

Annex 1: Measurement diagrams to Test Report 19-1-0137402T02a-A1

Number of pages:	16	Date of Report:	2020-Dec-16
Testing company:	CETECOM GmbH Im Teelbruch 116 45219 Essen Germany Tel. + 49 (0) 20 54 / 95 19-0 Fax: + 49 (0) 20 54 / 95 19-150	Applicant:	Bosch Healthcare Solutions GmbH
Test Object / Tested Device(s):	System for quantitative measurement of fractional nitric oxide (FeNO) in human breath, Vivatmo pro (Base Station) Vivatmo pro (Handheld)		
FCC ID of Base Station	2AVQ9VMPBS1	IC ID of Base Station	25928-VMPBS1
FCC ID of Handheld	2AVQ9VMPHH1	IC ID of Handheld	25928-VMPHH1
Testing has been carried out in accordance with:	Title 47 CFR, Chapter I FCC Regulations, Subchapter A Subpart C: §15.247 (DTS) RSS-247, Issue 2 (DTS) RSS-Gen., Issue 5		



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1 Measurement diagrams

1.11 BT+Charging

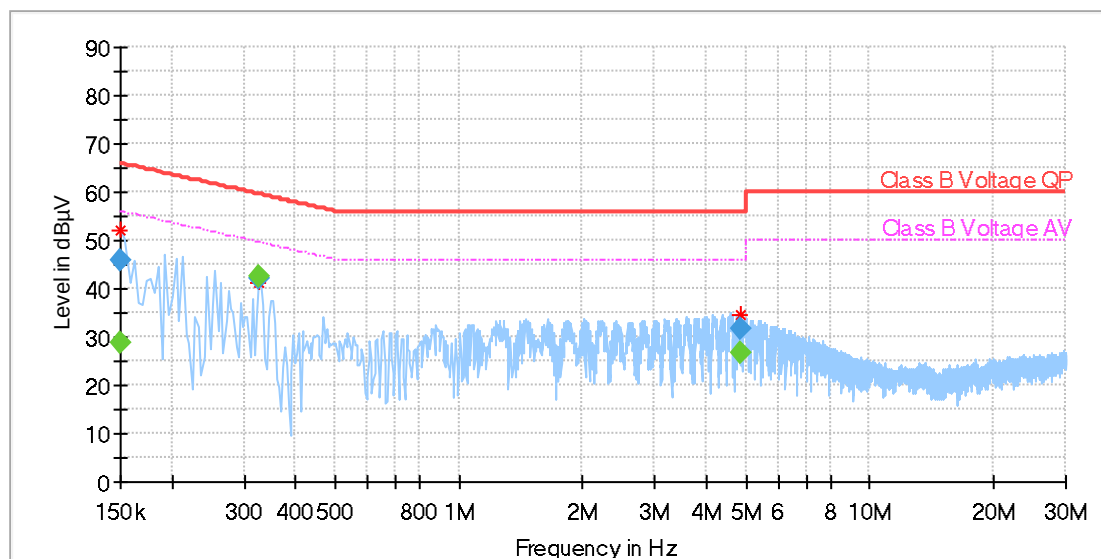
Common Information

Test Description:	Conducted Voltage Measurement Class B
Test Site Location:	Conducted Emission, CETECOM GmbH Essen
Test Software:	R&S EMC32 v9.15
Test Standard:	FCC 15.107, FCC 15.207
Operating Mode:	bt classic + charging
Measured on line:	N/L1
Diagram details:	Shows the peak values as a sum of measured ports in maxhold mode
Environmental Conditions:	Humidity : 50% rH; Temperature: 18 °C
Operator:	Mah
Comments:	-
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	20-1-01297S08_C01
Date received:	--

Full Spectrum



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
0.150000	---	28.75	56.00	27.25	1000.0	9.000	L1	GND	0.1
0.150000	45.93	---	66.00	20.07	1000.0	9.000	L1	GND	0.1
0.327188	---	42.36	49.52	7.16	1000.0	9.000	L1	GND	0.1
0.327188	42.26	---	59.52	17.26	1000.0	9.000	L1	GND	0.1
4.822188	---	26.60	46.00	19.40	1000.0	9.000	N	GND	0.3
4.822188	31.82	---	56.00	24.18	1000.0	9.000	N	GND	0.3

