



EMC TEST REPORT
EN IEC 60974-10:2021
MEASUREMENT AND TEST REPORT
For

Guangzhou Auctech Automation Technology Ltd
Room 903, Building E1, Design City, No. 7, Hexian North Street, Helong Street, Baiyun
District, Guangzhou City, CHINA

Model: MIG-630MR, MIG-630XR, MIG-500R, MIG-500IXRR, MIG-500IXR, MIG-500MR,
MIG-500XR, MIG-350XR, MIG-350MR, MIG-350IXR, MIG-350IIR, MIG-350R

2025-05-15

This Report Concerns: Original Report	Equipment Type: MIG WELDING MACHINE
Test Engineer:	Engine Chen/
Report Number:	TH2505147-C02-R01
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Reviewed By:	Eric Tao/
Approved By:	Prince Huang/
Prepared By:	Shenzhen Tian Hai Test Technology Co., Ltd. 401-501, Building A5, The Silicon Valley Power Intelligent Terminal Industrial Park, No. 20, Dafu Industrial Zone, Dafu Community, Guanlan Street, Longhua District, Shenzhen, Guangdong, China Fax: +86-755-86615105

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of TianHai Compliance Testing Laboratory Ltd.



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1 - SUMMARY OF STANDARDS AND RESULTS

1.1 DESCRIPTION OF STANDARDS AND RESULTS

The EUT have been tested according to the applicable standards as referenced below.

EMISSION				
Description of Test Item	Test Standard	Basic Standard	Requirement	Results
Conducted disturbance	EN IEC 60974-10: 2021	EN IEC 60974-10: 2021	Meet standard limits	PASS
Radiated disturbance	EN IEC 60974-10: 2021	EN IEC 60974-10: 2021	Meet standard limits	PASS
Harmonic on AC power line	EN IEC 60974-10: 2021	IEC 61000-3-12: 2011+AMD1:2021	Clause 5	PASS
Voltage fluctuations & flicker	EN IEC 60974-10: 2021	IEC 61000-3-11: 2017	Clause 5	PASS
IMMUNITY				
Description of Test Item	Test Standard	Basic Standard	Test configuration	Results
Electrostatic discharge (ESD)	EN IEC 60974-10: 2021	IEC 61000-4-2:2008	Air Discharge: $\pm 2\text{kV}, \pm 4\text{kV}, \pm 8\text{kV}$ Contact Discharge: $\pm 2\text{kV}, \pm 4\text{kV}$	PASS
Radio-frequency, Continuous radiated disturbance	EN IEC 60974-10: 2021	IEC 61000-4-3:2020	1%1kHz,80%,AM, 80MHz~1000MHz: 10V/m 1400MHz~6000MHz: 3V/m	PASS
Electrical fast transient (EFT)	EN IEC 60974-10: 2021	IEC 61000-4-4:2012	Tr/Td 5/50 ns 5kHz or 100kHz, $\pm 2\text{kV}$	PASS
Surge (Input a.c. power ports)	EN IEC 60974-10: 2021	IEC 61000-4-5:2014 +AMD1:2017	1.2/50(8/20) us, Line-line: $\pm 1\text{kV}$ Line-earth: $\pm 2\text{kV}$	PASS
Radio-frequency, Continuous conducted disturbance	EN IEC 60974-10: 2021	IEC 61000-4-6:2013	1%1kHz, 80% AM 0.15MHz~80MHz: 10V/m	PASS
Voltage dips, 0% reduction	EN IEC 60974-10: 2021	IEC 61000-4-34: 2005/AMD1:2009	1 cycle for 50Hz	PASS
Voltage dips, 40% reduction			10 cycle for 50Hz	PASS
Voltage dips, 70% reduction			25 cycle for 50Hz	PASS
According to EN IEC 60974-10:2021, clause 7.1, the EUT's belong to Category 2 and shall be tested in accordance with clause 7.4.				



1.2 DESCRIPTION OF PERFORMANCE CRITERIA

1.2.1 Performance criterion A

The arc welding equipment shall continue to operate as intended. A variation in welding current, wire feed speed and travel speed of $\pm 10\%$ of the setting is permitted. All controls shall continue to function and, in particular, it shall be possible to terminate the welding current using the normal switch provided, for example, the switch on a metal inert/active gas welding torch or foot control. No loss of stored data is permitted. After the test the output shall return to the original setting. Under no circumstances shall the no-load voltage exceed those values given in IEC 60974-1:2017 and IEC 60974-1:2017/AMD1:2019.

1.2.2 Performance criterion B

A variation in welding current, wire feed speed and travel speed of $-100^{+500}\%$ is permitted (in practice this may result in the arc extinguishing, in which case the arc may be reinitiated by the operator using the normal means). It shall be possible to terminate the welding current using the normal switch provided, for example the switch on a metal inert/active gas welding torch or foot control. No loss of stored data is permitted. After the test the output shall return to the original setting. Under no circumstances shall the no-load voltage exceed those values given in IEC 60974-1:2017 and IEC 60974-1:2017/AMD1:2019.

1.2.3 Performance criterion C

Temporary loss of function is permitted, requiring the arc welding equipment to be reset manually, for example by switching it off and on.

No loss of stored data is permitted unless it can be restored by the operation of the controls. Under no circumstances shall the no-load voltage exceed those values given in IEC 60974-1:2017 and IEC 60974-1: 2017/AMD1: 2019.



2 - GENERAL INFORMATION

2.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST

Client Information

Applicant: Guangzhou Auctech Automation Technology Ltd
Address: Room 903, Building E1, Design City, No. 7, Hexian North Street, Helong Street, Baiyun District, Guangzhou City, CHINA
Manufacturer: Guangzhou Auctech Automation Technology Ltd
Address: Room 903, Building E1, Design City, No. 7, Hexian North Street, Helong Street, Baiyun District, Guangzhou City, CHINA

General Description of E.U.T

EUT Name: MIG WELDING MACHINE

Trade Mark: /

Model No.: MIG-630MR, MIG-630XR, MIG-500R, MIG-500IXRR, MIG-500IXR, MIG-500MR, MIG-500XR, MIG-350XR, MIG-350MR, MIG-350IXR, MIG-350IIR, MIG-350R

Sample No.: TH2505147-01

Ratings: See the table as follow

Test Mode: A. Idle state
B. Loaded state

Note: This Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There can be potential difficulties in ensuring electromagnetic compatibility in those locations, due to conducted as well as radiated radio-frequency disturbances.

Model Difference:

Model No.	Rated input voltage	Rated maximum welding current	Load duration
MIG-630MR	AC 220V/380V	630A	X=100%
MIG-630XR	AC 220V/380V	630A	X=100%
MIG-500R	AC 220V/380V	500A	X=100%
MIG-500IXRR	AC 220V/380V	500A	X=100%
MIG-500IXR	AC 220V/380V	500A	X=100%
MIG-500MR	AC 220V/380V	500A	X=100%
MIG-500XR	AC 220V/380V	500A	X=100%
MIG-350XR	AC 220V/380V	350A	X=100%
MIG-350MR	AC 220V/380V	350A	X=100%
MIG-350IXR	AC 220V/380V	350A	X=100%
MIG-350IIR	AC 220V/380V	350A	X=100%
MIG-350R	AC 220V/380V	350A	X=100%



2.2 STATEMENT OF THE MEASUREMENT UNCERTAINTY TEST FACILITY

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration Limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16-4-2"Specification for radio disturbance and immunity measuring apparatus and methods - Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.3 MEASUREMENT UNCERTAINTY

Test	Parameters	Expanded uncertainty (U_{lab})	Expanded uncertainty (U_{cisp})
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.52 dB ± 2.36 dB	± 3.80 dB ± 3.40 dB
Power disturbance	Level accuracy (30MHz to 300MHz)	± 3.20 dB	± 4.50 dB
Electromagnetic Radiated Emission (3-loop)	Level accuracy (9kHz to 30MHz)	± 3.10 dB	N/A
Radiated emission	Level accuracy (30MHz to 1000MHz)	± 5.78 dB	± 6.30 dB
	Level accuracy (above 1000MHz)	± 4.62 dB	N/A
Mains Harmonic	Voltage	$\pm 1.80\%$	N/A
Voltage Fluctuations & Flicker	Voltage	$\pm 0.64\%$	N/A

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

(3) The measurement uncertainty is not included in the test result.

2.4 TEST LOCATION

All tests were performed at Shenzhen Tianhai Test Technology Co., Ltd.
401-501, Building A5, The Silicon Valley Power Intelligent Terminal Industrial Park, No. 20, Dafu Industrial Zone, Dafu Community, Guanlan Street, Longhua District, Shenzhen, Guangdong, China

2.5 PRINCIPLE OF CONFIGURATION SELECTION

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.
Immunity: The equipment under test (EUT) was configured to have its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the instructions for use.

2.6 TEST OPERATION

Test operation refers to test setup in chapter 4 & 5 & 6 & 7 & 8.
Pretest in all operation modes, and find out the worst case for compliance test.
According to section 2.1, all test results are based on model: MIG-500IXR.



2.7 SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT

The EUT was tested together with the following accessories:

Kind of Equipment	Manufacturer	Type	S/N
Load	/	/	/

The EUT was tested with following cables:

Cable name	Length (m)	Shield	Core No.	Detachable
/	/	/	/	/

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3 - TEST EQUIPMENT LIST AND DETAILS

Kind of Equipment	Manufacturer	Type	S/N	Calibrate until
Conducted Emission				
EMI Test Receiver	R&S	ESR7	102333	2025-11-14
L.I.S.N	Schwarzbeck	NNLK 8128	5089	2025-11-14
8-Wire ISN CAT6	Schwarzbeck	NTFM 8158	231	2025-11-14
Pulse Limiter	Schwarzbeck	VTSD 9561-F	847	2025-11-14
Test software	FALA	/	EMC-CON 3A1.1	/
Radiated Emission (3m)				
EMI Test Receiver	R&S	ESR7	102333	2025-11-14
MXA Signal Analyzer	Keysight	N9020A	MY51281805	2026-04-22
Bilog Antenna	Schwarzbeck	VULB 9168	01148	2025-11-18
Pre-Amplifier	Schwarzbeck	BBV 9718 B	00109	2025-11-14
Pre-Amplifier	Schwarzbeck	BBV 9743 B	00253	2025-11-14
Horn Antenna	Schwarzbeck	BBHA 9120	02379	2025-11-18
Test software	FALA	/	FA-03A2 RE	/
Harmonics & Flicker				
5kVA AC Power Source	AMETEK CTS	5001iX-CTS-400	2046A03237	2025-11-18
Signal Conditioning Unit	AMETEK CTS	PACS-1	2046A03238	2025-11-14
Test software	AMETEK CTS	CTS 4	Version 4.26.0	/
Electrostatic discharge (ESD)				
ESD Simulator	TESEQ	NSG 437	1569	2025-11-18
Pistol	TESEQ	V06.04	/	/
Base Station	TESEQ	V06.02	/	/
Radio-frequency,Continuous radiated disturbance (RS)				
Signal generator	R&S	SMB 100A	113650	2026-04-22
Power meter	Agilent	E4417A	MY45100899	2026-04-22
Power sensor	Agilent	E9321A	US40390494	2026-04-22
Power sensor	Agilent	E9322A	MY44420219	2026-04-22
Power amplifier	Micotop	MPA-80-1000-250	MPA2112426	2026-04-22
Power amplifier	Micotop	MPA-1000-6000-100	MPA2201013	2026-04-22

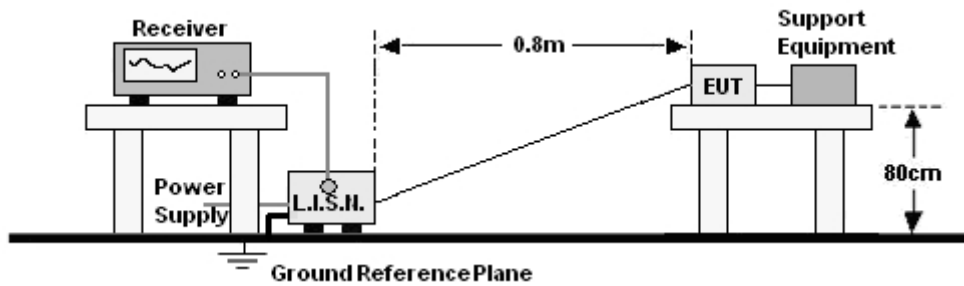


Stacked Log. Periodic Antenna	Schwarzbeck	STLP 9129	201	/
RF Switch	Emtrace	SW X4	/	/
Test Software	Emtrace	EM 3	V1.2.1	/
Electrical fast transient (EFT)				
Burst Tester	3C test	EFT 500T	ES027000120015	2025-11-14
Coupling Clamp	3C test	CCC 100	CCC 20092269	2025-11-14
Test Software	3C test	V4.2.7	ES027000120015	/
Surge				
Surge simulator	3C test	CWS 600CT	ES058000920005	2025-11-14
Three phases CDN	3C test	SPN 3832T	ES0911910	2025-11-14
CDN for unshielded symmetrical high-speed Telecom cable	3C test	CDN405T8A	ES064001220010	2025-11-14
CDN for Telecom cable	3C test	CDN405M40-5	ES1071910	2025-11-14
Test Software	3C test	V1.0.5.2	ES058000920005	/
Radio-frequency,Continuous conducted disturbance (CS)				
Conducted Immunity Test System	3C test	CST 1075	ES096000120008	2025-11-14
6dB Attenuator	3C test	DTC75-6	ES095000120006	2025-11-14
Single phase CDN	3C test	CDN M2M3	ES064002620007	2025-11-14
Three phases CDN	3C test	CDN M5-16	ES064003320004	2025-11-14
Calibration Set	3C test	CDN 100KIT	ES064002820016	2025-11-14
Calibration Set	3C test	EM CL100KIT	EM C20032816	2025-11-14
EM-Clamp	3C test	EM CL100	EM C20032811	2025-11-14
Test software	SKET	/	V1.4.0.54	/
Power Frequency Magnetic Field (PFMF)				
PFMF simulator	3C test	MFS 400	ES045000720001	2025-11-14
Transformer	3C test	MFT 400	ES046000220003	2025-11-14
Magnetic field antenna	3C test	TCXS111	TCXS20060910	2025-11-14
Test software	3C test	V4.2.7	ES045000720001	/
Voltage dips &Voltage interruptions				
Power failure simulator	3C test	PFS 2216SD	ES049001220003	2025-11-14
Test software	3C test	V4.2.8	ES049001220003	/



4 - CONDUCTED EMISSION MEASUREMENT

4.1 BLOCK DIAGRAM OF TEST SETUP



4.2 LIMITS

Idle state:

Frequency Range (MHz)	Limits (dBuV)	
	Quasi-Peak	Average
0.15~0.5	79	66
0.5~5	73	60
5~30	73	60

Loaded state:

Frequency Range (MHz)	Limits (dBuV)	
	Quasi-Peak	Average
0.15~0.5	100	90
0.5~5	86	76
5~30	90 Decreasing linearly with logarithm of frequency to 73	80 Decreasing linearly with logarithm of frequency to 60

4.3 TEST PROCEDURE

The EUT is put on the plane 0.8m high above the ground by insulating support and connected to the AC mains through a Line Impedance Stability Network (L.I.S.N). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN IEC 60974-10 regulations during conducted emission measurement.

