ETSI EN 300328 V1.7.1: 2006 MEASUREMENT AND TEST REPORT

For

SHENZHEN FENDA TECHNOLOGY CO., LTD.

Fenda Hi-Tech Park, Zhoushi Road, Shiyan Town, Baoan District, Shenzhen City, Guangdong, China

E.U.T.: 2.1 Multimedia Speaker

Model Name: A180X, A180BT, A180U, A180F, A190X, A190BT, A190U, A190F

Brand Name: F&D

Report Number: NTC1406689E-1

Test Date(s): June 06, 2014 to June 28, 2014

Report Date(s): November 27, 2015

Prepared by

Dongguan Nore Testing Center Co., Ltd.

Building D, Gaosheng Science & Technology Park, Zhouxi Longxi Road, Nancheng District, Dongguan City, Guangdong Province, China

Tel: +86-769-22022444 **Fax: +86-769-22022799**

Prepared By

Rose Hu / Engineer

Approved & Authorized Signer

Iori Fan / Authorized Signatory

Note: This test report is for the customer shown above and their specific product only. It may not be duplicated or used in part without prior written consent from Dongguan Nore Testing Center Co., Ltd. The test results referenced from this report are relevant only to the sample tested.

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Revision History of This Test Report

Report Number	Description	Issued Date
NTC1406689E	Initial Issue	2014-06-30
NTC1406689E-1	changed the appearance, product name and model name	2015-11-27

1. GENERAL INFORMATION

PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST

This device is a 2.1 Multimedia Speaker with AUX IN, SD Card Play and BT functions, which is powered by AC Mains. For more details features, please refer to User's Manual.

Manufacturer	:	SHENZHEN FENDA TECHNOLOGY CO., LTD.
Address	:	Fenda Hi-Tech Park, Zhoushi Road, Shiyan Town, Baoan District, Shenzhen City, Guangdong, China
Frequency:	:	2402-2480MHz
Modulation	:	GFSK, π/4-DQPSK, 8DPSK
Bluetooth Version	:	2.1+EDR
Number of Channel	:	79
Channel space	:	1MHz
Max RF Output Power	:	2.60dBm (1.82 mW) (E.I.R.P.)
Antenna Type	:	PCB
Antenna Gain	:	0 dBi (declaration by manufacturer)
Extreme Temperature	:	0°C to +35°C (For indoor use)
Power Supply	:	AC 220~240V 50/60Hz
Model name	:	A180X, A180BT, A180U, A180F, A190X, A190BT, A190U, A190F
Note:	:	All models have the same circuit schematic, construction and critical components except different model number and the color of enclosure design due to marketing purposes.
Remark	:	1. This report was an additional report based on original report NTC1406689E. 2. Both of reports are the same and this report has changed the appearance, product name and model name. 3. Model A180X and model W130X are the same except the appearance, product name and model name. 4. According to these changes, the original test data for model W130X were continued to be used.

SUMMARY OF TEST RESULTS		
Section (ETSI EN 300328)	**Description of Test**	**TEST RESULT**
4.3.1	Maximum transmit power	Compliant
4.3.2	Maximum e.i.r.p. spectral density	N/A
4.3.3	Frequency range	Compliant
4.3.4	Frequency hopping requirements	Compliant
4.3.5	Medium access protocol	N/A
4.3.6	Transmitter spurious emissions	Compliant
4.3.7	Receiver spurious emissions	Compliant

2. DESCRIPTION OF TEST MODES

The EUT has been tested under Normal Operating condition. Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

3. TEST POWER SOURCES

The EUT is powered by AC Mains, the test power source voltages were:

Nominal test voltage AC 230V
Lower extreme test voltage AC 207
Upper extreme test voltage AC 253

4. TEST FREQUENCIES

The sample supplied operated on 79 channels, nominally at 2402 - 2480 GHz for Transceiver. The channel is separated by 1 MHz channel spacing. The tests were carried out on channel 0, 39 and 78 channels of the frequency of the alignment range.

5. OBJECTIVE

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2.4GHz ISM band and using spread spectrum modulation techniques: Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive.

The objective is to determine compliance with ETSI EN 300328 V1.7.1 (2006-10).

6. TEST METHODOLOGY

All measurements contained in this report were conducted with ETSI EN 300328 V1.7.1 (2006-10).

7. TEST FACILITY

Site Description

EMC Lab : Listed by FCC, August. 02, 2011
The Certificate Number is 665078.

Listed by Industry Canada, July 01, 2011
The Certificate Registration Number. Is 46405-9743

Name of Firm : Dongguan Nore Testing Center Co., Ltd.
(Dongguan NTC Co., Ltd.)

Site Location : Building D, Gaosheng Science & Technology Park, Zhouxi Longxi Road, Nancheng District, Dongguan City, Guangdong Province, China

8. SUPPORT EQUIPMENT

None

9. MAXIMUM TRANSMIT POWER

Measurement Procedure:

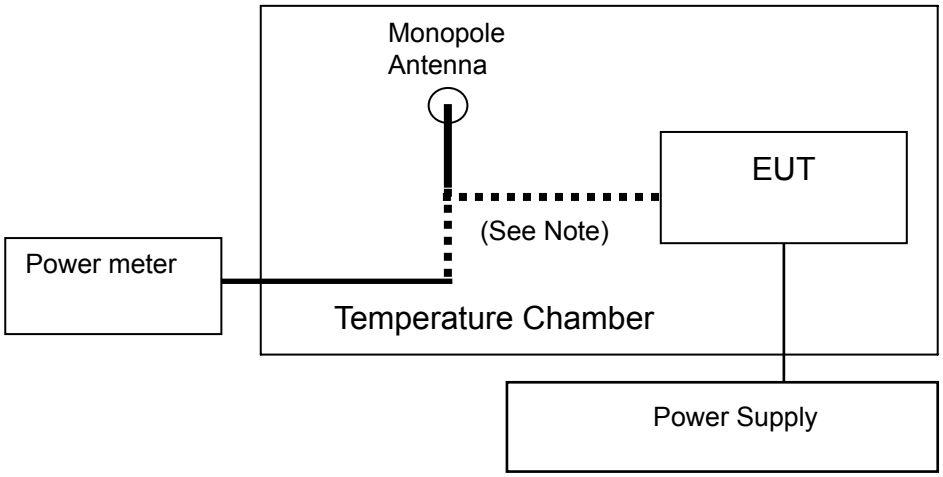
According to ETSI EN 300328 $V_{1.7.1}$ section 4.3.1 and 5.7.2, Radiated Power <= 100 mW (20 dBm) EIRP over Normal and Extreme conditions.

Peak Power <= 20 dBm over Normal and Extreme conditions.

Remark: For consistency in documenting the average and peak measurement results, the Peak Power Limit is reported as 20 dBm and the Antenna Assembly Gain is added to the measurement.

Test Configuration

Temperature and Voltage Measurement (under normal and extreme test conditions)



Note:
The Power meter could be connected to a monopole antenna or directly connected to the EUT, if the EUT has already employing an antenna connector.

TEST METHOD

1. Please refer to ETSI EN 300328 ($V_{1.7.1}$) clause 5.3 for the test conditions.
2. Please refer to ETSI EN 300328 ($V_{1.7.1}$) clause 5.7.2.2 for the measurement method.

Test Result

Pass.

GFSK				
Humidity : 51 %			Temperature : 24 ℃	
Test Result: PASS			Test By: Sance	
Polarity:		Vertical & Horizontal		
Duty Cycle Measurement X: (Ton/Ton + Toff) =				1.00
10 * log (1/x) =				0 dB
Antenna Assembly Gain:				0dBi
Cable Loss=				1.5dB
Temperature (℃)	Power Supplied	Reading dBm	EIRP dBm	Limit dBm
Low Channel f_o =2402 MHz				
25	AC 230V	1.02	2.52	20
0	AC 253V	1.09	2.59	20
	AC 207V	0.91	2.41	20
+35	AC 253V	1.00	2.50	20
	AC 207V	0.97	2.47	20
Middle Channel fo =2441 MHz				
25	AC 230V	0.99	2.49	20
0	AC 253V	1.00	2.50	20
	AC 207V	0.97	2.47	20
+35	AC 253V	1.10	2.60	20
	AC 207V	1.03	2.53	20
High Channel fo =2480 MHz				
25	AC 230V	0.52	2.02	20
0	AC 253V	0.47	1.97	20
	AC 207V	0.44	1.94	20
+35	AC 253V	0.49	1.99	20
	AC 207V	0.51	2.01	20

NOTE: Measurement uncertainty : + 0.41dB / - 0.35dB
EIRP = A+G+CL+10log(1/x) (dBm)
A = Reading
G = Antenna Gain
CL = Cable Loss
x = Tx on / (Tx on + Tx off) ($0 < X \leq 1$)

