

Amplifier (9KHz-30MHz)	CVP 9222 C	00109	SCHNARZBECK	2024/6/18	2025/6/17
MXG Signal Analyzer	N9020A	101178	RS	2024/6/17	2025/6/16
MXG Vector Signal Generator	N5182A	MY50510202	Agilent	2024/6/17	2025/6/16
MXG Analog Signal Generator	N5181A	00374	SCHWARZBECK	2024/6/17	2025/6/16
Power Sensor	TR1029-2	00473	SCHNARZBECK	2024/6/17	2025/6/16
RF Swith	TR1029-1	02622	SCHNARZBECK	2024/6/17	2025/6/16
Cable	DA800- 4000MM	NA	DA	2024/6/17	2025/6/16
Cable	DA800- 11000MM	NA	DA	2024/6/17	2025/6/16

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	AUDIX	e3	6.120718
2	EMC radiation test system	AUDIX	e3	6.120718
3	RF test system	TACHOY	RFTTest	V1.0.0
4	RF communication test system	TACHOY	RFTTest	V1.0.0

5.2 Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	±1.0dB
Power Spectral Density, conducted	±2.2dB
Radio Frequency	± 1 x 10 ⁻⁶
Bandwidth	± 1.5 x 10 ⁻⁶
Time	±2%
Duty Cycle	±2%
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emissions (150kHz~30MHz)	±3.64dB
Radiated Emission(30MHz~1GHz)	±5.03dB
Radiated Emission(1GHz~25GHz)	±4.74dB

5.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	AT-S410, AT-S024-4, AT-S024, AT-S502	Hiwill	A41 PRO, A41, A21, A502PRO, A502	N/A	EUT
E-2	Notebook	lenovo	B40-80	MP07F6JD	Auxiliary

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

6 Conducted Emission

Test Requirement: : FCC CFR 47 Part 15 Section 15.207 & RSS-Gen [8.8]
Test Method: : ANSI C63.10:2013
Test Result: : PASS
Frequency Range: : 150kHz to 30MHz
Class/Severity: : Class B
Detector: : Peak for pre-scan (9kHz Resolution Bandwidth)

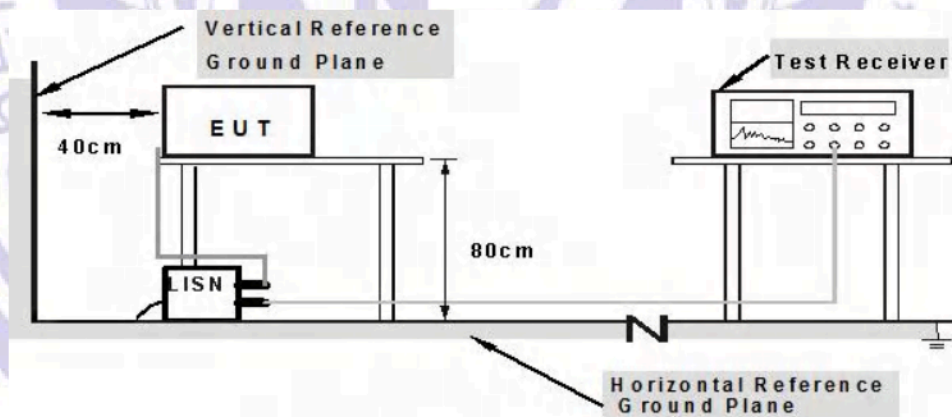
6.1 E.U.T. Operation

Operating Environment :

Temperature: : 23.2°C
Humidity: : 51 % RH
Atmospheric Pressure: : 101.12 kPa
Test Voltage : AC 120V/60Hz

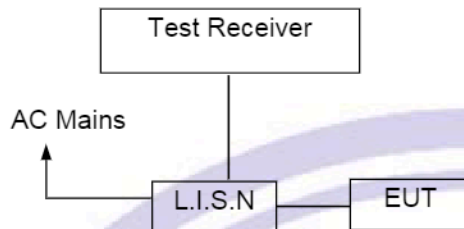
6.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10: 2013



