# **TEST REPORT**

**Reference No.** : WTS18S04109316-2W

FCC ID ..... : 2ALAYJUNIOR

Applicant :: Allterco Robotics

Address : 1404 Sofia, Bulgaria, 109 Bulgaria Blvd. lv.8, Bulgaria

Manufacturer .....: The same as above

Address.....: The same as above

Product.....: Smart Watch

Model(s). ..... : MyKi Junior

Brand Name ..... : MyKi

**Standards**...... : FCC CFR47 Part 15.247:2017

Date of Receipt sample .... : 2018-04-24

**Date of Test** ..... : 2018-04-25 to 2018-07-16

**Date of Issue**..... : 2018-07-17

Test Result..... : Pass

#### Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

## Prepared By:

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approved by:

## 2 Laboratories Introduction

Waltek Services (Shenzhen) Co., Ltd is a professional third-party testing and certification laboratory with multi-year product testing and certification experience, established strictly in accordance with ISO/IEC 17025 requirements, and accredited by ILAC (International Laboratory Accreditation Cooperation) member. A2LA (American Association for Laboratory Accreditation) of USA, Meanwhile, Waltek has got recognition as registration and accreditation laboratory from EMSD (Electrical and Mechanical Services Department), and American Energy star, FCC(The Federal Communications Commission), CEC(California energy efficiency), IC(Industry Canada). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as Intertek(ETL-SEMKO), TÜV Rheinland, TÜV SÜD, etc.



Waltek Services (Shenzhen) Co., Ltd is one of the largest and the most comprehensive third party testing laboratory in China. Our test capability covered four large fields: safety test. Electro Magnetic Compatibility (EMC), and energy performance, wireless radio. As a professional, comprehensive, justice international test organization, we still keep the scientific and rigorous work attitude to help each client satisfy the international standards and assist their product enter into globe market smoothly.

## **Test Facility:**

## A. Accreditations for Conformity Assessment (International)

Country/Region	Accreditation Body	Scope	Note
USA		FCC ID \ DOC \ VOC	1
Canada		IC ID \ VOC	2
Japan		MIC-T \ MIC-R	-
Europe	A2LA (Certificate No.: 4243.01)	EMCD\RED	-
Taiwan		NCC	-
Hong Kong		OFCA	-
Australia		RCM	-
India		WPC	-
Thailand	International Services	NTC	-
Singapore		IDA	-

## Note:

- 1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476.
- 2. IC Canada Registration No.: 7760A

## B. TCBs and Notify Bodies Recognized Testing Laboratory.

Recognized Testing Laboratory of	Notify body number
TUV Rheinland	
Intertek	
TUV SUD	Optional.
SGS	
Phoenix Testlab GmbH	0700
Element Materials Technology Warwick Ltd	0891
Timco Engineering, Inc.	1177
Eurofins Product Service GmbH	0681

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# 4 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS18S04109 316-2W	2018-04-24	2018-04-25 to 2018-07- 16	2018-07-17	original	-	Valid

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## 5 General Information

## 5.1 General Description of E.U.T.

Product: Smart Watch Model(s): MyKi Junior

Model Description: N/A

GSM Band(s): GSM 850/900/1800/1900MHz

GPRS Class: 12

WCDMA Band(s): FDD Band II/V

LTE Band(s): N/A

Wi-Fi Specification: 2.4G-802.11b/g/n HT20/n HT40

Bluetooth Version: Bluetooth v4.0 with BLE

GPS: Support NFC: N/A

Hardware Version: G76-MB-V1.0-2017031001

Software Version: g76lca\_rb2b5\_gw\_en\_common\_pv\_20180108

Highest frequency

1.25GHz

(Exclude Radio):

Storage Location: Internal Storage

Note: N/A

#### 5.2 Details of E.U.T.

Operation Frequency: GSM/GPRS 850: 824~849MHz

PCS/GPRS 1900: 1850~1910MHz WCDMA Band II: 1850~1910MHz WCDMA Band V: 824~849MHz

WiFi:

802.11b/g/n HT20: 2412~2462MHz 802.11n HT40: 2422~2452MHz Bluetooth: 2402~2480MHz

Max. RF output power: GSM 850: 31.98dBm

PCS1900: 28.70dBm

WCDMA Band II: 22.76dBm WCDMA Band V: 21.77dBm

WiFi(2.4G): 9.53dBm Bluetooth: 6.77dBm

Type of Modulation: GSM,GPRS: GMSK

WCDMA: BPSK, 16QAM

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WiFi: CCK, OFDM

Bluetooth: GFSK, Pi/4 DQPSK, 8DPSK

Antenna installation: GSM/WCDMA: internal permanent antenna

WiFi/Bluetooth: internal permanent antenna

Antenna Gain: GSM 850: -0.2dBi

PCS1900: -0.13dBi

WCDMA Band II: 0.17dBi WCDMA Band V: -0.24dBi

WiFi(2.4G): -2.4dBi Bluetooth: -1.5dBi

Ratings: Battery DC 3.8V, 550mAh

DC 5V, 1.0A, charging from adapter

(Adapter Input: 100-240V~50/60Hz 0.15A)

Adapter: Manufacturer: Shenzhen KunXing Technology Co.,Ltd.

Model No.: CLV-14
Sale without adapter.

## 5.3 Channel List

## Normal

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	1	2403	2	2404	3	2405
4	2406	5	2407	6	2408	7	2409
8	2410	9	2411	10	2412	11	2413
12	2414	13	2415	14	2416	15	2417
16	2418	17	2419	18	2420	19	2421
20	2422	21	2423	22	2424	23	2425
24	2426	25	2427	26	2428	27	2429
28	2430	29	2431	30	2432	31	2433
32	2434	33	2435	34	2436	35	2437
36	2438	37	2439	38	2440	39	2441
40	2442	41	2443	42	2444	43	2445
44	2446	45	2447	46	2448	47	2449
48	2450	49	2451	50	2452	51	2453
52	2454	53	2455	54	2456	55	2457
56	2458	57	2459	58	2460	59	2461
60	2462	61	2463	62	2464	63	2465
64	2466	65	2467	66	2468	67	2469
68	2470	69	2471	70	2472	71	2473
72	2474	73	2475	74	2476	75	2477
76	2478	77	2479	78	2480	-	-

## 5.4 Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests; the worst data were recorded and reported.

Test mode	Low channel	Middle channel	High channel
Transmitting 2402MHz		2441MHz	2480MHz

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# 6 Test Summary

Test Items	Test Requirement	Result	
	15.205(a)		
Radiated Spurious Emissions	15.209	PASS	
	15.247(d)		
Conducted Spurious emissions	15.247(d)	PASS	
David adas	15.247(d)	DACC	
Band edge	15.205(a)	PASS	
Conducted Emission	15.207	PASS	
20dB Bandwidth	15.247(a)(1)	PASS	
Maximum Peak Output Power	15.247(b)(1)	PASS	
Frequency Separation	15.247(a)(1)	PASS	
Number of Hopping Frequency	15.247(a)(1)(iii)	PASS	
Dwell time	15.247(a)(1)(iii)	PASS	
Antenna Requirement	15.203	Complies	
Maximum Permissible Exposure	4.4007/5\/4\	D400	
(Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS	

