# **Technical Information**

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

Test Specifications: FCC Part 15, Subpart C Paragraph 15.247, FCC Part 15, Subpart B Paragraph 15 Industry Canada RSS-210 Issue 6 Annex 8, and RSS-Gen Issue 2

Test Procedure: ANSI C63.4: 2003

# **Test Sample Description**

Test Sample:	wLSN PIR Motion Detector		
Brandname:	Bosch		
Model Number:	ISW-BPR1-W13PY		
FCC ID:	T3XBPR1-W13PY		
Туре:	Frequency Hopping Spread Spectrum Transceiver		
Power Requirem	nts: Four 1.5V AA Alkaline Batteries		
Frequency of Op	ration: 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)	47 (d) RSS-210 Annex 8 A8.5 Transmitter Spurious Radiated Restricted Bands / Band edge M		
15.109(a)	RSS-Gen Paragraph 6	Receiver Spurious Radiated Emissions	

### 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 43.8 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 88.5 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 88.5 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 = { 2541763809 } Shuffled G1 = { 19181215141017161113 } Shuffled G2 = { 26212422292528232027 } Shuffled G3 = { 3833139323036343735 } Shuffled G4 = { 47454948424346414044 } Shuffled G5 = { 51585657525505354 }

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 = { 2 5 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

Ucholos a

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.

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# **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

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	6/27/2007	6/27/2008
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/18/2006	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
032G	H.P. Filter	Microlab/FXR	3 GHz	HA-30N	5/29/2007	5/29/2008
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
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
379F	H.P. Filter	Microlab/FXR	500 MHz	HA-05N	9/22/2006	9/22/2007
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/18/2006	10/18/2007
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/9/2005	9/9/2007
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	6/13/2007	6/13/2008
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
032G	H.P. Filter	Microlab/FXR	3 GHz	HA-30N	5/29/2007	5/29/2008
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
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
206B	6.0 dB Attenuator	Texscan	0 - 1.0 GHz	FP-50 - 6 dB	6/27/2007	6/27/2008
379F	H.P. Filter	Microlab/FXR	500 MHz	HA-05N	9/22/2006	9/22/2007
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/18/2006	10/18/2007
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/9/2005	9/9/2007
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	6/13/2007	6/13/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	10/12/2006	10/12/2007

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

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
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
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/18/2006	10/18/2007
523	Biconilog	Electro-Mechanics	26 - 2000 MHz	3142B	11/10/2006	11/10/2007
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/9/2005	9/9/2007
574	AM/FM Signal Generator	Marconi Instru.	9 kHz - 2.4 GHz	2024	7/25/2006	7/25/2007
617	Interference Analyzer	Electro-Metrics	10 kHz - 1 GHz	EMC-30	6/13/2007	6/13/2008
723	H.P. Filter	Mini-Circuits	1 GHz	BHP-1000	8/7/2006	8/7/2007

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 =91.8kHz)

FCC ID:T3XBPR1-W13PY

Customer	Bosch Security System.		
Test Sample	wLSN PIR Motion Detector		
Model Number	ISW- BPR1-W13PY		
Date: 6-8-2007	Tech: R.S.	Sheet 1 of 2	

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#### 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).

FCC ID:T3XBPR1-W13PY

Customer	Bosch Security System.						
Test Sample	wL	wLSN PIR Motion Detector					
Model Number	ISV	V-BPR1-W13PY					
Date: 6-8-2007		Tech: R.S.	Sheet 2 of 2				

Retlif Testing Laboratories, Report R-11965-8, Bosch Security Systems, FCC ID: T3XBPR1-W13PY Page 11 of 47 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 43.2 kHz

**Note:** EUT transmitting on channel 00 at 915.5 MHz. **FCC ID:**T3XBPR1-W13PY

Customer	Bo	Bosch Security System.					
Test Sample	wLSN PIR Motion Detector						
Model Number	ISV	V-BPR1-W13PY					
Date: 6-7-2007		Tech: R.S.	Sheet 1 of 3				

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#### 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 43.8 kHz

**Note:** EUT transmitting on channel 30 at 918.5 MHz. **FCC ID:**T3XBPR1-W13PY

Customer	Bosch Security System.						
Test Sample	wLSN PIR Motion Detector						
Model Number	ISW- BPR1-W13PY						
Date: 6-7-2007	Tech: R.S.	Sheet 2 of 3					

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#### 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 42.5 kHz

Note: EUT transmitting on channel 58 at 921.3 MHz FCC ID:T3XBPR1-W13PY

Customer	Bosch Security System.						
Test Sample	wLSN PIR Motion Detector						
Model Number	ISW- BPR1-W13PY						
Date: 6-7-2007	Tech: R.S.	Sheet 3 of 3					

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# FCC Part 15, Subpart C, 15.247 (a)(1)(i) Occupancy Time 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 =22.0mSec.) **FCC ID:**T3XBPR1-W13PY

Customer	Bosch Security System.						
Test Sample	wLSN PIR Motion Detector						
Model Number	ISW- BPR1-W13PY						
Date: 5-22-2007	Tech: R.S.	Sheet 1 of 1					

Retlif Testing Laboratories, Report R-11965-8, Bosch Security Systems, FCC ID: T3XBPR1-W13PY Page 17 of 47 FCC Part 15, Subpart C Radiated Emissions, Fundamental Power Output Paragraph 15.247(b) (2) Test Data

Test Meth	od:	FCC F	Part 15, Subpar	t C Radiated E	Emissions, Fu	ndamental Po	wer Output.			
Customer		Bosch	Security Syste	m.		Job No	<b>.</b> R-11965	-8		
Test Samp	ole:	wLSN	PIR Motion De	tector		Paragrap	<b>h</b> 15.247(b	)(2)		
Model No.	:	ISW-	BPR1-W13PY			FCC ID	: T3XBPR	1-W13PY		
Operating	Mode:	Contir	nuously transmi	tting a 915.5 N	/Hz, 918.4 MI	Iz and 921.3 N	MHz signal.			
Technicia	n:	R. So	odoo	-		Date	: July 3, 20	007.		
Notes:	Test Dist	tance: 3	8 Meters	Temp : 31	.8°C Humi	dity :28%				
	Detector	Detector: Peak								
Test	Anter	ina	EUT	Meter	Correction	Corrected	Converted	Converted	Peak	
Freq.	Pol./He	eight	Orientation	Reading	Factor	Reading	Reading	Reading	Limit	
MHz	(V/H) / N	leters	X / Y / Z	dBuV	dB	dBuV/m	V/m	milliWatts	Watts	
915.5	V / 1	.2	Х	97.2	9.6	106.8	0.22	14.4	1.0	
	V / 1	.0	Y	92.3	9.6	101.9	0.12	4.6		
	V/1	.0	Z	105.1	9.6	114.7	0.54	88.5		
	H/2	.2	X	98.6	9.6	108.2	0.26	19.8		
	H/2	.0	Y	96.5	9.6	106.1	0.20	12.2		
915.5	H/1	.0	Z	88.8	9.6	98.4	0.08	2.1		
		0	N N	04.0		101.1	0.47			
918.4	V/1	.3	X	94.8	9.6	104.4	0.17	8.3		
	V / 2	.5	ř 7	93.9	9.6	103.5	0.15	0.7		
	V/I Ц/2	.0 3	Z Y	104.4	9.0	114.0	0.30	11.4		
	H/1	5	X Y	98.4	9.6	103.0	0.13	18.9		
918.4	H/2	0	7	88.9	9.6	98.5	0.23	21		
	, _				0.0		0.00			
921.3	V / 2	.3	Х	97.6	9.6	107.2	0.23	15.7		
	V / 1	.0	Y	94.1	9.6	103.7	0.15	7.0		
	V / 1	.0	Z	102.6	9.6	112.2	0.41	49.8		
	H / 1	.0	Х	98.4	9.6	108.0	0.25	18.9		
	H/2	.0	Y	98.0	9.6	107.6	0.24	17.3		
921.3	H / 1	.7	Z	90.3	9.6	99.9	0.10	2.9	1.0	
	The FUT	meete	the required lim	hit indicated at		II				
	The follo	wina Fa	ormulae were us	sed to convert	the field stren	ngth in dBuV ir	to V/m and	V/m to Watts		
	V/m = 10	)^(( dBi	uV/m-120) / 20)			<u> </u>				
	Power =	(V/m x	3) <sup>2</sup> / 30							

