



TEST REPORT FOR BLUETOOTH TESTING

Report No.: SRTC2022-9004(F)-22071305(D)

Product Name : LTE/WCDMA/GSM(GPRS) Multi-Mode Digital Mobile Phone

Applicant: ZTE Corporation

Manufacturer: ZTE Corporation

Specification: FCC Part 15 Subpart C (2021)

FCC ID: SRQ-ZTEA7050

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



CONTENTS

1.1 Notes of the test report 1.2 Information about the testing laboratory	2
1.7 Information about the testing laboratory	
1.3 Applicant's details	
1.4 Manufacturer's details 1.5 Test Environment	
2 DESCRIPTION OF THE DEVICE UNDER TEST	
2.1 Final Equipment Build Status	
2.2 Description of Test Modes	
2.2.1 Test Mode Applicability and Tested Channel Detail	4
2.3 Duty Cycle of Test Signal	
2.4 EUT operating conditions	
2.5 Support Equipment	6
3 REFERENCE SPECIFICATION	6
4 KEY TO NOTES AND RESULT CODES	6
5 RESULT SUMMARY	7
6 TEST RESULT	9
6.1 20dB Bandwidth	
6.2 Channel Separation	
6.3 Peak Transmitter Output Power	
6.4 Dwell Time	
6.5 Number of Hopping Frequencies 6.6 Conducted out of band emission measurement	
6.7 Band-edge measurement	
6.8 Spurious Radiated Emissions	
6.9 AC Power line Conducted Emission	
7 MEASUREMENT UNCERTAINTIES	22
8 TEST EQUIPMENTS	23
APPENDIX A – TEST DATA OF CONDUCTED EMISSION	24
APPENDIX B – TEST DATA OF RADIATED EMISSION	39



1. GENERAL INFORMATION

1.1 Notes of the test report

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written permission of The State Radio_monitoring_center Testing Center (SRTC). The test results relate only to individual items of the samples which have been tested. The certification and accreditation identifiers used in this report shall not be applicable to the tested or calibrated samples thereof. The manufacturer shall not mark the tested samples or items (or a separate part of the item) with the identifiers of certification and accreditation to mislead relevant parties about the tested samples or items.

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:	ZTE Corporation				
Address:	ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park,				
Address.	Nanshan District, Shenzhen, Guangdong, 518057, P.R.China				

1.4 Manufacturer's details

Company:	ZTE Corporation				
Address:	ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park,				
Address.	Nanshan District, Shenzhen, Guangdong, 518057, P.R.China				

1.5 Test Environment

Date of Receipt of test sample at SRTC:	2022-07-13
Testing Start Date:	2022-07-14
Testing End Date:	2022-08-02



Environmental Data:	Temperature (°C)	Humidity (%)	
Ambient	25	40	
Maximum Extreme	55		
Minimum Extreme	-10		
Normal Supply Voltage (V d.c.):	3.85		

Normal Supply Voltage (V d.c.).	3.00
Maximum Extreme Supply Voltage (V d.c.):	4.20
Minimum Extreme Supply Voltage (V d.c.):	3.60

2 DESCRIPTION OF THE DEVICE UNDER TEST

2.1 Final Equipment Build Status

2.402GHz~2.480GHz			
79			
GFSK, π/4DQPSK, 8DPSK			
TDD			
1MHz			
1Mbps, 2 Mbps, 3 Mbps			
Battery & Charger			
MyOS12.0.0_A7050_TEL			
ZTE A7050HW1.0			
863949060002288			
Refer to Note1			
Refer to Note1			

There is another version of the customer's prototype, which has been verified to meet the deviation requirements.

Camera changes: Yes, main back camera is changed from 13M pixel to 50M pixel. Other changes detailed: Yes, the module size of main back camera is changed.

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.



Noto1. The enterne	provide to the FLIT	nlagge refer to th	o fallowing tables
Note1: The antenna	оголое то тпе сот	Diease reier to in	ie ioliowino iable
	p is the control -0 if		

Brand	Model	Antenna gain	Frequency band (GHz)	Antenna type	Connecter Type	
N/A N/A -1.2 dBi 2.4GHz~2.4835GHz FPC Antenna N/A						
The antenna gain is provided by the customer and involved in the calculation and influence of the						

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.

2.2 Description 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	-

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)	92.90%	0.32
π/4DQPSK(DH5)	81.50%	0.89
8DPSK(DH5)	92.50%	0.34

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	2021	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	Test case Reference	
1	20dB Bandwidth	15.247(a)(1)(iii)	Pass
2	Channel Separation	15.247(a)(1)	Pass
3	Peak Transmitter Output Power	15.247(b)(1)	Pass
4	Dwell Time	15.247(a)(1)(iii)	Pass
5	Number of Hopping Frequencies	15.247(a)(1)(iii)	Pass
6	Conducted out of band emission measurement	15.247(d)	Pass
7	Band-edge	15.247(d)	Pass
8	Antenna requirement	15.203	Pass(refer to section 2.1)

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: Mr. Peng Zhen	Review by: Mr. Li Bin
Tested and Issued by:	Approved date:
Mr. Liu Ce	20220804
刘策	20220004



No.	Test case	Reference	Verdict	Test Site
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	20220804
董马峰	20220004



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

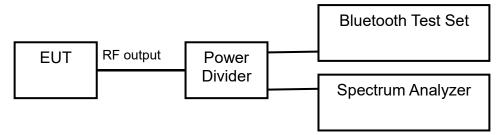
1. The signal analyzers' automatic bandwidth measurement capability of the spectrum analyzer was used to perform the 20dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 20. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.

- 2. RBW = 1 5% OBW
- 3. VBW \ge 3 x 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

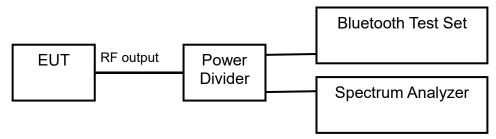
1. Span = Wide enough to capture peaks of two adjacent channels

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 Part 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.

