

FCC Part 15B

Measurement and Test Report

For

E-matic

3435 Ocean Park Blvd #107 PMB #444 Santa Monica CA 90405

FCC ID:XHW026

Test Standards: FCC Part 15 Subpart B

Product Description: tablet pc

Tested Model: EGL26BL

Report No.: STR12108029I-2

Tested Date: 2012-10-10 to 2012-10-17

Issued Date: 2012-10-17

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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: E-matic
Address of applicant: 3435 Ocean Park Blvd #107 PMB #444 Santa Monica CA 90405

Manufacturer: Shenzhen Yunding Technology Co., Ltd.
Address of manufacturer: 2F, B5b Building, Yingzhan Industrial Zone, Longtian Community, Kengzhi Steet, Longgang, Shenzhen, China

General Description of EUT	
Product Name:	tablet pc
Trade Name:	
Model No.:	EGL26BL
Adding Model(s):	EGP007, EGP007xx, EGS005, EGS005xx, EXLB3B, EXLP3P
Rated Voltage:	Battery: DC 3.7V, Adapter: DC 5V
Power Adapter Model:	CPS012A050150U (Input: AC 100-240V 50/60Hz, Output: DC 5V 1500mA)
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The other model listed in the report has different appearance only of EGL26BL without circuit and electronic construction changed, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	Battery: DC 3.7V, Adapter: DC 5V
Rated Current:	/
Power Adapter Model:	CPS012A050150U (Input: AC 100-240V 50/60Hz, Output: DC 5V 1500mA)
Highest Internal Frequency:	1.2 GHz
Classification of ITE:	B
Support Interface:	Earphone Port, DC Power Port, Micro USB Port

1.2 Test Standards

The following report is prepared on behalf of the E-matic in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.205, 15.107, and 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

1.4 Test Facility

- **FCC – Registration No.: 994117**

SEM.Test Compliance Services Co., Ltd. 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 and the Registration is 994117.

- **Industry Canada (IC) Registration No.: 7673A**

The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.

- **CNAS Registration No.: L4062**

Shenzhen SEM.Test Electronics Service Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C (518101)

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List:

Test Mode	Description	Remark
TM1	Charging & Playing	Charging & Color Bar with 1kHz Video
TM2	Downloading	Reading & writing

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
DC Power Cable	1.0	Unshielded	Unshielded
USB Cable (to USB device)	0.15	Shielded	Without Ferrite
USB Cable (to PC)	0.60	Shielded	Without Ferrite

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Notebook	SAMSUNG	NP-R20	124V93FP30082V

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Ear Phone Cable	1.0	Unshielded	Without Ferrite

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 15.107 (a)	Conducted Emissions	Compliant
§ 15.109 (a)	Radiated Emissions	Compliant

N/A: not applicable

3. §15.107 (a) CONDUCTED EMISSIONS

3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 dB.

