FORCE Technology Test Report

TEST Reg. no. 19

Radio parameter test of Smart Connect

Performed for Anticimex Innovation Center

Report no.: 117-21624-4 Revision 1
Page 1 of 43

12 February 2018

FORCE Technology
Venlighedsvej 4
2970 Hørsholm
Denmark
Tlf. +45 72 19 40 00
Fax +45 72 19 40 01
www.force.dk

Title	Radio parameter test of Smart Connect
Test object	Smart Connect
Report no.	117-21624-4 Revision 1
Test period	08 to 22 December 2017
Client	Anticimex Innovation Center Skovgårdsvej 25 3200 Helsinge Denmark Tel.: +45 48207348
Contact person	Dennis Dupont Hansen E-mail: Dennis.hansen@anticimex.com
Manufacturer	Anticimex Innovation Center
Specifications	FCC 47 CFR 15.247, DTS (Digital Transmission System)
Results	The test object was found to be in compliance with the specifications
Test personnel	Henrik Klarskov Møller Peter Wolf Frandsen
Test site	Venlighedsvej 4, 2970 Hørsholm, Denmark

Date 12 February 2018

Project Manager

Peter Wolf Frandsen
Specialist, EMC
FORCE Technology

Responsible

Karsten Kruse Jensen
Head of Department
FORCE Technology

This test report replaces previously issued test report 117-21624-4 dated 29 January 2018. The changes in this report are:

FCC ID corrected in Clause 2.1

Table of contents

1. Summary of tests

Description	Test methods	Specification	Results
Measurement of maximum conducted output power	ANSI C63.10:2013	47 CFR Part 15C Subpart 15.247(b)(3)	Passed
Measurement of 6 dB bandwidth/ measurement of band edge compliance	ANSI C63.10:2013	47 CFR Part 15C Subpart 15.247(a)(2)	Passed
Measurement of 20 dB bandwidth	ANSI C63.10:2013	47 CFR Part 15C Subpart 15.215(c)	Passed
Measurement of power spectral density	ANSI C63.10:2013	47 CFR Part 15C Subpart 15.247(e)	Passed
Measurement of conducted spurious emission	ANSI C63.10:2013	47 CFR Part 15C Subpart 15.247(d)	Passed
Measurement of radio frequency voltage on mains	ANSI C63.10:2013	47 CFR Part 15 B&C Subpart 15.107, 15.207	Passed, see Note 1
Measurement of radiated emission; restricted bands	ANSI C63.10:2013	47 CFR Part 15 B&C Subpart 15.109, 15.209	Passed

Note 1: The test object contains no AC mains port. The measurement was performed on Auxiliary equipment 2.2.1 as a representable AC mains source.

The given result is based on a shared risk principle with respect to the measurement uncertainty.

Conclusion

The test object mentioned in this report meets the requirements of the standard stated below with respect to the tests listed above.

- FCC 47 CFR 15.247, DTS
  (Digital Transmission System)

The test results relate only to the object tested.

2. Test object and auxiliary equipment

2.1 Test object

Photo 2.1.1 Test object and Auxiliary equipment.

Test object 2.1.1

Name of test object	Smart Connect
Model / type	US-type
Part no.	300101
Serial no.	50000001
FCC ID	2AOFP-300101 Contains FCC ID XMR201510UC20
Manufacturer	Anticimex Innovation Center
Supply voltage	5 V
Software version	2.31
Hardware version	E1025-03
Cycle time	Continuous Tx
Highest frequency generated or used	920 MHz
Comment	None
Received	Date: 08 December 2017. Status: Test object sampled and provided by customer.

2.2 Auxiliary equipment

Auxiliary equipment 2.2.1.

Name of auxiliary equipment	Power Supply Smart Connect
Model / type	SK02G-0500300Z
Part no.	-
Serial no.	-
FCC ID	-
Manufacturer	STARWELL
Supply voltage	100-240 V ac
Highest frequency generated or used	-
Comment	Auxiliary equipment supplied by the client, who also has the responsibility for its correct function and setup.

3. General test conditions

3.1 Test setup during test

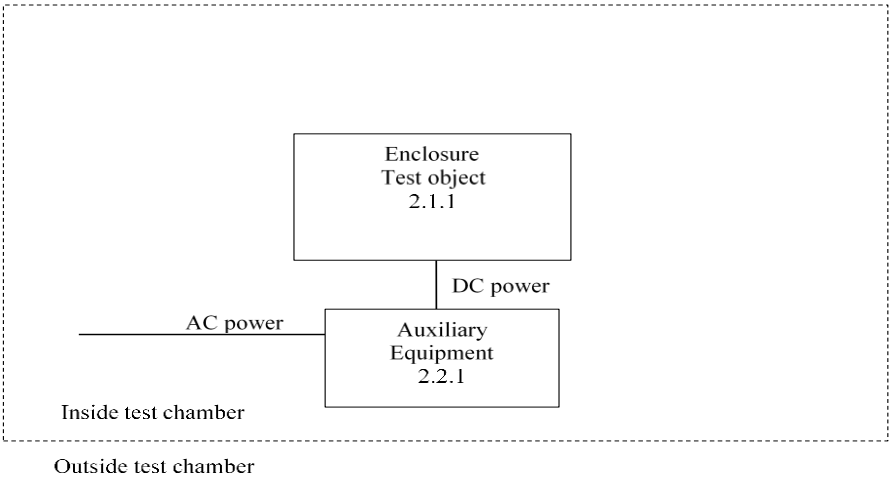


Figure 3.1.1 Block diagram of test object with cables and auxiliary equipment.

Cable name	Cable type	Shielded cable	Unshielded cable	Max. length		
				< 3 m	< 30 m	≥ 30 m
DC power	DC power		x	x		
AC power	AC power		x	-	-	-

Table 1: Cable specification.

3.1.1 Description of test setup

Special SRD test modes were used during testing. The tests are performed with an AC power at 120 VAC.

There are four test modes: (Only one radio transmits at a time; no simultaneous transmission).

1. The radio module modem is continuously transmitting in the 824-835 MHz band at 826 MHz. See test report 117-21624-5.
2. The radio module modem is continuously transmitting in the 1850-1865 MHz band at 1.853 GHz. See test report 117-21624-5.
3. An SRD radio is continuously transmitting in the 902-928 MHz band at 920 MHz.
4. Normal mode: Operation mode – the device is active during the test and the radio module is deactivated (not transmitting).

3.1.2 Description and intended use of test object

Rodent surveillance and trap with built-in radio communication with a battery backup system.

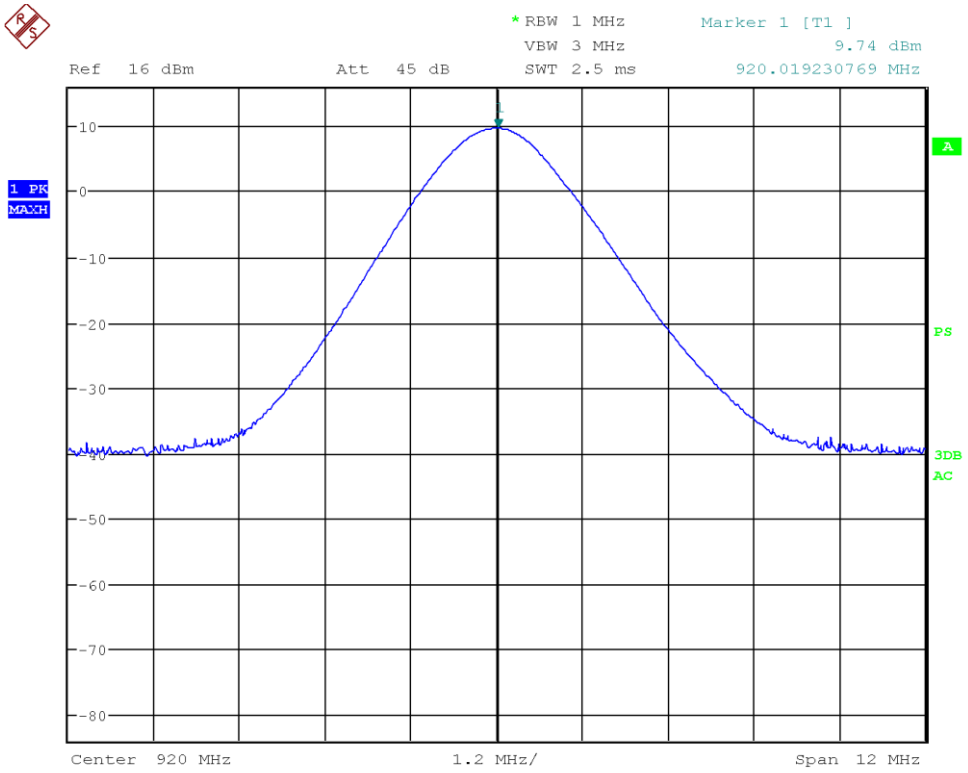
1. An SRD radio is continuously transmitting in the 902-928 MHz band at 920 MHz.
2. An SMS/GPRS modem using a certified radio module (certified as modular transmitters with FCC ID XMR201510UC20) is operating as per CFR47 part 22H or part 24E. See test report 117-21624-5.

4. Test results

4.1 Measurement of maximum conducted output power

Test object	Smart Connect	Sheet	PROF-1
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	14 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests		

Test method Characteristics	ANSI C63.10:2013 Procedures for testing DTS devices	Temperature Humidity	21 °C 30 % RH
Test equipm.	SRD lab Hørsholm 49600 49740	Uncertainty	1.1 dB
SA Settings	RBW: 1 MHz VBW: 3 MHz SPAN: 12 MHz DET: Peak CF: 920 Trace: Max. hold		



Date: 14.DEC.2017 13:43:47

Comments Operating frequency: 920 MHz.

Test object	Smart Connect	Sheet	PROF-2
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	14 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests		

Test method Characteristics	ANSI C63.10:2013 Procedures for testing DTS devices	Temperature Humidity	21 °C 30 % RH
Test equipm.	SRD lab Hørsholm 49600 49740	Uncertainty:	1.1 dB
SA Settings	RBW: 1 MHz VBW: 3 MHz SPAN: 12 MHz DET: Peak CF: 920 Trace: Max. hold		

Operating frequency [MHz]	Conducted peak measurement [dBm]	Limit [dBm]	Remarks
920	9.74	30 (1 Watts)	Passed
Note 1:			

Test result	The measured maximum conducted output power is within the limit
Test port	Antenna connector
Test frequency	920 MHz
Test mode	Continuous Tx - normal modulation
Condition	Normal
Compliant	Yes
Comments	None