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) \rightarrow

Modulation type	GFSK	π/4DQPSK	8DPSK
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

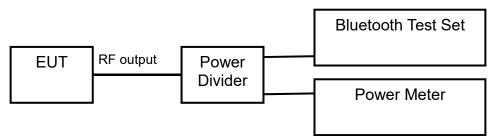
Peak Power Measurement

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 Part 15.247(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

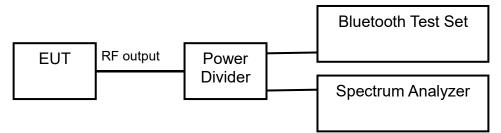
4. Trigger is set with appropriate trigger delay to place pulse near the center of the plot

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.

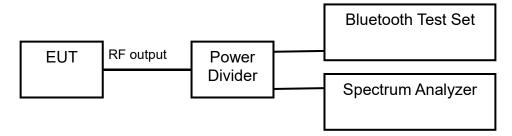
6.5.2 Test limit

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.

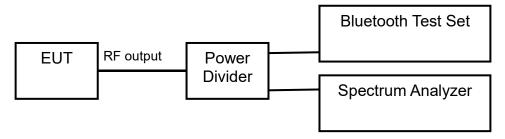
6.6.2 Test Procedure Used

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 26GHz
- 2. RBW = 1MHz* (See note below)
- 3. VBW = 3MHz
- 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

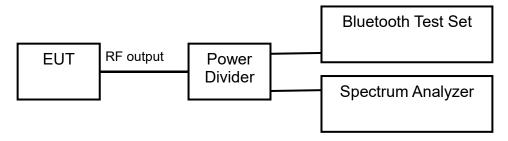
ANSI C63.10-2013 - Section 6.10.4

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 = 100 kHz
- 4. VBW = 300 kHz
- 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
Radiate	d 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.

6.8.4 Test 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

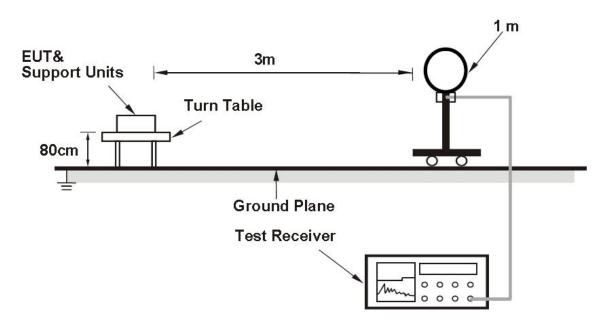
4. Detector = peak

5. Sweep time = auto couple

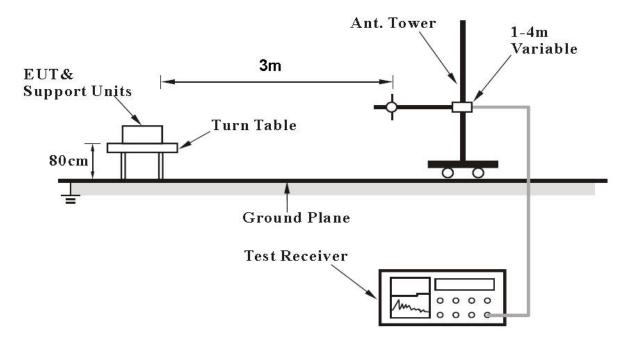
- 6. Trace mode = max hold
- 7. Trace was allowed to stabilize



For Radiated emission below 30MHz

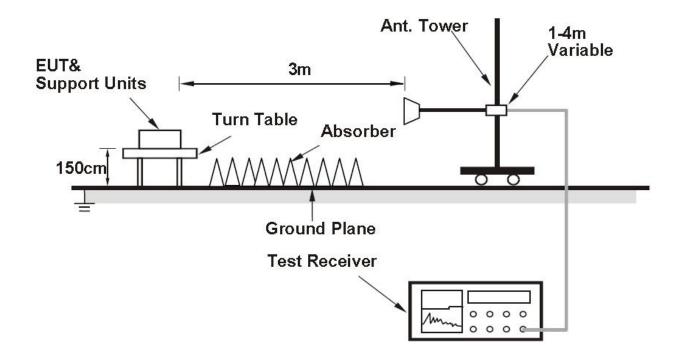


For Radiated emission 30MHz to 1GHz





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	Quasi-peak	Average
0.5-5	66 to 56 *	56 to 46 *
5-30	56	46
5-50	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.

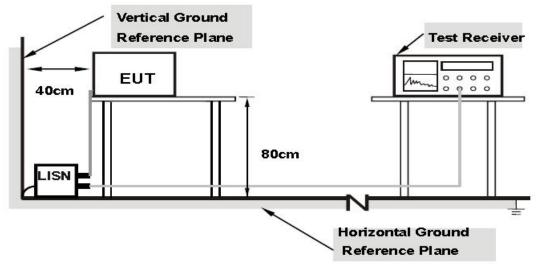
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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