# 7 Equipment Used during Test

# 7.1 Equipments List

Item	Condu	cted Emissions Test S					
2.         LISN         R&S         ENV216         101215         2017-09-12         2018-09-11           3.         Cable         Top         TYPE16(3.5M)         -         2017-09-12         2018-09-11           Conducted Emissions Test Site 2#         Last           Item         Equipment         Manufacturer         Model No.         Serial No.         Calibration Due Date           1.         EMI Test Receiver         R&S         ESCI         101155         2017-09-12         2018-09-11           2.         LISN         SCHWARZBECK         NSLK 8128         8128-289         2017-09-12         2018-09-11           3.         Limiter         York         MTS-IMP-136         261115-001-201-201-09-12         2018-09-11           4.         Cable         LARGE         RF300         -         2017-09-12         2018-09-11           3m Semi-anechoic Chamber for Radiation Emissions Test site 1#         Item         Equipment         Manufacturer         Model No.         Serial No.         Last Calibration Due Date           1         Spectrum Analyzer         R&S         FSP         100091         2018-04-09         2019-04-28           2         Active Loop Antenna         Beiji				Model No.	Serial No.	Calibration Date	
Top   TYPE16(3.5M)   -   2017-09-12   2018-09-11	1.	EMI Test Receiver	R&S	ESCI	100947	2017-09-12	2018-09-11
Item	2.	LISN	R&S	ENV216	101215	2017-09-12	2018-09-11
Item	3.	Cable	Тор	TYPE16(3.5M)	-	2017-09-12	2018-09-11
Tem	Condu	cted Emissions Test \$	Site 2#				
2.         LISN         SCHWARZBECK         NSLK 8128         8128-289         2017-09-12         2018-09-11           3.         Limiter         York         MTS-IMP-136         261115-001-2024         2017-09-12         2018-09-11           4.         Cable         LARGE         RF300         -         2017-09-12         2018-09-11           3m Semi-anechoic Chamber for Radiation Emissions Test site 1#         Last Calibration Date           Item         Equipment         Manufacturer         Model No.         Serial No.         Calibration Date         Calibration Due Date           1         Spectrum Analyzer         R&S         FSP         100091         2018-04-29         2019-04-28           2         Active Loop Antenna         Beijing Dazhi         ZN30900A         -         2018-04-09         2019-04-08           3         Trilog Broadband Antenna         SCHWARZBECK         VULB9163         336         2018-04-09         2019-04-08           4         Coaxial Cable (below 1GHz)         Top         TYPE16(13M)         -         2017-09-12         2018-09-11           5         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9120 D         667         2018-04-09         2019-04-08           7         Broadband	Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration	
3.         Limiter         York         MTS-IMP-136         261115-001-0024         2017-09-12         2018-09-11           4.         Cable         LARGE         RF300         -         2017-09-12         2018-09-11           3m Semi-anechoic Chamber for Radiation Emissions Test site 1#         Last           Item         Equipment         Manufacturer         Model No.         Serial No.         Calibration Date         Calibration Due Date           1         Spectrum Analyzer         R&S         FSP         100091         2018-04-29         2019-04-28           2         Active Loop Antenna         Beijing Dazhi         ZN30900A         -         2018-04-29         2019-04-28           3         Trilog Broadband Antenna         SCHWARZBECK         VULB9163         336         2018-04-09         2019-04-08           4         Coaxial Cable (below 1GHz)         Top         TYPE16(13M)         -         2017-09-12         2018-09-11           5         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9120 D         667         2018-04-09         2019-04-08           6         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9170         335         2018-04-13         2019-04-08           7         Broadband (ab	1.	EMI Test Receiver	R&S	ESCI	101155	2017-09-12	2018-09-11
3.         Limiter         York         MTS-IMP-136 0024         2017-09-12 2018-09-11         2018-09-11           4.         Cable         LARGE         RF300         -         2017-09-12 2018-09-11         2018-09-11           3m Semi-anechoic Chamber for Radiation Emissions Test site 1#         Last Calibration Date           Item         Equipment         Manufacturer         Model No.         Serial No. Date         Calibration Date           1         Spectrum Analyzer         R&S         FSP         100091         2018-04-29         2019-04-28           2         Active Loop Antenna         Beijing Dazhi         ZN30900A         -         2018-04-29         2019-04-08           3         Trilog Broadband Antenna         SCHWARZBECK         VULB9163         336         2018-04-09         2019-04-08           4         (below 1GHz) (below 1GHz)         Top         TYPE16(13M)         -         2017-09-12         2018-09-11           5         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9120 D         667         2018-04-09         2019-04-08           6         Broadband Horn Antenna         SCHWARZBECK         BBHA 9170         335         2018-04-13         2019-04-12           8         Coaxial Cable (above 1GHz)	2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	2017-09-12	2018-09-11
Item	3.	Limiter	York	MTS-IMP-136		2017-09-12	2018-09-11
Item         Equipment         Manufacturer         Model No.         Serial No.         Calibration Date Date Date           1         Spectrum Analyzer         R&S         FSP         100091         2018-04-29         2019-04-28           2         Active Loop Antenna         Beijing Dazhi         ZN30900A         -         2018-04-09         2019-04-08           3         Trilog Broadband Antenna         SCHWARZBECK         VULB9163         336         2018-04-09         2019-04-08           4         Coaxial Cable (below 1GHz)         Top         TYPE16(13M)         -         2017-09-12         2018-09-11           5         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9120 D         667         2018-04-09         2019-04-08           6         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9170         335         2018-04-09         2019-04-08           7         Proadband Preamplifier Preamplifier         COMPLIANCE DIRECTION         PAP-1G18         2004         2018-04-13         2019-04-12           8         Coaxial Cable (above 1GHz)         Top         1GHz-25GHz         EW02014-7         2018-04-13         2019-04-12           3         Test Receiver         R&S         ESCI         101296         2018-04-13	4.	Cable	LARGE	RF300	-	2017-09-12	2018-09-11
Item         Equipment         Manufacturer         Model No.         Serial No.         Calibration Date         Calibration Due Date           1         Spectrum Analyzer         R&S         FSP         100091         2018-04-29         2019-04-28           2         Active Loop Antenna         Beijing Dazhi         ZN30900A         -         2018-04-09         2019-04-08           3         Trilog Broadband Antenna         SCHWARZBECK         VULB9163         336         2018-04-09         2019-04-08           4         Coaxial Cable (below 1GHz)         Top         TYPE16(13M)         -         2017-09-12         2018-09-11           5         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9120 D         667         2018-04-09         2019-04-08           6         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9170         335         2018-04-09         2019-04-08           7         Broadband Preamplifier         COMPLIANCE DIRECTION         PAP-1G18         2004         2018-04-13         2019-04-12           8         Coaxial Cable (above 1GHz)         Top         1GHz-25GHz         EW02014-7         2018-04-13         2019-04-12           3m Semi-anechoic Chamber for Radiation Emissions Test site 2#         Model No.         Serial No </th <th>3m Ser</th> <th>mi-anechoic Chamber</th> <th>for Radiation Emis</th> <th>sions Test site</th> <th>1#</th> <th></th> <th></th>	3m Ser	mi-anechoic Chamber	for Radiation Emis	sions Test site	1#		
2         Active Loop Antenna         Beijing Dazhi         ZN30900A         -         2018-04-09         2019-04-08           3         Trilog Broadband Antenna         SCHWARZBECK         VULB9163         336         2018-04-09         2019-04-08           4         Coaxial Cable (below 1GHz)         Top         TYPE16(13M)         -         2017-09-12         2018-09-11           5         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9120 D         667         2018-04-09         2019-04-08           6         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9170         335         2018-04-09         2019-04-08           7         Broadband Preamplifier         COMPLIANCE DIRECTION         PAP-1G18         2004         2018-04-13         2019-04-12           8         Coaxial Cable (above 1GHz)         Top         1GHz-25GHz         EW02014-7         2018-04-13         2019-04-12           3m Semi-anechoic Chamber for Radiation Emissions Test site 2#         Model No.         Serial No         Last Calibration Due Date           1         Test Receiver         R&S         ESCI         101296         2018-04-13         2019-04-12           2         Trilog Broadband Antenna         SCHWARZBECK         VULB9160         9160-3325         2018-04	Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration	
Trilog Broadband   SCHWARZBECK   VULB9163   336   2018-04-09   2019-04-08	1	Spectrum Analyzer	R&S	FSP	100091	2018-04-29	2019-04-28
Antenna	2	•	Beijing Dazhi	ZN30900A	-	2018-04-09	2019-04-08
4         (below 1GHz)         10p         TYPE16(13M)         -         2017-09-12         2018-09-11           5         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9120 D         667         2018-04-09         2019-04-08           6         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9170         335         2018-04-09         2019-04-08           7         Broadband Preamplifier         COMPLIANCE DIRECTION         PAP-1G18         2004         2018-04-13         2019-04-12           8         Coaxial Cable (above 1GHz)         Top         1GHz-25GHz         EW02014-7         2018-04-13         2019-04-12           3m Semi-anechoic Chamber for Radiation Emissions Test site 2#         Model No.         Serial No         Last Calibration Date           1         Test Receiver         R&S         ESCI         101296         2018-04-13         2019-04-12           2         Trilog Broadband Antenna         SCHWARZBECK         VULB9160         9160-3325         2018-04-09         2019-04-08           3         Amplifier         Compliance pirection systems inc         PAP-0203         22024         2018-04-13         2019-04-12	3	Antenna	SCHWARZBECK	VULB9163	336	2018-04-09	2019-04-08
5         Antenna         SCHWARZBECK         BBHA 9120 D         667         2018-04-09         2019-04-08           6         Broad-band Horn Antenna         SCHWARZBECK         BBHA 9170         335         2018-04-09         2019-04-08           7         Broadband Preamplifier         COMPLIANCE DIRECTION         PAP-1G18         2004         2018-04-13         2019-04-12           8         Coaxial Cable (above 1GHz)         Top         1GHz-25GHz         EW02014-7         2018-04-13         2019-04-12           3m Semi-anechoic Chamber for Radiation Emissions Test site 2#         Model No.         Serial No         Last Calibration Due Date           1         Test Receiver         R&S         ESCI         101296         2018-04-13         2019-04-12           2         Trilog Broadband Antenna         SCHWARZBECK         VULB9160         9160-3325         2018-04-09         2019-04-08           3         Amplifier         Compliance pirection systems inc         PAP-0203         22024         2018-04-13         2019-04-12	4	(below 1GHz)	Тор	TYPE16(13M)	-	2017-09-12	2018-09-11
6         Antenna         SCHWARZBECK         BBHA 9170         335         2018-04-09         2019-04-08           7         Broadband Preamplifier         COMPLIANCE DIRECTION         PAP-1G18         2004         2018-04-13         2019-04-12           8         Coaxial Cable (above 1GHz)         Top         1GHz-25GHz         EW02014-7         2018-04-13         2019-04-12           3m Semi-anechoic Chamber for Radiation Emissions Test site 2#         Model No.         Serial No         Last Calibration Date         Calibration Due Date           1         Test Receiver         R&S         ESCI         101296         2018-04-13         2019-04-12           2         Trilog Broadband Antenna         SCHWARZBECK         VULB9160         9160-3325         2018-04-09         2019-04-08           3         Amplifier         Compliance pirection systems inc         PAP-0203         22024         2018-04-13         2019-04-12	5	Antenna	SCHWARZBECK	BBHA 9120 D	667	2018-04-09	2019-04-08
Preamplifier         DIRECTION         PAP-1G18         2004         2018-04-13         2019-04-12           8         Coaxial Cable (above 1GHz)         Top         1GHz-25GHz         EW02014-7         2018-04-13         2019-04-12           3m Semi-anechoic Chamber for Radiation Emissions Test site 2#           Item         Equipment         Manufacturer         Model No.         Serial No         Last Calibration Due Date           1         Test Receiver         R&S         ESCI         101296         2018-04-13         2019-04-12           2         Trilog Broadband Antenna         SCHWARZBECK         VULB9160         9160-3325         2018-04-09         2019-04-08           3         Amplifier         Compliance pirection systems inc         PAP-0203         22024         2018-04-13         2019-04-12	6	Antenna		BBHA 9170	335	2018-04-09	2019-04-08
Semi-anechoic Chamber for Radiation Emissions Test site 2#   Item	7	Preamplifier	00	PAP-1G18	2004	2018-04-13	2019-04-12
ItemEquipmentManufacturerModel No.Serial NoLast Calibration DateCalibration Due Date1Test ReceiverR&SESCI1012962018-04-132019-04-122Trilog Broadband AntennaSCHWARZBECKVULB91609160-33252018-04-092019-04-083AmplifierCompliance pirection systems incPAP-0203220242018-04-132019-04-12	8		Тор	1GHz-25GHz	EW02014-7	2018-04-13	2019-04-12
Item         Equipment         Manufacturer         Model No.         Serial No Date         Calibration Due Date           1         Test Receiver         R&S         ESCI         101296         2018-04-13         2019-04-12           2         Trilog Broadband Antenna         SCHWARZBECK         VULB9160         9160-3325         2018-04-09         2019-04-08           3         Amplifier         Compliance pirection systems inc         PAP-0203         22024         2018-04-13         2019-04-12	3m Ser	mi-anechoic Chamber	for Radiation Emis	sions Test site	2#		
2         Trilog Broadband Antenna         SCHWARZBECK         VULB9160         9160-3325         2018-04-09         2019-04-08           3         Amplifier         Compliance pirection systems inc         PAP-0203         22024         2018-04-13         2019-04-12	Item	Equipment	Manufacturer	Model No.	Serial No	Calibration	
Compliance   PAP-0203   22024   2018-04-09   2019-04-08	1		R&S	ESCI	101296	2018-04-13	2019-04-12
3 Amplifier pirection PAP-0203 22024 2018-04-13 2019-04-12 systems inc	2	_		VULB9160	9160-3325	2018-04-09	2019-04-08
4 Cable HUBER+SUHNER CBL2 525178 2018-04-13 2019-04-12	3	Amplifier	pirection	PAP-0203	22024	2018-04-13	2019-04-12
Waltek Services (Shenzhen) Co. Ltd.	u			CBL2	525178	2018-04-13	2019-04-12