The bandwidth of the field strength meter is set at 9kHz.

The frequency range from 150kHz to 30MHz is investigated. The scanning waveform please refer to the next page.

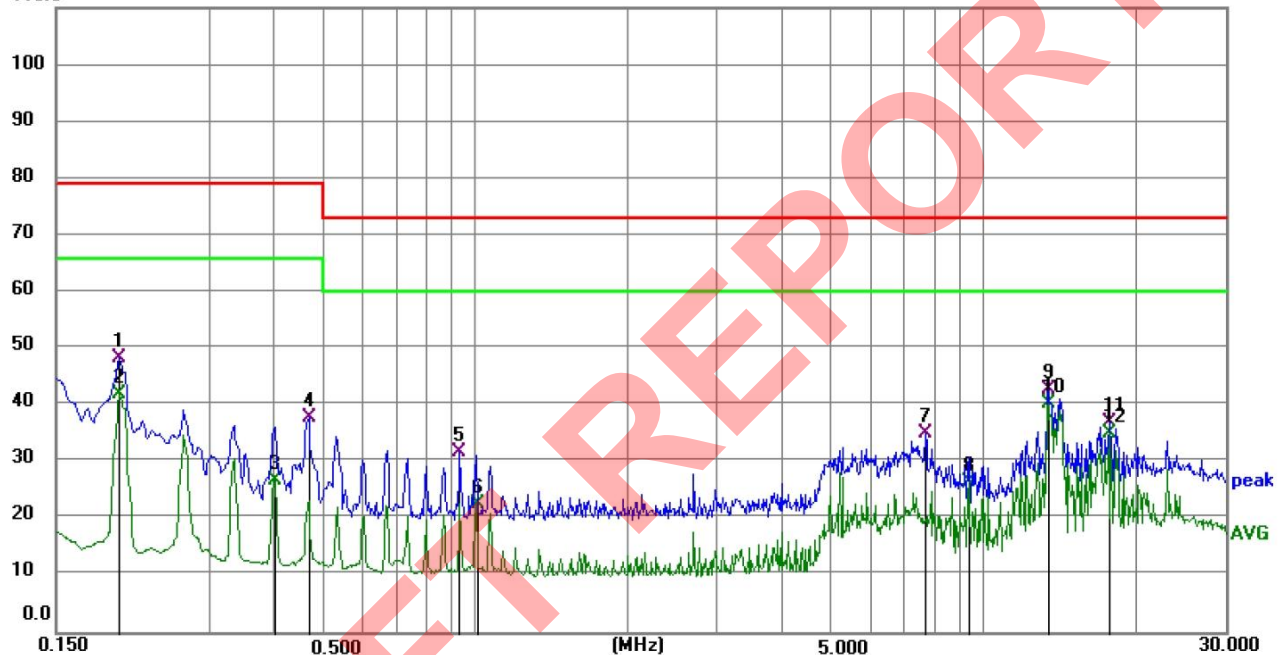


4.4 TEST RESULTS AND DATA

EUT: MIG WELDING MACHINE
M/N: MIG-500IXR
Test Mode: Mode A
Test Voltage: AC 220V/50Hz
Temperature: 23°C
Humidity: 55%
Atmosphere pressure: 101Kpa
Test Results: Pass

Phase:L1

110.0 dBuV

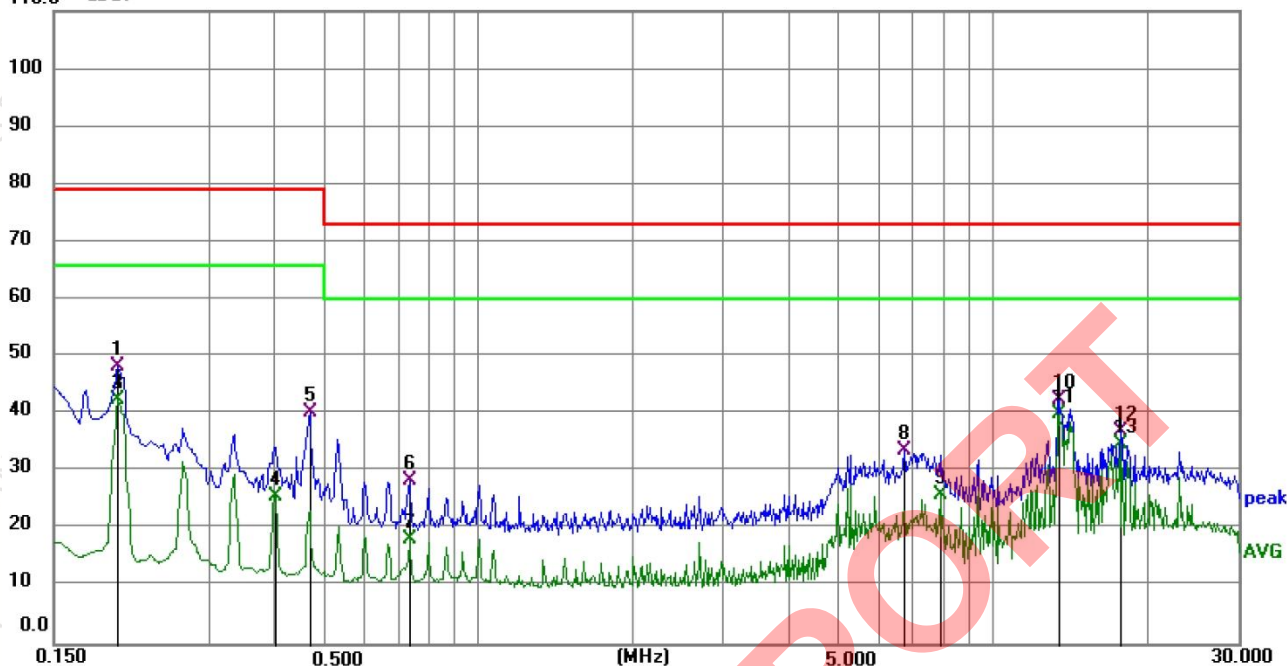


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1995	37.73	10.56	48.29	79.00	-30.71	QP	P
2	0.1995	31.38	10.56	41.94	66.00	-24.06	AVG	P
3	0.4020	16.22	10.61	26.83	66.00	-39.17	AVG	P
4	0.4695	27.18	10.63	37.81	79.00	-41.19	QP	P
5	0.9375	21.01	10.65	31.66	73.00	-41.34	QP	P
6	1.0050	12.17	10.64	22.81	60.00	-37.19	AVG	P
7	7.7045	24.21	10.74	34.95	73.00	-38.05	QP	P
8	9.3875	15.73	10.82	26.55	60.00	-33.45	AVG	P
9	13.4200	31.84	10.91	42.75	73.00	-30.25	QP	P
10 *	13.4200	29.44	10.91	40.35	60.00	-19.65	AVG	P
11	17.6950	25.91	11.04	36.95	73.00	-36.05	QP	P
12	17.6950	23.96	11.04	35.00	60.00	-25.00	AVG	P



Phase:N

110.0 dBuV

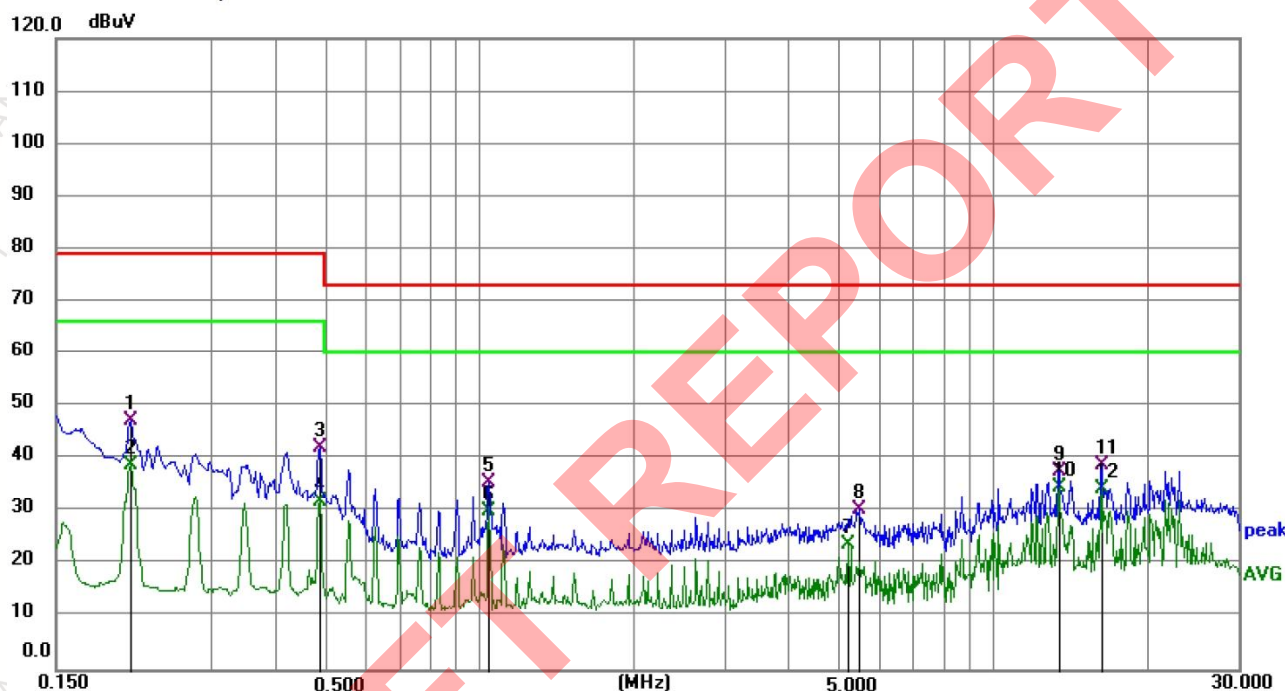


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1995	37.70	10.56	48.26	79.00	-30.74	QP	P
2	0.1995	31.90	10.56	42.46	66.00	-23.54	AVG	P
3	0.1995	31.90	10.56	42.46	66.00	-23.54	AVG	P
4	0.4020	15.17	10.61	25.78	66.00	-40.22	AVG	P
5	0.4695	29.68	10.63	40.31	79.00	-38.69	QP	P
6	0.7350	17.93	10.65	28.58	73.00	-44.42	QP	P
7	0.7350	7.72	10.65	18.37	60.00	-41.63	AVG	P
8	6.7640	23.00	10.82	33.82	73.00	-39.18	QP	P
9	7.9250	15.01	10.85	25.86	60.00	-34.14	AVG	P
10	13.4200	31.36	11.01	42.37	73.00	-30.63	QP	P
11 *	13.4200	29.12	11.01	40.13	60.00	-19.87	AVG	P
12	17.6950	25.62	11.25	36.87	73.00	-36.13	QP	P
13	17.6950	23.58	11.25	34.83	60.00	-25.17	AVG	P



EUT: MIG WELDING MACHINE
M/N: MIG-500IXR
Test Mode: Mode A
Test Voltage: AC 380V/50Hz
Temperature: 23°C
Humidity: 55%
Atmosphere pressure: 101Kpa
Test Results: Pass