8DPSK				
Humidity :	51 %	Temperature :	24 ℃	
Test Result:	PASS	Test By:	Sance	
Polarity:	Vertical & Horizontal			
Duty Cycle Measurement X: (Ton/Ton + Toff) =			1.00	
10 * log (1/x) =			0 dB	
Antenna Assembly Gain:			0dBi	
Cable Loss=			1.5dB	
Temperature (℃)	Power Supplied	Reading dBm	EIRP dBm	Limit dBm
Low Channel f_o =2402 MHz				
25	AC 230V	-0.27	1.23	20
0	AC 253V	-0.23	1.27	20
	AC 207V	-0.26	1.24	20
+35	AC 253V	-0.31	1.19	20
	AC 207V	-0.27	1.23	20
Middle Channel fo =2441 MHz				
25	AC 230V	-0.20	1.30	20
0	AC 253V	-0.22	1.28	20
	AC 207V	-0.19	1.31	20
+35	AC 253V	-0.20	1.30	20
	AC 207V	-0.23	1.27	20
High Channel fo =2480 MHz				
25	AC 230V	-0.39	1.11	20
0	AC 253V	-0.43	1.07	20
	AC 207V	-0.40	1.10	20
+35	AC 253V	-0.38	1.12	20
	AC 207V	-0.42	1.08	20

NOTE: Measurement uncertainty : + 0.41dB / - 0.35dB
EIRP = A+G+CL+10log(1/x) (dBm)
A = Reading
G = Antenna Gain
CL = Cable Loss
x = Tx on / (Tx on + Tx off) ($0 < X \leq 1$)

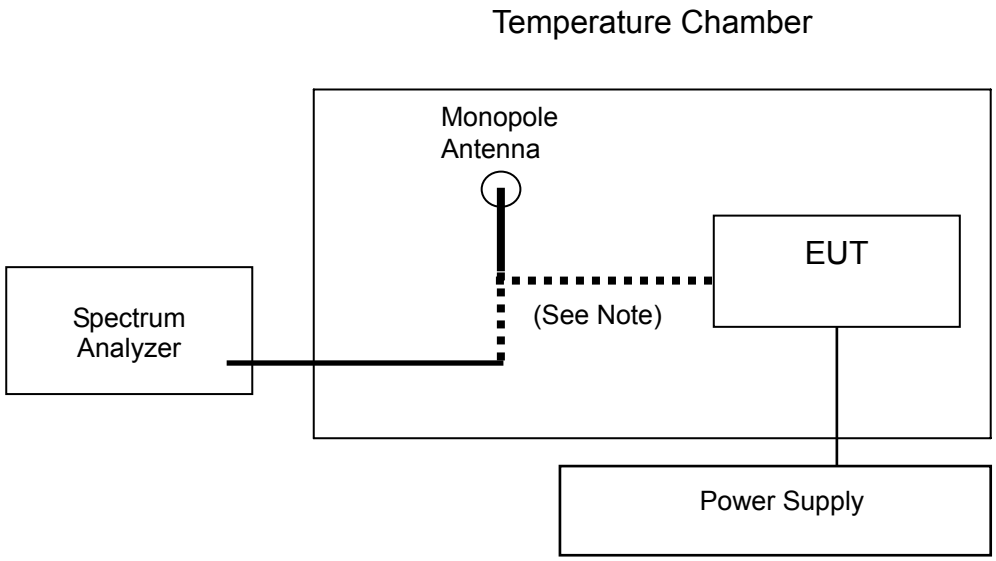
10. FREQUENCY RANGE

Measurement Procedure:

According to ETSI EN 300328 $V_{1.7.1}$ section 4.3.3.2, For all equipment the frequency shall lie within the band 2.4GHz to 2.4835GHz (f_L>2.4GHz and f_H<2.4835GHz)

Test Configuration

Temperature and Voltage Measurement (under normal and extreme test conditions)



Remarks:
The spectrum analyzer could be connected to a monopole antenna or directly connected to the EUT, if the EUT has already employing an antenna connector.

TEST METHOD

1. Please refer to ETSI EN 300328 (V1.7.1) clause 5.3 for the test conditions.
2. Please refer to ETSI EN 300328 (V1.7.1) clause 5.7.4 for the measurement method.

Test Result

Pass.

Please refer to following data table.

Humidity :		50 %	Temperature :	24 ℃
Test Result:		PASS	Test By:	Sance
Temperature (℃)	Power Supplied	Frequency Range		
		fL at Low Channel (>2400MHz)		fH at High Channel (<2483.5MHz)
GFSK				
25	AC 230V	2401.52		2480.42
0	AC 253V	2401.52		2480.40
	AC 207V	2401.50		2480.40
+35	AC 253V	2401.52		2480.44
	AC 207V	2401.54		2480.42
π/4-DQPSK				
25	AC 230V	2401.16		2480.56
0	AC 253V	2401.12		2480.56
	AC 207V	2401.16		2480.54
+35	AC 253V	2401.15		2480.54
	AC 207V	2401.11		2480.56
8DPSK				
25	AC 230V	2401.14		2480.60
-20	AC 253V	2401.14		2480.62
	AC 207V	2401.12		2480.62
+55	AC 253V	2401.14		2480.60
	AC 207V	2401.10		2480.60

NOTE: Measurement uncertainty :±25KHz

11. FREQUENCY HOPPING REQUIREMENTS (DWELL TIME)

Measurement Procedure:

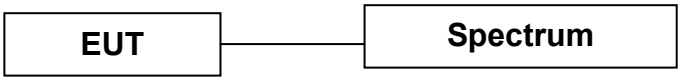
According to ETSI EN 300328 $V_{1.7.1}$ section 4.3.4, The maximum dwell time shall 0.4s.

Place the EUT on the table and set it in the transmitting mode.

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

Repeat until all the rest channels are investigated.

Test Configuration



TEST METHOD

Please refer to ETSI EN 300328 (V1.7.1) clause 5.3 for the test conditions.

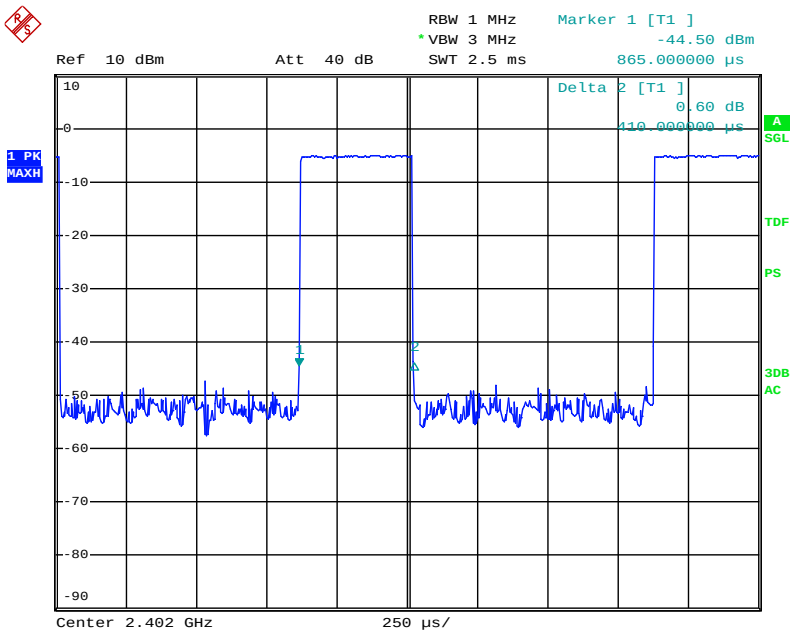
Test Result

Pass.

