#### **Technical Information**

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

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

Paragraph 15 (a)

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

Test Procedure: ANSI C63.4: 2003

**Test Sample Description** 

Test Sample: Key Fob

Brandname: Bosch

Model Number: ISW-BKF1-H5Y

FCC ID: T3XBKF1-H5Y

**Type:** Frequency Hopping Spread Spectrum Transceiver

**Power Requirements:** Four AA Alkaline Batteries

Frequency of Operation: 920 MHz to 928 MHz

#### **Tests Performed**

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

### **TESTS RESULTS**

### **DETERMINATION OF FIELD STRENGTH LIMITS**

- 15.203: The intentional radiator is designed to ensure that no antenna other than that furnished by the applicant can be used with the device. The antenna is permanently soldered in place to the PCB.
- 15.204: The antenna used is not commercially available. It is a custom designed circularly polarized Omni-directional antenna with 1dBi gain.
- 15.247(a)(1): The frequency hopping system has hopping channel carrier frequencies separated by 100 kHz, which is less than the 20 dB bandwidth of the hopping channel.
- 15.247(a)(1)(i):The frequency hopping system operated in the 902-928 MHz band and uses 59 frequencies. The maximum 20 dB bandwidth of the hopping channel is less then 250 kHz, Measured 46.0 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 10.4 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 10.4 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 921.3 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:**

No modifications were made to the test sample in order to demonstrate compliance.

### **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 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	10/19/2007 10/19/2008

## 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	10/19/2007 10/19/2008

### FCC Part 15, Subpart C, 15.247(a)(1)(i), Occupancy Time

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	10/19/2007	10/19/2008

# 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	10/19/2007	10/19/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	10/12/2006	10/31/2007

# 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	10/19/2007 10/19/2008

# 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	10/5/2007	10/5/2008
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	10/5/2007	10/5/2008
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
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/19/2007	10/19/2008
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/26/2007	9/26/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	10/12/2006	10/31/2007

# 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	10/5/2007	10/5/2008
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	10/5/2007	10/5/2008
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
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/19/2007	10/19/2008
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/26/2007	9/26/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	10/12/2006	10/31/2007

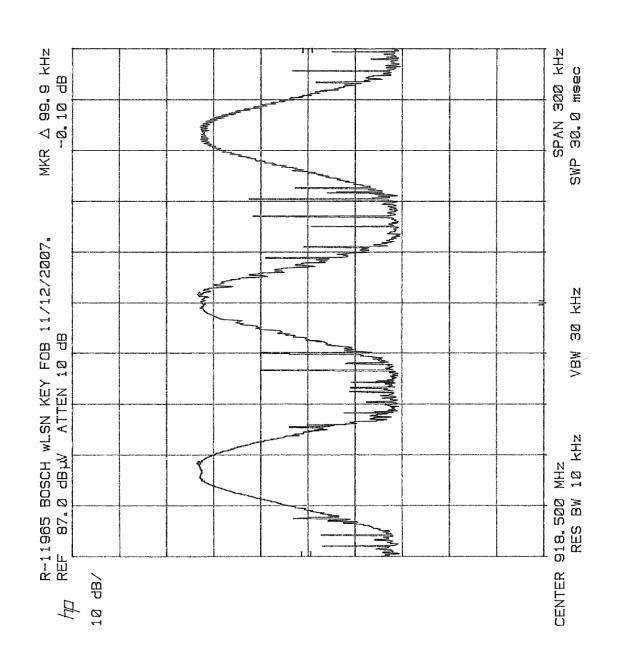
# FCC Part 15 Subpart B, Class B, Radiated Emissions, 30 MHz to 5 GHz

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
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	10/19/2007	10/19/2008
543	Preamplifier	Hewlett Packard	1.0 GHz - 26.5 GHz	8449B	9/26/2007	9/26/2008
574	AM/FM Signal Generator	Marconi Instru.	9 kHz - 2.4 GHz	2024	7/24/2007	7/24/2008
723	H.P. Filter	Mini-Circuits	1 GHz	BHP-1000	8/13/2007	8/13/2008
767	Biconilog	EMCO	26 - 2000 MHz	3142B	10/12/2006	10/31/2007

## FCC Part 15.35, Duty Cycle Determination

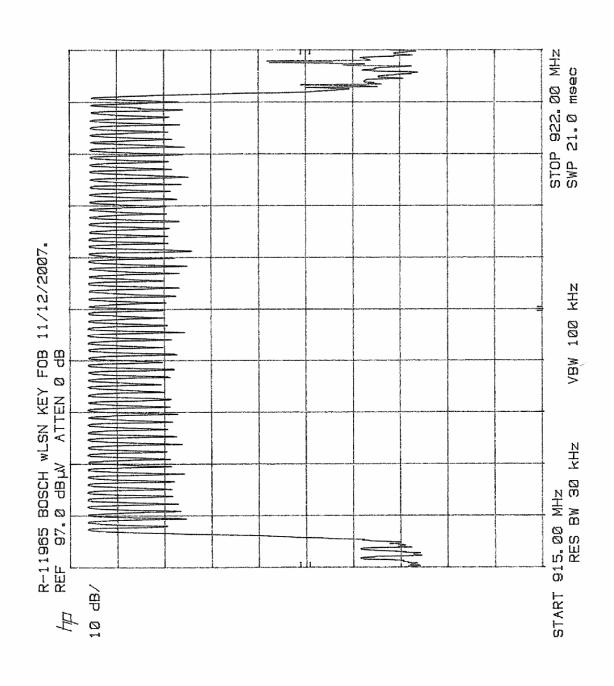
EN	Туре	Manufacturer	Description	Model No.	Cal Date	<b>Due Date</b>
067	Open Area Test Site	Retlif	3/10 Meter	RNY	9/12/2006	9/12/2009
141	Spectrum Analyzer	Hewlett Packard	100 Hz - 40 GHz	8566B	4/27/2007	4/27/2008
141B	Quasi-Peak Adaptor	Hewlett Packard	100 Hz - 1 GHz	85650A	4/27/2007	4/27/2008
512	Graphics Plotter	Hewlett Packard	N/A	7470A	10/19/2007	10/19/2008

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 =99.9 kHz)

Customer	Bosch Security System.					
Test Sample	wLSN Key Fob					
Model Number	ISW-BKF1-H5Y					
Date: 11-12-200	7.	Tech: R.S.	Sheet 1 of 2			



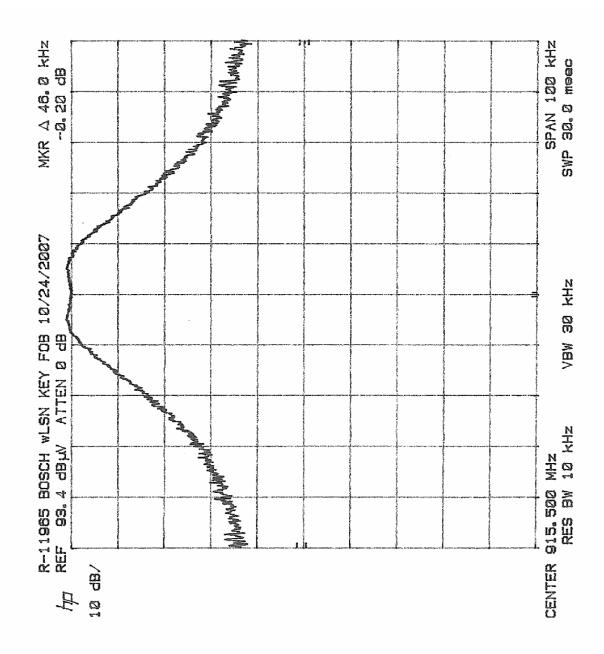
FCC Part 15, Subpart C, 15.247(a) (1) Number of Hopping Frequency, 902 to 928 MHz Band

**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 = 46.0 kHz).

FCC ID:T3XBKF1-H5Y

Customer	Bos	Bosch Security System.				
Test Sample	wL	wLSN Key Fob				
Model Number	ISV	V-BKF1-H5Y				
Date: 11-12-2007.		Tech: R.S.	Sheet 2 of 2			

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



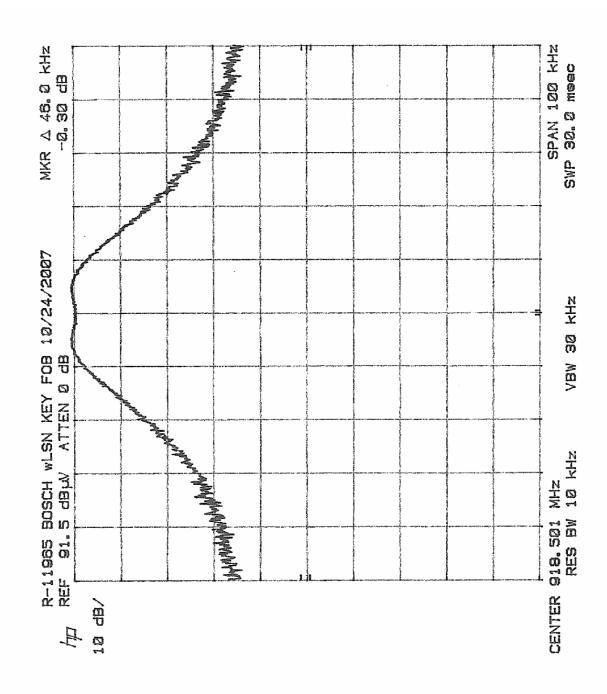
### FCC Part 15, Subpart C, 15.247(a) (1) Occupied Bandwidth, 902 to 928 MHz Band

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

measured at 46.0 kHz

Note: EUT transmitting on channel 00 at 915.5 MHz.

