Technical Information

Applicant		Manufacturer	
Name:	Integrated Control Corporation	Name:	Integrated Control Corporation
Address:	748 Park Avenue	Address:	748 Park Avenue
City, State, Zip:	Huntington, NY 11743	City, State, Zip:	Huntington, NY 11743

Test Specification: FCC Rules and Regulations Part 15, Subpart C, Para. 15.231

Test Procedure: ANSI C63.4:2003

Test Sample Description

Test Sample: 433.92 MHz Pulsed Transmitter (Temperature Probe)

Brandname(s): Integrated Control Corporation

Part Number: 980902

FCC ID: VXJ980902

Type: Pulsed Transmitter

Power Requirements: 3 VDC derived from Panasonic CR2477 Battery

Frequency of Operation: 433.92 MHz

Applicable Rule Section: Part 15, Subpart C, Section 15.231

Tests Performed

Para. 15.231(e),	Radiated Emissions, Fundamental and Harmonics
Para. 15.231(e), 15.109(a)	Radiated Emissions, Spurious Case
Para. 15.231(b),	Duty Cycle Determination
Para. 15.231(c),	Occupied Bandwidth

Test Results

15.231 (a): This device transmits a control signal and is used as an: a remote control transmitter.

15.231 (a) (2) The transmitter is automatically operated. Transmission ends 5 seconds after activation

15.231 (e): The transmitter performs periodic transmissions at predetermined intervals greater than 10 seconds apart and are shorter than 1 second in duration.

15.231 (b): The fundamental field strength did not exceed 4398.7 µV/M (Average) at a test distance of 3 meters. In addition, the requirements of section 15.35 for averaging pulsed emissions and for limiting peak emissions were met. The field strength of harmonic and spurious emissions did not exceed 439.8 µV/M (AVERAGE).

15.231 (c) The Bandwidth of the emission was no wider than 0.25% of the center frequency (54.3 kHz)as measured 20 db down from the modulated carrier.

Modifications

S/W change that transmits the data at a faster rate, thus reducing the transmit time.
Hardware changes to the transmitter PCB:

- Added an 18 pf capacitor in series between the XTL and ground.
- Added a 10 ohm resistor in series between C6 and C7 (two antenna terminating capacitors).

Determination of Field Strength Limits

The field strength limits shown below are found in Section 15.231:

	Frequency	Limit	
F1 =	260	1500 =	L1
Fo =	433.92	Lo	
F2 =	470	5000 =	L2

The formula below was utilized to determine the limits:

Limit = L1 + [(Fo-F1)(L2-L1)/(F2-F1)]

Solving Yields

Fundamental Limit = 4398.7 µV/m (AVERAGE) @ 3 Meters

Harmonic Limit = 439.8 µV/m (AVERAGE) @ 3 Meters

Duty Cycle Determination

The unit's RF output was directly coupled to the input of the spectrum analyzer. The analyzer was set for a frequency span of 0 Hz. The sweep time was then adjusted in order to display one full pulse train. The transmitter on time was then summed and compared to the time for one full cycle in order to obtain the duty cycle. (See plots for additional information.)

Transmitter On Time = 9.0 milliseconds (maximum per cycle)

Transmitter Cycle Time = 100 milliseconds (100 ms maximum)

Transmitter Duty Cycle = 9.0 %

Calculation

56 x 141 µs (large pulse)= 7.8 milliseconds

16 x 72 µs (small pulse) = 1.1 milliseconds

7.8 + 1.1 = 9.0 milliseconds

Duty Cycle (9ms/100ms) = 0.09

Correction Factor =20 log (0.09) = -20.9 dB

Spectrum Analyzer Desensitization Considerations

Due to the nature of the emissions being measured, care was taken to ensure that the resolution bandwidth of the spectrum analyzer was adequate to provide accurate measurements. The following formula was utilized: minimum bandwidth = 1/{minimum pulse width (in seconds) x 1.5} = Hz Setting pulse desensitization equal to zero and utilizing the minimum observed pulse width of 72.0 µs yields a minimum required bandwidth of 9259.3 Hz. FCC specified bandwidths of 100 kHz and 1 MHz were utilized below and above 1 GHz, respectively.

General Notes

1. All readings were taken utilizing a peak detector function at a test distance of 3 meters.
2. The duty cycle was applied to the peak readings in order to determine the average value of the emissions.
3. The frequency range was scanned from 30 MHz to 4.34 GHz. All emissions not reported were more than 20 dB below the specified limit.

Certification and Signatures

We certify that this report is a true representation of the results obtained from the tests of the equipment stated. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.

Donald Lerner
EMC Lead Test Engineer

Nicholas Dragotta
EMC Laboratory Supervisor

Non-Warranty Provision
The testing services have been performed, findings obtained and reports prepared in accordance with generally accepted laboratory principles and practices. This warranty is in lieu of all others, either expressed or implied.

Non-Endorsement
This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement or certification of the product or material tested. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

Equipment List

FCC Part 15.231(b)(1), Duty Cycle Determination

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
1086	10X Probe	Tektronix	500MHz	P6139A	3/7/2007	3/7/2008
887	Oscilloscope	Tektronix	200 MHz	TDS 2022	12/11/2007	12/11/2008

EQUIPMENT LIST (c), Occupied Bandwidth

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
1086	Oscilloscope	Tektronix	DC - 500MHz	TDS3052B	3/7/2007	3/7/2008
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/19/2007	10/19/2008