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#### 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. FCC ID: T3XBPR1-W13PY

Customer	Bo	Bosch Security System.						
Test Sample	wL	wLSN PIR Motion Detector						
Model Number	IS\	W-BPR1-W13PY						
Date: 7-03-2007		Tech: R.S.	Sheet 1 of 3					

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#### 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. FCC ID: T3XBPR1-W13PY

Customer	Bosch Security System.						
Test Sample	wLSN PIR Motion Detector						
Model Number	ISW- BPR1-W13P	Y					
Date: 7-03-2007	Tech: R.S.	Sheet 2 of 3					

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#### 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. FCC ID: T3XBPR1-W13PY

Customer	Bosch Security System.						
Test Sample	wLSN PIR Motion Detector						
Model Number	ISW-BPR1-W13F	Ϋ́Υ					
Date: 7-03-2007	Tech: R.S.	Sheet 3 of 3					

Retlif Testing Laboratories, Report R-11965-8, Bosch Security Systems, FCC ID: T3XBPR1-W13PY Page 22 of 47 FCC Part 15 Subpart C, Transmitter Spurious Radiated Emissions, Paragraph 15.247(d) Test Data

Test Metho	d:	FCC Part 15 Subpart C, Transmitter Spurious Radiated Emissions, P							Paragraph 15	5.247(	d).
Customer:		Bosch	Security Syste	m.			Job N	lo.:	R-11965-8		
Test Sampl	e:	wLSN I	PIR Motion De	tector			FCC	ID:	T3XBPR1-W	13PY	
Model No.:		ISW-BI	PR1-W13PY				Serial N	lo.:	N/A		
Operating	Node:	Continu	uouslv transmi	tting on char	nel 00. a 915	.5 MHz si	ignal.				
Technician		R.Sood	loo	0			Da	ate:	July 3, 2007.		
Notes:	Test D	Distance:	3 Meters			Ten	np: 23.0°C		Humidity: 42	2.0%	
	Detec	tor: Qua	si-Peak from	30 MHz to 1	GHz, Peak al	bove 1 GI	Hz		,		
	Ante	enna	EUT	Meter	Correction	Corr	ected	(	Converted		.,
Frequency	Pos	ition	Orientation	Readings	Factor	Rea	ading		Reading	Lir	nit
MHz	(V/H) /	Meters	Degrees	dBuV	dB	dB	uV/m		uV/m	u∨	//m
30.0										10	00
88.0										10	00
88.0										15	50
I											
216.0										15	50
216.0										20	00
I											
805.0	V /	1.9	55.0	37.8	7.3	45	5.1		179.9		
960.0										20	0
960.0										50	)0
10000 0										50	0
10000.0										50	
	The free	quency rar	ige was scanned	from 30 MHz to	10.0 GHz.						
	The em	issions ob	served from the E	UT do not exce	ed the specified I	limits.					
	Emissio	ons not rec	orded were more	tnan 20dB unde	er the specified lir	mit.					

Page 1 of 3

Test Metho	d:	FCC Part 15 Subpart C, Transmitter Spurious Radiated Emissions,							Paragraph 15.247(d).		
Customer:		Bosch	Security Syste	m.			Job N	lo.:	R-11965-8		
Test Sampl	e:	wLSN I	PIR Motion De	tector			FCC	ID:	T3XBPR1-W	13PY	
Model No.:		ISW-B	ISW-BPR1-W13PY Serial No.: N/A								
Operating I	Node:	Continu	Continuously transmitting on channel 30, a 918 5 MHz signal								
Technician		R.Sooc	loo				Da	ate:	July 3, 2007.		
Notes:	Test [	)istance <sup>.</sup>	3 Meters			Ten	np <sup>.</sup> 23 0°C		Humidity: 42	2 0%	
	Detec	tor: Que	si-Peak from	30 MHz to 1	GHz Peak al	hove 1 GI	-17 -17		i iainaityi ii	,	
	Ant			Motor	Correction	Corr			Converted		
Frequency	Pos	sition	Orientation	Readings	Factor	Rea	adina	```	Reading	Lir	nit
MHz	(\//H) /	Meters	Degrees	dBuV	dB	dB	uV/m		uV/m	цV	//m
	(•/11)/	Weter3	Degrees	αbμv	UD .	uD	u v/m		uv/m	uv	7111
30.0										1(	00
İ											
88.0										1(	
88.0										15	50
216.0										1:	<u>00</u>
216.0										20	10
689.0	V /	1.5	22.0	35.3	5.8	4	1.1		113.5		
807.8	V /	1.3	0.0	36.0	7.3	43	3.3		146.2		
-											
060.0											
960.0										<u></u> 5(	00
1										00	1
10000.0										50	00
	The fre				10.0.04-						
	The re	issions ob	served from the F	UT do not exce	ed the specified	imits.					
	Emissio	ons not rec	orded were more	than 20dB unde	er the specified li	mit.					
					•						

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Test Metho	d:	FCC Part 15 Subpart C, Transmitter Spurious Radiated Emissions,							Paragraph 15.247(d).		
Customer:		Bosch	Security Syste	m.			Job No.:	R-11965-8			
Test Samp	e:	wLSN I	PIR Motion De	tector			FCC ID:	T3XBPR1-W	13PY		
Model No.:		ISW-B	PR1-W13PY				Serial No.:	N/A			
Operating	Mode:	Continu	Jously transmi	tting on char	nel 58, a 921	.3 MHz si	ignal.				
Technician	:	R.Sood	loo	0			Date:	July 3, 2007.			
Notes:	Test D	Distance	3 Meters			Ten	np: 23.0°C	Humidity: 4	2.0%		
	Detec	tor: Qua	asi-Peak from	30 MHz to 1	GHz. Peak al	bove 1 GI	' Hz	,			
	Ant	enna	EUT	Meter	Correction	Corr	ected	Converted			
Frequency	Pos	sition	Orientation	Readings	Factor	Rea	ading	Reading	Limit		
MHz	(V/H) /	Meters	Degrees	dBµV	dB	dB	µV/m	uV/m	uV/m		
30.0									100		
88.0									100		
88.0									150		
216.0									150		
216.0									200		
810.7	н	10	68.0	23.4	7.6	34	1.0	35.5			
		1.0	00.0	20.4	7.0	0	1.0	00.0			
960.0									200		
960.0									500		
10000.0									500		
	The free	quency rar	nge was scanned	from 30 MHz to	10.0 GHz.	limito					
	Emissio	issions ob	served from the E	than 20dB unde	ed the specified liver the specified liver the specified liver the specified liver specified l	mit.					
		2									