3.2 Test Equipment List and Details

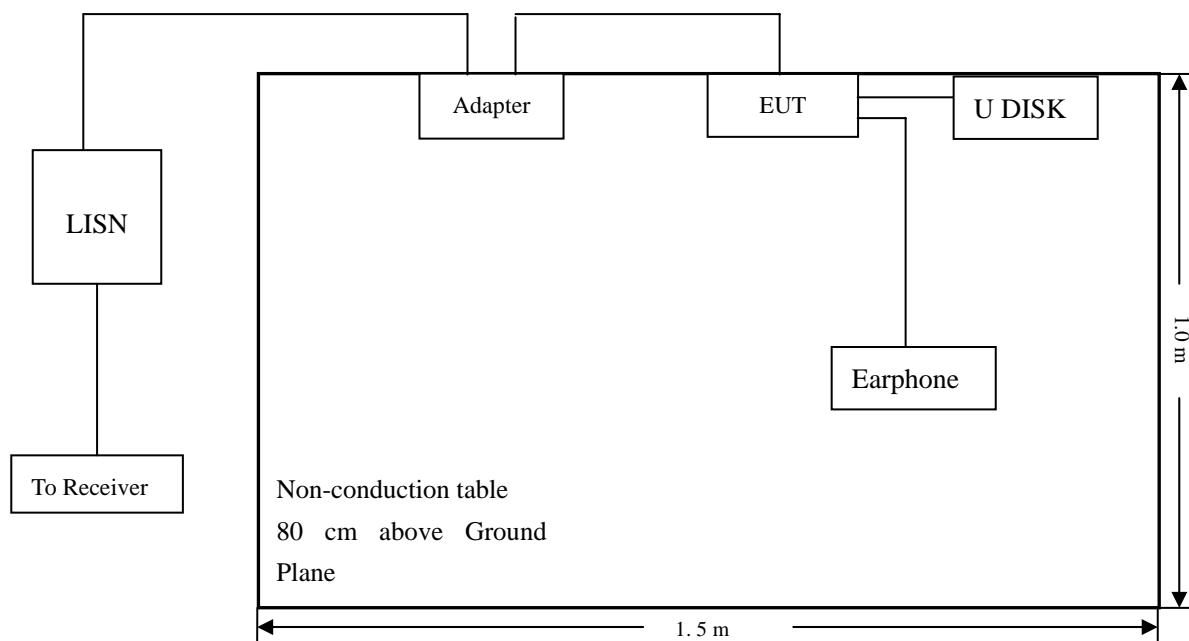
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2012-03-28	2013-03-27
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2012-03-28	2013-03-27
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2012-03-28	2013-03-27

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

3.3 Test Procedure

Test is conducting under the description of ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

3.4 Basic Test Setup Block Diagram



3.5 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

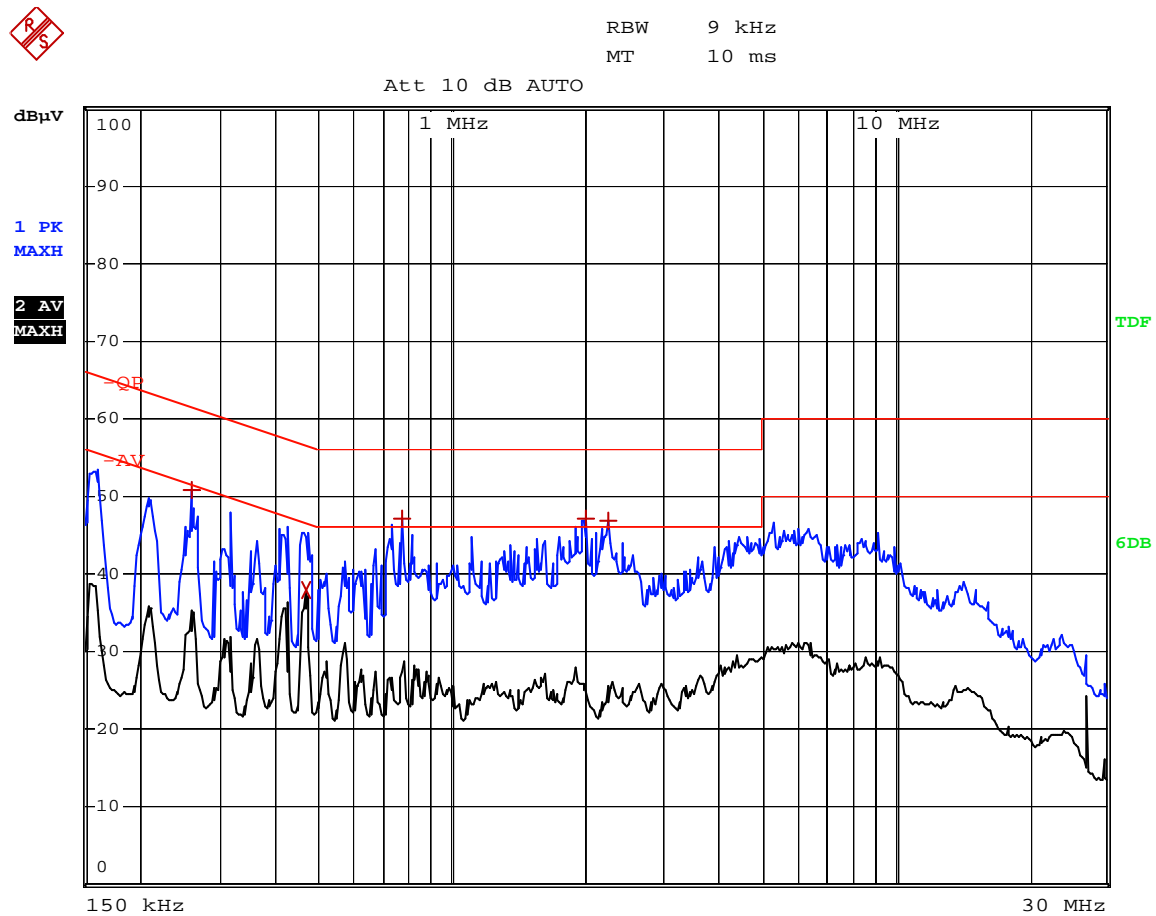
-4.43 dB μ V at 0.410 MHz in the **Line, Peak** detector, 0.15-30MHz

