

FCC 47 CFR PART 15 SUBPART C

CERTIFICATION TEST REPORT

For

Standalone Access Control Terminal

MODEL NUMBER: DS-K1T105AE

ADDITIONAL MODEL NUMBER: DS-K1T105AEUHK ; DS-K1T105AECKV DS-K1T105AEUVS ; DS-K1T105AEKVO ; DS-K1T105AEHUN

PROJECT NUMBER: 4789496830

REPORT NUMBER: 4789496830-1

FCC ID: 2ADTD-K1T105AE

ISSUE DATE: Jun. 17, 2020

Prepared for

HANGZHOU HIKVISION DIGITAL TECHNOLOGY CO., LTD.

Prepared by

UL-CCIC COMPANY LIMITED No. 2, Chengwan Road, Suzhou Industrial Park, People's Republic of China Tel: +86 512-6808 6400 Fax: +86 512-6808 4099 Website: www.ul.com

The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products. This report does not imply that the product(s) has met the criteria for certification.



Revision History

Rev.	Issue Date	Revisions	Revised By
V0	06/17/2020	Initial Issue	



TABLE OF CONTENTS

1.	ΑΤΤ	ESTATION OF TEST RESULTS 4	ł
2.	TES	T METHODOLOGY	;
3.	FAC	CILITIES AND ACCREDITATION	;
4.	CAL	IBRATION AND UNCERTAINTY	,
4	.1.	MEASURING INSTRUMENT CALIBRATION	7
4	.2.	MEASUREMENT UNCERTAINTY	7
5.	EQI	JIPMENT UNDER TEST	}
5	.1.	DESCRIPTION OF EUT	3
5	.2.	MAXIMUM OUTPUT POWER)
5	.3.	CHANNEL LIST)
5	.4.	TEST CHANNEL CONFIGURATION10)
5	.5.	THE WORSE CASE POWER SETTING PARAMETER)
5	.6.	DESCRIPTION OF AVAILABLE ANTENNAS	1
5	.7.	THE WORSE CASE CONFIGURATIONS11	1
5	.8.	TEST ENVIRONMENT)
5	.9.	DESCRIPTION OF TEST SETUP	3
5	.10.	MEASURING INSTRUMENT AND SOFTWARE USED14	1
6.	ME	ASUREMENT METHODS16	;
7.		ENNA PORT TEST RESULTS17	,
7	.1.	ON TIME AND DUTY CYCLE	7
7	.2.	6 dB BANDWIDTH20)
7	.3.	CONDUCTED OUTPUT POWER	}
7	.4.	POWER SPECTRAL DENSITY)
7	.5.	CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS	3
7	7.6. 7.6. 7.6.		333
8.	AC	POWER LINE CONDUCTED EMISSIONS122)
9.		ENNA REQUIREMENTS125	j



1. ATTESTATION OF TEST RESULTS

Applicant Information

Date Tested	May 22, 2020~ Jun. 16, 2020
Data of Receipt Sample	May 22, 2020
Sample Number	3077932
	DS-K1T105AEKVO; DS-K1T105AEHUN
Additional No.	DS-K1T105AEUHK ; DS-K1T105AECKV; DS-K1T105AEUVS ;
Model Name	DS-K1T105AE
Product Name	Standalone Access Control Terminal
EUT Description	· · · · · · · · · · · · · · · · · · ·
Address:	No.555 Qianmo Road,Binjiang District Hangzhou 310052,China.
Factory Information(3) Company Name:	Hangzhou Hikvision Digital Technology Co., Ltd.
Eastery Information(2)	Zone,Tonglu County, Hangzhou,Zhejiang,310052,China.
Address:	No.299, Qiushi Road, Tonglu Economic Development
Company Name:	Hangzhou Hikvision Electronics Co., Ltd.
Factory Information(2)	
	310052, China.
Address:	No.700, Dongliu Road, Binjiang District, Hangzhou Ctiy, Zhejiang
Company Name:	Hangzhou Hikvision Technology Co., Ltd.
Factory Information(1)	
Address:	No.555 Qianmo Road, Binjiang District Hangzhou 310052, China
Company Name:	HANGZHOU HIKVISION DIGITAL TECHNOLOGY CO., LTD.
Manufacturer Information	
Address:	No.555 Qianmo Road, Binjiang District Hangzhou 310052, China
Company Name:	HANGZHOU HIKVISION DIGITAL TECHNOLOGY CO., LTD.

APPLICABLE STANDARDS					
STANDARD	TEST RESULTS				
CFR 47 Part 15 Subpart C	PASS				



	Summary of Test Results							
Clause	Test Items	FCC/IC Rules	Test Results					
1	6db DTS Bandwidth	FCC 15.247 (a) (2)	Complied					
2	Peak Conducted Power	FCC 15.247 (b) (3)	Complied					
3	Power Spectral Density	FCC 15.247 (e)	Complied					
4	Conducted Band edge And Spurious emission	FCC 15.247 (d)	Complied					
5	Radiated Band edges and Spurious emission	FCC 15.247 (d) FCC 15.209 FCC 15.205	Complied					
6	Conducted Emission Test For AC Power Port	FCC 15.207	Complied					
7	Antenna Requirement	FCC 15.203	Complied					
	Remark: 1) The measurement result for the sample received is <pass> according to < ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15C> when <accuracy method=""> decision rule is applied.</accuracy></pass>							

Prepared By:

Jason yang

Reviewed By: Tom Tang

Jason Yang Engineer Tom Tang

Engineer Project Associate

Authorized By:

Chris Zhong

Chris Zhong Laboratory Leader



2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	A2LA (Certificate No.: 4829.01) UL-CCIC COMPANY LIMITED has been assessed and proved to be in compliance with A2LA. FCC (FCC Designation No.: CN1247) UL-CCIC COMPANY LIMITED has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules. IC (IC Designation No.: 25056) UL-CCIC COMPANY LIMITED has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules.
------------------------------	--

Note 1: All tests measurement facilities use to collect the measurement data are located at No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122, People's Republic of China

Note 2: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. These measurements below 30MHz had been correlated to measurements performed on an OFS.

Note 3: The test anechoic chamber in UL-CCIC COMPANY LIMITED had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.



4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty			
Conduction emission	3.00dB			
Radiation Emission test(include Fundamental emission) (9KHz-30MHz)	3.31dB			
Radiation Emission test(include Fundamental emission) (30MHz-1GHz)	3.31dB			
Radiation Emission test (1GHz to 26GHz)(include Fundamental emission)	3.83dB (1GHz-18Gz)			
	4.13dB (18GHz-26.5Gz)			
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.				

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

Product Name:	Standalone Access Control Terminal
Model No.:	DS-K1T105AE
Operating Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz
Type of Modulation:	IEEE for 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE for 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n (HT20 and HT40): OFDM (64QAM, 16QAM, QPSK, BPSK)
Channels Step:	Channels with 5MHz step
Sample Type:	Fixed production
Test power grade:	PCL=44(manufacturer declare)
Test software of EUT:	Secure CRT (manufacturer declare)
Antenna Type:	Monopole Proximity tag Antenna
	-0.5 dBi
Antenna Gain:	Remark: This data is provided by customer and our lab isn't responsible for this data

Remark:

Model No.:

Number:	umber: Name:		Name:	Number:	Name:
1	DS-K1T105AE	2	DS-K1T105AEUHK	3	DS-K1T105AECKV
4	DS-K1T105AEUVS	5	DS-K1T105AEKVO	6	DS-K1T105AEHUN

Only the main model DS-K1T105AE was tested and only the data of this model is shown in this test

report. Since Their electrical circuit design, layout, components used and internal wiring are identical, only the model name and selling area are different.



