

FCC CFR47 PART 15 SUBPART C CERTIFICATION TEST REPORT

FOR

HANDHELD PRINTER TERMINAL

MODEL NUMBER: IT-3000M53E, IT-3000M54E2, IT-3000M55U, IT-3000M56U

FCC ID: BBQIT3000

REPORT NUMBER: 07J11169-10, REVISION E

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Prepared for CASIO COMPUTER CO., LTD. 6-2 HONMACHI 1-CHOME SHIBUYA-KU, TOKYO 151-8543, JAPAN

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NVLAP LAB CODE 200065-0

Revision History

	Issue		
Rev.	Date	Revisions	Revised By
	8/13/07	Initial Issue	Hsin Fu Shih
В	8/14/07	Revised model name	Tiffany Hong
С	8/17/07	Corrected some typo in Sec. 5.3	Hsin Fu Shih
D	8/20/07	Updated EUT description	Hsin Fu Shih
Е	8/23/07	Added Antenna Port Peak Output Power Section	Tom Chen

Page 2 of 33

TABLE OF CONTENTS

1.	A	TTESTATION OF TEST RESULTS	4
2.	Т	EST METHODOLOGY	5
3.	F	ACILITIES AND ACCREDITATION	5
4.	С	CALIBRATION AND UNCERTAINTY	.5
	4.1.	MEASURING INSTRUMENT CALIBRATION	5
	4.2.	MEASUREMENT UNCERTAINTY	5
5.	E	QUIPMENT UNDER TEST	.6
	5.1.	DESCRIPTION OF EUT	6
	5.2.	MAXIMUM OUTPUT POWER	6
	5.3.	SOFTWARE AND FIRMWARE	6
	5.4.	WORST-CASE CONFIGURATION AND MODE	7
	5.5.	DESCRIPTION OF TEST SETUP	7
6.	Т	EST AND MEASUREMENT EQUIPMENT	9
7.	L	IMITS AND RESULTS1	0
	7.1.		
	7.	.1.1. PEAK OUTPUT POWER 1	
	7.2.	<i>RADIATED EMISSIONS</i>	
		.2.2. TRANSMITTER RADIATED SPORIOUS EMISSIONS	
		2.2.3. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz	
	7.3.	POWERLINE CONDUCTED EMISSIONS2	?6
8.	S	ETUP PHOTOS	30

Page 3 of 33

1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	6-2 HON-MAC	UTER CO., LTD. HI 1-CHOME TOKYO 151-8543, JAPAN		
EUT DESCRIPTION:	HANDHELD P	HANDHELD PRINTER TERMINAL		
MODEL:	IT-3000M55U	IT-3000M55U		
SERIAL NUMBER: 780HE915400831AAAB1				
DATE TESTED:	JULY12-JULY1	JULY12-JULY16, 2007		
	APPLICAB	LE STANDARDS		
STANDAR	D	TEST RESULTS		
FCC PART 15 SUBPART C		NO NON-COMPLIANCE NOTED		

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

Tested By:

Hsin-Fr Shih

HSIN FU SHIH ENGINEERING SUPERVISOR COMPLIANCE CERTIFICATION SERVICES

TOM CHEN EMC ENGINEER COMPLIANCE CERTIFICATION SERVICES

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <u>http://www.ccsemc.com</u>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Radiated Emission, Above 2000 MHz	+/- 4.3 dB
Power Line Conducted Emission	+/- 2.9 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a handheld printer terminal that is intended to work with different battery charger units. The EUT and the battery charger units are manufactured by Casio Computer Co., Ltd.

Model Number	Magnetic card reader	CMOS Imager	Bluetooth
IT-3000M53E	No	No	Yes
IT-3000M54E2	Yes (Track 1,2,3)	N/A	Yes
IT-3000M55U*	Yes (Track 1,2,3)	Yes	Yes
IT-3000M56U	No	Yes	Yes

The EUT model was chosen as a representative of the following four models:

*: Model tested

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range	Mode	Output Power	Output Power
(MHz)		(dBm)	(mW)
2402 - 2480	GFSK	1.60	1.45

5.3. SOFTWARE AND FIRMWARE

The test utility software used during testing was BTRadioTest WCE, Ver. 100 and LMWIN, Ver 1.06c.

Page 6 of 33

5.4. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power. The highest measured output power was at 2402 MHz.

