Test Report

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

Report No	EN1124-1
Client	Inncom Ryan Gardner
Address	277 West Main Street Niantic, CT 06357
Phone	860-739-4468
Items tested	PC-502.2 4G RF Repeater
FCC ID	GTC202125TXR
IC	1609A-202125TXR
FRN	0017924150
Equipment Type	Part 15.247 Digitally Modulated
Equipment Code	DTS
FCC/IC Rule Parts	47 CFR 15.247, RSS-210 Issue 8, RSS-Gen Issue 3
Test Dates	August 19, 20, 23, 36, 2013
Results	As detailed within this report
Prepared by	Tuyen Truong – Test Engineer
Authorized by	Chris Reynolds – EMC Supervisor
Issue Date	7/31/2014
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.

Contents

Form Final Report REV 7-20-07 (DW)

Summary

This test report supports an application for certification of a transmitter operating pursuant to 47 CFR 15.247. The product is the PC-502.4G RF Repeater. It is a digitally modulated transmitter that operates in the range 2400-2483.5MHz.

We found that the product met the above requirements without modification. Ryan Gardner, from Inncom, was present during the testing. The test sample was received in good condition.

Release Control Record

Issue No.	Reason for change	Date Issued
1	Original Release	November 10, 2012

Test Methodology

Radiated emissions testing was performed according to the procedures specified in FCC guidelines for DTS measurement (April 2013), ANSI C63.10 (2009) and C63.4 (2009). Radiated Emissions were maximized by rotating the device around its axes as well as varying the test antenna's height and polarity. The device antenna cannot be maximized separately.

Conducted emission at the antenna port was not applicable as the EUT has an integral chip antenna.

The EUT operating voltage is 120VAC, 60Hz

Low operating channel frequency = 2405MHz
Mid operating channel frequency = 2445MHz
High operating channel frequency = 2480MHz

The following bandwidths were used during radiated spurious and line conducted emissions.

Frequency	RBW	VBW
0.15-30MHz	9kHz	30kHz
30-1000MHz	120kHz	1MHz
1-25GHz	1MHz	3MHz

Product Tested - Configuration Documentation

EUT Configuration

Work Order: N1124
Company: Inncom
Company Address: 277 West Main Street
Niantic, CT 06357
Contact: Ryan Gardner
Person Present: Ryan Gardner

	MN	SN
EUT:	PC-502.2 4G (20dB)	1

EUT Description: RF repeater
EUT Tx Frequency: 2405-2480MHz

Support Equipment:	**MN**	**SN**
PS564 DIN Power Supply	01-9920	

EUT Ports:

Port Label	Port Type	No. of ports	No. Populated	Cable Type	Shielded	Ferrites	Length	Max Length	In/Out NEBS Type	Unpopulated Reason	
H2 System-5	header	1	1	5-wire	No	None	11"	11"	Indoor		
H3 S5-bus	Signal and Power	1	1	3-wire	No	None	1.5m	10m	Indoor		Signal not used
H4 S5-bus	Signal and Power	1	1	3-wire	No	None	1.5m	10m	Indoor	Signal not used	Please note that H4 is redundant with H3
ISP	header	1	0	8-wire	No	None	NA	NA	Indoor		Setup Only

Software / Operating Mode Description:

Tx at low, middle, and high channels

Statement of Conformity

The PC-502.4G RF Repeater (+20dB) has been found to conform to the following parts of 47 CFR and as detailed below:

RSS-GEN	RSS 210	Part 15	Comments
5.3		15.15(b)	There are no controls accessible to the user that varies the output power above specified limits.
5.2		15.19	The label is shown in the label exhibit.
7.1.5		15.21	Information to the user is shown in the instruction manual exhibit.
		15.27	No special accessories are required for compliance.
		15.31	The EUT was tested in accordance with the measurement standards in this section.
		15.33	Frequency range was investigated according to this section, unless noted in specific rule section under which the equipment operates.
		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.
7.1.4		15.203	EUT employs an integral antenna.
	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.
7.2.2		15.207	EUT meets the AC Line conducted emissions requirements of 15.207.
	Annex 8	15.247	The unit complies with the requirements of 15.247
4.6.1			Occupied Bandwidth measurements were made.

