

FCC PART 96.47 CBSD-EUD TEST REPORT



Applicant: FIH CO., LTD.
No.4, Minsheng St., Tu-Cheng Dist., New Taipei City 23679,
Taiwan

Manufacturer: FIH CO., LTD.
No.4, Minsheng St., Tu-Cheng Dist., New Taipei City 23679,
Taiwan

Product Name: Internet Gateway

Brand Name: FIH

Model No.: FSNO21VA

Model Difference: N/A

Report Number: ER/2022/30092

FCC ID RYQFSNO21VA

Issue Date: May 30, 2022

Date of Test: April 18, 2022 ~ April 19, 2022

Date of EUT Received: March 30, 2022

Approved By



Blue Yang

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 and the energy emitted by the sample EUT comply with FCC rule part 2 , 96.47.

The results of this report relate only to the sample identified in this report.

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Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
ER/2022/30092	00	Original	May 30, 2022	Yuri Tsai	

Note:

- 1、The remark "***" indicates modification of the report upon requests from certification body.

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1. GENERAL PRODUCT INFORMATION

1.1. Product Description

Product Name:	Internet Gateway
Brand Name:	FIH
Model No.:	FSNO21VA
Model Difference:	N/A
Hardware Version:	1.0
Firmware Version:	V0.15A_1KUS
EUT Series No.:	356405430000450
Power Supply:	12Vdc from AC/DC Adapter

1.1. Antenna Designation

Antenna Type	Antenna No.
PIFA	Ant4

Note: Transmission frequencies in this test report are only available by the above antenna(s).

Modulation	Frequency (MHz)	Peak Antenna Gain (dBi)
LTE-Band 48	3550 ~ 3700	-0.85709

Note: Antenna information is provided by the applicant.

1.2. Operation Frequencies

LTE Band	BW (MHz)	Operation Frequency (MHz)		
48	5	3552.5	-	3697.5
	10	3555.0	-	3695.0
	15	3557.5	-	3692.5
	20	3560.0	-	3690.0

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1.3. Test Methodology of Applied Standards

FCC Part 96.47

FCC KDB 940660 D01 Part 96 CBRS Eqpt V02

1.4. Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designa-tion number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan.	SAC 1 SAC 3 Conduction 1 Conducted 1 Conducted 2 Conducted 3 Conducted 4 Conducted 5 Conducted 6	TW0027	
	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333	Conduction C SAC C SAC D SAC G Conducted A Conducted B Conducted C Conducted D Conducted E Conducted F Conducted G	TW3702 TW0028	

Note: Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.

1.5. Special Accessories

No special accessories were used during testing.

1.6. Equipment Modifications

There was no modifications incorporated into the EUT.

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2. SUMMARY OF TEST RESULTS

2.1. Summary of test results

FCC Rules	Description Of Test	Result
§96.47(a) (1)	End User Device additional requirements	Compliant

2.2. Reporting statements of conformity

The conformity statement in this report is based solely on the test results, measurement uncertainty is excluded.

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3. MEASUREMENT

3.1. End User Device additional requirements

FCC Part 96.47

(a) End User Devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation.

(1) An End User Device must discontinue operations, change frequencies, or change its operational power level within 10 seconds of receiving instructions from its associated CBSD.

3.2. Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

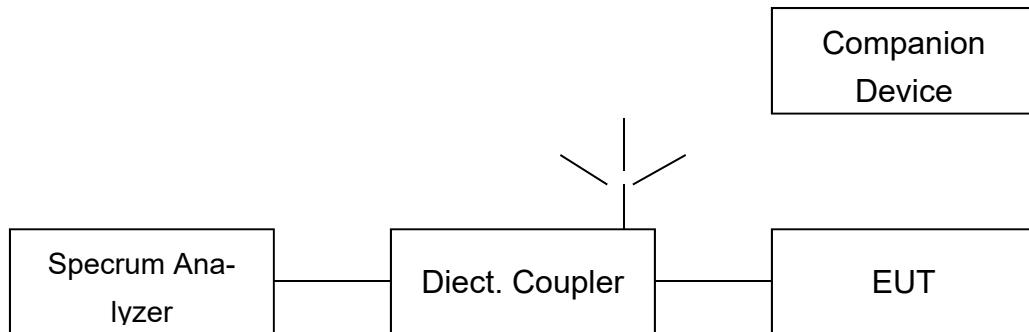
1. Setup with frequency 3560MHz and power level 22dBm/MHz
2. Enable AP service from EPC management
3. Check EUD Tx Frequency and power
4. Disable AP service from EPC management
 - a. Check EUD stops transmission within 10seconds.
5. Setup with 3690MHz & power level 3dBm/MHz
6. Enable AP service from EPC management
7. Check EUD Tx Frequency and power
8. Disable AP service from EPC management
 - a. Check EUD stops transmission within 10seconds.

