TEST REPORT On behalf of

Savant Technologies LLC, dba GE Lighting, a Savant company

Product Name: CYNC Direct Connected Outdoor Premium Light strip (32ft.)

Model No.: CLEDSTR36LCDODP

FCC ID: PUU-STR-SCODPL

Prepared For: Savant Technologies LLC, dba GE Lighting, a Savant company 1975 Noble Road, Cleveland, OH 44112

Prepared By: Audix Technology (Shanghai) Co., Ltd. 3F and 4F, 34Bldg, 680 Guiping Rd., Caohejing Hi-Tech Park, Shanghai 200233, China

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File No.:C1D2202006Report No.:ACI-F22080Date of Test:2021.12.10-2022.06.30Date of Report:2022.07.04

The statement is based on a single evaluation of one sample of the above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab logo. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

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TEST REPORT

Applicant	:	Savant Technologies LLC, dba GE Lighting, a Savant company			
EUT Description :		CYNC Direct Connected Outdoor Premium Light strip (32ft.)			
		(A) Model No.	:	CLEDSTR36LCDODP	
		(B) Power Supply	:	120V AC 60Hz	
		(C) Test Voltage	:	120V/60Hz	

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C AND ANSI C63.10-2013

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report also shows that the EUT (M/N: Refer to Sec2.1), which was tested is technically compliance with the FCC limits.

This report applies to above tested Sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

The test results for EUT's WIFI function are contained in No.ACI-F22081 report.

Date of Test :	2021.12.10-2022.06.30	Date of Report :	2022.07.04			
Producer :	Manchy Wang					
	MINDY WANG / Assistant					
Reviewer :	Byron Vie					
Keviewei .	BYRON WU/ Deputy Assistant Manager	 ſ				
AUDIX For	and on behalf of					
Audix Technology (Sh	anghai) Co., Ltd.					
	Right					
Signatory:						
Authorized Signature	BYRON KWO/Assistant General Manage	r				

1 SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Description / Test Item Test Standard		Results	Meets Limit
	EMISSION		
	FCC RULES AND REGULATIONS PART 15		
Conducted Emission	SUBPART C	Pass	15.207
	AND ANSI C63.10:2013		
	FCC RULES AND REGULATIONS PART 15		15.209(a)
Radiated Emission	SUBPART C	Pass	15.205(a)(c)
	AND ANSI C63.10:2013		13.203(a)(c)
6 dB Bandwidth	FCC RULES AND REGULATIONS PART 15		
Measurement	SUBPART C	Pass	15.247(a)(2)
Ivieasurement	AND ANSI C63.10:2013		
Maximum Peak Output	FCC RULES AND REGULATIONS PART 15		
Power Measurement	SUBPART C	Pass	15.247(b)(3)
rower measurement	AND ANSI C63.10:2013		
Emission Limitations	FCC RULES AND REGULATIONS PART 15		
Measurement	SUBPART C	Pass	15.247(d)
Ivieasurement	AND ANSI C63.10:2013		
Band Edge	FCC RULES AND REGULATIONS PART 15		
Measurement	SUBPART C	Pass	15.247(d)
Ivieasurement	AND ANSI C63.10:2013		
Dower Speetral Density	FCC RULES AND REGULATIONS PART 15		
Power Spectral Density Measurement	SUBPART C	Pass	15.247(e)
Wieasurement	AND ANSI C63.10:2013		
N/A is an abbreviation for Not Applicable.			

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description	:	CYNC Direct Connected Outdoor Premium Light strip (32ft.)			
Type of EUT	:	\square Production \square Pre-product \square Pro-type			
Model Number	:	CLEDSTR36LCDODP			
Radio Tech	:	BLE 4.2; IEEE 802.11 b/g/n.			
Note:	:	802.11n-HT40 not support.			
Channel Freq.	:	BLE: 2402MHz-2480MHz; 802.11b/g/n: 2412MHz-2462MHz.			
Modulation	:	BLE: GFSK; 802.11b: DSSS (CCK, DQPSK, DBPSK); 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK).			
Antenna Info.	:	Antenna Type: PCB Antenna Antenna Gain: 1.5 dBi The Antenna was a permanently attached antenna that is comply with 15.203 requirement.			
Test Mode	:	The EUT was set at continuous TX during all the test in the report.			
Applicant	:	Savant Technologies LLC, dba GE Lighting, a Savant company 1975 Noble Road, Cleveland, OH 44112			
Manufacturer	:	same as Applicant			
Factory	:	VIETNAM CHANGHONG ELECTRIC COMPANY LIMITED Workshop W4 (leased by WWWHP), Land plot 4.2B, Dinh Vu Industrial Zone, Dong Hai 2 Ward, Hai An District, Haiphong City, VN.			

2.2 EUT Specifications Assessed in Current Report

Mode	Modulation	Data Rate(Mbps)
BLE	GFSK	1

Channel List				
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	
00	2402	20	2442	
01	2404	21	2444	
02	2406	22	2446	
		•••		
17	2436	37	2476	
18	2438	38	2478	
19	2440	39	2480	

2.3 Test Information

The test software "RTLBTAPP.exe" was used to control EUT work in TX mode, Power Setting and select test channel.

Modulation	data rate (Mbps)	Power Setting	Test C	hannel	Frequency (MHz)
		Default	Low:	00	2402
BLE	1	Default	Middle:	20	2442
		Default	High:	39	2480

2.4 Sample Description

Test Item	Model Number	Sample Number	Date of receipted
Conducted Emission	CLEDSTR36LCDODP	E2202109-01/03	2022.02.09
Radiated Emission	CLEDSTR36LCDODP	E211118441a-01/02	2021.12.08
Conducted RF Test	CLEDSTR36LCDODP	E211118441a-02/02	2021.12.08

2.5 Supported equipment

Brand	:	Acer
Product Name:	:	Notebook PC
Model Name	:	TravelMate P238 series
Model Number	:	N15W8

2.6 Description of Test Facility

Name of Firm	: Audix Technology (Shanghai) Co., Ltd.
Site Location	: 3F and 4F, 34Bldg, 680 Guiping Rd., Caohejing Hi-Tech Park, Shanghai 200233, China.
Accredited by NVLAP, Lab Code	: 200371-0
FCC Designation Number	: CN5027
Test Firm Registration Number	: 954668

3 CONDUCTED EMISSION TEST

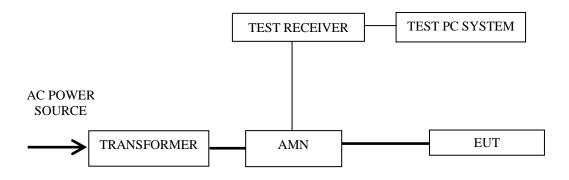
3.1 Test Equipment

The following test equipments are used during the conducted emission test in a shielded room:

Item	Туре	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Test Receiver	R&S	ESCI	100841	2021.02.11	1 Year
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	2022.01.06	1 Year
3.	Software	Audix	e3	6.2009-1-15		

3.2 Block Diagram of Test Setup

3.2.1 Conducted Disturbance Test Setup



— : Signal Line

— : Power Line

Frequency Range	Limits $dB(\mu V)$			
(MHz)	Quasi-peak	Average		
0.15 ~ 0.5	66~56	56~46		
0.5 ~ 5	56	46		
5 ~ 30	60	50		
NOTE 1 – The lower NOTE 2 – The limit d	60 limit shall apply at the transit ecreases linearly with the log .15 MHz~0.50 MHz	ion frequencies.		

