Notes & Conditions
Input Current Harmonics	IEC61000-3-2	A	Pass	4	
Voltage Flicker	IEC61000-3-3	$d_{\max} < 4\%$	Pass	5	
Conducted Emissions	CISPR 11 / 32	B	Pass	6	
	FCC 47-15-B	B	Pass	6	
Radiated Emissions	CISPR 11 / 32	B	Pass	9	
	FCC 47-15-B	B	Pass	12	

2. Input Current Harmonics (IEC61000-3-2)

MODEL: MU4FSDL T5H 5SBSJ 12SBSJ 24SBSJ 48SBSJ

(1) Equipment Used

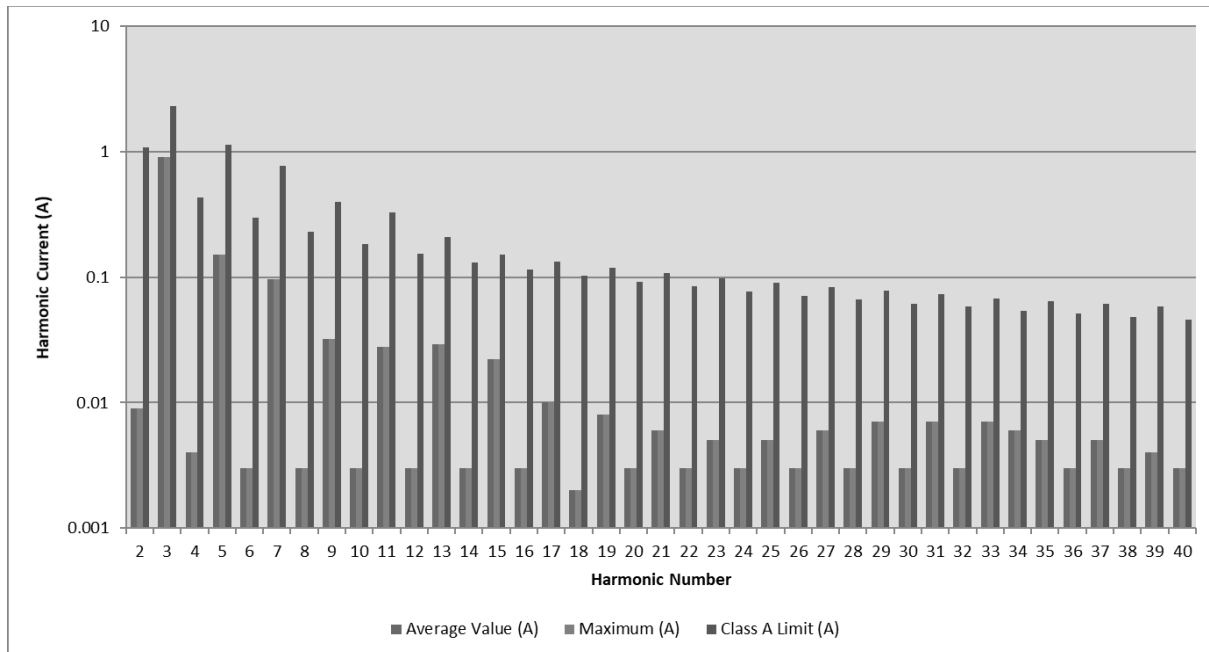
AC Power Source :Chroma 61505
 Power Analyser :Vitretek PA900

(2) Test Conditions

Input Voltage :230VAC Mains Frequency :50Hz
 Output Voltage :Rated Output Power :800W
 Test Observation Period :1.5 seconds Ambient Temperature :25°C

