

Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC145714

1 of 87 Page:

FCC Radio Test Report FCC ID: 2AGED-GISC2411

Original Grant

Report No. TB-FCC145714

Applicant GIS Corp.

Equipment Under Test (EUT)

Wireless smart control switch **EUT Name**

Model No. GIS-C-2411

Series No. N/A

Brand Name GIS

Receipt Date 2015-10-16

2015-10-16 to 2015-11-03 **Test Date**

Issue Date 2015-11-04

FCC Part 15, Subpart C (15.247:2015) **Standards**

Test Method ANSI C63.10: 2013

Conclusions PASS

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

The EUT technically complies with the FCC and IC requirements

Test/Witness

the report.

Engineer

Approved&

Authorized

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in

TB-RF-074-1.0

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1. General Information about EUT

1.1 Client Information

Applicant: GIS Corp.

Address : 6139 168th Street Unit 1 Fresh Meadows, NY 11365 USA

Manufacturer : Suzhou GIS Electronic Technology Co., Ltd.

Address : Room 38, No. 21 Madun Road, Xuguan District, New & Hi-tech

Industrial Development Zone(SND), Suzhou, China

1.2 General Description of EUT (Equipment Under Test)

EUT Name	·	Wireless smart control s	witch			
Models No.	:	GIS-C-2411	GIS-C-2411			
Model Difference	į	V/A				
1003	3 (2) (2)	Operation Frequency: 2410MHz~2470MHz				
Draduct		Number of Channel:	61 channels see note(3)			
Product Description		RF Output Power:	17.23 dBm (1Mbps)			
		Antenna Gain:	1.5 dBi PCB Antenna			
		Modulation Type:	GFSK			
		Bit Rate of Transmitter:	1Mbps, 2Mbps, 250Kbps			
Power Supply	:	AC power by Power Sup	pply.			
Power Rating	:	Input: AC 90~240V 50/60Hz Output: AC 90~240V				
Connecting I/O Port(S)	:	Please refer to the User	Please refer to the User's Manual			

Note:

- (1) This Test Report is FCC Part 15.247 for 2.4G ISM, the test procedure follows the FCC KDB 558074 D01 DTS Meas Guidance v03r03.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (3) Antenna information provided by the applicant.
- (4) Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2410	23	2432	45	2454
02	2411	24	2433	54	2455

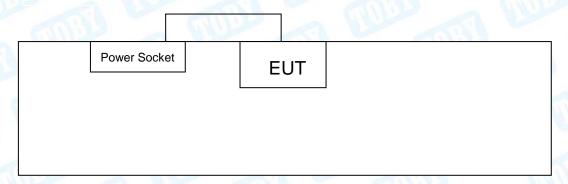


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		CA I I TO			
03	2412	25	2434	55	2464
04	2413	26	2435	56	2465
05	2414	27	2436	57	2466
06	2415	28	2437	58	2467
07	2416	29	2438	59	2468
08	2417	30	2439	60	2469
09	2418	31	2440	54	2470
10	2419	32	2441	55	2464
11	2420	33	2442	56	2465
12	2421	34	2443	57	2466
13	2422	35	2444	58	2467
14	2423	36	2445	59	2468
15	2424	37	2446	60	2469
16	2425	38	2447	61	2470
17	2426	39	2448		
18	2427	40	2449	100	T 1131
19	2428	41	2450		1
20	2429	42	2451	anis o	
21	2430	43	2452	Contract of the second	680
22	2431	44	2453	THE STATE OF THE S	0

1.3 Block Diagram Showing the Configuration of System Tested

TX Mode



1.4 Description of Support Units

The EUT has been tested as an independent unit.



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1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test				
Final Test Mode	Final Test Mode Description			
Mode 1	AC Power With TX Mode			

For Radiated Test				
Final Test Mode Description				
Mode 1	AC Power With TX Mode			
Mode 2 TX Mode(1Mbps) Channel 01/31/61				
Mode 3	TX Mode(2Mbps) Channel 01/31/61			
Mode 4	TX Mode(250Kbps) Channel 01/31/61			

Note:

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

TX Mode: GFSK (1Mbps)
TX Mode:GFSK (2Mbps)
TX Mode: GFSK (250Kbps)

- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a mobile unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.



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1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF setting.

Test Software Version	Sscom32:exe		
Channel	CH 01	CH 31	CH 61
TX Mode	DEF	DEF	DEF

1.7 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U _{Lab})
	Level Accuracy:	
Conducted Emission	9kHz~150kHz	±3.42 dB
	150kHz to 30MHz	±3.42 dB
Dadiated Emission	Level Accuracy:	. 4 CO dD
Radiated Emission	9kHz to 30 MHz	±4.60 dB
Padiated Emission	Level Accuracy:	.4.40 dB
Radiated Emission	30MHz to 1000 MHz	±4.40 dB
Dadiated Emission	Level Accuracy:	. 4 20 dD
Radiated Emission	Above 1000MHz	±4.20 dB



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1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

May 22, 2014 certificated by TUV Rheinland(China) Co., Ltd. with TUV certificate No.: UA 50282953 0001 and report No.: 17026822 002. The certificate is valid until the next scheduled audit or up to 18 months, at the discretion of TUV Rhineland.



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2. Test Summary

Standa	rd Section	Tool Hom	U.D.	Remark
FCC	IC	Test Item	Judgment	
15.203	1	Antenna Requirement	PASS	N/A
15.207	RSS-GEN 7.2.4	Conducted Emission	PASS	N/A
15.205	RSS-GEN 7.2.2	Restricted Bands	PASS	N/A
15.247(a)(2)	RSS 247 5.2 (1)	6dB Bandwidth	PASS	N/A
15.247(b)	RSS 247 5.4 (4)	Peak Output Power	PASS	N/A
15.247(e)	RSS 247 5.2 (2)	Power Spectral Density	PASS	N/A
15.247(d)	RSS 247 5.5	Transmitter Radiated Spurious Emission	PASS	N/A

Note: (1)"/" for no requirement for this test item.

N/A is an abbreviation for Not Applicable.



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3. Test Equipment

Conducted Emission Test					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Aug. 07, 2015	Aug. 06, 2016
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Aug. 07, 2015	Aug. 06, 2016
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Aug. 07, 2015	Aug. 06, 2016
LISN	Rohde & Schwarz	ENV216	101131	Aug. 07, 2015	Aug. 06, 2016
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Date
Equipment	Manufacturar	Model No	Sorial No.	Last Cal	Cal. Due
Spectrum	Agilent	E4407B	MY45106456	Aug. 29, 2015	Aug. 28, 2016
Analyzer	Agilerit	E4407B	W1145100450	Aug. 29, 2015	Aug. 20, 2010
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Aug. 07, 2015	Aug. 06, 2016
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 28, 2015	Mar. 27, 2016
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 28, 2015	Mar. 27, 2016
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 28, 2015	Mar. 27, 2016
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 28, 2015	Mar. 27, 2016
Pre-amplifier	Sonoma	310N	185903	Mar. 28, 2015	Mar. 27, 2016
Pre-amplifier	HP	8447B	3008A00849	Mar. 28, 2015	Mar. 27, 2016
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 28, 2015	Mar. 27, 2016
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A



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4. Conducted Emission Test

4.1 Test Standard and Limit

4.1.1Test Standard FCC Part 15.207

4.1.2 Test Limit

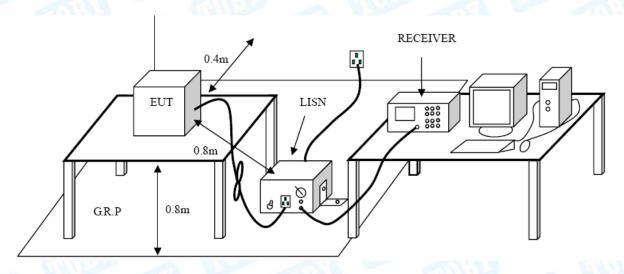
Conducted Emission Test Limit

THE PROPERTY OF THE PARTY OF TH	Maximum RF Line Voltage (dBμV)		
Frequency	Quasi-peak Level	Average Level	
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *	
500kHz~5MHz	56	46	
5MHz~30MHz	60	50	

Notes:

- (1) *Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2 Test Setup



4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



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I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

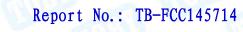
The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

4.4 EUT Operating Mode

Please refer to the description of test mode.

4.5 Test Data

Please see the next page.





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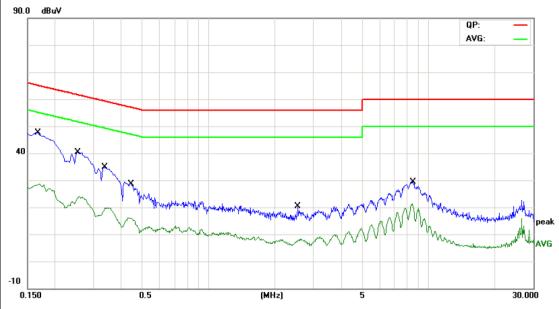
EUT:	UT: emperature:			ess sma	rt cont	rol switch	1	Mod	el N	ame	:		GIS-C	GIS-C-2411		
Гетре	rature	:	25 °C			13		Rela	tive	Hun	nidi	ty:	55%	1/B		
Test Vo	oltage		AC 1	20V/60) Hz		50				(N	U.J.		A	
Termin	al:		Line	2		P.	11			1						
Test M	ode:		Mode	1: AC	Pow	er with	TX N	1ode					- N	MALE		
Remar	k:		N/A	AB.	a second		510	1			1	W	35			
90.0 dB	uV														_	
													QP: AVG:	_		
		-														
×	_											+			-	
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10 0.150			0.5			9411			5	-				30.0		
U. 15U			0.5			(MHz								30.0	00	
No.	Mk.	F	req.	Read Lev	_	Corre Fact		Mea m	asur ient		Lim	it	O∨er			
		N	ИНZ	dBu	ıV	dB		dE	Bu∨		dBu	V	dB	Detec	tor	
1	*	0.1	539	30.8	B7	9.9	3	40	.80	1	65.7	78	-24.98	QF	>	
2		0.1	539	15.9	90	9.9	3	25	.83	:	55.7	78	-29.95	A۱	/G	
3		0.1	965	28.	59	10.0	1	38	.60	ı	63.7	75	-25.15	QF	>	
4		0.1	965	15.7	71	10.0	1	25	.72	:	53.7	75	-28.03	A۱	/G	
5		0.2	2540	24.	14	10.0	2	34	.16	ı	61.6	32	-27.46	QF	>	
6		0.2	2540	12.	54	10.0	2	22	.56	:	51.6	32	-29.06	A۱	/G	
7		0.3	379	18.4	47	10.0	2	28	.49	:	59.2	25	-30.76	QF	>	
8		0.3	379	9.	17	10.0	2	19	.19		49.2	25	-30.06	А١	/G	
9		8.3	3700	14.2	25	10.1	1	24	.36	ı	60.0	00	-35.64	QF	>	
10			3700	10.2		10.1			.40				-29.60	A۱		
11		26.6		10.1		10.1			.35				-39.65	QF		
11														•		





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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz						
Terminal:	Neutral							
Test Mode:	Mode 1: AC Power with TX	Mode						
Remark:	N/A							
90.0 dBuV								



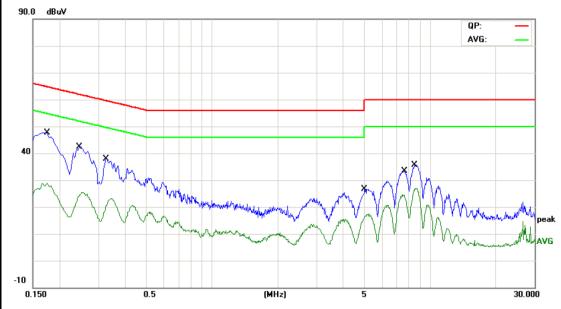
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector
1	*	0.1685	32.21	10.12	42.33	65.03	-22.70	QP
2		0.1685	17.99	10.12	28.11	55.03	-26.92	AVG
3		0.2540	24.12	10.10	34.22	61.62	-27.40	QP
4		0.2540	12.71	10.10	22.81	51.62	-28.81	AVG
5		0.3379	18.49	10.07	28.56	59.25	-30.69	QP
6		0.3379	9.20	10.07	19.27	49.25	-29.98	AVG
7		0.4468	12.27	10.04	22.31	56.93	-34.62	QP
8		0.4468	5.47	10.04	15.51	46.93	-31.42	AVG
9		2.5500	1.39	10.06	11.45	56.00	-44.55	QP
10		2.5500	-3.16	10.06	6.90	46.00	-39.10	AVG
11		8.5380	14.24	10.11	24.35	60.00	-35.65	QP
12		8.5380	10.28	10.11	20.39	50.00	-29.61	AVG



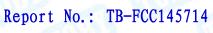


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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:								
Terminal:	Line							
Test Mode:	Mode 1: AC Power with TX	Mode	J. Hilliam					
Remark:	N/A							
90.0 dBuV			OP-					



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB	dBuV	dBu∨	dB	Detector
1	*	0.1740	31.16	9.97	41.13	64.76	-23.63	QP
2		0.1740	17.60	9.97	27.57	54.76	-27.19	AVG
3		0.2460	24.53	10.02	34.55	61.89	-27.34	QP
4		0.2460	13.57	10.02	23.59	51.89	-28.30	AVG
5		0.3260	19.02	10.02	29.04	59.55	-30.51	QP
6		0.3260	10.31	10.02	20.33	49.55	-29.22	AVG
7		4.9940	10.48	9.96	20.44	56.00	-35.56	QP
8		4.9940	6.16	9.96	16.12	46.00	-29.88	AVG
9		7.6460	17.36	10.08	27.44	60.00	-32.56	QP
10		7.6460	12.79	10.08	22.87	50.00	-27.13	AVG
11		8.4420	20.32	10.11	30.43	60.00	-29.57	QP
12		8.4420	15.77	10.11	25.88	50.00	-24.12	AVG