Test Results

Bandwidth

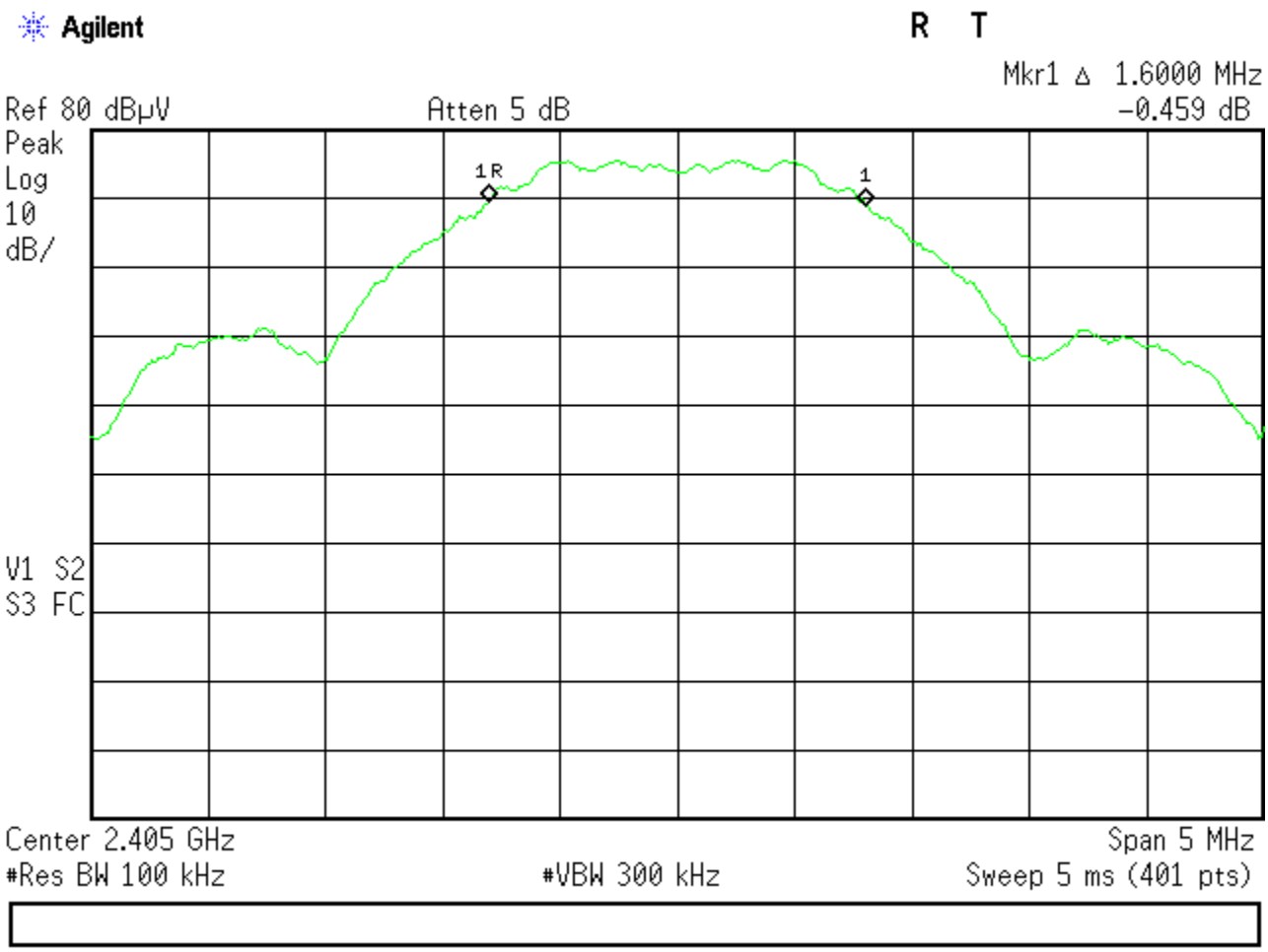
LIMIT

The minimum 6 dB bandwidth shall be at least 500 kHz. [15.247(a) (2)]

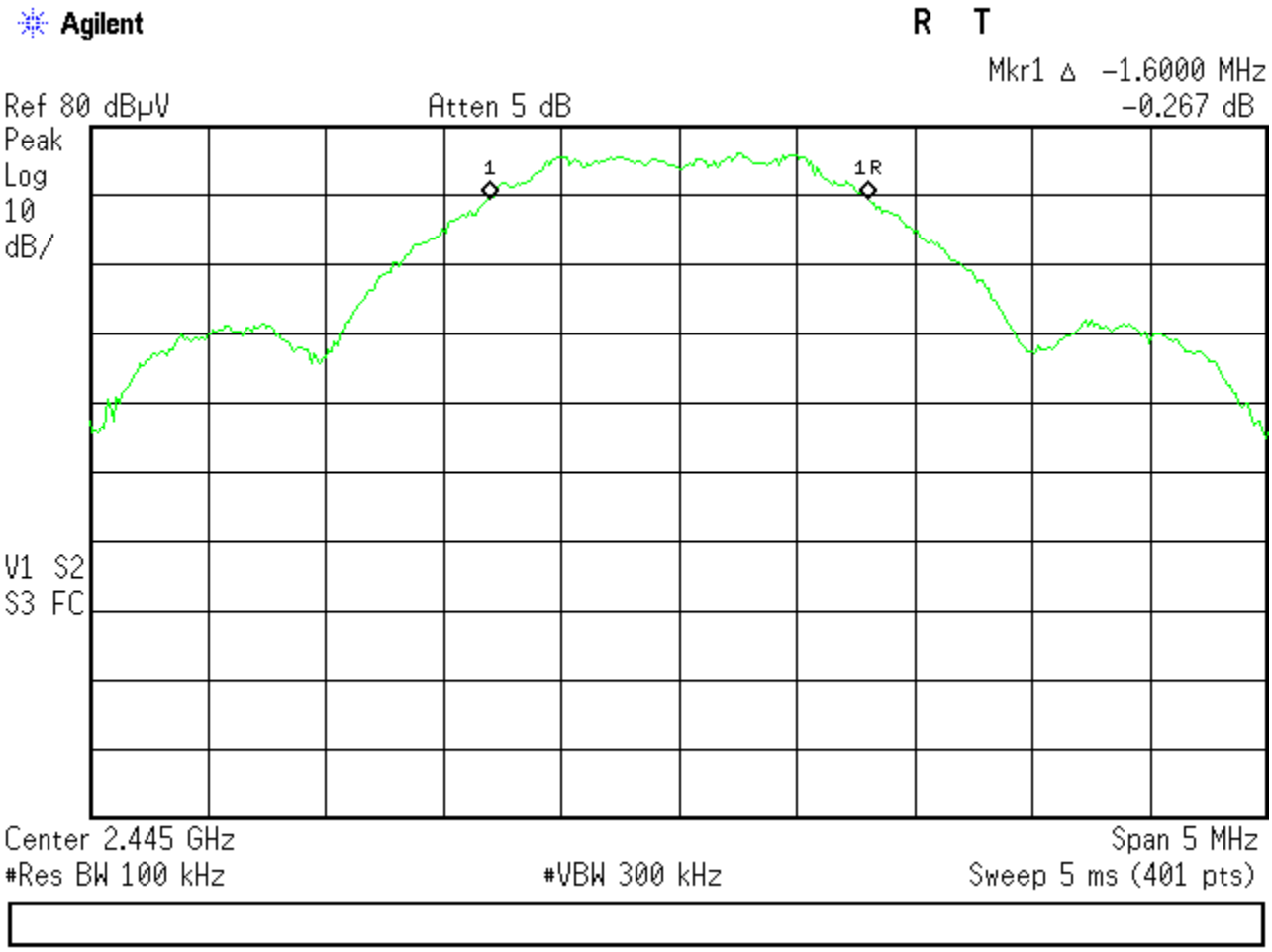
MEASUREMENTS / RESULTS

Engineer	Chris Reynolds
Date	8/19/13
Site	3MII
Environmental Conditions	23.4°C, 37%, 1008mb

