FCC PART 15, SUBPART B and C
TEST REPORT

for

DOOR CHIME BUTTON

MODELS: SW-ATT-DB-B, SW-ATT-DB-N, SW-ATT-DB-Z

Prepared for

NORTEK SECURITY & CONTROLS, LLC
1950 CAMINO VIDA ROBLE, SUITE 150
CARLSBAD, CALIFORNIA 92008

Prepared by: Kyle Fujimoto

KYLE FUJIMOTO

Approved by: James Ross

JAMES ROSS

COMPATIBLE ELECTRONICS INC.
114 OLINDA DRIVE
BREA, CALIFORNIA 92823
(714) 579-0500

DATE: MAY 24, 2016

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
PAGES	19	2	2	2	25	114	**164**

TABLE OF CONTENTS

LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Accreditations and Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagrams and Charts • Test Setup Diagrams • Antenna and Effective Gain Factors
E	Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Layout of the Semi-Anechoic Test Chamber

GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the federal government.

Device Tested:	Door Chime Button Models: SW-ATT-DB-B, SW-ATT-DB-N, SW-ATT-DB-Z S/N: N/A
Product Description:	The EUT is designed to integrate with the AT&T Digital Life security system. The EUT is used to ring the door chime and send a power-up message to the security system.
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	Nortek Security & Controls, LLC 1950 Camino Vida Roble, Suite 150 Carlsbad, California 92008
Test Dates:	May 19, 20, 21, 23, 25, 26, 27, and 28, 2016
Test Specifications:	Emissions requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247
Test Procedure:	ANSI C63.4, ANSI C63.10
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz - 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, section 15.207. Highest reading in relation to spec limit: 24.44 dBuV @ 0.290 MHz (*U = 2.86 dB)
2	Radiated RF Emissions, 10 kHz – 9300 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15 Subpart C, 15.205, 15.209 and 15.247 (d) Highest reading in relation to spec limit: 44.94 dBuV @ 2706.75 MHz (*U = 3.70 dB)
3	20 dB Bandwidth	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)(i)
4	Peak Power Output	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(2)
5	RF Conducted Antenna Test	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (d)
6	Carrier Frequency Separation	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)
7	Average Time of Occupancy	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)(i)
8	Peak Power Spectral Density from the International Radiator to the Antenna	This test was not performed because the EUT is a frequency hopper.

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Door Chime Button, Models: SW-ATT-DB-B, SW-ATT-DB-N, SW-ATT-DB-Z. The emissions measurements were performed according to the measurement procedure described in ANSI C63.4 and ANSI C63.10. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The emissions tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Nortek Security & Controls, LLC

Josh Hansen	Regulatory Engineer

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on May 18, 2016.

2.5 Disposition of the Test Sample

The test sample has not been returned to Nortek Security & Controls, LLC as of the date of this test report.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
N/A	Not Applicable
Tx	Transmit
Rx	Receive

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this emissions Test Report.

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules – Radio frequency devices (including digital devices) – Intentional Radiators
FCC Title 47, Part 15 Subpart B	FCC Rules – Radio frequency devices (including digital devices) – Unintentional Radiators
EN 50147-2: 1997	Anechoic chambers. Alternative test site suitability with respect to site attenuation
ANSI C63.4 2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10 2013	American National Standard for Testing Unlicensed Wireless Devices

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

The Door Chime Button, Models: SW-ATT-DB-B, SW-ATT-DB-N, SW-ATT-DB-Z (EUT) was setup in a tabletop configuration. The EUT was connected to a doorbell and a transformer. The EUT was checked in all three orthogonal axis. The EUT was continuously transmitting a data stream during transmitter tests and continuously receiving during receiver tests.

The different model numbers correspond to the different covers used for the EUT. The SW-ATT-DB-B is the bronze cover, the SW-ATT-DB-N is the nickel cover, and the SW-ATT-DB-Z is the zinc cover. All three covers were tested.

The X orientation is when the EUT is parallel to the ground. The Y orientation is when the EUT is perpendicular to the ground mounted vertically. The Z orientation is when the EUT is perpendicular to the ground mounted horizontally.

The input voltage was varied ±15%; the transmitting signal amplitude and frequency did not vary.

The final radiated as well as the conducted data for the EUT as was taken in the mode described above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Cable 1 This is a 1-meter, unshielded, round cable that connects the EUT to the doorbell. The cable is hardwired into both ends of the cable. This cable was not bundled.

Cable 2 This is a 1-meter, unshielded, round cable that connects the EUT to the transformer. The cable is hardwired into both ends of the cable. This cable was not bundled.

Cable 3 This is a 1-meter, unshielded, round cable that connects the transformer to the doorbell. The cable is hardwired into both ends of the cable. This cable was not bundled.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
DOOR CHIME BUTTON	NORTEK SECURITY & CONTROLS, LLC	SW-ATT-DB-B, SW-ATT-DB-N, SW-ATT-DB-Z	N/A	EF400146
DOORBELL	HEATHZENITH	WD-1BASE	NONE	N/A
TRANSFORMER	HEATHZENITH	EM57580	NONE	N/A

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT USED IN LAB D					
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A
EMI Receiver, 20 Hz – 26.5 GHz	Agilent Technologies	N9038A	MY51100115	April 3, 2015	1 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	September 3, 2015	1 Year
Preamplifier	Com-Power	PAM-118A	551024	May 12, 2016	1 Year
Loop Antenna	Com-Power	AL-130	17089	February 6, 2015	2 Year
Horn Antenna	Com-Power	AH-118	071175	February 26, 2016	2 Year
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	N/A	N/A
RF CONDUCTED EMISSIONS TEST EQUIPMENT					
LISN	Com-Power	LI-215A	191951	June 9, 2015	1 Year
Transient Limiter	Com-Power	252A910	N/A	October 14, 2015	1 Year

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for emissions test location.

6.2 EUT Mounting, Bonding and Grounding

For frequencies 1 GHz and below: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

For frequencies above 1 GHz: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 1.5 meters above the ground plane.

The EUT was not grounded.

7. CHARACTERISTICS OF THE TRANSMITTER

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 Channel Number and Frequencies

The FHSS uses 99 channels maximum and 50 channels minimum using a pseudo random technique. It uses GFSK modulation. The channels are separated by approximately 250 kHz.

Channel 1 = 902.25 MHz
Channel 2 = 902.50 MHz
Channel 3 = 902.75 MHz
Channel 4 = 903.00 MHz…

7.2 Antenna

The antenna is made up of an integrated PCB antenna which is located on the PCB.

8. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

8.1 RF Emissions

8.1.1 Conducted Emissions Test

The EMI Receiver was used as a measuring meter. A quasi-peak and/or average reading was taken only where indicated in the data sheets. A transient limiter was used for the protection of the EMI Receiver input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the EMI Receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI 63:4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by computer software. The final qualification data is located in Appendix E.

The EUT was tested at 120 VAC. The six highest emissions are listed in Table 1.0.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Section 15.207 for conducted emissions. Please see Appendix E for the data sheets.

8.1.2 Radiated Emissions Test

The EMI Receiver was used as the measuring meter. A built-in, internal preamplifier was used to increase the sensitivity of the instrument. The EMI Receiver was initially used with the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets. The effective measurement bandwidth used for the radiated emissions test was according to the frequency measured (200 Hz for 10 kHz to 150 kHz, 9 kHz for 150 kHz to 30 MHz, 120 kHz for 30 MHz to 1 GHz and 1 MHz for 1 GHz to 9.3 GHz).

The frequencies above 1 GHz were averaged by using duty cycle correction factor.

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.4, EN 50147-2 and CISPR 22. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

The EUT was tested at a 3-meter test distance. The six highest emissions are listed in Table 2.0.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Loop Antenna
150 kHz to 30 MHz	9 kHz	Loop Antenna
30 MHz to 1 GHz	120 kHz	CombiLog Antenna
1 GHz to 9.3 GHz	1 MHz	Horn Antenna

Test Results:

The EUT complies with the **Class B** limits of **CFR** Title 47, Part 15, Subpart B; and Subpart C sections 15.205, 15.209, and 15.247 (d) for radiated emissions.

8.1.3 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS
Door Chime Button
Models: SW-ATT-DB-B, SW-ATT-DB-N, SW-ATT-DB-Z

Frequency MHz	Average Corrected Reading* dBuV	Average Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.290 (BL)	24.44	50.17	-25.73
0.490 (BL)	20.47	46.25	-25.78
0.350 (BL)	23.37	49.20	-25.83
0.290 (WL)	20.75	50.44	-29.68
0.260 (BL)	21.55	51.43	-29.89
0.254 (WL)	21.48	51.42	-29.95

Table 2.0 RADIATED EMISSION RESULTS
Door Chime Button
Models: SW-ATT-DB-B, SW-ATT-DB-N, SW-ATT-DB-Z

Frequency MHz	EMI Reading (dBuV)	Specification Limit (dBuV)	Delta (Cor. Reading – Spec. Limit) dB)
2706.75 (H) (Y-Axis)	44.94 (Average)	53.98	-9.04
3660.92 (H) (Z-Axis)	43.72 (Average)	53.98	-10.26
2706.75 (V) (Y-Axis)	42.65 (Average)	53.98	-11.33
38.00 (H) (Y-Axis)	27.61 (Quasi-Peak)	40.00	-12.39
39.50 (H) (Y-Axis)	27.17 (Quasi-Peak)	40.00	-12.83
39.00 (H) (Y-Axis)	27.14 (Quasi-Peak)	40.00	-12.86

Notes:
* The complete emissions data is given in Appendix E of this report.
(BL) Black Lead
(WL) White Lead
(V) Vertical
(H) Horizontal

8.2 20 dB Bandwidth

The 20 dB Bandwidth was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the RF output of the EUT. The resolution bandwidth was ≥ 1 % of the bandwidth and the video bandwidth was ≥ RBW.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1)(i). The 20 dB bandwidth is less than the separation between channels. Please see the data sheets located in Appendix E.

8.3 Peak Output Power

The Peak Output Power was measured using the EMI Receiver. The peak output power was measured using a direct connection from the RF output of the EUT. The resolution bandwidth was greater than 20 dB bandwidth and the video bandwidth was ≥ RBW. The cable loss was also added back into the reading using the reference level offset.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (b)(2). The maximum peak output power is less than 250 mW. Please see the data sheets located in Appendix E.

8.4 RF Antenna Conducted Test

The RF antenna conducted test was performed using the EMI Receiver. The RF antenna conducted test measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 100 kHz, and the video bandwidth was 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF 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 desired power. Please see the radiated emission data sheets located in Appendix E.

8.5 RF Band Edges

The RF band edges were taken at the edges of the ISM spectrum (902 MHz when the EUT was on the low channel and 928 MHz when the EUT was on the high channel) using the EMI Receiver. The RBW was set to 100 kHz and the VBW was set to 300 kHz. Plots of the fundamental were taken to ensure the amplitude at the band edges were at least 20 dB down from the peak of the fundamental emission. The plots were taken in both frequency hopping mode and single channel mode.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power at the band edges at 902 MHz and 928 MHz meet the requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). Please see the data sheets located in Appendix E.

8.6 Carrier Frequency Separation

The Channel Hopping Separation Test was measured using the EMI Receiver. The EUT was operating in its normal operating mode. The resolution bandwidth was approximately 30% of the channel spacing, and the video bandwidth ≥ RBW. The frequency span was wide enough to include the peaks of two adjacent channels.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1). The Channel Hopping Separation is greater than the 20 dB bandwidth. Please see the data sheets located in Appendix E.

8.7 Number of Hopping Frequencies

The Number of Hopping Frequencies was measured using the EMI Receiver. The EUT was operating in its normal operating mode. The resolution bandwidth was set to approximately 30% of the channel spacing, and the video bandwidth was ≥ RBW. The frequency span was wide enough to include all of the peaks in the frequency band of operation.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1) and 15.247 (a)(1)(i). Please see the data sheets located in Appendix E.

8.8 Average Time of Occupancy Test

The Average Time of Occupancy Test was measured using the EMI Receiver. The EUT was operating in normal operating mode. The frequency span was taken to 0 Hz to determine the time for each transmission and the number of transmissions over a 20 second period. The RBW was set to be less than the channel spacing. The plots were done for both 99 and 50 hopping channels.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1)(i). Please see the data sheets located in Appendix E.

9. CONCLUSIONS

The Door Chime Button, Models: SW-ATT-DB-B, SW-ATT-DB-N, SW-ATT-DB-Z, as tested, meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP LAB CODES 200063-0, 200528-0, 200527-0

For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025. Please follow the link to the NIST/NVLAP site for each of our facilities' NVLAP certificate and scope of accreditation

NVLAP listing links

Agoura Division / **Brea Division** / **Silverado/Lake Forest Division**

.Quote from ISO-ILAC-IAF Communiqué on 17025:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."

ANSI listing CETCB

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA).
US/EU MRA list NIST MRA site

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA).
APEC MRA list NIST MRA site

We are also listed for IT products by the following country/agency:

VCCI Support member: Please visit http://www.vcci.jp/vcci_e/

FCC Listing, from FCC OET site
FCC test lab search https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm

Compatible Electronics IC listing can be found at:
http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.247 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Door Chime Button
Models: SW-ATT-DB-B, SW-ATT-DB-N, SW-ATT-DB-Z
S/N: N/A

There are no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

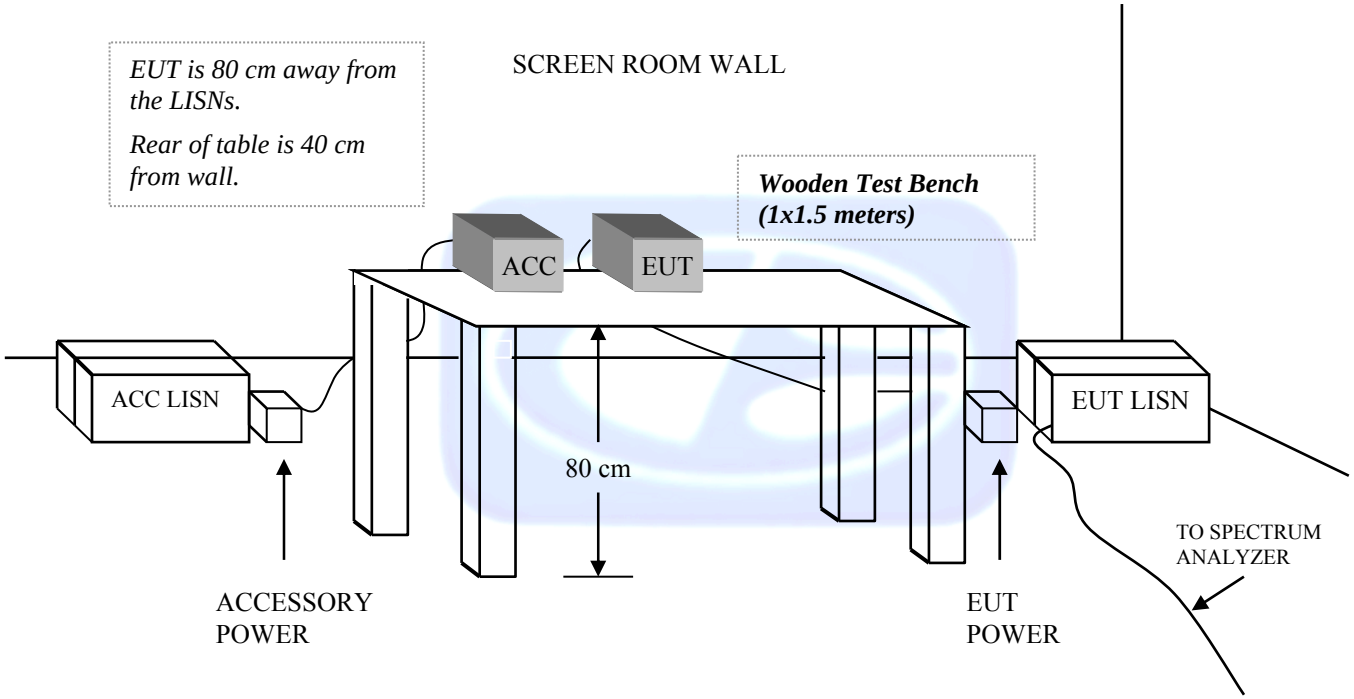
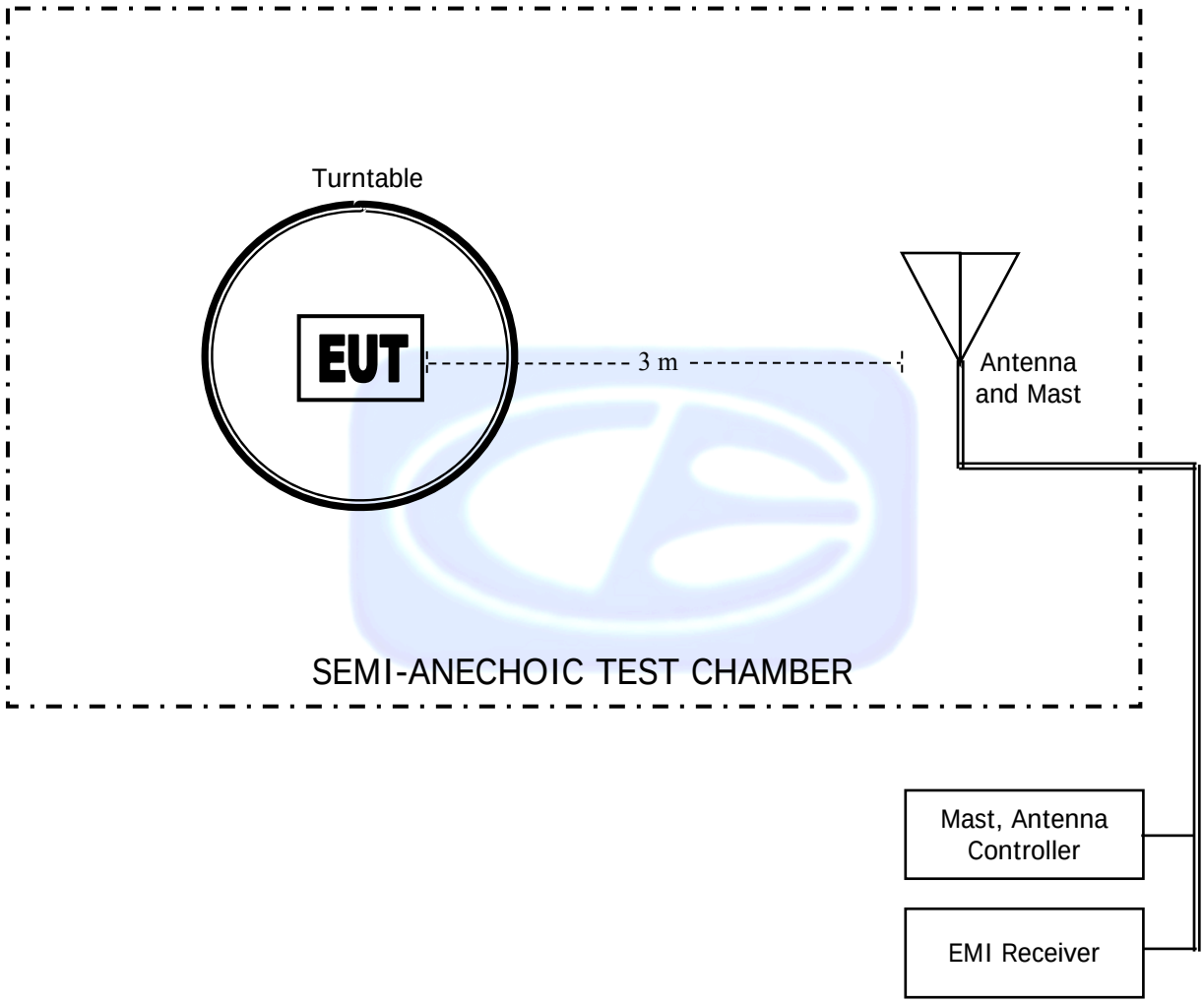


FIGURE 2: LAYOUT OF THE SEMI MI-ANECHOIC TEST CHAMBER



COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: FEBRUARY 6, 2015

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-33.18	18.32
0.01	-34.10	17.40
0.02	-38.65	12.85
0.03	-39.28	12.22
0.04	-40.09	11.41
0.05	-40.85	10.65
0.06	-40.88	10.62
0.07	-41.07	10.43
0.08	-41.04	10.46
0.09	-41.19	10.31
0.1	-41.20	10.30
0.2	-41.52	9.98
0.3	-41.53	9.97
0.4	-41.42	10.08
0.5	-41.53	9.97
0.6	-41.53	9.97
0.7	-41.43	10.07
0.8	-41.23	10.27
0.9	-41.13	10.37
1	-41.14	10.36
2	-40.80	10.70
3	-40.66	10.84
4	-40.61	10.89
5	-40.33	11.17
6	-40.53	10.97
7	-40.47	11.03
8	-40.48	11.02
9	-39.93	11.57
10	-39.81	11.69
15	-43.35	8.15
20	-39.16	12.34
25	-40.24	11.26
30	-43.18	8.32

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61060

CALIBRATION DATE: SEPTEMBER 3, 2015

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	24.00	200	13.00
35	24.30	250	15.30
40	25.40	300	18.20
45	21.50	350	17.90
50	22.50	400	18.60
60	15.40	450	19.80
70	12.70	500	21.60
80	11.10	550	22.40
90	13.40	600	23.70
100	13.80	650	24.30
120	15.40	700	24.00
125	15.40	750	24.50
140	13.10	800	24.30
150	17.20	850	26.30
160	13.20	900	26.90
175	14.20	950	26.00
180	14.30	1000	25.60

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 26, 2016

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.93	10.0	39.33
1.5	25.54	10.5	39.64
2.0	28.09	11.0	41.04
2.5	30.21	11.5	44.29
3.0	30.15	12.0	41.22
3.5	30.17	12.5	41.50
4.0	31.90	13.0	41.62
4.5	33.51	13.5	40.63
5.0	33.87	14.0	39.94
5.5	35.08	14.5	41.84
6.0	34.81	15.0	42.69
6.5	34.26	15.5	39.03
7.0	36.33	16.0	39.07
7.5	37.03	16.5	41.40
8.0	37.56	17.0	43.18
8.5	40.07	17.5	47.01
9.0	38.92	18.0	46.48
9.5	38.21		

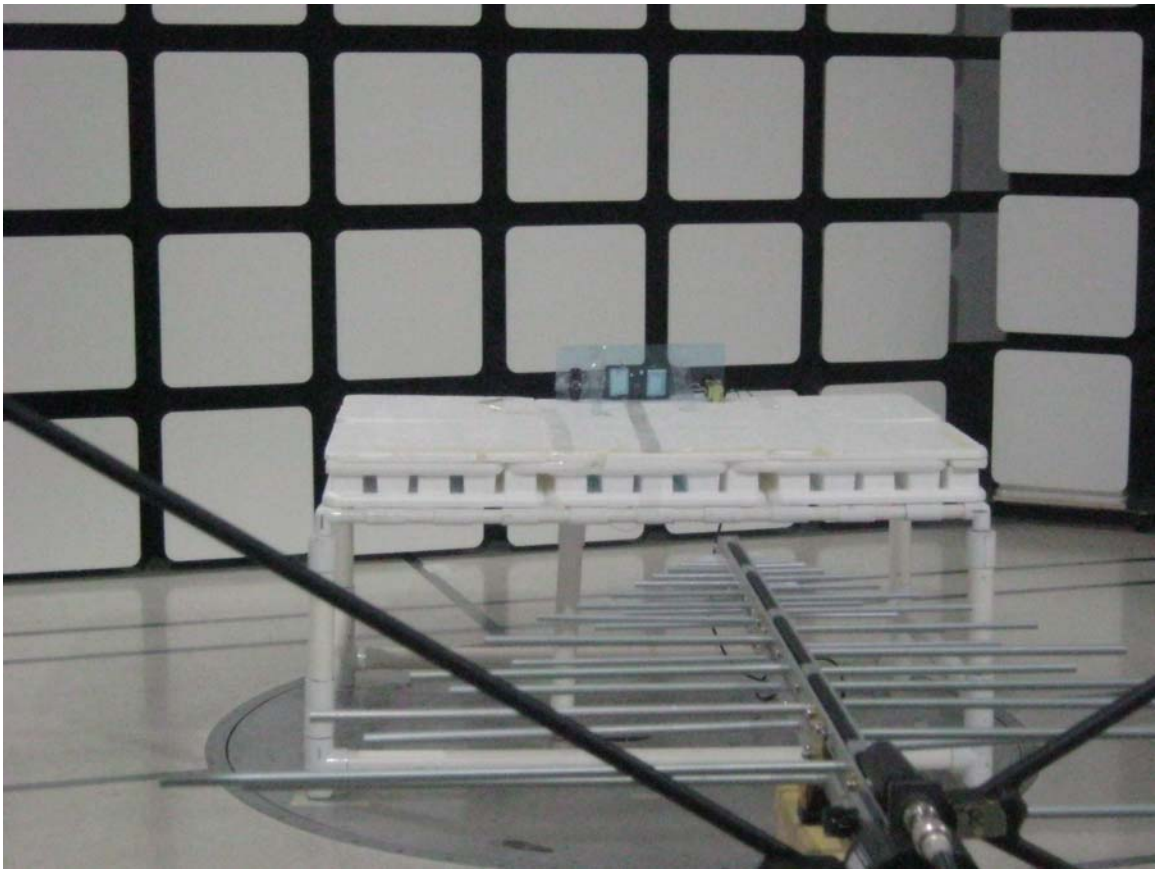
COM-POWER PA-118

PREAMPLIFIER

S/N: 551024

CALIBRATION DATE: MAY 12, 2016

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	39.84	6.0	39.05
1.1	39.40	6.5	38.94
1.2	39.58	7.0	39.25
1.3	39.68	7.5	39.09
1.4	39.91	8.0	39.01
1.5	39.78	8.5	38.60
1.6	39.50	9.0	38.64
1.7	39.81	9.5	39.67
1.8	39.89	10.0	39.30
1.9	39.94	11.0	39.15
2.0	39.57	12.0	39.24
2.5	40.39	13.0	39.49
3.0	40.63	14.0	39.44
3.5	40.80	15.0	39.94
4.0	40.86	16.0	40.09
4.5	39.94	17.0	40.06
5.0	34.47	18.0	39.76
5.5	39.32		



FRONT VIEW

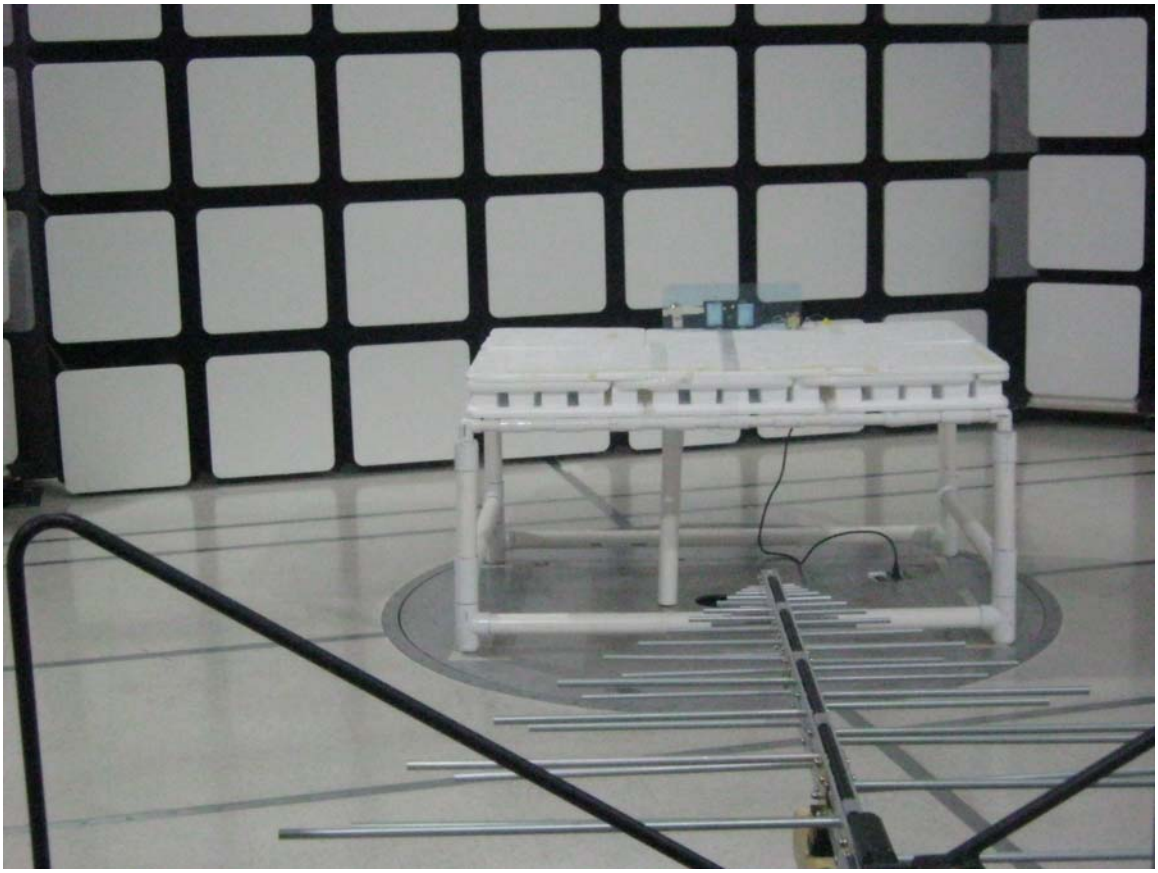
NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-B
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-B
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

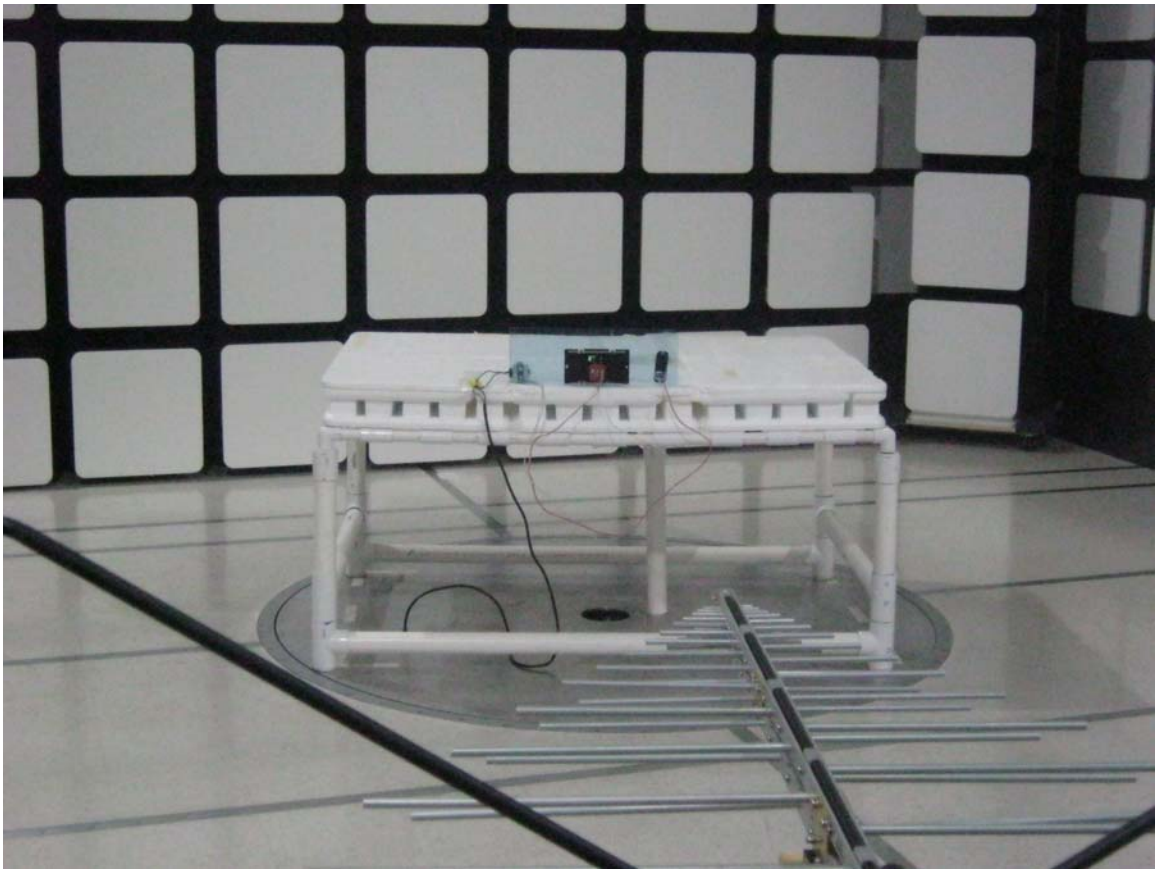
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-N
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