1.12 WLAN+Charging

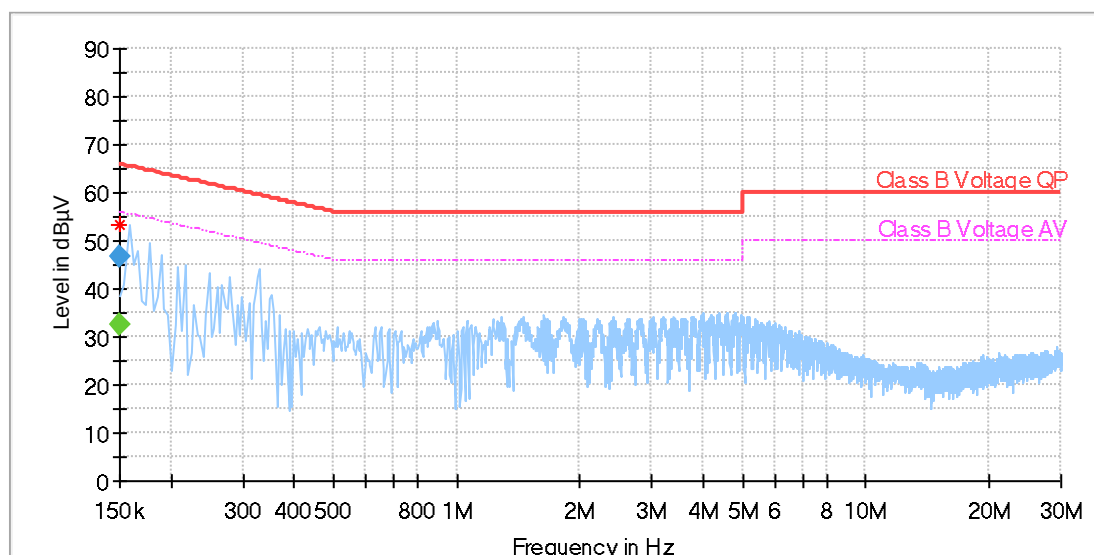
Common Information

Test Description:	Conducted Voltage Measurement Class B
Test Site Location:	Conducted Emission, CETECOM GmbH Essen
Test Software:	R&S EMC32 v9.15
Test Standard:	FCC 15.107, FCC 15.207
Operating Mode:	bt classic + charging
Measured on line:	N/L1
Diagram details:	Shows the peak values as a sum of measured ports in maxhold mode
Environmental Conditions:	Humidity : 50% rH; Temperature: 18 °C
Operator:	Mah
Comments:	-
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	20-1-01297S08_C01
Date received:	--

Full Spectrum



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
0.150000	---	32.61	56.00	23.39	1000.0	9.000	L1	GND	0.1
0.150000	46.72	---	66.00	19.28	1000.0	9.000	L1	GND	0.1

2.01a_BT+Charging_Laying

Common Information

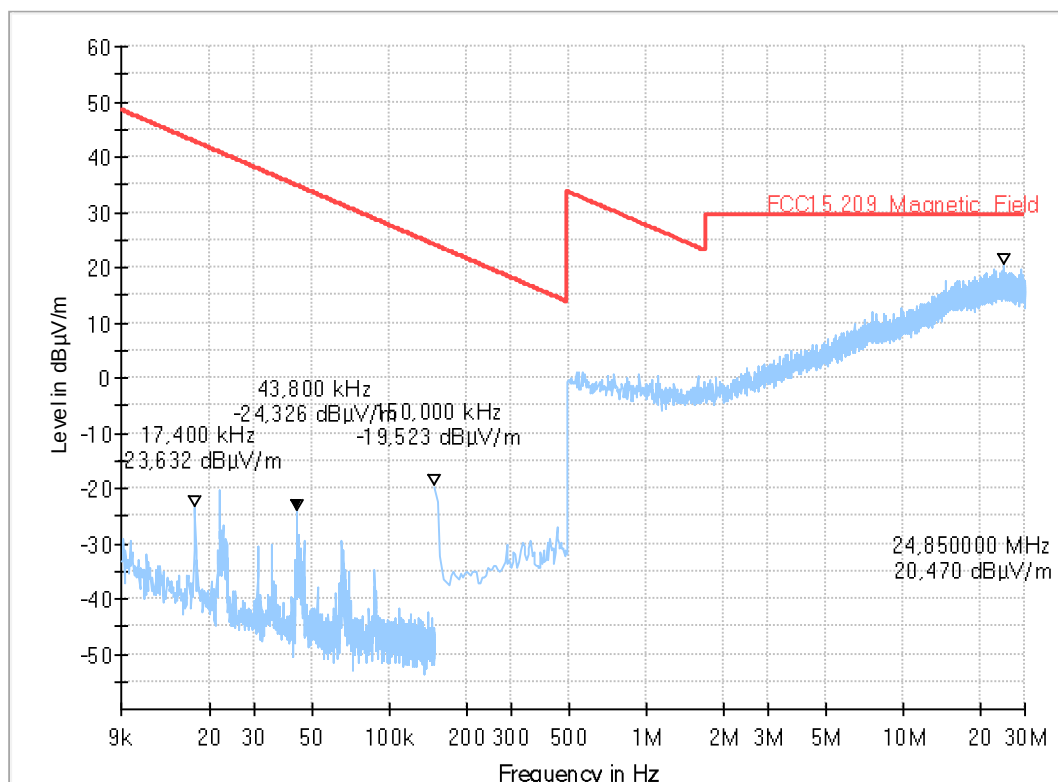
Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used Filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5

Operator:	TFa
Operating Mode:	BT TX ch 2441
Power during tests:	120 V/60 Hz
Environmental Conditions:	Humidity : 50% rH; Temperature: 20 °C
EUT Setup:	1
Verdict:	Passed
Comment:	EUT Laying

