

R410-17-106958-2A - FMO / CVO

This test report cancels and replaces the report R041-17-106958-2A Ed.1

RADIO TEST REPORT

According to the standard(s):

FCC Part 15 Radio part 15.247
RSS-247_Issue 1, May2015
(partial tests)

Equipment under test:

APPI-COM
(Model: BS-APC2U-00/01/02/03/B0/B1/B2/B3)
FCC ID: 2AG7HBSAPC2U01
IC: 21024-BSAPC2U01

Company:

APPI-TECHNOLOGY SAS

Diffusion: Mr COULON

(Company: APPI-TECHNOLOGY SAS)

Number of pages: 44 including 1 annex

Ed.	Date	Modified page(s)	Technical verification Quality approval	
			Name	Visa
2	2 May 2018	Refer to lines in margin	David MONTAULON P.O. Olivier HEYER 	

Duplication of this report is only permitted for an integral photographic facsimile. It includes the number of pages referenced above. This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of the whole production of the item tested.



NAME OF THE EQUIPMENT
UNDER TEST (E.U.T.) : APPI-COM
Model: BS-APC2U-00/01/02/03/B0/B1/B2/B3)

Serial number : BS-APC2U-00: 000-000-805
463

P/N : FCC ID: 2AG7HBSAPC2U01
IC: 21024-BSAPC2U01

Software version : /

MANUFACTURER'S NAME : APPI-TECHNOLOGY SAS

APPLICANT'S ADDRESS:

Company : APPI-TECHNOLOGY SAS

Address : 443 Avenue Jean Prouvé
Le Minotaure – 1er étage
30900 Nîmes
France

Person(s) present during the
tests : Mr COULON & Mr MARIN

Responsible : Mr COULON

DATE(S) OF TESTS : January 11th of 2018

TESTS LOCATION(S) : EMITECH MONTPELLIER Laboratory 34740 VENDARGUES
Open Area Test Site : Route de Quissac
30250 SALINELLES
FRANCE
MRA US-EU Designation Number: FR0006
IC Assigned Code: 4379C

TESTS OPERATOR(S) : Fabien MOINACHE

CONTENTS

1. INTRODUCTION.....	4
2. REFERENCE DOCUMENT(S).....	4
3. EQUIPMENT UNDER TEST CONFIGURATION.....	4
4. EQUIPMENT UNDER TEST CONFIGURATION SCHEME.....	6
5. SUMMARY OF TEST RESULTS.....	7
6. FREQUENCY HOPPING AND DIGITALLY MODULATED.....	8
7. INTENTIONAL RADIATOR.....	13
8. UNWANTED EMISSIONS OUTSIDE OF §15.247 FREQUENCY BANDS.....	15
ANNEX: PHOTOGRAPH(S).....	40

1. INTRODUCTION

This document submits the results of Radio tests performed on the equipment APPI-COM(denominated hereafter E.U.T.: equipment under test) according to document(s) listed below.

2. REFERENCE DOCUMENT(S)

FCC part 15	Code of federal regulations. Title 47- Telecommunication Chapter 1- Federal Communication Commission. <u>Part 15</u> - Radio frequency devices Subpart B- Unintentional Radiators. Limits and methods of measurement of radio disturbance. Characteristic of information technology equipment.
FCC part 15.247	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850MHz. (frequency hopping and digitally modulated)
RSS-247_Issue 2, February 2017	Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs) and Licence Exempt Local Area Network (LE-LAN) Devices
RSS/CNR-Gen, Issue 4, November 2014	Exigences générales et information relatives à la certification du matériel de radiocommunication
ANSI C 63.4:2014	American National Standard for Methods of measurement of Radio-Noise from low-voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C 63.10:2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

3. EQUIPMENT UNDER TEST CONFIGURATION

Changes from original tested module: Software modification: Original occupation time was 27ms on a period of 120ms, new change increase to 38ms during 120ms.

Equipment under test (E.U.T.) description: This application is for a full-duplex radio transceiver enabling Audio communication on a dedicated network for several team members.

For these four APPI-Com products looking alike, the model number is based on the antenna configuration: there are 3 types of non-detachable antenna and one internal antenna.
Thus Model 00 stands for an internal antenna, model 01 for a $\frac{1}{2}$ wave antenna, model 02 for a $\frac{1}{4}$ wave antenna, and model 03 for short antenna.

Note: the external antennas are non-detachable ones (super glue / SMA connectors). Any attempt to unscrew and external antenna would irremediably damage the product.

In regards to the internal Bluetooth radio module that may be installed in the APPI-Com product, it has already been certified by the manufacturer (FCC ID: QOQWT32I/ IC: 5123A-BGTWT32I). APPI-Com products with this Bluetooth module would be identified with a "B" reference as in "BS-APC2U-B0" for internal antenna module with Bluetooth.

FCC ID: 2AG7HBSAPC2U01

IC: 21024-BSAPC2U01

Frequency range: 902MHz – 928MHz

Number of channels: 16 groups x 50 channels

Tested frequencies: 902MHz-928MHz (hopping mode) on A1 and A8 groups (lower and upper)

RF max conducted output power: 500mW

Power supply: 3.3 VDC Li-POLY rechargeable Batteries

Dimensions (H x L x P) / Weight: 91×48×15 mm / around 80 g (2.8 Oz)

Operating temperatures: -20°C/+50°C

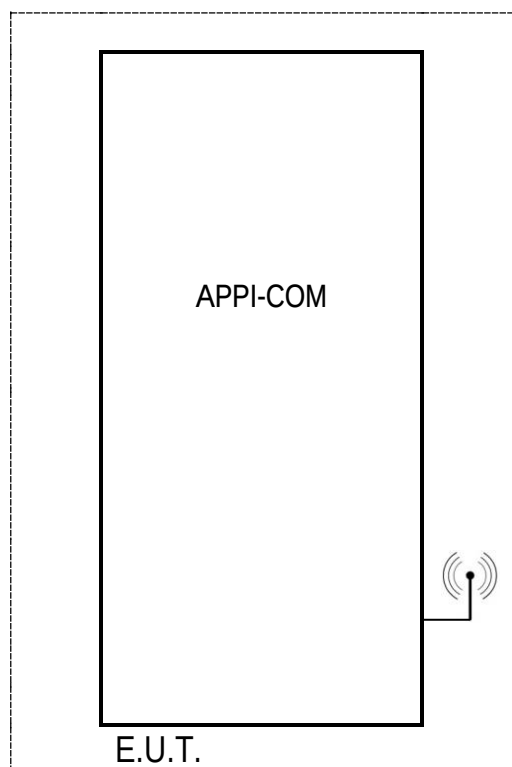
Antennas:

Dedicated antennas (non-detachable) with maximum gain declared less than 6dBi

Designation :	Integral Antenna	Half wave	Half wave	Short antenna	Half wave	Quarter wave
Model	BS-APC2U-00	BS-APC2U-04	BS-APC2U-01	BS-APC2U-03	BS-APC2U-B5	BS-APC2U-02
Serial Number	M02-000-001	DELTA-06	SMAP-ANT-925X	SMAP-900-X	S463XX-915	ANT-916-CW
Antenna type	Integral	Dipole Multiband	½ - wave	¼ - wave	½ - wave	¼ - wave
Model	Chip-Antenna WE-MCA	DELTA	SMA	SMA	S463XX	ANT-916
Manufacturer	WURTH	SIRETTA	SAM WOO	SAM WOO	NEARSON	LINX
Gain	-0.7dBi Max	4 dBi	2dBi	0dBi	2dBi	1.8dBi max.

Cycle and operating mode during emission tests: Frequency hopping emission mode

Equipment modifications applied during tests: No

4. EQUIPMENT UNDER TEST CONFIGURATION SCHEME

Powered by internal batteries.
(Battery is loaded through a
standard 110Vac/60Hz power
supply)

Dedicated and non-detachable antennas

5. SUMMARY OF TEST RESULTS

Tests designation	Results satisfying?	Comments
Antenna requirement FCC part 15.203	YES	Dedicated and non-detachable antennas
Restricted band of operation - FCC part 15.205 and RSS Gen	YES	
Conducted power lines FCC part 15.107 and 15.207 and RSS Gen	N/P	See original test report
Frequency hopping and digitally modulated FCC part 15 Radio part 15.247 a) and RSS-247:2017	YES	For measurements below 1GHz see original test report
Maximum peak conducted FCC part 15.247 b) and RSS-247:2017	YES	
Intentional radiator FCC part 15.247 d) and RSS-247:2017	YES	
Unwanted emissions FCC part 15.215 b) and RSS-247:2017	YES	
Measurement of frequency stability §15.215 (c)	N/P	See original test report
Collocation OET Bulletin 65:1997, RSS 102:2010	N/P	See original test report

N.P.: Not Performed.

N.A.: Not Applicable.

▪ In emission:

Sample subject to the test complies with prescriptions of the standard(s) FCC Part 15 Radio part 15.247 according to limits, specified in this test report.

6. FREQUENCY HOPPING AND DIGITALLY MODULATED

Standard: FCC part 15 Radio part 15.247 and RSS-247

Test method: FCC part 15.247 a) (1) & a) (1) (i) and RSS-247

6.1) Frequency hopping channel separation

The system uses 16*50 channels numbered in hexadecimal from 1 to 50 in 16 groups named A1 to A16. Tests are done in max-hold mode in order to capture all hopping channels. Measurements are done in conducted emission on A1 and A8 groups (lower and upper).

Test method deviation: No

Test equipment list:

CATEGORY	BRAND	TYPE	N° EMITECH	DATE CAL.	DUE DATE
Attenuator	Radiall	R412710124	4390	25/11/2015	25/01/2018
Attenuator	Radiall	R412720124	4391	25/11/2015	25/01/2018
Cable	STORM MICROWAVE	N-1.5m	10263	05/10/2016	05/12/2018
Receiver	Agilent Technologies	E4440A	5824	11/01/2016	11/03/2018
Shielded enclosure	RAY PROOF	C.V1	1123	#	#
Thermohygrometer	Bioblock Scientific	Météostar	0963	27/12/2016	27/02/2019
Thermohygrometer	Testo	608-H1	7561	27/12/2016	27/02/2019

BAT-EMC software version: V3.16.0.64

Results: See Curves hereafter.

Average power (conducted)

EMI5917

Group A1

Sub-range 1

Frequencies: 902 MHz - 905.5 MHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 10 kHz, VBW: 30 kHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preselector: Off

Meas.Peak

Date: 11/01/2018 15:05:54

Technician: FMO

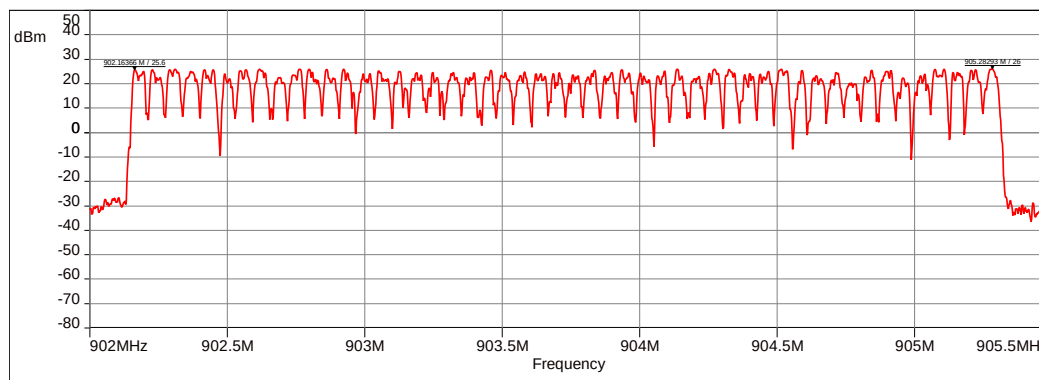
Detection:

T (°C): 15.3

H (%): 60.9

P (hpa): 1015

Comments:

Modification(s) during test:
N/A


Group A1 - 01/11/2018 15:05 - 5917

A1 group uses 50 channels.

