



FCC Test Report

Report No: FCS20200308007W05

Issued for

Applicant:	CASA DUARTE SRL
Address:	Socrates Nolasco No.2, Santo Domingo, República Dominicana.
Product Name:	netbook
Brand Name:	SAELITE
Model Name:	ES1AU11
Series Model:	YP11G-E
FCC ID:	2AVWN-ES1AU11
<p>Issued By: Flux Compliance Service Laboratory Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong yeWest Road Hi-Tech Industrial, Song shan lake Dongguan Tel: 769-27280901 Fax:769-27280901 http://www.FCS-lab.com</p>	

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Revision History

Rev.	Issue Date	EFFECT PAGE	Contents
01	10 March 2020	All	Initial Issue

TEST RESULT CERTIFICATION

Applicant's Name: CASA DUARTE SRL

Address: Socrates Nolasco No.2, Santo Domingo, República Dominicana.
Guancheng District, Dongguan City

Manufacture's Name: CASA DUARTE SRL

Address: Socrates Nolasco No.2, Santo Domingo, República Dominicana.
Guancheng District, Dongguan City

Product Description

Product Name: netbook

Brand Name: SAELITE

Model Name: ES1AU11

Series Model: YP11G-E

Test Standards.....: FCC Part 15E 15.407

This device described above has been tested FCS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test.....:

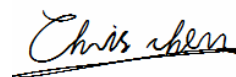
Date (s) of performance of tests.: 09 January 2020 ~ 09 March 2020

Date of Issue.....: 10 March 2020

Test Result: Pass

Prepared By

:



(Chris Chen)

Approved By

:

(Andy Yue)

1. TEST LABORATORY

Company Name:	Flux Compliance Service Laboratory
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FCC Test Firm Registration Number: 514908 Designation number: CN0127 A2LA accreditation number: 5545.01	

1.1 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

	Items	Uncertainty
	RF output power, conducted	± 0.71 dB
	Unwanted Emissions, conducted	± 2.988 dB
	Conducted Emission (9KHz-150KHz)	± 4.13 dB
	Conducted Emission (150KHz-30MHz)	± 4.74 dB
	All emissions, radiated (<1G) 30MHz-1000MHz	± 5.2 dB
	All emissions, radiated (>1G) 1000MHz -3000MHz	± 4.66 dB
	All emissions, radiated (<1G) 3000MHz -6000MHz	± 5.31 dB

1.2 TEST ENVIRONMENT CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	20-26°C
Humidity range:	40-65%
Pressure range:	86-106Kpa

2. EUT INFORMATION

2.1 EUT SPECIFICATION TABLE

Table 1: Specification of EUT

Product name	netbook
Brand Name	SAELITE
Model	ES1AU11, YP11G-E
EUT function description	Notebook PC with WiFi & BT function.
Power supply	Adapter:JK120250-S52US INPUT: 100-240V~ 50/60Hz 0.8A OUTPUT: DC 12V 2.5A
HVIN	N/A
FVIN	N/A
Operational Mode	Slave
Operating Frequency Range	5260~5320MHz&5500~5700MHz
Modulation	OFDM

Note: This device was functioned as a ☐ Master ☒ Slave device during the DFS

2.2 DESCRIPTION OF AVAILABLE ANTENNAS TO THE EUT

Ant.	Brand	Model Name	Antenna Type / Connector	function	Gain (dBi)
ANT A	N/A	N/A	Integral	TX/RX	1.12
ANT B	N/A	N/A	Integral	TX/RX	1.08

3. U-NII DFS RULE REQUIREMENTS

3.1 WORKING MODES AND REQUIRED TEST ITEMS

The manufacturer shall state whether the UUT is capable of operating as a Master and/or a Client. If the UUT is capable of operating in more than one operating mode then each operating mode shall be tested separately. See tables 1 and 2 for the applicability of DFS requirements for each of the operational modes.

