FCC PART 15.247
TEST REPORT

For

WISEASY TECHNOLOGY PTE. LTD.

51 GOLDHILL PLAZA #18-05 SINGAPORE (308900)

FCC ID: 2BFPO-T201

Report Type:	**Product Name:**
Original Report	Smart Payment Tablet

Report Number:	RKSA240327005-00B
Report Date:	2024-07-12
Reviewed By:	Bard Liu
Approved By:	Kyle Xu
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu Province, China Tel: +86-512-86175000 Fax: +86-512-88934268 www.baclcorp.com.cn

TABLE OF CONTENTS

REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RKSA240327005-00B	R1V1	2024-07-12	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	WISEASY TECHNOLOGY PTE. LTD.
Product Name:	Smart Payment Tablet
HVIN:	P2_1XX_30_XX
Tested Model:	T2
Power Supply:	DC 3.87V powered by battery and DC 5V/9V/12V charging by adapter
RF Function:	Classic BT
Operating Band/Frequency:	2402-2480 MHz
Maximum Output Power:	GFSK: 11.06 dBm π/4-DQPSK: 10.47 dBm 8DPSK:10.73 dBm
Channel Number:	79
Channel Separation:	1 MHz
Modulation Type:	GFSK, π/4-DQPSK, 8DPSK
Antenna Type:	FPC Antenna
★Maximum Antenna Gain:	1.31 dBi

Adapter Information:
Model: 235A-020A-1A1C
Input: AC100-240V 50/60Hz 600mA
Output: USB-C 5.0V-3.0A, 9.0V-2.0A, 12.0V-1.67A
USB-A 5.0V-3.0A, 9.0V-2.0A, 12.0V-1.5A
USB-A+C Total 5.0V-3.0A

Note: The maximum antenna gain was declared by the manufacturer.

All measurement and test data in this report was gathered from production sample serial number: RKSA240327005-1 (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2024-03-27.)

Objective

This test report is prepared for *WISEASY TECHNOLOGY PTE. LTD.* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commissions rules.

The tests were performed in order to determine Compliance with FCC Part 15, Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices and 558074 D01 15.247 Meas Guidance v05r02.

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19dB
RF conducted test with spectrum		0.9dB
RF Output Power with Power meter		0.5dB
Radiated emission	9 kHz~150 kHz	3.8dB
	150 kHz~30 MHz	3.4dB
	30MHz~1GHz	6.11dB
	1GHz~6GHz	4.45dB
	6GHz~18GHz	5.23dB
	18GHz~40GHz	5.65dB
Occupied Bandwidth		0.5kHz
Temperature		1.0℃
Humidity		6%

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu Province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) is accredited in accordance with ISO/IEC 17025:2017 by NVLAP (Lab code: 600338-0), and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No. : CN5055.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

Channel list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	40	2442
1	2403	…	…
…	…	…	…
…	…	78	2480
39	2441	/	/

EUT was tested with Channel 0, 39 and 78.

EUT Exercise Software

RF Test Tool: QRCT

★Power level: Default

Note: The power level was declared by the applicant.

Special Accessories

No special accessory.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
/	/	/	/

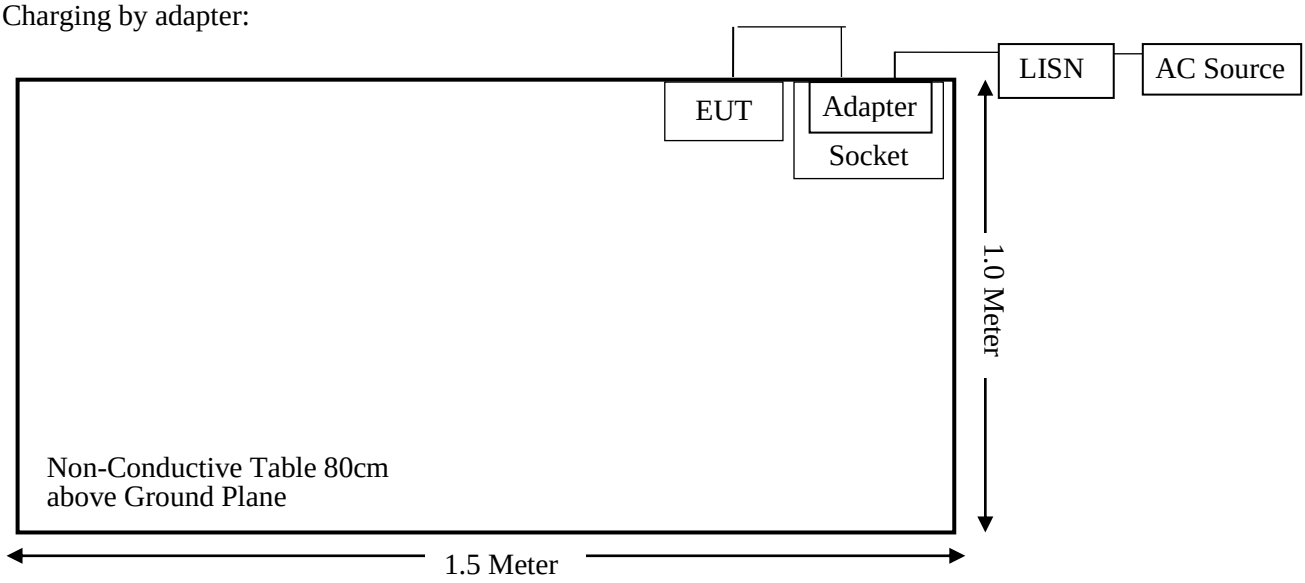
External I/O Cable

Cable Description	Length (m)	From Port	To
USB Cable	1.0	EUT/Base	Adapter
Power Cable	1.0	Adapter	LISN/AC Source

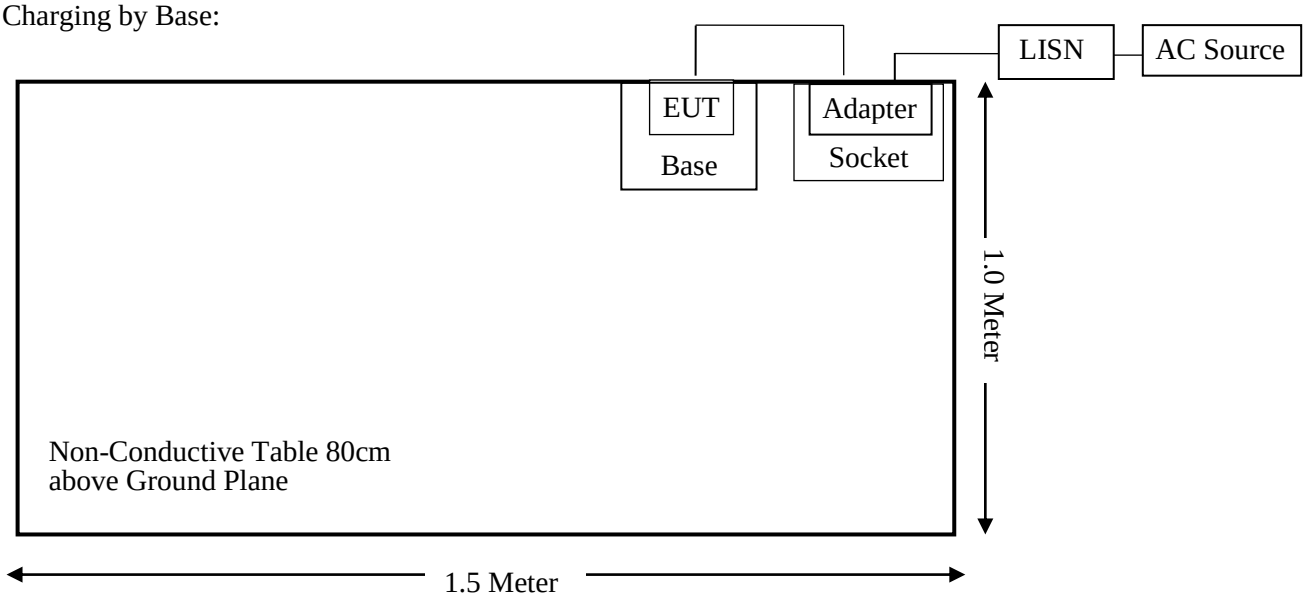
Block Diagram of Test Setup

For Conducted Emissions:

Charging by adapter:

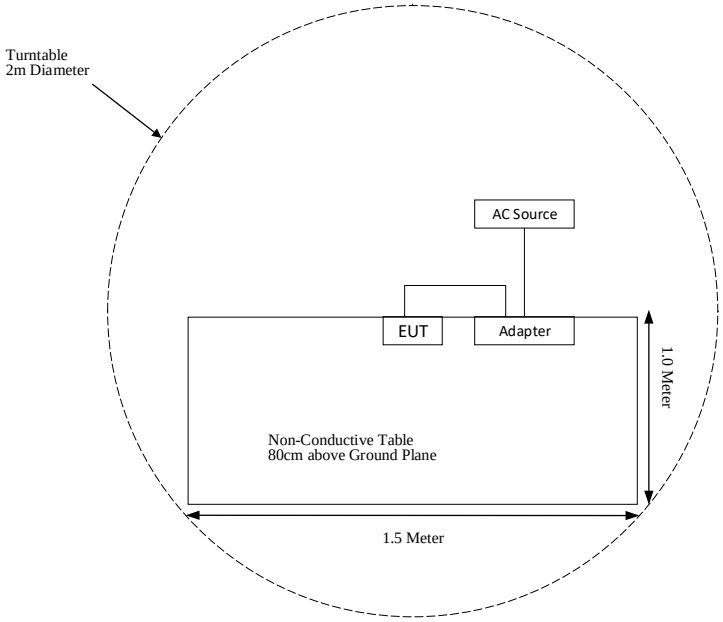


Charging by Base:

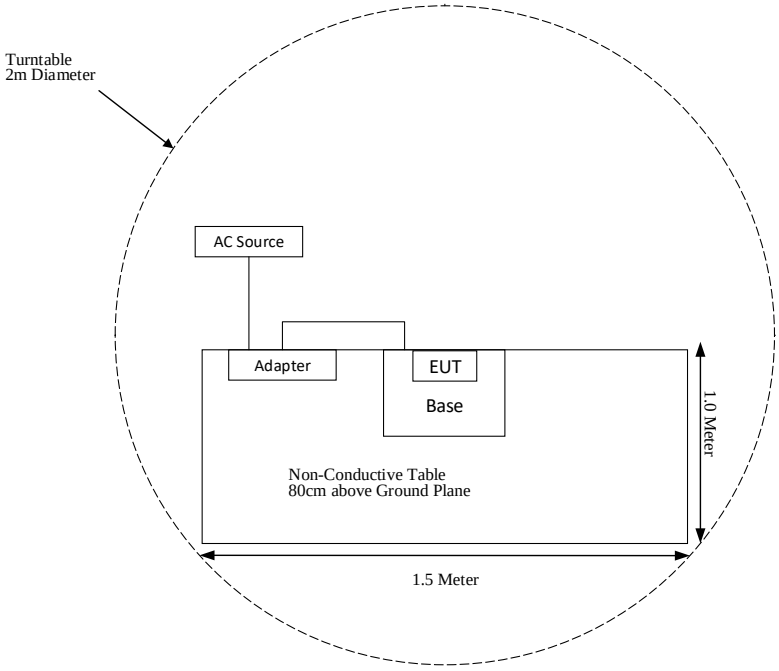


For Radiated Emissions (Below 1GHz):

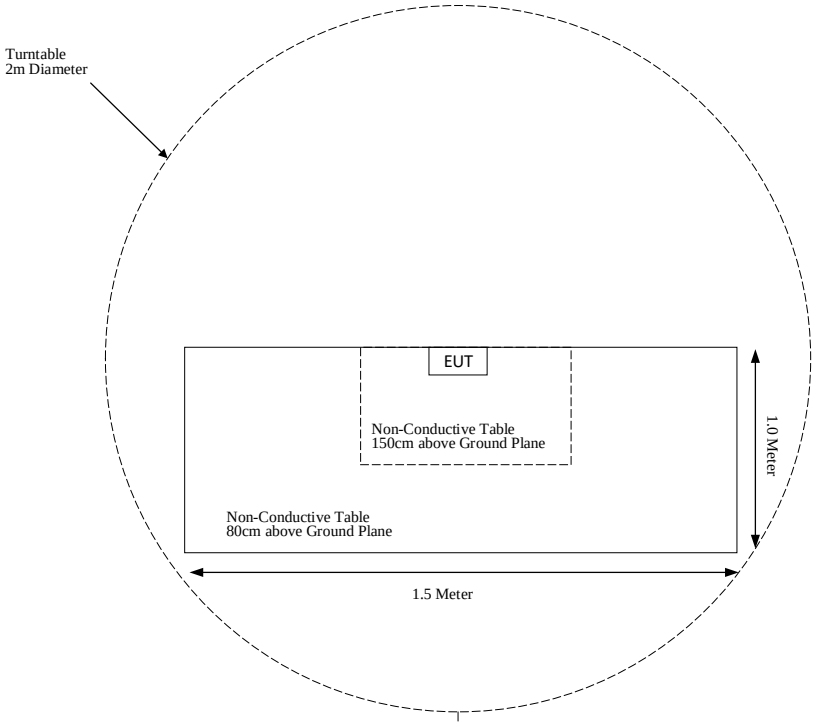
Charging by Adapter:



Charging by Base:



For Radiated Emissions (1GHz – 25GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207(a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209 & §15.247(d)	Radiated Emissions & Restricted Bands Emissions	Compliant
§15.247(a)(1)	20 dB Emission Bandwidth	Compliant
§15.247(a)(1)	Channel Separation Test	Compliant
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliant
§15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliant
§15.247(b)(1)	Peak Output Power Measurement	Compliant
§15.247(d)	Band edges	Compliant
§15.247 (I), §1.1310 & §2.1091	Maximum Permissible Exposure (MPE)	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Chamber #1)					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2024-04-23	2025-04-22
Sunol Sciences	Broadband Antenna	JB3	A090314-1	2023-11-11	2024-11-10
Narda	6dB Attenuator	773-6	10690812-2-1	2023-11-11	2024-11-10
ETS-LINDGREN	Loop Antenna	6512	108100	2023-11-09	2024-11-08
Sonoma Instrument	Pre-amplifier	310N	171205	2024-04-23	2025-04-22
Rohde & Schwarz	Auto Test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2024-04-23	2025-04-22
MICRO-COAX	Coaxial Cable	Cable-9	009	2024-04-23	2025-04-22
MICRO-COAX	Coaxial Cable	Cable-10	010	2024-04-23	2025-04-22
Radiated Emission Test (Chamber #2)					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207/040	2023-05-19	2024-05-18
ETS-LINDGREN	Horn Antenna	3115	9311-4159	2023-12-02	2024-12-01
ETS-LINDGREN	Horn Antenna	3116	2516	2023-12-08	2024-12-07
A.H.Systems, inc	Amplifier	PAM-0118P	512	2023-05-23	2024-05-22
SELECTOR	Amplifier	EM18G40G	060726	2023-05-23	2024-05-22
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	2023-08-05	2024-08-04
Narda	Attenuator	10dB	010	2023-08-15	2024-08-14
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-6	006	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-11	011	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-12	012	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-13	013	2023-05-23	2024-05-22

RF Conducted Test					
Rohde & Schwarz	Signal Analyzer	FSV40-N	103298	2024-04-24	2025-04-23
Narda	Attenuator	10dB	010	2023-08-15	2024-08-14
Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR	1316.3003K03-101746-zn	2024-04-23	2025-04-22
Rohde & Schwarz	LISN	ENV216	101115	2024-04-23	2025-04-22
Audix	Test Software	e3	V9	N/A	N/A
Rohde & Schwarz	Pulse limiter	ESH3-Z2	100552	2024-04-24	2025-04-23
MICRO-COAX	Coaxial Cable	Cable-15	015	2024-04-23	2025-04-22

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1310 & §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §2.1091 and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f^2)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculated Formulary:
Predication of MPE limit at a given distance
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Calculation Data:

Mode	Frequency Range (MHz)	Antenna Gain		Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)	MPE Ratio
		(dBi)	(numeric)	(dBm)	(mW)				
BT	2402-2480	1.31	1.35	11.5	14.13	20	0.0038	1.0	0.0038
BLE		1.31	1.35	6.5	4.47	20	0.0012	1.0	0.0012
2.4G Wi-Fi	2412-2462	1.31	1.35	24.5	281.84	20	0.0757	1.0	0.0757
5G Wi-Fi	5150-5250	2.87	2.42	14.5	28.18	20	0.0109	1.0	0.0109
	5725-5850	4.09	2.42	13.5	22.39	20	0.0114	1.0	0.0114
GSM850 (GPRS/EGPRS)	824-849	-1.46	0.71	26.24	420.73	20	0.0598	0.5493	0.1089
PCS1900 (GPRS/EGPRS)	1850-1910	0.38	1.09	22.74	187.93	20	0.0407	1.0	0.0407
WCDMA Band II	1850-1910	0.38	1.09	23	199.53	20	0.0433	1.0	0.0433
WCDMA Band IV	1710-1755	1.33	1.36	23	199.53	20	0.0540	1.0	0.0540
WCDMA Band V	824-849	-1.46	0.71	23	199.53	20	0.0284	0.5493	0.0517
LTE Band 2	1850-1910	0.38	1.09	22.5	177.83	20	0.0386	1.0	0.0386
LTE Band 4	1710-1755	1.33	1.36	23	199.53	20	0.0540	1.0	0.0540
LTE Band 5	824-849	-1.46	0.71	22.5	177.83	20	0.0253	0.5493	0.0461
LTE Band 7	2500-2570	1.51	1.42	24	251.19	20	0.0710	1.0	0.0710
LTE Band 12	699-716	-4.98	0.32	23	199.53	20	0.0126	0.466	0.0270
LTE Band 13	777-787	-3.1	0.49	22.5	177.83	20	0.0173	0.518	0.0334
LTE Band 14	788-798	-3.06	0.49	22.5	177.83	20	0.0175	0.5253	0.0333
LTE Band 17	704-716	-4.98	0.32	23.5	223.87	20	0.0141	0.4693	0.0300
LTE Band 25	1850-1915	0.38	1.09	23.5	223.87	20	0.0485	1.0	0.0485
LTE Band 26	814-849	-1.46	0.71	23	199.53	20	0.0284	0.5427	0.0523
LTE Band 66	1710-1780	1.33	1.36	23	199.53	20	0.0540	1.0	0.0540
LTE Band 71	663-698	-6	0.25	22.5	177.83	20	0.0089	0.442	0.0201
LTE Band 38	2570-2620	0.81	1.21	23	199.53	20	0.0480	1.0	0.0480
LTE Band 41	2535-2655	1.41	1.38	23	199.53	20	0.0548	1.0	0.0548
NFC	13.56	0.00	1.00	-13.92	0.04	20	＜0.0001	0.98	＜ 0.0001
NFC field strength is 81.28dBμV/m = -13.92dBm (0.04mW) EIRP. That equal to antenna gain is 0dBi and used the EIRP value as conducted power.									

Note:

1. For the above tune up power were declared by the manufacturer.
2. For NFC: EIRP[dBm] = E[dBμV/m]- 95.2 for d = 3 m.

GSM850: Maximum Tune-up output power with 1 slot is 33dBm, 2 slot is 32.00 dBm, 3 slot is 30.50 dBm, 4 slot is 29.00 dBm so the max tune-up time based Ave. power compared to slot Ave. power is 4slot 26.24dBm

PCS1900: Maximum Tune-up output power with 1 slot is 29.50 dBm, 2 slot is 29.0 dBm, 3 slot is 27.0 dBm, 4 slot is 25.5 dBm so the max tune-up time based Ave. power compared to slot Ave. power is 22.74dBm

Number of Time slot	1	2	3	4
Duty Cycle	1:8	1:4	1:2.66	1:2
Time based Ave. power compared to slotted Ave. power	-9 dB	-6 dB	-4.26 dB	-3 dB

Note:
1. For the above tune up power were declared by the manufacturer.
2. 2.4G Wi-Fi , GSM850 and NFC can transmit simultaneously（worst case）.

$$\sum_i \frac{S_i}{S_{Limit,i}} = 0.0757+0.1089+0.0001=0.1847 < 1.0$$

Result: The device meet FCC MPE at 20 cm distance.

FCC §15.203 – ANTENNA REQUIREMENT

Applicable Standard

According to FCC § 15.203, 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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Antenna Connector Construction

The EUT has an FPC Antenna for Bluetooth, and the antenna gain is 1.31 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

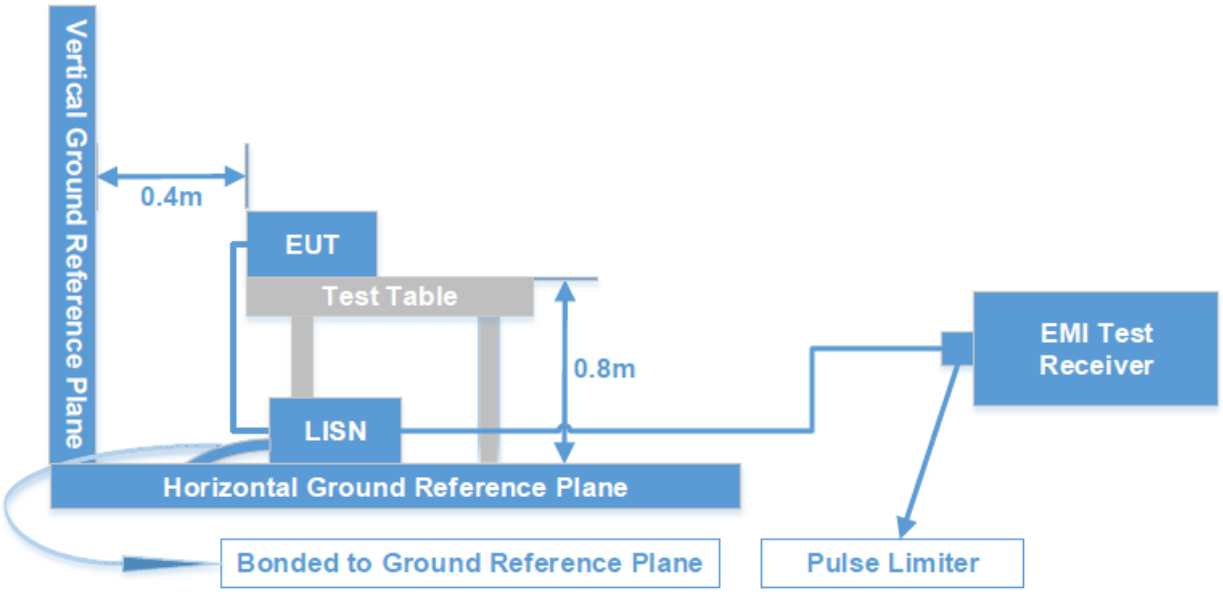
Result: Compliant.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a)

Test System Setup



The measurement procedure of EUT setup is according with ANSI C63.10-2013. The related limit was specified in FCC Part 15.207.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	VBW
150 kHz - 30 MHz	9 kHz	30 kHz

Test Procedure

ANSI C63.10-2013 clause 6.2

During the conducted emission test, the EUT was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

If the maximum peak value of the emissions is below the average limit, the QP value and average value measurement will not need to be performed and only record the maximum peak measured value to meet the requirements.