(3) Test Result

230Vac



Test	Class	MU4FSDL T5H 5SBSJ 12SBSJ 24SBSJ 48SBSJ
EN61000-3-2	A	Pass

4. Conducted Emissions (CISPR11)

MODEL: MU4FSDL Q5H 5SBSJ 12SBSG 24SBSG 48SBSG

(1) Equipment Used

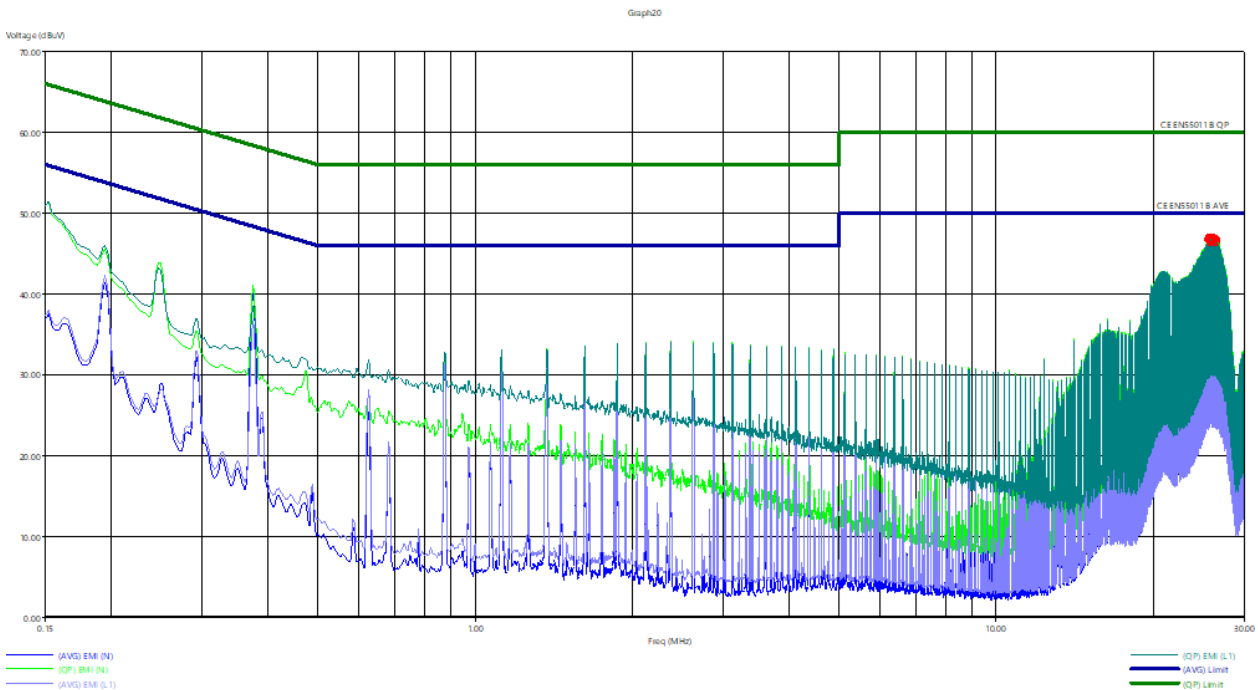
Receiver	:Rohde & Schwarz ESR 3
2 Line V-Network	:Rohde & Schwarz ESH3-Z5
Pulse Limiter	:Rohde & Schwarz ESH3-Z2

(2) Test Conditions

Input Voltage	: 230VAC	Mains Frequency	:50Hz
Output Voltage	:Rated	Output Load	:100%, 50% and 0%
Class	:B	Ambient Temperature	:23°C

