#### **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	D: 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

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 Recessed Door/Window Contact

Brandname: Bosch

Model Number: ISW-BMC1-R135Y

FCC ID: T3XBMC1-R135Y

**Type:** Frequency Hopping Spread Spectrum Transceiver

**Power Requirements:** 3 Volt CR2 Lithium Battery

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		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 43.8 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 54.6 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 54.6 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:**

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

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	<b>Due Date</b>
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	<b>Due Date</b>
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	<b>Due Date</b>
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	<b>Due Date</b>
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	<b>Due Date</b>
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	<b>Due Date</b>
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

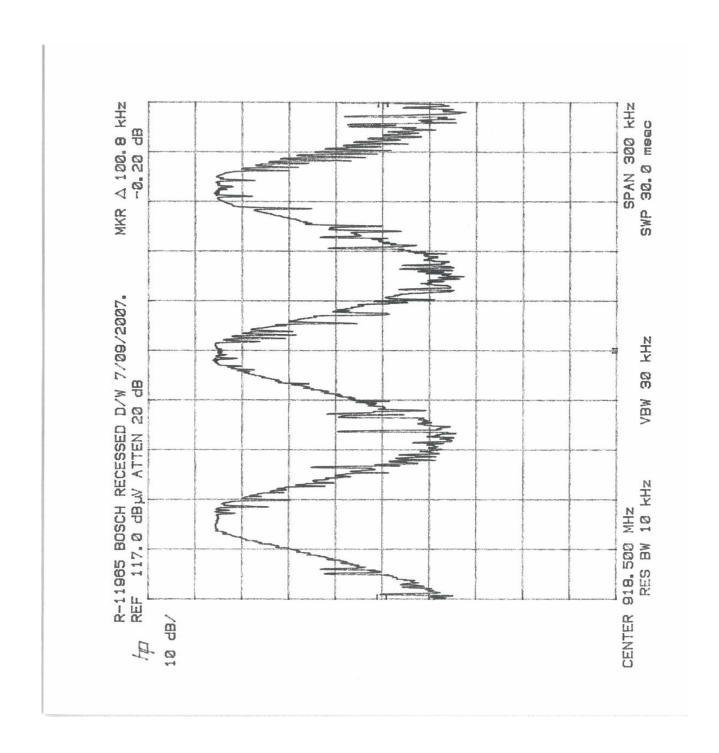
# FCC Part 15 Subpart B, Class B, Radiated Emissions, 30 MHz to 5 GHz

EN	Туре	Manufacturer	Description	Model No.	Cal Date	<b>Due Date</b>
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

# **Duty Cycle Determination**

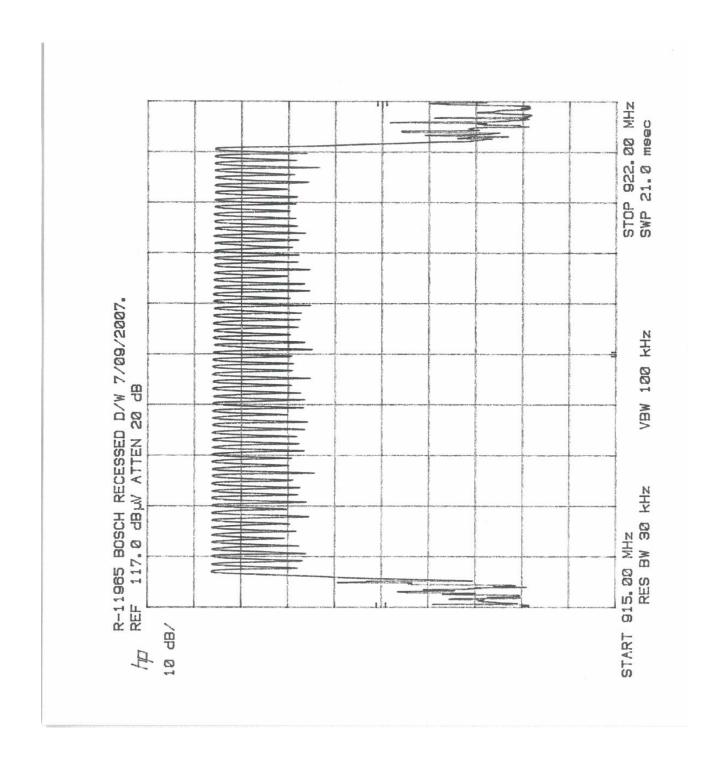
EN	Туре	Manufacturer	Description	Model No.	Cal Date	<b>Due Date</b>
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/18/2006	10/18/2007

FCC Part 15, Subpart C, 15.247 (a)(1) 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 =100.8kHz)
FCC ID:T3XBMC1-R135Y

Customer	Bosch Security System.			
Toot Comple	wL	wLSN Recessed Door / Window		
Test Sample	Contact			
Model Number	ISW-BMC1-R135Y			
Date: 7-09-2007		Tech: R.S.	Sheet 1 of 2	

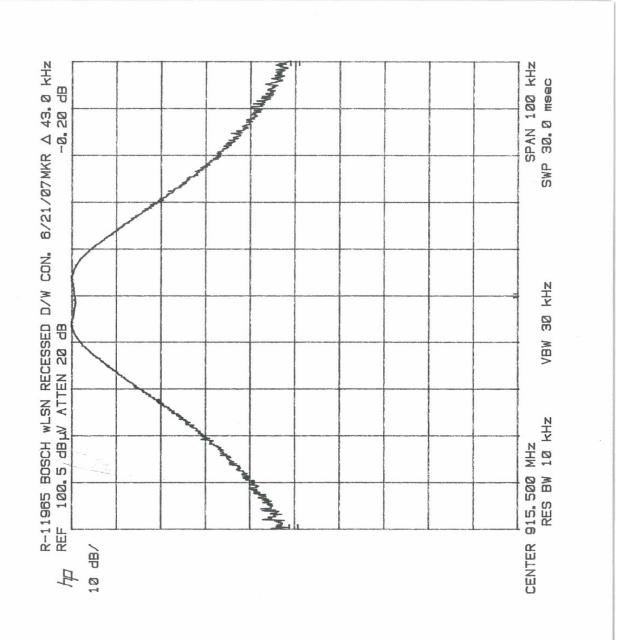


FCC Part 15, Subpart C, 15.247(a) (1) Number of Hopping Frequency, 902 to 928 MHz Band

**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).

. CC IDTTO/IDTTO					
Customer	Bos	Bosch Security System.			
Test Sample	wLSN Recessed Door / Window Contact				
Model Number	ISW-BMC1-R135Y				
Date: 7-09-2007		Tech: R.S.	Sheet 2 of 2		

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



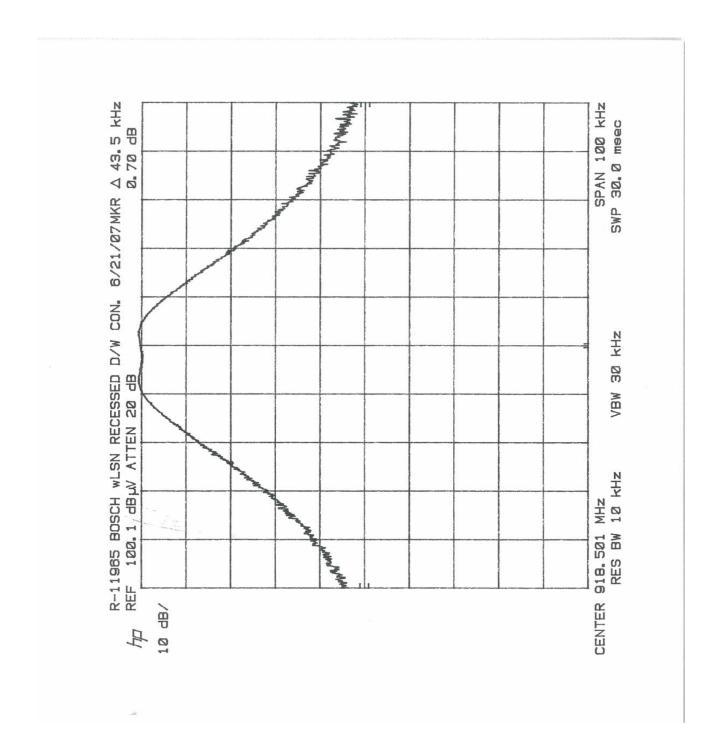
### FCC Part 15, Subpart C, 15.247(a) (1) Occupied Bandwidth, 902 to 928 MHz Band

**Note:** The maximum 20 dB bandwidth of the hopping channel is less then 250 kHz. 20dB bandwidth measured at 43.0 kHz

illeasured at 45.0 KHZ

Note: EUT transmitting on channel 00 at 915.5 MHz.

Customer	Bosch Security System.				
Test Sample	wLSN Recessed Door / Window				
	Contact				
Model Number	ISW-BMC1-R135Y				
Date: 6-21-2007	Tech: R.S.	Sheet 1 of 3			



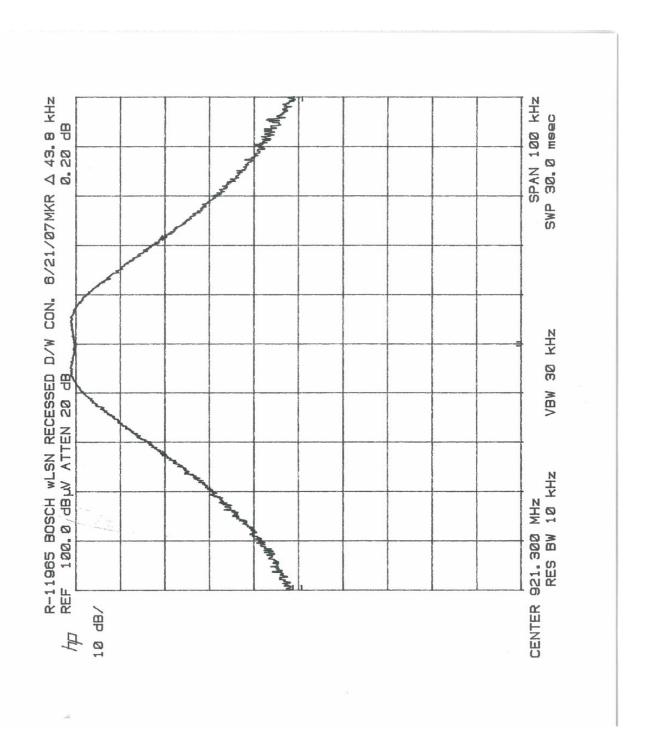
## FCC Part 15, Subpart C, 15.247(a) (1) Occupied Bandwidth, 902 to 928 MHz Band

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

measured at 43.5 kHz

Note: EUT transmitting on channel 30 at 918.5 MHz.

