

Annex 1: Measurement diagrams to

TEST REPORT No.: 17-1-0105501T06a-C1

According to: FCC Regulations
Part 15.209
Part 15.247

**ISED-Regulations** 

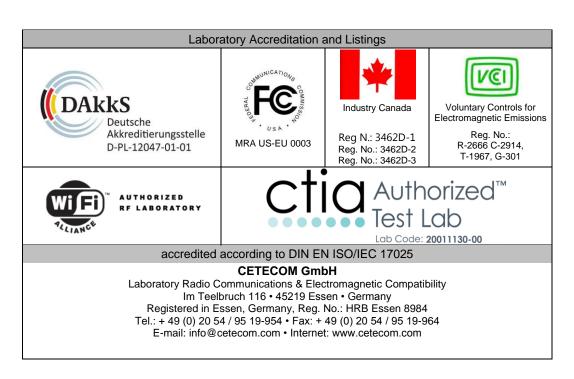
RSS-247, Issue 2 RSS-Gen, Issue 4

for

Daimler Trucks North America

66-10777-001 7620000296

FCC: 2AKC8CTP10777001 ISED: 22221-CTP10777001 PMN=CTPMIDDTNA HVIN= CTPMIDDTNA FVIN=17.02.S.016





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# 1. Radiated field strength measurements accord. §15.209&15.205

# 1.1. Magnetic field measurements f<30MHz

## **2.10\_BT\_LE\_low**

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30m distance

Test site and distance Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance

Version of Testsoftware: EMC32 V9.25.00

Technical Data: FCC 15.205 § 15.209; RSS-Gen: Issue 4

Test specification.: height 1.00 m, parallel and 90° to EUT polarisation

Operating Conditions: Bluetooth LE low

Operator Name:

## **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

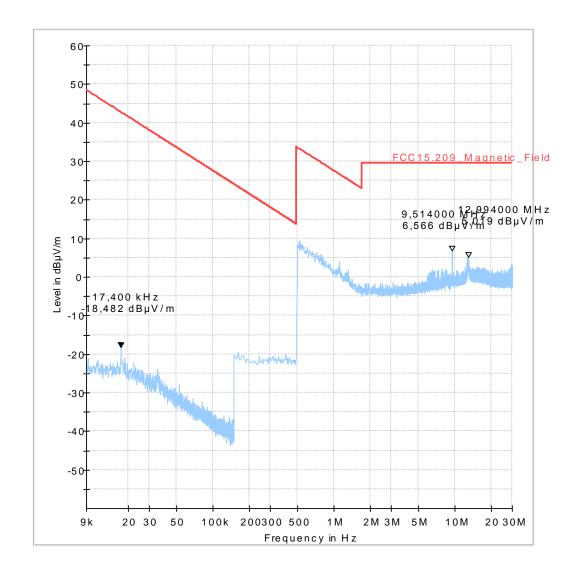
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 2.12a\_BT\_LE\_high

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30m distance

Test site and distance Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance

Version of Testsoftware: EMC32 V9.25.00

Technical Data: FCC 15.205 § 15.209; RSS-Gen: Issue 4

Test specification.: height 1.00 m, parallel and 90° to EUT polarisation

Operating Conditions: Bluetooth LE mid

Operator Name: TF

## **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

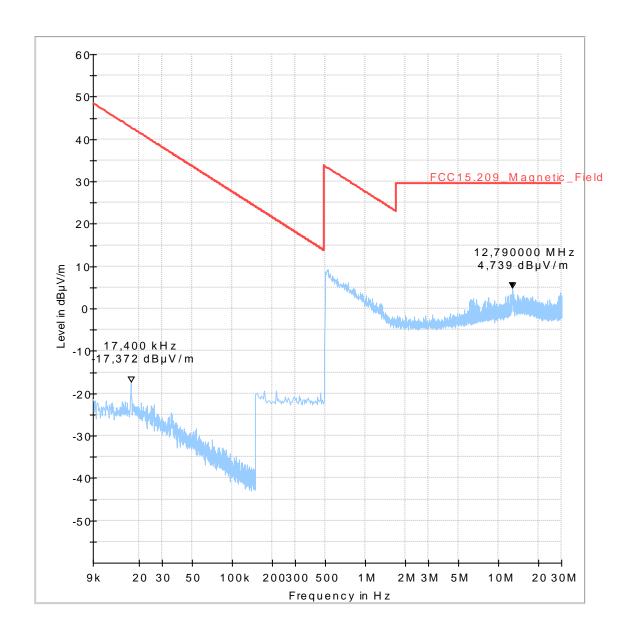
EuT: cTP/TDC MID DTNA-4G

 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 2.12a\_BT\_LE\_high

#### **Common Information**

Test Description: Magnetic Field Strength Measurement related to 30m distance

Test site and distance Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance

Version of Testsoftware: EMC32 V9.25.00

Technical Data: FCC 15.205 § 15.209; RSS-Gen: Issue 4

Test specification.: height 1.00 m, parallel and 90° to EUT polarisation

Operating Conditions: Bluetooth LE high

Operator Name:

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH
EuT: CTP/TDC MID DTNA-4G

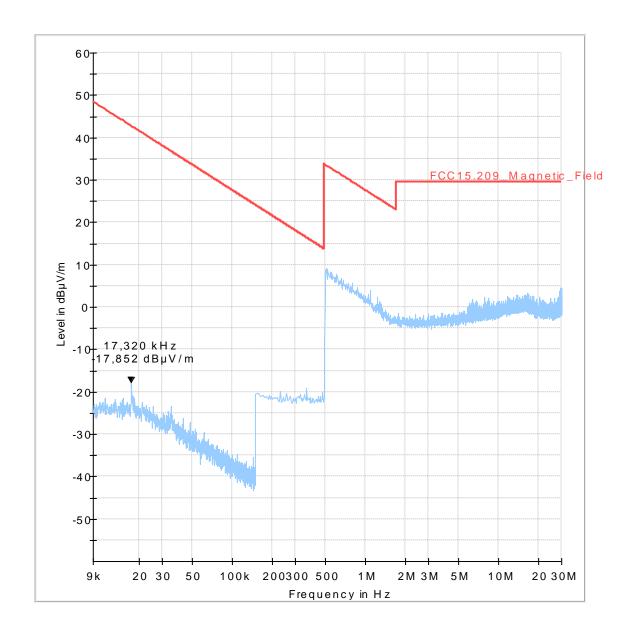
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