3.7 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

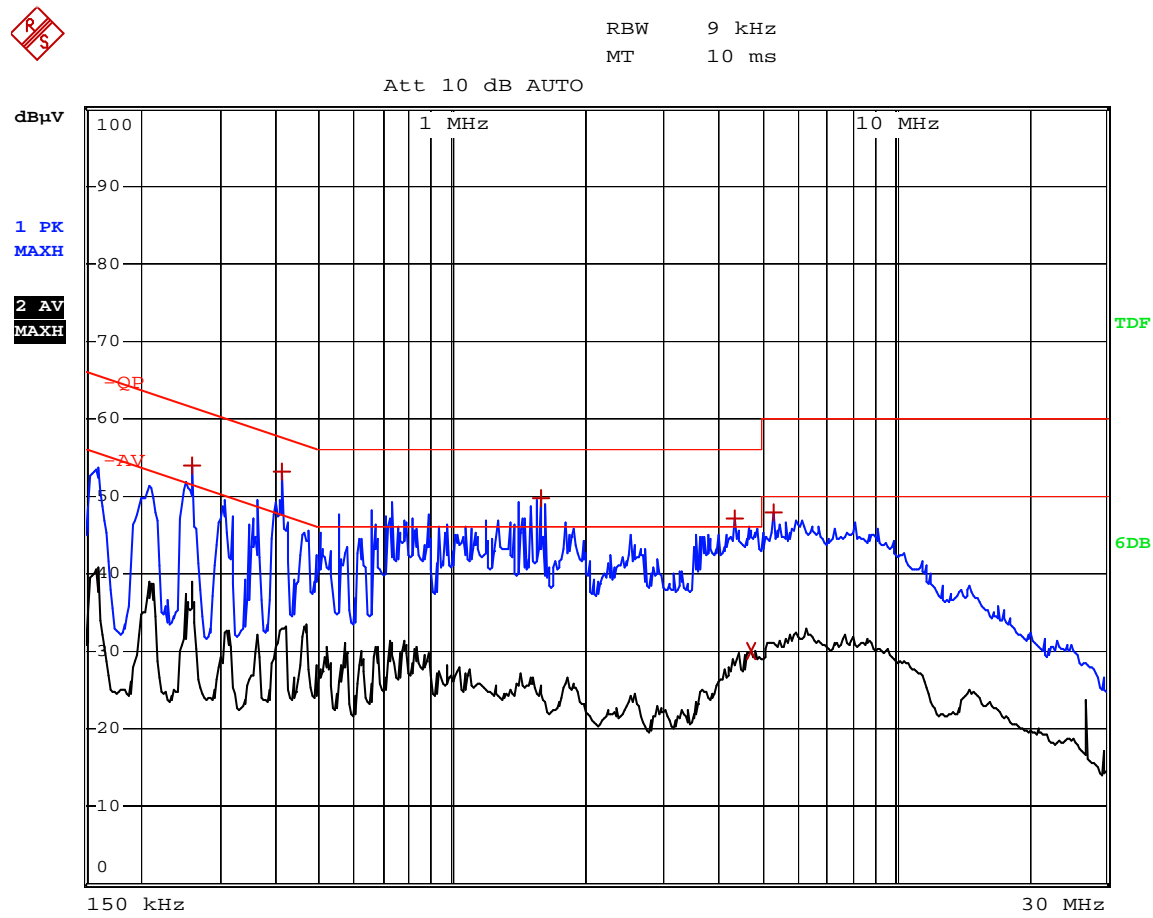
EUT: tablet pc
Tested Model: EGL26BL
Operating Condition: Charging & Color Bar with 1kHz Video
Comment: AC 120V/60Hz

