



TESTING
CERT #803.01, 803.02, 803.05, 803.06

**ADDENDUM TO DOOR KING ACCESS CONTROL SYSTEMS
TEST REPORT FC09-202**

FOR THE

HANDHELD GARAGE DOOR TYPE RF TRANSMITTER 318 MHZ, 8069

FCC PART 15 SUBPART C SECTIONS 15.209 & 15.231 AND RSS-210 ISSUE 7

TESTING

DATE OF ISSUE: JANUARY 13, 2010

PREPARED FOR:

Door King Access Control Systems
120 Glasgow Avenue
Inglewood, CA 90301

P.O. No.: 77247
W.O. No.: 90209

PREPARED BY:

Mary Ellen Clayton
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Date of test: November 18-19, 2009 and
January 6-12, 2010

Report No.: FC09-202A

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ADMINISTRATIVE INFORMATION

DATE OF TEST: November 18-19, 2009
and January 6-12, 2010

DATE OF RECEIPT: November 18, 2009

REPRESENTATIVE: Patrick Kochie

MANUFACTURER:
Door King Access Control Systems
120 Glasgow Avenue
Inglewood, CA 90301

TEST LOCATION:
CKC Laboratories, Inc.
110 Olinda Place
Brea, CA 92823

TEST METHOD: ANSI C63.4 (2003), RSS-210 Issue 7 and RSS GEN Issue 2

PURPOSE OF TEST: To perform the testing of the Handheld Garage Door Type RF Transmitter 318 MHz, 8069 with the requirements for FCC Part 15 Subpart C Sections 15.209 & 15.231 and RSS-210 devices.

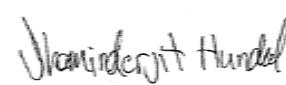
Addendum A: To add bandedge data and revise spurious emissions data with new testing.

APPROVALS

QUALITY ASSURANCE:

Steve Behm, Director of Engineering Services

TEST PERSONNEL:


Shamnderjit Hundal, Test Engineer

SUMMARY OF RESULTS

Test	Specification/Method	Results
Radiated Emissions	FCC Part 15.209	Pass
Bandedge	FCC Part 15.215	Pass
Release Time	FCC Part 15.231(a)(1)	Pass
RF Field Strength	FCC Part 15.231(b)	Pass
Field Strength of Spurious Radiation	FCC Part 15.231(b)	Pass
Occupied Bandwidth	FCC Part 15.231(c) RSS-210 Issue 7/RSS GEN Issue 2	Pass
Site File No.	FCC 100638 Canada 3082D-2	

CONDITIONS DURING TESTING

No modifications to the EUT were necessary during testing.

FCC 15.31(e) Voltage Variations

A fresh battery is installed and the emission profile of all three orthogonal orientations were investigated.

FCC 15.31(m) Number Of Channels

This device operates on a single channel.

FCC 15.33(a) Frequency Ranges Tested

15.209/15.231 Radiated Emissions: 9kHz - 3.2GHz

FCC 15.203 Antenna Requirements

The antenna is an integral part of the EUT and is non-removable; therefore the EUT complies with Section 15.203 of the FCC rules.

EUT Operating Frequency

The EUT was operating at 318 MHz.

Temperature And Humidity During Testing

The temperature during testing was within +15°C and + 35°C.

The relative humidity was between 20% and 75%.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The customer declares the EUT tested by CKC Laboratories was representative of a production unit.

EQUIPMENT UNDER TEST**Handheld Garage Door Type RF Transmitter 318 MHz**

Manuf: Door King Access Control Systems

Model: 8069

Serial: NA

PERIPHERAL DEVICES

The EUT was not tested with peripheral devices.

MEASUREMENT UNCERTAINTIES

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

The reported measurement uncertainties are calculated based on the worst case of all laboratory environments from CKC Laboratories, Inc. test sites. Only those parameters which require estimation of measurement uncertainty are reported. The reported worst case measurement uncertainty is less than the maximum values derived in CISPR 16-4-2. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k=2$. Compliance is deemed to occur provided measurements are below the specified limits.

