

TEST REPORT

Product Name : Tablet Model Number : M082

FCC ID : 2BEA65081AP

Prepared for : Vantron Technology, Inc.

Address : 48434 Milmont Drive Fremont, CA 94538-7324, USA

Prepared by : EMTEK (SHENZHEN) CO., LTD.

Address : Building 69, Majialong Industry Zone, Nanshan District,

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Report Number : ENS2404260261W00205R Date(s) of Tests : May 15, 2024 to June 7, 2024

Date of issue : June 11, 2024



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1. TEST RESULT CERTIFICATION

Applicant : Vantron Technology, Inc.

Address : 48434 Milmont Drive Fremont, CA 94538-7324, USA

Manufacturer : Vantron Technology, Inc.

Address : 48434 Milmont Drive Fremont, CA 94538-7324, USA

EUT : Tablet

Model Name : M082

Trademark : Vantron

Measurement Procedure Used:

APPLICABLE STANDARDS				
STANDARD	TEST RESULT			
FCC 47 CFR Part 15, Subpart E	PASS			
IC RSS-247 Issue 2(02-2017)	PASS			

The above equipment was tested by EMTEK (SHENZHEN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.407 and IC RSS-247 Issue 2.

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

Date of Test :	May 15, 2024 to June 7, 2024
Prepared by :	Una yu
	Una Yu/Editor
Reviewer :	Joe Xia/Supervisor
	Joe Xia/Supervisor
Approve & Authorized Signer :	T _{ESTIN} G
	Lisa Wang/Manager



2. EUT DESCRIPTION

Characteristics	Description	Description					
Device style:	5G WIFI (Sla	G WIFI (Slave equipment without radar detection function)					
Product:	Tablet	ablet					
Model Number:	M082						
Sample:	2#						
IEEE 802.11 WLAN Mode Supported:	⊠ 802.11n/a	n/ac(20MHz channel bandwidth) nc(40MHz channel bandwidth) (80MHz channel bandwidth)					
Data Rate:	802.11a: 54/ 802.11n: MC 802.11ac: M						
Modulation:		th BPSK/QPSK/16QAM/64QAM for 802. th BPSK/QPSK/16QAM/64QAM/256QAM					
	WIFI 5G Band	Mode	Frequency Range(MHz)	Number of channels			
	7	802.11a/n(HT20)/ac(VHT20)	5180-5240	4			
	UNII Band I	802.11n(HT40)/ac(VHT40)	5190-5230	2			
	Danu i	802.11 ac(VHT80))	5210	1			
		802.11a/n(HT20)/ac(VHT20)	5260-5320	4			
	UNII Band II-A	802.11n(HT40)/ac(VHT40)	5270-5310	2			
Operating Frequency		802.11 ac(VHT80)	5290	1			
Rang:	UNII Band II-C	802.11a/n(HT20)/ac(VHT20)	5500-5700	11			
		802.11n(HT40)/ac(VHT40)	5510-5670	5			
		802.11 ac(VHT80)	5530-5610	2			
		802.11a/n(HT20)/ac(VHT20)	5745-5825	5			
	UNII Band III	802.11n(HT40)/ac(VHT40)	5755-5795	2			
		802.11 ac(VHT80)	5775	1			
	For DFS free	For DFS frequency band: UNII Band II-A. UNII Band II-C					
Antenna Type:	Internal Ante	enna					
Smart system:	⊠SISO	□МІМС)				
Antenna Gain:	4.67 dBi						
Power Supply:	DC 5V from	adapter, DC 7.6V from Internal battery					
Adapter:	MODEL:MX15U-0503000UU INPUT:AC 100-240V~50/60Hz 0.5A OUTPUT:5V, 3.0A						
Test Voltage:	AC 120V/60	Hz, DC 7.6V from Internal battery					



Date of Received:	May 15, 2024
Temperature Range:	0°C ~ +60°C

Note: for more details, please refer to the User's manual of the EUT.