Worst case configuration t was determined to be when the EUT sited on the Bridge Satellite cradle. So all emission testing has been done with this configuration.

5.5. DESCRIPTION OF TEST SETUP

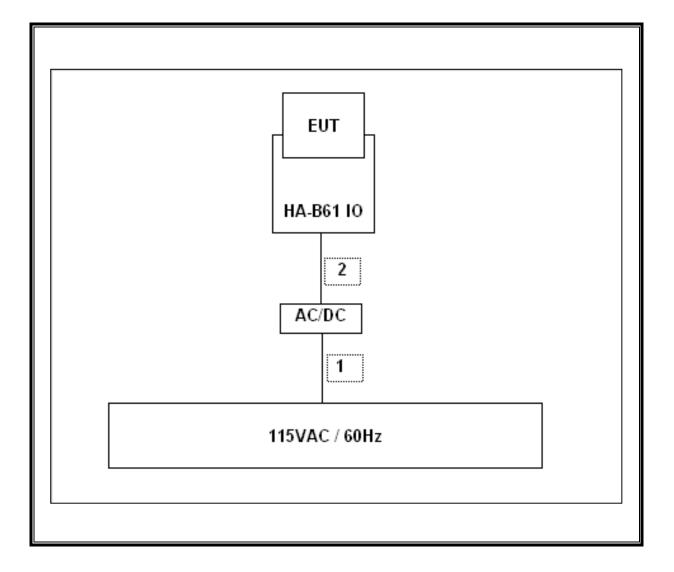
SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST						
Description	Manufacturer	Model	Serial Number	FCC ID		
BRIDGE SATELLITE CRADLE	CASIO	HA-D61 IO	CS117	N/A		
AC ADAPTER	CASIO	AD-S42120B	8	N/A		

I/O CABLES

	I/O CABLE LIST						
Cable No.		# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks	
1	AC	1	AC	UNSHIELDED	2m	N/A	
2	DC	1	DC	UNSHIELDED	1.92m	Ferrite on DC otput side	

SETUP DIAGRAM FOR TESTS



Page 8 of 33

6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

	TEST EQUIPMENT LIST						
Description	Manufacturer	Model	S/N	Cal Due			
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	7/15/1905	09/15/07			
Antenna, Bilog 30MHz ~ 2GHz	Sunol Sciences	JB1	A0022704	08/13/07			
Preamplifier	HP	8447D	1937A02062	09/15/07			
EMI Receiver, 9 kHz ~ 2.9 GHz	HP	8542E	3942A00286	06/12/08			
RF Filter Section	HP	85420E	3705A00256	06/12/08			
Preamplifier 1-26.5 GHz	HP	8449B	3008A00931	08/01/07			
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	2238	04/15/08			
EMI Test Receiver	R & S	ESHS 20	827129/006	01/27/08			
EMI Test Receiver	R & S	ESIB40	100192	09/26/07			
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	8379443	09/15/07			
Conditioner	Tripplite	LC-1800a	A0051681	C.N.R.			
4.0 High Pass Filter	Micro Tronics	HPM13351	3	N/A			
2.4 - 2.5 Reject Filter	Micro Tronics	BRM50702	3	N/A			
Peak Power Meter	Agilent	E4416A	GB41291160	38757			

Page 9 of 33

7. LIMITS AND RESULTS

7.1. ANTENNA PORT TEST RESULTS

7.1.1. PEAK OUTPUT POWER

PEAK POWER LIMIT

§15.247 (b) The maximum peak output power of the intentional radiator shall not exceed the following:

§15.247 (b) (1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels: 1 watt.

\$15.247 (b) (4) Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The maximum antenna gain is -0.35 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

The transmitter output is connected to a peak power meter of the EUT.

