

RED-EMC Test Report

Applicant : Shenzhen Maono Technology Co., Ltd.

Address : No. 1307, 13th Floor, Building 4, Phase II of
Tianan Yungu Industrial Park, Gangtou
Community, Bantian Street, Longgang District,
Shenzhen, China

Product Name : WIRELESS CONDENSER MICROPHONE

Report Date : Dec. 24, 2024



Shenzhen Anbotek Compliance Laboratory Limited

Shenzhen Anbotek Compliance Laboratory Limited

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TEST REPORT

Applicant : Shenzhen Maono Technology Co., Ltd.
Manufacturer : Shenzhen Maono Technology Co., Ltd.
Product Name : WIRELESS CONDENSER MICROPHONE
Model No. : DM40, DM40 Pro, DM40 S, DM40 T, DM40 Pro S, DM40 Pro T,
DM40 Neo, DM40 Neo S, DM40 Neo T, DM40 Lite, DM40 Lite S,
DM40 Lite T, DM40 Ultra, DM40 Ultra S, DM40 Ultra T
Trade Mark : N/A
Rating(s) : Input: 5V \Rightarrow 2A(with DC 3.7V, 1500mAh Battery inside)
Test Standard(s) : ETSI EN 301 489-1 V2.2.3 (2019-11)
ETSI EN 301 489-17 V3.2.4 (2020-09)

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with above listed standard(s) requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt: Nov. 04, 2024

Date of Test: Nov. 05, 2024 to Nov.13, 2024

Prepared By:



(TuTu Hong)

Approved & Authorized Signer:



(Kingkong Jin)



Revision History

Report Version	Description	Issued Date
R00	Original Issue.	Dec. 24, 2024

Shenzhen Anbotek Compliance Laboratory Limited

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1. General Information

1.1. Client Information

Applicant	:	Shenzhen Maono Technology Co., Ltd.
Address	:	No. 1307, 13th Floor, Building 4, Phase II of Tianan Yungu Industrial Park, Gangtou Community, Bantian Street, Longgang District, Shenzhen, China
Manufacturer	:	Shenzhen Maono Technology Co., Ltd.
Address	:	No. 1307, 13th Floor, Building 4, Phase II of Tianan Yungu Industrial Park, Gangtou Community, Bantian Street, Longgang District, Shenzhen, China
Factory	:	Guangdong Dingchuang Smart Manufacturing Co., Ltd.
Address	:	Room 401, Building 8, Tian An Digital City, Fenggang Section 208 Dongshen Road, Fenggang Town, Dongguan City, Guangdong Province, China

1.2. Description of Device (EUT)

Product Name	:	WIRELESS CONDENSER MICROPHONE
Model No.	:	DM40, DM40 Pro, DM40 S, DM40 T, DM40 Pro S, DM40 Pro T, DM40 Neo, DM40 Neo S, DM40 Neo T, DM40 Lite, DM40 Lite S, DM40 Lite T, DM40 Ultra, DM40 Ultra S, DM40 Ultra T (Note: All samples are the same except the model number & appearance color, so we prepare "DM40" for test only.)
Trade Mark	:	N/A
Test Power Supply	:	AC 230V/50Hz for Adapter
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	N/A
Remark: (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		



1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
Xiaomi 33W adapter	Xiaomi	MDY-11-EX	SA62212LA04358J

1.4. Description of Test Modes

Pretest Modes	Descriptions
TM1	Adapter+2.4 Mode(AC 230V/50Hz for adapter)

1.5. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.4dB
Radiated emissions (30MHz~1000MHz)	Horizontal: 4.46dB; Vertical: 5.04dB
Radiated emissions (above 1GHz)	1G-6GHz: 4.78dB; 6G-18GHz: 4.88dB
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

1.6. Test Summary

Test Items	Test Modes	Status
Conducted emissions (AC power port)	Mode1	P
Radiated emissions (30MHz-1GHz)	Mode1	P
Radiated emissions (above 1GHz)	Mode1	P
Harmonic current emissions	/	N
Voltage fluctuations and flicker	Mode1	P
Electrostatic discharge	Mode1	P
Radio frequency electromagnetic field (80 MHz to 6 000 MHz)	Mode1	P
Fast transients, common mode (AC power port)	Mode1	P
Surges (AC power port)	Mode1	P
Radio frequency, common mode 0,15 MHz to 80 MHz (AC power port)	Mode1	P
Voltage dips and interruptions	Mode1	P
Note: P: Pass N: N/A, not applicable		



1.7. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.:434132

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 434132.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.
Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

1.8. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.



1.9. EMS Performance Criteria

Performance Criteria for ETSI EN 301 489-1 V2.2.3 (2019-11)

Continuous phenomena:

During the test, the equipment shall:

- continue to operate as intended;
- not unintentionally transmit;
- not unintentionally change its operating state;
- not unintentionally change critical stored data.

Continuous and non-continuous operation

Latency is the time delay between the initiation and the completion of operation of the EUT.

Correct functioning requires completing the relevant operation within the maximum latency time.

Where the maximum latency is specified in the applicable harmonised radio standard (in the wanted performance criterion, or an acknowledge requirement), that value shall be used.

Where this is not the case, then the maximum latency is that required by the intended use of the EUT.

Operating modes

Where the EUT has more than one mode of operation (see clause 4.4.1), an unplanned transition from one mode to another is considered as an unintentional response. The EUT shall be tested in all modes to confirm there are no such unintentional responses.

Transient phenomena:

For all ports and transient phenomena with the exception described below, the following applies:

- The application of the transient phenomena shall not result in a change of the mode of operation (e.g. unintended transmission) or the loss of critical stored data.
- After application of the transient phenomena, the equipment shall operate as intended.

For surges applied to symmetrically operated wired network ports intended to be connected directly to outdoor lines the following criteria applies:

- For products with only one symmetrical port intended for connection to outdoor lines, loss of function is allowed, provided the function is self-recoverable, or can be otherwise restored. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.
- For products with more than one symmetrical port intended for connection to outdoor lines, loss of function on the port under test is allowed, provided the function is self-recoverable. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

Continuous and non-continuous operation

Latency is the time delay between the initiation and the completion of operation of the EUT.

Correct functioning requires completing the relevant operation within the maximum latency time.

Where the maximum latency is specified in the applicable harmonised radio standard (in the wanted performance criterion, or an acknowledge requirement), that value shall be used.

Where this is not the case, then the maximum latency is that required by the intended use of the EUT.

Operating modes

Where the EUT has more than one mode of operation (see clause 4.4.1), an unplanned transition from one mode to another is considered as an unintentional response. The EUT shall be tested in all modes to confirm there are no such unintentional responses.

Performance Criteria for ETSI EN 301 489-17 V3.2.4 (2020-09)

Performance criteria

General performance criteria

The performance criteria are:

- performance criteria A for immunity tests with phenomena of a continuous nature;
- performance criteria B for immunity tests with phenomena of a transient nature;
- performance criteria C for immunity tests with power interruptions exceeding a certain time.

The equipment shall meet the minimum performance criteria as specified in the following clauses.

Performance table

Performance criteria overview



Table 2: Performance criteria

Criteria	During test	After test (i.e. as a result of the application of the test)
A	Shall operate as intended. (See note). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance. Shall be no loss of function. Shall be no loss of critical stored data.
B	May be loss of function.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no loss of critical stored data.
C	May be loss of function.	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no loss of critical stored data.

NOTE: Operate as intended during the test allows a level of degradation in accordance with clause 6.2.2.

Minimum performance level

For equipment that supports a PER or FER, the minimum performance level shall be a PER or FER less than or equal to 10 %.

For equipment that does not support a PER or a FER, the minimum performance level shall be no loss of the wireless transmission function needed for the intended use of the equipment.

Performance criteria for Continuous phenomena

The performance criteria A shall apply.

