	TEST REPO	RT					
FCC ID	2A2Y8-EVOKE1200						
Test Report No:	TCT220509E025	TCT220509E025					
Date of issue:	May 26, 2022						
Testing laboratory: :	SHENZHEN TONGCE TEST	ING LAB					
Testing location/ address:	TCT Testing Industrial Park F Street, Bao'an District Shenzl Republic of China						
Applicant's name: :	Guangdong Nanguang Photo	& Video Systems Co., Ltd					
Address:	DONGLI SECTION, HIGHWA CITY, GUANGDONG PROVI		TOU				
Manufacturer's name :	Guangdong Nanguang Photo	& Video Systems Co., Ltd					
Address:	DONGLI SECTION, HIGHWA CITY, GUANGDONG PROVI	NCE, China	TOU				
Standard(s) :	FCC CFR Title 47 Part 15 Subpart C Section 15.247 FCC KDB 558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10:2013						
Product Name::	LED SPOT LIGHT						
Trade Mark :	N/A						
Model/Type reference :	Evoke 1200						
Rating(s):	Input: AC 100-240V, 50/60Hz Output: DC 48V, 25A LED module power: 1200W						
Date of receipt of test item	May 09, 2022						
Date (s) of performance of test:	f May 09, 2022 - May 26, 2022						
Tested by (+signature) :	Rleo LIU	Preo Un LONGCETE	6				
Check by (+signature) :	Beryl ZHAO	Boyl 200 (TCT)	TING				
Approved by (+signature):	Tomsin	Tomsin 13 84					

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TCT通测检测 TESTING CENTRE TECHNOLOGY

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1. General Product Information

1.1. EUT description

Product Name:	LED SPOT LIGHT	
Model/Type reference:	Evoke 1200	
Sample Number:	TCT220509E025-0101	
Bluetooth Version:	V5.0	
Operation Frequency:	2402MHz~2480MHz	
Channel Separation:	2MHz	
Data Rate:	LE 1M PHY, LE 2M PHY	
Number of Channel:	40	
Modulation Type:	GFSK	
Antenna Type:	Internal Antenna	
Antenna Gain:	2dBi	
Rating(s):	Input: AC 100-240V, 50/60Hz Output: DC 48V, 25A LED module power: 1200W	

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

None.

1.3. Operation Frequency

	_		_		_		_
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
····	(X	(X	/	<u> </u>	
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz
Remark:	Remark: Channel 0, 19 & 39 have been tested.						

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2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203/§15.247 (c)	PASS
AC Power Line Conducted Emission	§15.207	PASS
Conducted Peak Output Power	§15.247 (b)(3)	PASS
6dB Emission Bandwidth	§15.247 (a)(2)	PASS
Power Spectral Density	§15.247 (e)	PASS
Band Edge	§15.247(d)	PASS
Spurious Emission	§15.205/§15.209	PASS

Note:

1. PASS: Test item meets the requirement.

2. Fail: Test item does not meet the requirement.

3. N/A: Test case does not apply to the test object.

4. The test result judgment is decided by the limit of test standard.

5. After pre-testing the two earphones, the two earphones are left and right ears respectively; we found that the left earphone is the worst case, so the results are recorded in this report.



3. General Information

3.1. Test environment and mode

Condition	Conducted Emission	Radiated Emission
Temperature:	25.3 °C	24.5 °C
Humidity:	56 % RH	56 % RH
Atmospheric Pressure:	1010 mbar	1010 mbar
Test Software:		
Software Information:	Lab Test Tool v2.1.0.2	
Power Level:	Defaulted	
Test Mode:		
Engineering mode:	Keep the EUT in continuou channel	s transmitting by select

above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case(Z axis) are shown in Test Results of the following pages.

3.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
				1

Note:

- 1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
- 3. For conducted measurements (Output Power, 6dB Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.



4. Facilities and Accreditations

4.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

• FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC - Registration No.: 10668A-1

- SHENZHEN TONGCE TESTING LAB
- CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

4.2. Location

SHENZHEN TONGCE TESTING LAB

Address: TCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China TEL: +86-755-27673339

4.3. Measurement Uncertainty

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

No.	Item	MU
1	Conducted Emission	± 3.10 dB
2	RF power, conducted	± 0.12 dB
3	Spurious emissions, conducted	± 0.11 dB
4	All emissions, radiated(<1 GHz)	± 4.56 dB
5	All emissions, radiated(1 GHz - 18 GHz)	🕘 ± 4.22 dB
6	All emissions, radiated(18 GHz- 40 GHz)	± 4.36 dB



5. Test Results and Measurement Data

5.1. Antenna requirement

Standard requirement: FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

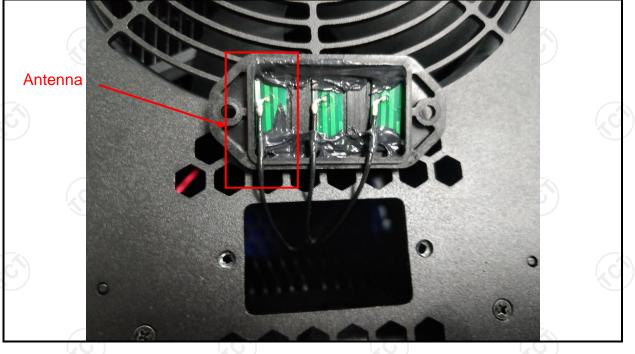
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

E.U.T Antenna:

The Bluetooth antenna is internal antenna which permanently attached, and the best case gain of the antenna is 2dBi.



5.2. Conducted Emission

5.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207					
Test Method:	ANSI C63.10:2013					
Frequency Range:	150 kHz to 30 MHz	150 kHz to 30 MHz				
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto					
	Frequency range	Limit (dBuV)			
	(MHz)	Quasi-peak	Average			
Limits:	0.15-0.5	66 to 56*	56 to 46*			
	0.5-5	56	46			
	5-30	60	50			
	Refere	nce Plane				
Test Setup:	Remarkc E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Test table height=0.8m					
Test Mode:	Transmitting Mode					
Test Procedure:	 The E.U.T is connelimpedance stabilizing provides a 500hm/s measuring equipme The peripheral device power through a LI coupling impedance refer to the block photographs). Both sides of A.C. conducted interferer emission, the relative the interface cables 	ation network 50uH coupling in nt. ces are also conne ISN that provides with 50ohm terr diagram of the line are checke nce. In order to fi e positions of equ s must be chang	(L.I.S.N.). This pedance for the ected to the main s a 50ohm/50uh nination. (Please test setup and ed for maximum nd the maximum upment and all o ged according to			
	ANSI C63 10:2013 (on conducted me	asurement			
Test Result:	ANSI C63.10:2013 (PASS	on conducted mea	asurement.			

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http://www.tct-lab.com

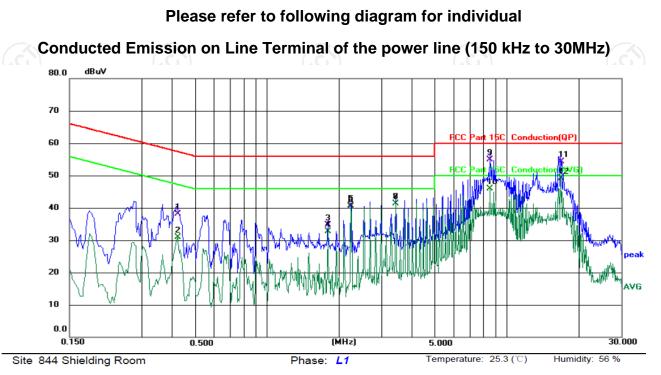
Fax: 86-755-27673332

5.2.2. Test Instruments

Hotline: 400-6611-140 Tel: 86-755-27673339

Conducted Emission Shielding Room Test Site (843)								
Equipment	Manufacturer	Model	Serial Number	Calibration Due				
EMI Test Receiver	R&S	ESCI3	100898	Jul. 07, 2022				
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	Feb. 24, 2023				
Line-5	ТСТ	CE-05	N/A	Jul. 07, 2022				
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A				

5.2.3. Test data



Limit: FCC Part 15C Conduction(QP) Power: AC 120 V/60 Hz Reading Correct Measure-Limit Over No. Mk. Freq. Factor Level ment MHz dBuV dB dBuV dBuV dB Detector Comment 0.4218 27.81 10.23 38.04 57.41 -19.37 QP 1 2 0.4218 20.59 10.23 30.82 47.41 -16.59 AVG 3 1.7980 24.63 10.08 34.71 56.00 -21.29 QP 1.7980 4 22.67 10.08 32.75 46.00 -13.25 AVG 5 2.2458 30.62 10.07 40.69 56.00 -15.31 QP 6 2.2458 30.15 10.07 40.22 46.00 -5.78 AVG 7 3.4460 31.26 10.08 41.34 56.00 -14.66 QP 41.27 46.00 -4.73 AVG 8 3.4460 31.19 10.08 9 8.5419 44.62 10.22 54.84 60.00 -5.16 QP 8.5419 35.65 10.22 45.87 50.00 -4.13 AVG 10 16.7777 43.95 10.41 54.36 60.00 -5.64 QP 11 16.7777 12 38.65 10.41 49.06 50.00 -0.94 AVG

Note:

Freq. = Emission frequency in MHz

- Reading level ($dB\mu V$) = Receiver reading
- Corr. Factor (dB) = LISN factor + Cable loss

Measurement ($dB\mu V$) = Reading level ($dB\mu V$) + Corr. Factor (dB)

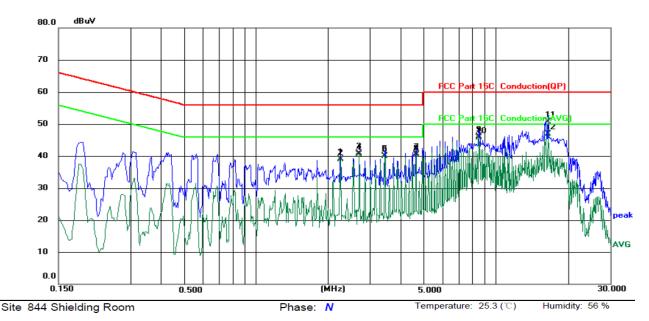
- Limit ($dB\mu V$) = Limit stated in standard
- Margin (dB) = Measurement (dB μ V) Limits (dB μ V)

Q.P. =Quasi-Peak

AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz

Report No.: TCT220509E025



Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)