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH

Full Spectrum



2.01b_BT+Charging_Standing

Common Information

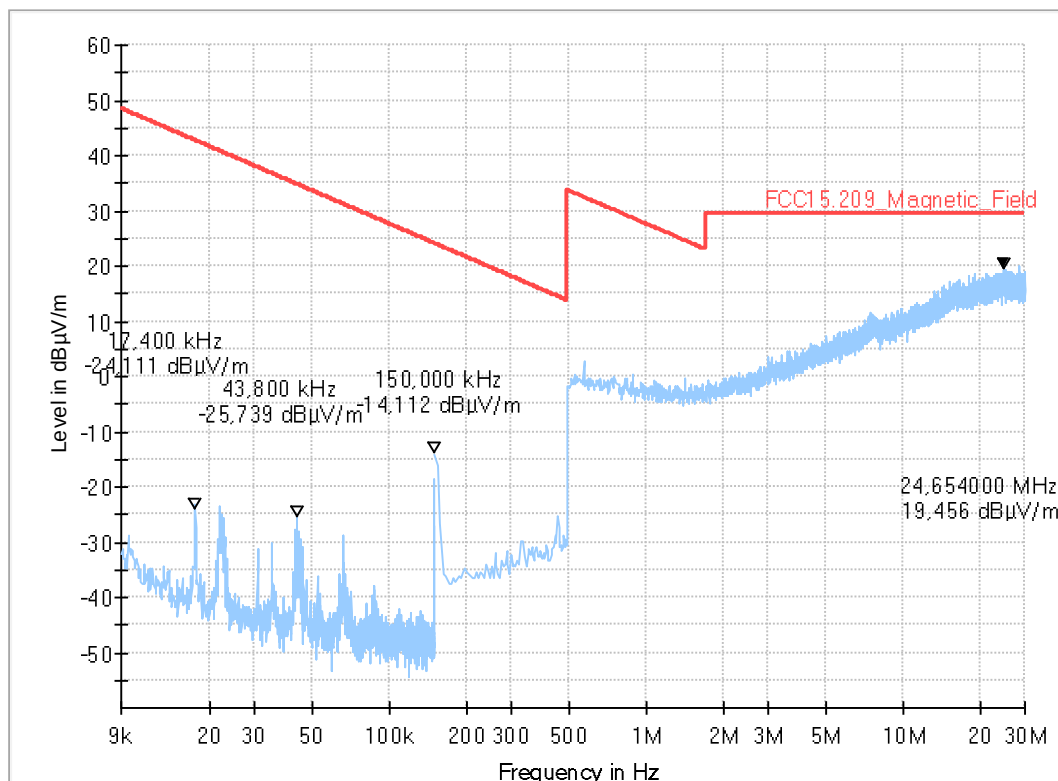
Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used Filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5

Operator:	TFa
Operating Mode:	BT TX ch 2441
Power during tests:	120 V / 60 Hz
Environmental Conditions:	Humidity : 50% rH; Temperature: 20 °C
EUT Setup:	1
Verdict:	Passed
Comment:	EUT Standing

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH

Full Spectrum



2.02a_Wlan+Charging

Common Information

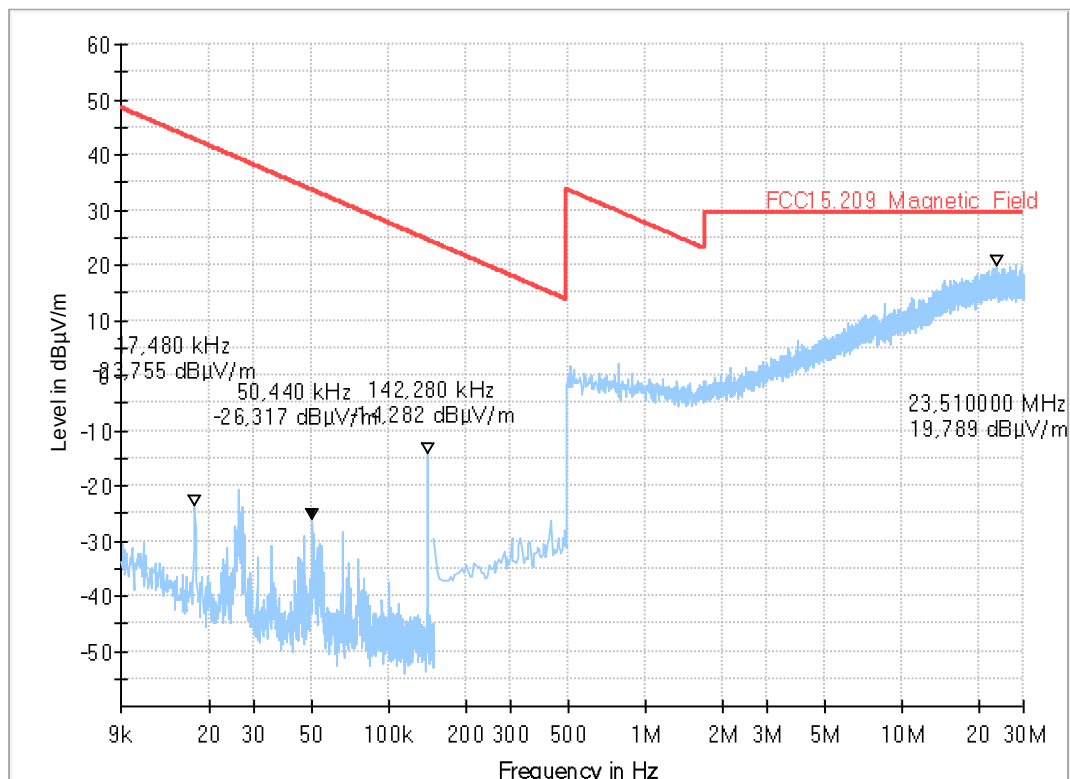
Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used Filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5

Operator:	TFa
Operating Mode:	Wlan TX CH 2462 MHz
Power during tests:	120 V/60 Hz
Environmental Conditions:	Humidity : 50% rH; Temperature: 20 °C
EUT Setup:	1
Verdict:	Passed
Comment:	EUT laying