(3) Test Results

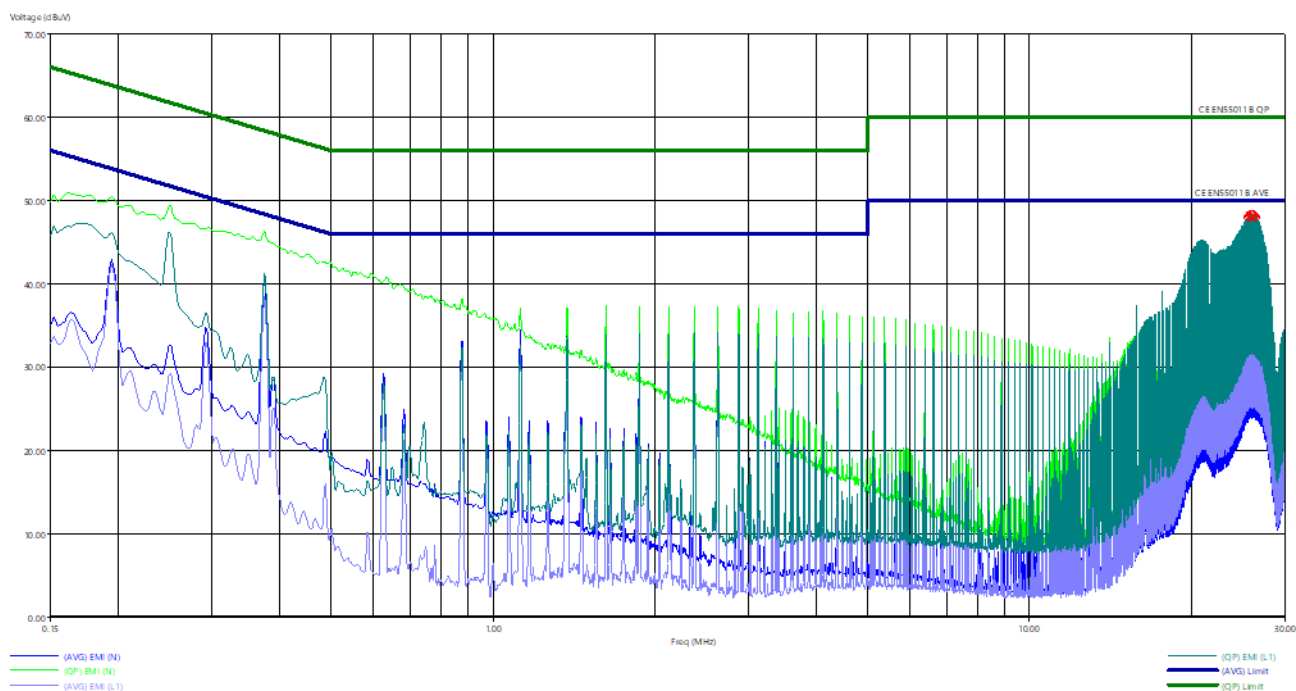
100% Load



Frequency (MHz)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Quasi-Peak (dBuV)	Limit (dBuV)	Margin (dB)
25.53	45.02	50.00	4.98	46.54	60.00	13.46
25.63	45.14	50.00	4.86	46.94	60.00	13.06
25.73	45.35	50.00	4.65	46.81	60.00	13.19
25.82	45.37	50.00	4.63	46.89	60.00	13.11
25.92	45.27	50.00	4.73	46.93	60.00	13.07
26.02	45.47	50.00	4.53	46.98	60.00	13.02
26.11	45.44	50.00	4.56	46.97	60.00	13.03
26.21	45.20	50.00	4.80	46.89	60.00	13.11
26.21	45.21	50.00	4.79	46.91	60.00	13.09
26.31	45.30	50.00	4.70	46.87	60.00	13.13
26.41	45.24	50.00	4.76	46.78	60.00	13.22

