

Seite 1 von 19

Page 1 of 19

Prüfbericht-Nr.: 16071003 001 Auftrags-Nr.: 174039882 Test Report No.: Order No.:

Kunden-Referenz-Nr.: 474683 Auftragsdatum: Sep 11, 2015

Client Reference No.: Order date:

Bosch Security Systems B.V.

Torenallee 49, Auftraggeber: 5617 BA Eindhoven Client: The Netherlands

Prüfgegenstand: DCN multimedia Multimedia Device Test item:

Bezeichnung / Typ-Nr.: DCNM-MMD2 Identification / Type No.:

Auftrags-Inhalt: FCC Part 15C Order content:

Prüfgrundlage: FCC 47CFR Part 15: Subpart C Section 15.225 Test specification: FCC 47CFR Part 15: Subpart C Section 15.209

FCC 47CFR Part 15: Subpart C Section 15.207

Wareneingangsdatum: 31/8/2015 Date of receipt:

Prüfmuster-Nr.: 174039882-001 Test sample No.:

Prüfzeitraum: Refer to test report. Testing period:

Ort der Prüfung: TÜV Rheinland Place of testing: (Guangdong) Ltd.

Prüflaboratorium: TÜV Rheinland Testing laboratory: (Guangdong) Ltd.

Prüfergebnis\*: **Pass** Test result\*:

geprüft von I tested by:

kontrolliert von I reviewed by:

Amy Wang / Project Engineer 2015-11-12

2016 April 1 Max Y. C. Yao/ / Department Manager Datum Name / Stellung Unterschrift Name / Stellung Unterschrift Datum Name / Position Name / Position Date Signature Date Signature

Sonstiges I Other.

FCC ID: UX8- DCNMMMD2

Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt Condition of the test item at delivery: Test item complete and undamaged

\* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet 3 = satisfactory 4 = sufficient 5 = poorLegend: 1 = very good 2 = accordF(ail) = failed a.m. test specification(s) N/T = not tested P(ass) = passed a.m. test specification(s) N/A = not applicable

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 only 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 test mark.



Produkte Products

 Prüfbericht - Nr.:
 16071003 001
 Seite 2 von 19

 Test Report No.:
 Page 2 of 19

**TEST SUMMARY** 

5.1.1 ANTENNA REQUIREMENT

RESULT: Passed

5.1.2 RADIATED EMISSIONS

RESULT: Passed

5.1.3 FREQUENCY STABILITY

RESULT: Passed

5.1.4 MAINS CONDUCTED EMISSIONS

RESULT: Passed



16071003 001 Prüfbericht - Nr.: Test Report No.

Seite 3 von 19 Page 3 of 19

# **Contents**

1.	GENERAL REMARKS4
1.1	COMPLEMENTARY MATERIALS4
2.	TEST SITES5
2.1	Test Facilities
2.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS5
2.3	Traceability6
2.4	Calibration 6
2.5	MEASUREMENT UNCERTAINTY6
3.	GENERAL PRODUCT INFORMATION7
3.1	PRODUCT FUNCTION AND INTENDED USE7
3.2	RATINGS AND SYSTEM DETAILS7
3.3	INDEPENDENT OPERATION MODES
3.4	Noise Generating and Noise Suppressing Parts
3.5	SUBMITTED DOCUMENTS8
4.	TEST SET-UP AND OPERATION MODES
4.1	PRINCIPLE OF CONFIGURATION SELECTION9
4.2	TEST OPERATION AND TEST SOFTWARE
4.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT9
4.4	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE
4.5	TEST SETUP DIAGRAM
5.	TEST RESULTS
<b>5. 5.1</b> 5.1 5.1 5.1 5.1	TRANSMITTER REQUIREMENT & TEST SUITES         12           .1 Antenna Requirement         .12           .2 Radiated Emissions         .13           .3 Frequency Stability         .14
<b>5.1</b> 5.1 5.1 5.1	TRANSMITTER REQUIREMENT & TEST SUITES         12           .1 Antenna Requirement         .12           .2 Radiated Emissions         .13           .3 Frequency Stability         .14
<b>5.1</b> 5.1 5.1 5.1 5.1	TRANSMITTER REQUIREMENT & TEST SUITES         12           .1 Antenna Requirement         .12           .2 Radiated Emissions         .13           .3 Frequency Stability         .14           .4 Mains Conducted Emissions         .15



 Prüfbericht - Nr.:
 16071003 001
 Seite 4 von 19

 Test Report No.
 Page 4 of 19

## 1. General Remarks

## 1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

**Appendix 1: Test Result of Radiated Emissions** 

**Test Specifications** 

The following standards were applied (in bold: product standards, otherwise: basic standards).