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH

Full Spectrum



2.02b_Wlan+Charging

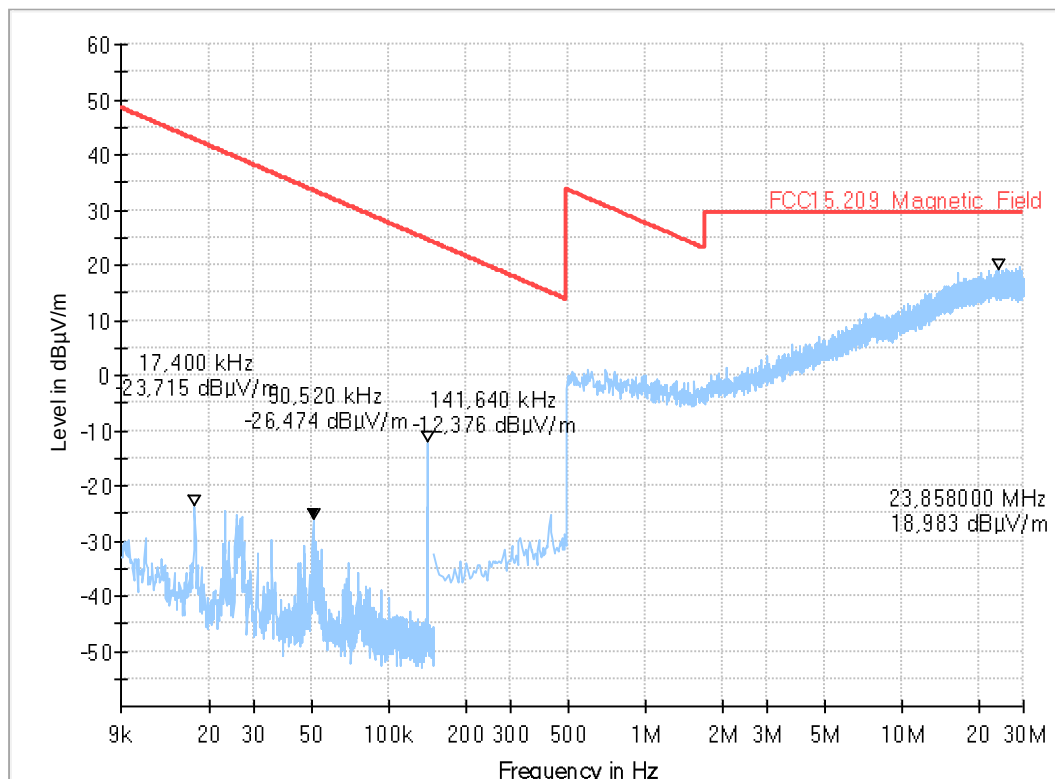
Common Information

Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
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 1.00 m, parallel and 90° to EUT polarisation
Used Filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5

Operator:	TFa
Operating Mode:	Wlan TX CH 2462 MHz
Power during tests:	120 V/60 Hz
Environmental Conditions:	Humidity : 50% rH; Temperature: 20 °C
EUT Setup:	1
Verdict:	Passed
Comment:	EUT Standing

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH
	Full Spectrum



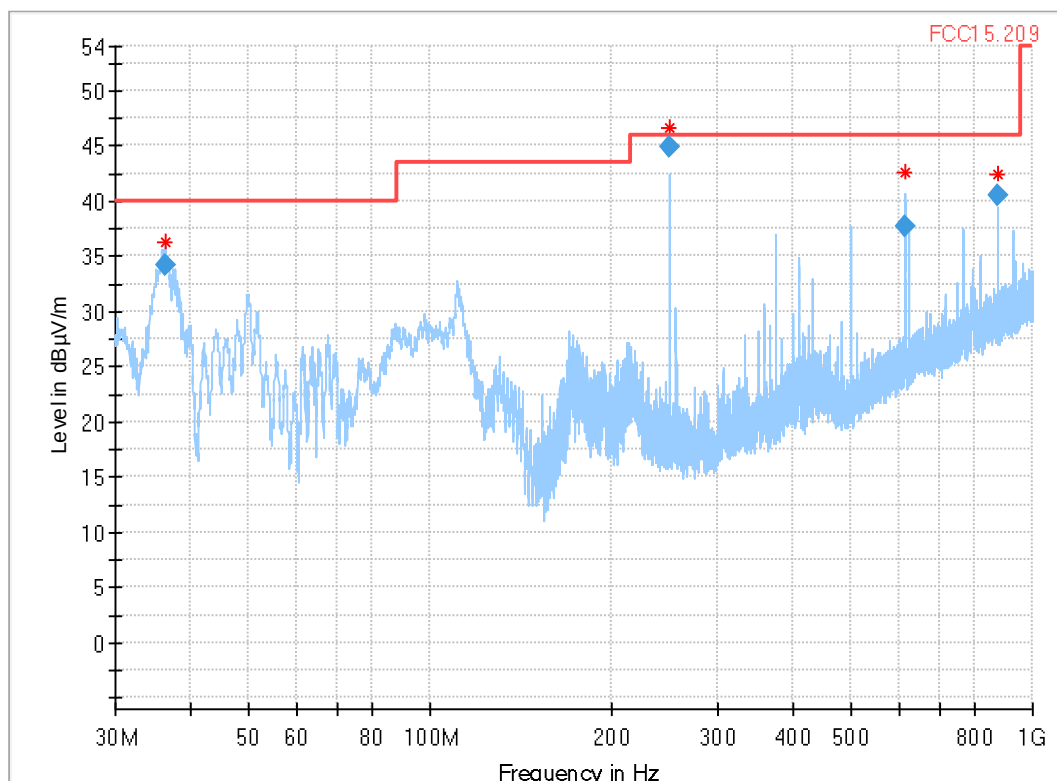
3.01a_BT+Charging

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Laying
Test Standard:	FCC 15.205&15.209 RSS Gen Issue 5 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	TCH mode
Operating Mode:	BT TX CH : 39
Environmental Conditions:	Humidity : 50% rH; Temperature: 21 °C
Operator:	HEI
Verdict:	Passed