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur during the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur during the test.

Performance criteria for Transient phenomena

The performance criteria B shall apply, except for voltage dips greater than or equal to 100 ms and voltage interruptions of 5 000 ms duration, for which performance criteria C shall apply.

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur as a result of the application of the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur as a result of the application of the test.



1.10. Test Equipment List

Conducted emissions (AC power port)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	2024-09-09	2025-09-08
2	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040D T001	2024-01-17	2025-01-16
3	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/
4	EMI Test Receiver	Rohde & Schwarz	ESPI3	100926	2024-09-09	2025-09-08

Radiated emissions (30MHz-1GHz)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESPI7	101340	2024-02-21	2025-02-20
2	Pre-amplifier	Emtrace	RP01A	00517	2024-02-04	2025-02-03
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	01471	2023-02-25	2025-02-24
4	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

Radiated emissions (above 1GHz)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	2024-01-23	2025-01-22
2	Pre-amplifier	SONOMA	310N	186860	2024-01-17	2025-01-16
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	EMI Preamplifier	SKET Electronic	LNPA-0118G-45	SKET-PA-002	2024-01-17	2025-01-16
5	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	2022-10-16	2025-10-15
6	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

Voltage fluctuations and flicker						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Programmable AC Power source	IVYTECH	APS-5005A	632734	2024-09-09	2025-09-08
2	Harmonic and Flicker Analyzer	EMC-PARTNER	HMONICS 1000-1P	164	2024-09-11	2025-09-10
3	Harmonics-1000	N/A	Ed.3.0+4.0	N.A	/	/



Electrostatic discharge						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	ESD Simulators	emtest	ESD NX30.1	11936	2024-03-11	2025-03-10

Radio frequency electromagnetic field (80 MHz to 6 000 MHz)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Signal Generator	Agilent	N5181A	MY50143107	2024-01-23	2025-01-22
2	Power Meter	Agilent	E4417A	MY45101384	2024-01-23	2025-01-22
3	Amplifier	Micotop	MPA-80-1000-600	MPA2110318	2024-01-17	2025-01-16
4	Amplifier	Micotop	MPA-1000-6000-100	MPA2110327	2024-01-17	2025-01-16
5	Log.-Per.-Antenna	Schwarzbeck	VULP 9118E	01012	/	/
6	Microwave Log.-Per. Antenna	Schwarzbeck	STLP 9149	00788	/	/
7	Power Sensor	KEYSIGHT	E9323A	US40410647	2024-01-23	2025-01-22
8	Power Sensor	KEYSIGHT	E9323A	MY53100007	2024-01-23	2025-01-22
9	Electric field Probe	Narda S.T.S /PMM	EP 601	811ZX10351	2024-01-19	2025-01-18
10	Software	EMtrace	EM 3	/	/	/

Fast transients, common mode (AC power port)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Surge Generator	TESEQ	NSG 3060	1480	2024-01-18	2025-01-17
2	CDN	TESEQ	CDN 3061	1408	2024-01-18	2025-01-17
3	EFT-Clamp	PRIM	EFT61004B	PR10114282	2024-01-17	2025-01-16

Surges (AC power port)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Combined Wave Lightning Surge Simulator	3Ctest	CCS600	ES3771702	2024-01-17	2025-01-16
2	Three Phase Power Coupling Network	3Ctest	SEPN69100T	ES0801757	2024-01-17	2025-01-16
3	Telecom port surge generator	PMI	TW101	190411	2024-01-18	2025-01-17



Radio frequency, common mode 0,15 MHz to 80 MHz (AC power port)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	CDN	FRANKONIA	CDN - M2+ M3	A2210178/ 2012	2024-01-17	2025-01-16
2	6dB Attenuator	FRANKONIA	DAM 26W	1172202	2024-09-09	2025-09-08
3	EM-Clamp	FRANKONIA	EMCL-20	18101728- 0103	2024-01-17	2025-01-16
4	Signal Generator	R&S	SMC100A	104424	2024-02-04	2025-02-03
5	Software	EMtrace	EM 6	/	/	/
6	Power Meter	Agilent	E4419B	GB433127 30	2024-02-04	2025-02-03
7	Amplifier	Micotop	MPA-0.15- 230-110	MPA21103 17	2024-02-04	2025-02-03
8	Power Sensor	Agilent	E9304	/	2024-02-04	2025-02-03
9	Power Sensor	Agilent	E9304	MY414986 63	2024-02-04	2025-02-03
10	CDN	TESEQ	CDN M432- 3LN	33659	2024-01-17	2025-01-16

Voltage dips and interruptions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	CYCLE SAG Simulator	PRIMA	DRP61011A G	PR120462 34	2024-01-17	2025-01-16



2. Harmonic current emissions

Test Requirement:	Class A
Test Limit:	Not specified

2.1. Conclusion

Refer to EN IEC 61000-3-2 clause 7.1:

"For the following categories of equipment, limits are not specified in this document:

- lighting equipment with a rated power less than but not equal to 5 W;
- equipment with a rated power of 75 W or less, other than lighting equipment;"

Since the rated power of the EUT is less than above described, it is deemed to comply with the requirement.



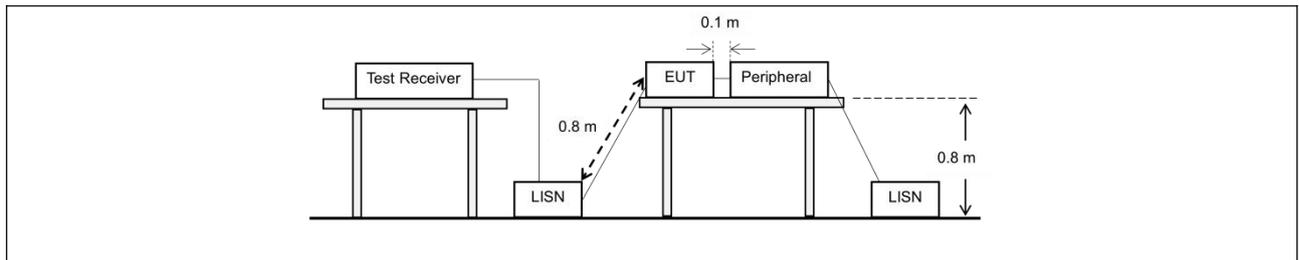
3. Conducted emissions (AC power port)

Test Requirement:	EN 301 489-1, clause 8.4 EN 301 489-17, clause 7.1		
Test Limit:	Frequency Range (MHz)	Detector Type / Bandwidth	Limit (dBuV)
	0.15 to 0.5	Quasi Peak / 9 kHz	66 to 56
	0.5 to 5	Quasi Peak / 9 kHz	56
	5 to 30	Quasi Peak / 9 kHz	60
	0.15 to 0.5	Average / 9 kHz	56 to 46
	0.5 to 5	Average / 9 kHz	46
	5 to 30	Average / 9 kHz	50
Test Method:	EN 55032, annex A.3		
Procedure:	An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor		

