



Testing Tomorrow's Technology

Application for Certification

Per

Title 47 USC Part 2, Subpart J, Equipment Authorization Procedures, Paragraph 2.907, Certification and Part 15, Subpart C, Intentional Radiators, Paragraph 15.231, Periodic Operation in the band 40.66 MHz to 40.70 MHz and above 70 MHz

for the

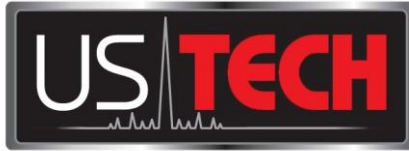
Radio Systems Corporation

Model: PTA00-14295

**UST Project: 13-0239
Issue Date: August 12, 2013**

Number of Pages in this report: 24

**3505 Francis Circle Alpharetta, GA 30004
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www.ustech-lab.com**



Testing Tomorrow's Technology

I certify that I am authorized to sign for the test facility and that all of the statements in this report and in the Exhibits attached hereto are true and correct to the best of my knowledge and belief:

US Tech (Agent Responsible For Test):

By: _____

Name: Alan Ghasiani

Title: President – Consulting Engineer

Date: August 12, 2013

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US Tech Test Report:
Issue Date:
Report Number:
Customer:
Model:
FCC ID:

FCC Part 15.231/ RSS-210
August 20, 2013
13-0239
Radio Systems Corporation
PTA00-14295 Transmitter
KE3-PTA14295

MEASUREMENT/TECHNICAL REPORT

COMPANY NAME: **Radio Systems Corporation**

MODEL: **PTA00-14295 Transmitter**

FCC ID: **KE3-PTA14295**

DATE: **August 12, 2013**

This report concerns (check one): Original grant X
Class II change _____

Equipment type: 433 MHz Transmitter

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? yes _____ No X

If yes, defer until: _____
date

N.A. agrees to notify the Commission by N.A.
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Report prepared by:

US Tech
3505 Francis Circle
Alpharetta, GA 30004

Phone Number: (770) 740-0717
Fax Number: (770) 740-1508

Table of Contents

<u>Paragraph</u>	<u>Title</u>	<u>Page</u>
1.	General Information	6
1.1	Product Description.....	6
1.2	Characterization of Test Sample.....	6
1.3	Related Submittal(s)/Grant(s)	6
1.4	The EUT is subject to the following authorizations:	6
2.	Tests and Measurements	7
2.1	Configuration of Tested System.....	7
2.2	Test Facility.....	7
2.3	Test Equipment.....	7
2.4	Modifications to Equipment.....	9
2.5	Test Procedure	9
2.5.1	Number of Measurements for Intentional Radiators (15.31(m))	9
2.5.2	Frequency Range of Radiated Measurements	10
2.6	EUT Antenna Description (FCC Sec. 15.203).....	11
2.7	Intentional Radiator, Power Lines Conducted Emissions (47 CFR 15.207)	13
2.8	Field Strength of Fundamental (47 CFR 15.231(b)).....	14
2.9	Limits for Operation in the Band above 70 MHz (CFR15.231 (b))	15
2.10	Peak Radiated Spurious Emissions, 30 MHz to 1000 MHz	18
2.11	Transmitter Duty Cycle (47 CFR 15.35 (c)).....	18
2.12	Bandwidth of Fundamental (CFR15.231 (c))	20
2.13	Power Line Conducted Emissions for Transmitter, Unintentional Emissions	21
2.14	Unintentional Radiator Radiated Emissions (47 CFR 15.33(a); 15.109(a))	22
2.15	Measurement Uncertainty.....	24
2.15.1	Conducted Emissions	24
2.15.2	Radiated Emissions	24

Table of Contents (cont'd.)

List of Figures

<u>Figure</u>	<u>Title</u>	<u>Page</u>
Figure 1.	Test Configuration.....	10
Figure 2.	Deactivation per 15.231(a)(1)	11
Figure 3.	Duty Cycle.....	19
Figure 4.	20 dB and Occupied Bandwidth Plot.....	20

List of Tables

<u>Tables</u>	<u>Title</u>	<u>Page</u>
Table 1.	EUT and Peripherals.....	7
Table 2.	Test Instruments	8
Table 3.	Number of Test Frequencies for Intentional Radiators.....	9
Table 4.	Antenna Description.....	12
Table 5.	Conducted Emissions (Powerline), Intentional Emissions	13
Table 6.	Intentional and Unintentional Radiation Limits at 3.0 meters	15
Table 7.	Intentional Radiated Emissions (Peak)	16
Table 8.	Intentional Radiated Emissions (AVG).....	17
Table 9.	Conducted Emissions (Powerline), Unintentional Emissions	21
Table 10.	Unintentional Radiated Emissions	23

1. General Information

The information contained in this report is presented for the FCC Equipment Authorization of Certification of the Equipment Under Test (EUT).

1.1 Product Description

The Equipment Under Test (EUT) is the Radio Systems Model PTA00-14295. The EUT is the 433 MHz transmitter portion of the Radio Systems Social Pet Camera. The Social Pet Camera is a wireless internet video camera that allows the user to access the camera over the internet and with a push of a button trigger the 433 MHz transmitter to send a signal to a treat dispenser to dispense a treat to feed a pet. The camera currently does not utilize the audio ports and the RJ45 port is only used when installing the camera for the first time. The camera does have a certified WiFi module, FCC ID: ZDE-FI8918W. This transmitter was in place and operating in normal operation. Each module has its own transmitting antenna. The fundamental operating frequency of the EUT is 433.46 MHz.

