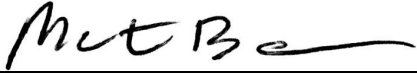
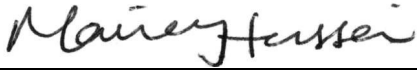




Test Report



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

Report No	EK1062-1
Client	DogWatch Inc.
Address	10 Michigan Drive Natick, MA 01760
Phone	508 - 650 - 0600
Items tested FCC ID FRN	BL100C Collar Unit L66DWCBLSH2 0018536615
Equipment Type Equipment Code	Part 15.247 Frequency Hopper DSS
FCC/IC Rule Parts	47 CFR 15.247, RSS 210 issue 7 and RSS GEN issue 2
Test Dates	August 24-25, 2010
Results	As detailed within this report
Prepared by	 Matthew Burman – Test Engineer
Authorized by	 Mairaj Hussain – EMC Supervisor
Issue Date	<u>October 25, 2010</u>
Conditions of Issue	This Test Report is issued subject to the conditions stated in the 'Conditions of Testing' section on page 34 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)



Summary

This test report supports an application for certification of a transmitter operating pursuant to 47 CFR 15.247 and RSS-210. The product is the BL100C Collar Unit. It is a frequency hopping transmitter that operates in the range 917-927MHz.

We found that the product met the above requirements without modification. Fred Peterson from DogWatch Inc. was present during the testing. The test sample was received in good condition.

The EUT does not operate while in charging mode. Charging mode was tested for verification.

Test Methodology

Radiated emission and AC Line conducted testing was performed according to the procedures specified in ANSI C63.10 (2009) and C63.4 (2009) and RSS-GEN Issue 2. 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.

Conducted emission at the antenna port was performed, as required by rule section.

EUT operates at 120Vac 60Hz

Low operating channel frequency = 917MHz

Mid operating channel frequency = 922MHz

High operating channel frequency = 927MHz

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

Release Control Record

Issue No.	Reason for change	Date Issued
1	Original Release	October 25, 2010



Product Tested - Configuration Documentation

EUT Configuration											
Work Order: K1062 Company: DogWatch Inc. Company Address: 10 Michigan Drive Natick, MA 01760 Contact: Fred Peterson Person Present: Fred Peterson											
			MN				PN		SN		
EUT:			BL100C						O (conducted sample) R (radiated sample) sample 1		
Power Supply:			SP5-0501000-NA								
EUT Description:			Collar Unit								
EUT TX Frequency:			917-927MHz								
Support Equipment:			MN						SN		
None											
EUT Ports:											
Port Label	Port Type	No. of ports	No. Populated	Cable Type	Shielded	Ferrites	Length	Max Length	In/Out NEBS Type	Unpopulated Reason	
DC Charging Port	DC	1	All	DC	No	None	8ft	8ft	In	NA	
Software / Operating Mode Description:											
Running diag software to set channel, TX/RX mode, hopping mode.											



Statement of Conformity

The BL100C 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
5.3		15.15(b)	There are no controls accessible to the user that varies the output power.
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	The antenna for this device is printed on the PCB.
	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

20dB Bandwidth

Limit

“The maximum allowed 20dB bandwidth of the hopping channel is 500kHz.”
 [15.247(a)(i)(1)]

MEASUREMENTS / RESULTS

20dB Bandwidth					
<p>Test Engineer: Evan Gould Spectrum Analyzer: Gold Site: 3m Indoor OATS Temp: 21.6°C Humidity: 50% Pressure: 1002mbar</p>					
	Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
	Low	917	118.911	500	Pass
	Mid	922	117.965	500	Pass
	High	927	117.448	500	Pass

Rev: 31-Aug-2010

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

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 Thermohyrometer	35519-044	Control Company	72457635	1334	II	18-Aug-2011

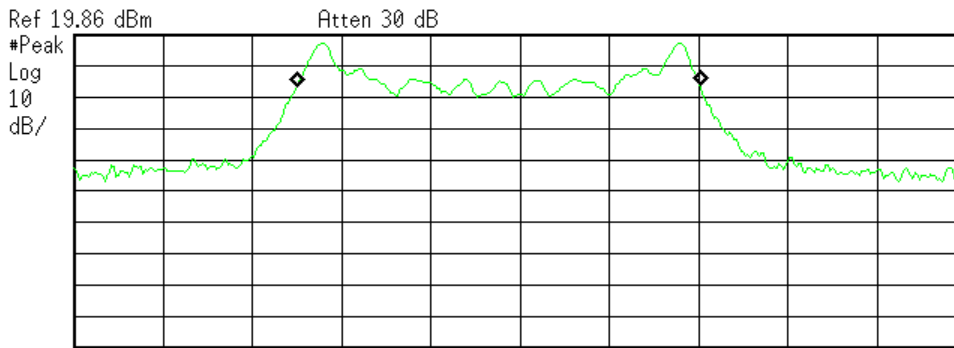
All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.



Low Channel

Agilent 13:24:41 Aug 24, 2010

R T



Center 917 MHz Span 250 kHz
 #Res BW 3 kHz #VBW 300 kHz Sweep 27.78 ms (401 pts)

Occupied Bandwidth
 113.0503 kHz

Occ BW % Pwr 99.00 %
 x dB -20.00 dB

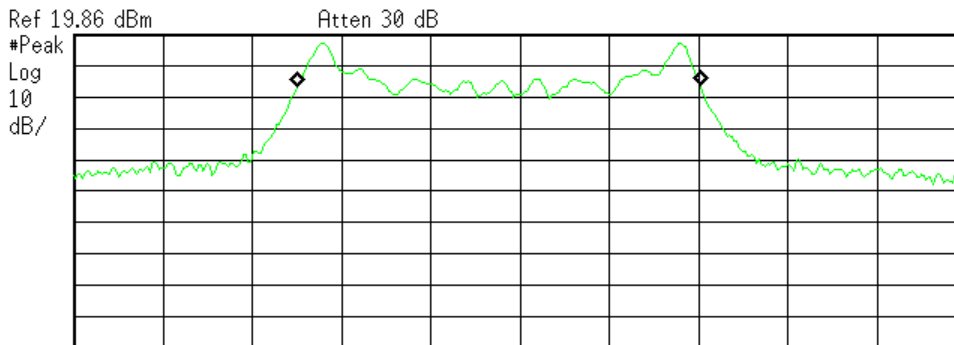
Transmit Freq Error -6.084 kHz
 x dB Bandwidth 118.911 kHz

C:\temp.gif file saved

Mid Channel

Agilent 13:26:33 Aug 24, 2010

R T



Center 922 MHz Span 250 kHz
 #Res BW 3 kHz #VBW 300 kHz Sweep 27.78 ms (401 pts)

Occupied Bandwidth
 112.8348 kHz

Occ BW % Pwr 99.00 %
 x dB -20.00 dB

Transmit Freq Error -5.919 kHz
 x dB Bandwidth 117.965 kHz

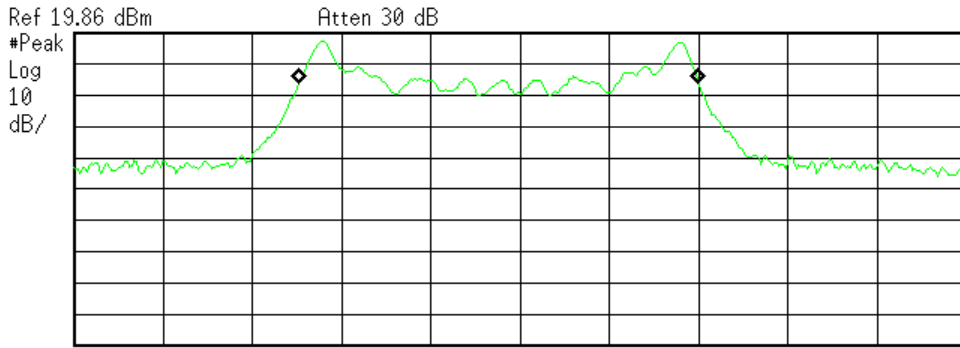
C:\temp.gif file saved



High Channel

Agilent 13:28:29 Aug 24, 2010

R T



Center 927 MHz Span 250 kHz
 #Res BW 3 kHz #VBW 300 kHz Sweep 27.78 ms (401 pts)

Occupied Bandwidth
 112.2620 kHz

Occ BW % Pwr 99.00 %
 x dB -20.00 dB

Transmit Freq Error -5.958 kHz
 x dB Bandwidth 117.448 kHz

C:\temp.gif file saved



Peak Power

LIMIT

Conducted Output Power

1 Watt

[15.247(b) (2)]

MEASUREMENTS / RESULTS

DATA TABLE

30dB = 1Watt

Power Option 1

Peak Output Power					
Test Engineer: Evan Gould Spectrum Analyzer: Gold Site: 3m Indoor OATS Temp: 21.6°C Humidity: 50% Pressure: 1002mbar					
	Channel	Frequency (MHz)	Reading (dB)	Limit (dBm)	Result
	Low	917	16.78	30	Pass
	Mid	922	16.71	30	Pass
	High	927	16.65	30	Pass