Customer	Bosch Security System.				
Test Sample	wLSN Key Fob				
Model Number	ISW-BKF1-H5Y				
Date: 10-24-2007	Tech: R.S.	Sheet 1 of 3			



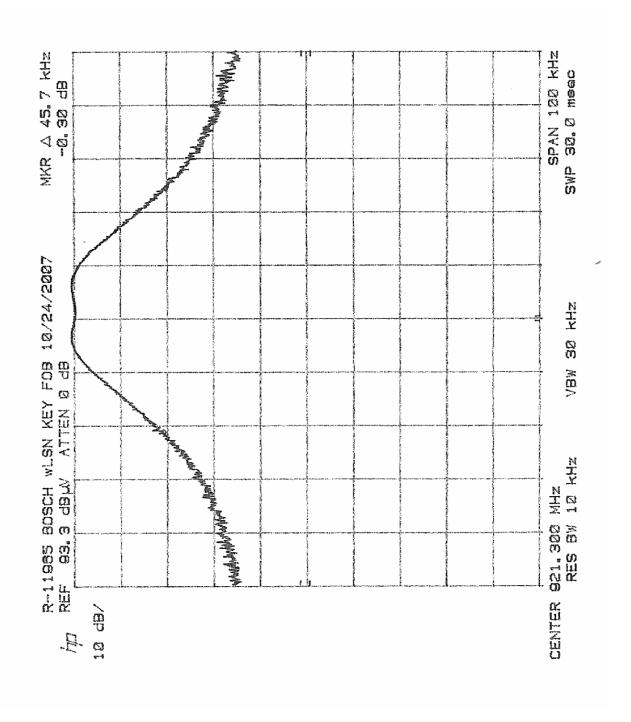
## FCC Part 15, Subpart C, 15.247(a) (1) Occupied Bandwidth, 902 to 928 MHz Band

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

measured at 46.0 kHz

Note: EUT transmitting on channel 30 at 918.5 MHz.

1 0 0 12110/12111 1 1101						
Customer	Bosch Security System.					
Test Sample	wLSN Key Fob					
Model Number	ISW-BKF1-H5Y					
Date: 10-24-2007	Tech: R.S.	Sheet 2 of 3				



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

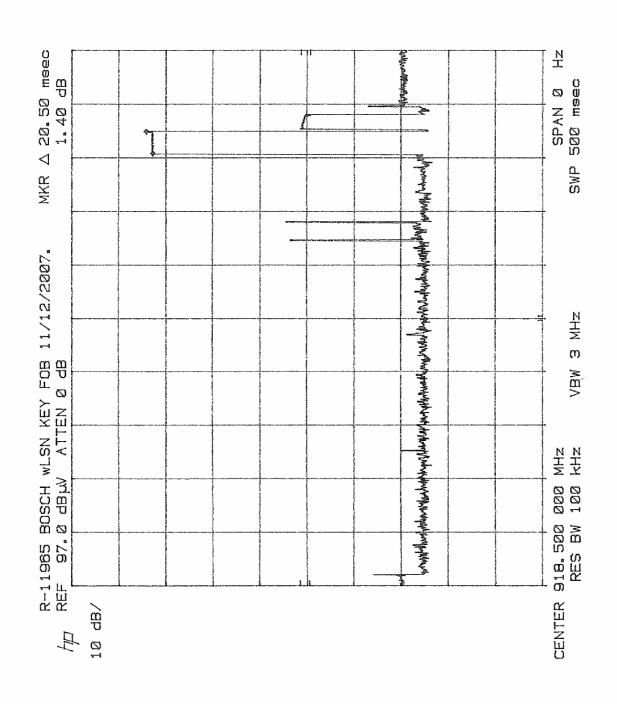
Note: The maximum 20 dB bandwidth of the hopping channel is less then 250 kHz. 20dB bandwidth

measured at 45.7 kHz

Note: EUT transmitting on channel 58 at 921.3 MHz.

Customer	Bosch Security System.				
Test Sample	wLSN Key Fob				
Model Number	ISW-BKF1-H5Y				
Date: 10-24-2007	Tech: R.S.	Sheet 3 of 3			

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



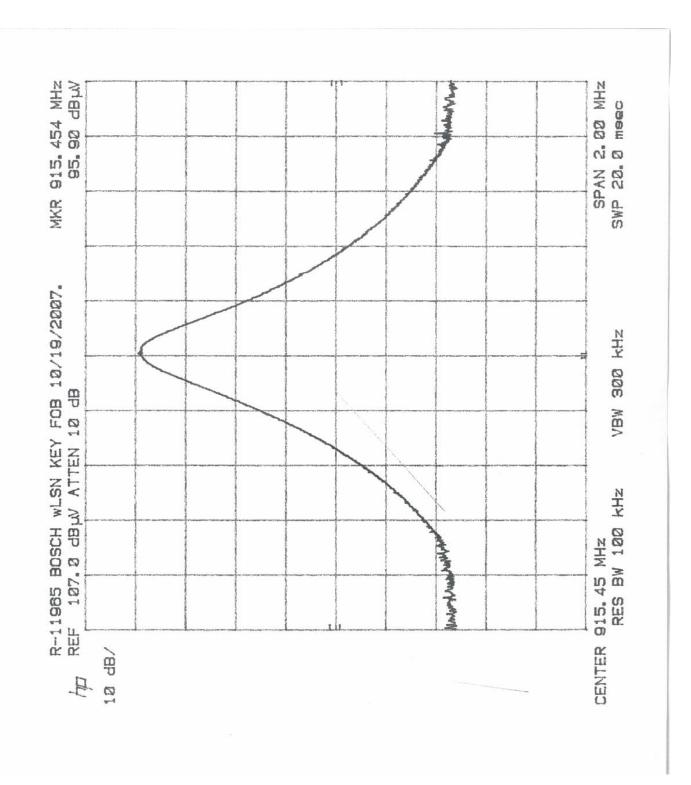
FCC Part 15, Subpart C, 15.247(a)(1)(i) Occupancy Time, 902 to 928 MHz Band Note: The measured occupancy time does not exceed the 0.4 seconds (Measured time =20.5mSec.) FCC ID:T3XBKF1-H5Y

Customer	Bos	Bosch Security System.				
Test Sample	wL	wLSN Key Fob				
Model Number	ISV	V-BKF1-H5Y				
Date: 11-12-2007.		Tech: R.S.	Sheet 1 of 1			

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

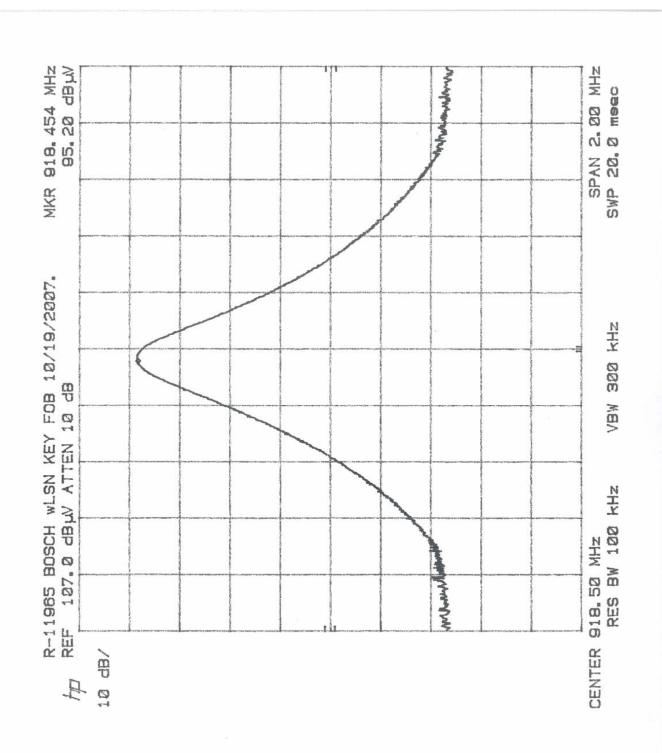
Test Meth	od:	FCC F	Part 15, Subpart	C, Radiated	Emissions, Fu	ındamental Po	wer Output.		
Customer	:	Bosch	Security Syste	m.		Job No	<b>c.</b> R-11965	-4	
Test Samp	ole:	wLSN	Key Fob			Paragrap	<b>h</b> 15.247(b	)(2)	
Model No.		ISW-E	BKF1-H5Y			FCC II	D: T3XBKF	1-H5Y	
Operating	ing Mode: Continuously transmitting a 915.5 MHz, 918.4 MHz and 921.3 MHz signal.								
Technician: R. Soodoo								19, 2007.	
Notes:	Test Dist			Temp: 21	°C Humidity			-,	
	Detector								
Test	Anten	na	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	90.1	9.6	99.7	0.10	2.8	1.0
	V/1		Υ	88.5	9.6	98.1	0.08	1.9	
	V / 1	.0	Z	95.8	9.6	105.4	0.19	10.4	
<u>.</u>	H/2		X	85.5	9.6	95.1	0.06	1.0	j
·	H/2		Y	87.2	9.6	96.8	0.07	1.4	<u> </u>
915.5	H/1		Z	83.5	9.6	93.1	0.05	0.6	<u>'</u> I
0.10.0	1171		_	55.6	1	33.1	0.00	0.0	<u>'</u>
918.4	V / 1	.0	Х	88.4	9.6	98.0	0.08	1.9	<u>'</u> 
1	V / 1		Y	88.5	9.6	98.1	0.08	1.9	<u> </u>
i	V / 1		Z	95.3	9.6	104.9	0.18	9.3	<u> </u>
	H/1		X	85.9	9.6	95.5	0.06	1.1	<u>'</u>
	H/1		Y	89.7	9.6	99.3	0.09	2.6	<u> </u>
918.4	H/2		Z	77.5	9.6	87.1	0.02	0.2	<u> </u>
310.4	1172			17.0	1 0.0	07.1	0.02	0.2	
921.3	V / 1	2	Х	88.8	9.6	98.4	0.08	2.1	<u> </u>
1	V / 1		Y	88.2	9.6	97.8	0.08	1.8	<u> </u>
i	V / 1		Z	94.9	9.6	104.5	0.17	8.5	<u> </u>
i	H/2		X	85.0	9.6	94.6	0.05	0.9	i
i	H/1		Y	87.6	9.6	97.2	0.07	1.6	i
921.3	H/2		Z	79.7	9.6	89.3	0.03	0.3	1.0
				<del>-</del>					
					1				
					1				
					1				
					1				
					1				
					1				
					1				
					1				
	The Clim		Ale a magnificated Pro-	ا - ا- حدم المما خا	<u> </u>				
			the required lime frmulae were us			ath in dBu\/ i	oto \//m and \	//m to \Motto	
					. u le liela střeř	igiii iii ubµV II	no v/m and v	viii to watts	
			uV/m-120) / 20)						
	Power =	(v/m x	3) <sup>2</sup> / 30						