RESULTS

No non-compliance noted:

Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	1.60	30	-28.40
Middle	2441	1.06	30	-28.94
High	2480	0.43	30	-29.57

Page 10 of 33

7.2. RADIATED EMISSIONS

7.2.1. TRANSMITTER RADIATED SPURIOUS EMISSIONS

LIMITS

§15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	$(^{2})$
13.36 - 13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

§15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

Page 11 of 33

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

\$15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

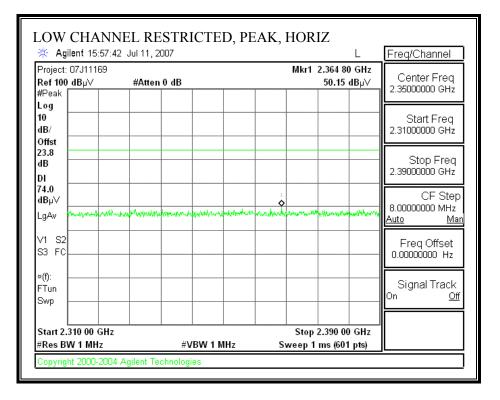
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each 5 GHz band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

Page 12 of 33

7.2.2. TRANSMITTER RADIATED EMISSIONS ABOVE 1 GHZ

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

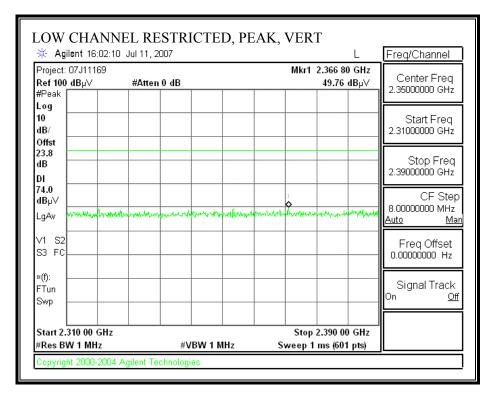


Page 13 of 33

🔆 Agilent 15:58	:36 Jul 11, 2007		Freq/Channel
Project: 07J11169 Ref 100 dB µ∨ #Peak	#Atten 0 dB	Mkr1 2.36 37.	9 87 GHz 25 dBµ√ 2.35000000 GHz
Log 10 dB/ Offst			Start Freq 2.31000000 GHz
dB			Stop Freq 2.39000000 GHz
54.0 dBµ∨ LgAv			CF Step 8.00000000 MHz Auto Mar
V1 S2			Freq Offset 0.00000000 Hz
×(f): FTun Swp			Signal Track
Start 2.310 00 GH #Res BW 1 MHz	z #VBW 1	Stop 2.39 0 Hz Sweep 6.238 s (6	

Page 14 of 33

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

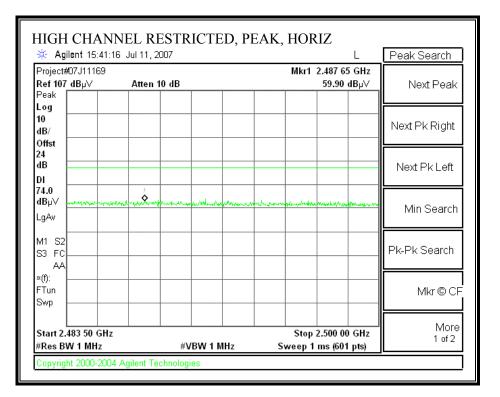


Page 15 of 33

🔆 Agilent 16:03	NEL RESTRICT :04 Jul 11, 2007	, ,		L	Freq/Channel
Project: 07J11169 Ref 100 dB µ∨ #Peak □	#Atten 0 dB		Mkr1 2.370 37.2) 13 GHz 29 dBµ∨	Center Freq 2.35000000 GHz
Log 10 dB/ Offst					Start Freq 2.31000000 GHz
23.8 dB DI					Stop Freq 2.39000000 GHz
54.0 dBµ∀ LgAv			1		CF Step 8.0000000 MHz <u>Auto Mar</u>
V1 S2 S3 FC					Freq Offset 0.00000000 Hz
×(f): FTun Swp					Signal Track On <u>Off</u>
Start 2.310 00 GH #Res BW 1 MHz	z #VBW	10 Hz Swe	Stop 2.390 ep 6.238 s (6)		

