

DFS PORTION of FCC 47 CFR PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE/5G Phone with BT, DTS/UNII a/b/g/n/ac/ax, GPS, WPT & NFC

FCC ID: PY7-03571V

REPORT NUMBER: R14639470-D1

ISSUE DATE: 2023-03-28

Prepared for SONY CORPORATION 1-7-1 KONAN MINATO-KU TOKYO, 108-0075, JAPAN

Prepared by UL LLC 12 Laboratory Dr. Research Triangle Park, NC 27709 U.S.A. TEL: (919) 549-1400



Revision History

Rev.	lssue Date	Revisions	Revised By
V1	2023-03-28	Initial Issue	Samuel Bryson

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1. ATTESTATION OF TEST RESULTS

- SONY CORPORATION **COMPANY NAME:** 1-7-1 KONAN MINATO-KU TOKYO, 108-0075, JAPAN
- **EUT DESCRIPTION:** GSM/WCDMA/LTE/5G Phone with BT, DTS/UNII a/b/g/n/ac/ax, GPS. WPT & NFC
- **SERIAL NUMBER: QV77008AFR**

DATE TESTED: 2023-02-13

APPLICABLE STANDARDS			
STANDARD	TEST RESULTS		
DFS Portion of CFR 47 Part 15 Subpart E	Complies		

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

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Prepared By:

Samuel Bryson Laboratory Technician CONSUMER TECHNOLOGY DIVISION UL LLC

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with the DFS portion of FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC KDB 789033, KDB 905462 D02 and D03.

3. SUMMARY OF TEST RESULTS

Requirement Description	Result	Remarks
DFS Portion of FCC 47 CFR PART 15 SUBPART E	Complies	None

4. REFERENCE DOCUMENTS

Measurements of transmitter parameters as referenced in this report and all other manufacturer's declarations relevant to the RF test requirements are documented in UL LLC report number R14634918-E5 and R14634918-E6.

This report contains data provided by the customer which can impact the validity of results. UL LLC is only responsible for the validity of results after the integration of the data provided by the customer.

Below is a list of the data provided by the customer:

1. Antenna gain and type (see section 7.1.6)

5. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification # 0751.06, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
\boxtimes	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A	030007	27265	020074

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6. DECISION RULES AND MEASUREMENT UNCERTAINTY

6.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

6.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement).

7. DYNAMIC FREQUENCY SELECTION

7.1. OVERVIEW

7.1.1. LIMITS

FCC

§15.407 (h), FCC KDB 905462 D02 "COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION" and KDB 905462 D03 "U-NII CLIENT DEVICES WITHOUT RADAR DETECTION CAPABILITY".

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Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operatio	nal Mode			
	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		
U-NII Detection Bandwidth	Yes	Not required	Yes		

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode			
	Master	Client	Client	
		(without DFS)	(with DFS)	
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	

Additional requirements for	Master Device or Client with	Client			
devices with multiple bandwidth	Radar DFS	(without DFS)			
modes					
U-NII Detection Bandwidth and	All BW modes must be	Not required			
Statistical Performance Check	tested				
Channel Move Time and	Test using widest BW mode	Test using the			
Channel Closing Transmission	available	widest BW mode			
Time		available for the			
		link			
All other tests	Any single BW mode	Not required			
Note: Frequencies selected for stati					
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 all 20 MHz channel blocks and a null frequency between the bonded 20					
MHz channel blocks.					

Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitorina

Maximum Transmit Power	Value				
	(see notes)				
E.I.R.P. ≥ 200 mill watt	-64 dBm				
E.I.R.P. < 200 mill watt and	-62 dBm				
power spectral density < 10 dBm/MHz					
E.I.R.P. < 200 mill watt that do not meet 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					
amplitude of the test transmission waveforms to account for w	ariations in measurement				
equipment. This will ensure that the test signal is at or above the detection threshold level to					
trigger a DFS response.					
Note 3: E.I.R.P. is based on the highest antenna gain. For MIMO devices refer to KDB					
publication 662911 D01.					

Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds (See Note 1)
Channel Closing Transmission Time	200 milliseconds + approx. 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 – Short Pulse Radar Test Waveforms

				N 41 1	N 41 1		
Radar	Pulse	PRI	Pulses	Minimum	Minimum		
Туре	Width	(usec)		Percentage	Trials		
	(usec)			of Successful			
				Detection			
0	1	1428	18	See Note 1	See Note		
					1		
1	1	Test A: 15 unique		60%	30		
		PRI values randomly					
		selected from the list	Roundup:				
		of 23 PRI values in	{(1/360) x (19 x 10 ⁶ /PRI _{usec})}				
		table 5a					
		Test B: 15 unique					
		PRI values randomly					
		selected within the					
		range of 518-3066					
		usec. With a					
		minimum increment					
		of 1 usec, 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						
Note 1:	Short P	ulse Radar Type 0 shou	Id be used for the Detection Bar	ndwidth test, Ch	annel		
		Channel Closing Time to					

Table 6 – Long Pulse Radar Test Signal

rabio o Zong rabo radar root orginar							
Radar	Pulse	Chirp	PRI	Pulses	Number	Minimum	Minimum
Waveform	Width	Width	(µsec)	per	of	Percentage	Trials
Туре	(µsec)	(MHz)		Burst	Bursts	of Successful	
	. ,					Detection	
5	50-100	5-20	1000-	1-3	8-20	80%	30
			2000				

Table 7 – Frequency Hopping Radar Test Signal

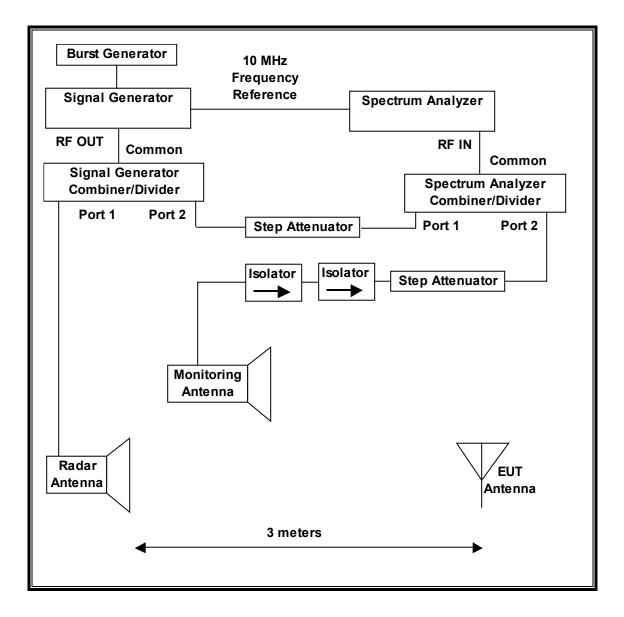
		,	3				
Radar	Pulse	PRI	Pulses	Hopping	Hopping	Minimum	Minimum
Waveform	Width	(µsec)	per	Rate	Sequence	Percentage of	Trials
Туре	(µsec)	. ,	Нор	(kHz)	Length	Successful	
	,				(msec)	Detection	
6	1	333	9	0.333	300	70%	30

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7.1.2. TEST AND MEASUREMENT SYSTEM

RADIATED METHOD SYSTEM BLOCK DIAGRAM



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SYSTEM OVERVIEW

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

The short pulse types 1, 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of KDB 905462 D02. The frequency of the signal generator is incremented in 1 MHz steps from F_L to F_H for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

SYSTEM CALIBRATION

A 50-ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to a horn antenna via a coaxial cable, with the reference level offset set to (horn antenna gain – coaxial cable loss). The signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –64 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. The Reference Level Offset of the spectrum analyzer is adjusted so that the displayed amplitude of the signal is –64 dBm.

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 –64 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

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ADJUSTMENT OF DISPLAYED TRAFFIC LEVEL

A link is established between the Master and Slave and the distance between the units is adjusted as needed to provide a suitable received level at the Master and Slave devices. Traffic that meets or exceed the minimum loading requirement is streamed from the Master device to the Slave Device. The monitoring antenna is adjusted so that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold.

TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST						
Description	Manufacturer	Model	ID No.	Cal Due		
Spectrum Analyzer, PXA, 3Hz to 8.4GHz	Keysight	N9030A	SA0021	2023-07-14		
Signal Generator, MXG X-Series RF Vector	Keysight	N5182B	SIG003	2023-05-19		
2.5-7.5 GHz Horn Antenna	Advanced Technical Materials INC.	250-441EM- NF/CAL	AT0070	2023-04-11		

7.1.3. TEST AND MEASUREMENT SOFTWARE

The following test and measurement software was utilized for the tests documented in this report:

Slave Device Testing

TEST SOFTWARE LIST						
Name Version Test / Function						
Aggregate Time-PXA	3.1	Channel Loading and Aggregate Closing Time				
PXA Read	3.1	Signal Generator Screen Capture				
SGXProject.exe	1.7	Radar Waveform Generation and Download				

7.1.4. TEST ROOM ENVIRONMENT

The test room temperature and humidity shall be maintained within normal temperature of 15~35 °C and normal humidity 20~75% (relative humidity).