Level & Over Limit Calculation

The Level is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation from the Meter Reading. The basic equation is as follows:

Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)
Level (dBμV) = Read level (dBμV) + Factor (dB)

The "**Over Limit**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit of 7 dB means the emission is 7 dB above the limit. The equation for Over Limit calculation is as follows:

Over Limit (dB) = Level (dBμV) - Limit (dBμV)

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

Test Data: See Appendix

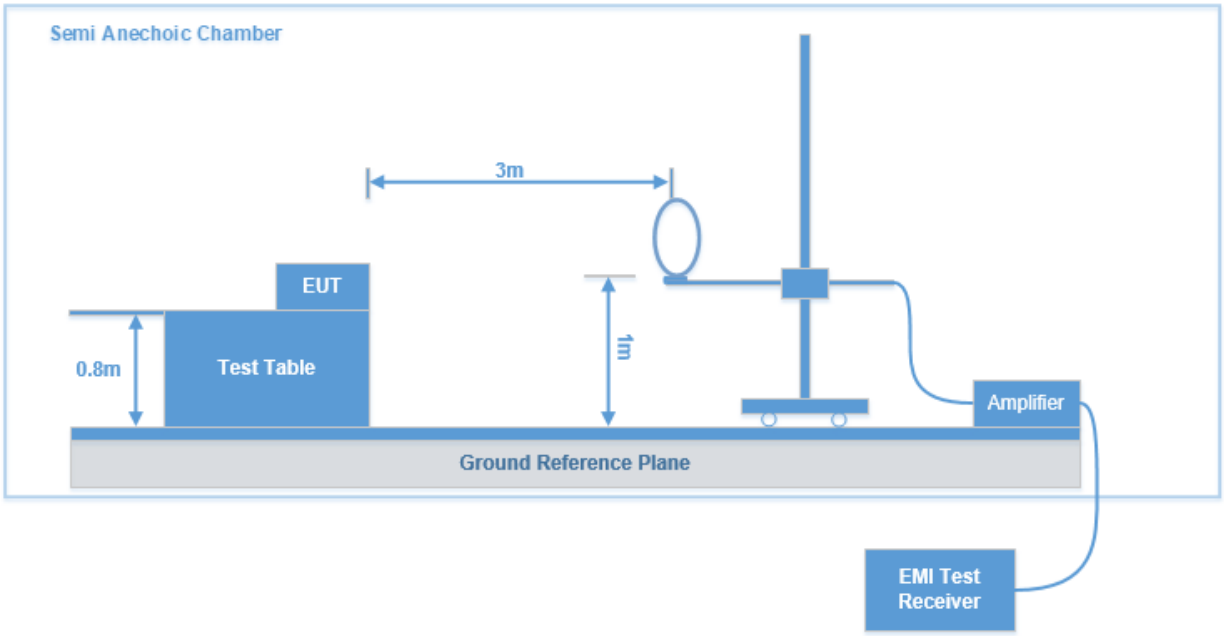
FCC §15.205, §15.209 & §15.247(d) – RADIATED EMISSIONS

Applicable Standard

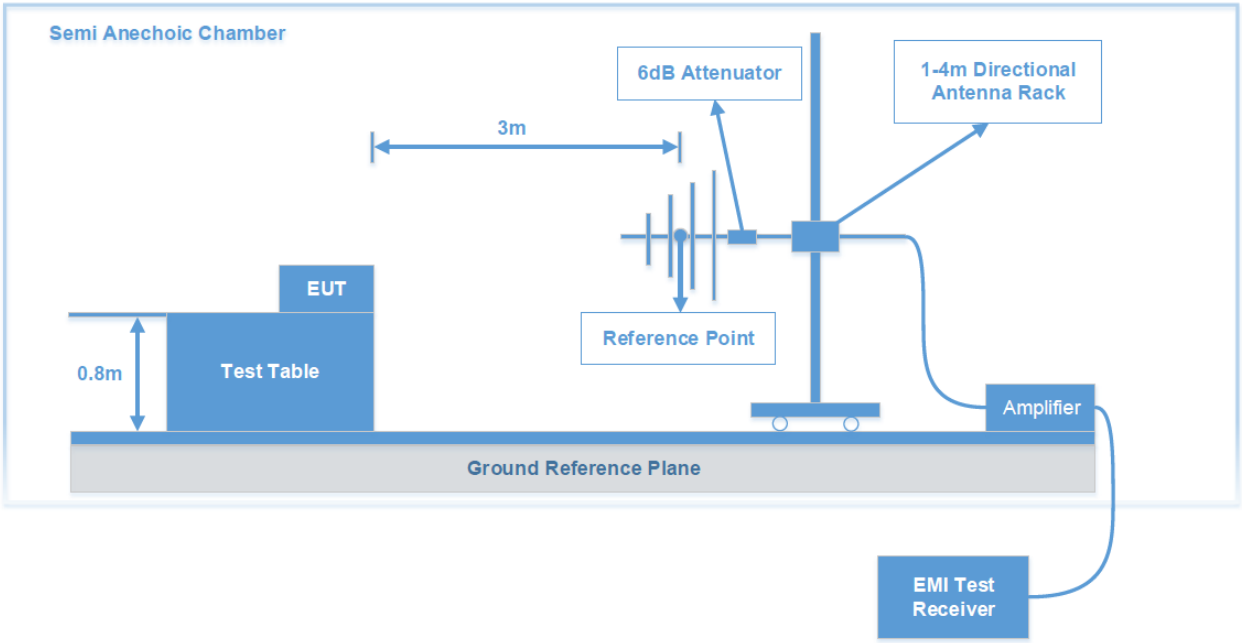
FCC §15.205; §15.209; §15.247(d)

Test System Setup

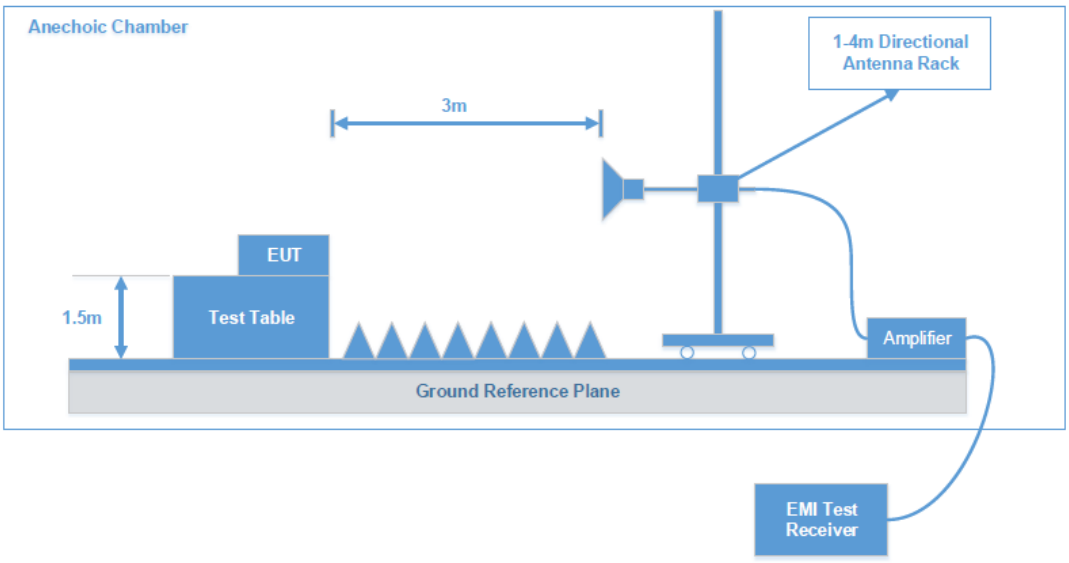
9 kHz-30MHz:



30MHz-1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209 and FCC 15.247 limits.

EMI Test Receiver Setup

The system was investigated from 9 kHz to 25 GHz.

During the radiated emission test, the EMI test receiver Setup was set with the following configurations:

Frequency Range	RBW	VBW	IF B/W	Detector
9 kHz – 150 kHz	200 Hz	1 kHz	200 Hz	QP/Average
150 kHz – 30 MHz	9 kHz	30 kHz	9 kHz	QP/ Average
30 MHz – 1000 MHz	100 kHz	300 kHz	/	Peak
	/	/	120 kHz	QP
Above 1GHz	1MHz	3 MHz	/	Peak
	1MHz	3 MHz	/	Average

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

If the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at least 6 dB below the QP emission limit, there's no need to record the measured QP level of the emissions in the report.

For 9 kHz-30MHz test, the lowest height of the magnetic antenna shall be 1 m above the ground and three antenna orientations (parallel, perpendicular, and ground-parallel) shall be measured.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude (dBμV/m) = Meter Reading (dBμV) + Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

Note: The QuasiPeak (dBμV/m), MaxPeak (dBμV/m), Average (dBμV/m) which shown in the data table are all Corrected Amplitude.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.247.

Test Data: See Appendix

FCC §15.247(a) (1)-CHANNEL SEPARATION TEST

Applicable Standard

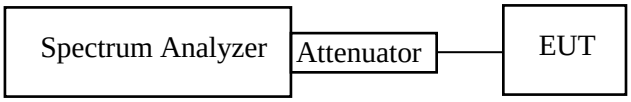
Frequency hopping systems shall have hoping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater provided the systems operate with an output power no greater than 125 mW.

Test Procedure

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

a. Span: Wide enough to capture the peaks of two adjacent channels.
b. RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.
c. Video (or average) bandwidth (VBW) ≥ RBW.
d. Sweep: Auto.
e. Detector function: Peak.
f. Trace: Max hold.
g. Allow the trace to stabilize.

Use the marker-delta function to determine the separation between the peaks of the adjacent channels.



Test Data: See Appendix

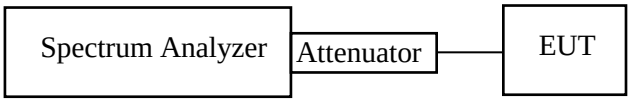
FCC §15.247(a) (1) – 20 dB EMISSION BANDWIDTH

Applicable Standard

Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.



Test Data: See Appendix

FCC §15.247(a) (1) (iii)-QUANTITY OF HOPPING CHANNEL TEST

Applicable Standard

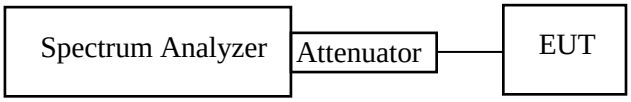
Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Procedure

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

a. Span: The frequency band of operation. Depending on the number of channels the device supports, it may be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.
b. RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
c. VBW ≥ RBW.
d. Sweep: Auto.
e. Detector function: Peak.
f. Trace: Max hold.
g. Allow the trace to stabilize.

It might prove necessary to break the span up into subranges to show clearly all of the hopping frequencies.



Test Data: See Appendix

FCC §15.247(a) (1) (iii) - TIME OF OCCUPANCY (DWELL TIME)

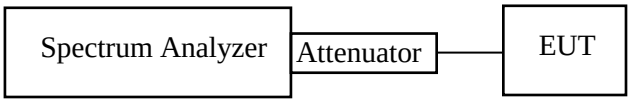
Applicable Standard

Frequency hopping systems in the 2400-2483.5 MHz shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Procedure

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

a Span: Zero span, centered on a hopping channel.
b RBW shall be ≤ channel spacing and where possible RBW should be set ≥ 1 / T, where T is the expected dwell time per channel.
c Sweep: As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel; a second plot might be needed with a longer sweep time to show two successive hops on a channel.
d Detector function: Peak.
e Trace: Max hold.



Test Data: See Appendix

FCC §15.247(b) (1) - PEAK OUTPUT POWER MEASUREMENT

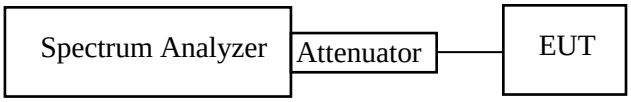
Applicable Standard

According to §15.247(b) (1), for frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. And for all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts.

Test Procedure

a. Use the following spectrum analyzer settings:
   1) Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.
   2) RBW > 20 dB bandwidth of the emission being measured.
   3) VBW ≥ RBW.
   4) Sweep: Auto.
   5) Detector function: Peak.
   6) Trace: Max hold.

b. Allow trace to stabilize.
c. Use the marker-to-peak function to set the marker to the peak of the emission.
d. The indicated level is the peak output power, after any corrections for external attenuators and cables.
e. A plot of the test results and setup description shall be included in the test report.



Test Data: See Appendix

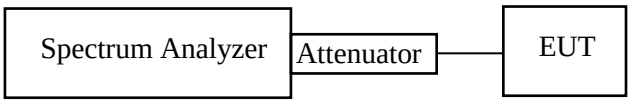
FCC §15.247(d) - BAND EDGES TESTING

Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates Compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Remove the antenna from the EUT and then connect to a low loss RF cable from the antenna port to a EMI test receiver, then turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.



Test Data: See Appendix

Appendix - TEST DATA

Environmental Conditions & Test Information

Test Item:	AC LINE CONDUCTED EMISSIONS		RADIATED EMISSIONS
			30MHz - 1GHz
Test Date:	2024-04-24	2024-06-18	2024-04-28 to 2024-06-14
Temperature:	21.4 ℃	25.5 ℃	20-24.2 ℃
Relative Humidity:	57 %	48 %	55-72%
ATM Pressure:	101.3kPa	100.8kPa	100.3-101.0kPa
Test Result:	Pass	Pass	Pass
Test Engineer:	Frank Liu	Joe Zhang	Leah Li

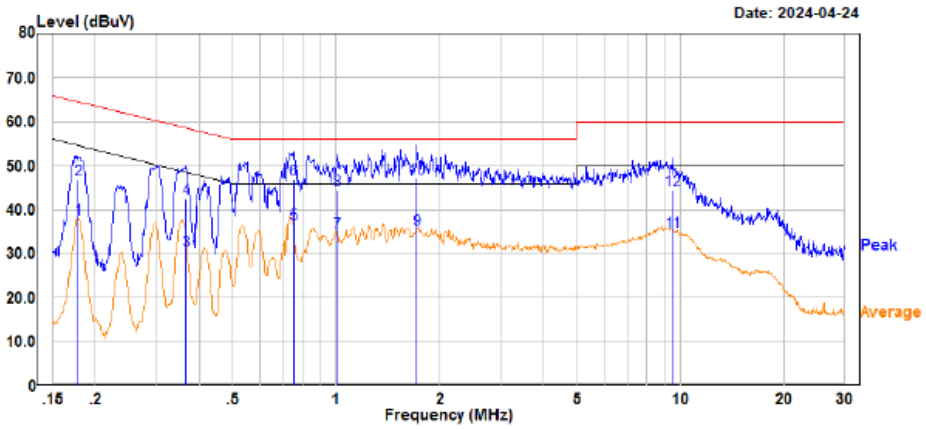
Test Item:	RADIATED EMISSIONS	
	1 GHz – 18 GHz	18 GHz – 25 GHz
Test Date:	2024-04-10 to 2024-04-13	2024-04-17
Temperature:	20.3-21.4 ℃	24.3℃
Relative Humidity:	47-52 %	45 %
ATM Pressure:	100.7-101.2kPa	101.4kPa
Test Result:	Pass	Pass
Test Engineer:	Peter Wang	Peter Wang

Test Item:	20 DB BANDWIDTH TEST	OCCUPIED BANDWIDTH	CHANNEL SEPARATION TEST	QUANTITY OF HOPPING CHANNEL TEST	TIME OF OCCUPANCY (DWELL TIME)
Test Date:	2024-04-24		2024-05-18	2024-04-24	
Temperature:	21.4 ℃		23.7 ℃	21.4 ℃	
Relative Humidity:	57 %		47 %	57 %	
ATM Pressure:	101.3kPa		101.0kPa	101.3kPa	
Test Result:	Pass		Pass	Pass	
Test Engineer:	Bard Liu		Bard Liu	Bard Liu	

Test Item:	TRANSMITTER OUTPUT POWER MEASUREMENT	OUT OF BAND EMISSIONS
Test Date:	2024-04-24	
Temperature:	21.4 ℃	
Relative Humidity:	57 %	
ATM Pressure:	101.3kPa	
Test Result:	Pass	
Test Engineer:	Bard Liu	

AC LINE CONDUCTED EMISSIONS

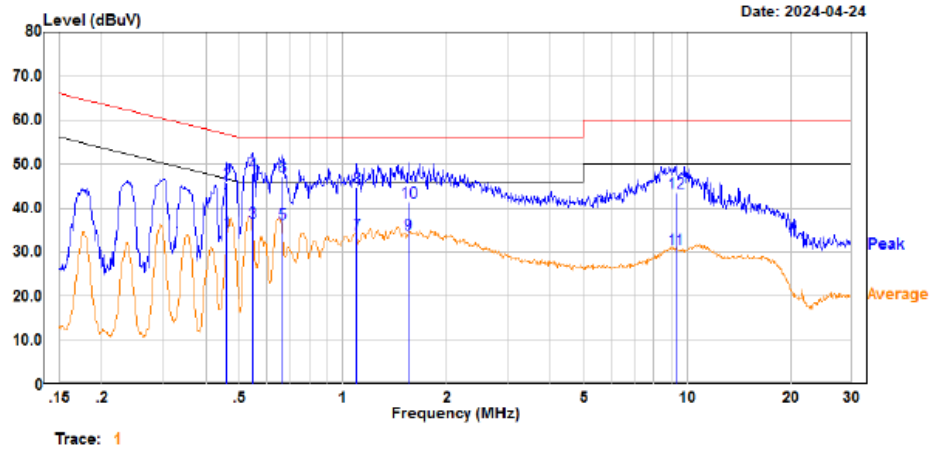
EUT operation mode: Transmitting in GFSK Mode high channel (maximum output power mode)
Charging by Adapter:
Line



Site : CE
Condition : FCC Part 15.207
: DET:Peak
Project No. : RKAS240327005
Model : T2
Phase : L
Voltage : 120V/60Hz
Mode : BT
Test Equipment : ENV216,ESR
Temperature : 21.4℃
Humidity : 57%
Atmospheric pressure: 101.3kPa
Test Engineer : Frank Liu

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.179	18.00	20.02	38.02	54.55	-16.53	Average
2	0.179	26.80	20.02	46.82	64.55	-17.73	QP
3	0.366	10.60	20.02	30.62	48.59	-17.97	Average
4	0.366	22.50	20.02	42.52	58.59	-16.07	QP
5	0.754	16.80	19.86	36.66	46.00	-9.34	Average
6	0.754	27.10	19.86	46.96	56.00	-9.04	QP
7	1.007	15.10	19.60	34.70	46.00	-11.30	Average
8	1.007	24.80	19.60	44.40	56.00	-11.60	QP
9	1.716	15.49	19.94	35.43	46.00	-10.57	Average
10	1.716	27.19	19.94	47.13	56.00	-8.87	QP
11	9.486	15.20	19.90	35.10	50.00	-14.90	Average
12	9.486	24.60	19.90	44.50	60.00	-15.50	QP

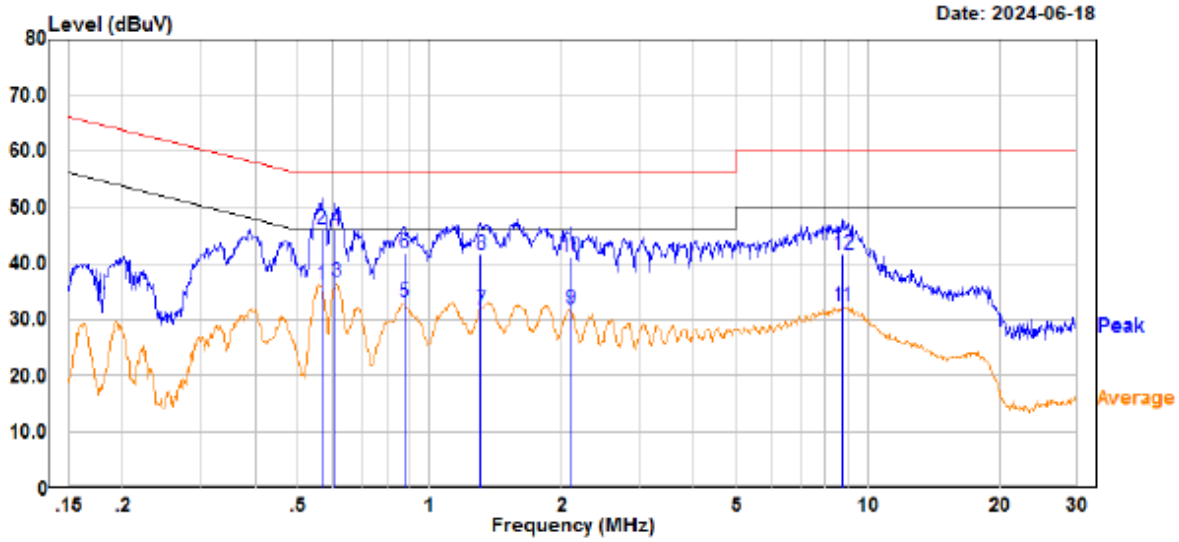
Neutral



Site : CE
Condition : FCC Part 15.207
: DET:Peak
Project No. : RKAS240327005
Model : T2
Phase : N
Voltage : 120V/60Hz
Mode : BT
Test Equipment : ENV216,ESR
Temperature : 21.4℃
Humidity : 57%
Atmospheric pressure: 101.3kPa
Test Engineer : Frank Liu

