

# Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC149370

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# FCC Radio Test Report FCC ID: 2AJGR-K60PW19

#### **Original Grant**

Report No. : TB-FCC149370

Applicant : Innertainment Delivery Systems LLC

**Equipment Under Test (EUT)** 

EUT Name : MID

Model No. : K60PW19

Series No. : N/A

Brand Name : IDS

**Receipt Date** : 2016-08-10

Test Date : 2016-08-11 to 2016-08-22

**Issue Date** : 2016-08-23

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

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 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 the report.

TB-RF-074-1.0



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# 1. General Information about EUT

#### 1.1 Client Information

Applicant : Innertainment Delivery Systems LLC

Address : 162 Rosa L. Parks Blvd. Suite 1, Nashville TN 37203, USA

Manufacturer : IRL Tech Industrial Group Co.,Ltd

Address : 3/F, Building C, No. 52 Huangpu Road, Shangliao Community, Shajing

Street, Boan District, Shenzhen, China

#### 1.2 General Description of EUT (Equipment Under Test)

EUT Name	i	MID				
Models No.		K60PW19				
Model Difference	•	N/A	TOWN THE REAL PROPERTY OF THE PARTY OF THE P			
000		Operation Frequency 802.11b/g/n(HT20): 2				
		Number of Channel:	802.11b/g/n(HT20):11 channels see note(3)			
		RF Output Power:	802.11b: 9.19 dBm			
			802.11g: 9.08 dBm			
Product	E		802.11n (HT20): 9.07 dBm			
Description	-	Antenna Gain:	1.26 dBi FPC Antenna			
200011711011		Modulation Type:	802.11b: CCK, QPSK, BPSK			
			802.11g: OFDM			
			802.11n: OFDM			
	. 1	Bit Rate of	802.11b:11/5.5/2/1 Mbps			
	ļ,	Transmitter:	802.11g:54/48/36/24/18/12/9/6 Mbps			
- HU			802.11n:up to 150Mbps			
Power Supply	1	DC Voltage supplied				
	V&	DC power by Li-ion B	attery.			
Power Rating	3	AC/DC Adapter:				
		Input: 100~240V, 50/6	60Hz, 0.4A			
	W	Output: 5.0V, 2A				
		DC 3.7V by Li-ion Ba				
Connecting I/O Port(S)	3	Please refer to the Us	ser's Manual			

#### Note:

- (1) This Test Report is FCC Part 15.247 for 802.11b/g/n, the test procedure follows the FCC KDB 558074 D01 DTS Meas Guidance v03r05.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or



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the User's Manual.

(3) Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447		

- (4) The Antenna information about the equipment is provided by the applicant.
- 1.3 Block Diagram Showing the Configuration of System Tested

**TX Mode** 

EUT

1.4 Description of Support Units

The EUT has been test 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	Description			
Mode 1	TX B Mode			

For Radiated Test					
Final Test Mode	Description				
Mode 3	TX Mode B Mode Channel 01/06/11				
Mode 4 TX Mode G Mode Channel 01/06/11					
Mode 5	TX Mode N(HT20) Mode Channel 01/06/11				

#### 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:

802.11b Mode: CCK (1 Mbps) 802.11g Mode: OFDM (6 Mbps)

802.11n (HT20) Mode: MCS 0 (6.5 Mbps)

- (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 WLAN.

Test Software Version		Ampak RF Test Tool VER:5.	3
Channel	CH 01	CH 06	CH 11
IEEE 802.11b DSSS	DEF	DEF	DEF
IEEE 802.11g OFDM	DEF	DEF	DEF
IEEE 802.11n (HT20)	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 <sub>Lab</sub> )
	Level Accuracy:	
Conducted Emission	9kHz~150kHz	±3.42 dB
	150kHz to 30MHz	±3.42 dB
Dedicted Enviseion	Level Accuracy:	. 4 CO dD
Radiated Emission	9kHz to 30 MHz	±4.60 dB
Dadiated Emission	Level Accuracy:	. 4 40 dD
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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#### 1.7 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.







2. Test Summary

FCC Part 15 Subpart C(15.247)/ RSS 247 Issue 1						
Standard Section						
FCC	IC	Test Item	Judgment	Remark		
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		

N/A is an abbreviation for Not Applicable.





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# 3. Test Equipment

Conducted	d Emission Te	st			
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 22, 2016	Jul. 21, 2017
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 22, 2016	Jul. 21, 2017
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 22, 2016	Jul. 21, 2017
LISN	Rohde & Schwarz	ENV216	101131	Jul. 22, 2016	Jul. 21, 2017
Radiation	Emission Tes	t			
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 22, 2016	Jul. 21, 2017
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 22, 2016	Jul. 21, 2017
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 20, 2016	Mar. 19, 2017
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 20, 2016	Mar. 19, 2017
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 19, 2016	Mar. 18, 2017
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 19, 2016	Mar. 18, 2017
Pre-amplifier	Sonoma	310N	185903	Mar. 20, 2016	Mar. 19, 2017
Pre-amplifier	HP	8447B	3008A00849	Mar. 26, 2016	Mar. 25, 2017
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 26, 2016	Mar. 25, 2017
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna C	onducted Em	ission			
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 22, 2016	Jul. 21, 2017
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Jul. 22, 2016	Jul. 21, 2017
Power Meter	Anritsu	ML2495A	25406005	Jul. 22, 2016	Jul. 21, 2017
Power Sensor	Anritsu	ML2411B	25406005	Jul. 22, 2016	Jul. 21, 2017



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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

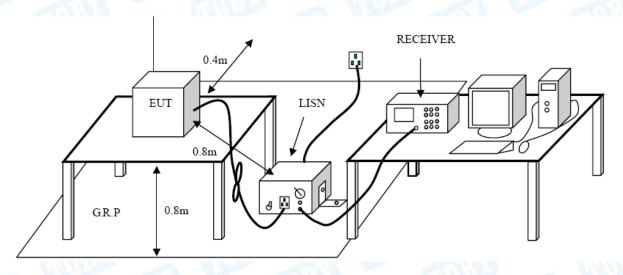
#### **Conducted Emission Test Limit**

Eroguenov	Maximum RF Lin	e 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

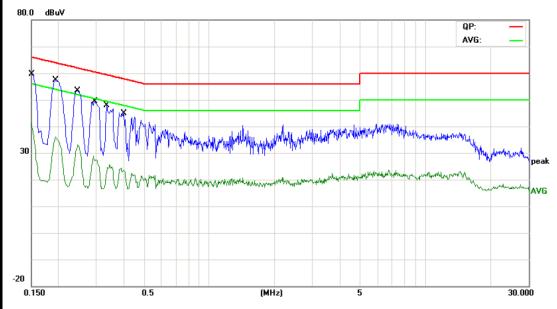
Please see the next page.





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C	Relative Humidity:	55%
100///00/ !-		
120V/60Hz		
TX B Mode		
worse case is repor	ted	1:33
	3 Mode	



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB	dBu∀	dBu∀	dB	Detector
1	*	0.1500	46.25	10.12	56.37	65.99	-9.62	QP
2		0.1500	28.33	10.12	38.45	55.99	-17.54	AVG
3		0.1940	41.78	10.12	51.90	63.86	-11.96	QP
4		0.1940	22.86	10.12	32.98	53.86	-20.88	AVG
5		0.2460	37.93	10.10	48.03	61.89	-13.86	QP
6		0.2460	19.75	10.10	29.85	51.89	-22.04	AVG
7		0.2940	33.18	10.09	43.27	60.41	-17.14	QP
8		0.2940	15.80	10.09	25.89	50.41	-24.52	AVG
9		0.3339	30.91	10.08	40.99	59.35	-18.36	QP
10		0.3339	11.67	10.08	21.75	49.35	-27.60	AVG
11		0.4020	27.70	10.05	37.75	57.81	-20.06	QP
12		0.4020	11.62	10.05	21.67	47.81	-26.14	AVG

<sup>\*:</sup>Maximum data x:Over limit !:over margin





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EUT:	MID		Mo	del Name :	K	(60PW19	
emperature:	25 ℃	STATE OF THE PARTY	Re	lative Humid	ity: 5	55%	Aller
est Voltage:	AC 1	20V/60Hz	1000		GU	11.12	
Terminal:	Neutr	al	ding		10		MIII.
Test Mode:	TX B	Mode		MID		2 W	A Libert
Remark:	Only	worse case i	s reported			15	
80.0 dBuV							
30		Marine Ma		of the state of th	and a fill of the state of the	QP: AVG:	pea
0.150 No. Mk.	0.5 Freq.	Reading Level	(MHz)  Correct Factor	5 Measure-	Limit	Over	30.000
	ı ı <del>c</del> q.	Level		ment			Detector
TVO. TVIIK.	MHz	dBu∀	dB	dBu∀	dBu∀	dB	
	MHz 1500	dBu∨ 44.12	dB 10.12	dBu∨ 54.24	dBu∨ 65.99	-11.75	QP
1 * 0.		dBuV 44.12 26.25			65.99		QP
1 * 0. 2 0.	1500	44.12	10.12	54.24	65.99 55.99	-11.75	QP
1 * 0. 2 0. 3 0.	1500 1500	44.12 26.25	10.12 10.12	54.24 36.37	65.99 55.99 64.03	-11.75 -19.62	QP AVG QP
1 * 0. 2 0. 3 0. 4 0.	1500 1500 1900	44.12 26.25 40.05	10.12 10.12 10.12	54.24 36.37 50.17	65.99 55.99 64.03 54.03	-11.75 -19.62 -13.86	QP AVG QP
1 * 0. 2 0. 3 0. 4 0. 5 0.	1500 1500 1900 1900	44.12 26.25 40.05 19.51	10.12 10.12 10.12 10.12	54.24 36.37 50.17 29.63	65.99 55.99 64.03 54.03 61.89	-11.75 -19.62 -13.86 -24.40	QP AVG QP AVG
1 * 0. 2 0. 3 0. 4 0. 5 0. 6 0.	1500 1500 1900 1900 2460	44.12 26.25 40.05 19.51 35.75	10.12 10.12 10.12 10.12 10.10	54.24 36.37 50.17 29.63 45.85	65.99 55.99 64.03 54.03 61.89 51.89	-11.75 -19.62 -13.86 -24.40 -16.04	QP AVO QP
1 * 0. 2 0. 3 0. 4 0. 5 0. 6 0. 7 0.	1500 1500 1900 1900 2460 2460	44.12 26.25 40.05 19.51 35.75 18.95	10.12 10.12 10.12 10.12 10.10 10.10	54.24 36.37 50.17 29.63 45.85 29.05	65.99 55.99 64.03 54.03 61.89 51.89 60.52	-11.75 -19.62 -13.86 -24.40 -16.04 -22.84	QP AVO QP AVO
1 * 0. 2 0. 3 0. 4 0. 5 0. 6 0. 7 0. 8 0.	1500 1500 1900 1900 2460 2460 2900	44.12 26.25 40.05 19.51 35.75 18.95 32.01	10.12 10.12 10.12 10.12 10.10 10.10 10.09	54.24 36.37 50.17 29.63 45.85 29.05 42.10	65.99 55.99 64.03 54.03 61.89 51.89 60.52 50.52	-11.75 -19.62 -13.86 -24.40 -16.04 -22.84 -18.42	QP AVO QP AVO QP AVO
1 * 0. 2 0. 3 0. 4 0. 5 0. 6 0. 7 0. 8 0. 9 0.	1500 1500 1900 1900 2460 2460 2900	44.12 26.25 40.05 19.51 35.75 18.95 32.01 16.42	10.12 10.12 10.12 10.12 10.10 10.10 10.09	54.24 36.37 50.17 29.63 45.85 29.05 42.10 26.51	65.99 55.99 64.03 54.03 61.89 51.89 60.52 50.52 59.15	-11.75 -19.62 -13.86 -24.40 -16.04 -22.84 -18.42 -24.01	QP AVO QP AVO QP AVO
1 * 0. 2 0. 3 0. 4 0. 5 0. 6 0. 7 0. 8 0. 9 0. 10 0.	1500 1500 1900 1900 2460 2460 2900 2900 3420	44.12 26.25 40.05 19.51 35.75 18.95 32.01 16.42 28.64	10.12 10.12 10.12 10.12 10.10 10.10 10.09 10.09	54.24 36.37 50.17 29.63 45.85 29.05 42.10 26.51 38.71	65.99 55.99 64.03 54.03 61.89 51.89 60.52 50.52 59.15 49.15	-11.75 -19.62 -13.86 -24.40 -16.04 -22.84 -18.42 -24.01 -20.44	QP AVO QP AVO QP AVO QP