Page 16 of 33

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

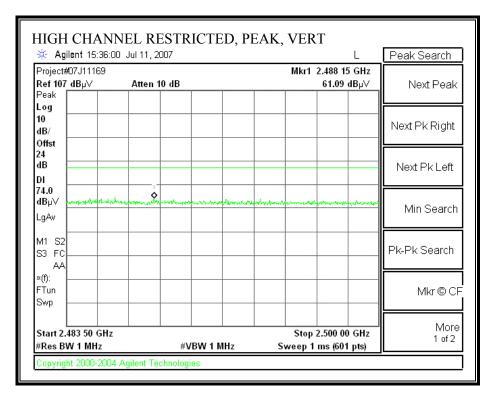


Page 17 of 33

Agilent 15:42	NEL RESTRIC 23 Jul 11, 2007	JIED, A	VO, HORIZ	L	Peak Search
Project#07J11169 Ref 107 dB µ∨ Norm	Atten 10 dB		Mkr1 2.48 47.	3 53 GHz 64 dBµ∨	Next Peak
Log 10 dB/ Offst					Next Pk Right
24 dB DI					Next Pk Left
54.0 dBµ∀ LgAv					Min Search
W1 S2 S3 FC AA					Pk-Pk Search
»(f): FTun Swp					Mkr © CF
Start 2.483 50 GH #Res BW 1 MHz	-	W 10 Hz	Stop 2.50 Sweep 1.287 s (6		More 1 of 2

Page 18 of 33

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



Page 19 of 33

HIGH CHAN		AICTED, A	VG, VERI	L	Peak Search
Project#07J11169 Ref 107 dB µ∨ Norm	Atten 10 dB		Mkr1	2.483 50 GHz 47.77 dBµ∀	Next Peak
Log 10 dB/ Offst					Next Pk Right
24 dB DI					Next Pk Left
54.0 dBµ∨ LgAv					Min Search
V1 S2 S3 FC AA					Pk-Pk Search
»(f): FTun Swp					Mkr © CF
Start 2.483 50 GH: #Res BW 1 MHz	-	VBW 10 Hz	Stop Sweep 1.287	2.500 00 GHz 7 s (601 pts)	More 1 of 2