REPORT OF EMISSIONS MEASUREMENTS

TESTING PARAMETERS

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in $\text{dB}\mu\text{V}/\text{m}$, the spectrum analyzer reading in $\text{dB}\mu\text{V}$ was corrected by using the following formula. This reading was then compared to the applicable specification limit.

SAMPLE CALCULATIONS	
Meter reading	(dB μ V)
+	Antenna Factor (dB)
+	Cable Loss (dB)
-	Distance Correction (dB)
-	Preamplifier Gain (dB)
=	Corrected Reading (dB μ V/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. The following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used. When conducted emissions testing was performed, a 10 dB external attenuator was used with internal offset correction in the analyzer.

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the highest readings, this is indicated as a "QP" or an "Ave" on the appropriate rows of the data sheets. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer/receiver readings recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the measuring device called "peak hold," the measuring device had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the quasi-peak detector.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer/receiver. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.

FCC 15.209 RADIATED EMISSIONS

Test Setup Photos



Test Data Sheets

Test Location: CKC Laboratories, Inc. • 110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer: **Door King Access Control Systems**
 Specification: **FCC 15.209**
 Work Order #: **90209** Date: 11/25/2009
 Test Type: **Maximized Emissions** Time: 09:15:30
 Equipment: **Handheld Garage Door Type RF** Sequence#: 1
Transmitter 318 MHz
 Manufacturer: Door King Access Control Systems
 Model: 8069
 S/N: NA
 Tested By: Shaminderjit Hundal

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	3001A18430	09/16/2008	09/16/2010	02472
Spectrum Analyzer	2928A04874	09/16/2008	09/16/2010	02462
QP Adapter	3303A01884	09/16/2008	09/16/2010	01437
Spectrum Analyzer	US44300438	07/23/2008	07/23/2010	02672
Cable #9 41ft to Antenna	Cable #9	01/09/2008	01/09/2010	P01911
Bilog Antenna	2629	01/21/2008	01/21/2010	00851
Antenna cable	Cable#17	09/22/2008	09/22/2010	P04382
Preamp to SA Cable (3 feet)	Cable #22	08/19/2008	08/19/2010	P05555
Pre-amp	2727A05392	04/29/2008	04/29/2010	00010
Horn Antenna 1-18GHz	9603-4683	06/06/2008	06/06/2010	01646
Microwave Pre-amp	3123A00282	06/04/2009	06/04/2011	00787
Antenna Cable	Hi Freq	10/13/2008	10/13/2010	P05563
Antenna cable	Cable#17	09/22/2008	09/22/2010	P04382
3'-40GHz cable	NA	09/14/2009	09/14/2011	P02946
Loop Antenna 6502	2014	06/16/2008	06/16/2010	00314

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Handheld Garage Door Type RF Transmitter 318 MHz*	Door King Access Control Systems	8069	NA

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

The handheld, single channel EUT is placed on the wooden table with Styrofoam surface of 5 cm thickness. The RF switch is not pressed.

Frequency range of measurement = 9kHz - 3.2GHz

Temperature - 24°C

Relative Humidity - 19%

Atmospheric Pressure - 101kPa

Transducer Legend:

T1=Cable #9 P01911 41ft RG214 010910	T2=Preamplifier ANP00010 042910
T3=ANT-AN00851 BILOG	T4=84' Heliax Cable P04382_#17
T5=Cable_P05555_SA to pre-amp	T6=-----
T7=Preamplifier AN00787	T8=Horn Ant AN01646 060610
T9=Hi-Freq_40GHz_3ft_AN02946_0911411.TRN	T10=84' Heliax Cable P04382
T11=48' Heliax Cable 101310 P05563	T12=-----
T13=ATT-AN00314	

