



Curtis-Straus LLC, a wholly owned subsidiary of BV CPS

Test Report

Report No EN3358-1

Client Lightlab Imaging (St. Jude Medical)
Jeffrey Roberts

Address 4 Robbins Road
Westford MA, 01886

Phone (978) 577 - 3451

Items tested C408652

Standards 47 CFR 15.225, RSS-210 Issue 8, RSS GEN Issue 3

Test Dates March 1 – 3, 24 and 31, 2014

Results As detailed within this report

Prepared by

Tuyen Truong – Test Engineer

Authorized by

Christopher Reynolds – EMC Supervisor

Issue Date 5/9/14

Conditions of Issue

This Test Report is issued subject to the conditions stated in the 'Conditions of Testing' section on page 23 of this report.



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Regulatory Information

FRN number	0022489843
FCC ID	SB6C408652
IC	10934A-IOI1

Summary

This test report supports an application for certification pursuant to 47 CFR 15.225.

Product tested is a radio device (RFID transceiver) which operates at 13.56MHz. The radio device is part of the C408652 unit. Testing was performed according to procedures outlined in ANCI c63.4 (2003)

Emissions were maximized by rotating the device 360°, varying the test antenna height.

EUT antenna could not be maximized because EUT has an on board fixed antenna. Device was also tested in 3 orthogonal axes.

EUT was AC powered and EUT AC mains conducted emissions were performed using 50Ω/5μH LISN.

Frequency Range Investigated

9 KHz – 30MHz AC mains conducted missions (RBW 9 KHz, VBW 30 KHz)

30 KHz – 140MHz Radiated emissions (RBW 120 KHz, VBW 1 MHz) at 3m distance.

All readings are peak unless otherwise specified.

Issue No.	Reason for change	Date Issued
1	Original Release	May 1, 2014

EUT Configuration

EUT Configuration										
Work Order: N3358 Company: LightLab Imaging Company Address: 4 Robbins Road Westford MA 01886 Contact: Escipion Baez Person Present: Escipion Baez, Darin Ursuliak										
MN								SN		
EUT: C408652								Sample 1		
EUT Description: OPTIS™ Integrated System (internally known as C8i)										
EUT Max Frequency: 2.8GHz										
EUT Min Frequency: 8MHz										
EUT TX Frequency: 13.56MHz										
Support Equipment: MN								SN		
Fan								test fixture		
Wi Box								201106		
Aeris								--		
Curtis Straus Laptop								Lenovo T60		
EUT Ports:										
Port Label	Port Type	No. of ports	No. Populated	Cable Type	Shielded	Ferrites	Length	Max Length	In/Out NEBS Type	Unpopulated Reason
C8i system cabinet:										
AC Mains	Power Input	1	1	3-wires	No	No	6m	>3m	indoor	
Fiber Optic	Fiber Optics	2	2	Fiber Optics	No	No	30m	30m	indoor	
Ethernet	RJ45	1	1	cat.5e	No	No	2m	>3m	indoor	
HDMI	HDMI	1	1	HDMI	Yes	No	2m	2m	indoor	
USB	USB	1	1	USB	Yes	No	2m	2m	indoor	
Power	Power Output	1	1	2-wires	No	No	2m	2m	indoor	
DVI loopback	DVI	2	2	DVI	Yes	Yes, both ends	2m	2m	indoor	
Remoting	Fiber Optics/Power	1	1	FO/ Copper	No	No	30m	30m	indoor	
C8i Control Room Monitor:										
AC Mains	Power Input	1	1	3-wires	No	No	3m	>3m	indoor	
DVI adapter	AC/DC power	1	1	2-wires	No	No	1.5m	1.5m	indoor	
DVI to Fiber Optics	DVI/FO	1	1	Fiber Optics	No	No	30m	30m	indoor	
Icron USB extender:										
Fiber Optic	Fiber Optics	1	1	Fiber Optics	No	No	30m	30m	indoor	
Power	AC/DC	1	1	2-wires	No	No	3m	3m	indoor	
USB	USB	3	2	USB	Yes	No	2m	2m	indoor	redundant
C8i Tableside Controller: Hardwired to USB or Bluetooth Module (Blue Giga MN#WT12A module)										
USB	USB	1	1	USB	Yes	No	2m	2m	indoor	
C8i DOC Holster: Hardwire to USB or Bluetooth Module (Toshiba MN:100091551 module)										
USB	USB	1	1	USB	Yes	No	2m	2m	indoor	
PIU	Fiber Optics/Power	1	1	FO/ Copper	No	No	>3m	>3m	indoor	
Remoting	Fiber Optics/Power	1	1	FO/ Copper	No	No	30m	30m	indoor	
C8i PIU 2.2:										
PIU	Fiber Optics/Power	1	1	FO/ Copper	No	No	>3m	>3m	indoor	
Software / Operating Mode Description:										
EUT is running RFI tag at 13.56MHz, continuous PIU, FFR test, laser viewer, IDEA demo. Tableside controller can be run hardwire to USB or over bluetooth. Pinging ethernet port at 192.168.2.199										

Compliance Statement

RSS-GEN	RSS 210	FCC §15.225		Compliant (Yes) / (No) / (NA)
		15.225(a)	The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.	Yes
		15.225(b)	Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.	Yes
		15.225(c)	Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.	Yes
		15.225(d)	The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.	Yes
4.7		15.225(e)	The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.	Yes
		15.225(f)	In the case of radio frequency powered tags designed to operate with a device authorized under this section, the tag may be approved with the device or be considered as a separate device subject to its own authorization. Powered tags approved with a device under a single application shall be labeled with the same identification number as the device.	¹ NA
5.3		15.15(b)	There are no controls accessible to the user that varies the output power above specified limits.	Yes
5.2		15.19	The label is shown in the label exhibit.	Yes

7.1.5		15.21	Information to the user is shown in the instruction manual.	Yes
		15.27	No special accessories are required for compliance.	Yes
		15.31	The EUT was tested in accordance with the measurement standards in this section.	Yes
		15.33	Frequency range was investigated according to this section, unless noted in specific rule section under which the equipment operates.	Yes
		15.35	The EUT emissions were measured using the measurement detector and bandwidth specified in this section, unless noted in specific rule section under which the equipment operates.	Yes
7.1.4		15.203	EUT employs an integral antenna.	Yes
	2.6	15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209.	Yes
7.22		15.207	EUT meets the AC Line conducted emissions requirements of	yes
4.6.1			Occupied Bandwidth measurement was made	yes

¹The EUT is only the RFID read/write transceiver.

