Technical Information

	Applicant	Manufacturer		
Name:	Bosch Security Systems	Name:	Bosch Security Systems Inc. China Factory	
Address:	130 Perinton Parkway	Address: Mei Chi Industrial Area, Blk B		
City, State, Zip:	Fairport, New York 14450	City, State, Z	ip: Qian Shan Zhuhai, Guangdong 51907,	
			China	

Test Specifications: FCC Part 15, Subpart C Paragraph 15.247, FCC Part 15, Subpart B

Paragraph 15 (a)

Industry Canada RSS-210 Issue 7 Annex 8, and RSS-Gen Issue 2

Test Procedure: ANSI C63.4: 2003

Test Sample Description

Test Sample: wLSN Intertia Detector

Brandname: Bosch

Model Number: ISW-BIN1-S135Y

FCC ID: T3XBIN1-S135Y

Type: Frequency Hopping Spread Spectrum Transceiver

Power Requirements: Four 1.5V AA Alkaline Batteries

Frequency of Operation: 902 MHz to 928 MHz

Tests Performed

FCC	Industry Canada	Test Method
15.247(a)(1)	RSS-210 Annex 8 A8.1(2)	Carrier Frequency Separation / Number of hopping frequencies
15.247(a)(1)	RSS-210 Annex 8 A8.1(2)	20 dB Bandwidth
15.247(a)(1)(i)	RSS-210 Annex 8 A8.1(3)	Occupancy Time
15.247(b)(2)	RSS-210 Annex 8 A8.4(1)	Output Power
15.247 (d)	RSS-210 Annex 8 A8.5	Transmitter Spurious Radiated Emissions, Restricted Bands / Band edge Measurements
15.109(a)	RSS-Gen Paragraph 6	Receiver Spurious Radiated Emissions
15.35	RSS-Gen Paragraph 4.5	Duty Cycle Determination

TESTS RESULTS

DETERMINATION OF FIELD STRENGTH LIMITS

- 15.203: The intentional radiator is designed to ensure that no antenna other than that furnished by the applicant can be used with the device. The antenna is permanently soldered in place to the PCB.
- 15.204: The antenna used is not commercially available. It is a custom designed circularly polarized Omni-directional antenna with 1dBi gain.
- 15.247(a)(1): The frequency hopping system has hopping channel carrier frequencies separated by 100 kHz, which is less than the 20 dB bandwidth of the hopping channel.
- 15.247(a)(1)(i):The frequency hopping system operated in the 902-928 MHz band and uses 59 frequencies. The maximum 20 dB bandwidth of the hopping channel is less then 250 kHz, Measured 43.9 kHz. The average time of occupancy on any frequency is 0.022 seconds within a 20 second period.
- 15.247(b)(3): The device operates in the 902-928 MHz band. The maximum peak output power measured to be 73.6 mWatts and did not exceed 1 watt.
- 15.247(b)(3): The system operating under the provisions of this section is operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. The maximum Output Power was measured to be 73.6 mWatts.
- 15.247 (d): In any 100 kHz bandwidth outside the frequency band in which the Spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power. All emissions, which fell within the restricted bands specified in 15.205(a), were measured and found to be in compliance with the limits specified in 15.209(a).
- 15.109 (a): The field strength of spurious radiated emissions generated by the receiver did not exceed the class B limits specified.

15.247(a): Description of pseudorandom hopping sequence -

The following describes the hopping sequence used by the "Hub" or central point in the network for Beacon announcements as well as the hopping sequence used by the individual points for sending status updates to the Hub.

Frequency Announcements (Beacon) Hopping

- Using 59 frequencies channels (all system frequencies)
- Frequency channels are numbered from 0 to 58 (for 59 overall channels)
- Frequency 0 and 1 are adjacent, etc.

The Beacon hop pattern is generated uniquely for each system as follows:

```
We start with a set of groups

Group 0 = \{0,1,2,3,...,9\}

Group 1 = \{10,11,..., 19\}

Group 2 = \{20,21,..., 29\}

Group 3 = \{30,31,..., 39\}

Group 4 = \{40,41,..., 49\}

Group 5 = \{50,..., 58\} Note one less than others!
```

We randomly shuffle the elements within each group

Example:

```
Shuffled G0 = { 2 5 4 1 7 6 3 8 0 9 }

Shuffled G1 = { 19 18 12 15 14 10 17 16 11 13 }

Shuffled G2 = { 26 21 24 22 29 25 28 23 20 27 }

Shuffled G3 = { 38 33 31 39 32 30 36 34 37 35 }

Shuffled G4 = { 47 45 49 48 42 43 46 41 40 44 }

Shuffled G5 = { 51 58 56 57 52 55 50 53 54 }
```

Then we pick from one of 60 group permutations that keep the groups as least 2 apart so the frequencies in the hop pattern will be as least 5 channels apart (this translates into 500 KHz apart with our system):

```
Example: using the following group order: \{G1, G5, G3, G0, G2, G4\}
Shuffled G1 = \{19 18 12 15 14 10 17 16 11 13\}
Shuffled G5 = \{51 58 56 57 52 55 50 53 54 XX\}
Shuffled G3 = \{38 33 31 39 32 30 36 34 37 35\}
Shuffled G0 = \{25 4 1 7 6 3 8 0 9\}
Shuffled G2 = \{26 21 24 22 29 25 28 23 20 27\}
Shuffled G4 = \{47 45 49 48 42 43 46 41 40 44\}
```

We read the elements by columns to form the overall hop pattern {19,51,38,2,26,47, 18,58,33,5,21,45, 12,56,31,4,24,49, ...

Each base station uses a value generated from its unique serial number to seed the random number generator used in the above operations.

A Node wishing to join a network will pick one of the original groups at random and sample frequencies until it hears a Beacon. The Beacon will contain timing information and the seed so the Node can also calculate the hopping pattern being used and synchronize in time with the Base Station.

Network Operations Application Slot hopping

- Using 59 frequencies channels (all system frequencies)
- Frequency channels are numbered from 0 to 58 (for 59 overall channels)
- Frequency 0 and 1 are adjacent, etc.

The App Slot hop pattern is generated uniquely for each system as follows:

We use 8 groups of size 7 and keep 00, 22, 44 on the side:

```
Group 0 = \{ 01,02,03,04,05,06,07 \} 7 elements
```

Group $1 = \{08,09,10,11,12,13,14\}$ 7 elements

Group $2 = \{ 15,16,17,18,19,20,21 \} 7$ elements

Group $3 = \{23,24,25,26,27,28,29\}$ 7 elements

Group $4 = \{30,31,32,33,34,35,36\}$ 7 elements

Group 5 = { 37,38,39,40,41,42,43 } 7 elements

Group $6 = \{45,46,47,48,49,50,51\}$ 7 elements

Group 7 = { 52,53,54,55,56,57,58 } 7 elements

We randomly shuffle the elements within each group.

Example:

- Group $0 = \{ 03, 05, 02, 04, 07, 01, 06 \} 00$
- Group 3 = { 29, 25, 27, 24, 26, 28, 23 } 22
- Group 6 = { 50, 46, 48, 51, 49, 45, 48 } 44
- Group 1 = { 11, 14, 10, 08, 13, 09, 12 }
- Group 4 = { 30, 33, 35, 31, 34, 36, 32 }
- Group 7 = { 58, 52, 55, 54, 53, 57, 56 }
- Group 2 = { 20, 16, 17, 21, 19, 18, 22 }
- Group 5 = { 40, 43, 39, 42, 41, 37, 38 }

Now we read the pattern column by column and add the extras at the end:

• 03,29,50,11,30,58,20,40,05,25,46,14,33,52,16,42,02,...,22,38,00,22,44

The app slot hop pattern uses all system 59 frequencies:

- Every frame (every second) we move in the pattern a total of 12 hops
- We finish the whole pattern in almost 5 seconds (5x12=60)
- Every 5 seconds the pattern shifts by one to the left!

This approach ensures that more than one application slot (of the same type) is used in a second or from second to second, the frequencies used are at least 500 KHz apart. As well, all frequencies are utilized equally when the network is very busy.

15.247(a): Equal hopping Frequency Use

A beacon is transmitted only once on each frequency, every 20 seconds Beacon is transmitted for 118.3 ms under maximum communication load in the Security system, each frequency is used by a maximum of 4 application slots in every 20 second interval.

The duration of different application slots are:

Alarm = 31.1 ms

Back channel = 155.4 ms

Supervision = 28.6 ms

Maximum usage occurs when alarm, back channel and 2 supervision slots are used (243.7 ms) each frequency is used for a maximum of 362 ms (including Beacon)

15.247(a): Receiver Input Bandwidth

The receiver deviation is controlled by a register setting in the RFIC, the deviation setting is 30 KHz and the Tx deviation is ±4.95 KHz.

15.247(a): System Receiver Hopping Capability

Upon power up the nodes will listen for beacons from the base station device. Once a beacon is heard the device uses information in the beacon message to compute the base stations hopping pattern and current system time. The nodes will then hop in synchronization with the base station, periodically receiving beacon messages in order to maintain synchronization.

15.247(g): Frequency Hopping Description

The system consisting of the base station and the nodes meets the requirements of a true frequency hopping system in the following ways:

- 1. At power up the nodes synchronize to the base station hop pattern and continually hop in sync with the base station at the system hopping rate.
- 2. All devices in the system are changing frequency at the system hopping rate even when there is no data being transmitted, this allows all devices to distribute there transmissions equally over all of the frequencies whether the data is short period bursts or continuous.
- 15.247(h): Frequency Coordination

All nodes in a system synchronize to and follow the same hopping pattern as the base station that they are synchronized to. Base stations from different systems independently generate their hopping pattern using only a random generator that uses that base stations serial number as the initial seed value. There is no coordination of hopping between nodes in the same system or base stations in different systems for the purpose of unfairly occupying the available spectrum.

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. 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 and/or Average detector function at a test distance of 3 meters.
- 2. All measurements were made with fully charged batteries installed in the unit.
- 3. The frequency range was scanned from 30 MHz to 10.0 GHz. All emissions not reported were more than 20dB below the specified limit.
- 4. The device has no provisions for external accessories.
- 5. The unit tunes over the frequency range of: 915.5 to 921.5 MHz
 The unit was tested at the following frequencies: 915.5 MHz, 918.5 MHz & 921.3 MHz.
- 6. The Receiver was tested per "ANSI STANDARD C63.4-2003 12.1.1.2. The receiver was programmed for normal receiver mode. A CW signal was transmitted to stabilize the local oscillator.

Modifications:

Radio Frequency cans were added to the Radio Frequency portion of the PCB and a software change was utilized to lower the RF IC power output.

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 C. Lerner EMC Test Engineer

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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, Subpart C, 15.247 (a)(1) Number of Hopping Frequency and Carrier Separation

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
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	10/18/2006	10/18/2007

FCC Part 15, Subpart C, Paragraph 15.247.(a)(1) Occupied Bandwidth

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
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	10/18/2006	10/18/2007

FCC Part 15, Subpart C, 15.247(a)(1)(i), Occupancy Time and Duty Cycle

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
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	10/18/2006	10/18/2007

FCC Part 15, Subpart C, Radiated Emissions, Fundamental Power Output

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
133	Broadband Pre-Amplifier	Electro-Metrics	10 kHz - 1 GHz, 26dB	BPA-1000	6/27/2006	6/27/2007
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	6/27/2006	6/27/2007
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/18/2006	10/18/2007
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	3/30/2007	3/30/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	10/12/2006	10/12/2007

FCC Part 15, Subpart C, 15.247(d) Band Edge Measurements, 902 to 928 MHz Band

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
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	10/18/2006	10/18/2007

FCC Part 15 Subpart C, Radiated Harmonic Emissions

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
032F	H.P. Filter	Microlab/FXR	2 GHz	HD-20N	9/22/2006	9/22/2007
032H	H.P. Filter	Microlab/FXR	4 GHz	HD-40N	2/20/2007	2/20/2008
032J	H.P. Filter	Microlab/FXR	6 GHz	HD-60N	3/13/2007	3/13/2008
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
1049	H.P. Filter	Microlab/FXR	1 GHz	HD-10N	9/22/2006	9/22/2007
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
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	3/12/2007	3/12/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
379F	H.P. Filter	Microlab/FXR	500 MHz	HA-05N	9/22/2006	9/22/2007
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/9/2005	9/9/2007
767	Biconilog	EMCO	26 - 2000 MHz	3142B	10/12/2006	10/12/2007

