

**FCC PART 15 SUBPART B and C
TEST REPORT***for***AIR MOUSE GO PLUS****MODEL: GYM1100**

Prepared for

SMK-LINK ELECTRONICS
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DATE: FEBRUARY 18, 2013

	REPORT BODY	APPENDICES					TOTAL
		<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	
PAGES	16	2	2	2	13	32	67

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TABLE OF CONTENTS

Section / Title	PAGE
GENERAL REPORT SUMMARY	4
SUMMARY OF TEST RESULTS	4
1. PURPOSE	5
2. ADMINISTRATIVE DATA	6
2.1 Location of Testing	6
2.2 Traceability Statement	6
2.3 Cognizant Personnel	6
2.4 Date Test Sample was Received	6
2.5 Disposition of the Test Sample	6
2.6 Abbreviations and Acronyms	6
3. APPLICABLE DOCUMENTS	7
4. DESCRIPTION OF TEST CONFIGURATION	8
4.1 Description of Test Configuration – Emissions	8
4.1.1 Cable Construction and Termination	8
5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT	9
5.1 EUT and Accessory List	9
5.2 Emissions Test Equipment	10
6. TEST SITE DESCRIPTION	11
6.1 Test Facility Description	11
6.2 EUT Mounting, Bonding and Grounding	11
6.3 Facility Environmental Characteristics	11
7. TEST PROCEDURES	12
7.1 RF Emissions	12
7.1.1 Conducted Emissions Test	12
7.1.2 Radiated Emissions (Spurious and Harmonics) Test	13
7.1.3 RF Emissions Test Results	15
8. CONCLUSIONS	16

LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Accreditations and Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagram, Charts, and Photos • Test Setup Diagram • Antenna and Amplifier Factors • Radiated Emissions Photos
E	Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Plot Map And Layout of Radiated Test Site – 3 Meters

GENERAL REPORT SUMMARY

Compatible Electronics Inc. generates this electromagnetic emission test report, 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 endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested: Air Mouse Go Plus
Model: GYM1100
S/N: N/A

Product Description: See Expository Statement

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

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

Test Date(s): January 16, 2013

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

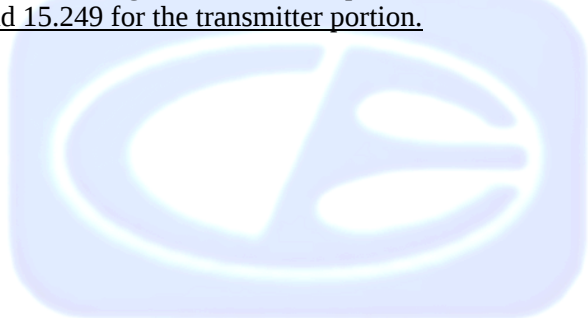
Test Deviations: The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions 150 kHz to 30 MHz	This test was not performed because the EUT operates on battery power only and cannot be plugged into the AC public mains.
2	Radiated RF Emissions 10 kHz to 25000 MHz (Transmitter, Receiver, and Digital Portion)	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.

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Air Mouse Go Plus, Model: GYM1100. The Emissions measurements were performed according to the measurement procedure described in ANSI C63.4. 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 for the digital and receiver portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.



2. ADMINISTRATIVE DATA

2.1 Location of Testing

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

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

Massoud Niakan
Daniel Grieder

G.M. Engineering & Program Management
RF/HW Engineer

Compatible Electronics Inc.

Kyle Fujimoto Test Engineer
James Ross Test Engineer

2.4 Date Test Sample was Received

The test sample was received prior to the date of testing.

2.5 Disposition of the Test Sample

The test sample has not yet been returned as of the date of this report.

2.6 Abbreviations and Acronyms

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

FCC	Federal Communications Commission
RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
N/A	Not Applicable
Ltd.	Limited
Inc.	Incorporated
NCR	No Calibration Required
R&D	Research and Development
Rx	Receive / Receiver
Tx	Transmit / Transmitter

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4: 2009	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

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

The Air Mouse Go Plus, Model: GYM1100 (EUT) was tested as a stand alone unit. The EUT was continuously transmitting and receiving. The EUT had a special program that allowed the low, middle, or high channels to be tested by pressing the button. The EUT was tested in three orthogonal axis.

The antenna is a printed dipole.

It was determined that the emissions were at their highest level when the EUT was operating in the above configuration. The final emissions data was taken in this mode of operation and any cables were maximized. All initial investigations were performed with the measurement receiver in manual mode scanning the frequency range continuously. Photographs of the test setup are in Appendix D of this report.

4.1.1 Cable Construction and Termination

There were no external cables connected to the EUT.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT**5.1 EUT and Accessory List**

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
AIR MOUSE GO PLUS (EUT)	SMK-LINK ELECTRONICS	GYM1100	N/A	IE3GAMGP12

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED IN LAB B					
Computer	Compaq	CQ5210F	CNX9360CF9	N/A	N/A
Monitor	Hewlett Packard	HPs2031a	3CQ046N3MD	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100194	November 19, 2012	2 Years
GENERAL TEST EQUIPMENT USED IN LAB D					
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
Monitor	Hewlett Packard	HPs2031a	3CQ046N3MG	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8568B	2517A01563	May 30, 2012	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A15285	May 30, 2012	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	May 30, 2012	1 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
Biconical Antenna	Com Power	AB-900	43028	May 24, 2012	1 Year
Log Periodic Antenna	Com Power	AL-100	16252	May 24, 2012	1 Year
Preamplifier	Com-Power	CPPA-102	1017	December 27, 2012	1 Year
Preamplifier	Com-Power	PA-118	181656	December 27, 2012	1 Year
Preamplifier	Com-Power	PA-840	711013	May 17, 2012	1 Year
Loop Antenna	Com-Power	AL-130	17089	January 29, 2013	2 Years
Horn Antenna	Com-Power	AH-118	071175	February 29, 2012	2 Years
Horn Antenna	Com-Power	AH-826	0071957	N/A	N/A
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 of this report for Emissions test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT not grounded.

