

Annex 1: Measurement diagrams to
TEST REPORT
No.: 18-1-0018601T02a

According to:
FCC Regulations
Part 15.205
Part 15.209
Part 15.247

IC-Regulations
RSS-Gen, Issue 4
RSS-247, Issue 2

for
Bosch Car Multimedia GmbH

AIVICMBF0

FCC-ID: YBN-AIVICMBF0
IC: 9595A-AIVICMBF0
PMN: AIVICMBF0
HVIN: AIVICMBF0







Laboratory Accreditation and Listings			
 <p>DAkKS Deutsche Akkreditierungsstelle D-PL-12047-01-01</p>	 <p>FEDERAL COMMUNICATIONS COMMISSION FCC U.S.A. MRA US-EU 0003</p>	 <p>Industry Canada Reg. No.: 3462D-2 Reg. No.: 3462D-3</p>	 <p>Voluntary Controls for Electromagnetic Emissions Reg. No.: R-2666 C-2914, T-1967, G-301</p>
 <p>WiFi ALLIANCE AUTHORIZED RF LABORATORY</p>	 <p>ctia AuthorizedTM Test Lab Lab Code: 20011130-00</p>		
accredited according to DIN EN ISO/IEC 17025			
<p>CETECOM GmbH Laboratory Radio Communications & Electromagnetic Compatibility Im Teelbruch 116 • 45219 Essen • Germany Registered in Essen, Germany, Reg. No.: HRB Essen 8984 Tel.: + 49 (0) 20 54 / 95 19-954 • Fax: + 49 (0) 20 54 / 95 19-964 E-mail: info@cetecom.com • Internet: www.cetecom.com</p>			

Table of contents

1. MEASUREMENT DIAGRAMS.....	3
1.1. Radiated magnetic field measurements below 30 MHz.....	3
1.2. Radiated electric field measurement 30 MHz to 1 GHz	4
1.3. Radiated electric field measurement above 1 GHz	6
1.4. Radiated band edge compliance	8

1. Measurement diagrams

1.1. Radiated magnetic field measurements below 30 MHz

2.03_n40-mode_MCS0_ch03||1

Common Information

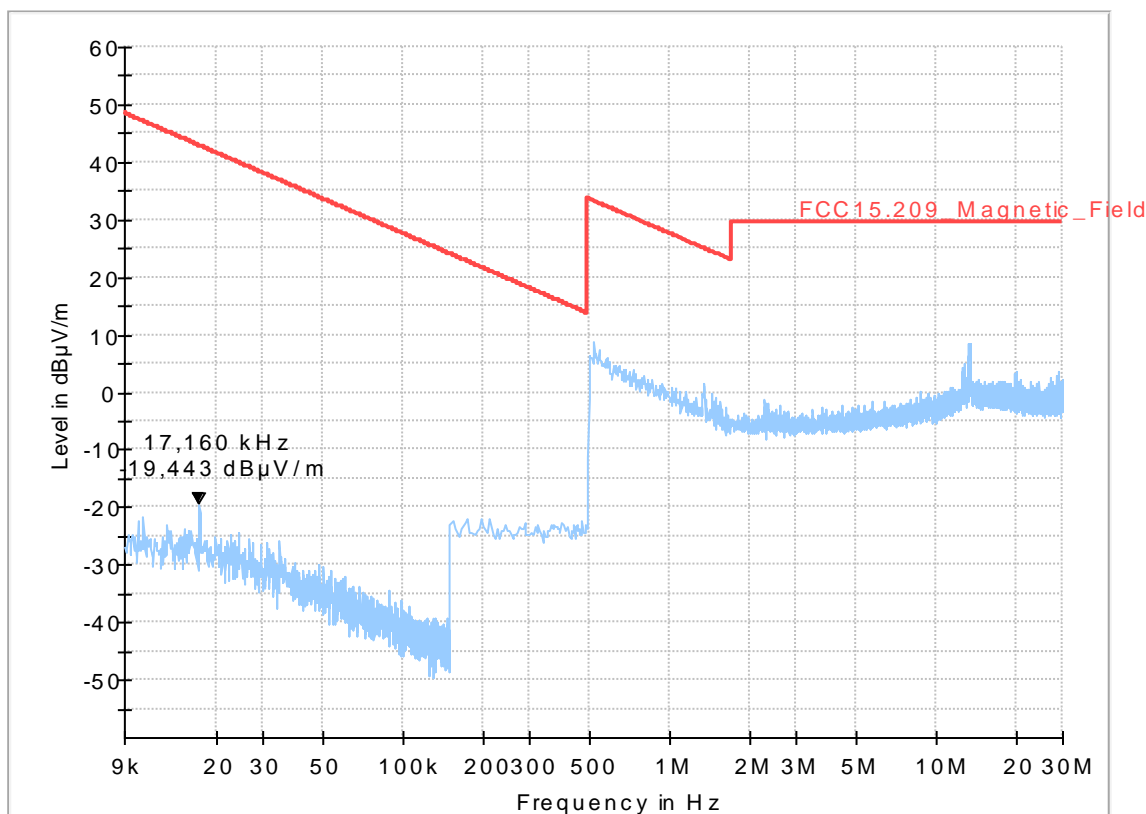
Test Description:	Radiated field strength (f<30MHz)
Test site and distance	Ref.-Nr.441, Semi Anechoic Room (SAR) with 3m measurement distance
Version of Testsoftware	EMC32 V9.25.0
Distance Correction	used accord. table, pls. see test report
Technical Data	please see page 2 for detailed data of measurement setup
Rec.Antenna(pre-scan)	height = 1m , polarisation according to pre-scan results
Used filter	bypass
Test specification	FCC 15.209/15.205; RSS-Gen., Issue 4
Operator	DLe
Operating mode	WLAN 2.4GHz n-mode HT40 MCS0 ch03 = 2422MHz
operating conditions	Humidity: 48%rH; Temperature: 20°C

