Test report issued under the responsibility of:
EMITECH MONTPELLIER laboratory
MRA US-EU Designation Number: FR0006
IC Assigned Code: 4379C

RADIO TEST REPORT

FCC Part 15 :2017
ANSI C63.10 : 2013
RSS-Gen - Issue 4, November 2014
RSS-210-Issue 9, August 2016

Company	**STID**
Address.....	20 PA des Pradeaux - Bd Salvador Allende - 13850 GREASQUE FRANCE

Test item description.	**Access Controller ARC-SE8**
Trade Mark.	STID
Manufacturer.	STID
Model/Type reference.....	ARCS-I/BT2
FCC ID.....	OVNSE8
IC.	10520A-SE8
Ratings.....	7-28V (+12Vdc typ.)

Testing Laboratory	**EMITECH MONTPELLIER laboratory**
Address.....	145 rue de Massacan BP80025 34741 VENDARGUES Cedex FRANCE

Report Reference No.....	**R410-18-100474-1A**
Test procedure.	FCC IC Certification
Diffusion.....	Mr SILVE
Applicant's name.	STID
Date of issue.....	15/06/2018
Total number of pages.....	28
Revision.	0
Modified page(s).....	Creation
Compiled by.....	Fabien MOINACHE
Approved by (+ signature).....	David MONTAULON (Technical Manager)

P.O. Olivier HEYER

Duplication of this test report is only permitted for an integral photographic facsimile. It includes the number of pages referenced here 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 manufactured products of the tested sample.

REPORT INDEX:

1. GENERAL INFORMATIONS 3
2. REFERENCE DOCUMENT(S) 4
3. EQUIPMENT TECHNICAL DESCRIPTION 5
3.1. TEST CONDITIONS 5
3.2. EUT MECHANICAL AND ELECTRICAL DESIGN 5
3.3. EUT INPUT/OUTPUT PORTS 5
3.4. EUT RADIO SPECIFICATIONS 7
4. RESULT SUMMARY 8
5. MEASUREMENT UNCERTAINTY 9
6. TEST CONDITIONS AND RESULTS 10
6.1. CONDUCTED VOLTAGE EMISSION (MEASUREMENT) 10
6.2. MEASUREMENT OF RADIATED DISTURBANCES 14
6.3. RADIATED FIELD STRENGTH <30MHZ 18
6.4. OCCUPIED BANDWITH 99% & 20 DB BANDWITH 26

1. GENERAL INFORMATIONS

This document submits the results of Radio tests performed on the equipment **Access Controller ARC-SE8 (Model: ARCS-I/BT2)** (denominated hereafter E.U.T.: equipment under test) according to document(s) listed in §2 of this test report.

TESTING PROCEDURE AND TESTING LOCATION:	
Testing Laboratory ..... :	EMITECH MONTPELLIER laboratory
Address..... :	145 rue de Massacan BP80025 34741 VENDARGUES Cedex FRANCE
Test procedure. ..... :	FCC IC Certification
Tested by..... :	Fabien MOINACHE
Test supervisor ..... :	None
Date of receipt of test item..... :	N/A
Date (s) of performance of tests..... :	March between the 02nd to the 05th of 2018

APPLICANT'S GENERAL INFORMATIONS:	
Company name..... :	STID
Company address. ..... :	20 PA des Pradeaux - Bd Salvador Allende - 13850 GREASQUE FRANCE
Person(s) present during the tests. ..... :	Mme MONET
Responsible..... :	Mr SILVE

GENERAL REMARKS:

The test results presented in this report relate only to the object tested.
The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.
Throughout this report the decimal separator is point.

POSSIBLE TEST CASE VERDICTS:	
Test case does not apply to the test object. . :	N/A
Test case not performed..... :	N/P
Test object does meet the requirement..... :	P (Pass)
Test object does not meet the requirement. . :	F (Fail)
Test object was not subjected to all tests..... :	I (Inconclusive)

DEFINITIONS AND ABBREVIATIONS:

E.U.T.	Equipement under test	AE	Ancillary equipment
RBW	Resolution bandwidth	VBW	Video bandwidth
OATS	Open area test site	FAR	Full anechoic room
RF	Radio frequency	NTR	Nothing to report

2. REFERENCE DOCUMENT(S)

NORMATIVE REFERENCES:
The following referenced documents are necessary for the application of the present test report. **FCC Part 15 :2017** Code of Federal Regulations Title 47 – Telecommunications Chapter 1 – Federal Communications Commission Part 15 – Radio frequency devices Subpart C – Intentional Radiators **ANSI C63.10 : 2013** American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices. **RSS-Gen - Issue 4, November 2014** General requirements and Information for the Certification of radio Apparatus **RSS-210-Issue 9, August 2016** Licence-exempt Radio Apparatus: Category I Equipment
INFORMATIVE REFERENCES:
The following referenced documents are not necessary for the application of the present test report but they assist the user with regard to a particular subject area.

3. EQUIPMENT TECHNICAL DESCRIPTION

3.1. Test Conditions

Test item description. ..... : Access Controller ARC-SE8
Model/Type reference..... : ARCS-I/BT2
Trade Mark. ..... : STID
Serial number (S/N)..... : Not communicated
Part number (P/N). ..... : Not communicated
Software version..... : Not communicated
Firmware version. ..... : Z08
Type of sample. ..... : Pre-serial
Function(s)..... : Access Controller ARC-SE8 with RFID reader
Manufacturer name. ..... : STID

General product information:

N/A

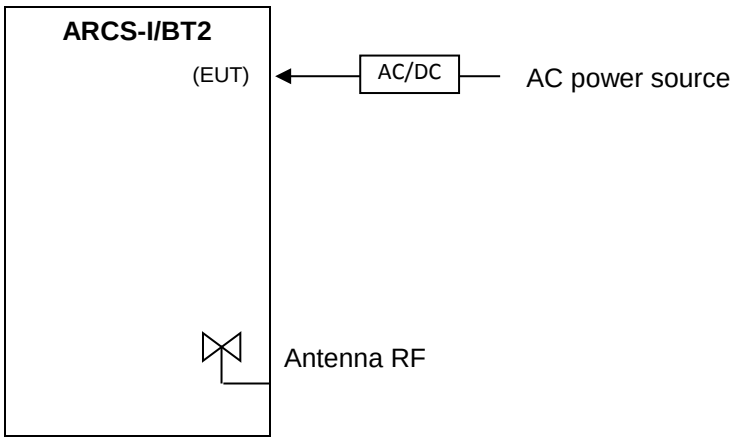
3.2. EUT Mechanical and Electrical Design

Power supply. ..... : 12Vdc
Power supply range..... : 7-28V
Power type..... : DC
Power (W)..... : Not communicated
Nominal current (A). ..... : 180mA (ARCS-I/BT2)
Dimensions (L x W x H) (m). ..... : 0.14x0.078x0.025
Weight (kg). ..... : 0.127
Temperature range (°C). ..... : -20°C-70°c
Ground bounding strap..... : No

Comments:

N/A

3.3. EUT Input/Output ports



PORT	NAME	TYPE	LENGHT	CABLE TYPE	COMMENTS
1	AC power source	AC/DC			
2	Antenna RF	RF			

AC/DC :	AC/DC Converter port	AC ..... :	Alternative current port	DC .....:	Discontinuous current port
I/O.....:	Input or Output port	TP ..... :	Telecommunication port	RF.....:	Radio frequency port
N/E .....:	Non Electrical port				

3.4. EUT Radio Specifications

a) GENERAL INFORMATIONS
According to manufacturer's declarations : EUT type..... : Transmitter Technology ..... : RFID Environmental profile..... : Profesionnal Temperature range..... : Not communicated Antenna type ..... : Integral Antenna Gain..... : NA **Comments:** N/A
b) TRANSMITTER PARAMITTERS (TX)
Frequency bands..... : 125 kHz RF Power..... : NA Number of channels / Separation..... : 1 / N/A Modulation type ..... : RFID Duty cycle ..... : NA Tested frequency..... : 125 kHz
c) RECEIVER PARAMETERS (RX)
Frequency bands..... : N/A Category/Class ..... : N/A Bandwidth ..... : N/A

