

Measurement Report

FCC ID: SO3UGL0912B

This report concerns (check one) : Original Grant Class II Change

Issued Date Project No. Equipment Model No.	 Feb. 16, 2005 05E0058 Electronic energy saving Lamp GL12B-120
Applicant	: DONGGUAN ULTRALITE ELECTRONICS CO., LTD 48. ShangNan Rd, ShangJiao, ChangAn, DongGuan, GuangDong China

Tested by : Neutron Engineering Inc. EMC Laboratory FCC Registration Number : 95335

Date of Test : Jan. 28, 2005~Jan. 28, 2005

Testing Engineer :

(Alan Liu)

Technical Manager :

(James Chiu)

Authorized Signatory :

(Andy Chiu)

NEUTRON ENGINEERING INC.

No. 132-1, Lane 329, Sec. 2, Palain Rd., Shijr City, Taipei, Taiwan TEL : (02)2646-5426 FAX : (02)2646-6815



Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (NML) of R.O.C., or National Institute of Standards and Technology (NIST) of U.S.A.

Neutron's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **Neutron** shall have no liability for any declarations , inferences or generalizations drawn by the client or others from **Neutron** issued reports.

Neutron's reports must not be used by the client to claim product endorsement by the authorities or any agency of the Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and **Neutron-self**, extracts from the test report shall not be reproduced except in full with **Neutron**'s authorized written approval.

Neutron's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

NEUTRON EMC LAB.

	Table of Contents	Page
1	General Information	5
	1.1 Applicant	5
	1.2 Manufacturer	5
	1.3 Equipment Under Tested	5
	1.4 OEM Brand/Model	5
	1.5 Product Description	5
	1.6 Products Covered	5
	1.7 Model Difference (Series, Versions, if any)	5
	1.8 EUT Modifications	5
	1.9 Photos of EUT	5
2	RFI Emissions Measurement	6
	2.1 Test Facility	6
	2.2 Standard Compliance	6
	2.3 Test Methodology	6
	2.4 Deviations from Standard Test Method	6
	2.5 Sample(s) Tested	6
	2.6 Measurement Instruments	6
	2.7 Environmental Condition	6
	2.8 Tested System Set-Up/Configuration Details	6
	Table -1 Equipments Used in Tested System	7
	Diagram -1 Block diagram showing the configuration of system tested	8
	Table - 2 Equipments Used in Tested System	9
	Table - 3 Information of Interface Cable	9
	2.9 Max.(Worst Case) RF Emission Evaluation	10
	2.10 EUT Operation	10
3	Justification	11
	3.1 Frequency Range of Measurement	11
	3.1.1 Power Line Conducted Emission	11
	3.1.2 Radiated Emission	11
	3.2 Limitations	11
	3.2.1 Power Line Conducted Emission Limits	11
	3.2.2 Radiated Emission Limits	11
	3.3 Measurement Justification	13
	3.3.1 Conducted Emission	13
	3.3.2 Radiated Emission	13
	3.4 Measurement Data	13
	Table 4 Conducted Emission Data	14
	Table 5 Radiated Emission Data	15



	Table of Contents	Page
4	Attachment	16
	A. EUT Modification Description	17
	B. EUT Test Photos	18
	C. EUT Photos	21
	D. User's Manual	27
	E. Product Labeling	28

1. General Information

1.1 Applicant

NameDONGGUAN ULTRALITE ELECTRONICS CO., LTDAddress48. ShangNan Rd, ShangJiao, ChangAn, DongGuan, GuangDong, China

1.2 Manufacturer

NameDONGGUAN ULTRALITE ELECTRONICS CO., LTDAddress48. ShangNan Rd, ShangJiao, ChangAn, DongGuan, GuangDong, China

1.3 Equipment Under Tested

Name: Electronic energy saving Lamp Trade Name: ULTRALAMP Model No.: GL12B-120

1.4 OEM Brand/Model (if applicable)

OEM Brand(s)/Model(s) except the basic model in sub-clause 1.3 is(are) the follow(s): OEM Brand: N/A Model No.: N/A

1.5 Product Descriptions (Application/Features/Specification)
 ISM Equipment Category: Electronic energy saving Lamp
 Nominal Operating Frequency: 25KHz-50KHz
 Electrical Power: 120V AC input
 Power Cord: N/A
 More details of EUT technical specification, please refer to the User's Manual.

