

NINGBO SHARKWARD ELECTRONICS CO., LTD.

Report Type: FCC Part 15.247 RF report

Model: ANT-1P-4T-BLE-SR

REPORT NUMBER: 2311A0587SHA-001

ISSUE DATE: March 15, 2024

DOCUMENT CONTROL NUMBER: TTRF15.247-03_V1 © 2018 Intertek



TEST REPORT

Intertek Testing Services Shanghai Building No.86, 1198 Qinzhou Road (North) Caohejing Development Zone Shanghai 200233, China

> Telephone: 86 21 6127 8200 www.intertek.com

Report no.: 2311A0587SHA-001

Applicant:	NINGBO SHARKWARD ELECTRONICS CO.,LTD. #88 GONGMAO ROAD NO.3,JISHIGANG INDUSTRIAL ZONE,HAISHU DISTRICT,NINGBO 315171,CHINA
Manufacturer:	NINGBO SHARKWARD ELECTRONICS CO.,LTD. #88 GONGMAO ROAD NO.3,JISHIGANG INDUSTRIAL ZONE,HAISHU DISTRICT,NINGBO 315171,CHINA
Manufacturing site:	NINGBO SHARKWARD ELECTRONICS CO.,LTD. #88 GONGMAO ROAD NO.3,JISHIGANG INDUSTRIAL ZONE,HAISHU DISTRICT,NINGBO 315171,CHINA

FCC ID: 2AVMOANT-1X-BLE

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

47CFR Part 15 (2021): Radio Frequency Devices (Subpart C)

ANSI C63.10 (2020): American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

PREPARED BY:

Gnick Liu

Project Engineer Erick Liu **REVIEWED BY:**

Reviewer Wakeyou Wang

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

Total Quality. Assured. TEST REPORT

Contents

REVISIO	N HISTORY	5
MEASUR	EMENT RESULT SUMMARY	6
1 GE	NERAL INFORMATION	7
1.1	DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)	7
1.2	TECHNICAL SPECIFICATION	
1.3	ANTENNA INFORMATION	
1.4	DESCRIPTION OF TEST FACILITY	
2 TE	ST SPECIFICATIONS	
2.1	STANDARDS OR SPECIFICATION	9
2.2	Mode of operation during the test	-
2.3	Test software list	
2.4	TEST PERIPHERALS LIST	-
2.5	Test environment condition:	-
2.6	INSTRUMENT LIST	-
2.7	MEASUREMENT UNCERTAINTY	
3 MI	NIMUM 6DB BANDWIDTH	
3.1	LIMIT	1.4
3.2	Measurement Procedure	
3.3	TEST CONFIGURATION	
3.4	TEST RESULTS OF MINIMUM 6DB BANDWIDTH	
4 M/	AXIMUM CONDUCTED OUTPUT POWER AND E.I.R.P.	
4.1	LIMIT	
4.1	LIMIT	-
4.2 4.3	TEST CONFIGURATION	
4.3 4.4	TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER	
		-
	WER SPECTRUM DENSITY	
5.1	LIMIT	
5.2	Measurement Procedure	
5.3	TEST CONFIGURATION	
5.4	Test Results of Power spectrum density	
6 EN	IISSION OUTSIDE THE FREQUENCY BAND	19
6.1	LIMIT	-
6.2	Measurement Procedure	19
6.3	TEST CONFIGURATION	
6.4	THE RESULTS OF EMISSION OUTSIDE THE FREQUENCY BAND	20
7 RA	DIATED EMISSIONS IN RESTRICTED FREQUENCY BANDS	21
7.1	LIMIT	21
7.2	Measurement Procedure	21
7.3	TEST CONFIGURATION	23
7.4	Test Results of Radiated Emissions	25
8 PC	WER LINE CONDUCTED EMISSION	28
8.1	LIMIT	28
8.2	TEST CONFIGURATION	28
8.3	Measurement Procedure	29

TEST REPORT

8.	4 Test I	Results of Power line conducted emission	30
9	ANTENNA	REQUIREMENT	32
10	APPENDIX	A: DTS BANDWIDTH	33
	10.1.1 10.1.2	Test Result Test Graphs	
11	APPENDIX	C: MAXIMUM CONDUCTED OUTPUT POWER	37
	11.1.1 11.1.2	Test Result Peak Test Graphs Peak	
12	APPENDIX	D: MAXIMUM POWER SPECTRAL DENSITY	41
	12.1.1 12.1.2	Test Result Test Graphs	
13	APPENDIX	E: BAND EDGE MEASUREMENTS	45
	13.1.1 13.1.2	Test Result Test Graphs	
14	APPENDIX	F: CONDUCTED SPURIOUS EMISSION	48
	14.1.1 14.1.2	Test Result Test Graphs	
15	APPENDIX	G: DUTY CYCLE	58
	15.1.1 15.1.2	Test Result Test Graphs	



Revision History

Report No.	Version	Description	Issued Date
2311A0587SHA-001	Rev. 01	Initial issue of report	March 15, 2024



Measurement result summary

TEST ITEM	FCC REFERANCE	RESULT
Minimum 6dB Bandwidth	15.247(a)(2)	Pass
Maximum conducted output power and e.i.r.p.	15.247(b)(3)	Pass
Power spectrum density	15.247(e)	Pass
Emission outside the frequency band	15.247(d)	Pass
Radiated Emissions in restricted frequency bands	15.247(d), 15.205&15.209	Pass
Power line conducted emission	15.207(a)	Pass
Antenna requirement	15.203	Pass

Notes: 1: NA =Not Applicable

2: Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.

3: Additions, Deviations and Exclusions from Standards: None.

Intertek Total Quality. Assured. TEST REPORT

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	PIR Motion Sensor
	ANT-1P-4T-BLE-SR(may be followed by - ; may be followed 1 or 3
	characters, means the housing color; may be followed by -; may be
	followed 1 or 3 characters, means the different Program(Bluetooth is
	not involved); may be followed by - ;may be followed 1 or 3 characters,
Type/Model:	means the different customer)
	EUT is an infrared sensor that dims lighting from high to low based on
Description of EUT:	movement. It's a transceiver with BLE function.
Rating:	Input: 12-24V DC Output: 0-10V DC
EUT type:	Table top 🔲 Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	2023.11.08
Date of test:	2023.11.08 ~ 2023.12.12

1.2 Technical Specification

Frequency Range:	2400MHz ~ 2483.5MHz
Bluetooth Version:	Bluetooth LE
Type of Modulation:	GFSK
Channel Number:	40
Data Rate:	1 Mbps, 2Mbps
Channel Separation:	2 MHz

1.3 Antenna information

Antenna No.	Model	Antenna type	Antenna Gain	Note
1	-	PCB Antenna	2.0 dBi	-



1.4 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road (North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353
The test facility is recognized,	CNAS Accreditation Lab Registration No. CNAS L0139
certified, or accredited by these	FCC Accredited Lab Designation Number: CN0175
organizations:	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02

2 TEST SPECIFICATIONS

2.1 Standards or specification

47CFR Part 15 (2021) ANSI C63.10 (2020) KDB 558074(v05r02)

2.2 Mode of operation during the test

Within this test report, EUT was tested under all available operation modes and tested under its rating voltage and frequency. Other voltage and frequency is specified if used.

Frequency Band (MHz)			2402 ~ 2480				
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

The lowest, middle and highest channel were tested as representatives.

Data rate VS Power:

The test setting software is offered by the manufactory. The pre-scan for the conducted power with all rates in each modulation and bands was used, and the worst case was found and used in all test cases.

Test software and Power Setting parameter					
Test Software		nRF_DTM			
Test Channel	2402MHz	2440MHz	2480MHz		
Power Setting	0dBm	0dBm	0dBm		

While testing transmitting mode of EUT, the internal modulation and continuously transmission was applied.

Radiated test mode: EUT transmitted signal with BT antenna;

Conducted test mode: EUT transmitted signal from BT RF port connected to SPA directly;



2.3 Test software list

Test Items	Software	Manufacturer	Version
Conducted emission	e3	Audix	9.160323
Radiated emission	e3	Audix	9.160323

2.4 Test peripherals list

Item No.	Name	Band and Model	Description
1	Laptop computer	DELL 5480	-
2	LED driver	/	/
3	DC regulated power supply	QJ3003H	/

2.5 Test environment condition:

Test items	Temperature	Humidity
Radiated Emissions in restricted frequency bands	22.6°C	46% RH
Power line conducted emission	21.9°C	45% RH

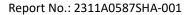
TEST REPORT

2.6 Instrument list

Conducted	Emission/Disturbance	Power/Tri-loop Te	st/CDN method		
Used	Equipment	Manufacturer	Туре	Internal no.	Due date
\boxtimes	Test Receiver	R&S	ESCS 30	EC 2107	2024-07-13
\boxtimes	A.M.N.	R&S	ESH2-Z5	EC 3119	2024-12-07
	A.M.N.	R&S	ENV 216	EC 3393	2024-07-03
	A.M.N.	R&S	ENV4200	EC 3558	2024-06-09
	Absorbing clamp	R&S	MDS 21	EC 2108	2024-06-18
	CDN	Frankonia	CDN M2M316	EC 5969	2024-03-15
	CDN	Schaffner	CDN M316	EC 2113-1	2024-07-15
\boxtimes	Attenuator	Weinschel	68-6-44	EC 3043-9	2024-02-05
	Tri-loop	Schwarzbeck	HXYZ 9170	EC 3384	2024-10-10
	Voltage Probe Schwarzbeck TK9420 EC 4888		EC 4888	2024-09-10	
	Current probe	R&S	EZ-17	EC 3221	2024-03-15
	I.S.N.	FCC	FCC-TLISN -T2-02	EC 3754	2024-02-05
	I.S.N.	FCC	FCC-TLISN -T4-02	EC 3755	2024-02-05
	I.S.N.	FCC	FCC-TLISN -T8-02	EC 3756	2024-02-05
Radiated E	mission				
Used	Equipment	Manufacturer	Туре	Internal no.	Due date
\boxtimes	Test Receiver	R&S	ESIB 26	EC 3045	2024-09-11
\boxtimes	Bilog Antenna	TESEQ	CBL 6112D	EC 4206	2024-06-09
\boxtimes	Pre-amplifier	R&S	AFS42- 00101800-25-S- 42	EC5262	2024-06-09
	Horn antenna	R&S	HF 906	EC 3049	2024-11-16
\boxtimes	Horn antenna	ETS	3117	EC 4792-1	2024-01-09
\boxtimes	Horn antenna	ΤΟΥΟ	HAP18-26W	EC 4792-3	2024-07-08
\boxtimes	Active loop antenna	Schwarzbeck	FMZB1519	EC 5345	2024-03-07
	Horn antenna	ETS	3116c	EC 5955	2024-06-11
RF test					
Used	Equipment	Manufacturer	Туре	Internal no.	Due date
\boxtimes	PXA Signal Analyzer	Keysight	N9030A	EC 5338	2024-03-05
	Power sensor	Agilent	U2021XA	EC 5338-1	2024-03-05

Total Quality. Assured. TEST REPORT

			Γ		1
	MXG Analog Signal Generator	Agilent	N5181A	EC 5338-2	2024-03-05
	Vector Signal Generator	Agilent	N5182B	EC 5175	2024-03-05
	Power meter	Keysight	N1911A	EC 4318	2024-05-11
	Wideband Radio Communication Tester	R&S	CMW500	EC 5944	2024-12-07
	Mobile Test System	LitePoint	IQxel	EC 5176	2024-01-09
	Test Receiver	R&S	ESCI 7	EC 4501	2024-09-11
	Spectrum analyzer	Agilent	E7402A	EC 2254	2024-09-11
Tet Site					
Used	Equipment	Manufacturer	Туре	Internal no.	Due date
\boxtimes	Shielded room	Zhongyu	-	EC 2838	2024-01-07
	Shielded room	Zhongyu	-	EC 2839	2024-01-14
\boxtimes	Semi-anechoic chamber	Albatross project	-	EC 3048	2024-07-30
	Fully-anechoic chamber	Albatross project	-	EC 3047	2024-07-30
Additional	instrument				
Used	Equipment	Manufacturer	Туре	Internal no.	Due date
	Spectrum analyzer	Agilent	E7402A	EC 2254	2024-07-14
\boxtimes	Therom- Hygrograph	ZJ1-2A	S.M.I.F.	EC 3783	2024-02-28
	Therom- Hygrograph	ZJ1-2A	S.M.I.F.	EC 2122	2024-03-11
\boxtimes	Therom-	ZJ1-2A	S.M.I.F.	EC 5198	2024-01-18
	Hygrograph				
	Hygrograph Therom- Hygrograph	ZJ1-2A	S.M.I.F.	EC 3326	2024-03-28



TEST REPORT

2.7 Measurement uncertainty

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

Test item	Measurement uncertainty
Maximum peak output power	± 0.74 dB
Radiated Emissions in restricted frequency bands below 1GHz	\pm 4.90dB
Radiated Emissions in restricted frequency bands above 1GHz	± 5.02dB
Emission outside the frequency band	± 2.89dB
Power line conducted emission	± 3.19dB

TEST REPORT

3 Minimum 6dB bandwidth

Test result: Pass

3.1 Limit

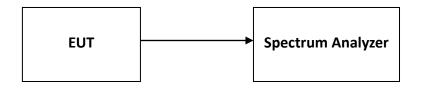
For systems using digital modulation techniques that may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz and 5725 - 5850 MHz bands, the minimum 6 dB bandwidth shall be at least 500 kHz.

3.2 Measurement Procedure

The minimum 6dB bandwidth is measured using the Spectrum Analyzer according to DTS test procedure of "KDB558074 D01 DTS Meas Guidance" (clause 8.2) for compliance requirements.

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) \ge 3 × RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) 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.

3.3 Test Configuration



3.4 Test Results of Minimum 6dB bandwidth

Please refer to Appendix A

4 Maximum conducted output power and e.i.r.p.

Test result: Pass

4.1 Limit

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 W. (The e.i.r.p. shall not exceed 4 W)

If the transmitting antenna of directional gain greater than 6dBi is used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi. If there have a beam forming type, the limit should be the minimum of 30dBm and 30+ (6 –antenna gain-beam forming gain).

