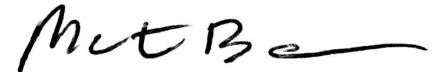
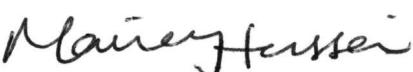




BUREAU
VERITAS

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

Test Report

Report No	EL0285-1
Client	Boxx TV Ltd.
Address	Suite 17, 3-9 Imperial Road London, England SW6 2AG
Phone	44 (0) 845 643 2
Items tested	Meridian Transmitter
FCC ID	VQSAMN11100R44
IC ID	7680A-AMN11100
FRN	0017004433
Equipment Type	Digital Transmission System and Unlicensed National Information Infrastructure TX
Equipment Code	DTS and UNII
Emission Designator	1M79G1D and 1M73G1D
FCC/IC Rule Parts	47 CFR 15.247, 47 CFR 15.407, RSS 210 issue 8 and RSS GEN issue 3, 47 CFR 15B
Test Dates	March 8-9 th , 2011
Results	As detailed within this report
Prepared by	 Matthew Burman – Test Engineer
Authorized by	 Mairaj Hussain – EMC Supervisor
Issue Date	<u>March 21, 2011</u>
Conditions of Issue	This Test Report is issued subject to the conditions stated in the 'Conditions of Testing' section on page 14 of this report.

Curtis-Straus LLC is accredited by the American Association for Laboratory Accreditation for the specific scope of accreditation under Certificate Number 1627-01. This report may contain data which is not covered by the A2LA accreditation.



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



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Summary

This test report supports a class II permissive change of a transmitter operating pursuant to 47 CFR 15.247, 47 CFR 15.407 and RSS-210. The product is the Meridian Transmitter. It is a transmitter that operates in the range 5745.0 – 5825.0MHz and 5180.0 – 5220.0MHz

The permissive change is for addition of 2dBi dipole antennas to FCC ID VQSAMN11100R44.

The UNII frequency range of operation from the original grant was 5180 to 5220MHz and the DTS frequency range of operation is 5745 to 5825MHz, both were certified under the FCC ID VQSAMN11100R44.

We found that the product met the above requirements without modification. Dave Russell from Boxx TV Ltd. was present during the testing. The test sample was received in good condition.

Bandedge measurements and spurious emissions were checked.

This report is also a verification report for the digital circuitry implemented in the Meridian Transmitter.

Test Methodology

Radiated emission was performed according to the procedures specified in ANSI C63.10 (2009) and RSS-GEN. Radiated Emissions were maximized by rotating the device around three orthogonal axes as well as varying the test antenna's height and polarity. The device antenna cannot be maximized separately.

EUT is battery powered.

Release Control Record

Issue No. Reason for change
1 Original Release

Date Issued
March 24, 2011



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Product Tested - Configuration Documentation

EUT Configuration									
Work Order: L0285 Company: Boxx TV Ltd. Company Address: Suite 17, 3-9 Imperial Road London, SW6 2AG, United Kingdom Contact: Dave Russell Person Present: Dave Russell									
MN									
EUT: TM-ABT-03HS									
EUT Description: Meridian Transmitter									
EUT Tx Frequency: 5803MHz									
Support Equipment:									
MN									
Sony Camera									
Battery									
BVW-D600									

SN									
10136									
0000 36935 W02S									
EUT Ports:									
Port Label									
No.									
Port Type									
No. of ports									
Populated									
Cable Type									
Shielded									
Ferrites									
Length									
Max Length									
NEBS Type									
Unpopulated Reason									
Audio	AV	1	0						Normal operation only uses 1 cable population, worst case tested
SDI	AV	1	0						Normal operation only uses 1 cable population, worst case tested
Composite	AV	1	1	coax	yes	none	1'	1'	outdoor
PB	AV	1	0						Normal operation only uses 1 cable population, worst case tested
PR	AV	1	0						Normal operation only uses 1 cable population, worst case tested
Y	AV	1	0						Normal operation only uses 1 cable population, worst case tested
Headphone	headphone	1	0						Not used in normal operation
DC Power	power	1	0						Not used in normal operation
Software / Operating Mode Description:									
EUT is receiving video and audio from the camera, this data is being transmitted at 1080p.									