#### **Table 1: Applied Standard and Test Levels**

#### Radio

FCC CFR47 Part 15: Subpart C Section 15.225 ANSI C63.10:2013



 Prüfbericht - Nr.:
 16071003 001
 Seite 5 von 19

 Test Report No.
 Page 5 of 19

### 2. Test Sites

### 2.1 Test Facilities

### TÜV Rheinland (Guangdong) Ltd. EMC Laboratory

No.102, 1F of Southwest and No.205, 2F of West Warehouse Building, No.767 Tianyuan Road, Tianhe District, Guangzhou, Guangdong, P.R.China.

FCC Registration No.: 833845

# 2.2 List of Test and Measurement Instruments

**Table 2: List of Test and Measurement Equipment** 

Kind of Equipment	Typo	Manufacturer	S/N	Calibrated	Calibrated
Kind of Equipment	Туре	Manuacturer	3/19	until	Interval
EMI Test Receiver	ESCI-3	Rohde & Schwarz	100216	16.Mar.2016	1 year
Software version	EMC32 V8.51.0	Rohde & Schwarz	N/A	N/A	N/A
Spectrum Analyzer	FSP30	Rohde & Schwarz	100286	16.Mar.2016	1 year
Trilog-Broadband Antenna	VULB9168 (30MHz-1GHz)	SCHWARZBECK MESSELEKTRONI K	209	16.Mar.2016	2 years
Double-Ridged Waveguide Horn Antenna	HF906 (1-18GHz)	Rohde & Schwarz	100385	16.Mar.2016	2 years
Pre-amplifier	AFS42- 00101800-25-S- 42	MITEQ	1101599	16.Mar.2016	2 years
Band Reject Filter	BRM50702	Micro-Tronics	023	16.Mar.2016	2 years
Standard Gain Horn Antenna	3160-09 (18-26.5GHz)	EMCO	21642	16.Mar.2016	5 years
Pre-amplifier	AFS33- 18002650-30-8P- 44	MITEQ	1108282	16.Mar.2016	2 years
3m Anechoic Chamber	N/A	Albatross Project GmbH	N/A	16.Mar.2016	1 year
Loop Antenna	HFH2-Z2 (<30MHz)	Rohde & Schwarz	100111	16.Mar.2016	2 years
EMI Test Receiver	ESCS30	Rohde & Schwarz	100316	16.Mar.2016	1 year
Two-Line V- Network	ESH3-Z5	Rohde & Schwarz	100308	16.Mar.2016	1 year
Pulse Limiter	ESH3-Z2	Rohde & Schwarz	100701	16.Mar.2016	1 year



 Prüfbericht - Nr.:
 16071003 001
 Seite 6 von 19

 Test Report No.
 Page 6 of 19

# 2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, 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  $\pm 3 \text{dB}$ .

**Table 3: Emission Measurement Uncertainty** 

Parameter	Uncertainty
Radio Frequency	± 1 x 10 <sup>-7</sup>
RF power, conducted	± 2.68 dB
Adjacent channel power	± 3 dB
Radiated emission of transmitter, valid up to 26 GHz	± 5.16 dB
Radiated emission of receiver, valid up to 26 GHz	± 5.16 dB
Temperature	± 2 °C
Humidity	± 10 %



 Prüfbericht - Nr.:
 16071003 001
 Seite 7 von 19

 Test Report No.
 Page 7 of 19

# 3. General Product Information

### 3.1 Product Function and Intended Use

The EUT is a Multimedia Device working at 13.56 MHz. For details refer to the User Guide, Data Sheet and Circuit Diagram.