3. SUMMARY OF TEST RESULT

FCC PartClause	IC Part Clause	Test Parameter	Remarks	Pass/Fail
		DFS Detection Threshold	N/A	N/A
		Channel Availability Check Time	N/A	N/A
		Channel Move Time	Applicable	Pass
15.407(h)	RSS-247, 6.3	Channel Closing Transmission Time	Applicable	Pass
		Non- Occupancy Period	Applicable	Pass
		Uniform Spreading	N/A	N/A
		U-NII Detection Bandwidth	N/A	N/A





4. TEST METHODOLOGY

4.1 GENERAL DESCRIPTION OF APPLIED STANDARDS

According to its specifications, the EUT must comply with the requirements of the following standards: FCC 06-96

FCC 47 CFR Parts 15, Subpart E

FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

IC RSS-247 Issue 2(02-2017)

4.2 MEASUREMENT EQUIPMENT USED

For other test items:

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Signal Analyzer	Agilent	Agilent N9010A MY53470879		2024/5/10	1Year
Vector Signal Generater	Agilent	N5182B	MY53050878	2024/5/10	1Year
Analog Signal Generator	Agilent	N5171B	MY53050553	2024/5/10	1Year
RF Control Unit(Power Meter)	Tonscend	JS0806-2	1	2024/5/10	1Year
Temperature&Humidity Chamber	ESPEC	EL-02KA	12107166	2024/5/10	1Year



4.3 DESCRIPTION OF TEST MODES

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (802.11a: 54 Mbps; 802.11n(HT20): MCS0; 802.11ac(VHT20): MCS0; 802.11ac(VHT20): MCS0; 802.11ac(VHT40): MCS0; 802.11ac(VHT40): MCS0; 802.11ax(HE40): MCS0; 802.11ac(VHT80): MCS0; 802.11ax(HE80): MCS; 802.11ac(VHT160): MCS0; 802.11ax(HE160): MCS) were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.



Wifi 5G with U-NII -2A

Frequency and Channel list 802.11a, 802.11n (HT20), 802.11ac (VHT20):

roquonto, ana	Onamio not our	\			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	60	5300		,
56	5280	64	5320		

Frequency and Channel list for 802.11n (HT40), 802.11ac (VHT40):

1 requeries and charmer list for 662.1111 (11146), 662.1146 (11146).								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)			
54	5270							
62	5310							

Frequency and Channel list for 802.11ac (VHT80):

i roquonoy una	Ondinion not for	002.11d0 (V1110	υ <i>j</i> .		
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
58	5290				

Test Frequency and Channel for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Lowest Frequency		Middle F	requency	Highe	st Frequency
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	56	5280	64	5320

Test Frequency and channel for 802.11n (HT40), 802.11ac (VHT40):

Lowest Frequency		Middle F	requency	Highes	st Frequency
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	N/A	N/A	62	5310

Test Frequency and channel for 802.11ac (VHT80):

Lowest Frequency		Middle F	requency	Highest Frequency		
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
58	5290				, ,	



Wifi 5G with U-NII -2C

Frequency and Channel list for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	116	5580	132	5660
104	5520	120	5600	136	5680
108	5540	124	5620	140	5700
112	5560	128	5640		

Frequency and Channel list for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510	118	5590	134	5670
110	5550	126	5630		

Frequency and Channel list for 802.11ac (VHT80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
106	5530	122	5610		

Test Frequency and Channel for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Lowest Frequency		Middle F	requency	Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	120	5600	140	5700

Test Frequency and channel for 802.11n (HT40), 802.11ac (VHT40):

Lowest Frequency		Middle F	requency	Highest Frequency		
Channel	Frequency (MHz) Frequency (MHz)		Channel	Frequency (MHz)		
102	5510			134	5670	

Test Frequency and channel for 802.11ac (VHT80):

root i roquonoy an	a onamio 101 002.1	140 (111100).				
Lowest Frequency		Middle I	Frequency	Highest Frequency		
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
106	5530					



5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

Bldg 69, Majialong Industry Zone District, Nanshan District, Shenzhen, China The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.3 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description

EMC Lab. : Accredited by CNAS

The Certificate Registration Number is L2291.

The Laboratory has been assessed and proved to be in compliance with

CNAS-CL01 (identical to ISO/IEC 17025:2017)

Accredited by FCC

Designation Number: CN1204

Test Firm Registration Number: 882943

Accredited by A2LA

The Certificate Number is 4321.01.