Modulation :	GFSK, π/4-DQPSK, 8DPSK		
RBW :	1MHz	VBW :	3MHz
Spectrum Detector:	PK	Test By:	Sance
Temperature :	24 ℃	Humidity :	50%
Test Date :	June 20, 2014	Test Result:	PASS

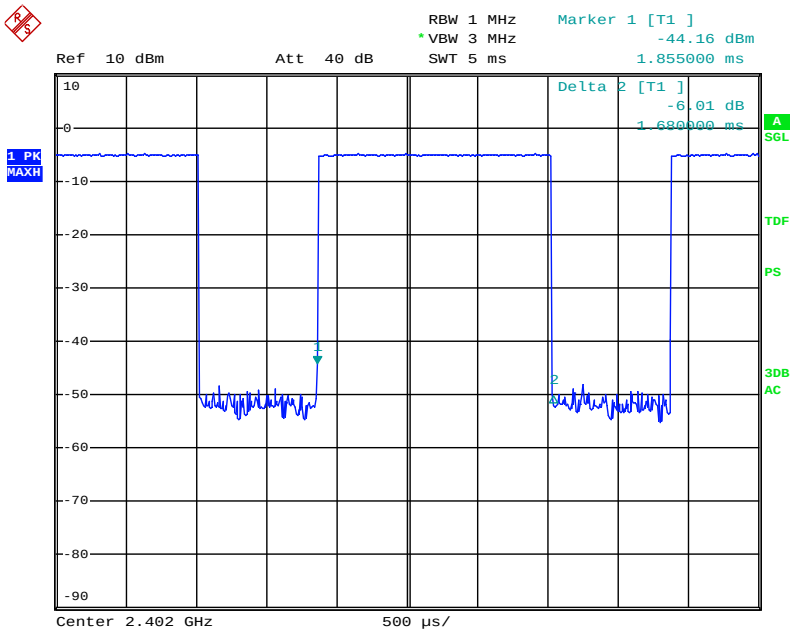
Packet	Frequency (MHz)	Result (msec)	Limit (msec)
GFSK			
DH1	2402	0.410(ms)*(1600/(2*79))*31.6=131.2	400
DH3	2402	1.680(ms)*(1600/(4*79))*31.6=268.8	400
DH5	2402	2.925(ms)*(1600/(6*79))*31.6=312.0	400
π/4-DQPSK			
2-DH1	2402	0.420(ms)*(1600/(2*79))*31.6=134.4	400
2-DH3	2402	1.670(ms)*(1600/(4*79))*31.6=267.2	400
2-DH5	2402	2.915(ms)*(1600/(6*79))*31.6=310.9	400
8DPSK			
3-DH1	2402	0.420(ms)*(1600/(2*79))*31.6=134.4	400
3-DH3	2402	1.680(ms)*(1600/(4*79))*31.6=268.8	400
3-DH5	2402	2.945(ms)*(1600/(6*79))*31.6=314.1	400

