

GLOBAL TESTING & CERTIFICATION CENTRE LTD.

FCC TEST REPORT

Application No.: 08032381

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REPORT NO.: 08032381

DATE: 19 April, 2008

APPLICANT: Ality Limited

ADDRESS: 12/F.,
First Commercial Building,
33-35 Leighton Road,
Causeway Bay, Hong Kong

DATE OF RECEIVED: 14 February, 2008

DATE OF TESTING: 14 February, 2008 to 19 April, 2008

DESCRIPTION OF SAMPLE:

Product: Moderna (Digital Photo Frame)
Brand Name: Ality
Model No.: AL-MN8
Addt'l Model No.: AL-MN8*, AL-MN8IW, AL-MN8RW, AL-MN8AL
FCC ID: V8ZMODERNA
Input Voltage: DC 10V with DC jack
(Rechargeable NiMH battery model no.:GP0716, DC7.2V, 1500mAh)
The AC/DC Adaptor used for the tests was provided by Applicant.
with the following details: Model No.: KSS15-100-1500.
Input: 100-240V~50/60Hz, Output: DC10V, 1500mA

INVESTIGATION REQUESTED: Measurements to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart B - Unintentional Radiators. The results obtained are to compare with the Class B Digital Device limit

TEST RESULTS: See attached sheets

CONCLUSIONS: The submitted product COMPLIED with the requirements of Federal Communications Commission [FCC] Rules and Regulations Part 15. The tests were performed in accordance with the standards described above and on page 5 in this Test report.

REMARKS: Photographs of the sample indicated on page 14 to 19



CS Lin, EMC
for Chief Executive

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General Details

Test Laboratory

GLOBAL TESTING & CERTIFICATION CENTRE LTD.
EMC Laboratory
Rm09,5/F Wah Wai Ind. Ctr.,
38-40 Au Pui Wan Street,
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Telephone: 852 2320 0326
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Applicant Details

Applicant

Ality Limited
12/F.,
First Commercial Building,
33-35 Leighton Road,
Causeway Bay, Hong Kong

Manufacturer

Ality Limited
12/F.,
First Commercial Building,
33-35 Leighton Road,
Causeway Bay, Hong Kong

REPORT NO.: 08032381

DATE: 19 April, 2008

Technical Details

Investigations Requested

Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15 and ANSI C63.4:2003 for FCC Verification.

Test Standards and Results Summary Tables

EMISSION Results Summary					
Test Condition	Test Requirement	Test Method	Test Result		
			Pass	Failed	N/A
Radiated Emissions, 30MHz to 1GHz	FCC 47CFR 15.109 (Class B)	ANSI C63.4:2003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conducted Emissions on AC, 0.15MHz to 30MHz	FCC 47CFR 15.107 (Class B)	ANSI C63.4:2003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: N/A – Not Applicable