8 TEST EQUIPMENTS

No.	Name/ Model	Manufacturer	S/N	Cal date	Cal Due date
1.	Spectrum Analyzer / FSV	ROHDE & SCHWARZ	101065	2022.06.21	2023.06.20
2.	Signal Analyzer / N9020A	Agilent	MY48010771	2022.05.18	2023.05.17
3.	Bluetooth Test Set / MT8852B	Anritsu	1329003	2022.06.21	2023.06.20
4.	Power Divider / 11667A	HP	19632	2022.06.21	2023.06.20
5.	Power Meter E4416A	Agilent	MY52370013	2022.04.13	2023.04.12
6.	Power Sensor E9323A	Agilent	MY52150008	2022.04.13	2023.04.12
7.	Signal Generator / SMBV100A	R&S	260910	2022.06.21	2023.06.20
8.	Temperature chamber / SH241	ESPEC	92013758	2022.06.21	2023.06.20
9.	Fully-Anechoic Chamber / 12.65m×8.03m×7.50m	FRANKONIA			
10.	Semi-Anechoic/Chamber / 23.18m×16.88m×9.60m	FRANKONIA			
11.	Turn table Diameter:1m	FRANKONIA			
12.	Turn table Diameter:5m	FRANKONIA			
13.	Antenna master FAC(MA4.0)	MATURO			
14.	Antenna master SAC(MA4.0)	MATURO			
15.	Shielding room / 9.080m×5.255m×3.525m	FRANKONIA			
16.	Double-Ridged Waveguide Horn Antenna / HF 907	R&S	100512	2022.06.21	2023.06.20
17.	Double-Ridged Waveguide Horn Antenna / HF 907	R&S	100513	2022.06.21	2023.06.20
18.	Ultra log antenna / HL562	R&S	100016	2022.06.21	2023.06.20
19.	Receive antenna /3160-09	SCHWARZ-BECK	002058-002	2022.06.21	2023.06.20
20.	EMI test receiver / ESI 40	R&S	100015	2022.06.21	2023.06.20
21.	EMI test receiver / ESCS30	R&S	100029	2022.06.21	2023.06.20
22.	Receive antenna / HL562	R&S	100167	2022.06.21	2023.06.20
23.	AMN / ENV216	R&S	3560.6550.12	2022.06.21	2023.06.20
24.	WLAN AP WIA3300-20	SKSpruce	8152017060700339		
25.	Notebook E470c	Lenovo	PF10UZW7		
26.	Loop Antenna	R&S	100340	2022.08.20	2023.08.20
27.	FCC auto test system / RT9200BW-2	Radiosky	V2.05	1	/
28.	EMI test software / EMC32	R&S	V10.20.01	/	/



APPENDIX A – TEST DATA OF CONDUCTED EMISSION

Offset 1.2dB = Attenuator + Temporary antenna connector loss + Cable loss BT

1 Duty Cycle and Antenna Gain

Test Mode	Frequency (MHz)	Duty Cycle	Correction Factor(dB)	Antenna Gain(dBi)
GFSK(DH5)	2402	75.70%	1.21	-1.20

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

Test Mode (MHz) Duty (Cycle Factor(dB) Antenna Gain(dBi)
π/4DQPSK(2DH5) 2402 45.7	0% 3.40 -1.20

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

Test Mode	Frequency (MHz)	Duty Cycle	Correction Factor(dB)	Antenna Gain(dBi)
8DPSK(3DH5)	2402	33.20%	4.79	-1.20

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

2 EIRP

Conducted Power

Madulation type	Conducted Peak Power(dBm)				
Modulation type	2402MHz	2441MHz	2480MHz		
GFSK(DH5)	10.53	11.00	10.64		
π/4DQPSK(2DH5)	10.88	10.97	10.85		
8DPSK(3DH5)	11.10	11.26	11.20		

Madulation turns	Conducted Average Power(dBm)				
Modulation type	2402MHz	2441MHz	2480MHz		
GFSK(DH5)	9.07	9.48	9.20		
π/4DQPSK(2DH5)	4.59	4.60	4.70		
8DPSK(3DH5)	3.09	3.14	3.30		

EIRP

Modulation type	Peak EIRP(dBm)				
	2402MHz	2441MHz	2480MHz		
GFSK(DH5)	9.33	9.80	9.44		
π/4DQPSK(2DH5)	9.68	9.77	9.65		
8DPSK(3DH5)	9.90	10.07	10.00		

Madulation trips	Average EIRP(dBm)				
Modulation type	2402MHz	2441MHz	2480MHz		
GFSK(DH5)	7.87	8.28	8.00		
π/4DQPSK(2DH5)	3.39	3.40	3.50		
8DPSK(3DH5)	1.89	1.94	2.10		

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



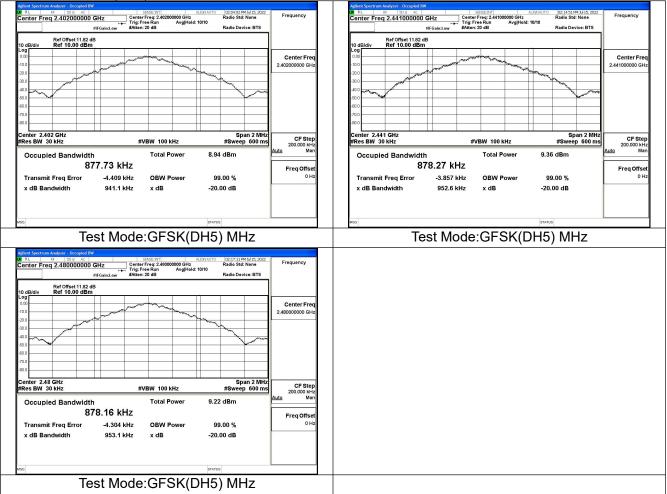
3 Occupied Bandwidth

20dB Bandwidth		
Test Mode	Carrier frequency (MHz)	20dB Bandwidth(KHz)
GFSK(DH5)	2402	941.1
GFSK(DH5)	2441	952.6
GFSK(DH5)	2480	953.1

Test Mode	Carrier frequency (MHz)	20dB Bandwidth(KHz)
π/4DQPSK(2DH5)	2402	1329.2
π/4DQPSK(2DH5)	2441	1339.4
π/4DQPSK(2DH5)	2480	1339.4