Phase: L1

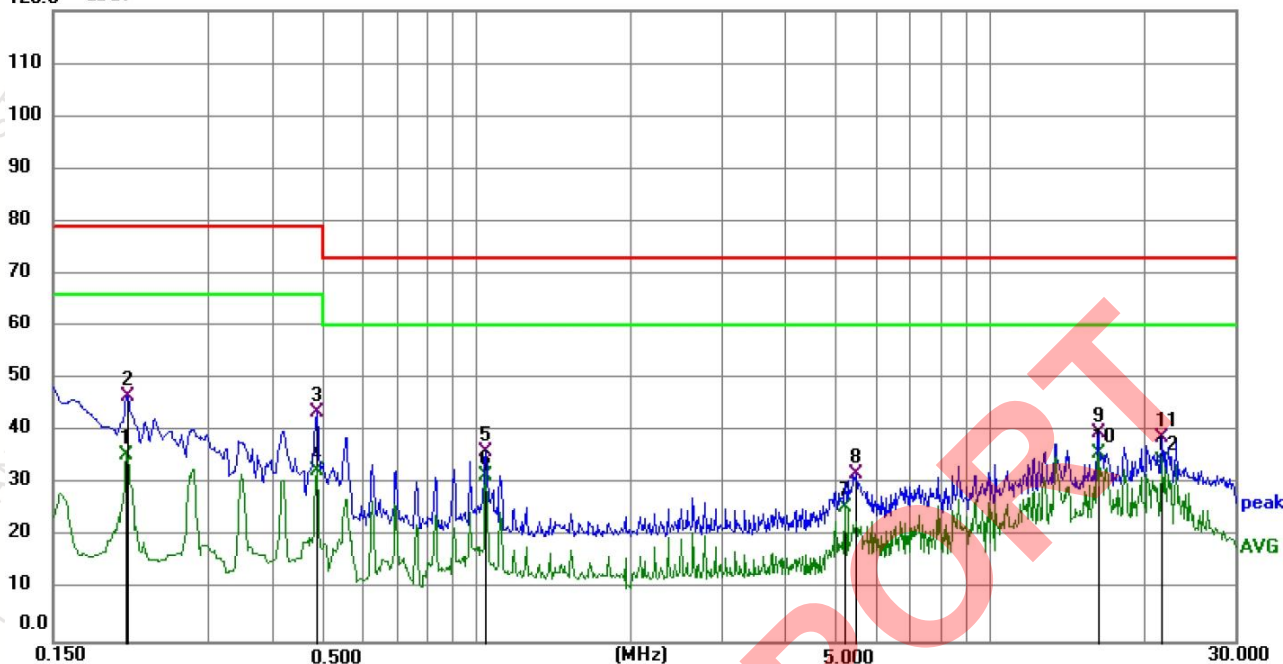


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2084	36.66	10.56	47.22	79.00	-31.78	QP	P
2	0.2084	28.32	10.56	38.88	66.00	-27.12	AVG	P
3	0.4873	31.42	10.64	42.06	79.00	-36.94	QP	P
4	0.4873	21.27	10.64	31.91	66.00	-34.09	AVG	P
5	1.0455	25.01	10.64	35.65	73.00	-37.35	QP	P
6	1.0455	19.50	10.64	30.14	60.00	-29.86	AVG	P
7	5.2385	13.06	10.73	23.79	60.00	-36.21	AVG	P
8	5.4813	19.59	10.73	30.32	73.00	-42.68	QP	P
9	13.4200	26.88	10.91	37.79	73.00	-35.21	QP	P
10 *	13.4200	23.73	10.91	34.64	60.00	-25.36	AVG	P
11	16.2280	27.84	10.99	38.83	73.00	-34.17	QP	P
12	16.2280	23.51	10.99	34.50	60.00	-25.50	AVG	P



Phase:L2

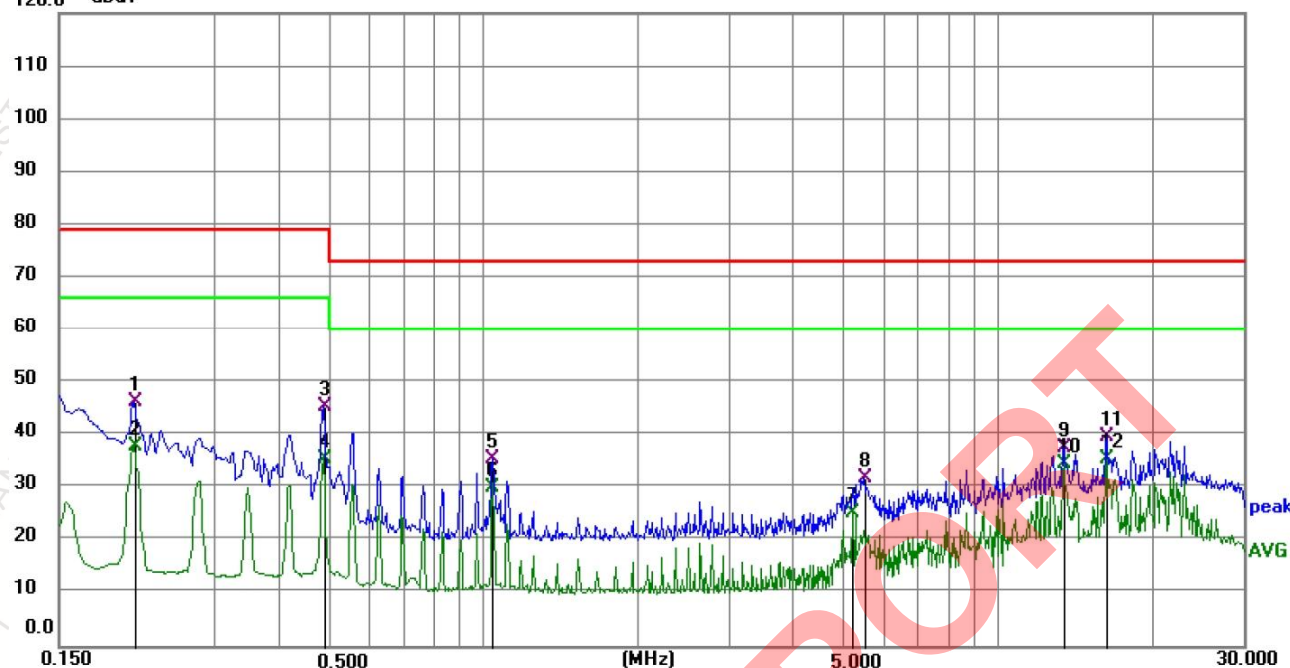
120.0 dBuV



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2083	25.06	10.56	35.62	66.00	-30.38	AVG	P
2	0.2084	36.16	10.56	46.72	79.00	-32.28	QP	P
3	0.4873	32.92	10.64	43.56	79.00	-35.44	QP	P
4	0.4873	21.77	10.64	32.41	66.00	-33.59	AVG	P
5	1.0455	25.51	10.64	36.15	73.00	-36.85	QP	P
6	1.0455	21.00	10.64	31.64	60.00	-28.36	AVG	P
7	5.2385	15.06	10.73	25.79	60.00	-34.21	AVG	P
8	5.4813	21.09	10.73	31.82	73.00	-41.18	QP	P
9	16.2280	28.84	10.99	39.83	73.00	-33.17	QP	P
10 *	16.2280	25.01	10.99	36.00	60.00	-24.00	AVG	P
11	21.6640	27.64	11.09	38.73	73.00	-34.27	QP	P
12	21.6640	23.12	11.09	34.21	60.00	-25.79	AVG	P



Phase:L3
120.0 dBuV

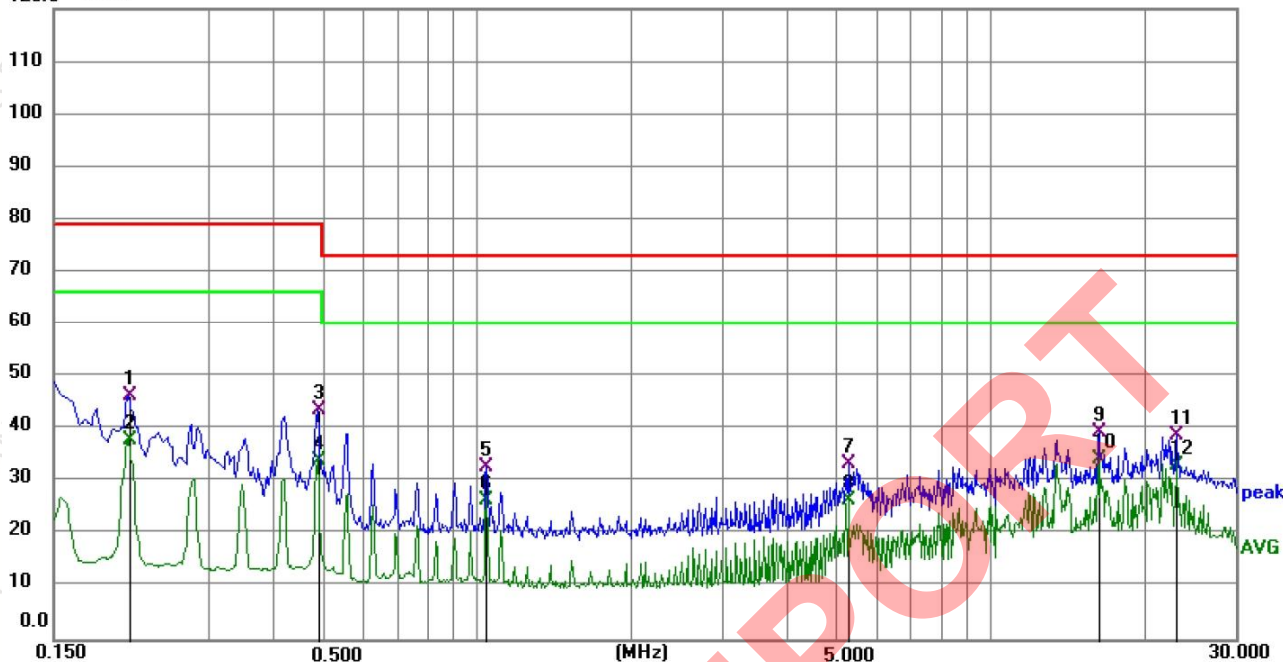


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2085	35.66	10.56	46.22	79.00	-32.78	QP	P
2	0.2085	27.32	10.56	37.88	66.00	-28.12	AVG	P
3	0.4875	34.92	10.64	45.56	79.00	-33.44	QP	P
4	0.4875	24.77	10.64	35.41	66.00	-30.59	AVG	P
5	1.0455	25.01	10.64	35.65	73.00	-37.35	QP	P
6	1.0455	19.50	10.64	30.14	60.00	-29.86	AVG	P
7	5.2385	14.56	10.73	25.29	60.00	-34.71	AVG	P
8	5.4815	21.09	10.73	31.82	73.00	-41.18	QP	P
9	13.4200	26.88	10.91	37.79	73.00	-35.21	QP	P
10	13.4200	23.73	10.91	34.64	60.00	-25.36	AVG	P
11	16.2280	28.84	10.99	39.83	73.00	-33.17	QP	P
12 *	16.2280	24.51	10.99	35.50	60.00	-24.50	AVG	P



Phase:N

120.0 dBuV



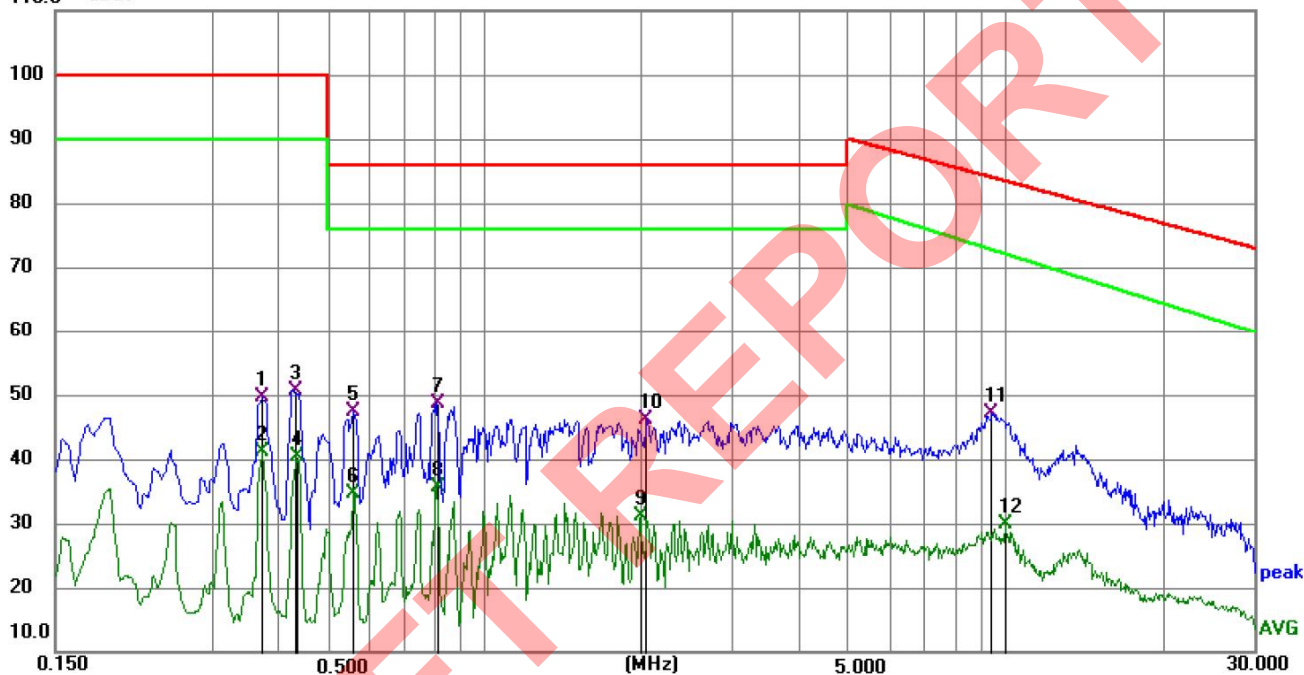
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2085	35.70	10.56	46.26	79.00	-32.74	QP	P
2	0.2085	27.47	10.56	38.03	66.00	-27.97	AVG	P
3	0.4875	32.98	10.64	43.62	79.00	-35.38	QP	P
4	0.4875	23.52	10.64	34.16	66.00	-31.84	AVG	P
5	1.0455	22.06	10.64	32.70	73.00	-40.30	QP	P
6	1.0455	15.88	10.64	26.52	60.00	-33.48	AVG	P
7	5.2970	22.48	10.83	33.31	73.00	-39.69	QP	P
8	5.2970	15.61	10.83	26.44	60.00	-33.56	AVG	P
9	16.2280	28.20	11.14	39.34	73.00	-33.66	QP	P
10 *	16.2280	23.36	11.14	34.50	60.00	-25.50	AVG	P
11	23.1265	27.54	11.26	38.80	73.00	-34.20	QP	P
12	23.1265	21.87	11.26	33.13	60.00	-26.87	AVG	P



