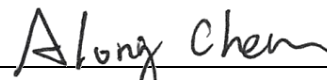


FCC C2PC Test Report

FCC ID : P27-XIONESCM2
Equipment : XiOne-SC (B)
Model No. : SCXIxxBEIxxCO; SCXIxxBEI
(Refer to item 1.1.1 for more details.)
Brand Name : Comcast Xfinity; Cox; Shaw
(Refer to item 1.1.1 for more details.)
Applicant : Sercomm Corporation
Address : 8F, 3-1, YuanQu St., NanKang, Taipei, 11503,
Taiwan
Standard : 47 CFR FCC Part 15.247
Received Date : Sep. 07, 2021
Tested Date : Sep. 09, 2021

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:


Along Chen / Assistant Manager

Approved by:


Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FR161001-02	Rev. 01	Initial issue	Sep. 23, 2021

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.247(d) 15.209	Radiated Emissions	[dBuV/m at 3m]: 7275.00MHz 49.63 (Margin -4.37dB) - AV	Pass

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Information

This is a Class II Permissive Change report (C2PC).

This report is issued as a supplementary report to original report no. FR161001. The modification is listed as follows:

- Replacing Thermal shielding:

Original Description			C2PC Description		
Heat sink	Top shielding cover	Thermal pad	Heat sink	Top shielding cover	Thermal putty
945DMN00GN	941DMN00GN	--	P/N: 945DMN02GN	P/N: 941DMN01GN	--

New sample had been verified worst case found in original report and only its data was presented in the following sections.

1.1.1 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
Comcast Xfinity; Cox; Shaw	SCXIxxBEIxxCO; SCXIxxBEI	XiOne-SC (B)	Where "x" may be any alphanumeric for External Body Color.
✦ All models are electrically identical, different model names are for marketing purpose. ✦ The above models, model SCXI11BEI was selected as a representative one for the final test and only its data was recorded in this report.			

1.1.2 Specification of the Equipment under Test (EUT)

RF General Information				
Frequency Range (MHz)	Mode	Ch. Frequency (MHz)	Channel Number	Data Rate
2425~2475	RF4CE	2425~2475	15-25 [3]	250kbps
Note 1: RF4CE uses 16-QPSK modulation.				

1.1.3 Antenna Details

Ant. No.	Type	Connector	Gain (dBi)	Remarks
1	Printing	No	0.02	---

1.1.4 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	5.0Vdc from AC adapter
-------------------	------------------------

1.1.5 Accessories

Accessories		
No.	Equipment	Description
1	AC adapter	Brand: LEADER Model: ML08-7050150-A1 I/P: 100-120V~ 50/60Hz, 0.25A O/P: 5.0Vdc, 1.5A Power Line: 1.8m non-shielded without core
2	AC adapter	Brand: NetBit Model: NBC08A050150HU I/P: 100-120V~ 50/60Hz, 0.2A O/P: 5.0Vdc, 1.5A Power Line: 1.81m non-shielded without core
3	AC adapter	Brand: AcBel Model: WAK010 I/P: 100-120V~ 60Hz, 0.25A O/P: 5.0Vdc, 1.5A Power Line: 1.78m non-shielded without core