Average power (conducted)

EMI5920

Group A8

Sub-range 1

Frequencies: 924.5 MHz - 928 MHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 10 kHz, VBW: 30 kHz, Auto, Attenuation: Auto, Sweep count 1, Preamp: Off, LN Preamp: Off, Preselector: Off

Meas.Peak

Date: 11/01/2018 15:19:43

Technician: FMO

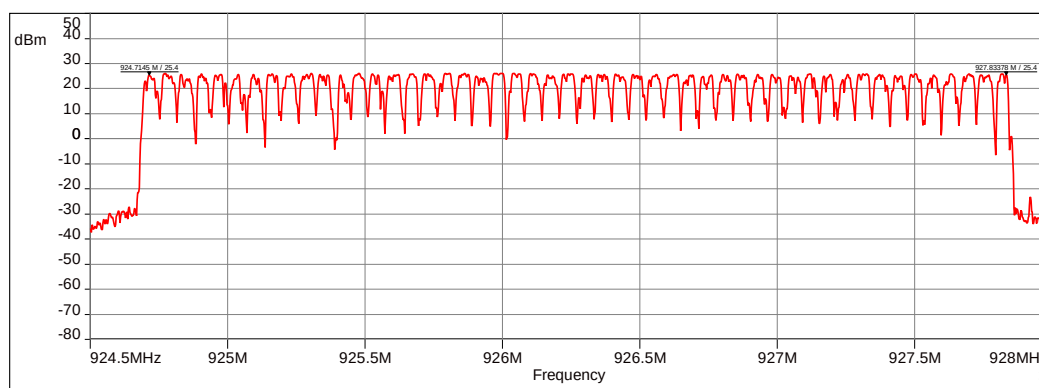
Detection:

T (°C): 15.3

H (%): 60.9

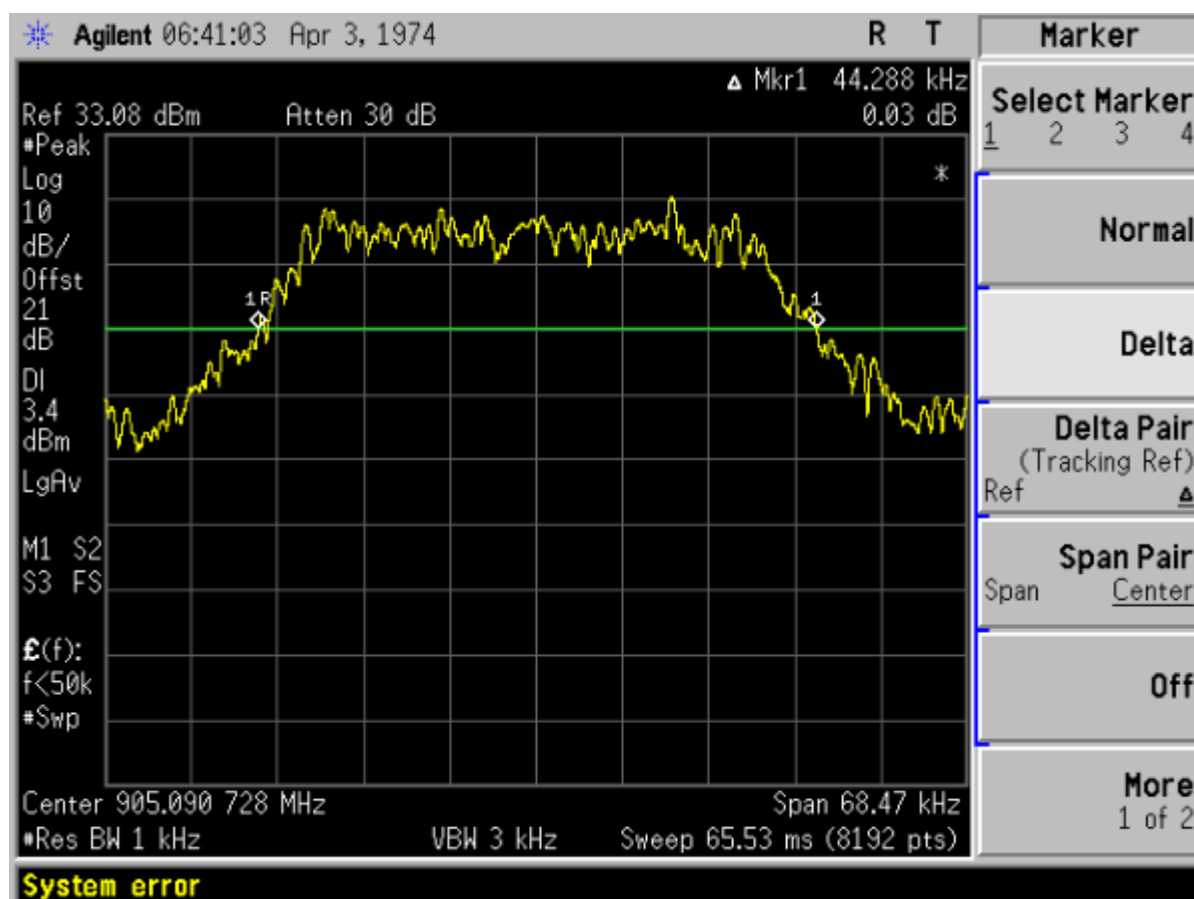
P (hpa): 1015

Comments:

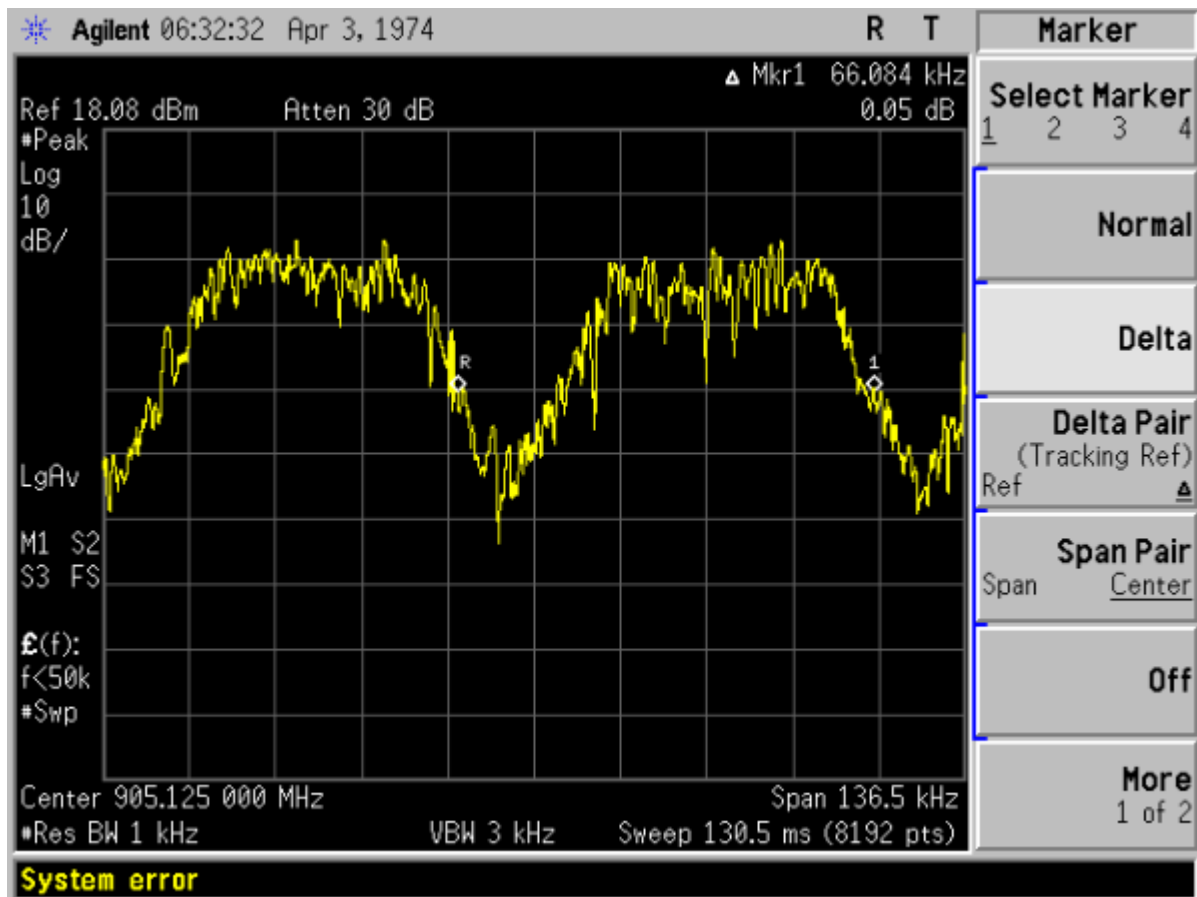
Modification(s) during test:
N/A


Group A8 - 01/11/2018 15:19 - 5920

A8 group uses 50 channels.



The 20dB bandwidth of each hopping channel is 44.288kHz (in RBW=1kHz). That is less than 500kHz.



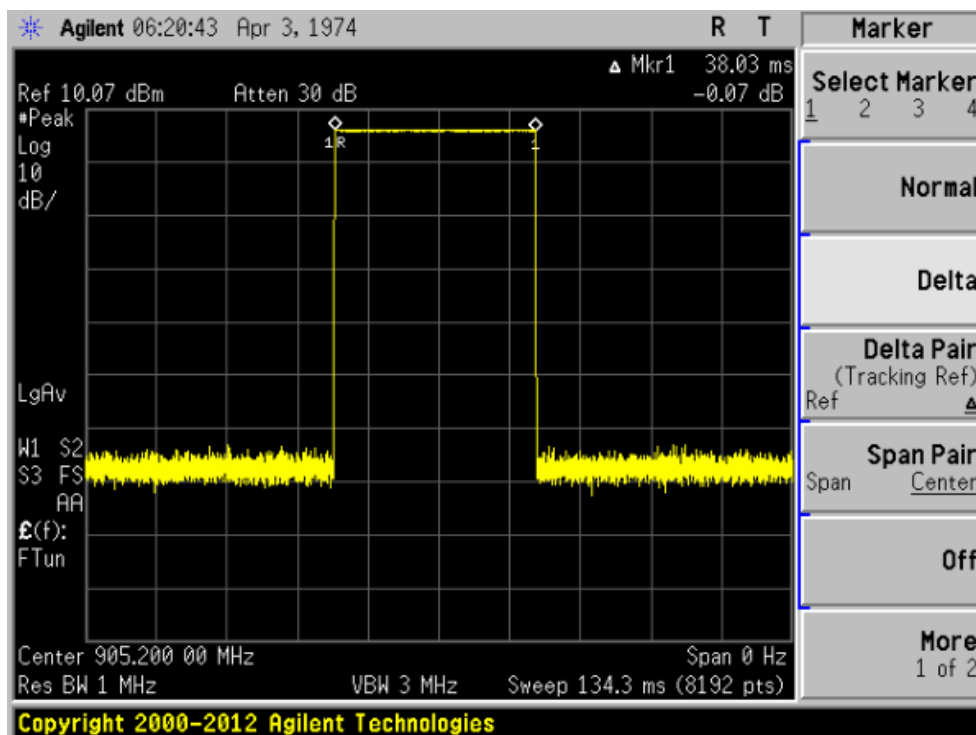
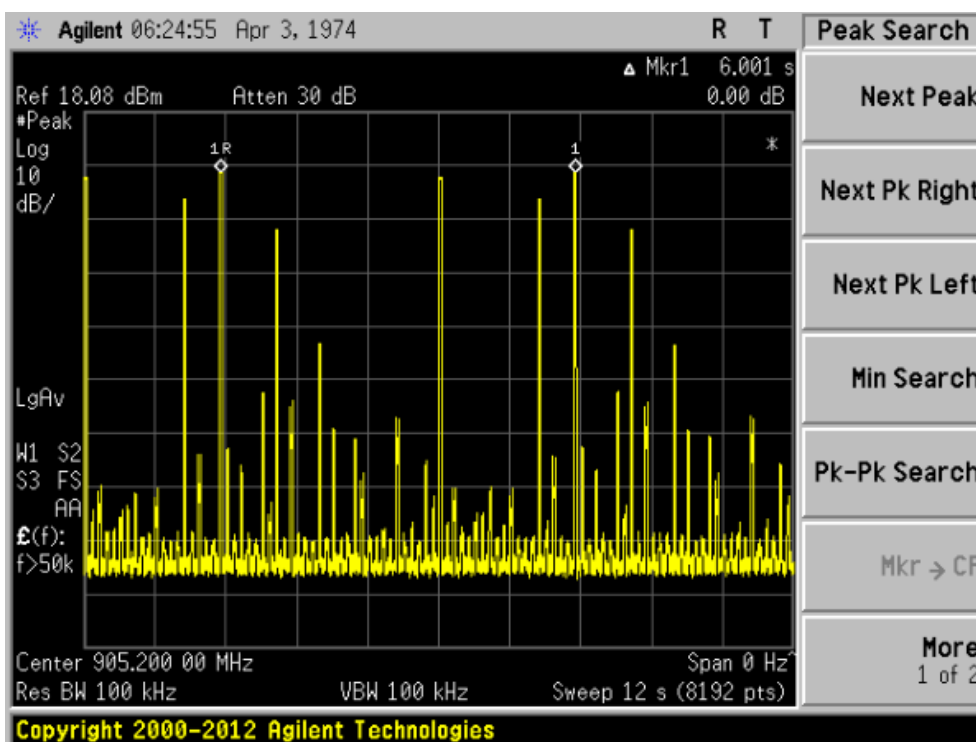
The channel separation is almost 66.084kHz which is greater than the 20dB bandwidth

6.2) Frequency hopping occupation time

The system uses 50 channels in any conditions and the averaging time of occupancy on any channel is less than 0.4 seconds within a period of 20.0 seconds.

The measurement during a long transmission gives 38.03ms every 6.001s on each channel, so the average time within a period of 20.0 second is 126.75ms which is less than the 400ms limit.

Thus the average duty cycle correction factor is $20 \log (38.03/100) = -8.40\text{dB}$



7. INTENTIONAL RADIATOR

Standard: FCC part 15 Radio part 15.247 and §5.5 of RSS-247

Test method: FCC part 15.247 d) and §5.5 of RSS-247

Test configuration:

Frequency band	Tested	Resolution bandwidth	Video bandwidth	Detection mode	E.U.T. height
900MHz-908MHz	Band Edge (A1 Group)	100kHz	300kHz	Max-hold Peak	0cm
922MHz-932MHz	Band Edge (A8 Group)	100kHz	300kHz	Max-hold Peak	0cm

Test is done in max-hold peak detection; transmitter output is directly connected to a spectrum analyzer through attenuators. Measurements are performed on lower and upper channels groups.