4. RESULT SUMMARY

TEST DESIGNATION	SEVERITY	VERDICT	BASIC STANDARDS / COMMENTS
Conducted voltage emission (measurement)			**ANSI C63.10: 2013**
- 110Vac/60Hz power supply / ARCS-I/BT2	B	**PASS**	
- 110Vac/60Hz power supply / ARCS-I/BT2 / On 50 Ohms load	B	**PASS**	
Measurement of radiated disturbances			**ANSI C63.10: 2013**
- ARCS-I/BT2	B	**PASS**	
Radiated field strength <30MHz			**15.209**
- TX MODE / 0° / ARCS-I/BT2	Tx	**PASS**	
- TX MODE / 45°/ ARCS-I/BT2	Tx	**PASS**	
- TX MODE / 90° / ARCS-I/BT2	Tx	**PASS**	
Occupied bandwidth	-	**PASS**	**RSS-Gen §6.6**

Sample subject to the test complies with the requirements of the reference document(s) listed in §2 of this test report and, where applicable, with deviation(s) specified in this document.

To declare, or not, the compliance with the specifications, it was not explicitly taken account of uncertainty associated with the results.

Opinion(s) and interpretation(s): N/A

5. MEASUREMENT UNCERTAINTY

PARAMETER	MAXIMAL EMITECH UNCERTAINTY	MINIMAL STANDARD UNCERTAINTY
Conducted emission		
(Artificial Mains Network) 3kHz – 9kHz	± 3.8 dB	/
(Artificial Mains Network) 9kHz – 150kHz	± 3.6 dB	± 3.6 dB
(Artificial Mains Network) 150kHz – 30MHz	± 3.4 dB	± 3.4 dB
(Voltage probe) 9kHz – 30MHz	± 2.9 dB	± 2.9 dB
(Asymmetric Artificial Network) 150kHz – 30MHz	± 3.5 dB	± 5.0 dB
(Current measurement) 150kHz – 30MHz	± 2.9 dB	± 2.9 dB
(Capacitive Voltage Probe) 150kHz – 30MHz	± 3.6 dB	± 3.9 dB
(Discontinuous) 150kHz – 30MHz	± 3.4 dB	± 3.4 dB
(Van Veen) 9kHz – 30MHz	± 3.3 dB	/
(Coupling Decouplingl Network) 30MHz – 300MHz	± 3.5 dB	± 3.8 dB
(Splitter) 30MHz – 2.15GHz	± 3.4 dB	/
Radio frequency	$\pm 1 \times 10^{-7}$	$\pm 1 \times 10^{-7}$
Occuped bandwidth		
RF power	± 1.2 %	± 5 %
Radiated emission (magnetic field)		
9kHz – 30MHz	± 2.7 dB	± 6 dB
Supply voltages	± 3 %	± 3 %
Temperature	± 1 °C	± 1°C
Humidity	± 5 %	± 5 %
Time / Duty cycle	± 4.4 %	± 5 %
Radiated emission (electric field for FCC standard)		
9kHz – 30MHz	± 2.7 dB	/
30MHz – 1GHz	± 5.2 dB	/
1GHz – 18GHz	± 5.3 dB	/
18GHz – 26GHz	± 5.5 dB	/
26GHz – 40GHz	± 5.5 dB	/

For the calcul of expanded uncertainty, the confidence interval is 95 % (k=2).

6. TEST CONDITIONS AND RESULTS

6.1. Conducted voltage emission (measurement)

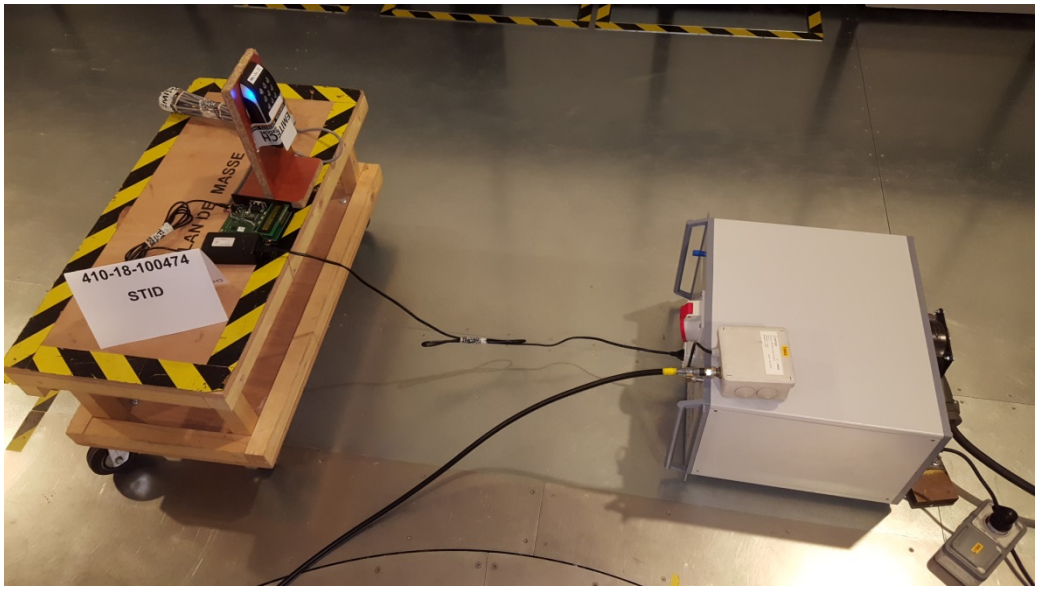
Reference standard:	FCC 15.107 &15.207 & RSS Gen
Test method:	ANSI C63.10: 2013
General test setup: EUT is set on an insulating support at 40cm above the ground reference plane. All power was connected to the system through Artificial Mains Network (AMN). The AMN is placed at 80cm from the boundary of the EUT and bonded to a ground reference plane. All tested telecommunications lines (if applicable) were connected to an Asymmetric Artificial Network (AAN) and conducted voltage measurements on telecommunications lines were made at the output of the AAN. Where an AAN was not appropriate or available, measurements were made using a Capacitive Voltage Probe and/or a Current probe.	

TESTED CABLE	PARAMETER	SEVERITY	RESULT TAB.	VERDICT
110Vac/60Hz power supply / ARCS-I/BT2	150kHz-30MHz	Class B	EMI4546	**PASS**
110Vac/60Hz power supply / ARCS-I/BT2 / On 50 Ohms load	150kHz-30MHz	Class B	EMI5816	**PASS**