# 1.2. Field strength measurements 30MHz <f <1GHz Diagram No. 3.10a\_BT\_LE\_low

24.08.2017 Page 1 of 1

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: DLe
Operating conditions: BT\_LE
Power during tests: 24V DC
Comment 1: CHANNEL 37

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

 HW Version:
 9134G05

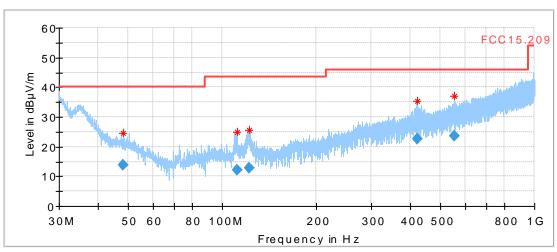
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24 V DC

#### Full Spectrum



Frequency	QuasiPeak	Limit	Margi	Meas.	Bandwidth	Heigh	Pol	Azimut	Elevatio	Corr
(MHz)	(dBµV/m)	(dBµV/m)	n	Time	(kHz)	t		h	n	
			(dB)	(ms)		(cm)		(deg)	(deg)	(dB)
48.256000	13.67	40.00	26.33	1000.0	120.000	109.0	V	181.0	90.0	13.6
111.264000	12.27	43.50	31.23	1000.0	120.000	134.0	V	127.0	0.0	8.2
121.784000	12.94	43.50	30.56	1000.0	120.000	165.0	V	9.0	90.0	8.0
422.684000	22.42	46.00	23.58	1000.0	120.000	354.0	V	238.0	0.0	19.0
552.360000	23.59	46.00	22.41	1000.0	120.000	281.0	Н	2.0	0.0	21.8



# Diagram No. 3.11a\_BT\_LE\_mid

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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: DLe
Operating conditions: BT\_LE
Power during tests: 24V DC
Comment 1: Channel 18

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

 HW Version:
 9134G05

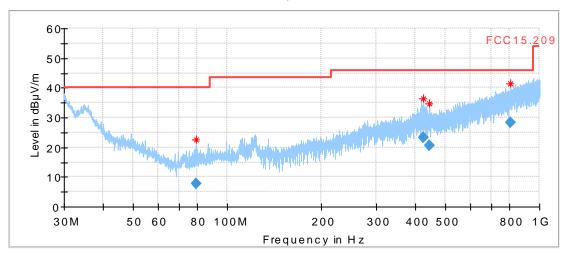
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24 V DC

#### Full Spectrum



Frequency	QuasiPeak	Limit	Margi	Meas.	Bandwidth	Heigh	Pol	Azimut	Elevatio	Corr
(MHz)	(dBµV/m)	(dBµV/m)	n	Time	(kHz)	t		h	n	
			(dB)	(ms)		(cm)		(deg)	(deg)	(dB)
79.660000	7.88	40.00	32.12	1000.0	120.000	207.0	Н	129.0	90.0	6.9
425.544000	23.22	46.00	22.78	1000.0	120.000	351.0	V	249.0	90.0	19.2
445.248000	20.69	46.00	25.31	1000.0	120.000	186.0	Н	10.0	90.0	19.4
804.540000	28.24	46.00	17.76	1000.0	120.000	286.0	Н	100.0	90.0	25.4



# Diagram No. 3.12a\_BT\_LE\_high

24.08.2017 Page 1 of 1

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: DLe
Operating conditions: BT\_LE
Power during tests: 24V DC
Comment 1: Channel 39

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

 HW Version:
 9134G05

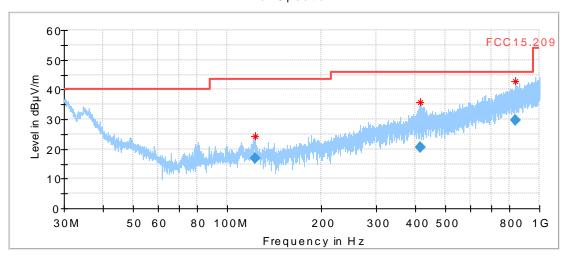
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24 V DC

### Full Spectrum



Frequency	QuasiPeak	Limit	Margi	Meas.	Bandwidth	Heigh	Pol	Azimut	Elevatio	Corr
(MHz)	$(dB\mu V/m)$	(dBµV/m)	n	Time	(kHz)	t		h	n	
			(dB)	(ms)		(cm)		(deg)	(deg)	(dB)
123.048000	16.83	43.50	26.67	1000.0	120.000	109.0	V	111.0	90.0	8.1
415.116000	20.71	46.00	25.29	1000.0	120.000	360.0	V	224.0	0.0	18.6
838.384000	29.82	46.00	16.18	1000.0	120.000	333.0	Н	46.0	90.0	26.1



## 1.3. Field strength measurements f < 18GHz

# Diagram No.: 4.10a\_BT\_LE\_low

**Common Information** 

Test Description: Radiated field strength emission 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: BT\_TX\_low Operator Name: HEl

**EUT Information** 

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

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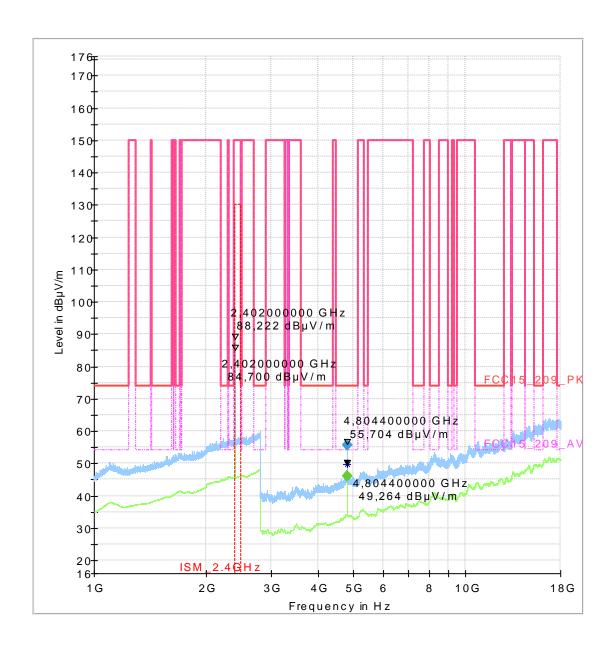
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)
4803.600000	)	46.08	54.00	7.92	1000.000	155.0	Н	269.0	90.0
4804.400000	55.83		74.00	18.17	1000.000	155.0	Н	266.0	90.0