GFSK DH1



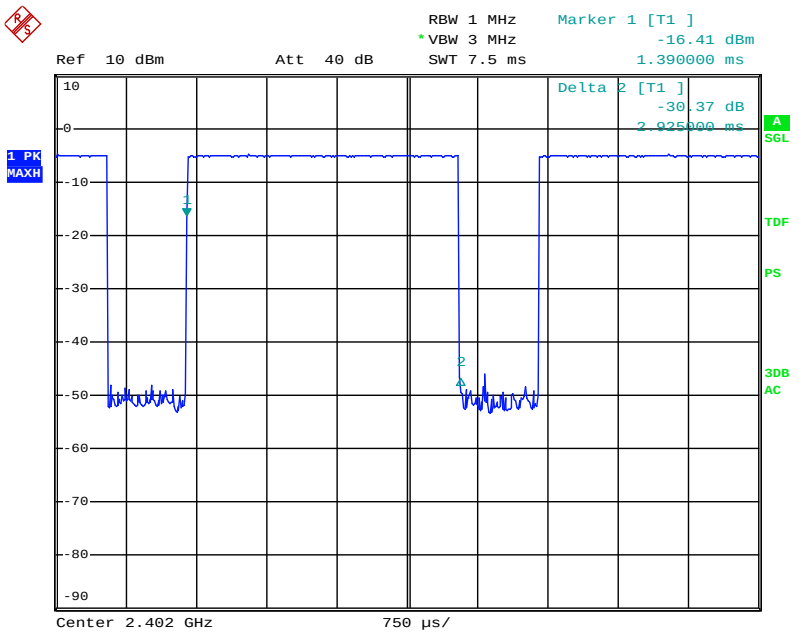
Date: 20.JUN.2014 17:29:08

GFSK DH3



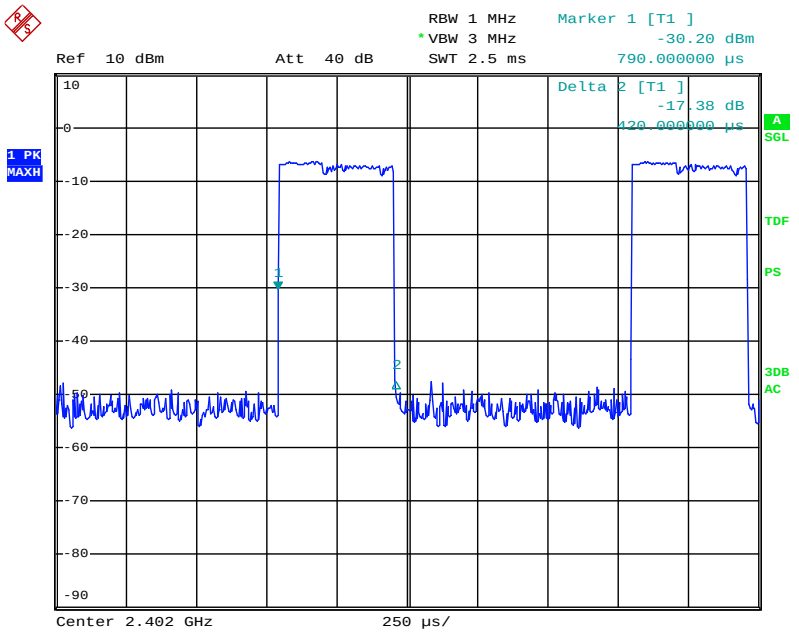
Date: 20.JUN.2014 17:29:28

GFSK DH5



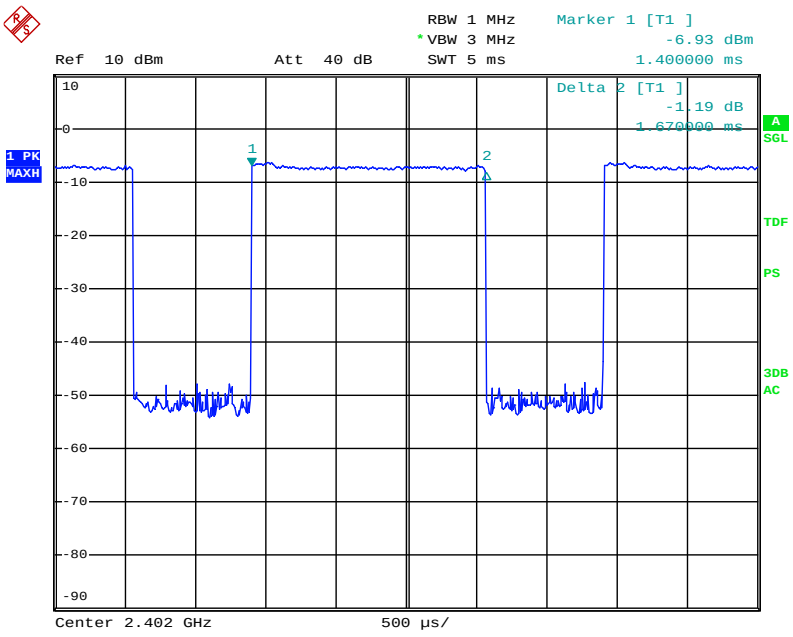
Date: 20.JUN.2014 17:29:46

π/4-DQPSK 2-DH1



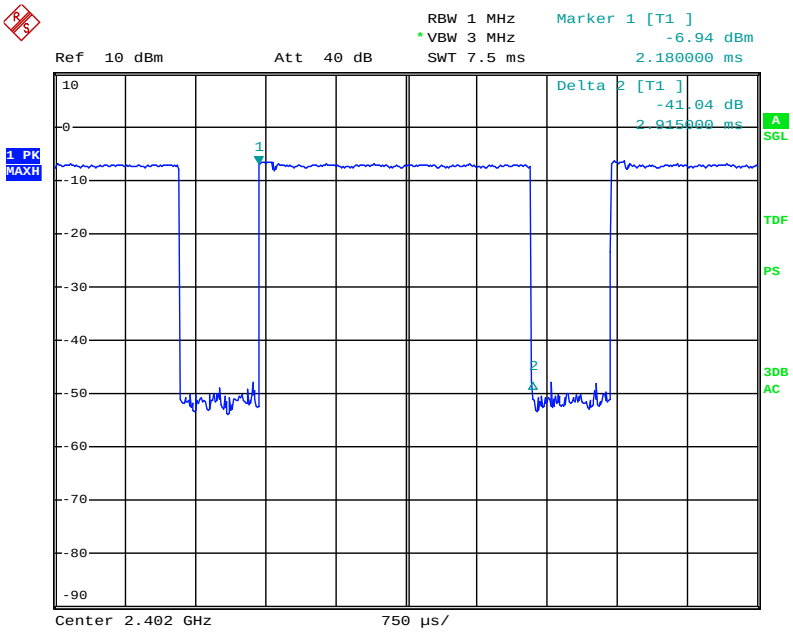
Date: 20.JUN.2014 17:30:17

π/4-DQPSK 2-DH3



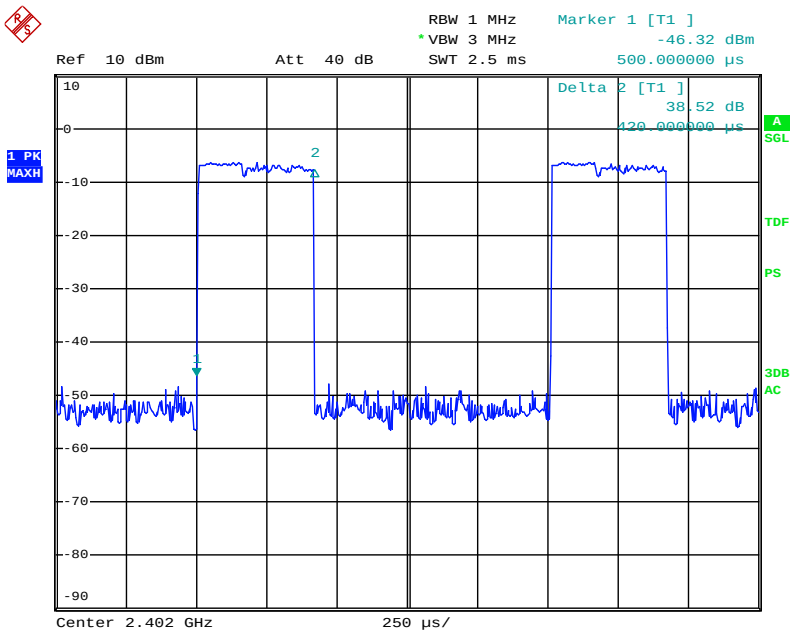
Date: 20.JUN.2014 17:30:42

π/4-DQPSK 2-DH5



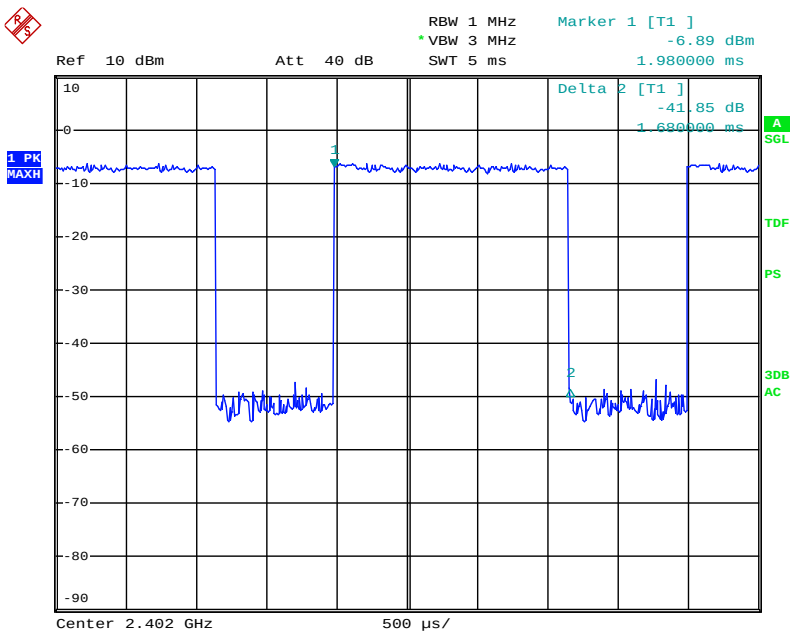
Date: 20.JUN.2014 17:31:04

8DPSK 3-DH1



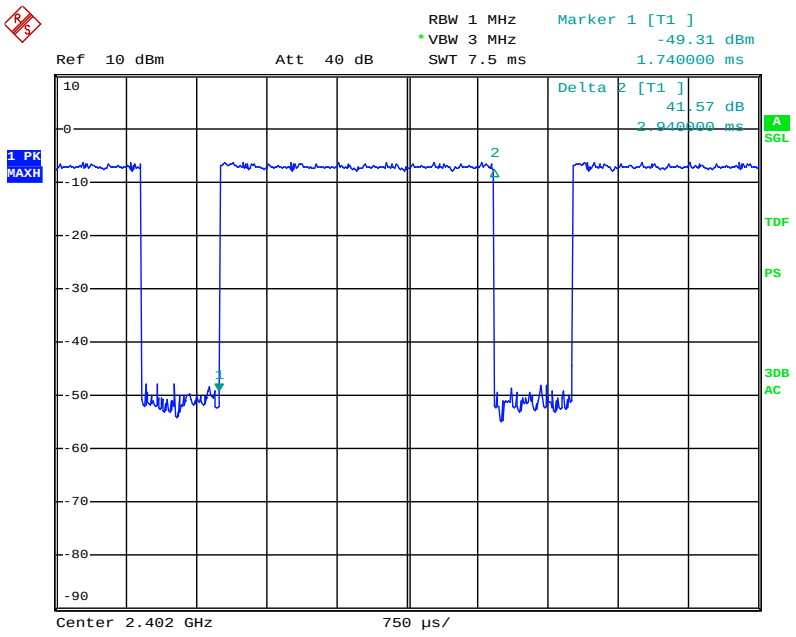
Date: 20.JUN.2014 17:31:28

8DPSK 3-DH3



Date: 20.JUN.2014 17:31:49

8DPSK 3-DH5



Date: 20.JUN.2014 17:32:10

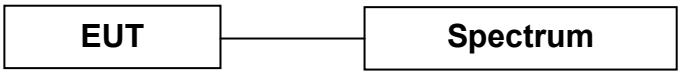
12. FREQUENCY HOPPING EQUIREMENTS(HOPPING CHANNEL)

Measurement Procedure:

According to ETSI EN 300328 $V_{1.7.1}$ section 4.3.4, Non-adaptive Frequency Hopping systems shall make use of non-overlapping hopping channels separated by the channel bandwidth as measured at 20 dB below peak power.

The hopping channels defined within a hopping sequence shall be at least 1MHz apart (channel separation).

Test Configuration



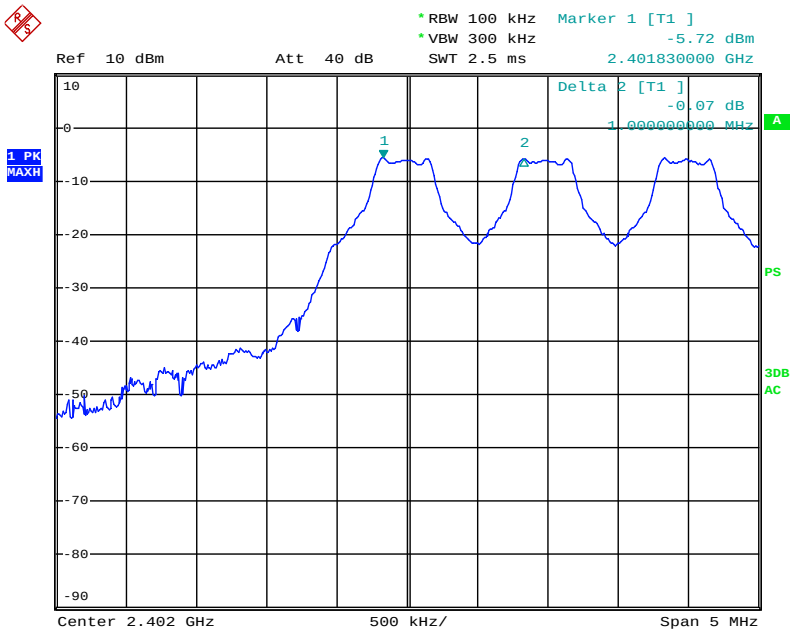
Test Result

Pass.