3.3 Conducted Emission Limits (§15.207)

3.4 Test Configuration

The EUT (listed in Sec.2.1) was installed as shown on Sec.3.2 to meet FCC requirement and operating in a manner which tends to maximize its emission level in a normal application.

3.5 Operating Condition of EUT

3.5.1 Setup the EUT as shown in Sec. 3.2.

- 3.5.2 Turn on the power of all equipment.
- 3.5.3 Turn the EUT on the test mode, and then test.

3.6 Test Procedures

The EUT was placed upon a non-metallic table, which is 0.8 m above the horizontal conducting ground plane and 0.4 m from a vertical reference plane. The EUT was connected to the power mains through an Artificial Mains Network (AMN) to provide a 50 Ω coupling impedance for the measuring equipment. Both sides of AC line (Line & Neutral) were checked to find out the maximum conducted emission according to FCC Part 15 Subpart C and ANSI C63.10: 2013 requirements during conducted disturbance test.

The I.F. bandwidth of Test Receiver ESCI was set at 9 kHz.

The frequency range from 150 kHz to 30 MHz was checked.

Test with a dummy load in lieu of the antenna to determine compliance with Section 15.207 limits within the transmitter's fundamental emission band. (According to KDB 174176 D01 Line Conducted FAQ)

The test modes were done on conducted disturbance test and all the test results are listed in Sec. 3.7

3.7 Test Results

< PASS >

The frequency and amplitude of the highest conducted emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

Worst case emission:

No.	Operation	Modulation	Channel	Frequency (MHz)	Data Page
1.	Transmitting				P12

NOTE 1 – Level = Read Level + AMN Factor + Cable Loss

NOTE 2 – "QP" means "Quasi-Peak" values

NOTE 3 – The emission levels which not reported are too low against the official limit.

Worst case emission

EUT	:	CYNC Direct Connected Outdoor Premium Light strip (32ft.)	Temperature :	22°C
Model No.	:	CLEDSTR36LCDODP	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2022.06.30

Polarization	Frequency (MHz)	Meter Reading dB (µV)	AMN Factor (dB)	Cable Loss (dB)	Emission Level dB (µV)	Limits dB (µV)	Margin (dB)	Remark
	0.15	46.47	0.16	0.03	46.66	66	19.34	QP
	0.15	26.83	0.16	0.03	27.02	56	28.98	Average
	0.1965	51.1	0.17	0.03	51.3	63.76	12.46	QP
	0.1965	36.1	0.17	0.03	36.3	53.76	17.46	Average
	0.3133	39.61	0.19	0.03	39.83	59.88	20.05	QP
Line	0.3133	24.94	0.19	0.03	25.16	49.88	24.72	Average
Line	0.4994	34.43	0.2	0.04	34.67	56.01	21.34	QP
	0.4994	24	0.2	0.04	24.24	46.01	21.77	Average
	1.236	32.59	0.23	0.07	32.89	56	23.11	QP
	1.236	23.21	0.23	0.07	23.51	46	22.49	Average
	6.805	36.62	0.31	0.16	37.09	60	22.91	QP
	6.805	30.7	0.31	0.16	31.17	50	18.83	Average
	0.15	47.94	0.12	0.03	48.09	66	17.91	QP
	0.15	27.79	0.12	0.03	27.94	56	28.06	Average
	0.1887	53.6	0.12	0.03	53.75	64.09	10.34	QP
	0.1887	37.5	0.12	0.03	37.65	54.09	16.44	Average
	0.3133	41.1	0.16	0.03	41.29	59.88	18.59	QP
Neutral	0.3133	28.1	0.16	0.03	28.29	49.88	21.59	Average
neutrai	0.6406	32.83	0.22	0.05	33.1	56	22.9	QP
	0.6406	23.12	0.22	0.05	23.39	46	22.61	Average
	3.72	33.23	0.42	0.12	33.77	56	22.23	QP
	3.72	27.07	0.42	0.12	27.61	46	18.39	Average
	6.805	37.29	0.48	0.16	37.93	60	22.07	QP
	6.805	31.7	0.48	0.16	32.34	50	17.66	Average

4 RADIATED EMISSION TEST

4.1 Test Equipment

The following test equipment are used during the radiated emission test in a semi-anechoic chamber:

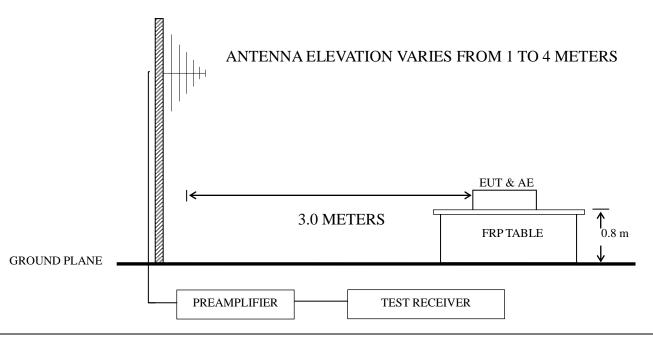
Item	Туре	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Preamplifier	Agilent	8447D	2944A10548	2021.03.08	1 Year
2.	Preamplifier	HP	8449B	3008A00864	2021.03.08	1 Year
3.	Spectrum Analyzer	Agilent	N9010A	MY52221182	2021.09.16	1 Year
4.	Test Receiver	R&S	ESCI	101303	2021.03.08	1 Year
5.	Bilog Antenna+6dB Attenuator	Schwarz beck	VULB 9168+EMCI- N-6-06	707+AT-N0637	2021.03.30	1 Year
6.	Horn Antenna	EMCO	3115	9607-4878	2021.07.27	1 Year
7.	Horn Antenna	EMCO	3116	00062643	2021.10.10	1 Year
8.	Cavity Band Rejection Filter	Microwave	WT-A3882-R 10	WT200312-1-1	2021.09.15	1 Year
9.	Software	Audix	e3	SET00200 9912M295-2		