Page 1 of 1



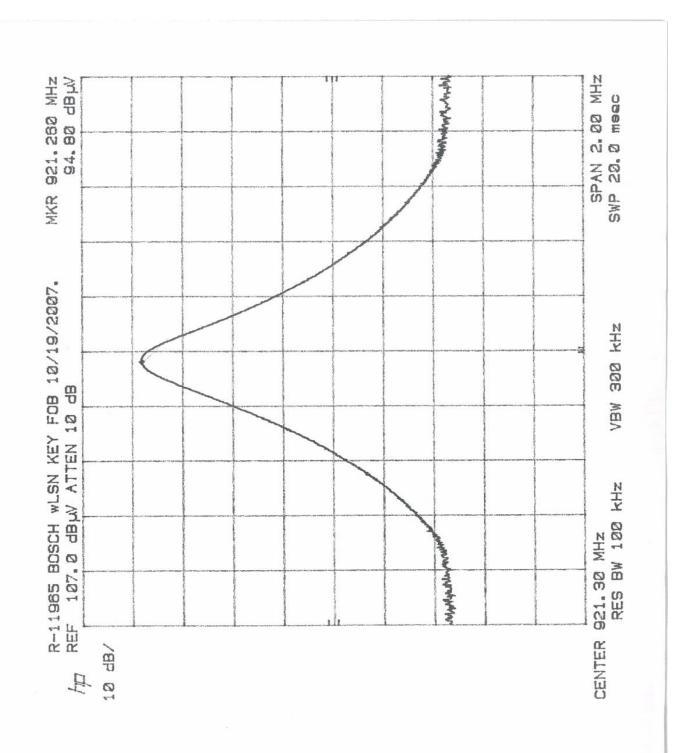
FCC Part 15, Subpart C Radiated Emissions, Fundamental Power Output, Para.15.247(b)(2) Note: EUT transmitting on channel 00 at 915.5 MHz.

Customer	Во	Bosch Security System.				
Test Sample	wL	SN Key Fob				
Model Number	IS\	N-BKF1-H5Y				
Date: 10-19- 2007.		Tech: R.S.	Sheet 1 of 3			



FCC Part 15, Subpart C Radiated Emissions, Fundamental Power Output, Para.15.247(b)(2) Note: EUT transmitting on channel 30 at 918.4 MHz.

Customer	Во	Bosch Security System.				
Test Sample	wL	SN Key Fob				
Model Number	IS\	N-BKF1-H5Y				
Date: 10-19- 2007.		Tech: R.S.	Sheet 2 of 3			



FCC Part 15, Subpart C Radiated Emissions, Fundamental Power Output, Para.15.247(b)(2) Note: EUT transmitting on channel 58 at 921.3 MHz.

Customer	Во	Bosch Security System.				
Test Sample	wL	SN Key Fob				
Model Number	IS\	N-BKF1-H5Y				
Date: 10-19- 2007.		Tech: R.S.	Sheet 3 of 3			

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

<b>Test Metho</b>	d:	FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.									
Customer:		Bosch S	Security System			<b>Job No.</b> R-11965-4					
Test Sampl	e:	wLSN K	ley Fob								
Model No.:		ISW-BK	F1-H5Y			FCC ID:	T3XBKF1-H5Y				
Operating I	Mode:	Continu	ously transmittir	ng a 915.5 MH	z signal.						
Technician	:	R. Sood	loo			Date:	October 23, 2007	7.			
Notes:	Test Dist	tance: 3 N	/leters		·						
	Detector	: Peak, U	nless otherwise	specified							
Took From	Ante	enna	EUT	Meter	Correction	Corrected	Converted	Pe	eak		
Test Freq.	Pol./F	Height	Orientation	Reading	Factor	Reading	Reading	Lir	mit		
MHz	(V/H)/I	Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	uV	//m		
1831.0		1.2	Χ	59.8	2.3	62.1	1273.5	501	18.0		
	V /	1.0	Y	59.7	2.3	62.0	1258.9				
	V /	1.8	Z	59.5	2.3	61.8	1230.3				
	Η/	1.0	X	58.7	2.3	61.0	1122.0				
		1.4	Y	61.7	2.3	64.0	1584.9				
1831.0	H/	1.0	Z	57.5	2.3	59.8	977.2	501	18.0		
0740.5	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4.0	V	54.0	5.0	<b>57.</b> 0	707.0	500	20.0		
2746.5		1.0	X Y	51.8	5.2 5.2	57.0	707.9	500	0.00		
<u> </u>		1.0	Z	48.9	5.2	54.1	507.0				
		1.3	X	54.4 46.8	5.2	59.6	955.0				
	H /		Y	51.9	5.2	52.0	398.1				
2746.5		2.0	Z	49.4	5.2	57.1 54.6	716.1 537.0	500	0.0		
2140.5	117	2.0		43.4	5.2	54.0	337.0	300	70.0		
3662.0	V /	2.1	Х	49.5	10.0	59.5	944.1	500	0.00		
	V /	2.5	Υ	48.1	10.0	58.1	803.5				
İ	V /	2.2	Z	50.5	10.0	60.5	1059.3				
	H/	1.0	Х	48.6	10.0	58.6	851.1				
	H/	2.0	Y	52.0	10.0	62.0	1258.9				
3662.0	H/	2.2	Z	51.5	10.0	61.5	1188.5	500	0.00		
4577.5	V /		X	45.7	13.6	59.3	922.6	500	0.00		
		1.0	Y	45.7	13.6	59.3	922.6				
<u> </u>		1.0	Z	46.2	13.6	59.8	977.2				
<u> </u>	1	2.1	X	45.8	13.6	59.4	933.3		$\sqcup$		
1=====		1.0	Y	46.1	13.6	59.7	966.1		1		
4577.5	H /	1.7	Z	47.0	13.6	60.6	1071.5	500	0.00		
5493.0	\/ /	1.0	Х	41.0	17.1	58.1	*803.5	501	18.0		
		1.0	Y	41.0	17.1	58.1	*803.5	301	. U.U		
		1.0	Z	41.0	17.1	58.1	*803.5		<u>.                                    </u>		
		1.0	X	41.0	17.1	58.1	*803.5		<u> </u>		
l	1	1.0	Y	41.0	17.1	58.1	*803.5		<u> </u>		
5493.0		1.0	Z	41.0	17.1	58.1	*803.5	501	18.0		
- 122.0							not recorded we				
							ed the specified lin				
			easurements (m								

Test Metho	d:	FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.								
Customer:		Bosch S	Security System.	·		Job No.	R-11965-4			
Test Sampl	le:	wLSN K	(ey Fob							
Model No.:		ISW-BK	F1-H5Y			FCC ID:	T3XBKF1-H5Y			
Operating I	Mode:	Continu	ously transmittir	ng a 915.5 MH	lz signal.					
Technician	:	R. Soodoo Date: October 23, 2007.								
Notes:	Test Dis	tance: 3 N	Meters							
	Detector	: Peak, u	nless otherwise	specified						
Test Freq.		enna Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit		
MHz	(V/H)-	Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	uV/m		
6408.5		1.0	X	42.2	19.9	62.1	*1273.5	50118.0		
		1.0	Y	42.2	19.9	62.1	*1273.5			
	V /	1.0	Z	42.2	19.9	62.1	*1273.5			
		1.0	X	41.3	19.9	61.2	*1148.2			
		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 /	1.0	X	43.0	21.3	64.3	*1640.6	5000.0		
		1.0	Y	43.0	21.3	64.3	*1640.6			
i		1.0	Z	43.0	21.3	64.3	*1640.6			
i	H/	1.0	Х	43.0	21.3	64.3	*1640.6	İ		
i	H/	1.0	Υ	43.0	21.3	64.3	*1640.6	i		
7324.0	H/	1.0	Z	43.0	21.3	64.3	*1640.6	5000.0		
8239.5	\/ /	1.0	X	42.5	23.6	66.1	*2018.4	5000.0		
0233.3		1.0	Y	42.5	23.6	66.1	*2018.4	1		
l i		1.0	Z	42.5	23.6	66.1	*2018.4			
i		1.0	X	42.7	23.6	63.6	*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	5000.0		
0.155.0				10.1	0.7.7		******			
9155.0		1.0	X	42.1	25.5	67.6	*2398.8	5000.0		
		1.0	Y Z	42.1	25.5 25.5	67.6	*2398.8			
		1.0	X	42.1 42.0	25.5 25.5	67.6 67.5	*2398.8 *2371.4			
1		1.0	Y	42.0	25.5	67.5	*2371.4			
9155.0		1.0	Z	42.0	25.5	67.5	*2371.4	5000.0		
3100.0	117	1.0		72.0	20.0	07.0	2071.4	0000.0		
						1				
							not recorded we			
	1					T do not excee	ed the specified lin	nits.		
	*=Noise	Floor Me	easurements ( M	linimum syste	m sensitivity)					