Test Data

AC Mains Conducted Emissions

Test Method

Per ANSI c63.4 (2009)

Test Data

AC Conducted Emissions Data Table														
Date: 23-Mar-14 Engineer: Nirak So Temp: 22.0 °C					Company: LightLab Imaging (St. Jude Medical) EUT Desc: C8i Humidity: 2%					Work Order: N3358 Pressure: 1009 mBar				
Notes: AC main of system cabinet														
Frequency Range: 0.15 to 80MHz EUT Input Voltage/Frequency: 100Vac, 60Hz														
Frequency (MHz)	Quasi-Peak Readings		Average Readings		LISN Factors		Cable Factor (dB)	ATTN Factor (dB)	FCC/CISPR Class B			FCC/CISPR Class B		
	QP1 (dBµV)	QP2 (dBµV)	AVG1 (dBµV)	AVG2 (dBµV)	L1 (dB)	L2 (dB)			QP Limit (dBµV)	Margin (dB)	Result (Pass/Fail)	AVG Limit (dBµV)	Margin (dB)	Result (Pass/Fail)
0.15	29.0	28.0	18.0	19.0	-0.1	-0.1	-0.1	-19.2	66.0	-17.7	Pass	56.0	-17.7	Pass
0.25	31.7	31.6	18.0	17.0	-0.1	-0.1	-0.1	-19.1	61.8	-10.8	Pass	51.8	-14.5	Pass
0.33	29.0	19.0	25.0	24.0	0.0	0.0	-0.1	-19.1	59.5	-11.3	Pass	49.5	-5.3	Pass
0.48	32.1	27.0	24.0	25.0	0.0	0.0	-0.1	-19.1	56.3	-5.0	Pass	46.3	-2.2	Pass
1.75	27.3	25.0	15.0	13.0	0.0	0.0	-0.1	-18.9	56.0	-9.7	Pass	46.0	-12.0	Pass
26.25	17.2	20.0	17.0	15.0	-0.1	-0.1	-0.4	-18.6	60.0	-21.0	Pass	50.0	-14.0	Pass
Result: Pass					Worst Margin: -2.2 dB					Frequency: 0.481 MHz				
Measurement Device: LISN ASSET 1726(Line 1) LISN ASSET 1727(Line 2)					Cable: CEMI05					Spectrum Analyzer: Black				
					Attenuator: 20dB Attenuator-100					Site: CEMI5				

AC Conducted Emissions Data Table														
Date: 23-Mar-14 Engineer: Nirak So Temp: 22.0 °C					Company: LightLab Imaging (St. Jude Medical) EUT Desc: C8i Humidity: 2%					Work Order: N3358 Pressure: 1009 mBar				
Notes: AC main of the Control Room Monitor														
Frequency Range: 0.15 to 80MHz														
EUT Input Voltage/Frequency: 100Vac, 60Hz														
Frequency (MHz)	Quasi-Peak Readings		Average Readings		LISN Factors		Cable Factor	ATTN Factor	FCC/CISPR Class B			FCC/CISPR Class B		
	QP1 (dBµV)	QP2 (dBµV)	AVG1 (dBµV)	AVG2 (dBµV)	L1 (dB)	L2 (dB)			QP Limit (dBµV)	Margin (dB)	Result (Pass/Fail)	AVG Limit (dBµV)	Margin (dB)	Result (Pass/Fail)
0.15	26.2	29.4	26.0	29.0	-0.1	-0.1	-0.1	-19.2	66.0	-17.3	Pass	56.0	-7.7	Pass
1.14	22.2	22.3	22.0	21.0	0.0	0.0	-0.1	-19.0	56.0	-14.6	Pass	46.0	-4.9	Pass
4.35	22.4	24.5	22.0	21.0	0.0	0.0	-0.1	-18.8	56.0	-12.5	Pass	46.0	-5.0	Pass
7.46	24.3	24.3	24.0	24.0	-0.1	0.0	-0.2	-18.8	60.0	-16.7	Pass	50.0	-7.0	Pass
13.58	20.3	20.1	20.0	19.0	-0.1	-0.1	-0.3	-18.7	60.0	-20.6	Pass	50.0	-10.9	Pass
26.58	21.3	21.2	21.0	21.0	-0.1	-0.1	-0.4	-18.6	60.0	-19.7	Pass	50.0	-10.0	Pass
Result: Pass					Worst Margin: -4.9 dB					Frequency: 1.135 MHz				
Measurement Device: LISN ASSET 1726(Line 1) LISN ASSET 1727(Line 2)							Cable: CEMI-05			Spectrum Analyzer: Black				
							Attenuator: 20dB Attenuator-100			Site: CEMI 5				

C-S CEMI Calculator Version 3.0.13

Equipment Factor Sheet rev: 4/2/2014

AC Conducted Emissions Data Table														
Date: 23-Mar-14 Engineer: Patrick Crozier Temp: 21.1 °C Notes: DVI Adapter (attaches to the C8i control room monitor)						Company: LightLab Imaging (St. Jude Medical) EUT Desc: C8i Humidity: 19%					Work Order: N3358 Pressure: 1007 mBar			
Frequency Range: 0.15 to 80MHzEUT Input Voltage/Frequency: 100Vac, 60Hz														
Frequency (MHz)	Quasi-Peak Readings		Average Readings		LISN Factors		Cable Factor (dB)	ATTN Factor (dB)	FCC/CISPR Class B			FCC/CISPR Class B		
	QP1 (dBµV)	QP2 (dBµV)	AVG1 (dBµV)	AVG2 (dBµV)	L1 (dB)	L2 (dB)			QP Limit (dBµV)	Margin (dB)	Result (Pass/Fail)	AVG Limit (dBµV)	Margin (dB)	Result (Pass/Fail)
0.15	18.5	18.0	13.2	12.8	-0.1	-0.1	-0.1	-19.2	66.0	-28.2	Pass	56.0	-23.5	Pass
0.16	21.0	21.8	15.2	14.6	-0.1	-0.1	-0.1	-19.2	65.7	-24.6	Pass	55.7	-21.2	Pass
0.19	19.2	18.9	14.0	12.8	-0.1	-0.1	-0.1	-19.2	64.3	-25.7	Pass	54.3	-21.0	Pass
0.20	18.9	18.3	13.6	12.7	-0.1	-0.1	-0.1	-19.2	63.5	-25.4	Pass	53.5	-20.7	Pass
0.40	20.0	18.4	14.8	13.0	0.0	0.0	-0.1	-19.1	57.8	-18.6	Pass	47.8	-13.8	Pass
0.39	21.2	19.1	16.1	13.4	0.0	0.0	-0.1	-19.1	58.0	-17.6	Pass	48.0	-12.7	Pass
Result: Pass					Worst Margin: -12.7 dB					Frequency: 0.392 MHz				
Measurement Device: LISN ASSET 1726(Line 1) LISN ASSET 1727(Line 2)							Cable: CEMI-05			Spectrum Analyzer: Black				
							Attenuator: 20dB Attenuator-100			Site: CEMI5				