Power: AC 120 V/60 Hz Limit: FCC Part 15C Conduction(QP) Reading Correct Measure-Limit Over No. Mk. Freq. Level Factor ment MHz dBuV dB dBuV dBuV dB Detector Comment 1 2.2540 28.95 10.17 39.12 56.00 -16.88 QP 2 2.2540 28.82 10.17 38.99 46.00 -7.01 AVG 3 2.7019 30.65 10.18 40.83 56.00 -15.17 QP 2,7019 30.35 40.53 10.18 46.00 -5.47 AVG 4 5 3.4500 29.98 10.18 40.16 56.00 -15.84 QP 3.4500 29.78 10.18 39.96 46.00 -6.04 AVG 6 7 4.6500 30.58 10.19 40.77 56.00 -15.23 QP 4.6500 30.17 10.19 40.36 46.00 -5.64 AVG 8 8.5457 35.70 10.32 46.02 60.00 -13.98 QP 9 10 8.5457 35.37 10.32 45.69 50.00 -4.31 AVG 40.28 50.75 -9.25 QP 16.5060 10.47 60.00 11 12 16.5060 36.50 10.47 46.97 50.00 -3.03 AVG

Note1:

Freq. = Emission frequency in MHz Reading level $(dB\mu V)$ = Receiver reading Corr. Factor (dB) = LISN factor + Cable loss Measurement $(dB\mu V)$ = Reading level $(dB\mu V)$ + Corr. Factor (dB)Limit $(dB\mu V)$ = Limit stated in standard Margin (dB) = Measurement $(dB\mu V)$ – Limits $(dB\mu V)$ Q.P. =Quasi-Peak AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

Note2: Speed for 1M and 2M modulations of EUT have been tested, but the test data only show the worst case in this report, and we found the worst case is 2M speed modulation. Measurements were conducted in all three channels (high, middle, low), and the worst case Mode (Highest channel) was submitted only.



5.3. Conducted Output Power

5.3.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)				
Test Method:	KDB 558074 D01 v05r02				
Limit:	30dBm				
Test Setup:					
	Spectrum Analyzer EUT				
Test Mode:	Refer to item 3.1				
Test Procedure:	 Set spectrum analyzer as following: a) Set the RBW ≥ DTS bandwidth. b) Set VBW ≥ 3 × RBW. c) Set span ≥ 3 x RBW d) Sweep time = auto couple. e) Detector = peak. f) Trace mode = max hold. g) Allow trace to fully stabilize. h) Use peak marker function to determine the peak amplitude level. 				
Test Result:	PASS				

5.3.2. Test Instruments

Name	Manufacturer	Model No.	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 18, 2022
Combiner Box	Ascentest	AT890-RFB	N/A	Jul. 07, 2022







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5.4. Emission Bandwidth

5.4.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	KDB 558074 D01 v05r02
Limit:	>500kHz
Test Setup:	
	Spectrum Analyzer
Test Mode:	Refer to item 3.1
Test Procedure:	 Set to the maximum power setting and enable the EUT transmit continuously. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz. Measure and record the results in the test report.
Test Result:	PASS

5.4.2. Test Instruments

Name	Manufacturer	Model No.	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 18, 2022
Combiner Box	Ascentest	AT890-RFB	N/A	Jul. 07, 2022

5.5. Power Spectral Density

5.5.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	KDB 558074 D01 v05r02
Limit:	The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.
Test Setup:	
	Spectrum Analyzer EUT
Test Mode:	Refer to item 3.1
Test Procedure:	 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW): 3 kHz ≤ RBW ≤ 100 kHz. Video bandwidth VBW ≥ 3 x RBW. In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW) Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level. Measure and record the results in the test report.
Test Result:	PASS

5.5.2. Test Instruments

Name	Manufacturer	Model No.	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 18, 2022
Combiner Box	Ascentest	AT890-RFB	N/A	Jul. 07, 2022

5.6. Conducted Band Edge and Spurious Emission Measurement

5.6.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB 558074 D01 v05r02
Limit:	In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).
Test Setup:	
	Spectrum Analyzer EUT
Test Mode:	Refer to item 3.1
Test Procedure:	 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when
	 maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d). 4. Measure and record the results in the test report. 5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

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5.6.2. Test Instruments

Name		Manufacturer	Model No.	Serial Number	Calibration Due		
Spectrum Analyzer Combiner Box		Agilent	N9020A	MY49100619	Jul. 18, 2022		
		Ascentest	AT890-RFB	N/A	Jul. 07, 2022		

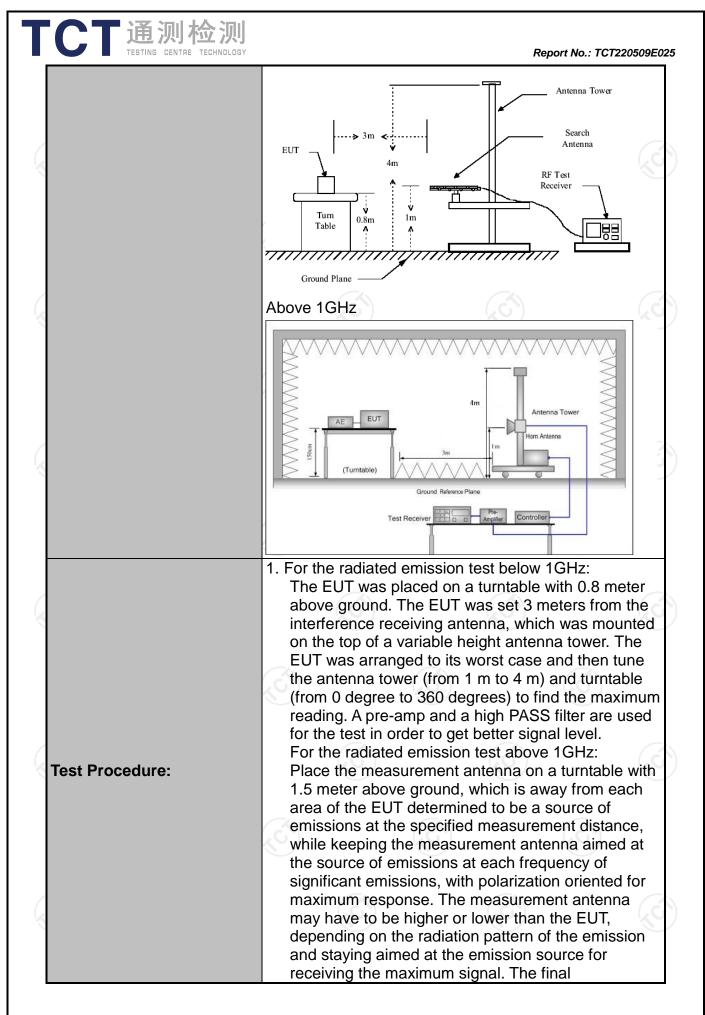
5.7. Radiated Spurious Emission Measurement

5.7.1. Test Specification

TCT 通测检测 TESTING CENTRE TECHNOLOGY

Test Requirement:	FCC Part15	C Sectior	n 15.209		No.	
Test Method:	ANSI C63.10):2013				
Frequency Range:	9 kHz to 25 (GHz				
Measurement Distance:	3 m	K	9			
Antenna Polarization:	Horizontal &	Vertical				
Operation mode:	Refer to item	n 3.1	(3		
	Frequency 9kHz- 150kHz 150kHz-	Detector Quasi-pea Quasi-pea		VBW 1kHz 30kHz	Remark Quasi-peak Value Quasi-peak Value	
eceiver Setup:	30MHz 30MHz-1GHz Above 1GHz	Quasi-pea Peak Peak	k 120KHz 1MHz 1MHz	300KHz 3MHz 10Hz	Quasi-peak Value Peak Value Average Value	
	Frequen 0.009-0.4 0.490-1.7	190	Field Stre (microvolts 2400/F(I 24000/F(/meter) KHz)	Measurement Distance (meters 300 30	
Limit:	1.705-30 30-88 88-216		30 100 150		30 3 3	
	216-960 Above 960		200 500		3	
	Frequency	Field Strength (microvolts/meter)		Measure Distan (meter	ce Detector	
	Above 1GHz	500 5000		3	Average Peak	
	For radiated	emission	s below 30	MHz		
	Distance = 3m					
Test setup:	0.8m					
	30MHz to 1GHz					

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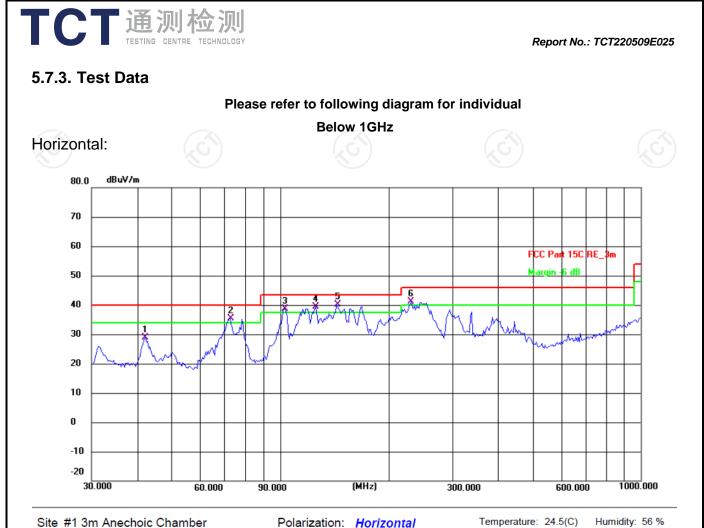
CT通测检测 TESTING CENTRE TECHNOLOGY	Report No.: TCT220509E
	 measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported. Use the following spectrum analyzer settings: Set RBW=120 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold; Set RBW = 1 MHz, VBW= 3MHz for f >1 GHz for peak measurement. For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Test mode:	Refer to section 3.1 for details
Test results:	PASS

5.7.2. Test Instruments

TCT 通测检测 TESTING CENTRE TECHNOLOGY

	Radiated En	nission Test Site	e (966)		
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due	
EMI Test Receiver	R&S	ESIB7	100197	Jul. 07, 2022	
Spectrum Analyzer	R&S	FSQ40	200061	Jul. 07, 2022	
Pre-amplifier	SKET	LNPA_0118G- 45	SK2021012 102	Feb. 24, 2023	
Pre-amplifier	SKET	LNPA_1840G- 50	SK2021092 03500	Feb. 24, 2023	
Pre-amplifier	HP	8447D	2727A05017	Jul. 07, 2022	
Loop antenna	ZHINAN	ZN30900A	12024	Sep. 05, 2022	
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 04, 2022	
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 04, 2022	
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Apr. 10, 2023	
Antenna Mast	Keleto	RE-AM	N/A	N/A	
Coaxial cable	SKET	RC_DC18G-N	N/A	Feb. 24, 2023	
Coaxial cable	SKET	RC-DC18G-N	N/A	Feb. 24, 2023	
Coaxial cable	SKET	RC-DC40G-N	N/A	Jul. 07, 2022	
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A	

