FCC PART 15, SUBPART B and C
TEST REPORT

for

BLE MOUSE

MODEL: GYM3300

Prepared for

SMK-LINK ELECTRONICS
3601 CALLE TECATE #B
CAMARILLO, CALIFORNIA 93012

Prepared by:_____

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DATE: OCTOBER 13, 2016

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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NVLAP® TESTING
NVLAP LAB CODE 200528-0

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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: BLE Mouse
Model: GYM3300
S/N: N/A

Product Description: The EUT is a wireless door/window sensor.

Modifications: The EUT was not modified in order to meet the specifications.

Customer: SMK-Link Electronics
3601 Calle Tecate #B
Camarillo, California 93012

Test Dates: July 6 and 7, 2016; August 18, 2016; and September 16, 2016

Test Specification covered by accreditation:

NVLAP®
TESTING
NVLAP LAB CODE 200528-0

Test Specifications: Emissions requirements
CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249

Test Procedure: ANSI C63.4 2014, ANSI C63.10 2013

Test Deviations: The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Spurious Radiated RF Emissions, 10 kHz – 25 GHz (Transmitter and Digital portion)	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 15.205, 15.209 and 15.249 Highest reading in relation to spec limit: 27.27 dBuV/m @ 40.20 MHz (*U = 4.54 dB)

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the BLE Mouse, Model: GYM3300. 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 15.249.

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

SMK-Link Electronics

Daniel Grieder	RF Engineer
Massoud Niakan	General Manager Engineering and Program Management

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on July 18, 2016.

2.5 Disposition of the Test Sample

The test sample has not been returned to SMK-Link Electronics 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	Receiver
FCC	Federal Communications Commission

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 C63.4 2014	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 BLE Mouse, Model: GYM3300 (EUT) was tested as a stand alone device. A fresh set of batteries were inserted in the EUT prior to the testing.

The EUT was tested for emissions at the low, middle, and high channels while in the X, Y and Z axis. During the testing, the EUT was continuously transmitting.

The EUT was programmed to cycle through the low, middle, and high channels by pressing the upper left button on the EUT.

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 final radiated data for the EUT was taken in the mode described

4.1.1 Cable Construction and Termination

The EUT has no external cables.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
BLE MOUSE	SMK-LINK ELECTRONICS	GYM3300	N/A	IE3AMV16

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	MY51210150	December 29, 2015	1 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	September 3, 2015	2 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
Horn Antenna	Com-Power	AH-826	71957	N/A	N/A
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
Preamplifier	Com-Power	PA-840	711013	May 13, 2016	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. TEST PROCEDURES

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

7.1 RF Emissions

7.1.1 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.

Test Results:

This test was not performed for the EUT is battery powered and does not connect to the AC power mains.

7.1.2 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. 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 25 GHz).

For the harmonics above 1 GHz, the readings were averaged by "duty cycle correction factor", derived from 20 log (dwell time /100ms). This duty cycle correction factor was then subtracted from the peak reading.

For the fundamental and band edge, the readings were averaged by the RMS detector function on the EMI Receiver.

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 25 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 15.249 for radiated emissions.

7.1.3 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
BLE Mouse
Model: GYM3300

Frequency MHz	EMI Reading (dBuV/m)	Specification Limit (dBuV)	Delta (Cor. Reading – Spec. Limit) dB)
2402 (V) (Z-Axis)	93.67 (RMS)	93.97	-0.30
2402 (H) (X-Axis)	93.40 (RMS)	93.97	-0.57
2480 (H) (X-Axis)	92.85 (RMS)	93.97	-1.12
2480 (V) (Z-Axis)	91.56 (RMS)	93.97	-2.41
2440 (H) (X-Axis)	90.80 (RMS)	93.97	-3.17
2402 (H) (Z-Axis)	90.36 (RMS)	93.97	-3.59

Notes:

* The complete emissions data is given in Appendix E of this report.

(V) Vertical
(H) Horizontal
(QP) Quasi-Peak
(RMS) RMS Average

7.2 Duty Cycle Calculations for Harmonics

The Duty Cycle Calculations were measured at a 3-meter test distance. The EMI Receiver was used to obtain the duty cycle. The data sheets are located in Appendix E.

Where $\delta(\mathrm{dB}) = 20\log\left[\sum(nt_1 + mt_2 + \ldots + \xi t_x)/T\right]$

n is the number of pulses of duration *t*1
m is the number of pulses of duration *t*2
ξ is the number of pulses of duration *tx*
T is the period of the pulse train or 100 ms if the pulse train length is greater than 100 ms

Duty Cycle Correction Factor = -20.00 dB

The EUT was tested in both advertising and data modes. Please see Appendix E for the data sheets and more detailed explanation of how the duty cycle was derived.

8. CONCLUSIONS

The BLE Mouse, Models: GYM3300 (EUT), 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 15.249.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP® TESTING
NVLAP LAB CODE 200528-0

For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025.

For the most up-to-date version of our scopes and certificates please visit
http://celectronics.com/quality/scope/

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

Industry Canada Industrie Canada 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 15.249 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

BLE Mouse
Model: GYM3300
S/N: N/A

There are no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

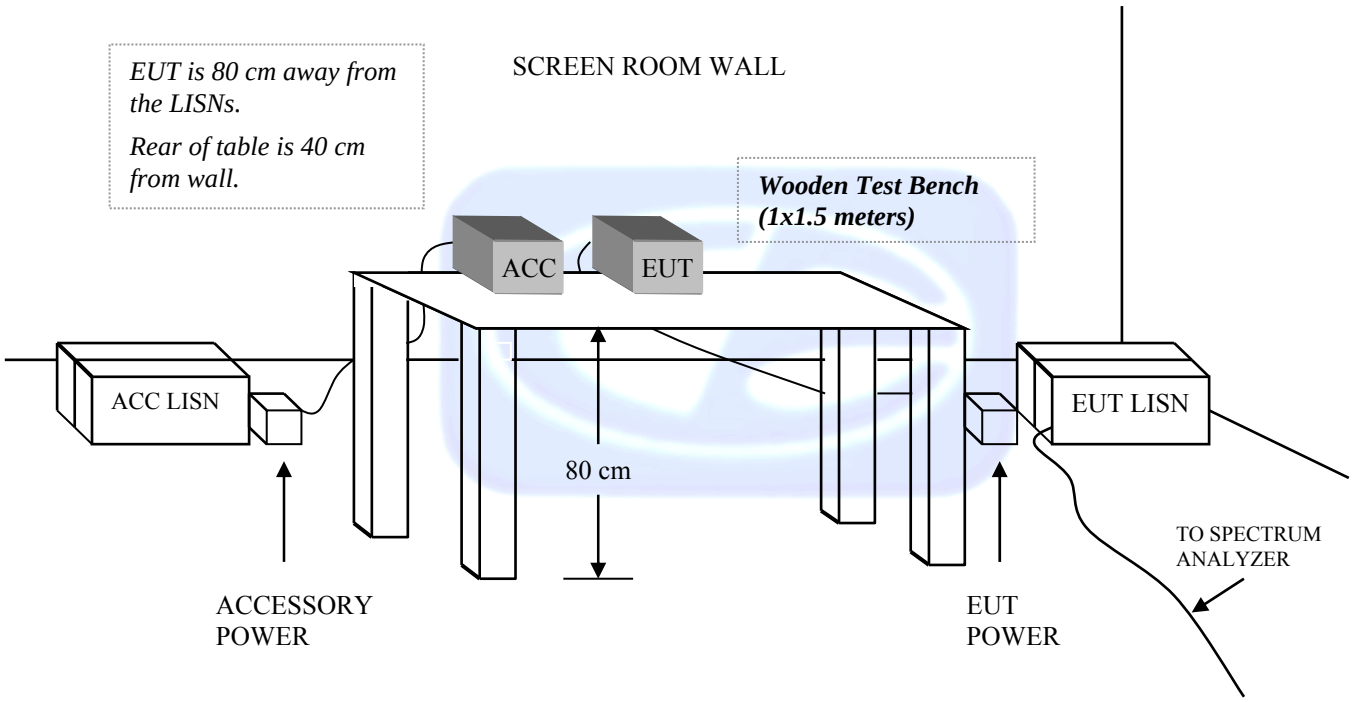
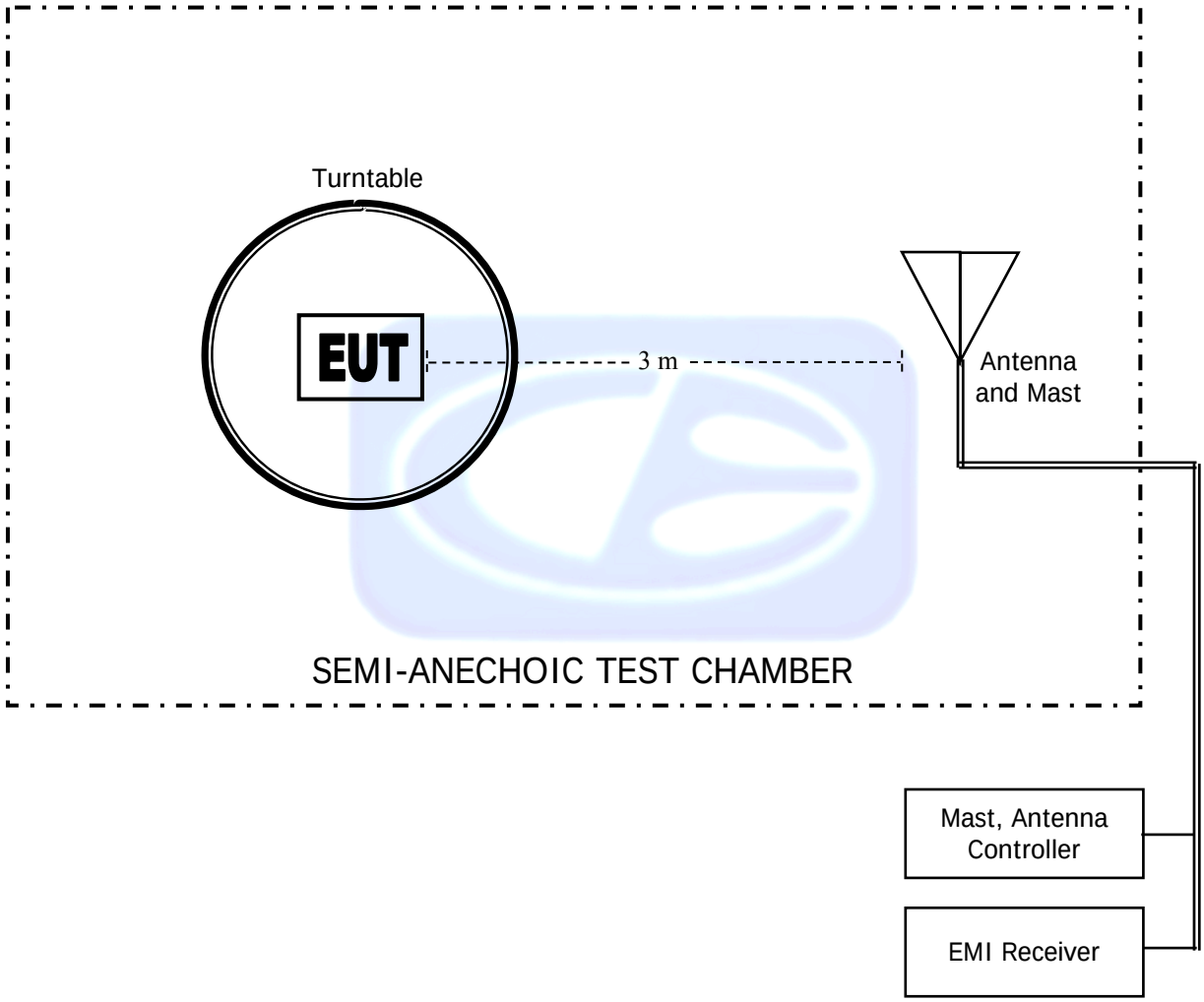