3.1. EUT Operation

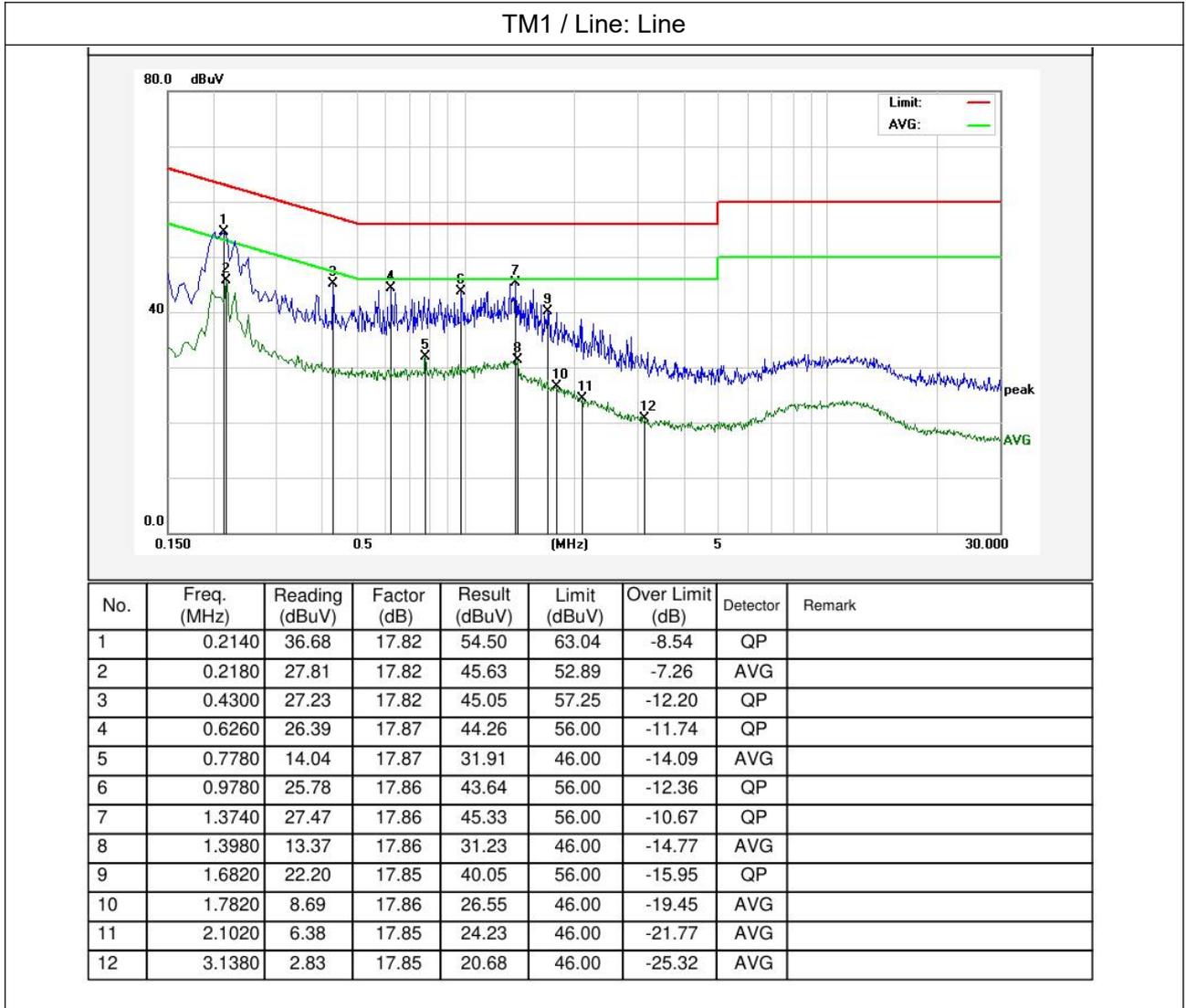
Operating Environment:	
Test mode:	1: TM1: Adapter+2.4 Mode(AC 230V/50Hz for adapter)

3.2. Test Setup



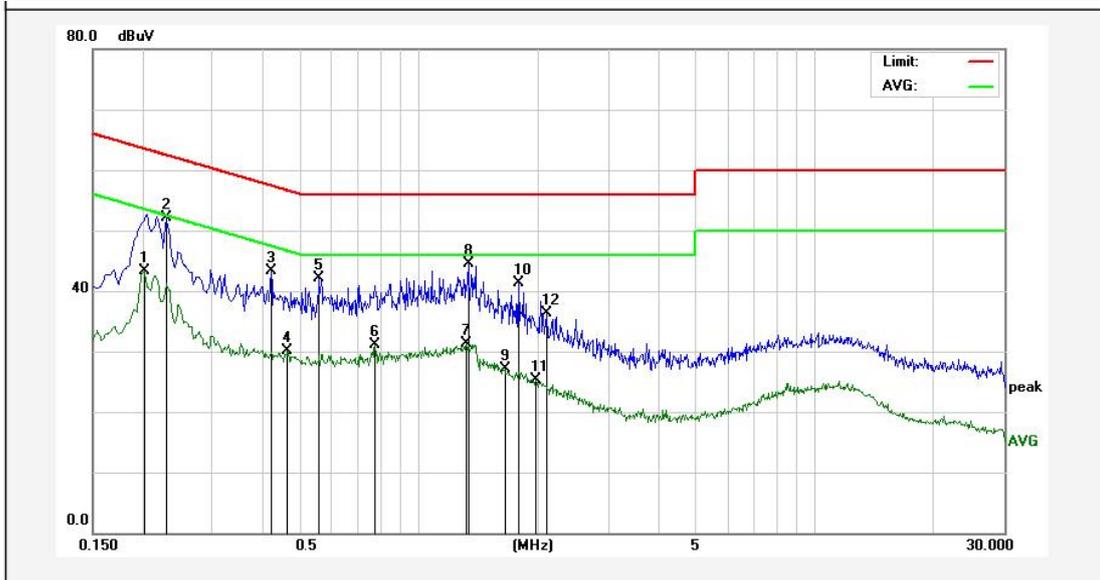
3.3. Test Data

Temperature:	22.7 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa
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Temperature:	22.7 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa
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TM1 / Line: Neutral



No.	Freq. (MHz)	Reading (dBUV)	Factor (dB)	Result (dBUV)	Limit (dBUV)	Over Limit (dB)	Detector	Remark
1	0.2020	25.54	17.82	43.36	53.52	-10.16	AVG	
2	0.2300	34.26	17.82	52.08	62.45	-10.37	QP	
3	0.4220	25.57	17.82	43.39	57.41	-14.02	QP	
4	0.4660	12.27	17.85	30.12	46.58	-16.46	AVG	
5	0.5620	24.30	17.86	42.16	56.00	-13.84	QP	
6	0.7780	13.23	17.87	31.10	46.00	-14.90	AVG	
7	1.3180	13.35	17.86	31.21	46.00	-14.79	AVG	
8	1.3340	26.59	17.86	44.45	56.00	-11.55	QP	
9	1.6460	9.31	17.85	27.16	46.00	-18.84	AVG	
10	1.7820	23.47	17.86	41.33	56.00	-14.67	QP	
11	1.9700	7.54	17.85	25.39	46.00	-20.61	AVG	
12	2.1099	18.41	17.85	36.26	56.00	-19.74	QP	

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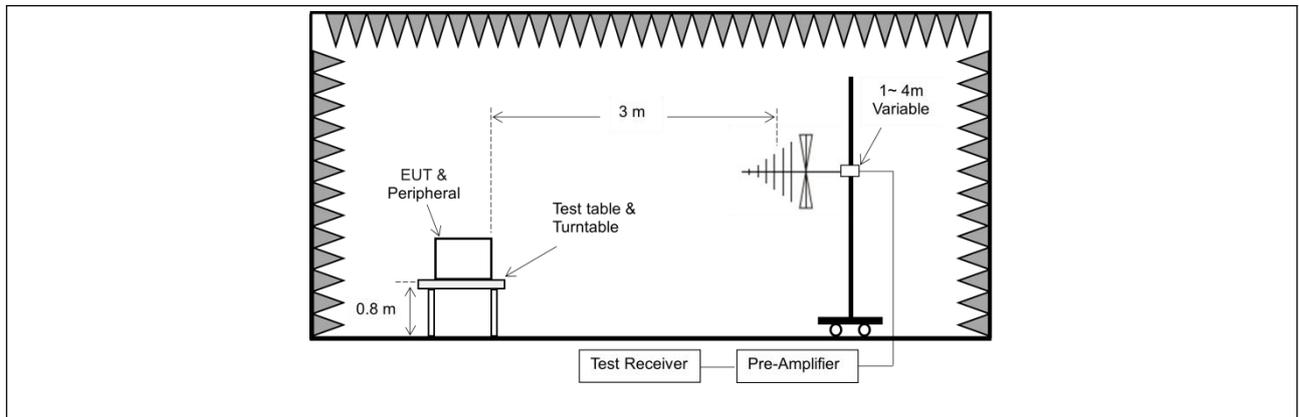
4. Radiated emissions (30MHz-1GHz)