4.2 Block Diagram of Test Setup

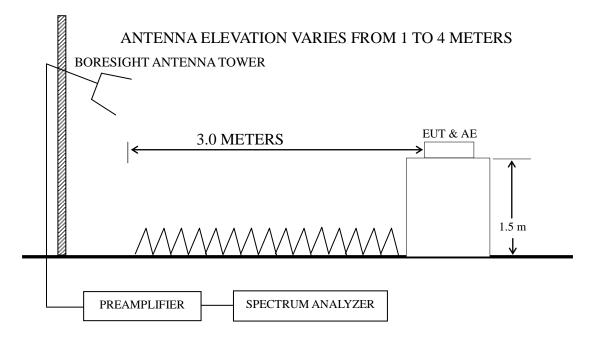
4.2.1 EUT & Peripherals



4.2.2 Below 1GHz



4.2.3 Above 1GHz



4.3 Radiated Emission Limit (§15.209)

Frequency	Distance	Field strength limits ($\mu V/m$)		
(MHz)	(m)	(µV/m)	dB(µV/m)	
30 ~ 88	3	100	40.0	
88 ~ 216	3	150	43.5	
216 ~ 960	3	200	46.0	
Above 960	3	500	54.0	
NOTE 2 - The NOTE 3 - Dis ins sys NOTE 4 - The equ NOTE 5 - Ab	e tighter limit appli stance refers to the trument antenna an tem. e limits shown are al to 1GHz and Ay	$500 54.0$ $(\mu V/m) = 20 \log \text{ Emission Level } (\mu V/m)$ blies at the band edges. The distance in meters between the measuring and the closed point of any part of the device or the based on Quasi-peak value detector below or Average value detector above 1GHz. mit on peak emission is 20 dB above the maximum		

4.4 Test Configuration

The EUT (listed in Sec.2.1) and the simulators (listed in Sec.2.2) were installed as shown on Sec.4.2 to meet FCC requirements and operating in a manner that tends to maximize its emission level in a normal application.

4.5 Operating Condition of EUT

- 4.5.1 Setup the EUT as shown in Sec. 4.2.
- 4.5.2 Turn on the power of all equipment.
- 4.5.3 Turn the EUT on the test mode, and then test.
- 4.6 Test Procedures

Radiated emission test applies to harmonics/spurs that fall in the restricted bands listed in Section 15.205. The maximum permitted average field strength is listed in Section 15.209. A pre-amp is necessary for this measurement. For measurement above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep: Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation.

The EUT was placed on a turntable. Below 1 GHz, the table height is 80 cm above the reference ground plane. Above 1 GHz, the table height is 1.5 m. The turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (Calibrated Bilog Antenna) or Horn antenna was used as receiving antenna. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to ANSI C63.10: 2013 requirements during radiated emission test.

The bandwidth of Test Receiver R&S ESCI was set at 120 kHz from 30MHz to 1000MHz.

The bandwidth of Agilent N9010A was set at 1MHz for above 1GHz.

The frequency range from 30 MHz to 25 GHz (Up to 10th harmonics from fundamental frequency) was checked.

All the test results are listed in Sec.4.7.

4.7 Test Results

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

[No.	Operation	Modulation	Channel	Frequency	Data Page
ľ	1.	-		00	2402 MHz	P17
ĺ	2.	Transmitting	BLE	20	2442 MHz	P17
	3.			39	2480 MHz	P18

Frequency range: below 1GHz (Worst case emission)

Frequency range: above 1GHz

No.	Operation	Modulation	Channel	Frequency	Data Page
1.			00	2402 MHz	P19
2.	Transmitting	BLE	20	2442 MHz	P19
3.			39	2480 MHz	P20

Band-Edge:

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	DIE	00	2402 MHz	P21
2.	Transmitting	BLE	39	2480 MHz	P21

Restricted bands:

No.	Operation	Modulation	Channel	Frequency	Data Page
1.	Transmitting	DIE	00	2402 MHz	P22
2.	Transmitting	BLE	39	2480 MHz	P22

NOTE 1 – Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

- NOTE 2 "QP" means "Quasi-Peak" values
- NOTE $3 0^{\circ}$ was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.
- NOTE 4 The emission levels which not reported are too low against the official limit.
- NOTE 5 The emission levels recorded below is data of EUT configured in Standing direction, for Standing direction was the maximum emission direction during the test. The data of Side & Lying direction are too low against the official limit to be reported.
- NOTE 6 All reading are Quasi-Peak values below or equal to 1GHz, Peak and Average values above 1GHz. For above 1GHz test, if the peak measured value complies with the

average limit, it is unnecessary to perform an average measurement.

NOTE 7 – The frequency range 2310-2390MHz & 2483.5-2500MHz were tested for Restricted bands.

Worst case emission < 1GHz

EUT	:	CYNC Direct Connected Outdoor Premium Light strip (32ft.)	Temperature :	22°C
Model No.	:	CLEDSTR36LCDODP	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2022.02.14

BLE CH2402MHz

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	50.409	22.79	19.54	0.76	28.2	14.89	40	25.11	QP
	65.803	22.71	18.5	0.88	28.14	13.95	40	26.05	QP
Horizontal	141.83	22.91	18.6	1.28	27.82	14.97	43.5	28.53	QP
Horizontai	239.99	30.21	17.2	1.65	27.2	21.86	46	24.14	QP
	431.03	23.7	22.05	2.24	27.72	20.27	46	25.73	QP
	810.27	22.21	28.1	3.09	26.85	26.55	46	19.45	QP
	43.506	22.38	19.15	0.7	28.23	14	40	26	QP
	62.431	22.94	19.06	0.86	28.15	14.71	40	25.29	QP
Vertical	124.57	22.71	17.15	1.21	27.88	13.19	43.5	30.31	QP
vertical	230.91	26.23	15.85	1.63	27.24	16.47	46	29.53	QP
	482.22	22.99	22.93	2.43	27.86	20.49	46	25.51	QP
	689.57	24.05	26.3	2.84	27.45	25.74	46	20.26	QP

BLE CH2442MHz

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	44.587	22.57	19.26	0.71	28.22	14.32	40	25.68	QP
	62.431	22.53	19.06	0.86	28.15	14.3	40	25.7	QP
Horizontal	167.82	23.3	18.8	1.39	27.67	15.82	43.5	27.68	QP
norizoiitai	239.15	29.8	17.1	1.65	27.21	21.34	46	24.66	QP
	312.18	25.79	19.32	1.94	27.08	19.97	46	26.03	QP
	549.02	23.85	23.97	2.52	27.9	22.44	46	23.56	QP
	43.506	23.58	19.15	0.7	28.23	15.2	40	24.8	QP
	60.069	23.12	19.2	0.84	28.16	15	40	25	QP
Vertical	123.7	22.86	17.1	1.21	27.88	13.29	43.5	30.21	QP
vertical	236.65	25.22	16.8	1.64	27.22	16.44	46	29.56	QP
	382.59	22.43	20.9	2.12	27.5	17.95	46	28.05	QP
	760.7	22.21	27.8	2.94	27.16	25.79	46	20.21	QP