FIGURE 2: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER



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		

COM-POWER AH-826

HORN ANTENNA

S/N: 71957

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7

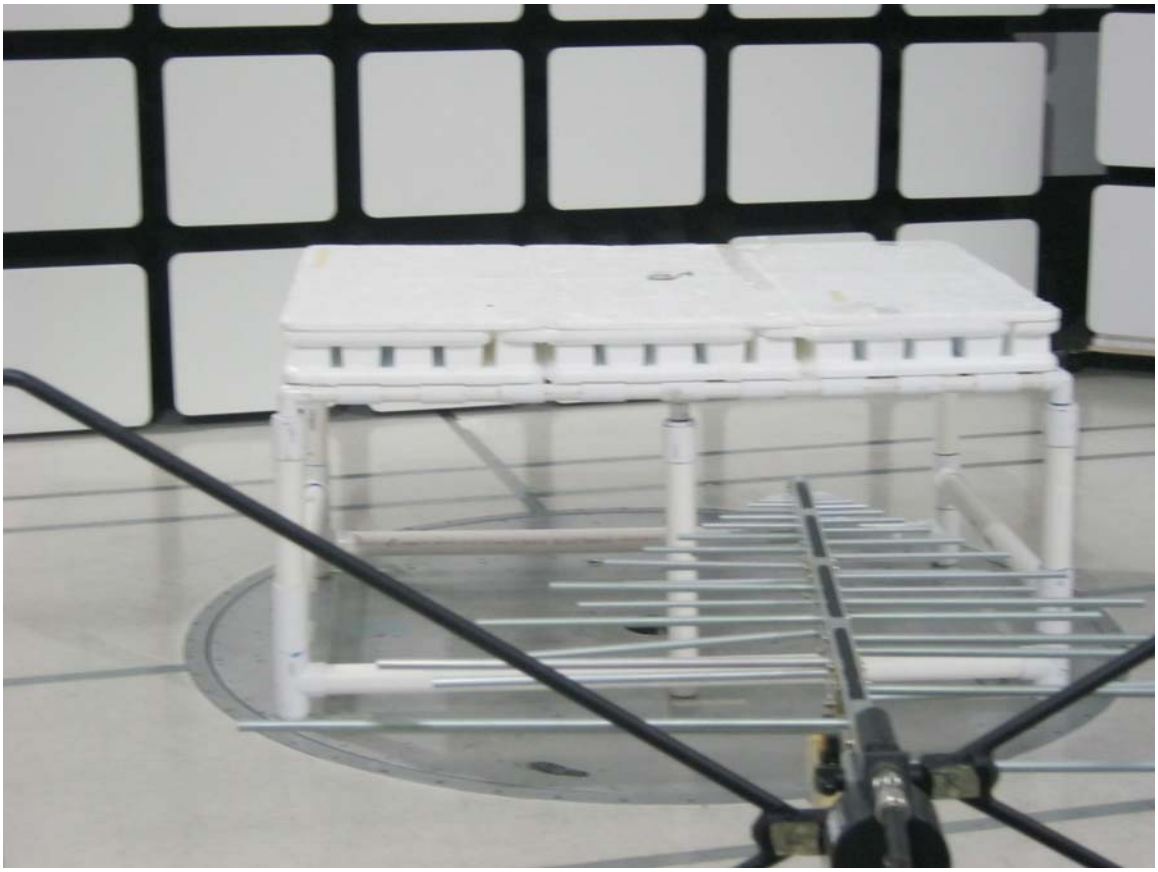
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 13, 2016

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.19	31.0	25.69
19.0	24.48	31.5	25.74
20.0	24.39	32.0	26.35
21.0	24.73	32.5	26.64
22.0	23.49	33.0	25.98
23.0	24.23	33.5	24.68
24.0	24.59	34.0	24.61
25.0	25.32	34.5	23.78
26.0	25.66	35.0	24.74
26.5	25.99	35.5	24.39
27.0	26.26	36.0	23.46
27.5	25.33	36.5	23.71
28.0	24.49	37.0	26.35
28.5	24.74	37.5	23.49
29.0	25.93	38.0	25.42
29.5	26.28	38.5	24.87
30.0	26.17	39.0	22.60
30.5	26.11	39.5	20.57
		40.0	19.15



FRONT VIEW

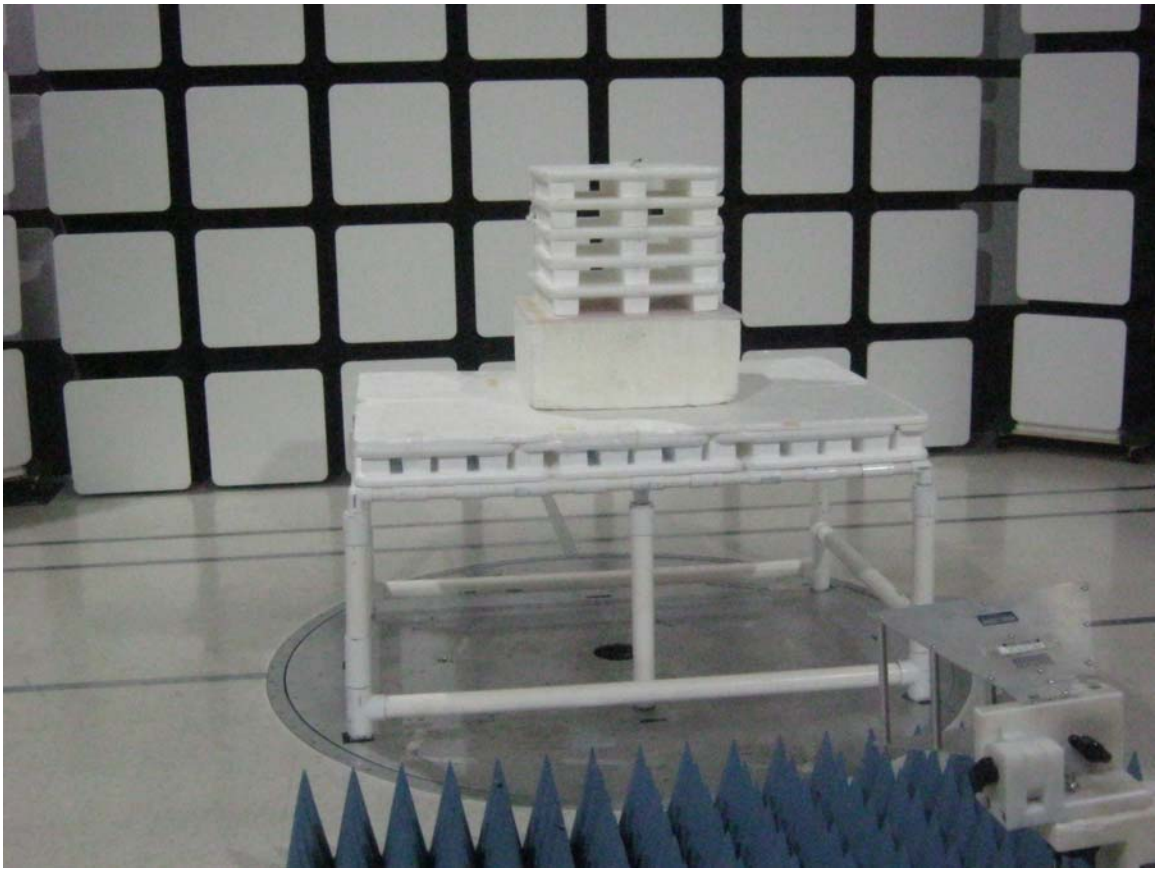
SMK-LINK ELECTRONICS
BLE MOUSE
MODEL: GYM3300
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

SMK-LINK ELECTRONICS
BLE MOUSE
MODEL: GYM3300
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