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RF Co	RF Conducted Testing					
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMC Analyzer (9k~26.5GHz)	Agilent	E7405A	MY45114943	2017-09-12	2018-09-11
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	2017-09-12	2018-09-11
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	2017-09-12	2018-09-11

## 7.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
1	/	1	/

## 7.3 Measurement Uncertainty

Parameter	Uncertainty	
Conducted Emission	± 3.64 dB(AC mains 150KHz~30MHz)	
Radiated Spurious Emissions	± 5.08 dB (Bilog antenna 30M~1000MHz)	
Radiated Spurious Emissions	± 4.99 dB (Horn antenna 1000M~25000MHz)	
Radio Frequency	± 1 x 10 <sup>-7</sup> Hz	
RF Power	± 0.42 dB	
Dwell time	1.0%	
Conducted Spurious Emissions	± 2.76 dB (9kHz~26500MHz)	
Confidence interval: 95%. Confidence factor:k=2		

## 7.4 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

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## 8 Conducted Emission

Test Requirement: FCC CFR 47 Part 15 Section 15.207

Test Method: ANSI C63.10:2013

Test Result: PASS

Frequency Range: 150kHz to 30MHz

Class/Severity: Class B

Limit: Frequency (MHz)  $\frac{\text{Limit (dB}\mu\text{V)}}{\text{Quasi-peak}}$  Average

, , , , , , , , , , , , , , , , , , , ,	Quasi-peak	Average
0.15 to 0.5	66 to 56*	5 to 46*
0.5 to 5	56	46
5 to 30	60	50

## 8.1 E.U.T. Operation

Operating Environment:

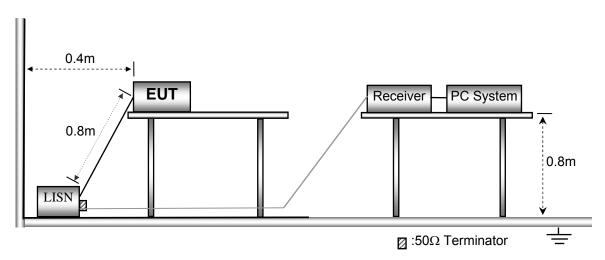
Temperature: 22.8 °C
Humidity: 52.6 % RH
Atmospheric Pressure: 101.2kPa

**EUT Operation:** 

The test was performed in TX Transmitting mode, the test data were shown in the report.

## 8.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10: 2013.



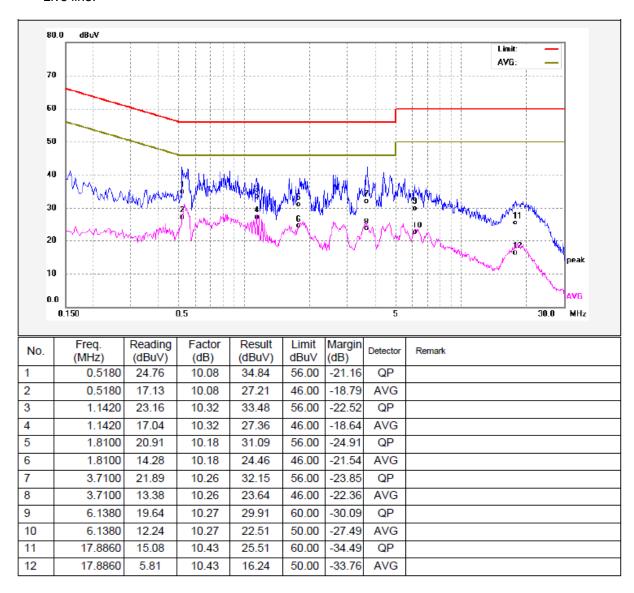
## 8.3 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

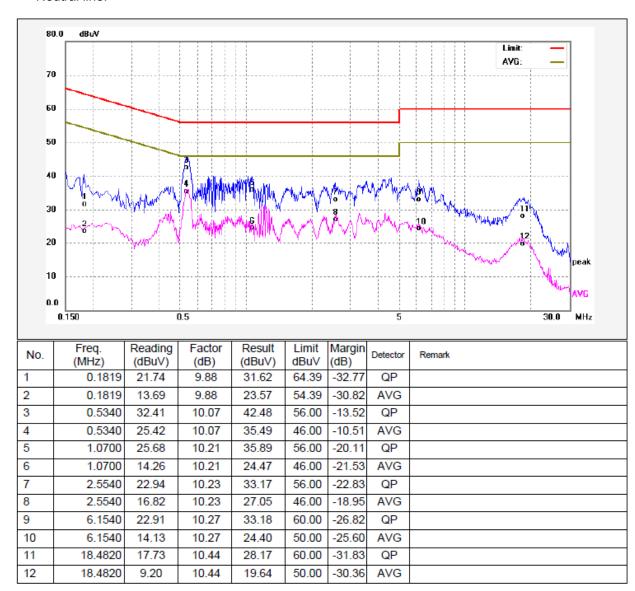
#### 8.4 Conducted Emission Test Result

Remark: only the worst data (GFSK modulation Low channel mode) were reported

Live line:



#### Neutral line:



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# 9 Radiated Spurious Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.205 &15.209 & 15.247

Test Method: ANSI C63.10: 2013

Test Result: PASS
Measurement Distance: 3m

Limit:

LIIIIIL.						
_	Field Stre	ngth	Field Strength Limit at 3m Measurement Dist			
Frequency (MHz)	uV/m	Distance (m)	uV/m	dBuV/m		
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	20log <sup>(2400/F(kHz))</sup> + 80		
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	20log <sup>(24000/F(kHz))</sup> + 40		
1.705 ~ 30	30	30	100 * 30	20log <sup>(30)</sup> + 40		
30 ~ 88	100	3	100	20log <sup>(100)</sup>		
88 ~ 216	150	3	150	20log <sup>(150)</sup>		
216 ~ 960	200	3	200	20log <sup>(200)</sup>		
Above 960	500	3	500	20log <sup>(500)</sup>		

## 9.1 EUT Operation

Operating Environment:

Temperature: 23.5 °C
Humidity: 51.1 % RH
Atmospheric Pressure: 101.2kPa

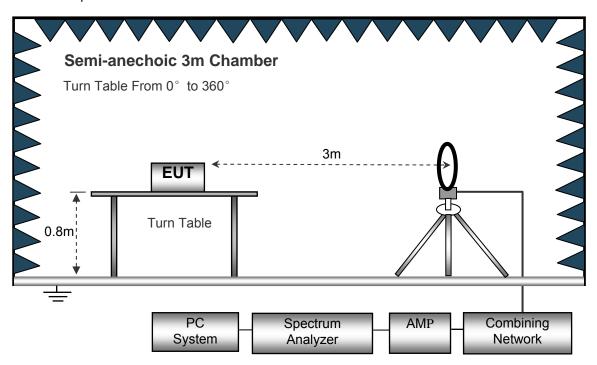
**EUT Operation:** 

The test was performed in TX Transmitting mode, the test data were shown in the report.