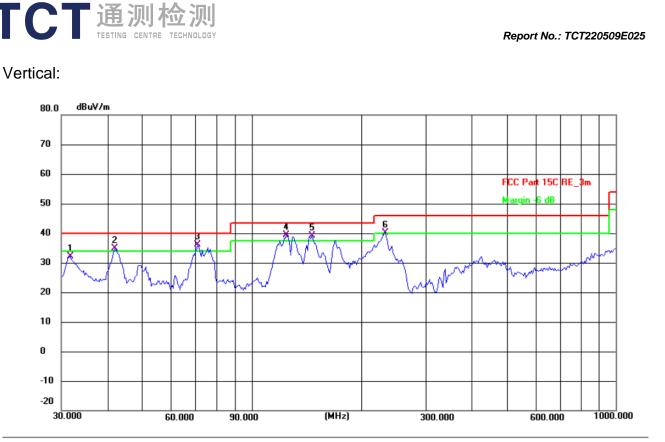
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Limit: FCC Part 15C RE_3m Power: AC 120V/60Hz Reading Frequency Factor Level Limit Margin No. Detector P/F Remark (MHz) (dBuV) (dBuV/m) (dBuV/m) (dB) (dB/m) 42.3021 15.17 13.67 28.84 40.00 -11.16 QP Ρ 1 2 ! 72.5915 25.01 10.37 35.38 40.00 -4.62 QP Ρ 3! 103.0800 28.40 10.14 38.54 43.50 -4.96 QP Ρ 4 ! 125.4457 27.60 11.89 39.49 43.50 -4.01 QP Ρ QP 143.3259 27.35 12.77 43.50 -3.38 Ρ 5 * 40.12 Ρ 6! 230.9067 29.40 11.62 41.02 46.00 -4.98 QP

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Site #1 3m Anechoic Chamber Temperature: 24.5(C) Humidity: 56 % Polarization: Vertical Limit: FCC Part 15C RE_3m Power: AC 120V/60Hz Reading Factor Limit Frequency Level Margin Detector P/F Remark No. (MHz) (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) 31.7312 19.34 12.68 32.02 40.00 -7.98 QP Ρ 1 21 42.0065 21.26 34.94 40.00 -5.06 QP Ρ 13.68 3 71.0802 25.41 10.68 36.09 40.00 -3.91 QP Ρ 4 ! Ρ 124.5690 27.62 11.85 39.47 43.50 -4.03 QP

Note: 1. The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported

43.50

46.00

2. Speed for 1M and 2M modulations of EUT have been tested, but the test data only show the worst case in this report, and we found the worst case is 2M speed modulation. Measurements were conducted in all three channels (high, middle, low), and the worst case Mode (Highest channel) was submitted only.

-4.40

-5.96

QP

QP

Ρ

Ρ

3. Freq. = Emission frequency in MHz

26.22

28.32

12.88

11.72

5!

6 !

146.3734

232.5318

Measurement $(dB\mu V/m) = Reading level (dB\mu V) + Corr. Factor (dB)$ Correction Factor= Antenna Factor + Cable loss – Pre-amplifier Limit (dB μ V/m) = Limit stated in standard Margin (dB) = Measurement (dB μ V/m) – Limits (dB μ V/m) * is meaning the worst frequency has been tested in the test frequency range

39.10

40.04

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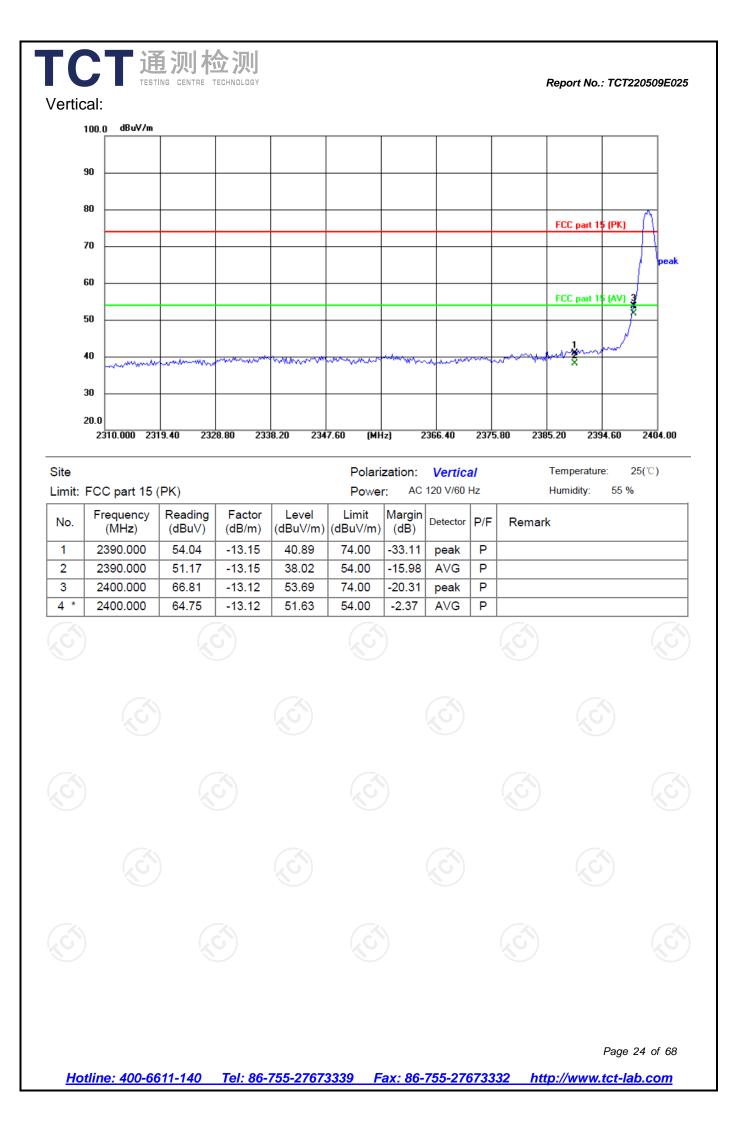


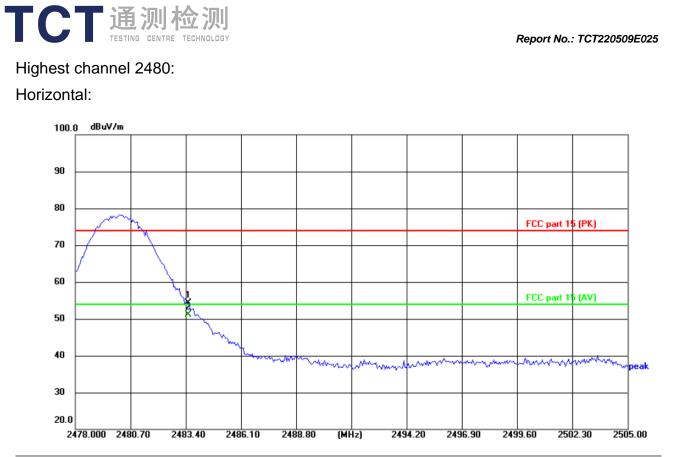
Test Result of Radiated Spurious at Band edges

TCT通测检测 TCT通测检测

Lowest channel 2402: Horizontal: 100.0 dBuV/m 90 80 FCC part 15 (PK) 70 eak 60 FCC part 15 (AV) 50 40 30 20.0 2310.000 2319.40 2328.80 2338.20 2347.60 (MHz) 2366.40 2375.80 2385.20 2394.60 2404.00 25(°C) Site Polarization: Horizontal Temperature: AC 120 V/60 Hz 55 % Limit: FCC part 15 (PK) Power: Humidity: Frequency Reading Factor Level Limit Margin Detector P/F Remark No. (MHz) (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) 2390.000 54.92 -13.15 41.77 74.00 -32.23 Ρ 1 peak 54.00 2390.000 51.27 -13.15 38.12 -15.88 Ρ 2 AVG -13.12 2400.000 49.30 74.00 -24.70 Ρ 3 62.42 peak 54.00 Ρ 4 2400.000 59.71 -13.12 46.59 -7.41 AVG *

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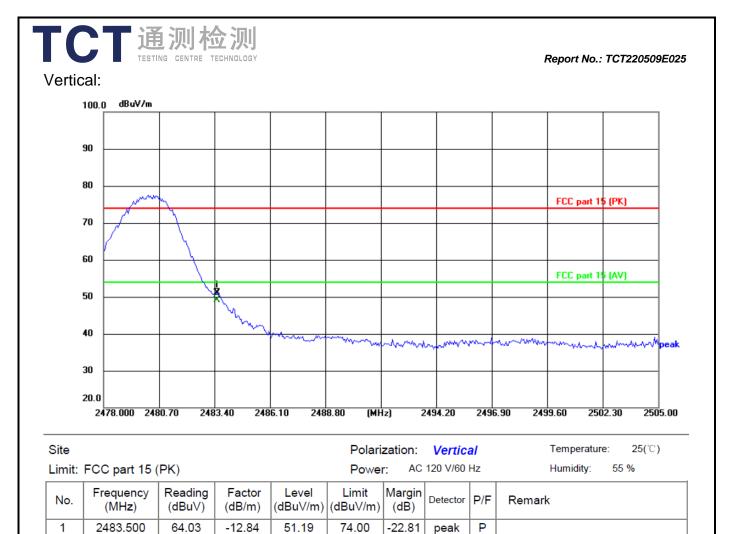




Site					Polari	zation:	Horizo	ontal	Temperature: 25(°C)
Limit: FCC part 15 (PK) Power: AC 12						120 V/60	Hz	Humidity: 55 %	
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector	P/F	Remark
1	2483.500	67.19	-12.84	54.35	74.00	-19.65	peak	Ρ	
2 *	2483.500	63.92	-12.84	51.08	54.00	-2.92	AVG	Ρ	
	1		-						

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Note: Speed for 1M and 2M modulations of EUT have been tested, but the test data only show the worst case in this report, and we found the worst case is 2M speed modulation.