Test Specification: Neutral



EDIT PEAK LIST (Prescan Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Max Peak	258 kHz	50.86	-10.63
2 Average	466 kHz	37.97	-8.60
1 Max Peak	770 kHz	47.20	-8.79
1 Max Peak	2.01 MHz	47.14	-8.85
1 Max Peak	2.262 MHz	46.74	-9.25

Test Specification: Line



4. §15.109(a)- RADIATED EMISSION

4.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 Test Equipment List and Details

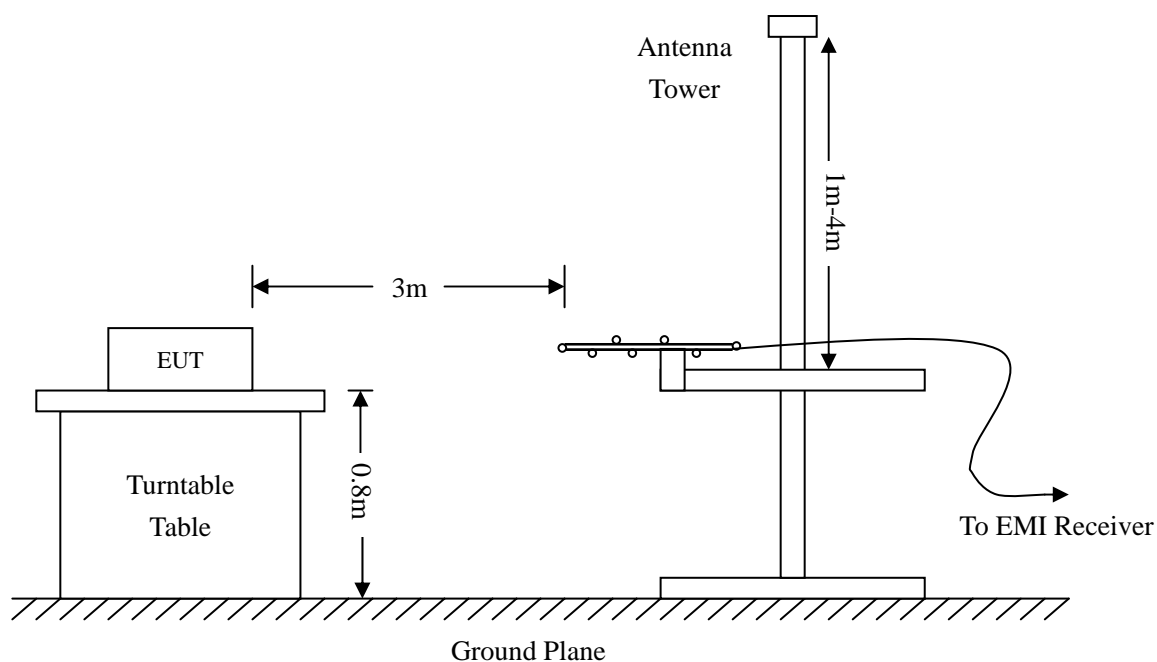
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2012-03-28	2013-03-27
EMI Test Receiver	R&S	ESVB	825471/005	2012-03-28	2013-03-27
Pre-amplifier	Agilent	8447F	3113A06717	2012-03-28	2013-03-27
Pre-amplifier	Compliance Direction	PAP-0118	24002	2012-03-28	2013-03-27
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2012-02-25	2013-02-24
Horn Antenna	ETS	3117	00086197	2012-02-25	2013-02-24

4.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.109 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.