Accredited by Industry Canada

The Conformity Assessment Body Identifier is CN0008

Name of Firm : EMTEK (SHENZHEN) CO., LTD.

Site Location : Building 69, Majialong Industry Zone, Nanshan District, Shenzhen,

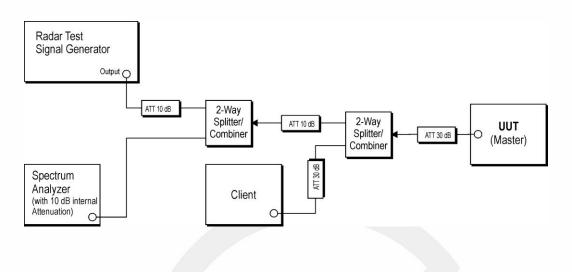
Guangdong, China

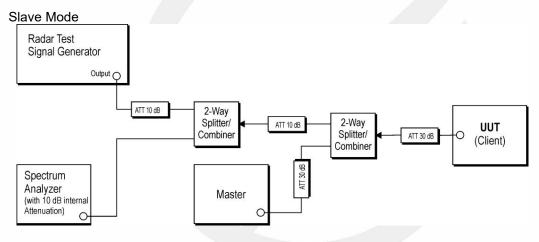


6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

Master Modes





6.2 CALIBRATION OF DFS DETECTION THRESHOLD LEVEL:

A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected in place of the master device and the signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –62 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. Measure the amplitude and calculate the difference from –62 dBm. Adjust the Reference Level Offset of the spectrum analyzer to this difference.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –62 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

Set the signal generator to produce a radar waveform, trigger a burst manually and measure the level on the spectrum analyzer. Readjust the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection threshold. Separate signal generator amplitude settings are determined as required for each radar type.



6.3 SUPPORT EQUIPMENT

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note				
1.	Wireless Access Point	Ruijie	RG-RAP2260(H)	N/A	FCC ID: 2AX5J-RAP2260H IC:27676-RAP2260H				
Note:	Note: Software for transferring data between master and slave devices is TFGEN-1.00								

Notes:

- 1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.





7. DYNAMIC FREQUENCY SELECTION REQUIREMENTS

7.1 APPLICABLE STANDARD

According to 15.407(h) and RSS-247 6.3

7.2 CONFORMANCE LIMIT

The dynamic frequency selection requirement

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 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

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 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

The following table lists the DFS The detection threshold values

Value
(See Notes 1, 2, and 3)
-64 dBm
-62 dBm
-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 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.

Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

7.3 TEST CONFIGURATION

Conducted measurements shall be used for DFS test



7.4 TEST PARAMETERS OF DFS TEST SIGNAL

The following table lists the parameters of radar test signals

Short Pulse Radar Test Waveforms

Radar	Pulse Width	PRI	Number of Pulses	Minimum	Minimum
Type	(µsec)	(µsec)		Percentage of	Number of
		39/07 (39/4		Successful	Trials
				Detection	
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a Test B: 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1 µsec, excluding	Roundup $ \left\{ \frac{\left(\frac{1}{360}\right)}{\left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu \text{sec}}}\right)} \right\} $	60%	30
		PRI values selected in Test A			
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
ggregate (Radar Types 1-	4)		80%	120

Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.

Long Pulse Radar Test Waveform

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

Frequency Hopping Radar Test Waveform

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



7.5 TRANSMITTER OUTPUT POWER

25°C **Humidity:** 55 % RH

	Max Power			
Band	Conducted Outpot Power	E.I.R.P		
5250MHz-5350MHz	15.90dBm(38.90mW)	21.27dBm(133.97mW)		
5470MHz-5725MHz	16.83dBm(48.19mW)	22.20dBm(165.96mW)		





7.6 OPERATION MODES AND REQUIREMENT TEST ITEMS

The manufacture shall state whether the EUT is capable of operating as a Master or a Slave modes,if the EUT is capable of operating in more than one operational mode then every operating mode shall be assessed separately.