Because the periodic rate does not exceed the requirement of paragraph (a), paragraph (e) is not invoked.

1.2 Characterization of Test Sample

The sample used for testing was received by US Tech on August 7, 2013 in good operating condition.

1.3 Related Submittal(s)/Grant(s)

The EUT will be used to wirelessly transmit data.

1.4 The EUT is subject to the following authorizations:

- a) Limit Modular Certification of the Transmitter.
- b) Verification of the non-transmitter part of the EUT as a Digital Device.
- c) Verification of both transmitters simultaneously broadcasting.

2. Tests and Measurements

2.1 Configuration of Tested System

The Test sample was tested per *ANSI C63.4:2003, Methods of Measurement from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (2003)*. Radiated emissions data were taken according to paragraph 8.0 with the test receiver or spectrum analyzer's resolution bandwidth adjusted to 9 kHz and 120 kHz, respectively. All measurements are peak unless stated otherwise. The video filter associated with the spectrum analyzer was off throughout the evaluation process. There were no interconnecting cables to manipulate in an attempt to maximize emissions; however, the physical position of the EUT was varied through the three mutually exclusive orthogonal planes in an attempt to maximize the emissions. The worst case position is the position used for final measurements and is documented in this test report. A block diagram of the tested system is shown in Figure 1. All test configuration photographs are shown in the Test Configuration Annex.

2.2 Test Facility

Testing was performed at US Tech's measurement facility at 3505 Francis Circle, Alpharetta, GA. This site has been fully described and registered with the FCC, under site registration number 186022. Additionally this site has also been fully described and submitted to Industry Canada (IC), and has been approved under file number 2982A-1 and is also a NVLAP accredited test lab; lab code 200162-0.

2.3 Test Equipment

Table 1. EUT and Peripherals

PERIPHERAL AND MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID:	CABLES P/D
Transmitter Radio Systems Corp (EUT)	PTA00-14295	Engineering Sample	ZDE-FI8918W Pending: KE3-PTA14295	1.5 m U P
Power Adapter Foscam	SAW-0502000	Engineering Sample	None	1.5 m U P

P = Power D = Data S = Shielded U = Unshielded

Table 2. Test Instruments

TYPE	MANUFACTURER	MODEL	SERIAL NUMBER	LAST CAL DATE
SPECTRUM ANALYZER	HEWLETT-PACKARD	8566B	3205A00124	11-21-12
SPECTRUM ANALYZER	AGILENT	E4407B	US41442935	10-29-12
RF PREAMP	HEWLETT-PACKARD	8447D	2944A07436	03-04-13
RF PREAMP	HEWLETT-PACKARD	8449B	3008A00480	03-04-13
HORN ANTENNA	AH Systems	SAS-571	605	07-23-13
BICONICAL ANTENNA	EMCO	3110B	9307-1431	02-11-13
LOOP ANTENNA	AH Systems	SAS-200/562	142	08-09-11 2 yrs
LISN X 2	Solar Electronics	8028-50-TS24-BNC	910495-910494	03-01-13
LOG PERIODIC ANTENNA	EMCO	3146	9110-3632	06-05-12 2 yrs
TEMPERATURE CHAMBER	THERMOTRON	SM16	17095	04-24-13
CALCULATION PROGRAM	N/A	N/A	EMCCALC	N/A

2.4 Modifications to Equipment

No modifications were needed to bring the EUT into compliance with the FCC Part 15.209, radiated emissions limits for an intentional radiator, 15.231, *Periodic Operation in the Band 40.66 – 40.70 MHz and above 70 MHz*.

2.5 Test Procedure

The EUT was configured as shown in the following block diagram(s) and photograph(s). The sample was tested per ANSI C63.4:2003, Methods of Measurement for Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (2003) following US Tech's procedures paragraph 7 for conducted measurements and paragraph 8 for radiated measurements. Conducted and radiated emissions data was taken with the test receiver or spectrum analyzer's resolution bandwidth adjusted to 9 kHz and 120 kHz, respectively. All measurements are peak unless stated otherwise. The video filter on the spectrum analyzer was OFF throughout the evaluation process. Interconnecting cables were manipulated as necessary to maximize emissions. The EUT was rotated 360 degrees with the turntable to maximize emissions. The physical position of the EUT was varied through the three mutually exclusive orthogonal planes in an attempt to maximize the emissions. The final setup description is found in the test section of this report.

2.5.1 Number of Measurements for Intentional Radiators (15.31(m))

Measurements of intentional radiators or receivers shall be performed and reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in Table 3 as follows:

Table 3. Number of Test Frequencies for Intentional Radiators

Frequency Range over which the device operates	Number of Frequencies	Location in the Range of operation
1 MHz or less	1	Middle
1 to 10 MHz	2	1 near the top 1 near the bottom
Greater than 10 MHz	3	1 near top 1 near middle 1 near bottom

2.5.2 Frequency Range of Radiated Measurements

Intentional Radiator

The spectrum shall be investigated for the intentional radiator from the lowest RF signal generated in the EUT, without going below 9 kHz to the 10th harmonic of the highest fundamental frequency generated or 40 GHz, whichever is the lowest.

