



TEST REPORT FOR BLUETOOTH TESTING

Report No.: SRTC2023-9004(F)-23122001(D)

Product Name: Smart Phone

Applicant: SHARP CORPORATION

Manufacturer: SHARP CORPORATION

Specification: FCC Part 15 Subpart C (2022)

FCC ID: APYHRO00329

The State Radio_monitoring_center Testing Center (SRTC) 15th Building, No.30Shixing Street, Shijingshan District, Beijing, P.R.China Tel: 86-10-57996183 Fax: 86-10-57996388



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1. GENERAL INFORMATION

1.1 Notes of the test report

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1.2 Information about the testing laboratory

Company:	The State Radio_monitoring_center Testing Center (SRTC)
Test Site 1:	15th Building, No.30 Shixing Street, Shijingshan District
Test Site 2:	No.80, Zhaojiachang, Beizang, Daxing District
City:	Beijing
Country or Region:	P.R.China
Contacted person:	Liu Jia
Tel:	+86 10 57996183
Fax:	+86 10 57996388
Email:	liujiaf@srtc.org.cn
Designation Number:	CN1267
Registration number:	239125

1.3 Applicant's details

Company:	SHARP CORPORATION
Address:	1 Takumi-cho, Sakai-ku, Sakai City, Osaka 590-8522, Japan
City:	Osaka
Country or Region:	Japan
Contacted person:	Mr. Taihei Ohtsuka

1.4 Manufacturer's details

Company:	SHARP CORPORATION
Address:	1 Takumi-cho, Sakai-ku, Sakai City, Osaka 590-8522, Japan
City:	Osaka
Country or Region:	Japan
Contacted person:	Mr. Taihei Ohtsuka



1.5 Test Environment

Date of Receipt of test sample at SRTC:	2023/12/21		
Testing Start Date:	2023/12/22		
Testing End Date:	2024/1/19		
Environmental Data:	Temperature (°C)	Humidity (%)	
Ambient	25	40	
Maximum Extreme	55		
Minimum Extreme	-10		
Normal Supply Voltage (V d.c.):	4.0		
Maximum Extreme Supply Voltage (V d.c.):	4.3		
Minimum Extreme Supply Voltage (V d.c.):	3.7		

2. DESCRIPTION OF THE DEVICE UNDER TEST

2.1 Final Equipment Build Status

Frequency Range:	2.402GHz~2.480GHz		
Number of Channel:	79		
Modulation Type:	GFSK, π/4DQPSK, 8DPSK		
Duplex Mode:	TDD		
Channel Spacing:	1MHz		
Data Rate:	1Mbps, 2 Mbps, 3 Mbps		
Power Supply:	Battery/DC supply		
Hardware Revision:	DVT(Remodeled to the equivalent of PVT products)		
Software Revision:	AB20G		
IMEI:	Conducted:004401231570140/004401231585148 Radiated: 004401231571163/004401231586161		
Antenna type:	Refer to Note1		
Antenna connector:	Refer to Note1		



Antenna requirement (FCC part 15.203)

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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 antenna(s) of the EUT are permanently attached.
- •There are no provisions for connection to an external antenna.

Note1: The antenna provide to the EUT, please refer to the following table:

Brand	Model	Antenna gain	Frequency band	Antenna type	Connecter Type
N/A	N/A	-5.0dBi	2.4GHz~2.4835GHz	Inverted-F Antenna	N/A

The antenna gain is provided by the customer and involved in the calculation and influence of the test results. Our laboratory takes the value declared by the customer as the criterion, and the customer is responsible for the antenna gain value. Manufacturers ensure that their designs will not be modified by the user or third party's arbitrary antenna parameters and performance.

2.2Description of Test Modes

79 channels are provided to this EUT:

CHANNEL	FREQ. (MHz)								
0	2402	16	2418	32	2434	48	2450	64	2466
1	2403	17	2419	33	2435	49	2451	65	2467
2	2404	18	2420	34	2436	50	2452	66	2468
3	2405	19	2421	35	2437	51	2453	67	2469
4	2406	20	2422	36	2438	52	2454	68	2470
5	2407	21	2423	37	2439	53	2455	69	2471
6	2408	22	2424	38	2440	54	2456	70	2472
7	2409	23	2425	39	2441	55	2457	71	2473
8	2410	24	2426	40	2442	56	2458	72	2474
9	2411	25	2427	41	2443	57	2459	73	2475
10	2412	26	2428	42	2444	58	2460	74	2476
11	2413	27	2429	43	2445	59	2461	75	2477
12	2414	28	2430	44	2446	60	2462	76	2478
13	2415	29	2431	45	2447	61	2463	77	2479
14	2416	30	2432	46	2448	62	2464	78	2480
15	2417	31	2433	47	2449	63	2465		

2.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE	APPLICABLE TO			DESCRIPTION	
MODE	RE≥1G	RE<1G	PLC	APCM	-
GFSK, π/4DQPSK, 8DPSK	\checkmark	\checkmark	\checkmark	\checkmark	-



Where RE ≥ 1G: Radiated Emission above 1GHz RE<1G: Radiated Emission below 1GHz PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
0 to 78	39	GFSK, π/4DQPSK, 8DPSK	1Mbps, 2 Mbps, 3 Mbps

Radiated Emission Test (Below 1GHz):

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
0 to 78	39	GFSK, π/4DQPSK, 8DPSK	1Mbps, 2 Mbps, 3 Mbps

Power Line Conducted Emission Test:

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
0 to 78	39	GFSK, π/4DQPSK, 8DPSK	1Mbps, 2 Mbps, 3 Mbps

Antenna Port Conducted Measurement:

This item includes all test value of each mode, but only includes spectrum plot of worst value

of each mode.



Pre-Scan has been conducted to determine the worst-case mode from all possible

combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
0 to 78	0, 39, 78	GFSK, π/4DQPSK, 8DPSK	1Mbps, 2 Mbps, 3 Mbps

2.3 Duty Cycle of Test Signal

Modulation Type	Duty Cycle	Correction Factor(dB)
GFSK(DH5)	78.50%	1.05
π/4DQPSK(DH5)	78.50%	1.05
8DPSK(DH5)	78.60%	1.05

2.4 EUT operating conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

2.5 Support Equipment

The following support equipment was used to exercise the DUT during testing: N/A



<u>3 REFERENCE SPECIFICATION</u>

Specification	Version	Title
FCC part15 Subpart C	2022	Intentional radiators
ANSI C63.10	2013	Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074D01 V05R02r02	April 2, 2019	Guidance for compliance measurements on Digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules

4 KEY TO NOTES AND RESULT CODES

Code	Meaning	
PASS	Test result shows that the requirements of the relevant specification have been met.	
FAIL	Test result shows that the requirements of the relevant specification have not been met.	
N/T	Test case is not tested.	