The purpose of this test is to demonstrate in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

Test method deviation: No

Test equipment list:

CATEGORY	BRAND	TYPE	N° EMITECH	DATE CAL.	DUE DATE
Attenuator	Radiall	R412710124	4390	25/11/2015	25/01/2018
Attenuator	Radiall	R412720124	4391	25/11/2015	25/01/2018
Cable	STORM MICROWAVE	N-1.5m	10263	05/10/2016	05/12/2018
Receiver	Agilent Technologies	E4440A	5824	11/01/2016	11/03/2018
Shielded enclosure	RAY PROOF	C.V1	1123	#	#
Thermohygrometer	Bioblock Scientific	Météostar	0963	27/12/2016	27/02/2019
Thermohygrometer	Testo	608-H1	7561	27/12/2016	27/02/2019

BAT-EMC software version: V3.16.0.64

Results: See Graph(s) hereafter.

Average power (conducted)

EMI5918

Group A1/ Band Edge

Sub-range 1

Frequencies: 900 MHz - 908 MHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 100 kHz, VBW: 300 kHz, Auto, Attenuation: Auto, Sweep count 1, Preamp: Off, LN Preamp: Off, Preselector: Off

FCC/BAND EDGE 902-928MHz g - RMS/

Meas.Peak

Date: 11/01/2018 15:13:37

Technician: FMO

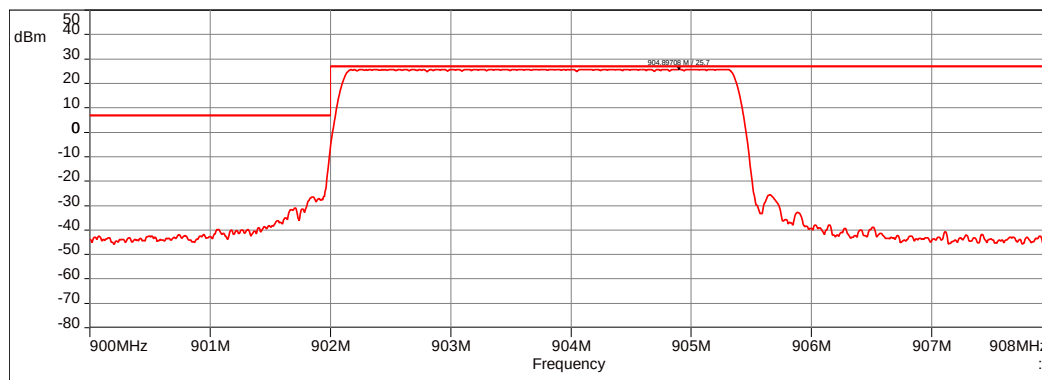
Detection:

T (°C): 15.3

H (%): 60.9

P (hpa): 1015

Comments:

Modification(s) during test:
N/A


Group A1/ Band Edge - 01/11/2018 15:13 - 5918

Average power (conducted)

EMI5919

Group A8/ Band Edge

Sub-range 1

Frequencies: 922 MHz - 932 MHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 100 kHz, VBW: 300 kHz, Auto, Attenuation: Auto, Sweep count 1, Preamp: Off, LN Preamp: Off, Preselector: Off

FCC/BAND EDGE 902-928MHz g - RMS/

Meas.Peak

Date: 11/01/2018 15:18:02

Technician: FMO

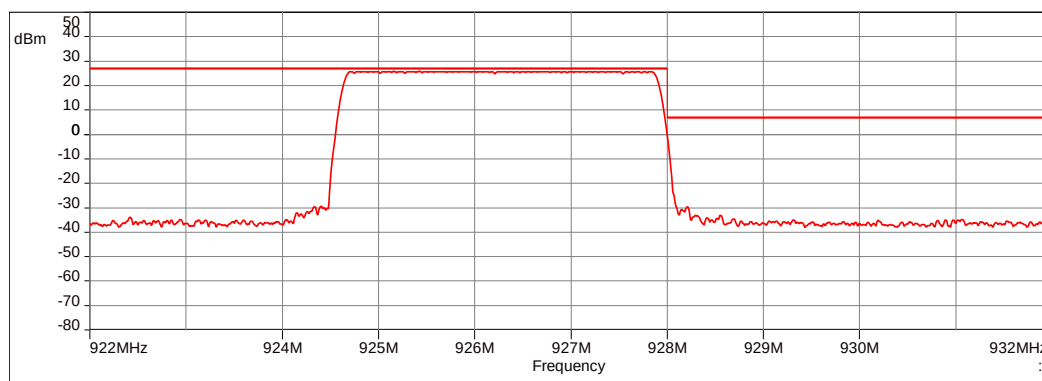
Detection:

T (°C): 15.3

H (%): 60.9

P (hpa): 1015

Comments:

Modification(s) during test:
N/A


Group A8/ Band Edge - 01/11/2018 15:18 - 5919

8. UNWANTED EMISSIONS OUTSIDE OF §15.247 FREQUENCY BANDS

Standard: FCC part 15 Radio part 15.247

Test method: FCC part 15.109, 15.209, 15.215 b), 15.247

Frequency band	Tested side	Resolution bandwidth	Video bandwidth	Detection mode	E.U.T. height
1GHz-10GHz	360°	1MHz	3m	Average	150cm
10GHz-18GHz	360°	1MHz	3m	Average	150cm

Above 1GHz test is done in fully anechoic shielded chamber at 3m. E.U.T. is set on a styrofoam table. In order to find highest levels, tests are done on 3 axes of E.U.T.

Measurements are done in max-hold peak detection in hopping mode maximized at 360°.

Only highest levels are recorded on each configurations of E.U.T.

Limits:

Above 1GHz average limit in restricted bands §15.205 is 54dBµV/m. Otherwise, the limit is 20dB under carrier emission level at 3m without averaging with duty cycle factor.

The averaging correction factor of -8.40dB is used only when necessary in restricted bands as defined in 15.205.

Test method deviation: No

Measuring distance: 3 meters

Test equipment list:

CATEGORY	BRAND	TYPE	N° EMITECH	DATE CAL.	DUE DATE
Antenna	ETS-Lindgren	3117	8387	10/02/2017	10/04/2018
Cable	MegaPhase	TM18-N1N1-197	12840	05/04/2016	05/06/2018
Cable	MegaPhase	TM18-N1N1-118	12841	05/04/2016	05/06/2018
Cable	MegaPhase	TM18-N1N1-118	12842	05/04/2016	05/06/2018
Filter	Micro-Tronics	HPM18865	12843	04/04/2016	04/06/2018
Preamplifier	IMPULSE	CA118-546ACN	9169	13/10/2017	13/12/2018
Receiver	Agilent Technologies	E4440A	5824	11/01/2016	11/03/2018

#: Permanent validity

BAT-EMC software version: V3.16.0.64

Results: See Board(s) below.

Radiated electric field measurement

EMI4544

Position 1 / Antenna S463XX-915 (NEARSON)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 10:00:36

Technician: FMO

Detection:

T (°C): 12.9

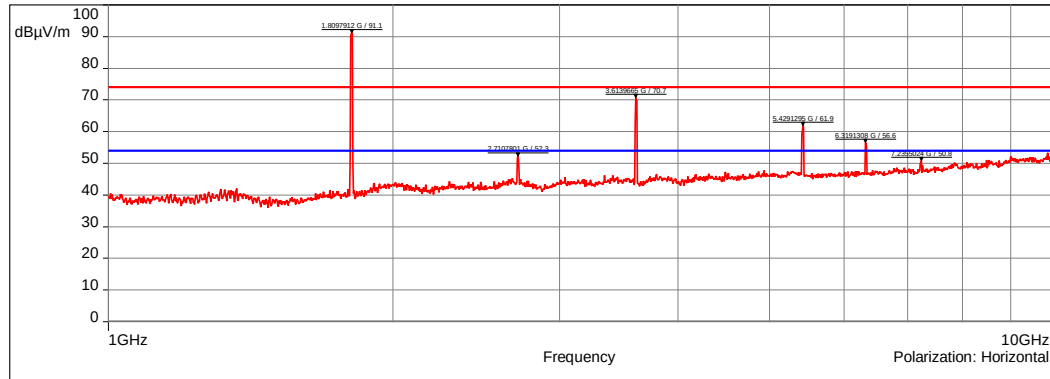
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 1 / Antenna S463XX-915 - 01/11/2018 10:00 - 4544

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

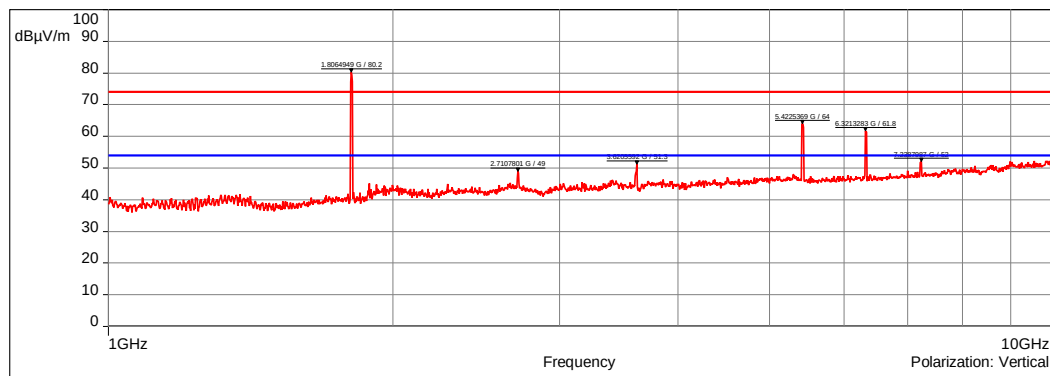
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 1 / Antenna S463XX-915 - 01/11/2018 10:00 - 4544

Radiated electric field measurement

EMI4540

Position 2 / Antenna S463XX-915 (NEARSON)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 09:44:38

Technician: FMO

Detection:

T (°C): 12.9

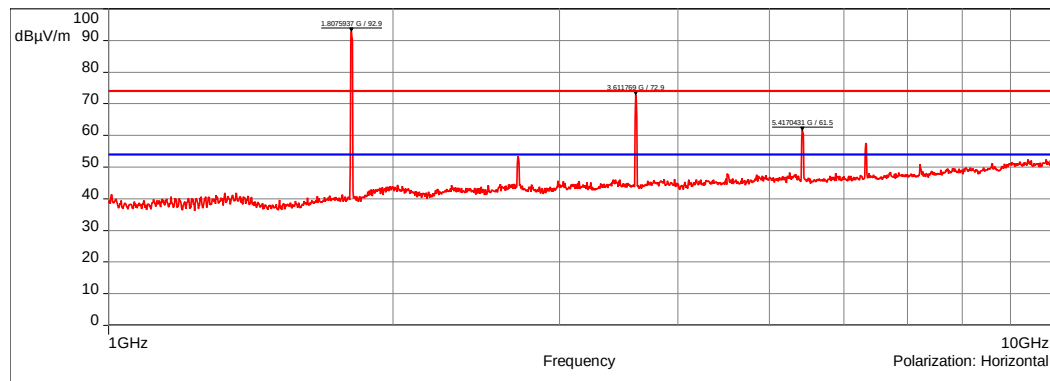
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 2 / Antenna S463XX-915 - 01/11/2018 09:44 - 4540

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

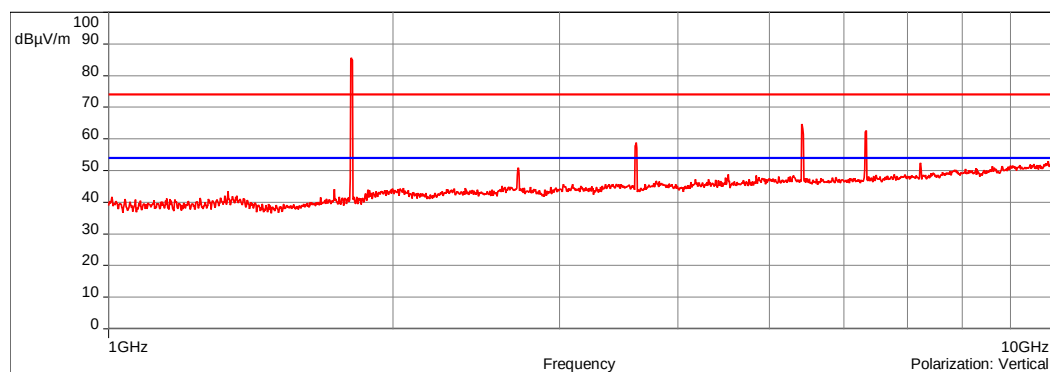
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 2 / Antenna S463XX-915 - 01/11/2018 09:44 - 4540

Radiated electric field measurement

Position 3 / Antenna S463XX-915(NEARSON)