50% Load

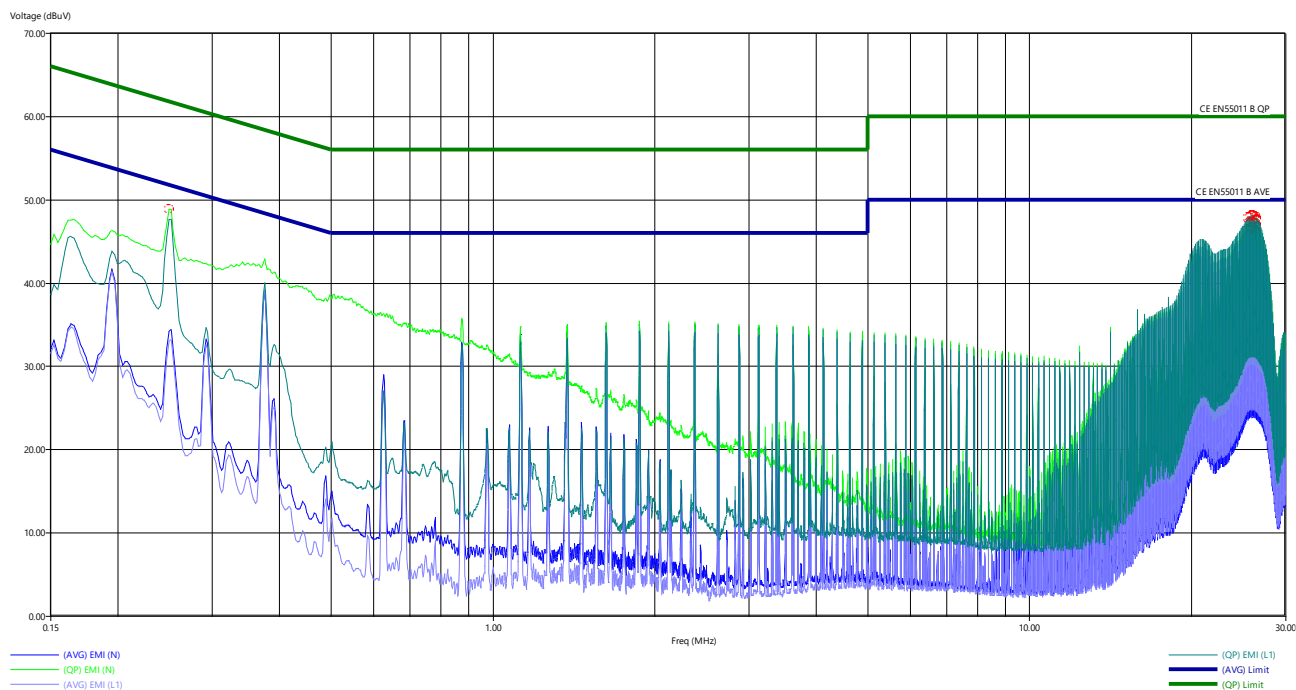
Graph20



Frequency (MHz)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Quasi-Peak (dBuV)	Limit (dBuV)	Margin (dB)
0.38	40.92	48.39	7.47	46.39	58.39	12.00
25.53	46.55	50.00	3.45	48.01	60.00	11.99
25.63	46.58	50.00	3.42	48.12	60.00	11.88
25.73	46.61	50.00	3.39	48.21	60.00	11.79
25.82	46.83	50.00	3.17	48.31	60.00	11.69
25.92	46.81	50.00	3.19	48.36	60.00	11.64
26.02	46.67	50.00	3.33	48.37	60.00	11.63
26.02	46.59	50.00	3.41	48.35	60.00	11.65
26.12	46.82	50.00	3.18	48.35	60.00	11.65
26.21	46.76	50.00	3.24	48.32	60.00	11.68
26.41	46.55	50.00	3.45	48.13	60.00	11.87

0% Load

Graph20



Frequency (MHz)	Average (dBuV)	Limit (dBuV)	Margin (dB)	Quasi-Peak (dBuV)	Limit (dBuV)	Margin (dB)
0.25	34.24	51.79	17.55	48.87	61.79	12.92
25.53	46.43	50.00	3.57	47.83	60.00	12.17
25.73	46.63	50.00	3.37	48.06	60.00	11.94
25.82	46.69	50.00	3.31	48.11	60.00	11.89
25.92	46.53	50.00	3.47	48.11	60.00	11.89
25.92	46.43	50.00	3.57	48.12	60.00	11.88
26.02	46.67	50.00	3.33	48.16	60.00	11.84
26.12	46.68	50.00	3.32	48.13	60.00	11.87
26.21	46.47	50.00	3.53	48.04	60.00	11.96
26.31	46.43	50.00	3.57	47.98	60.00	12.02
26.41	46.40	50.00	3.60	47.88	60.00	12.12