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3.3. Test Configuration of Equipment Under Test:

Connection Diagram of Test System



The EUT is an End User Device (EUD) which was connected to a certified Gemtek CBSD (FCC ID: MXF-WLTGFC105 and qualified by WInnForum) as the companion device to show compliance with Part 96.47 requirement.

3.4. Measurement Equipment Used

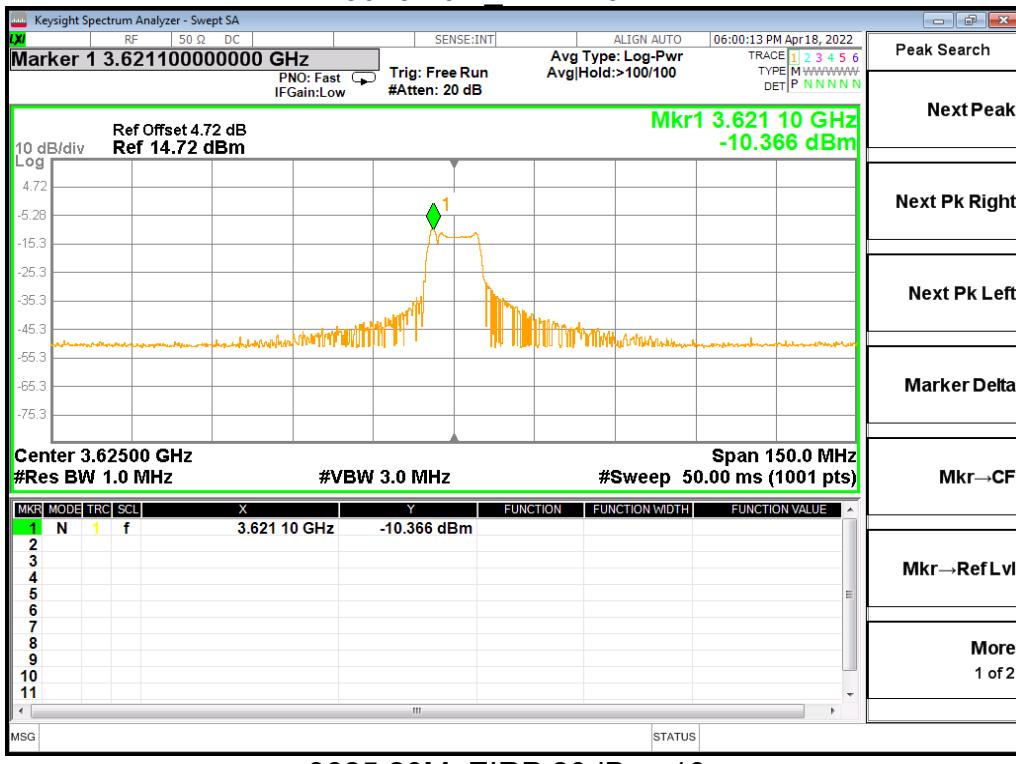
Conducted Emission Test Site: Conducted 3					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EXA Spectrum Analyzer	Agilent	N9010A	MY54200716	10/13/2021	10/12/2022
Attenuator	KEYSIGHT	8494B	TH60073121	12/14/2021	12/13/2022
DC Block	Mini-Circuits	BLK-18-S+	1	12/14/2021	12/13/2022
Power Divider	RF-LAMBAD	RFLT2W1G18 G	11-JSPF412-017	12/14/2021	12/13/2022
Power Divider	RF-LAMBAD	RFLT2W1G18 G	11-JSPF412-018	12/14/2021	12/13/2022

