

Prüfbericht - Nr.:

Test Report No.

17013167 001

Seite 46 von 94 Page 46 of 94

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

**Limit and Margin PK** 

Frequency (MHz)	MaxPeak (dB μ V/m)	Margin (dB)	Limit (dB µ V/m)	Polarity	Corr. (dB)
1220.000000	34.3	39.7	74.0	Н	-15.5
4960.000000	47.7	26.3	74.0	Н	-6.3
7440.000000	47.7	26.3	74.0	Н	-0.7
9920.000000	48.6	25.4	74.0	Н	2.9

**Limit and Margin AV** 

Lilling and w	aigiii Av				
Frequency (MHz)	Average (dB µ V/m)	Margin (dB)	Limit (dB µ V/m)	Polarity	Corr. (dB)
1220.000000	26.6	27.4	54.0	Н	-15.5
4960.000000	31.9	22.1	54.0	Н	-6.3
7440.000000	34.2	19.8	54.0	Н	-0.7
9920.000000	35.7	18.3	54.0	Н	2.9



Date: 7/2/2009 - Time: 11:34:28 AM



17013167 001 Prüfbericht - Nr.:

Test Report No.

Seite 47 von 94 Page 47 of 94

## Test Plot of Spurious emission of A.3 – Vertical (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

### **EMC Test Record (EMISSION)**

#### **Test Information**

Namtai Electronic (Shenzhen) Co., Ltd. Bluetooth Headset Manufacturer: Test Item:

SCVCD FCC Part 15 Identification Test Standard: Test Detail: Radiated Emission

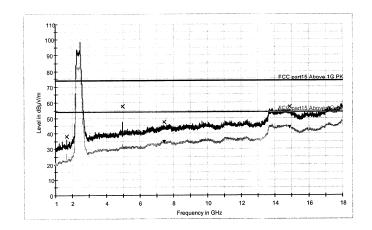
Operation Mode: A.3 23℃; 55%RH: 101kPa. Climate Condition:

Build-in battery 163052345 300 Test Voltage / Freq. : Receipt No.: Report No. 17013167 001 Result: Comment:

Subrange 1

Frequency Range: 1GHz - 18GHz Receiver:

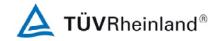
TUV FSP 30 TUV SAC HF906 / TUV FSP 30-TUV SAC HF906 Transducer:



Date: 7/2/2009 - Time: 11:40:50 AM

Tested by: \_





Prüfbericht - Nr.: 17013167 001

Seite 48 von 94 Page 48 of 94

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

**Limit and Margin PK** 

Ellitte alla ili	argiiri r r				
Frequency (MHz)	MaxPeak (dB μ V/m)	Margin (dB)	Limit (dB µ V/m)	Polarity	Corr. (dB)
1652.500000	38.3	35.7	74.0	V	-14.0
4960.000000	57.4	16.6	74.0	V	-6.3
7440.000000	47.8	26.2	74.0	V	-0.7
14880.000000	57.0	17.0	74.0	V	5.8

Limit and Margin AV

LIIIII and wi	argiii Av				
Frequency (MHz)	Average (dB μ V/m)	Margin (dB)	Limit (dB µ V/m)	Polarity	Corr. (dB)
1652.500000	31.5	22.5	54.0	V	-14.0
4960.000000	39.0	15.0	54.0	V	-6.3
7440.000000	34.5	19.5	54.0	V	-0.7
14880.000000	44.0	10.0	54.0	V	5.8

Tested by:

Reviewed by: \_\_





17013167 001 Prüfbericht - Nr.:

Test Report No.

