

Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC145960 1 of 93 Page:

FCC Radio Test Report FCC ID: 2AGK5VMX4S

Original Grant

Report No. TB-FCC145960

Applicant Simple Control

Equipment Under Test (EUT)

EUT Name Simple Hub

Model No. VM64S

Series Model No. VM24S, VM44S, VM54S

N/A **Brand Name**

Receipt Date 2015-11-09

2015-11-10 to 2015-11-23 **Test Date**

Issue Date 2015-11-24

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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TOBY

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1. General Information about EUT

1.1 Client Information

Applicant : Simple Control

Address : 21580 Stevens Creek Blvd., Suite 106, Cupertino, California, 95014,

USA

Manufacturer : Shenzhen Vipstech Co.,Ltd

Address : 4th Floor, Lvkai Building, Liuxian 3rd Road, Bao'an71th, Bao'an 71th

Dist, Shenzhen, Guangdong, China

1.2 General Description of EUT (Equipment Under Test)

EUT Name		Simple Hub			
Models No.	1	VM64S, VM24S, VM	M44S, VM54S		
Model Difference	9		tical in the same PCB layout, interior structure and ne only difference is model name for commercial		
	4	Operation Frequency: WIFI 802.11b/g/n(H20): 2412MHz~2462MHz 802.11n(H40): 2422MHz~2452MHz			
	d	Number of Channel:	802.11b/g/n(HT20):11 channels see note(3) 802.11n(HT40): 9 channels see note(3)		
Product Description		RF Output Power:	802.11b: 18.03dBm 802.11g: 14.22dBm 802.11n (HT20): 14.74dBm 802.11n (HT40): 13.25dBm		
		Antenna Gain:	2 dBi Embedded Antenna		
	3	Modulation Type:	802.11b:DSSS(CCK, DQPSK, DBPSK) 802.11g/n:OFDM(BPSK,QPSK,16QAM,64QAM)		
	1	Bit Rate of Transmitter:	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps 802.11n:up to 150Mbps		
Power Supply		DC power supplied	by Switching Adapter.		
Power Rating		Switching Adapter: Input:100~240V, 50 Output:5V, 2000mA			
Connecting I/O Port(S)		Please refer to the U			

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 v03r03.



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(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.

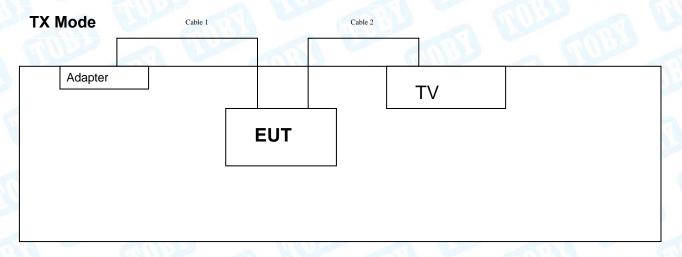
(4) Channel List:

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

Note:CH 01~CH 11 for 802.11b/g/n(HT20)

CH 03~CH 09 for 802.11n(HT40)

1.3 Block Diagram Showing the Configuration of System Tested



1.4 Description of Support Units

	Equ	ipment Informat	ion	
Name	Model	FCC ID/DOC	Manufacturer	Used "√"
TV	24PFL3545/T3	DOC	PHILIPS	√
Cable Inforn	nation			
Number	Shielded Type	Ferrite Core	Length	Note
Cable 1	NO	NO	1.2 M	Accessorise
Cable 2	YES	NO	1.6 M	Accessorise



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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	AC Charging with TX B Mode

For Radiated Test			
Final Test Mode Description			
Mode 2	TX Mode B Mode Channel 01/06/11		
Mode 3	TX Mode G Mode Channel 01/06/11		
Mode 4	TX Mode N(HT20) Mode Channel 01/06/11		
Mode 5	TX Mode N(HT40) Mode Channel 03/06/9		

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, Midle, 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) 802.11n (HT40) Mode: MCS 0 (13 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		Realtek MP Tool	
Channel	CH 01	CH 06	CH 11
IEEE 802.11b DSSS	42	42	41
IEEE 802.11g OFDM	43	43	41
IEEE 802.11n (HT20)	43	43	41
Channel	CH 03	CH 06	CH 09
IEEE 802.11n (HT40)	43	43	41

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})
Conducted Emission	Level Accuracy: 9kHz~150kHz	±3.42 dB
O HULL	150kHz to 30MHz	±3.42 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.40 dB
Radiated Emission	Level Accuracy: 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.



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2. Test Summary

	FCC Part	t 15 Subpart C(15.247)/ RSS 247	' Issue 1	
Standa	rd Section	Test Item	ludament	Domork
FCC	IC	rest 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

Note: "/" for no requirement for this test item.

N/A is an abbreviation for Not Applicable.



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3. Test Equipment

Conducte	d Emission Te	st			
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
					Cal. Due
Spectrum	Agilent	E4407B	MY45106456	Aug. 20, 2015	
Analyzer	Aglient	E4407B	W1 45 106456	Aug. 29, 2015	Aug. 28, 2016
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

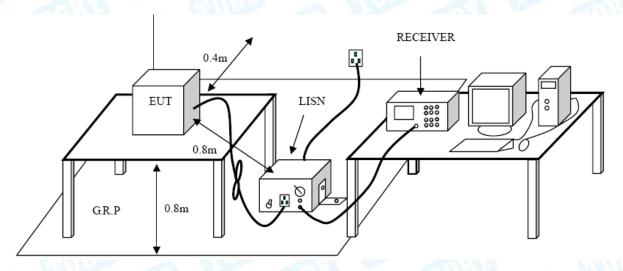
Conducted Emission Test Limit

Eroguonov	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

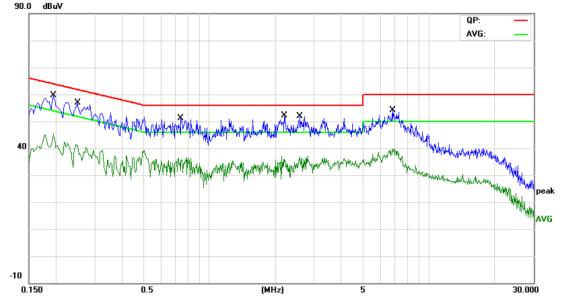
Please see the next page



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EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		miss a
Terminal:	Line		
Test Mode:	AC Charging with TX B N	/lode	A VIVE
Remark:	Only worse case is repor	ted	1:33
90.0 dBuV			
			QP: — AVG: —



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
	MHz	dBu∀	dB	dBu∀	dBu∨	dB	Detector
1	0.1940	45.50	10.12	55.62	63.86	-8.24	QP
2	0.1940	32.84	10.12	42.96	53.86	-10.90	AVG
3	0.2500	46.79	10.10	56.89	61.75	-4.86	QP
4	0.2500	30.28	10.10	40.38	51.75	-11.37	AVG
5	0.7420	40.13	10.04	50.17	56.00	-5.83	QP
6	0.7420	28.97	10.04	39.01	46.00	-6.99	AVG
7 *	2.1980	42.12	10.06	52.18	56.00	-3.82	QP
8	2.1980	30.86	10.06	40.92	46.00	-5.08	AVG
9	2.5940	40.30	10.06	50.36	56.00	-5.64	QP
10	2.5940	29.73	10.06	39.79	46.00	-6.21	AVG
11	6.8140	38.95	10.06	49.01	60.00	-10.99	QP
12	6.8140	27.89	10.06	37.95	50.00	-12.05	AVG

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



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	Simple	Hub	Mo	del Name :		VM64S	
Temperature:	25 ℃		Re	lative Humi	dity:	55%	ARRE
Гest Voltage:	AC 120)V/60 Hz			63	TISE !	
Terminal:	Neutra		MAGE		1 6		
Test Mode:	AC Ch	arging with	TX B Mode		7		
Remark:	Only w	orse case i	s reported	Circ		133	- 1
90.0 dBuV							
						QP: AVG:	
40	AND MANAGEMENT	odratopograpiska korá ovrhostopograkalna pr	order have been productive or the	ng pada na alawa na ana ana ana	A MANAGEMENT	her had be red by the state of	Per per
0.150 No. Mk.	0.5 Freq.	Reading Level	(MHz) Correct Factor	Measure- ment	Limit	Over	30.000
	MHz	dBuV	dB	dBuV	dBu∨	dB	Detector
1 0.	2220	47.73	10.11	57.84	62.74	-4.90	QP
2 0.	2220	34.57	10.11	44.68	52.74	-8.06	AVG
3 * 0.	4180	42.64	10.05	52.69	57.49	-4.80	QP
4 0.	4180	26.78	10.05	36.83	47.49	-10.66	AVG
5 0.	8540	40.43	10.09	50.52	56.00	-5.48	QP
6 0.	8540	28.38	10.09	38.47	46.00	-7.53	AVG
7 1.	3820	39.30	10.12	49.42	56.00	-6.58	QP
8 1.	3820	28.63	10.12	38.75	46.00	-7.25	AVG
	4220	39.82	10.06	49.88	56.00	-6.12	QP
9 3.		29.02	10.06	39.08	46.00	-6.92	AVG
	4220						QP
10 3.	4220 8060	37.99	10.06	48.05	60.00	-11.95	QF





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EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	25 ℃ Relative Humidity:					
Test Voltage:	AC 240V/60 Hz		miss a				
Terminal:	al: Line						
Test Mode:	AC Charging with TX B	Mode	A VILLE				
Remark:	Only worse case is repo	orted	1:72				
90.0 dBuV	'						
			QP: — AVG: —				

				QP: — AVG: —
Martin	was direct hand from the best	Marabayan Jankan Marabayan	Harris Marine Marine	hand .
W. Carlowan J	harmy Justinamen	may people of more and more an		VAMMANANAN MARANAN MAR
				117
0.150	0.5	(MHz)	5	30.00

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector
1		0.2700	27.80	10.10	37.90	61.12	-23.22	QP
2		0.2700	24.41	10.10	34.51	51.12	-16.61	AVG
3		0.6460	28.71	10.02	38.73	56.00	-17.27	QP
4		0.6460	20.60	10.02	30.62	46.00	-15.38	AVG
5		0.9580	31.13	10.14	41.27	56.00	-14.73	QP
6	*	0.9580	27.61	10.14	37.75	46.00	-8.25	AVG
7		1.8100	31.11	10.08	41.19	56.00	-14.81	QP
8		1.8100	15.84	10.08	25.92	46.00	-20.08	AVG
9		2.1780	31.33	10.06	41.39	56.00	-14.61	QP
10		2.1780	26.39	10.06	36.45	46.00	-9.55	AVG
11		7.5140	34.91	10.08	44.99	60.00	-15.01	QP
12		7.5140	23.35	10.08	33.43	50.00	-16.57	AVG

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



TOBY Page:

	Simple Hub	Model Name :	VM64S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 240V/60 Hz	AC 240V/60 Hz						
Terminal:	Neutral							
Test Mode:	AC Charging with TX B	Mode	A WILL					
Remark:	Only worse case is rep	orted	1:72					
90.0 dBuV			QP: — AVG: —					
40	AND		Mary Deal					
-10			Avo					