EMI4545

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 10:09:53

Technician: FMO

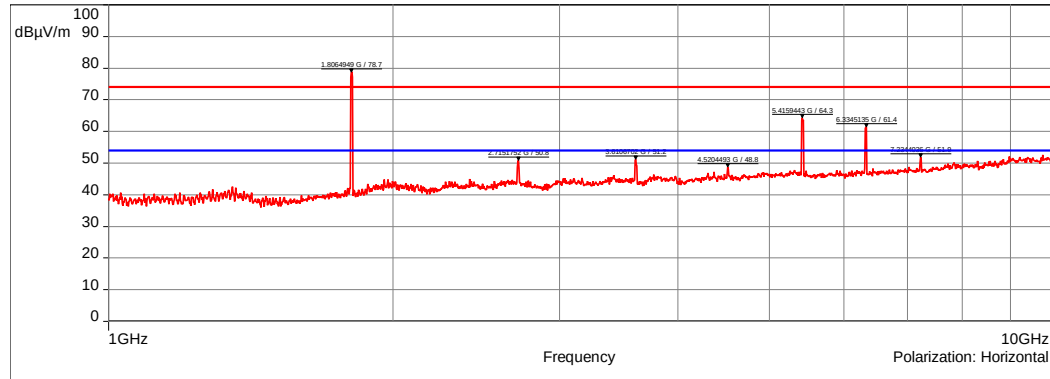
Detection:

T (°C): 12.9

H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:
N/A


Position 3 / Antenna S463XX-915 - 01/11/2018 10:09 - 4545

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

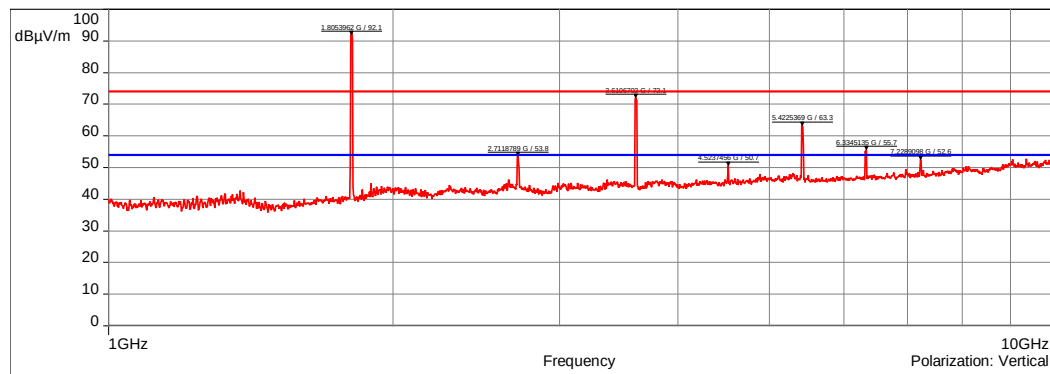
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 3 / Antenna S463XX-915 - 01/11/2018 10:09 - 4545

Radiated electric field measurement

EMI4546

Position 3 / Antenna DELTA-06 (Siretta)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 10:18:07

Technician: FMO

Detection:

T (°C): 12.9

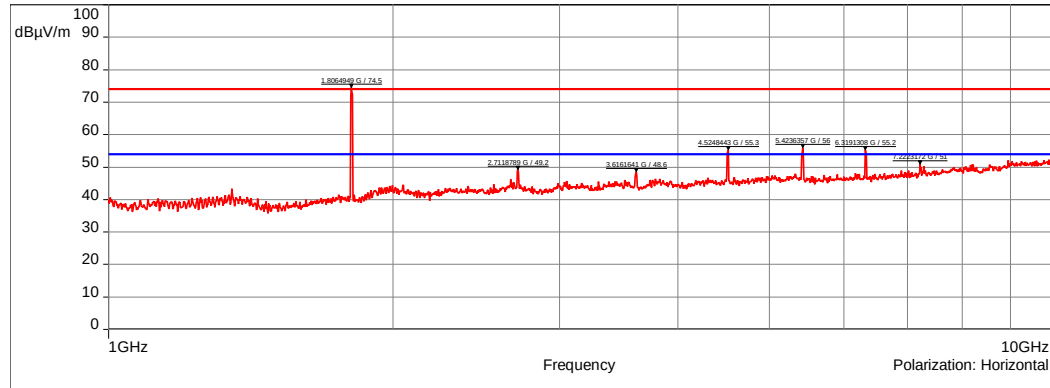
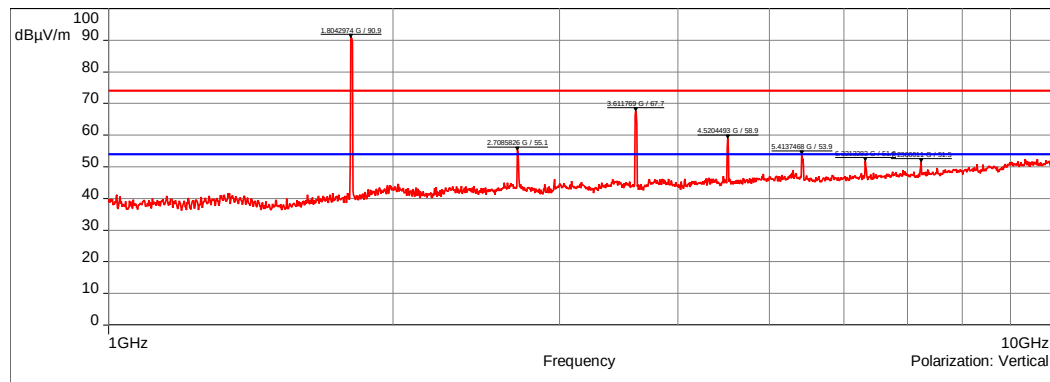
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Radiated electric field measurement

EMI4547

Position 2 / Antenna DELTA-06 (Siretta)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 10:26:20

Technician: FMO

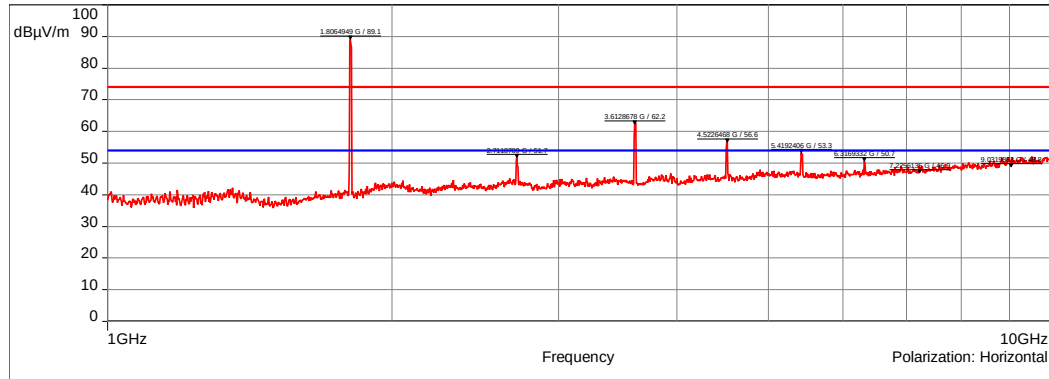
Detection:

T (°C): 12.9

H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:
N/A


Position 2 / Antenna Siretta - 01/11/2018 10:26 - 4547

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

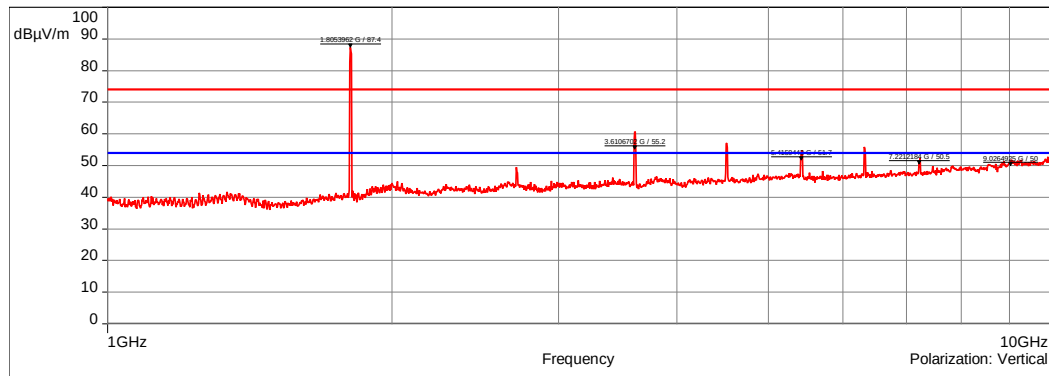
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 2 / Antenna Siretta - 01/11/2018 10:26 - 4547

Radiated electric field measurement

EMI4548

Position 1 / Antenna DELTA-06 (Siretta)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 10:31:23

Technician: FMO

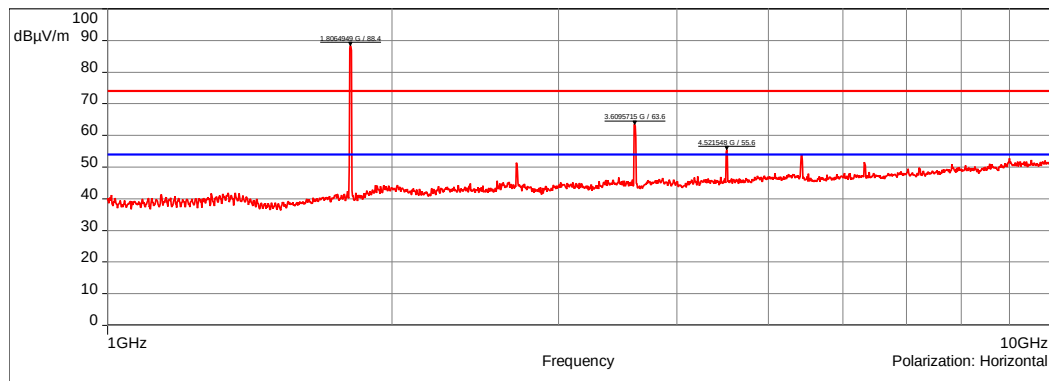
Detection:

T (°C): 12.9

H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:
N/A


Position 1 / Antenna Siretta - 01/11/2018 10:31 - 4548

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

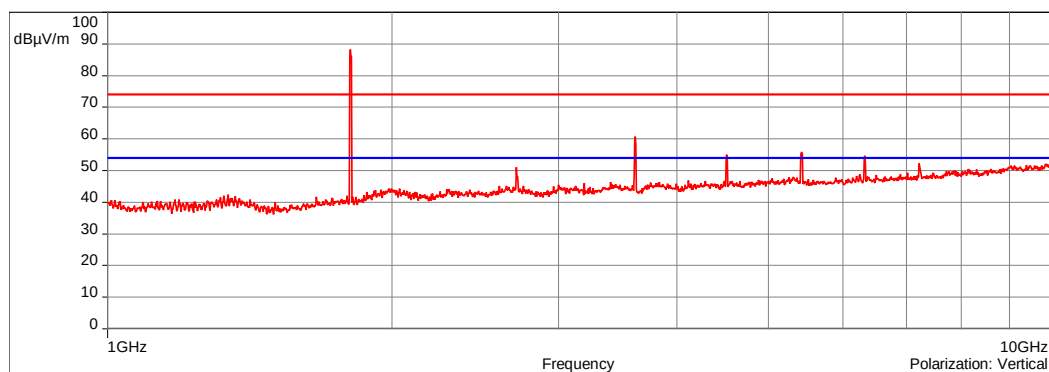
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 1 / Antenna Siretta - 01/11/2018 10:31 - 4548

Radiated electric field measurement

EMI4549

Position 1 / Antenna SMAP-ANT-925X (SAM WOO)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 10:40:42

Technician: FMO

Detection:

T (°C): 12.9

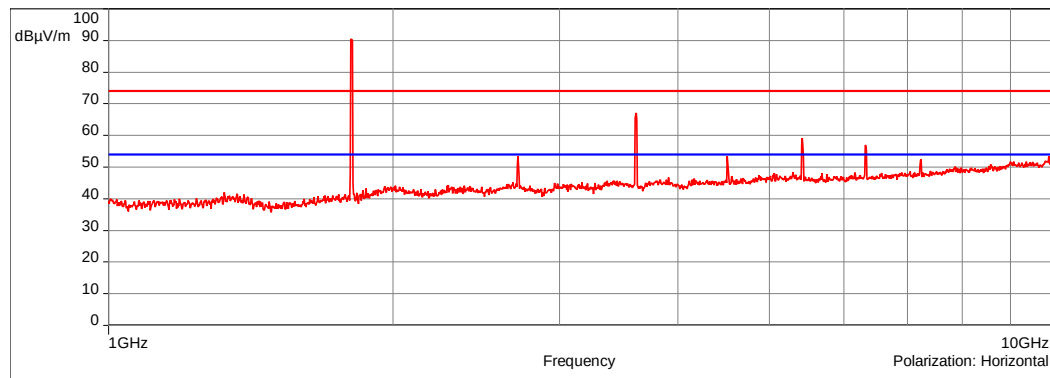
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 1 / Antenna C01-000-001 - 01/11/2018 10:40 - 4549