Test Mode	Carrier frequency (MHz)	20dB Bandwidth(KHz)
8DPSK(3DH5)	2402	1327.5
8DPSK(3DH5)	2441	1319.1
8DPSK(3DH5)	2480	1327.9

Test Mode: GFSK(DH5)

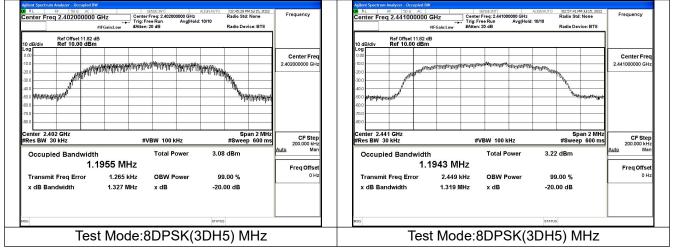




No.: SRTC2022-9004(F)-22071305(D) FCC ID: SRQ-ZTEA7050

Trig	SENSE:INT ALIGNAUTO 02:23:59 PM ter Freq: 2.402000000 GHz Radio Std: Free Run Radio Std: Free Run Avg Hold: 10/10 Radio Std: Radio Std:	None	Trig: Free Run Avg Hold: 10/10	requency
#IFGain:Low #Atto Ref Offset 11.82 dB 0 dB/div Ref 10.00 dBm	en: 20 dB Radio Devi	ICCE BIS	ref officiant.ow #Atten: 20 dB Radio Device: BTS Ref office: 11.8.2 dB 10 dB/div Ref 10.00 dBm	
	1997 1998 1998 1998 1998 1998 1998 1998	Center Freq 2.40200000 GHz		Center Free 41000000 GH
enter 2.402 GHz	Spa	an 2 MHz	Center 2.441 GHz Span 2 MHz	CF Step
that at interest to be available		200.000 kHz Auto Man	#Res BW 30 kHz #VBW 100 kHz #Sweep 600 ms Occupied Bandwidth Total Power 4.66 dBm	200.000 kH Mai
Occupied Bandwidth 1.1887 MHz	Total Power 4.54 dBm	Freq Offset	1 1070 MU	Freq Offse
Transmit Freq Error -1.266 kHz	OBW Power 99.00 %	0 Hz	Transmit Freq Error 544 Hz OBW Power 99.00 %	0 H
x dB Bandwidth 1.329 MHz	x dB -20.00 dB		x dB Bandwidth 1.339 MHz x dB -20.00 dB	
Alignment Completed	STATUS		M93	
		MH-7		
	4DQPSK(2DH5)	MHz	Test Mode:π/4DQPSK(2DH5) MHz	
Test Mode: TT.	/4DQPSK(2DH5)	None Frequency		
Test Mode: Tr.	/4DQPSK(2DH5)	None Frequency		
Test Mode: TT, Bit Spectrum Audyzer Occupied BW It Bit State Care enter Freg 2.480000000 GHz #FGalact.ow Fef Offset1182 db odBiddity Ref Offset1182 db Bit State	/4DQPSK(2DH5)	M 115 2022 None Frequency ice: BTS Center Freq		
Test Mode: TT, Bit Spectrum Audyzer Occupied BW It Bit State Care enter Freg 2.480000000 GHz #FGalact.ow Fef Offset1182 db odBiddity Ref Offset1182 db Bit State	/4DQPSK(2DH5)	None Frequency		
Test Mode: TT,	/4DQPSK(2DH5)	M 115 2022 None Frequency ice: BTS Center Freq		
Test Mode:m,	ASPANTO ASP	A JI 5, 2022 None Ide: BTS Center Freq 2.48000000 GHz		
Test Mode: TT,	ASPANTO ASP	M 115 2022 None Frequency ice: BTS Center Freq		
Test Mode:m,	ASPANTO ASP	A JI 5, 2022 None Ide: BTS Center Freq 2.48000000 GHz		
Test Mode: TT,	ADQPSK(2DH5)	Allo, 2022 None Ice: BTS Center Freq 2.48000000 GHz		
Test Mode: TT,	ADQPSK(2DH5)	A LI D. X022 None Frequency lee: BTS Center Freq 2.46000000 GHz		
Test Mode:m,	ADQPSK(2DH5)	12.15.2002 Frequency Nene Frequency iee.BTS Center Freq 2.48000000 GHz Prequency mmmmmm CF Step 200000 Hz Man		
Test Mode:m,	ADQPSK(2DH5)	A 11 (2) 2022 None Frequency lee: BTS Center Freq 2.45000000 GHz 2.45000000 GHz an 2 MHz CCF Step 800 mS 200,000 Hz		
Test Mode:m,	ADQPSK(2DH5)	411 (2, 2022) Frequency None Frequency iee:BTS Center Freq 2.450000000 GHz 2450000000 GHz W////////////////////////////////////		
Test Mode: TT,	ADQPSK(2DH5)	A LI (2, 2022) None Frequency Frequency Frequency Lee BTS Center Freq 2,45000000 GHz 2,45000000 GHz CF Step 2,00000 Hz Auto Man Freq Offset 0 Hz		

Test Mode: 8DPSK(3DH5)





gilent Spectrum Analyzer - Occupied BW							
	HZ Center Fr Trig: Free #Atten: 20	eq: 2.480000000 GHz Run Avg Hold: 10/	VAUTO 02:59:33 PM 3415, 2022 Radio Std: None 10 Radio Device: BTS	Frequency			
Ref Offset 1182 dB dB/div Ref 10.00 dBm dB db db db db db db db db db db db db db		W 100 kHz	Span 2 MHz #\$vero 600 ns	CF Step			
Occupied Bandwidth 1.19	953 MHz	Total Power	3.30 dBm	200.000 kHz Auto Man Freq Offset			
Transmit Freq Error x dB Bandwidth		OBW Power x dB	99.00 % -20.00 dB	0 Hz			
ss Toot	Maday			t			
Test	ivioue.8	DF3K(3L	0H5) MHz				