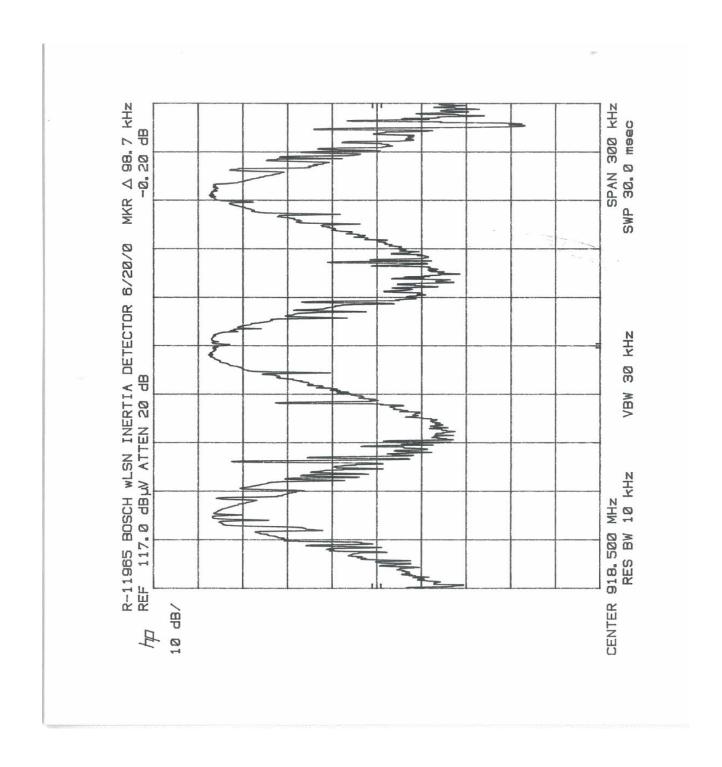
FCC Part 15 Subpart C, Transmitter Spurious Radiated Emissions

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
032F	H.P. Filter	Microlab/FXR	2 GHz	HD-20N	9/22/2006	9/22/2007
032H	H.P. Filter	Microlab/FXR	4 GHz	HD-40N	2/20/2007	2/20/2008
032J	H.P. Filter	Microlab/FXR	6 GHz	HD-60N	3/13/2007	3/13/2008
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
1049	H.P. Filter	Microlab/FXR	1 GHz	HD-10N	9/22/2006	9/22/2007
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
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	3/12/2007	3/12/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
379F	H.P. Filter	Microlab/FXR	500 MHz	HA-05N	9/22/2006	9/22/2007
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/9/2005	9/9/2007
762	AM/FM Signal Generator	Marconi Instru.	10 kHz - 1.2 GHz	2023	7/24/2007	7/24/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	10/12/2006	10/12/2007
826	10 DB Atten. (50 ohm)	Narda	DC - 10 GHz, 1W	774-10	5/21/2007	5/21/2008

FCC Part 15 Subpart B, Class B, Radiated Emissions, 30 MHz to 5 GHz

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due Date
032F	H.P. Filter	Microlab/FXR	2 GHz	HD-20N	9/22/2006	9/22/2007
032H	H.P. Filter	Microlab/FXR	4 GHz	HD-40N	2/20/2007	2/20/2008
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
1049	H.P. Filter	Microlab/FXR	1 GHz	HD-10N	9/22/2006	9/22/2007
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
141A	Graphics Plotter	Hewlett Packard	N/A	7470A	3/12/2007	3/12/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
379F	H.P. Filter	Microlab/FXR	500 MHz	HA-05N	9/22/2006	9/22/2007
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/9/2005	9/9/2007
762	AM/FM Signal Generator	Marconi Instru.	10 kHz - 1.2 GHz	2023	7/24/2007	7/24/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	10/12/2006	10/12/2007

FCC Part 15, Subpart C, 15.247 (a)(1) Carrier Frequency Separation and Number of Hopping Frequency
902 – 928 MHz Band Test Data

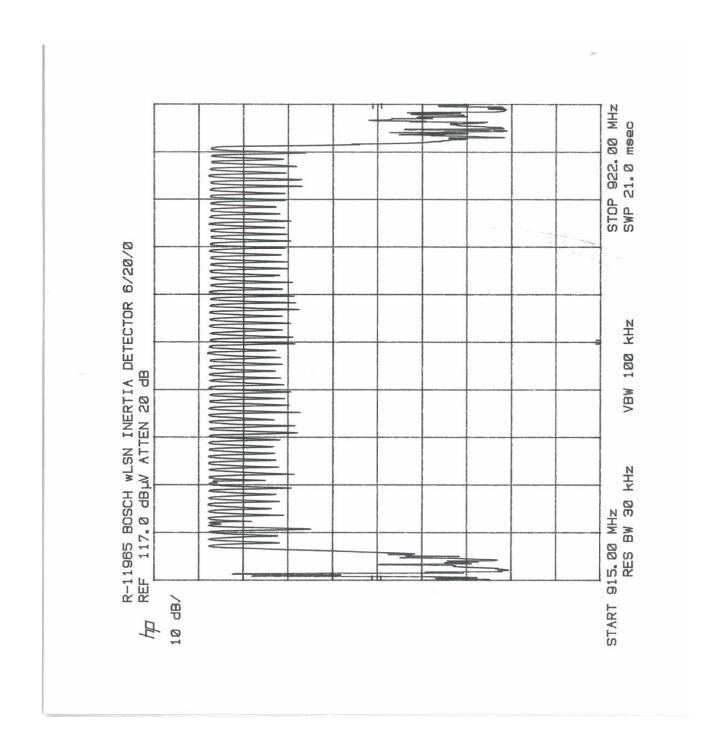


FCC Part 15, Subpart C, 15.247(a) (1)Hopping Channel Carrier Separation, 902 to 928 MHz Band

Note: Hopping channel carrier frequency meets the required minimum separation of 25 kHz

(Measured carrier separation =98.7kHz)

Customer	Bosch Security System.			
Test Sample	wLSN Inertia Detector			
Model Number	ISW- BIN1-S135Y			
Date: 6-20-2007		Tech: R.S.	Sheet 1 of 2	

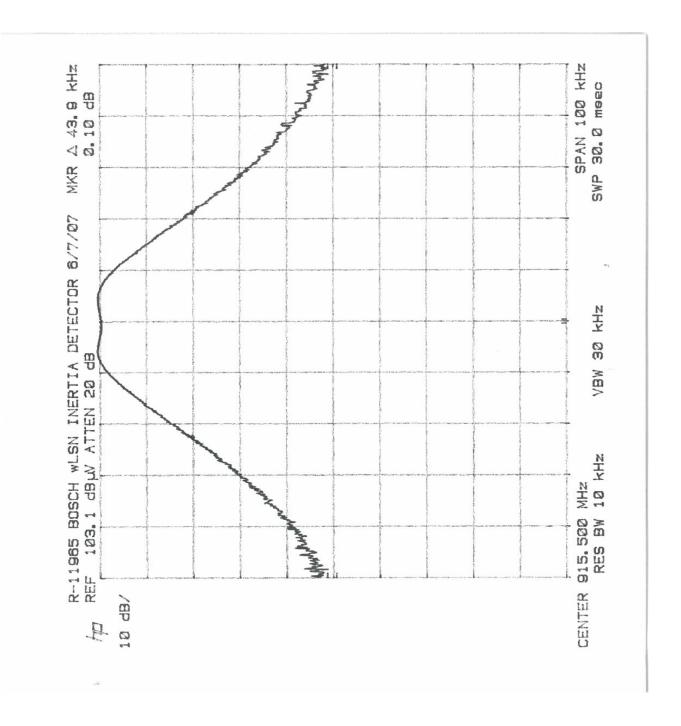


FCC Part 15, Subpart C, 15.247(a) (1) Number of Hopping Frequency, 902 to 928 MHz Band

Note: EUT uses 59 hopping frequencies which meets the 50 minimum hopping frequencies required by the 20dB bandwidth if less than 250 kHz(measured BW = 43.8 kHz).

Customer	Bosch Security System.			
Test Sample	wLSN Inertia Detector			
Model Number	ISW- BIN1-S135Y			
Date: 6-20-2007		Tech: R.S.	Sheet 2 of 2	

FCC Part 15, Subpart C, 15.247 (a)(1) Occupied Bandwidth, 902 - 928 MHz
Test Data



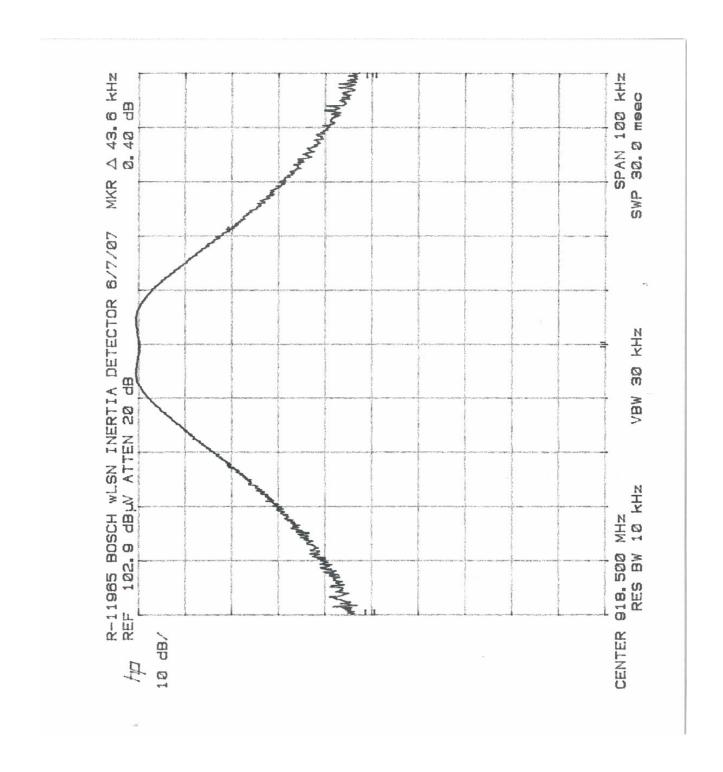
FCC Part 15, Subpart C, 15.247(a) (1) Occupied Bandwidth, 902 to 928 MHz Band

Note: The maximum 20 dB bandwidth of the hopping channel is less then 250 kHz. 20dB bandwidth

measured at 43.9 kHz

Note: EUT transmitting on channel 00 at 915.5 MHz.

Customer	Bos	sch Security Syster	n.
Test Sample	wL	SN Inertia Detector	•
Model Number	ISV	V-BIN1-S135Y	
Date: 6-7-2007		Tech: R.S.	Sheet 1 of 3



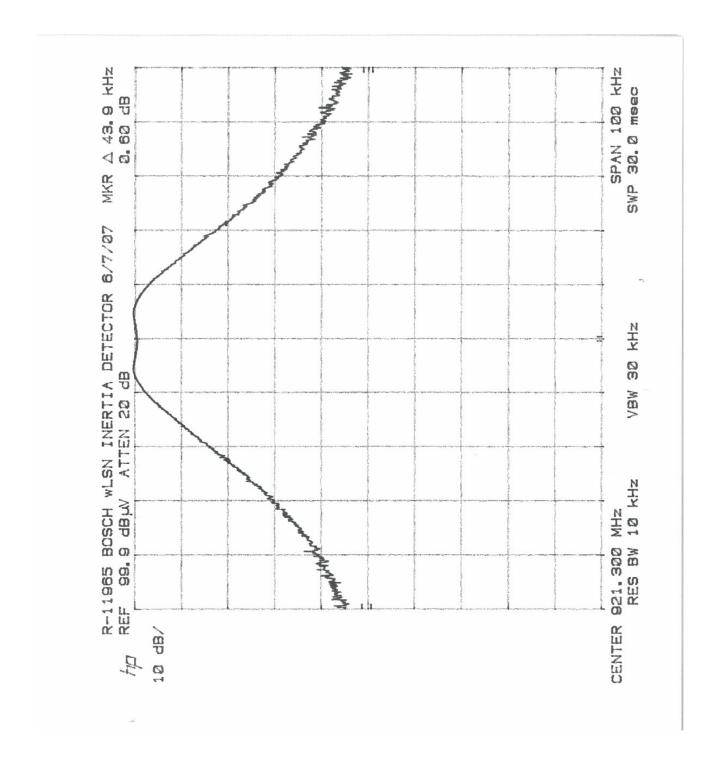
FCC Part 15, Subpart C, 15.247(a) (1) Occupied Bandwidth, 902 to 928 MHz Band

Note: The maximum 20 dB bandwidth of the hopping channel is less then 250 kHz. 20dB bandwidth

measured at 43.6 kHz

Note: EUT transmitting on channel 30 at 918.5 MHz.