6.3 Facility Environmental Characteristics

When applicable refer to the data sheets in Appendix E for the relative humidity, air temperature, and barometric pressure.

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 measurement receiver was used as a measuring meter. The data was collected with the measurement receiver in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the measurement receiver's input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the measurement 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 C63.4. 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 the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

This test was not performed because the EUT operates on battery power only and cannot be plugged into the AC public mains.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer and EMI Receiver were used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com-Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, the Com-Power Microwave Preamplifier Model: PA-118 was used for frequencies from 1 GHz to 18 GHz, and the Com-Power Microwave Preamplifier Model: PA-840 were used for frequencies above 18 GHz. The spectrum analyzer and EMI Receiver were used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps.

The quasi-peak adapter was used only for those readings which are marked accordingly on the data sheets.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 10 Hz and putting the sweep time on AUTO on the spectrum analyzer to keep the amplitude reading calibrated.

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	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antennas

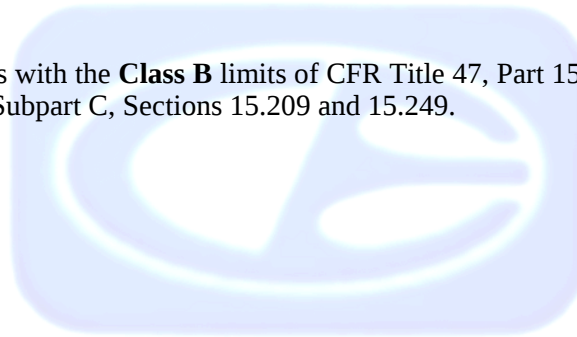
The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. 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 by the Radiated Emission Manual Test software. 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 loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (continued)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3-meter test distance to obtain the final test data.

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, Sections 15.209 and 15.249.



7.1.3 RF Emissions Test ResultsTable 1.0 RADIATED EMISSION RESULTS
Air Mouse Go Plus, Model: GYM1100

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
4808 (Horizontal) (Y-Axis)	50.84 (A)	54.00	-3.16
4960 (Horizontal) (X-Axis)	49.28 (A)	54.00	-4.72
4880 (Horizontal) (X-Axis)	48.81 (A)	54.00	-5.19
4960 (Horizontal) (Y-Axis)	47.94 (A)	54.00	-6.06
4808 (Horizontal) (X-Axis)	47.59 (A)	54.00	-6.41
2404 (Vertical) (Z-Axis)	86.91 (A)	94.00	-7.09

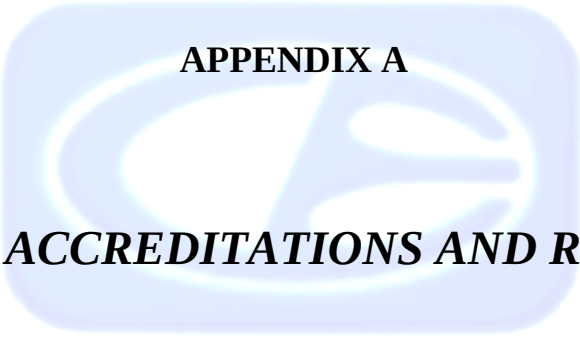
Notes:

- * The complete emissions data is given in Appendix E of this report.
A Average Reading

8. CONCLUSIONS

The Air Mouse Go Plus, Model: GYM1100 (EUT), as tested, meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital and receiver portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.





APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

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 15.249 and/or FCC **Class B** 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

Air Mouse Go Plus
Model: GYM1100
S/N: N/A

ALSO APPROVED UNDER THIS REPORT:

There were no additional models covered under this report.



APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

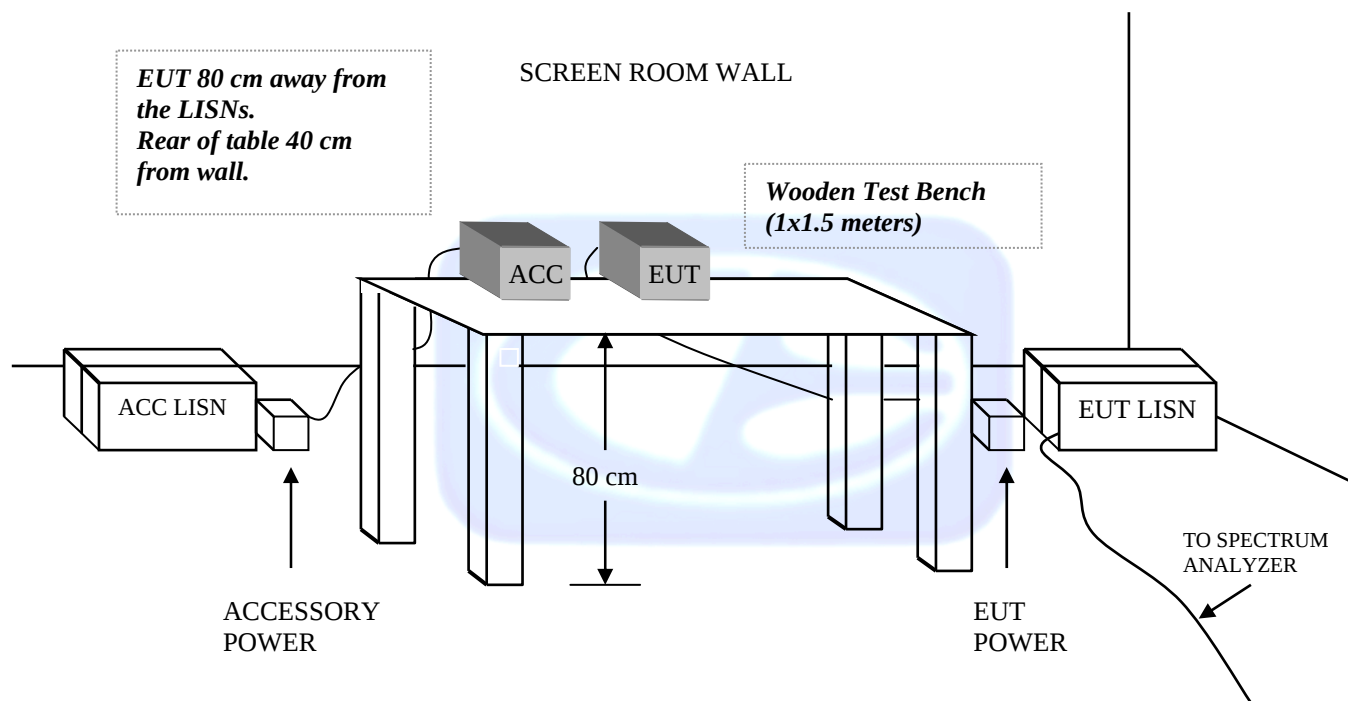
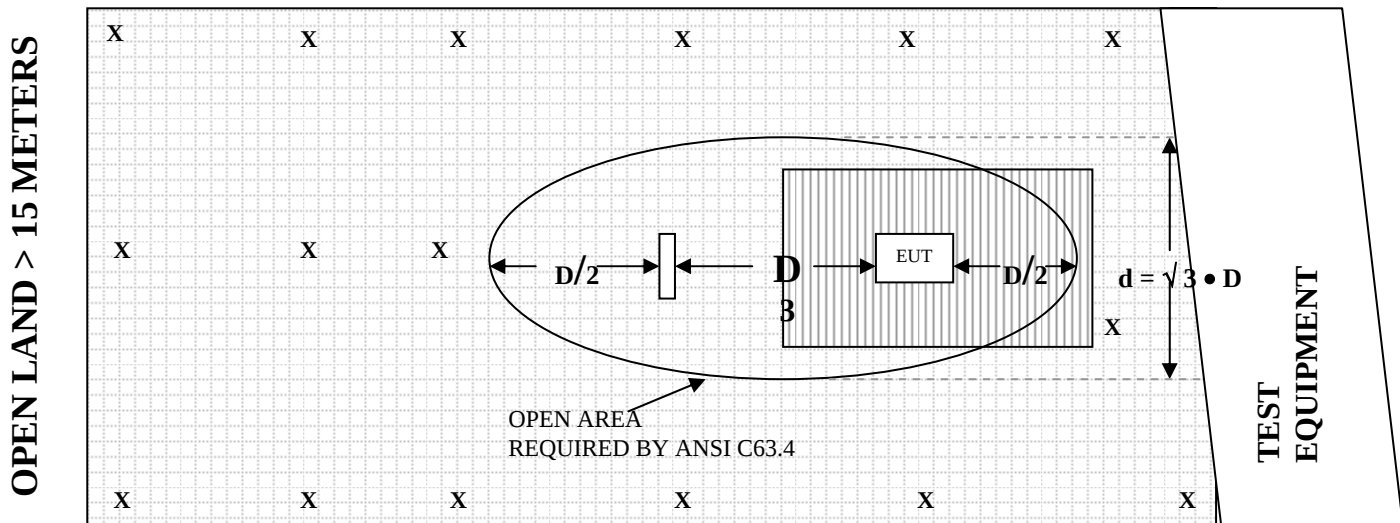


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE – 3 METERS

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

X	= GROUND RODS		= GROUND SCREEN
D	= TEST DISTANCE (meters)		= WOOD COVER

COM-POWER AL-130**LOOP ANTENNA**

S/N: 17089

CALIBRATION DATE: JANUARY 29, 2013

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-42.5	9
0.01	-42.3	9.2
0.02	-42.1	9.4
0.03	-41.4	10.1
0.04	-41.8	9.7
0.05	-42.4	9.1
0.06	-42.3	9.2
0.07	-42.5	9
0.08	-42.4	9.1
0.09	-42.5	9
0.1	-42.5	9
0.2	-42.7	8.8
0.3	-42.6	8.9
0.4	-42.5	9
0.5	-42.7	8.8
0.6	-42.7	8.8
0.7	-42.5	9
0.8	-42.3	9.2
0.9	-42.2	9.3
1	-42.2	9.3
2	-41.8	9.7
3	-41.7	9.8
4	-41.7	9.8
5	-41.5	10
6	-41.6	9.9
7	-41.4	10.1
8	-41	10.5
9	-40.8	10.7
10	-41.3	10.2
15	-41.4	10.1
20	-41.2	10.3
25	-42.6	8.9
30	-41.7	9.8

COM-POWER AB-900**BICONICAL ANTENNA****S/N: 43028****CALIBRATION DATE: MAY 24, 2012**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	11.80	120	13.20
35	11.20	125	13.30
40	11.90	140	11.60
45	10.70	150	11.80
50	11.40	160	12.70
60	10.30	175	14.80
70	7.60	180	15.70
80	5.70	200	15.80
90	7.90	250	14.80
100	10.70	300	19.80

COM-POWER AL-100**LOG PERIODIC ANTENNA****S/N: 16252****CALIBRATION DATE: MAY 24, 2012**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.00	700	20.30
350	13.20	750	20.80
400	14.50	800	21.00
450	15.40	850	23.30
500	15.80	900	21.70
550	16.60	950	24.20
600	18.90	1000	24.30
650	19.10		

