

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART E REQUIREMENT DFS TEST REPORT

	UF
Applicant:	Quanta Computer Inc.
	No. 188, Wenhua 2nd Road, Guishan District, Taoyuan City
	33377, Taiwan
Product Name:	7 inch POS Terminal
Brand Name:	Quanta, CASTLES
Model No.:	KI1, SATURN7000
Model Difference:	N/A
FCC ID:	HFS-KI1WIFI
Report Number:	E2/2019/90011
FCC Rule Part:	§15.407, Cat: NII
Issue Date:	Oct. 17, 2019
Date of Test:	Aug. 08, 2018 ~ Oct. 19, 2018
Date of EUT Received:	Aug. 08, 2018

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory 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 conducted and radiated emission limits.

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

Approved By:

Jim Chang / Manager



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Revision History				
Revision	on Description Issue Date Remark			
Rev.00	Original.	Oct. 17, 2019	Revised By: Karen Huang	

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GENERAL INFORMATION 1

1.1 Product Description

General:

Product Name:	7 inch POS Terminal			
Brand Name:	Quanta, CA	Quanta, CASTLES		
Model No.:	KI1, SATUF	RN7000		
Model Difference:	N/A			
Hardware Version:	B2			
Software Version:	01.000			
	3.8V from Rechargeable Li-ion Battery or 5V from AC/DC Adapter			
Power Supply:	Battery:	Model no.: 141023 Supplier: Ningbo Veken Battery Co., Ltd.		
	Adapter:	Model No.: CYSF12G-050200U, Supplier: JIANGSU CHENYANG ELECTRON Co., LTD		

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WLAN 5GHz:

Wi-Fi 802.11	Frequency Range	Channels	Rated Power (Avg.) (dBm)	Modulation Technology
	5150~5250	4	15.37	
а	5250~5350	4	16.49	OFDM
a	5470~5725	12	13.42	OFDIVI
	5725-5850	5	16.48	
	5150~5250	4	HT: 15.46 (Worst Case)	
n_HT	5250~5350	4	HT: 16.49 (Worst Case)	OFDM
ac_VHT 20M	5470~5725	11	HT: 13.39 (Worst Case)	OFDIM
	5725-5850	5	HT: 16.48 (Worst Case)	
	5150~5250	2	HT: 15.49 (Worst Case)	
n_HT	5250~5350	2	HT: 16.48 (Worst Case)	OFDM
ac_VHT 40M	5470~5725	5	HT: 13.32 (Worst Case)	
	5725-5850	2	HT: 16.49 (Worst Case)	
	5150~5250	1	11.32	
ac_VHT	5250~5350	1	11.66	OFDM
80M	5470~5725	2	13.45	OFDIVI
	5725-5850	1	16.46	
Modulation type		64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 802.11ac only		
		802.11 a: 6/9/12/18/24/36/48/54 Mbps		
			802.11 n_20MHz: 6.5 – 144.4Mbps	
Transition Rate:		802.11 n_40MHz: 13.5 - 300Mbps		
		802.11 ac_20MHz: 6.5 –144.4Mbps 802.11 ac_40MHz: 13.5 –300Mbps		
		802.11 ac 80MHz: 29.3 – 650Mbps		

Antenna Designation:

Antenna Type	Part Number	Supplier	Frequency (MHz)	Peak Antenna Gain(dBi)
	PIFA L64RF019-CS-HI		5150~5250	3.2 dBi
DIEA		Luvahara ICT	5250~5350	3.0 dBi
FIFA		Luxshare-ICT	5470~5725	4.0 dBi
			5725~5850	3.1 dBi

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1.2 Test Methodology of Applied Standards

FCC Part 15, Subpart E §15.407 FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 FCC KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02 All test items have been performed and record as per the above standards.

1.3 Test Facility

SGS Taiwan Ltd. Electronics & Communication Laboratory No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333 (TAF code 0513) FCC Registration Number and Designation are: 735305 / TW0002.

1.4 Special Accessories

There are no special accessories used while test was conducted.

1.5 Equipment Modifications

There was no modification incorporated into the EUT.

1.6 Test data is referenced from cross authorization(s)

Measurement results in the original test report E2/2018/70097 under FCC ID: HFS-KI1 are fully leveraged in this test report with spot check to demonstrate compliance.

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SUMMARY OF TEST RESULT 2

FCC Rules	Description Of Test	Result
§15.407(h)	TPC and DFS Measurement	Compliant

MEASUREMENT UNCERTAINTY 3

Test Items	Uncertainty
TPC and DFS Measurement	+/- 123.36 Hz
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC=+/- 0.2%

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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4 TPC AND DFS MEASUREMENT

4.1. TPC: Standard Applicable

According to §15.407(h)(1), Transmit power control (TPC). U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

4.1.1. Result: N/A, The output power is less than 500mW.

4.2. DFS: Standard Applicable

According to §15.407(h)(2) and FCC KDB 905462 D02, Radar Detection Function of Dynamic Frequency Selection (DFS).

Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating with any part of its 26 dB emission bandwidth in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems. Operators shall only use equipment with a DFS mechanism that is turned on when operating in these bands. The device must sense for radar signals at 100 percent of its emission bandwidth. The minimum DFS detection threshold for devices with a maximum e.i.r.p. of 200 mW to 1 W is -64 dBm. For devices that operate with less than 200 mW e.i.r.p. and a power spectral density of less than 10 dBm in a 1 MHz band, the minimum detection threshold is -62 dBm. The detection threshold is the received power averaged over 1 microsecond referenced to a 0 dBi antenna. For the initial channel setting, the manufacturers shall be permitted to provide for either random channel selection or manual channel selection.

(i) Operational Modes. The DFS requirement applies to the following operational modes:

(A) The requirement for channel availability check time applies in the master operational mode.

(B) The requirement for channel move time applies in both the master and slave operational modes.

(ii) Channel Availability Check Time. A U-NII device shall check if there is a radar system already operating on the channel before it can initiate a transmission on a channel and when it has to move to a new channel. The U-NII device may start using the channel if no radar

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signal with a power level greater than the interference threshold values listed in paragraph (h)(2) of this section, is detected within 60 seconds.

(iii) Channel Move Time. After a radar's presence is detected, all transmissions shall cease on the operating channel within 10 seconds. Transmissions during this period shall consist of normal traffic for a maximum of 200 ms after detection of the radar signal. In addition, intermittent management and control signals can be sent during the remaining time to facilitate vacating the operating channel.

(iv) Non-occupancy Period. A channel that has been flagged as containing a radar system, either by a channel availability check or in-service monitoring, is subject to a non-occupancy period of at least 30 minutes. The non-occupancy period starts at the time when the radar system is detected.

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4.2.1. Limit Table 1: 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	Yes	Yes
DFS Detection Thresh- old	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

	Operational Mode		
Requirement	Master Device or Client with Radar Detection	Client Without Radar Detection	
DFS Detection Threshold	Yes	Not required	
Cannel Closing Transmis- sion time	Yes	Yes	
Channel Move time	Yes	Yes	
U-NII Detection Bandwidth	Yes	Not required	

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Additional requirements for devices with multiple bandwidth mode	Master Device or Client with Radar Detection	Client Without Radar Detection	
U-NII Detection Band- width and Statistical Performance Check	All BW modes must be tested	Not required	
Channel Move Time and Channel Closing Trans- mission Time	I lost using widest RW I lost using the wi		
All other tests	Any single BW mode	Not required	
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.			

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Table 3:

D01

Interference Threshold values, Master or Client incorporating In-Service Monitoring

· · · · · · · · · · · · · · · · · · ·	
Maximum Transmit Power	Value
	(See Notes 1, 2, and 3)
$EIRP \ge 200 \text{ milliwatt}$	-64 dBm
EIRP < 200 milliwatt and	-62 dBm
power spectral density < 10 dBm/MHz	
EIRP < 200 milliwatt that do not meet the power spectral	-64 dBm
density requirement	
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	
transmission waveforms to account for variations in measurement eq	-
test signal is at or above the detection threshold level to trigger a DFS	•
Note3: EIRP is based on the highest antenna gain. For MIMO device	es refer to KDB Publication 662911

Devices	DFS Threshold							
Devices with an e.i.r.p. < 200 mW AND a	-62 dBm							
Power Spectral Density < 10 dBm/MHz								
Devices with	-64 dBm							
$200 \text{ mW} \le \text{e.i.r.p.} \le 1 \text{ W}$								
Note: The detection threshold power is the receiv	Note: The detection threshold power is the received power, averaged over a 1-microsecond							
reference to a 0 dBi antenna.								

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Table 4: 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 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.

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Table 5: Radar Test Waveforms Short Pulse Radar

Radar	Pulse	PRI	Number of Pulses	Minimum	Minimum
Type	Width	(µsec)		Percentage of	Number
	(µsec)			Successful	of
				Detection	Trials
0	1	1428	18	See Note 1	See Note
					1
1	1	Test A: 15 unique	$\left(\begin{pmatrix} 1 \end{pmatrix} \right)$	60%	30
		PRI values	360		
		randomly selected	Roundun		
		from the list of 23	[19·10°]		
		PRI values in	$\left(\overline{\mathbf{PRI}_{\mu \text{sec}}} \right)$		
		Table 5a	((µsec /)		
		Test B: 15 unique			
		PRI values			
		randomly selected			
		within the range			
		of 518-3066 µsec,			
		with a minimum			
		increment of 1			
		µsec, excluding			
		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
Aggregate (Radar Types	1-4)		80%	120