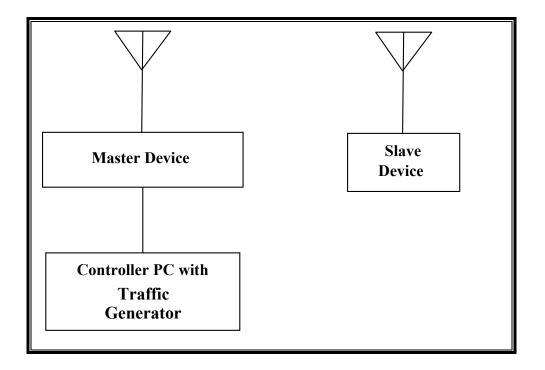
ENVIRONMENT CONDITION

Parameter	Value
Temperature	22.1 – 22.6 °C
Humidity	27 – 32 %

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7.1.5. SETUP OF EUT

RADIATED METHOD EUT TEST SETUP



SUPPORT EQUIPMENT

The following support equipment was utilized for the tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST						
Description	Manufacturer	Model	Serial Number	FCC ID		
Master Device		GT-AXE11000	M9IG0X400839JKM	MSQ-		
Master Device	ASUS	GI-AXEI1000	1019100740082917101	RTAXJF00		
Master Device Power			ADD01117AG2134034	N/A		
Supply	Ac Bel	ADDD011 LPS	40A			
Controller Laptop	Lenovo	Yoga 7 14ITL5	PF323ZV2	PD9AX201		
				NG		
Laptop Power Supply	Lenovo	ADLX65YLC2D	N/A	N/A		

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7.1.6. DESCRIPTION OF EUT

For FCC the EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges.

The EUT is a Slave Device without Radar Detection.

The manufacturer has declared that the highest power level within these bands is 14.67 dBm EIRP in the 5250-5350 MHz band and 14.54 dBm EIRP in the 5470-5725 MHz band.

The manufacturer has declared that the highest gain antenna assembly utilized with the EUT has a gain of 0.61 dBi in the 5250-5350 MHz band and 0.53 dBi in the 5470-5725 MHz band. The manufacturer has declared that the lowest gain antenna assembly utilized with the EUT has a gain of -0.29 dBi in the 5250-5350 MHz band and -0.43 dBi in the 5470-5725 MHz band.

Two identical antennas are utilized to meet the diversity and MIMO operational requirements.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is -64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is -64 + 1 = -63 dBm.

The EUT uses two transmitter/receiver chains, each connected to an antenna to perform radiated tests.

WLAN traffic that meets or exceeds the minimum required loading was generated by transferring a data stream from the Master Device to the Slave Device using iPerf version 3.1.3 software package.

TPC is not required since the maximum EIRP is less than 500 mW (27 dBm).

The EUT utilizes the 802.11ax architecture. Four nominal channel bandwidths are implemented: 20 MHz, 40 MHz, 80 MHz and 160 MHz.

Channel puncturing is not supported by the EUT.

TDLS (Tunneled Direct Link Setup) mode is not supported by the EUT.

The software installed in the EUT is: Build Number 67.0.C.0.93 Magic iPerf 3.1

The software installed in the access point is v 3.0.0.4.386_42489.

UNIFORM CHANNEL SPREADING

This is requirement not applicable to Slave Devices.

OVERVIEW OF MASTER DEVICE WITH RESPECT TO §15.407 (h) REQUIREMENTS

The Master Device is an Asus Access Point, FCC ID: MSQ-RTAXJF00. The minimum antenna gain for the Master Device is 3.8 dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore, the required interference threshold level is -64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is -64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

The software installed in the access point is 3.0.0.4.386.42489.

