

Annex 1: Measurement diagrams to
TEST REPORT
No.: 19-1-0137401T07a

According to:
FCC Regulations Title 47, Part 15
Subpart B (Unintentional radiators)
§15.107, §15.109

ISED-Regulations
ICES-003, Issue 6

for

Bosch Healthcare Solutions GmbH

Vivatmo pro (Base Station)
System for quantitative measurement of fractional nitric oxide (FeNO) in
human breath

FCC ID: 2AVQ9VMPBS1
Reg. number IC: 25928-VMPBS1

Laboratory Accreditation and Listings
 Deutsche Akkreditierungsstelle D-PL-12047-01-01 D-PL-12047-01-03 D-PL-12047-01-04 Accredited EMC-Test Laboratory
accredited according to DIN EN ISO/IEC 17025:2018
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Table of contents

1. MEASUREMENT DIAGRAMS	3
1.1. Diagrams of conducted emissions on AC-Power lines (Diagram group 01)	3
1.2. Diagrams of radiated field strength emissions, 30 MHz - 1 GHz (Diagram group 03)	5

1. Measurement diagrams

1.1. Diagrams of conducted emissions on AC-Power lines (Diagram group 01)

1.01

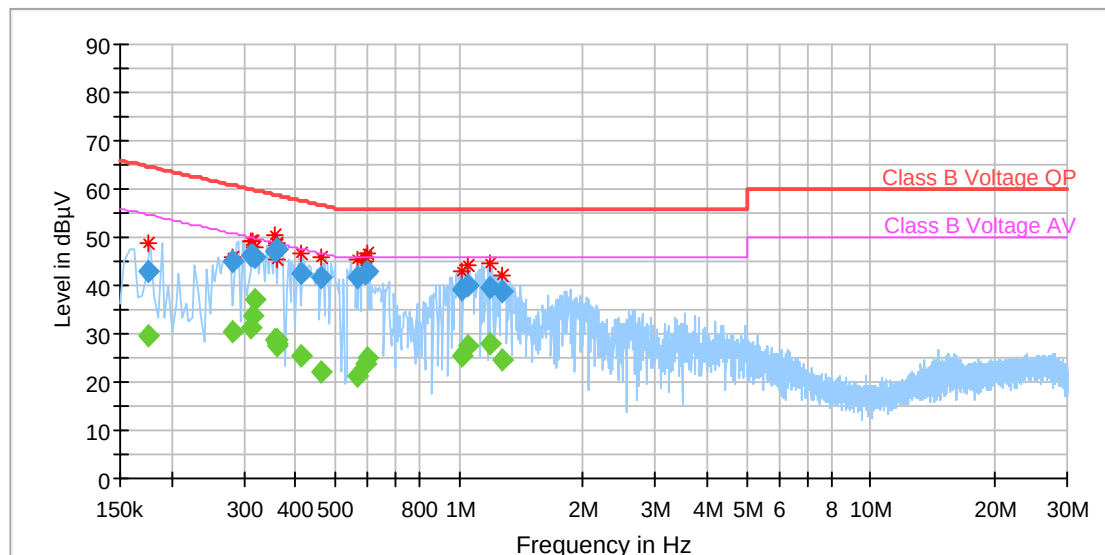
Common Information

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:	1
Measured on line:	N/L1
Diagram details:	Shows the peak values as a sum of measured ports in maxhold mode
Environmental Conditions:	Humidity: 40% rH; Temperature: 20° C
Operator:	HLA
EUT Setup:	2
Verdict:	Passed

EUT Information

PMT number:	19-1-01374S25
Manufacturer:	Bosch Healthcare Solutions GmbH
Product:	Vivatmo pro (Base Station)
Model:	System for quantitative measurement of fractional nitric oxide (FeNO) in human breath
HW version:	F09G100168
SW version:	Linux-Version: 4.4.35, SW-Version: 1.2.0
Serial number:	b827eb034258
Power Supply:	120 V