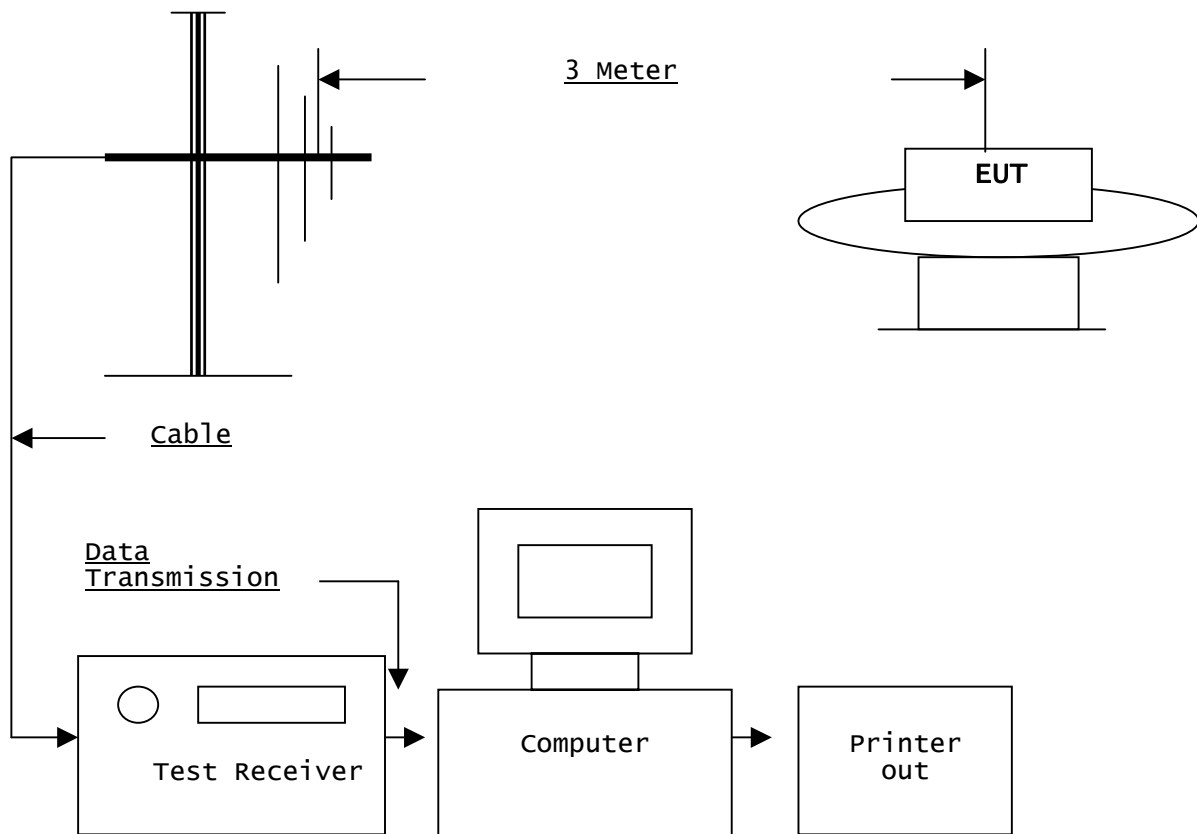
Remark: **IC Regulation ICES-003:Issue 4 (IC 6140-1)**

Equipment Class: Class B

Test Results

Radiation Emission

Radiation Emission Measurement (30MHz to 1GHz) Setup diagram:



Test Method:

The sample was placed 0.8m above the ground plane on the OATS*. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X,Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

*. OATS [Open Area Test Site] located at GTC with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules. With Registration Number:493655

Radiation Emissions Measurement

App'l. : Ality Limited
 Model: AL-MN8
 Operation: Movie Play Mode

Result: OK

Test Requirement: FCC 47CFR 15.109
 Test Method: ANSI C63.4:2003
 Test Date: 2008-04-10

Level: Class B

Limits for Radiated Emissions [FCC 47 CFR 15.109 Class B]:

Frequency Range [MHz]	Quasi-Peak Limits [μV/m]
30-88	100
88-216	150
216-960	200
Above960	500

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Radiated Emissions Quasi-Peak

<u>Emission Freq (MHz)</u>	<u>Level@3m dBμV/m</u>	<u>Limit@3m dBμV/m</u>	<u>E-Field Polarity</u>	<u>Level@3m μV/m</u>	<u>Limit@3m μV/m</u>
81.0	32.0	40.0	Horizontal	39.8	100
99.0	35.1	43.5	Horizontal	56.9	150
108.0	34.5	43.5	Horizontal	53.1	150
180.0	38.1	43.5	Horizontal	80.4	150
231.0	40.4	46.0	Horizontal	104.7	200
363.0	41.7	46.0	Horizontal	121.6	200
561.0	41.5	46.0	Horizontal	118.9	200
720.0	39.8	46.0	Horizontal	97.7	200

Remarks:

Calculated measurement uncertainty: ±4.1dB

Radiation Emissions Measurement

App'l. : Ality Limited
 Model: AL-MD8
 Operation: Transfer Mode

Result: OK

Test Requirement: FCC 47CFR 15.109
 Test Method: ANSI C63.4:2003
 Test Date: 2008-04-10

Level: Class B

Limits for Radiated Emissions [FCC 47 CFR 15.109 Class B]:

Frequency Range [MHz]	Quasi-Peak Limits [μV/m]
30-88	100
88-216	150
216-960	200
Above 960	500

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Radiated Emissions Quasi-Peak