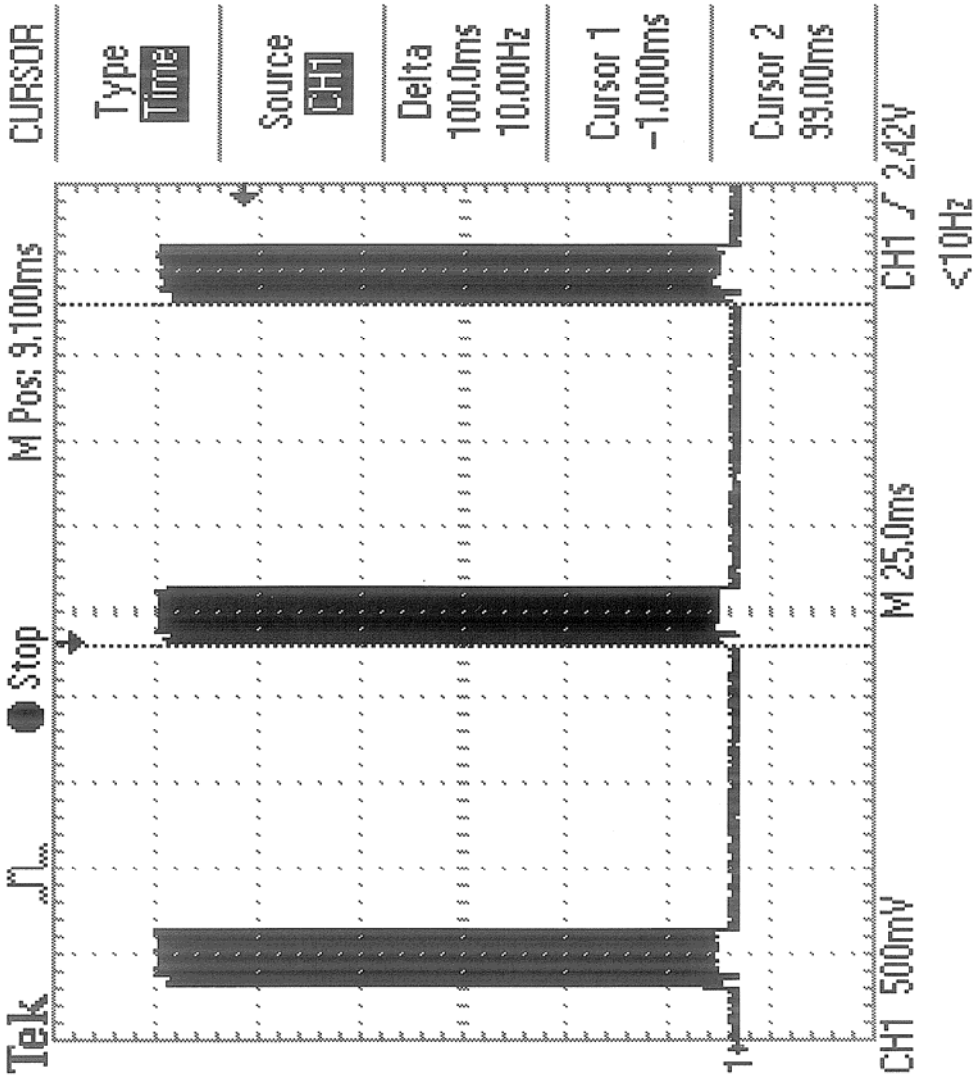
FCC Part 15, Subpart C, Radiated Emissions, Fundamental and Harmonics

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
128	Double Ridged Guide	Electro-Mechanics	1 GHz - 18 GHz	3105	3/27/2007	3/27/2008
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/27/2007	6/27/2008
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/19/2007	10/19/2008
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	10/24/2007	10/24/2008
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/26/2007	9/26/2008
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	10/24/2007	10/24/2008
723	H.P. Filter	Mini-Circuits	1 GHz	BHP-1000	8/13/2007	8/13/2008

FCC Part 15, Subpart C, Spurious Case Radiated Emissions, 30 MHz to 4.34 GHz

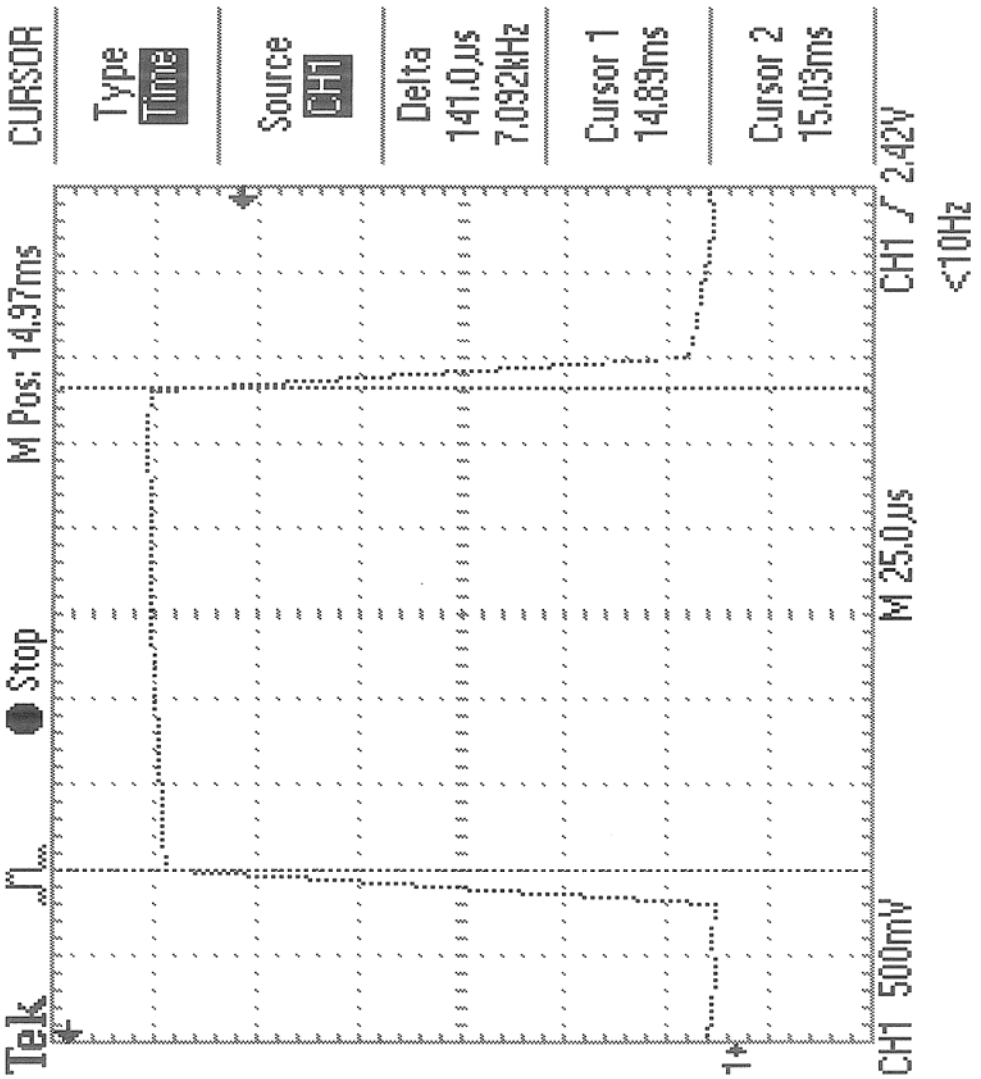
EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
128	Double Ridged Guide	Electro-Mechanics	1 GHz - 18 GHz	3105	3/27/2007	3/27/2008
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/27/2007	6/27/2008
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/19/2007	10/19/2008
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	10/24/2007	10/24/2008
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/26/2007	9/26/2008
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	10/24/2007	10/24/2008
723	H.P. Filter	Mini-Circuits	1 GHz	BHP-1000	8/13/2007	8/13/2008