5.2. MAXIMUM OUTPUT POWER

Number of Transmit Chains (NTX)	IEE Std. 802.11	Channel Number	Max AVG Conducted Power (dBm)
1	IEEE 802.11B	1-11[11]	17.30
1	IEEE 802.11G	1-11[11]	13.73
1	IEEE 802.11nHT20	1-11[11]	14.14
1	IEEE 802.11nHT40	3-9[7]	12.93

5.3. CHANNEL LIST

	Channel List for 802.11b/g/n (20 MHz)								
Channel	Frequency (MHz)	Channel	Frequenc y(MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)		
1	2412	4	2427	7	2442	10	2457		
2	2417	5	2432	8	2447	11	2462		
3	2422	6	2437	9	2452				

Channel List for 802.11n (40 MHz)								
Channel	Frequency (MHz)	Channel	Frequenc y(MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
3	2422	5	2432	7	2442	9	2452	
4	2427	6	2437	8	2447			



5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel (MHz)
IEEE 802.11B	LCH :CH01 2412
	MCH: CH06 2437
	HCH: CH11 2462
	LCH :CH01 2412
IEEE 802.11G	MCH: CH06 2437
	HCH: CH11 2462
	LCH :CH01 2412
IEEE 802.11n HT20	MCH: CH06 2437
	HCH: CH11 2462
	LCH :CH03 2422
IEEE 802.11n HT40	MCH: CH06 2437
	HCH: CH09 2452

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band							
Test Softw	vare	Secure CRT					
	Transmit			Test C	Channel		
Modulation Mode	Antenna	1	NCB: 20MHz			NCB: 40MHz	2
Mode	Number	CH 1	CH 6	CH 11	CH 3	CH 6	CH 9
802.11b	1	44	44	44		•	
802.11g	1	44	44	44	/		
802.11n HT20	1	44	44	44			
802.11n HT40	1		/		44	44	44



5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2400-2483.5	Monopole Proximity tag Antenna	-0.5

Test Mode	Transmit and Receive Mode	Description
IEEE 802.11b	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11g	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11N (HT20)	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11N (HT40)	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.

5.7. THE WORSE CASE CONFIGURATIONS

For the product, there two transmission antennas, and pre-testing both of them, only the worse data for the antenna is recorded in the report.

Worst-case data rates as provided by the client were:

802.11b mode: 1 Mbps 802.11b mode: 6 Mbps 802.11n HT20 mode: MCS0 802.11n HT40 mode: MCS0



5.8. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests			
Relative Humidity	55 ~ 65%			
Atmospheric Pressure:	1025Pa			
Temperature	TN	23 ~ 28°C		
	VL	N/A		
Voltage :	VN	AC 120V		
	VH	N/A		

Note: VL= Lower Extreme Test Voltage VN= Nominal Voltage VH= Upper Extreme Test Voltage TN= Normal Temperature



5.9. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Equipment Brand Name		Description
1	Laptop	ThinkPad	E550c	N/A
2	Fixed Frequency Board	N/A	N/A	Supply by UL Lab

I/O PORT

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	USB	USB-VGA	100cm Length (Supply by UL Lab)	N/A
2	LAN	LAN	LAN Cable	100cm Length (Supply by UL Lab)	N/A

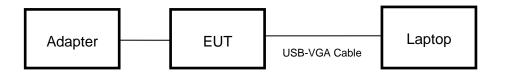
ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	Adapter(Supply by UL Lab)	NA	ADS-26FSG-12 12024EPCU/EP C	INPUT:100-240V~50/60Hz 0.7A Max OUTPUT:12.0V -2.0A

TEST SETUP

The EUT can work in an engineer mode with a software through a table PC.

SETUP DIAGRAM FOR TESTS





	Conducted Emissions (Instrument)							
Used	Equipment	Manufacturer	Mode		Serial No		Last Cal.	Next Cal.
\checkmark	EMI Test Receiver	R&S	ESI	R3	126700	2018-12-13	2019-12-12	2020-12-11
\checkmark	Two-Line V-Network	R&S	ENV	216	126701	2018-12-13	2019-12-12	2020-12-11
\checkmark	Artificial Mains Networks	R&S	ENY	⁄ 81	126711	2018-12-13	2019-12-12	2020-12-11
				Soft	ware			-
Used Description Manufacturer Name Version						Version		
\checkmark	Test Software for (Conducted distur	bance		R&S	EMC32	Ver. 9.25	
		Ra	diated	Emiss	ions (Instru	ument)		
Used	Equipment	Manufacturer	Mode	l No.	Serial No	D. Upper Last Cal.	Last Cal.	Next Cal.
\checkmark	Spectrum Analyzer	Keysight	N90 ²	10B	MY571101	28 2019-05-29	2020-05-10	2021-05-09
\checkmark	EMI test receiver	R&S	ESF	R26	1267603	2018-12-13	2019-12-22	2020-12-21
	Receiver Antenna (9kHz-30MHz)	Schwarzbeck	FMZB	1513	513-265	N/A	2018-06-15	2021-06-14
\checkmark	Receiver Antenna (30MHz-1GHz)	SunAR RF Motion	JB	81	126704	N/A	2019-01-28	2022-01-27
\checkmark	Receiver Antenna (1GHz-18GHz)	R&S	HFS	907	126705	2019-01-26	2020-01-26	2021-01-25
	Receiver Antenna (18GHz-26.5GHz)	Schwarzbeck	BBHA	9170	126706	2019-02-06	2020-02-05	2021-02-04
	Receiver Antenna (26.5GHz-40GHz)	ΤΟΥΟ	HAP 26	6-40W	00000012	2 2018-07-25	2019-07-23	2020-07-22
	Pre-amplification (To 1GHz)	R&S	SCU-	-03D	134666	2019-02-06	2020-02-05	2021-02-04
V	Pre-amplification (To 18GHz)	Compliance Direction System Inc.	PAP-10	G18-50	14140-134	67 2019-03-18	2020-02-20	2021-02-19
	Pre-amplification (To 26.5GHz)	R&S	SCU-	-26D	134668	2019-02-06	2020-02-05	2021-02-04
	Band Reject Filter	Wainwright	WRC 2350-2 2483.5-2 409	2400- 2533.5-	1	2019-05-29	2020-05-10	2021-05-09
	Highpass Filter	Wainwright	WHKX10- 2700-3000- 18000-40SS		2	2019-05-29	2020-05-10	2021-05-09
Software								
Used Description Manufacturer				turer	Name	Version		
\checkmark	Test Software for R	adiated disturbar	nce	Tonsce	end	JS32	V1.0	
			Ot	her ins	truments			
Used	Equipment	Manufacturer	Mode	l No.	Serial No	D. Upper Last Cal.	Last Cal.	Next Cal.
\checkmark	Spectrum Analyzer	Keysight	N90 ⁻	10B	MY571101	28 2019-05-29	2020-05-10	2021-05-09

	(UL)		REPORT No.: 4789496830-1 Page 15 of 125				
\checkmark	Power Meter	Keysight	U2021XA	MY57110002	2019-06-12	2020-05-10	2021-05-09