			D 10	<u> </u>	NA			
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB	dBu∨	dBu∀	dB	Detector
1	*	0.5420	41.18	10.02	51.20	56.00	-4.80	QP
2		0.5420	28.35	10.02	38.37	46.00	-7.63	AVG
3		0.8260	37.44	10.08	47.52	56.00	-8.48	QP
4		0.8260	28.63	10.08	38.71	46.00	-7.29	AVG
5		1.2020	36.64	10.14	46.78	56.00	-9.22	QP
6		1.2020	24.39	10.14	34.53	46.00	-11.47	AVG
7		2.4900	32.52	10.06	42.58	56.00	-13.42	QP
8		2.4900	22.89	10.06	32.95	46.00	-13.05	AVG
9		8.7660	33.37	10.12	43.49	60.00	-16.51	QP
10		8.7660	21.06	10.12	31.18	50.00	-18.82	AVG
11		14.1740	20.85	10.49	31.34	60.00	-28.66	QP
12		14.1740	16.84	10.49	27.33	50.00	-22.67	AVG

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



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

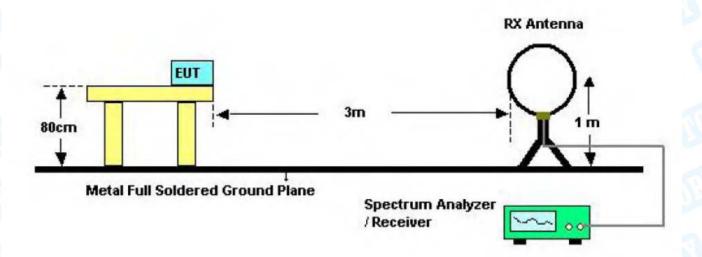
Note:

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

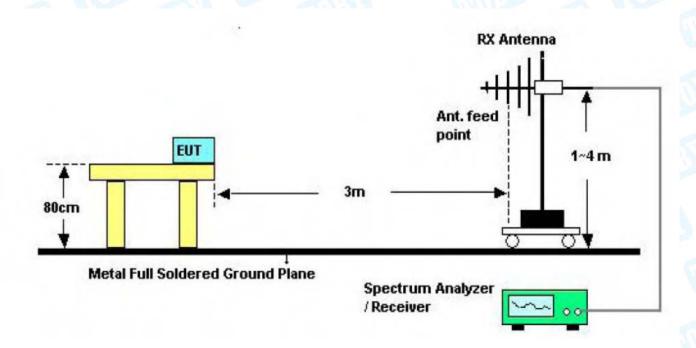


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5.2 Test Setup



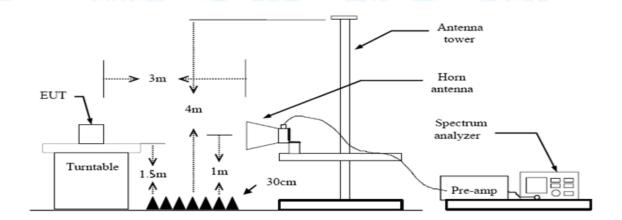
Below 30MHz Test Setup



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. The EUT was placed on a rotating 0.8m high above the 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 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.

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:	Simple Hub	Model Name :	VM64S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz				
Ant. Pol.	Horizontal					
Test Mode:	TX B Mode 2412MHz					
Remark:	Only worse case is repor	Only worse case is reported				
80.0 dBuV/m						



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		31.2893	48.17	-14.76	33.41	40.00	-6.59	peak
2		151.0666	50.21	-21.10	29.11	43.50	-14.39	peak
3	*	231.7179	59.88	-18.99	40.89	46.00	-5.11	peak
4		397.6334	49.99	-12.96	37.03	46.00	-8.97	peak
5		510.0436	46.75	-11.07	35.68	46.00	-10.32	peak
6		793.3960	44.30	-6.57	37.73	46.00	-8.27	peak

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



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EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	100	THE STATE OF THE S
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		THE PARTY OF THE P
Remark:	Only worse case is repo	rted	1:33
80.0 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		*	31.3992	51.45	-14.83	36.62	40.00	-3.38	peak
2	2	İ	43.8119	55.97	-21.77	34.20	40.00	-5.80	peak
3	3	İ	62.2128	58.61	-24.32	34.29	40.00	-5.71	peak
4	1	İ	79.2426	57.85	-23.31	34.54	40.00	-5.46	peak
5	5	İ	425.0280	54.02	-12.92	41.10	46.00	-4.90	peak
6	3		768.7481	46.55	-6.82	39.73	46.00	-6.27	peak

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



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	10	TATE
Sec.		KV
7		$\mathbf{D}\mathbf{I}$
	100	Market Market

EUT:		Sim	ole Hub		M	Model Name :		VM64S	
empe	rature:	25 °	C	AII)	R	elative Hui	midity:	55%	Alle
est Vo	oltage:	AC 1	120V/60	Hz		18 0	6	CE OFF	
ant. Po	ol.	Hori	Horizontal						TATA!
est M	ode:	TX E	TX B Mode 2437MHz						
Remar	k:	Only	worse o	case is	reported	1	611	1:13	
80.0 dE	BuV/m					4 X	5	FCC 15C 3M Radi Marg	ation in -6 dB
20 30.000	40	50 60 7	0 80	Why de	3 X M _M /M	31	00 400	500 600	700 1000.00
20 30.000			0 80 Readi	ing	Correct	Measure	00 400		
20 30.000		Freq.	Readi	ing el	Correct Factor	Measure ment	00 400 Limit	t Over	r
20 30.000 No.	Mk.	Freq.	Readi Leve	ing el	Correct Factor	Measure ment dBuV/m	00 400 ELIMIN	t Ove l	r Detecto
20 30.000 No.	Mk. * 31	Freq. MHz .3992	Readi Leve	ing el	Correct Factor dB/m -14.83	Measure ment dBuV/m	00 400 Limit dBuV 40.0	t Over	Detecto
20 30.000 No.	Mk. * 31	Freq. MHz .3992	Readi Leve dBu\ 48.7 45.9	ing el	Correct Factor dB/m -14.83	Measure ment dBuV/m 33.89 24.16	00 400 E Limit dBuV 40.0	t Over //m dB 00 -6.1	Detecto 1 peak 34 peak
20 30.000 No.	Mk. * 31	Freq. MHz .3992	Readi Leve	ing el	Correct Factor dB/m -14.83	Measure ment dBuV/m	00 400 Limit dBuV 40.0	t Over //m dB 00 -6.1	Detecto 1 peak 34 peak
20 30.000 No.	Mk. * 31 43	Freq. MHz .3992	Readi Leve dBu\ 48.7 45.9	ing el v 72 93 62	Correct Factor dB/m -14.83	Measure ment dBuV/m 33.89 24.16	00 400 E Limit dBuV 40.0	t Over //m dB 00 -6.1 00 -15.8 50 -14.7	Detecto 1 peak 34 peak 76 peak
No. 1 2 3	Mk. * 31 43 14 23	Freq. MHz .3992 3.8119 1.3298	Readi Leve dBu\ 48.7 45.9	ing el v 72 93 62 29	Correct Factor dB/m -14.83 -21.77 -21.88	Measure ment dBuV/m 33.89 24.16 28.74	00 400 Limit dBuV 40.0 40.0 43.5	t Over //m dB 00 -6.1 00 -15.8 50 -14.7	Detecto peak peak peak peak



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	Simp	le Hub	M	odel Name :	V	M64S	
Temperature:	25 ℃		Re	elative Humid	dity: 5	5%	A BATTLE
Test Voltage:	AC 12	AC 120V/60 Hz					
Ant. Pol.	Vertic	'ertical					
Test Mode:	TX B	TX B Mode 2437MHz					
Remark:	Only	worse case	is reported	C.		13	_ (
30 dBuV/m		*I	man And all control		(RF)FCC 1	5C 3M Radiation Margin -6	
-20 30.000 40 50 No. Mk. F	60 70 Freq.	Reading Level	(MHz) Correct Factor	Measure- ment	400 50	00 600 700 Over	1000.00
30.000 40 50 No. Mk. F		Reading	Correct	Measure-			1000.00
30.000 40 50 No. Mk. F	req.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
No. Mk. F	F req .	Reading Level	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over	Detecto
No. Mk. F 1 * 31. 2 ! 43.	Freq. MHz 2893	Reading Level dBuV 52.44	Correct Factor dB/m -14.76	Measure- ment dBuV/m 37.68	Limit dBuV/m 40.00	Over dB -2.32	Detecto peak
No. Mk. F 1 * 31. 2 ! 43. 3 ! 50.	Freq. MHz 2893 6584	Reading Level dBuV 52.44 58.60 59.54	Correct Factor dB/m -14.76 -21.70 -24.40	Measurement dBuV/m 37.68 36.90	Limit dBu√/m 40.00 40.00 40.00	Over dB -2.32 -3.10	Detecto peak peak peak
No. Mk. F 1 * 31. 2 ! 43. 3 ! 50. 4 ! 62.	Freq. MHz 2893 6584 4089	Reading Level dBuV 52.44 58.60	Correct Factor dB/m -14.76 -21.70	Measure- ment dBuV/m 37.68 36.90 35.14	Limit dBuV/m 40.00 40.00	Over dB -2.32 -3.10 -4.86	Detecto peak peak



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EUT:	Simple	Hub	M	odel Name :		VM64S	
Temperature:	25 ℃	COTT!	Re	elative Humi	dity:	55%	S. British
Test Voltage:	AC 120	AC 120V/60 Hz					
Ant. Pol.	Horizon	Horizontal					
Test Mode:	TXBM	K B Mode 2462MHz					N. San
Remark:	Only wo	rse case	is reported	C. Carrie		:33	_ (
80.0 dBuV/m							
30.000 40 50	60 70 80	May May May May May May May May May May	(MHz)	300 Measure-	5 X X X X X X X X X X X X X X X X X X X	500 600 700	
No. Mk. F		eading Level	Factor	ment	Limit	Over	
N	1Hz	dBuV	dB/m	dBuV/m	dBuV/r	n dB	Detecto
1 * 31.3	3992	48.31	-14.83	33.48	40.00	-6.52	peak
2 43.6	6584	50.25	-21.70	28.55	40.00	-11.45	peak
3 154.	.8204	50.55	-20.86	29.69	43.50	-13.81	peak
4 230.	.9068	55.52	-19.03	36.49	46.00	9.51	peak
		49.21	-14.48	34.73	46.00		peak
		43.04	-6.59	36.45	46.00		peak
	:Over limit !:	over margin	-				,



Temperature: Test Voltage:			Model Name: VM64S				
Test Voltage:	25 ℃	Re	elative Humidi	ty : 55	%		
.oot voitage.	AC 120V/60 Hz						
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX B Mode 2462MHz						
Remark:	Only worse cas	se is reported	1		3	_ (
30 dBuV/m		happiness of the second	Mahaman Mayorah	(RF)FCC 15(C 3M Radiation Margin -6		
30.000 40 50	60 70 80	(MHz)	300	400 500	0 600 700	1000.00	
	Reading		Measure-	400 500 Limit	0 600 700 Over	1000.00	
30.000 40 50	Reading eq. Level	g Correct	Measure- ment			1000.00	
30.000 40 50 No. Mk. Fre	Reading eq. Level dBuV	g Correct Factor	Measure- ment	Limit	Over	Detecto	
No. Mk. Fre	Reading eq. Level dBuV 992 50.92	g Correct Factor	Measure- ment	Limit dBuV/m	Over	Detecto peak	
No. Mk. Fre	Reading Level dBuV 992 50.92 855 53.52	Correct Factor dB/m -14.83	Measure- ment dBuV/m 36.09	Limit dBu√/m 40.00	O∨er dB -3.91	Detecto peak peak	
No. Mk. Fre	Reading Level dBuV 992 50.92 855 53.52 584 58.02	Correct Factor dB/m -14.83 -18.47 -21.70	Measure- ment dBuV/m 36.09 35.05	Limit dBuV/m 40.00 40.00	Over dB -3.91 -4.95	Detecto peak peak peak	
No. Mk. Fre	Reading Level Hz dBuV 992 50.92 855 53.52 584 58.02 089 59.93	Correct Factor dB/m -14.83 -18.47 -21.70	Measure- ment dBuV/m 36.09 35.05 36.32	Limit dBuV/m 40.00 40.00 40.00	Over dB -3.91 -4.95 -3.68		

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EUT:	Simple Hub	Model:	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	W .	miss -				
Ant. Pol.	Horizontal						
Test Mode:	TX B Mode 2412MHz		A VIVE				
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the					
	prescribed limit.						