Customer	Bos	Bosch Security System.		
Test Sample	wL	SN Inertia Detector		
Model Number	ISV	V-BIN1-S135Y		
Date: 6-7-2007		Tech: R.S.	Sheet 2 of 3	



FCC Part 15, Subpart C, 15.247(a) (1) Occupied Bandwidth, 902 to 928 MHz Band

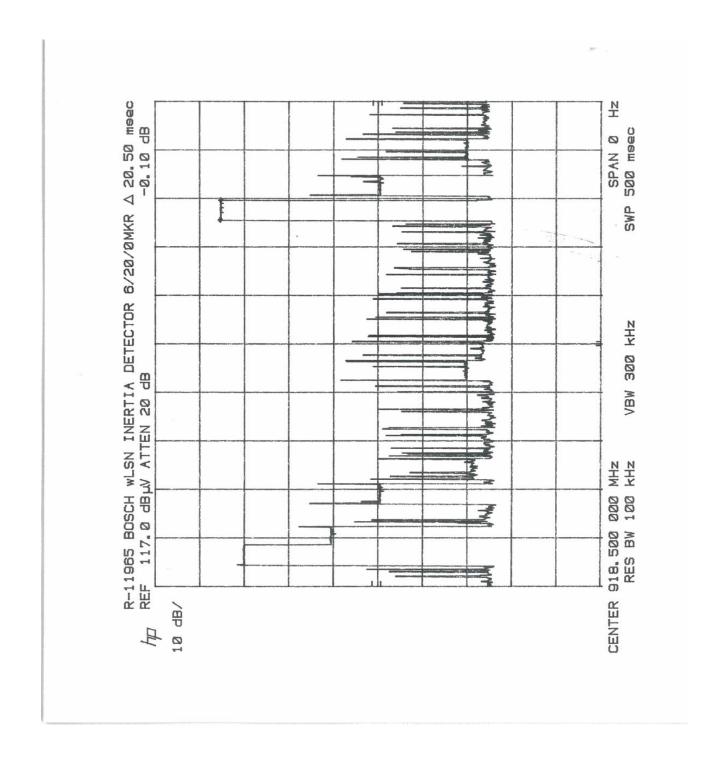
Note: The maximum 20 dB bandwidth of the hopping channel is less then 250 kHz. 20dB bandwidth

measured at 43.9 kHz

Note: EUT transmitting on channel 58 at 921.3 MHz.

Customer	Bos	sch Security Syste	m.	
Test Sample	wL	LSN Inertia Detector		
Model Number	ISV	V-BIN1-S135Y		
Date: 6-7-2007		Tech: R.S.	Sheet 3 of 3	

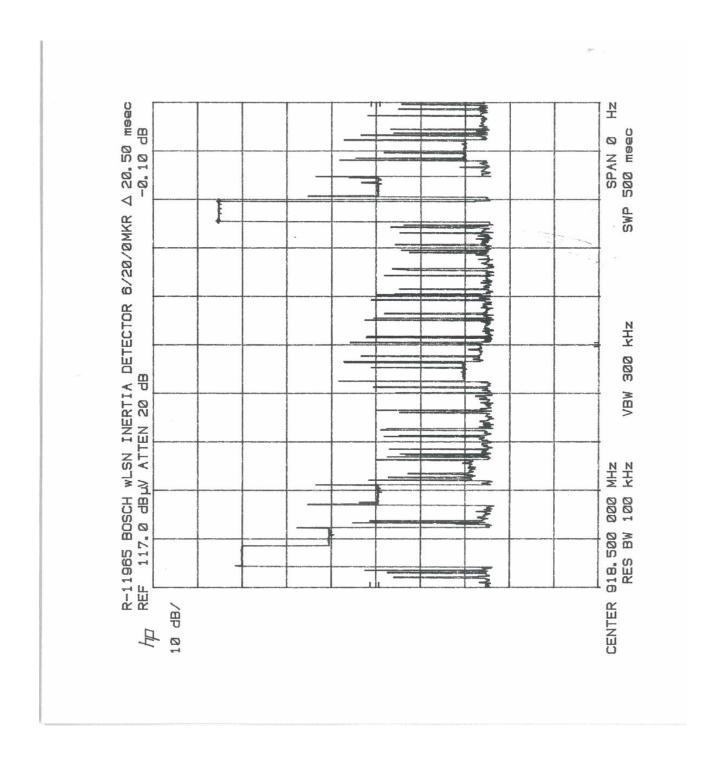
FCC Part 15, Subpart C, 15.247 (a)(1)(i) Occupancy Time and Duty Cycle 902 - 928 MHz Test Data



FCC Part 15, Subpart C, 15.247(a)(1)(i) Occupancy Time, 902 to 928 MHz Band

Note: The measured occupancy time does not exceed the 0.4 seconds (Measured time =20.5mSec.) FCC ID:T3XBIN1-S135Y

Customer	Bosch Security Syste	sch Security System.			
Test Sample	wLSN Inertia Detecto	or			
Model Number	ISW- BIN1-S135Y				
Date: 6-20-2007	Tech: R.S.	Sheet 1 of 1			



Test Method: FCC Part 15.35, Duty Cycle Determination.

Notes: Duty cycle = (20.5 mSec / 100) = 0.205 = 20.5%

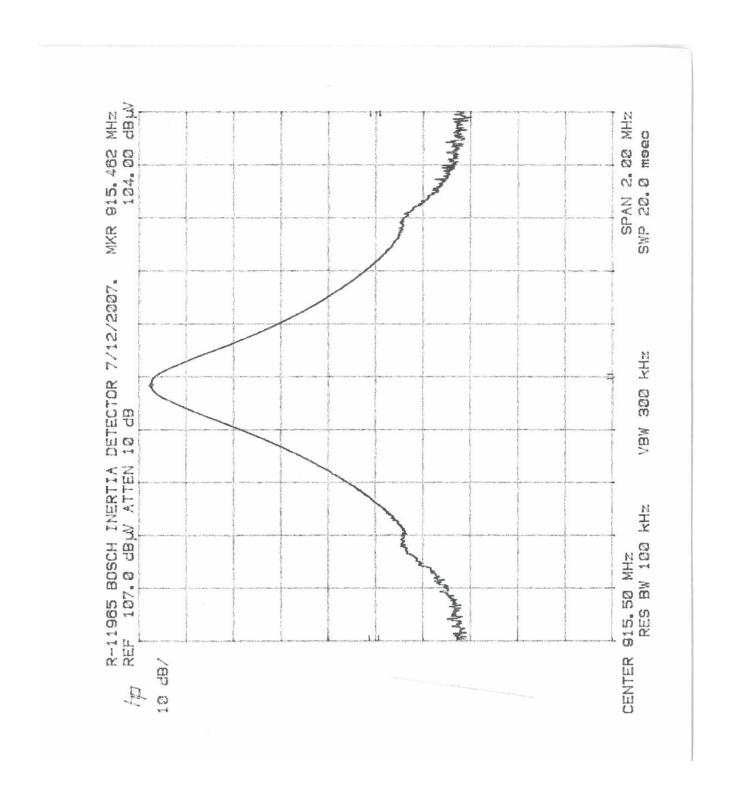
 $= 20 \log 0.205 = -13.7 \text{ dB}$

Customer	Bos	Bosch Security System.				
Test Sample	wL	SN Inertia Detector				
Model Number	ISV	V- BIN1-S135Y				
Date: 6-20-2007		Tech: R.S.	Sheet 1 of 1			

FCC Part 15, Subpart C Radiated Emissions, Fundamental Power Output Paragraph 15.247(b) (2) Test Data

Test Meth	od:	FCC F	Part 15, Subpart	t C Radiated I	Emissions, Fu	ndamental Po	wer Output.			
Customer	:		Security Syste		-	Job No	1 .	-2		
Test Samp	ole:	wLSN	Inertia Detecto	r		Paragrap	h 15.247(b)(2)		
Model No.	:	ISW-E	3IN1-S135Y			FCC ID: T3XBIN1-S135Y				
Operating	Mode:	Contir	nuously transmit	tting a 915.5 N	ЛНz, 918.4 МI	Iz and 921.3	MHz signal.			
Technicia	n:	R. So				Date		2007.		
Notes:	Test Dist	tance: 3	3 Meters	Temp :23	.4°C Humid	ity :59%				
	Detector	: Peak								
Test	Anter		EUT	Meter	Correction	Corrected	Converted	Converted	Peak	
Freq.	Pol./He		Orientation	Reading	Factor	Reading	Reading	Reading	Limit	
MHz	(V/H) / N	_	X/Y/Z	dBuV	dB	dBuV/m	V/m	milliWatts	Watts	
915.5	V/1	.3	Х	94.8	9.6	104.4	0.17	8.3	1.0	
	V / 2	.4	Υ	96.9	9.6	106.5	0.21	13.4		
	V / 1	.0	Z	104.0	9.6	113.6	0.48	68.7		
	H/2	.2	Х	98.2	9.6	107.8	0.25	18.1		
	H/1	.3	Υ	98.5	9.6	108.1	0.25	19.4		
915.5	H/1		Z	88.0	9.6	97.6	0.08	1.7		
918.4	V / 1	.3	X	96.0	9.6	105.6	0.19	10.9		
1	V / 1	.0	Υ	88.4	9.6	98.0	0.08	1.9		
	V / 1	.0	Z	99.5	9.6	109.1	0.29	24.4		
	H/1	.0	X	97.2 94.0	9.6 9.6	106.8 103.6	0.22 0.15	14.4 6.9		
1	H/2	.1	Υ							
918.4	H/1	.0	Z 84.0 9		9.6	93.6	0.05	0.05 0.7		
921.3	V / 1		X	94.8	9.6	104.4	0.17	8.3		
	V / 1		Y	96.0	9.6	105.6	0.19	10.9		
1	V / 1		Z	104.3	9.6	113.9	0.50	73.6		
1	H/2		X	99.1	9.6	108.7	0.27	22.2		
	H/1		Y	98.9	9.6	108.5	0.27	21.2	<u> </u>	
921.3	H/2	.8	Z	83.9	9.6	93.5	0.05	0.7	1.0	
l										
	The FUT	meets	the required lim	nit indicated al	nove.	I		1		
			ormulae were us			ath in dBuV ir	nto V/m and \	V/m to Watts		
	-		uV/m-120) / 20)			g				
	Power =									
		/ */!!! X	, ,							

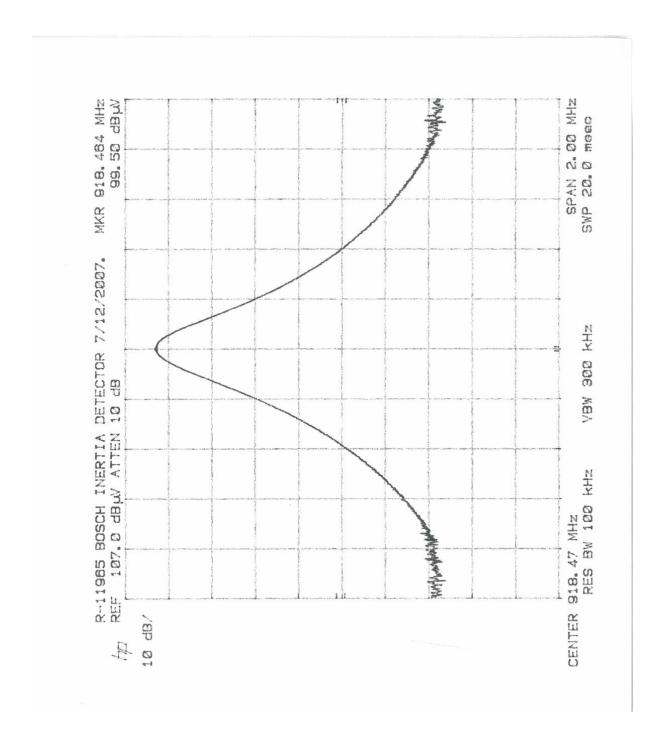
Page 1 of 1



FCC Part 15, Subpart C Radiated Emissions, Fundamental Power Output, Para. 15.247(b)(2)

Note: EUT transmitting on channel 00 at 915.5 MHz.