Unintentional Radiator

For the digital device, an unintentional radiator, the frequency range shall be 30 MHz to 1000 MHz, or to the range specified in 2.4.1 above, whichever is the higher range of investigation and according to the table in 47 CFR 15.33(b).

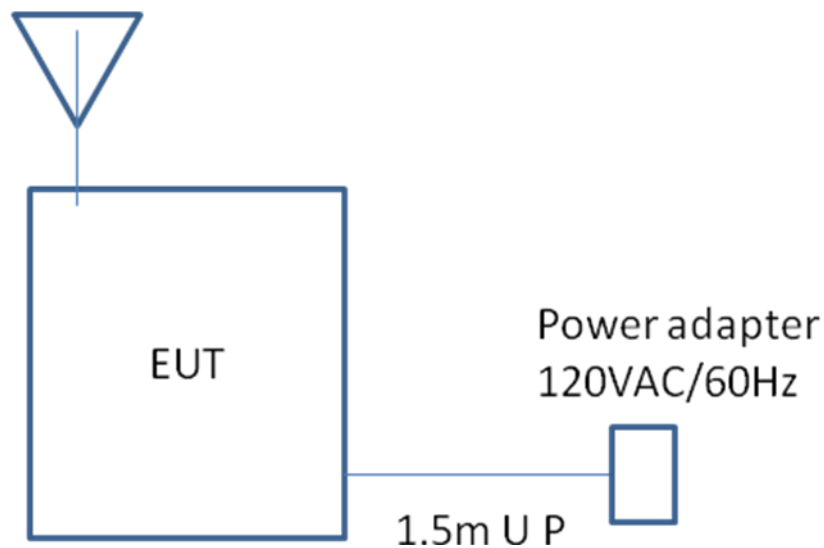


Figure 1. Test Configuration

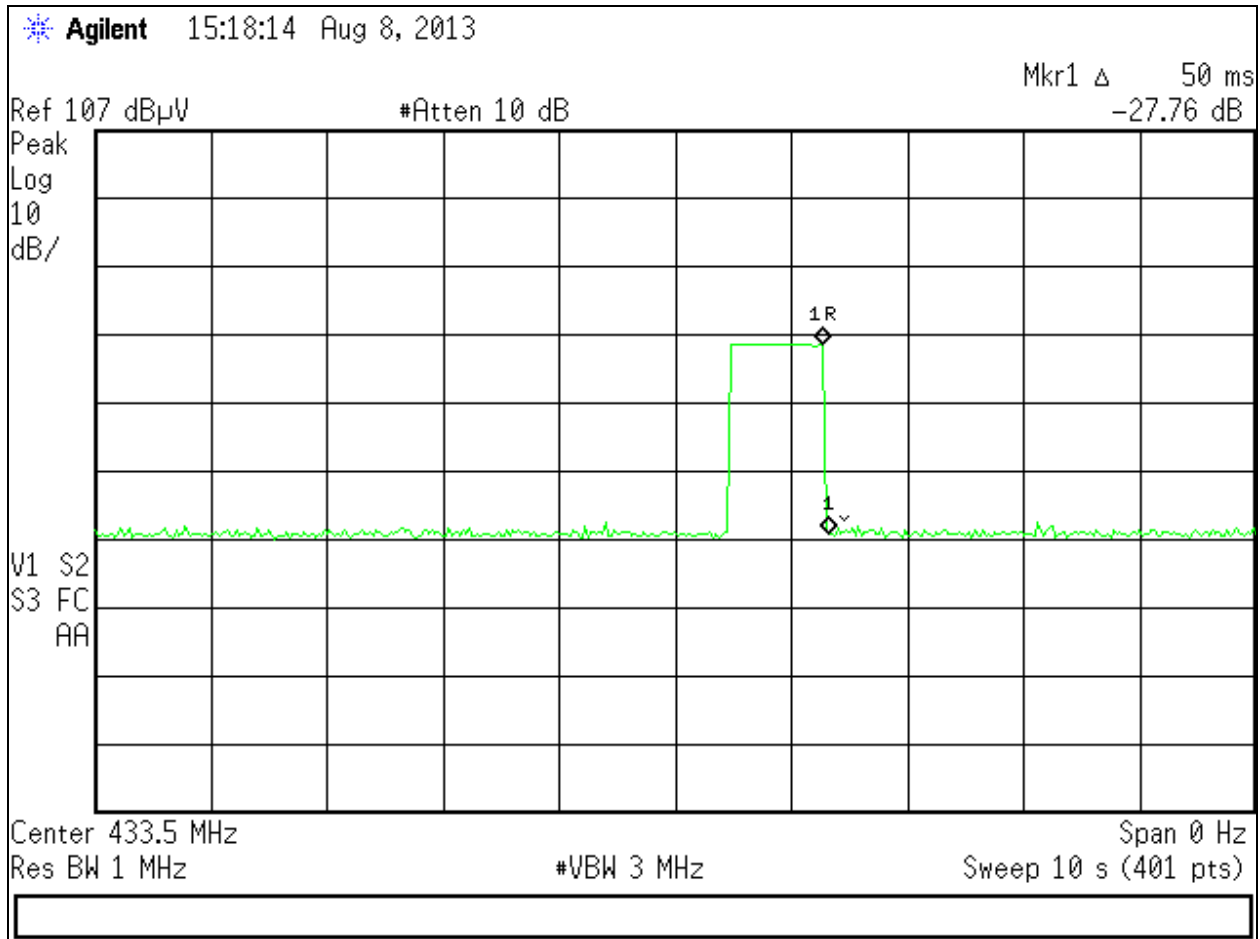


Figure 2. Deactivation per 15.231(a)(1)

Note: The EUT deactivates within 5 seconds.