Note: Limits of CISPR11, EN55011, CISPR32, EN55032, FCC and VCCI Class B are identical.

5. Radiated Emissions (CISPR11)

MODEL: MU4FSDL Q5H 5SBSJ 12SBSG 24SBSG 48SBSG

(1) Equipment Used

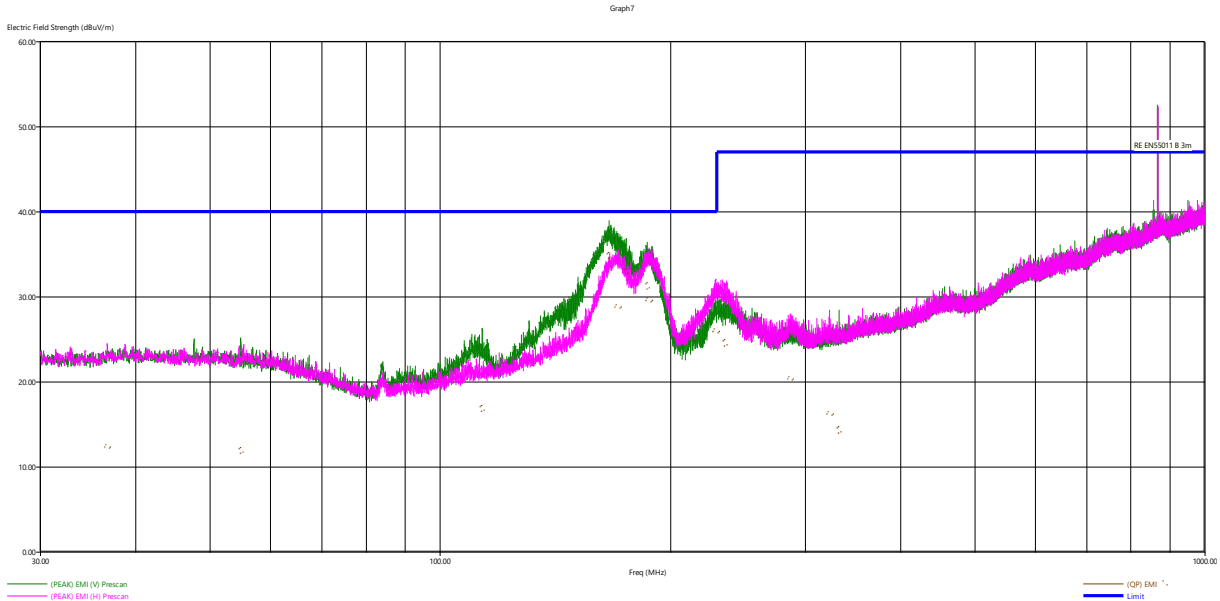
Receiver	:Rohde & Schwarz ESR 3
Antenna	:Schwarzbeck Mess VULB 9168
Controller	:Mature Control Unit MCU
Antenna Mast	:Mature Antenna Mast AM 4.0
Turntable	:Mature Turntable TT 2.0 SI
Semi-Anechoic Chamber	:TRS 3m Semi-Anechoic Chamber

(2) Test Conditions

Input Voltage	: 230VAC	Mains Frequency	:50Hz
Output Voltage	:Rated	Output Load	:100%, 50% and 0%
Class	:B	Ambient Temperature	:20°C