6. MEASUREMENT METHODS

No.	Test Item	KDB Name	Section
1	6dB Bandwidth	KDB 558074 D01 15.247 Meas Guidance v05r02	8.2
2	Peak Output Power	KDB 558074 D01 15.247 Meas Guidance v05r02	8.3.1.3/8.3.2.3
3	Power Spectral Density	KDB 558074 D01 15.247 Meas Guidance v05r02	8.4
4	Out-of-band emissions in non-restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.5
5	Out-of-band emissions in restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.6
6	Band-edge	KDB 558074 D01 15.247 Meas Guidance v05r02	8.7
7	Conducted Emission Test For AC Power Port	ANSI C63.10-2013	6.2



7. ANTENNA PORT TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

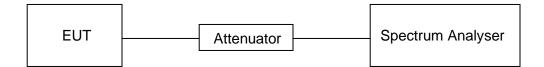
<u>LIMITS</u>

None; for reporting purposes only

PROCEDURE

FCC KDB 558074 Zero-Span Spectrum Analyzer Method

TEST SETUP



TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

RESULTS

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)	1/T Minimum VBW (kHz)	Final VBW (kHz)
11B	12.41	12.525	0.9908	99.08%	0.04	0.08	0.1
11G	2.063	2.137	0.9654	96.54%	0.15	0.48	0.5
802.11n HT20	2.063	2.128	0.9695	96.95%	0.13	0.48	0.5
802.11n HT40	0.127	0.263	0.4829	48.29%	3.16	7.87	8

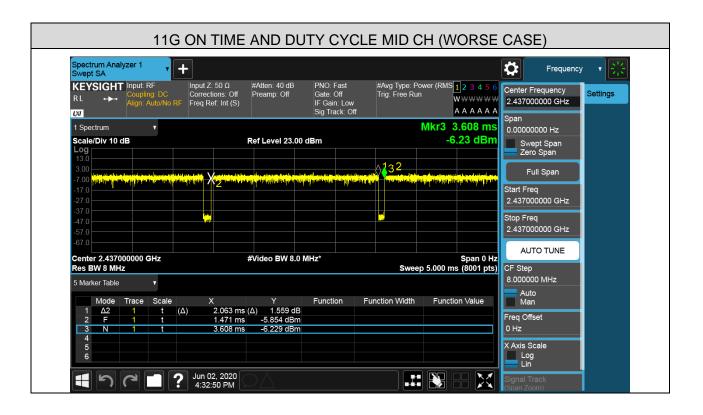
Note: 1) Duty Cycle Correction Factor=10log(1/x).

2) Where: x is Duty Cycle(Linear)

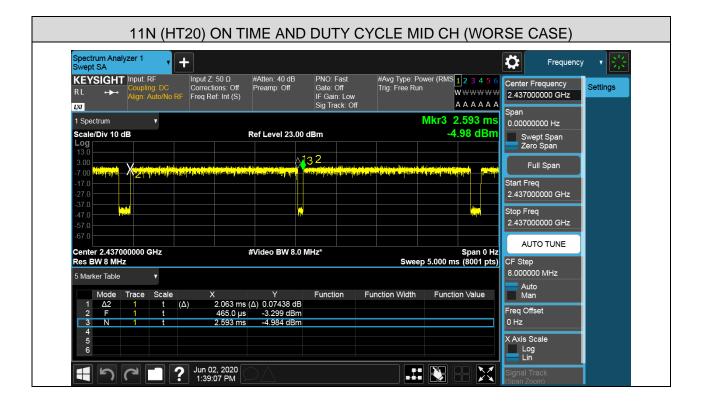
3) Where: T is On Time (transmit duration)

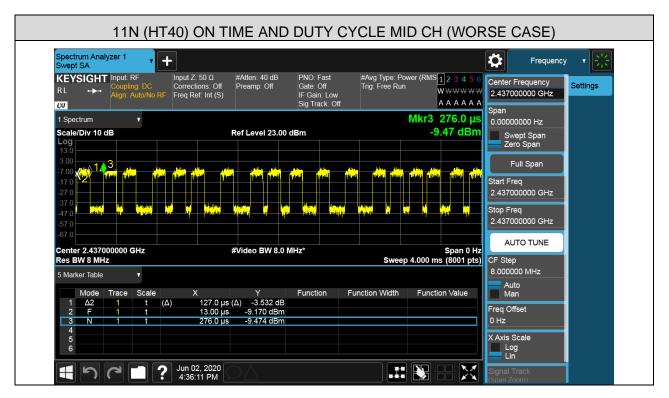


Spectrum Analyzer 1	-		🗘 Frequency 🔻 🔆
Swept SA KEYSIGHT Input: RF Coupling: DC Align: Auto/No RF	Input Z: 50 Ω #Atten: 40 dB F Corrections: Off Preamp: Off C Freq Ref: Int (S)	O: Fast #Avg Type: Power (RMS 1 2 3 4 5 te: Off Trig: Free Run WWWW Jain: Low Track: Off A A A A A	Center Frequency 2.437000000 GHz
1 Spectrum v Scale/Div 10 dB	Ref Level 23.00 dBr	Mkr3 16.81 m 1.05 dBn	
Log 13.0 3.00 -7.00 -7.00	312		Euli Span
-17.0 -27.0 -37.0 -47.0			Start Freq 2.437000000 GHz Stop Freq
-57.0 -67.0 Center 2.437000000 GHz	#Video BW 8.0 MHz	Span 0 H	2.437000000 GHz
Res BW 8 MHz 5 Marker Table v Mode Trace Scale	X Y F	Sweep 40.00 ms (8001 pts	CF Step 8.000000 MHz Auto Man
$\begin{array}{c cccc} 1 & \Delta 2 & 1 & t & (\Delta 2 \\ 2 & F & 1 & t \\ \hline 3 & N & 1 & t \\ \hline 4 & & & \end{array}$			Freq Offset 0 Hz
4 5 6			X Axis Scale Log Lin











7.2. 6 dB BANDWIDTH

LIMITS

FCC Part15 (15.247) Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.247(a)(2)	6dB Bandwidth	>= 500KHz	2400-2483.5

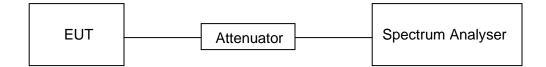
TEST PROCEDURE

Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	For 6 dB Bandwidth :100K
VBW	For 6dB Bandwidth : ≥3 × RBW
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

TEST SETUP

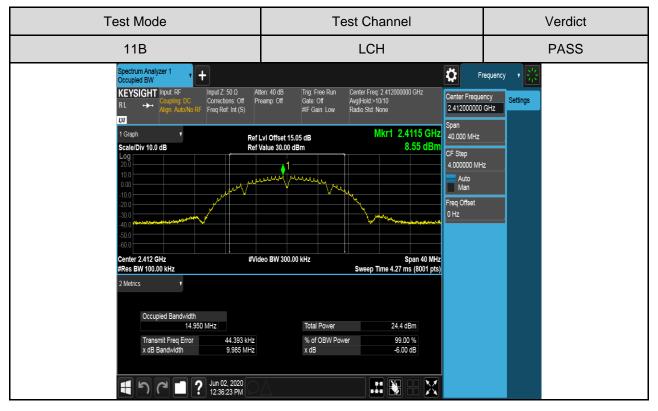


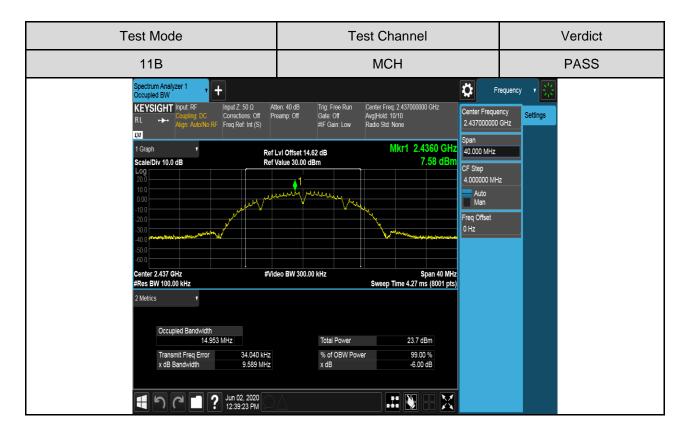
RESULTS

Test Mode	Test Channel	6dB bandwidth (MHz)	Result
	LCH	9.985	Pass
11B	MCH	9.589	Pass
	HCH	10.06	Pass
	LCH	16.35	Pass
11G	MCH	16.35	Pass
	HCH	16.34	Pass
	LCH	16.36	Pass
11n HT20	MCH	16.34	Pass
	HCH	16.34	Pass
	LCH	35.33	Pass
11n HT40	MCH	35.35	Pass
	HCH	35.32	Pass