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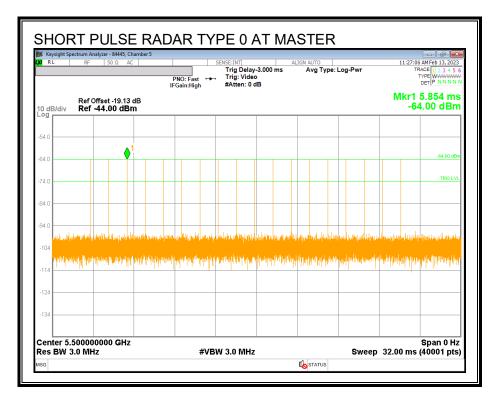
7.2. **RESULTS FOR 20 MHz BANDWIDTH**

7.2.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5500 MHz.

7.2.2. RADAR WAVEFORM AND TRAFFIC

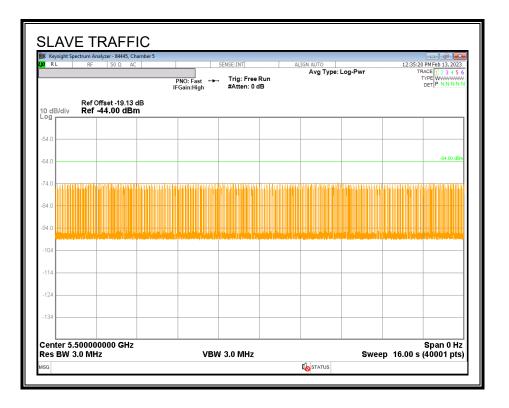
RADAR WAVEFORM



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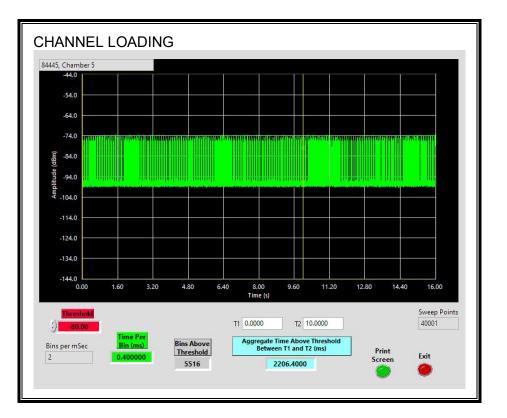
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TRAFFIC



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CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 22.1%

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7.2.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

7.2.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)

The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

<u>RESULTS</u>

Channel Move Time	Limit
(sec)	(sec)
0.0792	10

Aggregate Channel Closing Transmission Time	Limit
(msec)	(msec)
0	60

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MOVE TIME

Keysight Spectrum Analyzer - 84445, Cha RL RF 50 Ω AC	mber 5	SENSE:INT	ALIGN AUTO	01:52:41 PM Feb 13, 2023
KL KP DUX AC	PNO: Fast ↔ IFGain:High		Avg Type: Log-Pwr	TRACE 1 2 3 4 5 TYPE WWWWW DET P N N N N
Ref Offset -19.13 d 0 dB/div Ref -44.00 dBm				ΔMkr2 200.0 ms -34.53 dE
54.0				TRIG LVL
64.0 1				-64.00 dBm
34.0				
34.0	llens, p. les la p. da fillen, est à corre		the other many black to a start of start being	and the foregoing a strategy of the state of the strategy of the st
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114				
124				
134				
enter 5.50000000 GHz				Span 0 Hz eep 600.0 ms (40001 pts

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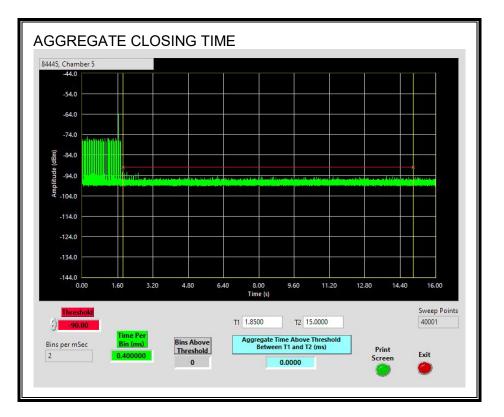
CHANNEL CLOSING TIME

