

## TEST REPORT

**Report Number:** 102405902LEX-005  
**Project Number:** G102405902

**Report Issue Date:** 3/7/2016

**Product Name:** Victor

**FCC Standards:** FCC 15.231

**Industry Canada Standards:** RSS-210 Issue 8:2010

Tested by:  
Intertek Testing Services NA, Inc.  
731 Enterprise Drive  
Lexington, KY 40510

Client:  
Apollo America Inc.  
25 Corporate Dr  
Auburn Hills, MI 48326-2919

Report prepared by



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Bryan Taylor, Team Lead-Engineering

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## 1 Introduction and Conclusion

The tests indicated in section 2 were performed on the product constructed as described in section 3. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test method, a list of the actual test equipment used, documentation photos, results and raw data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested complied with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested.

The INTERTEK-Lexington is located at 731 Enterprise Drive, Lexington Kentucky, 40510. The radiated emission test site is a 10-meter semi-anechoic chamber. The chamber meets the characteristics of CISPR 16-1 and ANSI C63.4: 2014. For measurements, a remotely controlled flush-mount metal-top turntable is used to rotate the EUT a full 360 degrees. A remote controlled non-conductive antenna mast is used to scan the antenna height from one to four meters. The test site is listed with the FCC under registration number 485103. The test site is listed with Industry Canada under site number IC 2042M-1.

## 2 Test Summary

Page	Test full name	FCC Reference	IC Reference	Result
8	Transmission Timing Measurements	§ 15.231(a)	RSS-210 (A1.1.1)	Pass
10	Duty Cycle Correction Factor	ANSI C63.10: 2013	ANSI C63.10: 2013	---
13	Occupied Bandwidth	§ 15.231(c)	RSS-210 (A1.1.3)	Pass
16	Radiated Spurious Emissions (Transmitter)	§ 15.231(b)	RSS-210 (A1.1.2)	Pass
20	Antenna Requirement per FCC Part 15.203	§ 15.203	RSS-Gen (7.1.2)	Pass
21	Conducted Emission Limits	§ 15.207	RSS-Gen (7.2.4)	Pass

**3 Description of Equipment Under Test**

<b>Equipment Under Test</b>	
<b>Manufacturer</b>	Apollo America Inc.
<b>Model Number</b>	NA
<b>Serial Number</b>	222242
<b>Receive Date</b>	2/21/2016
<b>Test Start Date</b>	2/22/2016
<b>Test End Date</b>	3/4/2016
<b>Device Received Condition</b>	Good
<b>Test Sample Type</b>	Production
<b>Transmission Control</b>	Firmware
<b>Transmit Frequencies</b>	345MHz
<b>Antenna Type (15.203)</b>	Permanent internal whip antenna
<b>Maximum Antenna Gain (dBi)</b>	1.64 dBi <sup>1</sup>
<b>Operating Voltage</b>	120Vac, 60Hz

**Description of Equipment Under Test**

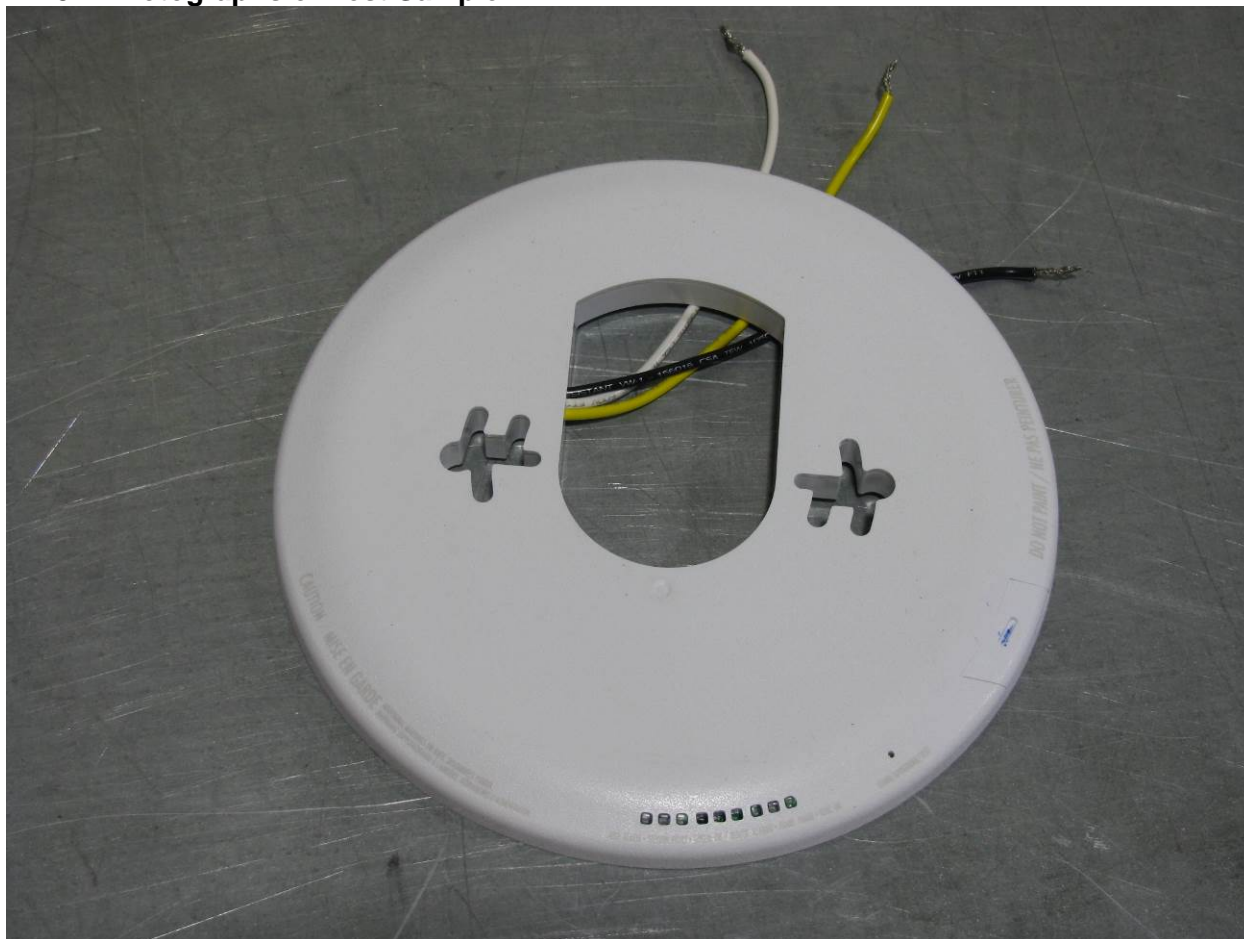
A device that monitors smoke detector interconnect signal and transmits a wireless alarm message to panel if smoke alarm signal is present.