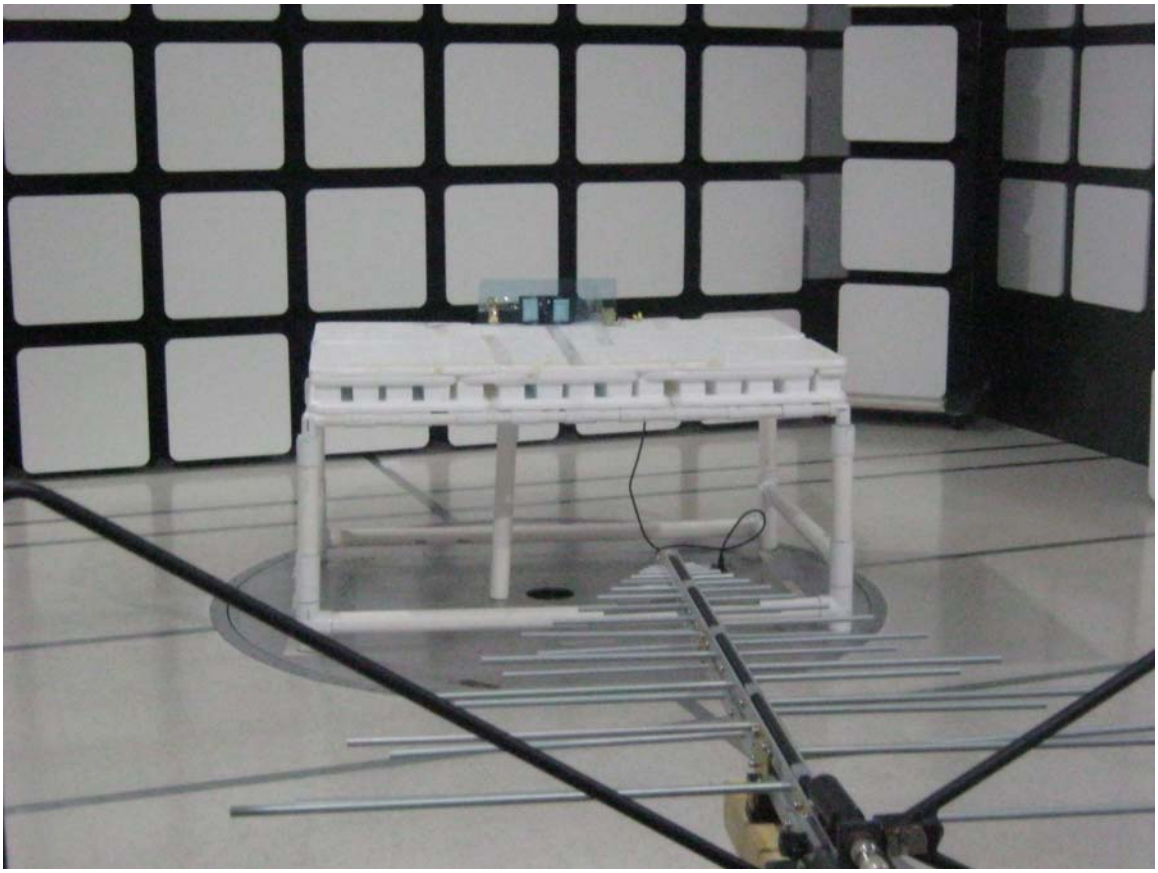
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-N
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

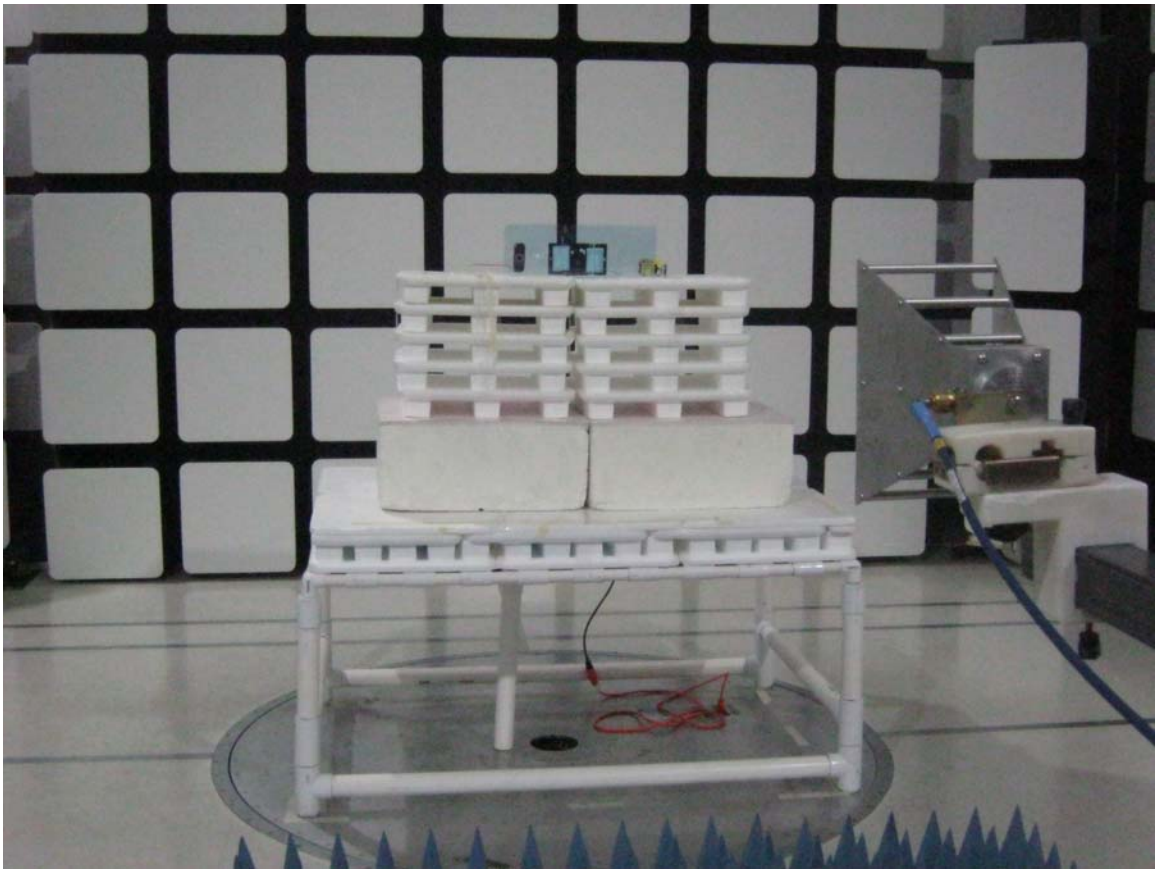
NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-Z
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-Z
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

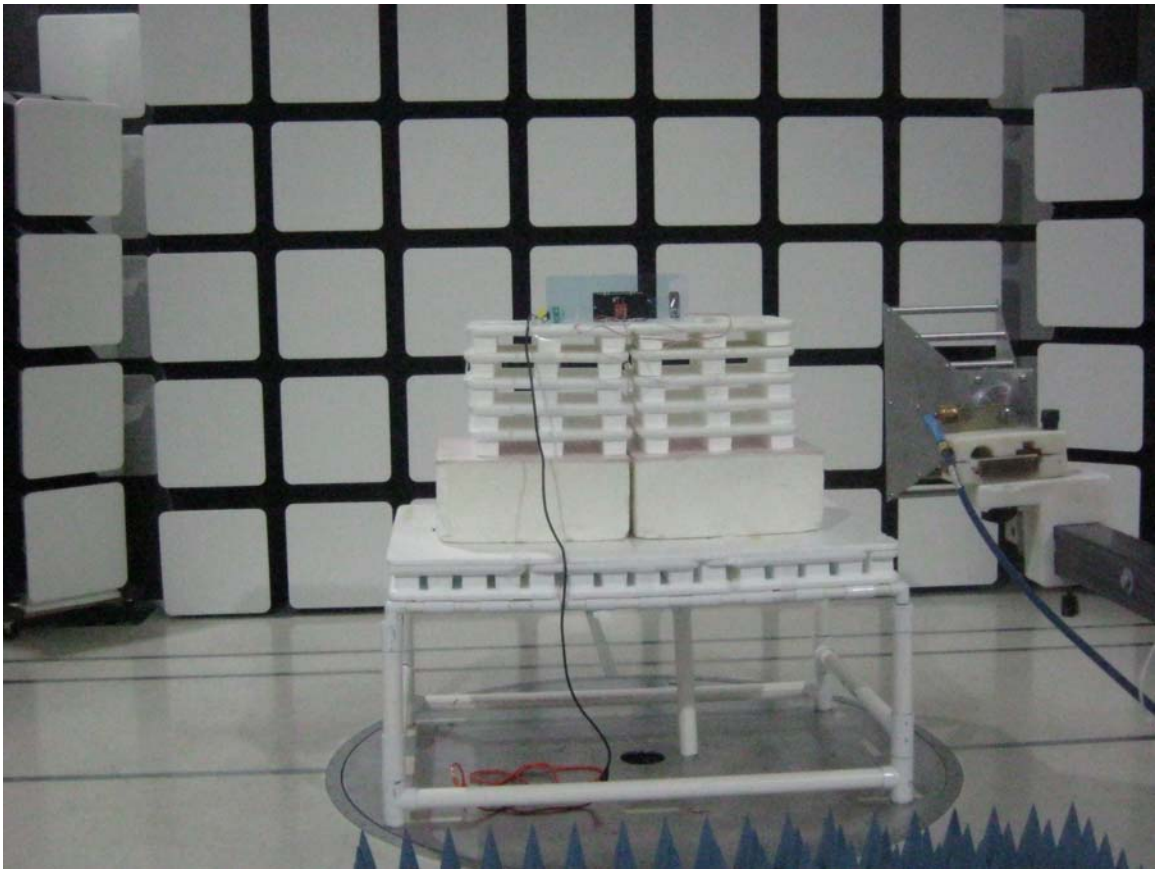
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-B
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

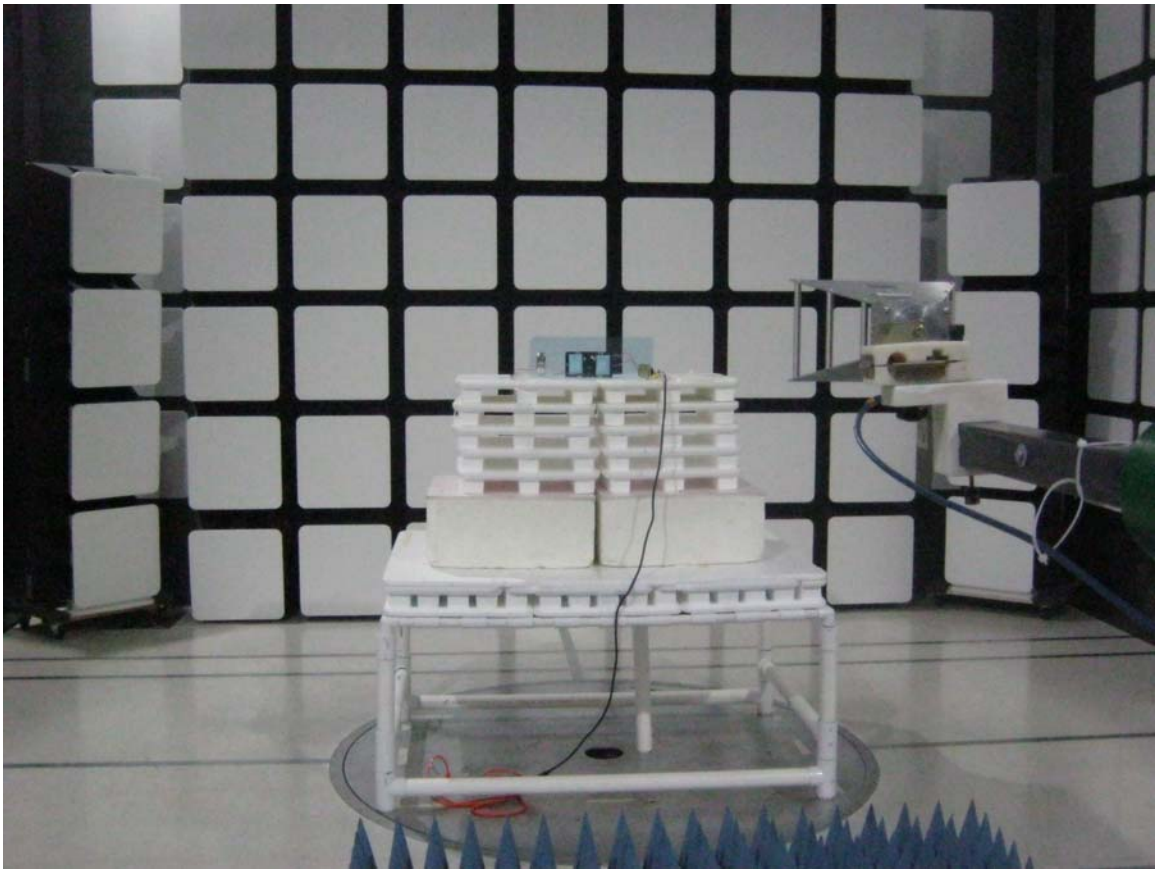
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-B
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

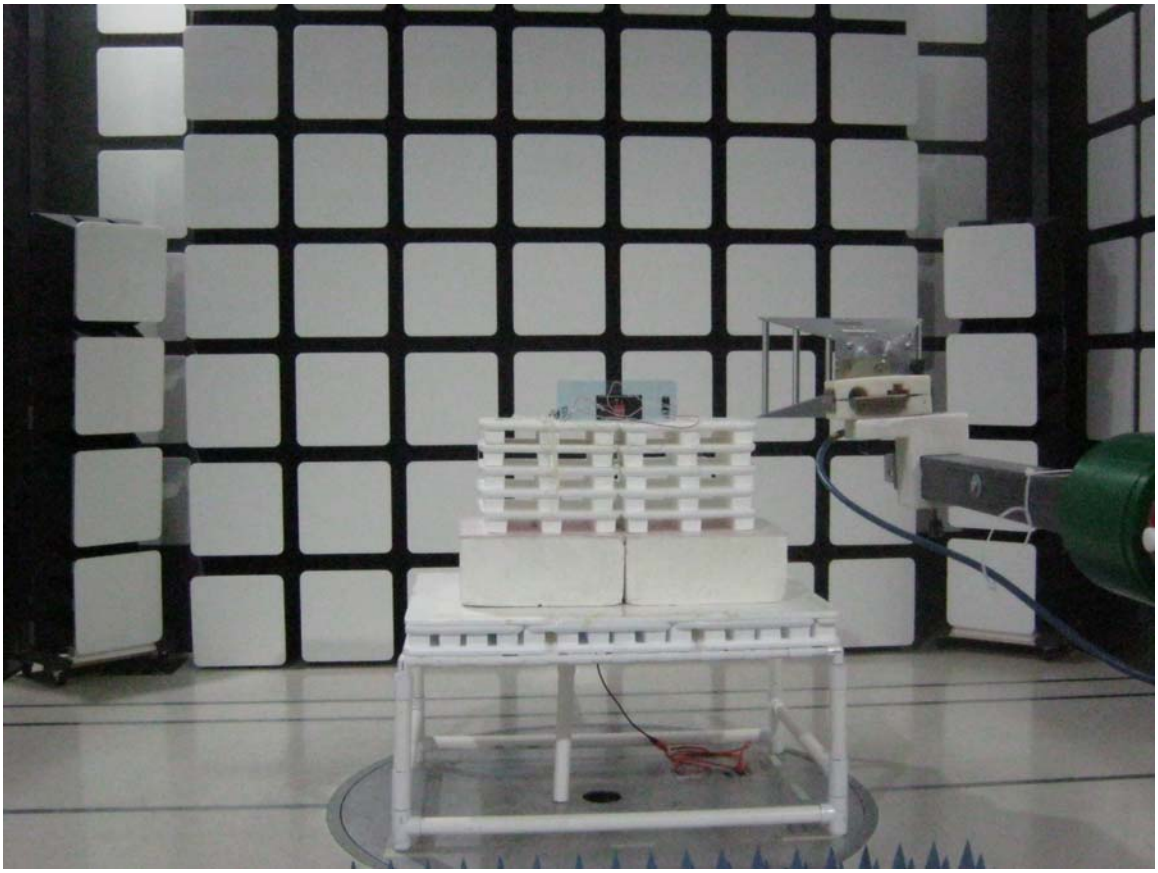
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-N
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

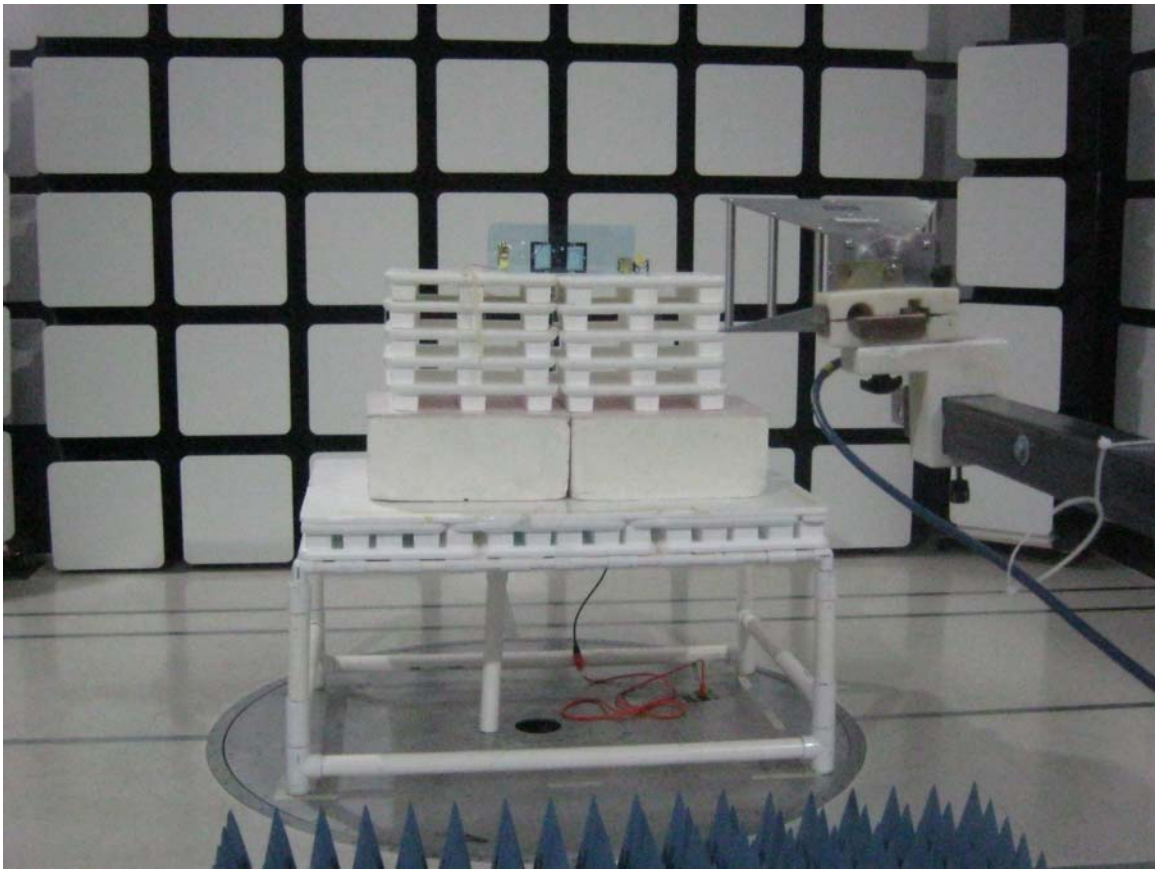
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-N
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

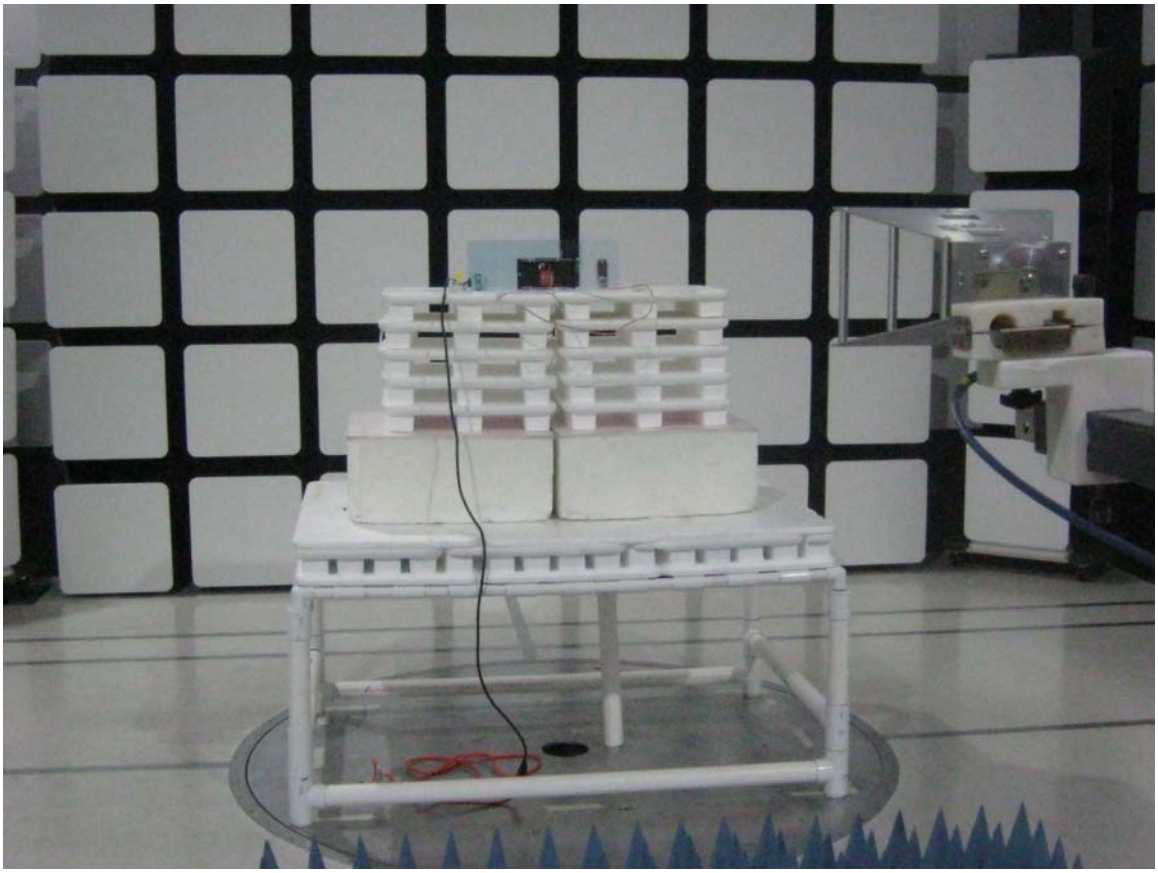
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-Z
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

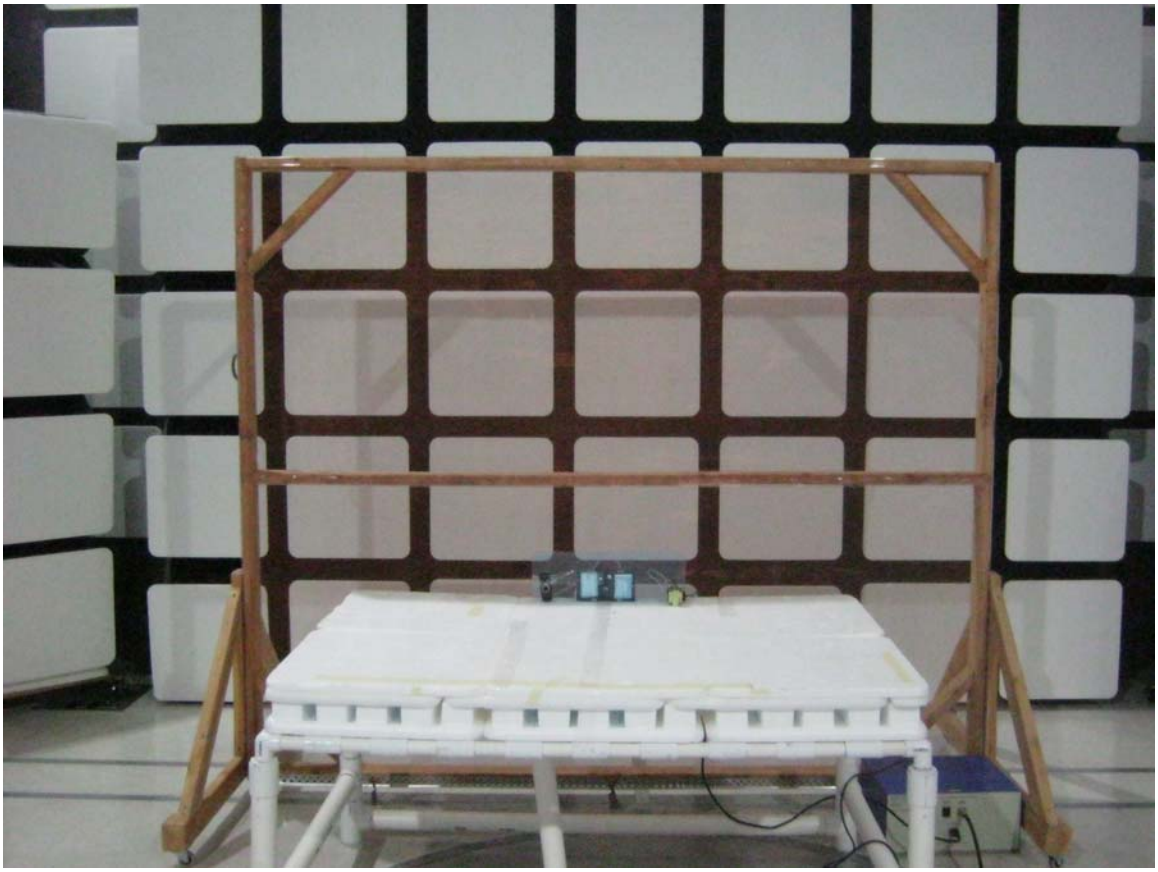
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-Z
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

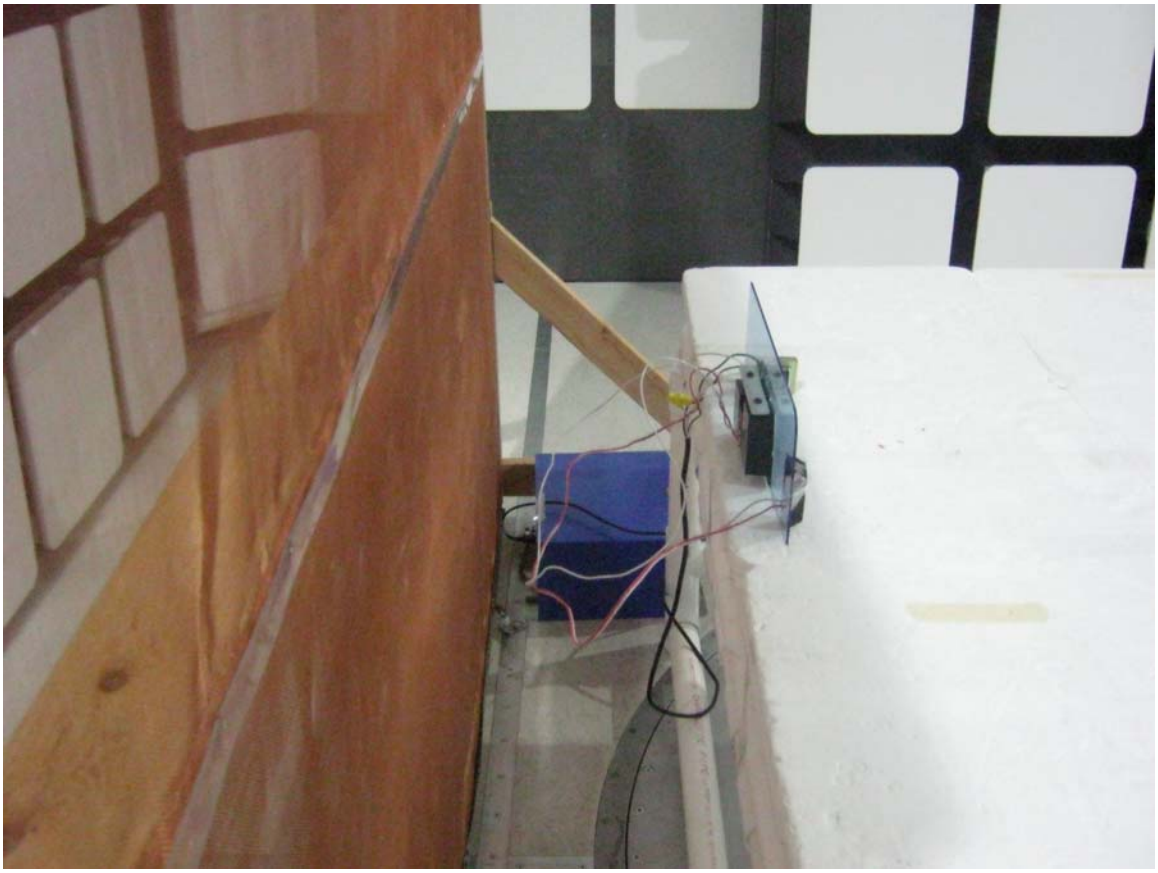
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-B
FCC SUBPART B AND C – CONDUCTED EMISSIONS