1.6 Products Covered (if applicable)

The sample tested including the following sub-system/module/accessory :

Sub-system/ Module/ Accessory	Model/Type No.	Int. Inst./ Ext. Cont.
N/A	N/A	N/A

1.7 Model Difference (Series, Versions, if any) Except the basic model no. (model designation of the sample tested in this test report), additional model no. covered is(are) :

N/A

1.8 EUT Modifications (if applicable) Please refer to the Attachment – **A**.

1.9 Photos of EUT

Please refer to the Attachment – C.



2. RFI Emissions Measurement

2.1Test Facility

The test facilities used to collect the test data in this report located at No.132-1, Lane 329, Sec. 2, Palain Road, Shijr City, Taipei, Taiwan. A description of this test facilities is already on file with the FCC as registration number of 95335.

2.2 Standard Compliance

The test Standard contained in this report relate only to the item(s) listed below : FCC Part 18, Section 18.305(C) and 18.307(C), Consumer Equipment Limits

2.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (1992) / MP-5 (1986).

Radiated testing was performed at an antenna to EUT distance 1 meter by loop antenna used. Test procedures according to the technical standards of : FCC Rules Part 18, Subpart C.

2.4 Deviations from Standard Test Method

FCC Part 18, Section 18.305(b) Radiated Emission Limits ; "Any Non-ISM frequency" is adopted

2.5 Sample(s) Tested

The representative sample tested in this reports is(are): GL12B-120 Test results in this test report relate only to the sample(s) tested.

2.6 Measurement Instruments

Valid measurement instruments used in this report refer to **Table-1** enclosed.

2.7 Environmental Condition

Temperature19Relative Humidity63 %

2.8 Tested System Set-Up/Configuration Details

The system was configured for testing in a typical fashion (as a user would normally use) or in-accordance with the operating configuration specified in the user's manual. A Block Diagram(please refer to the Diagram - 1) and Photos(please refer to the attachment - B) showing the set-up/configuration of system tested. In addition, **Table-2** and **Table-3** provide a detail of all equipment items and cables information used in the system tested.

NEUTRON EMC LAB.