**Operating modes of the EUT:**

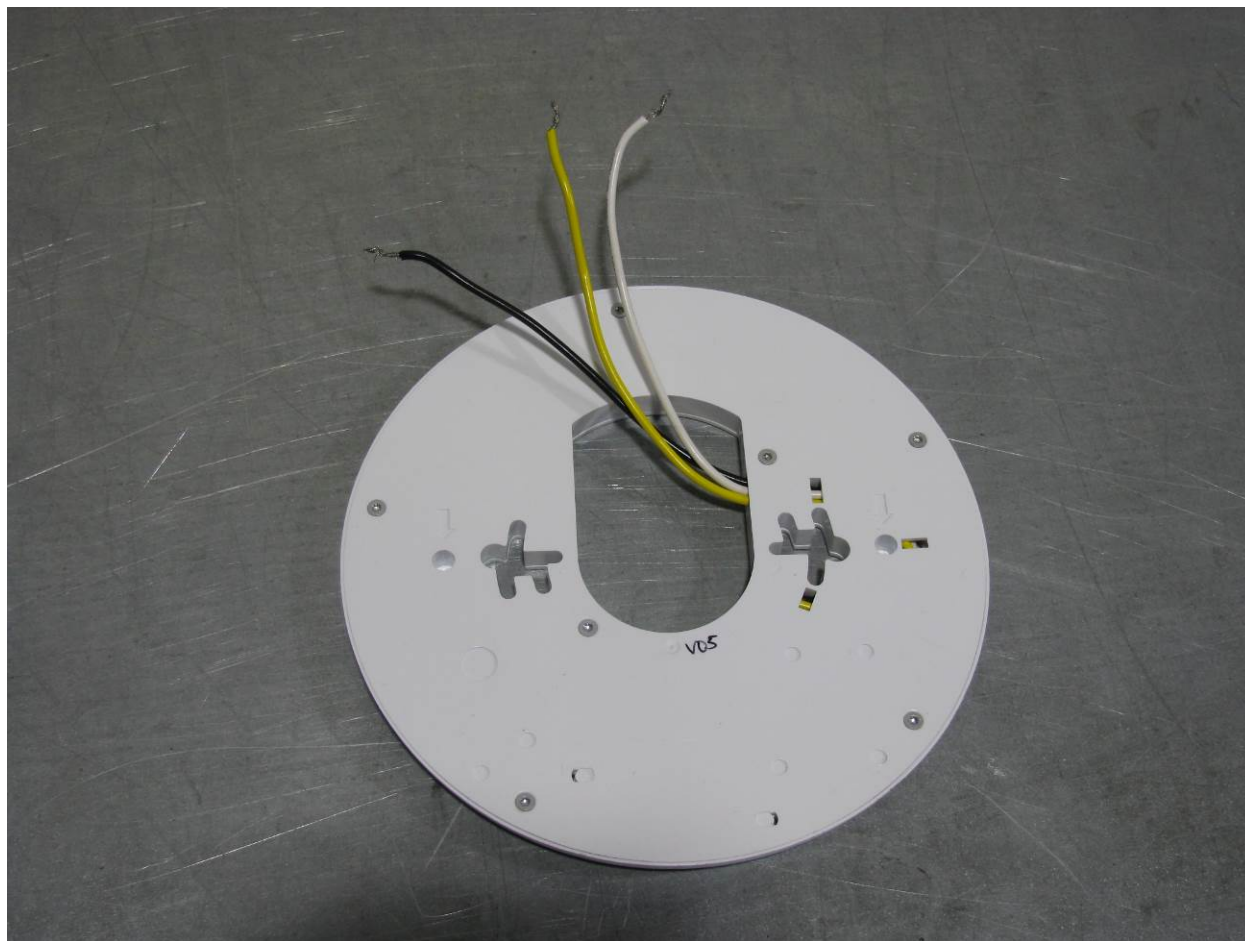
<b>No.</b>	<b>Descriptions of EUT Exercising</b>
1	Idle, transmitting every 65 minutes
2	Alarm Mode, transmitting every 4 seconds. A 9V battery is used to enable alarm mode.

<sup>1</sup> Calculated from maximum field strength of 95.51dBµV/m at 3m distance with -3dBm delivered to antenna

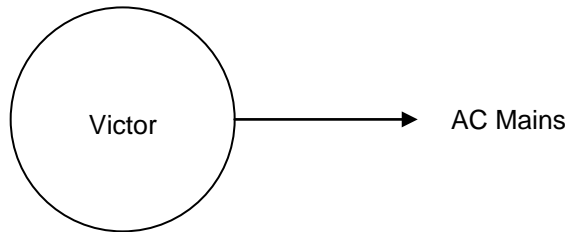
### 3.1 Photographs of Test Sample



Front



Back

**3.2 System setup including cable interconnection details, support equipment and simplified block diagram****3.3 EUT Block Diagram:****3.4 Cables:**

None

**3.5 Support Equipment:**

None

## 4 Transmission Timing

### § 15.231(a):

The provisions of this section are restricted to periodic operation within the band 40.66-40.70 MHz and above 70 MHz. Except as shown in paragraph (e) of this section, the intentional radiator is restricted to the transmission of a control signal such as those used with alarm systems, door openers, remote switches, etc. Continuous transmissions, voice, video and the radio control of toys are not permitted. Data is permitted to be sent with a control signal. The following conditions shall be met to comply with the provisions for this periodic operation:

(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

(3) Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour.

(4) Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition

(5) Transmission of set-up information for security systems may exceed the transmission duration limits in paragraphs (a)(1) and (a)(2) of this section, provided such transmissions are under the control of a professional installer and do not exceed ten seconds after a manually operated switch is released or a transmitter is activated automatically. Such set-up information may include data.

### 4.1 Test Procedure

The sample was set up in its normal operating mode. A small antenna connected to an oscilloscope was placed in close proximity to the sample. The scope was configured to trigger when the sample transmitted data. Condition 3 above was used to evaluate compliance.

### 4.2 Test Equipment Used:

Description	Serial Number	Manufacturer	Model	Cal. Date	Cal. Due
Digital Oscilloscope	3478	Tektronix	MSO 4104	2/9/2016	2/9/2017



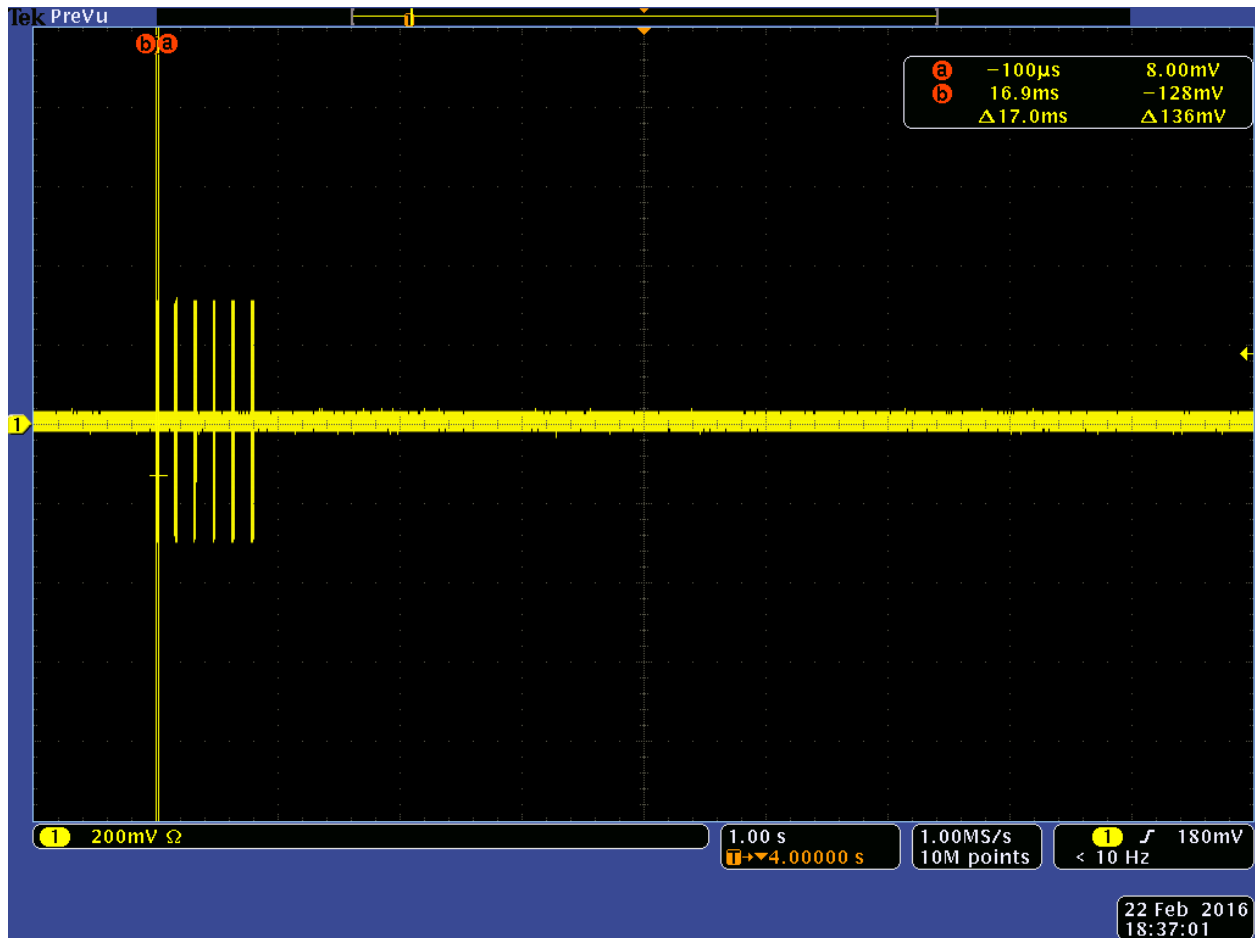
### 4.3 Transmission Timing Results

- (1) The device is not manually operated
- (2) The device is a safety device that is allowed continuous transmission during an alarm
- (3) See below
- (4) The device is a smoke alarm that is employed for safety of life
- (5) The device is not manually triggered and is a safety of life device.

