Excellence in Compliance Testing

Certification Test Report

FCC ID: P2SBELTCLIPT
IC: 4171B-BELTCLIPT

FCC Rule Part: 15.247
IC Radio Standards Specification: RSS-210

ACS Report Number: 14-0066.W06.2A

Manufacturer: Neptune Technology Group, Inc.
Model: BCT

Test Begin Date: February 26, 2014
Test End Date: June 26, 2014

Report Issue Date: June 27, 2014

FOR THE SCOPE OF ACCREDITATION UNDER LAB Code 200612-0

This report is not be used to claim certification, approval, or endorsement by NVLAP, NIST or any government agency.

Reviewed by:
Kirby Munroe
Director, Wireless Certifications
ACS, Inc.

This report contains 19 pages

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1 GENERAL

1.1 Purpose

The purpose of this report is to demonstrate compliance with Part 15 Subpart C of the FCC's Code of Federal Regulations and Industry Canada's Radio Standards Specification RSS-210.

1.2 Product description

The BCT R900 Belt Clip Transceiver is a body-worn, battery powered, 910-920MHz transceiver that is used in walk-by mode to read RF-communicating water meters manufactured by Neptune Technology Group. It stores readings on an SD card, and, upon command via Bluetooth from the handheld computer, transmits the readings to another computing device via Bluetooth.

The BCT is electrically identical to the Neptune model 13253-000 R900 Belt Clip Receiver (FCC ID: P2SBELTCLIP, IC: 4171B-BELTCLIP) with the exception of the additional firmware to activate the previously populated 900 MHz transmitter.

Technical Details:

Detail	Description
Frequency Range	911.0815 - 919.0769
Number of Channels	50
Modulation Format	OOK
Operating Voltage	4.2Vdc Battery
Antenna Type / Gain	PCB Dipole Antenna / -2 dBi

Manufacturer Information:
Neptune Technology Group, Inc.
1600 Alabama Highway 229
Tallassee, AL 36078

EUT Serial Numbers: BC000127

Test Sample Condition: The test samples were provided in good working order with no visible defects.

1.3 Test Methodology and Considerations

The radiated emissions evaluations were conducted up to the 10th harmonic for all available modulations. Preliminary measurements were collected for the EUT set in three orthogonal orientations. The measurements reported herein correspond to the orientation leading to the highest emissions relative to the limits.

Power settings utilized during testing are as follows:
LCH (911.08147MHz) Power Setting: 2930
HCH (919.07686MHz) Power Setting: 2930

The EUT operates from internal batteries but can be connected to an external charger or computer via a USB port. The 900 MHz radio is not operable when an external device is connected via the USB port. The EUT was evaluated for radiated emissions in the stand-alone configuration only.

The 900 MHz radio is capable of transmitting simultaneously with the collocated Bluetooth transmitter therefore radiated intermodulation products where evaluated and found to be in compliance.

2 TEST FACILITIES

2.1 Location

The radiated and conducted emissions test sites are located at the following address:

Advanced Compliance Solutions
5015 B.U. Bowman Drive
Buford, GA 30518
Phone: (770) 831-8048
Fax: (770) 831-8598

2.2 Laboratory Accreditations/Recognitions/Certifications

ACS is accredited to ISO/IEC 17025 by the National Institute of Standards and Technology under their National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 200612-0. Unless otherwise specified, all tests methods described within this report are covered under the ISO/IEC 17025 scope of accreditation.

The Semi-Anechoic Chamber Test Site, Open Area Test Site (OATS) and Conducted Emissions Site have been fully described, submitted to, and accepted by the FCC, Industry Canada and the Japanese Voluntary Control Council for Interference by information technology equipment.

FCC Registration Number: 511277
Industry Canada Lab Code: IC 4175A
VCCI Member Number: 1831

- VCCI OATS Registration Number R-1526
- VCCI Conducted Emissions Site Registration Number: C-1608

2.3 Radiated Emissions Test Site Description

2.3.1 Semi-Anechoic Chamber Test Site

The Semi-Anechoic Chamber Test Site consists of a 20' x 30' x 18' shielded enclosure. The chamber is lined with Toyo Ferrite Grid Absorber, model number FFG-1000. The ferrite tile grid is 101 x 101 x 19mm thick and weighs approximately 550 grams. These tiles are mounted on steel panels and installed directly on the inner walls of the chamber.

The turntable is 150cm in diameter and is located 160cm from the back wall of the chamber. The chamber is grounded via 1 – 8' copper ground rod, installed at the center of the back wall, it is bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is all steel, flush mounted table installed in an all steel frame. The table is remotely operated from inside the control room located 25' from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Behind the turntable is a 3' x 6' x 4' deep shielded pit used for support equipment if necessary. The pit is equipped with 1 – 4" PVC chases from the turntable to the pit that allow for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit.

A diagram of the Semi-Anechoic Chamber Test Site is shown in Figure 2.3-1 below:

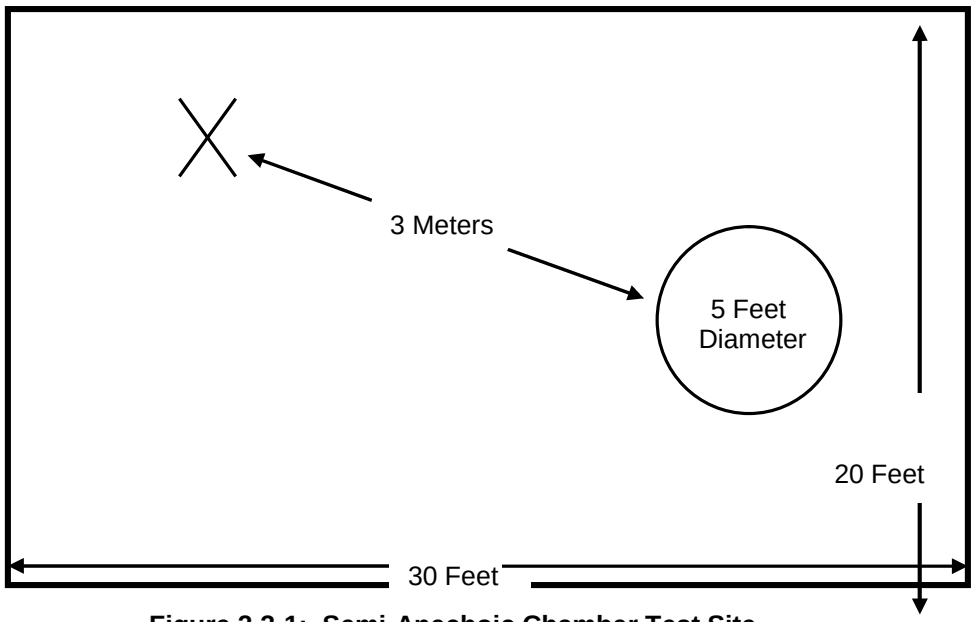

Figure 2.3-1: Semi-Anechoic Chamber Test Site

2.3.2 Open Area Tests Site (OATS)

The open area test site consists of a 40' x 66' concrete pad covered with a perforated electro-plated galvanized sheet metal. The perforations in the sheet metal are 1/8" holes that are staggered every 3/16". The individual sheets are placed to overlap each other by 1/4" and are riveted together to provide a continuous seam. Rivets are spaced every 3" in a 3 x 20 meter perimeter around the antenna mast and EUT area. Rivets in the remaining area are spaced as necessary to properly secure the ground plane and maintain the electrical continuity.

The entire ground plane extends 12' beyond the turntable edge and 16' beyond the antenna mast when set to a 10 meter measurement distance. The ground plane is grounded via 4 – 8' copper ground rods, each installed at a corner of the ground plane and bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is an all aluminum 10' flush mounted table installed in an all aluminum frame. The table is remotely operated from inside the control room located 40' from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Adjacent to the turntable is a 7' x 7' square and 4' deep concrete pit used for support equipment if necessary. The pit is equipped with 5 – 4" PVC chases from the pit to the control room that allow for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit. The pit is covered with 2 sheets of 1/4" diamond style re-enforced steel sheets. The sheets are painted to match the perforated steel ground plane; however the underside edges have been masked off to maintain the electrical continuity of the ground plane. All reflecting objects are located outside of the ellipse defined in ANSI C63.4.

A diagram of the Open Area Test Site is shown in Figure 2.3-2 below:

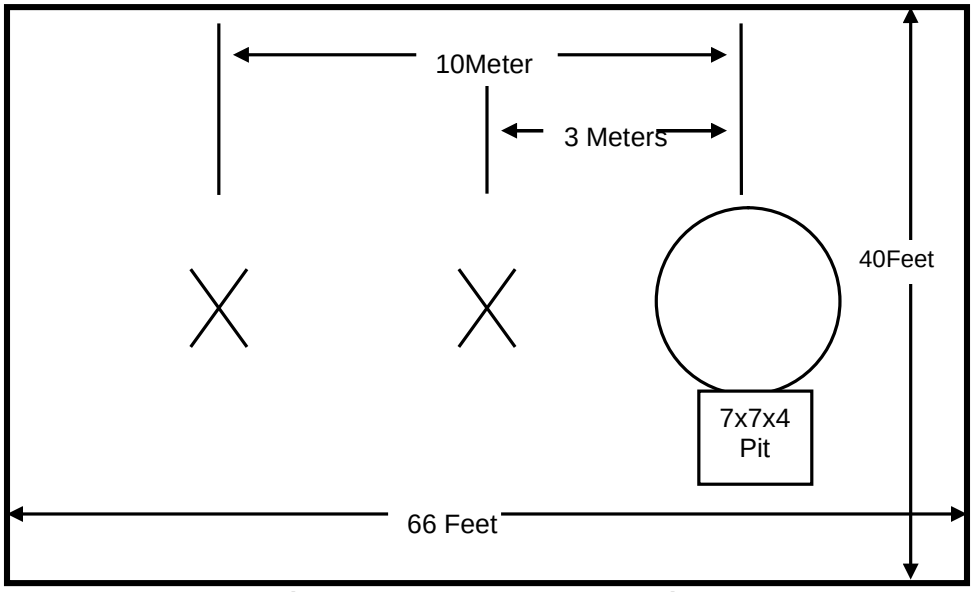

Figure 2.3-2: Open Area Test Site

2.4 Conducted Emissions Test Site Description

The AC mains conducted EMI site is located in the main EMC lab. It consists of an 8' x 8' solid aluminum horizontal ground reference plane (GRP) bonded every 3" to an 8' X 8' vertical ground plane.

The site is of sufficient size to test table top and floor standing equipment in accordance with section 6.1.4 of ANSI C63.4.

A diagram of the room is shown below in figure 2.4-1:

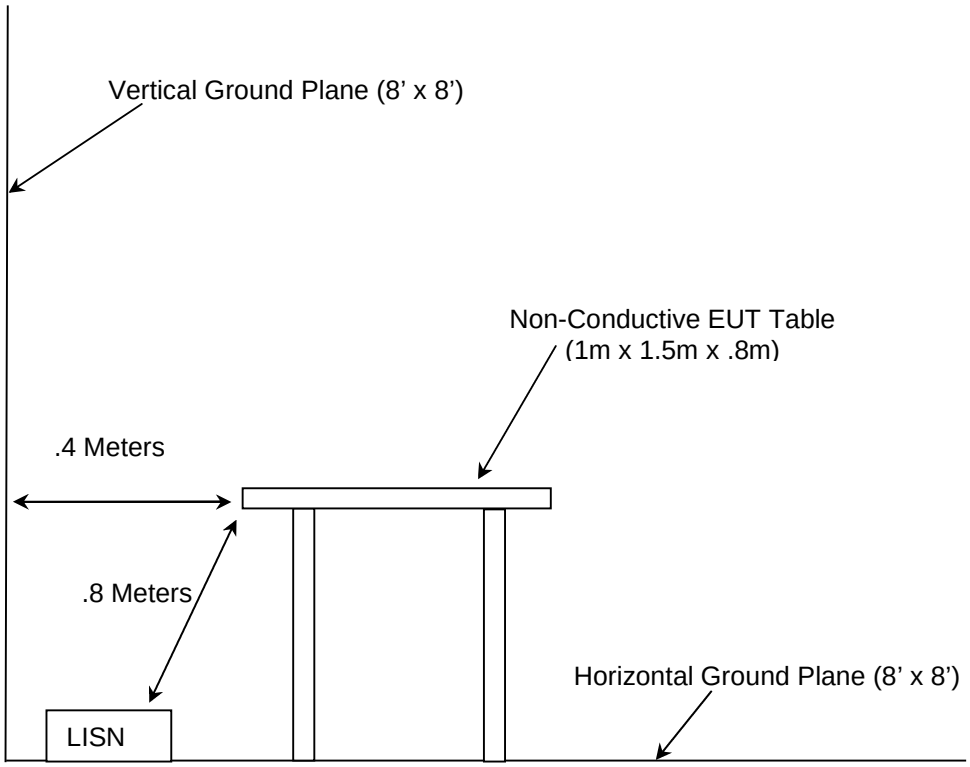

Figure 2.4-1: AC Mains Conducted EMI Site

3 APPLICABLE STANDARD REFERENCES

The following standards were used:

- ANSI C63.4-2003: Method of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the 9KHz to 40GHz
- ANSI C63.10-2009: American National Standard for Testing Unlicensed Wireless Devices
- US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures, 2014
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2014
- FCC Public Notice DA 00-705 – Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems, March 30, 2000
- Industry Canada Radio Standards Specification: RSS-210 – Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment, Issue 8, December 2010
- Industry Canada Radio Standards Specification: RSS-GEN – General Requirements and Information for the Certification of Radiocommunication Equipment, Issue 3, December 2010.

4 LIST OF TEST EQUIPMENT

The calibration interval of test equipment is annually or the manufacturer's recommendations. Where the calibration interval deviates from the annual cycle based on the instrument manufacturer's recommendations, it shall be stated below.

Table 4-1: Test Equipment

AssetID	Manufacturer	Model #	Equipment Type	Serial #	Last Calibration Date	Calibration Due Date
1	Rohde & Schwarz	ESMI - Display	Spectrum Analyzers	833771/007	8/2/2012	8/2/2014
2	Rohde & Schwarz	ESMI-Receiver	Spectrum Analyzers	839587/003	8/2/2012	8/2/2014
30	Spectrum Technologies	DRH-0118	Antennas	970102	4/23/2013	4/23/2015
40	EMCO	3104	Antennas	3211	2/14/2013	2/14/2015
73	Agilent	8447D	Amplifiers	2727A05624	7/16/2013	7/16/2014
153	EMCO	3825/2	LISN	9411-2268	7/31/2012	7/31/2014
167	ACS	Chamber EMI Cable Set	Cable Set	167	11/7/2013	11/7/2014
168	Hewlett Packard	11947A	Attenuators	44829	1/27/2014	1/27/2015
267	Agilent	N1911A	Meters	MY45100129	7/30/2013	7/30/2015
268	Agilent	N1921A	Sensors	MY45240184	7/30/2013	7/30/2015
292	Florida RF Cables	SMR-290AW-480.0-SMR	Cables	None	3/26/2013	3/26/2014
292	Florida RF Cables	SMR-290AW-480.0-SMR	Cables	None	3/17/2014	3/17/2015
324	ACS	Belden	Cables	8214	6/17/2013	6/17/2014
331	Microwave Circuits	H1G513G1	Filters	31417	6/19/2013	6/19/2014
338	Hewlett Packard	8449B	Amplifiers	3008A01111	7/30/2013	7/30/2015
340	Aeroflex/Weinschel	AS-20	Attenuators	7136	7/30/2013	7/30/2014
412	Electro Metrics	LPA-25	Antennas	1241	7/27/2012	7/27/2014
422	Florida RF	SMS-200AW-72.0-SMR	Cables	805	11/7/2013	11/7/2014
616	Florida RF Cables	SMRE-200W-12.0-SMRE	Cables	N/A	9/26/2013	9/26/2014
622	Rohde & Schwarz	FSV40	Analyzers	101338	11/19/2013	11/19/2014

5 SUPPORT EQUIPMENT

Table 5-1: Support Equipment

Item	Equipment Type	Manufacturer	Model Number	Serial Number
1	Laptop Computer	Dell	D410	N/A
2	Laptop Power Supply	Dell	PA-1900-02D	CN-09T215-71615-417-05A0
3	Ethernet Hub	Netgear	GS105 v3	27310A3406D01
4	DC Power Supply	Bestec	EA0121WAA	10G030813