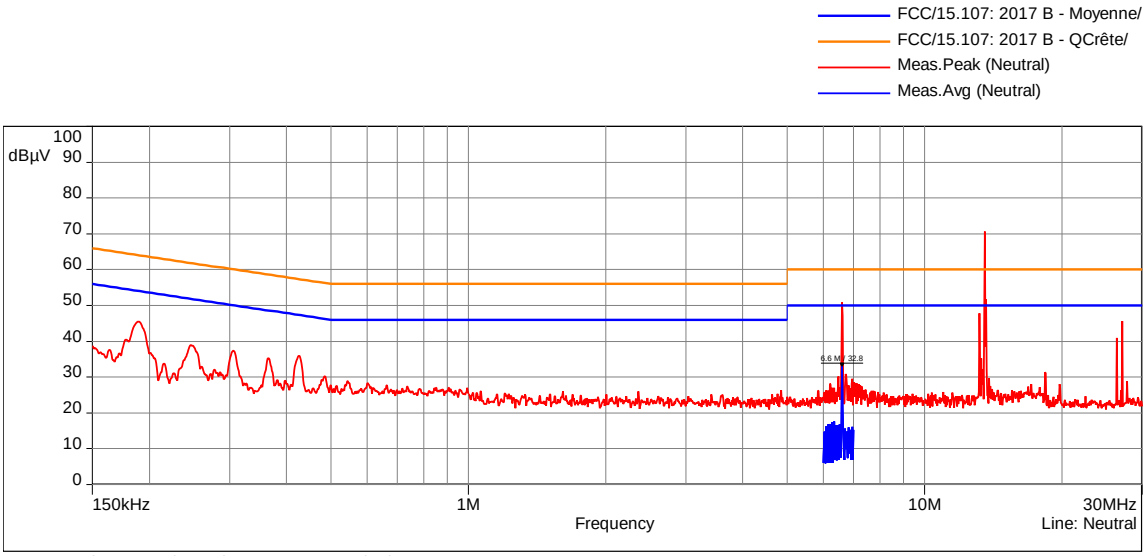
LABORATORY PARAMETERS:	REQUIRED PRIOR TO THE TEST	DURING THE TEST
Ambient Temperature	15 to 35 °C	*See Graph(es)*
Relative Humidity	30 to 60 %	*See Graph(es)*
Atmospheric pressure	N/A	*See Graph(es)*
Test method deviation: N/A		
Supplementary information: In order to avoid radiated emission coupling on power supply port, additional tests are done with RFID antenna replaced by equivalent load.		

TEST EQUIPMENT USED					
CATEGORY	BRAND	TYPE	IDENTIFIER	CAL. DATE	CAL. DUE
AC power source	KIKUSUI	PCR2000L	0800	15/03/2017	15/05/2018
Cable	EMITECH	Current absorber sheath	10653	19/01/2018	19/03/2020
Cable	C&C	N-3m	14332	15/12/2016	15/02/2019
Cable	SUCOFLEX	N-3m	14379	18/01/2017	18/03/2019
Cable	C&C	N-5m	14338	15/12/2016	15/02/2019
LISN	AFJ	LT42C\10	12007	06/10/2016	06/04/2018
Receiver	Agilent Technologies	E4440A	5824	15/01/2016	15/03/2018
Receiver	Rohde & Schwarz	ESI	9704	04/10/2017	04/12/2019
Shielded enclosure	COMTEST	SAC 3m	14494	14/02/2017	14/04/2020
Software	Nexio	BAT EMC v3.16.0.64	0000		
Thermohygrometer	Testo	608-H2	12269	27/11/2017	27/01/2020

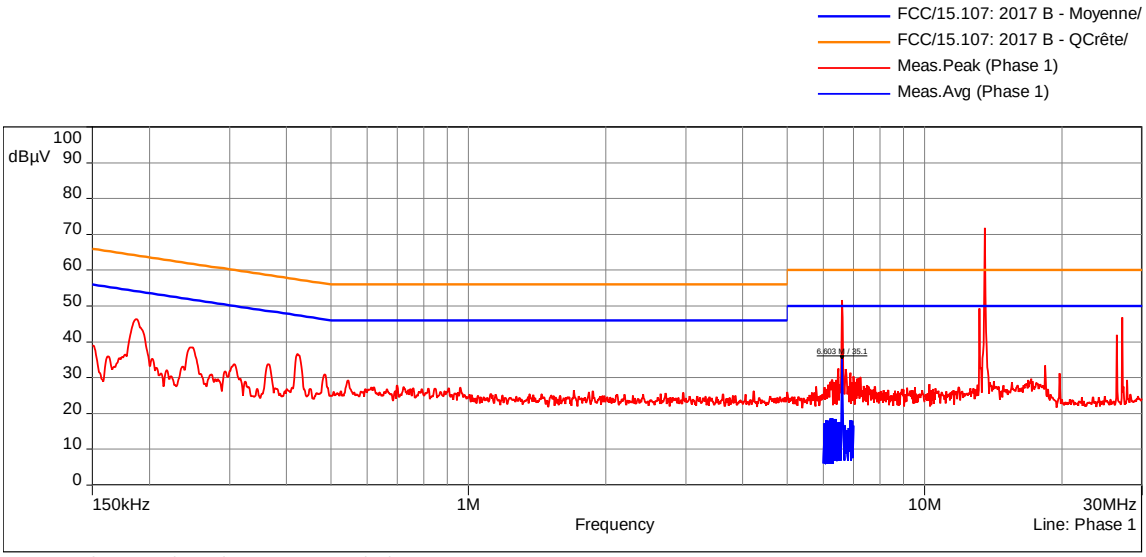
Blank cells = Permanent validity

TEST SETUP PHOTO(S) - 110VAC/60HZ POWER SUPPLY / ARCS-I/BT2


CONDUCTED VOLTAGE EMISSION (MEASUREMENT) - GRAPH			
110VAC/60HZ POWER SUPPLY / ARCS-I/BT2		**EMI4546**	
EUT mode:	Tx mode with modulation	**T (°C):**	8.2
Test Date:	02/03/2018 11:14:33	**H (%):**	66.2
Test Operator:	FMO	**P (hPa):**	1018



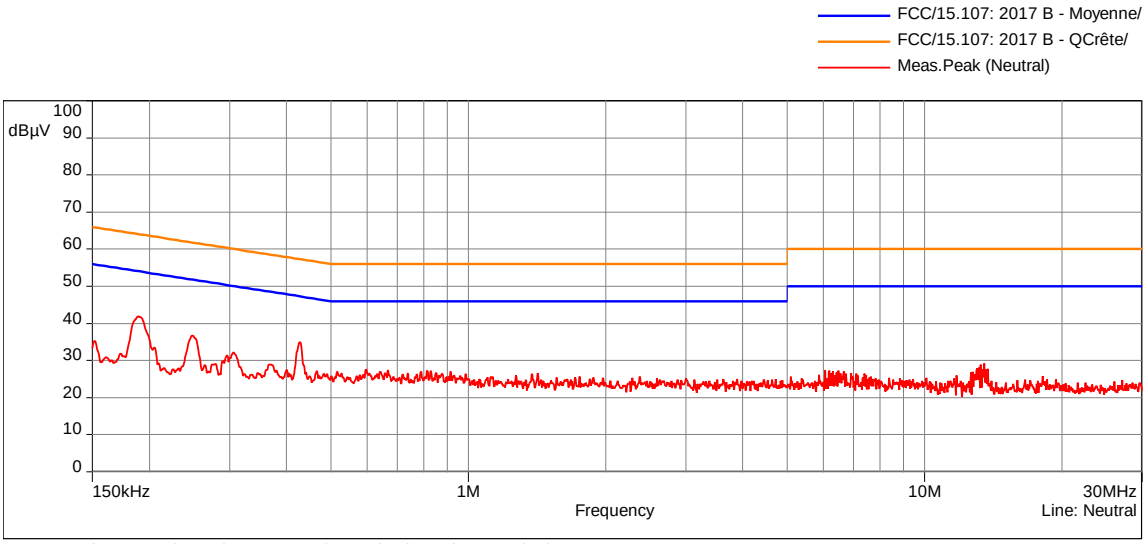
Power supply 110 Vac/50Hz / ARCS-x3x-I - 03/02/2018 11:14 - 4546