Instruments	Mfr/Brand	Model/Type No.	Serial No.	Calibrated Date	Next Cali. Date	Note	
LISN	EMCO	3825/2	9605-2539	2004-10-01	2005-09-30	✓	
LISN	Rolf Heine	NNB-2/16Z	98083	2004-08-03	2005-08-02		
LISN	Rolf Heine	NNB-2/16Z	98053	2004-12-14	2005-12-13		
4L-V-LISN	Rolf Heine	NNB-4/63T L	02/10040	2004-04-07	2005-04-06		
LISN	EMCO	4825/2	00028234	2004-10-08	2005-10-07		
Pulse Limiter	Electro-Metrics	EM-7600	112644	2004-12-07	2005-12-06	\checkmark	
50 Terminator	N/A	N/A	N/A	2004-05-08	2005-05-07	\checkmark	
Test Cable	N/A	C01	N/A	2004-12-08	2005-12-07	\checkmark	
Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9160	3058	2004-10-20	2005-10-19		
Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9160	3115	2004-04-14	2005-04-13		
Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9161	4022	2004-07-15	2005-07-14		
Test Cable	N/A	10M_OS01	N/A	2004-12-08	2005-12-07		
Test Cable	N/A	OS01-1/-2	N/A	2004-12-08	2005-12-07		
Test Cable	N/A	10M_OS02	N/A	2004-12-08	2005-12-07		
Test Cable	N/A	OS02-1/-2/-3	N/A	2004-12-08	2005-12-07		
RF Switch	Anritsu	MP59B	M65982	2004-12-07	2005-12-06		
Pre-Amplifier	Anritsu	MH648A	M09961	2004-11-24	2005-11-23		
Spectrum Analyzer	ADVAN TEST	R3261C	81720298	2004-09-01	2005-08-31	✓	
Test Receiver	R&S	ESH3	860156/018	2004-12-31	2005-12-30	✓	
Test Receiver	R&S	ESVP	860687/009	2004-12-31	2005-12-30	✓	
Test Receiver	MEB	SMV41	130	2004-12-06	2005-12-05		
Horn Antenna	EMCO	3115	9605-4803	2004-05-28	2005-05-27		
Test Receiver	R&S	ESMI	843977/005	2004-05-18	2005-05-17		
Absorbing Clamp	R&S	MDS-21	841077/011	2004-09-09	2005-09-08		
Voltage Probe	R&S	ESH2-Z3	841.800/023	2004-09-07	2005-09-06		
Signal Generator	HP	8648A	3426A01034	2004-05-17	2006-05-16		
Antenna Mast	Chance Most	CMTB-1.5	N/A	N/A	N/A	✓	
Turn Table	Chance Most	CMTB-1.5	N/A	N/A	N/A	✓	
Loop Ant	R&S	HFH2-Z2	830749/020	N/A	N/A	✓	
	Instruments LISN LISN LISN LISN AL-V-LISN LISN Pulse Limiter 50 Terminator Test Cable Log-Bicon Antenna Log-Bicon Antenna Log-Bicon Antenna Test Cable Test Cable Test Cable Test Cable RF Switch Pre-Amplifier Spectrum Analyzer Test Receiver Test Receiver Test Receiver Itest Receiver Itest Receiver Itest Receiver Absorbing Clamp Voltage Probe Signal Generator Antenna Mast Turn Table Loop Ant	InstrumentsMfr/BrandLISNEMCOLISNRolf HeineLISNRolf Heine4L-V-LISNRolf HeineLISNEMCOPulse LimiterElectro-Metrics50TerminatorN/ATest CableLog-Bicon AntennaMESS-ELEKTRONIKLog-Bicon AntennaMESS-ELEKTRONIKLog-Bicon AntennaMESS-ELEKTRONIKTest CableN/ATest ReceiverR&STest ReceiverR&STest ReceiverR&STest ReceiverR&STest ReceiverR&SAbsorbing ClampR&SVoltage ProbeR&SSignal GeneratorHPAntenna MastChance MostLoop AntR&S	InstrumentsMfr/BrandMode/Type No.LISNEMCO3825/2LISNRolf HeineNNB-2/16ZLISNRolf HeineNNB-2/16Z4L-V-LISNRolf