1 0 0 12 11 0 12 11 0 1 1 1 1 1 1 1 1 1					
Customer	Bosch Security System.				
Test Sample	wLSN Recessed Door / Window				
	Contact				
Model Number	ISW-BMC1-R135Y				
Date: 6-20-2007		Tech: R.S.	Sheet 2 of 3		



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

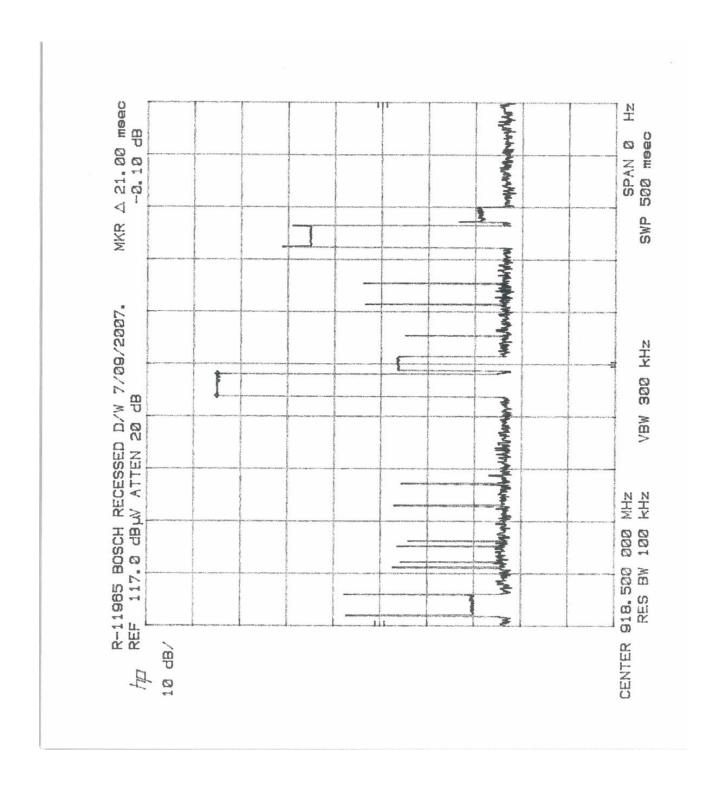
Note: The maximum 20 dB bandwidth of the hopping channel is less then 250 kHz. 20dB bandwidth

measured at 43.8 kHz

Note: EUT transmitting on channel 58 at 921.3 MHz.

Customer	Bosch Security System.			
Test Sample	wLSN Recessed Door / Window Contact			
Model Number	ISW-BMC1-R135Y			
Date: 6-20-2007		Tech: R.S.	Sheet 3 of 3	

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



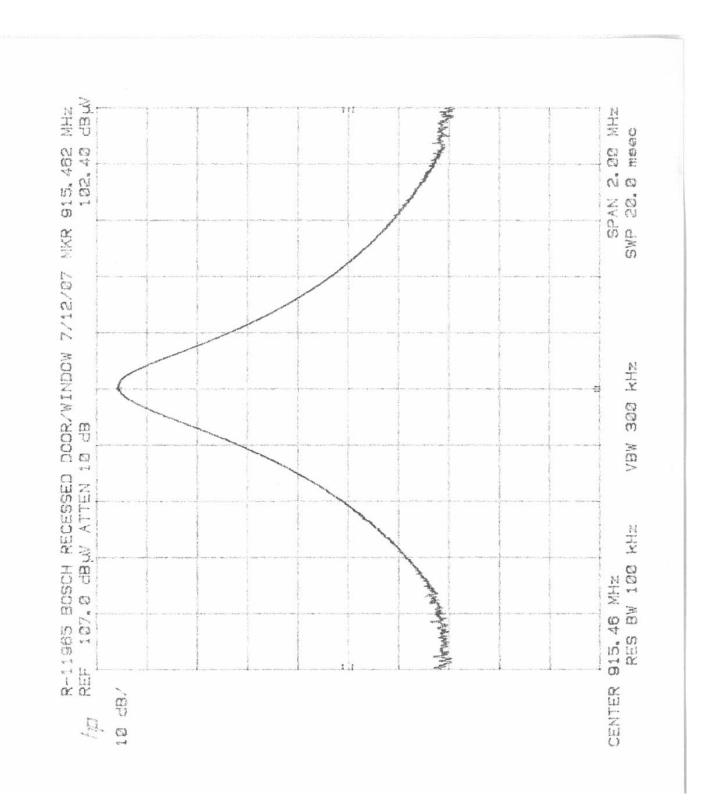
FCC Part 15, Subpart C, 15.247(a)(1)(i) Occupancy Time, 902 to 928 MHz Band Note: The measured occupancy time does not exceed the 0.4 seconds (Measured time =21.0mSec.) FCC ID:T3XBMC1-R135Y

Customer	Bosch Security System.			
Test Sample	wLSN Recessed Door / Window Contact			
Model Number	ISW-BMC1-R135Y			
Date: 7-09-2007		Tech: R.S.	Sheet 1 of 1	

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

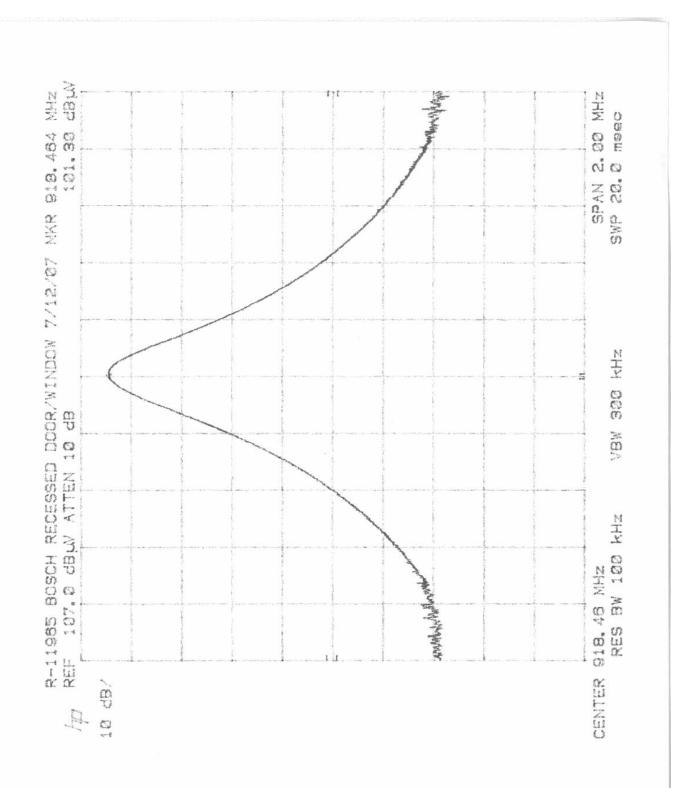
Test Meth	od:	FCC F	Part 15, Subpart	C Radiated E	missions. Fu	ndamental Po	wer Output.			
Customer			Security Syste		,	<b>Job No.</b> R-11965-6				
Test Sam			Recessed Doo		ontact	1	<b>h</b> 15.247(b			
Model No.			3MC1-R135Y			FCC II				
Operating			nuously transmit	tting a 915.5 N	ЛНz. 918.4 МН					
Technicia		R. So	•	<b>J</b>	,	Dat		2007.		
Notes:	Test Dist			Temp :23.	.4°C Humid		<b>,</b>			
	Detector			- 1		,				
Test	Anten		EUT	Meter	Correction	Corrected	Converted	Converted	Peak	
Freq.	Pol./He		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		Х	93.8	9.6	103.4	0.15	6.6	1.0	
	V / 1	.3	Y	89.2	9.6	98.8	0.09	2.3		
	V / 1	.0	Z	103.0	9.6	112.6	0.43	54.6		
	H/2	.3	Х	95.5	9.6	105.1	0.18	9.7		
	H/1	.0	Υ	96.2	9.6	105.8	0.19	11.4		
915.5	H/1	.6	Z	85.2	9.6	94.8	0.05	0.9		
									1	
918.4	V / 1 V / 1	.4	X	89.9	9.6	99.5	0.09	2.7		
			Y	93.3	9.6	102.9	0.14	5.8		
	V / 1		Z	98.9	9.6	108.5	0.27	21.2		
	H/1		X	96.8	9.6	106.4	0.21	13.1		
- 1	H/2		Υ	93.8	9.6	103.4	0.15	6.6		
918.4	H/1	.0	Z	84.4	9.6	94.0	0.05	0.8		
			.,						!	
921.3	V/1		X	93.4	9.6	103.0	0.14	6.0	!	
	V/1		Y	91.7	9.6	101.3	0.12	4.0		
	V/1		Z	102.7	9.6	112.3	0.41	50.9	<u> </u>	
1	H/2		X	94.0	9.6	103.6	0.15	6.9	<u> </u>	
921.3	H/2 H/1		Y Z	95.8 85.0	9.6 9.6	105.4 94.6	0.19 0.05	10.4 0.9	1.0	
921.3	П/І	.0		65.0	9.0	94.0	0.05	0.9	1.0	
			the required lim							
	The follow	wing Fo	rmulae were us	sed to convert	the field stren	gth in dBµV i	nto V/m and \	//m to Watts		
	V/m = 10	^(( dB	uV/m-120) / 20)							
	Power =	(V/m x	3) <sup>2</sup> / 30							
	1 04 1									