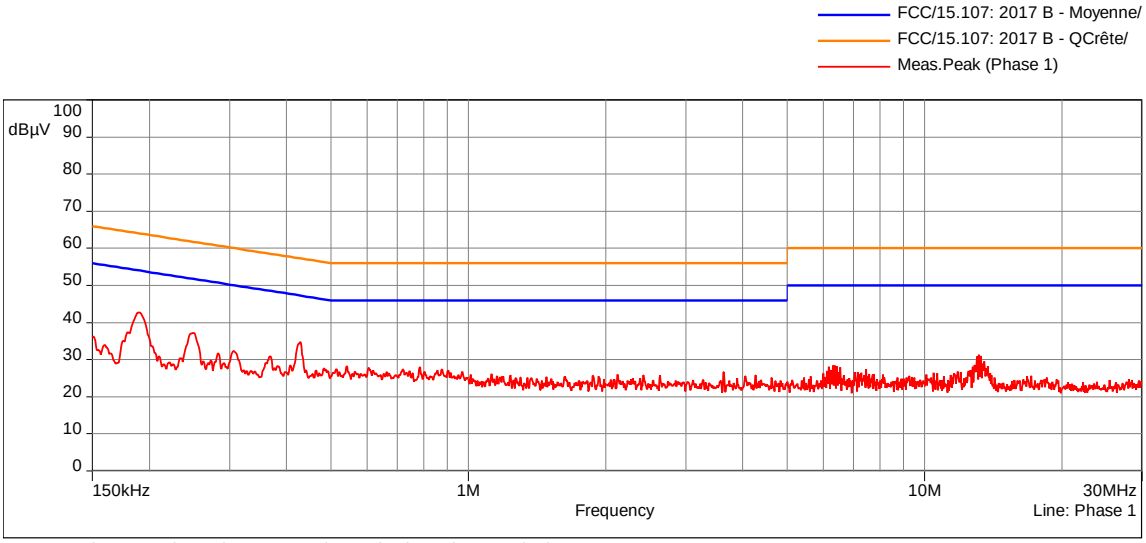
Power supply 110 Vac/50Hz / ARCS-x3x-I - 03/02/2018 11:14 - 4546

POSITION	FREQUENCIES	RBW	VBW	DETECTOR
Phase 1	150kHz-1MHz	10kHz	30kHz	Peak
Phase 1	1MHz-10MHz	10kHz	30kHz	Peak
Phase 1	10MHz-30MHz	10kHz	30kHz	Peak
Neutral	150kHz-1MHz	10kHz	30kHz	Peak
Neutral	1MHz-10MHz	10kHz	30kHz	Peak
Neutral	10MHz-30MHz	10kHz	30kHz	Peak
Neutral	6MHz-7MHz	10kHz	30kHz	Mes.Avg;
Phase 1	6MHz-7MHz	10kHz	30kHz	Mes.Avg;
Measure with:	L.I.S.N.			
Comments:	N/A			

CONDUCTED VOLTAGE EMISSION (MEASUREMENT) - GRAPH			
110VAC/60HZ POWER SUPPLY / ARCS-I/BT2 / ON 50 OHMS LOAD		**EMI5816**	
EUT mode:	Tx mode with modulation	**T (°C):**	8.2
Test Date:	05/03/2018 10:04:43	**H (%):**	66.2
Test Operator:	FMO	**P (hPa):**	1018



Power supply 110 Vac/50Hz / ARCS-x3x-I / Open load 50 Ohm - 03/05/2018 10:04 - 5816



Power supply 110 Vac/50Hz / ARCS-x3x-I / Open load 50 Ohm - 03/05/2018 10:04 - 5816

POSITION	FREQUENCIES	RBW	VBW	DETECTOR
Neutral	150kHz-1MHz	10kHz	30kHz	Peak
Neutral	1MHz-10MHz	10kHz	30kHz	Peak
Neutral	10MHz-30MHz	10kHz	30kHz	Peak
Phase 1	150kHz-1MHz	10kHz	30kHz	Peak
Phase 1	1MHz-10MHz	10kHz	30kHz	Peak
Phase 1	10MHz-30MHz	10kHz	30kHz	Peak
Measure with:	L.I.S.N.			
Comments:	N/A			

EUT modification(s): N/A

6.2. Measurement of radiated disturbances

Reference standard:	FCC part 15.109 & 15.209 & RSS Gen, RSS 210
Test method:	ANSI C63.10: 2013

Test description: EUT is set on an insulating support at 80cm above the ground reference plane.

Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3-meter. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in horizontal and vertical polarities.

Final measurements (quasi-peak) were then performed in a semi-anechoic chamber or Open Area Test Site that complies to CISPR 16. The EUT was rotated 360° about its azimuth and adjusting the receive antenna height from 1 to 4 m.

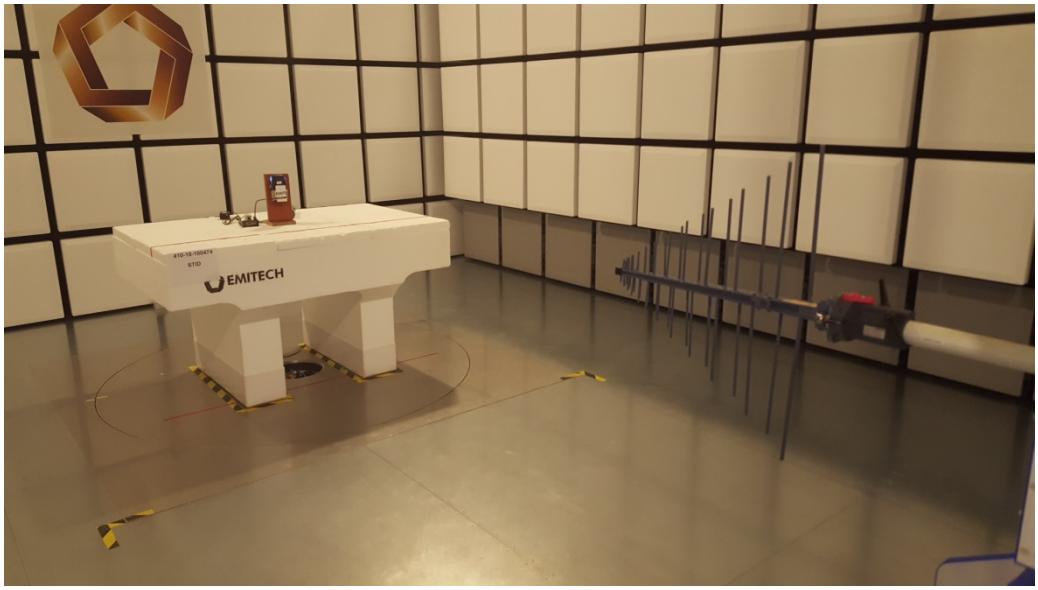
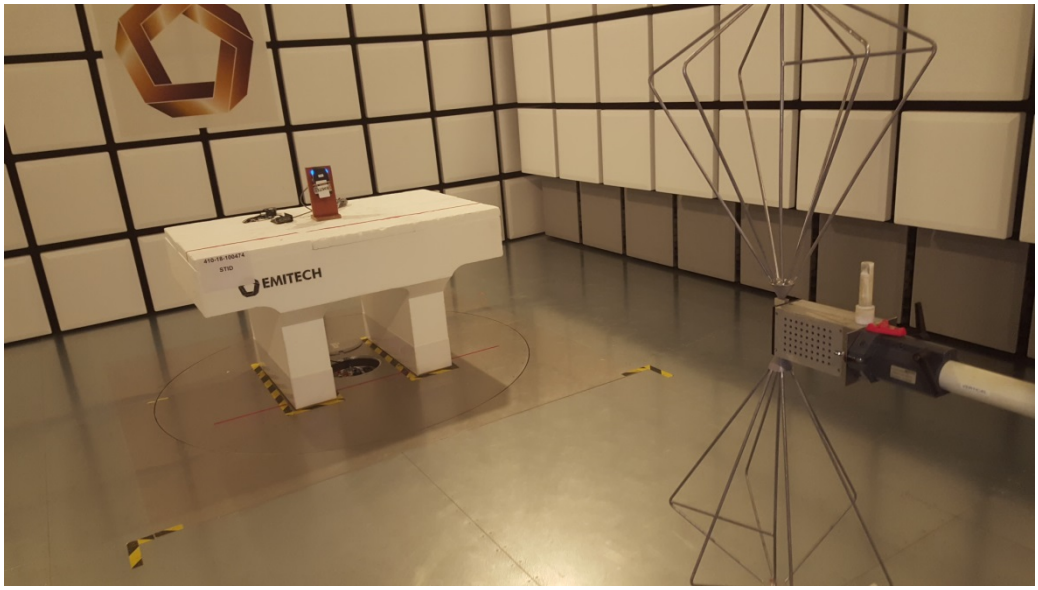
All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.