Test Requirement:	EN 301 489-1, clause 8.2 EN 301 489-17, clause 7.1		
Test Limit:	FREQUENCY (MHz)	dB(μV/m) At 10m	dB(μV/m) At 3m
	30MHz-230MHz	30	40
	230MHz-1GHz	37	47
	Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz		
Test Method:	EN 55032, annex A.2		
Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor		

4.1. EUT Operation

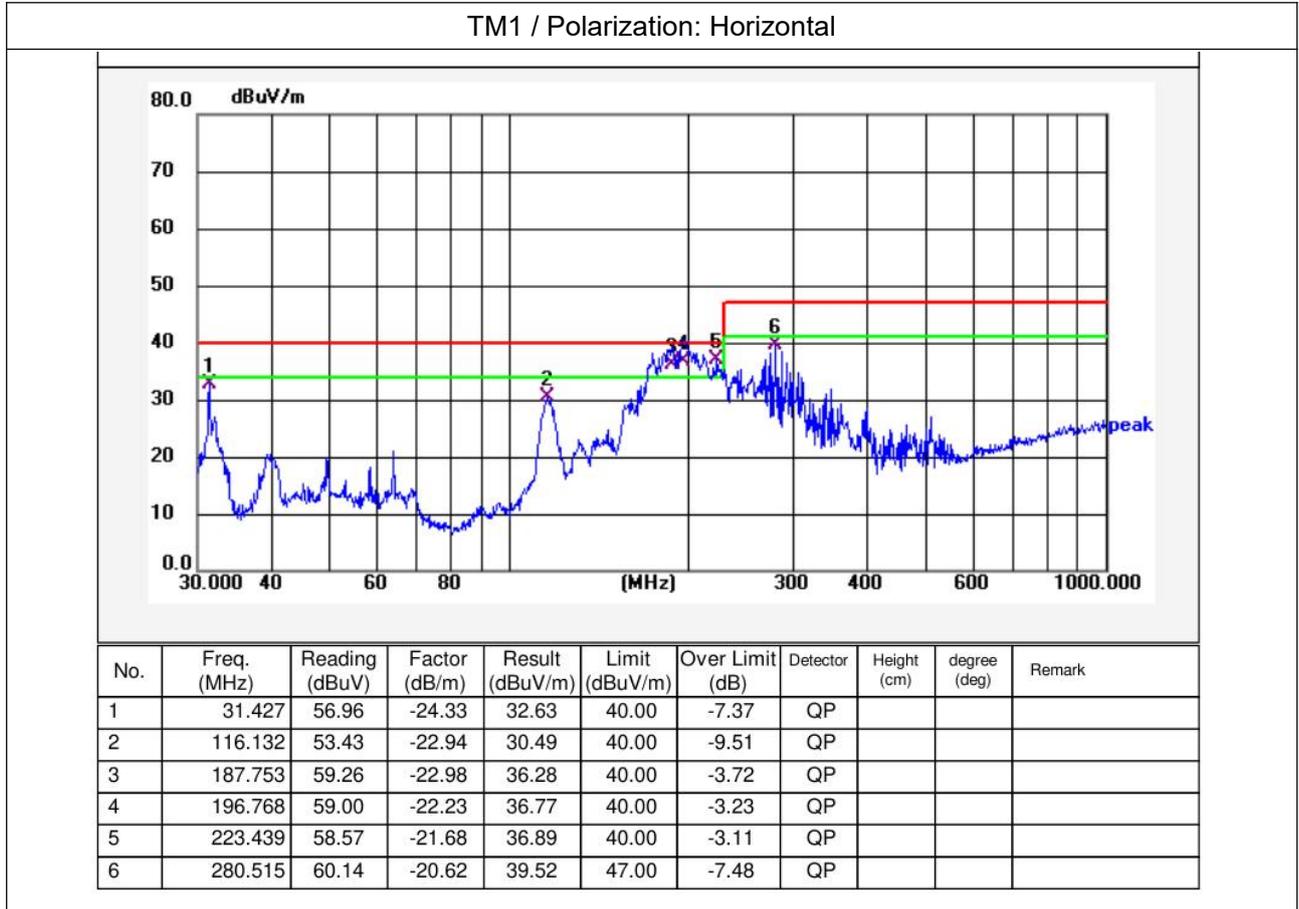
Operating Environment:	
Test mode:	1: TM1: Adapter+2.4 Mode(AC 230V/50Hz for adapter)