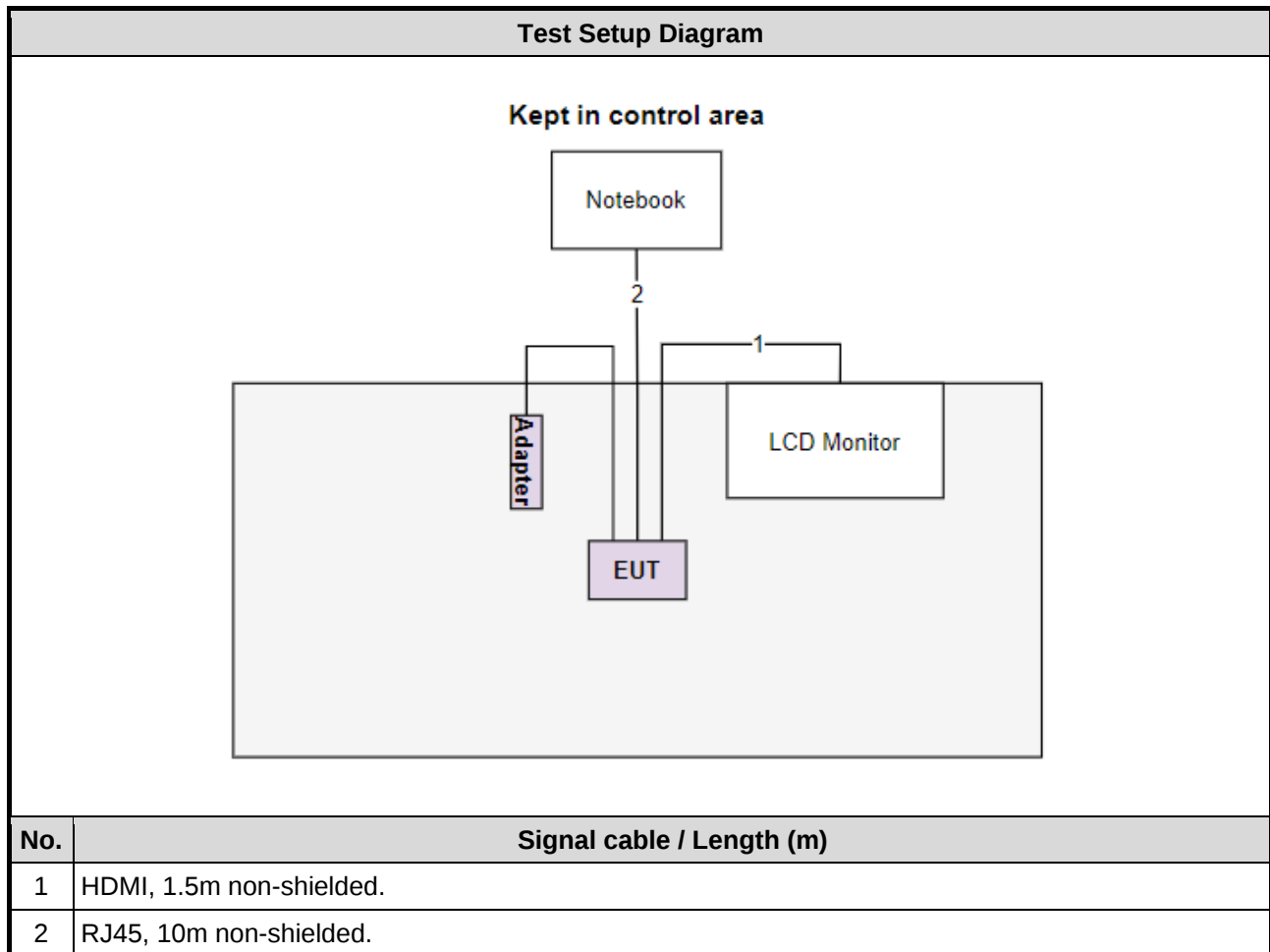
1.1.6 Channel List

Channel No.	Frequency (MHz)
15	2425
20	2450
25	2475

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E5470	DoC	---
2	LCD Monitor	ASUS	MX27UCS	---	---

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Radiated Emission below 1GHz				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Sep. 09, 2021				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 12, 2021	Mar. 11, 2022
Spectrum Analyzer	R&S	FSV40	101498	Dec. 04, 2020	Dec. 03, 2021
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 17, 2020	Nov. 16, 2021
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jun. 30, 2021	Jun. 29, 2022
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 11, 2020	Dec. 10, 2021
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170508	Dec. 31, 2020	Dec. 30, 2021
Preamplifier	EMC	EMC02325	980225	Jun. 29, 2021	Jun. 28, 2022
Preamplifier	Agilent	83017A	MY39501308	Sep. 26, 2020	Sep. 25, 2021
Preamplifier	EMC	EMC184045B	980192	Jul. 14, 2021	Jul. 13, 2022
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 06, 2020	Oct. 05, 2021
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 06, 2020	Oct. 05, 2021
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 06, 2020	Oct. 05, 2021
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 06, 2020	Oct. 05, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 06, 2020	Oct. 05, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 06, 2020	Oct. 05, 2021
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.247

ANSI C63.10-2013

1.6 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

1.7 Deviation from Test Standard and Measurement Procedure

None

1.8 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Measurement Uncertainty	
Parameters	Uncertainty
Radiated emission $\leq$ 1GHz	± 3.41 dB
Radiated emission $>$ 1GHz	± 4.59 dB

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	03CH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISSED#: 10807A
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

- ✧ The tests reported herein were performed according to the original worst case conditions in original report no.FR161001.

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Radiated Emissions ≤1GHz	16-OQPSK	2425	250kbps	---
Radiated Emissions >1GHz	16-OQPSK	2425	250kbps	---
NOTE: 1. Three adapters (LEADER, NetBit & AcBel) had been covered during the pretest and found that LEADER adapter was the worst case and was selected for final testing.				