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	38.752	23.72	18.7	0.66	28.25	14.83	40	25.17	QP
	54.261	23.43	19.62	0.79	28.18	15.66	40	24.34	QP
Horizontal	145.86	23.2	18.9	1.29	27.81	15.58	43.5	27.92	QP
Horizontai	237.48	30.72	16.9	1.65	27.21	22.06	46	23.94	QP
	396.24	24.29	21.1	2.15	27.58	19.96	46	26.04	QP
	691.99	22.95	26.3	2.84	27.45	24.64	46	21.36	QP
	43.506	24.5	19.15	0.7	28.23	16.12	40	23.88	QP
	61.132	24.16	19.1	0.84	28.16	15.94	40	24.06	QP
Vertical	139.36	23.91	18.45	1.27	27.83	15.8	43.5	27.7	QP
ventical	277.09	25.32	18.38	1.8	27.1	18.4	46	27.6	QP
	444.85	24.33	22.6	2.28	27.78	21.43	46	24.57	QP
	760.7	23.08	27.8	2.94	27.16	26.66	46	19.34	QP

BLE CH2480MHz

Radiated Emission > 1GHz

EUT	JT : Outdoor Premium Light strip (32ft.)		Temperature :	22°C
Model No.	:	CLEDSTR36LCDODP	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2022.02.14

BLE CH2402MHz

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	2656	43.66	29.03	5.61	35.6	42.7	74	31.3	Peak
	3673	42.65	31.73	6.49	35.09	45.78	74	28.22	Peak
Horizontal	4582	40.08	32.3	7.36	34.82	44.92	74	29.08	Peak
Horizontai	5716	38.47	34.19	8.2	34.7	46.16	74	27.84	Peak
	6859	39.6	35.26	9.18	34.79	49.25	74	24.75	Peak
	8371	39.04	38.39	10.4	34.76	53.07	74	20.93	Peak
	2863	42.4	29.69	5.78	35.41	42.46	74	31.54	Peak
	4024	40.57	32.47	6.81	34.99	44.86	74	29.14	Peak
Vertical	5077	38.83	34.02	7.78	34.7	45.93	74	28.07	Peak
vertical	6454	38.76	34.39	8.76	34.75	47.16	74	26.84	Peak
	7714	39.37	37.21	10.01	34.8	51.79	74	22.21	Peak
	8830	38.47	38.32	10.64	34.71	52.72	74	21.28	Peak

BLE CH2442MHz

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	2764	43.74	29.39	5.71	35.5	43.34	74	30.66	Peak
	4042	41.06	32.46	6.81	34.99	45.34	74	28.66	Peak
Horizontal	4996	39.82	34	7.73	34.7	46.85	74	27.15	Peak
Horizontai	5806	38.76	34.23	8.25	34.7	46.54	74	27.46	Peak
	7228	40.28	36.15	9.47	34.8	51.1	74	22.9	Peak
	8389	39.2	38.43	10.4	34.76	53.27	74	20.73	Peak
	2773	43.46	29.41	5.71	35.5	43.08	74	30.92	Peak
	3898	41.44	32.27	6.71	35.03	45.39	74	28.61	Peak
Vertical	5113	40.01	34.02	7.78	34.7	47.11	74	26.89	Peak
vertical	6355	39.09	34.37	8.68	34.74	47.4	74	26.6	Peak
	7687	40.01	37.17	9.9	34.8	52.28	74	21.72	Peak
	8785	38.83	38.36	10.64	34.72	53.11	74	20.89	Peak

BLE CH2480MHz

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	2782	43.55	29.44	5.71	35.49	43.21	74	30.79	Peak
	4096	41.22	32.38	6.87	34.97	45.5	74	28.5	Peak
Horizontal	5050	39.9	34.01	7.73	34.7	46.94	74	27.06	Peak
Horizontai	6418	38.96	34.38	8.76	34.74	47.36	74	26.64	Peak
	7624	40.21	37.05	9.9	34.8	52.36	74	21.64	Peak
	8893	38.61	38.28	10.64	34.71	52.82	74	21.18	Peak
	2773	42.4	29.41	5.71	35.5	42.02	74	31.98	Peak
	3655	41.88	31.68	6.49	35.1	44.95	74	29.05	Peak
Vertical	4978	39.37	33.89	7.67	34.7	46.23	74	27.77	Peak
vertical	6580	38.84	34.59	8.93	34.76	47.6	74	26.4	Peak
	7768	39.68	37.29	10.01	34.8	52.18	74	21.82	Peak
	8866	38.4	38.3	10.64	34.71	52.63	74	21.37	Peak

Band-Edge:

EUT	:	CYNC Direct Connected Outdoor Premium Light strip (32ft.)	Temperature :	22°C
Model No.	:	CLEDSTR36LCDODP	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2021.12.10

BLE CH2402MHz

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
Horizontal	2390	49.43	28.21	5.36	35.86	47.14	74	26.86	Peak
Horizoiltai	2390	34.23	28.21	5.36	35.86	31.94	54	22.06	Average
Vertical	2390	44.87	28.21	5.36	35.86	42.58	74	31.42	Peak
vertical	2390	33.23	28.21	5.36	35.86	30.94	54	23.06	Average

BLE CH2480MHz

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
Horizontal	2483.5	46.25	28.46	5.43	35.76	44.38	74	29.62	Peak
Horizoiltai	2483.5	34.21	28.46	5.43	35.76	32.34	54	21.66	Average
Vertical	2483.5	43.39	28.46	5.43	35.76	41.52	74	32.48	Peak
vertical	2483.5	30.24	28.46	5.43	35.76	28.37	54	25.63	Average

Emissions in restricted frequency bands:

EUT	:	CYNC Direct Connected Outdoor Premium Light strip (32ft.)	Temperature :	22°C
Model No.	:	CLEDSTR36LCDODP	Humidity :	51%RH
Test Mode	:	Transmitting	Date of Test :	2021.12.10

BLE CH2402MHz

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	2321.8	45.36	28.03	5.29	35.93	42.75	74	31.25	Peak
	2321.8	38.43	28.03	5.29	35.93	35.82	54	18.18	Average
Horizontal	2368.5	48.08	28.15	5.32	35.89	45.66	74	28.34	Peak
nonzontai	2368.5	38.22	28.15	5.32	35.89	35.8	54	18.2	Average
	2377.5	47.88	28.19	5.32	35.88	45.51	74	28.49	Peak
	2377.5	42.6	28.19	5.32	35.88	40.23	54	13.77	Average
	2340.4	43.42	28.08	5.29	35.92	40.87	74	33.13	Peak
	2340.4	35.25	28.08	5.29	35.92	32.7	54	21.3	Average
Vertical	2370.1	44.43	28.17	5.32	35.89	42.03	74	31.97	Peak
vertical	2370.1	35.45	28.17	5.32	35.89	33.05	54	20.95	Average
	2389.2	47.86	28.21	5.36	35.86	45.57	74	28.43	Peak
	2389.2	33.68	28.21	5.36	35.86	31.39	54	22.61	Average