2.6 EUT Antenna Description (FCC Sec. 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.

US Tech Test Report:
Issue Date:
Report Number:
Customer:
Model:
FCC ID:

FCC Part 15.231/ RSS-210
August 20, 2013
13-0239
Radio Systems Corporation
PTA00-14295 Transmitter
KE3-PTA14295

Radio Systems Corporation PTA00-14295 transmitter incorporates the following antenna only.

Table 4. Antenna Description

MANUFACTURER	TYPE	MODEL	GAIN dB _i
Radio Systems Corporation	Printed Copper Trace	Integral	-20

2.7 Intentional Radiator, Power Lines Conducted Emissions (47 CFR 15.207)

The power line conducted voltage emission measurements have been carried out in accordance with CFR 15.207, per ANSI C63.4:2003, Paragraph 7, with a spectrum analyzer connected to an LISN and the EUT placed into a continuous mode of transmission.


The worst case line conducted emissions is 4.2 dB from the limit at 0.6058 MHz on the phase line. All other emissions were at least 6.5 dB from the applicable limit.

Table 5. Conducted Emissions (Powerline), Intentional Emissions

CONDUCTED EMISSIONS						
Tested By: GY	Test: FCC Part 15.107 Class B		Project No.: 13-0239	Manufacturer: Radio Systems Corporation		
				Model: PTA00-14295 Transmitter		
Frequency (MHz)	Test Data (dBuV)	LISN+CL-PA (dB)	Corrected Results (dBuV)	Avg Limits (dBuV)	Margin (dB)	Detector
Phase Line						
0.1781	42.00	1.31	43.31	54.6	11.3	PK
0.6058	41.30	0.45	41.75	46.0	4.2	PK
3.5240	38.00	0.38	38.38	46.0	7.6	PK
5.0700	30.30	0.40	30.70	50.0	19.3	PK
10.2200	28.10	0.47	28.57	50.0	21.4	PK
24.0100	25.80	0.67	26.47	50.0	23.5	PK
Neutral Line						
0.1928	39.90	1.13	41.03	53.9	12.9	PK
0.5943	39.10	0.44	39.54	46.0	6.5	PK
3.4480	36.40	0.38	36.78	46.0	9.2	PK
5.0400	28.70	0.40	29.10	50.0	20.9	PK
11.1500	25.40	0.48	25.88	50.0	24.1	PK
24.0000	26.70	0.66	27.36	50.0	22.6	PK

Sample calculation: at 0.1781 MHz, (42.00 dBuV + (1.31 dB)) = 43.31 dBuV (corrected value)

Test Date: August 7, 2013

Tested By
 Signature: 

Name: George Yang

2.8 Field Strength of Fundamental (47 CFR 15.231(b))

The results of the measurements for peak fundamental emissions are given in the Tables following. The EUT emissions measurement was started by setting up the Log-periodic Antenna (L-pA) or generally, any antenna, in the vertical orientation at a distance of 3 meters from the EUT and at a height of 1.0 meters above the ground. The EUT packages' major axis was set normal to the direction of the measuring antenna.

The Spectrum Analyzer (SA) displays were set to: Channel A free-running, Channel B to Max-Hold. Choose a frequency or frequency range and scan it at a coupled rate. When a suspicious signal is found, center the signal on the screen and raise the L-pA to the 4-meter height while observing the SA display for changes to the max-hold and free-running display. Next, the antenna is lowered to 1 meter height above the ground plane while observing the channel A and B displays. The display having max-hold shows the maximum signal seen across the height range of 1 to 4 meters. The next action is to raise or lower the antenna until the free-running display matches the Max-hold display's magnitude on the SA screen. When this occurs, the signal is maximized for antenna height. Record the antenna height on the data sheet corresponding to the present frequency.

When the antenna height has been maximized, the next step in the measurement process is to maximize the EUT direction with respect to the receiving antenna. Rotate the turn-table through 360 degrees with one SA channel set for max-hold and the other channel in free-run mode. The object is to find that azimuth direction where the free-running indication just matches the greatest max-hold indication. This is the direction where the signal is peaked for azimuth. Record the direction on the data sheet next to the frequency.

When all signals have been maximized for antenna height and direction, the EUT case is carefully maneuvered in each of the three mutually exclusive orthogonal planes while observing the same Max-hold/free-running SA display indication. When the EUT position is found that allows a maximized signal to be read from the display, then that signals' magnitude is recorded on the data sheet for that particular frequency.

Next, re-orient the measurement antenna to Horizontal polarization at 1 meter height and repeat the above antenna and directional maximization processes for the greatest signals found across the frequency spectrum of interest. Record all signals within 6 dB of the limit.

Finally, Input the collected data into the calculation spread sheet. The spread sheet is designed to calculate for the true value that is collected. The spread sheet takes into account the SA reading, the antenna correction factor, cable losses and duty cycle factors. See the data tables herein.

