

Seite 1 von 94 Prüfbericht - Nr.: 17013167 001 Page 1 of 94 Test Report No.: Namtai Electronic (Shenzhen) Co., Ltd. Auftraggeber: Client: Gusu Industrial Estate, Xixiang, Baoan, Shenzhen Guangdong 518126, P.R. China Gegenstand der Prüfung: Wireless Headset-1 Test item: Serien-Nr.: CECHYA-0075 n a Bezeichnung: Serial No.: Identification: 2009-07-15 Eingangsdatum: 163052345 Wareneingangs-Nr.: Date of receipt: Receipt No.: TÜV Rheinland (Guangdong) Ltd. Prüfort: Testing location: **EMC Laboratory** Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, P.R. China FCC Registration No.: 833845 Test site Industry Canada No.: 2932C-1 FCC CFR47 Part 15: Subpart C Section 15.247 Prüfgrundlage: Test specification: FCC CFR47 Part 15: Subpart C Section 15.207 FCC CFR47 Part 15: Subpart C Section 15.209 FCC CFR47 Part 15: Subpart B Section 15.107 FCC CFR47 Part 15: Subpart B Section 15.109 **RSS-210 Issue 7 June 2007** RSS Gen Issue 2 June 2007 RSS-102 Issue 2 November, 2005 Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). Prüfergebnis: The test item passed the test specification(s). Test Result: TÜV Rheinland (Shenzhen) Co., Ltd. Prüflaboratorium: Testing Laboratory: kontrolliert/ reviewed by: geprüft/ tested by: 2009-08-2 Sam Lin / Project Manager 2009-08-17 Unterschrift Datum Name/Stellung Unterschrift Name/Stellung Datum Name/Position Signature Date Name/Position Signature Date Sonstiges/ Other Aspects: passed Abbreviations: P(ass) P(ass) entspricht Prüfgrundlage Abkürzungen: . failed F(ail) entspricht nicht Prüfgrundlage F(ail) not applicable nicht anwendbar N/A ŇΑ not tested nicht getestet Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht

auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.

This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.



Produkte

Products

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TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Passed

5.1.2 PEAK OUTPUT POWER

RESULT: Passed

5.1.3 20DB BANDWIDTH

RESULT: Passed

5.1.4 100kHz Bandwidth of Frequency Band Edge

RESULT: Passed

5.1.5 Spurious Emission

RESULT: Passed

5.1.6 FREQUENCY SEPARATION

RESULT: Passed

5.1.7 NUMBER OF HOPPING FREQUENCY

RESULT: Passed

5.1.8 TIME OF OCCUPANCY

RESULT: Passed

5.1.9 PEAK POWER DENSITY

RESULT: Passed

5.1.10 CONDUCTED EMISSIONS

RESULT: Passed

5.1.11 RADIATED EMISSIONS

RESULT: Passed



5.1.6

5.1.7

5.1.8

5.1.9

5.1.10 5.1.11

6. 7.

8.

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1. General Remarks

1.1 Complementary Materials

None.

2. Test Sites

2.1 Test Facilities

TÜV Rheinland (Guangdong) Ltd. EMC Laboratory

Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, P.R. China

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2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Туре	S/N	Calibrated until			
Spurious emission	Spurious emission and Radiated emission						
EMI Test Receiver	Rohde & Schwarz	ESCI-3	100216	2009-11-26			
Spectrum Analyzer	Rohde & Schwarz	FSP30	100286	2009-08-24			
Trilog-Broadband Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	209	2009-11-07			
Double-Ridged Waveguide Horn Antenna	Rohde & Schwarz	HF906	100385	2009-08-18			
Pre-amplifier	MITEQ	AFS42- 00101800-25- S-42	1101599	2010-07-31			
Standard Gain Horn Antenna	EMCO	3160-09	21642	N/A			
Pre-amplifier	MITEQ	AFS33- 18002650-30- 8P-44	1108282	2010-07-31			
3m Anechoic Chamber	Albatross Project GmbH	N/A	N/A	2010-04-16			
Radio Test Suite							
EMI Test Receiver	Rohde & Schwarz	ESCI	100178	2009-09-27			
Receiver R&S		ESCI	100178	2009-09-27			
Conducted Emission							
EMI Test Receiver	Rohde & Schwarz	ESCS30	100316	2010-03-27			
Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	100114	2010-03-27			



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2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements are ± 3 dB.