The sample is a smoke detector that transmits a burst of six 17ms packets once every 65 minutes in its normal operating mode, as shown in the scope capture below. The total "on" time in one hour is:

$$6 \cdot (0.017s) = 0.102s$$

which is less than two seconds per hour.



## 5 Duty Cycle Correction Factor

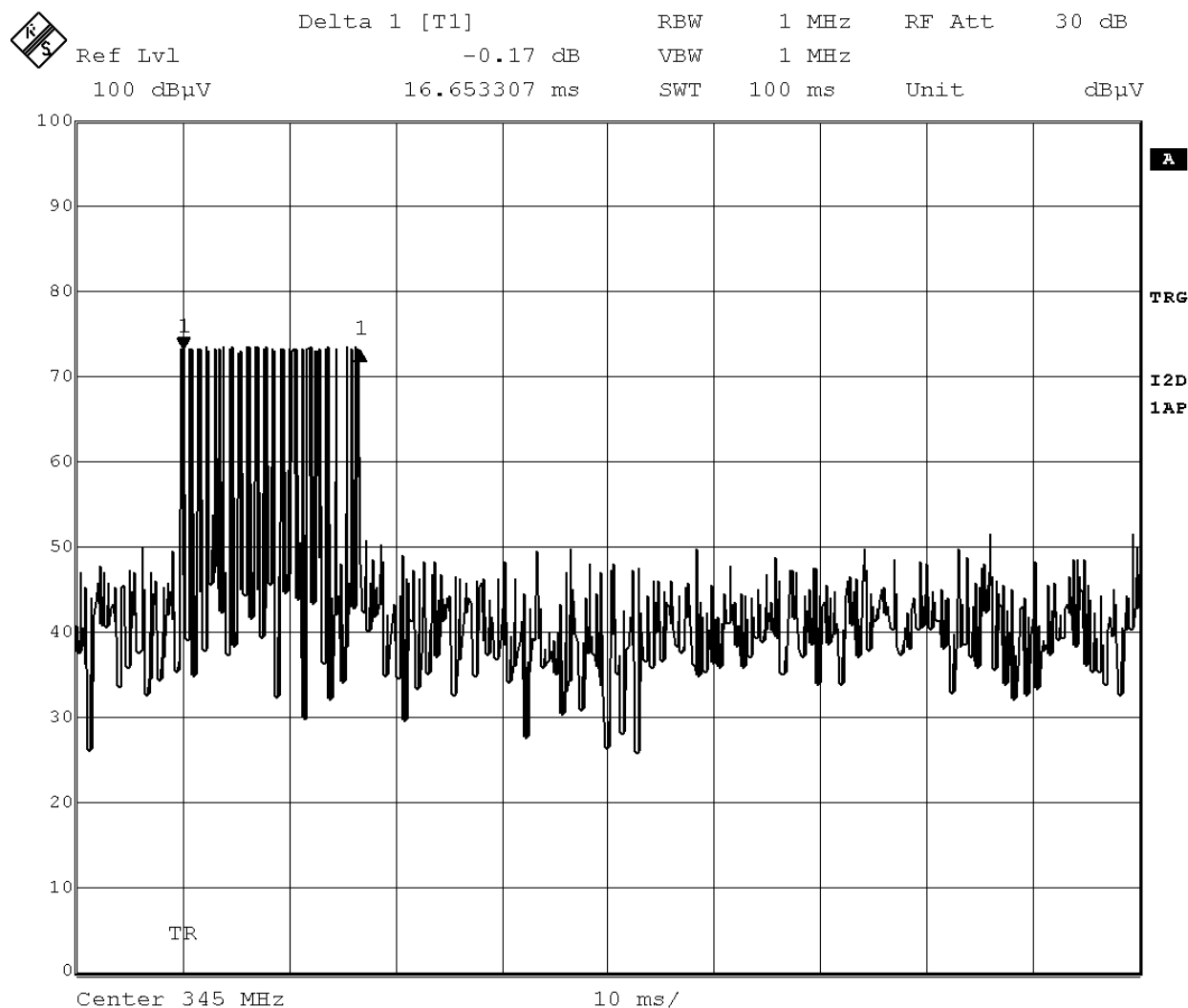
### 5.1 Test Procedure

ANSI C63.10: 2013 Section 7.5 was followed for measuring the duty cycle and calculating the duty cycle correction factor. When necessary the duty cycle correction factor was used to compute the average value of pulsed emissions during the radiated testing.

### 5.2 Test Equipment Used:

Description	Serial Number	Manufacturer	Model	Cal. Date	Cal. Due
EMI Test Receiver	10887490.26	Rohde & Schwarz	ES126	9/20/2015	9/20/2016

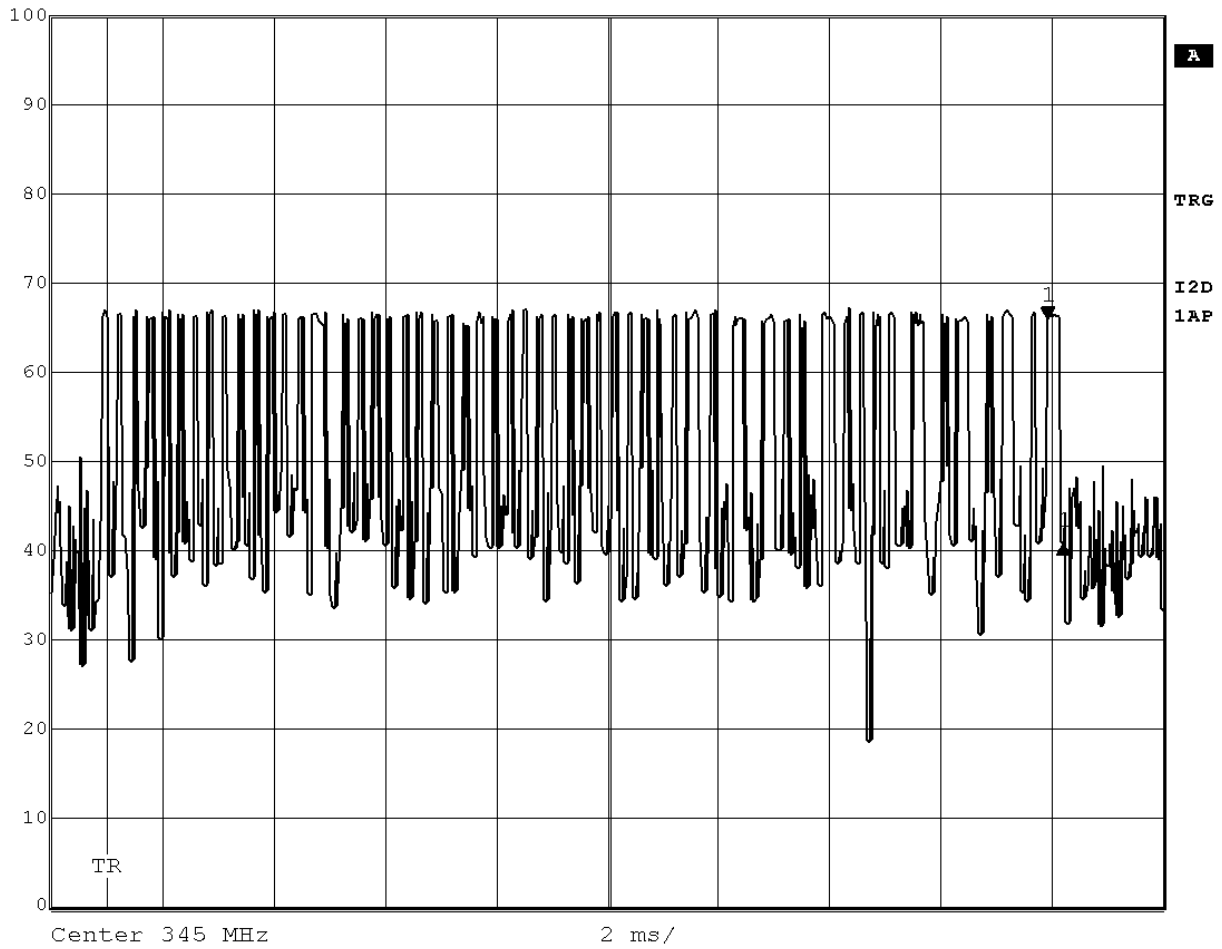
### 5.3 Duty Cycle Correction Factor Results (345MHz):