Statement of Conformity

The Meridian Transmitter has been found to conform to the following parts of 47 CFR and RSS 210 as detailed below:

RSS-GEN	RSS 210	Part 15	Comments
5.2		15.19	The label is shown in the label 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.
		15.35	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.
7.1.2		15.203	The antenna for this device is a unique connection with reverse polarity.
7.2.4		15.207	EUT is Battery Powered
	Annex 9.2	15.407(b)	The unit complies with the requirements of 15.407(b)
	Annex 8.5	15.247 (d)	The unit complies with the requirements of 15.247(d)



Test Results

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. Attenuation below the general limits specified in section 15.209(a) is not required. In addition, 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) (see Section 15.205(c)).

[15.247(d)]

For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

[15.407(b)(1)]

MEASUREMENTS / RESULTS

Bandedge

Date: 08-Mar-11	Company: Boxx TV Ltd.	Work Order: L0285					
Engineer: Matthew Burman	EUT Desc: Meridian Transmitter	EUT Operating Voltage/Frequency: Battery Powered					
Temp: 19.8 °C	Humidity: 23%	Pressure: 1007mBar					
Frequency Range: 5745-5825MHz		Measurement Distance: 3 m					
Notes: BandEdge RBW = 100kHz Radiated Measurements							
Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dB μ V)	Bandedge Reading (dB μ V)	Delta (dB)	FCC 15.247 (d)		
					Limit (dB)	Margin (dB)	Result (Pass/Fail)
v	5825.0	79.08	37.3	41.8	30.0	-11.8	Pass
v	5745.0	86.37	34.7	51.7	30.0	-21.7	Pass
Test Site: 1DCC-OATS-3M-I		Cable 1: EMIR-HIGH-21		Antenna: Black Horn			
Analyzer: Rental SA#1		Preamp: Red-Blue					

Rev: 2-Mar-2011

Spectrum Analyzers / Receivers /Preselectors Rental SA #1 (Brown)	Range 9kHz-26.5GHz	MN E4407B	Mfr Agilent	SN SG44210511	Asset 1510	Cat I	Calibration Due 25-Mar-2011
Radiated Emissions Sites 1DCC-OATS-3M-II	FCC Code 719150	IC Code 2762A-10	VCCI Code NA			Cat II	Calibration Due 5-Oct-2012
Preamps /Couplers Attenuators / Filters Red-Blue	Range 1-18GHz	MN PE2-38-218-4R5-17-15-SFF	Mfr CS	SN NA	Asset 1257	Cat II	Calibration Due 15-Jun-2011
Antennas Black Horn	Range 1-18GHz	MN 3115	Mfr EMCO	SN 9703-5148	Asset 56	Cat I	Calibration Due 6-Jul-2011
Meteorological Meters Temp./Humidity/Atm. Pressure Gauge 1DCC-OATS-3M-I Thermohygrometer		MN 7400 Perception II 35519-044	Mfr Davis Control Company	SN N/A 72457635	Asset 965 1334	Cat I II	Calibration Due 6-Apr-2011 18-Aug-2011
Cables REMI-High-21	Range 9kHz - 26.5GHz		Mfr C-S			Cat II	Calibration Due 18-Jan-2012