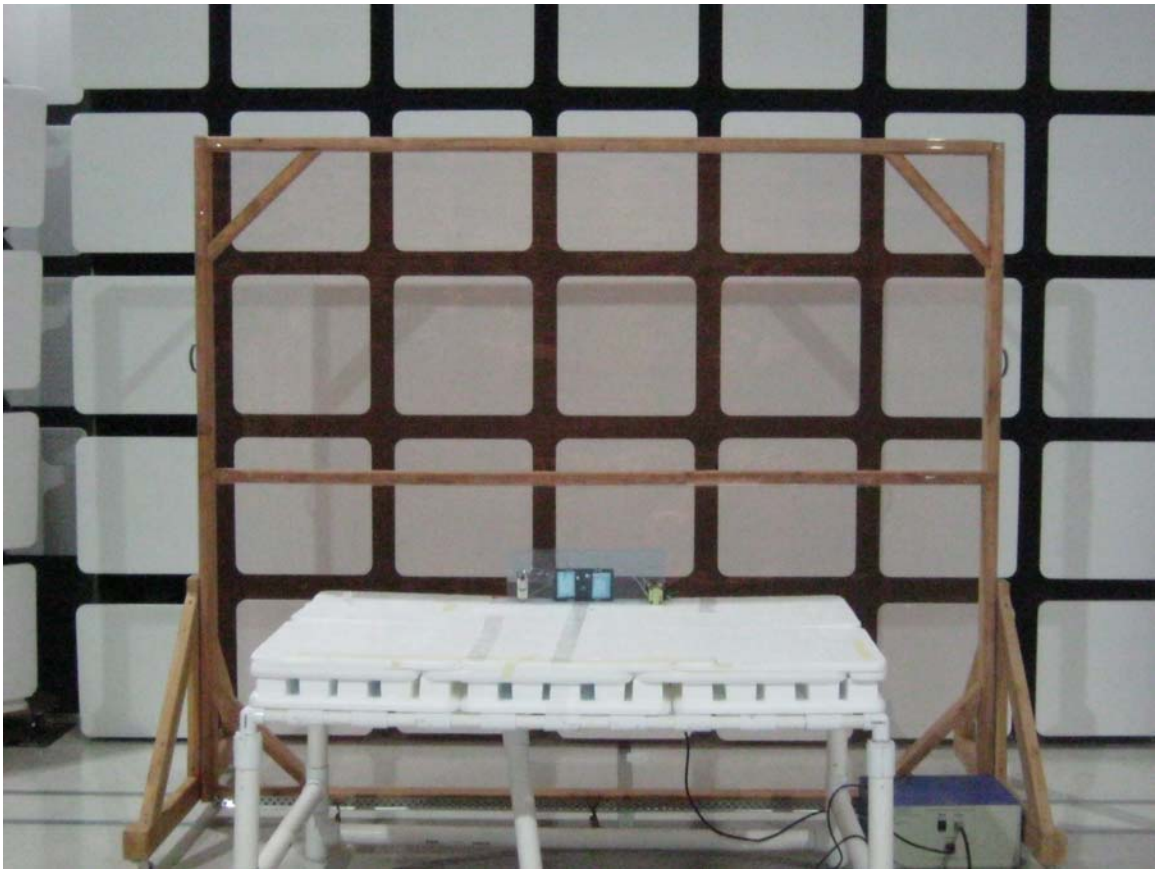
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-B
FCC SUBPART B AND C – CONDUCTED EMISSIONS

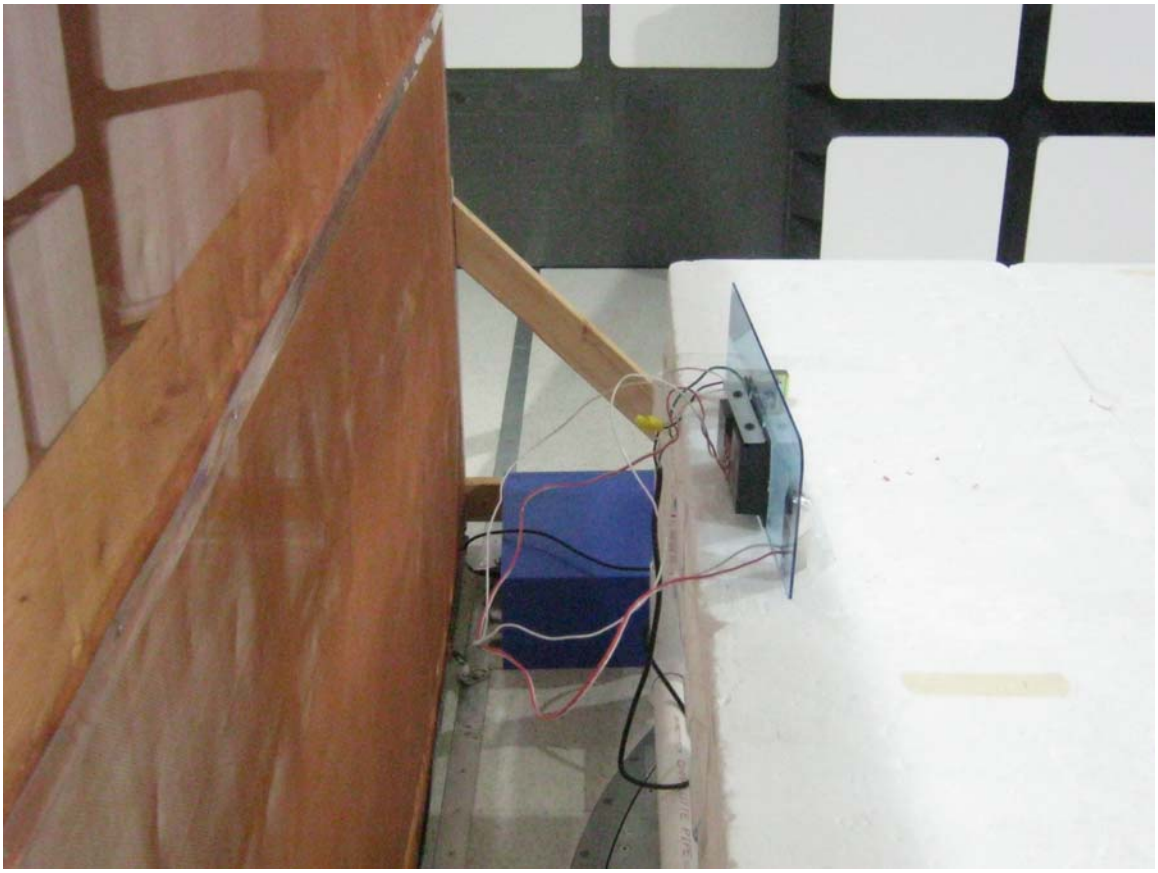
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-N
FCC SUBPART B AND C – CONDUCTED EMISSIONS

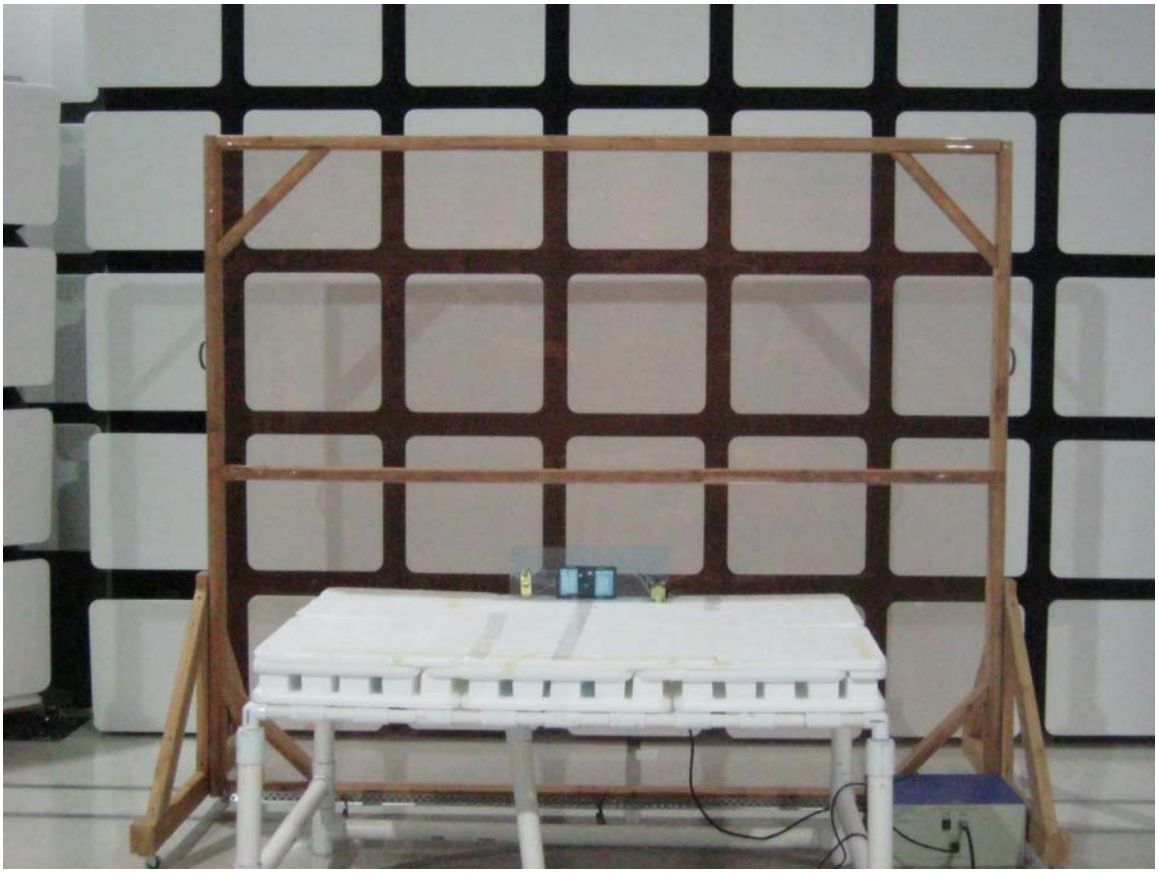
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-N
FCC SUBPART B AND C – CONDUCTED EMISSIONS

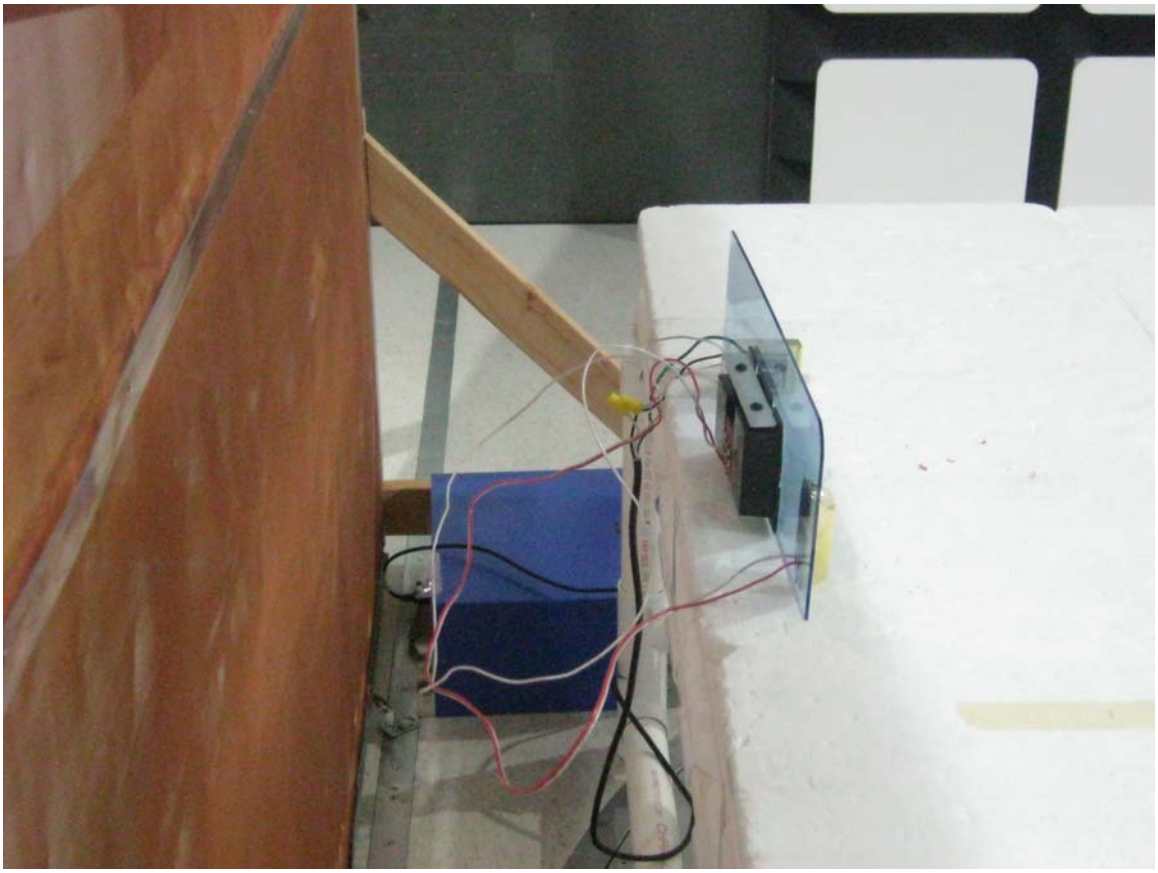
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-Z
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

NORTEK SECURITY & CONTROLS, LLC
DOOR CHIME BUTTON
MODEL: SW-ATT-DB-Z
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS DATA SHEETS

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done Via Conducted**
2706.75	54.43	V	73.98	-19.55	Peak	234.75	120.49	
2706.75	34.43	V	53.98	-19.55	Avg	234.75	120.49	
3609.00	50.15	V	73.98	-23.83	Peak	52.75	185.32	
3609.00	30.15	V	53.98	-23.83	Avg	52.75	185.32	
4511.25	48.49	V	73.98	-25.50	Peak	355.00	186.32	
4511.25	28.49	V	53.98	-25.50	Avg	355.00	186.32	
5413.50	50.71	V	73.98	-23.27	Peak	204.75	174.25	
5413.50	30.71	V	53.98	-23.27	Avg	204.75	174.25	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done Via Conducted**
2706.75	62.65	V	73.98	-11.33	Peak	159.50	185.32	
2706.75	42.65	V	53.98	-11.33	Avg	159.50	185.32	
3609.00	48.33	V	73.98	-25.65	Peak	93.75	124.73	
3609.00	28.33	V	53.98	-25.65	Avg	93.75	124.73	
4511.25	49.10	V	73.98	-24.88	Peak	262.25	114.58	
4511.25	29.10	V	53.98	-24.88	Avg	262.33	114.58	
5413.50	50.58	V	73.98	-23.40	Peak	183.50	119.47	
5413.50	30.58	V	53.98	-23.40	Avg	183.50	119.47	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done Via Conducted**
2706.75	57.02	V	73.98	-16.96	Peak	138.50	115.71	
2706.75	37.02	V	53.98	-16.96	Avg	138.50	115.71	
3609.00	53.94	V	73.98	-20.04	Peak	173.75	186.46	
3609.00	33.94	V	53.98	-20.04	Avg	173.75	186.46	
4511.25	49.86	V	73.98	-24.12	Peak	311.25	172.37	
4511.25	29.86	V	53.98	-24.12	Avg	311.25	172.37	
5413.50	51.42	V	73.98	-22.56	Peak	24.00	127.00	
5413.50	31.42	V	53.98	-22.56	Avg	24.00	127.00	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done Via Conducted**
2706.75	57.77	H	73.98	-16.21	Peak	0.00	217.20	
2706.75	37.77	H	53.98	-16.21	Avg	0.00	217.20	
3609.00	51.89	H	73.98	-22.09	Peak	163.50	154.22	
3609.00	31.89	H	53.98	-22.09	Avg	163.50	154.22	
4511.25	49.13	H	73.98	-24.85	Peak	126.75	138.28	
4511.25	29.13	H	53.98	-24.85	Avg	126.75	138.28	
5413.50	48.46	H	73.98	-25.52	Peak	228.50	139.26	
5413.50	28.46	H	53.98	-25.52	Avg	228.50	139.26	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done Via Conducted**
2706.75	64.94	H	73.98	-9.04	Peak	125.00	112.97	
2706.75	44.94	H	53.98	-9.04	Avg	125.00	112.97	
3609.00	50.79	H	73.98	-23.19	Peak	355.00	128.25	
3609.00	30.79	H	53.98	-23.19	Avg	355.00	128.25	
4511.25	51.81	H	73.98	-22.17	Peak	230.25	104.85	
4511.25	31.81	H	53.98	-22.17	Avg	230.25	104.85	
5413.50	51.39	H	73.98	-22.59	Peak	111.75	105.55	
5413.50	31.39	H	53.98	-22.59	Avg	111.75	105.55	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done Via Conducted**
2706.75	59.73	H	73.98	-14.25	Peak	152.50	117.44	
2706.75	39.73	H	53.98	-14.25	Avg	152.50	117.44	
3609.00	51.98	H	73.98	-22.00	Peak	327.50	107.71	
3609.00	31.98	H	53.98	-22.00	Avg	327.50	107.71	
4511.25	52.57	H	73.98	-21.41	Peak	228.25	142.52	
4511.25	32.57	H	53.98	-21.41	Avg	228.25	142.52	
5413.50	51.28	H	73.98	-22.70	Peak	5.00	148.56	
5413.50	31.28	H	53.98	-22.70	Avg	5.00	148.56	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done Via Conducted**
2745.69	54.01	V	73.98	-19.97	Peak	293.25	206.28	
2745.69	34.01	V	53.98	-19.97	Avg	293.25	206.28	
3660.92	53.88	V	73.98	-20.10	Peak	267.00	215.47	
3660.92	33.88	V	53.98	-20.10	Avg	267.00	215.47	
4576.15	48.37	V	73.98	-25.61	Peak	163.50	218.59	
4576.15	28.37	V	53.98	-25.61	Avg	163.50	218.59	
5491.38	51.01	V	73.98	-22.97	Peak	360.50	215.41	
5491.38	31.01	V	53.98	-22.97	Avg	360.50	215.41	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done Via Conducted**
2745.69	56.50	V	73.98	-17.48	Peak	224.25	132.07	
2745.69	36.50	V	53.98	-17.48	Avg	224.25	132.07	
3660.92	53.80	V	73.98	-20.18	Peak	355.00	127.07	
3660.92	33.80	V	53.98	-20.18	Avg	355.00	127.07	
4576.15	49.51	V	73.98	-24.47	Peak	355.00	117.62	
4576.15	29.51	V	53.98	-24.47	Avg	355.00	117.62	
5491.38	52.07	V	73.98	-21.91	Peak	13.50	111.71	
5491.38	32.07	V	53.98	-21.91	Avg	13.50	111.71	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done Via Conducted**
2745.69	53.94	V	73.98	-20.04	Peak	257.25	147.11	
2745.69	33.94	V	53.98	-20.04	Avg	257.25	147.11	
3660.92	57.52	V	73.98	-16.46	Peak	132.50	108.73	
3660.92	37.52	V	53.98	-16.46	Avg	132.50	108.73	
4576.15	51.25	V	73.98	-22.73	Peak	185.50	105.26	
4576.15	31.25	V	53.98	-22.73	Avg	185.50	105.26	
5491.38	48.18	V	73.98	-25.80	Peak	68.00	102.88	
5491.38	28.18	V	53.98	-25.80	Avg	68.00	102.88	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done Via Conducted**
2745.69	57.89	H	73.98	-16.10	Peak	211.00	190.10	
2745.69	37.89	H	53.98	-16.10	Avg	211.00	190.10	
3660.92	54.41	H	73.98	-19.57	Peak	336.75	176.01	
3660.92	34.41	H	53.98	-19.57	Avg	336.75	176.01	
4576.15	49.98	H	73.98	-24.01	Peak	355.00	178.25	
4576.15	29.98	H	53.98	-24.01	Avg	355.00	178.25	
5491.38	50.46	H	73.98	-23.52	Peak	94.00	164.79	
5491.38	30.46	H	53.98	-23.52	Avg	94.00	164.79	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done Via Conducted**
2745.69	52.51	H	73.98	-21.47	Peak	197.00	142.34	
2745.69	32.51	H	53.98	-21.47	Avg	197.00	142.34	
3660.92	55.80	H	73.98	-18.18	Peak	355.00	145.58	
3660.92	35.80	H	53.98	-18.18	Avg	355.00	145.58	
4576.15	53.86	H	73.98	-20.12	Peak	257.25	100.25	
4576.15	33.86	H	53.98	-20.12	Avg	257.25	100.25	
5491.38	50.27	H	73.98	-23.71	Peak	12.50	102.34	
5491.38	30.27	H	53.98	-23.71	Avg	12.50	102.34	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done Via Conducted**
2745.69	53.48	H	73.98	-20.50	Peak	181.75	172.19	
2745.69	33.48	H	53.98	-20.50	Avg	181.75	172.19	
3660.92	57.22	H	73.98	-16.76	Peak	156.75	123.17	
3660.92	37.22	H	53.98	-16.76	Avg	156.75	123.17	
4576.15	51.39	H	73.98	-22.59	Peak	273.25	140.55	
4576.15	31.39	H	53.98	-22.59	Avg	273.25	140.55	
5491.38	48.05	H	73.98	-25.93	Peak	4.00	138.28	
5491.38	28.05	H	53.98	-25.93	Avg	4.00	138.28	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done Via Conducted**
2783.10	57.87	V	73.98	-16.11	Peak	5.25	183.95	
2783.10	37.87	V	53.98	-16.11	Avg	5.25	183.95	
3710.80	54.50	V	73.98	-19.48	Peak	309.00	246.52	
3710.80	34.50	V	53.98	-19.48	Avg	309.00	246.52	
4638.50	48.48	V	73.98	-25.50	Peak	124.00	248.59	
4638.50	28.48	V	53.98	-25.50	Avg	124.00	248.59	
5566.20	51.74	V	73.98	-22.24	Peak	355.00	245.58	
5566.20	31.74	V	53.98	-22.24	Avg	355.00	245.58	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done Via Conducted**
2783.10	56.34	V	73.98	-17.64	Peak	0.25	147.65	
2783.10	36.34	V	53.98	-17.64	Avg	0.25	147.65	
3710.80	54.67	V	73.98	-19.31	Peak	327.75	195.77	
3710.80	34.67	V	53.98	-19.31	Avg	327.75	195.77	
4638.50	49.36	V	73.98	-24.62	Peak	55.00	196.78	
4638.50	29.36	V	53.98	-24.62	Avg	55.00	196.78	
5566.20	50.99	V	73.98	-22.99	Peak	148.75	198.85	
5566.20	30.99	V	53.98	-22.99	Avg	148.75	198.85	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done Via Conducted**
2783.10	56.03	V	73.98	-17.96	Peak	2.25	155.65	
2783.10	36.03	V	53.98	-17.96	Avg	2.25	155.65	
3710.80	52.92	V	73.98	-21.06	Peak	226.75	130.58	
3710.80	32.92	V	53.98	-21.06	Avg	226.75	130.58	
4638.50	47.14	V	73.98	-26.84	Peak	131.25	132.59	
4638.50	27.14	V	53.98	-26.84	Avg	131.25	132.59	
5566.20	50.12	V	73.98	-23.87	Peak	123.75	133.57	
5566.20	30.12	V	53.98	-23.87	Avg	123.75	133.57	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done Via Conducted**
2783.10	49.82	H	73.98	-24.16	Peak	61.50	192.31	
2783.10	29.82	H	53.98	-24.16	Avg	61.50	192.31	
3710.80	54.17	H	73.98	-19.81	Peak	57.25	196.67	
3710.80	34.17	H	53.98	-19.81	Avg	57.25	196.67	
4638.50	49.92	H	73.98	-24.06	Peak	12.75	192.19	
4638.50	29.92	H	53.98	-24.06	Avg	12.75	192.19	
5566.20	51.85	H	73.98	-22.13	Peak	217.50	188.31	
5566.20	31.85	H	53.98	-22.13	Avg	217.50	188.31	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done Via Conducted**
2783.10	47.21	H	73.98	-26.77	Peak	54.25	198.52	
2783.10	27.21	H	53.98	-26.77	Avg	54.25	198.52	
3710.80	51.81	H	73.98	-22.17	Peak	165.75	174.04	
3710.80	31.81	H	53.98	-22.17	Avg	165.75	174.04	
4638.50	49.35	H	73.98	-24.63	Peak	61.00	157.08	
4638.50	29.35	H	53.98	-24.63	Avg	61.00	157.08	
5566.20	52.27	H	73.98	-21.71	Peak	355.00	157.02	
5566.20	32.27	H	53.98	-21.71	Avg	355.00	157.02	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done Via Conducted**
2783.10	51.99	H	73.98	-21.99	Peak	303.00	144.19	
2783.10	31.99	H	53.98	-21.99	Avg	303.00	144.19	
3710.80	52.83	H	73.98	-21.15	Peak	69.50	176.49	
3710.80	32.83	H	53.98	-21.15	Avg	69.50	176.49	
4638.50	50.09	H	73.98	-23.89	Peak	72.50	181.25	
4638.50	30.09	H	53.98	-23.89	Avg	72.50	181.25	
5566.20	51.66	H	73.98	-22.32	Peak	207.25	168.25	
5566.20	31.66	H	53.98	-22.32	Avg	207.25	168.25	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC Class B & FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Digital Portion and Non-Harmonic Emissions

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT

FCC Class B

Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-B

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Receive Mode - 10 kHz to 9.3 GHz

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Receiver Portion
								of the EUT
								No Emissions Detected
								from 30 MHz to 1 GHz
								for the Receiver Portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Receiver Portion
								of the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	52.12	V	73.98	-21.86	Peak	329.75	204.01	
2706.75	32.12	V	53.98	-21.86	Avg	329.75	204.01	
3609.00	50.31	V	73.98	-23.67	Peak	4.00	234.22	
3609.00	30.31	V	53.98	-23.67	Avg	4.00	234.22	
4511.25	49.76	V	73.98	-24.22	Peak	330.75	166.94	
4511.25	29.76	V	53.98	-24.22	Avg	330.75	166.94	
5413.50	51.62	V	73.98	-22.36	Peak	54.50	175.94	
5413.50	31.62	V	53.98	-22.36	Avg	54.50	175.94	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	54.65	V	73.98	-19.33	Peak	135.50	249.49	
2706.75	34.65	V	53.98	-19.33	Avg	135.50	249.49	
3609.00	55.08	V	73.98	-18.90	Peak	232.00	149.44	
3609.00	35.08	V	53.98	-18.90	Avg	232.00	149.44	
4511.25	49.86	V	73.98	-24.12	Peak	210.50	148.25	
4511.25	29.86	V	53.98	-24.12	Avg	210.50	148.25	
5413.50	48.13	V	73.98	-25.85	Peak	160.00	119.41	
5413.50	28.13	V	53.98	-25.85	Avg	160.00	119.41	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	52.70	V	73.98	-21.28	Peak	13.25	131.17	
2706.75	32.70	V	53.98	-21.28	Avg	13.25	131.17	
3609.00	52.41	V	73.98	-21.58	Peak	242.00	138.28	
3609.00	32.41	V	53.98	-21.58	Avg	242.00	138.28	
4511.25	54.09	V	73.98	-19.89	Peak	353.50	199.83	
4511.25	34.09	V	53.98	-19.89	Avg	353.50	199.83	
5413.50	50.52	V	73.98	-23.46	Peak	104.50	204.85	
5413.50	30.52	V	53.98	-23.46	Avg	104.50	204.85	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	55.27	H	73.98	-18.72	Peak	228.00	138.34	
2706.75	35.27	H	53.98	-18.72	Avg	228.00	138.34	
3609.00	51.51	H	73.98	-22.47	Peak	140.25	139.35	
3609.00	31.51	H	53.98	-22.47	Avg	140.25	139.35	
4511.25	48.88	H	73.98	-25.11	Peak	60.25	151.65	
4511.25	28.88	H	53.98	-25.11	Avg	60.25	151.65	
5413.50	48.71	H	73.98	-25.27	Peak	355.00	158.85	
5413.50	28.71	H	53.98	-25.27	Avg	355.00	152.85	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	51.84	H	73.98	-22.14	Peak	117.00	170.25	
2706.75	31.84	H	53.98	-22.14	Avg	117.00	170.25	
3609.00	54.90	H	73.98	-19.09	Peak	124.75	126.52	
3609.00	34.90	H	53.98	-19.09	Avg	124.75	126.52	
4511.25	54.38	H	73.98	-19.60	Peak	5.00	168.31	
4511.25	34.38	H	53.98	-19.60	Avg	5.00	168.31	
5413.50	51.02	H	73.98	-22.96	Peak	209.25	140.31	
5413.50	31.02	H	53.98	-22.96	Avg	209.25	140.31	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	56.33	H	73.98	-17.65	Peak	161.25	128.91	
2706.75	36.33	H	53.98	-17.65	Avg	161.25	128.91	
3609.00	52.11	H	73.98	-21.87	Peak	113.50	137.50	
3609.00	32.11	H	53.98	-21.87	Avg	113.50	137.50	
4511.25	49.01	H	73.98	-24.97	Peak	290.25	173.92	
4511.25	29.01	H	53.98	-24.97	Avg	290.25	173.92	
5413.50	51.29	H	73.98	-22.70	Peak	60.50	122.34	
5413.50	31.29	H	53.98	-22.70	Avg	60.50	122.34	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	49.36	V	73.98	-24.62	Peak	227.75	115.41	
2745.69	29.36	V	53.98	-24.62	Avg	227.75	115.41	
3660.92	52.80	V	73.98	-21.18	Peak	183.75	112.49	
3660.92	32.80	V	53.98	-21.18	Avg	183.75	112.49	
4576.15	50.41	V	73.98	-23.58	Peak	212.00	169.14	
4576.15	30.41	V	53.98	-23.58	Avg	212.00	169.14	
5491.38	48.95	V	73.98	-25.03	Peak	24.75	155.53	
5491.38	28.95	V	53.98	-25.03	Avg	24.75	155.53	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	57.22	V	73.98	-16.76	Peak	256.75	209.74	
2745.69	37.22	V	53.98	-16.76	Avg	256.75	209.74	
3660.92	53.58	V	73.98	-20.40	Peak	187.00	234.10	
3660.92	33.58	V	53.98	-20.40	Avg	187.00	234.10	
4576.15	48.86	V	73.98	-25.13	Peak	56.25	217.74	
4576.15	28.86	V	53.98	-25.13	Avg	56.25	217.74	
5491.38	50.65	V	73.98	-23.33	Peak	322.00	218.58	
5491.38	30.65	V	53.98	-23.33	Avg	322.00	218.58	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	51.66	V	73.98	-22.32	Peak	183.75	124.67	
2745.69	31.66	V	53.98	-22.32	Avg	183.75	124.67	
3660.92	60.87	V	73.98	-13.12	Peak	183.00	129.74	
3660.92	40.87	V	53.98	-13.12	Avg	183.00	129.74	
4576.15	53.34	V	73.98	-20.64	Peak	322.50	166.76	
4576.15	33.34	V	53.98	-20.64	Avg	322.50	166.76	
5491.38	51.36	V	73.98	-22.62	Peak	362.50	136.91	
5491.38	31.36	V	53.98	-22.62	Avg	362.50	136.91	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	54.48	H	73.98	-19.50	Peak	3.50	213.74	
2745.69	34.48	H	53.98	-19.50	Avg	3.50	213.74	
3660.92	54.45	H	73.98	-19.53	Peak	218.00	121.86	
3660.92	34.45	H	53.98	-19.53	Avg	218.00	121.86	
4576.15	48.80	H	73.98	-25.18	Peak	18.75	125.87	
4576.15	28.80	H	53.98	-25.18	Avg	18.75	125.87	
5491.38	47.81	H	73.98	-26.17	Peak	268.25	121.86	
5491.38	27.81	H	53.98	-26.17	Avg	268.25	121.86	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	60.20	H	73.98	-13.78	Peak	198.00	212.31	
2745.69	40.20	H	53.98	-13.78	Avg	198.00	212.31	
3660.92	60.29	H	73.98	-13.69	Peak	168.00	208.49	
3660.92	40.29	H	53.98	-13.69	Avg	168.00	208.49	
4576.15	52.42	H	73.98	-21.56	Peak	212.00	185.20	
4576.15	32.42	H	53.98	-21.56	Avg	212.00	185.20	
5491.38	51.70	H	73.98	-22.29	Peak	5.00	185.20	
5491.38	31.70	H	53.98	-22.29	Avg	5.00	185.20	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	49.80	H	73.98	-24.18	Peak	177.00	104.25	
2745.69	29.80	H	53.98	-24.18	Avg	177.00	104.25	
3660.92	63.72	H	73.98	-10.26	Peak	174.25	100.91	
3660.92	43.72	H	53.98	-10.26	Avg	174.25	100.91	
4576.15	50.43	H	73.98	-23.55	Peak	145.00	100.91	
4576.15	30.43	H	53.98	-23.55	Avg	145.00	100.91	
5491.38	51.00	H	73.98	-22.98	Peak	355.00	100.98	
5491.38	31.00	H	53.98	-22.98	Avg	355.00	100.98	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	56.23	V	73.98	-17.75	Peak	205.25	124.19	
2783.10	36.23	V	53.98	-17.75	Avg	205.25	124.19	
3710.80	52.34	V	73.98	-21.64	Peak	66.25	121.02	
3710.80	32.34	V	53.98	-21.64	Avg	66.25	121.02	
4638.50	50.14	V	73.98	-23.84	Peak	355.25	119.02	
4638.50	30.14	V	53.98	-23.84	Avg	355.25	119.02	
5566.20	49.15	V	73.98	-24.83	Peak	4.75	125.25	
5566.20	29.15	V	53.98	-24.83	Avg	4.75	125.25	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	55.34	V	73.98	-18.64	Peak	204.75	227.65	
2783.10	35.34	V	53.98	-18.64	Avg	204.75	227.65	
3710.80	59.18	V	73.98	-14.80	Peak	204.00	186.16	
3710.80	39.18	V	53.98	-14.80	Avg	204.00	186.16	
4638.50	47.85	V	73.98	-26.13	Peak	143.75	186.16	
4638.50	27.85	V	53.98	-26.13	Avg	143.75	186.16	
5566.20	50.83	V	73.98	-23.16	Peak	131.00	186.16	
5566.20	30.83	V	53.98	-23.16	Avg	131.00	186.16	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	54.48	V	73.98	-19.50	Peak	140.25	135.89	
2783.10	34.48	V	53.98	-19.50	Avg	140.25	135.89	
3710.80	56.05	V	73.98	-17.93	Peak	35.25	175.47	
3710.80	36.05	V	53.98	-17.93	Avg	35.25	175.47	
4638.50	50.85	V	73.98	-23.13	Peak	312.25	160.91	
4638.50	30.85	V	53.98	-23.13	Avg	312.25	160.91	
5566.20	53.00	V	73.98	-20.98	Peak	355.00	175.25	
5566.20	33.00	V	53.98	-20.98	Avg	355.00	175.25	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	58.06	H	73.98	-15.92	Peak	322.00	192.50	
2783.10	38.06	H	53.98	-15.92	Avg	322.00	192.50	
3710.80	52.27	H	73.98	-21.71	Peak	262.00	190.40	
3710.80	32.27	H	53.98	-21.71	Avg	262.00	190.40	
4638.50	49.31	H	73.98	-24.67	Peak	286.25	190.40	
4638.50	29.31	H	53.98	-24.67	Avg	286.25	190.40	
5566.20	51.22	H	73.98	-22.76	Peak	203.00	190.40	
5566.20	31.22	H	53.98	-22.76	Avg	203.00	190.40	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	57.18	H	73.98	-16.80	Peak	133.00	156.79	
2783.10	37.18	H	53.98	-16.80	Avg	133.00	156.79	
3710.80	57.54	H	73.98	-16.45	Peak	131.25	173.80	
3710.80	37.54	H	53.98	-16.45	Avg	131.25	173.80	
4638.50	48.99	H	73.98	-25.00	Peak	0.50	176.25	
4638.50	28.99	H	53.98	-25.00	Avg	0.50	176.25	
5566.20	53.01	H	73.98	-20.97	Peak	154.75	175.71	
5566.20	33.01	H	53.98	-20.97	Avg	154.75	175.71	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	58.49	H	73.98	-15.49	Peak	224.25	185.23	
2783.10	38.49	H	53.98	-15.49	Avg	224.25	185.23	
3710.80	54.14	H	73.98	-19.84	Peak	279.75	204.91	
3710.80	34.14	H	53.98	-19.84	Avg	279.75	204.91	
4638.50	47.44	H	73.98	-26.54	Peak	355.00	205.93	
4638.50	27.44	H	53.98	-26.54	Avg	355.00	205.93	
5566.20	51.73	H	73.98	-22.26	Peak	244.00	204.91	
5566.20	31.73	H	53.98	-22.26	Avg	244.00	204.91	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247 & FCC Class B

Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx and Digital Portion - 10 kHz to 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 9.3 GHz

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

FCC Class B

Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-N

Date: 05/20/2016
Lab: D
Tested By: Kyle Fujimoto

Receive Mode - 10 kHz to 9.3 GHz

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Receiver Portion
								of the EUT
								No Emissions Detected
								from 30 MHz to 1 GHz
								for the Receiver Portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Receiver Portion
								of the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	55.28	V	73.98	-18.70	Peak	355.00	181.80	
2706.75	35.28	V	53.98	-18.70	Avg	355.00	181.80	
3609.00	53.14	V	73.98	-20.84	Peak	242.25	185.25	
3609.00	33.14	V	53.98	-20.84	Avg	242.25	185.25	
4511.25	49.26	V	73.98	-24.72	Peak	181.80	135.58	
4511.25	29.26	V	53.98	-24.72	Avg	181.80	135.58	
5413.50	48.25	V	73.98	-25.73	Peak	10.00	186.58	
5413.50	28.25	V	53.98	-25.73	Avg	10.00	186.58	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	54.69	V	73.98	-19.29	Peak	164.00	148.79	
2706.75	34.69	V	53.98	-19.29	Avg	164.00	148.79	
3609.00	50.34	V	73.98	-23.64	Peak	355.00	152.79	
3609.00	30.34	V	53.98	-23.64	Avg	355.00	152.79	
4511.25	48.37	V	73.98	-25.61	Peak	135.50	144.97	
4511.25	28.37	V	53.98	-25.61	Avg	135.50	144.97	
5413.50	50.08	V	73.98	-23.90	Peak	60.50	139.77	
5413.50	30.08	V	53.98	-23.90	Avg	60.50	139.77	
							.	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	55.40	V	73.98	-18.58	Peak	161.50	198.70	
2706.75	35.40	V	53.98	-18.58	Avg	161.50	198.70	
3609.00	50.02	V	73.98	-23.96	Peak	95.50	175.25	
3609.00	30.02	V	53.98	-23.96	Avg	95.50	175.25	
4511.25	47.91	V	73.98	-26.07	Peak	14.25	199.58	
4511.25	27.91	V	53.98	-26.07	Avg	14.25	199.58	
5413.50	50.37	V	73.98	-23.61	Peak	126.00	199.58	
5413.50	30.37	V	53.98	-23.61	Avg	126.00	199.58	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	55.31	H	73.98	-18.67	Peak	225.25	145.08	
2706.75	35.31	H	53.98	-18.67	Avg	225.25	145.08	
3609.00	53.01	H	73.98	-20.97	Peak	223.00	113.44	
3609.00	33.01	H	53.98	-20.97	Avg	223.00	113.44	
4511.25	49.39	H	73.98	-24.60	Peak	328.50	117.25	
4511.25	29.39	H	53.98	-24.60	Avg	328.50	117.25	
5413.50	50.78	H	73.98	-23.21	Peak	189.00	110.25	
5413.50	30.78	H	53.98	-23.21	Avg	189.00	110.25	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	53.69	H	73.98	-20.29	Peak	276.75	110.40	
2706.75	33.69	H	53.98	-20.29	Avg	276.75	110.40	
3609.00	53.19	H	73.98	-20.79	Peak	58.50	161.92	
3609.00	33.19	H	53.98	-20.79	Avg	58.50	161.92	
4511.25	48.16	H	73.98	-25.82	Peak	176.00	153.56	
4511.25	28.16	H	53.98	-25.82	Avg	176.00	153.56	
5413.50	51.21	H	73.98	-22.77	Peak	276.00	145.32	
5413.50	31.21	H	53.98	-22.77	Avg	276.00	145.32	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1804.50								**N/A**
1804.50								**Done via Conducted**
2706.75	53.21	H	73.98	-20.77	Peak	272.00	162.70	
2706.75	33.21	H	53.98	-20.77	Avg	272.00	162.70	
3609.00	52.63	H	73.98	-21.35	Peak	0.00	174.46	
3609.00	32.63	H	53.98	-21.35	Avg	0.00	174.46	
4511.25	48.29	H	73.98	-25.69	Peak	103.75	139.35	
4511.25	28.29	H	53.98	-25.69	Avg	103.75	139.35	
5413.50	48.59	H	73.98	-25.39	Peak	283.50	140.45	
5413.50	28.59	H	53.98	-25.39	Avg	283.50	140.45	
6315.75								**No Emission**
6315.75								**Detected**
7218.00								**No Emission**
7218.00								**Detected**
8120.25								**No Emission**
8120.25								**Detected**
9022.50								**No Emission**
9022.50								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	53.30	V	73.98	-20.68	Peak	215.25	101.25	
2745.69	33.30	V	53.98	-20.68	Avg	215.25	101.25	
3660.92	53.43	V	73.98	-20.55	Peak	268.50	139.23	
3660.92	33.43	V	53.98	-20.55	Avg	268.50	139.23	
4576.15	46.08	V	73.98	-27.90	Peak	129.75	116.43	
4576.15	26.08	V	53.98	-27.90	Avg	129.75	116.43	
5491.38	48.82	V	73.98	-25.16	Peak	137.50	118.58	
5491.38	28.82	V	53.98	-25.16	Avg	137.50	118.58	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247

Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	54.66	V	73.98	-19.32	Peak	279.50	141.02	
2745.69	34.66	V	53.98	-19.32	Avg	279.50	141.02	
3660.92	53.60	V	73.98	-20.38	Peak	31.75	190.46	
3660.92	33.60	V	53.98	-20.38	Avg	31.75	190.46	
4576.15	49.11	V	73.98	-24.87	Peak	268.00	190.46	
4576.15	29.11	V	53.98	-24.87	Avg	268.00	190.46	
5491.38	50.78	V	73.98	-23.20	Peak	107.25	143.77	
5491.38	30.78	V	53.98	-23.20	Avg	107.25	143.77	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	53.85	V	73.98	-20.14	Peak	153.00	153.32	
2745.69	33.85	V	53.98	-20.14	Avg	153.00	153.32	
3660.92	54.02	V	73.98	-19.96	Peak	59.25	126.58	
3660.92	34.02	V	53.98	-19.96	Avg	59.25	126.58	
4576.15	47.17	V	73.98	-26.81	Peak	200.25	173.44	
4576.15	27.17	V	53.98	-26.81	Avg	200.25	173.44	
5491.38	47.71	V	73.98	-26.28	Peak	55.75	138.16	
5491.38	27.71	V	53.98	-26.28	Avg	55.75	138.16	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	56.59	H	73.98	-17.39	Peak	181.25	139.23	
2745.69	36.59	H	53.98	-17.39	Avg	181.25	139.23	
3660.92	50.15	H	73.98	-23.83	Peak	64.50	183.53	
3660.92	30.15	H	53.98	-23.83	Avg	64.50	183.53	
4576.15	49.42	H	73.98	-24.56	Peak	68.50	103.58	
4576.15	29.42	H	53.98	-24.56	Avg	68.50	103.58	
5491.38	51.42	H	73.98	-22.56	Peak	350.50	120.67	
5491.38	31.42	H	53.98	-22.56	Avg	350.50	120.67	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	55.24	H	73.98	-18.74	Peak	112.50	144.19	
2745.69	35.24	H	53.98	-18.74	Avg	112.50	144.19	
3660.92	50.51	H	73.98	-23.47	Peak	330.00	183.71	
3660.92	30.51	H	53.98	-23.47	Avg	330.00	183.71	
4576.15	48.97	H	73.98	-25.01	Peak	12.50	186.58	
4576.15	28.97	H	53.98	-25.01	Avg	12.50	186.58	
5491.38	50.14	H	73.98	-23.84	Peak	92.25	189.58	
5491.38	30.14	H	53.98	-23.84	Avg	92.25	189.58	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.46								**N/A**
1830.46								**Done via Conducted**
2745.69	56.81	H	73.98	-17.17	Peak	154.25	124.55	
2745.69	36.81	H	53.98	-17.17	Avg	154.25	124.55	
3660.92	51.22	H	73.98	-22.77	Peak	197.75	168.97	
3660.92	31.22	H	53.98	-22.77	Avg	197.75	168.97	
4576.15	49.10	H	73.98	-24.88	Peak	55.50	123.65	
4576.15	29.10	H	53.98	-24.88	Avg	55.50	123.65	
5491.38	50.64	H	73.98	-23.34	Peak	164.75	110.04	
5491.38	30.64	H	53.98	-23.34	Avg	164.75	110.04	
6406.61								**No Emission**
6406.61								**Detected**
7321.84								**No Emission**
7321.84								**Detected**
8237.07								**No Emission**
8237.07								**Detected**
9152.30								**No Emission**
9152.30								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	53.69	V	73.98	-20.29	Peak	212.25	105.50	
2783.10	33.69	V	53.98	-20.29	Avg	212.50	105.50	
3710.80	53.49	V	73.98	-20.49	Peak	267.50	138.23	
3710.80	33.49	V	53.98	-20.49	Avg	267.50	138.23	
4638.50	45.08	V	73.98	-28.90	Peak	128.75	115.43	
4638.50	25.08	V	53.98	-28.90	Avg	128.75	115.43	
5566.20	47.82	V	73.98	-26.16	Peak	136.50	117.58	
5566.20	27.82	V	53.98	-26.16	Avg	136.50	117.58	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	54.83	V	73.98	-19.15	Peak	281.00	142.26	
2783.10	34.83	V	53.98	-19.15	Avg	281.00	142.26	
3710.80	53.41	V	73.98	-20.57	Peak	29.50	192.41	
3710.80	33.41	V	53.98	-20.57	Avg	29.50	192.41	
4638.50	49.28	V	73.98	-24.70	Peak	272.00	202.15	
4638.50	29.28	V	53.98	-24.70	Avg	272.00	202.15	
5566.20	51.36	V	73.98	-22.62	Peak	112.25	144.75	
5566.20	31.36	V	53.98	-22.62	Avg	112.25	144.75	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	54.26	V	73.98	-19.72	Peak	151.25	154.85	
2783.10	34.26	V	53.98	-19.72	Avg	151.25	154.85	
3710.80	54.18	V	73.98	-19.80	Peak	60.25	127.51	
3710.80	34.18	V	53.98	-19.80	Avg	60.25	127.51	
4638.50	48.27	V	73.98	-25.71	Peak	201.25	176.25	
4638.50	28.27	V	53.98	-25.71	Avg	201.25	176.25	
5566.20	49.26	V	73.98	-24.72	Peak	58.25	139.78	
5566.20	29.26	V	53.98	-24.72	Avg	58.25	139.78	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	56.70	H	73.98	-17.28	Peak	182.00	158.76	
2783.10	36.70	H	53.98	-17.28	Avg	182.00	158.76	
3710.80	51.52	H	73.98	-22.47	Peak	154.50	104.61	
3710.80	31.52	H	53.98	-22.47	Avg	154.50	104.61	
4638.50	48.43	H	73.98	-25.55	Peak	279.50	120.55	
4638.50	28.43	H	53.98	-25.55	Avg	279.50	120.55	
5566.20	51.31	H	73.98	-22.67	Peak	151.75	122.25	
5566.20	31.31	H	53.98	-22.67	Avg	151.75	122.25	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	56.46	H	73.98	-17.52	Peak	211.00	107.11	
2783.10	36.46	H	53.98	-17.52	Avg	211.00	107.11	
3710.80	50.88	H	73.98	-23.10	Peak	13.25	129.32	
3710.80	30.88	H	53.98	-23.10	Avg	13.25	129.32	
4638.50	49.38	H	73.98	-24.60	Peak	240.25	135.95	
4638.50	29.38	H	53.98	-24.60	Avg	240.25	135.95	
5566.20	52.01	H	73.98	-21.97	Peak	121.50	150.58	
5566.20	32.01	H	53.98	-21.97	Avg	121.50	150.58	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC 15.247
Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/19/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1855.40								**N/A**
1855.40								**Done via Conducted**
2783.10	57.09	H	73.98	-16.89	Peak	203.50	214.88	
2783.10	37.09	H	53.98	-16.89	Avg	203.50	214.88	
3710.80	51.20	H	73.98	-22.78	Peak	141.00	145.26	
3710.80	31.20	H	53.98	-22.78	Avg	141.00	145.26	
4638.50	45.21	H	73.98	-28.77	Peak	311.50	129.26	
4638.50	25.21	H	53.98	-28.77	Avg	311.50	129.26	
5566.20	51.39	H	73.98	-22.59	Peak	149.00	146.52	
5566.20	31.39	H	53.98	-22.59	Avg	149.00	146.52	
6493.90								**No Emission**
6493.90								**Detected**
7421.60								**No Emission**
7421.60								**Detected**
8349.30								**No Emission**
8349.30								**Detected**
9277.00								**No Emission**
9277.00								**Detected**

FCC Class B

Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Digital Portion and Non Harmonic Emissions

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

FCC Class B

Nortek Security & Controls, LLC
Door Chime Button
Model: SW-ATT-DB-Z

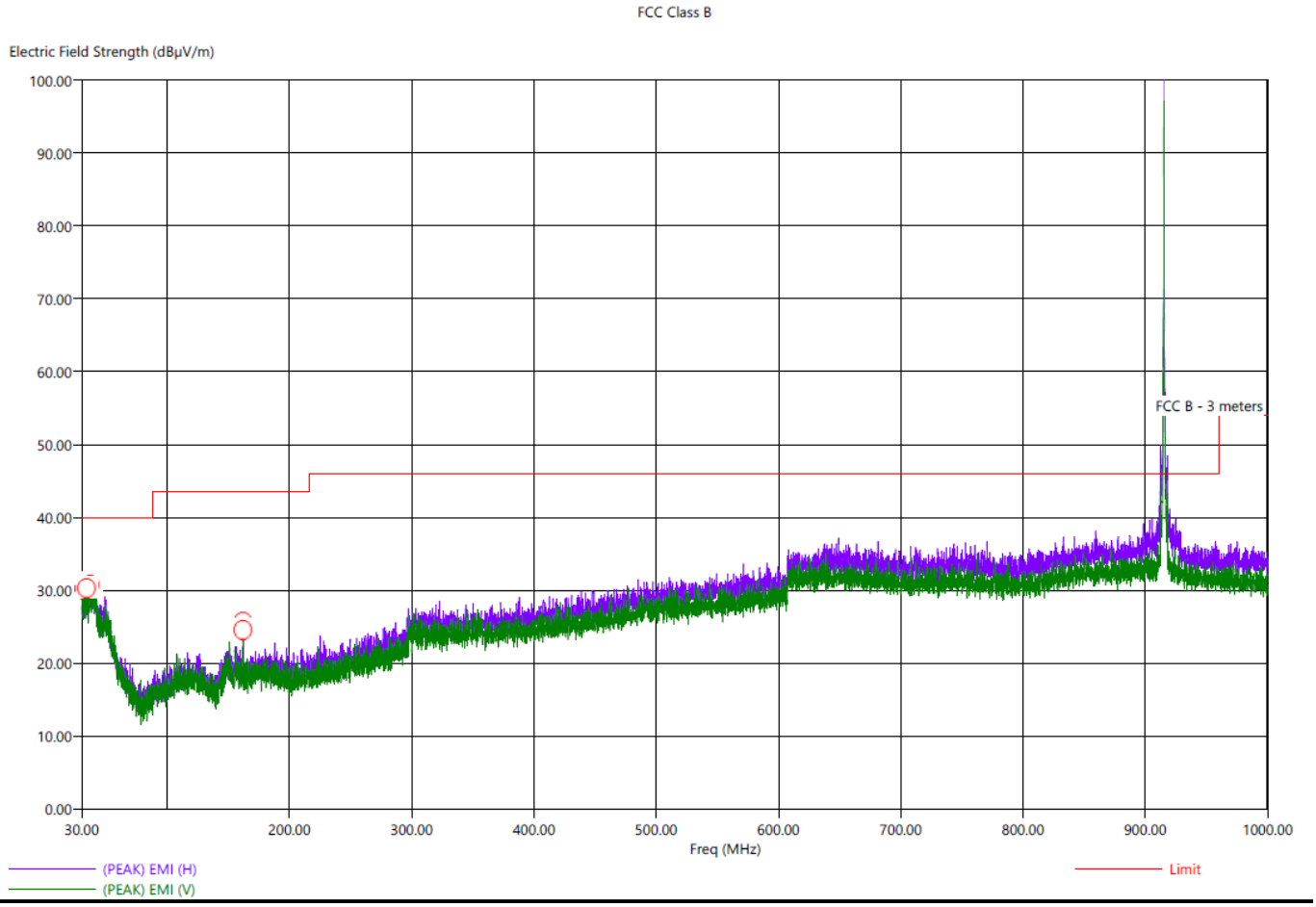
Date: 05/21/2016
Lab: D
Tested By: Kyle Fujimoto

Receive Mode - 10 kHz to 9.3 GHz

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Receiver Portion
								of the EUT
								No Emissions Detected
								from 30 MHz to 1 GHz
								for the Receiver Portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Receiver Portion
								of the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

Title: Pre-Scan - FCC Class B
File: Agilent - Pre-Scan - FCC 15.247 - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously transmitting - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-B
Frequency Hopping Version

5/23/2016 10:07:27 AM
Sequence: Preliminary Scan



Note: The emission above the limit line is from the transmitter and subject of FCC 15.247 limits.

Title: Radiated Final - FCC Class B
File: Agilent - Final Scan - FCC 15.247 - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is cotinuously transmitting - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-B
Frequency Hopping Version

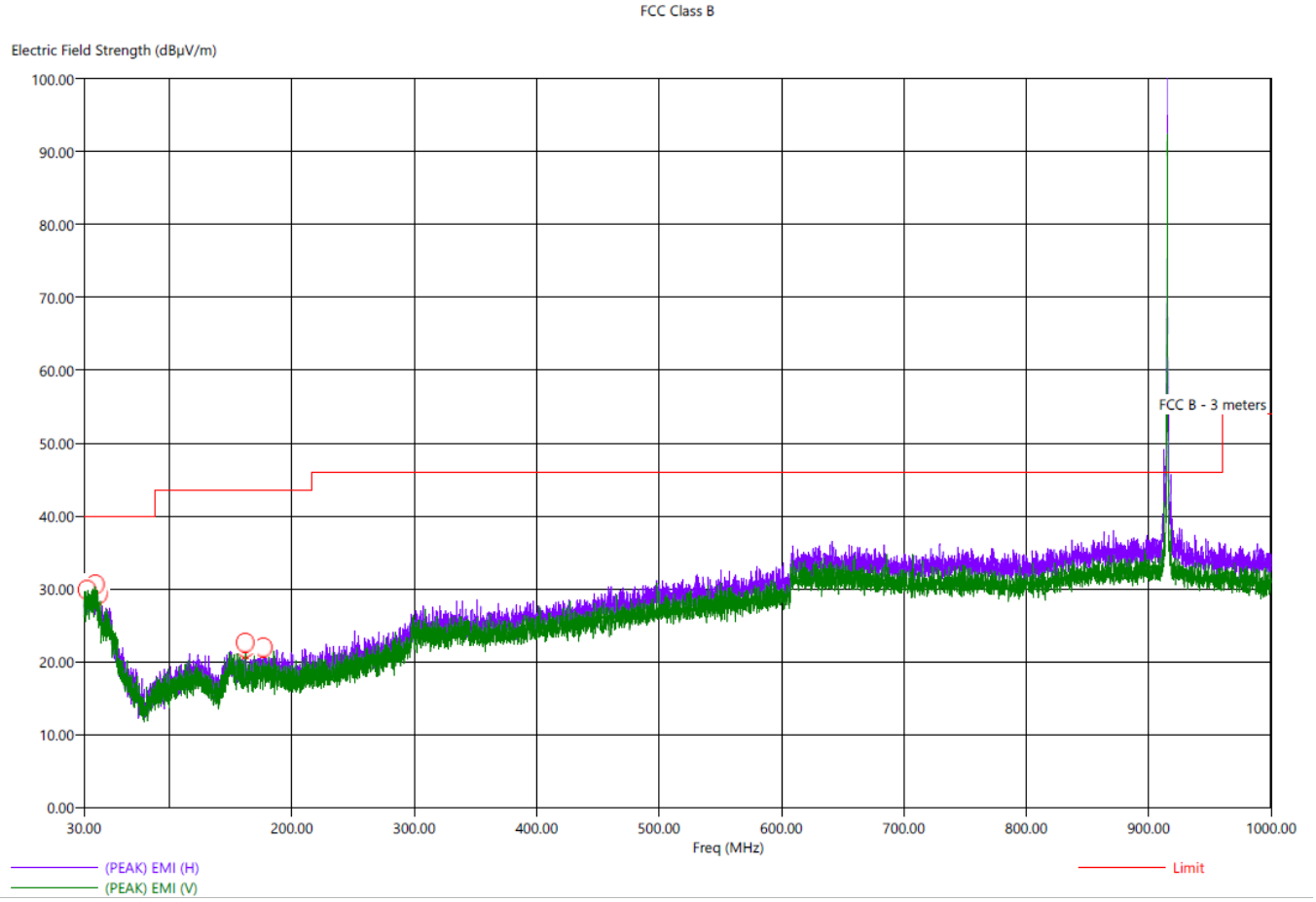
5/23/2016 10:21:02 AM
Sequence: Final Measurements

FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
31.70	H	31.69	26.57	-8.31	-13.43	40.00	24.10	0.36	190.25	369.62
34.00	V	31.45	26.70	-8.55	-13.30	40.00	24.24	0.37	359.75	321.08
37.10	V	32.50	27.01	-7.50	-12.99	40.00	24.80	0.38	178.00	288.13
38.00	H	32.12	27.61	-7.88	-12.39	40.00	25.03	0.38	189.25	286.40
162.00	H	28.99	26.17	-14.51	-17.33	43.50	13.34	0.94	174.00	112.37
162.00	V	27.32	24.09	-16.18	-19.41	43.50	13.34	0.94	141.25	127.47

Title: Pre-Scan - FCC Class B
File: Agilent - Pre-Scan - FCC 15.247 - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously transmitting - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-N
Frequency Hopping Version

5/23/2016 8:17:56 AM
Sequence: Preliminary Scan



Note: The emission above the limit line is from the transmitter and subject of FCC 15.247 limits.

Title: Radiated Final - FCC Class B
File: Agilent - Final Scan - FCC 15.247 - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is cotinuously transmitting - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-N
Frequency Hopping Version

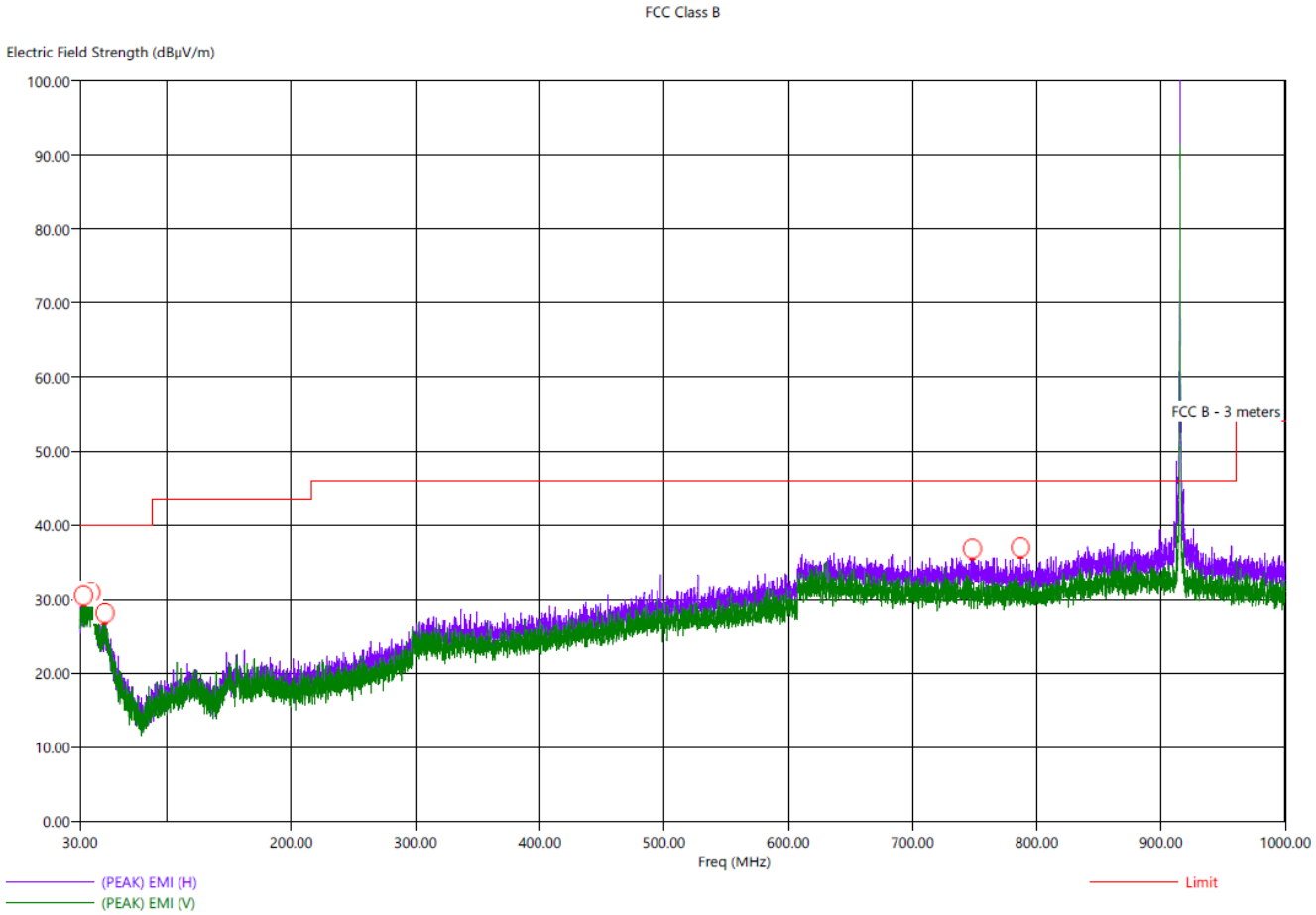
5/23/2016 9:00:20 AM
Sequence: Final Measurements

FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
32.60	H	31.61	26.26	-8.39	-13.74	40.00	24.17	0.36	181.25	373.50
39.50	H	32.88	27.17	-7.12	-12.83	40.00	25.30	0.39	34.50	178.64
41.90	H	31.35	25.56	-8.65	-14.44	40.00	23.85	0.40	22.50	112.55
162.00	V	24.43	19.52	-19.07	-23.98	43.50	13.34	0.95	179.25	111.59
162.10	H	26.35	22.23	-17.15	-21.27	43.50	13.34	0.95	163.75	177.50
176.60	H	22.20	17.39	-21.30	-26.11	43.50	14.23	1.00	256.25	399.95

Title: Pre-Scan - FCC Class B
File: Agilent - Pre-Scan - Frequency Hopping - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously transmitting - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-Z
Frequency Hopping Version

5/23/2016 7:11:45 AM
Sequence: Preliminary Scan



Note: The emission above the limit line is from the transmitter and subject of FCC 15.247 limits.