EUT: MIG WELDING MACHINE
M/N: MIG-500IXR
Test Mode: Mode B
Test Voltage: AC 220V/50Hz
Temperature: 23°C
Humidity: 55%
Atmosphere pressure: 101Kpa
Test Results: Pass

Phase: L1

110.0 dBuV

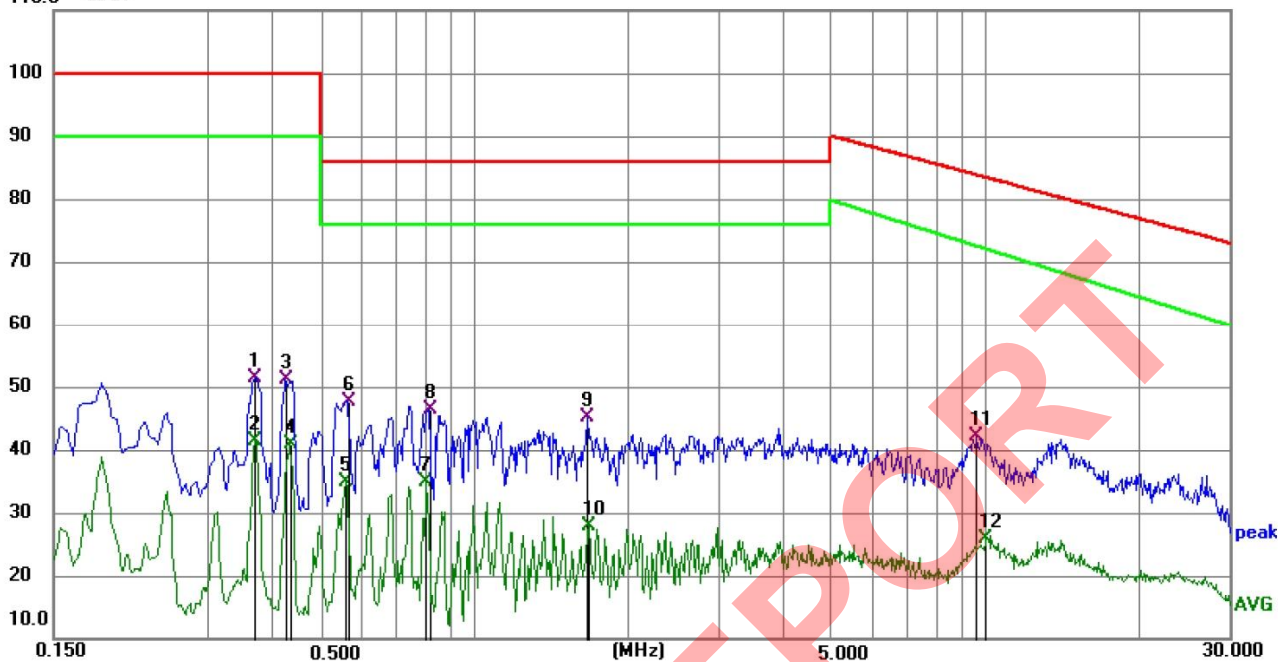


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.3750	39.02	10.60	49.62	100.00	-50.38	QP	P
2	0.3750	30.65	10.60	41.25	90.00	-48.75	AVG	P
3	0.4290	39.96	10.63	50.59	100.00	-49.41	QP	P
4	0.4335	29.76	10.63	40.39	90.00	-49.61	AVG	P
5	0.5595	36.66	10.64	47.30	86.00	-38.70	QP	P
6	0.5595	24.10	10.64	34.74	76.00	-41.26	AVG	P
7	0.8115	37.94	10.65	48.59	86.00	-37.41	QP	P
8	0.8115	24.93	10.65	35.58	76.00	-40.42	AVG	P
9	1.9950	20.46	10.68	31.14	76.00	-44.86	AVG	P
10	2.0535	35.48	10.68	46.16	86.00	-39.84	QP	P
11 *	9.4235	36.24	10.82	47.06	83.99	-36.93	QP	P
12	10.0000	18.93	10.84	29.77	72.26	-42.49	AVG	P



Phase:N

110.0 dBuV



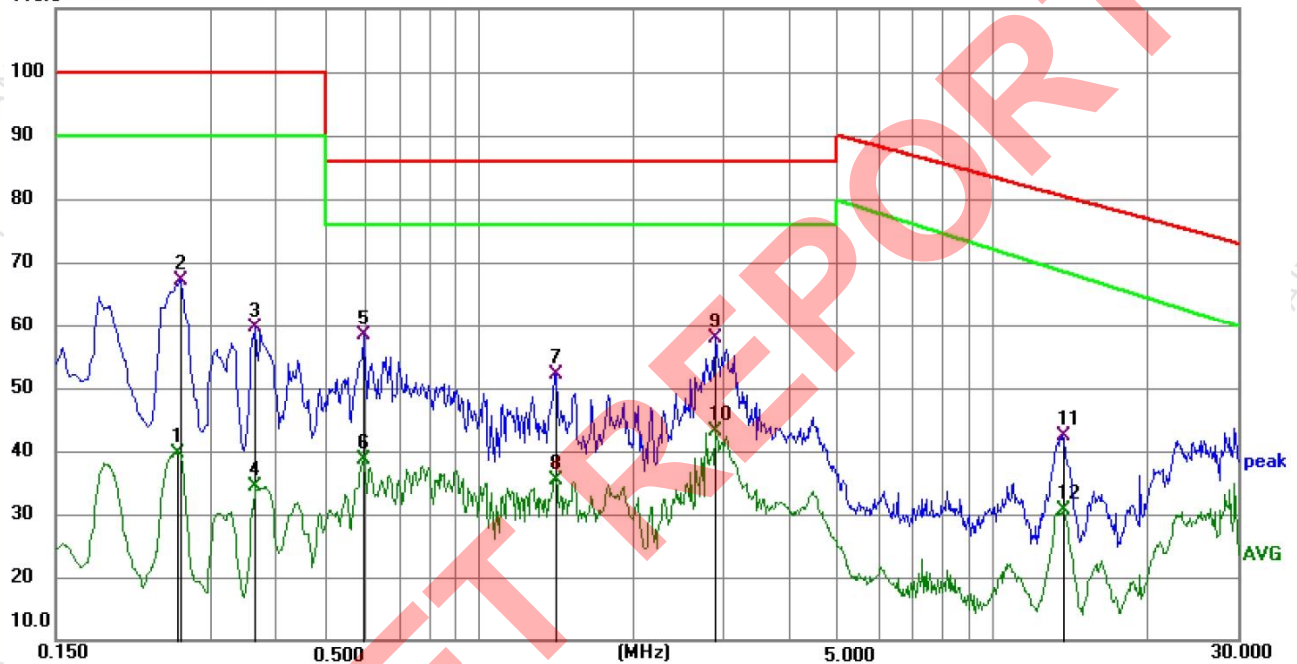
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.3704	40.72	10.60	51.32	100.00	-48.68	QP	P
2	0.3704	30.87	10.60	41.47	90.00	-48.53	AVG	P
3	0.4245	40.61	10.62	51.23	100.00	-48.77	QP	P
4	0.4335	30.19	10.63	40.82	90.00	-49.18	AVG	P
5	0.5595	24.35	10.64	34.99	76.00	-41.01	AVG	P
6 *	0.5639	37.01	10.64	47.65	86.00	-38.35	QP	P
7	0.8070	24.32	10.65	34.97	76.00	-41.03	AVG	P
8	0.8160	35.69	10.65	46.34	86.00	-39.66	QP	P
9	1.6710	34.49	10.67	45.16	86.00	-40.84	QP	P
10	1.6800	17.17	10.67	27.84	76.00	-48.16	AVG	P
11	9.6080	31.18	10.93	42.11	83.80	-41.69	QP	P
12	10.0495	14.99	10.94	25.93	72.21	-46.28	AVG	P



EUT: MIG WELDING MACHINE
M/N: MIG-500IXR
Test Mode: Mode B
Test Voltage: AC 380V/50Hz
Temperature: 23°C
Humidity: 55%
Atmosphere pressure: 101Kpa
Test Results: Pass

Phase: L1

110.0 dBuV

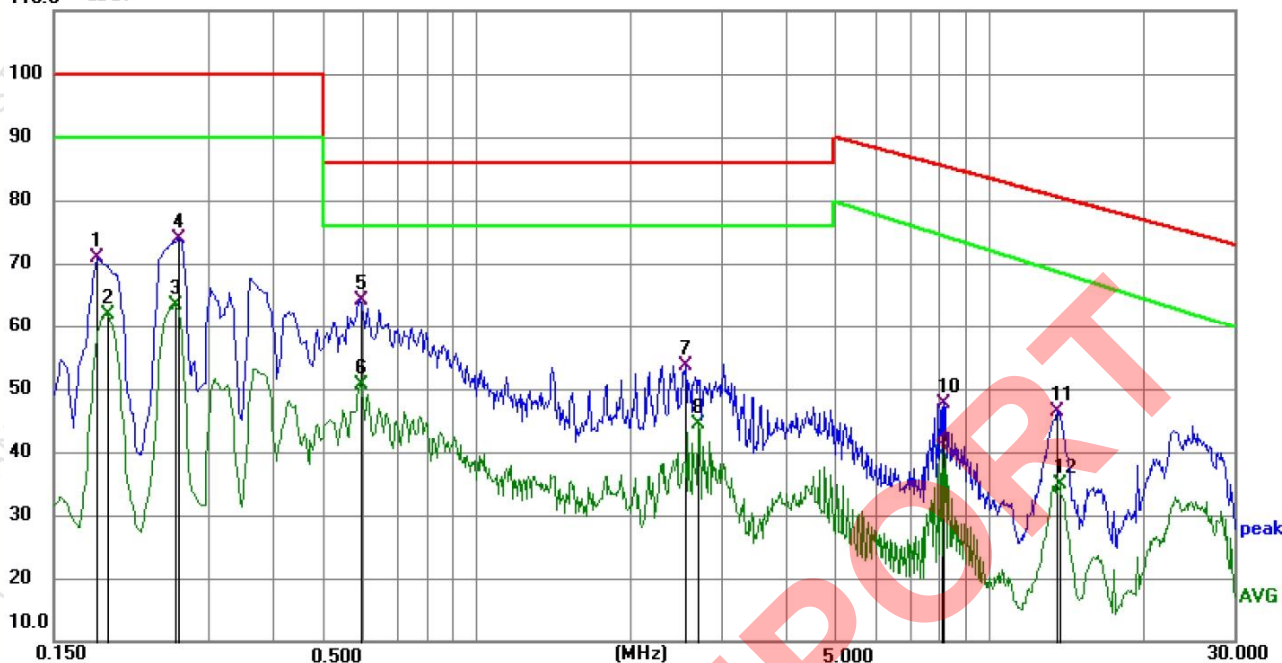


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2580	29.12	10.58	39.70	90.00	-50.30	AVG	P
2	0.2625	56.58	10.58	67.16	100.00	-32.84	QP	P
3	0.3659	49.02	10.60	59.62	100.00	-40.38	QP	P
4	0.3659	23.82	10.60	34.42	90.00	-55.58	AVG	P
5 *	0.5955	47.65	10.66	58.31	86.00	-27.69	QP	P
6	0.5955	27.94	10.66	38.60	76.00	-37.40	AVG	P
7	1.4054	41.56	10.66	52.22	86.00	-33.78	QP	P
8	1.4054	24.75	10.66	35.41	76.00	-40.59	AVG	P
9	2.8995	47.07	10.71	57.78	86.00	-28.22	QP	P
10	2.8995	32.34	10.71	43.05	76.00	-32.95	AVG	P
11	13.6359	31.35	10.91	42.26	80.48	-38.22	QP	P
12	13.7080	19.63	10.91	30.54	68.74	-38.20	AVG	P