Page 1 of 1



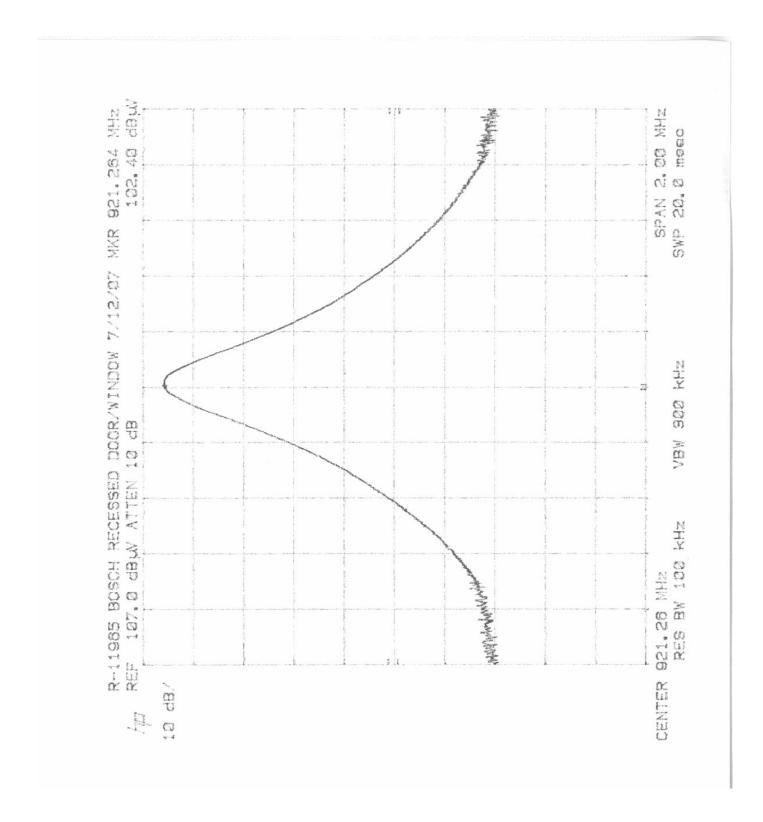
FCC Part 15, Subpart C Radiated Emissions, Fundamental Power Output, Para.15.247(b)(2) Note: EUT transmitting on channel 00 at 915.5 MHz.
FCC ID:T3XBMC1-R135Y

Customer	Bosch Security System.				
Test Sample	wLSN Recessed Door / Window				
	Cont	Contact			
Model Number	ISW-BMC1-R135Y				
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.
FCC ID:T3XBMC1-R135Y

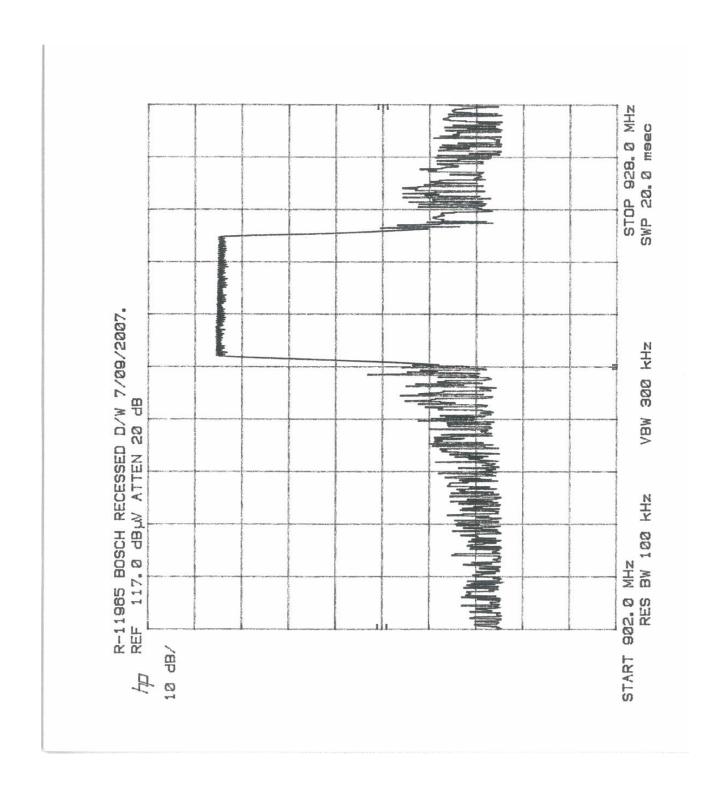
Customer	Boso	Bosch Security System.			
Test Sample	wLSN Recessed Door / Window				
	Contact				
Model Number	ISW-BMC1-R135Y				
Date: July 12, 2007.		Tech: R.S.	Sheet 2 of 3		



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	Bosch Security System.			
Test Sample	wLSN Recessed Door / Window			
	Contact			
Model Number	ISW-BMC1-R135Y			
Date: July 12, 2007.		Tech: R.S.	Sheet 3 of 3	

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.

Customer	Bosch Security System.			
Test Sample	wLSN Recessed Door / Window Contact			
Model Number	ISW-BMC1-R135Y			
Date: 7-09-2007		Tech: R.S.	Sheet 1 of 1	

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

Test Metho	FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.									
Customer	:	Bosch S	Security System	=		<b>Job No.</b> R-11965-6				
Test Samp	ole:	wLSN R	Recessed Door /	Window Cont	act					
Model No.	:	ISW-BMC1-R135Y FCC ID:					T3XBMC1-R135	Υ		
Operating	Mode:	Continu	ously transmittir	ng a 915.5 MH	lz signal.					
Technicia	n:	R. Sood	loo	-		Date:	August 16-17, 20	007		
Notes:	Test Dis	tance: 3 N	/leters							
	Detector	: Peak, U	nless otherwise	specified						
Took From	Ante	enna	EUT	Meter	Correction	Corrected	Converted	Pe	ak	
Test Freq.	Pol./l	Height	Orientation	Reading	Factor	Reading	Reading	Lir	mit	
MHz	(V/H)/	Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	uV	//m	
1831.0	V/	1.8	X	50.9	2.3	53.2	457.1	501	18.0	
	V /	1.4	Y	50.7	2.3	53.0	446.7			
	V /	1.2	Z	62.1	2.3	64.4	1659.6			
1	H /	1.0	X	54.1	2.3	56.4	660.7			
1		1.0	Y	52.3	2.3	54.6	537.0			
1831.0	H /	1.0	Z	44.1	2.3	46.4	208.9	501	18.0	
								L		
2746.5		1.3	X	54.7	5.2	59.9	988.6	500	0.0	
<u> </u>		1.2	Y	56.2	5.2	61.4	1174.9		<u> </u>	
		1.4	Z	57.0	5.2	62.2	1288.2		<u>                                       </u>	
		1.0	X	54.5	5.2	59.7	966.1		<u>                                       </u>	
2740.5		1.0	Y Z	55.7	5.2	60.9	1109.2	500	<u> </u>	
2746.5	H /	1.6		56.3	5.2	61.5	1188.5	500	0.00	
3662.0	\/ /	2.2	Х	52.8	10.0	62.8	1380.4	500	0.0	
3002.0		2.1	Y	51.7	10.0	61.7	1216.2	300	l	
<u> </u>		1.0	Z	53.6	10.0	63.6	1513.6		<u>                                       </u>	
i		2.0	X	54.0	10.0	64.0	1584.9		<u>                                      </u>	
i		2.1	Y	54.1	10.0	64.1	1603.2		<u>                                       </u>	
3662.0		1.9	Z	51.7	10.0	61.7	1216.2	500	0.0	
4577.5	V /	1.0	Х	49.8	13.6	63.4	1479.1	500	0.0	
	V /	1.0	Y	51.2	13.6	64.8	1737.8			
	V /	1.0	Z	50.5	13.6	64.1	1603.2			
	H /	1.5	X	50.8	13.6	64.4	1659.6			
		1.5	Υ	52.2	13.6	65.8	1949.8			
4577.5	H /	1.0	Z	49.3	13.6	62.9	1396.4	500	0.00	
							1			
5493.0		1.0	X	46.4	17.1	63.5	1496.2	501	18.0	
		1.7	Y	47.6	17.1	64.7	1717.9		<u> </u>	
	_	1.0	Z	47.0	17.1	64.1	1603.2		<u> </u>	
		1.6	X	45.3	17.1	62.4	1318.3		<u> </u>	
F402.0		1.6	Y Z	45.1	17.1	62.2	1288.2	E04	 10 0	
5493.0		1.0		46.1	17.1	63.2	1445.4	L	18.0	
							s not recorded we		е	
			tne specified ii easurements (m			uo not excee	ed the specified lin	iiiS.		
	= INUIS		casurements (II	minimum SenSi	uvity).					