5 RESULT SUMMARY

No.	Test case	Reference	Verdict	Test Site
1	20dB Bandwidth	15.247(a)(1)(iii)	Pass	1
2	Channel Separation	15.247(a)(1)	Pass	1
3	Peak Transmitter Output Power	15.247(b)(1)	Pass	1
4	Dwell Time	15.247(a)(1)(iii)	Pass	1
5	Number of Hopping Frequencies	15.247(a)(1)(iii)	Pass	1
6	Conducted out of band emission measurement	15.247(d)	Pass	1
7	Antenna requirement	15.203	Pass(refer to section 2.1)	1

Note: The device is designed according to specifications of SIG, So it has a full support to Medium access protocol and fully compliant with the KDB558074 standard. The device is compliant Pseudorandom hopping, Equal hopping frequency, receiver bandwidth synchronize and have same bandwidth with transmitted signal. And the ability to have adaptive hopping when encountering other signals.

Test Site 1: 15th Building, No.30 Shixing Street, Shijingshan District

This Test Report Is Approved by:	Review by:
Mr. Peng Zhen	Mr. Li Bin I
彭板	(A 78K)
Tested and Issued by:	Approved date:
Mr. Liang Xisheng	
海军	20240119



No.	Test case	Reference	Verdict	Test Site
8	Band-edge	15.247(d)	Pass	2
9	Spurious Radiated Emissions	15.205/15.209	Pass	2
10	AC Power line Conducted Emission	15.207	Pass	2

Note: The device is designed according to specifications of SIG, So it has a full support to Medium access protocol and fully compliant with the KDB558074 standard. The device is compliant Pseudorandom hopping, Equal hopping frequency, receiver bandwidth synchronize and have same bandwidth with transmitted signal. And the ability to have adaptive hopping when encountering other signals.

Test Site 2: No.80, Zhaojiachang, Beizang, Daxing District

This Test Report Is Approved by: Mr. Liu Wei	Review by: Mr. Guo Yu
Tested and Issued by:	Approved date:
Mr. Dong Qifeng	
董奇峰	20240119



6 TEST RESULT

6.1 20dB Bandwidth

6.1.1 Test limit

FCC Part15.247 (a.1.iii)

The bandwidth at 20dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the receive antenna while the EUT is operating in transmission mode at the appropriate frequencies.

6.1.2 Test Procedure Used

ANSI C63.10-2013 – Section 6.9.2

6.1.3 Test settings

1. The signal analyzers' automatic bandwidth measurement capability of the spectrum analyzer was used to perform the 20dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 20. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.

2.RBW = 1 – 5% OBW

 $3.VBW \ge 3 \times RBW$

4.Reference level set to keep signal from exceeding maximum input mixer level for linear operation.

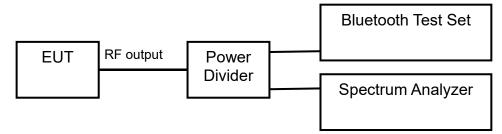
5.Detector = Peak

6.Trace mode = max hold

7.Sweep = auto couple

8. The trace was allowed to stabilize

6.1.4 Test Setup



6.1.5 Test result



6.2 Channel Separation

6.2.1 Test limit

FCC Part15.247 (a)(1)

Measurement is made with EUT operating in hopping mode. The minimum permissible channel separation for this system is 2/3 the value of the 20dB BW.

6.2.2 Test Procedure Used

ANSI C63.10-2013 – Section 7.8.2

6.2.3 Test Settings

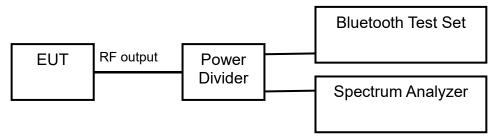
1. Span = Wide enough to capture peaks of two adjacent channels

2. RBW = 30% of channel spacing. Adjust as necessary to best identify center of each individual channel

- 3. VBW ≥ RBW
- 4. Sweep = Auto
- 5. Detector = Peak
- 6. Trace mode = max hold
- 7. The trace was allowed to stabilize.

8. Marker-delta function used to determine separation between peaks of the adjacent channels

6.2.4 Test Setup



6.2.5 Test result



6.3 Peak Transmitter Output Power

6.3.1 Test limit

FCC Part15.247(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:1watt.

Used conversion factor: Limit (dBm) = 10 log (Limit (W)/1mW) →

Modulation type	GFSK	π/4DQPSK	8DPSK
Maximum Output Power	30.0dBm	30.0dBm	30.0dBm

For all other frequency hopping systems in the 2400-2483.5 MHz band:0.125 watts.

Used conversion factor: Limit (dBm) = 10 log (Limit (W)/1mW) →

Modulation type	GFSK	FSK π/4DQPSK 8	
Maximum Output Power	21.0dBm	21.0dBm	21.0dBm

6.3.2 Test Procedure Used

ANSI C63.10-2013 – Section 7.8.5

ANSI C63.10-2013 – Section 11.9.2.3.2 method AVGPM-G

6.3.3 Test Settings

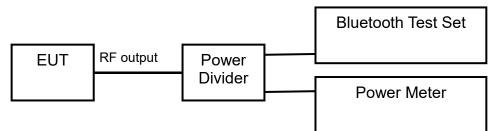
Peak Power Measurement

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than the occupied bandwidth.

Method AVGPM-G (Average Power Measurement)

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

6.3.4 Test Setup



6.3.5 Test result



6.4 Dwell Time

6.4.1 Test Description

The Equipment under Test (EUT) was set up in a shielded room to perform the dwell time measurements.

The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss.

The time slot length is measured of three different packet types which are available in the Bluetooth technology. Those are DH1, DH3 and DH5 packets. The dwell time is calculated by:

Dwell time = time slot length * hop rate * 31.6/ number of hopping channels with:

- hop rate=1600/2 * 1/s for DH1 packets =800

- hop rate=1600/4 * 1/s for DH3 packets =400
- hop rate=1600/6 * 1/s for DH5 packets =266.67
- Number of hopping channels=79

- 31.6 s=0.4 seconds multiplied by the number of hopping channels=0.4s * 79

6.4.2 Test limit

FCC Part15.247(a)(1)(iii)

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.

6.4.3 Test Settings

ANSI C63.10-2013 Section 7.8.4

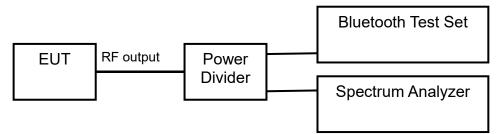
- 1. Span = zero span, centered on a hopping channel
- 2. RBW \leq channel spacing and >> 1/T, where T is expected dwell time per channel

3. Sweep = as necessary to capture entire dwell time. Second plot may be required to demonstrate two successive hops on a channel

4. Trigger is set with appropriate trigger delay to place pulse near the center of the plot

- 5. Detector = peak
- 6. Trace mode = max hold
- 7. Marker-delta function used to determine transmit time per hop

6.4.4 Test Setup



6.4.5 Test result



6.5 Number of Hopping Frequencies

6.5.1 Test Description

The Equipment under Test (EUT) was set up in a shielded room to perform the number of hopping frequencies measurement. The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss.