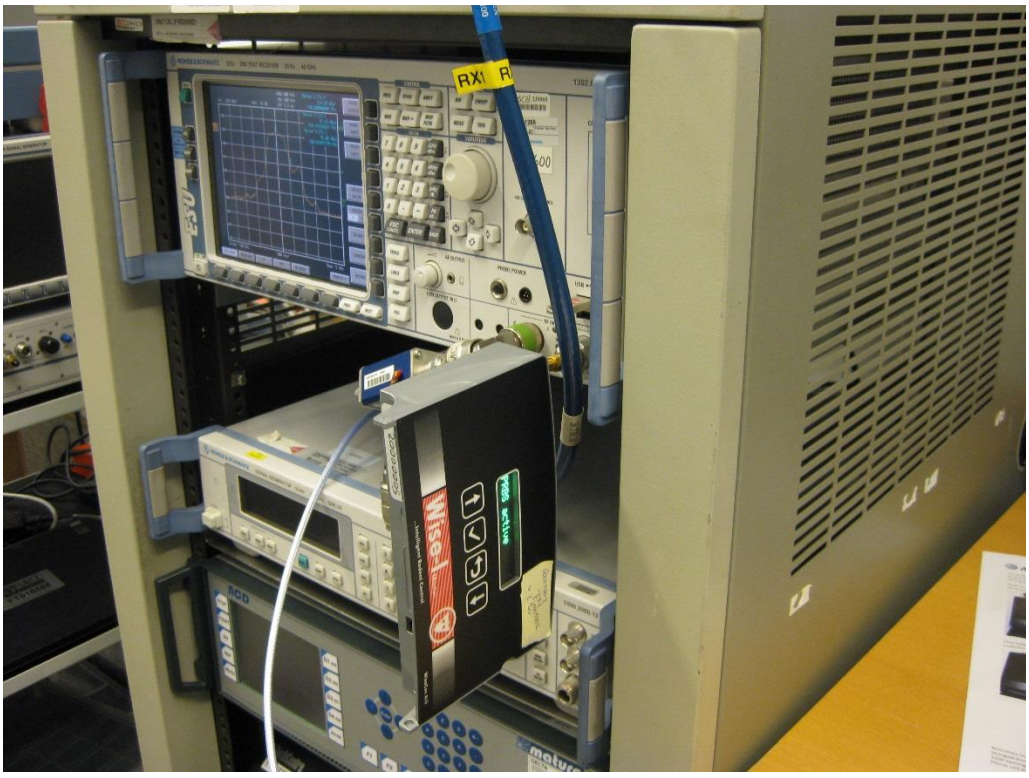
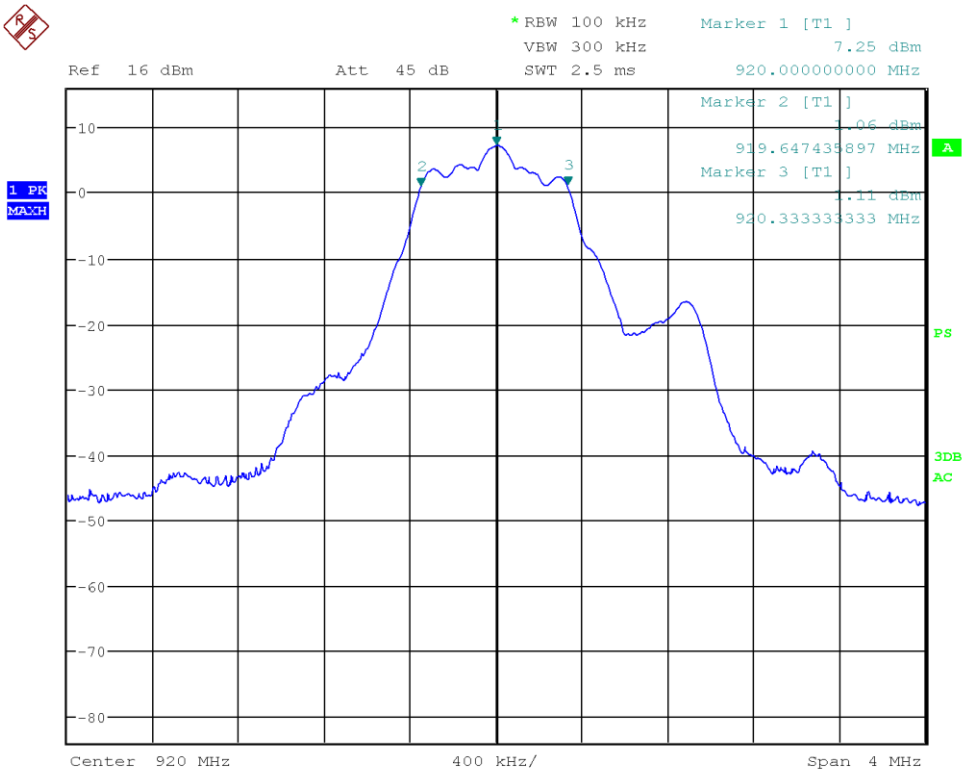


Photo 4.1.1 Test setup regarding measurement of maximum conducted output power.

4.2 Measurement of 6 dB bandwidth

Test object	Smart Connect	Sheet	PROF-3
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	14 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests		

Test method Characteristics	ANSI C63.10:2013 Procedures for testing DTS devices	Temperature Humidity	21 °C 30 % RH
Test equipm.	SRD lab Hørsholm 49600 49740	Uncertainty	1.1 dB
SA Settings	RBW: 100 kHz VBW: 300 kHz SPAN: 4 MHz DET: Peak CF: 920 Trace: Max. hold		



Date: 14.DEC.2017 13:16:10

Comments Operating frequency: 920 MHz.

Test object	Smart Connect	Sheet	PROF-4
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	14 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests		

Test method Characteristics	ANSI C63.10:2013 Procedures for testing DTS devices	Temperature Humidity	21 °C 30 % RH
Test equipm.	SRD lab Hørsholm 49600 49740	Uncertainty:	1.1 dB
SA Settings	RBW: 100 kHz VBW: 300 kHz SPAN: 4 MHz DET: Peak CF: 920 Trace: Max. hold		

Operating frequency [MHz]	Low frequency [MHz]	High frequency [MHz]	6 dB bandwidth [kHz]	Limit [kHz]	Remarks
920	919.65	920.33	680	≥ 500	Passed
Note 1:					

Band edge criteria	The minimum 6 dB bandwidth shall be ≥ 500 kHz
Test result	The measured 6 dB bandwidth was within the limit
Test port	Antenna connector
Test frequency	920 MHz
Test mode	Continuous Tx - normal modulation
Condition	Normal
Compliant	Yes
Comments	None

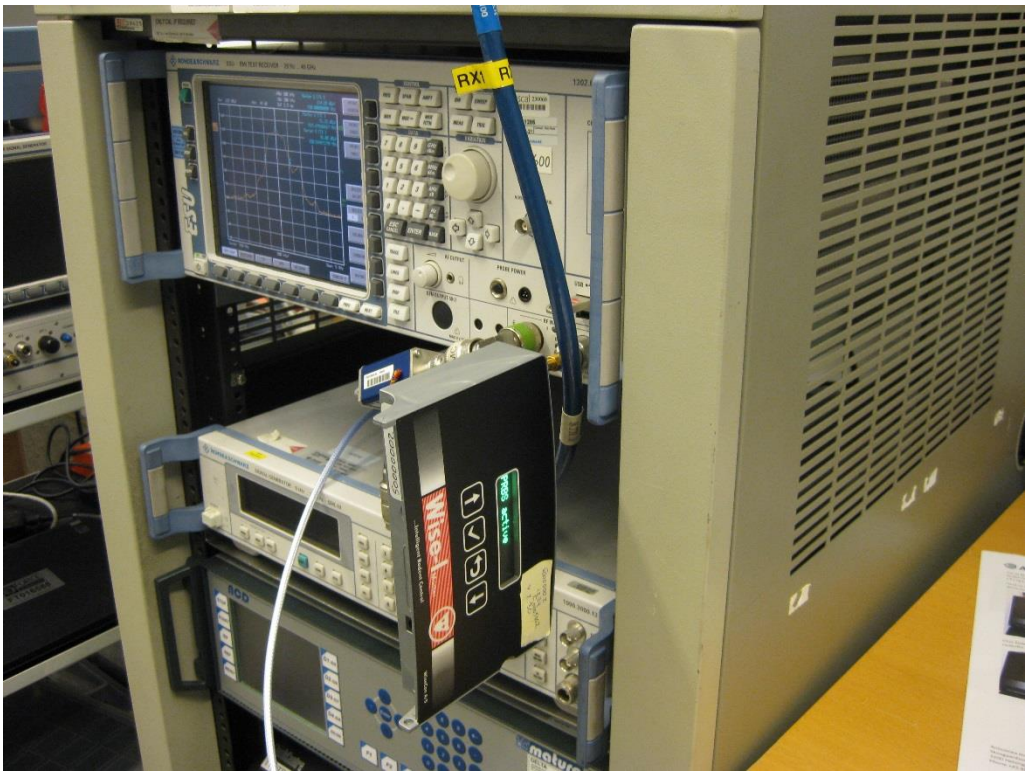
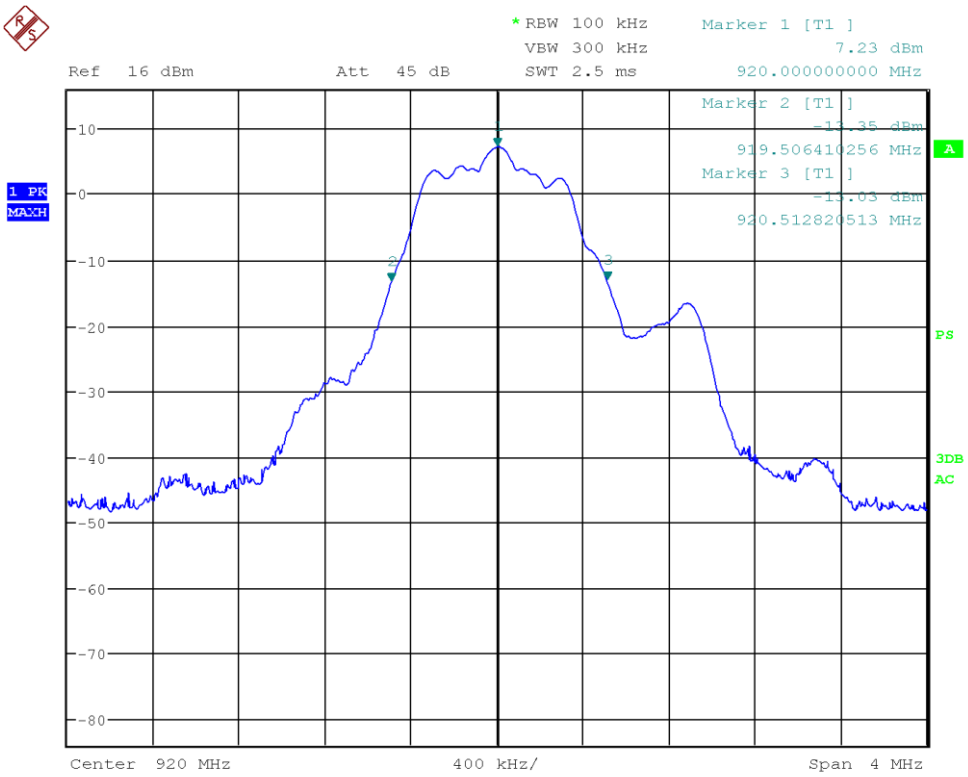


Photo 4.2.1 Test setup regarding measurement of 6 dB bandwidth.

4.3 Measurement of 20 dB bandwidth

Test object	Smart Connect	Sheet	PROF-5
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	14 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests		

Test method Characteristics	ANSI C63.10:2013 Procedures for testing DTS devices	Temperature Humidity	21 °C 30 % RH
Test equipm.	SRD lab Hørsholm 49600 49740	Uncertainty	1.6 dB
SA Settings	RBW: 100 kHz VBW: 300 kHz SPAN: 4 MHz DET: Peak CF: 920 MHz Trace: Max. hold		



Date: 14.DEC.2017 13:19:42

Comments Operating frequency: 920 MHz.

