EMC TEST REPORT

Report No.: 18070873-FCC-E

Supersede Report No: N/A

Applicant	Shenzhen PAKITE Technology Co.,Ltd.
Product Name	Wireless HDMI Extender
Model No.	PAT-590
Serial No.	PAT-580 \ PAT-583 \ PAT-585 \ PAT-587 \ PAT-590 \ PAT-593 \ PAT-595 \ PAT-597
Test Standard	FCC Part 15 Subpart B Class B, ANSI C63.4: 2014
Test Date	August 24 to November 18, 2018
Issue Date	November 19, 2018
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Evans He	David Huang	
Test Engineer	Checked By	

This test report may be reproduced in full only

Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108

Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn

Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

This page has been left blank intentionally.

CONTENTS

1. Report Revision History

Report No.	Report Version	Description	Issue Date
18070873-FCC-E	NONE	Original	November 19, 2018

2. Customer information

Applicant Name	Shenzhen PAKITE Technology Co.,Ltd.
Applicant Add	12 Floor, 6 Building, 2 Reservoir Avenue, Nankeng Community, Bantian Street, Longgang District, Shenzhen.
Manufacturer	Shenzhen PAKITE Technology Co.,Ltd.
Manufacturer Add	12 Floor, 6 Building, 2 Reservoir Avenue, Nankeng Community, Bantian Street, Longgang District, Shenzhen.

3. Test site information

Test Lab A:

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	535293
IC Test Site No.	4842E-1
Test Software of Radiated Emission	Radiated Emission Program-To Shenzhen v2.0
Test Software of Conducted Emission	EZ-EMC(ver.Icp-03A1)

Test Lab B:

Lab performing tests	BV 7LAYERS COMMUNICATION TRCHNOLOGY(SHENZHEN)CO.,LTD
Lab Address	No. B102, Dazu Cuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industry Park, Nanshan District Shenzhen, Guangdong China
FCC Test Site No.	525120

Note: We just perform Radiated Spurious Emission above 18GHz in the test Lab. B.

4. Equipment under Test (EUT) Information

Description of EUT:	Wireless HDMI Extender
Main Model:	PAT-590
Serial Model:	PAT-580 \ PAT-583 \ PAT-585 \ PAT-587 \ PAT-590 \ PAT-593 \ PAT-595 \ PAT-597
Type of Modulation:	802.11 n40: OFDM
RF Operating Frequency (ies):	5190-5230 MHz; (TX/RX)
Number of Channels:	2CH
Input Power:	Adapter Model: KT12W050200US Input: 100-240V~50/60Hz, 0.4A Output: 5Vdc, 2A
Port:	Please refer to the user’ s manual
Trade Name :	PAKITE
Date EUT received:	August 24, 2018
Test Date(s):	August 24 to November 18, 2018

5. Test Summary

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

FCC Rules	Description of Test	Result
§15.107; ANSI C63.4: 2014	AC Power Line Conducted Emissions	Compliance
§15.109; ANSI C63.4: 2014	Radiated Emissions	Compliance

Measurement Uncertainty

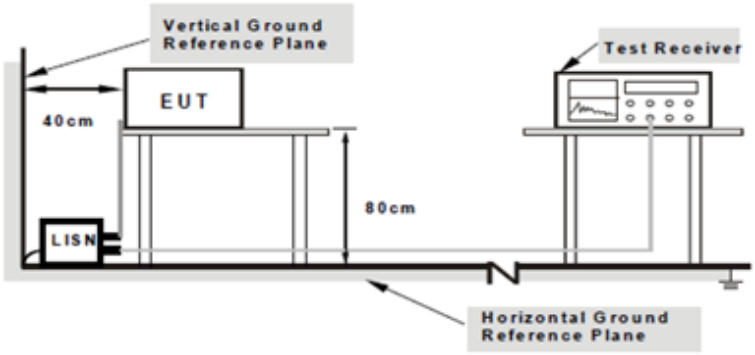
Parameter	Uncertainty
AC Power Line Conducted Emissions (150kHz~30MHz)	±3.11dB
Radiated Emission(30MHz~1GHz)	±5.12dB
Radiated Emission(1GHz~6GHz)	±5.34dB

6. Measurements, Examination And Derived Results

6.1 AC Power Line Conducted Emissions

Temperature	26°C
Relative Humidity	56%
Atmospheric Pressure	1023mbar
Test date :	October 22, 2018
Tested By :	Evans He

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.107</td><td>a)</td><td>For Low-power radio-frequency devices that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 [mu] H/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequencies ranges.
<table>
<tr><th rowspan="2">Frequency ranges (MHz)</th><th colspan="2">Limit (dBμV)</th></tr>
<tr><th>QP</th><th>Average</th></tr>
<tr><td>0.15 ~ 0.5</td><td>66 – 56</td><td>56 – 46</td></tr>
<tr><td>0.5 ~ 5</td><td>56</td><td>46</td></tr>
<tr><td>5 ~ 30</td><td>60</td><td>50</td></tr>
</table></td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 