6 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM

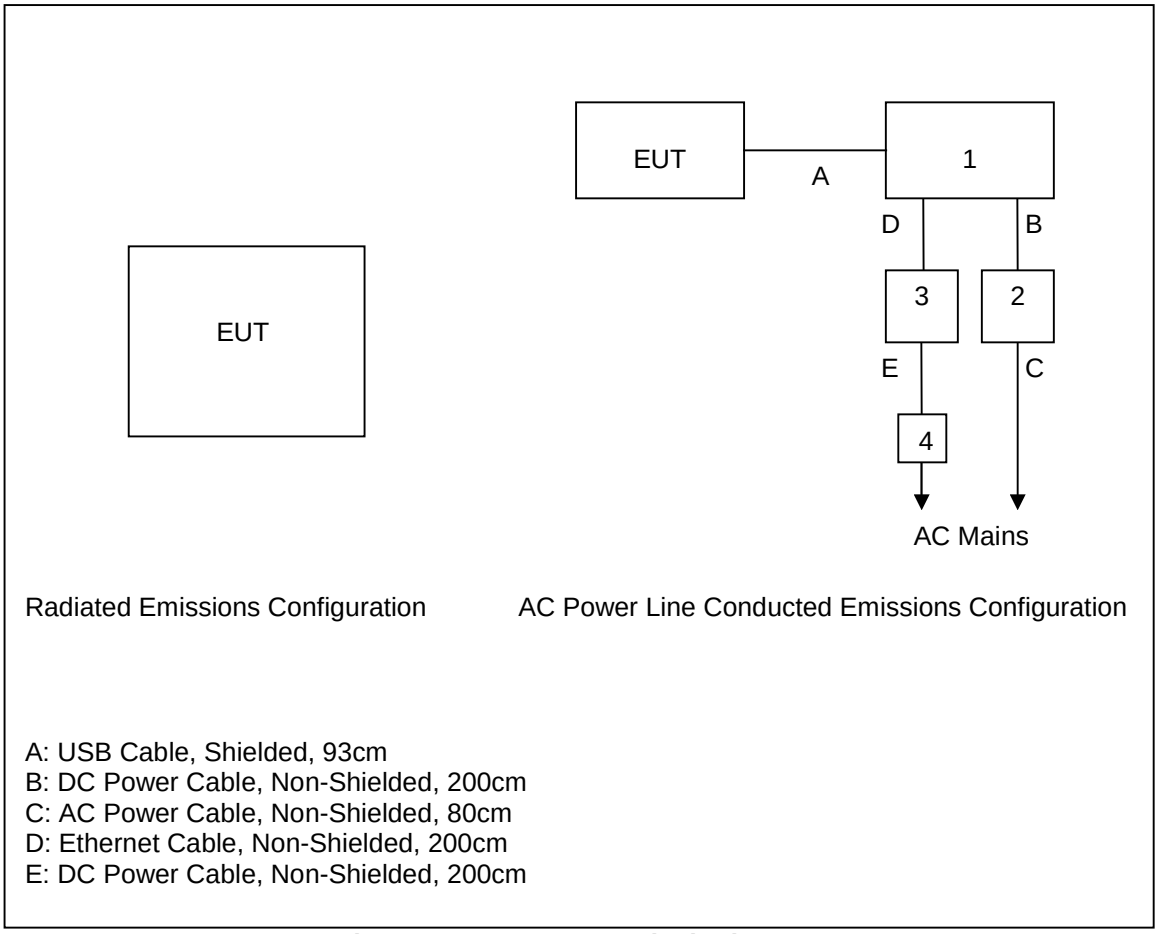

Figure 6-1: Test Setup Block Diagram

7 SUMMARY OF TESTS

Along with the tabular data shown below, plots were taken of all signals deemed important enough to document.

7.1 Antenna Requirement – FCC: Section 15.203

The antenna used is a PCB dipole antenna with -2 dBi gain, which meets the requirements of Section 15.203.

7.2 Power Line Conducted Emissions – FCC 15.207; IC RSS-Gen 7.2.4

7.2.1 Measurement Procedure

ANSI C63.4 sections 6 and 7 were the guiding documents for this evaluation. Conducted emissions were performed from 150kHz to 30MHz with the spectrum analyzer's resolution bandwidth set to 9kHz and the video bandwidth set to 30kHz. The calculation for the conducted emissions is as follows:

Corrected Reading = Analyzer Reading + LISN Loss + Cable Loss
Margin = Applicable Limit - Corrected Reading

7.2.2 Measurement Results

Results of the test are shown below in Tables 7.2.2-1 and 7.2.2-2.

Table 7.2.2-1: Conducted EMI Results Line 1

Frequency (MHz)	Uncorrected Reading		Total Correction Factor (dB)	Corrected Level		Limit		Margin (dB)	
	Quasi-Peak	Average		Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
0.637356	26.984	16.942	10.026	37.01	26.968	56	46	18.99	19.032
0.621074	29.627	20.205	10.011	39.637	30.216	56	46	16.363	15.784
0.48415	29.805	15.764	9.989	39.794	25.753	56.453	46.453	16.659	20.699
0.311024	29.57	27.412	9.994	39.563	37.406	61.399	51.399	21.836	13.993
0.206444	33.002	23.587	10.101	43.103	33.688	64.387	54.387	21.285	20.7
0.150016	37.1	23.144	10.182	47.282	33.326	66	56	18.718	22.674

Table 7.2.2-2: Conducted EMI Results Line 2

Frequency (MHz)	Uncorrected Reading		Total Correction Factor (dB)	Corrected Level		Limit		Margin (dB)	
	Quasi-Peak	Average		Quasi-Peak	Average	Quasi-Peak	Average	Quasi-Peak	Average
0.617825	32.209	21.101	10.008	42.216	31.109	56	46	13.784	14.891
0.480499	32.481	17.841	9.989	42.47	27.83	56.557	46.557	14.087	18.727
0.459605	33.162	19.906	9.989	43.151	29.896	57.154	47.154	14.003	17.258
0.423431	32.684	22.608	9.989	42.673	32.597	58.188	48.188	15.515	15.591
0.270631	34.017	28.363	10.026	44.043	38.389	62.553	52.553	18.51	14.164
0.212481	36.892	26.54	10.094	46.985	36.634	64.215	54.215	17.229	17.581

7.3 Peak Output Power - FCC 15.247(b)(2); IC RSS-210 A8.4(1)

7.3.1 Measurement Procedure (Conducted Method)

The RF output port of the EUT was directly connected to the input of a power meter. The device employs ≥ 50 channels therefore the power is limited to 1 Watt.

7.3.2 Measurement Results

Results are shown below in Table 7.3.2-1 below:

Table 7.3.2-1: RF Output Power

Frequency [MHz]	Level [dBm]
911.0815	18.76
919.0769	18.37

7.4 Channel Usage Requirements

7.4.1 Carrier Frequency Separation – FCC 15.247(a)(1); IC RSS-210 A8.1(b)

7.4.1.1 Measurement Procedure

The RF output port of the EUT was directly connected to the input of the spectrum analyzer. The span of the spectrum analyzer was set wide enough to capture two adjacent peaks and the RBW and VBW were set to ≥ 1% of the span.

7.4.1.2 Measurement Results

Results are shown below in Figure 7.4.1.2-1.