<u>Emission Freq (MHz)</u>	<u>Level@3m dBμV/m</u>	<u>Limit@3m dBμV/m</u>	<u>E-Field Polarity</u>	<u>Level@3m μV/m</u>	<u>Limit@3m μV/m</u>
48.0	35.3	40.0	Horizontal	58.2	100
81.0	34.0	40.0	Horizontal	50.1	100
99.0	35.1	43.5	Horizontal	56.9	150
108.0	34.5	43.5	Horizontal	53.1	150
180.0	38.1	43.5	Horizontal	80.4	150
231.0	39.4	46.0	Horizontal	93.3	200
363.0	40.7	46.0	Horizontal	108.4	200
561.0	41.5	46.0	Horizontal	118.9	200
720.0	41.8	46.0	Horizontal	123.0	200

Remarks:
 Calculated measurement uncertainty: ±4.1dB

Radiation Emissions Measurement

App'l. : Ality Limited
 Model: AL-MN8
 Operation: Slideshow Mode

Result: OK

Test Requirement: FCC 47CFR 15.109
 Test Method: ANSI C63.4:2003
 Test Date: 2008-04-10

Level: Class B

Limits for Radiated Emissions [FCC 47 CFR 15.109 Class B]:

Frequency Range [MHz]	Quasi-Peak Limits [μV/m]
30-88	100
88-216	150
216-960	200
Above960	500

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Radiated Emissions Quasi-Peak

<u>Emission Freq (MHz)</u>	<u>Level@3m dBμV/m</u>	<u>Limit@3m dBμV/m</u>	<u>E-Field Polarity</u>	<u>Level@3m μV/m</u>	<u>Limit@3m μV/m</u>
81.0	33.0	40.0	Horizontal	44.7	100
99.0	36.5	43.5	Horizontal	66.8	150
108.0	35.5	43.5	Horizontal	59.6	150
180.0	38.0	43.5	Horizontal	79.4	150
231.0	39.8	46.0	Horizontal	97.7	200
363.0	42.3	46.0	Horizontal	130.3	200
561.0	41.5	46.0	Horizontal	118.9	200
720.0	41.0	46.0	Horizontal	112.2	200

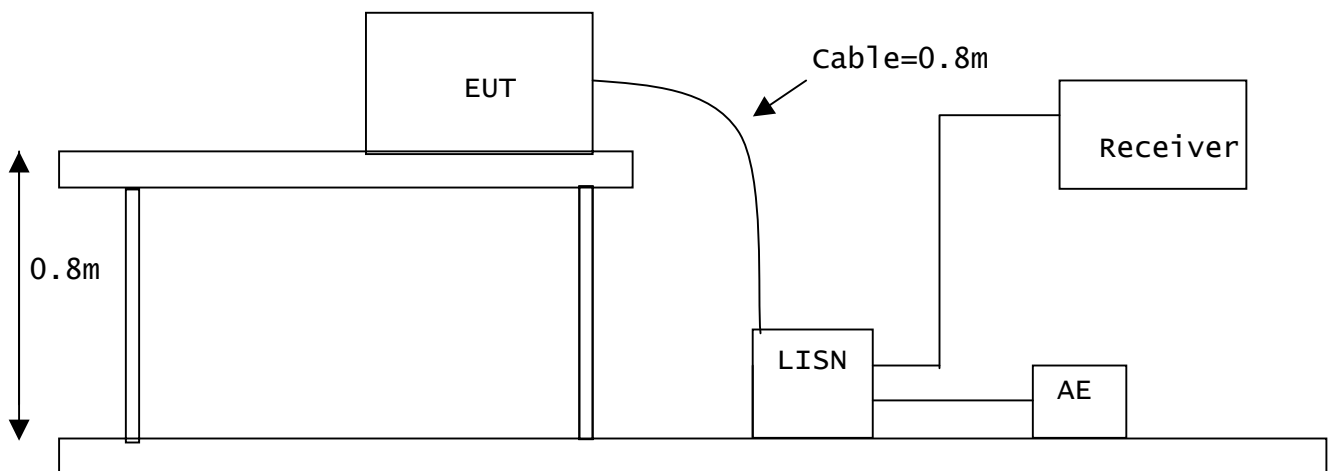
Remarks:

Calculated measurement uncertainty: ±4.1dB

Test Results

Conducted Emission

Conducted Emission Measurement on AC (0.15MHz to 30MHz) Setup diagram:



Test Method:

The test was performed in accordance with ANSI C63.4:2003, with the following: initial measurements were performed in peak and average detection modes on the live line. Any emissions recorded within 25dB of the relevant limit lines were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

Conducted Emission Measurement

Appl. : Ality Limited
 Model: AL-MN8
 Operation: Movie Play Mode

Result: OK

Test Requirement: FCC 47CFR 15.107
 Test Method: ANSI C63.4:2003
 Test Date: 2008-04-10

Level: Class B

Limits for Conducted Emissions:

Frequency Range [MHz]	Quasi-Peak Limits [dBμV]	Average [dBμV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

*Decreases with the logarithm of the frequency.