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

6.3 Test SET-UP (Block Diagram of Configuration)



6.4 Measurement Procedure:

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

6.5 Conducted Emission Limit

Conducted Emission

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:

1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

6.6 Measurement Description

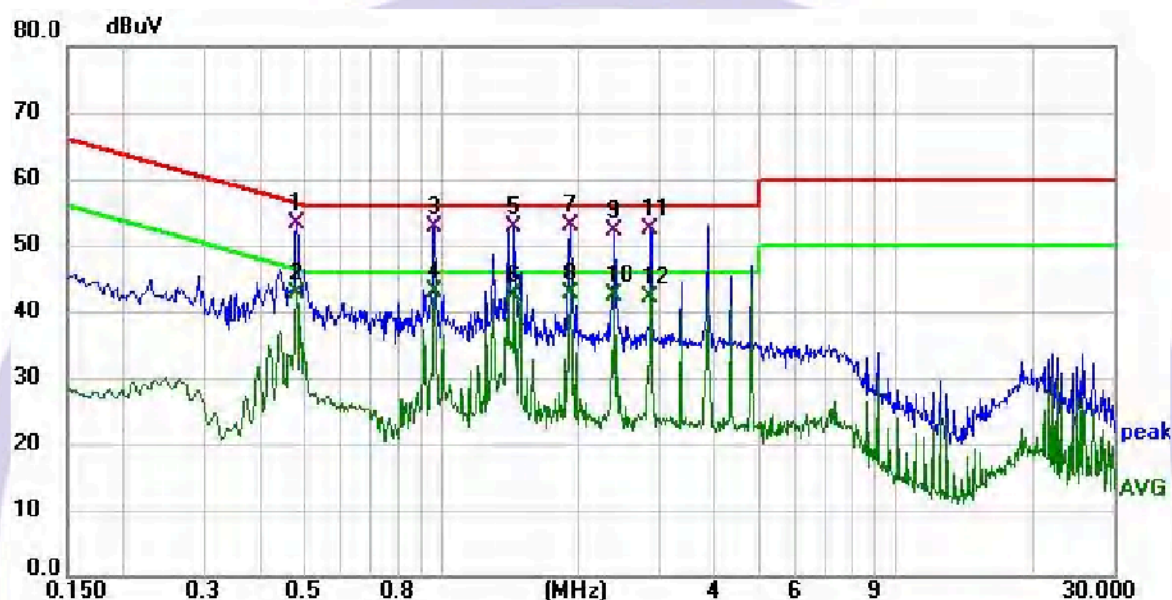
The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

6.7 Conducted Emission Test Result

Pass

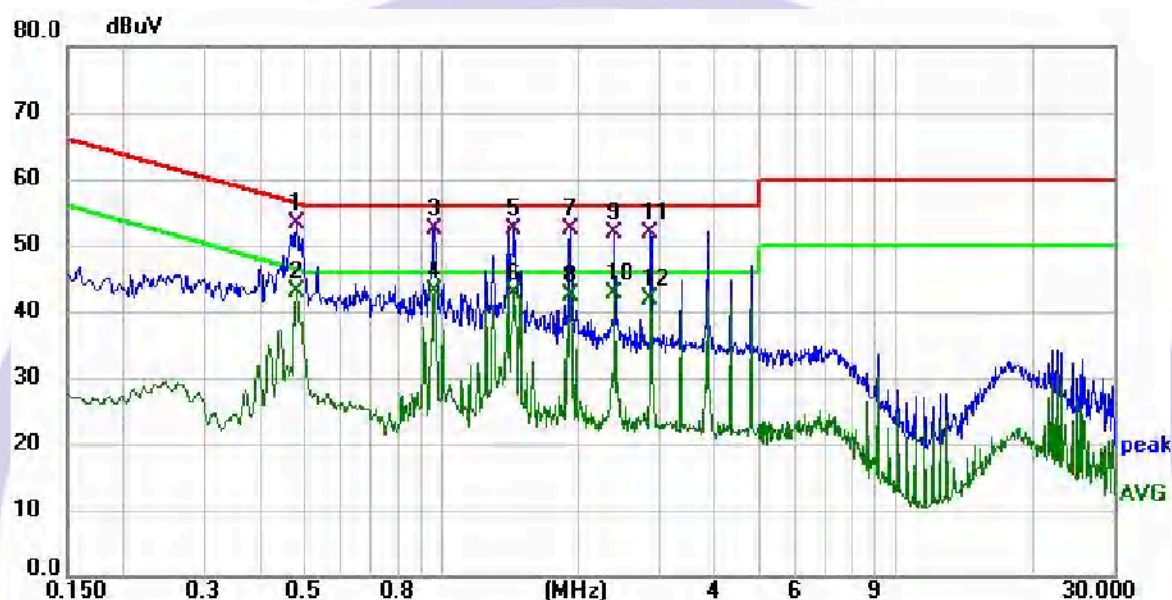
Conducted emission at both 120V & 240V is assessed, and emission at 120V represents the worst case. All the modulation modes were tested the data of the worst mode (GFSK) are recorded in the following pages and the others modulation methods do not exceed the limits.