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	MID		M	odel Name :		K60PW1	9
Temperature:	25 ℃	CITY.	Re	elative Hum	idity:	55%	A British
est Voltage:	AC 24	0V/60Hz		11	6	MILES OF	
Terminal:	Line		alle		1 1		
Test Mode:	TXBI	Mode		MID		-	MARKET
Remark:	Only v	vorse case	is reported			130	
80.0 dBuV							
						QP: AVG:	_
X							
/   ^ *		×	×	المالات المالات المالات	reparation to the same		
30	MANNAM	ACTIVATIVE AND THE REAL PROPERTY OF THE PROPER	Aby Aldhadrid a ganligh	Ald N. Sandah A. da	Mark Mark	Marine Season Marine Ma	Markey complexes
	1 ma V	M. IA W	S.A. Aw	amount of the Manual of the	hanget black of the	yn L	pe
MAMA	11111	MAN CONTRACTOR	Jan Horasam L. Laren	Military Processing 1	Yadan	CARRIED OF THE	Marine AV
0.150	0.5		(MHz)	5			30.000
No. Mk		Reading Level	Correct	Measure-	Limit	Over	
	Freq.	Level			Limit dBu/	Over	Detector
	Freq. MHz	_	Correct Factor	Measure- ment	dBu∀		
1 * 0.	Freq. MHz 1500	Level dBuV	Correct Factor	Measure- ment	dBu∨ 65.99	dB	Detector QP AVG
1 * 0. 2 0.	Freq. MHz	dBuV 39.51	Correct Factor dB 10.12	Measure- ment dBuV 49.63	dBuV 65.99 55.99	dB -16.36	QP
1 * 0. 2 0. 3 0.	Freq. MHz 1500 1500	dBuV 39.51 23.19 34.54	Correct Factor dB 10.12 10.12	Measure- ment dBuV 49.63 33.31 44.66	dBuV 65.99 55.99 63.69	dB -16.36 -22.68 -19.03	QP AVG
1 * 0. 2 0. 3 0. 4 0.	Freq. MHz 1500 1500 1980	dBuV 39.51 23.19	Correct Factor dB 10.12 10.12	Measure- ment dBuV 49.63 33.31	dBuV 65.99 55.99 63.69 53.69	dB -16.36 -22.68	QP AVG QP
1 * 0. 2 0. 3 0. 4 0. 5 0.	Freq.  MHz  1500  1500  1980  1980  2460	dBuV 39.51 23.19 34.54 20.77 30.87	Correct Factor  dB  10.12  10.12  10.12  10.12  10.12	Measure- ment dBuV 49.63 33.31 44.66 30.89 40.97	dBuV 65.99 55.99 63.69 53.69 61.89	dB -16.36 -22.68 -19.03 -22.80 -20.92	QP AVG QP AVG QP
1 * 0. 2 0. 3 0. 4 0. 5 0. 6 0.	Freq. MHz 1500 1500 1980 1980 2460	Level dBuV 39.51 23.19 34.54 20.77 30.87 16.75	Correct Factor dB 10.12 10.12 10.12 10.12 10.10	Measure- ment 49.63 33.31 44.66 30.89 40.97 26.85	dBuV 65.99 55.99 63.69 53.69 61.89	dB -16.36 -22.68 -19.03 -22.80 -20.92 -25.04	QP AVG QP AVG QP AVG
1 * 0. 2 0. 3 0. 4 0. 5 0. 6 0. 7 0.	MHz 1500 1500 1980 1980 2460 2460 3020	dBuV 39.51 23.19 34.54 20.77 30.87 16.75 26.35	Correct Factor  dB  10.12  10.12  10.12  10.12  10.10  10.10  10.09	Measure- ment 49.63 33.31 44.66 30.89 40.97 26.85 36.44	dBuV 65.99 55.99 63.69 53.69 61.89 51.89	dB -16.36 -22.68 -19.03 -22.80 -20.92	QP AVG AVG QP AVG QP AVG
1 * 0. 2 0. 3 0. 4 0. 5 0. 6 0. 7 0. 8 0.	Freq. MHz 1500 1500 1980 1980 2460	Level dBuV 39.51 23.19 34.54 20.77 30.87 16.75	Correct Factor dB 10.12 10.12 10.12 10.12 10.10	Measure- ment 49.63 33.31 44.66 30.89 40.97 26.85	dBuV 65.99 55.99 63.69 53.69 61.89 51.89 60.19	dB -16.36 -22.68 -19.03 -22.80 -20.92 -25.04 -23.75 -27.53	QP AVG QP AVG QP AVG
1 * 0. 2 0. 3 0. 4 0. 5 0. 6 0. 7 0. 8 0. 9 0.	Freq. MHz 1500 1500 1980 1980 2460 2460 3020 3020 6620	Level dBuV 39.51 23.19 34.54 20.77 30.87 16.75 26.35 12.57 24.09	Correct Factor  dB  10.12  10.12  10.12  10.12  10.10  10.00  10.09  10.09	Measure- ment 49.63 33.31 44.66 30.89 40.97 26.85 36.44 22.66 34.11	dBuV 65.99 55.99 63.69 53.69 61.89 50.19 50.19	dB -16.36 -22.68 -19.03 -22.80 -20.92 -25.04 -23.75 -27.53 -21.89	QP AVG QP AVG QP AVG QP AVG
1 * 0. 2 0. 3 0. 4 0. 5 0. 6 0. 7 0. 8 0. 9 0. 10 0.	Freq. MHz 1500 1500 1980 1980 2460 2460 3020	Level dBuV 39.51 23.19 34.54 20.77 30.87 16.75 26.35 12.57	Correct Factor  dB  10.12  10.12  10.12  10.10  10.10  10.09  10.09	Measure- ment  dBuV  49.63  33.31  44.66  30.89  40.97  26.85  36.44  22.66	dBuV 65.99 55.99 63.69 53.69 61.89 50.19 50.19 56.00 46.00	dB -16.36 -22.68 -19.03 -22.80 -20.92 -25.04 -23.75 -27.53	QP AVG QP AVG QP AVG QP AVG





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EUT:	MID		Mo	del Name :		K60PW19	
Temperature:	25 ℃	CHILL	Re	lative Humid	dity:	55%	ABOVE
Test Voltage:	AC 24	0V/60Hz	100		61	413	
Terminal:	Neutra	al	AMOR		16		
Test Mode:	TXB	Mode		MILLO	9	0 N	MA
Remark:	Only w	vorse case	is reported			30	
80.0 dBuV							
						QP: AVG:	
X							
\				×	Amportal Annual Control		
30	MANAN	white many	dd wyd ymhrifyth	AND THE RESIDENCE OF THE PROPERTY OF THE PROPE		marabalayaya VI aayaa	March Walle
30 V V V V	A Andreador	M	I I	. 11.44	161.45.4	مد دها	pea
VVV	WWWww	-AMANANTANA	اسيه بماه والدعام المعطومين معاومة	ويعامنهم الواليه والمهاجات يماد والألمالية	ALLEGA CONTRACTOR AND	hart Arbert (J.)	AV
0.150	0.5		(MHz)	5			30.000
		Reading	Correct	Measure-			
No. Mk.	Freq.	Level	Factor	ment	Limit	Over	
	MHz	dBuV	dB	dBu∀	dBu∀	dB	Detector
1 * 0	.1500	40.71	10.12	50.83	65.99	-15.16	QP
2 0	.1500	21.78	10.12	31.90	55.99	-24.09	AVG
3 0	.1940	34.73	10.12	44.85	63.86	-19.01	QP
4 0	.1940	18.02	10.12	28.14	53.86	-25.72	AVG
5 0	.2380	29.88	10.11	39.99	62.16	-22.17	QP
6 0	.2380	12.86	10.11	22.97	52.16	-29.19	AVG
7 0	.2900	24.45	10.09	34.54	60.52	-25.98	QP
8 0	.2900	12.02	10.09	22.11	50.52	-28.41	AVG
	.0420	20.11	10.16	30.27	56.00	-25.73	QP
9 1	.0420	7.92	10.16	18.08	46.00	-27.92	AVG
	.0420		10.00	31.80	56.00	-24.20	QP
10 1	.4300	21.74	10.06	31.00			



Report No.: TB-FCC149370 Page: 17 of 79



# 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:

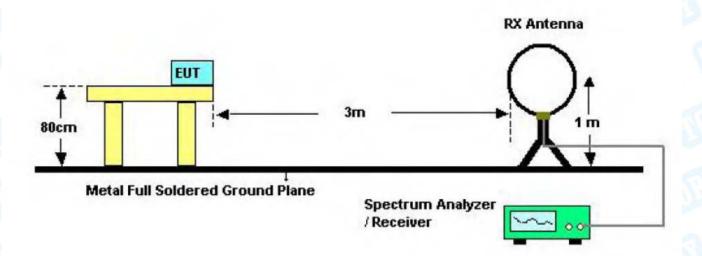
- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)



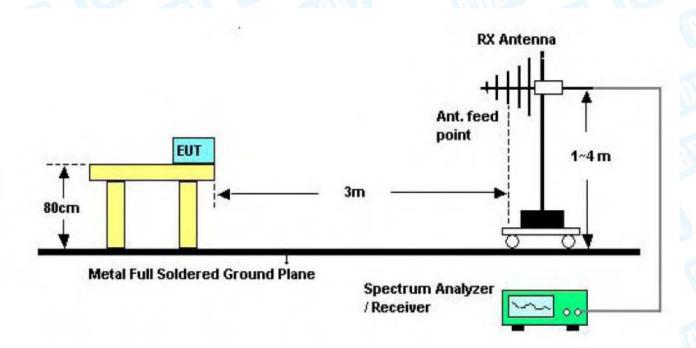


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## 5.2 Test Setup



Below 30MHz Test Setup

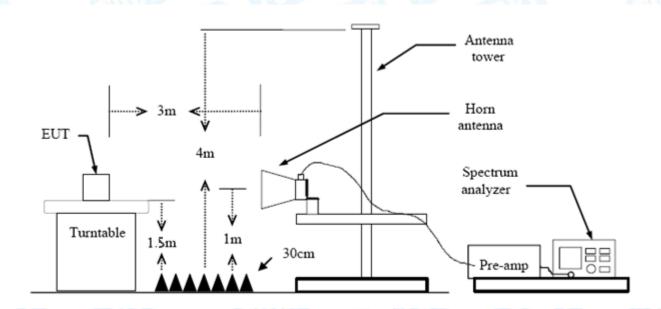


Below 1000MHz Test Setup





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Above 1GHz Test Setup

#### 5.3 Test Procedure

- (1) 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.
- (2) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (3) 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.
- (4) 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.
- (5) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (6) 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 Hz with Peak Detector for Average Values.
- (7) For the actual test configuration, please see the test setup photo.