time, and channel closing time tests. Long Pulse Radar

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

Frequency Hopping Radar

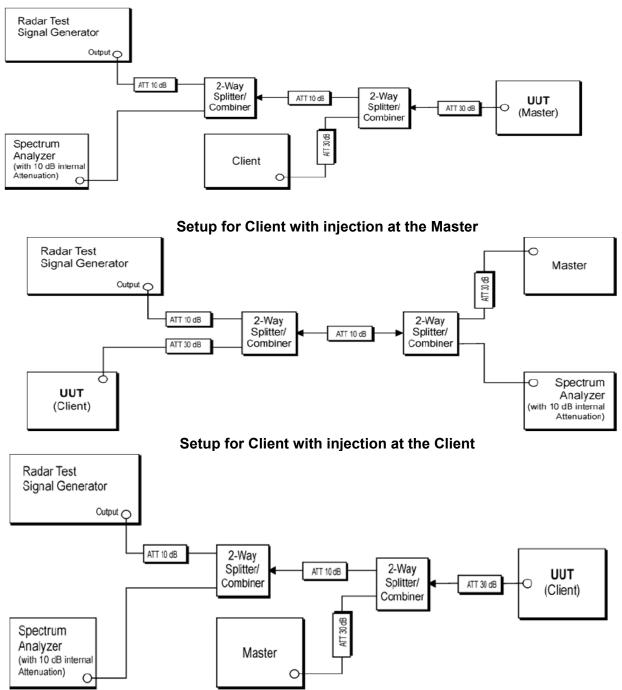
Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

The applicant of this given application confirms that information regarding the parameters of the detected Radar Waveforms is not available to the end user.

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4.2.2. Test Setup



Setup for Master with injection at the Master

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4.2.3. Test Equipment Used:

Conducted Emission Test Site												
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.							
TYPE		NUMBER	NUMBER	CAL.								
Spectrum Analyzer	Agilent	N9010A	MY51440113	2018/06/20	2019/06/19							
DC Block	PASTERNACK	PE8210	RF29	2017/12/26	2018/12/25							
Notebook	Lenovo	L420	S0011721	N/A	N/A							
DC Power Supply	Agilent	E3640A	MY53140006	2018/05/30	2019/05/29							
Attenuator	Marvelous	MVE2213-10	RF30	2017/12/26	2018/12/25							
Power Meter	Anritsu	ML2496A	1326001	2018/08/09	2019/08/02							
Power Sensor	Anritsu	MA2411B	1315048	2018/08/09	2019/08/02							
Power Sensor	Anritsu	MA2411B	1315049	2018/08/09	2019/08/02							

4.2.4. Description of EUT:

EUT operates over the 5250-5350MHz and 5470-5725MHz ranges and EUT is a slave device (client equipment) w/o radar detection and DFS capability.

EUT has no TPC mechanism implemented with no adjustment of lowest, and highest power, but the level of power emission stays at fixed level.

The EUT utilizes the 802.11a/n 40M architecture, with a nominal channel bandwidth of 40MHz WLAN traffic is generated by streaming the mpeg file from the master to slave in full monitor video mode using the media player.

The rated output power of the master unit is >23dBm(EIRP).therefore the required interference threshold level is -62dBm.after correction for antenna gain and procedural adjustments, the required conducted threshold at the antenna port is -62dBm, and the master device as employed for the applicable DFS test is CISCO router whose FCC ID= 2APLAGC317271

While calibrate the path on antenna port of DFS test equipment (master), measurements equipments (spectrum) is ensured to be 50 Ohms, and therefore verification on antenna gain measurement can be ignored.

Conducted test was performed with appropriate adjustment, and calibration to ensure power from DFS simulator injects to antenna port of DFS test equipment (DFS) is -62dBm

Message or files that is used for communication between Master and Client:

IP based system:

For the required channel loading, the full motion, 30 frames per second MPEG video file from http://ntiacsd.ntia.doc.gov/dfs/ was streamed from a network on a test bench (server of the storage to download the mandatory format of Video file), via the DFS Master device, to the UE (mobile phone).

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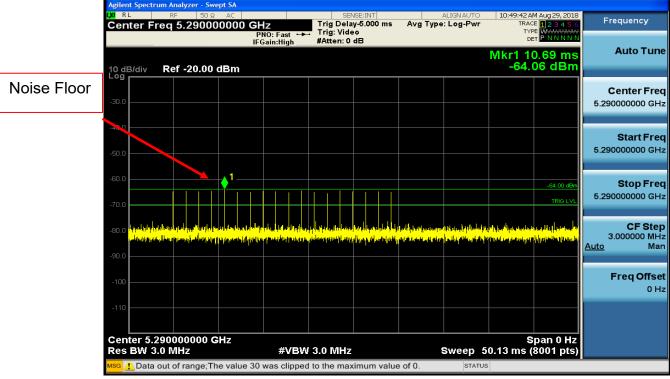
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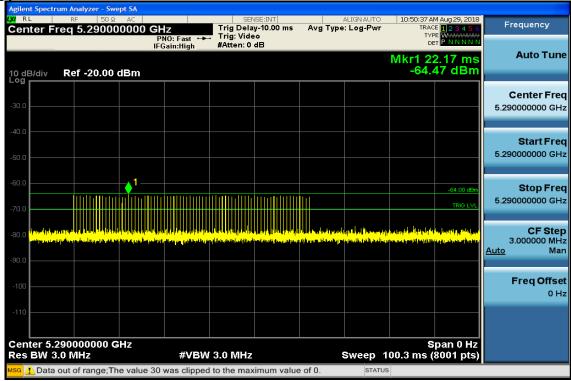