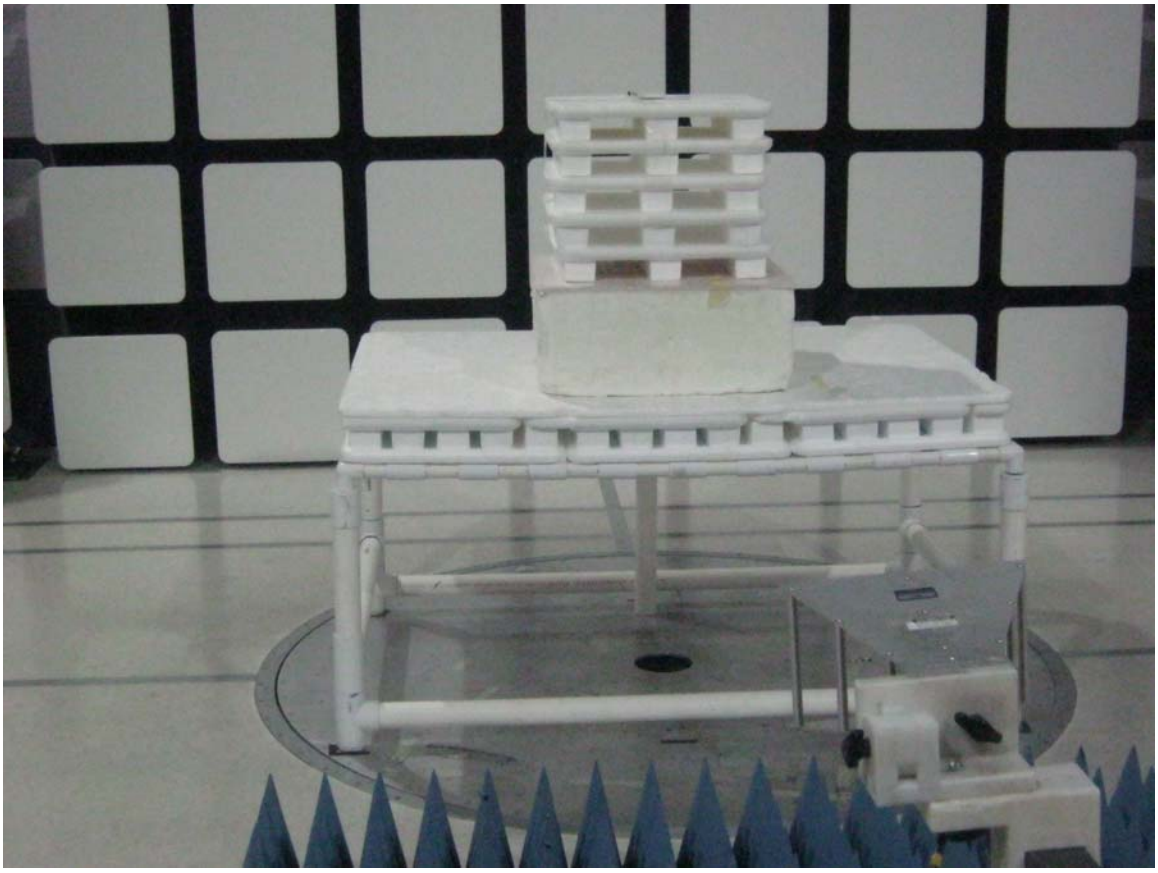
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

SMK-LINK ELECTRONICS
BLE MOUSE
MODEL: GYM3300
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

SMK-LINK ELECTRONICS
BLE MOUSE
MODEL: GYM3300
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS DATA SHEETS

FCC 15.249
SMK-Link Electronics
BLE Mouse
Model: GYM3300

Date: 08/18/2016
Lab: D
Tested By: Kyle Fujimoto

Fundamental of the EUT
Low Channel - RMS Average

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2402	90.37	V	113.97	-23.60	Peak	202.00	270.89	X-Axis
2402	89.02	V	93.97	-4.95	Avg	202.00	270.89	X-Axis
2402	94.70	H	113.97	-19.27	Peak	300.25	170.95	X-Axis
2402	93.40	H	93.97	-0.57	Avg	300.25	170.95	X-Axis
2402	91.14	V	113.97	-22.83	Peak	237.50	139.73	Y-Axis
2402	89.85	V	93.97	-4.12	Avg	237.50	139.73	Y-Axis
2402	91.47	H	113.97	-22.50	Peak	11.00	137.94	Y-Axis
2402	90.04	H	93.97	-3.93	Avg	11.00	137.94	Y-Axis
2402	94.93	V	113.97	-19.05	Peak	139.50	160.98	Z-Axis
2402	93.67	V	93.97	-0.30	Avg	139.50	160.98	Z-Axis
2402	91.75	H	113.97	-22.22	Peak	17.50	124.02	Z-Axis
2402	90.38	H	93.97	-3.59	Avg	17.50	124.02	Z-Axis

FCC 15.249
SMK-Link Electronics
BLE Mouse
Model: GYM3300

Date: 08/18/2016
Lab: D
Tested By: Kyle Fujimoto

Fundamental of the EUT
Middle Channel - RMS Average

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2440	89.83	V	113.97	-24.14	Peak	107.75	169.16	X-Axis
2440	88.14	V	93.97	-5.83	Avg	107.75	169.16	X-Axis
2440	92.70	H	113.97	-21.28	Peak	255.75	101.40	X-Axis
2440	90.80	H	93.97	-3.17	Avg	255.75	101.40	X-Axis
2440	90.85	V	113.97	-23.12	Peak	237.00	120.68	Y-Axis
2440	89.43	V	93.97	-4.54	Avg	237.00	120.68	Y-Axis
2440	90.75	H	113.97	-23.22	Peak	137.50	198.71	Y-Axis
2440	89.45	H	93.97	-4.52	Avg	137.50	198.71	Y-Axis
2440	91.82	V	113.97	-22.15	Peak	172.25	172.26	Z-Axis
2440	89.77	V	93.97	-4.20	Avg	172.25	172.26	Z-Axis
2440	90.58	H	113.97	-23.39	Peak	310.50	125.58	Z-Axis
2440	89.31	H	93.97	-4.66	Avg	310.50	125.58	Z-Axis

FCC 15.249
SMK-Link Electronics
BLE Mouse
Model: GYM3300

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Lab: D
Tested By: Kyle Fujimoto

Fundamental of the EUT
High Channel - RMS Average

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	88.74	V	113.97	-25.24	Peak	257.25	210.11	X-Axis
2480	86.84	V	93.97	-7.13	Avg	257.25	210.11	X-Axis
2480	94.11	H	113.97	-19.86	Peak	21.50	159.61	X-Axis
2480	92.85	H	93.97	-1.12	Avg	21.50	159.61	X-Axis
2480	90.59	V	113.97	-23.39	Peak	224.25	117.94	Y-Axis
2480	88.86	V	93.97	-5.11	Avg	224.25	117.94	Y-Axis
2480	90.54	H	113.97	-23.43	Peak	128.25	100.82	Y-Axis
2480	88.63	H	93.97	-5.34	Avg	128.25	100.82	Y-Axis
2480	92.83	V	113.97	-21.14	Peak	136.75	152.20	Z-Axis
2480	91.56	V	93.97	-2.41	Avg	136.75	152.20	Z-Axis
2480	90.69	H	113.97	-23.28	Peak	9.50	100.83	Z-Axis
2480	88.89	H	93.97	-5.08	Avg	9.50	100.83	Z-Axis

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Harmonics - Low Channel
X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804	52.29	V	73.97	-21.68	Peak	274.50	126.89	
4804	32.29	V	53.97	-21.68	Avg	274.50	126.89	
7206	54.02	V	73.97	-19.95	Peak	188.25	111.49	
7206	34.02	V	53.97	-19.95	Avg	188.25	111.49	
9608	60.45	V	73.97	-13.52	Peak	187.25	103.91	
9608	40.45	V	53.97	-13.52	Avg	187.25	103.91	
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

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Harmonics - Low Channel
X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804	57.09	H	73.97	-16.88	Peak	298.00	110.05	
4804	37.09	H	53.97	-16.88	Avg	298.00	110.05	
7206	57.90	H	73.97	-16.07	Peak	351.00	108.08	
7206	37.90	H	53.97	-16.07	Avg	351.00	108.08	
9608	63.52	H	73.97	-10.45	Peak	83.50	110.71	
9608	43.52	H	53.97	-10.45	Avg	83.50	110.71	
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

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Harmonics - Low Channel
Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804	54.37	V	73.97	-19.60	Peak	79.50	126.95	
4804	34.37	V	53.97	-19.60	Avg	79.50	126.95	
7206	55.12	V	73.97	-18.85	Peak	76.75	125.82	
7206	35.12	V	53.97	-18.85	Avg	76.75	125.82	
9608	61.32	V	73.97	-12.65	Peak	84.25	111.01	
9608	41.32	V	53.97	-12.65	Avg	84.25	111.01	
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

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Harmonics - Low Channel
Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804	56.89	H	73.97	-17.08	Peak	186.75	176.50	
4804	36.89	H	53.97	-17.08	Avg	186.75	176.50	
7206	55.55	H	73.97	-18.42	Peak	186.00	174.89	
7206	35.55	H	53.97	-18.42	Avg	186.00	174.89	
9608	57.14	H	73.97	-16.83	Peak	294.00	142.95	
9608	37.14	H	53.97	-16.83	Avg	294.00	142.95	
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

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Harmonics - Low Channel
Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804	54.37	V	73.97	-19.60	Peak	310.00	177.94	
4804	34.37	V	53.97	-19.60	Avg	310.00	177.94	
7206	58.96	V	73.97	-15.01	Peak	313.25	241.76	
7206	38.96	V	53.97	-15.01	Avg	313.25	241.76	
9608	61.58	V	73.97	-12.39	Peak	318.25	104.86	
9608	41.58	V	53.97	-12.39	Avg	318.25	104.86	
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

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Harmonics - Low Channel
Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804	55.41	H	73.97	-18.56	Peak	78.00	126.89	
4804	35.41	H	53.97	-18.56	Avg	78.00	126.89	
7206	53.17	H	73.97	-20.80	Peak	189.25	109.76	
7206	33.17	H	53.97	-20.80	Avg	189.25	109.76	
9608	58.96	H	73.97	-15.01	Peak	162.25	110.95	
9608	38.96	H	53.97	-15.01	Avg	162.25	110.95	
12010								No Emissions
12010								Detected
14412								No Emissions
14412								Detected
16814								No Emissions
16814								Detected
19216								No Emissions
19216								Detected
21618								No Emissions
21618								Detected
24020								No Emissions
24020								Detected

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Harmonics - Middle Channel
X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	54.37	V	73.97	-19.60	Peak	0.00	110.83	
4880	34.37	V	53.97	-19.60	Avg	0.00	110.83	
7320	54.92	V	73.97	-19.05	Peak	0.25	110.77	
7320	34.92	V	53.97	-19.05	Avg	0.25	110.77	
9760	54.35	V	73.97	-19.62	Peak	359.25	110.71	
9760	34.35	V	53.97	-19.62	Avg	359.25	110.71	
12200								No Emissions
12200								Detected
14640								No Emissions
14640								Detected
17080								No Emissions
17080								Detected
19520								No Emissions
19520								Detected
21960								No Emissions
21960								Detected
24400								No Emissions
24400								Detected