Test object	Smart Connect	Sheet	PROF-6
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	14 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests		

Test method Characteristics	ANSI C63.10:2013 Procedures for testing DTS devices	Temperature Humidity	21 °C 30 % RH
Test equipm.	SRD lab Hørsholm 49600 49740	Uncertainty:	1.6 dB
SA Settings	RBW: 100 kHz VBW: 300 kHz SPAN: DET: Peak CF: Operating freq. Trace: Max. hold		

Operating frequency [MHz]	Low frequency [MHz]	High frequency [MHz]	Remarks
920	919.5	920.5	-
Note 1:			

Operating frequency [MHz]	Measured [MHz]	Limit [MHz]	Remarks
Lowest frequency	919.5	902	Passed
Highest frequency	920.5	928	Passed

Band edge criteria	20 dB bandwidth
Test result	The measured 20 dBc bandwidth was within the limit
Test port	Antenna connector
Test frequency	920 MHz
Test mode	Continuous Tx - normal modulation
Condition	Normal
Compliant	Yes
Comments	None

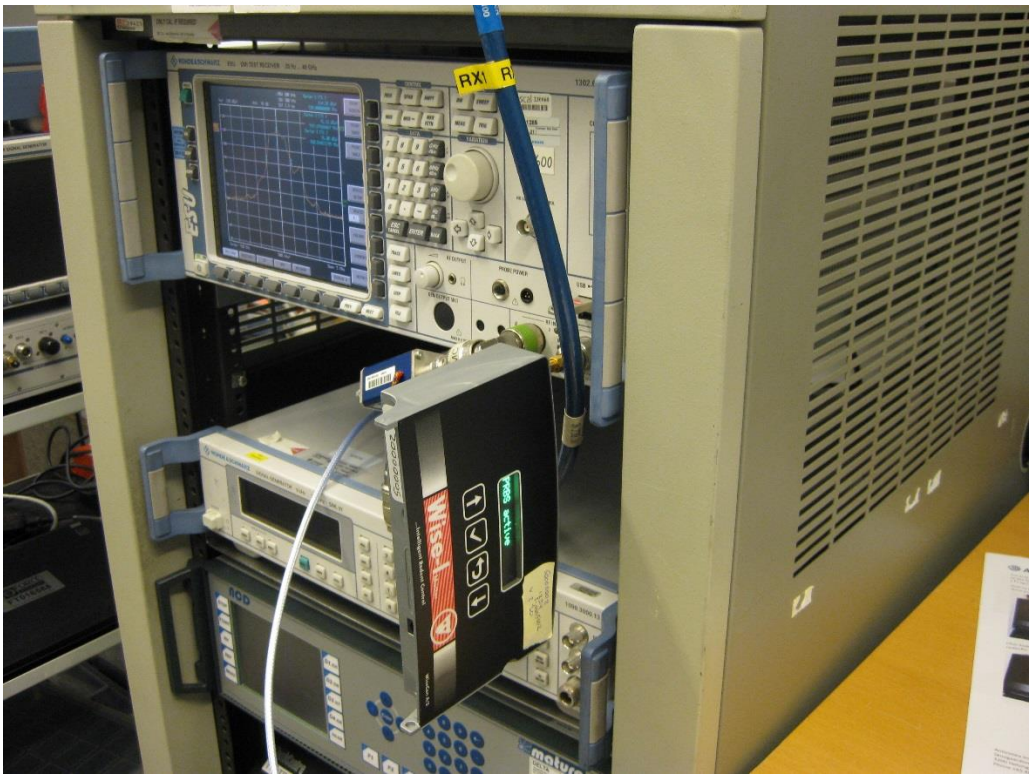
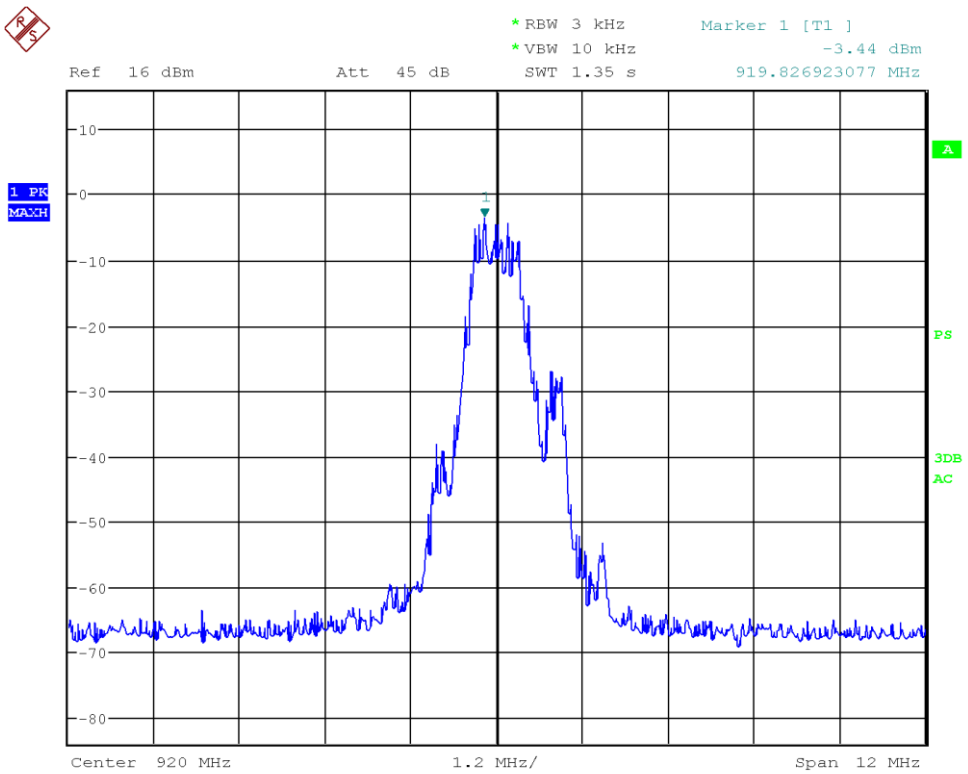


Photo 4.3.1 Test setup regarding measurement of 20 dB bandwidth.

4.4 Measurement of power spectral density conducted

Test object	Smart Connect	Sheet	PROF-7
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	14 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests		

Test method Characteristics	ANSI C63.10:2013 Procedures for testing DTS devices	Temperature Humidity	21 °C 30 % RH
Test equipm.	SRD lab Hørsholm 49600 49740	Uncertainty	1.1 dB
SA Settings	RBW: 3 kHz VBW: 10 kHz SPAN: 4 MHz DET: Peak CF: 920 MHz Trace: Max. hold		



Date: 14.DEC.2017 13:47:42

Comments Operating frequency: 920 MHz.

Test object	Smart Connect	Sheet	PROF-8
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	14 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests		

Test method Characteristics	ANSI C63.10:2013 Procedures for testing DTS devices	Temperature Humidity	21 °C 30 % RH
Test equipm.	SRD lab Hørsholm 49600 49740	Uncertainty	1.1 dB
SA Settings	RBW: 3 kHz VBW: 10 kHz SPAN: 4 MHz DET: Peak CF: 920 MHz Trace: Max. hold		

Operating Frequency [MHz]	Measured Power [dBm]	Limit [dBm]	Remarks
919.83	-3.44	8	Passed
Note 1:			

Test result	The measured power spectral density was within the limit
Test Port	Antenna connector
Test frequency	920 MHz
Test mode	Continuous Tx - normal modulation
Condition	Normal
Compliant	Yes
Comments	None

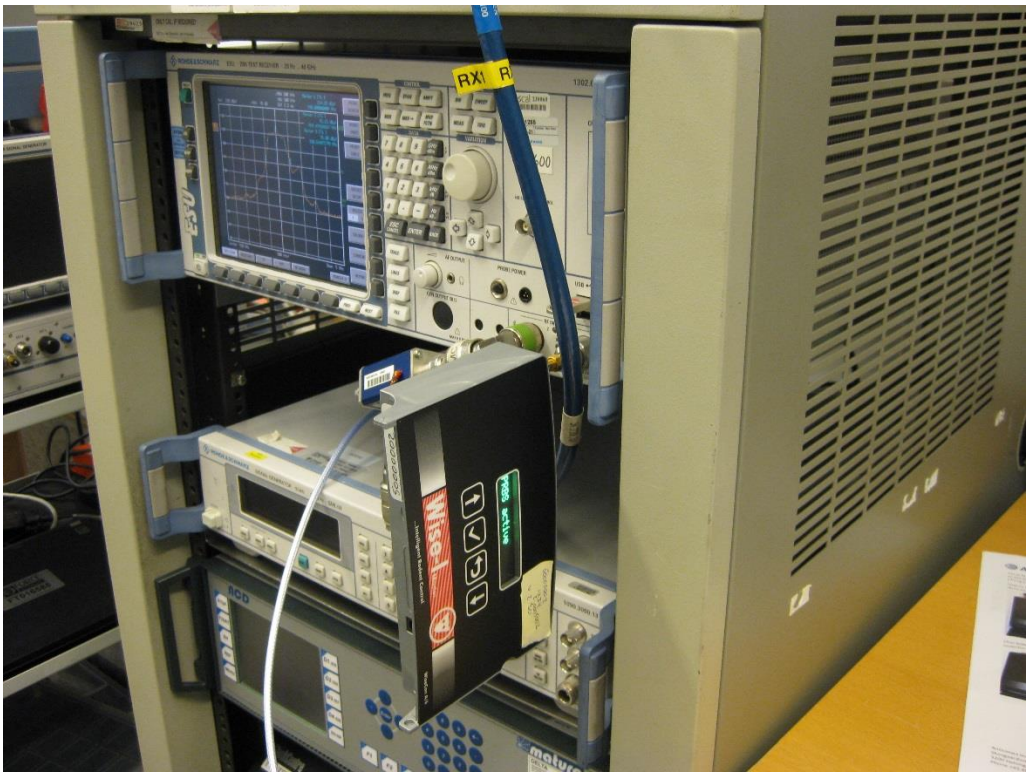
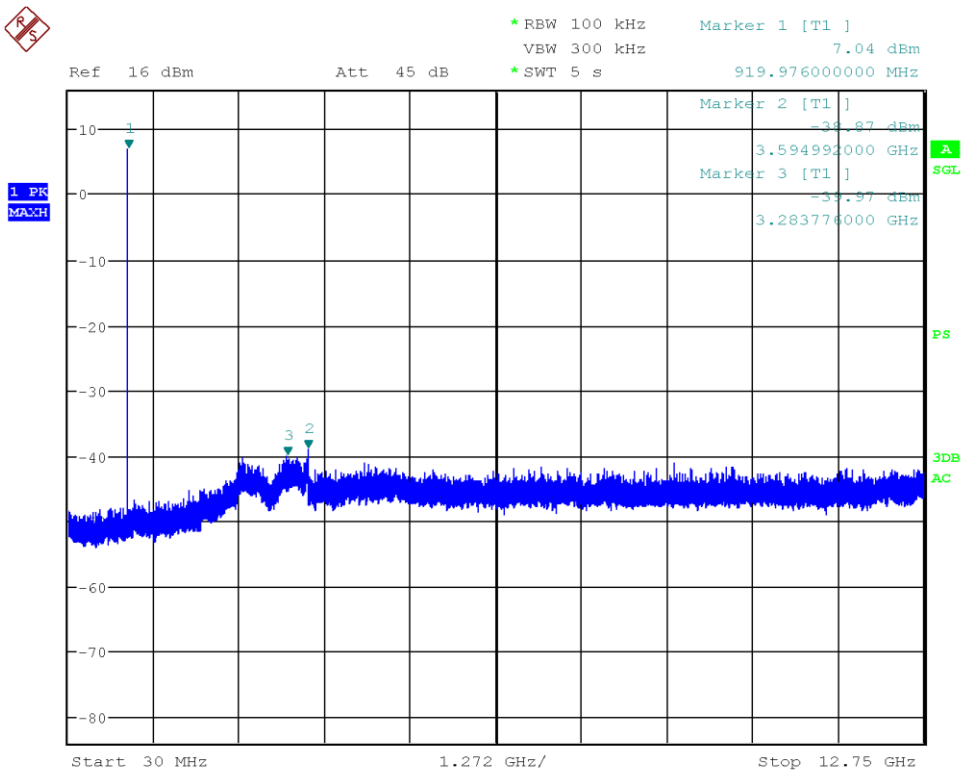