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



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Testing Cert. No. 1627-01

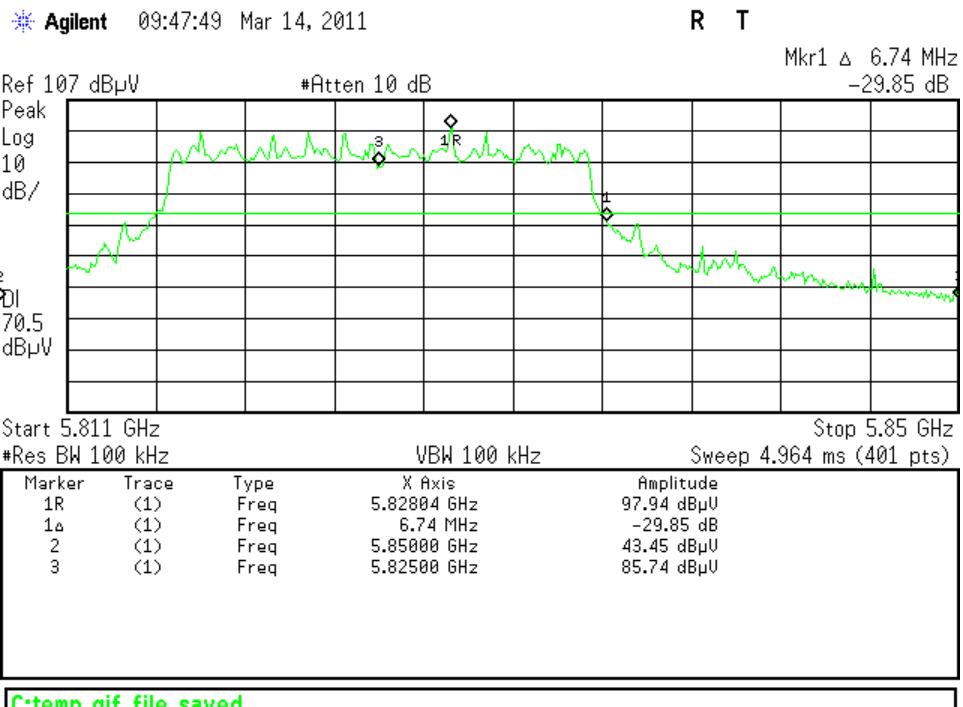
Bandedge

Date: 08-Mar-11	Company: Boxx TV Ltd.	Work Order: L0285										
Engineer: Matthew Burman	EUT Desc: Meridian Transmitter	EUT Operating Voltage/Frequency: Battery Powered										
Temp: 19.8°C	Humidity: 23%	Pressure: 1007mBar										
Frequency Range: 5150-5250MHz		Measurement Distance: 3 m										
Notes: BandEdge -27dBm = 68.23dBuV/m @ 3m												
Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBuV)	Preamp Factor (dB)	Antenna Factor (dB)	Cable Factor (dB)	Adjusted Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBuV/m)	Margin (dB)	Result (Pass/Fail)
v	5150.0	65.25	36.0	33.5	5.1	67.9	---	---	---	68.23	-0.38	Pass
v	5250.0	58.68	35.6	33.7	5.4	62.2	---	---	---	68.23	-6.05	Pass
Table Result: Pass by -0.38 dB		Worst Freq: 5150.0 MHz		Test Site: 1DCC-OATS-3M-I		Cable 1: EMR-HIGH-22	Cable 2: ---	Cable 3: ---	Analyzer: Rental SA#1	Preamp: Red-Blue	Antenna: Black Horn	Preselector: ---

Rev: 2-Mar-2011

Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Rental SA #1 (Brown)	9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	25-Mar-2011
Radiated Emissions Sites 1DCC-OATS-3M-II	FCC Code 719150	IC Code 2762A-10	VCCI Code NA			Cat II	Calibration Due 5-Oct-2012
Preamps /Couplers Attenuators / Filters Brown	Range 1-18GHz	MN CS	Mfr CS	SN N/A	Asset 1523	Cat II	Calibration Due 30-Jul-2011
Antennas Black Horn	Range 1-18GHz	MN 3115	Mfr EMCO	SN 9703-5148	Asset 56	Cat I	Calibration Due 6-Jul-2011
Meteorological Meters Temp./Humidity/Atm. Pressure Gauge 1DCC-OATS-3M-I Thermohygrometer	MN 7400 Perception II 35519-044	Mfr Davis Control Company	SN N/A 72457635	Asset 965 1334	Cat I II	6-Apr-2011 18-Aug-2011	Calibration Due
Cables REMI-High-22	Range 9kHz - 15GHz	Mfr C-S				Cat II	Calibration Due 18-Jan-2012