4.2.5. Test results

5290 Calibration plots for each of the required radar waveforms Radar type 0



Radar type 1-A



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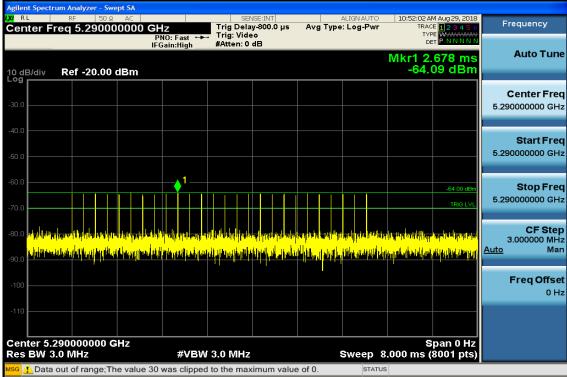
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Radar type 1-B

		um Analyze		pt SA								
LXI R Cer	-	RF	50 Ω 9000	AC 0000 G	Hz		vse:INT vy-10.00 ms		ALIGNAUTO	TRAC	M Aug 29, 2018	Frequency
				F	PNO: Fast ↔ Gain:High	Trig: Vide #Atten: 0			-	⊳ Mkr1 3	5.06 ms	Auto Tune
10 di Log	B/div	Ref -2	0.00 c	lBm						-64.	16 dBm	
-30.0												Center Freq 5.290000000 GHz
-40.0	L											
-50.0												Start Freq 5.290000000 GHz
-60.0					<u>1</u> _							01 -
			ILIII					111			-64.00 dBm	Stop Freq 5.29000000 GHz
-70.0											TRIG LVL	
-80.0	and Dis ^t errand) P ¹ 24 - P1		alla illi a a A tair sha	n Da di entre Sila (n Mala di entre Sila (n	a da shi ka shi ka shi ka sh	l an di lang an da di Ang si sa	la di salamin ang			thiller of this section.		CF Step 3.000000 MHz <u>Auto</u> Man
-90.0												
-100	\vdash											Freq Offset 0 Hz
-110												
	Center 5.290000000 GHz Span 0 Hz											
	-	.0 MHz				/ 3.0 MHz				100.3 ms (8001 pts)	
MSG	Data	out of rar	ige;Th	e value 30	was clippe	d to the max	kimum valu	e of 0.	STATU	JS		

Radar type 2



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Radar type 3

	ctrum Analyzer - Sv									
Center	RF 50 9	Ω AC 100000 GH	17		NSE:INT		ALIGNAUTO : Log-Pwr	TRAC	M Aug 29, 2018	Frequency
10 dB/div		P IF(NO: Fast ↔ Gain:High	Trig: Vide #Atten: 0				Mkr1 3	060 ms	Auto Tune
-30.0										Center Freq 5.290000000 GHz
-40.0										Start Freq 5.290000000 GHz
-60.0			1						-64.00 dBm TRIG LVL	Stop Freq 5.290000000 GHz
-80.0 <mark>-90.0</mark>	n llabel at photo ortally line Interhally of pathological photo	adalla an a' taripinin Mangalija ajgilana		and the second of	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		de entre la constante L _{e la} la la constante de la cons	tertenten beter liter N _{topo} ten beter beter	alegia alegia de la constanta d La constanta de la constanta de	CF Step 3.000000 MHz <u>Auto</u> Man
-100										Freq Offset 0 Hz
-110	5.290000000									
	3.0 MHz	GHZ	#VBW	3.0 MHz			Sweep 1		pan 0 Hz 8001 pts)	
MSG 🥂 Da	ta out of range;T	The value 30	was clipped	to the max	kimum value	e of 0.	STATUS	5		