Full Spectrum



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Marg in (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Cor. (dB)
0.176563	---	29.55	54.65	25.10	1000.	9.000	L1	GN	0.1
0.176563	42.89	---	64.65	21.76	1000.	9.000	L1	GN	0.1
0.281875	44.88	---	60.76	15.88	1000.	9.000	N	GN	0.1
0.281875	---	30.37	50.76	20.39	1000.	9.000	N	GN	0.1
0.313125	---	31.36	49.89	18.53	1000.	9.000	L1	GN	0.2
0.313125	46.30	---	59.89	13.59	1000.	9.000	L1	GN	0.2
0.315938	46.20	---	59.81	13.61	1000.	9.000	L1	GN	0.1
0.315938	---	33.56	49.81	16.25	1000.	9.000	L1	GN	0.1
0.319375	---	36.96	49.72	12.76	1000.	9.000	N	GN	0.1
0.319375	45.88	---	59.72	13.84	1000.	9.000	N	GN	0.1
0.357344	47.05	---	58.79	11.74	1000.	9.000	L1	GN	0.1
0.357344	---	28.87	48.79	19.92	1000.	9.000	L1	GN	0.1
0.359531	---	28.61	48.74	20.13	1000.	9.000	N	GN	0.1
0.359531	47.65	---	58.74	11.09	1000.	9.000	N	GN	0.1
0.361719	47.47	---	58.69	11.22	1000.	9.000	L1	GN	0.1
0.361719	---	28.05	48.69	20.64	1000.	9.000	L1	GN	0.1
0.361875	---	27.54	48.69	21.15	1000.	9.000	N	GN	0.1
0.361875	47.41	---	58.69	11.28	1000.	9.000	N	GN	0.1
0.413125	42.62	---	57.59	14.97	1000.	9.000	L1	GN	0.1
0.413125	---	25.39	47.59	22.20	1000.	9.000	L1	GN	0.1
0.461719	---	22.27	46.66	24.39	1000.	9.000	N	GN	0.1
0.461719	41.82	---	56.66	14.84	1000.	9.000	N	GN	0.1
0.567031	41.86	---	56.00	14.14	1000.	9.000	N	GN	0.1
0.567031	---	21.13	46.00	24.87	1000.	9.000	N	GN	0.1
0.594375	42.64	---	56.00	13.36	1000.	9.000	N	GN	0.1
0.594375	---	23.86	46.00	22.14	1000.	9.000	N	GN	0.1
0.594531	42.68	---	56.00	13.32	1000.	9.000	N	GN	0.1
0.594531	---	23.82	46.00	22.18	1000.	9.000	N	GN	0.1
0.597188	42.88	---	56.00	13.12	1000.	9.000	L1	GN	0.2
0.597188	---	24.83	46.00	21.17	1000.	9.000	L1	GN	0.2
1.011250	---	25.22	46.00	20.78	1000.	9.000	N	GN	0.3
1.011250	39.09	---	56.00	16.91	1000.	9.000	N	GN	0.3
1.051563	40.06	---	56.00	15.94	1000.	9.000	L1	GN	0.3
1.051563	---	27.50	46.00	18.50	1000.	9.000	L1	GN	0.3
1.189844	---	27.98	46.00	18.02	1000.	9.000	L1	GN	0.3
1.189844	39.66	---	56.00	16.34	1000.	9.000	L1	GN	0.3
1.268594	---	24.52	46.00	21.48	1000.	9.000	N	GN	0.3
1.268594	38.58	---	56.00	17.42	1000.	9.000	N	GN	0.3