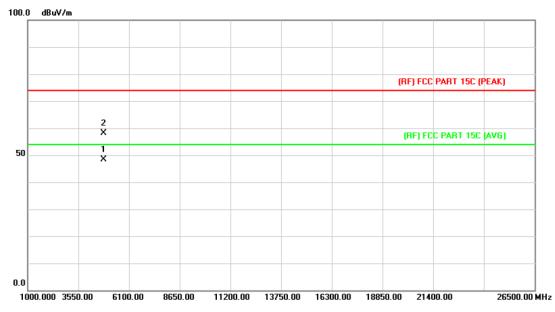


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.142	42.53	13.56	56.09	74.00	-17.91	peak
2	*	4823.952	29.47	13.56	43.03	54.00	-10.97	AVG



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EUT:	Simple Hub	Model:	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	(A) - (
Ant. Pol.	Vertical						
Test Mode:	TX B Mode 2412MHz						
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the					
	prescribed limit.						

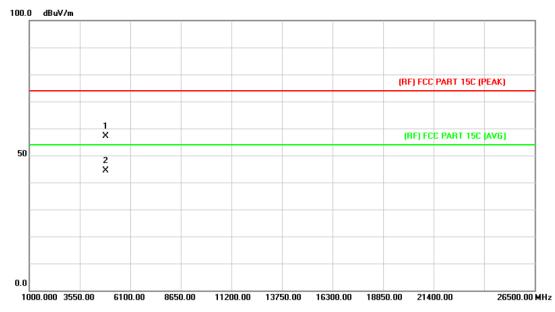


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4824.009	34.75	13.56	48.31	54.00	-5.69	AVG
2		4824.249	44.63	13.56	58.19	74.00	-15.81	peak



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EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	01 - 0	MIN TO THE REAL PROPERTY.
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2437MHz		THE PARTY OF THE P
Remark:	No report for the emissio prescribed limit.	n which more than 10 c	dB below the

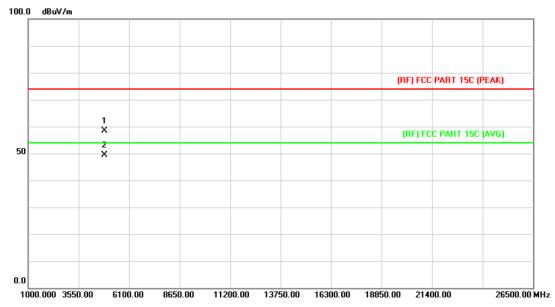


	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4873.646	43.15	13.86	57.01	74.00	-16.99	peak
2		*	4874.069	30.54	13.86	44.40	54.00	-9.60	AVG



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EUT:	Simple Hub	Model Name :	VM64S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz						
Ant. Pol.	Vertical	Vertical						
Test Mode:	TX B Mode 2437MHz							
Remark:	No report for the emission which more than 10 dB below the							
	prescribed limit.							
l								



No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4874.048	44.57	13.86	58.43	74.00	-15.57	peak
2	*	4874.081	35.58	13.86	49.44	54.00	-4.56	AVG



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EUT:	Simple Hub	Model Name :	VM64S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz						
Ant. Pol.	Horizontal	Horizontal						
Test Mode:	TX B Mode 2462MHz							
Remark:	No report for the emission which more than 10 dB below the							
	prescribed limit.							

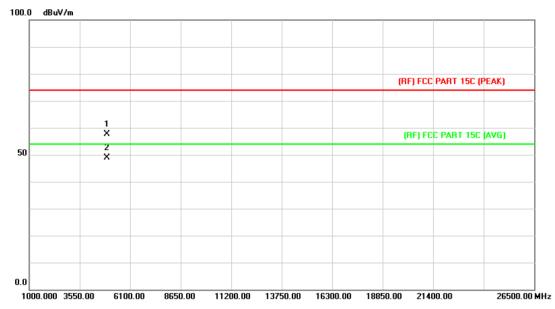


No	o. Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4923.433	43.79	14.15	57.94	74.00	-16.06	peak
2	*	4924.030	31.38	14.15	45.53	54.00	-8.47	AVG



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EUT:	Simple Hub	Model Name :	VM64S						
Temperature:	25 ℃	Relative Humidity:	55%						
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz							
Ant. Pol.	Vertical	Vertical							
Test Mode:	TX B Mode 2462MHz								
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the							
	prescribed limit.								
i									

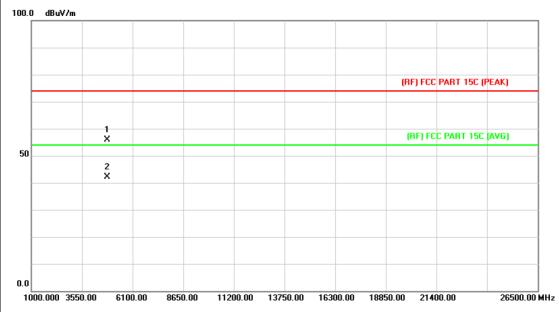


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4923.991	43.41	14.15	57.56	74.00	-16.44	peak
2	*	4924.048	34.81	14.15	48.96	54.00	-5.04	AVG



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EUT:	Simple Hub	Model Name :	VM64S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Horizontal					
Test Mode:	TX G Mode 2412MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

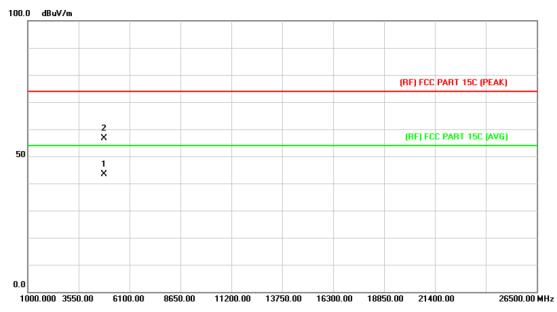


No	. Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.457	42.42	13.56	55.98	74.00	-18.02	peak
2	*	4824.645	28.66	13.56	42.22	54.00	-11.78	AVG



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EUT:	Simple Hub	Model Name :	VM64S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz						
Ant. Pol.	Vertical							
Test Mode:	TX G Mode 2412MHz							
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the						
	prescribed limit.							

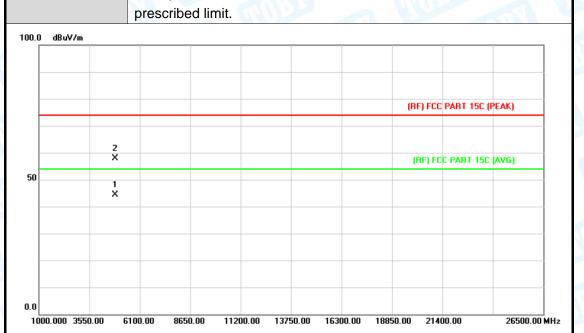


No	. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4824.030	29.74	13.56	43.30	54.00	-10.70	AVG
2		4824.816	43.08	13.56	56.64	74.00	-17.36	peak



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A VIII						
EUT:	Simple Hub	Model Name :	VM64S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz		ALL STATES			
Ant. Pol.	Horizontal					
Test Mode:	TX G Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the					

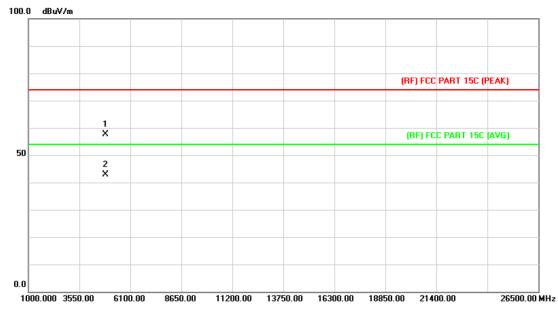


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4873.961	30.62	13.86	44.48	54.00	-9.52	AVG
2		4874.747	44.00	13.86	57.86	74.00	-16.14	peak



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EUT:	Simple Hub	Model Name :	VM64S		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage: AC 120V/60 Hz					
Ant. Pol.	Ant. Pol. Vertical				
Test Mode: TX G Mode 2437MHz					
Remark: No report for the emission which more than 10 dB below the prescribed limit.					
100.0 40.4/-					



No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4873.757	43.69	13.86	57.55	74.00	-16.45	peak
2	*	4875.104	29.01	13.87	42.88	54.00	-11.12	AVG



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EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX G Mode 2462MHz						
Remark: No report for the emission which more than 10 dB below the prescribed limit.							
100.0 10.11							

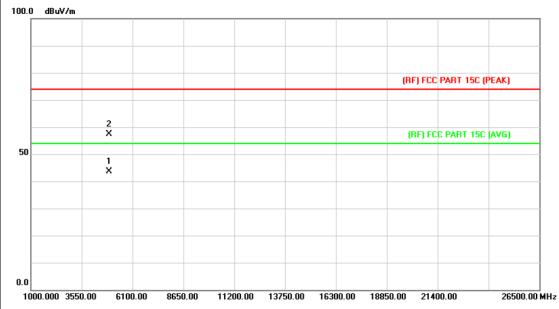


No	o. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4923.433	29.17	14.15	43.32	54.00	-10.68	AVG
2		4924.024	43.19	14.15	57.34	74.00	-16.66	peak



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EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
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.						

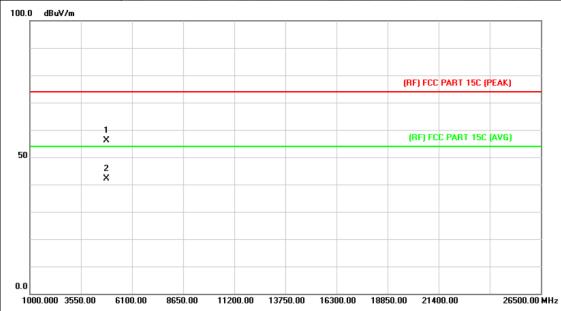


N	o. N	/lk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*		4922.938	29.39	14.14	43.53	54.00	-10.47	AVG
2			4923.541	43.25	14.15	57.40	74.00	-16.60	peak



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EUT:	Simple Hub	Model Name :	VM64S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz				
Ant. Pol.	Horizontal	Horizontal				
Test Mode:	TX N(HT20) Mode 2412	ИНz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					
1000 ID W						

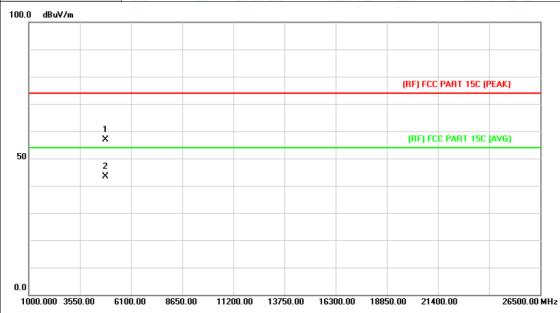


ı	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4822.686	42.67	13.55	56.22	74.00	-17.78	peak
2		*	4823.136	28.67	13.56	42.23	54.00	-11.77	AVG



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EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Vertical						
Test Mode:	TX N(HT20) Mode 2412	MHz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						

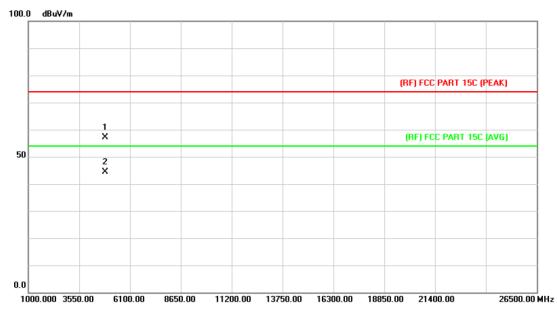


No	. Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4824.027	43.20	13.56	56.76	74.00	-17.24	peak
2	*	4824.084	29.90	13.56	43.46	54.00	-10.54	AVG



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EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT20) Mode 2437N	ИНz					
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the					
	prescribed limit.						

