

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057

 Telephone:
 +86 (0) 755 2601 2053

 Fax:
 +86 (0) 755 2671 0594

 Email:
 ee.shenzhen@sgs.com

Report No.: SZEM131000577101 Page: 1 of 28

	FCC REPORT
Application No. :	SZEM1310005771RF
Applicant:	Rikon (H.K.) Photographic Equipment Limited
Manufacturer:	Shenzhen Rikon Photographic Equipment Factory
Product Name:	Professional TTL Flash Trigger
Model No.(EUT):	KODY
FCC ID:	2AA8NKODY-N302
Standards:	47 CFR Part 15, Subpart C (2012)
Date of Receipt:	2013-10-25
Date of Test:	2013-11-06 to 2013-11-08
Date of Issue:	2013-11-12
Test Result:	PASS *

In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.



Report No.: SZEM131000577101 Page : 2 of 28

2 Test Summary

Test Item	Test Requirement	Test method	Result	
Antenna	47 CFR Part 15, Subpart C Section	ANSI C62 10 (2000)	PASS	
Requirement	15.203	ANSI C63.10 (2009)		
AC Power Line	47 CFR Part 15, Subpart C Section	ANEL CE2 10 (2000)	5400	
Conducted Emission	15.207	ANSI 063.10 (2009)	PASS	
Field Strength of the	47 CFR Part 15, Subpart C Section	ANSI C62 10 (2000)	PASS	
Fundamental Signal	15.249 (a)	ANSI C63.10 (2009)		
Spurious Emissions	47 CFR Part 15, Subpart C Section	ANSI C62 10 (2000)	PASS	
	15.249 (a)/15.209	ANSI C63.10 (2009)		
Band Edge	47 CFR Part 15, Subpart C Section	ANSI C62 10 (2000)	DASS	
(Radiated Emission)	15.249(a)/15.205	ANSI C63.10 (2009)	PA55	
20dB Occupied	47 CFR Part 15, Subpart C Section	ANSI C62 10 (2000)	DACC	
Bandwidth	15.215 (c)	ANSI 003.10 (2009)	PASS	



Report No.: SZEM131000577101 Page : 3 of 28

3 Contents

		Page
1	COVER PAGE	1
2	TEST SUMMARY	2
3	CONTENTS	3
4	GENERAL INFORMATION	4
	 4.1 CLIENT INFORMATION	
5	TEST RESULTS AND MEASUREMENT DATA	11
	 5.1 ANTENNA REQUIREMENT	



Report No.: SZEM131000577101 Page : 4 of 28

4 General Information

4.1 Client Information

Applicant:	Rikon (H.K.) Photographic Equipment Limited
Address of Applicant:	Rm. C, 20/F, Blk 5, Vision City 1 Yeung Uk Road. Hong Kong
Manufacturer:	Shenzhen Rikon Photographic Equipment Factory
Address of Manufacturer:	3/F, BLK B, ShuiTian Industry Area, Shiyan Agency, Baoan District, Shenzhen, China

4.2 General Description of EUT

Name:	Professional TTL Flash Trigger
Model No.:	KODY
Frequency Range:	2408 MHz ~ 2471MHz
Modulation Type:	FSK
Number of Channels:	15 (declared by the client)
Sample Type:	Portable production
Antenna Type:	Integral
Antenna Gain:	0dBi
Power Supply:	3.0V DC (1.5V x 2 "AA" Size Batteries)
Test Voltage:	DC 3.0V

[&]quot;This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms and conditions.htm</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>www.sgs.com/terms e-document.htm</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



Report No.: SZEM131000577101

Page : 5 of 28

Operation Frequency each of channel			
Channel	Frequency		
1CH	2408.0MHz		
2CH	2412.5MHz		
3CH	2417.0MHz		
4CH	2421.5MHz		
5CH	2426.0MHz		
6CH	2430.5MHz		
7CH	2435.0MHz		
8CH	2439.5MHz		
9CH	2444.0MHz		
10CH	2448.5MHz		
11CH	2453.5MHz		
12CH	2457.5MHz		
13CH	2462.0MHz		
14CH	2466.5MHz		
15CH	2471.0MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel(CH1)	2408.0MHz
The Middle channel(CH8)	2439.5MHz
The Highest channel(CH15)	2471.0MHz

[&]quot;This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms and conditions.htm</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>www.sgs.com/terms e-document.htm</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



Report No.: SZEM131000577101 Page : 6 of 28

4.3 Test Environment and Mode

Operating Environment:	
Temperature:	22.0 °C
Humidity:	53 % RH
Atmospheric Pressure:	1015 mbar
Test mode:	
Transmitting mode:	The EUT transmitted the continuous modulation test signal at the specific channel(s) .

4.4 Description of Support Units

The EUT has been tested independent unit.

