



TEST REPORT

Application No.: SZEM2009009488CR
Applicant: Smawave Technology Co., Ltd
Address of Applicant: 3/F, Building 8, 1001 North Qinzhou Road, Xuhui District, Shanghai, China
Manufacturer: Smawave Technology Co., Ltd
Address of Manufacturer: 3/F, Building 8, 1001 North Qinzhou Road, Xuhui District, Shanghai, China
Equipment Under Test (EUT):
EUT Name: USB Dongle
Model No.: SDF311-a
Contains FCC ID: 2AU8HMG5607A
Standard(s) : FCC Part 96.47
FCC KDB 940660 D01 Part 96 CBRS Eqpt v02
WINNF-TS-0122-V1.0.1 CBRS CBSD Test Specification
WINNF-18-IN-00178 CBRS End User Device as UUT Test Guidelines
Date of Receipt: 2020-09-15
Date of Test: 2020-09-15 to 2020-12-16
Date of Issue: 2020-12-16

Test Result:

Pass*

* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu

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		2020-12-16		Original

Authorized for issue by:			
			
		<hr/>	
		Jacky Li /Project Engineer	
			
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		Eric Fu /Reviewer	



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2 Test Summary

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

The UUT is a 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 v02

WINNF-TS-0122-V1.0.1 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.

Power supply:	DC 5V from USB port of the host unit
Sample Type:	End User device
Transmitter Frequency Band:	LTE Band 48
Transmitter Frequency Range:	3550~3700MHz
Hardware Version:	V1.2
Software Version:	SG563_V2.0.2
Antenna Type:	Internal Antenna
Antenna Gain:	3.18dBi

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	$\pm 3\%$

4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
EPC	Lanner Electronics Inc.	LICA-1513A	LR202002004052
Router	TP-LINK	TL-R860+	1175379002425
Base station	Baicells	mBS105 (FCC ID: 2AG32MBS110596)	120200007219BSP0001

4.4 Test Location

All tests were performed at:

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518057.

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No tests were sub-contracted.



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5 Equipment List

Test Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Laptop (With SAS Test harness)	Lenovo	Pro-13API 2019	REF. No.SEA1800	/	/
Spectrum Analyzer	Keysight	N9020A	SEM004-17	2020-05-21	2021-05-20
Shield Room	SAEMC	MSR433	SEM001-11	2018-03-13	2021-03-12
Coaxial Cable	SGS	N/A	SEM031-01	2020-07-11	2021-07-10
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2020-09-27	2021-09-26



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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

Following procedure can be done by applying WINNF-TS-0122-V1.0.1 CBRS CBSD Test Specification, use the certified Baicell CBSD (FCC ID: 2AG32MBS110596) as companion device to show compliance with Part 96.47 requirement for End User Device (EUD):

1. Setup with frequency 3550-3570MHz and power level 13dBm/MHz;
2. Enable CBSD service ;
3. Check EUD Tx Frequency and power;
4. Disable AP service ;
5. Check EUD stops transmission within 10seconds;
6. Setup with 3590-3610MHz & power level 7dBm/MHz;
7. Enable CBSD service;
8. Check EUD Tx Frequency and power;
9. Disable CBSD service;
10. Check EUD stops transmission within 10seconds.



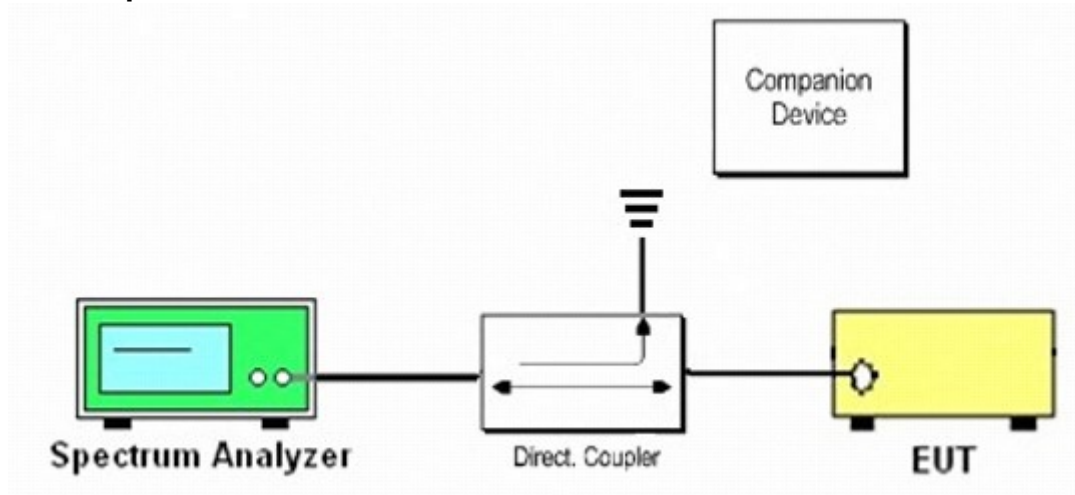
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6.5 Test Setup