-4.95

AVG

Ρ

54.00

2 *

2483.500

61.89

-12.84

49.05



Above	1GHz	

Low char	nnel: 2402	MHz							
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Peak		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4804	Н	45.18		0.66	45.84		74	54	-8.16
7206	Н	36.07		9.50	45.57		74	54	-8.43
	Н								
				•				,,	
4804	V	44.95		0.66	45.61	~	74	54	-8.39
7206	S V	35.14		9.50	44.64	<u> </u>	74	54	-9.36
	V								

Middle channel: 2440 MHz

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $										
(MH2) H/V (dBµV) (dBµV) (dB/M) (dB/V/m) (dBµV/m) (dBµV/m)<	F	requency								Margin
7320 H 36.81 9.87 46.68 74 54 -7.32 H <td></td> <td>(MHz)</td> <td>H/V</td> <td></td> <td></td> <td></td> <td></td> <td>(dBµV/m)</td> <td>(dBµV/m)</td> <td>(dB)</td>		(MHz)	H/V					(dBµV/m)	(dBµV/m)	(dB)
H		4880	Н	45.77		0.99	46.76	 74	54	-7.24
4880 V 45.34 0.99 46.33 74 54 -7.67 7320 V 35.71 9.87 45.58 74 54 -8.42		7320	Н	36.81		9.87	46.68	 74	54	-7.32
7320 V 35.71 9.87 45.58 74 54 -8.42			H			·	/	 		
7320 V 35.71 9.87 45.58 74 54 -8.42					N.				KO/	
		4880	V	45.34		0.99	46.33	 74	54	-7.67
V		7320	V	35.71		9.87	45.58	 74	54	-8.42
			V	-						
		-7)				((, ć

High chann	nel: 2480 N	ИНz		8					3
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Peak	A \ /	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4960	Н	44.02	-+ 6	1.33	45.35		74	54	-8.65
7440	С H	34.36		10.22	44.58		74	54	-9.42
	Н								
4960	V	43.93		1.33	45.26		74	54	-8.74
7440	V	34.16		10.22	44.38		74	54	-9.62
	V								

Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss - Pre-amplifier

2. Margin (dB) = Emission Level (Peak) (dB μ V/m)-Average limit (dB μ V/m)

3. The emission levels of other frequencies are very lower than the limit and not show in test report.

4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.

5. Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

6. Speed for 1M and 2M modulations of EUT have been tested, but the test data only show the worst case in this report, and we found the worst case is 2M speed modulation.

7. All the restriction bands are compliance with the limit of 15.209.



Appendix A: Test Result of Conducted Test

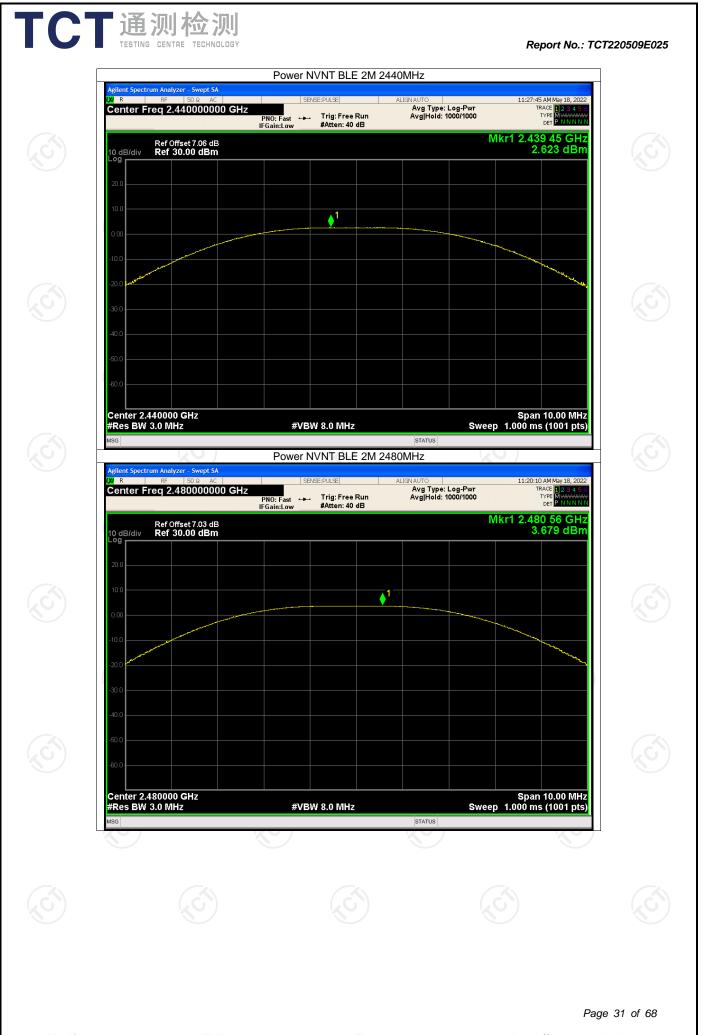
Maximum Conducted Output Power							
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict		
NVNT	BLE 1M	2402	1.628	30	Pass		
NVNT	BLE 1M	2440	2.645	30	Pass		
NVNT	BLE 1M	2480	3.672	30	Pass		
NVNT	BLE 2M	2402	1.675	30	Pass		
NVNT	BLE 2M	2440	2.623	30	Pass		
NVNT	BLE 2M	2480	3.679	30	Pass		

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TCT通测检测 TESTING CENTRE TECHNOLOGY

Report No.: TCT220509E025





Report No.: TCT220509E025	Report	No.:	TCT220509E025
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Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict		
NVNT	BLE 1M	2402	0.752	0.5	Pass		
NVNT	BLE 1M	2440	0.747	0.5	Pass		
NVNT	BLE 1M	2480	0.764	0.5	Pass		
NVNT	BLE 2M	2402	1.320	0.5	Pass		
NVNT	BLE 2M	2440	1.341	0.5	Pass		
NVNT	BLE 2M	2480	1.471	0.5	Pass		

-6dB Bandwidth

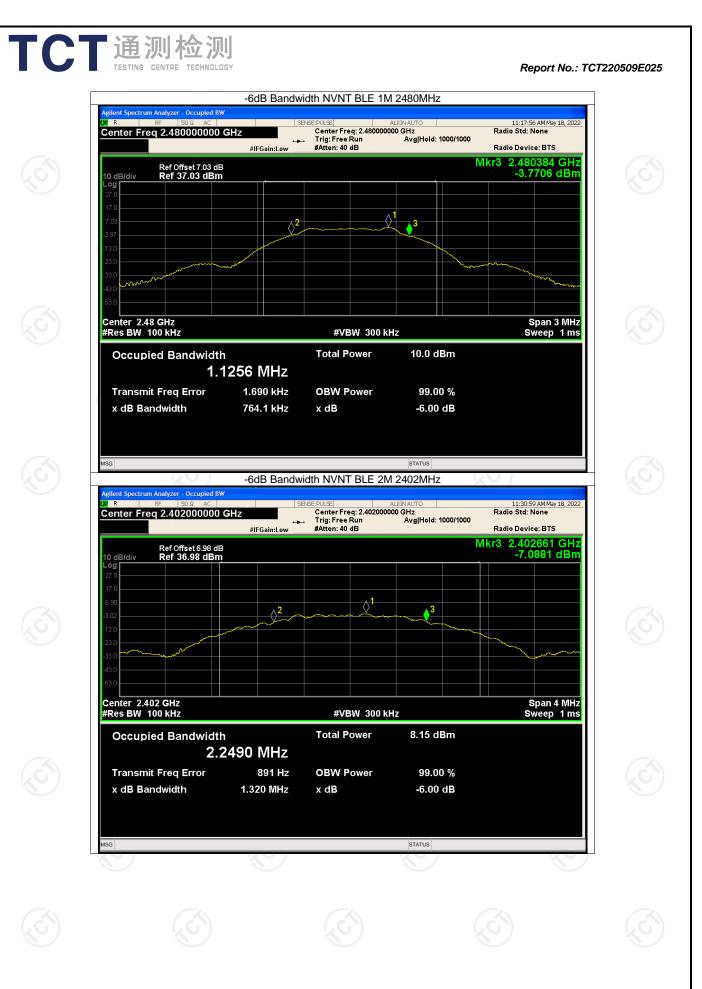
TCT 通测检测 TESTING CENTRE TECHNOLOGY

Page	32	of	68
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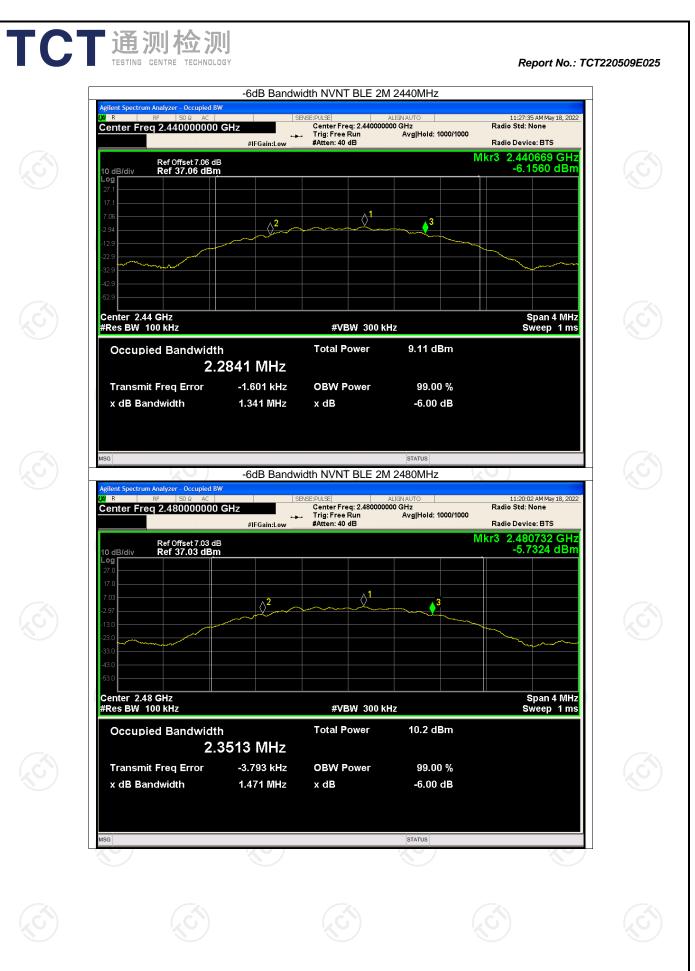


