



CERTIFICATION
FOR
INTENTIONAL RADIATOR

per
Part 15 Subpart C
(CFR 47, 15.201, - 15.209 & 15.231)

Remote Control Transmitter
Model No. SCXMIT01
318 MHz

PREPARED FOR APPLICANT:
Silent Call Communications
2220 Scott Lake Road
Waterford, MI 48328
FRN: 0004936738

PREPARED BY:
DNB ENGINEERING, INC.
5969 Robinson Avenue
Riverside, CA 92503-8620
(951) 637-2630

TRANSMITTAL SUMMARY

Unit tested: Remote Control Transmitter
Model #: SCXMIT01
FCC ID: PPJ-SCXMIT01

Specifications: ANSI C63.4 1992 and CFR 47 FCC part 15 Subpart C

Purpose of Report: This report was prepared to document the status of the RemoteControl Transmitter (318 MHz) with requirements of the standards listed above.

Requirements not applicable to EUT Part 15.37 - Not applicable
 Emergency Broadcast System - Not applicable
 Spread Spectrum Exhibit - Not applicable
 Scanning Receiver - Not applicable

Test Summary The EUT's compliance status according to the tests performed is as follows.

REQUIREMENTS	STATUS
FCC part 15 Subpart C	
per 15.201-, 15.209 & 15.231	COMPLIANT

The report shall not be reproduced, except in full, without the written approval of DNB ENGINEERING, INC. Results contained in this report relate only to the item tested.

The Silent Call Communications Remote Control Transmitter M/N SCXMIT01 met all the criteria pertaining to standards called out for testing.

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1.0 ADMINISTRATIVE DATA

Certifications and Qualifications

I certify that DNB Engineering, Inc conducted the tests performed in order to obtain the technical data presented in this application. Also, based on the results of the enclosed data, I have concluded that the equipment tested meets or exceeds the requirements of the Rules and Regulations governing this application.

Measurement Repeatability Information

The test data presented in this report has been acquired using the guidelines set forth in FCC Part 15 Subpart C (CFR 47, 15.201 – 15.209 and 15.231). The test results presented in this document are valid only for the equipment identified herein under the test conditions described. Repeatability of these test results will only be achieved with identical measurement conditions. These conditions include: The same test distance, EUT Height, Measurement Site Characteristics, and the same EUT System Components. The system must have the same Interconnecting Cables arranged in identical placement to that in the test set-up, with the system and/or EUT functioning in the identical mode of operation (i.e. software and so on) as on the date of the test. Any deviation from the test conditions and the environment on the date of the test may result in measurement repeatability difficulties.

All changes made to the EUT during the course of testing as identified in this test report must be incorporated into the EUT or identical models to ensure compliance with the FCC regulations.



C. L. Payne III (Para. 1.1)

Manager, Test Dept.

DNB Engineering, Inc. (Riverside Facility)

Tel. (951) 637-2630 FAX (951) 637-2704

E-mail: Les@dnbenginc.com

1.1.1 Request for Certification Per 2.1033(b)1:

Applicant: Silent Call Communications
 2220 Scott Lake Road
 Waterford, MI 48328

FRN: 0004936738

Contact: George Elwell
Phone: (248) 673-0221

Equipment Under Test: Remote Control Transmitter

FCC ID: PPJ-SCXMIT01

1.2 Related Submittals/Grants

None.

1.3 Purpose of Tests

The purpose of this series of tests was to demonstrate the Electromagnetic Compatibility (EMC) characteristics of the EUT. The following tests were performed:

REQUIREMENTS	STATUS
FCC part 15 Subpart C	
Per 15.201- 15.209 &15.231	COMPLIANT

2. TEST DESCRIPTION

2.1 Test Configuration

Configuration	Unit Name - Processor, Monitor Printer, Cable, etc. (indent for features of a unit)	Style/Model/ Part No.	Comments/ FCC ID#
A	Remote Control (318 MHz)	SCXMIT01	PPJ-SCXMIT01

2.2 Equipment Description

Please see Appendix A

2.3 Mode of Operation

EUT was placed in three orthogonal positions to determine worst case emissions. Fresh batteries were used for final measurements.

2.4 Antenna Requirement - per 15.203

The antenna is internally fixed, (traces on printed wiring board)