4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch E&E Lab,

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

SGS

SGS-CSTC Standards Technical Services Ltd.

Report No.: SZEM131000577101 Page : 7 of 28

4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• VCCI

The 3m Semi-anechoic chamber, Full-anechoic Chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197, G-416, T-1153 and C-2383 respectively.

• FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

Industry Canada (IC)

Two 3m Semi-anechoic chambers of SGS-CSTC Standards Technical Services Co., Ltd. have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1 & 4620C-2.

4.7 Deviation from Standards

None.

4.8 Abnormalities from Standard Conditions

None.

4.9 Other Information Requested by the Customer

None.



Report No.: SZEM131000577101 Page : 8 of 28

4.10 Equipment List

	Conducted Emission				
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	2014-06-10
2	LISN	Rohde & Schwarz	ENV216	SEL0152	2014-10-24
3	LISN	ETS-LINDGREN	3816/2	SEL0021	2014-05-16
4	8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN- T8-02	SEL0162	2014-11-10
5	4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN- T4-02	SEL0163	2014-11-10
6	2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN- T2-02	SEL0164	2014-11-10
7	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	2014-05-16
8	Coaxial Cable	SGS	N/A	SEL0025	2014-05-29
9	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2014-10-24
10	Humidity/ Temperature Indicator	Shanhai Qixiang	ZJ1-2B	SEL0103	2014-10-24
11	Barometer	Chang Chun	DYM3	SEL0088	2014-05-24



Report No.: SZEM131000577101

Page : 9 of 28

RE in Chamber					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2014-06-10
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2014-05-16
3	EMI Test software	AUDIX	E3	SEL0050	N/A
4	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2014-10-24
5	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2014-10-24
6	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2014-10-24
7	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2014-05-16
8	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2014-10-24
9	Coaxial cable	SGS	N/A	SEL0027	2014-05-29
10	Coaxial cable	SGS	N/A	SEL0189	2014-05-29
11	Coaxial cable	SGS	N/A	SEL0121	2014-05-29
12	Coaxial cable	SGS	N/A	SEL0178	2014-05-29
13	Band filter	Amindeon	82346	SEL0094	2014-05-16
14	Barometer	Chang Chun	DYM3	SEL0088	2014-05-24
15	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2014-10-24
16	Humidity/ Temperature Indicator	Shanhai Qixiang	ZJ1-2B	SEL0103	2014-10-24
17	Signal Generator (10M-27GHz)	Rohde & Schwarz	SMR27	SEL0067	2014-05-16
18	Signal Generator	Rohde & Schwarz	SMY01	SEL0155	2014-10-24
19	Loop Antenna	Beijing Daze	ZN30401	SEL0203	2014-06-04



Report No.: SZEM131000577101 Page : 10 of 28

RF connected test					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2014-10-24
2	Humidity/ Temperature Indicator	HYGRO	ZJ1-2B	SEL0033	2014-10-24
3	Spectrum Analyzer	Rohde & Schwarz	FSP	SEL0154	2014-10-24
4	Coaxial cable	SGS	N/A	SEL0178	2014-05-29
5	Coaxial cable	SGS	N/A	SEL0179	2014-05-29
6	Barometer	ChangChun	DYM3	SEL0088	2014-05-24
7	Signal Generator	Rohde & Schwarz	SML03	SEL0068	2014-05-16
8	Band filter	amideon	82346	SEL0094	2014-05-16
9	POWER METER	R & S	NRVS	SEL0144	2014-10-24
10	Attenuator	Beijin feihang taida	TST-2-6dB	SEL0205	2014-05-16
11	Power Divider(splitter)	Agilent Technologies	11636B	SEL0130	2014-10-24

Note: The calibration interval is one year, all the instruments are valid.

[&]quot;This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms and conditions.htm</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>www.sgs.com/terms e-document.htm</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



Report No.: SZEM131000577101 Page : 11 of 28

5 Test results and Measurement Data

5.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203		
15.203 requirement:			
An intentional radiator shall be	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the		
responsible party shall be used	responsible party shall be used with the device. The use of a permanently attached antenna or of an		
antenna that uses a unique co	oupling to the intentional radiator, the manufacturer may design the unit so		
that a broken antenna can be	replaced by the user, but the use of a standard antenna jack or electrical		
connector is prohibited.			
EUT Antenna:			
The antenna is integrated on t	he main PCB and no consideration of replacement. The best case gain		
of the antenna is 0dBi.			
Antema + Ant			