4.2. Test Setup

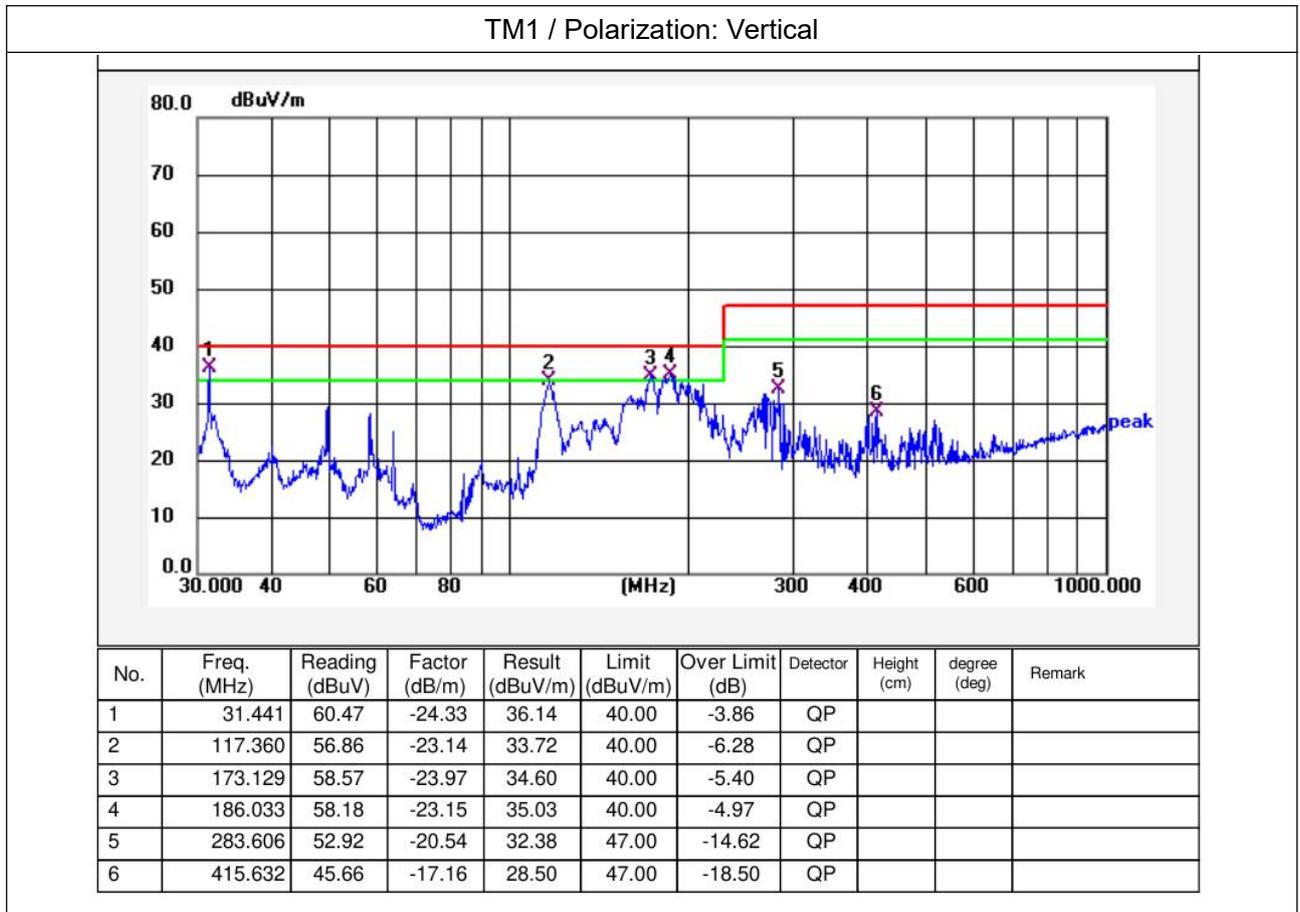


4.3. Test Data

Temperature:	22.5 °C	Humidity:	49 %	Atmospheric Pressure:	101 kPa
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Temperature:	22.5 °C	Humidity:	49 %	Atmospheric Pressure:	101 kPa
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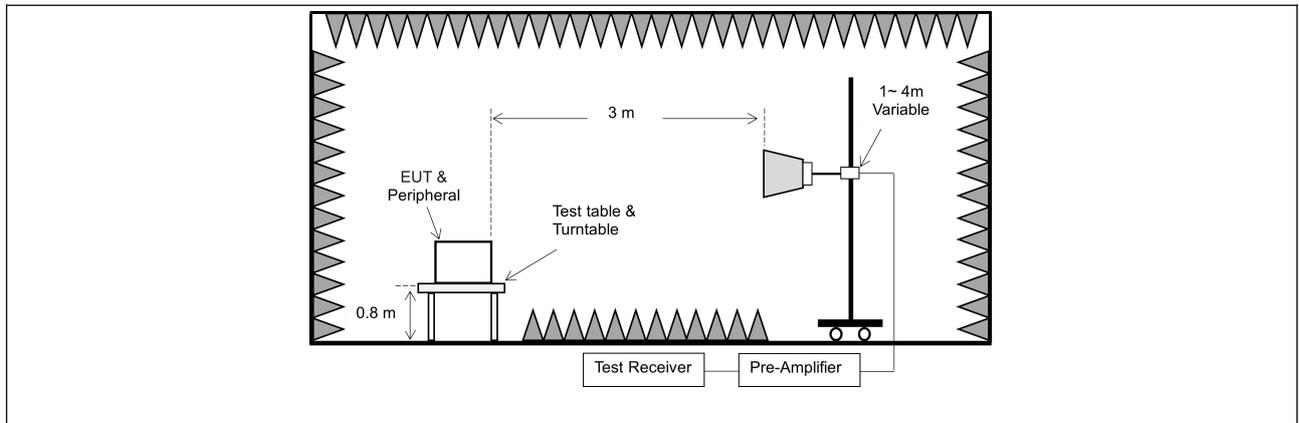
5. Radiated emissions (above 1GHz)

Test Requirement:	EN 301 489-1, clause 8.2 EN 301 489-17, clause 7.1		
Test Limit:	Frequency range (MHz)	Radiated emissions limit (dBuV/m)	
		Peak	Average
	1000 to 3000	70	50
	3000 to 6000	74	54
	Detector: Peak for pre-scan (1000kHz resolution bandwidth) 1000MHz to 6000MHz		
Test Method:	EN 55032, annex A.2		
Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor		

5.1. EUT Operation

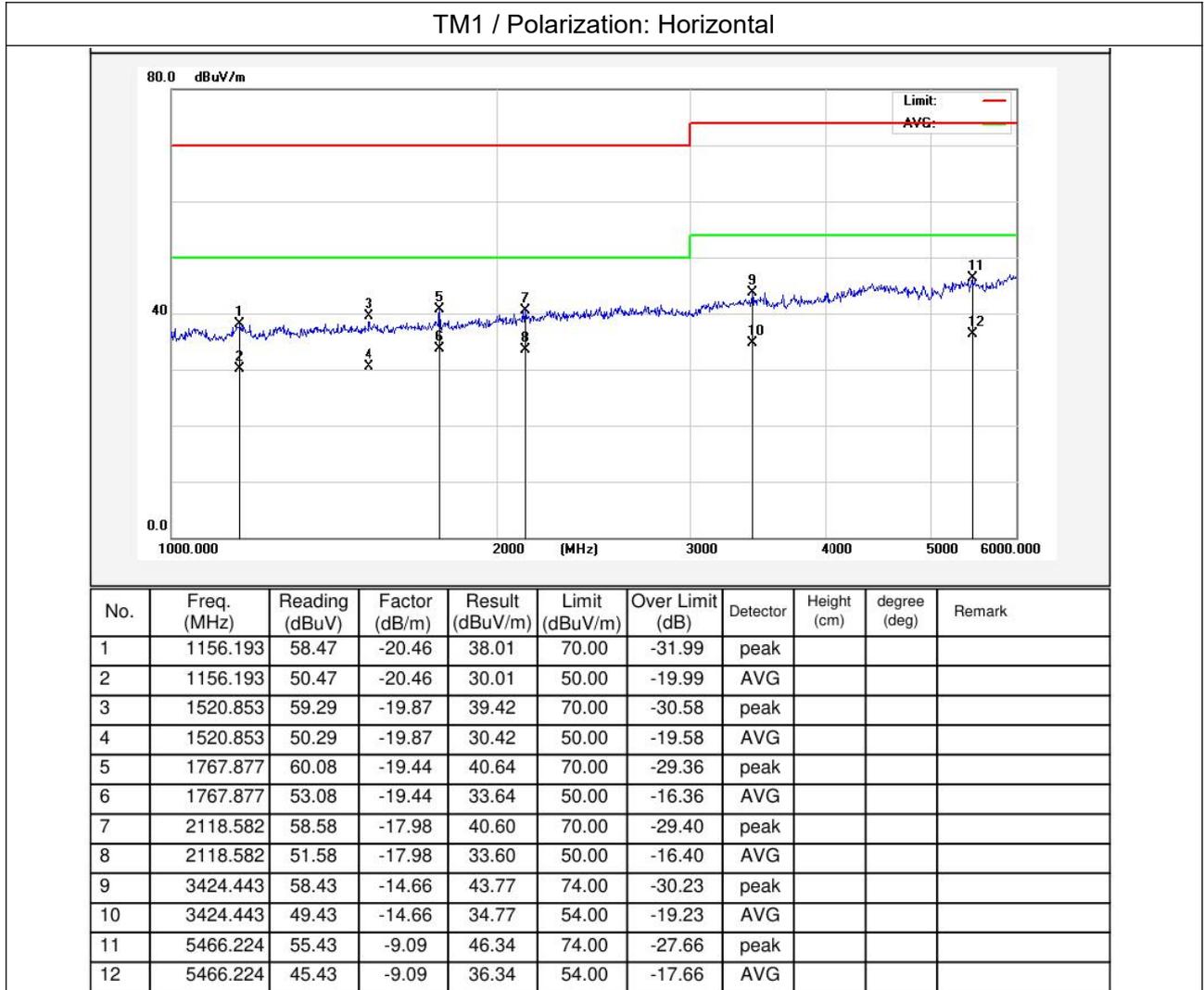
Operating Environment:	
Test mode:	1: TM1: Adapter+2.4 Mode(AC 230V/50Hz for adapter)