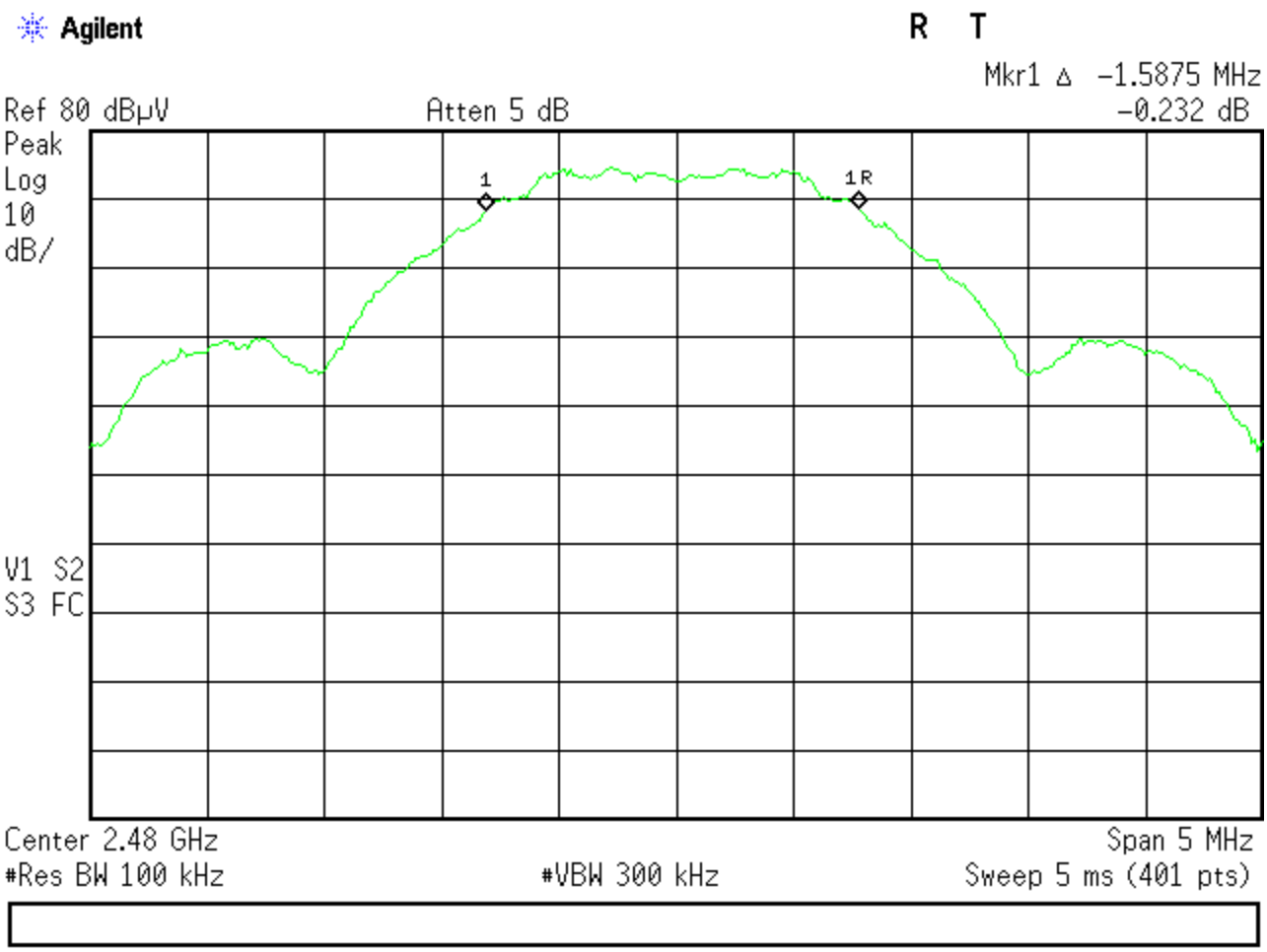
Measured 6dB bandwidth 1.6MHz



Channel 11


Agilent
R T
Mkr1 Δ -1.6000 MHz
-0.267 dB
Ref 80 dBµV
Atten 5 dB
Peak
Log
10
dB/
1
1R
V1 S2
S3 FC
Center 2.445 GHz
Span 5 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 5 ms (401 pts)

Channel 19



Channel 26

Rev.8/14/2013

Spectrum Analyzers / Receivers /Preselectors	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	4/15/2014	4/15/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**	**Calibrated on**
1DCC-OATS-3M-II	719150	2762A-10	A-0015	30-1000MHz		II	5/11/2015	5/11/2013
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Black Horn	1-18GHz	3115	EMCO	9703-5148	56	I	8/5/2015	8/5/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #1787	9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	5/29/2014	5/29/2013

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

Peak Power

LIMIT

Conducted Output Power
1 Watt
[15.247(b) (3)]

MEASUREMENTS / RESULTS

Radiated Emissions Table

Date: 19-Aug-13 **Company:** InnCom **Work Order:** N1124
Engineer: Chris Reynolds **EUT Desc:** PC502 - 20dB **EUT Operating Voltage/Frequency:** 12VDC
Temp: 23.4°C **Humidity:** 37% **Pressure:** 1008mBar
Measurement Distance: 3 m

Notes: Fundamentals
Note - Radiated measurements were performed because the EUT does not have an antenna port

Antenna Polarization (H / V)	Frequency (MHz)	Adjusted EIRP Reading (dBm)	Antenna Gain (dBi)	Peak Power at Antenna Port (dBm)					FCC part 15.247					
									Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBm)	Margin (dB)	Result (Pass/Fail)
EUT Vertical									---	---	---	---	---	---
Ch 11									---	---	---	---	---	---
h	2405.0	12.8	1.0	11.8					---	---	---	30.0	-18.2	Pass
v	2405.0	16.0	1.0	15.0					---	---	---	30.0	-15.0	Pass
Ch19		---	---						---	---	---	---		---
h	2445.0	15.0	1.0	14.0					---	---	---	30.0	-16.0	Pass
v	2445.0	15.4	1.0	14.4					---	---	---	30.0	-15.6	Pass
Ch26		---	---						---	---	---	---		---
h	2480.0	13.3	1.0	12.3					---	---	---	30.0	-17.7	Pass
v	2480.0	15.0	1.0	14.0					---	---	---	30.0	-16.0	Pass
EUT Flat		---	---						---	---	---	---		---
Ch 11		---	---						---	---	---	---		---
h	2405.0	15.7	1.0	14.7					---	---	---	30.0	-15.3	Pass
v	2405.0	12.8	1.0	11.8					---	---	---	30.0	-18.2	Pass
Ch19		---	---						---	---	---	---		---
h	2445.0	15.4	1.0	14.4					---	---	---	30.0	-15.6	Pass
v	2445.0	14.0	1.0	13.0					---	---	---	30.0	-17.0	Pass
Ch26		---	---						---	---	---	---		---
h	2480.0	15.2	1.0	14.2					---	---	---	30.0	-15.8	Pass
v	2480.0	12.8	1.0	11.8					---	---	---	30.0	-18.2	Pass

Table Result: Pass by -15.0 dB ***Worst Freq:*** 2405.0 MHz

Test Site: 1DCC-OATS-3M-II **Cable 1:** Asset #1787 **Cable 2:** --- **Cable 3:** ---
Analyzer: Rental SA#1 **Preamp:** none **Antenna:** Black Horn **Preselector:** ---

Rev.8/14/2013

Spectrum Analyzers / Receivers /Preselectors	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	4/15/2014	4/15/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**	**Calibrated on**
1DCC-OATS-3M-II	719150	2762A-10	A-0015	30-1000MHz		II	5/11/2015	5/11/2013
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Black Horn	1-18GHz	3115	EMCO	9703-5148	56	I	8/5/2015	8/5/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #1787	9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	5/29/2014	5/29/2013

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

Band Edge Measurements

LIMITS

"In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits." [15.247(d)]