Title: Radiated Final - FCC Class B
File: Agilent - Final Scan - Frequency Hopping - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is cotinuously transmitting - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-Z
Frequency Hopping Version

5/23/2016 7:28:40 AM
Sequence: Final Measurements

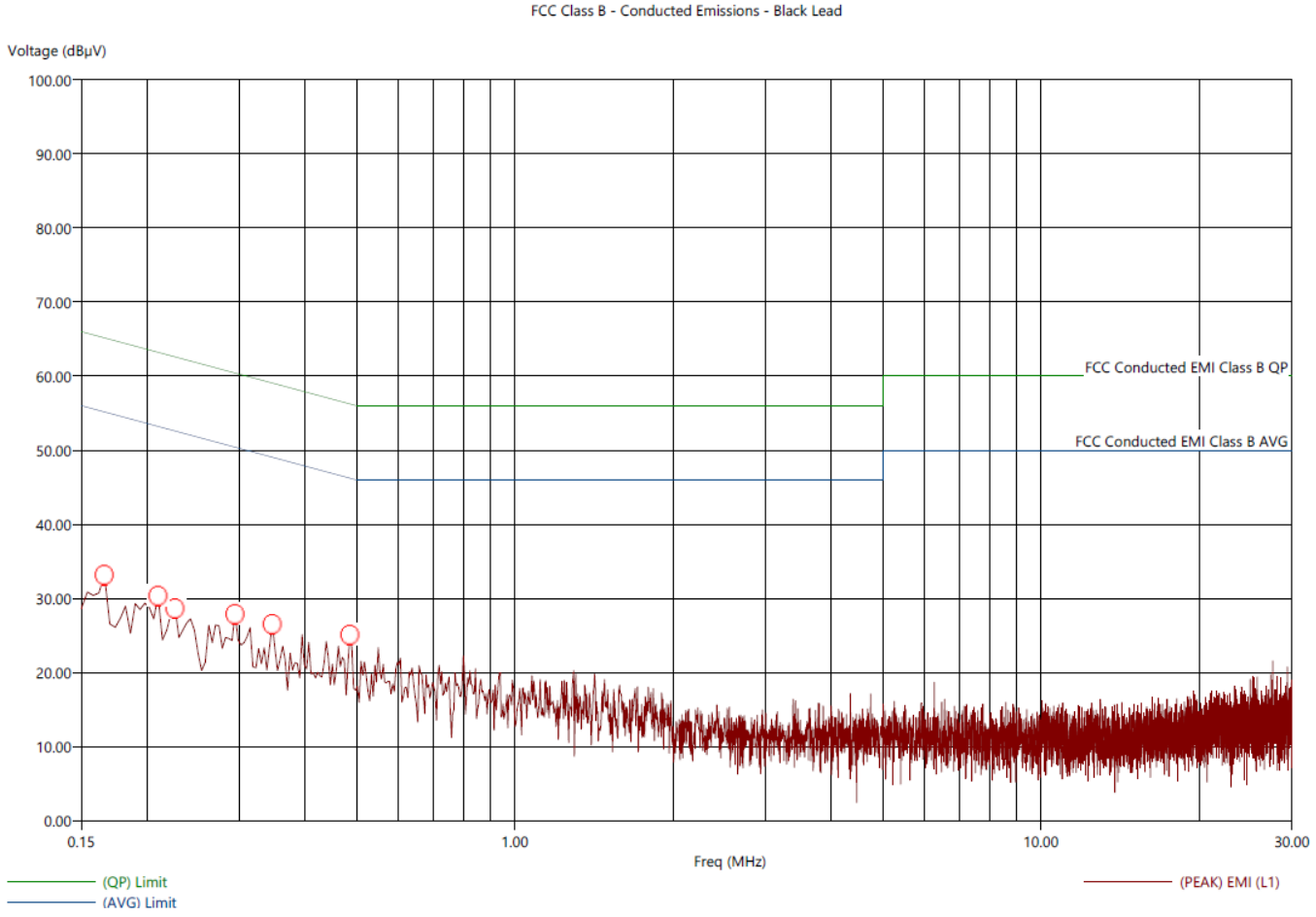
FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Aql (deg)	Twr Ht (cm)
32.90	V	31.67	26.36	-8.33	-13.64	40.00	24.19	0.36	290.50	400.61
39.00	H	32.56	27.14	-7.44	-12.86	40.00	25.15	0.39	359.75	400.19
49.40	H	29.88	24.06	-10.12	-15.94	40.00	22.43	0.42	2.25	126.88
50.10	V	29.04	24.14	-10.96	-15.86	40.00	22.48	0.42	6.00	399.95
748.30	H	35.65	30.85	-10.35	-15.15	46.00	24.48	2.38	57.25	399.95
787.10	H	35.64	30.53	-10.36	-15.47	46.00	24.35	2.36	151.25	237.62

CONDUCTED EMISSIONS DATA SHEETS

Title: FCC Class B - Conducted Emissions - Black Lead
File: Agilent - Pre-Scan - Conducted - FCC 15.247 - Black Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously in frequency hopping mode - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-B
Frequency Hopping Version

5/23/2016 1:29:30 PM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - Black Lead
File: Agilent - Final Scan - Conducted - FCC 15.247 - Black Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously in frequency hopping mode - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-B
Frequency Hopping Version

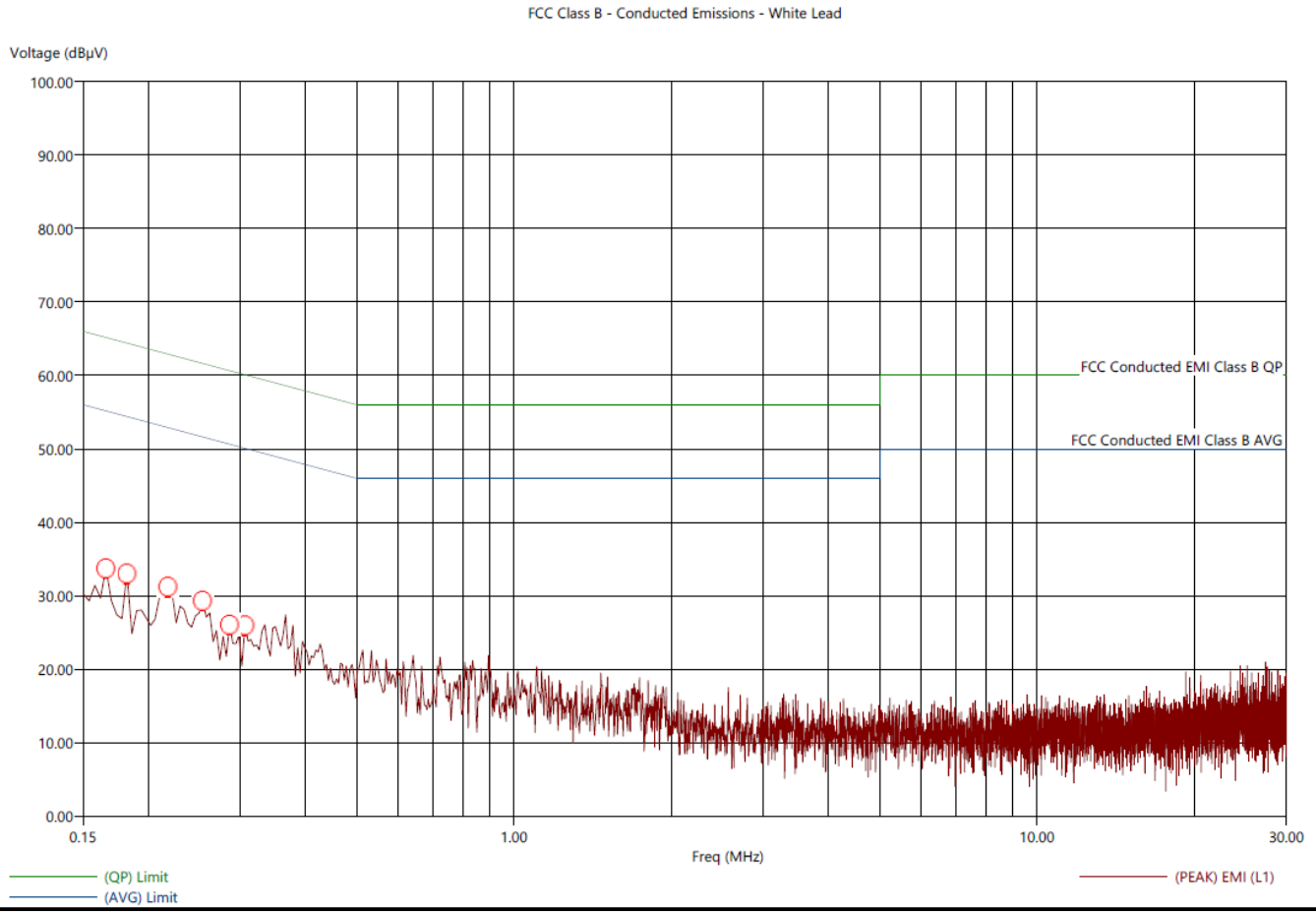
5/23/2016 1:31:33 PM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - Black Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.17	36.25	24.25	-18.93	-30.93	55.18	0.07	0.46	9.83
0.21	33.75	22.75	-19.71	-30.71	53.46	0.08	0.34	9.83
0.23	33.08	22.28	-19.36	-30.16	52.44	0.08	0.27	9.83
0.29	34.24	24.44	-15.93	-25.73	50.17	0.08	0.12	9.83
0.35	32.37	23.37	-16.83	-25.83	49.20	0.08	0.06	9.84
0.49	30.07	20.47	-16.18	-25.78	46.25	0.08	0.05	9.84

Title: FCC Class B - Conducted Emissions - White Lead
File: Agilent - Pre-Scan - Conducted - FCC 15.247 - White Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Version
EUT Condition: The EUT is continuously in frequency hopping mode - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-B
Frequency Hopping Version

5/23/2016 1:45:40 PM
Sequence: Preliminary Scan



Title: FCC CLass B - Conducted Emissions - White Lead
File: Agilent - Final Scan - Conducted - FCC 15.247 - White Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously in frequency hopping mode - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-B
Frequency Hopping Version

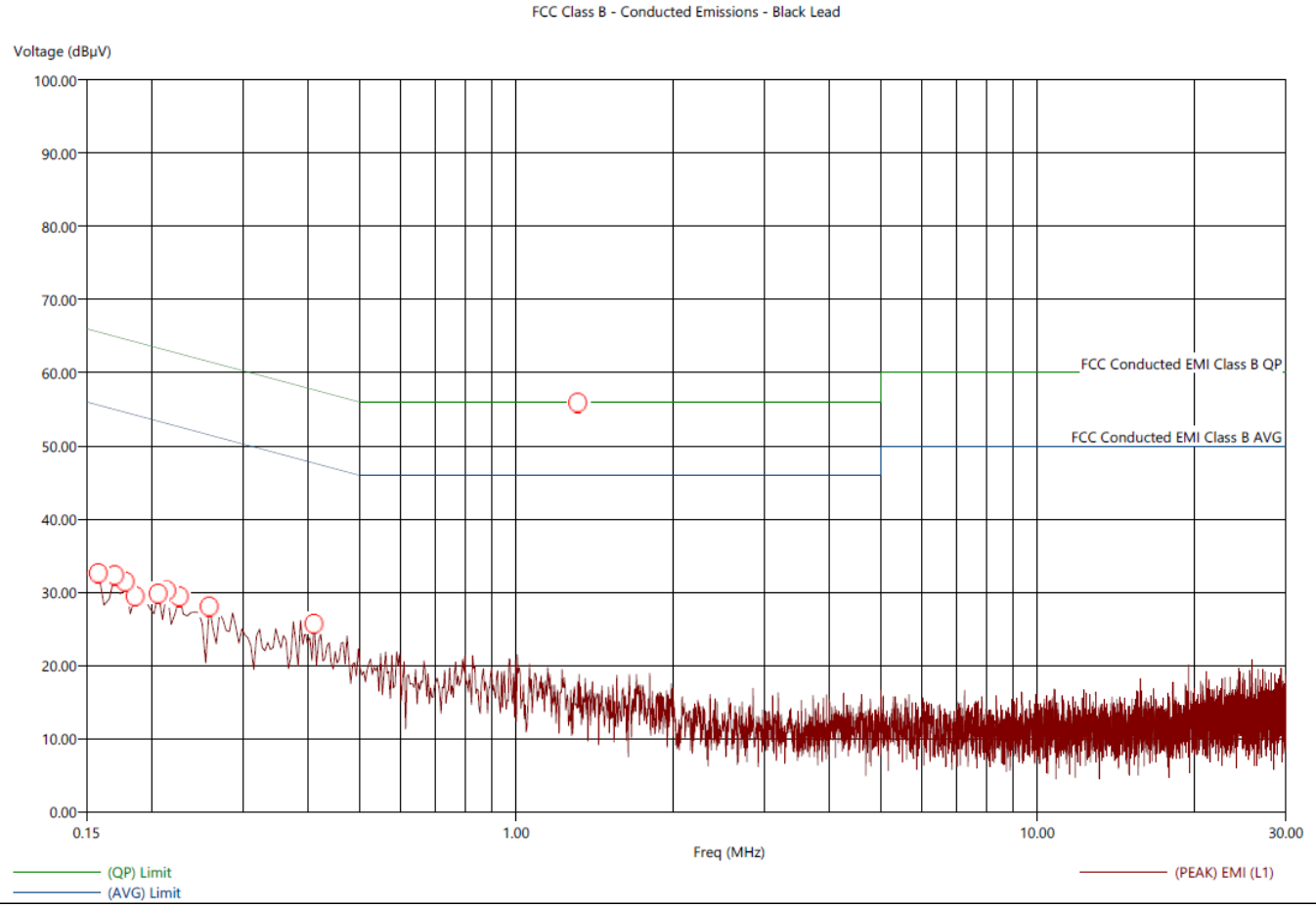
5/23/2016 1:47:31 PM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - White Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.166	29.52	20.03	-26.11	-35.60	55.64	0.06	0.47	9.83
0.182	29.42	18.86	-24.81	-35.37	54.23	0.07	0.38	9.83
0.218	28.09	17.84	-24.58	-34.83	52.67	0.08	0.28	9.83
0.254	31.49	21.48	-19.94	-29.95	51.42	0.08	0.19	9.83
0.286	30.31	20.65	-20.38	-30.04	50.69	0.08	0.14	9.83
0.306	29.85	20.19	-20.40	-30.06	50.25	0.08	0.12	9.83

Title: FCC Class B - Conducted Emissions - Black Lead
File: Agilent - Pre-Scan - Conducted - FCC 15.247 - Black Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously frequency hopping - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-N
Frequency Hopping Version

5/23/2016 2:14:13 PM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - Black Lead
File: Agilent - Final Scan - Conducted - FCC 15.247 - Black Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously frequency hopping - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-N
Frequency Hopping Version

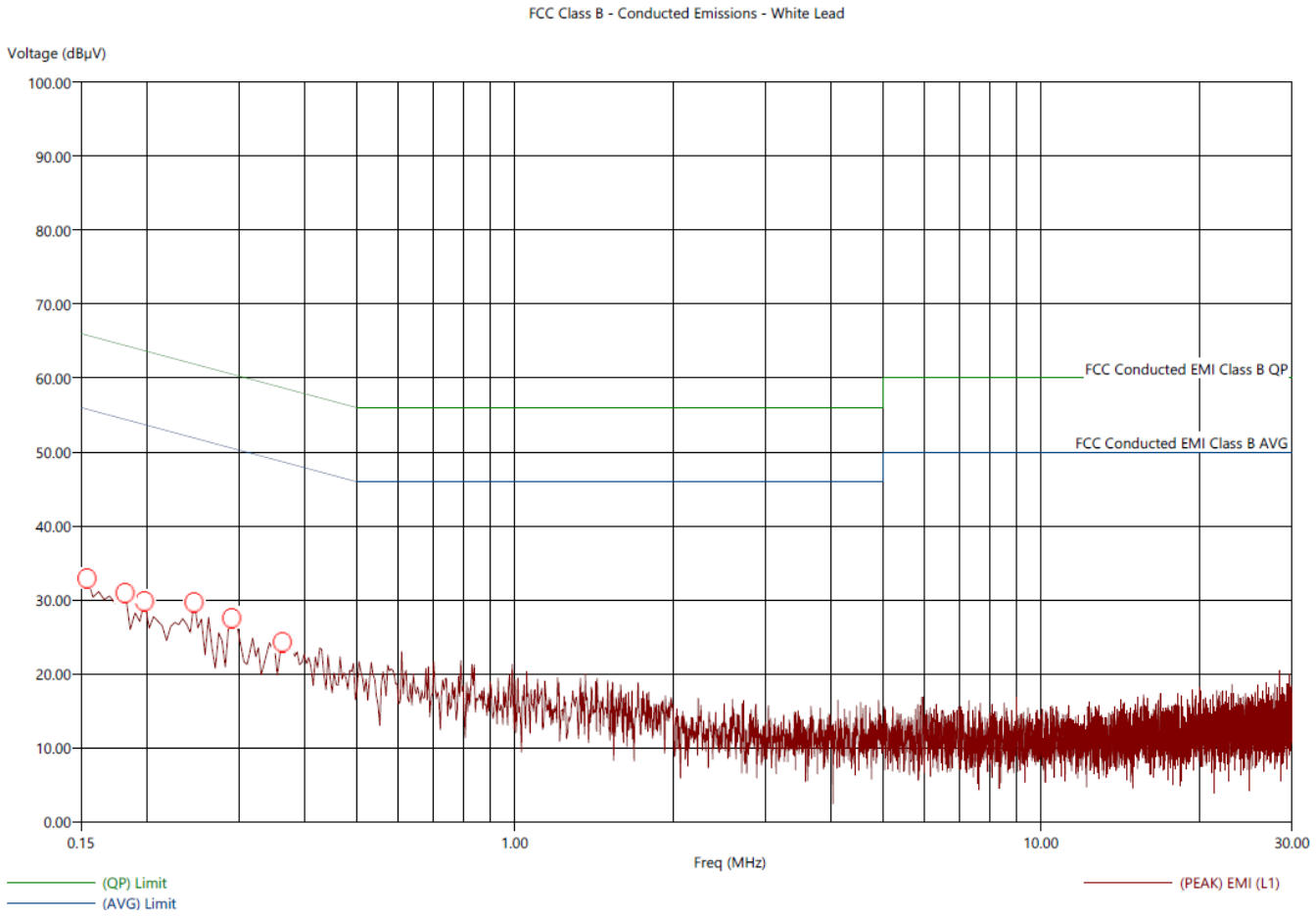
5/23/2016 2:16:03 PM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - Black Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.16	29.87	19.81	-25.46	-35.52	55.33	0.07	0.47	9.83
0.17	30.62	19.82	-24.51	-35.31	55.13	0.07	0.45	9.83
0.18	29.18	19.35	-25.60	-35.43	54.78	0.07	0.43	9.83
0.19	28.87	18.73	-25.31	-35.45	54.18	0.08	0.39	9.83
0.21	29.43	18.40	-24.07	-35.10	53.50	0.08	0.34	9.83
0.21	28.87	17.83	-23.81	-34.85	52.68	0.08	0.29	9.83
0.23	28.43	17.68	-24.28	-35.03	52.71	0.08	0.29	9.83
0.26	31.61	21.63	-20.14	-30.12	51.75	0.08	0.23	9.83
0.41	27.25	17.27	-20.40	-30.38	47.65	0.08	0.05	9.84

Title: FCC Class B - Conducted Emissions - White Lead
File: Agilent - Pre-Scan - Conducted - FCC 15.247 - White Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Version
EUT Condition: The EUT is cotinuously frequency hopping - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-N
Frequency Hopping Version

5/23/2016 2:08:03 PM
Sequence: Preliminary Scan



Title: FCC CLass B - Conducted Emissions - White Lead
File: Agilent - Final Scan - Conducted - FCC 15.247 - White Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously frequency hopping - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-N
Frequency Hopping Version

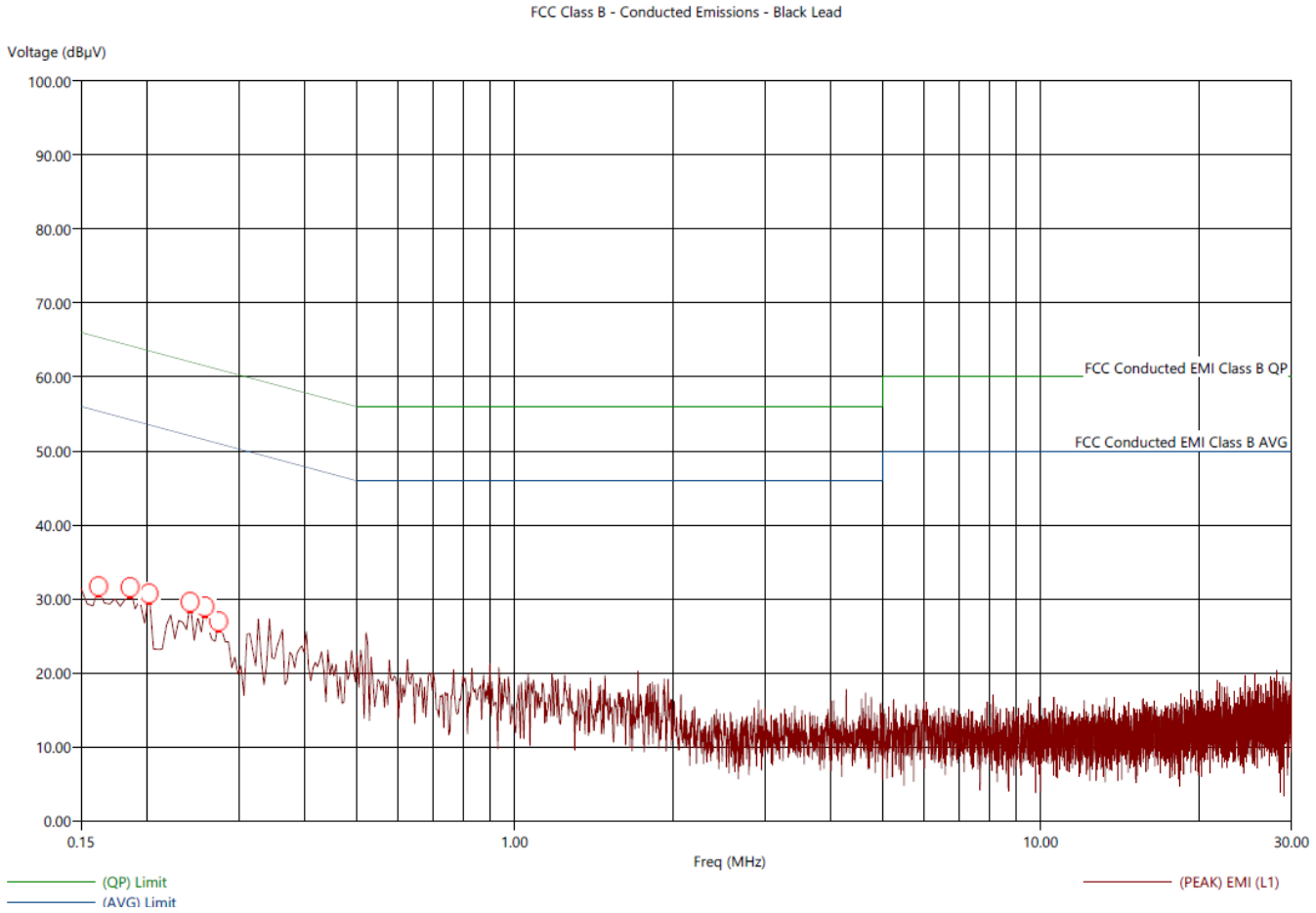
5/23/2016 2:09:44 PM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - White Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.154	33.85	20.82	-21.85	-34.88	55.70	0.06	0.48	9.83
0.182	34.15	19.44	-20.22	-34.93	54.37	0.07	0.39	9.83
0.198	33.66	18.69	-19.81	-34.78	53.47	0.08	0.33	9.83
0.246	30.67	17.97	-21.42	-34.12	52.09	0.08	0.24	9.83
0.290	31.12	20.75	-19.31	-29.68	50.44	0.08	0.13	9.83
0.362	28.24	18.33	-20.50	-30.41	48.74	0.08	0.03	9.84

Title: FCC Class B - Conducted Emissions - Black Lead
File: Agilent - Pre-Scan - Conducted - FCC 15.247 - Black Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously frequency hopping - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-Z
Frequency Hopping Version

5/23/2016 2:43:17 PM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - Black Lead
File: Agilent - Final Scan - Conducted - FCC 15.247 - Black Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously frequency hopping - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-Z
Frequency Hopping Version

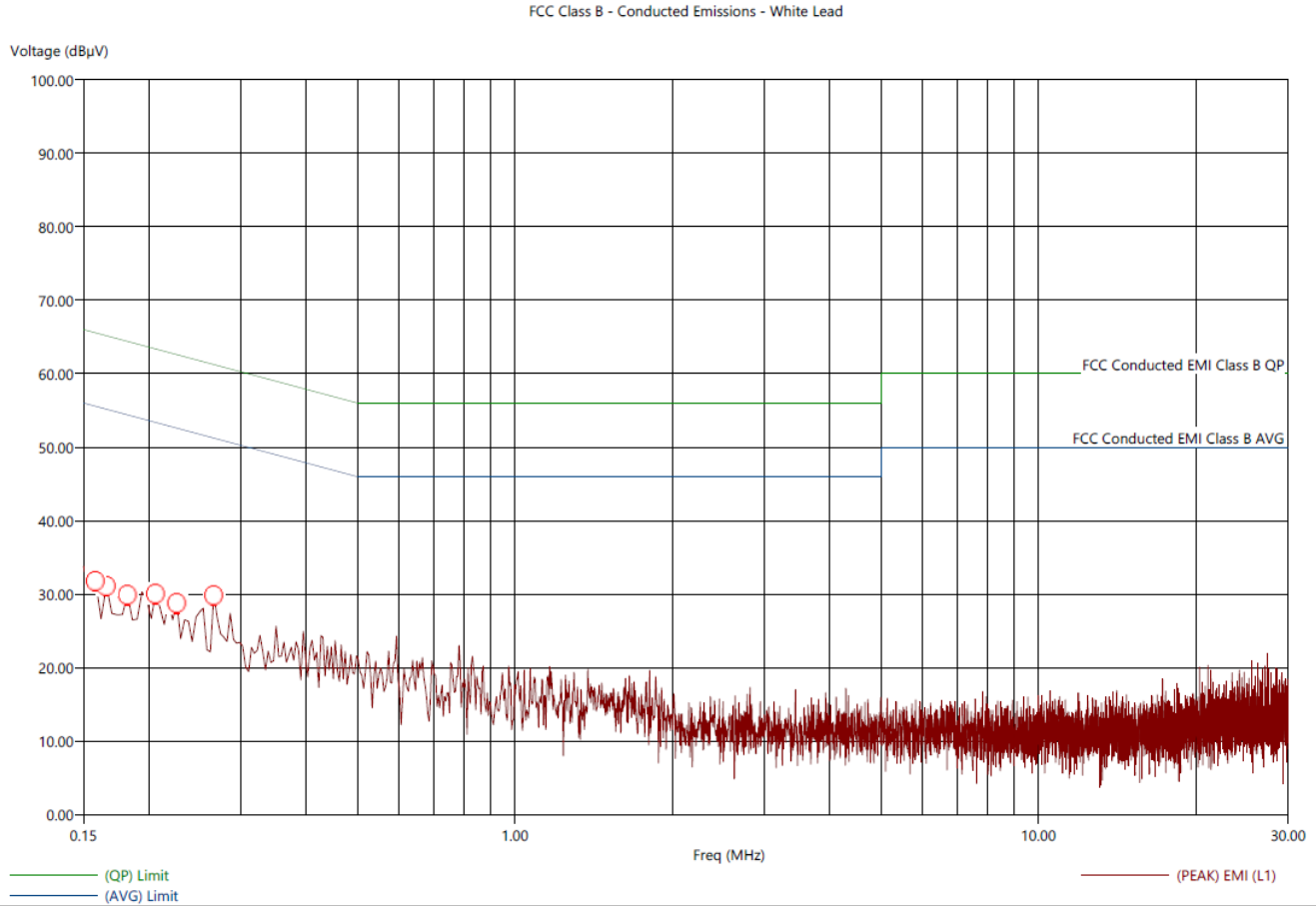
5/23/2016 2:44:33 PM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - Black Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.16	34.67	20.51	-21.10	-35.26	55.77	0.06	0.50	9.83
0.19	32.89	19.38	-21.45	-34.96	54.35	0.07	0.40	9.83
0.20	33.01	18.64	-20.30	-34.67	53.32	0.08	0.33	9.83
0.24	30.51	17.94	-21.42	-33.99	51.93	0.08	0.24	9.83
0.26	31.76	21.55	-19.68	-29.89	51.43	0.08	0.21	9.83
0.27	31.19	20.58	-19.73	-30.34	50.92	0.08	0.17	9.83

Title: FCC Class B - Conducted Emissions - White Lead
File: Agilent - Pre-Scan - Conducted - FCC 15.247 - White Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Version
EUT Condition: The EUT is cotinuously frequency hopping - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-Z
Frequency Hopping Version

5/23/2016 2:54:41 PM
Sequence: Preliminary Scan



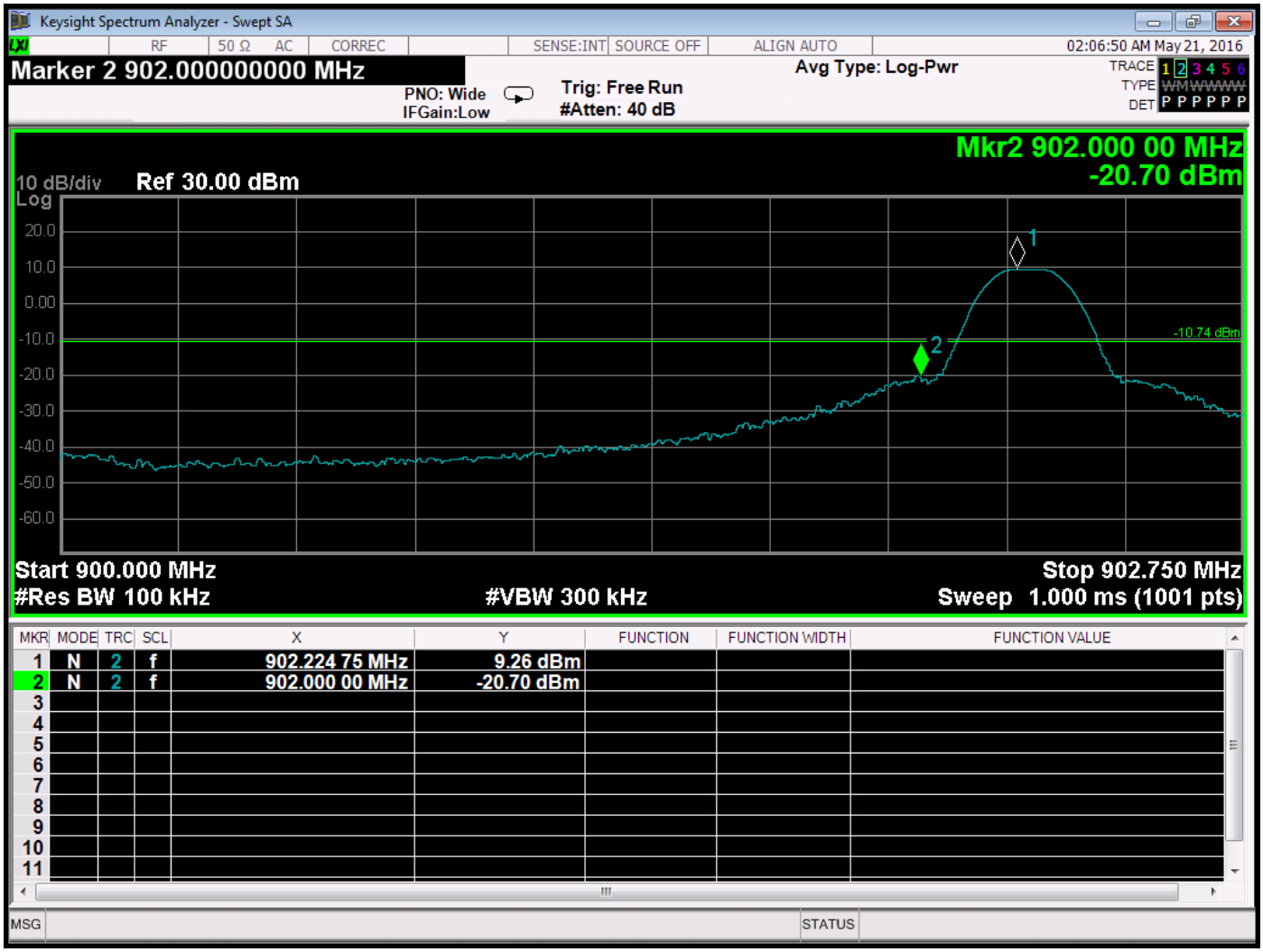
Title: FCC CLass B - Conducted Emissions - White Lead
File: Agilent - Final Scan - Conducted - FCC 15.247 - White Lead - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: Door Chime Button
EUT Condition: The EUT is continuously frequency hoppinng - Y-Axis Worst Case
Comments: Company: Nortek Security & Controls, LLC
Model: SW-ATT-DB-Z
Frequency Hopping Version