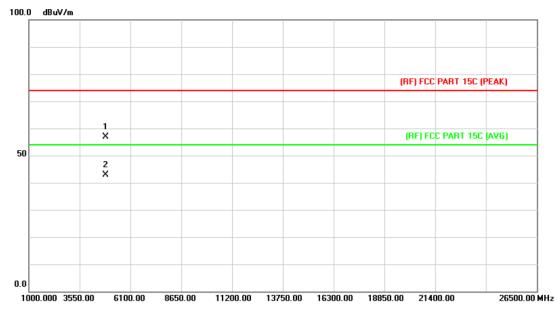


No	o. Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4873.754	43.36	13.86	57.22	74.00	-16.78	peak
2	*	4874.111	30.49	13.86	44.35	54.00	-9.65	AVG



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EUT:	Simple Hub	Model Name :	VM64S		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	AC 120V/60 Hz				
Ant. Pol.	Vertical				
Test Mode:	TX N(HT20) Mode 2437N	ИНz			
Remark: No report for the emission which more than 10 dB below the prescribed limit.					

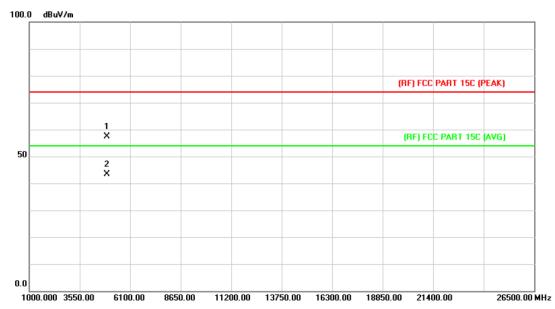


No	. Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4874.204	43.09	13.86	56.95	74.00	-17.05	peak
2	*	4874.450	29.07	13.86	42.93	54.00	-11.07	AVG



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EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT20) Mode 2462	ИНz					
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the					
	prescribed limit.						

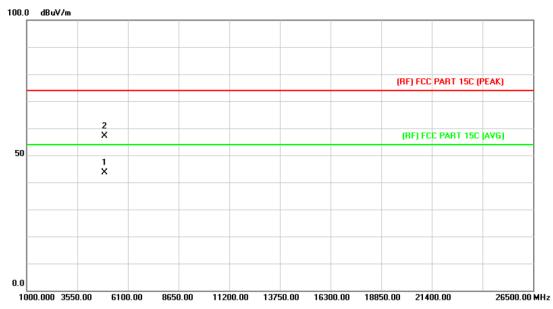


No	. Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4922.863	43.21	14.14	57.35	74.00	-16.65	peak
2	*	4923.772	29.24	14.15	43.39	54.00	-10.61	AVG



Page: 44 of 93

EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX N(HT20) Mode 2462N	ИНz	THE PARTY OF THE P				
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.						
i							

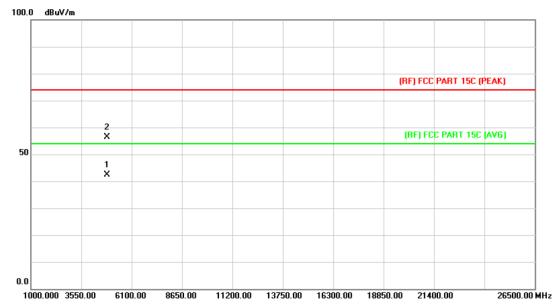


N	lo. Mł	ι. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4922.836	29.41	14.14	43.55	54.00	-10.45	AVG
2		4923.583	42.95	14.15	57.10	74.00	-16.90	peak



Page: 45 of 93

EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT40) Mode 2422N	ИНz					
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.						

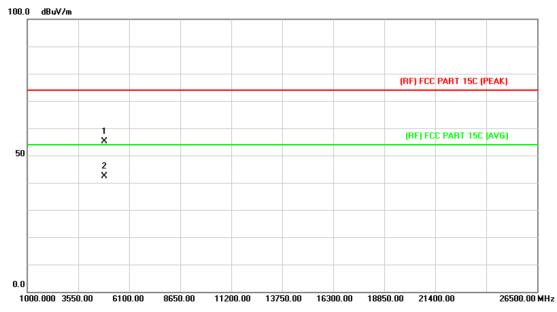


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4844.684	28.69	13.68	42.37	54.00	-11.63	AVG
2		4844.882	42.74	13.68	56.42	74.00	-17.58	peak



Page: 46 of 93

EUT:	Simple Hub	Model Name :	VM64S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz	01 - 0				
Ant. Pol.	Vertical					
Test Mode:	TX N(HT40) Mode 2422N	ИНz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					
100.0 10.01						



No	. Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4843.745	41.43	13.68	55.11	74.00	-18.89	peak
2	*	4844.753	28.72	13.68	42.40	54.00	-11.60	AVG



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Mode	I Name :	VM64S			
Relati	ive Humidity:	55%			
AC 120V/60 Hz					
Horizontal					
Mode 2437MHz					
No report for the emission which more than 10 dB below the					
prescribed limit.					
)) Hz) Mode 2437MHz or the emission which) Mode 2437MHz or the emission which more than 10 dE			

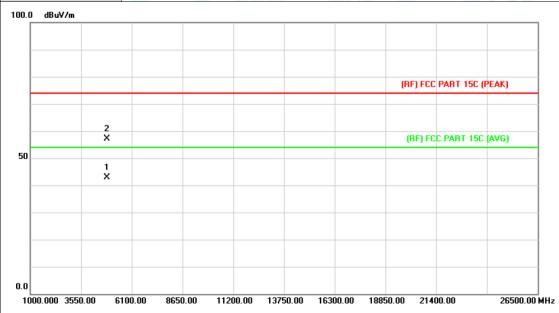


N	o. MI	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.066	30.56	13.86	44.42	54.00	-9.58	AVG
2		4874.936	43.57	13.86	57.43	74.00	-16.57	peak



Page: 48 of 93

EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Vertical						
Test Mode:	TX N(HT40) Mode 2437	ИНz					
Remark:	No report for the emissio prescribed limit.	No report for the emission which more than 10 dB below the prescribed limit.					
	prescribed limit.						

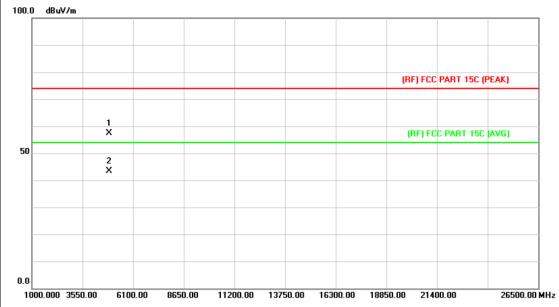


No.	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.186	29.09	13.86	42.95	54.00	-11.05	AVG
2		4874.450	43.19	13.86	57.05	74.00	-16.95	peak



Page: 49 of 93

EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT40) Mode 2452	ИНz	THE PARTY OF THE P				
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the					
	prescribed limit.						

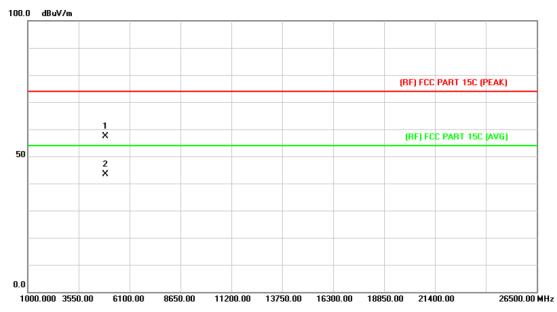


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4903.436	43.44	14.03	57.47	74.00	-16.53	peak
2	*	4903.790	29.26	14.03	43.29	54.00	-10.71	AVG



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EUT:	Simple Hub	Model Name :	VM64S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60 Hz	01 - 0	MISS.				
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX N(HT40) Mode 2452N	ИНz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						



No	. Mk	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4902.974	43.43	14.02	57.45	74.00	-16.55	peak
2	*	4905.080	29.34	14.04	43.38	54.00	-10.62	AVG



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6. Restricted Bands Requirement

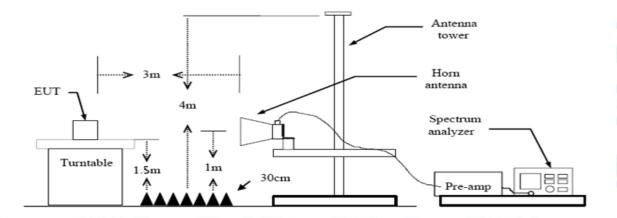
6.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209 FCC Part 15.205

5.1.2 Test Limit

Restricted Frequency	Class B (dB	uV/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. The EUT was placed on a rotating 0.8m high above the 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



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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

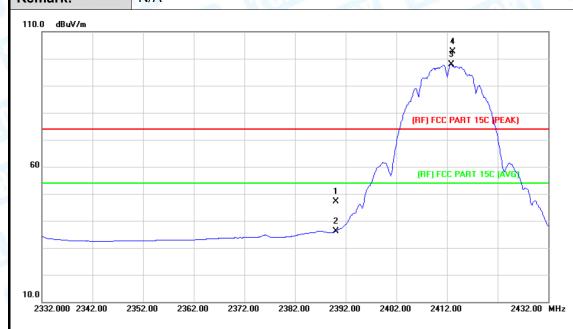
Please see the next page.