# Diagram No.: 4.11a\_BT\_LE\_mid

**Common Information** 

Test Description: Radiated field strength emission 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: BT\_TX\_mid
Operator Name: HEl

**EUT Information** 

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

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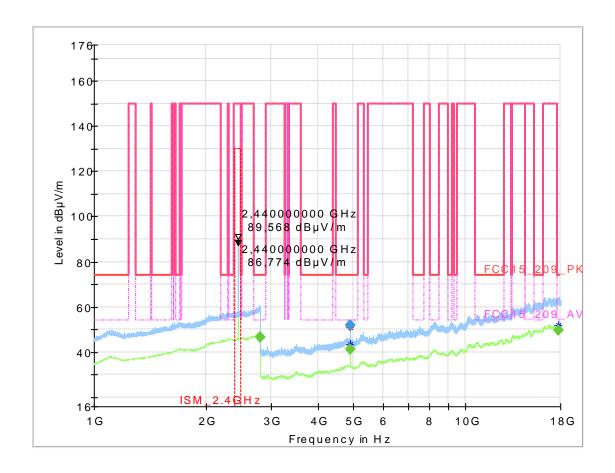
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24 V DC



 iidi_itebair									
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)
2795.200000		46.67	54.00	7.33	1000.000	155.0	Н	-28.0	90.0
4879.600000		41.47	54.00	12.53	1000.000	155.0	Н	269.0	90.0
4879.600000	51.93		74.00	22.07	1000.000	155.0	Н	265.0	90.0
17781.600000		49.76	54.00	4.24	1000.000	155.0	Н	291.0	90.0



# Diagram No.: 4.12a\_BT\_LE\_high

#### **Common Information**

Test Description: Radiated field strength emission 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: BT\_TX\_High

Operator Name: HEl

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

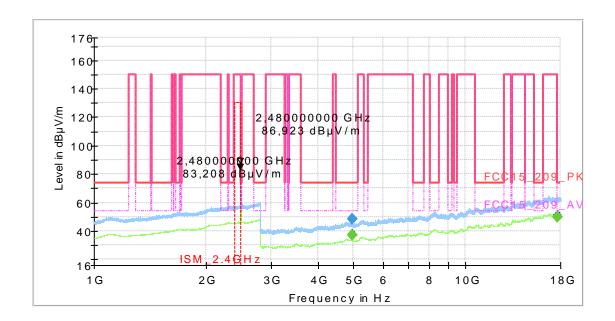
 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24 V DC



Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)
4959.600000		37.03	54.00	16.97	1000.000	155.0	V	152.0	0.0
4959.600000	48.20		74.00	25.80	1000.000	155.0	V	129.0	0.0
17706.000000		49.67	54.00	4.33	1000.000	155.0	V	135.0	0.0



# 1.4. Field strength measurements f > 18GHz Diagram No.: 4.10\_BT\_LE\_low

#### **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: TFr

Comment: Channel no. low

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

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 HW Version:
 9134G05

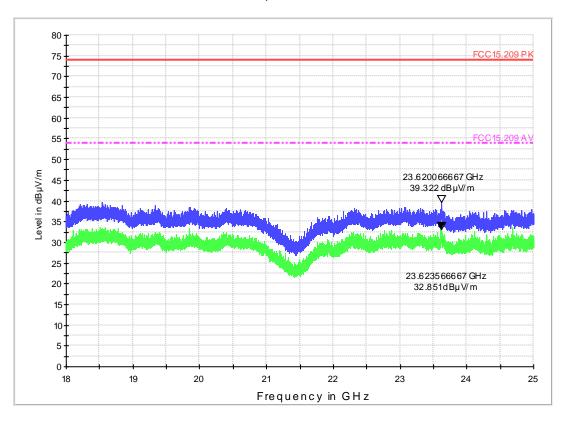
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24 V DC

### FCC\_Sweep\_15.247\_18\_25GHz\_Pre





# Diagram No.: 4.11\_BT\_LE\_mid

**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: TFr

Comment: Channel no. middle

**EUT Information** 

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

 HW Version:
 9134G05

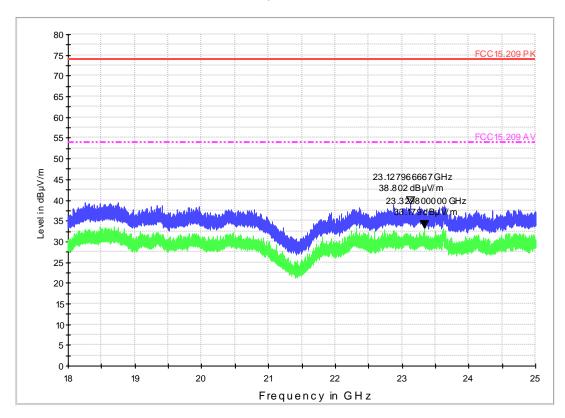
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24 V DC

#### FCC\_Sweep\_15.247\_18\_25GHz\_Pre





# Diagram No.: 4.12\_BT\_LE\_high

**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: TFr

Comment: Channel no. high

## **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

 HW Version:
 9134G05

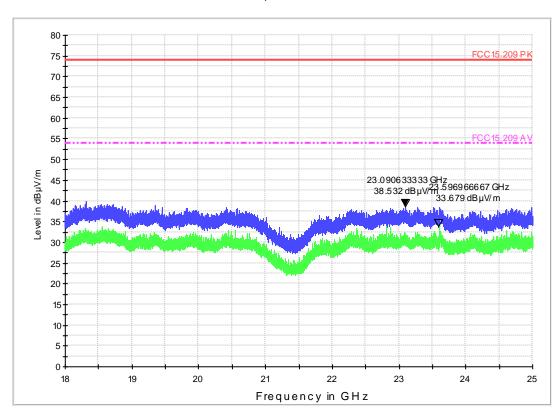
 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna

Power Supply: 24 V DC

#### FCC\_Sweep\_15.247\_18\_25GHz\_Pre





## 2. Radiated band-edge measurements accord. §15.209 & §15.205 (§15.247)

## 2.1. Channel 37 (left band edge)

# Diagram No.: 9.07a\_BE\_BT\_LE\_low

#### **Common Information**

Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance Test Description:

Test Site: CETECOM GmbH Essen

FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4 Test Standard: Antenna polarisation:

horizontal/vertical

Operation mode: TX, continuous

Operator Name: Mah

Channel no. low Comment: BT LE low Comment2:

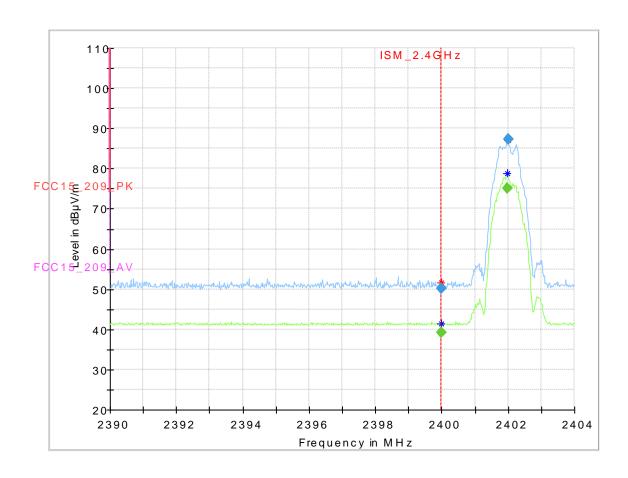
### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

HW Version: 9134G05 SW Version: 17.02.S.016 Serial Number: 2950006922

Main wiring + DTNA Antenna Connected Interfaces:





## Final\_Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)
2399.980000	50.18		150.00	99.82	100.0
2400.000000		39.20	150.00	110.80	100.0
2401.980000		75.01	150.00	74.99	100.0
2402.000000	87.30		150.00	62.70	100.0

(continuation of the "Final\_Result" table from column 16 ...)

Frequency (MHz)	Corr. (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)
2399.980000	35.6	100.000	155.0	V	20.0	90.0
2400.000000	35.6	100.000	155.0	V	-1.0	90.0
2401.980000	35.6	100.000	155.0	V	51.0	90.0
2402.000000	35.6	100.000	155.0	V	48.0	90.0



## 2.2. Channel 39 (right band edge)

# Diagram No.: 9.08a\_BE\_BT\_LE\_high

#### **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: Mah

Comment: Channel no. high Comment2: BT LE high

#### **EUT Information**

Manufacturer: Robert Bosch Car Multimedia GmbH

EuT: cTP/TDC MID DTNA-4G

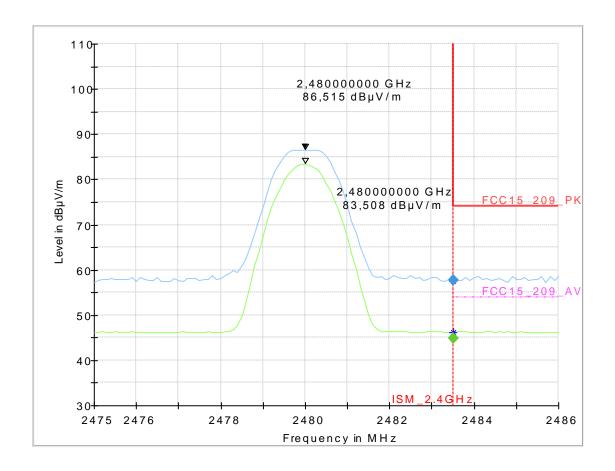
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 HW Version:
 9134G05

 SW Version:
 17.02.S.016

 Serial Number:
 2950006922

Connected Interfaces: Main wiring + DTNA Antenna





## Final\_Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)
2483.500000		44.83	54.00	9.17	100.0
2483.500000	57.71		74.00	16.29	100.0

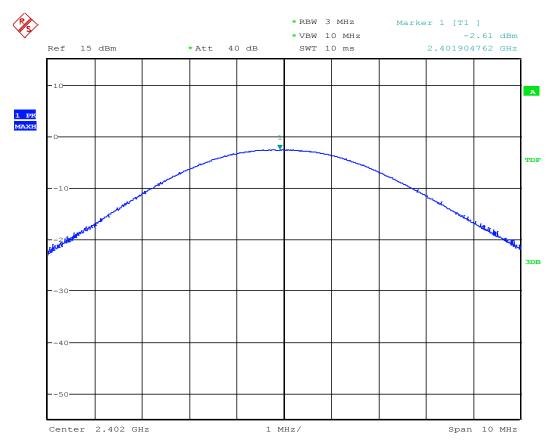
(continuation of the "Final\_Result" table from column 16 ...)

Frequency (MHz)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)
2483.500000	1000.000	155.0	V	196.0	90.0
2483.500000	1000.000	155.0	Н	178.0	90.0



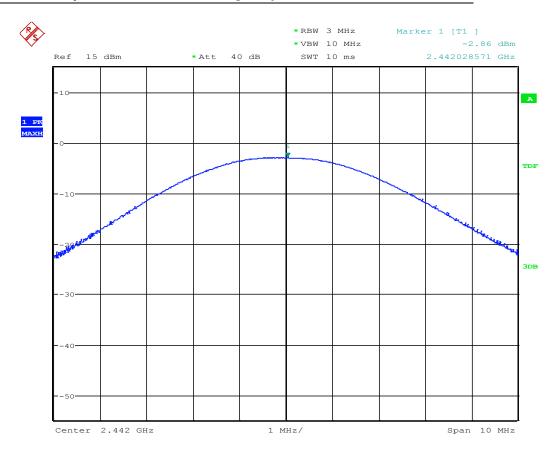
# 3. Conducted RF-measurements on antenna port