End User Device as UUT, the companion device is certified CBRS (FCC ID: 2AG32MBS110596)

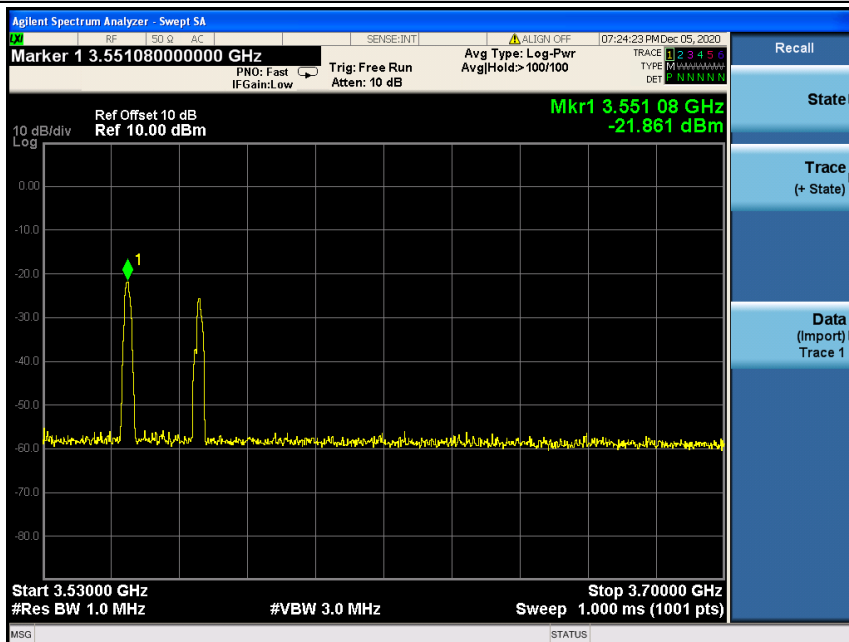




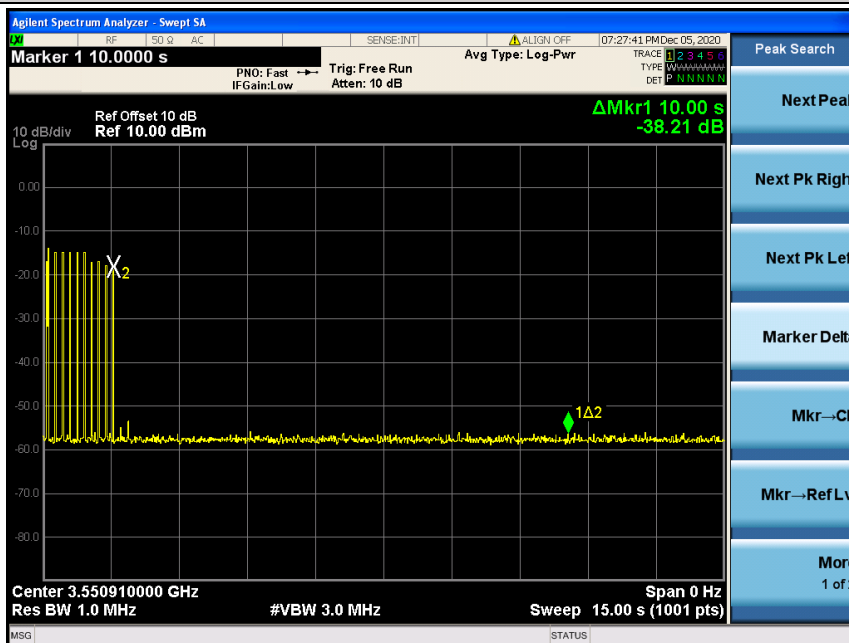
6.6 Test Result

[Step 1] Setup with frequency 3550-3570MHz and power level 13dBm/MHz

[Step 3] Check EUD Tx Frequency and power



[Step 5] EUD stops transmission within 10 seconds of receiving instructions from its associated CBSD.