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(1) Radiation Test

EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	ULL THE TOTAL TH	
Ant. Pol.	Horizontal	WW CO	THU.
Test Mode:	TX B Mode 2412MHz		
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	46.43	0.77	47.20	74.00	-26.80	peak
2		2390.000	35.35	0.77	36.12	54.00	-17.88	AVG
3	*	2412.800	97.03	0.86	97.89	Fundamental	Frequency	AVG
4	Χ	2413.100	101.72	0.86	102.58	Fundamental	Frequency	peak



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EUT	Γ:		Simp	le Hub	M	odel Name	e: VM64S		
Гет	peratu	re:	25 ℃		Re	elative Hum	idity:	55%	The second
Test	t Voltag	e:	AC 1	20V/60 Hz		11		W. S.	
۹nt.	. Pol.		Vertic	cal	A SALE.		1 6		
Test Mode: Remark:			TX B	Mode 2412	MHz	(III)		A W	A STATE OF THE PARTY OF THE PAR
			N/A	Bir	1	600		133	_ (
110.0) dBuV/m								
60						1 X 2 X		CC PART 15C (PEAK	
10.0 23	334.000 234	4.00 2	354.00	2364.00 237	4.00 2384.00	2394.00 24	104.00 2	414.00 2	2434.00 MHz
	No. Mk	. Fr	eq.	Reading Level	Correct Factor	Measure- ment	Limit	: Over	
		M	Hz	dBu∀	dB/m	dBuV/m	dBuV	/m dB	Detecto
1		2390	.000	44.79	0.77	45.56	74.0	0 -28.44	peak
2		2390	.000	33.62	0.77	34.39	54.0	0 -19.61	AVG
		0440	200	07.00	0.86	98.12	Eundame	ntal Frequency	peak
3	Х	2410	.900	97.26	0.00	30.12	i unuame	iliai i requericy	

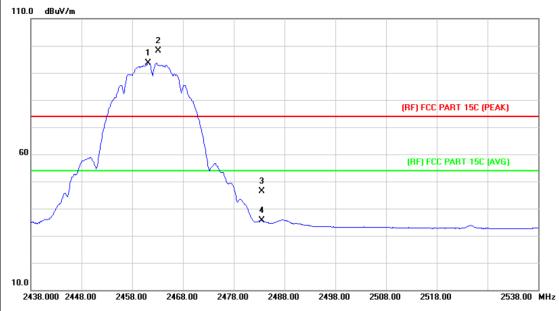


EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Horizontal	THU .	
Test Mode:	TX B Mode 2462M	Hz	
Remark:	N/A		1:33
110.0 dBuV/m			
60	2 1 2 3 3 4	(RI	FCC PART 15C (PEAK) F) FCC PART 15C (AVG)
10.0 2441.000 2451.00 No. Mk.	2461.00 2471.00 2481.00 Reading Freq. Level	2491.00 2501.00 2511.00 Correct Measure- Factor ment Lim	2521.00 2541.00 MH

	No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
Ī			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
	1	*	2462.700	94.33	1.08	95.41	Fundamental I	Frequency	AVG
	2	Х	2463.400	98.79	1.08	99.87	Fundamental I	Frequency	peak
_	3		2483.500	45.70	1.17	46.87	74.00	-27.13	peak
_	4		2483.500	35.54	1.17	36.71	54.00	-17.29	AVG



EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	101 T	
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz		
Remark:	N/A		1:33
110.0 dBuV/m			



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2461.200	92.57	1.07	93.64	Fundamental	Frequency	AVG
2	Х	2463.100	97.07	1.08	98.15	Fundamental	Frequency	peak
3		2483.500	45.24	1.17	46.41	74.00	-27.59	peak
4		2483.500	34.40	1.17	35.57	54.00	-18.43	AVG



EUT:		Simp	le Hub			Model Name : VM64S						P			
Temp	peratui	e:	25 °C		W	13	Re	elativ	e Hun	nidity:	55	5%	B		
Test	Voltag	e:	AC 120V/60 Hz									133			
۹nt.	Pol.		Horiz	ontal		118	M			11	60		4		١
Test	Mode:		TX G	Mode	2412	MHz		6	111/2			a 1	11/1		
Rem	ark:		N/A	MA				I V	S. D.			13			1
110.0	dBuV/m														
												4			
												×			
\perp												3 X			
													DE 1 12		
-										(R	FJFCCF	PART 15C	PEAKJ		
60								,		/ 0	RF) FCC	PART 15C	(yve)		
								1 X		/					
								2							
2332	2.000 234	2 00 2	352.00	2362.00	237	2.00 23	82.00	2392	2 00 2	402.00	2412.	nn	243	32.00	м
2001			.002.00	2002.00	2011	2.00	JE. 00	2001		102.00					
				Door	المحا	Corre	4	N/Inc	asur e						_
N	o. Mk	Fr	eq.	Read Lev	_	Fact			asur e. rent	Lin	nit	Ove	r		
			——— Hz	dBu		dB/m			BuV/m	dB	uV/m	dB	[Detec	 :te
1		2390		49.		0.77			0.34		1.00	-23.		pea	
•		2390		35.		0.77			5.96		1.00	-18.		AV	
2		2416		86.9		0.88			7.87			l Frequen		AV	
2	*		~~	5 0.		5.50				rung	amemia	ıı rıequen	СУ	, , , ,	
3	* X	2416	500	97.3	3a	0.88	2	O.	8.27			l Frequen		pea	٦l



8	1917				N.			10		100	11.5	
EUT	:		Simp	le H	ub		Mode	l Nar	ne :	VM	/164S	
Гет	peratui	re:	25 °C	C		12	Relati	ve H	umidity:	559	%	
Гest	Voltag	e:	AC 1	20V	/60 Hz							
۹nt.	Pol.		Vertic	cal								
Гest	Mode:		TX G	Мо	de 2412	2MHz	_ (110	1000		1 11	A STATE OF THE PARTY OF THE PAR
Rem	nark:		N/A	W						111	3	
110.0	dBuV/m											
									3 X			
-									4			
									×	-	\rightarrow	
-									(RF	FCC PA	RT 15C (PEA	K)
60									/ (B	F) FCC P.	ART 15C (AV	<u> </u>
							1 X					
							2					
-							2 X					-
-												
10.0	34.000 234	4.00 2	2354.00	2364.	00 227	4.00 2384	100 22	94.00	2404.00	2414.00	1 .	2434.00 MI
23.	34.000 234	4.00 2	.554.00	2304.	.00 237	4.00 230	1.00 23	34.00	2404.00	2414.00		2434.00 MI
		_			ading	Corre		easu			0	
		Er.	<u> </u>	- 17	evel	Facto	or r	n ent	Lim	111	O∨er	
N	o. Mk.	Fr	с ч.									
N	o. Mk.	M			IBuV	dB/m	C	BuV/i	m dBı	ıV/m	dB	Detect

Emission Level= Read Level+ Correct Factor

2390.000

2408.500

2409.500

33.84

93.70

83.13

0.77

0.85

0.85

34.61

94.55

83.98

2

3

4

Х

AVG

peak

AVG

-19.39

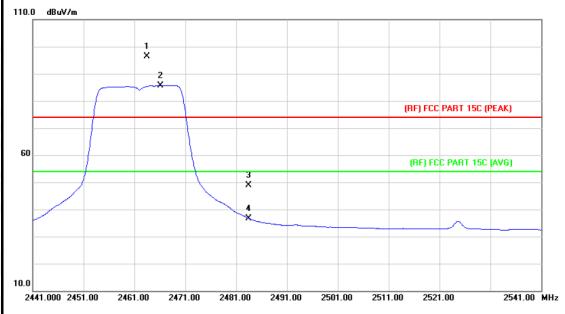
54.00

Fundamental Frequency

Fundamental Frequency



EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz		
Remark:	N/A		1:33
110.0 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	Х	2463.500	95.19	1.08	96.27	Fundamental	Frequency	peak
2	*	2466.200	84.60	1.09	85.69	Fundamental	Frequency	AVG
3		2483.500	47.74	1.17	48.91	74.00	-25.09	peak
4		2483.500	35.52	1.17	36.69	54.00	-17.31	AVG



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EUT:		Simp	ole Hub)		Mo	odel N	I Name: VM64S						
emp	eratu	re:	25 °C	25 °C Relative Humidity: 55%								Alle		
est '	Voltag	e:	AC 1	20V/6	0 Hz	-	50		100	6		133		4
\nt.	Pol.		Verti	cal		11/			1	1				
est	Mode:		TX G	Mode	2462	MHz		60		2			A Library	
Rema	ark:		N/A	B	1		51	18		630		3		1
110.0	dBuV/m													_
60	mv		1 X 2 X			3 X						ART 15C (PE)		
10.0														
243	B.000 244	0.00	2458.00	2468.00	247	8.00 24	88.00	2498.	.00 25	508.00	2518.0		2538.00	MH
No	o. Mk		req.	Read Lev	_	Corre Fact			sure- ent	Lim	it	O∨er		
No	o. Mk	. Fı	r eq. IHz		/el		tor	me		Lim dBu		Over	Dete	ecto
No 1	o. Mk X	. F ı		Lev	vel u∀	Fact	tor n	m € dBu	ent	dBu	V/m			ecto
		. Fi M 2458	IHz	Le\	vel _ u∀ .64	Fact	tor n 3	т е dВu 94	e nt uV/m	dBu Fundan	V/m nental	dB	pe	ak
1	Х	. Fi M 2458 2459	IHz 3.600	Le\ dB∈ 93.	vel uv .64 .03	dB/n	tor 6	те dВt 94 84	ent uV/m I.70	dBu Fundan	V/m mental mental	dB Frequency	pe A\	



Ę	EU1	Γ:		Simpl	le Hub	9 1	Model	Name :		VM64S	
	Ten	peratu	re:	25 ℃		13	Relativ	e Humi	dity:	55%	BILL
	Tes	t Voltag	je:	AC 12	20V/60 Hz		18	1000	6	MILES	
	Ant	. Pol.		Horiz	ontal	113	J. Carrie	1	1 6		
	Tes	t Mode:		TX N	(HT20) Mod	le 2412N	ИHz	1110	2		
I	Ren	nark:		N/A	Miller	100			e m	133	
L	110.0	O dBuV/m									
										3	
										X	
										4 X	
									(BE) EC	C PART 15C (PEA	AK)
3									(,.		
	60										
							1 X		(RF) F	CC PART 15C (A	/G)
-5							2 X				
e l											
	10.0										
ĺ	23	332.000 234	12.00 2	352.00	2362.00 2372	2.00 2382	2.00 239	2.00 240	2.00 24	12.00	2432.00 MHz
			_		Reading	Corre		asure-	l imail	0	
		lo. Mk			Level	Facto		ent	Limit		
			MH	łz	dBu∀	dB/m	dE	3u∨/m	dBuV/	'm dB	Detector
	1		2390	000	51.59	0.77	5	2.36	74.0	0 -21.6	4 peak
	2		2390	000	35.79	0.77	3	6.56	54.0	0 -17.4	4 AVG

98.43

87.44

Fundamental Frequency

Fundamental Frequency

Emission Level= Read Level+ Correct Factor

2415.200

2417.400

97.55

86.55

0.88

0.89

3

4

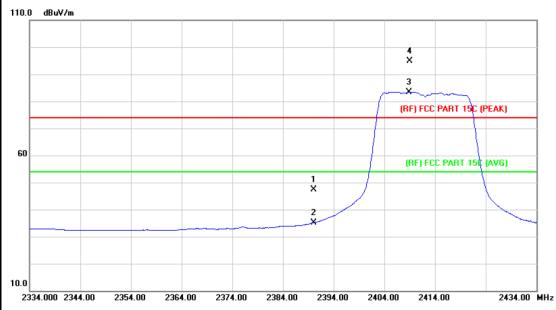
Χ

peak

AVG



EUT:	Simple Hub	Model Name :	VM64S						
Temperature:	55%								
Test Voltage:	AC 120V/60 Hz								
Ant. Pol.	Vertical								
Test Mode:	TX N(HT20) Mode 2412	MHz	A VIII						
Remark:	N/A		1:72						
110.0 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		2390.000	46.64	0.77	47.41	74.00	-26.59	peak
2		2390.000	34.37	0.77	35.14	54.00	-18.86	AVG
3	*	2408.800	82.62	0.85	83.47	Fundamental	Frequency	AVG
4	Х	2409.000	94.10	0.85	94.95	Fundamental	Frequency	peak