4.4 Test Receiver Setup

During the radiated emission test for above 1GHz, the test receiver was set with the following configurations:

For peak detector:

RBW = 1000kHz, VBW = 3000kHz, Sweep Time = Auto

For average detector:

RBW = 1000kHz, VBW = 10Hz, Sweep Time = Auto

4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB μ V means the emission is 6dB μ V below the maximum limit for a Class B device. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15.109(a) Limit}$$

4.6 Environmental Conditions

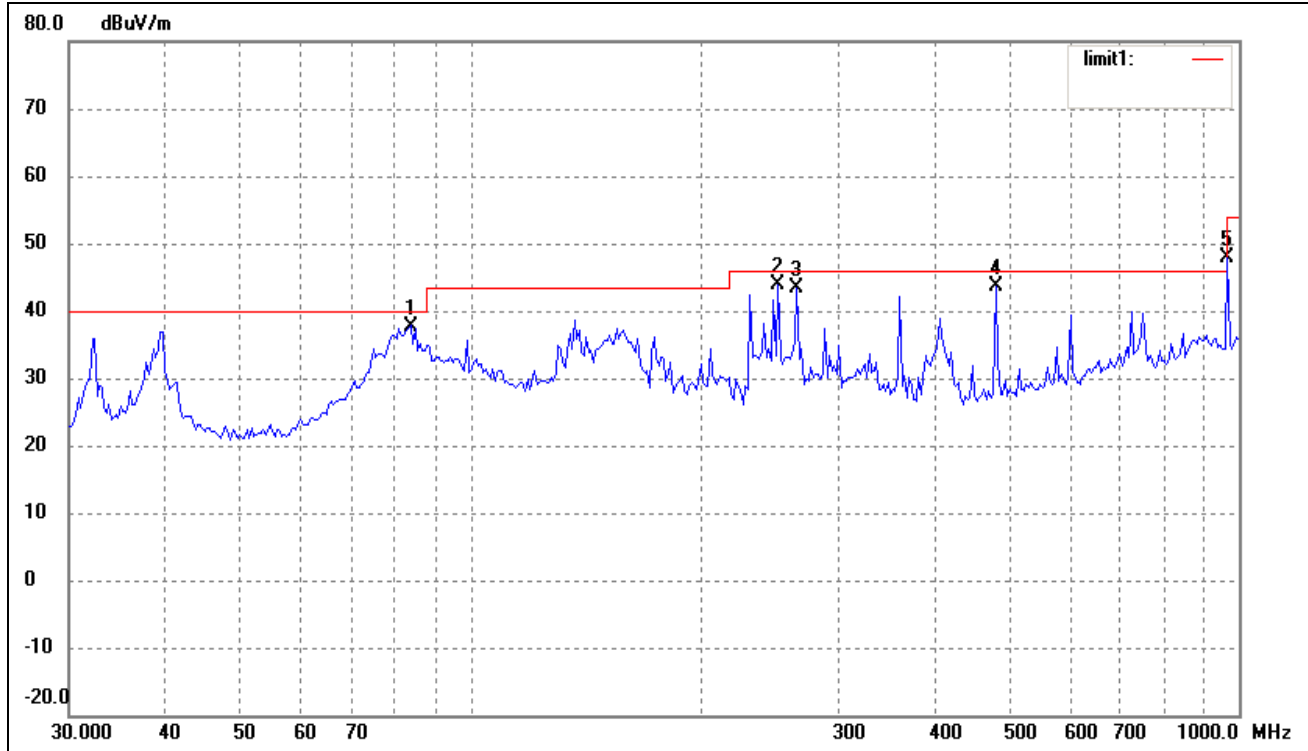
Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