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.460	14.60	19.99	34.59	46.69	-12.10	Average
2	0.460	25.60	19.99	45.59	56.69	-11.10	QP
3	0.548	16.71	19.96	36.67	46.00	-9.33	Average
4	0.548	27.81	19.96	47.77	56.00	-8.23	QP
5	0.669	16.49	19.94	36.43	46.00	-9.57	Average
6	0.669	27.29	19.94	47.23	56.00	-8.77	QP
7	1.096	14.50	19.66	34.16	46.00	-11.84	Average
8	1.096	25.00	19.66	44.66	56.00	-11.34	QP
9	1.546	14.30	19.87	34.17	46.00	-11.83	Average
10	1.546	21.50	19.87	41.37	56.00	-14.63	QP
11	9.253	10.69	19.92	30.61	50.00	-19.39	Average
12	9.253	23.69	19.92	43.61	60.00	-16.39	QP

Charging by Base:
Line:

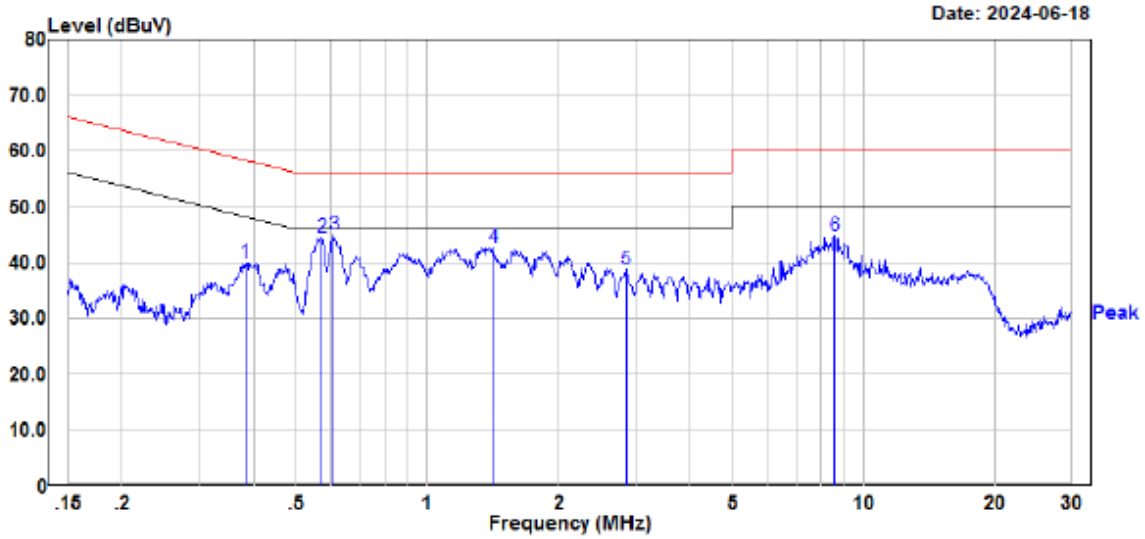


Trace: 1

Site : CE
Condition : FCC Part 15.207
: DET:Peak
Project No. : RKAS240327005
Model : T2
Phase : L
Voltage : 120V/60Hz
Mode : BT
Test Equipment : ENV216,ESR
Temperature : 25.5℃
Humidity : 48%
Atmospheric pressure: 100.8kPa
Test Engineer : Joe Zhang

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.568	16.40	19.96	36.36	46.00	-9.64	Average
2	0.568	26.20	19.96	46.16	56.00	-9.84	QP
3	0.612	16.71	19.94	36.65	46.00	-9.35	Average
4	0.612	26.01	19.94	45.95	56.00	-10.05	QP
5	0.876	13.29	19.73	33.02	46.00	-12.98	Average
6	0.876	21.99	19.73	41.72	56.00	-14.28	QP
7	1.311	12.01	19.76	31.77	46.00	-14.23	Average
8	1.311	21.71	19.76	41.47	56.00	-14.53	QP
9	2.095	11.80	20.03	31.83	46.00	-14.17	Average
10	2.095	21.00	20.03	41.03	56.00	-14.97	QP
11	8.715	12.51	19.94	32.45	50.00	-17.55	Average
12	8.715	21.71	19.94	41.65	60.00	-18.35	QP

Neutral:



Site : CE
Condition : FCC Part 15.207
: DET:Peak
Project No. : RKAS240327005
Model : T2
Phase : N
Voltage : 120V/60Hz
Mode : BT
Test Equipment : ENV216,ESR
Temperature : 25.5℃
Humidity : 48%
Atmospheric pressure: 100.8kPa
Test Engineer : Joe Zhang

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.383	19.83	20.01	39.84	58.22	-18.38	Peak
2	0.573	24.46	19.96	44.42	56.00	-11.58	Peak
3	0.612	25.07	19.94	45.01	56.00	-10.99	Peak
4	1.413	22.85	19.81	42.66	56.00	-13.34	Peak
5	2.854	18.59	20.07	38.66	56.00	-17.34	Peak
6	8.586	24.77	19.95	44.72	60.00	-15.28	Peak

RADIATED EMISSIONS & RESTRICTED BANDS EMISSIONS

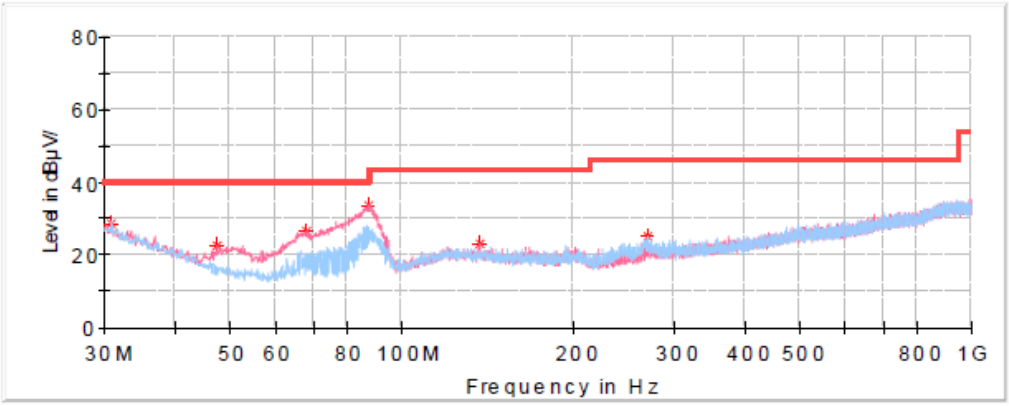
EUT operation mode: Transmitting
After pre-scan in the X, Y and Z axes of orientation, the worst case is below:
***9 kHz-30MHz**: Transmitting in GFSK Mode high channel (maximum output power mode)*
The amplitude of spurious emissions attenuated more than 20 dB below the limit was not be recorded.

30MHz-1GHz:
EUT operation mode: Transmitting in GFSK mode (maximum output power mode)
Charging by Adapter:

Low Channel: 2402 MHz

Common Information

Project No:	RKSA240327005
EUT Model:	T2
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Equipment:	ESCI、JB3、310N
Temperature:	20℃
Humidity:	72%
Barometric Pressure:	101.0kPa
Test Engineer:	Leah Li
Test Date:	2024/4/28



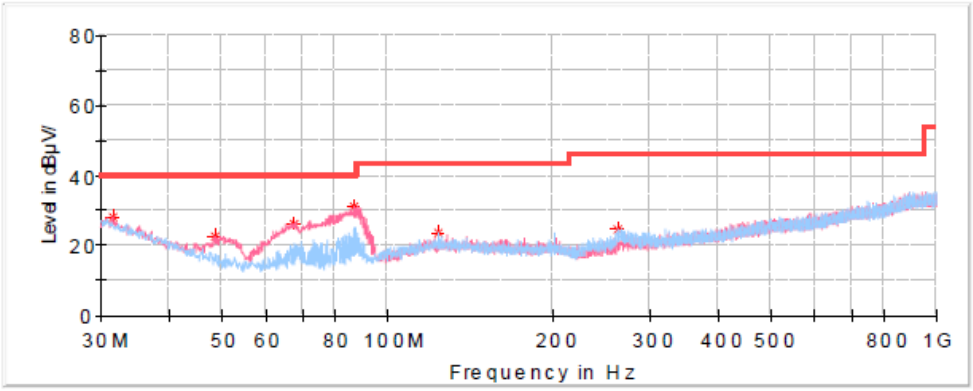
Critical_Freqs

Frequency (MHz)	MaxPeak (dBu V/m)	Limit (dBu V/m)	Margin (dB)	Pol	Corr. (dB/m)
30.970000	28.91	40.00	11.09	V	-5.1
47.460000	22.59	40.00	17.41	V	-15.3
68.193750	26.76	40.00	13.24	V	-16.9
87.230000	33.64	40.00	6.36	V	-17.3
136.821250	23.03	43.50	20.47	V	-11.5
269.953750	25.33	46.00	20.67	H	-11.7

Middle Channel: 2441 MHz

Common Information

Project No:	RKSA240327005
EUT Model:	T2
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Equipment:	ESCI、JB3、310N
Temperature:	20℃
Humidity:	72%
Barometric Pressure:	101.0kPa
Test Engineer:	Leah Li
Test Date:	2024/4/28



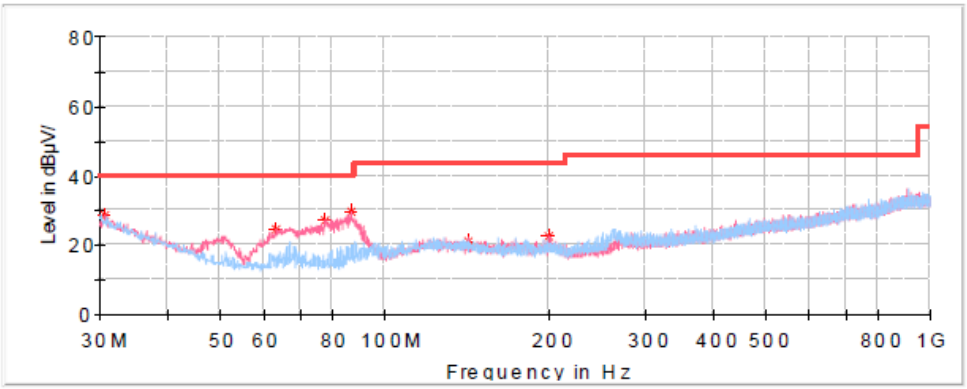
Critical_Freqs

Frequency (MHz)	MaxPeak (dBu V/m)	Limit (dBu V/m)	Margin (dB)	Pol	Corr. (dB /m)
31.576250	28.33	40.00	11.67	V	-5.5
48.308750	22.75	40.00	17.25	V	-15.8
67.708750	26.21	40.00	13.79	V	-16.9
86.866250	31.22	40.00	8.78	V	-17.3
123.605000	23.79	43.50	19.71	H	-11.3
263.285000	24.60	46.00	21.40	H	-12.1

High Channel: 2480 MHz

Common Information

Project No:	RKSA240327005
EUT Model:	T2
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Equipment:	ESCI、JB3、310N
Temperature:	20℃
Humidity:	72%
Barometric Pressure:	101.0kPa
Test Engineer:	Leah Li
Test Date:	2024/4/28



Critical_Freqs

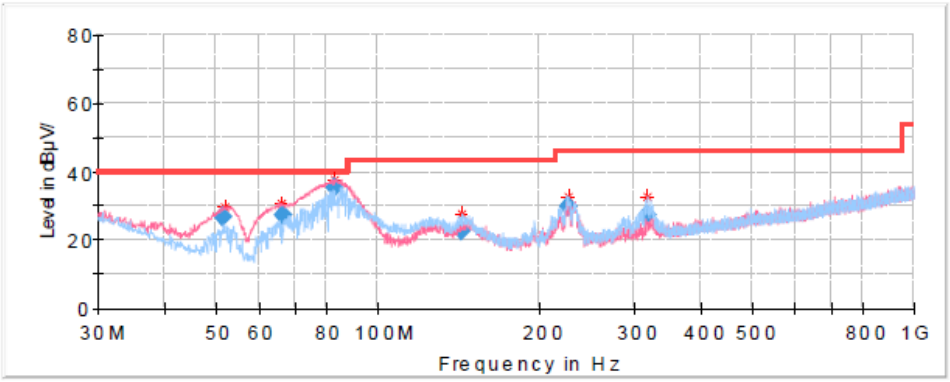
Frequency (MHz)	MaxPeak (dBu V/m)	Limit (dBu V/m)	Margin (dB)	Pol	Corr. (dB/m)
30.727500	28.55	40.00	11.45	V	-4.9
63.465000	24.71	40.00	15.29	V	-17.2
77.530000	27.30	40.00	12.70	V	-17.4
86.866250	29.63	40.00	10.37	V	-17.3
142.762500	21.25	43.50	22.25	H	-11.7
200.720000	22.88	43.50	20.62	V	-12.6

Charging by Base:

Low Channel: 2402 MHz

Common Information

Project No:	RKSA240327005
EUT Model:	T2
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Equipment:	ESCI、JB3、310N
Temperature:	24.2℃
Humidity:	55%
Barometric Pressure:	100.3kPa
Test Engineer:	Leah Li
Test Date:	2024/6/14



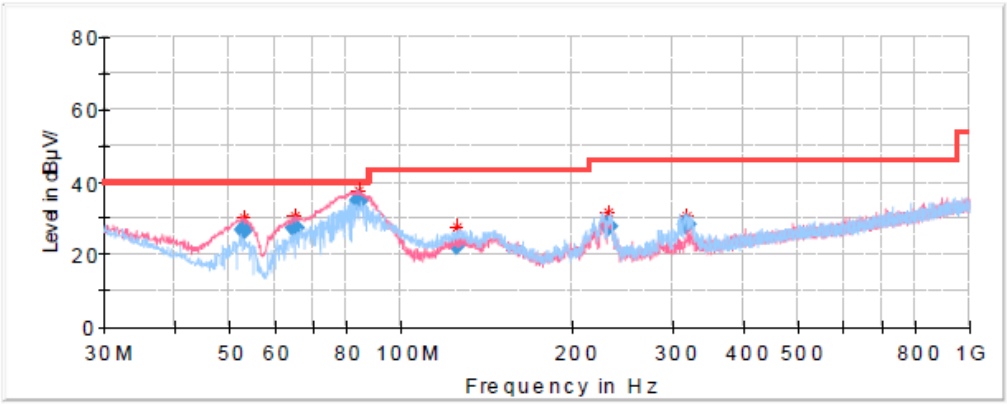
Final_Result

Frequency (MHz)	QuasiPeak (dBu V/m)	Limit (dBu V/m)	Margin (dB)	Pol	Corr. (dB/m)
51.485400	26.47	40.00	13.53	V	-16.9
66.756800	27.39	40.00	12.61	V	-17.2
83.350000	35.16	40.00	4.84	V	-17.2
143.684900	22.81	43.50	20.69	H	-11.6
226.639000	29.89	46.00	16.11	H	-13.2
318.645100	26.94	46.00	19.06	H	-10.0

Middle Channel: 2441 MHz

Common Information

Project No:	RKSA240327005
EUT Model:	T2
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Equipment:	ESCI、JB3、310N
Temperature:	24.2℃
Humidity:	55%
Barometric Pressure:	100.3kPa
Test Engineer:	Leah Li
Test Date:	2024/6/14



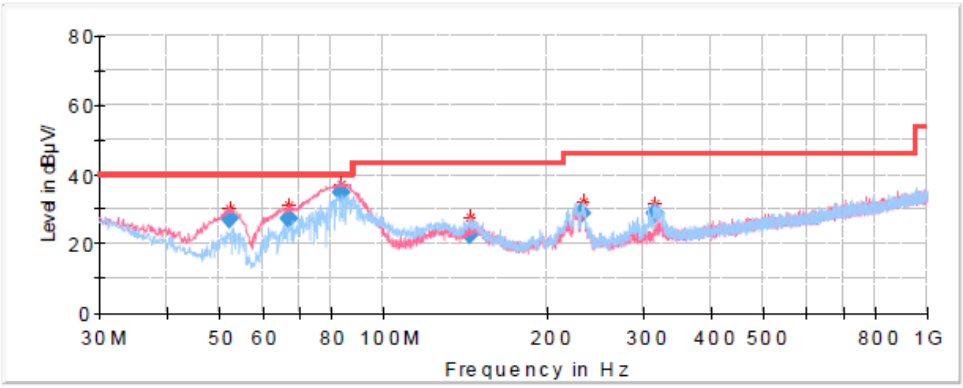
Final_Result

Frequency (MHz)	QuasiPeak (dBu V/m)	Limit (dBu V/m)	Margin (dB)	Pol	Corr. (dB/m)
52.985450	26.89	40.00	13.11	V	-17.0
65.348250	27.29	40.00	12.71	V	-17.3
84.096350	34.47	40.00	5.53	V	-17.2
125.781950	22.42	43.50	21.08	H	-11.0
232.598050	27.90	46.00	18.10	V	-12.9
317.661550	28.28	46.00	17.72	H	-10.1

High Channel: 2480 MHz

Common Information

Project No:	RKSA240327005
EUT Model:	T2
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Equipment:	ESCI、JB3、310N
Temperature:	24.2℃
Humidity:	55%
Barometric Pressure:	100.3kPa
Test Engineer:	Leah Li
Test Date:	2024/6/14



Final_Result

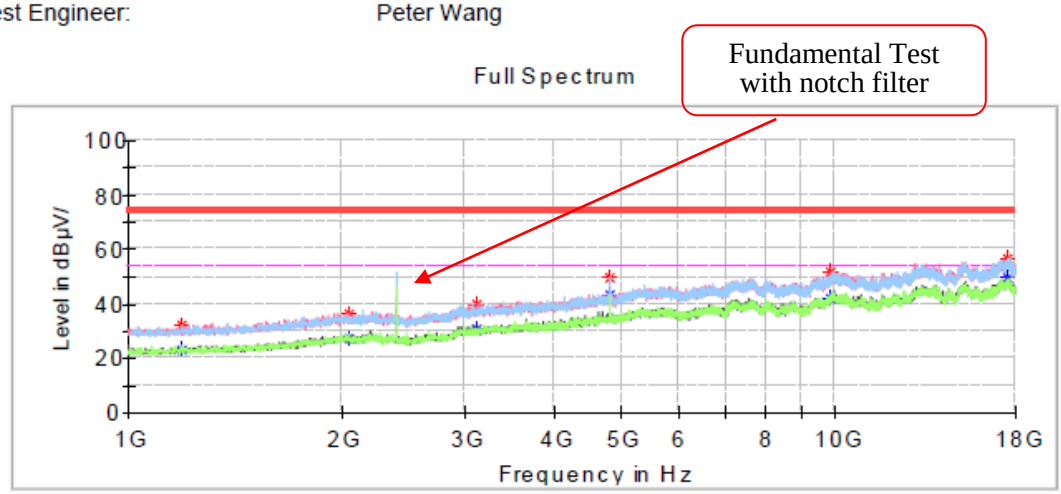
Frequency (MHz)	QuasiPeak (dBu V/m)	Limit (dBu V/m)	Margin (dB)	Pol	Corr. (dB/m)
52.060000	27.02	40.00	12.98	V	-17.0
67.220000	27.36	40.00	12.64	V	-17.2
83.710000	34.80	40.00	5.20	V	-17.2
144.197400	22.49	43.50	21.01	H	-11.6
232.028900	28.89	46.00	17.11	H	-13.0
316.706350	28.78	46.00	17.22	H	-10.1

1 GHz - 18 GHz:
GFSK:

Low Channel: 2402 MHz

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang



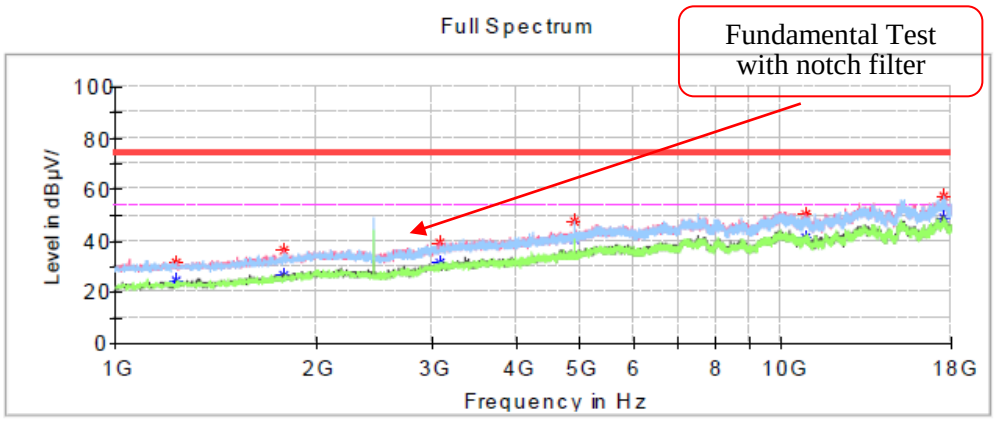
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1190.400000	32.01	---	74.00	41.99	H	-14.9
1190.400000	---	23.26	54.00	30.74	H	-14.9
2054.000000	36.43	---	74.00	37.57	V	-10.5
2054.000000	---	27.05	54.00	26.95	V	-10.5
3113.100000	---	30.77	54.00	23.23	V	-7.6
3113.100000	39.90	---	74.00	34.10	V	-7.6
4802.900000	49.64	---	74.00	24.36	H	-2.2
4802.900000	---	43.55	54.00	10.45	H	-2.2
9877.400000	51.43	---	74.00	22.57	V	7.4
9877.400000	---	41.82	54.00	12.18	V	7.4
17568.200000	56.61	---	74.00	17.39	V	13.3
17568.200000	---	49.80	54.00	4.20	V	13.3