Phase:L2

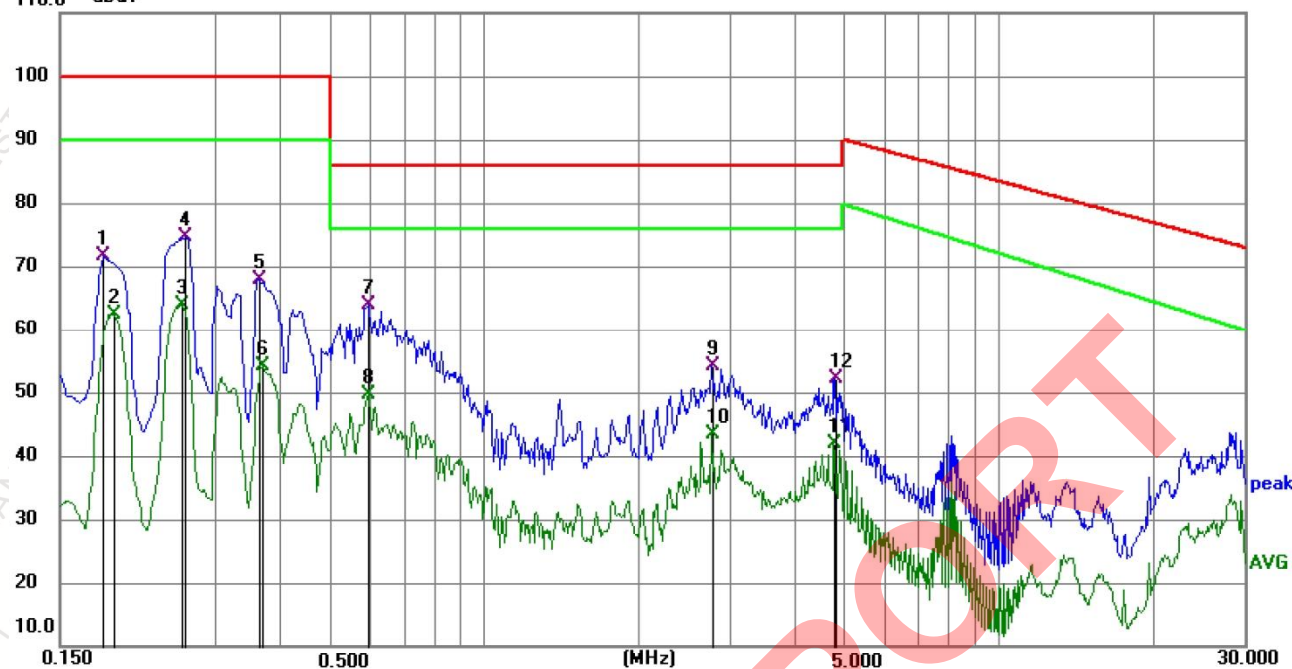
110.0 dBuV



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1814	60.30	10.56	70.86	100.00	-29.14	QP	P
2	0.1905	51.38	10.56	61.94	90.00	-28.06	AVG	P
3	0.2580	52.81	10.58	63.39	90.00	-26.61	AVG	P
4	0.2625	63.26	10.58	73.84	100.00	-26.16	QP	P
5 *	0.5910	53.52	10.66	64.18	86.00	-21.82	QP	P
6	0.5910	40.02	10.66	50.68	76.00	-25.32	AVG	P
7	2.5574	42.87	10.71	53.58	86.00	-32.42	QP	P
8	2.7195	33.69	10.71	44.40	76.00	-31.60	AVG	P
9	8.0690	28.83	10.83	39.66	74.66	-35.00	AVG	P
10	8.1635	36.92	10.83	47.75	85.35	-37.60	QP	P
11	13.6000	35.41	10.98	46.39	80.51	-34.12	QP	P
12	13.7035	24.00	10.99	34.99	68.75	-33.76	AVG	P



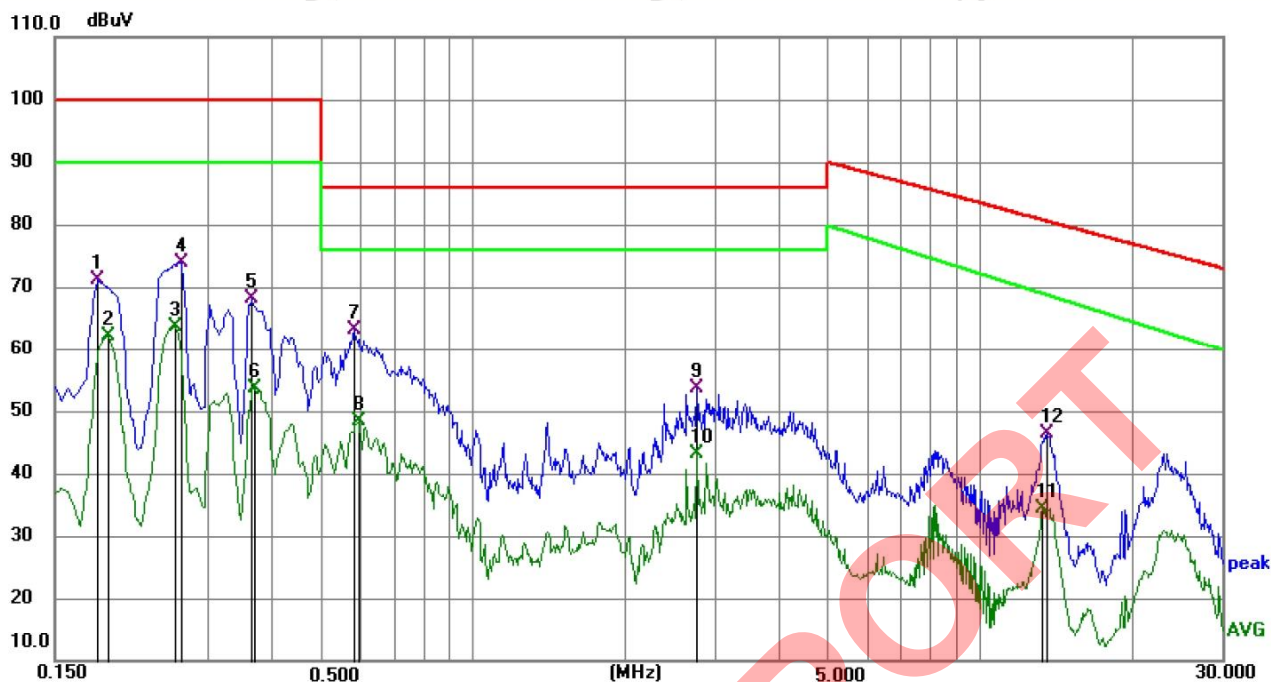
Phase:L3
110.0 dBuV



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1815	61.13	10.56	71.69	100.00	-28.31	QP	P
2	0.1905	51.78	10.56	62.34	90.00	-27.66	AVG	P
3	0.2580	53.33	10.58	63.91	90.00	-26.09	AVG	P
4	0.2625	63.93	10.58	74.51	100.00	-25.49	QP	P
5	0.3615	57.38	10.60	67.98	100.00	-32.02	QP	P
6	0.3704	43.46	10.61	54.07	90.00	-35.93	AVG	P
7 *	0.5955	53.33	10.66	63.99	86.00	-22.01	QP	P
8	0.5955	38.95	10.66	49.61	76.00	-26.39	AVG	P
9	2.7735	43.36	10.71	54.07	86.00	-31.93	QP	P
10	2.7735	32.64	10.71	43.35	76.00	-32.65	AVG	P
11	4.7940	31.18	10.74	41.92	76.00	-34.08	AVG	P
12	4.7985	41.30	10.74	52.04	86.00	-33.96	QP	P



Phase:N

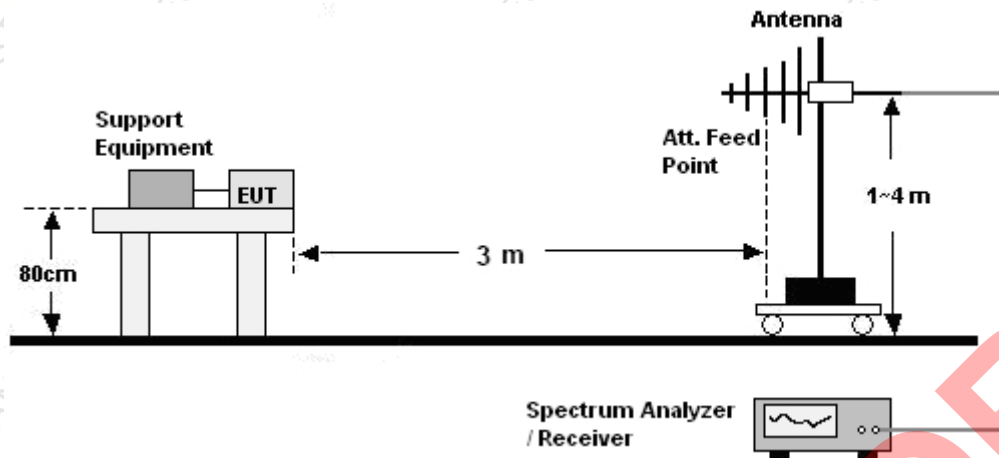


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1814	60.49	10.56	71.05	100.00	-28.95	QP	P
2	0.1905	51.48	10.56	62.04	90.00	-27.96	AVG	P
3	0.2580	53.04	10.58	63.62	90.00	-26.38	AVG	P
4	0.2670	63.26	10.58	73.84	100.00	-26.16	QP	P
5	0.3659	57.42	10.60	68.02	100.00	-31.98	QP	P
6	0.3704	43.05	10.61	53.66	90.00	-36.34	AVG	P
7 *	0.5820	52.52	10.65	63.17	86.00	-22.83	QP	P
8	0.5955	37.63	10.66	48.29	76.00	-27.71	AVG	P
9	2.7734	42.75	10.79	53.54	86.00	-32.46	QP	P
10	2.7734	32.41	10.79	43.20	76.00	-32.80	AVG	P
11	13.3030	23.41	11.01	34.42	69.08	-34.66	AVG	P
12	13.5730	35.28	11.01	46.29	80.52	-34.23	QP	P



5- RADIATED DISTURBANCE MEASUREMENT

5.1 BLOCK DIAGRAM OF TEST SETUP



5.2 LIMITS

Idle state:

Frequency (MHz)	Quasi-peak Limits at 3m dB(μ V/m)
30-230	50
230-1000	57

Loaded state:

Frequency (MHz)	Quasi-peak Limits at 3m dB(μ V/m)
30	90
30 - 80.872	Decreasing linearly with logarithm of frequency to
80.872 - 81.848	
81.848 - 134.786	
134.786 - 136.414	
136.414 - 230	70
230 - 1000	70

5.3 TEST PROCEDURE

- The Product was placed on the non-conductive turntable 0.8/0.1 m above the ground at a chamber.
- Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.



5.4 TEST RESULTS AND DATA

EUT: MIG WELDING MACHINE
M/N: MIG-500IXR
Test Mode: Mode A
Test Voltage: AC 220V/50Hz
Temperature: 23°C
Humidity: 55%
Atmosphere pressure: 101Kpa
Test Results: Pass

Polarization: Horizontal

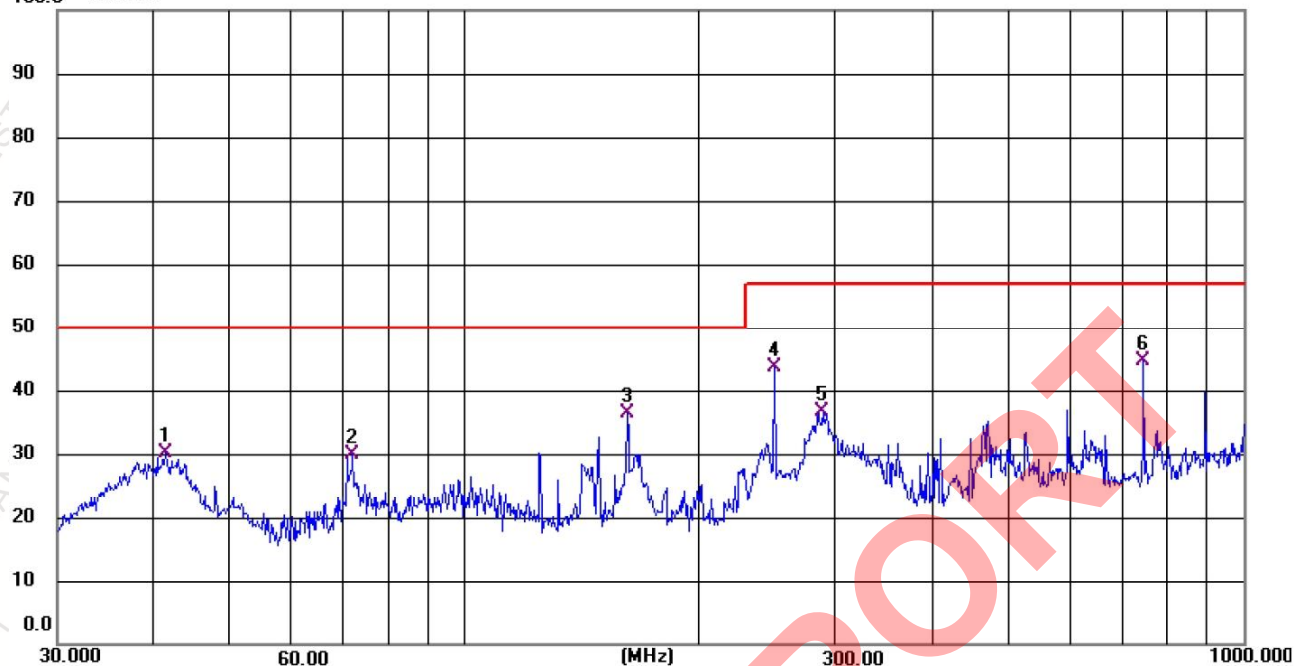


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	108.7995	43.75	-17.63	26.12	50.00	-23.88	QP
2	161.9846	46.86	-14.69	32.17	50.00	-17.83	QP
3 *	249.9942	68.01	-16.95	51.06	57.00	-5.94	QP
4	284.1784	57.36	-15.91	41.45	57.00	-15.55	QP
5	742.5190	54.29	-6.74	47.55	57.00	-9.45	QP