Table 5: Applicability of DFS requirements prior to use a channel

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
Non-Occupancy Period	✓	Not required	✓
DFS Detection Threshold	✓	Not required	✓
Channel Availability Check Time	✓	Not required	Not required
Uniform Spreading	✓	Not required	Not required
U-NII Detection Bandwidth	✓	Not required	✓

Table 6: Applicability of DFS requirements during normal operation.

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
DFS Detection Threshold	✓	Not required	✓
Channel Closing Transmission Time	✓	✓	✓
Channel Move Time	✓	✓	✓
U-NII Detection Bandwidth	✓	Not required	✓

3.2 TEST LIMITS AND RADAR SIGNAL PARAMETERS

DETECTION THRESHOLD VALUES

Table 7: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection.

Maximum Transmit Power	Value (See Notes 1 and 2)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm

Note 1: This is the level at the input of the receiver assuming a 1.12 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Table 8: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 80% of the UNII 99% transmission power bandwidth. See Note 3.

Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:

- For the Short Pulse Radar Test Signals this instant is the end of the Burst.
- For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated.
- For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the Radar Waveform.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

4. PARAMETERS OF DFS TEST SIGNALS

Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Table 9: Short Pulse Radar Test Waveforms.

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
1	1	1428	18	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Table 10: Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Table 11: Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

4.1 TEST INSTRUMENTS

Table 1: Test instruments list.

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
MXA SIGNAL Analyzer	Keysight	N9020A	FCS-E015	2019.10.02	2020.10.01
MXG Vector Signal Generator	Keysight	N5182B	FCS-E016	2019.10.02	2020.10.01
EXG Analog Signal Generator	Keysight	N5171B	FCS-E017	2019.10.02	2020.10.01

5. TEST RESULTS

5.1 SUMMARY OF TEST RESULT

FCC Rules		Description of Test	Result
FCC 15.407	KDB 905462 D02	Non-Occupancy Period	Pass
FCC 15.407	KDB 905462 D02	Channel Closing Transmission Time	Pass
FCC 15.407	KDB 905462 D02	Channel Move Time	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.