(3) Test Results

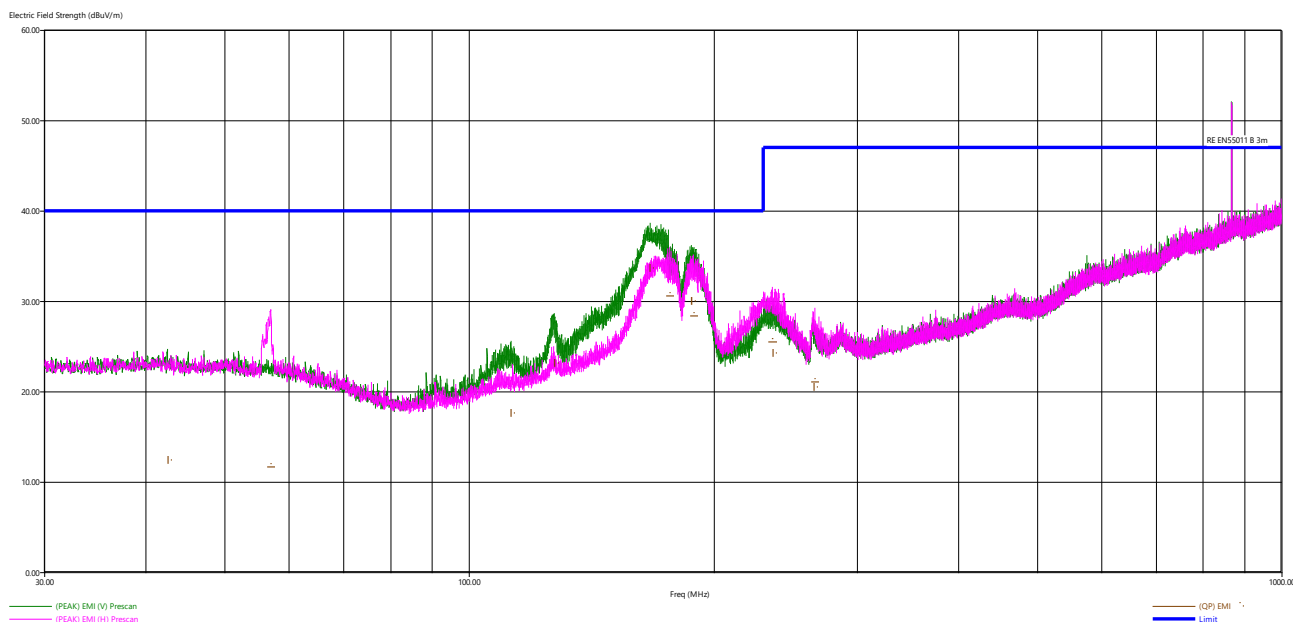
100% Load



Frequency (MHz)	Polarisation	EUT Angle (Degrees)	Tower Height (cm)	Quasi-Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)
36.69	H	202.0	399	12.35	40.00	27.65
170.79	H	355.4	149	28.78	40.00	11.22
187.41	H	256.6	149	29.53	40.00	10.47
229.02	H	354.8	149	25.88	40.00	14.12
286.77	H	72.2	101	20.30	47.00	26.70
322.92	H	275.4	101	16.21	47.00	30.79
54.84	V	33.1	101	11.84	40.00	28.16
113.46	V	58.5	101	16.78	40.00	23.22
166.35	V	44.6	101	34.76	40.00	5.24
174.87	V	45.9	101	32.89	40.00	7.11
186.30	V	70.5	149	31.21	40.00	8.79
235.32	V	45.1	101	24.50	47.00	22.50
332.34	V	217.8	399	14.28	47.00	32.72