AC Conducted Emissions Data Table

Date: 23-Mar-14 Engineer: Patrick Crozier Temp: 21.1 °C Notes: Icron USB Extender						Company: LightLab Imaging (St. Jude Medical) EUT Desc: C8i Humidity: 19%						Work Order: N3358 Pressure: 1007 mBar									
Frequency Range: 0.15 to 80MHz																EUT Input Voltage/Frequency: 100Vac, 60Hz					
Frequency (MHz)	Quasi-Peak Readings		Average Readings		LISN Factors		Cable Factor (dB)	ATTN Factor (dB)	FCC/CISPR Class B			FCC/CISPR Class B									
	QP1 (dBµV)	QP2 (dBµV)	AVG1 (dBµV)	AVG2 (dBµV)	L1 (dB)	L2 (dB)			OP Limit (dBµV)	Margin (dB)	Result (Pass/Fail)	AVG Limit (dBµV)	Margin (dB)	Result (Pass/Fail)							
0.15	20.8	22.7	13.3	13.6	-0.1	-0.1	-0.1	-19.2	66.0	-24.0	Pass	56.0	-23.1	Pass							
0.16	21.1	22.8	14.6	14.8	-0.1	-0.1	-0.1	-19.2	65.6	-23.5	Pass	55.6	-21.5	Pass							
0.18	19.3	20.8	13.0	13.7	-0.1	-0.1	-0.1	-19.2	64.3	-24.2	Pass	54.3	-21.3	Pass							
0.21	17.6	18.7	11.9	12.2	-0.1	-0.1	-0.1	-19.2	63.2	-25.2	Pass	53.2	-21.7	Pass							
0.47	19.4	20.3	13.3	14.2	0.0	0.0	-0.1	-19.1	56.5	-17.0	Pass	46.5	-13.2	Pass							
0.50	20.5	21.6	14.3	15.2	0.0	0.0	-0.1	-19.1	56.1	-15.3	Pass	46.1	-11.7	Pass							
Result: Pass						Worst Margin: -11.7 dB						Frequency: 0.496 MHz									
Measurement Device: LISN ASSET 1726(Line 1) LISN ASSET 1727(Line 2)								Cable: CEMI-05				Spectrum Analyzer: Black									
								Attenuator: 20dB Attenuator-100				Site: CEMI 5									

AC Conducted Emissions Data Table

Date: 23-Mar-14 Engineer: Patrick Crozier Temp: 21.1 °C Notes: C8i Tableside Controller						Company: LightLab Imaging (St. Jude Medical) EUT Desc: C8i Humidity: 19%						Work Order: N3358 Pressure: 1007 mBar											
Frequency Range: 0.15 to 80MHz																		EUT Input Voltage/Frequency: 100Vac, 60Hz					
Frequency (MHz)	Quasi-Peak Readings		Average Readings		LISN Factors		Cable Factor (dB)	ATTN Factor (dB)	FCC/CISPR Class B			FCC/CISPR Class B											
	QP1 (dBµV)	QP2 (dBµV)	AVG1 (dBµV)	AVG2 (dBµV)	L1 (dB)	L2 (dB)			OP Limit (dBµV)	Margin (dB)	Result (Pass/Fail)	AVG Limit (dBµV)	Margin (dB)	Result (Pass/Fail)									
0.15	18.4	18.0	13.1	12.9	-0.1	-0.1	-0.1	-19.2	66.0	-28.3	Pass	56.0	-23.6	Pass									
0.16	19.1	19.1	13.6	13.6	-0.1	-0.1	-0.1	-19.2	65.7	-27.3	Pass	55.7	-22.8	Pass									
0.18	18.0	17.8	12.2	11.9	-0.1	-0.1	-0.1	-19.2	64.3	-27.1	Pass	54.3	-22.9	Pass									
0.49	25.3	25.5	14.9	14.8	0.0	0.0	-0.1	-19.1	56.1	-11.5	Pass	46.1	-12.1	Pass									
1.60	16.3	15.6	8.9	8.3	0.0	0.0	-0.1	-18.9	56.0	-20.7	Pass	46.0	-18.1	Pass									
1.68	15.7	15.2	8.8	9.0	0.0	0.0	-0.1	-18.9	56.0	-21.3	Pass	46.0	-18.0	Pass									
Result: Pass						Worst Margin: -11.5 dB						Frequency: 0.494 MHz											
Measurement Device: LISN ASSET 1726(Line 1) LISN ASSET 1727(Line 2)									Cable: CEMI-05			Spectrum Analyzer: Black											
									Attenuator: 20dB Attenuator-100			Site: CEMI 5											

Rev. 3/9/2014

Spectrum Analyzers / Receivers / Preselectors Black	Range 9kHz-12.8GHz	MN 8596E	Mfr Agilent	SN 3710A00944	Asset 337	Cat I	Calibration Due 1/29/2015	Calibrated on 1/29/2014
LISNs/Measurement Probes LISN Asset 1726 LISN Asset 1727	Range 150kHz-30MHz 150kHz-30MHz	MN LI-150A LI-150A	Mfr Com-Power Com-Power	SN 201092 201093	Asset 1726 1727	Cat I I	Calibration Due 1/15/2015 1/15/2015	Calibrated on 1/15/2014 1/15/2014
Conducted Test Sites (Mains / Telco) CEMI 5	FCC Code 719150		VCCI Code A-0015			Cat III	Calibration Due NA	Calibrated on N/A
Meteorological Meters Temp./Humidity/Atm. Pressure Gauge TH A#1825		MN 7400 Perception 35519-044	Mfr Davis Control Company	SN N/A 130319990	Asset 965 1825	Cat I II	Calibration Due 5/29/2014 6/13/2015	Calibrated on 5/29/2013 6/13/2013
Cables CEMI-05	Range 9kHz - 2GHz		Mfr C-S			Cat II	Calibration Due 5/3/2014	Calibrated on 5/3/2013
Attenuators 20dB Attenuator-100	Range 9kHz-2GHz	MN	Mfr	SN N/A	Asset	Cat II	Calibration Due 7/12/2014	Calibrated on 7/12/2013

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

AC Mains Setup Pictures

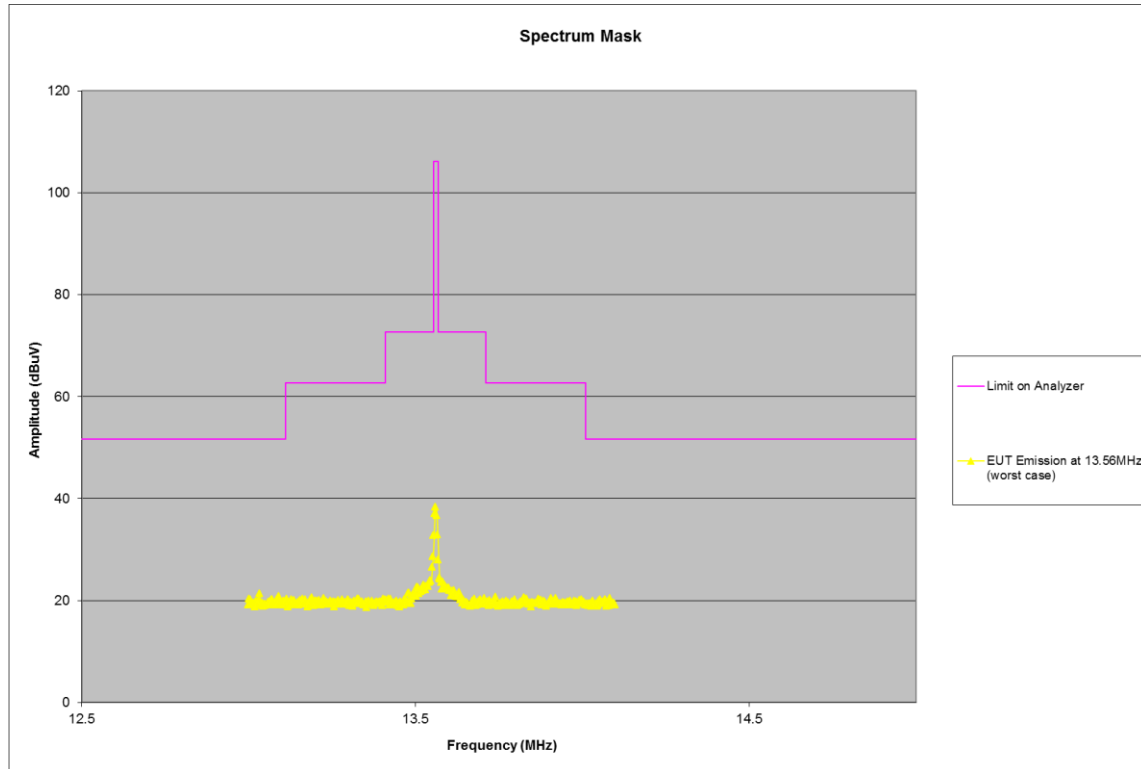
See exhibit for test setup pictures.