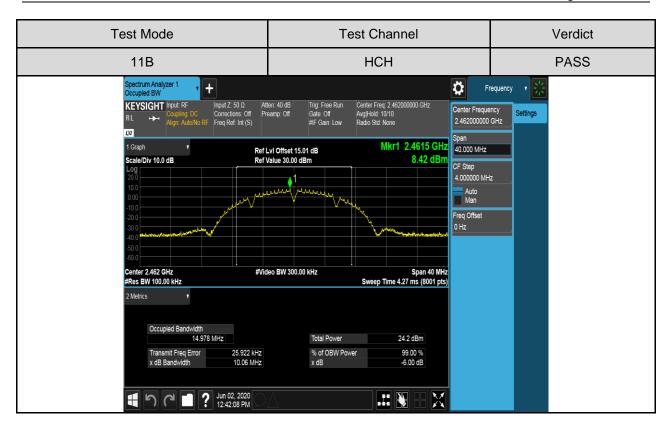
Test Graphs

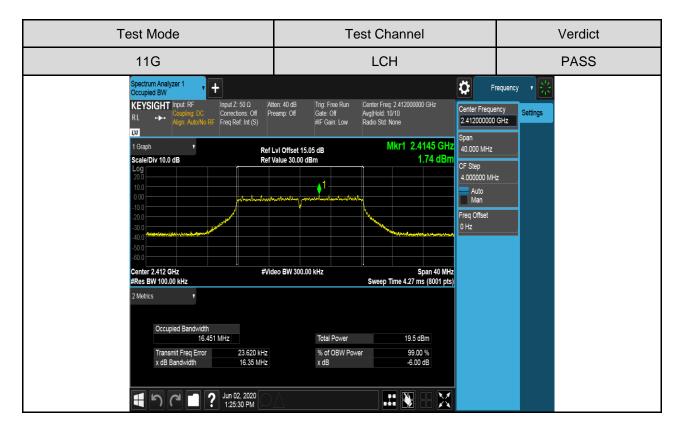


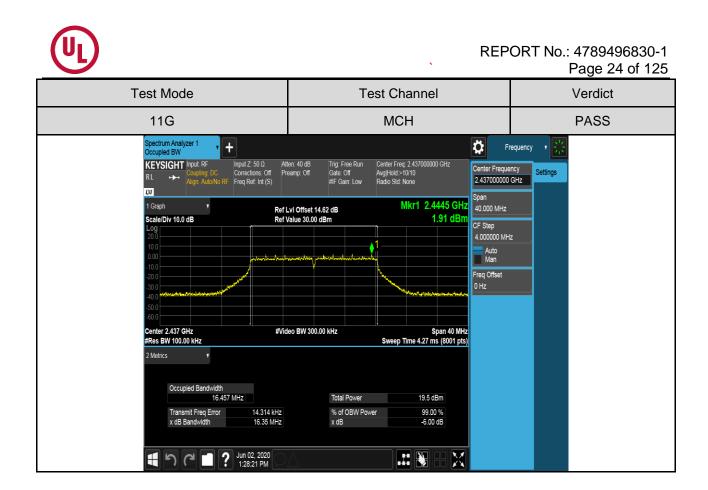


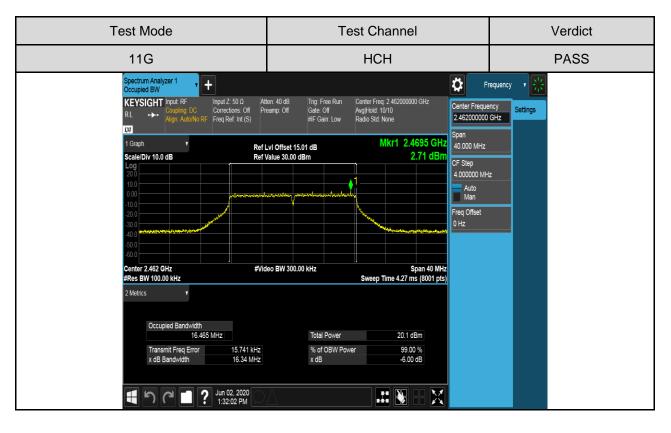
UL-CCIC COMPANY LIMITED This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