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EUT:	Wireles	ss smart contr	ol switch	Model Name	e:	GIS-C	-2411
emperature:	25 ℃		10	Relative Hu	midity:	55%	
est Voltage:	AC 24	0V/60 Hz		11	6.11	1133	
Terminal:	Neutra	al	AHA.		6		ARI
Test Mode:	Mode	1: AC Powe	er with TX N	Mode		a W	A DESCRIPTION OF THE PERSON OF
Remark:	N/A	MARINE				33	
90.0 dBuV							
						QP: AVG:	
×							
40 X	×						
V 1	Market Market				$\Delta \Delta \Delta a$		
m 1	1 Y WAY	What have you	4	m / //	, Yalay M	MA.	
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V	0 0 0	VAL.					
<i>V</i>	. 0	A many thousand	man of the same of	$\sim \sim $	V	M	AV NIVINAN
V		Charles of Charles	Mary Mary Mary Mary Mary Mary Mary Mary	~\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	V . V	Mun	AMIN AV
-10 0.150	0.5	Aman Aman	(MHz)	5	V V	Mun	
-10 0.150	0.5	A service of the service	(MHz)	5	V	Munn	30.000
0.150		Reading	Correct	Measure-	V V	M	
	Freq.	Level	Correct Factor	Measure- ment	Limit	Over	30.000
0.150 No. Mk.	Freq.	Level dBuV	Correct Factor	Measure- ment	dBu∨	dB	30.000 Detecto
0.150 No. Mk.	Freq. MHz 0.1700	Level dBu ∨ 29.77	Correct Factor	Measure- ment dBuV 39.89	dBu∨ 64.96	dB -25.07	30.000 Detecto
0.150 No. Mk.	Freq. MHz 0.1700 0.1700	dBuV 29.77 16.48	Correct Factor dB 10.12 10.12	Measure- ment dBuV 39.89 26.60	dBuV 64.96 54.96	dB -25.07 -28.36	30.000 Detecto
0.150 No. Mk. 1 2 3	Freq. MHz 0.1700 0.1700 0.2420	29.77 16.48 22.67	Correct Factor dB 10.12 10.12	Measure- ment dBuV 39.89 26.60 32.78	dBuV 64.96 54.96 62.02	dB -25.07 -28.36 -29.24	30.000 Detecto QP AVC
0.150 No. Mk. 1 2 3 4	Freq. MHz 0.1700 0.1700 0.2420 0.2420	29.77 16.48 22.67 12.32	Correct Factor dB 10.12 10.12 10.11 10.11	Measure- ment dBuV 39.89 26.60 32.78 22.43	dBuV 64.96 54.96 62.02 52.02	dB -25.07 -28.36 -29.24 -29.59	Jetecto QP AVC
0.150 No. Mk. 1 2 3	Freq. MHz 0.1700 0.1700 0.2420	29.77 16.48 22.67	Correct Factor dB 10.12 10.12	Measure- ment dBuV 39.89 26.60 32.78	dBuV 64.96 54.96 62.02 52.02	dB -25.07 -28.36 -29.24	30.000 Detecto QP AVC
0.150 No. Mk. 1 2 3 4	Freq. MHz 0.1700 0.1700 0.2420 0.2420	29.77 16.48 22.67 12.32	Correct Factor dB 10.12 10.12 10.11 10.11	Measure- ment dBuV 39.89 26.60 32.78 22.43	dBuV 64.96 54.96 62.02 52.02 59.45	dB -25.07 -28.36 -29.24 -29.59	Jetecto QP AVC
0.150 No. Mk. 1 2 3 4 5	Freq. MHz 0.1700 0.1700 0.2420 0.2420 0.3300	29.77 16.48 22.67 12.32 18.70	Correct Factor dB 10.12 10.12 10.11 10.11 10.08	Measure- ment dBuV 39.89 26.60 32.78 22.43 28.78	dBuV 64.96 54.96 62.02 52.02 59.45 49.45	dB -25.07 -28.36 -29.24 -29.59 -30.67	30.000 Detecto QP AVC QP AVC
0.150 No. Mk. 1 2 3 4 5	Freq. MHz 0.1700 0.1700 0.2420 0.2420 0.3300 0.3300	29.77 16.48 22.67 12.32 18.70 10.83	Correct Factor dB 10.12 10.12 10.11 10.11 10.08 10.08	Measure- ment dBuV 39.89 26.60 32.78 22.43 28.78 20.91	dBuV 64.96 54.96 62.02 52.02 59.45 49.45 60.00	dB -25.07 -28.36 -29.24 -29.59 -30.67 -28.54	Detecto QP AVC QP AVC
0.150 No. Mk. 1 2 3 4 5 6 7	Freq. MHz 0.1700 0.1700 0.2420 0.2420 0.3300 0.3300 5.0380	Level dBuV 29.77 16.48 22.67 12.32 18.70 10.83 10.72	Correct Factor dB 10.12 10.12 10.11 10.11 10.08 10.08	Measure- ment dBuV 39.89 26.60 32.78 22.43 28.78 20.91 20.78	dBuV 64.96 54.96 62.02 52.02 59.45 49.45 60.00	dB -25.07 -28.36 -29.24 -29.59 -30.67 -28.54 -39.22	Joseph Jo
0.150 No. Mk. 1 2 3 4 5 6 7 8	Freq. MHz 0.1700 0.1700 0.2420 0.2420 0.3300 0.3300 5.0380 5.0380	Level dBuV 29.77 16.48 22.67 12.32 18.70 10.83 10.72 6.38	Correct Factor dB 10.12 10.12 10.11 10.11 10.08 10.08 10.06	Measure- ment dBuV 39.89 26.60 32.78 22.43 28.78 20.91 20.78 16.44	64.96 54.96 62.02 52.02 59.45 49.45 60.00 50.00	dB -25.07 -28.36 -29.24 -29.59 -30.67 -28.54 -39.22 -33.56	Joseph Jo
0.150 No. Mk. 1 2 3 4 5 6 7 8 9	Freq. MHz 0.1700 0.1700 0.2420 0.2420 0.3300 0.3300 5.0380 5.0380 7.5420	Level dBuV 29.77 16.48 22.67 12.32 18.70 10.83 10.72 6.38 18.23	Correct Factor dB 10.12 10.12 10.11 10.11 10.08 10.08 10.06 10.06 10.08	Measurement dBuV 39.89 26.60 32.78 22.43 28.78 20.91 20.78 16.44 28.31	64.96 54.96 62.02 52.02 59.45 49.45 60.00 50.00	dB -25.07 -28.36 -29.24 -29.59 -30.67 -28.54 -39.22 -33.56 -31.69	Joetecto QP AVC QP AVC QP AVC QP AVC



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5. Radiated Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209

5.1.2 Test Limit

Radiated Emission Limits (9kHz~1000MHz)

Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Radiated Emission Limit (Above 1000MHz)

Frequency	Class A (dBuV	/m)(at 3 M)	Class B (dBuV/m)(at 3 M)			
(MHz)	Peak	Average	Peak	Average		
Above 1000	80	60	74	54		

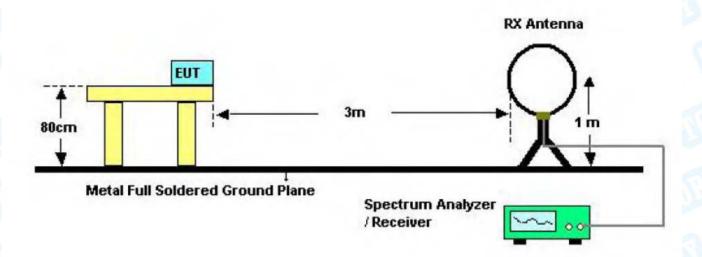
Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

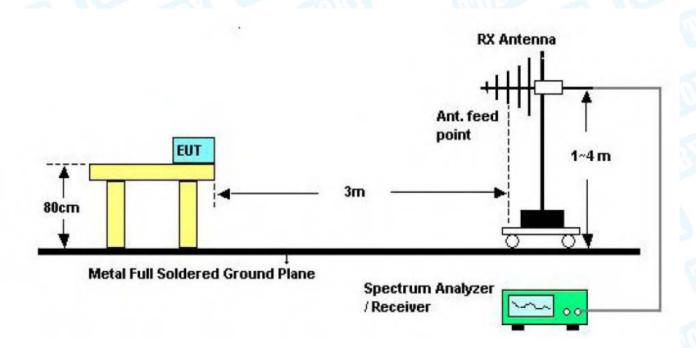


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5.2 Test Setup



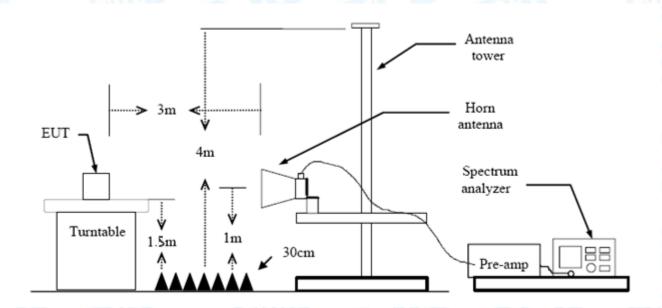
Below 30MHz Test Setup



Below 1000MHz Test Setup



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Above 1GHz Test Setup

5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values.
 - And Average Values= Peak Values+ 20log(dutycycle)
- (8) For the actual test configuration, please see the test setup photo.



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5.4 EUT Operating Condition

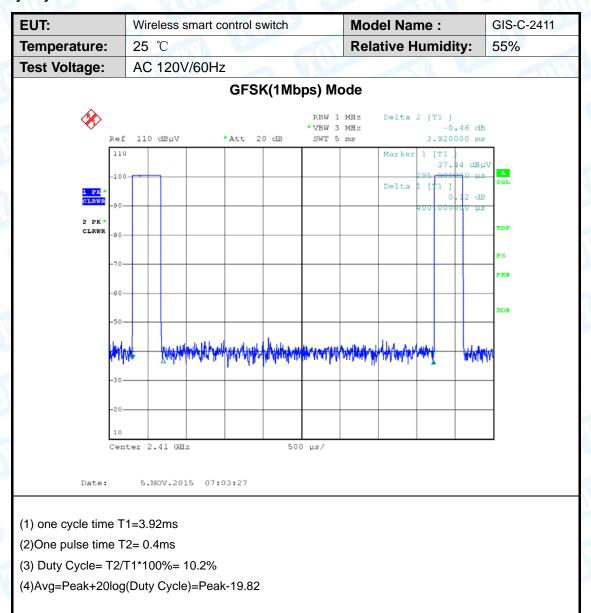
The Equipment Under Test was set to Continual Transmitting in maximum power.

5.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values.

Average Values= Peak Values+ 20log(dutycycle)

5.6 Duty Cycle

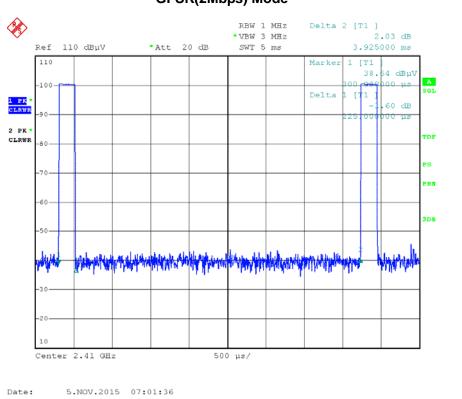




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EUT: **Model Name:** GIS-C-2411 Wireless smart control switch Temperature: 25 ℃ **Relative Humidity:** 55% AC 120V/60Hz

GFSK(2Mbps) Mode



(1) one cycle time T1=3.925ms

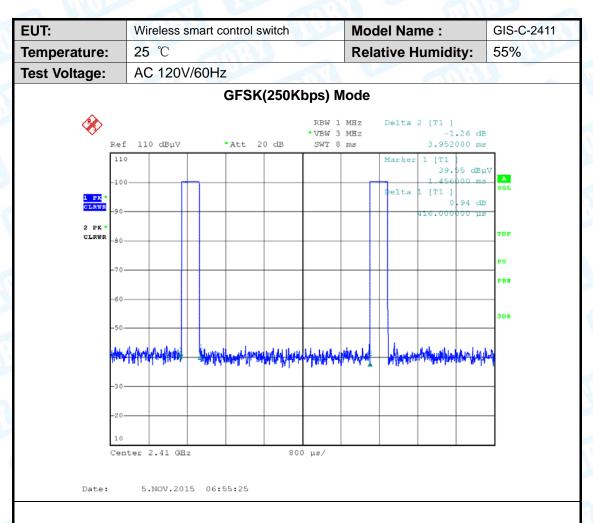
Test Voltage:

- (2)One pulse time T2= 0.225ms
- (3) Duty Cycle= T2/T1*100%= 5.73%
- (4)Avg=Peak+20log(Duty Cycle)=Peak-24.83



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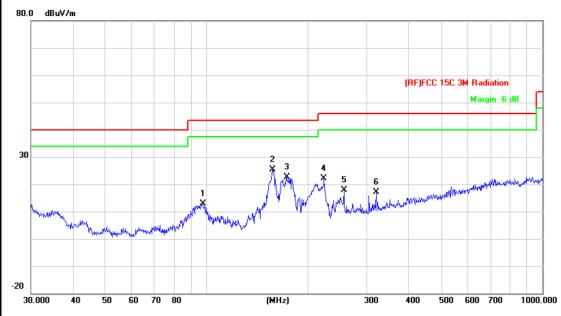


- (1) one cycle time T1=3.952ms
- (2)One pulse time T2= 0.416ms
- (3) Duty Cycle= T2/T1*100%= 10.53%
- (4)Avg=Peak+20log(Duty Cycle)=Peak-19.55



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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz	110	
Ant. Pol.	Horizontal		
Test Mode:	TX 2410 Mode(250Kbps)		HILL
Remark:	Only worse case is reported		2 0
00 0 ID VI			



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		97.4560	35.00	-22.04	12.96	43.50	-30.54	peak
2	*	157.0074	46.11	-20.71	25.40	43.50	-18.10	peak
3		173.2051	43.57	-20.98	22.59	43.50	-20.91	peak
4		223.7334	41.54	-19.36	22.18	46.00	-23.82	peak
5		256.5211	35.80	-17.98	17.82	46.00	-28.18	peak
6		319.9370	33.51	-16.33	17.18	46.00	-28.82	peak