4.7 Summary of Test Results/Plots

According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

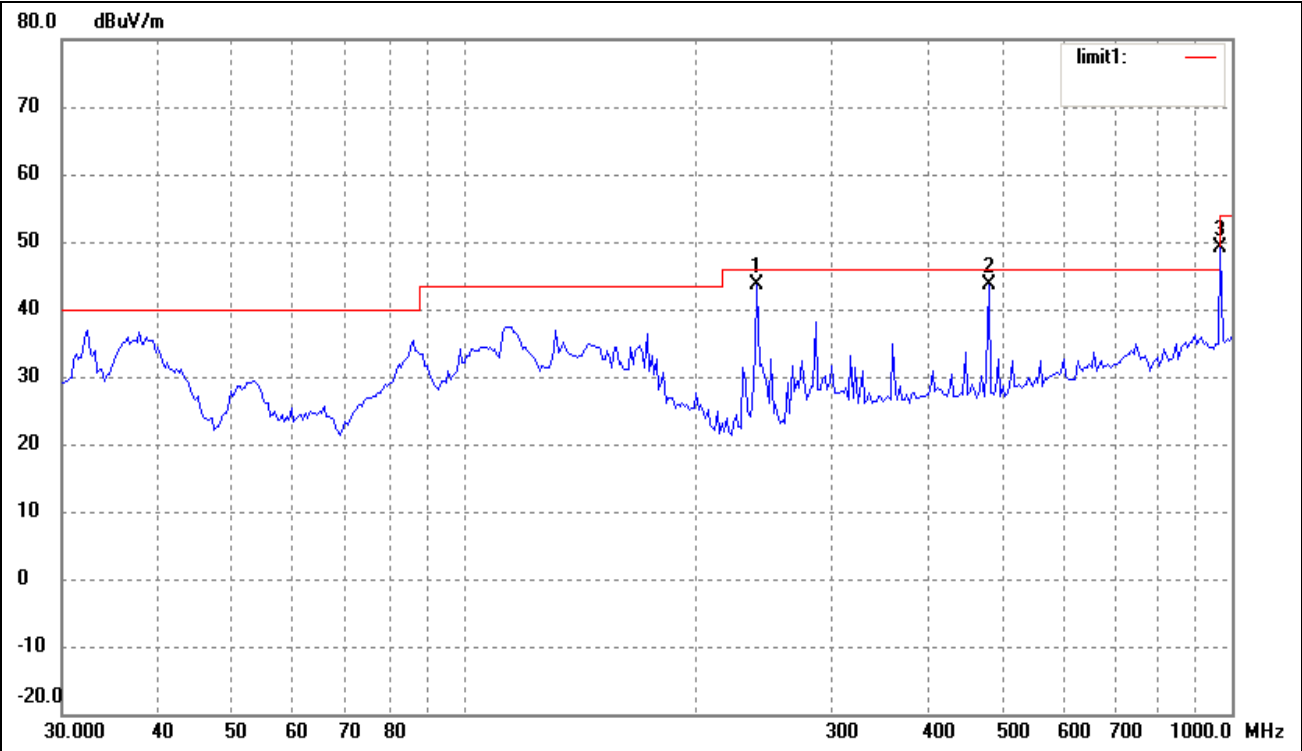
-2.08 dB μ V at 251.1803MHz in the Horizontal polarization, Charging &Playing Mode, 30 MHz to 6 GHz, 3Meters

-2.28 dB μ V at 482.2155 MHz in the Vertical polarization, Downloading Mode, 30 MHz to 6 GHz, 3Meters

Plot of Radiated Emissions Test Data*EUT:* tablet pc*Tested Model:* EGL26BL*Operating Condition:* Charging & playing*Comment:* Playing Color Bar with 1kHz Video from TF card and U DISK*Test Specification:* Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	83.5221	35.07	2.68	37.75	40.00	-2.25	225	100	QP
2	251.1803	36.58	7.34	43.92	46.00	-2.08	164	100	QP
3	265.6757	35.29	8.15	43.44	46.00	-2.56	270	100	QP
4	482.2155	32.03	11.49	43.52	46.00	-2.48	182	100	QP
5	965.5421	29.50	18.37	47.87	54.00	-6.13	119	100	Peak