### 5.4 EUT Operating Condition

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



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#### 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, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Test data please refer the following pages.





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EUT:	MID	Model:	K60PW19
Temperature:	25 ℃	Relative Hur	midity: 55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Horizontal	MAG	
est Mode:	TX B Mode 2412M	1Hz	
Remark:	Only worse case is	s reported	
80.0 dBuV/m			
30 1	2	3	(RF)FCC 15C 3M Radiation Margin -6 dB  6  5  X
20 30.000 40 5	60 60 70 80	(MHz) 30	0 400 500 600 700 1000,00
30.000 40 3			
No. Mk.	Reading Freq. Level	Correct Measure Factor ment	- Limit Over
	MHz dBuV	dB/m dBuV/m	dBuV/m dB Detect
1 33	34.80	-16.12 18.68	40.00 -21.32 pea
2 * 78	3.1389 55.86	-23.40 32.46	40.00 -7.54 pea
3 19	1.0738 51.87	-20.50 31.37	43.50 -12.13 pea
	1.0074 54.76	-17.02 37.74	46.00 -8.26 pea
	6.4141 44.22	-12.05 32.17	46.00 -13.83 pea
			·
	1.7259 44.01  x:Over limit !:over margin	-6.00 38.01	46.00 -7.99 p





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EUT:	MID	Model:	K60PW19
Temperature:	25 ℃	Relative Hum	nidity: 55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical	VIV	
Test Mode:	TX B Mode 2412M	ИHz	
Remark:	Only worse case is	s reported	
80.0 dBuV/m			
30	2	3 4	(RFJFCC 15C 3M Radiation Margin -6 dB
	Y	W.V	
-20	Y	W.V.	
-20 30.000 40 50	60 70 80	(MHz) 300	400 500 600 700 1000.0
30.000 40 50	Reading req. Level	(MHz) 300  Correct Measure- Factor ment	400 500 600 700 1000.0  Limit Over
30.000 40 50 No. Mk. F	Reading	Correct Measure-	
30.000 40 50 No. Mk. F	Reading req. Level	Correct Measure- Factor ment	Limit Over
No. Mk. F	Reading req. Level	Correct Measure- Factor ment	Limit Over  dBuV/m dB Detect
No. Mk. F  1 48.4 2 77.6	Reading Level  MHz dBuV  5719 53.53	Correct Measure- Factor ment  dB/m dBuV/m  -23.95 29.58	Limit Over  dBuV/m dB Detect  40.00 -10.42 pea
No. Mk. F  1 48.0 2 77.0 3 169.	Reading Level  MHz dBuV  5719 53.53  0502 57.16	Correct Measure- Factor ment  dB/m dBuV/m  -23.95 29.58  -23.44 33.72	Limit Over  dBuV/m dB Detect  40.00 -10.42 pea  40.00 -6.28 pea
No. Mk. F  1 48.0 2 77.0 3 169.0 40 50	Reading Level  MHz dBuV  5719 53.53  0502 57.16  5988 54.90	Correct Measure- Factor ment  dB/m dBuV/m  -23.95 29.58  -23.44 33.72  -20.88 34.02	Limit Over  dBuV/m dB Detect  40.00 -10.42 pea  40.00 -6.28 pea  43.50 -9.48 pea





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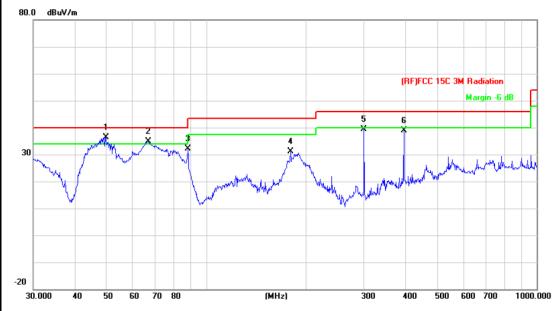
EUT:	MID	The same of	M	odel:		K60	PW19	
emperature:	25 °C		Re	elative Humi	dity:	55%	6	BAR
Test Voltage:	DC 3	3.7V		10	6	III	130	
Ant. Pol.	Horiz	zontal	differ				6	
est Mode:	TX B	Mode 2437	MHz	MILLER	7		F FIR	Market
Remark:	Only	worse case	is reported		CITI D			
80.0 dBuV/m								
					(RF)F	CC 15C	3M Radiation	
					5		Margin -6	dB
			_		×		×	
30		2	3 	4				
1.		Ĭ.	للمي	Mark Market	Market Land	للساملة	mornin	Maydran
make your	W	The transfer of the transfer o	and the state of t	A AMATAN DA	Altaka at 1892.	V.		
	Α.							
20		80						
	0 00 70		(MHz)	300	400	500	600 700	1000.00
	0 60 70	00						
30.000 40 5		Reading	Correct	Measure-	Linait		Over	
30.000 40 5 No. Mk.	Freq.	Reading Level	Correct Factor	ment	Limit		Over	
30.000 40 5 No. Mk.		Reading			<b>Limi</b> t		Over dB	Detecto
30.000 40 5 No. Mk.	Freq.	Reading Level	Factor	ment		/m		Detecto
No. Mk.	Freq.	Reading Level	Factor dB/m	ment dBuV/m	dBuV	/m 00	dB	
No. Mk.  1 48 2 88	Freq. MHz	Reading Level dBuV 42.36	Factor dB/m -23.72	ment dBuV/m 18.64	dBuV	/m 00 50	dB -21.36	peal
No. Mk.  1 48 2 88 3 192	Freq. MHz .1625	Reading Level dBuV 42.36 49.56	Factor dB/m -23.72 -22.86	ment dBuV/m 18.64 26.70 31.21	40.0 43.5	/m 00 50	dB -21.36 -16.80 -12.29	peal peal peal
No. Mk.  1 48 2 88 3 192 4 284	Freq. MHz .1625 .0327 2.4182	Reading Level dBuV 42.36 49.56 51.62	Factor  dB/m  -23.72  -22.86  -20.41	ment dBuV/m 18.64 26.70	40.0 43.5 43.5	/m 00 50 50	dB -21.36 -16.80	peal peal
No. Mk.  1 48 2 88 3 192 4 284 5 * 396	Freq. MHz 3.1625 3.0327 2.4182 4.9766	Reading Level dBuV 42.36 49.56 51.62 42.63	Factor  dB/m  -23.72  -22.86  -20.41  -16.95	ment  dBuV/m  18.64  26.70  31.21  25.68	40.0 43.5 43.5 46.0	/m 00 50 50 00	dB -21.36 -16.80 -12.29 -20.32	peal peal peal





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EUT:	MID	Model:	K60PW19
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2437MHz		
Remark:	Only worse case is repor	ted	1:33



No	o. Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	49.7068	60.82	-24.37	36.45	40.00	-3.55	peak
2	į	66.7325	58.91	-23.99	34.92	40.00	-5.08	peak
3		88.0329	55.06	-22.86	32.20	43.50	-11.30	peak
4		180.0165	51.50	-20.26	31.24	43.50	-12.26	peak
5		300.3672	56.13	-16.64	39.49	46.00	-6.51	peak
6		396.2415	51.47	-12.58	38.89	46.00	-7.11	peak

<sup>\*:</sup>Maximum data x:Over limit !:over margin





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EUT:	MID		Model:	K60	PW19	
Temperature:	25 ℃		Relative Humidity	y: 55%	6	
Test Voltage:	DC 3.7V		010	CIII	13.3	
Ant. Pol.	Horizonta	NA.		6		
Test Mode:	TX B Mod	le 2462MHz	Will Do		HIN	Jack Comments
Remark:	Only wors	se case is reporte	ed	Min.	3	
80.0 dBuV/m						
30	, i		2 3 4 X X X X X X X X X X X X X X X X X X X	5 ×	3M Radiation Margin -6 dl	B
30.000 40 50		ading Correctevel Facto	et Measure-	400 500 imit	600 700 Over	1000.00
30.000 40 50 No. Mk. F	Re req. Le	ading Correc	et Measure- r ment L		Over	1000.00
No. Mk. F	Re req. Le	ading Corrected Factor	et Measure- r ment L dBuV/m d	imit	Over	
No. Mk. F	Re req. Le 1Hz d 8156 4	ading Correct evel Facto BuV dB/m	et Measure- r ment L dBuV/m d	imit BuV/m	Over  dB -15.74	Detecto peal
No. Mk. F  1 83.8 2 189.	Re req. Le de 18156 4 7384 5	ading Correct evel Facto  BuV dB/m  7.37 -23.11  1.34 -20.54	t Measure- r ment L dBuV/m d 24.26 4	imit BuV/m 40.00	Over  dB  -15.74  -12.70	Detector peal
No. Mk. F  1 83.6 2 189. 3 203.	Re req. Le de la dela de	ading Correct evel Facto  BuV dB/m  7.37 -23.11  1.34 -20.54  8.59 -19.84	t Measure- r ment L dBuV/m d 24.26 4 30.80 4	imit BuV/m 40.00 43.50	Over  dB  -15.74  -12.70  -14.75	Detector peal peal
No. Mk. F  1 83.8 2 189. 3 203. 4 239.	Re req. Le de la dela de	ading Correct evel Facto  BuV dB/m  7.37 -23.11  1.34 -20.54  8.59 -19.84  7.81 -18.18	t Measure- ment L dBuV/m d 24.26 4 30.80 4 28.75 4 29.63 4	imit BuV/m 10.00 13.50 13.50 16.00	Over  dB  -15.74  -12.70  -14.75  -16.37	Detector peal peal peal peal
No. Mk. F  1 83.8 2 189. 3 203. 4 239. 5 463.	Re req. Le 14 de 156 4 de 156 4 de 1526 4 de 1	ading Correct evel Facto  BuV dB/m  7.37 -23.11  1.34 -20.54  8.59 -19.84	t Measurement L  dBuV/m d  24.26  30.80  28.75  29.63  37.71	imit BuV/m 40.00 43.50	Over  dB  -15.74  -12.70  -14.75	Detector peal peal