Page 20 of 33

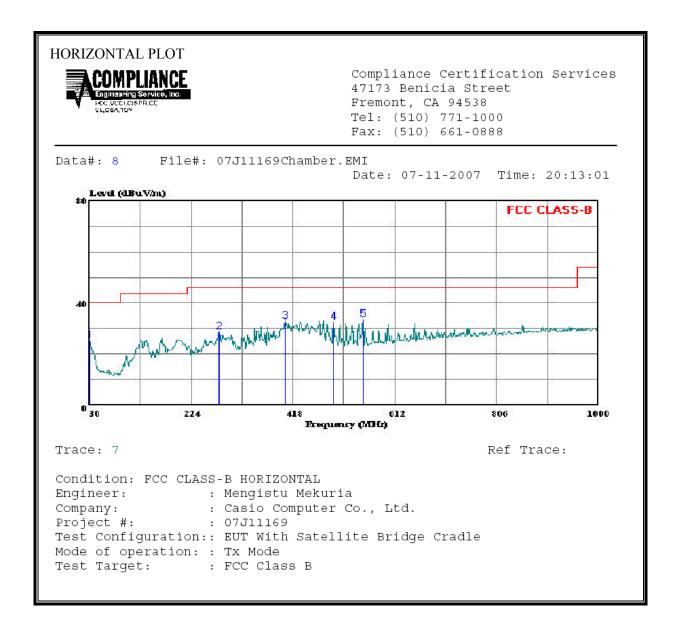
HARMONICS AND SPURIOUS EMISSIONS

Campliance Certification Services, Freemont 5m Chamber Company: Casis Computer Project #: 0711109 Date: 711207 Test Engineent: Mode: Test Engineent: Test Engi		~	Frequency I															
Project # 07.111.00 Date: 17.112.00 Test Engineer: Ton Chen Configuration: EUT with Bridge Satellite Crafte / AC Adaptor: Note: Tor Kurw Mill Bridge Satellite Crafte / AC Adaptor: Test Equipment: Test Equipment: Test Equipment: Tots: Strucz 238 @3m Tit44 Miteg 3008A00931 Tit44 Miteg 3008A000 Tit44 Miteg 3008A00931 Tit44 Miteg 300 A00 A0 A040 Tit44 A1	Complia	ance Ce	rtification Se	ervices, Frei	nont 51	n Chai	nber											
Project # 07.111.00 Date: 17.112.00 Test Engineer: Ton Chen Configuration: EUT with Bridge Satellite Crafte / AC Adaptor: Note: Tor Kurw Mill Bridge Satellite Crafte / AC Adaptor: Test Equipment: Test Equipment: Test Equipment: Tots: Strucz 238 @3m Tit44 Miteg 3008A00931 Tit44 Miteg 3008A000 Tit44 Miteg 3008A00931 Tit44 Miteg 300 A00 A0 A040 Tit44 A1	Compa		Cacia Commut															
Test Engineer: Ten Cent Congrunting Extention could / AC Adaption Congrunting Extention could / AC Adaption Test Equipment Test Equipment Test Equipment Test Equipment Test Equipment Test Equipment Test Cable Per-amplifer 1-26GHz Horn > 18GHz Linit Test Cable 12 foot cable Per-amplifer 26-40GHz Her ADGHz Per Measurement Test Cable 12 foot cable Per Measurement Test Cable 12 foot cable Per Measurement Rever Wer Wer Wer Wer Wer Wer Wer Wer Wer W			-															
Configurent: Note: Tx Lew / Mid / Hi Channels Test Equipment: Image: Stability Caulter Caulter / Loss of the stability of	Date:		7/11/2007															
Mode: Tx Lew / Mid / Hi Channels Test Equipment: Pre-amplifer 1-26 GHz Pre-amplifer 26-40 GHz Horn > 18 GHz Limit 160: S/h: 2238 @3m 1144 Mileq 3008 A00931 1 </th <th></th>																		
Test Equipment: Test Equipment: <th></th> <th>ration: 1</th> <th></th> <th></th> <th>e Cradl</th> <th>e / AC</th> <th>Adapto</th> <th>r</th> <th></th>		ration: 1			e Cradl	e / AC	Adapto	r										
Hom 1-18GHz Pre-amplifer 1-26GHz Pre-amplifer 26-40GHz Hom > 18GHz Limit T60: S/N: 2238 @3m T144 Miteq 3008A00331 T144 Miteq 3008A00331 T144 Miteq 3008A00331 T144 Miteq 3008A00331 T12 foot cable HPF Reject Filter Peak Measurements The requency Cables 3 foot cable 12 foot cable HPF Reject Filter Peak Measurements RBW-VBW=1MHz Asm Chamber Asm Chamber T14 Miteq 3008A00331 Resurements Resurements f Dist Read Avg AF CL Amp D Corr Fitr Peak Avg g Lim Rv g Lim Rv g Mar Notes GHz (m) dBuV dBin dB dB dB dB/Vim dB	Mode:		Tx Low/Mid/	Hi Channels														
Tel: SN: 2238 @3m FCC 15.209 FCC 16.201 FCC 16.201 FCC 16.201 FCC 16.201 FCC 15.209 FCC 15.209 FCC 15.209 FCC 15.209 FCC 15.209 FCC 15.209 FCC 15.201	Test Eq	uipmen	<u>t:</u>															
Tel: SN: 2238 @3m FCC 15.209 FCC 16.201 FCC 16.201 FCC 16.201 FCC 16.201 FCC 15.209 FCC 15.209 FCC 15.209 FCC 15.209 FCC 15.209 FCC 15.209 FCC 15.201		lorp 1	1904-	Pre-ar	nnlifer	1.260	247	Pre-am	nlifer	26-4004	7		ц	orn > 18(247		Limit	