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

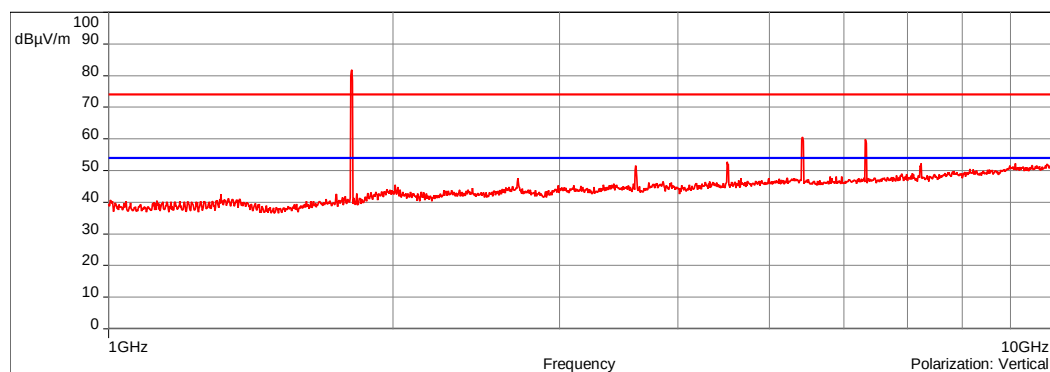
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 1 / Antenna C01-000-001 - 01/11/2018 10:40 - 4549

Radiated electric field measurement

EMI4550

Position 2 / Antenna SMAP-ANT-925X (SAM WOO)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 10:46:42

Technician: FMO

Detection:

T (°C): 12.9

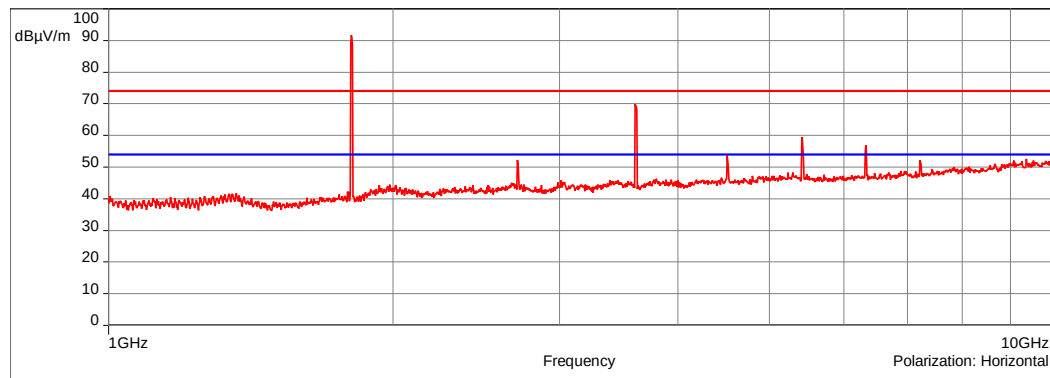
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 2 / Antenna C01-000-001 - 01/11/2018 10:46 - 4550

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

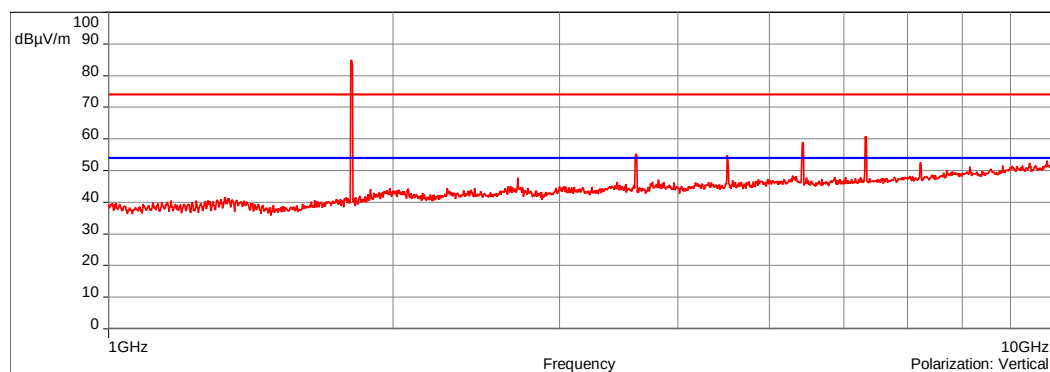
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 2 / Antenna C01-000-001 - 01/11/2018 10:46 - 4550

Radiated electric field measurement

EMI4551

Position 3 / Antenna SMAP-ANT-925X (SAM WOO)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 10:53:15

Technician: FMO

Detection:

T (°C): 12.9

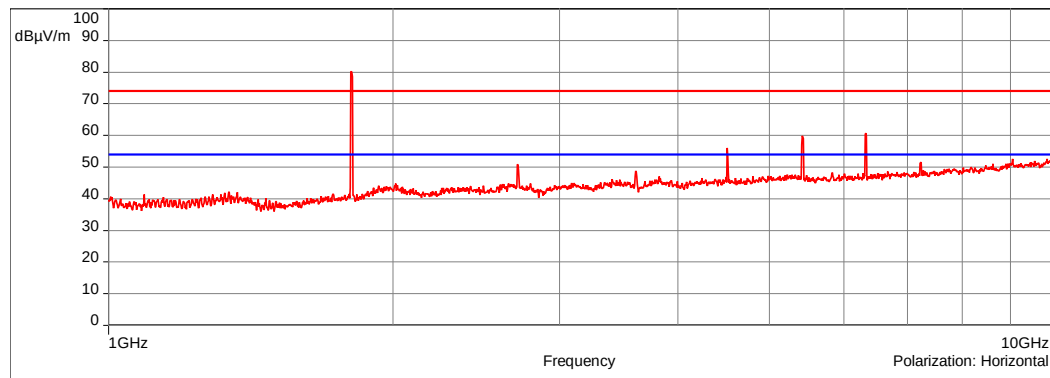
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 3 / Antenna C01-000-001 - 01/11/2018 10:53 - 4551

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

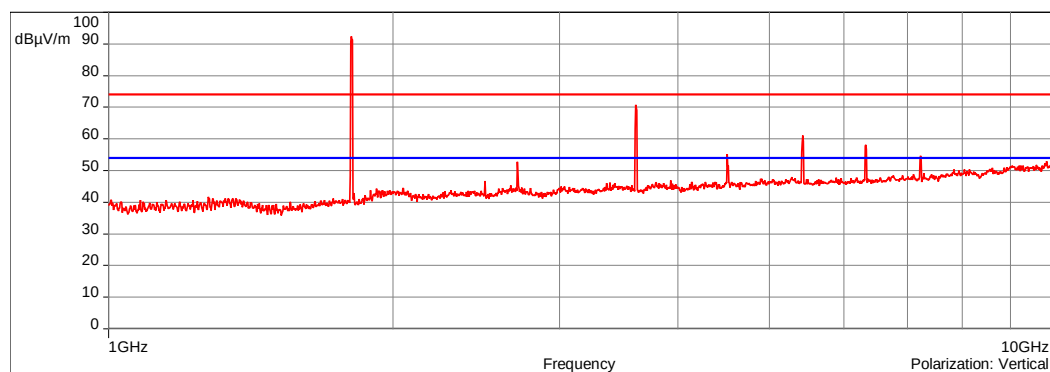
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 3 / Antenna C01-000-001 - 01/11/2018 10:53 - 4551

Radiated electric field measurement

EMI4554

Position 3 / Antenna SMAP-900-X (SAM WOO)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 11:04:35

Technician: FMO

Detection:

T (°C): 12.9

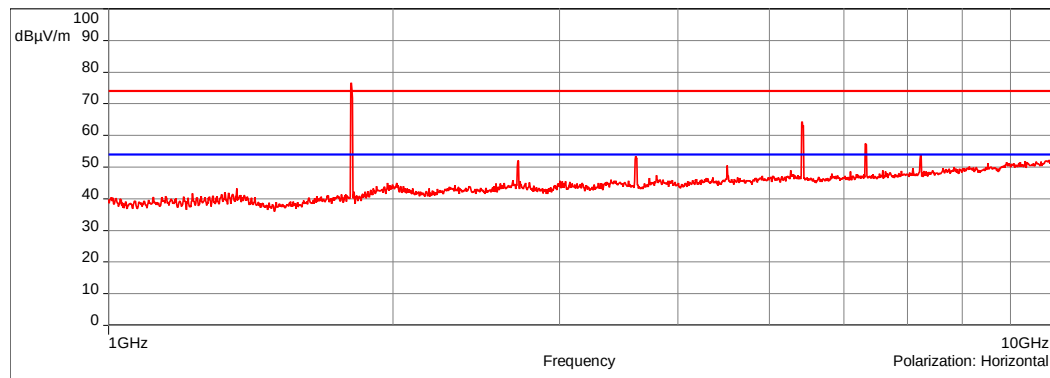
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 3 / Antenna C01-000-045 - 01/11/2018 11:04 - 4554

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

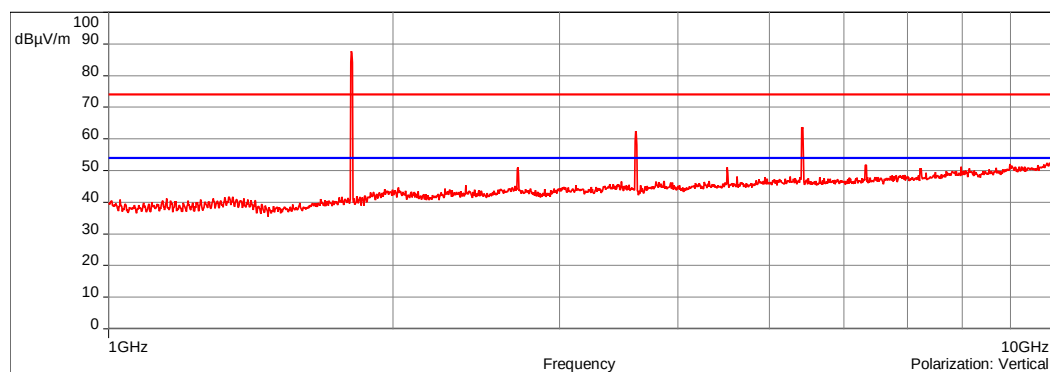
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 3 / Antenna C01-000-045 - 01/11/2018 11:04 - 4554

Radiated electric field measurement

EMI4555

Position 2 / Antenna SMAP-900-X (SAM WOO)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 11:11:35

Technician: FMO

Detection:

T (°C): 12.9

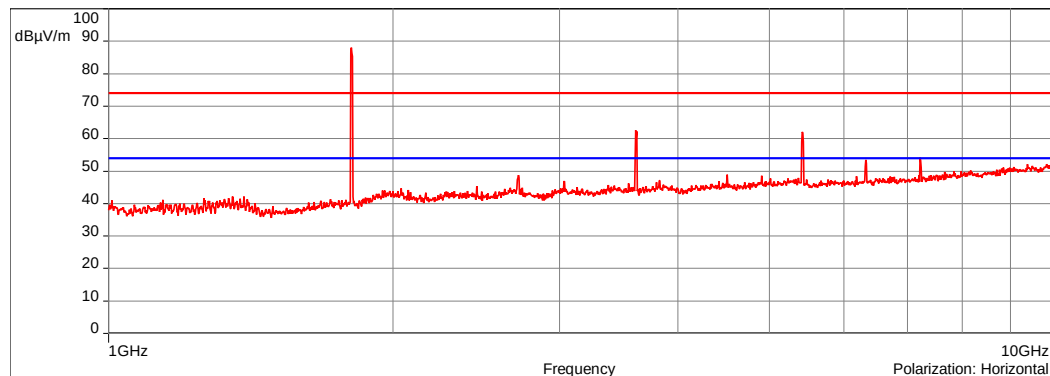
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 2 / Antenna C01-000-045 - 01/11/2018 11:11 - 4555

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

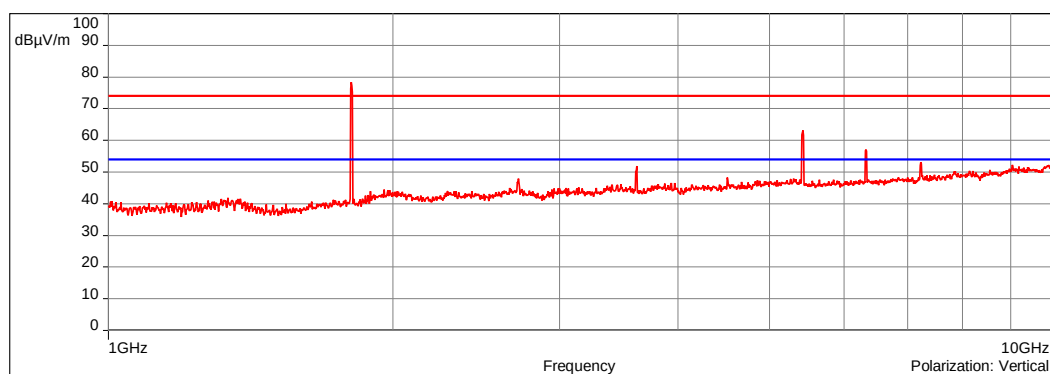
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 2 / Antenna C01-000-045 - 01/11/2018 11:11 - 4555

Radiated electric field measurement

EMI4556

Position 1 / Antenna SMAP-900-X (SAM WOO)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 11:15:54

Technician: FMO

Detection:

T (°C): 12.9

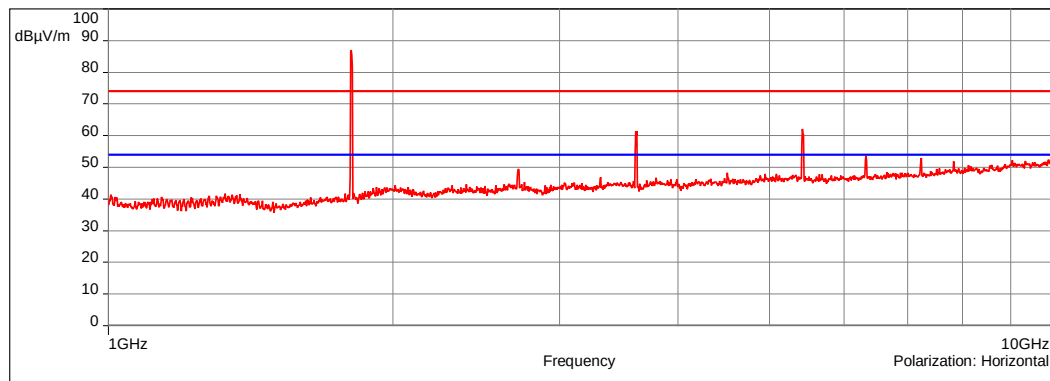
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 1 / Antenna C01-000-045 - 01/11/2018 11:15 - 4556

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

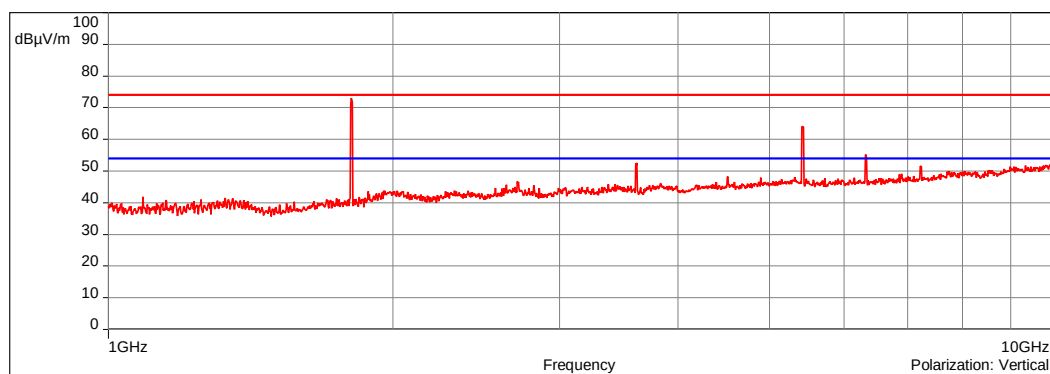
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 1 / Antenna C01-000-045 - 01/11/2018 11:15 - 4556

Radiated electric field measurement

EMI4558

Position 1 / Antenna ANT-916-CW (LYNX)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 11:22:47

Technician: FMO

Detection:

T (°C): 12.9

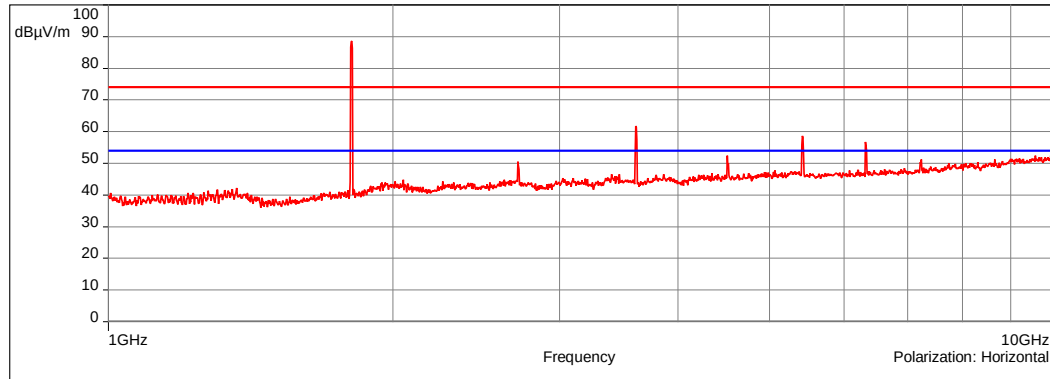
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 1 / Antenna C01-000-023 - 01/11/2018 11:22 - 4558

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

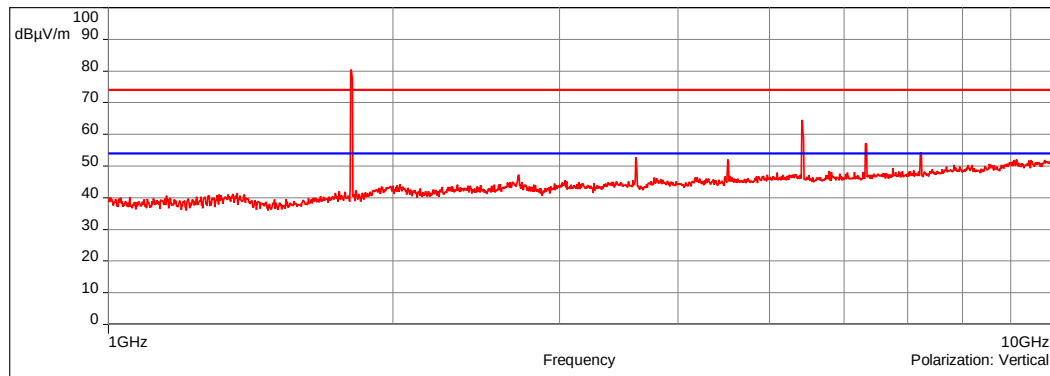
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 1 / Antenna C01-000-023 - 01/11/2018 11:22 - 4558

Radiated electric field measurement

EMI4559

Position 2 / Antenna ANT-916-CW (LYNX)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 11:27:16

Technician: FMO

Detection:

T (°C): 12.9

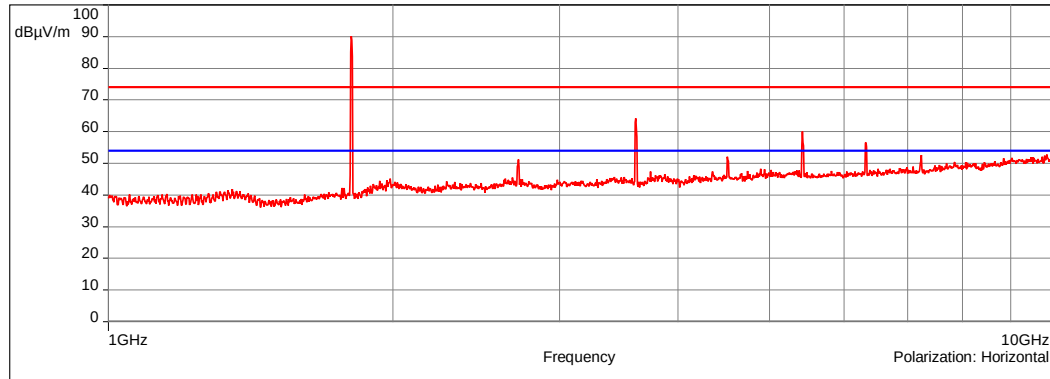
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 2 / Antenna C01-000-023 - 01/11/2018 11:27 - 4559

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

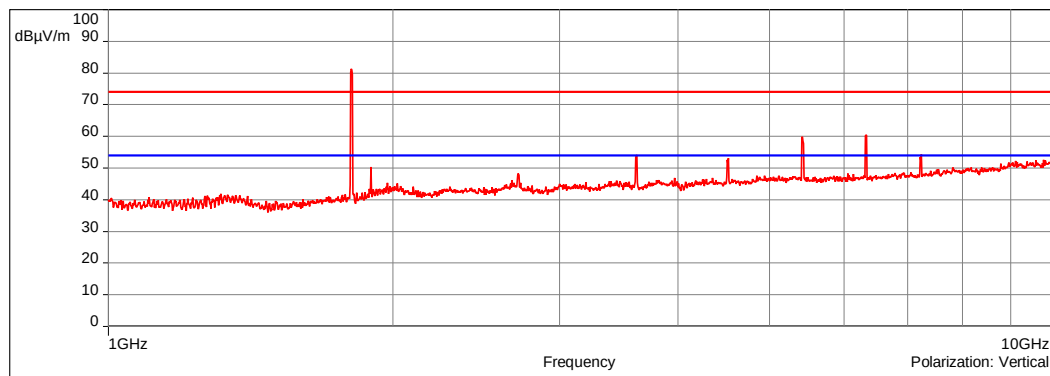
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 2 / Antenna C01-000-023 - 01/11/2018 11:27 - 4559

Radiated electric field measurement

EMI4560

Position 3 / Antenna ANT-916-CW (LYNX)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 11:33:49

Technician: FMO

Detection:

T (°C): 12.9

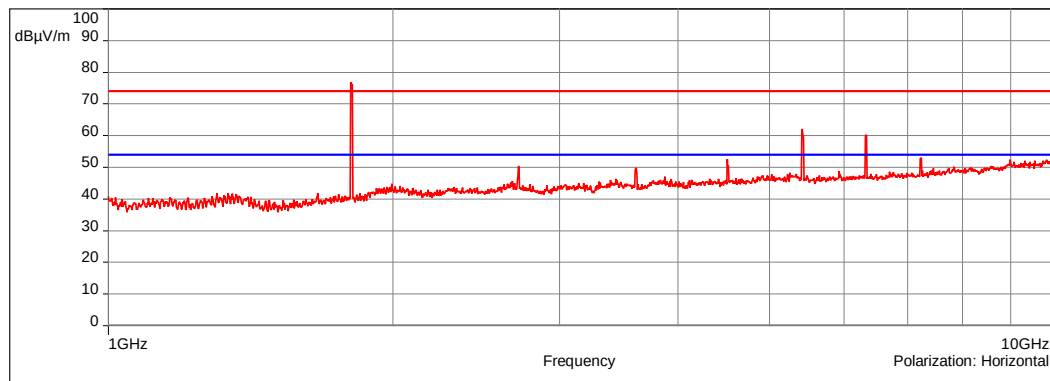
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 3 / Antenna C01-000-023 - 01/11/2018 11:33 - 4560

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

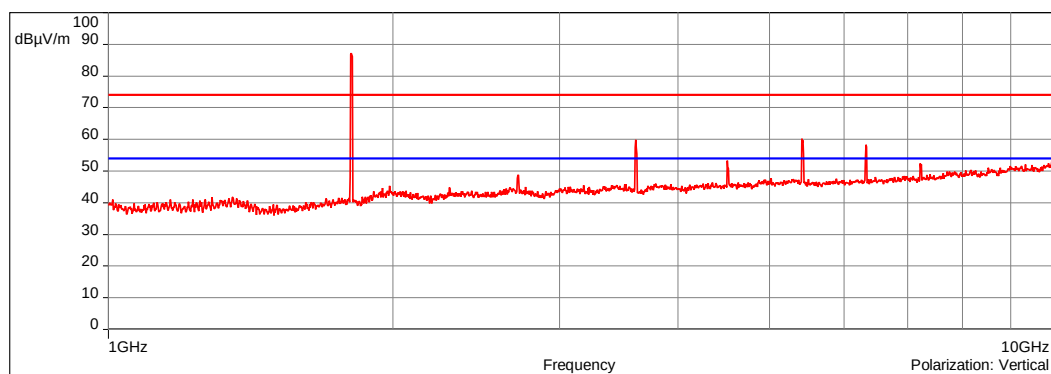
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 3 / Antenna C01-000-023 - 01/11/2018 11:33 - 4560

Radiated electric field measurement

EMI4562

Position 3 / Integral Antenna M02-000-001 (WURTH)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 11:39:26

Technician: FMO

Detection:

T (°C): 12.9

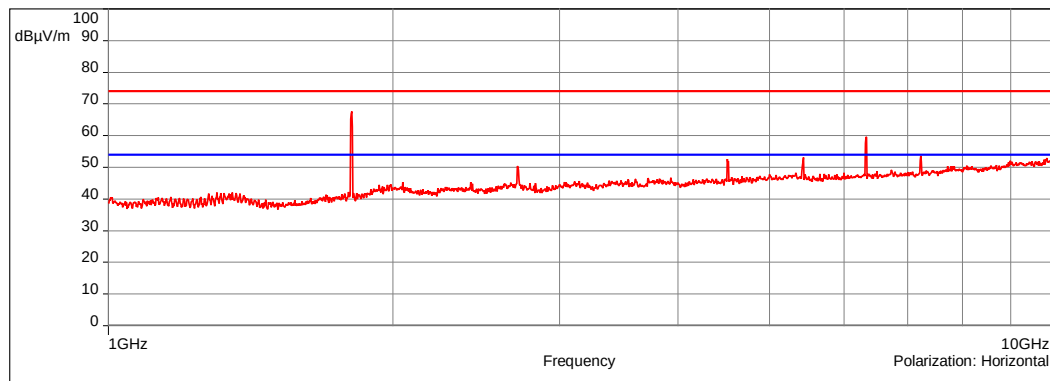
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 3 / Integral Antenna - 01/11/2018 11:39 - 4562