Channel:	Low	Phase :	L
Model:	A41 PRO		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.480	42.58	10.65	53.23	56.34	-3.11	QP	P
2	0.480	32.20	10.65	42.85	46.34	-3.49	AVG	P
3	0.964	41.68	11.06	52.74	56.00	-3.26	QP	P
4 *	0.964	31.90	11.06	42.96	46.00	-3.04	AVG	P
5	1.441	41.55	11.08	52.63	56.00	-3.37	QP	P
6	1.441	31.46	11.08	42.54	46.00	-3.46	AVG	P
7	1.927	41.86	11.01	52.87	56.00	-3.13	QP	P
8	1.927	31.65	11.01	42.66	46.00	-3.34	AVG	P
9	2.404	41.14	11.02	52.16	56.00	-3.84	QP	P
10	2.404	31.37	11.02	42.39	46.00	-3.61	AVG	P
11	2.881	41.29	11.03	52.32	56.00	-3.68	QP	P
12	2.881	31.13	11.03	42.16	46.00	-3.84	AVG	P

Channel:	High	Phase :	N
Model:	A41 PRO		

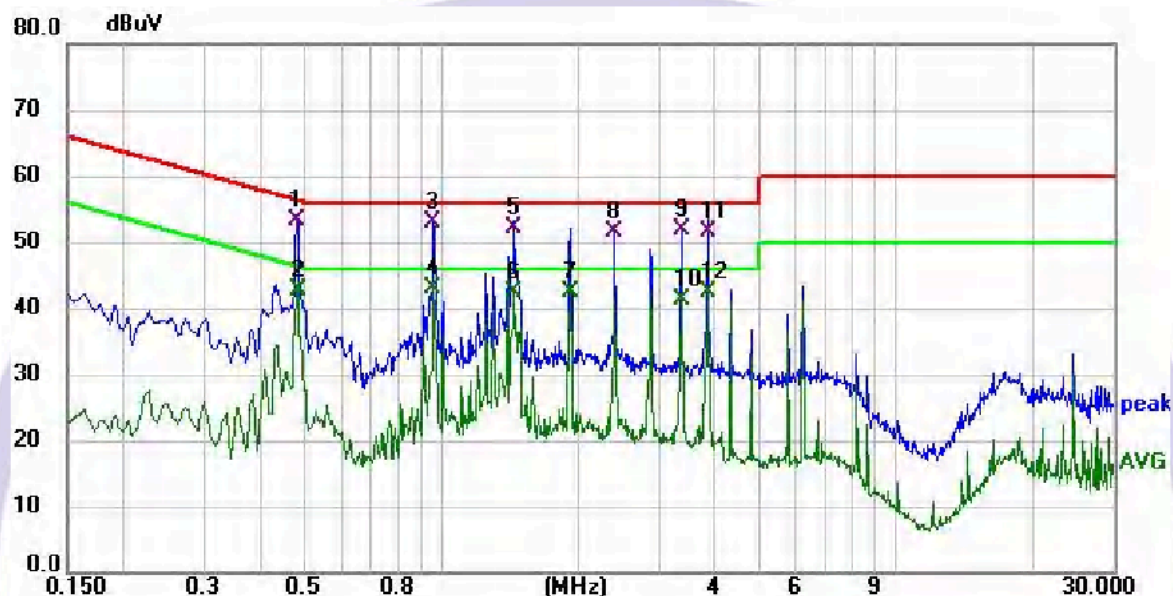