2.9 Limits for Operation in the Band above 70 MHz (CFR15.231 (b))

This limit versus frequency table is as follows (test distance = 3.0 meters):

Table 6. Intentional and Unintentional Radiation Limits at 3.0 meters

Fundamental Frequency MHz	Limit Fundamental (Average) uV/m	Limit Harmonics and other spurious (Average) uV/m
260 to 470	3750 to 12500 ^{*1}	375 to 1250 ^{*2}
470 and above	12,500	1,250
* Linear Interpolation		

Note: formula 1: $limit_1$ in uV/m = $Y = 41.667(\text{Frequency in MHz}) - 7083.5$
 2: $limit_2$ in uV/m = $Y = 4.1667(\text{Frequency in MHz}) - 708.35$

The frequency spectrum above the fundamental to its 10th harmonic shall be examined and measured for signals falling into the restricted bands of 15.205. If average emissions measurements are employed, the provisions in 15.35 for averaging pulsed emissions and for limiting peak emissions apply. Spurious and harmonics shall meet the requirements of the above table or the requirements of 15.209, whichever requirement permits a higher field strength.

US Tech Test Report:
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 Customer:
 Model:
 FCC ID:

FCC Part 15.231/ RSS-210
 August 20, 2013
 13-0239
 Radio Systems Corporation
 PTA00-14295 Transmitter
 KE3-PTA14295

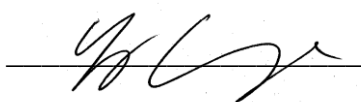
Table 7. Intentional Radiated Emissions (Peak)

Intentional Radiator Radiated Emissions							
Test By:	Test: Part 15B, Part 15.231			Client: Radio Systems Corporation			
GY	Project: 13-0239	Class: B		Model: PTA00-14295 Transmitter			
Frequency (MHz)	Peak Test Data (dBuV)	AF+CL-PA (dB/m)	Peak Corrected Results (dBuV/m)	Limits (dBuV/m)	Application Test Distance/ Polarization	Margin (dB)	Detector Used
433.45	69.20	16.71	85.91	101.0	1LP3mV	15.1	PK
866.91	46.80	22.81	69.61	81.9	1LP3mV	12.3	PK
1299.99	75.58	-13.86	61.72	74.0	2HN3mV	12.3	PK
1733.97	68.58	-12.16	56.42	74.0	2HN3mV	17.6	PK
2167.36	61.14	-10.16	50.98	74.0	2HN3mV	23.0	PK
2600.89	63.94	-8.08	55.86	74.0	2HN3mV	18.1	PK
3034.29	64.33	-7.37	56.96	74.0	2HN3mV	17.0	PK
3466.63	60.61	-7.49	53.12	74.0	2HN3mV	20.9	PK
3901.27	56.17	-5.76	50.41	74.0	2HN3mV	23.6	PK
4333.25	56.31	-6.82	49.49	74.0	2HN3mV	24.5	PK
Measurements were made over the frequency range of fundamental to 10 th harmonic							

Tested from Fundamental to 10th Harmonic

SAMPLE CALCULATIONS: At 433.45 MHz = 69.20 + (16.71) = 85.91 dBuV

Test Date: August 7, 2013

Tested by
 Signature: 

Name: George Yang

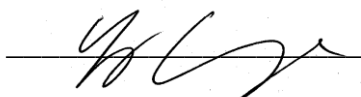
Table 8. Intentional Radiated Emissions (AVG)

Intentional Radiator Radiated Emissions							
Test By:	Test: Part 15B, Part 15.231			Client: Radio Systems Corporation			
GY	Project: 13-0239	Class: B		Model: PTA00-14295 Transmitter			
Frequency (MHz)	Peak Test Data (dBuV)	AF+CL-PA (dB/m)	Peak Corrected Results (dBuV/m)	Limits (dBuV/m)	Application Test Distance/ Polarization	Margin (dB)	Detector Used
433.45	52.50	16.71	69.21	81.0	1LP3mV	11.8	AVG
866.91	30.30	22.81	53.11	61.9	1LP3mV	8.8	AVG
1299.99	69.96	-13.86	48.20	54.0	2HN3mV	5.8	AVG
1733.97	57.58	-12.16	37.52	54.0	2HN3mV	16.5	AVG
2167.36	49.76	-10.16	31.70	54.0	2HN3mV	22.3	AVG
2600.89	55.44	-8.08	39.46	54.0	2HN3mV	14.5	AVG
3034.29	55.55	-7.37	40.28	54.0	2HN3mV	13.7	AVG
3466.63	50.82	-7.49	35.43	54.0	2HN3mV	18.6	AVG
3901.27	43.83	-5.76	30.17	54.0	2HN3mV	23.8	AVG
4333.25	43.73	-6.82	29.01	54.0	2HN3mV	25.0	AVG
Measurements were made over the frequency range of fundamental to 10 th harmonic							

Note: Duty Cycle factored into the test data (DC= -7.94 dB).
 Tested from Fundamental to 10th Harmonic

SAMPLE CALCULATIONS: At 866.91 MHz = 30.30 + 22.81 = 53.11 dBuV

Test Date: August 7, 2013

Tested by
 Signature: 

Name: George Yang

2.10 Peak Radiated Spurious Emissions, 30 MHz to 1000 MHz

The peak radiated spurious emissions were measured over the frequency range of 30 MHz to 5 GHz. The spurious emissions have been recorded and can be seen in the Test Table herein.