Radar type 4

Agilent Spectro	um Analyzer - Swep			05				10 50 10 0		
	RF 50 Ω eq 5.290000	0000 GH	z	Trig Dela	ISE:INT		LIGN AUTO	TRAC	4 Aug 29, 2018 E <mark>1 2 3 4 5 6</mark>	Frequency
	D of 20.00 d	IFG	NO: Fast 🔸 Gain:High	. Trig: Vide #Atten: 0				Mkr1 2.	725 ms 20 dBm	Auto Tune
10 dB/div Log	Ref -20.00 d	IBM						-04.		Center Freq 5.290000000 GHz
-40.0										Start Freq 5.29000000 GHz
-60.0		1. 							-64.00 dBm	Stop Freq 5.290000000 GHz
dilimitiane	alardi ushiri serili susan •Alar Ilan glagatik sangu									CF Step 3.000000 MHz <u>Auto</u> Mar
-90.0										Freq Offset 0 Hz
	290000000 GI	Hz	#\/D\\	2.0 844-				S	pan 0 Hz	
	Res BW 3.0 MHz #VBW 3.0 MHz Sweep 10.13 ms (8001 pts)									

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Radar type 5

	HZ NO: Fast ↔ Gain:High	Trig Delay	>		ALIGNAUTO : Log-Pwr	TRAC	M Aug 29, 2018	Frequency
Р	NO: Fast 🔸							
10 dB/div Ref -20.00 dBm						D ΔMkr2	11.28 s 0.32 dB	Auto Tune
-30.0 -40.0 -50.0								Center Freq 5.290000000 GHz
-60.0		والمهاولة المراجع والقارور	و دور و الم	1	24	3	-64.UU d⊞m TRIG LVL	Start Freq 5.290000000 GHz
-90.0 -100 -110								Stop Freq 5.290000000 GHz
Center 5.290000000 GHz Res BW 3.0 MHz MKR MODE TRC SCL X	#VBW	7 3.0 MHz -64.06 dB	FUNC	TION FUN	Sweep	15.00 s (pan 0 Hz 8001 pts) ^{DN VALUE}	CF Step 3.000000 MHz <u>Auto</u> Man
2 Δ3 1 t (Δ) 1	11.28 s (Δ) 4.4 ms	0.32 d -64.53 dB						Freq Offset 0 Hz

Radar type 6

Agilent Spectrum Analyzer	- Swept SA								
Center Freq 5.29	50 Ω AC 00000000 GH	z	Trig Dela	ISE:INT у-800.0 µs		ALIGNAUTO : Log-Pwr	TRAC	M Aug 29, 2018 E <mark>1 2 3 4 5 6</mark>	Frequency
	PI IFG	NO: Fast ↔↔ Gain:High	Trig: Vide #Atten: 0				Mkr1 1.	464 ms	Auto Tune
10 dB/div Ref -20.	.00 dBm						-64.	03 dBm	
-30.0									Center Fred 5.290000000 GHz
-40.0									Start Fred 5.290000000 GHz
-70.0	↓ 							-64.00 dBm TRIG LVL	Stop Freq 5.290000000 GHz
-80.0 11111111111111111000-9-9-9-9-9-9-9-9-9-9	de persona este di se tra tra tra tra 1 de la constante dana da constata								CF Step 3.000000 MHz <u>Auto</u> Mar
-100									Freq Offset 0 Hz
-110									
Center 5.29000000 Res BW 3.0 MHz	GHZ	#VBW	3.0 MHz			Sweep 8	s .000 ms (pan 0 Hz 8001 pts)	
мsg 🦺 Data out of rang	e;The value 30	was clipped	to the max	imum value	e of 0.	STATUS	3		

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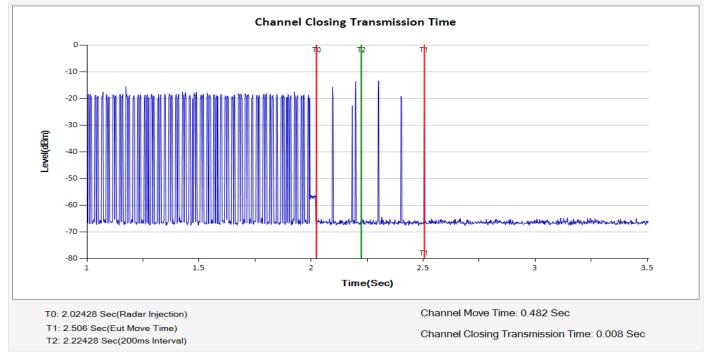


WLAN Payload



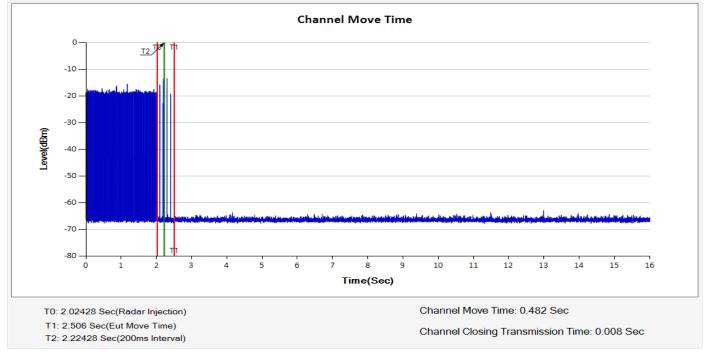
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Radar Type 1 Channel Move and Closing Transmission Time - 1