FCC Part 15.35, Duty Cycle Determination
Test Data



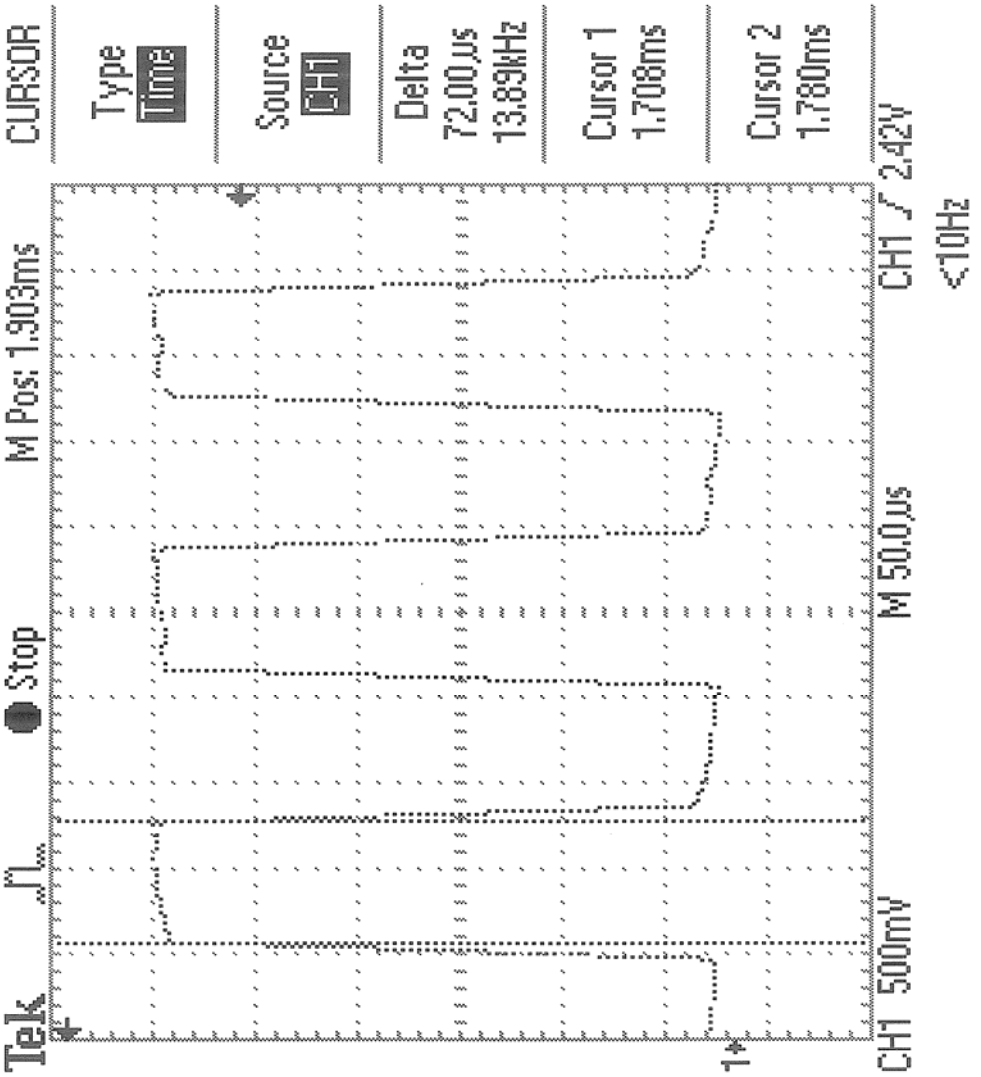
Test Method: **FCC Part 15.35, Duty Cycle Determination**.
Notes: Measurement of cycle time =100 mSec.
FCC ID.: VXJ980902

Customer	Integrated Control Corporation	
Test Sample	Temperature Probe w/ 433.92 MHz Tx.	
Part Number	980902	
Date: 12-20-2007.	Tech: DL	Sheet 1 of 4