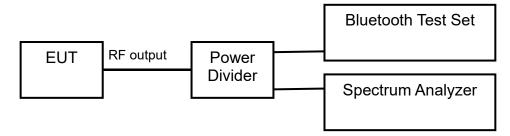
6.5.2 Test limit

FCC Part15.247 (a) (1) (iii) Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

6.5.3 Test Settings

- ANSI C63.10-2013 Section 7.8.3
- 1. Span = frequency of band of operation (divided into two plots)
- 2. RBW < 30% of channel spacing or 20dB bandwidth, whichever is smaller.
- 3. VBW ≥ RBW
- 4. Sweep = auto
- 5. Detector = peak
- 6. Trace mode = max hold
- 7. Trace was allowed to stabilize

6.5.4 Test Setup



6.5.5 Test result



6.6 Conducted out of band emission measurement

6.6.1 Test limit

FCC Part15.247 (d)

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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

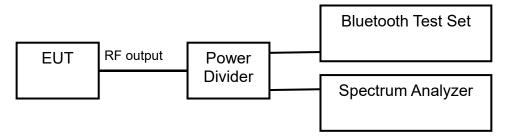
6.6.2 Test Procedure Used

ANSI C63.10-2013 - Section 7.8.8

6.6.3 Test Settings

- 1. Start frequency was set to 30MHz and stop frequency was set to 25GHz
- 2. RBW = 100KHz
- 3. VBW = 300KHz
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep time = auto couple
- 7. The trace was allowed to stabilize

6.6.4 Test Setup



6.6.5 Test result

The test results are shown in Appendix A.

The spectrum plots are attached on the following images. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



6.7 Band-edge measurement

6.7.1 Test limit

FCC Part15.247 (d)

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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

6.7.2 Test Procedure Used

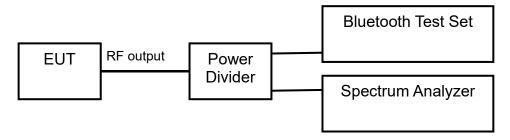
ANSI C63.10-2013 - Section 6.10.4

6.7.3 Test Settings

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot

- 2. Span was set large enough so as to capture all out of band emissions near the band edge
- 3. RBW = 100kHz
- 4. VBW = 300kHz
- 5. Detector = Peak
- 6. Number of sweep points \geq 2 x Span/RBW
- 7. Trace mode = max hold
- 8. Sweep time = auto couple
- 9. The trace was allowed to stabilize

6.7.4 Test Setup



6.7.6 Test result

The test results are shown in Appendix A.

The spectrum plots are attached on the following images. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



6.8 Spurious Radiated Emissions

6.8.1 Test Description

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at maximum power and at the appropriate frequencies. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

6.8.2 Test limit

Part15.205, 15.209, 15.247(d)

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in below Table per Section 15.209. The spectrum shall be investigated from the lowest radio frequency signal generated in the device.

Frequency [MHz]	Field strength	Measured Distance		
	[µV/m]	[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		
Radiated Limits				

Part15.35(b):

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit

Used conversion factor: Limit $(dB\mu V/m) = 20 \log (Limit (\mu V/m)/1\mu V/m)$

Frequency [MHz]	Detector	Unit (dBµV/m)
30~88	Quasi-peak	40.0
88~216	Quasi-peak	43.5
216~960	Quasi-peak	46.0
960~1000	Quasi-peak	54.0
1000 \sim 5th harmonic of the highest frequency	Average	54.0
or 40GHz, whichever is lower	Peak	74.0

Conversion Radiated limits



6.8.3 Test Procedure Used

KDB 558074 D01 v05r02 - Section 12.2.7

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 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 recorded the reading with Maximum Hold Mode.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer complied the following setting:

Frequency	RBW
9-150kHz	200-300Hz
0.15-30MHz	9-10kHz

2. Signals below 30MHz are not recorded in the report because they are lower than the limits by more than 20dB.

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for $30MHz \sim 1GHz$) / 1.5 meters (for above 1GHz) above the ground in 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 recorded the reading with Maximum Hold Mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detector and recorded the reading 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.



For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz 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.

3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Average detection (AV) at frequency above 1GHz. If duty cycle of test signal is < 98%, the duty factor need added to measured value.

4. All modes of operation were investigated and the worst-case emissions are reported.

6.8.4Test Settings

Average Field Strength Measurements per Section 12.2.7 of KDB 558074 (Part 15.35)

Frequency	Detector
<1000MHz	Quasi-peak
>1000MHz	Peak and average

Peak Field Strength Measurements per Section 12.2.7of KDB 558074 (Part 15.35)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

2. RBW is set depending on measurement frequency, as specified in following table

Frequency	RBW
9-150kHz	200-300Hz
0.15-30MHz	9-10kHz
30-1000MHz	100-120kHz
>1000MHz	1MHz