15.225

Test Method

Per ANSI C63.10 & C63.4

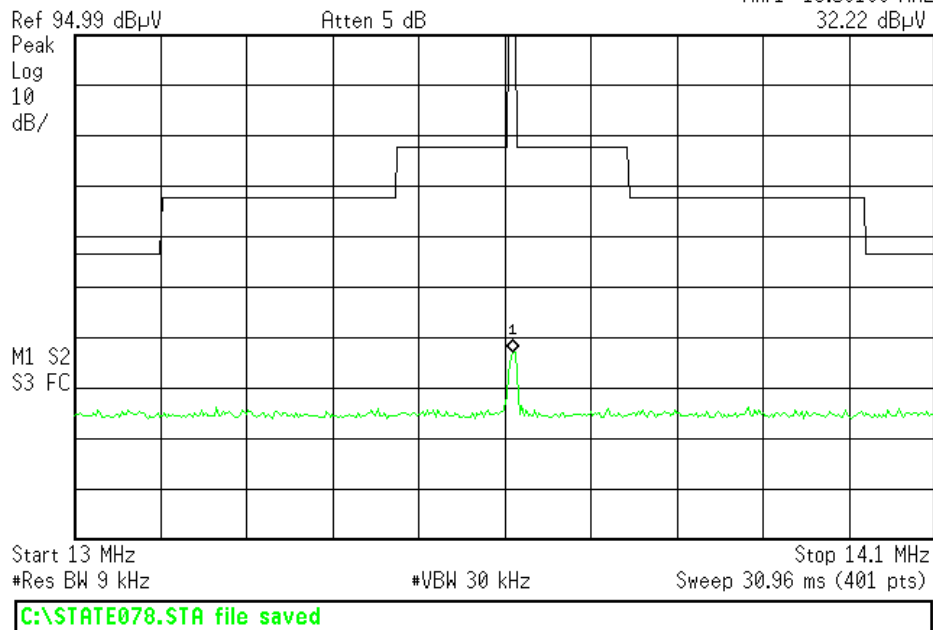
Emissions Mask



Note: Limit on the graph is adjusted for antenna, cable, pre amp, and distance factors.

Agilent 17:31:32 Mar 3, 2014

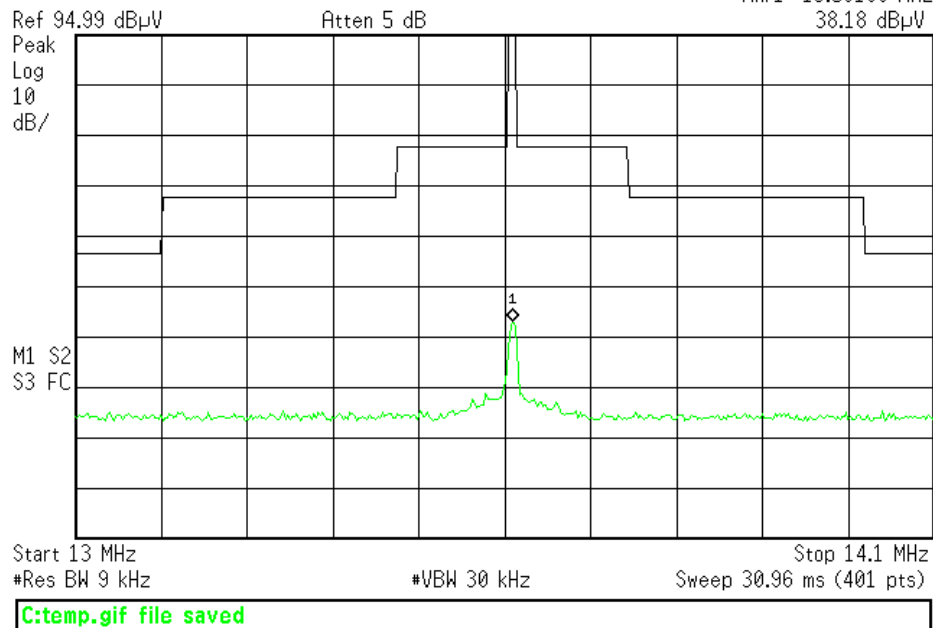
R T

Mkr1 13.56100 MHz
32.22 dBμV

Fundamental Reading – 90 degree

Agilent 17:41:20 Mar 3, 2014

R T

Mkr1 13.56100 MHz
38.18 dBμV

Fundamental Reading – 0 degree

Test Data

Radiated Emissions Table													
Date: 03-Mar-14			Company: LightLab Imaging						Work Order: N3358				
Engineer: Tuyen Truong			EUT Desc: C8i						EUT Operating Voltage/Frequency: 120Vac/60Hz				
Temp: 23°C			Humidity: 2%			Pressure: 1001mBar							
Frequency Range: Fundamental Reading							Measurement Distance: 3 m						
Notes:							EUT Max Freq: 2.8GHz						
							EUT TX Freq: 13.56MHz						
Antenna Polarization (0° - 90°)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	---			FCC 15.225			
							Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	
X-orientation			---		---		---	---	---		---	---	
	90	13.56	32.2	22.5	39.0	0.3	49.0	---	---	---	123.9	-74.9	Pass
	0	13.56	38.2	22.5	39.0	0.3	55.0	---	---	---	123.9	-68.9	Pass
Y-orientation			---		---		---	---	---		---	---	---
	90	13.56	32.8	22.5	39.0	0.3	49.6	---	---	---	123.9	-74.3	Pass
	0	13.56	36.2	22.5	39.0	0.3	53.0	---	---	---	123.9	-70.9	Pass
Z-orientation			---		---		---	---	---		---	---	---
	90	13.56	31.6	22.5	39.0	0.3	48.4	---	---	---	123.9	-75.5	Pass
	0	13.56	27.7	22.5	39.0	0.3	44.5	---	---	---	123.9	-79.4	Pass
Table Result: Pass by -68.9 dB Worst Freq: 13.56 MHz													
Test Site: EMI Chamber 1			Cable 1: Asset #1781			Cable 2: Asset #1787			Cable 3: ---				
Analyzer: Gold			Preamp: Blue			Antenna: Sm Loop (high)			Preselector: ---				