Test Method	d:	FCC	Part 15 Subpa	rt C, Radiat	ed Emissions	, Harmonics E	missions.			
Customer:		Boso	h Security Sys	tem.		Jo	<b>b No.</b> R-119	965-4		
Test Sample	e:		N Key Fob			•	1			
Model No.:			·BKF1-H5Y			FC	C ID: T3XB	KF1-H5Y		
Operating N	lode:		inuously transr	nitting a 915	5.5 MHz signa					
Technician:			oodoo	mung a o ro	no ivii iz oigiia		Date: Octob	er 23, 2007.		
	Test Dista						cle: 20.5%	C1 20, 2007.		
			age, unless oth	nerwise spec	rified		cle Correction:	: -13.8dB		
				•		Duty cycle				
Test Freq.	Anten		EUT	Average	Correction	Correction	Corrected	Converted		/g.
•	Pol./He	ignt	Orientation	Reading	Factor	Factor	Reading	Reading	LII	mit
MHz	(V/H)	)-	X/Y/Z	dΒμV	dB	dB	dBµV/m	uV/m	u∨	//m
1831.0	V / 1.	2	Х	58.8	2.3	-13.8	47.3	231.7	501	1.8
	V / 1.	.0	Υ	58.5	2.3	-13.8	47.0	223.9		
	V / 1.		Z	58.5	2.3	-13.8	47.0	223.9		
	H/1.		X	57.1	2.3	-13.8	45.6	190.5		
1	H/1.		Y	60.8	2.3	-13.8	49.3	291.7		
1831.0	H / 1.	.0	Z	45.9	2.3	-13.8	34.4	52.5	501	1.8
			.,							
2746.5	V / 1.		X	51.0	5.2	-13.8	42.4	131.8	50	0.0
	V / 1.		Y	44.9	5.2	-13.8	36.3	65.3		<u>                                       </u>
	V / 1.		Z	53.4	5.2	-13.8	44.8	173.8		<u>                                       </u>
	H/1.		X	42.1	5.2	-13.8	33.5	47.3		<u> </u>
0740.5	H/1.		Y	49.6	5.2	-13.8	41.0	112.2		<u> </u>
2746.5	H / 2.	.0	Z	45.9	5.2	-13.8	37.3	73.3	50	0.0
3662.0	V / 2.	1	Х	45.8	10.0	-13.8	42.0	125.9	50	0.0
1	V / 2.		Y	42.7	10.0	-13.8	38.9	88.1	- 00	l
l	V / 2.		Z	46.7	10.0	-13.8	42.9	139.6		<u>                                       </u>
l	H / 1.		X	42.6	10.0	-13.8	38.8	87.1		<u>                                       </u>
	H/2.		Y	47.2	10.0	-13.8	43.4	147.9		<u>                                     </u>
3662.0	H/2.		Z	48.0	10.0	-13.8	44.2	162.2	50	0.0
4577.5	V / 2.	1	Х	35.8	13.6	-13.8	35.6	60.3	50	0.0
I	V / 1.	.0	Y	33.6	13.6	-13.8	33.4	46.8		
	V / 1.	0	Z	35.1	13.6	-13.8	34.9	55.6		
	H/2.		X	33.7	13.6	-13.8	33.5	47.3		
	H/1.		Y	31.8	13.6	-13.8	31.6	38.0		
4577.5	H / 1.	.7	Z	35.2	13.6	-13.8	35.0	56.2	50	0.0
F 400 0	11/1			00.7	47.4	40.0	00.0	* 4 4 -	<b>5</b> 0.	4.0
5493.0	V / 1.		X	29.7	17.1	-13.8	33.0	*44.7	501	1.8
	V / 1.		Y	29.7	17.1	-13.8	33.0	*44.7		<u> </u>
<u> </u>	V / 1.		Z X	29.7	17.1	-13.8	33.0	*44.7		<u> </u> 
l	H / 1.		Y	29.7	17.1	-13.8	33.0	*44.7		<u>                                      </u>
5493.0	H / 1. H / 1.		Z	29.7 29.7	17.1 17.1	-13.8 -13.8	33.0	*44.7	E04	1 0
3493.U					l .		33.0	*44.7		1.8
			range was sc							
			elow the specif Measurements				or exceed the	specified III/III	iS.	
	-110156	1 1001	ivicasulellielli	o ( IVIII III III III ) c	System Sens	itivity)				

Test Metho	d:	FCC	Part 15 Subpa	ırt C, Radiate	d Emissions,	Harmonics E	missions.					
Customer:			h Security Sys				No. R-119	965-4				
Test Sampl	e:		N Key Fob			•	<u>.</u>					
Model No.:			·BKF1-H5Y			FC	C ID: T3XB	KF1-H5Y				
Operating N	/lode:	Cont	inuously transr	nitting a 915.	5 MHz signal	The state of the s	•					
Technician			oodoo	<u> </u>	<u> </u>		<b>Date:</b> October 23, 2007.					
Notes:		ance:	3 Meters			Duty Cvc	le: 20.5%	,				
			age, unless oth	erwise speci	fied		le Correction	: -13.8dB				
				•		Duty cycle			^	_		
Test Freq.	Test Freq. Anteni Pol./He		EUT Orientation	Average Reading	Correction Factor	Correction Factor	Corrected Reading	Converted Reading		/g. nit		
MHz	(V/H	)-	X/Y/Z	dΒμV	dB	dB	dBµV/m	uV/m	u۷	'/m		
6408.5	V / 1	.0	X	31.6	19.9	-13.8	37.7	*76.7	501	1.8		
	V / 1	.0	Y	31.6	19.9	-13.8	37.7	*76.7				
	V / 1	.0	Z	31.6	19.9	-13.8	37.7	*76.7				
	H/1	.0	X	32.2	19.9	-13.8	38.3	*82.2				
	H/1	.0	Y	32.2	19.9	-13.8	38.3	*82.2				
6408.5	H / 1	.0	Z	32.2	19.9	-13.8	38.3	*82.2	501	1.8		
7324.0	V / 1		Х	31.9	21.3	-13.8	39.4	*93.3	50	0.0		
<u> </u>	V / 1		Y	31.9	21.3	-13.8	39.4	*93.3				
<u> </u>	V / 1		Z	31.9	21.3	-13.8	39.4	*93.3				
<u> </u>	H/1		X	31.9	21.3	-13.8	39.4	*93.3				
	H/1		Y	31.9	21.3	-13.8	39.4	*93.3				
7324.0	H/1	.0	Z	31.9	21.3	-13.8	39.4	*93.3	50	0.0		
8239.5	V / 1	.0	Х	33.2	23.6	-13.8	43.0	*141.3	50	0.0		
	V / 1		Y	33.2	23.6	-13.8	43.0	*141.3		<u> </u>		
i	V / 1	.0	Z	33.2	23.6	-13.8	43.0	*141.3				
İ	H/1	.0	Х	32.8	23.6	-13.8	42.6	*134.9				
	H/1	.0	Y	32.8	23.6	-13.8	42.6	*134.9				
8239.5	H/1	.0	Z	32.8	23.6	-13.8	42.6	*134.9	50	0.0		
9155.0	V / 1	0	X	33.1	25.5	-13.8	44.8	*173.8	50	0.0		
9133.0	V / 1		Y	33.1	25.5	-13.8	44.8	*173.8	30	0.0 I		
<u> </u>	V / 1		Z	33.1	25.5	-13.8	44.8	*173.8		<u> </u> 		
l	H/1		X	33.2	25.5	-13.8	44.9	*175.8		l 		
	H/1		Y	33.2	25.5	-13.8	44.9	*175.8		<u>                                     </u>		
9155.0	H/1		Z	33.2	25.5	-13.8	44.9	*175.8	50	0.0		
3100.0	117 1	.0	2	00.2	20.0	10.0	77.5	170.0	- 00	0.0		
	The free	uenc	range was sc	anned from 3	0 MHz to 10.0	0 GHz. All em	issions not re	ecorded were	more			
			elow the specif									
			Measurements									
	. 10.00				_,	···• <b>·</b> J/						

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

Test Method: FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.									
Customer:		Bosch S	Security System	•		Job No.	R-11965-4		
Test Samp	le:	wLSN K	ey Fob			_			
Model No.:		ISW-BK	F1-H5Y			FCC ID:	T3XBKF1-H5Y		
Operating	Mode:	Continu	ously transmittir	ng a 918.4 MH	z signal.				
Technician	):	R. Sood	loo			Date:	October 23, 200	7.	
Notes:	Test Dis	tance: 3 N	/leters						
	Detector	: Peak, U	nless otherwise	specified					
Tool From	Ante	enna	EUT	Meter	Correction	Corrected	Converted	Pe	ak
Test Freq.	Pol./H	Height	Orientation	Reading	Factor	Reading	Reading	Lir	mit
MHz	(V/H)/	Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	u∨	//m
1836.8	V /	1.2	X	60.8	2.3	63.1	1428.9	501	18.0
	V /	1.0	Υ	58.0	2.3	60.3	1035.1		
	_	2.2	Z	60.0	2.3	62.3	1303.2		
		1.5	X	59.0	2.3	61.3	1161.4		
		1.0	Υ	61.7	2.3	64.0	1584.9		
1836.8	H/	1.0	Z	55.3	2.3	57.6	758.6	501	18.0
2755.2	_	1.0	X	52.6	5.2	57.8	776.2	500	0.00
<u> </u>	_	1.3	Y	51.4	5.2	56.6	676.1		
<u> </u>	_	1.3	Z	53.9	5.2	59.1	901.6		<u> </u>
	_	1.4	X	48.5	5.2	53.7	484.2		
2755.2		1.5	Y	53.6	5.2	58.8	871.0	500	
2755.2	H /	2.0	Z	50.0	5.2	55.2	575.4	500	0.00
3673.6	\/ /	1.1	Х	47.7	10.0	57.7	767.4	500	0.00
3073.0		1.9	Y	47.7	10.0	57.7	767.4	500	)U.U I
<u> </u>		1.0	Z	48.2	10.0	58.2	812.8		l
		2.2	X	46.8	10.0	56.8	691.8		l
	_	1.0	Y	48.7	10.0	58.7	861.0		l 
3673.6		2.0	Z	48.7	10.0	58.7	861.0	500	0.0
	1.,			10.7	10.0	00	00110		70.0
4592.0	V /	1.0	Х	46.5	13.6	60.1	1011.6	500	0.00
		1.8	Y	46.1	13.6	59.7	966.1		
İ		2.2	Z	47.3	13.6	60.9	1109.2		
<u> </u>	H/	2.0	X	46.1	13.6	59.7	966.1		
	H/	1.9	Y	46.5	13.6	60.1	1011.6		
4592.0	H/	1.0	Z	45.9	13.6	59.5	944.1	500	0.0
5510.4		1.0	X	41.0	17.1	58.1	*803.5	501	18.0
		1.0	Y	41.0	17.1	58.1	*803.5		<u>                                     </u>
		1.0	Z	41.0	17.1	58.1	*803.5		<u> </u>
	+	1.0	X	41.0	17.1	58.1	*803.5		<u> </u>
EE10.4		1.0	Y	41.0	17.1	58.1	*803.5	501	10.0
5510.4		1.0	Z	41.0	17.1	58.1	*803.5		18.0
							not recorded we		е
			the specified li			uo not excee	ed the specified lin	nits.	
	= 110186		casurements (II	iii iii ii ii ii ii SeilSi	uvity).				