Keysight Spectrum Analyzer - 84445, C RL RF 50 Ω A		SENSE:I	NT	ALIGN AUTO		01:47:50 PM Feb 1	3,2023
	PNO: F IFGain:t		g: Free Run ten: 0 dB	Avg Type:	Log-Pwr	TRACE 1 2 TYPE WU DET P N	ANNAAA
Ref Offset -19.13 dB/div Ref -44.00 dB						ΔMkr2 79.20 -13.3) ms 4 dE
LO 1						-6	4.00 dBr
4.0 4.0							
4.0	ne gondense groeelte ette i fridee i						ti, isi ka
14							
34							
enter 5.500000000 GHz es BW 3.0 MHz	2	#VBW 3.0	MHz		Sweep	Span 16.00 s (4000	
$ \begin{array}{c c} \mathbf{R} & \mathbf{MODE} & \mathbf{TRG} & \mathbf{SCL} \\ \mathbf{N} & 1 & \mathbf{t} \\ \mathbf{\Delta} 1 & 1 & \mathbf{t} & (\mathbf{\Delta}) \end{array} $	× 1.650 s 79.20 ms (Δ)	-64.25 dBm -13.34 dB	FUNCTION	FUNCTION WIDTH	FUI	NCTION VALUE	-
3 4 5	79.20 ms (Δ)	-13.34 uB					
6 7 8							_
9 D 1							

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AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.



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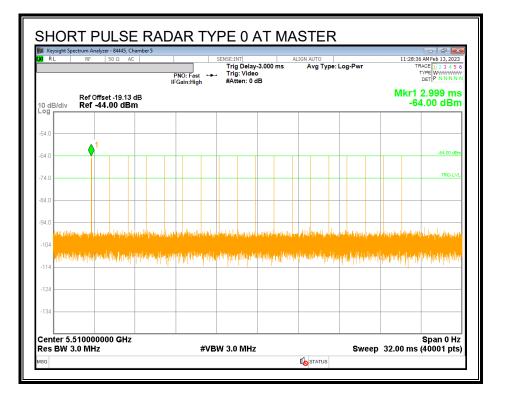
7.3. RESULTS FOR 40 MHz BANDWIDTH

7.3.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5510 MHz.

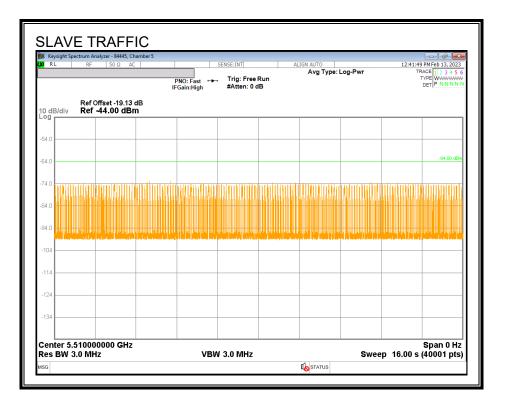
7.3.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



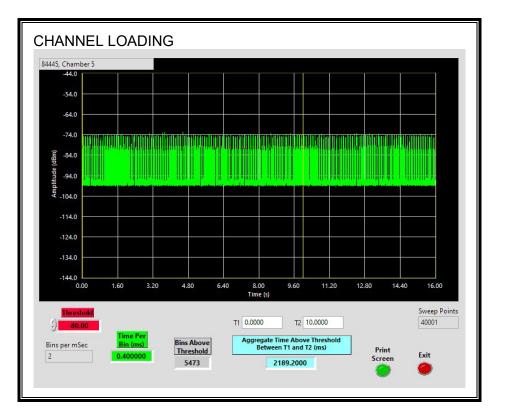
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TRAFFIC



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CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 21.9%

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7.3.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

7.3.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)

The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

<u>RESULTS</u>

Channel Move Time	Limit
(sec)	(sec)
0.0784	10

Aggregate Channel Closing Transmission Time	Limit
(msec)	(msec)
0	60

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MOVE TIME

Keysight Spectrum Analyzer - 84445, Chamber 5 RL RF 50 Ω AC		SENSE:INT	ALIGN AUTO		02:00:07	PM Feb 13, 2023
	PNO: Fast ↔ IFGain:High		Avg Type: I	₋og-Pwr	TF	ACE 1 2 3 4 5 DET P N N N N
Ref Offset -19.13 dB 0 dB/div Ref -44.00 dBm						200.0 ms 34.49 dE
54.0						TRIG LVL
i4.0 1						-64.00 dBm
'4.0						
14.0						
104 http://www.upite.com/	and all the provide the fill of the second	فيطوم التريميية يترق يعليك ينهيرا م	allen men and feed of a self strategy and strategy of	and a shirt of the second second	متسيسيا بالشياد	a and the state of some second se
114						
124						
134						
enter 5.510000000 GHz				Sweep		Span 0 Hz

