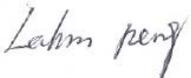


EN 55022: 2006+A1: 2007
EN 60601-1-2: 2007
EN 55024: 2010
EN 61000-3-2: 2006+A2: 2009
EN 61000-3-3: 2008
Measurement and Test Report

For
GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647 USA

Report Concerns: Original Report	Equipment Type: Power supply
Model:	<u>GT(-or M)41060(-or CC)-WWVV-X.X(or-FW) series</u>
Report No.:	<u>STR11098193E</u>
Test Date:	<u>2011-09-22 to 2011-09-27</u>
Issue Date:	<u>2011-09-28</u>
Test Engineer:	<u>Jason Jiang / Engineer</u> 
Reviewed By:	<u>Lahm Peng / EMC Manager</u> 
Approved & Authorized By:	<u>Jandy so / PSQ Manager</u> 
Prepared By:	SEM.Test Compliance Service Co., Ltd 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C. (518101) Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn

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.

TABLE OF CONTENTS

1. GENERAL INFORMATION4

 1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)4

 1.2 TEST STANDARDS.....4

 1.3 TEST METHODOLOGY5

 1.4 TEST FACILITY5

 1.5 EUT EXERCISE SOFTWARE6

 1.6 ACCESSORIES EQUIPMENT LIST AND DETAILS6

 1.7 EUT CABLE LIST AND DETAILS6

 1.8 PERFORMANCE CRITERIA6

2. SUMMARY OF TEST RESULTS7

3. CONDUCTED EMISSIONS8

 3.1 MEASUREMENT UNCERTAINTY8

 3.2 TEST EQUIPMENT LIST AND DETAILS8

 3.3 TEST PROCEDURE.....8

 3.4 BASIC TEST SETUP BLOCK DIAGRAM.....8

 3.5 ENVIRONMENTAL CONDITIONS9

 3.6 SUMMARY OF TEST RESULTS/PLOTS9

 3.7 CONDUCTED EMISSIONS TEST DATA.....9

4. RADIATED EMISSION14

 4.1 MEASUREMENT UNCERTAINTY14

 4.2 TEST EQUIPMENT LIST AND DETAILS14

 4.3 TEST PROCEDURE.....14

 4.4 CORRECTED AMPLITUDE & MARGIN CALCULATION.....15

 4.5 ENVIRONMENTAL CONDITIONS15

 4.6 SUMMARY OF TEST RESULTS/PLOTS15

5. EN 61000-3-2 HARMONIC CURRENT EMISSIONS20

 5.1 TEST EQUIPMENT LIST AND DETAILS.....20

 5.2 TEST PROCEDURE.....20

 5.3 TEST STANDARDS.....20

 5.4 EN 61000-3-2: HARMONIC CURRENT EMISSIONS TEST DATA20

6. EN 61000-3-3 VOLTAGE FLUCTUATION AND FLICKER21

 6.1 TEST EQUIPMENT LIST AND DETAILS.....21

 6.2 TEST PROCEDURE.....21

 6.3 TEST STANDARDS21

 6.4 EN 61000-3-3: VOLTAGE FLUCTUATION AND FLICKER TEST DATA21

7. ELECTROSTATIC DISCHARGE IMMUNITY (ESD).....25

 7.1 TEST EQUIPMENT LIST AND DETAILS.....25

 7.2 TEST PROCEDURE.....25

 7.3 EN61000-4-2: ELECTROSTATIC DISCHARGE IMMUNITY TEST DATA.....25

8. CONTINUOUS RADIATED DISTURBANCES.....27

 8.1 TEST EQUIPMENT LIST AND DETAILS.....27

 8.2 TEST PROCEDURE.....27

 8.3 EN61000-4-3: CONTINUOUS RADIATED DISTURBANCES TEST DATA27

9. ELECTRICAL FAST TRANSIENTS28

 9.1 TEST EQUIPMENT LIST AND DETAILS.....28

 9.2 TEST PROCEDURE.....28

 9.3 EN61000-4-4: ELECTRICAL FAST TRANSIENTS TEST DATA28

10. SURGE29

 10.1 TEST EQUIPMENT LIST AND DETAILS.....29

 10.2 TEST PROCEDURE.....29

 10.3 EN61000-4-5: SURGE TEST DATA29

11. CONTINUOUS CONDUCTED DISTURBANCES.....30

 11.1 TEST EQUIPMENT LIST AND DETAILS.....30

11.2 TEST PROCEDURE30
11.3 EN61000-4-6: CONTINUOUS CONDUCTED DISTURBANCES TEST DATA30

12. POWER-FREQUENCY MAGNETIC FIELD31

12.1 TEST EQUIPMENT LIST AND DETAILS31
12.2 TEST PROCEDURE31
12.3 EN61000-4-8: VOLTAGE DIPS AND INTERRUPTIONS TEST DATA31

13. VOLTAGE DIPS AND INTERRUPTIONS32

13.1 TEST EQUIPMENT LIST AND DETAILS32
13.2 TEST PROCEDURE32
13.3 EN61000-4-11: VOLTAGE DIPS AND INTERRUPTIONS TEST DATA32

EXHIBIT 1- PRODUCT LABELING33

PROPOSED CE LABEL FORMAT33
PROPOSED LABEL LOCATION ON EUT33

EXHIBIT 2 - EUT PHOTOGRAPHS34

EXHIBIT 3 - TEST SETUP PHOTOGRAPHS37

EXHIBIT 4 - SCHEMATICS40

EXHIBIT 5 - USERS MANUAL40

SEM. Test Compliance

1.GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: GlobTek, Inc.
 Address of applicant: 186 Veterans Dr. Northvale, NJ 07647 USA

Manufacturer1: GlobTek, Inc.
 Address of manufacturer1: 186 Veterans Dr. Northvale, NJ 07647 USA
 Manufacturer2: GlobTek (Suzhou) Co., Ltd
 Address of manufacturer2: Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China

General Description of E.U.T

Items	Description
EUT Description:	Power supply
Trade Name:	GlobTek
Model No.:	GT(-or M)41060(-or CC)-WWVV-X.X(or-FW) series
Rated Voltage:	AC 100-240V
Rated Current:	0.6A
For more information refer to the circuit diagram form and the user’s manual.	

GT(-or M)41060(-or CC)-WWVV-X.X(or-FW) series:
 (-or M):M=Medical -=Information Technology
 (-or CC):”-”=Constant Voltage Model, CC=Constant Current Model
 WW is the rated output wattage designation, with a maximum value of "25";
 VV is the standard rated output voltage designation, with a maximum value of "30";
 -X.X is optional or blank and denotes the output voltage differentiator, subtracting or adding X.X volts
 forom standard output voltage VV in 0.1 increments
 -FW=Open Frame which is optional.

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 GT(-or M)41060(-or CC)-WWVV-X.X(or-FW) series without circuit and electronic construction changed, declared by the manufacturer

1.2 Test Standards

The following report is prepared on behalf of the GlobTek, Inc. in accordance with EN55022, Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement, and EN55024, Immunity characteristics Limits and methods of measurement. and EN61000-3-2: 2006+A2: 2009, Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase). EN61000-3-3: 2008, Electromagnetic compatibility (EMC) -- Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply

systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.

EN60601-1-2: 2007 Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral standard: Electromagnetic compatibility – Requirements and tests.

The objective of the manufacturer is to demonstrate compliance with EN55022 Class B limits for Information Technology Equipment and EN55024, Immunity characteristics Limits and methods of measurement. And EN60601-1-2: 2007 Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral standard: Electromagnetic compatibility – Requirements and tests.

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

1.3 Test Methodology

All measurements contained in this report were conducted with EN 55022, Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement, and EN55024, Immunity characteristics Limits and methods of measurement. And EN60601-1-2: 2007 Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral standard: Electromagnetic compatibility – Requirements and tests.