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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-11965-8				
Test Sampl	e:	wLSN F	PIR Motion Dete	ctor							
Model No.:		ISW-BF	R1-W13PY			FCC ID:	T3XBPR1-W13	рγ			
Operating	Node:	Continu	ously transmittir	ng a 915.5 MH	z signal.						
Technician		R. Sood	loo	•		Date:	July 2-3. 2007.				
Notes:	Test Dist	tance: 3 M	Veters				•				
	Detector	: Peak, U	nless otherwise	specified							
	Ante	enna	EUT	Meter	Correction	Corrected	Converted	Pe	eak		
Test Freq.	Pol./H	leight	Orientation	Reading	Factor	Reading	Reading	Limit			
MHz	(V/H)/I	Meters	X/Y/Z	dBµV	dB	dBµV/m	uV/m	u۷	′/m		
1831.0	V /	2.8	Х	62.9	2.3	65.2	1819.7	501	18.0		
	V /	2.8	Y	61.3	2.3	63.6	1513.6				
	V /	1.0	Z	62.2	2.3	64.5	1678.8				
	Η/	2.7	Х	64.6	2.3	66.9	2213.1				
	Η/	1.0	Y	68.1	2.3	70.4	3311.3				
1831.0	Η/	1.7	Z	59.3	2.3	61.6	1202.3	501	18.0		
2746.5	V /	1.3	X	50.7	5.2	55.9	623.7	500	0.0		
I	V /	1.0	Y	54.5	5.2	59.7	966.1				
	V /	1.0	Z	53.6	5.2	58.8	8/1.0				
	H/	2.0	X	49.9	5.2	55.1	568.9				
0740.5	H/	1.8	Y 7	51.0	5.2	56.2	645.7	500			
2746.5	H/	1.2	Ζ	54.1	5.2	59.3	922.6	500	0.0		
3662.0	V /	1 0	x	15.7	10.0	55.7	609.5	500	0.0		
1	V /	1.0	× V	47.2	10.0	57.2	724.4	500	I.		
I	V /	1.0	7	46.2	10.0	56.2	645.7				
	т, Н/	1.2	×	46.1	10.0	56.1	638.3				
	H/	2.0	Y	46.6	10.0	56.6	676.1				
3662.0	H/	1.0	Z	46.6	10.0	56.6	676.1	500	0.0		
4577.5	V /	2.0	Х	49.0	13.6	62.6	1349.0	500	0.00		
	V /	1.2	Y	50.8	13.6	64.4	1659.6				
	V /	1.4	Z	51.4	13.6	65.0	1778.3				
	Η/	2.0	Х	48.0	13.6	61.6	1202.3				
	Η/	1.8	Y	49.7	13.6	63.3	1462.2				
4577.5	Η/	1.2	Z	54.8	13.6	68.4	2630.3	500	0.0		
5493.0	V /	1.0	X	44.0	17.1	61.1	*1135.0	501	18.0		
	V /	1.5	Y Z	44.0	17.1	61.1	^1135.0				
	V /	1.0		44.5	17.1	61.6	1202.3				
	H/	1.0	X	44.0	17.1	61.1	*1135.0				
E 402 0	H/	1.0	Υ 7	44.0	17.1	61.1	1135.0	504	10.0		
5493.0		1.0		45.9	17.1		1412.5	501	18.U		
	than 20	dB bolow	the specified in	au nom 30 MF	iz io iu.u GHZ		a the specified We	nie mo mite	е		
	trian ∠0 *– Noior		asuremente (~		s nom me EU		eu me specified li	mis.			
		e Floor Measurements (minimum sensitivity).									

Test Method:         FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.								
Customer:		Bosch S	Security System.			Job No.	R-11965-8	
Test Samp	e:	wLSN F	IR Motion Dete	ctor				
Model No.:		ISW-BF	R1-W13PY			FCC ID:	T3XBPR1-W13F	рγ
Operating I	Mode:	Continu	ously transmittir	ng a 915.5 MH	z signal.			
Technician	:	R. Sood	00	0		Date:	July 2-3. 2007.	
Notes:	Test Dist	tance: 3 M	leters			1	<b>,</b>	
	Detector	: Peak, u	nless otherwise	specified				
Test Freq.	Ante Pol /F	enna Teight	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)-	Meters	X / Y / 7	dBuV	dB	dBuV/m	uV/m	
6408 5	((),()) V /	1.0	X/1/2	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	
i 	Η/	1.0	Х	41.3	19.9	61.2	*1148.2	İ
	Η/	1.0	Y	41.3	19.9	61.2	*1148.2	Í
6408.5	Η/	1.0	Z	41.3	19.9	61.2	*1148.2	50118.0
7324.0	V /	1.0	Х	43.0	21.3	64.3	*1640.6	5000.0
	V /	1.0	Y	43.0	21.3	64.3	*1640.6	
	V /	V/1.0 Z 43.0 21.3		64.3	*1640.6			
	Η/	1.0	Х	43.0	21.3	64.3	*1640.6	
	Η/	1.0	Y	43.0	21.3	64.3	*1640.6	
7324.0	Η/	1.0	Z	43.0	21.3	64.3	*1640.6	5000.0
8239.5	V /	1.0	X	42.5	23.6	66.1	*2018.4	5000.0
	V /	1.0	Y	42.5	23.6	66.1	*2018.4	
	V /	1.0	Z	42.5	23.6	66.1	^2018.4	
	H/	1.0	X	42.7	23.6	63.6	*2065.4	
0000 5	H/	1.0	ř Z	42.7	23.6	63.6	*2065.4	5000.0
6239.5	п/	1.0	Z	42.7	23.0	03.0	2005.4	5000.0
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	
	Η/	1.0	Х	42.0	25.5	67.5	*2371.4	
	Η/	1.0	Y	42.0	25.5	67.5	*2371.4	
9155.0	Η/	1.0	Z	42.0	25.5	67.5	*2371.4	5000.0
						1		
						1		
						1		
	The free	quency ra	nge was scanne	ed from 30 MH	Iz to 10.0 GHz.	All emissions	s not recorded we	re more
	than 20	dB below	the specified li	mit. Emission	s from the EUT	do not excee	ed the specified lin	mits.
	*=Noise	Floor Me	asurements ( M	1inimum syste	m sensitivity)			