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

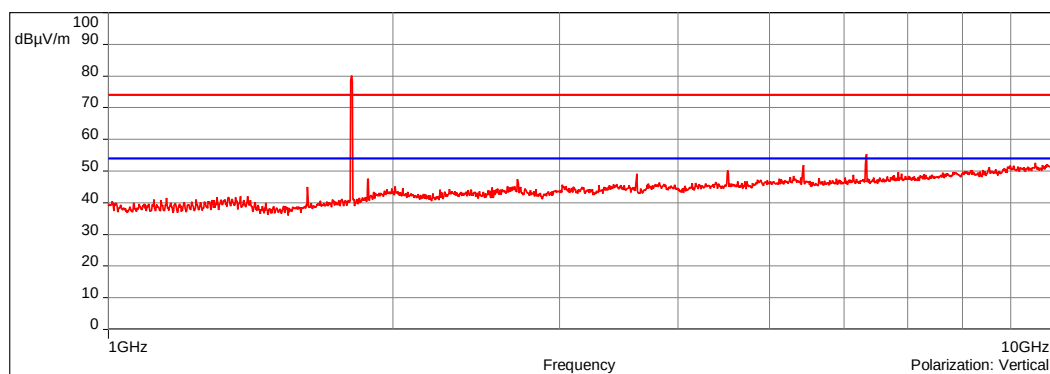
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 3 / Integral Antenna - 01/11/2018 11:39 - 4562

Radiated electric field measurement

EMI4563

Position 2 / Integral Antenna M02-000-001 (WURTH)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 11:48:41

Technician: FMO

Detection:

T (°C): 12.9

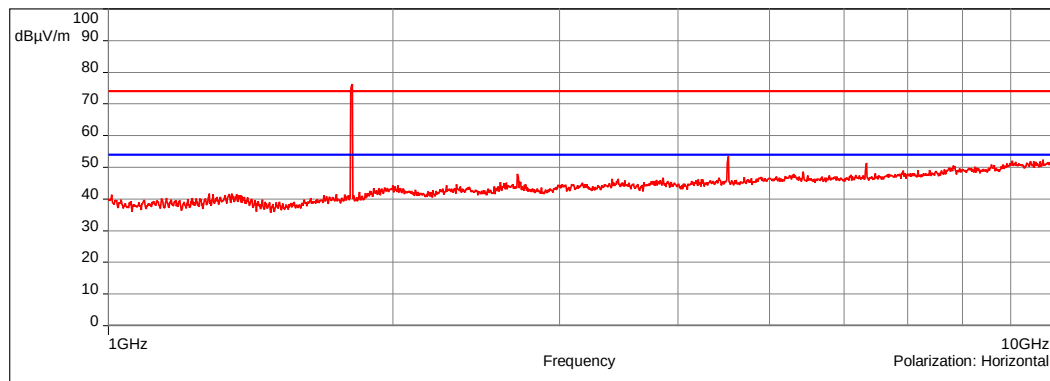
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 2 / Integral Antenna - 01/11/2018 11:48 - 4563

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

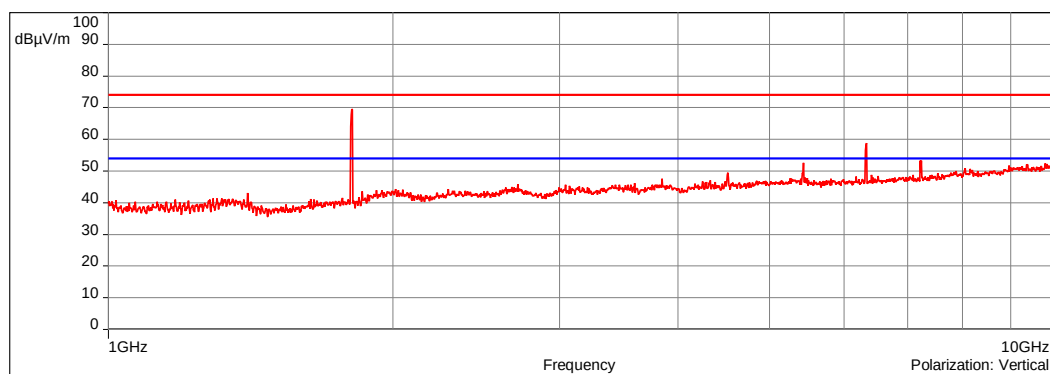
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 2 / Integral Antenna - 01/11/2018 11:48 - 4563

Radiated electric field measurement

EMI4564

Position 1 / Integral Antenna M02-000-001 (WURTH)

Sub-range 2

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Horizontal

Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Horizontal)

Date: 11/01/2018 11:54:16

Technician: FMO

Detection:

T (°C): 12.9

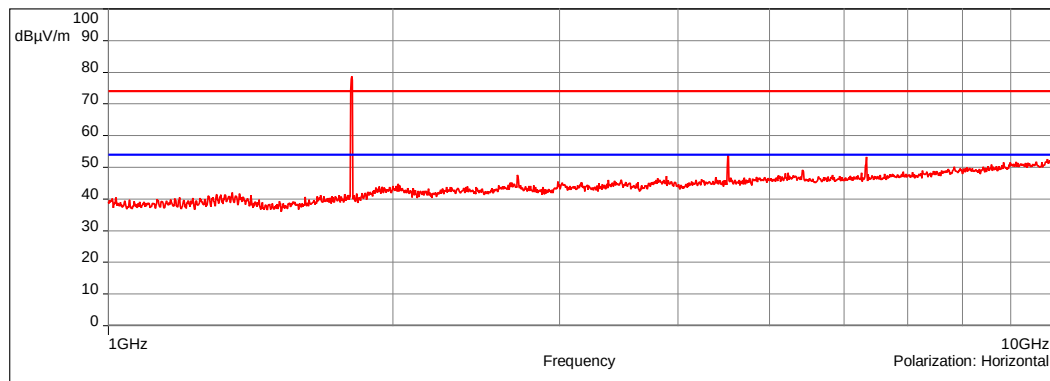
H (%): 61.8

P (hpa): 1015

Comments:

Modification(s) during test:

N/A



Position 1 / Integral Antenna - 01/11/2018 11:54 - 4564

Sub-range 1

Frequencies: 1 GHz - 10 GHz (Mode: - Step: 8.192 GHz)

Settings: RBW: 1 MHz, VBW: 3 MHz, Auto, Attenuation: 10 dB, Sweep count 1, Preamp: Off, LN Preamp: Off, Preset: Off

Polarization: Vertical

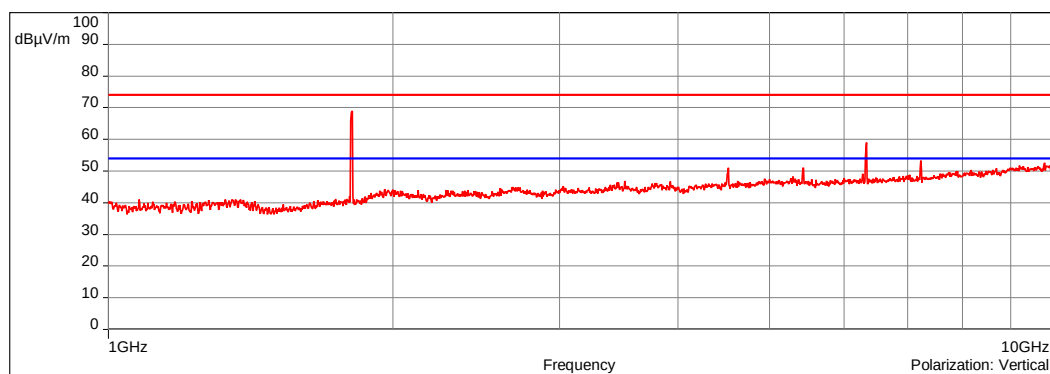
Distance: 3 m

FCC/15.209 : 2017 - Moyenne/3.0m/

FCC/15.209 : 2017 - QCrête/3.0m/

FCC/15.209 : 2017 - Crête/3.0m/

Meas.Peak (Vertical)



Position 1 / Integral Antenna - 01/11/2018 11:54 - 4564

Antenna S463XX-915 (NEARSON)

Frequency (MHz)	E.U.T. position / Polarization	Level (dB μ V/m) (Peak values)	Averaging (with duty cycle correction factor of -8.4dB)	Limit (dB μ V/m)	Margin (dB)
1806.49493	AXE 1 / V	80.21	-	105.12	-44.91
2710.78013	AXE 1 / V	48.99	-	54	-5.01
3620.55915	AXE 1 / V	51.3	-	54	-2.7
5422.53693	AXE 1 / V	63.97	-	74	-10.03
6321.32829	AXE 1 / V	61.84	-	105.12	-63.28
7238.79868	AXE 1 / V	52	-	105.12	-73.12
1809.79123	AXE 1 / H	91.14	-	105.12	-33.98
2710.78013	AXE 1 / H	52.25	-	54	-1.75
3613.96655	AXE 1 / H	70.72	-	74	-3.28
5429.12953	AXE 1 / H	61.88	53.48	54	-0.52
6319.13075	AXE 1 / H	56.63	-	105.12	-68.49
7235.5024	AXE 1 / H	50.8	-	105.12	-74.32
1805.39617	AXE 2 / V	85.57	-	105.12	-39.55
2712.97766	AXE 2 / V	50.79	-	54	-3.21
3616.16408	AXE 2 / V	58.91	50.51	54	-3.49
5413.7468	AXE 2 / V	64.66	-	74	-9.34
6331.21719	AXE 2 / V	62.57	-	105.12	-62.55
7234.40361	AXE 2 / V	52.45	-	105.12	-72.67
1807.5937	AXE 2 / H	92.88	-	105.12	-32.24
2710.78013	AXE 2 / H	53.39	-	54	-0.61
3611.76902	AXE 2 / H	72.85	-	74	-1.15
5417.0431	AXE 2 / H	61.54	53.14	54	-0.86
6327.92089	AXE 2 / H	57.57	-	105.12	-67.55
1809.79123	AXE 3 / V	92.39	-	105.12	-32.73
2711.87889	AXE 3 / V	53.76	-	54	-0.24
3610.67025	AXE 3 / V	72.07	-	74	-1.93
4523.74557	AXE 3 / V	50.66	-	54	-3.34
5422.53693	AXE 3 / V	63.31	-	74	-10.69
6334.51349	AXE 3 / V	55.69	-	105.12	-69.43
7228.90978	AXE 3 / V	52.62	-	105.12	-72.5
1808.69247	AXE 3 / H	78.95	-	105.12	-46.17
2715.17519	AXE 3 / H	50.85	-	54	-3.15
3610.67025	AXE 3 / H	51.17	-	54	-2.83
5415.94433	AXE 3 / H	64.32	-	74	-9.68
6334.51349	AXE 3 / H	61.42	-	105.12	-63.7
7234.40361	AXE 3 / H	51.88	-	105.12	-73.24

All other radiated emissions are at least 20dB below the limit.

Antenna DELTA-06 (SIRETTA)

Frequency (MHz)	E.U.T. position / Polarization	Level (dBμV/m) (Peak values)	Averaging (with duty cycle correction factor of -8.4dB)	Limit (dBμV/m)	Margin (dB)
1805.396167	AXE 1 / V	88.28	-	109	-20.72
2707.483824	AXE 1 / V	51.12	-	54.00	-2.88
3615.065316	AXE 1 / V	60.67	52.27	54.00	-1.73
4521.548041	AXE 1 / V	54.96	46.56	54.00	-7.44
5429.129532	AXE 1 / V	55.73	47.33	54.00	-6.67
6322.427054	AXE 1 / V	54.65	-	109	-54.35
7219.020877	AXE 1 / V	52.30	-	109	-56.7
1806.494933	AXE 1 / H	88.44	-	109	-20.56
2708.582591	AXE 1 / H	51.36	-	54.00	-2.64
3609.571481	AXE 1 / H	63.57	-	74.00	-10.43
4521.548041	AXE 1 / H	55.63	47.23	54.00	-6.77
5425.833232	AXE 1 / H	53.95	-	54.00	-0.05
6320.22952	AXE 1 / H	51.54	-	109	-57.46
1805.396167	AXE 2 / V	87.42	-	109	-21.58
2708.582591	AXE 2 / V	49.53	-	54.00	-4.47
3612.867782	AXE 2 / V	60.77	52.37	54.00	-1.63
4517.152973	AXE 2 / V	57.09	48.69	54.00	-5.31
5425.833232	AXE 2 / V	54.86	46.46	54.00	-7.54
6318.031986	AXE 2 / V	55.87	-	109	-53.13
7242.094982	AXE 2 / V	52.37	-	109	-56.63
1805.396167	AXE 2 / H	89.18	-	109	-19.82
2711.878891	AXE 2 / H	51.66	-	54.00	-2.34
3611.769015	AXE 2 / H	63.23	-	74.00	-10.77
4522.646807	AXE 2 / H	56.58	48.18	54.00	-5.82
5419.24063	AXE 2 / H	53.33	44.93	54.00	-9.07
6316.933219	AXE 2 / H	50.74	-	109	-58.26
1804.2974	AXE 3 / V	90.86	-	109	-18.14
2708.582591	AXE 3 / V	55.13	46.73	54.00	-7.27
3611.769015	AXE 3 / V	67.67	-	74.00	-6.33
4520.449274	AXE 3 / V	58.94	50.54	54.00	-3.46
5413.746795	AXE 3 / V	53.94	45.54	54.00	-8.46
6321.328287	AXE 3 / V	51.88	-	109	-57.12
7236.601148	AXE 3 / V	51.49	-	109	-57.51
1805.396167	AXE 3 / H	74.53	-	109	-34.47
2711.878891	AXE 3 / H	49.24	-	54.00	-4.76
3616.164083	AXE 3 / H	48.64	-	54.00	-5.36
4524.844341	AXE 3 / H	55.28	46.88	54.00	-7.12
5423.635698	AXE 3 / H	56.02	47.62	54.00	-6.38
6319.130753	AXE 3 / H	55.25	-	109	-53.75

All other radiated emissions are at least 20dB below the limit.