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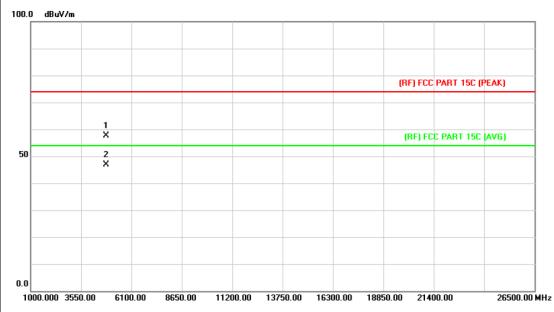
EUT:	MID		M	Model:		K60	PW19	
Temperature:	25 ℃	Call!	Re	elative Humic	lity:	55%	6	MAN.
Test Voltage:	DC 3.	7V	A.T.	11	6	117	133	
Ant. Pol.	Vertic	al	A HOL			3	100	TIPE
Test Mode:	TX B	Mode 2462	MHz	MILLER			I M	A Barre
Remark:	Only	worse case	is reported		en i		3	
80.0 dBuV/m								
					(RF)F	CC 15C	3M Radiatio	n
							Margin -	6 dB
							Б Х	
1 X	3 2 X					5 <b>X</b>		
30	<b>**</b>	<del>~</del> ~	Λ.			l N	han a	mb and the last
May 1			المرس	Mr.	. Aller Transles	har M	Marchaela	alas Ladar
V		W-W-V	" JAMA"	appendict the same	Light 1			
20 20 30.000 40 50	0 60 70	80	(MHz)	200	400	500	600 700	1000.00
30.000 40 50	J 60 70	80	(MHZ)	300	400	200	600 700	1000.00
		Reading	Correct	Measure-			_	
No. Mk.	Freq.	Level	Factor	ment	Limi	t	Over	
	MHz	dBu∀	dB/m	dBuV/m	dBu∨	/m	dB	Detecto
1 43	.9658	53.72	-21.97	31.75	40.0	00	-8.25	peal
2 54	.0711	53.61	-24.54	29.07	40.0	00	-10.93	B peal
3 66	.9668	56.45	-23.97	32.48	40.0	00	-7.52	peal
4 78	.9651	53.81	-23.38	30.43	40.0	00	-9.57	peal
	3.9696	46.22	-11.48	34.74	46.0	00	-11.26	peal
5 463	5.8080							
	1.7259	47.03	-6.07	40.96	46.0	00	-5.04	peal





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EUT:	MID	Model:	K60PW19		
LOI.	IVIID	Woder.	ROOF W19		
Temperature:	<b>25</b> ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Ant. Pol.	Horizontal				
Test Mode:	TX B Mode 2412MHz				
Remark:	No report for the emission which more than 10 dB below the				
	prescribed limit.	20 00 13			



N	o. Mł	c. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.997	44.12	13.56	57.68	74.00	-16.32	peak
2	*	4824.120	33.31	13.56	46.87	54.00	-7.13	AVG





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EUT:	MID	Model:	K60PW19
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V	537	THE STATE OF
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		
Remark:	No report for the emission	on which more than 10	dB below the
	prescribed limit.	1 m	
i			



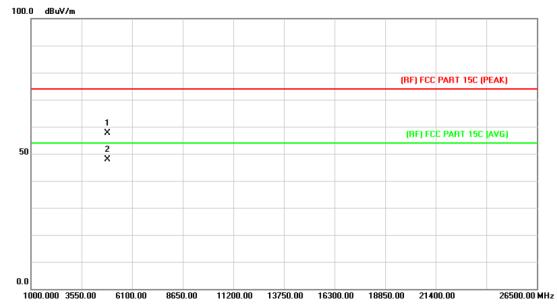
No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4823.897	33.50	13.56	47.06	54.00	-6.94	AVG
2		4824.652	43.66	13.56	57.22	74.00	-16.78	peak





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EUT:	MID	Model:	K60PW19			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V	01 - 6	Miles of			
Ant. Pol.	Horizontal					
Test Mode:	TX B Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					
400.0 10.111						



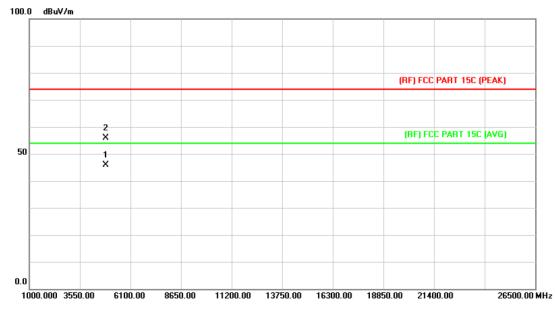
No	. Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4873.584	43.83	13.86	57.69	74.00	-16.31	peak
2	*	4874.672	34.01	13.86	47.87	54.00	-6.13	AVG





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MID	Model:	K60PW19
25 ℃	Relative Humidity:	55%
DC 3.7V	(1) T	
Vertical		
TX B Mode 2437MHz		A WILLIAM
No report for the emission prescribed limit.	n which more than 10 o	dB below the
	25 °C  DC 3.7V  Vertical  TX B Mode 2437MHz  No report for the emission	25 °C Relative Humidity:  DC 3.7V  Vertical  TX B Mode 2437MHz  No report for the emission which more than 10 or



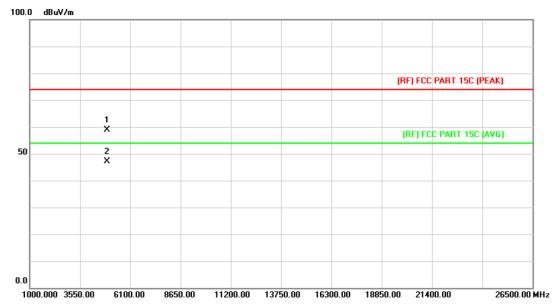
1	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4873.984	32.12	13.86	45.98	54.00	-8.02	AVG
2			4874.612	42.12	13.86	55.98	74.00	-18.02	peak





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EUT:	MID	Model:	K60PW19		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Ant. Pol.	Horizontal				
Test Mode:	TX B Mode 2462MHz	The second			
Remark:	No report for the emission which more than 10 dB below the				
	prescribed limit.	لا مرس			



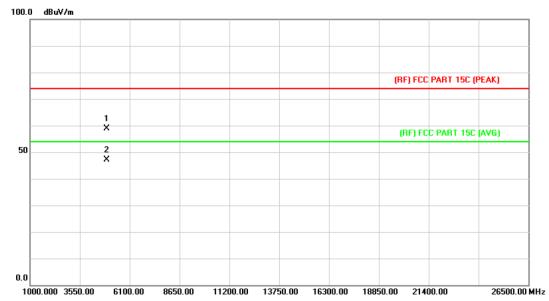
N	lo. I	Mk.	Freq.			Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4923.687	44.83	14.15	58.98	74.00	-15.02	peak
2	*		4924.367	33.06	14.15	47.21	54.00	-6.79	AVG





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EUT:	MID	Model:	K60PW19			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V	500				
Ant. Pol.	Vertical					
Test Mode:	TX B Mode 2462MHz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the				
	prescribed limit.	لا مر لا				
1						



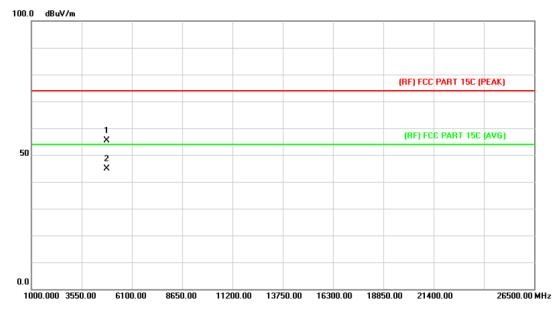
ı	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4924.674	44.82	14.15	58.97	74.00	-15.03	peak
2		*	4924.674	32.87	14.15	47.02	54.00	-6.98	AVG





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EUT:	MID	Model:	K60PW19				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage: DC 3.7V							
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX G Mode 2412MHz	TX G Mode 2412MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
-							



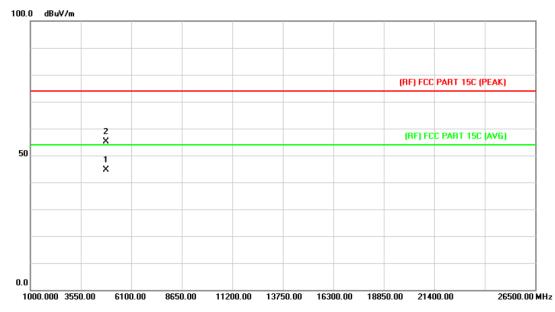
No	. Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.654	41.90	13.56	55.46	74.00	-18.54	peak
2	*	4824.622	31.21	13.56	44.77	54.00	-9.23	AVG





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EUT:	MID	Model:	K60PW19			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	est Voltage: DC 3.7V					
Ant. Pol.	Vertical					
Test Mode:	TX G Mode 2412MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					



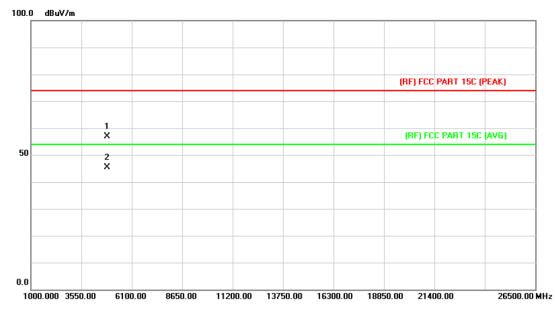
ı	No.	Mk.	Freq.			Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4823.687	31.11	13.56	44.67	54.00	-9.33	AVG
2			4824.556	41.52	13.56	55.08	74.00	-18.92	peak





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EUT:	MID	Model:	K60PW19			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage: DC 3.7V						
Ant. Pol.	Horizontal					
Test Mode:	TX G Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					



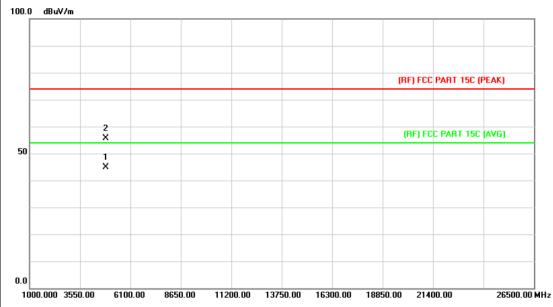
No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4873.654	43.01	13.86	56.87	74.00	-17.13	peak
2	*	4874.032	31.51	13.86	45.37	54.00	-8.63	AVG





Page: 36 of 79

EUT:	MID	Model:	K60PW19				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	oltage: DC 3.7V						
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX G Mode 2437MHz	TX G Mode 2437MHz					
Remark:	No report for the emission prescribed limit.	No report for the emission which more than 10 dB below the prescribed limit.					