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix1 of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Guangdong) Ltd. test facility located at Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

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3. General Product Information

3.1 Product Function and Intended Use

The EUT is headset with Bluetooth technology. The Wireless headset is only designed for SONY PlayStation® 3. It operates at 2.4GHz ISM frequency band. For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Rating of EUT

Kind of Equipment:	Wireless Headset-1
Type Designation:	CECHYA-0075
FCC ID	VZVHEADSET-1
IC	7561A-HEADSET-1

Table 3: Technical Specification of EUT

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Channel separation	1MHz
Extreme Temperature Range	-20°C to +60°C
Operation Voltage	DC 3.7V via re-chargeable Li-ion battery
Modulation	Frequency Hopping Spread Spectrum
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	0.25dBi
RF Output Power	0.002W (3.11dBm)
External Ports	USB port for charging and data transfer

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Table 4: Frequency hopping information

Technical Specification	Description
Hopping Range	Hereby we declare that the maximum frequency of this device is: 2402-2480MHz. This is according the Bluetooth Core Specification V2.1+EDR for devices which will be operated in the USA. This was checked during the Bluetooth Qualification tests (Test Case: TRM/CA/04-E).
Hopping Sequence	Example of a 79 hopping sequence in data mode: 33,04,21,44,23,42,53,46,55,48,40,59,72,29,76,31,08,73, 07,75,09,45,60,39,58,13,47,11,77,52,35,50,65,54,67,56, 69,62,71,64, 7,25,27,66,57,70,74,61,78,63,10,41,05,43, 15,44,64,68,02,70,06,01,51,03,55,05,03,66,53,49,36,47,
Receiver input bandwidth	The input bandwidth of the receiver is 1MHz. In every connection one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally the type of connection is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings. Repeating of a packer has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

3.3 Independent Operation Modes

The basic operation modes are:

- A. Transmitting
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. Receiving
- C. Standby
- D. Charging
- E. Off



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3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Technical Description

- Circuit Diagram
- Instruction Manual
- Rating Label



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4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2003.

Note: The Model No. was indicated as SCVCD during testing phase, while the final formal Model No. was revised to 'CECHYA-0075' by manufacturer later.

4.3 Special Accessories and Auxiliary Equipment

Kind of Equipment	Manufacturer	Туре	S/N
Notebook	IBM	X60	L3-BZ383

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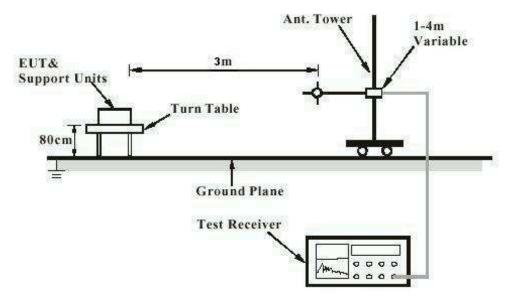
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4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test





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Diagram of Measurement Equipment Configuration for Conduction Measurement

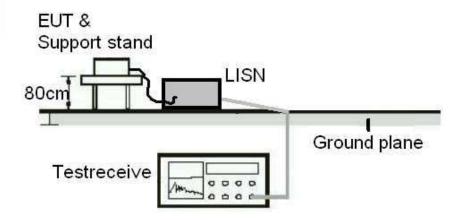
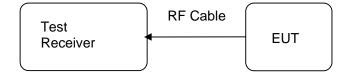


Diagram of Measurement Equipment Configuration for Transmitter Measurement





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5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT: Passed

Test date : 2009-08-03

Test standard : FCC Part 15.247(b)(4) and Part 15.203

RSS Gen 7.1.4

Limit : the use of antennas with directional gains that do

not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 0.25dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply the provision.

Refer to EUT photo for details.



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5.1.2 Peak Output Power

RESULT: Passed

Test date : 2009-07-24

Test standard : FCC Part 15.247(b)(1)

RSS-210 A8.4 (2)

Basic standard : ANSI C63.4: 2003

Limit : 1 Watt

Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High

Table 5: Test result of Peak Output Power

Channel	Channel Frequency	Peak Out	Limit	
	(MHz)	(dBm)	(W)	(W)
Low Channel	2402	2.27	0.0017	1
Middle Channel	2441	2.86	0.0019	1
High Channel	2480	2.51	0.0018	1