Middle Channel: 2441 MHz

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang



Critical_Freqs

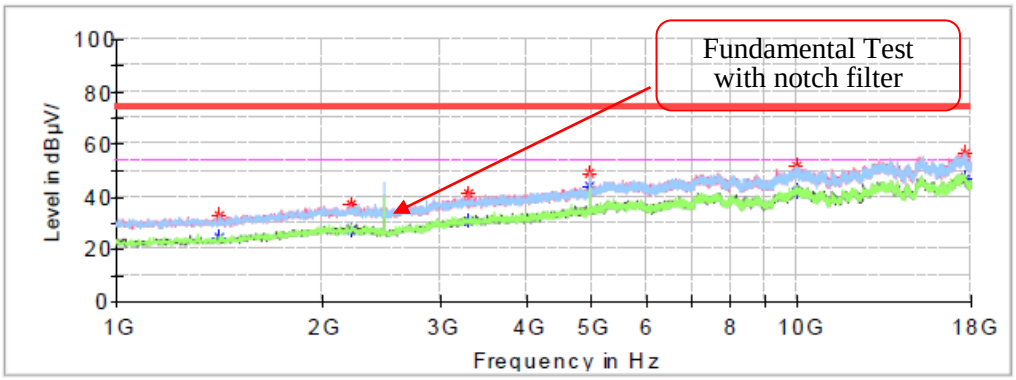
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1236.300000	31.56	---	74.00	42.44	H	-14.8
1236.300000	---	24.35	54.00	29.65	H	-14.8
1788.800000	---	26.71	54.00	27.29	V	-12.0
1788.800000	36.68	---	74.00	37.32	V	-12.0
3065.500000	39.08	---	74.00	34.92	V	-7.8
3065.500000	---	31.31	54.00	22.69	V	-7.8
4881.100000	47.64	---	74.00	26.36	H	-1.8
4881.100000	---	40.42	54.00	13.58	H	-1.8
10861.700000	50.22	---	74.00	23.78	V	6.6
10861.700000	---	41.57	54.00	12.43	V	6.6
17605.600000	---	48.95	54.00	5.05	V	13.2
17605.600000	57.63	---	74.00	16.37	V	13.2

High Channel: 2480 MHz

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang

Full Spectrum



Critical_Freqs

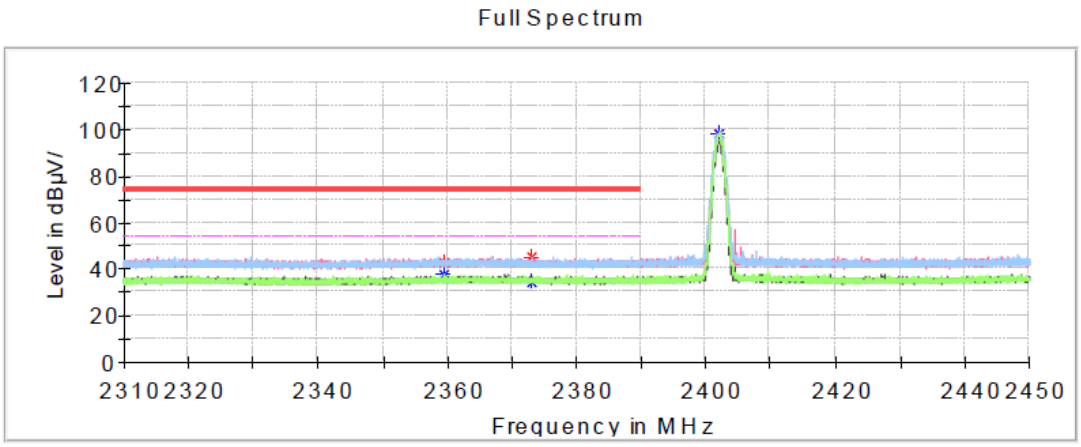
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1418.200000	32.70	---	74.00	41.30	H	-14.2
1418.200000	---	24.60	54.00	29.40	H	-14.2
2207.000000	---	27.20	54.00	26.80	V	-10.2
2207.000000	36.73	---	74.00	37.27	V	-10.2
3300.100000	41.44	---	74.00	32.56	V	-6.9
3300.100000	---	30.99	54.00	23.01	V	-6.9
4959.300000	48.84	---	74.00	25.16	H	-1.4
4959.300000	---	44.33	54.00	9.67	H	-1.4
9987.900000	51.41	---	74.00	22.59	V	7.8
9987.900000	---	41.76	54.00	12.24	V	7.8
17643.000000	---	46.81	54.00	7.19	H	13.0
17643.000000	56.55	---	74.00	17.45	H	13.0

Band Edge:

Left Side

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang



Critical_Freqs

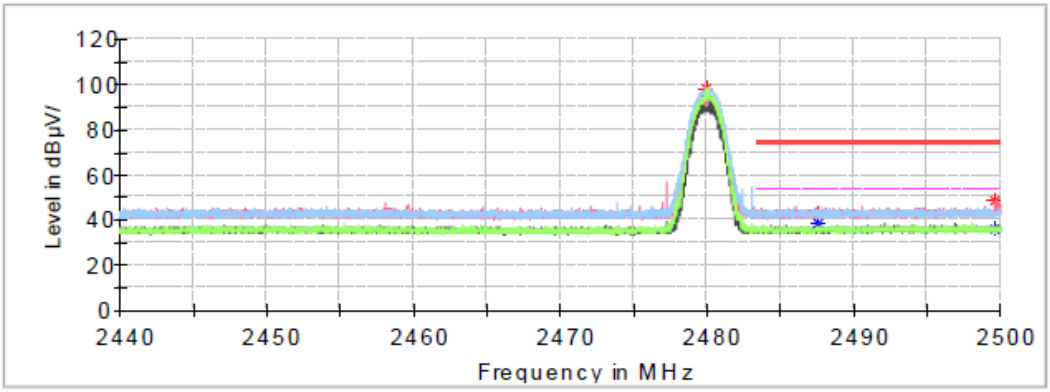
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2359.532000	---	37.75	54.00	16.25	H	0.0
2359.532000	42.59	---	74.00	31.41	H	0.0
2373.126000	---	34.80	54.00	19.20	V	0.0
2373.126000	45.52	---	74.00	28.48	V	0.0

Right Side

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang

Full Spectrum



Critical_Freqs

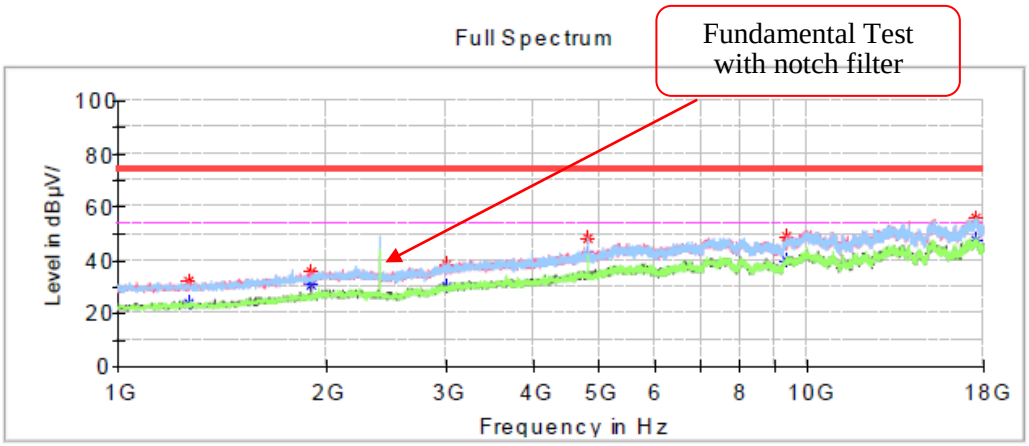
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2487.586000	43.20	---	74.00	30.80	V	0.2
2487.586000	---	38.54	54.00	15.46	V	0.2
2499.658000	48.84	---	74.00	25.16	V	0.2
2499.658000	---	36.35	54.00	17.65	V	0.2

π/4-DQPSK:

Low Channel: 2402 MHz

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang



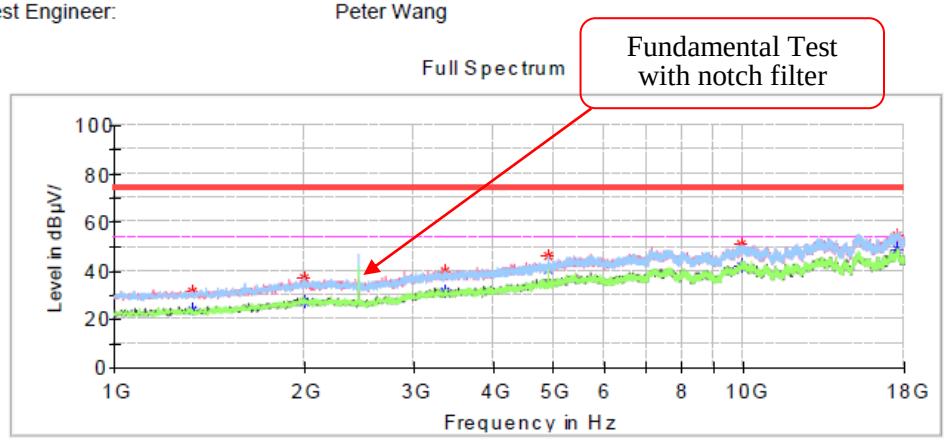
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1268.600000	32.20	---	74.00	41.80	V	-14.7
1268.600000	---	24.04	54.00	29.96	V	-14.7
1902.700000	35.66	---	74.00	38.34	V	-11.2
1902.700000	---	30.85	54.00	23.15	V	-11.2
3006.000000	---	29.96	54.00	24.04	H	-8.0
3006.000000	38.26	---	74.00	35.74	H	-8.0
4802.900000	48.37	---	74.00	25.63	H	-2.2
4802.900000	---	41.92	54.00	12.08	H	-2.2
9321.500000	---	39.94	54.00	14.06	V	5.3
9321.500000	49.16	---	74.00	24.84	V	5.3
17537.600000	---	47.53	54.00	6.47	V	13.5
17537.600000	56.25	---	74.00	17.75	V	13.5

Middle Channel: 2441 MHz

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang



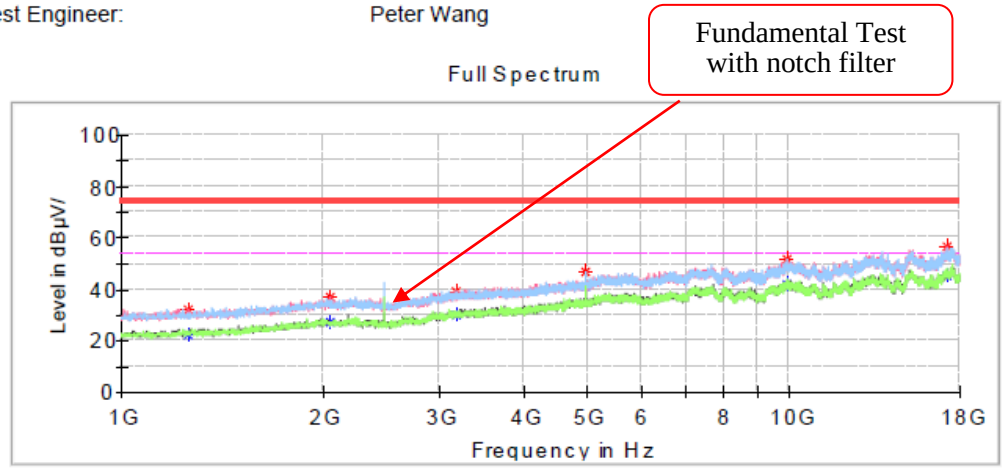
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1328.100000	---	24.12	54.00	29.88	H	-14.5
1328.100000	31.59	---	74.00	42.41	H	-14.5
1997.900000	---	26.93	54.00	27.07	V	-10.6
1997.900000	37.26	---	74.00	36.74	V	-10.6
3342.600000	---	31.17	54.00	22.83	V	-6.7
3342.600000	39.78	---	74.00	34.22	V	-6.7
4881.100000	46.03	---	74.00	27.97	H	-1.8
4881.100000	---	40.83	54.00	13.17	H	-1.8
9930.100000	---	41.98	54.00	12.02	V	7.6
9930.100000	50.71	---	74.00	23.29	V	7.6
17600.500000	54.62	---	74.00	19.38	V	13.2
17600.500000	---	49.26	54.00	4.74	V	13.2

High Channel: 2480 MHz

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang



Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1260.100000	31.89	---	74.00	42.11	V	-14.7
1260.100000	---	22.52	54.00	31.48	V	-14.7
2047.200000	36.83	---	74.00	37.17	H	-10.5
2047.200000	---	26.94	54.00	27.06	H	-10.5
3170.900000	---	29.89	54.00	24.11	V	-7.4
3170.900000	39.11	---	74.00	34.89	V	-7.4
4959.300000	46.98	---	74.00	27.02	H	-1.4
4959.300000	---	41.15	54.00	12.85	H	-1.4
9930.100000	52.05	---	74.00	21.95	H	7.6
9930.100000	---	41.96	54.00	12.04	H	7.6
17184.000000	---	45.64	54.00	8.36	V	12.8
17184.000000	56.61	---	74.00	17.39	V	12.8

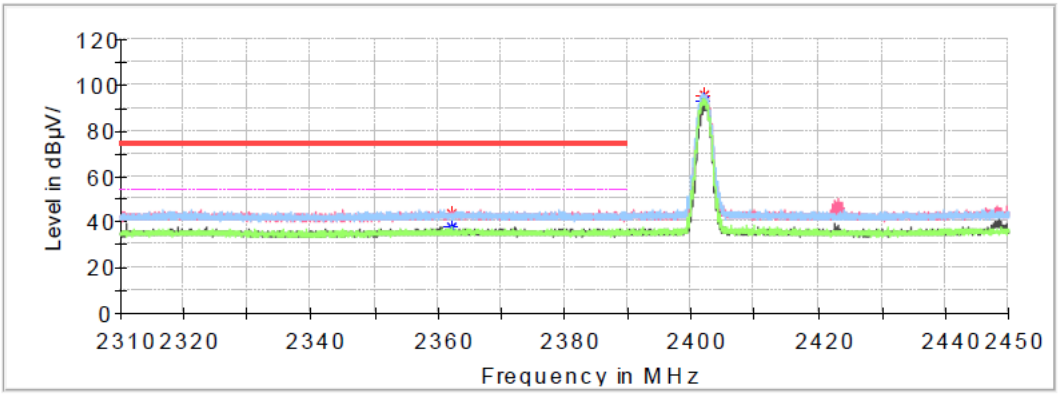
Band Edge:

Left Side

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang

Full Spectrum



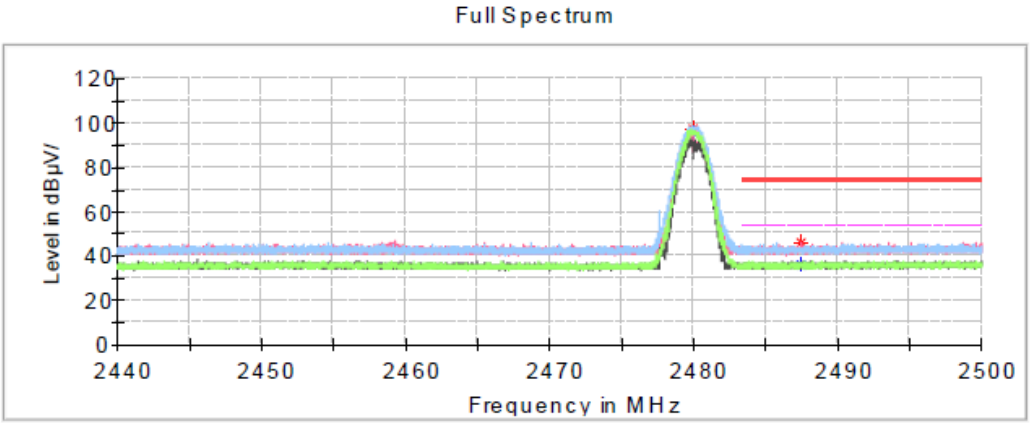
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2362.304000	---	37.57	54.00	16.43	H	0.0
2362.304000	43.24	---	74.00	30.76	H	0.0

Right Side

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang



Critical_Freqs

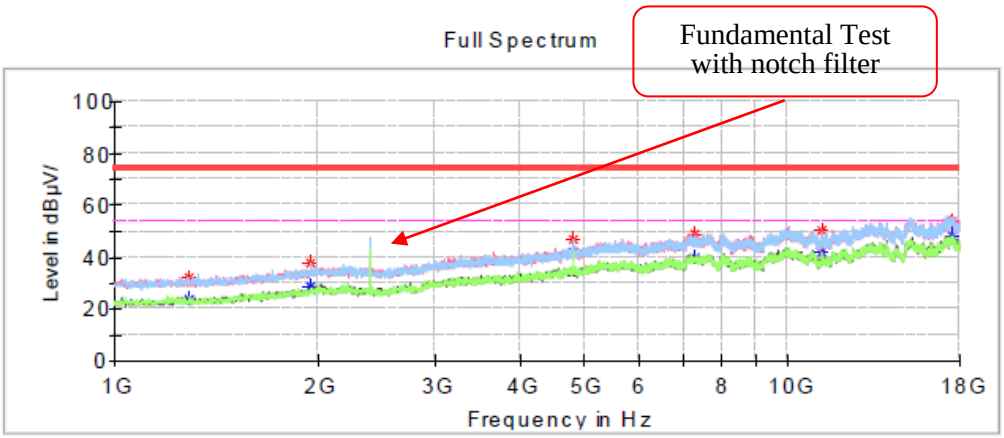
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2487.508000	---	36.14	54.00	17.86	H	0.2
2487.508000	45.93	---	74.00	28.07	H	0.2

8DPSK:

Low Channel: 2402 MHz

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang



Critical_Freqs

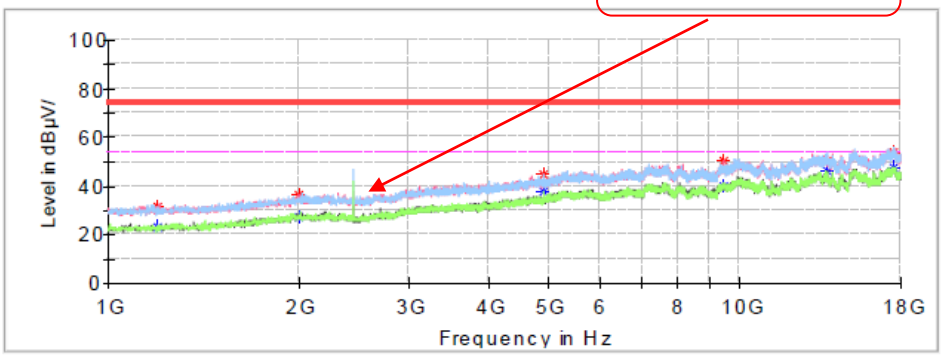
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1289.000000	---	24.01	54.00	29.99	V	-14.6
1289.000000	32.03	---	74.00	41.97	V	-14.6
1950.300000	---	28.47	54.00	25.53	H	-10.9
1950.300000	37.62	---	74.00	36.38	H	-10.9
4802.900000	---	41.61	54.00	12.39	H	-2.2
4802.900000	47.05	---	74.00	26.95	H	-2.2
7271.300000	---	39.68	54.00	14.32	V	4.0
7271.300000	48.72	---	74.00	25.28	V	4.0
11201.700000	---	42.14	54.00	11.86	H	6.7
11201.700000	50.08	---	74.00	23.92	H	6.7
17551.200000	53.55	---	74.00	20.45	V	13.4
17551.200000	---	48.54	54.00	5.46	V	13.4

Middle Channel: 2441 MHz

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang

Full Spectrum



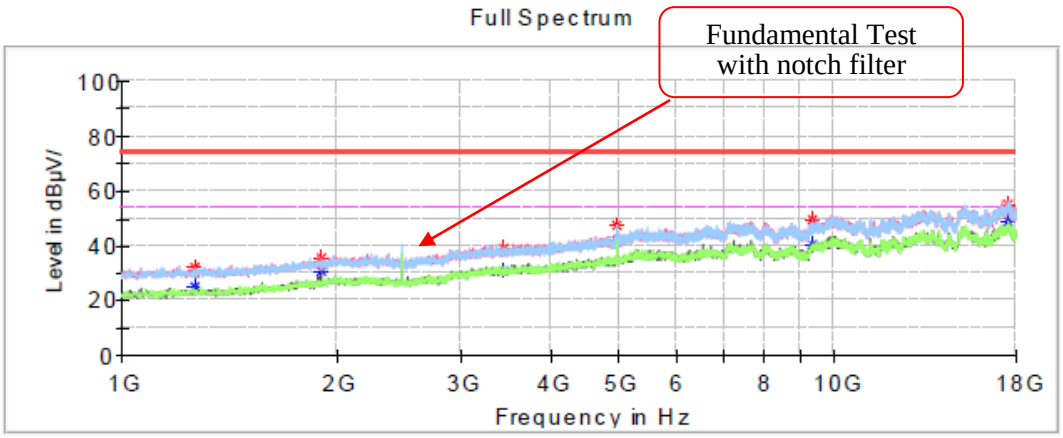
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1200.600000	31.31	---	74.00	42.69	H	-14.9
1200.600000	---	23.34	54.00	30.66	H	-14.9
1997.900000	36.47	---	74.00	37.53	V	-10.6
1997.900000	---	27.62	54.00	26.38	V	-10.6
4881.100000	44.68	---	74.00	29.32	H	-1.8
4881.100000	---	37.49	54.00	16.51	H	-1.8
9459.200000	50.37	---	74.00	23.63	V	6.0
9459.200000	---	40.05	54.00	13.95	V	6.0
13767.000000	50.67	---	74.00	23.33	H	10.7
13767.000000	---	46.40	54.00	7.60	H	10.7
17547.800000	53.92	---	74.00	20.08	V	13.4
17547.800000	---	47.87	54.00	6.13	V	13.4

High Channel: 2480 MHz

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang



Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1263.500000	---	25.16	54.00	28.84	V	-14.7
1263.500000	31.84	---	74.00	42.16	V	-14.7
1902.700000	---	30.75	54.00	23.25	V	-11.2
1902.700000	35.92	---	74.00	38.08	V	-11.2
3442.900000	---	30.45	54.00	23.55	H	-6.3
3442.900000	39.44	---	74.00	34.56	H	-6.3
4959.300000	---	42.26	54.00	11.74	H	-1.4
4959.300000	47.29	---	74.00	26.71	H	-1.4
9341.900000	---	40.76	54.00	13.24	H	5.4
9341.900000	49.44	---	74.00	24.56	H	5.4
17598.800000	54.99	---	74.00	19.01	V	13.2
17598.800000	---	48.64	54.00	5.36	V	13.2