١	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4873.610		13.86	44.97	54.00	-9.03	AVG
2			4874.364	41.81	13.86	55.67	74.00	-18.33	peak





Page: 37 of 79

EUT:	MID	Model:	K60PW19			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V					
Ant. Pol.	Horizontal					
Test Mode:	TX G Mode 2462MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					



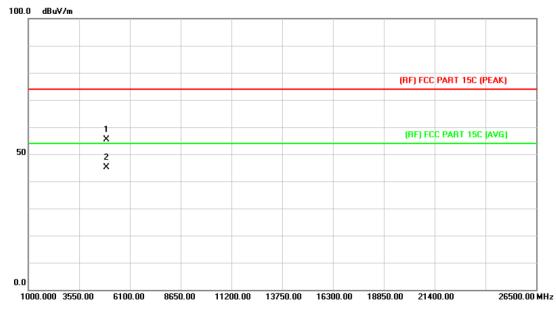
No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4923.608	41.34	14.15	55.49	74.00	-18.51	peak
2	*	4923.987	30.93	14.15	45.08	54.00	-8.92	AVG





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EUT:	MID	Model:	K60PW19				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX G Mode 2462MHz						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
100 0 dp. W.L							



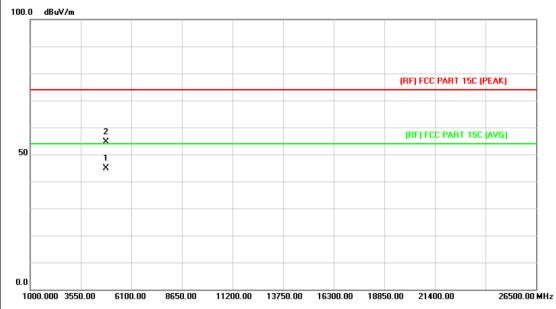
N	o. MI	k. Freq.	_		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4923.574	41.19	14.15	55.34	74.00	-18.66	peak
2	*	4923.621	30.89	14.15	45.04	54.00	-8.96	AVG





Page: 39 of 79

EUT:	MID	Model:	K60PW19				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT20) Mode 2412N	ИНz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						



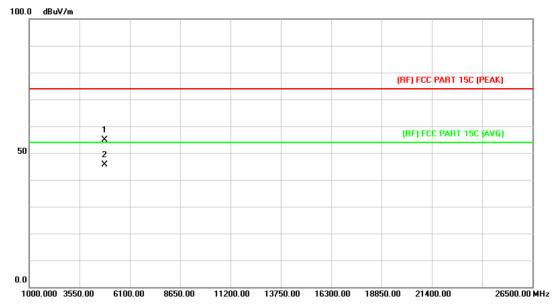
No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4824.341	31.42	13.56	44.98	54.00	-9.02	AVG
2		4824.351	41.11	13.56	54.67	74.00	-19.33	peak





Page: 40 of 79

EUT:	MID	Model:	K60PW19				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical						
Test Mode:	TX N(HT20) Mode 2412	ИНz	THE PARTY OF THE P				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						



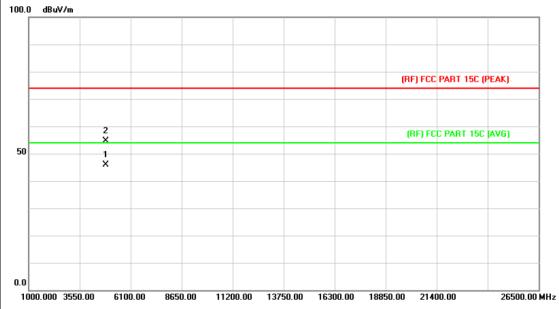
No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.684	41.43	13.56	54.99	74.00	-19.01	peak
2	*	4824.671	32.16	13.56	45.72	54.00	-8.28	AVG





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EUT:	MID	Model:	K60PW19				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT20) Mode 2437	MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
100.0 dD.M//m							



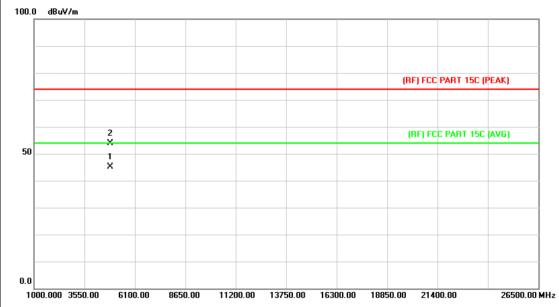
	No.	Mk.	Freq.	_		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4873.985	31.92	13.86	45.78	54.00	-8.22	AVG
2			4874.025	40.76	13.86	54.62	74.00	-19.38	peak





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EUT:	MID	Model:	K60PW19			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V	DC 3.7V				
Ant. Pol.	Vertical	Vertical				
Test Mode:	TX N(HT20) Mode 2437	MHz	The state of the s			
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					



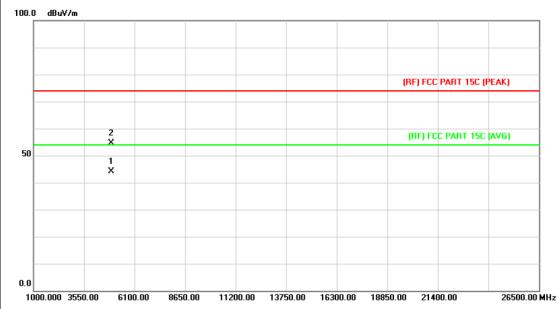
No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4873.608	31.32	13.86	45.18	54.00	-8.82	AVG
2		4874.084	40.13	13.86	53.99	74.00	-20.01	peak





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EUT:	MID	Model:	K60PW19					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Horizontal							
Test Mode:	TX N(HT20) Mode 2462	ИНz	THE PARTY OF THE P					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.							
	-							



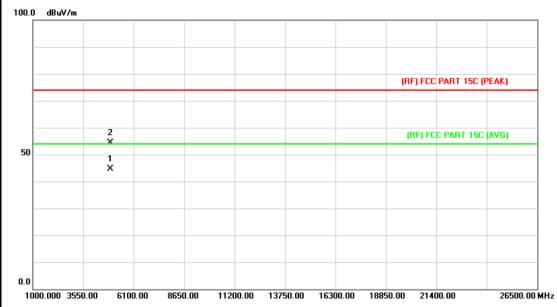
No	o. M	k.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4	923.874	29.91	14.15	44.06	54.00	-9.94	AVG
2		4	924.084	40.53	14.15	54.68	74.00	-19.32	peak





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EUT:	MID	Model:	K60PW19					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	01						
Ant. Pol.	Vertical							
Test Mode:	TX N(HT20) Mode 2462N	ИНz						
Remark:	No report for the emissio prescribed limit.	No report for the emission which more than 10 dB below the						
	F. G. G. G. M. M. M.							



N	o. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4923.854	30.44	14.15	44.59	54.00	-9.41	AVG
2		4924.314	40.22	14.15	54.37	74.00	-19.63	peak





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# 6. Restricted Bands Requirement

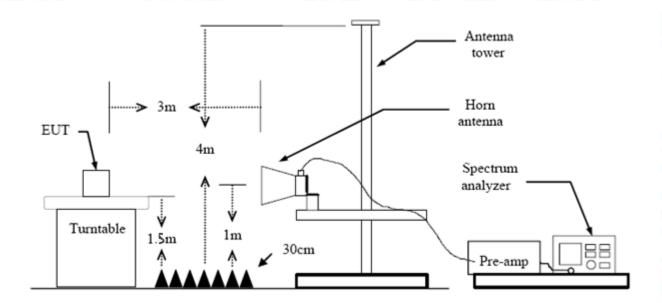
#### 6.1 Test Standard and Limit

6.1.1 Test Standard FCC Part 15.209 FCC Part 15.205

6.1.2 Test Limit

Restricted Frequency	Class B (dBuV/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.



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(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 use RBW=1 MHz and VBW=10 Hz 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

Please see the next page.

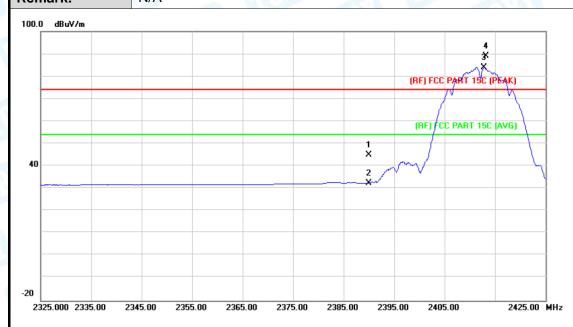




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# (1) Radiation Test

EUT:	MID	Model:	K60PW19
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Horizontal		THU
Test Mode:	TX B Mode 2412MHz		
Remark:	N/A	D O WY	



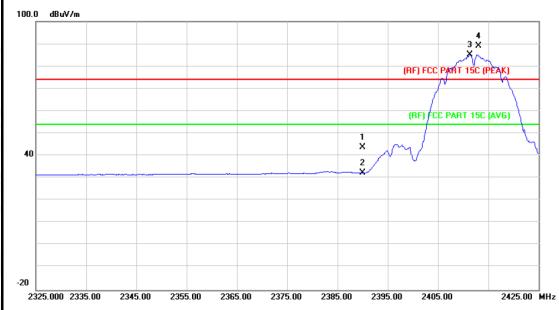
No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	44.17	0.77	44.94	74.00	-29.06	peak
2		2390.000	31.48	0.77	32.25	54.00	-21.75	AVG
3	X	2412.800	83.13	0.86	83.99	Fundamental	Frequency	peak
4	*	2413.200	88.28	0.86	89.14	Fundamental	Frequency	peak





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EUT:	MID	Model:	K60PW19
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V	101 - 6	THE STATE OF THE S
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		The same
Remark:	N/A		



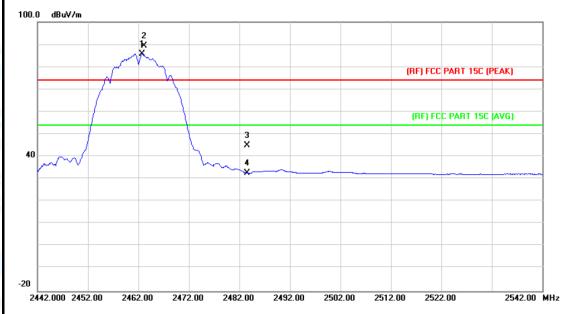
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	42.90	0.77	43.67	74.00	-30.33	peak
2		2390.000	31.47	0.77	32.24	54.00	-21.76	AVG
3	*	2411.300	84.20	0.86	85.06	Fundamental	Frequency	AVG
4	Χ	2413.100	88.06	0.86	88.92	Fundamental	Frequency	peak





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EUT:	MID	Model:	K60PW19
Temperature:	<b>25</b> ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		THE PARTY OF THE P
Remark:	N/A		



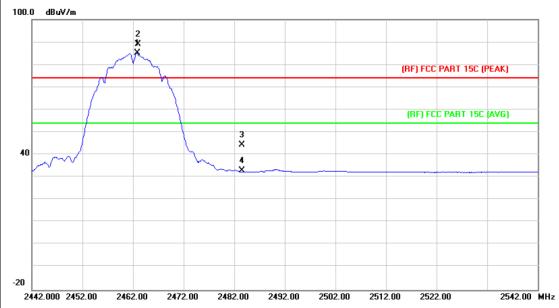
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2462.700	84.72	1.08	85.80	Fundamental	Frequency	AVG
2	X	2463.100	88.17	1.08	89.25	Fundamental	Frequency	peak
3		2483.500	43.73	1.17	44.90	74.00	-29.10	peak
4		2483.500	31.57	1.17	32.74	54.00	-21.26	AVG





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EUT:	MID	Model:	K60PW19
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz		
Remark:	N/A		



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2462.800	83.94	1.08	85.02	Fundamenta	l Frequency	AVG
2	X	2463.000	87.84	1.08	88.92	Fundamenta	l Frequency	peak
3		2483.500	43.19	1.17	44.36	74.00	-29.64	peak
4		2483.500	31.65	1.17	32.82	54.00	-21.18	AVG