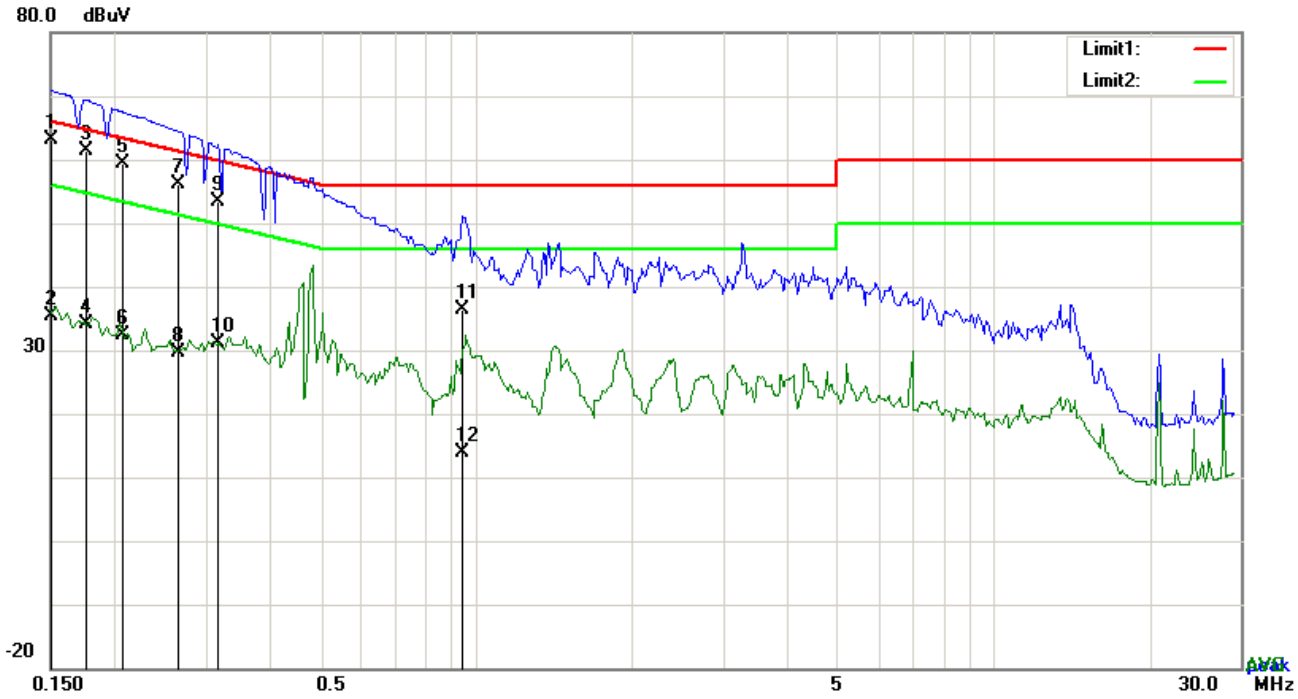
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.
2. The power supply for the EUT was fed through a 50Ω /50mH EUT LISN, connected to filtered mains.</td></tr>
</table>

	3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable. 4. All other supporting equipment were powered separately from another main supply. 5. The EUT was switched on and allowed to warm up to its normal operating condition. 6. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver. 7. High peaks, relative to the limit line, The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 kHz. 8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).
Remark	
Result	☑ Pass ☐ Fail ☐ N/A