COM POWER AH-118**HORN ANTENNA**

S/N: 071175

CALIBRATION DATE: FEBRUARY 29, 2012

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.6	10.0	37.7
1.5	22.0	10.5	38.4
2.0	28.7	11.0	38.0
2.5	29.3	11.5	38.2
3.0	30.6	12.0	39.0
3.5	30.4	12.5	42.4
4.0	31.1	13.0	40.8
4.5	33.4	13.5	40.0
5.0	35.3	14.0	39.7
5.5	35.1	14.5	43.5
6.0	36.9	15.0	42.7
6.5	37.4	15.5	39.7
7.0	37.6	16.0	39.2
7.5	36.2	16.5	39.7
8.0	38.4	17.0	42.2
8.5	39.3	17.5	47.6
9.0	37.4	18.0	51.2
9.5	38.0		

COM-POWER AH-826**HORN ANTENNA**

S/N: 0071957

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 CPPA-102**PREAMPLIFIER**

S/N: 1017

CALIBRATION DATE: DECEMEBER 27, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1	36.9	225	38.14
3	38.1	250	38.15
5	38.1	275	38.14
8	38.2	300	38.18
10	38.3	350	38.22
20	38.2	400	38.26
30	38.3	450	37.53
40	38.2	500	38.24
50	38.5	550	38.53
60	38.5	600	38.69
70	38.4	650	38.66
80	38.4	700	38.58
90	38.5	750	38.37
100	38.4	800	38.23
125	38.6	850	37.68
150	38.4	900	37.38
175	38.5	950	36.82
200	38.5	1000	36.14

COM-POWER PA-118**PREAMPLIFIER****S/N: 181656****CALIBRATION DATE: DECEMBER 27, 2012**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.68	6.0	25.75
1.1	25.08	6.5	25.28
1.2	25.70	7.0	24.83
1.3	25.98	7.5	24.49
1.4	26.11	8.0	24.38
1.5	26.23	8.5	25.06
1.6	26.34	9.0	25.55
1.7	26.39	9.5	25.32
1.8	26.44	10.0	25.25
1.9	26.45	11.0	24.99
2.0	26.48	12.0	25.08
2.5	26.59	13.0	24.44
3.0	26.67	14.0	25.02
3.5	26.66	15.0	26.12
4.0	26.82	16.0	25.67
4.5	26.46	17.0	24.33
5.0	26.22	18.0	26.75
5.5	25.98		

COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 17, 2012

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.81	31.0	25.77
19.0	24.57	31.5	25.36
20.0	23.46	32.0	25.15
21.0	22.51	32.5	25.13
22.0	23.85	33.0	25.52
23.0	23.31	33.5	25.24
24.0	24.44	34.0	25.08
25.0	25.42	34.5	25.27
26.0	25.71	35.0	23.99
26.5	25.66	35.5	24.67
27.0	25.84	36.5	24.80
27.5	25.29	37.0	26.27
28.0	25.46	37.5	24.86
28.5	25.58	38.0	24.64
29.0	26.16	38.5	23.46
29.5	26.14	39.0	21.29
30.0	26.01	39.5	20.83
30.5	25.67	40.0	19.96



FRONT VIEW

SMK-LINK ELECTRONICS
AIR MOUSE GO PLUS
MODEL: GYM1100

FCC SUBPART B AND C – RADIATED EMISSIONS – 01/16/2013

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**



REAR VIEW

SMK-LINK ELECTRONICS
AIR MOUSE GO PLUS
MODEL: GYM1100

FCC SUBPART B AND C – RADIATED EMISSIONS – 01/16/2013

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.249

SMK-Link Electronics
Wireless Mouse
Model: AMGP

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Low Channel
X-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	52.62	V	74	-21.38	Peak	1.25	155	
4808	41.63	V	54	-12.37	Avg	1.25	155	
7212	46.36	V	74	-27.64	Peak	1.25	155	
7212	36.04	V	54	-17.96	Avg	1.25	155	
9616	52.51	V	74	-21.49	Peak	1.5	225	
9616	39.23	V	54	-14.77	Avg	1.5	225	
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Low Channel
X-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	55.24	H	74	-18.76	Peak	1.25	155	
4808	47.59	H	54	-6.41	Avg	1.25	155	
7212	46.94	H	74	-27.06	Peak	1.25	155	
7212	36.65	H	54	-17.35	Avg	1.25	155	
9616	51.26	H	74	-22.74	Peak	1.5	225	
9616	41.22	H	54	-12.78	Avg	1.5	225	
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Low Channel
Y-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	53.04	V	74	-20.96	Peak	1.25	155	
4808	45.57	V	54	-8.43	Avg	1.25	155	
7212	46.83	V	74	-27.17	Peak	1.35	175	
7212	35.51	V	54	-18.49	Avg	1.35	175	
9616	52.52	V	74	-21.48	Peak	1.25	185	
9616	39.96	V	54	-14.04	Avg	1.25	185	
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Low Channel
Y-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	55.21	H	74	-18.79	Peak	1.25	225	
4808	50.84	H	54	-3.16	Avg	1.25	225	
7212	47.33	H	74	-26.67	Peak	1.35	155	
7212	34.89	H	54	-19.11	Avg	1.35	155	
9616	51.37	H	74	-22.63	Peak	1.25	135	
9616	39.86	H	54	-14.14	Avg	1.25	135	
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Low Channel
Z-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	51.92	V	74	-22.08	Peak	1.25	45	
4808	42.52	V	54	-11.48	Avg	1.25	45	
7212	49.68	V	74	-24.32	Peak	1.35	225	
7212	37.99	V	54	-16.01	Avg	1.35	225	
9616	52.15	V	74	-21.85	Peak	1.25	155	
9616	39.65	V	54	-14.35	Avg	1.25	155	
12020								No Emissions
12020								Detected
14424								No Emissions
14424								Detected
16828								No Emissions
16828								Detected
19232								No Emissions
19232								Detected
21636								No Emissions
21636								Detected
24040								No Emissions
24040								Detected