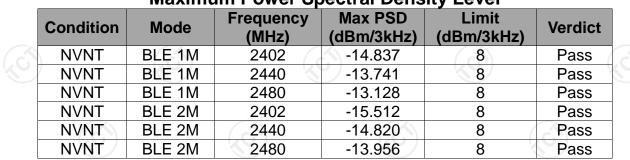
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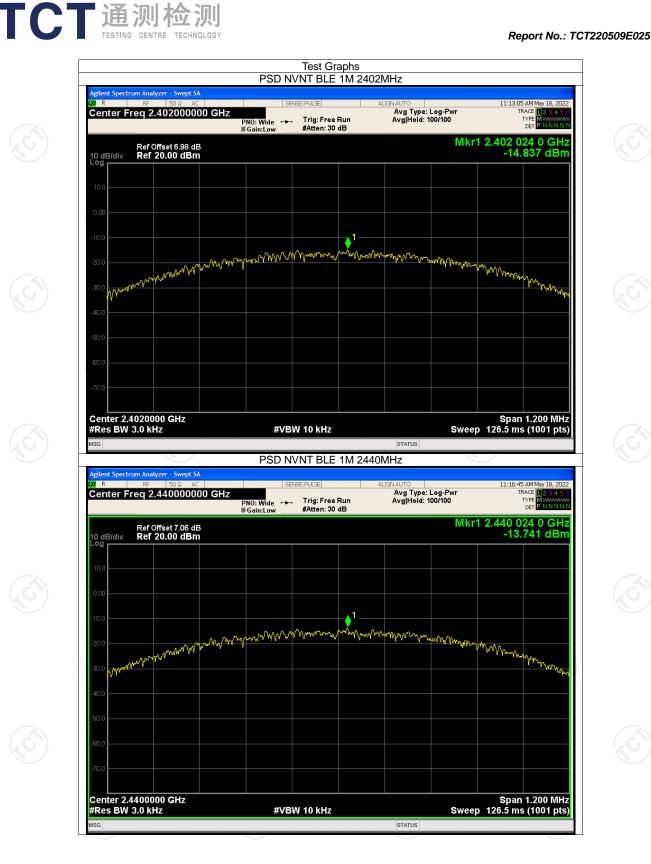




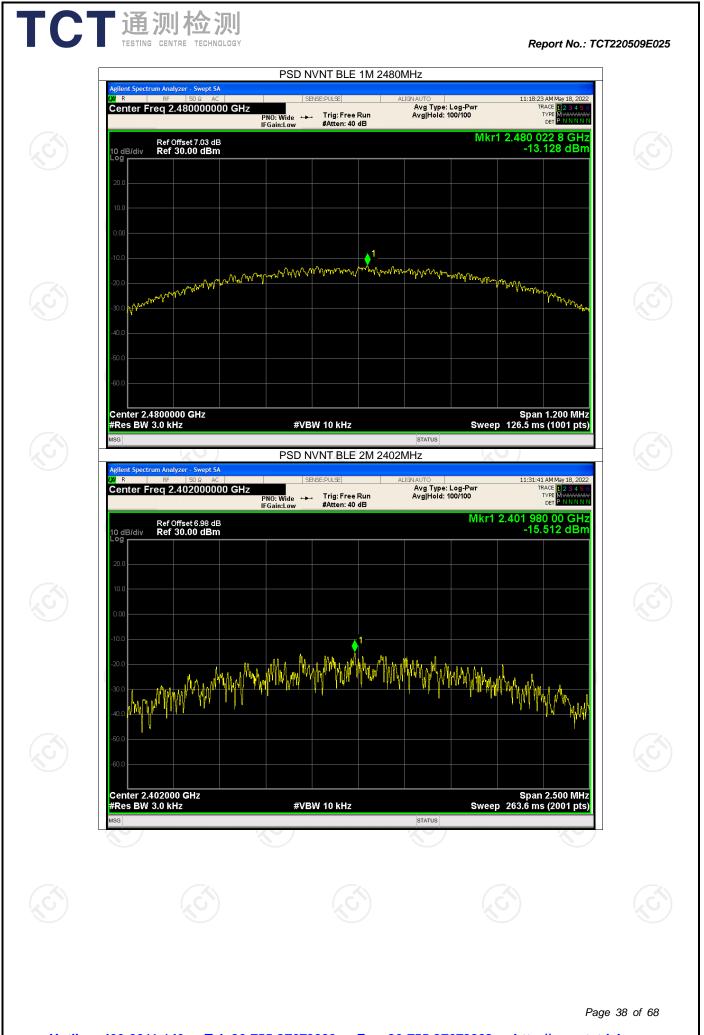
Maximum Power Spectral Density Level



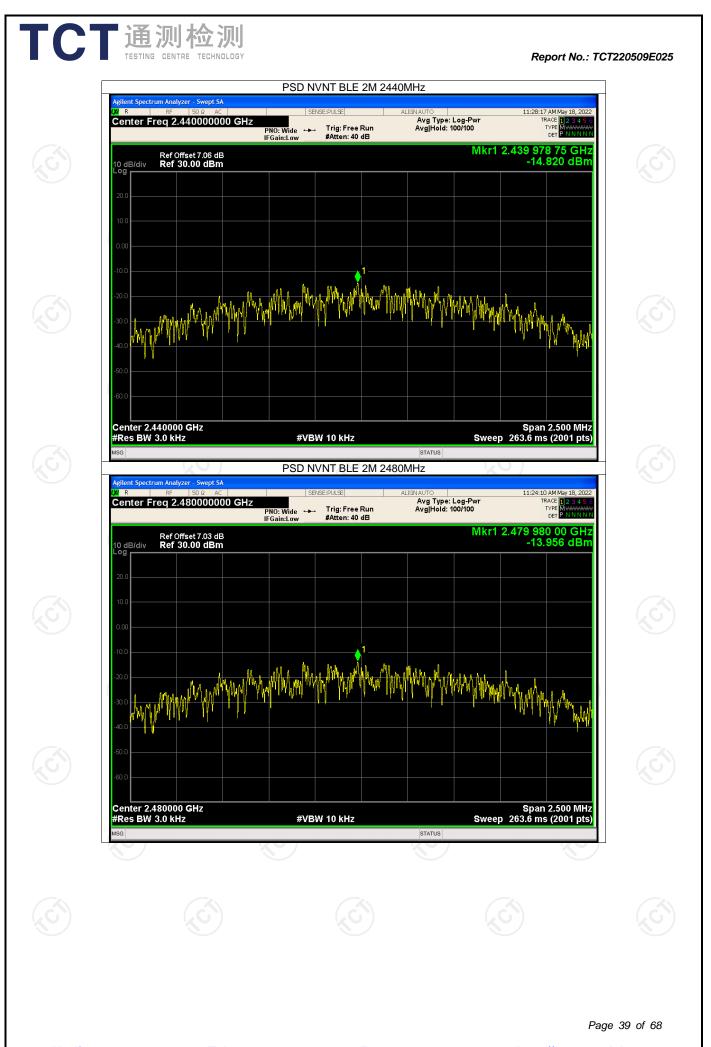
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	Band Edge							
۱	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)				
	BLE 1M	2402	-42.44	-20				
	BLE 1M	2480	-44.35	-20				
	BLE 2M	2402	-40.86	-20				
	BLE 2M	2480	-42.12	-20				
	S)		S					