5/23/2016 2:56:00 PM
Sequence: Final Measurements

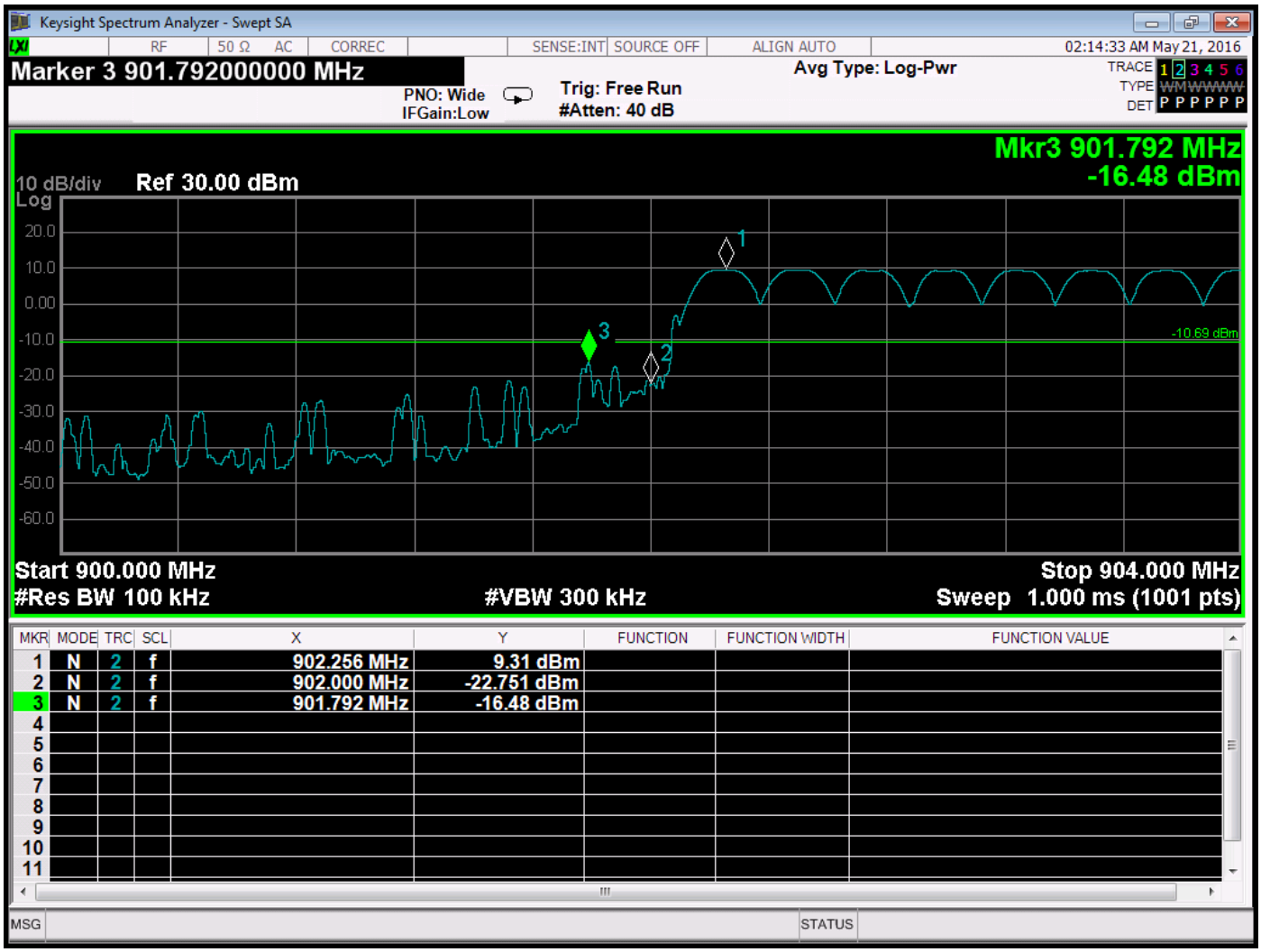
FCC Class B - Conducted Emissions - White Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.158	30.38	20.30	-25.44	-35.52	55.82	0.06	0.49	9.83
0.166	29.57	19.55	-25.62	-35.64	55.18	0.07	0.44	9.83
0.182	29.18	19.26	-25.47	-35.39	54.65	0.07	0.41	9.83
0.206	28.39	18.10	-24.81	-35.10	53.21	0.08	0.31	9.83
0.226	27.93	17.55	-24.49	-34.87	52.42	0.08	0.26	9.83
0.266	31.11	21.38	-20.33	-30.06	51.43	0.08	0.19	9.83

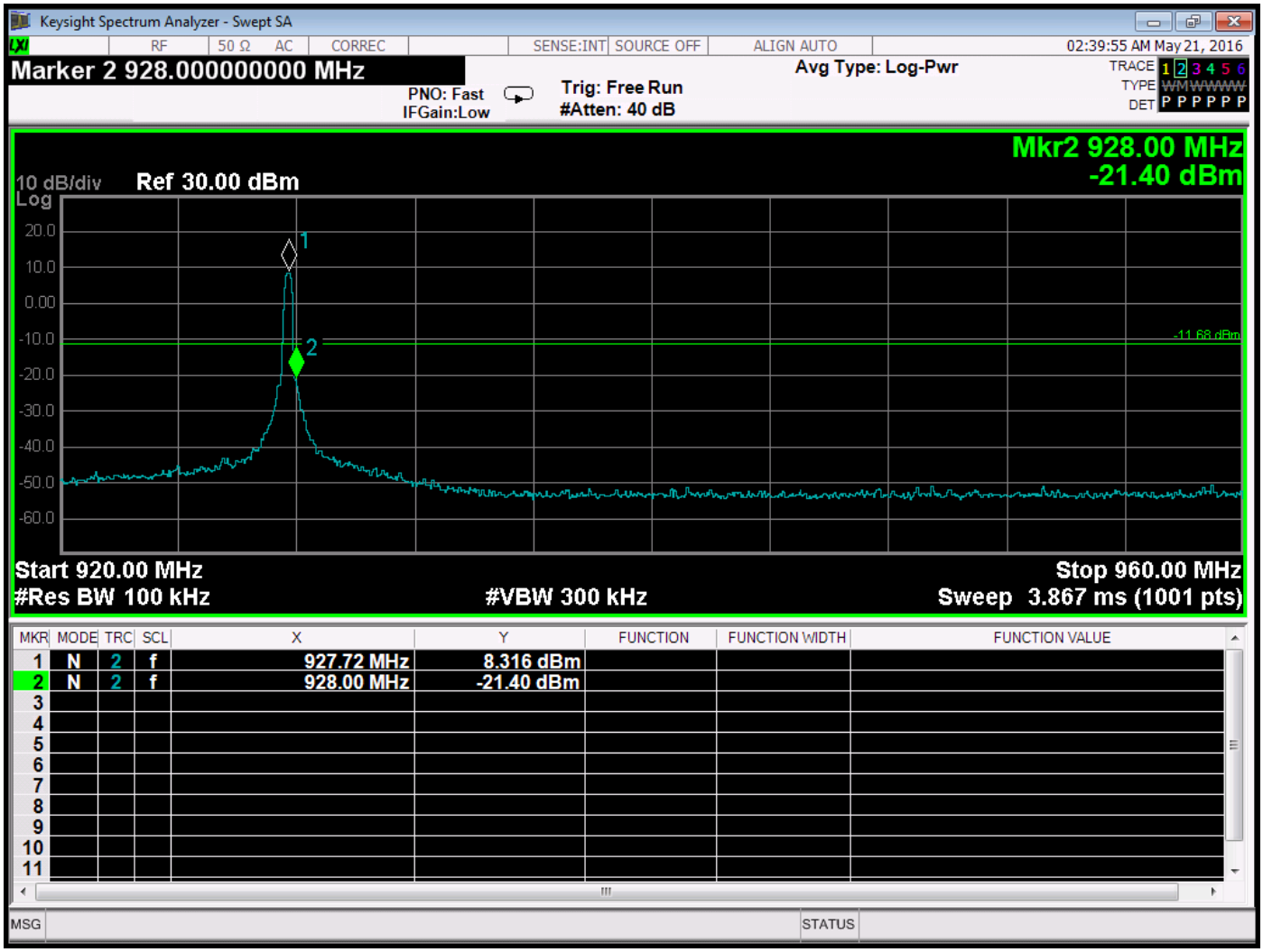
BAND EDGES DATA SHEETS



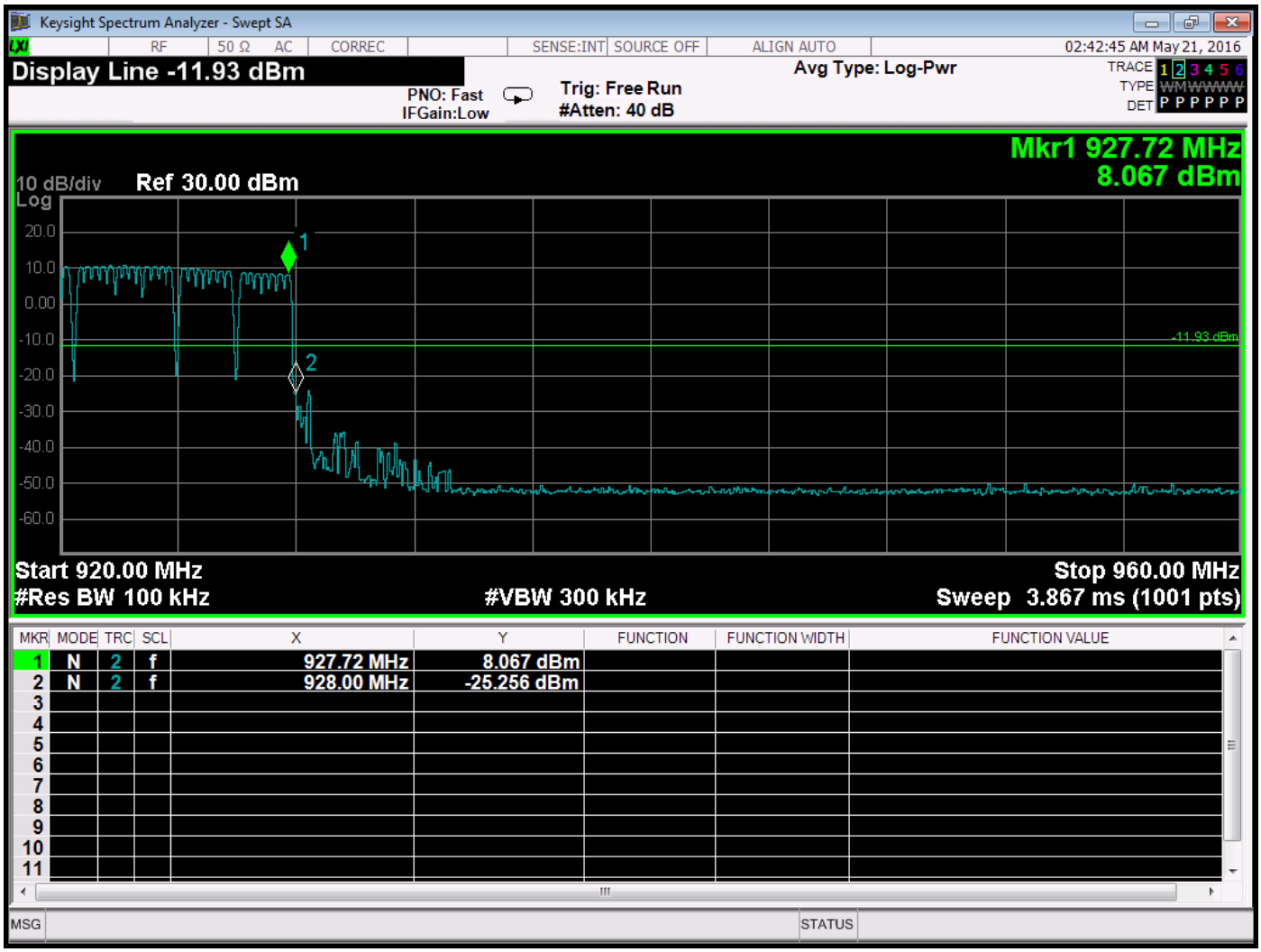
Band Edge – Low Channel – Fixed Frequency Mode