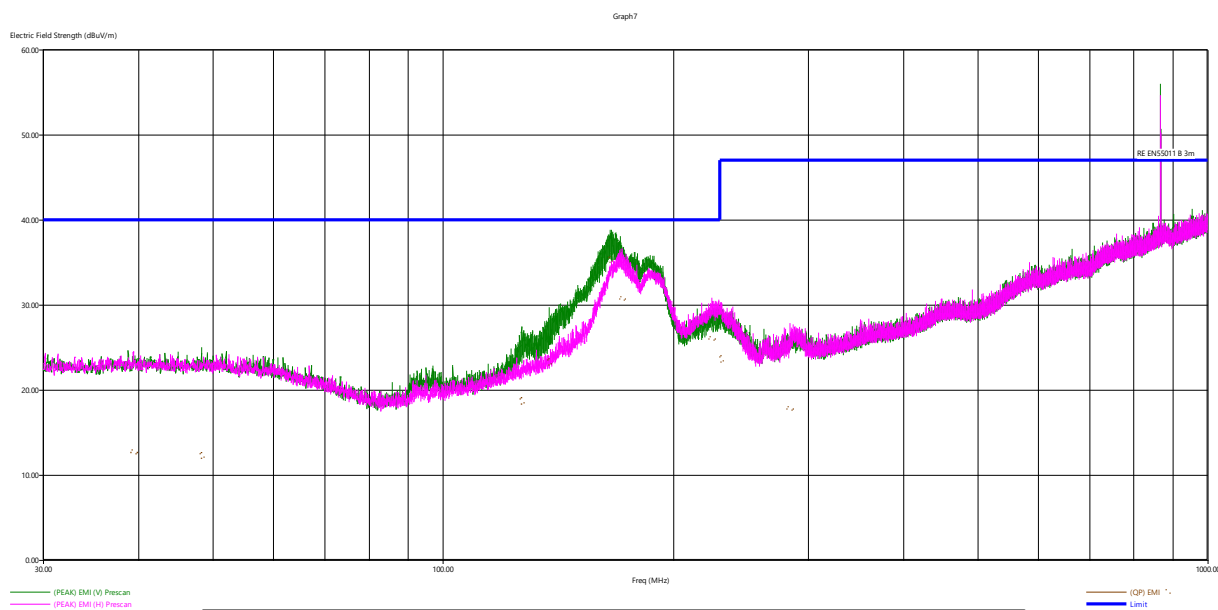
50% Load

Graph7



Frequency (MHz)	Polarisation	EUT Angle (Degrees)	Tower Height (cm)	Quasi-Peak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
56.91	H	241.8	101	11.63	40.00	28.37
176.43	H	2.4	149	30.50	40.00	9.50
188.49	H	272.5	149	28.32	40.00	11.68
235.71	H	216.5	101	25.42	47.00	21.58
265.95	H	81.2	149	21.01	47.00	25.99
42.48	V	12.5	199	12.36	40.00	27.64
112.56	V	232.5	101	17.52	40.00	22.48
127.26	V	23.5	101	23.09	40.00	16.91
166.89	V	169.5	101	33.69	40.00	6.31
187.62	V	129.1	101	29.96	40.00	10.04
236.40	V	50.2	101	24.19	47.00	22.81
264.90	V	37.1	101	20.47	47.00	26.53

0% Load



Frequency (MHz)	Polarisation	EUT Angle (Degrees)	Tower Height (cm)	Quasi-Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)
39.33	H	106.9	299	12.60	40.00	27.40
171.36	H	263.4	149	30.68	40.00	9.32
224.58	H	350.8	149	25.95	40.00	14.05
283.86	H	67.0	199	17.74	47.00	29.26
48.30	V	192.9	249	12.27	40.00	27.73
126.57	V	91.5	101	18.68	40.00	21.32
137.52	V	1.5	101	23.19	40.00	16.81
165.18	V	50.5	101	35.31	40.00	4.69
231.06	V	38.1	101	23.59	47.00	23.41