The equipment under test (EUT) was configured to measure its highest possible emission/immunity level. The test setup was adapted accordingly in reference to the Operating Instructions.

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 Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the system components. The test software is started while the EUT is on to simulate the normal work.

1.6 Accessories Equipment List and Details

Description	Manufacturer	Model	Serial Number
/	/	/	/

1.7 EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
DC Cable	1.5	Unshielded	Without Core

1.8 Performance Criteria

All the test data has been collected, reduced, and analyzed within this report in accordance with Immunity requires the following as specific performance criteria:

- The apparatus shall continue to operate as intended during and after the test. The manufacturer specifies some minimum performance level. The performance level may be specified by the manufacturer as a permissible loss of performance.
- The apparatus shall continue to operate as intended after the test. This indicates that the EUT does not need to function at normal performance levels during the test, but must recover. Again some minimal performance is defined by the manufacture. No change in operating state or loss or data is permitted.
- Temporary loss of function is allowed. Operation of the EUT may stop as long as it is either automatically reset or can be manually restored by operation of the controls.

2. SUMMARY OF TEST RESULTS

Description of Test	Result
EN55022 Conducted Emission	Compliant
EN55022 Radiated Emission	Compliant
EN61000-3-2 Harmonic Current Emission	Compliant
EN61000-3-3 Voltage Fluctuation And Flicker	Compliant
Electrostatic Discharge Immunity (ESD) in accordance with EN55024&EN60601-1-2&EN 61000-4-2	Compliant
Radiated RF-Electromagnetic Field Immunity in accordance with EN55024&EN60601-1-2&EN 61000-4-3	Compliant
Electrical Fast Transient/Burst (EFT/B) immunity in accordance with EN55024&EN60601-1-2&EN 61000-4-4	Compliant
Surge immunity test immunity in accordance with EN55024&EN60601-1-2&EN 61000-4-5	Compliant
Immunity to conducted disturbances in accordance with EN55024&EN60601-1-2&EN 61000-4-6	Compliant
Voltage Dips/Interruptions immunity test in accordance with EN55024&EN60601-1-2&EN 61000-4-11	Compliant

3. 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.

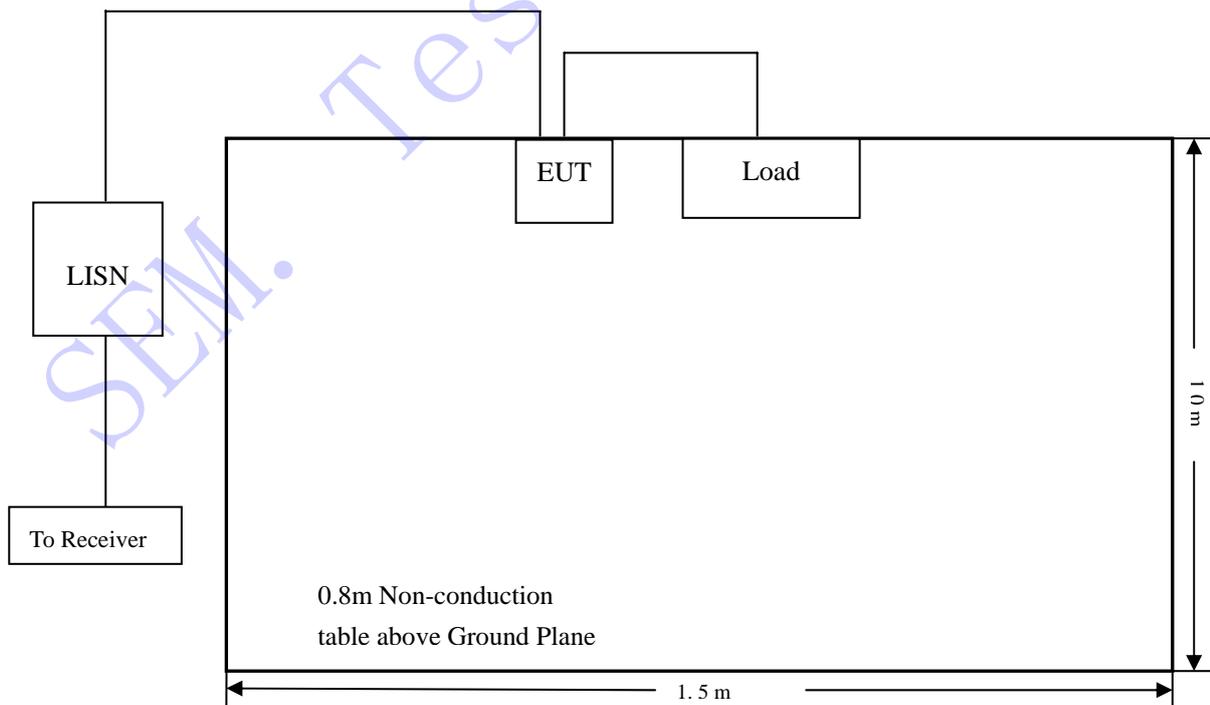
3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2010-12-20	2011-12-19
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2010-12-20	2011-12-19
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2010-12-20	2011-12-19
AMN	EMCO	3825/2	11967C	2010-12-20	2011-12-19
Power Divider	Weinschel	1506A	PM204	2010-12-20	2011-12-19
Current Probe	FCC	F-33-4	091684	2010-12-20	2011-12-19

3.3 Test Procedure

Test is conducting under the description of EN 55022 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement §9.

3.4 Basic Test Setup Block Diagram



3.5 Environmental Conditions

Temperature:	22 ° C
Relative Humidity:	55 %
ATM Pressure:	1015 mbar

3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the EN55022 Conducted margin for a Class B device, with the *worst* margin reading of:

-6.33 dB μ V at 2.994 MHz in the Neutral mode GTM41060CC2530, Average detector, 0.15-30MHz