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Mode :	Normal Working Mode

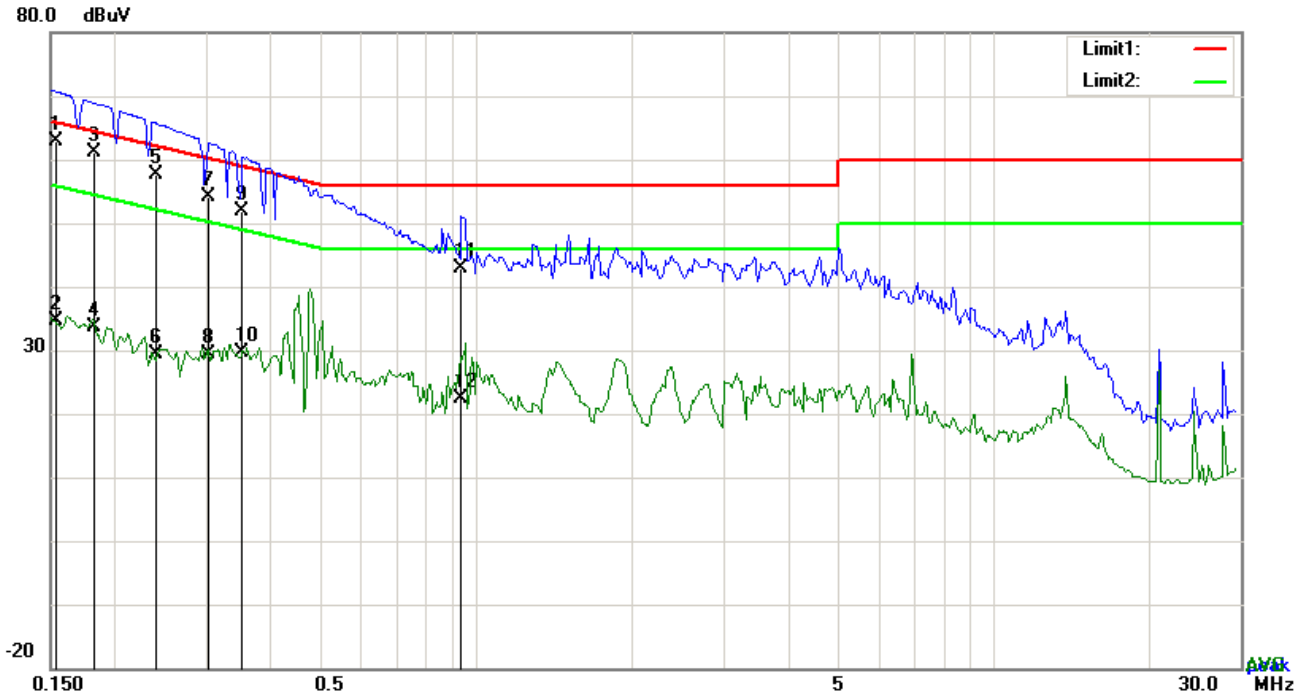


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.1500	53.00	QP	10.03	63.03	66.00	-2.97
2	L1	0.1500	25.38	AVG	10.03	35.41	56.00	-20.59
3	L1	0.1758	51.41	QP	10.03	61.44	64.68	-3.24
4	L1	0.1758	24.18	AVG	10.03	34.21	54.68	-20.47
5	L1	0.2072	49.46	QP	10.03	59.49	63.32	-3.83
6	L1	0.2072	22.45	AVG	10.03	32.48	53.32	-20.84
7	L1	0.2644	46.09	QP	10.03	56.12	61.29	-5.17
8	L1	0.2644	19.65	AVG	10.03	29.68	51.29	-21.61
9	L1	0.3177	43.40	QP	10.03	53.43	59.77	-6.34
10	L1	0.3177	21.02	AVG	10.03	31.05	49.77	-18.72
11	L1	0.9417	26.41	QP	10.03	36.44	56.00	-19.56
12	L1	0.9417	3.88	AVG	10.03	13.91	46.00	-32.09

Test Mode:	Normal Working Mode

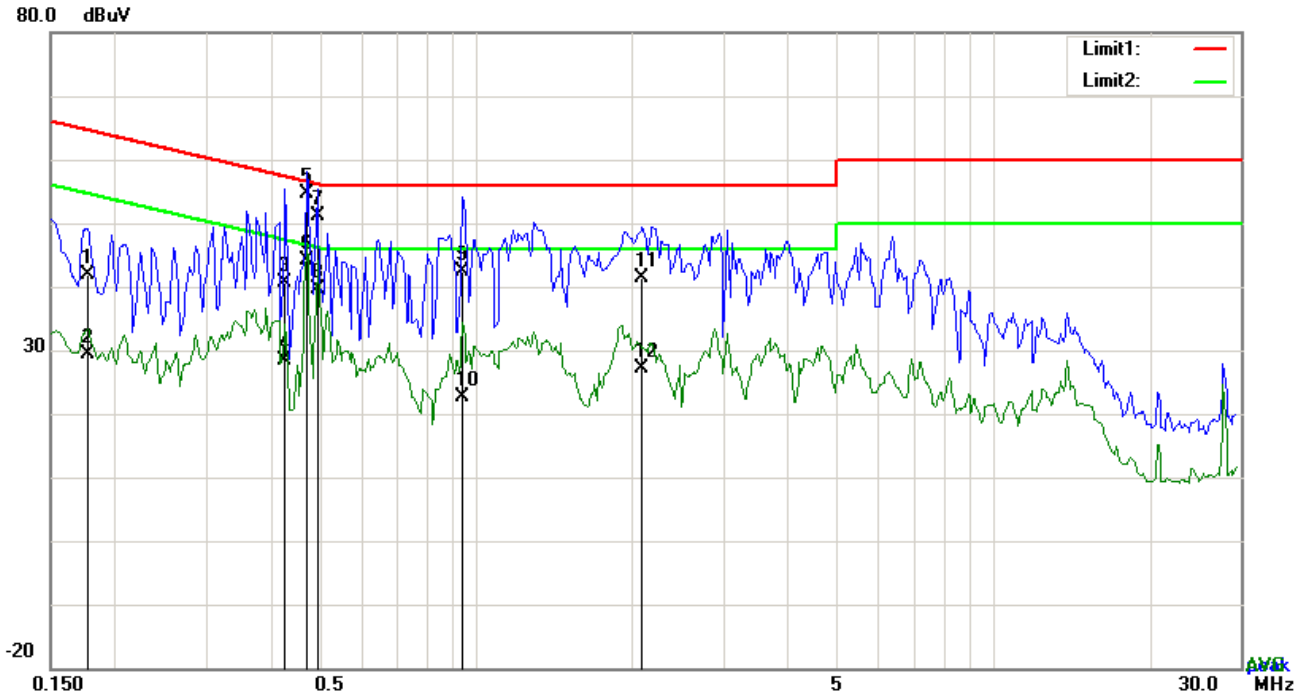


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.1540	52.85	QP	10.02	62.87	65.78	-2.91
2	N	0.1540	24.61	AVG	10.02	34.63	55.78	-21.15
3	N	0.1825	51.06	QP	10.02	61.08	64.37	-3.29
4	N	0.1825	23.52	AVG	10.02	33.54	54.37	-20.83
5	N	0.2404	47.52	QP	10.02	57.54	62.08	-4.54
6	N	0.2404	19.39	AVG	10.02	29.41	52.08	-22.67
7	N	0.3035	44.12	QP	10.02	54.14	60.15	-6.01
8	N	0.3035	19.34	AVG	10.02	29.36	50.15	-20.79
9	N	0.3528	41.74	QP	10.02	51.76	58.90	-7.14
10	N	0.3528	19.63	AVG	10.02	29.65	48.90	-19.25
11	N	0.9339	32.73	QP	10.03	42.76	56.00	-13.24
12	N	0.9339	12.26	AVG	10.03	22.29	46.00	-23.71