1.2. Diagrams of radiated field strength emissions, 30 MHz - 1 GHz (Diagram group 03)

3.01_15B

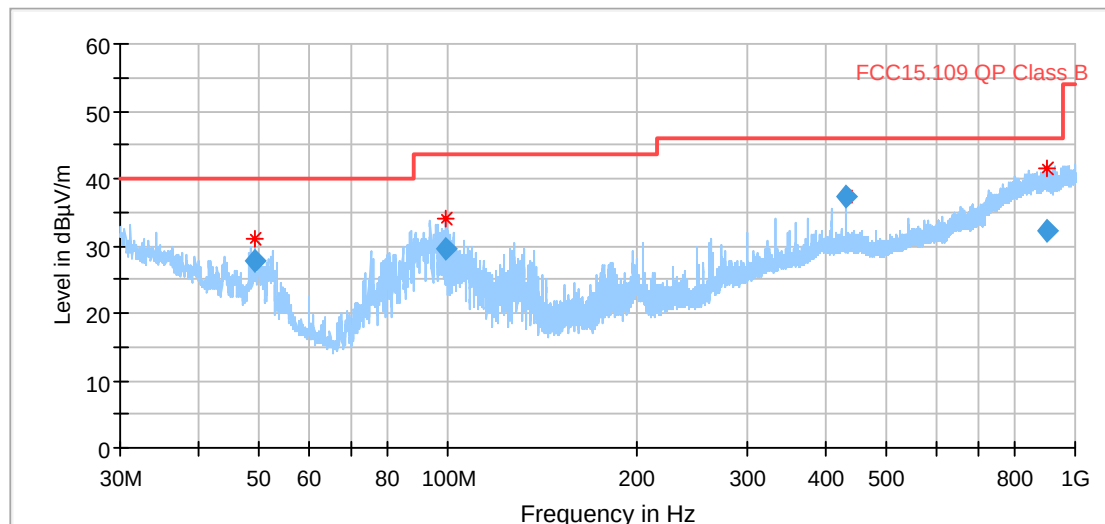
Common Information

Test Description: Electric Field Strength Measurement
 Test Site Location: 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 Standard.: FCC 15.109 Class B
 Operator: HLa
 Operating Mode: USB active + Ethernet active
 Environmental Conditions.: Humidity : 40% rH; Temperature: 20 °C
 EUT Setup: 1
 Verdict: Passed

EUT Information

PMT number: 19-1-01374S25
 Manufacturer: Bosch Healthcare Solutions GmbH
 Product: Vivatmo pro (Base Station)
 Model: System for quantitative measurement of fractional nitric oxide (FeNO) in human breath
 HW version: F09G100168
 SW version: Linux-Version: 4.4.35, SW-Version: 1.2.0
 Serial number: b827eb034258
 Power Supply: 120 V

Full Spectrum



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
49.170000	27.91	40.00	12.09	120.000	109.0	V	295.0	13.2
99.520000	29.60	43.50	13.90	120.000	105.0	V	40.0	8.1
432.010000	37.24	46.00	8.76	120.000	134.0	V	158.0	19.3
902.310000	32.19	46.00	13.81	120.000	368.0	H	137.0	27.1

1.2.1. Diagrams of radiated emission above 1 GHz (Diagram group 04)

4.01_RSE_FCC_15B_1-15GHz

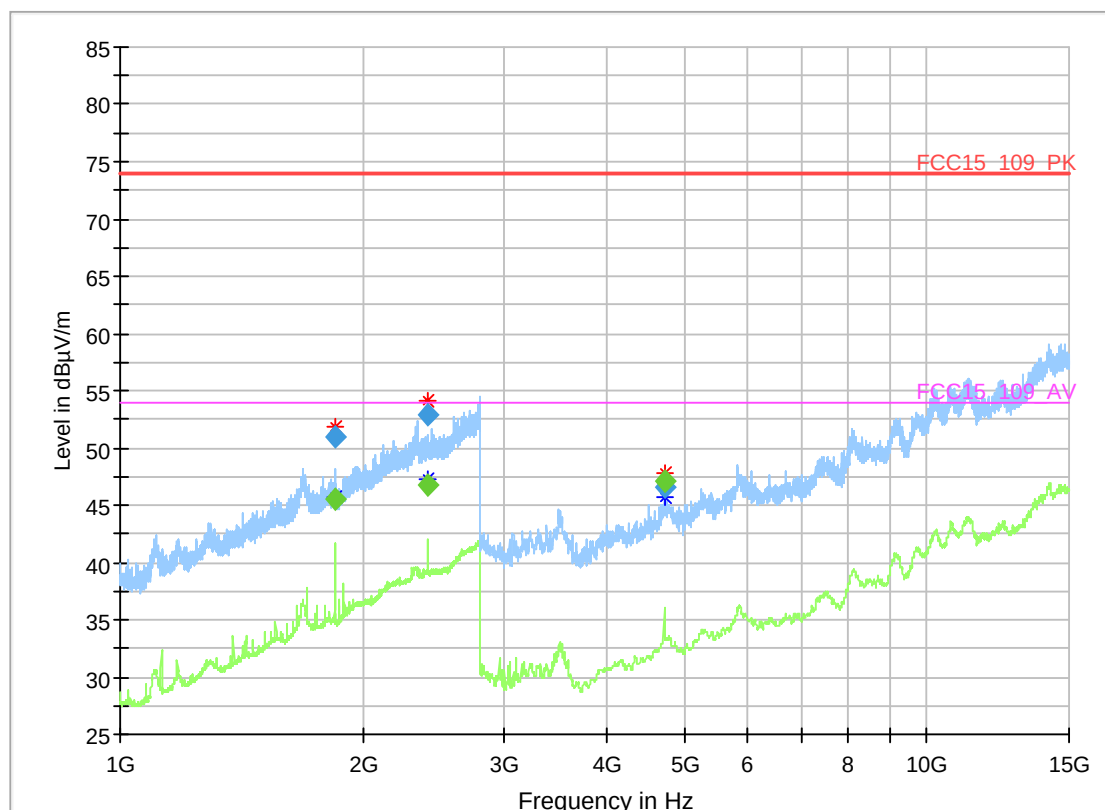
Common Information

Test Description: Radiated field strength emission in 3m distance
Test Site: CETECOM GmbH Essen
Test Standard: FCC 15.109 Unintentional Radiator
Antenna polarization: horizontal/vertical
Operating Mode: USB active + Ethernet active
Operator: RIs
Environmental Conditions: Humidity : 52% rH; Temperature: 20° C