5.2. Test Setup

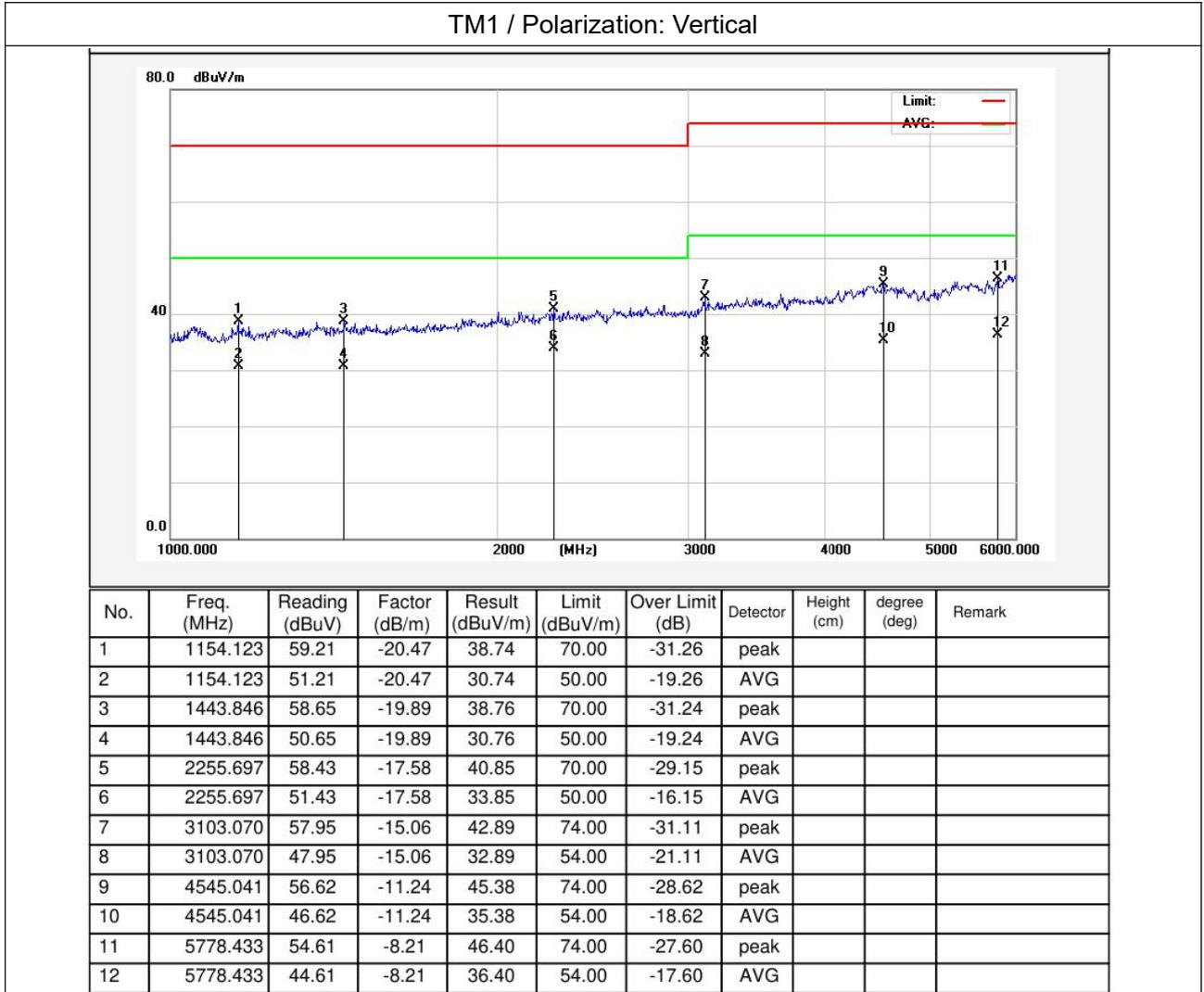


5.3. Test Data

Temperature:	24.7 °C	Humidity:	45 %	Atmospheric Pressure:	101 kPa
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Temperature:	24.7 °C	Humidity:	45 %	Atmospheric Pressure:	101 kPa
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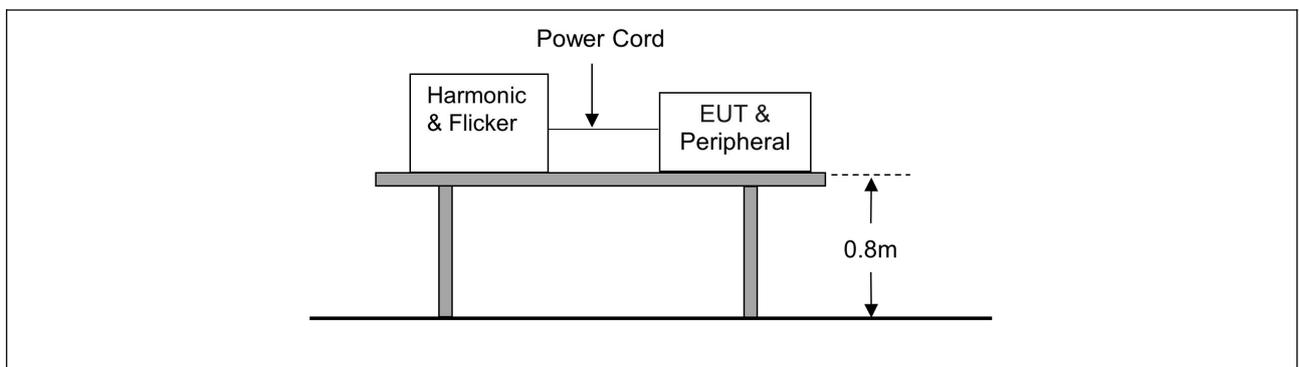
6. Voltage fluctuations and flicker

Test Requirement:	EN 301 489-1, clause 8.6 EN 301 489-17, clause 7.1
Test Limit:	EN 61000-3-3, clause 5
Test Method:	EN 61000-3-3, clause 6

6.1. EUT Operation

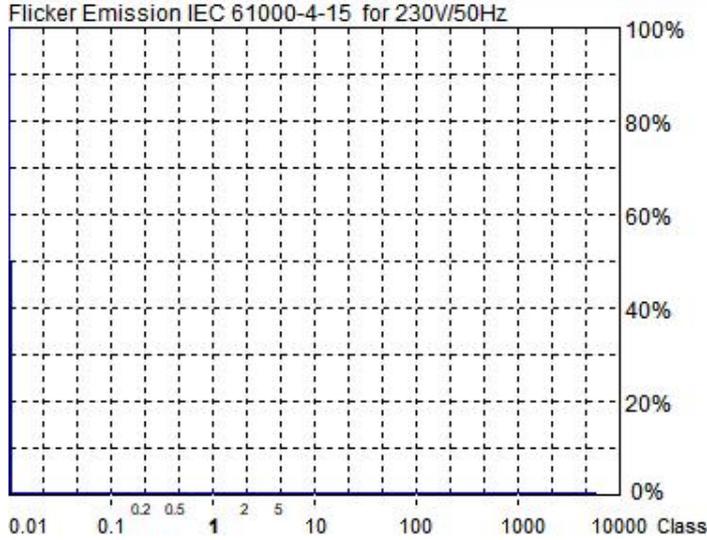
Operating Environment:	
Test mode:	1: TM1: Adapter+2.4 Mode(AC 230V/50Hz for adapter)

6.2. Test Setup



6.3. Test Data

Temperature:	24.2 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa
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Actual Flicker (Fli): 0.00
Short-term Flicker (Pst): 0.07
 Limit (Pst): 1.00
Long-term Flicker (Plt): 0.00
 Limit (Plt): 0.65
Maximum Relative Volt. Change (dmax): 0.00%
 Limit (dmax): 4.00%
Relative Steady-state Voltage Change (dc): 0.00%
 Limit (dc): 3.30%
Tmax 3.30% (dt): 0.00ms
 Limit (dt>Lim): 500ms