Test Metho	d:	FCC Pa	rt 15 Subpart C	, Radiated Em	issions, Harmo	nics Emissio	ns.			
Customer:		Bosch S	Security System.			Job No.	R-11965-6			
Test Sampl	e:	wLSN R	Recessed Door /	Window Conf	act					
Model No.:		ISW-BM	IC1-R135Y			FCC ID:	T3XBMC1-R135	Ϋ́		
Operating I	Mode:	Continu	ously transmittir	ng a 915.5 MH	lz signal.					
Technician		R. Sood	•			Date:	August 16-17, 20	007		
Notes:		tance: 3 N	/leters		<u> </u>	I.				
	Detector	: Peak. ui	nless otherwise	specified						
Test Freq.	Ante	enna Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Pea Lim		
MHz		Meters	X/Y/Z	dBµV	dB	dBµV/m	uV/m	uV/r		
6408.5	,	1.5	X	48.1	19.9	68.0	2511.9	50118		
0400.5		1.0	Y	47.4	19.9	67.3	2317.4	30110	0.0	
		1.0	Z	50.5	19.9	70.4	3311.3	<u> </u>		
		1.0	X	47.5	19.9	67.4	2344.2	<del>                                     </del>		
i		1.0	Y	47.1	19.9	67.0	2238.7	i i		
6408.5		1.0	Z	46.4	19.9	66.3	2065.4	50118	8.0	
7324.0	V /	1.0	Х	43.0	21.3	64.3	*1640.6	5000	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	Υ	43.0	21.3	64.3	*1640.6			
7324.0	H/	1.0	Z	43.0	21.3	64.3	*1640.6	5000	0.0	
		1.0			00.0	20.4	*******			
8239.5		1.0	X	42.5	23.6	66.1	*2018.4	5000	).0	
<u> </u>		1.0	Z	42.5	23.6	66.1	*2018.4	<u>                                     </u>		
		1.0	X	42.5 42.7	23.6 23.6	66.1 63.6	*2018.4 *2065.4			
		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	١ (	
0209.0	117	1.0		72.1	25.0	05.0	2003.4	3000	7.0	
9155.0	V /	1.0	Х	42.1	25.5	67.6	*2398.8	5000	0.0	
	V /	1.0	Υ	42.1	25.5	67.6	*2398.8			
		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	0.0	
	1							1		
								1		
								1		
								1		
	The free	quency ra	nge was scanne	ed from 30 MH	lz to 10.0 GHz.	All emissions	not recorded we	re more	)	
	than 20	dB below	the specified li	mit. Emission	s from the EUT	do not excee	ed the specified lir	nits.		
	*=Noise	Floor Me	easurements ( M	linimum syste	m sensitivity)					

Test Method	d:	FCC	Part 15 Subpa	rt C, Radiat	ed Emissions	, Harmonics	Emissions.			
Customer:			h Security Sys				<b>b No.</b> R-119	965-6		
Test Sample	<b>e</b> :	wLSI	N Recessed Do	oor / Windov	v Contact	•				
Model No.:			BMC1-R135Y			F	CC ID: T3XB	MC1-R135Y		
Operating M	lode:	Cont	inuously transr	nitting a 915	5.5 MHz signa		•			
Technician:			oodoo				Date: Augus	st 16-17, 2007	7	
Notes:	Test Dist		3 Meters			Duty Cy	/cle: 21%			
	Detector	: Avera	age, unless oth	nerwise specified Duty Cycle Correction: -13.6dB						
				•		Duty cycle			Λ., σ	
Test Freq. Anter Pol./He			EUT Orientation	Average Reading	Correction Factor	Correction Factor	Corrected Reading	Converted Reading	Avg. Limit	
MHz	(V/H	)-	X/Y/Z	dΒμV	dB	dB	dBµV/m	uV/m	uV/m	
1831.0	V / 1	.8	Х	49.0	2.3	-13.6	37.7	76.7	5011.8	
	V / 1	.4	Y	47.5	2.3	-13.6	36.2	64.6		
	V / 1		Z	61.1	2.3	-13.6	49.8	309.0		
	H/1		X	52.6	2.3	-13.6	41.3	116.1		
	H/1		Y	49.5	2.3	-13.6	38.2	81.3		
1831.0	H / 1	.0	Z	31.2	2.3	-13.6	19.9	9.9	5011.8	
2746.5	V / 1	3	X	52.8	5.2	-13.6	44.4	166.0	500.0	
1	V / 1		Y	54.9	5.2	-13.6	46.5	211.3	1	
İ	V / 1		Z	55.8	5.2	-13.6	47.4	234.4		
	H/1		X	52.2	5.2	-13.6	43.8	154.9		
İ	H / 1		Y	52.7	5.2	-13.6	44.3	164.1	i	
2746.5	H/1		Z	55.1	5.2	-13.6	46.7	216.3	500.0	
3662.0	V / 2		X	50.6	10.0	-13.6	47.0	223.9	500.0	
	V / 2		Y	48.9	10.0	-13.6	45.3	184.1		
	V / 1		Z	52.0	10.0	-13.6	48.4	263.0		
	H/2		X	52.4	10.0	-13.6	48.8	275.4		
	H/2		Y	52.4	10.0	-13.6	48.8	275.4		
3662.0	H / 1	.9	Z	48.8	10.0	-13.6	45.2	182.0	500.0	
4577.5	V / 1	.0	Х	45.6	13.6	-13.6	45.6	190.5	500.0	
	V / 1	.0	Y	46.5	13.6	-13.6	46.5	211.3		
	V / 1	.0	Z	46.3	13.6	-13.6	46.3	206.5		
	H/1		Х	48.4	13.6	-13.6	48.4	263.0		
	H/1		Y	50.2	13.6	-13.6	50.2	323.6		
4577.5	H/1	.0	Z	43.9	13.6	-13.6	43.9	156.7	500.0	
5493.0	V / 1	.0	Х	37.6	17.1	-13.6	41.1	113.5	5011.8	
	V / 1		Υ	42.8	17.1	-13.6	46.3	206.5		
	V / 1	.0	Z	39.9	17.1	-13.6	43.4	147.9		
	H/1	.6	Х	36.5	17.1	-13.6	40.0	100.0		
	H/1		Y	35.0	17.1	-13.6	38.5	84.1		
5493.0	H / 1		Z	37.5	17.1	-13.6	41.0	112.2	5011.8	
			range was sc							
			elow the specif				not exceed the	specified limit	ts.	
	*=Noise	Floor	Measurements	s ( Minimum	system sens	itivity)				

Test Metho	d:	FCC	Part 15 Subpa	rt C, Radiate	d Emissions,	Harmonics E	missions	S.			
Customer:		Bosc	h Security Sys	tem.		Jol	No.	R-119	965-6		
Test Sampl	e:	wLSI	N Recessed Do	oor / Window	Contact						
Model No.:		ISW-	BMC1-R135Y			FC	C ID:	ГЗХВ	MC1-R135Y		
Operating I	/lode:	Cont	inuously transr	nitting a 915.	5 MHz signal.						
Technician			oodoo	g or o	<u> </u>	i i	Date:	Augus	st 16-17, 2007	,	
Notes:	Test Dist					Duty Cyc	·		,		
			age, unless oth	erwise speci	fied	Duty Cyc		ction:	: -13.6dB		
				•		Duty cycle					
Test Freq.	Anten Pol./He		EUT Orientation	Average Reading	Correction Factor	Correction Factor	Correct Read		Converted Reading		vg. mit
MHz	(V/H)	)-	X/Y/Z	dΒμV	dB	dB	dΒμV	//m	uV/m	u∖	//m
6408.5	V / 1.		Х	42.1	19.9	-13.6	48.4		263.0	501	11.8
	V / 1.		Y	38.9	19.9	-13.6	45.:		182.0		
	V / 1.		Z	44.6	19.9	-13.6	50.		350.8		İ
ĺ	H/1.		Х	37.2	19.9	-13.6	43.		149.6		İ
i	H/1.	0	Y	36.5	19.9	-13.6	42.		138.0		
6408.5	H/1.		Z	35.4	19.9	-13.6	41.		121.6	501	11.8
7324.0	V / 1.	0	Х	31.9	21.3	-13.6	40.	0	*100.0	50	0.0
	V / 1.	0	Υ	31.9	21.3	-13.6	40.0	0	*100.0		
	V / 1.	0	Z	31.9	21.3	-13.6	40.0	0	*100.0		İ
	H/1.	0	Х	31.9	21.3	-13.6	40.0	0	*100.0		ĺ
	H/1.	0	Y	31.9	21.3	-13.6	40.0	0	*100.0		ĺ
7324.0	H/1.	0	Z	31.9	21.3	-13.6	40.	0	*100.0	50	0.0
8239.5	V / 1.	0	Х	33.2	23.6	-13.6	42.0	6	*151.4	50	0.0
	V / 1.	0	Υ	33.2	23.6	-13.6	42.0	6	*151.4		
İ	V / 1.	0	Z	33.2	23.6	-13.6	42.0	6	*151.4		İ
	H/1.	0	Х	32.8	23.6	-13.6	43.	2	*144.5		ĺ
	H/1.	0	Y	32.8	23.6	-13.6	43.	2	*144.5		
8239.5	H/1.	0	Z	32.8	23.6	-13.6	43.	2	*144.5	50	0.0
9155.0	V / 1.	0	X	33.1	25.5	-13.6	45.4	4	*186.2	50	0.0
	V / 1.	0	Υ	33.1	25.5	-13.6	45.4	4	*186.2		
İ	V / 1.	0	Z	33.1	25.5	-13.6	45.4	4	*186.2		İ
İ	H/1.	0	Х	33.2	25.5	-13.6	45.	5	*188.4		
	H/1.	0	Υ	33.2	25.5	-13.6	45.	5	*188.4		
9155.0	H/1.	0	Z	33.2	25.5	-13.6	45.	5	*188.4	50	0.0
			range was sc								
<del> </del>			elow the specif				ot excee	d the	specified limit	S.	
	*=Noise	Floor	Measurement	s ( Minimum :	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	d:	FCC Pa	art 15 Subpart C	, Radiated Em	issions, Harmo	onics Emission	S.		
Customer:			Security System.		,		R-11965-6		
Test Sample	e:	wLSN F	Recessed Door /	Window Cont	act	•			
Model No.:			/IC1-R135Y			FCC ID:	T3XBMC1-R135	Ϋ́	
Operating N	lode.		ously transmittir	ng a 918 4 MH	z signal				
Technician:		R. Sood	•	19 4 0 10.1 1	2 orginal.	Date:	August 16-17, 2	007	
Notes:		tance: 3 N				Date.	, tagaet 10 11, <u>2</u>		
Notes.			nless otherwise	specified					
		enna	EUT	Meter	Correction	Corrected	Converted	D	eak
Test Freq.		enna Height	Orientation	Reading	Factor	Reading	Reading		eak mit
MLI					dB				
MHz	,	Meters	X/Y/Z	dBµV		dBµV/m	uV/m		//m
1836.8		2.5 1.7	X	55.1 55.8	2.3 2.3	57.4 58.1	741.3 803.5	501	18.0
		1.7	Z		2.3	+			<u> </u> 
1		1.0	X	65.7 57.2	2.3	68.0 59.5	2511.9 944.1	+	<u> </u>
 		1.0	Y	57.2 56.1	2.3	58.4	831.8	+	<u> </u>
1836.8		2.6	Z	46.4	2.3	48.7	272.3	501	18.0
1030.0	117	2.0		40.4	2.3	40.7	212.5	301	10.0
2755.2	V /	1.0	Х	56.5	5.2	61.7	1216.2	500	0.00
1		1.2	Y	58.3	5.2	63.5	1496.2	000	l
İ		1.0	Z	59.0	5.2	64.2	1621.8		l 
İ		1.0	X	56.0	5.2	61.2	1148.2		<u> </u>
		2.4	Y	55.6	5.2	60.8	1096.5		
2755.2		1.3	Z	58.2	5.2	63.4	1479.1	500	0.0
3673.6		2.0	X	52.7	10.0	62.7	1364.6	500	0.00
		1.0	Y	53.5	10.0	63.5	1496.2		
		1.0	Z	53.5	10.0	63.5	1496.2		<u> </u>
		1.0	X	52.7	10.0	62.7	1364.6		<u> </u>
0070.0		2.0	Y	51.6	10.0	61.6	1202.3		
3673.6	H/	1.7	Z	50.1	10.0	60.1	1011.6	500	0.00
4592.0	V /	1.0	X	48.3	13.6	61.9	1244.5	500	0.00
		1.0	Y	47.0	13.6	60.6	1071.5		
		1.0	Z	49.2	13.6	62.8	1380.4		
İ		1.4	X	48.5	13.6	62.1	1273.5	1	<u> </u>
		1.2	Y	47.5	13.6	61.1	1135.0	1	<u> </u>
4592.0	H/	1.0	Z	48.3	13.6	61.9	1244.5	500	0.0
5510.4		1.0	X	46.8	17.1	63.9	1566.8	501	18.0
		1.6	Y	47.5	17.1	64.6	1698.2		<u> </u>
		1.0	Z	47.2	17.1	64.3	1640.6	1	<u> </u>
		1.0	X	43.9	17.1	61.0	1122.0	-	<u> </u>
FF10.4		1.0	Y	46.0	17.1	63.1	1428.9	F0.1	10.0
5510.4		1.0	Z	46.6	17.1	63.7	1531.1	-	18.0
							not recorded we		re
						ao not exceed	d the specified lin	nits.	
	= INOIS	S LIOOLIN	easurements (m	minnum sensi	uvity).				