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH
	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/m)
36.218000	34.09	40.00	5.91	1000.0	120.000	269.0	H	229.0	18.7
249.998000	44.93	46.00	1.07	1000.0	120.000	105.0	H	324.0	13.0
614.168000	37.62	46.00	8.38	1000.0	120.000	169.0	V	326.0	22.0
874.994000	40.55	46.00	5.45	1000.0	120.000	158.0	V	167.0	26.2

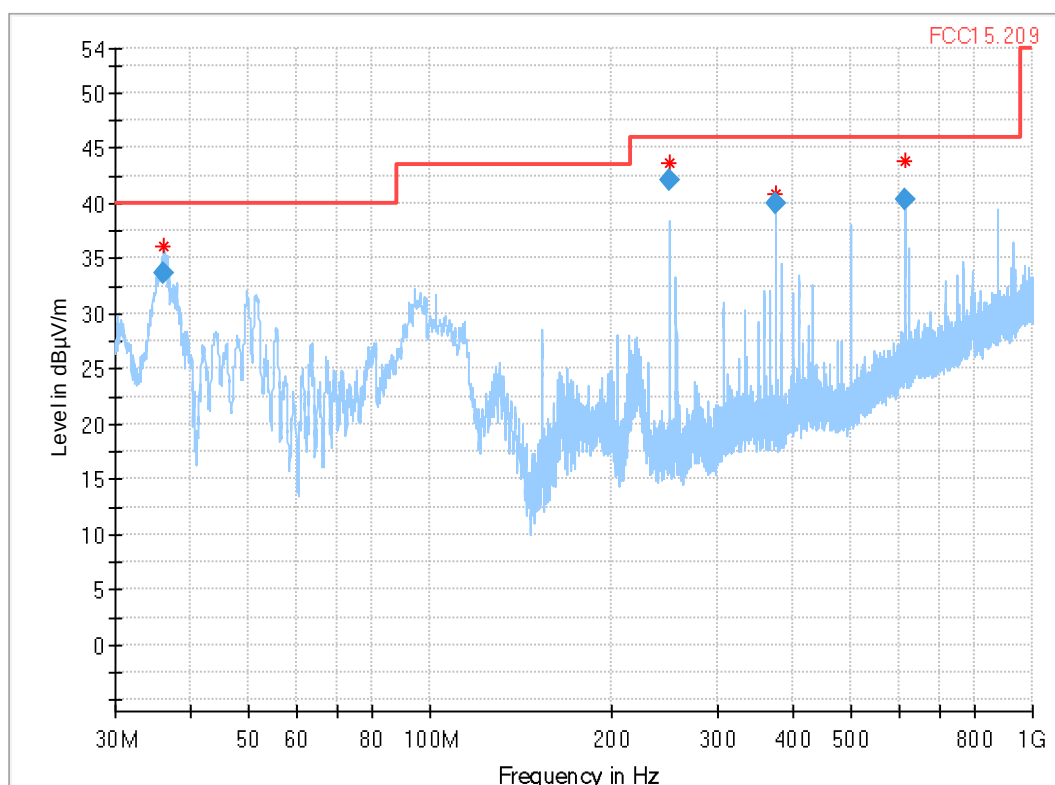
3.01b_BT+Charging

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Laying
Test Standard:	FCC 15.205&15.209 RSS Gen Issue 5 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	TCH mode
Operating Mode:	BT TX CH : 39
Environmental Conditions:	Humidity : 50% rH; Temperature: 20 °C
Operator:	HEI
Verdict:	Passed

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH
	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/m)
36.056000	33.65	40.00	6.35	1000.0	120.000	286.0	H	219.0	18.8
250.004000	42.04	46.00	3.96	1000.0	120.000	105.0	H	161.0	13.0
374.998000	39.95	46.00	6.05	1000.0	120.000	202.0	H	197.0	17.0
613.734000	40.38	46.00	5.62	1000.0	120.000	212.0	H	314.0	22.0

