

FCC TEST REPORT

47 CFR FCC Part 15 Subpart C 12.231

FCC ID.....: **SV7DFHLFRX801767**

Report Reference No.....: **SKW1305007**

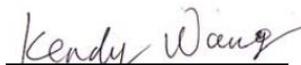
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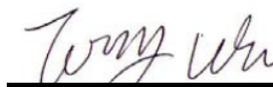
Supervised by

(position+printed name+signature)..: Technique principal Kendy Wang



Approved by

(position+printed name+signature)..: Manager Tony Wu



Date of issue.....: June 20, 2013

Representative Laboratory Name .: **Shenzhen Sinco Testing Technology Co., Ltd.**

Address: 4F, Block B, Famous Industry Products Center Baoyuan Rd.,
Xixiang, Baoan, Shenzhen, China

Testing Laboratory Name: Bontek Compliance Testing Laboratory Ltd

Address: 1/F, Block East H-3, OCT Eastern Ind. Zone, Qiaocheng East
Road, Nanshan, Shenzhen, China

Applicant's name.....: **All Seasons Feeders Inc**

Address: 8424 HWY 87 East San Antonio, Texas 78263

Test specification:

Standard: **47 CFR FCC Part 15 Subpart C - Intentional Radiators**

ANSI C63.10: 2009

TRF Originator.....: Shenzhen Sinco Testing Technology Co., Ltd.

Master TRF.....: Dated 2012-06

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Test item description: INHAWGNITO-Feeder RX RC

Trade Mark: /

Manufacturer: Asia Sourcing Corporation

Model/Type reference.....: INHAWGNITO 765665801798

Listed Models: Feeder RX 765665801811

Result.....: Positive

TEST REPORT

Test Report No. :	SKW1305007	June 20, 2013
		Date of issue

Equipment under Test : INHAWGNITO-Feeder RX RC

Model /Type : INHAWGNITO 765665801798

Listed Models : Feeder RX 765665801811

Applicant : **All Seasons Feeders Inc**

Address : 8424 HWY 87 East San Antonio, Texas 78263

Manufacturer : **Asia Sourcing Corporation**

Address : 610 Monroe Avenue Memphis, TN 38013

Test Result according to the standards on page 4:	Positive
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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents

1.	<u>TEST STANDARDS</u>	4
2.	<u>SUMMARY</u>	5
2.1.	General Remarks	5
2.2.	Equipment Under Test	5
2.3.	Short description of the Equipment under Test (EUT)	5
2.4.	EUT operation mode	5
2.5.	Related Submittal(s) / Grant (s)	5
2.6.	Modifications	5
2.7.	Configuration of Tested System	6
2.8.	NOTE	6
3.	<u>TEST ENVIRONMENT</u>	7
3.1.	Address of the test laboratory	7
3.2.	Test Facility	7
3.3.	Environmental conditions	7
3.4.	Statement of the measurement uncertainty	7
3.5.	Equipments Used during the Test	8
4.	<u>TEST CONDITIONS AND RESULTS</u>	9
4.1.	Conducted Emissions Test	9
4.2.	Radiated Emission Test	10
5.	<u>TEST SETUP PHOTOS OF THE EUT</u>	20

1. TEST STANDARDS

The tests were performed according to following standards:

[47 CFR FCC Part 15 Subpart C](#) - Intentional Radiators

[ANSI C63.10: 2009](#) – American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40GHz

2. SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	June 15,2013
Testing commenced on	:	June 15,2013
Testing concluded on	:	June 20, 2013

2.2. Equipment Under Test

Power supply system utilised

Power supply voltage	:	<input type="radio"/> 120V / 60 Hz	<input type="radio"/> 115V / 60Hz
		<input type="radio"/> 12 V DC	<input type="radio"/> 24 V DC
		<input checked="" type="radio"/> Other (specified in blank below)	

ALKALINE BATTERY 27A 12V

Short description of the Equipment under Test (EUT)

Product Name	:	INHAWGNITO-Feeder RX RC
Model Number	:	INHAWGNITO 765665801798, Feeder RX 765665801811
Operation Frequency	:	433.92MHz
Modulation Technology	:	ASK
Transmitter Type	:	manually operated Transmitter
Sample Type	:	Prototype
Channel Number	:	4 (use the same TX frequency 433.92MHz) for INHAWGNITO 765665801798
Channel Number	:	2 (use the same TX frequency 433.92MHz) for Feeder RX 765665801811

2.3. EUT operation mode

The EUT has been tested under typical operating condition.

2.4. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: SV7DFHLFRX801767** filing to comply with the FCC Part 15, Subpart C 15.231 Rules.

2.5. Modifications

No modifications were implemented to meet testing criteria.

2.6. Configuration of Tested System

Configuration of Tested System



2.7. NOTE

1. The EUT is a 433.92MHz INHAWGNITO-Feeder RX RC, The functions of the EUT listed as below:

	Test Standards	Reference Report
WLAN Radio	FCC Part 15 Subpart C (Section15.31)	SKW1305007

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Bontek Compliance Testing Laboratory Ltd
1/F, Block East H-3, OCT Eastern Ind. Zone, Qiaocheng East Road, Nanshan, Shenzhen, China

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2003) and CISPR Publication 22.

3.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

IC Registration No.: 7631A

The 3m alternate test site of Bontek Compliance Testing Laboratory Ltd EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 7631A on March, 2008.

FCC-Registration No.: 338263

Bontek Compliance Testing Laboratory Ltd EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 338263, March 24, 2008.

CNAS-Lab Code: L3923

Bontek Compliance Testing Laboratory Ltd has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: Mar 22, 2012. Valid time is until Mar 21, 2015.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	<u>15-35 ° C</u>
Humidity:	<u>30-60 %</u>
Atmospheric pressure:	<u>950-1050mbar</u>

3.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Bontek Compliance Testing Laboratory Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Bontek Compliance Testing Laboratory Ltd is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	3.40 dB	(1)
Radiated Emission	1~18GHz	3.40 dB	(1)
Conducted Disturbance	0.15~30MHz	2.30 dB	(1)

- (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

3.5. Equipments Used during the Test

Radiated Emissions					
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9163	9163-324	2013-4-9
2	EMI Test Receiver	R&S	ESPI	100097	2012-7-25
3	Spectrum Analyzer	R&S	FSP	100397	2012-11-2
4	Broadband preamplifier	SCHWARZBECK	BBV9718	9718-182	2013-4-5
5	EMI TEST SOFTWARE	R&S	ESK1	N/A	2008/11
6	Horn Antenna	SCHWARZBECK	BBHA9120A	0499	2012-11-27