BLE CH2480MHz

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)	Remark
	2488.1	43.99	28.46	5.47	35.76	42.16	74	31.84	Peak
	2488.1	34.59	28.46	5.47	35.76	32.76	54	21.24	Average
Horizontal	2493.5	44.45	28.48	5.47	35.76	42.64	74	31.36	Peak
Horizontai	2493.5	34.35	28.48	5.47	35.76	32.54	54	21.46	Average
	2498.5	44.54	28.5	5.47	35.76	42.75	74	31.25	Peak
	2498.5	33.25	28.5	5.47	35.76	31.46	54	22.54	Average
	2487.2	44.41	28.46	5.47	35.76	42.58	74	31.42	Peak
	2487.2	31.44	28.46	5.47	35.76	29.61	54	24.39	Average
Vertical	2492.8	44.18	28.48	5.47	35.76	42.37	74	31.63	Peak
vertical	2492.8	31.42	28.48	5.47	35.76	29.61	54	24.39	Average
	2496.9	43.42	28.5	5.47	35.76	41.63	74	32.37	Peak
	2496.9	32.64	28.5	5.47	35.76	30.85	54	23.15	Average

5 6 dB BANDWIDTH MEASUREMENT

5.1 Test Equipment

The following test equipment was used during the Emission Bandwidth measurement:

Item	Туре	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9010A	MY52221182	2021.09.15	1 Year
2.	Coaxial Cable	WOKEN	SFL402-105F LEX	F02-150819-0 45	2021.03.08	1 Year
3.	10 dB Attenuator	Mini-Circuits	VAT-10W2+	001	2021.08.06	1 Year

5.2 Block Diagram of Test Setup

Spectrum Analyzer	EUT		Notebook PC	
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5.3 Specification Limits (§15.247(a)(2))

The minimum 6 dB bandwidth shall be at least 500 kHz.

5.4 Operating Condition of EUT

The switch ON/OFF was used to enable the EUT to change the channel one by one.

5.5 Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with settings: RBW = 100kHz, VBW $\ge 3 \times$ RBW.

The 6 dB bandwidth is defined as the total spectrum the power of which is lower than peak power minus 6 dB .

The test procedure is defined in ANSI C63.10-2013 (the 11.8.2 Measurement Procedure "Option 2" was used).

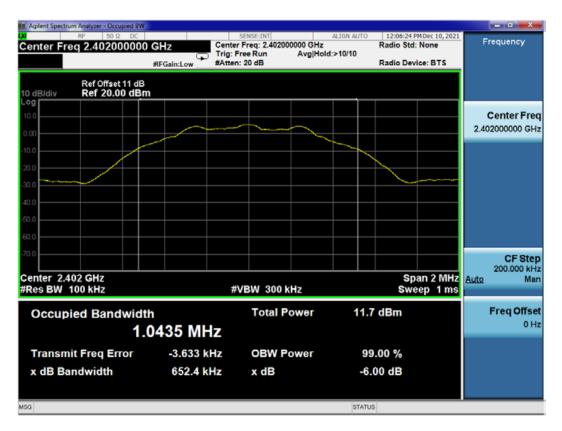
5.6 Test Results **PASSED.**

All the test results are attached in next pages.

(Test Date: 2021.12.10 Temperature: 23°C Humidity: 51 %)

Modulation	Channel	Frequency (MHz)	6dB Bandwidth (kHz)	Limit
	00	2402	652.4	500 kHz
BLE	20	2442	695.9	500 kHz
	39	2480	649.8	500 kHz

BLE CH2402MHz



BLE CH2442MHz

Agilent Spectrum Analyzer - Occupied I	BW					- 0 -X-
Center Freq 2.4420000	00 GHz	SENSE:INT enter Freq: 2.4420000 rig: Free Run Atten: 20 dB	ALIGN AUTO 000 GHz Avg Hold:>10/10	Radio Std: No Radio Device:	ne	Frequency
Ref Offset 11 o 10 dB/div Ref 20.00 dl Log						
10.00					2	Center Freq 442000000 GHz
-10.0						
-30.0						
-50.0 -60.0						
Center 2.442 GHz						CF Step 200.000 kHz
#Res BW 100 kHz		#VBW 300 kH	z	Sweep	2 MHz Aut 1 ms	o Man
Occupied Bandwi		Total Po	wer 11.	5 dBm		Freq Offset 0 Hz
	1.0511 MHz		-	/		
Transmit Freq Error	-10.364 kHz			9.00 %		
x dB Bandwidth	695.9 kHz	x dB	-6	.00 dB		
MSG			STATU	JS		

BLE CH2480MHz

Agilent Spectrur	m Analyzer - Occupied BW					- 0 - X-
Center Fre	RF 50 Ω DC 2q 2.480000000	Trig:	sense:INT er Freq: 2.480000000 GH Free Run Avg H n: 20 dB	ALIGN AUTO	12:11:55 PM Dec 10, 2021 Radio Std: None Radio Device: BTS	Frequency
10 dB/div	Ref Offset 11 dB Ref 20.00 dBm					
10.0 0.00			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			Center Freq 2.48000000 GHz
-10.0 -20.0	- market					
-30.0						
-50.0 -60.0 -70.0						
Center 2.44 #Res BW 1		#	∜BW 300 kHz		Span 2 MHz Sweep 1 ms	CF Step 200.000 kHz <u>Auto</u> Man
Occupi	ied Bandwidth) 0455 MHz	Total Power	11.4	dBm	Freq Offset 0 Hz
Transmi	it Freq Error	-7.227 kHz	OBW Power	99	.00 %	
x dB Ba		649.8 kHz	x dB		00 dB	
MSG				STATUS	•	

6 MAXIMUM PEAK OUTPUT POWER MEASUREMENT

6.1 Test Equipment

The following test equipment was used during the maximum peak output power measurement:

Item	Туре	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9010A	MY52221182	2021.09.15	1 Year
2.	Coaxial Cable	WOKEN	SFL402-105F LEX	F02-150819-0 45	2021.03.08	1 Year
3.	10 dB Attenuator	Mini-Circuits	VAT-10W2+	001	2021.08.06	1 Year

6.2 Block Diagram of Test Setup

The Same as Section. 5.2.

6.3 Specification Limits ((§15.247(b)(3))

The Limits of maximum Peak Output Power for digital modulation in 2400-2483.5 MHz is: 1 Watt. (30 dBm)

6.4 Operating Condition of EUT

The switch ON/OFF was used to enable the EUT to change the channel one by one.

6.5 Test Procedure

The transmitter output was connected to the spectrum analyzer.

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

- a) $RBW \ge DTS$ Bandwidth.
- b) VBW \geq [3 × RBW].
- c) Span $\geq [3 \times RBW]$.
- d) Sweep time = auto.
- 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.

The test procedure is defined in ANSI C63.10-2013 (11.9.1.1 Measurement Procedure " RBW \geq DTS bandwidth" was used).