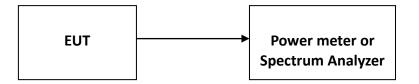
4.2 Measurement Procedure

The EUT was tested according to DTS test procedure of "KDB558074 D01 DTS Meas Guidance" (clause 9.2.2.4) for compliance requirements.

- a) Measure the duty cycle, x, of the transmitter output signal as described in Section 6.0.
- b) Set span to at least 1.5 x OBW.
- c) Set RBW = 1 % to 5 % of the OBW, not to exceed 1 MHz.
- d) Set VBW \geq 3 x RBW.
- e) Number of points in sweep $\ge 2 \times \text{span} / \text{RBW}$. (This gives bin-to-bin spacing $\le \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)
- f) Sweep time = auto.
- g) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- h) Do not use sweep triggering. Allow the sweep to "free run".
- i) Trace average at least 100 traces in power averaging (i.e., RMS) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the on and off periods of the transmitter.
- j) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
- k) Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on- and off-times of the transmission). For example, add 10 log (1/0.25) = 6 dB if the duty cycle is 25 %.



4.3 Test Configuration



4.4 Test Results of Maximum conducted output power

Please refer to Appendix A

Intertek

TEST REPORT

5 Power spectrum density

Test result: Pass

5.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

If the transmitting antenna of directional gain greater than 6dBi is used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi. If there have a beam forming type, the limit should be the minimum of 8dBm/MHz and 8+ (6 –antenna gain-beam forming gain).

5.2 Measurement Procedure

The power output was tested according to DTS test procedure of "KDB558074 D01 DTS Meas Guidance" (clause 10.5) for compliance requirements.

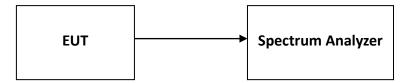
This procedure is applicable when the EUT cannot be configured to transmit continuously (i.e., duty cycle < 98 %), and when sweep triggering/signal gating cannot be used to measure only when the EUT is transmitting at its maximum power control level, and when the transmission duty cycle is constant (i.e., duty cycle variations are less than ± 2 %):

- a) Measure the duty cycle (x) of the transmitter output signal as described in Section 6.0.
- b) Set instrument center frequency to DTS channel center frequency.
- c) Set span to at least 1.5 x OBW.
- d) Set RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- e) Set VBW $\geq 3 \times RBW$.
- f) Detector = power averaging (RMS) or sample detector (when RMS not available).
- g) Ensure that the number of measurement points in the sweep $\ge 2 \times \text{span/RBW}$.
- h) Sweep time = auto couple.
- i) Do not use sweep triggering. Allow sweep to "free run".
- j) Employ trace averaging (RMS) mode over a minimum of 100 traces.
- k) Use the peak marker function to determine the maximum amplitude level.
- I) Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.
- m) If resultant value exceeds the limit, then reduce RBW (no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span in order to meet the minimum measurement point requirement as the RBW is reduced).



TEST REPORT

5.3 Test Configuration



5.4 Test Results of Power spectrum density

Please refer to Appendix A

TEST REPORT

6 Emission outside the frequency band

Test result: Pass

6.1 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

6.2 Measurement Procedure

The EUT was tested according to DTS test procedure of "KDB558074 D01 DTS Meas Guidance" (clause 11.0) for compliance requirements.

Reference level measurement

Establish a reference level by using the following procedure:

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set the span to \geq 1.5 times the DTS bandwidth.
- c) Set the RBW = 100 kHz.
- d) Set the VBW \geq 3 x 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.

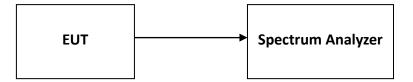
Emission level measurement

- 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 x 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) are attenuated by at least the minimum requirements specified in 11.1 a) or 11.1 b). Report the three highest emissions relative to the limit.



6.3 Test Configuration



6.4 The results of Emission outside the frequency band

Please refer to Appendix A

TEST REPORT

7 Radiated Emissions in restricted frequency bands

Test result: Pass

7.1 Limit

The radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified showed as below:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

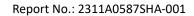
7.2 Measurement Procedure

For Radiated emission below 30MHz:

- a) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c) Both X and Y axes of the antenna are set to make the measurement.
- d) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e) The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.



TEST REPORT

For Radiated emission above 30MHz:

- a) The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c) The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e) The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f) The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

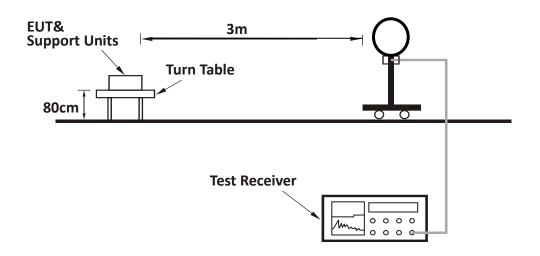
Note:

- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 3 x RBW (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
- 4. All modes of operation were investigated and the worst-case emissions are reported

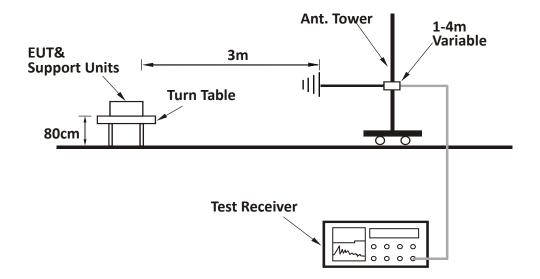
intertek

7.3 Test Configuration

For Radiated emission below 30MHz:

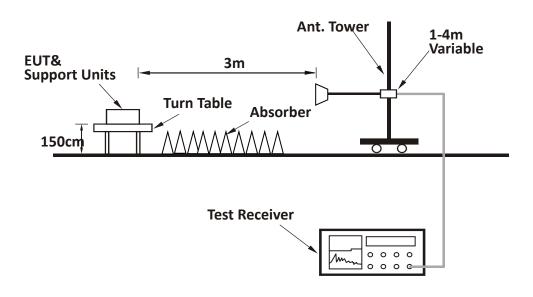


For Radiated emission 30MHz to 1GHz:



Intertek Total Quality. Assured. TEST REPORT

For Radiated emission above 1GHz:

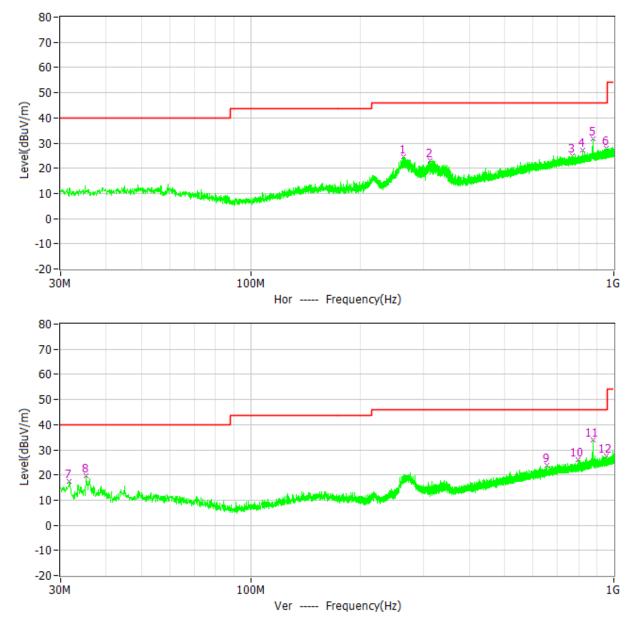


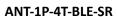
TEST REPORT

7.4 Test Results of Radiated Emissions

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

The worst test data from 30MHz to 1000MHz is listed as below:





Total Quality. Assured. TEST REPORT

No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar
1*	264.158MHz	46.0	24.7	-21.3	10.9	13.8	РК	Hor
2*	312.852MHz	46.0	23.2	-22.8	7.8	15.4	РК	Hor
3*	766.909MHz	46.0	24.9	-21.1	0.5	24.4	РК	Hor
4*	819.677MHz	46.0	27.3	-18.7	2.2	25.1	PK	Hor
5*	878.265MHz	46.0	31.6	-14.4	5.7	25.9	РК	Hor
6*	954.216MHz	46.0	27.8	-18.2	1.0	26.8	РК	Hor
7*	31.746MHz	40.0	17.3	-22.7	5.0	12.3	РК	Ver
8*	35.238MHz	40.0	19.8	-20.2	6.8	13.0	РК	Ver
9*	652.449MHz	46.0	23.7	-22.3	0.8	22.9	РК	Ver
10*	798.822MHz	46.0	25.9	-20.1	1.1	24.8	РК	Ver
11*	877.004MHz	46.0	33.8	-12.2	7.9	25.9	РК	Ver
12*	955.186MHz	46.0	27.6	-18.4	0.8	26.8	РК	Ver

Remark: 1. Factor = LISN Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically.

- 2. Level = Original Receiver Reading + Factor
- 3. Delta= Level Limit
- 4. If the PK Level is lower than AV limit, the AV test can be elided.

Example: Assuming LISN Factor = 10.00dB, Cable Loss = 2.00dB,

Original Receiver Reading = 10.00dBuV, Limit = 66.00dBuV.

Then Factor = 10.00 + 2.00 = 12.00dB;

Level = 10dBuV + 12.00dB = 22.00dBuV;

Delta = 22.00dBuV - 66.00dBuV = -44.00dB.

Test result above 1GHz:

СН	Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
	Н	2390	43.00	74.00	31.00	РК
	V	2390	43.20	74.00	30.80	РК
L	Н	4804	43.50	74.00	30.50	РК
	V	4804	44.80	74.00	29.20	РК
	Н	4880	43.50	74.00	30.50	РК
M	V	4880	44.10	74.00	29.90	РК
	Н	2483.5	43.80	74.00	30.20	РК
	V	2483.5	44.10	74.00	29.90	РК
Н	Н	4960	44.10	74.00	29.90	РК
	V	4960	44.50	74.00	29.50	РК

Both 1Mbps and 2Mbps data rate has been tested, and only the worst result(1Mbps) list as below:

Remark: 1. Correct Factor = Antenna Factor + Cable Loss (- Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.

2. Corrected Reading = Original Receiver Reading + Correct Factor

3. Margin = Limit - Corrected Reading

4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,

Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV, Limit = 40.00dBuV/m. Then Correct Factor = 30.20 + 2.00 - 32.00 = 0.20dB/m; Corrected Reading = 10dBuV + 0.20dB/m = 10.20dBuV/m; Margin = 40.00dBuV/m - 10.20dBuV/m = 29.80dB.

TEST REPORT

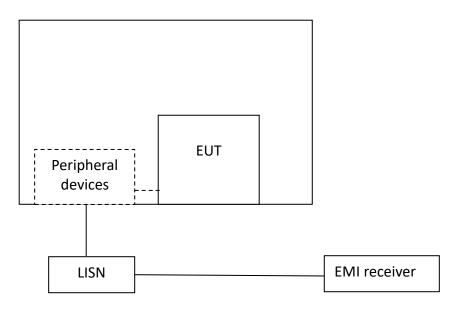
8 Power line conducted emission

Test result: Pass

8.1 Limit

Frequency of Emission (MHz)	Conducted L	imit (dBuV)
	QP	AV
0.15-0.5	66 to 56*	56 to 46 *
0.5-5	56	46
5-30	60	50

8.2 Test Configuration





TEST REPORT

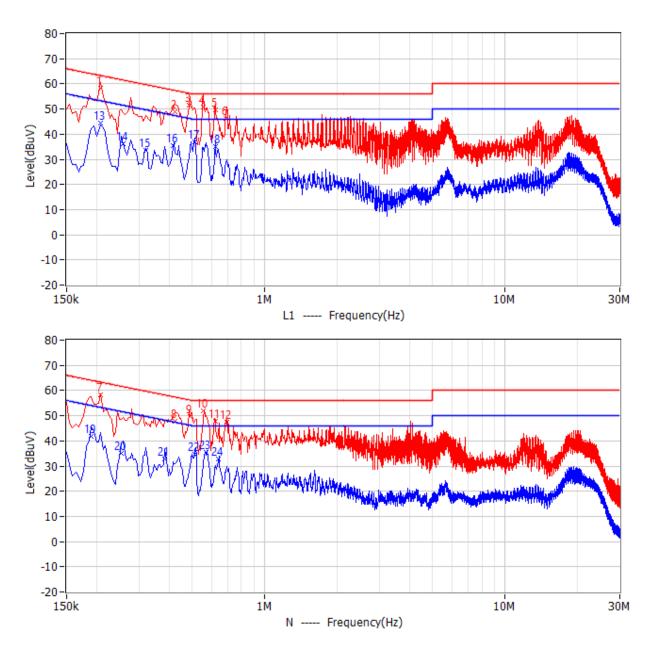
8.3 Measurement Procedure

Measured levels of ac power-line conducted emission shall be the emission voltages from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), where permitted, terminated into a 50 Ω measuring instrument. All emission voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord by the use of mating plugs and receptacles on the LISN, if used. Equipment shall be tested with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended by the manufacturer. For those measurements using a LISN, the 50 Ω measuring port is terminated by a measuring instrument having 50 Ω input impedance. All other ports are terminated in 50 Ω loads.

Tabletop devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

The bandwidth of the test receiver is set at 9 kHz.