Please refer to the following table for individual results.

Final Measurement Results:

Frequency (MHz)	Quasi-Peak		Average		Conductor (Live / Neutral)
	Level (dBμV)	Limit (dBμV)	Level (dBμV)	Limit (dBμV)	
0.15	40.0	66.0	37.0	56.0	Live
0.19	42.0	64.0	39.0	54.0	
0.27	40.0	61.1	37.0	51.0	
1.16	32.0	56.0	29.0	46.0	
7.22	42.0	60.0	39.0	50.0	
24.84	35.0	60.0	32.0	50.0	
30.00	28.0	60.0	25.0	50.0	
0.15	40.0	66.0	37.0	56.0	Neutral
0.19	44.0	64.0	41.0	54.0	
0.27	40.0	61.1	37.0	51.0	
1.16	33.0	56.0	30.0	46.0	
7.22	40.0	60.0	37.0	50.0	
24.84	35.0	60.0	32.0	50.0	
30.00	30.0	60.0	27.0	50.0	

Remarks:
 Calculated measurement uncertainty: ±3.2dB

Conducted Emission Measurement

Appl. : Ality Limited
 Model: AL-MN8
 Operation: Transfer Mode

Result: OK

Test Requirement: FCC 47CFR 15.107
 Test Method: ANSI C63.4:2003
 Test Date: 2008-04-10

Level: Class B

Limits for Conducted Emissions:

Frequency Range [MHz]	Quasi-Peak Limits [dB μ V]	Average [dB μ V]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

*Decreases with the logarithm of the frequency.

Please refer to the following table for individual results.

Final Measurement Results:

Frequency (MHz)	Quasi-Peak		Average		Conductor (Live / Neutral)
	Level (dB μ V)	Limit (dB μ V)	Level (dB μ V)	Limit (dB μ V)	
0.15	42.0	66.0	39.0	56.0	Live
0.42	40.0	57.4	37.0	47.4	
2.80	40.0	56.0	37.0	46.0	
6.36	45.0	60.0	42.0	50.0	
24.00	41.0	60.0	38.0	50.0	
30.00	30.0	60.0	27.0	50.0	
0.15	43.0	66.0	40.0	56.0	Neutral
0.42	40.0	57.4	37.0	47.4	
2.80	42.0	56.0	39.0	46.0	
6.36	45.0	60.0	42.0	50.0	
24.00	40.0	60.0	37.0	50.0	
30.00	32.0	60.0	29.0	50.0	

Remarks:
 Calculated measurement uncertainty: ± 3.2 dB

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APPENDIX A

LIST OF MEASUREMENT EQUIPMENT

<u>Equi. No.</u>	<u>Equipment</u>	<u>Manufacturer</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Calibration Date</u>	<u>Due Date</u>
E005	EMI Test Receiver	Rohde & Schwarz	ESVP	893417/019	21 Sep 2007	20 Sep 2008
E003	Spectrum Analyzer with Q/P	Tektronix	2712	B034039	21 Sep 2007	20 Sep 2008
E004	RF Preselector	Tektronix	2706	B010649	21 Sep 2007	20 Sep 2008
E057	EMI Test Receiver	Rohde & Schwarz	ESVP	863112/007	17 Aug 2007	16 Aug 2008
E084	Spectrum Analyzer	Hewlett Packard	HP 8568B	3001A04930	07 Jul 2006	06 Jul 2008
E085	Displayer of Spectrum Analyzer	Hewlett Packard	HP 85662A	2033A01841	07 Sep 2006	06 Sep 2008
E086	Quasi-Peak Adaptor	Hewlett Packard	HP 85650A	2527A00785	07 Sep 2006	06 Sep 2008
E090	RF Signal Generator	Rohde & Schwarz	SMX	832566/005	04 Mar 2008	03 Mar 2009
E001	Antenna System	Schwarzbeck	D-6917	UHALP9107	04 Mar 2008	03 Mar 2009
E002	Antenna System	Schwarzbeck	VHA9103	VHA91031253	04 Mar 2008	03 Mar 2009
E008	LISN	EMCO	3825/2	1115	20 Sep 2005	19 Sep 2008
E115	Limiter 50 Ohm DC~1800MHz	Hewlett Packard	11867A	-----	04 Mar 2008	03 Mar 2009
E100	Turntable	Chioce way	TB1200	51112	-----	-----
E006	RF Signal Generator	Fluke	6060A	3880007	04 Mar 2008	03 Mar 2009
E092	Antenna Tripole	IT&T	UH800100	A05011	04 Mar 2008	03 Mar 2009
E098	Pre-Amplifier	Hewlett Packard	8447D	2944A09089	04 Mar 2008	03 Mar 2009
E099	Antenna Mast	Schwarzbeck	AM9014	-----	-----	-----