Modulation:	GFSK, π/4-DQPSK, 8DPSK		
RBW:	100KHz	VBW:	300KHz
Packet:	DH5	Spectrum Detector:	PK
Test By:	Sance	Test Date :	June 20, 2014
Temperature :	24 ℃	Humidity :	50 %
Test Result:	PASS		

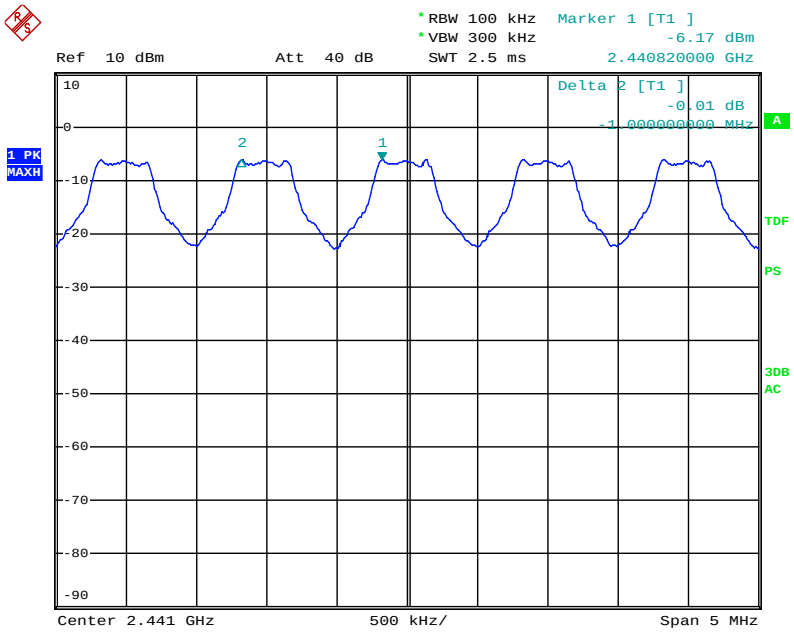
Channel number	Channel frequency (MHz)	Separation Read Value (KHz)	Separation Limit (KHz)
GFSK			
Lowest	2402	1000	≥1000
Middle	2441	1000	≥1000
Highest	2480	1000	≥1000
π/4-DQPSK			
Lowest	2402	1000	≥1000
Middle	2441	1000	≥1000
Highest	2480	1000	≥1000
8DPSK			
Lowest	2402	1000	≥1000
Middle	2441	1000	≥1000
Highest	2480	1000	≥1000

GFSK Lowest Channel



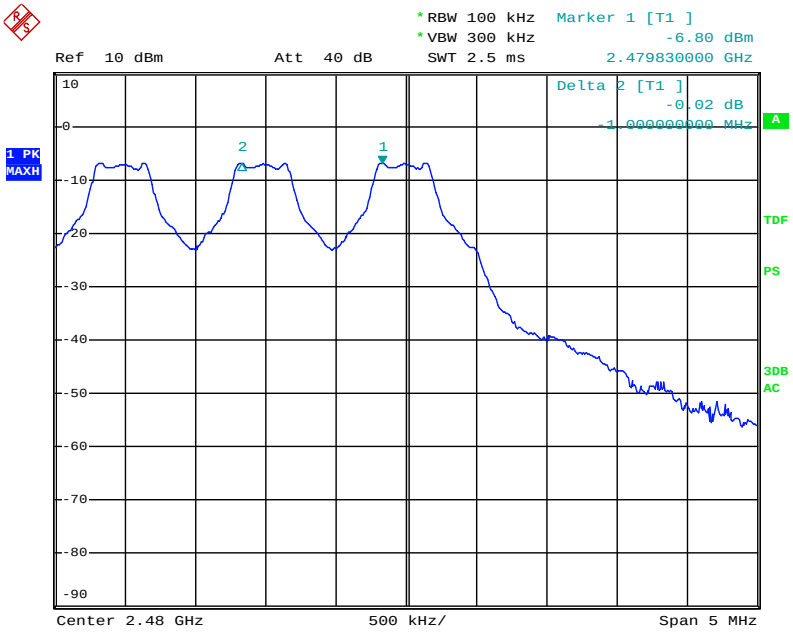
Date: 20.JUN.2014 17:06:05

GFSK Middle Channel



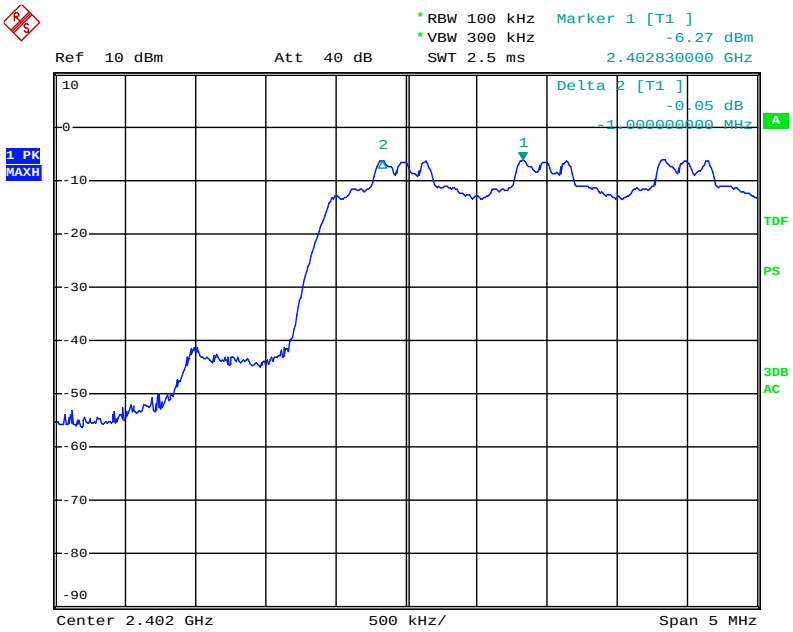
Date: 20.JUN.2014 17:08:36

GFSK Highest Channel



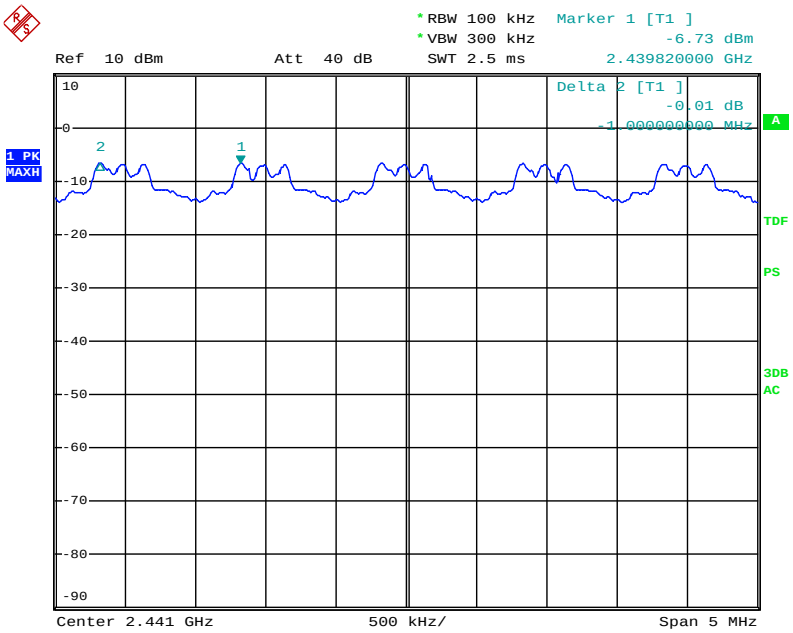
Date: 20.JUN.2014 17:11:02

π/4-DQPSK Lowest Channel



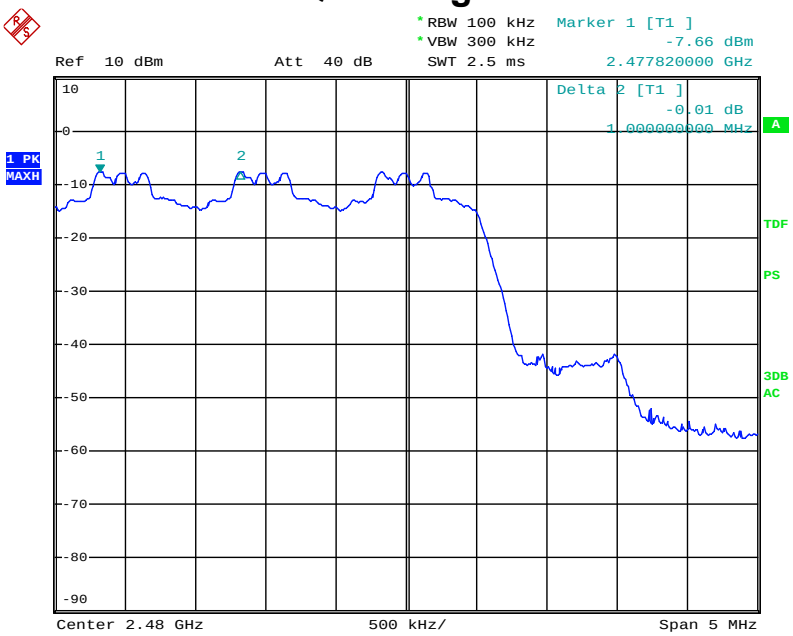
Date: 20.JUN.2014 17:15:39

π/4-DQPSK Middle Channel



Date: 20.JUN.2014 17:18:03

π/4-DQPSK Highest Channel



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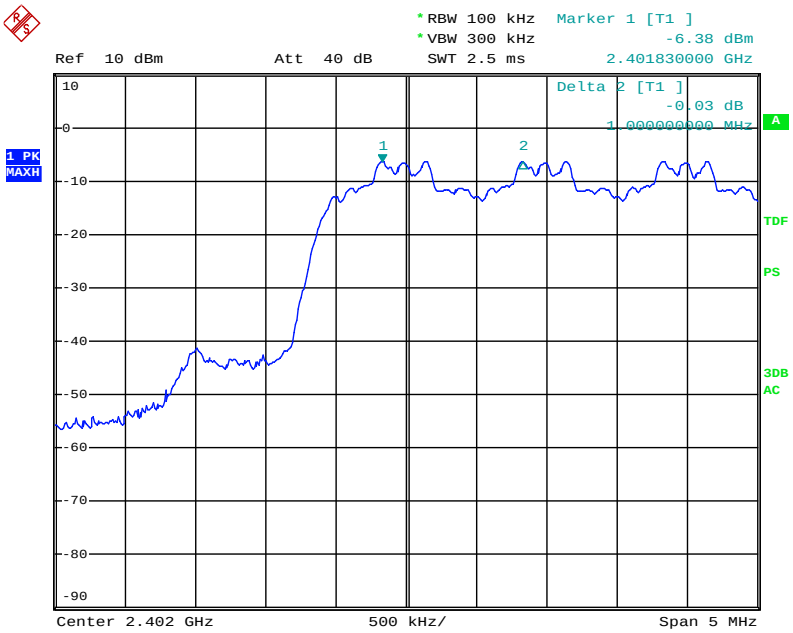
8DPSK Lowest Channel