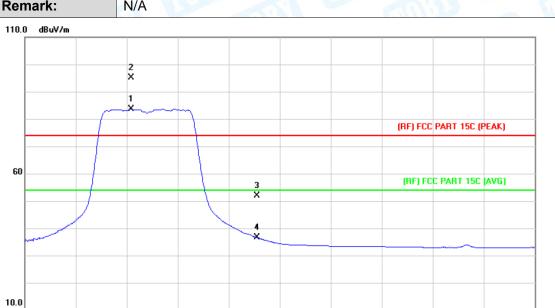
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EUT: S			Simp	le Hul	b	<u>a</u> 1	Mo	del I	Name	lame: VM64S				
Tempe	eratu	re:	25 °C Relative Humidity: 55%											
Test V	oltag	e:	AC 1	20V/6	60 Hz						A M	1133		
Ant. P	ol.		Horiz	zontal		P. A.				31				
Test N	/lode:		TX N	I(HT20	D) Mod	de 2462	ИНz	6	11/2	10		a W	N. Control	
Rema	rk:		N/A	W		1		V				13		
110.0	dBuV/m													
				2 X										
				1										
				×										
_		+		\rightarrow						(R	F) FCC I	PART 15C (PEAI	()	
		1												
60		-			(_					RF) FCC	PART 15C (AVI		
						X								
	/					4								
						X								
10.0														
2441.0	000 245	1.00 2	461.00	2471.0	J 248	31.00 249	91.00	2501	.00 2	2511.00	2521.	.00 2	2541.00 MI	
NI.	N AL-	Г			ding	Corre			sur e	Lin	n it	O∨er		
110.	Mk.		•	Lev		Fact	or ——		ent					
		MH	łz	dB	u∨	dB/m		dBı	uV/m	dBi	uV/m	dB	Detecto	
1	*	2467.	300	84	.37	1.10		85	5.47	Funda	amenta	I Frequency	AVG	
2	Х	2469.	200	95	.06	1.11		96	3.17	Funda	amenta	I Frequency	peal	
2		2483.	500	49	.58	1.17	'	50).75	74	1.00	-23.25	peal	
3					.07	1.17		27	7.24	5/	1.00	-16.76	AVG	
- 2		2483.	500											



				CALL TO SERVICE STATE OF THE S							
۱	EUT:	Simple Hub	Model Name :	VM64S							
	Temperature:	25 ℃	Relative Humidity:	55%							
	Test Voltage:	AC 120V/60 Hz	AC 120V/60 Hz								
	Ant. Pol.	Vertical									
	Test Mode:	TX N(HT20) Mode 2462N	TX N(HT20) Mode 2462MHz								
	Domorki	NI/A	The second second								



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2458.800	82.53	1.06	83.59	Fundamental F	requency	AVG
2	Х	2458.900	93.97	1.06	95.03	Fundamental F	requency	peak
3		2483.500	50.82	1.17	51.99	74.00	-22.01	peak
4		2483.500	35.38	1.17	36.55	54.00	-17.45	AVG

2488.00

2498.00

2508.00

2518.00

2538.00 MHz

Emission Level= Read Level+ Correct Factor

2438.000 2448.00

2458.00

2468.00

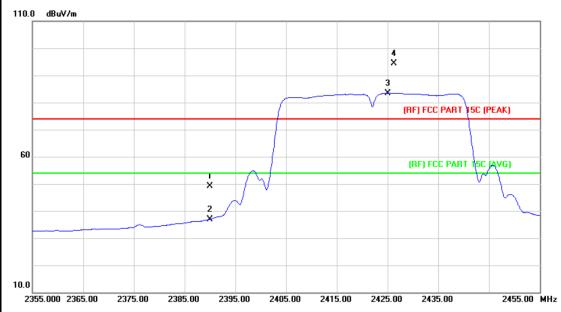
2478.00



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EUT:	Simple Hub	Model Name :	VM64S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60 Hz							
Ant. Pol.	Horizontal							
Test Mode:	TX N(HT40) Mode 2422N	ИНz						
Remark:	N/A		1:33 _ 0					



N	lo. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	48.24	0.77	49.01	74.00	-24.99	peak
2		2390.000	36.14	0.77	36.91	54.00	-17.09	AVG
3	*	2425.100	82.57	0.93	83.50	Fundamental F	requency	AVG
4	Х	2426.300	93.47	0.93	94.40	Fundamental F	requency	peak



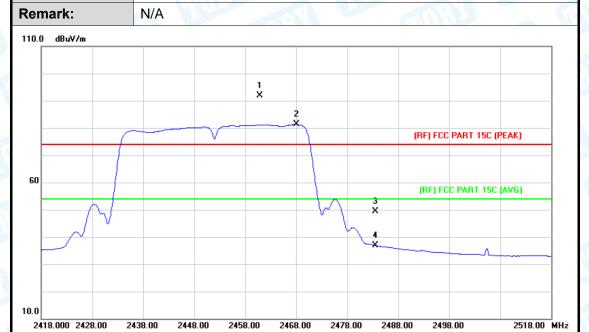
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EUT:		Simp	ole Hu	b	1	Me	odel Name :			VM64S				
Temperature:			25 ℃			Re	Relative Humidity:			55%	55%			
Test \	/oltag	e:	AC 1	AC 120V/60 Hz										
Ant. F	Pol.		Verti	cal		1	ALF		1					
Test N	/lode:		TXN	I(HT40	O) Mod	de 242	22MHz	2 (1)	11/2)			13		
Rema	rk:		N/A	167	1		50	18			11/2	3		1
110.0	dBuV/m													_
							3 X							
							×							1
							<u>*</u> _		~	1RF)	FCC PAR	T 15C (PEA	ıkı	+
									V					
60														
					1					(RI) FCC PA	RT 15C (AV	/G)	4
					×	1						- $$		
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_														-
10.0														
2356.	000 236	6.00 2	376.00	2386.00) 239	96.00	2406.00	2416.	00 24	126.00	2436.00		2456.00	МН
					ding		rect	Mea	sure-			_		
	Mk				1					lim	it .	Over		
No	. IVIIX.	ГІ	eq.	Le	vei	га	ctor	me	ent	Lim	IL.			
No	. 1711	M			vei Bu∀		ictor ∀m		ent uV/m	dBu		dB	Dete	ecto
No 1	. IVIIX.		- Hz	dB			∀m	dΒι			V/m	dB - 26.4 1		ecto eak
	. 1911	M	-iz .000	dB 46	₿u∀	dB	∀m 77	dВи 47	ıV/m	dBu	V/m . 00		ре	eak
1	X	мн 2390	.000 .000	d6 46	3u∀ . 82	d⊟ 0 .	√m 77 77	dBu 47 35	ı∨/m '. 59	74.	∨/m .00	-26.41) A'	



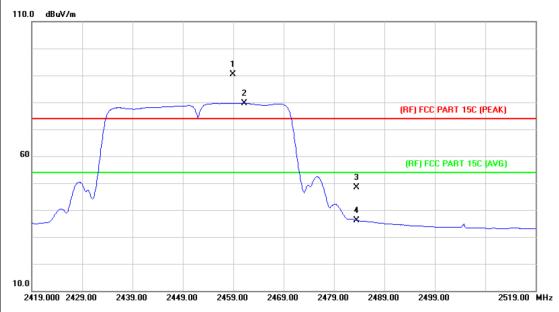
William .			
EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	(A)	THE STATE OF THE S
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2452	MHz	THE REAL PROPERTY.



No.	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2460.900	90.90	1.06	91.96	Fundamental	Frequency	peak
2	*	2468.000	80.23	1.11	81.34	Fundamental	Frequency	AVG
3		2483.500	48.10	1.17	49.27	74.00	-24.73	peak
4		2483.500	35.64	1.17	36.81	54.00	-17.19	AVG



EUT:	Simple Hub	Model Name :	VM64S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Ant. Pol.	Vertical					
Test Mode:	TX N(HT40) Mode 2452MHz					
Remark:	N/A		1:72			



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2458.900	89.27	1.06	90.33	Fundamental	Frequency	peak
2	*	2461.200	78.61	1.07	79.68	Fundamental	Frequency	AVG
3		2483.500	47.24	1.17	48.41	74.00	-25.59	peak
4		2483.500	35.01	1.17	36.18	54.00	-17.82	AVG

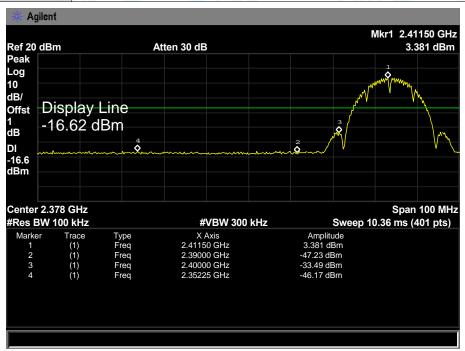


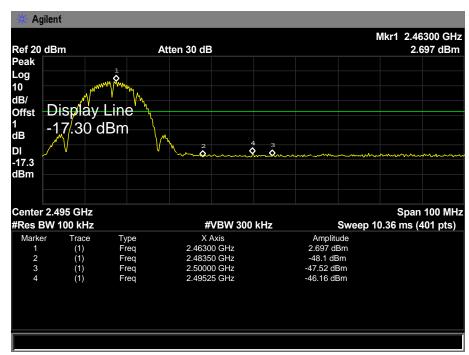


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(2) Conducted Test

EUT:	Simple Hub	Model Name :	VM64S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Test Mode:	TX B Mode 2412MHz / TX B Mode 2462MHz					
Remark:	The EUT is programed in continuously transmitting mode					

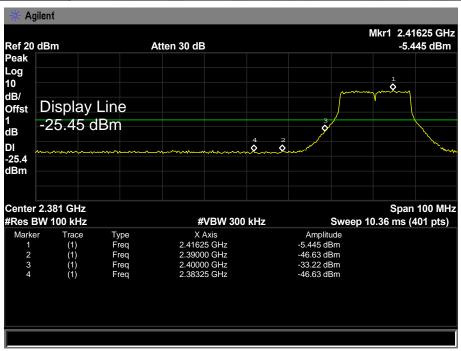


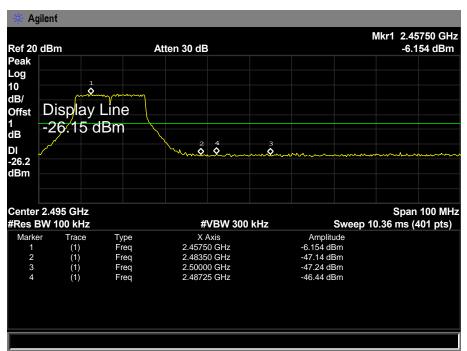






EUT:	Simple Hub	Model Name :	VM64S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Test Mode:	TX G Mode 2412MHz / TX G Mode 2462MHz					
Remark:	The EUT is programed in	continuously transmitt	ing mode			