Flicker Emission - IEC 61000-3-3, EN 61000-3-3

Urms = 229.5 V P = 3.534 W
 Irms = 0.039 A pf = 0.395

Range: 0.25 A
 V-nom: 230 V

Test aborted, Result: PASSED

HAR-1000 EMC-Partner

Full Bar : Actual Values
 Empty Bar : Maximum Values
 Circles : Average Values
 Blue : Current , Green : Voltage , Red : Failed

Urms = 229.5V Freq = 49.987 Range: 0.25 A
 Irms = 0.039A Ipk = 0.213A cf = 5.458
 P = 3.534W S = 8.938VA pf = 0.395

Test - Time : 10 x 1min = 10min (100 %)

LIN (Line Impedance Network) : L: 0.24ohm +j0.15ohm N: 0.16ohm +j0.10ohm

Limits : Plt : 0.65Pst : 1.00
 dmax : 4.00 % dc : 3.30 %
 dtLim: 3.30 % dt>Lim: 500ms

Test aborted, Result: PASSED

	P3s	dmax	dc	dt>Lim
	[%]	[%]	[ms]	
1	0.000	0.000	0.000	0.000



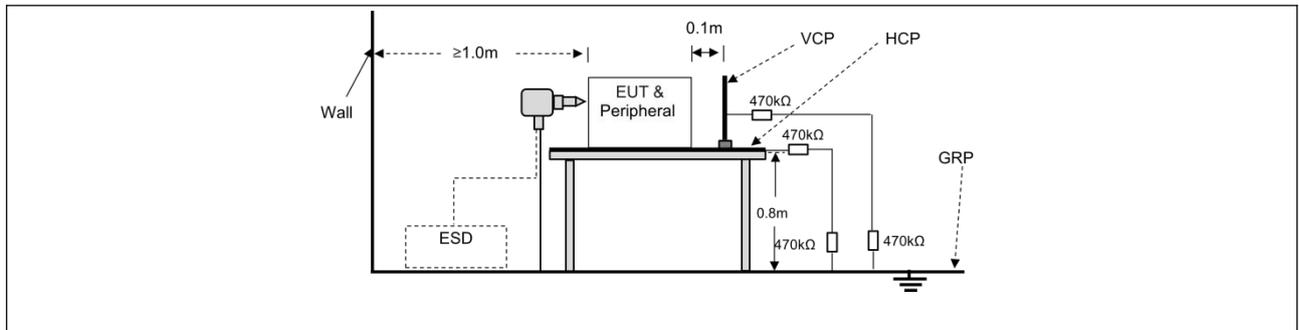
7. Electrostatic discharge

Test Requirement:	EN 301 489-1, clause 9.3 EN 301 489-17, clause 7.2
Test Method:	EN 61000-4-2, clauses 6, 7 and 8
Procedure:	Discharge Impedance: 330Ω/150pF Number of Discharge: Minimum 10 times at each test point Discharge Mode: Single Discharge Discharge Period: 1 second minimum
Performance Criteria:	TT(B), TR(B)

7.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+2.4 Mode(AC 230V/50Hz for adapter)

7.2. Test Setup



7.3. Test Data

Temperature:	23.1 °C	Humidity:	49 %	Atmospheric Pressure:	101 kPa
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Discharge type	Volt (kV)	Polarity	Test Point	Result/ Observations
Air discharge	2,4,8	+	1	A
Air discharge	2,4,8	-	1	A
Contact discharge	4	+	2	A
Contact discharge	4	-	2	A
Horizontal Coupling	4	+	3	A
Horizontal Coupling	4	-	3	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A

Test Point: 1. All insulated enclosure and seams.
2. All accessible metal parts of the enclosure.
3. All side.

A: No degradation in the performance of the EUT was observed.



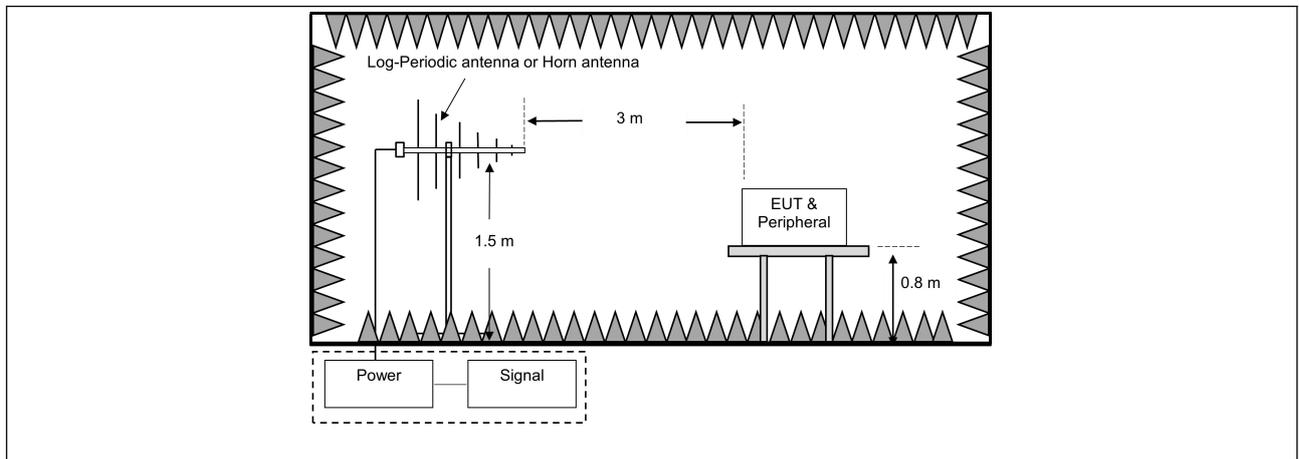
8. Radio frequency electromagnetic field (80 MHz to 6 000 MHz)

Test Requirement:	EN 301 489-1, clause 9.2 EN 301 489-17, clause 7.2
Test Method:	EN 61000-4-3, clauses 6, 7 and 8
Procedure:	Frequency Range: 80MHz to 6GHz Antenna Polarisation: Vertical and Horizontal Modulation: 1kHz,80% Amp. Mod,1% increment
Performance Criteria:	CT(A), CR(A)

8.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+2.4 Mode(AC 230V/50Hz for adapter)

8.2. Test Setup



8.3. Test Data

Temperature:	23.5 °C	Humidity:	50 %	Atmospheric Pressure:	101 kPa
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Frequency	Field Strength (V/m)	EUT face	Dwell time	Result/ Observations
80MHz-6GHz	3	Front	3s	A
80MHz-6GHz	3	Back	3s	A
80MHz-6GHz	3	Left	3s	A
80MHz-6GHz	3	Right	3s	A
80MHz-6GHz	3	Top	3s	A
80MHz-6GHz	3	Bottom	3s	A

A: No degradation in the performance of the EUT was observed.