ГСТ	通测检测 TESTING CENTRE TECHNOLOGY

Condition

NVNT

NVNT

NVNT

NVNT

Report No.: TCT220509E025

Verdict

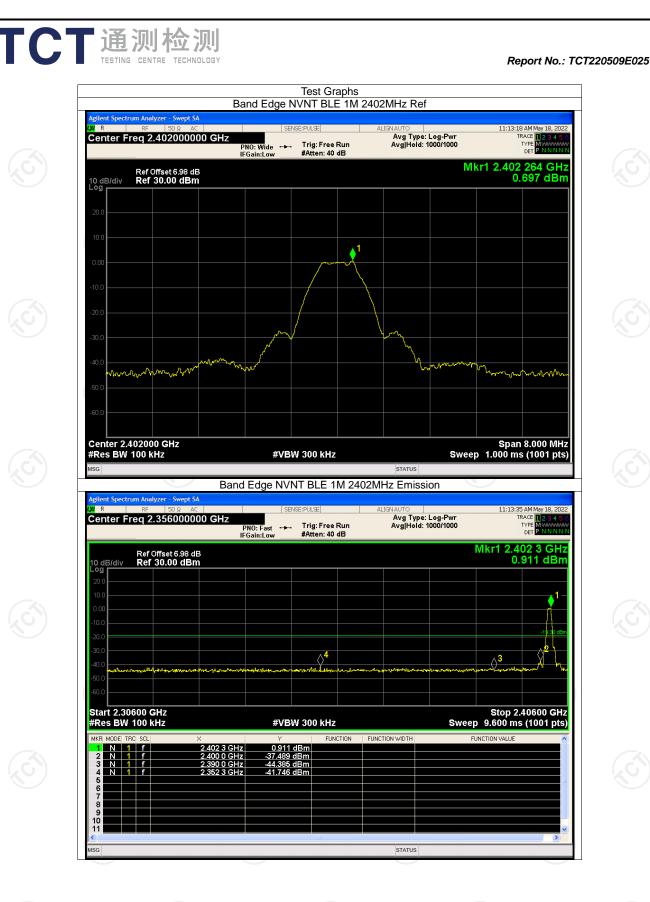
Pass

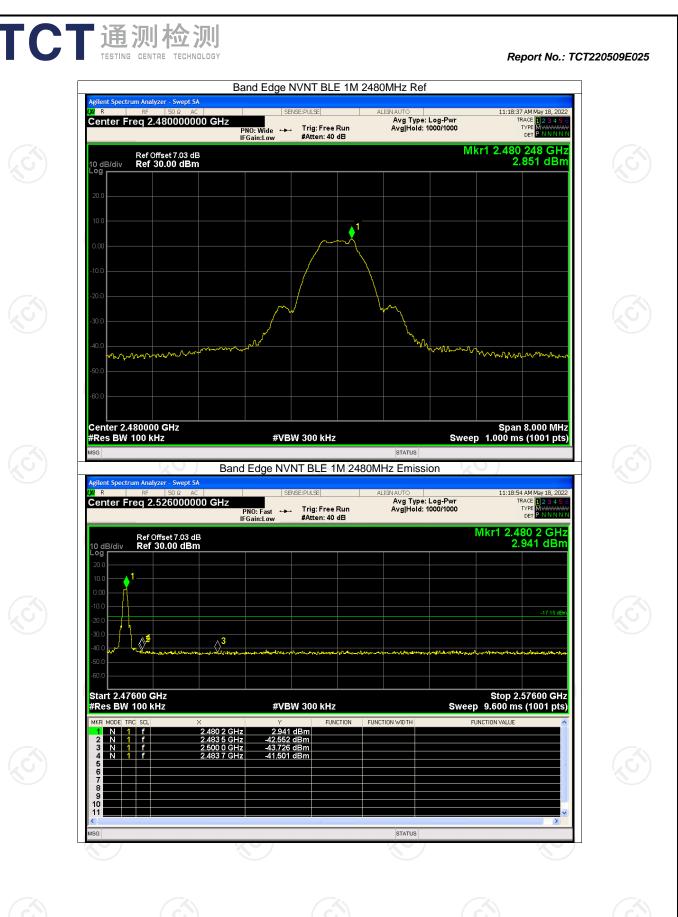
Pass

Pass

Pass

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Agilent Spectri	Im Analyzer - Swept SA RF 50 Ω AC	and Edge NVNT BLE 2M	ALIGNAUTO	11:31:59 AM May 18, 2022
	eq 2.402000000 GHz	PNO: Wide +++ Trig: Free Run FGain:Low #Atten: 40 dB	Avg Type: Log-Pwr Avg Hold: 1000/1000	TRACE 123456 TYPE MWWWWW DET PININNN
10 dB/div	Ref Offset 6.98 dB Ref 30.00 dBm		Mkr1	2.402 144 GHz -0.937 dBm
20.0				
10.0				
-10.0		- mil	V	
-20.0				
-30.0		water and the second se	- have a second	
-40.0	and the second s			mangana
-50.0				
#Res BW	02000 GHz 100 kHz	#VBW 300 kHz	Sweep 1	Span 8.000 MHz 000 ms (1001 pts)
		d Edge NVNT BLE 2M 240	02MHz Emission	/
LXI R	m Analyzer - Swept SA RF 50 Ω AC eq 2.356000000 GHz	SENSE:PULSE	ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 100/100	11:32:02 AM May 18, 2022 TRACE 12 3 4 5 6 TYPE MWWWWWW
	Ref Offset 6.98 dB	PNO: Fast 🛶 Trig: Free Run FGain:Low #Atten: 40 dB		r1 2.402 1 GHz -0.791 dBm
10 dB/div Log	Ref 30.00 dBm			-0.791 dBm
10.0				1
-10.0				294.dbm
-30.0	ารร้างสูงใหญ่หางหางที่จะเปลาะสไหรแก้จะจะมีเราะ	herventlengereinflichen tetensteren hier	4	3 American
-50.0		#VBW 300 kHz		Stop 2.40600 GHz 600 ms (1001 pts)
			FUNCTION WIDTH FUNCTION	DN VALUE
-60.0 Start 2.30 #Res BW MKR MODEL TR 1 N 1 2 N 1	C SCL X f 2.402 1 GHz f 2.400 0 GHz	Y FUNCTION -0.791 dBm -29.638 dBm		
-60.0 Start 2.30 #Res BW MKR MODE TF 1 N 1 2 N 1 3 N 1 4 N 1 5	CI SCL X	-0.791 dBm -29.638 dBm -45.913 dBm		
-60.0 Start 2.30 #Res BW MKR MODE TF 1 N 1 2 N 1 3 N 1 4 N 1 5 6 7 8 9	C SCL X f 2.402 1 GHz f 2.400 0 GHz f 2.390 0 GHz	-0.791 dBm -29.638 dBm -45.913 dBm		
-60.0 Start 2.30 #Res BW MKR MODE TF 1 N 1 2 N 1 3 N 1 4 N 1 5 6 7 8 9 10 11 5 6 7 8 9 10 11 5 6 7 8 9 10 10 10 10 10 10 10 10 10 10	C SCL X f 2.402 1 GHz f 2.400 0 GHz f 2.390 0 GHz	-0.791 dBm -29.638 dBm -45.913 dBm		
50.0 Start 2.30 #Res BW MKR MODE TF 1 N 1 2 N 1 3 N 1 4 N 1 5 6 7 8 9 9 10	C SCL X f 2.402 1 GHz f 2.400 0 GHz f 2.390 0 GHz	-0.791 dBm -29.638 dBm -45.913 dBm	STATUS	
-60.0 Start 2.30 #Res BW MKR MODE TF 1 N 1 2 N 1 3 N 1 4 N 1 5 6 7 8 9 10 11 5 6 7 8 9 10 11 5 6 7 8 9 10 10 10 10 10 10 10 10 10 10	C SCL X f 2.402 1 GHz f 2.400 0 GHz f 2.390 0 GHz	-0.791 dBm -29.638 dBm -45.913 dBm		
-60.0 Start 2.30 #Res BW MKR MODE TF 1 N 1 2 N 1 3 N 1 4 N 1 5 6 7 8 9 10 11 5 6 7 8 9 10 11 5 6 7 8 9 10 10 10 10 10 10 10 10 10 10	C SCL X f 2.402 1 GHz f 2.400 0 GHz f 2.390 0 GHz	-0.791 dBm -29.638 dBm -45.913 dBm		

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'C '	通测检测 TESTING CENTRE TECHNOLOGY		F	Report No.: TCT220509E025
		dge NVNT BLE 2M 2480	MHz Ref	
	Agilent Spectrum Analyzer - Swept SA (M R RF 50 Q AC Center Freq 2.480000000 GHz PNO: Wid IFGaint.o	e 🛶 Trig: Free Run	Avg Type: Log-Pwr Avg Type: 100/1000	1:56 AM May 18, 2022 TRACE 1 2:34 5:6 TYPE MINNINN DET PINNINN
	Ref Offset 7.03 dB		Mkr1 2.48	0 128 GHz 0.611 dBm
	20.0			
	10.0			
	0.00	1		
	-10.0			
	-20.0			
	-30.0		- Varia	
	-40.0			m ho may and man
	-50.0			
	-60.0			
	Center 2.480000 GHz #Res BW 100 kHz	#VBW 300 kHz	Sp Sweep 1.000	an 8.000 MHz ns (1001 pts)
	MSG	NVNT BLE 2M 2480MH	STATUS	
	Agilent Spectrum Analyzer - Swept SA			:59 AM May 18, 2022
	Center Freq 2.526000000 GHz PNO: Fas IFGain:Lor	t ↔→→ Trig: Free Run w #Atten: 40 dB	Avg Type: Log-Pwr Avg Hold: 100/100	TRACE 123456 TYPE MWWWWWW DET P N N N N N
	Ref Offset 7.03 dB 10 dB/div Ref 30.00 dBm		Mkr1 2	480 1 GHz 0.799 dBm
	-20.0			-19.39 dBm
	-30.0 -40.0 -50.0	๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛	Man Lunder John States Marine Contraction of the States of	hallooguungay helden set waya
	-60.0			
	Start 2.47600 GHz #Res BW 100 kHz	#VBW 300 kHz	Stop Sweep 9.600	2.57600 GHz ns (1001 pts)
		0 799 dBm	DN WIDTH FUNCTION VALU	
	2 N 1 f 2.483 5 GHz 4 3 N 1 f 2.500 0 GHz 4 4 N 1 f 2.498 8 GHz 4 5 2.498 8 GHz 4	5.279 dBm 5.401 dBm 1.512 dBm		
	7 8			
	9 10 11			
	MSG	10 7	STATUS	

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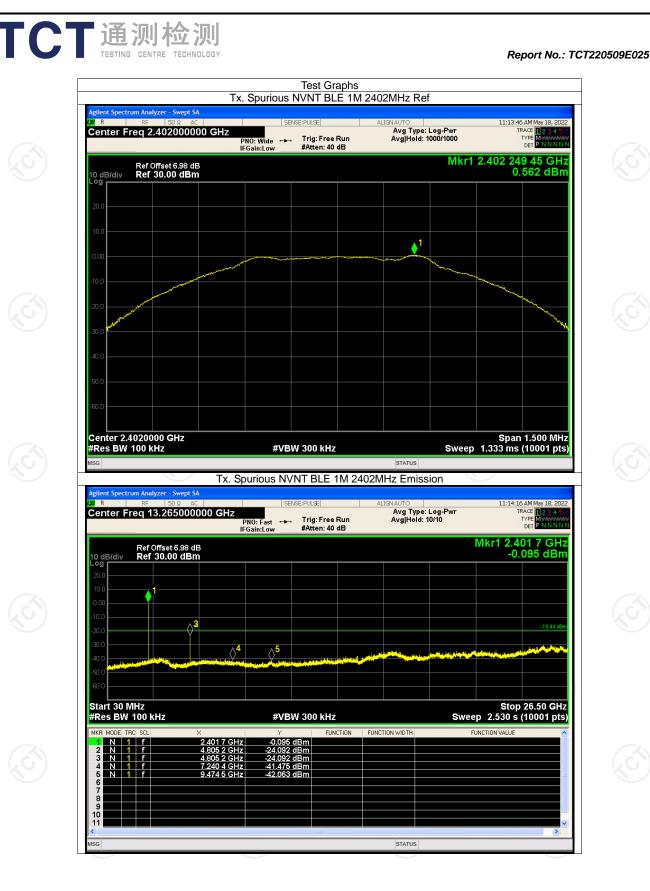
Report No.: TCT220509E025



Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	-24.65	-20	Pass
NVNT	BLE 1M	2440	-24.12	-20	Pass
NVNT	BLE 1M	2480	-24.27	-20	Pass
NVNT	BLE 2M	2402	-23.80	-20	Pass
NVNT	BLE 2M	2440	-24.65	-20	Pass
NVNT	BLE 2M	2480	-23.55	-20	Pass