Iterational production 3 foot cable 12 foot cable HPF Reject Filter Peak Measurements RBW=VBW=1MHz 1 1 Asm Chamber 1 Peak Masser Reject Filter Reject Filter Rewerpart 1 Dist Read Avg. AF CL Amp D Corr Fitr Peak Avg Pk Lim Avg Lim Pk Mar Avg Mar Notes 1 Oth Oth Bd Bd Bd Bd BuV/m dBuV/m dB					· ·			- io-aili	Pilel	20-4000	-	_			-112			
2 foot cable 3 foot cable 12 foot cable HPF Reject Filter Peak Measurements RBW=VEW=1MHz 1	T60;	S/N: 223	38 @3m	▼ T144 M	Aiteq 30	08A009)31 🚽				•					-	FCC 15.209	•
2 foot cable 3 foot cable 12 foot cable HPF Reject Filter Peak Measurements RBW=VEW=1MHz 1	, T Hi Free	quency Cal	bles								_							
Image: Construction		2 foot	tcable		foot	able		12	footic	able			HPE	De	io ot Eilte	Peal	<u>a Measuremen</u> ts	
f Dist Read Pk Read Avg. AF CL Amp D Corr Fltr Peak Avg Pk Lim Avg Lim Pk Mar Avg Mar Notes GHz (m) dBuV dBuV dBm dB dB dB dB dB dB dB Vin dBuV/m dBuV/m dBuV/m dB dB (V/H) Low Ch (2402MHz) 33.0 6.9 .36.5 0.0 0.6 46.7 37.1 74 54 .27.3 .16.9 V 4804 3.0 44.6 39.5 33.0 6.9 .36.5 0.0 0.6 48.6 43.5 74 54 .26.9 .18.9 V 4804 3.0 44.6 39.5 33.0 6.9 .36.5 0.0 0.6 46.9 34.1 74 54 .27.1 .16.9 V 7206 3.0 38.8 26.0 35.6 0.0 0.6 47.2 35.0		21001	Capie											Re	Jectrice	RB	W=VBW=1MHz	
f Dist Read Pk Read Avg AF CL Amp D Corr Flt Peak Avg B L Lin Avg Lin Pk Mar Avg Mar Notes GHz (m) dBuV dBuV dB dB dB dB dB dB dB dB dW/m dBuV/m dB dB (VH) Low (K (2402MHz)				-			•	A-5m C	hamb	er 🗸		HPI	F_4.0GHz	•				
GHz (m) dBuV dBuV dB/m dB dB dB dB dB dB dB dBuV/m dBuV/m dBuV/m dBuV/m dB dB (V/H) Lew Ch (2402MHz) 733.1 33.0 6.9 -36.5 0.0 0.6 46.7 37.1 7.4 54 -27.3 -16.9 V A804 3.0 42.7 33.1 33.0 6.9 -36.5 0.0 0.6 47.1 35.1 7.4 54 -27.3 -16.9 V 4804 3.0 444.6 39.5 33.0 6.9 -36.5 0.0 0.6 47.1 7.4 54 -27.1 -19.9 H 72.06 3.0 38.8 26.0 35.4 8.4 -36.2 0.0 0.6 46.9 34.1 74 54 -27.1 -15.6 V 72.03 3.0 38.2 26.1 35.5 8.4 -36.2 0.0 0.6								I			1					RBW=	1MHz; VBW=10H	Z
GHz (m) dBuV dBv/m dB dB dB dB dB dB dB dB dV/m dBuV/m dBuV/m dB dB (V/H) Low Ch (2402MHz) v	f	Dist	Read Pk	Read Avg.	AF	CL	Amp	D Corr	Fltr	Peak		Avg	Pk Lim	Avg Lim	Pk Mar	Avg Mar	Notes	
4804 3.0 42.7 33.1 33.0 6.9 .36.5 0.0 0.6 46.7 37.1 7.4 5.4 .27.3 .16.9 V 7.206 3.0 39.0 27.0 35.4 8.4 .36.2 0.0 0.6 47.1 35.1 7.4 5.4 .26.9 .18.9 V 7.206 3.0 38.8 26.0 35.4 8.4 .36.2 0.0 0.6 46.6 43.5 7.4 5.4 .27.1 .19.9 H 7.206 3.0 38.8 26.0 35.4 8.4 .36.2 0.0 0.6 46.9 34.1 7.4 5.4 .27.1 .15.6 V 4882 3.0 42.8 34.3 33.1 6.9 .36.5 0.0 0.6 46.9 38.4 7.4 54 .27.1 .15.6 V 7323 3.0 38.2 26.1 35.5 8.4 .36.2 0.0 0.6 46.5 34.4 74 54 .27.2 .13.4 H 7323 <	GHz	(m)	dBuV	-		dB	•	dB	dB	dBuV/m		~	dBuV/m			<u> </u>	(V/H)	
7.206 3.0 39.0 27.0 35.4 8.4 -36.2 0.0 0.6 47.1 35.1 74 54 -26.9 -18.9 V 4804 3.0 44.6 39.5 33.0 6.9 -36.5 0.0 0.6 48.6 43.5 74 54 -25.4 -10.5 H 7.206 3.0 38.8 26.0 35.4 8.4 -36.2 0.0 0.6 48.6 43.5 74 54 -25.4 -10.5 H Mid Ch(2441MHz) <																		
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Page 21 of 33