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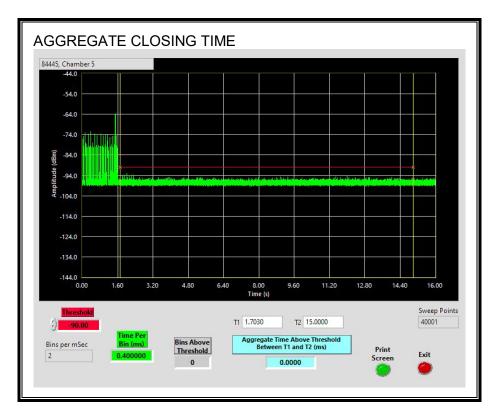
CHANNEL CLOSING TIME

Keysight Spectrum Analyzer - 84 RL RF 50 S		CENC	SE:INT	ALIGN AUTO	01:57:51 PM Feb	
KL KF 50 S	PN	IO: Fast ↔	Trig: Free Run #Atten: 0 dB	Avg Type: Log-		345
Ref Offset -1 dB/div Ref -44.00					ΔMkr2 78.4 -16.2) ms 8 dE
1.0 1.0 1.0 1.0 1.0). 	i4.00 dBm
1.0 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1						
a4 enter 5.510000000 es BW 3.0 MHz	GHz	#VBW :	3.0 MHz		Spar Sweep 16.00 s (4000	0 Hz 1 pts
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	× 1.503 s 78.40 ms(-64.21 dBr Δ) -16.28 d		FUNCTION WIDTH	FUNCTION VALUE	•
5 5 7 8 9						

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AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.



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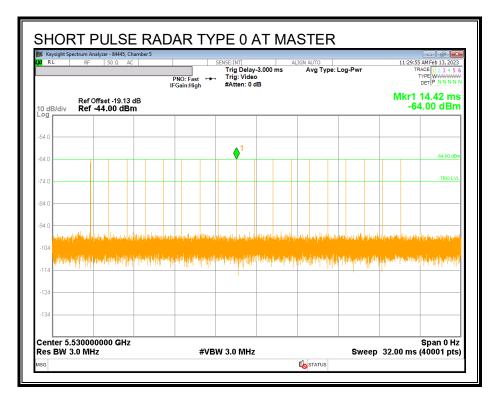
7.4. **RESULTS FOR 80 MHz BANDWIDTH**

7.4.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5530 MHz.

7.4.2. RADAR WAVEFORM AND TRAFFIC

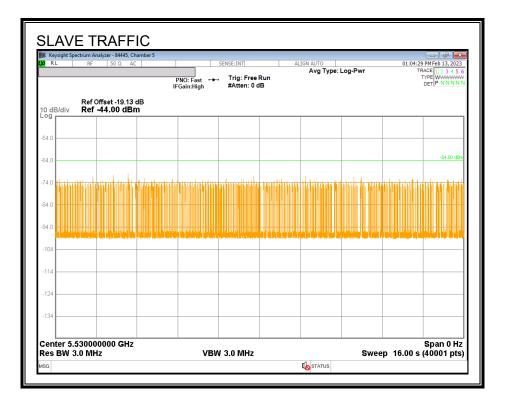
RADAR WAVEFORM



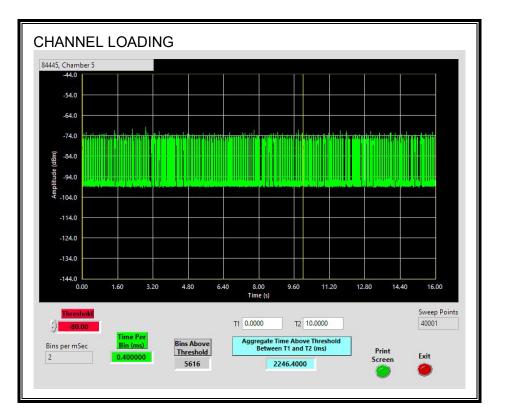
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TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 22.5%

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7.4.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

7.4.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)