^{*:}Maximum data x:Over limit !:over margin



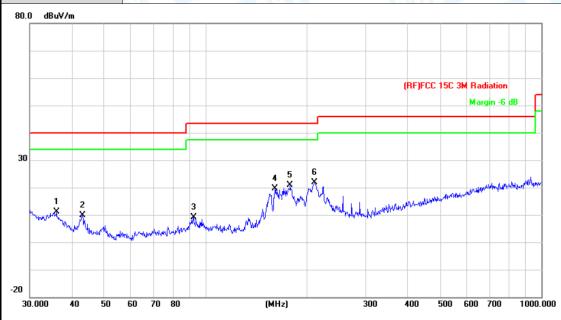
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Γ:		1	Wire	less	sma	art con	trol switch	41	Mod	ei Na	me :			GIS	-C-2	411	
nperat	ure:	1	25 °	C					Rela	tive F	lumi	dity:		55%	6		
t Volta	ge:	4	AC 1	120\	V/6	0Hz		1	1			EW.)		
. Pol.		1	Vert	ical								63					
t Mod	е:		TX 2	2410) M	ode(2	250Kbps	3)	511	M			A	a William			
Remark:				Only worse case is reported													
) dBuV/i	m														_		_
											(R	F)FCC	15C 3	M Ra	diatior	1	
														Mai	rgin -6	dB	\mathbb{H}
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	ľ		N,	hull													
0.000	40 5	50 E	60 7	0 80)		(M)	Hz)		300	40)0 !	500	600	700	10	000.0
0.000	40 5	50 E	60 7								40	00 !	500	600	700	10	000.0
				R	ea	ding	Corr	ect	Meas	ure-						10	000.0
.000 No. M		Fre	q.	R	lea Lev	/el	Corr	ect tor	me	ure- nt	Lir	nit		Ove	er		
	k.	Free	q.	R	l ea Lev	vel u∀	Corr Fac	ect tor	me dBu	ure- nt //m	Lir			Ov	er		ooo.o
	k.	Fre	q.	R	l ea Lev	/el	Corr	ect tor	me	ure- nt //m	Lir	nit		Ov	er	De	
	k. 97	Free	q. 2 48	R	ea Lev dB	vel u∀	Corr Fac	ect tor	me dBu	ure- nt //m	Lir dB 43	nit uV/m	 	O∨(dE -17	er	De p	tect
	k. 97 11	Free	q. 2 48 725	R	dB 48.	vel u∨ .19	Corr Fac dB/r	ect tor n 08	те dBu ^v 26 .	oure- nt //m 11	Lir dB 43	nit u∀/m 3.50	-	O∨r dE -17 -19	er ⊰ .39	De p	tect • ea
No. M	k. 97 11 15	Free MHz 7.11- 7.77	q. 48 725	R	tea Lev dB 48. 46.	vel u∨ .19 .47	Corr Fac dB/r -22.0	ect tor n 08 36	me dBu ^v 26. 24.	ure- nt //m 11 11	Lir dB 43 43	nit uV/m 3.50 3.50	-	O∨r dE -17 -19	er .39 .39	p p	tect ea
No. M	k. 97 11 15	Free MHz 7.11- 7.77 4.82	q. 48 725 204	R	dB 48. 46.	vel uv .19 .47	Corr Fac dB/r -22.9 -22.3	ect tor 08 36 86	me dBu' 26. 24. 29.	oure- nt //m 11 11 39	Lir dB 43 43 43	nit uV/m 3.50 3.50		O∨r dE -17 -19 -14	er .39 .39 .11	p p	tect ea ea
	nperat t Volta . Pol. t Mode nark:	nperature: t Voltage: . Pol. t Mode: nark:	nperature: t Voltage: . Pol. t Mode: nark:	t Voltage: AC Pol. Vert Mode: TX 2	nperature: 25 °C t Voltage: AC 120° . Pol. Vertical t Mode: TX 2410 nark: Only wo	nperature: 25 °C t Voltage: AC 120V/6 . Pol. Vertical t Mode: TX 2410 M nark: Only worse	t Voltage: AC 120V/60Hz Pol. Vertical TX 2410 Mode(2) mark: Only worse case dBuV/m	nperature: 25 °C t Voltage: AC 120V/60Hz . Pol. Vertical t Mode: TX 2410 Mode(250Kbps nark: Only worse case is repo	t Voltage: AC 120V/60Hz Pol. Vertical TX 2410 Mode(250Kbps) Mark: Only worse case is reported dBuV/m	t Voltage: AC 120V/60Hz Pol. Vertical TX 2410 Mode(250Kbps) nark: Only worse case is reported dBuV/m	nperature: 25 °C Relative H t Voltage: AC 120V/60Hz . Pol. Vertical t Mode: TX 2410 Mode(250Kbps) nark: Only worse case is reported	nperature: 25 °C Relative Huminative Voltage: AC 120V/60Hz Pol. Vertical TX 2410 Mode(250Kbps) nark: Only worse case is reported Only Manual Manu	nperature: 25 °C Relative Humidity: t Voltage: AC 120V/60Hz Pol. Vertical TX 2410 Mode(250Kbps) nark: Only worse case is reported (RF)FCC	nperature: 25 °C Relative Humidity: t Voltage: AC 120V/60Hz . Pol. Vertical t Mode: TX 2410 Mode(250Kbps) nark: Only worse case is reported d dBuV/m (RF)FCC 15C 3	TX 2410 Mode(250Kbps) Only worse case is reported Relative Humidity: 559 Re	Relative Humidity: 55% t Voltage: AC 120V/60Hz Pol. Vertical TX 2410 Mode(250Kbps) Only worse case is reported (RFJFCC 15C 3M Radiation Margin 6	nperature: 25 °C Relative Humidity: 55% t Voltage: AC 120V/60Hz . Pol. Vertical t Mode: TX 2410 Mode(250Kbps) nark: Only worse case is reported (RF)FCC 15C 3M Radiation Margin -6 dB



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	EUT:	Wireless smart control switch	Model Name :	GIS-C-2411
	Temperature:	25 ℃	Relative Humidity:	55%
	Test Voltage:	AC 120V/60Hz		
Ì	Ant. Pol.	Horizontal		
	Test Mode:	TX 2440 Mode(250Kbps)		HILL
	Remark:	Only worse case is reported		3 0



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		36.0007	28.70	-17.67	11.03	40.00	-28.97	peak
2		43.0505	31.21	-21.45	9.76	40.00	-30.24	peak
3		92.1388	31.63	-22.50	9.13	43.50	-34.37	peak
4		160.9089	40.25	-20.57	19.68	43.50	-23.82	peak
5		178.7584	41.60	-20.64	20.96	43.50	-22.54	peak
6	*	211.5265	41.77	-19.89	21.88	43.50	-21.62	peak

^{*:}Maximum data x:Over limit !:over margin



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UT:	Wirele	ss smart cont	rol switch	Model Nar	ne:	GIS-C-	2411
emperature:	25 °C		10	Relative H	umidity:	55%	
est Voltage:	AC 1	20V/60Hz	Trans.		Tim	13.3	
nt. Pol.	Vertic	al	Alto.		62		
est Mode:	TX 24	140 Mode(2	50Kbps)	WILLIAM STATE	3	A ARR	1 lister
Remark:	Only	worse case	is reported	Contract of the contract of th	Cim's	3	
80.0 dBuV/m							
					(RF)FCC 15C	3M Radiation	
						Margin -6	B
30			4 5	6			
j	(2	3 × X	Ž _a			Mhan
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Charles A. Land	Vin	VW.		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Broken 11		
20							
30.000 40 50	60 70	80	(MHz)	300	400 500	600 700	1000.00
		Reading	Correct	Measure-			
No. Mk. F	req.	Level	Factor	m ent	Limit	O∨er	
Λ	ЛHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detect
1 * 52.	7600	49.68	-24.43	25.25	40.00	-14.75	peal
2 93.	7685	42.99	-22.37	20.62	43.50	-22.88	peal
3 135	.5062	43.52	-22.07	21.45	43.50	-22.05	peal
4 168	.4138	47.32	-21.08	26.24	43.50	-17.26	peal
5 180	.6488	47.11	-20.59	26.52	43.50	-16.98	peal
6 213	.0151	47.19	-19.83	27.36	43.50	-16.14	peal
210							-



Page:

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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz	The state of	339
Ant. Pol.	Horizontal		
Test Mode:	TX 2470 Mode(250Kbps)		Million
Remark:	Only worse case is reported		3
80.0 dBuV/m			
		(RF)FCC 15C	3M Radiation
			Margin -6 dB

10				┙											
						5 X	6					وارو	mark.	الإستانان	ethani
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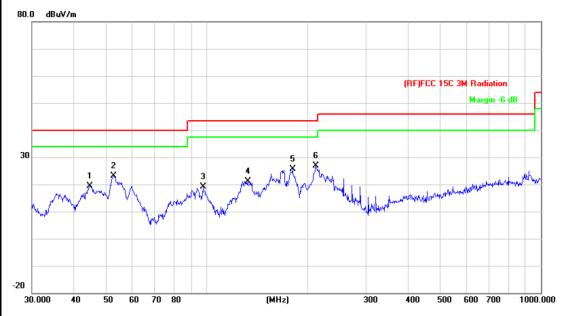
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		36.2541	31.12	-17.83	13.29	40.00	-26.71	peak
2		42.4508	32.12	-21.19	10.93	40.00	-29.07	peak
3		50.4089	32.77	-24.40	8.37	40.00	-31.63	peak
4		92.1388	31.63	-22.50	9.13	43.50	-34.37	peak
5		160.9088	42.25	-20.57	21.68	43.50	-21.82	peak
6	*	211.5263	41.77	-19.89	21.88	43.50	-21.62	peak

^{*:}Maximum data x:Over limit !:over margin



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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz		339			
Ant. Pol.	Vertical					
Test Mode:	TX 2470 Mode(250Kbps)		MILL			
Remark:	Only worse case is reported					



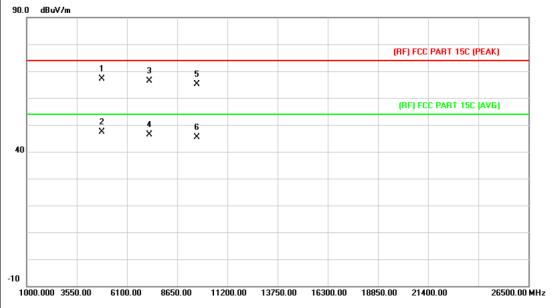
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		44.7433	41.53	-22.16	19.37	40.00	-20.63	peak
2		52.7599	47.68	-24.43	23.25	40.00	-16.75	peak
3		97.4560	41.14	-22.04	19.10	43.50	-24.40	peak
4		132.6850	43.38	-22.13	21.25	43.50	-22.25	peak
5		180.6486	46.11	-20.59	25.52	43.50	-17.98	peak
6	*	212.2693	46.71	-19.86	26.85	43.50	-16.65	peak

x:Over limit !:over margin *:Maximum data



Report No.: TB-FCC145714
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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz		D _			
Ant. Pol.	Horizontal					
Test Mode:	GFSK Mode TX 2410 MHz(1M	bps)	All Des			
Remark:	No report for the emission which prescribed limit.	ch more than 10 dB belo	ow the			

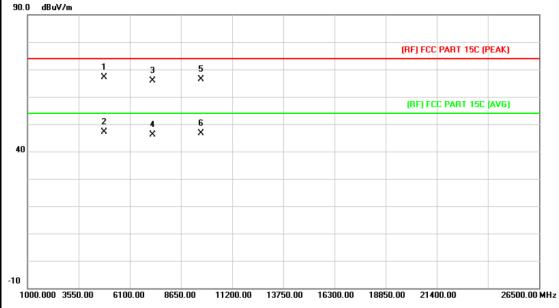


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4819.727	53.57	13.54	67.11	74.00	-6.89	peak
2	*	4819.727	33.75	13.54	47.29	54.00	-6.71	AVG
3		7229.273	90.90	-24.47	66.43	74.00	-7.57	peak
4		7229.273	70.78	-24.47	46.31	54.00	-7.69	AVG
5		9639.452	89.01	-23.88	65.13	74.00	-8.87	peak
6		9639.452	69.19	-23.88	45.31	54.00	-8.69	AVG

Emission Level= Read Level+ Correct Factor



EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz		19					
Ant. Pol.	Vertical	Vertical						
Test Mode:	GFSK Mode TX 2410 MHz(1	Mbps)	All U					
Remark:	No report for the emission wh prescribed limit.	ich more than 10 dB belo	ow the					
90.0 dRuV/m								

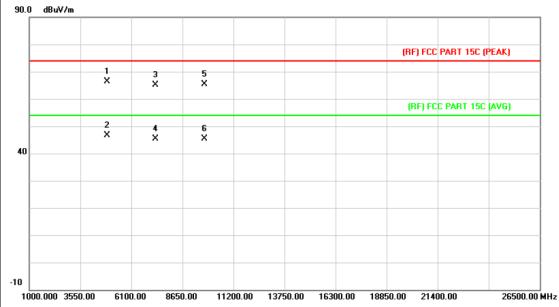


N	o. Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4820.150	53.52	13.54	67.06	74.00	-6.94	peak
2	*	4820.150	33.70	13.54	47.24	54.00	-6.76	AVG
3		7229.483	90.45	-24.47	65.98	74.00	-8.02	peak
4		7229.483	70.63	-24.47	46.16	54.00	-7.84	AVG
5		9639.948	90.26	-23.88	66.38	74.00	-7.62	peak
6		9639.948	70.44	-23.88	46.56	54.00	-7.44	AVG

Emission Level= Read Level+ Correct Factor



EUT:	Wireless smart control switch	Model Name :	GIS-C-2411				
Temperature:	25 °C Relative Humidity: 55%						
Test Voltage:	AC 120V/60Hz		33				
Ant. Pol.	Horizontal						
Test Mode:	GFSK Mode TX 2440 MHz(1Mbps)						
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.	13					
00.0 10.41							

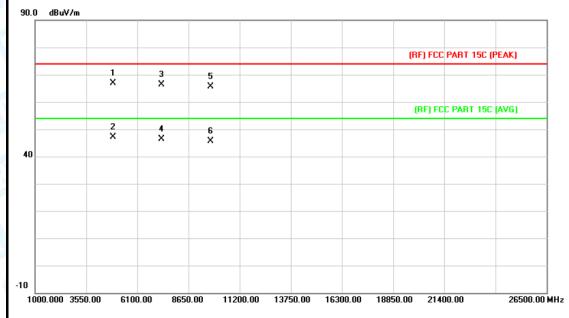


No.	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4880.150	52.60	13.89	66.49	74.00	-7.51	peak
2	*	4880.150	32.78	13.89	46.67	54.00	-7.33	AVG
3		7320.557	89.69	-24.45	65.24	74.00	-8.76	peak
4		7320.557	69.87	-24.45	45.42	54.00	-8.58	AVG
5		9760.000	88.88	-23.57	65.31	74.00	-8.69	peak
6		9760.000	69.06	-23.57	45.49	54.00	-8.51	AVG