3. VBW = 3MHz

4. Detector = peak

5. Sweep time = auto couple

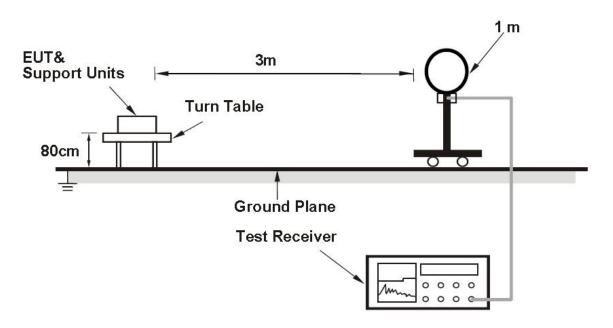
6. Trace mode = max hold

7. Trace was allowed to stabilize

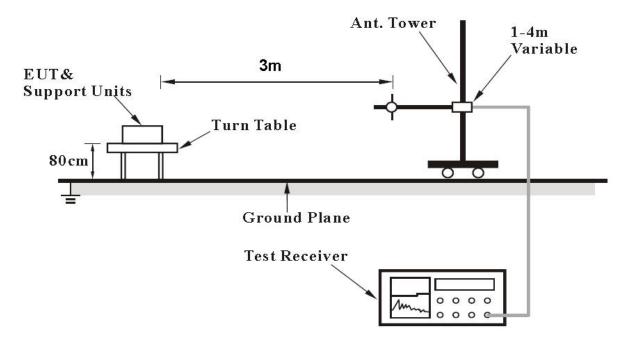


6.8.5 Test Setup

For Radiated emission below 30MHz

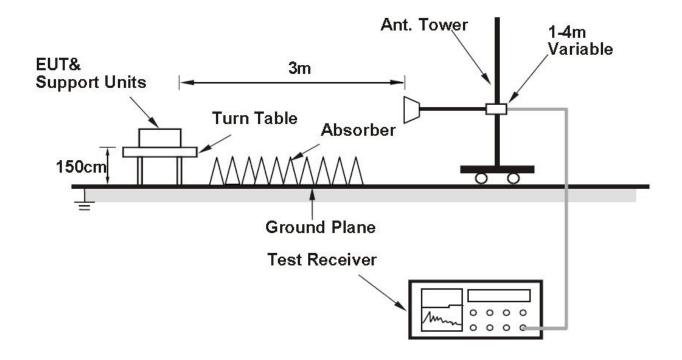


For Radiated emission 30MHz to 1GHz





For Radiated emission above 1GHz



6.8.6 Test result



6.9 AC Power line Conducted Emission

6.9.1 Test limit

FCC Part15.207

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
0.15-0.5 0.5-5 5-30	Quasi-peak 66 to 56 *	Average 56 to 46 *
	56	46
	60	50

* Decreases with the logarithm of the frequency.

The measurement is made according to ANSI C63.10-2013

6.9.2 Test Procedures

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

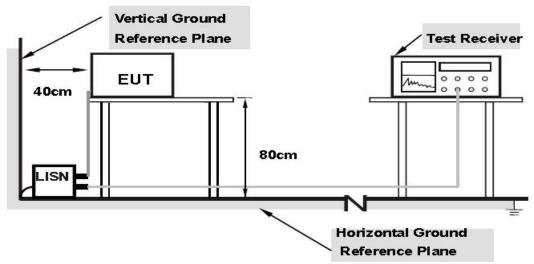
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

The EUT shall test under the power AC120V/60Hz.

6.9.3 Test Setup



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.9.4 Test result



7 MEASUREMENT UNCERTAINTIES

Items	Uncertainty	
6dB Bandwidth	3kHz	
Peak power output	0.67dB	
Band edge compliance	1.20dB	
Conducted Out of band emission measurement	30MHz~1GHz	2.83dB
	1GHz \sim 12.75GHz	2.50dB
	12.75GHz \sim 25GHz	2.75dB
	30 MHz \sim 200 MHz	4.88dB
Spurious Radiated Emissions	200MHz \sim 1GHz	4.87dB
	1GHz~18GHz	4.58dB
	18GHz~40GHz	4.35dB
AC Power line Conducted Emission	Power line Conducted Emission 3.92dB	



8 TEST EQUIPMENTS

No.	Name/ Model	Manufacturer	S/N	Cal date	Cal Due date
1.	Spectrum Analyzer / FSV	ROHDE & SCHWARZ	101065	2023.06.21	2024.06.20
2.	Signal Analyzer / N9020A	Agilent	MY48010771	2023.03.06	2024.03.05
3.	Bluetooth Test Set / MT8852B	Anritsu	1329003	2023.06.21	2024.06.20
4.	Power Divider / 11667A	HP	19632	2023.06.21	2024.06.20
5.	Signal Generator / SMBV100A	R&S	260910	2023.06.21	2024.06.20
6.	Temperature chamber / SH241	ESPEC	92013758	2023.06.21	2024.06.20
7.	Fully-Anechoic Chamber / 12.65m×8.03m×7.50m	FRANKONIA			
8.	Semi-Anechoic/Chamber / 23.18m×16.88m×9.60m	FRANKONIA			
9.	Turn table Diameter:1m	FRANKONIA			
10.	Turn table Diameter:5m	FRANKONIA			
11.	Antenna master FAC(MA4.0)	MATURO			
12.	Antenna master SAC(MA4.0)	MATURO			
13.	Shielding room / 9.080m×5.255m×3.525m	FRANKONIA			
14.	Double-Ridged Waveguide Horn Antenna / HF 907	R&S	100512	2023.06.21	2024.06.20
15.	Double-Ridged Waveguide Horn Antenna / HF 907	R&S	100513	2023.06.21	2024.06.20
16.	Ultra log antenna / HL562	R&S	100016	2023.06.21	2024.06.20
17.	Receive antenna /3160-09	SCHWARZ-BECK	002058-002	2023.06.21	2024.06.20
18.	EMI test receiver / ESI 40	R&S	100015	2023.06.21	2024.06.20
19.	EMI test receiver / ESCS30	R&S	100029	2023.06.21	2024.06.20
20.	Receive antenna / HL562	R&S	100167	2023.06.21	2024.06.20
21.	AMN / ENV216	R&S	3560.6550.12	2023.06.21	2024.06.20
22.	WLAN AP WIA3300-20	SKSpruce	8152017060700339		
23.	Notebook E470c	Lenovo	PF10UZW7		
24.	Loop Antenna	R&S	100340	2023.08.21	2024.08.20
25.	FCC auto test system / RT9200BW-2	Radiosky	V2.05	/	/
26.	EMI test software / EMC32	R&S	V10.20.01	/	/



APPENDIX A – TEST DATA OF CONDUCTED EMISSION

Offset 21dB = Attenuator + Temporary antenna connector loss + Cable loss **BT**

1 Duty Cycle and Antenna Gain

Test Mode	Frequency (MHz)	Plot	Duty Cycle	Correction Factor(dB)	Antenna Gain(dBi)
GFSK(DH5)	2402	Fig.1	78.50%	1.05	-5.00

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

Test Mode	Frequency (MHz)	Plot	Duty Cycle	Correction Factor(dB)	Antenna Gain(dBi)
π/4DQPSK(2D H5)	2402	Fig.2	78.50%	1.05	-5.00

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

Test Mode	Frequency (MHz)	Plot	Duty Cycle	Correction Factor(dB)	Antenna Gain(dBi)
8DPSK(3DH5)	2402	Fig.3	78.60%	1.05	-5.00

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

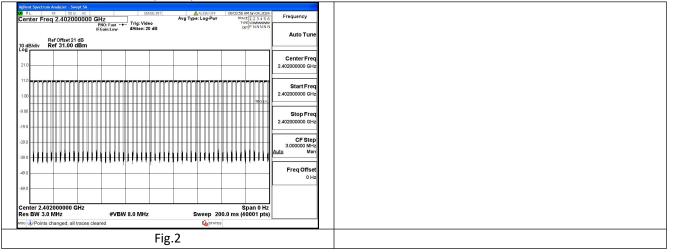
Test Mode: GFSK(DH5)

120	330 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
-----	--

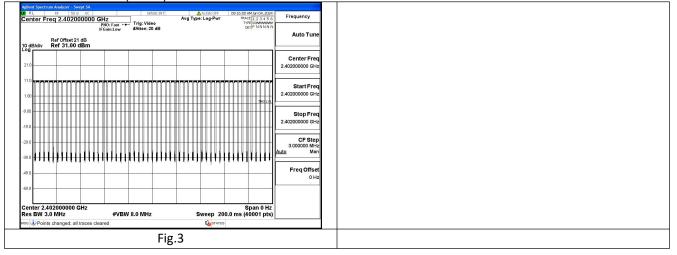


No.: SRTC2023-9004(F)-23122001(D) FCCID: APYHRO00329

Test Mode: m /4DQPSK(2DH5)