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10	T11	T12					
			T13								
	MHz	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	999.000M	35.0	+3.6	-27.5	+24.3	+3.5	+0.0	39.6	54.0	-14.4	Horiz
			+0.7								Noise Floor Reading
2	987.500M	30.6	+3.6	-27.5	+24.1	+3.5	+0.0	35.0	54.0	-19.0	Vert
			+0.7								Noise Floor Reading
3	2506.680M	33.1	+0.0	+0.0	+0.0	+0.0	+0.0	31.2	54.0	-22.8	Vert
			+0.0	+0.0	-39.9	+28.2					Noise Floor Reading
4	100.000M	19.4	+1.0	-27.2	+9.9	+1.0	+0.0	19.4	43.5	-24.1	Horiz
			+0.2								Noise Floor Reading
5	500.000M	21.6	+2.4	-28.0	+18.0	+2.4	+0.0	21.6	46.0	-24.4	Horiz
			+0.4								Noise Floor Reading
6	499.985M	17.4	+2.4	-28.0	+18.0	+2.4	+0.0	12.6	46.0	-33.4	Vert
			+0.4								Noise Floor Reading
7	98.310M	23.1	+1.0	-27.2	+9.7	+1.0	+0.0	7.8	43.5	-35.7	Vert
			+0.2								Noise Floor Reading
8	2500.000M	17.2	+0.0	+0.0	+0.0	+0.0	+0.0	15.3	54.0	-38.7	Horiz
			+0.0	+0.0	-39.9	+28.2					Noise Floor Reading

FCC 15.215 BANDEDGE

Test Equipment

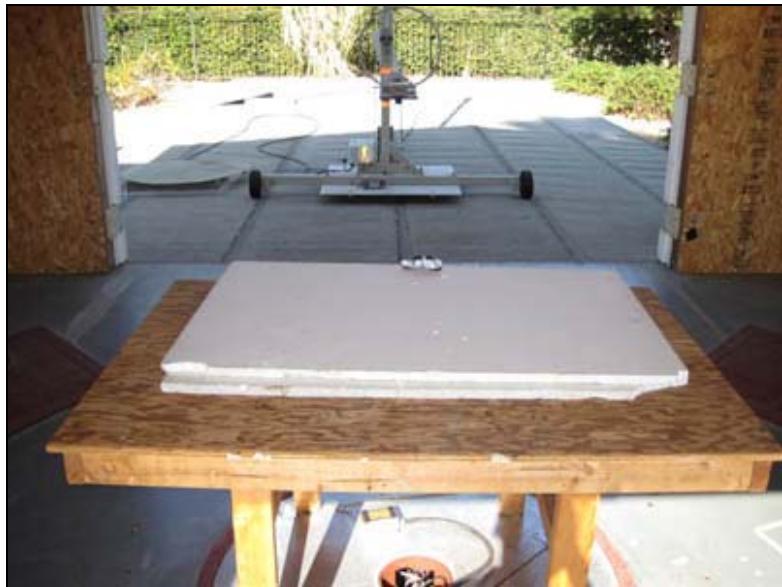
Asset	Name	Manufacturer	Model	Serial	Cal_Date	Cal_Due
02672	Spectrum Analyzer	Agilent	E4446A	US44300438	7/23/2008	7/23/2010
P01911	Cable	Pasternack	RG214/U	Cable #9	11/11/2009	11/11/2011
00851	Biconilog Antenna	Schaffner	CBL6111C	2629	1/21/2008	1/21/2010
P04382	Cable	andrew	LDF-50	00A1467847#17	9/22/2008	9/22/2010
00010	Preamp	HP	8447D	2727A05392	4/29/2008	4/29/2010
P05555	Cable	Pasternack	RG223/U	22	8/18/2008	8/18/2010

Test Conditions

The handheld, single channel EUT is placed on the wooden table with Styrofoam surface of 5 cm thickness. The RF switch is depressed, continuously transmitting. band edge compliance at 318 MHz plus & minus 0.798 MHz IAW 15.215