Intertek Total Quality. Assured. TEST REPORT



8.4 Test Results of Power line conducted emission

Intertek Total Quality. Assured. TEST REPORT

No	Freesee	Limit	Level	Delta	Reading	Factor	Detector	Dhase
No.	Frequency	dBuV	dBuV	dB	dBuV	dB	Detector	Phase
1	208.500kHz	63.3	58.1	-5.2	51.9	6.2	QP	L1
2	424.500kHz	57.4	48.9	-8.4	42.7	6.2	QP	L1
3	483.000kHz	56.3	51.5	-4.8	45.3	6.2	QP	L1
4	555.000kHz	56.0	50.7	-5.3	44.5	6.2	QP	L1
5	622.500kHz	56.0	49.6	-6.4	43.4	6.2	QP	L1
6	690.000kHz	56.0	46.3	-9.7	40.1	6.2	QP	L1
7	208.500kHz	63.3	58.3	-5.0	52.1	6.2	QP	Ν
8	424.500kHz	57.4	47.9	-9.4	41.7	6.2	QP	Ν
9	487.500kHz	56.2	49.7	-6.5	43.5	6.2	QP	Ν
10	555.000kHz	56.0	51.8	-4.2	45.6	6.2	QP	Ν
11	622.500kHz	56.0	47.9	-8.1	41.7	6.2	QP	Ν
12	694.500kHz	56.0	47.5	-8.5	41.3	6.2	QP	Ν
13	208.500kHz	53.3	44.4	-8.9	38.2	6.2	CAV	L1
14	258.000kHz	51.5	36.3	-15.2	30.1	6.2	CAV	L1
15	321.000kHz	49.7	33.7	-16.0	27.5	6.2	CAV	L1
16	415.500kHz	47.5	35.5	-12.0	29.3	6.2	CAV	L1
17	510.000kHz	46.0	37.0	-9.0	30.8	6.2	CAV	L1
18	622.500kHz	46.0	35.0	-11.0	28.8	6.2	CAV	L1
19	190.500kHz	54.0	41.7	-12.3	35.6	6.1	CAV	Ν
20	253.500kHz	51.6	34.9	-16.7	28.7	6.2	CAV	Ν
21	384.000kHz	48.2	32.9	-15.3	26.7	6.2	CAV	Ν
22	510.000kHz	46.0	34.5	-11.5	28.3	6.2	CAV	Ν
23	573.000kHz	46.0	35.5	-10.5	29.3	6.2	CAV	Ν
24	640.500kHz	46.0	32.9	-13.1	26.7	6.2	CAV	Ν

Remark: 1. Factor = LISN Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically.

- 2. Level = Original Receiver Reading + Factor
- 3. Delta = Level Limit
- 4. If the PK Level is lower than AV limit, the AV test can be elided.

Example: Assuming LISN Factor = 10.00dB, Cable Loss = 2.00dB,

Original Receiver Reading = 10.00dBuV, Limit = 66.00dBuV.

Then Factor = 10.00 + 2.00 = 12.00dB;

Level = 10dBuV + 12.00dB = 22.00dBuV;

Delta = 22.00dBuV - 66.00dBuV = -44.00dB.



Report No.: 2311A0587SHA-001

TEST REPORT

9 Antenna requirement

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 shall be considered sufficient to comply with the provisions of this section.

Result:

EUT uses a unique coupling to the intentional radiator, so it can comply with the provisions of this section.

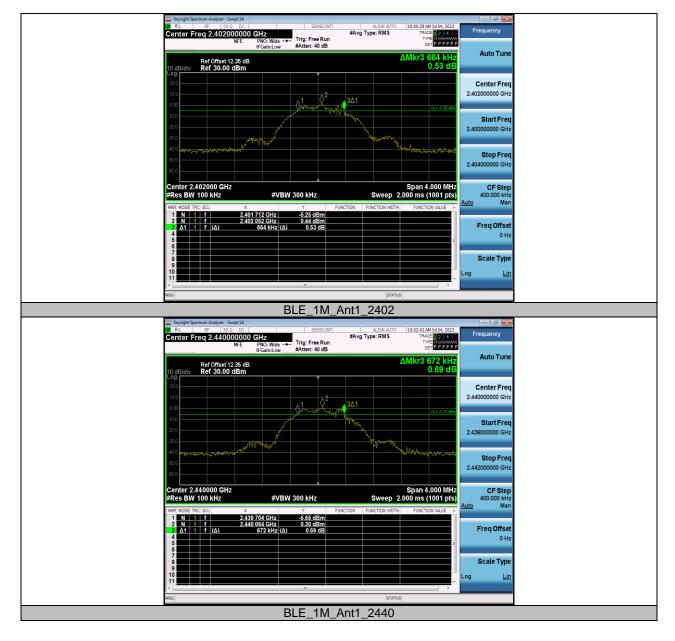


10 Appendix A: DTS Bandwidth 10.1.1 Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
		2402	0.664	2401.712	2402.376	0.5	PASS
BLE_1M	Ant1	2440	0.672	2439.704	2440.376	0.5	PASS
		2480	0.668	2479.712	2480.380	0.5	PASS
		2402	0.844	2401.472	2402.316	0.5	PASS
BLE_2M	Ant1	2440	0.844	2439.472	2440.316	0.5	PASS
		2480	0.820	2479.476	2480.296	0.5	PASS

TEST REPORT

10.1.2 Test Graphs



TEST REPORT



TEST REPORT



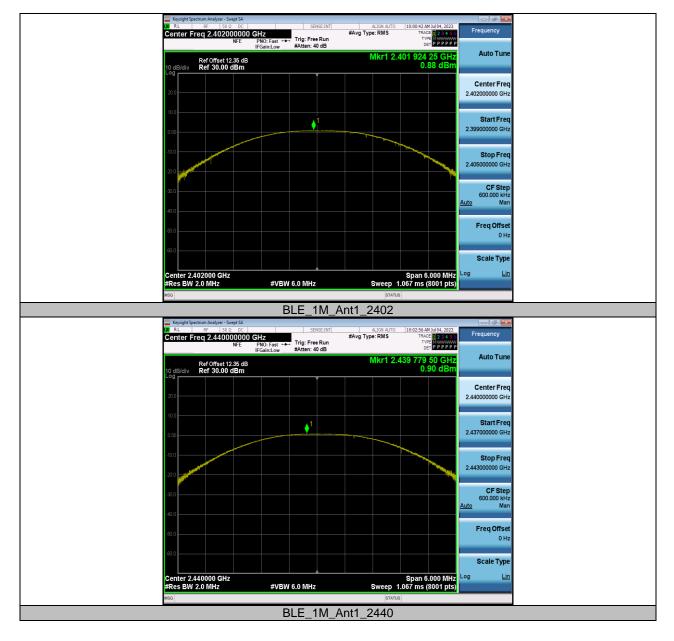


11 Appendix C: Maximum conducted output power 11.1.1 Test Result Peak

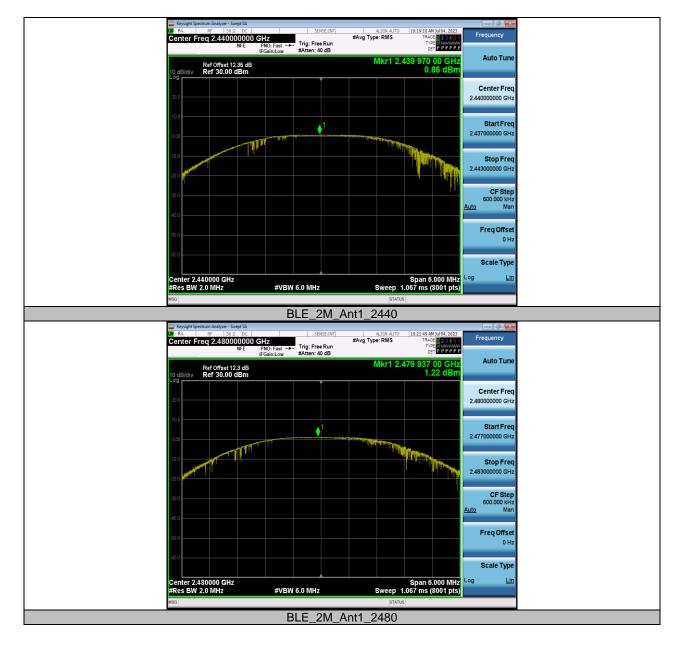
TestMode	Antenna	Frequency[MHz]	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Antenna Gain(dBi)	EIRP[dBm]	EIRP Limit[dBm]	Verdict
		2402	0.88	≤30	2.0	2.88	≤36	PASS
BLE_1M	BLE_1M Ant1	2440	0.90	≤30	2.0	2.90	≤36	PASS
		2480	1.14	≤30	2.0	3.14	≤36	PASS
BLE_2M Ant1	2402	0.83	≤30	2.0	2.83	≤36	PASS	
	2440	0.86	≤30	2.0	2.86	≤36	PASS	
		2480	1.22	≤30	2.0	3.22	≤36	PASS

Intertek Total Quality. Assured. TEST REPORT

11.1.2 Test Graphs Peak



Keysight Spectrum Analyzer - Swept SA				
(XC RL RF 50Ω DC	SENSE:INT	ALIGN AUTO 10:04:45 AM Jul 04, 2023		
Center Freq 2.48000000 G	PNO: Fast +++ Ing: Free Run	#Avg Type: RMS TRACE 2 3 4 5 TYPE MUSEUM DET PPPPP		1
	FGain:Low #Atten: 40 dB		Auto Tune	
Ref Offset 12.3 dB 10 dB/div Ref 30.00 dBm		Mkr1 2.480 321 75 GHz	Autorune	
10 dB/div Ref 30.00 dBm Log		1.14 dBm		
			Center Freq	
20.0			2.480000000 GHz	
10.0				
	↓ 1		Start Freq	
0.00			2.477000000 GHz	1
-10.0			Stop Freq	
and the second se			2.483000000 GHz	
-20.0				
-30.0			CF Step 600.000 kHz	
			Auto Man	
-40.0				
			Freq Offset	
-50.0			0 Hz	
-60.0			Scale Type	1
			Scale Type	
Center 2.480000 GHz		Span 6.000 MHz	Log <u>Lin</u>	1
#Res BW 2.0 MHz	#VBW 6.0 MHz	Span 6.000 MHz Sweep 1.067 ms (8001 pts		
MSG		STATUS		
		n+1 2490		
	BLE_1M_A	nt1_2480		
Keysight Spectrum Analyzer - Swept SA			- 2 🗙	2
(X RL RF 50Ω DC	SENSE:INT	ALIGN ALITO 10:09:32 AM tul 04, 2023		
(X RL RF 50Ω DC	SENSE:INT	ALIGN ALITO 10:09:32 AM tul 04, 2023		
RL RF 50 Ω DC Center Freq 2.402000000 G NFE NFE	SENSE:INT	ALIGN AUTO 10:09:32 AM 30 04, 2023 #Avg Type: RMS TRACE 12345 TYPE OFF PPPP	Frequency	
M RL RF 50 Ω DC Center Freq 2.402000000 G NFE NFE	SENSE:INT	ALIGN ALITO 10:09:32 AM tul 04, 2023	Frequency	
(X RL RF 50Ω DC	SENSE:INT	ALIGN AUTO 10:09:32 AM 34 04, 2023 #Avg Type: RMS TRACE 2:4.5 TYPE	Frequency	
0 R. L FF 50.0 PC Center Freq.2.402000000 G NFE 10 dB/div Ref 30.00 dBm	SENSE:INT	ALIGN AUTO 10:09:32 AM 34 04, 2023 #Avg Type: RMS TRACE 2:4.5 TYPE	Frequency Auto Tune Center Freq	
M RL RF 50 Ω DC Center Freq 2.402000000 G NFE NFE	SENSE:INT	ALIGN AUTO 10:09:32 AM 34 04, 2023 #Avg Type: RMS TRACE 2:4.5 TYPE	Frequency Auto Tune	
Nr Rt FF S0.0 DC Center Freq 2.402000000 G NFE NFE 10 dBldiv Ref Offset 12.35 dB 10 dBldiv Ref 30.00 dBm 200 0 0	SENSE:INT	ALIGN AUTO 10:09:32 AM 34 04, 2023 #Avg Type: RMS TRACE 2:4.5 TYPE	Frequency Auto Tune Center Freq	
0 R. L FF 50.0 PC Center Freq.2.402000000 G NFE 10 dB/div Ref 30.00 dBm	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 34 04, 2023 #Avg Type: RMS TRACE 12:34 5 Tree 12:45 5 Tree 12:45 5 Tree 12:45 11000 1	Frequency Auto Tune Center Freq 2.40200000 GHz	
Nr Rt RF S0.0 DC Center Freq.2.402000000 G NrE NrE NrE 10 dB/div Ref Offset 12.35 dB D D D 200 200 100 D D D 100 D D D D D D	SENSE:INT	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 Mkr1 2:402 396 00 GHz 0.83 dBm	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq	
Nr Rt FF S0.0 DC Center Freq 2.402000000 G NFE NFE 10 dBldiv Ref Offset 12.35 dB 10 dBldiv Ref 30.00 dBm 200 0 0	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 Mkr1 2:402 396 00 GHz 0.83 dBm	Frequency Auto Tune Center Freq 2.40200000 GHz	
Rt FE SS 0. DC Center Freq 2.402000000 G NFE NFE NFE 10 dB/dly Ref Offset 12.35 dB NFE NFE 20 0	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz	
Nr Rt RF S0.0 DC Center Freq.2.402000000 G NrE NrE NrE 10 dB/div Ref Offset 12.35 dB D D D 200 200 100 D D D 100 D D D D D D	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 34 04, 2023 #Avg Type: RMS TRACE 12:34 5 Tree 12:45 5 Tree 12:45 5 Tree 12:45 11000 1	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz Stop Freq	
Nr Rt RF 50.0 DC Center Freq.2.402000000 G NrE NrE NrE 10 dB/div Ref Offset 12.35 dB NrE NrE 200	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz	
Rt FE SS 0. DC Center Freq 2.402000000 G NFE NFE NFE 10 dB/dly Ref Offset 12.35 dB NFE NFE 20 0	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz Stop Freq	
Rt RE SG D DC Center Freq 2.402000000 G NFE NFE NFE 10 dB/div Ref Offset 12.35 dB D D D 200	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz Stop Freq 2.405000000 GHz CF Step	
Nr Rt RF 50.0 DC Center Freq.2.402000000 G NrE NrE NrE 10 dB/div Ref Offset 12.35 dB NrE NrE 200	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz Stop Freq 2.40500000 GHz CF Step 600.000 KHz	
Rt RE SG_0 DC Center Freq 2.402000000 G NFE NFE NFE 10 dB/div Ref Offset 12.35 dB NFE NFE 200 .000 Bm .000 NFE 10.0 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000 .000	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz Stop Freq 2.405000000 GHz CF Step	
Nr Rt RF S0.0 DC Center Freq.2.4020000000 G NrE NrE NrE 10 dB/div Ref Offset 12.35 dB D D D 200	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.40200000 GHz 3.39900000 GHz 2.40500000 GHz 2.40500000 GHz CF Step 600.000 kHz Auto Man	
R.t FE S0.2 DC Center Freq 2.402000000 G KFE KFE MFE 10 dB/div Ref Offset 12.35 dB MFE MFE 200	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.402000000 GHz 2.39900000 GHz Start Freq 2.40500000 GHz Stop Freq 2.40500000 GHz GOLD GHZ CF Step 600.000 HHz Auto Freq Offset	
Nr Rt RF S0.0 DC Center Freq.2.4020000000 G NrE NrE NrE 10 dB/div Ref Offset 12.35 dB D D D 200	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.40200000 GHz 3.39900000 GHz 2.40500000 GHz 2.40500000 GHz CF Step 600.000 kHz Auto Man	
R.t FE S0.2 DC Center Freq 2.402000000 G KFE KFE MFE 10 dB/div Ref Offset 12.35 dB MFE MFE 200	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.402000000 GHz 2.39900000 GHz Start Freq 2.40500000 GHz Stop Freq 2.40500000 GHz GOLD GHZ CF Step 600.000 HHz Auto Freq Offset	
NR PS SS 0. DC Center Freq 2.402000000 NFE NFE NFE Ref Offset 12.35 dB 10 dBldlv Ref 30.00 dBm 200 20.0	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 10:09:32 AM 54104, 2023 #Avg Type: RMS TRuce 12:34 5 Tree 12:45 5 Tree 1	Frequency Auto Tune Center Freq 2.402000000 GHz 2.39900000 GHz Start Freq 2.40500000 GHz Stop Freq 2.40500000 GHz GOLD GHZ CF Step 600.000 HHz Auto Freq Offset	
N R.t Ref SS 0. DC Center Freq 2.402000000 G NFE NFE NFE 10 dB/div Ref 0ffset 12.35 dB D D D 200	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALIGN AUTO 100922403404,2023 #Avg Type: RMS 11442 1224 000 MKr1 2.402 396 00 GHz 0.83 dBm	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz Stop Freq 2.40500000 GHz CF Step 600.000 KHz Auto Man Freq Offset 0 Hz Scale Type	
N R.t PS S0.2 DC Center Freq 2.402000000 GHz NFE S0.2 DC Ref Offset 12.35 dB S0.0 dB MFE S0.0 DC 10 dB/div Ref 0ffset 12.35 dB ID	SERECTIVE HZ SERECTIVE FROM TO BE Frain tow Trigs Free Run FAtten: 40 dB	ALIGN AUTO 100922403404,2023 #Avg Type: RMS 11442 1224 000 MKr1 2.402 396 00 GHz 0.83 dBm	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz Stop Freq 2.40500000 GHz CF Step 600.000 KHz Auto Man Freq Offset 0 Hz Scale Type	
R.t FE SS.Q DC Center Freq 2.402000000 G NFE NFE NFE 10 dBldiv Ref Offset 12.35 dB IO IO IO 10 dBldiv Ref 30.00 dBm IO	HZ see infl PRC: Issi → FGainLow #Atten: 40 dB	ALISI AUTO 1099-22 AV 3404, 2022 #Avg Type: RMS Trace 12 av a per per per per per per per per per per	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz Stop Freq 2.40500000 GHz CF Step 600.000 KHz Auto Man Freq Offset 0 Hz Scale Type	
N R.t PS S0.2 DC Center Freq 2.402000000 GHz NFE S0.2 DC Ref Offset 12.35 dB S0.0 dB MFE S0.0 DC 10 dB/div Ref 0ffset 12.35 dB ID	SERECTIVE HZ SERECTIVE FROM TO BE Frain tow Trigs Free Run FAtten: 40 dB	ALIGN AUTO 100922403404,2023 #Avg Type: RMS 11442 1224 000 MKr1 2.402 396 00 GHz 0.83 dBm	Frequency Auto Tune Center Freq 2.40200000 GHz Start Freq 2.39900000 GHz Stop Freq 2.40500000 GHz CF Step 600.000 KHz Auto Man Freq Offset 0 Hz Scale Type	