Verdict: Note: narrowing the sweep time as the good engineering process for the verification of transmission closing in 200ms

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Non-occupancy Period (without radar detection)

Agilent Spectr												
Center F	_{RF} rea 5	50 Ω .29000		GHz		ENSE:INT	Avg		ALIGN AUTO : Log-Pwr	TRA	M Aug 29, 2018	Frequency
				PNO: Fast IFGain:Lov						D		Auto Tune
10 dB/div Log	Ref	0.00 dE	3m						4	-4 4	.800 ks 5.27 dB	
-10.0	,											Center Freq
-20.0 X	2											5.29000000 GHz
-40.0												Start Freq
-50.0											<u>1</u> ∆2	5.290000000 GHz
-70.0	-states-u-li	inne protection	tale ta dina l		4.1.61.2	a sel an sataina a		den elen t	hin aiji muddalarik a kat		1.111	
-80.0												Stop Freq 5.29000000 GHz
-90.0												5.29000000 GH2
Center 5. Res BW 3			Hz	#V	/BW 3.0 MH	z			Sweep 2	s 2.000 ks (pan 0 Hz 8001 pts)	CF Step 3.000000 MHz
MKR MODE T		(0)	Х	1.800 ks	γ (Δ) -45,2		FUNCTION	FUN	CTION WIDTH	FUNCTI	ON VALUE	<u>Auto</u> Man
2 F 1		(Δ)		96.25 s	(<u>A)</u> -45.2 -19.94							Freq Offset
4												0 Hz
6 7												
8												
10											~	
K MSG					1111				STATUS		>	

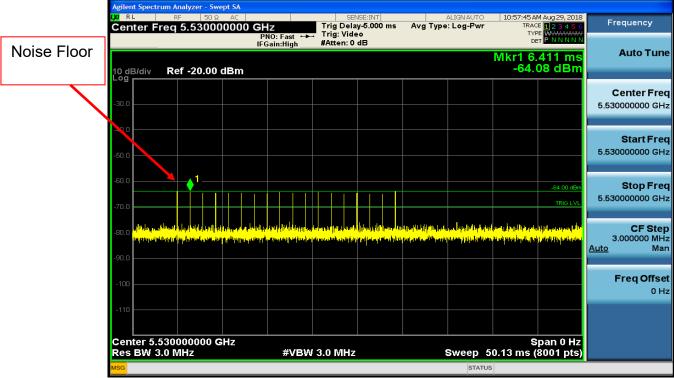
Verdict:

To verify whether channel is unavailable to be operated in 30 minutes. 1.8ks = 1800s = 1800 s/min /60 = 30minute

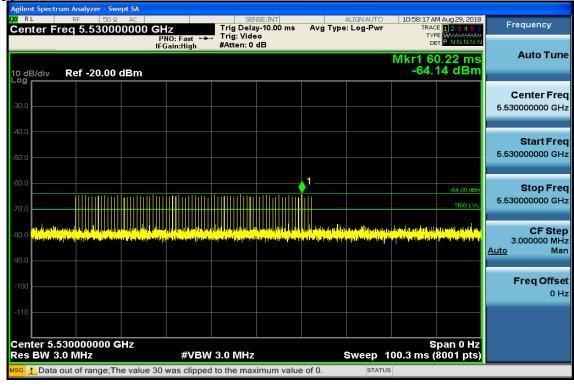
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5530 Calibration plots for each of the required radar waveforms Radar type 0



Radar type 1-A



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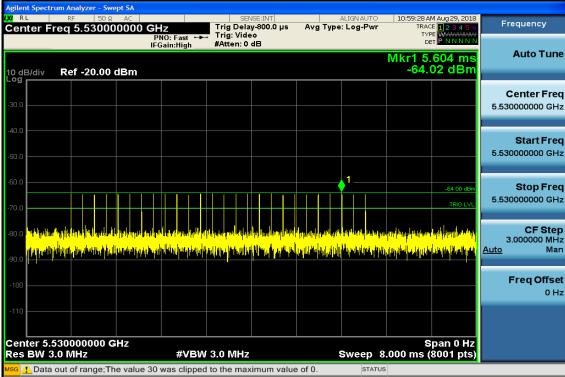
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Radar type 1-B