Test Setup Photos

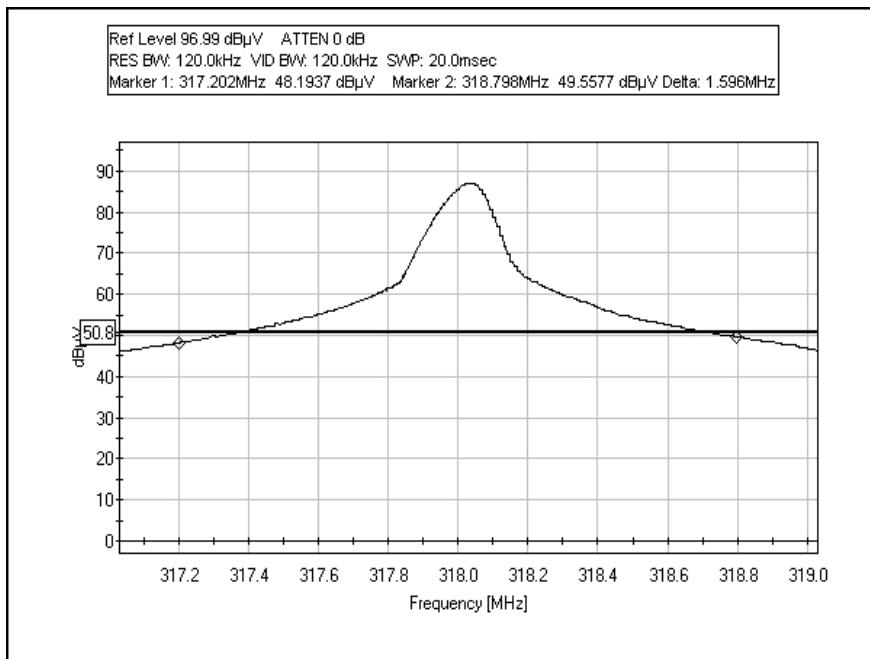








Test Plot



FCC 15.231(a)(1) RELEASE TIME

Test Equipment

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Oscilloscope	02847	Tektronix	TDS 520B	BO20532	3/17/2009	3/17/2011