Total Quality. Assured. TEST REPORT

12 Appendix D: Maximum power spectral density

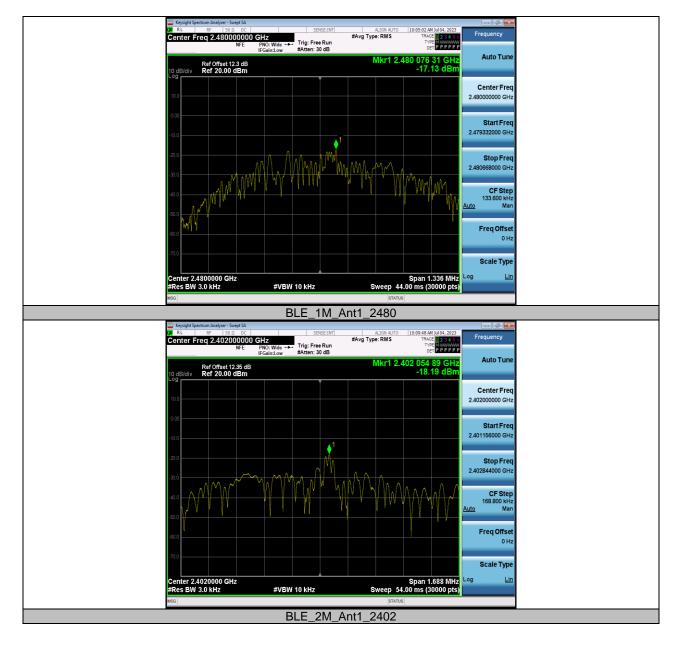
12.1.1 Test Result

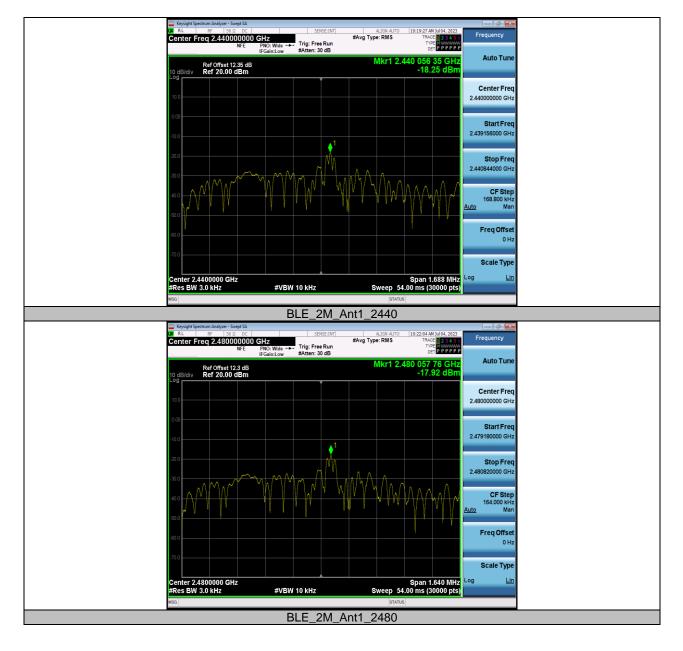
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
		2402	-17.77	≤8.00	PASS
BLE_1M	Ant1	2440	-17.71	≤8.00	PASS
_		2480	-17.13	≤8.00	PASS
		2402	-18.19	≤8.00	PASS
BLE_2M	Ant1	2440	-18.25	≤8.00	PASS
		2480	-17.92	≤8.00	PASS

TEST REPORT

12.1.2 Test Graphs







TEST REPORT

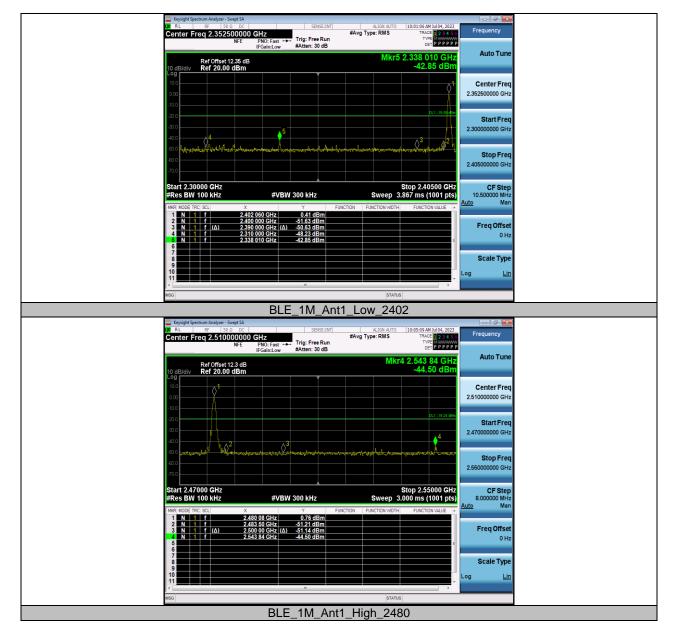
13 Appendix E: Band edge measurements

13.1.1 Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
	Apt1	Low	2402	0.41	-42.85	≤-19.59	PASS
BLE_1M Ant1	Anti	High	2480	0.76	-44.5	≤-19.24	PASS
BLE 2M Ant1	Ant1	Low	2402	0.03	-32.5	≤-19.97	PASS
DLC_2IVI	Anti	High	2480	0.79	-45.72	≤-19.21	PASS

TEST REPORT

13.1.2 Test Graphs



🤤 Keysight :	Spectrum Analyzer - Swept SA			- 2 -	
E RI		#Avg Type: RM Trig: Free Run		Frequency	
	IFGain:Low	#Atten: 30 dB	Ikr5 2.399 960 GHz	Auto Tune	
10 dB/div Log	Ref Offset 12.35 dB Ref 20.00 dBm		-32.50 dBm		
10.0				Center Freq 2.352500000 GHz	
-10.0				2.352500000 GHZ	
-20.0			DL1 -19.97 dgm	Start Freq	
-40.0	.4			2.30000000 GHz	
-50.0 <mark>4.4/in</mark>	and the shad and and the second	๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛	nertourne Later Anton	Stop Freq	
-60.0				2.405000000 GHz	
Start 2.3	30000 GHz		Stop 2.40500 GHz	CF Step	
#Res Bi	N 100 kHz #VBW		ep 3.867 ms (1001 pts)	10.500000 MHz uto Man	
MKR MODE 1 N 2 N	1 f 2.402 060 GHz 1 f 2.400 000 GHz	Y FUNCTION FUNCTION 0.03 dBm -32.50 dBm	WIDTH FUNCTION VALUE		
3 N 4 N	1 f (Δ) 2.390 000 GHz (Δ) 1 f 2.310 000 GHz	-49.94 dBm -50.45 dBm		Freq Offset 0 Hz	
5 N 6 7	1 f 2.399 960 GHz	-32.50 dBm			
8				Scale Type	
				og <u>Lin</u>	
MSG			STATUS		
	BLE	_2M_Ant1_Low_2	2402		
CX/RL	Spectrum Analyzer - Swept SA RF 50 Ω DC	SENSE:INT ALIGN	AUTO 10:22:12 AM Jul 04, 2023	Frequency	
Center	Freq 2.510000000 GHz NFE PNO: Fast IFGain:Low	#Avg Type: RM Trig: Free Run #Atten: 30 dB	AUTO 10:22:12 AM Jul 04, 2023 S TRACE 1 2 3 4 5 6 TYPE M	requirey	
	Ref Offset 12.3 dB		Mkr4 2.544 08 GHz	Auto Tune	
10 dB/div Log	Ref 20.00 dBm	T I I	-45.72 dBm		
10.0	Q ¹			Center Freq 2.51000000 GHz	
-10.0	<u> </u>		DL1 -19.21 dBm		
-20.0				Start Freq 2.47000000 GHz	
-40.0	$\langle \rangle^2$		4	2.47000000 GHZ	
-50 0 -50 0	enable Mount year and a second s	hal-beatrennesserhillebezetysseereserennestares	have surround and an an Allower and	Stop Freq	
-70.0				2.550000000 GHz	
Start 2.4	17000 GHz		Stop 2.55000 GHz	CF Step	
MKRI MODE	TRC SCL X	Y FUNCTION FUNCTION	P 3.000 ms (1001 pts)	8.000000 MHz uto Man	
1 N 2 N	1 f 2.480 08 GHz 1 f 2.483 50 GHz	0.79 dBm -51.23 dBm		From Officer	
3 N	1 f (Δ) 2.500 00 GHz (Δ) 1 f 2.544 08 GHz	-51.30 dBm -45.72 dBm		Freq Offset 0 Hz	
6 7				Ocals T	
8 9 10				Scale Type	
				og <u>Lin</u>	
11					
		_2M_Ant1_High_2	STATUS		

TEST REPORT

14 Appendix F: Conducted Spurious Emission

14.1.1 Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
		Reference	0.48	0.48		PASS	
	2402	30~1000	0.48	-59.82	≤-19.52	PASS	
		1000~26500	0.48	-43.26	≤-19.52	PASS	
		Reference	0.40	0.40		PASS	
BLE_1M	Ant1	2440	30~1000	0.40	-59.82	≤-19.6	PASS
			1000~26500	0.40	-43.68	≤-19.6	PASS
			Reference	0.71	0.71		PASS
		2480	30~1000	0.71	-60.48	≤-19.29	PASS
			1000~26500	0.71	-40.98	≤-19.29	PASS
		2402 Ant1 2440	Reference	0.50	0.50		PASS
			30~1000	0.50	-60.21	≤-19.5	PASS
			1000~26500	0.50	-44.37	≤-19.5	PASS
			Reference	0.50	0.50		PASS
BLE_2M	Ant1		30~1000	0.50	-59.66	≤-19.5	PASS
			1000~26500	0.50	-39.67	≤-19.5	PASS
			Reference	0.75	0.75		PASS
		2480	30~1000	0.75	-59.48	≤-19.25	PASS
			1000~26500	0.75	-40.99	≤-19.25	PASS