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Low Channel
Z-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4808	53.71	H	74	-20.29	Peak	1.25	45	
4808	46.88	H	54	-7.12	Avg	1.25	45	
7212	47.72	H	74	-26.28	Peak	1.35	155	
7212	34.74	H	54	-19.26	Avg	1.35	155	
9616	51.18	H	74	-22.82	Peak	1.25	165	
9616	39.22	H	54	-14.78	Avg	1.25	165	
12020								No Emissions Detected
14424								No Emissions Detected
16828								No Emissions Detected
19232								No Emissions Detected
21636								No Emissions Detected
24040								No Emissions Detected

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Middle Channel
X-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4880	52.44	V	74	-21.56	Peak	1.25	155	
4880	45.21	V	54	-8.79	Avg	1.25	155	
7320	45.51	V	74	-28.49	Peak	1.35	185	
7320	34.46	V	54	-19.54	Avg	1.35	185	
9760	52.02	V	74	-21.98	Peak	1.15	195	
9760	40.57	V	54	-13.43	Avg	1.15	195	
12200								No Emissions Detected
14640								No Emissions Detected
17080								No Emissions Detected
19520								No Emissions Detected
21960								No Emissions Detected
24400								No Emissions Detected

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Middle Channel
X-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4880	56.22	H	74	-17.78	Peak	1	225	
4880	48.81	H	54	-5.19	Avg	1	225	
7320	46.03	H	74	-27.97	Peak	1	150	
7320	34.02	H	54	-19.98	Avg	1	150	
9760	52.06	H	74	-21.94	Peak	1	150	
9760	39.42	H	54	-14.58	Avg	1	150	
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

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Middle Channel
Y-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4880	54.79	V	74	-19.21	Peak	1.25	0	
4880	46.68	V	54	-7.32	Avg	1.25	0	
7320	53.44	V	74	-20.56	Peak	1	225	
7320	42.11	V	54	-11.89	Avg	1	225	
9760	51.98	V	74	-22.02	Peak	1.25	155	
9760	39.37	V	54	-14.63	Avg	1.25	155	
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

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Middle Channel
Y-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4880	54.05	H	74	-19.95	Peak	1.25	225	
4880	46.46	H	54	-7.54	Avg	1.25	225	
7320	47.09	H	74	-26.91	Peak	1.35	265	
7320	35.85	H	54	-18.15	Avg	1.35	265	
9760	49.89	H	74	-24.11	Peak	1.45	275	
9760	39.32	H	54	-14.68	Avg	1.45	275	
12200								No Emissions Detected
14640								No Emissions Detected
17080								No Emissions Detected
19520								No Emissions Detected
21960								No Emissions Detected
24400								No Emissions Detected

FCC 15.249

SMK-Link Electronics
Wireless Mouse
Model: AMGP

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Middle Channel
Z-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4880	53.36	V	74	-20.64	Peak	1.25	155	
4880	40.14	V	54	-13.86	Avg	1.25	155	
7320	53.64	V	74	-20.36	Peak	1.15	155	
7320	41.96	V	54	-12.04	Avg	1.15	155	
9760	49.93	V	74	-24.07	Peak	1.25	165	
9760	39.65	V	54	-14.35	Avg	1.25	165	
12200								No Emissions Detected
12200								
14640								No Emissions Detected
14640								
17080								No Emissions Detected
17080								
19520								No Emissions Detected
19520								
21960								No Emissions Detected
21960								
24400								No Emissions Detected
24400								

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - Middle Channel
Z-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4880	53.04	H	74	-20.96	Peak	1	150	
4880	44.49	H	54	-9.51	Avg	1	150	
7320	47.24	H	74	-26.76	Peak	1.25	155	
7320	35.94	H	54	-18.06	Avg	1.25	155	
9760	50.85	H	74	-23.15	Peak	1.25	145	
9760	39.77	H	54	-14.23	Avg	1.25	145	
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

FCC 15.249

SMK-Link Electronics
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013

Lab: B

Tested By: Kyle Fujimoto

**Harmonics - High Channel
X-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	53.29	V	74	-20.71	Peak	1.25	180	
4960	44.24	V	54	-9.76	Avg	1.25	180	
7440	46.41	V	74	-27.59	Peak	1.15	135	
7440	35.26	V	54	-18.74	Avg	1.15	135	
9920	51.53	V	74	-22.47	Peak	1	0	
9920	38.15	V	54	-15.85	Avg	1	0	
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
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013
Lab: B
Tested By: Kyle Fujimoto

**Harmonics - High Channel
X-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	57.37	H	74	-16.63	Peak	1	135	
4960	49.28	H	54	-4.72	Avg	1	135	
7440	45.01	H	74	-28.99	Peak	1.25	155	
7440	34.95	H	54	-19.05	Avg	1.25	155	
9920	50.26	H	74	-23.74	Peak	1.35	225	
9920	38.21	H	54	-15.79	Avg	1.35	225	
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
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013
Lab: B
Tested By: Kyle Fujimoto

**Harmonics - High Channel
Y-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	54.89	V	74	-19.11	Peak	1.25	225	
4960	46.21	V	54	-7.79	Avg	1.25	225	
7440	53.71	V	74	-20.29	Peak	1.35	135	
7440	43.27	V	54	-10.73	Avg	1.35	135	
9920	51.27	V	74	-22.73	Peak	1.55	165	
9920	38.08	V	54	-15.92	Avg	1.55	165	
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
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013
Lab: B
Tested By: Kyle Fujimoto