EUT Information

EUT Name:	AIVICMFBO
Manufacturer:	Robert Bosch Car Multimedia
Serial Number:	5603
Hardware Rev:	001
Software Rev:	0507
Comment:	

Full Spectrum

Full Spectrum



1.2. Radiated electric field measurement 30 MHz to 1 GHz

Diagram No. 3.03_n40-mode_MCS0_ch03

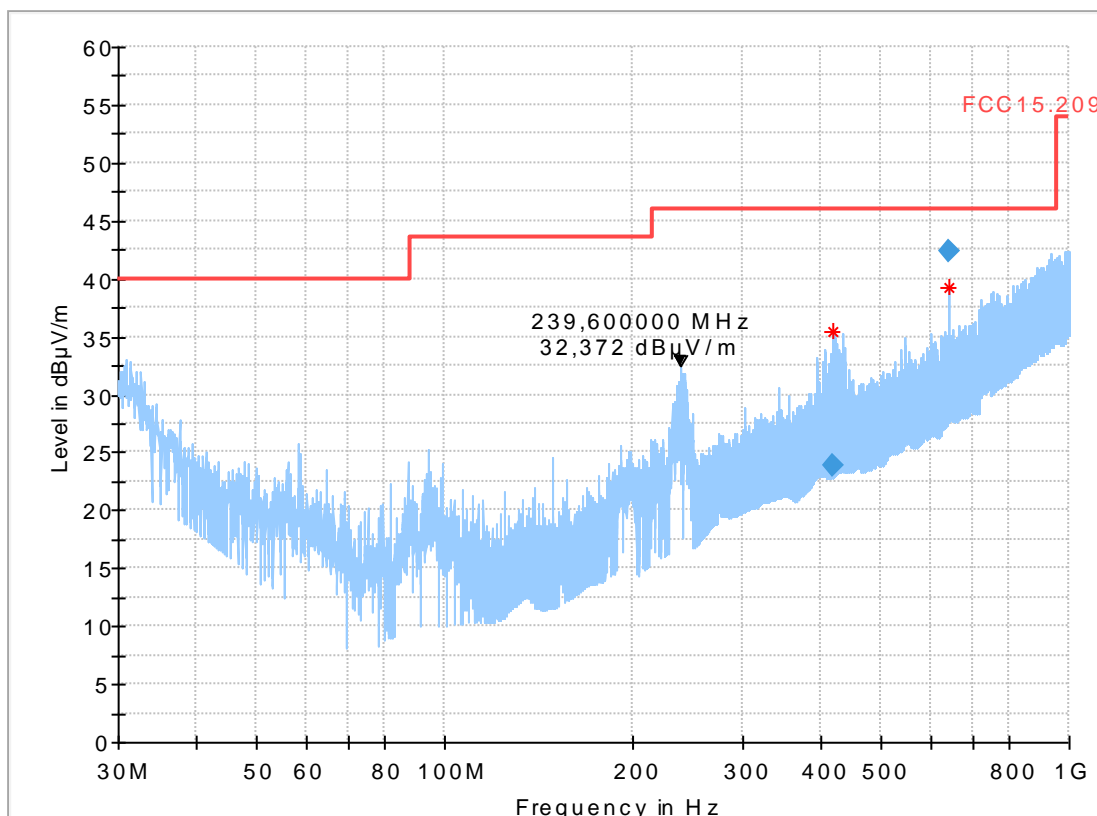
Common Information

Test description:	Electric Field Strength Measurement
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	not used
Used filter:	not used
Technical Data:	please see page 2 for detailed data of measurement setup
Test specification.:	FCC 15.209; RSS-Gen: Issue 3