Test Mode :	Normal Working Mode

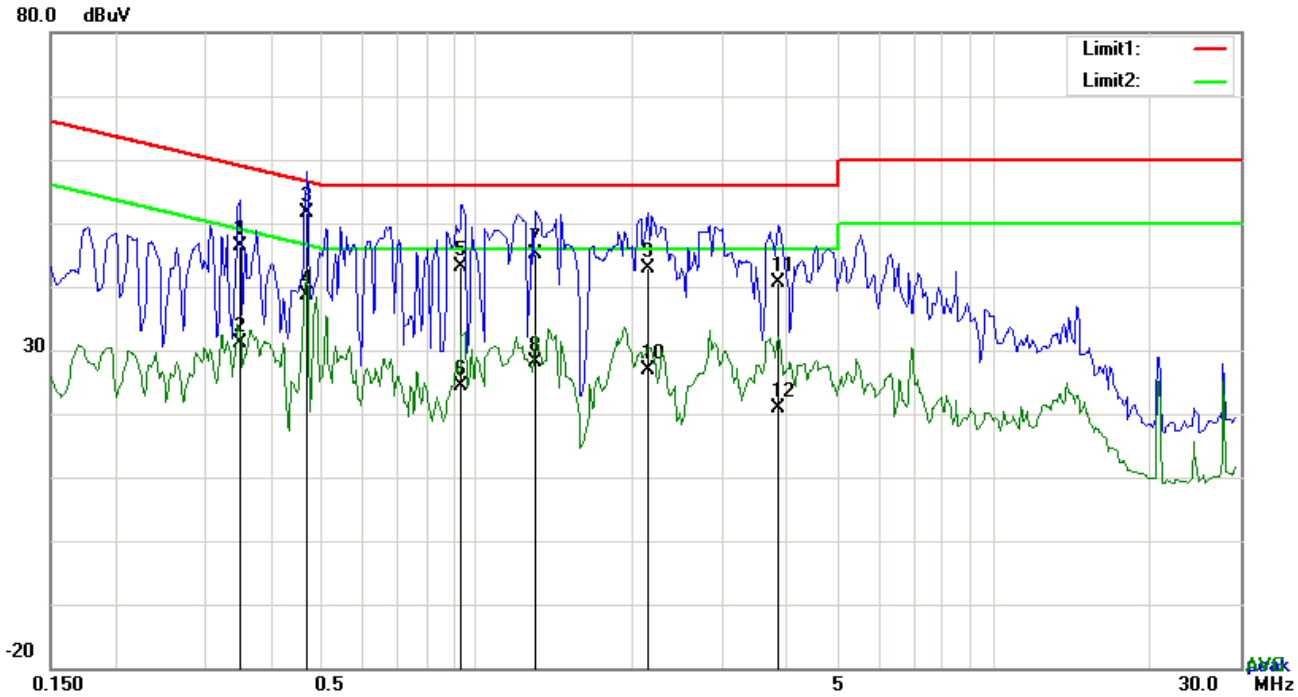


Test Data

Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.1773	31.93	QP	10.03	41.96	64.61	-22.65
2	L1	0.1773	19.47	AVG	10.03	29.50	54.61	-25.11
3	L1	0.4269	30.68	QP	10.03	40.71	57.31	-16.60
4	L1	0.4269	18.29	AVG	10.03	28.32	47.31	-18.99
5	L1	0.4698	44.49	QP	10.03	54.52	56.52	-2.00
6	L1	0.4698	33.98	AVG	10.03	44.01	46.52	-2.51
7	L1	0.4932	41.05	QP	10.03	51.08	56.11	-5.03
8	L1	0.4932	29.72	AVG	10.03	39.75	46.11	-6.36
9	L1	0.9417	32.33	QP	10.03	42.36	56.00	-13.64
10	L1	0.9417	12.68	AVG	10.03	22.71	46.00	-23.29
11	L1	2.0961	31.41	QP	10.04	41.45	56.00	-14.55
12	L1	2.0961	17.15	AVG	10.04	27.19	46.00	-18.81