Test Method: FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.																	
Customer:		Bosch S	Security System			Job No.	R-11965-4										
Test Sampl	e:	wLSN K	Cey Fob														
Model No.:		ISW-BK	F1-H5Y			FCC ID:	T3XBKF1-H5Y										
Operating I	Mode:	Continu	ously transmittir	ng a 918.4 MH	lz signal.												
Technician		R. Sood	•			Date:	October 23, 200	7.									
Notes:		tance: 3 N	Meters				,										
			nless otherwise	specified													
T . F		enna	EUT	Meter	Correction	Corrected	Converted	Peak									
Test Freq.	Pol./H	Height	Orientation	Reading	Factor	Reading	Reading	Limit									
MHz	(V/H)-	Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	uV/m									
6428.8	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										
		1.0	X	41.3	19.9	61.2	*1148.2										
		1.0	Y	41.3	19.9	61.2	*1148.2										
6428.8	H /	1.0	Z	41.3	19.9	61.2	*1148.2	50118.0									
7247.0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1.0	X	42.0	21.3	64.2	*4.0.40.0	5000.0									
7347.2		1.0	Y	43.0 43.0	21.3	64.3 64.3	*1640.6 *1640.6	5000.0									
		1.0	Z	43.0	21.3	64.3	*1640.6	<u> </u>									
		1.0	X	43.0	21.3	64.3	*1640.6										
		1.0	Y	43.0	21.3	64.3	*1640.6										
7347.2		1.0	Z	43.0	21.3	64.3	*1640.6	5000.0									
8265.6	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										
1	V /	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										
8265.6	H/	1.0	Z	42.7	23.6	63.6	*2065.4	5000.0									
0194.0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1.0	V	42.1	25.5	67.6	*2398.8	5000 O									
9184.0		1.0	X	42.1	25.5	67.6	*2398.8	5000.0									
		1.0	Z	42.1	25.5	67.6	*2398.8										
		1.0	X	42.0	25.5	67.5	*2371.4										
		1.0	Y	42.0	25.5	67.5	*2371.4										
9184.0		1.0	Z	42.0	25.5	67.5	*2371.4	5000.0									
0.0.0	,		_			0.10		0000.0									
	T					<u> </u>											
							not recorded we										
						do not excee	ed the specified lin	nits.									
	=INOISE	FIOOLINE	easurements ( IV	ıınım syste	ın sensitivity)			*=Noise Floor Measurements ( Minimum system sensitivity)									

Test Method	d:	FCC	Part 15 Subpa	rt C, Radiat	ed Emissions	, Harmonics E	missions.				
Customer:		Boso	h Security Sys	tem.		Jo	<b>b No.</b> R-119	965-4			
Test Sample	e:		N Key Fob			l.	<u>'</u>				
Model No.:	-		BKF1-H5Y			FC	C ID: T3XB	KF1-H5Y			
Operating N	lode:		inuously transr	mitting a 918	8.4 MHz signa	- I	70 121   10/12				
Technician:			oodoo				<b>Date:</b> October 23, 2007.				
Notes:	· ·		ce: 3 Meters Duty Cycle: 20.5%								
110100.			age, unless oth	erwise spec	cified	Duty Cy	cle Correction	: -13.8dB			
	Anten	na	EUT	Average	Correction	Duty cycle	Corrected	Converted	A۱	/a	
Test Freq.	Pol./He		Orientation	Reading	Factor	Correction Factor	Reading	Reading		nit	
MHz	(V/H)-		X/Y/Z	dΒμV	dB	dB	dBµV/m	UV/m	uV	//m	
1836.8	V / 1.2		Х	61.0	2.3	-13.8	49.5	298.5	501	1.8	
	V / 1.		Y	56.8	2.3	-13.8	45.3	184.1			
	V / 2.	2	Z	59.5	2.3	-13.8	48.0	251.2			
İ	H/1.	5	Х	57.5	2.3	-13.8	46.0	199.5			
i	H/1.	0	Υ	61.1	2.3	-13.8	49.6	302.0			
1836.8	H / 1.	0	Z	54.5	2.3	-13.8	43.0	141.3	501	1.8	
2755.2	V / 1.	Λ	X	49.9	5.2	-13.8	41.3	116.1	50	0.0	
1	V / 1.		Y	48.1	5.2	-13.8	39.5	94.4	50	U.U I	
1	V / 1.		Z	52.1	5.2	-13.8	43.5	149.6		<u> </u>	
1	H / 1.		X	43.4	5.2	-13.8	34.8	55.0		<u> </u> 	
<u> </u>	H / 1.		Y	51.0	5.2	-13.8	42.4	131.8		<u>                                       </u>	
2755.2	H/2.		Z	46.8	5.2	-13.8	38.2	81.3	50	0.0	
2100.2	117 2.		2	40.0	J.2	10.0	30.2	01.5	30	0.0	
3673.6	V / 1.		Χ	42.4	10.0	-13.8	38.6	85.1	50	0.0	
	V / 1.		Y	38.6	10.0	-13.8	34.8	55.0			
	V / 1.		Z	43.7	10.0	-13.8	39.9	98.9			
	H / 2.		X	39.3	10.0	-13.8	35.5	59.6			
	H / 1.		Y	44.4	10.0	-13.8	40.6	107.2			
3673.6	H / 2.	0	Z	45.2	10.0	-13.8	41.4	117.5	50	0.0	
4592.0	V / 1.	0	X	37.3	13.6	-13.8	37.1	71.6	50	0.0	
	V / 1.		Y	37.7	13.6	-13.8	37.5	75.0		<u> </u>	
i	V / 2.		Z	39.9	13.6	-13.8	39.7	96.6		<u> </u>	
i	H / 2.		X	36.4	13.6	-13.8	36.2	64.6			
i	H / 1.		Y	38.8	13.6	-13.8	38.6	85.1		<u> </u>	
4592.0	H / 1.	0	Z	35.9	13.6	-13.8	35.7	61.0	50	0.0	
5510.4	V / 1.	0	V	20.7	17.1	-13.8	22.0	*44.7	E01	1.8	
1	V / 1. V / 1.		X Y	29.7 29.7	17.1 17.1	-13.8	33.0 33.0	*44.7 *44.7	501	1.0 I	
1	V / 1.		Z	29.7	17.1	-13.8	33.0	*44.7		<u> </u>	
l	H / 1.		X	29.7	17.1	-13.8	33.0	*44.7		l I	
1	H / 1.		Y	29.7	17.1	-13.8	33.0	*44.7		<u> </u>	
5510.4	H / 1.		Z	29.7	17.1	-13.8	33.0	*44.7	501	1.8	
5510.4								ecorded were n		1.0	
								specified limits			
			Measurement				or cyceen file	specified littles	,.		
	-140136	. 1001	- IVIOUGUI GITIGITE	o , wiii iii iii iiii	Cycloni Gens	icivity/					

<b>Test Metho</b>	d:	FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.									
<b>Customer:</b>		Boso	h Security Sys	tem.		Jok	<b>No.</b> R-119	65-4			
Test Sampl	e:	wLSI	N Key Fob								
Model No.:		ISW-	·BKF1-H5Y			FC	C ID: T3XB	KF1-H5Y			
Operating I	Mode:	Cont	inuously transr	mitting a 918.	4 MHz signal.		•				
Technician		R. So	oodoo				Date: Octob	er 23, 2007.			
Notes:	Test Dist	ance:	3 Meters			Duty Cyc	le: 20.5%				
	Detector	: Avera	age, unless oth	nerwise speci	fied	Duty Cyc	le Correction:	-13.8dB			
	Anten	no	EUT	Average	Correction	Duty cycle	Corrected	Converted	Λνα		
Test Freq.	Pol./He		Orientation	Reading	Factor	Correction Factor	Reading	Reading	Avg. Limit		
MHz	(V/H	)-	X/Y/Z	dΒμV	dB	dB	dBµV/m	uV/m	uV/m		
6428.8	V / 1	.0	X	31.6	19.9	-13.8	37.7	*76.7	5011.8		
	V / 1	.0	Y	31.6	19.9	-13.8	37.7	*76.7			
	V / 1		Z	31.6	19.9	-13.8	37.7	*76.7			
	H/1		X	32.2	19.9	-13.8	38.3	*82.2			
	H/1		Υ	32.2	19.9	-13.8	38.3	*82.2			
6428.8	H/1	.0	Z	32.2	19.9	-13.8	38.3	*82.2	5011.8		
70.47.0	24.44			04.0	04.0	40.0	00.4	*00.0	500.0		
7347.2	V / 1		X	31.9	21.3	-13.8	39.4	*93.3	500.0		
	V / 1 V / 1		Z	31.9 31.9	21.3 21.3	-13.8 -13.8	39.4 39.4	*93.3 *93.3			
1	H/1		X	31.9	21.3	-13.8	39.4	*93.3	<u> </u>		
1	H/1		Y	31.9	21.3	-13.8	39.4	*93.3	 		
7347.2	H/1		Z	31.9	21.3	-13.8	39.4	*93.3	500.0		
7017.2	,			01.0	21.0		00.1	00.0	000.0		
8265.6	V / 1	.0	Х	33.2	23.6	-13.8	43.0	*141.3	500.0		
	V / 1		Y	33.2	23.6	-13.8	43.0	*141.3	1		
i	V / 1	.0	Z	33.2	23.6	-13.8	43.0	*141.3	İ		
i	H/1	.0	Х	32.8	23.6	-13.8	42.6	*134.9	ĺ		
	H/1	.0	Y	32.8	23.6	-13.8	42.6	*134.9			
8265.6	H/1	.0	Z	32.8	23.6	-13.8	42.6	*134.9	500.0		
9184.0	V / 1		Х	33.1	25.5	-13.8	44.8	*173.8	500.0		
	V / 1		Y	33.1	25.5	-13.8	44.8	*173.8			
	V / 1		Z	33.1	25.5	-13.8	44.8	*173.8			
	H/1		X	33.2	25.5	-13.8	44.9	*175.8			
9184.0	H/1 H/1		Y Z	33.2 33.2	25.5 25.5	-13.8 -13.8	44.9 44.9	*175.8 *175.8	500.0		
3104.U	H/1	.0		აა.∠	25.5	-10.0	44.9	170.0	500.0		
	The free	quency	range was sc	anned from 3	0 MHz to 10.0	GHz. All em	issions not re	corded were	more		
			elow the specif								
_		*=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 921.3 MHz