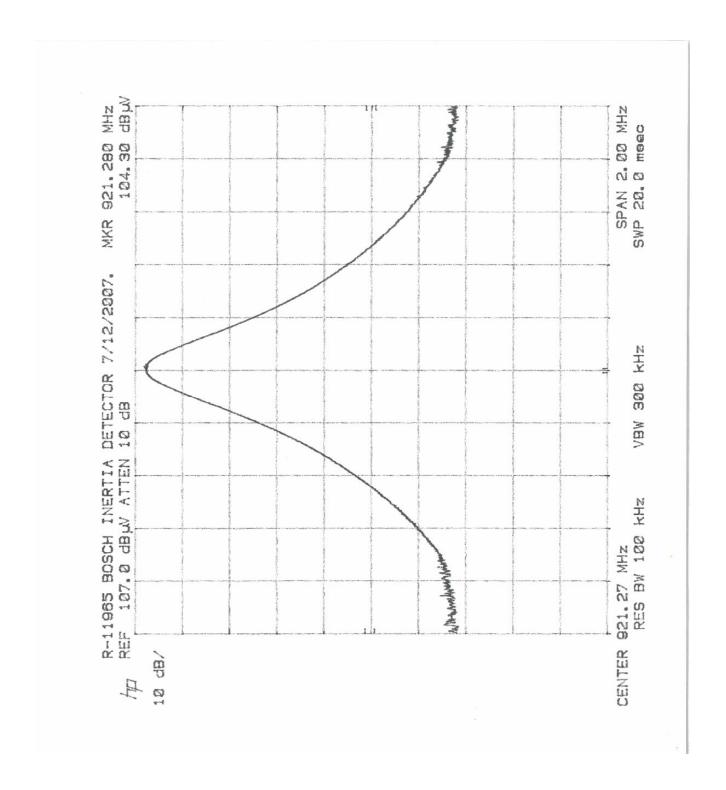
Customer	Во	sch Security Syst	em.
Test Sample	wL	SN Inertia Detect	or
Model Number	IS\	W-BIN1-S135Y	
Date: July 12, 2007.		Tech: R.S.	Sheet 1 of 3



FCC Part 15, Subpart C Radiated Emissions, Fundamental Power Output, Para. 15.247(b)(2)

Note: EUT transmitting on channel 30 at 918.4 MHz.

Customer	Во	sch Security Syst	em.	
Test Sample	wL	LSN Inertia Detector		
Model Number	IS\	N-BIN1-S135Y		
Date: July 12, 2007.		Tech: R.S.	Sheet 2 of 3	



FCC Part 15, Subpart C Radiated Emissions, Fundamental Power Output, Para. 15.247(b)(2)

Note: EUT transmitting on channel 58 at 921.3 MHz.

Customer	Во	sch Security Syst	em.
Test Sample	wL	SN Inertia Detect	or
Model Number	IS\	W-BIN1-S135Y	
Date: July 12, 2007.		Tech: R.S.	Sheet 3 of 3

FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.247(d) Test Data

Test Method: FCC Part 15 Subpart C, Spurious Case Radiated Emissions, Paragraph 15.247(d) Customer: Bosch Security System. Job No.: R-11965-2 Test Sample: wLSN Inertia Detector Model No.: ISW-BIN1-S135Y Serial No.: N/A Operating Mode: Continuously transmitting on channel 00, a 915.5 MHz signal. Technician: R. Soodoo Date: August 14, 2007. Notes: Test Distance: 3 Meters Temp: 27.0°C Humidity:38.0% Detector: Peak Frequency Antenna Position College and Degrees dBuV dB dBuV/m UV/m uV/m uV/m 30.0 UM/m UM/m UM/m 49545.0 UM/m UM
Test Sample: McSN Inertia Detector ISW-BIN1-S135Y Serial No.: N/A
Node No.: ISW-BIN1-S135Y Serial No.: N/A
Operating Mode: Continuously transmitting on channel 00, a 915.5 MHz signal. Technician: R. Soodoo Date: August 14, 2007. Notes: Test Distance: 3 Meters Detector: Peak Temp: 27.0°C Humidity:38.0% Frequency Antenna Position EUT Meter Readings Correction Reading Converted Reading Peak Reading MHz (V/H) / Meters Degrees dBuV dB dBuV/m uV/m uV/m uV/m 30.0 U/H Image: Sealing Seal
Notes: R.Soodoo Date: August 14, 2007.
Notes: Test Distance: 3 Meters Temp: 27.0°C Humidity:38.0%
Detector: Peak
Antenna Peak Correction Corrected Reading Re
Frequency Position Orientation Readings Factor Reading Reading Limit MHz (V/H) / Meters Degrees dBuV dB dBuV/m uV/m uV/m 30.0 49545.0 49545.0 1
MHz (V/H) / Meters Degrees dBuV dB dBuV/m uV/m uV/m 30.0
30.0 49545.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 61.4 2.0 63.4 1479.1 5000.0 *1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
*1030.0 V / 1.0 200.0 50.3 2.0 52.3 **412.1 **500.0
49545.0
10000.0 49545.0
The frequency range was scanned from 30 MHz to 10.0 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 frequency falls in the restricted band and therefore the limits as specified in paragraph 15.209(a) is applied to
the measured emission.
** Average measurement taken to show compliance with average limit.

Page 1 of 3

Test Metho	d:	FCC P	art 15 Subpar	t C, Transm	itter Spuriou	s Radiate	ed Emission	ns, Paragraph	15.247(d).
Customer:			Security Syste		•		Job No		` ,
Test Sampl	e:		Inertia Detecto					I	
Model No.:			N1-S135Y	<u> </u>			Serial No	.: N/A	
Operating N	Node:		uously transmi	tting on char	nel 30 a 918	5 MHz si			
Technician		R.Sood	•	turig on char	11101 30, a 310	.O IVII 12 3I	Dat	e: August 14,	2007
Notes:		l	: 3 Meters			Ton	np: 27.0°C	Humidity:	
Notes.						1611	ιρ. 27.0 C	riumuity.	36.0 /6
	1	tor: Peal							<u> </u>
Fraguanay		enna sition						Peak Limit	
Frequency									
MHz	(V/H) /	Meters	Degrees	dΒμV	dB	dВĮ	uV/m	uV/m	uV/m
30.0									40545.0
30.0									49545.0
<u>I</u>	 								
1									
i									i
<u> </u>									i
!									
<u> </u>									
<u> </u>									
<u> </u>									49545.0
*1052.0	V /	1.0	200.0	51.5	2.0	53	3.5	473.2	5000.0
*1052.0		1.0	200.0	42.5	2.0		1.5	**167.9	**500.0
1									49545.0
j									
<u> </u>									
<u> </u>									<u> </u>
	ļ								
	 								
<u> </u>	-								
<u> </u>	 								
<u> </u>									
10000.0									49545.0
									100.0.0
			nge was scanned						
			served from the E				· · · · · · · · · · · · · · · · · · ·		
			corded were more				-1611 1		amplicate.
		requency easured e		cted band and	tneretore the li	mits as spe	cified in paraç	raph 15.209(a) is	applied to
			urement taken to s	show compliance	e with average lin	mit.			
		J - 1.22.00				-			

Page 2 of 3

Test Metho	d:	FCC P	art 15 Subpar	t C, Transm	itter Spuriou	s Radiat	ed Emissions	, Paragraph	15.247(d).
Customer:			Security Syste		•		Job No.:	R-11965-2		
Test Sampl	e:		nertia Detecto							
Model No.:			N1-S135Y	·			Serial No.:	N/A		
Operating N	Node:		uously transmi	tting on char	nel 58, a 921	3 MHz s		1 4/1 1		
Technician		R.Sood	•	tting on chai	inei 30, a 32 i	.5 1111 12 3	Date:	August 14,	2007	
Notes:			3 Meters			Ton				
Notes.						ren	np:27.0°C	Humidity:3	0.0%	
	1	tor: Peal		Matai	0	0		0		
Frequency		enna sition	EUT Orientation	Meter Readings	Correction Factor		ected ading	Converted Reading	Pe: Lin	
					dB			uV/m	_	
MHz	(V/H) /	Meters	Degrees	dΒμV	QB	ав	μV/m	uv/m	uV.	/m
30.0									4954	15.0
1									1337	10.0
									i	
									i	
									ĺ	
									!	
									!	
									1	
									4954	15.0
*1025.0	\/ /	1.0	1.0 200.0		60.1 2.0	62	2.1	1273.5	500	
*1025.0		1.0	200.0	48.9	2.0	50		**350.8	**50	
1				10.0	2.0			000.0		15.0
i										
									ĺ	
<u> </u>	ļ								+	
	-								+ !	
	-									
	 								+	
									+ +	
j									i	
10000.0									4954	15.0
			nge was scanned			P 14 -				
			served from the E orded were more							
			falls in the restri				ecified in paragra	ph 15.209(a) is	applied to	,
	the me	easured ei	mission.							
	** Aver	age meası	rement taken to s	show compliance	e with average lir	nit.				

Page 3 of 3

FCC Part 15 Subpart C, Radiated Emissions, Harmonics Paragraphs 15.247(d) EUT transmitting at the Fundamental signal of 915.5 MHz

Test Metho	d:	FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.									
Customer:		Bosch S	Security System			Job No.	R-11965-2				
Test Sampl	le:	wLSN Ir	wLSN Inertia Detector								
Model No.:		ISW-BI	N1-S135Y	T3XBIN1-S135Y							
Operating I	Mode:	Continu	Continuously transmitting a 915.5 MHz signal.								
Technician			R. Soodoo Date: August 14, 200								
Notes:		tance: 3 N	Meters		I.		, , , , , , , , , , , , , , , , , , ,				
			nless otherwise	specified							
	Anto		EUT	Meter	Correction	Corrected	Converted	Peak			
Test Freq.		Height	Orientation	Reading	Factor	Reading	Reading	Limit			
MHz		Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	uV/m			
1831.0	, ,	1.0	X	66.1	2.3	68.4	2630.3	50118.0			
1		1.0	Y	62.3	2.3	64.6	1698.2				
i	V /	1.0	Z	72.8	2.3	75.1	5688.5	i			
İ	Η/	1.0	Х	67.7	2.3	70.0	3162.3	i			
İ	H /	1.0	Y	65.6	2.3	67.9	2483.1	j			
1831.0	H/	1.4	Z	58.6	2.3	60.9	1109.2	50118.0			
2746.5	V /	1.0	X	51.3	5.2	56.5	668.3	5000.0			
	V /	1.2	Y	55.0	5.2	60.2	1023.3				
		1.0	Z	56.5	5.2	61.7	1216.2				
	H/	1.0	X	51.7	5.2	56.9	699.8				
		2.3	Y	53.6	5.2	58.8	871.0				
2746.5	H/	1.6	Z	51.9	5.2	57.1	716.1	5000.0			
3662.0		1.6	X	46.8	10.0	56.8	691.8	5000.0			
<u> </u>		1.9	Y	46.4	10.0	56.4	660.7				
<u> </u>		1.0	Z	46.3	10.0	56.3	653.1				
<u> </u>		1.0	X	45.9	10.0	55.9	623.7				
0000.0		1.9	Y Z	46.9	10.0	56.9	699.8	5000.0			
3662.0	H/	2.3		46.6	10.0	56.6	676.1	5000.0			
4577.5	\/ /	1.0	X	49.8	13.6	63.4	1479.1	5000.0			
4377.3		1.0	Y	53.2	13.6	66.8	2187.8	1			
		1.3	Z	50.5	13.6	64.1	1603.2	l			
i i		1.0	X	47.6	13.6	61.2	1148.2				
i	1	1.0	Y	49.8	13.6	63.4	1479.1				
4577.5		1.2	Z	51.3	13.6	64.9	1757.9	5000.0			
					1010	0	1101.0				
5493.0	V /	1.0	Х	45.1	17.1	62.2	1288.2	50118.0			
- 1		1.0	Y	45.3	17.1	62.4	1318.3	I			
j		1.0	Z	45.3	17.1	62.4	1318.3	i			
	H/	1.0	Х	43.7	17.1	60.8	1096.5	ĺ			
	H /	1.0	Y	44.9	17.1	62.0	1258.9				
5493.0	H/	1.0	Z	44.4	17.1	61.5	1188.5	50118.0			
							s not recorded we				
						T do not excee	ed the specified lin	nits.			
	*= Noise	than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits. *= Noise Floor Measurements (minimum sensitivity).									