Seite 49 von 94 Page 49 of 94

## Test Plot of Spurious emission of A.3 – Horizontal (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

### **EMC Test Record (EMISSION)**

#### **Test Information**

Namtai Electronic (Shenzhen) Co., Ltd. Manufacturer: Test Item:

Bluetooth Headset SCVCD FCC Part 15 Identification Test Standard:

Test Detail: Radiated Emission A.3 23℃; Operation Mode:

101kPa. 55%RH; Climate Condition:

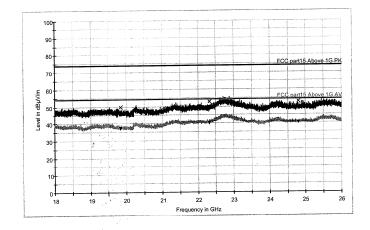
Build-in battery 163052345 300 Test Voltage / Freq. : Receipt No.: Report No. 17013167 001 Pass

Result: Comment:

Subrange 1

Frequency Range: Receiver: 18GHz - 26GHz

TUV FSP 30 TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09 Transducer:



Reviewed by:

Date: 7/30/2009 - Time: 12:02:33 PM



Prüfbericht - Nr.: 17013167 001

Test Report No.

**Seite 50 von 94** *Page 50 of 94* 

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

**Limit and Margin PK** 

Frequency (MHz)	MaxPeak (dB µ V/m)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)	Polarity
19840.000000	50.0	4.3	24.0	74.0	H
22320.000000	52.8	7.4	21.2	74.0	H
24800.000000	52.5	6.3	21.5	74.0	H_

**Limit and Margin AV** 

Frequency	Average	Corr.	Margin	Limit	Polarity
(MHz)	(dB µ V/m)	(dB)	(dB)	(dB µ V/m)	100
19840.000000	CONTRACTOR AND CONTRACTOR OF THE PARTY OF TH	4.3	16.7	54.0	Н
22320.000000	40.1	7.4	13.9	54.0	Н
24800.000000	40.3	6.3	13.7	54.0	Н Н

V: (\$105.7. 91)

Reviewed by:

by:

Date: 7/30/2009 - Time: 12:02:33 PM



Prüfbericht - Nr.:

Test Report No.

17013167 001

Seite 51 von 94 Page 51 of 94

## Test Plot of Spurious emission of A.3 – Vertical (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

### **EMC Test Record (EMISSION)**

**Test Information** 

Namtai Electronic (Shenzhen) Co., Ltd. Manufacturer: Test Item:

Bluetooth Headset SCVCD Identification Test Standard: FCC Part 15 Test Detail: Radiated Emission

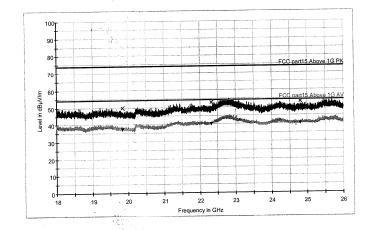
Operation Mode: Climate Condition: A.3 101kPa.

Build-in battery Test Voltage / Freq. : 163052345 300 Receipt No.: Report No. 17013167 001 Result: Pass

Comment:

Subrange 1 18GHz - 26GHz TUV FSP 30 Frequency Range:

Receiver: TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09 Transducer:



Date: 7/30/2009 - Time: 12:05:24 PM

Tested by:





Prüfbericht - Nr.:

17013167 001

**Seite 52 von 94** *Page 52 of 94* 

Test Report No.

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

**Limit and Margin PK** 

Frequency (MHz)	MaxPeak (dB µ V/m)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)	Polarity
19840.000000	50.0	4.3	24.0	74.0	V
22320.000000	52.8	7.4	21.2	74.0	V
24800.000000	53.1	6.3	20.9	74.0	V

Limit and Margin AV

Frequency	Average	Corr.	Margin	Limit	Polarity
(MHz)	(dB µ V/m)	(dB)	(dĔ)	(dB µ V/m)	
19840.000000	37.3	4.3	16.7	54.0	V
22320.000000	40.1	7.4	13.9	54.0	V
24800.000000	40.3	6.3	13.7	54.0	<u>V</u>

Date: 7/30/2009 - Time: 12:05:24 PM

Tested by:





Products

Prüfbericht - Nr.: 17013167 001

Test Report No.

**Seite 53 von 94** *Page 53 of 94* 

## Test Plot of Spurious emission of B – Horizontal (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

### **EMC Test Record (EMISSION)**

#### **Test Information**

Manufacturer: Namtai Electronic (Shenzhen) Co., Ltd.

