



# SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240900343501

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## TEST REPORT

**Application No.:** SZCR2409003435WM  
**Applicant:** ASUSTeK COMPUTER INC.  
**Address of Applicant:** 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan  
**Manufacturer:** ASUSTeK COMPUTER INC.  
**Address of Manufacturer:** 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan  
**EUT Name:** ASUS Phone(Mobile Phone)  
**Model No.:** ASUSAI2501E, ASUSAI2501D  
**Trade Mark:** ASUS  
**FCC ID:** MSQAI2501  
**Standard(s) :** FCC Part 96.47  
FCC KDB 940660 D01 Part 96 CBRS Eqpt v03  
WINNF-TS-0122-V1.0.2 CBRS CBD Test Specification  
WINNF-18-IN-00178 CBRS End User Device as UUT Test Guidelines  
**Date of Receipt:** 2024/09/16  
**Date of Test:** 2024/09/17  
**Date of Issue:** 2024/11/05

<b>Test Result:</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu  
EMC Laboratory Manager



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch EMC Laboratory

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2024-11-05		Original

<b>Authorized for issue by:</b>			
		<i>Kevin Lan</i>	
		Kevin Lan/Project Engineer	
		<i>Eric Fu</i>	
		Eric Fu/Reviewer	



## 2 Test Summary

Item	Standard	Test Case ID	Result
End User Device additional requirement	96.47	/	Pass

The UUT is an End User Device. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**Test standards:**

FCC Part 96.47

FCC KDB 940660 D01 Part 96 CBRS Eqpt v03

WINNF-TS-0122-V1.0.2 CBRS CBSD Test Specification

WINNF-18-IN-00178 CBRS End User Device as UUT Test Guidelines



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## 4 General Information

### 4.1 Details of E.U.T.

Model No.:	ASUSAI2501E, ASUSAI2501D
Power supply:	7.8V
CBSD Class:	End User device
Transmitter Frequency Band:	5G NR: n48
Transmitter Frequency Range:	3550~3700MHz
Hardware Version:	ER2-SKUID:3-RFID:3
Software Version:	WW_35.1000.1000.31
Antenna Gain:	0.2dBi (Provided by manufacturer)
Antenna Type:	PIFA

Remark: Model No.: ASUSAI2501E, ASUSAI2501D, Only the model ASUSAI2501E was tested fully, with difference according to the declaration letter from client.

### 4.2 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 7.25 \times 10^{-8}$
2	RF conducted power	$\pm 0.75\text{dB}$
3	Temperature test	$\pm 1^\circ\text{C}$
4	Humidity test	$\pm 3\%$
5	Supply voltages	$\pm 1.5\%$
6	Time	$\pm 3\%$

Remark:

The Ulab (lab Uncertainty) is less than Ucispr/ETSI (CISPR/ETSI Uncertainty), so the test results

– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;

– non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

### 4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
5G NR Base station	Baicells	BSC7048A243 (FCC ID: 2AG32BSC7048A243)	1202000577233VB0002



### 4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

### 4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI (Member No. 1937)**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• **FCC –Designation Number: CN1336**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

• **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.



## 5 Equipment List

Test Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Laptop (With SAS Test harness)	Lenovo	T14	/	/	/
Spectrum Analyzer	Keysight	N9020B	SEM004-24	2024-03-20	2025-03-19
Shield Room	SAEMC	MSR433	SEM001-11	2024-03-13	2027-03-12
Coaxial Cable	SGS	N/A	SEM031-01	2024-07-09	2025-07-08
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Splitter	MACOM	2090-6214-00	N/A	N/A	N/A
Humidity/ Temperature Indicator	deli	8838	SEM002-32	2024-07-26	2025-07-25



## 6 Test Method and Environment

### 6.1 End User Device Conformance and Performance

Test Requirement: FCC Part 96.47

Test Method: WINNF-18-IN-00178 CBRS End User Device as UUT Test Guidelines

### 6.2 Test Environment

Environmental Conditions: 25deg. C, 65%RH

### 6.3 Test Requirement

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.
- b). 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.

### 6.4 Test Procedure

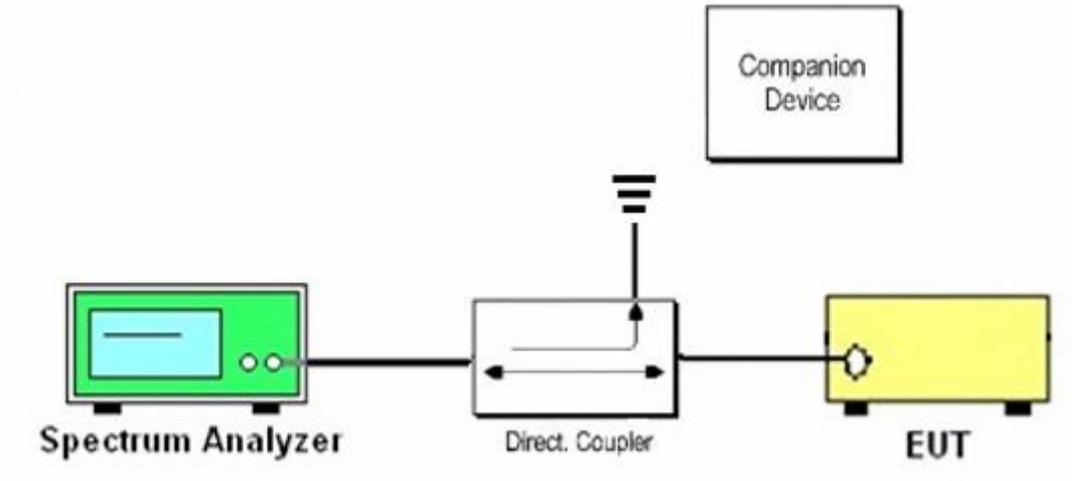
For NR:

Following procedure can be done by applying WINNF-TS-0122-V1.0.2 CBRS CBSD Test Specification, use the certified Base station CBSD (FCC ID: 2AG32BSC7048A243) as companion device to show compliance with Part 96.47 requirement for End User Device (EUD):

1. Setup with frequency 3590-3610MHz and power level 18dBm/MHz;
2. Enable CBSD service ;
3. Check EUD Tx Frequency and power;
4. Disable CBSD service ;
5. Check EUD stops transmission within 10seconds;
  
6. Setup with frequency 3610-3630MHz and power level 8dBm/MHz;
7. Enable CBSD service;
8. Check EUD Tx Frequency and power;
9. Disable CBSD service;
10. Check EUD stops transmission within 10seconds.



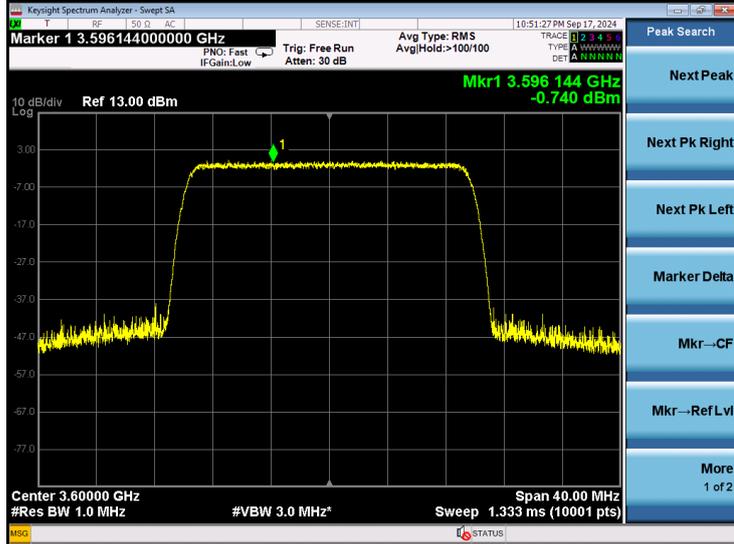
### 6.5 Test Setup



End User Device as UUT, the companion device is certified CBSD



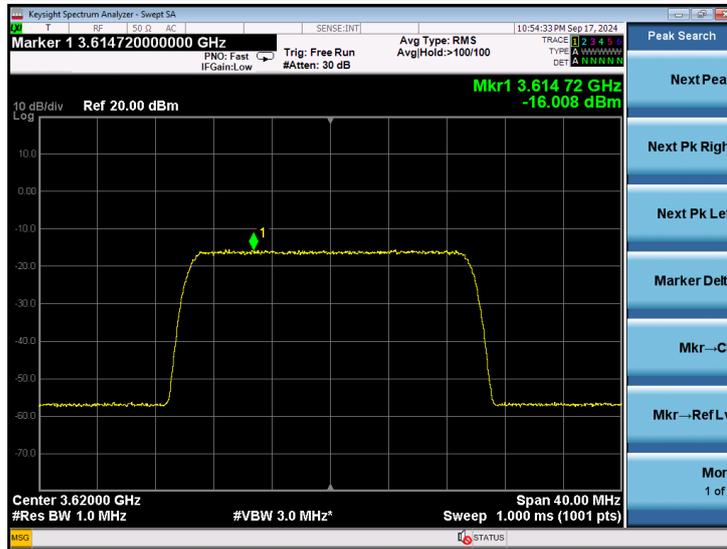
### 6.6 Test Result

NR	
[Step 1] Setup with frequency 3590-3610MHz and power level 18dBm/MHz	
[Step 3] Check EUD Tx Frequency and power	
	<div style="border: 1px solid black; padding: 5px;"> <p>Peak Search</p> <p>Next Peak</p> <p>Next Pk Right</p> <p>Next Pk Left</p> <p>Marker Delta</p> <p>Mkr--CF</p> <p>Mkr--Ref Lvl</p> <p>More 1 of 2</p> </div>
EIRP PSD=-0.74+0.2+5.0=4.46 dBm/MHz, loss of Cable and Splitter is 5.0dB, Antenna gain is 0.2dBi	
[Step 5] EUD stops transmission within 10 seconds of receiving instructions from its associated CBSD.	
	<div style="border: 1px solid black; padding: 5px;"> <p>Marker</p> <p>Select Marker 1</p> <p>Normal</p> <p>Delta</p> <p>Fixed&gt;</p> <p>Off</p> <p>Properties&gt;</p> <p>More 1 of 2</p> </div>



[Step 6] Setup with frequency 3610-3630MHz and power level 8dBm/MHz

[Step 8] Check EUD Tx Frequency and power



EIRP PSD=-16.008+0.2+5.0=-10.808dBm/MHz, loss of Cable and Splitter is 5.0dB, Antenna gain is 0.2dBi

[Step 10] EUD stops transmission within 10 seconds of receiving instructions from its associated CBSD.



## 7 Test Setup Photo

Please refer to SZCR2409003435 Appendix\_Setup Photo

- End of the Report -