# 3.2 Ratings and System Details

**Table 4: Basic Information of EUT** 

Item	EUT information
Kind of Equipment	DCN multimedia Multimedia Device
Type Designation	DCNM-MMD 2
Brand Name	BOSCH
FCC ID	UX8- DCNMMMD2

### **Table 5: Technical Specification of EUT**

Technical Specification	Value
Operating Frequency	13.56 MHz
Operation Voltage	49V DC
Extreme Voltage Range	48V DC
Modulation	CW
Antenna type	Internal Antenna



 Prüfbericht - Nr.:
 16071003 001
 Seite 8 von 19

 Test Report No.
 Page 8 of 19

# 3.3 Independent Operation Modes

Basic operation modes are:

A. Transmitting

## 3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

### 3.5 Submitted Documents

- Circuit Diagram
- Instruction Manual
- Rating Label
- Technical Description



 Prüfbericht - Nr.:
 16071003 001
 Seite 9 von 19

 Test Report No.
 Page 9 of 19

# 4. Test Set-up and Operation Modes

# 4.1 Principle of Configuration Selection

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

### 4.2 Test Operation and Test Software

Setup for testing: Test samples are provided with a digital interface which makes it possible to control them through a test software installed on a notebook computer.

# 4.3 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

Kind of Equipment	Manufacturer	Model Name	S/N
DCNM-HDMIC DCN multimedia High Directive Microphone	Bosch	DCNM-HDMIC	095864142084310027
DCNM-HDMIC DCN multimedia Name Card Holder	Bosch	DCNM-NCH	N/A
PC	Lenovo	T530	4234EH7
DCN multimedia Powering Switch	Bosch	DCNM-PS	045000146012010002



 Prüfbericht - Nr.:
 16071003 001
 Seite 10 von 19

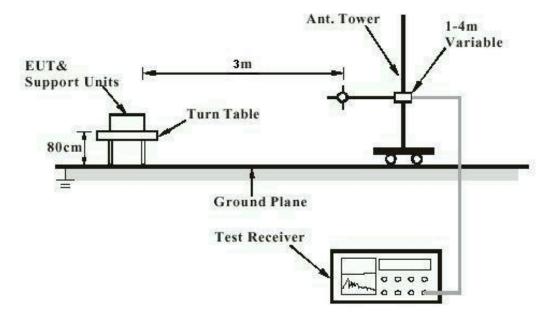
 Test Report No.
 Page 10 of 19

## 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 (Below 1GHz)





Prüfbericht - Nr.: 16071003 001

Test Report No.

**Seite 11 von 19**Page 11 of 19

### **Diagram of Measurement Configuration for Radiation Test (Above 1GHz)**

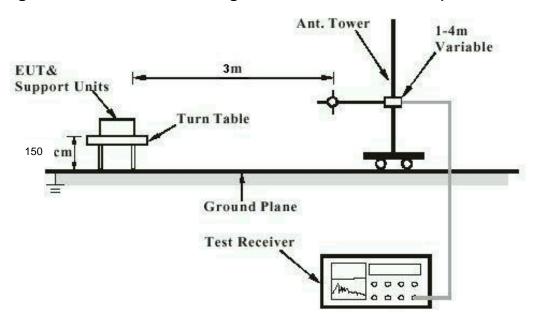
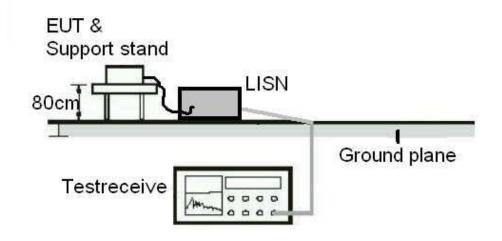


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement (if applicable)



Products



 Prüfbericht - Nr.:
 16071003 001
 Seite 12 von 19

 Test Report No.
 Page 12 of 19

# 5. Test Results

# 5.1 Transmitter Requirement & Test Suites

## 5.1.1 Antenna Requirement

RESULT: Passed

Standard : Part 15.203

Requirement : use of approved antennas only

The antenna is a printed PCB trace with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

Refer to EUT photo for details.