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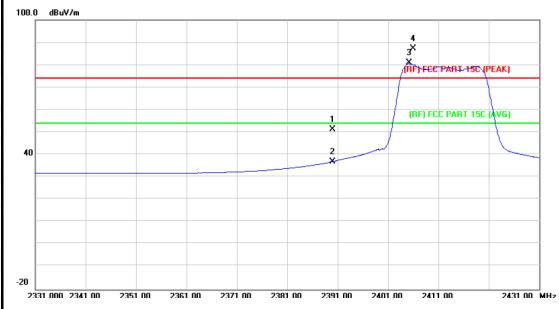
EUT:			MID	V.		<u> </u>	Mo	del:				K6	0PW19		10
Tempe	ratur	e:	25 °C	C	THE STATE OF	130	Re	lativ	e Hu	mid	lity:	559	%	Mil	
Test V	oltag	e:	DC 3	.7V	630		1		100		6		133		
Ant. P	ol.		Horiz	onta	al	1 11					1		100	M	W
Test M	ode:		TX G	Мо	de 241	2MHz		6		1)	7		N N	AM	
Remar	k:		N/A	11			516	, A				11			
100.0 d	BuV/m														
												4 ×			
											3 X				
											(RF) F	CC PA	RT 15C (P	EAK)	$\dashv$
								_						\	
								1 X			(RF)	FCC F	ART 15C (	(VG)	_
40								2		$\mathcal{A}$				_	4
40								X							
-20															
	00 234	1.00 2	351.00	2361	.00 23	71.00 23	81.00	2391	.00	2401	.00 2	411.00	)	2431.0	00 MH
				Re	ading	Corr	ect	Mea	sur						
NIa	Mk.	Fr	eq.		evel	Fac			ent	_	Limit		Over		
INO.														De	tecto
INO.		M	ΗZ	(	dBu∀	dB/n	n	dB	uV/m	1	dBuV	/m	dВ		
		2390			dBu∨ 3.70	dB/r			uV/m 1		dBuV		dB -19.5		eak
1		2390	.000	5	3.70	0.7	7	54	1.47		74.0	0	-19.5	3 p	eak
1 2		2390 2390	.000	5	3.70 7.89	0.7	7 7	54 38	1.47 3.66			0		3 p	WG
1	*	2390	.000	5	3.70	0.7	7 7	54 38	1.47		74.0 54.0	0	-19.5	3 p	





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EUT:	MID	Model:	K60PW19
Temperature:	<b>25</b> ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V	131	MIN TO THE REAL PROPERTY.
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2412MHz		THE PARTY OF THE P
Remark:	N/A		(1)
100.0 dBuV/m			



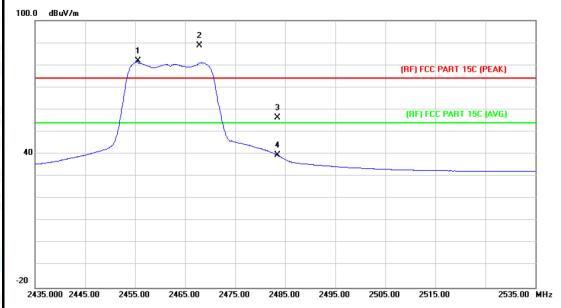
No	. Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	50.55	0.77	51.32	74.00	-22.68	peak
2		2390.000	36.18	0.77	36.95	54.00	-17.05	AVG
3	*	2405.200	79.99	0.84	80.83	 Fundamenta	I Frequency	AVG
4	Χ	2406.000	86.51	0.84	87.35	Fundamenta	I Frequency	peak





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EUT:	MID	Model:	K60PW19
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		THE STATE OF
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz		
Remark:	N/A		



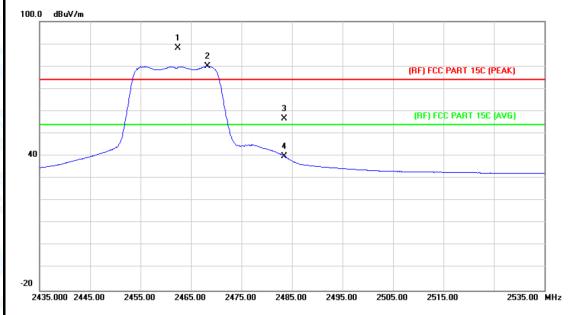
No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2455.600	80.70	1.05	81.75	Fundamental	Frequency	AVG
2	X	2467.900	87.55	1.10	88.65	Fundamental	Frequency	peak
3		2483.500	55.27	1.17	56.44	74.00	-17.56	peak
4		2483.500	38.25	1.17	39.42	54.00	-14.58	AVG





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EUT:	MID	Model:	K60PW19
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2462MHz		
Remark:	N/A		
	Temperature: Test Voltage: Ant. Pol. Test Mode:	Temperature:25 °CTest Voltage:DC 3.7VAnt. Pol.VerticalTest Mode:TX G Mode 2462MHz	Temperature:25 °CRelative Humidity:Test Voltage:DC 3.7VAnt. Pol.VerticalTest Mode:TX G Mode 2462MHz



N	lo. Mł	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2462.400	87.21	1.08	88.29	Fundamental	Frequency	peak
2	*	2468.300	79.05	1.11	80.16	Fundamental	Frequency	AVG
3		2483.500	55.50	1.17	56.67	74.00	-17.33	peak
4		2483.500	38.66	1.17	39.83	54.00	-14.17	AVG





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EU	Γ:		MID	783		a 1	Мо	del:			K	60PW19	9		
Ten	nperatu	re:	25 °C		M	70	Re	lativ	e Hu	midity:	<b>y</b> : 55%				
Tes	t Voltag	e:	DC 3	3.7V		A.	1	1		(	TIE:	133			
Ant	. Pol.		Horiz	ontal		M							1	N.	
Tes	t Mode:		TXN	(HT20)	Mod	le 2412ľ	ИНz	16	11/1			a \	MA		
Ren	nark:		N/A	AB			51			63					
100.0	O dBuV/m														
											3				
											×				
										(RF)	EC PA	RT 156 (PE	AKI		
													$\neg \uparrow$		
									1	(RF	FCC P	ART 15C (A	ve)		
									X				1		
40									2 X						
						, ,									
														-	
														-	
-20 23	326.000 233	6.00 23	46.00	2356.00	2366	.00 2376	5.00	2386	.00 2	2396.00	2406.00	)	2426.0	O MHz	
١	No. Mk.	Fre	eq.	Read Lev		Corre Fact			asure ent	- Lim	it	Ove	r		
		MH	z	dBu	V	dB/m		dE	BuV/m	dBu	V/m	dB	D	etector	
1		2390.	000	49.1	18	0.77		4	9.95	74.	.00	-24.0	)5	oeak	
2		2390.	000	35.6	67	0.77		3	6.44	54.	.00	-17.5	6	AVG	
3	Χ	2405.	500	86.7	75	0.84		8	7.59	Funda	menta	l Frequen	су	oeak	

78.98

0.84

79.82

2405.800

AVG

Fundamental Frequency





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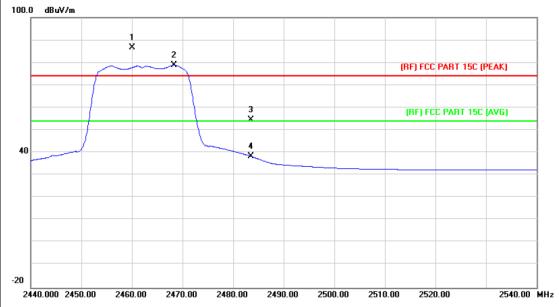
EUT: 「emperature:		MID			Model:					K60PW19		
en	nperatu	re:	25 °C		ATT.		Rela	tive Hu	ımidit	<b>y:</b> 5	55%	Alle
es	t Voltag	e:	DC 3	3.7V				1		Call	1130	
۱nt	. Pol.		Vertic	cal		AHI				63		
es	t Mode:		TX N	I(HT20) I	Mode 2	2412M	Hz		1)		a W	A Dear
Rer	nark:		N/A	ARR				Carre	6	M	33	
100.0	) dBuV/m											
										3		
										<u>ر</u> د		
										(RF) PCC	PART 15C (PE	AKJ
								1 X		(FF) FC	C PART 15C (A	VG)
40								2				
40								×				
20 23	326.000 233	6.00 2	2346.00	2356.00	2366.00	2376.	00 2	2386.00	2396.00	D 2400	6.00	2426.00 M
				Readii	na C	Correc	t M	easure				
1	No. Mk	. Fr	eq.	Leve	_	Factor		ment		.imit	Over	
		M	Hz	dBuV	,	dB/m		dBuV/m	1 0	BuV/m	dB	Detecto
1		2390	.000	50.98		0.77		51.75		74.00	-22.25	5 peak
		2390		36.03		0.77		36.80		54.00	-17.20	
2		2405		88.26		0.84		89.10			al Frequency	
2	X											
	*	2405	.900	80.76	3	0.84		81.60	F.	ndament	al Frequency	AVG





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EUT:	MID	Model:	K60PW19						
Temperature:	25 ℃	Relative Humidity:	55%						
Test Voltage:	DC 3.7V								
Ant. Pol.	Horizontal	Horizontal							
Test Mode:	TX N(HT20) Mode 2462N	ИНz							
Remark:	N/A								



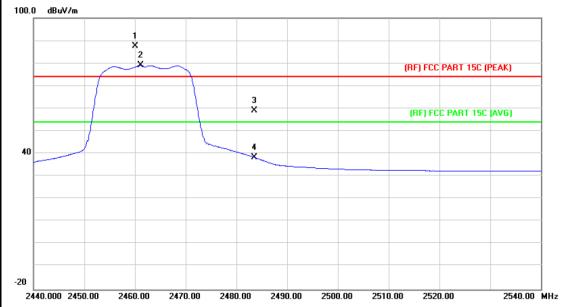
No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2460.100	85.52	1.06	86.58	Fundamental	Frequency	peak
2	*	2468.300	77.75	1.11	78.86	 Fundamental	Frequency	AVG
3		2483.500	53.24	1.17	54.41	74.00	-19.59	peak
4		2483.500	37.24	1.17	38.41	54.00	-15.59	AVG





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EUT:	MID	Model:	K60PW19		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Ant. Pol.	Vertical				
Test Mode:	TX N(HT20) Mode 2462MHz				
Remark:	N/A		1:13		



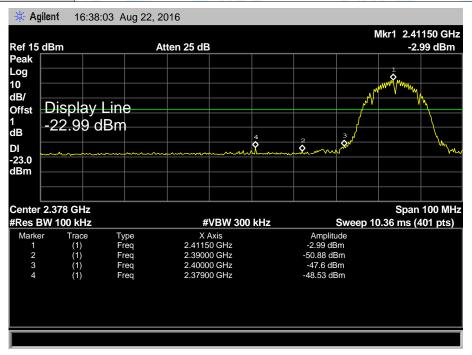
ı	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		X	2460.100	86.37	1.06	87.43	Fundamenta	l Frequency	peak
2		*	2461.100	77.98	1.06	79.04	Fundamenta	l Frequency	AVG
3			2483.500	57.94	1.17	59.11	74.00	-14.89	peak
4			2483.500	37.28	1.17	38.45	54.00	-15.55	AVG

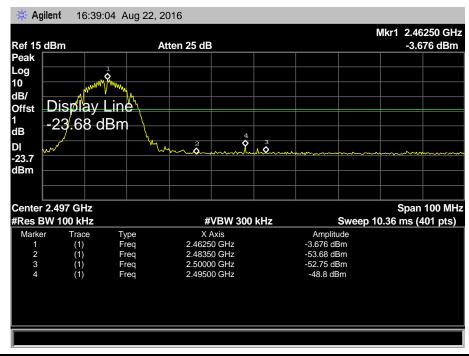




(2) Conducted Test

EUT:	MID	Model:	K60PW19		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Test Mode:	TX B Mode 2412MHz / TX B Mode 2462MHz				
Remark:	The EUT is programed in continuously transmitting mode				