Test Item: Bluetooth Headset Identification SCVCD
Test Standard: FCC Part 15
Test Detail: Radiated Emission
Operation Mode: B

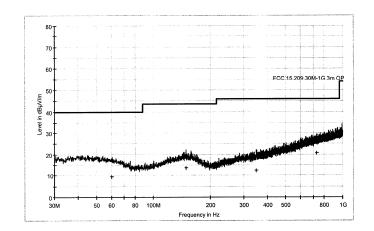
Operation Mode: B
Climate Condition: 23°C; 55%RH; 101kPa.

Report No. 17013167 001
Result: Pass
Comment:

Subrange 1

Frequency Range: 30MHz - 1GHz
Receiver: TUV ESCI 3

Transducer: TUV SAC UVLB 9168 / TUV ESCI3 -TUV SAC UVLB 9168



**Limit and Margin** 

Frequency (MHz)	QuasiPeak (dB µ V/m)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)	Polarity
60.050000	9.6	13.7	30.4	40.0	H
149.300000	13.9	15.6	29.6	43.5	H
350.700000	12.6	16.3	33.4	46.0	Н
727.300000	20.8	23.6	25.2	46.0	Н

Date: 7/29/2009 - Time: 3:52:50 PM



Reviewed by: 2008 8.03

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Prüfbericht - Nr.:

17013167 001

Seite 54 von 94 Page 54 of 94

Test Report No.

## Test Plot of Spurious emission of B - Vertical (30MHz - 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

### **EMC Test Record (EMISSION)**

#### **Test Information**

Manufacturer: Test Item:

Namtai Electronic (Shenzhen) Co., Ltd.

Bluetooth Headset SCVCD

FCC Part 15

Radiated Emission

Operation Mode:

23℃; 55%RH; 101kPa.

Climate Condition: Test Voltage / Freq. : Receipt No.:

Build-in battery

163052345 300 17013167 001

Report No. Result: Comment:

Identification Test Standard:

Test Detail:

Pass

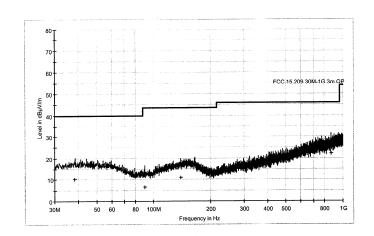
Subrange 1

Frequency Range: Receiver:

30MHz - 1GHz TUV ESCI 3

Transducer

TUV SAC UVLB 9168 / TUV ESCI3 -TUV SAC UVLB 9168



**Limit and Margin** 

Frequency (MHz)	QuasiPeak (dB µ V/m)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Polarity
38.350000	10.5	14.6	29.5	40.0	V
89.900000	6.6	10.6	36.9	43.5	V
138.750000	11.3	14.9	32.2	43.5	V
867.250000	22.3	25.2	23.7	46.0	>

Date: 7/29/2009 - Time: 3:55:06 PM

2009 7 3 1



Prüfbericht - Nr.:

17013167 001

Test Report No.

Seite 55 von 94 Page 55 of 94

## Test Plot of Spurious emission of B – Horizontal (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101kPa.

### **EMC Test Record (EMISSION)**

#### **Test Information**

Manufacturer: Test Item: Identification

Test Standard: Test Detail: Operation Mode:

Climate Condition: Test Voltage / Freq. : Receipt No.: Report No. Result:

Subrange 1

Frequency Range: Receiver:

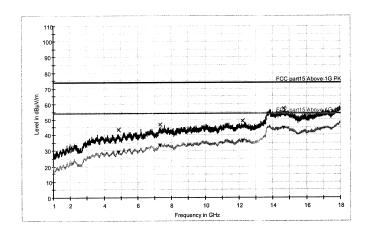
Transducer:

Namtai Electronic (Shenzhen) Co., Ltd. Bluetooth Headset SCVCD FCC Part 15 Radiated Emission

23℃; Build-in battery 55%RH; 163052345 300 17013167 001

1GHz - 18GHz

TUV FSP 30 TUV SAC HF906 / TUV FSP 30-TUV SAC HF906



2009 7.31 Tested by: \_





### Produkte

**Products** 

Prüfbericht - Nr.: 17013167 001 Test Report No.