Date: 22.FEB.2016 08:37:54



	Delta 1 [T1]	RBW	1 MHz	RF Att	30 dB
Ref Lvl	-25.19 dB	VBW	1 MHz		
100 dBμV	300.601202 μs	SWT	20 ms	Unit	dBμV



Date:            22.FEB.2016    08:51:17

Pulse #	Pulse Width (μs)	Pulse #	Pulse Width (μs)	Pulse #	Pulse Width (μs)	Pulse #	Pulse Width (μs)
1	180.36	15	300.60	29	180.36	43	140.28
2	140.28	16	140.28	30	140.28	44	140.28
3	140.28	17	140.28	31	140.28	45	300.60
4	180.36	18	180.36	32	180.36	46	140.28
5	180.36	19	140.28	33	140.28	47	140.28
6	140.28	20	140.28	34	140.28	48	180.36
7	140.28	21	180.36	35	140.28	49	180.36
8	180.36	22	180.36	36	180.36	50	300.60
9	140.28	23	140.28	37	140.28	51	140.28
10	140.28	24	140.28	38	140.28	52	300.60
11	140.28	25	180.36	39	300.60	53	140.28
12	180.36	26	140.28	40	140.28	54	260.52
13	140.28	27	140.28	41	260.52	55	140.28
14	140.28	28	140.28	42	300.60	56	300.60

345MHz Total Pulse On Time = 9.78ms

Duty Cycle Correction Factor (at 345MHz) =  $20\log(9.78\text{ms}/100\text{ms}) = -20.19\text{dB}$

**Occupied Bandwidth****5.4 Test Limits**

§ 15.231(c): The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

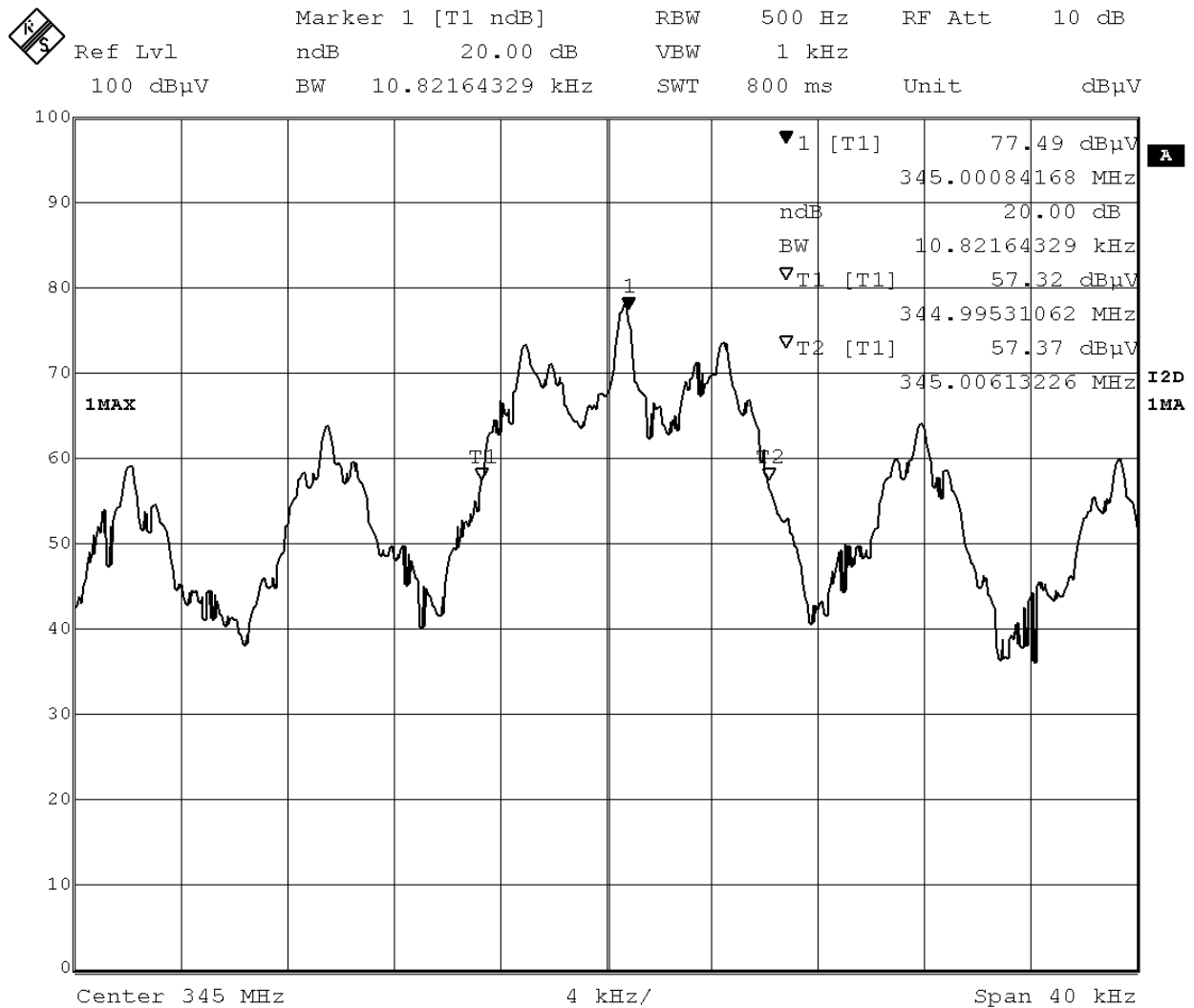
**5.5 Test Procedure**

ANSI C63.10: 2013

**5.6 Test Equipment Used:**

Description	Serial Number	Manufacturer	Model	Cal. Date	Cal. Due
EMI Test Receiver	10887490.26	Rohde & Schwarz	ES126	9/20/2015	9/20/2016