Test Metho	d:	FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.								
Customer:		Bosc	h Security Sys	tem.		Jo	<b>b No.</b> R-119	965-8		
Test Sampl	e:	wLSI	N PIR Motion	Detector						
Model No.:		ISW-	BPR1-W13PY	/		FC	CID: T3XB	PR1-W13PY		
Operating	Mode:	Cont	inuously transr	nitting a 915	5.5 MHz signa	l				
Technician	:	R. So	ooboc	0	0		Date: July 2	-3. 2007.		
Notes:	Test Dist	ance:	3 Meters			Duty Cy	cle: 22%			
	Detector:	Avera	age, unless oth	nerwise spec	cified	Duty Cy	cle Correction:	-13.2dB		
	Anton			A.v.a.r.a.a.a	Correction	Duty cycle	Corrected	Converted	A	
Test Freq.	Pol /He	iaht	Orientation	Reading	Factor	Correction	Reading	Reading	Avg Limi	). it
	1 01./110	igin	Onentation	rteading	1 20101	Factor	Reading	rteading		
MHz	(V/H)	-	X/Y/Z	dBµV	dB	dB	dBµV/m	uV/m	uV/n	n
1831.0	V / 2.	8	X	54.5	2.3	-13.2	43.6	151.4	5011	.8
	V / 2.	8	Y	50.8	2.3	-13.2	39.9	98.9		
	V / 1.	0	Z	61.3	2.3	-13.2	50.4	331.1		
	H / 2.	7	X	60.1	2.3	-13.2	49.2	288.4		
	H/1.	<u>0</u>	Y _	63.4	2.3	-13.2	52.5	421.7		_
1831.0	H/1.	7	Z	58.4	2.3	-13.2	47.5	237.1	5011	.8
0740 5		<u> </u>	V	40.7	5.0	10.0	20.7	00.4	500	0
2746.5	V/1.	3	X	46.7	5.2	-13.2	38.7	80.1	500.	.0
	V / 1.	0	ř Z	51.7	5.2	-13.2	43.7	100.1		
	V / 1.	0	Ζ	50.4	5.2	-13.2	42.4	131.8		
	H/2.	0	X	45.0	5.2	-13.2	37	70.8		
0740.5	H/1.	8	Y Z	47.3	5.2	-13.2	39.3	92.3	500	0
2746.5	H/1.	2	Ζ	51.6	5.2	-13.2	43.6	151.4	500.	.0
2662.0	V//1	0	×	22.2	10.0	12.2	20	21.6	500	0
3002.0	V / 1.	9		33.∠	10.0	-13.2	30	31.0	500.	.0
	V / 1.	2	7	35.2	10.0	-13.2	30	20.4		
	V/1. ⊔/1	2	Z V	35.1	10.0	-13.2	31.9	39.4 11.7		
	н/э	0		36.7	10.0	-13.2	33.5	41.7		
2662.0	□ / 1	0	7	35.7	10.0	-13.2	22.5	47.3	500	0
3002.0	11/1.	0	۷	55.7	10.0	-13.2	32.5	42.2	500.	.0
4577.5	V/2.	0	Х	43.8	13.6	-13.2	44.2	162.2	500.	0
	V/1.	2	Y	46.0	13.6	-13.2	46.4	208.9		
	V/1.	4	Z	46.8	13.6	-13.2	47.2	229.1	İ	
	H / 2.	0	Х	41.2	13.6	-13.2	41.6	120.2	İ	
	H/1.	8	Y	45.1	13.6	-13.2	45.5	188.4	İ	
4577.5	H/1.	2	Z	53.0	13.6	-13.2	53.4	467.7	500.	.0
5493.0	V / 1.	0	Х	29.6	17.1	-13.2	33.5	*47.3	5011	.8
	V / 1.	0	Y	29.6	17.1	-13.2	33.5	*47.3		
	H/1.	0	Z	32.2	17.1	-13.2	36.1	63.8	İ	
	H/1.	0	X	29.6	17.1	-13.2	33.5	*47.3		
	H/1.	0	Y	29.6	17.1	-13.2	33.5	*47.3		
5493.0	V / 1.	0	Z	35.9	17.1	-13.2	39.8	97.7	5011	.8
	The freq	uency	/ range was sc	anned from	30 MHz to 10	.0 GHz. All er	nissions not re	corded were	more	
	Than 20	dB be	elow the specif	ied limit. En	nissions from	the EUT do r	ot exceed the	specified limi	ts.	
	*=Noise	Floor	Measurement	s ( Minimum	system sens	itivity)				

Test Metho	d:	FCC	Part 15 Subpa	rt C, Radiate	d Emissions,	Harmonics E	missions.				
<b>Customer:</b>		Bosc	h Security Sys	tem.		Job	<b>No.</b> R-119	65-8			
Test Sampl	e:	wLSI	N PIR Motion D	Detector							
Model No.:		ISW-	BPR1-W13PY			FC	CID: T3XB	PR1-W13PY			
Operating N	Node:	Cont	inuously transr	nitting a 915.	5 MHz signal.						
Technician	:	R. So	ooboc	0		1	Date: July 2	-3. 2007.			
Notes:	Test Dist	ance:	3 Meters			Duty Cvc	le: 22%				
	Detector	Aver	age unless oth	erwise speci	fied	Duty Cyc	le Correction	-13 2dB			
	201001011	7.000	age, anote ear			Duty cycle			-		
Test Freq.	Anten	na	EUT	Average	Correction	Correction	Corrected	Converted	Av L	vg.	
	Pol./He	ignt	Orientation	Reading	Factor	Factor	Reading	Reading	LI	mit	
MHz	(V/H)	)-	X / Y / Z	dBµV	dB	dB	dBµV/m	uV/m	u∖	//m	
6408.5	V / 1.	.0	Х	31.6	19.9	-13.2	38.3	*82.2	501	11.8	
	V / 1.	.0	Y	31.6	19.9	-13.2	38.3	*82.2			
	V / 1.	.0	Z	31.6	19.9	-13.2	38.3	*82.2			
	H / 1.	.0	Х	32.2	19.9	-13.2	38.9	*88.1			
	H / 1.	.0	Y	32.2	19.9	-13.2	38.9	*88.1			
6408.5	H / 1.	.0	Z	32.2	19.9	-13.2	38.9	*88.1	501	11.8	
7324.0	V / 1.	.0	Х	31.9	21.3	-13.2	40.0	*100.0	50	0.0	
	V / 1.	.0	Y	31.9	21.3	-13.2	40.0	*100.0			
	V / 1.	.0	Z	31.9	21.3	-13.2	40.0	*100.0			
	H / 1.	.0	Х	31.9	21.3	-13.2	40.0	*100.0			
	H / 1.	.0	Y	31.9	21.3	-13.2	40.0	*100.0			
7324.0	H / 1.	.0	Z	31.9	21.3	-13.2	40.0	*100.0	50	0.0	
8239.5	V / 1.	.0	Х	33.2	23.6	-13.2	42.6	*151.4	50	0.0	
	V / 1.	.0	Y	33.2	23.6	-13.2	42.6	*151.4			
	V / 1.	.0	Z	33.2	23.6	-13.2	42.6	*151.4			
	H / 1.	.0	Х	32.8	23.6	-13.2	43.2	*144.5			
	H / 1.	.0	Y	32.8	23.6	-13.2	43.2	*144.5			
8239.5	H / 1.	.0	Z	32.8	23.6	-13.2	43.2	*144.5	50	0.0	
9155.0	V / 1.	.0	X	33.1	25.5	-13.2	45.4	*186.2	50	0.0	
	V / 1.	.0	Y	33.1	25.5	-13.2	45.4	*186.2			
	V / 1.	.0	Z	33.1	25.5	-13.2	45.4	*186.2			
	H / 1.	.0	X	33.2	25.5	-13.2	45.5	*188.4			
	H / 1.	.0	Y	33.2	25.5	-13.2	45.5	*188.4			
9155.0	H / 1.	.0	Z	33.2	25.5	-13.2	45.5	*188.4	50	0.0	
	The free	luency	range was sc	anned from 3	U MHz to 10.0	J GHz. All em	ilssions not re	corded were	more		
	I han 20	dB be	elow the specif	ied limit. Em	issions from t	ne EUT do no	ot exceed the	specified limit	tS.		
	*=Noise	*=Noise Floor Measurements (Minimum system sensitivity)									