The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

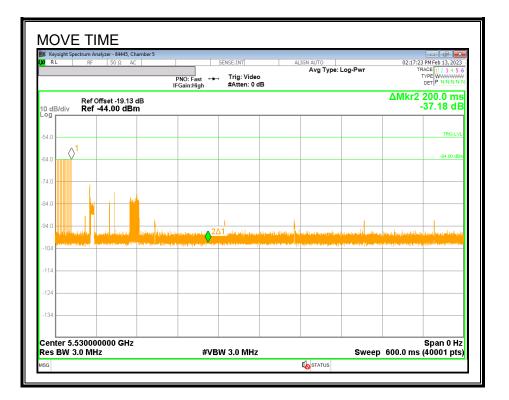
<u>RESULTS</u>

Channel Move Time	Limit
(sec)	(sec)
0.1524	10

Aggregate Channel Closing Transmission Time	Limit
(msec)	(msec)
0	60

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MOVE TIME



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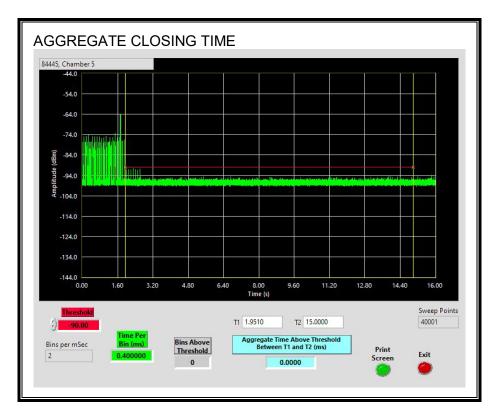
CHANNEL CLOSING TIME

Keysight Spectrum Analyzer - RL RF 50	84445, Chamber 5 Ω AC		SENSE:INT		ALIGN AUTO		02:14:2	0 PM Feb 13, 2023
		PNO: Fast ↔ FGain:High		Free Run n: 0 dB	Avg Ty	pe: Log-Pwr	т	RACE 1 2 3 4 5 TYPE WWWWW DET P NNNN
Ref Offset dB/div Ref -44.0							ΔMkr2	152.4 ms -12.67 dE
								-64.00 dBr
	1							
4.0 4.0				den den bissen diter		en en la sectore de contra de la sectore d		
14								
34								
enter 5.530000000 es BW 3.0 MHz	GHz	#V	BW 3.0 I	√IHz		Swe	ep 16.00 s	Span 0 Hz (40001 pts
$\begin{array}{c c} \hline R & \text{MODE} & \text{TRC} & \text{SCL} \\ \hline 1 & N & 1 & t \\ \hline 2 & \Delta 1 & 1 & t & (\Delta) \end{array}$	x 1.751 s 152.4 ms		8 dBm 2.67 dB	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	A
3 4 5								E
5 7 3								
9 D 1								

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AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.



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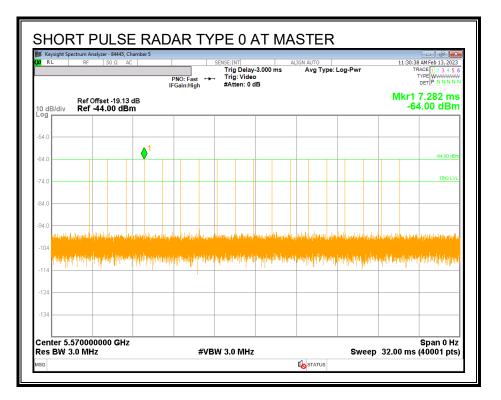
7.5. **RESULTS FOR 160 MHz BANDWIDTH**

7.5.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5570 MHz.

7.5.2. RADAR WAVEFORM AND TRAFFIC

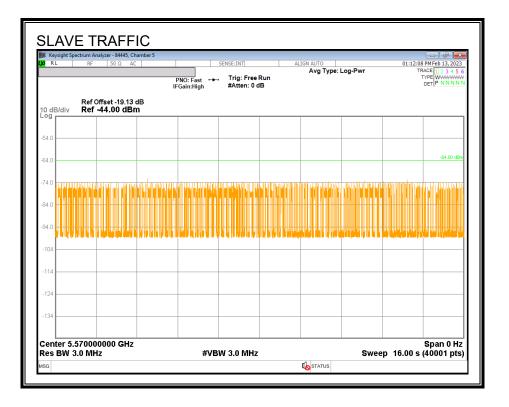
RADAR WAVEFORM



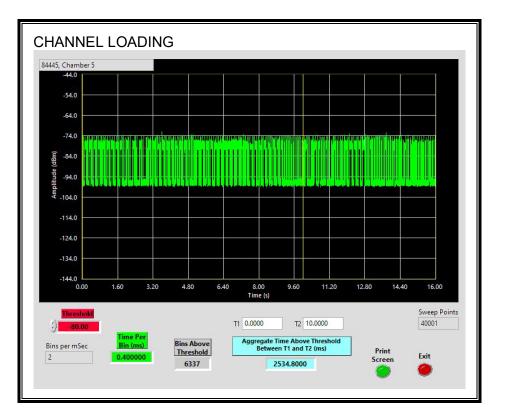
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TRAFFIC



CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 25.3%

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7.5.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

7.5.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time = (Number of analyzer bins showing transmission) * (dwell time per bin)

The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

<u>RESULTS</u>

Channel Move Time	Limit
(sec)	(sec)
0.1	10

Aggregate Channel Closing Transmission Time	Limit
(msec)	(msec)
0	60

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MOVE TIME

Keysight Spectrum Analyzer - 84445, Chamber	5				- 6
RL RF 50 Ω AC	PNO: Fast ↔	SENSE:INT Trig: Video #Atten: 0 dB	ALIGN AUTO Avg Type: Log-Pwr		ISP PM Feb 13, 2023
Ref Offset -19.13 dB 0 dB/div Ref -44.00 dBm					200.0 ms -36.97 dB
54.0					TRIG LVL
64.0 1					-64.00 dBm
74.0					
94.0	helden vertidente erte de 2	∆1 <u>alathar burn</u>	dell'estate a set desta concertanti da contest proves	osten inteletred de	ուսիսերերություն
104 Million and the million of the second second	en bezahen en de en de seren al seren de la seren d	in na hina ni filo na kazar dan padata.	anna impeitación y _{est} il cital a colocatión de participante <mark>a biolis</mark> actorial (asta).	in alwants to deals allocated in the	or officialist district and
114					
124					
134					
center 5.570000000 GHz ces BW 3.0 MHz		3W 3.0 MHz		eep 600.0 ms	Span 0 Hz

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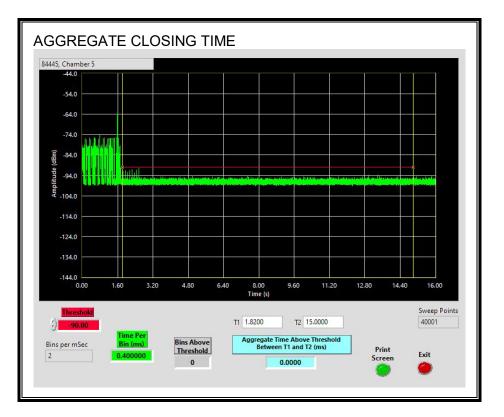
CHANNEL CLOSING TIME

		02:24:56 PM Feb 13, 2023
PNO: Fast +> Trig: Free Run IFGain:High #Atten: 0 dB	Avg Type: Log-Pwr	02:24:56 PM Feb 13, 2023 TRACE 1 2 3 4 5 TYPE WWWWW DET P NNNN
		ΔMkr2 100.0 ms -16.67 dE
		-64.00 dBr
#VBW 3.0 MHz	Swe	Span 0 Hz eep 16.00 s (40001 pts
20 s -64.09 dBm 0 ms (Δ) -16.67 dB	FUNCTION WIDTH	FUNCTION VALUE
		=
	#VBW 3.0 MHz	Avg Type: Log-Pwr PNO: Fast Trig: Free Run #Atten: 0 dB #Atten: 0 dB #VBW 3.0 MHz Swd 20 s -64.09 dBm

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AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.



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7.5.5. NON-OCCUPANCY PERIOD

RESULTS

No EUT transmissions were observed on the test channel during the 30-minute observation time.

Keysight Spectrum Analyzer - 84445, Chamber 5			- -
RL RF 50 Ω AC	PNO: Fast + Trig: Free Run IFGain:High #Atten: 0 dB	ALIGN AUTO Avg Type: Log-Pwr	03:11:03 PM Feb 13, 2023 TRACE 1 2 3 4 5 TYPE WWWWW DET P NNNN
Ref Offset -19.13 dB dB/div Ref -44.00 dBm			ΔMkr2 1.800 ks -30.61 dE
4.0			
4.0			-64.00 dBr
4.0			
4.0			
4.0			<u></u> 2∆1
04			
14			
24			
34			
enter 5.570000000 GHz es BW 3.0 MHz	#VBW 3.0 MHz	Sween	Span 0 Hz 2.000 ks (40001 pts

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8. SETUP PHOTOS

Please refer to R14639470-EP1 for setup photos

END OF TEST REPORT

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