Test Mode: 8DPSK(3DH5)





2 EIRP Conducted Power

Modulation type	(Conducted Peak Power(dBm)
Modulation type	2402MHz	2441MHz	2480MHz
GFSK(DH5)	10.88	12.59	12.68
π/4DQPSK(2DH5)	11.38	12.69	12.31
8DPSK(3DH5)	11.48	12.82	12.41

Madulation type	Conducted Average Power(dBm)		
Modulation type	2402MHz	2441MHz	2480MHz
GFSK(DH5)	12.16	12.21	11.32
π/4DQPSK(2DH5)	9.52	10.27	10.98
8DPSK(3DH5)	9.52	10.57	11.17

EIRP

Madulation type	Peak EIRP (dBm)			
Modulation type	2402MHz	2441MHz	2480MHz	
GFSK(DH5)	5.88	7.59	7.68	
π/4DQPSK(2DH5)	6.38	7.69	7.31	
8DPSK(3DH5)	6.48	7.82	7.41	

Modulation type	Average EIRP (dBm)				
Modulation type	2402MHz	2441MHz	2480MHz		
GFSK(DH5)	7.16	7.21	6.32		
π/4DQPSK(2DH5)	4.52	5.27	5.98		
8DPSK(3DH5)	4.52	5.57	6.17		

EIRP (dBm)=Conducted Power(dBm)+Antenna Gain(dBi)



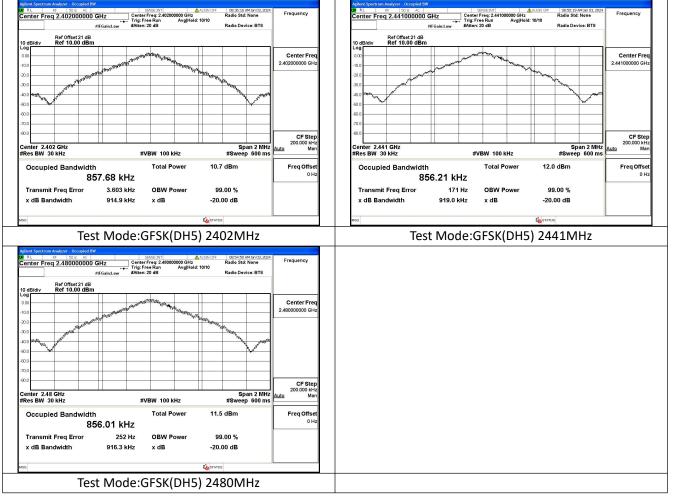
3 Occupied Bandwidth 20dB Bandwidth

Test Mode	Carrier frequency (MHz)	20dB Bandwidth(KHz)					
GFSK(DH5)	2402	914.9					
GFSK(DH5)	2441	919.0					
GFSK(DH5)	2480	916.3					

Test Mode	Carrier frequency (MHz)	20dB Bandwidth(KHz)
π/4DQPSK(2DH5)	2402	1353.0
π/4DQPSK(2DH5)	2441	1363.4
π/4DQPSK(2DH5)	2480	1374.8

Test Mode	Carrier frequency (MHz)	20dB Bandwidth(KHz)
8DPSK(3DH5)	2402	1353.4
8DPSK(3DH5)	2441	1358.0
8DPSK(3DH5)	2480	1376.9

Test Mode: GFSK(DH5)





No.: SRTC2023-9004(F)-23122001(D) FCCID: APYHRO00329

Test Mode: π/4DQPSK(2DH5)





No.: SRTC2023-9004(F)-23122001(D) FCCID: APYHRO00329

Agilent Spectrum Analyzer - Occupied BW R RL RF 50 Q AC Center Freq 2.402000000 GHz #IFGain:Le	Center Freq: 2.402000000 GHz Trig: Free Run Avg Hold: 1	ALIGN OFF 09:16:18 AM Jan 04, 2024 Radio Std: None 10/10 Radio Device: BTS	Frequency	Agilent Spectrum Analyzer - Occupied BW 20 RL RF SOR AC Center Freq 2.441000000 G #II	SENSE:INT Hz Center Freq:2.44100 Trig: Free Run Gain:Low #Atten: 20 dB	00000 GHz Radio Avg Hold: 10/10	1:24 AM Jan 04, 2024 Std: None Device: BTS
Ref Offset 21 dB 0 dB/div Ref 10.00 dBm				Ref Offset 21 dB 10 dB/div Ref 10.00 dBm			
			Center Freq 2.40200000 GHz	000 100 000 000 000 000 000 000			Center Fri 2.44100000 Gi
enter 2.402 GHz Res BW 30 kHz	#VBW 100 kHz	Span 2 MHz #Sweep 600 ms	CF Step 200.000 kHz Auto Man	-80.0 Center 2.441 GHz #Res BW 30 kHz	#VBW 100 k	(Hz #Sw	Span 2 MHz reep 600 ms
Occupied Bandwidth 1.2075	Total Power MHz	7.91 dBm	Freq Offset 0 Hz	Occupied Bandwidth	Total P 083 MHz	ower 9.73 dBm	Freq Offs
The second	025 kHz OBW Power 53 MHz x dB	99.00 % -20.00 dB		Transmit Freq Error x dB Bandwidth	1.021 kHz OBW P 1.358 MHz x dB	ower 99.00 % -20.00 dB	
3		I status		MSG			
	de:8DPSK(3DH	5) 2402MHz		Test M	Vode:8DPSK(3DH5) 2441	lMHz
Rent Spectrum Analyzer - Occupied BW RL RF 50 0 AC enter Freq 2.480000000 GHz #IFGain:Lo	SENSE:INT (AA Center Freq: 2.480000000 GHz Trig: Free Run Avg Hold: 1	ALIGN OFF 09:22:44 AM Jan 04, 2024	Frequency	Test M	/lode:8DPSK(3DH5) 2441	LMHz
Ind Spectrum Analyzer December 69/ 10 10 10 10 10 10 10 10 10 10 10 10 10 1	Center Freq 2.4600000 GHz Trig: Freq 2.460000 GHz Trig: Freq Run Avg Held: 1 #Atten: 20 dB	ALIGN OFF 09:22:44 AM Jan 04, 2024 Radio Std: None 10/10	Frequency Center Freq 2.48000000 GHz	Test M	Mode:8DPSK(<u>3DH5) 2441</u>	IMHz
Ind Spectrum Analyzer Decapted SW	Center Freq 2.48000000 GHz Trig: Free Run Avg Hold: 1	ALSY OF 00-22-44 AVAIN 04, X001 Radio Stdt. None Radio Device: BTS	Center Freq 2.46000000 GHz	Test M	Mode:8DPSK(<u>3DH5) 2441</u>	<u>IMHz</u>
Ind Spectrum Analyzer - Decapied BW RL BP 1000 ACC BP 1000 ACC BP 1000 ACC BP 1000 ACC BF Freq 2.480000000 GHZ BF 10.00 dBm BF 10.00 dB	SPACE 2010 SPACE 2	ALSYLOF DO2244 (MASIN 04, 2021 Radio Stdt. None Radio Device: BTS	Center Freq	Test M	Mode:8DPSK(<u>3DH5) 2441</u>	<u>IMHz</u>
Ind Spectrum Analyzer December 200 1000 Content Freq 2, 2480000000 GHz Inf Galacty Inf Content Freq 2, 2480000000 GHz Inf Content Freq 2, 2480000000 Inf Content Freq 2, 24800000000 Inf Content Freq 2, 24800000000 Inf Content Freq 2, 24800000000 Inf Content Freq 2, 24800000000 Inf Content Freq 2, 24800000000000 Inf Content Freq 2, 24800000000 Inf Content Freq 2, 248000000000 Inf Content Freq 2, 2480000000000 Inf Content Freq 2, 248000000000 Inf Content Freq 2, 2480000000000 Inf Content Freq 2, 248000000000 Inf Content Freq 2, 248000000000 Inf Content Freq 2, 248000000000 Inf Content Freq 2, 24800000000000 Inf Content Freq 2, 248000000000000000000000000000000000000	#VEW 100 kHz	ALSY OFF 022-04 AV3 to 04, 2021 Radio Stat: None Radio Device: BTS	Center Freq 2.46000000 GHz 2.75 Step 200.000 Hrz	Test M	Mode:8DPSK(<u>3DH5) 2441</u>	<u>IMHz</u>
held Spectrum Audyzer Occupied BW 1 200000000 GHZ IFGainte refer Freq 2.1480 000000000 GHZ ref Offset 21 dB 00000000 00000000000000000 00000000	#VEW 100 kHz	ALEY OF 1002444 AND 04,0004 Radio Ste: None Radio Device: BTS	Center Freq 2.460000000 GHz 2.0000 GHz 200.000 HHz 200.000 HHz 200.000 HHz Man Freq Offset	Test M	Mode:8DPSK(<u>3DH5) 2441</u>	<u>IMHz</u>