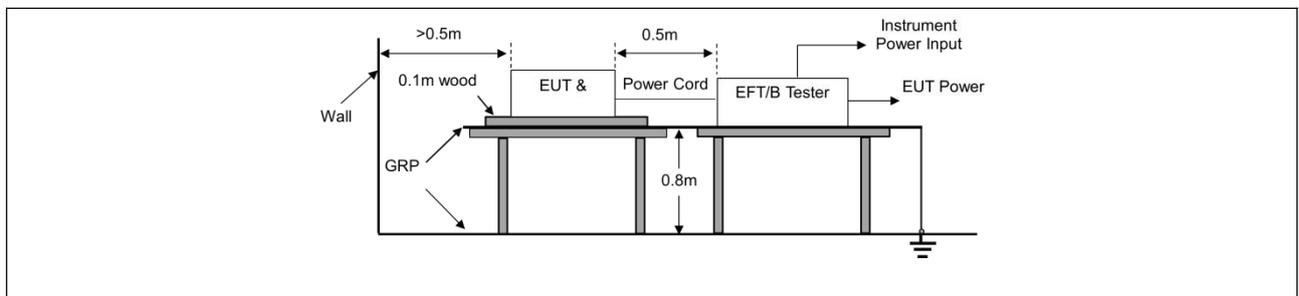
9. Fast transients, common mode (AC power port)

Test Requirement:	EN 301 489-1, clause 9.4 EN 301 489-17, clause 7.2
Test Method:	EN 61000-4-4, clauses 5
Procedure:	Repetition Frequency: 5kHz Burst Period: 300ms
Performance Criteria:	TT(B), TR(B)

9.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+2.4 Mode(AC 230V/50Hz for adapter)

9.2. Test Setup



9.3. Test Data

Temperature:	24.2 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa
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Port	Volt (kV)	Polarity	CDN/ Clamp	Result/ Observations
AC power port	1	+	CDN	A
AC power port	1	-	CDN	A

A: No degradation in the performance of the EUT was observed.



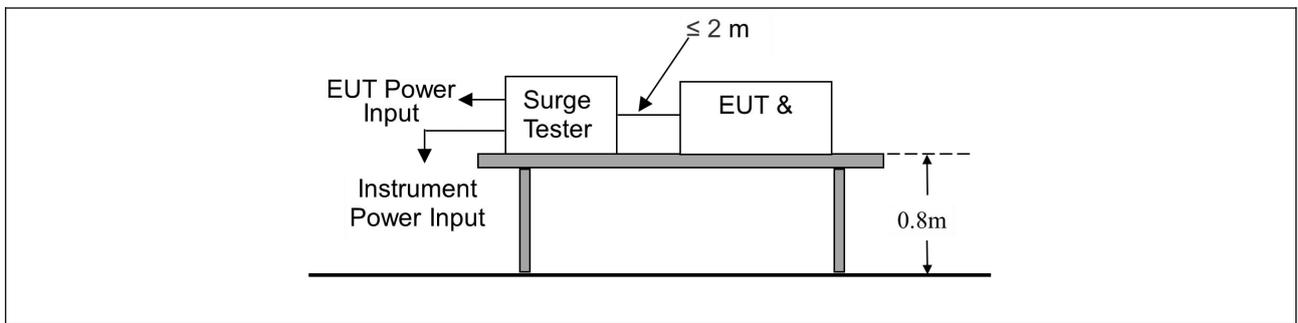
10. Surges (AC power port)

Test Requirement:	EN 301 489-1, clause 9.8 EN 301 489-17, clause 7.2
Test Method:	EN 61000-4-5, clauses 7 and 8
Performance Criteria:	TT(B), TR(B)

10.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+2.4 Mode(AC 230V/50Hz for adapter)

10.2. Test Setup



10.3. Test Data

Temperature:	24.2 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa
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Port	Volt (kV)	Polarity	Phase(degree)	Result/ Observations
L-N	1	+	0°	A
L-N	1	-	0°	A
L-N	1	-	90°	A
L-N	1	+	90°	A
L-N	1	-	180°	A
L-N	1	+	180°	A
L-N	1	+	270°	A
L-N	1	-	270°	A

A: No degradation in the performance of the EUT was observed.



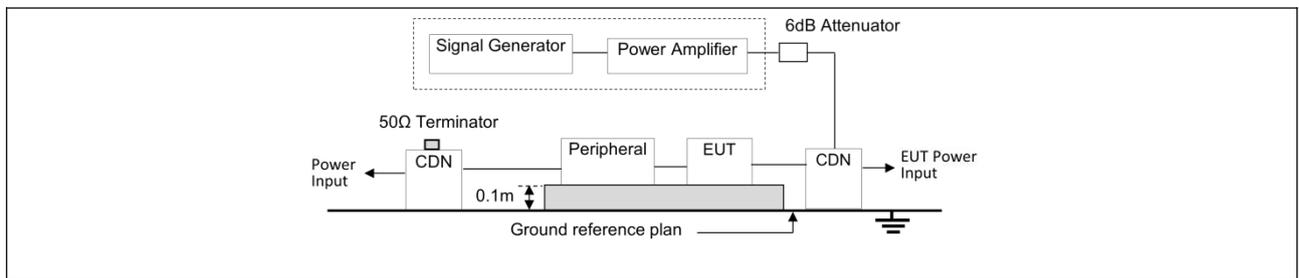
11. Radio frequency, common mode 0,15 MHz to 80 MHz (AC power port)

Test Requirement:	EN 301 489-1, clause 9.5 EN 301 489-17, clause 7.2
Test Method:	EN 61000-4-6, clauses 6 and 8
Performance Criteria:	CT(A), CR(A)

11.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+2.4 Mode(AC 230V/50Hz for adapter)

11.2. Test Setup



11.3. Test Data

Temperature:	24.2 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa
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Port	Strength (Vrms)	CDN/Clamp	Dwell time	Result/ Observations
AC power port	3	CDN	3s	A

A: No degradation in the performance of the EUT was observed.



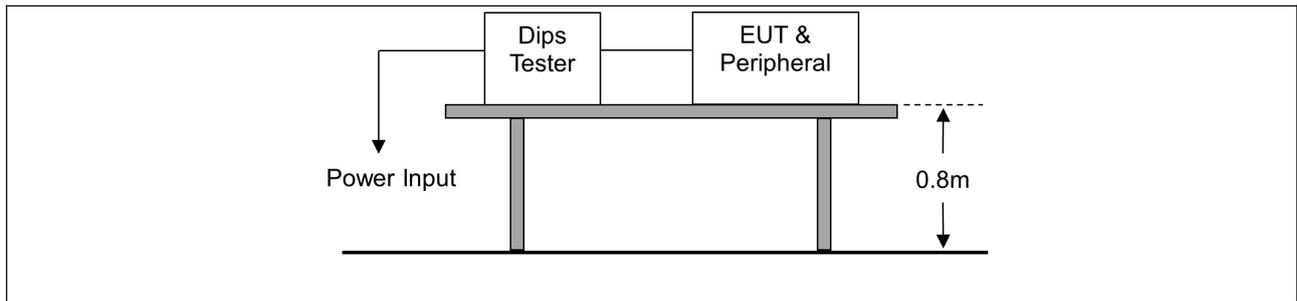
12. Voltage dips and interruptions

Test Requirement:	EN 301 489-1, clause 9.7 EN 301 489-17, clause 7.2
Test Method:	EN 61000-4-11, clause 8 The test levels shall be: <ul style="list-style-type: none"> voltage dip: 0 % residual voltage for 0,5 cycle; voltage dip: 0 % residual voltage for 1 cycle; voltage dip: 70 % residual voltage for 25 cycles (at 50 Hz); voltage interruption: 0 % residual voltage for 250 cycles (at 50 Hz).
Performance Criteria:	Voltage dips: TT(B), TR(B) Voltage interruptions: TT(C), TR(C)

12.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+2.4 Mode(AC 230V/50Hz for adapter)

12.2. Test Setup



12.3. Test Data

Temperature:	24.2 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa
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Level %UT	Phase (degree)	Duration	No. of Dips/ Interruptions	Result/ Observations
0	0°	0.5 Cycles	3	A
0	180°	0.5 Cycles	3	A
0	0°	1 Cycles	3	A
0	180°	1 Cycles	3	A
0	0°	250 Cycles	3	A
0	180°	250 Cycles	3	A
70	0°	25 Cycles	3	A
70	180°	25 Cycles	3	A

A: No degradation in the performance of the EUT was observed.



APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_EMG

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

----- End of Report -----