Emission Level= Read Level+ Correct Factor



		70.00	
EUT:	Wireless smart control switch	Model Name :	GIS-C-2411
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz	illin -	13
Ant. Pol.	Vertical		
Test Mode:	GFSK Mode TX 2440 MHz(1M	bps)	HALL
Remark:	No report for the emission which	ch more than 10 dB belo	w the
	prescribed limit.	13	



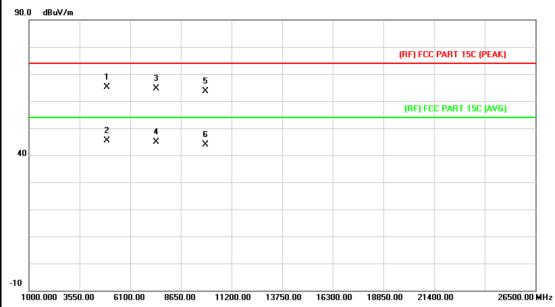
No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4879.811	53.01	13.89	66.90	74.00	-7.10	peak
2	*	4879.811	33.19	13.89	47.08	54.00	-6.92	AVG
3		7320.030	90.71	-24.45	66.26	74.00	-7.74	peak
4		7320.030	70.89	-24.45	46.44	54.00	-7.56	AVG
5		9760.315	89.12	-23.57	65.55	74.00	-8.45	peak
6		9760.315	69.30	-23.57	45.73	54.00	-8.27	AVG

Emission Level= Read Level+ Correct Factor



Page: 33 of 87

EUT:	Wireless smart control switch	Model Name :	GIS-C-2411				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	The same	133				
Ant. Pol.	Horizontal						
Test Mode:	GFSK Mode TX 2470 MHz(1	GFSK Mode TX 2470 MHz(1Mbps)					
Remark:	No report for the emission wh prescribed limit.	ich more than 10 dB b	elow the				
00 0 ID 141	-						



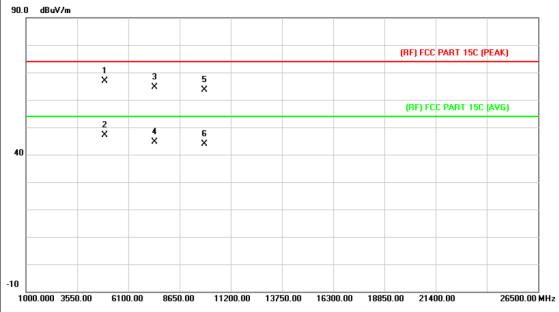
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4939.652	50.96	14.25	65.21	74.00	-8.79	peak
2	*	4939.652	31.14	14.25	45.39	54.00	-8.61	AVG
3		7408.807	89.01	-24.43	64.58	74.00	-9.42	peak
4		7408.807	69.19	-24.43	44.76	54.00	-9.24	AVG
5		9879.753	86.89	-23.25	63.64	74.00	-10.36	peak
6		9879.753	67.07	-23.25	43.82	54.00	-10.18	AVG

Emission Level= Read Level+ Correct Factor



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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz		79				
Ant. Pol.	Vertical						
Test Mode:	GFSK Mode TX 2470 MHz(1M	GFSK Mode TX 2470 MHz(1Mbps)					
Remark:	No report for the emission which	ch more than 10 dB bel	ow the				
	prescribed limit.						
90.0 dRuV/m							

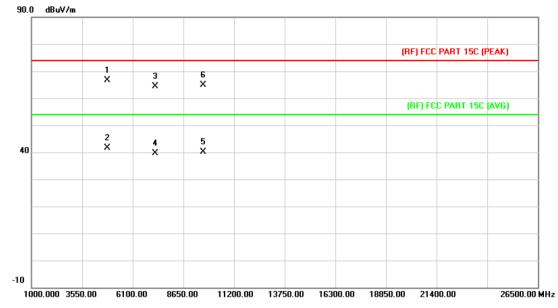


No.	Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4940.258	52.58	14.25	66.83	74.00	-7.17	peak
2	*	4940.258	32.76	14.25	47.01	54.00	-6.99	AVG
3		7409.932	89.00	-24.43	64.57	74.00	-9.43	peak
4		7409.932	69.18	-24.43	44.75	54.00	-9.25	AVG
5		9879.850	86.96	-23.25	63.71	74.00	-10.29	peak
6		9879.850	67.08	-23.25	43.83	54.00	-10.17	AVG

Emission Level= Read Level+ Correct Factor



	140		010 0 0111			
EUT:	Wireless smart control switch	Model Name :	GIS-C-2411			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz	The state of				
Ant. Pol.	Horizontal					
Test Mode:	GFSK Mode TX 2410 MHz(2)	Mbps)	A HALL			
Remark:	No report for the emission wh	ich more than 10 dB be	elow the			
	prescribed limit.	- 130				



No	. Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4819.857	53.03	13.54	66.57	74.00	-7.43	peak
2		4819.857	28.20	13.54	41.74	54.00	-12.26	AVG
3		7229.354	88.82	-24.47	64.35	74.00	-9.65	peak
4		7229.354	63.99	-24.47	39.52	54.00	-14.48	AVG
5		9639.651	63.92	-23.88	40.04	54.00	-13.96	AVG
6		9639.654	88.75	-23.88	64.87	74.00	-9.13	peak

Emission Level= Read Level+ Correct Factor

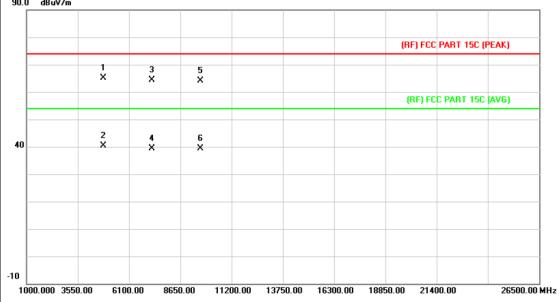
Note: Avg=Peak-24.83



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1	,	A	W
			۱ <i>۱</i>
J.	L)	L

EUT:	Wireless smart control switch	Model Name :	GIS-C-2411				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	TIES VI	م ورز				
Ant. Pol.	Vertical						
Test Mode:	GFSK Mode TX 2410 MHz(GFSK Mode TX 2410 MHz(2Mbps)					
Remark:	No report for the emission w prescribed limit.	hich more than 10 dB b	elow the				
90.0 dBuV/m							
90.0 dBuV/m	processed minus						



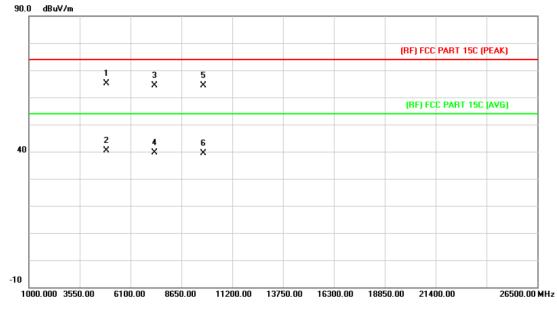
No	. Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4820.210	51.58	13.54	65.12	74.00	-8.88	peak
2		4820.210	26.75	13.54	40.29	54.00	-13.71	AVG
3		7229.632	88.79	-24.47	64.32	74.00	-9.68	peak
4		7229.632	63.96	-24.47	39.49	54.00	-14.51	AVG
5		9639.895	88.00	-23.88	64.12	74.00	-9.88	peak
6		9639.895	63.17	-23.88	39.29	54.00	-14.71	AVG

Emission Level= Read Level+ Correct Factor

Note: Avg=Peak-24.83



EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 ℃	25 °C Relative Humidity: 55%						
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz						
Ant. Pol.	Horizontal	1						
Test Mode:	GFSK Mode TX 2440 MHz(2	2Mbps)	J. Hills					
Remark:	No report for the emission w prescribed limit.	hich more than 10 dB b	elow the					

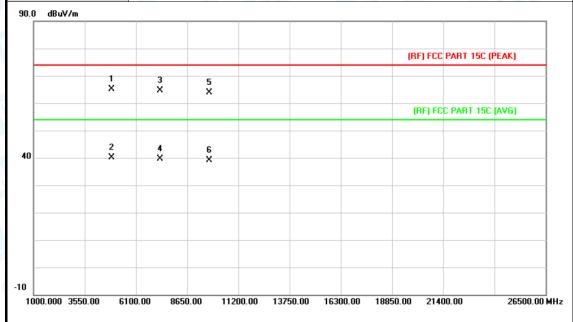


1	lo. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4880.241	51.20	13.89	65.09	74.00	-8.91	peak
2		4880.241	26.37	13.89	40.26	54.00	-13.74	AVG
3		7320.141	88.90	-24.45	64.45	74.00	-9.55	peak
4		7320.141	64.07	-24.45	39.62	54.00	-14.38	AVG
5		9760.010	87.88	-23.57	64.31	74.00	-9.69	peak
6		9760.010	63.05	-23.57	39.48	54.00	-14.52	AVG

Emission Level= Read Level+ Correct Factor



		1.0.0						
EUT:	Wireless smart control switch	Wireless smart control switch Model Name : GIS-C-2411						
Temperature:	25 ℃ Relative Humidity: 55%							
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz						
Ant. Pol.	Vertical							
Test Mode:	GFSK Mode TX 2440 MHz(2	Mbps)	A HATTER					
Remark:	No report for the emission w	No report for the emission which more than 10 dB below the						
	prescribed limit.							

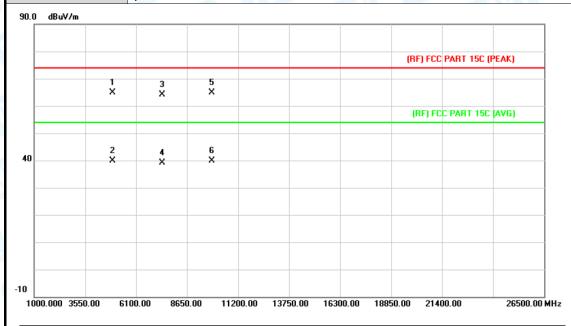


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4879.185	51.12	13.89	65.01	74.00	-8.99	peak
2		4879.185	26.29	13.89	40.18	54.00	-13.82	AVG
3		7320.024	88.98	-24.45	64.53	74.00	-9.47	peak
4		7320.024	64.15	-24.45	39.70	54.00	-14.30	AVG
5		9760.210	87.55	-23.57	63.98	74.00	-10.02	peak
6		9760.210	62.72	-23.57	39.15	54.00	-14.85	AVG

Emission Level= Read Level+ Correct Factor



EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz						
Ant. Pol.	Horizontal							
Test Mode:	GFSK Mode TX 2470 MHz(2	2Mbps)	J. Hilliam					
Remark:	No report for the emission w	hich more than 10 dB b	elow the					
	prescribed limit.							



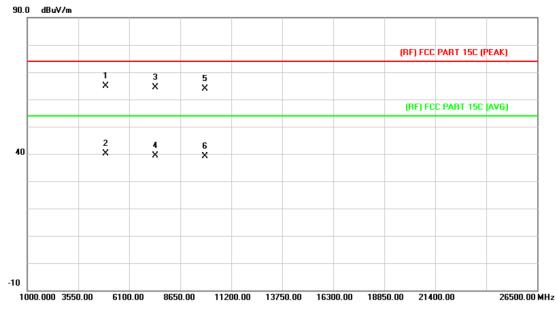
No	. Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4939.678	50.57	14.25	64.82	74.00	-9.18	peak
2		4939.678	25.74	14.25	39.99	54.00	-14.01	AVG
3		7408.351	88.48	-24.43	64.05	74.00	-9.95	peak
4		7408.351	63.65	-24.43	39.22	54.00	-14.78	AVG
5		9879.845	88.06	-23.25	64.81	74.00	-9.19	peak
6		9879.845	63.23	-23.25	39.98	54.00	-14.02	AVG

Emission Level= Read Level+ Correct Factor



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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 ℃	Relative Humidity: 5						
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz						
Ant. Pol.	Vertical							
Test Mode:	GFSK Mode TX 2470 MHz(2	Mbps)	A Alban					
Remark:	No report for the emission wh	ich more than 10 dB b	elow the					
	prescribed limit.							
90.0 dP.4//m								



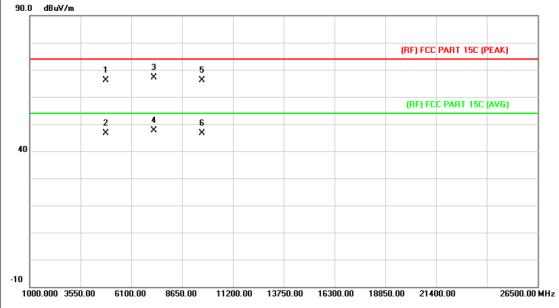
No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4940.258	50.74	14.25	64.99	74.00	-9.01	peak
2		4940.258	25.91	14.25	40.16	54.00	-13.84	AVG
3		7409.357	88.69	-24.43	64.26	74.00	-9.74	peak
4		7409.357	63.86	-24.43	39.43	54.00	-14.57	AVG
5		9879.899	87.20	-23.25	63.95	74.00	-10.05	peak
6		9879.899	62.37	-23.25	39.12	54.00	-14.88	AVG

Emission Level= Read Level+ Correct Factor





EUT:	Wireless smart control switch	rol switch Model Name : GIS-C-24					
Temperature:	25 ℃	Relative Humidity: 55%					
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal						
Test Mode:	GFSK Mode TX 2410 MHz(2	50Kbps)	A HILL				
Remark:	Remark: No report for the emission which more than 10 dB below the prescribed limit.						
90.0 dBuV/m							

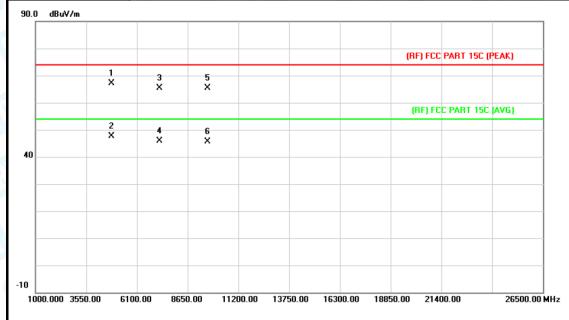


No	. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4820.102	52.54	13.54	66.08	74.00	-7.92	peak
2		4820.102	32.99	13.54	46.53	54.00	-7.47	AVG
3		7229.642	91.55	-24.47	67.08	74.00	-6.92	peak
4	*	7229.642	72.00	-24.47	47.53	54.00	-6.47	AVG
5		9639.506	90.05	-23.88	66.17	74.00	-7.83	peak
6		9639.506	70.50	-23.88	46.62	54.00	-7.38	AVG