2.5 Circuit Description - per 2.1033(b)4

Please see Owners Manual – Appendix A

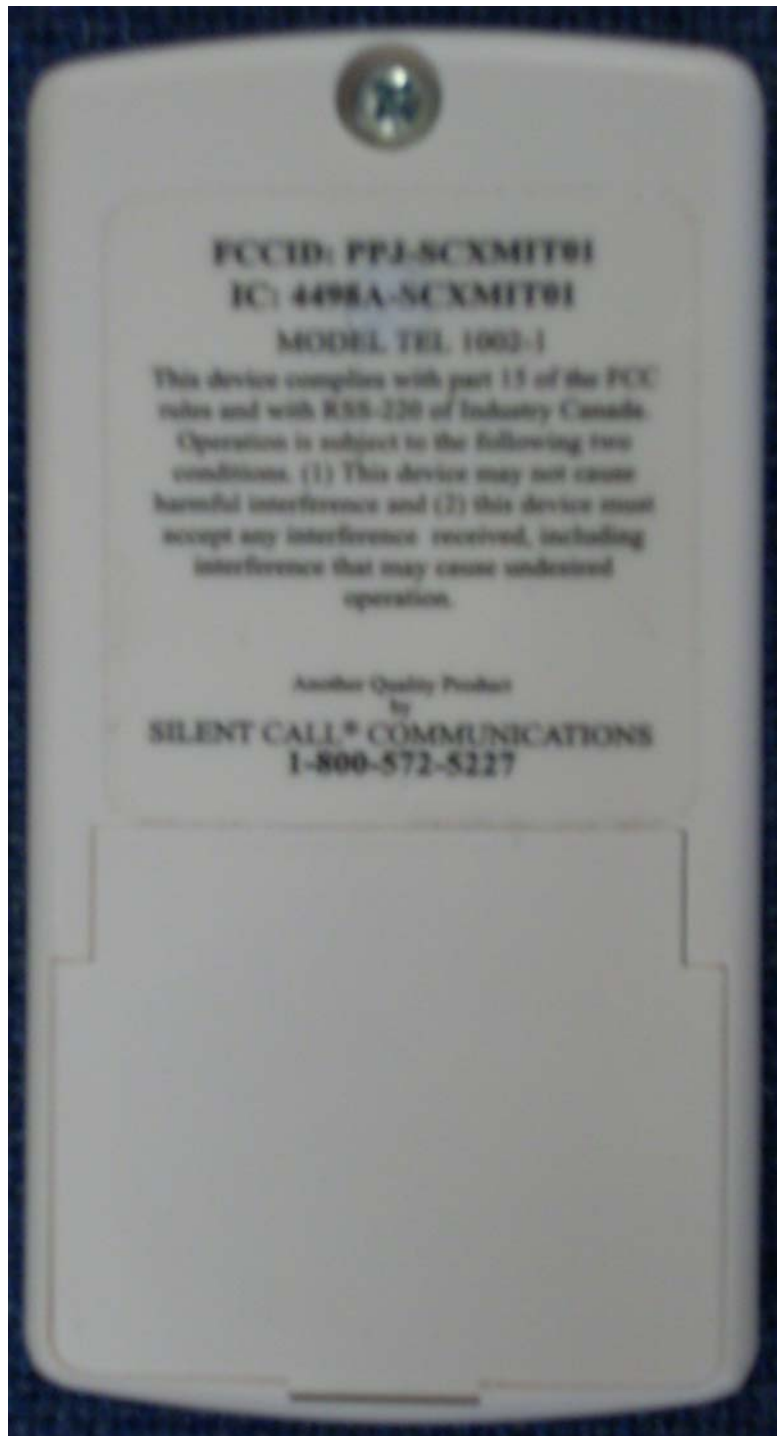
2.6 Schematics

Please see Section 5

2.7 Photographs of EUT - per 2.1033(b)(7)
External Front



Photographs of EUT - per 2.1033(b)(7) continued
External - Rear



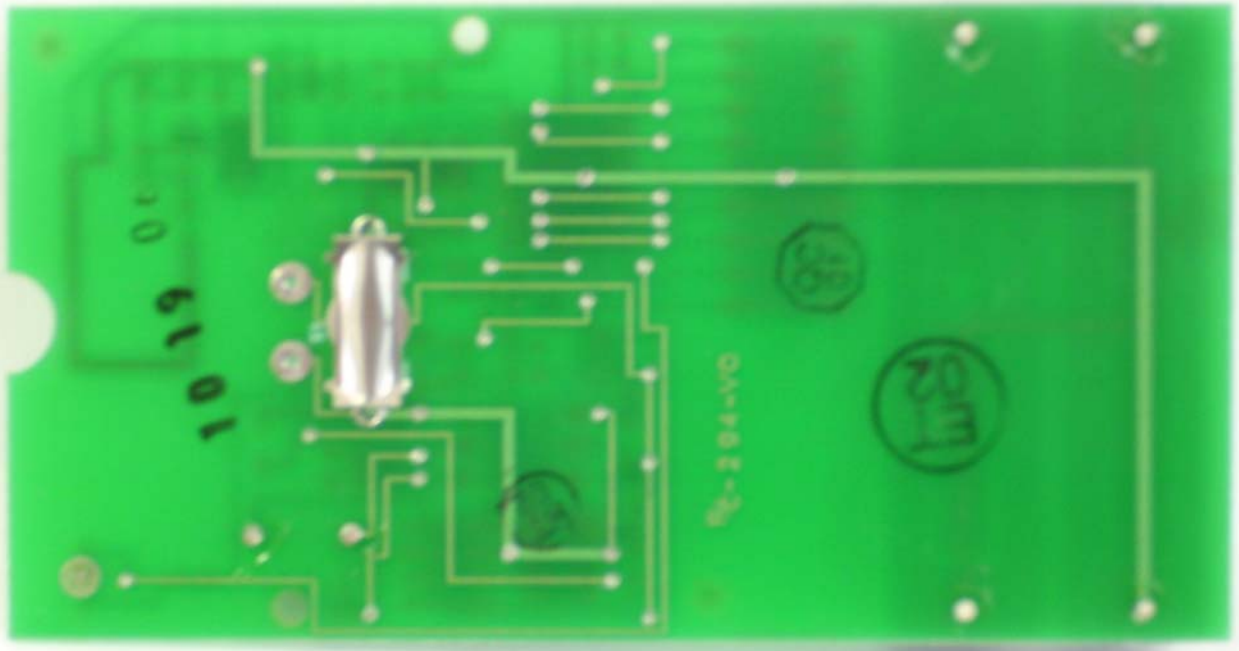
Photographs of EUT - per 2.1033(b)(7) continued