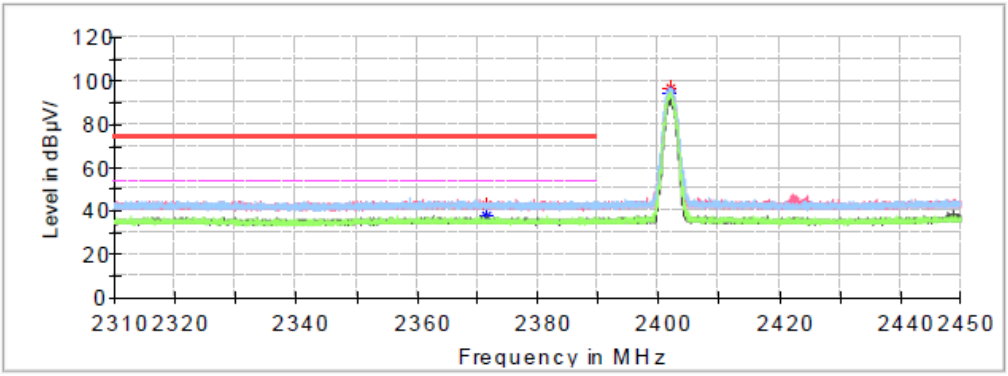
Band Edge:

Left Side

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang

Full Spectrum



Critical_Freqs

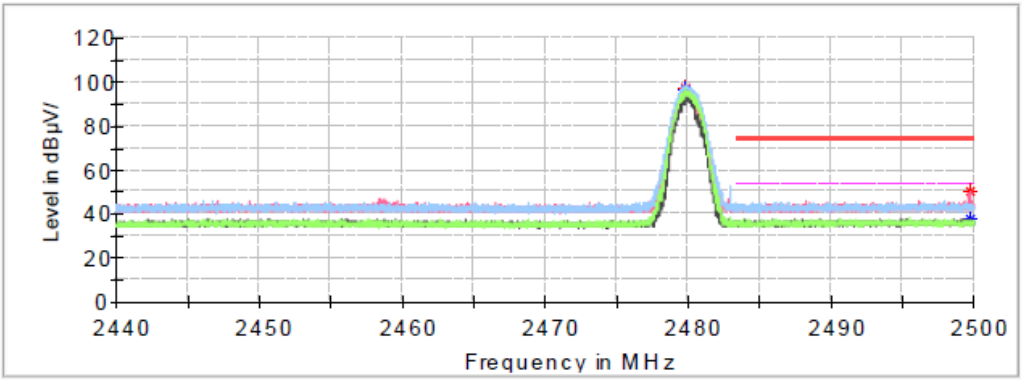
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2371.670000	42.79	---	74.00	31.21	V	0.0
2371.670000	---	37.72	54.00	16.28	V	0.0

Right Side

Common Information

Project No.:	RKAS240327005
Test Mode:	BT
Standard:	FCC Part 15.247 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Peter Wang

Full Spectrum



Critical_Freqs

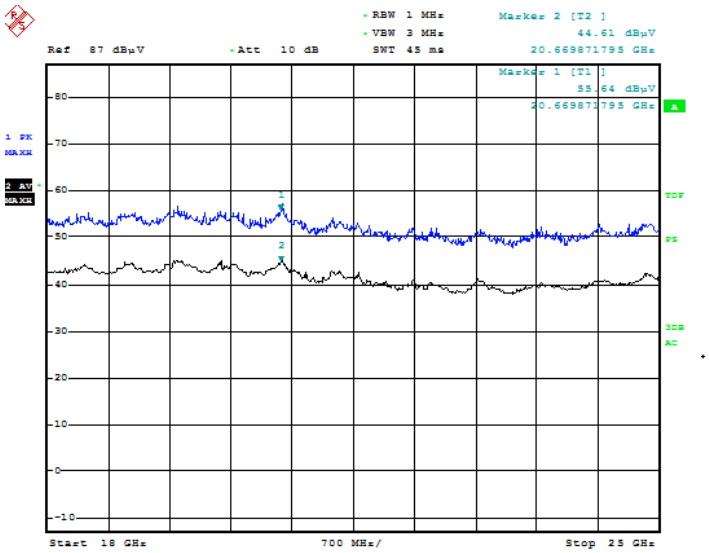
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2499.754000	---	37.52	54.00	16.48	V	0.2
2499.754000	50.04	---	74.00	23.96	V	0.2

18GHz-25GHz:

GFSK:

EUT operation mode: Transmitting in high channel of GFSK mode (Worst case)

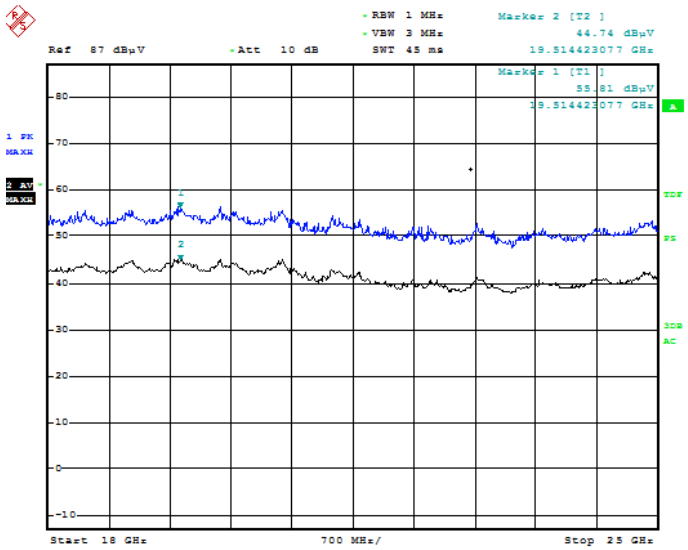
Horizontal



Project No.: RKAS240327005 Tester: Peter Wang

Date: 17.APR.2024 20:32:02

Vertical



Project No.: RKAS240327005 Tester: Peter Wang

Date: 17.APR.2024 20:58:55

Note: The test distance is 3m. The limit is 74dBµV/m(Peak) and 54dBµV/m(Average).

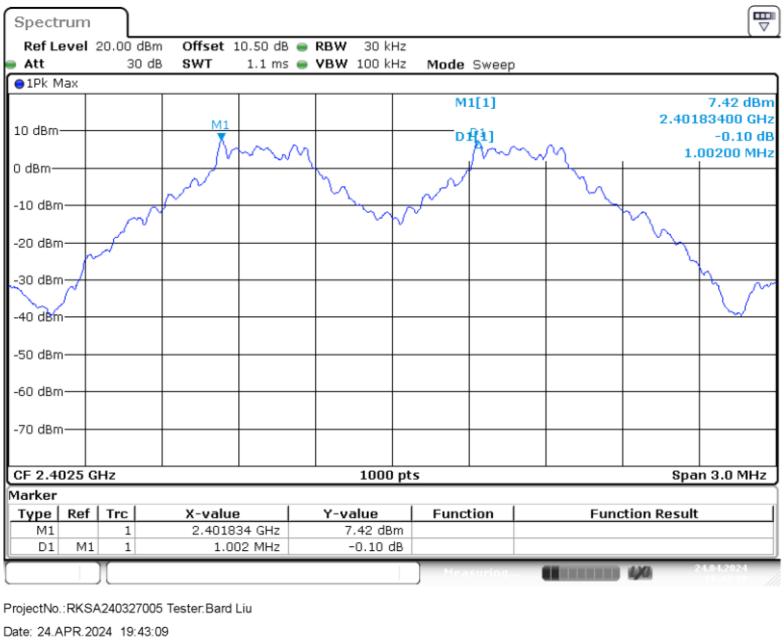
CHANNEL SEPARATION TEST

EUT operation mode: Transmitting

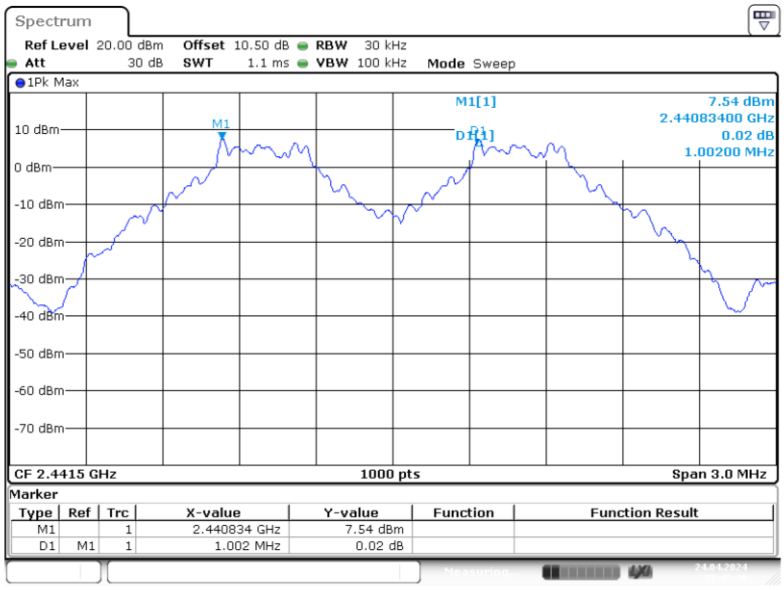
Mode	Channel	Channel frequency (MHz)	Result (MHz)	Limit (MHz)
GFSK	Low	2402-2403	1.002	0.582
	Middle	2441-2442	1.002	0.582
	High	2480-2479	1.002	0.582
π/4 DQPSK	Low	2402-2403	1.002	0.814
	Middle	2441-2442	1.002	0.812
	High	2480-2479	1.005	0.812
8DPSK	Low	2402-2403	1.005	0.816
	Middle	2441-2442	1.002	0.816
	High	2480-2479	1.005	0.812

Note: Limit = 20 dB bandwidth*2/3

BDR (GFSK): Low Channel



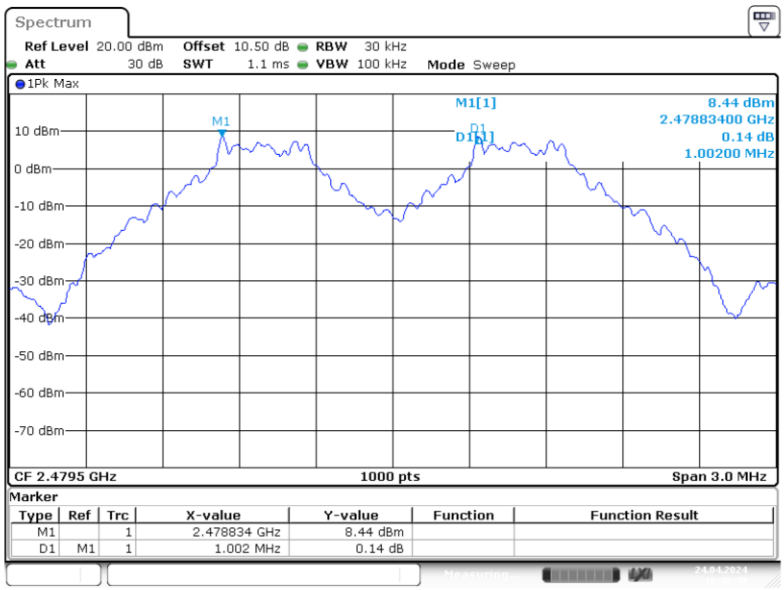
BDR (GFSK): Middle Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 18:45:39

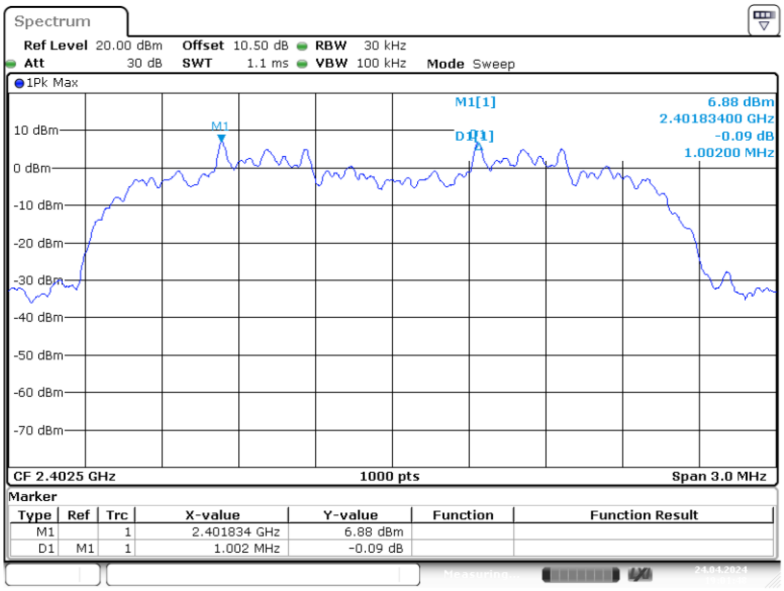
BDR (GFSK): High Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 18:48:49

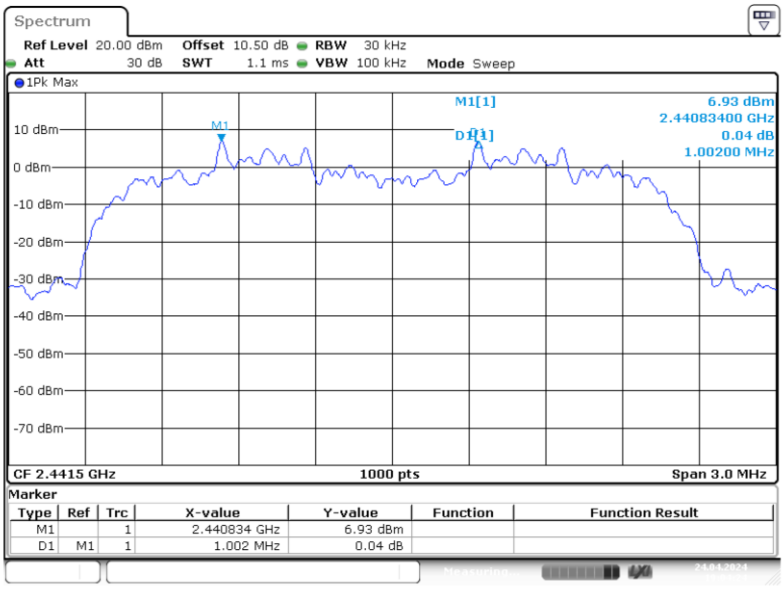
EDR (π/4-DQPSK): Low Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:01:48

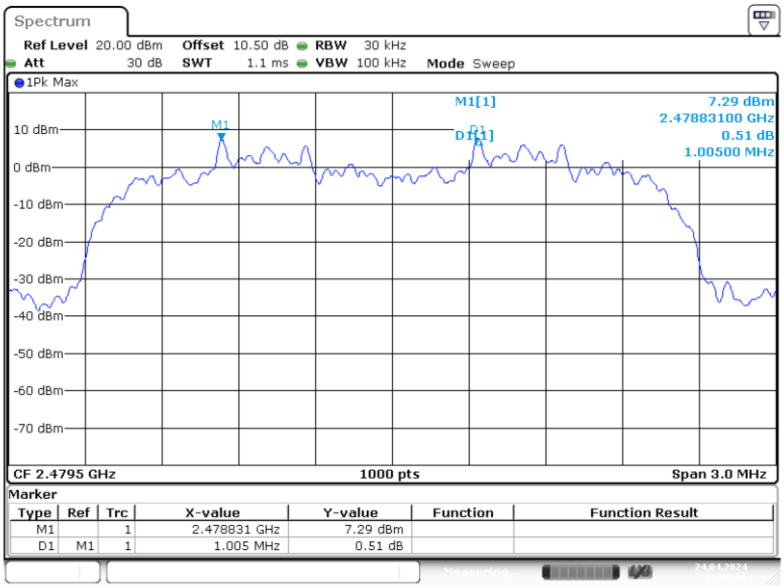
EDR (π/4-DQPSK): Middle Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:04:25

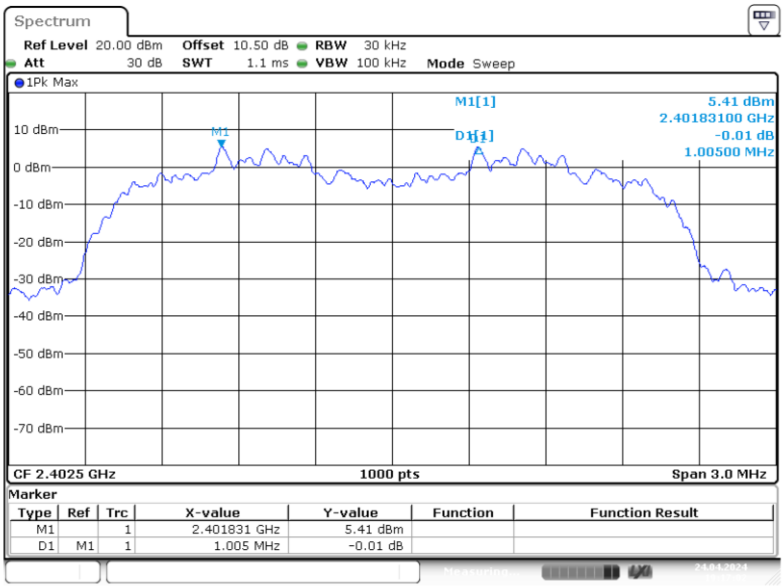
EDR (π/4-DQPSK): High Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:07:37

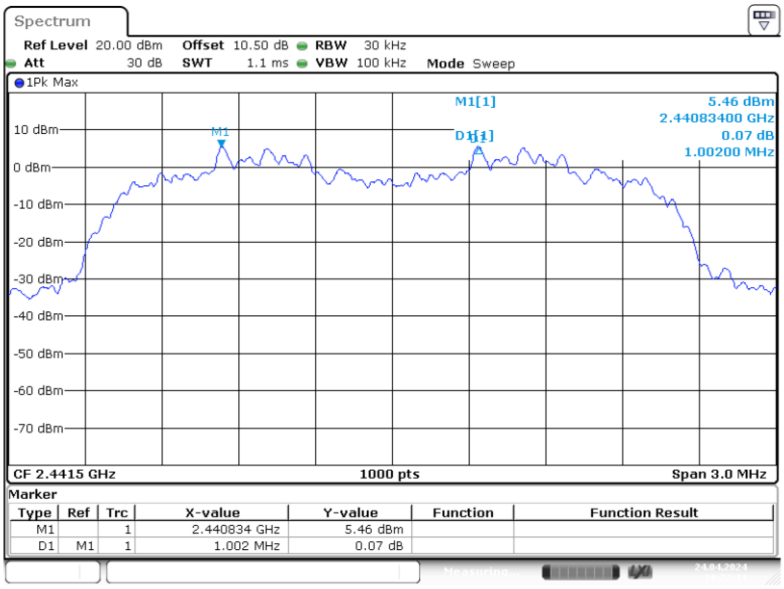
EDR (8DPSK): Low Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:17:02

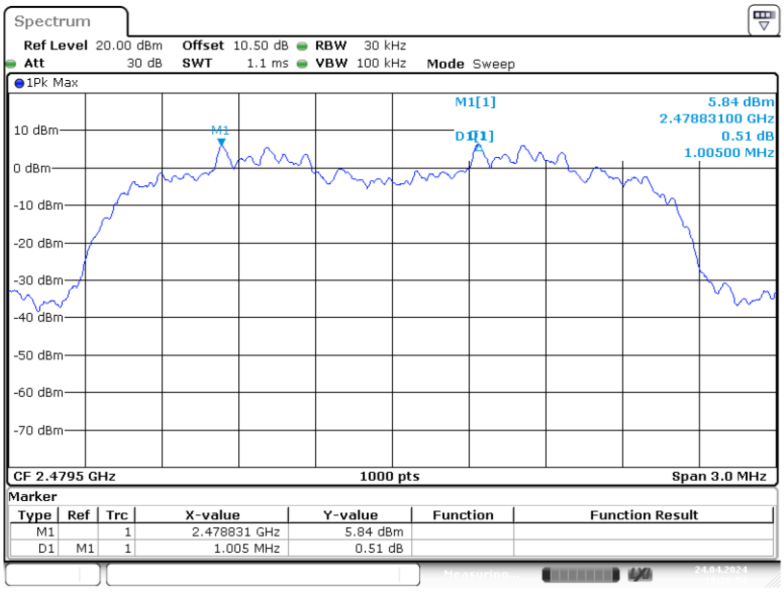
EDR (8DPSK): Middle Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:22:12

EDR (8DPSK): High Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

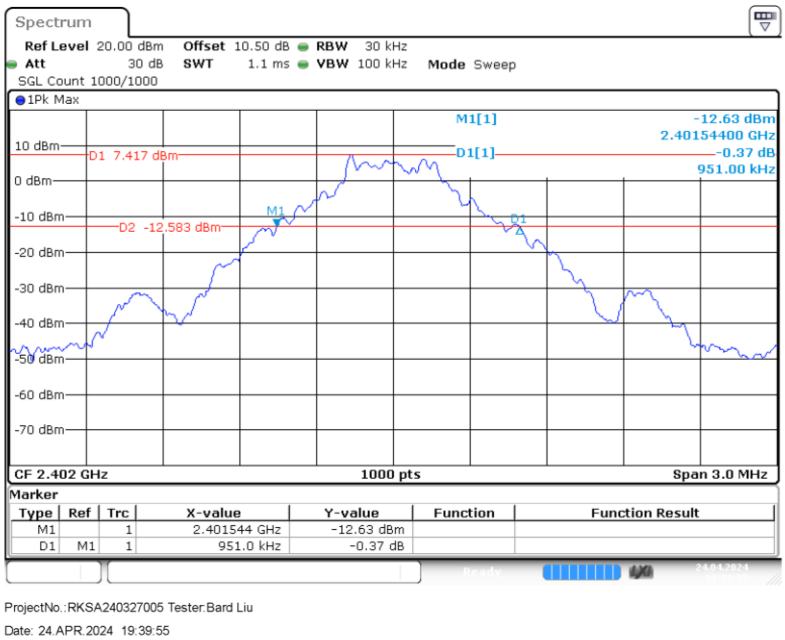
Date: 24.APR.2024 19:26:54

20 dB BANDWIDTH TEST

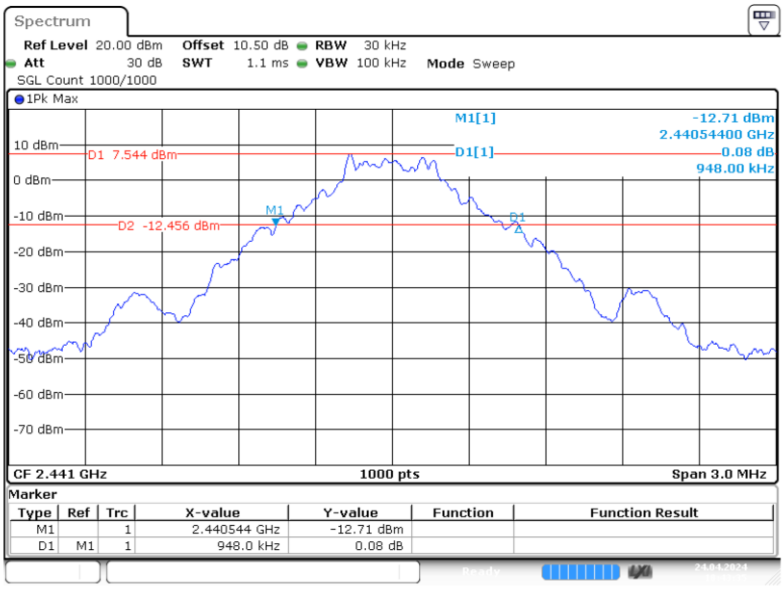
EUT operation mode: Transmitting

Mode	Channel	Frequency (MHz)	20 dB Emission Bandwidth (MHz)
BDR (GFSK)	Low	2402	0.873
	Middle	2441	0.873
	High	2480	0.873
EDR (π/4-DQPSK)	Low	2402	1.221
	Middle	2441	1.218
	High	2480	1.218
EDR (8DPSK)	Low	2402	1.224
	Middle	2441	1.224
	High	2480	1.218