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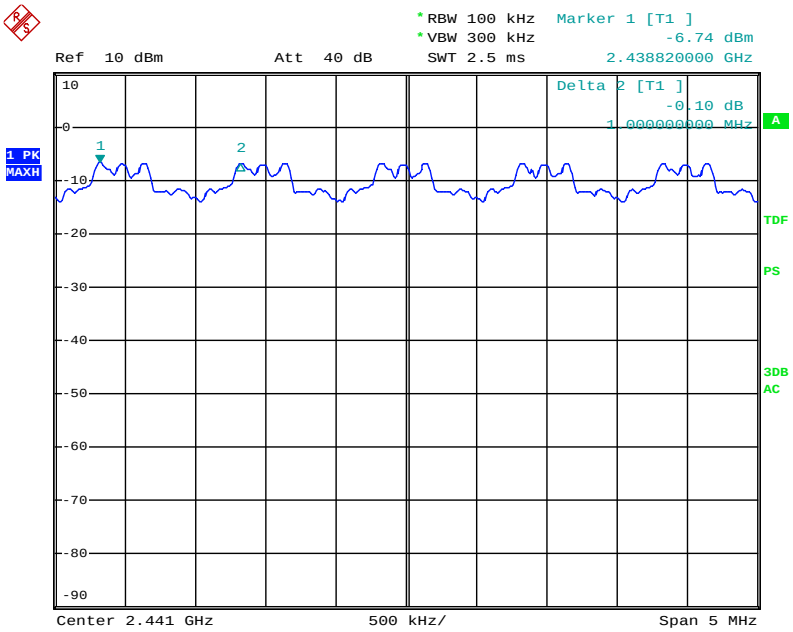
8DPSK Middle Channel



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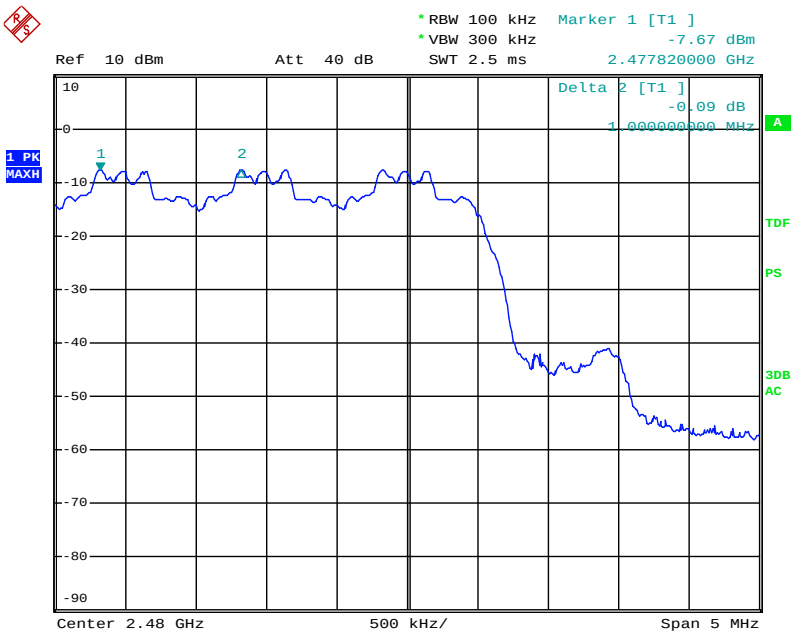
8DPSK Highest Channel



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13. FREQUENCY HOPPING REQUIREMENTS(HOPPING SEQUENCE)

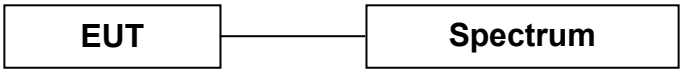
Measurement Procedure:

According to ETSI EN 300328 $V_{1.7.1}$ section 4.3.4, Non-adaptive Frequency Hopping systems shall make use of a hopping sequence(s) that contains at least 15 hopping channels.

Adaptive Frequency Hopping systems shall make use of a hopping sequence(s) that is capable of operating over a minimum of 90% of the band specified in table 1, from which at any given time a minimum of 20 hopping channels shall be use.

Each hopping channel of the hopping sequence shall be occupied at least once during a period not exceeding four times the product of the dwell time per hop and the number of channels.

Test Configuration



Test Result

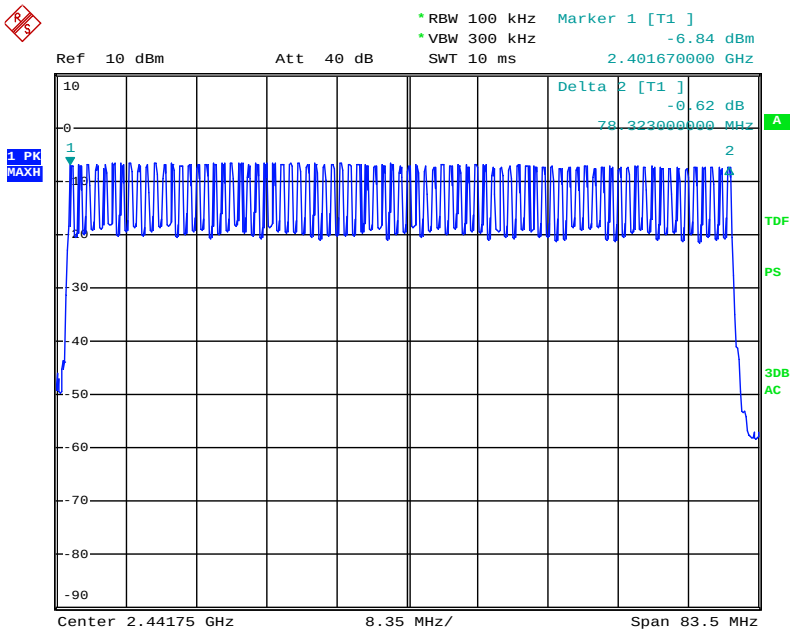
Pass.

Please refer to following plot and data table.

Modulation	GFSK, 8DPSK		
RBW:	100KHz	VBW:	300KHz
Packet:	DH5	Spectrum Detector:	PK
Test By:	Sance	Test Date :	June 20, 2014
Temperature :	24 ℃	Humidity :	50%
Test Result:	PASS		

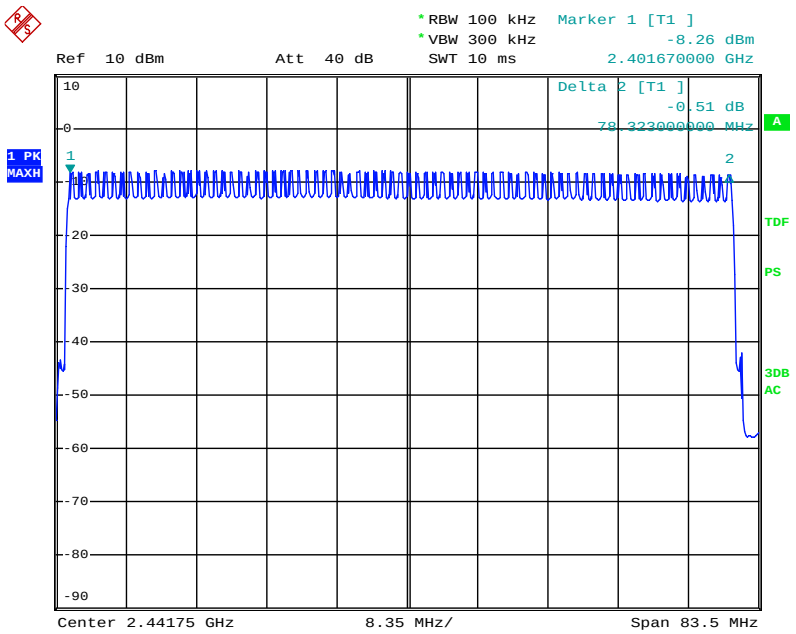
Hopping Channel Frequency Range	Number of Hopping Channels	Limit
2402-2480	79	≥15

GFSK



Date: 20.JUN.2014 18:07:20

8DPSK



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14. TRANSIMITTER SPURIOUS EMISSIONS

Measurement Procedure:

According to ETSI EN 300328 $V_{1.7.1}$ section 4.3.6, Spurious emissions are emissions outside the frequency range(s) of the equipment as defined 5.2.3.