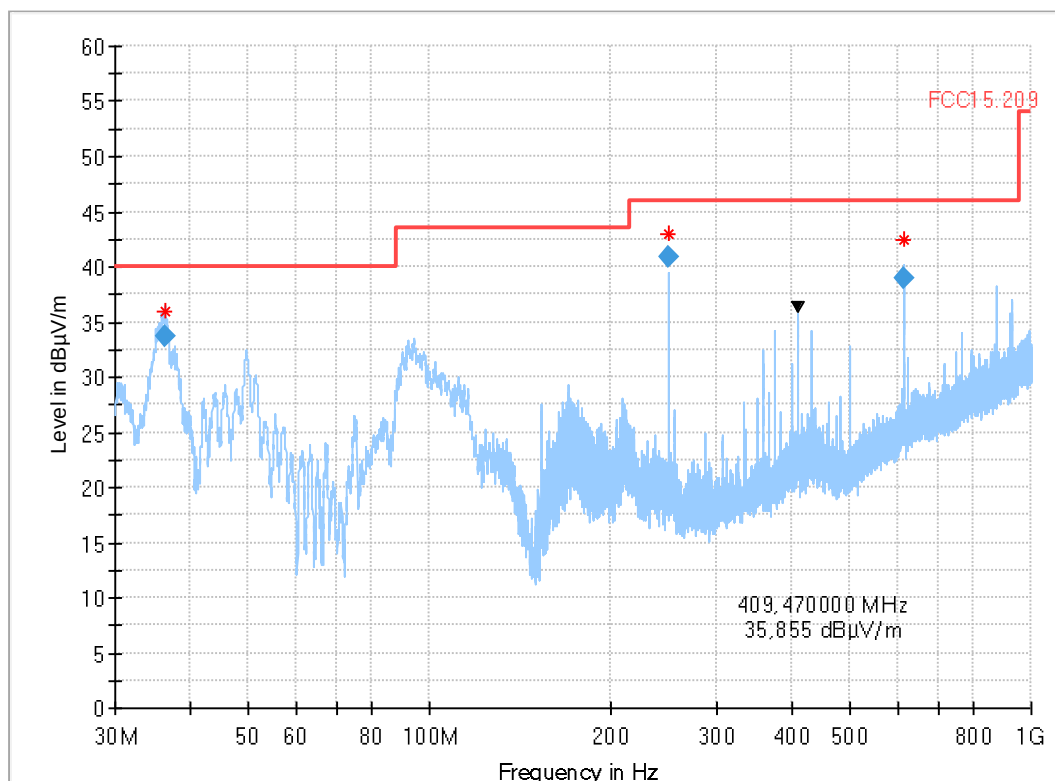
3.01a_Wlan+Charging

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Laying
Test Standard:	FCC 15.205&15.209 RSS Gen Issue 5 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	TCH mode
Operating Mode:	Wlan TX CH 2462 MHz
Environmental Conditions:	Humidity : 50% rH; Temperature: 20 °C
Operator:	TFa
Verdict:	Passed

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH
	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/m)
36.272000	33.65	40.00	6.35	1000.0	120.000	237.0	H	138.0	18.7
249.994000	40.91	46.00	5.09	1000.0	120.000	109.0	H	350.0	13.0
613.950000	38.99	46.00	7.01	1000.0	120.000	161.0	V	213.0	22.0

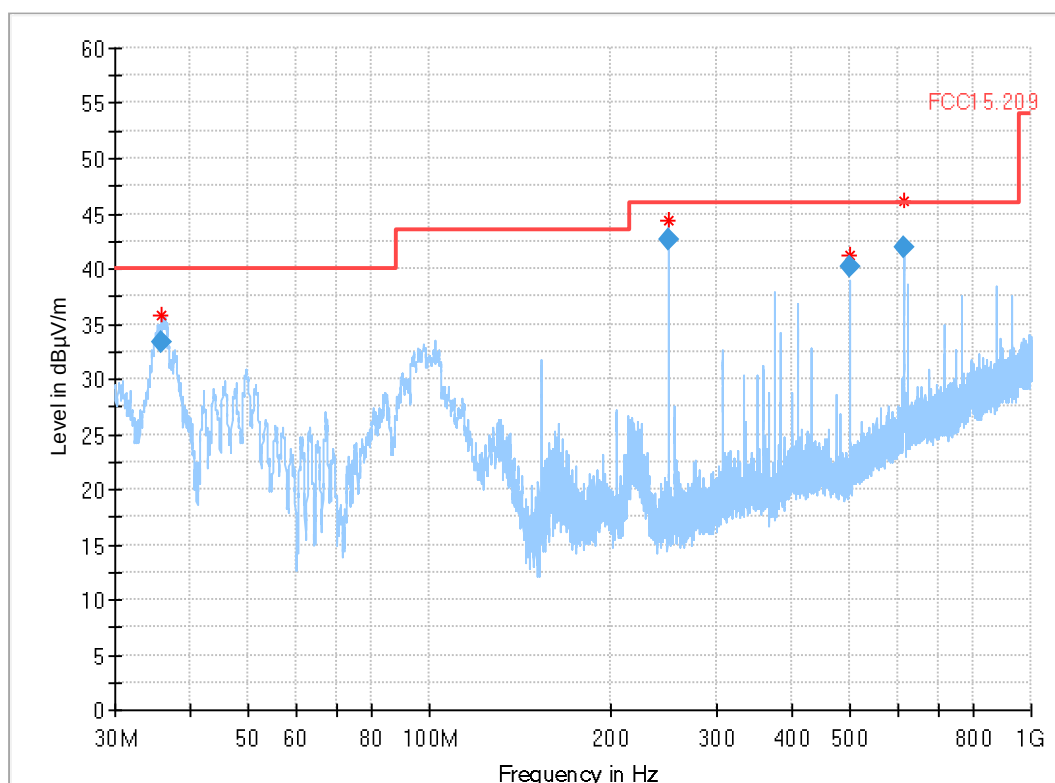
3.01b_Wlan+Charging

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Laying
Test Standard:	FCC 15.205&15.209 RSS Gen Issue 5 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operation mode:	TCH mode
Operating Mode:	Wlan TX CH 2462 MHz
Environmental Conditions:	Humidity : 50% rH; Temperature: 20 °C
Operator:	HEI
Verdict:	Passed

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH
	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/m)
35.910000	33.37	40.00	6.63	1000.0	120.000	245.0	H	232.0	18.9
250.014000	42.55	46.00	3.45	1000.0	120.000	105.0	H	178.0	13.0
500.010000	40.16	46.00	5.84	1000.0	120.000	167.0	H	74.0	19.5
614.060000	41.91	46.00	4.09	1000.0	120.000	109.0	H	282.0	22.0