3 Transmitter Test Results

3.1 Unwanted Emissions into Restricted Frequency Bands

3.1.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9~90 kHz, 110~490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.1.2 Test Procedures

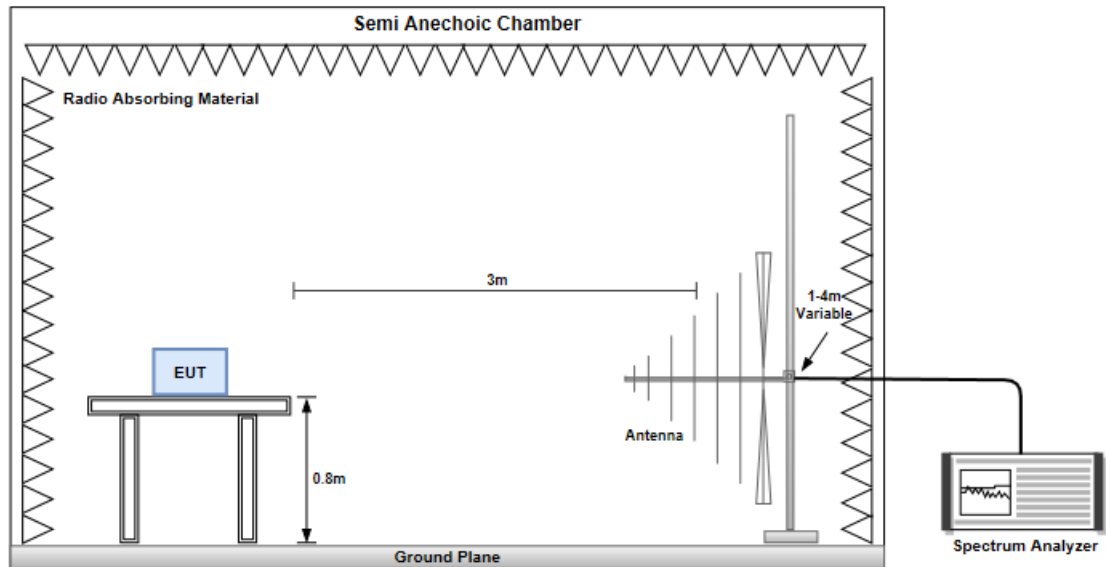
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

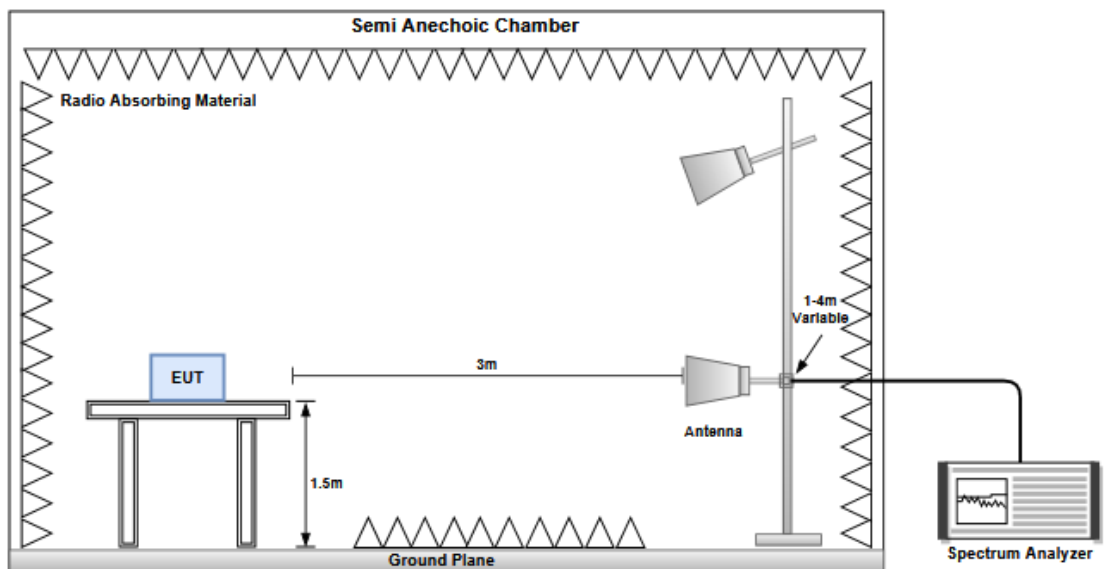
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.1.3 Test Setup