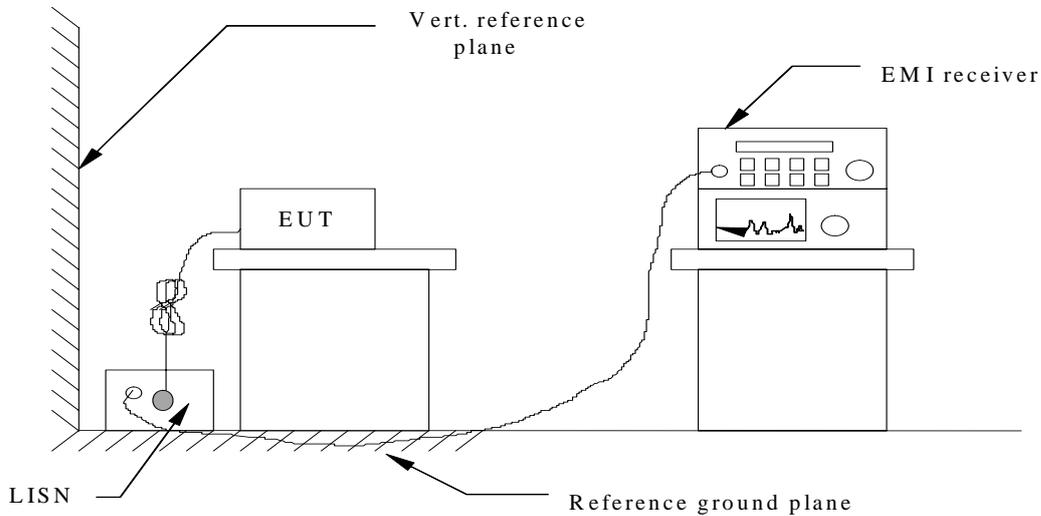
20dB Bandwidth & Deactivation Time & Duty Cycle					
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	R&S	ESPI	100097	2012-7-25
2	RECEIVER ANTENNA	/	/	/	/

The calibration interval was one year.

4. TEST CONDITIONS AND RESULTS

4.1. Conducted Emissions Test (Not Applicable)

TEST CONFIGURATION



TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4-2009.
- 2 Support equipment, if needed, was placed as per ANSI C63.4-2009.
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4-2009.
- 4 The EUT received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any.
- 6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.

CONDUCTED POWER LINE EMISSION LIMIT

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following :

Frequency (MHz)	Maximum RF Line Voltage (dBµV)			
	CLASS A		CLASS B	
	QP	Ave	QP	Ave
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

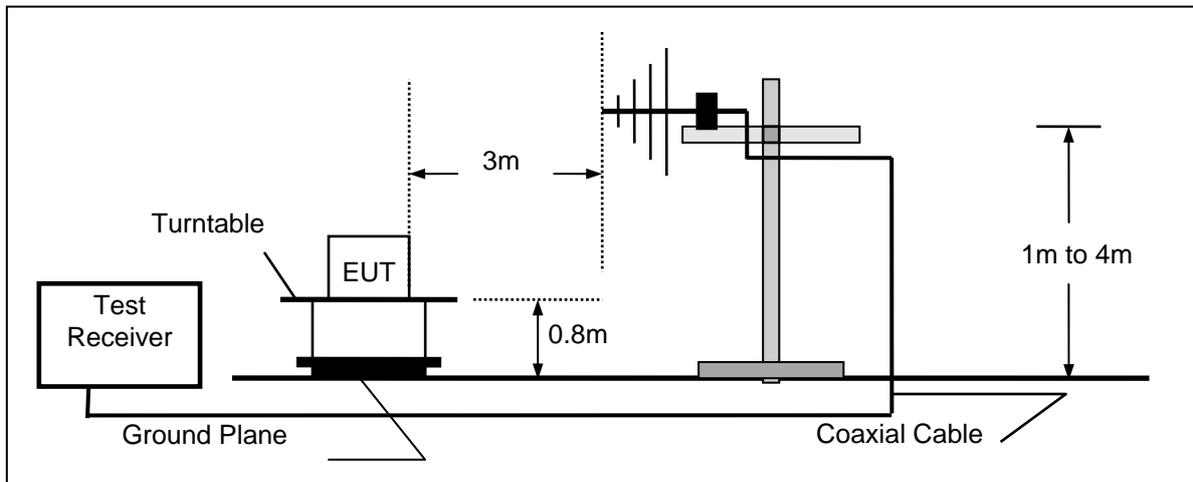
TEST RESULTS

Not Applicable (The product powered by battery)

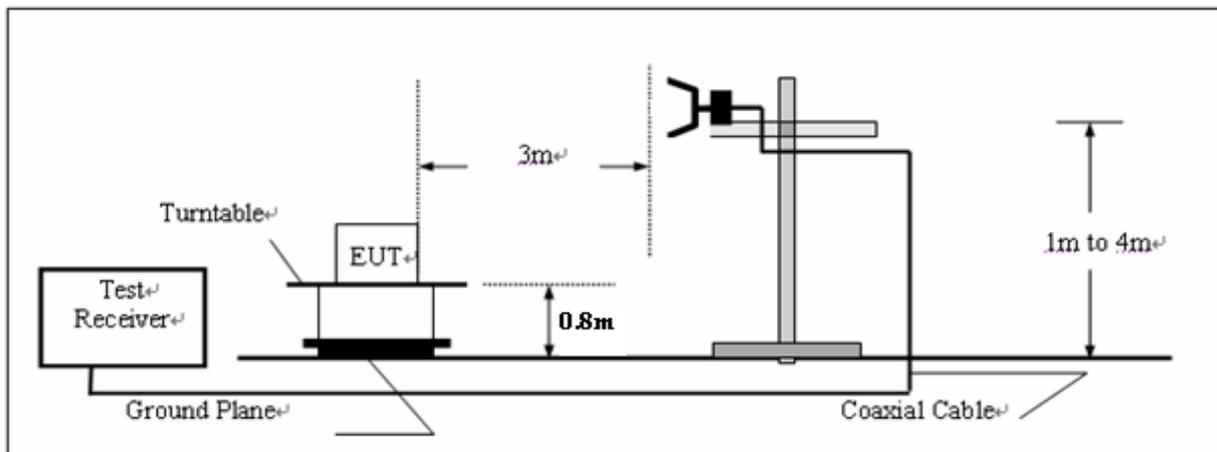
4.2. Radiated Emission Test

TEST CONFIGURATION

- a) Radiated Emission Test Set-Up, Frequency below 1000MHz



- b) Radiated Emission Test Set-Up, Frequency above 1000MHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The Highest frequency generated or used in the device or on which the device operates or tunes was 433.92MHz,so radiated emissions test frequency from 30MHz to 5GHz.

FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

For example

Frequency (MHz)	FS (dBµV/m)	RA (dBµV/m)	AF (dB)	CL (dB)	AG (dB)	Transd (dB)
300.00	40	58.1	12.2	1.6	31.90	-18.1

$$\text{Transd} = \text{AF} + \text{CL} - \text{AG}$$

RADIATION LIMIT

For periodic transmitter, according to § 15.231(e), the field strength of fundamental from device at a distance of 3 meters shall not exceed the following values:

Fundamental frequency (MHz)	Distance (Meters)	Field strength of fundamental (dBµV/m)	
		AV	Peak
433.92	3	72.87	92.87

Note: For the band 260-470MHz, uV/m at 3 meters = 16.6667(F) – 2833.333
Where F is fundamental frequency 433.92MHz

For periodic transmitter, according to § 15.231(e), the field strength radiated emissions from device at a distance of 3 meters shall not exceed the following values:

Fundamental frequency (MHz)	Distance (Meters)	Field strength of spurious emission	
		(microvolts/meter)	(dBµV/m)
40.66-40.70	3	100	40
70-130	3	50	34
130-174	3	50 to 150	34 to 43.5
174-260	3	150	43.5
260-470	3	150 to 500	43.5 to 54
Above 470	3	500	54

Note: 1. For other bands limit pls refer 15.209
2. The limit below 1GHz based CISPR quasi-peak detector, the limit above 1GHz based average detector and peak limit is 74dBuV/m.

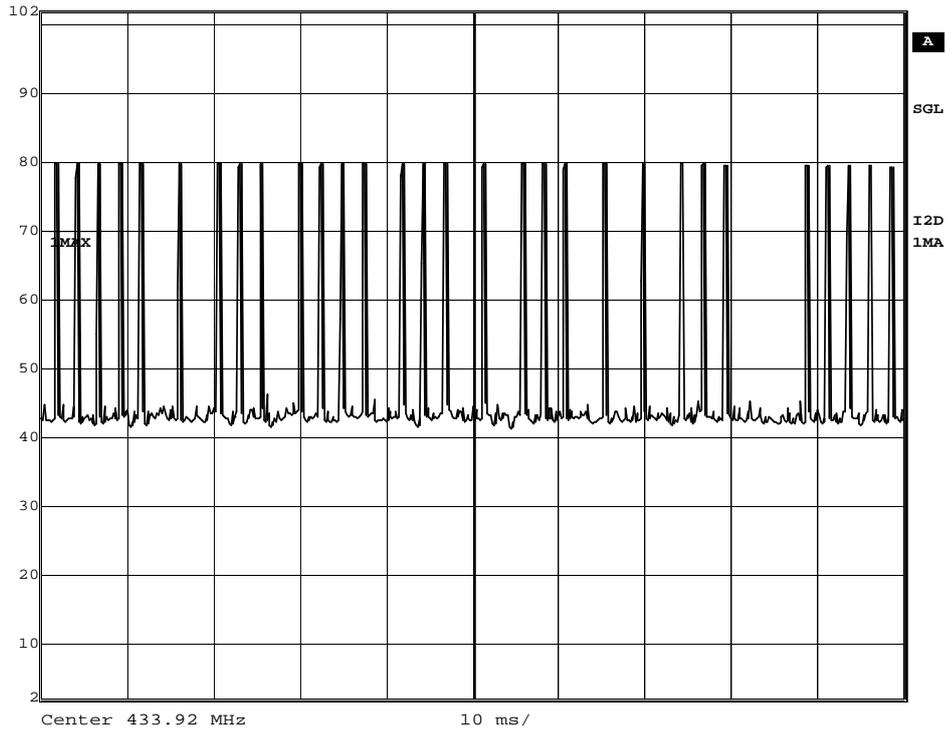
Duty Cycle Correction Factor

Total pulse on time:0.461 millisecond
Duty Cycle = TX on/100ms X 100% = 0.461*30 ms/100ms X 100% =13.83%
Duty Cycle Correction Factor = 20log (Duty Cycle) = -17.18



Ref Lvl
102 dB μ V

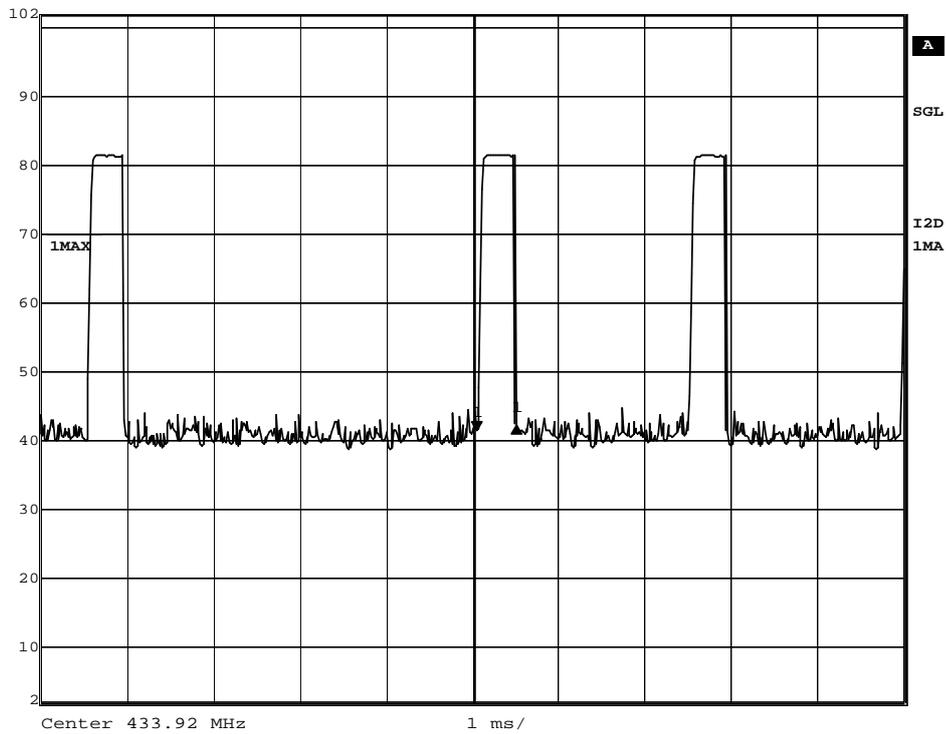
RBW 1 MHz RF Att 20 dB
VBW 1 MHz
SWT 100 ms Unit dB μ V



Ref Lvl
102 dB μ V

Delta 1 [T1]
0.72 dB
460.921844 μ s

RBW 1 MHz RF Att 20 dB
VBW 1 MHz
SWT 10 ms Unit dB μ V



For INHAWGNITO 765665801798

Remark: We tested four keys and three positions and recorded worst case.