Test Mode :	Normal Working Mode



Test Data

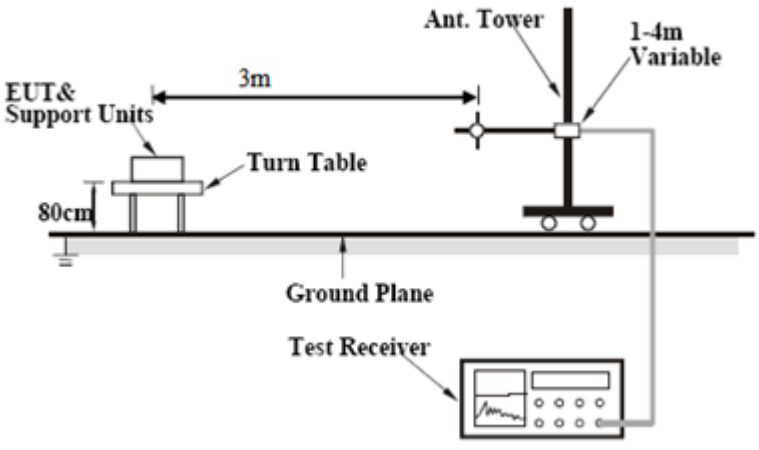
Phase Neutral Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.3489	36.35	QP	10.02	46.37	58.99	-12.62
2	N	0.3489	21.07	AVG	10.02	31.09	48.99	-17.90
3	N	0.4698	41.70	QP	10.02	51.72	56.52	-4.80
4	N	0.4698	28.52	AVG	10.02	38.54	46.52	-7.98
5	N	0.9378	32.99	QP	10.03	43.02	56.00	-12.98
6	N	0.9378	14.43	AVG	10.03	24.46	46.00	-21.54
7	N	1.3005	34.99	QP	10.03	45.02	56.00	-10.98
8	N	1.3005	18.02	AVG	10.03	28.05	46.00	-17.95
9	N	2.1468	32.74	QP	10.04	42.78	56.00	-13.22
10	N	2.1468	16.75	AVG	10.04	26.79	46.00	-19.21
11	N	3.8268	30.51	QP	10.06	40.57	56.00	-15.43
12	N	3.8268	10.74	AVG	10.06	20.80	46.00	-25.20

6.2 Radiated Emissions

Temperature	26°C
Relative Humidity	56%
Atmospheric Pressure	1023mbar
Test date :	October 22, 2018
Tested By :	Evans He

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.109(d)</td><td>a)</td><td>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges
<table>
<tr><th>Frequency range (MHz)</th><th>Field Strength (μV/m)</th></tr>
<tr><td>30 – 88</td><td>100</td></tr>
<tr><td>88 – 216</td><td>150</td></tr>
<tr><td>216 - 960</td><td>200</td></tr>
<tr><td>Above 960</td><td>500</td></tr>
</table></td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 
</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner:
a. Vertical or horizontal polarization (whichever gave the higher emission level</td></tr>
</table>

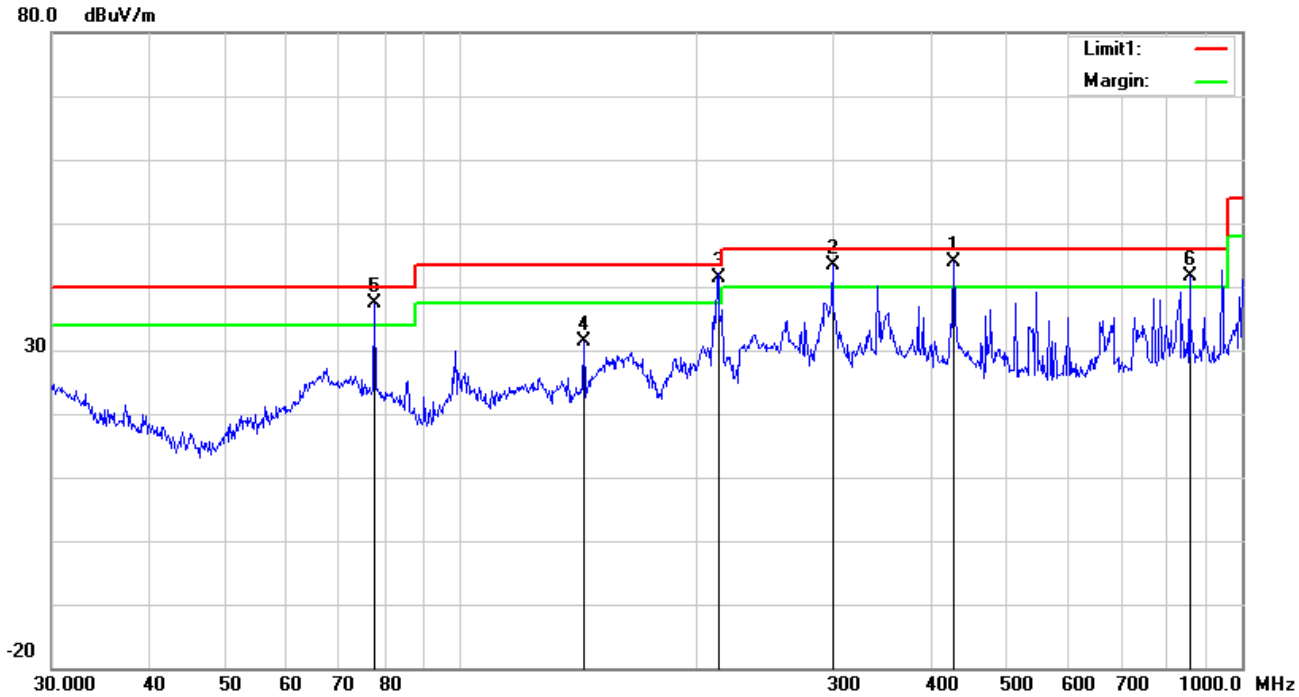
	over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz. 4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth with Peak detection for Average Measurement as below at frequency above 1GHz. ■ 1 kHz (Duty cycle < 98%) □ 10 Hz (Duty cycle > 98%) 5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Mode :	Normal Working Mode