Internal PWB – Component Side



Photographs of EUT - per 2.1033(b)(7) continued

Internal PWB – Circuit Side



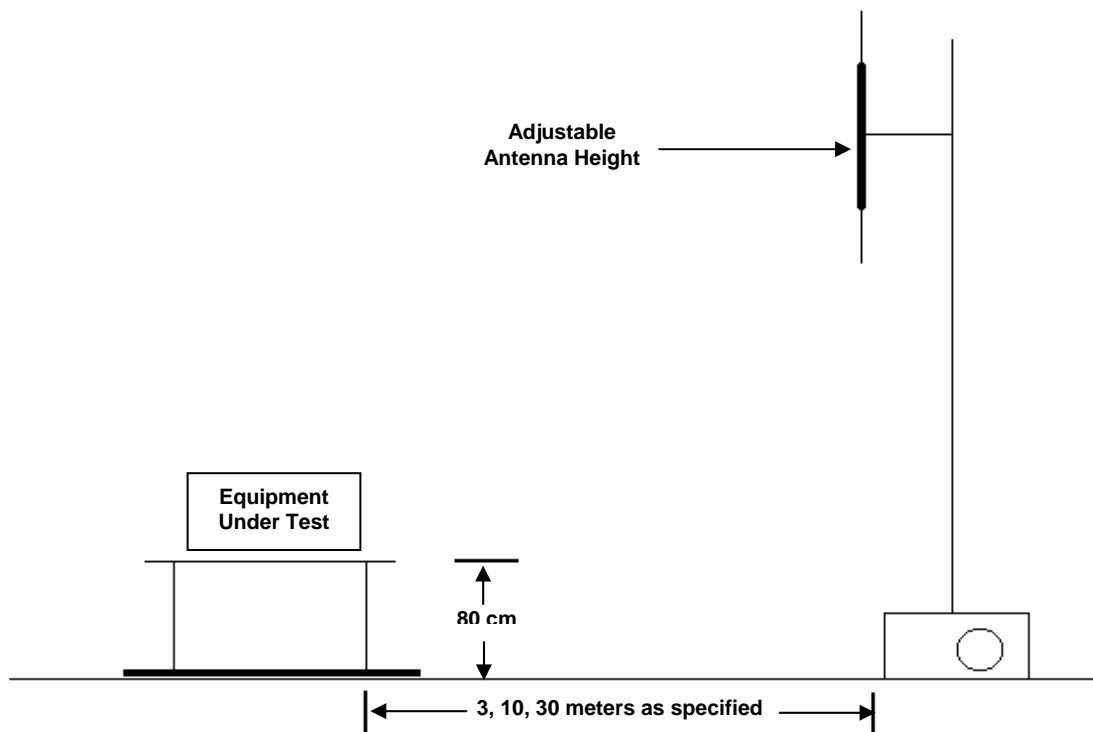
3. EMISSIONS

Per FCC Part 15 Subpart C

3.1 Radiated Emissions Test Setup and Procedure - Per 2.1033(b)(6) Per 2.947(a)

The EUT was placed on a wooden table 1 meter wide and 1.5 meters long, which rests on a inground turntable 3 meter open area test site test site. The top of the table is 80 cm above the ground plane. The turntable can be rotated 360 degrees. Measuring antenna is set at the prescribed distance. (Measurements are made with broad band antennas that have been correlated with tuned dipole antennas). The mast is 6 meters high and is self-supporting. The height of the antenna can be varied from 1 to 4 meters. Positioning of the antenna is controlled remotely.

3.1.1 Spurious Radiation Test Site Per 2.1033(b)6



Radiated Test Setup and Procedure - cont'd

The EUT is put into the operational test mode as stated in Section 2.2.1 is then started.

The spectrum analyzer is setup to store the peak emission over the band of the antenna. Peak EUT and ambient emissions are stored while the turntable is rotated 360°. Peak spectrum analyzer trace is then recorded with the addition of antenna and cable correction factors. The limit is recorded on the same graph. A receiver with CISPR Quasi Peak capabilities is then used on the frequencies identified as the highest with respect to the plotted limit. Ambience is noted on the graph along with EUT emissions. The highest EUT frequencies, with respect to the limit, are maximized.

To maximize emissions levels, the turntable is rotated and the antenna is raised and lowered to determine the point of maximum emanations. The cables are then manipulated at that point to maximize emissions. Measurements are made with the antennas in each horizontal and vertical polarization separately. The data obtained from these tests is corrected with the proper cable, preamplifier and antenna factors. The results are then transcribed onto tables that show the maximum emission levels. The highest emissions are listed in a Radiated Emissions Summary table.

If no emissions can be found, the lowest harmonics of the EUT clocks within the bands of the standard are tuned into with the receiver. If no emissions are found, the noise floor will be entered into the table and noted. A minimum of six frequencies will be logged. Summary results will reflect only actual emissions from the EUT.

The field intensity measurements are made using standard techniques with a spectrum analyzer or EMI receiver as the calibrated Field Intensity Meter (FIM). Preamplifiers and filters are used when required.

When using the Hewlett Packard Model 8566B Spectrum Analyzer as the FIM, the Analyzer is calibrated to read signal level in dBm. Where:

$$0 \text{ dBm (50 ohms)} = 107 \text{ dBuV (50 ohms)}$$

The signal level (dBuV) = indicated signal level (dBm) + 107 dB. To obtain the signal level in dBuV/m it is necessary to add the antenna factor in dB.

3.1.2 Example Of Typical Calculation Per 2.1033(b)6

Measurement Distance = 3 Meter		
Reading @ 60 MHz	—————→	49.0 dBuV
Antenna Factor	+7.5 dBuV	
Cable Loss	+2.0 dBuV	
Preamplifier	-25.5 dBuV	
	—————→	
	-16.0 dBuV	-16.0 dBuV
Field Strength dBuV/m at 3 Meter	—————→	<u>33.0 dBuV</u>

The Following FCC limits for acceptance were used:

Limit 318 MHz (Field Strength of Fundamental):

$$6,726 \mu\text{V/M} = 20 \log (6,726) \text{ dB}\mu\text{V/M} = 76.5 \text{ dB}\mu\text{V/M} @ 3 \text{ Meters}$$

Limit 318 MHz (Field Strength of Spurious Emissions):

$$673 \mu\text{V/M} = 20 \log (673) \text{ dB}\mu\text{V/M} = 56.5 \text{ dB}\mu\text{V/M} @ 3 \text{ Meters}$$

Limit 30 to 230 MHz: (per IEC 55022 @ 10 meters)

$$32 \mu\text{V/M} = 20 \log (32) \text{ dB}\mu\text{V/M} = 30.0 \text{ dB}\mu\text{V/M} @ 10 \text{ Meters}$$

Limit 230 to 1000 MHz: (Not at the Carrier Frequency)

$$71 \mu\text{V/M} = 20 \log (71) \text{ dB}\mu\text{V/M} = 37.0 \text{ dB}\mu\text{V/M} @ 10 \text{ Meters}$$

Limit >1000 MHz:

$$158\mu\text{V/M} = 20 \log (158) \text{ dB}\mu\text{V/M} = 44.0 \text{ dB}\mu\text{V/M} @ 10 \text{ Meters}$$

3.1.3 Field Strength of Fundamental


Test results are provided on pages 25 & 26.

3.1.4 Harmonic Radiated Emissions

Test results are provided on pages 25 & 26.

3.1.5 Spurious Emissions Not Associated With Fundamental

Per FCC Part 15 Subpart C, 15.209 @ 3meters, No emissions were deleted.


	5969 Robinson Avenue Riverside, CA 92503 (951) 684-2630 FAX (951) 684-2704		CFR 47 Subpart C Worksheet	
	DNB Job Number: 78050	Date: 6 Mar 2008	Specification FCC Part 15 Subpart C paragraph 15.209 paragraph 15.231	
Customer: Silent Call Communications				
Model Number: SCXMIT01				
Description: Transmitter, 317.918 MHz EUT placed in the X axis				

EUT performed within the requirements of the applicable Standard(s) YES NO Signed *[Signature]*

B = A.H. Systems SAS-200/540 Biconical Antenna S/N 138 (30-200 Mhz)
 L = EMCO 3146 Log-Periodic Antenna S/N 1284 (200-1000 Mhz)
 H = Electro-Metrics M/N 3115 Double Ridge Guide Antenna S/N 2280 (1-18 Ghz)
 ACF = Antenna correction factor (includes cable loss)
 AMP = Pre-amplifier Gain
 DCF = Duty Cycle Correction Factor
 Corr = Corrected reading = Meter + ACF + AMP + CBL + DCF
 MD = Type of reading PK = Peak reading QP = Quasi-peak reading AV = Average reading
 PL = Antenna polarity and type V = Vertical H = Horizontal
 "*" = Readings taken with a resolution bandwidth of 10KHz do to nearby ambient signal

NOTES: Limits are from FCC Part 15 Subpart C para 15.231.