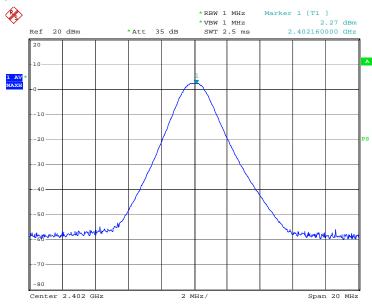
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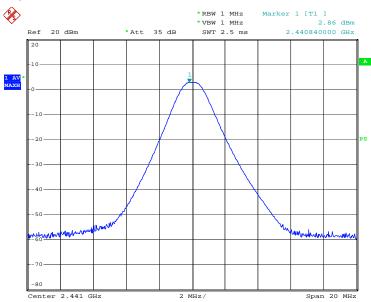
Test Plot of Peak Output Power

Low Channel



Date: 4.AUG.2009 14:36:05

Middle Channel



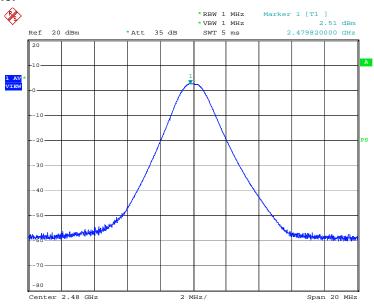
Date: 4.AUG.2009 15:08:18



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High Channel



Date: 4.AUG.2009 15:11:13



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5.1.3 20dB Bandwidth

RESULT: Passed

Date of testing 2009-07-24

Test standard FCC Part 15.247(a)(1)

RSS-210 A8.1 (a)

Basic standard ANSI C63.4: 2003 Kind of test site Shielded room

Test setup

Low/ Middle/ High

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

Table 6: Test result of 20dB Bandwidth

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	940	/	Pass
Mid Channel	2441	940	/	Pass
High Channel	2480	900	/	Pass



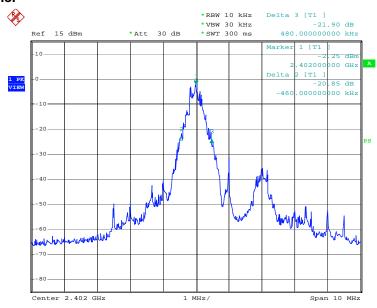
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Test Plot of 20dB Bandwidth

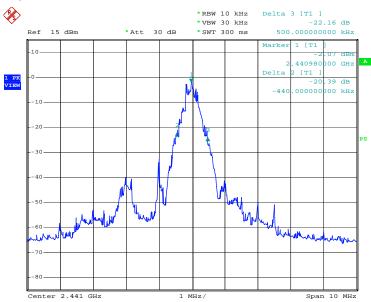
Low Channel

Test Report No.



Date: 24.JUL.2009 13:49:42

Middle Channel



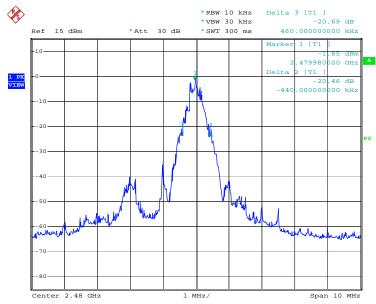
Date: 24.JUL.2009 13:48:22



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High Channel



Date: 24.JUL.2009 13:46:43



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5.1.4 100kHz Bandwidth of Frequency Band Edge

RESULT: Passed

2009-07-24 Date of testing

Test standard FCC part 15.247(d)

RSS-210 A8.5

Basic standard ANSI C63.4: 2003

20dB (below that in the 100kHz bandwidth within Limit

the band that contains the highest level of the

desired power);

In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated

emission limits specified in 15.209(a)

Kind of test site Shield room

Test setup

Test Channel Low/ High

Operation mode Α **24**°C Ambient temperature Relative humidity 53% Atmospheric pressure : 101 kPa

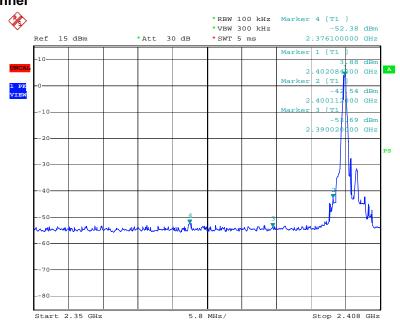
All emissions are more than 20dB below fundamental, details refer to following test plot, and compliance is achived as well.