**Harmonics - High Channel
Y-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	55.21	H	74	-18.79	Peak	1.25	225	
4960	47.94	H	54	-6.06	Avg	1.25	225	
7440	46.59	H	74	-27.41	Peak	1.35	235	
7440	34.83	H	54	-19.17	Avg	1.35	235	
9920	49.36	H	74	-24.64	Peak	1.45	225	
9920	39.46	H	54	-14.54	Avg	1.45	225	
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
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013
Lab: B
Tested By: Kyle Fujimoto

**Harmonics - High Channel
Z-Axis**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	53.35	V	74	-20.65	Peak	1.25	135	
4960	45.25	V	54	-8.75	Avg	1.25	135	
7440	45.53	V	74	-28.47	Peak	1.25	165	
7440	34.21	V	54	-19.79	Avg	1.25	165	
9920	50.65	V	74	-23.35	Peak	1.25	175	
9920	39.47	V	54	-14.53	Avg	1.25	175	
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
Air Mouse Go Plus
Model: GYM1100

Date: 01/16/2013
Labs: B and D
Tested By: Kyle Fujimoto

Receiver Mode

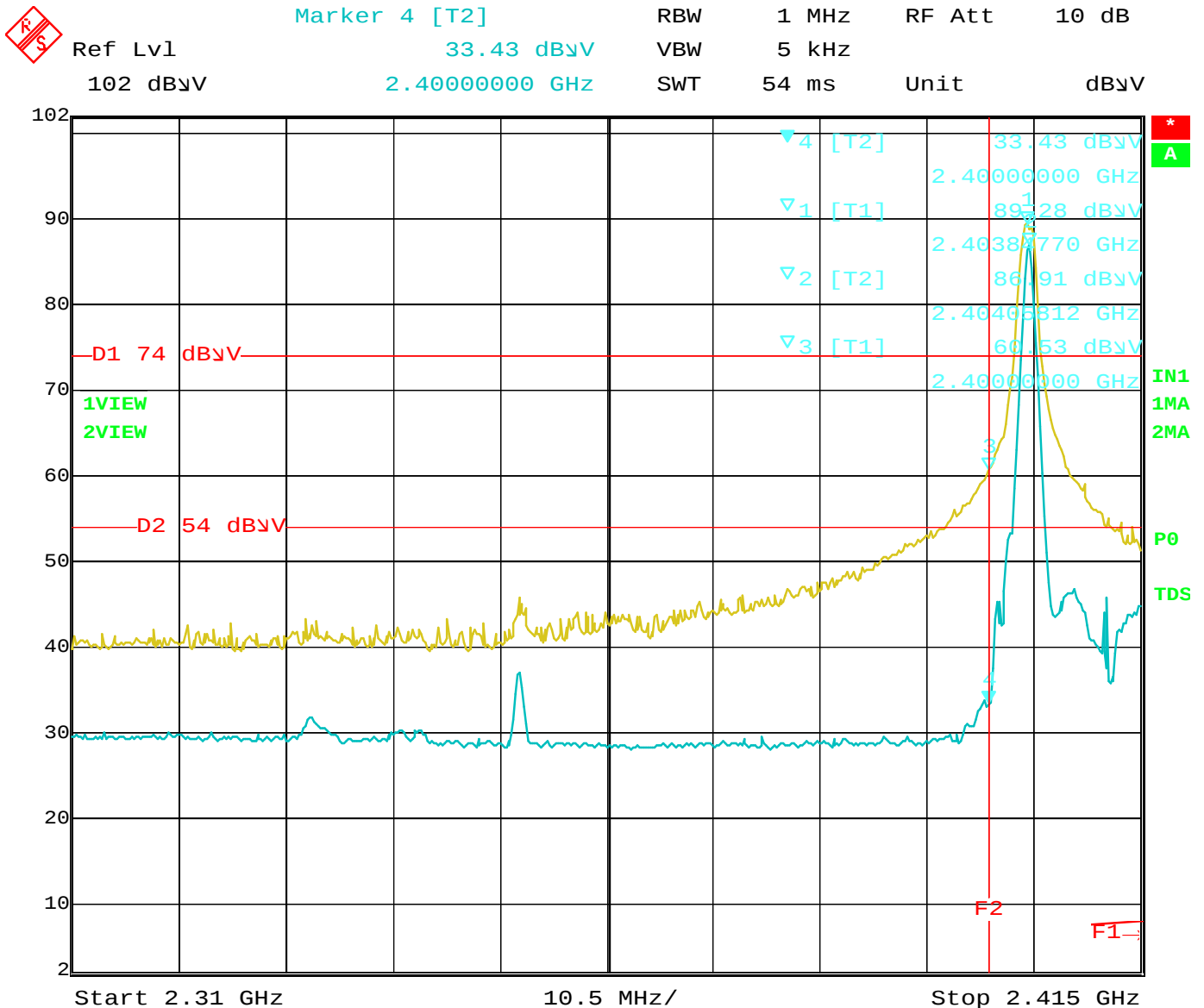
Vertical and Horizontal Polarization - 10 kHz to 25000 MHz