3.7 Conducted Emissions Test Data

SEM. Test Compliance

Plot of Conducted Emissions Test Data

Conducted Disturbance

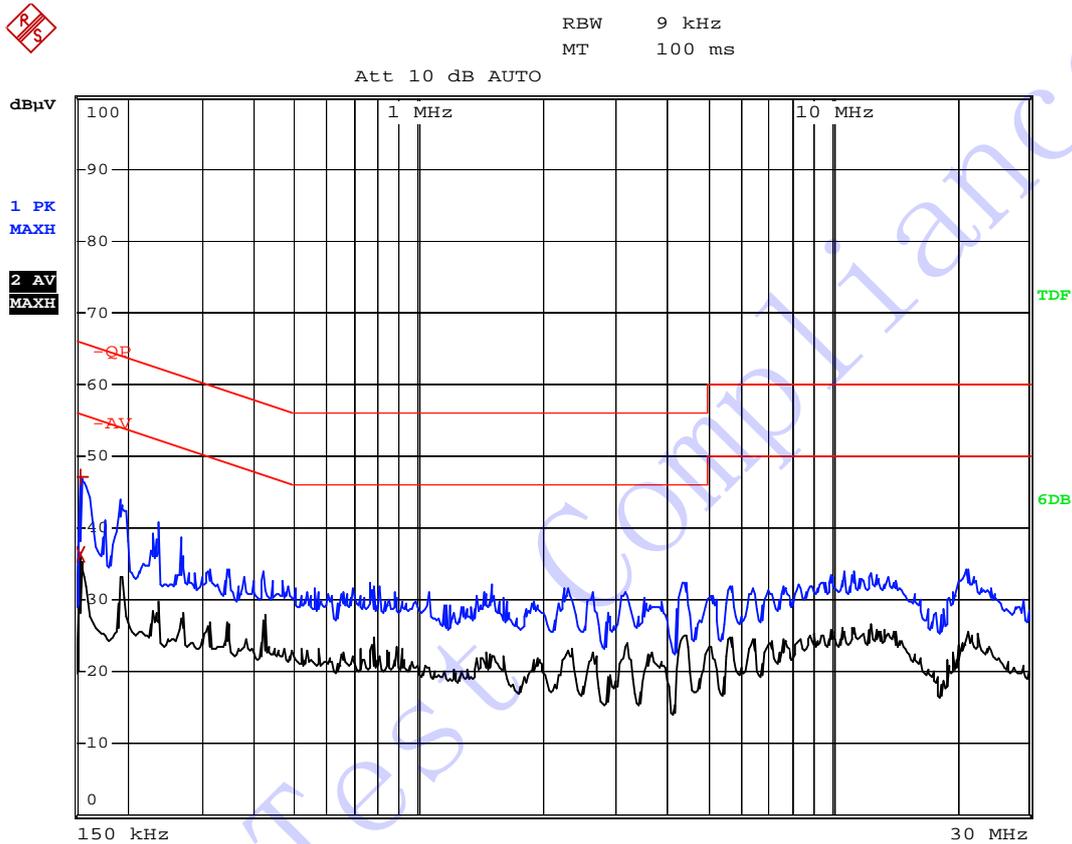
EUT: Power supply

M/N: GT-41060-1505

Operating Condition: Full Load

Test Specification: N

Comment: AC 230V



EDIT PEAK LIST (Prescan Results)			
Trace1:		-QP	
Trace2:		-AV	
Trace3:		---	
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Max Peak	154 kHz	47.14	-18.63
2 Average	154 kHz	36.42	-19.35

EUT: Power supply

M/N: GT-41060-1505

Operating Condition: Full Load

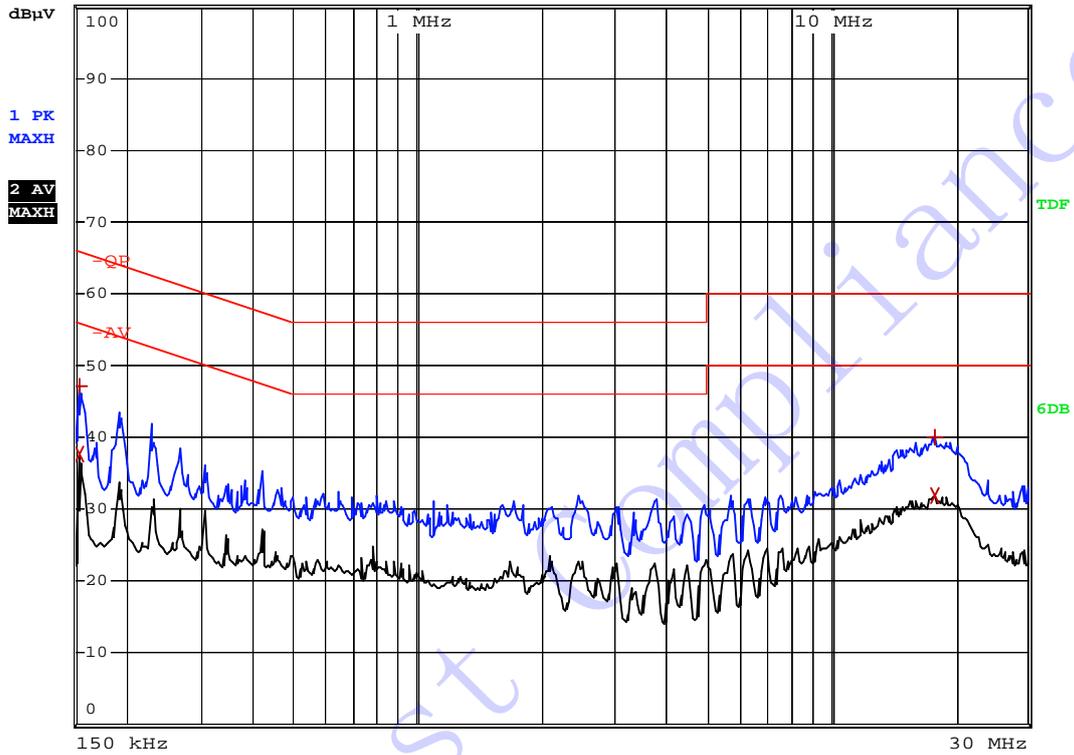
Test Specification: L

Comment: AC 230V



RBW 9 kHz
MT 5 ms

Att 10 dB AUTO



EDIT PEAK LIST (Prescan Results)				
Trace1:		-QP		
Trace2:		-AV		
Trace3:		---		
TRACE		FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Max Peak	154 kHz	47.03	-18.75
2	Average	154 kHz	37.76	-18.01
2	Average	17.774 MHz	31.96	-18.03
1	Max Peak	17.87 MHz	40.04	-19.95

Plot of Conducted Emissions Test Data

Conducted Disturbance

EUT: Power supply

M/N: GTM41060CC2530

Operating Condition: Full Load

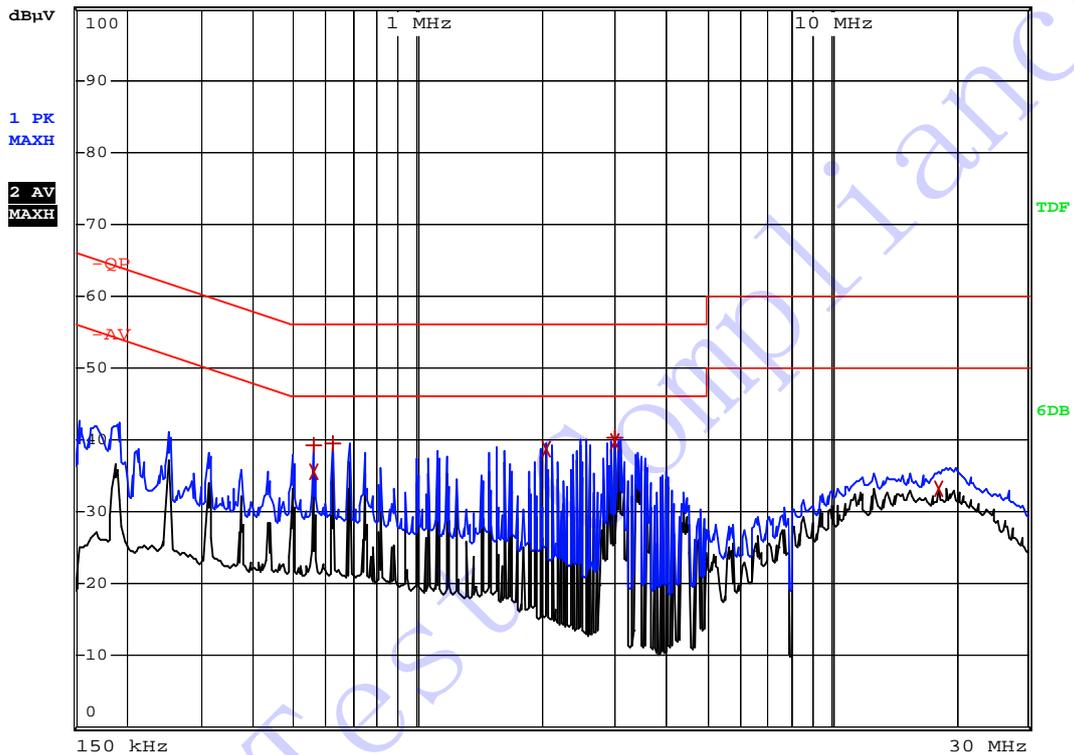
Test Specification: N

Comment: AC 230V



RBW 9 kHz
MT 5 ms

Att 10 dB AUTO



EDIT PEAK LIST (Prescan Results)			
Trace1:		-QP	
Trace2:		-AV	
Trace3:		---	
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Max Peak	562 kHz	39.25	-16.74
2 Average	562 kHz	35.45	-10.54
1 Max Peak	622 kHz	39.59	-16.40
2 Average	2.058 MHz	38.61	-7.38
1 Max Peak	2.994 MHz	40.21	-15.78
2 Average	2.994 MHz	39.66	-6.33
2 Average	18.19 MHz	33.20	-16.79