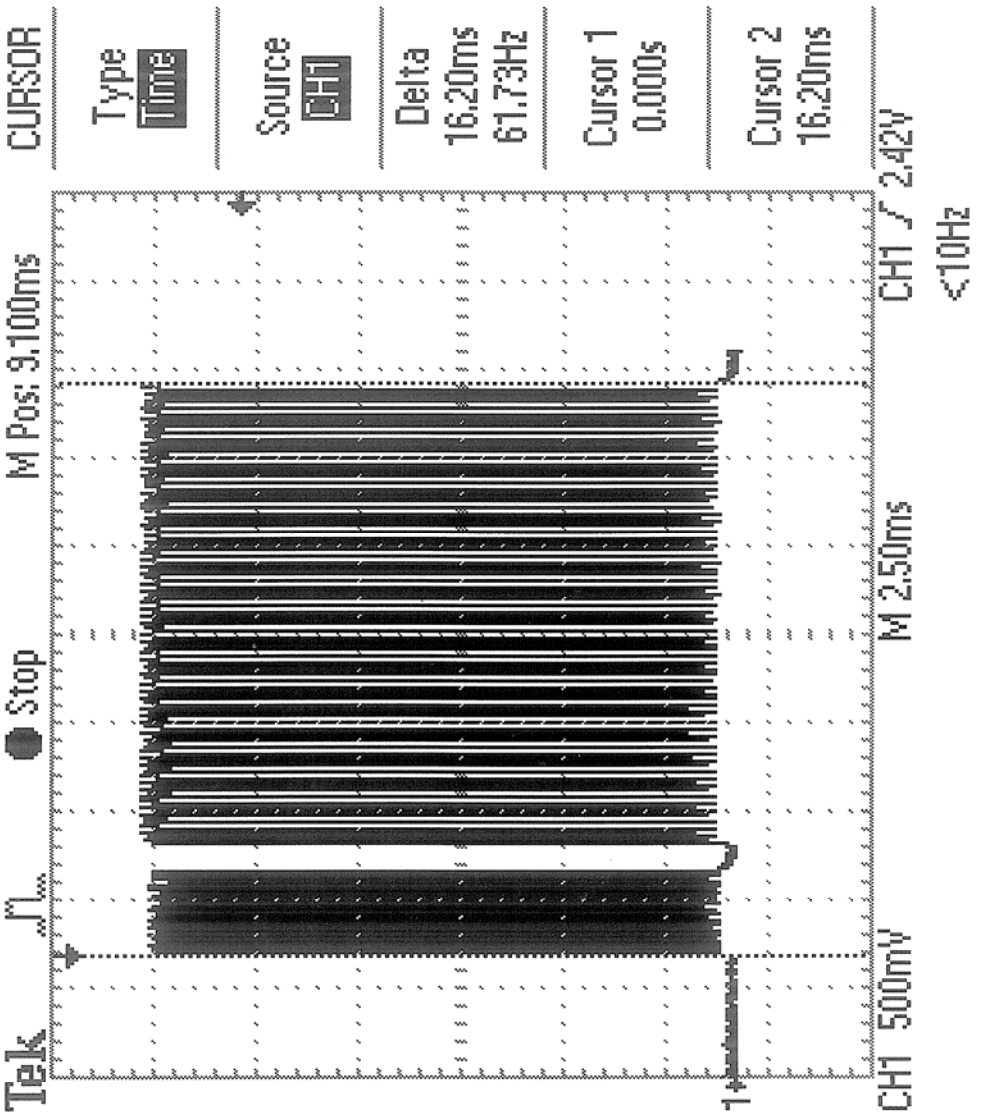
Test Method: FCC Part 15.35, Duty Cycle Determination.
Notes: Measurement of 1 large pulse = 141 µSec.
Measurements of 56 large pulses = 56(141µSec) = 7.8 ms.
FCC ID.: VXJ980902

Customer	Integrated Control Corporation	
Test Sample	Temperature Probe w/ 433.92 MHz Tx.	
Part Number	980902	
Date: 12-20-2007.	Tech: DL	Sheet 2 of 4



Test Method: FCC Part 15.35, Duty Cycle Determination.
Notes: Measurement of 1 small pulse = 72 µSec.
Measurements of 16 small pulses = 16(72 µSec) = 1.1 ms.
FCC ID.: VXJ980902

Customer	Integrated Control Corporation	
Test Sample	Temperature Probe w/ 433.92 MHz Tx.	
Part Number	980902	
Date: 12-20-2007.	Tech: DL	Sheet 3 of 4



Test Method: FCC Part 15.35, Duty Cycle Determination.
Notes: Duty cycle = (56)(141 µSec) + (16) (72 µSec) = 9.0 ms.
Duty cycle = (9.0 ms / 100 ms=0.09) 20 log 0.09 = -20.9 dB (Only -20 dB maximum allowed)
FCC ID.: VXJ980902

Customer	Integrated Control Corporation	
Test Sample	Temperature Probe w/ 433.92 MHz Tx.	
Part Number	980902	
Date: 12-20-2007.	Tech: DL	Sheet 4 of 4

FCC Part 15.231, Radiated Emissions, Fundamental & Harmonics
Test Data

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions,		
Customer:	Integrated Control Corporation	**Job No.**	R-12110-1
Test Sample:	Temperature Probe w/ 433.92 MHz Tx.		
Part No.:	980902	**FCC ID:**	VXJ980902
Operating Mode:	Continuously transmitting a Pulsed 433.92 MHz signal.		
Technician:	R. Soodoo	**Date:**	December 13, 2007