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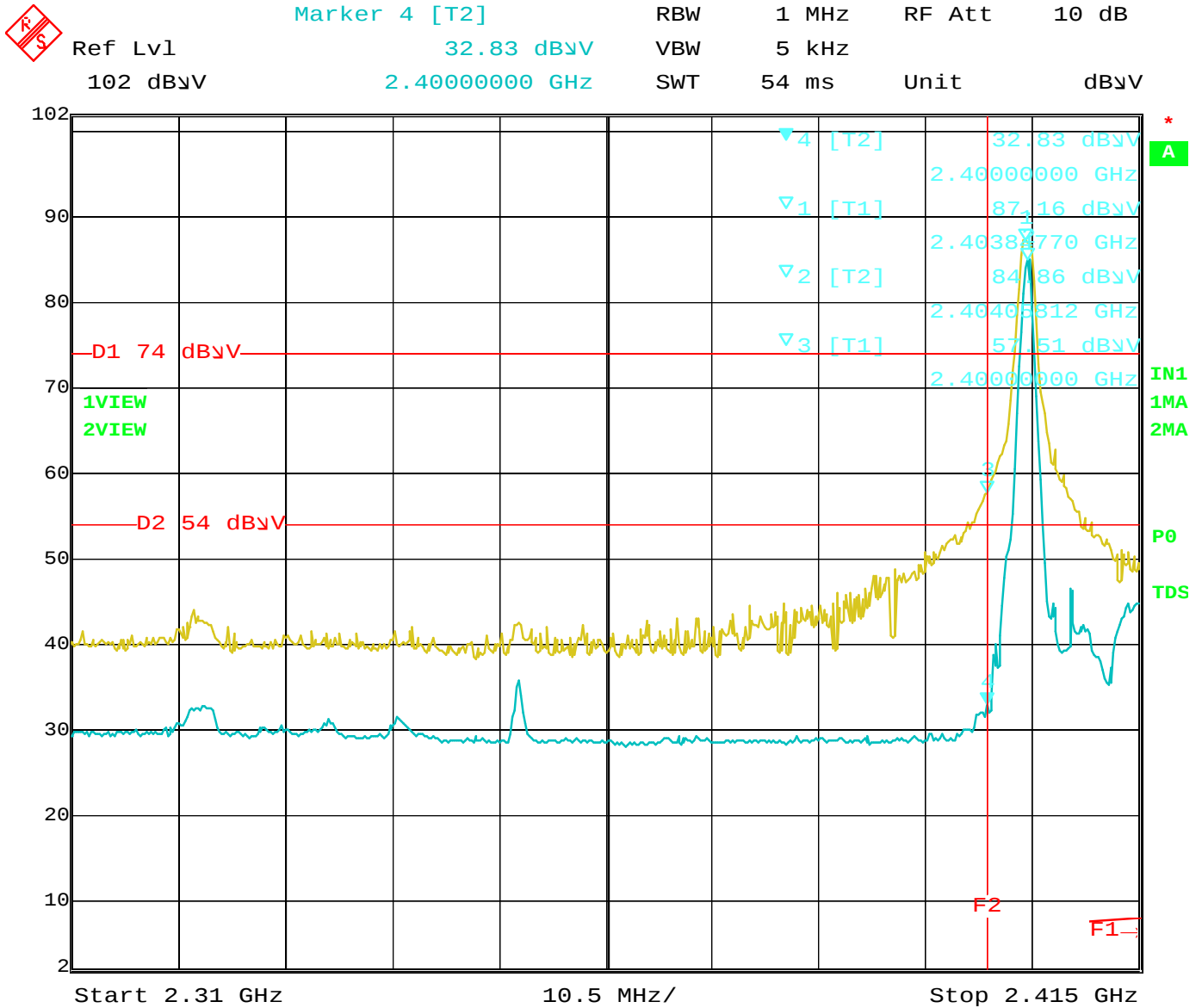