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

DTS PLOTS**High Channel**

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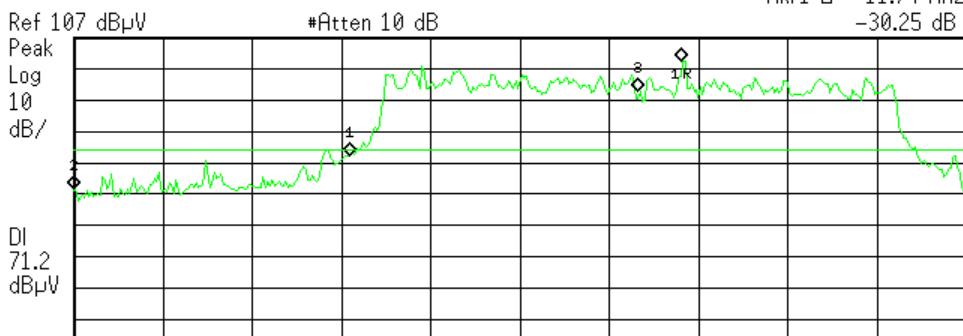


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Testing Cert. No. 1627-01

* Agilent 09:39:16 Mar 14, 2011

R T

Mkr1 Δ -11.74 MHz
-30.25 dB

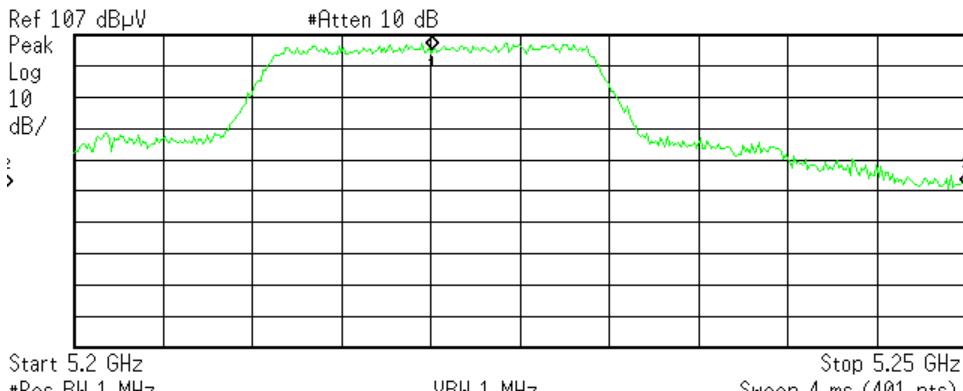
Marker	Trace	Type	X Axis	Amplitude
1R	(1)	Freq	5.74650 GHz	99.23 dB μ V
1 Δ	(1)	Freq	-11.74 MHz	-30.25 dB
2	(1)	Freq	5.72500 GHz	58.42 dB μ V
3	(1)	Freq	5.74500 GHz	89.57 dB μ V

C:\temp.gif file saved

Low Channel**UNII PLOTS**

* Agilent 09:56:33 Mar 14, 2011

R T



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.220125 GHz	102 dB μ V
2	(1)	Freq	5.250000 GHz	58.68 dB μ V