MEASUREMENTS / RESULTS

Radiated Emissions Table

Date: 20-Aug-13 **Company:** InnCom **Work Order:** N1124
Engineer: Chris Reynolds **EUT Desc:** PC502 - 20dB **EUT Operating Voltage/Frequency:** 12VDC
Temp: 24.4°C **Humidity:** 50% **Pressure:** 1008mBar
Frequency Range: Low Bandedge Readings **Measurement Distance:** 3 m
Notes: **EUT Max Freq:**

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak			FCC Class B High Frequency - Average		
									Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
Ch11				---	---	---	---	---	---	---	---	---	---	---
h	2373.66	47.95	37.6	21.8	28.0	3.3	57.5	47.1	74.0	-16.5	Pass	54.0	-6.9	Pass
v	2373.9	47.3	36.3	21.8	28.0	3.3	56.8	45.8	74.0	-17.2	Pass	54.0	-8.2	Pass
h	2351.3	47.51	41.3	21.8	28.0	3.3	57.0	50.8	74.0	-17.0	Pass	54.0	-3.2	Pass
v	2351.3	48.45	40.9	21.8	28.0	3.3	58.0	50.4	74.0	-16.0	Pass	54.0	-3.6	Pass
h	2341.5	47.55	39.5	21.8	27.9	3.3	57.0	48.9	74.0	-17.0	Pass	54.0	-5.1	Pass
v	2341.5	47.35	39.6	21.8	27.9	3.3	56.8	49.0	74.0	-17.2	Pass	54.0	-5.0	Pass
h	2390.0	42.44	31.1	21.7	28.1	3.3	52.1	40.8	74.0	-21.9	Pass	54.0	-13.2	Pass
v	2390.0	41.79	29.9	21.7	28.1	3.3	51.5	39.6	74.0	-22.5	Pass	54.0	-14.4	Pass

Table Result: Pass by -3.2 dB ***Worst Freq:*** 2351.3 MHz

Test Site: EMI Chamber 2 **Cable 1:** Asset #1782 **Cable 2:** Asset #1784 **Cable 3:** ---
Analyzer: Gold **Preamp:** Asset #1517 **Antenna:** Yellow Horn **Preselector:** ---

Rev.8/14/2013

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 2	719150	2762A-7	A-0015	30-1000MHz		II	2/15/2014	2/15/2012

Preamps /Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
1517 HF Preamp	1-20GHz	CS	CS	N/A	1517	II	4/15/2014	4/15/2013

Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Yellow Horn	1-18GHz	3115	EMCO	9608-4898	37	I	7/19/2014	7/19/2013

Cables	Range		Mfr			Cat	Calibration Due	Calibrated on
Asset #1782	9kHz - 18GHz		Florida RF			II	3/6/2014	3/6/2013
Asset #1784	9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013

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
CHAMBER2 Thermohygrometer		35519-044	Control Company	72457639	1347	II	Retired	Retired

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

Radiated Emissions Table

Date: 20-Aug-13 **Company:** InnCom **Work Order:** N1124
Engineer: Chris Reynolds **EUT Desc:** PC502 - 20dB **EUT Operating Voltage/Frequency:** 12VDC
Temp: 24.4°C **Humidity:** 50% **Pressure:** 1008mBar
Frequency Range: Upper bandedge readings **Measurement Distance:** 3 m
Notes: w/ DCCF of 27.8dB

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	FCC Class B High Frequency - Average Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
Ch26				---	---	---	---	---	---	---	---	---	---	---
w/ marker delta and a DCCF of 27.8dB														
H	2480.0	58.96	28.9	22.1	28.3	3.4	68.6	38.5	74.0	-5.4	Pass	54.0	-15.5	Pass
V	2480.0	58.78	28.8	22.1	28.3	3.4	68.4	38.4	74.0	-5.6	Pass	54.0	-15.6	Pass
				---	---	---	---	---	---	---	---	---	---	---
H	2485.5	55.64	22.3	22.2	28.3	3.4	65.1	31.8	74.0	-8.9	Pass	54.0	-22.2	Pass
V	2485.5	57.78	23.3	22.2	28.3	3.4	67.3	32.8	74.0	-6.7	Pass	54.0	-21.2	Pass
				---	---	---	---	---	---	---	---	---	---	---
H	2535.8	46.16	10.3	22.2	28.5	3.4	55.9	20.0	74.0	-18.1	Pass	54.0	-34.0	Pass
V	2535.8	45.36	11.0	22.2	28.5	3.4	55.1	20.7	74.0	-18.9	Pass	54.0	-33.3	Pass

Table Result: Pass by -15.5 dB ***Worst Freq:*** 2480.0 MHz

Test Site: EMI Chamber 2 **Cable 1:** Asset #1782 **Cable 2:** Asset #1784 **Cable 3:** ---
Analyzer: Gold **Preamp:** Asset #1517 **Antenna:** Yellow Horn **Preselector:** ---

Rev.8/14/2013

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 2	719150	2762A-7	A-0015	30-1000MHz		II	2/15/2014	2/15/2012

Preamps /Couplers Attenuators / Filters	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
1517 HF Preamp	1-20GHz	CS	CS	N/A	1517	II	4/15/2014	4/15/2013

Antennas	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Yellow Horn	1-18GHz	3115	EMCO	9608-4898	37	I	7/19/2014	7/19/2013

Cables	Range		Mfr			Cat	Calibration Due	Calibrated on
Asset #1782	9kHz - 18GHz		Florida RF			II	3/6/2014	3/6/2013
Asset #1784	9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013

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
CHAMBER2 Thermohygrometer		35519-044	Control Company	72457639	1347	II	Retired	Retired