2.11 Transmitter Duty Cycle (47 CFR 15.35 (c))

The duty cycle de-rating factor used in the calculation of average radiated limits (per CFR 15.209 and 15.35(c)) is described below. This factor was calculated by first determining the worst case scenario for system operation. With the worst case operating scenario the transmission duty cycle is calculated as:

Under worst case conditions, the maximum duration of each transmission is as follows: the transmitter stays on for 150ms (Marker 2 – Marker 1 or 526.1ms - 376.1ms). The transmitter is off for 223.9ms (Marker 3 – Marker 2 or 750ms – 526.1ms) see plot below.

The total period is 373.9ms (Marker 3 – Marker 1 or 750ms – 376.1ms). Thus, the duty cycle is 40.1% (On Period/Total Period or 150ms/373.9ms). In terms of logarithmic voltage: $\text{dB} = 20 \log (0.401) = -7.94$ this is the Duty Cycle Factor.

See the plot below for details.

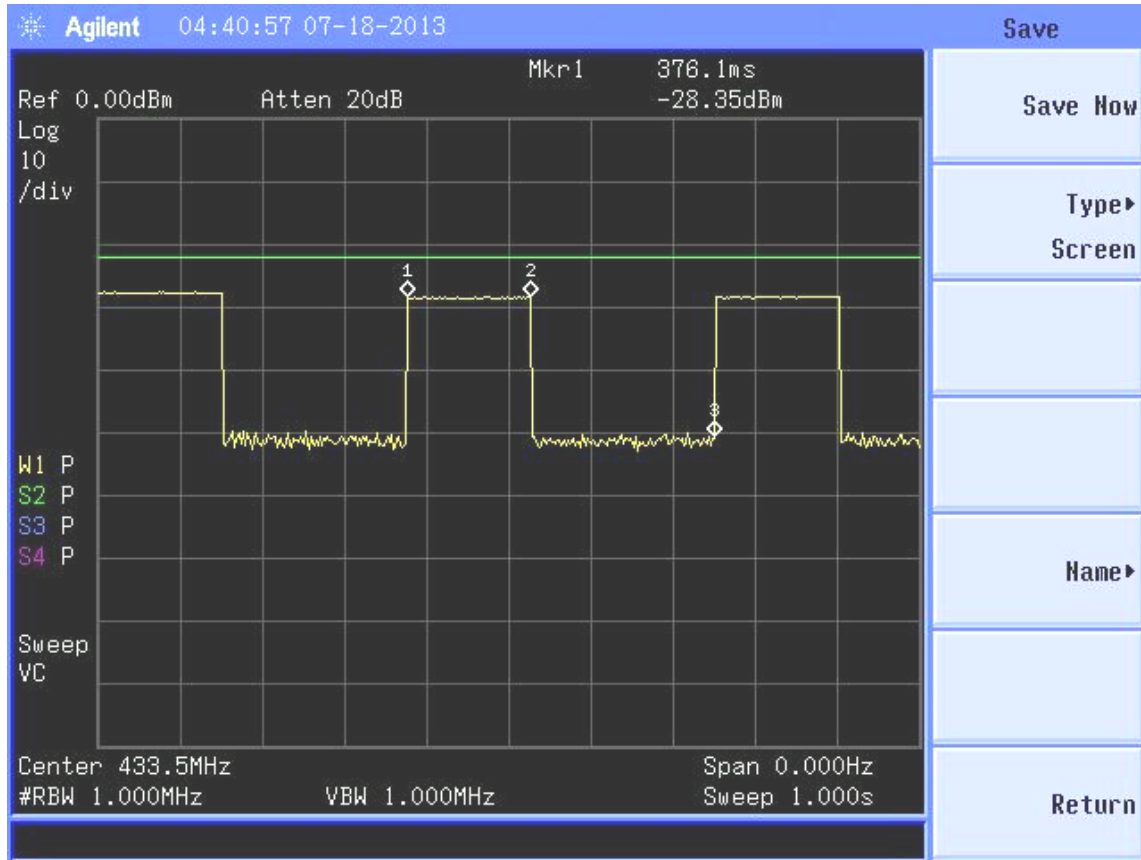


Figure 3. Duty Cycle

2.12 Bandwidth of Fundamental (CFR15.231 (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. Bandwidth is determined by those frequencies that are at least 20 dB down on either side of the center frequency of the pulse.

$$0.0025 \times 433.46 \text{ MHz} = 1.08365 \text{ MHz}$$

The measured 20 dB bandwidth is **524.35 kHz**.
The measured 99% Occupied bandwidth is **431.46 kHz**.