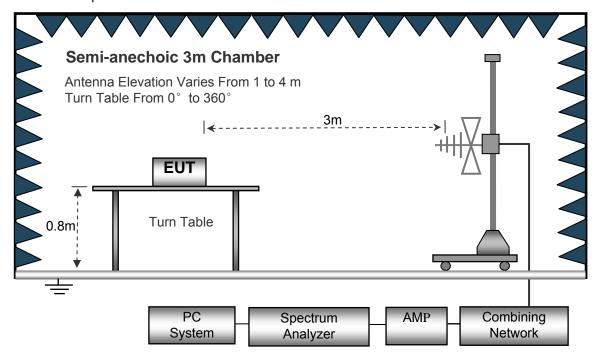
## 9.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10: 2013.

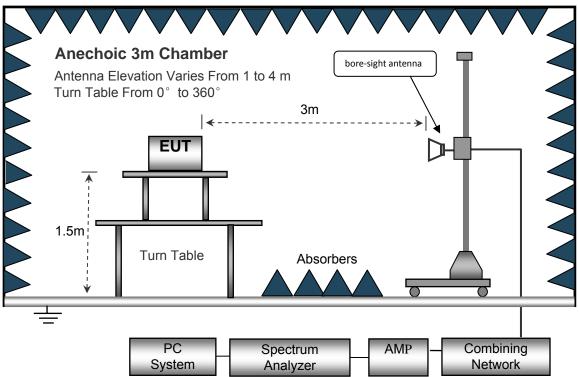
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



## 9.3 Spectrum Analyzer Setup

Below 30MHz		
	Sweep Speed	. Auto
	IF Bandwidth	.10kHz
	Video Bandwidth	.10kHz
	Resolution Bandwidth	.10kHz
30MHz ~ 1GHz	z	
	Sweep Speed	. Auto
	Detector	.PK
	Resolution Bandwidth	.100kHz
	Video Bandwidth	.300kHz
Above 1GHz		
	Sweep Speed	. Auto
	Detector	.PK
	Resolution Bandwidth	.1MHz
	Video Bandwidth	.3MHz
	Detector	.Ave.
	Resolution Bandwidth	.1MHz
	Video Bandwidth	.10Hz

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## 9.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.

- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until the measurements for all frequencies are complete.
- 7. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the Z position. So the data shown was the Z position only.

## 9.5 Corrected Amplitude & Margin Calculation

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

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

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

Margin = Corr. Ampl. - Limit

## 9.6 Summary of Test Results

Test Frequency: 9KHz~30MHz

Remark: only the worst data (GFSK modulation Low channel mode) were reported

Frequency	Measurement results dBµV @3m	Detector PK/QP	Correct factor dB/m	Extrapolatio n factor dB	Measurement results (calculated) dBµV/m @30m	Limits dBµV/m @30m	Margi n dB
(MHz)	Measurement results	Detector	Correct factor	Extrapolatio n factor	Measurement results (calculated)	Limits	Margi n
6.022	25.30	QP	21.84	40.00	7.14	29.54	-22.40
15.730	25.16	QP	21.35	40.00	6.51	29.54	-23.03
25.680	25.39	QP	20.67	40.00	6.06	29.54	-23.48

Test Frequency: 30MHz ~ 18GHz

Remark: only the worst data (GFSK modulation mode) were reported.

Frequency Receiver Reading	Receiver		Turn	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
	Detector	table Angle	Height	Polar					
(MHz)	(dBµV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
			GI	SK Low	Channel				
268.32	37.65	QP	298	1.0	Н	-13.35	24.30	46.00	-21.70
268.32	41.42	QP	309	1.9	V	-13.35	28.07	46.00	-17.93
4804.00	46.98	PK	185	1.2	V	-1.06	45.92	74.00	-28.08
4804.00	43.50	Ave	185	1.2	V	-1.06	42.44	54.00	-11.56
7206.00	40.19	PK	57	1.6	Н	1.33	41.52	74.00	-32.48
7206.00	35.88	Ave	57	1.6	Н	1.33	37.21	54.00	-16.79
2337.35	45.04	PK	189	1.8	V	-13.19	31.85	74.00	-42.15
2337.35	38.12	Ave	189	1.8	V	-13.19	24.93	54.00	-29.07
2370.91	43.80	PK	202	1.3	Н	-13.14	30.66	74.00	-43.34
2370.91	36.76	Ave	202	1.3	Н	-13.14	23.62	54.00	-30.38
2484.54	44.34	PK	341	1.1	V	-13.08	31.26	74.00	-42.74
2484.54	38.99	Ave	341	1.1	V	-13.08	25.91	54.00	-28.09

Receiver	rer	Turn	RX Antenna		Corrected	Corrected			
Frequency		table Angle	Height	Polar	Factor	Amplitude	Limit	Margin	
(MHz)	(dBµV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
			GF	SK Middle	: Channe	el			
268.32	38.86	QP	288	2.0	Н	-13.35	25.51	46.00	-20.49
268.32	40.23	QP	13	1.8	V	-13.35	26.88	46.00	-19.12
4882.00	46.84	PK	191	1.9	V	-0.62	46.22	74.00	-27.78
4882.00	43.45	Ave	191	1.9	V	-0.62	42.83	54.00	-11.17
7323.00	39.75	PK	267	1.1	Н	2.21	41.96	74.00	-32.04
7323.00	36.86	Ave	267	1.1	Н	2.21	39.07	54.00	-14.93
2316.69	46.44	PK	194	1.4	V	-13.19	33.25	74.00	-40.75
2316.69	37.97	Ave	194	1.4	V	-13.19	24.78	54.00	-29.22
2361.95	42.90	PK	111	1.6	Н	-13.14	29.76	74.00	-44.24
2361.95	37.97	Ave	111	1.6	Н	-13.14	24.83	54.00	-29.17
2486.64	42.49	PK	161	1.1	V	-13.08	29.41	74.00	-44.59
2486.64	36.86	Ave	161	1.1	V	-13.08	23.78	54.00	-30.22

Receive	Receiver	Receiver	Turn	ırn RX Antenna		Corrected	Corrected		
Frequency		Detector	table Angle	Height	Polar	Factor	Amplitude	Limit	Margin
(MHz)	(dBµV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
			GF	SK High	Channel	<u> </u>			
268.32	38.42	QP	316	1.5	Н	-13.35	25.07	46.00	-20.93
268.32	41.32	QP	265	1.1	V	-13.35	27.97	46.00	-18.03
4960.00	46.74	PK	283	1.2	V	-0.24	46.50	74.00	-27.50
4960.00	44.27	Ave	283	1.2	V	-0.24	44.03	54.00	-9.97
7440.00	39.70	PK	149	1.6	Н	2.84	42.54	74.00	-31.46
7440.00	36.02	Ave	149	1.6	Н	2.84	38.86	54.00	-15.14
2331.03	46.36	PK	317	1.8	V	-13.19	33.17	74.00	-40.83
2331.03	39.20	Ave	317	1.8	V	-13.19	26.01	54.00	-27.99
2375.87	43.08	PK	264	1.9	Н	-13.14	29.94	74.00	-44.06
2375.87	38.54	Ave	264	1.9	Н	-13.14	25.40	54.00	-28.60
2496.13	43.10	PK	226	1.8	V	-13.08	30.02	74.00	-43.98
2496.13	38.77	Ave	226	1.8	V	-13.08	25.69	54.00	-28.31

Test Frequency: 18GHz~25GHz

The measurements were more than 20 dB below the limit and not recorded

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## 10 Conducted Spurious Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: ANSI C63.10: 2013

Test Result: PASS

Limit:

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

#### 10.1 Test Procedure

- 1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
- 2. Set the spectrum analyzer:

Blow 30MHz:

RBW = 100kHz, VBW = 300kHz, Sweep = auto

Detector function = peak, Trace = max hold

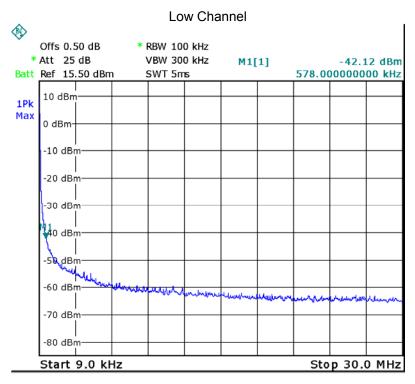
Above 30MHz:

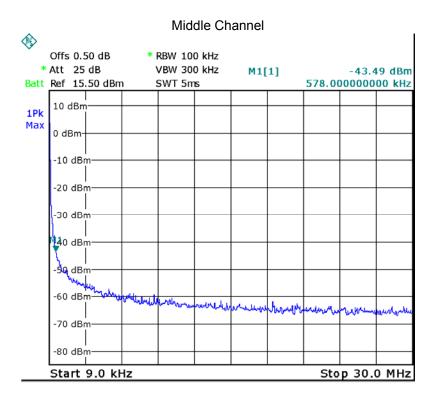
RBW = 100kHz, VBW = 300kHz, Sweep = auto

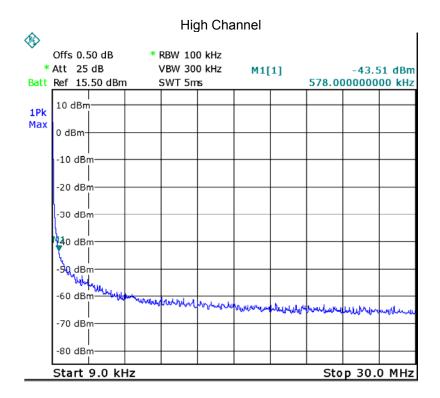
Detector function = peak, Trace = max hold

## 10.2 Test Result

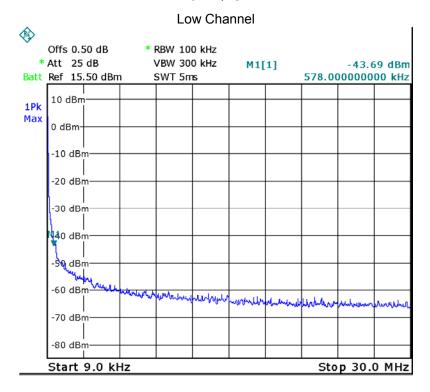
9KHz - 30MHz GFSK

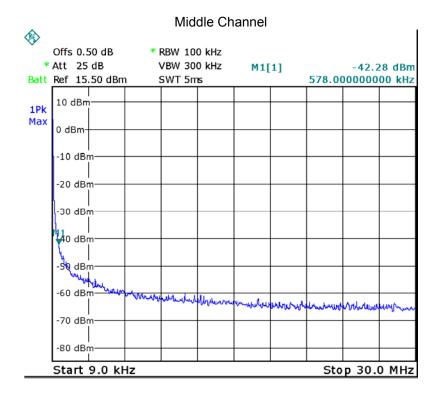


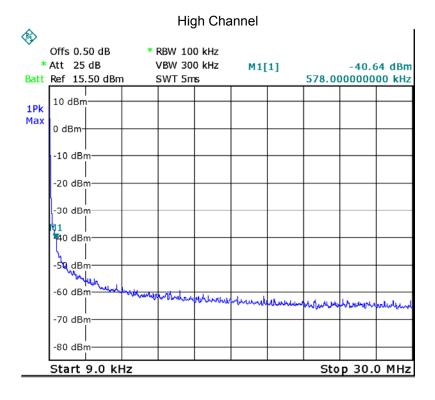




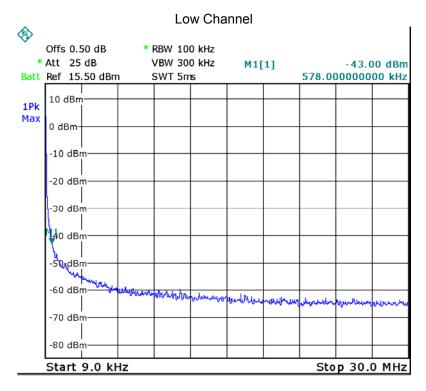
## Pi/4DQPSK

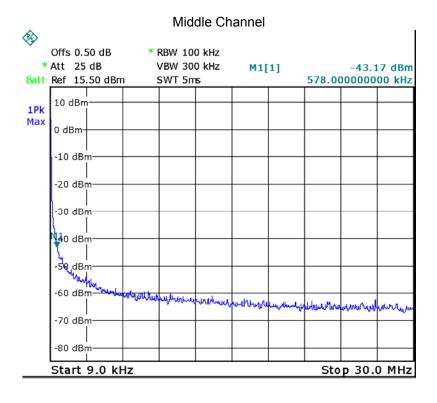


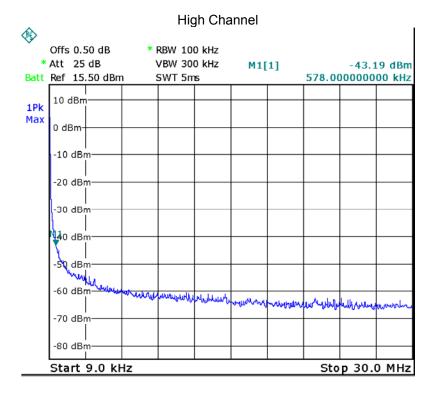




#### 8DPSK







30MHz - 25GHz

## **GFSK Low Channel**



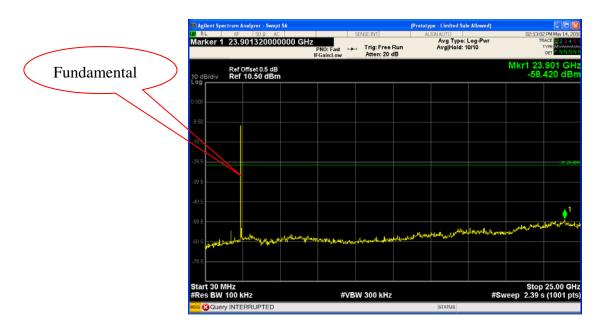
## **GFSK Middle Channel**



## **GFSK High Channel**



## Pi/4 DQPSK Low Channel



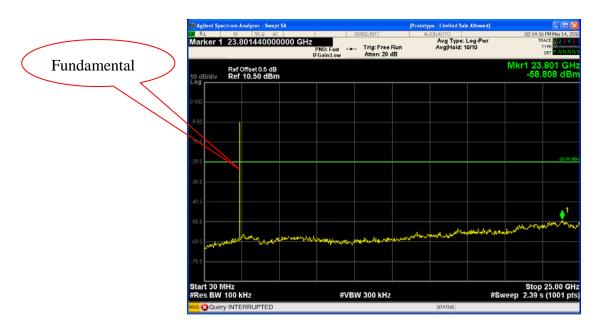
## Pi/4 DQPSK Middle Channel



## Pi/4 DQPSK High Channel



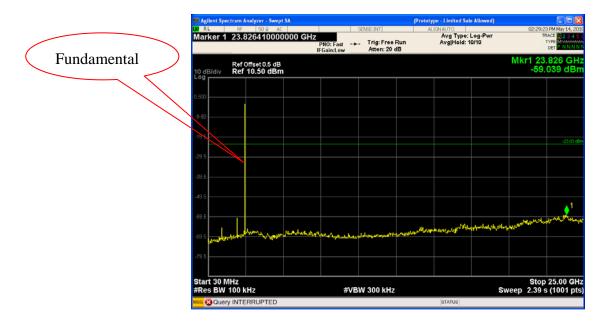
## 8DPSK Low Channel



## 8DPSK Middle Channel



## 8DPSK High Channel



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## 11 Band Edge Measurement

Test Requirement: Section 15.247(d) In addition, radiated emissions which fall in the

restricted bands. as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see

Section 15.205(c)).

Test Method: ANSI C63.10: 2013

Test Limit: Regulation 15.247 (d),In any 100 kHz bandwidth outside the

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

opeo...ea ... 3 .e.=ee(a) (e

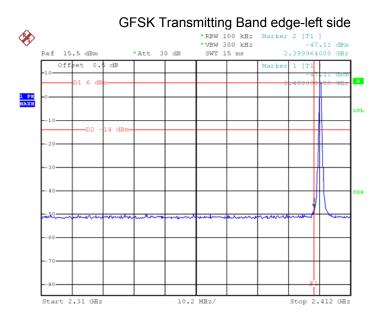
Test Mode: Transmitting

## 11.1 Test Procedure

 Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;

2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz, Sweep = auto Detector function = peak, Trace = max hold