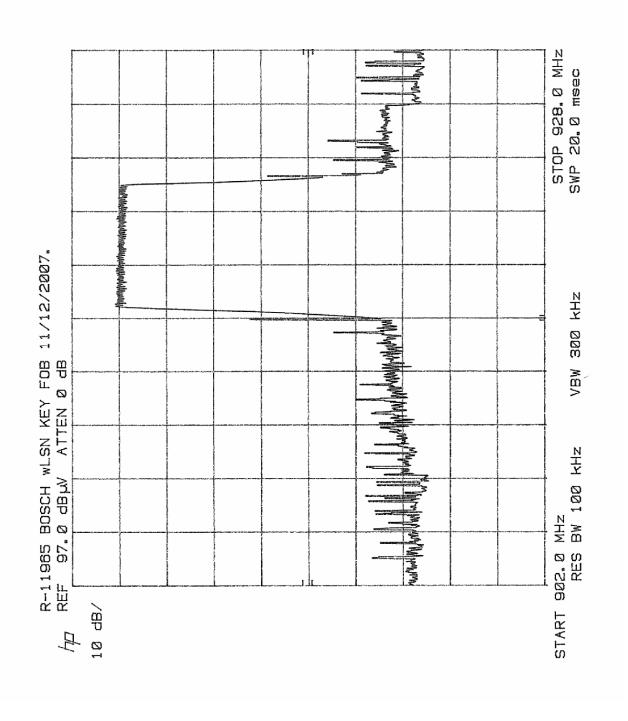
Test Metho	d:	FCC Pa	art 15 Subpart C	, Radiated Em	issions, Harmo	nics Emissio	ns.				
Customer:			Security System		,	Job No.	R-11965-4				
Test Sampl	e:	wLSN k			<b>'</b>	'					
Model No.:			(F1-H5Y			FCC ID:	T3XBKF1-H5Y				
Operating I	Mode:		ously transmittir	ng a 921.3 MH	z signal.						
Technician		R. Sood	· ·	.g a 021101111	2 orginan	Date:	October 23-24, 2	2007			
Notes:	Test Dist					Date.	O010001 20 24, 2	_007.			
140103.			nless otherwise	specified							
	Ante		EUT	Meter	Correction	Corrected	Converted	De	eak		
Test Freq.	Pol./H		Orientation	Reading	Factor	Reading	Reading		nit		
MHz	(V/H)/N		X/Y/Z	dBµV	dB	dBµV/m	uV/m		//m		
1842.6	V /		X	60.5	2.3	62.8	1380.4	+	18.0		
1042.0	V /		Y	58.8	2.3	61.1	1135.0	301	10.0 I		
	V /		Z	60.8	2.3	63.1	1428.9		<u>                                       </u>		
	H /		X	60.1	2.3	62.4	1318.3		 		
İ	H/		Y	61.8	2.3	64.1	1603.2		<u> </u>		
1842.6	H/		Z	56.1	2.3	58.4	831.8	501	18.0		
						20					
2763.9	V / 1.0		Х	51.8	5.2	57.0	707.9	500	0.0		
	V /	1.0	Y	50.8	5.2	56.0	631.0				
İ	V /	1.0	Z	53.0	5.2	58.2	812.8				
	H/	1.2	X	48.5	5.2	53.7	484.2				
	H/	1.7	Y	48.0	5.2	53.2	457.1				
2763.9	H /	1.9	Z	48.1	5.2	53.3	462.4	500	0.00		
3685.2	V /	2.2	X	E4 2	10.0	61.3	1161.4	F00	20.0		
3003.2	V /		Y	51.3 47.1	10.0	57.1	716.1	500	0.0		
	V /		Z	51.3	10.0	61.3	1161.4		 		
	H/		X	48.6	10.0	58.6	851.1		l I		
	H /		Y	51.3	10.0	61.3	1161.4		<u>                                       </u>		
3685.2	H/		Z	47.9	10.0	57.9	785.2	500	0.0		
4606.5	V /	1.0	Х	46.2	13.6	59.8	977.2	500	0.00		
	V /		Y	46.4	13.6	60.0	1000.0				
	V /		Z	46.6	13.6	60.2	1023.3				
	H/		X	46.1	13.6	59.7	966.1				
	H/		Y	46.3	13.6	59.9	988.6				
4606.5	H /	1.0	Z	46.6	13.6	60.2	1023.3	500	0.0		
5527.8	V /	1 0	X	41.0	17.1	58.1	*803.5	501	18.0		
1	V /		Y	41.0	17.1	58.1	*803.5	301	<u>، ن.ن</u> ا		
	V /		Z	41.0	17.1	58.1	*803.5		<u> </u>		
	H/		X	41.0	17.1	58.1	*803.5		<u> </u>		
İ	H/		Y	41.0	17.1	58.1	*803.5		 		
5527.8	H/		Z	41.0	17.1	58.1	*803.5	501	18.0		
	1						not recorded we				
							ed the specified lir				
							•				
		*= Noise Floor Measurements (minimum sensitivity).									

<b>Test Metho</b>	d:	FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.								
Customer:		Bosch S	Security System.	-		Job No.	R-11965-4			
Test Sampl	e:	wLSN K	(ey Fob		_					
Model No.:		ISW-BK	F1-H5Y			FCC ID:	T3XBKF1-H5Y			
Operating I	Mode:	Continu	ously transmittir	ng a 921.3 MH	lz signal.					
Technician		R. Sood	loo	October 23-24, 2	2007.					
Notes:	Test Dist	tance: 3 N	Meters		·					
	Detector	: Peak, ui	nless otherwise	specified						
Test Freq.		enna Height	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading	Converted Reading	Peak Limit		
MHz	(V/H)-	Meters	X/Y/Z	dΒμV	dB	dBµV/m	uV/m	uV/m		
6449.1	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			
1	V /	1.0	Z	42.2	19.9	62.1	*1273.5			
		1.0	X	41.3	19.9	61.2	*1148.2			
		1.0	Y	41.3	19.9	61.2	*1148.2			
6449.1	H /	1.0	Z	41.3	19.9	61.2	*1148.2	50118.0		
7370.4	\/ /	1.0	X	43.0	21.3	64.3	*1640.6	5000.0		
1370.4		1.0	Y	43.0	21.3	64.3	*1640.6	1		
		1.0	Z	43.0	21.3	64.3	*1640.6			
i		1.0	X	43.0	21.3	64.3	*1640.6			
i		1.0	Y	43.0	21.3	64.3	*1640.6			
7370.4		1.0	Z	43.0	21.3	64.3	*1640.6	5000.0		
8291.7		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	<del>                                     </del>		
<u> </u>		1.0	X	42.7	23.6	63.6	*2065.4	<del>                                     </del>		
2224 =		1.0	Y	42.7	23.6	63.6	*2065.4			
8291.7	H /	1.0	Z	42.7	23.6	63.6	*2065.4	5000.0		
9213.0	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			
		1.0	X	42.0	25.5	67.5	*2371.4			
		1.0	Y	42.0	25.5	67.5	*2371.4			
9213.0	H /	1.0	Z	42.0	25.5	67.5	*2371.4	5000.0		
								1		
								1		
						1				
								_		
	The free	nuency ra	nge was scanne	ed from 30 ME	lz to 10 0 GHz	All emissions	not recorded we	re more		
							ed the specified lir			
			easurements ( M			30 1101 07000	od and opcomed in			
<u> </u>					55.151.171.17					

Test Metho	od:	FCC	Part 15 Subpa	art C, Radiat	ed Emissions	, Harmonics E	missions.			
Customer		Boso	ch Security Sys	stem.		Jo	<b>b No.</b> R-119	965-4		
Test Samp	ole:	wLS	N Key Fob			1	1			
Model No.			-BKF1-H5Y			FC	C ID: T3XB	KF1-H5Y		
Operating		1	tinuously transr	mitting a 921	.3 MHz signa		70 121   10/12			
Technicia			oodoo		10 1111 12 OIGITA		Date: Octob	er 23-24, 200	 17	
Notes:			3 Meters			Duty Cy		7C1 ZO Z-+, ZOC	· · ·	
Notes.			age, unless oth	nerwise spec	rified		cle Correction:	· dB		
				•		Duty cycle				
Test Freq.	Anter		EUT	Average	Correction	Correction	Corrected	Converted		/g.
	Pol./He	eignt	Orientation	Reading	Factor	Factor	Reading	Reading	LII	mit
MHz	(V/H	l)-	X/Y/Z	dΒμV	dB	dB	dBµV/m	uV/m	u∨	//m
1842.6	V / 1	.0	Х	60.1	2.3	-13.8	48.6	269.2	501	1.8
	V / 1	.0	Υ	57.8	2.3	-13.8	46.3	206.5		
	V / 1		Z	59.6	2.3	-13.8	48.1	254.1		
	H / 1		X	58.4	2.3	-13.8	46.9	221.3		
	H/2		Y	60.7	2.3	-13.8	49.2	288.4		
1842.6	H / 1	.0	Z	54.8	2.3	-13.8	43.3	146.2	501	1.8
2762.0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			40.0	5.0	40.0	00.4	00.0	50	
2763.9	V / 1		X	48.0	5.2	-13.8	39.4	93.3	50	0.0
	V / 1 V / 1		Y Z	45.7	5.2	-13.8	37.1	71.6		<u> </u>
<u> </u>			X	50.6	5.2	-13.8	42.0	125.9		<u>                                     </u>
	H/1 H/1		Y	42.4	5.2	-13.8 -13.8	33.8	49.0		<u>                                       </u>
2763.9	H/1		Z	42.1	5.2 5.2	-13.8	33.5	47.3		
2103.3	11/1	.9		41.6	5.2	-13.6	33.0	44.7	50	0.0
3685.2	V / 2	2	Х	48.0	10.0	-13.8	44.2	162.2	50	0.0
	V/2	5	Y	41.3	10.0	-13.8	37.5	75.0		
i	V / 1	.0	Z	48.7	10.0	-13.8	44.9	175.8		
İ	H/1	.0	X	43.1	10.0	-13.8	39.3	92.3		ĺ
İ	H/2	5	Y	47.8	10.0	-13.8	44.0	158.5		
3685.2	H/1	.0	Z	42.6	10.0	-13.8	38.8	87.1	50	0.0
4606.5	V / 1		Х	34.5	13.6	-13.8	34.3	51.9	50	0.0
	V / 1		Y	37.4	13.6	-13.8	37.2	72.4		<u> </u>
	V / 1		Z	37.6	13.6	-13.8	37.4	74.1		<u> </u>
	H/2		X	36.1	13.6	-13.8	35.9	62.4		<u> </u>
4606 F	H/2		Y	37.8	13.6	-13.8	37.6	75.9		
4606.5	H / 1	.0	Z	35.1	13.6	-13.8	34.9	55.6	50	0.0
5527.8	V / 1	.0	X	29.7	17.1	-13.8	33.0	*44.7	501	1.8
	V / 1		Y	29.7	17.1	-13.8	33.0	*44.7	- 501	<u>.                                 </u>
	V / 1		Z	29.7	17.1	-13.8	33.0	*44.7		<u> </u>
	H / 1		X	29.7	17.1	-13.8	33.0	*44.7		
	H / 1		Y	29.7	17.1	-13.8	33.0	*44.7		<u> </u>
5527.8	H / 1		Z	29.7	17.1	-13.8	33.0	*44.7	501	1.8
			range was sc							
			elow the specif							
			Measurement					•		
			•	,	•	• /				