Polarization: Vertical

100.0 dBuV/m



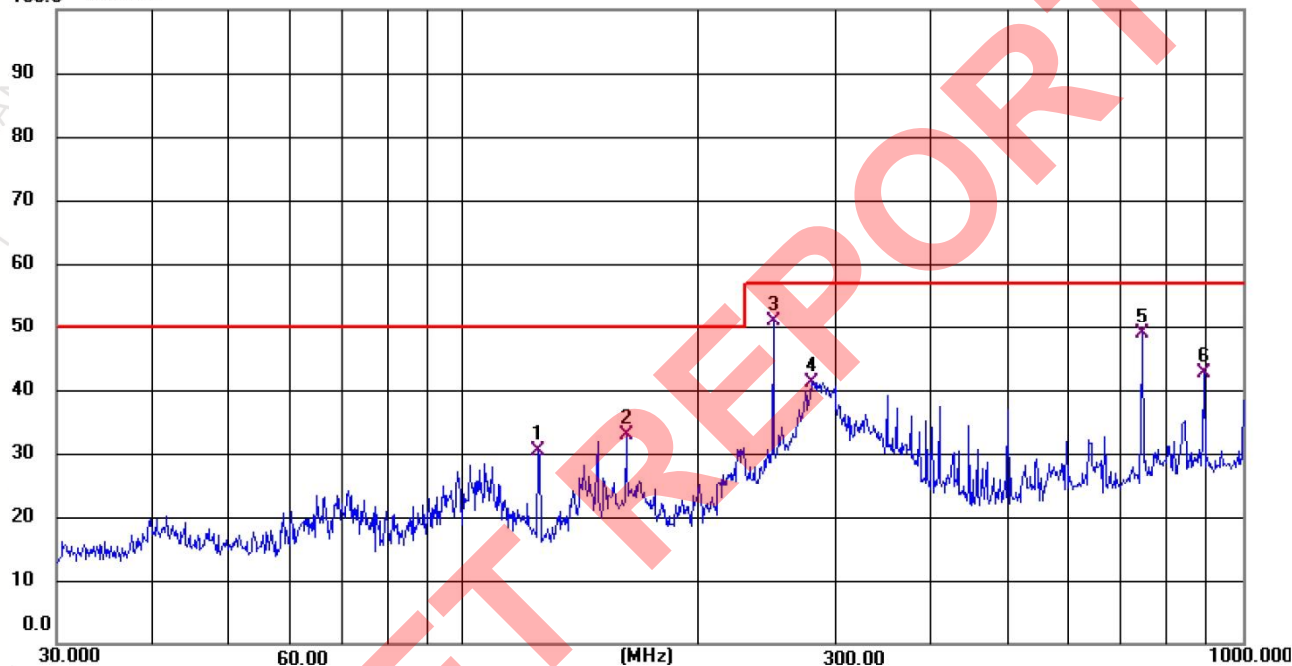
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	41.3707	44.80	-14.74	30.06	50.00	-19.94	QP
2	71.9959	48.21	-18.42	29.79	50.00	-20.21	QP
3	161.9845	51.08	-14.69	36.39	50.00	-13.61	QP
4	249.9941	60.62	-16.95	43.67	57.00	-13.33	QP
5	288.1419	52.47	-15.76	36.71	57.00	-20.29	QP
6 *	742.5190	51.45	-6.74	44.71	57.00	-12.29	QP



EUT: MIG WELDING MACHINE
M/N: MIG-500IXR
Test Mode: Mode A
Test Voltage: AC 380V/50Hz
Temperature: 23°C
Humidity: 55%
Atmosphere pressure: 101Kpa
Test Results: Pass

Polarization: Horizontal

100.0 dBuV/m

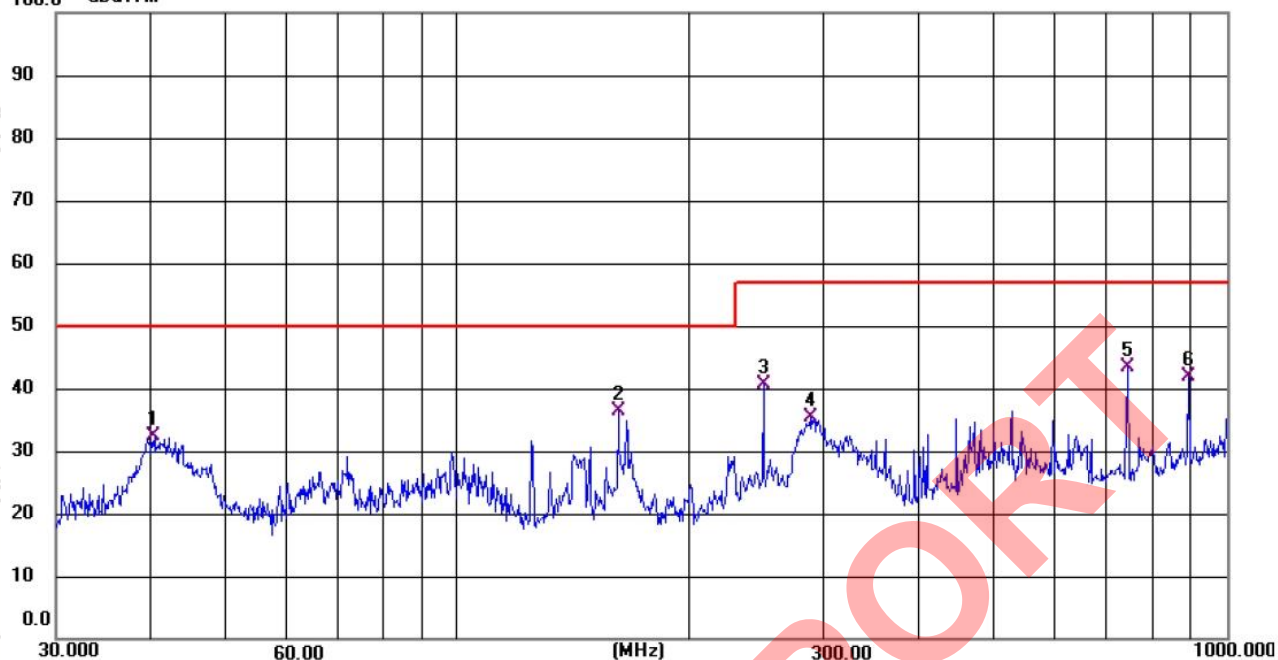


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	125.0066	46.38	-16.07	30.31	50.00	-19.69	QP
2	162.0130	47.52	-14.69	32.83	50.00	-17.17	QP
3 *	249.9942	67.76	-16.95	50.81	57.00	-6.19	QP
4	279.9257	57.33	-16.08	41.25	57.00	-15.75	QP
5	742.5190	55.52	-6.74	48.78	57.00	-8.22	QP
6	891.0402	47.83	-5.17	42.66	57.00	-14.34	QP



Polarization: Vertical

100.0 dBuV/m



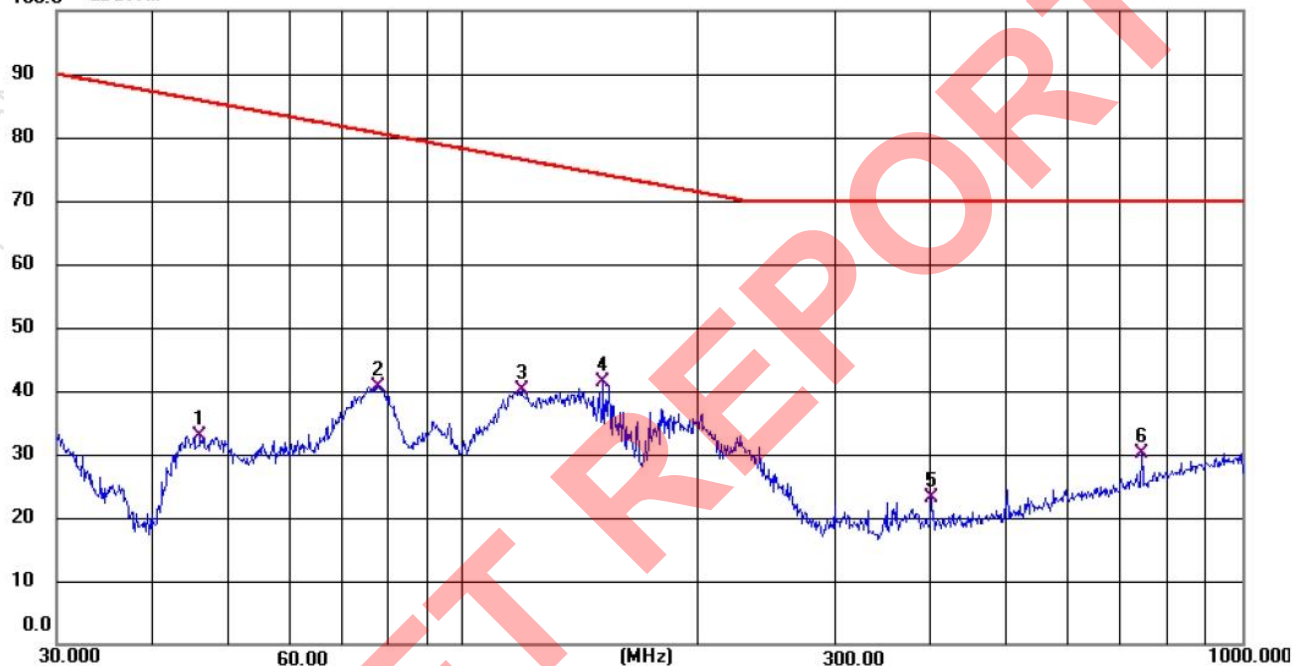
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	40.2897	46.86	-14.57	32.29	50.00	-17.71	QP
2	162.0130	51.03	-14.69	36.34	50.00	-13.66	QP
3	249.9942	57.52	-16.95	40.57	57.00	-16.43	QP
4	287.3851	51.25	-15.79	35.46	57.00	-21.54	QP
5 *	742.5190	50.14	-6.74	43.40	57.00	-13.60	QP
6	891.0402	47.12	-5.17	41.95	57.00	-15.05	QP



EUT: MIG WELDING MACHINE
M/N: MIG-500IXR
Test Mode: Mode B
Test Voltage: AC 220V/50Hz
Temperature: 23°C
Humidity: 55%
Atmosphere pressure: 101Kpa
Test Results: Pass

Polarization: Horizontal

100.0 dBuV/m

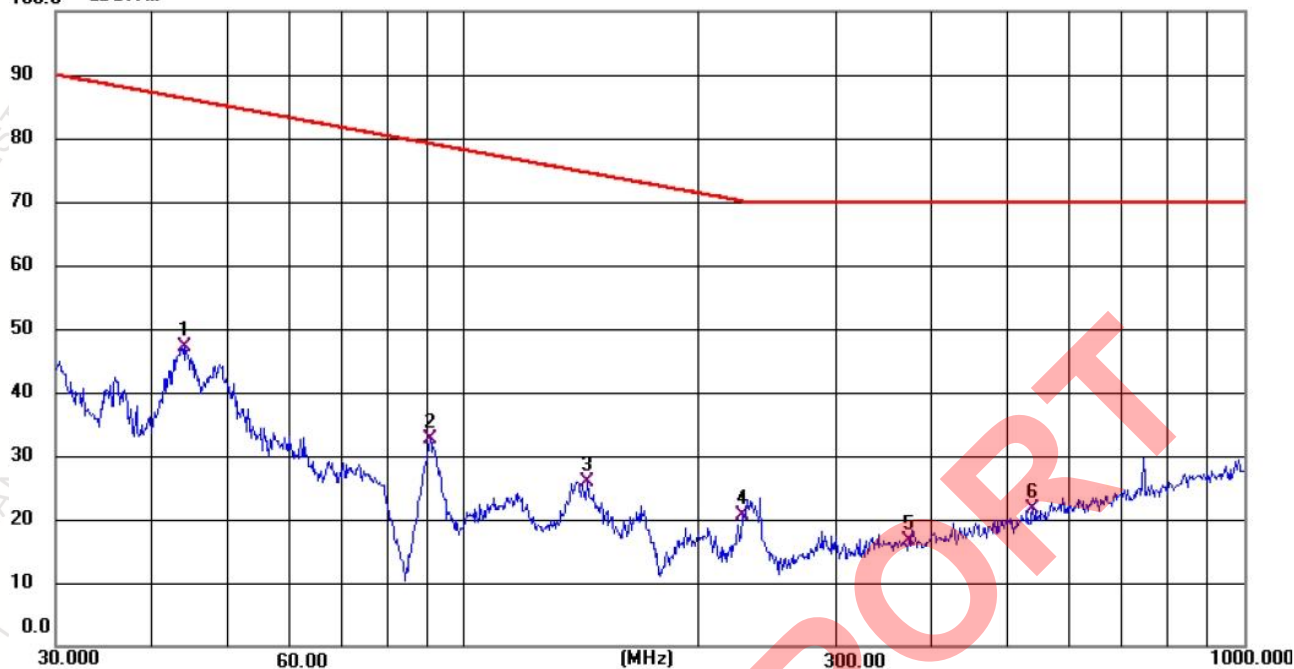


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	46.0164	47.47	-14.51	32.96	85.80	-52.84	QP
2	77.8654	60.07	-19.40	40.67	80.63	-39.96	QP
3	119.0180	57.30	-17.07	40.23	76.47	-36.24	QP
4 *	151.3582	56.71	-15.39	41.32	74.11	-32.79	QP
5	400.0109	35.46	-12.36	23.10	70.00	-46.90	QP
6	742.5190	35.84	-5.64	30.20	70.00	-39.80	QP



Polarization: Vertical

100.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	44.0584	61.20	-14.19	47.01	86.23	-39.22	QP
2	90.6963	52.29	-19.68	32.61	79.14	-46.53	QP
3	143.9808	41.38	-15.55	25.83	74.60	-48.77	QP
4	227.9703	37.83	-17.23	20.60	70.09	-49.49	QP
5	372.3960	29.76	-13.05	16.71	70.00	-53.29	QP
6	536.2712	31.08	-9.37	21.71	70.00	-48.29	QP



EUT: MIG WELDING MACHINE
M/N: MIG-500IXR
Test Mode: Mode B
Test Voltage: AC 380V/50Hz
Temperature: 23°C
Humidity: 55%
Atmosphere pressure: 101Kpa
Test Results: Pass