Notes: Test Distance: 3 Meters
Detector: Peak, Unless otherwise specified

Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)/Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
433.92	V / 2.0	X	77.1	-0.2	76.9	6998.4	43987.0
|	V / 1.0	Y	86.0	-0.2	85.8	19498.4	|
|	V / 1.0	Z	88.2	-0.2	88.0	25118.9	|
|	H / 1.8	X	87.3	-0.2	87.1	22646.4	|
|	H / 1.7	Y	86.3	-0.2	86.1	20183.7	|
433.92	H / 2.6	Z	81.3	-0.2	81.1	11350.1	43987.0
867.84	V / 1.0	X	36.9	8.8	45.7	192.8	4398.7
|	V / 1.0	Y	38.6	8.8	47.4	234.4	|
|	V / 1.0	Z	42.9	8.8	51.7	384.6	|
|	H / 1.6	X	40.3	8.8	49.1	285.1	|
|	H / 1.3	Y	39.9	8.8	48.7	272.3	|
867.84	H / 1.0	Z	29.8	8.8	38.6	85.1	4398.7
1301.76	V / 1.0	X	71.0	1.5	72.5	4217.0	5000.0
|	V / 1.0	Y	70.1	1.5	71.6	3801.9	|
|	V / 1.3	Z	72.3	1.5	73.8	4897.8	|
|	H / 1.5	X	69.1	1.5	70.6	3388.4	|
|	H / 1.2	Y	72.3	1.5	73.8	4897.8	|
1301.76	H / 1.0	Z	58.8	1.5	60.3	1035.1	5000.0
1735.68	V / 1.0	X	58.3	2.2	60.5	1059.3	4398.7
|	V / 1.0	Y	61.0	2.2	63.2	1445.4	|
|	V / 1.0	Z	64.4	2.2	66.6	2138.0	|
|	H / 1.0	X	62.0	2.2	64.2	1621.8	|
|	H / 1.0	Y	53.5	2.2	55.7	609.5	|
1735.68	H / 1.6	Z	49.0	2.2	51.2	363.1	4398.7
2169.60	V / 1.0	X	45.2	3.6	48.8	275.4	4398.7
|	V / 1.1	Y	46.4	3.6	50.0	316.2	|
|	V / 1.7	Z	43.0	3.6	46.6	213.8	|
|	H / 1.6	X	47.1	3.6	50.7	342.8	|
|	H / 1.4	Y	47.1	3.6	50.7	342.8	|
2169.60	H / 1.0	Z	43.3	3.6	46.9	221.3	4398.7
	The frequency range was scanned from 30 MHz to 4.34 GHz. All emissions not recorded were more						
	than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*= Noise Floor Measurements (minimum sensitivity).						

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions,		
Customer:	Integrated Control Corporation	**Job No.**	R-12110-1
Test Sample:	Temperature Probe w/ 433.92 MHz Tx.		
Part No.:	980902	**FCC ID:**	VXJ980902
Operating Mode:	Continuously transmitting a Pulsed 433.92 MHz signal.		
Technician:	R. Soodoo	**Date:**	December 13, 2007

Notes: Test Distance: 3 Meters
Detector: Peak, unless otherwise specified

Test Freq.	Antenna Pol./Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)-Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
2603.52	V / 1.0	X	47.2	5.0	52.2	407.4	4398.7
|	V / 1.0	Y	49.1	5.0	54.1	507.0	|
|	V / 1.0	Z	51.8	5.0	56.8	691.8	|
|	H / 1.6	X	47.0	5.0	52.0	398.1	|
|	H / 1.4	Y	47.0	5.0	52.0	398.1	|
2603.52	H / 1.0	Z	49.6	5.0	54.6	537.0	4398.7
3037.44	V / 1.0	X	44.4	7.1	51.5	375.8	4398.7
|	V / 1.0	Y	44.5	7.1	51.6	380.2	|
|	V / 1.0	Z	47.0	7.1	54.1	507.0	|
|	H / 1.0	X	46.7	7.1	53.8	489.8	|
|	H / 1..0	Y	44.6	7.1	51.7	384.6	|
3037.44	H / 1.0	Z	47.9	7.1	55.0	562.3	4398.7
3471.36	V / 1.0	X	44.3	9.6	53.9	*495.5	4398.7
|	V / 1.0	Y	44.3	9.6	53.9	*495.5	|
|	V / 1.0	Z	44.3	9.6	53.9	*495.5	|
|	H / 1.0	X	44.3	9.6	53.9	*495.5	|
|	H / 1.0	Y	44.3	9.6	53.9	*495.5	|
3471.36	H / 1.0	Z	44.3	9.6	53.9	*495.5	4398.7
3905.28	V / 1.0	X	34.1	12.8	46.9	*221.3	5000.0
|	V / 1.0	Y	34.1	12.8	46.9	*221.3	|
|	V / 1.0	Z	34.1	12.8	46.9	*221.3	|
|	H / 1.0	X	34.1	12.8	46.9	*221.3	|
|	H / 1.0	Y	34.1	12.8	46.9	*221.3	|
3905.28	H / 1.0	Z	34.1	12.8	46.9	*221.3	5000.0
4339.2	V / 1.0	X	35.3	13.2	48.5	*266.1	5000.0
|	V / 1.0	Y	35.3	13.2	48.5	*266.1	|
|	V / 1.0	Z	35.3	13.2	48.5	*266.1	|
|	H / 1.0	X	35.3	13.2	48.5	*266.1	|
|	H / 1.0	Y	35.3	13.2	48.5	*266.1	|
4339.2	H / 1.0	Z	35.3	13.2	48.5	*266.1	5000.0
	The frequency range was scanned from 30 MHz to 4.34 GHz. All emissions not recorded were more						
	than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*=Noise Floor Measurements (Minimum system sensitivity)						

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions,		
Customer:	Integrated Control Corporation	**Job No.**	R-12110-1
Test Sample:	Temperature Probe w/ 433.92 MHz Tx.		
Part No.:	980902	**FCC ID:**	VXJ980902
Operating Mode:	Continuously transmitting a Pulsed 433.92 MHz signal.		
Technician:	R. Soodoo	**Date:**	December 13, 2007