The level of spurious emissions shall be measured as, either:

1. Their power in specified load (conducted spurious emissions); and
2. Their effective radiated power when radiated by the cabinet or structure of the equipment (cabinet radiation); or
3. Their effective radiated power when radiated by cabinet and antenna.

The spurious emissions of the transmitter shall not exceed the values in tables in the indicated bands:

Transmitter limits for NARROWBAND spurious emissions		
Frequency Range	**Limit when operating**	**Limit when in stand-by**
30 MHz to 1 GHz	-36 dBm	-57 dBm
Above 1 GHz to 12.75 GHz	-30 dBm	-47 dBm
1.8 GHz to 1.9GHz 5.15 GHz to 5.3GHz	-47 dBm	-47 dBm

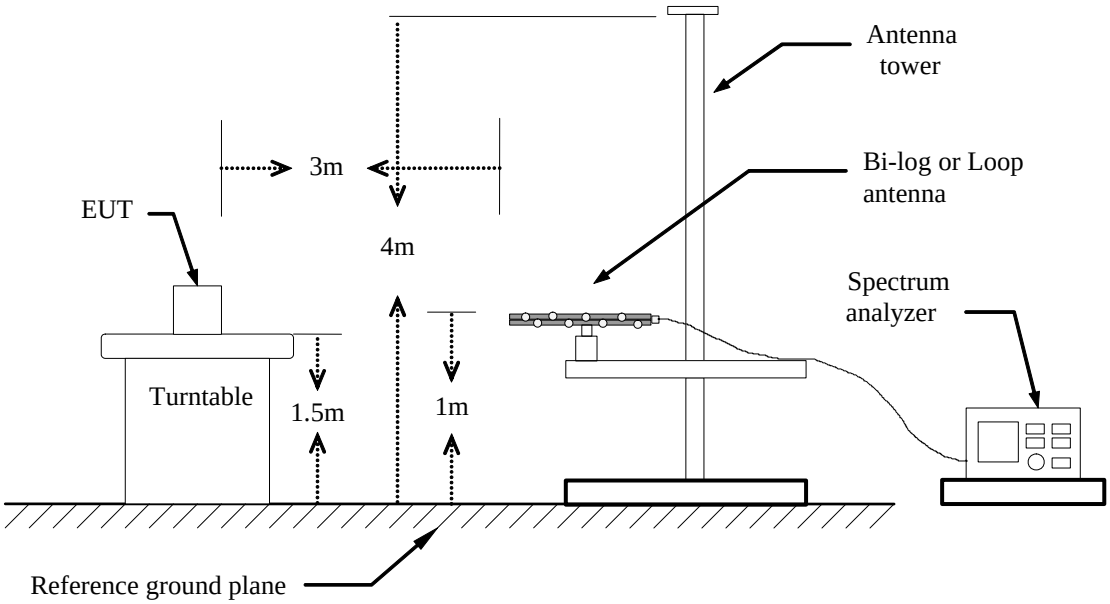
Transmitter limits for WIDEBAND spurious emissions		
Frequency Range	**Limit when operating**	**Limit when in stand-by**
30 MHz to 1 GHz	-86 dBm	-107 dBm
Above 1 GHz to 12.75 GHz	-80 dBm	-97 dBm
1.8 GHz to 1.9GHz 5.15 GHz to 5.3GHz	-97 dBm	-97 dBm

TEST METHOD

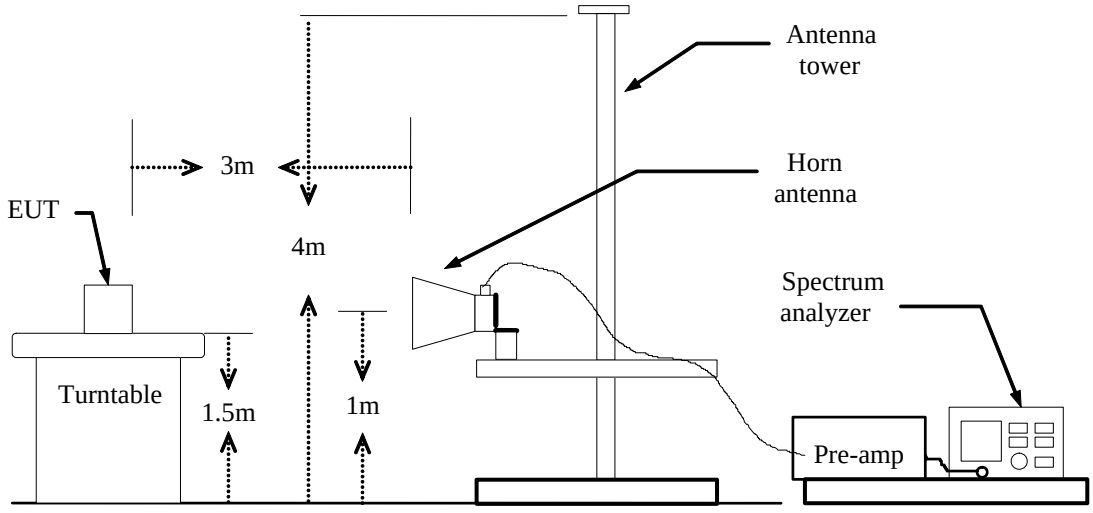
1. Please refer to ETSI EN 300328 (V1.7.1) clause 5.3 for the test conditions.
2. Please refer to ETSI EN 300328 (V1.7.1) clause 5.7.5 for the measurement methods.

Test Configuration

Below 1GHz



Above 1GHz



Test Result

Pass.

Please refer to following data tables of the worst case: GFSK.

Below 1GHz Low Channel				
Humidity : 55 %		Temperature : 21 ℃		
Test Result: PASS		Test By: Sance		
Test Mode: TX				
Frequency (MHz)	**Antenna Polarization**	**Emission level (dBm)**	**Limit (dBm)**	**Margin (dB)**
71.7100	Vertical	-71.07	-36.00	-35.07
92.0800	Vertical	-70.59	-36.00	-34.59
194.9000	Vertical	-74.45	-36.00	-38.45

90.1400	Horizontal	-79.10	-36.00	-43.10
214.3000	Horizontal	-70.41	-36.00	-34.41
301.6000	Horizontal	-75.35	-36.00	-39.35

Below 1GHz High Channel				
Humidity : 55 %		Temperature : 21 ℃		
Test Result: PASS		Test By: Sance		
Test Mode: TX				
Frequency (MHz)	Antenna Polarization	Emission level (dBm)	Limit (dBm)	Margin (dB)
67.8299	Vertical	-71.49	-36.00	-35.49
89.1700	Vertical	-71.02	-36.00	-35.02
193.9299	Vertical	-73.75	-36.00	-37.75

82.2000	Horizontal	-78.21	-36.00	-42.21
158.0399	Horizontal	-77.13	-36.00	-41.13
212.3600	Horizontal	-70.28	-36.00	-34.28

Note: 1. The emission behaviour belongs to narrowband spurious emission.
2. Emission Level (dBm) = Reading level (dBm)+Correction Factor (dB)
3. Data of measurement within this frequency range shown " ---" in the table above means the reading of emissions are attenuated more than 10dB below the permissible limits.
4. Measurement uncertainty : ±3.7dB
5. The other spurious emissions are not found in stand-by mode.

Above 1GHz Low Channel				
Humidity : 55 %		Temperature : 21 ℃		
Test Result: PASS		Test By: Sance		
Test Mode: TX				
Frequency (MHz)	**Antenna Polarization**	**Emission level (dBm)**	**Limit (dBm)**	**Margin (dB)**
4804	Vertical	-43.95	-30	-13.95
7206	Vertical	-47.22	-30	-17.22

4804	Horizontal	-45.37	-30	-15.37
7206	Horizontal	-47.79	-30	-17.79

Above 1GHz High Channel				
Humidity : 55 %		Temperature : 21 ℃		
Test Result: PASS		Test By: Sance		
Test Mode: TX				
Frequency (MHz)	**Antenna Polarization**	**Emission level (dBm)**	**Limit (dBm)**	**Margin (dB)**
4960	Vertical	-45.09	-30	-15.09
7440	Vertical	-45.88	-30	-15.88

4960	Horizontal	-43.06	-30	-13.06
7440	Horizontal	-46.74	-30	-16.74

NOTE:
1. The emission behaviour belongs to narrowband spurious emission.
2. Emission Level (dBm) = Reading level (dBm) + Correction Factor (dB)
3. Data of measurement within this frequency range shown " ---" in the table above means the reading of emissions are attenuated more than 10dB below the permissible limits.
4. Measurement uncertainty : ±3.7dB
5. The other spurious emissions are not found in stand-by mode.