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.480	42.58	10.68	53.26	56.34	-3.08	QP	P
2	0.480	32.20	10.68	42.88	46.34	-3.46	AVG	P
3	0.964	41.34	11.05	52.39	56.00	-3.61	QP	P
4 *	0.964	31.92	11.05	42.97	46.00	-3.03	AVG	P
5	1.441	41.32	11.09	52.41	56.00	-3.59	QP	P
6	1.441	31.54	11.09	42.63	46.00	-3.37	AVG	P
7	1.927	41.35	11.03	52.38	56.00	-3.62	QP	P
8	1.927	31.53	11.03	42.56	46.00	-3.44	AVG	P
9	2.404	40.71	11.03	51.74	56.00	-4.26	QP	P
10	2.404	31.60	11.03	42.63	46.00	-3.37	AVG	P
11	2.881	40.73	11.01	51.74	56.00	-4.26	QP	P
12	2.881	30.95	11.01	41.96	46.00	-4.04	AVG	P

Notes:

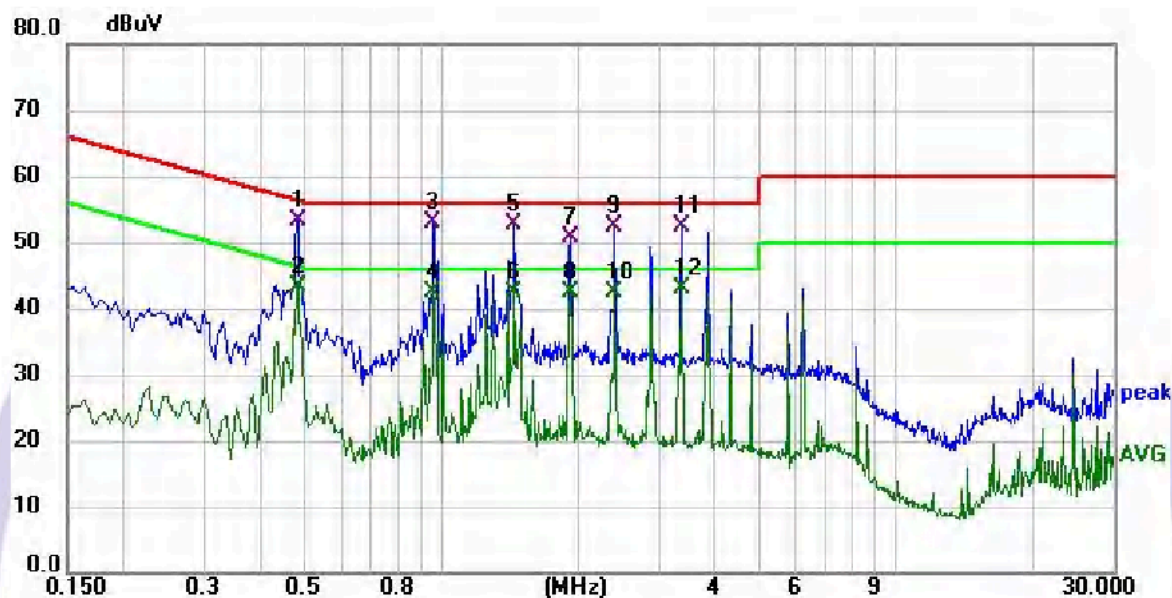
1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor

Channel:	Low	Phase :	L
Model:	A41		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.478	43.01	10.20	53.21	56.37	-3.16	QP	P
2	0.483	32.58	10.21	42.79	46.29	-3.50	AVG	P
3	0.960	42.83	10.03	52.86	56.00	-3.14	QP	P
4 *	0.960	32.84	10.03	42.87	46.00	-3.13	AVG	P
5	1.441	41.99	10.12	52.11	56.00	-3.89	QP	P
6	1.441	32.41	10.12	42.53	46.00	-3.47	AVG	P
7	1.927	32.18	10.29	42.47	46.00	-3.53	AVG	P
8	2.404	41.40	10.29	51.69	56.00	-4.31	QP	P
9	3.367	41.72	10.11	51.83	56.00	-4.17	QP	P
10	3.367	31.18	10.11	41.29	46.00	-4.71	AVG	P
11	3.844	41.49	10.14	51.63	56.00	-4.37	QP	P
12	3.844	32.42	10.14	42.56	46.00	-3.44	AVG	P

Channel:	Low	Phase :	N
Model:	A41		

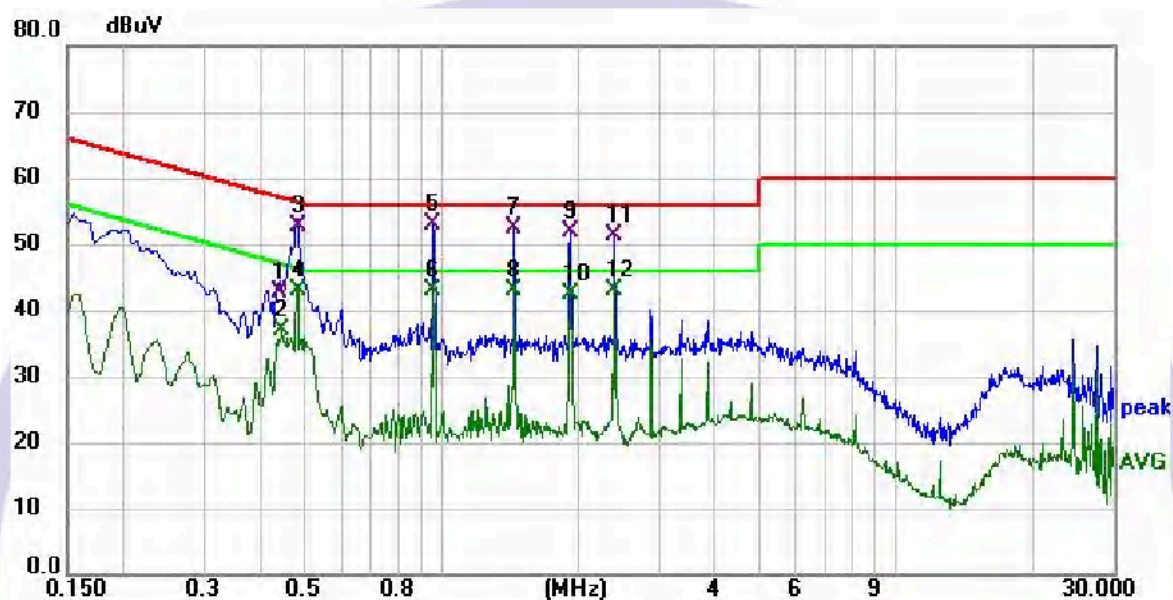


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.483	42.86	10.30	53.16	56.29	-3.13	QP	P
2	0.483	32.86	10.30	43.16	46.29	-3.13	AVG	P
3	0.960	42.71	10.22	52.93	56.00	-3.07	QP	P
4	0.960	32.13	10.22	42.35	46.00	-3.65	AVG	P
5	1.441	42.56	10.18	52.74	56.00	-3.26	QP	P
6	1.441	32.38	10.18	42.56	46.00	-3.44	AVG	P
7	1.927	40.36	10.33	50.69	56.00	-5.31	QP	P
8	1.927	32.05	10.33	42.38	46.00	-3.62	AVG	P
9	2.404	42.23	10.16	52.39	56.00	-3.61	QP	P
10	2.404	32.37	10.16	42.53	46.00	-3.47	AVG	P
11	3.367	42.33	10.08	52.41	56.00	-3.59	QP	P
12 *	3.367	32.86	10.08	42.94	46.00	-3.06	AVG	P