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Harmonics - Middle Channel
X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	59.97	H	73.97	-14.00	Peak	97.00	111.19	
4880	39.97	H	53.97	-14.00	Avg	97.00	111.19	
7320	59.34	H	73.97	-14.63	Peak	168.00	111.13	
7320	39.34	H	53.97	-14.63	Avg	168.00	111.13	
9760	57.23	H	73.97	-16.74	Peak	267.00	110.71	
9760	37.23	H	53.97	-16.74	Avg	267.00	110.71	
12200								No Emissions
12200								Detected
14640								No Emissions
14640								Detected
17080								No Emissions
17080								Detected
19520								No Emissions
19520								Detected
21960								No Emissions
21960								Detected
24400								No Emissions
24400								Detected

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Harmonics - Middle Channel
Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	58.56	V	73.97	-15.41	Peak	116.25	115.58	
4880	38.56	V	53.97	-15.41	Avg	116.25	115.58	
7320	56.29	V	73.97	-17.68	Peak	117.25	116.66	
7320	36.29	V	53.97	-17.68	Avg	117.25	116.66	
9760	51.28	V	73.97	-22.69	Peak	120.25	118.25	
9760	31.28	V	53.97	-22.69	Avg	120.25	118.25	
12200								No Emissions
12200								Detected
14640								No Emissions
14640								Detected
17080								No Emissions
17080								Detected
19520								No Emissions
19520								Detected
21960								No Emissions
21960								Detected
24400								No Emissions
24400								Detected

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Harmonics - Middle Channel
Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	58.56	H	73.97	-15.41	Peak	102.75	111.26	
4880	38.56	H	53.97	-15.41	Avg	102.75	111.26	
7320	54.59	H	73.97	-19.38	Peak	95.25	113.25	
7320	34.59	H	53.97	-19.38	Avg	95.25	113.25	
9760	58.26	H	73.97	-15.71	Peak	342.25	114.25	
9760	38.26	H	53.97	-15.71	Avg	342.25	114.25	
12200								No Emissions
12200								Detected
14640								No Emissions
14640								Detected
17080								No Emissions
17080								Detected
19520								No Emissions
19520								Detected
21960								No Emissions
21960								Detected
24400								No Emissions
24400								Detected

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Harmonics - Middle Channel
Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	58.59	V	73.97	-15.38	Peak	125.55	145.25	
4880	38.59	V	53.97	-15.38	Avg	125.55	145.25	
7320	52.14	V	73.97	-21.83	Peak	110.25	162.25	
7320	32.14	V	53.97	-21.83	Avg	110.25	162.25	
9760	53.69	V	73.97	-20.28	Peak	111.26	164.25	
9760	33.69	V	53.97	-20.28	Avg	111.26	164.25	
12200								No Emissions
12200								Detected
14640								No Emissions
14640								Detected
17080								No Emissions
17080								Detected
19520								No Emissions
19520								Detected
21960								No Emissions
21960								Detected
24400								No Emissions
24400								Detected

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Harmonics - Middle Channel
Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	59.26	H	73.97	-14.71	Peak	158.25	147.26	
4880	39.26	H	53.97	-14.71	Avg	158.25	147.26	
7320	53.58	H	73.97	-20.39	Peak	111.29	168.25	
7320	33.58	H	53.97	-20.39	Avg	111.29	168.25	
9760	54.26	H	73.97	-19.71	Peak	102.25	166.25	
9760	34.26	H	53.97	-19.71	Avg	102.25	166.25	
12200								No Emissions
12200								Detected
14640								No Emissions
14640								Detected
17080								No Emissions
17080								Detected
19520								No Emissions
19520								Detected
21960								No Emissions
21960								Detected
24400								No Emissions
24400								Detected

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Harmonics - High Channel
X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	58.13	V	73.97	-15.84	Peak	222.75	111.13	
4960	38.13	V	53.97	-15.84	Avg	222.75	111.13	
7440	43.96	V	73.97	-30.01	Peak	2.00	126.89	
7440	23.96	V	53.97	-30.01	Avg	2.00	126.89	
9920	46.57	V	73.97	-27.40	Peak	358.50	110.95	
9920	26.57	V	53.97	-27.40	Avg	358.50	110.95	
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

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Harmonics - High Channel
X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	65.02	H	73.97	-8.95	Peak	94.25	142.89	
4960	45.02	H	53.97	-8.95	Avg	94.25	142.89	
7440	57.29	H	73.97	-16.68	Peak	151.75	127.31	
7440	37.29	H	53.97	-16.68	Avg	151.75	127.31	
9920	48.94	H	73.97	-25.03	Peak	85.00	111.13	
9920	28.94	H	53.97	-25.03	Avg	85.00	111.13	
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

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Harmonics - High Channel
Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	61.58	V	73.97	-12.39	Peak	48.00	142.95	
4960	41.58	V	53.97	-12.39	Avg	48.00	142.95	
7440	53.95	V	73.97	-20.02	Peak	235.00	174.83	
7440	33.95	V	53.97	-20.02	Avg	235.00	174.83	
9920	44.95	V	73.97	-29.02	Peak	258.00	249.11	
9920	24.95	V	53.97	-29.02	Avg	258.00	249.11	
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

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Harmonics - High Channel
Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	64.10	H	73.97	-9.87	Peak	10.00	126.83	
4960	44.10	H	53.97	-9.87	Avg	10.00	126.83	
7440	54.02	H	73.97	-19.95	Peak	353.00	206.77	
7440	34.02	H	53.97	-19.95	Avg	353.00	206.77	
9920	47.61	H	73.97	-26.36	Peak	116.00	158.83	
9920	27.61	H	53.97	-26.36	Avg	116.00	158.83	
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

FCC 15.249
SMK-Link Electronics
BLE Mouse
Model: GYM3300

Date: 08/18/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	60.08	V	73.97	-13.89	Peak	200.00	128.38	
4960	40.08	V	53.97	-13.89	Avg	200.00	128.38	
7440	56.24	V	73.97	-17.73	Peak	146.25	110.71	
7440	36.24	V	53.97	-17.73	Avg	146.25	110.71	
9920	46.95	V	73.97	-27.02	Peak	144.00	191.43	
9920	26.95	V	53.97	-27.02	Avg	144.00	191.43	
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

FCC 15.249
SMK-Link Electronics
BLE Mouse
Model: GYM3300

Date: 08/18/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	60.90	H	73.97	-13.07	Peak	301.05	143.25	
4960	40.90	H	53.97	-13.07	Avg	301.05	143.25	
7440	52.67	H	73.97	-21.30	Peak	58.25	111.31	
7440	32.67	H	53.97	-21.30	Avg	58.25	111.31	
9920	45.27	H	73.97	-28.70	Peak	57.50	239.37	
9920	25.27	H	53.97	-28.70	Avg	57.50	239.37	
12400								No Emissions
12400								Detected
14880								No Emissions
14880								Detected
17360								No Emissions
17360								Detected
19840								No Emissions
19840								Detected
22320								No Emissions
22320								Detected
24800								No Emissions
24800								Detected

FCC 15.249 and FCC Class B

SMK-Link Electronics
BLE Mouse
Model: GYM3300

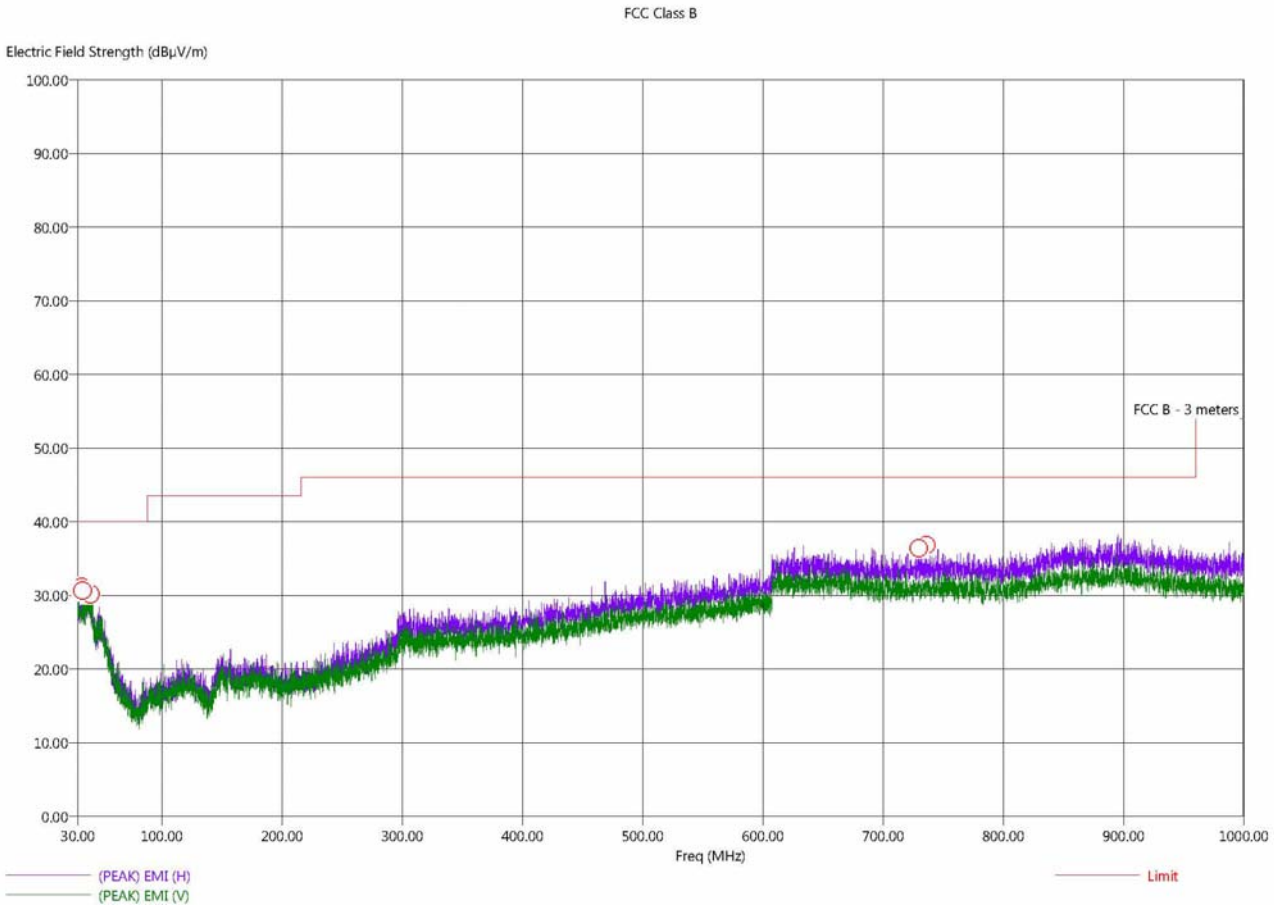
Date: 08/18/2016
Lab: D
Tested By: Kyle Fujimoto