Notes: Test Distance: 3 Meters — Duty Cycle:9.0%
Detector: Peak, unless otherwise specified — Duty Cycle Correction: -20.0dB

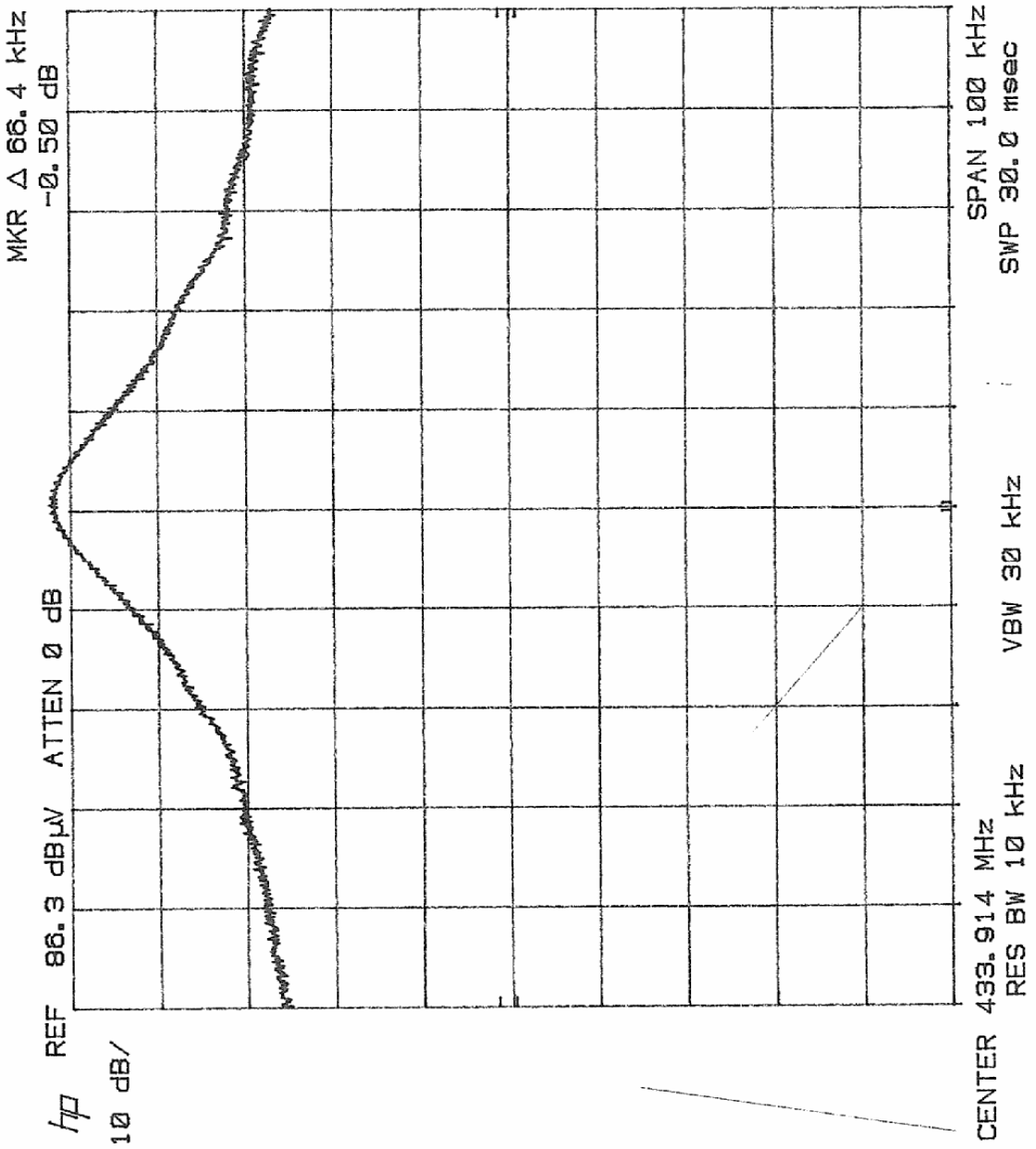
Test Freq.	Antenna Pol./Height	EUT Orientation	Peak Reading	Correction Factor	Corrected Reading	Converted Reading	Avg. Limit
MHz	(V/H)-Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
433.92	V / 2.0	X	76.9	-20.0	56.9	699.8	4398.7
|	V / 1.0	Y	85.8	-20.0	65.8	1949.8	|
|	V / 1.0	Z	88.0	-20.0	68.0	2511.9	|
|	H / 1.8	X	87.1	-20.0	67.1	2264.6	|
|	H / 1.7	Y	86.1	-20.0	66.1	2018.4	|
433.92	H / 2.6	Z	81.1	-20.0	61.1	1135.0	4398.7
867.84	V / 1.0	X	45.7	-20.0	25.7	19.3	439.8
|	V / 1.0	Y	47.4	-20.0	27.4	23.4	|
|	V / 1.0	Z	51.7	-20.0	31.7	38.5	|
|	H / 1.6	X	49.1	-20.0	29.1	28.5	|
|	H / 1.3	Y	48.7	-20.0	28.7	27.2	|
867.84	H / 1.0	Z	38.6	-20.0	18.6	8.5	439.8
1301.76	V / 1.0	X	72.5	-20.0	52.5	421.7	500.0
|	V / 1.0	Y	71.6	-20.0	51.6	380.2	|
|	V / 1.3	Z	73.8	-20.0	53.8	489.8	|
|	H / 1.5	X	70.6	-20.0	50.6	338.8	|
|	H / 1.2	Y	73.8	-20.0	53.8	489.8	|
1301.76	H / 1.0	Z	60.3	-20.0	40.3	103.5	500.0
1735.68	V / 1.0	X	60.5	-20.0	40.5	105.9	439.8
|	V / 1.0	Y	63.2	-20.0	43.2	144.5	|
|	V / 1.0	Z	66.6	-20.0	46.6	213.8	|
|	H / 1.0	X	64.2	-20.0	44.2	162.2	|
|	H / 1.0	Y	55.7	-20.0	35.7	61.0	|
1735.68	H / 1.6	Z	51.2	-20.0	31.2	36.3	439.8
2169.60	V / 1.0	X	48.8	-20.0	28.8	27.5	439.8
|	V / 1.1	Y	50.0	-20.0	30.0	31.6	|
|	V / 1.7	Z	46.6	-20.0	26.6	21.4	|
|	H / 1.6	X	50.7	-20.0	30.7	34.3	|
|	H / 1.4	Y	50.7	-20.0	30.7	34.3	|
2169.60	H / 1.0	Z	46.9	-20.0	26.9	22.1	439.8
	The frequency range was scanned from 30 MHz to 4.34 GHz. All emissions not recorded were more						
	Than 20 dB below the specified limit.						
	*=Noise Floor Measurements (Minimum system sensitivity)						