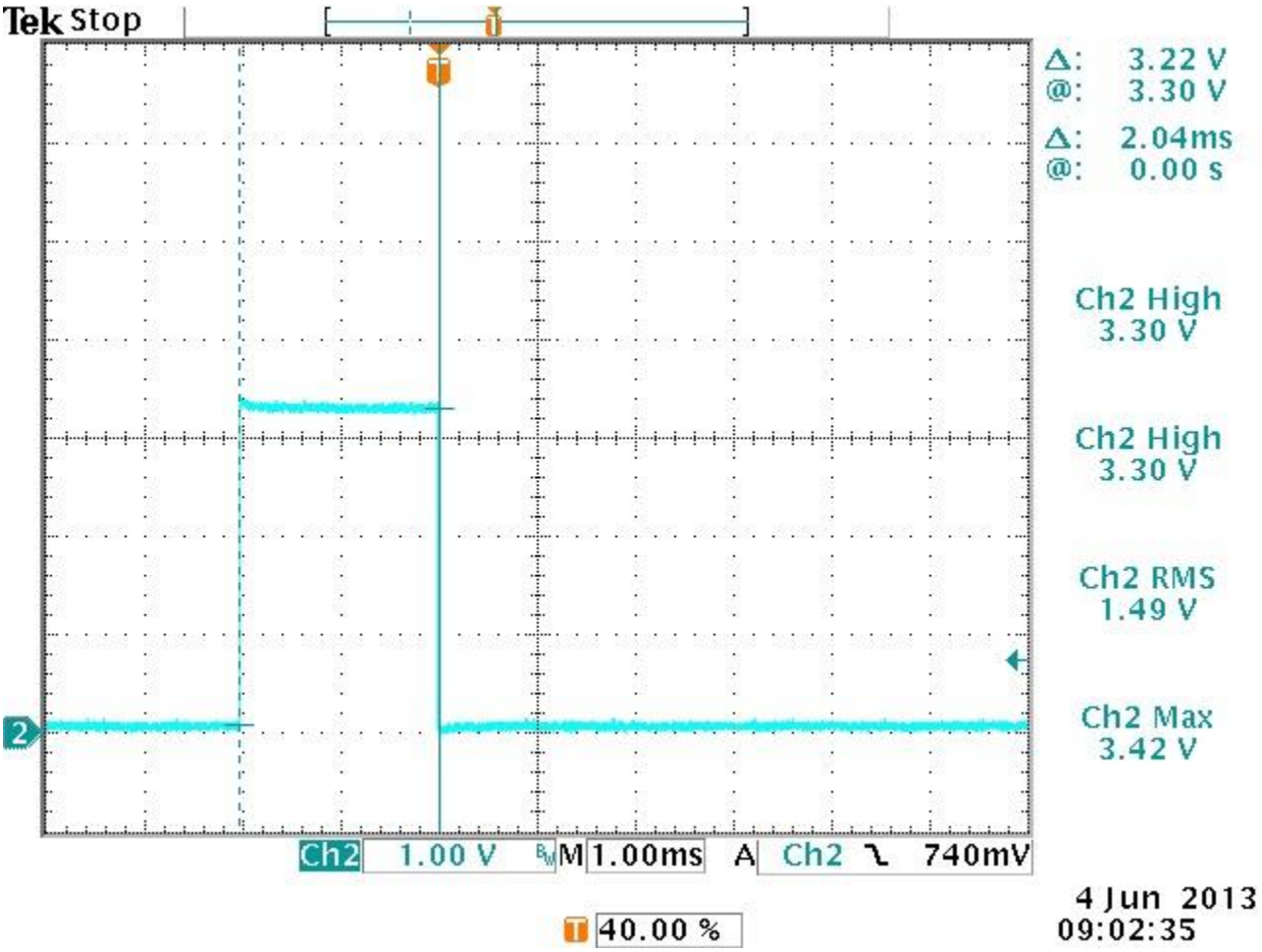
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.

Duty Cycle Correction Calculation

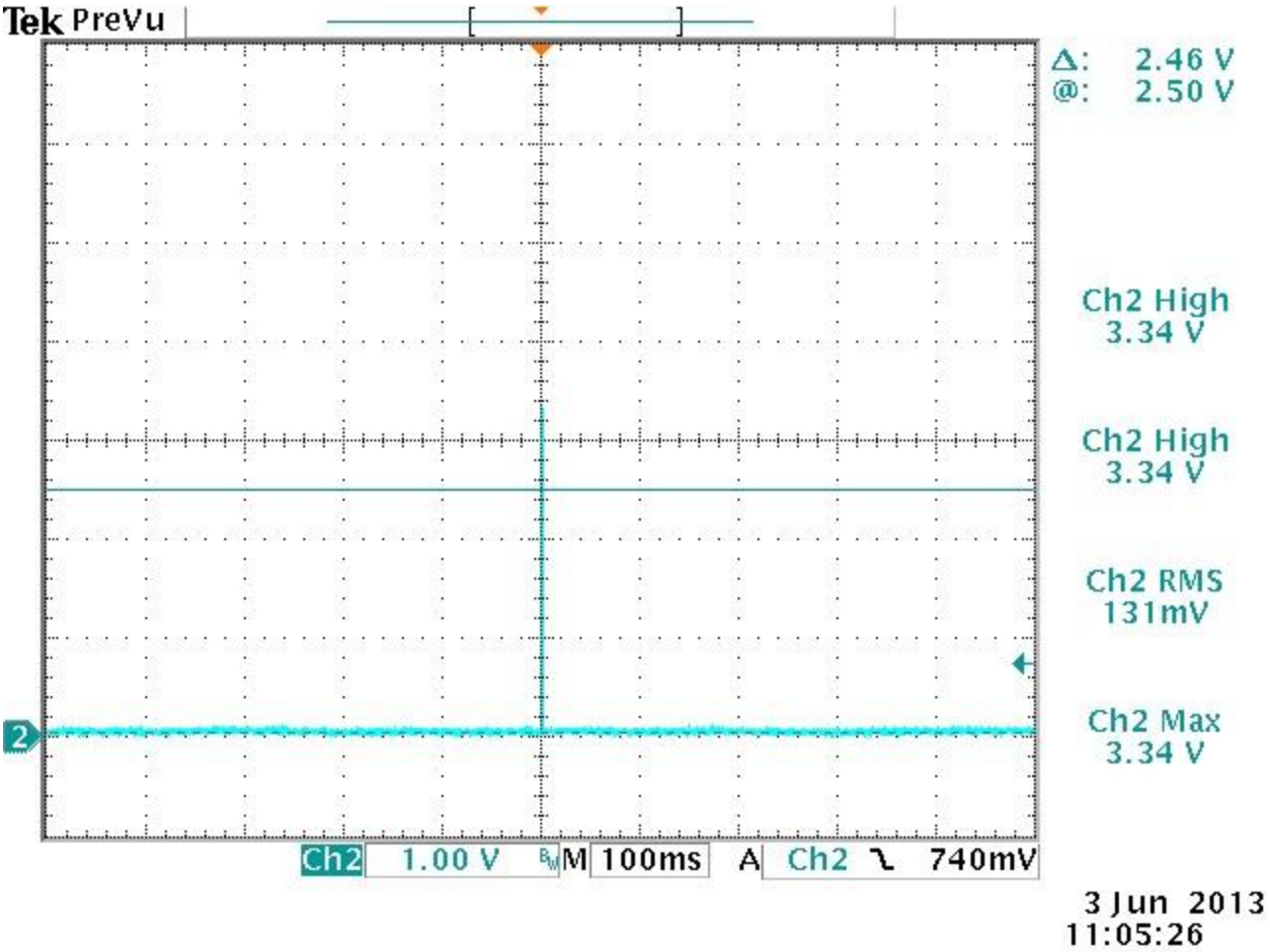
MEASUREMENTS / CALCULATIONS

DCCF = 20*log (total On Time /100ms)
= 20*log (4/100)
= -27.9

PLOTS



Individual Pulse On time – 4ms in 100ms Window



100ms Window

Radiated Spurious Emissions

LIMITS

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).
[15.247(d)]