Test Metho	<b>Test Method:</b> FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.								
Customer:		Bosch S	Security System.			Job No.	R-11965-6		
Test Samp	le:	wLSN R	Recessed Door /	Window Cont	act				
Model No.:		ISW-BM	1C1-R135Y			FCC ID:	T3XBMC1-R135	Ϋ́	
Operating I	Mode:	Continu	ously transmittir	ng a 918.4 MH	lz signal.				
Technician		R. Sood	•			Date:	August 16-17, 20	007	
Notes:		tance: 3 N	/leters		"	1			
	Detector	: Peak. ui	nless otherwise	specified					
Test Freq.	Ante	enna Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Pea Limi	
MHz		Meters	X/Y/Z	dBµV	dB	dBµV/m	uV/m	uV/n	
6428.8	· ,	1.7	X	47.1	19.9	67.0	2238.7	50118	
1		1.9	Y	47.0	19.9	66.9	2213.1	1	<u> </u>
i		1.0	Z	47.6	19.9	67.5	2371.4	i	
i		1.7	Х	46.0	19.9	65.9	1972.4	i	
i	H/	1.5	Y	44.8	19.9	64.7	1717.9	i	
6428.8		1.0	Z	46.0	19.9	65.9	1972.4	50118	3.0
7347.2	V /	1.0	X	43.0	21.3	64.3	*1640.6	5000	.0
	V /	1.0	Y	43.0	21.3	64.3	*1640.6		
1	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		
7347.2	H/	1.0	Z	43.0	21.3	64.3	*1640.6	5000	.0
			.,						
8265.6	+	1.0	X	42.5	23.6	66.1	*2018.4	5000	.0
		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	+ +	
9265.6		1.0	Y Z	42.7	23.6	63.6	*2065.4	F000	
8265.6	П/	1.0		42.7	23.6	63.6	*2065.4	5000	.0
9184.0	V /	1.0	Х	42.1	25.5	67.6	*2398.8	5000	0.0
	V /	1.0	Y	42.1	25.5	67.6	*2398.8		
		1.0	Z	42.1	25.5	67.6	*2398.8		
	H/	1.0	Х	42.0	25.5	67.5	*2371.4		
Ī	H /	1.0	Y	42.0	25.5	67.5	*2371.4		
9184.0	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 Metho	d:	FCC	Part 15 Subpa	art C, Radiat	ed Emissions	, Harmonics I	Emissions.					
Customer:		Boso	h Security Sys	tem.		Jo	<b>b No.</b> R-119	965-6				
Test Sampl	e:		N Recessed D		v Contact	ľ						
Model No.:			BMC1-R135Y			F	CC ID: T3XB	MC1-R135Y				
Operating I	Mode.		inuously transr	mitting a 918	R 4 MHz signa		20.21 10/12					
Technician			oodoo	mang a o re	7. 1 1111 IL OIGITA		Date: Augus	August 16-17, 2007				
Notes:			3 Meters			Duty Cy	cle: 21%	,				
Notes.			age, unless oth	nerwise sned	rified		cle Correction	· -13 6dB				
				•		Duty cycle						
Test Freq.	t Freq. Antenna Pol./Height		EUT Orientation	Average Reading	Correction Factor	Correction Factor	Corrected Reading	Converted Reading		/g. mit		
MHz	(V/H	)-	X/Y/Z	dΒμV	dB	dB	dBµV/m	UV/m	u∖	//m		
1836.8	V/2	.5	Х	53.3	2.3	-13.6	42.0	125.9	501	1.8		
	V / 1	.7	Υ	50.7	2.3	-13.6	39.4	93.3				
	V / 1	.3	Z	64.8	2.3	-13.6	53.5	473.2				
	H/1		X	55.4	2.3	-13.6	44.1	160.3				
	H/1	.0	Y	53.6	2.3	-13.6	42.3	130.3				
1836.8	H/2	.6	Z	37.8	2.3	-13.6	26.5	21.1	501	1.8		
2755.2	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			540	5.0	40.0	40.4	000.0		0.0		
2/55.2	V / 1 V / 1		X	54.8	5.2	-13.6	46.4	208.9	50	0.0		
	V / 1		Y Z	57.2	5.2	-13.6 -13.6	48.8	275.4		<u>                                       </u>		
	H/1		X	57.9	5.2	-13.6	49.5	298.5		<u>                                       </u>		
<u> </u>	H/2		Y	54.5	5.2 5.2	-13.6	46.1 45.7	201.8		<u> </u> 		
2755.2	H/1		Z	54.1 57.2	5.2	-13.6	48.8	192.8 275.4	ΕO	0.0		
2133.2	11/1	.3		51.2	5.2	-13.0	40.0	275.4	50	0.0		
3673.6	V / 2	.0	Х	50.4	10.0	-13.6	46.8	218.8	50	0.0		
	V / 1	.0	Υ	50.9	10.0	-13.6	47.3	231.7				
İ	V / 1	.0	Z	50.8	10.0	-13.6	47.2	229.1		ĺ		
	H/1	.0	Х	49.5	10.0	-13.6	45.9	197.2		ĺ		
Ĺ	H/2	.0	Υ	47.8	10.0	-13.6	44.2	162.2				
3673.6	H/1	.7	Z	45.3	10.0	-13.6	41.7	121.6	50	0.0		
4500.0												
4592.0	V / 1		X	42.1	13.6	-13.6	42.1	127.4	50	0.0		
	V / 1		Y	35.8	13.6	-13.6	35.8	61.7				
	V/1		Z	44.1	13.6	-13.6	44.1	160.3		<u> </u>		
	H/1		X	42.3	13.6	-13.6	42.3	130.3				
4592.0	H/1		Y	40.2	13.6	-13.6	40.2	102.3	F.0	0.0		
4092.0	H/1	.0	Z	40.4	13.6	-13.6	40.4	104.7	50	0.0		
5510.4	V / 1	.0	Х	39.4	17.1	-13.6	42.9	139.6	501	1.8		
I	V / 1		Y	43.5	17.1	-13.6	47.0	223.9				
<u> </u>	V / 1		Z	42.2	17.1	-13.6	45.7	192.8		 		
	H/1		X	33.0	17.1	-13.6	36.5	66.8				
	H/1		Y	38.6	17.1	-13.6	42.1	127.4		 		
5510.4	H/1		Z	41.2	17.1	-13.6	44.7	171.8	501	1.8		
			l			L		corded were n		-		
								specified limits				
		Noise Floor Measurements ( Minimum system sensitivity)										