4.01a_bt+Charging

Common Information

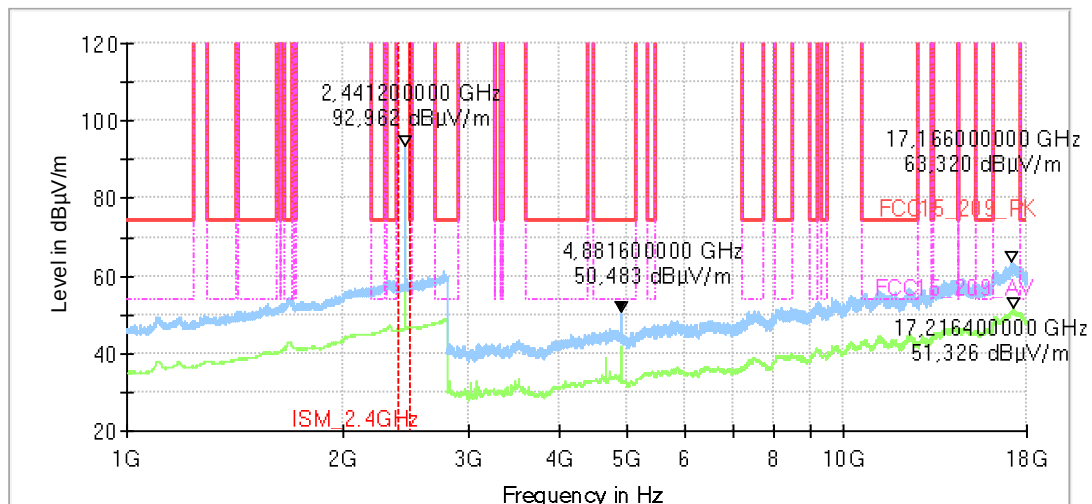
Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

Operating Mode: TX | 2441 MHz | CH39
 Operator: PMa
 Comment: Channel no. middle
 EUT Setup: 1
 Verdict: Passed

EUT Information

PMT number: 19-1-01374S23_C01
 Manufacturer: Bosch Healthcare Solutions GmbH

Full Spectrum



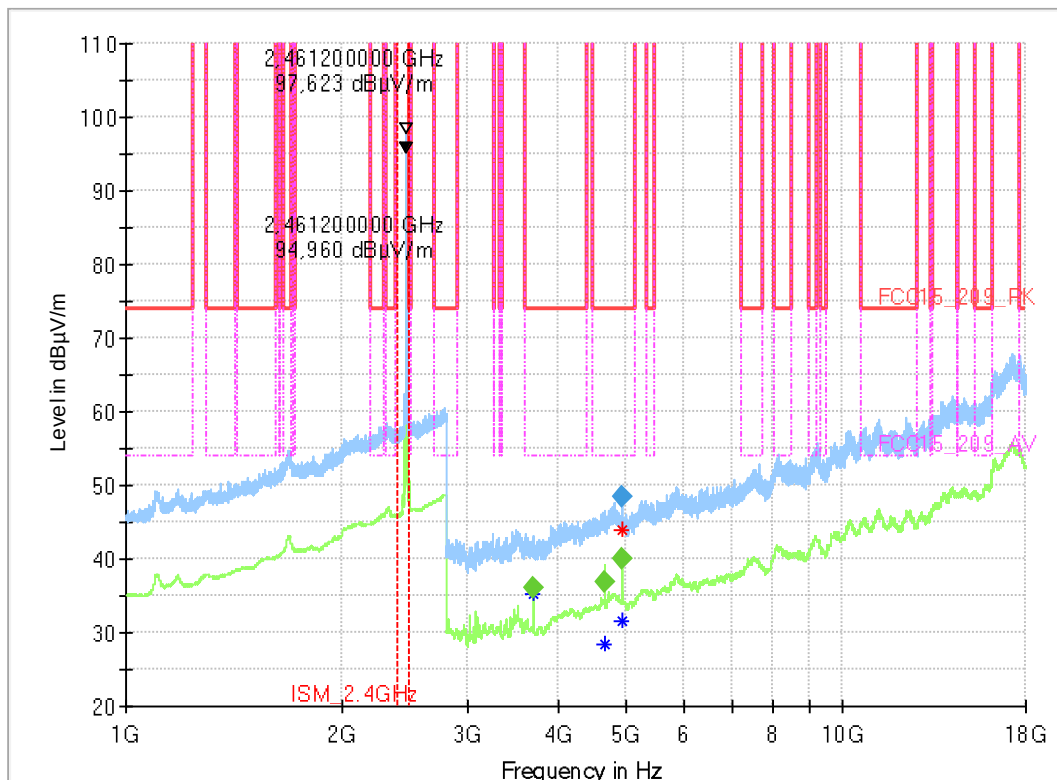
4.02a_wlan+Charging

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	TX 2462 MHz CH11
Operator:	HEI
Comment:	Channel no.high
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH
	Full Spectrum



Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB/m)
3693.050000	---	36.06	54.00	17.94	100.0	1000.000	155.0	V	28.0	0.0	1
4663.610000	---	36.79	54.00	17.21	100.0	1000.000	155.0	V	165.0	0.0	5
4924.010000	---	40.05	54.00	13.95	100.0	1000.000	155.0	V	134.0	90.0	5
4924.050000	48.52	---	74.00	25.48	100.0	1000.000	155.0	V	134.0	90.0	5