Photo 4.4.1 Test setup regarding measurement of power spectral density conducted

4.5 Measurement of conducted spurious emissions

Test object	Smart Connect	Sheet	PROF-9
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	14 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests	Frequency	30-12750 MHz

Test method Characteristics	ANSI C63.10:2013 Procedures for testing DTS devices	Temperature Humidity	21 °C 30 % RH
Test equipm.	SRD lab Hørsholm 49600 49740	Uncertainty	1.1 dB
SA Settings	RBW: 100 kHz VBW: 300 kHz DET: Peak Trace: Max. hold		



Date: 14.DEC.2017 14:09:54

Comments None

Test object	Smart Connect	Sheet	PROF-10
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	14 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests	Frequency	30-12750 MHz

Test method Characteristics	ANSI C63.10:2013 Procedures for testing DTS devices	Temperature Humidity	21 °C 30 % RH
Test equipm.	SRD lab Hørsholm 49600 49740	Uncertainty:	1.1 dB
SA Settings	RBW: 100 kHz VBW: 300 kHz DET: Peak Trace: Max. hold		

Frequency [MHz]	Peak measurement [dBc]	Limit [dBc]	Remarks
3595	45,91	>20	Passed
3283.8	47,01	>20	Passed
Note 1:			

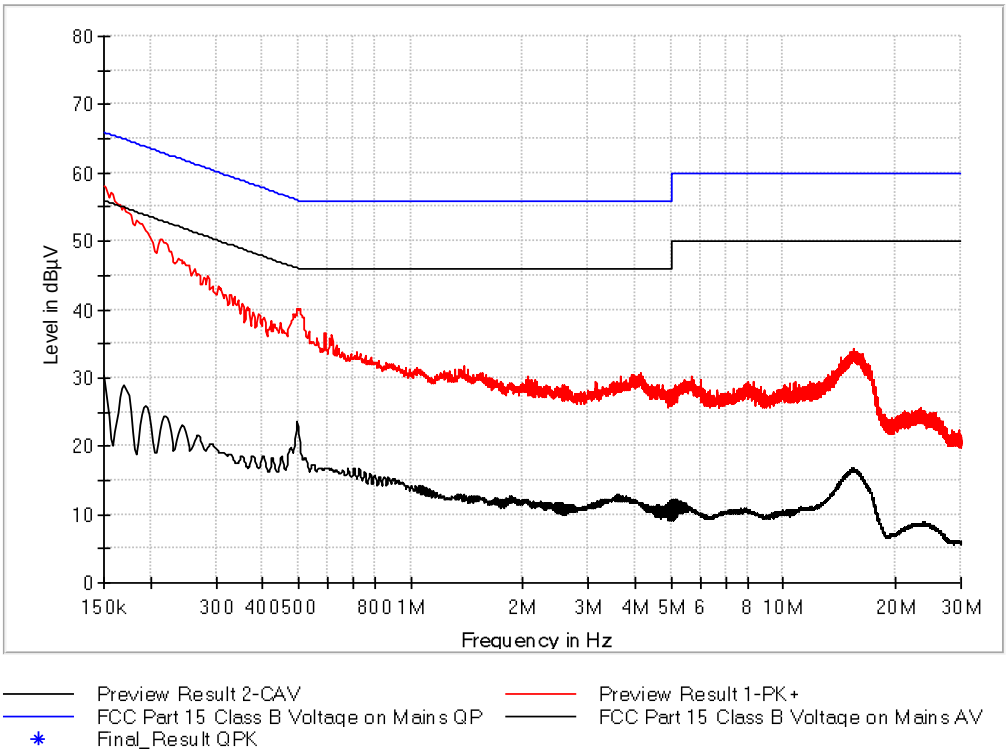
Test result	The measured conducted spurious emissions are within the limit
Test port	Antenna connector
Test frequency	920 MHz
Test mode	Continuous Tx - normal modulation
Condition	Normal
Compliant	Yes
Comments	None

Photo 4.5.1 Test setup regarding measurement of conducted spurious emissions.

4.6 Measurement of radio frequency voltage on mains, Tx on

Test object	Smart Connect	Sheet	CE-1
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	21 Dec. 2017
Client	Anticimex Innovation Center	Initials	HKM
Specification	See section 1 Summary of tests	Frequency	0.15-30 MHz

Test method Characteristics	ANSI C63.10:2013 Artificial mains network: 50 Ω, 50 µH	Temperature Humidity	21 °C 35 % RH
Detector	Peak and average	Bandwidth	10 kHz
Test equipm.	EMI room Hørsholm 49900 49999 49568 49429 49043 49457 29978 49568	Uncertainty	2.7 dB



Line under test	Maximum of Line and Neutral
Test result	The measured voltages were below the limit
Compliant	Yes
Comments	Mains voltage: 120 VAC.

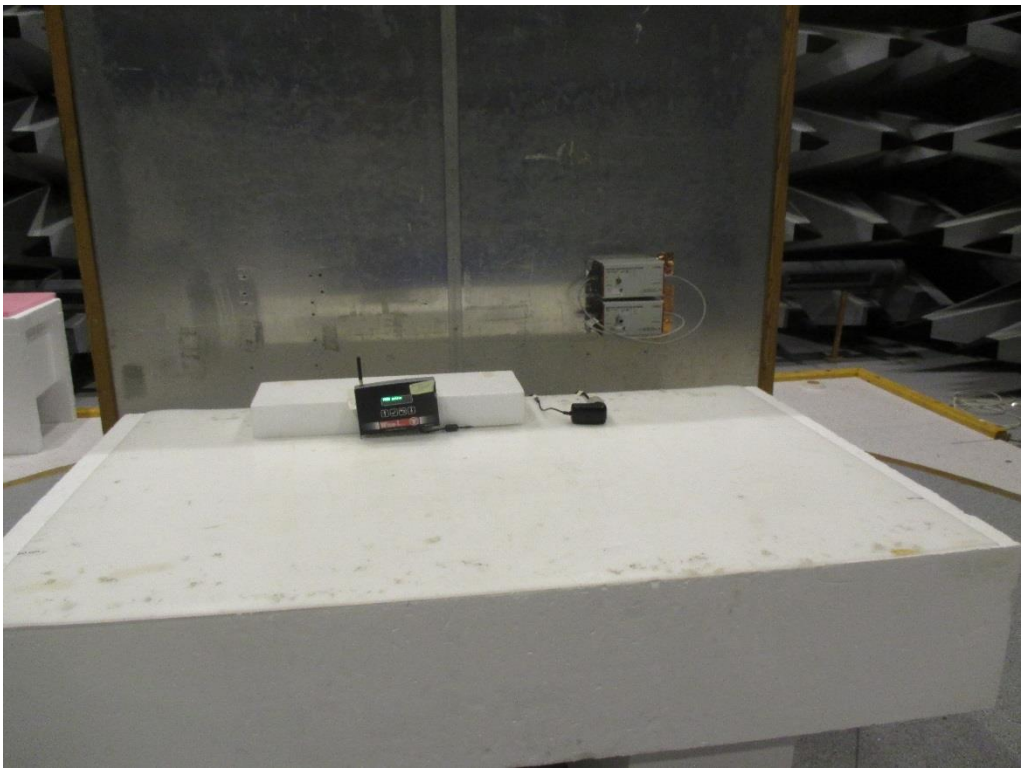


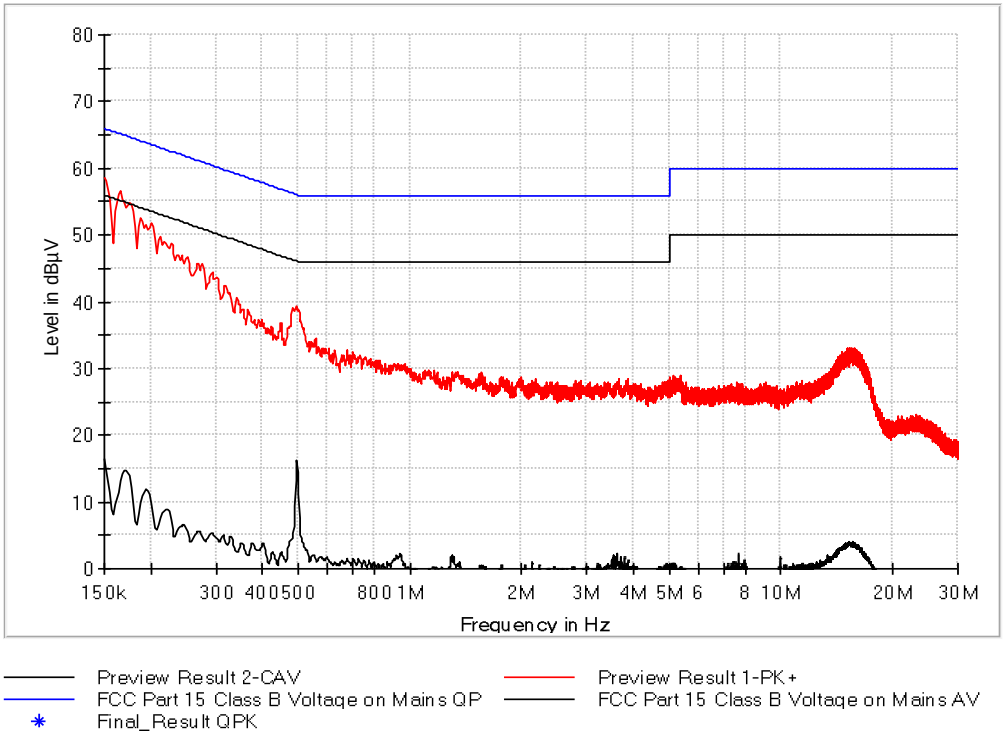
Photo 4.6.1 Test setup regarding measurement of radio frequency voltage on mains.

Photo 4.6.2 Test setup regarding measurement of radio frequency voltage on mains.

4.7 Measurement of radio frequency voltage on mains, normal mode

Test object	Smart Connect	Sheet	CE-2
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	21 Dec. 2017
Client	Anticimex Innovation Center	Initials	HKM
Specification	See section 1 Summary of tests	Frequency	0.15-30 MHz

Test method Characteristics	ANSI C63.10:2013 Artificial mains network: 50 Ω, 50 µH	Temperature Humidity	21 °C 35 % RH
Detector	Peak and average	Bandwidth	10 kHz
Test equipm.	EMI room Hørsholm 49900 49999 49568 49429 49043 49457 29978 49568	Uncertainty	2.7 dB



Line under test	Maximum of Line and Neutral
Test result	The measured voltages were below the limit
Compliant	Yes
Comments	Mains voltage: 120 VAC.