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	Spectrum Analyzer - Swept SA		NVNT BLE 1M 2	2440MHz Ref	11:17:01 AM	4ay 18, 2022
	er Freq 2.440000000 G			Avg Type: Log-Pwr Avg Hold: 1000/1000	TRACE TYPE DET	123456 M WMMW PNNNNN
10 dB	Ref Offset 7.06 dB /div Ref 30.00 dBm			М	kr1 2.440 248 1 1.57	0 GHz 2 dBm
Log - 20.0 -						
10.0						
0.00 -				1		
-10.0 -		and the second s				
-20.0 -	Norman and a second sec					n -
-30.0	and the second sec					
-40.0 -						
-50.0 -						
-60.0 -						
Cent	er 2.4400000 GHz				Span 1.5	00 MHz
#Res	BW 100 kHz	#VB\	W 300 kHz	Sw	eep 1.333 ms (10	001 pts)
				STATUS		
		Tx. Spurious NV	'NT BLE 1M 244	status 10MHz Emission		
LXI R	Spectrum Analyzer - Swept SA RF 50 Ω AC	SEP	NT BLE 1M 244	40MHz Emission	11:17:30 AM TRACE	4av 18, 2022
LXI R	Spectrum Analyzer - Swept SA	SEP		10MHz Emission	TRACE TYPE DET	1ay 16, 2022 1 2 3 4 5 6 PINNINN
LXI R Cent	Spectrum Analyzer - Swept SA	GHz PN0: Fast +++	NSE:PULSE	ALIGNAUTO Avg Type: Log-Pwr	TRACE TYPE DET Mkr1 2.438	1ay 16, 2022 1 2 3 4 5 6 PINNINN
LXI R	Spectrum Analyzer - Swept SA	GHz PN0: Fast +++	NSE:PULSE	ALIGNAUTO Avg Type: Log-Pwr	TRACE TYPE DET Mkr1 2.438	Aay 18, 2022 1 2 3 4 5 0 MWWWWWW P NNNAIN 8 GHz
U R Cent 10 dE 20.0	Spectrum Analyzer - Swept SA	GHz PN0: Fast +++	NSE:PULSE	ALIGNAUTO Avg Type: Log-Pwr	TRACE TYPE DET Mkr1 2.438	Aay 18, 2022 1 2 3 4 5 0 MWWWWWW P NNNAIN 8 GHz
₩ R Cent 10 dE 20.0 -10.0 -10.0 -20.0	Spectrum Analyzer - Swept SA	GHz PN0: Fast +++	NSE:PULSE	ALIGNAUTO Avg Type: Log-Pwr	Mkr1 2.438 0.83	Aay 18, 2022 1 2 3 4 5 6 MWWWWWW NNNNN 8 GHz 1 dBm -18 43 dbm
UX R Cent 10 dB 20.0 10.0 -10.0	Spectrum Analyzer - Swept SA	GHz PN0: Fast +++	NSE:PULSE	40MHz Emission Alignauto Avg Type: Log-Pwr Avg Hoid: 10/10	Mkr1 2.438 0.83	48y 18, 2022 1 2 3 4 5 6 P NNNNN 8 GHz 1 dBm
IX R Cent 10 dB 20:0 -10:0 -10:0 -20:0 -30:0	Spectrum Analyzer - Swept SA	GHz PN0: Fast IFGain:Low	NSE:PULSE	AUGNAUTO Avg Type: Log-Pwr Avg/Hold: 10/10	Mkr1 2.438 0.83	Aay 18, 2022 1 2 3 4 5 6 MWWWWWW NNNNNN 8 GHz 1 dBm
IV R Cent 10 dE 20:0 1 10:0 - -0:0:0 - -30:0 - -50:0 - -60:0 - Start -	Spectrum Analyzer - Swept SA RE SO 2 AC er Freq 13.265000000 Ref Offset 7.06 dB (div Ref 30.00 dBm 1 0 0 0 0 0 0 0 0 0 0 0 0 0	GHz PNO: Fast IFGain:Low	NSE:PULSE	ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	Mkr1 2.438 0.83	Aay 18, 2022 1 2 3 4 5 6 M WWWWWWW N NN N N 8 GHz 1 dBm -18 43 dbm -18 43 dbm 50 GHz
IX R Cent 10 dE 20:0 10:0 0:00 - -10:0 - -30:0 - -50:0 - -60:0 - Start #Res #Res MKR	Spectrum Analyzer - Swept SA RE 50 2 AC er Freq 13.265000000 Ref Offset 7.06 dB ref 30.00 dBm 1 4 4 4 4 4 4 4 4 4 4 4 4 4	GHz PNO: Fast IFGain:Low	NSE:PULSE	ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	Mkr1 2.438 0.83	Aay 18, 2022 1 2 3 4 5 6 M WWWWWWW N NN N N 8 GHz 1 dBm -18 43 dbm -18 43 dbm 50 GHz
IV R Cent 10 dB 200 100 000 -100 -200 -300 -400 -500 -600 Start #Res MRR 1 2	Spectrum Analyzer - Swept SA RF S0.0 AC er Freq 13.265000000 AC AC //div Ref Offset 7.06 dB AC AC AC //div Ref 30.00 dBm AC AC AC AC //div Ref Offset 7.06 dB AC A	GHz PNO: Fast IFGain:Low	NSE:PULSE	AUGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	TRACE TYPE Mkr1 2.438 0.83	18y 18, 2022 1 2 3 4 5 6 MININAN 8 GHz 1 dBm 50 GHz 50 GHz 001 pts
IV R Cent 10 dB 200 100 000 -100 -200 -300 -400 -500 -600 Start #Res MKR 1 2 3 4 6 6 7	Spectrum Analyzer - Swept SA RF S0.2 AC er Freq 13.265000000 AC AC Ref Offset 7.06 dB AC AC /div Ref 30.00 dBm AC AC 30 MHz AC AC AC BW 100 kHz X X X N 1 f 4.87 N 1 f 4.87 N 1 f 7.44	GHz PNO: Fast IFGain:Low	NSE:PULSE	AUGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	TRACE TYPE Mkr1 2.438 0.83	18y 18, 2022 1 2 3 4 5 6 MININAN 8 GHz 1 dBm 50 GHz 50 GHz 001 pts
IV R Cent 10 dE Log 20.0 10.0 -00.0 -00.0 -30.0 -40.0 -50.0 -60.0 Start #Res MKFI 1 2 3 4 5 6 7 8 9 10	Spectrum Analyzer - Swept SA RF S0.2 AC er Freq 13.265000000 AC AC Ref Offset 7.06 dB AC AC /div Ref 30.00 dBm AC AC 30 MHz AC AC AC BW 100 kHz X X X N 1 f 4.87 N 1 f 4.87 N 1 f 7.44	GHz PNO: Fast IFGain:Low	NSE:PULSE	AUGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	TRACE TYPE Mkr1 2.438 0.83	18y 18, 2022 1 2 3 4 5 6 MININAN 8 GHz 1 dBm 50 GHz 50 GHz 001 pts
Image: Wight of the second	Spectrum Analyzer - Swept SA RF S0.2 AC er Freq 13.265000000 AC AC Ref Offset 7.06 dB AC AC /div Ref 30.00 dBm AC AC 30 MHz AC AC AC BW 100 kHz X X X N 1 f 4.87 N 1 f 4.87 N 1 f 7.44	GHz PNO: Fast IFGain:Low	NSE:PULSE	AUGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	TRACE TYPE Mkr1 2.438 0.83	18y 18, 2022 1 2 3 4 5 6 MININAN 8 GHz 1 dBm 50 GHz 50 GHz 001 pts
IV R Cent 10 dE Log 20.0 10.0 -00.0 -00.0 -30.0 -40.0 -50.0 -60.0 Start #Res MKFI 1 2 3 4 5 6 7 8 9 10	Spectrum Analyzer - Swept SA RF S0.2 AC er Freq 13.265000000 AC AC Ref Offset 7.06 dB AC AC /div Ref 30.00 dBm AC AC 30 MHz AC AC AC BW 100 kHz X X X N 1 f 4.87 N 1 f 4.87 N 1 f 7.44	GHz PNO: Fast IFGain:Low	NSE:PULSE	AUGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	TRACE TYPE Mkr1 2.438 0.83	48y 18, 2022 1 2 3 4 5 6 2 3 4 5 6 NNNNN 8 GHz 1 dBm 50 GHz 50 GHz 001 pts)
Image: Center of the second secon	Spectrum Analyzer - Swept SA RF SQ & AC AC er Freq 13.265000000 AC AC Ref Offset 7.06 dB AC AC AC AC Adiv Ref 30.00 dBm AC AC AC AC AC Adiv Ref 30.00 dBm AC	GHz PNO: Fast IFGain:Low	NSE:PULSE	AUGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	TRACE TYPE Mkr1 2.438 0.83	48y 18, 2022 1 2 3 4 5 6 2 3 4 5 6 NNNNN 8 GHz 1 dBm 50 GHz 50 GHz 001 pts)
Image: Center of the second secon	Spectrum Analyzer - Swept SA RF SQ & AC AC er Freq 13.265000000 AC AC Ref Offset 7.06 dB AC AC AC AC Adiv Ref 30.00 dBm AC AC AC AC AC Adiv Ref 30.00 dBm AC	GHz PNO: Fast IFGain:Low	NSE:PULSE	AUGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	TRACE TYPE Mkr1 2.438 0.83	48y 18, 2022 1 2 3 4 5 6 2 3 4 5 6 NNNNN 8 GHz 1 dBm 50 GHz 50 GHz 001 pts)
Image: Center of the second secon	Spectrum Analyzer - Swept SA RF SQ & AC AC er Freq 13.265000000 AC AC Ref Offset 7.06 dB AC AC AC AC Adiv Ref 30.00 dBm AC AC AC AC AC Adiv Ref 30.00 dBm AC	GHz PNO: Fast IFGain:Low	NSE:PULSE	AUGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	TRACE TYPE Mkr1 2.438 0.83	48y 18, 2022 1 2 3 4 5 6 2 3 4 5 6 NNNNN 8 GHz 1 dBm 50 GHz 50 GHz 001 pts)