C:\temp.gif file saved

High Channel

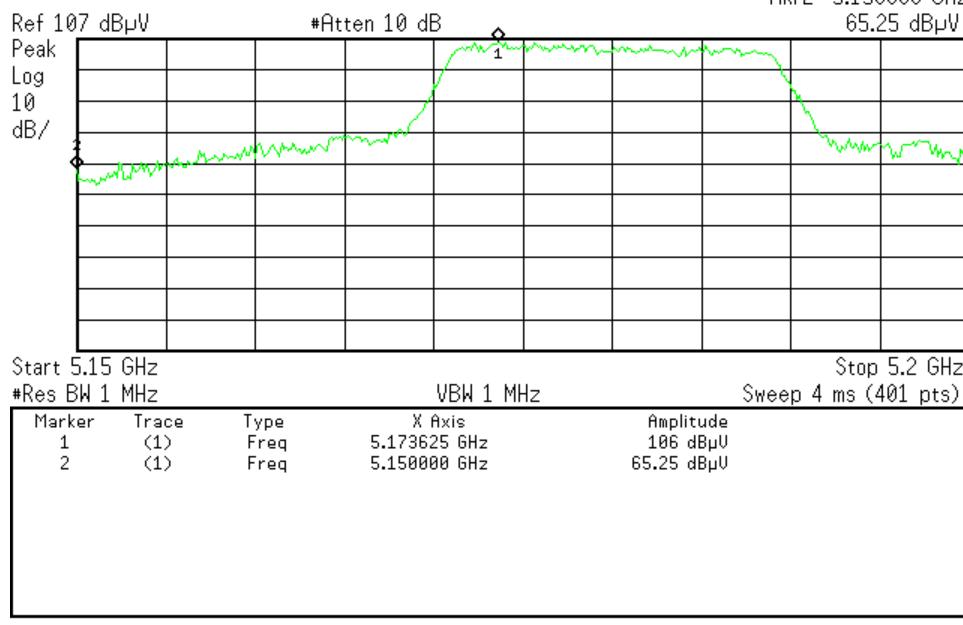
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Agilent 09:59:07 Mar 14, 2011

R T

Mkr2 5.150000 GHz
65.25 dB μ V



Low Channel



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Testing Cert. No. 1627-01

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

Frequency Range: 30-1000MHz							Measurement Distance: 3 m				
Notes: Digital Circuitry											
Antenna Polarization (H / V)	Frequency (MHz)	Reading (dB _u V)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dB _u V/m)	Limit (dB _u V/m)	Margin (dB)	Result (Pass/Fail)	Limit (dB _u V/m)	Margin (dB)
h	216.725	62.3	22.5	10.7	1.0	52.1	---	---	---	56.0	-3.9
v	39.9	50.2	22.6	13.9	0.5	42.0	---	---	---	50.0	-8.0
h	224.0	22.0	22.6	10.8	1.2	11.4	---	---	---	56.0	-44.6
h	240.975	24.6	22.6	11.6	1.1	14.7	---	---	---	56.0	-41.4
v	192.0	42.8	22.6	11.6	1.1	32.9	---	---	---	53.5	-20.6
Table Result: Pass by -3.9 dB							Worst Freq: 216.725 MHz				
Test Site: EMI Chamber 1 Analyzer: Gold	Cable 1: Asset #1505 Preamp: Blue			Cable 2: Asset #1507 Antenna: Red-Brown			Cable 3: --- Preselector: ---				

Rev: 2-Mar-2011

Spectrum Analyzers / Receivers /Preselectors		Range	MN	Mfr	SN	Asset	Cal	Calibration Due
Gold		100Hz-26.5 GHz	E4407B	Agilent	MY45113816	1284	I	9-Apr-2011
Radiated Emissions Sites		FCC Code	IC Code	VCCI Code			Cat	Calibration Due
EMI Chamber 1		719150	2762A-6	R-3032, G-106			I	15-Mar-2011
Preamps /Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cal	Calibration Due
Blue		0.009-2000MHz	ZFL-1000-LN	CS	N/A	759	II	6-Apr-2011
Antennas		Range	MN	Mfr	SN	Asset	Cal	Calibration Due
Red-Brown Bilog		30-2000MHz	JB1	Sunol	A0032406	1218	I	25-Aug-2012
Meteorological Meters		Range	MN	Mfr	SN	Asset	Cal	Calibration Due
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	6-Apr-2011	
CHAMBER1 Thermohygrometer		35519-044	Control Company	72457642	1345	II	18-Aug-2011	
Cables		Range	Mfr				Cat	Calibration Due
Asset #1505		9kHz - 18GHz	Florida RF				II	18-Aug-2011
Asset #1507		9kHz - 26.5GHz	Florida RF				II	18-Jan-2012