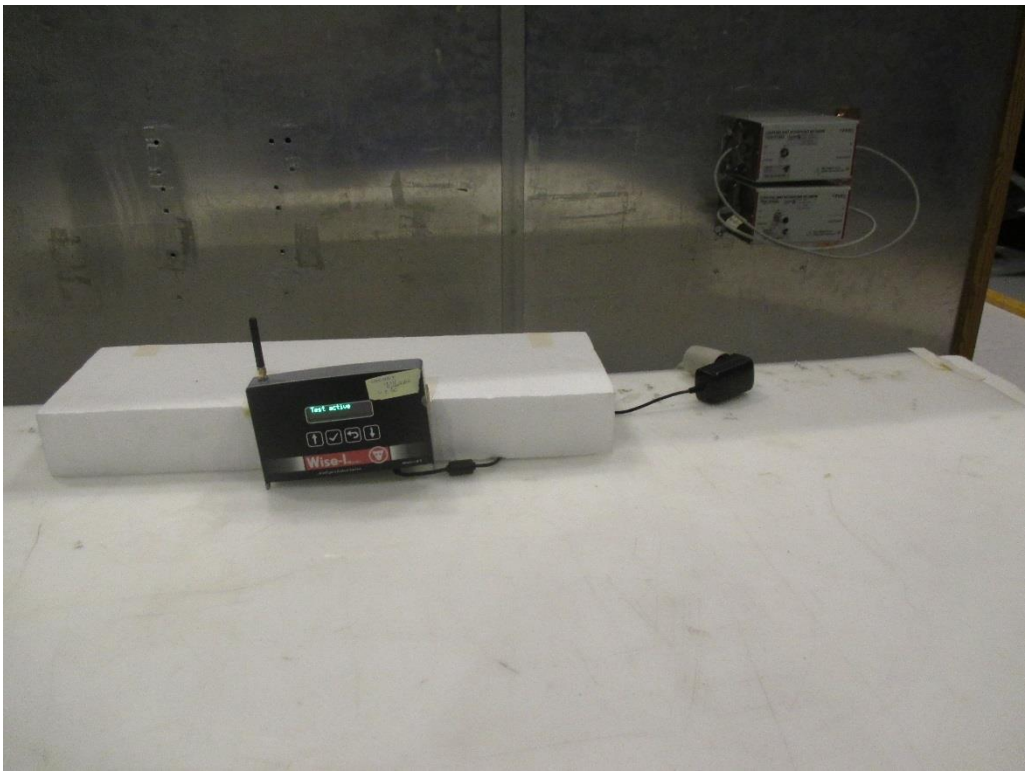


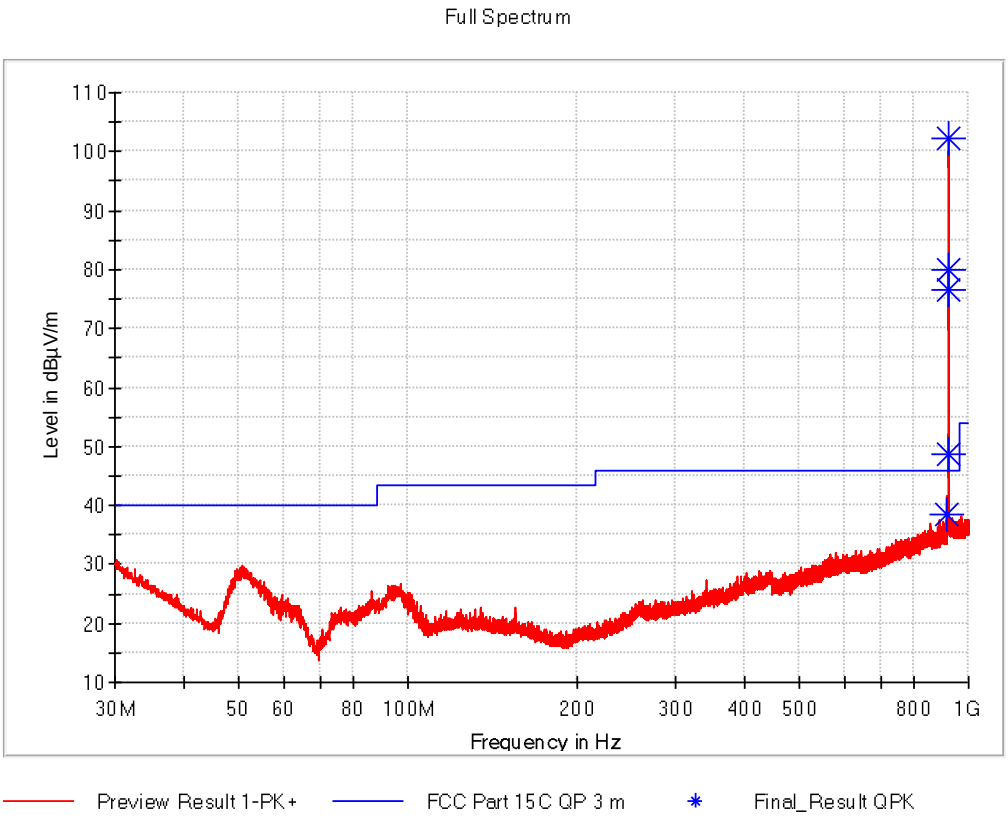
Photo 4.7.1 Test setup regarding measurement of radio frequency voltage on mains.

Photo 4.7.2 Test setup regarding measurement of radio frequency voltage on mains.

4.8 Measurement of radiated emission (below 1 GHz) Tx on

Test object	Smart Connect	Sheet	RE_Spur-1
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	21 Dec. 2017
Client	Anticimex Innovation Center	Initials	HKM
Specification	See section 1 Summary of tests	Frequency	30-1000 MHz

Test method Characteristics	ANSI C63.10:2013 Complete search, antenna distance 3 m	Temperature Humidity	21 °C 35 % RH
Detector	Peak and quasi peak	Bandwidth	120 kHz
Test equipm.	EMI room Hørsholm 49900 49154 49807 49704 49590 49817 49999	Uncertainty	6.3 dB



Comments Continuous Tx - normal modulation.

Test object	Smart Connect	Sheet	RE_Spur-2
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	21 Dec. 2017
Client	Anticimex Innovation Center	Initials	HKM
Specification	See section 1 Summary of tests	Frequency	30-1000 MHz

Test method Characteristics	ANSI C63.10:2013 Complete search, antenna distance 3 m	Temperature Humidity	21 °C 35 % RH
Detector	Quasi peak	Bandwidth	120 kHz
Test equipm.	EMI room Hørsholm 49900 49154 49807 49704 49590 49817 49999	Uncertainty	6.3 dB

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Band width (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
916.71	**38.48**	**46.00**	**7.52**	**15000.0**	**120.0**	**102.0**	**V**	**156**	**34.7**
917.91	**48.77**	**46.00**	**-2.77**	**15000.0**	**120.0**	**105.0**	**V**	**86**	**34.8**
919.11	**76.71**	**46.00**	**-30.71**	**15000.0**	**120.0**	**105.0**	**V**	**84**	**34.9**
920.01	**102.32**	**46.00**	**-56.32**	**15000.0**	**120.0**	**105.0**	**V**	**84**	**35.0**
920.88	**79.94**	**46.00**	**-33.94**	**15000.0**	**120.0**	**102.0**	**V**	**165**	**35.0**

Test result	The measured field strengths are below the limit
Test Port	Enclosure
Test frequency	920 MHz
Test mode	Continuous Tx - normal modulation
Condition	Normal
Compliant	Yes
Comments	Final maximal measurements by variation of turntable azimuth, antenna height and antenna polarisation.

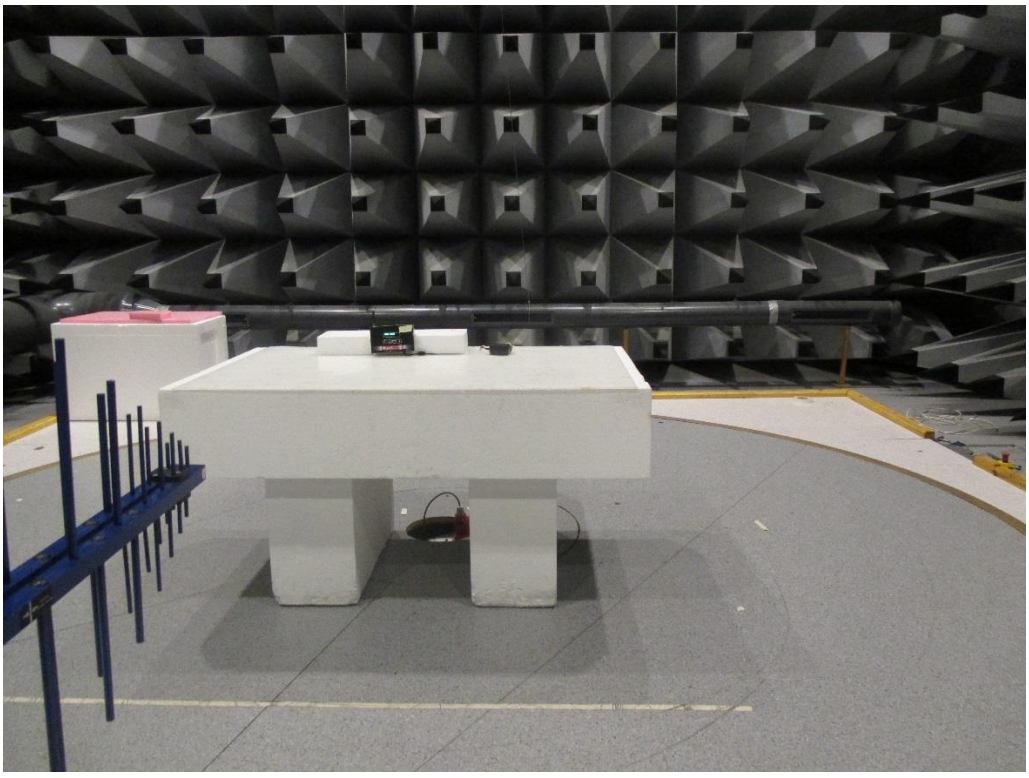


Photo 4.8.1 Test setup regarding measurement of radiated emission (below 1 GHz).