Freq MHz	Meter	ACF	AMP	DCF	Corr dBuV	Limit dBuV	Delta dBuV	Corr uV	Limit uV	Delta uV	MD	PL
317.940	81.8	17.5	-24.3	0	75	76.56	-1.56	5623	6726	-1103	PK	H
635.887	55.6	22.6	-25.0	0	53.2	56.56	-3.36	457	673	-216	PK	H
953.777	39.9	29.6	-24.9	0	44.6	56.56	-11.96	170	673	-503	PK	H
1271.721	46.3	31.8	-30.4	0	47.7	56.56	-8.86	243	673	-430	PK	H
1589.815	45.8	33.9	-29.3	0	50.4	56.56	-6.16	331	673	-342	PK	H
1907.609	46.5	36.2	-29.9	0	52.8	56.56	-3.76	437	673	-236	PK	H
2225.503	44.7	37.8	-30.5	0	52	56.56	-4.56	398	673	-275	PK	H
2543.397	46.3	39.2	-30.6	0	54.9	56.56	-1.66	556	673	-117	PK	H
2861.491	46.0	40.4	-31.7	0	54.7	56.56	-1.86	543	673	-130	PK	H
3179.435	46.0	42.0	-32.6	0	55.4	56.56	-1.16	589	673	-84	PK	H
317.944	79.9	17.5	-24.3	0	73.1	76.56	-3.46	4519	6726	-2207	PK	V
635.862	48.0	22.6	-25.0	0	45.6	56.56	-10.96	191	673	-482	PK	V
953.742	38.8	29.6	-24.9	0	43.5	56.56	-13.06	150	673	-523	PK	V
1271.751	52.3	31.8	-30.4	0	53.7	56.56	-2.86	484	673	-189	PK	V
1589.665	48	33.9	-29.3	0	52.6	56.56	-3.96	427	673	-246	PK	V
1907.609	48.1	36.2	-29.9	0	54.4	56.56	-2.16	525	673	-148	PK	V
2225.070	46.7	37.8	-30.5	0	54	56.56	-2.56	501	673	-172	PK	V
2543.640	45.6	39.2	-30.6	0	54.2	56.56	-2.36	513	673	-160	PK	V
2861.441	45.7	40.4	-31.7	0	54.4	56.56	-2.16	525	673	-148	PK	V
3179.385	45.0	42.0	-32.6	0	54.4	56.56	-2.16	525	673	-148	PK	V


	5969 Robinson Avenue Riverside, CA 92503 (951) 684-2630 FAX (951) 684-2704		CFR 47 Subpart C Worksheet	
	DNB Job Number: 78050	Date: 6 Mar 2008	Specification FCC Part 15 Subpart C paragraph 15.209 paragraph 15.231	
Customer: Silent Call Communications				
Model Number: SCXMIT01				
Description: Transmitter, 317.918 MHz EUT placed in the Y axis				

EUT performed within the requirements of the applicable Standard(s) YES NO Signed *Col Payne*

- B = A.H. Systems SAS-200/540 Biconical Antenna S/N 138 (30-200 Mhz)
- L = EMCO 3146 Log-Periodic Antenna S/N 1284 (200-1000 Mhz)
- H = Electro-Metrics M/N 3115 Double Ridge Guide Antenna S/N 2280 (1-18 Ghz)
- ACF = Antenna correction factor (includes cable loss)
- AMP = Pre-amplifier Gain
- DCF = Duty Cycle Correction Factor
- Corr = Corrected reading = Meter + ACF + AMP + CBL + DCF
- MD = Type of reading PK = Peak reading QP = Quasi-peak reading AV = Average reading
- PL = Antenna polarity and type V = Vertical H = Horizontal
- "*" = Readings taken with a resolution bandwidth of 10KHz do to nearby ambient signal

NOTES: Limits are from FCC Part 15 Subpart C para 15.231.

Freq MHz	Meter	ACF	AMP	DCF	Corr dBuV	Limit dBuV	Delta dBuV	Corr uV	Limit uV	Delta uV	MD	PL
317.940	79.1	17.5	-24.3	0	72.3	76.56	-4.26	4121	6726	-2605	PK	H
635.875	55.6	22.6	-25.0	0	53.2	56.56	-3.36	457	673	-216	PK	H
953.742	37.3	29.6	-24.9	0	42	56.56	-14.56	126	673	-547	PK	H
1272.331	46.8	31.8	-30.4	0	48.2	56.56	-8.36	257	673	-416	PK	H
1590.407	46.7	33.9	-29.3	0	51.3	56.56	-5.26	367	673	-306	PK	H
1908.484	46.6	36.2	-29.9	0	52.9	56.56	-3.66	442	673	-231	PK	H
2226.560	46.4	37.8	-30.5	0	53.7	56.56	-2.86	484	673	-189	PK	H
2544.637	45.4	39.2	-30.6	0	54	56.56	-2.56	501	673	-172	PK	H
2862.713	46.8	40.4	-31.7	0	55.5	56.56	-1.06	596	673	-77	PK	H
3180.790	46.1	42.0	-32.6	0	55.5	56.56	-1.06	596	673	-77	PK	H
317.948	78.5	17.5	-24.3	0	71.7	76.56	-4.86	3846	6726	-2880	PK	V
635.839	50.6	22.6	-25.0	0	48.2	56.56	-8.36	257	673	-416	PK	V
953.771	38.0	29.6	-24.9	0	42.7	56.56	-13.86	136	673	-537	PK	V
1272.306	46.5	31.8	-30.4	0	47.9	56.56	-8.66	248	673	-425	PK	V
1590.382	46.2	33.9	-29.3	0	50.8	56.56	-5.76	347	673	-326	PK	V
1908.459	46.0	36.2	-29.9	0	52.3	56.56	-4.26	412	673	-261	PK	V
2226.535	46.7	37.8	-30.5	0	54	56.56	-2.56	501	673	-172	PK	V
2544.612	46.9	39.2	-30.6	0	55.5	56.56	-1.06	596	673	-77	PK	V
2862.688	47.0	40.4	-31.7	0	55.7	56.56	-0.86	610	673	-63	PK	V
3180.765	46.4	42.0	-32.6	0	55.8	56.56	-0.76	617	673	-56	PK	V