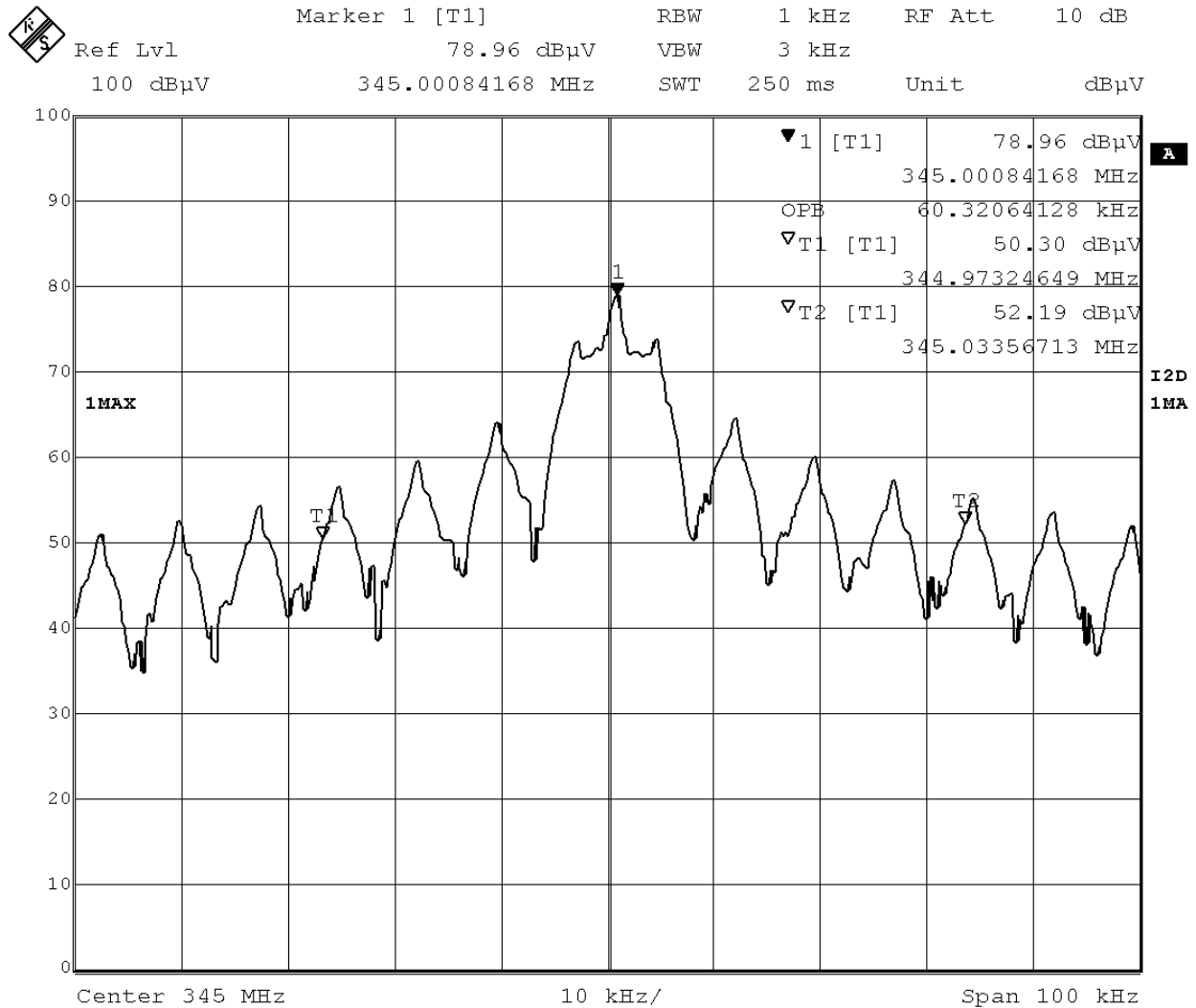
## 5.7 Results: 20dB Bandwidth Measurement



Date: 22.FEB.2016 13:27:48

(345MHz) 20dB Bandwidth = 10.82kHz

### 5.8 Results: 99% Bandwidth Measurement



Date: 22.FEB.2016 13:41:18

(345MHz) 99% Bandwidth= 60.32kHz

## 6 Radiated Spurious Emissions (Transmitter)

### 6.1 Test Limits

**§ 15.231(a):** The provisions of this section are restricted to periodic operation within the band 40.66-40.70 MHz and above 70 MHz. Except as shown in paragraph (e) of this section, the intentional radiator is restricted to the transmission of a control signal such as those used with alarm systems, door openers, remote switches, etc. Continuous transmissions, voice, video and the radio control of toys are not permitted. Data is permitted to be sent with a control signal. The following conditions shall be met to comply with the provisions for this periodic operation

(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

(4) Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition.

(b) In addition to the provisions of §15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70	2,250	225
70-130	1,250	125
130-174	<sup>1</sup> 1,250 to 3,750	<sup>1</sup> 125 to 375
174-260	3,750	375
260-470	<sup>1</sup> 3,750 to 12,500	<sup>1</sup> 375 to 1,250
Above 470	12,500	1,250

<sup>1</sup>Linear interpolations.

(1) The above field strength limits are specified at a distance of 3 meters. The tighter limits apply at the band edges.

(2) Intentional radiators operating under the provisions of this section shall demonstrate compliance with the limits on the field strength of emissions, as shown in the above table, based on the average value of the measured emissions. As an alternative, compliance with the limits in the above table may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified in the application for equipment authorization. If average emission measurements are employed, the provisions in §15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of §15.205 shall be demonstrated using the measurement instrumentation specified in that section.

(3) The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in §15.209, whichever limit permits a higher field strength.



**Part 15.205(a): Restricted Bands of Operations**

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

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490–0.510 MHz.

<sup>2</sup> Above 38.6

**Part 15.209(a): Field Strength Limits for Restricted Bands of Operation**

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 - 0.490	2,400 / F (kHz)	300
0.490 - 1.705	24,000 / F (kHz)	30
1.705 - 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 – 960	200	3
Above 960	500	3

## 6.2 Test Procedure

ANSI C63.10: 2013

### 6.3 Example of Field Strength Calculation Method:

The measured field strength was calculated by summing the readings taken from the spectrum analyzer with the appropriate correction factors associated with the antenna losses and cable losses. The calculation formula and sample calculations are listed below:

Formula:

$$FS = RA + AF + CF + DC$$

FS = Field Strength in dB $\mu$ V/m

RA = Receiver Amplitude in dB $\mu$ V

AF = Antenna Factor in dB

CF = Cable Attenuation Factor in dB (Including preamplifier and filter attenuation)

DC = Duty Cycle Correction Factor

Example Calculation:

RA = 19.48 dB $\mu$ V

AF = 18.52 dB

CF = 0.78 dB

DC = -20.10 dB

$$FS = 19.48 + 18.52 + 0.78 - 20.10 = 18.68 \text{ dB}\mu\text{V/m}$$

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(18.68 \text{ dB}\mu\text{V/m})/20] = 8.59 \mu\text{V/m}$$

### 6.4 Test Equipment Used:

Description	Serial Number	Manufacturer	Model	Cal. Date	Cal. Due
EMI Test Receiver	1302.6005.40	Rohde & Schwarz	ESU40	9/19/2015	9/19/2016
Preamplifier	122005	Rohde&Schwarz	TS-PR18	11/19/2015	11/19/2016
Biconnilog Antenna	00051864	ETS	3142C	2/4/2016	2/4/2017
Horn Antenna	00154521	ETS	3117	11/3/2015	11/3/2016
System Controller	121701-1	Sunol Sciences	SC99V	Time of Use	Time of Use
EMC Software	Version 9.15.02	Rohde&Schwarz	EMC32	Time of Use	Time of Use

**6.5 Results:**

All fundamental and spurious emissions not falling into the restricted bands met the limits outlined in FCC Part 15.231(b). Additionally, all emissions falling within restricted bands of operation were found to be below the limit specified in Part 15.209(a). The emissions listed in the following tables are the worst case emissions and were investigated with the sample positioned in three orthogonal axes in order to report the highest possible field strength. Emissions falling in restricted bands are highlighted in blue text.

**Worst Case Spurious Measurements (345MHz)**

EUT Name: Victor  
 Manufacturer: Apollo America Inc.  
 Test Engineer: Brian Lackey  
 Date: 3/4/2016  
 Temp/Humidity/Pressure: 22.1C/28.0%/985.4mbar  
 Comment: -3.0dBm on transmitter

Frequency (MHz)	Peak Measurement (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
345.020000	95.51	97.26	1.75	120.000	105.3	H	165.0	19.1
687.650000	34.49	77.26	42.77	120.000	243.0	H	183.0	26.7
1035.200000	44.21	77.26	33.05	1000.000	279.0	H	336.0	-2.5
1380.200000	27.56	77.26	49.7	1000.000	399.0	H	138.0	-1.6
1725.200000	33.89	77.26	43.37	1000.000	370.0	H	265.0	-0.2
2070.200000	31.54	77.26	45.72	1000.000	384.0	H	123.0	2.4
2414.800000	33.93	77.26	43.33	1000.000	346.0	H	310.0	3.9
2760.200000	32.87	77.26	44.39	1000.000	410.0	V	132.0	4.2
3105.200000	35.75	77.26	41.51	1000.000	393.0	H	288.0	4.9
3450.200000	34.48	77.26	42.78	1000.000	370.0	H	303.0	4.9