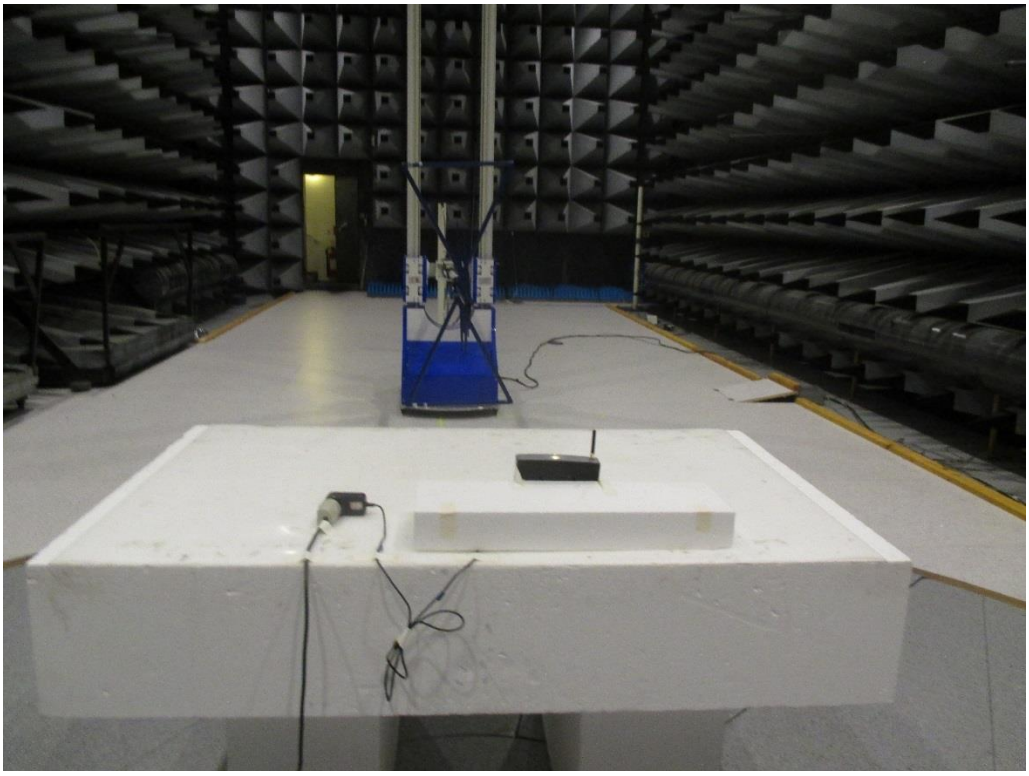
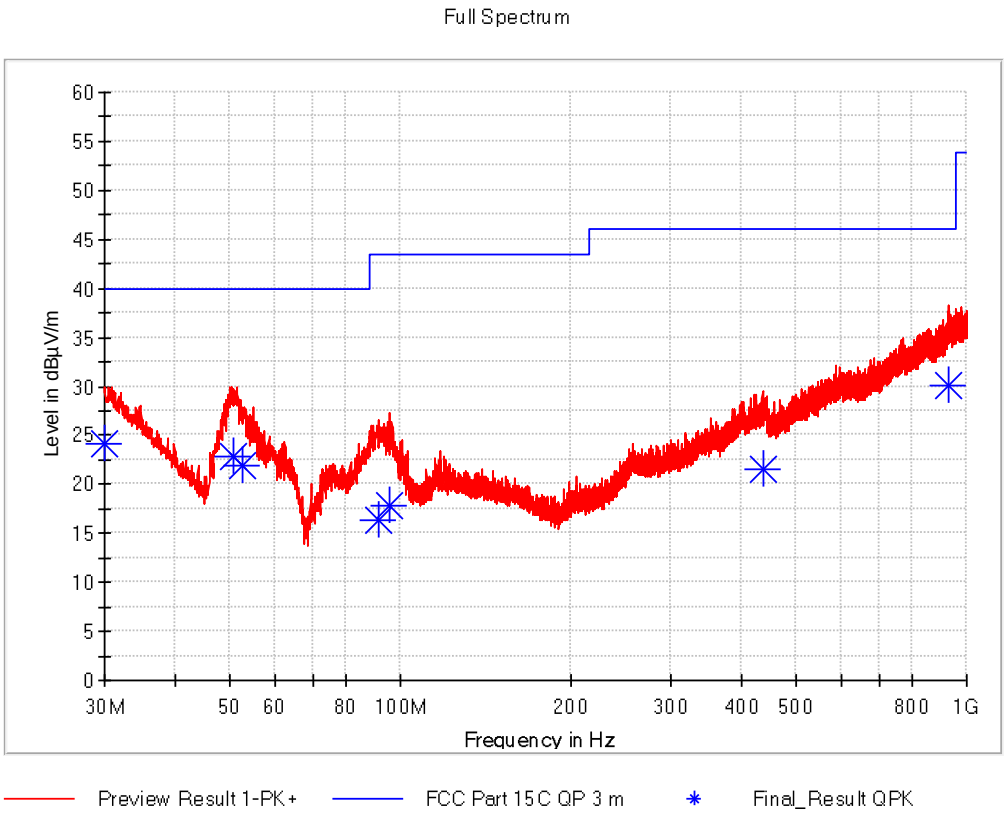


Photo 4.8.2 Test setup regarding measurement of radiated emission (below 1 GHz).

4.9 Measurement of radiated emission (below 1 GHz) normal mode

Test object	Smart Connect	Sheet	RE_Spur-3
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	21 Dec. 2017
Client	Anticimex Innovation Center	Initials	HKM
Specification	See section 1 Summary of tests	Frequency	30-1000 MHz

Test method Characteristics	ANSI C63.10:2013 Complete search, antenna distance 3 m	Temperature Humidity	21 °C 35 % RH
Detector	Peak and quasi peak	Bandwidth	120 kHz
Test equipm.	EMI room Hørsholm 49900 49154 49807 49704 49590 49817 49999	Uncertainty	6.3 dB



Comments Tx standby - normal modulation.

Test object	Smart Connect	Sheet	RE_Spur-4
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	21 Dec. 2017
Client	Anticimex Innovation Center	Initials	HKM
Specification	See section 1 Summary of tests	Frequency	30-1000 MHz

Test method Characteristics	ANSI C63.10:2013 Complete search, antenna distance 3 m	Temperature Humidity	21 °C 35 % RH
Detector	Quasi peak	Bandwidth	120 kHz
Test equipm.	EMI room Hørsholm 49900 49154 49807 49704 49590 49817 49999	Uncertainty	6.3 dB

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Band width (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.00	**24.19**	**40.00**	**15.81**	**15000.0**	**120.0**	**100.0**	**V**	**-51**	**26.8**
50.49	**22.82**	**40.00**	**17.18**	**15000.0**	**120.0**	**104.0**	**V**	**4**	**16.2**
52.62	**21.95**	**40.00**	**18.05**	**15000.0**	**120.0**	**100.0**	**V**	**5**	**15.4**
91.23	**16.38**	**43.50**	**27.12**	**15000.0**	**120.0**	**102.0**	**V**	**1**	**16.6**
95.49	**17.90**	**43.50**	**25.60**	**15000.0**	**120.0**	**102.0**	**V**	**6**	**17.1**
437.40	**21.60**	**46.00**	**24.40**	**15000.0**	**120.0**	**317.0**	**H**	**49**	**26.6**
931.95	**30.01**	**46.00**	**15.99**	**15000.0**	**120.0**	**104.0**	**V**	**113**	**35.6**

Test result The measured field strengths are below the limit

Test Port Enclosure

Test frequency 920 MHz

Test mode Tx standby - normal modulation

Condition Normal

Compliant Yes

Comments Final maximal measurements by variation of turntable azimuth, antenna height and antenna polarisation.

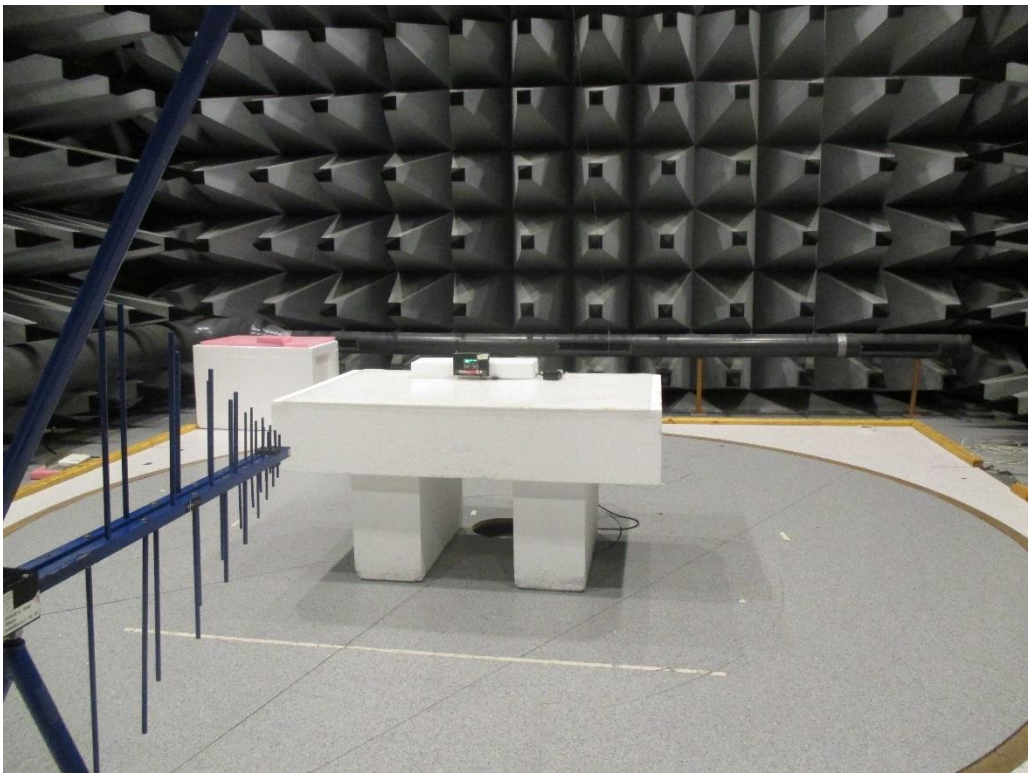


Photo 4.9.1 Test setup regarding measurement of radiated emission (below 1 GHz).

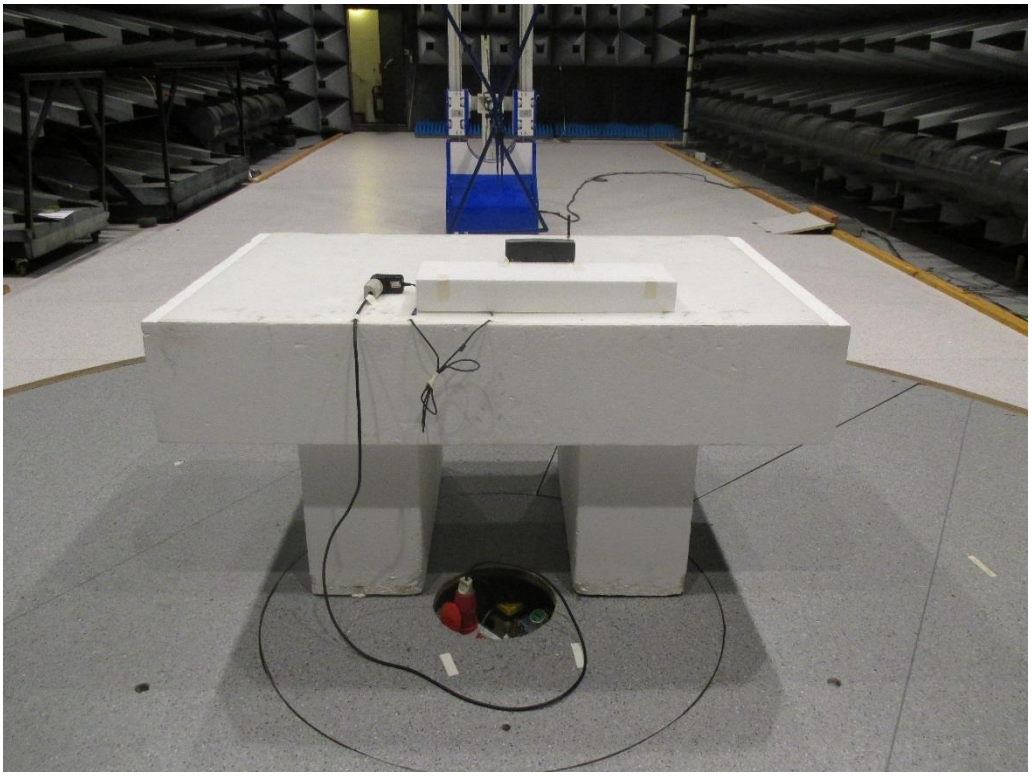
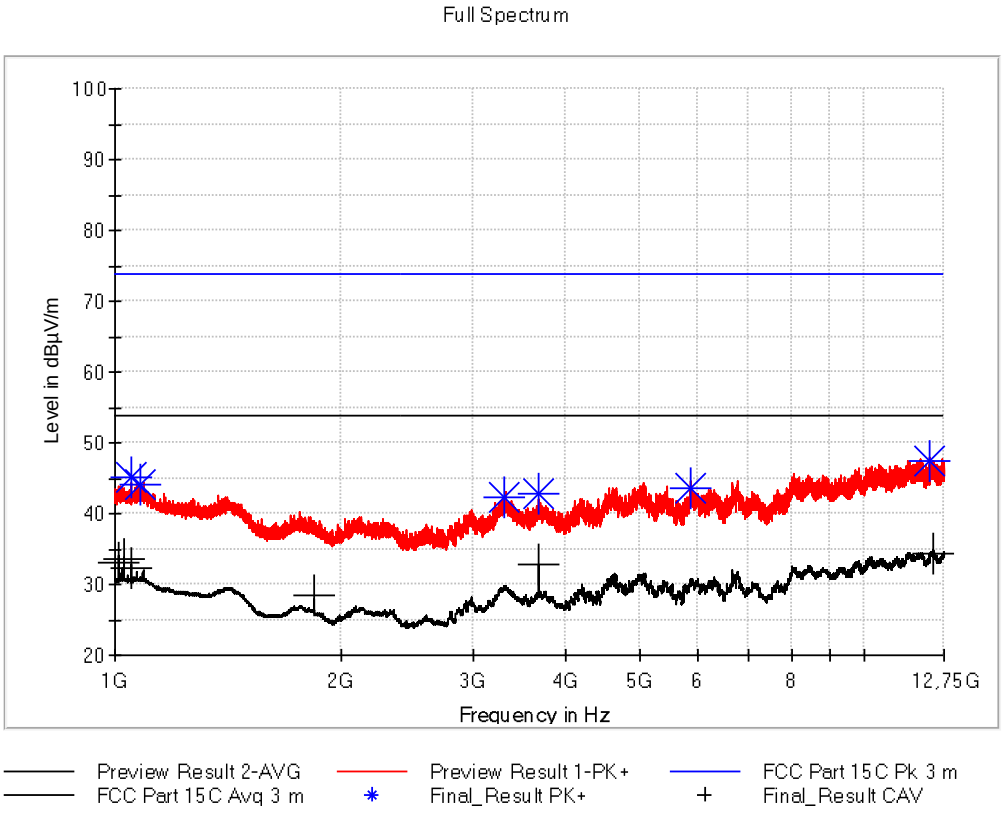


Photo 4.9.2 Test setup regarding measurement of radiated emission (below 1 GHz).