Seite 13 von 19 Prüfbericht - Nr.: 16071003 001 Page 13 of 19

Test Report No.

### 5.1.2 Radiated Emissions

**RESULT: Passed** 

Test standard FCC Part 15. 225 Basic standard ANSI C63.10:2013

Limits 15.225(a): The field strength of any emissions within the band

13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at

30 meters.i.e. 124.0dBµV/m @ 3 m.

15.225(b): Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters. i.e. 90.5dBµV/m @ 3 m. 15.225I: Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters. i.e. 80.5 dBµV/m @ 3 m. 15.225(d): The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general

radiated emission limits in § 15.209

3m Semi-Anechoic Chamber

Kind of test site

**Test setup** 

Test Frequency 13.56 MHz

Operation Mode

Relative humidity 50-65 % Atmospheric pressure 100-103 kPa

Remark: For details refer to Appendix 1.



Seite 14 von 19 Prüfbericht - Nr.: 16071003 001 Page 14 of 19

Test Report No.

### 5.1.3 Frequency Stability

**RESULT: Passed** 

FCC Part 15. 225(e) Test standard

Basic standard ANSI C63.10:2013 Clause 6.8

Limits 15.225(e): The frequency tolerance of the carrier

signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests

shall be performed using a new battery.

Kind of test site Shielded room

**Test setup** 

**Test Frequency** 13.56 MHz

Operation Mode

50-65 % Relative humidity Atmospheric pressure 100-103 kPa

#### **Table 6: Test result of Frequency Stability**

13.56 MHz			Limit (±0.01%)	
Temperature	Voltage	Frequency	%	
0°C	Normal	13.55956	0.0026	PASS
10°C	Normal	13.55954	0.0026	PASS
20°C	High(+15%)	13.55956	0.0026	PASS
20°C	Normal	13.55960	0.0029	PASS
20°C	Low(-15%)	13.55958	0.0031	PASS
30°C	Normal	13.55954	0.0034	PASS
35°C	Normal	13.55958	0.0031	PASS

Products



 Prüfbericht - Nr.:
 16071003 001
 Seite 15 von 19

 Test Report No.
 Page 15 of 19

### **5.1.4 Mains Conducted Emissions**

RESULT: Passed

Test standard : FCC Part 15.207

Limits : Mains Conducted emissions as defined in

above test standards must comply with the mains conducted emission limits specified

Kind of test site : Shielded Room

**Test setup** 

Test Channel : Middle Operation mode : A

Remark: For details refer to Appendix 1.

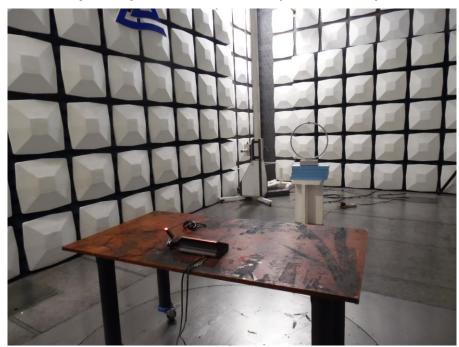


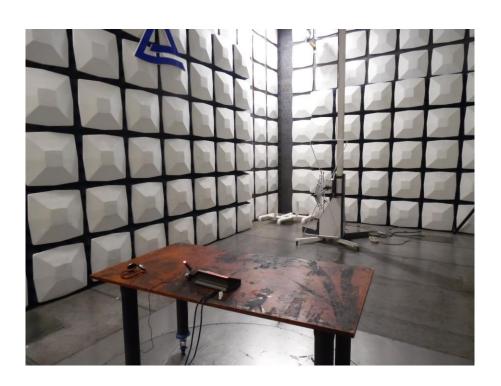
 Prüfbericht - Nr.:
 16071003 001
 Seite 16 von 19

 Test Report No.
 Page 16 of 19

# 6. Photographs of the Test Set-Up

Photograph 1: Set-up for Spurious Emissions (Below 1GHz)