Test Metho	d:	FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.								
Customer:		Bosch Security System. Job No. R-11965-2								
Test Sampl	e:	wLSN Ir	nertia Detector							
Model No.:		ISW-BI	N1-S135Y			FCC ID:	T3XBIN1-S135Y	,		
Operating N	/lode:	Continu	ously transmittir	ng a 915.5 MH	lz signal.					
Technician		R. Sood	R. Soodoo Date: August 14, 2007.							
Notes:	Test Dist	tance: 3 N	/leters		•					
	Detector	: Peak, ui	nless otherwise	specified						
T . F		enna	EUT	Meter	Correction	Corrected	Converted	Peak		
Test Freq.		Height	Orientation	Reading	Factor	Reading	Reading	Limit		
MHz	(V/H)-	Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	uV/m		
6408.5	V /	1.0	Х	42.2	19.9	62.1	*1273.5	50118.0		
	V /	1.0	Y	42.2	19.9	62.1	*1273.5			
	V /	1.0	Z	42.2	19.9	62.1	*1273.5			
	H/	1.0	Х	41.3	19.9	61.2	*1148.2			
	H/	1.0	Y	41.3	19.9	61.2	*1148.2			
6408.5	H/	1.0	Z	41.3	19.9	61.2	*1148.2	50118.0		
7324.0		1.0	X	43.0	21.3	64.3	*1640.6	5000.0		
<u> </u>		1.0	Y	43.0	21.3	64.3	*1640.6			
<u> </u>		1.0	Z	43.0	21.3	64.3	*1640.6			
		1.0	X	43.0	21.3	64.3	*1640.6			
		1.0	Y	43.0	21.3	64.3	*1640.6			
7324.0	H /	1.0	Z	43.0	21.3	64.3	*1640.6	5000.0		
8239.5	\/ /	1.0	Х	42.5	23.6	66.1	*2018.4	5000.0		
0239.3		1.0	Y	42.5	23.6	66.1	*2018.4	3000.0		
<u>l</u>		1.0	Z	42.5	23.6	66.1	*2018.4			
<u>l</u>		1.0	X	42.7	23.6	63.6	*2065.4			
I		1.0	Y	42.7	23.6	63.6	*2065.4			
8239.5		1.0	Z	42.7	23.6	63.6	*2065.4	5000.0		
0200.0	117				20.0	00.0	2000.1	0000.0		
9155.0	V /	1.0	Х	42.1	25.5	67.6	*2398.8	5000.0		
	V /	1.0	Y	42.1	25.5	67.6	*2398.8			
	V /	1.0	Z	42.1	25.5	67.6	*2398.8			
	H/	1.0	Х	42.0	25.5	67.5	*2371.4			
	H/	1.0	Y	42.0	25.5	67.5	*2371.4			
9155.0	H/	1.0	Z	42.0	25.5	67.5	*2371.4	5000.0		
			•				not recorded we			
						do not excee	ed the specified lin	nits.		
	*=Noise	Floor Me	easurements (M	linimum syste	m sensitivity)					

Test Method	d:	FCC	Part 15 Subpa	rt C, Radiat	ed Emissions	, Harmonics E	missions.			
Customer:		Boso	Bosch Security System. Job No. R-11965-2							
Test Sample	e:		N Inertia Detec			1				
Model No.:	-		-BIN1-S135Y			FC	C ID: T3XB	IN1-S135Y		
Operating N	lode.		inuously transr	mitting a 915	5 5 MHz signa	- I				
Technician:			oodoo	mang a o ro	no im iz oigila		Date: Augus	st 14, 2007.		
Notes:			3 Meters			Duty Cy	cle: 20.5%	50 14, 2007.		
			age, unless oth	nerwise spec	rified		cle Correction	· -13 8dB		
				•		Duty cycle				
Test Freq.	Anten		EUT	Average	Correction	Correction	Corrected	Converted		/g.
•	Pol./He	eignt	Orientation	Reading	Factor	Factor	Reading	Reading	LII	mit
MHz	(V/H))-	X/Y/Z	dΒμV	dB	dB	dBµV/m	uV/m	u∨	//m
1831.0	V / 1.	.0	Х	60.7	2.3	-13.8	49.2	288.4	501	1.8
	V / 1.	.0	Y	57.5	2.3	-13.8	46.0	199.5		
	V / 1.	.0	Z	65.9	2.3	-13.8	54.4	524.8		
	H / 1.		X	60.8	2.3	-13.8	49.3	291.7		
	H / 1.		Y	58.3	2.3	-13.8	46.8	218.8		
1831.0	H / 1.	.4	Z	56.9	2.3	-13.8	45.4	186.2	501	1.8
0740.5	37.74			45.0	5.0	40.0	00.7	00.4	50	0.0
2746.5	V / 1.		X	45.3	5.2	-13.8	36.7	68.4	50	0.0
	V / 1.		Z	52.5	5.2 5.2	-13.8 -13.8	43.9	156.7		<u> </u>
l			X	54.9	5.2	-13.8	46.3	206.5		<u> </u>
<u> </u>	H/1 H/2		Y	46.4 50.8	5.2	-13.8	37.8	77.6		<u> </u>
2746.5	H / 1.		Z	48.1	5.2	-13.8	42.2	128.8	50	<u> </u> 0.0
2740.5	П/ 1.	.0		40.1	5.2	-13.6	39.5	94.4	50	0.0
3662.0	V / 1.	.6	Х	35.8	10.0	-13.8	32.0	39.8	50	0.0
	V / 1.	.9	Y	34.2	10.0	-13.8	30.4	33.1		1
İ	V / 1.	.0	Z	33.2	10.0	-13.8	29.4	29.5		İ
İ	H/1	.0	Х	32.6	10.0	-13.8	28.8	27.5		İ
İ	H/1	.9	Υ	33.9	10.0	-13.8	30.1	32.0		
3662.0	H / 2.	.3	Z	33.9	10.0	-13.8	30.1	32.0	50	0.0
4577.5	V / 1.		X	44.3	13.6	-13.8	44.1	160.3	50	0.0
	V / 1.		Y	49.9	13.6	-13.8	49.7	305.5		<u> </u>
<u> </u>	V / 1.		Z	47.2	13.6	-13.8	47.0	223.9		<u> </u>
<u> </u>	H/1		X	39.5	13.6	-13.8	39.3	92.3		<u> </u>
1577.	H/1.		Y	46.7	13.6	-13.8	46.5	211.3		<u> </u>
4577.5	H / 1.	.2	Z	48.8	13.6	-13.8	48.6	269.2	50	0.0
5493.0	V / 1.	0	X	36.6	17.1	-13.8	39.9	98.9	501	1.8
	V / 1.		Y	36.8	17.1	-13.8	40.1	101.2	30	l
	V / 1.		Z	36.3	17.1	-13.8	39.6	95.5		<u>. </u>
	H/1		X	30.7	17.1	-13.8	34.0	50.1		<u> </u>
İ	H/1		Y	34.7	17.1	-13.8	38.0	79.4		<u> </u>
5493.0	H/1		Z	31.7	17.1	-13.8	35.0	56.2	501	1.8
			/ range was sc							
			elow the specif							
			Measurements					1	-	
				,	,	• /				

Test Metho	d:	FCC	Part 15 Subpa	rt C, Radiate	d Emissions,	Harmonics E	missions.			
Customer:		Boso	h Security Sys	tem.		Jok	No. R-119	965-2		
Test Sampl	e:	wLS	N Inertia Detec	tor						
Model No.:		ISW-	-BIN1-S135Y			FC	C ID: T3XB	IN1-S135Y		
Operating I	Mode:	Cont	inuously transr	nitting a 915.	5 MHz signal.		•			
Technician: R. Soodoo							Date: Augus	st 14, 2007.		
Notes:	Test Dist	ance:	3 Meters		Duty Cyc		•			
	Detector	: Aver	age, unless oth		le Correction:	: -13.8dB				
				•		Duty cycle			^	_
Test Freq.	Anten Pol./He		EUT Orientation	Average Reading	Correction Factor	Correction Factor	Corrected Reading	Converted Reading	A۱ Lir	rg. mit
MHz	(V/H)-	X/Y/Z	dΒμV	dB	dB	dBµV/m	uV/m	uV	'/m
6408.5	V / 1	.0	X	31.6	19.9	-13.8	37.7	*76.7	501	1.8
	V / 1	.0	Y	31.6	19.9	-13.8	37.7	*76.7		
	V / 1	.0	Z	31.6	19.9	-13.8	37.7	*76.7		
	H/1	.0	X	32.2	19.9	-13.8	38.3	*82.2		
	H/1	.0	Y	32.2	19.9	-13.8	38.3	*82.2		
6408.5	H/1	.0	Z	32.2	19.9	-13.8	38.3	*82.2	501	1.8
7324.0	V / 1		X	31.9	21.3	-13.8	39.4	*93.3	50	0.0
	V / 1		Y	31.9	21.3	-13.8	39.4	*93.3		
	V / 1		Z	31.9	21.3	-13.8	39.4	*93.3		
	H/1		X	31.9	21.3	-13.8	39.4	*93.3		
	H/1		Y	31.9	21.3	-13.8	39.4	*93.3		
7324.0	H/1	.0	Z	31.9	21.3	-13.8	39.4	*93.3	50	0.0
8239.5	V / 1	.0	X	33.2	23.6	-13.8	43.0	*141.3	50	0.0
I	V / 1		Y	33.2	23.6	-13.8	43.0	*141.3		<u> </u>
i	V / 1		Z	33.2	23.6	-13.8	43.0	*141.3		
i	H/1		Х	32.8	23.6	-13.8	42.6	*134.9		
İ	H/1		Y	32.8	23.6	-13.8	42.6	*134.9		
8239.5	H/1	.0	Z	32.8	23.6	-13.8	42.6	*134.9	50	0.0
9155.0	V / 1	0	X	33.1	25.5	-13.8	44.8	*173.8	50	0.0
9133.0 I	V / 1		Y	33.1	25.5	-13.8	44.8	*173.8	30	0.0 I
<u> </u>	V / 1		Z	33.1	25.5	-13.8	44.8	*173.8		<u> </u>
	H/1		X	33.2	25.5	-13.8	44.9	*175.8		<u> </u>
	H/1		Y	33.2	25.5	-13.8	44.9	*175.8		<u> </u>
9155.0	H/1		Z	33.2	25.5	-13.8	44.9	*175.8	50	0.0
3100.0	1171	.0	2	00.2	20.0	10.0	77.0	175.0		0.0
	The face				O MILLS 4-2 4-2 4	2 CH - All	inging t			
			range was sc							
			elow the specif				n exceed the	speciliea iimit	ა.	
	=inoise	LIOOL	Measurements	s (iviiriirium :	system sensit	ivity)				

FCC Part 15 Subpart C, Radiated Emissions, Harmonics
Paragraphs 15.247(d)
EUT transmitting at the Fundamental signal of 918.4 MHz

Test Method: FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.											
Customer:		Bosch S	Security System.	•		Job No.	R-11965-2				
Test Sampl	e:	wLSN Ir	nertia Detector								
Model No.:		ISW-BIN	N1-S135Y			FCC ID:	T3XBIN1-S135Y				
Operating I	Mode:	Continu	ously transmittir	ng a 918.4 MH	z signal.						
Technician	:	R. Sood	loo			Date:	e: August 14, 2007.				
Notes:	Test Dis	tance: 3 N	/leters		<u>.</u>						
	Detector	: Peak, U	nless otherwise	specified							
Took From	Ante	enna	EUT	Meter	Correction	Corrected	Converted	Pe	eak		
Test Freq.	Pol./H	Height	Orientation	Reading	Factor	Reading	Reading	Li	mit		
MHz	(V/H)/	Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	u∖	//m		
1836.8	V /	1.3	X	65.1	2.3	67.4	2344.2	501	18.0		
	V /	1.4	Y	66.9	2.3	69.2	2884.0				
	V /	1.0	Z	71.3	2.3	73.6	4786.3				
		1.0	X	66.5	2.3	68.8	2754.2				
		1.0	Υ	64.8	2.3	67.1	2264.6				
1836.8	H /	1.4	Z	55.7	2.3	58.0	794.3	501	18.0		
2755.2	V /	1.0	Х	48.1	5.2	53.3	462.4	500	0.00		
ı		1.0	Y	49.7	5.2	54.9	555.9				
i	V /	1.4	Z	51.8	5.2	57.0	707.9		i		
İ	H/	1.0	Х	49.4	5.2	54.6	537.0		İ		
i	H/	1.9	Y	50.9	5.2	56.1	638.3		İ		
2755.2	H/	1.7	Z	47.0	5.2	52.2	407.4	500	0.00		
3673.6	V /	1.0	X	46.3	10.0	56.3	653.1	5000.0			
1		1.0	Y	46.4	10.0	56.4	660.7	000	l		
i		1.0	Z	45.6	10.0	55.6	602.6		<u> </u>		
i		1.0	Х	45.9	10.0	55.9	623.7		İ		
	H/	1.0	Y	45.8	10.0	55.8	616.6		İ		
3673.6	H/	1.0	Z	45.8	10.0	55.8	616.6	500	0.0		
4592.0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1.0	V	40.0	40.0	00.0	4000.4	500	20.0		
4592.0			X	49.2 52.1	13.6	62.8	1380.4	500	0.00		
		1.0	Z	50.2	13.6 13.6	65.7 63.8	1927.5 1548.8		<u> </u> 		
		1.0	X	47.1	13.6	60.7	1083.9	1	<u> </u>		
		1.0	Y	50.1	13.6	63.7	1531.1	1	<u> </u> 		
4592.0		1.2	Z	49.8	13.6	63.4	1479.1	500	0.0		
5510.4		1.0	X	42.9	17.1	60.0	1000.0	501	18.0		
		1.0	Υ	42.9	17.1	60.0	1000.0				
		1.0	Z	42.9	17.1	60.0	1000.0				
		1.0	X	41.1	17.1	58.2	812.8		<u> </u>		
5540.4		1.0	Y	41.1	17.1	58.2	812.8				
5510.4		1.0	Z	41.1	17.1	58.2	812.8		18.0		
							s not recorded we		re		
						do not excee	ed the specified lin	nits.			
	= 110186	S LIOOL IVI	easurements (m	minium sensi	uvity).						