	5969 Robinson Avenue Riverside, CA 92503 (951) 684-2630 FAX (951) 684-2704		CFR 47 Subpart C Worksheet	
	DNB Job Number: 78050	Date: 6 Mar 2008	Specification FCC Part 15 Subpart C paragraph 15.209 paragraph 15.231	
Customer: Silent Call Communications				
Model Number: SCXMIT01				
Description: Transmitter, 317.918 MHz EUT placed in the Z axis				

EUT performed within the requirements of the applicable Standard(s) YES NO Signed *C. Payne*

B = A.H. Systems SAS-200/540 Biconical Antenna S/N 138 (30-200 Mhz)
 L = EMCO 3146 Log-Periodic Antenna S/N 1284 (200-1000 Mhz)
 H = Electro-Metrics M/N 3115 Double Ridge Guide Antenna S/N 2280 (1-18 Ghz)
 ACF = Antenna correction factor (includes cable loss)
 AMP = Pre-amplifier Gain
 DCF = Duty Cycle Correction Factor
 Corr = Corrected reading = Meter + ACF + AMP + CBL + DCF
 MD = Type of reading PK = Peak reading QP = Quasi-peak reading AV = Average reading
 PL = Antenna polarity and type V = Vertical H = Horizontal
 "*" = Readings taken with a resolution bandwidth of 10KHz do to nearby ambient signal

NOTES: Limits are from FCC Part 15 Subpart C para 15.231.

Freq MHz	Meter	ACF	AMP	DCF	Corr dBuV	Limit dBuV	Delta dBuV	Corr uV	Limit uV	Delta uV	MD	PL
317.939	81.3	17.5	-24.3	0	74.5	76.56	-2.06	5309	6726	-1417	PK	H
635.881	55.7	22.6	-25.0	0	53.3	56.56	-3.26	462	673	-211	PK	H
953.779	37.4	29.6	-24.9	0	42.1	56.56	-14.46	127	673	-546	PK	H
1272.406	45.6	31.8	-30.4	0	47	56.56	-9.56	224	673	-449	PK	H
1590.482	45.6	33.9	-29.3	0	50.2	56.56	-6.36	324	673	-349	PK	H
1908.559	46.9	36.2	-29.9	0	53.2	56.56	-3.36	457	673	-216	PK	H
2226.630	45.4	37.8	-30.5	0	52.7	56.56	-3.86	432	673	-241	PK	H
2544.712	45.9	39.2	-30.6	0	54.5	56.56	-2.06	531	673	-142	PK	H
2862.788	45.4	40.4	-31.7	0	54.1	56.56	-2.46	507	673	-166	PK	H
3180.865	44.2	42.0	-32.6	0	53.6	56.56	-2.96	479	673	-194	PK	H
317.936	82.1	17.5	-24.3	0	75.3	76.56	-1.26	5821	6726	-905	PK	V
635.873	55.7	22.6	-25.0	0	53.3	56.56	-3.26	462	673	-211	PK	V
953.779	40.8	29.6	-24.9	0	45.5	56.56	-11.06	188	673	-485	PK	V
1272.443	45.2	31.8	-30.4	0	46.6	56.56	-9.96	214	673	-459	PK	V
1590.507	45.7	33.9	-29.3	0	50.3	56.56	-6.26	327	673	-346	PK	V
1908.584	44.9	36.2	-29.9	0	51.2	56.56	-5.36	363	673	-310	PK	V
2226.660	44.9	37.8	-30.5	0	52.2	56.56	-4.36	407	673	-266	PK	V
2544.737	44.4	39.2	-30.6	0	53	56.56	-3.56	447	673	-226	PK	V
2862.813	44.4	40.4	-31.7	0	53.1	56.56	-3.46	452	673	-221	PK	V
3180.890	44.4	42.0	-32.6	0	53.8	56.56	-2.76	490	673	-183	PK	V

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		EMI Datasheet (Unintentional)			
	DNB Job Number:	78050	Date:	7 Mar 2008	Specification [X] FCC 15.209	
Customer:	Silent Call Communications					
Model Number:	SCXMIT01					
Description:	Remote Control Transmitter Non-transmitting mode					

EUT performed within the requirements of the applicable Standard(s)		[X] YES [] NO	Signed <i>Les Payne</i>
Bcn = A.H. Systems SAS-200/540 Biconical Antenna S/N 138 (30-200 Mhz) Log = EMCO 3146 Log-Periodic Antenna S/N 1284 (200-1000 Mhz) Dcf = Distance Correction Factor = 20*LOG ₁₀ (Test Distance/Specification Distance) Typ = Type of reading PK = Peak reading QP = Quasi-peak reading "*" = Readings taken with a res bandwidth of 10KHz do to nearby ambient signal	Cbl = Cable Loss Amp = Preamplifier Gain Pl = Antenna polarity V = Vertical H = Horizontal Hgt = Antenna height in meters x.xx= 1.00 to 4.00 meters Tbl = Table Position in degrees xxx = 000 to 360 degrees		

NOTES:

Freq	Meter	Correction Factors					in dBuV/m			in uV/m			Positions			
		Bcn	Log	Cbl	Amp	Dcf	Corr	Lim	Delta	Corr	Lim	Delta	Typ	Tbl	Pl	Hgt
151.205	46.2	12.0	0	1.9	-23.7	0	36.4	43.5	-7.1	66	150	-84	PK	288	H	2.24
153.855	45.2	12.3	0	1.9	-23.7	0	35.7	43.5	-7.8	61	150	-89	PK	288	H	2.25
156.355	39.8	12.5	0	2.0	-23.7	0	30.6	43.5	-12.9	34	150	-116	PK	323	H	2.24
158.972	39.3	12.6	0	2.0	-23.7	0	30.2	43.5	-13.3	32	150	-118	PK	323	H	2.24
163.081	36.9	12.8	0	2.0	-23.7	0	28	43.5	-15.5	25	150	-125	PK	323	H	2.75
193.704	29.7	14.9	0	2.2	-23.7	0	23.1	43.5	-20.4	14	150	-136	PK	292	H	2.25
222.877	38.1	0	11.2	2.3	-24.2	0	27.4	46.0	-18.6	23	200	-177	PK	105	H	1.20
226.045	34.4	0	11.3	2.4	-24.2	0	23.9	46.0	-22.1	16	200	-184	PK	105	H	1.20
313.127	39.2	0	14.6	2.8	-24.3	0	32.3	46.0	-13.7	41	200	-159	PK	81	H	1.29
344.310	41.5	0	15.8	2.9	-24.0	0	36.2	46.0	-9.8	65	200	-135	PK	111	H	1.00
415.475	38.4	0	18.0	3.2	-24.5	0	35.1	46.0	-10.9	57	200	-143	PK	111	H	1.00
152.083	45.6	12.2	0	1.9	-23.7	0	36	43.5	-7.5	63	150	-87	PK	265	V	1.37
152.590	43.2	12.2	0	1.9	-23.7	0	33.6	43.5	-9.9	48	150	-102	PK	265	V	1.00
154.413	45.0	12.3	0	1.9	-23.7	0	35.5	43.5	-8	60	150	-90	PK	300	V	1.00
160.254	39.2	12.7	0	2.0	-23.7	0	30.2	43.5	-13.3	32	150	-118	PK	301	V	1.05
163.531	39.3	12.9	0	2.0	-23.7	0	30.5	43.5	-13	33	150	-117	PK	316	V	1.15
165.446	38.9	13.0	0	2.0	-23.7	0	30.2	43.5	-13.3	32	150	-118	PK	317	V	1.15
222.893	36.5	0	11.2	2.3	-24.2	0	25.8	46.0	-20.2	19	200	-181	PK	42	V	1.47
226.056	35.9	0	11.3	2.4	-24.2	0	25.4	46.0	-20.6	19	200	-181	PK	42	V	1.21