BDR (GFSK): Low Channel



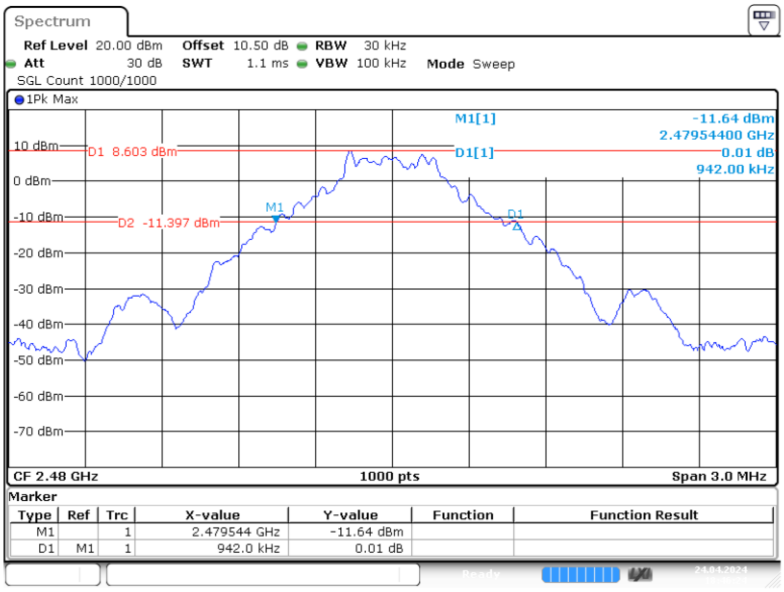
BDR (GFSK): Middle Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 18:43:35

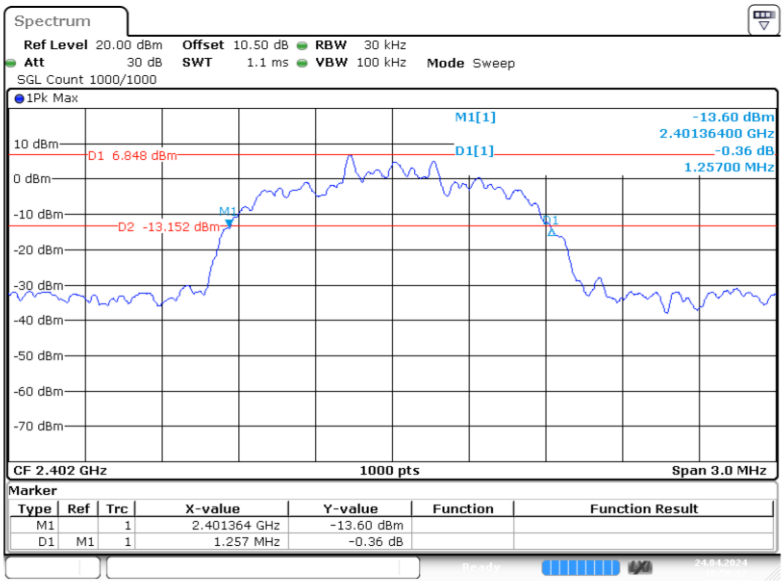
BDR (GFSK): High Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 18:46:25

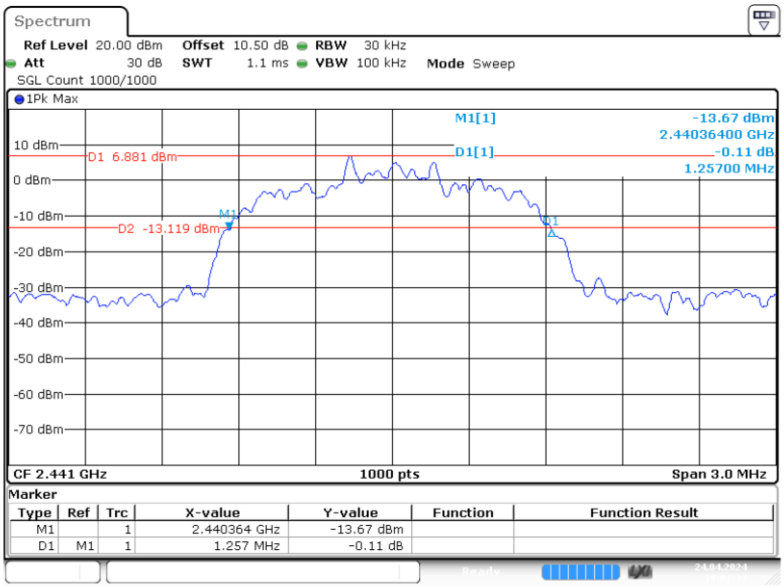
EDR (π/4-DQPSK): Low Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 18:59:12

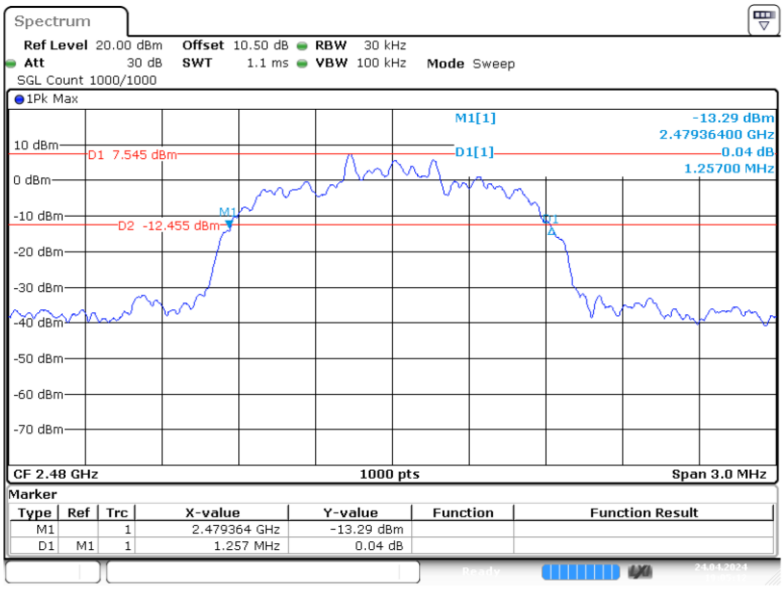
EDR(π/4-DQPSK): Middle Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:02:34

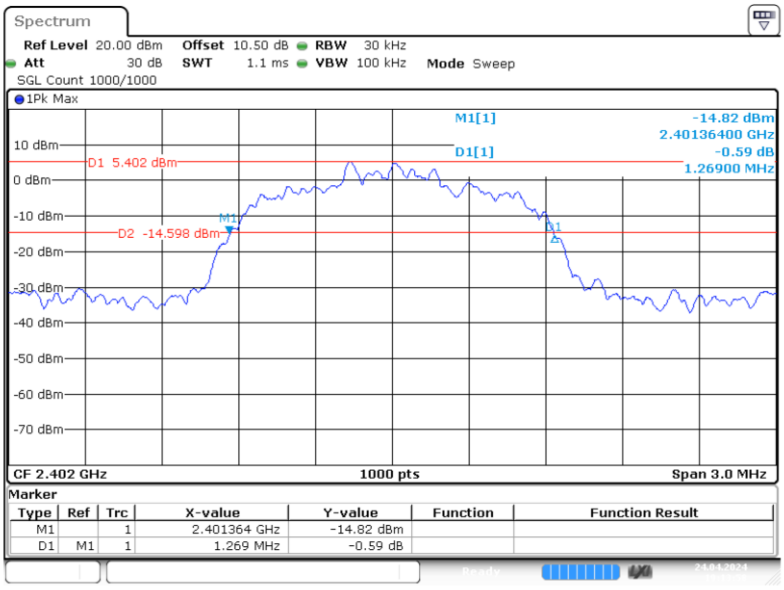
EDR (π/4-DQPSK): High Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:05:13

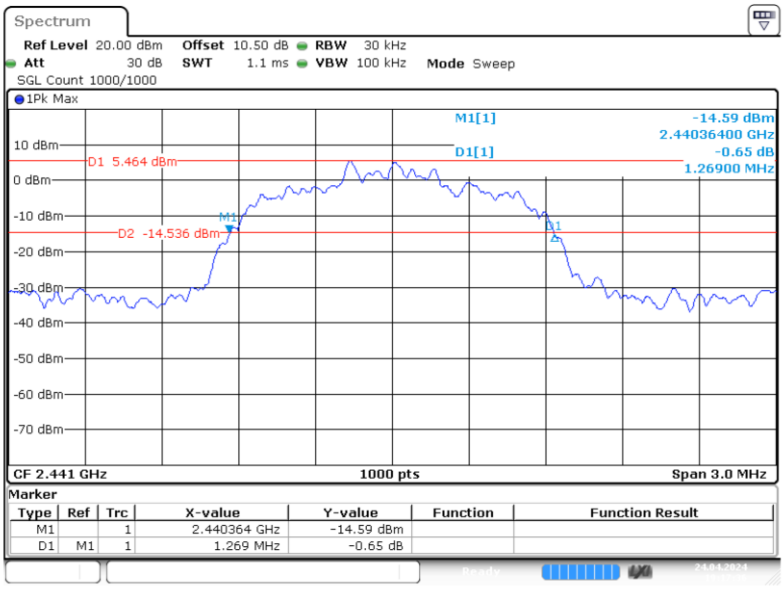
EDR (8DPSK): Low Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:13:59

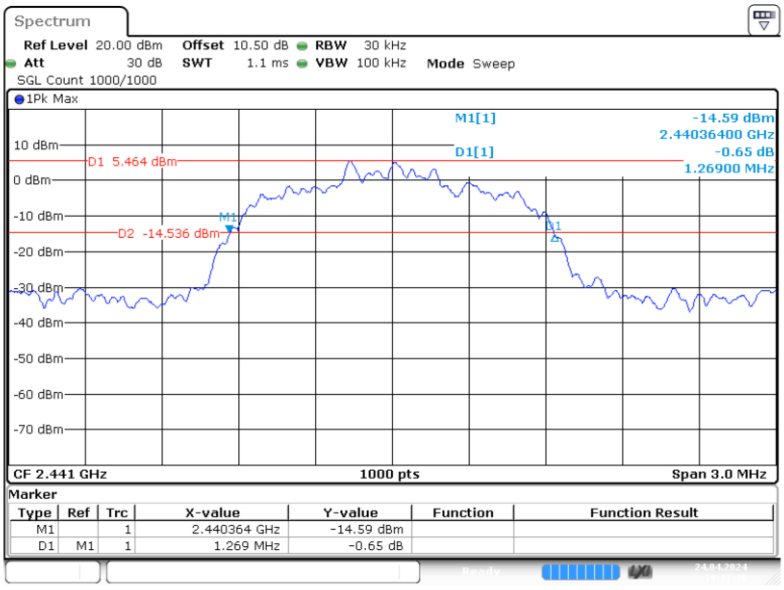
EDR (8DPSK): Middle Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:17:37

EDR (8DPSK): High Channel



ProjectNo.:RKSA240327005 Tester:Bard Liu

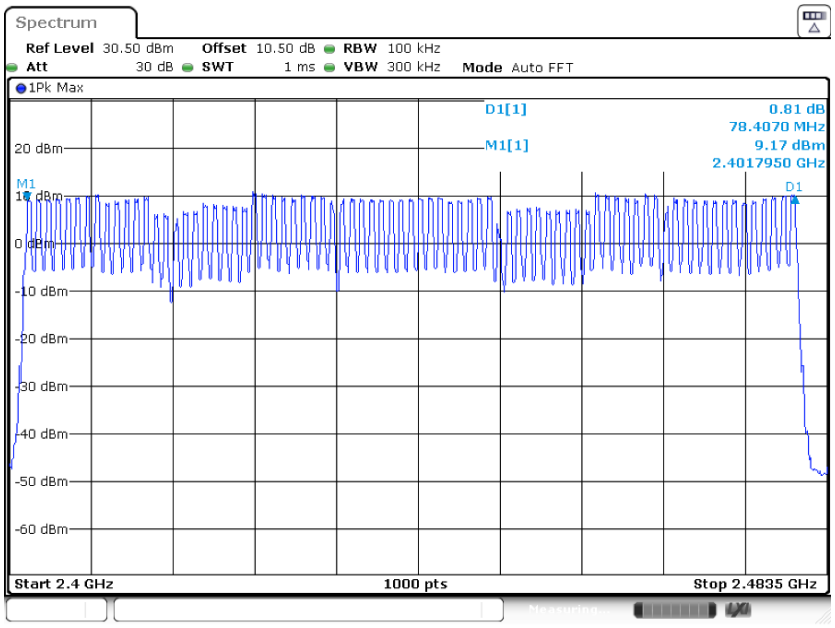
Date: 24.APR.2024 19:17:37

QUANTITY OF HOPPING CHANNEL TEST

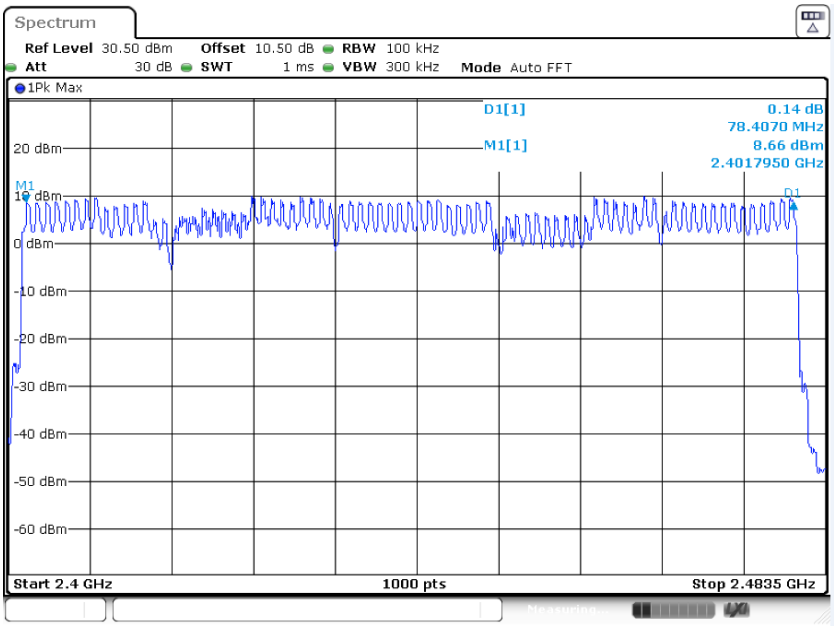
EUT operation mode: Hopping

Mode	Frequency Range (MHz)	Number of Hopping Channel (CH)	Limit (CH)
BDR (GFSK)	2400-2483.5	79	≥15
EDR (π/4-DQPSK)	2400-2483.5	79	≥15
EDR (8DPSK)	2400-2483.5	79	≥15

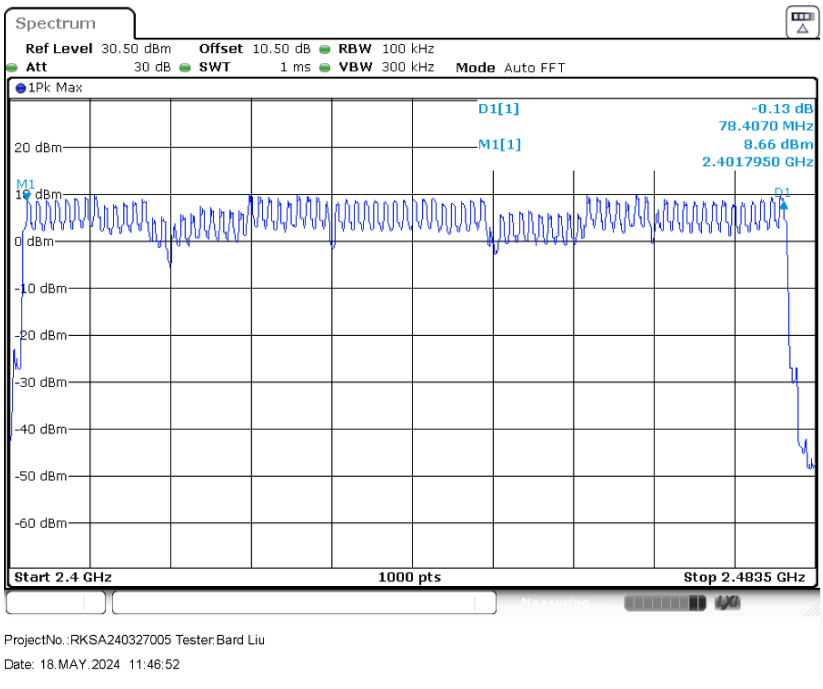
BDR (GFSK): Number of Hopping Channels



EDR (π/4-DQPSK): Number of Hopping Channels



EDR (8DPSK): Number of Hopping Channels

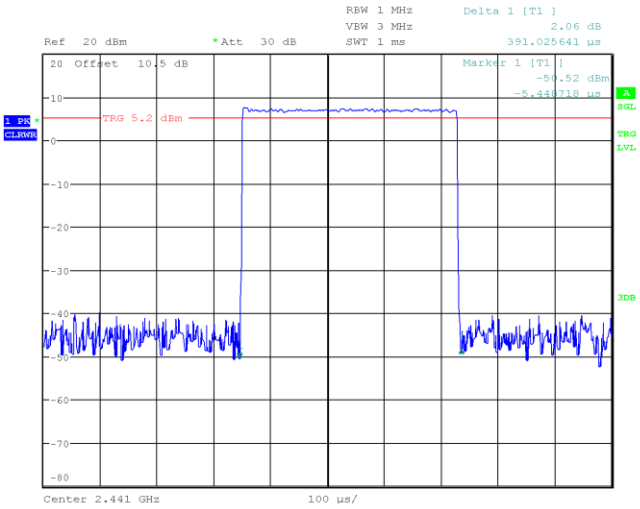


TIME OF OCCUPANCY (DWELL TIME)

EUT operation mode: Hopping

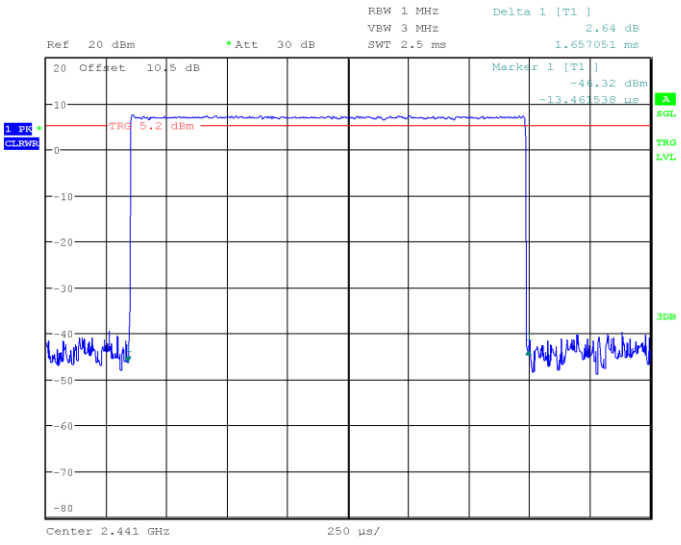
Mode		Channel	Pulse Width (ms)	Dwell Time (s)	Limit (s)	Result
BDR (GFSK)	DH1	Middle	0.391	125.12	0.400	Pass
		Note: DH1: Dwell time = Pulse time*(1600/2/79)*31.6S				
	DH3	Middle	1.657	265.12	0.400	Pass
		Note: DH3: Dwell time = Pulse time*(1600/4/79)*31.6S				
	DH5	Middle	2.920	311.47	0.400	Pass
		Note: DH5: Dwell time = Pulse time*(1600/6/79)*31.6S				
EDR (π/4-DQPSK)	2DH1	Low	0.397	127.04	0.400	Pass
		Note: 2DH1: Dwell time = Pulse time*(1600/2/79)*31.6S				
	2DH3	Low	1.655	264.8	0.400	Pass
		Note: 2DH3: Dwell time = Pulse time*(1600/4/79)*31.6S				
	2DH5	Low	2.918	311.253	0.400	Pass
		Note: 2DH5: Dwell time = Pulse time*(1600/6/79)*31.6S				
EDR (8DPSK)	3DH1	Low	0.397	127.04	0.400	Pass
		Note:3 DH1: Dwell time = Pulse time*(1600/2/79)*31.6S				
	3DH3	Low	1.655	264.8	0.400	Pass
		Note: 3DH3: Dwell time = Pulse time*(1600/4/79)*31.6S				
	3DH5	Low	2.924	311.8933	0.400	Pass
		Note: 3DH5: Dwell time = Pulse time*(1600/6/79)*31.6S				