# 3.1. RF output Power

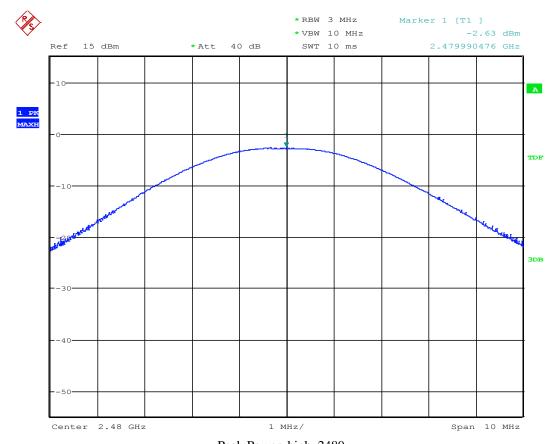


Peak Power\_low\_2402



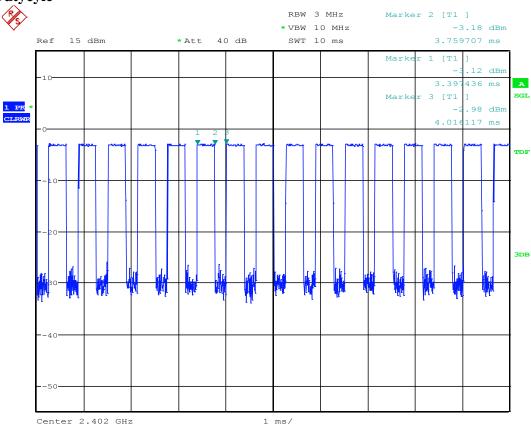


### Peak Power\_mid\_2442

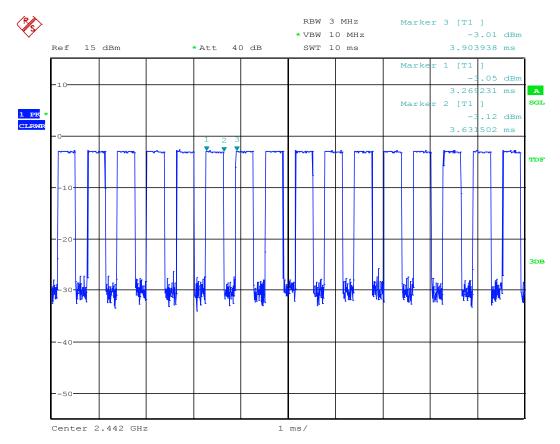




## 3.2. Dutycyle

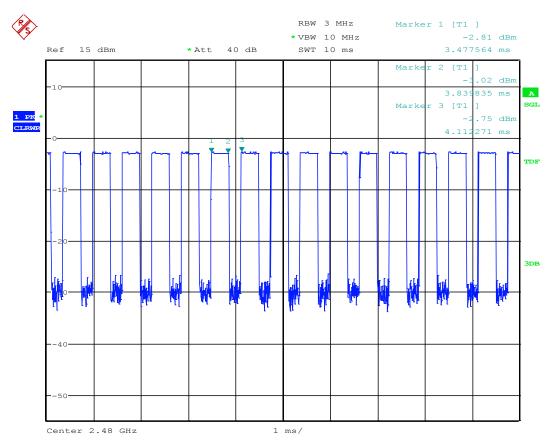


#### DC\_low\_2402





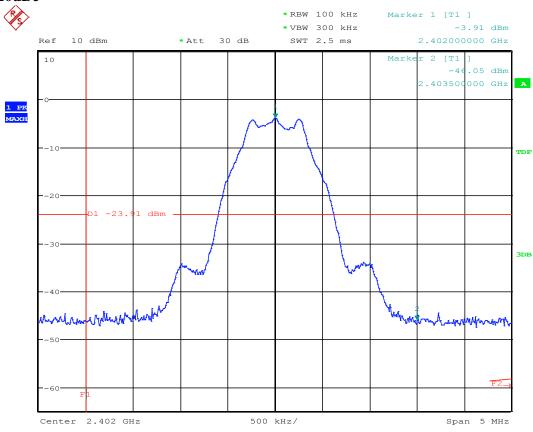
## DC\_mid\_2442



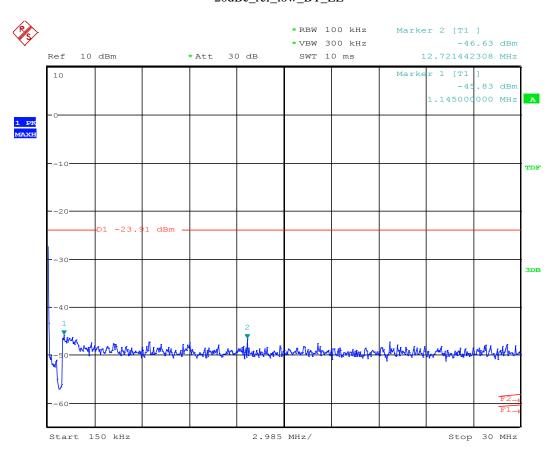
DC\_high\_2480



## 3.3. 20dBc

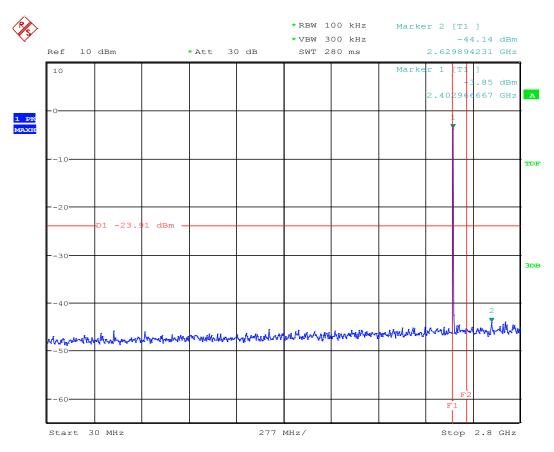


## 20dBc\_ref\_low\_BT\_LE





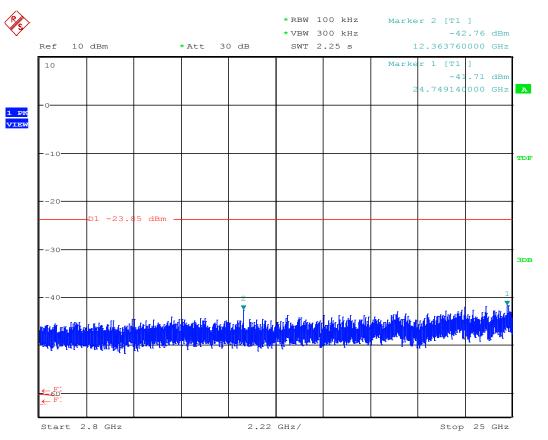
## 20dBc\_150kHz-30MHz \_low\_BT\_LE



Date: 27.SEP.2017 10:02:30

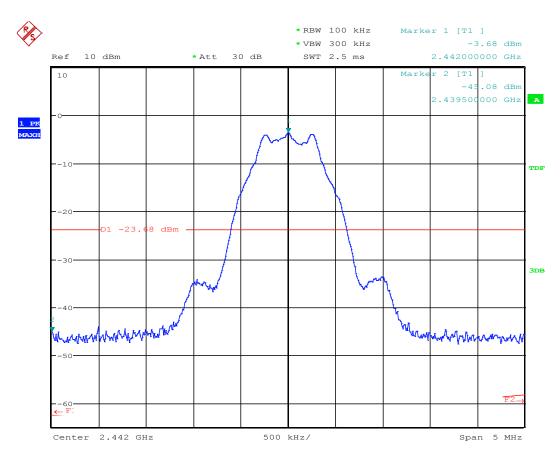
 $20dBc\_30MHz-2.8GHz\_low\_BT\_LE$ 



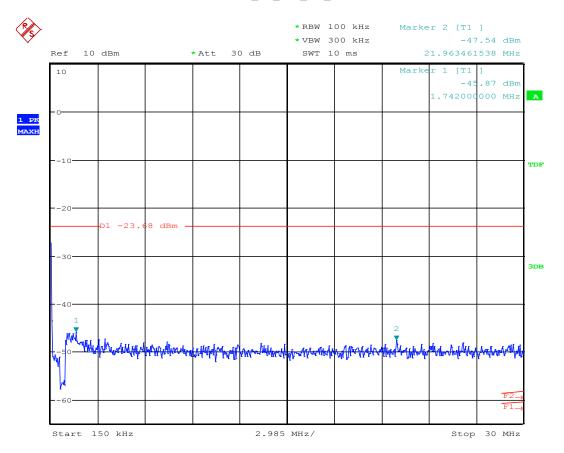


20dBc\_2.8-25GHz\_low\_BT\_LE



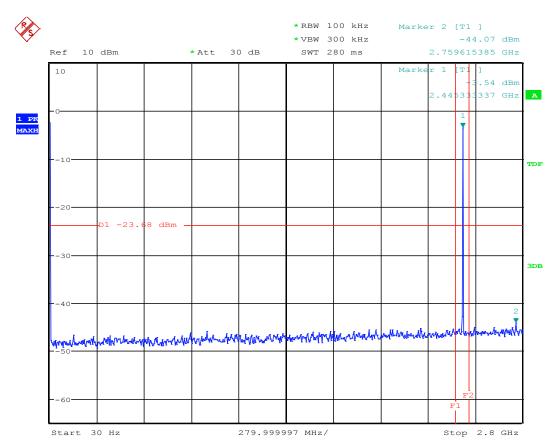


### 20dBc\_ref\_mid\_BT\_LE



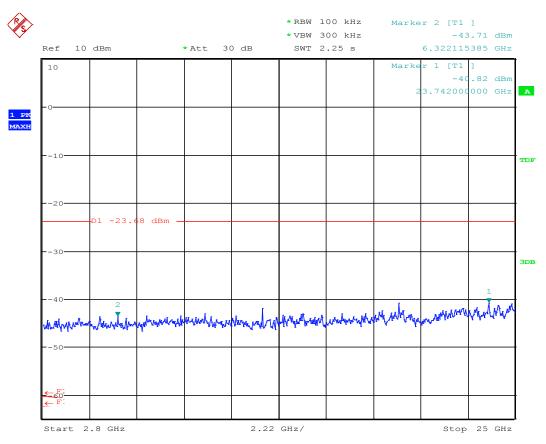


## 20dBc\_150kHz-30MHz \_mid\_BT\_LE

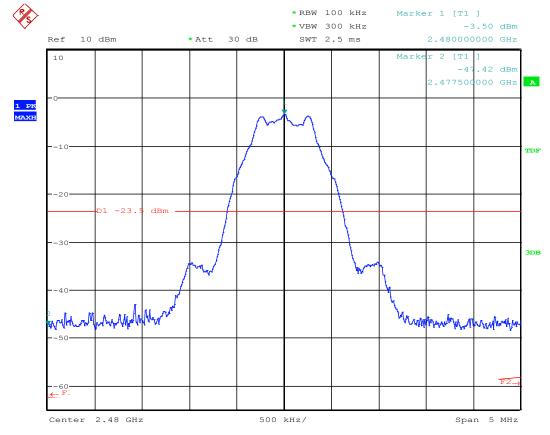


 $20dBc\_30MHz\text{-}2.8GHz\_mid\_BT\_LE$ 



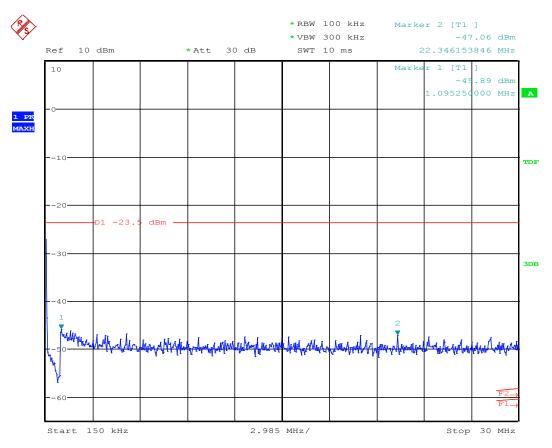


 $20dBc\_2.8\text{-}25GHz\_mid\_BT\_LE$ 