TEST REPORT

14.1.2 Test Graphs



Image: State of the state	Keysight Spectrum Analyzer - Swept SA			- 3 💌	
Ref Check v 25 dia Center Freq Start 100 GHz Start 100 GHz Sta	Courton Energy 42, 75,000,000, CU-	#0.40	Type: RMS TRACE 123456		
Center Freq Control No Chiever Control No Ch	Ref Offset 12.35 dB			Auto Tune	
Start Freq 1000000 dHz Storp Z50 GHz Storp Z50 G	10.0				
Story 24 SO GHz	-10.0		DL1 -19 52 dBm	Start Fren	
Start 1.00 CHz FRes BW 100 kHz Start 1.00 CHz Start 1.0	-30.0 22				
FRee BW 1000 kHz #VEW 300 kHz Sweep 938.0 ms (10001 pts) Add	-50 0 -60 0				
PACTON HOLDY FUECTION HOLDY FUECHING	Start 1.00 GHz		Stop 26.50 GHz	CF Step	
Scale Type Scale Type Up Log Excel	MKR MODE TRC SCL X	Y FUNCTION			
BLE_1M_Ant1_2402_1000~26500 BLE_1M_Gatt_2400_600 GHz Frequency Frequency Frequency Frequency Frequency Frequency Auto Tune Frequency Auto Tune Start Freq 2.4400000 GHz 2.4400000 GHz 3.5000 GHz	2 N 1 f 2.530 00 GHz 3 4 5	-43.26 dBm			
BLE_1M_Ant1_2402_1000-26500	6			Scale Type	
BLE_1M_Ant1_2402_1000~26500	10 11 <	TT		Log <u>Lin</u>	
Keprojekt Spectrum Analyzer - Sampt Spectrum ALL 0 001 RL 0 001 Certer Freq 2.440000000 GHz Trig: Free Rum MKr 1 2.440 063 GHz OF 1000 0000 GHz Trig: Free Rum ALL 0 063 GHz OF 1000000 GHz Trig: Free Rum ALL 0 063 GHz Certer Freq 2.44000000 GHz OF 100000 GHz OF 1000000 GHz Certer Freq Auto Tune OF 1000000 GHz Certer Freq 2.40000000 GHz Start Freq 2.440000000 GHz Start Freq 2.441500000 GHz Certer Start Freq 2.441500000 GHz Cert					L
NE NFE SPACE INT ALIGN AUTO D108322 AVA MQ, 2023 Center Freq 2.4400000000 GHz Trig: Free Run #Avg Type: RMS Trace Precuency MEF PRO: Wide Trig: Free Run Mkr1 2.440 063 GHz Auto Tune 10 dBIdity Ref Offset 12.35 dB Mkr1 2.440 063 GHz Auto Tune 10 dBIdity Ref 30.00 dBm O.40 dBm Center Freq 200 Image: Context and the state in t		IM_Ant1_2402_	_1000~26500		
Ref Offset 12.35 dB Mkr1 2.440 063 GHz Auto Tune 10 dB/div Ref 30.00 dBm 0.40 dBm Center Freq 200 1 1 Center Freq 2.4000000 GHz 100 1 1 Start Freq 2.43050000 GHz 100 1 1 1 Stop Freq 2.41500000 GHz 300.000 KHz 300.000 KHz 300.000 KHz		SENSE:INT #Ave	ALIGN AUTO 10:03:22 AM Jul 04, 2023		
Ref offset 12.35 dB UNIT 2.440 OUS GHZ 0.40 dBm 0.40 dBm 20 2.4000000 GHz 100 1 0.00 1 0.00 50000 GHz 2.00 50000 GHz 2.4150000 GHz 2.4150000 GHz 2.4150000 GHz 2.4150000 GHz 300 6	NFE PNO: Wide	, →→ Trig: Free Run v #Atten: 30 dB	DETPPPP		
2.44000000 GHz 2.430500000 GHz 2.430500000 GHz 2.430500000 GHz 2.431500000 GHz 2.41500000 GHz 2.41500000 GHz 2.41500000 GHz	Ref Offset 12.35 dB 10 dB/div Ref 30.00 dBm				
Start Freq Start Freq 2.439500000 GHz 300 Man	20.0				
300 300 CF Step 300 CF Step 300 CF Step 300 Man	10.0			Start Freq	
200 Stop-req 244150000 GHz 244150000 GHz CF Step 300 CF Step 300.000 KHz Auto Man	0.00	Jun with the		2.438500000 GHz	
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		what -		
	/^		hu and the	CF Step	
	-40.0 A MA				
	-50.0				
60.0 Scale Type	-60.0			Scale Type	
Center 2.440000 GHz         Span 3.000 MHz         Log         Lin           #Res BW 100 kHz         #VBW 300 kHz         Sweep 1.533 ms (1001 pts)         Lin	Center 2.440000 GHz #Res BW 100 kHz #W	BM 300 kHz	Span 3.000 MHz		
		DW-500 KH2			
BLE_1M_Ant1_2440_0~Reference					

(X) RL RF 50 Ω 0				- 3 🗻
Center Freq 515.0000	DO MHZ	#Avg Type: RMS	10:03:26 AM Jul 04, 2023 TRACE 1 2 3 4 5 6 TYPE	Frequency
NFI	E PNO: Fast ↔→ Trig: Free Run IFGain:Low #Atten: 20 dB			
Ref Offset 12.35	dB	Μ	kr1 867.76 MHz	Auto Tune
10 dB/div Ref 20.00 dB/ Log	m		-59.82 dBm	
				Center Freq
10.0				515.000000 MHz
0.00				
				Start Freq
-10.0				30.000000 MHz
			DL1 -19.60 dBm	
-20.0			001 -19.50 dbm	Stop Freq
-30.0				1.00000000 GHz
-40.0				CF Step 97.000000 MHz
				<u>Auto</u> Man
-80.0			.1	
-60.0			<u> </u>	Freq Offset
and the second	ng manging panging pang			0 Hz
-70.0 institution distriction in the	en historia and an an hair being an		a hi shilal kalifali bili naj lep nadi.	Scale Type
Start 0.0300 GHz #Res BW 100 kHz	#VBW 300 kHz	Swoon 26	Stop 1.0000 GHz .00 ms (30001 pts)	Log <u>Lin</u>
MKGS BW 100 KHZ	#VBW 300 KHZ	Sweep 30		
mou				
		2440_30~1	000	
Keysight Spectrum Analyzer - Swept S κεγκισμού και	DC SENSE:INT	ALIGN AUTO	10:03:44 AM Jul 04, 2023	Frequency
Center Freq 13.750000	DOOO GHZ E PNO: Fast ↔ IFGain:Low #Atten: 20 dB	#Avg Type: RMS	10:03:44 AM Jul 04, 2023 TRACE 1 2 3 4 5 6 TYPE M DET P P P P P	
				Auto Tune
Ref Offset 12.35 10 dB/div Ref 20.00 dB	dB	WIKE	2 2.568 25 GHz -43.68 dBm	
Log				
				Center Freq
				Center Freq 13.750000000 GHz
0.00			DL1 -19 60 0Bm	13.750000000 GHz
				13.750000000 GHz Start Freq
-10.0				13.750000000 GHz
100 -100 -200 -300 -300				13.75000000 GHz Start Freq 1.00000000 GHz
				13.750000000 GHz Start Freq
000 100 200 300 400				13.75000000 GHz Start Freq 1.00000000 GHz Stop Freq
100 -100 -200 -200 -400 -400 -700 -700 -500 -700 -500 -700 -500 -700 -500 -700 -500 -5			20.1980 880	13.75000000 GHz Start Freq 1.00000000 GHz Stop Freq 26.50000000 GHz CF Step
	#VBW 300 kHz		CL 1950 Em Au 1014 June 10 June 10 June Stop 26.50 GHz 8.0 ms (30001 pts)	13.75000000 GHz Start Freq 1.00000000 GHz Stop Freq 26.50000000 GHz CF Step 2.550000000 GHz
100 100 100 100 100 100 100 100	X Y F	Sweep 93	CL 1950 Em Au 1014 June 10 June 10 June Stop 26.50 GHz 8.0 ms (30001 pts)	13.75000000 GHz Start Freq 1.00000000 GHz Stop Freq 26.50000000 GHz CF Step
0 00 100 200 400 400 500 400 500 500 500 5			CL 1950 Em Au 1014 June 10 June 10 June Stop 26.50 GHz 8.0 ms (30001 pts)	13.75000000 GHz Start Freq 1.00000000 GHz 26.50000000 GHz 2.55000000 GHz Auto Man
0 00 100 200 300 400 500 500 500 500 500 500 5	X Y F		CL 1950 Em Au 1014 June 10 June 10 June Stop 26.50 GHz 8.0 ms (30001 pts)	13.75000000 GHz Start Freq 1.00000000 GHz Stop Freq 26.50000000 GHz CF Step 2.550000000 GHz
400 400 400 400 400 400 500 400 4	X Y F		CL 1950 Em Au 1014 June 10 June 10 June Stop 26.50 GHz 8.0 ms (30001 pts)	13.75000000 GH2 Start Freq 1.00000000 GH2 Stop Freq 26.50000000 GH2 CF Step 2.55000000 GH2 <u>Auto</u> Man Freq Offset
400 400 400 400 400 400 400 400	X Y F		CL 1950 Em Au 1014 June 10 June 10 June Stop 26.50 GHz 8.0 ms (30001 pts)	13.75000000 GH2 Start Freq 1.00000000 GH2 Stop Freq 26.50000000 GH2 CF Step 2.55000000 GH2 <u>Auto</u> Man Freq Offset
000       1         -10.0       -         -20.0       -         -30.0       2         -40.0       -         -40.0       -         -20.0       -         -20.0       -         -40.0       -         -40.0       -         -40.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -         -20.0       -	X Y F		CL 1950 Em Au 1014 June 10 June 10 June Stop 26.50 GHz 8.0 ms (30001 pts)	13.75000000 GH2 Start Freq 1.00000000 GH2 Stop Freq 26.50000000 GH2 CF Step 2.55000000 GH2 Auto Man Freq Offset 0 Hz Scale Type
0.00       0         10.0       0         20.0       0         40.0       2         50.0       2         50.0       2         50.0       2         50.0       2         50.0       2         50.0       2         50.0       2         50.0       2         50.0       2         50.0       2         50.0       2         50.0       2         70.0       2         Start 1.00 CHz       4         #Res BW 100 kHz       1         1       1         1       1         2       1         1       1         3       3         6       6         7       7         9       1	X Y F		CL 1950 Em Au 1014 June 10 June 10 June Stop 26.50 GHz 8.0 ms (30001 pts)	13.75000000 GH2 Start Freq 1.00000000 GH2 Stop Freq 25.50000000 GH2 <u>CF Step</u> 2.55000000 GH2 <u>Auto</u> Man Freq Offset 0 Hz Scale Type
0.00       0         -10.0       -0.0         -0.0       -0.0         -0.0       -0.0         50.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0       -0.0         -0.0	X Y F		Stop 26.50 GHz BURG Direction VALUE	13.75000000 GH2 Start Freq 1.00000000 GH2 Stop Freq 26.50000000 GH2 CF Step 2.55000000 GH2 Auto Man Freq Offset 0 Hz Scale Type
0 00       0         100       0         200       0         300       0         400       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         500       0         6       0         7       0         6       0         7       0 <t< td=""><td>X Y F</td><td>INCTION PUNCTION WIDTH</td><td>CL 19 50 800 Stop 26.50 GHz 8.0 ms (30001 pts) Function VALUE</td><td>13.75000000 GH2 Start Freq 1.00000000 GH2 Stop Freq 26.50000000 GH2 CF Step 2.55000000 GH2 Auto Man Freq Offset 0 Hz Scale Type</td></t<>	X Y F	INCTION PUNCTION WIDTH	CL 19 50 800 Stop 26.50 GHz 8.0 ms (30001 pts) Function VALUE	13.75000000 GH2 Start Freq 1.00000000 GH2 Stop Freq 26.50000000 GH2 CF Step 2.55000000 GH2 Auto Man Freq Offset 0 Hz Scale Type