TESTED CABLE	PARAMETER	SEVERITY	RESULT TAB.	VERDICT
ARCS-I/BT2	30MHz-1GHz	Class B	EMI4540	**PASS**

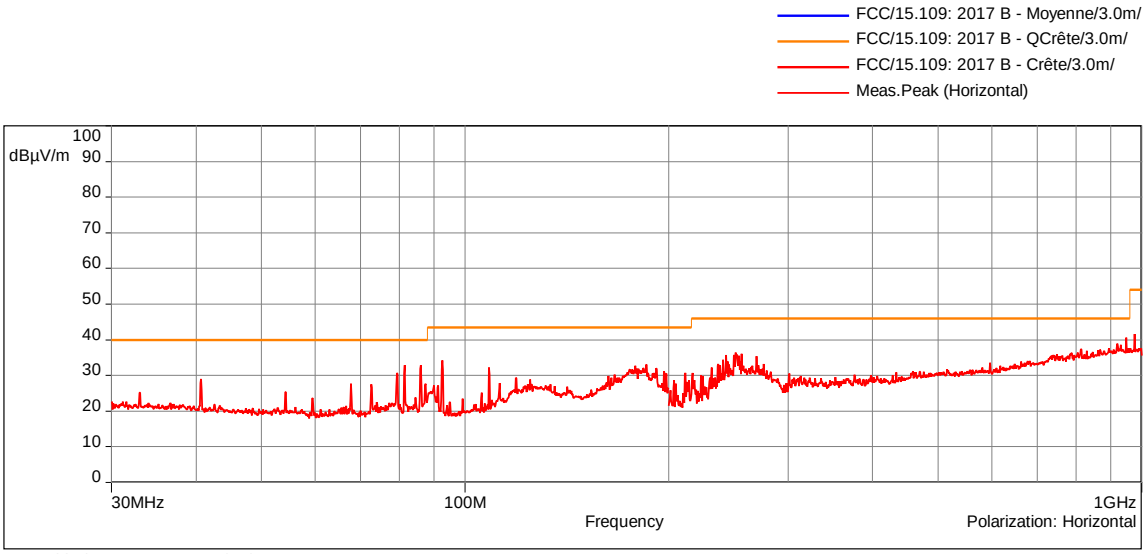
LABORATORY PARAMETERS:	REQUIRED PRIOR TO THE TEST	DURING THE TEST
Ambient Temperature	15 to 35 °C	*See Graph(es)*
Relative Humidity	20 to 75 %	*See Graph(es)*
Atmospheric pressure	N/A	*See Graph(es)*
Test method deviation: N/A		
Supplementary information: N/A		

TEST EQUIPMENT USED					
CATEGORY	BRAND	TYPE	IDENTIFIER	CAL. DATE	CAL. DUE
Antenna	Electro Metrics	BIA-30HF	0824	25/04/2015	25/06/2018
Antenna	Rohde & Schwarz	HL223	3126	25/04/2015	25/06/2018
Antenna mast	Maturo	NCD	14656		
Cable	Huber Suhner	N-10m	8472	16/02/2017	16/04/2019
Cable	SUCOFLEX	N-3m	14379	18/01/2017	18/03/2019
Cable	SUCOFLEX	N-6,5m	14380	18/01/2017	18/03/2019
Receiver	Agilent Technologies	E4440A	5824	15/01/2016	15/03/2018
Receiver	Rohde & Schwarz	ESI	9704	04/10/2017	04/12/2019
Shielded enclosure	COMTEST	SAC 3m	14494	14/02/2017	14/04/2020
Software	Nexio	BAT EMC v3.16.0.64	0000		
Thermohygrometer	Testo	608-H2	12268	27/11/2017	27/01/2020
Turntable	Maturo	NCD	14657		

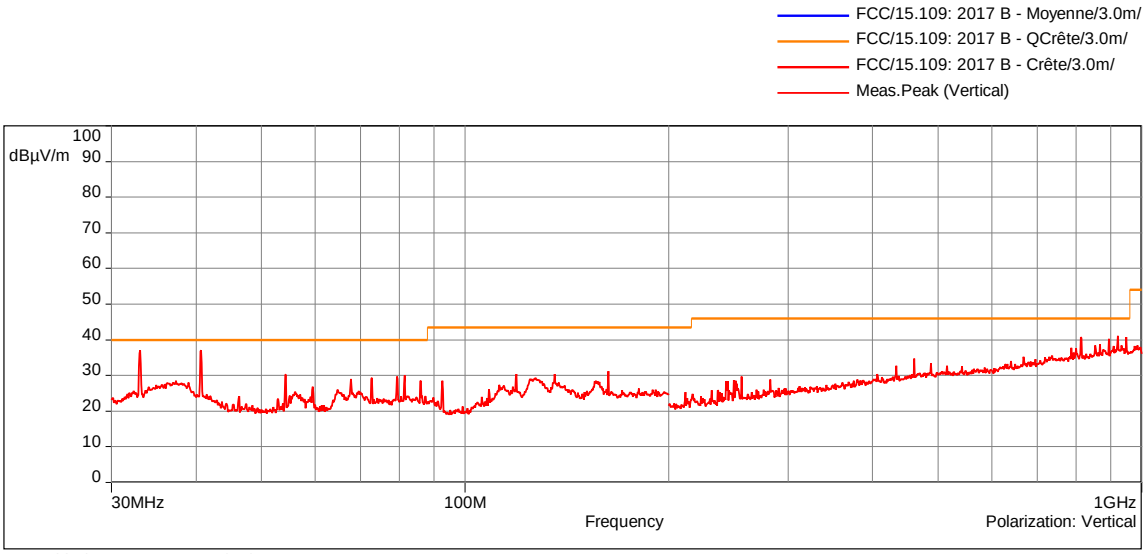
Blank cells = Permanent validity

TEST SETUP PHOTO(S) - ARCS-I/BT2



MEASUREMENT OF RADIATED DISTURBANCES - GRAPH			
ARCS-I/BT2		**EMI4540**	
EUT mode:	Tx mode with modulation	**T (°C):**	10
Test Date:	02/03/2018 13:49:54	**H (%):**	57
Test Operator:	FMO	**P (hPa):**	1018



Front side / ARCS-x3x-I - 03/02/2018 13:49 - 4540



Front side / ARCS-x3x-I - 03/02/2018 13:49 - 4540

POSITION	FREQUENCIES	RBW	VBW	DETECTOR
Vertical	30MHz-200MHz	100kHz	300kHz	Peak
Horizontal	30MHz-200MHz	100kHz	300kHz	Peak
Horizontal	200MHz-1GHz	100kHz	300kHz	Peak
Vertical	200MHz-1GHz	100kHz	300kHz	Peak
Measure with:	Measurements maximized at 360 ° in peak maxhold mode.			
Comments:	N/A			

EUT modification(s): N/A

MEASUREMENT OF RADIATED DISTURBANCES - TABULATED RESULTS			
ARCS-I/BT2			EMI4548
Frequency (MHz)	**Polarization**	**Quasi peak Level (dBµV/m)**	**Limit (dBµV/m)**
135.60	Horizontal	25	43.5
170.97	Horizontal	23.27	43.5
177.56	Horizontal	24.43	43.5
184.17	Horizontal	24.65	43.5
190.71	Horizontal	24.98	43.5
197.22	Horizontal	25.38	43.5
32.869	Vertical	37.85	40
40.69	Vertical	35.59	40
135.58	Vertical	32.55	40

6.3. Radiated field strength <30MHz

Reference standard:	FCC part 15.109 & 15.209 & RSS Gen, RSS 210
Test method:	ANSI C63.10: 2013

Test description: : Spurious domain emission limits are limits on emissions at frequencies other than those of the carrier and sidebands associated with normal test modulation**.**

EUT is set on an insulating support at 80cm above the ground reference plane.

Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3-meter in a anechoic chamber. The EUT was rotated 360°in order to maximize radiated levels. Test antenna was oriented in 3 axes (0°, 45° and 90°).

Final measurements (quasi-peak) were then performed in a 10-meter Open Area Test Site that complies to CISPR 16 in the same measurement conditions.

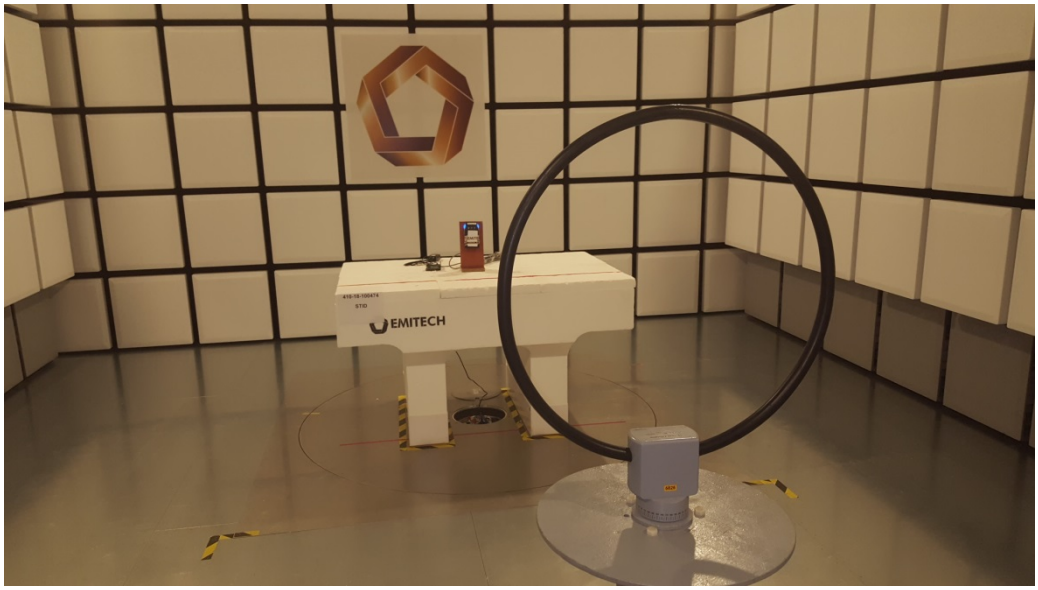
All frequencies were investigated, where applicable.

TESTED CONFIGURATION	PARAMETER	SEVERITY	RESULT TAB.	VERDICT
TX MODE / 0° / ARCS-I/BT2	9kHz-30MHz	Class Tx	EMI5809	**PASS**
TX MODE / 45°/ ARCS-I/BT2	9kHz-30MHz	Class Tx	EMI5810	**PASS**
TX MODE / 90° / ARCS-J/BT2	9kHz-30MHz	Class Tx	EMI5811	**PASS**

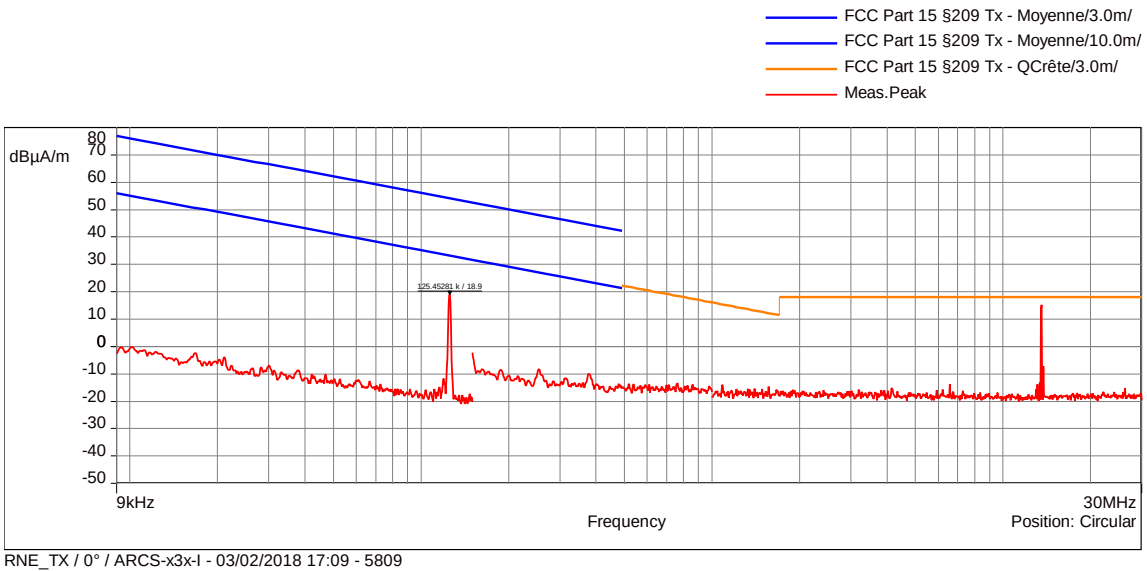
LABORATORY PARAMETERS:	REQUIRED PRIOR TO THE TEST	DURING THE TEST
Ambient Temperature	15 to 35 °C	*See Graph(es)*
Relative Humidity	20 to 75 %	*See Graph(es)*
Atmospheric pressure	N/A	*See Graph(es)*
Test method deviation: N/A		
Supplementary information: RFID @ 13.56 MHz already certified see original test report.		

TEST EQUIPMENT USED					
CATEGORY	BRAND	TYPE	IDENTIFIER	CAL. DATE	CAL. DUE
Antenna	Rohde & Schwarz	HFH2-Z2	5825	20/09/2017	20/11/2019
Cable	Huber Suhner	N-10m	8472	16/02/2017	16/04/2019
Cable	SUCOFLEX	N-3m	14378	18/01/2017	18/03/2019
Cable	SUCOFLEX	N-6,5m	14380	18/01/2017	18/03/2019
Receiver	Agilent Technologies	E4440A	5824	15/01/2016	15/03/2018
Shielded enclosure	COMTEST	SAC 3m	14494	14/02/2017	14/04/2020
Software	Nexio	BAT EMC v3.16.0.64	0000		
Thermohygrometer	Testo	608-H2	12268	27/11/2017	27/01/2020
Thermohygrometer	Bioblock Scientific	Météostar	0963	27/12/2016	27/02/2019
Turntable	Maturo	NCD	14657		

Blank cells = Permanent validity

TEST SETUP PHOTO(S) - TX MODE / 0° - ARCS-I/BT2


RADIATED FIELD STRENGTH <30MHZ - GRAPH			
TX MODE / 0° / ARCS-I/BT2		EMI5809	
EUT mode:	Tx mode with modulation	**T (°C):**	23.7
Test Date:	02/03/2018 17:09:11	**H (%):**	43.2
Test Operator:	FMO	**P (hPa):**	1017