 Prüfbericht - Nr.:
 16071003 001
 Seite 17 von 19

 Test Report No.
 Page 17 of 19

### Photograph 2: Set-up for Spurious Emissions (Above 1GHz)



Photograph 3: Set-up for Conducted testing





 Prüfbericht - Nr.:
 16071003 001
 Seite 18 von 19

 Test Report No.
 Page 18 of 19

# Photograph 4: Set-up for Conducted Emission testing





 Prüfbericht - Nr.:
 16071003 001
 Seite 19 von 19

 Test Report No.
 Page 19 of 19

# 7. List of Tables

Table 1: Applied Standard and Test Levels	
Tadie Z. List di Test and Measurement Equipment	5
Table 3: Emission Measurement Uncertainty	6
Table 4: Basic Information of EUT	7
Table 5: Technical Specification of EUT	7
Table 6: Test result of Frequency Stability	14
8. List of Photographs	
8. List of Photographs  Photograph 1: Set-up for Spurious Emissions (Below 1GHz)	16
Photograph 1: Set-up for Spurious Emissions (Below 1GHz)	17
	17 17



Test Report No.

16071003 001

Seite 1 von 10

Page 1 of 10

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

# **EMC Report**

#### **Common Information**

Manufacturer:BOSCHTest Item:Multimedia DeviceIdentification:DCNM-MMD2Test Standard:FCC Part 15Test Detail:Radiated EmissionOperation Mode:Normal operation

Climate Condition: 23 °C; 54 %RH; 101 kPa.

Test Voltage/ Freq: DC 48 V

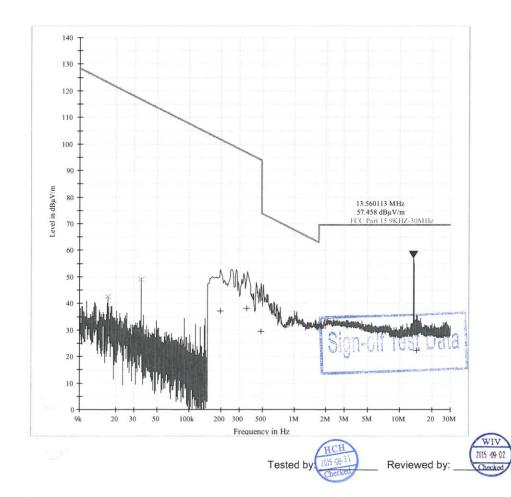
Receipt No: /
Report No: /
Result: Pass

Comment: Test distance is 3m

Subrange 1

Frequency Range: 9KHz-30MHz
Receiver: TUV ESCI

Transducer: TUV SAC FMZB1519



## Appendix 1



Prüfbericht - Nr.:

Test Report No.

16071003 001

Seite 2 von 10

Page 2 of 10

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/	Comm
0.198000	37.2	2.0	9.000	18.3	64.5	101.7	
0.354000	38.2	2.0	9.000	17.8	58.4	96.6	
0.482000	29.4	2.0	9.000	17.7	64.6	93.9	
14.442000	22.3	2.0	9.000	21.6	47.2	69.5	

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/	Comm
0.016840	42.5	100.0	0.200	16.4	80.6	123.1	
0.034920	48.9	100.0	0.200	17.0	67.9	116.7	





Test Report No.

16071003 001

Seite 3 von 10

Page 3 of 10

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

## **EMC Test Record (Emission)**

#### **Common Information**

Manufacturer:BOSCHTest Item:Multimedia DeviceIdentification:DCNM-MMD2Test Standard:FCC Part 15Test Detail:Radiated EmissionOperation Mode:Normal operation

Climate Condition: 23 °C; 54 %RH; 101 kPa.

Test Voltage/ Freq: DC 48 V Receipt No: /

Report No: /
Result: Pass

Comment: Test distance is 3m

Subrange 1

Frequency Range: 9KHz-30MHz
Receiver: TUV ESCI
Transducer: TUV SAC FMZB1519

140 -130 -120 -110 -100 13.560113 MHz 57.342 dBμV/m 40 -30 -Sign-off Test Data 20 -10 -13.54 13.52 13.56 13.58 13.6 Frequency in MHz







Test Report No.

16071003 001

Seite 4 von 10

Page 4 of 10

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

## **EMC Test Record (Emission)**

101 kPa.