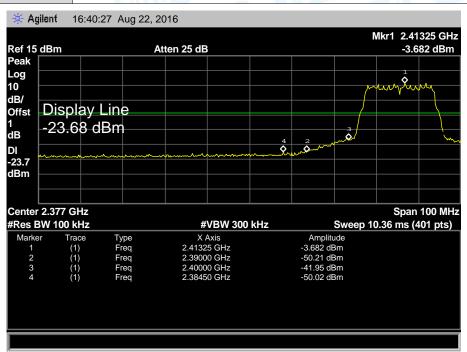
EUT: MID Model: K60PW19

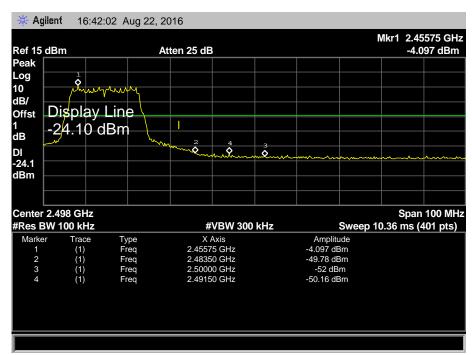
Temperature: 25 °C Relative Humidity: 55%

Test Voltage: DC 3.7V

Test Mode: TX G Mode 2412MHz / TX G Mode 2462MHz

Remark: The EUT is programed in continuously transmitting mode

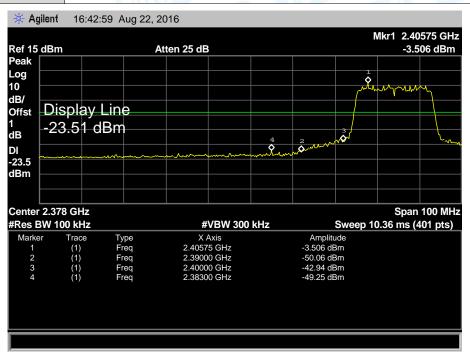


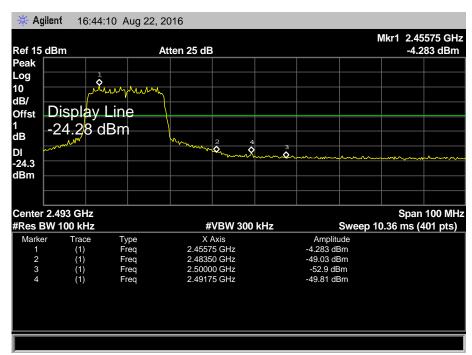






EUT:MIDModel:K60PW19Temperature:25 °CRelative Humidity:55%Test Voltage:DC 3.7VTest Mode:TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHzRemark:The EUT is programed in continuously transmitting mode







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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-210					
Test Item	Frequency Range(MHz)				
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.



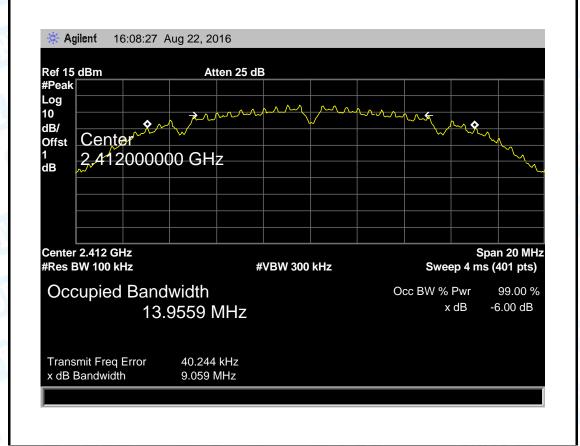


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### 7.5 Test Data

MID	Model:	K60PW19		
25 ℃	Relative Humidity:	55%		
DC 3.7V				
TX 802.11B Mode				
cy 6dB Bandwidth	99% Bandwidth	Limit		
(MHz)	(MHz)	(MHz)		
9.059	13.9559			
9.042	13.9647	>=0.5		
9.052	13.9891	1		
	25 °C  DC 3.7V  TX 802.11B Mode  cy 6dB Bandwidth (MHz) 9.059 9.042	25 °C Relative Humidity:  DC 3.7V  TX 802.11B Mode  cy 6dB Bandwidth (MHz) (MHz)  9.059 13.9559  9.042 13.9647		

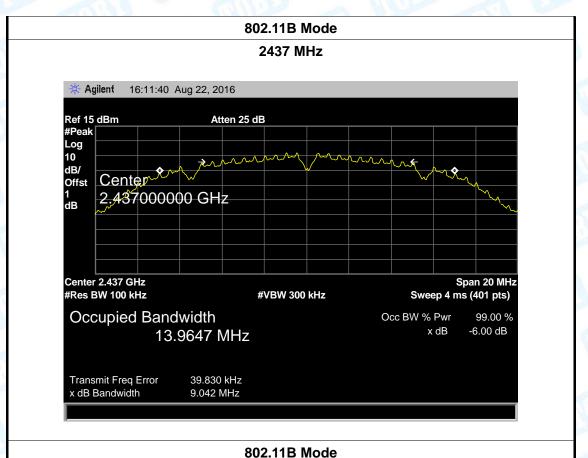
#### 802.11B Mode





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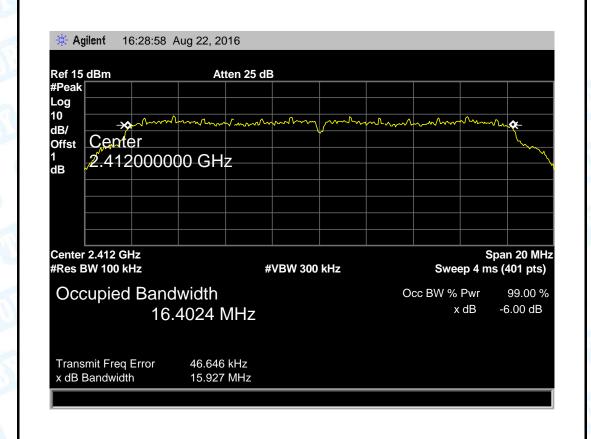
#### 2462 MHz \* Agilent 16:14:18 Aug 22, 2016 Ref 15 dBm Atten 25 dB #Peak Log 10 dB/ Center Offst 2.462000000 GHz 1 dB Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 13.9891 MHz Transmit Freq Error 55.509 kHz x dB Bandwidth 9.052 MHz





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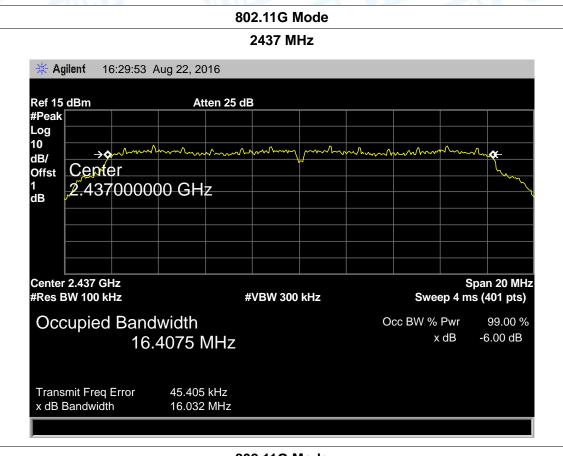
EUT:	MID	Model:	K60PW19		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Test Mode:	TX 802.11G Mode				
Channel frequency 6dB Bandwidth		99% Bandwidth	Limit		
(MHz)	(MHz)	(MHz)	(MHz)		
2412	15.927	16.4024			
2437	16.032	16.4075	>=0.5		
2462 16.127		16.4173			
802.11G Mode					



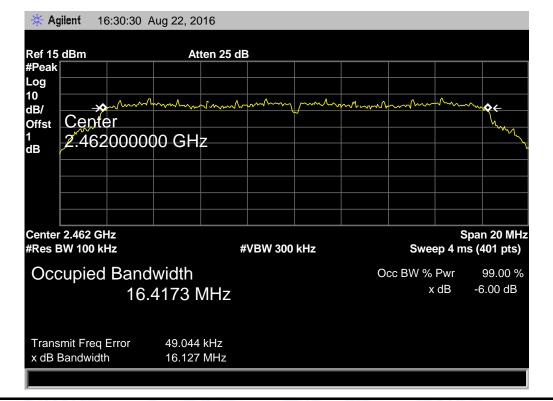




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### 802.11G Mode



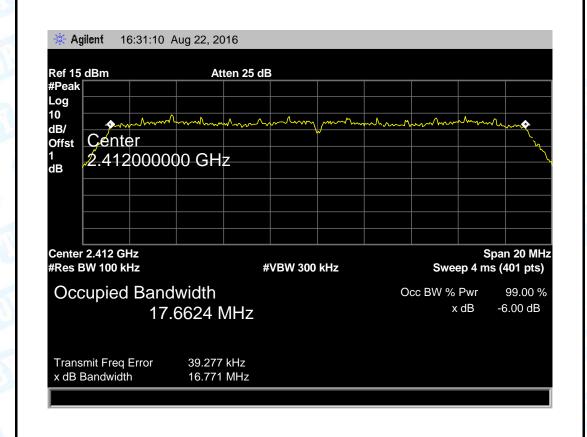




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EUT:	MID Model:		K60PW19		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Test Mode:	TX 802.11N(HT20) Mode				
Channel frequency 6dB Bandwidth		99% Bandwidth	Limit		
(MHz)	(MHz)	(MHz)	(MHz)		
2412	17.771	17.6624			
2437	17.332	17.6563	>=0.5		
2462 17.515		17.6668			
802.11N(HT20) Mode					

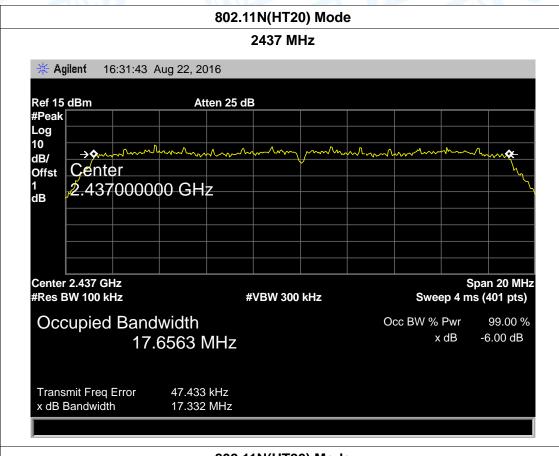
#### 2.1114(11120) IVIO







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#### 802.11N(HT20) Mode 2462 MHz 🔆 Agilent 16:32:14 Aug 22, 2016 Ref 15 dBm Atten 25 dB #Peak Log 10 →�~~ dB/ Center Offst 1 dB 2.462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 17.6668 MHz Transmit Freq Error 48.251 kHz x dB Bandwidth 17.515 MHz



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# 8. Peak Output Power Test

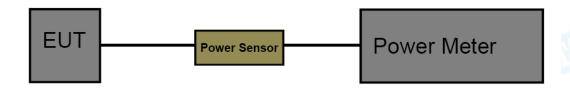
### 8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (b)

8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210					
Test Item Limit Frequency Range(MI					
Peak Output Power	1 Watt or 30 dBm	2400~2483.5			

# 8.2 Test Setup



#### 8.3 Test Procedure

The measurement is according to section 9.1.2 of KDB 558074 D01 DTS Meas Guidance v03r05.