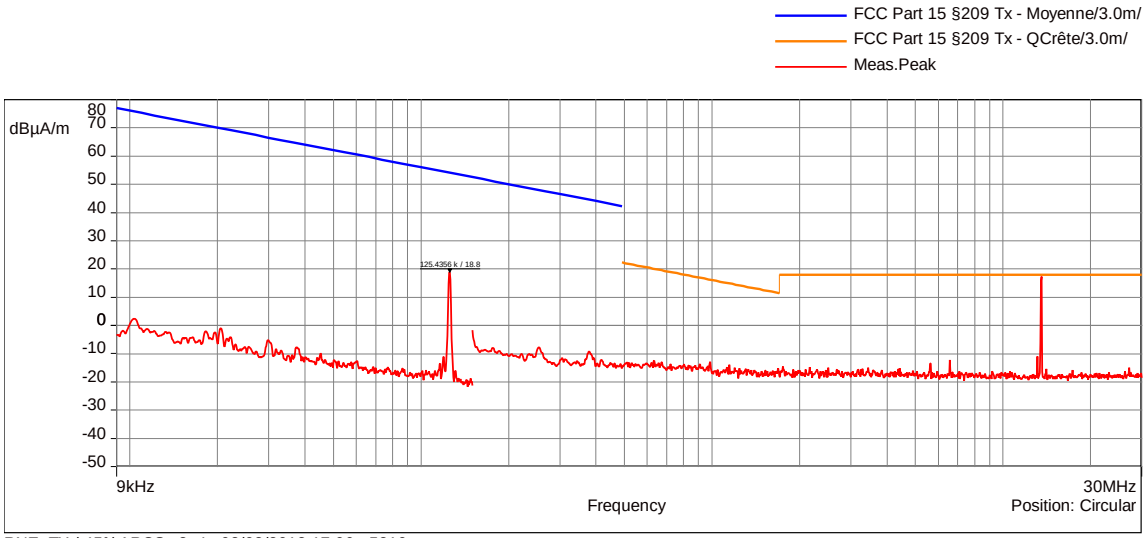


RNE_TX / 0° / ARCS-x3x-I - 03/02/2018 17:09 - 5809

POSITION	FREQUENCIES	RBW	VBW	DETECTOR
Circular	9kHz-150kHz	1kHz	3kHz	Peak
Circular	150kHz-1MHz	10kHz	30kHz	Peak
Circular	1MHz-30MHz	10kHz	30kHz	Peak
Configuration:	Measurements maximized at 360 ° in peak maxhold mode.			
Comments:	N/A			

EUT modification(s): N/A

RADIATED FIELD STRENGTH <30MHZ - GRAPH			
TX MODE / 45°/ ARCS-I/BT2		EMI5810	
EUT mode:	Tx mode with modulation	**T (°C):**	23.7
Test Date:	02/03/2018 17:06:17	**H (%):**	43.2
Test Operator:	FMO	**P (hPa):**	1017

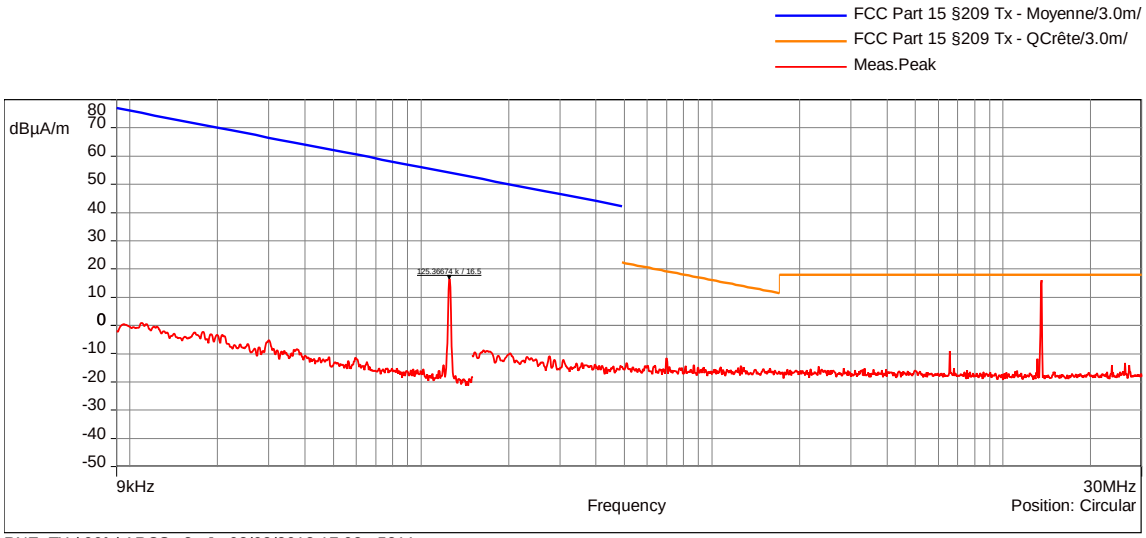


RNE_TX / 45°/ ARCS-x3x-I - 03/02/2018 17:06 - 5810

POSITION	FREQUENCIES	RBW	VBW	DETECTOR
Circular	9kHz-150kHz	1kHz	3kHz	Peak
Circular	150kHz-1MHz	10kHz	30kHz	Peak
Circular	1MHz-30MHz	10kHz	30kHz	Peak
Configuration:	Measurements maximized at 360 ° in peak maxhold mode.			
Comments:	N/A			

EUT modification(s): N/A

RADIATED FIELD STRENGTH <30MHZ - GRAPH			
TX MODE / 90° / ARCS-J/BT2		**EMI5811**	
EUT mode:	Tx mode with modulation	**T (°C):**	23.7
Test Date:	02/03/2018 17:02:40	**H (%):**	43.2
Test Operator:	FMO	**P (hPa):**	1017



RNE_TX / 90° / ARCS-x3x-J - 03/02/2018 17:02 - 5811

POSITION	FREQUENCIES	RBW	VBW	DETECTOR
Circular	9kHz-150kHz	1kHz	3kHz	Peak
Circular	150kHz-1MHz	10kHz	30kHz	Peak
Circular	1MHz-30MHz	10kHz	30kHz	Peak
Configuration:	Measurements maximized at 360 ° in peak maxhold mode.			
Comments:	N/A			

EUT modification(s): N/A

b) Final measurement on open area test side in the frequency band 9kHz-30MHz:

Reference standard:	FCC part 15.109 & 15.209 & RSS Gen, RSS 210
Test method:	ANSI C63.10: 2013
Test description: The H-field is measured with a shielded loop antenna connected to a measurement receiver at standard distance of 10 m. For EUT with integral or dedicated antenna, measurements are done on a normalized test site (OATS). EUT is set on an insulating support at 80cm above the ground reference plane.	

TEST CASE	EUT MODE	SEVERITY	RESULT TAB.	VERDICT
125kHz / 0°	Tx mode	33.25 dBµA/m	EMI5758	**PASS**
125kHz / 45°	Tx mode	33.25 dBµA/m	EMI5799	**PASS**
125kHz / 90°	Tx mode	33.25 dBµA/m	EMI5801	**PASS**

LABORATORY PARAMETERS:	REQUIRED PRIOR TO THE TEST	DURING THE TEST
Ambient Temperature	15 to 35 °C	-
Relative Humidity	20 to 75 %	-
Atmospheric pressure	N/A	-
Test method deviation: N/A		
Supplementary information: N/A		

TEST EQUIPMENT USED					
CATEGORY	BRAND	TYPE	IDENTIFIER	CAL. DATE	CAL. DUE
Antenna	Rohde & Schwarz	HFH2-Z2	5825	20/09/2017	20/11/2019
Cable	Huber + Suhner	N-20m	8385	11/10/2017	11/12/2019
Table controller	Heinrich Deisel	HD100	4036		
Open area test site	EMITECH	Salinelles	3482	10/10/2017	10/12/2020
Receiver	Rohde & Schwarz	ESHS10	3371	22/08/2017	22/10/2019
Turntable	Heinrich Deisel	D4420	4038		

Blank cells = Permanent validity

TEST SETUP PHOTO(S) - FINAL MEASUREMENT (OATS) - ARCS-I/BT2

H-FIELD (RADIATED) - TABULATED RESULTS				
TEST CONDITION	FREQUENCY	LEVEL	LIMIT	RESULT TAB.
(OATS)	125kHz	-9.4836dBµA/m (Azimuth: 0°) (Antenna Pos: 0°)	33.25 dBµA/m	EMI5758
(OATS)	125kHz	-7.9436dBµA/m (Azimuth: 0°) (Antenna Pos: 45°)	33.25 dBµA/m	EMI5799
(OATS)	125kHz	-9.1436dBµA/m (Azimuth: 0°) (Antenna Pos: 90°)	33.25 dBµA/m	EMI5801

Carrier measurement at 10m: -7.9436dBµA/m (≈ 43.5564dBµV/m)

Using an extrapolation factor of 40 dB/decade (as described in section 15.31 (f)), the level at 300m is about -15.5236dBµV/m (≈0.167µV/m) for a limit at 18.846 µV/m.