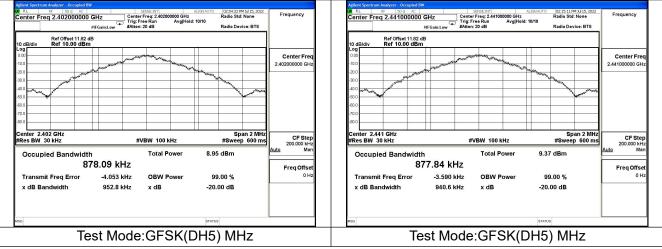
99% Bandwidth

Test Mode	Carrier frequency (MHz)	99% Bandwidth(kHz)
GFSK(DH5)	2402	878.1
GFSK(DH5)	2441	877.8
GFSK(DH5)	2480	877.8

Test Mode	Carrier frequency (MHz)	99% Bandwidth(kHz)
π/4DQPSK(2DH5)	2402	1190.0
π/4DQPSK(2DH5)	2441	1188.0
π/4DQPSK(2DH5)	2480	1189.3

Test Mode	Carrier frequency (MHz)	99% Bandwidth(kHz)
8DPSK(3DH5)	2402	1195.5
8DPSK(3DH5)	2441	1196.2
8DPSK(3DH5)	2480	1195.5

Test Mode: GFSK(DH5)

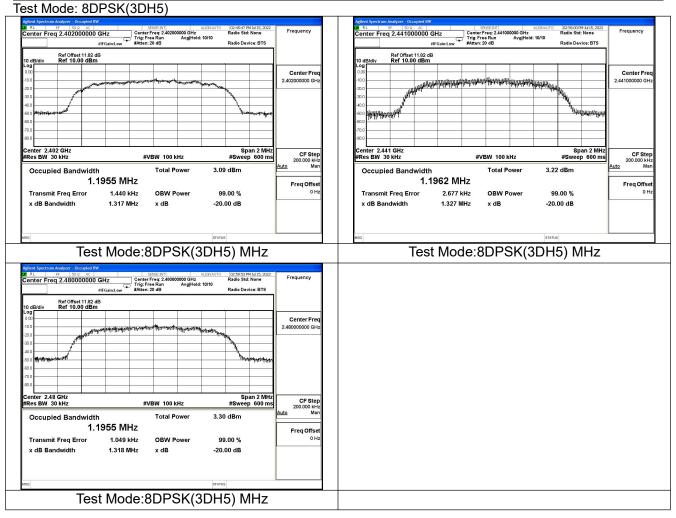












4 Hopping Frequency Separation

Channel separation

Test Mode	Op-mode	Channel separation (MHz)
GFSK(DH5)	Hopping mode	1
Center Freq	100 AC 1 SPEEINT ALVANTO DE2544170 MULT 322 2.441000000 GHz PMC Fast Trig Free Ran Arg Tree: Eag PmC Trig Free Ran Arg Tree: Eag PmC 11 282 dB Trig Free Ran Arg Tree: Eag PmC Trig Free Ran Arg Tree: Eag PmC 12 0.00 GBm 10.242 dBm MKr3 2.442 000 GHz Trig Free Ran Arg Tree: Eag PmC 12 0.00 GBm 0.244 dBm 0.244 dBm 0.244 dBm 4.0000 GHz 10 0 GBm 0.00 GHz \$3 0.00 GBm 0.00 GHz 10 0 GBm 93 0.00 GBm 0.00 GBm 0.00 GHz 10 0 GBm 93 0.00 GBm 0.00 GBm 0.00 GBm 0.00 GBm 10 0 GBm 93 0.00 GBm 0.00 GBm<	Frequency Auto Tune Center Freq 2.41000000 GHz Start Freq 2.4350000 GHz Stop Freq 2.4250000 GHz OF Step 300.000 HHz Greq Offset 0 Hz



Number of Hopping Frequencies

Test Mode		Op	o-mode			Result
GFSK(DH5)		Норр	ing mode			79
10 da 10	IBIDITY Ref Office IBIDITY Ref 20.	Mr Support S. 1 900 900 C HZ 1750000 CHZ France Control 100 CHZ Fra	Arg Type 1-0 -Por Arg Type 1-0 -Por B		Frequency Auto Tune Center Freq 2.441750000 GHz Start Freq 2.400000000 GHz 3top Freq 9.350000 GHz 0.55 Step 9.350000 GHz Man Freq Offset 0 Hz	19
Mag 4	Points changed	ed; all traces cleared	STATUS	5		

Channel separation

onanner separation		-				
Test Mode			Op-	mode	C	Channel separation (MHz)
π/4DQPSK(2DH5)			Hoppir	ng mode		1
	Re	2.441000000 G 2.441000000 G f Offset 1182 dB 2.000 GBm 000 GHz kHz 2.4400 2.4410	HZ HZ Grain Low Trig: Free Run Antan: 20 dB (2) (2) (2) (2) (2) (2) (2) (2) (2) (2)	AvgType: Log-Per AvgType: Log-Per AvgHold>100100 Mkr3	Frequency Auto Tune Center Freq 2.441000000 GHz 2.442500000 GHz 2.442500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 300.000 KHz Man Freq Offset 0 Hz	