BDR (GFSK): Pulse time, Middle Channel, DH1



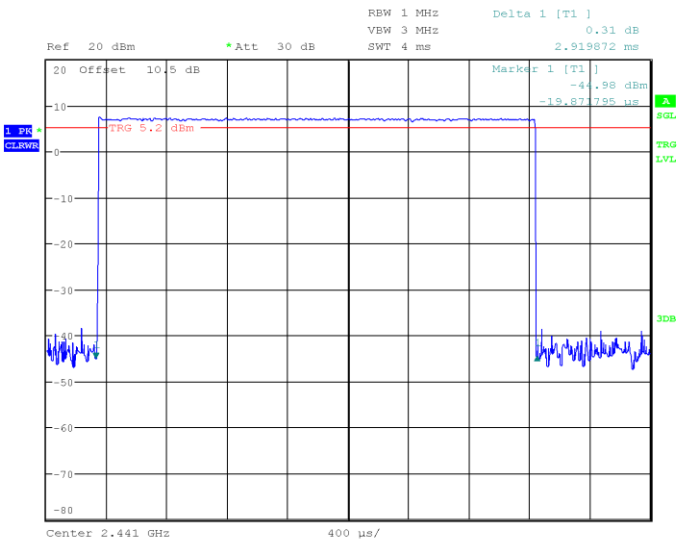
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 5.JUL.2024 13:43:52

BDR (GFSK): Pulse time, Middle Channel, DH3



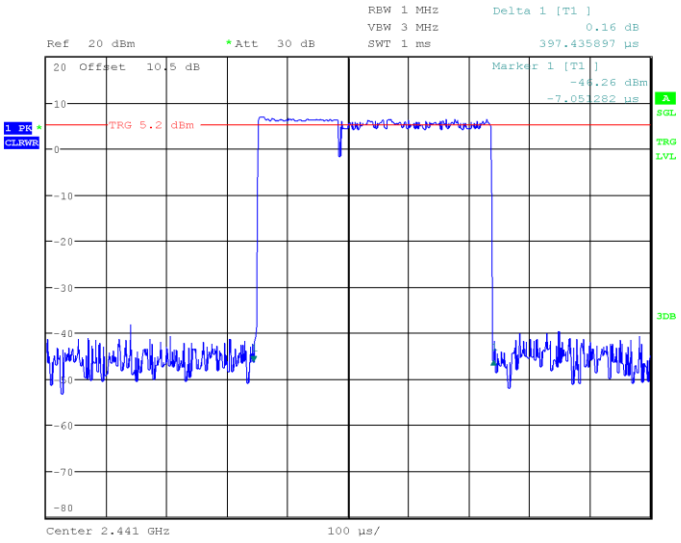
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 5.JUL.2024 13:46:50

BDR (GFSK): Pulse time, Middle Channel, DH5



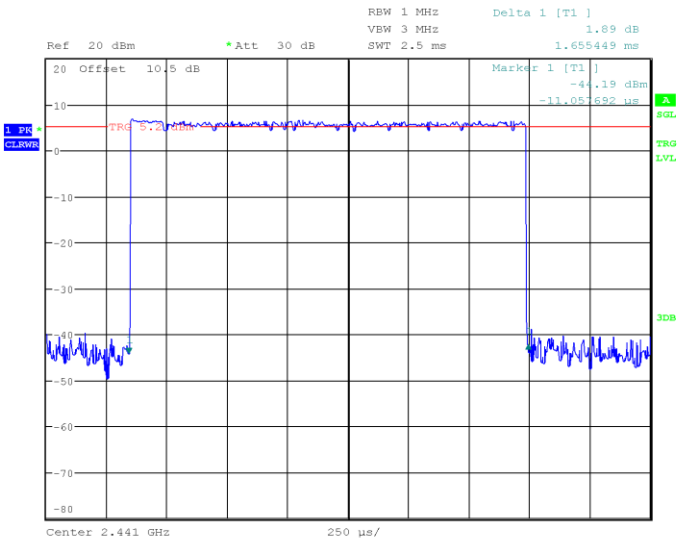
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 5.JUL.2024 13:48:48

EDR (π/4-DQPSK): Pulse time, Middle Channel, 2DH1



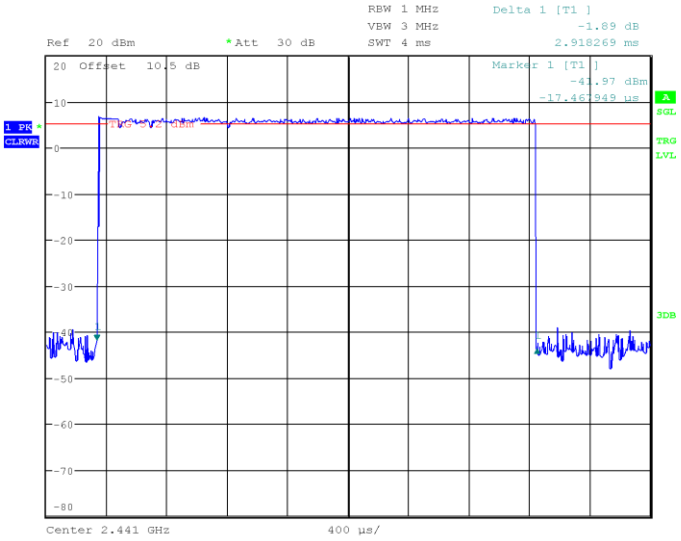
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 5.JUL.2024 13:50:19

EDR (π/4-DQPSK): Pulse time, Middle Channel, 2DH3



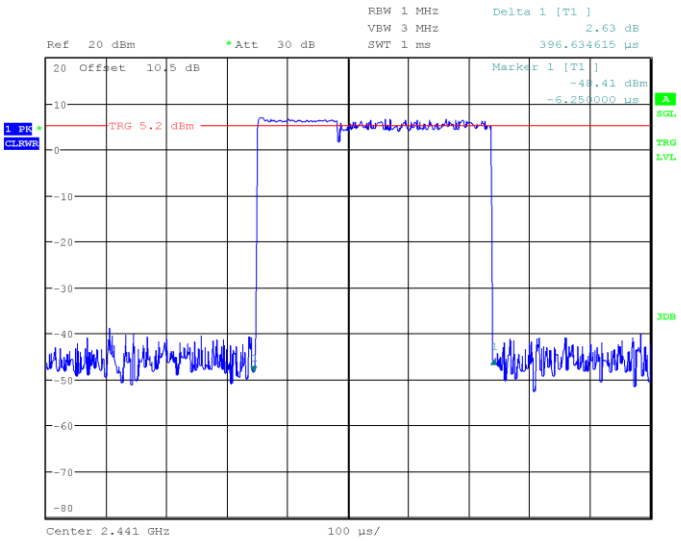
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 5.JUL.2024 13:51:19

EDR (π/4-DQPSK): Pulse time, Middle Channel, 2DH5



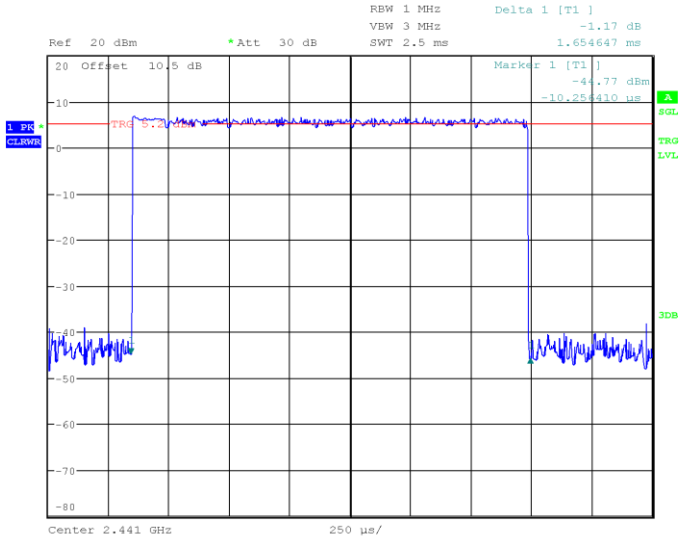
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 5.JUL.2024 13:52:11

EDR (8DPSK): Pulse time, Middle Channel, 3DH1



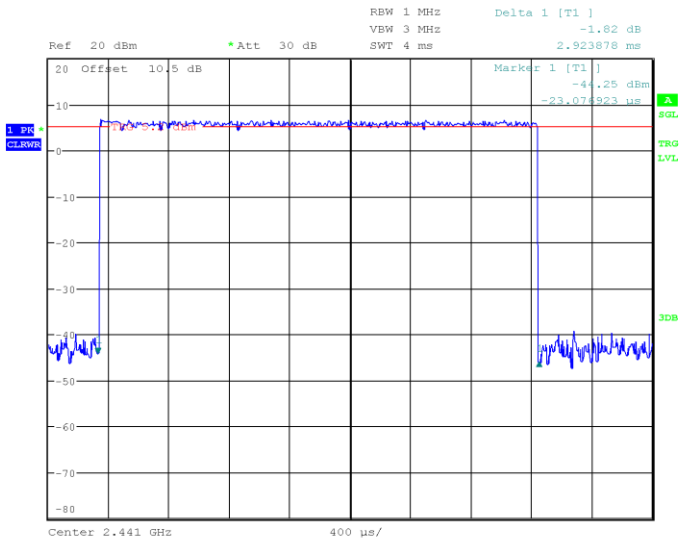
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 5.JUL.2024 13:53:16

EDR (8DPSK): Pulse time, Middle Channel, 3DH3



ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 5.JUL.2024 13:54:17

EDR (8DPSK): Pulse time, Middle Channel, 3DH5



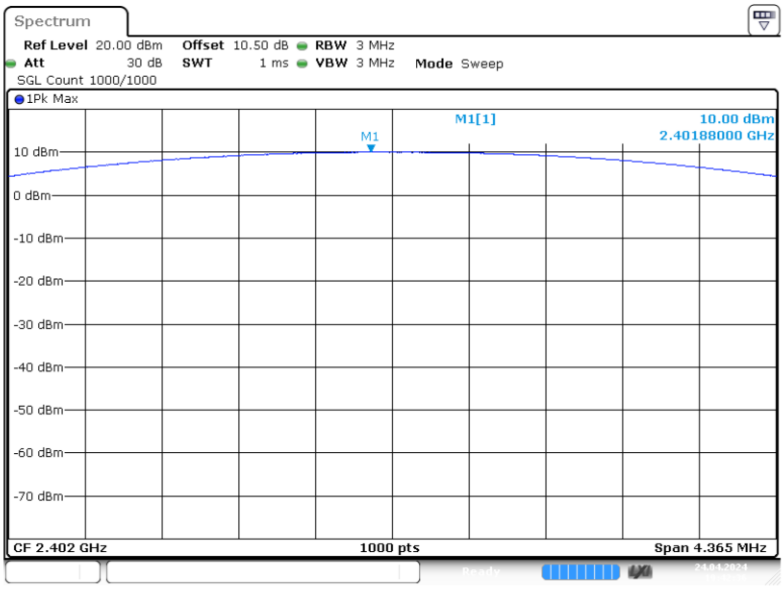
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 5.JUL.2024 13:55:11

PEAK OUTPUT POWER MEASUREMENT

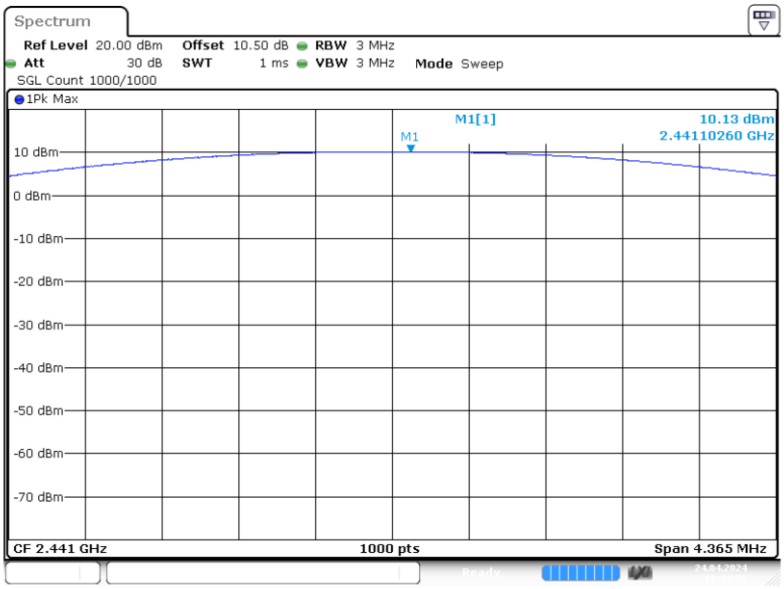
EUT operation mode: Transmitting

Mode	Channel	Frequency (MHz)	Result (dBm)	Limit (dBm)
GFSK	Low	2402	10.00	30
	Middle	2441	10.13	
	High	2480	11.06	
π/4 DQPSK	Low	2402	9.61	21
	Middle	2441	9.67	
	High	2480	10.47	
8DPSK	Low	2402	9.69	21
	Middle	2441	9.77	
	High	2480	10.73	

BDR (GFSK): 2402MHz

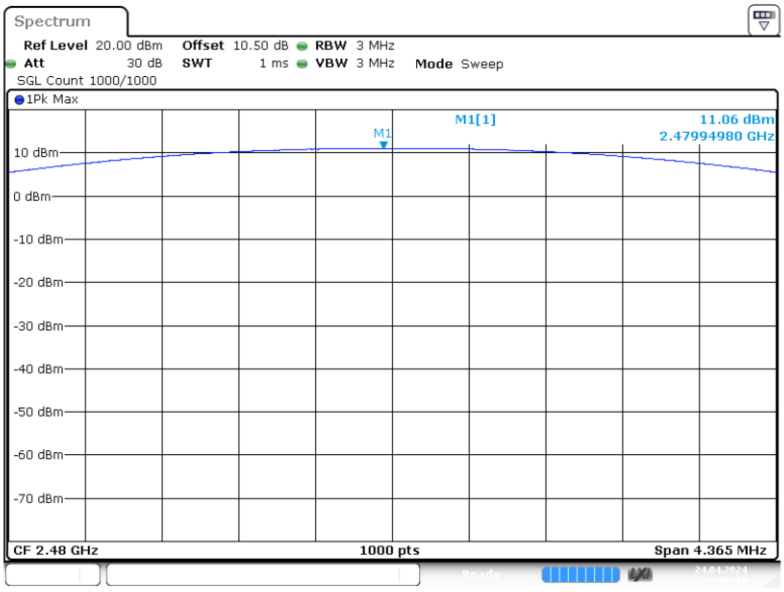


BDR (GFSK): 2441MHz



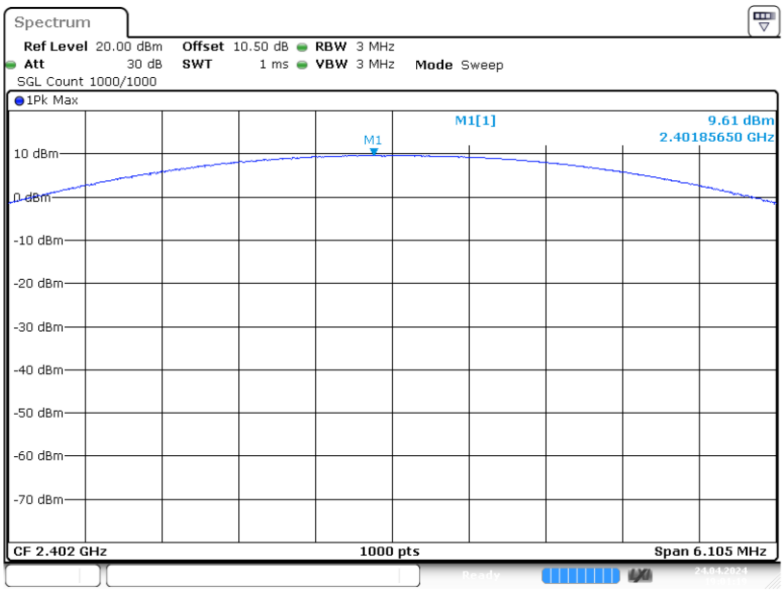
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 24.APR.2024 18:44:56

BDR (GFSK): 2480MHz



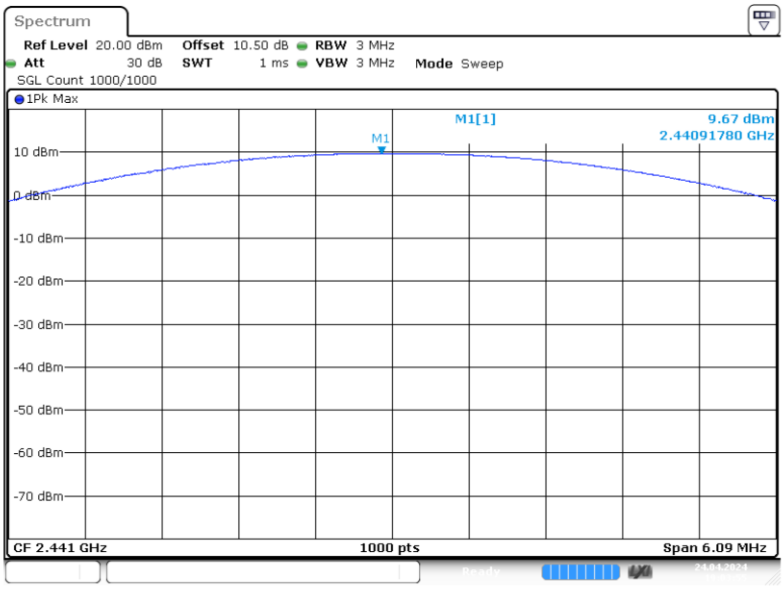
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 24.APR.2024 18:48:19

EDR(π/4-DQPSK): 2402MHz



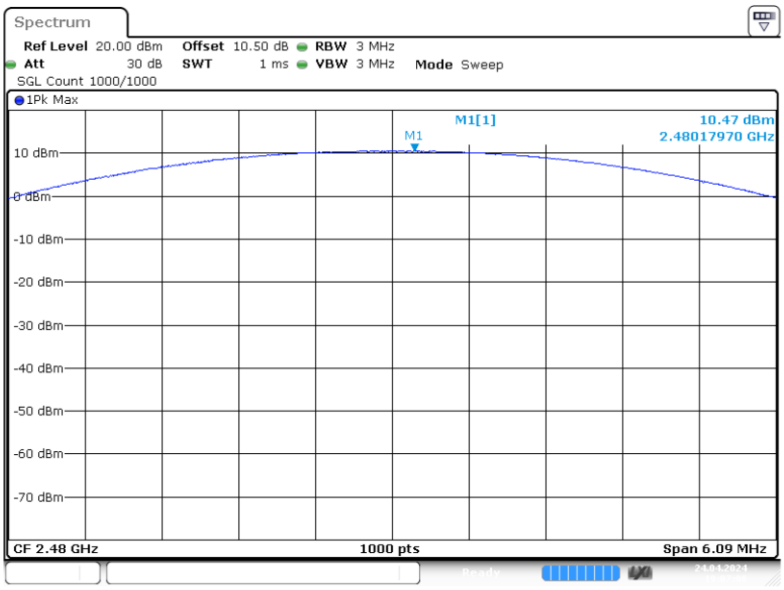
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 24.APR.2024 19:01:19

EDR(π/4-DQPSK): 2441MHz



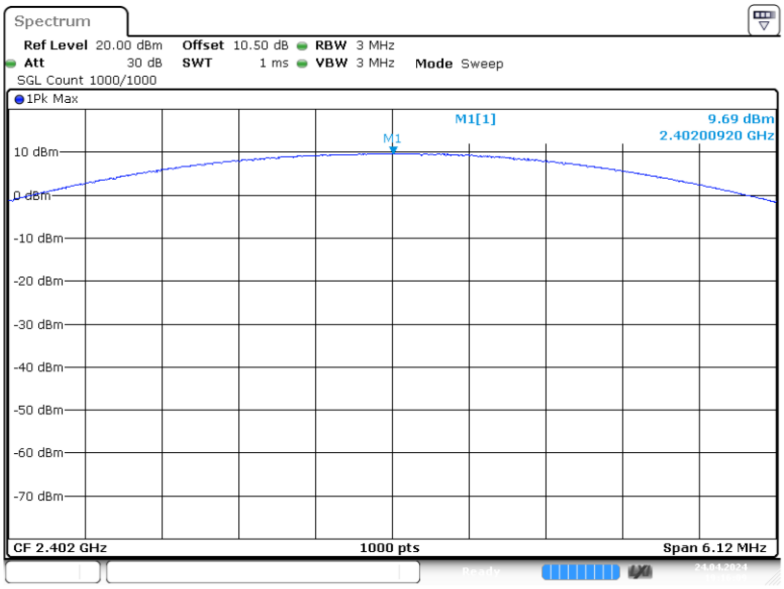
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 24.APR.2024 19:03:55

EDR(π/4-DQPSK): 2480MHz



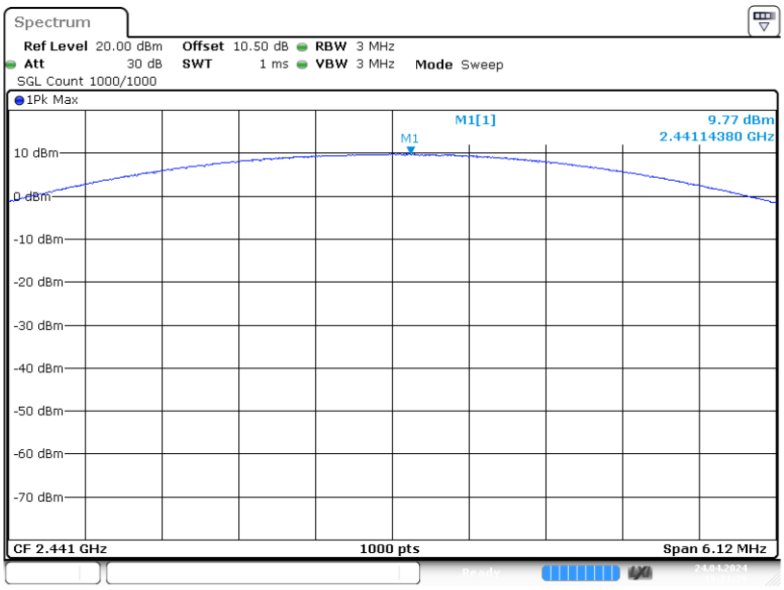
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 24.APR.2024 19:07:09