Rev: 31-Aug-2010

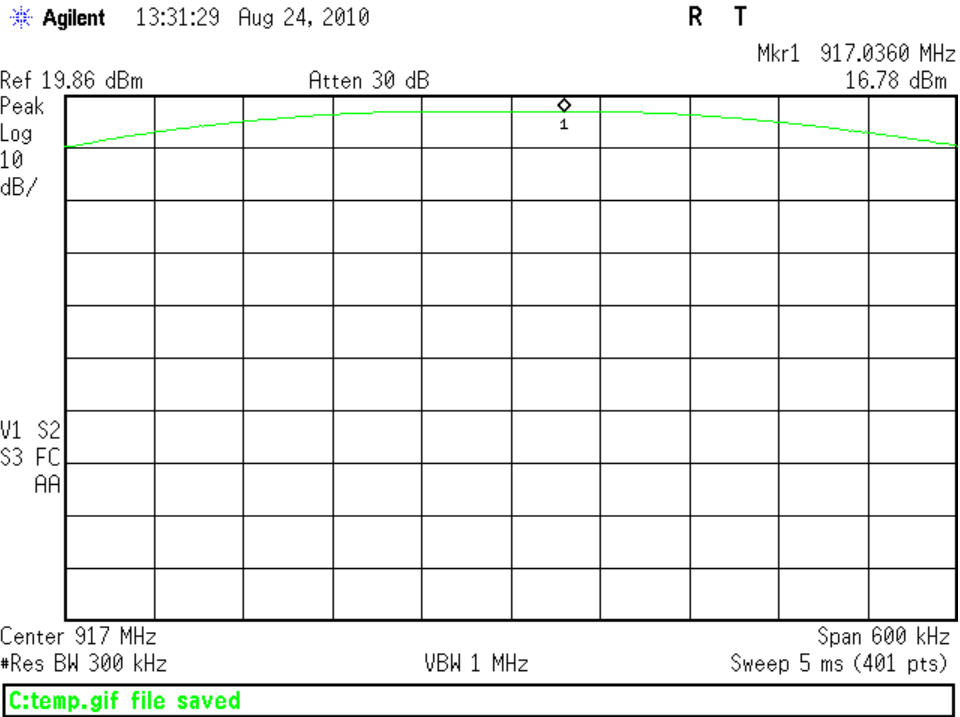
Spectrum Analyzers / Receivers /Preselectors	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Gold	100Hz-26.5 GHz	E4407B	Agilent	MY45113816	1284	I	9-Apr-2011
Meteorological Meters		MN	Mfr	SN	Asset	Cat	Calibration Due
Temp./Humidity/Atm. Pressure Gauge		7400 Perception II	Davis	N/A	965	I	6-Apr-2011
1DCC-OATS-3M-I Thermohyrometer		35519-044	Control Company	72457635	1334	II	18-Aug-2011

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

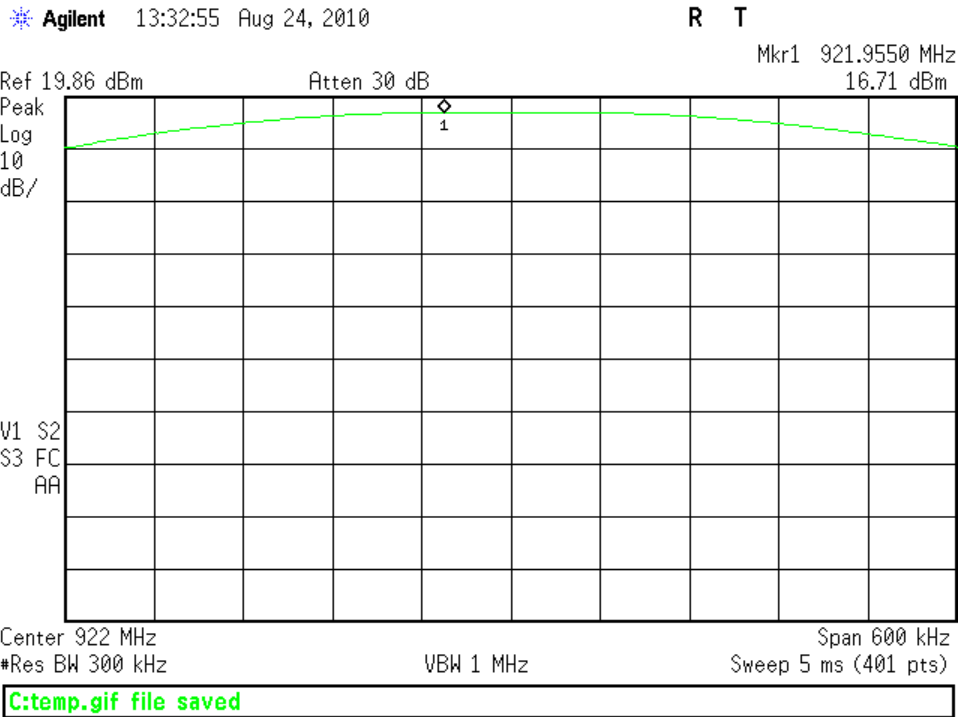


PLOTS

Low Channel



Mid Channel

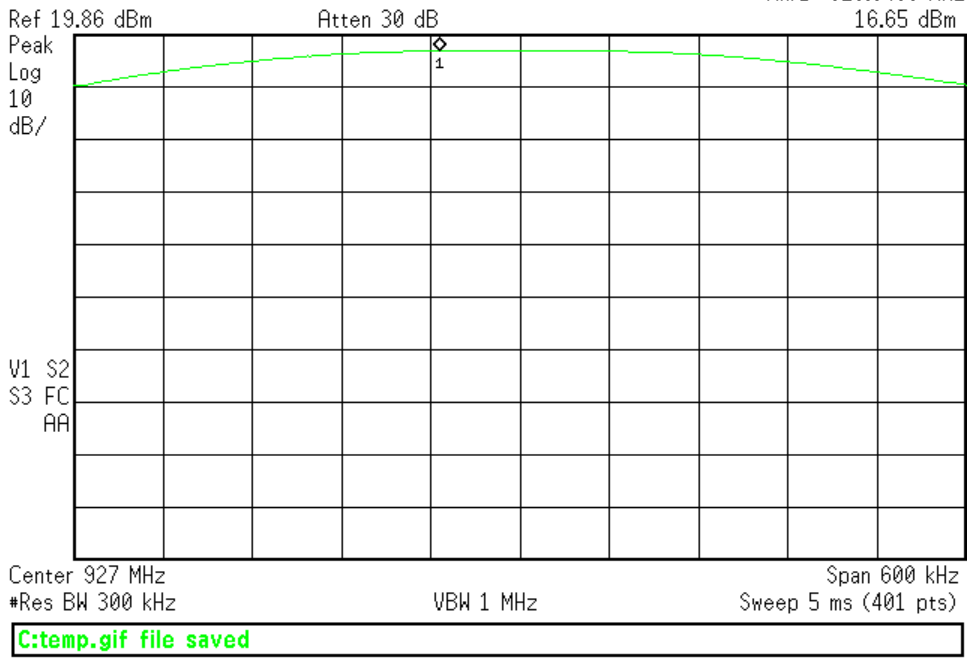


High Channel

Agilent 13:29:55 Aug 24, 2010

R T

Mkr1 926.9460 MHz
16.65 dBm



Band Edge Measurements

LIMITS

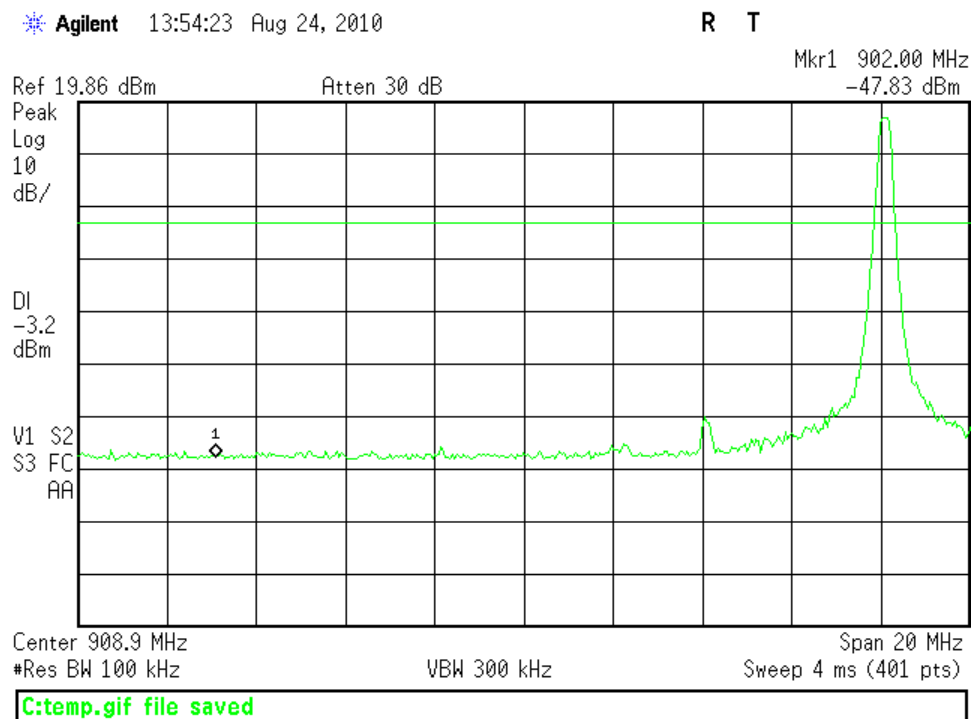
In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that...the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval,...the attenuation required under this paragraph shall be 30dB..