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

Spurious Emissions

Frequency Range: 30-1000MHz							Measurement Distance: 3 m				
Notes: DTS											
Antenna Polarization (H / V)	Frequency (MHz)	Reading (dB _u V)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dB _u V/m)	Limit (dB _u V/m)	Margin (dB)	Result (Pass/Fail)	Limit (dB _u V/m)	Margin (dB)
no emissions found							---	---	---	---	---
Table Result: --- by --- dB							Worst Freq: --- MHz				
Test Site: EMI Chamber 1 Analyzer: Gold	Cable 1: Asset #1505 Preamp: Blue			Cable 2: Asset #1507 Antenna: Red-Brown			Cable 3: --- Preselector: ---				

Spurious Emissions

Frequency Range: 30-1000MHz							Measurement Distance: 3 m				
Notes: UNII											
Antenna Polarization (H / V)	Frequency (MHz)	Reading (dB _u V)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dB _u V/m)	Limit (dB _u V/m)	Margin (dB)	Result (Pass/Fail)	Limit (dB _u V/m)	Margin (dB)
no emissions found							---	---	---	---	---
Table Result: --- by --- dB							Worst Freq: --- MHz				
Test Site: EMI Chamber 1 Analyzer: Gold	Cable 1: Asset #1505 Preamp: Blue			Cable 2: Asset #1507 Antenna: Red-Brown			Cable 3: --- Preselector: ---				



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Rev: 2-Mar-2011

Spectrum Analyzers / Receivers /Preselectors		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Gold		100Hz-26.5 GHz	E4407B	Agilent	MY45113816	1284	I	9-Apr-2011
Radiated Emissions Sites		FCC Code	IC Code	VCCI Code			Cat	Calibration Due
EMI Chamber 1		719150	2762A-6	R-3032, G-106			I	15-Mar-2011
Preamps /Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Blue		0.009-2000MHz	ZFL-1000-LN	CS	N/A	759	II	6-Apr-2011
Antennas		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Red-Brown BiLog		30-2000MHz	JB1	Sunol	A0032406	1218	I	25-Aug-2012
Meteorological Meters			MN	Mfr	SN	Asset	Cat	Calibration Due
Temp./Humidity/Atm. Pressure Gauge			7400 Perception II	Davis	N/A	965	I	6-Apr-2011
CHAMBER1 Thermohygrometer			35519-044	Control Company	72457642	1345	II	18-Aug-2011
Cables		Range		Mfr			Cat	Calibration Due
Asset #1505		9kHz - 18GHz		Florida RF			II	18-Aug-2011
Asset #1507		9kHz - 26.5GHz		Florida RF			II	18-Jan-2012

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

Spurious Emissions

Date: 08-Mar-11	Company: Boxx TV Ltd.	Work Order: L0285															
Engineer: Matthew Burman	EUT Desc: Meridian Transmitter	EUT Operating Voltage/Frequency: Battery Powered															
Temp: 19.8°C	Humidity: 23%	Pressure: 1007mBar															
Frequency Range: 1-18GHz		Measurement Distance: 3 m															
Notes: DTS Class II Permissive Change No DCCF	RBW = 1MHz																
Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dB _u V)	Average Reading (dB _u V)	Preamp Factor (dB)	Antenna Factor (dB:m)	Cable Factor (dB)	Adjusted Peak Reading (dB _u V/m)	Adjusted Avg Reading (dB _u V/m)	FCC Class B High Frequency - Peak	Limit (dB _u V/m)	Margin (dB)	Result (Pass/Fail)		FCC Class B High Frequency - Average	Limit (dB _u V/m)	Margin (dB)	Result (Pass/Fail)
v - nf	11490.0	29.6	29.6	36.2	38.7	3.7	35.8	35.8	74.0	-38.2	1	Pass	54.0	-18.2	1	Pass	
v - nf	17235.0	27.8	33.6	42.0	5.1	41.3	41.3	74.0	-32.7	1	Pass	54.0	-12.7	1	Pass		
Table Result:		Pass	by	-12.7 dB					Worst Freq:	17235.0 MHz							
Test Site: 1DCC-OATS-3M-I	Cable 1: EMIR-HIGH-21	Cable 2: ---							Cable 3: ---								
Analyzer: Rental SA#1	Preamp: Red-Blue	Antenna: Black Horn							Preselector: ---								