Frequency (MHz)	Average Measurement <sup>2</sup> (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
345.020000	75.32	77.26	1.94	120.000	105.3	H	165.0	-1.1
687.650000	14.30	57.26	42.96	120.000	243.0	H	183.0	6.5
1035.200000	24.02	57.26	33.24	1000.000	279.0	H	336.0	-22.7
1380.200000	7.37	57.26	49.89	1000.000	399.0	H	138.0	-21.8
1725.200000	13.70	57.26	43.56	1000.000	370.0	H	265.0	-20.4
2070.200000	11.35	57.26	45.91	1000.000	384.0	H	123.0	-17.8
2414.800000	13.74	57.26	43.52	1000.000	346.0	H	310.0	-16.3
2760.200000	12.68	57.26	44.58	1000.000	410.0	V	132.0	-15.99
3105.200000	15.56	57.26	41.70	1000.000	393.0	H	288.0	-15.29
3450.200000	14.29	57.26	42.97	1000.000	370.0	H	303.0	-15.29

\*Additional Duty Cycle Correction Factor Applied (-20.19 dB)

<sup>2</sup> Below 1 GHz a quasi-peak detector was used. Above 1 GHz a peak detector was used. The duty cycle correction factor was applied to arrive at average measurements.

**7 Antenna Requirement per FCC Part 15.203****7.1 Test Limits**

**§ 15.203:** An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

**7.2 Results:**

The sample tested met the antenna requirement. The antenna used was an internal whip permanently attached to the PCB.

**8 Power Port Conducted Emissions****8.1 Method**

The test method used was identical to that described in ANSI C63.4:2014.

**8.2 Test Location**

This test was performed at the Intertek offices located at the following address:

Intertek  
731 Enterprise Drive  
Lexington, KY 40510

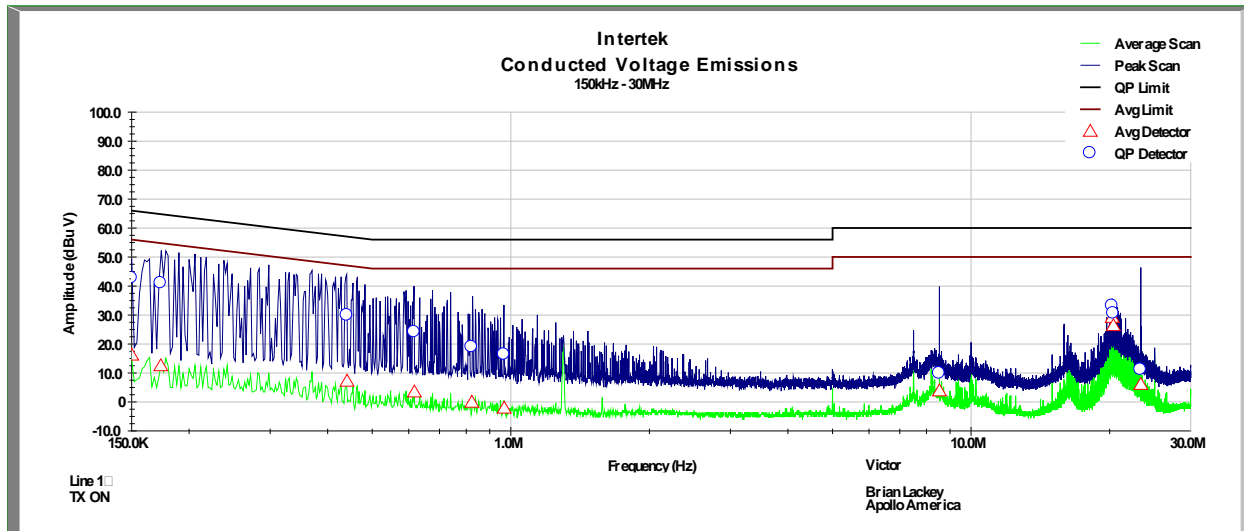
**8.3 Test Equipment Used:**

Description	Serial Number	Manufacturer	Model	Cal. Date	Cal. Due
EMI Test Receiver	10887490.26	Rohde & Schwarz	ES126	9/20/2015	9/20/2016
LISN	110WT50202	PMM	L3-100	12/18/2015	12/18/2016
TILE Software	V7.0.6.545	ETS Lindgren	TILE	Time of Use	Time of Use

## 8.4 Results:

The sample tested was found to Comply.

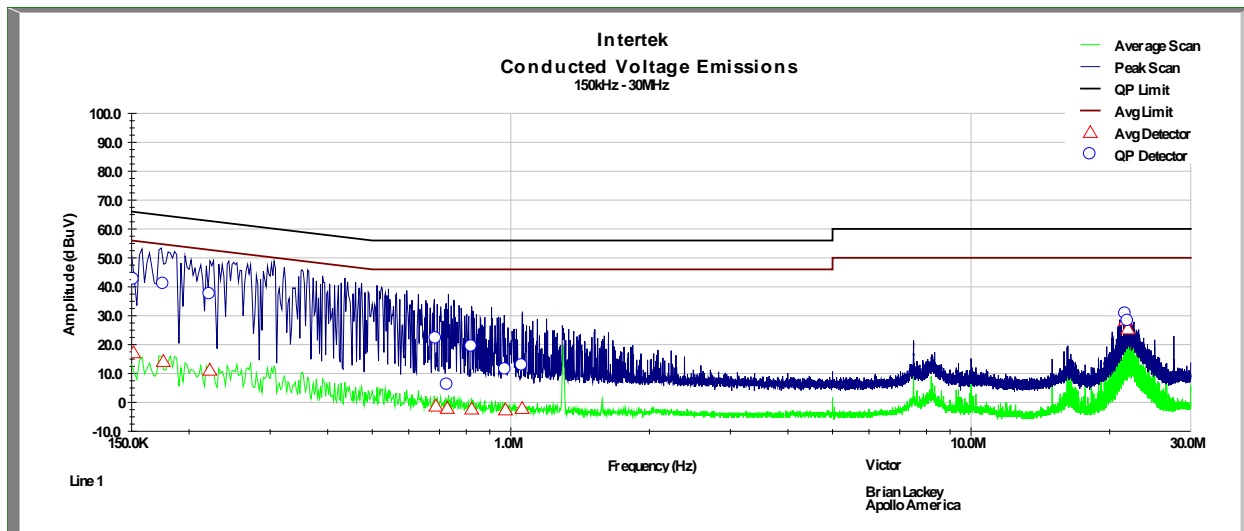
### 8.1 Data (Line 1):



Line 1, Alarm Mode

Frequency (MHz)	Quasi-Peak (dBuV)	Quasi-Peak Limit (dBuV)	Quasi-Peak Margin (dB)	Average (dBuV)	Average Limit (dBuV)	Average Margin (dB)
150.000 KHz	42.701	66.000	-23.299	16.139	56.000	-39.861
173.600 KHz	40.954	65.326	-24.372	12.457	55.326	-42.868
440.600 KHz	29.827	57.697	-27.870	7.149	47.697	-40.548
617.300 KHz	24.076	56.000	-31.924	3.414	46.000	-42.586
822.800 KHz	18.908	56.000	-37.092	-0.133	46.000	-46.133
967.500 KHz	16.293	56.000	-39.707	-2.169	46.000	-48.169
8.535 MHz	9.813	60.000	-50.187	3.792	50.000	-46.208
20.259 MHz	33.090	60.000	-26.910	29.177	50.000	-20.823
20.382 MHz	30.499	60.000	-29.501	26.320	50.000	-23.680
23.371 MHz	11.061	60.000	-48.939	6.031	50.000	-43.969