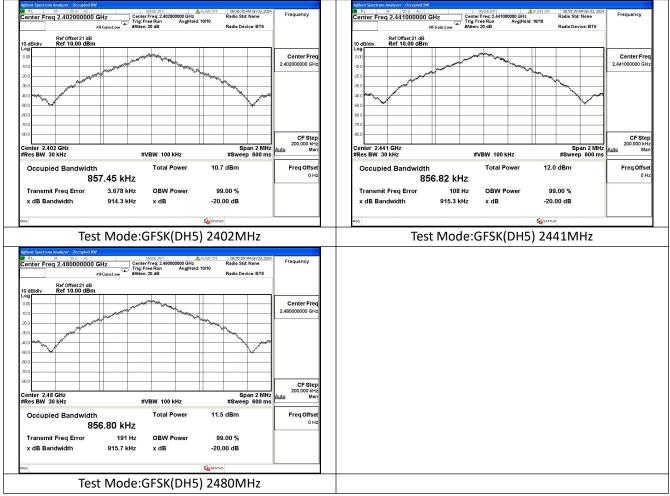


33 / 0 Dalluwiulii		
Test Mode	Carrier frequency (MHz)	99% Bandwidth(kHz)
GFSK(DH5)	2402	857.4
GFSK(DH5)	2441	856.8
GFSK(DH5)	2480	856.8

Test Mode	Carrier frequency (MHz)	99% Bandwidth(kHz)
π/4DQPSK(2DH5)	2402	1202.9
π/4DQPSK(2DH5)	2441	1201.8
π/4DQPSK(2DH5)	2480	1222.8

Test Mode	Carrier frequency (MHz)	99% Bandwidth(kHz)
8DPSK(3DH5)	2402	1207.1
8DPSK(3DH5)	2441	1207.7
8DPSK(3DH5)	2480	1227.7

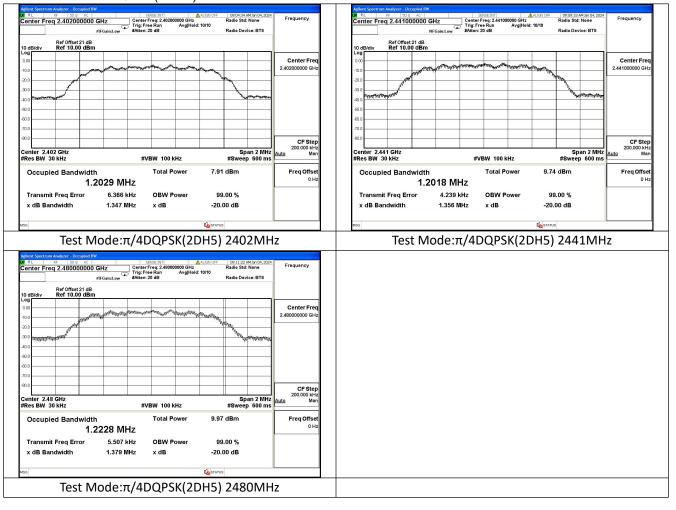
Test Mode: GFSK(DH5)





No.: SRTC2023-9004(F)-23122001(D) FCCID: APYHRO00329

Test Mode: π/4DQPSK(2DH5)