**Seite 56 von 94** *Page 56 of 94* 

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

**Limit and Margin PK** 

	9				
Frequency (MHz)	MaxPeak (dB μ V/m)	Margin (dB)	Limit (dB µ V/m)	Polarity	Corr. (dB)
4882.000000	43.5	30.5	74.0	Н	-5.9
7323.000000	46.8	27.2	74.0	H	0.1
12205.000000	49.2	24.8	74.0	Н	4.4
14646.000000	57.3	16.7	74.0	Н	8.7

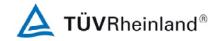
Limit and Margin AV

Lilling and w	Limit and margin Av									
Frequency (MHz)	Average (dB μ V/m)	Margin (dB)	Limit (dB μ V/m)	Polarity	Corr. (dB)					
4882.000000	29.0	25.0	54.0	Н	-5.9					
7323.000000	33.3	20.7	54.0	H	0.1					
12205.000000	36.3	17.7	54.0	Н	4.4					
14646.000000	44.5	9.5	54.0	H	8.7					



Reviewed by:

Date: 7/30/2009 - Time: 9:56:39 AM



Prüfbericht - Nr.:

17013167 001

Test Report No.

Seite 57 von 94 Page 57 of 94

## Test Plot of Spurious emission of B - Vertical (1GHz - 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

### **EMC Test Record (EMISSION)**

#### **Test Information**

Manufacturer: Test Item:

Namtai Electronic (Shenzhen) Co., Ltd.

Bluetooth Headset SCVCD

Identification Test Standard: Test Detail:

FCC Part 15 Radiated Emission

Operation Mode: Climate Condition:

55%RH;

101kPa.

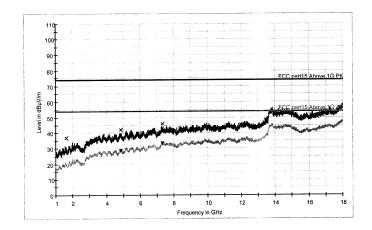
Test Voltage / Freq. : Receipt No.: Report No.

Build-in battery 163052345 300 17013167 001 Pass

Comment:

Subrange 1 Frequency Range: Transducer:

1GHz - 18GHz TUV FSP 30 TUV SAC HF906 / TUV FSP 30-TUV SAC HF906



Date: 7/30/2009 - Time: 10:01:12 AM

Tested by:



### Produkte

**Products** 

Prüfbericht - Nr.:

Test Report No.

17013167 001

Seite 58 von 94 Page 58 of 94

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dB μ V/m)	Margin (dB)	Limit (dB µ V/m)	Polarity	Corr. (dB)
1626.000000	37.0	37.0	74.0	V	-14.7
4882.000000	42.2	31.8	74.0	V	-5.9
7323.000000	46.1	27.9	74.0	V	0.1

Limit and Margin AV

Entite and margin 7.4							
Frequency (MHz)	Average (dB μ V/m)	Margin (dB)	Limit (dB µ V/m)	Polarity	Corr. (dB)		
1626.000000	28.0	26.0	54.0	V	-14.7		
4882.000000	28.8	25.2	54.0	V	-5.9		
7323.000000	33.2	20.8	54.0	V	0.1		







Prüfbericht - Nr.:

17013167 001

Test Report No.

Seite 59 von 94 Page 59 of 94

## Test Plot of Spurious emission of B - Horizontal (18GHz - 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

### **EMC Test Record (EMISSION)**

#### **Test Information**

Namtai Electronic (Shenzhen) Co., Ltd. Bluetooth Headset Manufacturer:

Test Item: Identification SCVCD FCC Part 15 Radiated Emission Test Standard: Test Detail: Operation Mode:

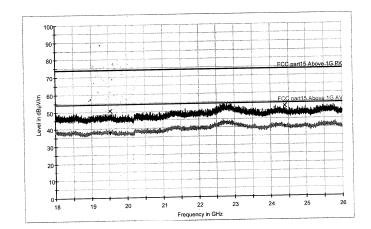
101kPa. 55%RH; Climate Condition: 23°C: Build-in battery

Test Voltage / Freq. : Receipt No.: 163052345 300 17013167 001 Pass Report No.