Radiated Emissions below 1 GHz

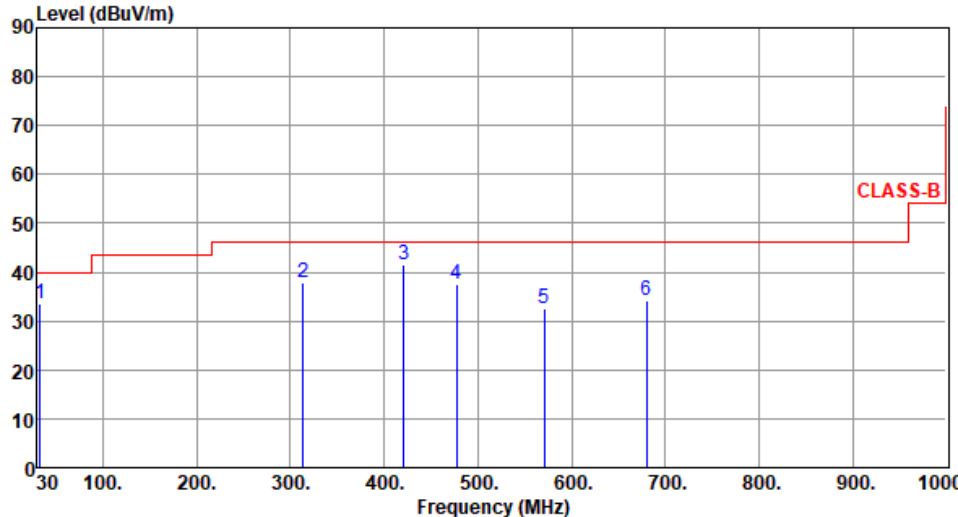


Radiated Emissions above 1 GHz



3.1.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	16-QPSK	Test Freq. (MHz)	2425
Polarization	Horizontal		
Test By :Roger Lu Temperature(°C):24 Humidity(%):62			
Level (dBuV/m) <			

Modulation	16-QPSK	Test Freq. (MHz)	2425																																																																						
Polarization	Vertical																																																																								
Test By :Roger Lu Temperature(°C):24 Humidity(%):62																																																																									
 <table><tr><th></th><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB/m</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>1</td><td>33.15</td><td>33.49</td><td>40.00</td><td>-6.51</td><td>43.24</td><td>-9.75</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>2</td><td>313.56</td><td>37.86</td><td>46.00</td><td>-8.14</td><td>45.67</td><td>-7.81</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>3</td><td>421.26</td><td>41.58</td><td>46.00</td><td>-4.42</td><td>46.74</td><td>-5.16</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>4</td><td>477.29</td><td>37.59</td><td>46.00</td><td>-8.41</td><td>41.46</td><td>-3.87</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>5</td><td>571.05</td><td>32.59</td><td>46.00</td><td>-13.41</td><td>34.55</td><td>-1.96</td><td>Peak</td><td>---</td><td>---</td></tr><tr><td>6</td><td>680.15</td><td>34.29</td><td>46.00</td><td>-11.71</td><td>34.52</td><td>-0.23</td><td>Peak</td><td>---</td><td>---</td></tr></table>					Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg	1	33.15	33.49	40.00	-6.51	43.24	-9.75	Peak	---	---	2	313.56	37.86	46.00	-8.14	45.67	-7.81	Peak	---	---	3	421.26	41.58	46.00	-4.42	46.74	-5.16	Peak	---	---	4	477.29	37.59	46.00	-8.41	41.46	-3.87	Peak	---	---	5	571.05	32.59	46.00	-13.41	34.55	-1.96	Peak	---	---	6	680.15	34.29	46.00	-11.71	34.52	-0.23	Peak	---	---
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6	680.15	34.29	46.00	-11.71	34.52	-0.23	Peak	---	---																																																																
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m). Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.																																																																									

3.1.5 Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation	16-OQPSK	Test Freq. (MHz)	2425
Polarization	Horizontal		
Test By :Roger Lu Temperature(°C):24 Humidity(%):62			
Level (dBuV/m)			

Modulation	16-OQPSK	Test Freq. (MHz)	2425
Polarization	Vertical		
Test By :Roger Lu Temperature(°C):24 Humidity(%):62			
Level (dBuV/m) <			

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou
District, New Taipei City, Taiwan
(R.O.C.)

Kwei Shan

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)
No.2-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 333, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666

Fax: 886-3-318-0345

Email: ICC_Service@icertifi.com.tw

==END==