DATA SHEETS



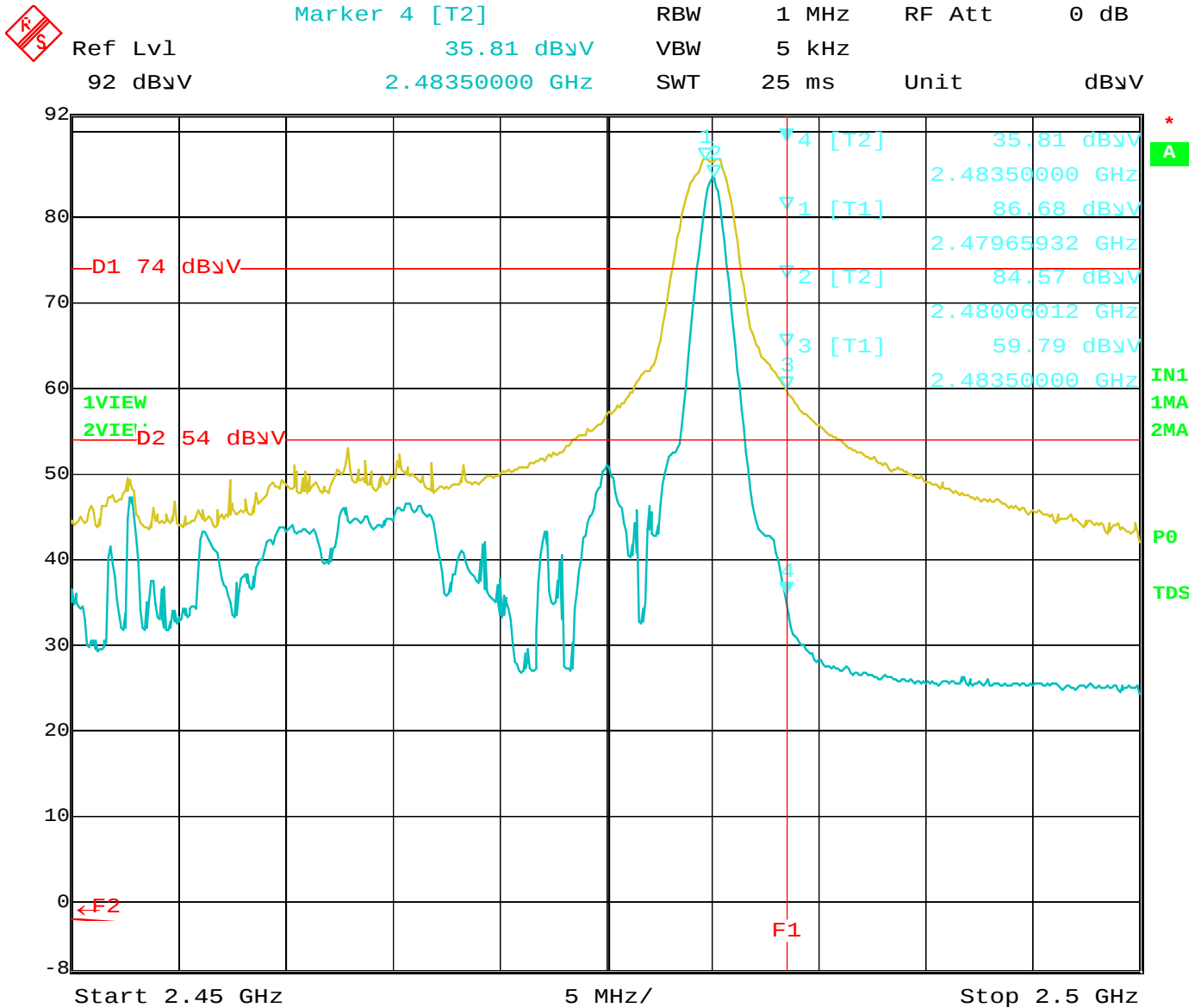
Date: 16 . JAN . 2013 11:16:59

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



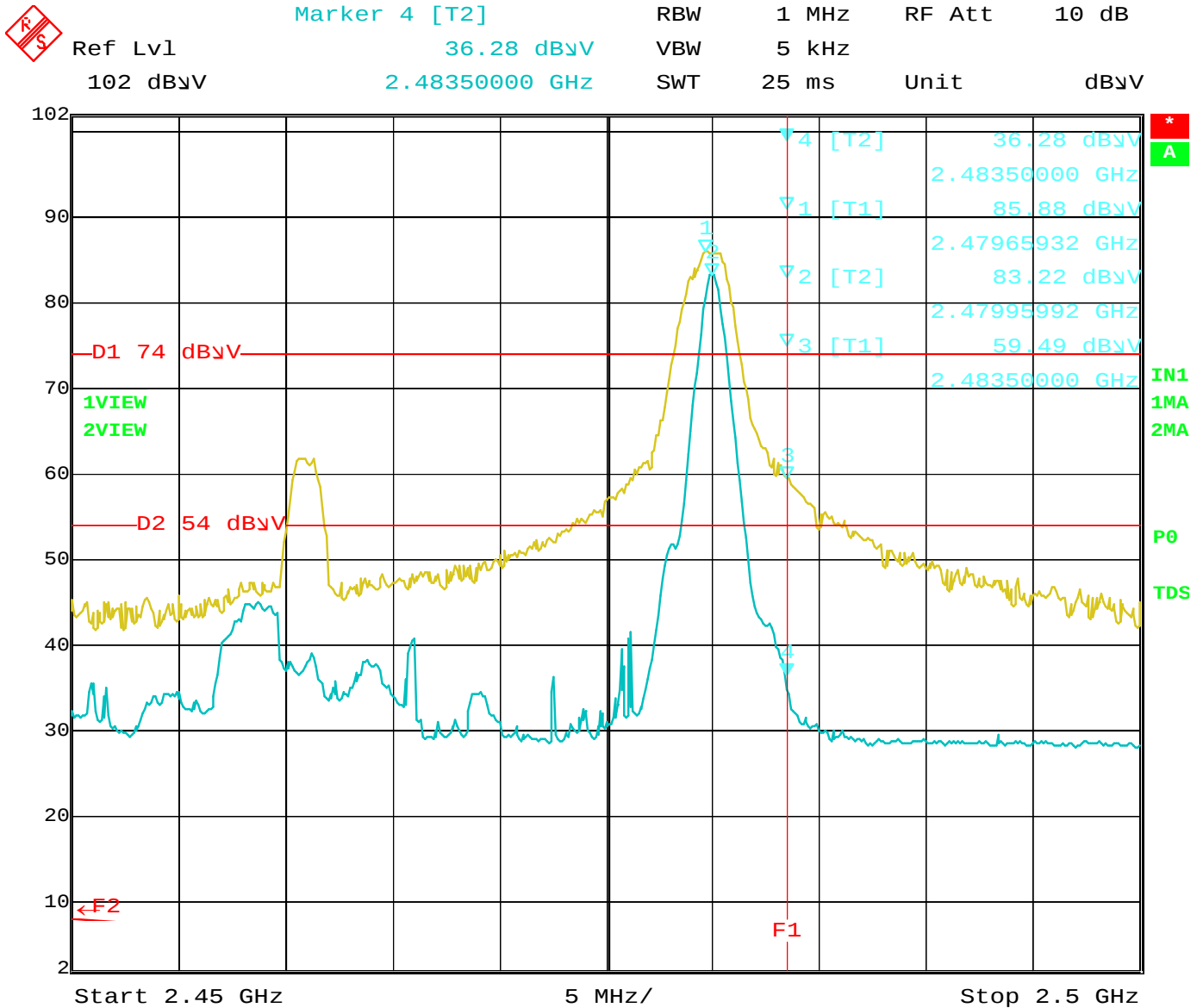
Date: 16.JAN.2013 09:42:30

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



Date: 16.JAN.2013 15:54:15

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



Date: 16.JAN.2013 09:29:02

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