Polarization: Horizontal

100.0 dBuV/m

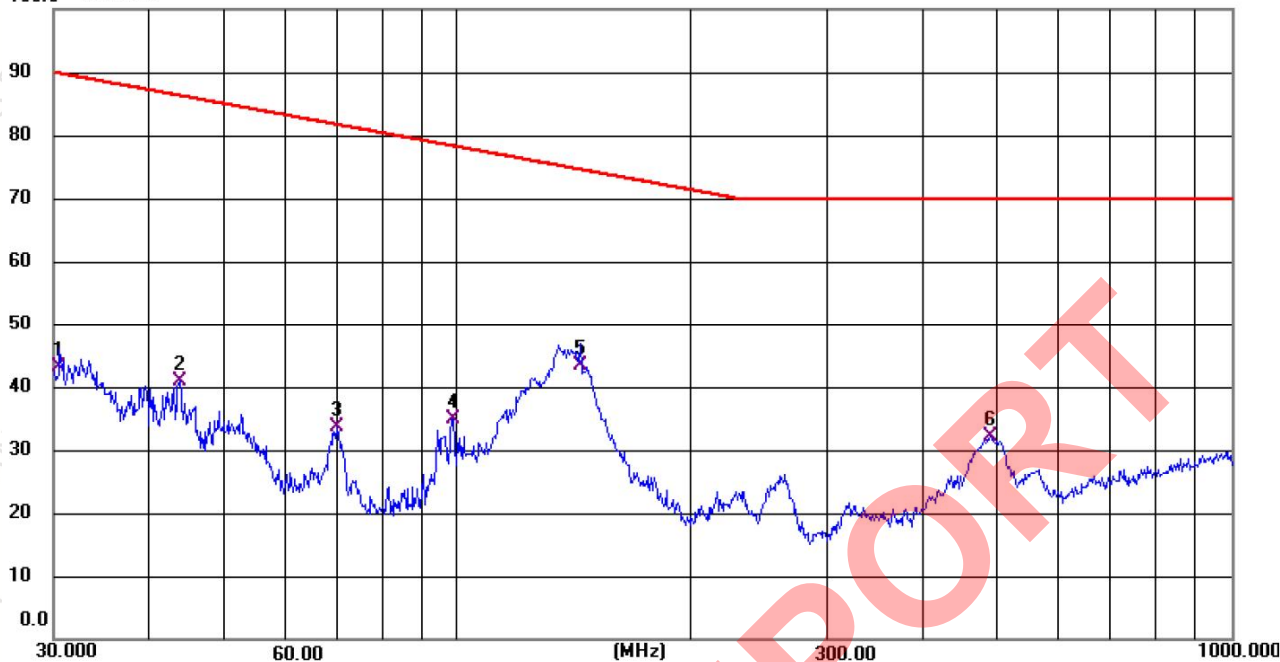


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.5949	49.34	-15.30	34.04	89.81	-55.77	QP
2	51.0761	35.00	-15.31	19.69	84.78	-65.09	QP
3	71.0429	36.33	-18.08	18.25	81.54	-63.29	QP
4 *	147.5329	51.58	-14.51	37.07	74.36	-37.29	QP
5	269.8066	44.08	-15.78	28.30	70.00	-41.70	QP
6	490.9168	38.90	-10.54	28.36	70.00	-41.64	QP



Polarization: Vertical

100.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.6057	58.92	-15.72	43.20	89.80	-46.60	QP
2	43.8042	56.26	-15.28	40.98	86.28	-45.30	QP
3	69.6493	51.61	-17.88	33.73	81.73	-48.00	QP
4	98.4866	53.98	-18.98	35.00	78.33	-43.33	QP
5 *	143.9808	59.36	-15.96	43.40	74.60	-31.20	QP
6	488.5127	42.76	-10.59	32.17	70.00	-37.83	QP



6 - HARMONIC ON AC POWER LINE

6.1 APPLICATION OF HARMONIC CURRENT EMISSION

Compliance to these standards ensures that tested equipment will not generate harmonic currents at levels that cause unacceptable degradation of the main environment. This directly contributes to meeting compatibility levels established in other EMC standards, which defines compatibility levels for low-frequency conducted disturbances in low-voltage supply systems.

6.2 TEST STANDARD

Please refer to IEC 61000-3-12:2011+AMD1:2021

6.3 TEST RESULTS

PASS

DRAFT REPORT



7 -VOLTAGE FLUCTUATIONS AND FLICKER TEST

7.1 APPLICATION OF VOLTAGE FLUCTUATIONS AND FLICKER TEST

Compliance to these standards ensures that tested equipment will not generate flickers and voltage change at levels that cause unacceptable degradation of the main environment. This directly contributes to meeting compatibility levels established in other EMC standards, which defines compatibility levels for low-frequency conducted disturbances in low-voltage supply systems.

7.2 TEST STANDARD

Please refer to IEC 61000-3-11:2017

7.3 TEST RESULTS

PASS

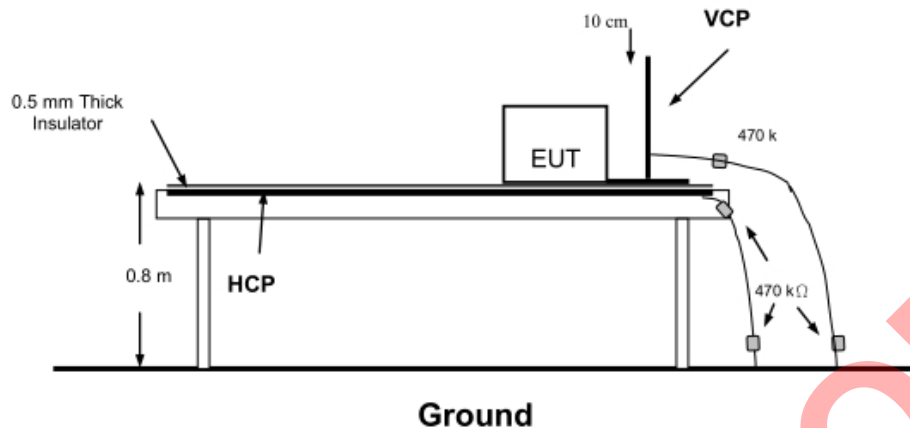
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8 - IMMUNITY TEST

8.1 ELECTROSTATIC DISCHARGE IMMUNITY TEST

8.1.1 BLOCK DIAGRAM OF TEST SETUP



8.1.2 TEST SPECIFICATION

Basic Standard	: IEC 61000-4-2:2008
Test Port	: Enclosure port
Discharge Impedance	: 330 ohm / 150 pF
Discharge Mode	: Single Discharge
Discharge Period	: one second between each discharge

8.1.3 TEST PROCEDURE

8.1.3.1. Air Discharge

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

8.1.3.2. Contact Discharge

All the procedure shall be same as Section 8.1.3.1. except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

8.1.3.3. Indirect Discharge for Horizontal Coupling Plane

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

8.1.3.4. Indirect Discharge for Vertical Coupling Plane

At least 10 single discharges (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.



8.1.4 TEST RESULTS

Electrostatic Discharge	
Basic Standard:	IEC 61000-4-2:2008
EUT:	MIG WELDING MACHINE
M/N:	MIG-500IXR
Test Mode:	Mode B
Temperature:	25°C
Humidity:	55%
Atmosphere pressure:	101Kpa

Test Voltage:AC 220V/50Hz

Discharge Method	Discharge Position	Voltage (±kV)	Min. No. of Discharge per polarity (Each Point)	Performance criteria	Result
Contact Discharge	Conductive surface	2, 4	10	B	Pass
	Indirect Discharge HCP	2, 4	10	B	Pass
	Indirect Discharge VCP	2, 4	10	B	Pass
Air Discharge	Slots, Apertures, and Insulating Surfaces	2, 4, 8	10	B	Pass

Test Voltage:AC 380V/50Hz

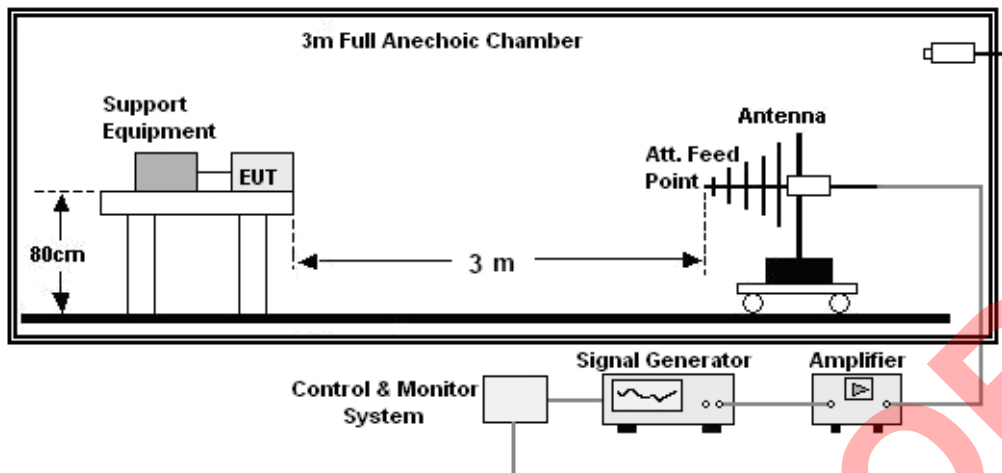
Discharge Method	Discharge Position	Voltage (±kV)	Min. No. of Discharge per polarity (Each Point)	Performance criteria	Result
Contact Discharge	Conductive surface	2, 4	10	B	Pass
	Indirect Discharge HCP	2, 4	10	B	Pass
	Indirect Discharge VCP	2, 4	10	B	Pass
Air Discharge	Slots, Apertures, and Insulating Surfaces	2, 4, 8	10	B	Pass



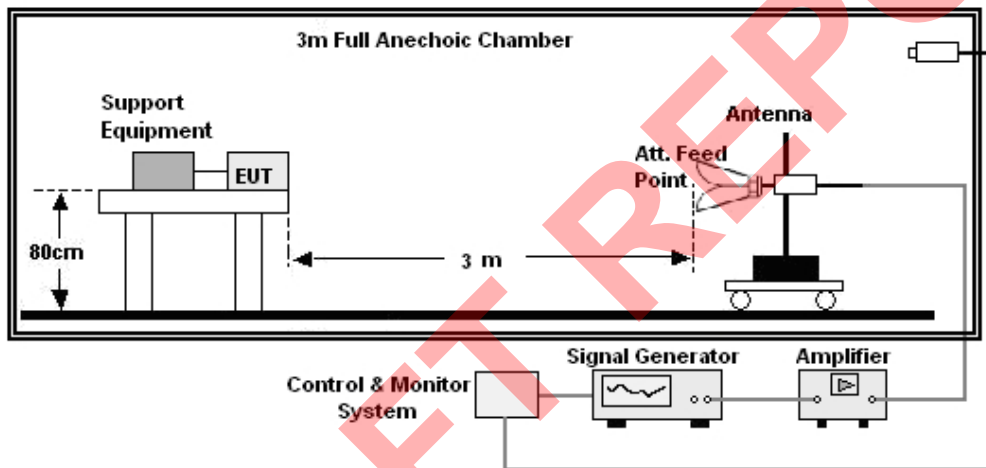
8.2 RADIO FREQUENCY ELECTROMAGNETIC FIELDS

8.2.1 BLOCK DIAGRAM OF TEST SETUP

80-1000MHz:



1000-6000MHz:



8.2.2 TEST SPECIFICATION

Basic Standard	: IEC 61000-4-3:2020
Test Port	: Enclosure port
Step Size	: 1%
Modulation	: 1kHz, 80% AM
Dwell Time	: 1 second
Polarization	: Horizontal & Vertical

8.2.3 TEST PROCEDURE

- The testing was performed in a fully-anechoic chamber. The transmit antenna was located at a distance of 3 meters from the Product.
- The frequency range is swept from 80MHz to 6000MHz, with the signal 80% amplitude modulated with a 1 kHz sine wave. The rate of sweep did not exceed 1.5×10^{-3} decade/s. Where the frequency range is swept incrementally, the step size was 1%.
- The test was performed with the Product exposed to both vertically and horizontally polarized fields on each of the four sides.



8.2.4 TEST RESULTS

Radio frequency electromagnetic fields	
Basic Standard:	IEC 61000-4-3:2020
EUT:	MIG WELDING MACHINE
M/N:	MIG-500IXR
Test Mode:	Mode B
Temperature:	26℃
Humidity:	55%
Atmosphere pressure:	101Kpa

Test Voltage:AC 220V/50Hz

Frequency (MHz)	Position	Field Strength (V/m)	Performance criteria	Result
80 - 1000	Front	10	A	Pass
	Right	10	A	Pass
	Back	10	A	Pass
	Left	10	A	Pass
1400 - 6000	Front	3	A	Pass
	Right	3	A	Pass
	Back	3	A	Pass
	Left	3	A	Pass

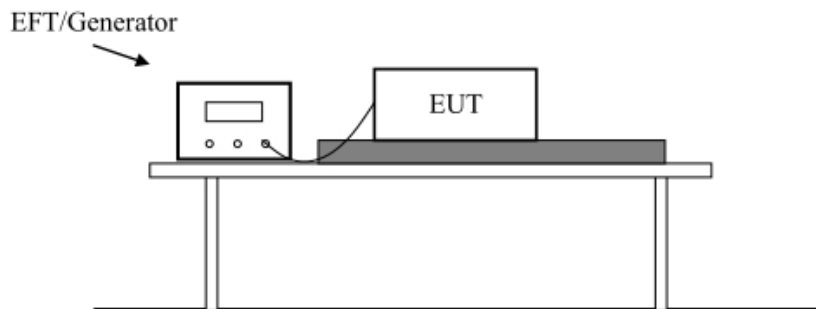
Test Voltage:AC 380V/50Hz

Frequency (MHz)	Position	Field Strength (V/m)	Performance criteria	Result
80 - 1000	Front	10	A	Pass
	Right	10	A	Pass
	Back	10	A	Pass
	Left	10	A	Pass
1400 - 6000	Front	3	A	Pass
	Right	3	A	Pass
	Back	3	A	Pass
	Left	3	A	Pass



8.3 ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST

8.3.1 BLOCK DIAGRAM OF TEST SETUP



8.3.2 TEST SPECIFICATION

Basic Standard	: IEC 61000-4-4:2012
Test Port	: input a.c.power port
Impulse Frequency	: 5 kHz
Impulse Wave-shape	: 5/50 ns
Burst Duration	: 15 ms
Burst Period	: 300 ms
Test Duration	: 2 minutes per polarity

8.3.3 TEST PROCEDURE

The EUT is put on the table which is 0.8 meter high above the ground. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

8.3.3.1. For input and output AC power ports:

The EUT is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 mins.