[15.247(d)]

MEASUREMENTS / RESULTS

PLOTS

Low Channel

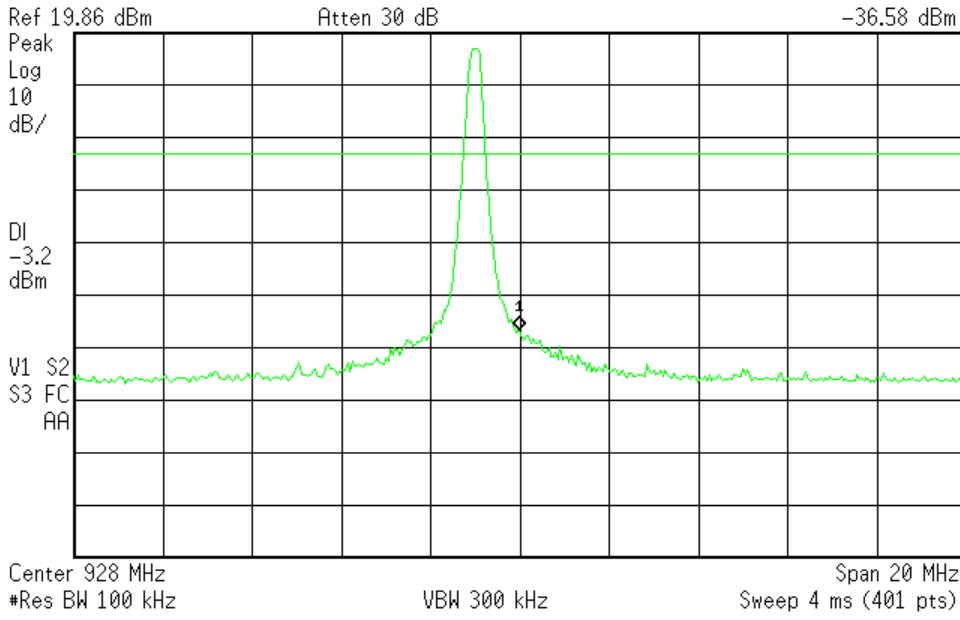


High Channel

Agilent 13:52:34 Aug 24, 2010

R T

Mkr1 928.00 MHz
-36.58 dBm



C:\temp.gif file saved

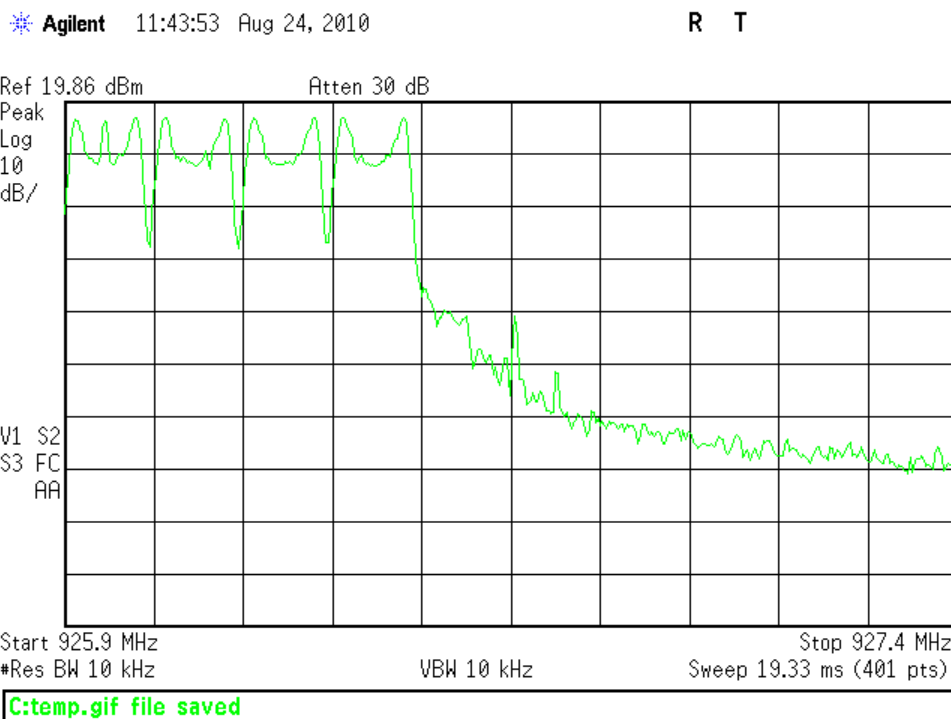


Number of Hopping Channels

“For frequency hopping systems operating in the 902-928MHz band: if the 20dB bandwidth of the hopping channel is less than 250kHz, the system shall use at least 50 hopping frequencies.”
 [15.247(a)(1)(i)]