Keysight Spectrum Analyzer - Swept SA					- 3 🗙	
RL RF 50 Ω DC     Center Freq 2.480000000	GHz	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:05:36 AM Jul 04, 2023 TRACE 1 2 3 4 5	Frequency	
NFE	PNO: Wide	Trig: Free Run #Atten: 30 dB		TYPE MWWWWW		
D-100-1402-10	II Galli.LOW		Mkr	1 2.480 060 GHz	Auto Tuno	
Ref Offset 12.3 dB 10 dB/div Ref 30.00 dBm				0.71 dBm		
Log		Ĭ			Center Freq	
20.0					2.480000000 GHz	
10.0					Start Freq	
0.00		<b>∮</b> ¹			2.478500000 GHz	
0.00		Mm mm	4 AA			
-10.0	N		Min Jone		Stop Freq	
			1 20-		2.481500000 GHz	
-20.0	ۍ کړ		<b>A</b>			
-30.0	1		k.	1 Pro (10) 4	CF Step	
	NR		Ab.	M M M M	300.000 kHz <u>Auto</u> Man	
-40.0						
ALA MARCAN				, the all	Freq Offset	
-50.0				·	0 Hz	
-60.0						
					Scale Type	
Center 2.480000 GHz				Span 3.000 MHz	Log <u>Lin</u>	
#Res BW 100 kHz	#VBW	300 kHz	Sweep	1.533 ms (1001 pts		
			STATU	us		
MSG			STATE			
	BIF 1M	Ant1 24				
E	BLE_1M	_Ant1_24	180_0~Refe			
Keysight Spectrum Analyzer - Swept SA		SENSE:INT	180_0~Refe	erence	Frequency	
E Keyzight Spectrum Analyzer - Swept SA		SENSE:INT	180_0~Refe	erence		
E Keysight Spectrum Analyzer - Swept SA R RL № [50 Ω DC] Center Freq 515.000000 NFE			180_0~Refe Align Auto #Avg Type: RMS	10:05:40 AM Jul 04, 2023 TRACE 12:2:4 TYPE DET P P P P	Frequency	
Keyight Spectrum Analyzer - Swegt SA     RL		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	erence	Frequency Auto Tune	
Keysight Spectrum Analyzer - Swept SA (X RL RE SOΩ DC Center Freq 515.0000000		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	ETENCE 10:05:40 AM Jul 04, 2023 TRACE 12:34 5 TYPE DET PPPPP 1Kr1 891.36 MH2	Frequency Auto Tune	
Keyight Spectrum Analyzer - Swegt SA     RL		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	ETENCE 10:05:40 AM Jul 04, 2023 TRACE 12:34 5 TYPE DET PPPPP 1Kr1 891.36 MH2	Frequency Auto Tune Center Freq	
Keyajahi Spectrum Analyzer - Swegi SA 2 8.L SF 1900 DO Center Freq 515.0000000 NFE 10 dB/div Ref 20.00 dBm Log		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	ETENCE 10:05:40 AM Jul 04, 2023 TRACE 12:34 5 TYPE DET PPPPP 1Kr1 891.36 MH2	Frequency Auto Tune	
Keyajahi Spectrum Analyzer - Swegi SA 2 8.L SF 1900 DO Center Freq 515.0000000 NFE 10 dB/div Ref 20.00 dBm Log		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	ETENCE 10:05:40 AM Jul 04, 2023 TRACE 12:34 5 TYPE DET PPPPP 1Kr1 891.36 MH2	Frequency Auto Tune Center Freq 515.00000 MHz	
E Keyight Spectrum Analyzer - Swegt SA 21 RL 96 1900 DO Center Freq 515.0000000 NFE 10 dB/dlv Ref 20.00 dBm 10 0 0.00		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	ETENCE 10:05:40 AM Jul 04, 2023 TRACE 12:34 5 TYPE DET PPPPP 1Kr1 891.36 MH2	Frequency Auto Tune Center Freq 515.00000 MHz Start Freq	
Keyight Spectrum Analyzer - Swept Sh           2         R.L         RF         150 g         0C           Center Freq 515.000000 f         NFE           Ref 20.00 dBm         NFE           10 dB/div         Ref 20.00 dBm           10 dB/div         Image: Ref 20.00 dBm           10 0         Image: Ref 20.00 dBm		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	10:05:40 AM bill 04, 2023 Tree 2:2:45 Tree 2:2:45 Det PPPP P 1kr1 891.36 MH2 -60.48 dBm	Frequency Auto Tune Center Freq 515.00000 MHz	
E Keyight Spectrum Analyzer - Swegt SA 21 RL 96 1900 DO Center Freq 515.0000000 NFE 10 dB/dlv Ref 20.00 dBm 10 0 0.00		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	ETENCE 10:05:40 AM Jul 04, 2023 TRACE 12:34 5 TYPE DET PPPPP 1Kr1 891.36 MH2	Frequency Auto Tune Center Freq 515.00000 MHz Start Freq 30.00000 MHz	
Exercise Sector Analyzer - Swept Sector Analyzer - Swept Sector Analyzer - Swept Sector Center Freq 515.0000000 P Center Freq 515.0000000 P NFE Ref 20.00 dBm 10 dB/div Ref 20.00 dBm 10 0 10		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	10:05:40 AM bill 04, 2023 Tree 2:2:45 Tree 2:2:45 Det PPPP P 1kr1 891.36 MH2 -60.48 dBm	Frequency Auto Tune Center Freq 515.00000 MHz Start Freq	
Exercise Sector Analyzer - Swept Sector Analyzer - Swept Sector Analyzer - Swept Sector Center Freq 515.0000000 P Center Freq 515.0000000 P NFE Ref 20.00 dBm 10 dB/div Ref 20.00 dBm 10 0 10		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	10:05:40 AM bill 04, 2023 Tree 2:2:45 Tree 2:2:45 Det PPPP P 1kr1 891.36 MH2 -60.48 dBm	Frequency Auto Tune Center Freq 515.000000 MHz Start Freq 30.000000 MHz Stop Freq	
Keysjelt Spectrum Analyzer - Swegt SA           RL         se         100         00         00         NFE           Center Freq 515.0000001         NFE         NFE         00         00         NFE           10         dB/del/w         Ref 0ffset 12.3 dB         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00<		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	10:05:40 AM bill 04, 2023 Tree 2:2:4:5 Tree 2:2:4:5 Det PPPP P 1kr1 891.36 MH2 -60.48 dBm	Frequency Auto Tune Center Freq 515.00000 MHz Start Freq 30.000000 MHz Stop Freq 1.00000000 GHz CF Step	
E Keyight Spectrum Analyzer - Swept SA R. R. Sec. Soc. Dec Center Freq 515.0000000 I NEE Center Freq 515.0000000 I NEE 10 dB/dlv Ref 20.00 dBm 10.0 0.00 -10.0 -20.0		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	10:05:40 AM bill 04, 2023 Tree 2:2:4:5 Tree 2:2:4:5 Det PPPP P 1kr1 891.36 MH2 -60.48 dBm	Frequency           Auto Tune           Center Freq           515.00000 MHz           30.000000 MHz           Stop Freq           1.00000000 GHz           CF Step           97.00000 MHz	
Keysjelt Spectrum Analyzer - Swegt SA           RL         se         100         00         00         NFE           Center Freq 515.0000001         NFE         NFE         00         00         NFE           10         dB/del/w         Ref 0ffset 12.3 dB         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00<		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	10:05:40 AM bill 04, 2023 Tree 2:2:4:5 Tree 2:2:4:5 Det PPPP P 1kr1 891.36 MH2 -60.48 dBm	Frequency Auto Tune Center Freq 515.00000 MHz Start Freq 30.000000 MHz Stop Freq 1.00000000 GHz CF Step	
Excipate Spectrum Analyzer - Swept SA R. R. 95 00 DC Center Freq 515.000000 NFE Ref 20.00 dBm 10.0 0.00 -10.0 -20.0 -40.0		SENSE:INT	180_0~Refe Align Auto #Avg Type: RMS	10:05:40 AM bill 04, 2023 Tree 2:2:4:5 Tree 2:2:4:5 Det PPPP P 1kr1 891.36 MH2 -60.48 dBm	Frequency         Auto Tune         Center Freq         515.00000 MHz         Start Freq         30.000000 MHz         Stop Freq         1.00000000 GHz         97.00000 MHz         Auto         Auto         CF Step         97.00000 MHz	
Keysjelt Spectrum Analyzer - Swegt SA           R.L         set         100         NE           Center Freq 515.000000 NFE         NFE         NFE           10 dB/dlv         Ref 20.00 dBm         00           100	MH2 PNC: Fast → FGainLow	SEKSE.INT	ISO_O~Refe	10:05:40 AM Jul 04, 2023	Frequency           Auto Tune           Center Freq           515.00000 MHz           30.000000 MHz           Stop Freq           1.00000000 GHz           CF Step           97.00000 MHz	
Keyight Spectrum Analyzer - Swegt SA           21         RL         96         90.0         00.0           Center Freq 515.0000000           NE           10         Bit Market 12.3 dB           10         Bit Market 12.3 dB           10.0         Market 12.3 dB           110.0         Market 12.3 dB           20.0         Market 12.3 dB	MHz PNC: Fast ↔ IFGaint.cow	SEKSE.INT	IBO_O~Refe Allowardo #Avg Type: RMS	10:05:40 AM July 4 2022 Tree PPPP / Tree PPPP / Alkr1 891.36 MH2 -60.48 dBm	Frequency         Auto Tune         Center Freq         515.000000 MHz         Start Freq         30.000000 MHz         Stop Freq         1.000000000 GHz         97.00000 MHz         Auto         CF Step         97.00000 MHz         Auto         Man         Freq Offset	
Keysjelt Spectrum Analyzer - Swegt SA           R.L         set         100         NE           Center Freq 515.000000 NFE         NFE         NFE           10         0.00         0.00         0.00           100         0.00         0.00         0.00           100         0.00         0.00         0.00           100         0.00         0.00         0.00           100         0.00         0.00         0.00           40.0         0.00         0.00         0.00           40.0         0.00         0.00         0.00	MHz PNC: Fast ↔ IFGaint.cow	SEKSE.INT	IBO_O~Refe Allowardo #Avg Type: RMS	10:05:40 AM Jul 04, 2023	Frequency         Auto Tune         Center Freq         515.000000 MHz         Start Freq         30.000000 MHz         Stop Freq         1.000000000 GHz         97.00000 MHz         Auto         CF Step         97.00000 MHz         Auto         Man         Freq Offset	
Keysjelt Spectrum Analger - Swegt SA           R.L         or         So 0         OT           Center Freq 515,000,000         NFE           Ref 0ffset 12.3 dB         Of         Of         Of           100         Ref 0ffset 12.3 dB         Of         Of         Of           100         Set 0         Of         Of         Of         Of           100         Set 0	MHz PNC: Fast ↔ IFGaint.cow	SEKSE.INT	IBO_O~Refe Allowardo #Avg Type: RMS	Income de la casa de l	Frequency         Auto Tune         Center Freq         515.000000 MHz         Start Freq         30.000000 MHz         Stop Freq         1.000000000 GHz         97.00000 MHz         Man         Freq Offset         0 Hz         Scale Type	
Keyight Spectrum Analyzer - Swegt SA           21         RL         96         90.0         00.0           Center Freq 515.0000000           NE           10         Bit Market 12.3 dB           10         Bit Market 12.3 dB           10.0         Market 12.3 dB           110.0         Market 12.3 dB           20.0         Market 12.3 dB	MH2 PNC: Fast → IF Gain Low	SEKSE.INT	ISO_O~Refe Arror Arrio #Avg Type: RMS N	10:05:40 AM July 4 2022 Tree PPPP / Tree PPPP / Alkr1 891.36 MH2 -60.48 dBm	Frequency         Auto Tune         Center Freq         515.00000 MHz         30.000000 MHz         Stop Freq         1.00000000 GHz         97.00000 MHz         Man         Freq Offset         0 Hz         Scale Type         Log       Lin	
Keyödt Spectrum Analyzer - Senget Sa           21         84         96         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0         90.0 <t< td=""><td>MH2 PNC: Fast → IF Gain Low</td><td>SERGEJINT</td><td>ISO_O~Refe Arror Arrio #Avg Type: RMS N</td><td>(10:05:40 AM 34/04, 2023     (10:05:40 AM 34/04, 2023     (10:05:40)     (10:05:40, 2023     (10:05:40)     (10:05:40, 2023     (10:05:40)</td><td>Frequency         Auto Tune         Center Freq         515.00000 MHz         30.000000 MHz         Stop Freq         1.00000000 GHz         97.00000 MHz         Man         Freq Offset         0 Hz         Scale Type         Log       Lin</td><td></td></t<>	MH2 PNC: Fast → IF Gain Low	SERGEJINT	ISO_O~Refe Arror Arrio #Avg Type: RMS N	(10:05:40 AM 34/04, 2023     (10:05:40)     (10:05:40, 2023     (10:05:40)     (10:05:40, 2023     (10:05:40)	Frequency         Auto Tune         Center Freq         515.00000 MHz         30.000000 MHz         Stop Freq         1.00000000 GHz         97.00000 MHz         Man         Freq Offset         0 Hz         Scale Type         Log       Lin	

weysight Spectrum Analyzer - Swept SA			- 2 🔀	
Center Freq 13.7500000 NFE	SENSE:INT	ALIGN AUTO 10:05:58 AM Jul 04, 2023 #Avg Type: RMS TRACE 2234 TYPE DET P.P.P.P.	Frequency	
Ref Offset 12.3 dE		Mkr2 2.608 20 GH; -40.98 dBn		
10.0 0.00			Center Freq 13.750000000 GHz	
-10.0		DL1 -19 29 dBr	Start Freq	
-40.0			1.00000000 GHz	
-60.0 -70.0			Stop Freq 26.50000000 GHz	
Start 1.00 GHz #Res BW 100 kHz	#VBW 300 kHz	Stop 26.50 GH Sweep 938.0 ms (30001 pts	CF Step 2.55000000 GHz <u>Auto</u> Man	
MKR         MODE         THC         Scl.         S	X Y FU 2.479 85 GHz -18.04 dBm 2.608 20 GHz -40.98 dBm	CCTION   FUNCTION WIDTH FUNCTION VALUE	Freq Offset 0 Hz	
6 7 8 9 10			Scale Type	
11 < MSG	-	STATUS		
	BLE_1M_Ant1_24	80_1000~26500		
Levight Spectrum Analyzer - Swept SA μα RL RF 50 Ω DC	OF ALCE TART		- 6 💌	
02 RL RF 50Ω DC Center Freq 2.40200000 NFE	DO GHZ PNO: Wide IFGain:Low #Atten: 30 dB	ALIGN AUTO 10:10:27 AM Jul 04, 2023 #Avg Type: RMS TRACE 234 S TYPE TYPE THE TRACE D 234 S TYPE TYPE THE TRACE D 234 S	6 Frequency P	
Ref Offset 12.35 d 10 dB/div Ref 30.00 dBm		Mkr1 2.402 048 GH 0.50 dBn		
20.0			Center Freq 2.402000000 GHz	
10.0	1		Start Freq 2.400500000 GHz	
-10.0	- Allowpall w		Stop Freq	
-20.0		A A A A A A A A A A A A A A A A A A A	2.403500000 GHz	
-30.0			CF Step 300.000 kHz <u>Auto</u> Man	
-50.0			Freq Offset 0 Hz	
-60.0			Scale Type	
Center 2.402000 GHz	49 (BW) 000 111	Span 3.000 MH Sweep 1.533 ms (1001 pts	Log <u>Lin</u>	
#Res BW 100 kHz	#VBW 300 kHz	Sweep 1.533 ms (1001 pts	2	