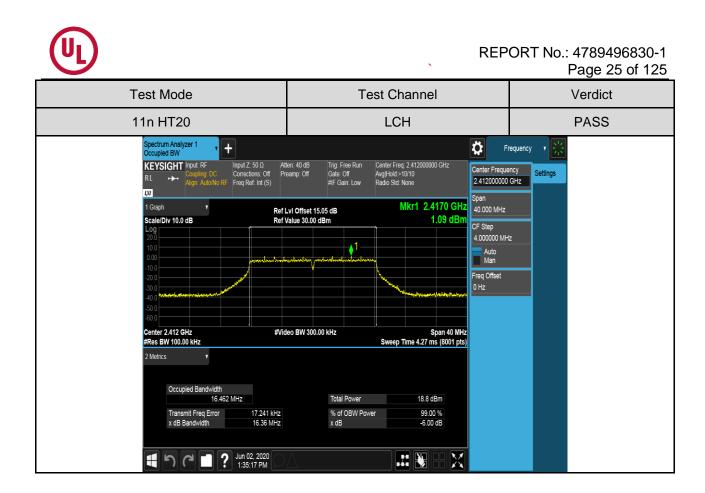


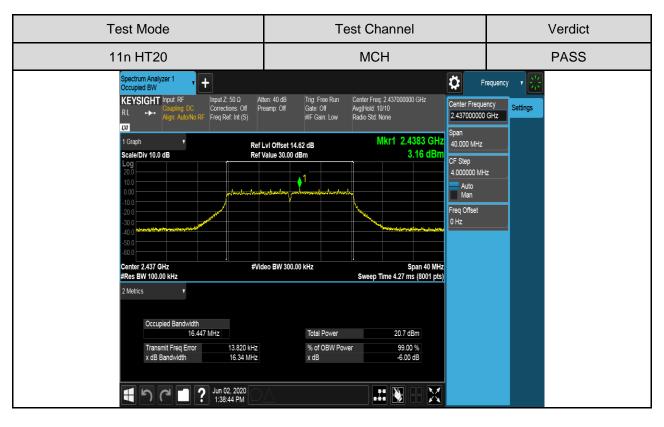


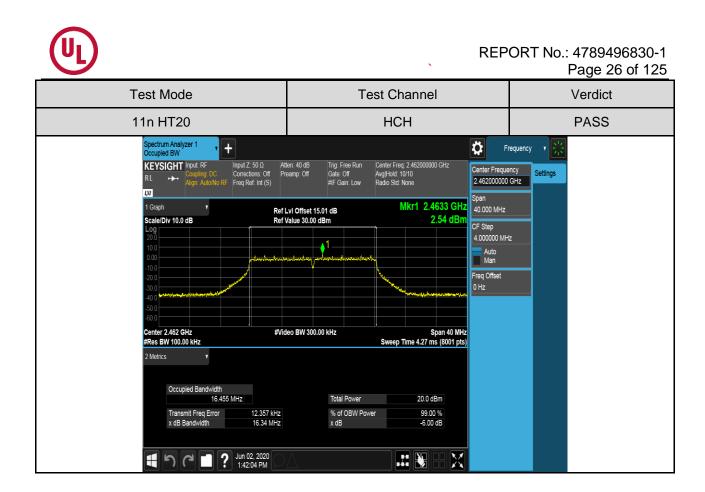


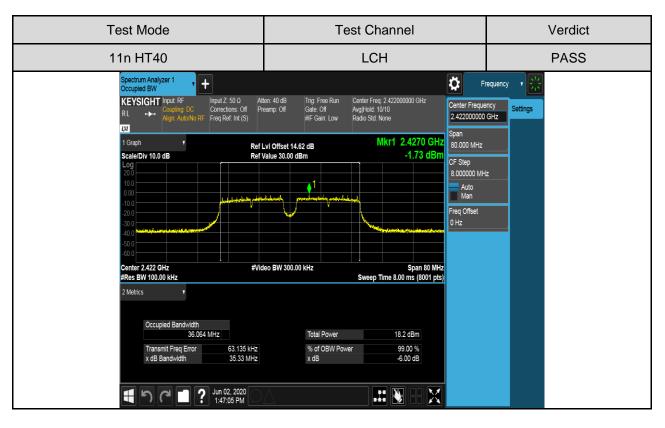


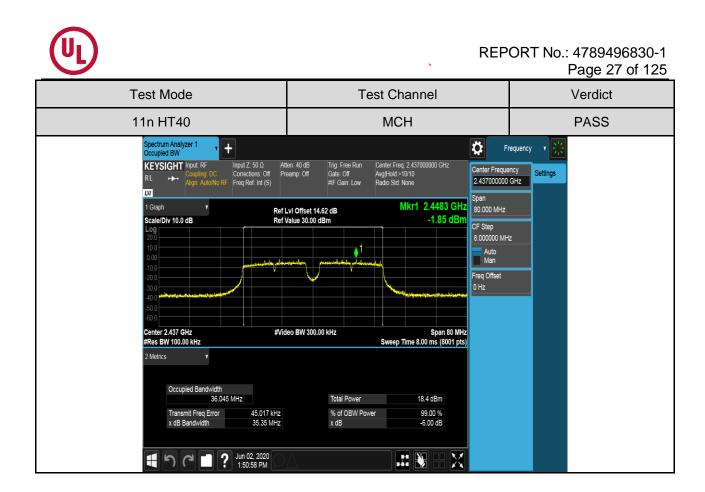


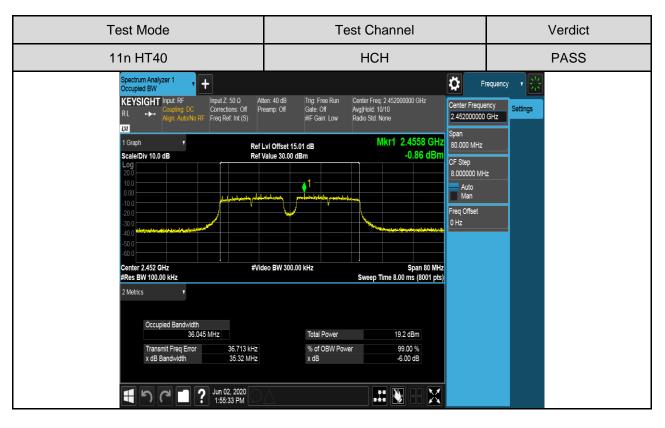














7.3. CONDUCTED OUTPUT POWER

<u>LIMITS</u>

FCC Part15 (15.247), Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5

Note: For b/g/n HT20 mode the average data is for reference only.

TEST PROCEDURE

Place the EUT on the table and set it in the transmitting mode.

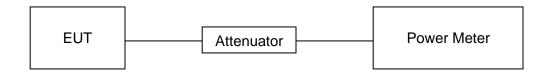
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.

Measure the power of each channel.

Peak Detector use for Peak result.

AVG Detector use for AVG result.

TEST SETUP



RESULTS

Test Mode	Test Channel	Maximum Conducted Output Power (PK)	Maximum Conducted Output Power (AV)	LIMIT
		dBm	dBm	dBm
	LCH	20.23	17.30	30
11B	MCH	19.40	16.74	30
	НСН	19.96	17.23	30
	LCH	20.73	12.72	30
11G	MCH	20.96	13.11	30
	НСН	21.75	13.73	30
	LCH	20.30	12.31	30
11n HT20	MCH	22.11	14.14	30
	НСН	21.51	13.65	30
	LCH	N/A	11.91	30
11n HT40	MCH	N/A	12.33	30
	HCH	N/A	12.93	30



7.4. POWER SPECTRAL DENSITY

LIMITS

FCC Part15 (15.247), Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
FCC §15.247 (e)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

TEST PROCEDURE

Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	3 kHz ≤ RBW ≤100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

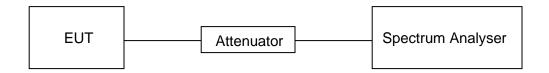
Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	DC 12V

TEST SETUP





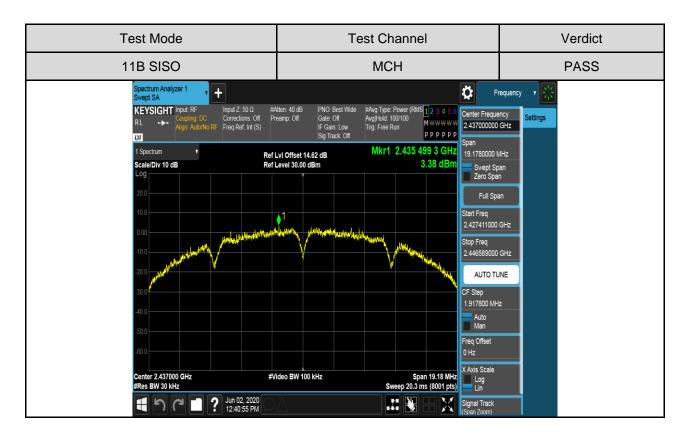
RESULTS

Test Mode	Test Channel	Maximum Peak power spectral density (dBm/30kHz)	Result
	LCH	3.94	Pass
11B	MCH	3.38	Pass
	HCH	4.58	Pass
	LCH	-3.03	Pass
11G	MCH	-2.48	Pass
	HCH	-1.64	Pass
	LCH	-3.19	Pass
11n HT20	MCH	-1.37	Pass
	HCH	-1.94	Pass
	LCH	-6.44	Pass
11n HT40	MCH	-5.84	Pass
	HCH	-5.41	Pass