		um Ana	alyzer - Sw	ept SA									
LXI RL Cent	RL RF 50 Ω AC enter Freq 5.530000000 GHz PN0: Fast +++					Trig Dela	NSE:INT Ny-10.00 ms ≧o		ALIGNAUTO e: Log-Pwr	TRA	M Aug 29, 2018 CE 123456 PE WWWWWW	Frequency	
10 dB Log r	3/div	Ref	-20.00	dBm	IFGain:		#Atten: 0	dB			Mkr1 5	2.04 ms 10 dBm	Auto Tune
-30.0													Center Freq 5.530000000 GHz
-40.0 ·													Start Freq 5.530000000 GHz
-60.0 - -70.0 -								_ 1				-64.00 dBm TRIG LVL	Stop Freq 5.530000000 GHz
-80.0						Na ina indi Galaria			an da an		din ki i por din na porta da 1996 - por porta da p		CF Step 3.000000 MHz <u>Auto</u> Man
-100 -													Freq Offset 0 Hz
	er 5.5 BW 3		00000 (GHz		#\/B\A	(3.0 MHz			Sween		pan 0 Hz 8001 pts)	
				he value				kimum valu		STATU		octor presj	

Radar type 2



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Radar type 3

	rum Analyzer - Sw									
Center F	RF 50 Ω req 5.53000	AC 00000 GH	-lz	Trig Dela	vse:INT		ALIGNAUTO	TRAC	M Aug 29, 2018	Frequency
10 dB/div	Ref -20.00	P	NO: Fast ↔► Gain:High	- Trig: Vide #Atten: 0				Mkr1 1	686 ms	Auto Tune
-30.0	Rei -20.00									Center Freq 5.530000000 GHz
-40.0										Start Freq 5.53000000 GHz
-60.0									-64.00 dBm TRIG LVL	Stop Freq 5.530000000 GHz
-80.0 <mark>og på på p</mark> <mark>(14.1)</mark> pgp -90.0	la le a di a di pa la dana banka Na sa na ja a di pa da pa di pa di		ling handhandan Miling diportan	aan araa araa Africana araa araa		an distant data da	odel del del a del Vilano del antesia	a far farme og fra h	parterili des della parti (parti canto	CF Step 3.000000 MHz <u>Auto</u> Man
-100										Freq Offset 0 Hz
-110	530000000 G	Hz							pan 0 Hz	
Res BW 3			#VBW	/ 3.0 MHz			Sweep 1		8001 pts)	
MSG 🥂 Data	out of range;Th	ne value 30	was clipped	to the max	kimum valu	e of 0.	STATUS	5		

Radar type 4

	nt Spectru														_								
<mark>IXI</mark> R Cen	ter Fr	_{RF} eq 5.5		2 AC		GHz	z			rig De		1.000		Avg		ALIGN A		11	TRA	ACE 📘	.ug 29, 20 2 3 4 5	5 6	Frequency
	PNO: Fast ↔ →→ IFGain:High							Trig: Video #Atten: 0 dB			DET P N N N N				N N								
																		Mk			47 m		Auto Tune
10 di Log	B/div	Ref -2	20.00	dBr	n											_			-64	.33	3 dBr	m	
3																							Center Freq
-30.0	<u> </u>					\rightarrow																	5.530000000 GHz
-40.0																							
-40.0																							Start Free
-50.0																							5.530000000 GHz
-60.0										≬ 1_											-64.00 dt	Bm	Stop Fred
-70.0																					TRIG L	VL	5.53000000 GHz
-80.0	. Appliples	them to the	i dana	i <mark>N</mark> er	, HIN		al de la	de la da	<mark>hili ha</mark>	n de la	dig di b	Me l	h fi na l	a <mark>hualen</mark>	in a start and	d parts	er Mary	philmin.	adqil.	4 dia	Wagheb	11	CF Step 3.000000 MHz
-90.0		ant date	الاراليليل	W <mark>Jun</mark> d	il <mark>l i</mark> i	" ^I L _I I"	<mark>սիվել</mark> իս	վ <mark>եր</mark> Մի	i fulqu	ալիհ	el <mark> (</mark> pla	ⁿ hhi	4 ^m d	Mill Phil	<mark>կկ</mark> իլի	^{ala} nnan ^a	<mark>միայի</mark> ն	49 <mark>0</mark> 0	h <mark>i lu </mark> hi	11 ⁴¹ h	<mark>(^{lul}i/)Lo</mark> l	1	<u>Auto</u> Man
-90.0																							
-100																							Freq Offset
																							0 Hz
-110						$ \rightarrow $																	
	ter 5.53 BW 3.0			GHz			#	VBV	V 3.1	1 ML	7					Swee	n 1	0 13			an 0 H 101 pt:		
	Data o			he va	alue	30 w						num	value	e of 0.			STATUS	_	ante	(00	er pr	- ,	
			0-,-		_			110							_	_			_	-	_	-	