#### **Common Information**

Manufacturer: BOSCH Multimedia Device DCNM-MMD2 Test Item: Identification: FCC Part 15 Test Standard: Test Detail: Radiated Emission Operation Mode: Normal operation

Climate Condition: 23 °C; 54 %RH; Test Voltage/ Freq: DC 48 V

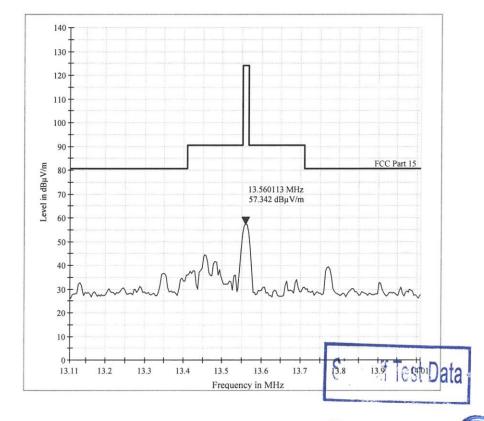
Receipt No: Report No:

Result: Pass Test distance is 3m Comment:

Subrange 1 Frequency Range:

9KHz-30MHz Receiver: **TUV ESCI** Transducer: TUV SAC FMZB1519

EMCTT\_EREF011-A02-01\_9KHz-30MHz



Date: 5/20/2015 - Time: 2:48:30

Tested by:

Reviewed by:



Test Report No.

16071003 001

Seite 5 von 10

Page 5 of 10

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

101 kPa.

## **EMC Test Record (Emission)**

#### **Common Information**

Manufacturer: BOSCH

Test Item: Multimedia Device Identification: DCNM-MMD2
Test Standard: FCC Part 15 A
Test Detail: Radiated Emission

Operation Mode: Normal operation
Climate Condition: 23 °C; 54 %RH;

Test Voltage/ Freq: DC 48 V

 Receipt No:
 /

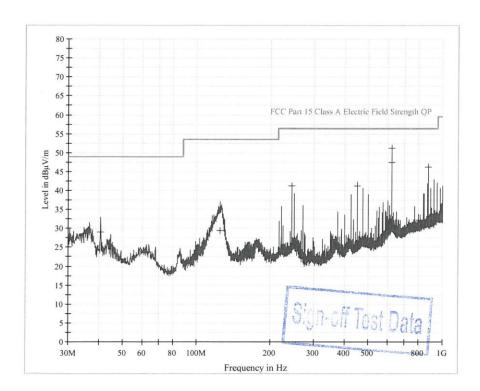
 Report No:
 /

 Result:
 Pass

Comment: Test distance is 3m; Vertical

Subrange 1

Receiver: 30-1000MHz
Receiver: ESCI 3
Transducer: VULB9168







## Appendix 1



Prüfbericht - Nr.:

Test Report No.

16071003 001

Seite 6 von 10

Page 6 of 10

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
40.680000	29.1	1000.0	120.000	V	14.7	19.9	49.0	
124.680000	29.5	1000.0	120.000	V	13.4	24.0	53.5	
244.080000	41.2	1000.0	120.000	V	13.9	15.2	56.4	
450.000000	41.3	1000.0	120.000	According	20.1	15.1	56.4	
625.000000	47.5	1000.0	120.000	V	23.8	8.9	56.4	
625.000000	51.3	1000.0	120.000	Vin	23.8	5.1	56.4	
875.000000	46.2	1000.0	120.000	VICE	27.3	10.2	56.4	









Test Report No.

16071003 001

Seite 7 von 10

Page 7 of 10

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

## **EMC Test Record (Emission)**

#### **Common Information**

Manufacturer:BOSCHTest Item:Multimedia DeviceIdentification:DCNM-MMD2Test Standard:FCC Part 15 %Test Detail:Radiated EmissionOperation Mode:Normal operation

Climate Condition: 23 °C; 54 %RH; 101 kPa.