EDR(8DPSK): 2402MHz



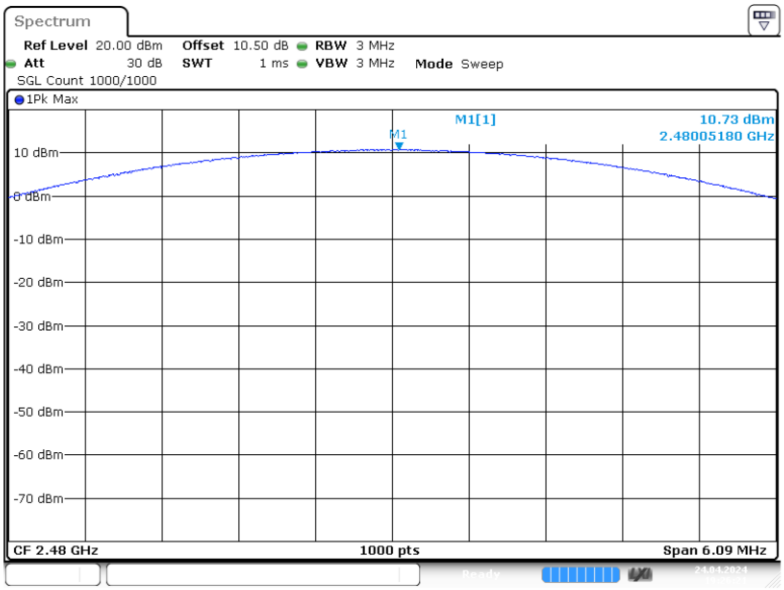
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 24.APR.2024 19:16:09

EDR(8DPSK): 2441MHz



ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 24.APR.2024 19:21:30

EDR(8DPSK): 2480MHz



ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 24.APR.2024 19:26:21

BAND EDGES

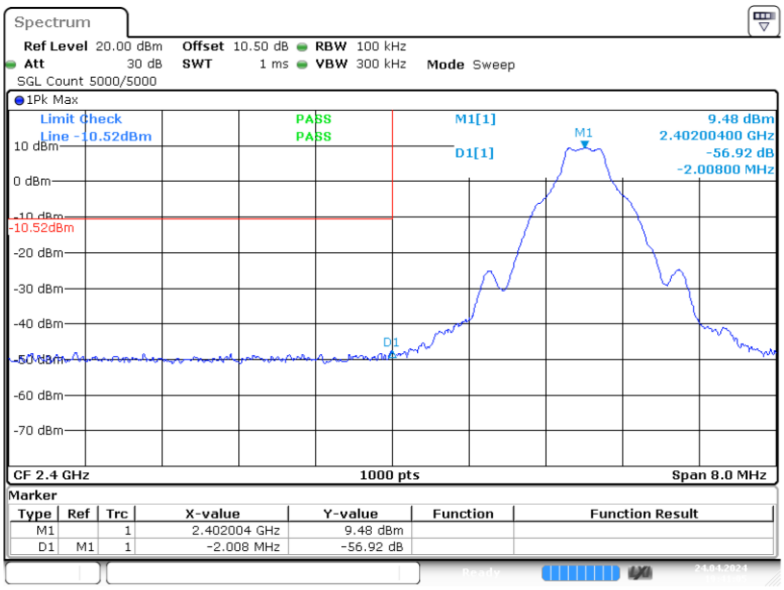
EUT operation mode: Transmitting & Hopping

Test Result: Compliant.

Mode	Channel	Frequency (MHz)	Result (dBc)	Limit (dBc)
GFSK	Low	2402	56.92	20
	High	2480	58.10	
π/4 DQPSK	Low	2402	58.00	
	High	2480	49.57	
8DPSK	Low	2402	57.21	
	High	2480	50.19	
GFSK (Hopping)	Low	2402	56.98	
	High	2480	48.51	
π/4 DQPSK (Hopping)	Low	2402	57.16	
	High	2480	51.04	
8DPSK (Hopping)	Low	2402	57.05	
	High	2480	49.57	

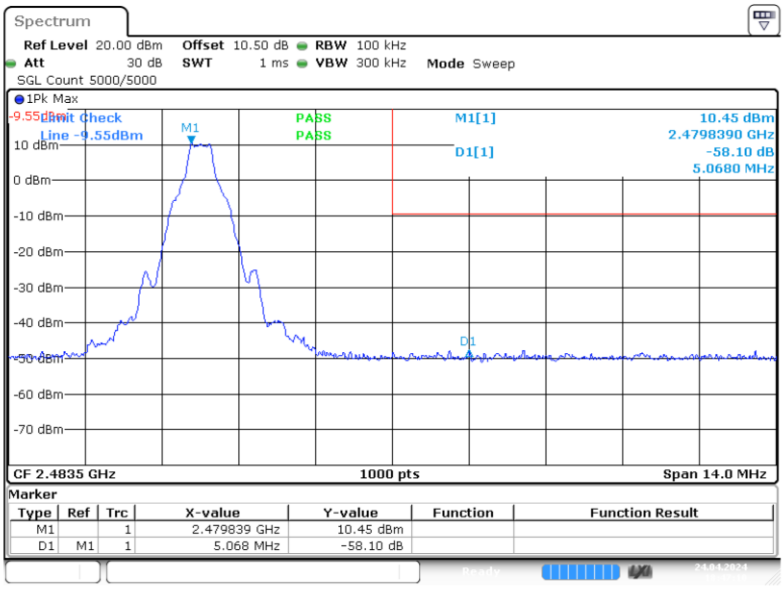
Band Edge

BDR (GFSK): Left Side



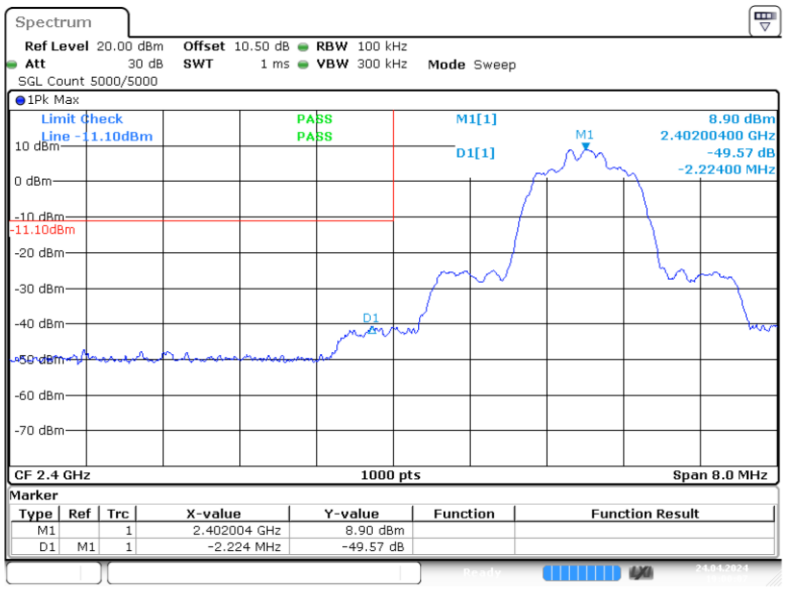
ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 24.APR.2024 19:41:05

BDR (GFSK): Right Side



ProjectNo.:RKSA240327005 Tester:Bard Liu
Date: 24.APR.2024 18:47:10

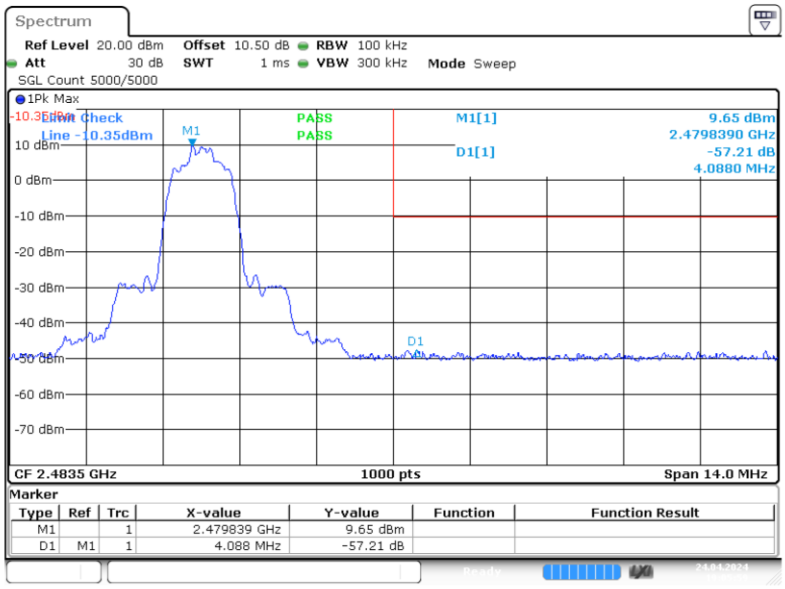
EDR (π/4-DQPSK): Left Side



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:00:07

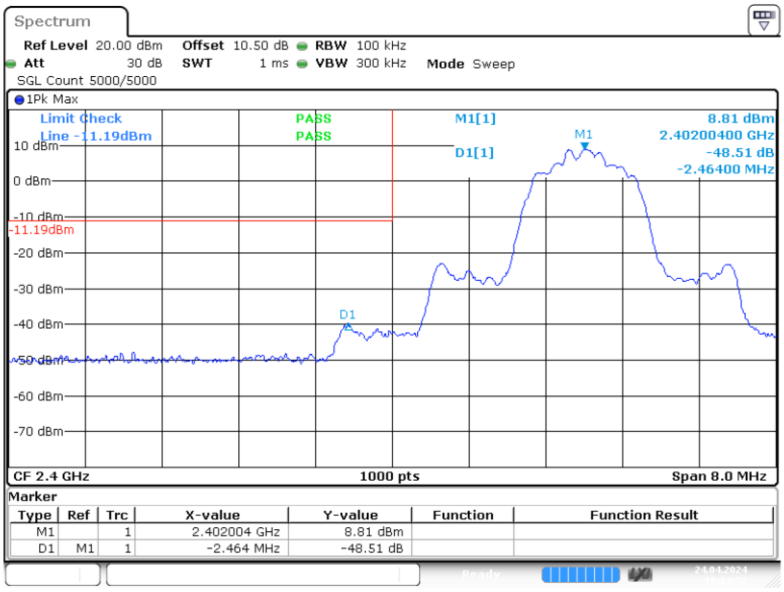
EDR (π/4-DQPSK): Right Side



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:05:58

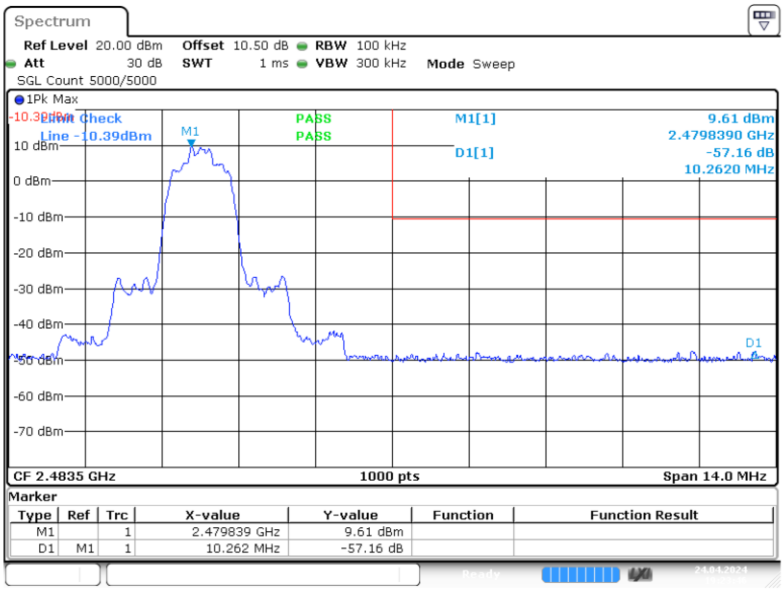
EDR (8DPSK): Left Side



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:14:53

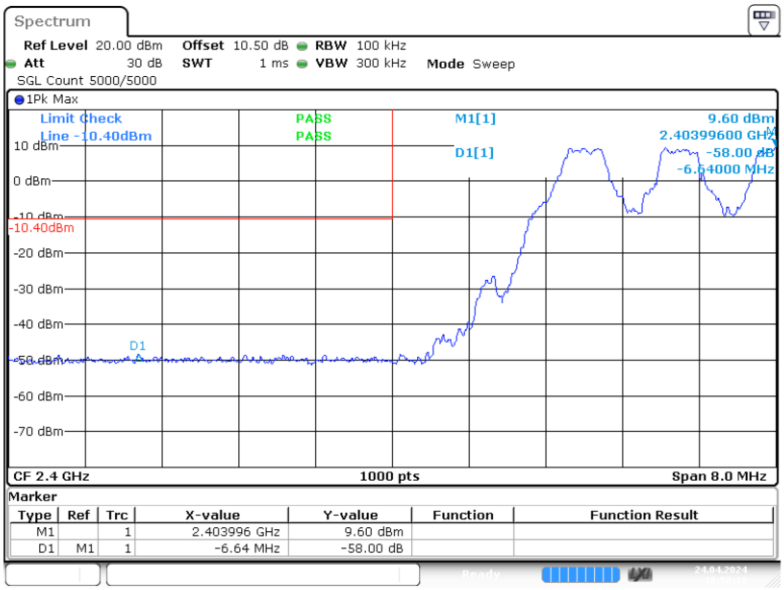
EDR (8DPSK): Right Side



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:23:47

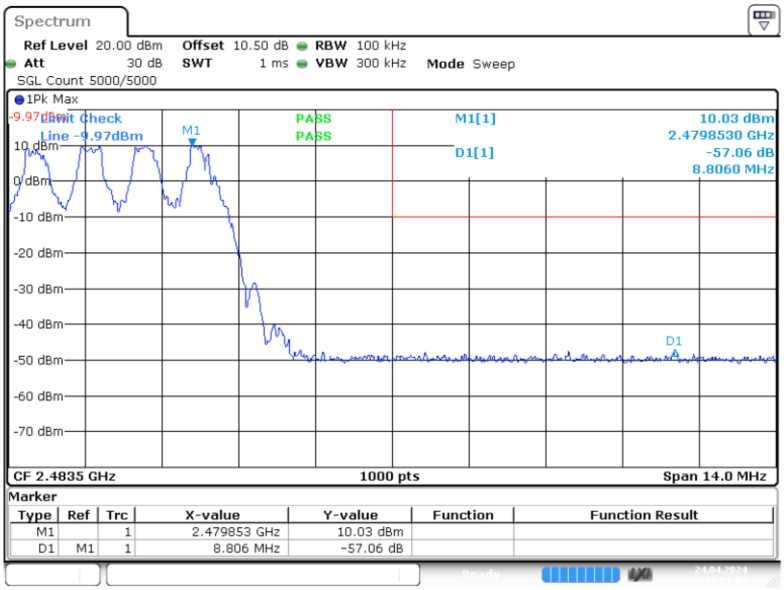
BDR (GFSK): Left Side - Hopping



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 18:50:19

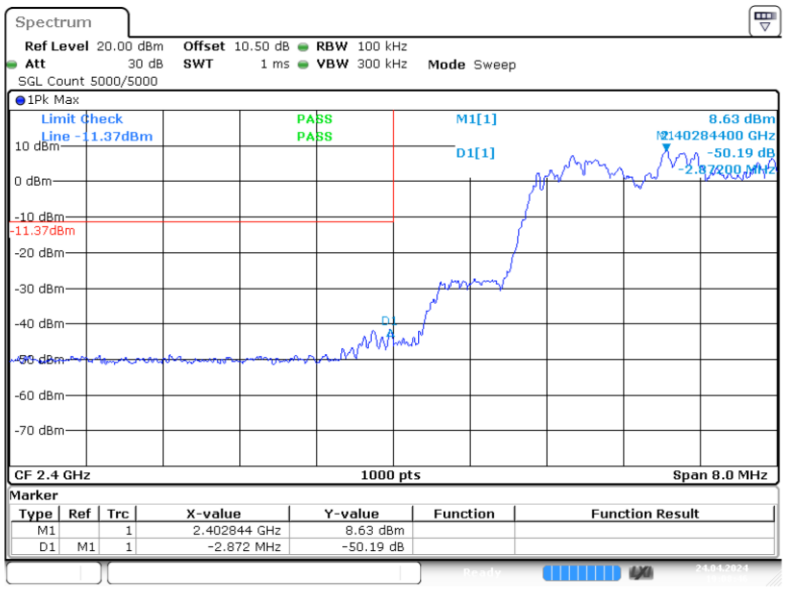
BDR (GFSK): Right Side- Hopping



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 18:51:04

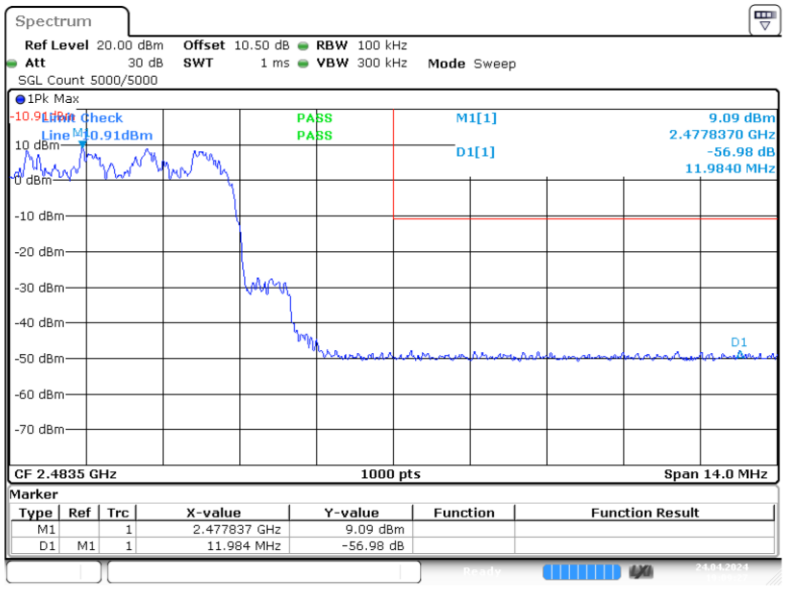
EDR (π/4-DQPSK): Left Side- Hopping



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:08:46

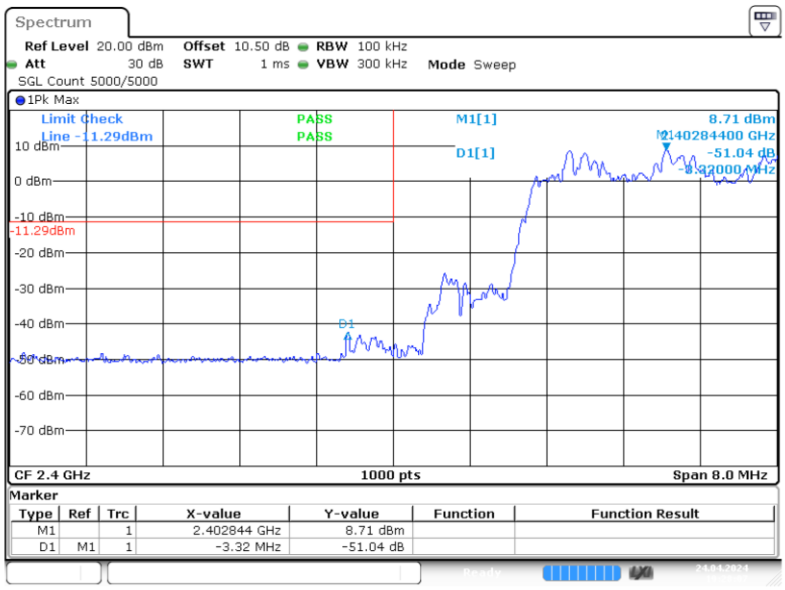
EDR (π/4-DQPSK): Right Side- Hopping



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:09:28

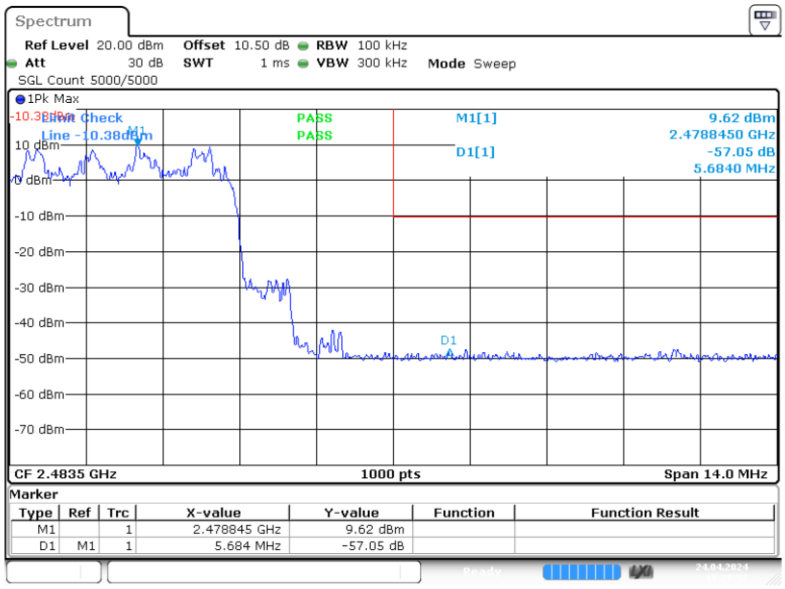
EDR (8DPSK): Left Side- Hopping



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:28:08

EDR (8DPSK): Right Side- Hopping



ProjectNo.:RKSA240327005 Tester:Bard Liu

Date: 24.APR.2024 19:28:52

EUT PHOTOGRAPHS

Please refer to the attachment EXHIBIT A-EUT EXTERNAL PHOTOGRAPHS and EXHIBIT B-EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment EXHIBIT C-TEST SETUP PHOTOGRAPHS.

Declarations

1. The laboratory is not responsible for the authenticity of any information provided by the applicant. Information from the applicant that may affect test results is marked with "★".

2. The test data was only valid for the test sample(s).

3. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

4. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

5. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor k=2 with the 95.45% confidence interval.

******* END OF REPORT *******