Radiated emission of fundamental emission

Frequency (MHz)	Corrected Reading (dB μ V/m)@3m	FCC Limit (dB μ V/m) @3m	Margin (dB)	Detector	Polarization
433.92	79.25	92.87	13.62	PK	Horizontal
433.92	62.07	72.87	10.80	AV	Horizontal
433.92	87.02	92.87	5.85	PK	Vertical
433.92	69.84	72.87	3.03	AV	Vertical

Spurious radiated emission

Frequency (MHz)	Corrected Reading (dB μ V/m)@3m	FCC Limit (dB μ V/m) @3m	Margin (dB)	Detector	Polarization
867.84	61.25	72.87	11.62	PK	Horizontal
867.84	44.07	52.87	8.80	AV	Horizontal
2172.34	52.90	72.87	19.97	PK	Horizontal
2172.34	35.72	52.87	17.15	AV	Horizontal
3034.07	56.89	72.87	15.98	PK	Horizontal
3034.07	39.71	52.87	13.16	AV	Horizontal
867.84	59.90	72.87	12.97	PK	Vertical
867.84	42.72	52.87	10.15	AV	Vertical
2172.34	60.37	72.87	12.50	PK	Vertical
2172.34	43.19	52.87	9.68	AV	Vertical
2603.21	56.60	72.87	16.27	PK	Vertical
2603.21	39.42	52.87	13.45	AV	Vertical

For Feeder RX 765665801811

Remark: We tested two keys and three positions and recorded worst case.

Radiated emission of fundamental emission

Frequency (MHz)	Corrected Reading (dB μ V/m)@3m	FCC Limit (dB μ V/m) @3m	Margin (dB)	Detector	Polarization
433.92	79.32	92.87	13.55	PK	Horizontal
433.92	62.14	72.87	10.73	AV	Horizontal
433.92	87.06	92.87	5.81	PK	Vertical
433.92	69.88	72.87	2.99	AV	Vertical

Spurious radiated emission

Frequency (MHz)	Corrected Reading (dB μ V/m)@3m	FCC Limit (dB μ V/m) @3m	Margin (dB)	Detector	Polarization
867.84	61.26	72.87	11.61	PK	Horizontal
867.84	44.08	52.87	8.79	AV	Horizontal
2172.34	53.09	72.87	19.78	PK	Horizontal
2172.34	35.91	52.87	16.96	AV	Horizontal
3034.07	56.73	72.87	16.14	PK	Horizontal
3034.07	39.55	52.87	13.32	AV	Horizontal
867.84	60.26	72.87	12.61	PK	Vertical
867.84	43.08	52.87	9.79	AV	Vertical
2172.34	59.58	72.87	13.29	PK	Vertical
2172.34	42.40	52.87	10.47	AV	Vertical
2603.21	56.83	72.87	16.04	PK	Vertical
2603.21	39.65	52.87	13.22	AV	Vertical

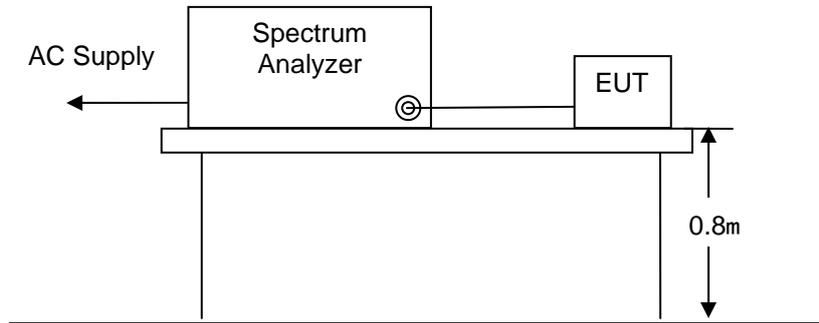
Note 1: According to section 15.35(b), when average radiated emission measurements are specified, including emission measurement below 1000MHz, there also is limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated.

Note 2: Average Result =Peak Field Strength+Duty Cycle Correction Factor.

Note 3: Duty Cycle Correction Factor value refers to below.

4.3. Occupied Bandwidth

TEST CONFIGURATION



TEST PROCEDURE

- 1.As required by 47 CFR 15.231(c):The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70MHz and below 900MHz.Bandwidth is determined at the points 20dB down from the modulated carrier.
- 2.Customer provided a test mode internal to the EUT to control the RF modulation.The EUT antenna was attached and the waveform was receiver by the test antenna which was connected to the spectrum analyzer was operated in linear scale and zero span mode after tuning to the transmitter carrier frequency.

Limit

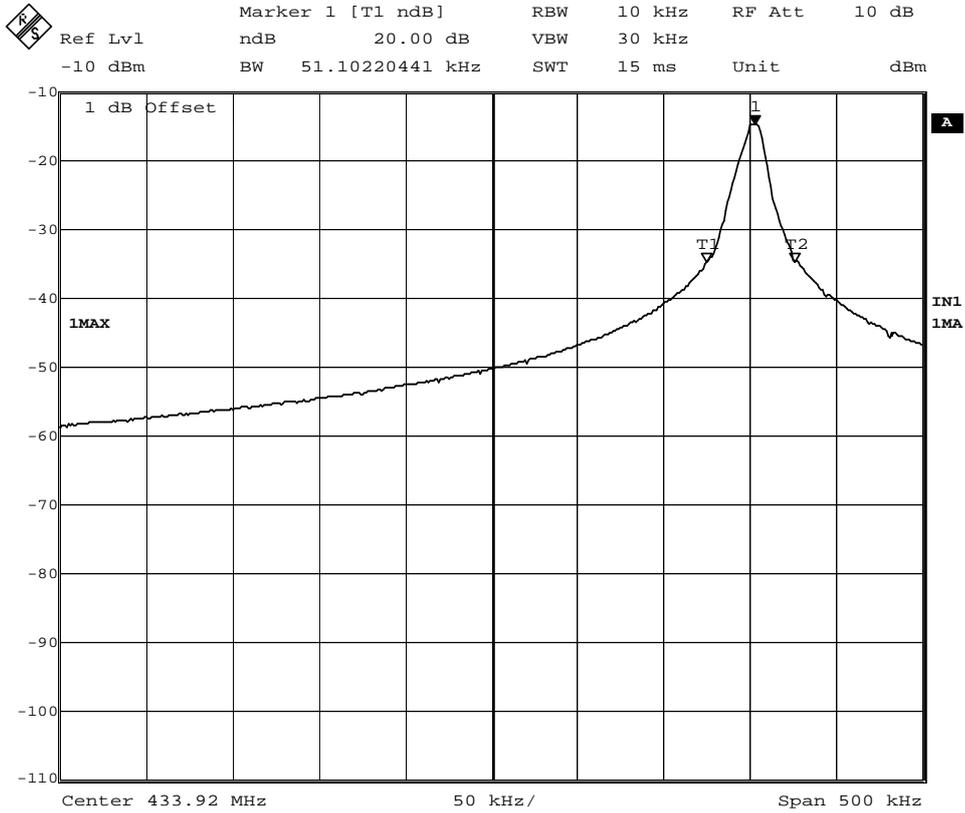
The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70MHz and below 900MHz

TEST RESULTS

For INHAWGNITO 765665801798

Remark:We test four keys(four channel)(same as frequency) and recorded woest case