7.2.3. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

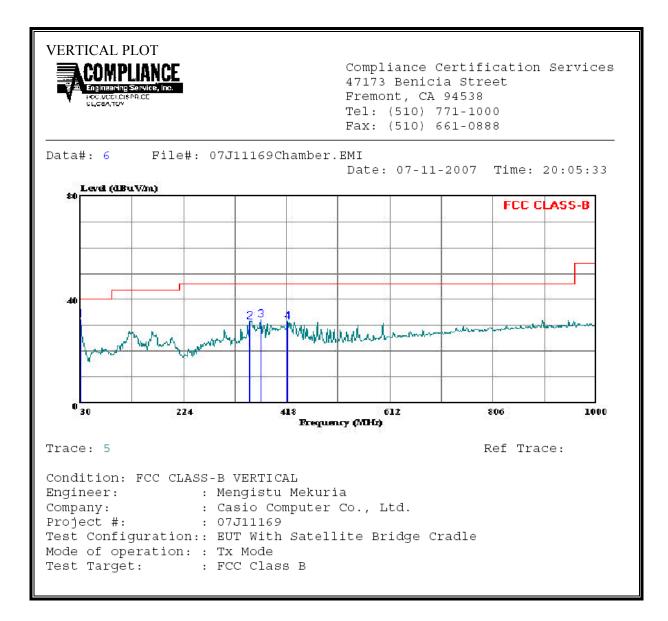


Page 22 of 33

HORIZONT	HORIZONTAL DATA											
	Read Freq Level Factor			Level	Limit Line	Over Limit	Remark					
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB						
2 270 3 402 4 494	5.380 2.480 4.630	41.76 42.59 40.21	-13.15 -9.86 -7.49	28.61 32.73 32.72		-17.39 -13.27 -13.28	Peak Peak Peak					

Page 23 of 33

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



Page 24 of 33

VER	TICAL DATA						
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	$\overline{dBuV/m}$	$\overline{dBuV/m}$	dB	
1 2 3 4	30.000 349.130 368.530 419.940	42.58 42.67	-11.03 -10.59	32.36 31.55 32.08 31.62	46.00 46.00	-14.45 -13.92	Peak Peak

Page 25 of 33

7.3. POWERLINE CONDUCTED EMISSIONS

LIMIT

\$15.207 (a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

The lower limit applies at the boundary between the frequency ranges.

Frequency of Emission (MHz)	Conducted I	.imit (dBuV)
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The resolution bandwidth is set to 9 kHz for both peak detection and quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

No non-compliance noted:

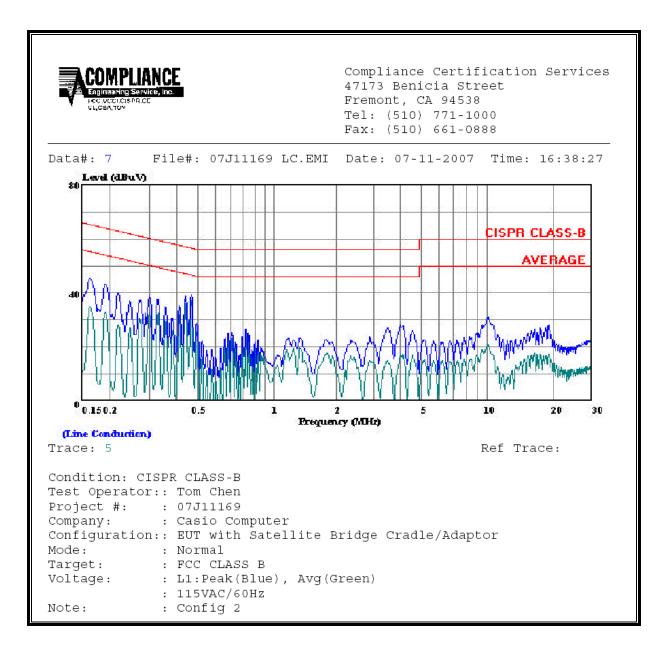
Page 26 of 33

6 WORST EMISSIONS

	CONDUCTED EMISSIONS DATA (115VAC 60Hz)										
Freq.		Reading		Closs	Limit	FCC_B	Marg	Remark			
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV(dB)	L1/L2		
0.16	45.40		34.88	0.00	65.31	55.31	-19.91	-20.43	L1		
0.19	43.34		32.60	0.00	64.08	54.08	-20.74	-21.48	L1		
0.46	39.64		36.69	0.00	56.62	46.62	-16.98	-9.93	L1		
0.15	49.58		19.62	0.00	65.84	55.84	-16.26	-36.22	L2		
0.17	49.48		16.01	0.00	65.01	55.01	-15.53	-39.00	L2		
0.46	38.20		35.28	0.00	56.77	46.77	-18.57	-11.49	L2		
6 Worst I	Data										