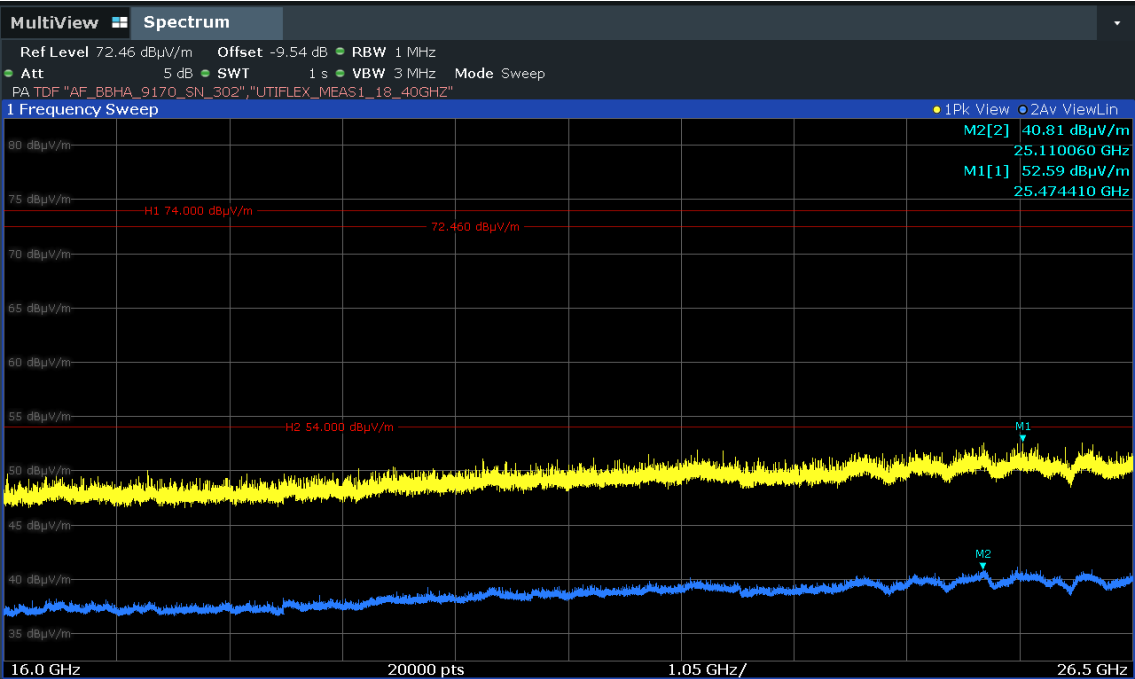
4.01b_bt+Charging

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	TX 2441 MHz CH39
Operator:	PMa
Comment:	Channel no. middle
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH



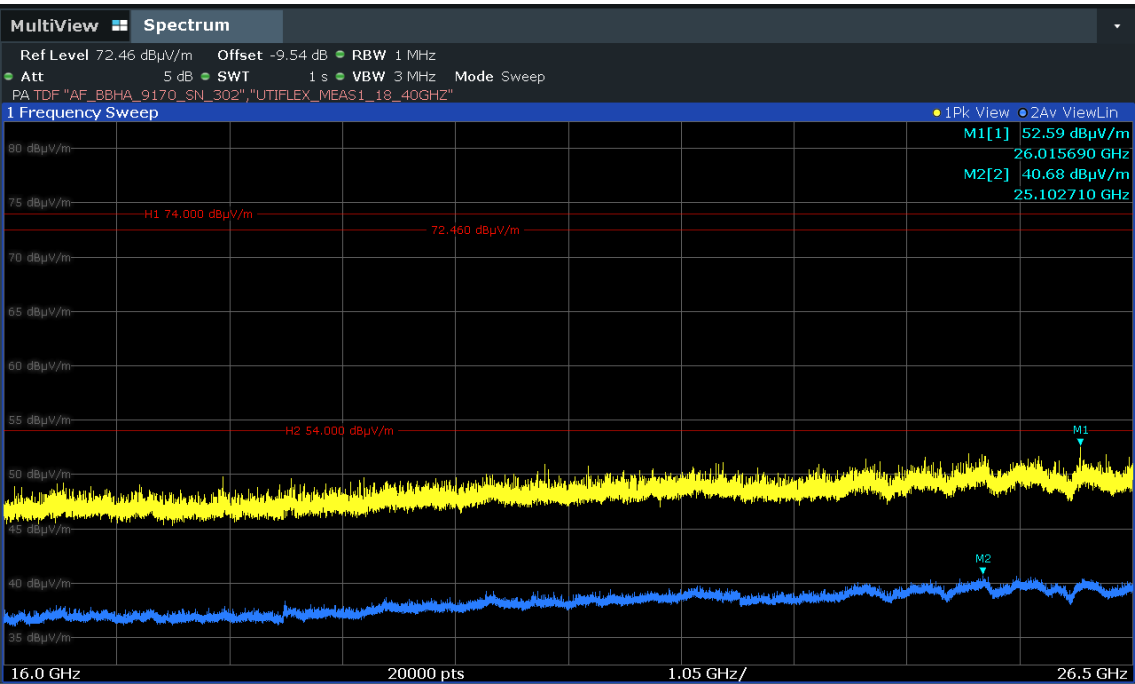
4.02b_wlan+Charging

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0
Test Standard:	FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
Antenna polarisation:	horizontal/vertical
Operating Mode:	TX 2462 MHz CH11
Operator:	HEI
Comment:	Channel no.high
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	19-1-01374S23_C01
Manufacturer:	Bosch Healthcare Solutions GmbH



End of Annex 1