Number of Hopping Frequencies

Test Mode				0	p-mo	ode					Result
π/4DQPSK(2DH5)			F	Ιор	ping	moc	le				79
UN R	RL RF	llyzer - Swept SA 50 Ω AC	I	SEN	SE:INT	AL	JGNAUTO	02:32:29 PM	Jul 15, 2022	Frequency	
Cer	nter Freq 2	2.441750000 GH	NO: East	Trig: Free #Atten: 20	Run	Avg Type: Avg Hold>	Log-Pwr 100/100	TYPE DET	123456 MWWWWW	Trequency	
10 d	Ref	Offset 11.82 dB 20.00 dBm	Jam.Low							Auto Tune	
Log 10.0				2.02.1	or afe es	1		a li		Center Freq 2.441750000 GHz	
0.00		litate filmented Gauge filmented e								Start Freq 2.400000000 GHz	
-200	That off	almontala.t. e 🕯	ar cid		and of Mr.	keeni Mi	D th	h siller	and blo	Stop Freq	
										CF Step 8.350000 MHz Auto Man	
-500										Freq Offset	
-70.0	,								8		
	rt 2.40000 C s BW 30 kH		#VBW 1	100 kHz		#Sw	/eep 20	Stop 2.48 0.0 ms (10	350 GHz 0001 pts)		
MSG	Points char	nged; all traces clear	ed				STATUS				

1



Channel separation Test Mode Op-mode Channel separation (MHz) 8DPSK(3DH5) Hopping mode 2 RL RF 202 AC C Center Freq 2.441000000 GHz Frequency Avg Type: Log-Pw Avg|Hold>100/100 Trig: Free Run #Atten: 20 dB Auto Tur Mkr3 2.442 000 GHz 8.302 dBm Ref Offset 11.82 dB Ref 21.82 dBm dB/div Center Fre 2.441000000 GH Start Fre 9500000 GH ~ 4 Stop Fre 2.442500000 GH ter 2.441000 GH s BW 300 kHz Span 3.000 MHz #Sweep 20.00 ms (1001 pts) CF Step 300.000 kH #VBW 1.0 MHz 2.440 000 GHz 2.441 000 GHz 2.442 000 GHz 8.231 dBm 7.286 dBm 8.302 dBm 1 N 1 f 2 N 1 f 3 N 1 f Freq Offse

Number of Hopping Frequencies

Test Mode				Ор	o-mo	de					Result
8DPSK(3DH5)			Н	lopp	ing r	mod	е				79
Accel 10 and 10	t 2.40000 0	Sheet 11.62 dB 20.00 dBm		Service 1	INT A	AUSS Avg Type: L duvide to the second	NAUTO g-Pwr 0/100	Stop 2.48	212345 WINNN WINNN 350 GH	Auto Tune Center Freq 2.441750000 GHz 2.400000000 GHz 2.400000000 GHz 2.40000000 GHz CF Step 8.350000 HHz Man Freq Offset 0 Hz	
	s BW 30 kH Points char	iz nged; all traces clea	#VBW 10	00 kHz		#Swe	status	0.0 ms (10	0001 pts		

>

Dwell Time 5

0 Direit II				
Test Mode	Packet type	Time slot length(µS)	Dwell time	Dwell time(ms)
GFSK(DH1)	DH1	402	Time slot length *31.6*16000/2/79	128.6
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	135	Time slot length *31.6*16000/2/79	43.2
π/4DQPSK(2DH3)	2DH3	1500	Time slot length *31.6*16000/4/79	240.0
π/4DQPSK(2DH5)	2DH5	1500	Time slot length *31.6*16000/6/79	160.0



Test Mode	Packet type	Time slot length(µS)	Dwell time	Dwell time(ms)
8DPSK(3DH1)	3DH1	360	Time slot length *31.6*16000/2/79	115.2
8DPSK(3DH3)	3DH3	1040	Time slot length *31.6*16000/4/79	166.4
8DPSK(3DH5)	3DH5	1040	Time slot length *31.6*16000/6/79	110.9

Test Mode: GFSK(DH5)