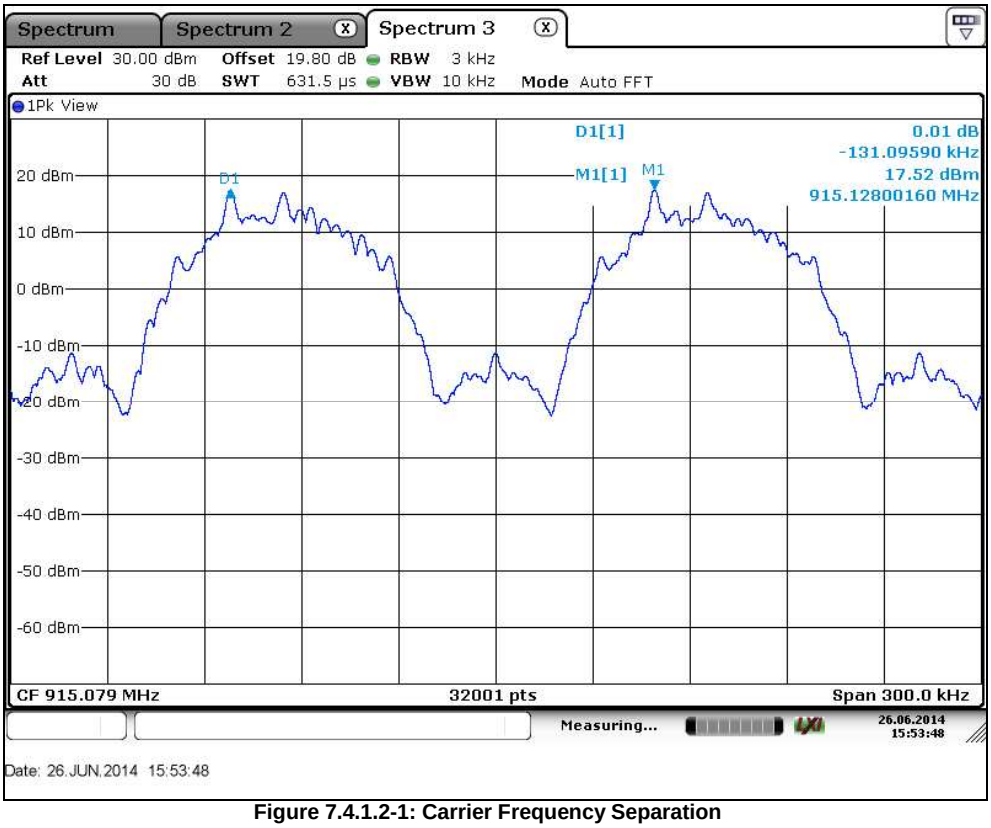

Figure 7.4.1.2-1: Carrier Frequency Separation

7.4.2 Number of Hopping Channels – FCC 15.247(a)(1)(i); IC RSS-210 A8.1(c)

7.4.2.1 Measurement Procedure

The RF output port of the EUT was directly connected to the input of the spectrum analyzer. The span of the spectrum analyzer was set wide enough to capture the frequency band of operation. The RBW was set to ≥ 1% of the span and VBW set to ≥ RBW.

7.4.2.2 Measurement Results

Results are shown below in Figure 7.4.2.2-1.

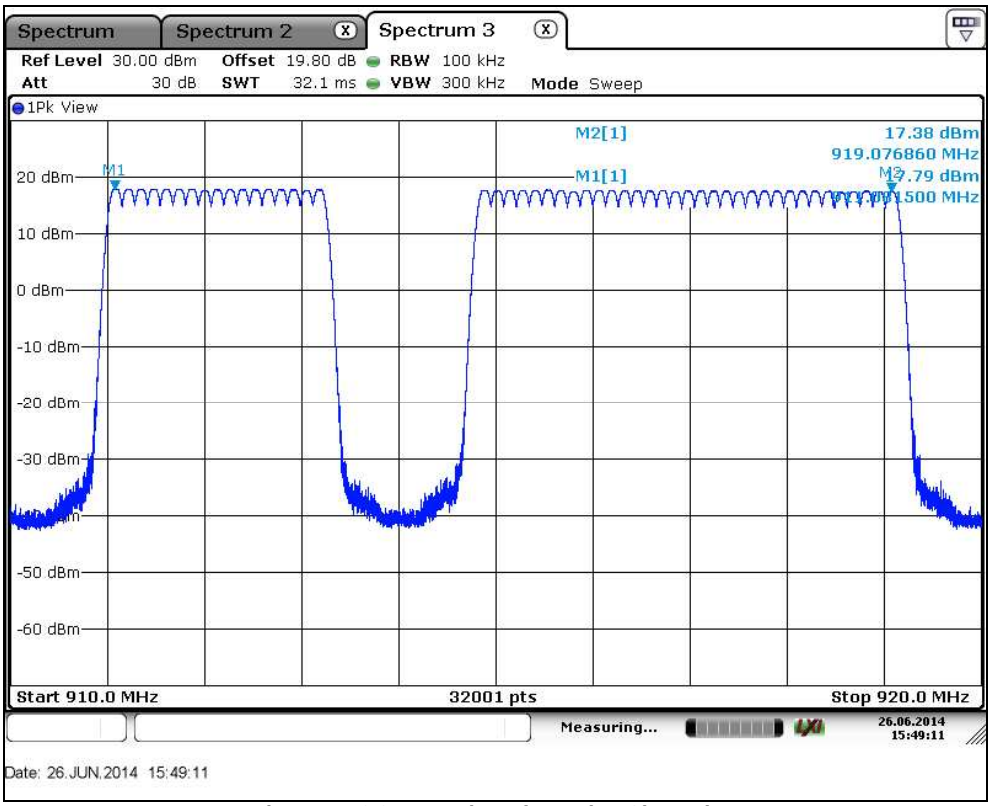

Figure 7.4.2.2-1: Number of Hopping Channels

7.4.3 Channel Dwell Time – FCC 15.247(a)(1)(i); IC RSS-210 A8.1(c)

There are 50 channels therefore the average time of occupancy on any channel in a 20 second period is limited to 400ms. See the theory of operation for detailed justification of the channel dwell time. Maximum channel dwell time on any given single channel is 366.4ms.

7.4.4 20dB / 99% Bandwidth - FCC 15.247(a)(1)(i); IC RSS-210 A8.1(c)

7.4.4.1 Measurement Procedure

The RF output port of the EUT was directly connected to the input of the spectrum analyzer. The span of the spectrum analyzer display was set between two times and five times the occupied bandwidth (OBW) of the emission. The RBW of the spectrum analyzer was set to approximately 1 % to 5 % of the OBW. The trace was set to max hold with a peak detector active. The Delta function of the analyzer was utilized to determine the 20 dB bandwidth of the emission.