4.10 Measurement of radiated emission (above 1 GHz) Tx on

Test object	Smart Connect	Sheet	RE_Spur-5
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	15 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests	Frequency	1-12.75 GHz

Test method Characteristics	ANSI C63.10:2013 Complete search, antenna distance 3 m.	Temperature Humidity	20 °C 31 % RH
Detector	Peak and average	Bandwidth	1 MHz
Test equipm.	EMI room Hørsholm 49900 49624 49625 49590 49823 49704 49999	Uncertainty	4.9 dB



Comments Continuous Tx - normal modulation.

Test object	Smart Connect	Sheet	RE_Spur-6
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	15 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests	Frequency	1-12.75 GHz

Test method Characteristics	ANSI C63.10:2013 Complete search, antenna distance 3 m	Temperature Humidity	20 °C 31 % RH
Detector	Peak and average	Bandwidth	1 MHz
Test equipm.	EMI room Hørsholm 49900 49624 49625 49590 49823 49704 49999	Uncertainty	4.9 dB

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Corr. (dB)	Azimuth (deg)
1010.00	---	33.16	53.90	20.74	15000.0	116.0	H	-10.7	291
1030.00	---	33.60	53.90	20.30	15000.0	156.0	H	-11.0	271
1050.00	---	32.21	53.90	21.69	15000.0	236.0	H	-11.2	99
1050.25	45.02	---	73.90	28.88	15000.0	114.0	H	-11.2	93
1080.25	44.06	---	73.90	29.84	15000.0	392.0	H	-10.8	320
1840.00	---	28.49	53.90	25.41	15000.0	106.0	H	-14.5	122
3310.50	42.39	---	73.90	31.51	15000.0	320.0	V	-40.4	81
3680.00	---	32.88	53.90	21.02	15000.0	102.0	V	-40.6	193
3680.25	42.81	---	73.90	31.09	15000.0	125.0	V	-40.6	7
5855.00	43.65	---	73.90	30.25	15000.0	133.0	V	-36.9	-32
12227.50	47.50	---	73.90	26.40	15000.0	350.0	H	-20.8	297
12309.75	---	34.30	53.90	19.60	15000.0	369.0	H	-20.3	178

Test result	The measured field strengths are below the limit
Test Port	Enclosure
Test frequency	920 MHz
Test mode	Continuous Tx - normal modulation
Condition	Normal
Compliant	Yes
Comments	Final maximal measurements by variation of turntable azimuth, antenna height and antenna polarisation.

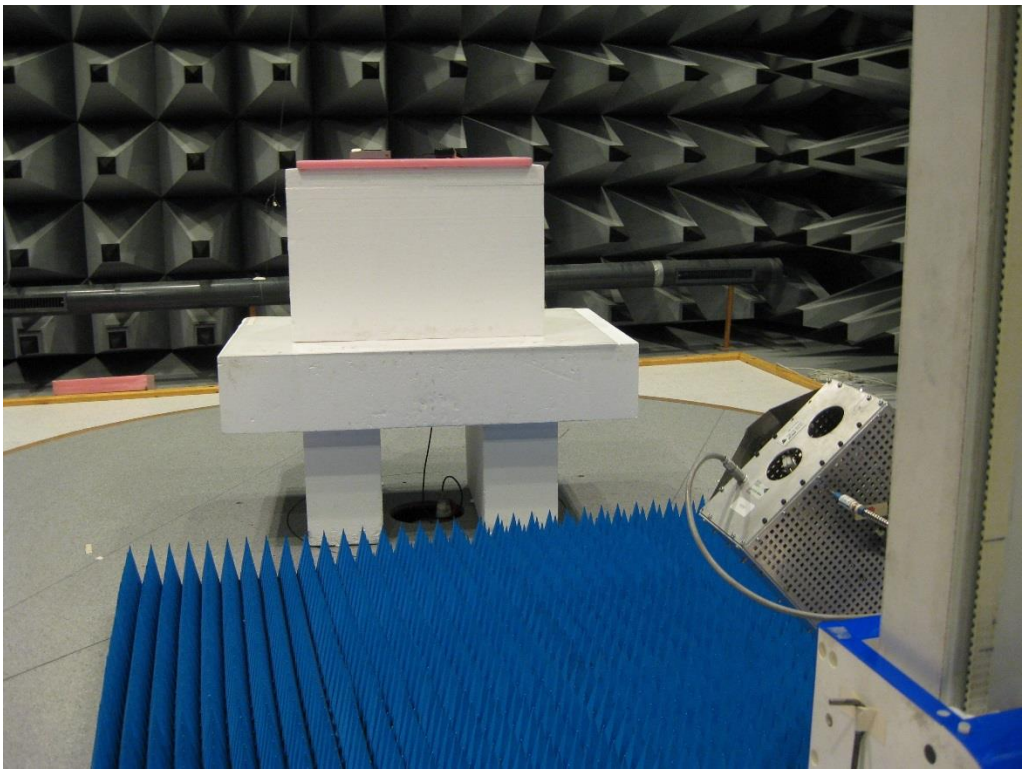


Photo 4.10.1 Test setup regarding measurement of radiated emission (above 1 GHz).

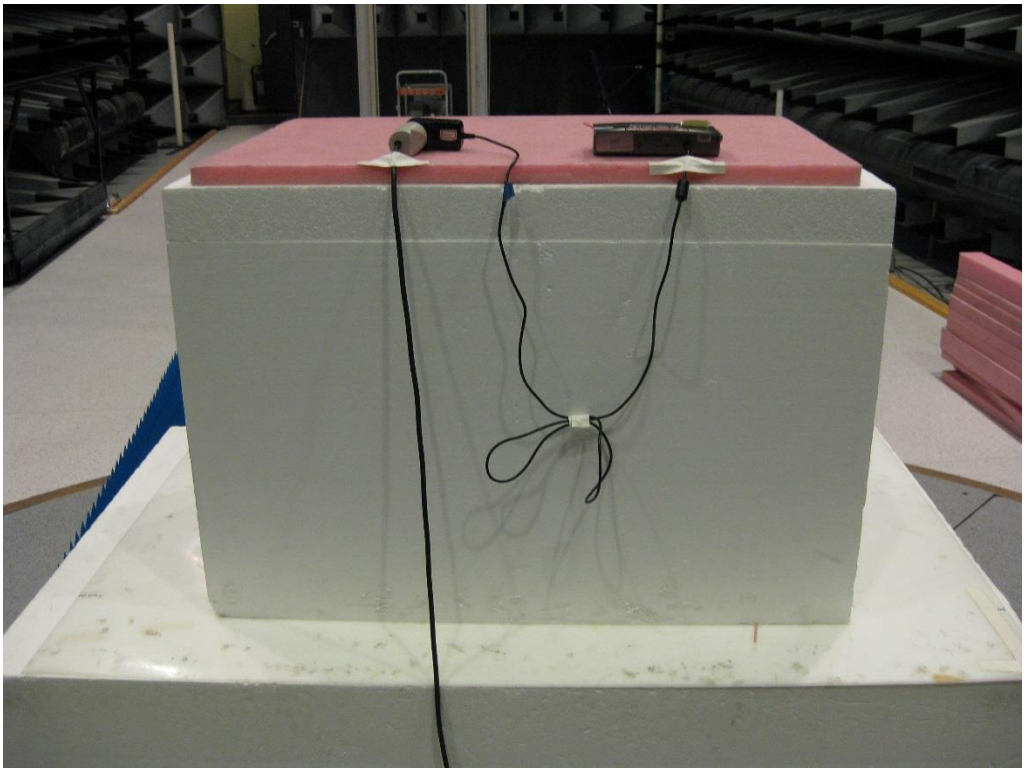
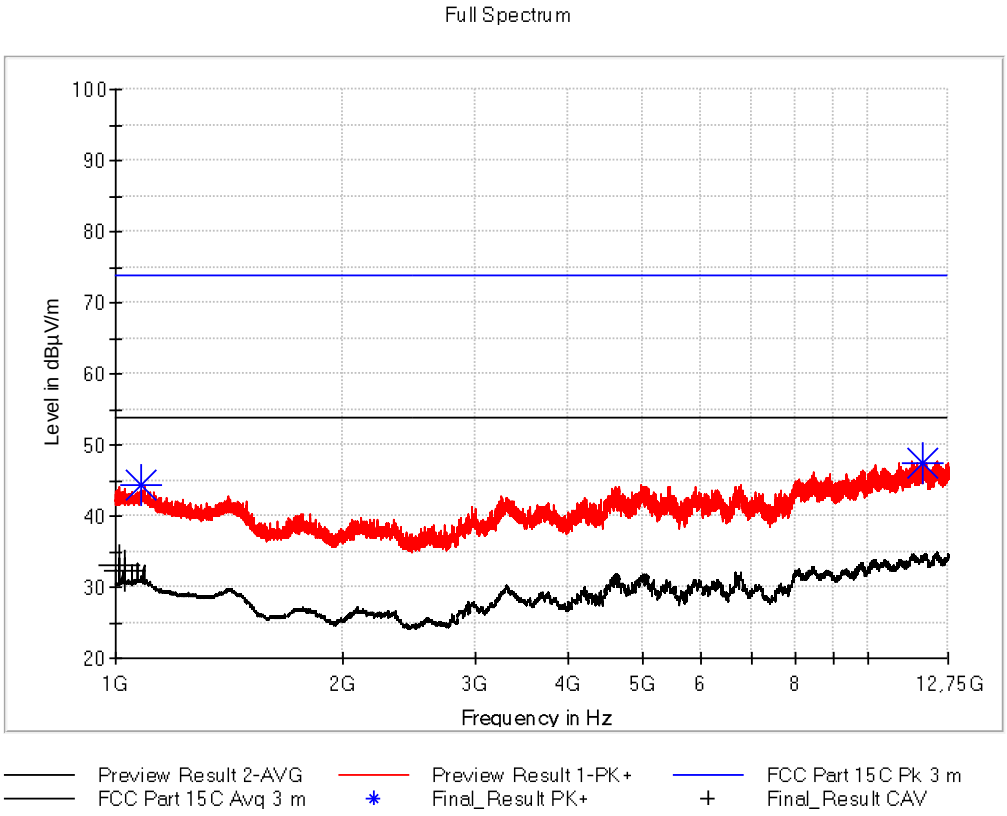


Photo 4.10.2 Test setup regarding measurement of radiated emission (above 1 GHz).