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

Test Metho	Dd: FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.									
Customer:		Bosch S	Security System.			Job No.	R-11965-8			
Test Samp	e:	wLSN F	IR Motion Dete	ctor	·					
Model No.:		ISW-BF	R1-W13PY			FCC ID:	T3XBPR1-W13F	ργ		
Operating I	Node:	Continu	ouslv transmittir	ng a 918.4 MH	z signal.					
Technician		R. Sood	00	0	J	Date:	July 2-3, 2007.			
Notes:	Test Dist	tance: 3 M	/leters							
	Detector	: Peak. U	nless otherwise	specified						
	Ante	nna	FUT	Meter	Correction	Corrected	Converted	Pe	ak	
Test Freq.	Pol./F	leight	Orientation	Reading	Factor	Reading	Reading	Lir	nit	
MHz	(V/H)/I	Meters	X/Y/Z	dBuV	dB	dBuV/m	uV/m	uV	′/m	
1836.8	V/	2.5	X	65.6	2.3	67.9	2483.1	501	18.0	
	V /	1.7	Ý	65.3	2.3	67.6	2398.8			
	V /	1.1	Z	63.5	2.3	65.8	1949.8			
	Η/	1.0	Х	65.3	2.3	67.6	2398.8			
	Η/	1.0	Y	68.1	2.3	70.4	3311.3			
1836.8	Η/	1.7	Z	60.5	2.3	62.8	1380.4	501	18.0	
2755.2	V /	1.3	Х	51.0	5.2	56.2	645.7	500	0.0	
	V /	1.8	Y	52.0	5.2	57.2	724.4			
	V /	1.3	Z	51.9	5.2	57.1	716.1			
	Η/	1.3	Х	50.9	5.2	56.1	638.3			
	Η/	1.9	Y	51.6	5.2	56.8	691.8			
2755.2	H/	1.1	Z	52.9	5.2	58.1	803.5	500	0.0	
0.070.0										
3673.6	V /	1.0	X	45.9	10.0	55.9	623.7	500	)0.0	
	V /	1.6	Y	46.4	10.0	56.4	660.7		<u> </u>	
	V /	1.5	Z	46.4	10.0	56.4	660.7	-		
	H/	1.8	X	45.5	10.0	55.5	595.7		<u>                                     </u>	
2672.6	H/	1.7	Y 7	47.2	10.0	57.2	724.4	500		
3073.0	п/	1.2	۷.	40.7	10.0	56.7	001.0	500	0.0	
4592.0	V /	20	X	49.2	13.6	62.8	1380.4	500	0.0	
	V /	1.8	Ŷ	48.4	13.6	62.0	1258.9			
	V /	1.4	Z	49.2	13.6	62.8	1380.4			
l	Η/	2.0	Х	47.7	13.6	61.3	1161.4			
ĺ	Η/	1.8	Y	46.2	13.6	59.8	977.2			
4592.0	Η/	1.0	Z	52.0	13.6	65.6	1905.5	500	0.0	
5510.4	V /	1.0	Х	43.1	17.1	60.2	*1023.3	501	18.0	
	V /	1.6	Y	44.8	17.1	61.9	1244.5			
	V /	1.0	Z	44.1	17.1	61.2	1148.2			
	H/	1.0	Х	43.1	17.1	60.2	*1023.3		<u> </u>	
	Η/	1.4	Y	44.8	17.1	61.9	1244.5			
5510.4	H/	1.1	Z	45.5	17.1	62.6	1349.0	501	18.0	
	The free	quency ra	nge was scanne	ed from 30 MH	Iz to 10.0 GHz	. All emissions	s not recorded we	re mo	re	
	than 20	dB below	the specified li	mit. Emission	s from the EU	I do not excee	ed the specified lir	nits.		
	*= Noise	e Floor Measurements (minimum sensitivity).								

Test Method:         FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.								
Customer:		Bosch S	Security System.			Job No.	R-11965-8	
Test Samp	e:	wLSN F	PIR Motion Dete	ctor				
Model No.:		ISW-BF	R1-W13PY			FCC ID:	T3XBPR1-W13	рγ
Operating	Mode:	Continu	ouslv transmittir	ng a 918.4 MH	z signal.			
Technician	:	R. Sood	loo	0	J	Date:	Julv 2-3, 2007.	
Notes:	Test Dist	tance: 3 M	/leters					
	Detector	: Peak, u	nless otherwise	specified				
Test Freq.	Ante Pol./F	enna Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)-I	Meters	X/Y/Z	dBµV	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	
	Η/	1.0	Х	41.3	19.9	61.2	*1148.2	
	Η/	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	V /	10	X	43.0	21.3	64.3	*1640.6	5000.0
1021.0	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	Η/	1.0	Z	43.0	21.3	64.3	*1640.6	5000.0
8239.5	V /	1.0	Х	42.5	23.6	66.1	*2018.4	5000.0
	V /	1.0	Y	42.5	23.6	66.1	*2018.4	
	V /	1.0	Z	42.5	23.6	66.1	*2018.4	
	Η/	1.0	Х	42.7	23.6	63.6	*2065.4	
	H /	1.0	Y	42.7	23.6	63.6	*2065.4	
8239.5	H/	1.0	Z	42.7	23.6	63.6	*2065.4	5000.0
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	
	Η/	1.0	Х	42.0	25.5	67.5	*2371.4	
	Η/	1.0	Y	42.0	25.5	67.5	*2371.4	
9155.0	Η/	1.0	Z	42.0	25.5	67.5	*2371.4	5000.0
	The free	quency ra	nge was scanne	ed from 30 MH	z to 10.0 GHz	. All emission	s not recorded we	ere more
	than 20	dB below	the specified li	mit. Emission	s from the EU	Γ do not exce	ed the specified li	mits.
	*=Noise	Floor Me	easurements ( M	1inimum syste	m sensitivity)			