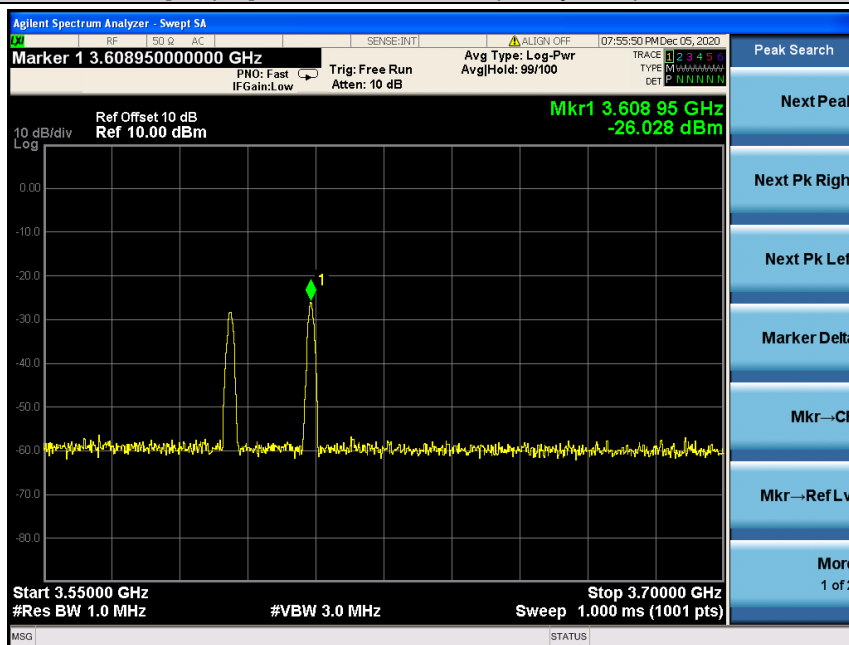
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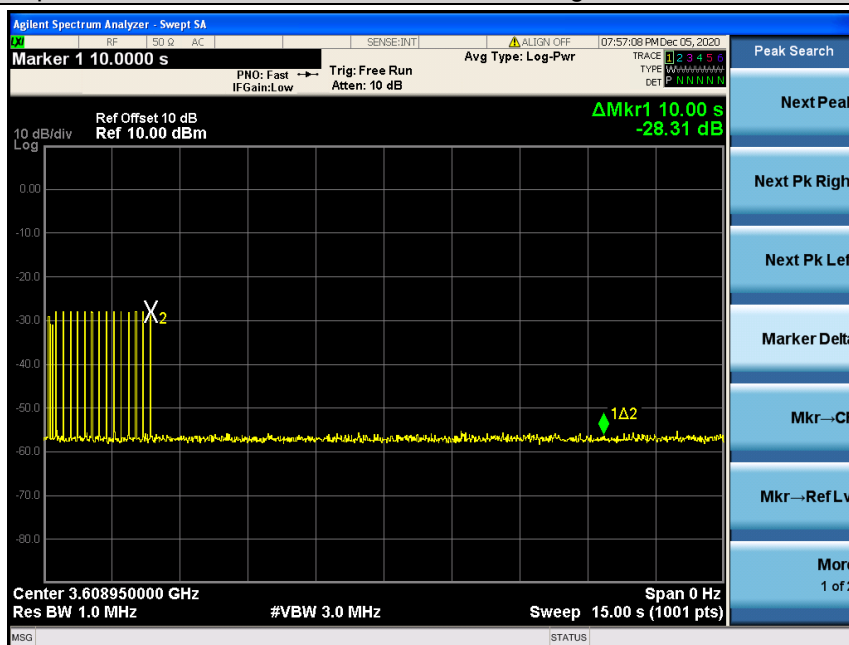
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[Step 6] Setup with frequency 3590-3610MHz and power level 7dBm/MHz

[Step 8] Check EUD Tx Frequency and power



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





7 Photographs

7.1 EUT Constructional Details (EUT Photos)

Please Refer to Integral and internal photos for details.

- End of the Report -



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