EUT: Power supply

M/N: GTM41060CC2530

Operating Condition: Full Load

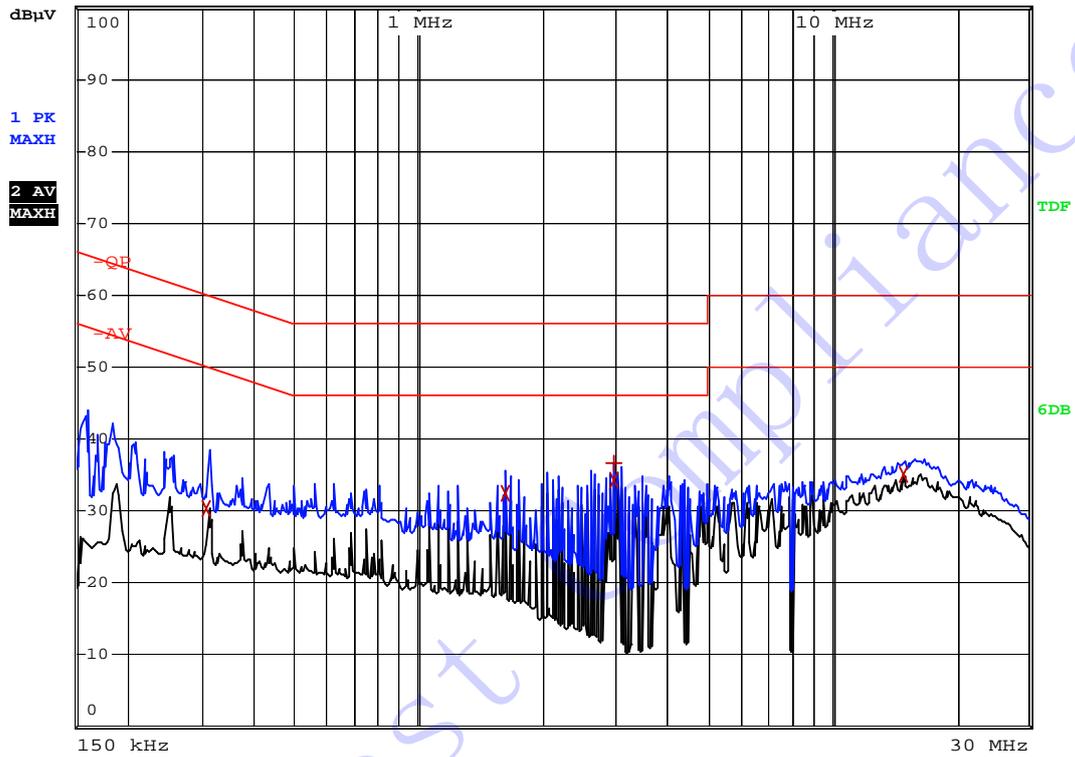
Test Specification: L

Comment: AC 230V



RBW 9 kHz
MT 5 ms

Att 10 dB AUTO



EDIT PEAK LIST (Prescan Results)				
Trace1:		-QP		
Trace2:		-AV		
Trace3:		---		
TRACE		FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
2	Average	310 kHz	30.24	-19.72
2	Average	1.618 MHz	32.54	-13.46
1	Max Peak	2.986 MHz	36.49	-19.50
2	Average	2.986 MHz	34.27	-11.72
2	Average	14.866 MHz	35.06	-14.93

4. RADIATED EMISSION

4.1 Measurement Uncertainty

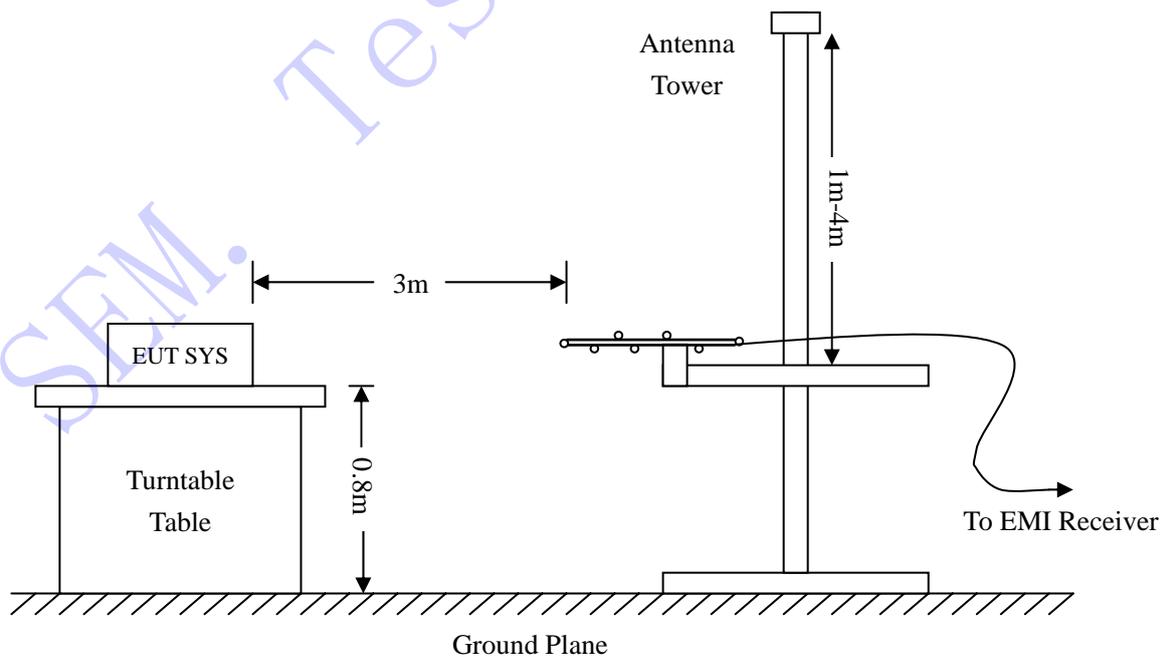
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2010-12-20	2011-12-19
EMI Test Receiver	R&S	ESVB	825471/005	2010-12-20	2011-12-19
Positioning Controller	C&C	CC-C-1F	N/A	2010-12-20	2011-12-19
RF Switch	EM	EMSW18	SW060023	2010-12-20	2011-12-19
Pre-amplifier	Agilent	8447F	3113A06717	2010-12-20	2011-12-19
Pre-amplifier	Compliance Direction	PAP-0118	24002	2010-12-20	2011-12-19
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2011-01-09	2012-01-08
Horn Antenna	ETS	3117	00086197	2011-01-09	2012-01-08

4.3 Test Procedure

Test is conducting under the description of EN 55022 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement §10



4.4 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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

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

$$\text{Margin} = \text{Corr. Ampl.} - \text{EN55022\& Class B Limit}$$

4.5 Environmental Conditions

Temperature:	23° C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

4.6 Summary of Test Results/Plots

According to the data in section 4.6, the EUT complied with the EN55022 Class B standards, and had the worst margin is:

**-3.03 dBμV at 30.4238 MHz in the, Vertical polarization, Model GTM)41060CC2505, Quasi peak mode,
30 MHz to 6 GHz, 3Meters**