Test Metho	d: FC	C Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.							
Customer:	Bo	sch Security Sys	tem.		Jo	<b>b No.</b> R-119	965-8		
Test Sampl	e: wL	SN PIR Motion	Detector						
Model No.:	IS	W-BPR1-W13PY	,		FC	CID: T3XB	PR1-W13PY		
Operating I	Mode: Co	ontinuously transr	nitting a 918	.4 MHz signa	l	- I			
Technician	: R.	Soodoo	U	0		Date: July 2	-3. 2007.		
Notes:	Test Distanc	e: 3 Meters			Duty Cy	cle: 22%			
	Detector: Av	erage, unless oth	nerwise spec	cified	Duty Cv	cle Correction:	-13.2dB		
	A		A		Duty cycle				
Test Freq.	Antenna Pol /Hoight	EUI	Average	Correction	Correction	Corrected	Converted	AVg.	
	Pul/Height	Onentation	Reading	Factor	Factor	Reading	Reading	LIIIIIL	
MHz	(V/H)-	X / Y / Z	dBµV	dB	dB	dBµV/m	UV/m	uV/m	
1836.8	V / 2.5	Х	59.8	2.3	-13.2	48.9	278.6	5011.8	
	V / 1.7	Y	59.8	2.3	-13.2	48.9	278.6		
	V / 1.1	Z	60.4	2.3	-13.2	49.5	298.5		
	H / 1.0	Х	61.2	2.3	-13.2	50.3	327.3		
	H / 1.0	Y	68.4	2.3	-13.2	57.5	749.9		
1836.8	H / 1.7	Z	57.2	2.3	-13.2	46.3	206.5	5011.8	
2755.2	V / 1.3	X	47.3	5.2	-13.2	39.3	92.3	500.0	
	V / 1.8	Y	49.1	5.2	-13.2	41.1	113.5		
	V / 1.3	Z	49.1	5.2	-13.2	41.1	113.5		
	H / 1.3	X	47.6	5.2	-13.2	39.6	95.5		
	H / 1.9	Y	47.5	5.2	-13.2	39.5	94.4		
2755.2	H / 1.1	Z	49.5	5.2	-13.2	41.5	118.9	500.0	
0070.0		X		10.0					
3673.6	V / 1.0	X	33.4	10.0	-13.2	30.2	32.4	500.0	
	V / 1.6	Y	36.3	10.0	-13.2	33.1	45.2		
	V / 1.5	<u> </u>	35.4	10.0	-13.2	32.2	40.7		
	H/1.8	<u> </u>	31.6	10.0	-13.2	28.4	26.3		
2672.6	H/1./	Y 7	39.0	10.0	-13.2	35.8	61.7		
3073.0	H/1.2	Ζ	42.5	10.0	-13.2	39.3	92.3	500.0	
4592.0	V/20	x	44.6	13.6	-13.2	45.0	177.8	500.0	
100210	V/18	Y	41.8	13.6	-13.2	42.2	128.8	000.0	
	V / 1.0	7	44.3	13.6	-13.2	44 7	171.8		
	H/20	X	41.3	13.6	-13.2	41 7	121.6		
	H/18	Y	38.2	13.6	-13.2	38.6	85.1		
4592.0	H / 1.0	Z	48.1	13.6	-13.2	48.5	266.1	500.0	
	,								
5510.4	V / 1.0	Х	30.4	17.1	-13.2	34.3	*51.9	5011.8	
	V / 1.6	Y	33.6	17.1	-13.2	37.5	75.0		
l	V / 1.0	Z	32.5	17.1	-13.2	36.4	66.1		
İ	H / 1.0	Х	30.4	17.1	-13.2	34.3	*51.9		
l	H / 1.4	Y	33.7	17.1	-13.2	37.6	75.9		
5510.4	H / 1.1	Z	36.3	17.1	-13.2	40.2	102.3	5011.8	
	The frequer	ncy range was sc	anned from	30 MHz to 10	.0 GHz. All er	nissions not re	corded were n	nore	
	Than 20 dB	below the specif	ied limit. En	nissions from	the EUT do r	ot exceed the	specified limits	5.	
	*=Noise Flo	or Measurement	s ( Minimum	system sens	itivity)				

Test Metho	est Method:         FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.								
Customer:		Bosc	h Security Sys	tem.		Jo	<b>b No.</b> R-119	965-8	
Test Sampl	e:	wLSI	N PIR Motion D	Detector					
Model No.:		ISW-	BPR1-W13PY			F	CID: T3XE	PR1-W13PY	
Operating	Mode:	Cont	inuously transr	nitting a 918.	4 MHz signal.				
Technician	:	R Sc		g a e rei			Date: July 2	2-3 2007	
Notes:	Test Dist	ance.	3 Meters			Duty Cy	cle: 22%	0.2007.	
Notes.	Detector	· Avor		orwise speci	fied	Duty Cy	cle Correction	• _13 2dB	
	Delector		age, uniess ou	lei wise speci		Duty cycle		13.200	
Test Freq	Anten	na	EUT	Average	Correction	Correction	Corrected	Converted	Avg.
rootrioqi	Pol./He	eight	Orientation	Reading	Factor	Factor	Reading	Reading	Limit
MHz	(V/H	)-	X/Y/Z	dBµV	dB	dB	dBµV/m	uV/m	uV/m
6408.5	V/1	.0	Х	31.6	19.9	-13.2	38.3	*82.2	5011.8
	V/1	.0	Y	31.6	19.9	-13.2	38.3	*82.2	
İ	V / 1	.0	Z	31.6	19.9	-13.2	38.3	*82.2	
	H/1	.0	Х	32.2	19.9	-13.2	38.9	*88.1	
	H/1	.0	Y	32.2	19.9	-13.2	38.9	*88.1	
6408.5	H/1	.0	Z	32.2	19.9	-13.2	38.9	*88.1	5011.8
7324.0	V / 1	.0	Х	31.9	21.3	-13.2	40.0	*100.0	500.0
	V / 1	.0	Y	31.9	21.3	-13.2	40.0	*100.0	
	V / 1	.0	Z	31.9	21.3	-13.2	40.0	*100.0	
	H/1	.0	Х	31.9	21.3	-13.2	40.0	*100.0	
	H/1	.0	Y	31.9	21.3	-13.2	40.0	*100.0	
7324.0	H/1	.0	Z	31.9	21.3	-13.2	40.0	*100.0	500.0
8239.5	V / 1	.0	Х	33.2	23.6	-13.2	42.6	*151.4	500.0
	V / 1	.0	Y	33.2	23.6	-13.2	42.6	*151.4	
	V / 1	.0	Z	33.2	23.6	-13.2	42.6	*151.4	
	H/1	.0	Х	32.8	23.6	-13.2	43.2	*144.5	Ì
	H/1	.0	Y	32.8	23.6	-13.2	43.2	*144.5	ĺ
8239.5	H/1	.0	Z	32.8	23.6	-13.2	43.2	*144.5	500.0
9155.0	V / 1	.0	Х	33.1	25.5	-13.2	45.4	*186.2	500.0
	V / 1	.0	Y	33.1	25.5	-13.2	45.4	*186.2	
	V / 1	.0	Z	33.1	25.5	-13.2	45.4	*186.2	
	H/1	.0	Х	33.2	25.5	-13.2	45.5	*188.4	
	H/1	.0	Y	33.2	25.5	-13.2	45.5	*188.4	
9155.0	H/1	.0	Z	33.2	25.5	-13.2	45.5	*188.4	500.0
	The free	quency	/ range was sc	anned from 3	80 MHz to 10.	0 GHz. All ei	missions not re	ecorded were	more
	Than 20	) dB be	elow the specif	ied limit. Em	issions from t	he EUT do r	not exceed the	specified limi	ts.
	*=Noise	Floor	Measurements	s ( Minimum :	system sensit	ivity)			