F 0 dB/div F	Ref Offset 11.82 dB Ref 21.82 dBm	PNO: Fast ++ IFGain:Low	#Atten: 20 df			ΔMkr1 -	402.0 µs 0.285 dB	Auto Tune	10 dE Log	Ref 0 Idiv Ref 3	ffset 11.82 dB 21.82 dBm	IFGain:Low	#Atten: 2		 4	\Mkr1 1 -(.620 ms 0.244 dE	Auto Tun
11.8	Δ2		7 1					Center Freq 2.441000000 GHz	11.8	×2	1∆2				 1		\square	Center Fre 2.441000000 GH
8.18								Start Freq 2.441000000 GHz	-8.18									Start Fre 2.441000000 GH
28.2								Stop Freq 2.441000000 GHz	-18.2			_						Stop Fre 2.441000000 GH
18.2								CF Step 1.000000 MHz Auto Man	-38.2							,		CF Ste 1.000000 MH <u>Auto</u> Ma
48.2 58.2	tarinin - Dalahada Balaha - Balahada	nation) Natab	ninikiwa. Unukani	kathadad Geographi	nlawa Galaki	doingthir the field		Freq Offset 0 Hz	-48.2 -58.2	pril	Hinda	willer	hum	nilli	WHATMHI		M	Freq Offse
68.2	1000000 GHz	houked	EUL UK	handler	• 101 11	li alla	Span 0 Hz		-68.2	er 2.44100								
G Deints () MHz changed; all traces of		SENSE	INT Av	ST	10.00 ms (ATUS 2441 10 10 10 10 10 10 10 10 10 1	10001 pts	Frequency		BW 1.0 MH	z	Mode	:GF		Sweep 1 statu 3) 2	10.00 ms s		
glient Spectrum RL Center Fre	o MHz changed; all traces o Test n Analyzer - Swept SA	Mode	SENSE:	INT Av		10.00 ms (* ATUS 2441 *** TEX AMKr1 2		Frequency Auto Tune	Res		z				STATU	10.00 ms s	(1001 pts	
enter Fre	D MHZ changed; all traces of Test n Analyzer - Swept SA RF 50 Q AC or 2.4410000000 Ref Offset 11.82 dB		SENSE:	INT Av		10.00 ms (* ATUS 2441 *** TEX AMKr1 2	10001 pts MHz MHz 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c	Frequency Auto Tune	Res		z				STATU	10.00 ms s	(1001 pts	
ss Points (points of the sector of the sec	D MHZ changed; all traces of Test n Analyzer - Swept SA RF 50 Q AC or 2.4410000000 Ref Offset 11.82 dB	Heared Mode GHz PNO: Fast ↔ IFGain:Low	SENSE:	INT Av		10.00 ms (* ATUS 2441 *** TEX AMKr1 2	10001 pts MHz MHz 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c	Frequency Auto Tune Center Freq	Res		z				STATU	10.00 ms s	(1001 pts	
es Points en Poi	D MHZ changed; all traces of Test n Analyzer - Swept SA RF 50 Q AC or 2.4410000000 Ref Offset 11.82 dB	Heared Mode GHz PNO: Fast ↔ IFGain:Low	SENSE:	INT Av		10.00 ms (* ATUS 2441 *** TEX AMKr1 2	10001 pts MHz MHz 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c	Frequency Auto Tune Center Freq 2.44100000 GHz Start Freq	Res		z				STATU	10.00 ms s	(1001 pts	
o dB/div F o dB/div F 2 11.8 2 2 2 2 2 2 2 2 2 2 2 2	D MHZ changed; all traces of Test n Analyzer - Swept SA RF 50 Q AC or 2.4410000000 Ref Offset 11.82 dB	Heared Mode GHz PNO: Fast ↔ IFGain:Low	SENSE:	INT Av		10.00 ms (* ATUS 2441 *** TEX AMKr1 2	10001 pts MHz MHz 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c	Center Freq 2.44100000 GHz Start Freq 2.44100000 GHz Start Freq 2.44100000 GHz	Res		z				STATU	10.00 ms s	(1001 pts	
gilent Spectrum RL Center Fre O dB/div F O dB/div F O dB/div	D MHZ changed; all traces of Test n Analyzer - Swept SA RF 50 Q AC or 2.4410000000 Ref Offset 11.82 dB	Heared Mode GHz PNO: Fast ↔ IFGain:Low	SENSE:	INT Av		10.00 ms (10.00 ms (2441 0 [02:1400t mr 10 0 [02:1400t mr 10 10 10 10 10 10 10 10 10 10	10001 pts MHz MHz 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c	Frequency Auto Tune Center Freq 2.441000000 GHz Start Freq 2.441000000 GHz Stop Freq 2.441000000 GHz Center Comparison Center Comparison Center Freq 2.441000000 GHz Stop Freq 2.441000000 GHz CF Step 1.000000 MHz	Res		z				STATU	10.00 ms s	(1001 pts	
O defidire Sector Free Se	D MHZ changed; all traces of Test n Analyzer - Swept SA RF 50 Q AC or 2.4410000000 Ref Offset 11.82 dB	leared Mode GHz PNO: Fast IFGait.cow	SENSE:	INT Av	ALSONAU ALSONAU B Type: Log-P Hold: //	10.00 ms (arus) 2441 0 00214041 7 0 0021404 7 0 0021404 7 0 0021404 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10001 pts MHz MHz 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c VTE 12 3 45 c	Frequency Auto Tune Center Freq 2.44100000 GHz 2.44100000 GHz 2.44100000 GHz 2.44100000 GHz 1.00000 GHz 1.00000 GHz Freq Offset 0 Hz	Res		z				STATU	10.00 ms s	(1001 pts	



No.: SRTC2022-9004(F)-22071305(D) FCC ID: SRQ-ZTEA7050

Test Mode: π/4DQPSK(2DH5)