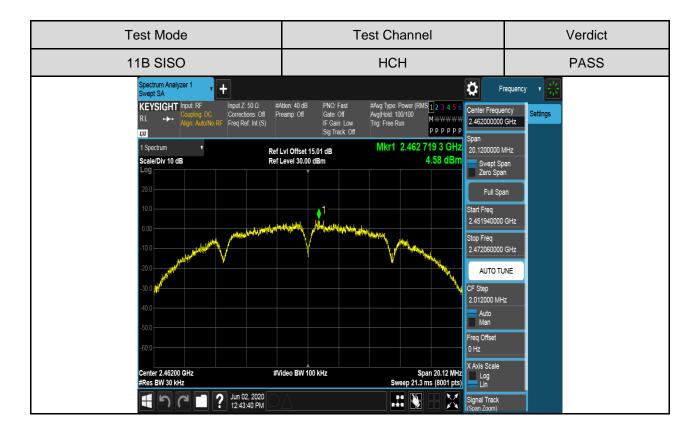


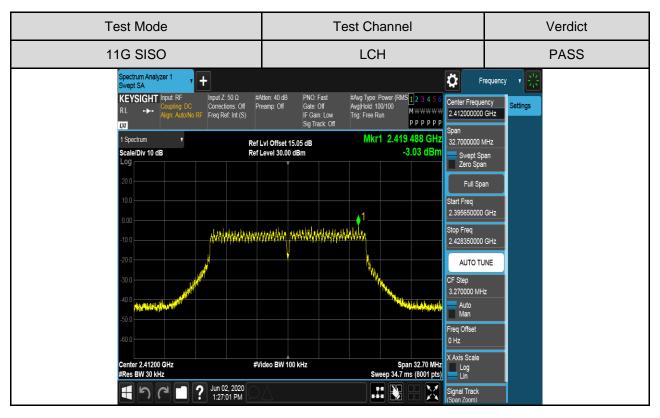
Test Graphs:



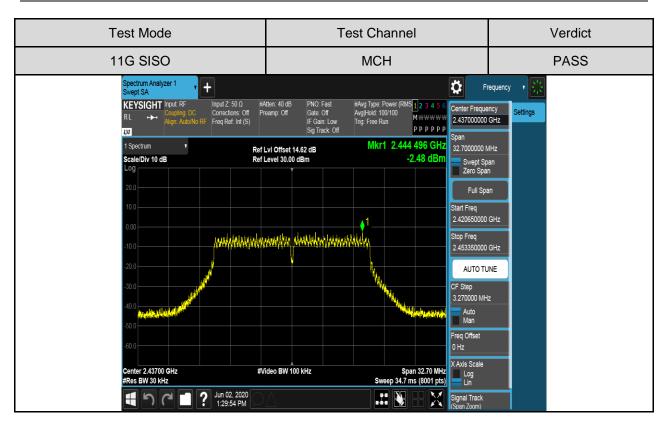


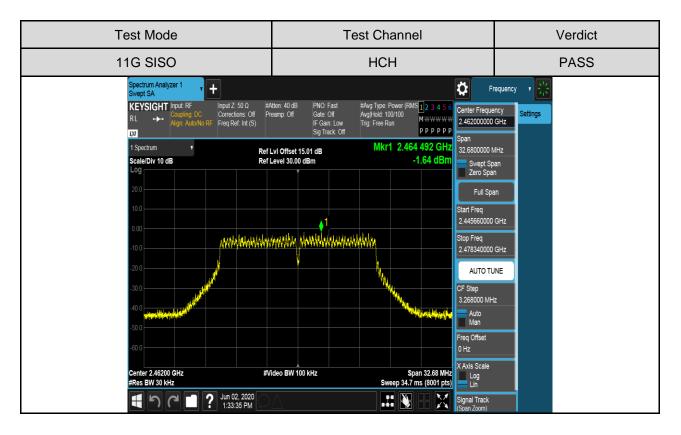


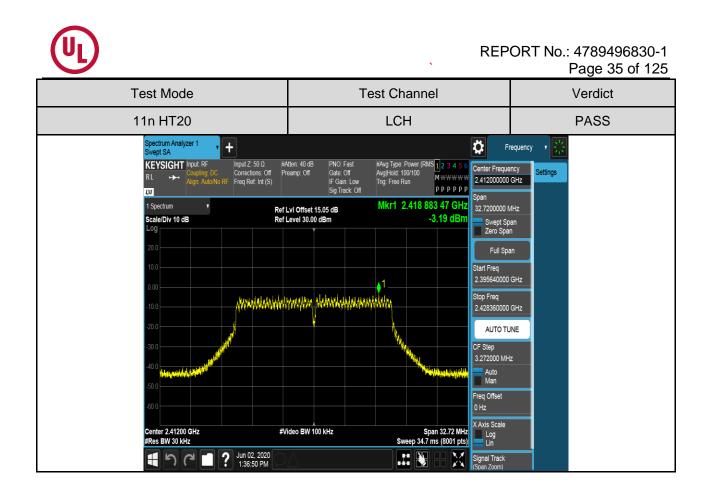


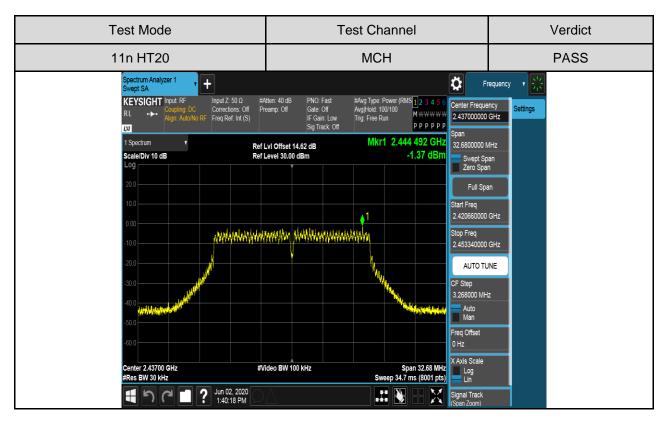


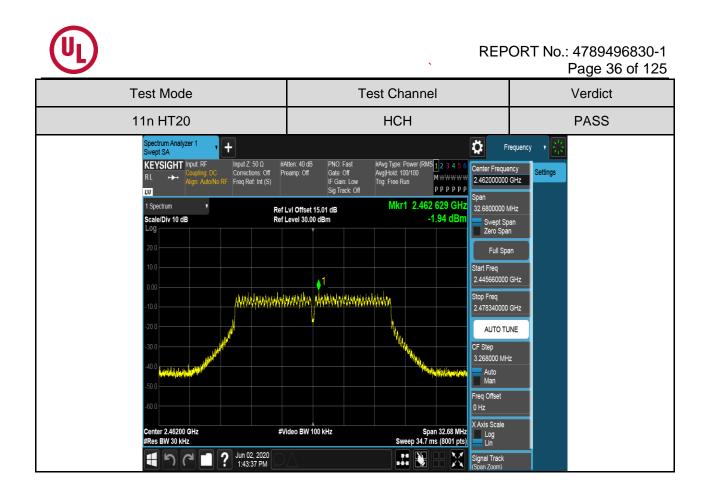


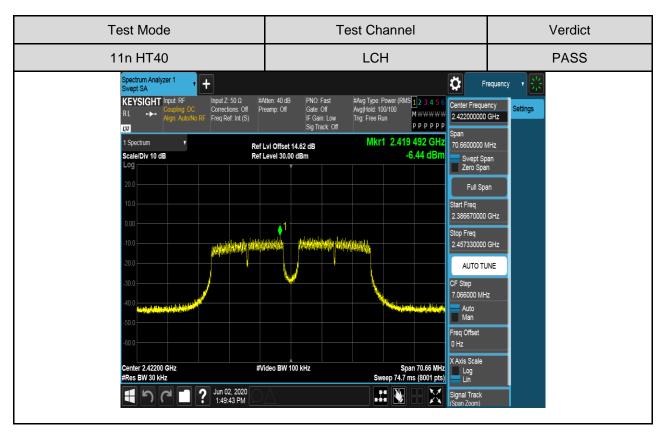


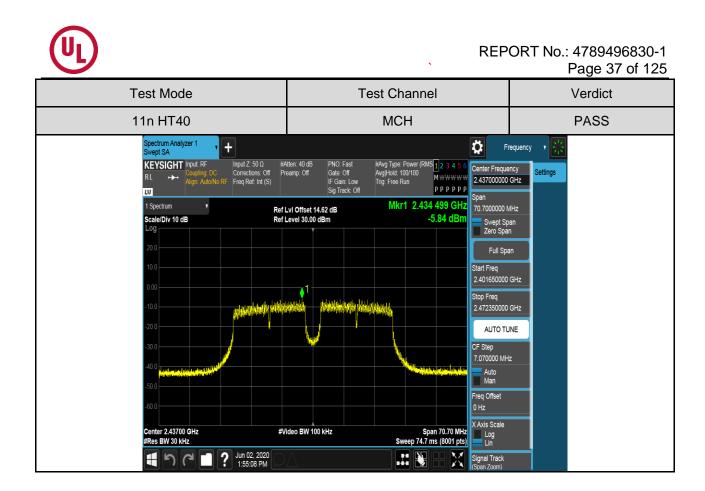


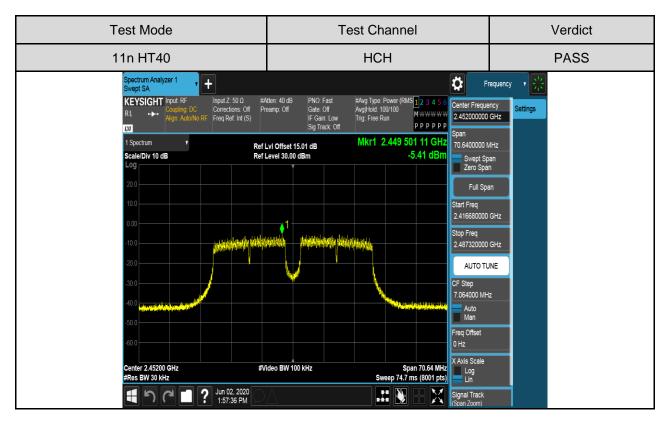














7.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

<u>LIMITS</u>

FCC Part15 (15.247) , Subpart C			
Section	Test Item	Limit	
FCC §15.247 (d)	Conducted Bandedge and Spurious Emissions	 For 11B, 11G and 11N HT20 modes: at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power; For 11N HT40 mode: at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power 	

TEST PROCEDURE

Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100K
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.
sottings:	

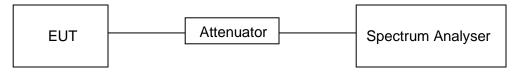
settings:

Use the peak marker function to determine the maximum PSD level.

JUAN	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100K
VBW	≥3 × RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum amplitude level.

TEST SETUP



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.



Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

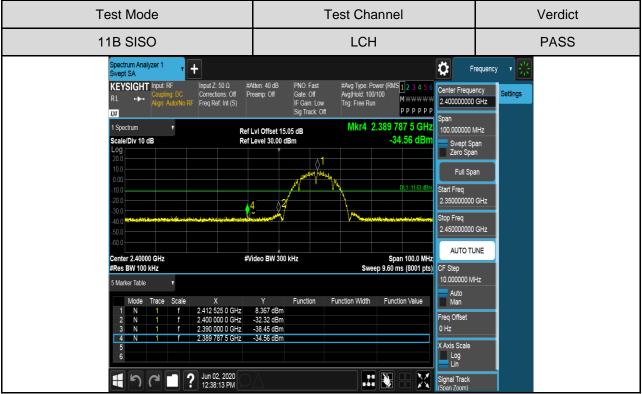
Part I :Conducted Bandedge

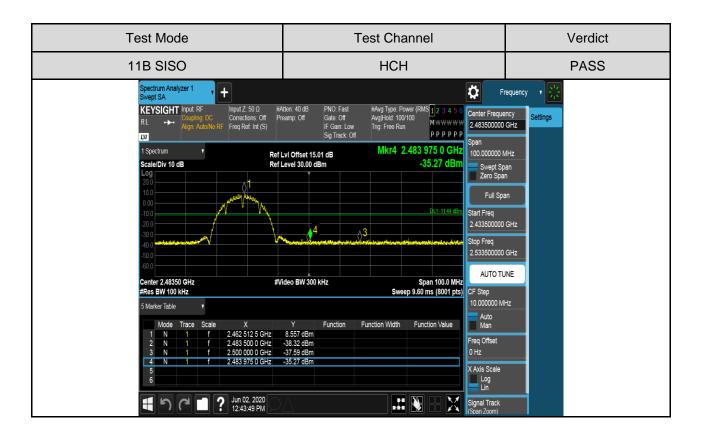
RESULTS TABLE

Test Mode	Test Channel	Carrier Power[dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	8.367	-34.56	-11.63	PASS
ПВ	НСН	8.557	-35.27	-11.44	PASS
11G	LCH	1.904	-35.15	-18.10	PASS
ПG	HCH	2.460	-34.57	-17.54	PASS
11n HT20	LCH	1.062	-34.67	-18.94	PASS
11111120	HCH	2.419	-34.39	-17.58	PASS
11n HT40	LCH	-1.951	-35.61	-31.95	PASS
	HCH	-0.851	-34.52	-30.85	PASS