HeineNNB-4/63TLISNEMCO4825/2Pulse LimiterElectro-MetricsEM-760050TerminatorN/AN/ATest CableN/AC01Log-Bicon AntennaMESS-ELEKTRONIKVULB 9160Log-Bicon AntennaMESS-ELEKTRONIKVULB 9160Log-Bicon AntennaMESS-ELEKTRONIKVULB 9161Test CableN/A10M_OS01Test CableN/A0S01-1/-2Test CableN/A0S02-1/-2/-3RF SwitchAnritsuMP59BPre-AmplifierAnritsuMH648ASpectrum AnalyzerADVAN TESTR3261CTest ReceiverR&SESH3Test ReceiverR&SESH3Test ReceiverR&SESH3Test ReceiverR&SESH3Test ReceiverR&SESH3Test ReceiverR&SESH3Test ReceiverR&SESMIAbsorbing ClampR&SESH2-Z3Signal GeneratorHP8648AAntenna MastChance MostCMTB-1.5Lum TableChance MostCMTB-1.5Loop AntR&SHFH2-Z2	InstrumentsMftr/BrandModel/Type No.Serial No.LISNEMCO3825/29605-2539LISNRolf HeineNNB-2/16Z98083LISNRolf HeineNNB-2/16Z980534L-V-LISNRolf HeineNNB-4/63T02/10040LISNEMCO4825/200028234Pulse LimiterElectro-MetricsEM-760011264450TerminatorN/AN/AN/ALog-Bicon AntennaMESS-ELEKTRONIKVULB 91603058Log-Bicon AntennaMESS-ELEKTRONIKVULB 91614022Test CableN/A10M_OS01N/ATest CableN/A10M_OS02N/ATest CableN/A0S02-1/-2/3N/ATest CableN/A0S02-1/-2/3N/ATest CableN/A0S02-1/-2/3N/ATest CableN/A0S02-1/-2/3N/ARF SwitchAnritsuMP59BM65982Pre-AmplifierAnritsuMH648AM09961Spectrum AnalyzerADVAN TESTR3261C81720298Test ReceiverR&SESH3860156/018Test ReceiverR&SESMI843977/005Absorbing ClampR&SESMI843977/005Absorbing ClampR&SESH2-Z3841.800/023Signal GeneratorHP8648A3426A01034Antenna MastChance MostCMTB-1.5N/ALum TableChance MostCMTB-1.5N/A	Instruments Mfr/Brand Mode/Type No. Serial No. Calibrated Date LISN EMCO 3825/2 9605-2539 2004-10-01 LISN Rolf Heine NNB-2/16Z 98083 2004-08-03 LISN Rolf Heine NNB-2/16Z 98053 2004-12-14 4L-V-LISN Rolf Heine NNB-4/63T 02/10040 2004-04-07 LISN EMCO 4825/2 00028234 2004-10-08 Pulse Limiter Electro-Metrics EM-7600 112644 2004-12-07 50 Terminator N/A N/A N/A 2004-10-08 Pulse Limiter Electro-Metrics EM-7600 112644 2004-12-07 50 Terminator N/A C01 N/A 2004-10-20 Log-Bicon Antenna MESS-ELEKTRONK VULB 9160 3058 2004-10-20 Log-Bicon Antenna MESS-ELEKTRONK VULB 9161 4022 2004-07-15 Test Cable N/A 10M_OS02 N/A 2004-12-08 Test Cable	Instruments Mft/Brand Mode/Type No. Serial No. Calibrated Date Next Cali. Date LISN EMCO 3825/2 9605-2539 2004-10-01 2005-09-30 LISN Rolf Heine NNB-2/16Z 98053 2004-10-01 2005-08-02 LISN Rolf Heine NNB-2/16Z 98053 2004-10-07 2005-04-06 LISN Rolf Heine NNB-4/63T 02/10040 2004-10-08 2005-10-07 Pulse Limiter Electro-Metrics EM-7600 112644 2004-12-07 2005-05-07 Fest Cable N/A N/A N/A 2004-02-08 2005-10-07 Log-Bicon Antenna MESS-ELEKTRONK VULB 9160 3015 2004-10-20 2005-10-07 Log-Bicon Antenna MESS-ELEKTRONK VULB 9161 4022 2004-04-14 2005-04-13 Log-Bicon Antenna MESS-ELEKTRONK VULB 9161 4022 2004-07-15 2005-07-11 Log-Bicon Antenna MESS-ELEKTRONK VULB 9161 4022 2004-07-15 2005-07-07 Log-Bic	