Below 1GHz

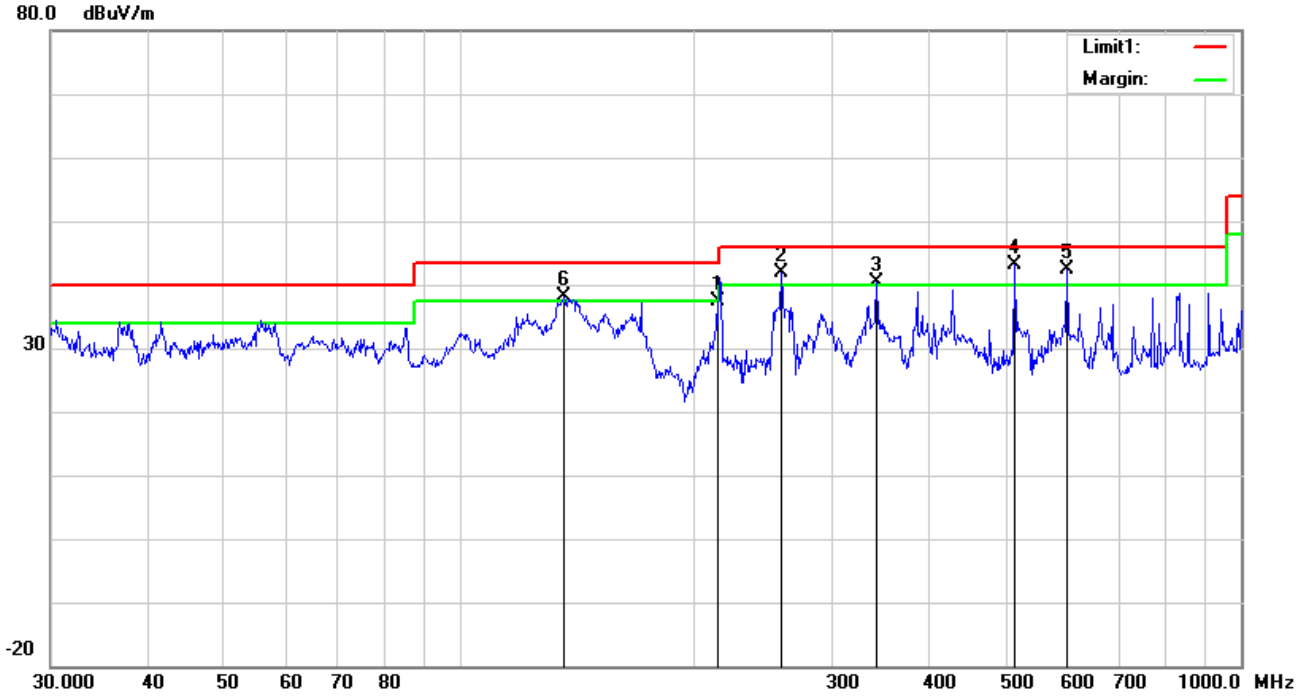


Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)	(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )
1	H	428.0193	47.43	16.26	21.95	2.08	43.82	46.00	-2.18	100	18
2	H	299.3158	50.33	13.57	22.29	1.79	43.40	46.00	-2.60	200	97
3	H	213.7634	50.35	11.91	22.36	1.58	41.48	43.50	-2.02	100	283
4	H	143.8295	39.85	12.60	22.38	1.30	31.37	43.50	-12.13	100	44
5	H	77.5928	51.02	7.65	22.41	1.01	37.27	40.00	-2.73	100	328
6	H	857.0247	37.66	22.03	21.00	2.90	41.59	46.00	-4.41	100	342

Below 1GHz



Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)	(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )
1	V	213.7634	46.15	11.91	22.36	1.58	37.28	43.50	-6.22	100	32
2	V	258.3264	50.69	11.77	22.29	1.71	41.88	46.00	-4.12	100	6
3	V	341.9787	46.14	14.48	22.17	2.00	40.45	46.00	-5.55	100	51
4	V	513.6331	44.55	17.89	21.78	2.44	43.10	46.00	-2.90	100	147
5	V	599.3213	42.38	19.09	21.58	2.49	42.38	46.00	-3.62	100	318
6	V	135.9822	46.50	12.86	22.40	1.24	38.20	43.50	-5.30	100	350

Above 1GHz

Frequency (MHz)	Read_level (dBμV/m)	Azimuth	Height (cm)	Polarity (H/V)	Level (dBμV/m)	Factors (dB)	Limit (dBμV/m)	Margin (dB)	Detector (PK/AV)
2017.58	67.22	1	100	V	-14.42	48.43	74	-25.57	PK
1261.57	69.97	48	100	V	-19.27	48.16	74	-25.84	PK
2609.37	65.54	160	100	V	-13.83	46.73	74	-27.27	PK
3601.71	64.49	10	100	H	-11.42	46.1	74	-27.9	PK
2803.3	63.13	190	100	H	-13.1	48.48	74	-25.52	PK
4082.53	61.44	343	100	H	-10.37	47.1	74	-26.9	PK

*Note1: The highest frequency of the EUT is 5230MHz, so the testing has been conformed to 5*5230MHz =26, 150MHz.*

Note2: The frequency that above 3GHz is mainly from the environment noise.

Note3: The AV measurement performed, more than 20dB below limit so AV test data was not presented.
Note4: The radiated spurious test above 18GHz is subcontracted to "BV 7LAYERS COMMUNICATION TRCHNOLOGY(SHENZHEN)CO.,LTD" Laboratories. and found 30dB below the limit at least.