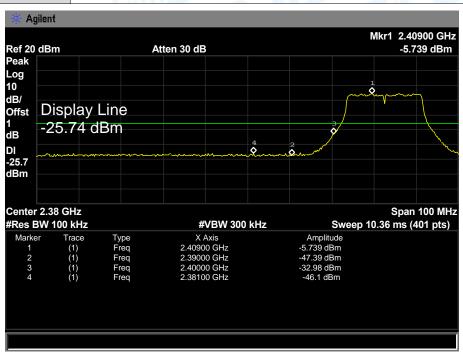


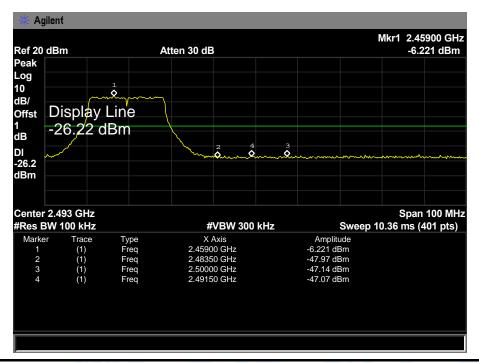


Page:



EUT: Simple Hub **Model Name:** VM64S 25 ℃ **Relative Humidity:** 55% Temperature: Test Voltage: AC 120V/60 Hz Test Mode: TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHz Remark: The EUT is programed in continuously transmitting mode



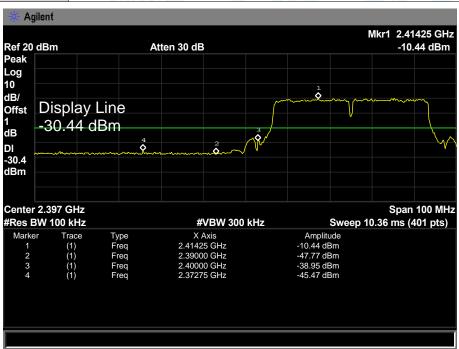


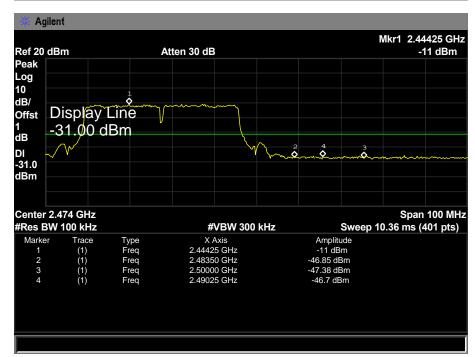




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EUT:	Simple Hub	Model Name :	VM64S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60 Hz					
Test Mode:	TX N(HT40) Mode 2422MHz / TX N(HT40) Mode 2452MHz					
Remark:	The EUT is programed in continuously transmitting mode					







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7. Bandwidth Test

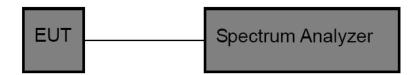
7.1 Test Standard and Limit

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 Issue 1			
Test Item Limit 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, Midle and high channel for the test.

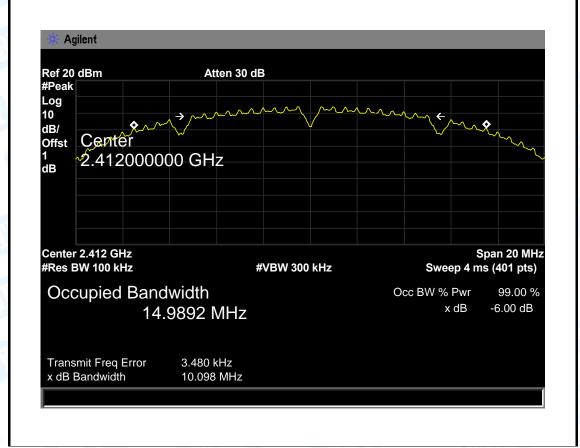


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7.5 Test Data

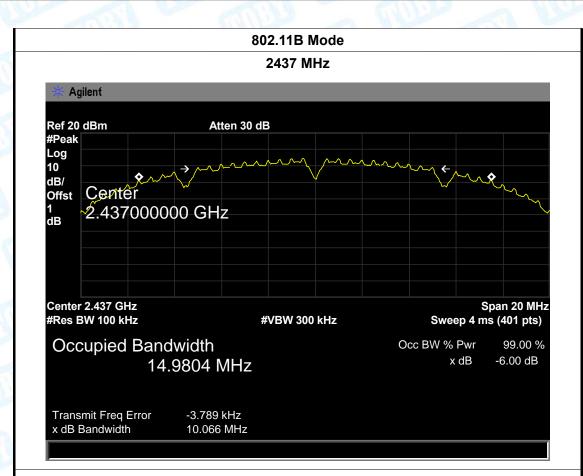
EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Test Mode:	TX 802.11B Mode		
Channel frequence	cy 6dB Bandwidth	99% Bandwidth	Limit
(MHz)	(MHz)	(MHz)	(MHz)
2412	10.098	14.9892	
2437	10.066	14.9804	>=0.5
2462	10.102	14.9837	

802.11B Mode





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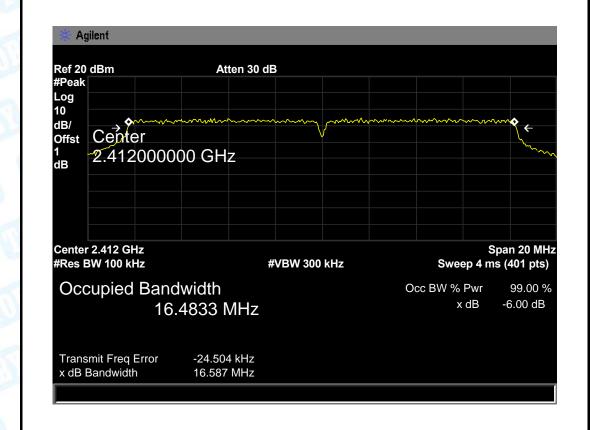


802.11B Mode 2462 MHz Agilent Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ Center Offst 1 dB 2.462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 14.9837 MHz Transmit Freq Error -901.723 Hz x dB Bandwidth 10.102 MHz



	7
TODI	

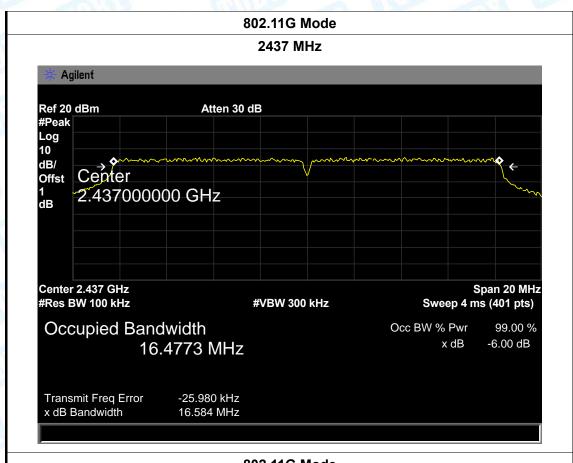
EUT:	Simple Hub	Model Name :	VM64S	
Temperature:	25 ℃	Relative Humidity:	55%	
Test Voltage:	AC 120V/60 Hz	ULL TO THE		
Test Mode:	TX 802.11G Mode			
Channel frequency 6dB Bandwidth		99% Bandwidth	Limit	
(MHz)	(MHz)	(MHz)	(MHz)	
2412	16.587	16.4833		
2437	16.584	16.4773	>=0.5	
2462 16.615		16.4944		
802.11G Mode				





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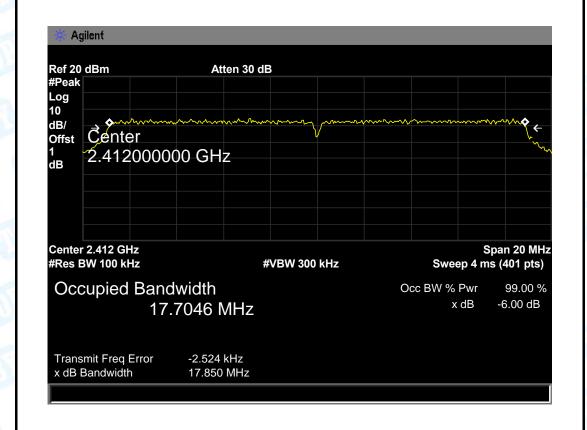




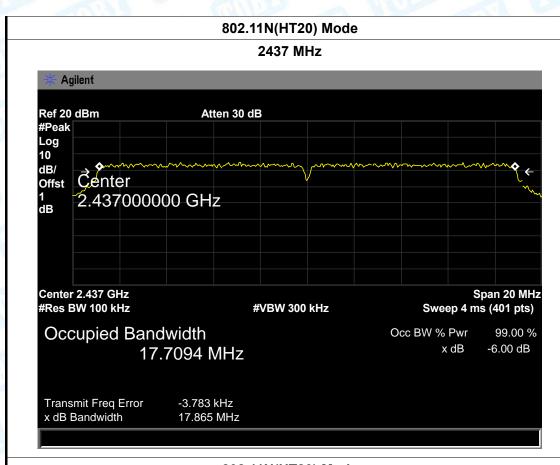
802.11G Mode 2462 MHz Agilent Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ Center Offst 1 dB 2.462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 16.4944 MHz Transmit Freq Error -25.932 kHz x dB Bandwidth 16.615 MHz



EUT:	Simple Hub	Model Name :	VM64S	
Temperature:	25 ℃	Relative Humidity:	55%	
Test Voltage:	AC 120V/60 Hz			
Test Mode:	TX 802.11N(HT20) Mode			
Channel frequence	cy 6dB Bandwidth	99% Bandwidth	Limit	
(MHz)	(MHz)	(MHz)	(MHz)	
2412	17.850	17.7046		
2437	17.865	17.7094	>=0.5	
2462	17.856	17.7014		
802.11N(HT20) Mode				





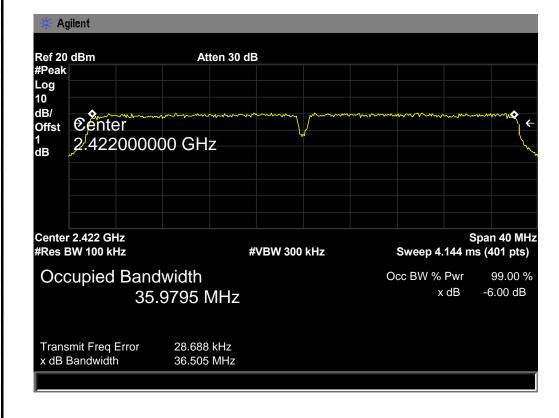


802.11N(HT20) Mode 2462 MHz Agilent Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ Center Offst 1 dB ².462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 17.7014 MHz Transmit Freq Error -3.694 kHz x dB Bandwidth 17.856 MHz





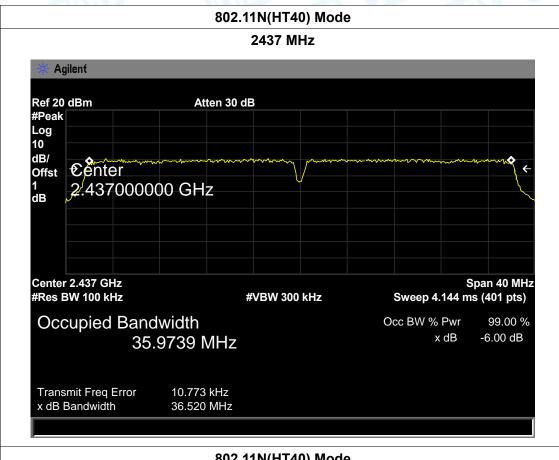
EUT:	Simple Hub	Model Name :	VM64S	
Temperature:	25 ℃	Relative Humidity:	55%	
Test Voltage:	AC 120V/60 Hz	(1) T		
Test Mode:	TX 802.11N(HT40) Mode			
Channel frequence	cy 6dB Bandwidth	99% Bandwidth	Limit	
(MHz)	(MHz)	(MHz)	(MHz)	
2422	36.505	35.9795		
2437	36.520	35.9739	>=0.5	
2452	36.486	35.9712		
802.11N(HT40) Mode				





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802.11N(HT40) Mode 2452 MHz Agilent Ref 20 dBm Atten 30 dB #Peak Log 10 dB/ **E**enter Offst 1 dB 2.452000000 GHz Center 2.452 GHz Span 40 MHz #Res BW 100 kHz Sweep 4.144 ms (401 pts) **#VBW 300 kHz** Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 35.9712 MHz Transmit Freq Error 16.644 kHz x dB Bandwidth 36.486 MHz



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8. Peak Output Power Test

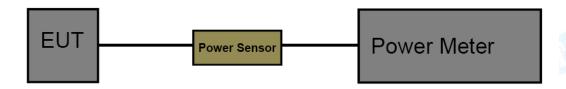
8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (b)

8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/ RSS 247 Issue 1			
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 measurement is according to section 9.1.2 of KDB 558074 D01 DTS Meas Guidance v03r03.