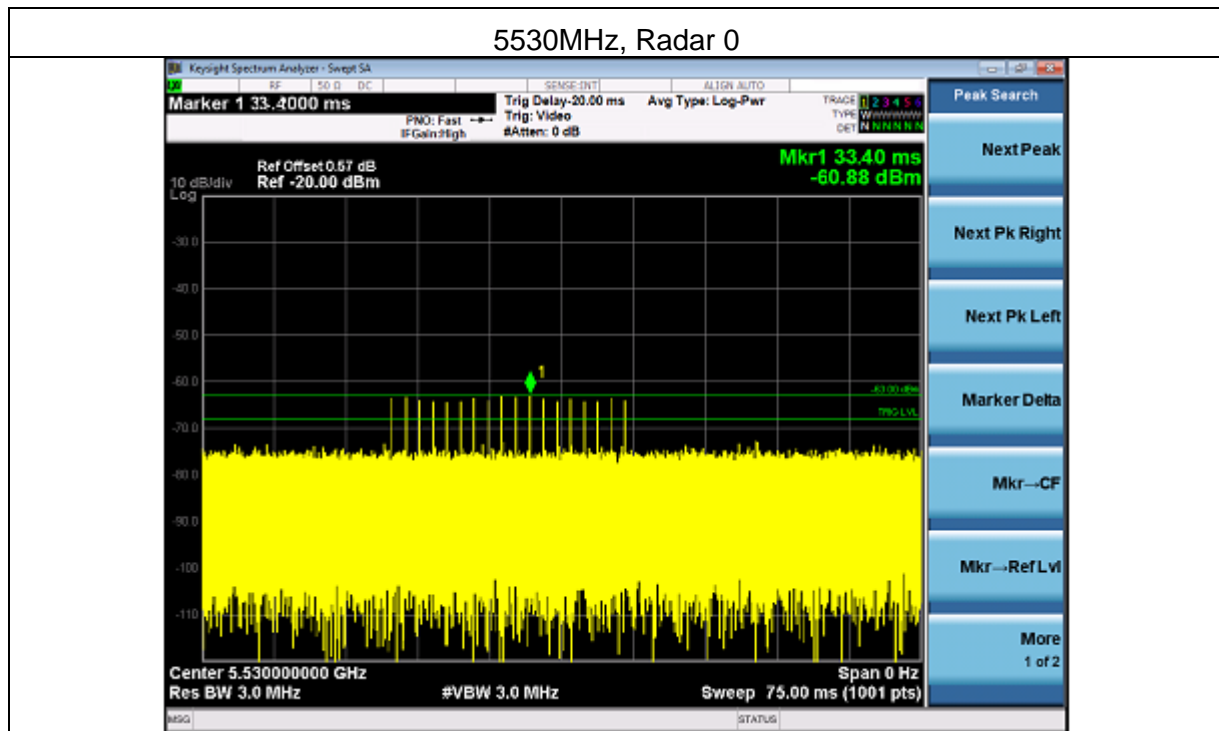
6 TEST MODE DFS TEST RESULT

6.1 DFS RADAR WAVEFORM CALIBRATION RESULT

Master DFS Threshold Level

DFS Threshold level:-60.88dBm

The Interference Radar Detection Threshold Level is $(-62\text{dBm}) + ([1.12\text{dBi}] + \{0\text{dB}\}) = -60.88\text{dBm}$. That has been taken into account the master output power range and antenna gain.