MEASUREMENTS / RESULTS

Radiated Emissions Table

Date: 20-Aug-13 **Company:** InnCom **Work Order:** N1124
Engineer: Chris Reynolds **EUT Desc:** PC502 - 20dB **EUT Operating Voltage/Frequency:** 12VDC
Temp: 24.4°C **Humidity:** 50% **Pressure:** 1008mBar
Frequency Range: 30-1000MHz **Measurement Distance:** 3 m
Notes:

Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	CISPR Class B Limit (dBµV/m)	CISPR Class B Margin (dB)	CISPR Class B Result (Pass/Fail)	FCC Class B Limit (dBµV/m)	FCC Class B Margin (dB)	FCC Class B Result (Pass/Fail)
hbb	146.8	36.3	25.1	12.4	0.8	24.4	40.5	-16.1	Pass	43.5	-19.1	Pass
hbb	167.7	38.1	24.4	11.6	0.8	26.1	40.5	-14.4	Pass	43.5	-17.4	Pass
hbb	222.9	42.1	25.2	10.9	1.0	28.8	40.5	-11.7	Pass	46.0	-17.2	Pass
hbb	224.1	42.2	25.2	11.0	1.0	29.0	40.5	-11.5	Pass	46.0	-17.0	Pass
hbb	242.3	35.2	25.2	11.8	1.0	22.8	47.5	-24.7	Pass	46.0	-23.2	Pass
hbb	294.6	32.5	25.3	13.3	1.1	21.6	47.5	-25.9	Pass	46.0	-24.4	Pass

Table Result: Pass by -11.5 dB ***Worst Freq:*** 224.1 MHz

Test Site: EMI Chamber 2 **Cable 1:** Asset #1782 **Cable 2:** Asset #1784 **Cable 3:** ---
Analyzer: Gold **Preamp:** Blue-Blk **Antenna:** Red-Black **Preselector:** ---

Rev.8/14/2013

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 2	719150	2762A-7	A-0015	30-1000MHz		II	2/15/2014	2/15/2012
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Blue-Black	0.009-2000MHz	ZFL-1000-LN	CS	N/A	800	II	12/3/2013	12/3/2012
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Red-Black Bilog	30-2000MHz	JB1	Sunol	A091604-2	1106	I	1/28/2015	1/28/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #1782	9kHz - 18GHz		Florida RF			II	3/6/2014	3/6/2013
Asset #1784	9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013
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
CHAMBER2 Thermohygrometer		35519-044	Control Company	72457639	1347	II	Retired	Retired

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

Radiated Emissions Table

Date: 23-Aug-13 **Company:** Inncom **Work Order:** N1124
Engineer: Ahmed Ahmed **EUT Desc:** PC502 20dB version **EUT Operating Voltage/Frequency:** 12Vdc
Temp: 26°C **Humidity:** 43% **Pressure:** 1002mBar
Frequency Range: 1-18GHz **Measurement Distance:** 1 m
Notes: **EUT Max Freq:** 2480MHz

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	FCC Class B High Frequency - Average Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
V	2384.225	46.04	40.3	21.8	28.5	3.2	55.9	50.2	83.5	-27.6	Pass	63.5	-13.3	Pass
V	2416.55	52.91	45.4	21.8	28.6	3.3	63.0	55.5	83.5	-20.5	Pass	63.5	-8.0	Pass
V	2424.0	53.3	44.9	21.9	28.6	3.3	63.3	54.9	83.5	-20.2	Pass	63.5	-8.6	Pass
H	2424.0	55.3	47.4	21.9	28.6	3.3	65.3	57.4	83.5	-18.2	Pass	63.5	-6.1	Pass
H	2511.5	54.0	41.0	22.2	28.9	3.4	64.1	51.1	83.5	-19.4	Pass	63.5	-12.4	Pass
H	2536.0	53.44	46.0	22.2	29.0	3.4	63.6	56.2	83.5	-19.9	Pass	63.5	-7.3	Pass
H	4959.3	42.23	34.9	20.2	33.9	5.1	61.0	53.7	83.5	-22.5	Pass	63.5	-9.8	Pass
V	4959.3	40.56	32.0	20.2	33.9	5.1	59.4	50.8	83.5	-24.1	Pass	63.5	-12.7	Pass
H	7440.0	40.0	28.1	19.9	37.2	6.4	63.7	51.8	83.5	-19.8	Pass	63.5	-11.7	Pass
V	7440.0	39.93	29.8	19.9	37.2	6.4	63.6	53.5	83.5	-19.9	Pass	63.5	-10.0	Pass
H	9922.05	40.0	29.4	19.1	38.6	7.2	66.7	56.1	83.5	-16.8	Pass	63.5	-7.4	Pass

Table Result: Pass by -6.1 dB ***Worst Freq:*** 2424.0 MHz

Test Site: EMI Chamber 1 **Cable 1:** Asset #1781 **Cable 2:** Asset #1785
Analyzer: Gold **Preamp:** Asset #1517 **Antenna:** Orange Horn

Rev.8/14/2013

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	2/16/2014	2/16/2012
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
1517 HF Preamp	1-20GHz	CS	CS	N/A	1517	II	4/15/2014	4/15/2013
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Orange Horn	1-18GHz	3115	EMCO	0004-6123	390	I	8/27/2014	7/27/2012
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #1781	9kHz - 18GHz		Florida RF			II	3/6/2014	3/6/2013
Asset #1785	9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013
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
CHAMBER1 Thermohygrometer		35519-044	Control Company	72457642	1345	II	Retired	Retired

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

Radiated Emissions Table

Date: 23-Aug-13 **Company:** Inncom **Work Order:** N1124
Engineer: Ahmed Ahmed **EUT Desc:** PC502 20dB version **EUT Operating Voltage/Frequency:** 12Vdc
Temp: 26°C **Humidity:** 43% **Pressure:** 1002mBar
Frequency Range: 18-25GHz **Measurement Distance:** 0.1 m
Notes: **EUT Max Freq:** 2480MHz

Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Peak Reading (dBµV/m)	Adjusted Avg Reading (dBµV/m)	FCC Class B High Frequency - Peak Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	FCC Class B High Frequency - Average Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
NO EMISSION FOUND				---	---	---	---	---	---	---	---	---	---	---

Table Result: --- by --- dB ***Worst Freq:*** --- MHz

Test Site: EMI Chamber 1 **Cable 1:** EMIR-HIGH-22
Analyzer: Gold **Preamp:** 18-26.5GHz