Antenna SMAP-ANT-925X (SAM WOO)

Frequency (MHz)	E.U.T. position / Polarization	Level (dBμV/m) (Peak values)	Averaging (with duty cycle correction factor of -8.4dB)	Limit (dBμV/m)	Margin (dB)
1809.791234	AXE 1 / V	81.76	-	105.12	-23.36
2711.878891	AXE 1 / V	47.62	-	54.00	-6.38
3610.670248	AXE 1 / V	51.61	-	54.00	-2.39
4512.757905	AXE 1 / V	52.72	-	54.00	-1.28
5415.944329	AXE 1 / V	60.57	52.17	54.00	-1.83
6318.031986	AXE 1 / V	59.87	-	105.12	-45.25
7238.798681	AXE 1 / V	52.25	-	105.12	-52.87
1804.2974	AXE 1 / H	90.44	-	105.12	-14.68
2710.780125	AXE 1 / H	53.52	-	54.00	-0.48
3616.164083	AXE 1 / H	67.18	-	74.00	-6.82
4516.054206	AXE 1 / H	53.48	-	54.00	-0.52
5420.339397	AXE 1 / H	59.18	50.78	54.00	-3.22
6321.328287	AXE 1 / H	56.85	-	105.12	-48.27
7236.601148	AXE 1 / H	52.40	-	105.12	-52.72
1804.2974	AXE 2 / V	85.01	-	105.12	-20.11
2709.681358	AXE 2 / V	47.84	-	54.00	-6.16
3616.164083	AXE 2 / V	55.17	46.77	54.00	-7.23
4512.757905	AXE 2 / V	54.84	46.44	54.00	-7.56
5428.030765	AXE 2 / V	59.07	50.67	54.00	-3.33
6332.315957	AXE 2 / V	60.78	-	105.12	-44.34
7226.712245	AXE 2 / V	52.63	-	105.12	-52.49
1805.396167	AXE 2 / H	91.64	-	105.12	-13.48
2708.582591	AXE 2 / H	52.22	-	54.00	-1.78
3608.472714	AXE 2 / H	69.90	-	54.00	15.9
4512.757905	AXE 2 / H	53.70	-	54.00	-0.3
5420.339397	AXE 2 / H	59.56	-	54.00	5.56
6324.624588	AXE 2 / H	56.87	-	105.12	-48.25
7223.415944	AXE 2 / H	52.18	-	105.12	-52.94
1807.5937	AXE 3 / V	92.42	-	105.12	-12.7
2707.483824	AXE 3 / V	52.81	-	54.00	-1.19
3613.966549	AXE 3 / V	70.73	-	74.00	-3.27
4512.757905	AXE 3 / V	55.26	46.86	54.00	-7.14
5426.931999	AXE 3 / V	61.07	52.67	54.00	-1.33
6323.525821	AXE 3 / V	58.10	-	105.12	-47.02
7227.811012	AXE 3 / V	54.65	-	105.12	-50.47
1805.396167	AXE 3 / H	80.32	-	105.12	-24.8
2708.582591	AXE 3 / H	50.87	-	54.00	-3.13
3611.769015	AXE 3 / H	48.86	-	54.00	-5.14
4516.054206	AXE 3 / H	56.00	47.6	54.00	-6.4
5418.141863	AXE 3 / H	59.92	51.52	54.00	-2.48
6322.427054	AXE 3 / H	60.70	-	105.12	-44.42
7242.094982	AXE 3 / H	51.52	-	105.12	-53.6

Antenna SMAP-900-X (SAM WOO)

Frequency (MHz)	E.U.T. position / Polarization	Level (dBμV/m) (Peak values)	Averaging (with duty cycle correction factor of -8.4dB)	Limit (dBμV/m)	Margin (dB)
1805.396167	AXE 1 / V	73.04	-	103.13	-30.09
2708.582591	AXE 1 / V	46.76	-	54.00	-7.24
3620.55915	AXE 1 / V	52.58	-	54.00	-1.42
5426.931999	AXE 1 / V	64.09	-	74.00	-9.91
6330.118423	AXE 1 / V	55.14	-	103.13	-47.99
7240.996215	AXE 1 / V	51.60	-	103.13	-51.53
1804.2974	AXE 1 / H	86.83	-	103.13	-16.3
2715.175192	AXE 1 / H	49.57	-	54.00	-4.43
3620.55915	AXE 1 / H	61.41	53.01	54.00	-0.99
5418.141863	AXE 1 / H	62.20	53.8	54.00	-0.2
6323.525821	AXE 1 / H	53.72	-	103.13	-49.41
7235.502381	AXE 1 / H	52.88	-	103.13	-50.25
1806.494933	AXE 2 / V	78.34	-	103.13	-24.79
2715.175192	AXE 2 / V	47.92	-	54.00	-6.08
3620.55915	AXE 2 / V	51.85	-	54.00	-2.15
5424.734465	AXE 2 / V	63.19	-	74.00	-10.81
6327.920889	AXE 2 / V	57.08	-	103.13	-46.05
7231.107313	AXE 2 / V	53.09	-	103.13	-50.04
1805.396167	AXE 2 / H	88.00	-	103.13	-15.13
2714.076425	AXE 2 / H	48.67	-	54.00	-5.33
3612.867782	AXE 2 / H	62.64	-	74.00	-11.36
4512.757905	AXE 2 / H	48.89	-	54.00	-5.11
5418.141863	AXE 2 / H	62.09	53.69	54.00	-0.31
6330.118423	AXE 2 / H	53.54	-	103.13	-49.59
7221.21841	AXE 2 / H	54.07	-	103.13	-49.06
1805.396167	AXE 3 / V	87.65	-	103.13	-15.48
2711.878891	AXE 3 / V	50.99	-	54.00	-3.01
3612.867782	AXE 3 / V	62.55	-	74.00	-11.45
4516.054206	AXE 3 / V	51.11	-	54.00	-2.89
5413.746795	AXE 3 / V	63.70	-	74.00	-10.3
6323.525821	AXE 3 / V	51.80	-	54.00	-2.2
1805.396167	AXE 3 / H	76.70	-	103.13	-26.43
2709.681358	AXE 3 / H	52.06	-	103.13	-51.07
3611.769015	AXE 3 / H	53.39	44.99	54.00	-9.01
4513.856672	AXE 3 / H	50.47	-	54.00	-3.53
5415.944329	AXE 3 / H	64.41	-	74.00	-9.59
6318.031986	AXE 3 / H	57.49	-	103.13	-45.64
7234.403614	AXE 3 / H	54.03	-	103.13	-49.1

All other radiated emissions are at least 20dB below the limit.

Antenna ANT-916-CW (LYNX)

Frequency (MHz)	E.U.T. position / Polarization	Level (dB μ V/m) (Peak values)	Averaging (with duty cycle correction factor of -8.4dB)	Limit (dB μ V/m)	Margin (dB)
1805.396167	AXE 1 / V	80.40	-	104.92	-24.52
2715.175192	AXE 1 / V	47.32	-	54.00	-6.68
3611.769015	AXE 1 / V	52.73	-	54.00	-1.27
4520.449274	AXE 1 / V	52.03	-	54.00	-1.97
5412.648028	AXE 1 / V	64.46	-	74.00	-12.54
6319.130753	AXE 1 / V	57.09	-	104.92	-47.83
7228.909779	AXE 1 / V	54.26	-	104.92	-50.66
1808.692467	AXE 1 / H	88.58	-	104.92	-16.34
2711.878891	AXE 1 / H	50.46	-	54.00	-3.54
3610.670248	AXE 1 / H	61.71	53.31	54.00	-0.69
4516.054206	AXE 1 / H	52.45	-	54.00	-1.55
5420.339397	AXE 1 / H	58.63	50.23	54.00	-3.77
6320.22952	AXE 1 / H	56.72	-	104.92	-48.2
1805.396167	AXE 2 / V	81.33	-	104.92	-23.59
2709.681358	AXE 2 / V	48.21	-	54.00	-5.79
3619.460383	AXE 2 / V	54.19	45.79	54.00	-8.21
4525.943108	AXE 2 / V	53.14	-	54.00	-0.86
5418.141863	AXE 2 / V	59.80	-	54.00	5.8
6331.21719	AXE 2 / V	60.44	-	104.92	-44.48
7223.415944	AXE 2 / V	53.49	-	54.00	-0.51
1806.494933	AXE 2 / H	90.19	-	104.92	-14.73
2715.175192	AXE 2 / H	51.17	-	54.00	-2.83
3611.769015	AXE 2 / H	64.24	-	74.00	-9.76
4512.757905	AXE 2 / H	52.16	-	54.00	-1.84
5417.043096	AXE 2 / H	59.97	51.57	54.00	-2.43
6325.723355	AXE 2 / H	56.57	-	104.92	-48.35
7235.502381	AXE 2 / H	52.58	-	104.92	-52.34
1806.494933	AXE 3 / V	87.22	-	104.92	-17.7
2714.076425	AXE 3 / V	48.88	-	54.00	-5.12
3612.867782	AXE 3 / V	59.87	51.47	54.00	-2.53
4511.659138	AXE 3 / V	53.24	-	54.00	-0.76
5413.746795	AXE 3 / V	60.23	51.83	54.00	-2.17
6324.624588	AXE 3 / V	58.27	-	104.92	-46.65
7220.119644	AXE 3 / V	52.43	-	104.92	-52.49
1805.396167	AXE 3 / H	76.78	-	104.92	-28.14
2715.175192	AXE 3 / H	50.42	-	54.00	-3.58
3610.670248	AXE 3 / H	49.77	-	54.00	-4.23
4512.757905	AXE 3 / H	52.54	-	54.00	-1.46
5414.845562	AXE 3 / H	62.15	53.75	54.00	-0.25
6324.624588	AXE 3 / H	60.14	-	104.92	-44.78
7235.502381	AXE 3 / H	52.92	-	104.92	-52

All other radiated emissions are at least 20dB below the limit.

Integral Antenna M02-000-001 (WURTH)

Frequency (MHz)	E.U.T. position / Polarization	Level (dB μ V/m) (Peak values)	Averaging (with duty cycle correction factor of -8.4dB)	Limit (dB μ V/m)	Margin (dB)
1808.692467	AXE 1 / V	68.83	-	102.42	-33.59
4524.844341	AXE 1 / V	51.11	-	54.00	-2.89
5430.228299	AXE 1 / V	51.08	42.68	54.00	-11.32
6331.21719	AXE 1 / V	58.98	-	102.42	-43.44
7234.403614	AXE 1 / V	53.23	-	102.42	-49.19
1809.791234	AXE 1 / H	78.72	-	102.42	-23.7
2708.582591	AXE 1 / H	47.63	-	54.00	-6.37
4522.646807	AXE 1 / H	53.88	-	54.00	-0.12
6335.612257	AXE 1 / H	53.22	-	102.42	-49.2
1809.791234	AXE 2 / V	69.50	-	102.42	-32.92
4518.25174	AXE 2 / V	49.47	-	54.00	-4.53
5431.327066	AXE 2 / V	52.52	44.12	54.00	-9.88
6333.414723	AXE 2 / V	58.88	-	102.42	-43.54
7239.897448	AXE 2 / V	53.38	-	102.42	-49.04
1810.890001	AXE 2 / H	76.24	-	102.42	-26.18
2707.483824	AXE 2 / H	47.86	-	54.00	-6.14
4524.844341	AXE 2 / H	53.51	-	54.00	-0.49
6333.414723	AXE 2 / H	51.40	-	102.42	-51.02
1808.692467	AXE 3 / V	80.14	-	102.42	-22.28
2707.483824	AXE 3 / V	47.49	-	54.00	-6.51
3620.55915	AXE 3 / V	49.18	-	54.00	-4.82
4520.449274	AXE 3 / V	50.15	-	54.00	-3.85
5431.327066	AXE 3 / V	51.84	43.44	54.00	-10.56
6335.612257	AXE 3 / V	55.31	-	102.42	-47.11
1808.692467	AXE 3 / H	67.69	-	102.42	-34.73
2707.483824	AXE 3 / H	50.27	-	54.00	-3.73
4512.757905	AXE 3 / H	52.53	-	54.00	-1.47
5431.327066	AXE 3 / H	53.11	44.71	54.00	-9.29
6333.414723	AXE 3 / H	59.53	-	102.42	-42.89
7234.403614	AXE 3 / H	53.64	-	102.42	-48.78

All other radiated emissions are at least 20dB below the limit.

ooo End of report – 1 annex to be forwarded ooo

ANNEX: PHOTOGRAPH(S)

EQUIPMENT UNDER TEST (E.U.T.) PHOTOGRAPH(S)

APPI-COM

E.U.T. positions
(Shielded chamber)



E.U.T. positions
(Shielded chamber)



Antenna S463XX-915



Antenna DELTA-06



Antenna M02-000-001



Antenna SMAP-900-X



Antenna SMAP-ANT-925X



Antenna ANT-916-CW