Spurious Emissions

Date: 08-Mar-11	Company: Boxx TV Ltd.	Work Order: L0285															
Engineer: Matthew Burman	EUT Desc: Meridian Transmitter	EUT Operating Voltage/Frequency: Battery Powered															
Temp: 19.8°C	Humidity: 23%	Pressure: 1007mBar															
Frequency Range: 1-18GHz		Measurement Distance: 3 m															
Notes: Spurious emissions UNII 15.205																	
Antenna Polarization (H / V)	Frequency (MHz)	Peak Reading (dB _u V)	Average Reading (dB _u V)	Preamp Factor (dB)	Antenna Factor (dB:m)	Cable Factor (dB)	Adjusted Peak Reading (dB _u V/m)	Adjusted Avg Reading (dB _u V/m)	FCC Class B High Frequency - Peak	Limit (dB _u V/m)	Margin (dB)	Result (Pass/Fail)		FCC Class B High Frequency - Average	Limit (dB _u V/m)	Margin (dB)	Result (Pass/Fail)
v	5150.0	44.0	27.0	19.6	34.1	2.3	60.8	43.8	74.0	-13.2	1	Pass	54.0	-10.2	1	Pass	
v - nf	10360.0	37.0	25.4	18.2	38.7	3.5	61.0	49.4	74.0	-13.0	1	Pass	54.0	-4.6	1	Pass	
v - nf	15540.5	36.8	24.6	17.4	38.2	4.4	62.0	49.8	74.0	-12.0	1	Pass	54.0	-4.2	1	Pass	
Table Result:		Pass	by	-4.2 dB					Worst Freq:	15540.5 MHz							
Test Site: 1DCC-OATS-3M-I	Cable 1: EMIR-HIGH-21	Cable 2: ---							Cable 3: ---								
Analyzer: Rental SA#1	Preamp: Brown	Antenna: Black Horn							Preselector: ---								

Rev: 2-Mar-2011

Spectrum Analyzers / Receivers /Preselectors		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Rental SA #1 (Brown)		9kHz-26.5GHz	E4407B	Agilent	SG44210511	1510	I	25-Mar-2011
Radiated Emissions Sites		FCC Code	IC Code	VCCI Code			Cat	Calibration Due
1DCC-OATS-3M-II		719150	2762A-10	NA			II	5-Oct-2012
Preamps /Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Red-Blue		1-18GHz	PE2-38-218-4R5-17-15-SFF	CS	NA	1257	II	15-Jun-2011
Antennas		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Black Horn		1-18GHz	3115	EMCO	9703-5148	56	I	6-Jul-2011
Meteorological Meters			MN	Mfr	SN	Asset	Cat	Calibration Due
Temp./Humidity/Atm. Pressure Gauge			7400 Perception II	Davis	N/A	965	I	6-Apr-2011
1DCC-OATS-3M-I Thermohygrometer			35519-044	Control Company	72457635	1334	II	18-Aug-2011
Cables		Range		Mfr			Cat	Calibration Due
REMI-High-21		9kHz - 26.5GHz		C-S			II	18-Jan-2012

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



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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	5.6dB	N/A
CISPR	4.6dB	5.2dB (Ucispqr)
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	3.9dB	N/A
CISPR	3.6dB	3.6dB (Ucispqr)
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		



Product Documentation

The following documentation has been provided by the client for inclusion in this report.



Curtis-Straus LLC, a wholly owned subsidiary of BV CPS
One Distribution Center Circle, #1 • Littleton, MA • TEL (978) 486-8880 • FAX (978) 486-8828



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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.

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Testing Cert. No. 1627-01