Digital Portion and Non-Harmonic Emissions from the Transmitter - 10 kHz to 25 GHz
Vertical and Horizontal Polarization

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions from the
								Digital Portion of the EUT
								from 10 kHz to 30 MHz
								No Emissions from the
								Non-Harmonic emissions
								of the TX from 10 kHz
								to 30 MHz
								No Emissions from the
								Digital Portion of the EUT
								from 1 GHz to 25 GHz
								No Emissions from the
								Non-Harmonic emissions
								of the TX from 1 GHz
								to 25 GHz
								Tested in the X-Axis,
								Y-Axis, and Z-Axis

Title: Pre-Scan - FCC Class B
File: Agilent - Pre-Scan - FCC Class B - 30 MHz to 1000 MHz - X-Axis.set
Operator: Kyle Fujimoto
EUT Type: Ecolink Wireless Door/Window Contact 2016
EUT Condition: The EUT is continuously transmitting at the low channel - X-axis
Comments: Company: Echolink Intelligent Technology, Inc.
Model: 4655BC0-R

9/27/2016 2:02:25 PM
Sequence: Preliminary Scan



Title: Radiated Final - FCC Class B
File: Agilent - Final Scan - FCC Class B - 30 MHz to 1000 MHz - X-Axis Worst Case.set
Operator: Kyle Fujimoto
EUT Type: Ecolink Wireless Door/Window Contact 2016
EUT Condition: The EUT is continuously transmitting at the low channel - X-Axis
Comments: Company: Ecolink Intelligent Technology, Inc.
Model: 4655BC0-R
X-Axis is Worst Case

9/27/2016 2:31:10 PM
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)
33.60	H	32.15	26.56	-7.85	-13.44	40.00	24.21	0.34	242.25	207.25
37.00	H	32.21	26.83	-7.79	-13.17	40.00	24.75	0.37	138.50	143.49
38.90	V	32.42	27.24	-7.58	-12.76	40.00	25.21	0.39	68.50	175.07
40.20	H	33.15	27.27	-6.85	-12.73	40.00	25.15	0.40	356.25	303.73
684.20	H	36.13	31.10	-9.87	-14.90	46.00	24.09	2.24	202.25	111.07
687.80	H	36.13	30.99	-9.87	-15.01	46.00	24.07	2.25	225.00	191.25

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BAND EDGES DATA SHEETS

FCC 15.249
SMK-Link Electronics
BLE Mouse
Model: GYM3300

Date: 07/07/2016
Lab: D
Tested By: Kyle Fujimoto

Band Edges - Low Channel
RMS Average

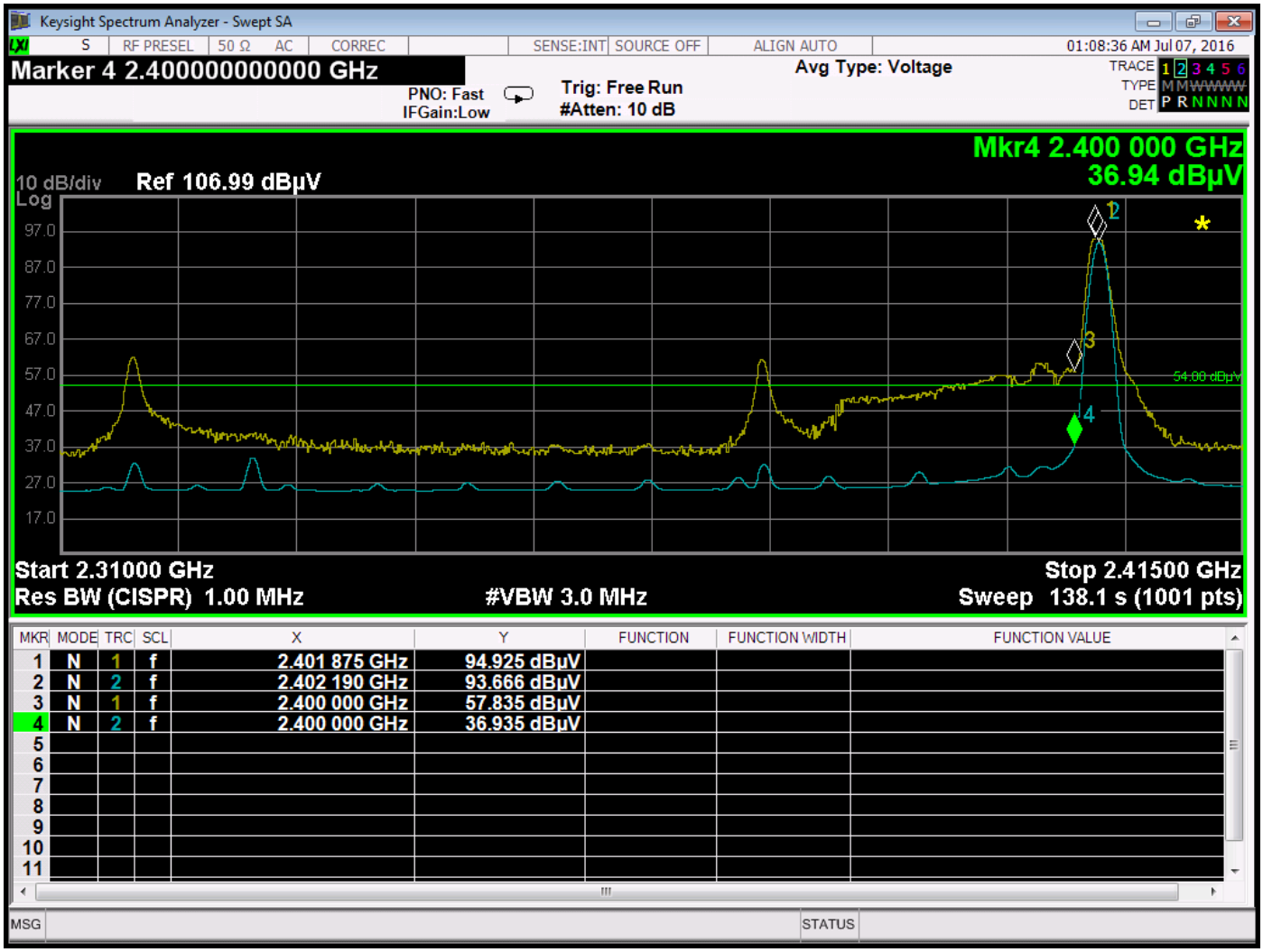
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2402	94.93	V	113.97	-19.05	Peak	139.50	160.98	Fund. Of Low Channel
2402	93.67	V	93.97	-0.30	Avg	139.50	160.98	Z-Axis (Worst Case)
2400	57.84	V	73.97	-16.14	Peak	139.50	160.98	Band Edge of Low Ch.
2400	36.94	V	53.97	-17.04	Avg	139.50	160.98	Z-Axis (Worst Case)
2402	94.70	H	113.97	-19.27	Peak	300.25	170.95	Fund. Of Low Channel
2402	93.40	H	93.97	-0.57	Avg	300.25	170.95	X-Axis (Worst Case)
2400	59.15	H	73.97	-14.82	Peak	300.25	170.95	Band Edge of Low Ch.
2400	36.27	H	53.97	-17.70	Avg	300.25	170.95	X-Axis (Worst Case)

FCC 15.249
SMK-Link Electronics
BLE Mouse
Model: GYM3300

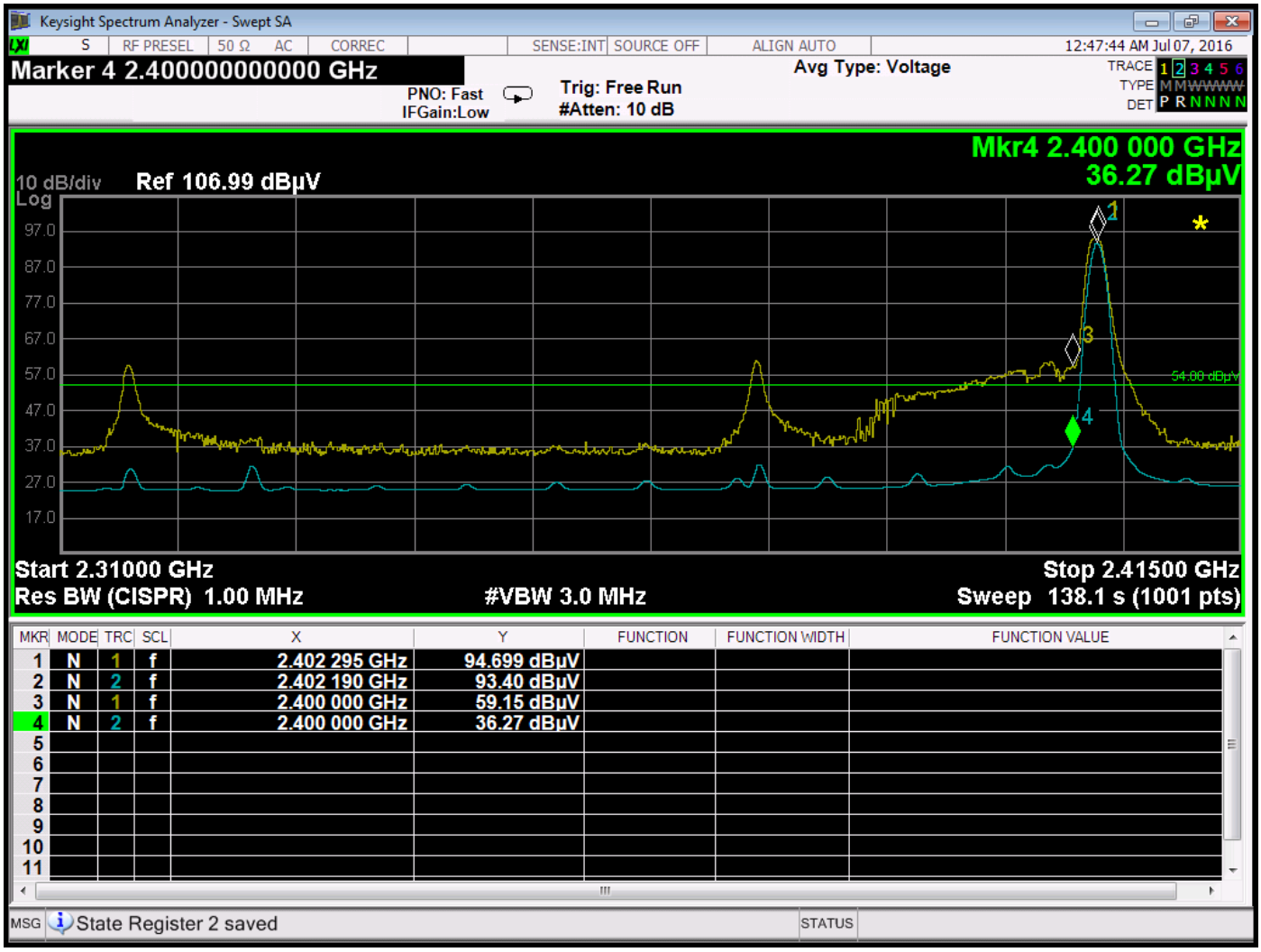
Date: 07/07/2016
Lab: D
Tested By: Kyle Fujimoto