Emission Level= Read Level+ Correct Factor



- WILL								
EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz						
Ant. Pol.	Vertical							
Test Mode:	GFSK Mode TX 2410 MHz(250Kbps)	J. Hilliam					
Remark:	No report for the emission w prescribed limit.	hich more than 10 dB b	elow the					

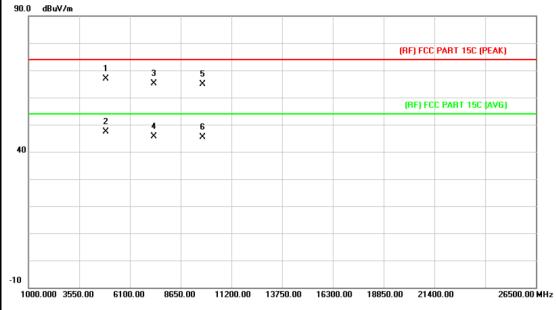


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4819.984	53.61	13.54	67.15	74.00	-6.85	peak
2	*	4819.984	34.06	13.54	47.60	54.00	-6.40	AVG
3		7229.612	89.81	-24.47	65.34	74.00	-8.66	peak
4		7229.612	70.26	-24.47	45.79	54.00	-8.21	AVG
5		9639.957	89.15	-23.88	65.27	74.00	-8.73	peak
6		9639.957	69.60	-23.88	45.72	54.00	-8.28	AVG

Emission Level= Read Level+ Correct Factor



EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz							
Ant. Pol.	Horizontal	Horizontal						
Test Mode:	GFSK Mode TX 2440 MHz(2	50Kbps)	A HATT					
Remark:	No report for the emission when	nich more than 10 dB be	elow the					
	prescribed limit.	- W						



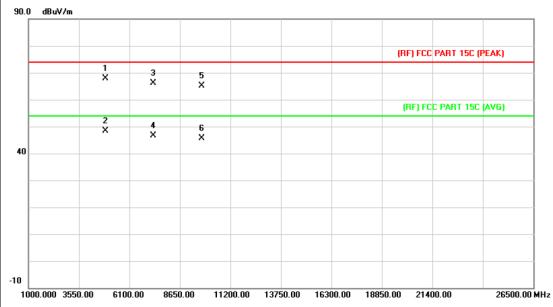
No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4880.065	53.10	13.89	66.99	74.00	-7.01	peak
2	*	4880.065	33.55	13.89	47.44	54.00	-6.56	AVG
3		7320.174	89.63	-24.45	65.18	74.00	-8.82	peak
4		7320.174	70.08	-24.45	45.63	54.00	-8.37	AVG
5		9760.031	88.46	-23.57	64.89	74.00	-9.11	peak
6		9760.031	68.91	-23.57	45.34	54.00	-8.66	AVG

Emission Level= Read Level+ Correct Factor



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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Vertical						
Test Mode:	GFSK Mode TX 2440 MHz(2	250Kbps)	A Alban				
Remark:	No report for the emission w	hich more than 10 dB be	elow the				
	prescribed limit.	A U					

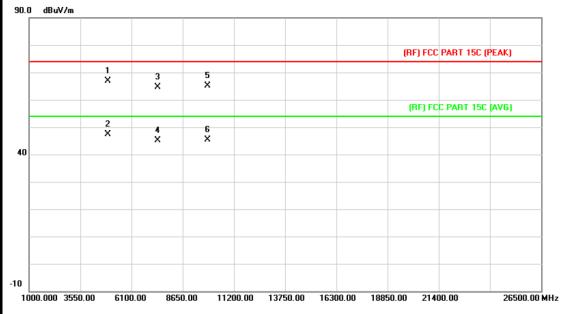


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4879.985	53.96	13.89	67.85	74.00	-6.15	peak
2	*	4879.985	34.41	13.89	48.30	54.00	-5.70	AVG
3		7320.000	90.57	-24.45	66.12	74.00	-7.88	peak
4		7320.000	71.02	-24.45	46.57	54.00	-7.43	AVG
5		9760.050	88.80	-23.57	65.23	74.00	-8.77	peak
6		9760.050	69.25	-23.57	45.68	54.00	-8.32	AVG

Emission Level= Read Level+ Correct Factor



		6 1 9 3 9 1 9 1						
EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz						
Ant. Pol.	Horizontal							
Test Mode:	GFSK Mode TX 2470 MHz(2	50Kbps)	Alth					
Remark:	No report for the emission who prescribed limit.	No report for the emission which more than 10 dB below the prescribed limit.						

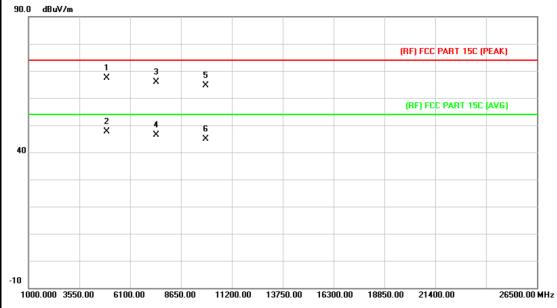


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4939.657	52.59	14.25	66.84	74.00	-7.16	peak
2	*	4939.657	33.04	14.25	47.29	54.00	-6.71	AVG
3		7409.614	89.01	-24.43	64.58	74.00	-9.42	peak
4		7409.614	69.46	-24.43	45.03	54.00	-8.97	AVG
5		9879.874	88.27	-23.25	65.02	74.00	-8.98	peak
6		9879.874	68.72	-23.25	45.47	54.00	-8.53	AVG

Emission Level= Read Level+ Correct Factor



EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz						
Ant. Pol.	Vertical	Vertical						
Test Mode:	GFSK Mode TX 2470 MHz(2	50Kbps)	HILL					
Remark:	No report for the emission who prescribed limit.	ich more than 10 dB b	elow the					
90.0 dP. <i>M/</i> m								



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4940.214	53.01	14.25	67.26	74.00	-6.74	peak
2	*	4940.214	33.46	14.25	47.71	54.00	-6.29	AVG
3		7410.362	90.31	-24.43	65.88	74.00	-8.12	peak
4		7410.362	70.76	-24.43	46.33	54.00	-7.67	AVG
5		9879.877	87.77	-23.25	64.52	74.00	-9.48	peak
6		9879.877	68.22	-23.25	44.97	54.00	-9.03	AVG

Emission Level= Read Level+ Correct Factor



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6. Restricted Bands Requirement

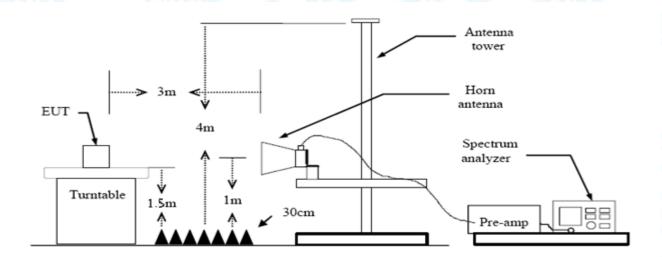
6.1 Test Standard and Limit

6.1.1 Test Standard FCC Part 15.209 FCC Part 15.205

6.1.2 Test Limit

Restricted Frequency	Class B (dB	suV/m)(at 3 M)
Band (MHz)	Peak	Average
2310 ~2390	74	54
2483.5 ~2500	74	54

6.2 Test Setup



6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked



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and then Quasi Peak detector mode re-measured.

- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 KHz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

6.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

6.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values.

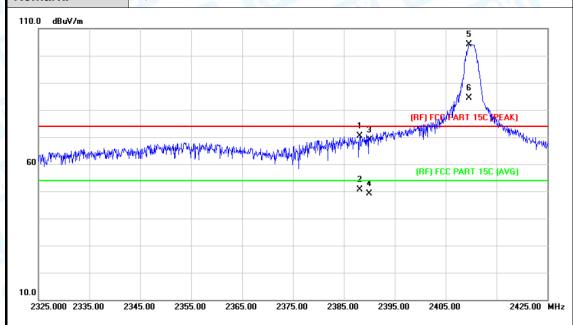
And Average Values= Peak Values+ 20log(dutycycle)

Test data please refer the following pages.





EUT:	Wireless smart control switch	Model Name :	GIS-C-2411				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal		MALL				
Test Mode:	GFSK Mode TX 2410 MHz(Mbps)					
Remark:	N/A						



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2388.200	69.71	0.77	70.48	74.00	-3.52	peak
2		2388.200	49.89	0.77	50.66	54.00	-3.34	AVG
3		2390.000	68.22	0.77	68.99	74.00	-5.01	peak
4		2390.000	48.40	0.77	49.17	54.00	-4.83	AVG
5	Χ	2409.600	103.24	0.85	104.09	Fundamental l	Frequency	peak
6	*	2409.600	83.42	0.85	84.27	Fundamental I	Frequency	AVG

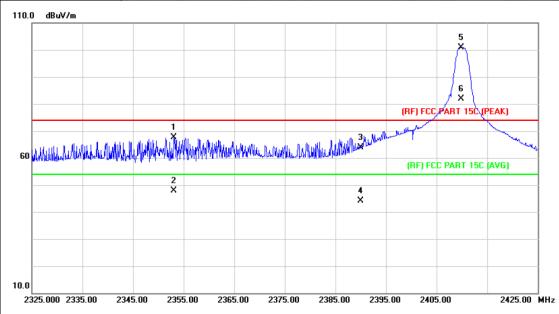
Emission Level= Read Level+ Correct Factor



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	U	KY.
-	V	

EUT:	Wireless smart control switch	Model Name :	GIS-C-2411				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	ma Cu	100				
Ant. Pol.	Vertical	Vertical					
Test Mode:	GFSK Mode TX 2410 MHz(1	Mbps)	HILL				
Remark:	N/A	Time and					



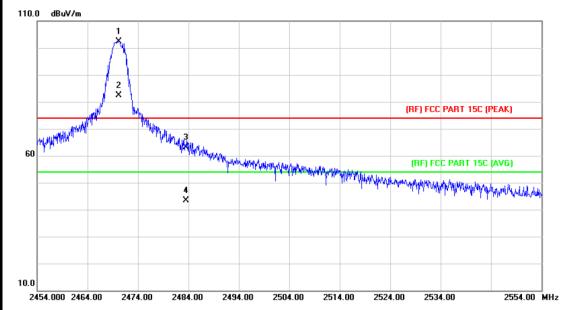
No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2353.100	67.04	0.62	67.66	74.00	-6.34	peak
2		2353.100	47.22	0.62	47.84	54.00	-6.16	AVG
3		2390.000	63.11	0.77	63.88	74.00	-10.12	peak
4		2390.000	43.29	0.77	44.06	54.00	-9.94	AVG
5	Χ	2409.800	100.05	0.85	100.90	Fundamental I	requency	peak
6	*	2409.800	80.95	0.85	81.80	Fundamental F	requency	AVG

Emission Level= Read Level+ Correct Factor



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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Horizontal					
Test Mode:	GFSK Mode TX 2470 MHz(1M	bps)	HALL			
Remark:	N/A	anis s				



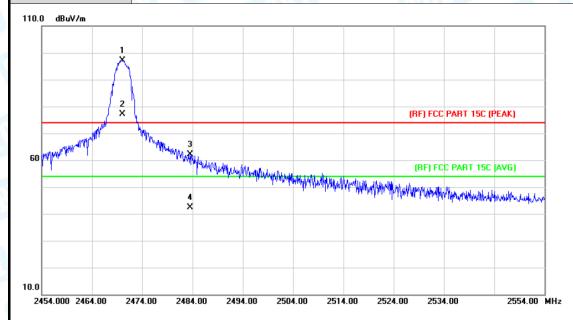
No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2470.200	101.15	1.11	102.26	Fundamental F	requency	peak
2	*	2470.200	81.33	1.11	82.44	Fundamental F	requency	AVG
3		2483.500	61.92	1.17	63.09	74.00	-10.91	peak
4		2483.500	42.10	1.17	43.27	54.00	-10.73	AVG

Emission Level= Read Level+ Correct Factor



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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Vertical					
Test Mode:	GFSK Mode TX 2470 MHz(1M	bps)	ALC:			
Remark:	N/A	THE PARTY OF THE P				

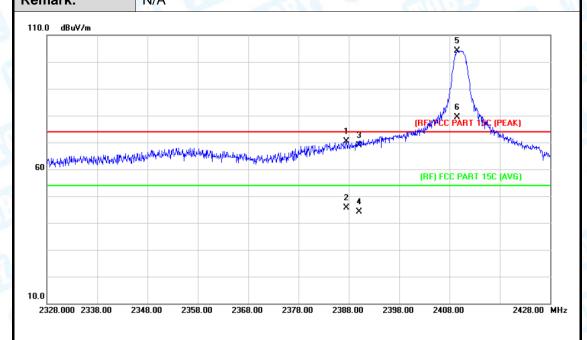


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2470.100	95.96	1.11	97.07	Fundamental	Frequency	peak
2	*	2470.100	76.14	1.11	77.25	Fundamental	Frequency	AVG
3		2483.500	61.01	1.17	62.18	74.00	-11.82	peak
4		2483.500	41.19	1.17	42.36	54.00	-11.64	AVG

Emission Level= Read Level+ Correct Factor



		1.63	
EUT:	Wireless smart control switch	Model Name :	GIS-C-2411
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz	no de	133
Ant. Pol.	Horizontal		
Test Mode:	GFSK Mode TX 2410 MHz(2	2Mbps)	J. Hilliam
Remark:	N/Δ		

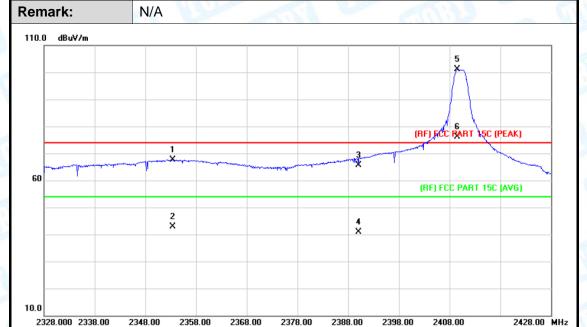


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2387.500	69.62	0.77	70.39	74.00	-3.61	peak
2		2387.500	44.79	0.77	45.56	54.00	-8.44	AVG
3		2390.000	68.11	0.77	68.88	74.00	-5.12	peak
4		2390.000	43.28	0.77	44.05	54.00	-9.95	AVG
5	*	2409.500	103.25	0.85	104.10	Fundamental F	requency	peak
6	Χ	2409.500	78.42	0.85	79.27	Fundamental F	requency	AVG