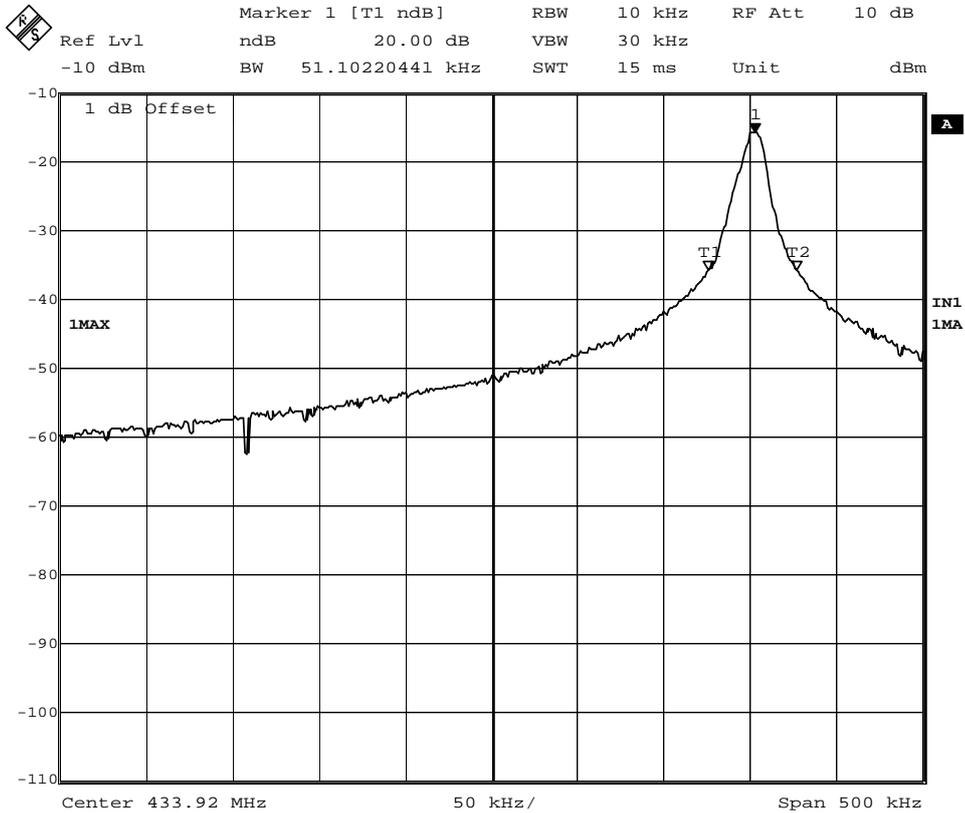
Channel Frequency (MHz)	20dB Bandwidth (KHz)	Limit (MHz)	Result
433.92	51.10	$0.25\% \times 433.92 = 1.08$	PASS



For Feeder RX 765665801811

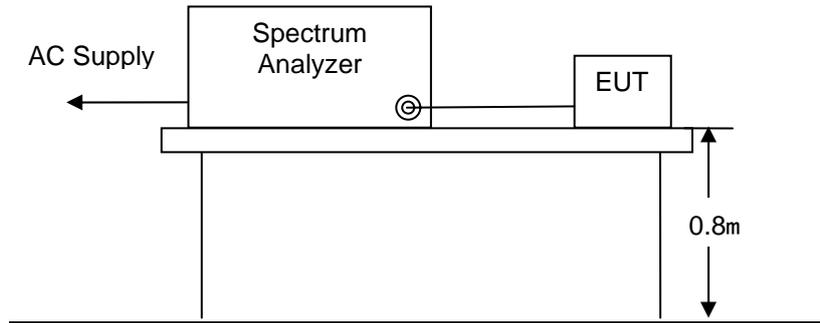
Remark: We tested two keys (two channels)(same frequency) and recorded worst case.

Channel Frequency (MHz)	20dB Bandwidth (KHz)	Limit (MHz)	Result
433.92	51.10	$0.25\% * 433.92 = 1.08$	PASS



4.4. Deactivation Time

TEST CONFIGURATION



TEST PROCEDURE

- 1 The EUT was placed on a wooded table which is 0.8m height and close to receiver antenna of spectrum analyzer.
- 2 The spectrum analyzer resolution bandwidth was set to 1 MHz and video bandwidth was set to 1 MHz to encompass all significant spectral components during the test. The spectrum analyzer was operated in linear scale and zero span mode after tuning to the transmitter carrier frequency.

LIMIT

For periodic transmitter, according to FCC Part 15C § 15.231(e)

Item	Limit (second)
One transmission time	not greater than 1 second
Transmission period	at least 30 times the duration of the transmission but in no case less than 10 second

TEST RESULTS

Note: The transmitter was manually activated, and the carrier frequency 433.92MHz:

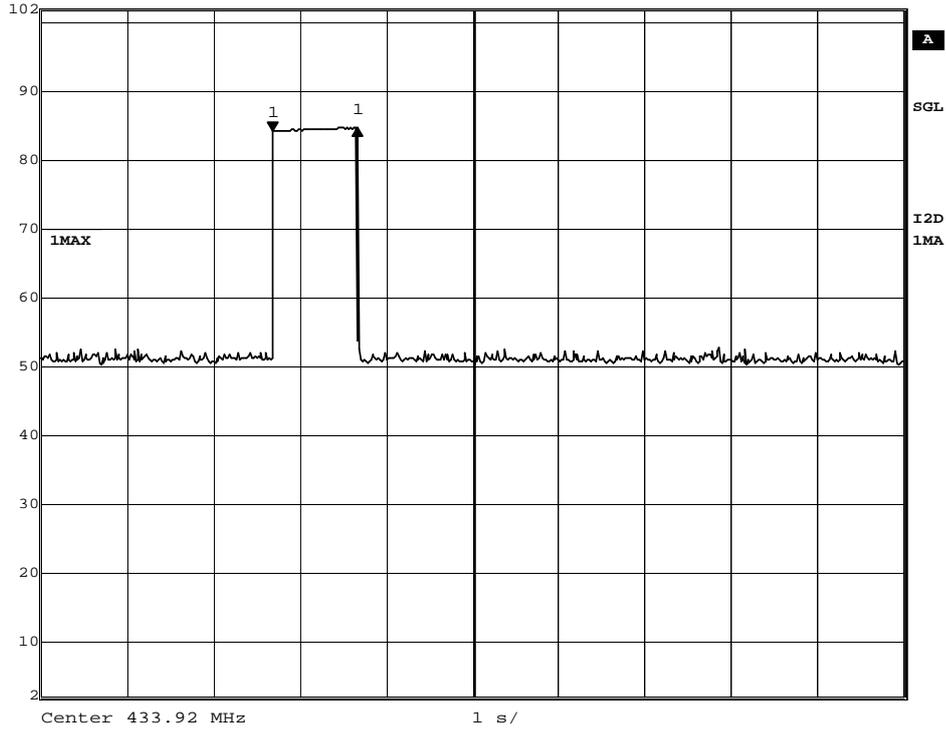
For INHAWGNITO 765665801798

Remark: We test four keys (four channel) (same as frequency) and recorded worst case