Band Edge - High Channel
RMS Average

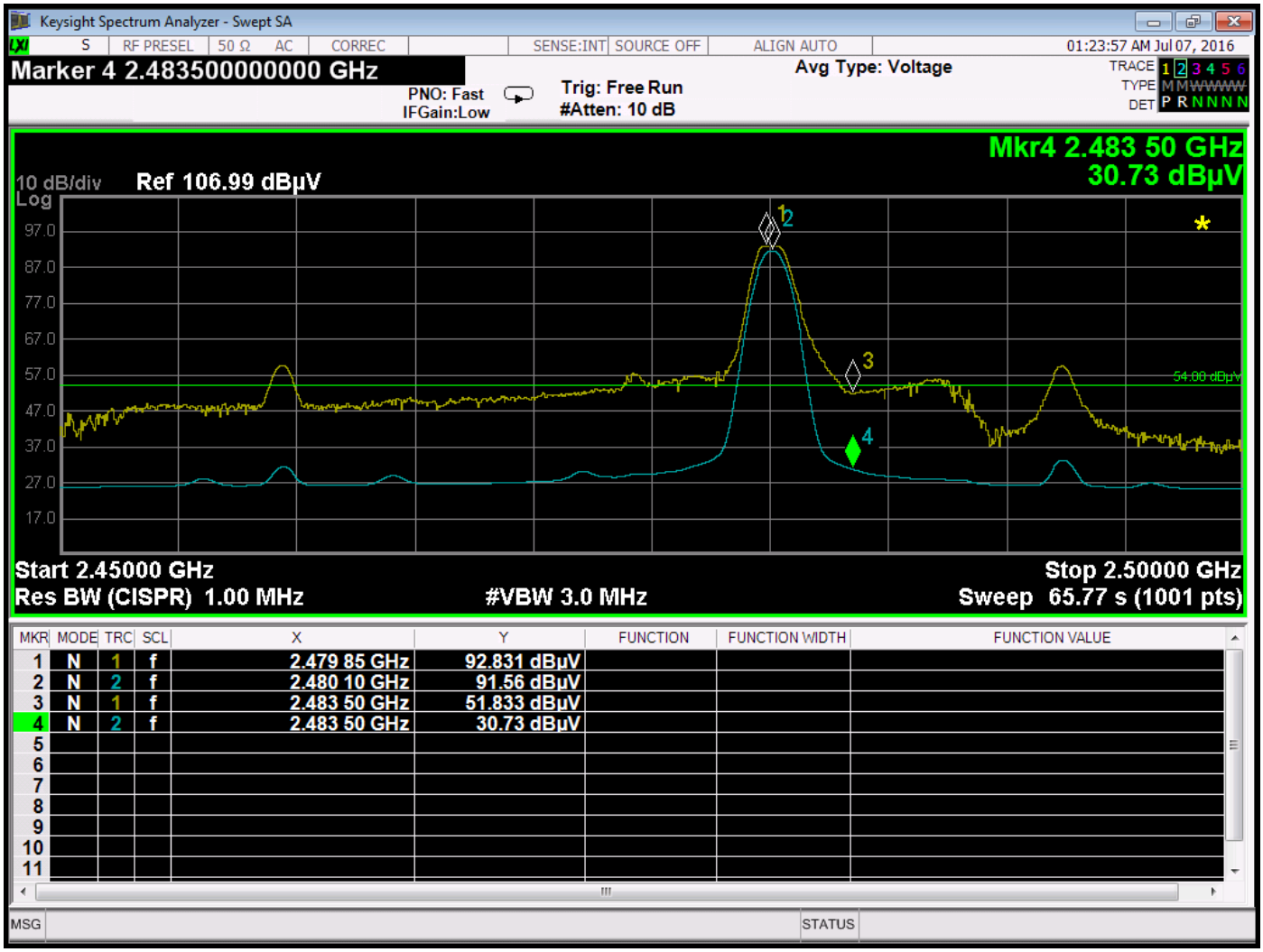
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	92.83	V	113.97	-21.14	Peak	136.75	152.20	Fund. of High Channel
2480	91.56	V	93.97	-2.41	Avg	136.75	152.20	Z-Axis (Wost Case)
2483.5	51.83	V	73.97	-22.14	Peak	136.75	152.20	Band Edge of High Ch.
2483.5	30.73	V	53.97	-23.24	Avg	136.75	152.20	Z-Axis (Wost Case)
2480	94.11	H	113.97	-19.86	Peak	21.50	159.61	Fund. of High Channel
2480	92.85	H	93.97	-1.12	Avg	21.50	159.61	X-Axis (Wost Case)
2483.5	53.88	H	73.97	-20.09	Peak	21.50	159.61	Band Edge of High Ch.
2483.5	31.37	H	53.97	-22.60	Avg	21.50	159.61	X-Axis (Wost Case)



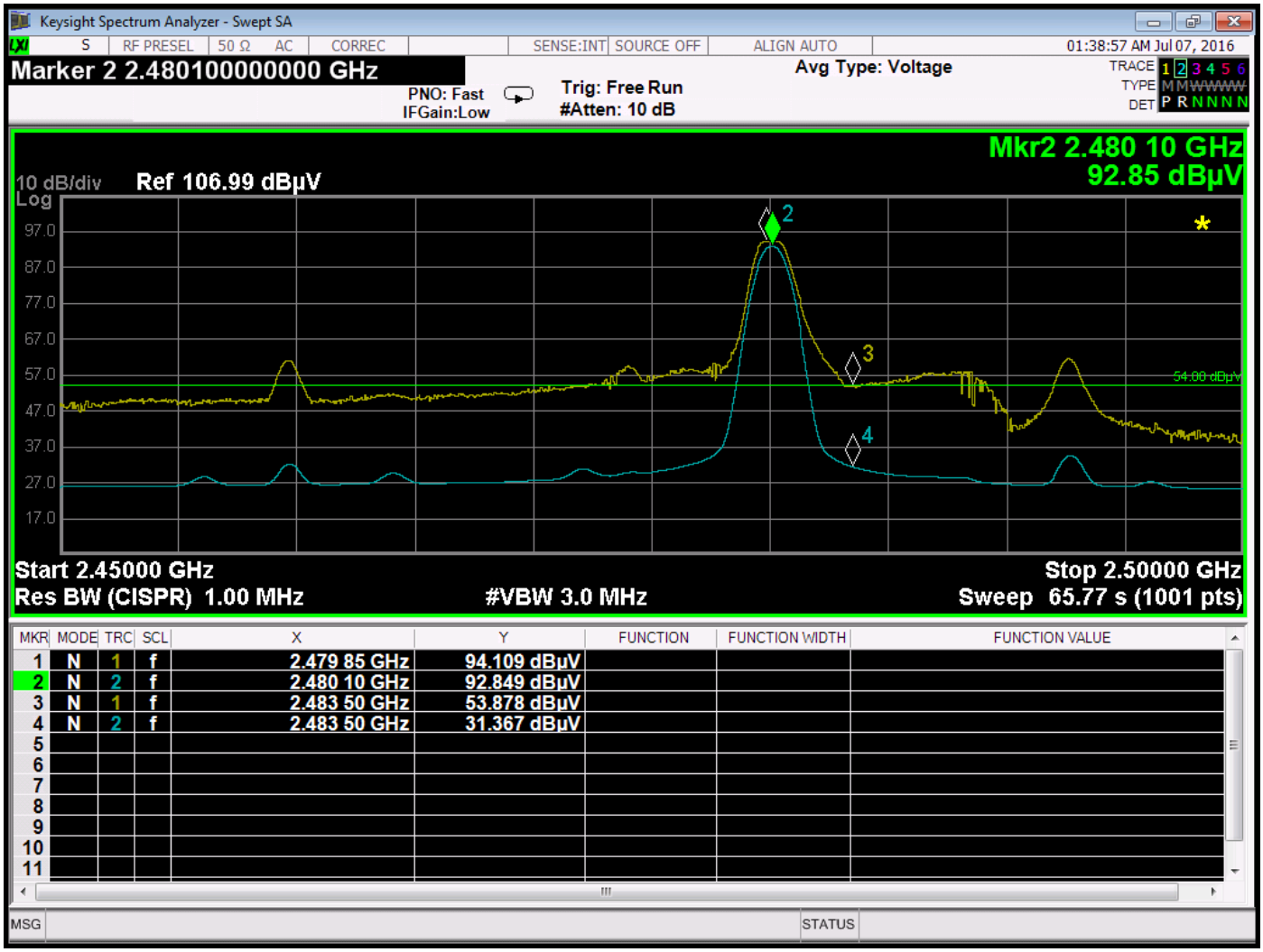
Band Edge – Vertical Polarization – Low Channel – Model: GYM3300 – Z-Axis Worst Case