Keysight Spectrum Analyzer - Swept SA				- 3 💌	
RL RF 50Ω DC     Center Freq 515.000000 MH	HZ Trig: Eree B	#Avg Type: RMS	10:10:32 AM Jul 04, 2023 TRACE 1 2 3 4 5 6 TYPE M	Frequency	
	PNO: Fast Trig: Free R IFGain:Low #Atten: 20 o	aB	DETPPPPP	Auto Tuno	
10 dB/div Ref 20.00 dBm		M	kr1 723.42 MHz -60.21 dBm	Autorune	
10 dB/div Ref 20.00 dBm	Ĭ				
10.0				Center Freq 515.000000 MHz	
0.00				Start Freq	
-10.0				30.000000 MHz	
			DL1 -19.50 dBm		
-20.0				Stop Freq 1.00000000 GHz	
-30.0				1.00000000 GH2	
				CF Step	
40.0				97.000000 MHz <u>Auto</u> Man	
-50.0					
-60.0		<b>∮</b> ¹		Freq Offset	
Deptember 2016 for the baseling of the baseling	an a san pupiliki sana imatika mara M	har a state of the second s		0 Hz	
-70.0 Approximate providential statements providentially	لأختركما وفقتتهما			Scale Type	
Start 0.0300 GHz			Stop 1.0000 GHz		
#Res BW 100 kHz	#VBW 300 kHz	Sweep 36	6.00 ms (30001 pts)		
MSG		STATUS	s		
	BLE_2M_An	nt1_2402_30~1	000		
Keysight Spectrum Analyzer - Swept SA           Ο         R L         RF         50 Ω         DC	SENSE	E:INT ALIGN AUTO	10:10:50 AM Jul 04, 2023		
Center Freq 13.750000000	PNO: Fast ↔ IFGain:Low #Atten: 20 c		10:10:50 AM Jul 04, 2023 TRACE 1 2 3 4 5 6 TYPE DET P P P P P	Frequency	
	FGain:Low #Atten: 20 c		2 2.295 40 GHz	Auto Tuno	
Ref Offset 12.35 dB 10 dB/div Ref 20.00 dBm			-44.36 dBm		
10.0	ľ – ľ			Center Freq	
0.00				13.750000000 GHz	
-10.0			DL1 -19.50 dBm		
300 1				Start Freq 1.00000000 GHz	
-40.0				1.00000000 GH2	
-50.0				Stop Freq	
-60.0				26.50000000 GHz	
Start 1.00 GHz #Res BW 100 kHz	#VBW 300 kHz	Sweep 93	Stop 26.50 GHz 38.0 ms (30001 pts)	2.550000000 GHz	
MKR MODE TRC SCL X	Y	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man	
1 N 1 f 2.399 2 N 1 f 2.295	95 GHz -36.31 dBn 40 GHz -44.36 dBn	1 1		Freq Offset	
4				0 Hz	
6		کے کے			
8		کے سے		Scale Type	
10				Log <u>Lin</u>	
MSG		STATUS	s		
BI	E 2M Ant1	_2402_1000~2	26500		



Elected with the second second with the second s	🔤 Keysight Spectrum Analyzer - Swept SA		
Her Consults and the formation of the fo		Frequency	
Center Prop 137000000 Prov 137000000 Prov 13800000 Dete 13800000 Dete 138000000 Dete 138000000 Dete 138000000 Dete 13800000 Dete 13800000 Dete 13800000 Dete 138000000 Dete 138000000 Dete 138000000 Dete 138000000 Dete 138000000 Dete 13800000000 Dete 1380000000 Dete 138000000000000000000000000000000000000			
Start Freq Start Job CHz Store Job CHz Store Job CHz Store Job CHz Store Job CHz Store Job CHz Store Job CHz Start Job CHz Store			
Start Freq Start 100 Oth Start 100	-10.0	13./6000000 GHz	
Atto Ture Second Second Secon			
Statistics of the second of th		Stop Freq	
Files EW 100 kHz       #VEW 300 kHz       Sweep 333.0 KHz       Factors within       Fact			
Percential and the second seco	Start 1.00 GHz         Stop 26.50 GHz           #Res BW 100 kHz         #VBW 300 kHz         Sweep 938.0 ms (30001 pts)	2.55000000 GHz	
BLE_2M_Ant1_2440_1000~26500 Frequency Auto Ture Center Freq 2.400000 GHz 1000 Hz 200 Mix 12460 054 GHz 0,75 GHr 1000 Hz 200 Mix 12460 054 GHz 0,75 GHr 1000 Hz 200 Mix 12460 054 GHz 1000 Mix 12460 GHz 1000 Mix 124	MMR         MODE         TRC; SCL         X         Y         Function         Function		
BLE_2M_Ant1_2440_1000-26500			
BLE_2M_Ant1_2440_100205000 BLE_2M_Ant1_2440_100_10253 MM4 200 Genter Freq.480000000 GHz WE DISC Mit and WE DISC WE DISC MIT and WE DISC WE		Scale Type	
BLE_2M_Ant1_2440_1000~26500		Log <u>Lin</u>	
Image: State of the state			
Mit       Nite       State Livit       Lation Auto       Discussion       Frequency         Center Freq 2.480000000 GHz       Trig: Free Run       #Avg Type: RMS       Trig: Free Run       #Avg Type: RMS       Trig: Free Run       Auto Tune         Ref Offset 123 dB       Offset 123 dB       Mit r 2.480 0054 GHz       Center Freq       2.480000000 GHz       Center Freq       2.480000000 GHz       Center Freq       2.48000000 GHz       State Trig:			
Ref Offset 12.3 dB         Mikr1 2.480 054 GHz         Auto Tune           200         0         0.75 dBm         0.75 dBm         2.48000000 GHz           200         0         0         0         0         2.48000000 GHz           200         0         0         0         0         2.48000000 GHz           200         0         0         0         0         0         2.478500000 GHz           2.481500000 GHz         2.48150000 GHz         2.48150000 GHz         2.48150000 GHz         2.48150000 GHz           2.48150000 GHz         0         0         0         0         0         0           0         0         0         0         0         0         0         0           0         0         0         0         0         0         0         0           0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0<		Frequency	
Log       Center Freq         2.48000000 GHz         1       Start Freq         2.47550000 GHz         2.48150000 GHz         2.480000 GHz         #VEW 300 kHz         Span 3.000 MHz	Ref Offset 12.3 dB Mkr1 2.480 054 GHz	Auto Tune	
100       1       1       Start Freq         2.47850000 GHz       2.48150000 GHz       2.48150000 GHz         300       0       0       0         400       0       0       0         500       0       0       0         600       0       0       0         600       0       0       0         600       0       0       0         600       0       0       0         600       0       0       0         600       0       0       0         600       0       0       0         600       0       0       0         7       0       0       0         600       0       0       0         7       0       0       0         7       0       0       0         8       0       0       0         9       0       0       0         9       0       0       0         9       0       0       0         9       0       0       0         9       0       0			
Start Freq 2.47860000 GHz 2.48150000 GHz 2.58000 GHz 2.59000 GHz 2.590000 GHz 2.590000 GHz 2.5900000000000 GHz 2.5900000000		2.480000000 GHz	
Company			
2.481500000 GHz #Res EW 100 kHz #VEW 300 kHz Sweep 1.533 ms (1001 pts)			
300       Image: CF Step 300.000 HHz         400       Image: CF Step 300.000 HHz         500       Image: CF Step 300.000 HHz         600       Image: CF Step 300.000 Hz         600       Image: CF Step 300.000 Hz         600       Image: CF Step 300.000 Hz         600 <td< th=""><th></th><th></th><th></th></td<>			
Auto Man Freq Offset 0 Hz Scale Type Center 2.480000 GHz #VEW 300 kHz Sweep 1.533 ms (1001 pts)		CF Step 300.000 kHz	
State         State         O Hz           60.0         Image: State         State         State           Center 2.480000 GHz         Span 3.000 MHz         Log         Lin           #Res BW 100 kHz         #VBW 300 kHz         Sweep 1.533 ms (1001 pts)         Lin		Auto Man	
Scale Type           Center 2.480000 GHz         Span 3.000 MHz           #Res BW 100 kHz         #VBW 300 kHz           Sweep 1.533 ms (1001 pts)			
Center 2.480000 GHz Span 3.000 MHz Log Lin #Res BW 100 kHz #VBW 300 kHz Sweep 1.533 ms (1001 pts)		Scale Type	
	Center 2.480000 GHz #Res BW 100 kHz #Res BW 100 kHz #Res BW 100 kHz		