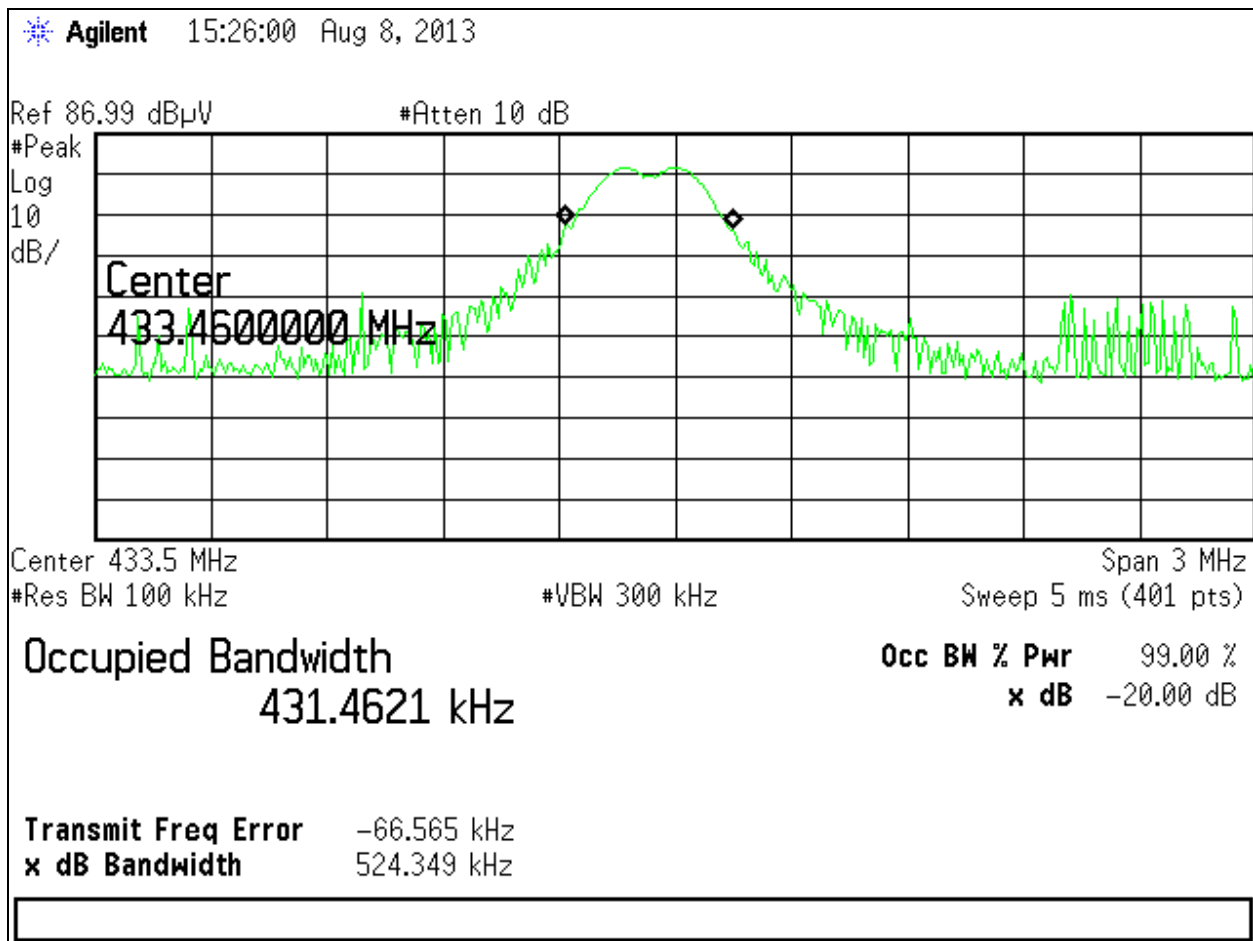


Figure 4. 20 dB and Occupied Bandwidth Plot

2.13 Power Line Conducted Emissions for Transmitter, Unintentional Emissions

The power line conducted voltage emission measurements have been carried out in accordance with CFR 15.207, per ANSI C63.4:2003, Paragraph 7, with a spectrum analyzer connected to an LISN and the EUT placed into a continuous mode of transmission.

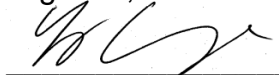
The worst case line conducted emissions is 4.2 dB from the limit at 0.6058 MHz on the phase line. All other emissions were at least 6.5 dB from the applicable limit.

Table 9. Conducted Emissions (Powerline), Unintentional Emissions

CONDUCTED EMISSIONS						
Tested By: GY	Test: FCC Part 15.107 Class B		Project No.: 13-0239	Manufacturer: Radio Systems Corporation		
				Model: PTA00-14295 Transmitter		
Frequency (MHz)	Test Data (dBuV)	LISN+CL-PA (dB)	Corrected Results (dBuV)	Avg Limits (dBuV)	Margin (dB)	Detector
Phase Line						
0.1781	42.00	1.31	43.31	54.6	11.3	PK
0.6058	41.30	0.45	41.75	46.0	4.2	PK
3.5240	38.00	0.38	38.38	46.0	7.6	PK
5.0700	30.30	0.40	30.70	50.0	19.3	PK
10.2200	28.10	0.47	28.57	50.0	21.4	PK
24.0100	25.80	0.67	26.47	50.0	23.5	PK
Neutral Line						
0.1928	39.90	1.13	41.03	53.9	12.9	PK
0.5943	39.10	0.44	39.54	46.0	6.5	PK
3.4480	36.40	0.38	36.78	46.0	9.2	PK
5.0400	28.70	0.40	29.10	50.0	20.9	PK
11.1500	25.40	0.48	25.88	50.0	24.1	PK
24.0000	26.70	0.66	27.36	50.0	22.6	PK

Sample calculation: at 0.1781 MHz, (42.00 dBuV + (1.31 dB)) = 43.31 dBuV (corrected value)

Test Date: August 7, 2013

Tested By
 Signature: 

Name: George Yang

2.14 Unintentional Radiator Radiated Emissions (47 CFR 15.33(a); 15.109(a))

The test data provided herein is to support the Verification requirement for digital devices. Radiated emissions coming from the EUT in a non-transmit normally operated state were evaluated from 1.705 MHz or the lowest emissions generated by the EUT up to 30 MHz per 47 CFR 15.33a and 30 MHz to 2 GHz per ANSI C63.4:2003, Paragraph 8.