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APPENDIX B

LIST OF ANCILLARY EQUIPMENT

Item No.	Description	Model No.	Remark
1	IBM Computer	2173-43C	N/A
2	SONY Monitor	15SF	RESOLUTION: 1024x768 1.4M UNSHIELDED POWER CORD CONNECTED TO THE COMPUTER 3M SHIELDED CABLE CONNECTED TO THE COMPUTER
3	IBM Keyboard	PSKB2173	1.8M SHIELDED COILED CABLE CONNECTED TO THE COMPUTER
4	Mouse	M31USB	2M UNSHIELDED CABLE CONNECTED TO THE COMPUTER
5	PARALLEL PRINTER	LASER JET 4 PLUS	1.4M UNSHIELDED POWER CORD 2M SHIELDED CABLE CONNECT TO THE COMPUTER
6	Notebook Computer	3220	N/A

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Test Sample (Photo)

Photos of EUT

Front View of the product



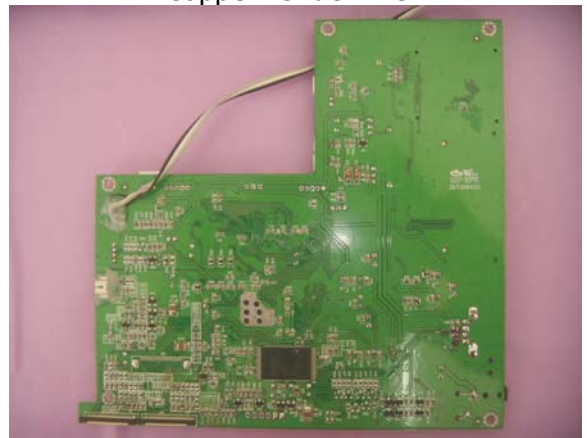
Rear View of the product