Test Method:	FCC Part 15 Subpart C, Radiated Emissions, Fundamental & Harmonic Emissions,		
Customer:	Integrated Control Corporation	**Job No.**	R-12110-1
Test Sample:	Temperature Probe w/ 433.92 MHz Tx.		
Part No.:	980902	**FCC ID:**	VXJ980902
Operating Mode:	Continuously transmitting a Pulsed 433.92 MHz signal.		
Technician:	R. Soodoo	**Date:**	December 13, 2007

Notes: Test Distance: 3 Meters — Duty Cycle:9.0%
Detector: Peak, unless otherwise specified — Duty Cycle Correction: -20.0dB

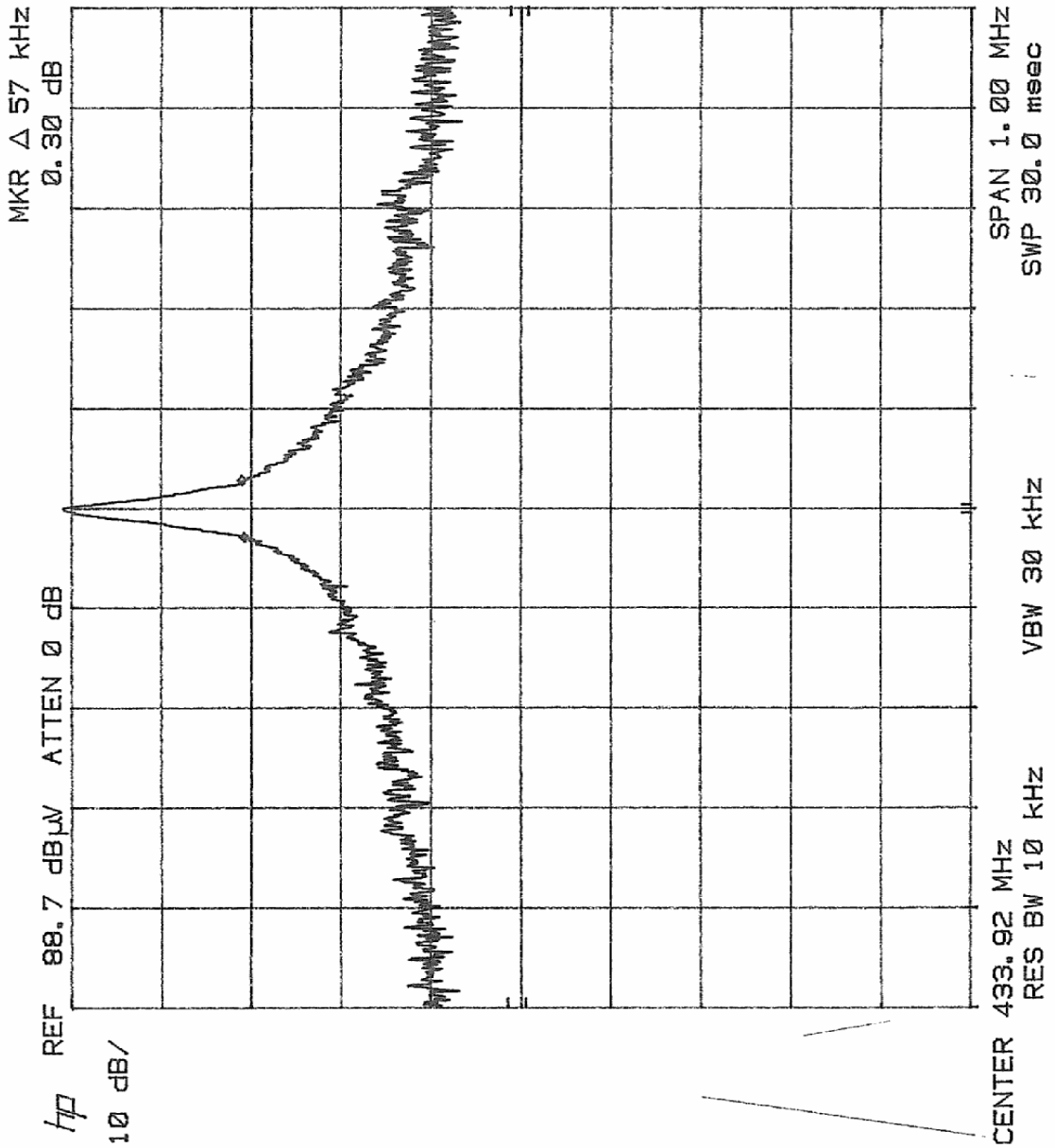
Test Freq.	Antenna Pol./Height	EUT Orientation	Peak Reading	Correction Factor	Corrected Reading	Converted Reading	Avg. Limit
MHz	(V/H)-Meters	X / Y / Z	dBµV	dB	dBµV/m	uV/m	uV/m
2603.52	V / 1.0	X	52.2	-20.0	32.2	40.7	439.8
|	V / 1.0	Y	54.1	-20.0	34.1	50.7	|
|	V / 1.0	Z	56.8	-20.0	36.8	69.2	|
|	H / 1.6	X	52.0	-20.0	32.0	39.8	|
|	H / 1.4	Y	52.0	-20.0	32.0	39.8	|
2603.52	H / 1.0	Z	54.6	-20.0	34.6	53.7	439.8
3037.44	V / 1.0	X	51.5	-20.0	31.5	37.6	439.8
|	V / 1.0	Y	51.6	-20.0	31.6	38.0	|
|	V / 1.0	Z	54.1	-20.0	34.1	50.7	|
|	H / 1.0	X	53.8	-20.0	33.8	49.0	|
|	H / 1..0	Y	51.7	-20.0	31.7	38.5	|
3037.44	H / 1.0	Z	55.0	-20.0	35.0	56.2	439.8
3471.36	V / 1.0	X	53.9	-20.0	33.9	*49.5	439.8
|	V / 1.0	Y	53.9	-20.0	33.9	*49.5	|
|	V / 1.0	Z	53.9	-20.0	33.9	*49.5	|
|	H / 1.0	X	53.9	-20.0	33.9	*49.5	|
|	H / 1.0	Y	53.9	-20.0	33.9	*49.5	|
3471.36	H / 1.0	Z	53.9	-20.0	33.9	*49.5	439.8
3905.28	V / 1.0	X	46.9	-20.0	26.9	*22.1	500.0
|	V / 1.0	Y	46.9	-20.0	26.9	*22.1	|
|	V / 1.0	Z	46.9	-20.0	26.9	*22.1	|
|	H / 1.0	X	46.9	-20.0	26.9	*22.1	|
|	H / 1.0	Y	46.9	-20.0	26.9	*822.1	|
3905.28	H / 1.0	Z	46.9	-20.0	26.9	*22.1	500.0
4339.2	V / 1.0	X	48.5	-20.0	28.5	*26.6	500.0
|	V / 1.0	Y	48.5	-20.0	28.5	*26.6	|
|	V / 1.0	Z	48.5	-20.0	28.5	*26.6	|
|	H / 1.0	X	48.5	-20.0	28.5	*26.6	|
|	H / 1.0	Y	48.5	-20.0	28.5	*26.6	|
4339.2	H / 1.0	Z	48.5	-20.0	28.5	*26.6	500.0
	The frequency range was scanned from 30 MHz to 4.34 GHz. All emissions not recorded were more						
	Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.						
	*=Noise Floor Measurements (Minimum system sensitivity) * RBW = 100 kHz						