<b>Test Metho</b>	bd: FCC Part 15 Subpart C, Radiated Emissions, Harmonics Emissions.										
<b>Customer:</b>		Bosc	h Security Sys	tem.		Jol	No. R-119	65-4			
Test Sampl	e:	wLSI	N Key Fob				_				
Model No.:		ISW-	BKF1-H5Y			FC	C ID: T3XB	KF1-H5Y			
Operating N	Mode:	Cont	inuously transr	nitting a 921.	3 MHz signal						
Technician	:	R. So	oodoo			I	Date: Octob	er 23-24, 200	7.		
Notes:	Test Dista	ance:	3 Meters			Duty Cyc	le: %				
	Detector:	Avera	age, unless oth	erwise speci	fied	Duty Cyc	le Correction	: dB			
	Anteni	22	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	31.6	19.9	-13.8	37.7	*76.7	5011.8		
	V / 1. V / 1.		Z	31.6 31.6	19.9 19.9	-13.8 -13.8	37.7 37.7	*76.7 *76.7			
l I	H / 1.		X	32.2	19.9	-13.8	38.3	*82.2			
	H/1.		Y	32.2	19.9	-13.8	38.3	*82.2	<u> </u>		
6449.1	H / 1.		Z	32.2	19.9	-13.8	38.3	*82.2	5011.8		
0110.1	117 1.	0		02.2	10.0		00.0	02.2	0011.0		
7370.4	V / 1.	0	Х	31.9	21.3	-13.8	39.4	*93.3	500.0		
	V / 1.		Y	31.9	21.3	-13.8	39.4	*93.3	- 1		
İ	V / 1.	0	Z	31.9	21.3	-13.8	39.4	*93.3	İ		
	H/1.	0	Х	31.9	21.3	-13.8	39.4	*93.3			
	H/1.	0	Υ	31.9	21.3	-13.8	39.4	*93.3			
7370.4	H / 1.	0	Z	31.9	21.3	-13.8	39.4	*93.3	500.0		
8291.7	V / 1.		X	33.2	23.6	-13.8	43.0	*141.3	500.0		
	V / 1.		Y	33.2	23.6	-13.8	43.0	*141.3			
	V / 1.		Z X	33.2	23.6	-13.8	43.0	*141.3			
ı	H/1.		Y	32.8 32.8	23.6 23.6	-13.8 -13.8	42.6 42.6	*134.9 *134.9			
8291.7	H / 1. H / 1.		Z	32.8	23.6	-13.8	42.6	*134.9	500.0		
0291.7	11/1.	0		32.0	23.0	10.0	42.0	154.9	300.0		
9213.0	V / 1.	0	Х	33.1	25.5	-13.8	44.8	*173.8	500.0		
	V / 1.		Y	33.1	25.5	-13.8	44.8	*173.8			
	V / 1.		Z	33.1	25.5	-13.8	44.8	*173.8			
İ	H/1.	0	Х	33.2	25.5	-13.8	44.9	*175.8	i		
	H/1.	0	Y	33.2	25.5	-13.8	44.9	*175.8			
9213.0	H / 1.	0	Z	33.2	25.5	-13.8	44.9	*175.8	500.0		
	The				O.M.I. ( 40)	2011 4"					
			range was scale								
			elow the specif Measurements				or exceed the	specified limit	is.		
	=NOISE	1001	weasurements	s ( iviii iii ii i i i	system sensit	ivity <i>)</i>					

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:T3XBKF1-H5Y

Customer	Bos	sch Security Syster	n.
Test Sample	wL	SN Key Fob	
Model Number	ISV	V-BKF1-H5Y	
Date: 11-12-200	7.	Tech: R.S.	Sheet 1 of 1

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

Test Mo	ethod:		FCC P	art 15, Subpa	rt C, Spurio	us Case Rad	iated Em	issions, Para	graph 15.247	(d)	
Custon	ner:			Security Syste				Job No.:	<u> </u>	` '	
Test Sa	ample:			Key Fob							
Model				KF1-H5Y				FCC ID:	T3XBKF1-H	15V	
Operat		doi			:##:				TOXDIXI 1-I	131	
		ue.		uously Transm	litting on cha	nnei 00, a 91	5.5 MHZ 9	_	0.44100	0007	
Techni			R. Soo					Date:			
Notes:	Т	Test D	istance:	3 Meters			Ten	np:22.0°C	Humidity:87	.0%	
		Detect	tor: Peal	Κ							
		Ante	enna	EUT	Meter	Correction	Corr	ected	Converted	Pe	ak
Freque	ency	Pos	ition	Orientation	Readings	Factor	Rea	ading	Reading	Lir	nit
MHz	z ('	V/H) /	Meters	Degrees	dΒμV	dB	dB	μV/m	uV/m	u√	//m
		,			I						
30.00	0									426	58.0
										120	
<u> </u>											
i											
i											
İ											
İ											
*35.0	00	٧/	1.0	0.0	22.0	-3.0	19	9.0	8.9		
*110.	.0		1.0	0.0	20.3	-10.7	9	0.6	3.0		
*195.	.0		1.0	0.0	18.8	-7.7	11	1.1	3.6		
*205.	.0		1.0	0.0	18.6	-7.7	10	0.9	3.5		
*600.	.0	٧/	1.0	0.0	19.1	5.2	24	4.3	16.4		
*995.	.0	V /	1.0	0.0	17.7	10.7	28	8.4	26.3		
*1050	0.0	٧/	1.0	0.0	28.9	2.0	30	0.9	35.1		
*5000	0.0	V /	1.0	0.0	31.2	16.1	47	7.3	231.7		
*9950	0.0	٧/	1.0	0.0	21.4	17.0	38	8.4	83.2		
10000	0.0									426	58.0
				nge was scanned			li as ita				
				served from the E orded were more							
				20dB less than the				ified in naragraph	15 247(d)		
				e observed in the			ioy ao op <del>e</del> o	ou iii paragrapii	. J. Z + / (u).		
				not from the EUT.			m measure	ment system			
			ity(Noise F					-			

Page 1 of 3

Test Metho	d:	FCC P	art 15, Subpa	rt C, Spurio	us Case Rad	iated Em	issions, Parag	graph 15.247	(d)	
Customer:			Security Syste				Job No.:	R-11965-4	` '	
Test Sample	le:		Key Fob							
Model No.:			KF1-H5Y				FCC ID:	T3XBKF1-H	15Y	
Operating I	Mode.		uously Transm	itting on cha	nnol 20, a 019			TOXBILLIT	10 1	
Technician		R. Soo	•	illing on cha	illiei 30, a 9 id	3.4 IVII IZ S	Date:	October 23	2007	
Notes:			: 3 Meters			I en	np:22.0°C	Humidity:87	.0%	
	Detec	tor: Peal		1	1					
_		enna	EUT	Meter	Correction			Converted	Peal	
Frequency	Pos	sition	Orientation	Readings	Factor	Rea	ading	Reading	Limi	it
MHz	(V/H) /	Meters	Degrees	dΒμV	dB	dB	μV/m	uV/m	uV/r	n
30.00									42658	3.0
									<u> </u>	
<u> </u>										
<u> </u>										
*25.00	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4.0	0.0	00.0	2.0	4.0	2.0	0.0		
*35.00		1.0	0.0	22.0	-3.0		9.0	8.9		
*110.0 *195.0		1.0	0.0	20.3 18.8	-10.7 -7.7		.6 1.1	3.0		
*205.0		1.0	0.0	18.6	-7.7 -7.7		).9	3.6 3.5	+	
*600.0		1.0	0.0	19.1	5.2		1.3	16.4	+ +	
*995.0		1.0	0.0	17.7	10.7		3.4	26.3	+ +	
*1050.0		1.0	0.0	28.9	2.0		0.9	35.1	+ +	
*5000.0		1.0	0.0	31.2	16.1		7.3	231.7	+ +	
*9950.0		1.0	0.0	21.4	17.0		3.4	83.2	+ +	
	1 ,	1.0	0.0		17.0		,	00.2	<del>                                     </del>	
İ									<u> </u>	
									i	
i									<del>   </del>	
i									i	
			_						i	
									j	
10000.0									42658	3.0
	<u> </u>									
			nge was scanned			liit-				
			served from the E corded were more		•					
							fied in paragraph 1	15.247(d)		
			re observed in the			.c, ac opou	paragraph			
						m measurer	ment system			
	sensitiv	*This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity(Noise Floor)								

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Test Metho	od:	FCC P	art 15, Subpa	rt C, Spurio	us Case Rad	iated Em	issions, Paraç	graph 15.247	(d)	
Customer:	i I		Security Syste				Job No.:		`	
Test Samp	le:		Key Fob					1		
Model No.			KF1-H5Y				FCC ID:	T3XBKF1-H	15Y	
Operating			uously Transm	itting on cha	nnel 58, a 92°	1 3 MHz s		1		
Techniciar		R. Soo		ittirig ori oria	111101 00, 4 02	1.0 1011 12	Date:	October 23	2007	
Notes:			: 3 Meters			Ton	np:22.0°C	Humidity:87		
NOIES.						ren	ιρ.22.0 C	Humaity.67	.0%	
	1	tor: Pea	•	T						
		enna	EUT	Meter	Correction			Converted	Pea	
Frequency		sition	Orientation	Readings	Factor		ading	Reading	Limi	
MHz	(V/H) /	Meters	Degrees	dΒμV	dB	dB <sub>l</sub>	μV/m	uV/m	uV/r	m
00.00									40056	2.0
30.00									42658	3.0
									+ +	
1										
<u> </u> 									+ +	
<u> </u> 										
<del>-                                    </del>										
*35.00	V	1.0	0.0	22.0	-3.0	19	9.0	8.9		
*110.0		1.0	0.0	20.3	-10.7		.6	3.0		
*195.0		1.0	0.0	18.8	-7.7		1.1	3.6	T i	
*205.0		1.0	0.0	18.6	-7.7		0.9	3.5	i	
*600.0		1.0	0.0	19.1	5.2		1.3	16.4	i	
*995.0	V	1.0	0.0	17.7	10.7	28	3.4	26.3	İ	
*1050.0	V	′ 1.0	0.0	28.9	2.0	30	).9	35.1	İ	
*5000.0		1.0	0.0	31.2	16.1	47	7.3	231.7		
*9950.0	V /	1.0	0.0	21.4	17.0	38	3.4	83.2		
									+ +	
1									+ +	
10000.0									42658	2 0
10000.0									42000	∪.∪
									+	
	The fre	guency rai	l nge was scanned	rom 30 MHz to	<u>I</u> 10 GHz.		L			
			served from the E			limits.				
	Emissi	ons not red	corded were more	than 20dB und	er the specified li	mit.				
						cy as speci	fied in paragraph 1	15.247(d).		
			re observed in the			m mac	mant outter			
		mission is rity(Noise l	not from the EUT.	. ιτ is a measur	ernent of minimur	n measurer	nent system			
	ocnoill/	ity (Trouber I	1001)							