Rev. 2/16/2014

Spectrum Analyzers / Receivers / Preselectors		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Gold		100Hz-26.5 GHz	E4407B	Agilent	MY45113816	1284	I	3/18/2014	3/18/2013
Radiated Emissions Sites		FCC Code	IC Code	VCCI Code	Range		Cat	Calibration Due	Calibrated on
EMI Chamber 1		719150	2762A-6	A-0015	30-1000MHz		II	3/16/2014	2/16/2012
Preamps / Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Blue		0.009-2000MHz	ZFL-1000-LN	CS	N/A	759	II	5/31/2014	5/31/2013
Antennas		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Small Loop		10kHz-30MHz	PLA-130/A	ARA	1024	755	I	4/27/2014	4/27/2012
Meteorological Meters			MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Weather Clock (Pressure Only)			BA928	Oregon Scientific	C3166-1	831	I	3/20/2014	3/20/2013
TH A#1832			35519-044	Control Company	130318277	1832	II	6/13/2015	6/13/2013
Cables		Range		Mfr			Cat	Calibration Due	Calibrated on
Asset #1781		9kHz - 18GHz		Florida RF			II	3/6/2014	3/6/2013
Asset #1787		9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Spurious Emissions (9 KHz – 140MHz)

Radiated Emissions Table

Date: 03-Mar-14			Company: LightLab Imaging				Work Order: N3358					
Engineer: Tuyen Truong			EUT Desc: C8i				EUT Operating Voltage/Frequency: 120Vac/60Hz					
Temp: 23°C			Humidity: 2%				Pressure: 1001mBar					
Frequency Range: 9KHz to 1MHz							Measurement Distance: 3 m					
Notes:							EUT Max Freq: 2.8GHz					
							EUT TX Freq: 13.56MHz					
Antenna Polarization (0° - 90°)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	---			FCC 15.225(d) or FCC 15.209		
							Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
NO EMISSIONS FOUND from Radio in this frequency range												
Test Site: EMI Chamber 1			Cable 1: Asset #1781				Cable 2: Asset #1787			Cable 3: ---		
Analyzer: Gold			Preamp: Blue				Antenna: Sm Loop (low)			Preselector: ---		

Radiated Emissions Table

Date: 03-Mar-14			Company: LightLab Imaging				Work Order: N3358					
Engineer: Tuyen Truong			EUT Desc: C8i				EUT Operating Voltage/Frequency: 120Vac/60Hz					
Temp: 23°C			Humidity: 2%				Pressure: 1001mBar					
Frequency Range: 1-30MHz							Measurement Distance: 3 m					
Notes:							EUT Max Freq: 2.8GHz					
							EUT TX Freq: 13.56MHz					
Antenna Polarization (0° - 90°)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	---			FCC 15.225(d) or FCC 15.209		
							Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
NO EMISSIONS FOUND from Radio in this frequency range												
Test Site: EMI Chamber 1			Cable 1: Asset #1781				Cable 2: Asset #1787			Cable 3: ---		
Analyzer: Gold			Preamp: Blue				Antenna: Sm Loop (high)			Preselector: ---		

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Spectrum Analyzers / Receivers / Preselectors		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Gold		100Hz-26.5 GHz	E4407B	Agilent	MY45113816	1284	I	3/18/2014	3/18/2013
Radiated Emissions Sites		FCC Code	IC Code	VCCI Code	Range		Cat	Calibration Due	Calibrated on
EMI Chamber 1		719150	2762A-6	A-0015	30-1000MHz		II	3/16/2014	2/16/2012
Preamps / Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Blue		0.009-2000MHz	ZFL-1000-LN	CS	N/A	759	II	5/31/2014	5/31/2013
Antennas		Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Small Loop		10kHz-30MHz	PLA-130/A	ARA	1024	755	I	4/27/2014	4/27/2012
Meteorological Meters			MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Weather Clock (Pressure Only)			BA928	Oregon Scientific	C3166-1	831	I	3/20/2014	3/20/2013
TH A#1832			35519-044	Control Company	130318277	1832	II	6/13/2015	6/13/2013
Cables		Range		Mfr			Cat	Calibration Due	Calibrated on
Asset #1781		9kHz - 18GHz		Florida RF			II	3/6/2014	3/6/2013
Asset #1787		9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Radiated Emissions Table

Date: 03-Mar-14			Company: LightLab Imaging					Work Order: N3358					
Engineer: Tuyen Truong			EUT Desc: C8i					EUT Operating Voltage/Frequency: 120Vac/60Hz					
Temp: 23°C			Humidity: 2%					Pressure: 1001mBar					
Frequency Range: 30-140MHz							Measurement Distance: 3 m						
Notes:							EUT Max Freq: 2.8GHz						
							EUT TX Freq: 13.56MHz						
Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	---			FCC 15.225(d) or FCC 15.209			
							Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	
NO EMISSIONS FOUND from Radio in this frequency range													
Test Site: EMI Chamber 1			Cable 1: Asset #1781					Cable 2: Asset #1787			Cable 3: ---		
Analyzer: Gold			Preamp: Blue					Antenna: Red-White			Preselector: ---		

Rev. 2/16/2014

Spectrum Analyzers / Receivers / Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Gold	100Hz-26.5 GHz	E4407B	Agilent	MY45113816	1284	I	3/18/2014	3/18/2013
Radiated Emissions Sites	FCC Code	IC Code	VCCI Code	Range		Cat	Calibration Due	Calibrated on
EMI Chamber 1	719150	2762A-6	A-0015	30-1000MHz		II	3/16/2014	2/16/2012
Preamps / Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Blue	0.009-2000MHz	ZFL-1000-LN	CS	N/A	759	II	5/31/2014	5/31/2013
Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Red-White Bilog	30-2000MHz	JB1	Sunol	A091604-1	1105	I	7/24/2015	7/24/2013
Meteorological Meters		MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Weather Clock (Pressure Only)		BA928	Oregon Scientific	C3166-1	831	I	3/20/2014	3/20/2013
TH A#1832		35519-044	Control Company	130318277	1832	II	6/13/2015	6/13/2013
Cables	Range		Mfr			Cat	Calibration Due	Calibrated on
Asset #1781	9kHz - 18GHz		Florida RF			II	3/6/2014	3/6/2013
Asset #1787	9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Emissions Setup Pictures

See exhibit for test set up pictures.