Report No.: SZEM131000577101 Page : 12 of 28

5.2 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.249 and 15.209							
Test Method:	ANSI C63.10: 2009							
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)							
Receiver Setup:	Frequency Detector RI		RBW	VBW	Rem	nark		
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Pea	ak		
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Aver	age		
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi	-peak		
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Pea	ak		
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Aver	age		
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi	-peak		
	30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi	-peak		
	Above 1CHz	Peak	1MHz	3MHz	Pea	ak		
	Above ronz	Peak	1MHz	10Hz	Aver	age		
Limit: (Spurious Emissions)	Frequency	Field strengt (microvolt/met	h Limit er) (dBuV/m)	Remark	Measur distanc	ement ce (m)		
	0.009MHz-0.490MHz	2400/F(kHz)) –	-	30	0		
	0.490MHz-1.705MHz	24000/F(kHz	<u>z)</u> -	-	30	C		
	1.705MHz-30MHz	30	-	-	30	C		
	30MHz-88MHz	100	40.0	Quasi-peak	3			
	88MHz-216MHz	150	43.5	Quasi-peak	3			
	216MHz-960MHz	200	46.0	Quasi-peak	3			
	960MHz-1GHz	500	54.0	Quasi-peak	3			
	Above 1GHz	500	54.0	Average	3			
	Note: 15.35(b), Unless otherwise specified, the limit on peak radio freque emissions is 20dB above the maximum permitted average emission I applicable to the equipment under test. This peak limit applies to the t peak emission level radiated by the device.							
Limit:	Frequency	Limit (dB	uV/m @3m)	Rema	ark			
(Field strength of the		<u>ا</u> ـ	94.0	Average	Value	1		
fundamental signal)	2400IVIHZ-2483.5IVIH	12	14.0	Peak V	Peak Value			



Report No.: SZEM131000577101 Page : 13 of 28





Report No.: SZEM131000577101

Page : 14 of 28

	0
	 limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel h. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report. i. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitter mode
Instruments Used:	Refer to section 4.10 for details
Test Results:	Pass



Report No.: SZEM131000577101 Page : 15 of 28

Measurement Data

5.2.1.1 Field Strength Of The Fundamental Signal

Peak value:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2407.920	2.99	32.54	39.86	89.12	84.79	114	-29.21	Horizontal
2407.960	2.99	32.54	39.86	93.13	88.80	114	-25.20	Vertical
2439.452	3.01	32.61	39.89	87.77	83.50	114	-30.50	Horizontal
2439.428	3.01	32.61	39.89	91.42	87.15	114	-26.85	Vertical
2470.928	3.02	32.67	39.91	86.84	82.62	114	-31.38	Horizontal
2470.928	3.02	32.67	39.91	90.65	86.43	114	-27.57	Vertical

Remark:

As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.



Report No.: SZEM131000577101 Page : 16 of 28

5.2.1.2 Spurious Emissions





Report No.: SZEM131000577101 Page : 17 of 28



Remark: Through Pre-scan, find the low channel is the worst case of low, middle and high channel, So only the low channel data were shown in the report.

30.00

29.89

46.00 -16.11

"This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms and conditions.htm</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>www.sgs.com/terms e-document.htm</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

Horizontal:

6

909.67

5.61

20.30

26.02



Report No.: SZEM131000577101

Page : 18 of 28

Above 1GHz										
Test mode:	Tran	smitting	Test channel:		Lowest		Remark:		Peak	
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)		Level (dBuV/m)	Limit Line (dBuV/m)	Ove Lim (dE	ər lit B)	Polarization
2980.327	5.05	33.35	40.28	46.80		44.92	74	-29.	80	Vertical
3873.749	6.28	33.66	40.94 47.96		6	46.96	74	-27.	04	Vertical
4816.000	7.45	34.70	41.64	46.97		47.48	74	-26.	52	Vertical
7224.000	8.74	35.89	39.85	47.79)	52.57	74	-21.4	43	Vertical
9632.000	9.68	37.34	37.78	42.18	3	51.42	74	-22.	58	Vertical
12303.620	11.41	39.21	38.40	40.20)	52.42	74	-21.	58	Horizontal
2905.419	4.98	33.26	40.23	46.65	5	44.66	74	-29.	34	Horizontal
3786.010	6.16	33.55	40.88	46.74	1	45.57	74	-28.	43	Horizontal
4816.000	7.45	34.70	41.64	47.28	3	47.79	74	-26.	21	Horizontal
7224.000	8.74	35.89	39.85	47.05	5	51.83	74	-22.	17	Horizontal