15.207 Conducted Emissions (General Provisions)

Test Procedure:

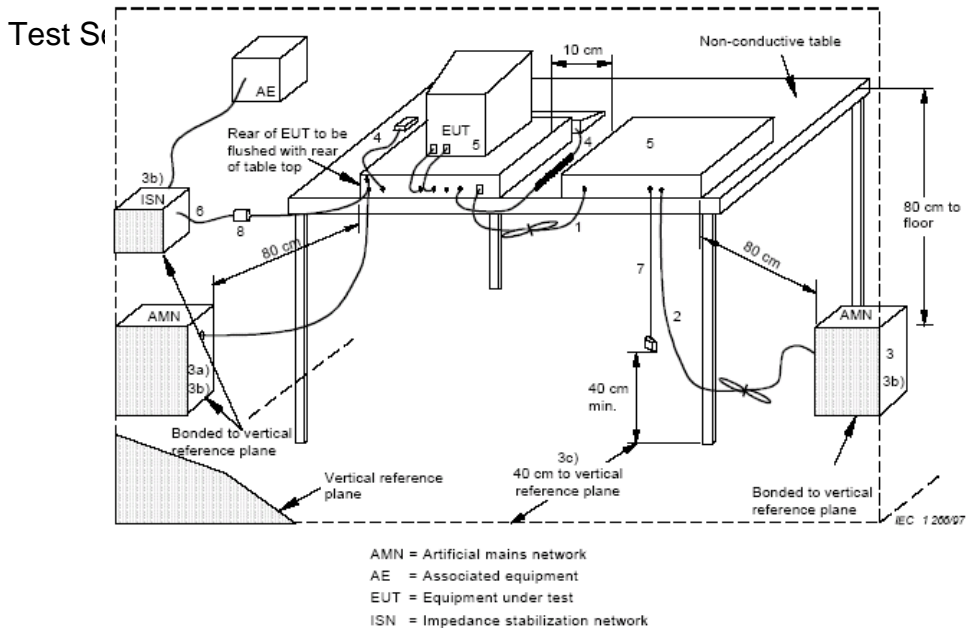
To measure conducted emissions, the EUT was set upon a wooden table in the shielded enclosure. AC power was fed into the EUT from the Artificial Mains Network. With the Artificial Mains Network connected to an HP 8568B Spectrum Analyzer, and using the HP 9825 Computer/Controller and the HP 85864B EMI Measurement Software, the spectrum was searched from 0.15 - 30 MHz for emissions emanating from the EUT.

Frequency of emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency.

EUT operating conditions:

The software provided by the client to enable the EUT to transmit continuously.

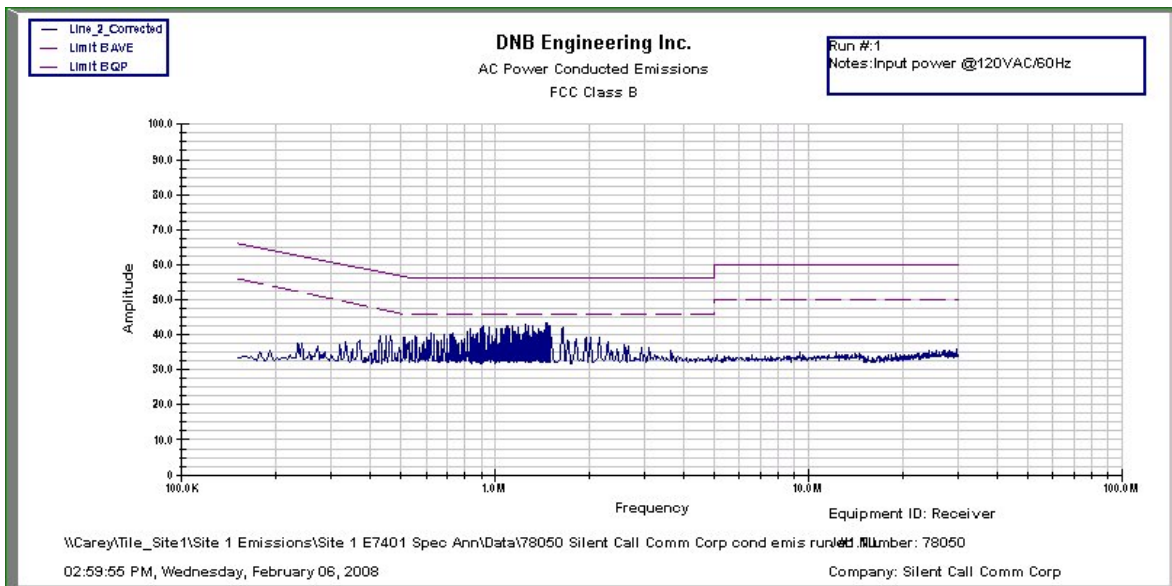
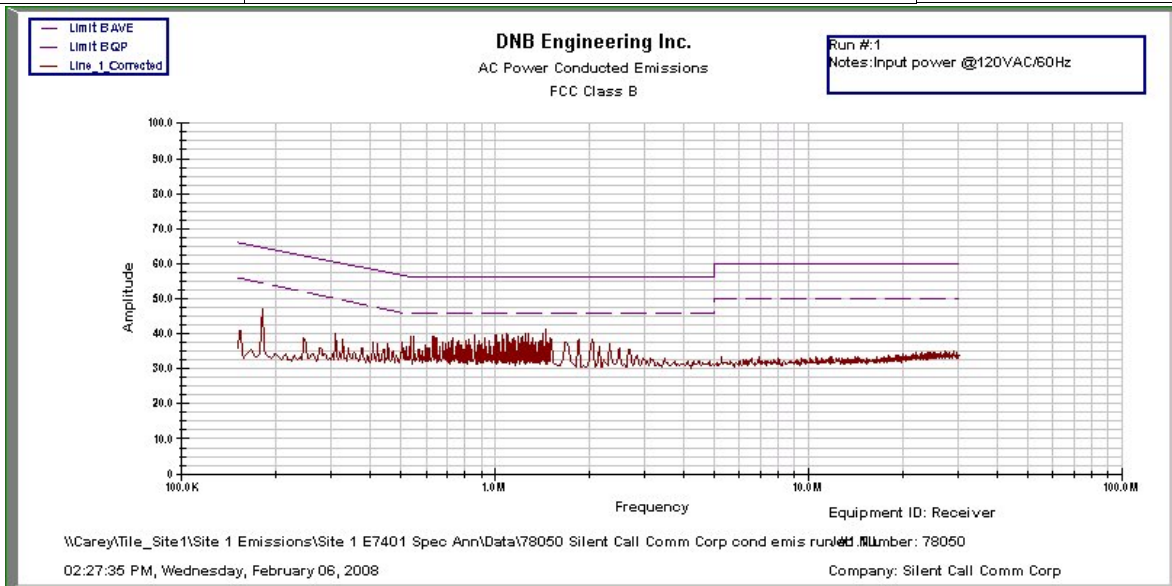