Result: Comment:

Subrange 1 Frequency Range: 18GHz - 26GHz TUV FSP 30

Receiver: TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09 Transducer:



Date: 7/30/2009 - Time: 12:25:07 PM





Prüfbericht - Nr.:

17013167 001

Test Report No.

**Seite 60 von 94** *Page 60 of 94* 

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

**Limit and Margin PK** 

Frequency (MHz)	MaxPeak (dB µ V/m)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Polarity
19528.000000	50.6	4.4	23.4	74.0	H
24410.000000	52.3	5.7	21.7	74.0	H
24410.000000					

**Limit and Margin AV** 

Date: 7/30/2009 - Time: 12:25:07 PM

				CONTRACTOR OF THE PARTY OF THE	Committee of the Commit	A TOTAL CONTRACTOR OF THE PROPERTY OF THE PARTY OF THE PA
ſ	Frequency	Average	Corr.	Margin	Limit	Polarity
- 1		A PROPERTY OF THE PARTY OF THE		(dB)	(dB µ V/m)	
- 1	(MHz)	(dB µ V/m)	(dB)		CO. S. O. A. C. S. C. C. STORES CO. S. C.	
ŀ	19528.000000	37.7	4.4	16.3	54.0	н
- 1					F10	Ц
	24410 000000	39.9	5.7	14.1	54.0	П

Tested by:





Prüfbericht - Nr.:

17013167 001

Test Report No.

Seite 61 von 94 Page 61 of 94

## Test Plot of Spurious emission of B - Vertical (18GHz - 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101kPa.

### **EMC Test Record (EMISSION)**

#### **Test Information**

Manufacturer: Test Item: Identification

Test Standard: Test Detail:

Operation Mode: Climate Condition: Test Voltage / Freq. :

Receipt No.: Report No. Result: Comment:

Namtai Electronic (Shenzhen) Co., Ltd.

Bluetooth Headset SCVCD FCC Part 15

Radiated Emission

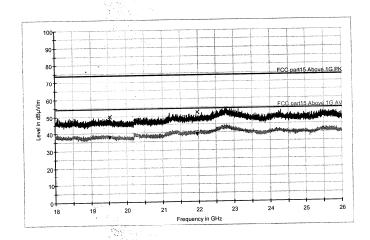
Build-in battery 163052345 300 17013167 001 Pass

Subrange 1

Frequency Range: Transducer:

18GHz - 26GHz TUV FSP 30

TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09



Date: 7/30/2009 - Time: 12:16:02 PM





Prüfbericht - Nr.:

Test Report No.

17013167 001

Seite 62 von 94 Page 62 of 94

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dB μ V/m)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)	Polarity
19528.000000	49.9	4.4	24.1	74.0	V
21969.000000	52.1	6.3	21.9	74.0	V

Limit and Margin AV

	Average	Corr.	Margin	Limit	Polarity
Frequency (MHz)	(dB u V/m)	(dB)	(dB)	(dB µ V/m)	
19528.000000	37.6	4.4	16.4	54.0	V
21969 000000	39.1	6.3	14.9	54.0	V

Reviewed by: \_

2009 8.03

Date: 7/30/2009 - Time: 12:16:02 PM



17013167 001 Seite 63 von 94 Prüfbericht - Nr.: Page 63 of 94

Test Report No.