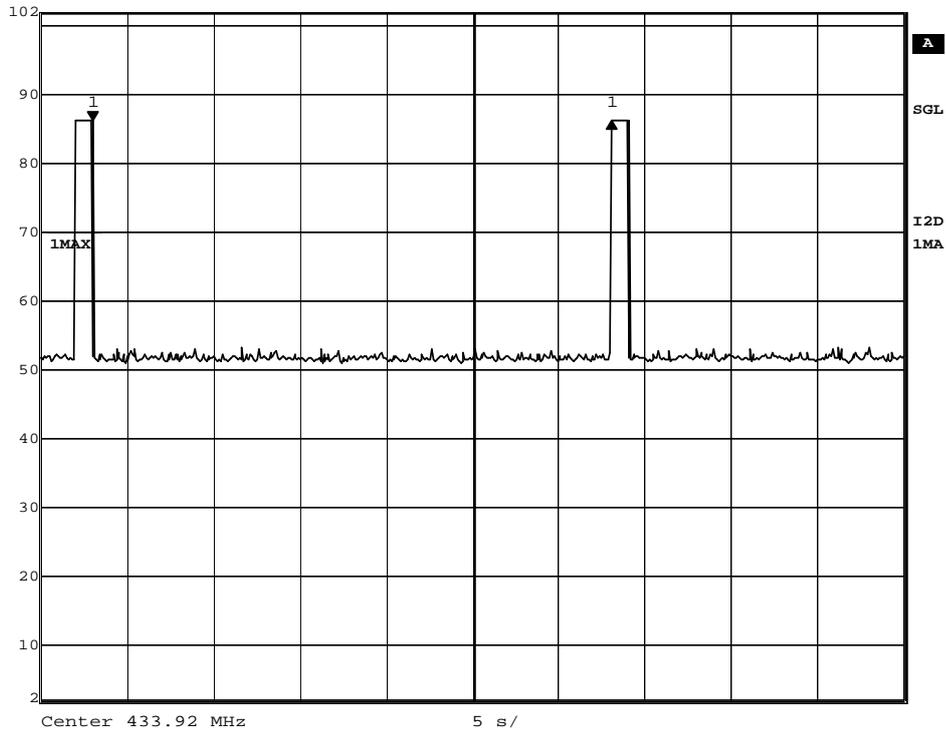
Frequency (MHz)	One transmission time (s)	Transmission period (s)	Result
433.92 MHz	0.982	$0.982 \times 30 = 29.46 < 30.10$	PASS



Delta 1 [T1] RBW 3 MHz RF Att 20 dB
Ref Lvl 0.38 dB VBW 10 MHz
102 dB μ V 981.963928 ms SWT 10 s Unit dB μ V



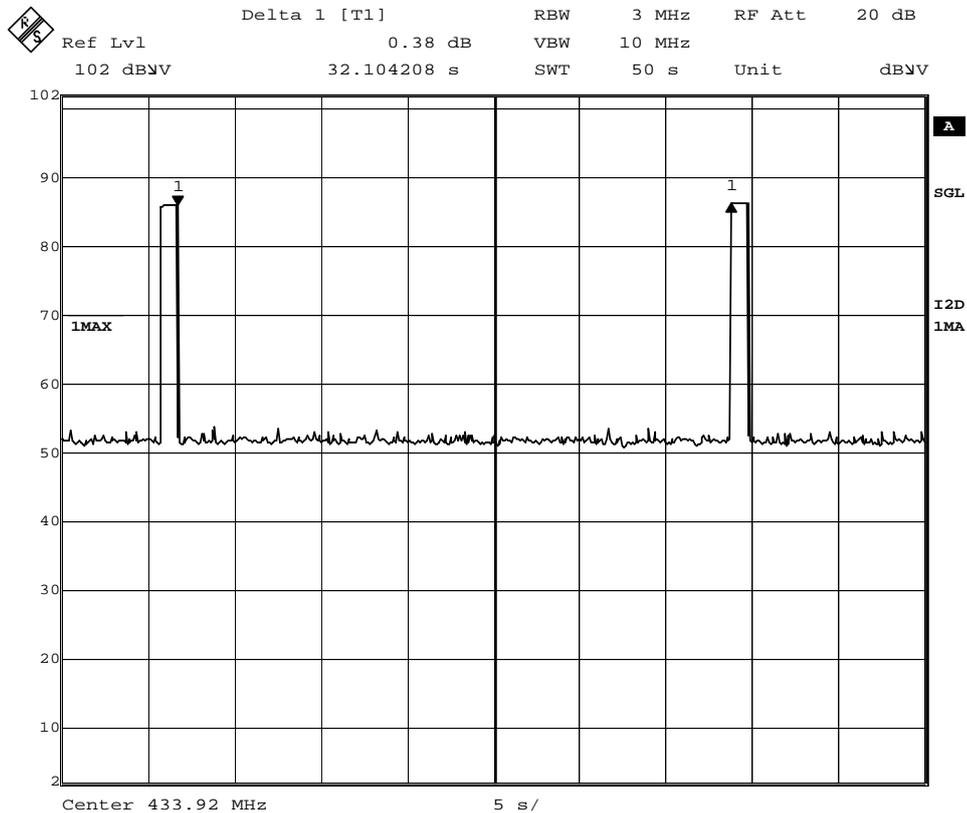
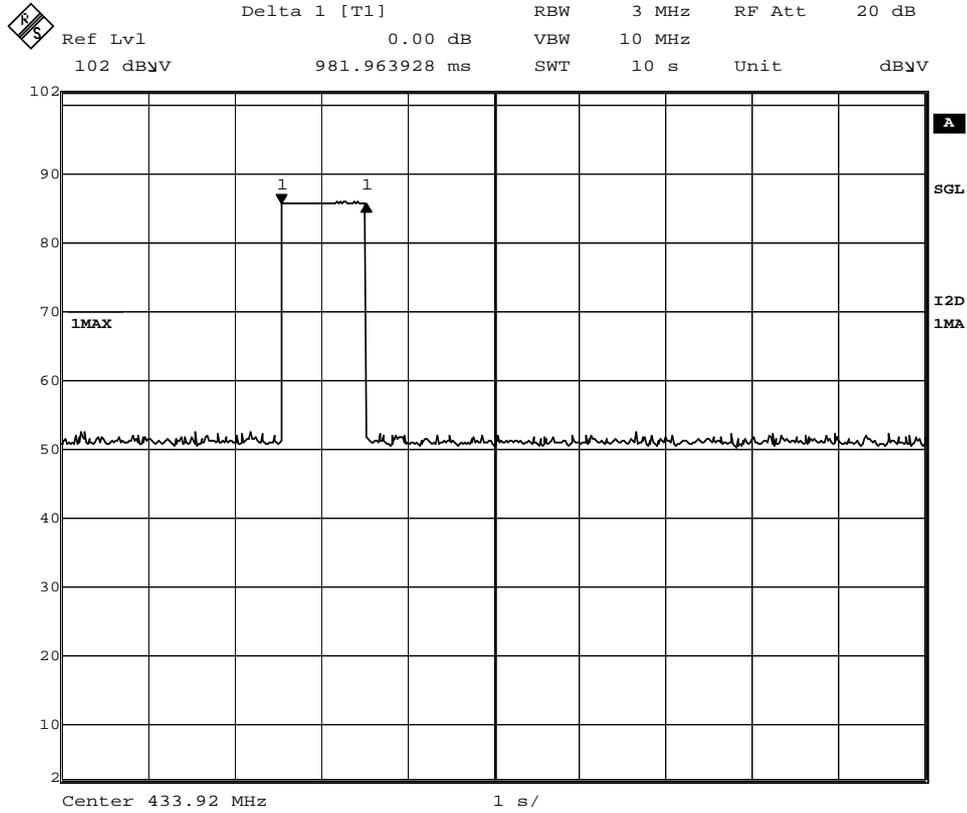
Delta 1 [T1] RBW 3 MHz RF Att 20 dB
Ref Lvl -0.13 dB VBW 10 MHz
102 dB μ V 30.100200 s SWT 50 s Unit dB μ V