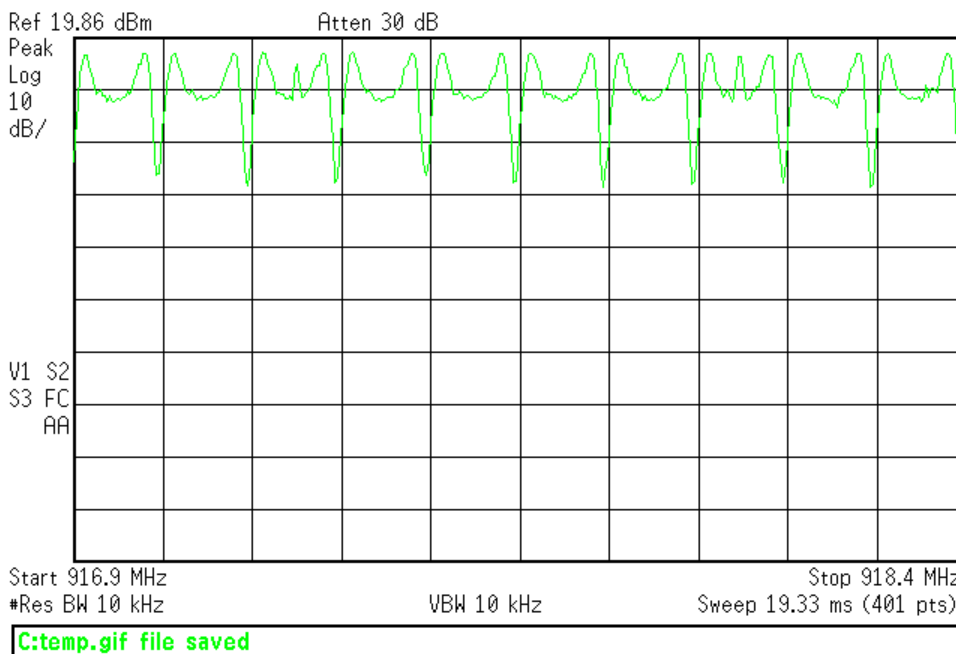
Plots

The system employs 64 hopping frequencies



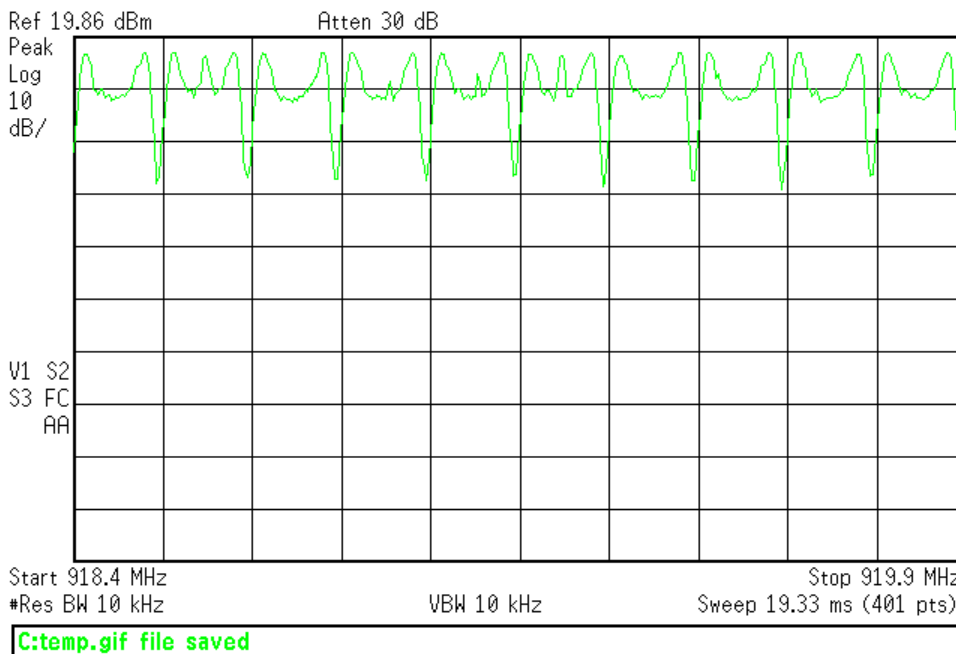
Agilent 11:28:58 Aug 24, 2010

R T



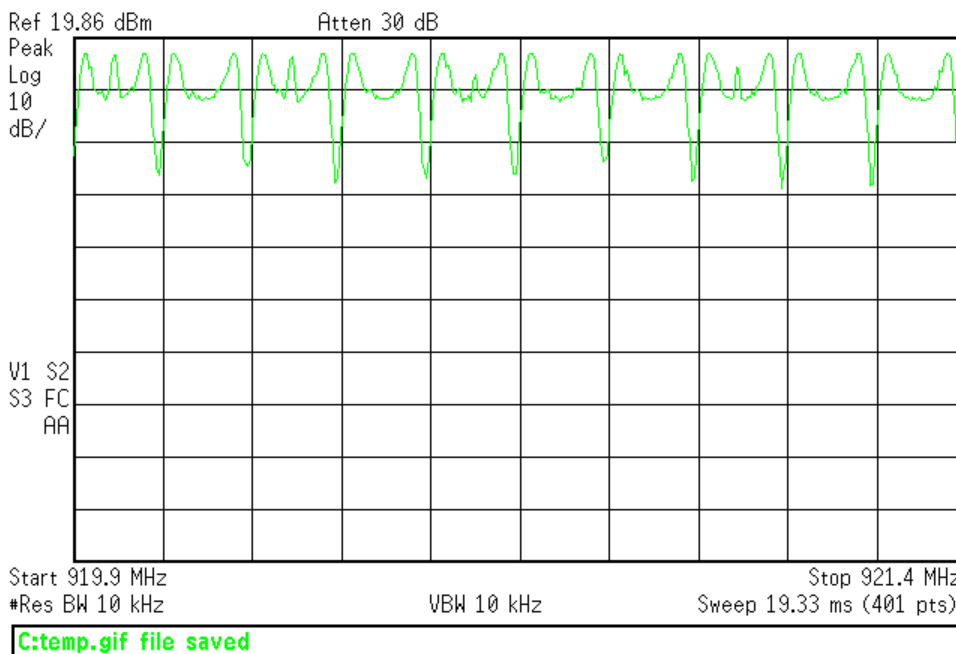
Agilent 11:30:41 Aug 24, 2010

R T



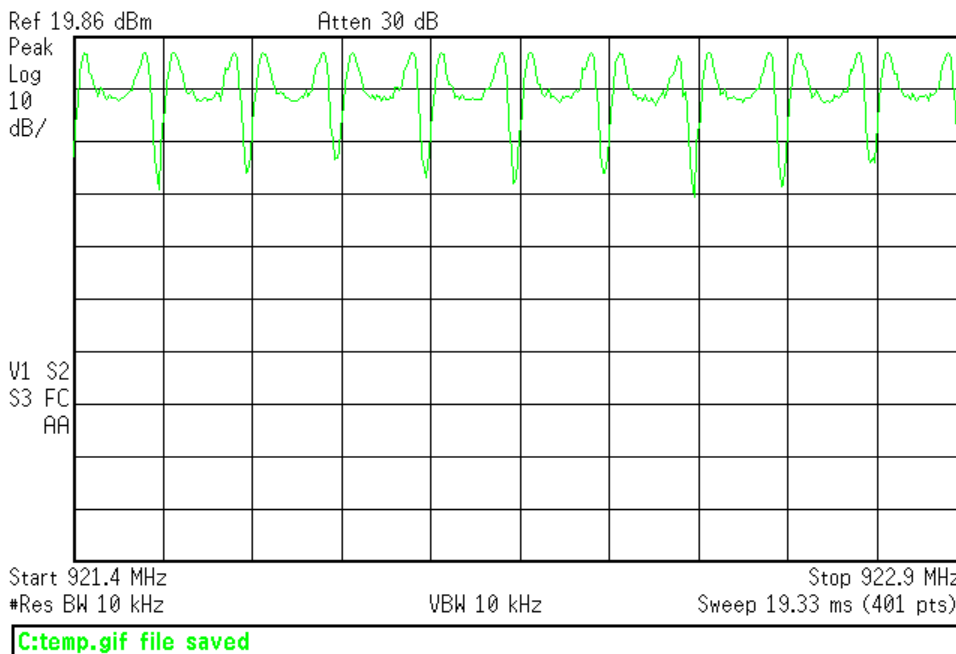
Agilent 11:34:56 Aug 24, 2010

R T



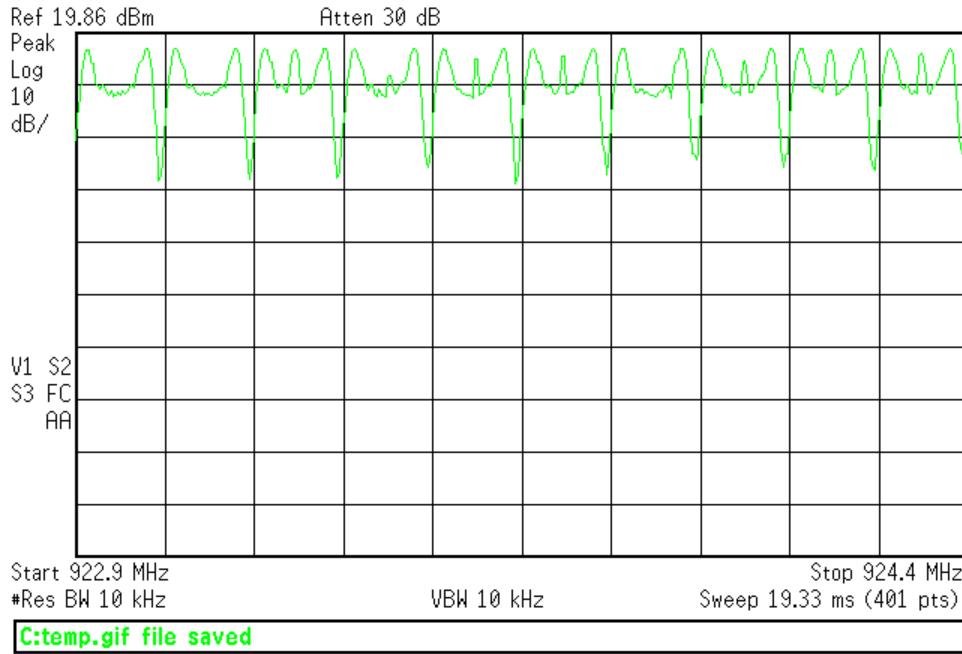
Agilent 11:36:23 Aug 24, 2010

R T



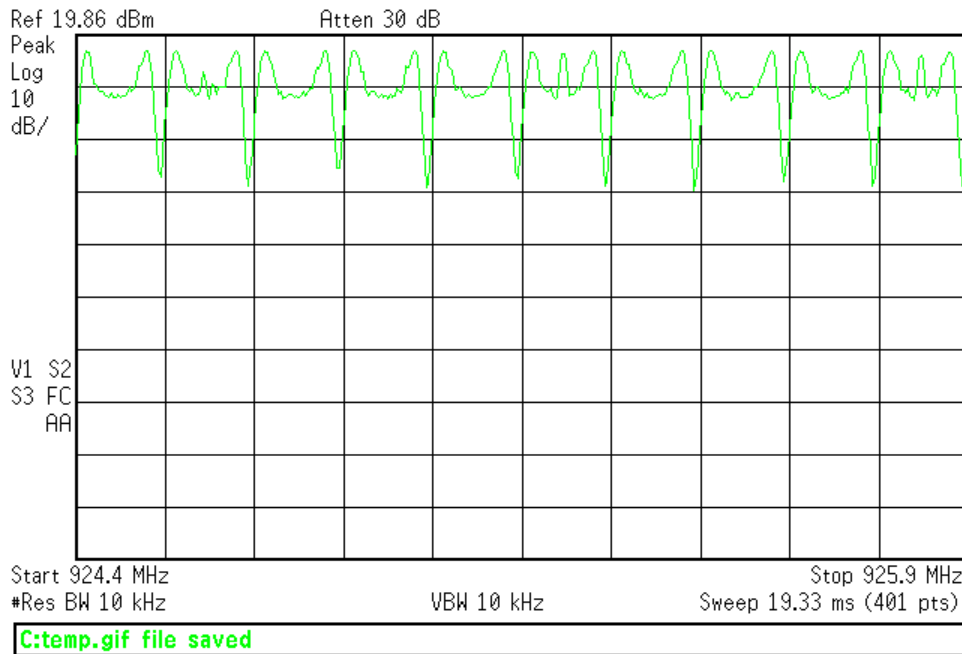
Agilent 11:38:25 Aug 24, 2010

R T



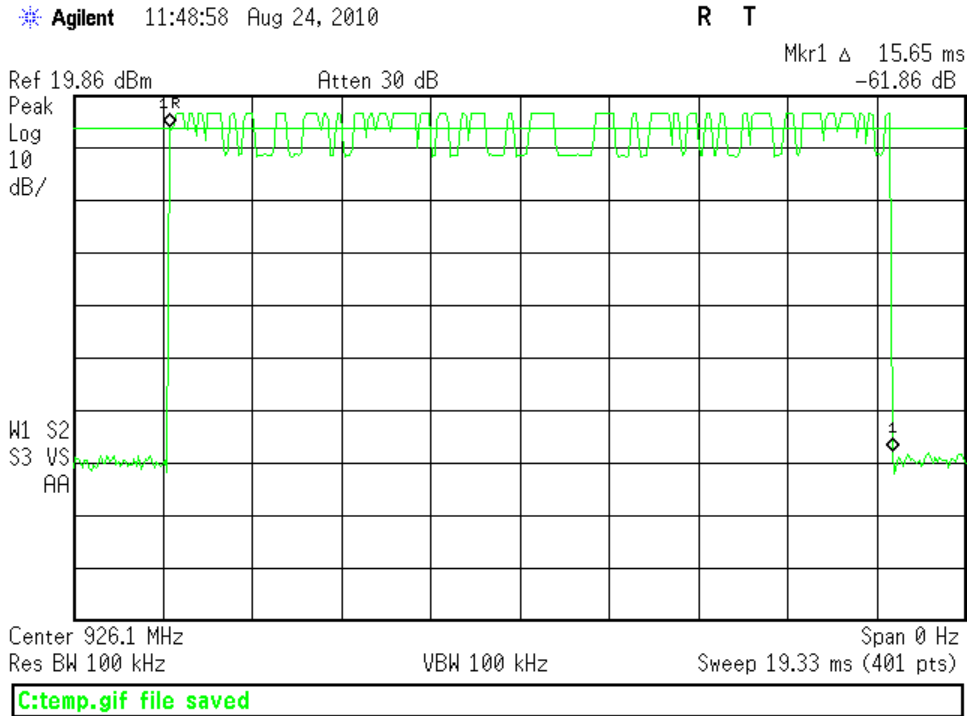
Agilent 11:42:01 Aug 24, 2010

R T



Frequency Hopping Timing Requirements

“For a system using a 20dB bandwidth of less than 250kHz ... the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period.”
 [15.247(a)(1)(i)]

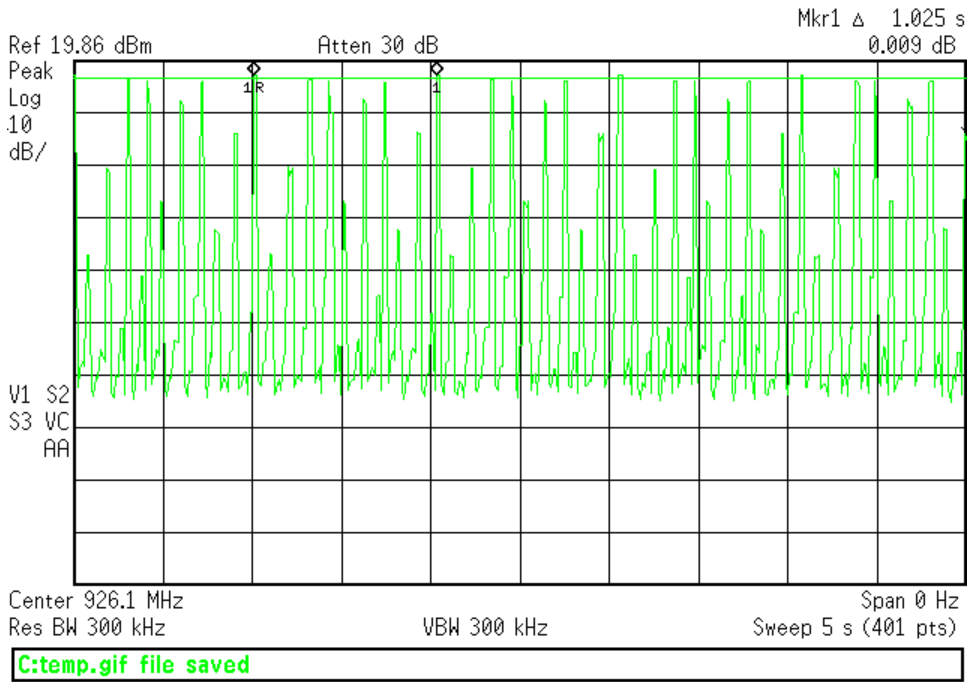


The duration for a single transmission is 15.65ms

The bandwidth for measuring was reduced to try and clarify the transmissions. The pulses that are above the display line are of the frequency under measurement.