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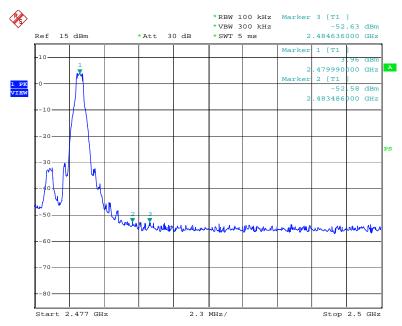
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Test Plot of 100kHz Bandwidth of Frequency Band Edge Low Channel



Date: 24.JUL.2009 14:31:47

High Channel



Date: 24.JUL.2009 14:37:39



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5.1.5 Spurious Emission

RESULT: Passed

Date of testing 2009-07-31 to 2009-08-03

Test standard FCC part 15.247(d)

RSS-210 Clause 2.2

Basic standard ANSI C63.4: 2003

Limits Refer to 15.209(a) of FCC part 15.247(d)

Refer to RSS-210 Table 2

Kind of test site 3m Semi-Anechoic Chamber

Test setup

Test Channel Low/ Middle/ High

Operation mode A, B Ambient temperature **23**℃ Relative humidity 50% Atmospheric pressure : 101 kPa

Remark: Testing was carried out within frequency range 30MHz to the tenth harmonics. For details refer to following test curves.





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Test Plot of Spurious emission of A.1 – Horizontal (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

55%RH;

Identification Test Standard:

FCC Part 15 Radiated Emission

Test Detail: Operation Mode:

101kPa.

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

23℃; Build-in battery 163052345 300 17013167 001

Report No. Result: Comment:

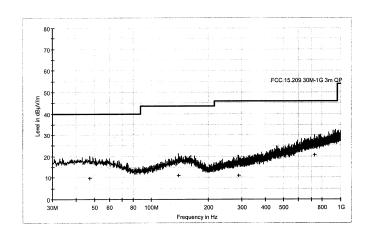
Subrange 1

Frequency Range: Receiver:

30MHz - 1GHz

Transducer

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



Limit and Margin

	g				
Frequency (MHz)	QuasiPeak (dB µ V/m)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Polarity
47.350000	9.7	14.4	30.3	40.0	Н
139.100000	11.2	14.9	32.3	43.5	H
289.450000	11.2	14.8	34.8	46.0	Н
725.850000	20.7	23.6	25.3	46.0	H

Date: 7/29/2009 - Time: 4:05:07 PM









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Test Plot of Spurious emission of A.1 – Vertical (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 ldentification

 Identification
 SCVCD

 Test Standard:
 FCC Part 15

 Test Detail:
 Radiated Emission

Test Detail: Radiated Emission Operation Mode: A.1

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

 Test Voltage / Freq. :
 Build-in battery

 Receipt No.:
 163052345 300

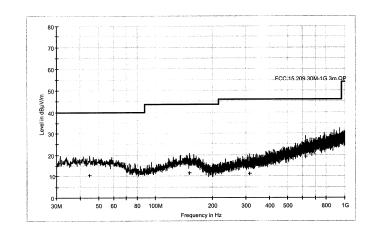
 Report No.
 17013167 001

 Result:
 Pass

Subrange 1

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

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

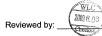


Limit and Margin

Emilie and it	Little dire mergin						
Frequency (MHz)	QuasiPeak (dB μ V/m)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)	Polarity		
44.900000	10.5	14.5	29.5	40.0	V		
151.600000	11.9	15.7	31.6	43.5	V		
313.950000	11.5	15.4	34.5	46.0	V		
621.450000	19.3	22.1	26.7	46.0	V		

Date: 7/29/2009 - Time: 3:57:23 PM







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Test Plot of Spurious emission of A.1 – Horizontal (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101kPa.

EMC Test Record (EMISSION)

Test Information

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

Test Item: Bluetooth Headset SCVCD Identification Test Standard: FCC Part 15

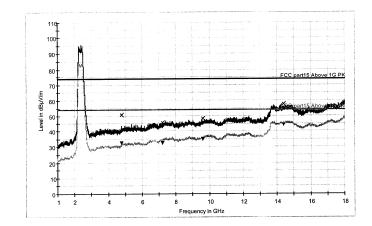
Radiated Emission A.1 Test Detail: Operation Mode: Climate Condition:

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

Subrange 1

1GHz - 18GHz TUV FSP 30 Frequency Range:

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









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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)		
4804.000000	50.9	23.1	74.0	Н	-5.9		
7206.000000	45.8	28.2	74.0	Н	-2.0		
9608.000000	48.3	25.7	74.0	H	2.2		
14412.000000	57.5	16.5	74.0	Н	6.5		

Limit and Margin AV

Lilling and wi	uigiii Av				
Frequency (MHz)	Average (dB µ V/m)	Margin (dB)	Limit (dB μ V/m)	Polarity	Corr. (dB)
4804.000000	32.5	21.5	54.0	Н	-5.9
7206.000000	32.7	21.3	54.0	H	-2.0
9608.000000	34.9	19.1	54.0	H	2.2
14412.000000	44.1	9.9	54.0	H	6.5

Tested by:

Reviewed by:



Date: 7/2/2009 - Time: 11:05:33 AM



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

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101kPa.

EMC Test Record (EMISSION)

Namtai Electronic (Shenzhen) Co., Ltd.

Test Information

Manufacturer:

Bluetooth Headset

Test Item: Identification Test Standard: Test Detail: Operation Mode: Climate Condition:

FCC Part 15 Radiated Emission A.1

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

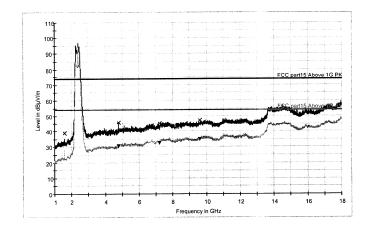
Build-in battery 163052345 300 17013167 001 Pass

Result: Comment:

Subrange 1

Frequency Range: Receiver: Transducer:

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





Reviewed by:

Date: 7/2/2009 - Time: 11:11:36 AM



Produkte

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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)	
1602.000000	38.9	35.1	74.0	V	-14.4	
4804.000000	45.7	28.3	74.0	>	-5.9	
7206.000000	45.2	28.8	74.0	V	-2.0	
9608.000000	47.1	26.9	74.0	٧	2.2	

Limit and Margin AV

Lilling and m	innit and margin Av							
Frequency (MHz)	Average (dB µ V/m)	Margin (dB)	Limit (dB µ V/m)	Polarity	Corr. (dB)			
1602.000000	32.2	21.8	54.0	V	-14.4			
4804.000000	30.6	23.4	54.0	V	-5.9			
7206.000000	32.6	21.4	54.0	V	-2.0			
9608.000000	34.8	19.2	54.0	V	2.2			

Date: 7/2/2009 - Time: 11:11:36 AM



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Test Report No.

17013167 001

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Test Plot of Spurious emission of A.1 – Horizontal (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101kPa.

EMC Test Record (EMISSION)

Test Information

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

Bluetooth Headset

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

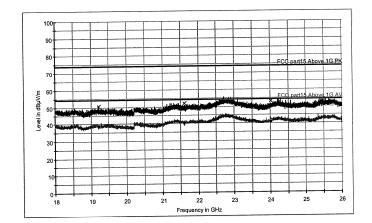
Operation Mode: Climate Condition: A.1

23℃, Build-in battery 55%RH; Test Voltage / Freq. : Receipt No.:

163052345 300 17013167 001 Report No. Result: Pass Comment:

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

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



2009 7.30

2009 8. 03 Reviewed by:

Date: 7/30/2009 - Time: 11:49:01 AM



Prüfbericht - Nr.:

Test Report No.

17013167 001

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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
19216.000000	50.5	4.4	23.5	74.0	H
21618.000000	52.0	5.5	22.0	74.0	Н
24020 000000	53.0	5.6	21.0	74.0	H_

Limit and Margin AV

LITTIL ATTU IVI	Corr Margin Limit Polarity									
Frequency	Average	Corr,	Margin	Limit	Polarity					
(MHz)	(dB µ V/m)	(dB)	(dB)	(dB µ V/m)						
19216.000000	38.2	4.4	15.8	54.0	H					
21618.000000	39.8	5.5	14.2	54.0	H					
21010.000000	40.6	5.6	13.4	54.0	Н					

2009 7.31

Date: 7/30/2009 - Time: 11:49:01 AM





Prüfbericht - Nr.:

17013167 001

Test Report No.

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Test Plot of Spurious emission of A.1 – Vertical (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101kPa.

EMC Test Record (EMISSION)

Namtai Electronic (Shenzhen) Co., Ltd.