4.11 Measurement of radiated emission (above 1 GHz) normal mode

Test object	Smart Connect	Sheet	RE_Spur-7
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	15 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests	Frequency	1-12.75 GHz

Test method Characteristics	ANSI C63.10:2013 Complete search, antenna distance 3 m.	Temperature Humidity	20 °C 31 % RH
Detector	Peak and average	Bandwidth	1 MHz
Test equipm.	EMI room Hørsholm 49900 49624 49625 49590 49823 49704 49999	Uncertainty	4.9 dB



Comments Tx standby - normal modulation.

Test object	Smart Connect	Sheet	RE_Spur-8
Type	US-type	Project no.	117-21624-4
Serial no.	50000001	Date	15 Dec. 2017
Client	Anticimex Innovation Center	Initials	PWF
Specification	See section 1 Summary of tests	Frequency	1-12.75 GHz

Test method Characteristics	ANSI C63.10:2013 Complete search, antenna distance 3 m	Temperature Humidity	20 °C 31 % RH
Detector	Peak and average	Bandwidth	1 MHz
Test equipm.	EMI room Hørsholm 49900 49624 49625 49590 49823 49704 49999	Uncertainty	4.9 dB

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Corr. (dB)	Azimuth (deg)
1010.00	**---**	**33.14**	**53.90**	**20.76**	**15000.0**	**250.0**	**H**	**-10.7**	**245**
1030.00	**---**	**32.34**	**53.90**	**21.56**	**15000.0**	**100.0**	**H**	**-11.0**	**221**
1080.00	**44.42**	**---**	**73.90**	**29.48**	**15000.0**	**266.0**	**V**	**-10.8**	**162**
11800.25	**47.32**	**---**	**73.90**	**26.58**	**15000.0**	**400.0**	**V**	**-21.3**	**205**

Test result	The measured field strengths are below the limit
Test Port	Enclosure
Test frequency	920 MHz
Test mode	Tx standby - normal modulation
Condition	Normal
Compliant	Yes
Comments	Final maximal measurements by variation of turntable azimuth, antenna height and antenna polarisation.

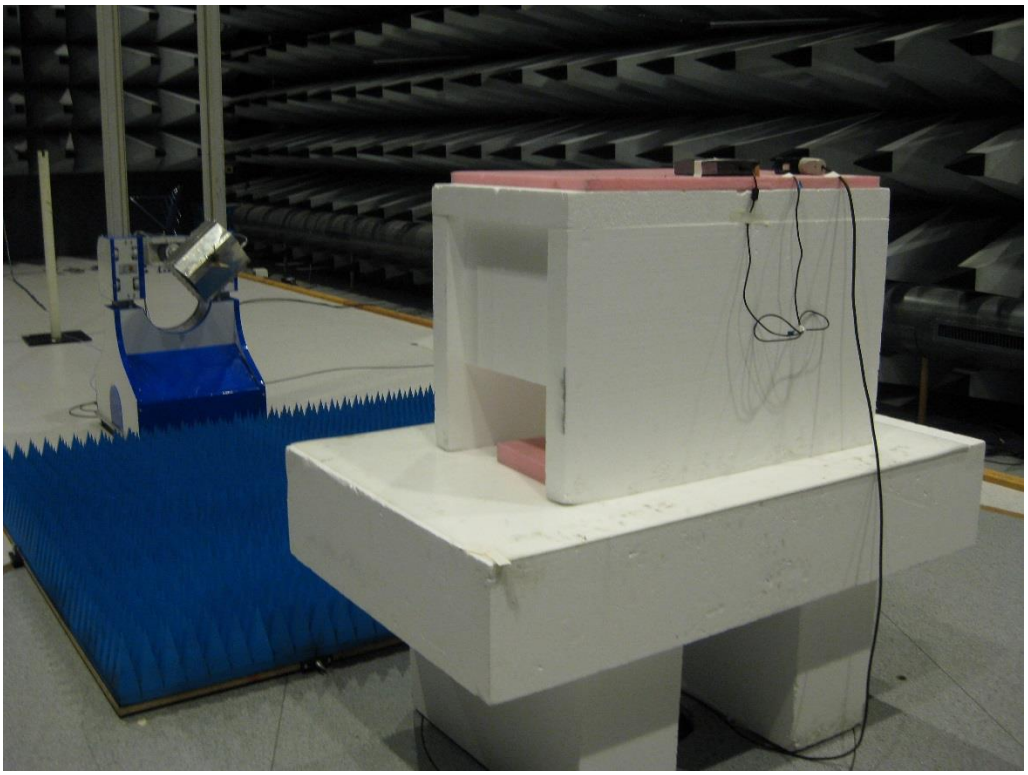


Photo 4.11.1 Test setup regarding measurement of radiated emission (above 1 GHz).

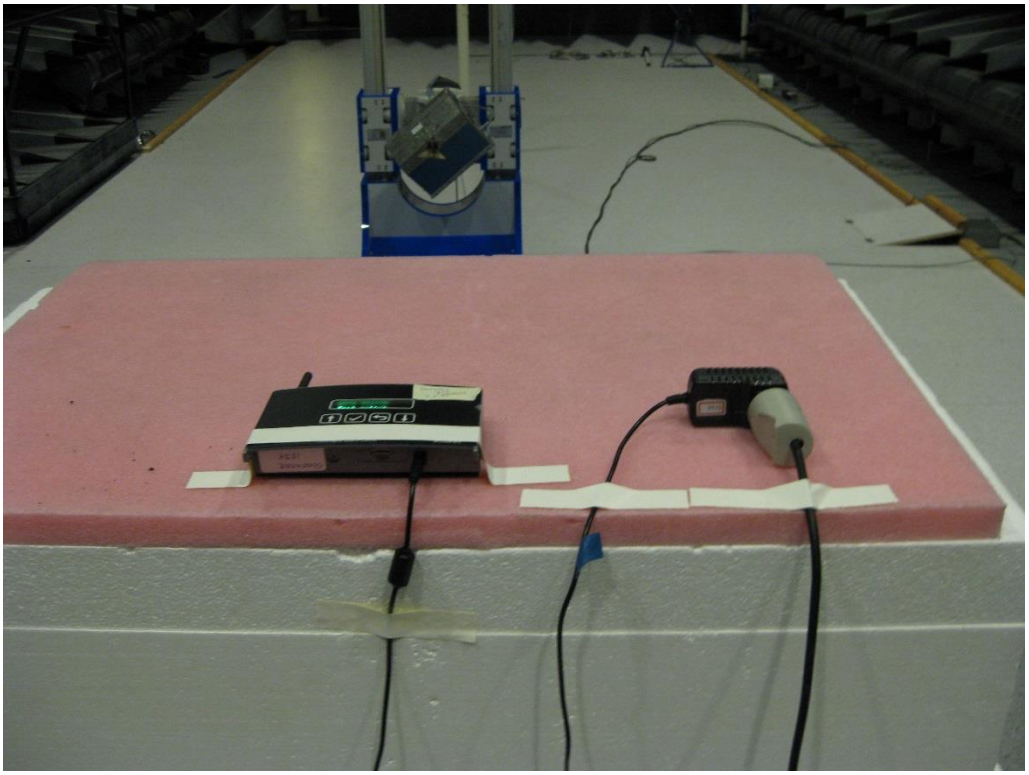


Photo 4.11.2 Test setup regarding measurement of radiated emission (above 1 GHz).

5. National registrations and accreditations

5.1 DANAK Accreditation

Organization: Danish Accreditation and Metrology Fund - DANAK, see www.danak.dk and www.ilac.org

Registration Number: 19

Area Number: C

DANAK is part of ILAC (International Laboratory Accreditation Cooperation) including its MRA (Mutual Recognition Arrangement). The MRA includes the Australian NATA and Canadian SCC.

5.2 FCC Registrations

Organization: Federal Communications Commission, USA

Registration Number: 913950

Facilities: EMC room 2 Hørsholm (EMC-2)
EMC room 3 Hørsholm (EMC-3)
EMC room 4 Hørsholm (EMC-4)
EMI room Hørsholm (EMC-5)

5.3 VCCI Registrations

Organization: Voluntary Control Council for Interference by Information Technology, Japan

Member Number: 910

Facilities:

EMC room 3 Hørsholm (EMC-3):	C-2532 and T-1548
EMC room 4 Hørsholm (EMC-4):	C-2533 and T-1549
EMI room Hørsholm (EMC-5):	R-1180, C-706, T-1550 and G-470

5.4 IC Registrations

Organization: Industry Canada, Certification and Engineering Bureau

Registration Number: IC4187A-5

Facilities: EMI room Hørsholm (EMC-5)

6. List of instruments

No	Category/Action	Manufacturer	Type no	Cal. date	Cal. exp.
29680	IMPULSE VOLTAGE LIMITER (N)	ROHDE & SCHWARZ	ESH3/Z2	27-02-2017	27-02-2018
29978	CABLE#34, RG 223, 40 m, COND. EMISSION, ROOM 5	SUHNER	RG 223/U	02-11-2017	02-11-2018
49043	COAXIAL SWITCH ROOM 5 (EMI)	RLC ELECTRONICS	SM-3-N	02-11-2017	02-11-2018
49154	Bilog Antenne	CHASE	CBL6111A	23-06-2016	23-06-2018
49429	CABLE 2m N-Nangle		RG214U	02-11-2017	02-11-2018
49457	CABLE 3m BNC-BNC	SUHNER	RG 223/U	02-11-2017	02-11-2018
49568	ARTIFICIAL MAINS NETWORK	ROHDE&SCHWARZ	ESH2/Z5	15-09-2017	15-09-2018
49590	CABLE, LOW-LOSS uWAVE CABLE, N-N, 8.0 m "EMI"	SUHNER	SUCOFLEX 104 PB	02-11-2017	02-11-2018
49600	SPECTRUM ANALYZER / MEASUREMENT RECEIVER	ROHDE & SCHWARZ	ESU40	21-07-2017	21-07-2018
49624	DUAL RIDGE HORN ANTENNA – 1GHZ-26GHZ (2GHZ-32GHZ)	SATIMO	SH2000	04-11-2014	04-01-2018
49625	SRD COAX SWITCH MATRIX USED IN 1GHZ TO 26GHZ SRD ANTENNASYSTEM	DELTA	COAX SWITCH MATRIX	03-11-2017	03-11-2018
49704	CABLE 3 m SMA-N	SUHNER	SUCOFLEX104	04-11-2017	04-11-2018
49740	CABLE 1.25 m SMA-SMA	SUHNER	SUCOFLEX104	31-10-2017	31-10-2018
49807	ATTENUATOR, DC-12.4GHz, 6 dB	HUBER-SUHNER	6806.17A	15-02-2017	15-02-2018
49817	CABLE, LOW-LOSS uWAVE CABLE, N-N, 8.0 m "EMI"	SUHNER	SUCOFLEX 104 PB	02-11-2017	02-11-2018
49823	CABLE SF126 SMA-SMA 7 m	HUBER & SUHNER	SF126/11SMA/11SMA/7000	20-12-2017	20-12-2018
49900	SPECTRUM ANALYZER / MEASUREMENT RECEIVER	ROHDE & SCHWARZ	ESW26	11-09-2017	11-09-2018
49999	EMC32-SOFTWARE	ROHDE & SCHWARZ	Ver. 9.26	N/A	N/A