Agilent 10:38:03 Aug 24, 2010

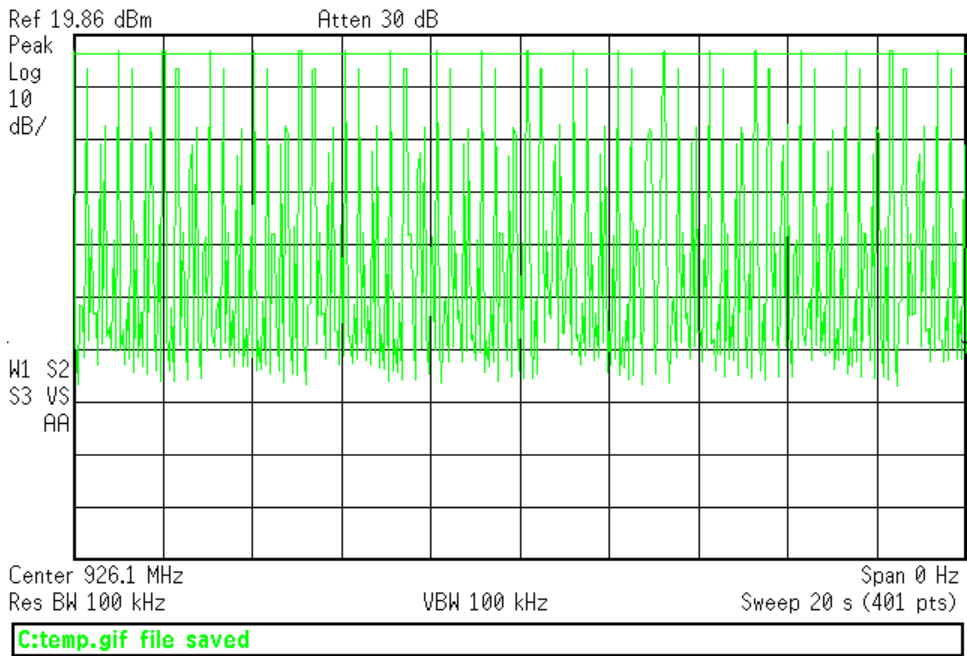
R T



In a 5 second window, 5 pulses occur
In 20 seconds 20 pulses would occur

Agilent 11:53:56 Aug 24, 2010

R T

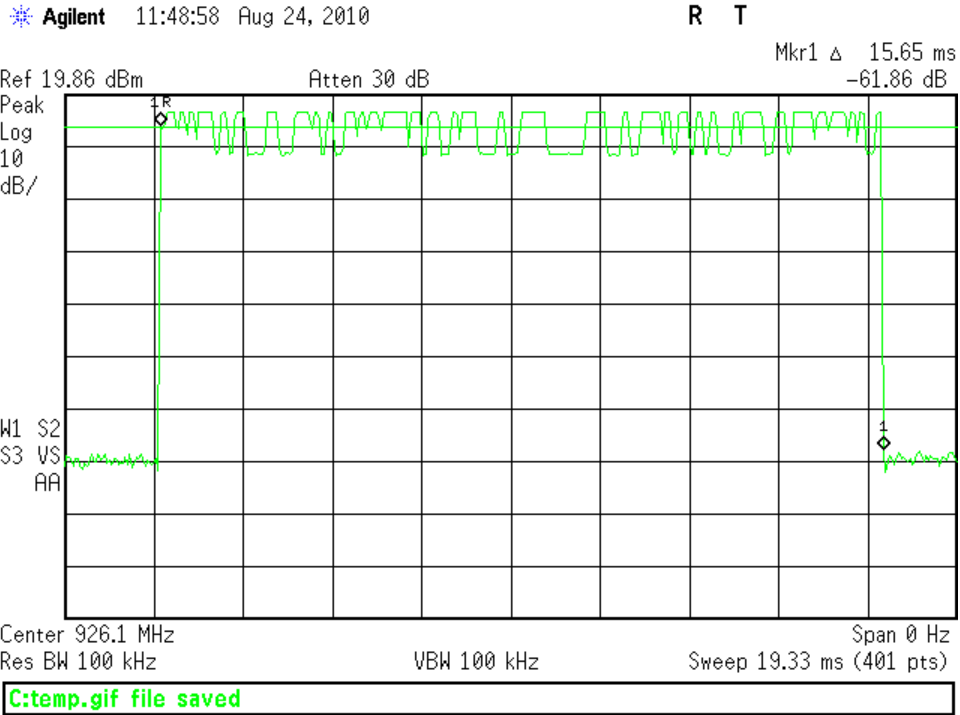


In a 20 second window, the transmission occurs 20 times.
15.65ms x 20 = 313ms = 0.313seconds

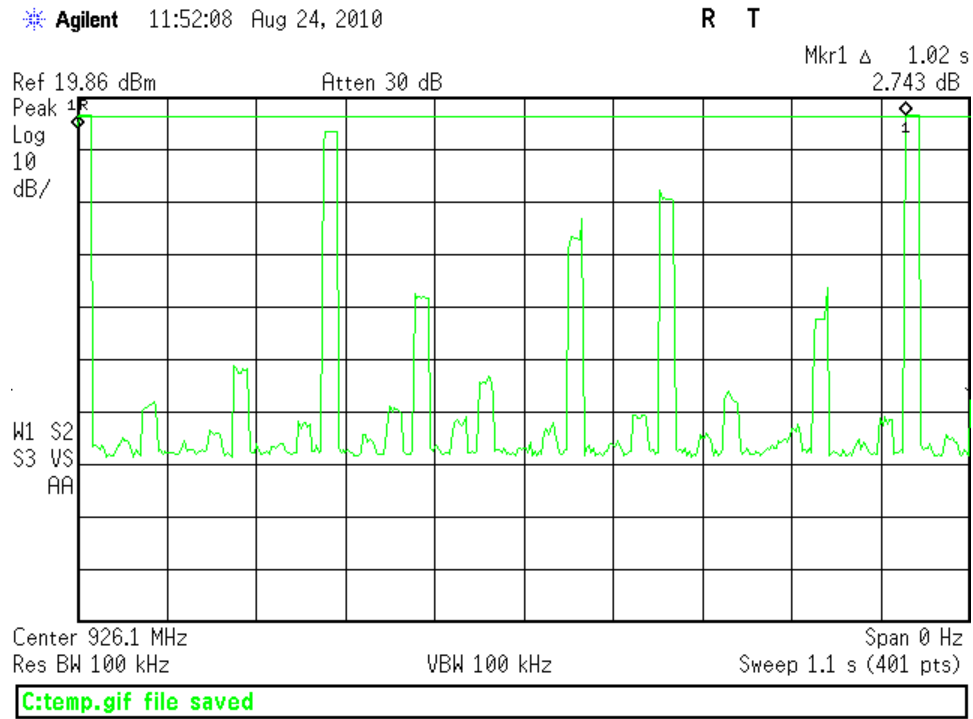


Duty Cycle Correction Calculation

PLOTS



The duration for a single transmission is 15.65ms



The system takes 1.02 seconds to repeat transmitting frequency.
In 100ms, only a single transmission occurs

$$DCCF = 20 \times \log (15.65/100)$$
$$DCCF = -16.1097\text{dB}$$



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: 25-Aug-10			Company: Dog Watch				Work Order: K1062					
Engineer: Matthew Burman			EUT Desc: Big Leash				EUT Operating Voltage/Frequency: Battery Powered					
Temp: 24.3°C			Humidity: 43%				Pressure: 998mBar					
Frequency Range: 30-1000MHz						Measurement Distance: 3 m						
Notes: No emissions found Noise Floor												
Antenna Polarization (H/V)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	---			FCC Class B		
							Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)	Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
v	117.0	27.0	21.9	12.7	1.9	19.8	---	---	---	43.5	-23.7	Pass
v	250.0	37.0	21.7	13.1	3.3	31.7	---	---	---	46.0	-14.3	Pass
v	333.0	20.0	21.3	14.9	4.2	17.8	---	---	---	46.0	-28.2	Pass
v	400.0	20.0	21.5	16.5	4.7	19.7	---	---	---	46.0	-26.3	Pass
v	610.0	18.0	20.6	19.5	5.5	22.4	---	---	---	46.0	-23.6	Pass
v	970.0	19.0	20.6	22.5	6.9	27.8	---	---	---	54.0	-26.2	Pass
Table Result: Pass			by -14.3 dB						Worst Freq: 250.0 MHz			
Test Site: 1DCC-OATS-3M-I			Cable 1: EMIR-11			Cable 2: ---			Cable 3: ---			
Analyzer: Gold			Preamp: Red			Antenna: Green			Preselector: ---			

Rev: 31-Aug-2010

Spectrum Analyzers / Receivers / Preselectors							
Gold	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
	100Hz-26.5 GHz	E4407B	Agilent	MY45113816	1284	I	9-Apr-2011
Radiated Emissions Sites							
1DCC-OATS-3M-I	FCC Code	IC Code	VCCI Code			Cat	Calibration Due
	719150	2762A-8	R-3109			II	7-Jul-2011
Preamps / Couplers Attenuators / Filters							
Red	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
	0.009-2000MHz	ZFL-1000-LN	CS	N/A	798	II	6-Apr-2011
Antennas							
Green Bilog	Range	MN	Mfr	SN	Asset	Cat	Calibration Due
	30-2000MHz	CBL6112B	Chase	2742	620	I	17-Dec-2010
Meteorological Meters							
Temp./Humidity/Atm. Pressure Gauge		MN	Mfr	SN	Asset	Cat	Calibration Due
1DCC-OATS-3M-I Thermohygrometer		7400 Perception II	Davis	N/A	965	I	6-Apr-2011
		35519-044	Control Company	72457635	1334	II	18-Aug-2011