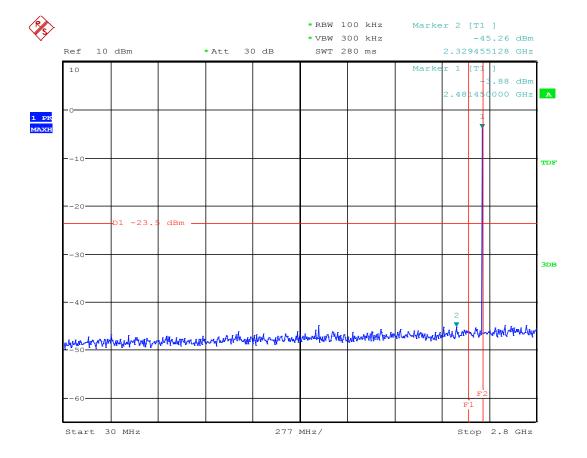


20dBc\_ref\_mid\_BT\_LE



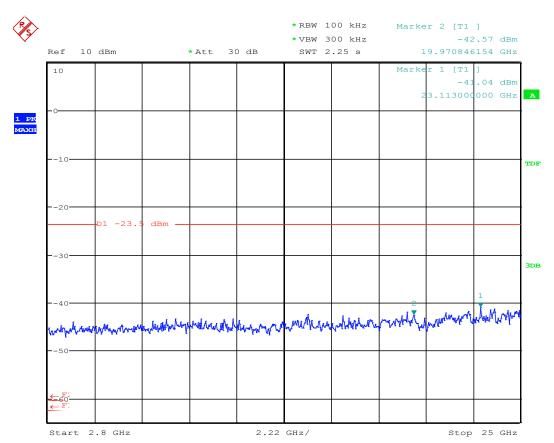


20dBc\_150kHz-30MHz \_mid\_BT\_LE





## $20dBc\_30MHz\text{-}2.8GHz\_high\_BT\_LE$



 $20dBc\_2.8\text{-}25GHz\_mid\_BT\_LE$ 

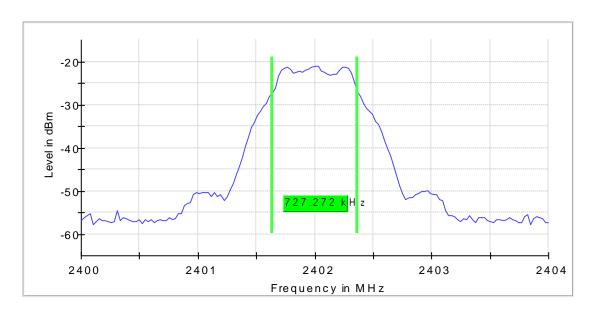


# 3.4. 6dB bandwidth Minimum Emission Bandwidth 6 dB (2402 MHz; 2 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

# 6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2402.000000	0.727272	0.500000		2401.636364	2402.363636	-0.2	PASS



Setting	Instrument Value	Target Value	
Start Frequency	2.40000 GHz	2.40000 GHz	
Stop Frequency	2.40400 GHz	2.40400 GHz	
Span	4.000 MHz	4.000 MHz	
RBW	100.000 kHz	~ 100.000 kHz	
VBW	300.000 kHz	~ 300.000 kHz	
SweepPoints	155	~ 40	
Sweeptime	2.500 ms	AUTO	
Reference Level	-10.000 dBm	-10.000 dBm	
Attenuation	15.000 dB	AUTO	
Detector	MaxPeak	MaxPeak	
SweepCount	100	100	
Filter	3 dB	3 dB	
Trace Mode	Max Hold	Max Hold	
Sweeptype	Sweep	AUTO	
Preamp	off	off	
Stablemode	Trace	Trace	
Stablevalue	0.50 dB	0.50 dB	
Run	17 / max. 150	max. 150	
Stable	15 / 15	15	