The occupied bandwidth measurement function of the analyzer was used for the 99% bandwidth. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth was set to 3 times the resolution bandwidth. A sampling detector was used.

7.4.4.2 Measurement Results

Results are shown in Table 7.4.4.2-1 and Figures 7.4.4.2-1 to 7.4.4.2-4 below.

Table 7.4.4.2-1: 20dB / 99% Bandwidth

Frequency [MHz]	20dB Bandwidth [kHz]	99% Bandwidth [kHz]
911.0815	75.93	70.00
919.0769	75.64	69.69

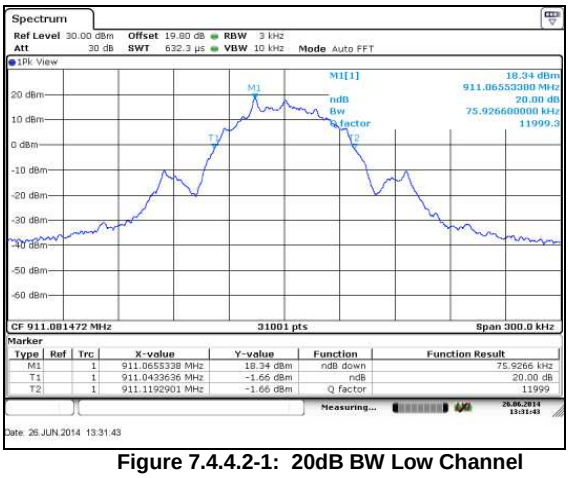

Figure 7.4.4.2-1: 20dB BW Low Channel

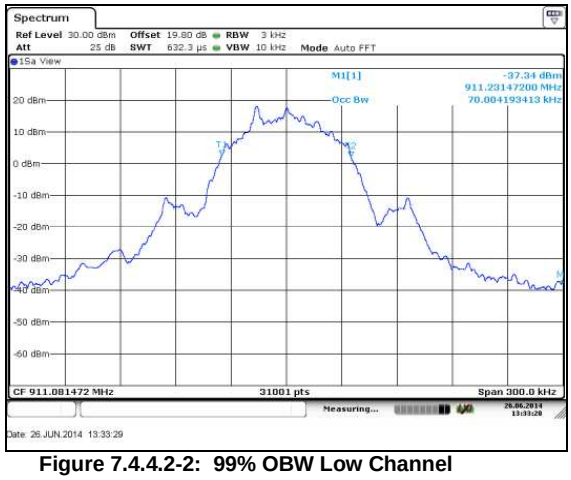

Figure 7.4.4.2-2: 99% OBW Low Channel

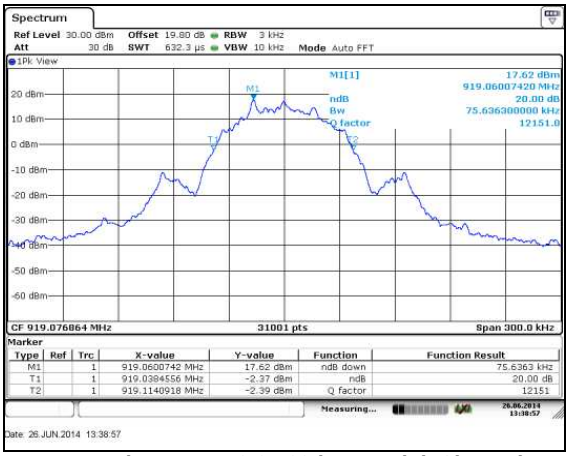

Figure 7.4.4.2-3: 20dB BW High Channel

Figure 7.4.4.2-4: 99% OBW High Channel

7.5 Band-Edge Compliance and Spurious Emissions

7.5.1 Band-Edge Compliance of RF Conducted Emissions - FCC 15.247(d); IC RSS-210 A8.5

7.5.1.1 Measurement Procedure

The RF output port of the EUT was directly connected to the input of the spectrum analyzer. The EUT was investigated at the lowest and highest channel available to determine band-edge compliance. For each measurement the spectrum analyzer's RBW was set to ≥ 1% of the span, and the VBW was set to >> RBW.

7.5.1.2 Measurement Results

Results are shown in the Figures 7.5.1.2-1 to 7.5.1.2-4 below.

NON-HOPPING MODE:

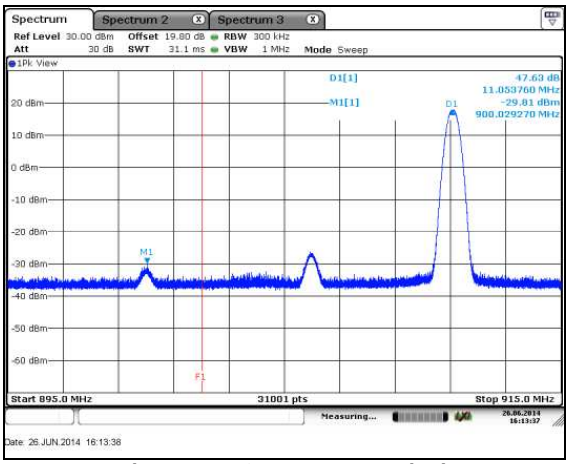

Figure 7.5.1.2-1: Lower Band-edge

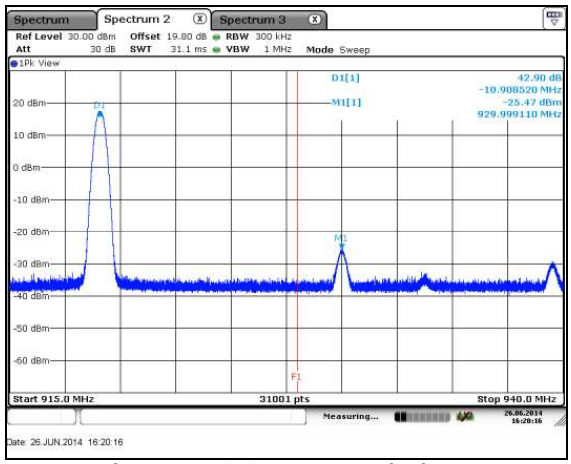

Figure 7.5.1.2-2: Upper Band-edge

HOPPING MODE:

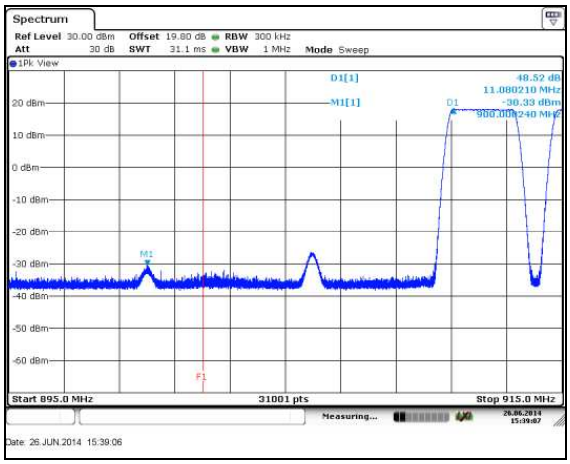

Figure 7.5.1.2-3: Lower Band-edge Hopping

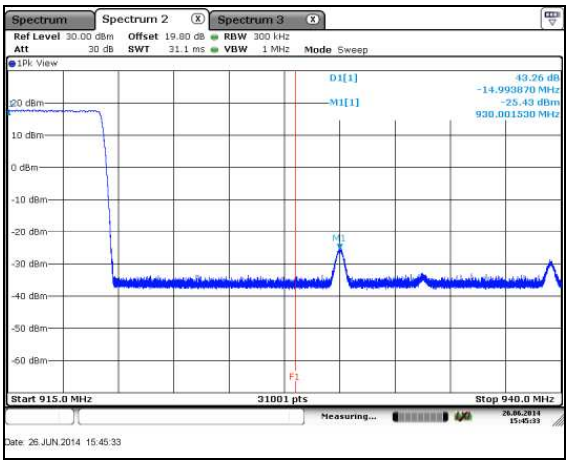

Figure 7.5.1.2-4: Upper Band-edge Hopping

7.5.2 RF Conducted Spurious Emissions - FCC 15.247(d); IC RSS-210 A8.5

7.5.2.1 Measurement Procedure

The RF output port of the EUT was directly connected to the input of the spectrum analyzer. The EUT was investigated for conducted spurious emissions from 30MHz to 10GHz, 10 times the highest fundamental frequency. Measurements were made at the low, center and high channels of the EUT. For each measurement, the spectrum analyzer's RBW was set to 100kHz. A peak detector function was used with the trace set to max hold.

7.5.2.2 Measurement Results

Results are shown below in Figures 7.5.2.2-1 to 7.5.2.2-4:

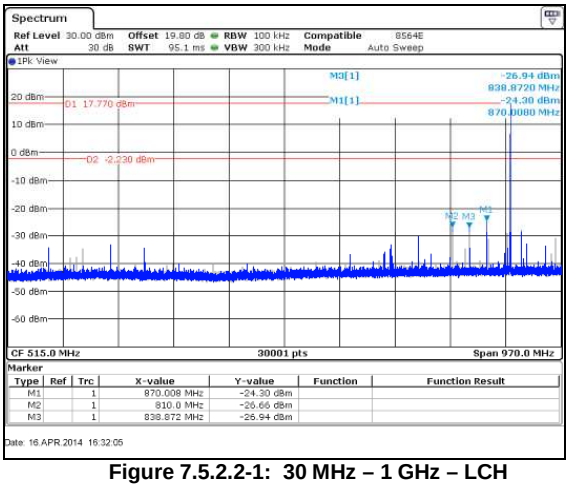

Figure 7.5.2.2-1: 30 MHz – 1 GHz – LCH

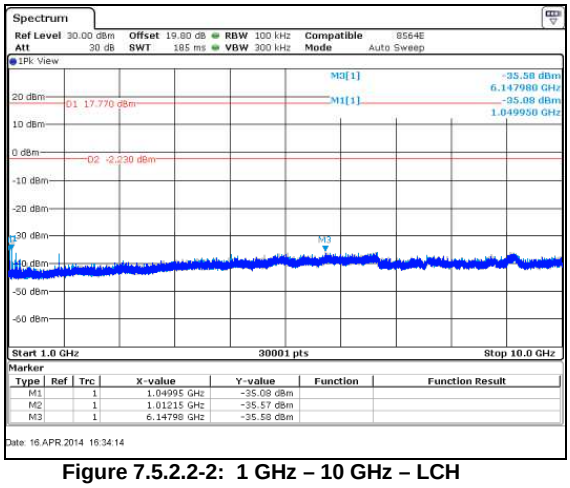

Figure 7.5.2.2-2: 1 GHz – 10 GHz – LCH

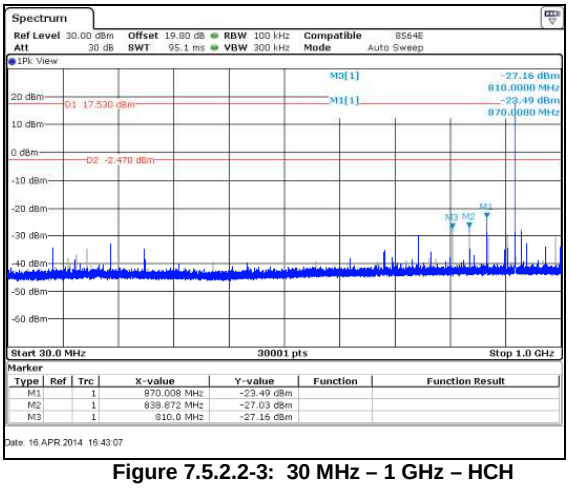

Figure 7.5.2.2-3: 30 MHz – 1 GHz – HCH

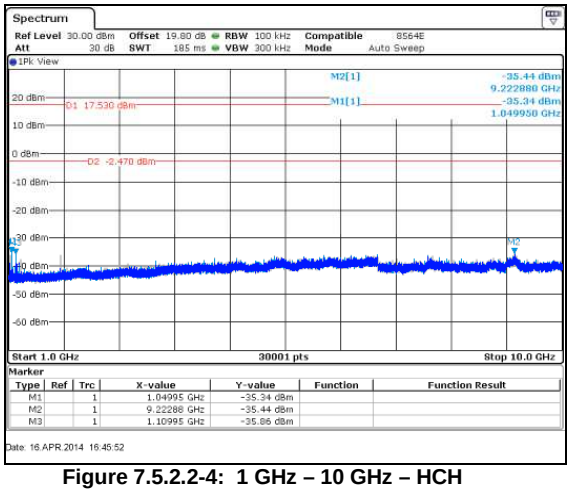

Figure 7.5.2.2-4: 1 GHz – 10 GHz – HCH

7.5.3 Radiated Spurious Emissions - FCC 15.205, 15.209; IC RSS-210 2.2, RSS-Gen 7.2.2

7.5.3.1 Measurement Procedure

Radiated emissions tests were made over the frequency range of 30MHz to 10GHz, 10 times the highest fundamental frequency.

The EUT was rotated through 360° and the receive antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies below 1000MHz, quasi-peak measurements were made using a resolution bandwidth RBW of 120 kHz and a video bandwidth VBW of 300 kHz. For frequencies above 1000MHz, peak and average measurements were made with RBW and VBW of 1 MHz and 3MHz respectively.

The EUT was caused to generate a continuous modulated carrier on the hopping channel.

Each emission found to be in a restricted band was compared to the applicable radiated emission limits.

Radiated spurious emissions were evaluated for all orientations and worst case data presented. Worst case orientation was Z-position. See test setup photos for additional detail.

7.5.3.2 Measurement Results

Radiated spurious emissions found in the band of 30MHz to 10GHz are reported in the Table 7.5.3.2-1 below.

Table 7.5.3.2-1: Radiated Spurious Emissions Tabulated Data

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel										
2733.244416	53.11	49.25	H	-4.55	48.56	44.70	74.0	54.0	25.4	9.3
2733.244416	50.29	45.32	V	-4.55	45.74	40.77	74.0	54.0	28.3	13.2
3644.325888	49.62	42.63	H	-1.19	48.43	41.44	74.0	54.0	25.6	12.6
3644.325888	47.60	36.07	V	-1.19	46.41	34.88	74.0	54.0	27.6	19.1
1677.7	51.77	46.05	H	-9.42	42.35	36.63	74.0	54.0	31.6	17.4
1677.7	52.38	47.30	V	-9.42	42.96	37.88	74.0	54.0	31.0	16.1
1049.93	61.54	56.16	H	-13.13	48.41	43.03	74.0	54.0	25.6	11.0
1049.93	58.23	52.67	V	-13.13	45.10	39.54	74.0	54.0	28.9	14.5
1109.91	60.47	54.38	H	-12.74	47.73	41.64	74.0	54.0	26.3	12.4
1109.91	56.74	51.89	V	-12.74	44.00	39.15	74.0	54.0	30.0	14.9
1169.93	58.51	54.95	H	-12.35	46.16	42.60	74.0	54.0	27.8	11.4
1169.93	54.48	52.12	V	-12.35	42.13	39.77	74.0	54.0	31.9	14.2
1301.08	54.26	49.17	H	-11.49	42.77	37.68	74.0	54.0	31.2	16.3
1301.08	52.38	46.18	V	-11.49	40.89	34.69	74.0	54.0	33.1	19.3
High Channel										
2757.230592	54.94	51.89	H	-4.45	50.49	47.44	74.0	54.0	23.5	6.6
2757.230592	51.25	46.27	V	-4.45	46.80	41.82	74.0	54.0	27.2	12.2
3676.307456	50.74	44.63	H	-1.08	49.66	43.55	74.0	54.0	24.3	10.4
3676.307456	48.24	37.95	V	-1.08	47.16	36.87	74.0	54.0	26.8	17.1
7352.614912	45.91	35.15	H	7.65	53.56	42.80	74.0	54.0	20.4	11.2
8440.04	47.31	37.98	H	8.50	55.81	46.48	74.0	54.0	18.2	7.5
1678.8	52.66	47.12	H	-9.41	43.25	37.71	74.0	54.0	30.8	16.3
1678.8	54.61	50.65	V	-9.41	45.20	41.24	74.0	54.0	28.8	12.8
1049.93	60.58	55.86	H	-13.13	47.45	42.73	74.0	54.0	26.6	11.3
1049.93	56.47	51.13	V	-13.13	43.34	38.00	74.0	54.0	30.7	16.0
1109.91	59.33	54.81	H	-12.74	46.59	42.07	74.0	54.0	27.4	11.9
1109.91	56.48	52.15	V	-12.74	43.74	39.41	74.0	54.0	30.3	14.6
1169.93	58.43	54.74	H	-12.35	46.08	42.39	74.0	54.0	27.9	11.6
1169.93	55.83	51.31	V	-12.35	43.48	38.96	74.0	54.0	30.5	15.0
1308.96	56.17	51.57	H	-11.44	44.73	40.13	74.0	54.0	29.3	13.9
1308.96	52.69	45.44	V	-11.44	41.25	34.00	74.0	54.0	32.7	20.0

7.5.3.3 Sample Calculation:

$R_C = R_U + CF_T$

Where:

CF_T = Total Correction Factor (AF+CA+AG)-DC (Average Measurements Only)
R_U = Uncorrected Reading
R_C = Corrected Level
AF = Antenna Factor
CA = Cable Attenuation
AG = Amplifier Gain
DC = Duty Cycle Correction Factor

Example Calculation: Peak

Corrected Level: 53.11 - 4.55 = 48.56dBuV/m
Margin: 74dBuV/m – 48.56dBuV/m = 25.4dB

Example Calculation: Average

Corrected Level: 49.25 - 4.55 - 0 = 44.70dBuV
Margin: 54dBuV – 44.70dBuV = 9.3dB

8 CONCLUSION

In the opinion of ACS, Inc. the BCT, manufactured by Neptune Technology Group, Inc. meets the requirements of FCC Part 15 subpart C and Industry Canada's Radio Standards Specification RSS-210 as applicable to the 900 MHz radio characteristics.

END REPORT