6.6 Test Results

PASSED.

All the test results are listed below.

(Test Date: 2021.12.10 Temperature: 23°C Humidity: 51 %)

Modulation	Channel	Frequency (MHz)	Peak Output Power (dBm)	Limit
	00	2402	5.448	30 dBm
BLE	20	2442	5.181	30 dBm
	39	2480	5.283	30 dBm

BLE CH2402MHz

Agilent Spectrum Analyzer - Occupied E				- 0 <mark>- X</mark>
RF 50 Ω DC arker 1 2.4018260000		Avg Type: Log-Pwr un Avg Hold:>100/100	12:08:36 PM Dec 10, 2021 TRACE 1 2 3 4 5 6 TYPE M	Peak Search
Ref Offset 11 dB		Mkr1	2.401 826 GHz 5.448 dBm	NextPea
0.0				Next Pk Rigl
0.0				Next Pk Le
0.0				Marker Del
0.0				Mkr→C
0.0				Mkr→RefL
enter 2.402000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Sween	Span 2.000 MHz 1.00 ms (1001 pts)	Moi 1 of
	** D V S V W H Z	STATUS		

BLE CH2442MHz

Agilent Spectrum	Analyzer - Occupied BW					- 0 -×
Marker 1 2.	RF 50 Ω DC 441802000000) GHz PNO: Fast G	Trig: Free Run Atten: 20 dB	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	12:10:59 PM Dec 10, 2021 TRACE 123450 TYPE MUNICIPAL OF SINNIN	Peak Search
	Ref Offset 11 dB Ref 20.00 dBm			Mkr1	2.441 802 GHz 5.181 dBm	Next Peak
10.0			1			Next Pk Right
-10.0						Next Pk Lef
-20.0						Marker Delta
-40.0						Mkr→Cf
-60.0						Mkr→RefLv
Center 2.442					Span 2.000 MHz	More 1 of 2
#Res BW 1.0	U MIHZ	#VBW	3.0 MHz	Sweep	1.00 ms (1001 pts)	

BLE CH2480MHz

Peak Search	12:12:12 PM Dec 10, 2021	ALIGN AUTO	NSE:INT	SEI		RF
	TRACE 123456 TYPE NUMBER OF SINNIN	Avg Type: Log-Pwr Avg Hold:>100/100		t 🖵 Trig: Free w Atten: 20	79796000000 GHz PNO: Fast IFGain:Low	arker 1 2.479
NextPea	2.479 796 GHz 5.283 dBm	Mkr1			f Offset 11 dB f 20.00 dBm	dB/div Ref 2
Next Pk Rig				1		
Next Pk Le						0
Marker Del						0
Mkr→C						0
Mkr→RefL						0
Moi 1 of						0
101	Span 2.000 MHz .00 ms (1001 pts)	Sweep		VBW 3.0 MHz		nter 2.480000 es BW 1.0 MH

7 EMISSION LIMITATIONS MEASUREMENT

7.1 Test Equipment

The following test equipment was used during the emission limitations test:

Item	Туре	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9010A	MY52221182	2021.09.15	1 Year
2.	Coaxial Cable	WOKEN	SFL402-105F LEX	F02-150819-0 45	2021.03.08	1 Year
3.	10 dB Attenuator	Mini-Circuits	VAT-10W2+	001	2021.08.06	1 Year

7.2 Block Diagram of Test Setup

The Same as Section. 5.2.

7.3 Specification Limits (§15.247(d))

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in \$15.205(a), must also comply with the radiated emission limits specified in \$15.209(a) (see \$15.205(c)). (%This test result attaching to Section. 3.7)

7.4 Operating Condition of EUT

The switch ON/OFF was used to enable the EUT to change the channel one by one.

7.5 Test Procedure

The transmitter output was connected to the spectrum analyzer.

Establish a reference level by using the following procedure:

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set the span to ≥ 1.5 times the DTS bandwidth.
- c) Set the RBW = 100 kHz.
- d) Set the VBW $\geq [3 \times RBW]$.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to

establish the reference level.

Establish an emission level by using the following procedure:

a) Set the center frequency and span to encompass frequency range to be measured.

b) Set the RBW = 100 kHz.

c) Set the VBW \geq [3 × RBW].

d) Detector = peak.

e) Sweep time = auto couple.

f) Trace mode = max hold.

g) Allow trace to fully stabilize.

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

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

Scan up through 10th harmonic.

The test procedure is defined in ANSI C63.10-2013 (11.11.2 Reference level measurement and 11.11.3 Emission level measurement was used).

7.6 Test Results **PASSED**.

The test data was attached in the next pages.

(Test Date: 2022.02.16 Temperature: 23°C Humidity: 51 %)

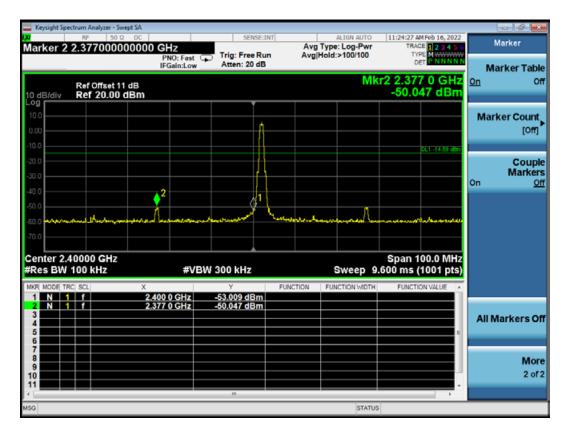
Modulation	Channel	Frequency (MHz)	Data Page
	00	2402	P34-36
BLE	20	2442	P37-38
	39	2480	P39-41

BLE CH2402MHz

Reference level



Emission level



- 6 🛋								ctrum Analyzer - S	Keysight Spi
Marker	26:17 AM Feb 16, 2022 TRACE 1 2 3 4 5 6	Log-Pwr	Avg Type:	NSE:INT		Hz	R DC 000000 G	RF 50 1 3.2207400	Marker 1
Select Marker	DET P NNNN	100/100	Avg Hold:>		Trig: Fre Atten: 2	PNO: Fast 😱 FGain:Low	F		
1	220 74 GHz 53.027 dBm	Mkr1 3.: -{						Ref Offset 1 Ref 20.00	0 dB/div
Norma				Ĭ					-°°
Norma									10.0
									0.00
Delt	DL1 -14.59 dBm								10.0
	001114.59.000								20.0
Fixed									~~~
									30.0
Of									40.0
			• <mark>1</mark>						50.0
Properties	dayada bayahara di dah ha	hallohallanana	Northernold	Aphlonsone	لى الى مى مى مەربار.	www.www	mangender	and the second	60.0 ulterio
									70.0
Mor									
1 of	top 5.000 GHz ms (1001 pts)	St		,	300 kHz	#\/R\//			Start 30 M #Res BW
	ins (1001 pts)	STATUS			500 KH2	# 0 B 00		I CO KIIZ	ISG