Radiated emissions within the band of 9 kHz to 30 MHz were investigated using a calibrated Loop Antenna and per the requirements of ANSI C63.4:2003. The resolution bandwidth was set to 9 kHz, the video bandwidth was set to three times the resolution bandwidth.

For measurements above 30 MHz the measurements were made with the analyzer's resolution bandwidth set to 120 kHz for measurements made below 1 GHz and 1 MHz for measurements made above 1 GHz. The video bandwidth was set to three times the resolution bandwidth. The test data were maximized for magnitude by rotating the turntable through 360 degrees and raising and lowering the receiving antenna between 1 to 4 meters in height as a part of the measurement procedure. All measured signals were at least 6 dB below the specification limit.

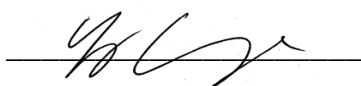
The EUT was evaluated as a co-located radio module during this evaluation. The EUT was programmed to simultaneously broadcast both transmitter radios. The emissions levels were no worse than previously found.

Table 10. Unintentional Radiated Emissions

Unintentional Radiator Radiated Emissions							
Test By: JCW	Test: Part 15B, Para 15.33, 15.109			Client: Radio Systems Corporation			
	Project: 13-0239	Class: B		Model: PTA00-14295 Transmitter			
Frequency (MHz)	Peak Test Data (dBuV)	AF+CL-PA (dB/m)	Peak Corrected Results (dBuV/m)	Average Limits (dBuV/m)	Application Test Distance/ Polarization	Margin (dB)	Detector Used
Measurements were made over the frequency range of 150 kHz – 13 GHz							
36.0020	42.70	-15.77	26.93	40.0	1BI3mV	13.1	QP
48.0300	54.70	-17.29	37.41	40.0	1BI3mV	2.6	QP
50.0006	56.90	-17.21	39.69	40.0	1BI3mV	0.3	QP
79.9840	48.00	-17.90	30.10	40.0	1BI3mV	9.9	PK
48.0160	45.40	-16.39	29.01	40.0	1BI3mH	11.0	PK
70.8310	45.00	-17.50	27.50	40.0	1BI3mH	12.5	PK
159.9990	47.60	-13.87	33.73	43.5	1BI3mH	9.8	PK
249.9990	48.40	-13.53	34.87	46.0	1LP3mH	11.1	PK
240.0080	50.70	-13.83	36.87	46.0	1LP3mH	9.1	PK
288.0060	47.50	-12.06	35.44	46.0	1LP3mH	10.6	QP
320.0180	55.90	-11.14	44.76	46.0	1LP3mH	1.2	QP
399.9820	43.60	-10.61	32.99	46.0	1LP3mH	13.0	PK
560.0130	45.20	-9.04	36.16	46.0	1LP3mH	9.8	PK
639.9890	47.40	-8.35	39.05	46.0	1LP3mH	6.9	PK
240.0130	47.30	-13.73	33.57	46.0	1LP3mV	12.4	QP
319.9990	52.60	-11.24	41.36	46.0	1LP3mV	4.6	PK
559.9930	49.00	-9.44	39.56	46.0	1LP3mV	6.4	PK
575.9950	42.80	-9.49	33.31	46.0	1LP3mV	12.7	PK
640.0040	43.80	-8.25	35.55	46.0	1LP3mV	10.4	PK
719.9780	45.50	-6.94	38.56	46.0	1LP3mV	7.4	PK
800.0070	45.60	-6.60	39.00	46.0	1LP3mV	7.0	PK
No other emissions found greater than 20 dB below the limit.							

SAMPLE CALCULATIONS: At 36.0020 MHz = 42.70 + (-15.77) = 26.93 dBuV

Test Date: August 7, 2013

Tested by
 Signature: 

Name: George Yang

2.15 Measurement Uncertainty

The measurement uncertainties given were calculated using the method detailed in CISPR 16-4. A coverage factor of $k=2$ was used to give a level of confidence of approximately 95%.

2.15.1 Conducted Emissions

Measurement Uncertainty (within a 95% confidence level) for this test is ± 2.8 dB.

The data listed in this report does have sufficient margin to negate the effects of uncertainty; therefore, the EUT unconditionally passes this requirement.

2.15.2 Radiated Emissions

For a measurement distance of 3 m the measurement uncertainty (with a 95% confidence level) for this test using a Biconical Antenna (30 MHz to 200 MHz) is ± 5.3 dB. This value includes all elements of measurement.

The measurement uncertainty (with a 95% confidence level) for this test using a Log Periodic Antenna (200 MHz to 1000 MHz) is ± 5.1 dB.

The measurement uncertainty (with a 95% confidence level) for this test using a Horn Antenna is ± 2.45 dB.

The data listed in this test report does not have sufficient margin to negate the effects of uncertainty; therefore, the EUT conditionally passes this requirement.