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

Radiated Emissions Table															
Date: 25-Aug-10			Company: Dog Watch				Work Order: K1062								
Engineer: Matthew Burman			EUT Desc: Big Leash - collar				EUT Operating Voltage/Frequency: Battery Powered								
Temp: 24.3°C			Humidity: 43%				Pressure: 998mBar								
Frequency Range: 1-7GHz						Measurement Distance: 3 m									
Notes: Duty Cycle Correction Factor = 16.1dB															
Antenna Polarization (H/V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Filter Factor (dB)	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)
h - collar	2750.99	56.11	40.0	22.2	29.2	0.5	2.2	65.8	49.7	74.0	-3.2	Pass	54.0	-4.3	Pass
h - collar	2760.99	45.76	29.7	22.2	29.3	0.5	2.2	55.6	39.5	74.0	-18.4	Pass	54.0	-14.6	Pass
v - collar	3667.965	44.34	28.2	21.5	31.7	0.5	2.5	57.5	41.4	74.0	-16.5	Pass	54.0	-12.6	Pass
v - collar	4584.965	44.12	28.0	20.8	32.5	0.5	3.0	59.3	43.2	74.0	-14.7	Pass	54.0	-10.8	Pass
v - collar	6418.965	39.58	23.5	20.4	34.5	0.5	3.9	58.1	42.0	74.0	-15.9	Pass	54.0	-12.0	Pass
Table Result: Pass			by -4.3 dB						Worst Freq: 2750.99 MHz						
Test Site: 1DCC-OATS-3M-I			Cable 1: EMIR-HIGH-13			High Pass Filter: Asset #1311, #1310			Cable 3: ---						
Analyzer: Gold			Preamp: Brown			Antenna: Yellow Horn			Preselector: ---						



Rev: 31-Aug-2010

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
1DCC-OATS-3M-I		719150	2762A-8	R-3109			II	7-Jul-2011
Preamps /Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Brown		1-18GHz	CS	CS	N/A	1523	II	30-Jul-2011
High Pass Filter		0.03-14.5 GHz	11SH10-3000/T9000-0/0	K&L	1	1311	II	22-Dec-2011
High Pass Filter		0.03-6.5 GHz	11SH10-1000/T3000-0/0	K&L	1	1310	II	22-Dec-2011
Antennas		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Yellow Horn		1-18GHz	3115	EMCO	9608-4898	37	I	27-May-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

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

Spurious Emissions																
Date: 25-Aug-10		Company: Dog Watch				Work Order: K1062										
Engineer: Matthew Burman		EUT Desc: Big Leash - collar				EUT Operating Voltage/Frequency: Battery Powered										
Temp: 24.3°C		Humidity: 43%				Pressure: 998mBar										
Frequency Range: 7-10GHz					Measurement Distance: 1 m											
Notes: Duty Cycle Correction Factor = 16.11dB																
Antenna Polarization (H/V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Filter Factor (dB)	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)	
v - collar	7375.965	49.91	33.8	20.3	37.4	0.6	4.1	71.7	55.6	83.5	-11.8	Pass	63.5	-7.9	Pass	
v - collar	8252.99	38.18	22.1	20.1	38.5	0.7	4.1	61.4	45.3	83.5	-22.1	Pass	63.5	-18.2	Pass	
v - collar	9169.84	31.52	15.4	19.2	38.8	0.8	4.2	56.1	40.0	83.5	-27.4	Pass	63.5	-23.5	Pass	
Table Result:										Pass	by	-7.9	dB	Worst Freq:		7375.965 MHz
Test Site: 1DCC-OATS-3M-I		Cable 1: EMIR-HIGH-13				High Pass Filter: Asset #0817				Cable 3: ---						
Analyzer: Gold		Preamp: Brown				Antenna: Yellow Horn				Preselector: ---						

Rev: 31-Aug-2010

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
1DCC-OATS-3M-I		719150	2762A-8	R-3109			II	7-Jul-2011
Preamps /Couplers Attenuators / Filters		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Brown		1-18GHz	CS	CS	N/A	1523	II	30-Jul-2011
High Pass Filter		0.03-20 GHz	SPA-F-55204	K&L	36	817	II	22-Dec-2011
Antennas		Range	MN	Mfr	SN	Asset	Cat	Calibration Due
Yellow Horn		1-18GHz	3115	EMCO	9608-4898	37	I	27-May-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

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

Spurious Emissions																	
Date: 25-Aug-10		Company: Dog Watch				Work Order: K1062											
Engineer: Matthew Burman		EUT Desc: Big Leash				EUT Operating Voltage/Frequency: Battery Powered											
Temp: 24.3°C		Humidity: 43%				Pressure: 998mBar											
Frequency Range: 1-10GHz					Measurement Distance: 1 m												
Notes: Duty Cycle Correction Factor = 16.48dB																	
Receive Mode																	
Antenna Polarization (H/V)	Frequency (MHz)	Peak Reading (dBµV)	Average Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Filter Factor (dB)	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)		
no emissions found										---	---	---	---	---	---	---	---
Test Site: 1DCC-OATS-3M-I		Cable 1: EMIR-HIGH-13				High Pass Filter: ---				Cable 3: ---							
Analyzer: Gold		Preamp: Brown				Antenna: Yellow Horn				Preselector: ---							



Rev: 31-Aug-2010

Spectrum Analyzers / Receivers / Preselectors Gold	Range 100Hz-26.5 GHz	MN E4407B	Mfr Agilent	SN MY45113816	Asset 1284	Cat I	Calibration Due 9-Apr-2011
Radiated Emissions Sites 1DCC-OATS-3M-I	FCC Code 719150	IC Code 2762A-8	VCCI Code R-3109			Cat II	Calibration Due 7-Jul-2011
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 Yellow Horn	Range 1-18GHz	MN 3115	Mfr EMCO	SN 9608-4898	Asset 37	Cat I	Calibration Due 27-May-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

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

Radiated Emissions Table		Date: 27-Sep-10		Company: Dogwatch, Inc.		Work Order: K1062						
Engineer: Matthew Burman		EUT Desc: Big Leash - Collar		EUT Operating Voltage/Frequency: 120Vac 60Hz								
Temp: 25.6°C		Humidity: 36%		Pressure: 998mBar								
Frequency Range: 30-1000MHz				Measurement Distance: 3 m								
Notes: Charging Mode												
Antenna Polarization (H/V)	Frequency (MHz)	Reading (dBuV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBuV/m)	FCC Class B					
							Limit (dBuV/m)	Margin (dB)	Result (Pass/Fail)			
v	51.825	38.2	22.6	8.3	0.5	24.4	---	---	---	40.0	-15.6	Pass
v	66.4	33.7	22.6	8.3	0.5	19.9	---	---	---	40.0	-20.1	Pass
h	124.6	27.8	22.6	14.4	0.7	20.3	---	---	---	43.5	-23.3	Pass
v	175.5	31.3	22.6	11.7	0.9	21.3	---	---	---	43.5	-22.2	Pass
h	466.5	30.1	22.6	17.4	1.3	26.2	---	---	---	46.0	-19.8	Pass
h	515.0	26.4	22.2	18.1	1.4	23.7	---	---	---	46.0	-22.3	Pass
Table Result: Pass			by -15.6 dB		Worst Freq: 51.825 MHz							
Test Site: EMI Chamber 2		Cable 1: Asset #1506		Cable 2: Asset #1508		Cable 3: ---						
Analyzer: Asset #1328		Preamp: Blue		Antenna: Red-White		Preselector: ---						

Rev: 23-Sep-2010

Spectrum Analyzers / Receivers / Preselectors SA EMI Chamber (1328)	Range 9kHz-13.2 GHz	MN E4405B	Mfr Agilent	SN MY44210241	Asset 1328	Cat I	Calibration Due 16-Dec-2010
Radiated Emissions Sites EMI Chamber 2	FCC Code 719150	IC Code 2762A-7	VCCI Code R-3033, G-107			Cat I	Calibration Due 15-Feb-2011
Preamps / Couplers Attenuators / Filters Blue	Range 0.009-2000MHz	MN ZFL-1000-LN	Mfr CS	SN N/A	Asset 759	Cat II	Calibration Due 6-Apr-2011
Antennas Red-White Bilog	Range 30-2000MHz	MN JB1	Mfr Sunol	SN A091604-1	Asset 1105	Cat I	Calibration Due 17-Dec-2010
Meteorological Meters Temp./Humidity/Atm. Pressure Gauge CHAMBER2 Thermohygrometer		MN 7400 Perception II 35519-044	Mfr Davis Control Company	SN N/A 72457639	Asset 965 1347	Cat I II	Calibration Due 6-Apr-2011 18-Aug-2011
Cables Asset #1506 Asset #1508	Range 9kHz - 18GHz 9kHz - 26.5GHz		Mfr Florida RF Florida RF			Cat II II	Calibration Due 16-Aug-2011 20-Apr-2011

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



Conducted Spurious Emissions

LIMITS

In any 100kHz 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 100kHz bandwidth that contains the highest level of desired power...