Test Specification: Vertical

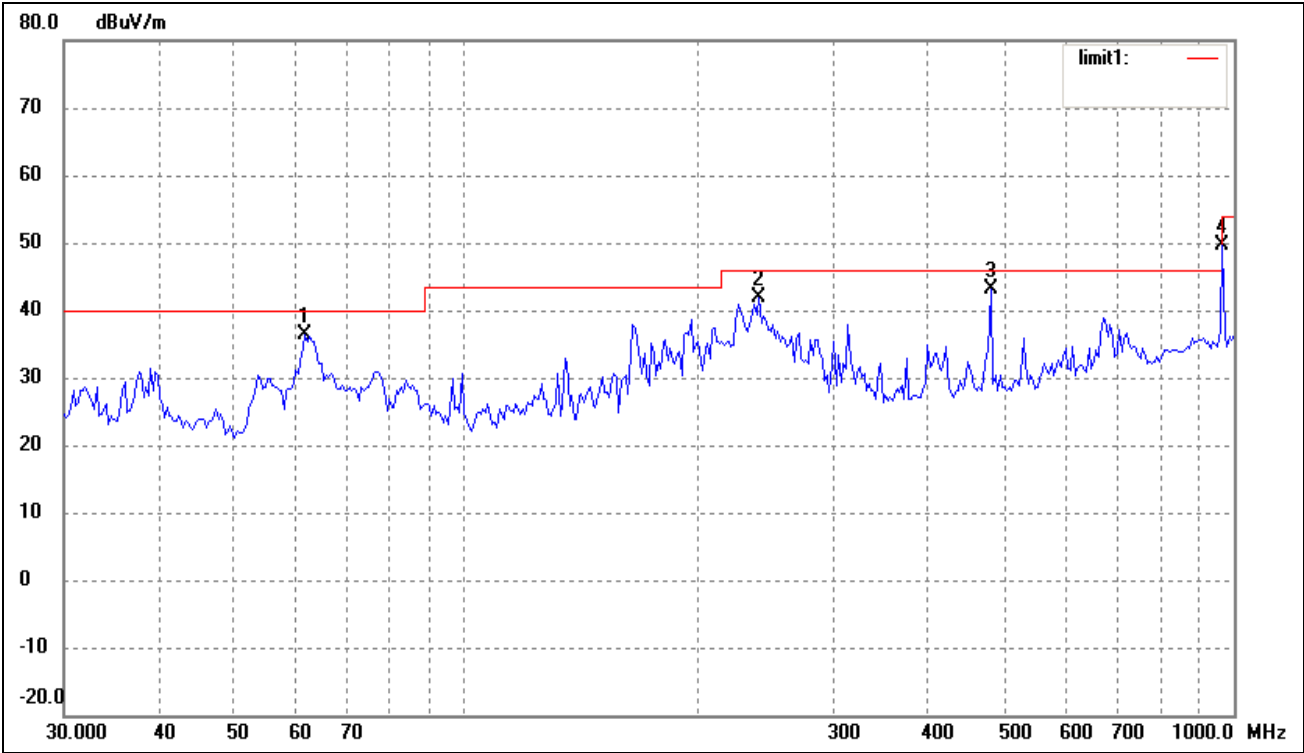


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	240.8303	36.73	7.02	43.75	46.00	-2.25	64	100	QP
2	482.2155	32.02	11.49	43.51	46.00	-2.49	113	100	QP
3	965.5421	30.73	18.37	49.10	54.00	-4.90	280	100	QP