Keysight Spectrum Analyzer - Swe				- 6 🛋
arker 1 10.6000000	000000 GHz PNO: Fast C Trig: Free I		11:29:21 AM Feb 16, 2022 TRACE 1 2 3 4 5 6 TYPE M	Peak Search
Ref Offset 11 0 dB/div Ref 20.00 d	dB		Mkr1 10.60 GHz -54.098 dBm	Next Pea
10.0				Next Pk Righ
0.00				Next Pk Le
20.0			DL1 -14.59 dBm	Marker De
40.0				Mkr→C
50.0 50.0 ⁴⁴ 5.16-7-26 ¹⁴⁻⁷ -2617-7-2 ₆₁ 1/-7-2	allow, yan and the stand of a state star and the	1- interestionestimeser	an managar (a to a shared a to a spin a shared a spin a shared a shared a shared a shared a shared a shared a s	Mkr→RefL
70.0			Stop 15.000 GHz	Mo 1 of
Res BW 100 kHz	#VBW 300 kHz	Sweep	955.7 ms (1001 pts)	

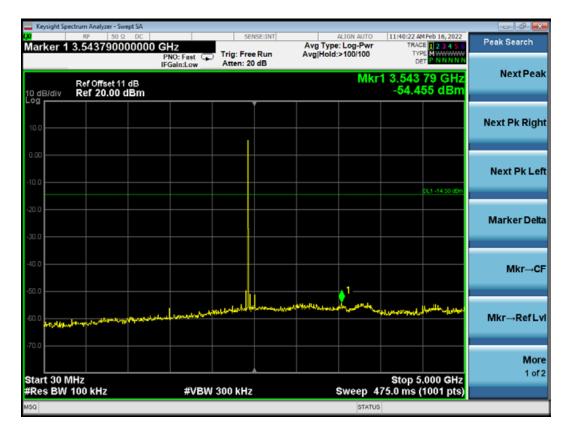
Keysight Spe	ectrum Analyzer - Swept SA					
larker 1	RF 50 Ω DC 23.700000000000		eRun A	ALIGN AUTO Vg Type: Log-Pwr vg Hold:>100/100	11:38:09 AM Feb 16, 2022 TRACE 1 2 3 4 5 6 TYPE MUSERNINN DET P NNNNN	Peak Search
0 dB/div	Ref Offset 11 dB Ref 20.00 dBm	I GUITEON		l	Mkr1 23.70 GHz -49.884 dBm	NextPea
og 10.0						Next Pk Rig
0.00					DL1 -14 59 dBm	Next Pk L
0.0						Marker De
0.0						Mkr→
0.0 0.0	a fa ha ha hay hatta ya _{ba a} jagawaa	ניילו לאין אילי אין אייניין איילאייער איין איינאין אייער איין איין איין איין איין איין איין איי	han at frank a star of a feat	an tan general patrice	k Ser Antonia (Second Antonia (Second Antonia))	Mkr→Refl
tart 15.0					Stop 25.000 GHz	Мс 1 с
Res BW	100 KHZ	#VBW 300 kHz	4	Sweep 9	955.7 ms (1001 pts)	

BLE CH2442MHz

Reference level



Emission level



- 6	11:42:33 AM Feb 16, 2022	ALIGN AUTO		ENSE:INT			yzer - Swept SA	rsight Spectrum Analy RF
Peak Search	TRACE 1 2 3 4 5 6 TYPE M	acion auto ce: Log-Pwr d:>100/100		ee Run		GHz PNO: Fast G		ker 1 9.7400
NextPe	Mkr1 9.74 GHz -53.983 dBm						fset 11 dB 0.00 dBm	
Next Pk Rig								
Next Pk L	DL1 -14 50 dBm							
Marker De								
Mkr→				1				
Mkr→Ref	يونلدرون مراجع أوالي معلمين المراجع المراجع المراجع المراجع الم	AYarullucusia.ia	Manypandayurr	aspenses for develop	eren ha	ماللار مادور بالمعالي المعالي ا المعالي المعالي	والموالية فالأصبح ومايسوانيه والا	nagarah daran dara
M (1.0	Stop 15.000 GHz 55.7 ms (1001 pts)	Sweep 9		z	V 300 kHz	#VBM	z	t 5.000 GHz s BW 100 kH
		STATUS						

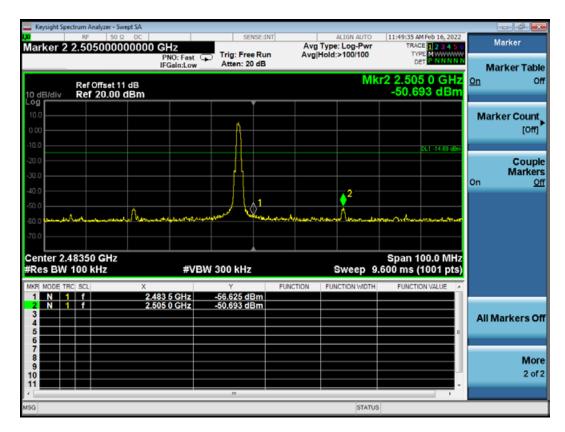
- Keysight Spe	ectrum Analyzer - Swept SA					- 6 🐱
Marker 1	RF 50 Ω DC 23.640000000000	0 GHz		ALIGN AUTO	11:48:18 AM Feb 16, 2022 TRACE 1 2 3 4 5 6	Peak Search
		PNO: Fast IFGain:Low Atten: 20		lold:>100/100		Next Peak
10 dB/div	Ref Offset 11 dB Ref 20.00 dBm				-49.844 dBm	
10.0						Next Pk Right
0.00						Next Pk Left
-10.0					DL1 -14.50 dBm	
-20.0						Marker Delta
-40.0						Mkr→CF
-50.0	ar gest and and an alter state of the second	يەلەرىيانىيا، خىلەرلىكى يەلدەنىمى يىلى	W ^A ndersenandersenandersenandersenandersenandersenandersenandersenandersenandersenandersenandersenandersenanderse	diller and the state of the sta	all and the second s	Mkr→RefLvi
-70.0						More 1 of 2
Start 15.0 #Res BW		#VBW 300 kHz		Sweep 9	Stop 25.000 GHz 55.7 ms (1001 pts)	
MSG				STATUS		

BLE CH2480MHz

Reference level



Emission level



							ectrum Analyzer	Keysight
Peak Search	11:54:38 AM Feb 16, 2022 TRACE 1 2 3 4 5 0 TYPE MWWWWWW DET P NNNNN	ALIGN AUTO Avg Type: Log-Pwr vg[Hold:>100/100			GHz PNO: Fast G	40000000 (Marker
Next Peak	1 3.171 04 GHz -53.893 dBm	Mkr		Attent. Lo	IrGall.LOW		Ref Offset Ref 20.0	10 dB/div
Next Pk Righ								10.0
Next Pk Lef	DL1 -14.59 dBm							0.00
Marker Delta								20.0
Mkr→Cf								-40.0
Mkr→RefLv	anna airte an	Lamon and a she way	Hornwood	h h h h h h h h h	ar an	يحمدهم وروسهوا	an and a start of the	50.0
More 1 of	Stop 5.000 GHz 75.0 ms (1001 pts)	Swoop		300 kHz	#\/B\W		MHz 100 kHz	Start 30
		Sweep 4		500 KHZ	# 0 D 00		100 KHZ	INGS DI

	-							pectrum Analy	Keysight :
Peak Search	11:57:41 AM Feb 16, 2022 TRACE 2 3 4 5 6 TYPE MUNNNNN DET PNNNNN	aLIGN AUTO e: Log-Pwr :>100/100				GHz PNO: Fast G	50 Q DC		<mark>x</mark> Marker
Next Pea	/kr1 14.16 GHz -53.746 dBm	M			Atten. 20	FGain:Low	et 11 dB .00 dBm	Ref Offs Ref 20	10 dB/div
Next Pk Righ									10.0
Next Pk Le	DL1 -14.69 dBm								0.00
Marker Delt									-20.0
Mkr→C									40.0
Mkr→RefL	Manjamanakanakan	while when	مبروالتهرية	and an all of the particular	والمعجمة تدلستهم	, le and an	hand a far a share a sh	thay a de a se la construcción	
Moi 1 of	Stop 15.000 GHz				000 141-	45 (5)14			70.0
	55.7 ms (1001 pts)	Sweep 9			300 kHz	#VBW		100 kHz	Res BV

- 6 -							ectrum Analyzer -	Keysight :
Peak Search	12:01:32 PM Feb 16, 2022 TRACE 1 2 3 4 5 6 TYPE MWWWWWW DET PNNNNN	ALIGN AUTO Avg Type: Log-Pwr vg Hold:>100/100			PNO: Fast	50 Q DC 000000000		Marker
NextPeak	/kr1 23.67 GHz -49.701 dBm			,	IP Gall.LOW	t 11 dB	Ref Offset Ref 20.00	10 dB/div
Next Pk Right								10.0
Next Pk Lef	DL1 -14.59 dBm							0.00
Marker Delta								20.0
Mkr→Cl	I							40.0
Mkr→RefLv	and the state of the second	ناهدارزی، ویکی اور	loonlanasaaa	nt na the stands	hter and the second	المرجع والمراجع	رو الموريون الم ^{رور و} الم	50.0 60.0
Mon 1 of 2	Stop 25.000 GHz						000 GHz	
	55.7 ms (1001 pts)	Sweep S		300 kHz	#VBW		100 kHz	#Res BV

8 POWER SPECTRAL DENSITY MEASUREMENT

8.1 Test Equipment

The following test equipment was used during the power spectral density measurement:

Item	Туре	Manufacturer	Model No. Serial No.		Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9010A	MY52221182	2021.09.15	1 Year
2.	Coaxial Cable	WOKEN	SFL402-105F LEX	F02-150819-0 45	2021.03.08	1 Year
3.	10 dB Attenuator	Mini-Circuits	VAT-10W2+	001	2021.08.06	1 Year

8.2 Block Diagram of Test Setup

The Same as section 5.2.

8.3 Specification Limits (§15.247(e))

The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band.

8.4 Operating Condition of EUT

The switch ON/OFF was used to enable the EUT to change the channel one by one.

8.5 Test Procedure

The transmitter output was connected to the spectrum analyzer.

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth.
- c) Set the RBW to 3 kHz \leq RBW \leq 100 kHz.
- d) Set the VBW \ge [3 × RBW].
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.

i) Use the peak marker function to determine the maximum amplitude level within the RBW.

j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

The test procedure is defined in ANSI C63.10-2013 (11.10.2 Measurement Procedure "Method PKPSD (peak PSD)" was used).

8.6 Test Results **PASSED**.

All the test results are attached in next pages.

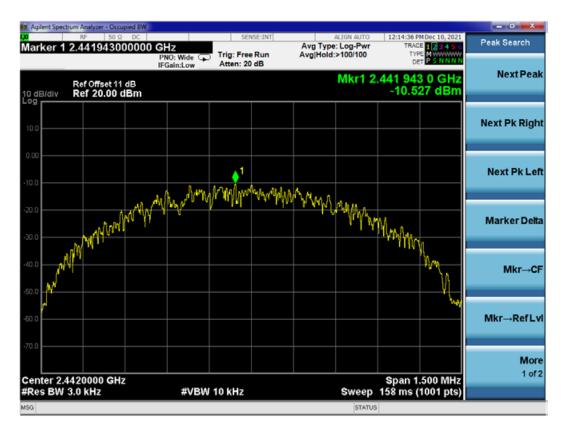
(Test Date: 2021.12.10 Temperature: 23°C Humidity: 51 %)

Modulation	Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limit
	00	2402	-7.63	8 dBm
BLE	20	2442	-10.527	8 dBm
	39	2480	-9.452	8 dBm

BLE CH2402 MHz



BLE CH2442 MHz



BLE CH2480 MHz



9 DEVIATION TO TEST SPECIFICATIONS

None.

10 MEASUREMENT UNCERTAINTY LIST

The measurement uncertainty was estimated for test on the EUT according to CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage of K=2. The uncertainties value is not used in determining the PASS/FAIL results.

Test Items/Facilities	Frequency/Equipment/Unit	Uncertainty
Conducted Emission	9kHz~150kHz	±3.1 dB
No.1 Shielded Room	150kHz~30MHz	±2.6 dB
Conducted Emission	9kHz~150kHz	±3.1 dB
No.3 Shielded Room	150kHz~30MHz	±2.6 dB
Radiated Emission	30MHz~200MHz, Horizontal	±3.8 dB
	30MHz~200MHz, Vertical	±4.1 dB
	200MHz~1000MHz, Horizontal	±3.6 dB
	200MHz~1000MHz, Vertical	±5.1 dB
	1GHz~6GHz	±5.3 dB
	6GHz~18GHz	±5.3 dB
	18GHz~40GHz	±3.5 dB
Output Power Test	50MHz~18GHz	0.77 dB
Power Density Test	9kHz~6GHz	1.08 dB
RF Frequency Test	9kHz~40GHz	6*10 ⁻⁴
Bandwidth Test	9kHz~6GHz	$1.5*10^{-3}$
RF Radiated Power Test	30MHz~1000MHz	3.06 dB
Conducted Output Power Test	50MHz~18GHz	0.83 dB
AC Voltage(<10kHz) Test	120V~230V	0.04 %
DC Power Test	0V~30V	0.4 %
Temperature	-40°C~+100°C	0.52 °C
Humidity	30%~95%	2.6 %