All other unwanted radiated spurious are at least 20 dB below specified limits.

6.4. Occupied Bandwith 99% & 20 dB Bandwith

Reference standard:	FCC part 15 & RSS Gen
Test method:	FCC part 15 & RSS Gen
General test setup: A near field probe detects field near equipment (relative measurement). The 99 % OBW function is used .	

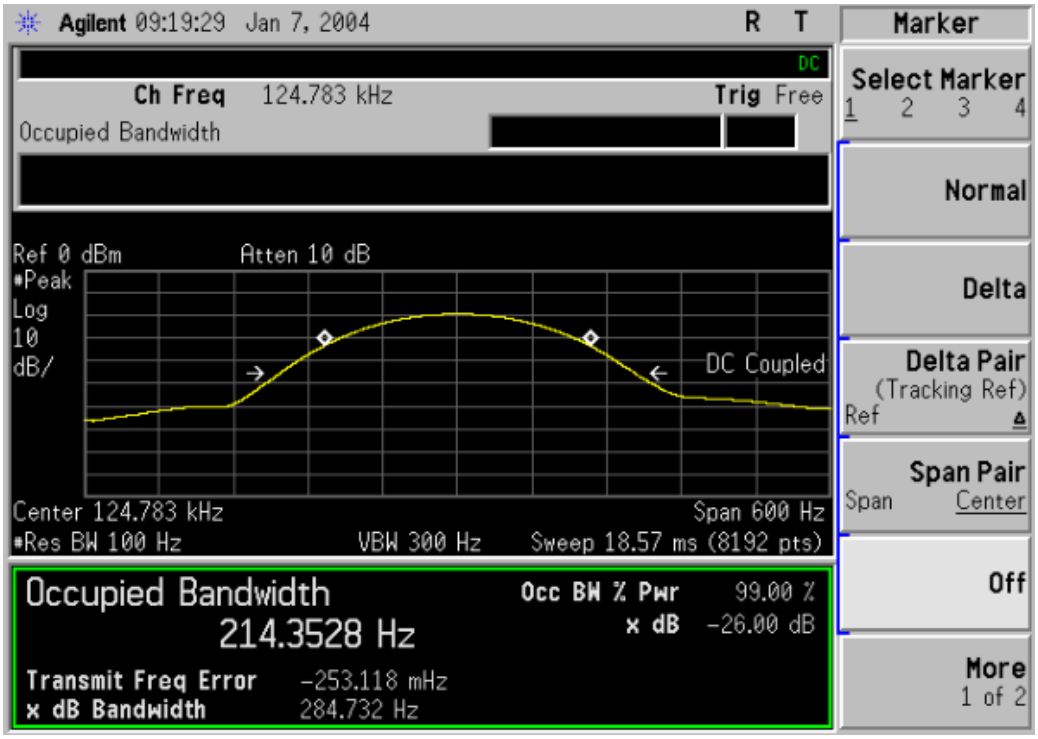
TESTED	FREQUENCY	SEVERITY	RESULT TAB.	VERDICT
OBW 99%	125kHz	NA	EMI5756	**PASS**
-20 dB Bandwith	125kHz	NA	EMI5797	**PASS**

LABORATORY PARAMETERS:	REQUIRED PRIOR TO THE TEST	DURING THE TEST
Ambient Temperature	15 to 35 °C	20.1 °C
Relative Humidity	20 to 75 %	42.5%
Atmospheric pressure	N/A	1015 hPa
Test method deviation: N/A		
Supplementary information: N/A		

TEST EQUIPMENT USED					
CATEGORY	BRAND	TYPE	IDENTIFIER	CAL. DATE	CAL. DUE
Antenna	Emitech	3.5 cm	4653		
Attenuator	Techniwave	TWSMA-10dB-18G-SMA	14671	21/09/2017	21/11/2019
Cable	MICRO-COAX	N-3m	10535	06/04/2017	06/06/2019
Spectrum analyzer	Agilent Technologies	E4440A	5824	15/01/2016	15/03/2018

Blank cells = Permanent validity

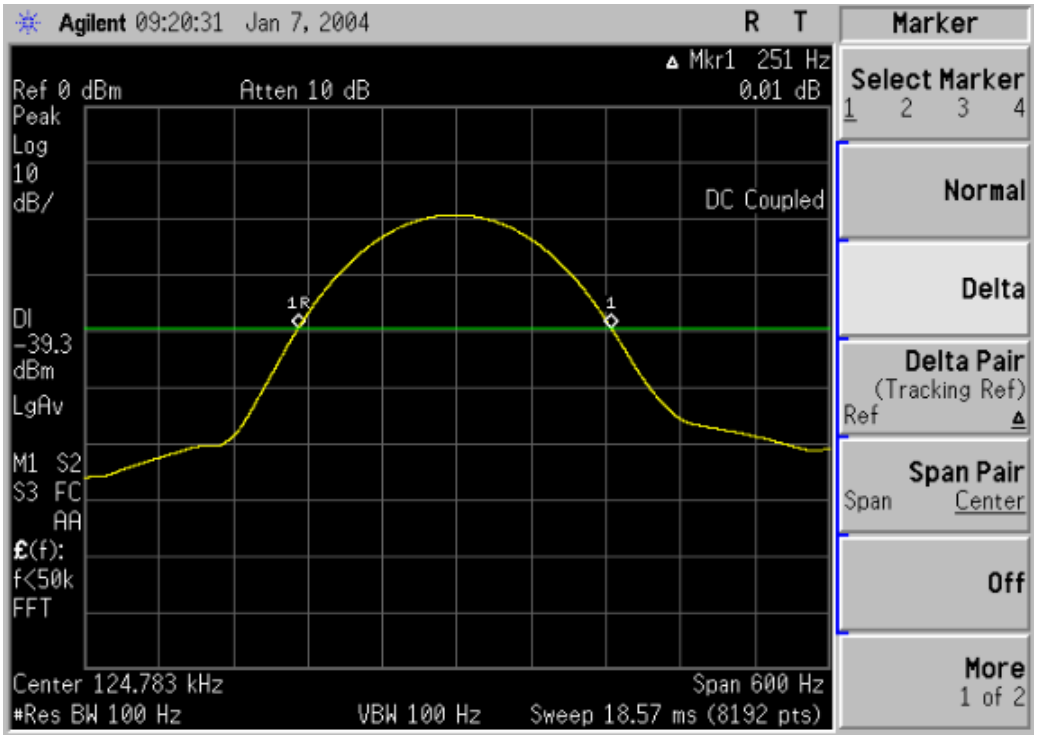
OCCUPIED BANDWITH 99% - GRAPH		
125KHZ		EMI5756
EUT mode:	D-M2	
Test Date:	-	
Test Operator:	FMO	



EUT modification(s): N/A

PERMITTED RANGE OF OPERATING FREQUENCIES - TABULATED RESULTS			
125KHZ			EMI5756
Center Frequency	**RBW**	**OCCUPIED BANDWITH 99%**	**N/A**
124.78kHz	100Hz	251Hz	N/A

20dB Bandwith - Graph	
125kHz	EMI5797
EUT mode:	D-M2
Test Date:	-
Test Operator:	FMO



EUT modification(s): N/A

Permitted range of operating frequencies - Tabulated Results			
125kHz			EMI5797
Center Frequency	**RBW**	**20DB BANDWITH**	**N/A**
124.78kHz	100Hz	251Hz	N/A

✪✪✪ End of test report ✪✪✪