No.: SRTC2023-9004(F)-23122001(D) FCCID: APYHRO00329

	SENSE INTI AL XI YO OF DP. 10:38 AM Xn D4, Z Oenter Freq: 2.402000000 GHz Radio Std: None Trig: Free Run Avg Hold: 10/10 #Atten: 20 dB Radio Device: BTS	Frequency	Agilett Systems Raiver- Decoded SW State Top of C Frequency Center Freq 2.441000000 GHz Trig: Freq 2.441000000 GHz Trig: Freq X4100000 GHz Radio Std: None Frequency freg.tresRun AvglHold: 10/10 Radio Device: BTS Frequency
Ref Offset 21 dB 0 dB/div Ref 10.00 dBm			Ref Offset 21 dB 10 dB/div Ref 10.00 dBm Loar
		Center Freq 2.40200000 GHz	8.00 Center Fre 9.00 0 <
200 center 2.402 GHz	Span 2 M	CF Step 200.000 kHz Hz Auto Man	800 CF Step Center 2.441 GHz Span 2 MHz
Res BW 30 kHz Occupied Bandwidth	#VBW 100 kHz #Sweep 600 m Total Power 7.90 dBm	Freq Offset	#Res BW 30 kHz #VBW 100 kHz #Sweep 600 ms Occupied Bandwidth Total Power 9.72 dBm FreqOffse
1.2071 M		0 Hz	1.2077 MHz
Transmit Freq Error 3.189 x dB Bandwidth 1.359 F			Transmit Freq Error 1.289 kHz OBW Power 99.00 % x dB Bandwidth 1.357 MHz x dB -20.00 dB
9	K STATUS		Meg Status
Tost Mod	e:8DPSK(3DH5) 2402MHz	I	Test Mode:8DPSK(3DH5) 2441MHz
enter Freq 2.48000000 GHz #FGainclew D dB/div Ref 0ffset 21 dB Ref 0ffset 21 dB	Center Free 2: AB000000 Of Har Ster. None Tripp: Free Run Argifield: 1010 Radio Device: BTS Radio Device: BTS	Center Freq 2.480000000 GHz	
20	Span 2 Mi	CF Step 200.000 KHz Hz Auto Man	
20 20 20 20 20 20 20 20 20 20	*VBW 100 kHz #Span 2 M #VBW 100 kHz #Sweep 600 r	Hz Auto Man	
20	#VBW 100 kHz #Sweep 600 r Total Power 9.95 dBm	Hz Auto Man	
enter 2.48 GHz Res BW 30 kHz Occupied Bandwidth	#VBW 100 kHz #Sweep 600 r Total Power 9.95 dBm HZ kHz OBW Power 99.00 %	Hz 200.000 kHz Man ms Freq Offset	



4 Hopping Frequency Separation

Channel separation

Test Mode		Ор-і	node		Channel separation (MHz)
GFSK(DH5)		Hoppin	ig mode		1
	300	0 GHZ BYBERT Ant. PRO-Fast Tife Free Run Avgr/Heide 24 #VEW 1.0 MHz #S 40 000 GHz 12.896 dBm Estertion 41 000 GHz 10.774 dBm Estertion	Mkr3 2.442 000 GHz 10.774 dBm 2.442 000 GHz 2.44 2	requency Auto Tune Center Freq 41000000 GHz Start Freq 35600000 GHz CF Step 300 000 Hrz Man Freq Offset 0 Hz	
L	Real Provide P				

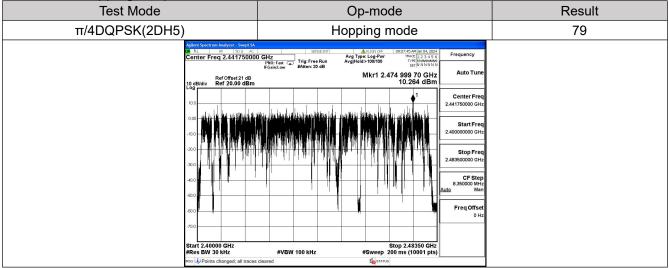
Number of Hopping Frequencies

Test Mode		Op-mode		Result
GFSK(DH5)		Hopping mode		79
	Addied Sciencifus Audyrer Science 300 Science	POCHAT POCHAT	Auto Tune Center Freq 2.441760000 GHz 2.400000000 GHz 2.435500000 GHz 2.43550000 GHz 2.435000 GHz 3.50000 HHz Auto Man Freq Offset 0 Hz	



Channel separation Op-mode Channel separation (MHz) Test Mode π/4DQPSK(2DH5) Hopping mode 1 Avg Type: Log-Pw Avg|Hold>100/100 Frequency DET N N N N Mkr3 2.442 000 GHz -0.752 dBm Auto Tun Ref Offset 21 dB Ref 20.00 dBr Center Fre 2.441000000 GH Start Free 2.439500000 GH Stop Fre nter 2.441000 GHz es BW 300 kHz Span 3.000 MH #Sweep 20.0 ms (1001 pts CF Stej 300.000 kH #VBW 1.0 MHz 1 N 1 f 2 N 1 f 3 N 1 f 2.440 000 GHz 2.441 000 GHz 2.442 000 GHz -7.144 dBm 11.527 dBm -0.752 dBm Freq Offse 0 H

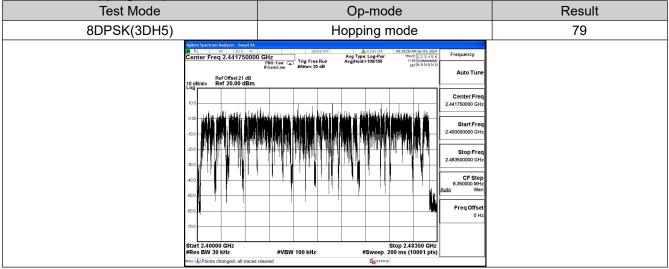
Number of Hopping Frequencies





Channel separation Op-mode Channel separation (MHz) Test Mode 8DPSK(3DH5) Hopping mode 1 edient Spearnin Annyaer Sou AC RL RF Sou AC Center Freq 2.441000000 GHz PNO: Fast Fostient aw Avg Type: Log-Pw Avg|Hold>100/100 Frequency Trig: Free Ru DET N N Mkr3 2.442 000 GHz -6.945 dBm Auto Tun Ref Offset 21 dB Ref 20.00 dBm Center Fre H¢4 Start Free 2.439500000 GH Stop Fre nter 2.441000 GHz es BW 300 kHz Span 3.000 MH #Sweep 20.0 ms (1001 pts CF Ste 300.000 kH #VBW 1.0 MHz 1 N 1 f 2 N 1 f 3 N 1 f 2.440 000 GHz 2.441 000 GHz 2.442 000 GHz -5.963 dBm 11.542 dBm -6.945 dBm Freq Offse 0 H

Number of Hopping Frequencies



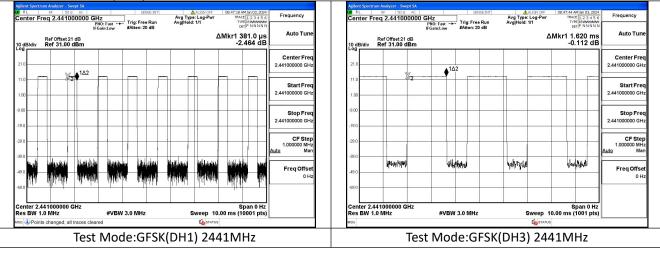


5 Dweil Time				
Test Mode	Packet type	Time slot length(µS)	Dwell time	Dwell time(ms)
GFSK(DH1)	DH1	381	Time slot length *31.6*16000/2/79	121.9
GFSK(DH3)	DH3	1620	Time slot length *31.6*16000/4/79	259.2
GFSK(DH5)	DH5	2870	Time slot length *31.6*16000/6/79	306.1