Emission Level= Read Level+ Correct Factor



EUT:	Wireless smart control switch	Model Name :	GIS-C-2411
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz	100	
Ant. Pol.	Vertical		
Test Mode:	GFSK Mode TX 2410 MHz(2Mbps)	HALL



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2353.400	67.00	0.62	67.62	74.00	-6.38	peak
2		2353.400	42.17	0.62	42.79	54.00	-11.21	AVG
3		2390.000	64.91	0.77	65.68	74.00	-8.32	peak
4		2390.000	40.08	0.77	40.85	54.00	-13.15	AVG
5	*	2409.500	100.21	0.85	101.06	Fundamental	Frequency	peak
6	Х	2409.500	75.38	0.85	76.23	Fundamental	Frequency	AVG

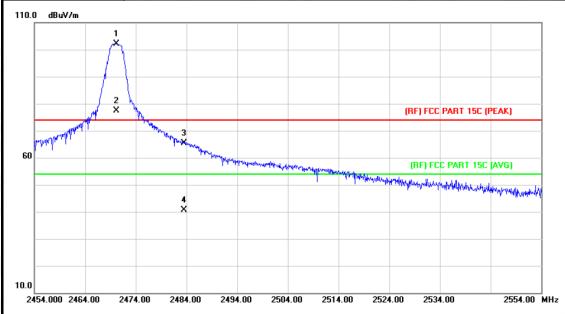
Emission Level= Read Level+ Correct Factor



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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Horizontal					
Test Mode:	GFSK Mode TX 2470 MHz(2	Mbps)	MALL			
Remark:	N/A		9 0			

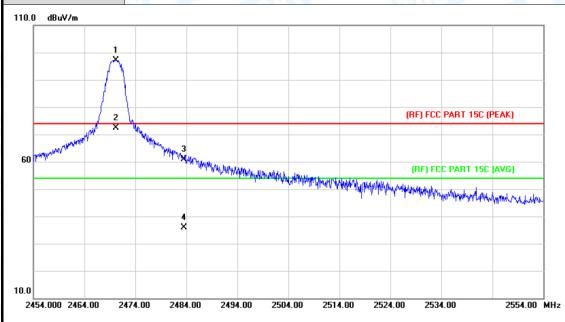


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2470.200	101.05	1.11	102.16	Fundamental	Frequency	peak
2	Х	2470.200	76.22	1.11	77.33	Fundamental	Frequency	AVG
3		2483.500	64.21	1.17	65.38	74.00	-8.62	peak
4		2483.500	39.38	1.17	40.55	54.00	-13.45	AVG

Emission Level= Read Level+ Correct Factor



EUT:	Wireless smart control switch Model Name : GIS-C-2411					
Temperature:	25 ℃ Relative Humidity: 55%					
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Vertical					
Test Mode:	GFSK Mode TX 2470 MHz(2Mbps)					
Remark:	N/A					

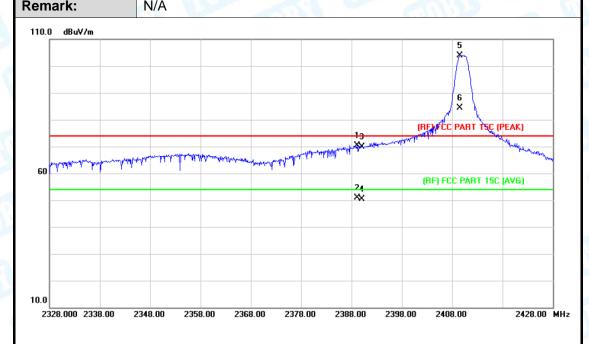


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2470.200	96.10	1.11	97.21	Fundamental	Frequency	peak
2	Х	2470.200	71.27	1.11	72.38	Fundamental	Frequency	AVG
3		2483.500	59.61	1.17	60.78	74.00	-13.22	peak
4		2483.500	34.78	1.17	35.95	54.00	-18.05	AVG

Emission Level= Read Level+ Correct Factor



		1.0.0						
EUT:	Wireless smart control switch	Model Name :	GIS-C-2411					
Temperature:	25 °C Relative Humidity: 55%							
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz						
Ant. Pol.	Horizontal							
Test Mode:	GFSK Mode TX 2410 MHz(250Kbps)							
Pomark:	NI/A	10						



No.	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2389.100	69.67	0.77	70.44	74.00	-3.56	peak
2		2389.100	50.12	0.77	50.89	54.00	-3.11	AVG
3		2390.000	69.09	0.77	69.86	74.00	-4.14	peak
4		2390.000	49.54	0.77	50.31	54.00	-3.69	AVG
5	Х	2409.500	102.99	0.85	103.84	Fundamental	Frequency	peak
6	*	2409.500	83.44	0.85	84.29	Fundamental	Frequency	AVG

Emission Level= Read Level+ Correct Factor



EUT:	Wireless smart control switch Model Name : GIS-C-2411						
Temperature:	25 °C Relative Humidity: 55%						
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Vertical						
Test Mode:	GFSK Mode TX 2410 MHz(250Kbps)						
Remark:	N/A	1013					

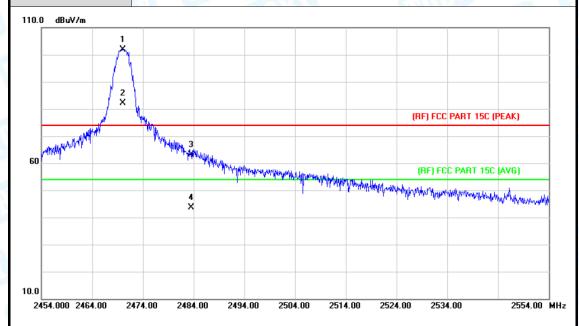


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2389.000	67.15	0.77	67.92	74.00	-6.08	peak
2		2389.000	47.60	0.77	48.37	54.00	-5.63	AVG
3		2390.000	67.02	0.77	67.79	74.00	-6.21	peak
4		2390.000	47.47	0.77	48.24	54.00	-5.76	AVG
5	Х	2409.500	100.23	0.85	101.08	Fundamental I	Frequency	peak
6	*	2409.500	80.68	0.85	81.53	Fundamental I	requency	AVG

Emission Level= Read Level+ Correct Factor



EUT:	Wireless smart control switch	Model Name :	GIS-C-2411				
Temperature:	25 °C Relative Humidity: 55%						
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal						
Test Mode:	GFSK Mode TX 2470 MHz(GFSK Mode TX 2470 MHz(250Kbps)					
Remark:	N/A	100					

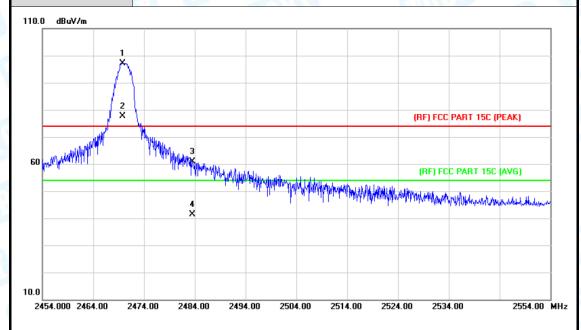


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Х	2470.100	100.67	1.11	101.78	Fundamental I	Frequency	peak
2	*	2470.100	81.12	1.11	82.23	Fundamental I	requency	AVG
3		2483.500	61.94	1.17	63.11	74.00	-10.89	peak
4		2483.500	42.39	1.17	43.56	54.00	-10.44	AVG

Emission Level= Read Level+ Correct Factor



EUT:	Wireless smart control switch	Model Name :	GIS-C-2411				
Temperature:	25 ℃ Relative Humidity: 55%						
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Vertical						
Test Mode:	GFSK Mode TX 2470 MHz(250Kbps)						
Remark:	N/A						



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detecto
1	Χ	2469.800	96.06	1.11	97.17	Fundamental	Frequency	peak
2	*	2469.800	76.51	1.11	77.62	Fundamental	Frequency	AVG
3		2483.500	59.78	1.17	60.95	74.00	-13.05	peak
4		2483.500	40.23	1.17	41.40	54.00	-12.60	AVG

Emission Level= Read Level+ Correct Factor

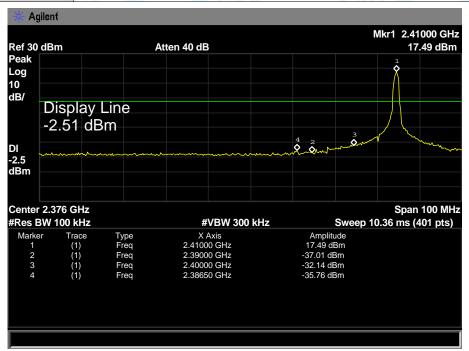


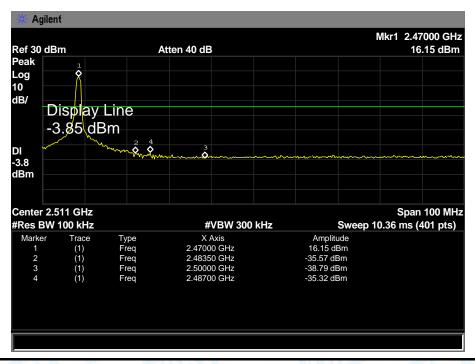


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(2) Conducted Test

EUT:	Wireless smart control switch	Model Name :	GIS-C-2411				
Temperature:	25 ℃	Relative Humidity: 55%					
Test Voltage:	AC 120V/60Hz						
Test Mode:	GFSK Mode TX 2410MHz / GI	GFSK Mode TX 2410MHz / GFSK Mode TX 2470MHz(1Mbps)					
Remark:	The EUT is programed in continuously transmitting mode						



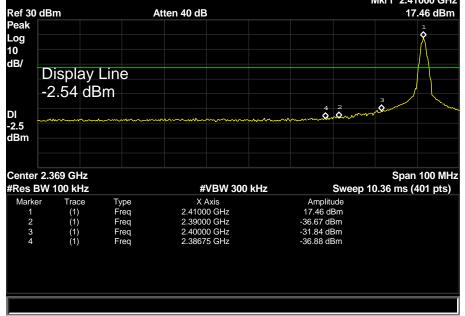


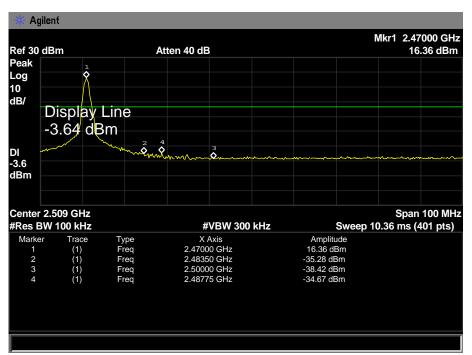




and a			
EUT:	Wireless smart control switch	Model Name :	GIS-C-2411
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		19
Test Mode:	GFSK Mode TX 2410MHz / GFSK Mode TX 2470MHz(2Mbps)		





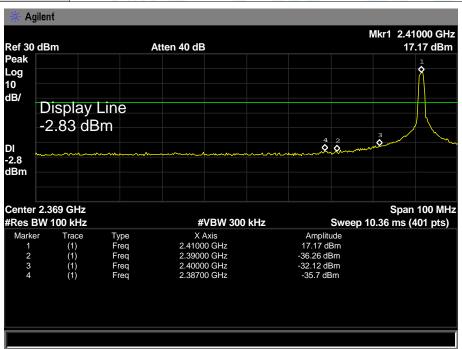


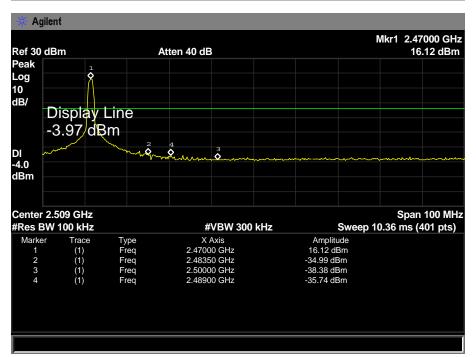




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EUT:	Wireless smart control switch	Model Name :	GIS-C-2411	
Temperature:	25 ℃	Relative Humidity:	55%	
Test Voltage:	AC 120V/60Hz			
Test Mode:	GFSK Mode TX 2410MHz / GFSK Mode TX 2470MHz(250Kbps)			
Remark:	The EUT is programed in continuously transmitting mode			







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7. Bandwidth Test

7.1 Test Standard and Limit

7.1.1 Test Standard FCC Part 15.247 (a)(2)

7.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-247				
Test Item Limit Frequency Range				
Bandwidth	>=500 KHz (6dB bandwidth)	2400~2483.5		

7.2 Test Setup



7.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.
- (3)Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:100 kHz, and Video Bandwidth:300 kHz, Detector: Peak, Sweep Time set auto.

7.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, middle and high channel for the test.