Plot of Radiation Emissions Test Data

Radiated Emission

EUT: Power supply

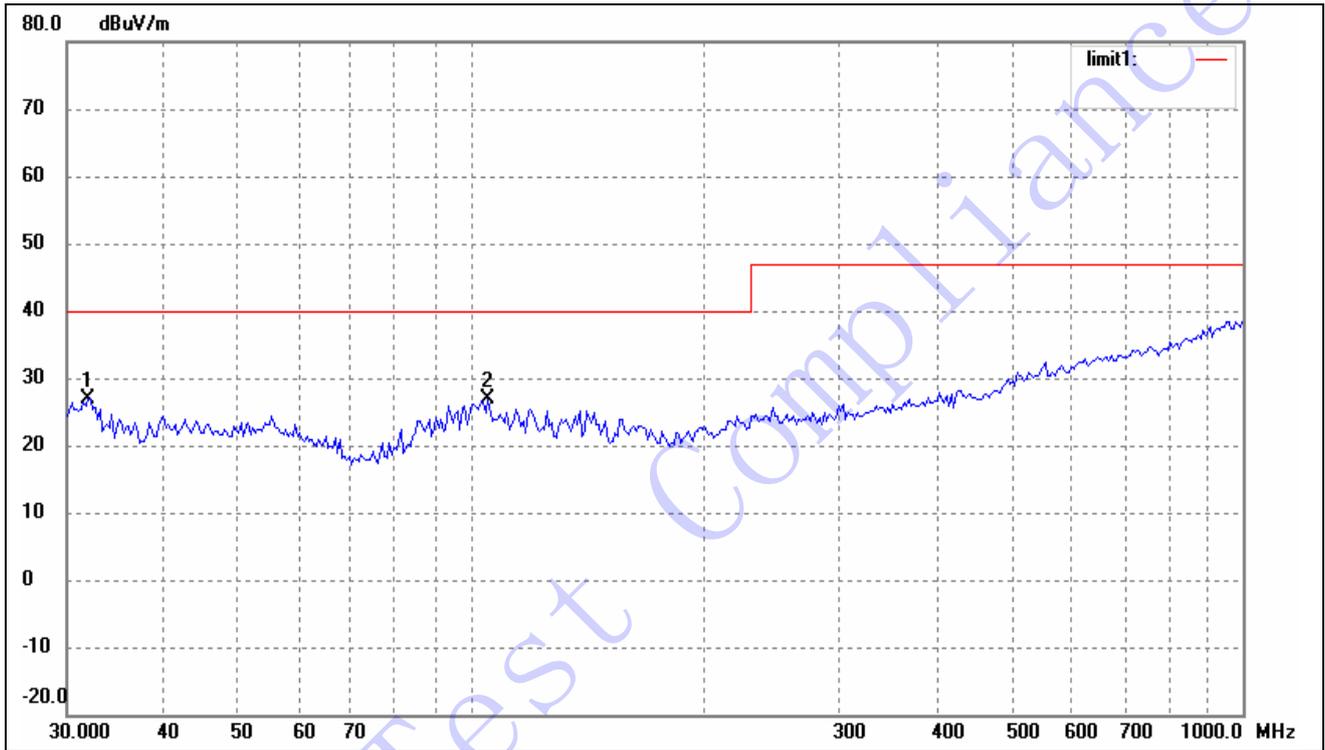
M/N: GT-41060-1505

Operating Condition: Full Load

Test Specification: Horizontal & Vertical

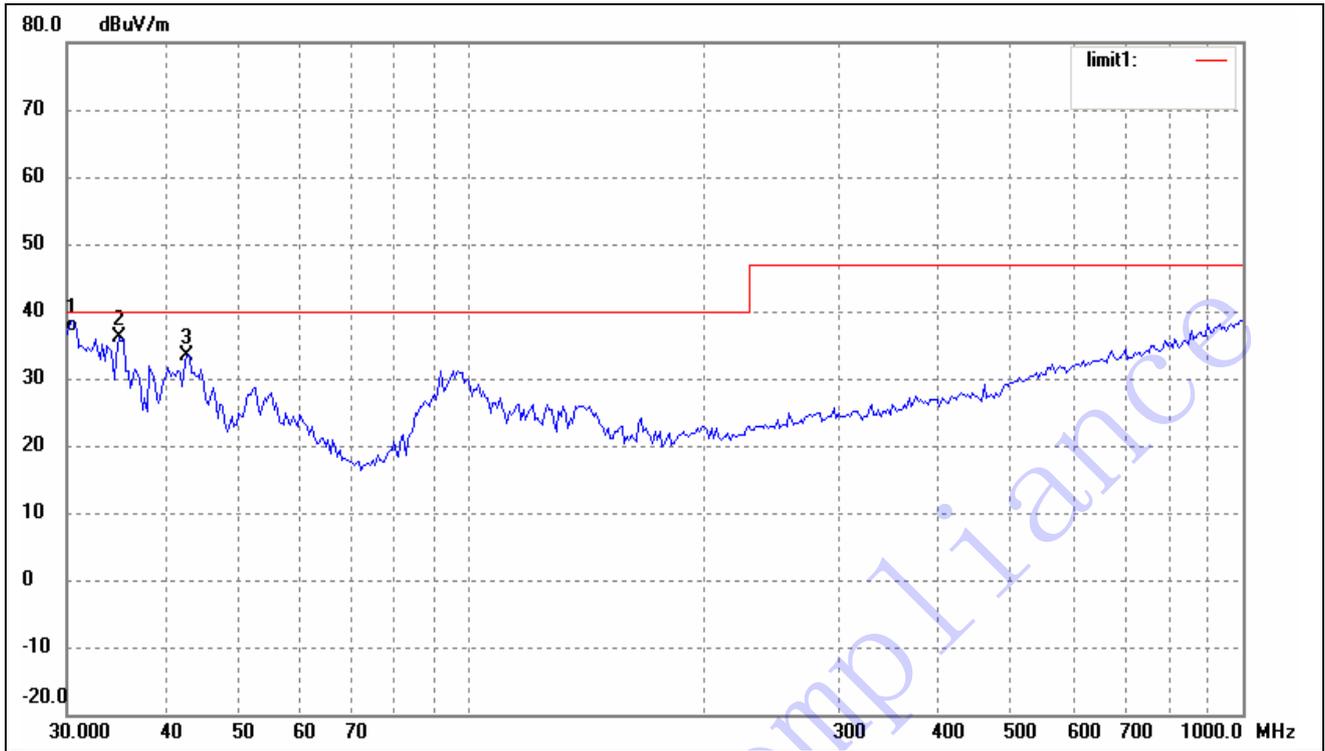
Comment: AC 230V

Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	31.9546	20.21	6.77	26.98	40.00	-13.02	360	100	peak
2	105.2718	18.91	7.99	26.90	40.00	-13.10	360	100	peak

Vertical:



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.4238	30.20	6.77	36.97	40.00	-3.03	360	100	QP
2	35.0048	29.25	6.77	36.02	40.00	-3.98	360	100	peak
3	42.8998	25.18	8.20	33.38	40.00	-6.62	360	100	peak

Note: emissions are only the base noise in frequency 1GHz~6GHz.