Test Method:	ethod: FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.							
Customer:	Во	sch Security Sys	tem.		Jok	No. R-119	965-6	
Test Sample:	wl	SN Recessed Do	oor / Window	Contact	_	_		
Model No.:	IS	W-BMC1-R135Y			FC	C ID: T3XB	MC1-R135Y	
Operating Mo	ode: Co	ontinuously transr	nitting a 918.	4 MHz signal	i			
Technician:	R.	Soodoo			[	Date: Augus	st 16-17, 2007	7
Notes: T	est Distand	e: 3 Meters			Duty Cyc	le: 21%		
	etector: Av	erage, unless oth	nerwise speci	fied	Duty Cyc	le Correction:	: -13.6dB	
	Antenna	EUT	Average	Correction	Duty cycle	Corrected	Converted	Avg.
Test Freq.	Pol./Heigh		Reading	Factor	Correction	Reading	Reading	Limit
					Factor		Ŭ	
MHz	(V/H)-	X/Y/Z	dΒμV	dB	dB	dBμV/m	uV/m	uV/m
6428.8	V / 1.7	X	38.8	19.9	-13.6	45.1	179.9	5011.8
	V / 19	Y	35.8	19.9	-13.6	42.1	127.4	
	V / 1.0 H / 1.7	Z X	39.9	19.9 19.9	-13.6 -13.6	46.2 41.4	204.2	1
	H / 1.7	Y	35.1 32.1	19.9	-13.6	38.4	117.5 83.2	
6428.8	H / 1.0	Z	32.6	19.9	-13.6	38.9	88.1	5011.8
0420.0	11/ 1.0		32.0	19.9	10.0	30.9	00.1	3011.0
7347.2	V / 1.0	X	31.9	21.3	-13.6	40.0	*100.0	500.0
1	V / 1.0	Y	31.9	21.3	-13.6	40.0	*100.0	
	V / 1.0	Z	31.9	21.3	-13.6	40.0	*100.0	
i	H / 1.0	Х	31.9	21.3	-13.6	40.0	*100.0	i
i	H / 1.0	Y	31.9	21.3	-13.6	40.0	*100.0	
7347.2	H / 1.0	Z	31.9	21.3	-13.6	40.0	*100.0	500.0
8265.6	V / 1.0	X	33.2	23.6	-13.6	42.6	*151.4	500.0
	V / 1.0	Y	33.2	23.6	-13.6	42.6	*151.4	
	V / 1.0	Z	33.2	23.6	-13.6	42.6	*151.4	
	H / 1.0	X	32.8	23.6	-13.6	43.2	*144.5	
2225.2	H / 1.0	Y	32.8	23.6	-13.6	43.2	*144.5	500.0
8265.6	H / 1.0	Z	32.8	23.6	-13.6	43.2	*144.5	500.0
9184.0	V / 1.0	X	33.1	25.5	-13.6	45.4	*186.2	500.0
9104.0	V / 1.0	Y	33.1	25.5	-13.6	45.4	*186.2	J00.0
	V / 1.0	Z	33.1	25.5	-13.6	45.4	*186.2	
i	H / 1.0	X	33.2	25.5	-13.6	45.5	*188.4	
i	H / 1.0	Y	33.2	25.5	-13.6	45.5	*188.4	
9184.0	H / 1.0	Z	33.2	25.5	-13.6	45.5	*188.4	500.0
	<del>-</del>					-		
		ncy range was sc						
		below the specif				t exceed the	specified limit	ts.
,	`=Noise Flo	or Measurements	s ( Minimum :	system sensit	ıvıty)			

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

Test Method: FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.									
Customer:		Bosch S	Security System	<u>-</u>		Job No.	R-11965-6		
Test Sampl	le:	wLSN F	Recessed Door /	Window Cont	act				
Model No.:		ISW-BN	1C1-R135Y			FCC ID:	T3XBMC1-R135	ΣΥ	
Operating I	Mode:	Continu	ously transmittir	ng a 921.3 MH	lz signal.				
Technician		R. Sood			J	Date:	August 16-17, 2	007	
Notes:	Test Dis	tance: 3 N	Meters		'				
			nless otherwise	specified					
		enna	EUT	Meter	Correction	Corrected	Converted	Pe	eak
Test Freq.		Height	Orientation	Reading	Factor	Reading	Reading		mit
MHz	(V/H)/	Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	u√	//m
1842.6	<u> </u>	2.6	Х	57.2	2.3	59.5	944.1		18.0
		2.6	Y	55.7	2.3	58.0	794.3		
İ	V /	1.0	Z	66.4	2.3	68.7	2722.7		
İ	H/	1.0	Х	59.1	2.3	61.4	1174.9		
	H/	1.0	Υ	57.9	2.3	60.2	1023.3		
1842.6	H/	1.0	Z	45.7	2.3	48.0	251.2	501	18.0
2763.9		1.0	X	55.6	5.2	60.8	1096.5	500	0.00
		1.0	Y	57.1	5.2	62.3	1303.2		
		1.0	Z	59.2	5.2	64.4	1659.6		
	<b>!</b>	1.0	Х	57.2	5.2	62.4	1318.3		
0700.0		1.0	Y	56.7	5.2	61.9	1244.5		<u> </u>
2763.9	H /	1.8	Z	57.0	5.2	62.2	1288.2	500	0.00
3685.2	\/ /	1.0	X	54.1	10.0	64.1	1603.2	500	0.00
1		1.0	Y	55.9	10.0	65.9	1972.4	- 000	<u>/0.0</u> I
		1.0	Z	54.3	10.0	64.3	1640.6		
		2.1	X	54.1	10.0	64.1	1603.2		
i	H/	1.0	Y	51.2	10.0	61.2	1148.2		<u> </u>
3685.2	H /	1.9	Z	49.8	10.0	59.8	977.2	500	0.0
4606.5		1.7	X	52.2	13.6	65.8	1949.8	500	0.00
		1.0	Y	47.5	13.6	61.1	1135.0		
		1.0	Z	51.2	13.6	64.8	1737.8		<u> </u>
		1.5	X	52.0	13.6	65.6	1905.5		<u> </u>
4000.5		1.8	Y	50.3	13.6	63.9	1566.8		
4606.5	H/	1.0	Z	49.2	13.6	62.8	1380.4	500	0.00
5527.8	V /	1.7	X	48.2	17.1	65.3	1840.8	501	18.0
1		1.0	Y	46.2	17.1	63.3	1462.2	- 001	l
i		1.1	Z	47.6	17.1	64.7	1717.9		<u> </u>
		1.3	X	46.4	17.1	63.5	1496.2		<u> </u>
İ	H /	1.5	Y	47.1	17.1	64.2	1621.8		İ
5527.8		1.0	Z	46.7	17.1	63.8	1548.8	501	18.0
	The free	quency ra	nge was scanne	ed from 30 MH	Iz to 10.0 GH	Iz. All emission	s not recorded we	re moi	re
							ed the specified li		
	*= Noise	e Floor M	easurements (m	ninimum sensi	tivity).				

Test Method: FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.												
Customer:		Bosch S	Security System.	<u>-</u>		Job No.	R-11965-6					
Test Samp	le:	wLSN R	Recessed Door /	Window Conf	act							
Model No.:		ISW-BM	1C1-R135Y			FCC ID:	T3XBMC1-R135	Ϋ́				
Operating	Mode:	Continu	ously transmittir	ng a 921.3 MH	lz signal.							
Technician			R. Soodoo Date: August 16-17, 2007									
Notes:		tance: 3 N	/leters		<u> </u>	I.						
	Detector	: Peak. ui	nless otherwise	specified								
Test Freq.	Ante	enna Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit				
MHz		Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	uV/m				
6449.1	· ,	15	Х	48.1	19.9	68.0	2511.9	50118.				
		1.5	Y	48.1	19.9	68.0	2511.9	1				
	V /	1.0	Z	49.5	19.9	69.4	2951.2	i				
İ	H/	1.0	Х	46.5	19.9	66.4	2089.3	İ				
İ	H/	1.5	Y	48.0	19.9	67.9	2483.1	İ				
6449.1	H/	1.0	Z	46.4	19.9	66.3	2065.4	50118.				
7370.4	+	1.0	X	43.0	21.3	64.3	*1640.6	5000.0				
		1.0	Υ	43.0	21.3	64.3	*1640.6					
	+	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					
7370.4	H /	1.0	Z	43.0	21.3	64.3	*1640.6	5000.0				
0004.7	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4.0	V	40.5	22.0	00.4	*2040.4	5000.0				
8291.7	+	1.0	X	42.5 42.5	23.6 23.6	66.1 66.1	*2018.4 *2018.4	5000.0				
		1.0	Z	42.5	23.6	66.1	*2018.4					
		1.0	X	42.7	23.6	63.6	*2065.4					
		1.0	Y	42.7	23.6	63.6	*2065.4					
8291.7		1.0	Z	42.7	23.6	63.6	*2065.4	5000.0				
020111	117	1.0		12.7	20.0	00.0	2000.1	0000.0				
9213.0	V /	1.0	Х	42.1	25.5	67.6	*2398.8	5000.0				
		1.0	Y	42.1	25.5	67.6	*2398.8	I				
i		1.0	Z	42.1	25.5	67.6	*2398.8	i				
	H/	1.0	X	42.0	25.5	67.5	*2371.4	i				
	H/	1.0	Y	42.0	25.5	67.5	*2371.4	Ĺ				
9213.0	H/	1.0	Z	42.0	25.5	67.5	*2371.4	5000.0				
								1				
								1				
								1				
								+				
	The free	THANCY TO	nge was soons	ad from 20 ML	  z to 10 0 C□-	All amissions	l s not recorded we	re more				
							ed the specified lir					
			easurements ( M			uo not excet	a the specified III	iiilo.				
	-140156	I IOOI IVIE	asurements ( IV	iii iii iiu iii syste	iii ociioilivily)							