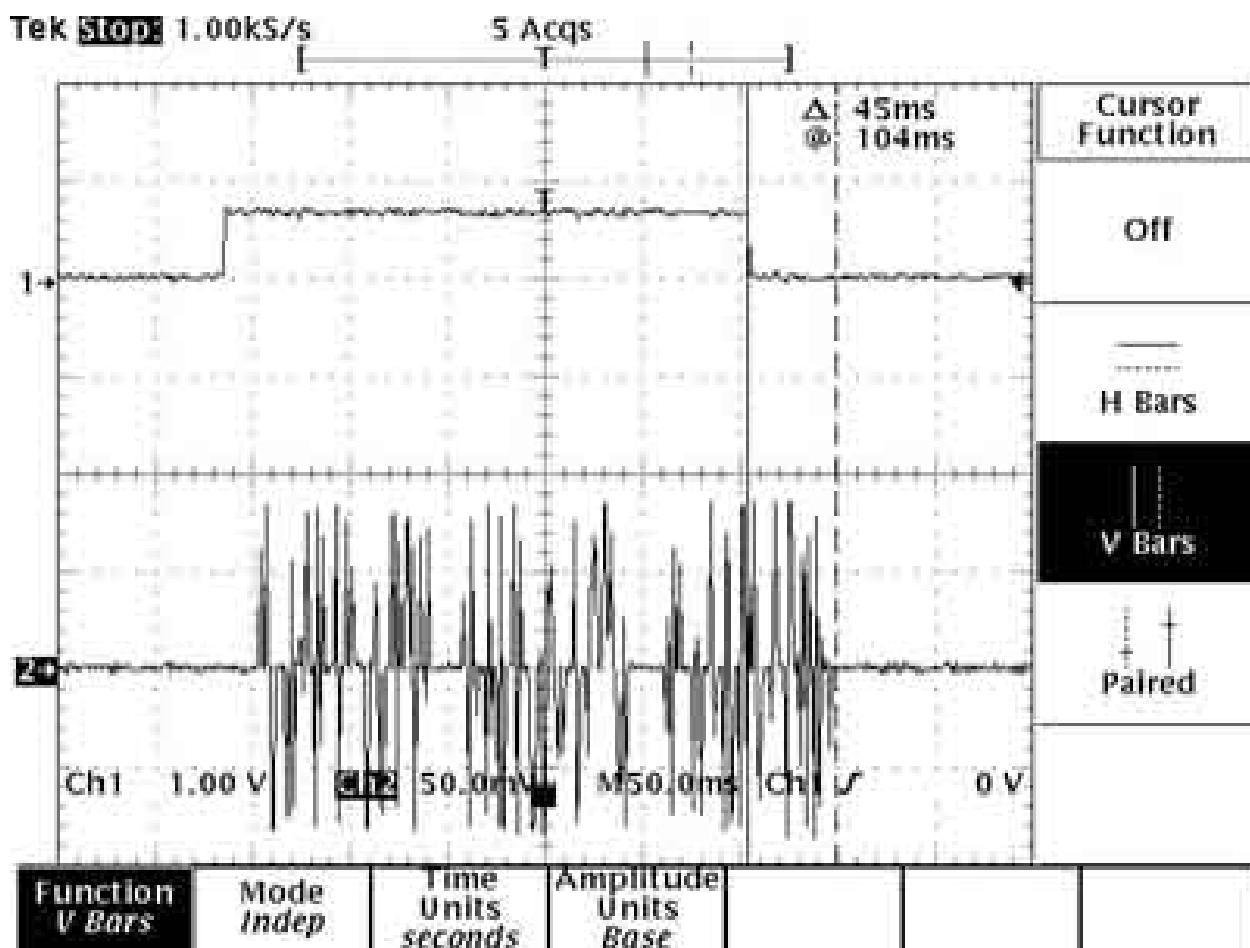
Test Conditions

The EUT is placed on the test bench, in close proximity. Ch1 of an Oscilloscope is connected to trigger lead of the RF switch. A RF receiving wire element is connected to the CH2. With the Oscilloscope set to Trigger on negative edge of the RF switch, a single sweep was captured with the RF switch of the EUT being released. The captured time between the RF switch being released and RF cessation of RF power is measured. Measured capture time = 45 msec, meets requirement.

Test Setup Photos



Test Data



FCC 15.231(b) RF FIELD STRENGTH

Test Setup Photos







Test Data Sheets

Test Location: CKC Laboratories, Inc. • 110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer: **Door King Access Control Systems**
 Specification: **FCC 15.231 (b) Field Strength of Fundamental**
 Work Order #: **90209** Date: **11/18/2009**
 Test Type: **Maximized Emissions** Time: **16:57:06**
 Equipment: **Handheld Garage Door Type RF Transmitter 318 MHz** Sequence#: **1**
 Manufacturer: Door King Access Control Systems
 Model: 8069
 S/N: NA
 Tested By: Shaminderjit Hundal

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	3001A18430	09/16/2008	09/16/2010	02472
Spectrum Analyzer	2928A04874	09/16/2008	09/16/2010	02462
QP Adapter	3303A01884	09/16/2008	09/16/2010	01437
Spectrum Analyzer	US44300438	07/23/2008	07/23/2010	02672
Cable #9 41ft to Antenna	Cable #9	01/09/2008	01/09/2010	P01911
Bilog Antenna	2629	01/21/2008	01/21/2010	00851
Antenna cable	Cable#17	09/22/2008	09/22/2010	P04382
Preamp to SA Cable (3 feet)	Cable #22	08/19/2008	08/19/2010	P05555
Pre-amp	2727A05392	04/29/2008	04/29/2010	00010

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Handheld Garage Door Type RF Transmitter 318 MHz*	Door King Access Control Systems	8069	NA

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The handheld, single channel EUT is placed on the wooden table with Styrofoam surface of 5 cm thickness. The RF switch is depressed, continuously transmitting.

Frequency = 318 MHz
 RBW=120 kHz, VBW=120 kHz

A fresh battery is installed and the emission profile of all three orthogonal orientations were investigated.