Plot of Radiated Emissions Test Data

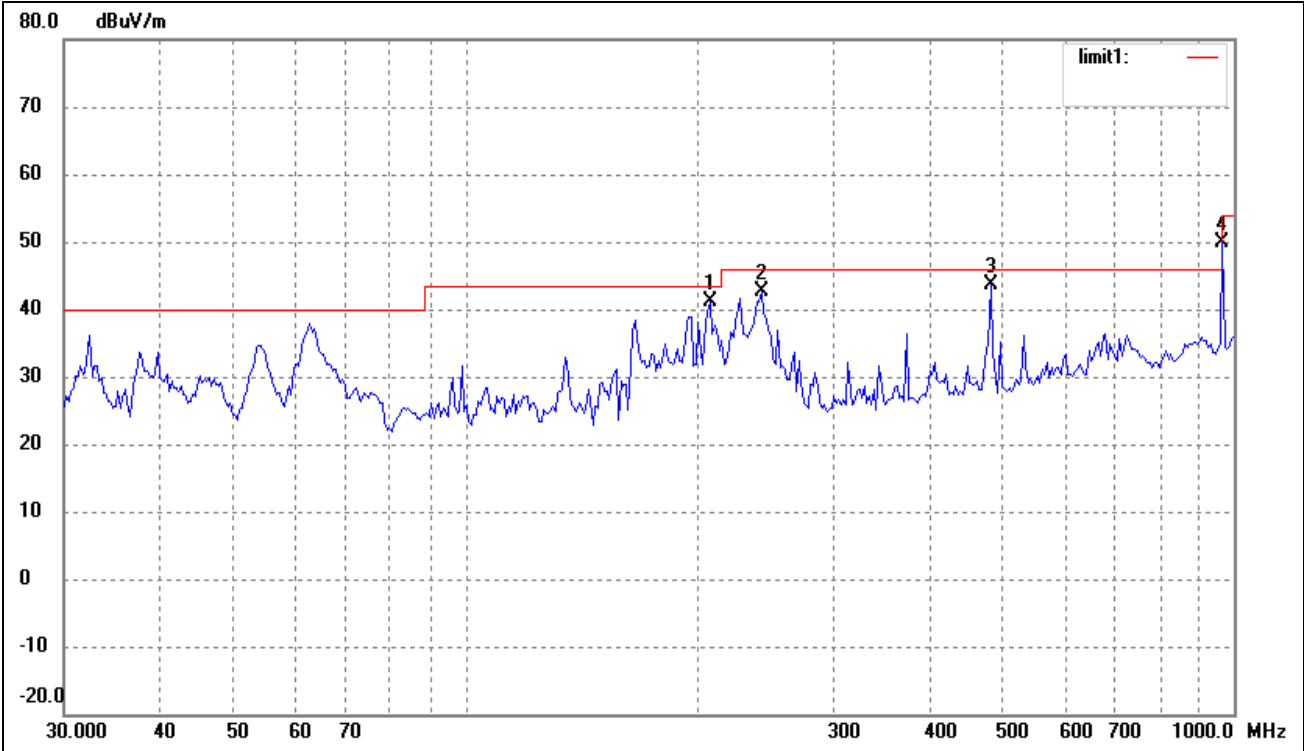
EUT: tablet pc
Tested Model: EGL26BL
Operating Condition: Downloading
Comment: Connect to PC

Test Specification: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	61.7781	31.35	5.13	36.48	40.00	-3.52	274	100	QP
2	240.8303	34.92	7.02	41.94	46.00	-4.06	118	200	QP
3	482.2155	31.52	11.49	43.01	46.00	-2.99	250	200	QP
4	965.5421	31.27	18.37	49.64	54.00	-4.36	116	200	QP

Test Specification: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	207.8500	36.06	5.14	41.20	43.50	-2.30	270	100	QP
2	242.5252	35.48	7.08	42.56	46.00	-3.44	116	100	QP
3	482.2155	32.23	11.49	43.72	46.00	-2.28	88	100	QP
4	965.5421	31.58	18.37	49.95	54.00	-4.05	113	100	QP

Note: Testing is carried out with frequency rang 9kHz to 6GHz, which above 1G and 9kHz to 30MHz are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.