Test Method: FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.										
Customer:		Bosch S	Bosch Security System. Job No. R-11965-2							
Test Samp	le:	wLSN Ir	nertia Detector							
Model No.:		ISW-BI	N1-S135Y			FCC ID:	T3XBIN1-S135Y			
Operating I	Mode:	Continu	ously transmittir	ng a 918.4 MH	z signal.					
Technician	:	R. Sood	loo	-		Date:	August 14, 2007			
Notes:	Test Dist	tance: 3 N	/leters		<u>. </u>					
	Detector	: Peak, ui	nless otherwise	specified						
Took From	Ante	enna	EUT	Meter	Correction	Corrected	Converted	Peak		
Test Freq.	Pol./H	Height	Orientation	Reading	Factor	Reading	Reading	Limit		
MHz	(V/H)-	Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	uV/m		
6408.5		1.0	X	42.2	19.9	62.1	*1273.5	50118.0		
		1.0	Υ	42.2	19.9	62.1	*1273.5			
		1.0	Z	42.2	19.9	62.1	*1273.5			
	1	1.0	X	41.3	19.9	61.2	*1148.2			
		1.0	Υ	41.3	19.9	61.2	*1148.2			
6408.5	H /	1.0	Z	41.3	19.9	61.2	*1148.2	50118.0		
7004.0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4.0	V	40.0	04.0	04.0	*4040.0	5000.0		
7324.0		1.0	X Y	43.0	21.3	64.3	*1640.6	5000.0		
		1.0	Z	43.0 43.0	21.3 21.3	64.3 64.3	*1640.6 *1640.6	1		
<u> </u>		1.0	X	43.0	21.3	64.3	*1640.6			
<u> </u>		1.0	Y	43.0	21.3	64.3	*1640.6			
7324.0		1.0	Z	43.0	21.3	64.3	*1640.6	5000.0		
7324.0	117	1.0		43.0	21.5	04.3	1040.0	3000.0		
8239.5	V /	1.0	Х	42.5	23.6	66.1	*2018.4	5000.0		
		1.0	Y	42.5	23.6	66.1	*2018.4			
	V /	1.0	Z	42.5	23.6	66.1	*2018.4	İ		
	H/	1.0	Х	42.7	23.6	63.6	*2065.4	İ		
İ	H/	1.0	Y	42.7	23.6	63.6	*2065.4	İ		
8239.5	H/	1.0	Z	42.7	23.6	63.6	*2065.4	5000.0		
9155.0		1.0	X	42.1	25.5	67.6	*2398.8	5000.0		
	•	1.0	Υ	42.1	25.5	67.6	*2398.8			
		1.0	Z	42.1	25.5	67.6	*2398.8			
		1.0	X	42.0	25.5	67.5	*2371.4			
		1.0	Y	42.0	25.5	67.5	*2371.4			
9155.0	H /	1.0	Z	42.0	25.5	67.5	*2371.4	5000.0		
	The free	quency ra	nge was scanne	ed from 30 MH	lz to 10.0 GHz	. All emissions	not recorded we	re more		
			•				ed the specified lin			
L	*=Noise Floor Measurements (Minimum system sensitivity)									

Test Method	d:	FCC	Part 15 Subpa	art C, Radiat	ed Emissions	, Harmonics E	missions.					
Customer:		Boso	ch Security Sys	tem.		Jo	b No. R-119	965-2				
Test Sample	e:		N Inertia Detec			U.						
Model No.:	-		BIN1-S135Y			FC	CC ID: T3XB	IN1-S135Y				
Operating N	/lode:		inuously transr	mitting a 918	8.4 MHz signa		20 121 10/K2					
Technician:			oodoo				Date: August 14, 2007.					
Notes:			nce: 3 Meters Duty Cycle:20.5%									
140103.			age, unless oth	nerwise spec	cified		cle Correction	: -13.8dB				
	Anten	no	EUT	Averege	Correction	Duty cycle	Corrected	Converted	۸۰	' 0		
Test Freq.	Pol./He		Orientation	Average Reading	Factor	Correction Factor	Reading	Reading	A۱ Lir	nit		
MHz	(V/H)-	X/Y/Z	dΒμV	dB	dB	dBµV/m	UV/m	uV	/m		
1836.8	V / 1	.3	Х	64.7	2.3	-13.8	53.2	457.1	501	1.8		
	V / 1	.4	Y	66.4	2.3	-13.8	54.9	555.9				
	V / 1	.0	Z	66.1	2.3	-13.8	54.6	537.0				
	H/1		X	55.9	2.3	-13.8	44.4	166.0				
	H/1	.0	Y	60.1	2.3	-13.8	48.6	269.2				
1836.8	H/1	.4	Z	53.3	2.3	-13.8	41.8	123.0	501	1.8		
2755.2	V / 1	0	X	40.9	5.2	-13.8	32.3	41.2	50	0.0		
1	V / 1		Y	45.0	5.2	-13.8	36.4	66.1				
	V / 1		Z	48.7	5.2	-13.8	40.1	101.2				
	H/1		X	45.0	5.2	-13.8	36.4	66.1				
	H/1		Y	47.5	5.2	-13.8	38.9	88.1				
2755.2	H/1		Z	39.0	5.2	-13.8	30.4	33.1	50	0.0		
3673.6	V / 1	.0	Х	33.6	10.0	-13.8	29.8	30.9	50	0.0		
	V / 1	.0	Y	34.0	10.0	-13.8	30.2	32.4				
	V / 1	.0	Z	31.6	10.0	-13.8	27.8	24.5				
	H/1	.0	Х	32.1	10.0	-13.8	28.3	26.0				
	H/1	.0	Υ	32.0	10.0	-13.8	28.2	25.7				
3673.6	H / 1	.0	Z	31.9	10.0	-13.8	28.1	25.4	50	0.0		
4592.0	V / 1	0	X	44.3	13.6	-13.8	44.1	160.3	50	0.0		
1002.0	V / 1		Y	44.5	13.6	-13.8	48.4	263.0	50	1		
	V / 1		Z	45.6	13.6	-13.8	45.4	186.2				
	H / 1		X	39.3	13.6	-13.8	39.1	90.2		<u> </u>		
<u> </u>	H/1		Y	46.3	13.6	-13.8	46.1	201.8		<u> </u>		
4592.0	H/1		Z	46.4	13.6	-13.8	46.2	204.2	50	0.0		
5510.4	V / 1	.0	Х	29.2	17.1	-13.8	32.5	*42.2	501	1.8		
	V / 1	.0	Υ	29.2	17.1	-13.8	32.5	*42.2				
	V / 1	.0	Z	29.2	17.1	-13.8	32.5	*42.2				
	H/1	.0	X	29.2	17.1	-13.8	32.5	*42.2				
	H/1		Y	29.2	17.1	-13.8	32.5	*42.2				
5510.4	H/1		Z	29.2	17.1	-13.8	32.5	*42.2		1.8		
								corded were n				
	Than 20	dB be	elow the specif	ied limit. Er	nissions from	the EUT do n	ot exceed the	specified limits	S			
	*=Noise	Floor	Measurement	s (Minimum	system sens	itivity)						

Test Method:	FCC	Part 15 Subpa	ırt C, Radiate	d Emissions,	Harmonics E	missions.		
Customer:	Boso	ch Security Sys	tem.		Jok	No. R-119	965-2	
Test Sample:	wLS	N Inertia Detec	tor			_		
Model No.:	ISW	-BIN1-S135Y			FC	C ID: T3XB	IN1-S135Y	
Operating Mod	de: Conf	tinuously transr	nitting a 918.	4 MHz signal				
Technician:	R. S	oodoo			1	Date: Augus	st 14, 2007.	
Notes: Te	st Distance:	3 Meters			Duty Cyc	le:20.5%		
De	tector: Aver	age, unless oth	erwise speci	fied	Duty Cyc	le Correction:	: -13.8dB	
	Antenna	EUT	Average	Correction	Duty cycle	Corrected	Converted	Avg.
Test Freq. F	Pol./Height	Orientation	Reading	Factor	Correction Factor	Reading	Reading	Limit
MHz	(V/H)-	X/Y/Z dBμV		dB	dB	dBµV/m	uV/m	uV/m
6408.5	V / 1.0	X	31.6	19.9	-13.8	37.7	*76.7	5011.8
	V / 1.0	Y	31.6	19.9	-13.8	37.7	*76.7	
	V / 1.0	Z	31.6	19.9	-13.8	37.7	*76.7	
	H / 1.0	X	32.2	19.9	-13.8	38.3	*82.2	
	H / 1.0	Y	32.2	19.9	-13.8	38.3	*82.2	
6408.5	H / 1.0	Z	32.2	19.9	-13.8	38.3	*82.2	5011.8
7324.0	V / 1.0	X	31.9	21.3	-13.8	39.4	*93.3	500.0
	V / 1.0	Y	31.9	21.3	-13.8	39.4	*93.3	
	V / 1.0	Z	31.9	21.3	-13.8	39.4	*93.3	
	H / 1.0	X	31.9	21.3	-13.8	39.4	*93.3	
7004.0	H / 1.0	Y	31.9	21.3	-13.8	39.4	*93.3	500.0
7324.0	H / 1.0	Z	31.9	21.3	-13.8	39.4	*93.3	500.0
8239.5	V / 1.0	Х	33.2	23.6	-13.8	43.0	*141.3	500.0
1	V / 1.0	Y	33.2	23.6	-13.8	43.0	*141.3	
	V / 1.0	Z	33.2	23.6	-13.8	43.0	*141.3	i
i	H / 1.0	Х	32.8	23.6	-13.8	42.6	*134.9	i
	H / 1.0	Y	32.8	23.6	-13.8	42.6	*134.9	i
8239.5	H / 1.0	Z	32.8	23.6	-13.8	42.6	*134.9	500.0
0455.0	V//4.0	V	33.1	25.5	40.0	44.0	*470.0	500.0
9155.0	V / 1.0	X	33.1	25.5	-13.8	44.8	*173.8	500.0
	V / 1.0 V / 1.0	Y Z	33.1	25.5 25.5	-13.8 -13.8	44.8 44.8	*173.8 *173.8	
1	H / 1.0	X	33.2	25.5	-13.8	44.8	*175.8	
1	H / 1.0	Y	33.2	25.5	-13.8	44.9	*175.8	<u> </u>
9155.0	H / 1.0	Z	33.2	25.5	-13.8	44.9	*175.8	500.0
9100.0	117 1.0		00.2	20.0	10.0	44.9	175.0	300.0
		y range was sc						
	han 20 dB b	elow the specif	ied limit. Em	issions from t	he EUT do no	t exceed the	specified limit	ts.
		Measurements						

FCC Part 15 Subpart C, Radiated Emissions, Harmonics
Paragraphs 15.247(d)
EUT transmitting at the Fundamental signal of 921.3 MHz