Frequency Stability

Limit

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Test Data

Frequency Stability						
Date: 31-Mar-14		Company: Lightlab Imaging			Work Order: N3358	
Engineer: Tuyen Truong / Ryan Brown / AZ		EUT Desc: C8i			EUT Operating Voltage: 120Vac/60Hz	
Temp: 24°C		Humidity: 14%		Pressure: 1019mBar		
Note:						
Temperature	Voltage	Measured Frequency	Delta	Tolerance ±0.01%	Margin	Pass/Fail
(°C)		(MHz)	(MHz)	(MHz)	(MHz)	
Initial Reading						
20	Nominal	13.560050				
Temperature Variation						
10	Nominal	13.560100	-0.000050	±0.001356	±0.001356	Pass
0	Nominal	13.560100	-0.000050	±0.001356	±0.001356	Pass
-10	Nominal	13.560100	-0.000050	±0.001356	±0.001356	Pass
-20	Nominal	13.560100	-0.000050	±0.001356	±0.001356	Pass
+30	Nominal	13.560050	0.000000	±0.001356	±0.001356	Pass
+40	Nominal	13.560000	0.000050	±0.001356	±0.001356	Pass
+50	Nominal	13.560000	0.000050	±0.001356	±0.001356	Pass
Initial Reading						
20	120Vac	13.560000				
Voltage Variation						
20	102Vac	13.560000	0.000000	±0.001356	±0.001356	Pass
20	138Vac	13.560000	0.000000	±0.001356	±0.001356	Pass
Chamber: ENV#17		Antenna: Small loop (high)				
Cable: 22 (EMI High)		SA: 1327				

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Spectrum Analyzers / Receivers / Preselectors

SA EMI Chamber (1327)

Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
9kHz-13.2 GHz	E4405B	Agilent	MY45103416	1327	I	5/30/2014	5/30/2013

Preamps/Couplers Attenuators / Filters

Red

Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
0.009-2000MHz	ZFL-1000-LN	CS	N/A	798	II	2/4/2015	2/4/2014

Antennas

Small Loop

Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
10kHz-30MHz	PLA-130/A	ARA	1024	755	I	4/27/2014	4/27/2012

Cables

REMI-High-22

Range	Mfr	Cat	Calibration Due	Calibrated on
9kHz - 18GHz	C-S	II	2/12/2015	2/12/2014

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Occupied Bandwidth

REQUIREMENT

When an occupied bandwidth is no specified in the applicable RSS, the transmitted signal bandwidth to be reported is to be its 99% emission bandwidth, as calculated or measured.

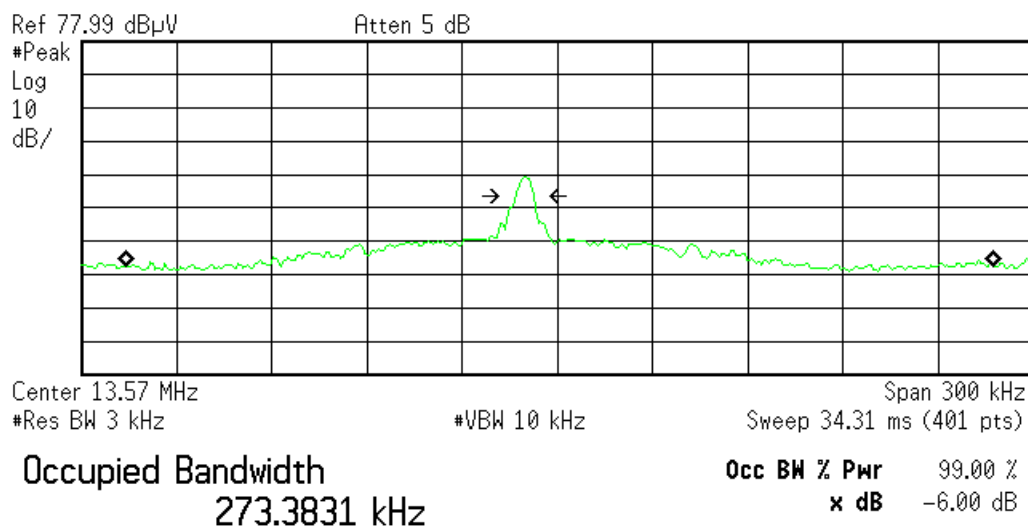
[RSS-GEN 4.6.1]

Engineer	Tuyen Truong
Date	03/03/2014
Site	Chamber 1
Environmental Conditions	22.1°C, 3%, 1001mb

Plots

Agilent 23:14:47 Mar 3, 2014

R T



Transmit Freq Error 864.261 Hz
x dB Bandwidth 5.893 kHz

C:\temp.gif file saved

Occupied Bandwidth

Frequency (MHz)	Mode	6dB Bandwidth (KHz)	99% Occupied Bandwidth (KHz)
13.56	Modulation (Normal Operation)	5.893	273.3831
Tested by: Tuyen Truong Date: 3/3/2014 Company: Lightlab Imaging EUT: C8i		RBW = 3KHz VBW = 10KHz Analyzer: GOLD SA PreAmp: Blue Cables: 1781+1787	

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Spectrum Analyzers / Receivers / Preselectors

	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Gold	100Hz-26.5 GHz	E4407B	Agilent	MY45113816	1284	I	3/18/2014	3/18/2013

Radiated Emissions Sites

	FCC Code	IC Code	VCCI Code	Range	Cat	Calibration Due	Calibrated on
EMI Chamber 1	719150	2762A-6	A-0015	30-1000MHz	II	3/16/2014	2/16/2012

Preamps / Couplers Attenuators / Filters

	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Blue	0.009-2000MHz	ZFL-1000-LN	CS	N/A	759	II	5/31/2014	5/31/2013

Antennas

	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Small Loop	10kHz-30MHz	PLA-130/A	ARA	1024	755	I	4/27/2014	4/27/2012

Meteorological Meters

	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Weather Clock (Pressure Only)	BA928	Oregon Scientific	C3166-1	831	I	3/20/2014	3/20/2013
TH A#1832	35519-044	Control Company	130318277	1832	II	6/13/2015	6/13/2013

Cables

	Range	Mfr	Cat	Calibration Due	Calibrated on
Asset #1781	9kHz - 18GHz	Florida RF	II	3/6/2014	3/6/2013
Asset #1787	9kHz - 18GHz	Florida RF	II	3/14/2014	3/14/2013

All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

FCC Requirements

Required Equipment Authorization for Device Type

Type of Device	Equipment Authorization Required
TV broadcast receiver	Verification
FM broadcast receiver	Verification
CB receiver	Declaration of Conformity or Certification
Superregenerative receiver	Declaration of Conformity or Certification
Scanning receiver	Certification
Radar detector	Certification
All other receivers subject to part 15	Declaration of Conformity or Certification
TV interface device	Declaration of Conformity or Certification
Cable system terminal device	Declaration of Conformity
Stand-alone cable input selector switch	Verification
Class B personal computers and peripherals	Declaration of Conformity or Certification
CPU boards and internal power supplies used with Class B personal computers	Declaration of Conformity or Certification
Class B personal computers assembled using authorized CPU boards or power supplies	Declaration of Conformity
Class B external switching power supplies	Verification
Other Class B digital devices & peripherals	Verification
Class A digital devices, peripherals & external switching power supplies	Verification
Access Broadband over Power Line (Access BPL)	Certification
All other devices	Verification

FCC Required labeling for Verified Devices 47 CFR Part 15.19

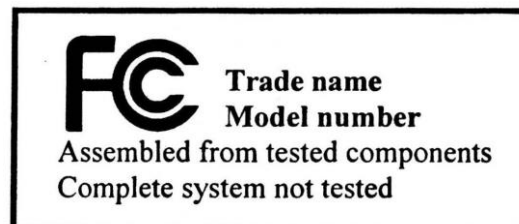
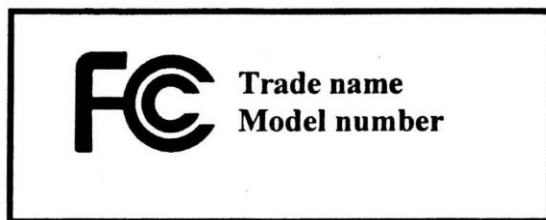
The specific labeling requirements for a device subject to the Verification or Certification procedure are contained in Section 15.19(a). These labelling requirements are:

- One of three compliance statements specified in Section 15.19(a);
- If the device is subject only to Verification include a label bearing a unique identifier - Section 2.954;
- If the device is subject to Certification (1) Section 2.925 contains information on identification of the equipment; (2) include a label bearing an FCC Identifier (FCC ID) - Section 2.926.