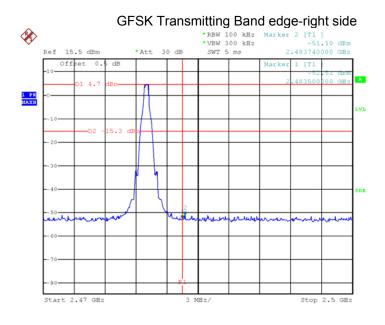
## 11.2 Test Result



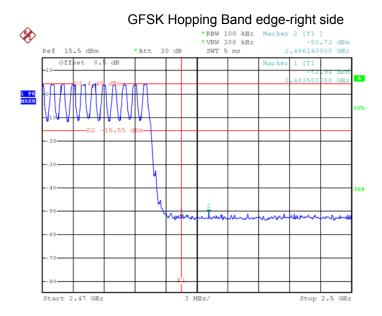
Date: 9.JUL.2018 01:06:00

# ### Company Co

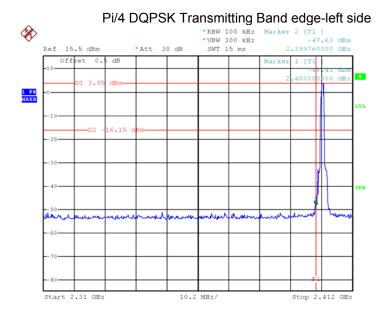
Date: 9.JUL.2018 01:10:11



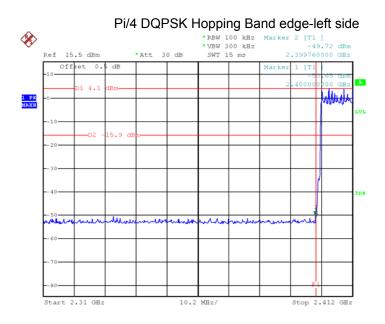
Date: 9.JUL.2018 01:15:05



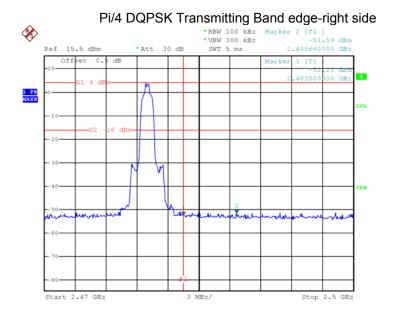
Date: 9.JUL.2018 01:13:02



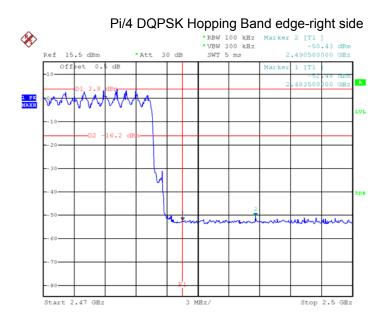
Date: 9.JUL.2018 01:21:39



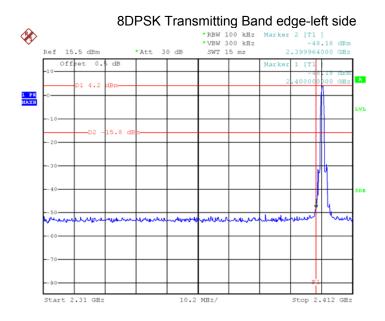
Date: 9.JUL.2018 01:20:47



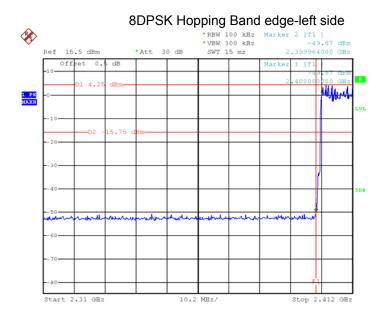
Date: 9.JUL.2018 01:16:18



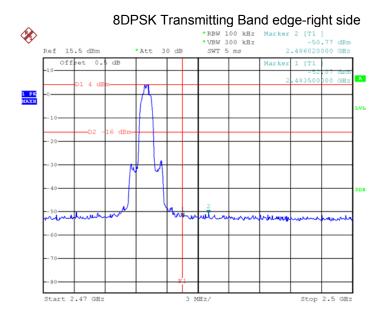
Date: 9.JUL.2018 01:18:50



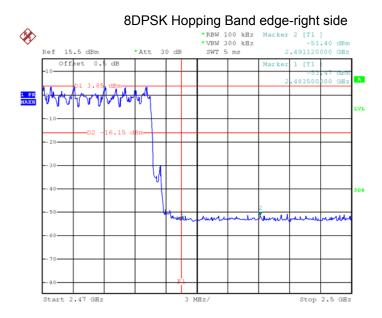
Date: 9.JUL.2018 01:58:51



Date: 9.JUL.2018 01:57:44



Date: 9.JUL.2018 01:52:22



Date: 9.JUL.2018 01:54:36

Reference No.: WTS18S04109316-2W Page 41 of 69

## 12 20 dB Bandwidth Measurement

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: ANSI C63.10: 2013

Test Mode: Test in fixing operating frequency at low, Middle, high channel.

## 12.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;

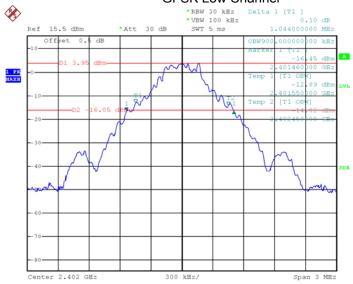
2. Set the spectrum analyzer: RBW = 30kHz, VBW = 100kHz

## 12.2 Test Result

Modulation	Test Channel	Bandwidth(MHz)	
GFSK	Low	1.044	
GFSK	Middle	1.026	
GFSK	High	1.026	
Pi/4 DQPSK	Low	1.302	
Pi/4 DQPSK	Middle	1.302	
Pi/4 DQPSK	High	1.302	
8DPSK	Low	1.308	
8DPSK	Middle	1.302	
8DPSK	High	1.296	

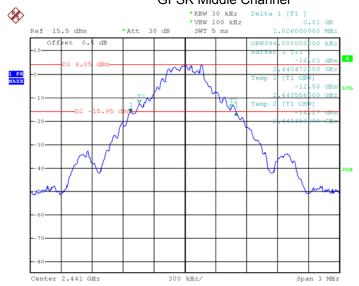
## **Test plots**

## **GFSK Low Channel**

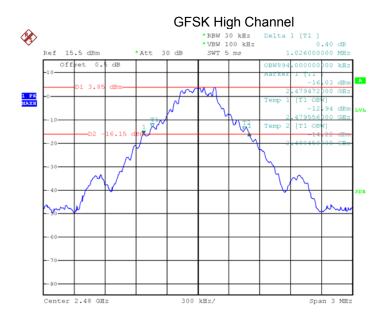


Date: 8.JUL.2018 22:42:19

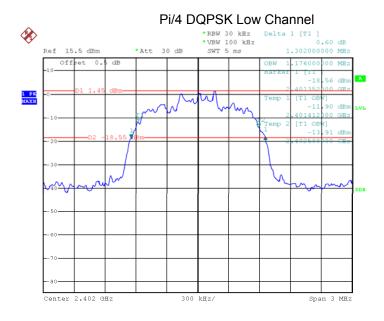
## GFSK Middle Channel



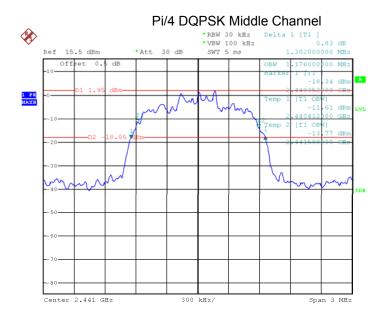
Date: 8.JUL.2018 22:40:43



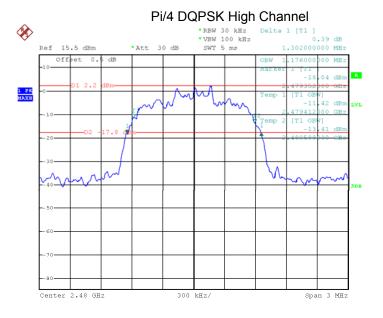
Date: 8.JUL.2018 22:39:21



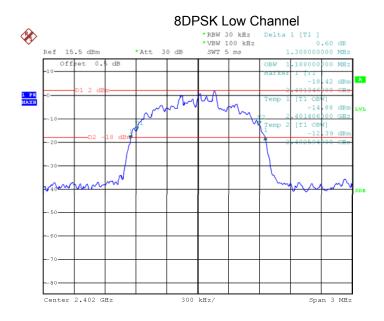
Date: 9.JUL.2018 01:32:30



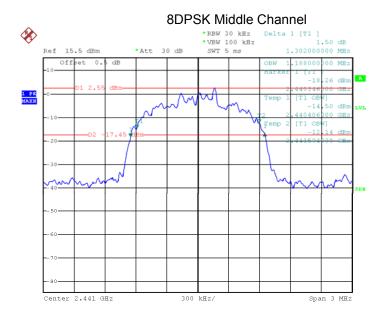
Date: 9.JUL.2018 01:30:48



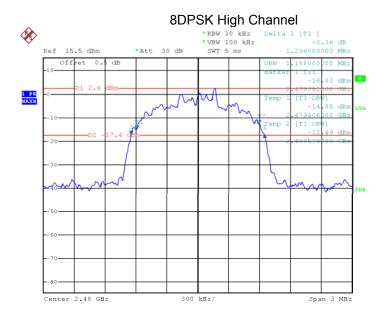
Date: 9.JUL.2018 01:28:12



Date: 9.JUL.2018 02:10:29



Date: 9.JUL.2018 02:09:13



Date: 9.JUL.2018 02:07:30

Reference No.: WTS18S04109316-2W Page 47 of 69

# 13 Maximum Peak Output Power

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: ANSI C63.10: 2013

Test Limit: Regulation 15.247 (a)(1), For frequency hopping systems

operating in the 2400-2483.5 MHz band by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel,

whichever is greater: 0.125 watts..

Test mode: Test in fixing frequency transmitting mode.