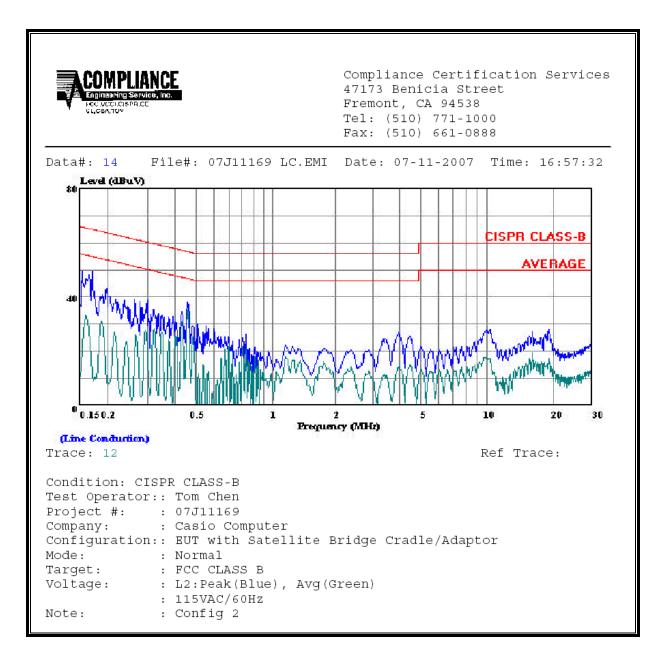
Page 27 of 33

LINE 1 RESULTS



Page 28 of 33

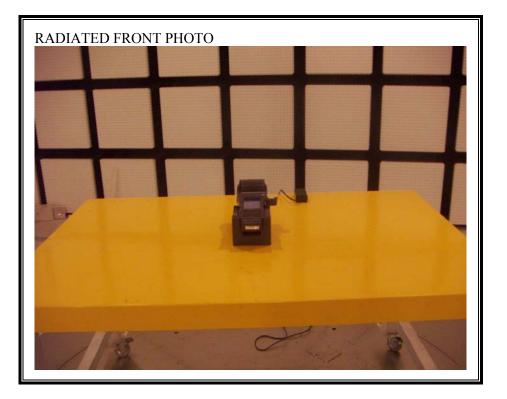
LINE 2 RESULTS



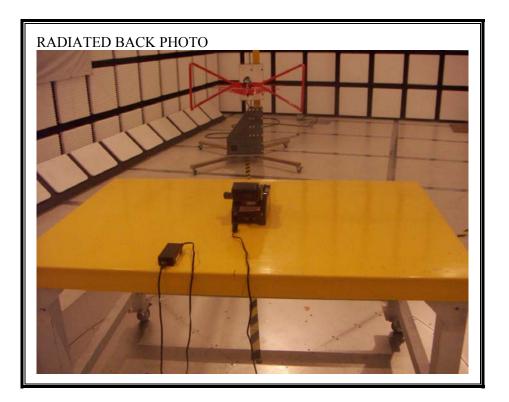
Page 29 of 33

8. SETUP PHOTOS

RADIATED RF MEASUREMENT SETUP

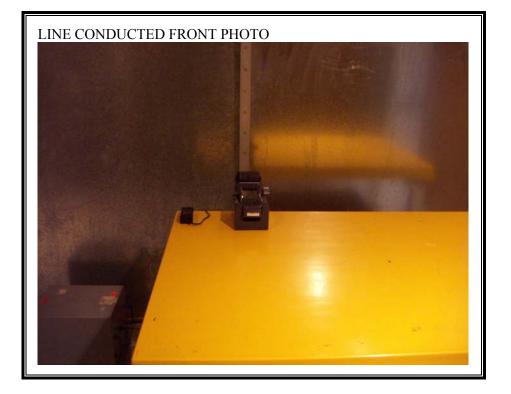


Page 30 of 33



Page 31 of 33

POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP



Page 32 of 33



END OF REPORT

Page 33 of 33