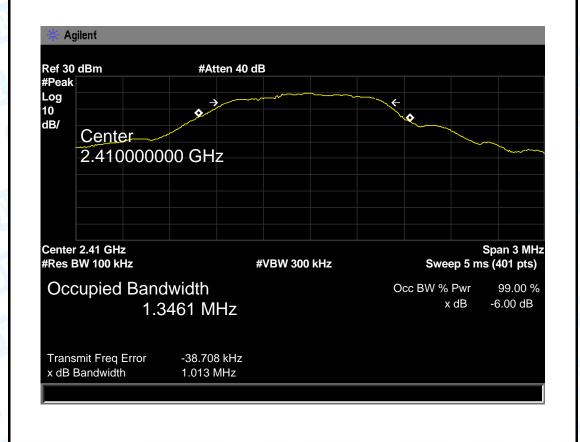
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7.5 Test Data

EUT:	Wireless smart control switch		Model Name :	GIS-C-2411
Temperature:	25 ℃		Relative Humidity:	55%
Test Voltage:	AC	120V/60Hz		A Alberta
Test Mode:	TX Mode 1Mbps			3 0
Channel frequency		6dB Bandwidth	99% Bandwidth	Limit
(MHz)		(kHz)	(kHz)	(kHz)
2410		1013.00	1346.10	
2440		1011.00	1332.00	>=500
2470		1032.00	1346.10	
0.007.14				

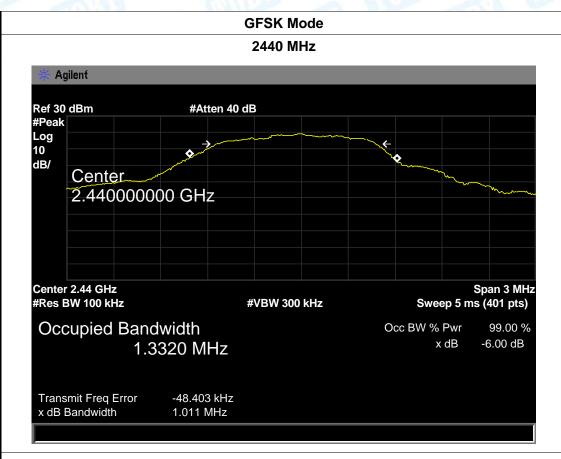
GFSK Mode

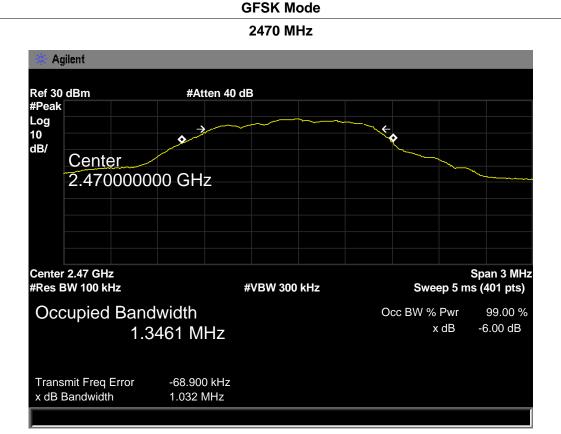
2410 MHz





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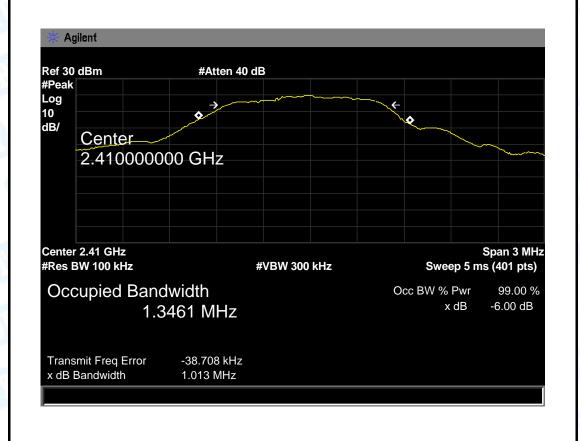


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EUT:	Wire	eless smart control switch	Model Name :	GIS-C-2411
Temperature:	25 ℃		Relative Humidity:	55%
Test Voltage:	AC	AC 120V/60Hz		
Test Mode:	TX	TX Mode 1Mbps		
Channel frequency 6dB Bandwidth 99% Bandwidth			Limit	
(MHz)		(kHz)	(kHz)	(kHz)
2410		1013.00	1346.10	
2440		1011.00	1332.00	>=500
2470		1032.00	1346.10	
CCSV Mode 1Mbms				

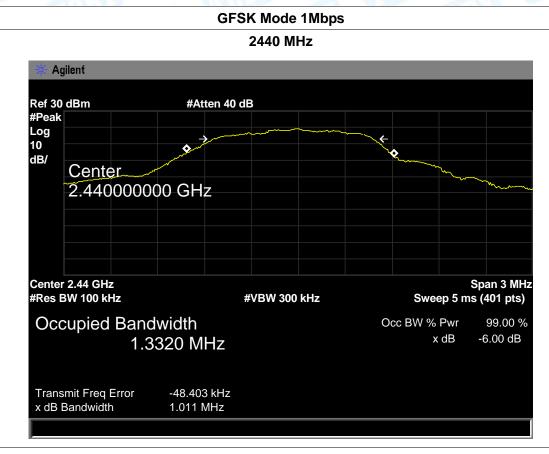
GFSK Mode 1Mbps

2410 MHz





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GFSK Mode 1Mbps 2470 MHz Agilent Ref 30 dBm #Atten 40 dB #Peak Log 10 dB/ Center 2.470000000 GHz Center 2.47 GHz Span 3 MHz #Res BW 100 kHz Sweep 5 ms (401 pts) **#VBW 300 kHz** Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 1.3461 MHz Transmit Freq Error -68.900 kHz x dB Bandwidth 1.032 MHz

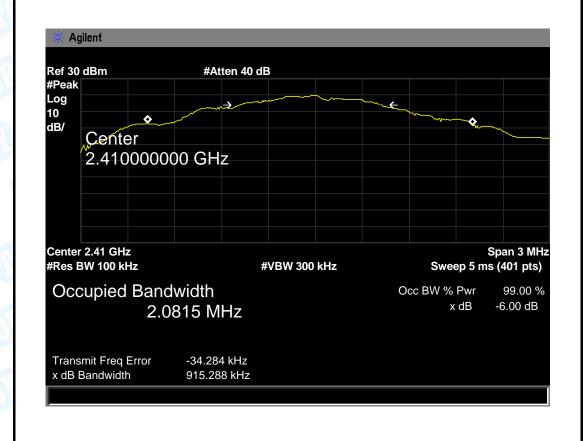


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EUT:	Wireless smart control switch		Model Name :	GIS-C-2411	
Temperature:	25	${\mathbb C}$	Relative Humidity:	55%	
Test Voltage:	AC	AC 120V/60Hz			
Test Mode:	TX	TX Mode 2Mbps			
Channel frequency 6dB Bandwidth		6dB Bandwidth	99% Bandwidth	Limit	
(MHz)		(kHz)	(kHz)	(kHz)	
2410		915.288	2081.50		
2440		968.648	2105.60	>=500	
2470		915.203	2139.70		
GFSK Mode 2Mbps					

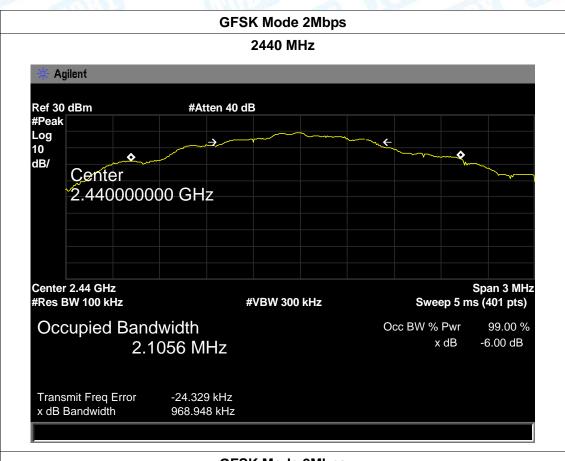
SIX MOGE ZIM

2410 MHz





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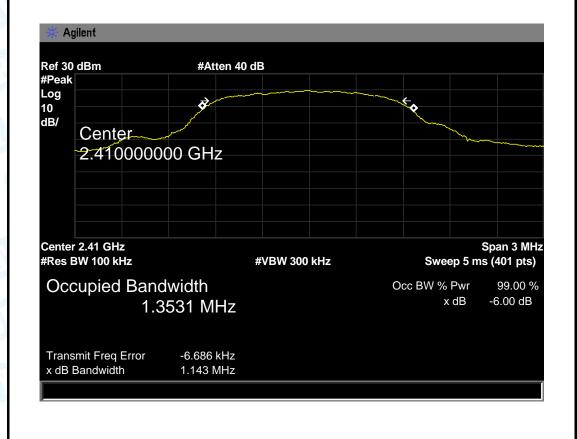
GFSK Mode 2Mbps 2470 MHz Agilent Ref 30 dBm #Atten 40 dB #Peak Log 10 dB/ Center 2.470000000 GHz Center 2.47 GHz Span 3 MHz #Res BW 100 kHz Sweep 5 ms (401 pts) **#VBW 300 kHz** Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 2.1397 MHz Transmit Freq Error -34.152 kHz x dB Bandwidth 915.203 kHz



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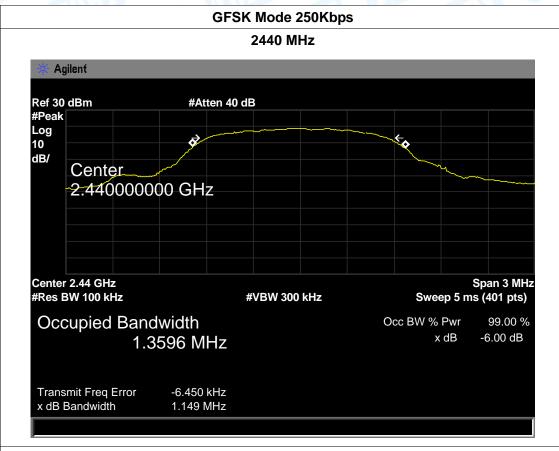
EUT:	Wire	eless smart control switch	Model Name :	GIS-C-2411
Temperature:	25 ℃		Relative Humidity:	55%
Test Voltage:	AC	AC 120V/60Hz		
Test Mode:	TX	TX Mode 250Kbps		
Channel frequency		6dB Bandwidth	99% Bandwidth	Limit
(MHz)		(kHz)	(kHz)	(kHz)
2410		1143.00	1353.10	
2440		1149.00	1359.60	>=500
2470		1163.00	1364.50	
GFSK Mode 250Kbps				

2410 MHz





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GFSK Mode 250Kbps 2470 MHz Agilent Ref 30 dBm #Atten 40 dB #Peak Log 10 dB/ Center 2.470000000 GHz Center 2.47 GHz Span 3 MHz #Res BW 100 kHz Sweep 5 ms (401 pts) **#VBW 300 kHz** Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 1.3645 MHz Transmit Freq Error -10.734 kHz x dB Bandwidth 1.163 MHz



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8. Peak Output Power Test

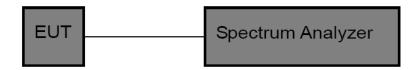
8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (b)

8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-247			
Test Item Limit Frequency Range(M			
Peak Output Power	1 Watt or 30 dBm	2400~2483.5	

8.2 Test Setup



8.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement is according to section 9.1.1 of KDB 558074 D01 DTS Meas Guidance v03r03.

- (1) Set the RBW≥DTS Bandwidth
- (2) Set VBW≥3*RBW
- (3) Set Span≥3*RBW
- (4) Sweep time=auto
- (5) Detector= peak
- (6) Trace mode= maxhold.
- (7) Allow trace to fully stabilize, and then use peak marker function to determine the peak amplitude level.

8.4 EUT Operating Condition

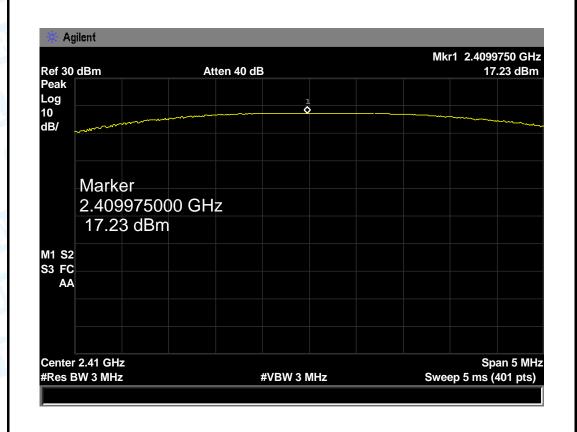
The EUT was set to continuously transmitting in the max power during the test.



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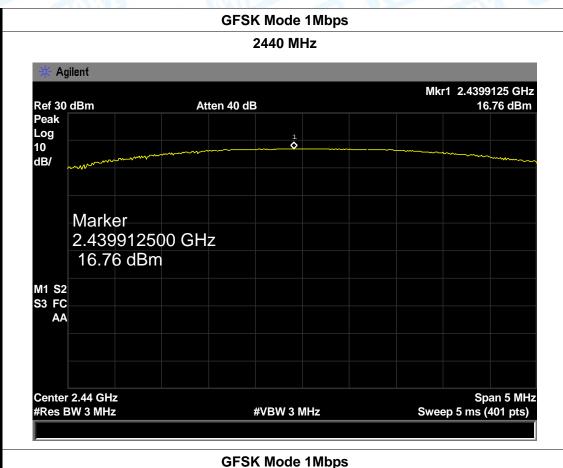
8.5 Test Data

EUT:	Wireless sn	nart control switch	Model Name :	GIS-C-2411	
Temperature:	25 ℃	130	Relative Humidity	: 55%	
Test Voltage:	AC 120V/	60Hz	THE	3 13	
Test Mode:	TX Mode	1Mbps		10	
Channel frequen	cy (MHz)	Test Result (dl	Bm) Li	mit (dBm)	
2410		17.23			
2440		16.76		30	
2470		16.11			
		GFSK Mode 1N	lbps		





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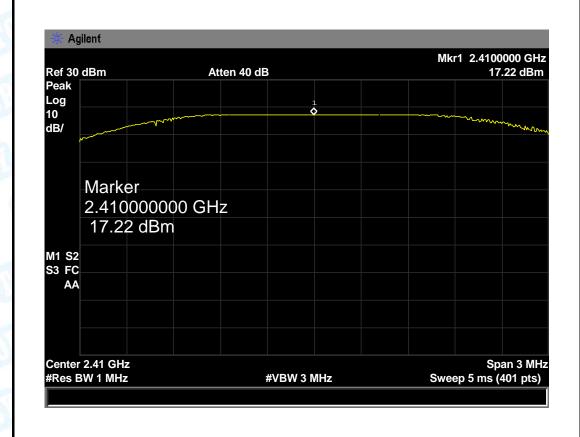
2470 MHz Agilent Mkr1 2.4696500 GHz 16.11 dBm Ref 30 dBm Atten 40 dB Peak Log 10 dB/ Marker 2.469650000 GHz 16.11 dBm M1 S2 S3 FC AA Center 2.47 GHz Span 5 MHz #Res BW 3 MHz #VBW 3 MHz Sweep 5 ms (401 pts)