Radiated Emission

EUT: Power supply

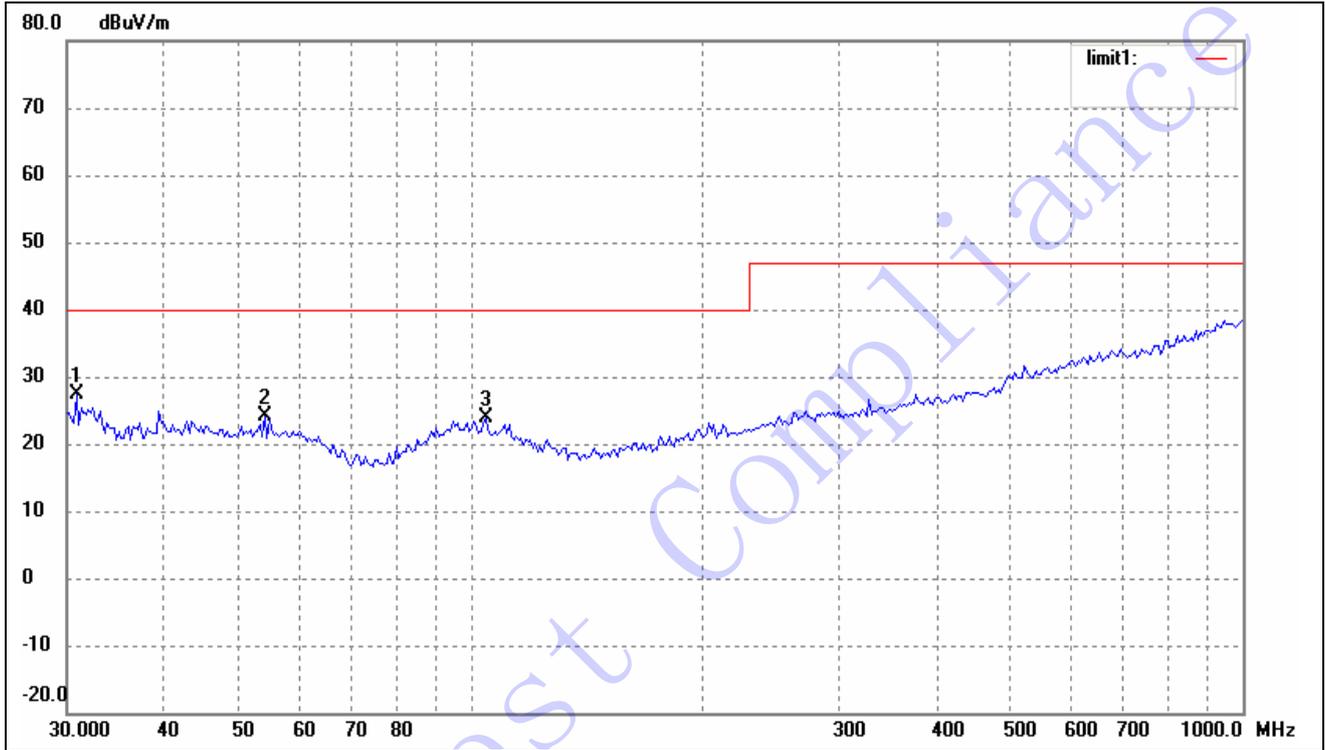
M/N: GTM41060CC2530

Operating Condition: Full Load

Test Specification: Horizontal & Vertical

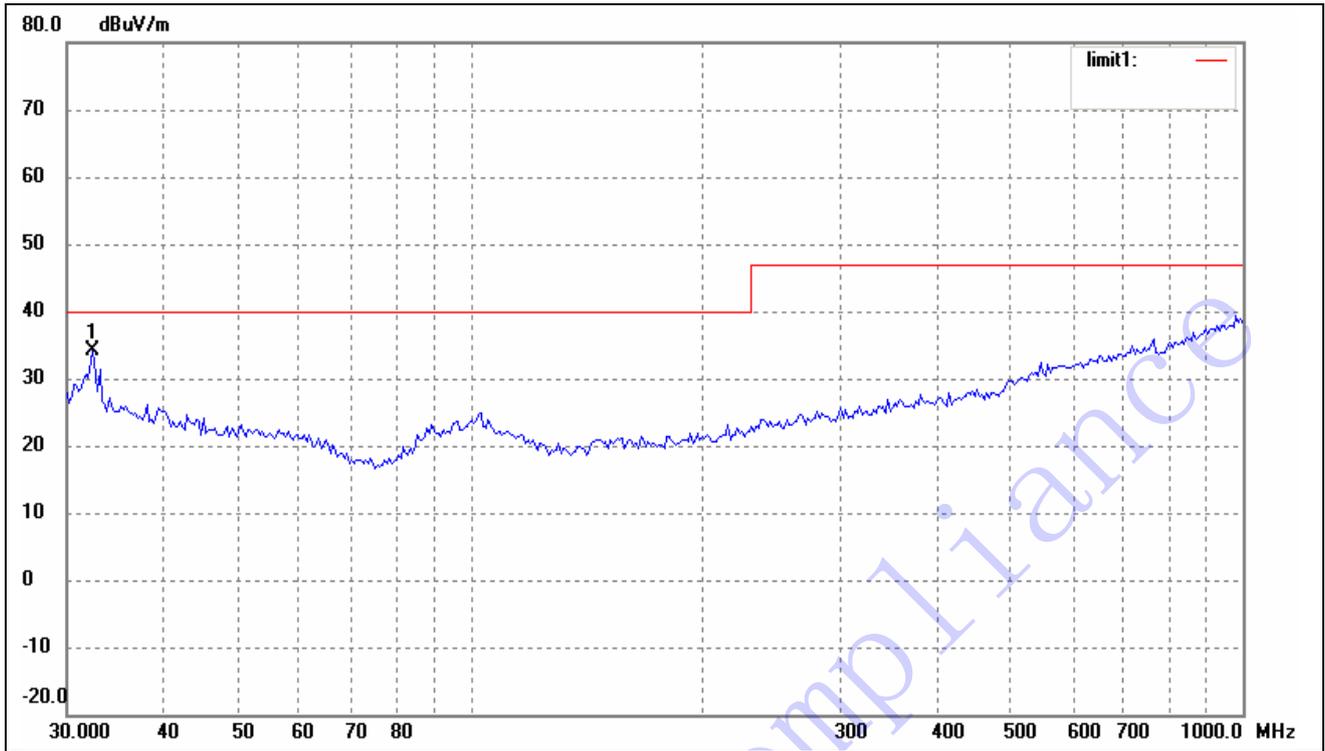
Comment: AC 230V

Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.8535	20.56	6.77	27.33	40.00	-12.67	360	100	peak
2	54.0711	16.36	7.80	24.16	40.00	-15.84	360	100	peak
3	104.5361	15.88	8.04	23.92	40.00	-16.08	360	100	peak

Vertical:



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	32.4059	27.38	6.77	34.15	40.00	-5.85	360	100	peak

Note: emissions are only the base noise in frequency 1GHz~6GHz.

5. EN 61000-3-2 HARMONIC CURRENT EMISSIONS

5.1 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Digital Power Analyzer	Em Test AG/Switzerland	DPA 500	V0745103095	2010-12-20	2011-12-19
Source	Em Test AG/Switzerland	ACS 500	V0745103096	2010-12-20	2011-12-19

5.2 Test Procedure

Test is conducting under the description of EN61000-3-2: 2006+A2: 2009

5.3 Test Standards

EN61000-3-2: 2006+A2: 2009

Limit: Clause 7

Environmental Conditions

Temperature:	22 °C
Relative Humidity:	48%
ATM Pressure:	1022 mbar

5.4 EN 61000-3-2: Harmonic Current Emissions Test Data

According to Clause 7 of EN 61000-3-2:2006+A2: 2009, the EUT (rate power is 25W) is less than 75W, belong to 'equipment with a rated power of 75W or less', therefore 'limits are not specified in this edition of the standards'. It is deem to full fit the requirements of the standards.