Table -1 Measurement Instruments List

Report No. : NEI- FCCE-1-05E0058

Remark :

(1)" \checkmark " indicates the instrument used in Test Report. (2)" N/A" denotes No Model No. / Serial No. and No Calibration specified.



Diagram – 1

Block diagram showing the configuration of system tested



NEUTRON EMC LAB.

Table - 2 Equipments Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Electronic energy saving Lamp	ULTRALAMP	GL12B-120	SO3UGL0912B	N/A	EUT
E-2	Lamp Holder	N/A	N/A	N/A	N/A	

Note:

- (1) Unless otherwise denoted as EUT in Remark_a column , device(s) used in tested system is a support equipment.
- (2) Unless otherwise marked as in ^r Remark_a column, Neutron consigns the support equipment to the tested system.

Table - 3 Information of Interface Cable

Item	Shielded Type	Ferrite Core	Length	Note
N/A	N/A	N/A	N/A	

Note:

(1) Unless otherwise marked as in ^r Remark_a column, Neutron consigns the support equipment to the tested system.

NEUTRON EMC LAB.

Report No. : NEI- FCCE-1-05E0058

2.9 Max.(Worst Case) RF Emission Evaluation

- (a) Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 and the FCC Measurement Procedure MP-5.
- (b) The system was configured for testing in a typical fashion (as a customer would normally use it). The lamp was connected to EUT as a customer would normally use it as possible to comply with the Rules or Standards requirement.
- (c) To investigate the maximum EMI emission characteristics, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively and used to collect the included data.

The EUT system operated Mode1, mentioned above was found to be the worst case during the pre-scanning test.

This operation mode was used for final testing and collecting test data included in this report.

2.10 EUT Operation

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively and used to collect the included data.

3. Justification

- 3.1 Frequency Range of Measurement
- 3.1.1 Power Line Conducted Emission

150KHz-30MHz

3.1.2 Radiated Emission

Frequency Band	Range of Frequency Measurements			
in which Device Operates (MHz)	Lowest Frequency	Highest Frequency		
Below 1.705	Lowest freq. generated In the device, but not lower than 9KHz	30MHz		
1.705 to 30	Lowest freq. generated In the device, but not lower than 9KHz	400MHz		
30 to 500	Lowest freq. generated In the device or 25MHz, whichever is lower.	Tenth harmonic or 1000MHz, whichever is higher.		
500 to 1000	Lowest freq. generated In the device or 100MHz, whichever is lower.	Tenth harmonic		
Above 1000	Didtto	Tenth harmonic or highest detectable emission		

3.2 Limitations

3.2.1 Power Line Conducted Emission (Frequency Range 150KHz-30MHz)

Frequency Range Non-consumer Equipment		Frequency Range	Consumer Equipment		
(MHz)	dBuV	uV	(MHz)	dBuV	uV
0.45 - 1.60	60.00	1000	0.45 - 2.51	48	250
1.60 - 30.0	69.50	3000	2.51 - 3.00	69.5	3000
			3.00 - 30.0	48	250

Notes : The tighter limit applies at the band edges.

3.2.2 Radiated Emission Limits (Frequency Range 30MHz-1000MHz)

Frequency	F.S Limitiation	F.S Limitiation at 30m dist		F.S Limitation at 1m dist	
(MHz)	(uV/m)	(dBuV/m)	(uV/m)	(dBuV/m)	Remark
30 - 88	30	29.54	900	59.08	Non-consumer
88 - 216	50	33.98	1500	63.52	Equipment
216 - 1000	70	36.90	2100	66.44	
30 - 88	10	20.00	300	49.54	Consumer
88 - 216	15	23.52	450	53.06	Equipment
216 - 1000	20	26.02	600	55.56	

Notes :

- (1). The tighter limit shall apply at the boundary between two frequency range.
- (2). Limitation expressed in dBuV/m is calculated by 20log Emission Level (uV/m).
- (3). If measurement is made at 1m distance, then F.S Limitation at 1m distance is adjusted by using the formula of $L_{d1} = L_{d2} * (d_2/d_1)$. Example:

F.S Limit at 30m distance is 30uV/m , then F.S Limitation at 1m distance is adjusted as $L_{d1} = L_1 = 30uV/m * (30/1) = 900 uV/m$



(4). Section 15.209 radiated emission limits and general requirement of FCC Part 15, Subpart B is adopted as the radiated emission field strength limitation for frequency range between 9KHz-30MHz. It is a deviation from standard justification specified in FCC Part-18 Section 18.305 (C).