### 5.1.6 Frequency Separation

**RESULT: Passed** 

Date of testing 2009-07-24

Test standard FCC part 15.247(a)(1)

RSS-210 A8.1 (b)

Basic standard ANSI C63.4: 2003

Limit ≥ 25kHz or 2/3 of 20dB bandwidth, whichever is

greater

**Test setup** 

Test Channel Low/ Middle/ High

Operation Mode Ambient temperature **24**℃ Relative humidity 53% Atmospheric pressure 101 kPa

**Table 7: Test result of Frequency Separation** 

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1	≥ 25kHz or 2/3 of	Pass
Adjacency Channel	2403	'	20dB bandwidth	1 455
Mid Channel	2441	1	≥ 25kHz or 2/3 of	Pass
Adjacency Channel	2442	l	20dB bandwidth	rass
High Channel	2480	1	≥ 25kHz or 2/3 of	Pass
Adjacency Channel	2479	l	20dB bandwidth	rass

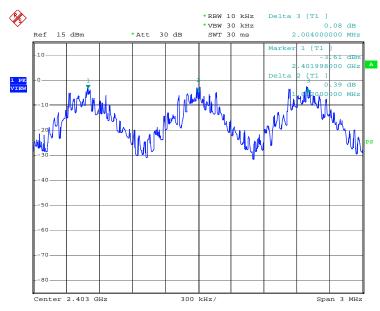
Prüfbericht - Nr.: 17013167 001

Test Report No.

**Seite 64 von 94**Page 64 of 94

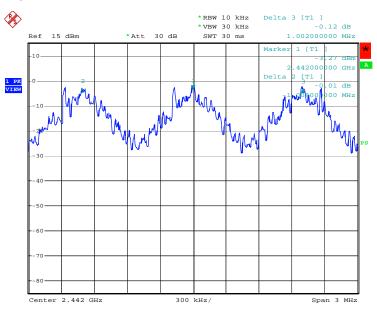
# **Test Plot of Frequency Separation**

### **Low Channel**



Date: 24.JUL.2009 15:27:48

### **Middle Channel**



Date: 24.JUL.2009 15:31:28

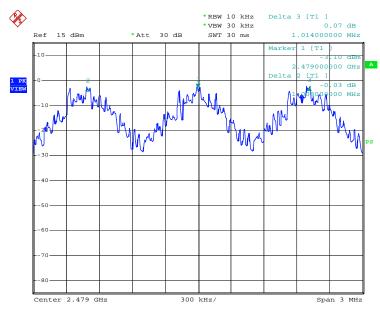


Prüfbericht - Nr.: 17013167 001

**Seite 65 von 94** *Page 65 of 94* 

## **High Channel**

Test Report No.



Date: 24.JUL.2009 15:35:36



Seite 66 von 94 17013167 001 Prüfbericht - Nr.: Page 66 of 94

Test Report No.

## 5.1.7 Number of hopping frequency

**RESULT: Passed** 

Date of testing 2009-07-24

Test standard FCC part 15.247(a)(1)(iii)

RSS-210 A8.1 (d)

Basic standard ANSI C63.4: 2003

Limits ≥ 15 non-overlapping channels

Kind of test site Shield room

**Test setup** 

Test Channel Low/ Middle/ High

Operation Mode Ambient temperature **24**℃ Relative humidity 53% Atmospheric pressure 101 kPa

### **Table 8: Test result of Number of hopping frequency**

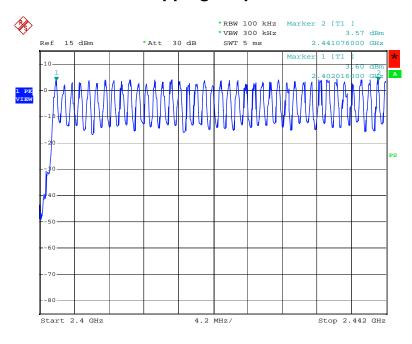
Frequency Range Measured Quantity of Hopping Channel		Limit	Result
2400 to 2483.5 MHz	79	≥15	Pass

Test Report No.

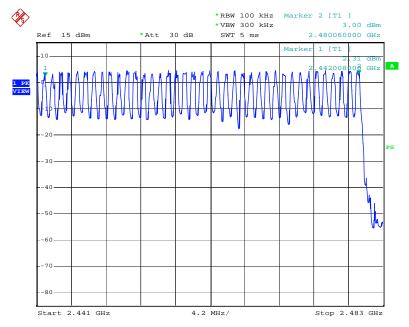
Prüfbericht - Nr.: 17013167 001

**Seite 67 von 94**Page 67 of 94

# **Test Plot of Number of hopping frequencies**



Date: 24.JUL.2009 15:21:42



Date: 24.JUL.2009 15:19:37



17013167 001 Seite 68 von 94 Prüfbericht - Nr.: Page 68 of 94

Test Report No.

### **5.1.8 Time of Occupancy**

**RESULT: Passed** 

2009-07-24 Date of testing

Test standard FCC part 15.247(a)(1)(iii)

RSS-210 A8.1 (d)

Basic standard ANSI C63.4: 2003

0.4s Limits

Kind of test site Shield room

**Test setup** 

Test Channel Low/ Middle/ High

Operation Mode Ambient temperature **24**°C Relative humidity 53% Atmospheric pressure 101 kPa

**Table 9: Test result of Time of Occupancy** 

Channel	Data Mode	Pulse width (ms)	Measured Dwell time (s)	Limit (s)	Result
	DH1	0.390	0.125	0.4	Pass
Low Channel	DH3	1.3	0.208	0.4	Pass
	DH5	2.9	0.309	0.4	Pass
	DH1	0.4	0.128	0.4	Pass
Mid Channel	DH3	1.3	0.208	0.4	Pass
	DH5	2.92	0.311	0.4	Pass
	DH1	0.4	0.128	0.4	Pass
High Channel	DH3	1.31	0.209	0.4	Pass
	DH5	2.9	0.309	0.4	Pass

Note:

Dwell time = Pulse width x (Hopping rate / Number of channels) x Period

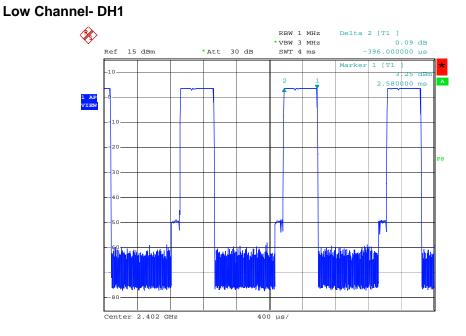
Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds

Test Report No.

Prüfbericht - Nr.: 17013167 001

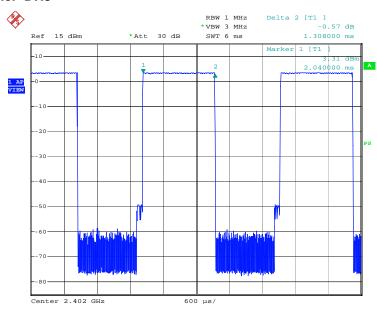
**Seite 69 von 94** *Page 69 of 94* 

Test Plot of Time of Occupancy



Date: 24.JUL.2009 16:04:01

### Low Channel- DH3



Date: 24.JUL.2009 16:05:07

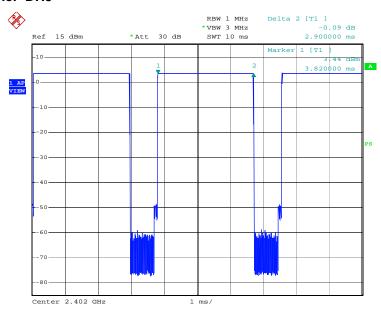


Prüfbericht - Nr.: 17013167 001

**Seite 70 von 94** *Page 70 of 94* 

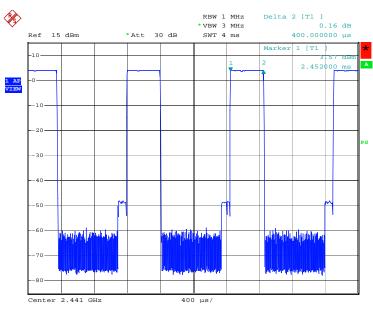
### Low Channel- DH5

Test Report No.



Date: 24.JUL.2009 16:11:27

### Middle Channel- DH1



Date: 24.JUL.2009 16:09:06