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

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ied limits

Test Method:         FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.								
Customer:		Bosch S	Security System.			Job No.	R-11965-8	
Test Samp	e:	wLSN F	PIR Motion Dete	ctor				
Model No.:		ISW-BF	R1-W13PY			FCC ID:	T3XBPR1-W13	⊃γ
Operating I	Node:	Continu	ously transmittir	ng a 921.3 MH	z signal.			
Technician	:	R. Sood	loo	0	Ŭ	Date:	July 2-3. 2007.	
Notes:	Test Dist	ance: 3 M	Veters		ł		,	
	Detector	: Peak, u	nless otherwise	specified				
Test Freq.	Ante Pol./F	enna leight	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit
MHz	(V/H)-I	Meters	X/Y/Z	dBuV	dB	dBuV/m	uV/m	uV/m
6408.5	V /	1.0	X	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	
	Η/	1.0	Х	41.3	19.9	61.2	*1148.2	
	Η/	1.0	Y	41.3	19.9	61.2	*1148.2	
6408.5	Η/	1.0	Z	41.3	19.9	61.2	*1148.2	50118.0
7324.0	V /	1.0	Х	43.0	21.3	64.3	*1640.6	5000.0
	V /	1.0	Y	43.0	21.3	64.3	*1640.6	
	V /	1.0	Z	43.0	21.3	64.3	*1640.6	
	Η/	1.0	Х	43.0	21.3	64.3	*1640.6	
	Η/	1.0	Y	43.0	21.3	64.3	*1640.6	
7324.0	Η/	1.0	Z	43.0	21.3	64.3	*1640.6	5000.0
8239.5	V /	1.0	Х	42.5	23.6	66.1	*2018.4	5000.0
	V /	1.0	Y	42.5	23.6	66.1	*2018.4	
	V /	1.0	Z	42.5	23.6	66.1	*2018.4	
	Η/	1.0	Х	42.7	23.6	63.6	*2065.4	
	H/	1.0	Y	42.7	23.6	63.6	*2065.4	
8239.5	H /	1.0	Z	42.7	23.6	63.6	*2065.4	5000.0
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	
	Η/	1.0	Х	42.0	25.5	67.5	*2371.4	
	Η/	1.0	Y	42.0	25.5	67.5	*2371.4	
9155.0	Η/	1.0	Z	42.0	25.5	67.5	*2371.4	5000.0
						1		
	The free	uencv ra	nde was scanne	ed from 30 MH	z to 10.0 GHz	. All emissions	s not recorded we	ere more
	than 20	dB below	/ the specified li	mit. Emission	s from the EU	do not excee	ed the specified li	mits.
	*=Noise	Floor Me	easurements ( N	1inimum svste	m sensitivitv)			

Test Metho	d: F	CC Part 15 Subpa	art C, Radiat	ed Emissions	, Harmonics I	Emissions.		
Customer:	E	Bosch Security Sys	stem.		Jo	<b>b No.</b> R-119	965-8	
Test Sampl	<b>e:</b> v	LSN PIR Motion I	Detector		·			
Model No.:		SW-BPR1-W13P	/		FC	CID: T3XB	PR1-W13PY	
Operating	Node: C	Continuously trans	mitting a 921	.3 MHz signa	ı.	I		
Technician		R. Soodoo		g		Date: July 2	-3. 2007.	
Notes:	Test Distar	ice: 3 Meters			Duty Cv	cle: 22%	0. 2007.	
110100.	Detector: A	verage unless of	nerwise sner	rified	Duty Cy	cle Correction	-13 2dB	
							10.200	
Test Freq	Antenna	EUT	Average	Correction	Correction	Corrected	Converted	Avg.
100111041	Pol./Heig	ht Orientation	Reading	Factor	Factor	Reading	Reading	Limit
MHz	(V/H)-	X/Y/Z	dBµV	dB	dB	dBµV/m	uV/m	uV/m
1842.6	V / 1.6	Х	61.4	2.3	-13.2	50.5	335.0	5011.8
	V / 2.6	Y	61.5	2.3	-13.2	50.6	338.8	
	V / 1.0	Z	58.9	2.3	-13.2	48.0	251.2	
	H / 1.0	Х	63.3	2.3	-13.2	52.4	416.9	
	H / 1.0	Y	68.2	2.3	-13.2	57.3	732.8	
1842.6	H / 1.3	Z	57.3	2.3	-13.2	46.4	208.9	5011.8
2763.9	V / 1.3	X	47.5	5.2	-13.2	39.5	94.4	500.0
	V / 1.0	Y	41.9	5.2	-13.2	33.9	49.5	
	V / 1.0	Z	43.9	5.2	-13.2	35.9	62.4	
	H / 1.0	Х	43.5	5.2	-13.2	35.5	59.6	
	H / 1.0	Y	41.1	5.2	-13.2	33.1	45.2	
2763.9	H / 1.1	Z	48.1	5.2	-13.2	40.1	101.2	500.0
3685.2	V / 1.0	X	31.4	10.0	-13.2	28.2	25.7	500.0
	V / 1.0	Y	33.3	10.0	-13.2	30.1	32.0	
	V / 1.0	Z	36.2	10.0	-13.2	33.0	44.7	
	H / 1.0	X	31.2	10.0	-13.2	28.0	25.1	
	H / 1.0	Y	31.9	10.0	-13.2	28.7	27.2	
3685.2	H / 1.0	Z	34.7	10.0	-13.2	31.5	37.6	500.0
1000 -								
4606.5	V / 1.7	X	42.2	13.6	-13.2	42.6	134.9	500.0
	V / 1.0	<u>Y</u>	46.9	13.6	-13.2	47.3	231.7	
	V / 1.0	Z	46.9	13.6	-13.2	47.3	231.7	
	H / 1.0	X	43.9	13.6	-13.2	44.3	164.1	
1000 5	H / 1.6	Y	45.8	13.6	-13.2	46.2	204.2	
4606.5	H / 1.0	Z	51.8	13.6	-13.2	52.2	407.4	500.0
<b>FEOZ 0</b>			05.0	47.4	40.0		01.0	5044.0
5527.6	V/1.5	<u> </u>	35.3	17.1	-13.2	39.2	91.2	5011.8
	V / 1.0	Y 7	29.8	17.1	-13.Z	33.7	48.4	
	V/1.1		33.5	17.1	-13.2	37.4	/4.1	
		X	30.4	17.1	-12.2	34.3	51.9	
5527.8		ř 7	30.0	17.1	-13.2	34.5	03.1	<u> </u>
0027.0	H / 1.0		31.3	1/.1		<u>41.2</u>		5011.8 more
		B below the ence		SU IVITIZ TO TO	the EUT do r		specified limi	te
				INSSIONS FROM		iot exceed the	specified limi	ເວັ.
	=INOISE F	ioor ivieasurement	<u>s ( iviinimum</u>	i system sens	ilivity)			