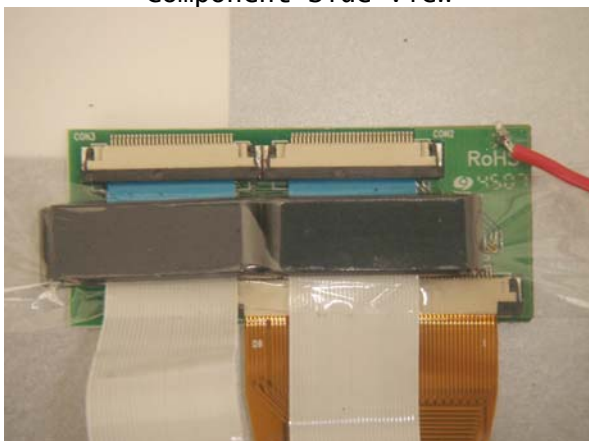
Component Side View



Copper Side View

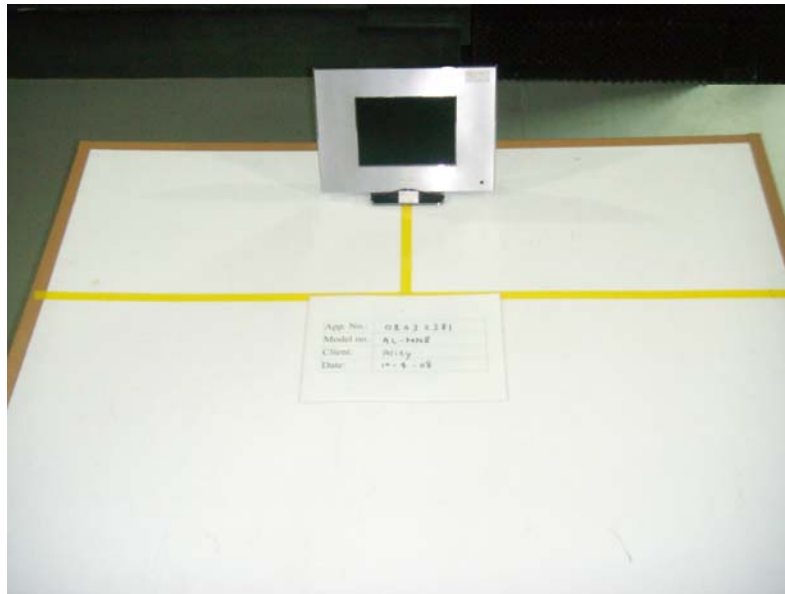


Component Side View

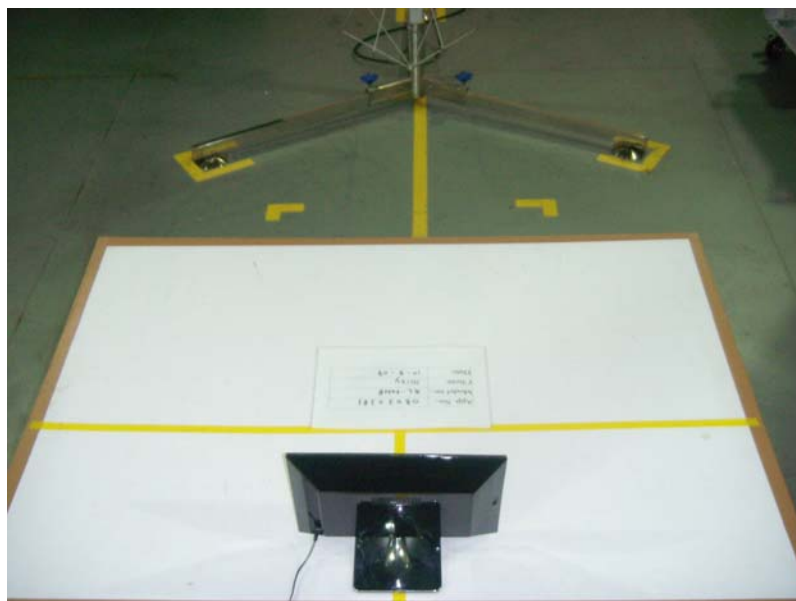


Photos of EUT

Measurement of Radiated Emission Test Set up



Measurement of Radiated Emission Test Set up



Photos of EUT

Measurement of Radiated Emission Test Set up

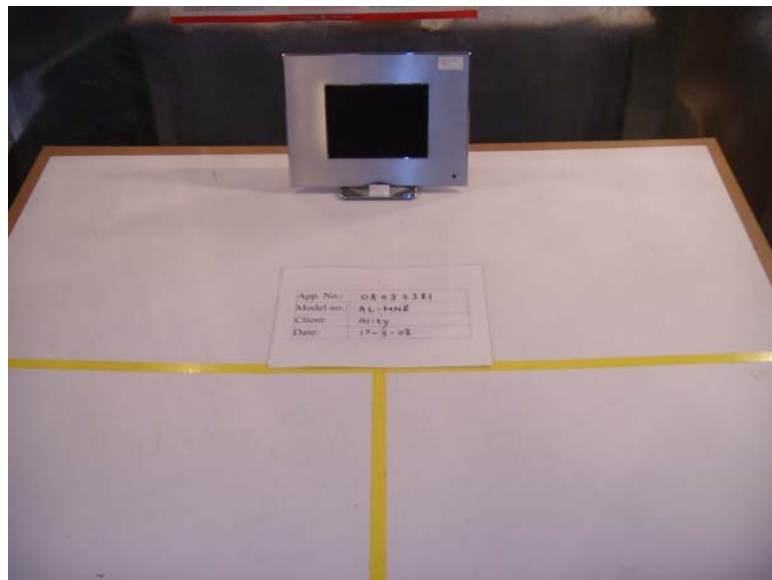


Measurement of Radiated Emission Test Set up



Photos of EUT

Measurement of Conducted Emission Test Set up



Measurement of Conducted Emission Test Set up



Photos of EUT

Measurement of Conducted Emission Test Set up



Measurement of Conducted Emission Test Set up



Photos of EUT

Product's accessories



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