6. Radiated Emissions (FCC Title 47 – 15 B)

MODEL: MU4FSDL Q5H 5SBSJ 12SBSG 24SBSG 48SBSG

(1) Equipment Used

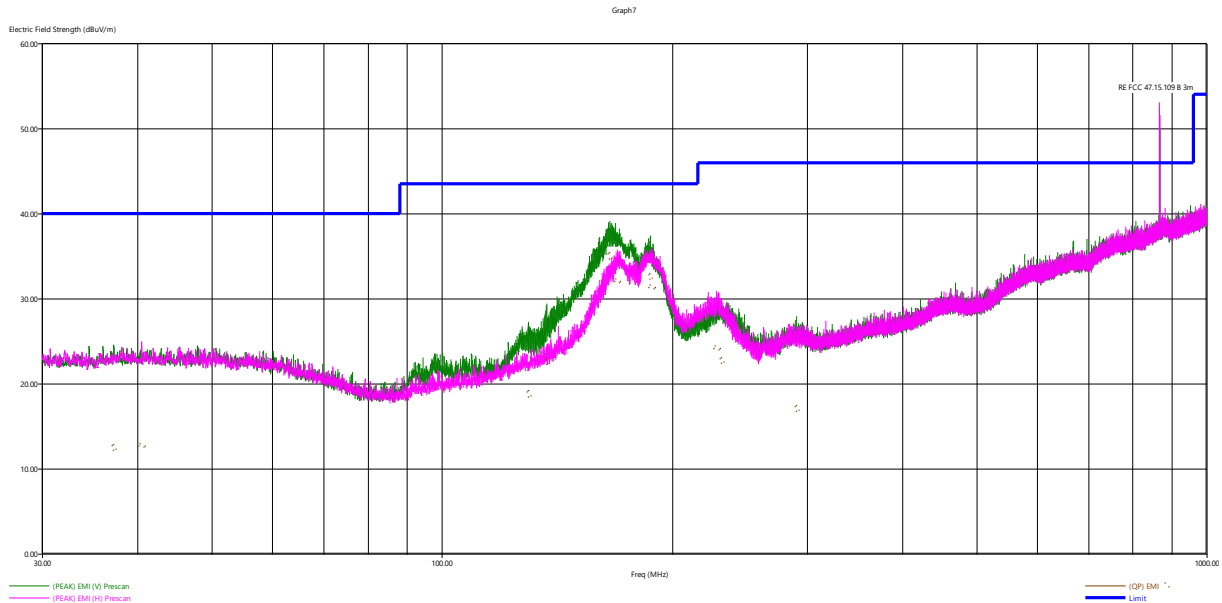
Receiver	:Rohde & Schwarz ESR 3
Antenna	:Schwarzbeck Mess VULB 9168
Controller	:Mature Control Unit MCU
Antenna Mast	:Mature Antenna Mast AM 4.0
Turntable	:Mature Turntable TT 2.0 SI
Semi-Anechoic Chamber	:TRS 3m Semi-Anechoic Chamber

(2) Test Conditions

Input Voltage	: 120VAC	Mains Frequency	:50Hz
Output Voltage	:Rated	Output Load	:100%
Class	:B	Ambient Temperature	:20°C

(3) Test Results

100% Load



Frequency (MHz)	Polarisation	EUT Angle (Degrees)	Tower Height (cm)	Quasi-Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)
40.47	H	32.8	249	12.68	40.00	27.32
169.32	H	262.5	149	31.98	43.50	11.52
187.92	H	354.5	199	31.32	43.50	12.18
228.54	H	1.9	199	24.18	46.00	21.82
37.20	V	117.2	399	12.43	40.00	27.57
129.51	V	195.4	101	18.74	43.50	24.76
136.98	V	324.5	101	22.53	43.50	20.97
165.57	V	19.5	101	34.96	43.50	8.54
186.99	V	82.5	101	32.52	43.50	10.98
231.75	V	28.2	101	22.67	46.00	23.33
290.73	V	226.9	199	16.98	46.00	29.02