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Conducted Emissions

DNB Job Number:	78050	Date: 7 Mar 2008	Specification [X] 15.207
Customer:	Silent Call Communications		
Model Number:	SCXMIT01		
Description:	Remote Control Transmitter		



3.1.6 Duty Cycle Correction

Duty cycle correction is determined by counting the number of pulses on over a 100 ms period.

Pulse width / Time = Duty Cycle

Duty cycle correction factor = 10 log (duty cycle)

Not applicable – device is compliant without Duty Cycle Correction

		Time in ms	
Total on time per 100 ms		N/A	
Total off time per 100 ms		N/A	
Total duty cycle correction in dB		N/A	

3.1.7 Occupied Bandwidth

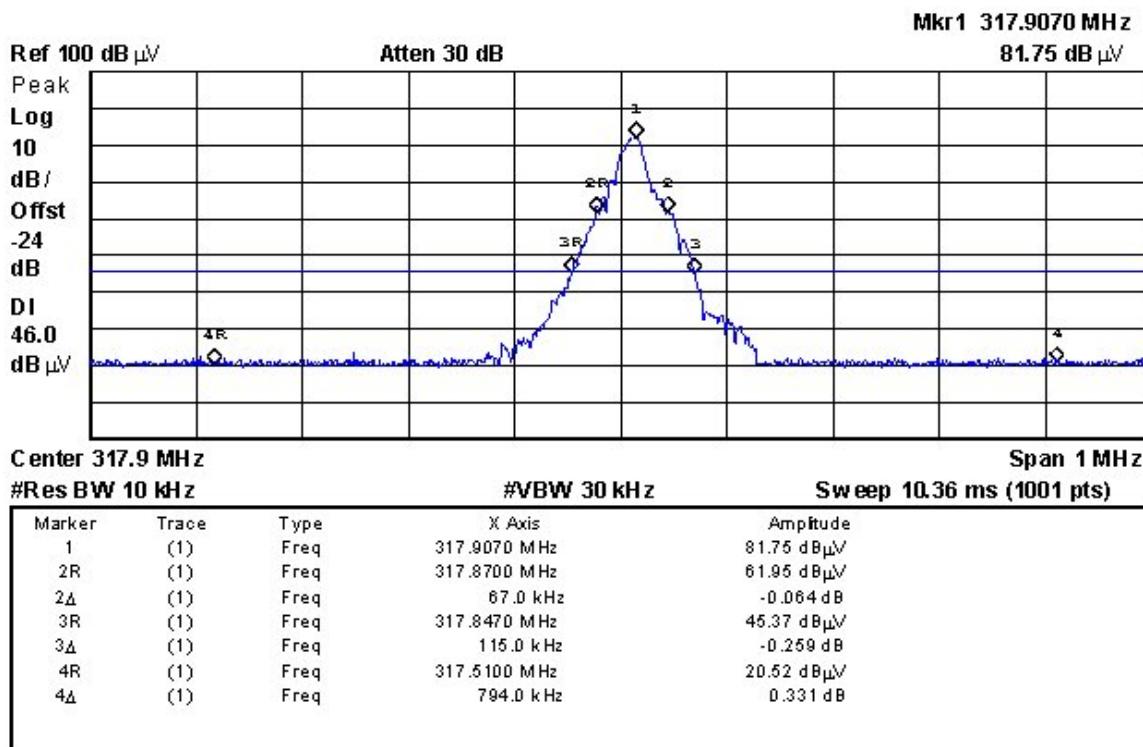
The transmitter’s occupied bandwidth at (317.907 MHz) was measured with respect to the 20dB down point of the center frequency. Part 15.231 (c) stipulates that emissions shall be no wider than 0.25% of the center frequency for devices operating above 70MHz and below 900MHz and shall be attenuated by at least 20 dB below the level of the fundamental or to the general radiated emission limits in Part 15.209, whichever is the lesser attenuation. Part 15.209 (a) specifies that the emissions from an intentional radiator shall not exceed the field strength levels in the 216 to 960 MHz band of 200 uV/m (46 dBuV/m).

When transmitting at 317.907 MHz, emissions measured at the 0.25% bandwidth of 317.907 MHz (band edges) were 20.5 dBuV/m (< 46 dBuV/m).

Lower band edge calculated as 317.112 MHz
 Lower 20dB down point is 317.870 MHz (Between 317.117 and 318.304 MHz)
 Transmitting signal fall below 46dBuV/m at 317.847 MHz (<46 dBuV/m)

Upper band edge calculated as 318.304 MHz
 Upper 20dB down point is 317.934 MHz (Between 317.117 and 318.304 MHz)
 Transmitting signal falls below 46dBuV/m at 317.962 MHz (<46 dBuV/m)

Plots showing the occupied bandwidth.