Test Result: Pass

6. EN 61000-3-3 VOLTAGE FLUCTUATION AND FLICKER

6.1 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Digital Power Analyzer	Em Test AG/Switzerland	DPA 500	V0745103095	2010-08-12	2011-08-11
Source	Em Test AG/Switzerland	ACS 500	V0745103096	2010-08-12	2011-08-11

6.2 Test Procedure

Test is conducting under the description of EN61000-3-3: 2008

6.3 Test Standards

EN61000-3-3: 2008

Limit: Clause 5

Environmental Conditions

Temperature:	22 °C
Relative Humidity:	48%
ATM Pressure:	1022 mbar

6.4 EN 61000-3-3: Voltage Fluctuation and Flicker Test Data

Flicker Test Summary per EN/IEC61000-3-3 (Run time)

EUT: GT-41060-1505

Tested by: JASON J

Test category: All parameters (European limits)

Test Margin: 100

Test date: 2011-9-24

Start time: 03:51:39 PM

End time: 04:01:55 PM

Test duration (min): 10

Data file name: F-000094.cts_data

Comment: FULL LOAD

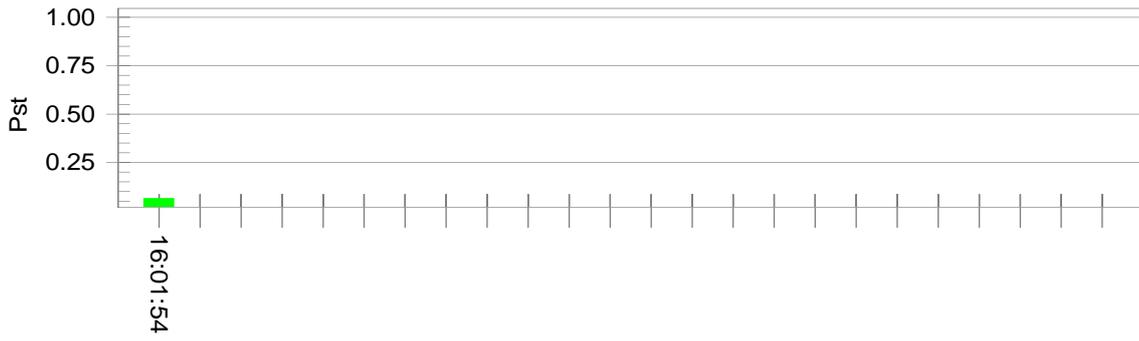
Customer: Customer

Test Result: Pass

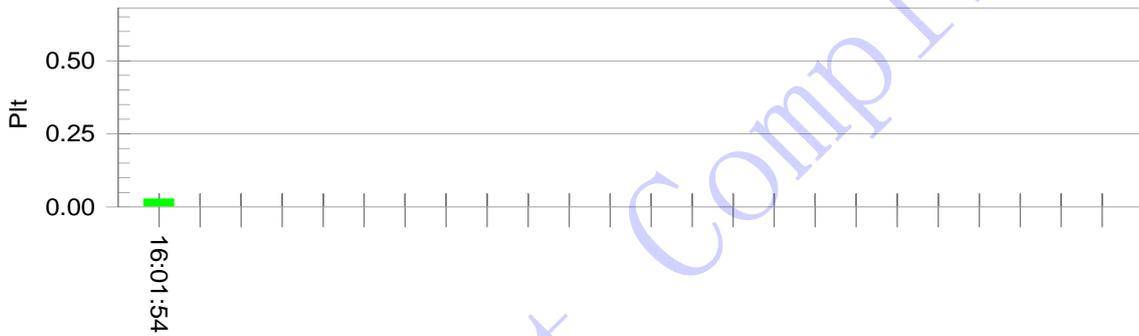
Status: Test Completed

Pst_i and limit line

European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	230.60			
Highest dt (%):	0.00	Test limit (%):	3.30	Pass
Time(mS) > dt:	0.0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.064	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.028	Test limit:	0.650	Pass

Flicker Test Summary per EN/IEC61000-3-3 (Run time)

EUT: GTM41060CC2530

Tested by: JASON J

Test category: All parameters (European limits)

Test Margin: 100

Test date: 2011-9-24

Start time: 03:36:17 PM

End time: 03:46:33 PM

Test duration (min): 10

Data file name: F-000093.cts_data

Comment: FULL LOAD

Customer: Customer

Test Result: Pass

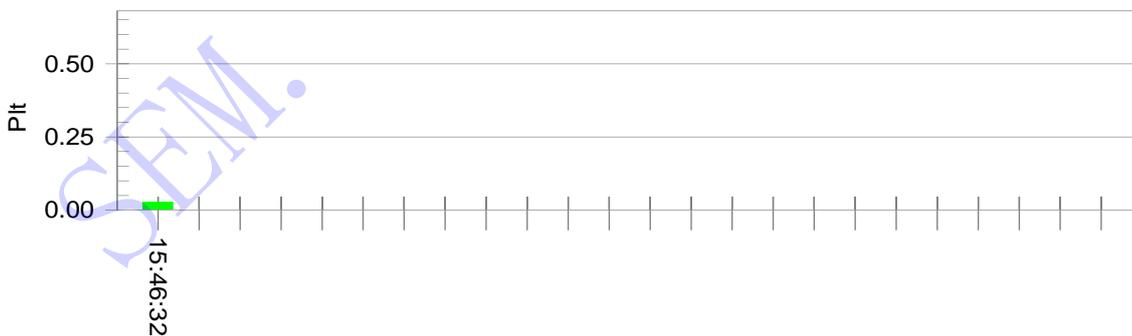
Status: Test Completed

Pst_i and limit line

European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt): 230.65

Highest dt (%):	0.00	Test limit (%):	3.30	Pass
Time(mS) > dt:	0.0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.064	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.028	Test limit:	0.650	Pass

Test Result: Pass

SEM. Test Compliance

7. Electrostatic Discharge Immunity (ESD)

7.1 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
ESD Generator	TESQ AG	NSG 437	161	2010-12-20	2011-12-19

7.2 Test Procedure

Test is conducting under the description of EN 61000-4-2.

Test Performance

Performance Criterion: B

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

7.3 EN61000-4-2: Electrostatic Discharge Immunity Test Data

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Slots	A	A	A	A	A	A	A	A		

Table 2: Electrostatic Discharge Immunity (Direct Contact)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
DC Port	A	A	A	A						

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Front Side	A	A	A	A						
Top Side	A	A	A	A						
Back Side	A	A	A	A						
Left Side	A	A	A	A						
Right Side	A	A	A	A						

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Front Side	A	A	A	A						
Top Side	A	A	A	A						
Back Side	A	A	A	A						
Left Side	A	A	A	A						
Right Side	A	A	A	A						

Test Result: Pass

8. Continuous Radiated Disturbances

8.1 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Signal Generator	Rohde & Schwarz	SMT03	100059	2010-12-20	2011-12-19
Voltage Probe	Rohde & Schwarz	URV5-Z2	100013	2010-12-20	2011-12-19
Power Amplifier	AR	150W1000	300999	2010-12-20	2011-12-19
Power Amplifier	AR	25S1G4AM1	305993	2010-12-20	2011-12-19
Trilog Antenna	SCHWARZBECK	VULB9163	9163-333	2011-01-09	2012-01-08
Anechoic chamber	Albatross Projects	MCDC	----	2010-03-20	2012-03-19

8.2 Test Procedure

Test is conducting under the description of EN 61000-4-3.

Test Performance

Performance Criterion: A

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1010 mbar

8.3 EN61000-4-3: Continuous Radiated Disturbances Test Data

Frequency step: 1% of fundamental

Dwell time: 1 second

Frequency Range (MHz)	Front (3 V/m)		Rear (3 V/m)		Left Side (3 V/m)		Right Side (3 V/m)	
	VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
80-2500	A	A	A	A	A	A	A	A

Test Result: Pass

9. Electrical Fast Transients

9.1 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Transient 2000	EMC PARTNER	TRA2000	863	2010-12-20	2011-12-19
Couple Clamp	EMC PARTNER	CN-EFT1000	513	2010-12-20	2011-12-19

9.2 Test Procedure

Test is conducting under the description of EN 61000-4-4.

Test Performance

Performance Criterion: B

Environmental Conditions

Temperature:	22 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

9.3 EN61000-4-4: Electrical Fast Transients Test Data

EN 61000-4-4 Test Points		Test Levels (kV)							
		+0.5	-0.5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
Power Supply Power Line of EUT	L1	A	A	B	B	/	/	/	/
	L2	A	A	B	B	/	/	/	/
	Earth	/	/	/	/	/	/	/	/
	L1+L2	A	A	B	B	/	/	/	/
	L1 + Earth	/	/	/	/	/	/	/	/
	L2 + Earth	/	/	/	/	/	/	/	/
	L1+L2+Earth	/	/	/	/	/	/	/	/
Signal ports		/	/	/	/	/	/	/	/

Test Result: Pass

10. Surge

10.1 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Transient 2000	EMC PARTNER	TRA2000	863	2009-10-09	2010-10-08
Couple Clamp	EMC PARTNER	CN-EFT1000	513	2009-10-09	2010-10-08

10.2 Test Procedure

Test is conducting under the description of EN 61000-4-5.