XI RI Cen	nter Freq 2.4	i	iHz PNO: Fast ↔ FGain:Low	Trig: Free F #Atten: 20 d	un Avg	g Type: Log-Pw Hold: 1/1	т	чет Р NNNN 135.0 µs	A		r Freq 2.44	IFGa	:Fast ↔ Trig: in:Low #Atte	ree Run 1:20 dB	Avg Hold:		T I	PM 3ul 15, 2022 ACE 1 2 3 4 5 6 YPE MWWWWW DET P NNNN 1.500 ms	
10 dE Log	Ref Off B/div Ref 21	set 11.82 dB .82 dBm					<u>-(</u>	0.201 dE		10 dB/di	Ref Offse liv Ref 21.	et 11.82 dB 82 dBm				Δ		0.700 dB	
11.8	1 <u>42</u>	H IT	1 1	- r	H r	нп	-1 1	4-1	Center Freq 2.441000000 GHz	11.8	×2	1Δ2	- freedom free	ור	funçarranı				Center Freq 2.441000000 GHz
1.82 8.18									Start Freq 2.441000000 GHz	-8.18									Start Freq 2.441000000 GHz
8.2 8.2									Stop Freq 2.441000000 GHz	-18.2									Stop Freq 2.441000000 GH2
8.2									CF Step 1.000000 MHz Auto Man	-38.2									CF Step 1.000000 MH Auto Mar
8.2 8.2	lahan da Analiti ku	and land Al Doord		Launskille In Provide	anni aguli Aid Bhan	uritho Nition	1. 1919.44 - AN 1949	heistad haadid	Freq Offset 0 Hz	-48.2	sherp Hu	tallotu	4	h/laphtrainin		power	ha) ¹	'n	Freq Offset 0 H;
8.2	illing i		11 1 1	יוז רויישו	haaled	selfe for	and a t	• [P]TI		-68.2									
	ter 2.441000 BW 1.0 MHz	000 GHz	#VBW	3.0 MHz		Sweep	10.00 ms (Span 0 Hz 10001 pts			r 2.44100000 W 1.0 MHz	00 GHz	#VBW 3.0 M	Hz	s	weep 1	0.00 ms	Span 0 Hz (1001 pts)	
										Center Res BV									
len	Points change Tes It Spectrum Analyz L RF Iter Freq 2.4	st Moc	de:π/	SENSE	ant Av tun Av	(2DH	02:35:361 אד דעש ד	PM Jul 15, 2022 ACE 1 2 3 4 5 1 YPE MWWWWW DET P N N N N	Frequency	Center Res BW	Tes	t Mode	e:π/4C	QPS	3K(2[DH3		441N	ЛНz
1.8 1.8 1.8 1.8 1.8 1.8 1.8 1.8 1.8 1.8	Points change Tes tspectrum Analyz t BF tter Freq 2.4 Brdiv Ref Off Ref 2	st Moo Swept SA So R AC 41000000 G	de:π/ iHz PN0: Fast ↔	SENSE	ant Av tun Av		1) 24	PM Jul 15, 2022 ACE 1 2 3 4 5 1 YPE MWWWWW DET P N N N N	Frequency Auto Tune Center Freq 2.441000000 GHz 2.441000000 GHz Stop Freq 2.441000000 GHz Center Comparison Center	Res BV	Tes	t Mode	e:π/4D	QPS	<u>5K(2</u> [441N	ЛНz
0 dE 0 dE	Points change Tes tspectrum Analyz t BF tter Freq 2.4 Brdiv Ref Off Ref 2	t Moc	de:π/ iHz PN0: Fast ↔	Street	ENT] Avg		1) 24	PM 3415, 2022 ACE 1 2 3 4 5 1 YPE M WWWWW DET P N N N N 1.500 ms	Frequency Auto Tune Center Freq 2.441000000 GHz 2.441000000 GHz Stop Freq 2.441000000 GHz Center Comparison	Res BV	Tes	t Mode	e:π/4D	QPS	<u>5K(2</u>			441N	ЛНz
Agilen 2 Ru 2 Ru 2 Ru 2 Cen 11.8 1.82 -28.2 -38.2 -48.2 -58.2 -68.2 Cen	Points change Tess Sector Addition	t Moc		Street	ENT] Avg	(2DH	1) 24	200 Al 15, 2022 Carl 2 3 4 5 Carl 2 3 4 5	Frequency Auto Tune Center Freq 2.44100000 GHz Start Freq 2.44100000 GHz Stop Freq 2.44100000 GHz CF Step 1.000000 GHz CF Step 1.000000 GHz Freq Offset 0 Hz	Res BV	Tes	t Mode	e:π/4D	QPS	SK(2I			<u>441N</u>	ЛНz

Test Mode: 8DPSK(3DH5)

RL RF 50 R AC Center Freq 2.441000000	GHz PNO: Fast ++- Trig: Free Run #Atten: 20 dB	ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 1/1	03:04:30 PM 3JJ 15, 2022 TRACE 1 2 3 4 5 6 TYPE MMMANANA DET P N N N N N			50 Q AC 2.441000000 GHz PNO: F IFGain:1	ast Trig: Free Run .ow #Atten: 20 dB	Ava Type: Log-Pwr 17	PM 3d 15, 2022 MCE 1 2 3 4 5 6 TYPE MWWWWWW DET P N N N N N	
Ref Offset 11.82 dB 0 dB/div Ref 21.82 dBm		Δι	Mkr1 360.0 µs 0.953 dB	Auto Tune	10 dB/div Re	Offset 11.82 dB f 21.82 dBm			1.040 ms 0.697 dB	
	[-/m] [-/m]	- ^ m	L.4m	Center Freq 2.441000000 GHz	11.8	1Δ2 http://		tiny	2	Center Free 2.441000000 GH:
8.18				Start Freq 2.441000000 GHz	-8.18					Start Free 2.441000000 GH:
28.2				Stop Freq 2.441000000 GHz	-18.2					Stop Fred 2.441000000 GHz
48.2				CF Step 1.000000 MHz Auto Man	-38.2					CF Step 1.000000 MH: Auto Mar
	htypilov hybridatel hybridative	a handinana internanga	i haqibiyi i	Freq Offset 0 Hz	-58.2	hinderson single Bokhange	nii waanii waa	meruphyphyradian	Han-Limosia	Freq Offset 0 Hz
-68.2 Center 2.441000000 GHz Res BW 1.0 MHz	#VBW 3.0 MHz	Sweep 10.	Span 0 Hz 00 ms (1001 pts)		-68.2 Center 2.4410 Res BW 1.0 M		#VBW 3.0 MHz	Sweep 10.00 ms	Span 0 Hz 5 (1001 pts)	
156	lode:8DPSk	STATUS			MSG			3DH3) 244		×



	nter 2.4410 BW 1.0 N				3.0 MHz			STATUS	10.00 ms	Span 0 Hz s (1001 pts 11MH	
3.2	NA-140444	1	Yaffiliala	whytevy	ulumhhalala		independent of the	#Welshelpe,e	Maniant	Ve 	Freq Offset 0 Hz
18.2											CF Step 1.000000 MHz Auto Man
18.2											Stop Freq 2.441000000 GHz
1.82 8.18											Start Freq 2.441000000 GHz
11.8		X-generated	142		[. Analogi an alamata					Center Freq 2.441000000 GHz
0 d	B/div Re	f Offset 11.8 f 21.82 dE	2 dB	am.cow					۵Mkr1	1.040 ms 0.708 dE	Auto Tune
er		50 Ω 2.441000	000 GH	Z O: Fast ++- ain:Low	1	e Run 0 dB	Avg Type Avg Hold	ALIGNAUTO e: Log-Pwr : 1/1	02:56:18	8 PM Jul 15, 2022 RACE 1 2 3 4 5 (TYPE MWWWW DET P N N N N F	Frequency

6 Conducted Out of band emission measurement