Line 1, Alarm Mode



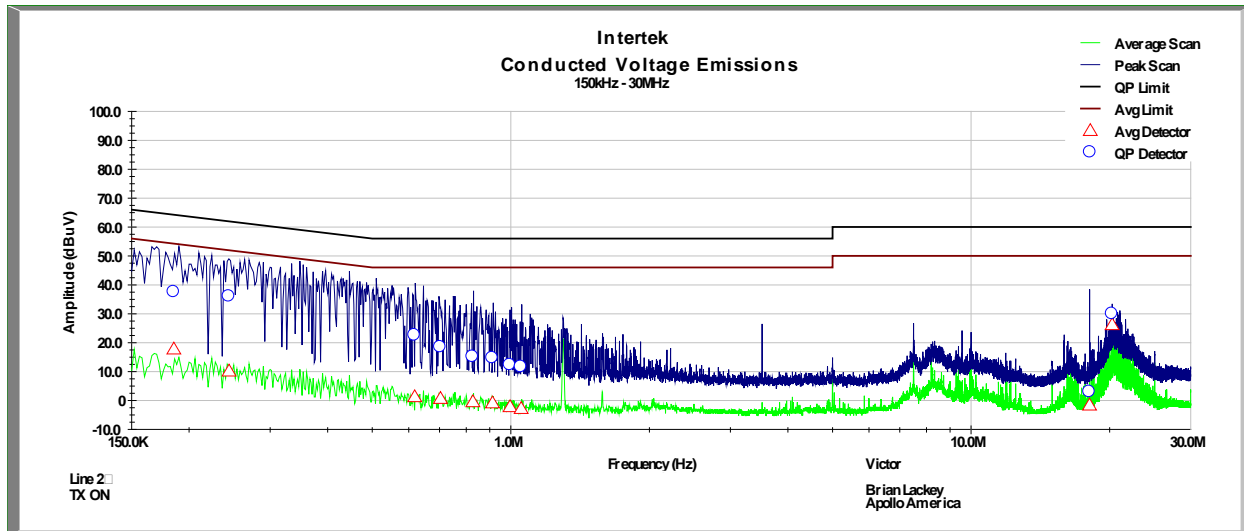
Line 1, Idle

Frequency (MHz)	Quasi-Peak (dBuV)	Quasi-Peak Limit (dBuV)	Quasi-Peak Margin (dB)	Average (dBuV)	Average Limit (dBuV)	Average Margin (dB)
151.500 KHz	42.509	65.957	-23.448	17.132	55.957	-38.825
175.800 KHz	40.972	65.263	-24.291	14.147	55.263	-41.116
221.800 KHz	37.402	63.949	-26.546	11.134	53.949	-42.815
687.400 KHz	22.086	56.000	-33.914	-1.301	46.000	-47.301
727.600 KHz	6.047	56.000	-49.953	-2.100	46.000	-48.100
822.200 KHz	19.256	56.000	-36.744	-2.327	46.000	-48.327
973.700 KHz	11.366	56.000	-44.634	-2.625	46.000	-48.625
1.058 MHz	12.779	56.000	-43.221	-2.116	46.000	-48.116
21.663 MHz	30.683	60.000	-29.317	28.442	50.000	-21.558
21.907 MHz	28.122	60.000	-31.878	25.395	50.000	-24.605

Line 1, Idle

Deviations, Additions, or Exclusions: None

## 8.2 Data (Line 2):

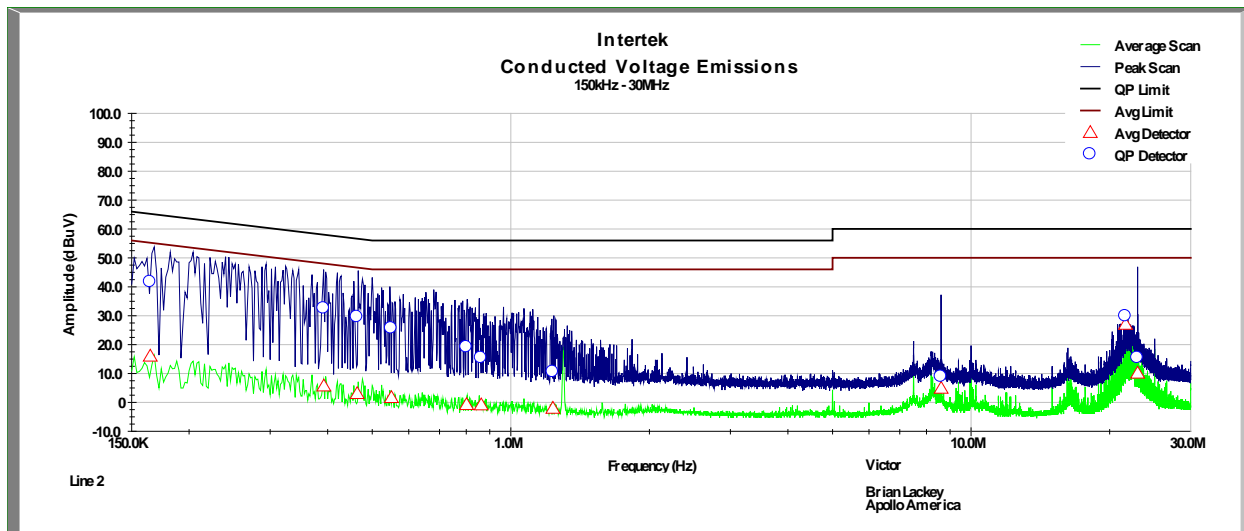


Line 2, Alarm Mode

Frequency (MHz)	Quasi-Peak (dBuV)	Quasi-Peak Limit (dBuV)	Quasi-Peak Margin (dB)	Average (dBuV)	Average Limit (dBuV)	Average Margin (dB)
185.300 KHz	37.455	64.991	-27.537	17.780	54.991	-37.212
244.200 KHz	35.942	63.309	-27.366	10.182	53.309	-43.127
618.200 KHz	22.498	56.000	-33.502	1.308	46.000	-44.692
703.200 KHz	18.377	56.000	-37.623	0.690	46.000	-45.310
826.900 KHz	15.020	56.000	-40.980	-0.452	46.000	-46.452
912.500 KHz	14.634	56.000	-41.366	-0.834	46.000	-46.834
996.200 KHz	12.255	56.000	-43.745	-2.149	46.000	-48.149
1.053 MHz	11.542	56.000	-44.458	-2.778	46.000	-48.778
18.089 MHz	2.909	60.000	-57.091	-1.605	50.000	-51.605
20.256 MHz	29.880	60.000	-30.120	26.224	50.000	-23.776