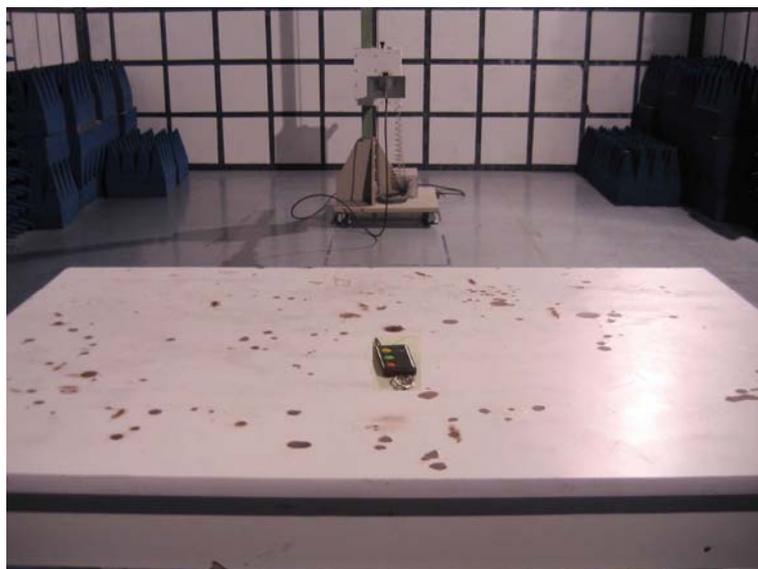
For Feeder RX 765665801811

Remark: We tested two keys (two channels)(same frequency) and recorded worst case.

Frequency (MHz)	One transmission time (s)	Transmission period (s)	Result
433.92 MHz	0.982	$0.982 \times 30 = 29.46 < 32.10$	PASS



5. Test Setup Photos of the EUT



6. External and Internal Photos of the EUT

External Photos

For INHAWGNITO 765665801798

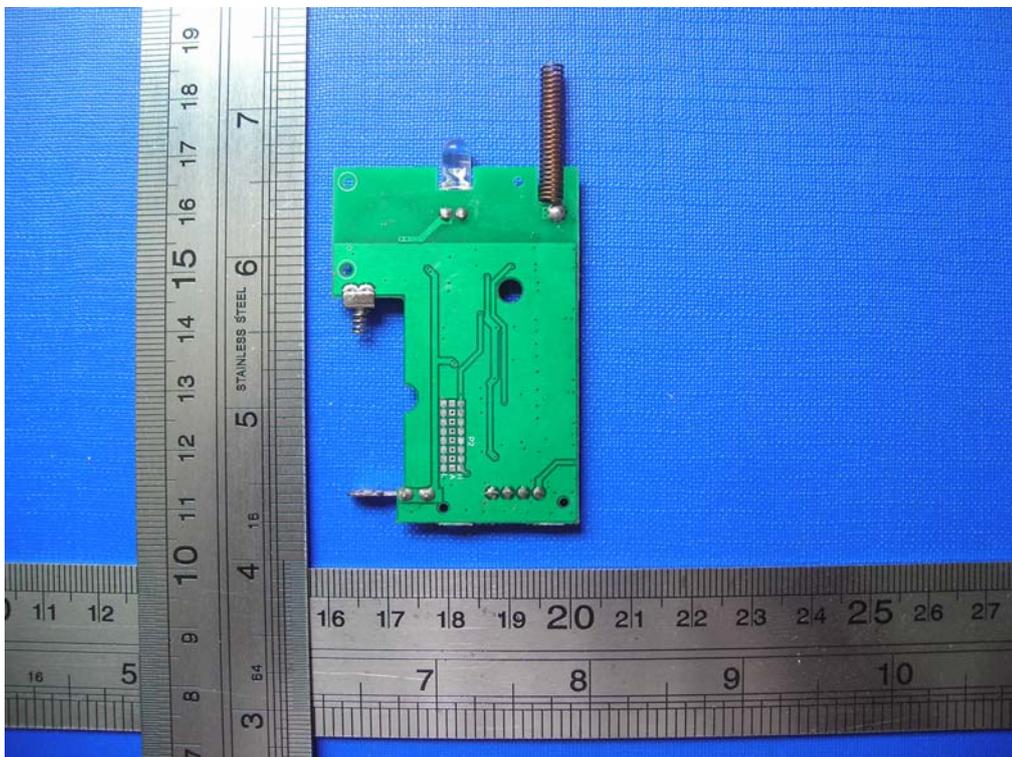
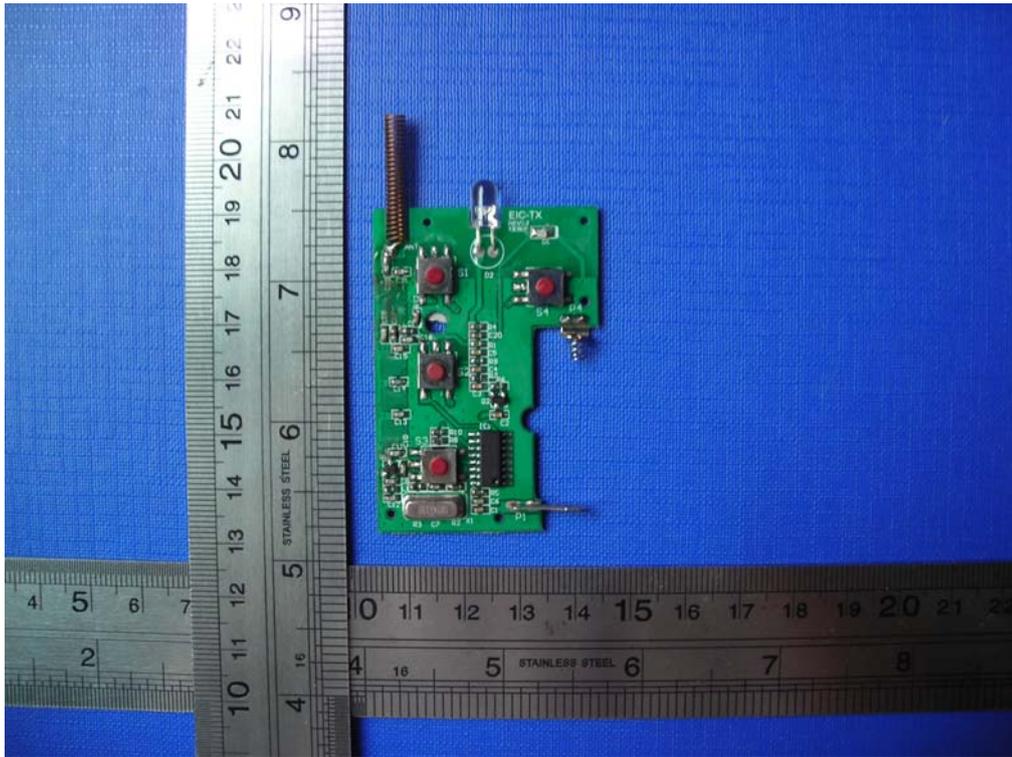