Test mode:	Tran	smitting	Test channel: Midd		nannel: Middle Remark: Pea		ak			
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Ove Lim (dE	ər lit B)	Polarization
2987.923	5.05	33.38	40.30	47.00)	45.13	74	-28.	87	Vertical
3863.900	6.28	33.63	40.94	46.64		45.61	74	-28.	39	Vertical
4879.000	7.48	34.59	41.68	46.98		47.37	74	-26.	63	Vertical
7318.500	8.87	35.93	39.77	47.63		52.66	74	-21.	34	Vertical
9758.000	9.74	37.46	37.66	42.62		52.16	74	-21.	84	Vertical
12241.140	11.38	39.14	38.38	40.77	,	52.91	74	-21.	09	Horizontal
2957.654	5.02	33.33	40.27	46.81		44.89	74	-29.	11	Horizontal
3834.506	6.23	33.61	40.91	47.32	2	46.25	74	-27.	75	Horizontal
4879.000	7.48	34.59	41.68	47.65	5	48.04	74	-25.	96	Horizontal
7318.500	8.87	35.93	39.77	46.99)	52.02	74	-21.	98	Horizontal



Report No.: SZEM131000577101

						Page	: 19 of 2	28			
Test mode:	Tran	smitting	Test char	Test channel:		nel: Highest		Remark:		Peak	
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Ove Lim (dE	ər lit B)	Polarization	
2987.923	5.05	33.38	40.30	47.31		45.44	74	-28.	56	Vertical	
3786.010	6.16	33.55	40.88	47.24		46.07	74	-27.93		Vertical	
4942.000	7.52	34.48	41.72	48.22		48.50	74	-25.	50	Vertical	
7413.000	8.99	35.97	39.69	46.94		52.21	74	-21.	79	Vertical	
9884.000	9.80	37.60	37.55	42.08		51.93	74	-22.	07	Vertical	
12461.220	11.47	39.37	38.47	39.64		52.01	74	-21.	99	Horizontal	
3080.601	5.17	33.37	40.37	47.46		45.63	74	-28.	37	Horizontal	
3728.625	6.08	33.49	40.84	48.31		47.04	74	-26.	96	Horizontal	
4942.000	7.52	34.48	41.72	46.85		47.13	74	-26.	87	Horizontal	
7413.000	8.99	35.97	39.69	46.84		52.11	74	-21.	89	Horizontal	

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

- 2) Scan from 9kHz to 25GHz, The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.



Report No.: SZEM131000577101 Page : 20 of 28

5.3 Band Edge (Radiated Emission)

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205						
Test Method:	ANSI C63.10: 2009						
Test Site:	Measurement Distance: 3m	(Semi-Anechoic Chambe	r)				
Limit(band edge):	Emissions radiated outside	of the specified frequency	/ bands, except for				
	harmonics, shall be attenua	ted by at least 50 dB below	w the level of the				
	fundamental or to the gener	al radiated emission limits	in Section 15.209,				
	whichever is the lesser atter	nuation.					
	Frequency	Limit (dBuV/m @3m)	Remark				
	30MHz-88MHz	40.0	Quasi-peak Value				
	88MHz-216MHz	43.5	Quasi-peak Value				
	216MHz-960MHz	46.0	Quasi-peak Value				
	960MHz-1GHz	54.0	Quasi-peak Value				
		54.0	Average Value				
	Above 1GHz	74.0	Peak Value				
Test Setup:	Above 1GHz	74.0	Peak Value				
Test Setup:	Above 1GHz	74.0	Peak Value				



Report No.: SZEM131000577101

Page : 21 of 28

	-
Test Procedure:	 The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
	b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
	c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
	d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
	 The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
	f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel
	g. Test the EUT in the lowest channel, the Highest channel
	 h. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.
	 Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode :	Transmitter mode
Instruments Used:	Refer to section 4.10 for details
Test Results:	Pass





Report No.: SZEM131000577101 Page : 22 of 28





Report No.: SZEM131000577101 Page : 23 of 28





Report No.: SZEM131000577101 Page : 24 of 28



Condition : FCC PART15.249 2.4PK 3m VERTICAL Job No. : 5771RF

Mode : 2471 Bangdedge

	Freq	Cable <i>i</i> Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2470.880	3.02	32.67	39.91	92.55	88.33	114.00	-25.67	Peak
2	2483.500	3.03	32.67	39.92	55.77	51.55	74.00	-22.45	Peak



Report No.: SZEM131000577101 Page : 25 of 28



Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation

with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor



Report No.: SZEM131000577101 Page : 26 of 28

5.4 20dB Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.215					
Test Method:	ANSI C63.10:2009					
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane					
Limit:	N/A					
Exploratory Test Mode:	Transmitter mode					
Instruments Used:	Refer to section 4.10 for details					
Test Results:	Pass					

Measurement Data

Test Channel	20dB bandwidth (MHz)	Results		
Lowest	1.076923077	Pass		
Middle	1.355769231	Pass		
Highest	1.778846154	Pass		

[&]quot;This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms and conditions.htm</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>www.sgs.com/terms e-document.htm</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."



Report No.: SZEM131000577101 Page : 27 of 28





Report No.: SZEM131000577101 Page : 28 of 28