Test Method	d:	FCC	Part 15 Subpa	rt C, Radiat	ed Emissions	, Harmon	ics Emiss	ons.			
Customer:		Boso	h Security Sys	tem.			Job No.	R-119	965-6		
Test Sample	e:	wLSI	N Recessed Do	oor / Windov	v Contact	,					
Model No.:		ISW-	BMC1-R135Y				FCC ID:	T3XB	MC1-R135Y		
Operating N	lode:		inuously transr	nitting a 921	.3 MHz signa	l.					
Technician:			oodoo		<u> </u>		Date:	Augus	st 16-17, 2007	7	
			3 Meters			Duty	Cycle: 2		·		
			age, unless oth	nerwise spec	cified	-	Cycle Co		: -13.6dB		
				•		Duty cy	olo l			۸	_
Test Freq.	Anten Pol./He		EUT Orientation	Average Reading	Correction Factor	Correcti Facto	on Cor	rected ading	Converted Reading		/g. mit
MHz	(V/H	)-	X/Y/Z	dΒμV	dB	dB	dB	μV/m	uV/m	u∖	//m
1842.6	V / 2	.6	X	55.0	2.3	-13.6	4	13.7	153.1	501	11.8
	V / 2		Y	52.0	2.3	-13.6		10.7	108.4		
	V / 1		Z	63.9	2.3	-13.6		52.6	426.6		
	H/1		X	54.5	2.3	-13.6		13.2	144.5		
1010.5	H / 1		Y	55.1	2.3	-13.6		13.8	154.9		<u> </u>
1842.6	H / 1	.0	Z	34.9	2.3	-13.6		23.6	15.1	501	11.8
2763.9	V / 1	Λ	X	53.9	5.2	-13.6		l5.5	188.4	50	0.0
1	V / 1		Y	55.6 55.6	5.2	-13.6		17.2	229.1	30	0.0 I
	V / 1		Z	58.2	5.2	-13.6		19.8	309.0		<u>                                     </u>
l	H/1		X	55.9	5.2	-13.6		17.5	237.1		<u>                                       </u>
İ	H / 1		Y	54.9	5.2	-13.6	-	16.5	211.3		<u>                                     </u>
2763.9	H/1		Z	55.8	5.2	-13.6	-	17.4	234.4	50	0.0
3685.2	V / 1		X	51.8	10.0	-13.6		18.2	257.0	50	0.0
	V / 1		Υ	54.1	10.0	-13.6		50.5	335.0		
	V / 1		Z	52.3	10.0	-13.6	-	18.7	272.3		
	H/2		X	52.0	10.0	-13.6		18.4	263.0		
2005.0	H/1		Y	47.1	10.0	-13.6	-	13.5	149.6		
3685.2	H/1	.9	Ζ	46.4	10.0	-13.6		12.8	138.0	50	0.0
4606.5	V / 1	.7	Х	49.7	13.6	-13.6		19.7	305.5	50	0.0
ı	V / 1		Y	40.3	13.6	-13.6		10.3	103.5		<u> </u>
<u> </u>	V / 1		Z	47.7	13.6	-13.6		17.7	242.7		İ
i	H/1	.5	Х	48.7	13.6	-13.6		18.7	272.3		
i	H/1	.8	Υ	46.1	13.6	-13.6		16.1	201.8		Ĺ
4606.5	H/1	.0	Z	44.6	13.6	-13.6	4	14.6	169.8	50	0.0
5527.8	V / 1	7	X	43.4	17.1	-13.6		16.9	221.3	501	11.8
	V / 1		Y	40.2	17.1	-13.6		13.7	153.1	30	<u></u> I
	V / 1		Z	43.6	17.1	-13.6		17.1	226.5		 
	H/1		X	37.6	17.1	-13.6		11.1	113.5		<u> </u>
	H/1		Y	39.9	17.1	-13.6		13.4	147.9		<u> </u>
5527.8	H/1		Z	39.7	17.1	-13.6		13.2	144.5	501	1  1.8
			range was sc								
			elow the specif								
			Measurements								
				*	•	- /					

Test Metho	d:	FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.										
Customer:		Bosc	h Security Sys	tem.		Jol	<b>No.</b> R-119	965-6				
Test Sampl	e:	wLSI	N Recessed Do	oor / Window	Contact	_						
Model No.:		ISW-	BMC1-R135Y			FC	C ID: T3XB	MC1-R135Y				
Operating N	Mode:	Cont	inuously transr	nitting a 921.	3 MHz signal							
Technician		R. Sc	R. Soodoo <b>Date:</b> August 16-17, 2007									
Notes:	Test Dista	ance:	3 Meters			Duty Cyc	le: 21%					
	Detector:	Avera	age, unless oth	erwise speci	fied	Duty Cyc	le Correction:	: -13.6dB				
	Anten	na	EUT	Average	Correction	Duty cycle	Corrected	Converted	Avg.			
Test Freq.	Pol./He		Orientation	Reading	Factor	Correction	Reading	Reading	Limit			
						Factor						
MHz	(V/H)		X/Y/Z	dΒμV	dB	dB	dBµV/m	uV/m	uV/m			
6449.1	V / 1.		X	41.8	19.9	-13.6	48.1	254.1	5011.8			
	V / 1.		Y Z	40.6	19.9 19.9	-13.6 -13.6	46.9	221.3 291.7				
l	V / 1. H / 1.		X	43.0 33.8	19.9	-13.6	49.3 40.1	101.2				
	H/1.		Y	39.5	19.9	-13.6	45.8	195.0	<u> </u>			
6449.1	H / 1.		Z	36.0	19.9	-13.6	42.3	130.3	5011.8			
0110.1	117 1.		_	00.0	10.0		12.0	100.0	0011.0			
7370.4	V / 1.	0	Х	31.9	21.3	-13.6	40.0	*100.0	500.0			
	V / 1.		Y	31.9	21.3	-13.6	40.0	*100.0				
	V / 1.	0	Z	31.9	21.3	-13.6	40.0	*100.0				
	H/1.	0	Х	31.9	21.3	-13.6	40.0	*100.0				
	H/1.	0	Y	31.9	21.3	-13.6	40.0	*100.0				
7370.4	H/1.	0	Z	31.9	21.3	-13.6	40.0	*100.0	500.0			
8291.7	V / 1.		Х	33.2	23.6	-13.6	42.6	*151.4	500.0			
<u> </u>	V / 1.		Y	33.2	23.6	-13.6	42.6	*151.4				
	V / 1.		Z	33.2	23.6	-13.6	42.6	*151.4				
	H/1.		X	32.8	23.6	-13.6	43.2	*144.5				
8291.7	H/1.		Y Z	32.8	23.6	-13.6 -13.6	43.2	*144.5	500.0			
8291.7	H / 1.	U		32.8	23.6	-13.0	43.2	*144.5	500.0			
9213.0	V / 1.	0	Х	33.1	25.5	-13.6	45.4	*186.2	500.0			
1	V / 1.		Y	33.1	25.5	-13.6	45.4	*186.2	1			
	V / 1.		Z	33.1	25.5	-13.6	45.4	*186.2				
	H/1.		X	33.2	25.5	-13.6	45.5	*188.4				
	H/1.		Υ	33.2	25.5	-13.6	45.5	*188.4	İ			
9213.0	H/1.		Z	33.2	25.5	-13.6	45.5	*188.4	500.0			
			range was sc									
			elow the specif				ot exceed the	specified limit	ts.			
	"=INOISE	rioor	Measurements	s ( IVIINIMUM S	system sensit	ivity)						

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

Test Metho	d:	FCC P	art 15 Subpar	t C, Spuriou	ıs Case Radi	ated Emi	issions, Parag	raph 15.247(	(d)
Customer:			Security Syste				Job No.:	<del>, '</del>	,
Test Samp	le:		Recessed Doc		Contact			1	
Model No.:			MC1-R135Y				FCC ID:	T3XBMC1-	R135Y
Operating	Mode:		uously Transm	itting on cha	nnel 00. a 91	5.5 MHz s	l.	_	
Technician		R. Soo	•	maning on one		310 1111 12 1	Date:	August 16-	17. 2007
Notes:			: 3 Meters			Ten	np: 29.3°C	Humidity:	
1101001		tor: Peal				101	пр. 23.3 О	Trairilaity.	0070
		enna	EUT	Meter	Correction			Converted	Peak
Frequency	Pos	sition	Orientation	Readings	Factor	Rea	ading	Reading	Limit
MHz	(V/H) /	Meters	Degrees	dBuV	dB	dB	uV/m	uV/m	uV/m
30.00									42658.0
									42030.0
									i
i									i
									ĺ
<u> </u>									
<u> </u>									
	<del>                                     </del>	No om	icciono ob	orwood of	the enecifi	od toot	diotopoo		
		no em	issions obs	served at	tne specifi	ea test	distance		
<u> </u>									1
<u> </u>									1
<u> </u> 									+ +
									1
<u> </u>									
									i
İ									i
i									i
j			_						j
									I
									105=5.5
10000.0									42658.0
	The fre	allono: / #=	20 1100 00000	from 20 MI l= +=	10 CH7				
			nge was scanned served from the E			limite			
			corded were more						
							ified in paragraph	15.247(d). No em	nission were
			estricted band.		•	•		. ,	