Applicability of DFS Requirements Prior to Use of a Channel

	Operational Mode					
Requirement	Master Client Without Radar Detection		Client With Radar Detection			
Non-Occupancy Period	Yes	Not required	Yes			
DFS Detection Threshold	Yes	Not required	Yes			
Channel Availability Check Time	Yes	Not required	Not required			
Uniform Spreading	Yes	Not required	Not required			
U-NII Detection Bandwidth	Yes	Not required	Yes			

Applicability of DFS requirements during normal operation

Requirement	Operational Mode					
requirement	Master	Client Without Radar Detection	Client With Radar Detection			
DFS Detection Threshold	Yes	Not required	Yes			
Channel Closing Transmission Time	Yes	Yes	Yes			
Channel Move Time	Yes	Yes	Yes			
U-NII Detection Bandwidth	Yes	Not required	Yes			

7.7 TEST PROCEDURE

According to KDB 905462 D02v02 Section 7.



8. TEST RESULT

8.1 DETAILED TEST RESULTS

Clause	MODES	Test Parameter	Remark	Verdict
15.407		DFS Detection Threshold	N/A	N/A
15.407		Channel Availability Check Time		N/A
15.407		Channel Move Time	N/A	N/A
15.407	☐Master	Channel Closing Transmission Time	N/A	N/A
15.407		Non-Occupancy Period	N/A	N/A
15.407		Uniform Spreading	N/A	N/A
15.407		U-NII Detection Bandwidth	N/A	N/A
15.407		Radar Detection Threshold	N/A	N/A
15.407		Channel Move Time	Applicable	PASS
15.407	⊠Slave	Channel Closing Transmission Time	Applicable	PASS
15.407		Non-Occupancy Period	Applicable	PASS
15.407		U-NII Detection Bandwidth	N/A	N/A



8.2 RADAR WAVEFORM

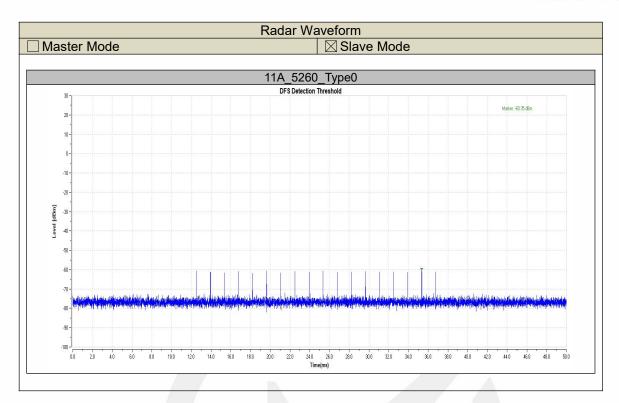
Calibration:

Maximum Transmit Power EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz so detection threshold level is -62dBm.

The 801.11a/n/ac have been tested, and the worst result have been recorded in the below page.









8.3 IN-SERVICE MONITORING

UNII Band II-A

	Rad	lar test signal t	уре 0		
Trial ID	Pulse	DDI/s)	Number of	Waveform	Detection(Y/N)
Trial ID	Width(us)	PRI(us)	Pulses	Length(us)	, ,
0	1.0	1428.0	18	25704.0	Υ
1	1.0	1428.0	18	25704.0	Υ
2	1.0	1428.0	18	25704.0	Υ
3	1.0	1428.0	18	25704.0	Υ
4	1.0	1428.0	18	25704.0	Υ
5	1.0	1428.0	18	25704.0	Y
6	1.0	1428.0	18	25704.0	Y
7	1.0	1428.0	18	25704.0	Υ
8	1.0	1428.0	18	25704.0	N
9	1.0	1428.0	18	25704.0	Υ
10	1.0	1428.0	18	25704.0	Υ
11	1.0	1428.0	18	25704.0	Υ
12	1.0	1428.0	18	25704.0	Υ
13	1.0	1428.0	18	25704.0	Y
14	1.0	1428.0	18	25704.0	N
15	1.0	1428.0	18	25704.0	Υ
16	1.0	1428.0	18	25704.0	Υ
17	1.0	1428.0	18	25704.0	Y
18	1.0	1428.0	18	25704.0	Y
19	1.0	1428.0	18	25704.0	Y
20	1.0	1428.0	18	25704.0	Y
21	1.0	1428.0	18	25704.0	Y
22	1.0	1428.0	18	25704.0	N
23	1.0	1428.0	18	25704.0	Y
24	1.0	1428.0	18	25704.0	Y
25	1.0	1428.0	18	25704.0	Υ
26	1.0	1428.0	18	25704.0	Y
27	1.0	1428.0	18	25704.0	Y
28	1.0	1428.0	18	25704.0	Y
29	1.0	1428.0	18	25704.0	Υ
		Detection Rat	е		90%