8.3.3.2. For signal lines and control lines ports:

No I/O ports. It's unnecessary to test.

8.3.3.3. For DC output line ports:

No DC output ports. It's unnecessary to test.



8.3.4 TEST RESULTS

Electrical Fast Transient/Burst	
Basic Standard:	IEC 61000-4-4:2012
EUT:	MIG WELDING MACHINE
M/N:	MIG-500IXR
Test Mode:	Mode B
Test Voltage:	AC 220V/50Hz
Temperature:	24℃
Humidity:	60%
Atmosphere pressure:	101Kpa

Test Voltage:AC 220V/50Hz

Line	Test Voltage	Performance criteria	Result
L	±2kV	B	Pass
N	±2kV	B	Pass
PE	±2kV	B	Pass
L - N	±2kV	B	Pass
L - PE	±2kV	B	Pass
N - PE	±2kV	B	Pass
L - N - PE	±2kV	B	Pass

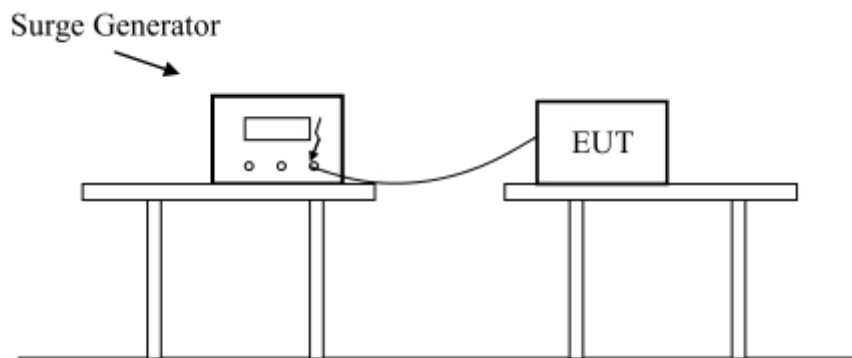
Test Voltage:AC 380V/50Hz

Line	Test Voltage	Performance criteria	Result
L1	±2kV	B	Pass
L2	±2kV	B	Pass
L3	±2kV	B	Pass
PE	±2kV	B	Pass
L1-L2	±2kV	B	Pass
L1-L3	±2kV	B	Pass
L2-L3	±2kV	B	Pass
L1-PE	±2kV	B	Pass
L2-PE	±2kV	B	Pass
L3-PE	±2kV	B	Pass
L1-L2-PE	±2kV	B	Pass
L1-L3-PE	±2kV	B	Pass
L2-L3-PE	±2kV	B	Pass
L1-L2-L3	±2kV	B	Pass
L1-L2-L3-PE	±2kV	B	Pass



8.4 SURGE IMMUNITY TEST

8.4.1 BLOCK DIAGRAM OF TEST SETUP



8.4.2 TEST SPECIFICATION

Basic Standard	IEC 61000-4-5:2014+AMD1:2017
Test Port	input a.c. power port
Wave-Shape	Open Circuit Voltage - 1.2 / 50 us Short Circuit Current - 8 / 20 us
Pulse Repetition Rate	1 pulse / min.
Test Events	Five positive polarity pulses and five negative polarity pulses

8.4.3 TEST PROCEDURE

8.4.3.1. Set up the EUT and test generator as shown on Section 8.4.1.

8.4.3.2. For line to line coupling mode, provide a 1.0 KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.

8.4.3.3. At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test

8.4.3.4. Different phase angles are done individually.

8.4.3.5. Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.



8.4.4 TEST RESULTS

SURGE IMMUNITY	
Basic Standard:	IEC 61000-4-5:2014+AMD1:2017
EUT:	MIG WELDING MACHINE
M/N:	MIG-500IXR
Test Mode:	Mode B
Temperature:	24℃
Humidity:	60%
Atmosphere pressure:	101Kpa

Test Voltage:AC 230V/50Hz

Line	Phase Angle	Test Voltage	Number of Pulse	Performance criteria	Result
L - N	0°	±1kV	5	B	Pass
	90°	±1kV	5	B	Pass
	180°	±1kV	5	B	Pass
	270°	±1kV	5	B	Pass
L - PE	0°	±2kV	5	B	Pass
	90°	±2kV	5	B	Pass
	180°	±2kV	5	B	Pass
	270°	±2kV	5	B	Pass
N - PE	0°	±2kV	5	B	Pass
	90°	±2kV	5	B	Pass
	180°	±2kV	5	B	Pass
	270°	±2kV	5	B	Pass

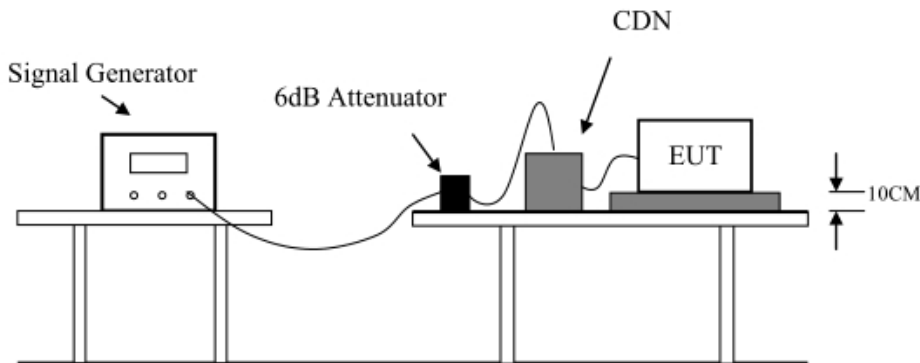
Test Voltage:AC 380V/50Hz

Line	Phase Angle	Test Voltage	Number of Pulse	Performance criteria	Result
L1 - L2	0°	±1kV	5	B	Pass
	90°	±1kV	5	B	Pass
	180°	±1kV	5	B	Pass
	270°	±1kV	5	B	Pass
L1 - L3	0°	±1kV	5	B	Pass
	90°	±1kV	5	B	Pass
	180°	±1kV	5	B	Pass
	270°	±1kV	5	B	Pass
L2 - L3	0°	±1kV	5	B	Pass
	90°	±1kV	5	B	Pass
	180°	±1kV	5	B	Pass
	270°	±1kV	5	B	Pass
L1 - PE	0°	±2kV	5	B	Pass
	90°	±2kV	5	B	Pass
	180°	±2kV	5	B	Pass
	270°	±2kV	5	B	Pass
L2 - PE	0°	±2kV	5	B	Pass
	90°	±2kV	5	B	Pass
	180°	±2kV	5	B	Pass
	270°	±2kV	5	B	Pass
L3 - PE	0°	±2kV	5	B	Pass
	90°	±2kV	5	B	Pass
	180°	±2kV	5	B	Pass
	270°	±2kV	5	B	Pass



8.5 INJECTED CURRENTS SUSCEPTIBILITY TEST

8.5.1 BLOCK DIAGRAM OF TEST SETUP



8.5.2 TEST SPECIFICATION

Basic Standard	: IEC 61000-4-6:2013
Test Port	: input a.c.power port
Step Size	: 1%
Modulation	: 1kHz,80% AM
Dwell Time	: 1 second

8.5.3 TEST PROCEDURE

8.5.3.1. Set up the EUT, CDN and test generators as shown on Section 8.5.1.

8.5.3.2. Let the EUT work in test mode and measure it.

8.5.3.3. The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).

8.5.3.4. The disturbance signal described below is injected to EUT through CDN.

8.5.3.5. The EUT operates within its operational mode(s) under intended climatic conditions after power on.

8.5.3.6. The frequency range is swept from 150kHz to 230MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1kHz sine wave.

8.5.3.7. The rate of sweep shall not exceed 1.5×10^{-3} decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

8.5.3.8. Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.



8.5.4 TEST RESULTS

INJECTED CURRENTS SUSCEPTIBILITY	
Basic Standard:	IEC 61000-4-6:2013
EUT:	MIG WELDING MACHINE
M/N:	MIG-500IXR
Test Mode:	Mode B
Temperature:	24°C
Humidity:	58%
Atmosphere pressure:	101Kpa

Test Voltage:AC 220V/50Hz

Frequency Range (MHz)	Injected Position	Strength (Non-modulated)	Performance criteria	Result
0.15 ~ 80	AC Mains	10 V r.m.s.	A	Pass

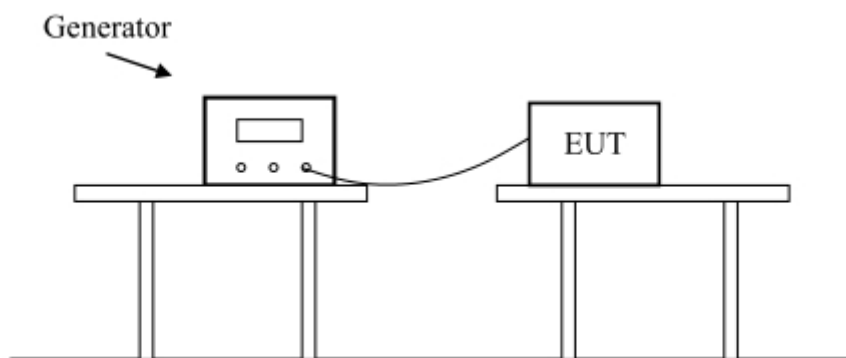
Test Voltage:AC 380V/50Hz

Frequency Range (MHz)	Injected Position	Strength (Non-modulated)	Performance criteria	Result
0.15 ~ 80	AC Mains	10 V r.m.s.	A	Pass



8.6 VOLTAGE DIPS AND INTERRUPTIONS TEST

8.6.1 BLOCK DIAGRAM OF TEST SETUP



8.6.2 TEST SPECIFICATION

Basic Standard	: IEC 61000-4-34:2005/AMD1:2009
Test Port	: input a.c. power port
Phase Angle	: 0°, 180°

8.6.3 TEST PROCEDURE

8.6.3.1. Set up the EUT and test generator as shown on Section 8.6.1.

8.6.3.2. The interruptions is introduced at selected phase angles with specified duration.

8.6.3.3. Record any degradation of performance.



8.6.4 TEST RESULTS

VOLTAGE DIPS AND INTERRUPTIONS	
Basic Standard:	IEC 61000-4-11:2020
EUT:	MIG WELDING MACHINE
M/N:	MIG-500IXR
Test Mode:	Mode B
Temperature:	24°C
Humidity:	60%
Atmosphere pressure:	101Kpa

Test Voltage:AC 220V/50Hz

Test Level % UT	Voltage Dips & Short Interruptions % UT	Duration (Cycle)	Performance criteria	Result
0	100	1	B	Pass
40	60	10	C	Pass
70	30	25	C	Pass

Test Voltage:AC 380V/50Hz

Test Level % UT	Voltage Dips & Short Interruptions % UT	Duration (Cycle)	Performance criteria	Result
0	100	1	B	Pass
40	60	10	C	Pass
70	30	25	C	Pass



APPENDIX A - EUT PHOTOGRAPHS

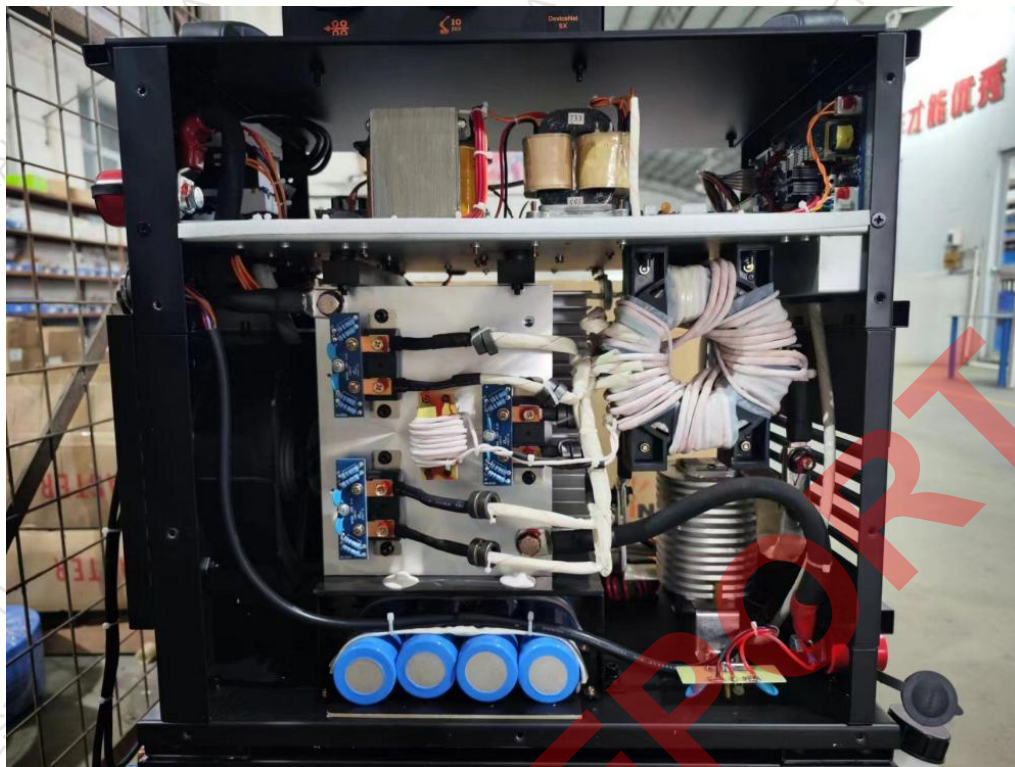
External Photos of EUT







Internal Photos of EUT



*****END OF THE REPORT*****