Line 2, Alarm Mode





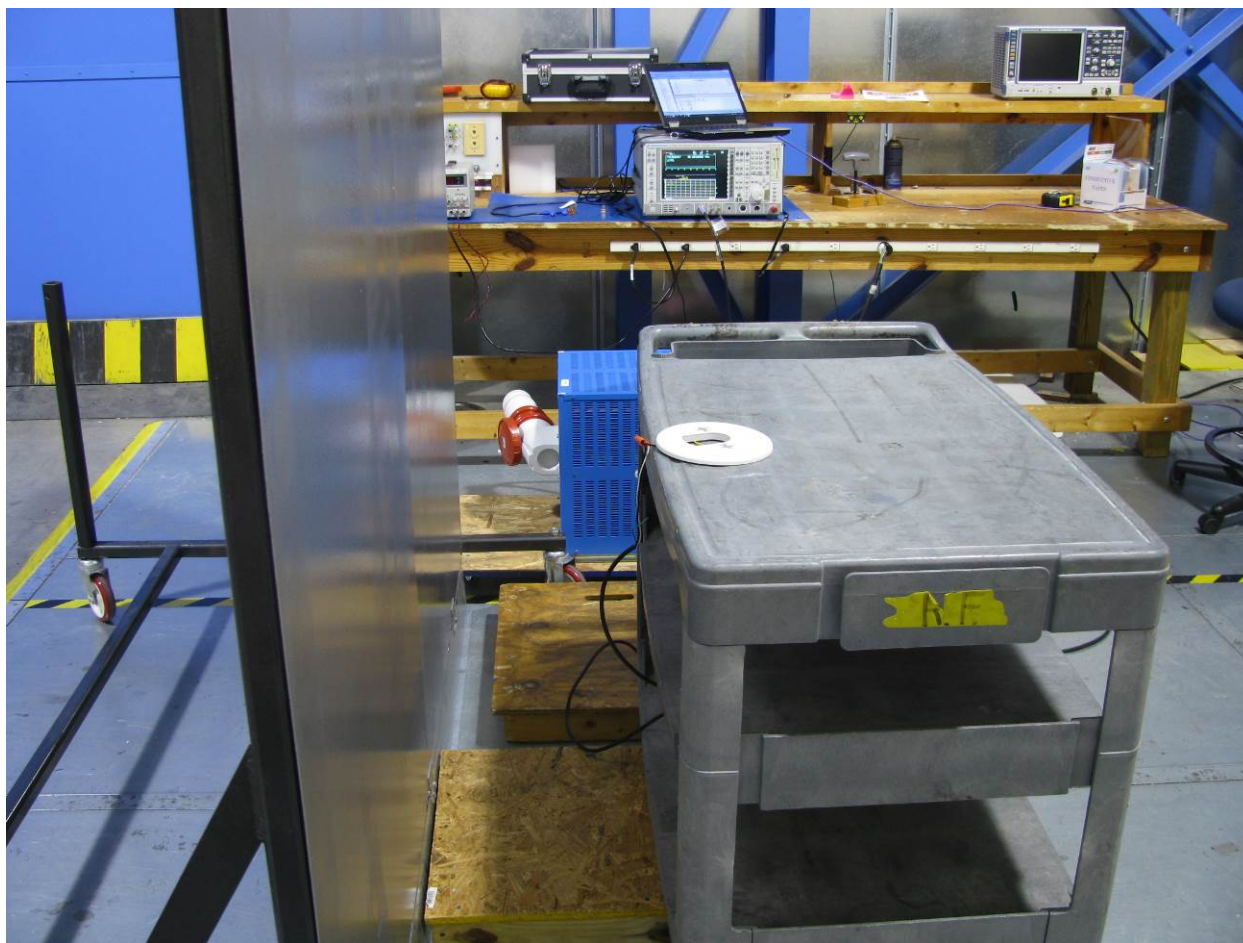
Line 2, Idle

Frequency (MHz)	Quasi-Peak (dBuV)	Quasi-Peak Limit (dBuV)	Quasi-Peak Margin (dB)	Average (dBuV)	Average Limit (dBuV)	Average Margin (dB)
164.700 KHz	41.587	65.580	-23.993	15.989	55.580	-39.591
392.400 KHz	32.446	59.074	-26.628	5.672	49.074	-43.402
463.600 KHz	29.493	57.040	-27.547	3.039	47.040	-44.001
550.300 KHz	25.577	56.000	-30.423	1.654	46.000	-44.346
801.200 KHz	19.052	56.000	-36.948	-0.794	46.000	-46.794
862.300 KHz	15.339	56.000	-40.661	-0.868	46.000	-46.868
1.234 MHz	10.482	56.000	-45.518	-2.064	46.000	-48.064
8.608 MHz	8.829	60.000	-51.171	4.885	50.000	-45.115
21.662 MHz	29.806	60.000	-30.194	27.010	50.000	-22.990
23.006 MHz	15.360	60.000	-44.640	10.111	50.000	-39.889

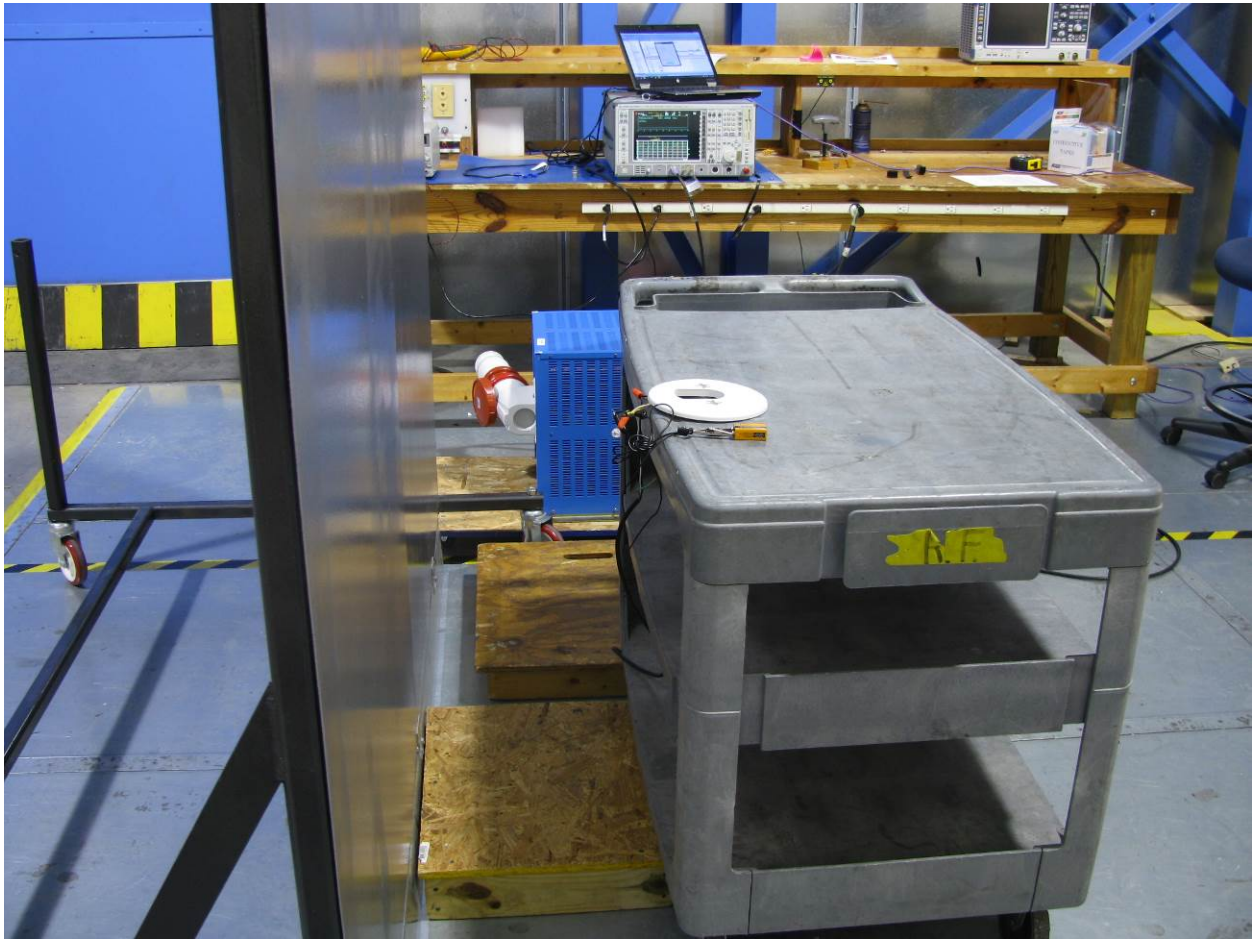
Line 2, Idle

Deviations, Additions, or Exclusions: None

### 8.3 Setup Photographs:



Idle mode, transmitting every 65 minutes



Alarm mode, transmitting every 4 seconds

#### 8.4 Test Setup:

Test Personnel: Brian Lackey  
Supervising/Reviewing  
Engineer: Bryan Taylor  
(Where Applicable)  
Product Standard: ANSI C63.10  
Input Voltage: 120Vac, 60Hz  
Pretest Verification w/  
Ambient Signals or  
BB Source: Yes

Test Date: 2/22/2016  
  
Limit Applied: Class B  
Ambient Temperature: 21.8C  
Relative Humidity: 36.4%  
Atmospheric Pressure: 988.8mbar

## 9 Measurement Uncertainty

The measured value related to the corresponding limit will be used to decide whether the equipment meets the requirements.

The measurement uncertainty figures were calculated and correspond to a coverage factor of  $k = 2$ , providing a confidence level of respectively 95.45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian).

Measurement uncertainty Table

Parameter	Uncertainty	Notes
Radiated emissions, 30 to 1000 MHz	+3.9dB	
Radiated emissions, 1 to 18 GHz	+4.2dB	
Radiated emissions, 18 to 40 GHz	+4.3dB	
Power Port Conducted emissions, 150kHz to 30 MHz	±2.8dB	

**10 Revision History**

Revision Level	Date	Report Number	Notes
0	3/7/2016	102405902LEX-005	Original Issue