If the labeling area for the device is so small, and / or it is not practical to place the required statement on the device, then the statement can be placed in the user manual or product packaging - Section 15.19(a)(5). Generally, devices smaller than the palm of the hand are considered small. However, the device must still be labeled with the unique identifier (Verification) or the FCC ID (Certification).

Declaration of Conformity (DoC):

The labeling requirements for a device subject to the Declaration of Conformity (DoC) procedure are specified in Section 15.19(b). The label should include the FCC logo along with the Trade Name and Model Number, which satisfies the unique identifier requirement of Section 2.1074 if it represents the identical equipment tested for DoC compliance. For personal computers assembled from authorized components, the following additional text must also be included: "Assembled from tested components," "Complete system not tested." When the device is so small and / or when it is not practical to place the required additional text on the device, the text may be placed in the user manual or pamphlet supplied to the user. However, the FCC logo, Trade Name, and Model Number must still be displayed on the device - Section 15.19(b)(3).



Part 15 Declaration of Conformity (DoC) Label Examples

FCC Required Instruction Manual Inserts

In most cases, the manual will require one of the following statements due to the associated digital circuitry in the device (unrelated to the RF circuitry):

“This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.*
- Increase the separation between the equipment and receiver.*
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- Consult the dealer or an experienced radio/TV technician for help.”*

“This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.”

Canadian Labeling /Manual Requirements

User manuals for transmitters shall display the following notice in a conspicuous location:

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

The above notice may be affixed to the device instead of displayed in the user manual.

User manuals for transmitters equipped with detachable antennas shall also contain the following notice in a conspicuous location:

This radio transmitter (identify the device by certification number, or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types approved for use with the transmitter, indicating the maximum permissible antenna gain (in dBi) and required impedance for each.

User Manual Notice for Licence-Exempt Radio Apparatus

User manuals for licence-exempt radio apparatus shall contain the following or equivalent notice in a conspicuous location in the user manual or alternatively on the device or both.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Model Number and IC

The model number is assigned by the applicant and shall be unique to each model of radio apparatus under that applicant's responsibility. The model number shall be displayed on the label preceded by the text: "Model:", so it appears as follows:

Model: model number assigned by applicant

The certification number is made up of a Company Number (CN) assigned by Industry Canada's Certification and Engineering Bureau followed by the Unique Product Number (UPN), assigned by the applicant. The certification number shall appear as follows:

IC: XXXXXX-YYYYYYYYYYYY

where:

- XXXXXX-YYYYYYYYYYYY is the certification number;
- XXXXXX is the Company Number (CN) assigned by Industry Canada, made of at most 6 alphanumeric characters (A-Z, 0-9), including a letter at the end of the CN to distinguish between different company addresses;
- YYYYYYYYYYYY is the Unique Product Number (UPN) assigned by the applicant, made of at most 11 alphanumeric characters (A-Z, 0-9); and
the letters “IC” (Industry Canada) are to indicate the Industry Canada certification number, but are not part of the certification number.

Permitted alphanumerical characters used in the CN and UPN are limited to capital letters (A-Z) and numerals (0-9). **Example:** A company has been assigned a CN of “21A” and wishes to use a UPN of “WILAN3” for one of its products. The full Industry Canada certification number of this product would thus be: IC: 21A-WILAN3.

All Canadian user manual statements must also include a French version as well.

Conditions Of Testing

[Bureau Veritas Consumer Products Services, Inc., a Massachusetts corporation], and/or its affiliates (collectively, the "Company") will conduct, at the request of the Submitter ("Client"), the tests specified on the submitted Test Request Form or equivalent in accordance with, and subject to, the following terms and conditions (collectively, "Conditions"):