Test Mode	Packet type	Time slot length(µs)	Dwell time	Dwell time(ms)
π/4DQPSK(2DH1)	2DH1	386	Time slot length *31.6*16000/2/79	123.5
π/4DQPSK(2DH3)	2DH3	1620	Time slot length *31.6*16000/4/79	259.2
π/4DQPSK(2DH5)	2DH5	2870	Time slot length *31.6*16000/6/79	306.1

Test Mode	Packet type	Time slot length(µS)	Dwell time	Dwell time(ms)
8DPSK(3DH1)	3DH1	370	Time slot length *31.6*16000/2/79	118.4
8DPSK(3DH3)	3DH3	1620	Time slot length *31.6*16000/4/79	259.2
8DPSK(3DH5)	3DH5	2850	Time slot length *31.6*16000/6/79	304.0

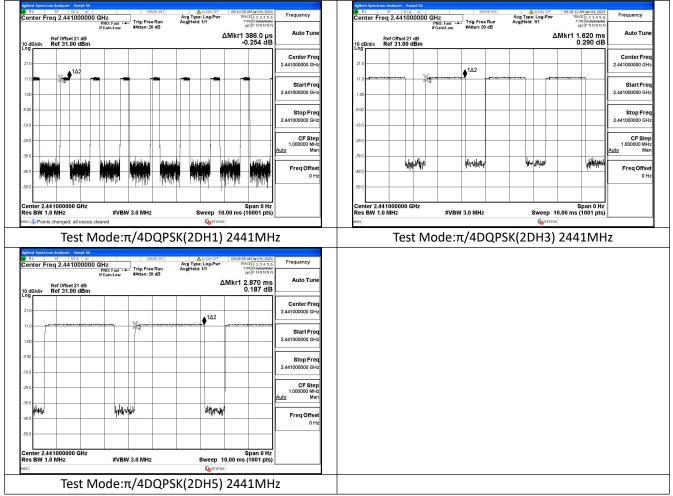
Test Mode: GFSK(DH5)





Agilent Spectrum Analyzer -		ALIGN OFF DB:48:16 AM	w 02 2024
Center Freq 2.441	000000 CH2	Avg Type: Log-Pwr TRACE Avg Hold: 1/1 TYPE	NNNNN
	PN0: Fast ++- Trig: Free Run IFGain:Low #Atten: 20 dB	AvgiHold: 1/1 Det	
Ref Offset	21 dB	ΔMkr1 2.8	70 ms Auto Tune
Ref Offset 10 dB/div Ref 31.0	0 dBm	-0.1	47 dB
			Center Freq
21.0		▲ 1Δ2	2.441000000 GHz
11.0	X 2	¶'	
11.0			Start Freq
1.00			2.441000000 GHz
-9.00			Stop Freq
-19.0			2.441000000 GHz
			05.01-1
-29.0			CF Step 1.000000 MHz
-39.0			Auto Man
	HT WILLY LAW	Marannali	
-49.0	19 19 19	P.0 C	Freq Offset
			0112
-59.0			
Center 2.44100000			
Res BW 1.0 MHz	#VBW 3.0 MHz	Sweep 10.00 ms (1	an 0 Hz)01 pts)
MSG		K STATUS	
	To the Marile CEC		1_
	Test Mode:GFSI	K(DH5) 2441MH	IZ

Test Mode: π/4DQPSK(2DH5)





No.: SRTC2023-9004(F)-23122001(D) FCCID: APYHRO00329

enter Freq 2.4410	PNO: Fast +++ II	sense:INT g: Free Run tten: 20 dB	Avg Type: Log-Pw Avg[Hold: 1/1	TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N	6 Prequency	LW RL F	enalyzer - Swept SA RF 50 Q AC 2.441000000 GHz PNO: IFGain	SENSE:INT Fast ↔ Trig: Free Run Low #Atten: 20 dB	Avg Type: Log-Pw Avg Hold: 1/1	TRACE 1 2 3 4 5 6 TYPE MWWWWWW DET P N N N N N	Frequency
Ref Offset 21 dB/div Ref 31.00	dB dBm			ΔMkr1 370.0 μ 0.395 dl	S Auto Tune	10 dB/div Re	ef Offset 21 dB ef 31.00 dBm			ΔMkr1 1.620 ms 0.639 dB	Auto Tu
11.0	1∆2				Center Freq 2.441000000 GHz	21.0	314	1∆2			Center Fi 2.441000000 G
					Start Freq 2.441000000 GHz	11.00	**************************************				Start Fr 2.441000000 G
.0					Stop Freq 2.441000000 GHz	-9.00					Stop Fr 2.441000000 G
8.0					CF Step 1.000000 MHz Auto Man	-29.0					CF St 1.000000 M Auto M
no odivatival odivativati no	anterior and with	politikainan al	wallhight livewo	heye hybride his	Freq Offset	-39.0	hallelate	drand/114	mathining	U yppy-layou	Freq Off
						-59.0					
enter 2.441000000 0	GHz			Span 0 H	7		000000 GHz			Span 0 Hz	
es BW 1.0 MHz	#VBW 3.0	MHz	Sweep	10.00 ms (1001 pts		Center 2.441 Res BW 1.0 M	MHz	#VBW 3.0 MHz	Sweep Costa	10.00 ms (1001 pts)	
G Tient Spectrum Analyzer - Sw	#vew 3.0		‰™ 3DH1) 2	10.00 ms (1001 pts rus 2441MHz)	Center 2.441 Res BW 1.0 h	ИНz	#VBW 3.0 MHz	K osta	TUS	
Bileti Svectran Analyze 40 1000 R.L. 87 1000 Bileti Svectran Analyze 40 40 Bileti Svectran Analyze	#VBW 3.0 est Mode:8 est Mode:8 est Mode:8 PRO:Feat - Tr PRO:Feat - Tr	BDPSK(3	Ang Type: Log Pa Ang Type: Log Pa Ang Type: Log Pa Ang Type: Log Pa	10.00 ms (1001 pts rus 2441MHz	Frequency Auto Tune Center Freq 2.441000000 GHz Start Freq 2.441000000 GHz Stop Freq 2.41000000 GHz Gr Step 0.00000 GHz Freq Offset	Center 2.441 Res BW 1.0 h uto	ИНz		K osta	TUS	
Berl Spectrum Austrant	#VBW 3.0	SDPSK(3	Ang Type: Log Pa Ang Type: Log Pa Ang Type: Log Pa Ang Type: Log Pa	10.00 ms (1001 pts 2441 MH2 1021 MH2 23 3 4 1021 MH2 23 3 4 1021 MH2 23 3 4 1021 MH2 23 3 4 1021 MH2 23 5 6 1021 MH2 25 5 6 1021 MH2 2	Frequency Auto Tune Auto Tune Z.441000000 GHz Z.441000000 GHz Z.441000000 GHz Z.441000000 GHz Z.441000000 GHz Loonoo MHz Auto Man	Center 2.441 Res BW 1.0 I Mec	ИНz		K osta	TUS	