FCC Part 18, Section 18.305(b) Radiated Emission Limits ; "Any Non-ISM frequency"

Fauipment	Operating Frequency	RF Power generated	Field strength	Distance
Equipmont	oporating rioquonoy	by equipment (watts)	limitation (uV/m)	(meters)
Medical	Any ISM frequency	Any	25	300
diathermy	Any Non-ISM frequency	Any	15	300

Notes :

- (1). The tighter limit shall apply at the boundary between two frequency range.
- (2). Limitation expressed in dBuV/m is calculated by 20log Emission Level (uV/m).
- (3). If measurement is made at 1m distance, then F.S Limitation at 1m distance is adjusted by using the formula of $L_{d1} = L_{d2} * (d_2/d_1)^2$. Example:

F.S Limit at 300m distance is 15uV/m , then F.S Limitation at 1m distance is adjusted as $L_{d1} = L_1 = 15uV/m * (300)^2 = 90000 * 15 uV/m$

3.3 Measurement Justification

3.3.1 Conducted Emission

The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and these signals are then Quasi Peak detector mode re-measured.

Data of **Table - 4**. lists the significant emission frequencies, measured levels, limits and safe margins. All readings are Peak Mode measured unless otherwise stated as QP in column of " Remark ".

If the Peak Mode measured value lower than both QP Mode Limit, EUT shall be deemed to compliance with both QP Limits and then no additional QP Mode measurement performed.

3.3.2 Radiated Emission

The initial step in collecting radiated emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

Data of **Table - 5**. lists the significant emission frequencies, measured levels, limits and safe margins. All readings are Peak Mode measured unless otherwise stated as QP in column of " Remark ".

If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.

3.4 Measurement Data

Table - 4.Conducted Emission DataTable - 5.Radiated Emission Data

Table 4 Conducted Emission Data

Special Notes : (EUT Operation Mode or Test Configuration Mode, if applicable)

Judgment : Passed by -13.29 dB at 0.49 MHz, QP Mode, Consumer Equipment , Line

Freq.	Terminal	Measured	Limits		Safe Margins	Remark
(MHz)	L/N	(dBuV)	(dBuV)	(uV)	(dBuV) Note	С
0.49	Line	34.71	48.00	250	-13.29 (QP)	
0.64	Line	33.11	48.00	250	-14.89 (QP)	
0.79	Line	30.61	48.00	250	-17.39	
0.95	Line	25.81	48.00	250	-22.19 (QP)	
1.40	Line	25.24	48.00	250	-22.76	
1.89	Line	26.26	48.00	250	-21.74	
0.50	Neutral	34.01	48.00	250	-13.99 (QP)	
0.66	Neutral	33.81	48.00	250	-14.19 (QP)	
0.80	Neutral	30.91	48.00	250	-17.09	
0.95	Neutral	26.61	48.00	250	-21.39 (QP)	
1.34	Neutral	26.65	48.00	250	-21.35	
1.98	Neutral	26.45	48.00	250	-21.55	

Remark :

- (1) Reading was measured by using are Quasi-Peak Mode with Detector BW=9KHz ; SPA setting in RBW=10KHz,VBW =10KHz, SWP Time = 0.3 sec./ MHz_o
- (2) All readings are QP Mode value unless otherwise stated Peak in column of $\ensuremath{\,^{\ensuremath{\square}}}$ Note $\ensuremath{_{\ensuremath{\square}}}$.
- (3) Measuring frequency range from 450KHz to 30MHz.
- (4) Remark "C" denotes the Consumer Equipment limitation used for judgment.
- (5) Remark "NC" denotes the Non-Consumer Equipment limitation used for judgment.