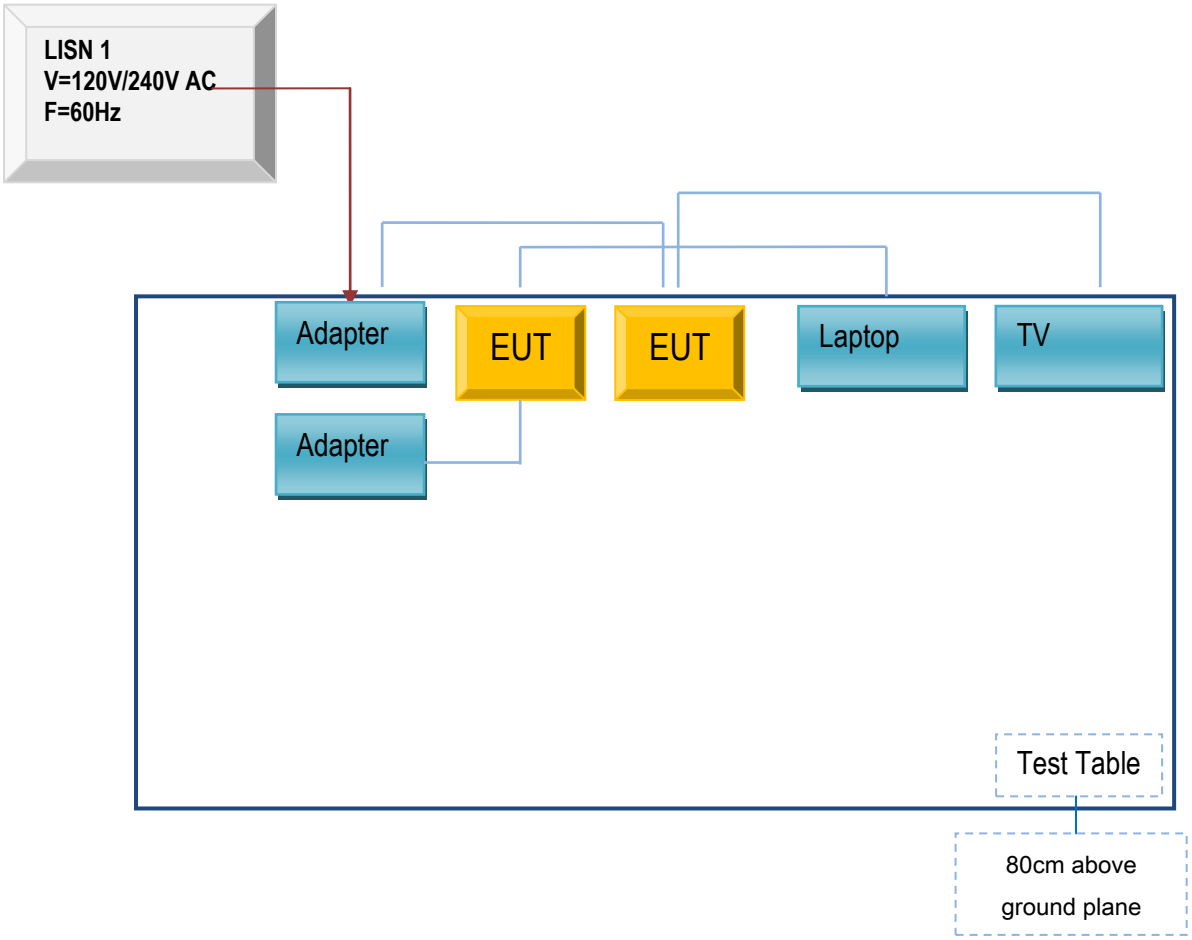
Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due
AC Line Conducted Emissions				
EMI test receiver	ESCS30	8471241027	01/05/2018	01/04/2019
Artificial Mains Network	8127	8127713	01/05/2018	01/04/2019
ISN	ISN T800	34373	01/05/2018	01/04/2019
Radiated Emissions				
EMI test receiver	ESL6	1300.5001K06-100262-eQ	01/05/2018	01/04/2019
Active Antenna	AL-130	121031	02/08/2018	02/07/2019
3m Semi-anechoic Chamber	9m*6m*6m	N/A	10/18/2018	10/17/2019
Signal Amplifier	8447E	443008	01/25/2018	01/24/2019
MXA signal analyzer	N9020A	MY49100060	01/05/2018	01/04/2019
Horn Antenna	HAH-118	71259	01/26/2018	01/25/2019
Horn Antenna	HAH-118	71283	02/02/2018	02/01/2019
AMPLIFIER	EM01G26G	60613	01/25/2018	01/24/2019
AMPLIFIER	Emc012645	980077	01/05/2018	01/04/2019
Bilog Antenna (30MHz~6GHz)	JB6	A110712	02/08/2018	02/07/2019