FCC Part 15, Subpart C, 15.231(c), Occupied Bandwidth
Test Data



Test Method: **FCC Part 15, Subpart C, 15.231(c), Occupied Bandwidth**.
Notes: Occupied Bandwidth measured 54.3 kHz, does not exceed 0.25% of center frequency at the 20 dBc points (1.08 MHz)
FCC ID.: VXJ980902

Customer	Integrated Control Corporation	
Test Sample	Temperature Probe w/ 433.92 MHz Tx.	
Part Number	980902	
Date: 12-13-2007.	Tech: R.S.	Sheet 1 of 2



Test Method: **FCC Part 15, Subpart C, 15.231(c), Occupied Bandwidth**.
Notes: Occupied Bandwidth measured 57.0 kHz, does not exceed 0.25% of center frequency at the 20 dBc points (1.08 MHz)
FCC ID.: VXJ980902

Customer	Integrated Control Corporation	
Test Sample	Temperature Probe w/ 433.92 MHz Tx.	
Part Number	980902	
Date: 12-13-2007.	Tech: R.S.	Sheet 2 of 2

FCC Part 15, Subpart C, Spurious Case Radiated Emissions,
Paragraph 15.231(e)
Test Data

Test Method:	**FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.231(e).**		
Customer:	Integrated Control Corporation	**Job No.:**	R-12110-1
Test Sample:	Temperature Probe w/ 433.92 MHz Tx.		
Part No.:	980902	**FCC ID No.:**	VXJ980902
Operating Mode:	Continuously transmitting a Pulsed 433.92 MHz signal.		
Technician:	R.Soodoo	**Date:**	December 21, 2007

Notes: Test Distance: 3 Meters Temp: 8.0°C Humidity: 62.0%
Detector: Quasi-Peak from 30 MHz to 1 GHz, Average above 1 GHz

Frequency	Antenna Position	EUT Orientation	Meter Readings	Correction Factor	Corrected Reading	Converted Reading	Limit
MHz	(V/H) / Meters	Degrees	dBuV	dB	dBuV/m	uV/m	uV/m
30.00							100
*35.00	V / 1.0	0.0	22.0	-3.0	19.0	8.9	
88							100
88							150
*110.0	V / 1.0	0.0	20.3	-10.7	9.6	3.0	
*195.0	V / 1.0	0.0	18.8	-7.7	11.1	3.6	
*205.0	V / 1.0	0.0	18.6	-7.7	10.9	3.5	
216.0							150
216.0							200
*600.0	V / 1.0	0.0	19.1	5.2	24.3	16.4	
960.0							200
960.0							500
*995.0	V / 1.0	0.0	17.7	10.7	28.4	26.3	
*1005.0	V / 1.0	0.0	28.9	2.0	30.9	35.1	
*3000.0	V / 1.0	0.0	31.5	7.1	38.6	85.1	
*4335.0	V / 1.0	0.0	31.2	16.1	47.3	231.7	
4340.0							500

The frequency range was scanned from 30 MHz to 4.34 GHz.
The emissions observed from the EUT do not exceed the specified limits.
Emissions not recorded were more than 20dB under the specified limit.
*This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity(Noise Floor)