Band Edge – Horizontal Polarization – Low Channel – Model: GYM3300 – X-Axis Worst Case

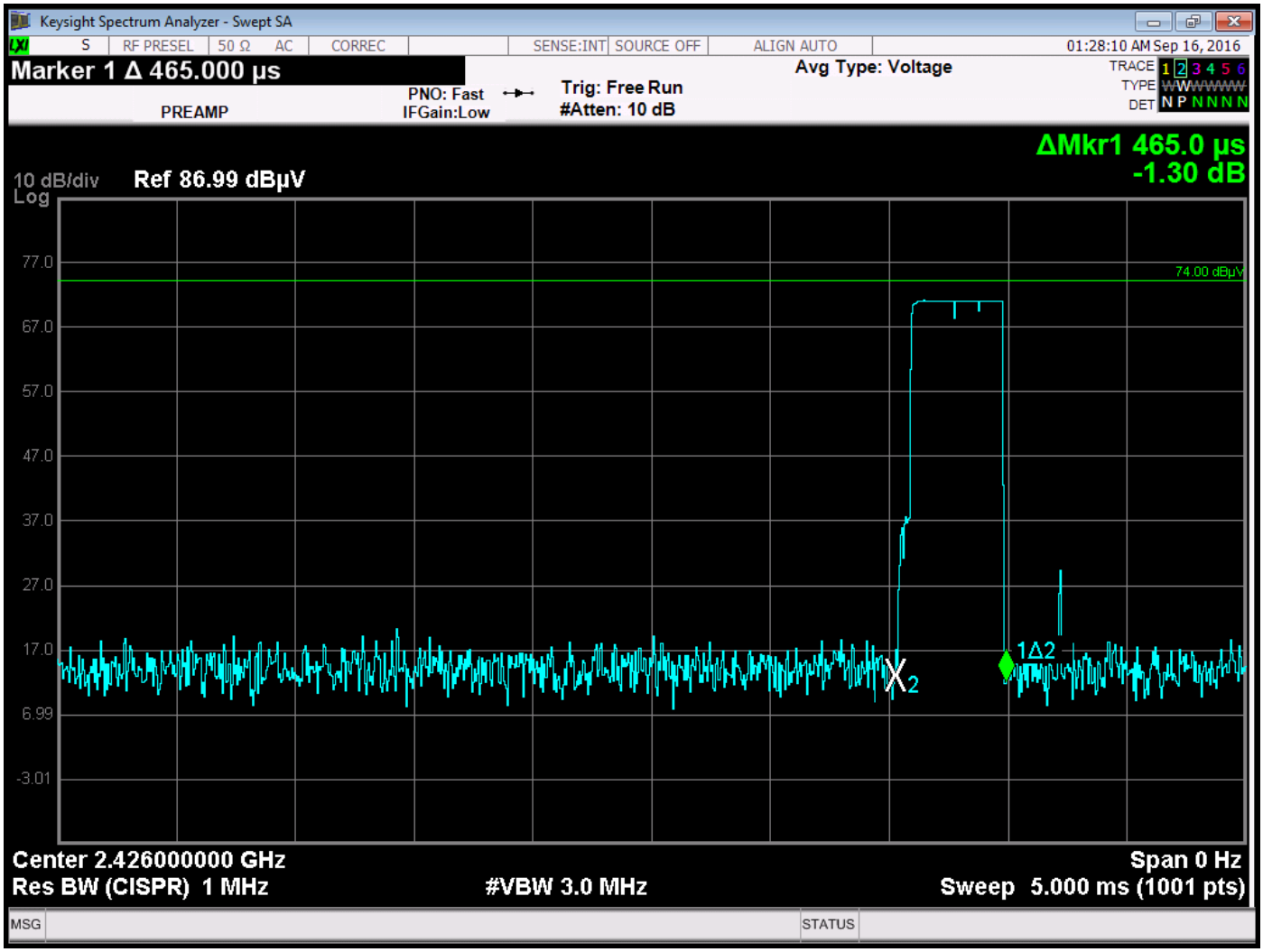


Band Edge – Vertical Polarization – High Channel – Model: GYM3300 – Z-Axis Worst Case

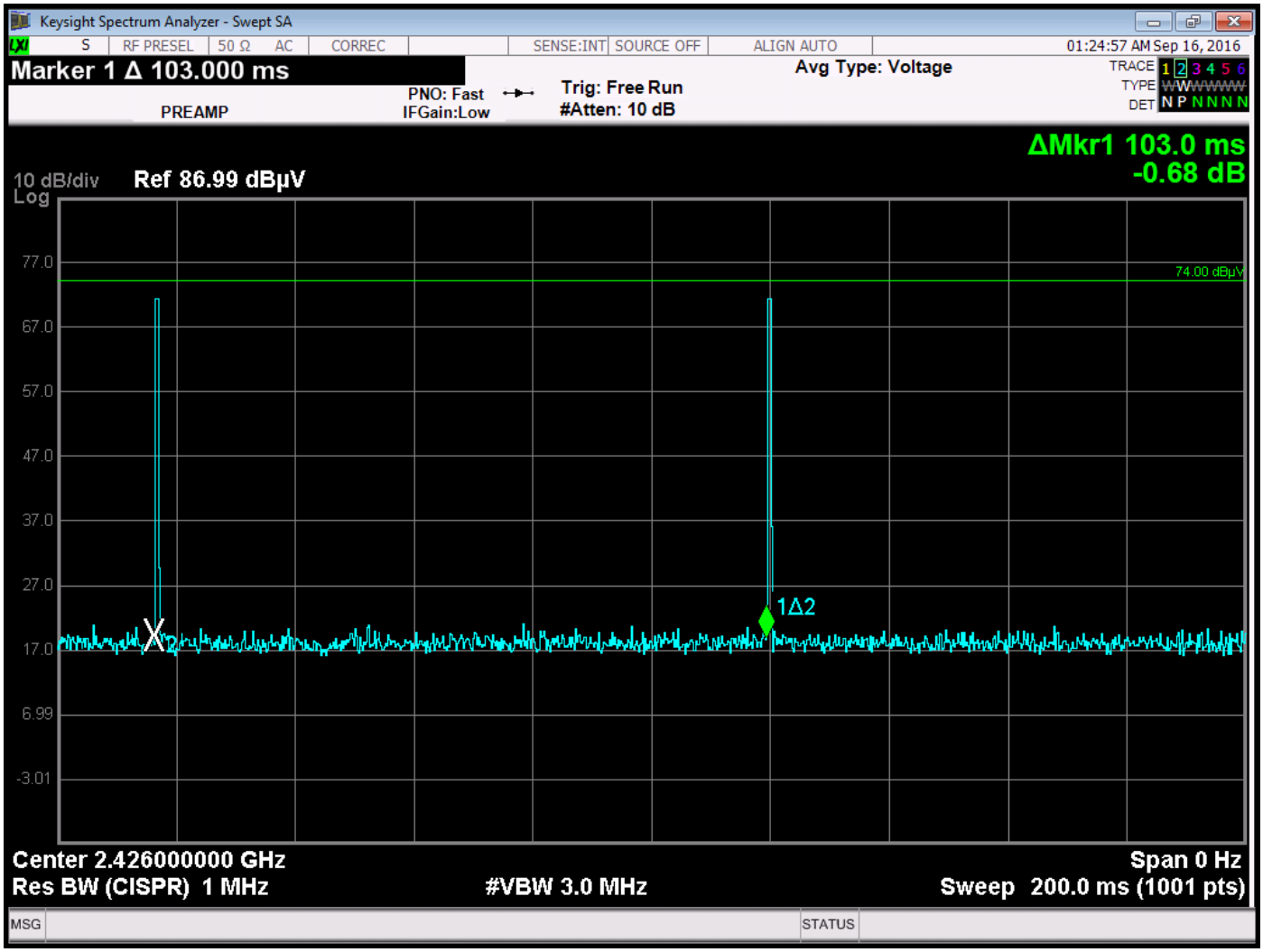


Band Edge – Horizontal Polarization – High Channel – Model: GYM3300 – X-Axis Worst Case