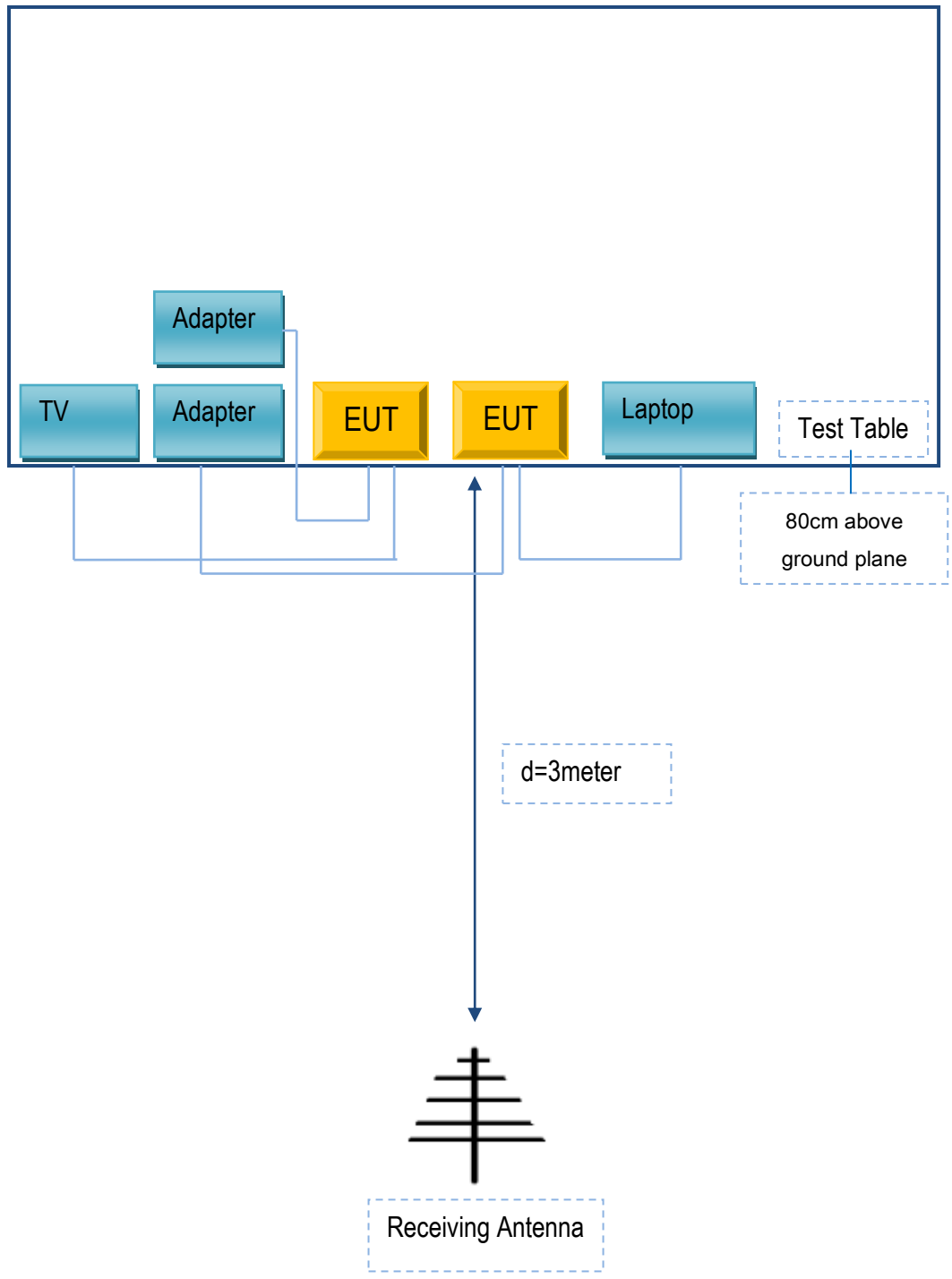
Annex B. TEST SETUP AND SUPPORTING EQUIPMENT

Annex B.i. TEST SET UP BLOCK

Block Configuration Diagram for AC Line Conducted Emissions



Block Configuration Diagram for Radiated Emissions



Annex C. il. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

Supporting Equipment:

Manufacturer	Equipment Description	Model	Serial No
KUANTEN	Adapter	KT12W050200US	N/A
DELL	Laptop	E6530	N/A
SKYWORTH	TV	32X3	102101784

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
Power Cables	Un-shielding	No	0.5m	N/A

Annex C. User Manual / Block Diagram / Schematics / Partlist

Please see the attachment

Annex D. DECLARATION OF SIMILARITY

PAKITE®

深圳市帕旗科技有限公司
Shenzhen Pakite Technology Co.,Ltd.

日期:2018-11-12

To: SIEMIC, INC.
775 Montague Expressway,
Milpitas, CA 95035
USA

Statement

This series of products on the basis of pat-580 changed the appearance of the product shell color, delete function to extend to other models:

The following model is the "wireless av sender with IR remote control "

PAT-580, black shell , dual antenna gain 3dB

PAT-583, white shell, dual antenna gain 3dB

PAT-585, Silver shell , dual antenna gain 3dB

PAT-587, blue shell, dual antenna gain 3dB

PAT-590, black shell, dual antenna gain 3dB

PAT-593, white shell, dual antenna gain 3dB

PTA-595, Silver shell, dual antenna gain 3dB

PTA-597, blue shell, dual antenna gain 3dB

Signature:: PEIZHEN WU

Name : PEIZHEN WU

Title: General Manager

Company Name: SHENZHEN PAKITE TECHNOLOGY CO.,LTD.

Address: 12 Floor,Building,2 Reservoir Avenue,Nankeng Community, Bantian Street Longgang Distrct ,Shenzhen, China.

Telephone: +86-755-83366901

Fax No.: +86-755-83366910