### 13.1 Test Procedure

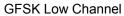
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

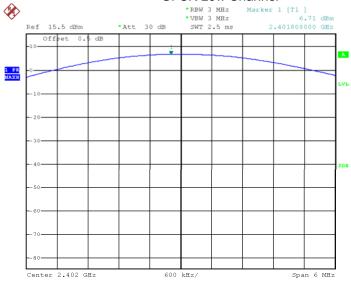
- 2. Set the spectrum analyzer: RBW = 3MHz. VBW = 3MHz. Sweep = auto; Detector Function = Peak.
- 3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.///

#### 13.2 Test Result

Modulation	Test Channel	Output Power (dBm)	Limit (dBm)
GFSK	Low	6.71	21
GFSK	Middle	6.77	21
GFSK	High	6.55	21
Pi/4 DQPSK	Low	5.41	21
Pi/4 DQPSK	Middle	5.48	21
Pi/4 DQPSK	High	4.96	21
8DPSK	Low	6.22	21
8DPSK	Middle	5.52	21
8DPSK	High	5.36	21

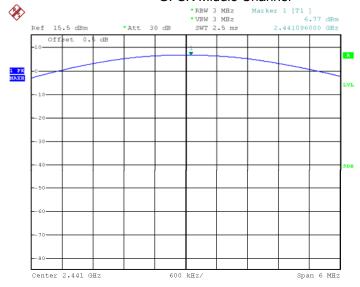
## **Test plots**



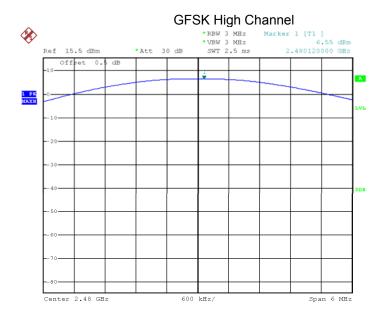


Date: 8.JUL.2018 22:34:24

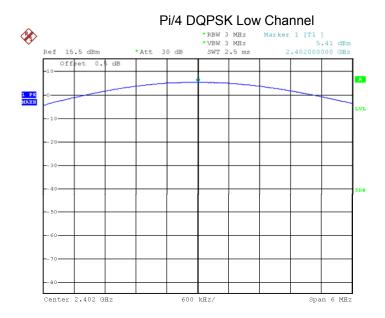
## **GFSK Middle Channel**



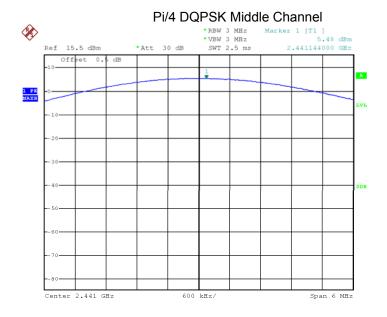
Date: 8.JUL.2018 22:35:18



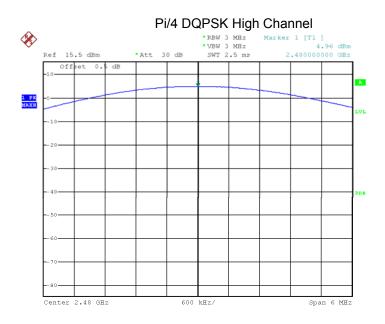
Date: 8.JUL.2018 22:35:42



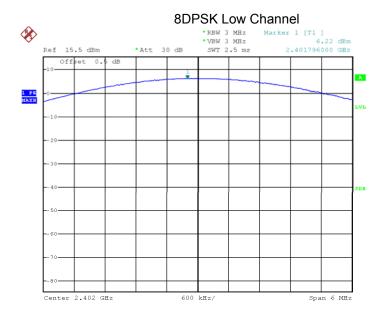
Date: 9.JUL.2018 01:23:37



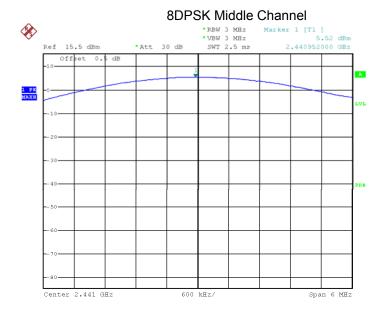
Date: 9.JUL.2018 01:24:06



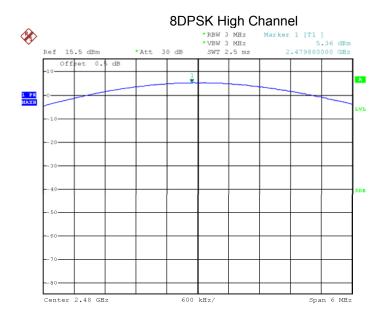
Date: 9.JUL.2018 01:24:31



Date: 9.JUL.2018 02:00:03



Date: 9.JUL.2018 02:04:06



Date: 9.JUL.2018 02:04:32

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# 14 Hopping Channel Separation

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: ANSI C63.10: 2013

Test Limit: Regulation 15.247(a)(1) Frequency hopping systems shall have

hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the

systems operate with an output power no greater than 0.125W.

Test Mode: Test in hopping transmitting operating mode.

## 14.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

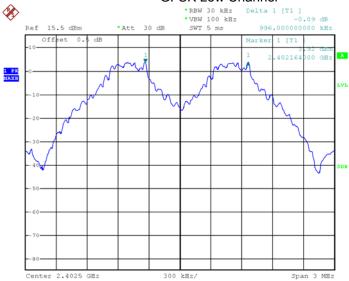
- Set the spectrum analyzer: RBW = 30kHz. VBW = 100kHz , Span = 3.0MHz. Sweep = auto;
   Detector Function = Peak. Trace = Max hold.
- 3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

#### 14.2 Test Result

Modulation	Test Channel	Separation (MHz)	Limit(MHz)	Result
GFSK	Low	0.996	0.696	PASS
GFSK	Middle	1.002	0.684	PASS
GFSK	High	1.002	0.684	PASS
Pi/4 DQPSK	Low	1.002	0.868	PASS
Pi/4 DQPSK	Middle	1.002	0.868	PASS
Pi/4 DQPSK	High	1.002	0.868	PASS
8DPSK	Low	0.996	0.872	PASS
8DPSK	Middle	1.002	0.868	PASS
8DPSK	High	1.002	0.864	PASS

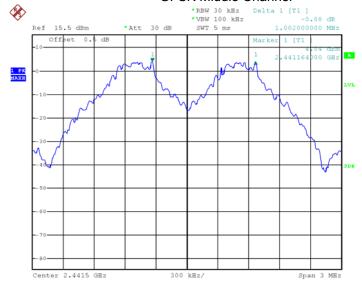
## **Test plots**

## **GFSK Low Channel**

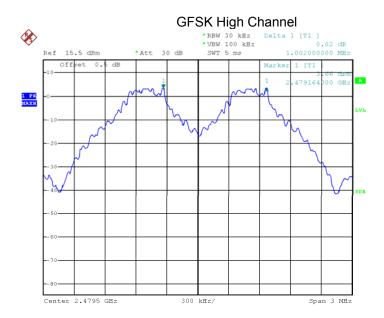


Date: 8.JUL.2018 22:45:11

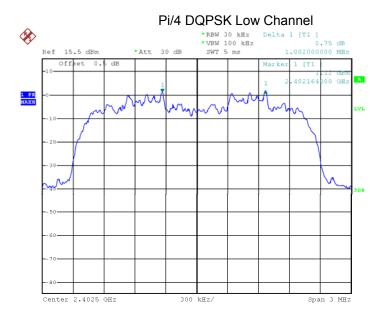
## **GFSK Middle Channel**



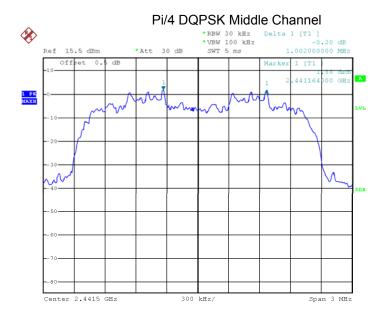
Date: 8.JUL.2018 22:47:49



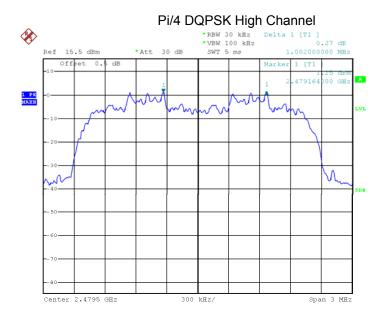
Date: 8.JUL.2018 22:51:01



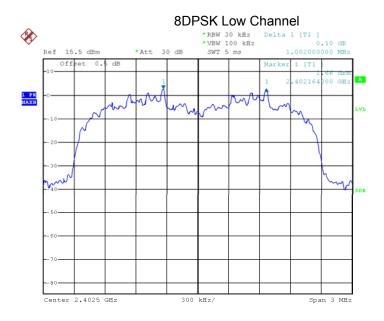
Date: 9.JUL.2018 01:34:38



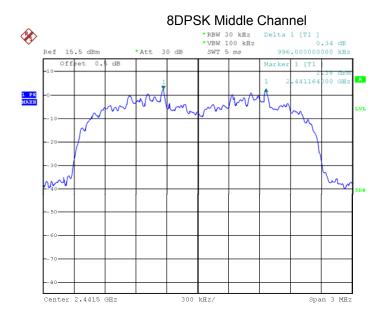
Date: 9.JUL.2018 01:37:57



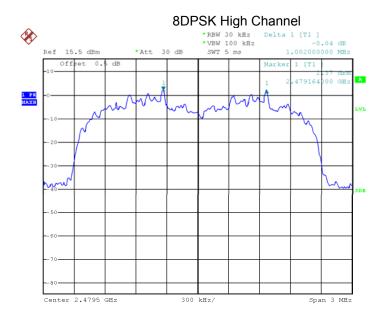
Date: 9.JUL.2018 01:41:35



Date: 9.JUL.2018 02:12:16



Date: 9.JUL.2018 02:13:29



Date: 9.JUL.2018 02:15:08

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## 15 Number of Hopping Frequency

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: ANSI C63.10: 2013

Test Limit: Regulation 15.247 (a)(1)(iii) Frequency hopping systems in the

2400-2483.5 MHz band shall use at least 15 channels.