Operator:	JVo
Operating conditions:	WLAN 2.4GHz n-mode HT40 MCS0 ch03 = 2422MHz
Power during tests:	13.5V DC

EUT Information

EUT Name:	AIVICMFB0
Manufacturer:	Robert Bosch Car Multimedia
Serial Number:	5603
Hardware Rev:	001
Software Rev:	0507
Comment:	

Full Spectrum



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
418.676000	23.89	46.00	22.11	1000.0	120.000	347.0	V	321.0	18.8
643.496000	42.29	46.00	3.71	1000.0	120.000	126.0	H	124.0	23.2

1.3. Radiated electric field measurement above 1 GHz

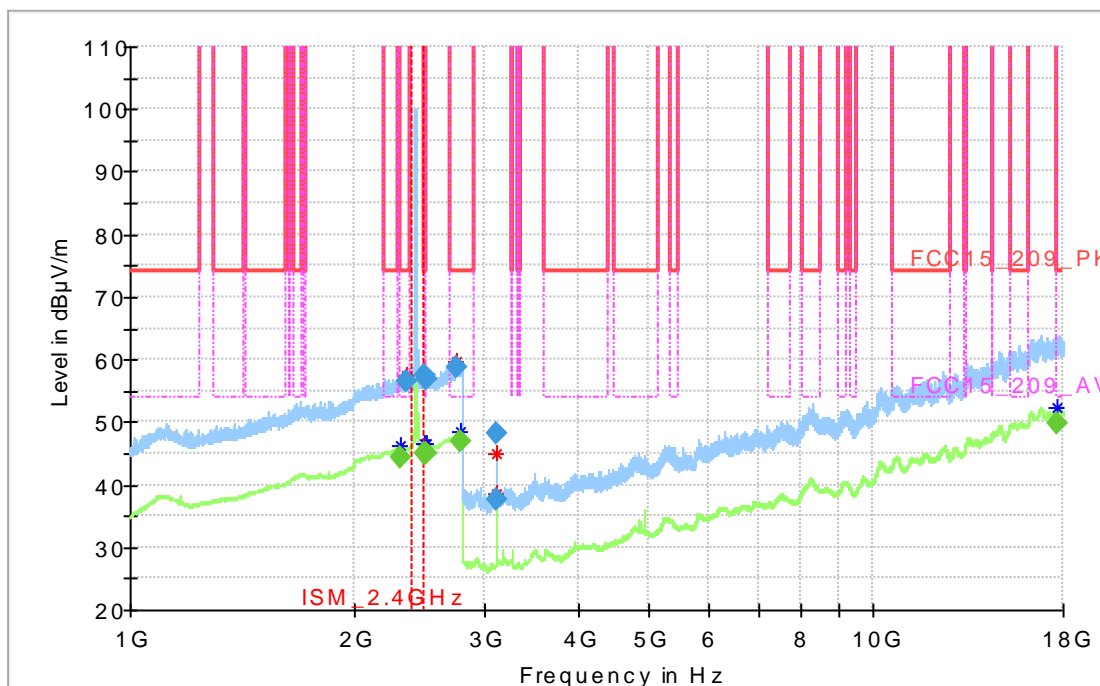
Diagram No.: 4.03a_WLAN2.4_mode_n40MHz_MCS0_ch03

Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	TX, continuous
Operator Name:	Lor
Comment:	Channel no. low/high
Comment2:	Modulation Type: xxx Data Rate: yyy

EUT Information

EUT Name:	AIVICMFBO
Manufacturer:	Robert Bosch Car Multimedia
Serial Number:	5603
Hardware Rev:	001
Software Rev:	0507
Comment:	



Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2314.090000	---	44.50	54.00	9.50	100.0	1000.000	155.0	H	40.0
2358.130000	56.62	---	74.00	17.38	100.0	1000.000	155.0	V	218.0
2485.970000	---	44.88	54.00	9.12	100.0	1000.000	155.0	V	352.0
2488.570000	57.32	---	74.00	16.68	100.0	1000.000	155.0	V	220.0
2497.570000	---	44.91	54.00	9.09	100.0	1000.000	155.0	H	280.0
2498.530000	56.83	---	74.00	17.17	100.0	1000.000	155.0	H	166.0
2744.690000	58.76	---	74.00	15.24	100.0	1000.000	155.0	H	110.0
2783.450000	---	46.80	54.00	7.20	100.0	1000.000	155.0	H	-28.0
3108.370000	37.66	---	150.00	112.34	100.0	1000.000	155.0	V	37.0
3118.290000	48.12	---	150.00	101.88	100.0	1000.000	155.0	V	167.0

17673.490000	---	49.83	150.00	100.17	100.0	1000.000	155.0	V	5.0
--------------	-----	-------	--------	--------	-------	----------	-------	---	-----

Diagram No.: 4.03b_WLAN2.4_mode_n40MHz_MCS0_ch03

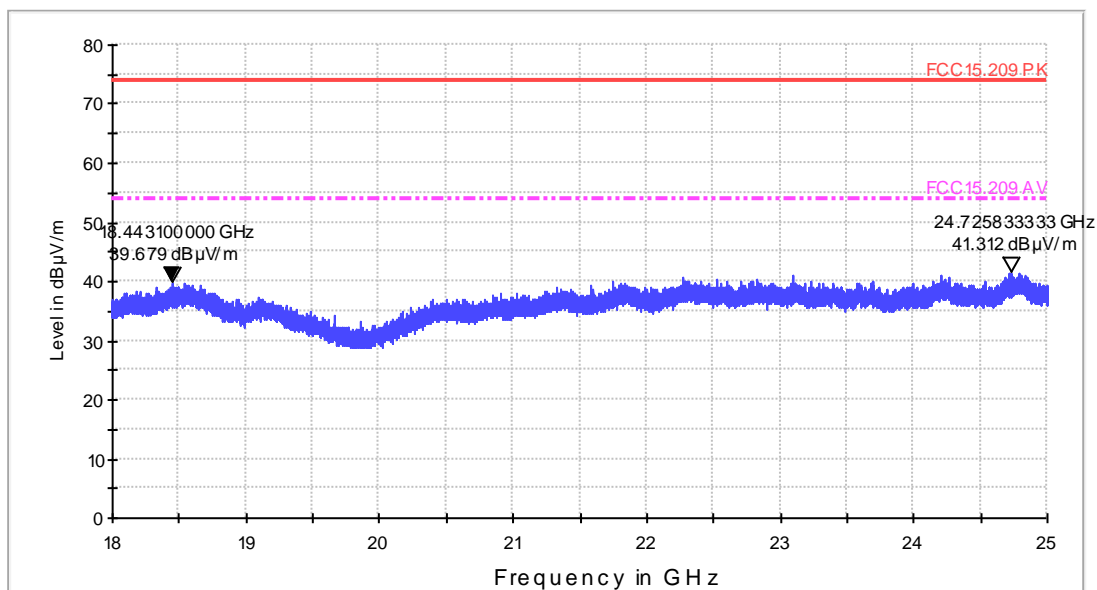
Common Information

Test Description:	Radiated field strength emission in 1m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247, 15.205&15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Distance correction factor	3 to 1m: -10.5 dB applying to measurement results
SW-Version:	EMC32 V8.53.0
Operation mode:	TX mode continuous
Operator Name:	
Comment:	Channel no. low/middle/high