Band Edge – Low Channel – Hopping Mode

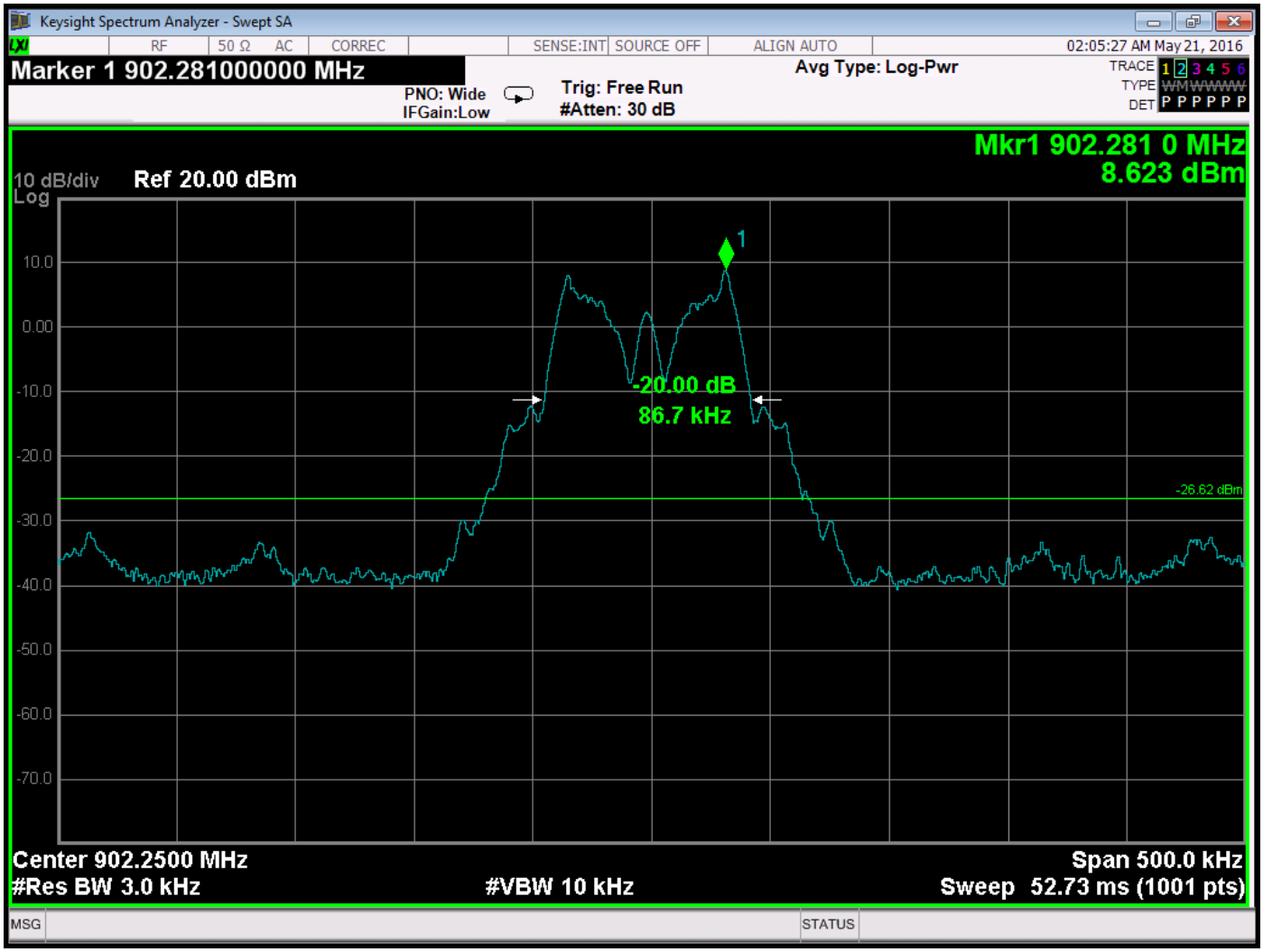


Band Edge – High Channel – Fixed Frequency Mode

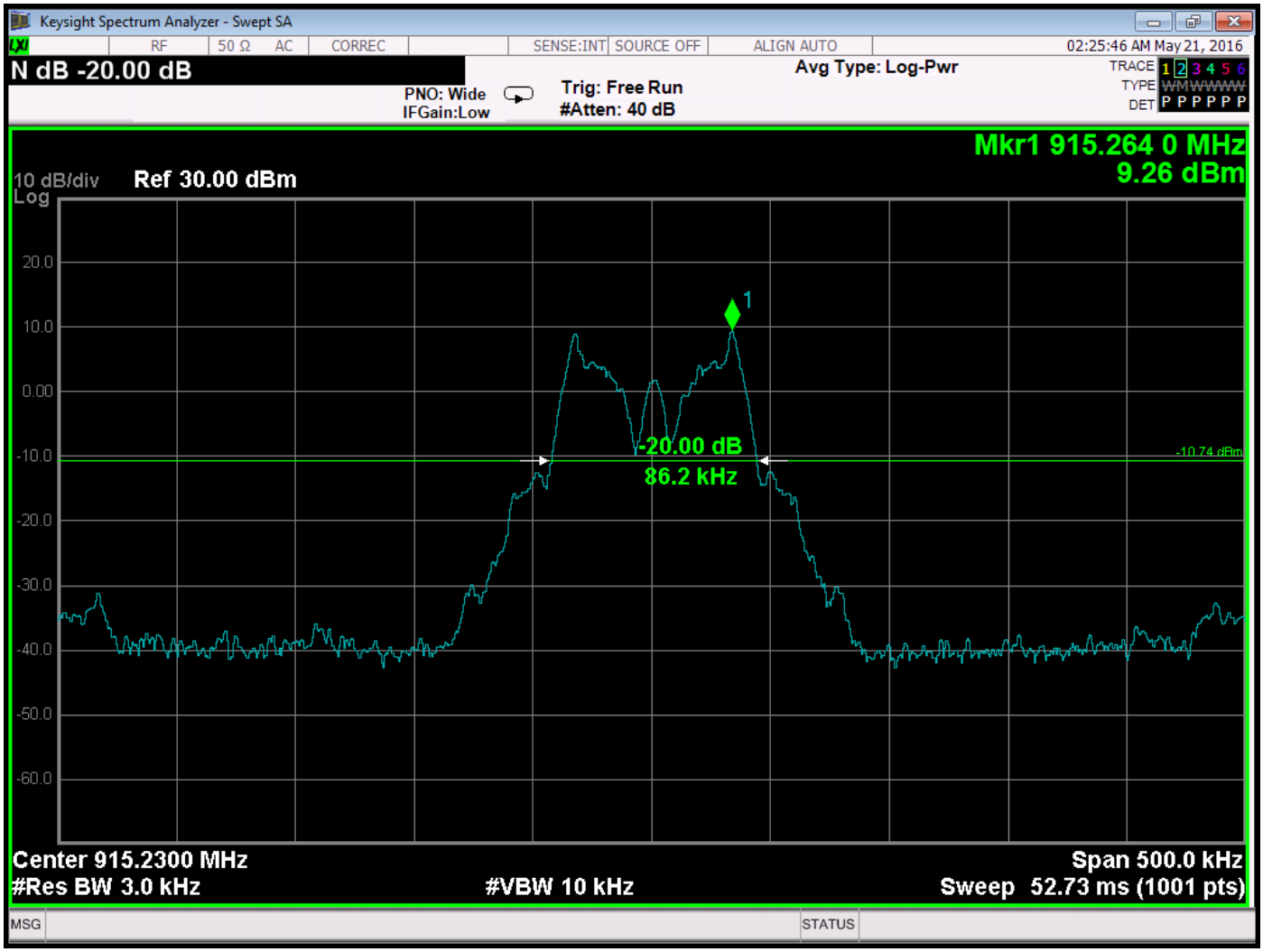


Band Edge – High Channel – Frequency Hopping Mode

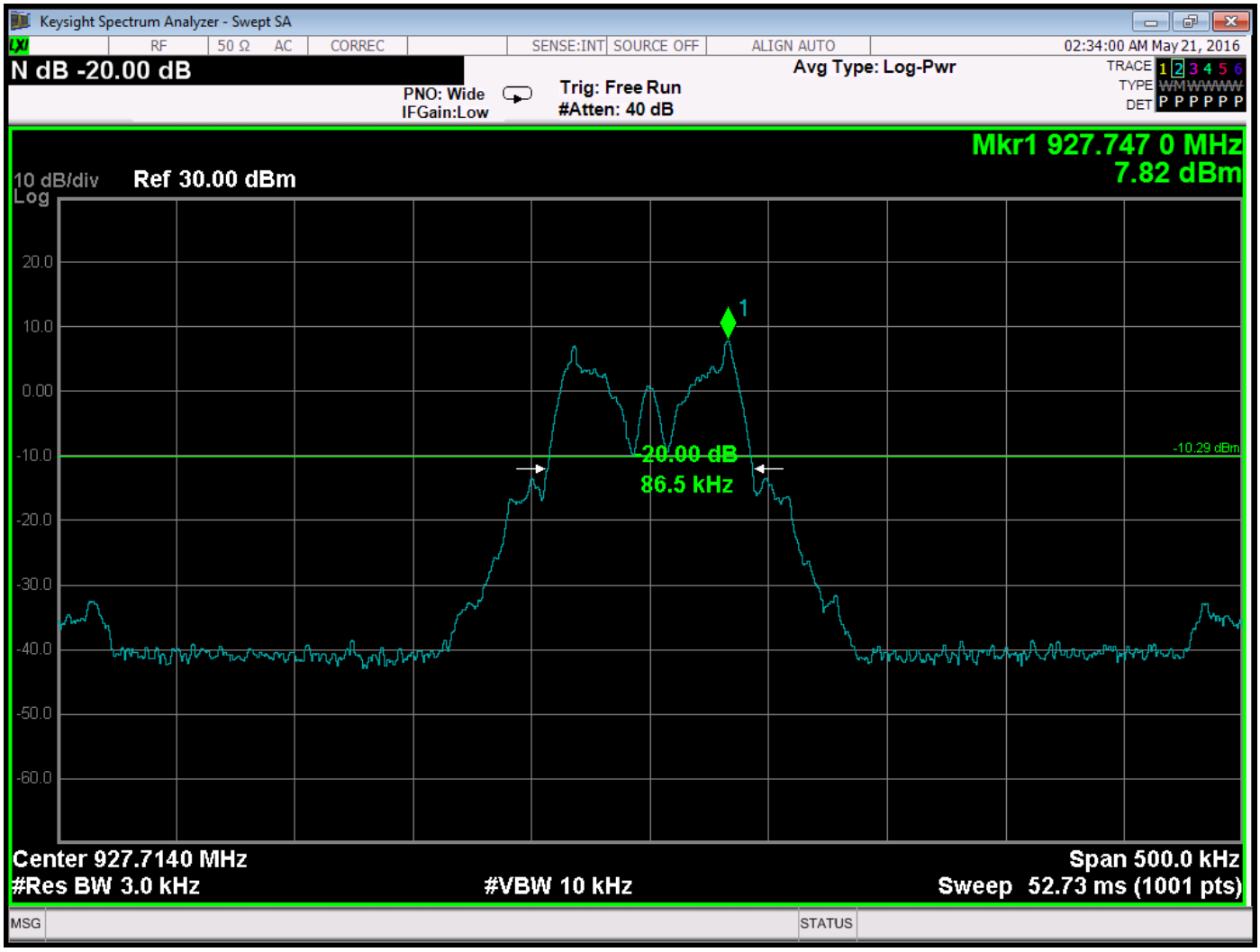
-20 DB BANDWIDTH DATA SHEETS



-20 dB Bandwidth – Low Channel

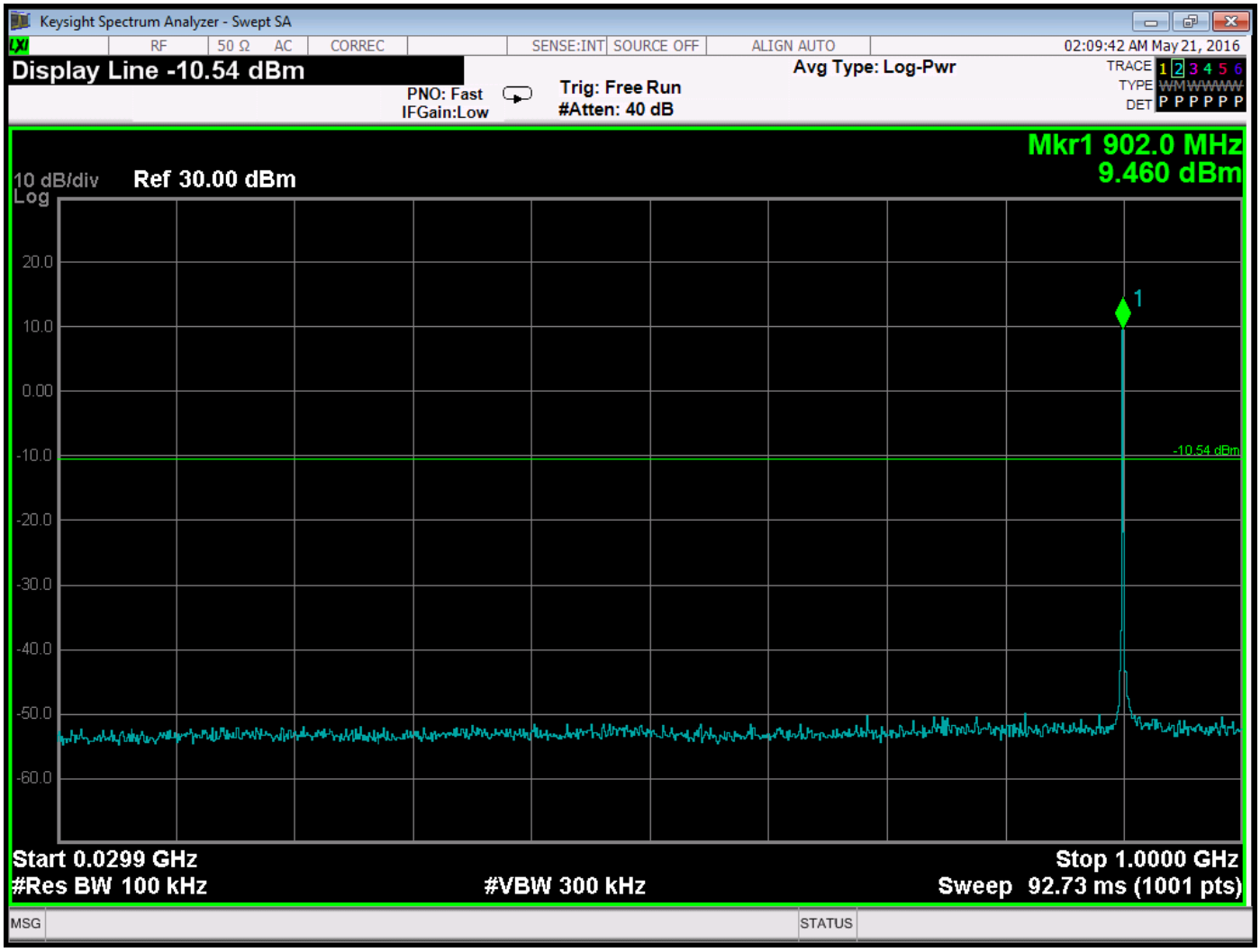


-20 dB Bandwidth – Middle Channel

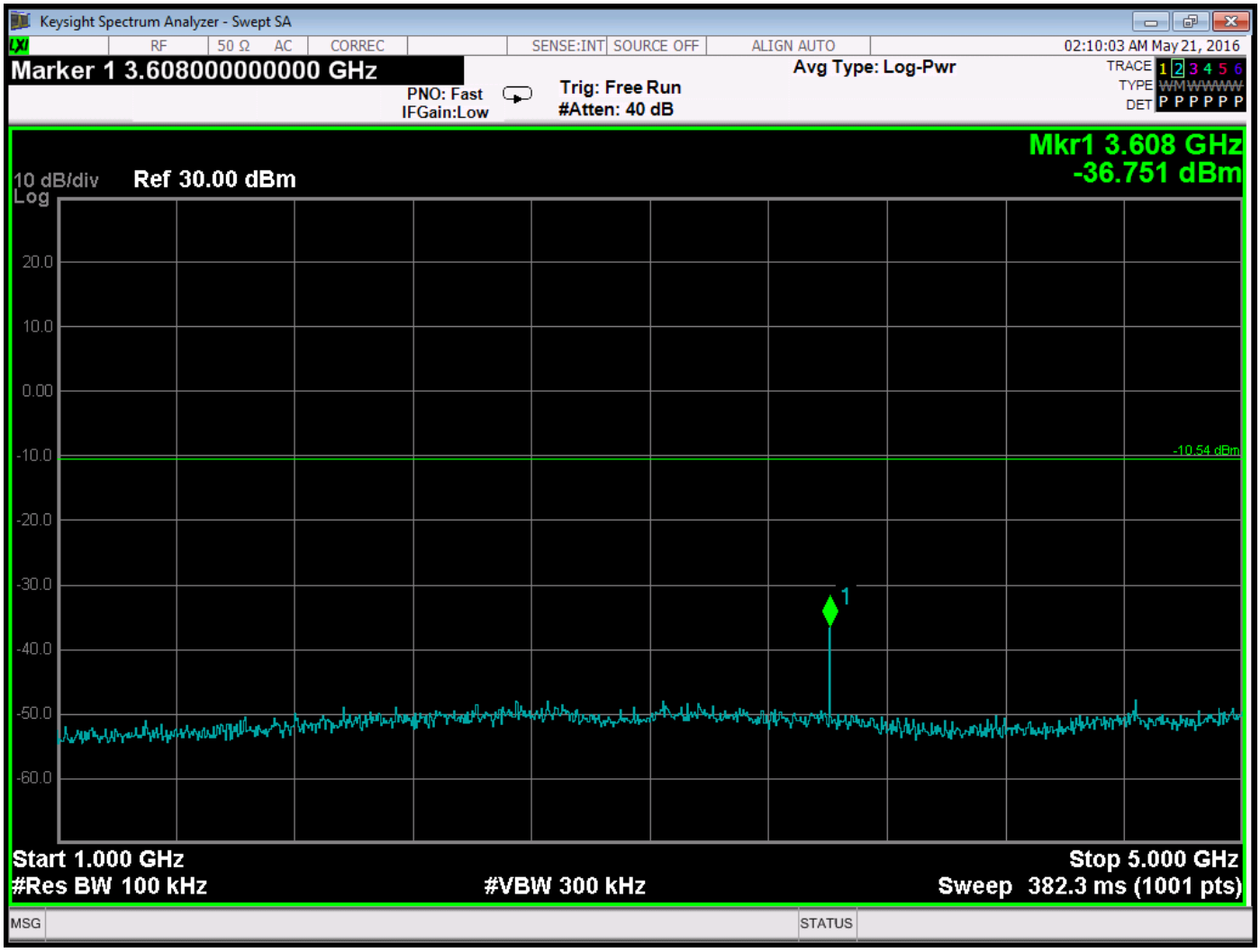


-20 dB Bandwidth – High Channel

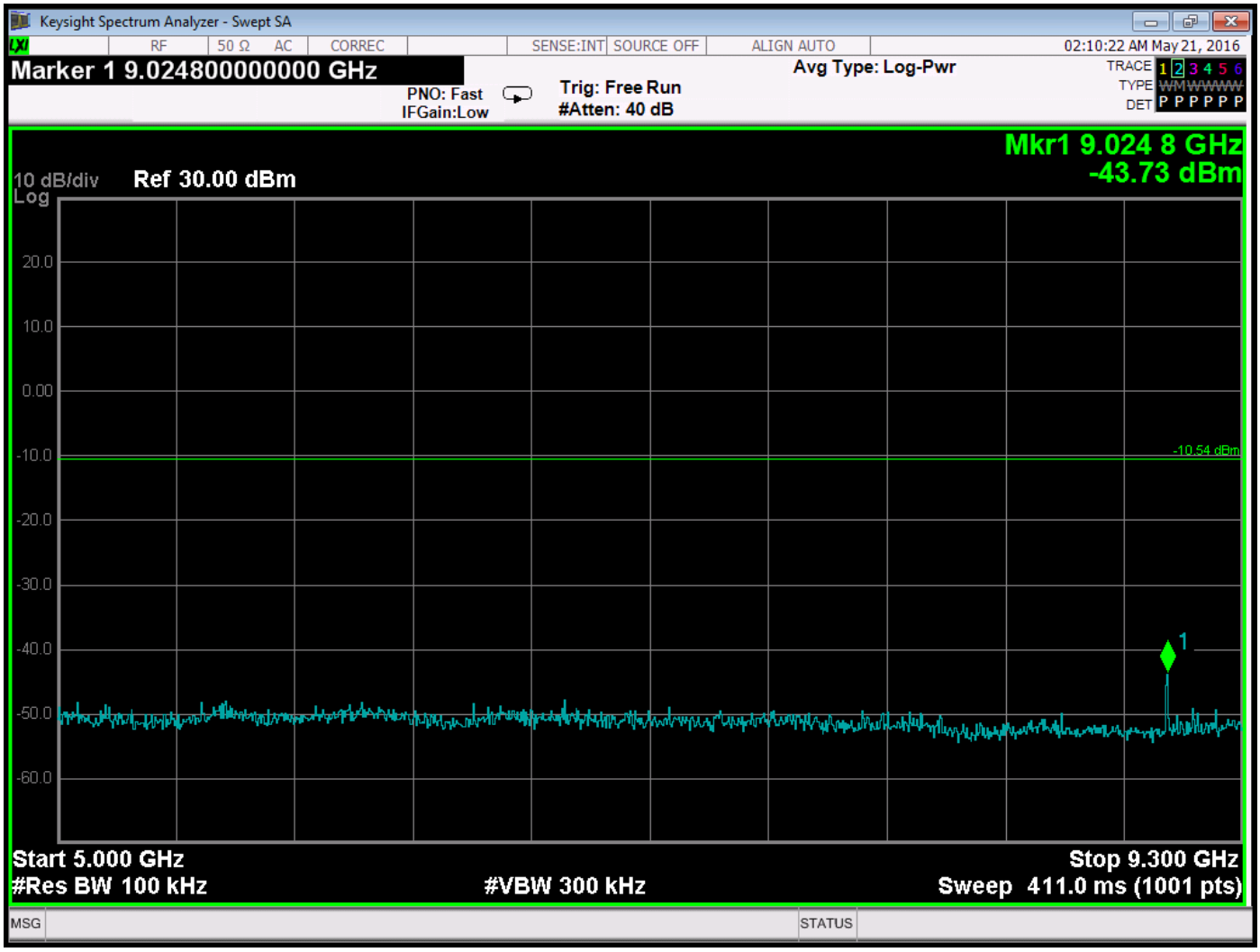
RF ANTENNA CONDUCTED DATA SHEETS



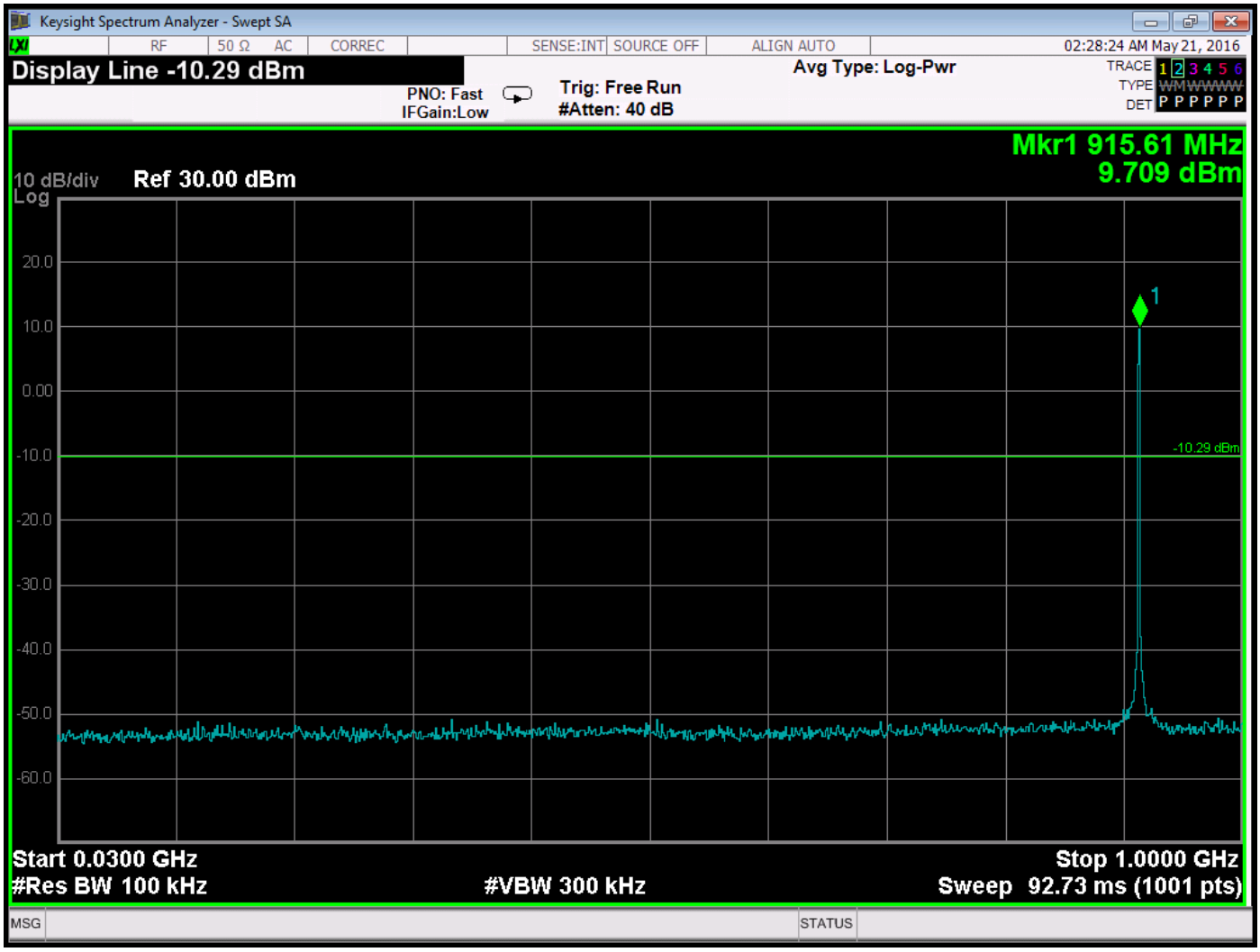
RF Antenna Conducted – Low Channel – 30 MHz to 1 GHz



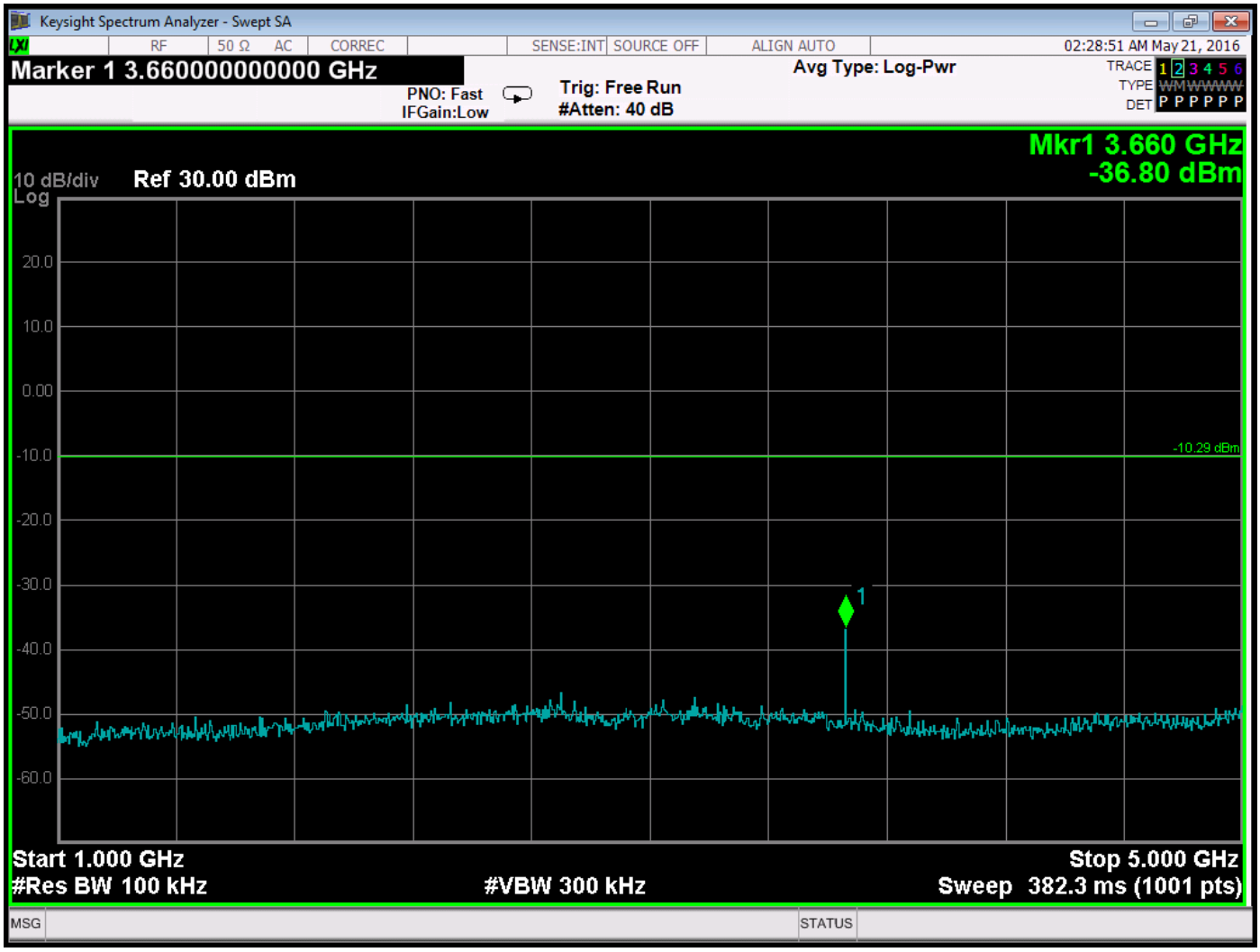
RF Antenna Conducted – Low Channel – 1 GHz to 5 GHz



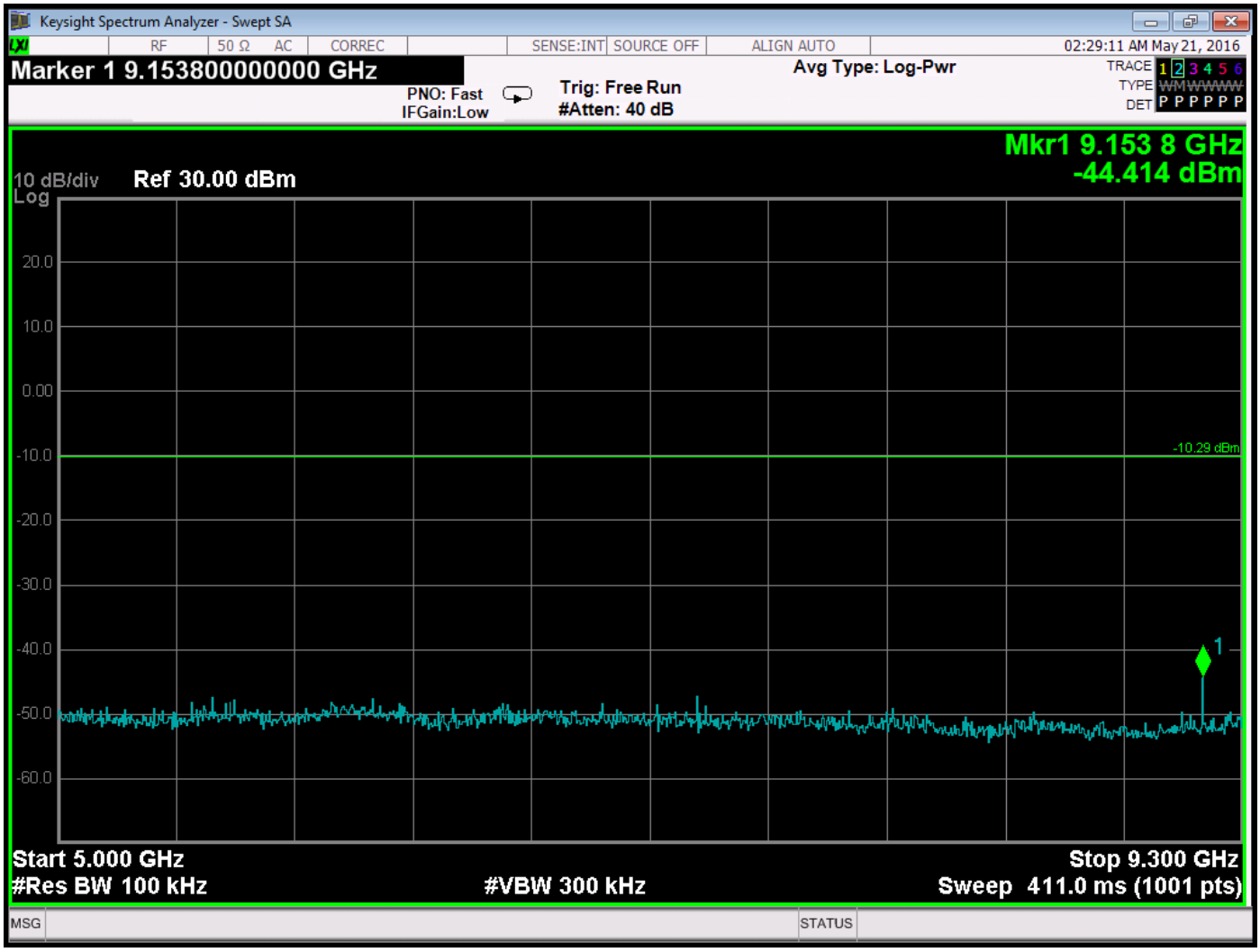
RF Antenna Conducted – Low Channel – 5 GHz to 9.3 GHz



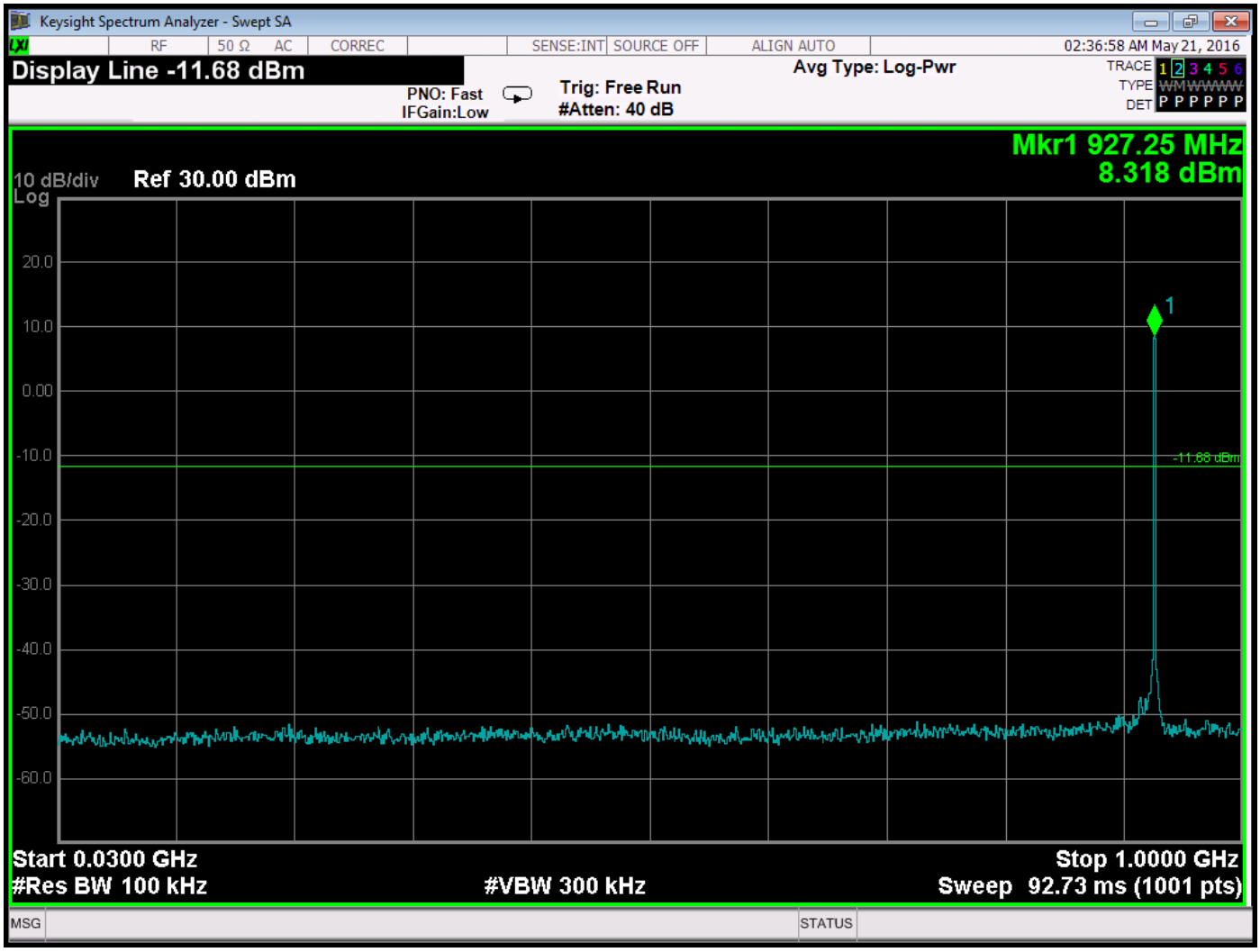
RF Antenna Conducted – Middle Channel – 30 MHz to 1 GHz



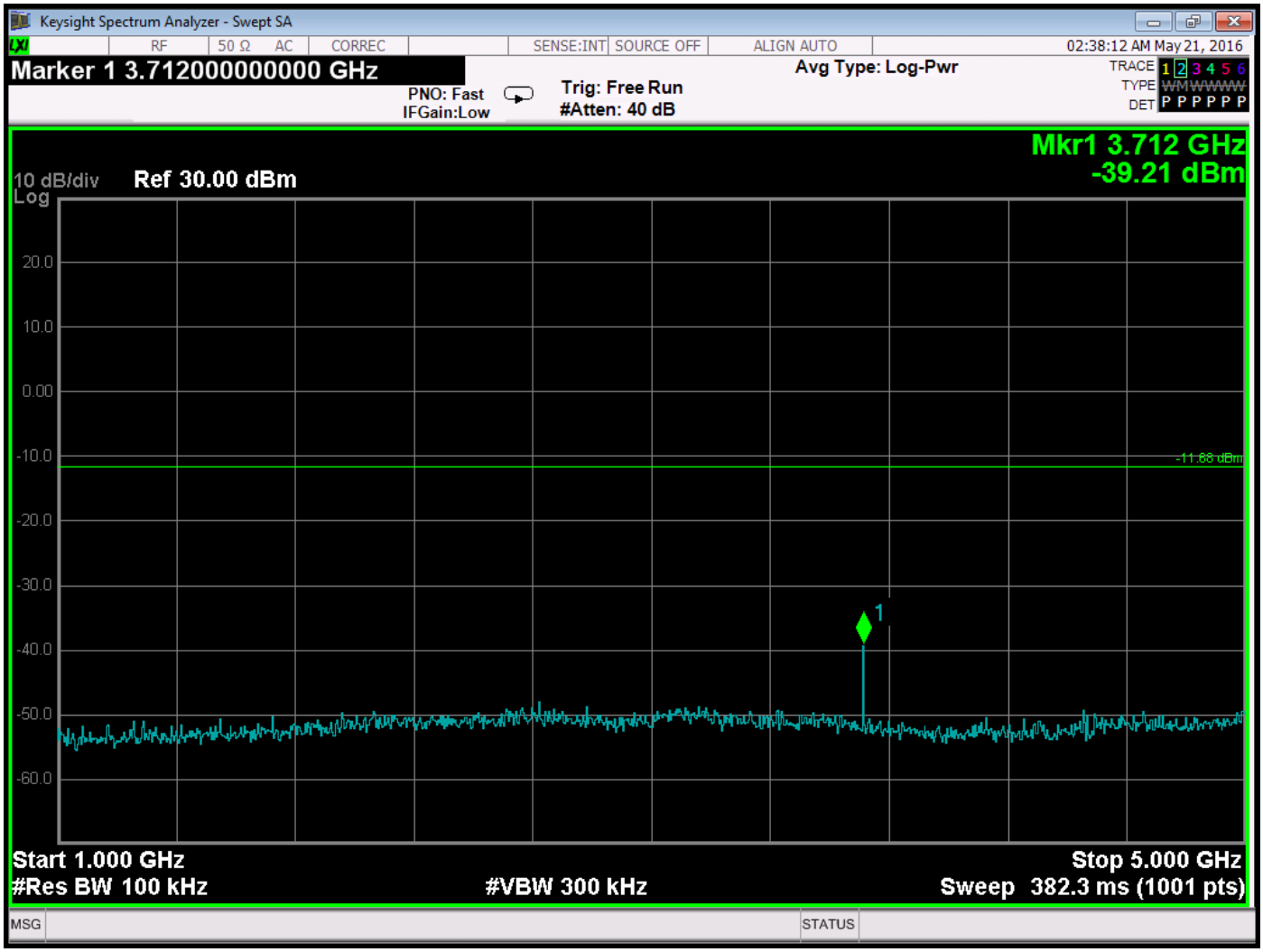
RF Antenna Conducted – Middle Channel – 1 GHz to 5 GHz



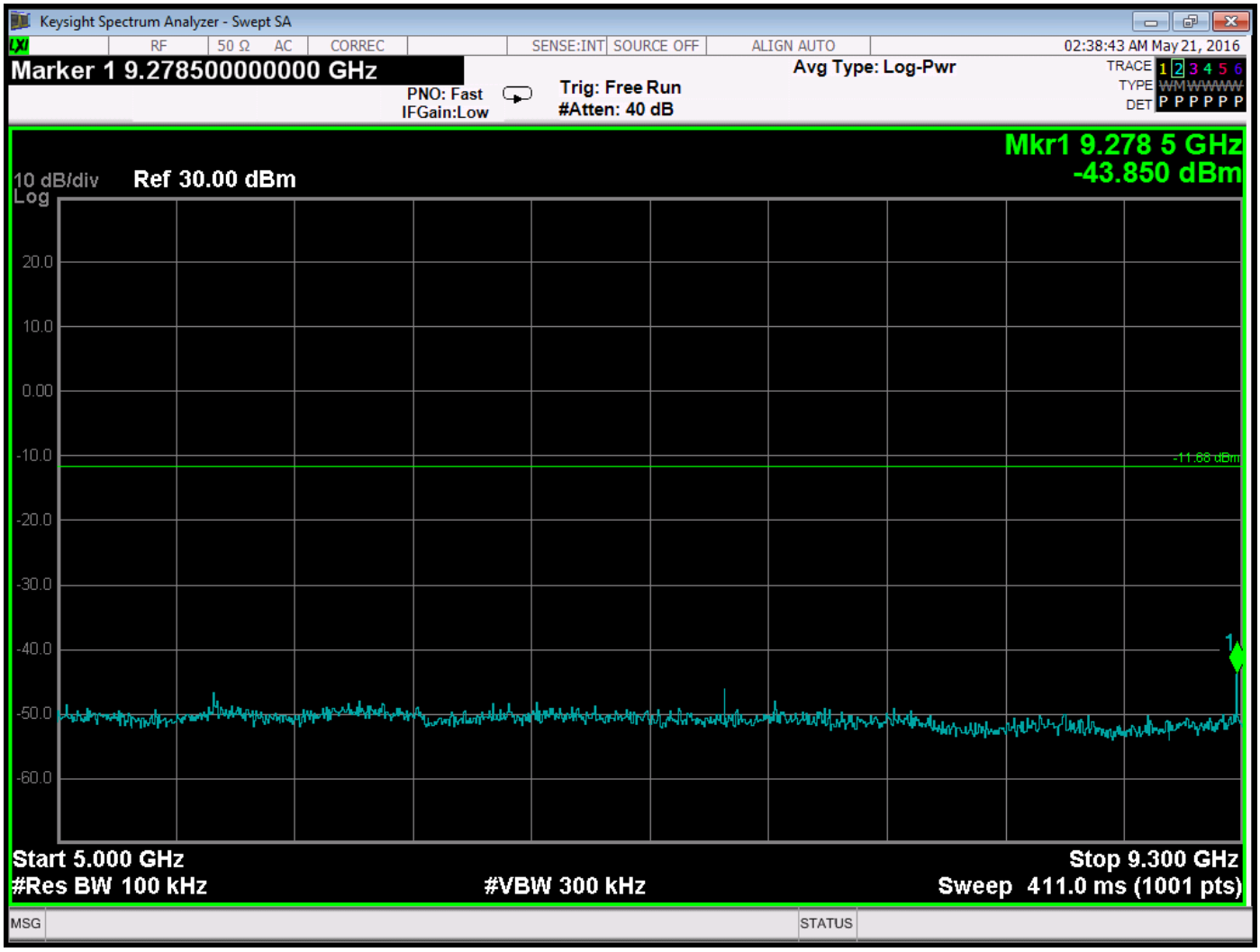
RF Antenna Conducted – Middle Channel – 5 GHz to 9.3 GHz