1. All orders for tests are subject to acceptance by the Company, and no order will constitute a binding commitment of the Company unless and until such order is accepted by it, as evidenced by the issuance of a written report ("Test Report") by the Company. The Test Report is issued solely by the Company, is intended for the exclusive use of Client and shall not be published, used for advertising purposes, copied or replicated for distribution to any other person or entity or otherwise publicly disclosed without the prior written consent of the Company. By submitting a request for services to the Company, Client consents to the disclosure to accreditation bodies of those records of Client relevant to the accreditation body's assessment of the Company's competence and compliance with relevant accreditation criteria. The Company shall not be liable for any loss or damage whatsoever resulting from the failure of the Company to provide its services within any time period for completion estimated by the Company. If Client anticipates using the Test Report in any legal proceeding, arbitration, dispute resolution forum or other proceeding, it shall so notify the Company prior to submitting the Test Report in such proceeding. The Company has no obligation to provide a fact or expert witness at such proceeding unless the Company agrees in advance to do so for a separate and additional fee.
2. The Test Report will set forth the findings of the Company solely with respect to the test samples identified therein. Unless specifically and expressly indicated in the Test Report, the results set forth in such Test Report are not intended to be indicative or representative of the quality or characteristics of the lot from which a test sample is taken, and Client shall not rely upon the Test Report as being so indicative or representative of the lot or of the tested product in general. The Test Report will reflect the findings of the Company at the time of testing only, and the Company shall have no obligation to update the Test Report after its issuance. The Test Report will set forth the results of the tests performed by the Company based upon the written information provided to the Company. The Test Report will be based solely on the samples and written information submitted to the Company by Client, and the Company shall not be obligated to conduct any independent investigation or inquiry with respect thereto.
3. The Company may, in its sole discretion, destroy samples which have been furnished to the Company for testing and which have not been destroyed in the course of testing. The Company may delegate the performance of all or a portion of the services contemplated hereunder to an affiliate, agent or subcontractor of the Company, and Client consents to such delegation.
4. These Conditions and the Test Report represent the entire understanding of the parties hereto with respect to the subject matter hereof and of the Test Report, and no modification, variance or extrapolation with respect thereto shall be permitted without the prior written consent of the Company.
5. The names, service marks, trademarks and copyrights of the Company and its affiliates, including the names "BUREAU VERITAS," "BUREAU VERITAS CONSUMER PRODUCTS SERVICES," "BVCPS," "MTL," "ACTS," "MTL-ACTS" and CURTIS-STRAUS (collectively, the "Marks") are and shall remain the sole property of the Company or its affiliates and shall not be used by Client except solely to the extent that Client obtains the prior written approval of the Company and then only in the manner prescribed by the Company. Client shall not contest the validity of the Marks or take any action that might impair the value or goodwill associated with the Marks or the image or reputation of the Company or its affiliates.
6. Payment in full shall be due 30 days after the date of invoice. Interest shall be due on overdue amounts from the due date until paid at an interest rate of 1.5% per month or, if less, the maximum rate permitted by law. The Company reserves the right, at any time and from time to time, to revoke any credit extended to Client. Client shall reimburse the Company for any costs it incurs in collecting past due amounts, including court costs and fees and expenses of attorneys and collection agencies. The Test Report may not be used or relied upon by Client if and for so long as Client fails to pay when due any invoice issued by the Company or any affiliate of it to Client or any affiliate or subsidiary of Client together with interest and penalties, if any, accrued thereon.
7. The Company disclaims any and all responsibility or liability arising out of or in connection with e-mail transmissions of such information.
8. Client understands and agrees that the Company is neither an insurer nor a guarantor, that the Company does not take the place of Client or any designer, manufacturer, agent, buyer, distributor or transportation or shipping company, and that the Company disclaims all liability in such capacities. Client further understands that if it seeks assurance against loss or damage, it should obtain appropriate insurance.
9. Client agrees that the Company, by providing the services, does not take the place of Client nor any third party, nor does the Company release them from any of their obligations, nor does the Company otherwise assume, abridge, abrogate or undertake to discharge any duty of any third party to Client or any duty of Client or any third party to any other third party, and Client will not release any third party from its obligations and duties with respect to the tested goods.
10. Client shall, on a timely basis, (a) provide adequate instructions to the Company in order to enable the Company to perform properly its services, (b) provide, or cause Client's suppliers and contractors to provide, the Company with all documents necessary to enable the Company to perform its services, (c) furnish the Company with all relevant information regarding Client's intended use and purposes of the tested goods, (d) advise the Company of essential dates and deadlines relevant to the tested goods and (e) fully exercise all rights and remedies available to Client against third parties in respect of the tested goods.
11. The Company shall undertake due care and ordinary skill in the performance of its services to Client, and the Company shall accept responsibility only where such skill has not been exercised and, even in such event, only to the extent of the limitation of liability set forth herein.
12. If Client desires to assert a claim arising from or relating to (i) the performance, purported performance or non-performance of any services by the Company or (ii) the sale, resale, manufacture, distribution or use of any tested goods, it must submit that claim to the Company in a writing that sets forth with particularity the basis for such claim within 60 days from discovery

of the potential claim and not more than six months after the date of issuance of the Test Report to Client. Client waives any and all such claims including, without limitation, claims that the Test Report is inaccurate, incomplete or misleading or that additional or different testing is required, unless and then only to the extent that Client submits a written claim to the Company within both such time periods.

13. CLIENT SHALL, EXCEPT TO THE EXTENT OF COMPANY'S LIABILITY TO CLIENT HEREUNDER (WHICH IN NO EVENT SHALL EXCEED THE LIMITATION OF LIABILITY HEREIN), HOLD HARMLESS AND INDEMNIFY THE COMPANY, ITS AFFILIATES AND THEIR RESPECTIVE DIRECTORS, OFFICERS, EMPLOYEES, AGENTS AND SUBCONTRACTORS AGAINST ALL ACTUAL OR ALLEGED THIRD PARTY CLAIMS FOR LOSS, DAMAGE OR EXPENSE OF WHATSOEVER NATURE AND HOWSOEVER ARISING FROM OR RELATING TO (i) THE PERFORMANCE, PURPORTED PERFORMANCE OR NON-PERFORMANCE OF ANY SERVICES BY THE COMPANY OR (ii) THE SALE, RESALE, MANUFACTURE, DISTRIBUTION OR USE OF ANY TESTED GOODS.

14. EXCEPT AS MAY OTHERWISE BE EXPRESSLY AGREED TO IN WRITING BY THE COMPANY AND NOTWITHSTANDING ANY PROVISION TO THE CONTRARY CONTAINED HEREIN OR IN ANY TEST REPORT, NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, IS MADE.

15. (A) IN NO EVENT WHATSOEVER SHALL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL, EXEMPLARY OR PUNITIVE DAMAGES IN CONNECTION WITH, RELATING TO OR ARISING OUT OF THE TEST REPORT OR THE SERVICES PROVIDED BY THE COMPANY HEREUNDER, INCLUDING WITHOUT LIMITATION LOSS OF OR DAMAGE TO PROPERTY; LOSS OF INCOME, PROFIT OR USE; OR ANY CLAIMS OR DEMANDS MADE AGAINST CLIENT OR ANY OTHER PERSON BY ANY THIRD PARTY IN CONNECTION WITH, RELATING TO OR ARISING OUT OF THE SERVICES PROVIDED BY THE COMPANY HEREUNDER.

(B) NOTWITHSTANDING ANY PROVISION TO THE CONTRARY CONTAINED HEREIN, AND IN RECOGNITION OF THE RELATIVE RISKS AND BENEFITS TO CLIENT AND THE COMPANY ASSOCIATED WITH THE TESTING SERVICES CONTEMPLATED HEREBY, THE RISKS HAVE BEEN ALLOCATED SUCH THAT UNDER NO CIRCUMSTANCES WHATSOEVER SHALL THE LIABILITY OF THE COMPANY TO CLIENT OR ANY THIRD PARTY IN RESPECT OF ANY CLAIM FOR LOSS, DAMAGE OR EXPENSE, OF WHATSOEVER NATURE OR MAGNITUDE, AND HOWSOEVER ARISING, EXCEED AN AMOUNT EQUAL TO FIVE (5) TIMES THE AMOUNT OF THE FEES PAID TO THE COMPANY FOR THE SPECIFIC SERVICES WHICH GAVE RISE TO SUCH CLAIM OR U.S.\$10,000, WHICHEVER IS THE LESSER AMOUNT.

16. The Company shall not be liable for any loss or damage resulting from any delay or failure in performance of its obligations hereunder resulting directly or indirectly from any event of force majeure or any event outside the control of the Company. If any such event occurs, the Company may immediately cancel or suspend its performance hereunder without incurring any liability whatsoever to Client.

Company's services, including these Conditions, shall be governed by, and construed in accordance with, the local laws of the country where the Company performs the tests or, in the case of tests performed in the United States of America, the laws of Massachusetts without regard to conflicts of laws principles. If any aspect(s) of these Conditions is found to be illegal or unenforceable, the validity, legality and enforceability of all remaining aspects of these Conditions shall not in any way be affected or impaired thereby. Any proceeding related to the subject matter hereof shall be brought, if at all, in the courts of the country where the Company performs the tests or, in the case of tests performed in the United States of America, in the courts of Massachusetts. Client waives the right to interpose any counterclaim or setoffs of any nature in any litigation arising hereunder.

The complete list of the Approved Subcontractors Curtis-Straus may use to delegate the performance of work can be provided upon request.