Temperature - 24°C
 Relative Humidity - 19%
 Atmospheric Pressure - 101kPa

Transducer Legend:

T1=Cable #9 P01911 41ft RG214 010910	T2=Preamplifier ANP00010 042910
T3=ANT-AN00851 BILOG	T4=84' Heliax Cable P04382_#17
T5=Cable_P05555_SA to pre-amp	

#	Freq MHz	Rdng dB μ V	Reading listed by margin.				Test Distance: 3 Meters				
			T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	318.072M	82.8	+1.8	-26.8	+13.6	+1.9	+0.0	73.6	75.0	-1.4	Horiz
	Ave		+0.3								Layed Down
^	318.072M	89.6	+1.8	-26.8	+13.6	+1.9	+0.0	80.4	75.0	+5.4	Horiz
			+0.3								Layed Down
3	318.062M	74.9	+1.8	-26.8	+13.6	+1.9	+0.0	65.7	75.0	-9.3	Vert
			+0.3								Standing up with side facing antenna

FCC 15.231(b) FIELD STRENGTH OF SPURIOUS RADIATION

Test Setup Photos







Test Data Sheets

Test Location: CKC Laboratories, Inc. • 110. N. Olinda Place. • Brea, CA 92821 • (714) 993-6112

Customer: **Door King Access Control Systems**
 Specification: **FCC 15.231/15.205**
 Work Order #: **90209** Date: 1/12/2010
 Test Type: **Maximized Emissions** Time: 16:05:23
 Equipment: **Handheld Garage Door Type RF** Sequence#: 2
Transmitter 318 MHz
 Manufacturer: Door King Access Control Systems
 Model: 8069
 S/N: NA
 Tested By: Shaminderjit Hundal

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Spectrum Analyzer	3001A18430	09/16/2008	09/16/2010	02472
Spectrum Analyzer	2928A04874	09/16/2008	09/16/2010	02462
QP Adapter	3303A01884	09/16/2008	09/16/2010	01437
Spectrum Analyzer	US44300438	07/23/2008	07/23/2010	02672
Cable #9 41ft to Antenna	Cable #9	01/09/2008	01/09/2010	P01911
Bilog Antenna	2629	01/21/2008	01/21/2010	00851
Antenna cable	Cable#17	09/22/2008	09/22/2010	P04382
Preamp to SA Cable (3 feet)	Cable #22	08/19/2008	08/19/2010	P05555
Pre-amp	2727A05392	04/29/2008	04/29/2010	00010
Horn Antenna 1-18GHz	9603-4683	06/06/2008	06/06/2010	01646
Microwave Pre-amp	3123A00282	06/04/2009	06/04/2011	00787
Antenna Cable	Hi Freq	10/13/2008	10/13/2010	P05563
Antenna cable	Cable#17	09/22/2008	09/22/2010	P04382
3'-40GHz cable	NA	09/14/2009	09/14/2011	P02946
Loop Antenna 6502	2014	06/16/2008	06/16/2010	00314

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Handheld Garage Door Type RF Transmitter 318 MHz*	Door King Access Control Systems	8069	NA

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

The handheld, single channel EUT is placed on the wooden table with Styrofoam surface of 5 cm thickness. The RF switch is depressed, continuously transmitting.

Frequency = 318 MHz

Frequency range of measurement = 9 kHz - 3.2 GHz.

Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz - 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz -3200 MHz RBW=1 MHz, VBW=1 MHz.

A fresh battery is installed and the emission profile of all three orthogonal orientations was investigated.

Temperature - 24°C

Humidity - 19%

Pressure - 101kPa

Transducer Legend:

T1=Cable #9 P01911 41ft RG214 010910	T2=Preamplifier ANP00010 042910
T3=ANT-AN00851 BILOG	T4=84' Heliax Cable P04382_#17
T5=Cable_P05555_SA to pre-amp	T6=Preamplifier AN00787
T7=Hi-Freq_40GHz_3ft_AN02946_0911411.TRN	T8=48' Heliax Cable 101310 P05563
T9=84' Heliax Cable P04382	T10=Horn Ant AN01646 060610
T11=ATT-AN00314	

Measurement Data:

#	Freq	Rdng	Reading listed by margin.				Test Distance: 3 Meters				
			T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8	Table	dB μ V/m	dB μ V/m	dB	Ant
#	MHz	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	636.063M	53.5	+2.7 +0.4	-28.1	+20.0	+2.7	+0.0	51.2	55.8	-4.6	Horiz
											Layed Down
2	1590.043M	55.1	+0.0 +0.0 +4.5	+0.0 -39.7 +25.5	+0.0 +0.5 +0.0	+0.0 +2.6	+0.0	48.5	54.0	-5.5	Vert
											On side LED facing antenna
3	636.107M	52.1	+2.7 +0.4	-28.1	+20.0	+2.7	+0.0	49.8	55.8	-6.0	Vert
											Standing up with side facing antenna
4	3180.280M	47.9	+0.0 +0.0 +6.8	+0.0 -40.0 +30.2	+0.0 +0.7 +0.0	+0.0 +3.8	+0.0	49.4	55.8	-6.4	Vert
Ave											On side LED facing antenna
^	3180.283M	55.3	+0.0 +0.0 +6.8	+0.0 -40.0 +30.2	+0.0 +0.7 +0.0	+0.0 +3.8	+0.0	56.8	55.8	+1.0	Vert
											On side LED facing antenna
6	1590.167M	53.7	+0.0 +0.0 +4.5	+0.0 -39.7 +25.5	+0.0 +0.5 +0.0	+0.0 +2.6	+0.0	47.1	54.0	-6.9	Horiz
Ave											Layed Down
^	1590.105M	64.2	+0.0 +0.0 +4.5	+0.0 -39.7 +25.5	+0.0 +0.5 +0.0	+0.0 +2.6	+0.0	57.6	54.0	+3.6	Horiz
											Layed Down

8	2862.218M	45.2	+0.0	+0.0	+0.0	+0.0	+0.0	45.7	54.0	-8.3	Vert
	Ave		+0.0	-39.9	+0.6	+3.6					Standing up with side facing antenna
			+6.5	+29.7	+0.0						
^	2862.210M	57.0	+0.0	+0.0	+0.0	+0.0	+0.0	57.5	54.0	+3.5	Vert
			+0.0	-39.9	+0.6	+3.6					Standing up with side facing antenna
			+6.5	+29.7	+0.0						
10	1272.150M	56.2	+0.0	+0.0	+0.0	+0.0	+0.0	47.3	55.8	-8.5	Vert
	Ave		+0.0	-40.2	+0.4	+2.2					Standing up with side facing antenna
			+4.0	+24.7	+0.0						
^	1272.183M	66.6	+0.0	+0.0	+0.0	+0.0	+0.0	57.7	55.8	+1.9	Vert
			+0.0	-40.2	+0.4	+2.2					Standing up with side facing antenna
			+4.0	+24.7	+0.0						
12	2544.257M	48.8	+0.0	+0.0	+0.0	+0.0	+0.0	47.3	55.8	-8.5	Horiz
	Ave		+0.0	-39.9	+0.6	+3.3					Layed Down
			+6.1	+28.4	+0.0						
^	2544.258M	64.8	+0.0	+0.0	+0.0	+0.0	+0.0	63.3	55.8	+7.5	Horiz
			+0.0	-39.9	+0.6	+3.3					Layed Down
			+6.1	+28.4	+0.0						
14	1908.010M	51.1	+0.0	+0.0	+0.0	+0.0	+0.0	46.7	55.8	-9.1	Horiz
	Ave		+0.0	-39.7	+0.5	+2.8					Layed Down
			+5.1	+26.9	+0.0						
^	1908.092M	59.5	+0.0	+0.0	+0.0	+0.0	+0.0	55.1	55.8	-0.7	Horiz
			+0.0	-39.7	+0.5	+2.8					Layed Down
			+5.1	+26.9	+0.0						
16	1908.010M	50.8	+0.0	+0.0	+0.0	+0.0	+0.0	46.4	55.8	-9.4	Vert
	Ave		+0.0	-39.7	+0.5	+2.8					On side LED facing antenna
			+5.1	+26.9	+0.0						
^	1908.083M	58.5	+0.0	+0.0	+0.0	+0.0	+0.0	54.1	55.8	-1.7	Vert
			+0.0	-39.7	+0.5	+2.8					On side LED facing antenna
			+5.1	+26.9	+0.0						
18	2226.090M	47.4	+0.0	+0.0	+0.0	+0.0	+0.0	44.4	54.0	-9.6	Vert
			+0.0	-39.8	+0.6	+3.0					On side LED facing antenna
			+5.5	+27.7	+0.0						
19	954.094M	45.9	+3.5	-27.6	+23.7	+3.4	+0.0	45.9	55.8	-9.9	Horiz
	Ave		+0.6	+0.0	+0.0	+0.0					Layed Down
			+0.0	+0.0	+0.0						
^	954.094M	61.1	+3.5	-27.6	+23.7	+3.4	+0.0	64.7	55.8	+8.9	Horiz
			+0.6	+0.0	+0.0	+0.0					Layed Down
			+0.0	+0.0	+0.0						
21	2544.267M	46.9	+0.0	+0.0	+0.0	+0.0	+0.0	45.4	55.8	-10.4	Vert
	Ave		+0.0	-39.9	+0.6	+3.3					Standing up with side facing antenna
			+6.1	+28.4	+0.0						
^	2544.267M	64.1	+0.0	+0.0	+0.0	+0.0	+0.0	62.6	55.8	+6.8	Vert
			+0.0	-39.9	+0.6	+3.3					Standing up with side facing antenna
			+6.1	+28.4	+0.0						
23	1272.040M	54.2	+0.0	+0.0	+0.0	+0.0	+0.0	45.3	55.8	-10.5	Horiz
	Ave		+0.0	-40.2	+0.4	+2.2					Layed Down
			+4.0	+24.7	+0.0						
^	1272.083M	63.8	+0.0	+0.0	+0.0	+0.0	+0.0	54.9	55.8	-0.9	Horiz
			+0.0	-40.2	+0.4	+2.2					Layed Down
			+4.0	+24.7	+0.0						