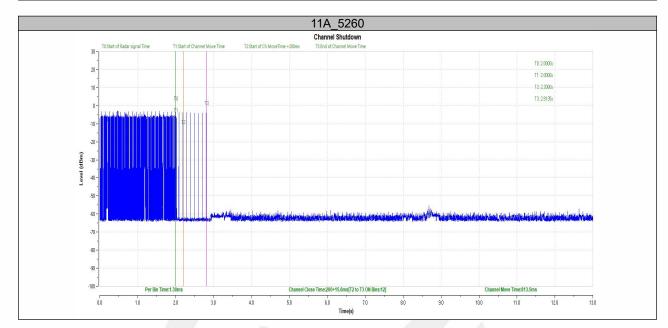


UNII Band II-C

	Rad	ar test singal t			
Trial ID	Pulse	PRI(us)	Number of	Waveform	Detection(Y/N)
	Width(us)		Pulses	Length(us)	
0	1.0	1428.0	18	25704.0	Y
1	1.0	1428.0	18	25704.0	Y
2	1.0	1428.0	18	25704.0	Y
3	1.0	1428.0	18	25704.0	Y
4	1.0	1428.0	18	25704.0	Υ
5	1.0	1428.0	18	25704.0	Υ
6	1.0	1428.0	18	25704.0	Υ
7	1.0	1428.0	18	25704.0	Υ
8	1.0	1428.0	18	25704.0	Υ
9	1.0	1428.0	18	25704.0	Υ
10	1.0	1428.0	18	25704.0	N
11	1.0	1428.0	18	25704.0	Υ
12	1.0	1428.0	18	25704.0	Υ
13	1.0	1428.0	18	25704.0	N
14	1.0	1428.0	18	25704.0	Υ
15	1.0	1428.0	18	25704.0	Y
16	1.0	1428.0	18	25704.0	Y
17	1.0	1428.0	18	25704.0	Y
18	1.0	1428.0	18	25704.0	Y
19	1.0	1428.0	18	25704.0	Υ
20	1.0	1428.0	18	25704.0	Υ
21	1.0	1428.0	18	25704.0	Y
22	1.0	1428.0	18	25704.0	Y
23	1.0	1428.0	18	25704.0	N
24	1.0	1428.0	18	25704.0	Υ
25	1.0	1428.0	18	25704.0	Y
26	1.0	1428.0	18	25704.0	Y
27	1.0	1428.0	18	25704.0	Υ
28	1.0	1428.0	18	25704.0	Υ
29	1.0	1428.0	18	25704.0	Y
		Detection Rat	е		90%

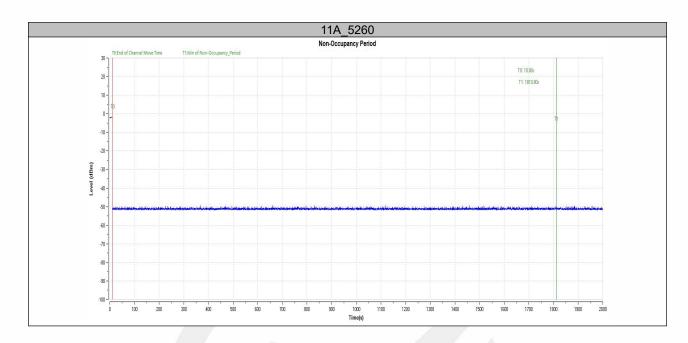


TestMode	Frequency[MHz]	CCTT[ms]	Limit[ms]	CMT[ms]	Limit[ms]	Verdict
11A	5260	200+15.6	200+60	813.5	10000	PASS





8.4 NON-OCCUPANCY PERIOD



*** End of Report ***