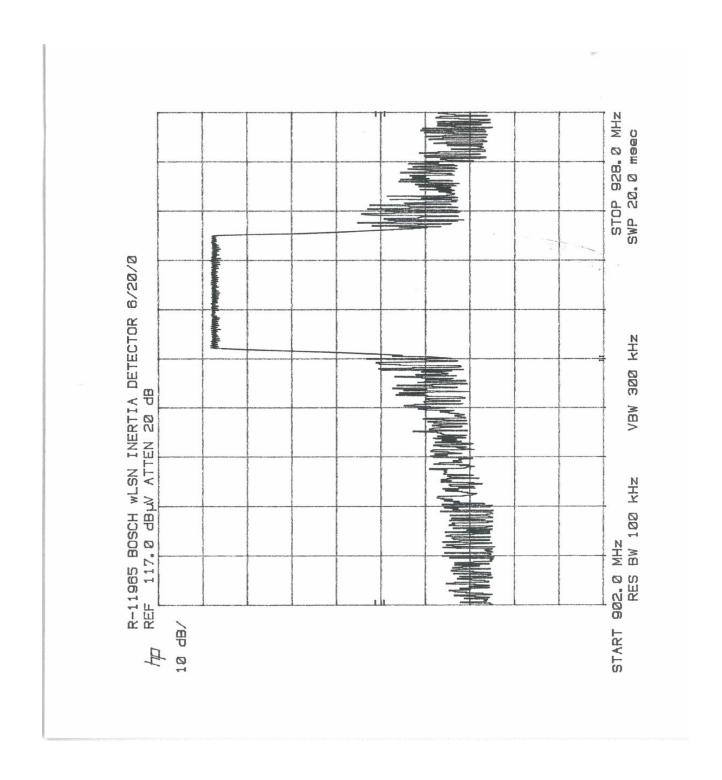
Test Metho	d:	FCC Pa	ırt 15 Subpart C	, Radiated Em	issions, Harmo	nics Emissio	ns.		
Customer:		Bosch S	Security System	•		Job No.	R-11965-2		
Test Sampl	e:	wLSN Ir	nertia Detector		1				
Model No.:			N1-S135Y			FCC ID:	T3XBIN1-S135Y	,	
Operating N	/lode:		ously transmittir	ng a 921.3 MH	z signal.				
Technician:		R. Sood				Date:	August 14, 2007		
Notes:	Test Dist	ance: 3 N	Meters		1		,		
			nless otherwise	specified					
	Ante		EUT	Meter	Correction	Corrected	Converted	Pe	eak
Test Freq.	Pol./H		Orientation	Reading	Factor	Reading	Reading		mit
MHz	(V/H)/N		X/Y/Z	dBµV	dB	dBµV/m	uV/m		//m
1842.6	V / :		X	65.3	2.3	67.6	2398.8	+	18.0
1012.0	V /		Y	65.5	2.3	67.8	2454.7	001	
	V /	1.0	Z	70.1	2.3	72.4	4168.7		
	H/		X	65.1	2.3	67.4	2344.2		
	H/		Y	64.9	2.3	67.2	2290.9		i İ
1842.6	H/		Z	53.3	2.3	55.6	602.6	501	18.0
2763.9	V /		Х	50.5	5.2	55.7	609.5	500	0.0
	V /		Y	48.7	5.2	53.9	495.5		
	V /		Z	52.6	5.2	57.8	776.2		
	H/		Х	51.1	5.2	56.3	653.1		
	H/		Y	52.4	5.2	57.6	758.6		
2763.9	H/	1.4	Z	48.4	5.2	53.6	478.6	500	0.0
3685.2	V /	1 0	X	46.5	10.0	56.5	668.3	500	0.0
1	V /		Y	46.6	10.0	56.6	676.1	300	I
<u> </u>	V /		Z	45.7	10.0	55.7	609.5		<u> </u>
<u> </u>	H/		X	45.5	10.0	55.5	595.7		<u> </u>
	H/:		Y	46.2	10.0	56.2	645.7		<u> </u>
3685.2	H /		Z	45.3	10.0	55.3	582.1	500	0.0
4606.5	V /	1.0	X	51.6	13.6	65.2	1819.7	500	0.0
	V /		Y	52.6	13.6	66.2	2041.7		
	V /		Z	52.4	13.6	66.0	1995.3		
	H/		X	50.3	13.6	63.9	1566.8		
	H/		Y	52.8	13.6	66.4	2089.3		
4606.5	H/	1.0	Z	52.7	13.6	66.3	2065.4	500	0.00
5527.8	V /	1.0	X	45.8	17.1	62.9	1396.4	E04	18.0
1	V /		Y	45.8	17.1	62.9	1135.0	301	10.U I
<u> </u>	V /		Z	44.0 46.5	17.1	63.6	1513.6		l
<u> </u> 	H /		X	44.0	17.1	61.1	1135.0		
<u> </u>	H/		Y	45.8	17.1	62.9	1396.4		<u> </u>
5527.8	H /		Z	45.6	17.1	62.2	1288.2	501	18.0
							s not recorded we		
							ed the specified lin		
			easurements (m						
					97				

Test Metho	d:	FCC Pa	rt 15 Subpart C	, Radiated Em	nissions, Harmo	nics Emissio	ns.		
Customer:		Bosch S	Security System.	•		Job No.	R-11965-2		
Test Samp	le:	wLSN Ir	nertia Detector		_				
Model No.:		ISW-BI	N1-S135Y			FCC ID:	T3XBIN1-S135Y	,	
Operating	Mode:	Continu	ously transmittir	ng a 921.3 MH	lz signal.				
Technician		R. Sood	-			Date:	August 14, 2007		
Notes:	Test Dist	tance: 3 N	/leters		•	'	,		
	Detector	: Peak. ui	nless otherwise	specified					
Test Freq.	Ante	enna Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Pe Lin	
MHz		Meters	X/Y/Z	dBµV	dB	dBµV/m	uV/m	uV	
6408.5	· ,	1.0	X	42.2	19.9	62.1	*1273.5	5011	
1		1.0	Y	42.2	19.9	62.1	*1273.5	1	10.0
		1.0	Z	42.2	19.9	62.1	*1273.5	i	
i		1.0	Х	41.3	19.9	61.2	*1148.2	i	
i	_	1.0	Υ	41.3	19.9	61.2	*1148.2	i	
6408.5		1.0	Z	41.3	19.9	61.2	*1148.2	5011	18.0
7324.0	V /	1.0	X	43.0	21.3	64.3	*1640.6	500	0.0
	V /	1.0	Y	43.0	21.3	64.3	*1640.6		
	V /	1.0	Z	43.0	21.3	64.3	*1640.6		
	H/	1.0	X	43.0	21.3	64.3	*1640.6		
	H/	1.0	Y	43.0	21.3	64.3	*1640.6		
7324.0	H/	1.0	Z	43.0	21.3	64.3	*1640.6	500	0.0
8239.5	+	1.0	X	42.5	23.6	66.1	*2018.4	500	0.0
<u> </u>		1.0	Y	42.5	23.6	66.1	*2018.4		
		1.0	Z	42.5	23.6	66.1	*2018.4		
		1.0	X	42.7	23.6	63.6	*2065.4		
0000.5		1.0	Y Z	42.7	23.6	63.6	*2065.4	500	
8239.5	H /	1.0	<u> </u>	42.7	23.6	63.6	*2065.4	500	0.0
9155.0	V /	1.0	Х	42.1	25.5	67.6	*2398.8	500	0.0
1		1.0	Υ	42.1	25.5	67.6	*2398.8		
Ĺ		1.0	Z	42.1	25.5	67.6	*2398.8		
	H/	1.0	Х	42.0	25.5	67.5	*2371.4		
I	H/	1.0	Y	42.0	25.5	67.5	*2371.4		
9155.0	H /	1.0	Z	42.0	25.5	67.5	*2371.4	500	0.0
								1	
	The			fra 00 ft	I- 4- 40 0 0 1 1	All amainmin			
							not recorded we		е
						uo not excee	ed the specified lin	IIIS.	
	=ivoise	LIOOL IVIE	easurements (M	ıırılırılırın syste	m sensitivity)				

Test Metho	od:	FCC	Part 15 Subpa	art C, Radiat	ed Emissions	, Harmonics E	missions.			
Customer:		Boso	ch Security Sys	stem.		Jo	b No. R-119	965-2		
Test Samp	ole:		N Inertia Detec			1	1			
Model No.			-BIN1-S135Y			FC	C ID: T3XB	IN1-S135Y		
Operating		+	tinuously transr	mitting a 921	3 MHz signa	- I	70 121 10/12			
Technician			oodoo		10 1111 12 OIGI10		Date: Augus	st 14, 2007.		
Notes:			3 Meters			Duty Cy	cle:20.5%	50 14, 2007.		
Notes.			age, unless oth	nerwise sned	rified		cle Correction:	· -13 8dB		
				,		Duty cycle				
Test Freq.	Anter		EUT	Average	Correction	Correction	Corrected	Converted		/g.
	Pol./He	eight	Orientation	Reading	Factor	Factor	Reading	Reading	Lir	mit
MHz	(V/H	l)-	X/Y/Z	dΒμV	dB	dB	dBµV/m	uV/m	u۷	//m
1842.6	V/2	8	X	63.1	2.3	-13.8	51.6	380.2	501	1.8
	V / 1	.4	Υ	61.1	2.3	-13.8	49.6	302.0		
	V / 1	.0	Z	61.1	2.3	-13.8	49.6	302.0		
	H/1		X	59.4	2.3	-13.8	47.9	248.3		
	H/1		Y	58.5	2.3	-13.8	47.0	223.9		
1842.6	H / 1	.9	Z	51.4	2.3	-13.8	39.9	98.9	501	1.8
0700.0										
2763.9	V / 1		X	45.8	5.2	-13.8	37.2	72.4	50	0.0
	V / 1		Y	42.8	5.2	-13.8	34.2	51.3		
	V / 1		Z	50.0	5.2	-13.8 -13.8	41.4	117.5		<u> </u>
	H/1 H/1		X	44.3	5.2	-13.8	35.7	61.0		<u> </u>
<u> </u> 2763.9	H/1		Y Z	49.7	5.2 5.2	-13.8	41.1	113.5		0.0
2703.9	П/І	.4		42.9	5.2	-13.6	34.3	51.9	50	0.0
3685.2	V / 1	.0	Х	32.0	10.0	-13.8	28.2	25.7	50	0.0
	V / 1	.0	Y	35.4	10.0	-13.8	31.6	38.0		l
i	V / 1	.0	Z	32.9	10.0	-13.8	29.1	28.5		
İ	H/1	.0	X	31.2	10.0	-13.8	27.4	23.4		ĺ
İ	H/2	2	Y	36.2	10.0	-13.8	32.4	41.7		
3685.2	H/1	.0	Z	31.2	10.0	-13.8	27.4	23.4	50	0.0
4606.5	V / 1		Х	47.8	13.6	-13.8	47.6	239.9	50	0.0
	V / 1		Y	49.2	13.6	-13.8	49.0	281.8		<u> </u>
<u> </u>	V / 1		Z	50.5	13.6	-13.8	50.3	327.3		<u> </u>
<u> </u>	H/1		X	45.9	13.6	-13.8	45.7	192.8		<u> </u>
4606.5	H/1		Y	50.1	13.6	-13.8	49.9	312.6		
4606.5	H / 1	.U	Z	50.3	13.6	-13.8	50.1	319.9	50	0.0
5527.8	V / 1	.0	X	37.8	17.1	-13.8	41.1	113.5	501	1.8
	V / 1		Y	32.3	17.1	-13.8	35.6	60.3	501	<u>.</u> I
<u> </u>	V / 1		Z	38.9	17.1	-13.8	42.2	128.8		
	H/1		X	32.2	17.1	-13.8	35.5	59.6		<u> </u>
	H / 1		Y	39.0	17.1	-13.8	42.3	130.3		<u> </u>
5527.8	H/1		Z	35.2	17.1	-13.8	38.5	84.1	501	1.8
			y range was sc							
			elow the specif							
			Measurement					•		
			•	,	•	• /				