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3.5. Measurement Result

3625 20M EIRP 20dBm



3625 20M_EIRP 20dBm_10s

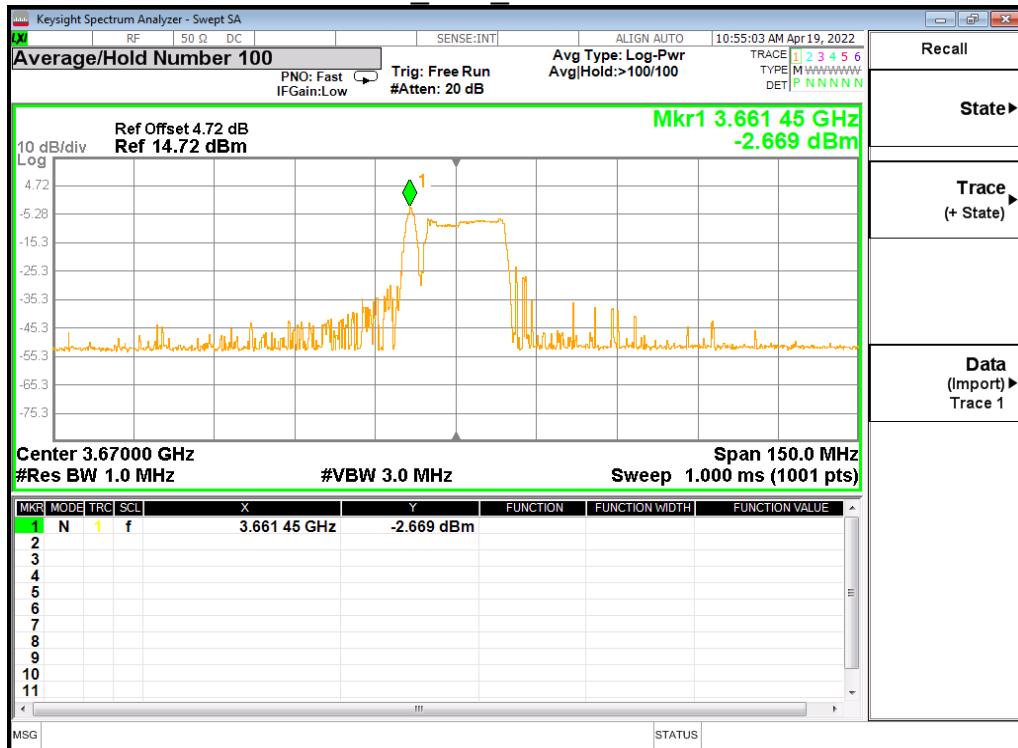


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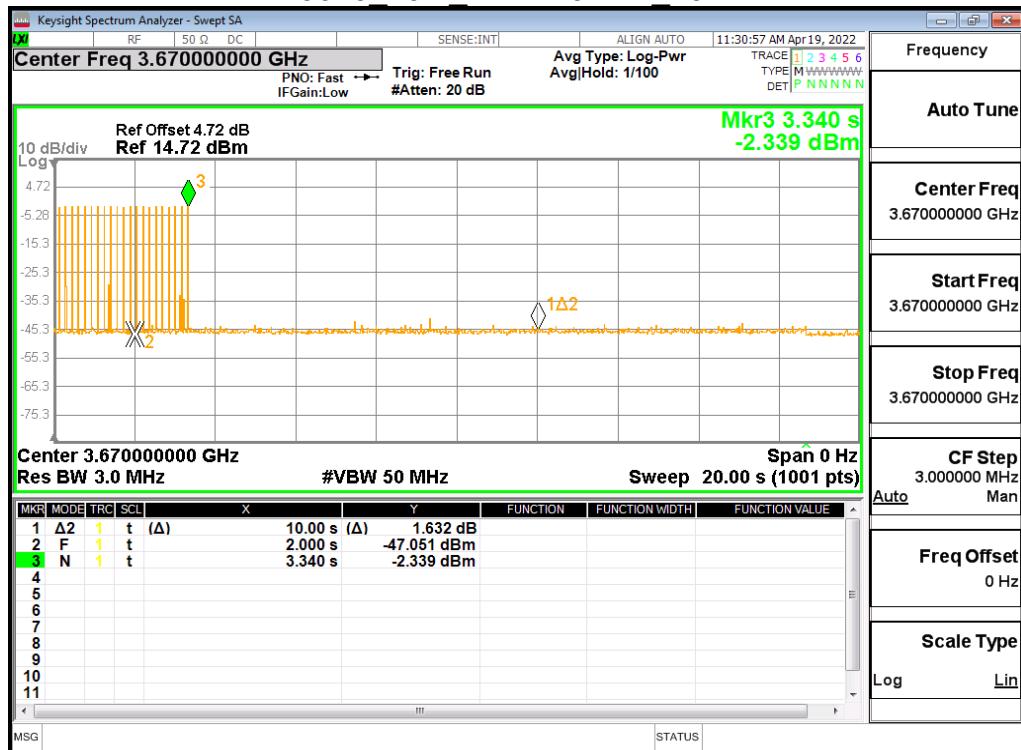
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3670_20M_EIRP 13dBm



3670_20M_EIRP 13dBm 10s



~ End of Report ~

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