RF Antenna Conducted – High Channel – 30 MHz to 1 GHz

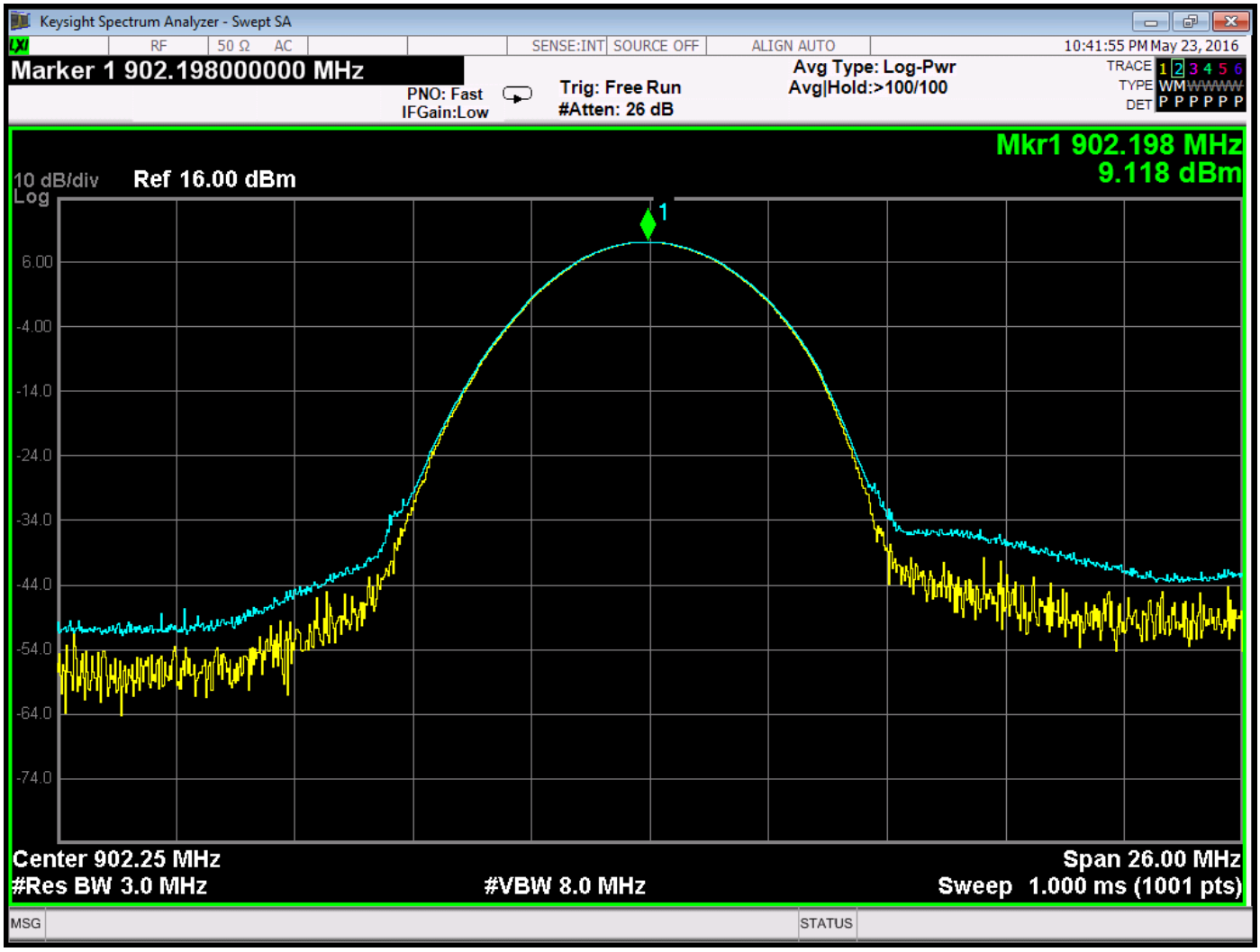


RF Antenna Conducted – High Channel – 1 GHz to 5 GHz

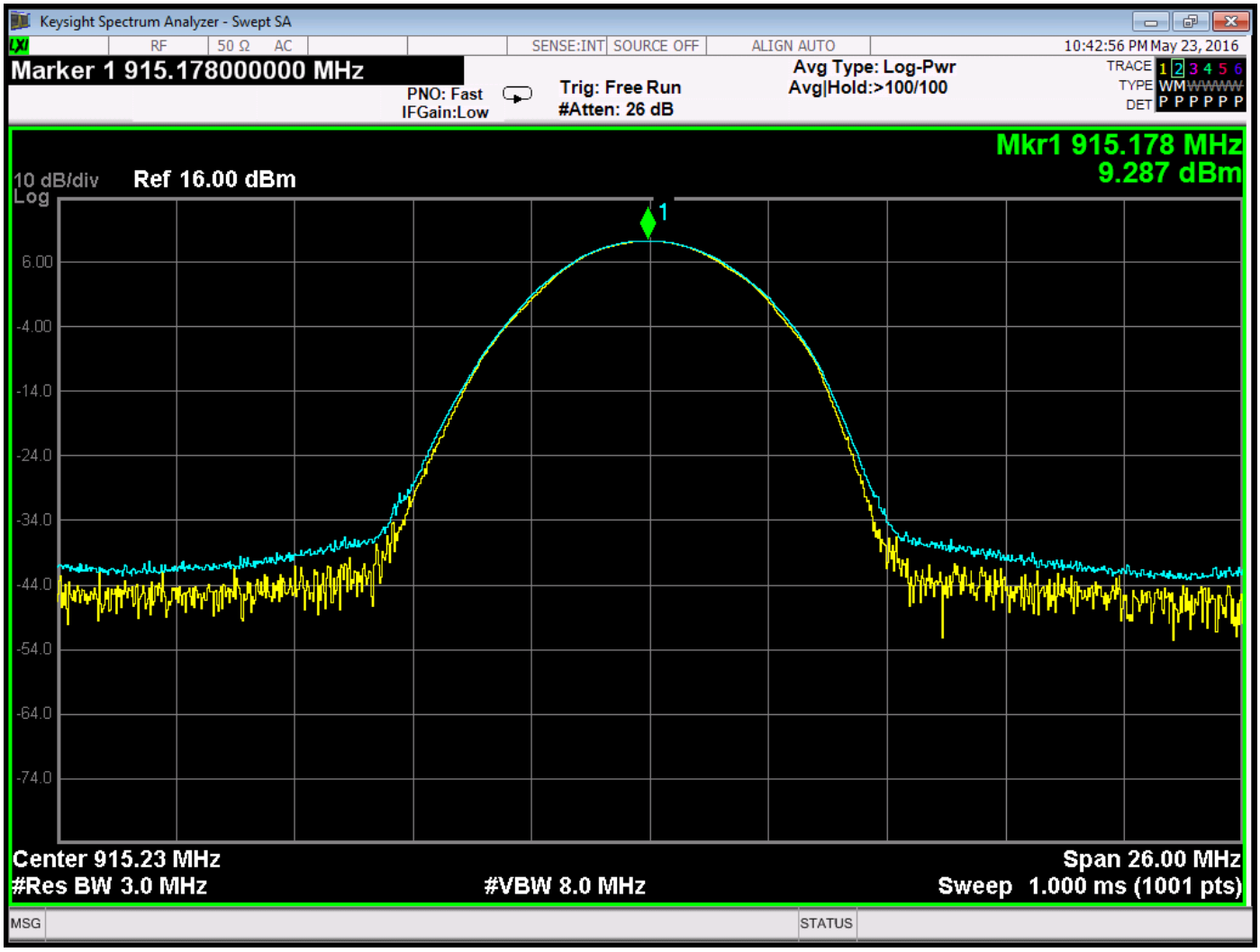


RF Antenna Conducted – High Channel – 5 GHz to 9.3 GHz

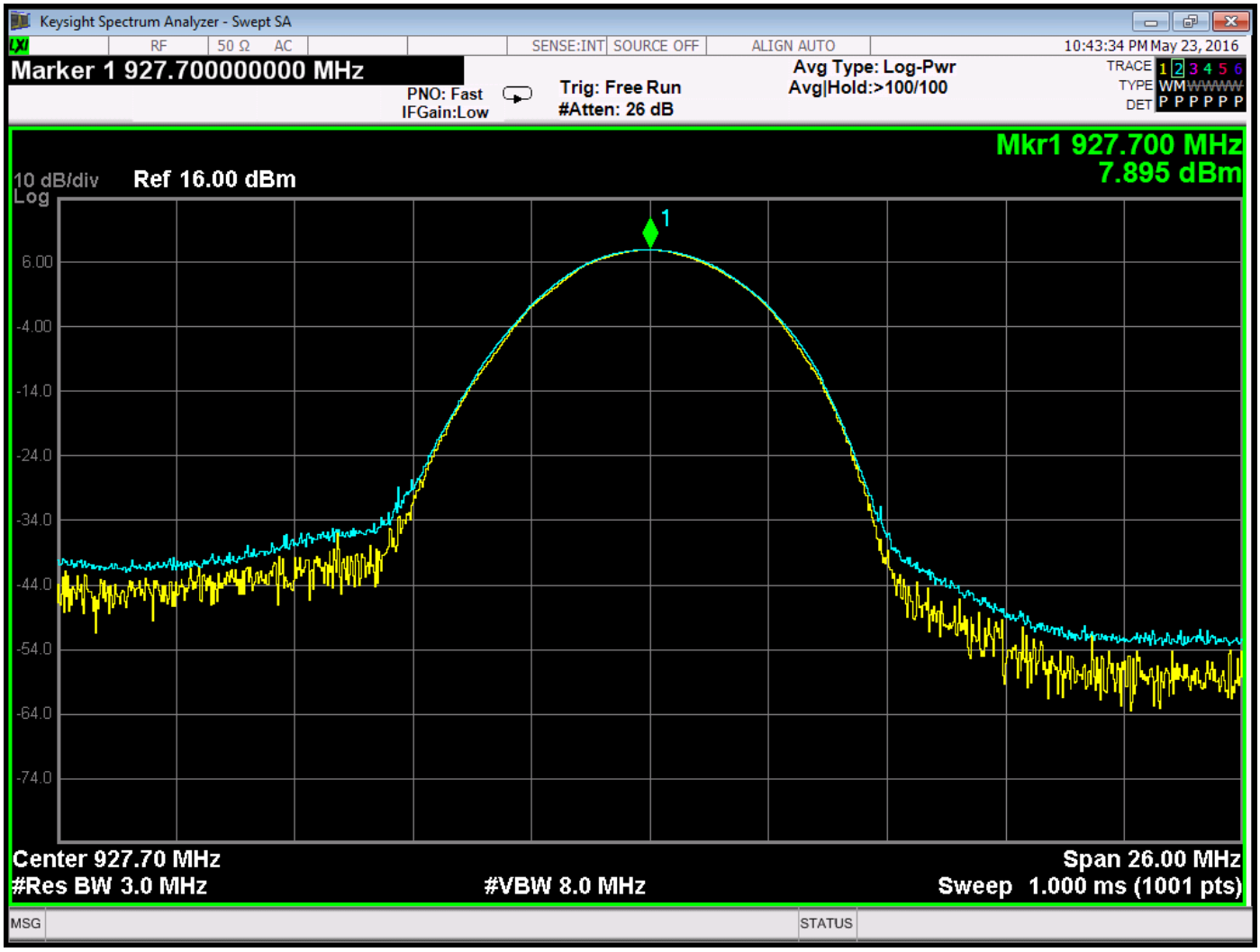
PEAK POWER OUTPUT DATA SHEETS



Peak Power Output – Low Channel

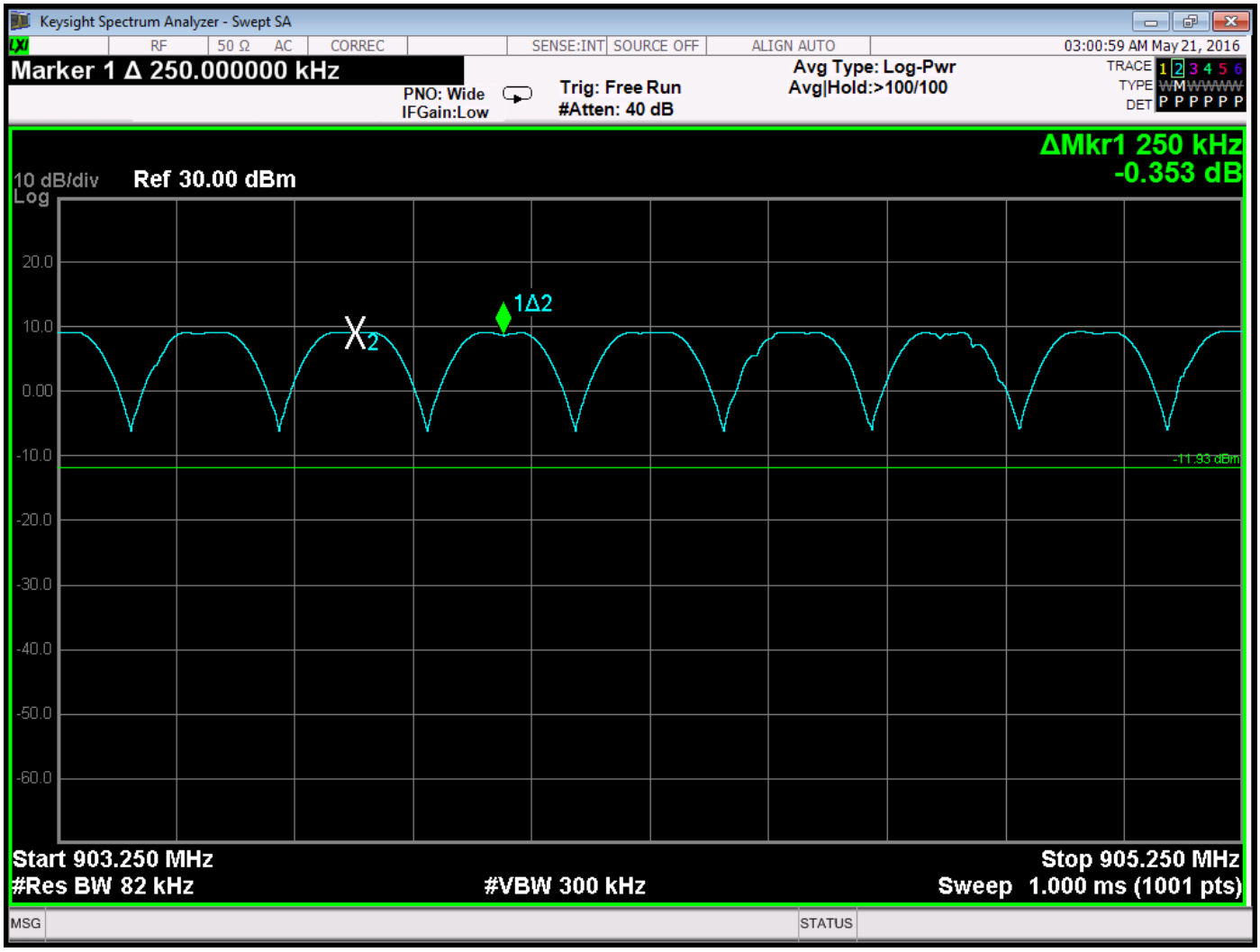


Peak Power Output – Middle Channel



Peak Power Output – High Channel

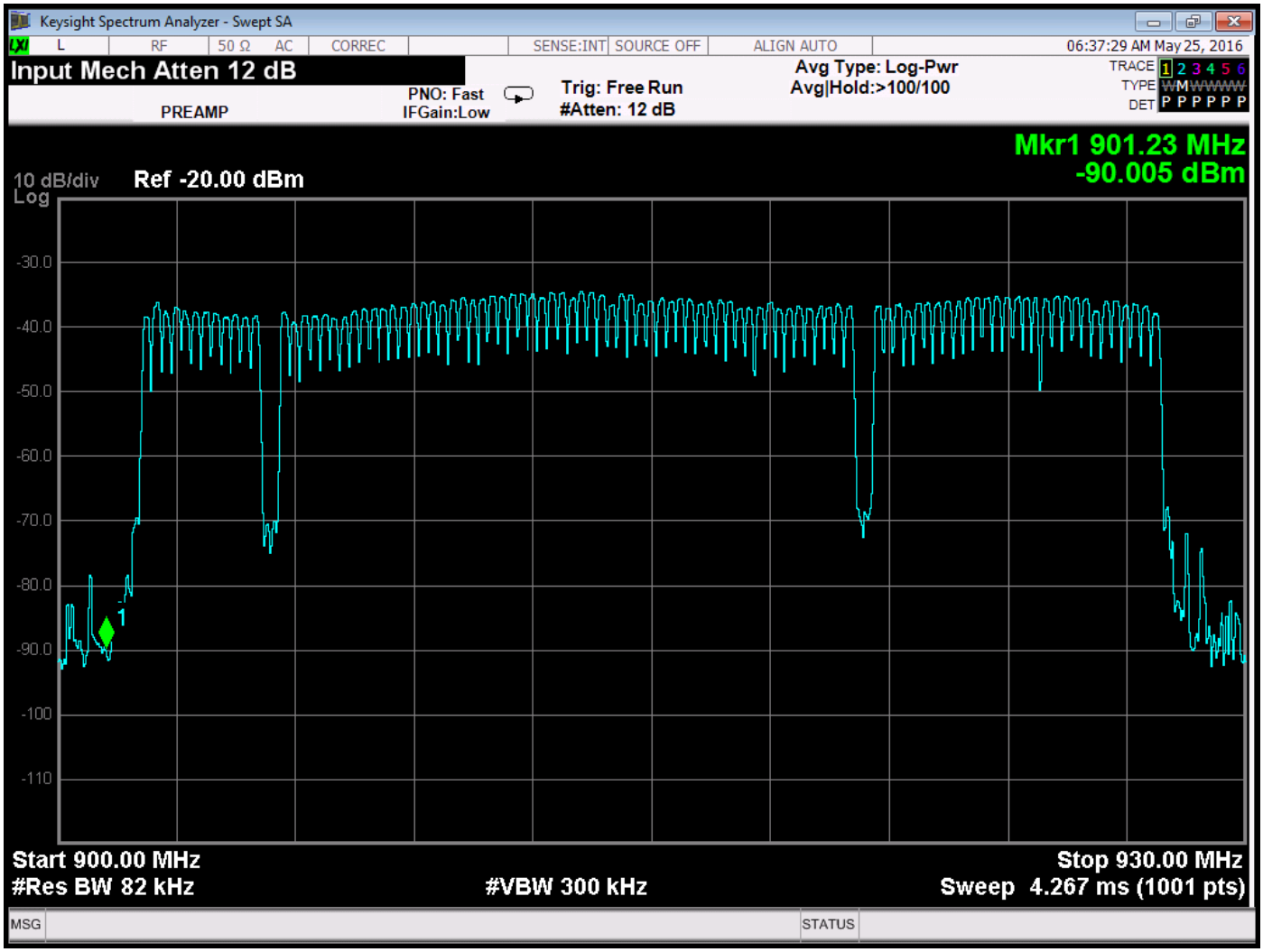
CHANNEL FREQUENCY SEPARATION DATA SHEET



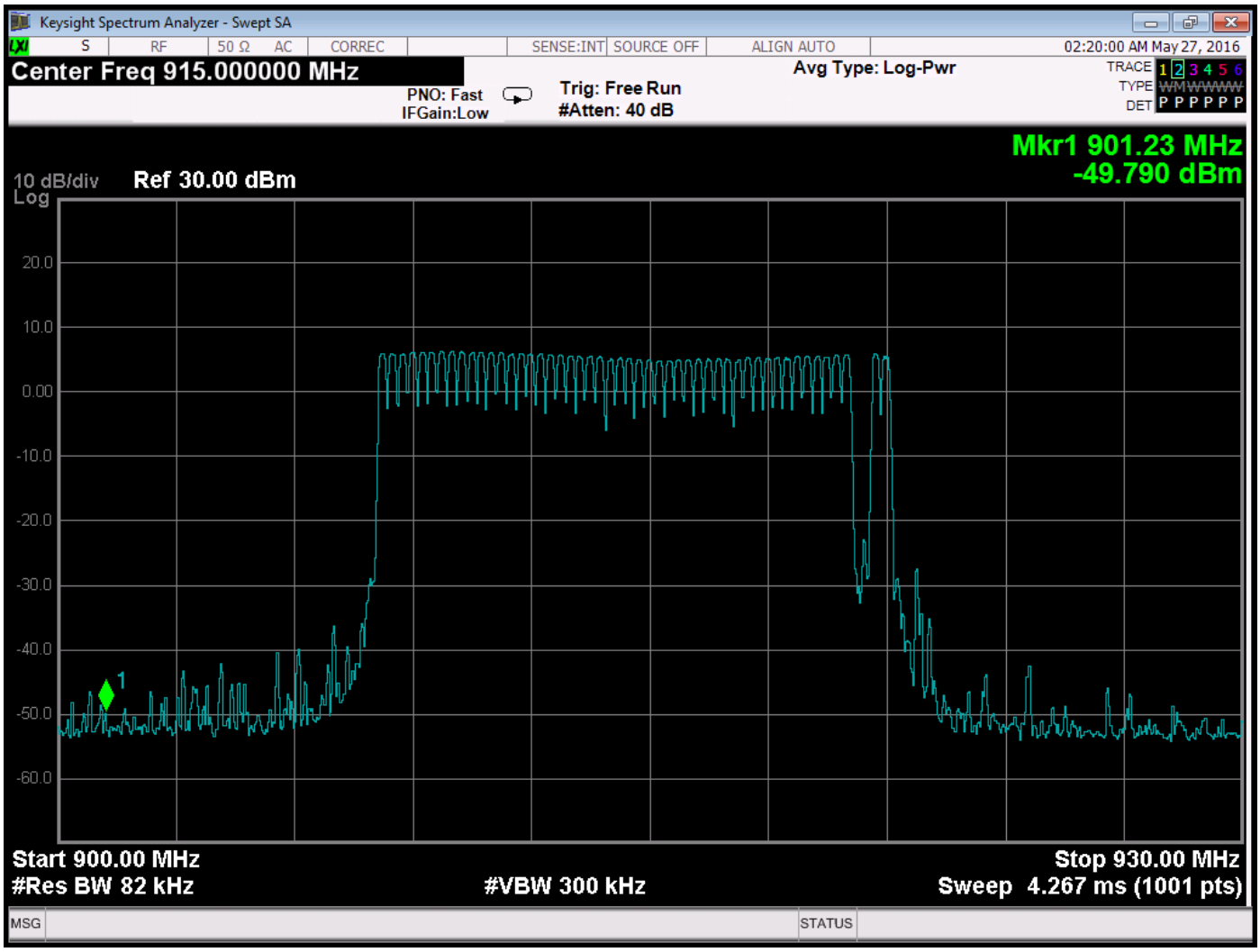
Channel Frequency Separation

NUMBER OF FREQUENCIES

DATA SHEET



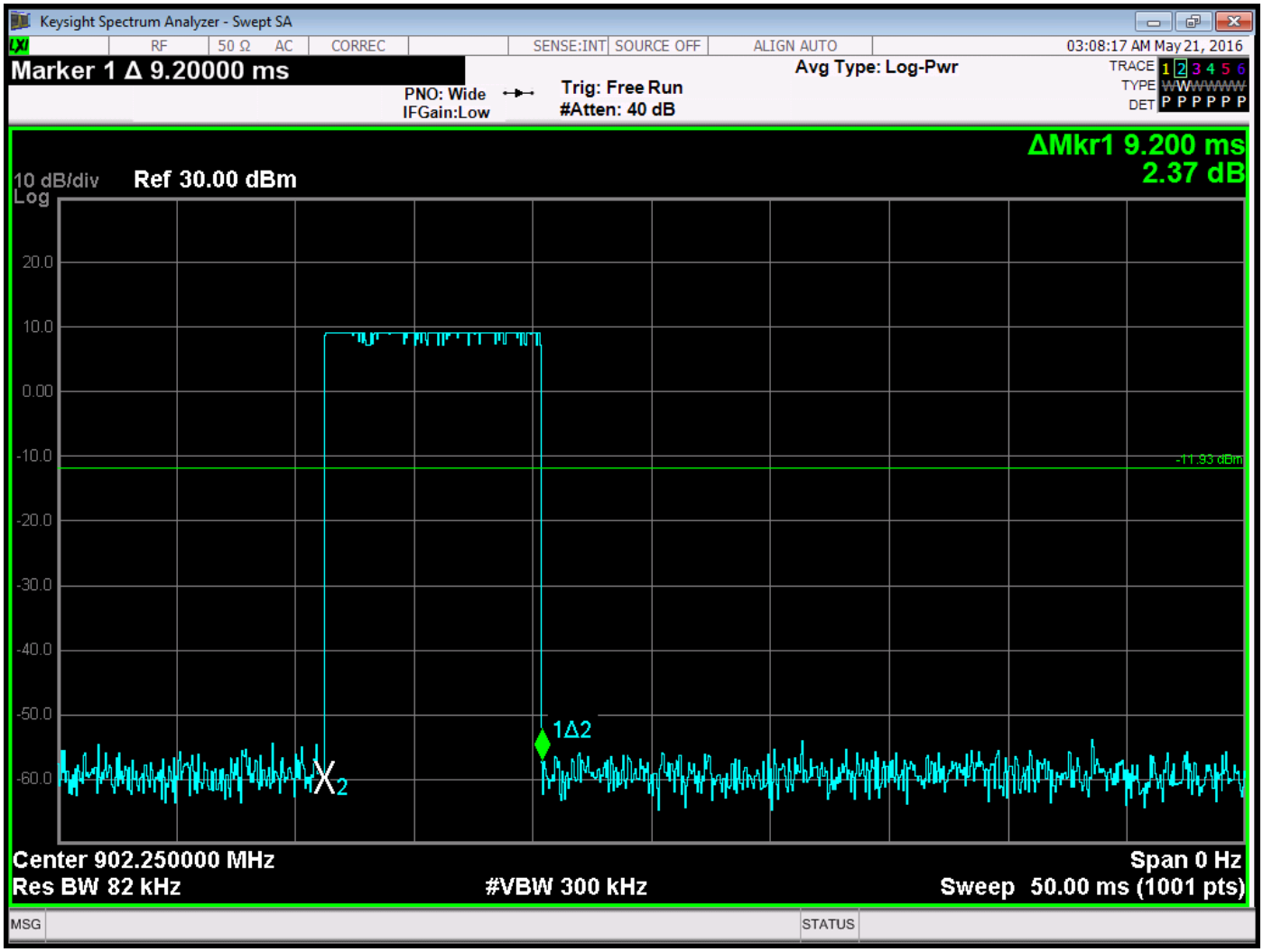
Number of Maximum Channels is 99



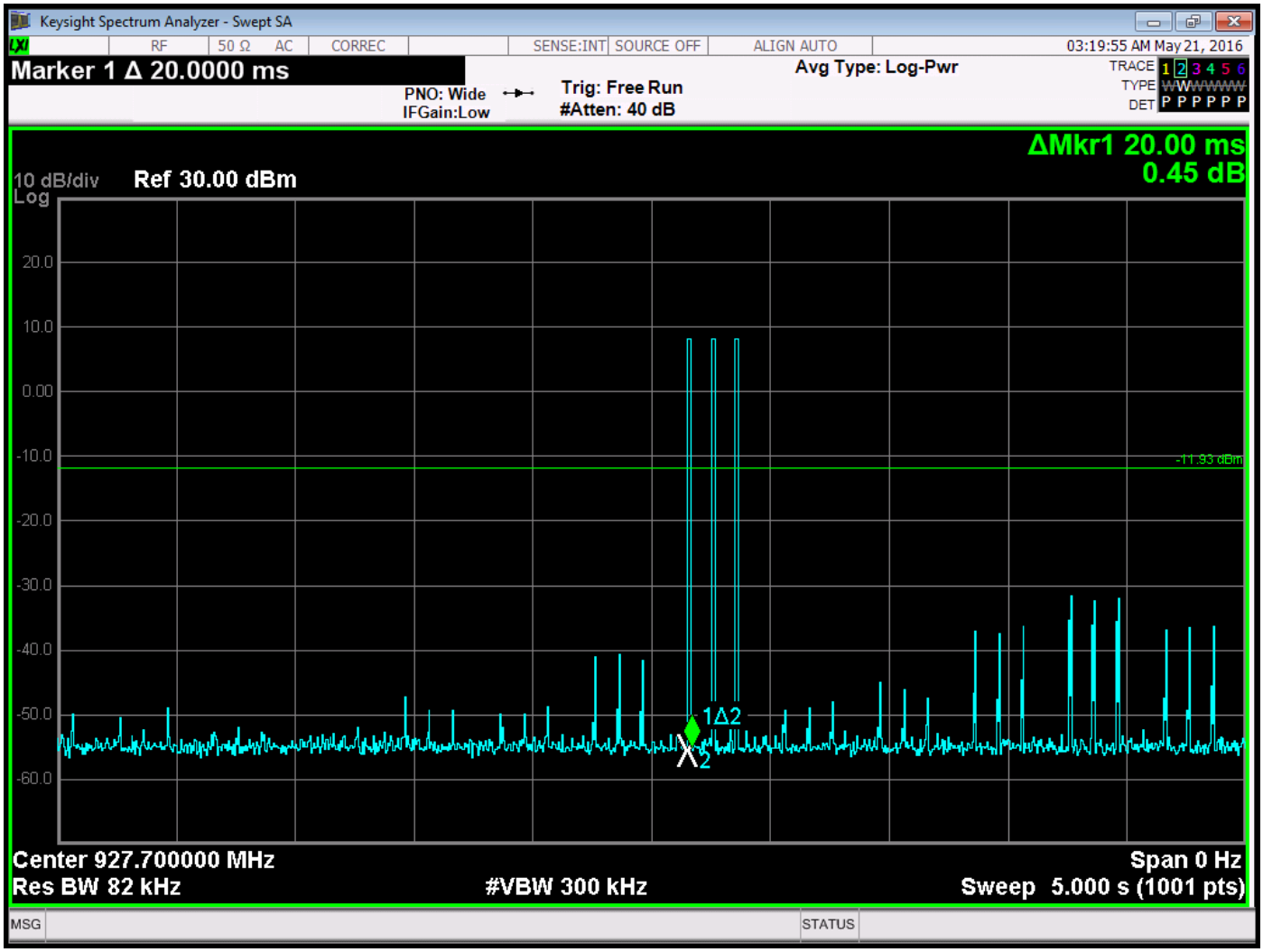
Number of Minimum Channel is 50

TIME OF OCCUPANCY

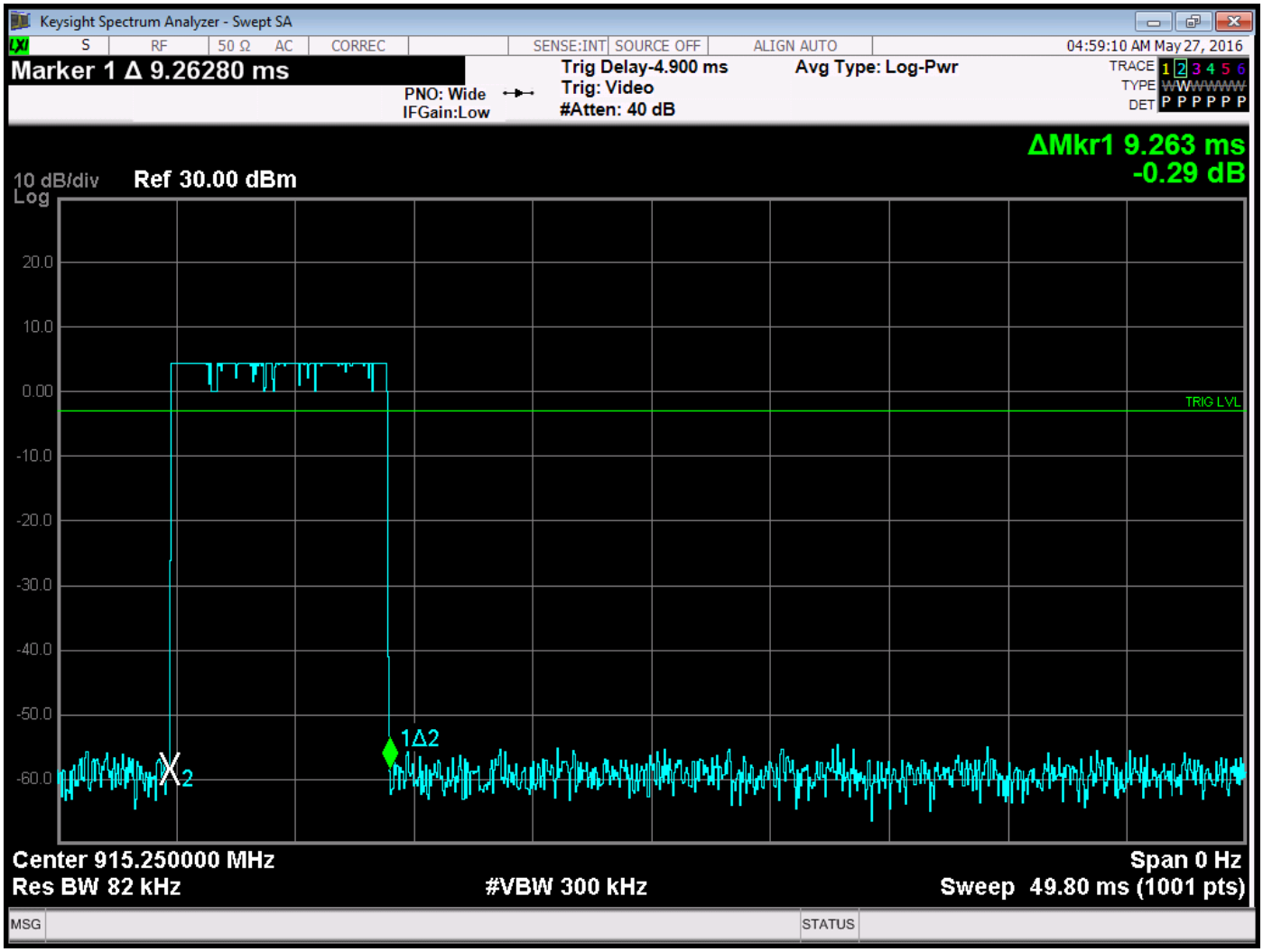
DATA SHEET



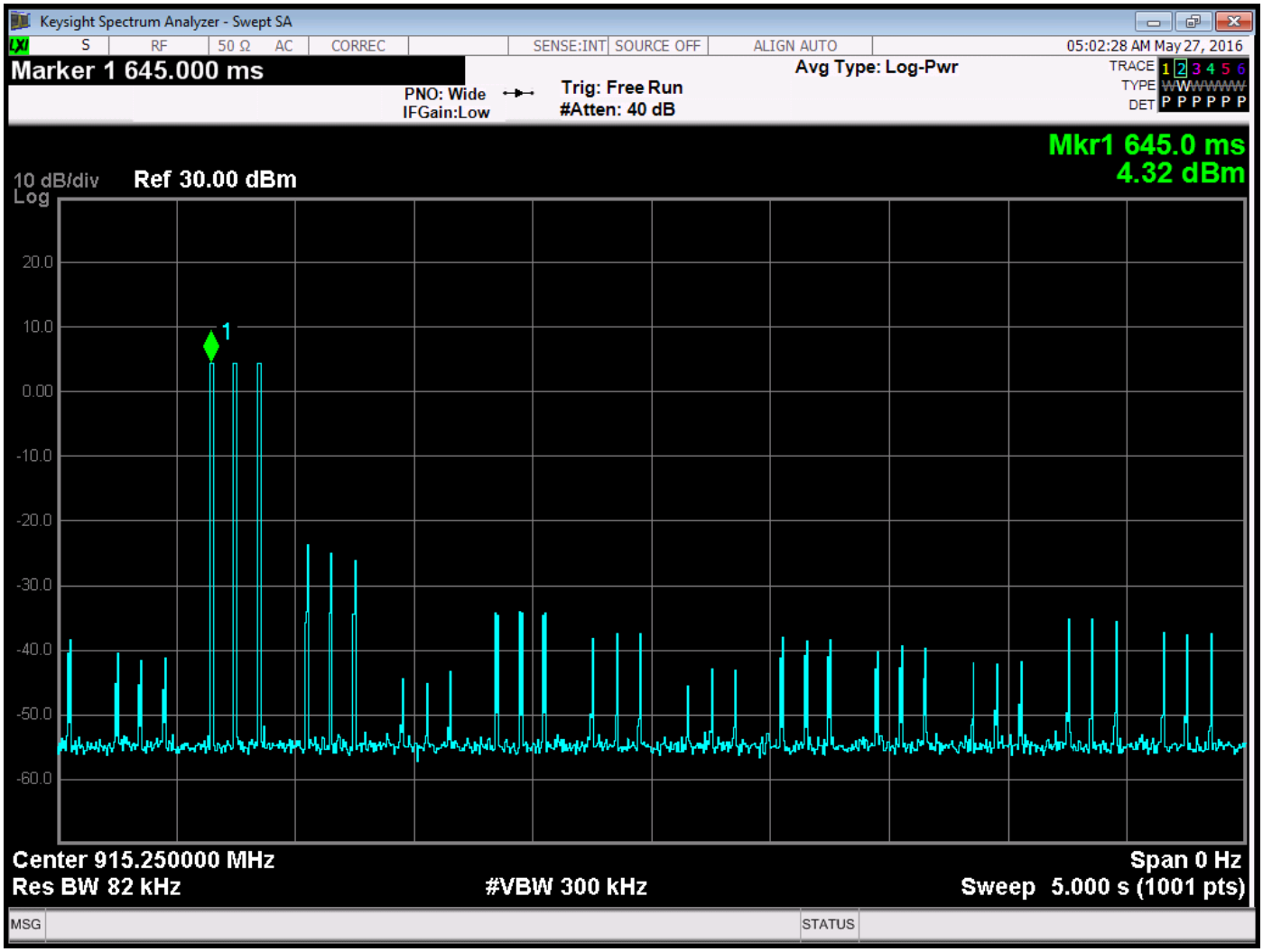
Time of One Pulse – Maximum Channel Mode



Worst Case is 3 Pulses in 5 Seconds
Total Dwell Time = 9.2 ms * 4 *3 = 110.4 ms
Limit = 400 ms in a 20 second period
Maximum Channel Mode



Time of One Pulse – Minimum Channel Mode



Worst Case is 3 Pulses in 5 Seconds
Total Dwell Time = 9.263 ms * 4 *3 = 111.156 ms
Limit = 400 ms in a 20 second period
Minimum Channel Mode