Test Performance

Performance Criterion: B

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

10.3 EN61000-4-5: Surge Test Data

Level	Voltage	Poll	Path	Pass	Fail
1	0.5kV	±	L-N	A	/
2	1kV	±	L-N	A	/
3	2kV	±	L-PE, N-PE	/	/
4	4kV	±	L-N, L-PE, N-PE	/	/

Test Result: Pass

11. Continuous Conducted Disturbances

11.1 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Immunity simulator	EMTEST	MV500	0800-44	2010-12-20	2011-12-19

11.2 Test Procedure

Test is conducting under the description of EN 61000-4-6.

Test Performance

Performance Criterion: A

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

11.3 EN61000-4-6: Continuous Conducted Disturbances Test Data

Sweep frequency range: 150kHz~80MHz

Frequency step: 1% of fundamental

Dwell time: 1 second

Level	Voltage Level (e.m.f.) U_0	Modulation:	Pass	Fail
1	1	AM 80%, 1kHz sinewave	/	/
2	3	AM 80%, 1kHz sinewave	A	/
3	10	AM 80%, 1kHz sinewave	/	/
X	Special	/	/	/

Test Result: Pass

12. Power-Frequency Magnetic Field

12.1 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMC PRO	KEYTEK	EMC Pro	0509124	2010-12-20	2011-12-19
Coil	KEYTEK	F-1000-4-8	0533	2010-12-20	2011-12-19

12.2 Test Procedure

Test is conducting under the description of IEC 61000-4-8:2009.

Test Performance

Performance Criterion: A

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

12.3 EN61000-4-8: Voltage Dips And Interruptions Test Data

Level	Magnetic Field Strength (r.m.s) A/m	Frequency Hz	Induction Coil Position	Pass	Fail
1	1	50	X, Y, Z	/	/
2	3	50	X, Y, Z	A	/
3	10	50	X, Y, Z	/	/
X	Special	/		/	/

Test Result: Pass

13. Voltage Dips And Interruptions

13.1 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Transient 2000	EMC PARTNER	TRA2000	863	2010-12-20	2011-12-19
Couple Clamp	EMC PARTNER	CN-EFT1000	513	2010-12-20	2011-12-19

13.2 Test Procedure

Test is conducting under the description of EN 61000-4-11.

Test Performance

Performance Criterion: B/C

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

13.3 EN61000-4-11: Voltage Dips And Interruptions Test Data

Level	U2	td	Phase Angle	N	Pass	Fail
1	>95%	10ms	0/90/180/270	3	A	/
2	30%	500ms	0/90/180/270	3	B	/
3	60%	100ms	0/90/180/270	3	C	/
4	>95%	5000ms	0/90/180/270	3	C	/

Test Result: Pass

EXHIBIT 1- PRODUCT LABELING

Proposed CE Label Format



Specifications: Text is Black in color and is justified. Labels are printed in indelible ink on permanent adhesive backing or silk-screened onto the EUT or shall be affixed at a conspicuous location on the EUT.

Proposed Label Location on EUT

CE Label Location



EXHIBIT 2 - EUT PHOTOGRAPHS

EUT View 1



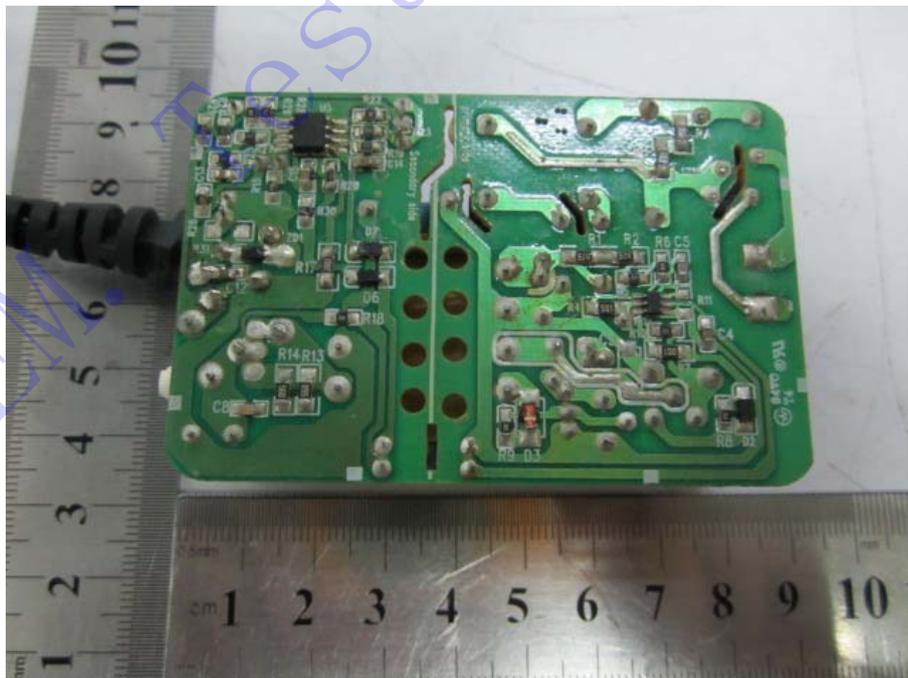
EUT View 2



EUT Housing and Board View 1



Solder Board-Component View 1



Solder Board-Component View 2



EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

Conduction Emission Test View



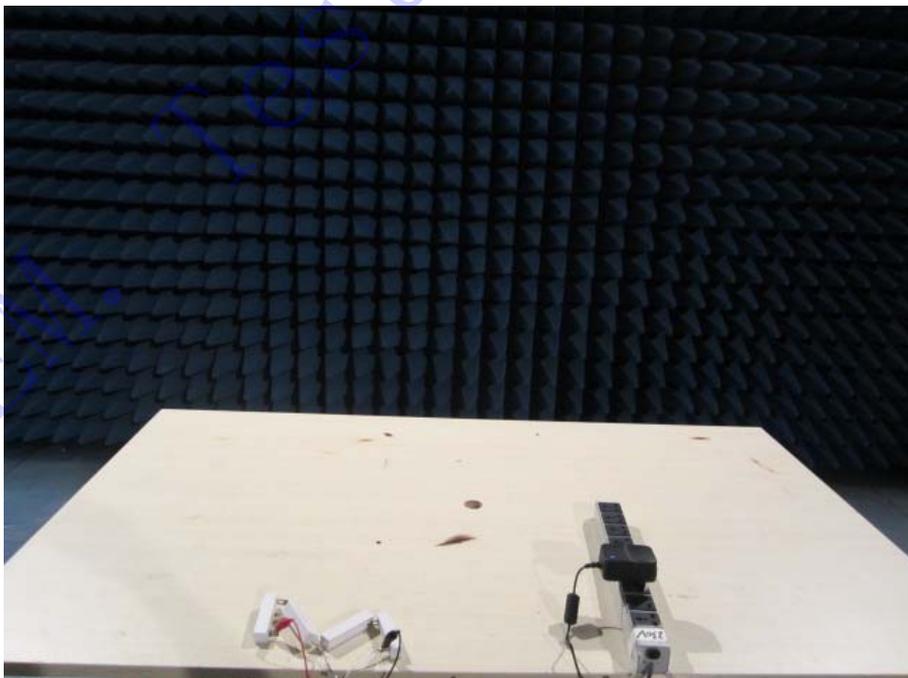
Radiation Emission Test View



IEC 61000-4-2



IEC 61000-4-3



IEC 61000-4-4/-5/-11



IEC 61000-4-6



EXHIBIT 4 - SCHEMATICS

EXHIBIT 5 - USERS MANUAL

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