6.2 CHANNEL MOVE TIME, CHANNEL CLOSING TRANSMISSION TIME AND NON-OCCUPANCY PERIOD FOR CLIENT BEACON TEST PLOTS

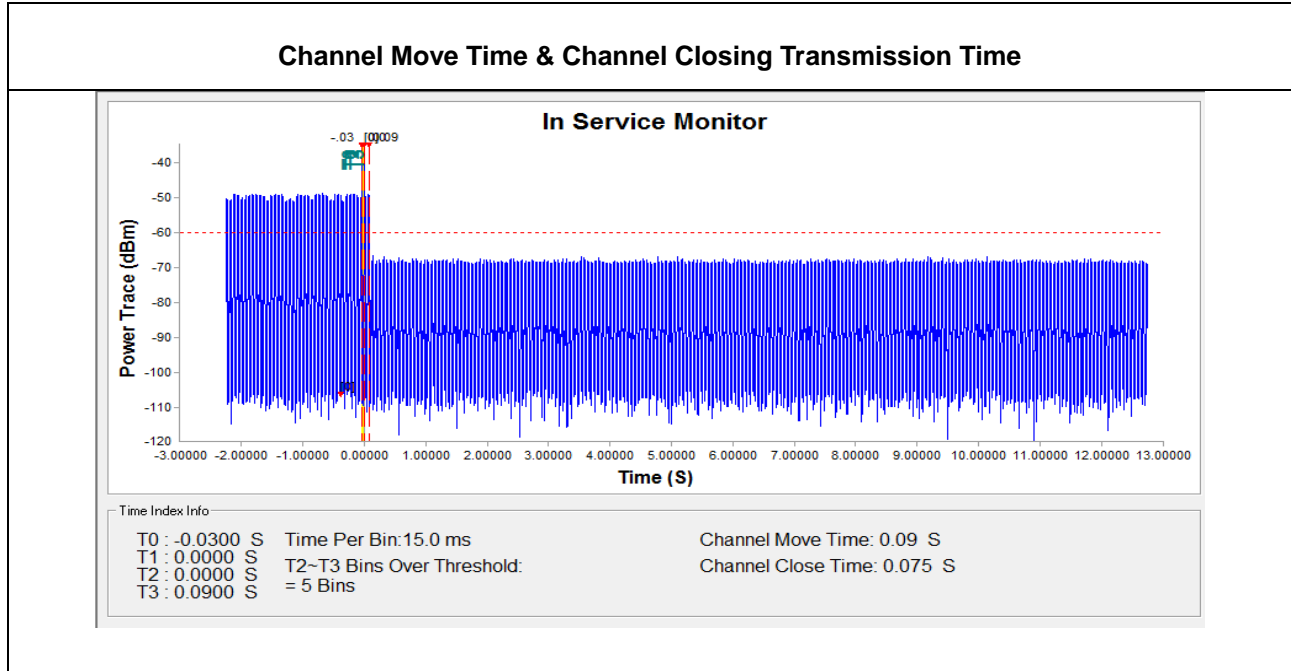
In-service Monitoring Limit

In-service Monitoring Limit	
Channel Move Time	10 sec
Channel Closing Transmission Time	200 ms+ an aggregate of 60 ms over remaining 10 sec periods.
Non-occupancy period	Minimum 30 minutes

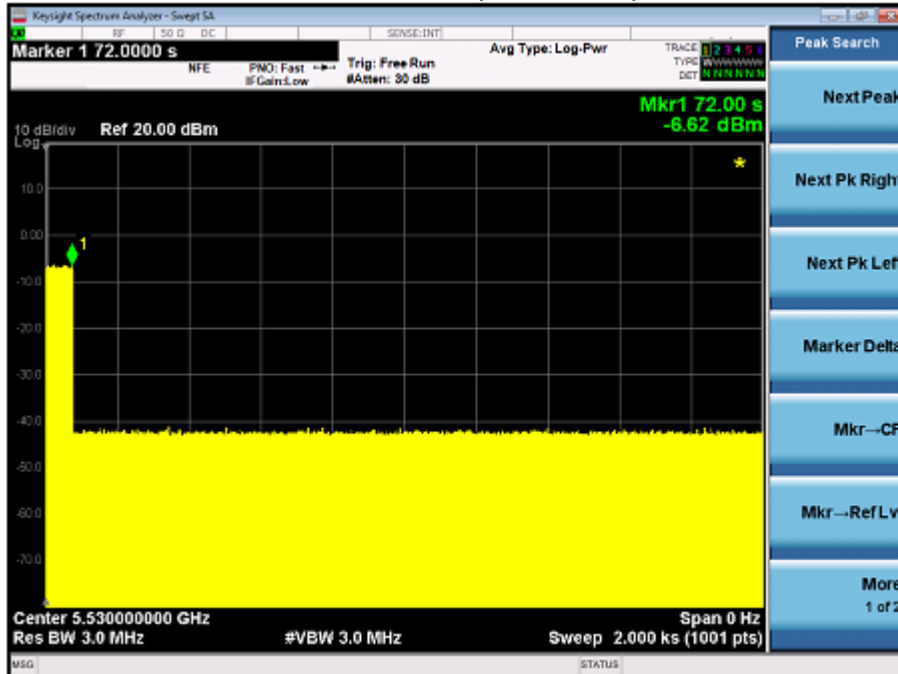
Test Procedures

Test Method
Refer as FCC KDB 905642 D02, clause 7.8.3 verified during In-Service Monitoring; Channel Closing Transmission Time, Channel Move Time. Client Device will associate with the EUT. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Channel Move Time). Compare the Channel Move Time and Channel Closing Transmission Time limits.
Refer as FCC KDB 905642 D02, clause 7.8.3 verified during In-Service Monitoring; Non-Occupancy Period. Client Device will associate with the EUT. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Non-Occupancy Period). Compare the Non-Occupancy Period limits.

Test Result of Channel Closing Transmission and Channel Move Time



Non-associated test
Master was off. (beacon test)



Test Item	Limit	Results
Non-Occupancy Period	30 minutes	Pass

***** END *****