EUT Information

Manufacturer: Bosch Healthcare Solutions GmbH
Product: Vivatmo pro (Base Station)
Model: System for quantitative measurement of fractional nitric oxide (FeNO) in human breath
HW version: F09G100168
SW version: Linux-Version: 4.4.35, SW-Version: 1.2.0
Serial number: b827eb034258

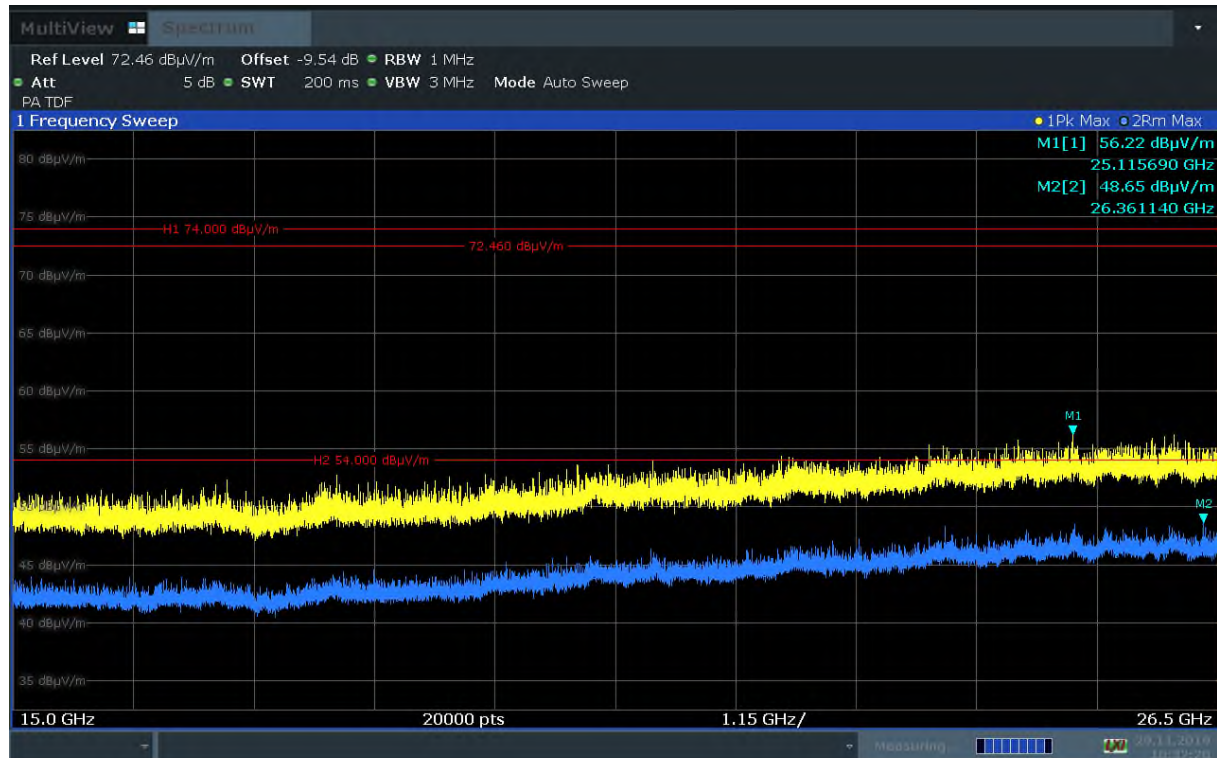
Full Spectrum



Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB/m)
1843.172000	50.93	74.00	23.07	100.0	1000.000	V	17.0	90.0	33
1843.222000	---	54.00	8.47	100.0	1000.000	V	9.0	90.0	33
2406.369000	52.88	74.00	21.12	100.0	1000.000	V	22.0	90.0	36
2406.434000	---	54.00	7.26	100.0	1000.000	V	5.0	90.0	36
4724.335667	46.49	74.00	27.51	100.0	1000.000	H	214.0	0.0	6
4724.710000	---	54.00	6.93	100.0	1000.000	V	174.0	90.0	6

4.02



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