Center Freq 2.48000000		ALIGNAUTO Avg Type: Log-Pwr	11:19:05 AM May 18, 2022 TRACE 1 2 3 4 5 6
	PNO: Wide + Trig: Free Run IFGain:Low #Atten: 40 dB	Avg Hold: 1000/1000	
Ref Offset 7.03 dB 10 dB/div Ref 30.00 dBm Log		WIKI 1 2.4	80 245 55 GHz 2.651 dBm
20.0			
10.0		1	
0.00			
-10.0			
-20.0			
-30.0			
-40.0			
-60.0			
Center 2.4800000 GHz #Res BW 100 kHz	#VBW 300 kHz		Span 1.500 MHz 33 ms (10001 pts)
MSG	Tx. Spurious NVNT BLE 1M 24	80MHz Emission	
Agilent Spectrum Analyzer - Swept SA μ R RF 50 Ω AC Center Freq 13.26500000		ALIGNAUTO Avg Type: Log-Pwr	11:19:35 AM May 18, 2022
	PNO: Fast Trig: Free Run IFGain:Low #Atten: 40 dB	Avg Hold: 10/10	TRACE 123456 TYPE MWWWW DET PNNNNN
Ref Offset 7.03 dB 10 dB/div Ref 30.00 dBm Log		Mkı	1 2.481 1 GHz 2.145 dBm
20.0			
10.0			
10.0 0.00 -10.0 -20.0			-17.35 dBm
10.0 0.00 -10.0 -20.0 -30.0 -40.0			-17.35 dBm
			-17.35 dBm
10.0 0.00 -10.0 -20.0 -30.0 -40.0 -50.0	4 5 ********		-17.35 dBm
100 100 100 100 100 100 100 100	#VBW 300 kHz 4911 GHz 2.145 dBm		-17.35 dbm Stop 26.50 GHz 530 s (10001 pts)
100 000 -100 -2	#VBW 300 kHz	Sweep 2	-17.35 dbm Stop 26.50 GHz 530 s (10001 pts)
10.0 -10.0 -10.0 -20.0 -30.0 -40.0 -50	¥VBW 300 kHz 491 1 GHz 2.145 dBm 958 7 GHz -21 622 dBm 391 3 GHz -40 504 dBm	Sweep 2	-17.35 dbm Stop 26.50 GHz 530 s (10001 pts)
100 000 -100 -200 -200 -4	¥VBW 300 kHz 491 1 GHz 2.145 dBm 958 7 GHz -21 622 dBm 391 3 GHz -40 504 dBm	Sweep 2	 -17.35 dBm
100 100 100 100 100 100 100 100	¥VBW 300 kHz 491 1 GHz 2.145 dBm 958 7 GHz -21 622 dBm 391 3 GHz -40 504 dBm	Sweep 2	-17.35 dbm Stop 26.50 GHz 530 s (10001 pts)
100 1 110 1	¥VBW 300 kHz 491 1 GHz 2.145 dBm 958 7 GHz -21 622 dBm 391 3 GHz -40 504 dBm	Sweep 2 FUNCTION WIDTH FUNCTION	 -17.35 dBm
100 1 110 1	¥VBW 300 kHz 491 1 GHz 2.145 dBm 958 7 GHz -21 622 dBm 391 3 GHz -40 504 dBm	Sweep 2 FUNCTION WIDTH FUNCTION	 -17.35 dBm

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A	ilent Spectrum Analyzer - Swept SA	VNT BLE 2M 2402MHz Ref	Report No.: TCT22	0509E025
	enter Freq 2.40200000 GHz PNO: Wide IFGain:Low Ref Offset 6.98 dB PO PO PO PO PNO: Wide PNO: Wide PNO	:PULSE ALIGNAUTO Avg Type: Log-Pw Trig: Free Run Avg Hold: 1000/100 #Atten: 40 dB	11:33:04 AM May 18, 2022 TRACE 12 3 4 5 6 TYPE MWWWW DET MWWWW DET MWWWW TYPE MWWWWW DET MWWWWW TYPE MWWWWW DET MWWWWW TYPE MWWWWW DET MWWWWWW TYPE MWWWWW DET MWWWWWW DET MWWWWW DET MWWWWWW DET MWWWWW DET MWWWWWW DET MWWWWWWW DET MWWWWWWW DET MWWWWWWW DET MWWWWWWWWWWWWWWWWW DET MWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW DET MWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW TYPE MWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	
			Mur mar and a construction	
	enter 2.402000 GHz Res BW 100 kHz #VBW g Tx. Spurious NVN illent Spectrum Analyzer - Swept SA R RF S0 Q AC SENSE enter Freq 13.265000000 GHz	300 kHz St status T BLE 2M 2402MHz Emission PULSE ALIGNAUTO Trig: Free Run Avg Type: Log-Pw Avg Type: Log-Pw Avg Type: Log-Pw Avg Type: Log-Pw	Span 8.000 MHz weep 1.333 ms (10001 pts)	
(C)	Ref Offset 6.98 dB 0 dB/div Ref 30.00 dBm 0 d 0 d 0 d 0 d 0 d 0 d 0 d 0 d		Mkr1 2.401 7 GHz -1.063 dBm	
	0.0	FUNCTION FUNCTION WIDTH	Stop 26.50 GHz Sweep 2.530 s (10001 pts)	
		STATUS		
				19 of 68

	ent Spectrum Analyzer - Swept SA	Tx. Spurious NVNT BLE			
Ce	R RF 50Ω AC nter Freq 2.440000000 GH	Z PNO: Wide ↔ Trig: Free Ru IFGain:Low #Atten: 40 dB	ALIGNAUTO Avg Type: Log-Pwr un Avg Hold: 1000/1000 3	11:29:34 AM May 18, 2022 TRACE 1 2 3 4 5 6 TYPE M MANNAM DET P. N.N.N.N.N	
10	Ref Offset 7.06 dB dB/div Ref 30.00 dBm	IFGallit.LOW Price of a		2.440 144 0 GHz -0.338 dBm	
Lo <u>o</u> 20					
10.					
0.0	0		1 ~~~		
-10.	0		- Martin		
-20.					
-30.	"		hand	~~~~	
-40.	muhanyahamana			and manufacture and a second and	
-60.	0				
	nter 2.440000 GHz			Span 8.000 MHz	
#R		#VBW 300 kHz	STATUS	1.333 ms (10001 pts)	
	ent Spectrum Analyzer - Swept SA	x. Spurious NVNT BLE 2			
Ce	R RF 50Ω AC nter Freq 13.265000000 G	HZ PNO: Fast ↔ Trig: Free Ru IFGain:Low #Atten: 40 dt	ALIGNAUTO Avg Type: Log-Pwr In Avg Hold: 10/10 3	11:30:03 AM May 18, 2022 TRACE 1 2:3 4 5 6 TYPE M MAAAAAAA DET P. N.N.N.N.N	
	Ref Offset 7.06 dB				
10	dB/div Ref 30.00 dBm		ľ	/lkr1 2.441 4 GHz -0.342 dBm	
Lo; 20	0			/kr1 2.441 4 GHz -0.342 dBm	
Lo				/kr1 2.441 4 GHz -0.342 dBm	
Lo, 20 10 0.0				-0.342 dBm	
Lo, 20 10 -10 -20		4 5 Interesting to the stand of		-0.342 dBm	
Lo 20 -10 -20 -20 -20 -20 -30 -40 -50		 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓		-0.342 dBm	
Lo: 20 10 -10 -20 -30 -40 -50 -60 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	art 30 MHz es BW 100 kHz	#VBW 300 kHz	Sweep	-0.342 dBm	
Lo: 20 10 -10 -20 -30 -40 -50 -60 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	art 30 MHz es BW 100 KHz M 1 f 2.441 2 N 1 f 4.879 3 N 1 f 4.879 3	#VBW 300 kHz GHz -0.342 dBm 3 GHz -24.995 dBm 3 GHz -24.995 dBm	Sweep	-0.342 dBm 	
Lo 20 10 -10 -20 -30 -40 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	art 30 MHz es BW 100 kHz N 1 f 2.441 ℓ N 1 f 4.879 5 N 1 f 7.376 ℓ N 1 f 9.606 6	#VBW 300 kHz 4 GHz	Sweep	-0.342 dBm 	
Lo 20 10 -10 -20 -30 -40 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	art 30 MHz es BW 100 kHz N 1 f 2.441 / N 1 f 4.879 ≤ N 1 f 9.606 €	#VBW 300 kHz 4 GHz	Sweep	-0.342 dBm 	
Lo 20 10 -10 -20 -30 -40 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	art 30 MHz es BW 100 kHz N 1 f 2.4414 N 1 f 4.879 ≤ N 1 f 9.606 €	#VBW 300 kHz 4 GHz	Sweep	-0.342 dBm -0.344 dBm -2034 dBn -2034 dBn -2034 dBn -2035 dBr -2035 dBr -203	
Lo 20 10 -10 -20 -30 -40 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	art 30 MHz es BW 100 kHz N 1 f 2.4414 N 1 f 4.879 ≤ N 1 f 9.606 €	#VBW 300 kHz 4 GHz	IN FUNCTION WIDTH FU	-0.342 dBm	
Lo 20 10 -10 -10 -10 -10 -20 -30 -40 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	art 30 MHz es BW 100 kHz N 1 f 2.4414 N 1 f 4.879 ≤ N 1 f 9.606 €	#VBW 300 kHz 4 GHz	IN FUNCTION WIDTH FU	-0.342 dBm	
Lo 20 10 -10 -10 -10 -10 -20 -30 -40 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	art 30 MHz es BW 100 kHz N 1 f 2.4414 N 1 f 4.879 ≤ N 1 f 9.606 €	#VBW 300 kHz 4 GHz	IN FUNCTION WIDTH FU	-0.342 dBm	

Agile	t Spectrum Analyzer - Swept SA	Tx. Spurious NVNT BLE 2	M 2480MHz Ref	
Cer	RF 50 Ω AC ter Freq 2.480000000 GH	PNO: Wide 🛶 Irig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 1000/1000	11:25:24 AM May 18, 2022 TRACE 2:3:4:5:6 TYPE WWWWWW DET P: N N N N N
10 d	Ref Offset 7.03 dB 3/div Ref 30.00 dBm	IFGain:Low #Atten: 40 dB	Mkr1 2	.480 137 6 GHz 0.505 dBm
Log 20.0				
10.0				
0.00			~	
-10.0				
-20.0		\sim		
-30.0	- Contraction of the contraction			
-40.0 -50.0	and have been and the			Marken Mary Mary Mary
-60.0				
Cen	ter 2.480000 GHz			Span 8.000 MHz
	s BW 100 kHz	#VBW 300 kHz	Sweep 1.	333 ms (10001 pts)
Agile	t Spectrum Analyzer - Swept SA	. Spurious NVNT BLE 2M	2480MHz Emission	
Cer	RF 50 Ω AC ter Freq 13.265000000 GH	PNO: Fast +++ Trig: Free Run	ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 10/10	11:25:54 AM May 18, 2022 TRACE 2 3 4 5 6 TYPE WWWWWW DET P N N N N N
	Ref Offset 7.03 dB	IFGain:Low #Atten: 40 dB	MI	(r1 2.481 1 GHz -1.324 dBm
10 d Log 20.0	3/div Ref 30.00 dBm			
10.0				
-10.0	∳ ³			-19.50 dBm
-30.0 -40.0			and the second	
-50.0 -60.0				
	t 30 MHz s BW 100 kHz	#VBW 300 kHz		Stop 26.50 GHz 2.530 s (10001 pts)
<mark>1</mark> 2	MODE TRC SCL X N 1 f 2.481 1 N 1 f 4.958 7 N 1 f 4.958 7	Y FUNCTION GHz -1.324 dBm GHz -23.043 dBm	FUNCTION WIDTH FUNCT	
3 4 5 6	N 1 f 4.958 7 N 1 f 7.542 2 N 1 f 9.858 3	GHz -40.987 dBm		
7 8 9 10				
11 <		Ш	STATUS	
mod	2	NO NO		No.