15. RECEIVER SPURIOUS EMISSIONS

Measurement Procedure:

According to ETSI EN 300328 $V_{1.7.1}$ section 4.3.7, the level of spurious emissions shall be measured as, either:

1. Their power in specified load (conducted spurious emissions); and
2. Their effective radiated power when radiated by the cabinet or structure of the equipment (cabinet radiation); or
3. Their effective radiated power when radiated by cabinet and antenna.
4. The spurious emissions of the receiver shall not exceed the values in tables in the indicated bands:

Receiver limits for NARROWBAND spurious emissions	
Frequency Range	**Limit when in stand-by**
30 MHz to 1 GHz	-57 dBm
Above 1 GHz to 12.75 GHz	-47 dBm

Receiver limits for WIDEBAND spurious emissions	
Frequency Range	**Limit when in stand-by**
30 MHz to 1 GHz	-107 dBm
Above 1 GHz to 12.75 GHz	-97 dBm

Test Configuration

Radiated Spurious Emissions:
(Same as section 14 in this test report)

TEST METHOD

1. Please refer to ETSI EN 300328 (V1.7.1) clause 5.3 for the test conditions.
2. Please refer to ETSI EN 300328 (V1.7.1) clause 5.7.6 for the measurement methods.

Test Result

Pass.

Please refer to following data tables of the worst case: GFSK.

Below 1GHz Low Channel				
Humidity : 55 %		Temperature : 21 ℃		
Test Result: PASS		Test By: Sance		
Test Mode: RX				
Frequency (MHz)	**Antenna Polarization**	**Emission level (dBm)**	**Limit (dBm)**	**Margin (dB)**
69.7699	Vertical	-74.68	-57.00	-14.68
89.1700	Vertical	-71.60	-57.00	-14.60
185.2000	Vertical	-73.01	-57.00	-16.01

211.3900	Horizontal	-70.78	-57.00	-13.78
300.6300	Horizontal	-74.55	-57.00	-17.55
321.9700	Horizontal	-75.06	-57.00	-18.06

Below 1GHz High Channel				
Humidity : 55 %		Temperature : 21 ℃		
Test Result: PASS		Test By: Sance		
Test Mode: RX				
Frequency (MHz)	**Antenna Polariz ation**	**Emission level (dBm)**	**Limit (dBm)**	**Margin (dB)**
68.7520	Vertical	-71.34	-57.00	-14.34
89.1700	Vertical	-70.97	-57.00	-13.97
182.7900	Vertical	-74.18	-57.00	-17.18

210.1400	Horizontal	-71.89	-57.00	-14.89
301.6800	Horizontal	-73.25	-57.00	-16.25
322.0200	Horizontal	-74.51	-57.00	-17.51

Note: 1. The emission behaviour belongs to narrowband spurious emission.
2. Emission Level (dBm) = Reading level (dBm)+Correction Factor (dB)
3. Data of measurement within this frequency range shown " ---" in the table above means the reading of emissions are attenuated more than 10dB below the permissible limits.
4. Measurement uncertainty : ±3.7dB

Above 1GHz Low Channel				
Humidity : 55 %		Temperature : 21 ℃		
Test Result: PASS		Test By: Sance		
Test Mode: RX				
Frequency (MHz)	**Antenna Polarization**	**Emission level (dBm)**	**Limit (dBm)**	**Margin (dB)**
4804	Vertical	-56.82	-47	-9.82

4804	Horizontal	-55.46	-47	-8.46

Above 1GHz High Channel				
Humidity : 55 %		Temperature : 21 ℃		
Test Result: PASS		Test By: Sance		
Test Mode: RX				
Frequency (MHz)	**Antenna Polarization**	**Emission level (dBm)**	**Limit (dBm)**	**Margin (dB)**
4960	Vertical	-56.95	-47	-9.95

4960	Horizontal	-56.37	-47	-9.37

NOTE: 1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. Emission Level (dBm) = Reading level (dBm) + Correction Factor (dB)
4. Measurement uncertainty : ±3.7dB

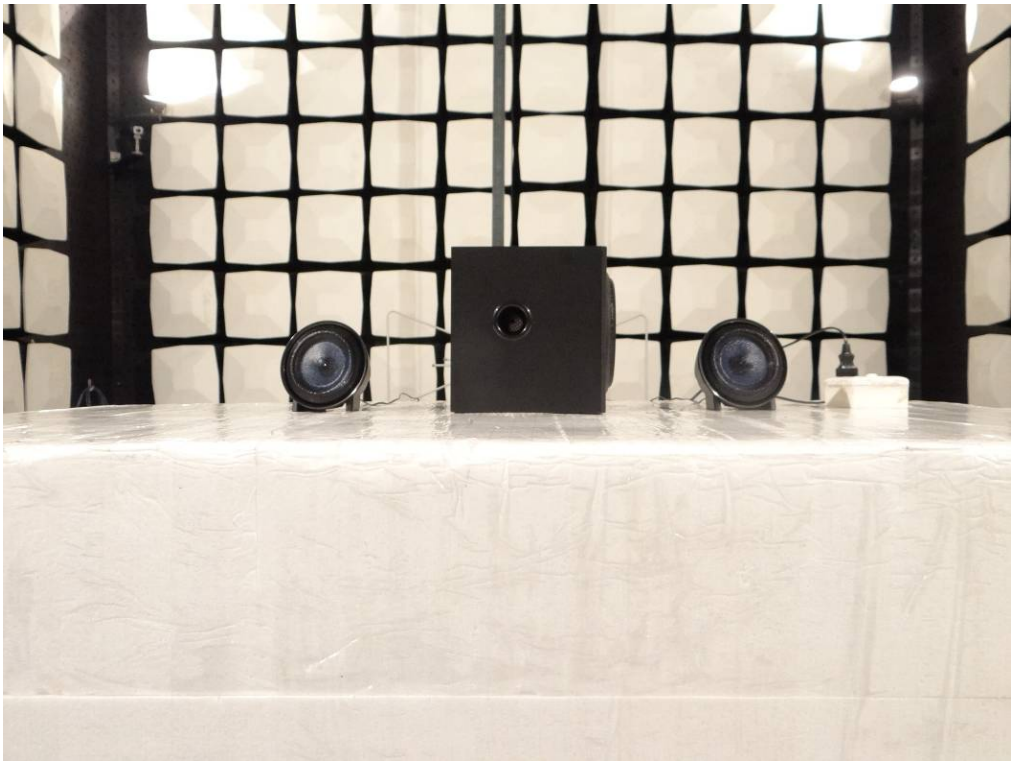
16. TEST EQUIPMENT LIST

Description	Manufacturer	Model Number	Serial Number	Calibration Date	Calibration Due Date
Receiver	Rohde & Schwarz	ESCI7	100837	Nov.25, 2013	Nov.24, 2014
DC Power Source	HUA YI	HY5003-2	N/A	Nov.05, 2013	Nov.04, 2014
Temperature & Humidity Chamber	HAIDA	DH-225T	N/A	Nov.07, 2013	Nov.06, 2014
Spectrum Analyzer	Agilent	E4408B	MY41440717	Nov.05, 2013	Nov.04, 2014
Horn Antenna	COM-Power	AH-118	071078	Nov. 07, 2013	Nov. 06, 2014
Pre-Amplifier	COM-Power	PAM-118	443007	Nov. 05, 2013	Nov. 04, 2014
Horn Antenna	Schwarzbeck	BBHA9170	9170-372	Oct.24, 2013	Oct.23, 2014
Broadband Antenna	Schwarzbeck	VULB9162	9162-010	Nov. 28, 2013	Nov. 27, 2014
Pre-Amplifier	Agilent	8449B	3008A02964	Nov.05, 2013	Nov.04, 2014
Pre-Amplifier	HP	HP 8447D	1145A00203	Nov.09, 2013	Nov.08, 2014
Power Meter	Anritsu	ML2495A	1139001	Nov.05, 2013	Nov.04, 2014
Cable	Huber+Suhner	CIL02	N/A	Nov.09, 2013	Nov.08, 2014

APPENDIX I

PHOTOGRPHS OF TEST SETUP

Radiated Emission Below 1 GHz



Radiated Emission Above 1 GHz

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