The EUT was connected to RF power meter via a broadband power sensor as show the block above. The power sensor video bandwidth is greater than or equal to the DTS bandwidth of the equipment.

# 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:	MID	Model Name :	K60PW19
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Mode	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
	2412	9.19	
802.11b	2437	9.17	
	2462	9.18	
	2412	9.08	
802.11g	2437	9.07	30
	2462	9.05	
000 44	2412	9.04	
802.11n (HT20)	2437	9.06	
	2462	9.07	
	Resi	ult: PASS	

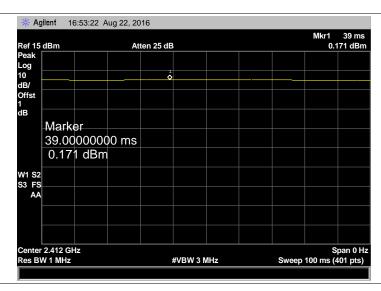
2412 2437 2462 2412	Test Result
2437 2462	
2462	
2412	
2437	>98%
2462	
2412	
2437	
2462	
	2462 2412 2437



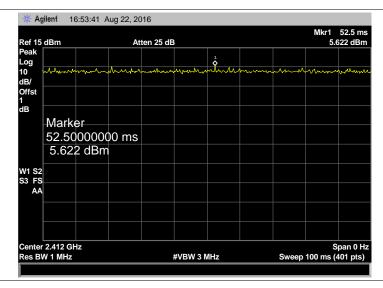


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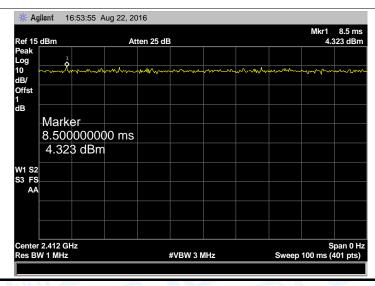




#### 802.11 G Mode 2412 MHz



#### 802.11 N(HT20) Mode 2412 MHz





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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 v03r05.

- (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 frequency.
- (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, middle and high channel for the test.



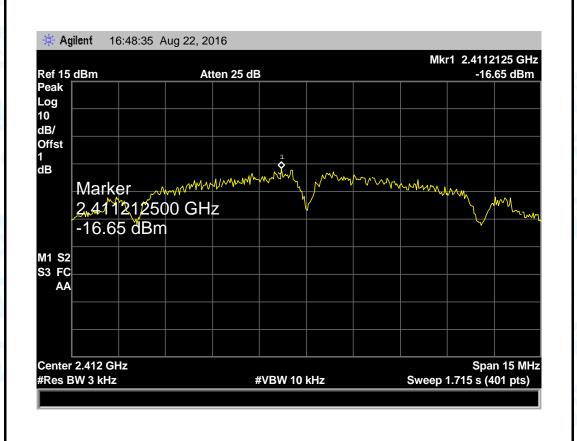


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### 9.5 Test Data

EUT:	MID		Model:	K60PW19	
Temperature:	25 ℃		Relative Humidity:	55%	
Test Voltage:	DC 3.7V				
Test Mode:	TX 802.1	TX 802.11B Mode			
Channel Frequency		Power Density		Limit (dBm)	
(MHz)	(MHz) (3 kH		z/dBm)		
2412	2412 -16		6.65		
2437		-17.79		8	
2462 -16		5.98			
802 11B Mode					

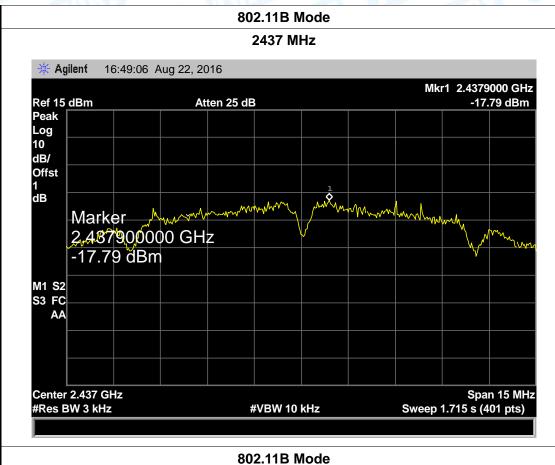


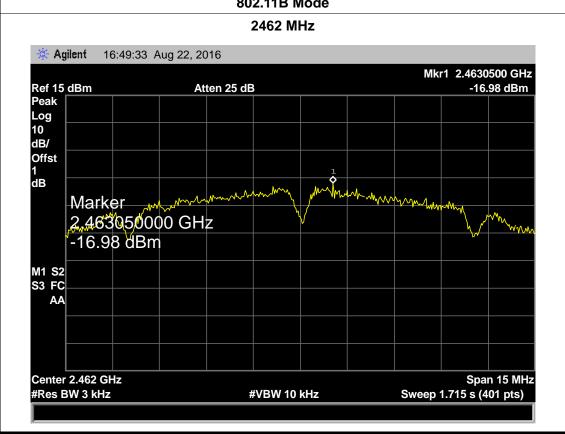






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Center 2.412 GHz #Res BW 3 kHz Page: 75 of 79

UT:	MID	MID		K60PW19
Temperature:	25 ℃	25 ℃		: 25 °C
Test Voltage:	DC 3.7V		TOUR P	
Test Mode:	TX 802.11	TX 802.11G Mode		
Channel Fre	Channel Frequency		r Density	Limit (dBm)
(MHz)		(3 kHz/dBm)		
2412			17.95	
2437		-17.56		8
2462		-19.29		
		802.1	1G Mode	
\$50 mm			12 MHz	
	6:50:22 Aug 22,	2016	12 MHz	Mkr1 2.4070625 G
Ref 15 dBm			12 MHz	Mkr1 2.4070625 G -17.95 dB
Ref 15 dBm Peak Log		2016	12 MHz	
Ref 15 dBm Peak		2016	12 MHz	
Ref 15 dBm Peak Log 10		2016	12 MHz	
Ref 15 dBm Peak Log 10 dB/ Offst 1		2016  Atten 25 dB		-17.95 dB
Ref 15 dBm Peak Log 10 dB/ Offst 1 dB Mark	er <i>M</i> W/V/	2016  Atten 25 dB	12 MHz	-17.95 dB
Ref 15 dBm Peak Log 10 dB/ Offst 1 dB  Mark 2.407	er /\/\/\/ 1062500 G	2016  Atten 25 dB		-17.95 dB
Ref 15 dBm Peak Log 10 dB/ Offst 1 dB  Mark 2.407	er <i>M</i> W/V/	2016  Atten 25 dB		-17.95 dB
Ref 15 dBm Peak Log 10 dB/ Offst 1 dB  Mark 2.407	er /\/\/\/ 1062500 G	2016  Atten 25 dB		-17.95 dB

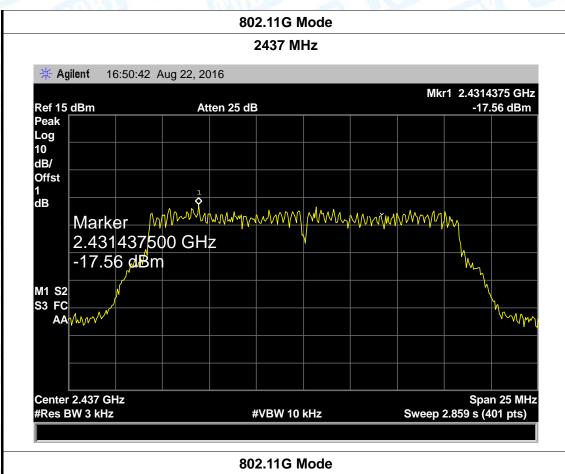
#VBW 10 kHz

Span 25 MHz Sweep 2.859 s (401 pts)





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2462 MHz \* Agilent 16:51:05 Aug 22, 2016 Mkr1 2.4589375 GHz -19.29 dBm Ref 15 dBm Atten 25 dB Peak Log 10 dB/ Offst 1 dB -19.29 dBm M1 S2 S3 FC AAV Center 2.462 GHz Span 25 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 2.859 s (401 pts)





M1 S2 S3 FC AA<sub>IV</sub>

Center 2.412 GHz #Res BW 3 kHz Page: 77 of 79

EUT:	MID	Model:	K60PW19
Temperature:	25 ℃	Temperature	e: 25 ℃
Test Voltage:	DC 3.7V		
Test Mode:	TX 802.11N(	(HT20) Mode	
Channel Fre	quency	Power Density	Limit (dBm)
(MHz	)	(3 kHz/dBm)	
2412		-18.34	
2437		-19.40	8
2462		-18.68	
		002 44N/UT20\ Mada	
		802.11N(HT20) Mode 2412 MHz	
* Agilent 1	6:51:41 Aug 22, 20	2412 MHz	
_	6:51:41 Aug 22, 20	<b>2412 MHz</b>	Mkr1 2.4127425 GHz
Ref 15 dBm Peak		2412 MHz	Mkr1 2.4127425 GHz -18.34 dBm
Ref 15 dBm Peak Log		<b>2412 MHz</b>	
Ref 15 dBm Peak Log 10 dB/		<b>2412 MHz</b>	
Ref 15 dBm Peak Log 10 dB/ Offst 1	At	2412 MHz	-18.34 dBm
Ref 15 dBm Peak Log 10 dB/ Offst 1	At	2412 MHz	-18.34 dBm
Ref 15 dBm Peak Log 10 dB/ Offst 1 dB Mark	At	2412 MHz  016  ten 25 dB	-18.34 dBm

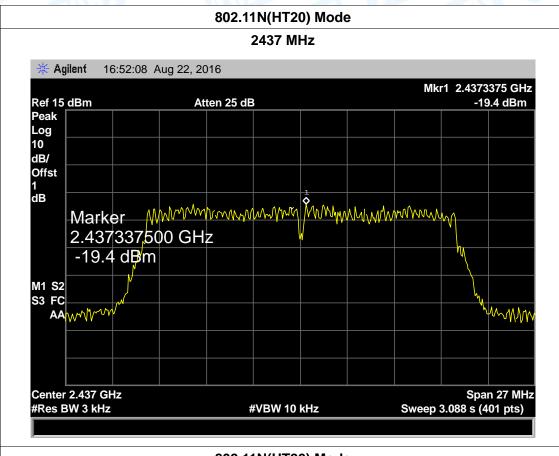
#VBW 10 kHz

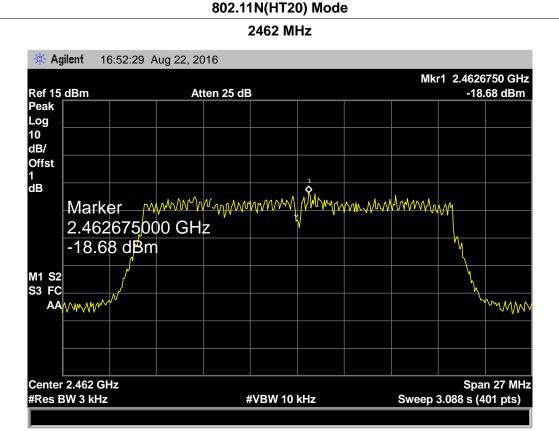
Span 27 MHz Sweep 3.088 s (401 pts)





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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 1.26 dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

#### Result

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

	Antenna Type
	▶ Permanent attached antenna
Em.	□ Unique connector antenna
	□ Professional installation antenna