Notes:

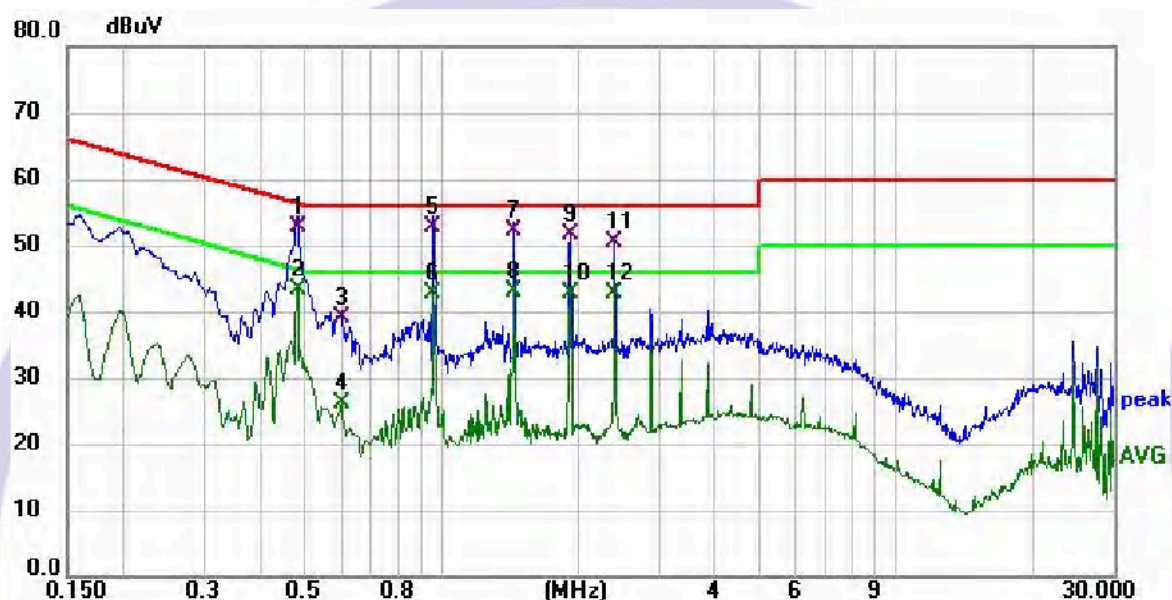
1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor

Channel:	Low	Phase :	L
Model:	A21		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.438	32.52	10.11	42.63	57.10	-14.47	QP	P
2	0.443	26.77	10.12	36.89	47.01	-10.12	AVG	P
3	0.483	42.42	10.21	52.63	56.29	-3.66	QP	P
4	0.483	32.93	10.21	43.14	46.29	-3.15	AVG	P
5 *	0.960	42.93	10.03	52.96	56.00	-3.04	QP	P
6	0.960	32.85	10.03	42.88	46.00	-3.12	AVG	P
7	1.441	42.20	10.12	52.32	56.00	-3.68	QP	P
8	1.441	32.77	10.12	42.89	46.00	-3.11	AVG	P
9	1.927	41.52	10.29	51.81	56.00	-4.19	QP	P
10	1.927	32.28	10.29	42.57	46.00	-3.43	AVG	P
11	2.404	40.96	10.29	51.25	56.00	-4.75	QP	P
12	2.404	32.64	10.29	42.93	46.00	-3.07	AVG	P