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EUT:	Wireless smart control switch		Model I	Name :	GIS-C-2411
Temperature:	25 ℃		Relative	e Humidity:	55%
Test Voltage:	AC 120V/	60Hz		The state of the s	2
Test Mode:	TX Mode	2Mbps			
Channel frequen	cy (MHz)	Test Result (de	3m)	Limit	t (dBm)
2410		17.22			
2440		16.75			30
2470		16.12			

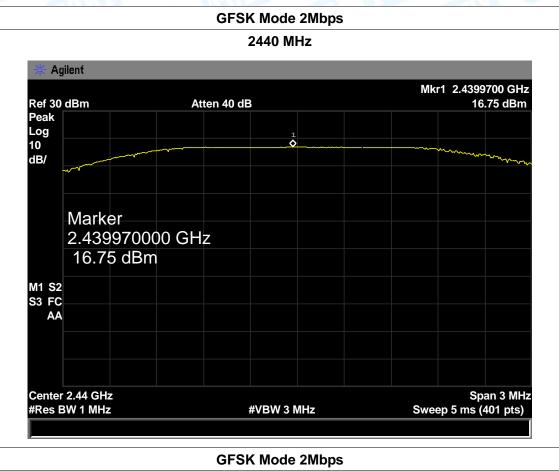
GFSK Mode 2Mbps

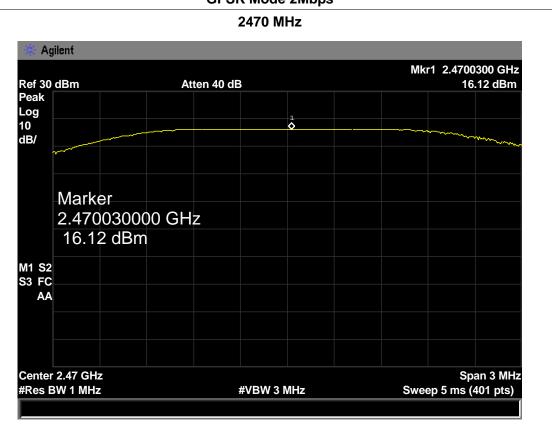




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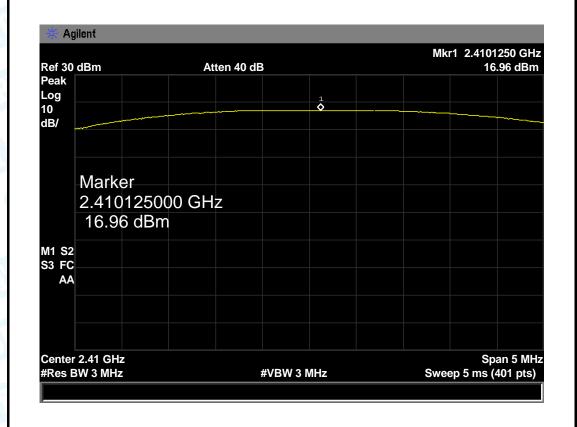




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EUT:	Wireless sn	nart control switch	Model Na	ame :	GIS-C-2411
Temperature:	25 ℃		Relative	Humidity:	55%
Test Voltage:	AC 120V/	60Hz		Call's	19
Test Mode:	TX Mode	250Kbps		1 67	
Channel frequen	cy (MHz)	Test Result (dl	3m)	Limit	t (dBm)
2410		16.96			
2440		16.53			30
2470		15.91			
		GFSK Mode 250	Khns		

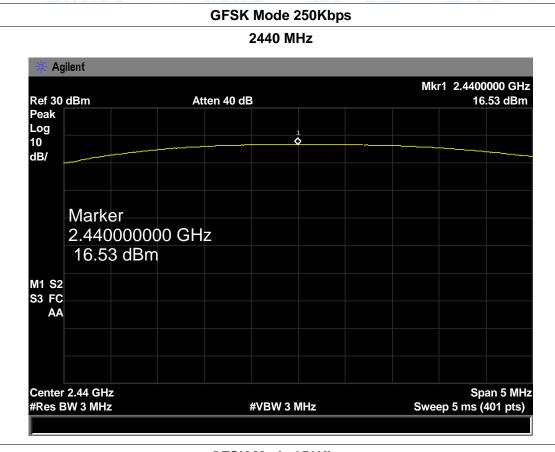
GFSK Mode 250Kbps

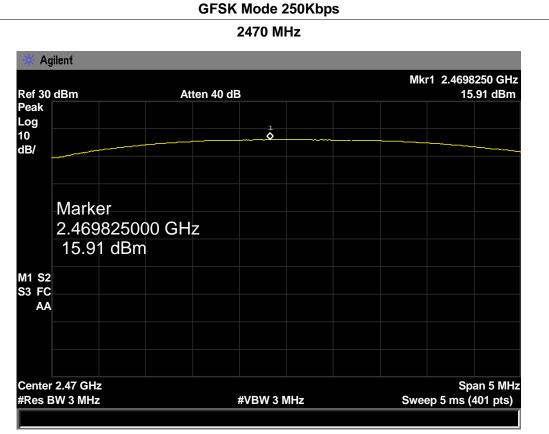




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9. Power Spectral Density Test

9.1 Test Standard and Limit

9.1.1 Test Standard FCC Part 15.247 (e)

9.1.2 Test Limit

FCC Part 15 Subpart C(15.247)			
Test Item Limit Frequency Range(MHz)			
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5	

9.2 Test Setup



9.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v03r03.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyser center frequency to DTS channel center frequenyc.
- (3) Set the span to 1.5 times the DTS bandwidth.
- (4) Set the RBW to: 3 kHz(5) Set the VBW to: 10 kHz
- (6) Detector: peak(7) Sweep time: auto
- (8) Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

9.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, Midle and high channel for the test.

8.5 Test Data

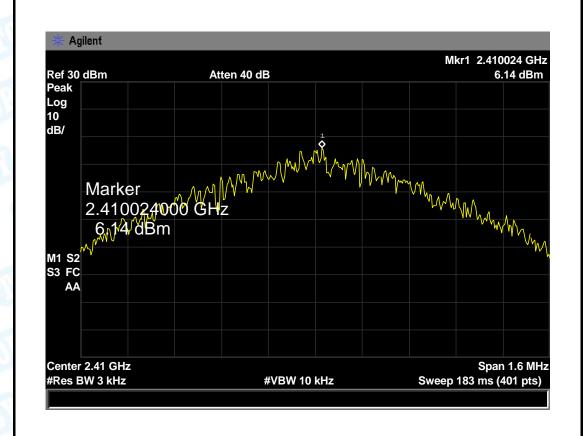


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EUT:	Wireless smart control switch Model Name :		GIS-C-2411
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		3 V
Test Mode:	TX Mode 1Mbps	111 - 611	

Channel Frequency	Power Density	Limit
(MHz)	(3 kHz/dBm)	(dBm)
2410	6.140	
2440	5.805	8
2470	4.788	

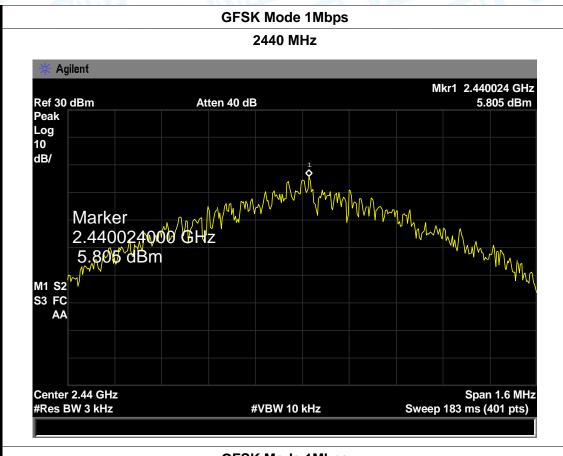
GFSK Mode 1Mbps

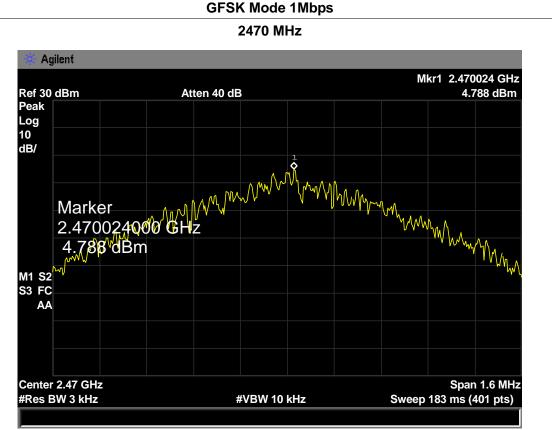




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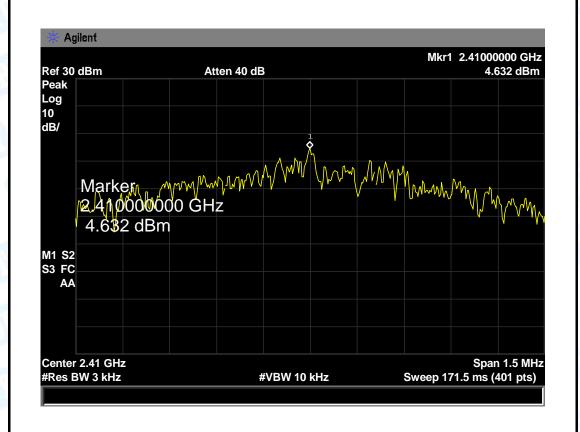






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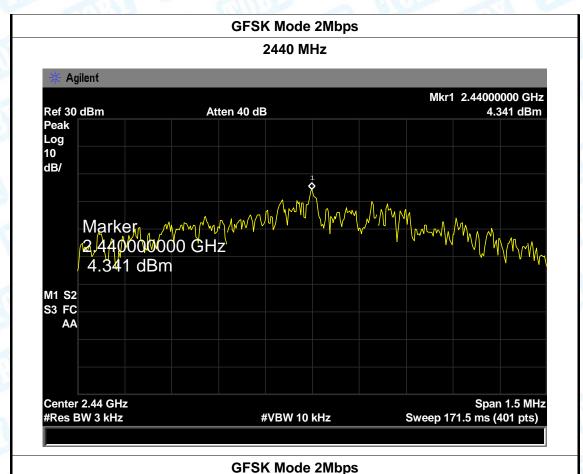
EUT:	Wireless sr	nart control switch	Model Name :	GIS-C-2411	
Temperature:	25 ℃		Relative Humidity:	55%	
Test Voltage:	AC 120V/	AC 120V/60Hz			
Test Mode:	TX Mode	TX Mode 2Mbps			
Channel Frequency	uency	Power Dens	sity	Limit	
(MHz) (3 kH		(3 kHz/dBr	n)	(dBm)	
2410		4.632			
2440	2440 4.341			8	
2470	2470 3.696				
		GFSK Mode 2	Mbps		





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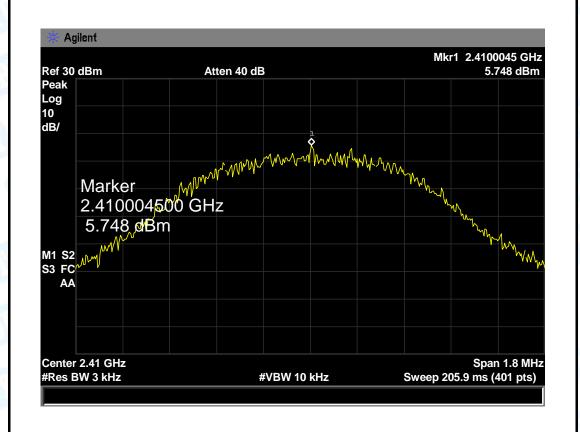
2470 MHz Agilent Mkr1 2.47000000 GHz 3.969 dBm Ref 30 dBm Atten 40 dB Peak Log 10 dB/ M1 S2 S3 FC AA Center 2.47 GHz Span 1.5 MHz #VBW 10 kHz #Res BW 3 kHz Sweep 171.5 ms (401 pts)

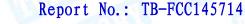


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EUT:	Wireless sr	nart control switch	Model Name :	GIS-C-2411
Temperature:	25 ℃		Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		an and	100
Test Mode:	TX Mode	250Kbps		
Channel Freque	uency	Power Dens	sity	Limit
(MHz)		(3 kHz/dBr	n) ((dBm)
2410		5.748		
2440		6.924		8
2470		6.997		

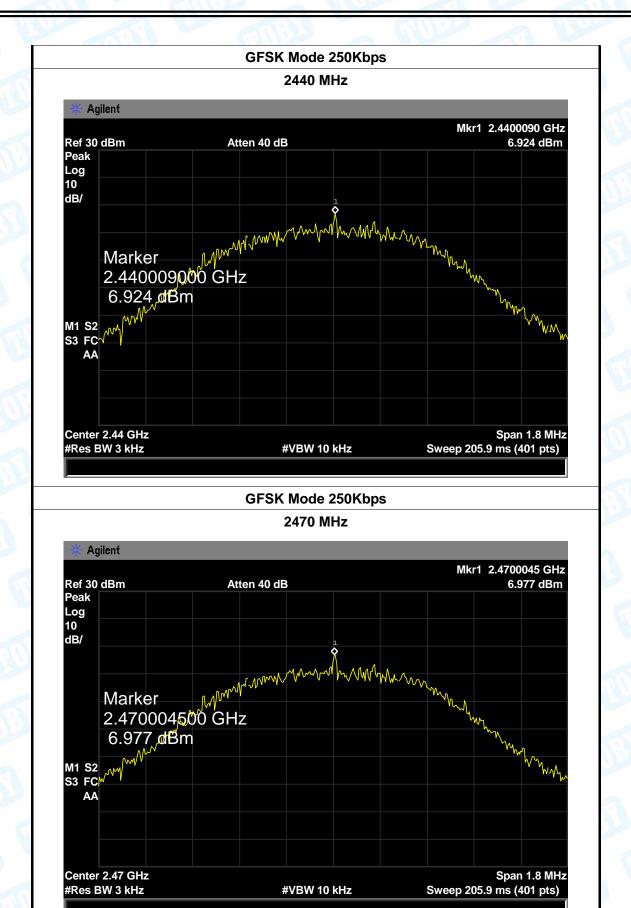
GFSK Mode 250Kbps





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10. Antenna Requirement

10.1 Standard Requirement

10.1.1 Standard FCC Part 15.203

10.1.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. 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.

10.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 1.5 dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

10.3 Result

The EUT antenna is a PCB Antenna. It complies with the standard requirement.

	Antenna Type
3	▼ Permanent attached antenna
0.00	□ Unique connector antenna
	☐ Professional installation antenna