Test Information

Manufacturer: Test Item: Identification Test Standard: Test Detail: Operation Mode: Climate Condition: Test Voltage / Freq. :

Frequency Range:

Bluetooth Headset SCVCD FCC Part 15 Radiated Emission A.1 23℃;

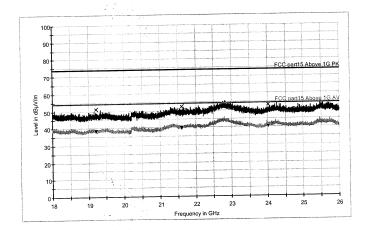
55%RH; Build-in battery 163052345 300 17013167 001

Receipt No.: Report No. Result:

Comment: Subrange 1

18GHz - 26GHz

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



Tested by:

Reviewed by: _



Date: 7/30/2009 - Time: 11:52:13 AM



Prüfbericht - Nr.:

Test Report No.

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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
19216.000000	51.3	4.4	22.7	74.0	V
21618.000000	52.4	5.5	21.6	74.0	V
24020.000000	53.1	5.6	20.9	74.0	V

Limit and Margin AV

Frequency	Average	Corr.	Margin	Limit	Polarity		
(MHz)	(dB μ V/m)	(dB)	(dB)	(dB µ V/m)			
19216.000000	38.1	4.4	15.9	54.0	V		
21618.000000	39.7	5.5	14.3	54.0	V		
24020.000000	40.5	5.6	13.5	54.0	V		



Date: 7/30/2009 - Time: 11:52:13 AM





Prüfbericht - Nr.: 17013167 001

Test Report No.

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Test Plot of Spurious emission of A.2 – 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

 Test Item:
 Bluetooth Headset Identification

 Identification
 SCVCD

 Test Standard:
 FCC Part 15

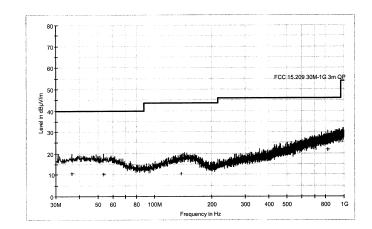
 Test Detail:
 Radiated Emission

Operation Mode: A.2 Climate Condition: 23°C; 55%RH; 101kPa.

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		
36.450000	10.5	14.3	29.5	40.0	H		
53.750000	10.3	14.1	29.7	40.0	H		
137.650000	10.8	14.8	32.7	43.5	H		
824 450000	21.9	24.8	24.1	46.0	i Hi		

Date: 7/29/2009 - Time: 4:07:52 PM











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Test Report No.

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Test Plot of Spurious emission of A.2 – Vertical (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: A.2

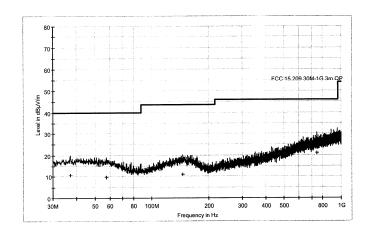
Climate Condition: 23 °C; 55%RH; 101kPa.
Test Voltage / Freq. : Build-in battery

Test Voltage / Freq. : Build-in battery
Receipt No.: 163052345 300
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

Lilling and in	Limit and margin							
Frequency (MHz)	QuasiPeak (dB µ V/m)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)	Polarity			
37.050000	10.8	14.3	29.2	40.0	V			
57.650000	9.9	13.9	30.1	40.0	V			
145.450000	11.1	15.3	32.4	43.5	V			
745.000000	21.1	23.9	24.9	46.0	V			

Date: 7/29/2009 - Time: 4:10:17 PM









Test Report No.

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17013167 001

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Test Plot of Spurious emission of A.2 –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

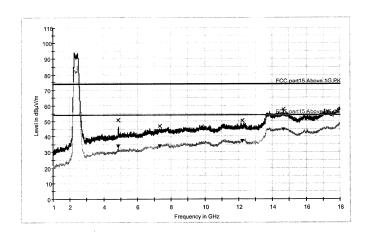
FCC Part 15 Radiated Emission A.2

23℃; Build-in battery 55%RH;

163052345 300 17013167 001 Pass

1GHz - 18GHz

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



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

2009 7. 21 Checked

Reviewed by:





Produkte

Test Report No.