Max Stable Difference	0.00 dB	0.50 dB	

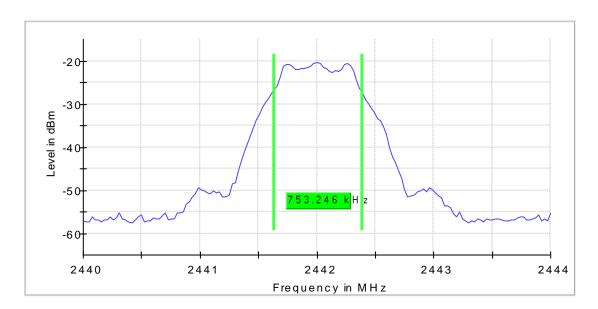


# Minimum Emission Bandwidth 6 dB (2442 MHz; 2 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

## 6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level	Result
						(dBm)	
2442.000000	0.753246	0.500000		2441.636364	2442.389610	-20.4	PASS



Setting	Instrument Value	Target Value
Start Frequency	2.44000 GHz	2.44000 GHz
Stop Frequency	2.44400 GHz	2.44400 GHz
Span	4.000 MHz	4.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	155	~ 40
Sweeptime	2.500 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	15.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	17 / max. 150	max. 150
Stable	15 / 15	15
Max Stable Difference	0.06 dB	0.50 dB

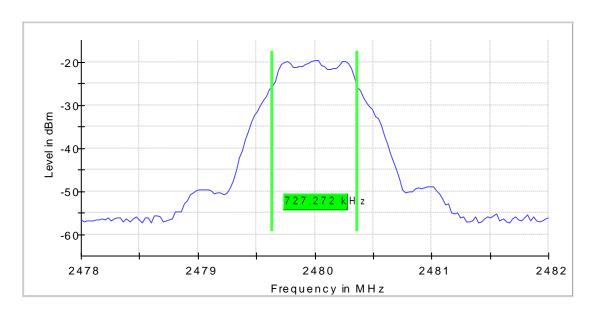


# Minimum Emission Bandwidth 6 dB (2480 MHz; 2 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

## 6 dB Bandwidth

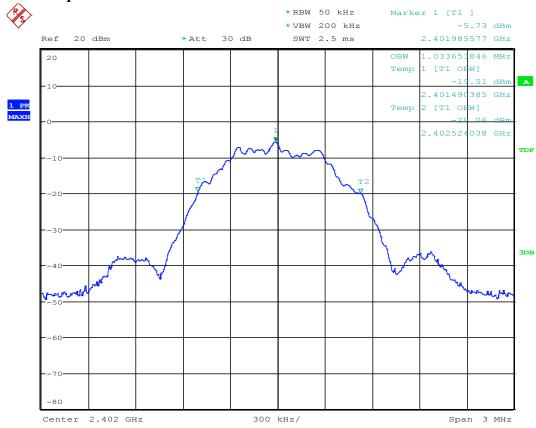
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level	Result
						(dBm)	
2480.000000	0.727272	0.500000		2479.636364	2480.363636	-19.6	PASS