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:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Mode	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
	2412	17.75	
802.11b	2437	18.03	
	2462	17.06	
	2412	14.19	20
802.11g	2437	14.22	
	2462	13.66	
000 44	2412	14.50	30
802.11n (HT20)	2437	14.74	
(11120)	2462	13.90	
11	2422	13.23	
802.11n (HT40)	2437	13.25	
(1140)	2452	12.40	



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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 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, Midle and high channel for the test.

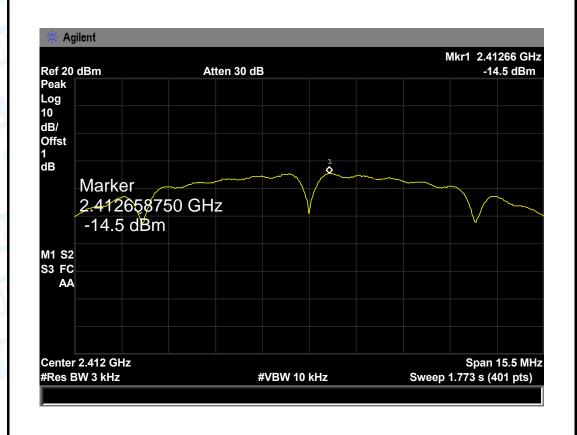


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9.5 Test Data

EUT:	Simple H	ub	Model Name :	VM64S
Temperature:	25 ℃	610	Relative Humidity	y : 55%
Test Voltage:	AC 120V/	AC 120V/60 Hz		
Test Mode:	TX 802.11B Mode			
Channel Frequency	uency	Power Density		Limit
(MHz)		(3 kHz/dBm)		(dBm)
2412		-14.50		
2437		-14.33		8
2462		-15.10		
802 11B Mode				

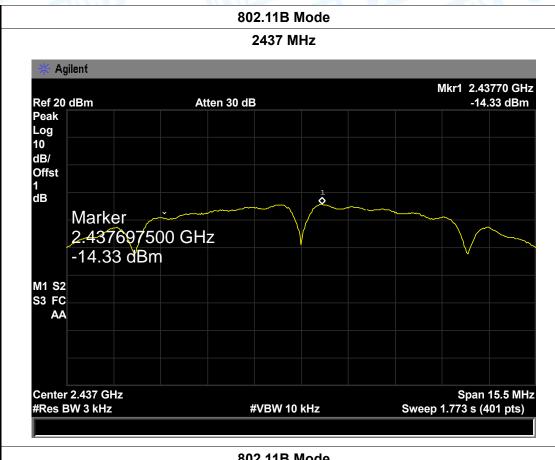
802.11B Mode







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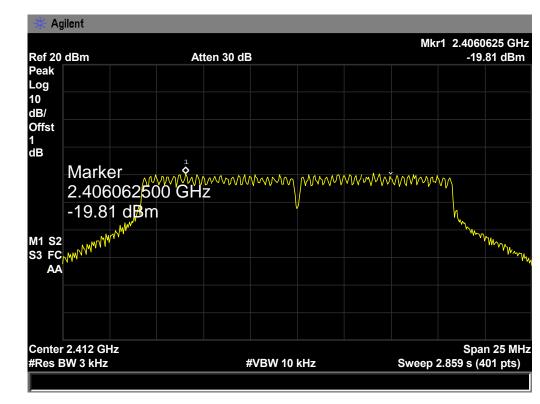


802.11B Mode 2462 MHz Agilent Mkr1 2.46274 GHz -15.1 dBm Ref 20 dBm Atten 30 dB Peak Log 10 dB/ Offst 1 dB Marker 2.462736250 GHz -15.1 dBm M1 S2 S3 FC AA Center 2.462 GHz Span 15.5 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 1.773 s (401 pts)



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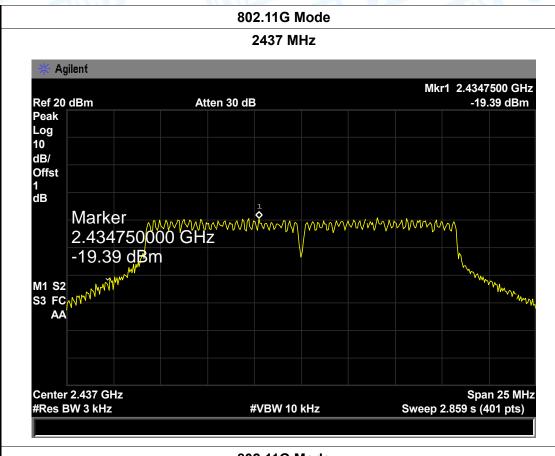
				O. W. T.	
EUT:	Simple H	ub	Model Name :	VM64S	
Temperature:	25 ℃		Relative Humidity	55%	
Test Voltage:	AC 120V/	60 Hz			
Test Mode:	TX 802.1	TX 802.11G Mode			
Channel Fred	luency	Power Density Limit		Limit	
(MHz)		(3 kHz/dBm)		(dBm)	
2412		^	19.81		
2437		-1	19.39	8	
2462		-20.14			
802.11G Mode					
2412 MHz					







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802.11G Mode 2462 MHz Agilent Mkr1 2.4560625 GHz -20.14 dBm Ref 20 dBm Atten 30 dB Peak Log 10 dB/ Offst 1 dB 2.456062500 GHz -20.14 dBm M1 S2 S3 FC AA Center 2.462 GHz Span 25 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 2.859 s (401 pts)

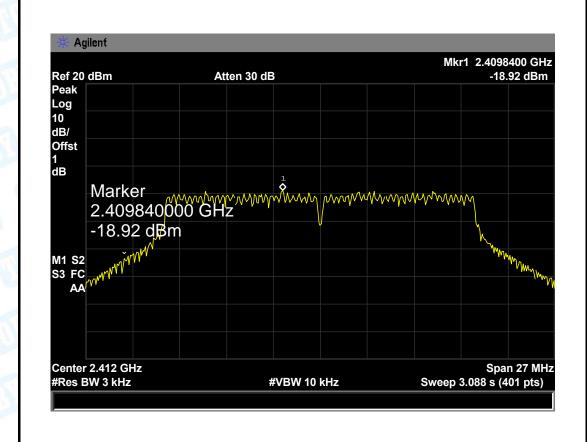


EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	01 -	

Test Mode: TX 802.11N(HT20) Mode

Channel Frequency	Power Density	Limit
(MHz)	(3 kHz/dBm)	(dBm)
2412	-18.92	
2437	-19.53	8
2462	-19.54	

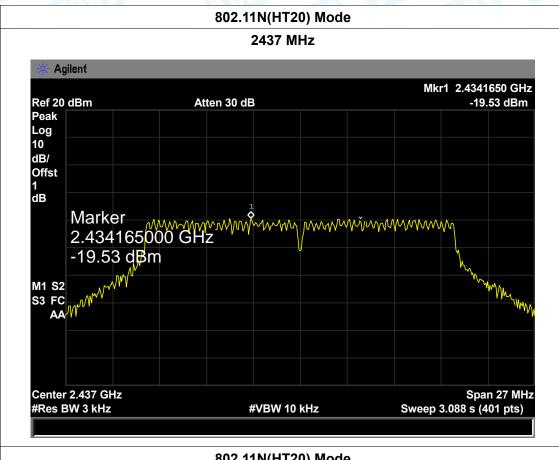
802.11N(HT20) Mode







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802.11N(HT20) Mode 2462 MHz Agilent Mkr1 2.4598400 GHz -19.54 dBm Ref 20 dBm Atten 30 dB Peak Log 10 dB/ Offst 1 dB Marker 2.459840000 GHz -19.54 dBm M1 S2 S3 FC AAM Center 2.462 GHz Span 27 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 3.088 s (401 pts)

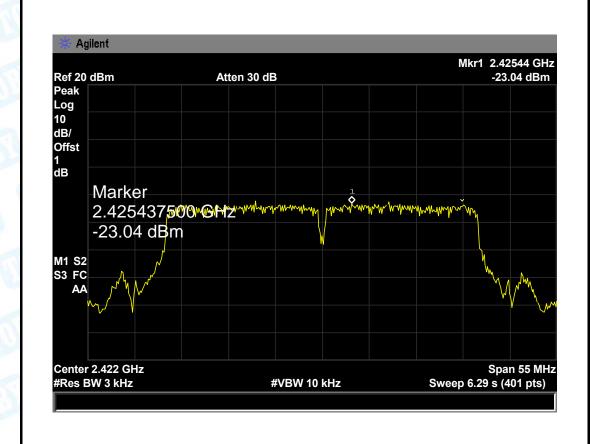


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EUT:	Simple Hub	Model Name :	VM64S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz	01 - 0	
Test Mode:	TX 802 11N(HT40) Mode		

rest mode.	17. 002.1114(11140) WOOC		
Channel Frequency	uency	Power Density	Limit
(MHz)		(3 kHz/dBm)	(dBm)
2422		-23.04	
2437		-20.41	8
2452		-22.31	

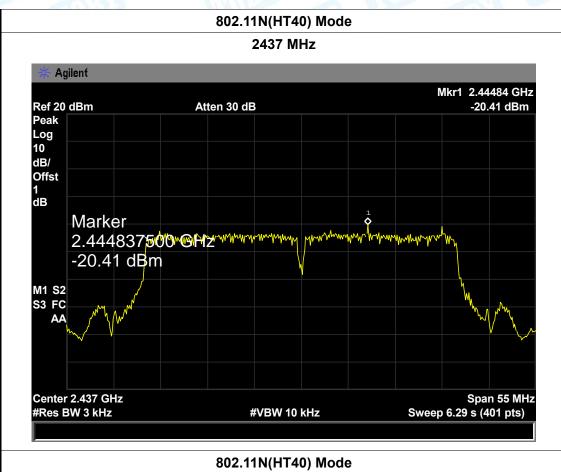
802.11N(HT40) Mode







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2452 MHz Agilent Mkr1 2.45984 GHz -22.31 dBm Ref 20 dBm Atten 30 dB Peak Log 10 dB/ Offst 1 dB Marker 2.459837**500 GHz~~~~** -22.31 dBm M1 S2 S3 FC Center 2.452 GHz Span 55 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 6.29 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 2 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 an Embedded Antenna. It complies with the standard requirement.

	Antenna Type
	▶ Permanent attached antenna
Milita	□ Unique connector antenna
	□ Professional installation antenna