25	954.085M	43.8	+3.5	-27.6	+23.7	+3.4	+0.0	43.8	55.8	-12.0	Vert
	Ave		+0.6	+0.0	+0.0	+0.0					On side LED facing antenna
			+0.0	+0.0	+0.0						
^	954.087M	58.8	+3.5	-27.6	+23.7	+3.4	+0.0	62.4	55.8	+6.6	Vert
			+0.6								On side LED facing antenna
27	2226.184M	44.5	+0.0	+0.0	+0.0	+0.0	+0.0	41.5	54.0	-12.5	Horiz
	Ave		+0.0	-39.8	+0.6	+3.0					Standing up with side facing antenna
			+5.5	+27.7	+0.0						
^	2226.216M	53.9	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Horiz
			+0.0	-39.8	+0.6	+3.0					Standing up with side facing antenna
			+5.5	+27.7	+0.0						
29	3180.375M	41.8	+0.0	+0.0	+0.0	+0.0	+0.0	43.3	55.8	-12.5	Horiz
	Ave		+0.0	-40.0	+0.7	+3.8					Layed Down
			+6.8	+30.2							
^	3180.375M	57.8	+0.0	+0.0	+0.0	+0.0	+0.0	59.3	55.8	+3.5	Horiz
			+0.0	-40.0	+0.7	+3.8					Layed Down
			+6.8	+30.2							
31	2862.252M	37.8	+0.0	+0.0	+0.0	+0.0	+0.0	38.3	54.0	-15.7	Horiz
	Ave		+0.0	-39.9	+0.6	+3.6					Standing up with side facing antenna
			+6.5	+29.7	+0.0						
^	2862.280M	50.3	+0.0	+0.0	+0.0	+0.0	+0.0	50.8	54.0	-3.2	Horiz
			+0.0	-39.9	+0.6	+3.6					Standing up with side facing antenna
			+6.5	+29.7	+0.0						

FCC 15.231(c)/RSS-210 OCCUPIED BANDWIDTH

Test Equipment

Asset	Name	Manufacturer	Model	Serial	Cal Date	Cal Due
02672	Spectrum Analyzer	Agilent	E4446A	US44300438	7/23/2008	7/23/2010

Test Conditions

The EUT is placed on the test bench, in close proximity to the analyzer. The RF switch is depressed, continuously transmitting. Occupied Bandwidth -20dBc= 68.2kHz.

Test Setup Photos



Plots