Test Metho	thod: FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.									
Customer:		Bosc	h Security Sys	tem.		Job	<b>No.</b> R-119	965-8		
Test Sampl	e:	wLSI	N PIR Motion D	Detector			•			
Model No.:		ISW-	BPR1-W13PY			FC	CID: T3XB	PR1-W13PY		
Operating	Mode:	Cont	inuously transr	nitting a 921.	3 MHz signal.					
Technician	:	R. So	ooboc	U	U	]	Date: July 2	-3. 2007.		
Notes:	Test Dist	ance:	3 Meters			Duty Cyc	le: 22%			
	Detector	: Avera	age, unless oth	erwise speci	fied	Duty Cvc	le Correction:	-13.2dB		
				•		Duty cycle				
Test Freq.		ina Naht	EUI	Average	Correction	Correction	Corrected	Converted	AVg.	
	FUI./HE	aynı	Onentation	Reading	Factor	Factor	Reading	Reading	LIIIII	
MHz	(V/H	)-	X / Y / Z	dBµV	dB	dB	dBµV/m	uV/m	uV/m	
6408.5	V / 1	.0	Х	31.6	19.9	-13.2	38.3	*82.2	5011.8	
	V / 1	.0	Y	31.6	19.9	-13.2	38.3	*82.2		
	V / 1	.0	Z	31.6	19.9	-13.2	38.3	*82.2		
	H/1	.0	Х	32.2	19.9	-13.2	38.9	*88.1		
	H/1	.0	Y	32.2	19.9	-13.2	38.9	*88.1		
6408.5	H/1	.0	Z	32.2	19.9	-13.2	38.9	*88.1	5011.8	
						40.0				
7324.0	V/1	.0	X	31.9	21.3	-13.2	40.0	*100.0	500.0	
	V / 1	.0	Y -	31.9	21.3	-13.2	40.0	*100.0		
	V / 1	.0	Z	31.9	21.3	-13.2	40.0	*100.0		
	H/1	.0	X	31.9	21.3	-13.2	40.0	*100.0		
7004.0	H/1	.0	Y 7	31.9	21.3	-13.2	40.0	^100.0	500.0	
7324.0	H/1	.0	ζ	31.9	21.3	-13.2	40.0	*100.0	500.0	
8230.5	V//1	0	Y	33.0	23.6	_13.2	12.6	*151 /	500.0	
0239.3	V/1	0	×	33.2	23.0	-13.2	42.0	*151.4	500.0	
	V / 1	0	7	33.2	23.6	-13.2	42.0	*151.4		
	H/1	0	X	32.8	23.6	-13.2	43.2	*144.5		
	H/1	0	Y	32.8	23.6	-13.2	43.2	*144.5		
8239.5	H/1	.0	Z	32.8	23.6	-13.2	43.2	*144.5	500.0	
0_0010	, .			02.0						
9155.0	V / 1	.0	Х	33.1	25.5	-13.2	45.4	*186.2	500.0	
	V / 1	.0	Y	33.1	25.5	-13.2	45.4	*186.2		
	V / 1	.0	Z	33.1	25.5	-13.2	45.4	*186.2		
	H/1	.0	Х	33.2	25.5	-13.2	45.5	*188.4		
	H/1	.0	Y	33.2	25.5	-13.2	45.5	*188.4		
9155.0	H/1	.0	Z	33.2	25.5	-13.2	45.5	*188.4	500.0	
								ļ		
	The free	quency	range was sc	anned from 3	80 MHz to 10.0	0 GHz. All em	issions not re	corded were	more	
	Than 20	) dB be	elow the specif	ied limit. Em	issions from t	he EUT do no	ot exceed the	specified limi	ts.	
	*=Noise Floor Measurements ( Minimum system sensitivity)									

# 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:T3XBPR1-W13PY

Customer	Bos	sch Security System.						
Test Sample	wL	SN PIR Motion Det	ector					
Model Number	ISV	V-BPR1-W13PY						
Date: 6-08-2007		Tech: R.S.	Sheet 1 of 1					

Retlif Testing Laboratories, Report R-11965-8, Bosch Security Systems, FCC ID: T3XBPR1-W13PY Page 43 of 47 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 Part 15, Subpart B, Class B, Radiated Emissions, 30 MHz to 5.0 GHz, Para:15.109(a)									
Customer:		Bosch Security System. Job No.: R-1196									
Test Samp	le:	wLSN PIR Motion Detector									
Model No.:		ISW- BPR1-W13PY Serial No.: N/A									
Operating I	Mode:	EUT operating on channel 00( 915.5MHz), continuously receiving a CW signal.									
Technician	:	R.Soodoo Date: July 10,									
Notes:	Test [	st Distance: 3 Meters Temp: 31.0°C Humidi									)
	Detec	tector: Quasi-Peak Below 1 GHz, Peak above 1 GHz									
	Antenna EUT Meter Correction Corrected Convert							Converted	1.12	m it	
Frequency Pos		sition	Orientation	Readings	Factor	Rea	Reading		Reading	LII	mu
MHz	(V/H) /	Meters	Degrees	dBuV	dB	dBuV/m			uV/m	uV/m	
30.0										10	)0
										j	
88.0										10	)0
88.0										15	50
I											
216.0	16.0									15	50
216.0										20	)0
											L
960.0										20	)0
960.0									50	)0	
	<u> </u>									<u>                                     </u>	
										+	
1758.0	V/	1.5	200.0	46.5	2.0	48	3.5		266.1		
	.,										
										$\parallel$	<u> </u>
										┥──┤	
5000.0										50	)0
	The fre	quency rar	nge was scanned	from 30 MHz to	5.0 GHz.						
	The em	issions ob	served from the E	UT do not exce	ed the specified live	limits. mit					
	LIIISSI				and sherined in						

Test Metho	d:	FCC Part 15, Subpart B, Class B, Radiated Emissions, 30 MHz to 5.0 GHz, Para:15.109(a)										
Customer:		Bosch Security System. Job No.: R-11965-8										
Test Sampl	e:	wLSN PIR Motion Detector										
Model No.:		ISW- BPR1-W13PY Serial No.: N/A										
Operating I	Node:	EUT operating on channel 30( 918.5MHz), continuously receiving a CW signal.										
Technician		R.Soodoo Date: July 10, 2007										
Notes:	Test D	Distance: 3 Meters Temp: 31.0°C Humidity: 7									: 70%	)
	Detec	Detector: Quasi-Peak Below 1 GHz, Peak above 1 GHz										
	Ant	tenna FUT Meter Correction Corrected Converted										
Frequency Position		sition	Orientation	Readings	Factor	Rea	ading		Read	ling	Lir	nit
MHz	(V/H) /	Meters	Degrees	dBµV	dB	dBµV/m		<u> </u>	uV/m		uV	′/m
	( )						1					
30.0											10	)0
											<u> </u>	
88.0											10	0
88.0											15	50
											ĺ	
			omionion	hoomed	at the one	ified to	at diata					
216.0			emission	bserved	at the spec	ined te	st dista	nce	-		15	0
216.0											20	0
I												
ĺ												
960.0											20	)0
960.0											50	00
												1
<u> </u>								<u> </u>			ļļ	
5000.0											E(	0
5000.0	The free	quency rar	nge was scanned i	from 30 MHz to	5.0 GHz.			I			50	0
	The em	issions ob	served from the E	UT do not exce	ed the specified	limits.						
	Emissio	ons not rec	orded were more	than 20dB unde	er the specified li	mit.						

Test Metho	d:	FCC Part 15, Subpart B, Class B, Radiated Emissions, 30 MHz to 5.0 GHz, Para:15.109(a)									
Customer:		Bosch Security System. Job No.: R-11965-8									
Test Sampl	e:	wLSN PIR Motion Detector									
Model No.:		ISW- BPR1-W13PY Serial No.: N/A									
Operating	Node:	EUT operating on channel 58( 921.3MHz), continuously receiving a CW signal.									
Technician		R.Soodoo Date: July 10, 2007.									
Notes:	Test D	vistance: 3 Meters Temp: 31.0°C Humidity: 7									)
	Detec	tector: Quasi-Peak Below 1 GHz, Peak above 1 GHz									
	Ant	tenna EUT Meter Correction Corrected Converted									
Frequency Position		sition	Orientation	Readings	Factor	Rea	ading		Reading	Lin	nit
MHz	MHz (V/H) / Meters		Degrees	dBµV	dB	dBµV/m			uV/m	uV	′/m
30.0										10	0
88.0										10	0
88.0										15	50
216.0				1						15	50
216.0		No	o emission	observed	at the spe	cified te	est dista	ance	•	20	0
960.0										20	0
960.0										50	0
5000.0											
5000.0	The from		an was scanned	from 30 MHz to	5.0.GHz					50	0
	The em	issions ob	served from the E	UT do not exce	ed the specified	limits.					
	Emissio	ons not rec	orded were more	than 20dB unde	er the specified li	mit.					