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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 Metho	d:	FCC P	art 15. Subpa	rt B. Class I	3. Radiated E	mission	s, 30 MHz to 5	.0 GHz. Para	:15.109(a)	
Customer:			Security Syste				Job No.	R-11965-4	.,	
Test Sampl	e:		Key Fob					11111111111		
Model No.:			KF1-H5Y				Serial No.:	N/A		
Operating I	Mode.			annel 00/ 91	5 5MHz) con	tinuously	receiving a CW	L		
Technician		R.Soo		311101 00 ( 0 1	0.01411 12), 0011	Intabably	Date:	October 23,	2007	
Notes:		l	: 3 Meters				Temp:22.0°C	Humidit		
Notes.			asi-Peak Belov	v 1 GHz, Ave	erage above 1	GHz	Temp.22.0 C	Hamilan	y.07.070	
	Ant	enna	EUT	Meter	Correction	Corre	ected	Converted	Limit	
Frequency	Pos	sition	Orientation	Readings	Factor	Rea	ading	Reading	LITTIL	
MHz	(V/H) /	Meters	Degrees	dBuV	dB	dB	uV/m	uV/m	uV/m	
30.0									100	
*25.00	17	110	0.0	20.0	2.0	4.0	) 0	0.0		
*35.00	V /	1.0	0.0	22.0	-3.0	19	9.0	8.9		
88.0									100	
88.0									150	
									İ	
*110.0		1.0	0.0	20.3	-10.7		.6	3.0		
*195.0		1.0	0.0	18.8	-7.7		1.1	3.6		
*205.0	V/	1.0	0.0	18.6	-7.7	10	).9	3.5	<u> </u>	
216.0									150	
216.0									200	
1									1	
*600.0	V /	1.0	0.0	19.1	5.2	24	1.3	16.4	İ	
960.0									200	
960.0									500	
*995.0	\/ /	1.0	0.0	17.7	10.7	28	3.4	26.3	1 1	
*1050.0		1.0	0.0	28.9	2.0		0.9	35.1		
*3000.0		1.0	0.0	31.5	7.1		3.6	85.1		
*4950.0		1.0	0.0	31.2	16.1		7.3	231.7	1 1	
5000.0	<u> </u>								500	
			range was so							
			s observed from							
			recorded were				ed limit. Imum measure	mont system		
			se Floor)	E EUI.IL IS	a measureme	אוונ טו ווווווו	mum measure	ment system		
	SCHOIL	ivity(INOI	30 1 1001 <i>)</i>							

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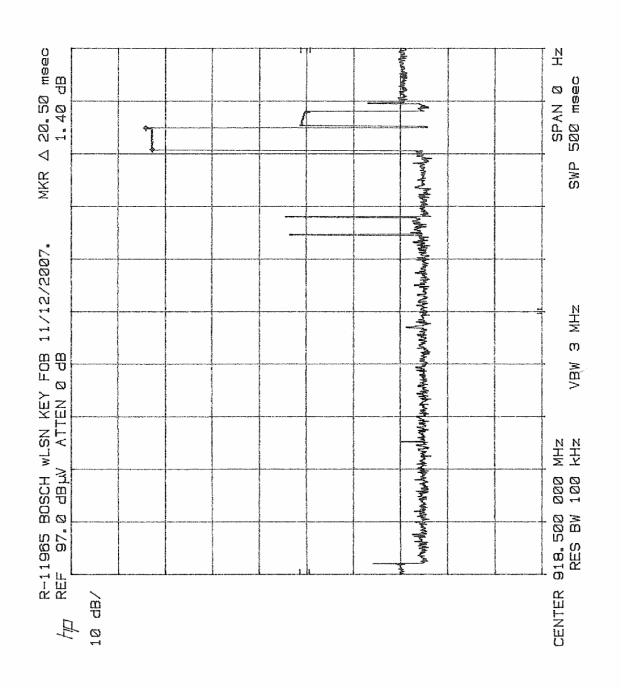
Test Metho	d:	FCC P	art 15, Subpa	rt B, Class I	3, Radiated E	mission	s, 30 MHz	to 5.0	0 GHz, Para:	15.109	(a)
Customer:		Bosch	Security Syste	m.			Job I	No.	R-11965-4		
Test Sampl	e:		Key Fob								
Model No.:			KF1-H5Y				Serial N	lo.:	N/A		
Operating I	Mode:		perating on cha	annel 30(918	3.5MHz), cont	inuously i			signal.		
Technician		R.Soo		21110100(010	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	inacacij i		ate:	October 23,	2007	
Notes:		l	: 3 Meters				Temp:22.0		Humidity		
Notes.			. 3 Meters asi-Peak Belov	ν 1 GHz Δνα	arage above 1	GH <sub>7</sub>	remp.zz.d	<i>J</i> C	Human	7.07.076	)
			ī	ı					No. 1	1	
Frequency	-	enna sition	EUT Orientation	Meter Readings	Correction Factor		ected ading		Converted Reading	Lin	nit
										<u> </u>	,
MHz	(V/H) /	Meters	Degrees	dΒμV	dB	aв	μV/m		uV/m	uV	/m
30.0										10	<u>.</u>
30.0										10	0
*35.00	V /	1.0	0.0	22.0	-3.0	19	9.0		8.9	1	
1	,		0.0		0.0	1,			0.0		
										T i	
88.0										10	0
88.0										15	0
*110.0		1.0	0.0	20.3	-10.7		.6		3.0		
*195.0		1.0	0.0	18.8	-7.7		1.1		3.6		
*205.0	V/	1.0	0.0	18.6	-7.7	10	0.9		3.5	<u> </u>	
<u> </u>										1 !	
046.0										45	
216.0										15	
216.0										20	iU .
										1	
*600.0	V/	1.0	0.0	19.1	5.2	24	4.3		16.4	1	
	• ,	1.0	0.0	1011	0.2						
İ										T i	
960.0										20	0
960.0										50	0
									<u> </u>		
*995.0		1.0	0.0	17.7	10.7		3.4		26.3		
*1050.0		1.0	0.0	28.9	2.0		0.9		35.1	1	
*3000.0		1.0	0.0	31.5	7.1		3.6		85.1	1	
*4950.0	V /	1.0	0.0	31.2	16.1	4	7.3		231.7	+!	
	1									+ - !	
5000.0										50	<u></u>
5000.0	The fr	AUTIENC!	l ⁄ range was sc	anned from	 30 MHz to 5 0	) GH <sub>7</sub>				1 50	U
			s observed fror				fied limits				
			recorded were								
			n is not from th					surer	ment system		
				<u> </u>		5		_ 3.01			
		ensitivity(Noise Floor)									

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Test Metho	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:		Bosch	Security Syste	m.			Job	No.	R-11965-4									
Test Sampl	e:		Key Fob				l		1									
Model No.:	<u>.                                    </u>		KF1-H5Y				Serial N	No.:	N/A									
Operating I	Mode:		perating on cha	annel 58(921	I.3MHz), cont	inuously i	l .		signal.									
Technician		R.Soo		21110100(02)	1.0.1.11	inacacij i		ate:	October 23,	2007								
Notes:		l	: 3 Meters				Temp:22.		Humidity		,							
Notes.			. 3 Meters asi-Peak Belov	v 1 GHz Ave	erage above 1	GHz	remp.zz.	0 0	Hullilait	y.07.0%	0							
			EUT	Meter	Correction		ected		Converted	<u> </u>								
Frequency	-	enna sition	Orientation	Readings	Factor		ected ading	(	Converted Reading	Lin	nit							
,											1							
MHz	(V/H) /	Meters	Degrees	dΒμV	dB	aв	μV/m		uV/m	uV	/m							
30.0										10	10							
										1								
*35.00	V/	1.0	0.0	22.0	-3.0	19	9.0		8.9	+ +								
	1 ,		0.0		3.0				0.0	1 1								
i										i								
88.0										10	0							
88.0										15	0							
										1								
*110.0		1.0	0.0	20.3	-10.7		0.6		3.0									
*195.0		1.0	0.0	18.8	-7.7		1.1		3.6	<u> </u>								
*205.0	V /	1.0	0.0	18.6	-7.7	10	0.9		3.5	<u> </u>								
										<u> </u>								
246.0										1 1	.0							
216.0 216.0										15 20								
Z 10.0										20	10							
<u> </u>																		
*600.0	V/	1.0	0.0	19.1	5.2	24	4.3		16.4	<del>                                     </del>								
	/		0.0		0					i								
i										i								
960.0										20	0							
960.0										50	0							
			_															
*995.0		1.0	0.0	17.7	10.7		8.4		26.3									
*1050.0		1.0	0.0	28.9	2.0		0.9		35.1	<u> </u>								
*3000.0		1.0	0.0	31.5	7.1		8.6		85.1	1 !								
*4950.0	V /	1.0	0.0	31.2	16.1	4	7.3		231.7	1 !								
<u> </u>	-																	
5000.0	<del>                                     </del>									50	10							
3000.0	The fr	edilenci	range was sc	anned from	1 30 MHz to 5 (	) GHz				1 30								
			s observed from				fied limits											
			recorded were															
			n is not from th					sure	ment system									
									<u> </u>									
	_		_			_	_	-	ensitivity(Noise Floor)									

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FCC Part 15.35, Duty Cycle Determination Test Data



Test Method: FCC Part 15.35, Duty Cycle Determination. Notes: Duty cycle = (20.5 mSec / 100) = 0.205 = 20.5%

 $= 20 \log 0.205 = -13.8 dB$ 

FCC ID:T3XBKF1-H5Y

Customer	Bos	sch Security Syster	n.
Test Sample	wL	SN Key Fob	
Model Number	ISV	V-BKF1-H5Y	
Date: 11-12-200	7.	Tech: R.S.	Sheet 1 of 1