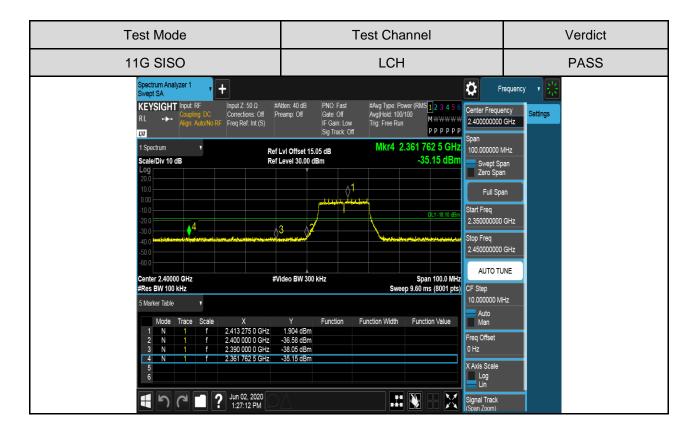


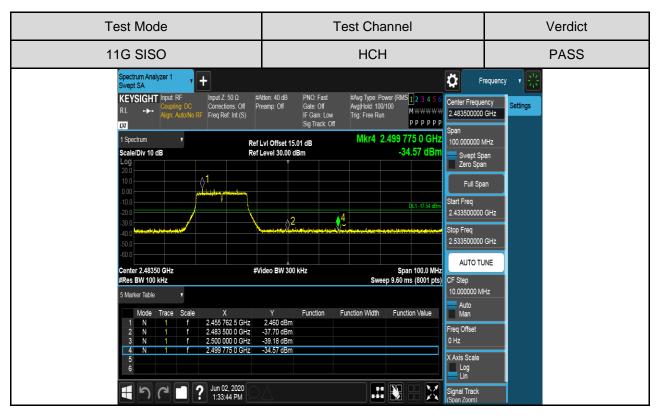
TEST GRAPHS





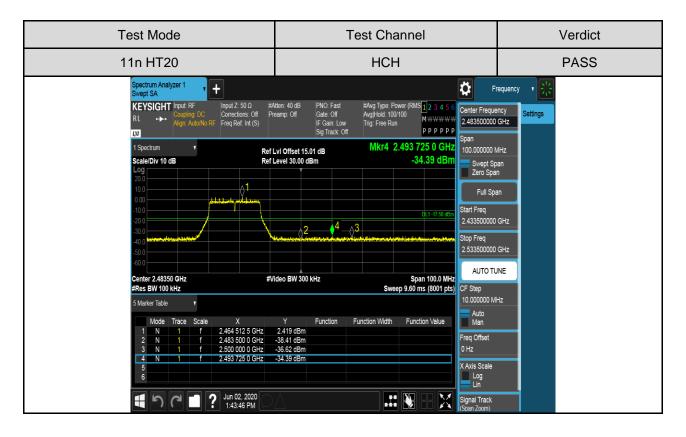


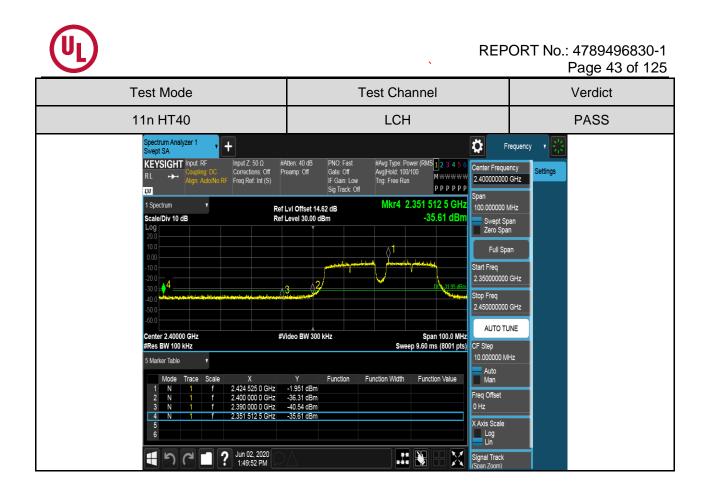


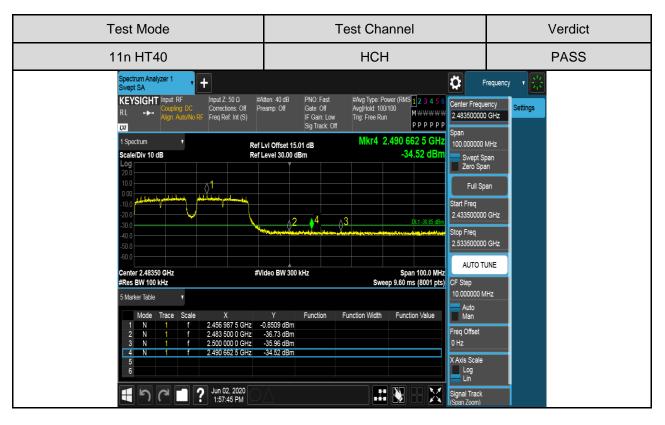














Part II :Conducted Emission

Test	Result	Table
1030	resur	I abic

Test Mode	Channel	Pref(dBm)	Puw(dBm)	Verdict
	LCH	8.72	<limit< td=""><td>PASS</td></limit<>	PASS
11B	MCH	8.06	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	8.51	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	1.49	<limit< td=""><td>PASS</td></limit<>	PASS
11G	MCH	2.07	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	2.82	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	1.25	<limit< td=""><td>PASS</td></limit<>	PASS
11n HT20	MCH	3.01	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	2.33	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	-1.84	<limit< td=""><td>PASS</td></limit<>	PASS
11n HT40	MCH	-1.43	<limit< td=""><td>PASS</td></limit<>	PASS
	НСН	-0.85	<limit< td=""><td>PASS</td></limit<>	PASS

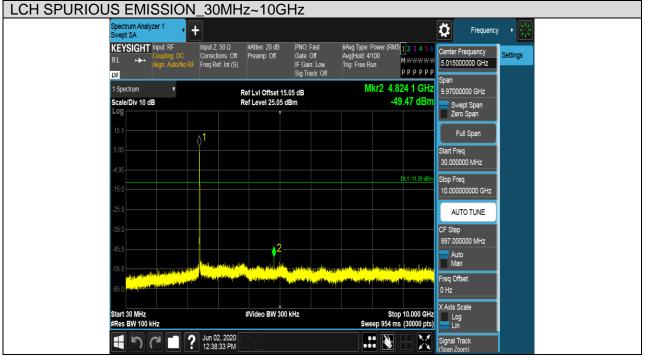
Test Plots

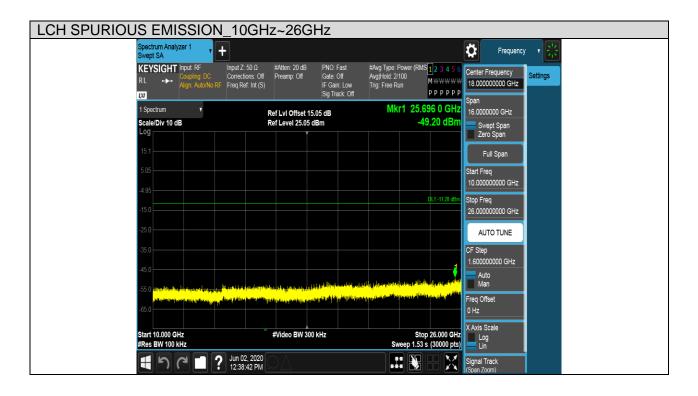
Test Mode	Channel	Verdict
11B	LCH	PASS

Pref test Plot



Puw test Plot





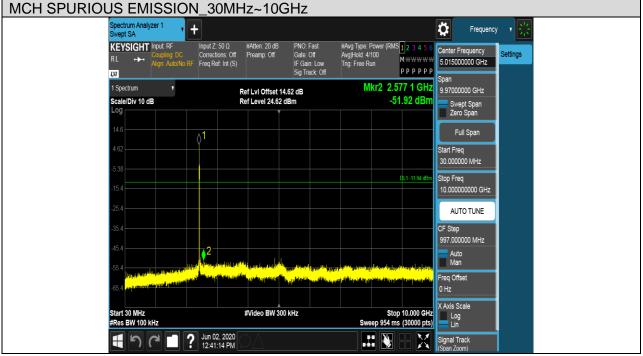


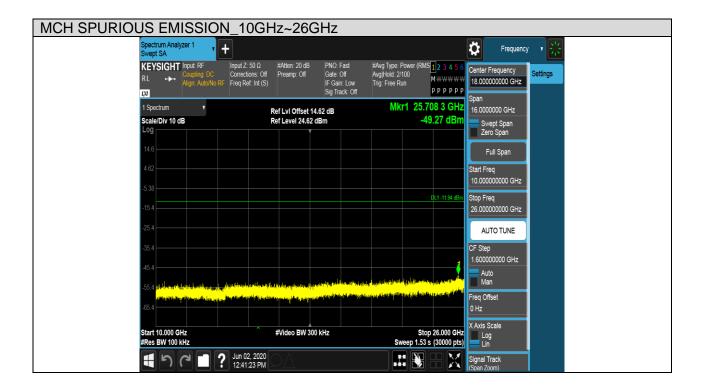
Test Mode	Channel	Verdict
11B	MCH	PASS

Pref test Plot



Puw test Plot







Test Mode	Channel	Verdict
11B	НСН	PASS

Pref test Plot