3.1.8 Photographs of Radiated Test Setup – per 2.1033(b)(7)

Radiated Emissions



3.1.8 Photographs of Radiated Test Setup – per 2.1033(b)(7)

Conducted Emissions



Measurement of Frequency Stability

EUT was tested between -20 degrees C and + 50 degrees C and no frequency drift was observed.

EUT Power was reduced until either frequency instability was observed or until the signal ceased to transmit.

No frequency instability was observed.

Temp (C)	Voltage	Frequency (MHz)	Deviation (kHz)
-20.0	3.0	317.918	0
-10.0	3.0	317.913	-5
0.0	3.0	317.908	-10
+10.0	3.0	317.908	-10
+20.0	3.0	317.918	0
+30.0	3.0	317.918	0
+40.0	3.0	317.918	0
+50.0	3.0	317.918	0

Temp (C)	Voltage	Frequency (MHz)	Deviation (kHz)
20	2.55	317.913	-5
20	3.00	317.918	0
20	3.45	317.918	0

4. LABELING REQUIREMENTS - PER 2.1033(B)(7)

Label will be constructed of 0.02-inch plastic attached as shown on the equipment with permanent adhesive.

All information on the label will be etched or screened. All methods will exceed the expected lifetime of the equipment.

The label will be large enough to allow all information to be readily legible.

4.1 Additional Label Required

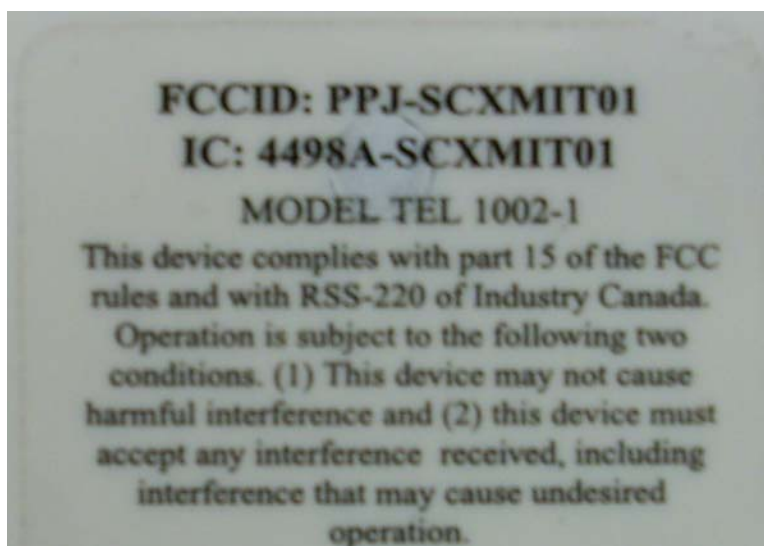
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Shown above is a copy of the label with the Part 15.19 Compliance Statement, Location of required information is checked "below".

The label will be placed in a conspicuous location on the device.

4.2 Photograph of Label Placement and Contents

Because of the small size of this device the information in 4.1 may be placed in the documentation provided to the user. The FCC ID shall be placed upon the unit. This is in accordance with FCC Part 15.19 (a) (5).



5. SCHEMATIC DIAGRAMS

Please review attachments

UNCERTAINTY TOLERANCE

DNB Engineering's Riverside Facility (3 and 10 meter Open Area Test Sites) are within acceptable uncertainty tolerances per ANSI C63.4 (1992) sections 5.4.6.1 and 5.4.6.2.

ANSI C63.4 (1992)

5.4.6.1 Site Attenuation. A measurement site shall be considered acceptable for radiated electromagnetic field measurements if the horizontal and vertical NSA derived from measurements, i.e., the "measured NSA," are within ± 4 dB of the theoretical NSA (5.4.6.3) for an ideal site.

5.4.6.1 NSA Tolerance. The ± 4 dB tolerance in 5.4.6.1 includes instrumentation calibration errors, measurement technique errors, and errors due to site anomalies. These errors are analyzed in ANSI C63.6-1988 [3], wherein it is shown that the performance of a well-built site contributes only 1 dB of the total allowable tolerance.

INFORMATION PERTAINING TO EQUIPMENT MANUFACTURED AFTER COMPLIANCE TESTING

It is prudent that manufacturers have an established Quality Assurance program to spot check their products on a periodic basis, either based upon time or quantities produced. Obviously, a change in the engineering design should be sufficient justification for a re-test.

The Quality assurance test need not be formal Verification or Certification such as required during the initial production of the product. However, it should be sufficient in scope to assure that the EMI characteristics of the product have not changed to the degree that the product exceeds the FCC limits. If a new model of a product is produced, it must undergo full Verification or Certification testing and, in case of Certification, be filed with the FCC.

It is expected that the FCC will place greater emphasis and resources in spot checking commercially available products. If a product is found not to be compliant with the Limits specified in Part 15, Subpart B, the manufacturer will be subject to the appropriate penalties imposed by the Commission. The initial Certification or Verification is sufficient to justify initial production. The additional quality assurance testing performed is the manufacturer's responsibility to assure continued compliance.

Test Equipment Log

Description	Manufacturer	M/N	S/N	Cal Due Date	Test Used On
Signal Generator	Rhode & Schwarz	SMU 200A	100094	11/28/08	RF Power Out put, Inter-Mod, Cond Spur, Rad Spur, Characteristics
Spectrum Analyzer	Agilent	E4407B	MY45103462	08/18/08	RF Power Out put, Inter-Mod, Cond Spur, Rad Spur, Characteristics, RE
S/A Display	H/P	85662A	2318A05282	10/06/08	RE
Spectrum Analyzer	H/P	85680B	2330A02791	10/06/08	RE
Q-P Adapter	H/P	85650A	2811A01240	10/06/08	RE
RF- Preselector	H/P	8566B	259101-2	10/06/08	RE
Bicon Antenna	AH Systems	SAS-200/540	524	01/02/09	RE
Logarithmic Antenna	EMCO	3146	1284	01/03/09	RE
DRG Antenna	EMCO	3115	2280	02/03/09	RE
DRG Antenna	EMCO	3115	2281	10/04/08	RE,Rad spur
50 ohm Load	Decibel	DB4303G	2309	1/11/09	RF Power Out put, Inter-Mod, Cond Spur, Rad Spur, Characteristics, RE
Directional Coupler	DNB	DNBDCRIV	12401	09/08/08	RF Power Out put, Inter-Mod, Cond Spur, Characteristics

Appendix A

Block Diagram

Please review attachments

User Manual

Please review attachments