Customs: Bosch Security System. Job No. R-11965-2 Test Sample: wLSN Inertia Detector Mode! Note: ISW-BINI-S13SY FCC ID: T3XBINI-S13SY Continuously transmitting a 921.3 MHz signal. Technical: R. Soodoo Duty Cycle: Correction: July Cycle: Correction: July Cycle: Correction: July Cycle: Correction: July Cycle: Correction: July Cycle: Correction: Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Corrected Correction Pactor Cor	Test Method	d:	FCC	Part 15 Subpa	ırt C, Radiate	d Emissions,	Harmonics E	missions.		
Notes: ISW-BIN1-S135Y FCC ID: T3XBIN1-S135Y	Customer:		Bosc	h Security Sys	tem.		Jok	No. R-119	965-2	
Detail	Test Sample	e:	wLSI	N Inertia Detec	tor					
Test Distance: 3 Meters Duty Cycle: 20.5%	Model No.:		ISW-	BIN1-S135Y			FC	C ID: T3XB	IN1-S135Y	
Notes:	Operating N	/lode:	Cont	inuously transr	nitting a 921.	3 MHz signal				
Detector: Average, unless otherwise specified Duty Cycle Correction: -13.8dB	Technician:		R. So	oodoo			[Date: Augus	st 14, 2007.	
Test Freq. Antenna Pol./Height Orientation Pactor Pact	Notes:	Test Dista	ance:	3 Meters			Duty Cyc	le:20.5%		
Test Freq. Pol./Height		Detector:	Avera	age, unless oth	erwise speci	fied	Duty Cyc	le Correction:	: -13.8dB	
Pol./Height Orientation Reading Factor		Antoni	22	FLIT	Average	Correction	Duty cycle	Corrected	Converted	Λνα
MHz (V/H)- X / Y / Z dBµV dB dB dBµ/m uV/m uV/m 6408.5 V / 1.0 X 31.6 19.9 -13.8 37.7 *76.7 5011.8 V / 1.0 Y 31.6 19.9 -13.8 37.7 *76.7 V / 1.0 X 32.2 19.9 -13.8 38.3 *82.2 H / 1.0 X 32.2 19.9 -13.8 38.3 *82.2 H / 1.0 Y 32.2 19.9 -13.8 38.3 *82.2 H / 1.0 Z 32.2 19.9 -13.8 38.3 *82.2 H / 1.0 X 31.9 21.3 -13.8 39.4 *93.3 500.0 V / 1.0 X 31.9 21.3 -13.8 39.4 *93.3 V / 1.0 X 31.9 <td< th=""><th>Test Freq.</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>	Test Freq.									
V/1.0	MHz	(V/H)	- X/Y/Z dBµV		dB		dBµV/m	uV/m	uV/m	
V/1.0 Z 31.6 19.9 -13.8 37.7 *76.7 H/1.0 X 32.2 19.9 -13.8 38.3 *82.2	6408.5	V / 1.	0	Х	31.6	19.9	-13.8	37.7	*76.7	5011.8
H/1.0 X 32.2 19.9 -13.8 38.3 82.2 H/1.0 Y 32.2 19.9 -13.8 38.3 82.2		V / 1.	0	Υ	31.6	19.9		37.7	*76.7	
H / 1.0					31.6	19.9		37.7		
The frequency range was scanned from 30 MHz to 10.0 GHz. All emissions not recorded were more Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.										
7324.0										
V/1.0	6408.5	H / 1.	0	Z	32.2	19.9	-13.8	38.3	*82.2	5011.8
V/1.0		24.4	_			212	40.0	00.1	400.0	
V/1.0 Z 31.9 21.3 -13.8 39.4 *93.3	7324.0									500.0
H / 1.0										
H/1.0										
7324.0 H / 1.0 Z 31.9 21.3 -13.8 39.4 *93.3 500.0 8239.5 V / 1.0 X 33.2 23.6 -13.8 43.0 *141.3 500.0 V / 1.0 Y 33.2 23.6 -13.8 43.0 *141.3 V / 1.0 Z 33.2 23.6 -13.8 43.0 *141.3 H / 1.0 X 32.8 23.6 -13.8 42.6 *134.9 H / 1.0 Y 32.8 23.6 -13.8 42.6 *134.9 8239.5 H / 1.0 Z 32.8 23.6 -13.8 42.6 *134.9 500.0 9155.0 V / 1.0 X 33.1 25.5 -13.8 44.8 *173.8 500.0 V / 1.0 Y 33.1 25.5 -13.8 44.8 *173.8 V / 1.0 X 33.1 25.5 -13.8 44.9 *175.8 <th>1</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	1									
8239.5 V/1.0 X 33.2 23.6 -13.8 43.0 *141.3 500.0 V/1.0 Y 33.2 23.6 -13.8 43.0 *141.3 V/1.0 Z 33.2 23.6 -13.8 43.0 *141.3 H/1.0 X 32.8 23.6 -13.8 42.6 *134.9 H/1.0 Y 32.8 23.6 -13.8 42.6 *134.9 8239.5 H/1.0 Z 32.8 23.6 -13.8 42.6 *134.9 8239.5 U/1.0 X 33.1 25.5 -13.8 42.6 *134.9 V/1.0 Z 32.8 23.6 -13.8 42.6 *134.9 H/1.0 X 33.1 25.5 -13.8 44.8 *173.8 500.0 V/1.0 Y 33.1 25.5 -13.8 44.8 *173.8 V/1.0 Z 33.1 25.5 -13.8 44.8 *173.8 H/1.0 X 33.2 25.5 -13.8 44.9 *175.8 H/1.0 X 33.2 25.5 -13.8 44.9 *175.8 H/1.0 X 33.2 25.5 -13.8 44.9 *175.8 H/1.0 X 33.2 25.5 -13.8 44.9 *175.8 H/1.0 Example of the specified limit. Emissions from the EUT do not exceed the specified limits.	7324.0									500.0
V/1.0	7324.0	11/ 1.	0		31.3	21.0	10.0	33.4	33.3	300.0
V/1.0	8239.5	V / 1.	0	Х	33.2	23.6	-13.8	43.0	*141.3	500.0
V/1.0										
H / 1.0									*141.3	
8239.5 H / 1.0 Z 32.8 23.6 -13.8 42.6 *134.9 500.0 9155.0 V / 1.0 X 33.1 25.5 -13.8 44.8 *173.8 500.0 V / 1.0 Y 33.1 25.5 -13.8 44.8 *173.8 V / 1.0 Z 33.1 25.5 -13.8 44.8 *173.8 H / 1.0 X 33.2 25.5 -13.8 44.9 *175.8 H / 1.0 Y 33.2 25.5 -13.8 44.9 *175.8 9155.0 H / 1.0 Z 33.2 25.5 -13.8 44.9 *175.8 The frequency range was scanned from 30 MHz to 10.0 GHz. All emissions not recorded were more Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.	İ	H/1.	0	Х	32.8	23.6		42.6	*134.9	
9155.0 V / 1.0 X 33.1 25.5 -13.8 44.8 *173.8 500.0 V / 1.0 Y 33.1 25.5 -13.8 44.8 *173.8 V / 1.0 Z 33.1 25.5 -13.8 44.8 *173.8 H / 1.0 X 33.2 25.5 -13.8 44.9 *175.8 H / 1.0 Y 33.2 25.5 -13.8 44.9 *175.8 9155.0 H / 1.0 Z 33.2 25.5 -13.8 44.9 *175.8 The frequency range was scanned from 30 MHz to 10.0 GHz. All emissions not recorded were more Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.		H/1.	0		32.8	23.6		42.6	*134.9	
V/1.0 Y 33.1 25.5 -13.8 44.8 *173.8	8239.5	H / 1.	0	Z	32.8	23.6	-13.8	42.6	*134.9	500.0
V/1.0 Y 33.1 25.5 -13.8 44.8 *173.8										
V/1.0 Z 33.1 25.5 -13.8 44.8 *173.8	9155.0									500.0
H / 1.0										
H / 1.0										
9155.0 H / 1.0 Z 33.2 25.5 -13.8 44.9 *175.8 500.0 The frequency range was scanned from 30 MHz to 10.0 GHz. All emissions not recorded were more Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.	l									
The frequency range was scanned from 30 MHz to 10.0 GHz. All emissions not recorded were more Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.	9155.0									500.0
Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.	9133.0	11/ 1.	0		33.2	23.3	10.0	44.5	173.0	300.0
Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.										
Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.										
Than 20 dB below the specified limit. Emissions from the EUT do not exceed the specified limits.										
		The freq	uency	range was sc	anned from 3	0 MHz to 10.0	GHz. All em	issions not re	corded were	more
*=Noise Floor Measurements (Minimum system sensitivity)								t exceed the	specified limit	ts.
		*=Noise	Floor	Measurements	s (Minimum s	system sensit	ivity)			

FCC Part 15, Subpart C,15.247(d) Band Edge Measurements 902 - 928 MHz Range Test Data



FCC Part 15, Subpart C,15.247(d) Band Edge Measurements, 902 to 928 MHz Band

Note: The EUT complies with the Band Edge Measurements.

FCC ID:T3XBIN1-S135Y

Customer	Bosch Security Sys	Bosch Security System.				
Test Sample wLSN Inertia Detector						
Model Number	ISW- BIN1-S135Y					
Date: 6-20-007	Tech: R.S.	Sheet 1 of 1				

FCC Part 15, Subpart B, Class B, Radiated Emissions, 30 MHz to 5.0 GHz,
Paragraph 15.109(a)
Receiver Test Data

Test Metho	d:	FCC P	art 15, Subpa	rt B, Class I	3, Radiated E	mission	s, 30 MHz	to 5.	0 GHz, Para	:15.109(a)
Customer:		Bosch	Security Syste	m.			Job I	No.:	R-11965-2	
Test Sampl	e:	wLSN I	nertia Detecto	r						
Model No.:		ISW-BI	N1-S135Y				Serial I	No.:	N/A	
Operating N	/lode:		perating on cha	annel 00(91	5.5MHz), cont	tinuously	receiving a	a CW	signal.	
Technician		R.Sood		,	•			ate:	July 10, 200)7.
Notes:	Test D	Distance:	3 Meters				Temp: 31	.0°C		ty: 70%
	Detec	tor: Qua	asi-Peak Below	v 1 GHz, Pea	ak above 1 Gł	Ηz	'			,
Frequency		enna sition			ected ading	(Converted Reading	Limit		
MHz	(V/H) /	Meters	Degrees	dBuV	dB		uV/m		uV/m	uV/m
	,,,	2-2-0	, <u> </u>		·			<u> </u>	,	
30.0										100
!										
88.0										100
88.0										150
										100
										İ
ĺ										i
216.0										150
216.0										200
										1
<u> </u>										
960.0										200
960.0										500
 1758.0	\/ /	1.5	200.0	46.5	2.0	10	3.5		266.1	
1730.0	V /	1.0	200.0	40.0	2.0	40	J.J		Z00. I	
i										
										İ
F000 0										F00
5000.0	The free	nuency rar	nge was scanned	from 30 MHz to	5 0 GHz			<u> </u>		500
			served from the E			limits.				
			orded were more							

Test	Metho	d:	FCC P	art 15, Subpa	rt B, Class I	3, Radiated E	mission	s, 30 MHz to 5	.0 GHz, Pai	ra:15.109(a)
Custo	omer:			Security Syste				Job No.:		
Test	Sample	e:		nertia Detecto						
Mode	l No.:		ISW-BI	N1-S135Y				Serial No.:	N/A	
Opera	ating N	/lode:	EUT op	perating on cha	annel 30(91	8.5MHz), con	tinuously	receiving a CV	V signal.	
Techi	nician:		R.Sood	doo				Date:	July 10, 2	007.
Notes	S :			3 Meters asi-Peak Belov	v 1 GHz, Pea	ak above 1 Gł	Нz	Temp: 31.0°C	Humi	dity: 70%
Frequ	iency	-	enna sition	EUT Orientation	Meter Readings	Correction Factor		ected ading	Converted Reading	Limit
MI	-lz	(V/H) /	Meters	Degrees	dΒμV	dB	dB	μV/m	uV/m	uV/m
30	0.0									100
88										100
88	.0									150
216	6.0		☐ No	emission o	bserved	at the spec	ified te	st distance		150
216	3.0									200
l	0.0									200
960										500
							_			j
										<u> </u>
I										
										İ
500	0.0	The for			from 20 MHz- t-	F 0 CH=				500
		The em	quency rar issions ob	nge was scanned served from the E	UT do not exce	ed the specified	limits.			
				orded were more						

Test Met	thod:		FCC Pa	art 15, Subpa	rt B, Class I	3, Radiated E	mission	s, 30 MHz to 5	.0 GH	z, Para:1	15.109(a)
Custome	er:			Security Syste				Job No.:		1965-2	
Test Sar	mple:			nertia Detecto					•		
Model N	•			N1-S135Y				Serial No.:	N/A		
Operatir	ng Mod	e:			annel 58(92	1.3MHz), con	inuously	receiving a CV	V signa	al.	
Technic			R.Sood			,,		Date:		10, 2007	7.
Notes:		est D	istance:	3 Meters				Temp: 31.0°C		Humidity	
				si-Peak Below	v 1 GHz, Pea	ak above 1 Gł	Ηz				
Frequen			enna ition	EUT Orientation	Meter Readings	Correction Factor		ected ading	Converted Reading		Limit
MHz	(V/	/H) /	Meters	Degrees	dΒμV	dB	dB	μV/m	uV.	/m	uV/m
30.0											100
											<u> </u>
<u> </u> 											
88.0											100
88.0											150
216.0										7	150
216.0			─ No	emission	observed	at the spe	cified to	est distance	•		200
						-					
											i
960.0											200
960.0											500
<u> </u>											
<u>_</u>											
i											i
											<u> </u>
5000.0	, 										F00
5000.0		e fren	luency ran	nge was scanned	from 30 MHz to	5 0 GHz					500
				served from the E			limits.				
				orded were more							