Channel:	Low	Phase :	N
Model:	A21		

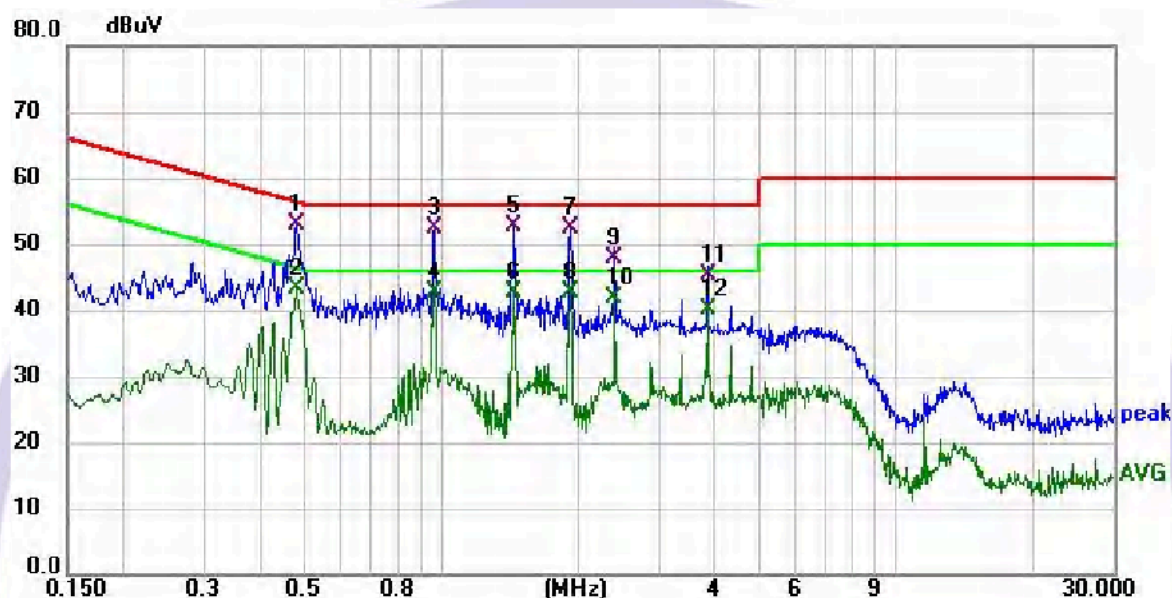


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.483	42.33	10.30	52.63	56.29	-3.66	QP	P
2	0.483	32.96	10.30	43.26	46.29	-3.03	AVG	P
3	0.600	28.91	10.05	38.96	56.00	-17.04	QP	P
4	0.600	16.00	10.05	26.05	46.00	-19.95	AVG	P
5	0.960	42.52	10.22	52.74	56.00	-3.26	QP	P
6	0.960	32.37	10.22	42.59	46.00	-3.41	AVG	P
7	1.441	41.85	10.18	52.03	56.00	-3.97	QP	P
8 *	1.441	32.80	10.18	42.98	46.00	-3.02	AVG	P
9	1.927	41.32	10.33	51.65	56.00	-4.35	QP	P
10	1.927	32.52	10.33	42.85	46.00	-3.15	AVG	P
11	2.404	40.20	10.16	50.36	56.00	-5.64	QP	P
12	2.404	32.47	10.16	42.63	46.00	-3.37	AVG	P

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor

Channel:	Low	Phase :	L
Model:	A502PRO		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.480	42.21	10.65	52.86	56.34	-3.48	QP	P
2	0.480	32.50	10.65	43.15	46.34	-3.19	AVG	P
3	0.964	41.30	11.06	52.36	56.00	-3.64	QP	P
4	0.964	31.57	11.06	42.63	46.00	-3.37	AVG	P
5	1.441	41.66	11.08	52.74	56.00	-3.26	QP	P
6	1.441	31.57	11.08	42.65	46.00	-3.35	AVG	P
7	1.927	41.35	11.01	52.36	56.00	-3.64	QP	P
8 *	1.927	31.84	11.01	42.85	46.00	-3.15	AVG	P
9	2.404	36.96	11.02	47.98	56.00	-8.02	QP	P
10	2.404	30.93	11.02	41.95	46.00	-4.05	AVG	P
11	3.844	34.19	11.07	45.26	56.00	-10.74	QP	P
12	3.844	29.16	11.07	40.23	46.00	-5.77	AVG	P