EUT Information

EUT Name:	AIVICMFB0
Manufacturer:	Robert Bosch Car Multimedia
Serial Number:	5603
Hardware Rev:	001
Software Rev:	0507
Comment:	

FCC_Sweep_15.247_18_25GHz_Pre



1.4. Radiated band edge compliance

Diagram No.: 9.05_BE_low_WLAN_24_n40-mode_MCS0_ch03

Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	TX, continuous
Operator Name:	JVoigt
Comment:	Channel no. low
Comment2:	Modulation Type: n-mode Data Rate: MCS0 ch: 03

EUT Information

EUT Name:	AIVICMFBO
Manufacturer:	Robert Bosch Car Multimedia
Serial Number:	5603
Hardware Rev:	001
Software Rev:	0507
Comment:	

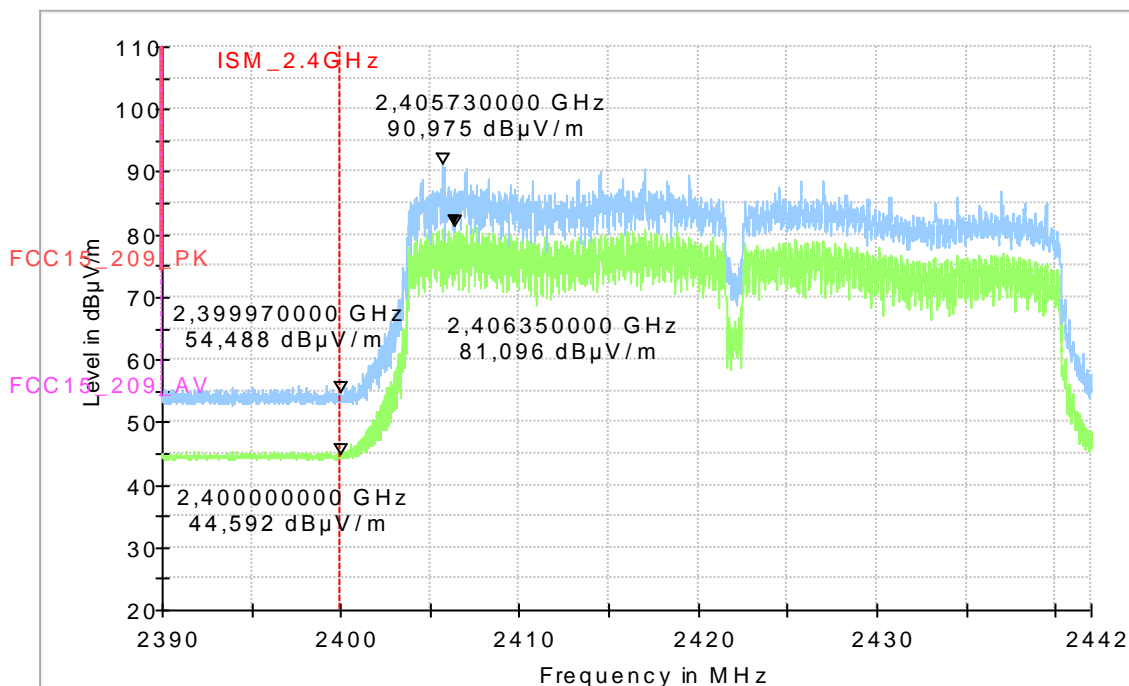


Diagram No.: 9.06_BE_high_WLAN_24_n40-mode_MCS0_ch011

Common Information

Test Description:	Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4
Antenna polarisation:	horizontal/vertical
Operation mode:	TX, continuous
Operator Name:	Lor
Comment:	Channel no. high
Comment2:	Modulation Type: n-mode HT40 Data Rate: MCS0

EUT Information

EUT Name:	AIVICMFBO
Manufacturer:	Robert Bosch Car Multimedia
Serial Number:	5603
Hardware Rev:	001
Software Rev:	0507
Comment:	