weight Spectrum Analyzer - Swept SA				- 6 ×	
Center Freq 515.00 DC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:22:48 AM Jul 04, 2023 TRACE 1 2 3 4 5 6 TYPE	Frequency	
NFE	PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 20 dB		DET PPPPP		
	i danicov	М	kr1 869.63 MHz	Auto Tune	
10 dB/div Ref 20.00 dBm			-59.48 dBm		
Log					
10.0				Center Freq 515.000000 MHz	
10.0				515.000000 MHZ	
0.00					
				Start Freq	
-10.0				30.000000 MHz	
			DL1 -19.25 dBm		
-20.0				Stop Freq	
-31.0				1.00000000 GHz	
-300					
-40.0				CF Step	
				97.000000 MHz <u>Auto</u> Man	
-50.0					
			1	Freq Offset	
-60.0	Section of the contract of the section of the secti	الربية المسطية فالفاسية	المراجع والمراجع المالية المراجع والمراجع	0 Hz	
ne tradit ne ta de a	an disellent and a second short of the second states and the second second second second second second second s	a de la constante de la constan La constante de la constante de	isted at him to be a		
2000 partification, status a data d	and a state of the			Scale Type	
Start 0.0300 GHz			Stop 1.0000 GHz	Log <u>Lin</u>	
#Res BW 100 kHz	#VBW 300 kHz		5.00 ms (30001 pts)		
MSG		STATU	S		
	BLE_2M_Ant1_2	2/QA 2A 1	000		
		Z400 30~I	000		
Keysight Spectrum Analyzer - Swept SA		2480_30~1	000		
Keysight Spectrum Analyzer - Swept SA           Image: Display the system         RL         RF         50 Ω         DC	SENSE:INT	ALIGN AUTO		Frequency	
07 RL RF 50Ω DC Center Freq 13.75000000	SENSE:INT		10:23:05 AM Jul 04, 2023 TRACE 1 2 3 4 5 6	Frequency	
CM RL RF 50 Q DC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 1 2 3 4 5 6 TYPE MY	Frequency	
00 RL FF 500 DC Center Freq 13.75000000 NFE Ref Offset 12.3 dB	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 2 2 3 4 5 6 TYPE M DET P P P P P 2 2.351 50 GHz		
07 RL RF 50Ω DC Center Freq 13.75000000	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 1 2 3 4 5 6 TYPE MY	Frequency	
00 RL FF 500 DC Center Freq 13.75000000 NFE Ref Offset 12.3 dB	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 2 2 3 4 5 6 TYPE M DET P P P P P 2 2.351 50 GHz	Frequency	
O         RL         PF         50.0.0c           Center Freq 13.75000000         NFE         NFE           10 dBldiv         Ref 20.00 dBm         Leg	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 2 2 3 4 5 6 TYPE M DET P P P P P 2 2.351 50 GHz	Frequency Auto Tune	
Center Freq 13.7500.000 Center Freq 13.7500.000 NFE to dBidly Ref 20.00 dBm	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 12 34 5 G DTPE PPPPP 2 2:351 50 GHz -40.99 dBm	Frequency Auto Tune Center Freq	
00 RL FF 500 DC Center Freq 13.75000000 NFE 10 dB/dlv Ref 20.00 dBm 10 0 10 0 10 0 10 0	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 2 2 3 4 5 6 TYPE M DET P P P P P 2 2.351 50 GHz	Frequency Auto Tune Center Freq 13.76000000 GHz	
00 RL FF 500 DC Center Freq 13.75000000 NFE 10 dBiddiv Ref 20.00 dBm 10 0	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 12 34 5 G DTPE PPPPP 2 2:351 50 GHz -40.99 dBm	Frequency Auto Tune Center Freq	
00 RL FF 500 DC Center Freq 13.75000000 NFE 10 dB/dlv Ref 20.00 dBm 10 0 10 0 10 0 10 0	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 12 34 5 G DTPE PPPPP 2 2:351 50 GHz -40.99 dBm	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq	
0 RL FF 500 DC Center Freq 13.7500000 NFE 10 dB/div Ref 20.00 dBm 100 100 100 100 100 100 100 100 100 10	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 12 34 5 G DTPE PPPPP 2 2:351 50 GHz -40.99 dBm	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 1.00000000 GHz	
0 RL FF 500 DC Center Freq 13.7500000 NFE 10 dB/div Ref 20.00 dBm 100 100 100 100 100 100 100 100 100 10	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 12 34 5 G DTPE PPPPP 2 2:351 50 GHz -40.99 dBm	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq	
0 RL FF 500 DC Center Freq 13.7500000 NFE 10 dB/div Ref 20.00 dBm 100 100 100 100 100 100 100 100 100 10	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:23:05 AM Jul 04, 2023 TRACE 12 34 5 G DTPE PPPPP 2 2:351 50 GHz -40.99 dBm	Frequency Auto Tune Center Freq 13.76000000 GHz Start Freq 1.00000000 GHz Stop Freq	
O         RL         pr         500_DC           Center Freq 13.75000000         NFE         NFE           10 dB/div         Ref 0f642 3 dB         0.00 dBm           0.00         0.00         0.00           0.00         0.00         0.00           0.00         0.00         0.00           0.00         0.00         0.00           0.00         0.00         0.00           0.00         0.00         0.00           0.00         0.00         0.00           0.00         0.00         0.00           0.00         0.00         0.00           0.00         0.00         0.00           0.00         0.00         0.00	SENSE:INT	ALIGN AUTO #Avg Type: RMS	(10:23:05 AH AI 04, 2023 TRACE [] 2 3 4 3 5 TYPE DAVANCE 00 [] P J P P P 2 2.351 50 GHz -40.99 dBm 2 2.4 -19 25 dBm 2 2.4 -19 25 dBm	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 26.50000000 GHz	
0 RL FF 500 DC Center Freq 13.7500000 NFE 10 dB/div Ref 20.00 dBm 100 100 100 100 100 100 100 100 100 10	SENSE:INT	ALIGN AUTO	10:23:05 AM Jul 04, 2023 TRACE 12 34 5 G DTPE PPPPP 2 2:351 50 GHz -40.99 dBm	Frequency           Auto Tune           Center Freq           13.75000000 GHz           Start Freq           1.00000000 GHz           Stop Freq           26.5000000 GHz           2.55000000 GHz	
ML         RF         SOG_DC           Center Freq 13.75000000         NFE           10 dB/div         Ref 0f5set 12 3 dB           10 dB/div         Ref 20.00 dBm           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000	00 GHz PR0:Fast → IFGainLow         Trig: Free Run #Atten: 20 d5           view         84 ten: 20 d5	ALIGN AUTO	10:23:65 MM 04, 2023 TRACE 17 24 4 M Protect 17 24 4 M Protect 17 24 M	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 1.00000000 GHz Stop Freq 26.50000000 GHz CF Step	
ML         RF         SOG_DC           Center Freq 13.75000000         NFE           10 dB/div         Ref 0f5set 12 3 dB           10 dB/div         Ref 20.00 dBm           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000	00 GHz PR0:Fast → IFGainLow         Trig: Free Run #Atten: 20 d5           view         84 ten: 20 d5	ALIGN AUTO	10:23:65 MM 04, 2023 TRACE 17 24 4 M Protect 17 24 4 M Protect 17 24 M	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 25.50000000 GHz 2.55000000 GHz 2.55000000 GHz Auto Man	
ML         RF         SOG_DC           Center Freq 13.75000000         NFE           10 dB/div         Ref 0f5set 12 3 dB           10 dB/div         Ref 20.00 dBm           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000	SDREINT PRO: Fast PG: Fast PG: Fast PG: Free Run Axten: 20 dB #VEW 300 kHz	ALIGN AUTO	10:23:65 MM 04, 2023 TRACE 17 24 4 M Protect 17 24 4 M Protect 17 24 M	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 1.00000000 GHz Stop Freq 26.50000000 GHz 2.50000000 GHz Auto Man Freq Offset	
ML         RF         SOG_DC           Center Freq 13.75000000         NFE           10 dB/div         Ref 0f5set 12 3 dB           10 dB/div         Ref 20.00 dBm           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000	00 GHz PR0:Fast → IFGainLow         Trig: Free Run #Atten: 20 d5           view         84 ten: 20 d5	ALIGN AUTO	10:23:65 MM 04, 2023 TRACE 17 24 4 M Protect 17 24 4 M Protect 17 24 M	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 25.50000000 GHz 2.55000000 GHz 2.55000000 GHz Auto Man	
ML         RF         SOG_DC           Center Freq 13.75000000         NFE           10 dB/div         Ref 0f5et 12 3 dB           10 dB/div         Ref 20.00 dBm           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000	00 GHz PR0:Fast → IFGainLow         Trig: Free Run #Atten: 20 d5           view         84 ten: 20 d5	ALIGN AUTO	10:23:65 MM 04, 2023 TRACE 17 24 4 M Protect 17 24 4 M Protect 17 24 M	Frequency Auto Tune Center Freq 13.75000000 GHz 1.00000000 GHz 26.50000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.5500000 GHz 2.5500000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.5500000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.550000000 GHz 2.5500000000 GHz 2.55000000 GHz 2.550000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.5500000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.50000000 GHz 2.500000000 GHz 2.50000000 GHz 2.500000000 GHz 2.500000000 GHZ 2.500000000 GHZ 2.500000000 GHZ 2.500000000 GHZ 2.5000000000 GHZ 2.5000000000 GHZ 2.5000000000 GHZ 2.500000000 GHZ 2.5000000000000000000000000000000000000	
ML         RF         SOG_DC           Center Freq 13.75000000         NFE           10 dB/div         Ref 0f5et 12 3 dB           10 dB/div         Ref 20.00 dBm           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000           000         000	00 GHz PR0:Fast → IFGainLow         Trig: Free Run #Atten: 20 d5           view         84 ten: 20 d5	ALIGN AUTO	10:23:65 MM 04, 2023 TRACE 17 24 4 M Protect 17 24 4 M Protect 17 24 M	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 1.00000000 GHz Stop Freq 26.50000000 GHz 2.50000000 GHz Auto Man Freq Offset	
B         RL         RF         500_DC           Center Freq 13.75000000         NFE           10         B         NFE           10         B         Ref Offset 12.3 dB           10.0         B         B           10.0         Context 12.3 dB         B           10.0         Context 12.3 dB         Context 12.3 dB           20.0         Context 12.3 dB         Context 12.3 dB           21.0         Context 12.3 dB         Context 12.3 dB           22.3         Context 12.3 dB         Context 12.3 dB           <	00 GHz PR0:Fast → IFGainLow         Trig: Free Run #Atten: 20 d5           view         84 ten: 20 d5	ALIGN AUTO	10:23:05 MI MI 04, 2023 TRACE    2 3 4 TRACE    2 3 TRACE    2 3 TRACE	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.5000000 GHz 26.50000000 GHz 26.5000000 GHz 26.50000000 GHz 26.5000000 GHz 26.50000000 GHz 26.50000000 GHz 26.5000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 20.50000000 GHz 20.500000000 GHz 20.500000000 GHz 20.500000000000000000000000000000000000	
ML         PF         SOG_DC           Center Freq 13.75000000         NFE           10 dBldiv         Ref Offset 12.3 dB         NFE           10 dBldiv         Ref 20.00 dBm         0           10 0         0         0           10 0         0         0           10 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           20 0         0         0           2	00 GHz PR0:Fast → IFGainLow         Trig: Free Run #Atten: 20 d5           view         84 ten: 20 d5	ALIGN AUTO	10:23:05 MI MI 04, 2023 TRACE    2 3 4 TRACE    2 3 TRACE    2 3 TRACE	Frequency Auto Tune Center Freq 13.75000000 GHz 1.00000000 GHz 26.50000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.550000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.5500000 GHz 2.5500000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.550000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.5500000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.55000000 GHz 2.50000000 GHz 2.5000000 GHz 2.50000000 GHz 2.50000000 GHz 2.50000000 GHz 2.50000000 GHz 2.50000000 GHz 2.50000000 GHz 2.50000000 GHz 2.50000000 GHz 2.50000000 GHz 2.500000000 GHz 2.500000000 GHz 2.500000000 GHz 2.500000000 GHz 2.500000000 GHz 2.500000000 GHz 2.500000000 GHz 2.500000000 GHz 2.50000000 GHz 2.50000000 GHz 2.500000000 GHz 2.500000000 GHz 2.500000000 GHz 2.500000000 GHz 2.500000000000 GHz 2.5000000000000000 GHZ 2.5000000000000000000000000000000000000	
B         RL         RF         500_DC           Center Freq 13.75000000         NFE           10         B         NFE           10         B         Ref Offset 12.3 dB           10.0         B         B           10.0         Context 12.3 dB         B           10.0         Context 12.3 dB         Context 12.3 dB           20.0         Context 12.3 dB         Context 12.3 dB           21.0         Context 12.3 dB         Context 12.3 dB           22.3         Context 12.3 dB         Context 12.3 dB           <	00 GHz PR0:Fast → IFGainLow         Trig: Free Run #Atten: 20 d5           view         84 ten: 20 d5	ALIGN AUTO	10:23:85 M M (4), 2023 TRACE 22:45 M (4), 2023 TRACE 22:45 M (4), 2023 TRACE 22:45 M (4), 2023 22:45 M (	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.5000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000000 GHz 26.500000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.500000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.50000000 GHz 26.5000000 GHz 26.5000000 GHz 26.50000000 GHz 20.50000000 GHz 20.500000000 GHz 20.500000000 GHz 20.500000000000000000000000000000000000	
0       RL       RF       500_DC         Center Freq 13.75000000       NFE         10       dBdiv       Ref 0f5et 12.3 dB         10.0       0.00       0.00         0.00       0.00       0.00         0.00       0.00       0.00         0.00       0.00       0.00         0.00       0.00       0.00         0.00       0.00       0.00         0.00       0.00       0.00         3.00       0       0.00         3.00       0       0.00         3.00       0       0.00         3.00       0       0.00         3.00       0       0.00         3.00       0       0.00         3.00       0       0.00         4.00       0       0.00         4.00       0       0.00         4.00       0       0.00         4.00       0       0.00         5.00       0       0.00         4.00       0       0.00         5.00       0       0.00         5.00       0       0.00         5.00       0       0.00	00 GHz PR0:Fast → IFGainLow         Trig: Free Run #Atten: 20 d5           view         84 ten: 20 d5	ALIGN AUTO #Avg Type: RMS MKT Sweep 93 KCTION FUNCTION WIDTH Stratus Stratus Stratus Stratus	10:23:85 M M (4, 2023 TRACE 22:35 50 GHz 	Frequency Auto Tune Center Freq 13.75000000 GHz Start Freq 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.5000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000000 GHz 26.500000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.500000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.50000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.5000000 GHz 26.50000000 GHz 26.5000000 GHz 26.5000000 GHz 26.50000000 GHz 20.50000000 GHz 20.500000000 GHz 20.500000000 GHz 20.500000000000000000000000000000000000	

**TEST REPORT** 

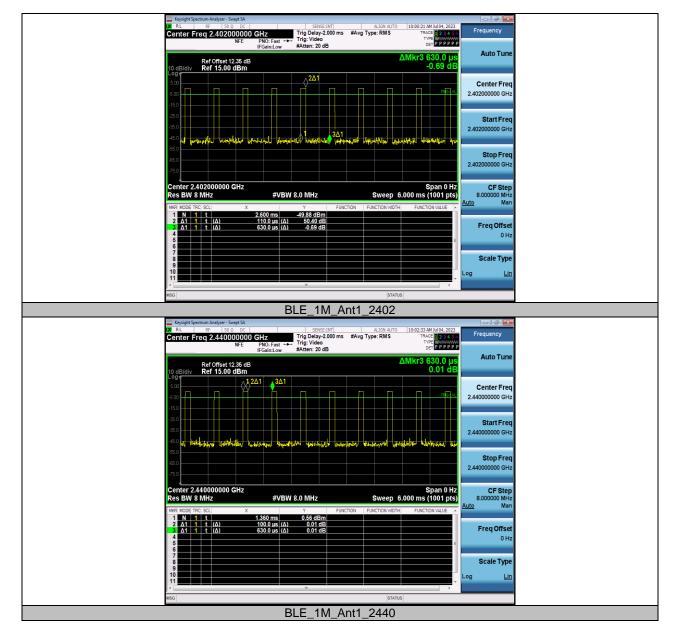
### 15 Appendix G: Duty Cycle

### 15.1.1 Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
		2402	0.11	0.63	17.46	7.58
BLE_1M	Ant1	2440	0.10	0.63	15.87	7.99
		2480	0.10	0.62	16.13	7.92
		2402	0.06	0.63	9.52	10.21
BLE_2M	Ant1	2440	0.06	0.63	9.52	10.21
		2480	0.06	0.63	9.52	10.21

#### **TEST REPORT**

#### 15.1.2 Test Graphs



Keysight Spectrum Analyzer - Swept SA		- 3 💌	
₩ RL   №  500 DC Center Freq 2.480000000 NFE	CHZ Trig Delay-2.000 ms #Avg Type: RM	IAUTO 10:04:17 AM Jul 04, 2023 MS TRACE 23 4 5 0 TYPE W DET P P P P P	
	PNO: Fast Trig: Video IFGain:Low #Atten: 20 dB	ΔMkr3 620.0 μs	
10 dB/div Ref 15.00 dBm		-48.56 dB	
		Center Freq	
-5.00		2.480000000 GHz	
-25.0		Start Freq	
	3Δ1	2.480000000 GHz	
-55.0	hilliogent horizonte handour handered woeklith	a initiana ilaninya ila Stop Freq	
-66.0		2.480000000 GHz	
Center 2.480000000 GHz		Span 0 Hz CF Step	
Res BW 8 MHz		eep 6.000 ms (1001 pts) 8.000000 MHz	
MRR         MODE         TRC         XL         X           1         N         1         t         t           2         Δ1         1         t         (Δ)	Y FUNCTION FUNCTION     2.610 ms     0.82 dBm     400	N WIDTH FUNCTION VALUE	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	100.0 μs (Δ) -0.01 dB 620.0 μs (Δ) -48.56 dB	Freq Offset	
6		E	
8 9 9		Scale Type	
10		Log <u>Lin</u>	
MSG	"	STATUS	
	BLE_1M_Ant1_248	30	
Keysight Spectrum Analyzer - Swept SA	SENSE:INT ALIGN	AUTO 10:09:07 AM Jul 04, 2023	
Center Freq 2.40200000 NFE	PNO: Fast →→ IFGain:Low #Atten: 20 dB	AUTO 100900 AM JUL9, 2023 MS TRACE 23450 TYPE WWWWW DET PPPPP	
Ref Officet 12:35 rd		Auto Tune	
Ref Offset 12.35 dE 10 dB/div Ref 15.00 dBm		4.36 dB	
5.00 -5.00 A A A	η η η	24 Center Freq 2.402000000 GHz	
-15.0			
-25.0		Start Freq	
-50 - Uhren har ale align and a start of the	washing hypothesis nation-all detections conference	2.402000000 GHz	
-56.0		Stop Freq	
.75.0		2.402000000 GHz	
Center 2.402000000 GHz		Span 0 Hz CF Step	
Res BW 8 MHz	#VBW 8.0 MHz Swe	ep 6.000 ms (1001 pts) 8.000000 MHz	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	4.480 ms -3.79 dBm 60.00 μs (Δ) 4.40 dB		
$\begin{array}{c} 3 \\ 4 \\ 4 \\ 4 \end{array}$	630.0 μs (Δ) 4.36 dB	Freq Offset	
8 9 10		Scale Type	
	π	Log Lin	
MSG		STATUS	
	BLE_2M_Ant1_240	)2	