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Radar type 5

Agilent Spectrum Analyzer - Swept SA					
RL RF 50 Ω AC Center Freq 5.530000000	GHz Trig Delay-1		:Log-Pwr TF	AM Aug 29, 2018	Frequency
10 dB/div Ref -20.00 dBm	PNO: Fast ↔ Trig: Video IFGain:High #Atten: 0 dB	3		2 11.28 s 0.19 dB	Auto Tune
-30.0 -40.0 -50.0					Center Freq 5.530000000 GHz
-60.0 -70.0 -80.0				-64.00 dBm TRIG LVL	Start Freq 5.530000000 GHz
-90.0 -100 -110					Stop Freq 5.530000000 GHz
Center 5.530000000 GHz Res BW 3.0 MHz	#VBW 3.0 MHz		Sweep 15.00 s	Span 0 Hz (8001 pts)	CF Step 3.000000 MHz <u>Auto</u> Man
1 N 1 t (A) 3 F 1 t (A) 3 F 1 t 4 5 5 6 6 6 6 7 8 9 10 10 11 11 11	11.28 si (∆) 0.19 dE 144.4 ms -65.06 dBm				Freq Offset 0 Hz

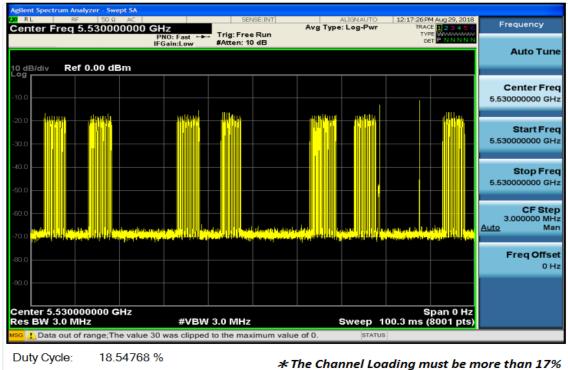
Radar type 6

	rum Analyzer - Swe									
Center F	RF 50 Ω req 5.53000		lz	Trig Dela	JSE:INT у-800.0 µs		LIGN AUTO	TRAC	M Aug 29, 2018	Frequency
		PI	NO:Fast ↔► Gain:Hiαh	Trig: Vide #Atten: 0						
10 dB/div	Ref -20.00		Jannign						.797 ms 14 dBm	Auto Tune
-30.0										Center Freq 5.53000000 GHz
-40.0										Start Freq 5.530000000 GHz
-60.0			1						-64.00 dBm TRIG LVL	Stop Freq 5.530000000 GHz
-80.0 <mark>144.171</mark>		n jali alti. Lokin Kana kana ka		1) 1) - Heing Brutt deutste 11 - Heing Brutt deutste				dagalla baddhadha 	<mark>Aligni dan </mark> pertenjak Aligni dan seria dan	CF Step 3.000000 MHz Auto Man
-90.0	ni ilə ili yazırda ilə İslanda ilə əki Milləri	[[]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]	laidin brain dan br							<u>Auto</u> Man Freq Offset 0 Hz
	530000000 G	iHz						s	pan 0 Hz	
Res BW 3				3.0 MHz				.000 ms (8001 pts)	
MSG 🦺 Data	out of range;Th	e value 30	was clipped	I to the max	timum value	e of 0.	STATUS	5		

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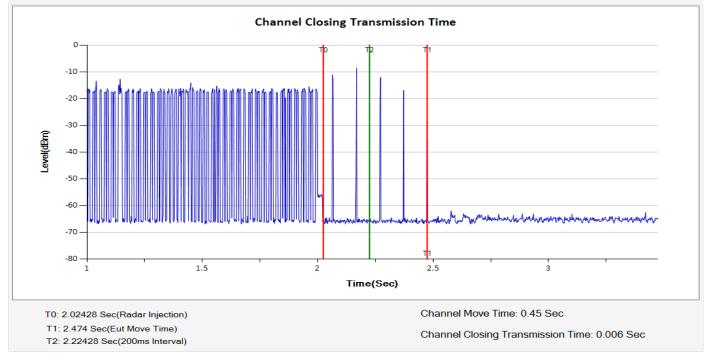


WLAN Payload



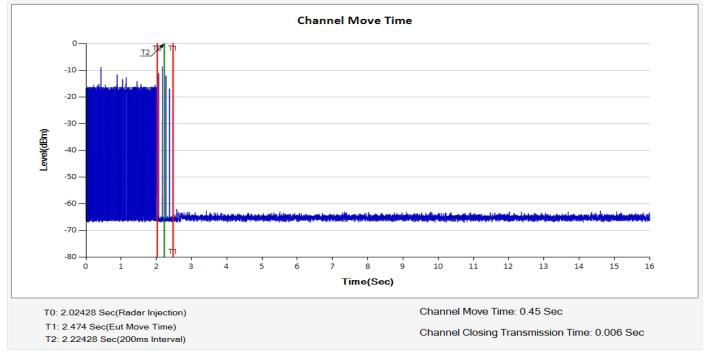
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Radar Type 1 Channel Move and Closing Transmission Time - 1





Verdict: Note: narrowing the sweep time as the good engineering process for the verification of transmission closing in 200ms

~ End of Report ~

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