Rev.8/14/2013

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	2/16/2014	2/16/2012
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
HF (Yellow)	18-26.5GHz	AFS4-18002650-60-8P-4	CS	467559	1266	I	10/13/2013	10/13/2012
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
REMI-High-22	9kHz - 15GHz		C-S			II	2/2/2014	2/2/2013
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
CHAMBER1 Thermohygrometer		35519-044	Control Company	72457642	1345	II	Retired	Retired

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

Conducted Spurious Emissions

LIMITS

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth that contains the highest level of desired power…
[15.247(d)]

MEASUREMENTS / RESULTS

Not Applicable – EUT has an integral chip antenna

Power Spectral Density

LIMIT

…the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission. [15.247(e)]

MEASUREMENTS / RESULTS

Engineer	Chris Reynolds
Date	8/19/13
Site	3M II
Environmental Conditions	23.4°C, 37%, 1008mb

Radiated Emissions Table

Date: 19-Aug-13 **Company:** InnCom **Work Order:** N1124
Engineer: Chris Reynolds **EUT Desc:** PC502 - 20dB **EUT Operating Voltage/Frequency:** 12VDC
Temp: 23.4°C **Humidity:** 37% **Pressure:** 1008mBar
Measurement Distance: 3 m
Notes: Power Spectral Density

Antenna Polarization (H / V)	Frequency (MHz)	EIRP (dBm)	Antenna Gain (dBi)	PSD at Antenna Port (dB)	FCC Part 15.247 PSD Limit (dB/m)	Margin (dB)	Result (Pass/Fail)
EUT Vertical					---	---	---
Ch 11					---	---	---
h	2405.0	-0.2	1.0	-1.2	8.0	-9.2	Pass
v	2405.0	0.2	1.0	-0.8	8.0	-8.8	Pass
Ch19		---	---		---		---
h	2445.0	0.4	1.0	-0.6	8.0	-8.6	Pass
v	2445.0	0.5	1.0	-0.5	8.0	-8.5	Pass
Ch26		---	---		---		---
h	2480.0	-0.2	1.0	-1.2	8.0	-9.2	Pass
v	2480.0	-1.8	1.0	-2.8	8.0	-10.8	Pass
EUT Flat		---	---		---		---
Ch 11		---	---		---		---
h	2405.0	0.3	1.0	-0.7	8.0	-8.7	Pass
v	2405.0	-3.7	1.0	-4.7	8.0	-12.7	Pass
Ch19		---	---		---		---
h	2445.0	0.8	1.0	-0.2	8.0	-8.2	Pass
v	2445.0	-1.9	1.0	-2.9	8.0	-10.9	Pass
Ch26		---	---		---		---
h	2480.0	-0.8	1.0	-1.8	8.0	-9.8	Pass
v	2480.0	-2.7	1.0	-3.7	8.0	-11.7	Pass

Table Result: Pass by -8.2 dB ***Worst Freq:*** 2445.0 MHz

Test Site: 1DCC-OATS-3M-II **Cable 1:** Asset #1787 **Cable 2:** --- **Cable 3:** ---
Analyzer: Rental SA#1 **Preamp:** none **Antenna:** Black Horn **Preselector:** ---

Rev.8/14/2013

Spectrum Analyzers / Receivers /Preselectors	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	4/15/2014	4/15/2013
Radiated Emissions Sites	**FCC Code**	**IC Code**	**VCCI Code**	**Range**		**Cat**	**Calibration Due**	**Calibrated on**
1DCC-OATS-3M-II	719150	2762A-10	A-0015	30-1000MHz		II	5/11/2015	5/11/2013
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Black Horn	1-18GHz	3115	EMCO	9703-5148	56	I	8/5/2015	8/5/2013
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #1787	9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013
Meteorological Meters		**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	5/29/2014	5/29/2013

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

AC Line Conducted Emissions

LIMITS

Frequency of emission (MHz)	Quasi-peak limit (dBµV)	Average limit (dBµV)
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.

[47 CFR 15.207(a)]

MEASUREMENTS / RESULTS

Engineer	Ahmed Ahmed
Date	8/20/13
Site	CEMI 5
Environmental Conditions	25°C, 45%, 1000mb

AC Side of a DC Supply Conducted Emissions

Date: 20-Aug-13 **Company:** InnCom **Work Order:** N1124
Engineer: Ahmed Ahmed **EUT Desc:** PC502 - 20dB
Temp: 25.0 ºC **Humidity:** 45% **Pressure:** 1000 mBar
Notes: TX mode,CH11
Frequency Range: 0.15-30MHz **EUT Input Voltage/Frequency:** 12Vdc

Frequency (MHz)	Quasi-Peak Readings QP1 (dBµV)	QP2 (dBµV)	Average Readings AVG1 (dBµV)	AVG2 (dBµV)	LISN Factors L1 (dB)	L2 (dB)	Cable Factor (dB)	ATTN Factor (dB)	FCC/CISPR Class B QP Limit (dBµV)	Margin (dB)	Result (Pass/Fail)	FCC/CISPR Class B AVG Limit (dBµV)	Margin (dB)	Result (Pass/Fail)
0.67	25.0	24.8	13.0	12.0	0.0	-0.1	-0.1	-19.6	56.0	-11.4	Pass	46.0	-13.4	Pass
1.20	22.0	23.1	8.3	9.8	0.0	-0.1	-0.1	-19.6	56.0	-13.2	Pass	46.0	-16.6	Pass
2.45	27.5	29.5	11.3	14.1	0.0	-0.1	-0.1	-19.6	56.0	-6.8	Pass	46.0	-12.2	Pass
5.88	16.4	18.9	7.0	7.7	0.0	-0.1	-0.1	-19.6	60.0	-21.4	Pass	50.0	-22.6	Pass
19.27	16.8	17.3	0.5	3.3	-0.1	-0.2	-0.3	-19.5	60.0	-22.7	Pass	50.0	-26.7	Pass
22.20	23.1	22.5	4.0	7.5	-0.1	-0.2	-0.3	-19.5	60.0	-17.0	Pass	50.0	-22.5	Pass

Result: Pass ***Worst Margin:*** -6.8 dB ***Frequency:*** 2.450 MHz

Measurement Device: LISN ASSET 1726(Line 1) LISN ASSET 1727(Line 2) **Cable:** CEMI-09 **Spectrum Analyzer:** Black
Attenuator: 20dB Attenuator-38 **Site:** CEMI 5