Products

Prüfbericht - Nr.: 17013167 001

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency	Frequency MaxPeak Margin Limit Polarity (MHz) (dB \(\psi \) V/m) (dB) (dB \(\psi \) V/m)						
4882.000000	50.9	23.1	74.0	Н	(dB) -6.0		
7323.000000	46.9	27.1	74.0	Н	-1.3		
12205.000000	50.6	23.4	74.0	Н	1.8		
14646.000000	57.5	16.5	74.0	Н	6.4		

Limit and Margin AV

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

Frequency (MHz)	Average (dB µ V/m)	Margin (dB)	Limit (dB µ V/m)	Polarity	Corr. (dB)
4882.000000	33.8	20.2	54.0	H	-6.0
7323.000000	33.6	20.4	54.0	Η	-1.3
12205.000000	36.8	17.2	54.0	Ξ	1.8
14646.000000	44.6	9.4	54.0	H	6.4







Prüfbericht - Nr.:

17013167 001 Test Report No.

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Test Plot of Spurious emission of A.2 – Vertical (1GHz – 18GHz)

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 SCVCD Identification Test Standard: FCC Part 15 Test Detail: Radiated Emission A.2

Operation Mode: Climate Condition: 101kPa.

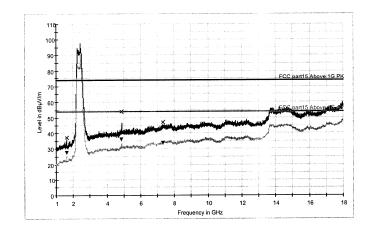
Build-in battery Test Voltage / Freq. : Receipt No.:

163052345 300 Report No. 17013167 001 Result: Comment: Pass

Subrange 1

1GHz - 18GHz TUV FSP 30 Frequency Range:

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



2009 7 3 1 Tested by:

Reviewed by:





Produkte

Test Report No.

Products

Prüfbericht - Nr.: 17013167 001

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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	37.2	36.8	74.0	V	-14.2
4882.000000	54.0	20.0	74.0	V	-6.0
7323.000000	47.2	26.8	74.0	V	-1.3

Limit and Margin AV

Limit and margin Av									
Frequency	Average	Margin	Limit	Polarity	Corr.				
(MHz)	(dB V/m)	(dB)	(dB µ V/m)		(dB)				
1626.000000	27.9	26.1	54.0	V	-14.2				
4882.000000	36.3	17.7	54.0	V	-6.0				
7323.000000	33.7	20.3	54.0	V	-1.3				

Date: 7/2/2009 - Time: 11:23:08 AM



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17013167 001

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Test Plot of Spurious emission of A.2 – Horizontal (18GHz – 26GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

Test Information

Manufacturer: Test Item: Identification

Test Standard:

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

SCVCD FCC Part 15 Radiated Emission A.2

Test Detail: Operation Mode: Climate Condition:

23℃: 55%RH;

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

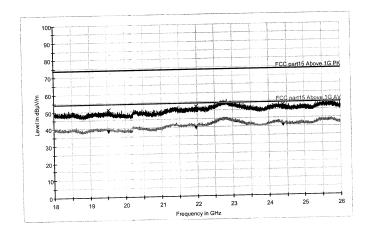
Build-in battery 163052345 300 17013167 001

Result: Comment:

Subrange 1 Frequency Range: Receiver:

18GHz - 26GHz

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



Date: 7/30/2009 - Time: 11:59:31 AM

Tested by:

Reviewed by:

2009 8.03



Prüfbericht - Nr.:

Test Report No.

17013167 001

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TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dB ⊭ V/m)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)	Polarity
19528.000000	51.1	4.4	22.9	74.0	H
21969.000000	52,4	6.3	21.6	74.0	H
24410 000000	52.6	5.7	21.4	74.0	Н

Limit and Margin AV

Limit and margin Av						
Frequency	Average	Corr.	Margin	Limit	Polarity	
(MHz)	(dB µ V/m)	(dB)	(dB)	(dB V/m)		
19528.000000	38.3	4.4	15.7	54.0	Н.	
21969.000000	39.8	6.3	14.2	54.0	Н	
24410 000000	40.7	5.7	13.3	54.0	H	

Date: 7/30/2009 - Time: 11:59:31 AM

Tested by: _____ Reviewed by: ___







Prüfbericht - Nr.:

Test Report No.