Page 1 of 3

Test Metho	d:	FCC P	art 15 Subpar	t C, Spurioւ	ıs Case Radi	ated Emi	issions, Parag	raph 15.247(	d)		
Customer:		Bosch	Security Syste	em.			Job No.:	R-11965-6			
Test Sampl	e:	wLSN I	Recessed Doc	or / Window (	Contact						
Model No.:		ISW-BI	MC1-R135Y				FCC ID:	T3XBMC1-	R135Y		
Operating I	Mode:	Continu	uously Transm	itting on cha	nnel 30, a 918	8.4 MHz :	signal.				
Technician	:	R. Soo			•		Date:	August 16-	17, 2007		
Notes:	Test D	Distance:	: 3 Meters			Ter	np: 29.3°C	Humidity:	68%		
	Detec	tor: Peal	k				•	,			
	1	enna	EUT	Meter	Correction	Corr	ected	Converted	Peak		
Frequency		sition	Orientation	Readings	Factor		ading	Reading	Limit		
MHz	(V/H) /	Meters	Degrees	dΒμV	dB	dB	μV/m	uV/m	uV/m		
				-							
30.00									42658.0		
<u> </u>											
<u> </u>											
1											
İ									İ		
!		_									
		∟ No e	missions o	bserved a	at the spec	ified te	st distance				
1											
i											
j									İ		
!											
1											
<del></del>											
İ									İ		
10000.0									42658.0		
	The fee	au a a a a a a a a		from 20 MHz to	10.01.						
			nge was scanned served from the F			limits					
		e emissions observed from the EUT do not exceed the specified limits.  issions not recorded were more than 20dB under the specified limit.									
	Emission	ons not rec	oraea were more	triair 2005 und	er ine specified if	mit.					
							ified in paragraph	15.247(d). No em	nission were		

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Test Method									
Customer:			Security Syste	•			Job No.:	R-11965-6	•
Test Sample	:		Recessed Doo		Contact			1	
Model No.:			MC1-R135Y				FCC ID:	T3XBMC1-	R135Y
Operating M	ode:		uously Transm	itting on cha	nnel 58, a 92	1 3 MHz s			
Technician:		R. Soo		itting on ona		110 1111 12	Date:	August 16-	17. 2007
	Test F		3 Meters			Ten	np: 29.3°C	Humidity:	
1101001		tor: Peal				1011	ip. 20.0 C	riaimaity.	0070
		enna	EUT	Meter	Correction	Corr	ected	Converted	Peak
Frequency		sition	Orientation	Readings	Factor		ading	Reading	Limit
		Meters	Degrees	dBµV	dB		μV/m	uV/m	uV/m
IVITIZ	(V/II) /	Meters	Degrees	иъμν	иь	uБ	μν/ΙΙΙ	uv/III	uv/III
30.00									42658.0
30.00									1
i									<u> </u>
İ									İ
									<u> </u>
									<u> </u>
	$- \lceil$	No emissions observed at the specified test distance							
1		40 Gilli	3310113 003	erveu at t	ne specine	u iesi i			1
İ									i
									i
İ									
									1 1
10000.0									42658.0
			nge was scanned						
			served from the E orded were more						
							fied in paragraph 1	15.247(d). No em	nission were
			estricted band.			, 40 0000	paragraph		

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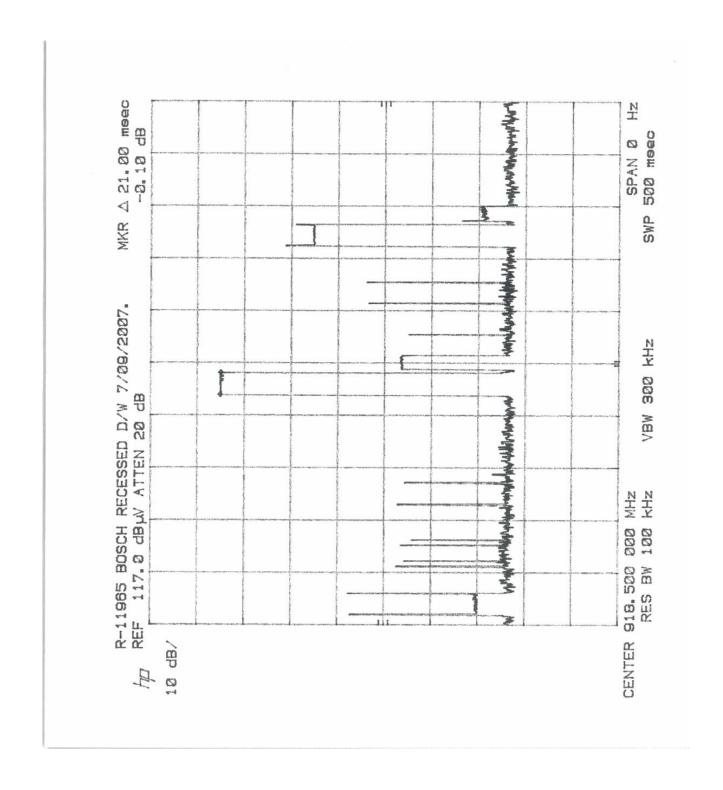
FCC Part 15, Subpart B, Class B, Radiated Emissions, 30 MHz to 5.0 GHz,
Paragraph 15.109(a)
Receiver Test Data

Test Method	d:	FCC P	art 15, Subpa	rt B, Class I	B, Radiated E	mission	s, 30 MHz to 5	.0 GHz, Para:	15.109(a)
Customer:			Security Syste					R-11965-6	• •
Test Sample	e:		Recessed Doc		Contact				
Model No.:		ISW-BI	MC1-R135Y				Serial No.:	N/A	
Operating N	/lode:	EUT op	perating on cha	annel 00( 91	5.5MHz), cont	tinuously	receiving a CV	/ signal.	
Technician:		R.Sood	doo	·			Date:	August 17, 2	2007.
Notes:			3 Meters asi-Peak Belov	v 1 GHz Pe	ak ahove 1 Gl	-l7	Temp: 31.0°C	Humidit	y: 70%
		enna	EUT	Meter	Correction		ected	Converted	
Frequency	Pos	sition	Orientation	Readings	Factor	Rea	ading	Reading	Limit
MHz	(V/H) /	Meters	Degrees	dBuV	dB	dB	uV/m	uV/m	uV/m
30.0									100
30.0									100
									1 1
i									İ
00.0									100
88.0 88.0									100 150
00.U									150
<u> </u>									
									İ
216.0		N <sub>C</sub>	amission	ohsarvad	at the sne	cified to	est distance		150
216.0			Cillission	obsei veu	at the spe	ciried to	est distance		200
<u> </u>									
960.0									200
960.0									500
<del>-  </del>									
									İ
<u> </u>									
5000.0									500
0000.0	The fre	quency rar	nge was scanned	rom 30 MHz to	5.0 GHz.				
			served from the E						
	Emissio	ons not rec	orded were more	than 20dB und	er the specified li	mit.			
	EIIIISSIC	791 JOH SHC	oraea were more	uiaii 2005 und	ег те ѕрестей п	mil.			

Test I	Metho	d:	FCC P	art 15, Subpa	rt B, Class I	3, Radiated E	mission	s, 30 MHz to 5	.0 GHz, Para	a:15.109(a)
Custo	mer:			Security Syste		•		Job No.:		
Test \$	Sample	e:	wLSN	Recessed Doc	or / Window (	Contact	•		•	
Mode	l No.:		ISW-BI	MC1-R135Y				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.	
	nician:		R.Sood	doo	•	•	-	Date:	August 17,	2007.
Notes	S:			3 Meters asi-Peak Belov	v 1 GHz. Pea	ak above 1 Gł	∃z	Temp: 31.0°C	Humid	ity: 70%
Frequ	iency	Ant	enna sition	EUT Orientation	Meter Readings	Correction Factor	Corr	ected ading	Converted Reading	Limit
MH			Meters	Degrees	dΒμV	dB		μV/m	uV/m	uV/m
30	.0									100
										<u> </u>
I										
88	.0									100
88	.0									150
										<u> </u>
 216	2.0		- No	emission o	hserved	at the snec	ified te	st distance	<u> </u>	150
216			- ''	Cilli33iOii C	DSCI VCU	at the spec	illed te	st distance	-	200
	5.0									1
<u> </u>										<del>                                     </del>
i										j
960										200
960	).0									500
<u> </u> 										
i										<u> </u>
										İ
!										
<u> </u> 500	0.0									500
500	0.0	The fre	quency rar	nge was scanned	l from 30 MHz to	5.0 GHz.				300
		The em	issions ob	served from the E	UT do not exce	ed the specified	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	z, Para:1	5.109(a)
Custo	omer:			Security Syste				Job No.:		965-6	
Test	Sample	e:		Recessed Doc		Contact					
Mode	l No.:		ISW-BI	MC1-R135Y				Serial No.:	N/A		
Opera	ating N	/lode:	EUT op	perating on cha	annel 58( 92	1.3MHz), con	tinuously	receiving a C\	V signa	ıl.	
Tech	nician:		R.Sood	doo				Date:	Augu	ust 17, 20	07.
Notes	<b>S</b> :			3 Meters asi-Peak Belov	v 1 GHz, Pea	ak above 1 Gł	Нz	Temp: 31.0°0	;	Humidity	: 70%
Frequ	iency	_	enna sition							Limit	
MI	Hz	(V/H) /	Meters	Degrees	dΒμV	dB	dB	μV/m	uV/	m	uV/m
30	0.0										100
											<u> </u>
											<u> </u>
88											100
88	3.0										150
								+			<u> </u>
216	6.0									1	150
216	6.0		No	emission	observed	at the spe	cified te	est distanc	е		200
										J	
											I
960	0.0										200
960											500
											<u> </u>
											<u> </u>
											İ
	0.0										<u> </u>
500	0.0	The free	allency rar	nge was scanned	from 30 MHz to	5 0 GHz					500
		The em	issions ob	served from the E	UT do not exce	eed the specified	limits.				
				orded were more							

FCC Part 15.35, Duty Cycle Determination Test Data



Test Method: FCC Part 15.35, Duty Cycle Determination.

**Notes**: Duty cycle = (21 mSec / 100) = 0.21 = 21%=  $20 \log 0.21 = -13.6 \text{ dB}$ 

FCC ID:T3XBMC1-R135Y

T CC ID. 13ADI	1 CC ID: 13/15/10101-1(1331								
Customer	Bos	Bosch Security System.							
Test Sample	wLSN Recessed Door / Window Contact								
Model Number ISV		V-BMC1-R135Y							
Date: 7-09-2007		Tech: R.S.	Sheet 1 of 1						