For Feeder RX 765665801811

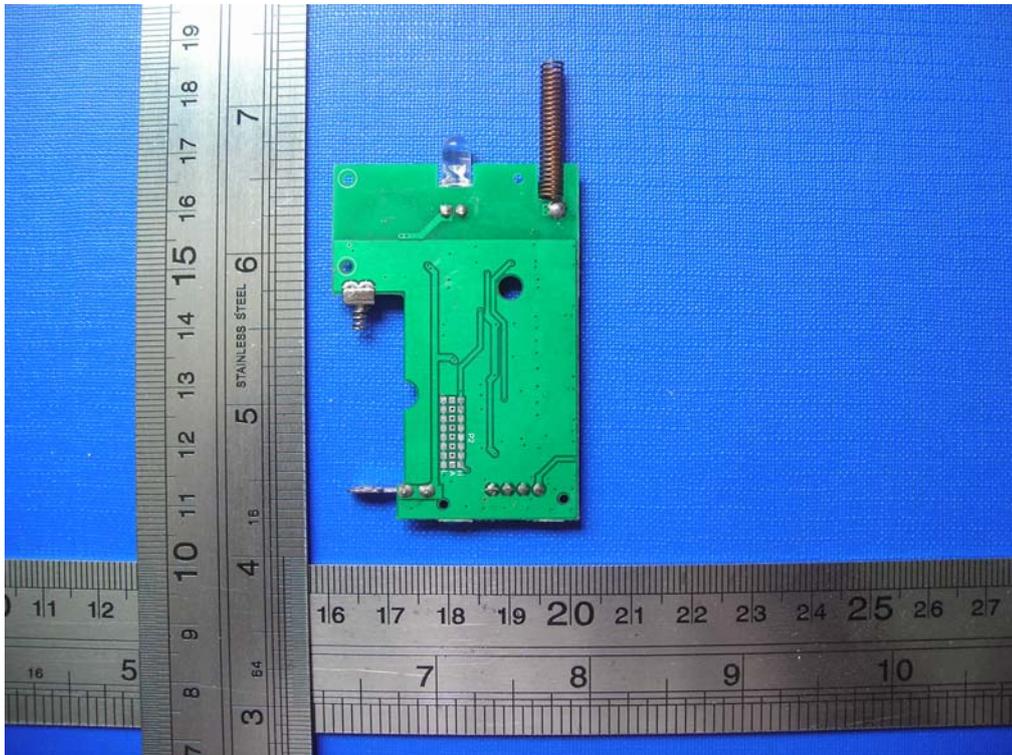
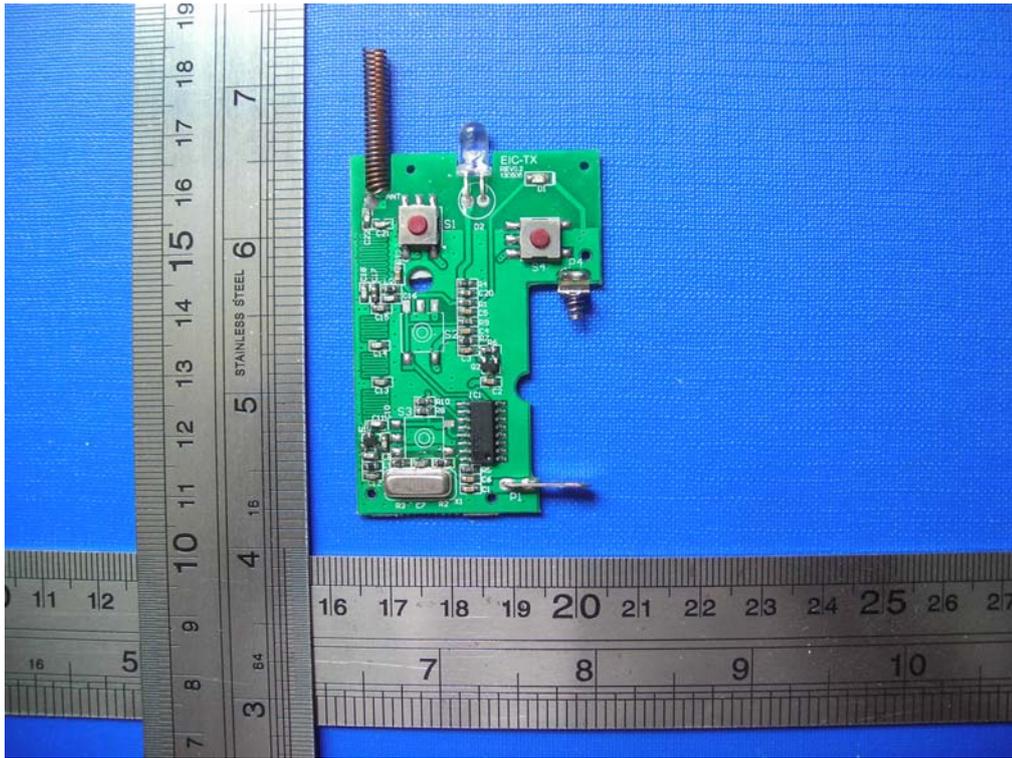


Internal Photos

For INHAWGNITO 765665801798



For Feeder RX 765665801811



.....End of Report.....