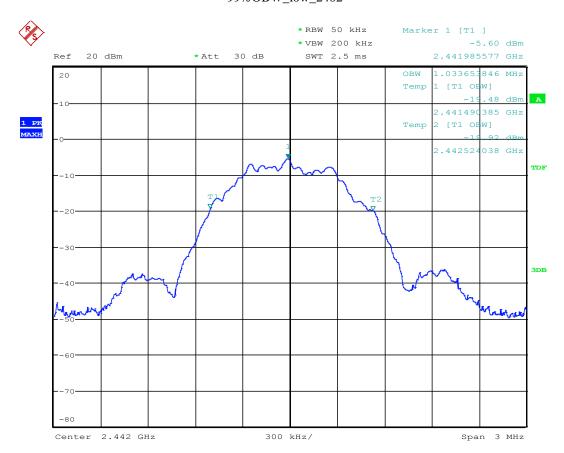
Setting	Instrument Value	Target Value
Start Frequency	2.47800 GHz	2.47800 GHz
Stop Frequency	2.48200 GHz	2.48200 GHz
Span	4.000 MHz	4.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	155	~ 40
Sweeptime	2.500 ms	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	15.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	17 / max. 150	max. 150
Stable	15 / 15	15
Max Stable Difference	0.01 dB	0.50 dB



# 3.5. 99% occupied channel bandwidth

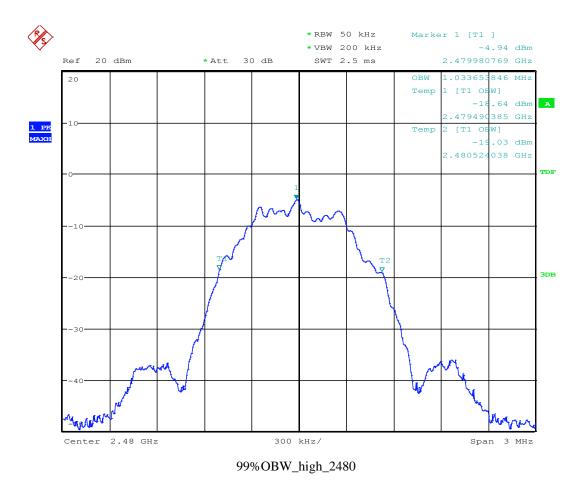


## 99%OBW\_low\_2402





## 99%OBW\_mid\_2442



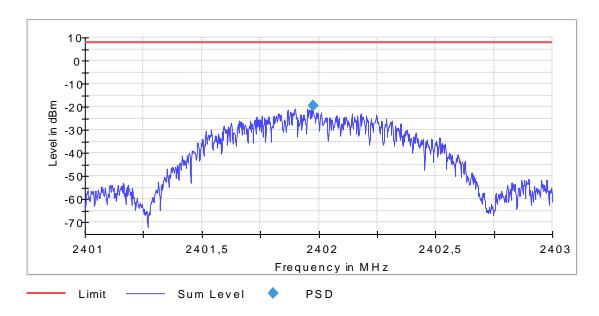


# 3.6.Power spectral density Power Spectral Density (2402 MHz; 2 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

## Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2402.000000	2401.975385	-19.429	8.0	PASS



Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	3.000 kHz	<= 3.000 kHz
VBW	10.000 kHz	>= 9.000 kHz
SweepPoints	1301	~ 1333
Sweeptime	45.000 s	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	15.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off

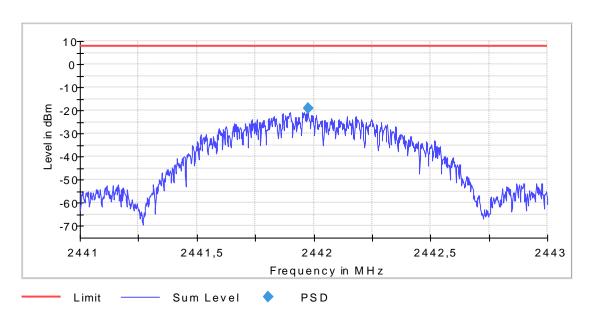


# Power Spectral Density (2442 MHz; 2 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

## **Result**

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2442.000000	2441.975385	-19.089	8.0	PASS



Setting	Instrument Value	Target Value
Start Frequency	2.44100 GHz	2.44100 GHz
Stop Frequency	2.44300 GHz	2.44300 GHz
Span	2.000 MHz	2.000 MHz
RBW	3.000 kHz	<= 3.000 kHz
VBW	10.000 kHz	>= 9.000 kHz
SweepPoints	1301	~ 1333
Sweeptime	45.000 s	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	15.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off

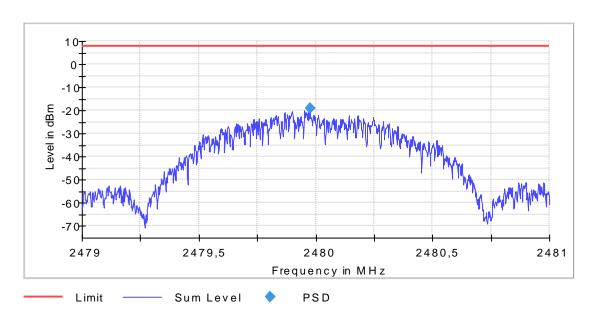


# Power Spectral Density (2480 MHz; 2 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

## Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2480.000000	2479.975385	-18.922	8.0	PASS



Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	3.000 kHz	<= 3.000 kHz
VBW	10.000 kHz	>= 9.000 kHz
SweepPoints	1301	~ 1333
Sweeptime	45.000 s	AUTO
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	15.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off