[15.247(d)]

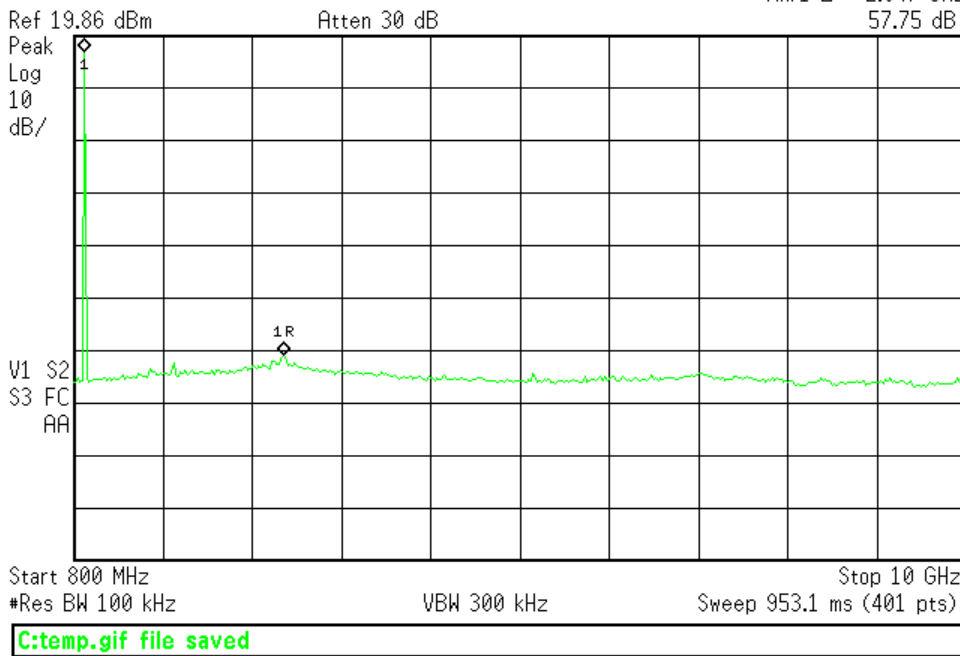
MEASUREMENTS / RESULTS

Transmit

Agilent 13:36:43 Aug 24, 2010

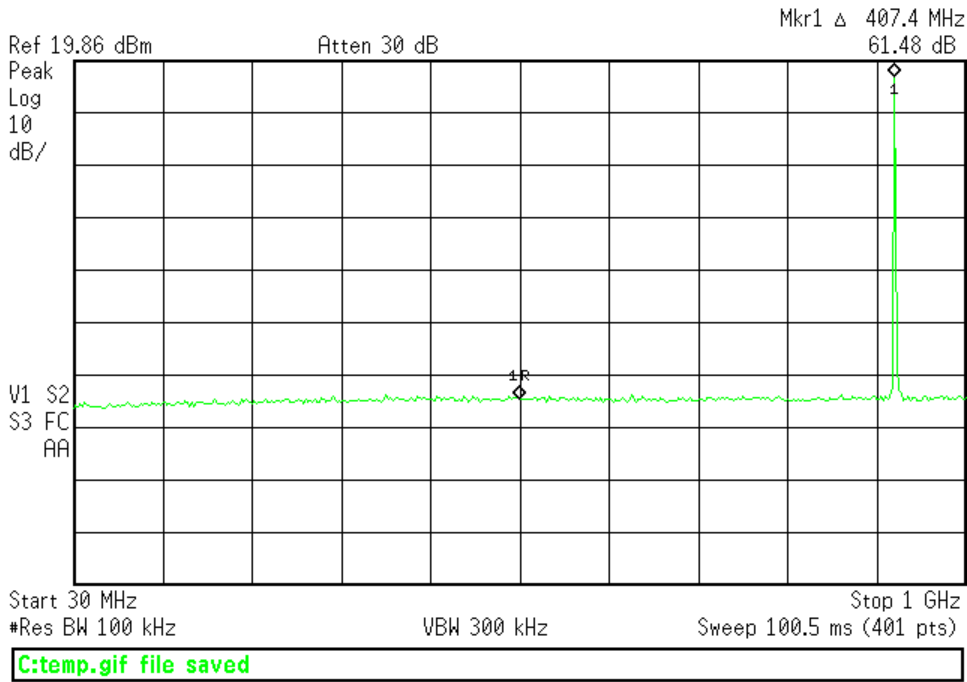
R T

Mkr1 Δ -2.047 GHz
57.75 dB



Agilent 13:34:40 Aug 24, 2010

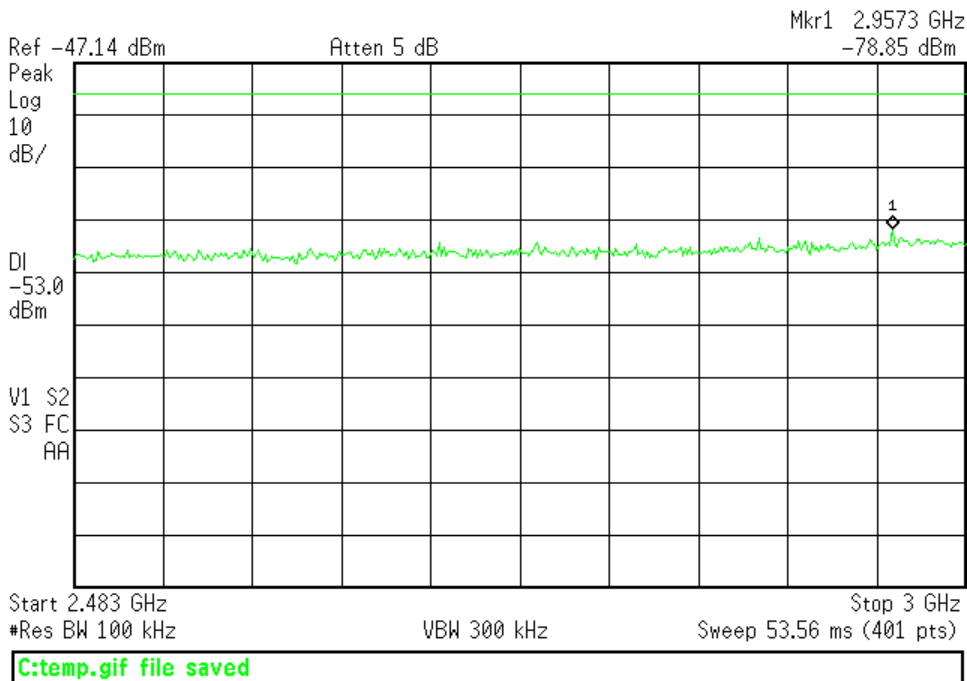
R T



Receive

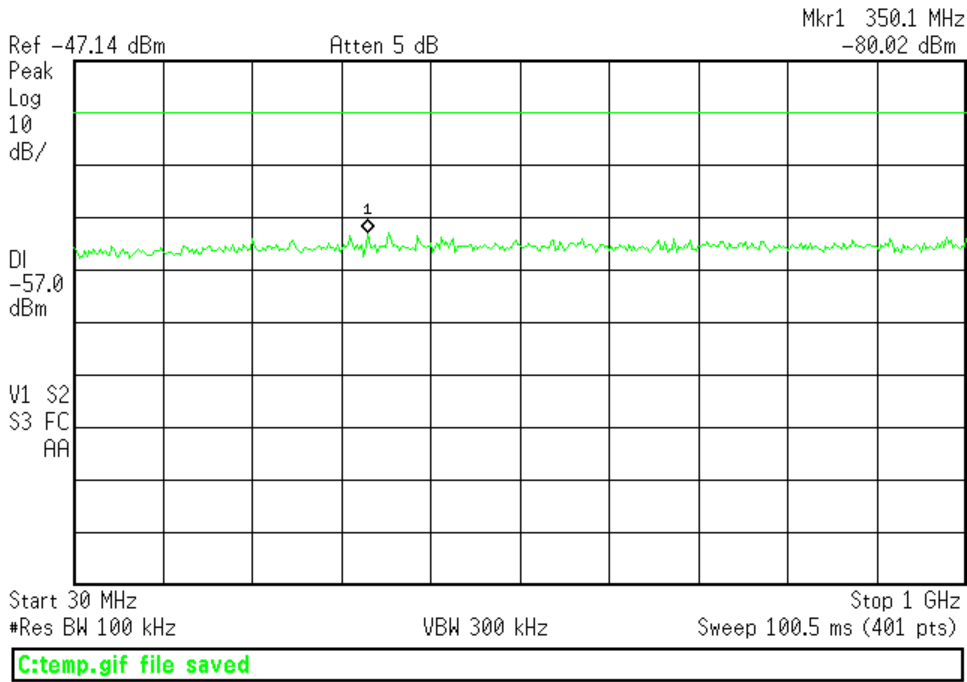
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R T