Rev.8/14/2013

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due	Calibrated on
Black	9kHz-12.8GHz	8596E	Agilent	3710A00944	337	I	1/17/2014	1/17/2013
LISNs/Measurement Probes	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
LISN Asset 1726	150kHz-30MHz	LI-150A	Com-Power	201092	1726	I	1/11/2014	1/11/2013
LISN Asset 1727	150kHz-30MHz	LI-150A	Com-Power	201093	1727	I	1/2/2014	1/2/2013
Conducted Test Sites (Mains / Telco)	**FCC Code**		**VCCI Code**			**Cat**	**Calibration Due**	**Calibrated on**
CEMI 5	719150		A-0015			III	NA	N/A
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
CEMI-09	9kHz - 2GHz		C-S			II	5/9/2014	5/9/2013
Attenuators	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
20dB Attenuator-38	9kHz-2GHz			N/A		II	4/15/2014	4/15/2013
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
CEMI5 Thermohygrometer		35519-044	Control Company	72457633	1341	II	Retired	Retired

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

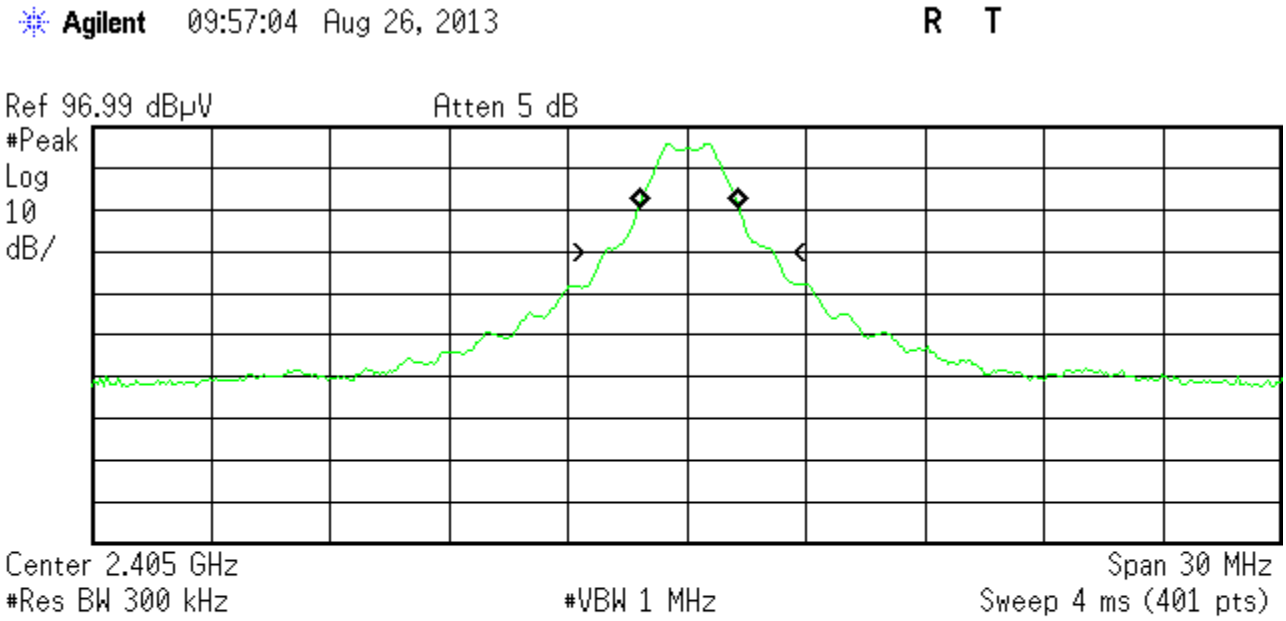
Occupied Bandwidth

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	Chris Reynolds
Date	8/26/13
Site	EMI Chamber 1
Environmental Conditions	24.4°C, 44%, 1005mb

Plots



Occupied Bandwidth

Rev.8/25/2013

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	2/16/2014	2/16/2012
Preamps /Couplers Attenuators / Filters	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
1517 HF Preamp	1-20GHz	CS	CS	N/A	1517	II	4/15/2014	4/15/2013
Antennas	**Range**	**MN**	**Mfr**	**SN**	**Asset**	**Cat**	**Calibration Due**	**Calibrated on**
Orange Horn	1-18GHz	3115	EMCO	0004-6123	390	I	8/27/2014	7/27/2012
Cables	**Range**		**Mfr**			**Cat**	**Calibration Due**	**Calibrated on**
Asset #1781	9kHz - 18GHz		Florida RF			II	3/6/2014	3/6/2013
Asset #1785	9kHz - 18GHz		Florida RF			II	3/14/2014	3/14/2013
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
CHAMBER1 Thermohygrometer		35519-044	Control Company	72457642	1345	II	Retired	Retired

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

Measurement Uncertainty

The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement	Expanded Uncertainty k=2	Maximum allowable uncertainty
Radiated Emissions (30-1000MHz) NIST CISPR	 5.6dB 4.6dB	 N/A 5.2dB (Ucispr)
Radiated Emissions (1-26.5GHz)	4.6dB	N/A
Radiated Emissions (above 26.5GHz)	4.9dB	N/A
Magnetic Radiated Emissions	5.6dB	N/A
Conducted Emissions NIST CISPR	 3.9dB 3.6dB	 N/A 3.6dB (Ucispr)
Telco Conducted Emissions (Current)	2.9dB	N/A
Telco Conducted Emissions (Voltage)	4.4dB	N/A
Electrostatic Discharge	11.5%	N/A
Radiated RF Immunity (Uniform Field)	1.6dB	N/A
Electrical Fast Transients	23.1%	N/A
Surge	23.1%	N/A
Conducted RF Immunity	3dB	N/A
Magnetic Immunity	12.8%	N/A
Dips and Interrupts	2.3V	N/A
Harmonics	3.5%	N/A
Flicker	3.5%	N/A
Radio frequency (@ 2.4GHz)	3.23×10^{-8}	1×10^{-7}
RF power, conducted	0.40dB	0.75dB
Maximum frequency deviation: • Within 300Hz and 6kHz of audio frequency / Within 6kHz and 25kHz of audio frequency	 3.4% 0.3dB	 5% 3dB
Adjacent channel power	1.9dB	3dB
Conducted spurious emission of transmitter, valid up to 12.75GHz	2.39dB	3dB
Conducted emission of receivers	1.3dB	3dB
Radiated emission of transmitter, valid up to 26.5GHz	3.9dB	6dB
Radiated emission of transmitter, valid up to 80GHz	3.3dB	6dB
Radiated emission of receiver, valid up to 26.5GHz	3.9dB	6dB
Radiated emission of receiver, valid up to 80GHz	3.3dB	6dB
Humidity	2.37%	5%
Temperature	0.7°C	1.0°C
Time	4.1%	10%
RF Power Density, Conducted	0.4dB	3dB
DC and low frequency voltages	1.3%	3%
Voltage (AC, <10kHz)	1.3%	2%
Voltage (DC)	0.62%	1%
The above reflects a 95% confidence level		

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 were 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.

17. 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.
Rev.160009121(2)_#684340 v14CS