Report No. : NEI- FCCE-1-05E0058 Table 5 Radiated Emission Data (Below 30MHz)

Special Notes : (EUT Operation Mode or Test Configuration Mode, if applicable) FCC Part 18, Section 18.305(b) Radiated Emission Limits ; "Any Non-ISM frequency"

Judgment : Passed by -76.75 dB at 35.51 KHz

Freq. (KHz)	Receiver Reading in dBuV/m	Factor (dB) Cable loss	Field Strength Limit (uV/m)	Required Measurement Distance(m)	Limitation Converted 1 m dist. (dBuV/m)	Over Limit
35.51	38.83	20.10	15.00	300.00	135.68	-76.75
71.02	-	20.10	15.00	300.00	129.66	-
106.53	19.63	20.10	15.00	300.00	126.14	-86.41
142.04	-	20.10	15.00	300.00	123.64	-
177.55	10.51	20.20	15.00	300.00	121.70	-90.99
213.06	-	20.20	15.00	300.00	120.12	-
248.57	5.84	20.20	15.00	300.00	118.78	-92.74
284.08	-	20.30	15.00	300.00	117.62	-
319.59	1.50	20.30	15.00	300.00	116.60	-94.80
355.10	-	20.30	15.00	300.00	115.68	-

Remark :

- (1) All receiver readings (the measured field strength levels) are measured from loop antenna directly.
- (2) The emission limits shown in the above table are base on measurements employing a quasi-peak detector except for the frequency bands 9-90 KHz, 110-490 KHz and above 1000MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
- (3) The tighter limit applies at the band edges.
- (4) Remark: "- " means that the noise emission is too low to detect by Test Receiver。

Report No. : NEI- FCCE-1-05E0058 Table 5 Radiated Emission Data (30 – 1000 MHz)

Special Notes : (EUT Operation Mode or Test Configuration Mode, if applicable) FCC Part 18, Section 18.305(c) Radiated Emission Limits ; "Consumer Equipment"

Judgment : Passed by -4.93 dB at 40.70 KHz

Freq.	Ant.Pol. DetectorMode Reading			Ant./CL/	Actual FS	Limit3m	Safe Margin N	lote
(MHz)	<u> </u>	(PK/AV)	(dBuV)	Amp. CF(dB)	<u>(dBuV/m)</u>	(dBuV/m)	(dB)	
30.70	V	Peak	28.62	-3.01	25.61	30.00	-4.39	
50.40	V	Peak	26.42	-2.10	24.32	30.00	-5.68	
74.90	V	Peak	29.05	-5.38	23.67	30.00	-6.33	
206.90	V	Peak	29.97	-3.60	26.37	35.00	-8.63	
332.60	V	Peak	28.07	0.49	28.56	40.00	-11.44	
382.90	V	Peak	26.90	1.34	28.24	40.00	-11.76	
30.00	Н	Peak	27.37	-3.10	24.27	30.00	-5.73	
50.20	Н	Peak	24.20	-2.08	22.12	30.00	-7.88	
76.60	Н	Peak	27.67	-5.65	22.02	30.00	-7.98	
203.40	Н	Peak	28.40	-3.58	24.82	35.00	-10.18	
333.70	Н	Peak	26.80	0.53	27.33	40.00	-12.67	
355.40	Н	Peak	27.35	0.90	28.25	40.00	-11.75	

Remark :

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz_o
- (2) All readings are Peak unless otherwise stated QP in column of ^r Note . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measure-ment didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz $_{\circ}$
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not how in table。



Attachment

Table Contents

- A. EUT Modification Description
- B. EUT Test Photos
- C. EUT Photos



Attachment - A.

EUT Modification Description

No any modification required for the EUT to comply with the standards.



Attachment - B.

EUT Test Photos

- 1. Conducted Measurement Photos
- 2. Radiated Measurement Photos



Attachment – C

EUT Photos

- 1. Photo #1 Front View
- 2. Photo # 2 Back View
- 3. Photo # 3 Upper View
- 4. Photo # 4 Unit Partially Disassembled
- 5. Photo # 5 Unit Partially Disassembled



Attachment – D

User's Manual



Attachment - E

Product Labeling