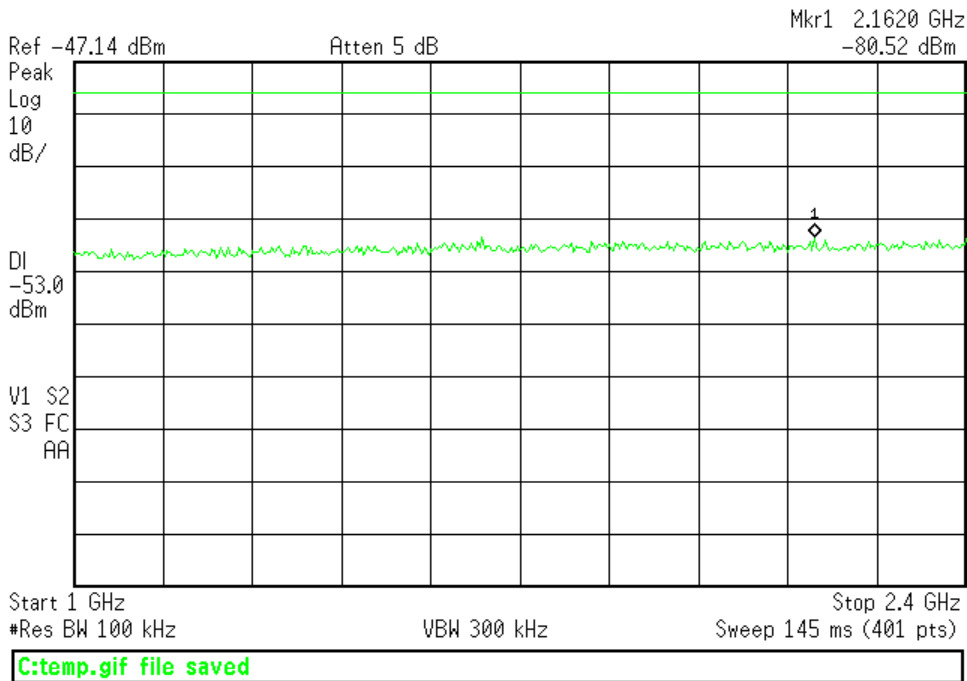
Agilent 15:28:56 Aug 24, 2010

R T



Agilent 15:24:05 Aug 24, 2010

R T

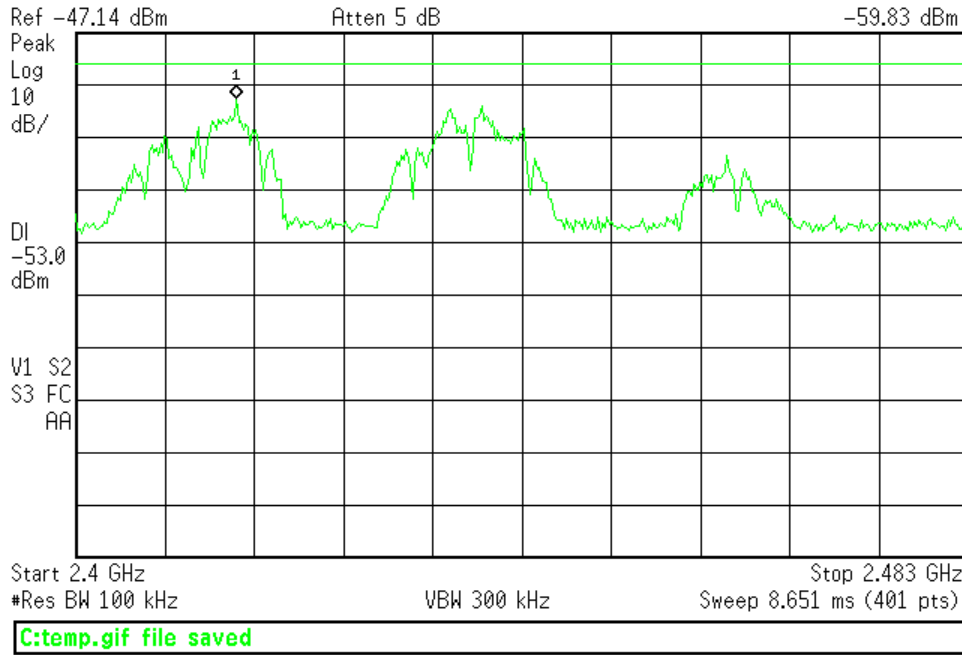


Ambient at 2.4GHz

Agilent 15:26:03 Aug 24, 2010

R T

Mkr1 2.41503 GHz
-59.83 dBm



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

AC Mains Conducted Emissions										
Date: 27-Sep-10			Company: Dogwatch, Inc.				Work Order: K1062			
Engineer: Matthew Burman			EUT Desc: BigLeash - Collar				Test Site: CEM11			
Temp: 23.8°C			Humidity: 46%				Pressure: 998mBar			
Notes: Charging Mode										
Measurement Device: Red LISN					EUT Operating Voltage/Frequency: 120Vac 60Hz					
Range: 0.15-30MHz					Spectrum Analyzer: Yellow					
Frequency (MHz)	Q.P. Readings		Ave. Readings		Impedance Factor (dB)	FCC/CISPR B		FCC/CISPR B		Overall Result (Pass/Fail)
	QP1 (dBµV)	QP2 (dBµV)	AV1 (dBµV)	AV2 (dBµV)		qp Limit (dBµV)	qp Margin dB	AVE Limit (dBµV)	AVE Margin dB	
0.18	21.8	22.6	15.0	11.1	20.2	64.4	-21.6	54.4	-19.3	Pass
0.30	23.3	25.1	17.6	14.0	20.1	60.2	-15.0	50.2	-12.5	Pass
0.60	21.8	17.1	16.2	10.8	20.1	56.0	-14.1	46.0	-9.7	Pass
0.66	23.3	20.3	17.6	11.8	20.1	56.0	-12.6	46.0	-8.3	Pass
0.96	21.7	17.9	16.1	9.7	20.1	56.0	-14.2	46.0	-9.8	Pass
2.34	22.7	14.3	15.9	8.0	20.1	56.0	-13.2	46.0	-10.0	Pass
Table Result: Pass by -8.30 dB Worst Freq: 0.66 MHz										

Rev: 23-Sep-2010

Spectrum Analyzers / Receivers /Preselectors Yellow	Range 9kHz-2.9GHz	MN 8594E	Mfr Agilent	SN 3523A01958	Asset 100	Cat I	Calibration Due 10-Feb-2011
LISNs/Measurement Probes Red LISN	Range 9kHz-50MHz	MN 8012-50-R-24-BNC	Mfr Solar	SN 956348	Asset 753	Cat I	Calibration Due 9-Jul-2011
Conducted Test Sites (Mains / Telco) CEMI 1	FCC Code 719150		VCCI Code C-3360, T-1575			Cat III	Calibration Due NA
Meteorological Meters Temp./Humidity/Atm. Pressure Gauge CEMI1 Thermohygrometer		MN 7400 Perception II 35519-044	Mfr Davis Control Company	SN N/A 72457738	Asset 965 1335	Cat I II	Calibration Due 6-Apr-2011 18-Aug-2011
Cables CEMI-02	Range 9kHz - 2GHz		Mfr C-S			Cat II	Calibration Due 6-Apr-2011

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



Occupied Bandwidth

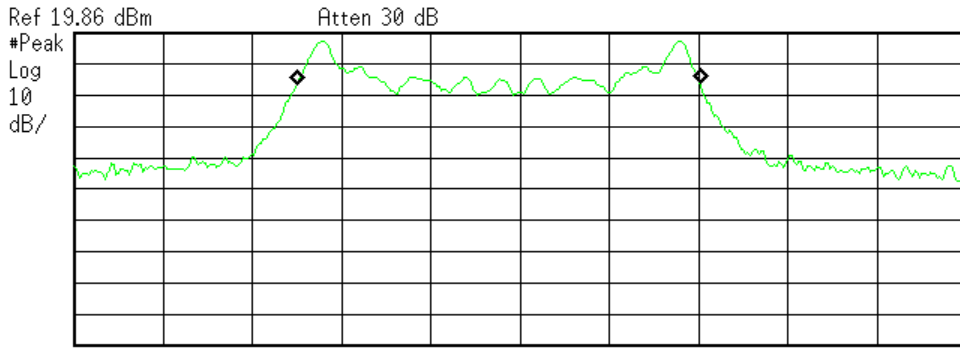
REQUIREMENT

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]

Low Channel

Agilent 13:24:41 Aug 24, 2010

R T



Center 917 MHz Span 250 kHz
#Res BW 3 kHz #VBW 300 kHz Sweep 27.78 ms (401 pts)

Occupied Bandwidth
113.0503 kHz

Occ BW % Pwr 99.00 %
x dB -20.00 dB

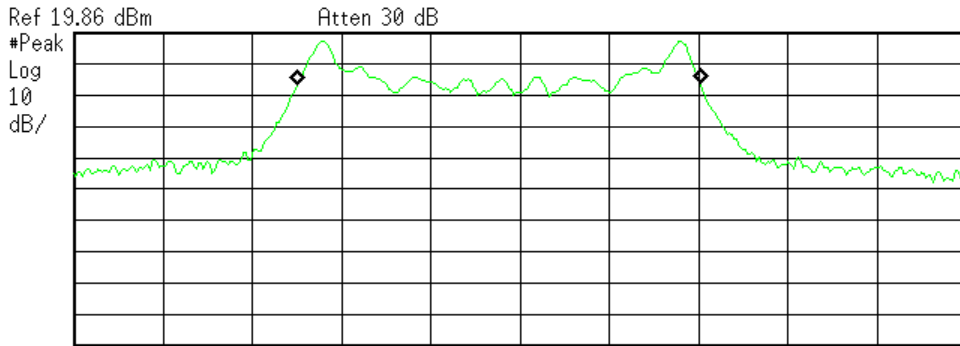
Transmit Freq Error -6.084 kHz
x dB Bandwidth 118.911 kHz

C:temp.gif file saved

Mid Channel

Agilent 13:26:33 Aug 24, 2010

R T



Ref 19.86 dBm Atten 30 dB
 Center 922 MHz Span 250 kHz
 #Res BW 3 kHz #VBW 300 kHz Sweep 27.78 ms (401 pts)

Occupied Bandwidth
 112.8348 kHz

Occ BW % Pwr 99.00 %
 x dB -20.00 dB

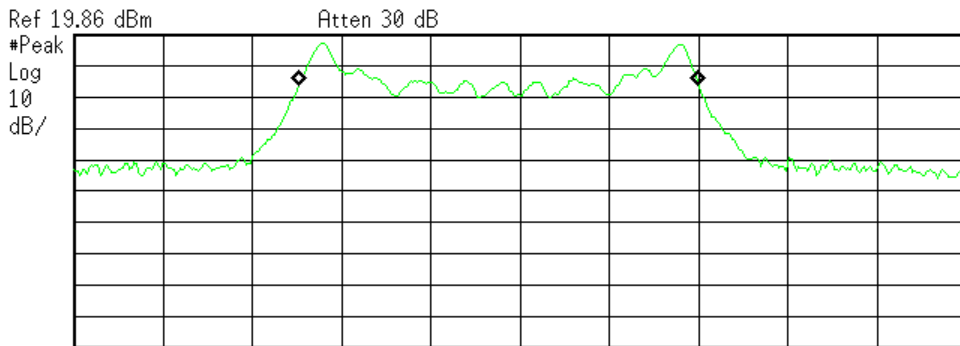
Transmit Freq Error -5.919 kHz
 x dB Bandwidth 117.965 kHz

C:\temp.gif file saved

High Channel

Agilent 13:28:29 Aug 24, 2010

R T



Ref 19.86 dBm Atten 30 dB
 Center 927 MHz Span 250 kHz
 #Res BW 3 kHz #VBW 300 kHz Sweep 27.78 ms (401 pts)

Occupied Bandwidth
 112.2620 kHz

Occ BW % Pwr 99.00 %
 x dB -20.00 dB

Transmit Freq Error -5.958 kHz
 x dB Bandwidth 117.448 kHz

C:\temp.gif file saved



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 (Ucisprr)
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 (Ucisprr)
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%	5%
Adjacent channel power	0.3dB	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



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.

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.

Rev.160009121(2)_#684340 v13CS