Test Mode: Test in hopping transmitting operating mode.

#### 15.1 Test Procedure

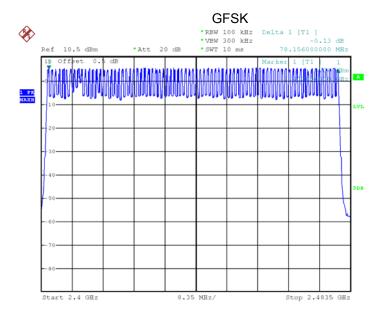
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

- 2. Set the spectrum analyzer: RBW = 100kHz. VBW = 300kHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.
- 3. Allow the trace to stabilize. It may prove necessary to break the span up to sections. in order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this Section.
- 4. Set the spectrum analyzer: Start Frequency = 2.4GHz, Stop Frequency = 2.4835GHz. Sweep=auto;

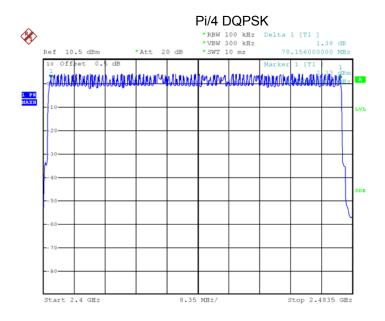
#### 15.2 Test Result

#### **Test Plots:**

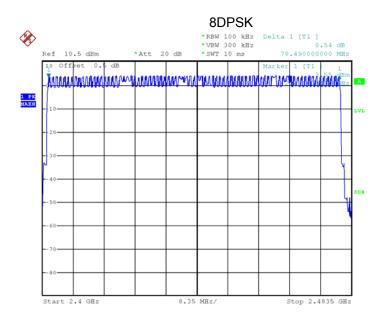
#### 79 Channels in total



Date: 10.JUL.2018 21:34:27



Date: 10.JUL.2018 21:31:08



Date: 10.JUL.2018 21:16:05

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## 16 Dwell Time

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: ANSI C63.10: 2013

Test Limit: Regulation 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. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are

used.

Test Mode: Test in hopping transmitting operating mode.

#### 16.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

- 2. Set spectrum analyzer span = 0. Centred on a hopping channel;
- 3. Set RBW = 1MHz and VBW = 3MHz.Sweep = as necessary to capture the entire dwell time per hopping channel. Set the EUT for DH5, DH3 and DH1 packet transmitting.
- 4. Use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

## 16.2 Test Result

DH5 Packet permit maximum 1600 / 79 / 6 hops per second in each channel (5 time slots RX, 1 time slot TX).

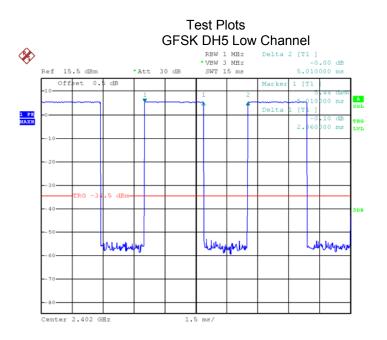
DH3 Packet permit maximum 1600 / 79 / 4 hops per second in each channel (3 time slots RX, 1 time slot TX).

DH1 Packet permit maximum 1600 / 79 /2 hops per second in each channel (1 time slot RX, 1 time slot TX). So, the Dwell Time can be calculated as follows:

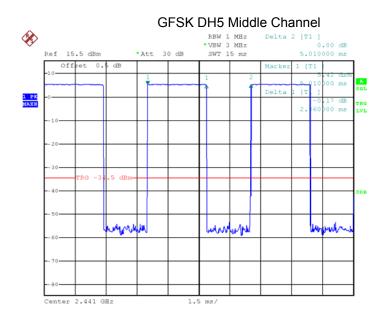
Data Packet	Dwell Time(s)		
DH5	1600/79/6*0.4*79*(MkrDelta)/1000		
DH3	1600/79/4*0.4*79*(MkrDelta)/1000		
DH1 1600/79/2*0.4*79*(MkrDelta)/1000			
Remark: Mkr Delta is once pulse time.			

Modulation	Data Packet	Channel	pulse time(ms)	Dwell Time(s)	Limits(s)
GFSK	DH5	Low	2.860	0.305	0.4
		middle	2.860	0.305	0.4
		High	2.860	0.305	0.4
Pi/4DQPSK	DH5	Low	2.860	0.305	0.4
		middle	2.860	0.305	0.4
		High	2.860	0.305	0.4
8DPSK	DH5	Low	2.860	0.305	0.4
		middle	2.860	0.305	0.4
		High	2.860	0.305	0.4

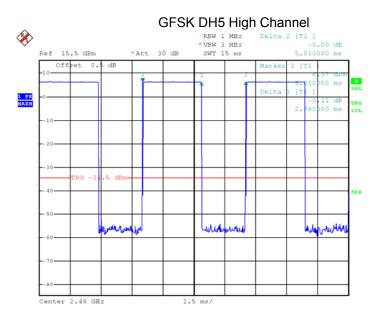
Remark: Only the worst-case mode DH5 is recorded.



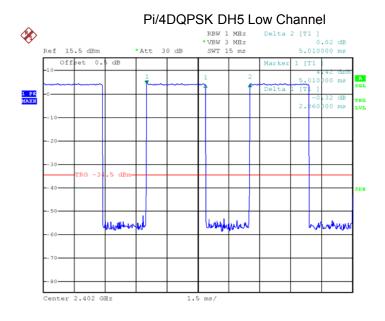
Date: 8.JUL.2018 23:06:29



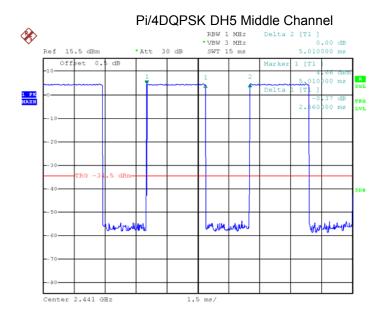
Date: 8.JUL.2018 23:06:01



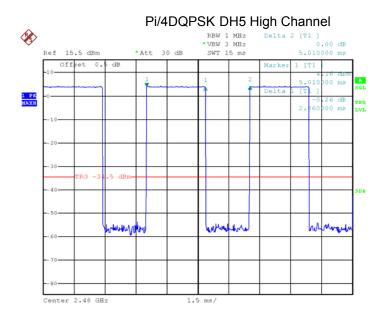
Date: 8.JUL.2018 22:55:39



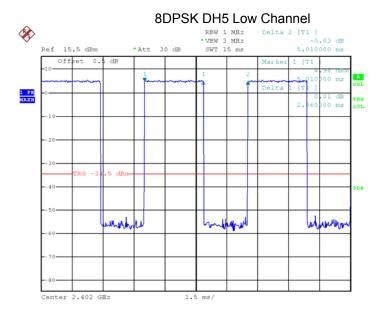
Date: 9.JUL.2018 01:48:30



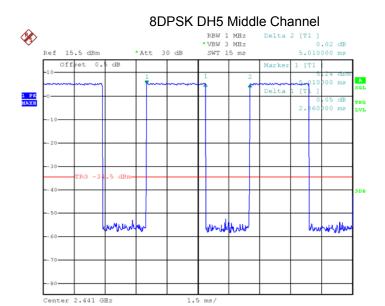
Date: 9.JUL.2018 01:48:05



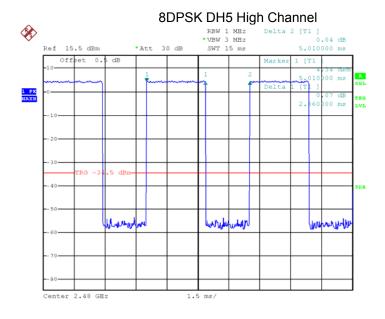
Date: 9.JUL.2018 01:47:42



Date: 9.JUL.2018 01:49:15



Date: 9.JUL.2018 01:49:48



Date: 9.JUL.2018 01:50:25

# 17 Antenna Requirement

According to the FCC Part 15 Paragraph 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. This product has an integrated antenna, fulfil the requirement of this section.

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# 18 RF Exposure

Remark: refer to SAR test report: WTS18S04109316-1W.

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# 19 Photographs of test setup and EUT.

Note: Please refer to appendix: WTS18S04109316W\_Photo.

====End of Report=====