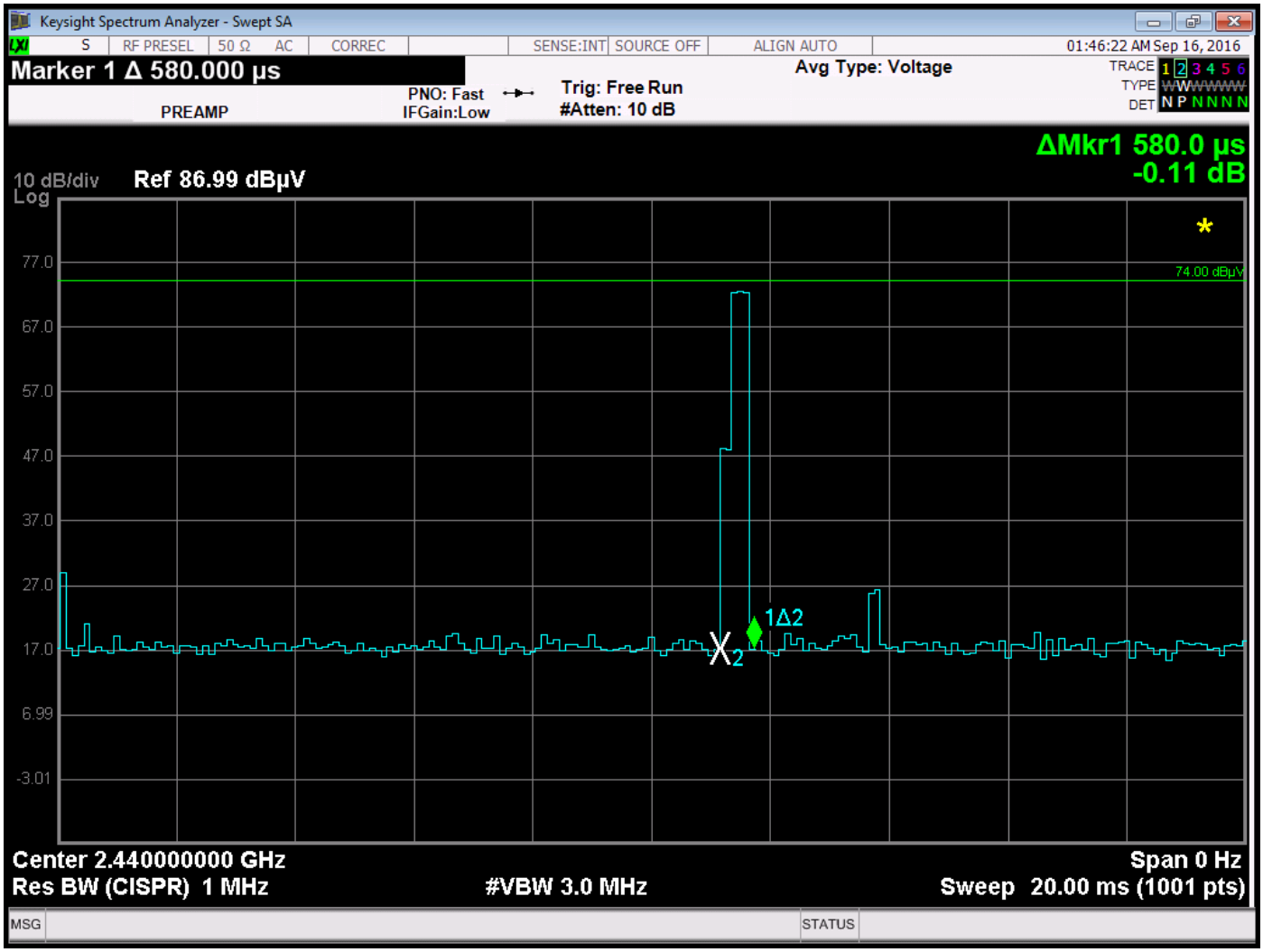
DUTY CYCLE DATA SHEETS



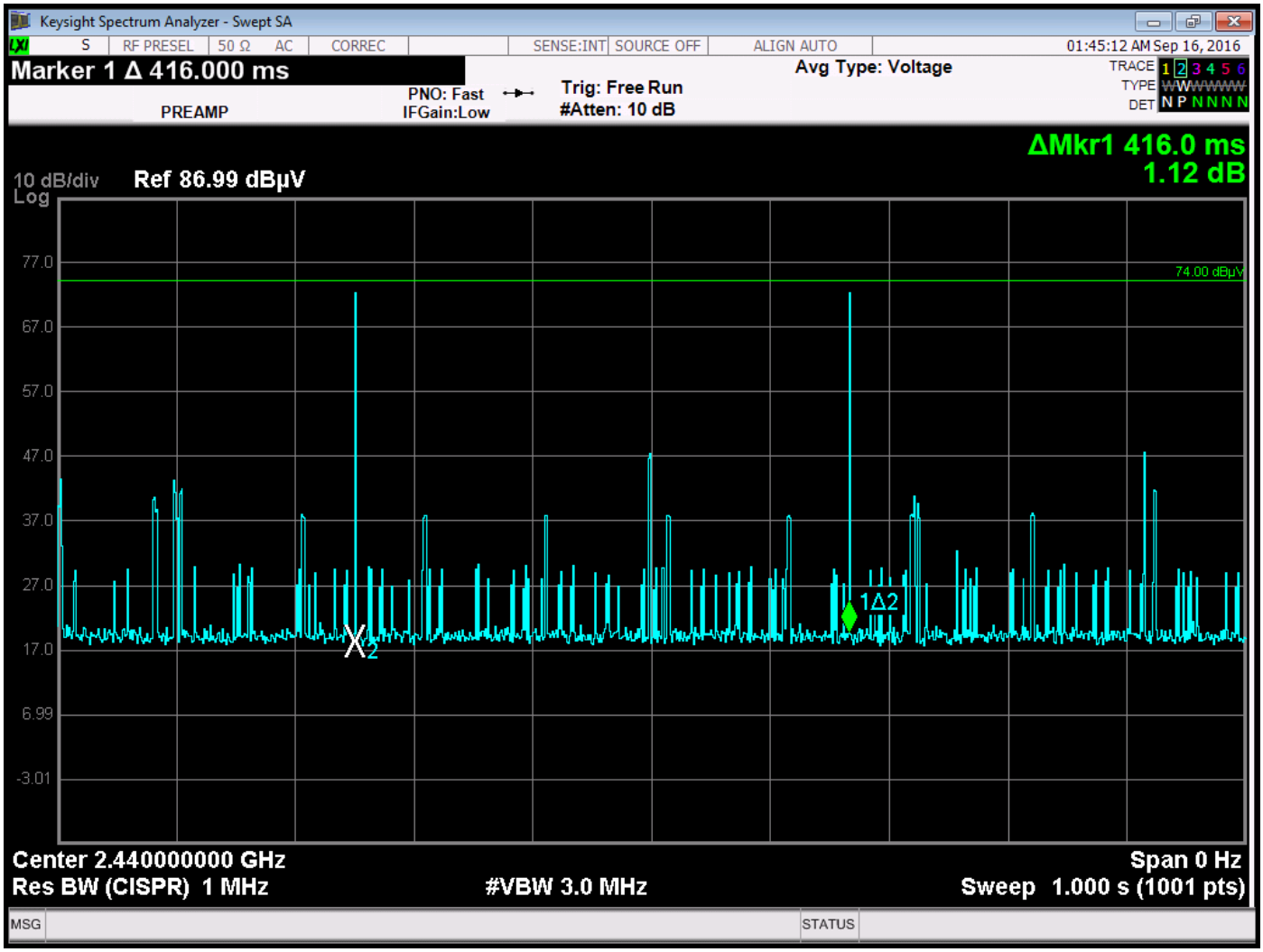
Time of One Pulse = 465 us – Advertising Mode



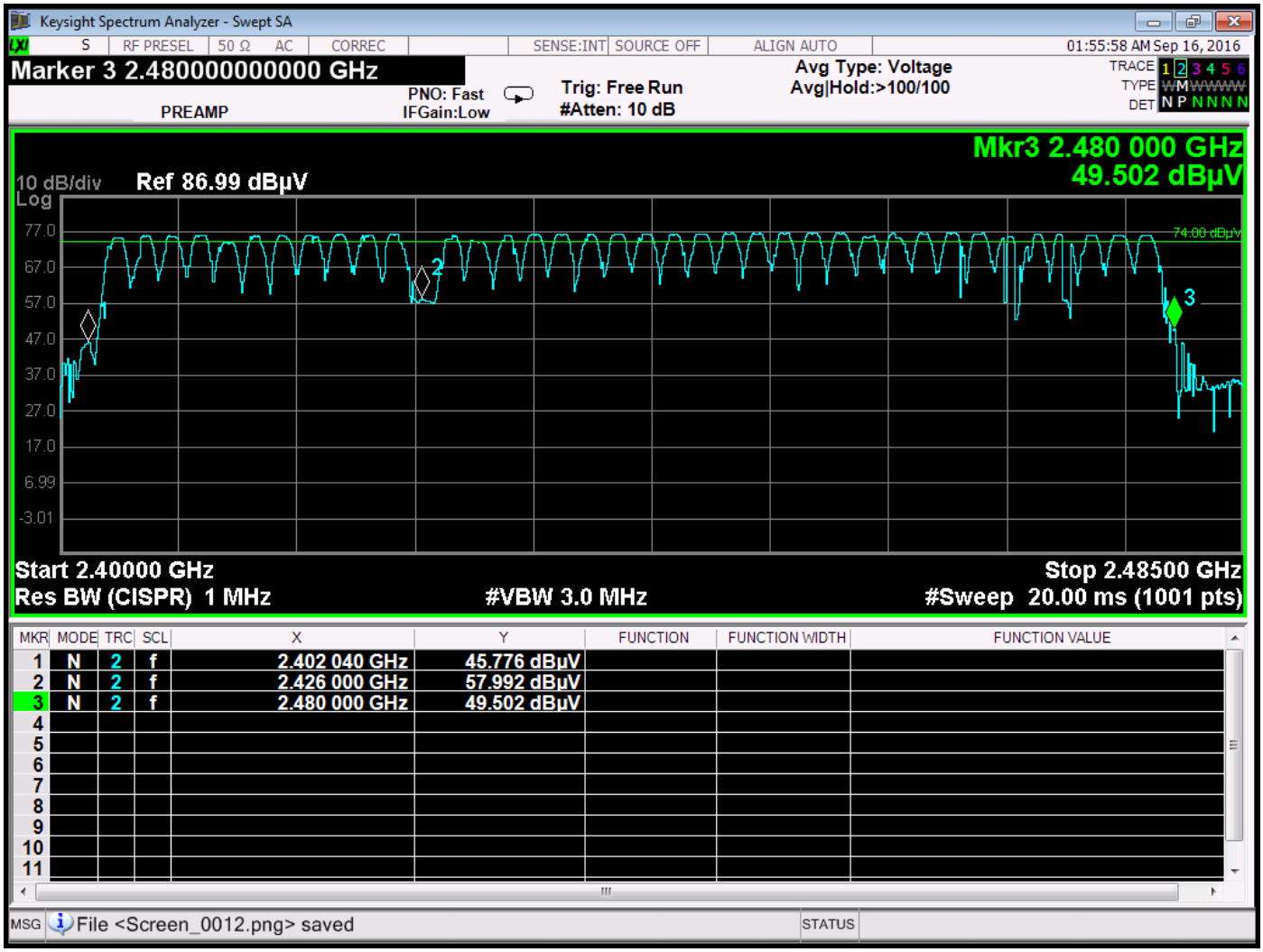
Time Between Pulses = 103 ms – Advertising Mode
Total Duty Cycle = (465 us) / 100 ms = 0.465%
The maximum peak to average ratio of -20 dB can be utilized.



Time of One Pulse = 580 us – Data Mode



Time Between Pulses = 103 ms – Data Mode
Total Duty Cycle = (580 us) / 100 ms = 0.580%
The maximum peak to average ratio of -20 dB can be utilized.



Proof that 2402 MHz, 2426 MHz, and 2480 MHz are not active and that there is 37 channels for data mode.