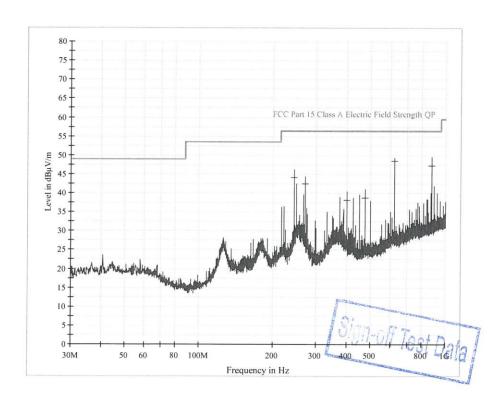
Test Voltage/ Freq: DC 48 V

Receipt No: /
Report No: /
Result: Pass

Comment: Test distance is 3m; Horizontal

Subrange 1

Frequency range: 30-1000MHz
Receiver: ESCI 3
Transducer: VULB9168









## Appendix 1



Prüfbericht - Nr.:

Test Report No.

16071003 001

Seite 8 von 10

Page 8 of 10

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	Comment
244.000000	44.2	1000.0	120.000	Н	13.9	12.2	56.4	
271.160000	42.5	1000.0	120.000	Н	15.1	13.9	56.4	
399.920000	38.2	1000.0	120.000	THE PERSON NAMED AND POST OF THE PARTY OF TH	18.6	18.2	56.4	
475.000000	38.8	1000.0	120.000	Н	20.5	17.6	56.4	
625.000000	48.5	1000.0	1,20,000	HATO	23.8	7.9	56.4	
875.000000	47.4	1000.0	120.000	H 1 1851	27.3	9.0	56.4	







Test Report No.

16071003 001

Seite 9 von 10

Page 9 of 10

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

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

#### **Test Information**

Manufacturer:

**BOSCH** 

Test Item:

Multimedia Device

Identification: Test Standard: DCNM-MMD2

Test Detail:

FCC Part 15 A Conducted Emission

Operation Mode:

Normal operation

22 ℃;

Climate Condition:

53 %RH;

Test Voltage/ Freq.:

AC 120 V / 60 Hz

Port / Line:

AC Mains(L1+N)

Receipt No.:

Report No.: Result:

Pass

Comment:

Hardware Setup:

1phase LISN ESH3-Z5 to ESR 7

9kHz

Level Unit:

dBµV

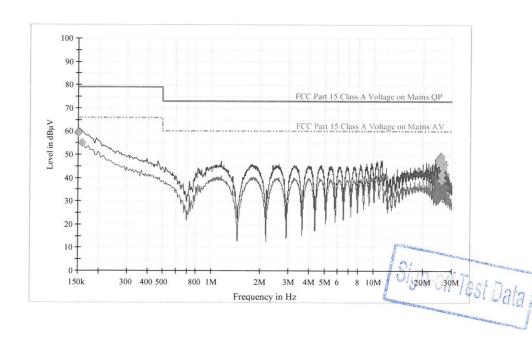
Subrange 150kHz - 30MHz

Detectors Peak; Average IF Bandwidth

Step Size 4.5kHz

Meas. Time

Receiver ESR 7 10ms





## Appendix 1



Prüfbericht - Nr.:

Test Report No.

16071003 001

Seite 10 von 10

Page 10 of 10

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

#### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	59.5	1000.0	9.000	GN	N	10.1	19.5	79.0	
24.734000	47.9	1000.0	9.000	GN	L1	11.6	25.1	73.0	
25.626000	49.3	1000.0	9.000	GN	L1	11.5	23.7	73.0	
25.926000	46.9	1000.0	9.000	GN	L1	11.5	26.1	73.0	
26.522000	46.4	1000.0	9.000	GN	N	11.4	26.6	73.0	
26.822000	46.0	1000.0	9.000	GN	L1	11.6	27.0	73.0	

#### Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.158000	54.9	1000.0	9.000	GN	L1	10.2	11.1	66.0	
24.734000	47.0	1000.0	9.000	GN	L1	11.6	13.0	60.0	
25.626000	47.1	1000.0	9.000	GN	L1	11.5	12.9	60.0	
25.922000	41.5	1000.0	9.000	GN	L1	11.5	18.5	60.0	
25.998000	39.3	1000.0	9.000	GN	L1	1,1.5	20.7	60.0	
26.522000	44.4	1000.0	9.000	GN	N	11:4	15.6	60.0	