17013167 001

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Test Plot of Spurious emission of A.2 – 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:

Subrange 1 Frequency Range: Receiver: Transducer:

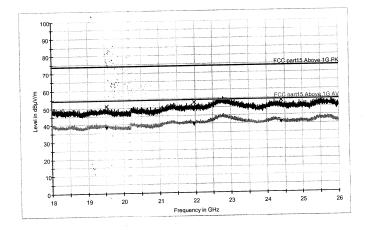
Namtai Electronic (Shenzhen) Co., Ltd.

Bluetooth Headset SCVCD FCC Part 15 Radiated Emission A.2

Build-in battery

163052345 300 17013167 001 Pass

18GHz - 26GHz TUV FSP 30 TUV SAC 3160-09 / TUV FSP 30-TUV SAC 3160-09



Date: 7/30/2009 - Time: 11:54:53 AM

2009 7. 31 Checked Tested by:

Reviewed by:





Prüfbericht - Nr.:

Test Report No.

17013167 001

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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	50.8	4.4	23.2	74.0	V
21969.000000	52.9	6.3	21.1	74.0	V
24410.000000	53.4	5.7	20.6	74.0	V

Limit and Margin Av						
Frequency (MHz)	Average (dB μ V/m)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)	Polarity	
19528.000000	38.4	4.4	15.6	54.0	V	
21969.000000	39.8	6.3	14.2	54.0	V	
24410.000000	40.7	5.7	13.3	54.0	V	

Date: 7/30/2009 - Time: 11:54:53 AM



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Test Report No.

17013167 001

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Test Plot of Spurious emission of A.3 – 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 Test Standard: FCC Part 15 Radiated Emission

Test Detail: Operation Mode: A.3

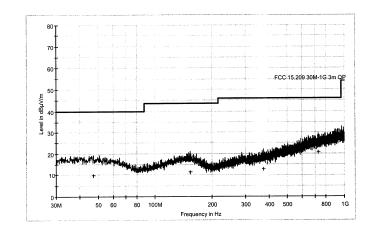
23℃; Build-in battery 101kPa.

Climate Condition: Test Voltage / Freq. : Receipt No.: 163052345 300 17013167 001 Pass Report No. Result: Comment:

Subrange 1

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

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



Limit and Margin

Frequency (MHz)	QuasiPeak (dB µ V/m)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)	Polarity
47.100000	9.9	14.4	30.1	40.0	H
153.650000	11.7	15.7	31.8	43.5	Н
375.200000	13.0	16.8	33.0	46.0	H
729.850000	20.9	23.7	25.1	46.0	H

Date: 7/29/2009 - Time: 4:12:53 PM







Prüfbericht - Nr.: 17013167 001

Test Report No.

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Test Plot of Spurious emission of A.3 – Vertical (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

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

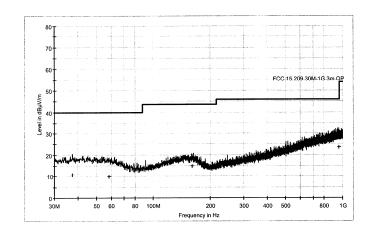
Operation Mode: A.3
Climate Condition: 23°C; 55%RH; 101kPa.

Test Voltage / Freq. : Build-in battery
Receipt No.: 163052345 300
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

Limit and margin					
Frequency (MHz)	QuasiPeak (dB µ V/m)	Corr. (dB)	Margin (dB)	Limit (dB µ V/m)	Polarity
37.400000	11.0	14.4	29.0	40.0	V
58.500000	10.2	13.8	29.8	40.0	V
160.000000	15.1	15.6	28.4	43.5	V
959.250000	23.6	26.5	22.4	46.0	V

Date: 7/29/2009 - Time: 4:17:25 PM







17013167 001 Prüfbericht - Nr.: Test Report No.

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

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

Test Information

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

Bluetooth Headset SCVCD Identification Test Standard: FCC Part 15 Radiated Emission A.3 Test Detail:

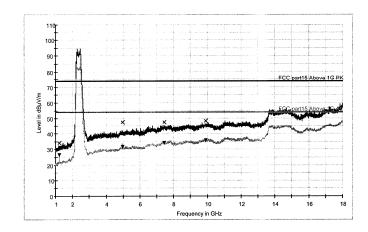
Operation Mode: Climate Condition:

23℃; 55%RH; 101kPa.

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

Subrange 1 Frequency Range:

1GHz - 18GHz TUV FSP 30 TUV SAC HF906 / TUV FSP 30-TUV SAC HF906 Receiver: Transducer:



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

2009 7.31 Tested by: Checked

Reviewed by:

