



Test report issued under the responsibility of:

EMITECH MONTPELLIER laboratory
MRA US-EU Designation Number: FR0006

IC Assigned Code: FR0003

RADIO TEST REPORT

RSS-210 FCC part 15.225

Company STMICROELECTRONICS SAS

Address...... 190 AVENUE CELESTIN COQ

13106 ROUSSET

FRANCE

Test item description. NFC card reader evaluation board based on ST25R3916 integrated

circuit

Trade Mark. STMICROELECTRONICS SAS

Manufacturer. STMICROELECTRONICS (ROUSSET) SAS

Model/Type reference.....: X-NUCLEO-NFC06A1

Testing Laboratory EMITECH MONTPELLIER laboratory

Address...... 145 rue de Massacan

34740 VENDARGUES

FRANCE

Report Reference No...... R412-18-106619-5A

Test procedure. FCC IC Certification

Diffusion....: Mr ROMAN

Applicant's name. STMICROELECTRONICS SAS

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Modified page(s)...... Creation

Compiled by.....: Morgan PATEY

Approved by (+ signature)...... David MONTAULON (Technical Manager)

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1. GENERAL INFORMATIONS

This document submits the results of Radio tests performed on the equipment NFC card reader evaluation board based on ST25R3916 integrated circuit (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 & Open Area Test Site in

SALINELLES (30)

Address.....: 145 rue de Massacan

34740 VENDARGUES

FRANCE

Test procedure. : FCC IC Certification
Tested by : Morgan PATEY
Test supervisor : David MONTAULON

Date of receipt of test item....: N/A

Date (s) of performance of tests...... Between April, 10th and June 3th of 2019

APPLICANT'S GENERAL INFORMATIONS:

Company name: STMICROELECTRONICS SAS

Company address. 190 Avenue Celestin Coq

13106 Rousset

FRANCE

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. Throughout this report the decimal separator is point.

POSSIBLE TEST CASE VERDICTS:

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

SRD Short Range Device GPS Global Positioning System



2. REFERENCE DOCUMENT(S)

NORMATIVE REFERENCES:

The following referenced documents are necessary for the application of the present test report.

FCC part 15, 2018

Code of federal regulations. Title 47- Telecommunication Chapter 1- Federal Communication Commission. Part 15- Radio frequency devices Subpart B- Unintentional Radiators. Limits and methods of measurement of radio disturbance. Characteristic of information technology equipment.

FCC part 15.225

Operation within the bands 13.553-13.567MHz

RSS-210, Issue 9, August 2016, Amendment November 2017

Licence-Exempt Radio Apparatus: Category I Equipment

RSS/CNR-Gen, Issue 5, March 2019, Amendment 1

General Requirements for Compliance of Radio Apparatus

ANSI C 63.10:2013

American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

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

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

	litions

Test item description.: NFC card reader evaluation board based on ST25R3916

integrated circuit

Model/Type reference.....: X-NUCLEO-NFC06A1

Trade Mark. STMICROELECTRONICS SAS

Software version.....: N/A
Firmware version.....: N/A
Type of sample.....: Prototype

evaluate the features and functionality in reader/writer and card emulation modes of the high-performance NFC universal device

ST25R3916 for contactless applications.

The ST25R3916 is a card reader IC for contact-less applications that provides the 13.56MHz air interface and that communicates $\frac{1}{2}$

with the host through dedicated interface.

This expansion board has to be plugged into the Arduino R3

connector of STM32 Nucleo board.

Manufacturer name. STMICROELECTRONICS SAS

Address....: 190 Avenue Celestin Coq

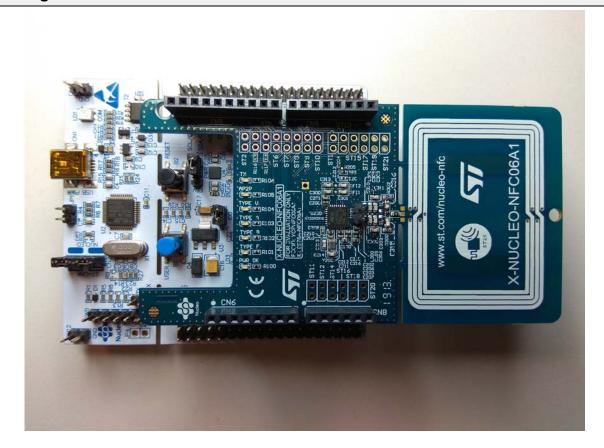
13106 Rousset FRANCE

General product information:

N/A



3.2. EUT general view





3.3. EUT Mechanical and Electrical Design

Power supply.: 5Vdc

Power supply range.....: 5Vdc +/-5%

Dimensions (L x W x H) (m). 0.105 x 0.056 x 0.01

Comments:

N/A

3.4. EUT Input/Output ports

X-NUCLEO-NFC06A1

(EUT)

+5Vdc power source (USB)



RF antenna

Port	NAME	Түре	LENGHT	CABLE TYPE	COMMENTS
0	Main frame	N/E	N/A	PCB	N/A
1	DC power source	DC	N/C	USB	5Vdc
2	RF antenna	RF	N/A	N/A	13.56 MHz

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



3.5. EUT Radio Specifications

a) GENERAL INFORMATIONS

According to manufacturer's declarations:

EUT type.....: Transceiver

Technology: RFID

Environmental profile.....: Data transmissions

Temperature range: 0 to +35 Antenna type: Integral Antenna Gain....: N/A

Comments:

N/A

b) TRANSMITTER PARAMITTERS (Tx)

Frequency bands...... 13.553 MHz to 13.567 MHz

RF Power....: <1 W Number of channels / Separation..... 1

Modulation type: NFC-A / ISO14443A, NFC-B / ISO14443B, NFC-F / Felica™.

NFC-V / ISO15693 up to 53 kb/s

NFC-A / ISO14443A and NFC-F / FeliCa™ card emulation A test mode allow to test all modulations at the same time.

Duty cycle: Not communicated

Tested frequency.....: 13.56 MHz

c) RECEIVER PARAMETERS (RX)

Frequency bands.....: 13.553 MHz to 13.567 MHz

Category/Class: Not communicated Bandwidth: Not communicated



4. RESULT SUMMARY

TEST DESIGNATION	SEVERITY	VERDICT	COMMENTS
GENERAL			
Labeling requirements		N/P	See certification documents
Information to user		N/P	See certification documents
Home-built devices		N/A	
Kits		N/A	
Special Accessories		N/P	See certification documents
Inspection by the Commission		N/A	
Measurement standards		PASS	
Test procedure for CPU boards and computer power supplies		N/A	
Frequency range of radiated measurements		PASS	
Measurement detector functions and bandwidths		PASS	
Transition provisions for compliance with the rules		N/P	See certification documents
UNINTENTIONAL RADIATORS			
Equipment authorization			
- Verification		N/A	
 Declaration of Conformity CPU boards and power supplies used in 		N/A	
personal computers		N/A	
Exempted device		N/A	
Information to the user		N/P	See certification documents
Conducted limits		PASS	
Radiated emission limits	Class B	PASS	
Antenna power conduction limits for receivers		N/A	
Power line carrier systems		N/A	
TV interface devices, including cable system terminal devices		N/A	
TV broadcast receivers		N/A	
Cable ready consumer electronics equipment		N/A	
Program blocking technology requirements for TV receivers		N/A	
Scanning receivers and frequency converters used with scanning receivers		N/A	
Labeling of digital cable ready products		N/A	
INTENTIONAL RADIATORS			
	1		



Equipment authorization requirement Certified operating frequency range Antenna requirement External radio frequency power amplifiers and antenna modifications Restricted bands of operation Conducted limits Radiated emission limits; general requirements Tunnel radio systems Modular transmitters Cable locating equipment Cordless telephones Additional provisions to the general radiated emission limits Operation within the band 13.110-14.010 MHz. Field strength in the band 13.410-13.553 MHz and 13.710-14.010 MHz Field strength in the band 13.110-13.410 MHz and 13.710-14.010 MHz Field strength outside the band 13.110-14.010 MHz Frequency tolerance of the carrier signal Radio frequency powered tag Transmitter part is subject to Certification procedure N/A Dedicated integral antenna Dedicated integral antenna Dedicated integral antenna Dedicated integral antenna PASS PASS PASS PASS Transmitter part is subject to Certification procedure Dedicated integral antenna Dedicated integral antenna PASS PASS PASS Transmitter part is subject to Certification procedure Dedicated integral antenna Dedicated integral antenna Dedicated integral antenna PASS PASS PASS Transmitter part is subject to Certification procedure N/A Dedicated integral antenna PASS PASS PASS Transmitter part is subject to Certification procedure N/A PASS PASS	TEST DESIGNATION	SEVERITY	VERDICT	COMMENTS
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and 13.710-14.010 MHz Field strength outside the band 13.110-14.010 MHz Frequency tolerance of the carrier signal PASS PASS PASS			PASS	
MHz - Frequency tolerance of the carrier signal PASS			PASS	
			PASS	
- Radio frequency powered tag N/A EUT is an RFID reader	- Frequency tolerance of the carrier signal		PASS	
	- Radio frequency powered tag		N/A	EUT is an RFID reader

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
Radio frequency	± 1 x 10 ⁻⁷	±1 x 10 ⁻⁷
RF power, conducted		
RF power	$\pm~0.8$ dB	± 1 dB
Power spectral density	± 2.3dB	± 3 dB
Occuped bandwidth		
RF power	± 1.2 %	± 5 %
Conducted emission (spurious)		
f <u><</u> 1 GHz	\pm 0.8 dB	1 2 dD
1 GHz - 12.75 GHz	± 1.6 dB	± 3 dB
Radiated emission (PAR / PIRE / RNE)		
f <u><</u> 62.5 MHz	± 5.1 dB	± 6 dB
62.5 MHz - 1 GHz	± 5.1 dB	± 6 dB
1 GHz - 18 GHz	± 5.2 dB	± 6 dB
18 GHz – 26 GHz	± 5.1 dB	± 6 dB
26 GHz – 40 GHz	± 5.4 dB	± 6 dB
PIRE and power spectral density with diode	± 5.4 dB	± 6 dB
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	$\pm2.7~\mathrm{dB}$	/
30MHz – 1GHz	$\pm5.2~\mathrm{dB}$	/
1GHz – 18GHz	$\pm5.3~\mathrm{dB}$	/
18GHz – 26GHz	\pm 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 part 15.107, 15.207 and RSS-Gen
Test method:	ANSI C63.4: 2014

General test setup: Test is done inside a shielded room. EUT is set on an insulating support at 80cm 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.

TESTED CABLE	PARAMETER	SEVERITY	RESULT TAB.	VERDICT
115Vac/60Hz power supply	150kHz-30MHz	Class B	EMI5050	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

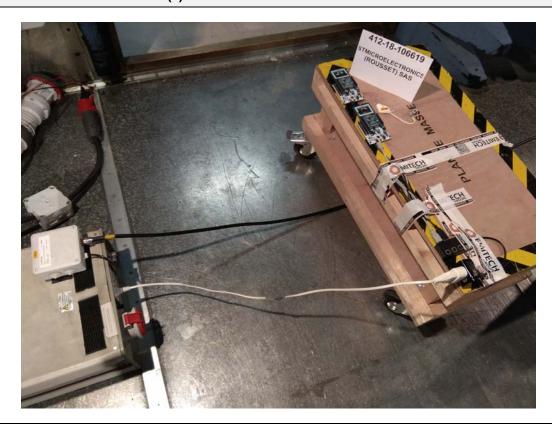
Supplementary information: EUT power supply is done trought a "standard power supply" wich meets FCC and RSS requirements. Test are done in the worst configuration mode: Config Tag which presents the higher carrier level (All modulations activated at the same time).

		TEST EQUIPMENT USED			
CATEGORY	BRAND	Түре	IDENTIFIER	CAL. DATE	CAL. DUE
AC power source	KIKUSUI	PCR2000L	0800	12/06/2018	12/08/2019
Cable	MICRO-COAX	N-3m	10536	12/10/2017	12/12/2019
Cable	EMITECH	Current absorber sheath	10653	19/10/2018	19/12/2020
Cable	SUCOFLEX	N-3m	14378	19/01/2017	19/09/2019
LISN	PMM	L2-16	1209	08/02/2018	08/04/2020
PE choke	EMITECH	CISPR 16-2-1 : 2008	10071		
Receiver	Rohde & Schwarz	ESI	9704	15/02/2019	15/04/2020
Shielded enclosure	COMTEST	SAC 3m	14494	14/02/2017	14/04/2020
Software	Nexio		0000		
Surges Suppressor	Hewlett Packard	11947A	0238	11/09/2017	11/11/2019
Thermohygrometer	Bioblock Scientific	Météostar	0963	25/01/2019	25/03/2021
Thermohygrometer	Testo	608-H2	12269	27/11/2017	27/01/2020

Blank cells = Permanent validity



TEST SETUP PHOTO(S) – POWER SUPPLY USED FOR CONDUCTED MEASUREMENT





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Test Date:	03/06/2019 15:46:4	14								Н	(%):		50.5
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POSITION Wire- port	rd emul - 06/03/2019 15:46 - 4381 FREQUENCIES 150kHz-1MH 1MHz-10MH 10MHz-30MH 150kHz-1MH 1MHz-10MH	z z lz z	RBW 10kHz 10kHz 10kHz 10kHz 10kHz		30kH; 30kH; 30kH; 30kH; 30kH;	Z Z Z Z Z			- E	DETE Peal Peal Peal	Line: W Line: W Line: W Line: W Line: W	30Ml/ire - Measu	# Hz



6.2. Occupied Bandwidth

Reference standard:	FCC part 15 Radio part 15.225 & RSS-210
Test method:	FCC part 15.225 & RSS-210

Test description: The occupied bandwidth (OBW) is the Frequency Range in which 99 % of the total mean power of a given emission falls. The residual part of the total power being denoted as β , which, in cases of symmetrical spectra, splits up into β /2 on each side of the spectrum. Unless otherwise specified, β /2 is taken as 0.5 %.

The maximum occupied bandwidth includes all associated side bands above the appropriate emissions level and the frequency error or drift under extreme test conditions.

EUT is connected to the measuring receiver via 50Ω attenuator(s).

TESTED PARAMETER	OBW	SEVERITY	RESULT TAB.	VERDICT
99% Bandwidth	7.7944 kHz	<14kHz	EMI5993	PASS

LABORATORY PARAMETERS:	REQUIRED PRIOR TO THE TEST	DURING THE TEST
Ambient Temperature	15 to 35 °C	21.3°C
Relative Humidity	20 to 75 %	39.4 %
Atmospheric pressure	N/A	1015 hPa

Test method deviation: N/A

Supplementary information: Test are done in the worst configuration mode: Config Tag which presents the higher carrier level (All modulations activated at the same time).

		TEST EQUIPMENT USED			
CATEGORY	BRAND	Түре	IDENTIFIER	CAL. DATE	CAL. DUE
AC power source	KIKUSUI	PCR4000L	3074	12/06/2018	12/08/2019
Antenna	Emitech	3.5 cm	4653		
Cable	MICRO-COAX	N-3m	10535	06/04/2017	06/06/2019
Climatic enclosure	CLIMATS	EXCAL 7714-HA	14261	26/04/2018	26/06/2019
Multimeter	FLUKE	8808A	12446	24/04/2018	24/06/2019
Spectrum analyzer	Rohde & Schwarz	FSW43	14830	28/12/2018	28/02/2020
Thermohygrometer	Bioblock Scientific	Météostar	0963	25/01/2019	25/03/2021
Thermohygrometer	Testo	608-H2	12268	27/11/2017	27/01/2020

Blank cells = Permanent validity



	OCCUPIED BANDWIDTH - GRAPH	
	99% BANDWIDTH	EMI5993
EUT mode:	D-M3	
Test Date:	29/05/2019	
Test Operator:	MPA	



Results: The system has an OBW of 4.456 kHz



6.3. Radiated spurious emissions

Reference standard:	FCC part 15 Radio part 15.225 & CNR-Gen
Test method:	FCC part 15.109, 15.209, 15.205, 15.215, CNR-Gen

General test setup: For f <30MHz, EUT is set on an insulating support at 80cmcm above the ground reference plane.

Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3-meter in a semi-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.

For f > 30MHz, EUT is set on an insulating support at 80cm above the ground reference plane (150cm for f >1GHz).

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 or average) 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, where applicable.

For portable equipements a research of maximum level is done on the 3 axes. Only the highest levels are recorded.

TESTED CONFIGURATION	PARAMETER	SEVERITY	RESULT TAB.	VERDICT
All modes	9kHz-150kHz	15.209	See below	PASS
All modes	150kHz-30MHz	15.209	See below	PASS
All modes	30MHz-1GHz	15.209	See below	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:

From 9 kHz to 30MHz: limit indicated on the curves is calculated with 40 dB/decade extrapolation factor and 51.5 dB conversion factor.

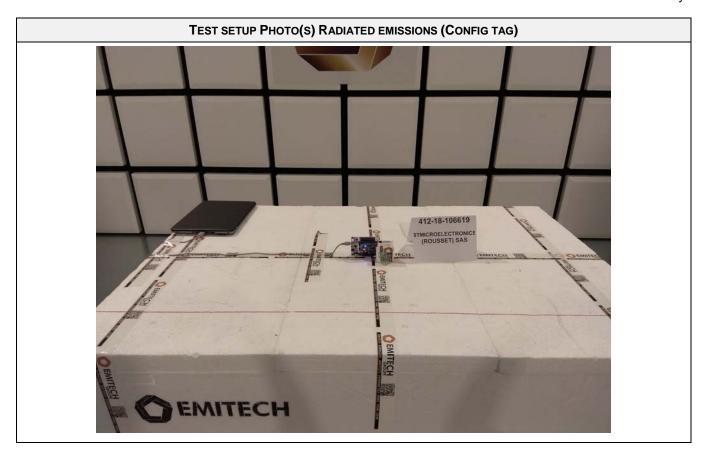
From 30MHz to 1GHz Quasi peak limit provided is the limit given in §15.209.

		TEST EQUIPMENT USED			
CATEGORY	BRAND	Түре	IDENTIFIER	CAL. DATE	CAL. DUE
AC power source	CHROMA	61603	12532	24/04/2018	24/06/2019
Antenna	Rohde & Schwarz	HFH2-Z2	5825	20/09/2017	20/11/2019
Antenna	Electro Metrics	BIA-30HF	0824	13/06/2018	13/08/2021
Antenna	Rohde & Schwarz	HL223	3126	13/06/2018	13/08/2021
Cable	SUCOFLEX	N-3m	14378	19/01/2017	19/09/2019
Cable	SUCOFLEX	N-6,5m	14380	19/01/2017	19/09/2019
Cable	TechniWAVE	N-0.23m	14891	23/02/2018	23/04/2020
Cable	TechniWAVE	N-0.23m	14899	23/02/2018	23/04/2020

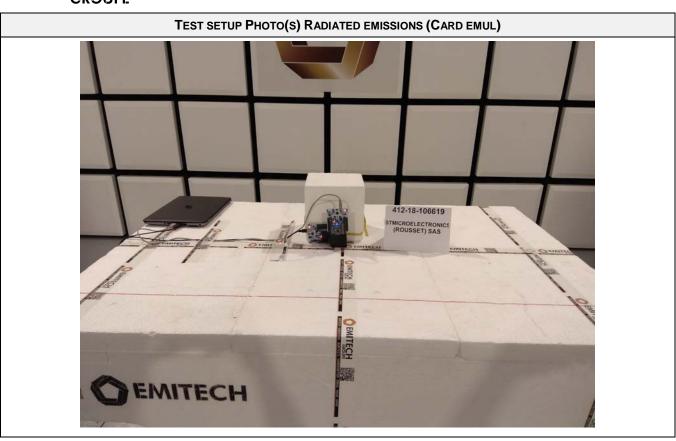


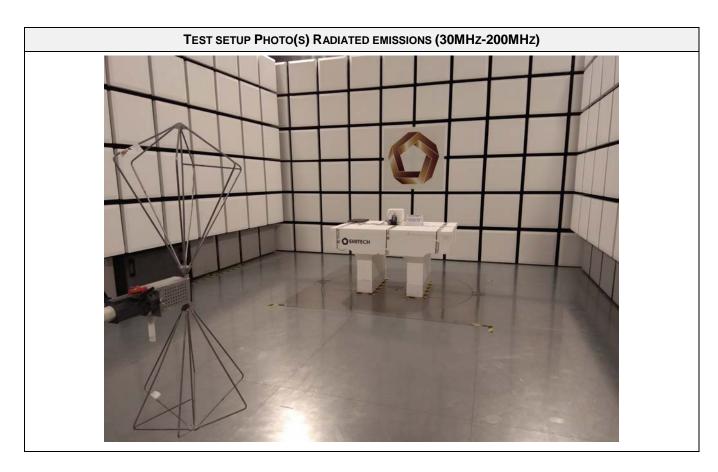
CATEGORY	BRAND	Түре	IDENTIFIER	CAL. DATE	CAL. DUE
Cable	MegaPhase	N-8m	15813	12/11/2018	12/01/2021
Receiver	Agilent Technologies	E4440A	5824	18/04/2018	18/06/2020
Shielded enclosure	COMTEST	SAC 3m	14494	14/02/2017	14/04/2020
Software	Nexio		0000		
Thermohygrometer	Bioblock Scientific	Météostar	0963	25/01/2019	25/03/2021
Thermohygrometer	Testo	608-H2	12269	27/11/2017	27/01/2020
Turntable	Maturo	NCD	14657		

Blank cells = Permanent validity



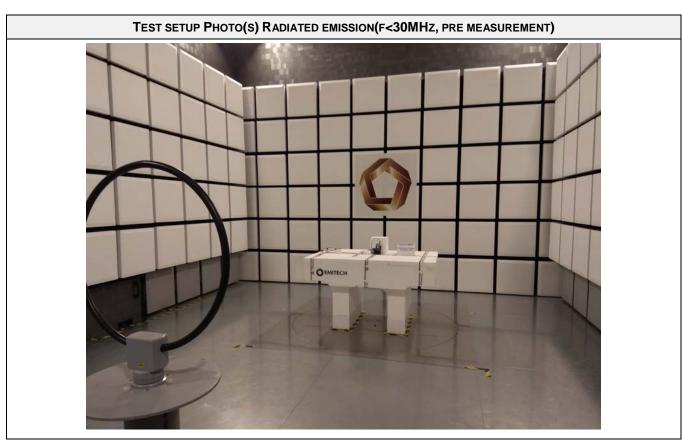


















	TRANSMITTER RADIATED SPURIO	JUS EINISSIUNS	AI FREQUENCIE	:5 <3UIVITZ - C	JRAPH	
	TX/ 0° / CONFIG TA	G / Position 1			EMI	4301
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 08:36:56				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3 k	
dBµA/m 70 60 60 60 40 10 10 10 10 10 10 10 10 10 10 10 10 10	The state of the s	Frequen	icy		Position: C	Months to the state of the stat
Position	FREQUENCIES	RBW	VBW		DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	-
Configuration:	N/A					
Comments:	Limit indicated on these plo 51.5dB conversion factor. 13.56MHz: Util frequency	ts are calculat	ed with 40 dB/d	decade extrap	olation facto	or and
EUT modification	/					



	TX/ 45° / Config	TAG / POSITION 1	1		EMI	4302
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 08:37:39				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3 k	
dBμA/m 80						
70						
50						
40						
30						
20					13.3002.9007 13.7	
10						
0		\				
-10	Warry Managalland A. L.	many and broad white	Andread Andrea		de Maria de Lacardo de	
-10	Warren of the conservation of the order of t	Market and a second a second and a second and a second and a second and a second an	Marie Marie Marie Control of the Con	produce the country of the distribution of the land	delighter the state of the stat	Park
-10	When we have the property of the second seco	**************************************		ر ما در از در در در از در	Position: C	30MHz Sircular
-10 -20 -30	FREQUENCIES					
-10 -20 -30 9kHz		Freque	ncy		Position: C	
-10 -20 -30 9kHz	FREQUENCIES	RBW	ve v		Position: C	
Position Circular	FREQUENCIES 9kHz-150kHz	RBW 300Hz	vBW 1kHz		DETECTOR Peak	
POSITION Circular Circular Circular	FREQUENCIES 9kHz-150kHz 150kHz-1MHz	RBW 300Hz 10kHz	VBW 1kHz 30kHz		DETECTOR Peak Peak	
Position Circular Circular	FREQUENCIES 9kHz-150kHz 150kHz-1MHz 1MHz-30MHz N/A	RBW 300Hz 10kHz 10kHz	VBW 1kHz 30kHz 30kHz		Peak Peak Peak Peak	Sircular
POSITION Circular Circular Circular	FREQUENCIES 9kHz-150kHz 150kHz-1MHz 1MHz-30MHz	RBW 300Hz 10kHz 10kHz	VBW 1kHz 30kHz 30kHz		Peak Peak Peak Peak	Sircular



	TRANSMITTER RADIATED SPUR	IOUS EMISSIONS	AT FREQUENCI	ES <30MHz - G	RAPH	
	TX/ 90° / CONFIG T	AG / POSITION 1			EMI	4303
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 08:40:28				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBμA/m 70						
60 -						
50						
40						
30						
20					13.558256M/15.2	
0						
	March 111 day	Λ				
-20	Warterfolder and war hand and a property and a second and	The same of the sa	Mental Committee - Mary Andrew Commission by	to represent the specific of the section between the section to the section of th	-	the second se
	A Company of the state of the s					
9kHz		Freque	псу		Position: C	0MHz ircular
Position	FREQUENCIES	RBW	VBW		DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A					
Comments:	Limit indicated on these plo 51.5dB conversion factor.	ots are calculat	ed with 40 dB/	decade extrap	olation facto	r and
	13.56MHz: Util frequency					



				s <30MHz - 0	1	
	TX/ 0° / CONFIG TA	G / Position 2			EMI	4304
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 08:45:31				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBμA/m 80 70 60 60 40 30 20 10 -20 -30 9kHz	planting the land of the proof	Frequer	MAN MANA MANA MANA MANA MANA MANA MANA	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	11 SONO CONTRACTOR OF THE PROPERTY OF THE PROP	\$0MHz
Position	FREQUENCIES	RBW	VBW		DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A					
Comments:	Limit indicated on these plo 51.5dB conversion factor. 13.56MHz: Util frequency	ts are calculat	ed with 40 dB/d	decade extrap	olation facto	or and



	TRANSMITTER RADIATED SPUR	RIOUS EMISSIONS	AT FREQUENCI	ES <30MHz - G	RAPH	
	TX/ 45° / Config 1	rag / Position 2	2		EMI	4305
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 08:48:19				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
80					Part 15 §209 Tx - Moyenni Part 15 §209 Tx - QCrête/	
dBμA/m 70						
60						
50						
40						
30						
20						
10						
0					13.558052M / 0.803	
-10 <u>-</u>	manda a	I what have maked the	or more harman and property and a second property and a	houselist tile states		un uls
-20	af and the transfer of of the grades with the second state of the	A			Manufacture Language 178 martin 274 de sa	Viscos
-30 9kHz		Freque	ncy		Position: C	30MHz Circular
Position	FREQUENCIES	RBW	VBW		DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A					
Comments:	Limit indicated on these pl 51.5dB conversion factor. 13.56MHz: Util frequency	ots are calculat	ed with 40 dB/	decade extrap	olation facto	or and



			AT FREQUENCE		1	
	TX/90° / Config 1	rag / Position 2	2		EMI	4306
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 08:51:45				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBμA/m 70						
60						
50						
40						
30						
20						
10						
0						
-10	Add at some	~~^\n_				
-20	Arthred Affilia Markers harry harran advertage men harran harran de la company de la c	many of how how how Money	when we are all week property was the	الإنجامة والمام والم وال	Hapanaga Lagranga Lag	والمقارسين
-30		4				
9kHz		Freque	псу		Position: C	30MHz Sircular
Position	FREQUENCIES	RBW	VBW		DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A	•				
Comments:	Limit indicated on these plus 51.5dB conversion factor. 13.56MHz: Util frequency	ots are calculat	ed with 40 dB/	decade extrap	olation facto	r and



	TX/ 0° / CONFIG TA	g / Position 3	AT FREQUENCIE		EMI	4307
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 08:54:59				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
-					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBμA/m 80 60 50 40 30 20 10 -10 -20 -30 9kHz	What is the state of the state	Frequen	ncy		Position: C	Age to
	FREQUENCIES	RBW	VBW	l	DETECTOR	
Position				Peak		
Position Circular	9kHz-150kHz	300Hz	1kHz		i can	
	9kHz-150kHz 150kHz-1MHz	300Hz 10kHz	1kHz 30kHz		Peak	
Circular			-			
Circular Circular	150kHz-1MHz	10kHz	30kHz		Peak	



	TRANSMITTER RADIATED SPURI	OUS EMISSIONS	AT FREQUENCI	ES <30MHz - G	RAPH	
	TX/ 45° / CONFIG TA	AG / POSITION 3	}		EMI	4308
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 08:57:27				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBµA/m 70 60 60 40 10 10 10 10 10 10 10 10 10 10 10 10 10	Magazin Carallan Mandan		and the plant weeks	Alter New Hord Parket and a company of		50MHz
Position	EDECUENCIES	RBW	VBW		Position: C DETECTOR	ircular
	FREQUENCIES					
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A					
Comments:	Limit indicated on these plo 51.5dB conversion factor. 13.56MHz: Util frequency	ts are calculat	ed with 40 dB/o	decade extrap	olation facto	r and



	TX/90° / Config	TAG / POSITION 3	3		EMI	4309
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 08:59:59				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
80					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBμA/m 70						
60						
50						
40						
30						
20					13.558052M/15.1	
0						
	AcomAtantilla.	M. M.				
	completely a star or her property of the second section of the section of the second section of the se	acounty a young worth mon W	where we desired the state of t	maka aka pali ini maka ja ka	on the second second second second second	Helistone
-20		w				
-30	s Lada akade Akade					
-20 -30 9kHz	المهرية المعارضة المناسبة المن	Freque	ncy		Position: C	30MHz Gircular
Position	FREQUENCIES		VBW	1		
9kHz	I	Freque	·	I	Position: C	
Position	FREQUENCIES	RBW	VBW		Position: C	
Position Circular	FREQUENCIES 9kHz-150kHz	RBW 300Hz	VBW 1kHz		DETECTOR Peak	
Position Circular Circular	FREQUENCIES 9kHz-150kHz 150kHz-1MHz	RBW 300Hz 10kHz	VBW 1kHz 30kHz		DETECTOR Peak Peak	



	TX/0°/CARD EMU	JL / POSITION 1			EMI	4310
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 09:22:25				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3 k	
dBμA/m 70						
60						
50						
40						
30						
20						
10					13.558052M / 11.7	
0						
-10	Man Adaha	Mary Mary and a series				
-20	Many the property of forther was a facility of the second		many many parabult for	for mounts during which philosophers and	HARLEST AND ASSESSED	Address of the second
-30 9kHz	, c. o. askilator					30MHz
SNIZ		Frequer	ncy		Position: C	
Position	FREQUENCIES	RBW	VBW		DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A					
	Limit indicated on these plo	nts are calculat	ed with 40 dB/	decade extran	olation facto	r and
Comments:	51.5dB conversion factor.		od Willi 40 db/	accado extrap	Sidiloii idolo	. unu
	13.56MHz: Util frequency					



	TX/ 45° / CARD EM	UL / POSITION 1			EMI	4311
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 09:25:52				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
-					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBμA/m 70 60 50 40 10 10 10 10 10 10 10 10 10 10 10 10 10	Manager Manage				33,550,000,11,1	
-20	and the fill of the following the second of the second of the second		And the state of t	والمطواب وبالمواد باستها والمجار استعاده بالمواديوة	the second bearing the	propertuit
-30 SkHz		Frequer	су		Position: C	0MHz ircular
Position	FREQUENCIES	RBW	VBW		DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A					
Comments:	Limit indicated on these plo 51.5dB conversion factor.	ots are calculat	ed with 40 dB/	decade extrap	olation facto	r and



	TX/90° / CARD EM	IUL / POSITION 1			EMI	4312
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 09:28:50				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBμA/m 70						
60						
50						
40						
30						
20						
10						
0						
-10	Var from Anne for from the first fro	Manufacture of the same	- A			
-20	n i fina gang figtor 19 de gan had talan dalah d	7.7.4.4.4.4	Walter Company of the	ekologikaradorologungrigaskulah, hjib _e kepilanan	haliand himmed brack with	hyarmore
-30 Hz	1 11 Transfer Market					30MHz
O.W.E		Freque	ncy		Position: C	
Position	FREQUENCIES	RBW	VBW	Ī	DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A					
Comments:	Limit indicated on these ploes 51.5dB conversion factor.	ots are calculat	ed with 40 dB/	decade extrapo	olation facto	r and



	TX/ 0° / CARD EMU	JL / Position 2			EMI	4314
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 09:41:44				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
dВµA/m 80					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
60						
40						
20						
10						
-10	haranan .	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
-20	year registration of the land of the second	- 1	- aller - alle	والمراجعة	Marie de la company de la comp	والمسالمة
-30 9kHz	Value I	Freque	ncy		Position: C	80MHz ircular
Position	FREQUENCIES	RBW	VBW		DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A					
Comments:	Limit indicated on these plo 51.5dB conversion factor.	ots are calculat	ed with 40 dB/	decade extrap	olation facto	r and



	TX/ 45° / CARD EN	IUL / Position 2			EMI	4315
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 09:46:16				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
80 dBµA/m					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBμA/m 70						
60						
50						
40						
30						
10						
0						
-10 MV	MANA MA	Manage .			13.568052M7-2.38	
-20	Carlo March	- Colored And March March of March	interplating and the desployment designation and	والمساوية والمعالمة والمعارض و	harman harma	u.lpagetast
-30	1. A	<u> </u>				
9kHz		Freque	ncy		Position: C	0MHz ircular
Position	FREQUENCIES	RBW	VBW	ı	DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A					
	Limit indicated on these plant	ots are calculat	ed with 40 dB/	decade extrapo	olation facto	r and



T (°C): H (%): P (hPa): PCC/FCC Part 15 §209 Tx - Moyo FCC/FCC Part 15 §209 Tx - QCre Meas.Peak	
H (%): P (hPa): FCC/FCC Part 15 \$209 Tx - Moy FCC/FCC Part 15 \$209 Tx - QCr	48.7 1010 enne/3.0m/
P (hPa): FCC/FCC Part 15 \$209 Tx - Moy FCC/FCC Part 15 \$209 Tx - QCrt	1010 enne/3.0m/
FCC/FCC Part 15 §209 Tx - Moyr FCC/FCC Part 15 §209 Tx - QCré	enne/3.0m/
13.550002201/-33.1	n delinação
Position:	MHz Circular
DETECTOR	
Peak	
Peak	
Peak	
	DETECTOR Peak Peak



	TX/0°/CARDEM	UL / POSITION 3			EMI	4317
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 09:54:27				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBμA/m						
60						
50						
40						
30						
20						
10					13.558052M/11.7	
0						
-10 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Made day	Many months of the same of the				
-20	hand and and the second as a little market as the second as a little market as a second as the market as a second as a little market as a little mar	The state of the s	was a supplemental and the sup	produktivni dipiki deripi filminini derek dipiki dire		polonoglas
-30	The state of the s	4				
9kHz		Freque	ncy		Position: C	0MHz ircular
Position	FREQUENCIES	RBW	VBW		DETECTOR	
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	10kHz	30kHz		Peak	
Configuration:	N/A					
Comments:	Limit indicated on these pl 51.5dB conversion factor.	ots are calculat	ed with 40 dB/	decade extrap	olation facto	r and



	TX/45° / CARD EM	UL / POSITION 3	}		EMI	4318
EUT mode:	D-M2				T (°C):	22
Test Date:	28/05/2019 09:57:28				H (%):	48.7
Test Operator:	MPA				P (hPa):	1010
					Part 15 §209 Tx - Moyenne Part 15 §209 Tx - QCrête/3	
dBμA/m 70						
60						
50						
40						
30						
20						
10					13.558052M / 11.2	
0						
-10 M/A	Mhallannan Mr I	Marana Ma	ota duri.			_
-20	White property of the property and any the property of the designation of the second o		and the second of the second o	Whitemarked above the problems and the problems and a second	ووالمرسيلة الأدورور وبرايدية	hadd-agagar
-30 9kHz	The state of the s					30MHz
	T	Frequen	ncy		Position: C	ircular
Position	FREQUENCIES	RBW	VBW	DETECTOR		
Circular	9kHz-150kHz	300Hz	1kHz		Peak	
Circular	150kHz-1MHz	10kHz	30kHz		Peak	
Circular	1MHz-30MHz	Hz-30MHz 10kHz 30kHz			Peak	
Configuration:	N/A					
	Limit indicated on these plo	ots are calculat	ed with 40 dB/	decade extrap	olation facto	r and
Comments:	51.5dB conversion factor.		· · · · · · · · · · · · · · · · · · ·			
	13.56MHz: Util frequency					



	TRANSMITTER RADIATED SPUR	IOUS EMISSIONS	AT FREQUENCI	ES <30MHz - GRAPH	
	TX/90° / CARD EM	UL / Position 3		El	MI4319
EUT mode:	D-M2			T (°C):	22
Test Date:	28/05/2019 10:00:41			H (%):	48.7
Test Operator:	MPA			P (hPa)	: 1010
				FCC/FCC Part 15 §209 Tx - Moy FCC/FCC Part 15 §209 Tx - QC Meas.Peak	
dBμA/m 70					
70					
50					
40					
30					
20					
10				13.558052M / 10.4	
0					
	A. A. M	<i>~</i>			
-20	March land land and land and a second and a	and many and and and	when make her perfect the state of the state of	marker and representative all resembles and a second and a second and a second	garatagyaktika kilik
-30	The state of the s				
9kHz		Freque	ncy	Positi	30MHz on: Circular
Position	FREQUENCIES	RBW	VBW	DETECTOR	1
Circular	9kHz-150kHz	300Hz	1kHz	Peak	
Circular	150kHz-1MHz	10kHz	30kHz	Peak	
Circular	1MHz-30MHz	10kHz	30kHz	Peak	
Configuration:	N/A				
Comments:	Limit indicated on these plo 51.5dB conversion factor. 13.56MHz: Util frequency	ots are calculat	ed with 40 dB/o	decade extrapolation fac	ctor and



	Tx mode/ Config	TAG / POSITION	1			EM	14295
EUT mode:	D-M2				Т	Γ (°C):	22.3
Test Date:	27/05/2019 16:18:15					H (%):	48
Test Operator:	MPA					P (hPa):	1011
80					FCC/15.20 FCC/15.20 Meas.QPe Meas.Peal	09 : 2018 - Moyen 09 : 2018 - QCrête 09 : 2018 - Crête/3 eak (SR 550xx) (Hori: k (Horizontal)	e/3.0m/ 3.0m/ orizontal)
dBμV/m							
60							
50	244						
30		La de la	ADIA LALLINA DE LA CARE	Line de la	un hammad ham	18 per la marchada de la la companya de la companya	A CHARLES
10							
0							
0 30MF	iz	Frequen	су			Polarization: H	1GHz orizontal
				•	FCC/15.20 Meas.QPe	09 : 2018 - QCrête 09 : 2018 - Crête/3 eak (SR 550xx) (Verti k (Vertical)	e/3.0m/ 3.0m/ ertical)
dBμV/m 70				-	FCC/15.20 FCC/15.20 Meas.QPe Meas.Peak	09 : 2018 - Crête/3 eak (SR 550xx) (Ve k (SR 550xx) (Verti	e/3.0m/ 3.0m/ ertical)
dBμV/m 70 60 50					FCC/15.20 FCC/15.20 Meas.QPe Meas.Peak	09 : 2018 - Crête/3 eak (SR 550xx) (Ve k (SR 550xx) (Verti	e/3.0m/ 3.0m/ ertical)
dBμV/m 70 60		the see on a surround by low what had a low	and have been all and the standards of t		FCC/15.20 FCC/15.20 Meas.QPe Meas.Peak	09 : 2018 - Crête/3 eak (SR 550xx) (Ve k (SR 550xx) (Verti	e/3.0m/ 3.0m/ ertical)
dBμV/m 70 60 50 40 20		Frequen	W.,		FCC/15.20 FCC/15.20 Meas.QPe Meas.Peak	09 : 2018 - Crête/3 eak (SR 550xx) (Ve k (SR 550xx) (Verti	//3.0m/ /3.0m/ //frical)
dBμV/m 70 60 50 30 10 0	FREQUENCIES	A Committee of the Comm	W.,	and the state of t	FCC/15.2C FCC/15	99 : 2018 - Crête/K sak (SR 550xx) (Ve k (SR 550xx) (Vert k (Vertical)	//3.0m/ /3.0m/ //frical)
dBμV/m 70 60 50 40 30 10 30Mi		Frequen	cy		FCC/15.2C FCC/15.2C FCC/15.2C Meas.Peal Meas.Peal	99 : 2018 - Crête/C sak (SR 550xx) (Vet k (SR 550xx) (Vet k (Vertical)	//3.0m/ /3.0m/ //frical)
dBμV/m 70 60 50 40 20 10 0 30MH	FREQUENCIES	Frequen RBW	cy VBW	and the second s	PCC/15.2C FCC/15.2C FCC/15	99 : 2018 - Crête/c sak (SR 550xx) (Ve k (SR 550xx) (Vert k (Vertical) Polarization:	//3.0m/ /3.0m/ //frical)
Position Position	FREQUENCIES 30MHz-200MHz	RBW 100kHz	**************************************		FCC/15.2(2	99 : 2018 - Crête/Cak (SR 550xx) (Vet k (SR 550xx) (Vet k (SR 550xx) (Vet k (Vertical)) Polarization: TECTOR	//3.0m/ /3.0m/ //frical)
Position Vertical Horizontal	FREQUENCIES 30MHz-200MHz 30MHz-200MHz	RBW 100kHz 100kHz	VBW 300kHz 300kHz		PCC/15.2C FCC/15.2C FCC/15.2C Meas.Peal Meas.Peal	99 : 2018 - Crête/c sak (SR 550xx) (Ve k (SR 550xx) (Ve k (SR 550xx) (Vert k (Vertical) Polarization: TECTOR Peak	//3.0m/ /3.0m/ //frical)
Position Vertical Horizontal Horizontal	FREQUENCIES 30MHz-200MHz 30MHz-200MHz 200MHz-1GHz	RBW 100kHz 100kHz 100kHz	300kHz 300kHz 300kHz 300kHz		PCC/15.2C FCC/15.2C FCC/15.2C Meas.Peal Meas.Peal	Peak Peak Peak Peak Peak Peak Peak Peak	//3.0m/ /3.0m/ //frical)
Position Vertical Horizontal Horizontal Vertical	FREQUENCIES 30MHz-200MHz 30MHz-200MHz 200MHz-1GHz	RBW 100kHz 100kHz 100kHz	300kHz 300kHz 300kHz 300kHz	and water and	PCC/15.2C FCC/15.2C FCC/15.2C Meas.Peal Meas.Peal	Peak Peak Peak Peak Peak Peak Peak Peak	//3.0m/ /3.0m/ //frical)



Frequency (MHz)	Polarisation	Peak (dBµV/m)	QP (dBμV/m)	QP Limit (dBµV/m)	Margin (dB)
63.435478	Vertical	34.54	26.15	40	-13.85
64.203394	Vertical	34.76	25	40	-15
64.6807472	Vertical	35.5	25.19	40	-14.81
65.1581004	Vertical	35.02	26.34	40	-13.66
66.0090343	Vertical	35.35	24	40	-16
67.0260042	Vertical	32.81	23.88	40	-16.12
67.7524112	Vertical	32.81	23.03	40	-16.97
67.8769381	Vertical	32.09	20.4	40	-19.6
68.81089	Vertical	33.28	24.61	40	-15.39
84.0446832	Vertical	33.08	26.16	40	-13.84
63.435478	Horizontal	43.63	34.51	40	-5.49
64.0166036	Horizontal	42.65	34.11	40	-5.89
64.6392382	Horizontal	41.91	31.82	40	-8.18
65.1996093	Horizontal	41.99	33.26	40	-6.74
83.9824197	Horizontal	38.13	31.44	40	-8.56
85.3314614	Horizontal	29.43	19.36	40	-20.64
813.649127	Horizontal	38.71	35.72	46	-10.28

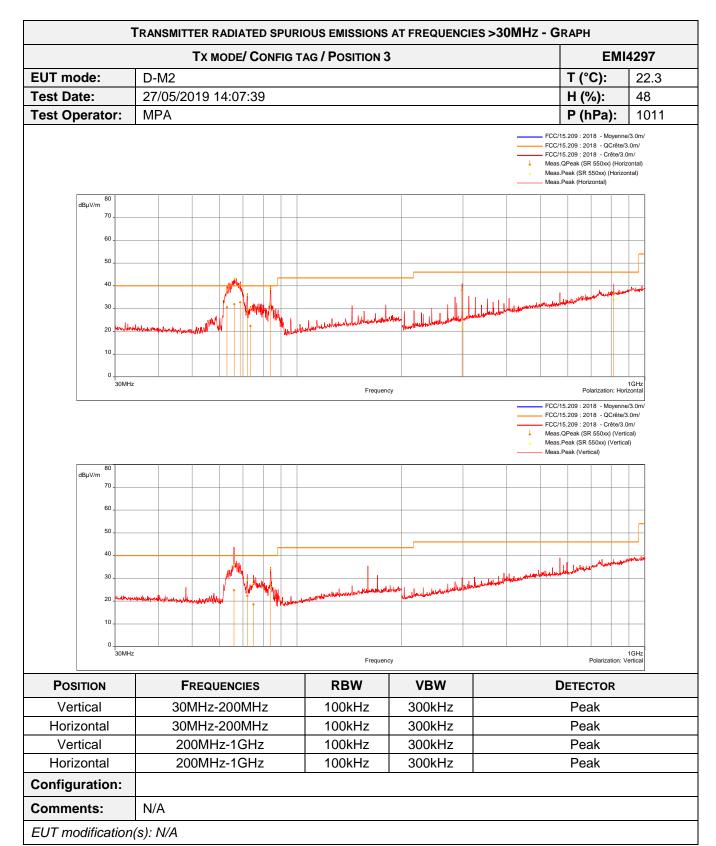


	TX MODE/ CONFIG T	AG / POSITION 2	2				EMI	l 429 6
EUT mode:	D-M2					T (°C	:):	22.3
Test Date:	27/05/2019 13:42:11					H (%		48
Test Operator:	MPA						P (hPa):	
				•	FCC/15. FCC/15. Meas.Ql	.209 : 2018 .209 : 2018 Peak (SR 5	8 - Moyenn 8 - QCrête/ 8 - Crête/3. 550xx) (Horizontal)	/3.0m/ .0m/ izontal)
dBμV/m 70								
60								
50								
	A. 1							
40		1 ()	, , , , , , , , , , , ,	1	للسلسل	المعادية المعادلة	العلله للعالم	_r eferred, d. Ale
30		I I		alle de de la descripción de descripción de la descripción del descripción de la des	Mondifferent			
20 _	Astronomical principles of the state of the	and the state of t	Alexander of the second					
10								
0 <u>30MH</u>	z							1GHz
		Frequen	су		FOCUS		rization: Ho 8 - Moyenn	rizontal
				-		.209 : 2018		
80 dBµV/m				•	Meas.Ql Meas.Pe	Peak (SR 5	550xx) (Vertic	tical)
dBμV/m 70				•	Meas.Ql Meas.Pe	Peak (SR 5 eak (SR 55	550xx) (Vertic	tical)
dBµV/m				•	Meas.Ql Meas.Pe	Peak (SR 5 eak (SR 55	550xx) (Vertic	tical)
dBμV/m 70				1	Meas.Ql Meas.Pe	Peak (SR 5 eak (SR 55	550xx) (Vertic	tical)
dBμV/m 70 60					Meas.Ql Meas.Pe	Peak (SR 5 eak (SR 55	550xx) (Vertic	tical)
dBμV/m 70 60 50	An I			1	Meas.Ql Meas.Pe	Peak (SR 5 eak (SR 55	550xx) (Vertic	tical)
dBμV/m 70 60 50		Laborenova Joseph Jaroko	- Landing and a second of the second	harrowal John Jahahar Bria	Meas.Ql Meas.Pe	Peak (SR 5 eak (SR 55	550xx) (Vertic	tical)
dBμV/m 70 60 50 40 20		Laborer on Supplikal while	And the second of the second	hurania da hababana	Meas.Ql Meas.Pe	Peak (SR 5 eak (SR 55	550xx) (Vertic	tical)
dBμV/m 70 60 50 40 20 40 10		Laken market and despetited and des	And the second of the second o	harachet la	Meas.Ql Meas.Pe	Peak (SR 5 eak (SR 55	550xx) (Vertic	tical)
dBμV/m 70 60 50 40 20	z	Frequen		harande la	Meas.Ql Meas.Pe	Peak (SR 55 eak (SR 55 eak (Vertica	550xx) (Vertic	tical)
ф в ром (пред на пред	FREQUENCIES	Frequen	cy VBW	Land to the land t	Meas.QI Meas.Pe	Peak (SR 55 peak (SR 55 peak (Vertical peak (SR 55 peak (Vertical peak (SR 55 peak (Vertical peak (SR 55 peak (SR	550xx) (Vertical) Diarization: \tag{TOR}	tical)
Position Position	FREQUENCIES 30MHz-200MHz	RBW 100kHz	VBW 300kHz	harrowale de la	Meas.QI Meas.Pe	Peak (SR £ £ R 55 saak (SR 55 saak (Vertical Peak (SR 55 saak (SR	550xx) (Vertical) Julium Dolarization: \text{ TOR } k	tical)
Position Vertical Horizontal	FREQUENCIES 30MHz-200MHz 30MHz-200MHz	RBW 100kHz 100kHz	vBW 300kHz 300kHz	Land to the land t	Meas.QI Meas.Pe	Peak (SR £ £ peak (SR 55 peak (SR 55 peak (Vertical Peak (SR 55 peak (Vertical Peak (SR 55 peak (Vertical SR 55 peak (Vertical SR 55 peak (Vertical SR 55 peak (Vertical SR 55 peak (SR 55	550xx) (Vertical) Constitution (Vertical) Constitution (Vertical)	tical)
POSITION Vertical Horizontal Horizontal	FREQUENCIES 30MHz-200MHz 30MHz-200MHz 200MHz-1GHz	RBW 100kHz 100kHz 100kHz	vBW 300kHz 300kHz 300kHz	Anna de	Meas.QI Meas.Pe	Peak (SR £ £ peak (SR 55 peak (Vertical Peak (SR 55 pe	olarization: V	tical)
Position Vertical Horizontal Horizontal Vertical	FREQUENCIES 30MHz-200MHz 30MHz-200MHz	RBW 100kHz 100kHz	vBW 300kHz 300kHz	harries de la	Meas.QI Meas.Pe	Peak (SR £ £ peak (SR 55 peak (SR 55 peak (Vertical Peak (SR 55 peak (Vertical Peak (SR 55 peak (Vertical SR 55 peak (Vertical SR 55 peak (Vertical SR 55 peak (Vertical SR 55 peak (SR 55	olarization: V	tical)
POSITION Vertical Horizontal Horizontal	FREQUENCIES 30MHz-200MHz 30MHz-200MHz 200MHz-1GHz	RBW 100kHz 100kHz 100kHz	vBW 300kHz 300kHz 300kHz	Land to the land t	Meas.QI Meas.Pe	Peak (SR £ £ peak (SR 55 peak (Vertical Peak (SR 55 pe	olarization: V	tical)



Frequency (MHz)	Polarisation	Peak (dBμV/m)	QP (dBμV/m)	QP Limit (dBµV/m)	Margin (dB)
63.5600049	Vertical	35.17	25.75	40	-14.25
63.9958491	Vertical	36.95	27.23	40	-12.77
65.1373459	Vertical	36.76	26.69	40	-13.31
65.5316811	Vertical	35.62	25.25	40	-14.75
67.7731657	Vertical	32.86	23.03	40	-16.97
83.9824197	Vertical	34.52	27.89	40	-12.11
62.9996337	Horizontal	41.72	33.27	40	-6.73
63.3732145	Horizontal	43.21	34.72	40	-5.28
63.7467953	Horizontal	40.42	29.81	40	-10.19
64.0166036	Horizontal	42.79	33.86	40	-6.14
64.8467831	Horizontal	40.73	30.78	40	-9.22
65.1996093	Horizontal	41.55	32.61	40	-7.39
65.5524356	Horizontal	41.04	31.07	40	-8.93
66.0505433	Horizontal	40.17	29.28	40	-10.72
68.7486265	Horizontal	37.94	30.6	40	-9.4
69.4957881	Horizontal	34.42	25.72	40	-14.28
69.578806	Horizontal	32.4	23.67	40	-16.33
71.9863265	Horizontal	34.31	27.38	40	-12.62
84.0031742	Horizontal	38.71	32.18	40	-7.82
84.418264	Horizontal	31.05	21.78	40	-18.22
542.424612	Horizontal	29.07	35.8	46	-10.2
569.576364	Horizontal	27.46	36.58	46	-9.42
813.649127	Horizontal	34.34	37.39	46	-8.61







Frequency (MHz)	Polarisation	Peak (dBμV/m)	QP (dBμV/m)	QP Limit (dBµV/m)	Margin (dB)
65.8845074	Vertical	35.91	24.77	40	-15.23
72.0070809	Vertical	29.28	22.39	40	-17.61
74.954218	Vertical	27.46	18.6	40	-21.4
83.9824197	Vertical	34.01	27.43	40	-12.57
62.9581248	Horizontal	38.21	30.59	40	-9.41
66.0505433	Horizontal	42.99	31.97	40	-8.03
68.7278721	Horizontal	40.47	32.79	40	-7.21
71.965572	Horizontal	36.11	29.16	40	-10.84
73.459895	Horizontal	30.26	22.38	40	-17.62
83.9409108	Horizontal	38.82	31.87	40	-8.13
298.35185	Horizontal	21.99	37.99	46	-8.01
813.649127	Horizontal	33.86	36.48	46	-9.52



	Tx	MODE	/ CAF	RD EM	UL / POSITION 1					E	EMI4	298
EUT mode:	D-M2								T	(°C):		22.3
Test Date:	27/05/2019	14:26	3:57							(%):		48
Test Operator:	MPA								Р	(hPa):	1011
80								<u> </u>	FCC/15.209 FCC/15.209 FCC/15.209 Meas.QPeak Meas.Peak (S Meas.Peak (F	2018 - Q 2018 - C (SR 550xx SR 550xx)	(Crête/3.0 rête/3.0n k) (Horizo (Horizont	0m/ n/ intal)
dBμV/m 70												
60												
50												A
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40		<i>/</i> // ^(*) /	Same		1 .				. I a . I ada service	and the	المالغانية المالم	Marie de la Companya
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10				++								
0												GHz
SUMINZ	2				Frequenc	су				Polarization	on: Horiz	ontal
									FCC/15.209 : FCC/15.209 : FCC/15.209 : Meas.QPeak	2018 - Q 2018 - C (SR 550x)	(Crête/3.0 crête/3.0n k) (Vertica	Om/ n/ al)
dΒμV/m ⁸⁰ 70								•	FCC/15.209 :	2018 - Q 2018 - C (SR 550xx SR 550xx)	(Crête/3.0 crête/3.0n k) (Vertica	Om/ n/ al)
dBμV/m								<u> </u>	FCC/15.209 : FCC/15.209 : Meas.QPeak Meas.Peak (S	2018 - Q 2018 - C (SR 550xx SR 550xx)	(Crête/3.0 crête/3.0n k) (Vertica	Om/ n/ al)
dBμV/m 70								•	FCC/15.209 : FCC/15.209 : Meas.QPeak Meas.Peak (S	2018 - Q 2018 - C (SR 550xx SR 550xx)	(Crête/3.0 crête/3.0n k) (Vertica	Om/ n/ al)
dBμV/m 70 60								•	FCC/15.209 : FCC/15.209 : Meas.QPeak Meas.Peak (S	2018 - Q 2018 - C (SR 550xx SR 550xx)	(Crête/3.0 crête/3.0n k) (Vertica	Om/ n/ al)
dBμV/m 70 60 50		,M	, Julio bara		. .1			-	FCC/15.209 : FCC/15.209 : Meas.QPeak Meas.Peak (S	2018 - Q 2018 - C (SR 550xx SR 550xx)	(Crête/3.0 crête/3.0n k) (Vertica	Om/ n/ al)
dBμV/m 70 60 50	Market Response to the last	, m / T	VI MIN MA	W	lahida di Amerika di birangania	Legiste March March Constitution of the Consti	A. Alpharation of the superior and the s		FCC/15.209 : FCC/15.209 : Meas.QPeak Meas.Peak (S	2018 - Q 2018 - C (SR 550xx SR 550xx)	(Crête/3.0 crête/3.0n k) (Vertica	Om/ n/ al)
dBμV/m 70	March described and the state of the state o	Mark Time		W.,./	had a described and a described and a second a second and	And a stranger of the same of	And Asphallands granded		FCC/15.209 : FCC/15.209 : Meas.QPeak Meas.Peak (S	2018 - Q 2018 - C (SR 550xx SR 550xx)	(Crête/3.0 crête/3.0n k) (Vertica	Om/ n/ al)
dBμV/m 70 60 50 40 30 20	Marchael Assessment and half	Mark T	V Min/a	W /	hadiadush dharan da dharan da maran da m	Legiste Marchael Control of the Cont	A. Alphadald special	1	FCC/15.209 : FCC/15.209 : Meas.QPeak Meas.Peak (S	2018 - Q 2018 - C (SR 550xx SR 550xx)	(Crête/3.0 crête/3.0n k) (Vertica	Om/ n/ al)
dBμV/m 70		1 T	V part by	W.J.	Frequence	And the state of t	And the second s	1	FCC/15.209 : FCC/15.209 : Meas.QPeak Meas.Peak (S	2018 - Q 2018 - C (SR 550xx) SR 550xx) (ertical)	Créte/3.0 (Vertica)	Om/ n/ al)
dBμV/m 70 60 40 30 10	FREQ	UENC	IES	W , J, W	Frequence	And the state of t	And Andrew State Control of the Cont	1	FCC/15.209 : FCC/15.209 : Meas. Peak (\$ Meas. Peak (\$	2018 - Q 2018 - C (SR 550xx) SR 550xx) (ertical)	Crête/3.0(Crête/3.0) (Vertical) 11 attion: Ve	Om/ n/ al)
dBμV/m 70 60 40 30 10 30MHz				W /	T	And the state of t	al a distribution of the	1	FCC/15.209 : FCC/15.209 : Meas. Peak (Neas. Peak (Neas	2018 - Q 2018 - C 2018 - C 2018 - C P 2018 -	Crête/3.0(Crête/3.0) (Vertical) 11 attion: Ve	Om/ n/ al)
Position Vertical Horizontal	FREQ 30MHz	z-200ľ z-200ľ	MHz MHz	W	RBW 100kHz 100kHz	**************************************	and the second s	1	FCC/15.209 : FCC/15.209 : Meas.Peak (S Meas.Peak (S Meas.Peak (C	Polarizz Polar CECTO Pak Polarizz	Crête/3.0(Crête/3.0) (Vertical) 11 attion: Ve	Om/ n/ al)
Position Vertical Horizontal Horizontal	FREQ 30MHz 30MHz 200MI	z-200ľ z-200ľ Hz-10	MHz MHz GHz	W	100kHz 100kHz 100kHz 100kHz	VBW 300kHz 300kHz 300kHz		1	PEC/15.209 : FCC/15.209 : Meas. Peak (the Meas	Polarizi Polarizi Polarizi Polarizi	Crête/3.0(Crête/3.0) (Vertical) 11 attion: Ve	Om/ n/ al)
Position Vertical Horizontal Vertical Vertical	FREQ 30MHz	z-200ľ z-200ľ Hz-10	MHz MHz GHz	W	RBW 100kHz 100kHz	**************************************		1	PEC/15.209 : FCC/15.209 : Meas. Peak (the Meas	Polarizz Polar CECTO Pak Polarizz	Crête/3.0(Crête/3.0) (Vertical) 11 attion: Ve	Om/ n/ al)
Position Vertical Horizontal Horizontal	FREQ 30MHz 30MHz 200MI	z-200ľ z-200ľ Hz-10	MHz MHz GHz		100kHz 100kHz 100kHz 100kHz	VBW 300kHz 300kHz 300kHz		1	PEC/15.209 : FCC/15.209 : Meas. Peak (the Meas	Polarizi Polarizi Polarizi Polarizi	Crête/3.0(Crête/3.0) (Vertical) 11 attion: Ve	Om/ n/ al)



Frequency (MHz)	Polarisation	Peak (dBµV/m)	QP (dBμV/m)	QP Limit (dBµV/m)	Margin (dB)
63.9958491	Vertical	31.48	22.92	40	-17.08
65.9675253	Vertical	35.83	24.8	40	-15.2
71.9863265	Vertical	28.41	22.7	40	-17.3
78.0051276	Vertical	29.62	19.36	40	-20.64
80.0598218	Vertical	28.74	19.17	40	-20.83
83.9409108	Vertical	35.81	29.11	40	-10.89
66.0920523	Horizontal	42.88	32.67	40	-7.33
70.2844586	Horizontal	33.6	25.02	40	-14.98
71.156147	Horizontal	28.91	20.23	40	-19.77
71.924063	Horizontal	33.36	26.39	40	-13.61
72.3183982	Horizontal	24.57	18.01	40	-21.99
74.954218	Horizontal	34.06	25	40	-15
75.4730802	Horizontal	34.14	25.58	40	-14.42
79.9352948	Horizontal	32.4	21.7	40	-18.3
82.2597973	Horizontal	28.74	19.24	40	-20.76
82.8201685	Horizontal	31.56	23.02	40	-16.98
83.9824197	Horizontal	40.27	33.24	40	-6.76
85.4559883	Horizontal	30.17	19.98	40	-20.02

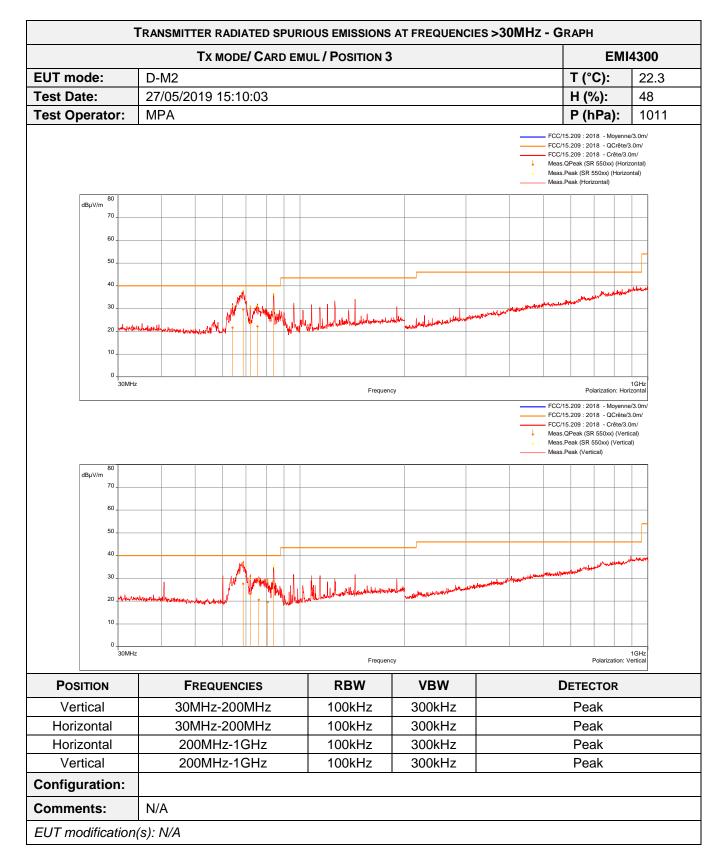


	TX MODE/ CARD E	MUL / POSITION 2	2			EM	l 42 99
EUT mode:	D-M2				T (°	°C):	22.3
Test Date:	27/05/2019 14:52:42				H (48
Test Operator:	MPA						1011
on l					FCC/15.209 : 2 FCC/15.209 : 2 FCC/15.209 : 2 Meas.QPeak (S Meas.Peak (SR Meas.Peak (Ho	018 - QCrête/ 018 - Crête/3 SR 550xx) (Hor 550xx) (Horiza	/3.0m/ .0m/ izontal)
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30MH	Iz	Frequen	су		Р	olarization: Ho	1GHz rizontal
				<u> </u>	FCC/15.209 : 2 FCC/15.209 : 2 FCC/15.209 : 2 Meas.QPeak (S Meas.Peak (SR	018 - QCrête/ 018 - Crête/3 SR 550xx) (Ver	/3.0m/ .0m/ tical)
dΒμV/m 80 70 70				•	FCC/15.209 : 2 FCC/15.209 : 2	018 - QCrête/ 018 - Crête/3 SR 550xx) (Veri 2 550xx) (Vertic	/3.0m/ .0m/ tical)
dBμV/m 70				•	FCC/15.209 : 2 FCC/15.209 : 2 Meas.QPeak (S Meas.Peak (SR	018 - QCrête/ 018 - Crête/3 SR 550xx) (Veri 2 550xx) (Vertic	/3.0m/ .0m/ tical)
dВµV/m 70 60				•	FCC/15.209 : 2 FCC/15.209 : 2 Meas.QPeak (S Meas.Peak (SR	018 - QCrête/ 018 - Crête/3 SR 550xx) (Veri 2 550xx) (Vertic	/3.0m/ .0m/ tical)
dBμV/m 70				1	FCC/15.209 : 2 FCC/15.209 : 2 Meas.QPeak (S Meas.Peak (SR	018 - QCrête/ 018 - Crête/3 SR 550xx) (Veri 2 550xx) (Vertic	/3.0m/ .0m/ tical)
dBμV/m 70 60	infekt.			•	FCC/15.209 : 2 FCC/15.209 : 2 Meas.QPeak (S Meas.Peak (SR	018 - QCrête/ 018 - Crête/3 SR 550xx) (Veri 2 550xx) (Vertic	/3.0m/ .0m/ tical)
dBμV/m 70				1	FCC/15.209 : 2 FCC/15.209 : 2 Meas.QPeak (S Meas.Peak (SR	018 - QCrête/ 018 - Crête/3 SR 550xx) (Veri 2 550xx) (Vertic	/3.0m/ .0m/ tical)
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dBμV/m 70 60 50 40 20		Mary and the state of the state	and some for when the contract of	Landel Strate of Long	FCC/15.209 : 2 FCC/15.209 : 2 Meas.QPeak (S Meas.Peak (SR	018 - Corête/3 018 - Crête/3 R 550xx) (Version of the control of t	1GHz
dBμV/m 70	iz	Frequen	- Andrew Andrew	Landelor of transport	FCC/15.209 : 2 FCC/15.209 : 2 FCC/15.209 : 2 Meas QPeak (S Meas Peak (Ve	018 - OCrētei 018 - Crētei 018 - Crētei 8 F 550x) (Veri 1550x) (Veri 1550x) (Veri 161x) Polarization:	1GHz
POSITION	FREQUENCIES	RBW	cy VBW	Lange de Lan	FCC/15.209 : 2 FCC/15	018 - Octétes Octétes de la Contraction de la Co	1GHz
Position Vertical	FREQUENCIES 30MHz-200MHz	RBW 100kHz	vBW 300kHz	Local to sense of the sense of	FCC/15.209 : 2 FCC/15	018 - OCrētei 018 - Crētei 018	1GHz
Position Vertical Horizontal	FREQUENCIES 30MHz-200MHz 30MHz-200MHz	RBW 100kHz 100kHz	vBW 300kHz 300kHz	Longhand Long on the Contract of the Contract	FCC/15.209 : 2 FCC/15	O18 - Ocrete/3 O18 - Crete/3 R 550xx) (Versic S50xx) (Versic S50xx	1GHz
POSITION Vertical Horizontal Horizontal	FREQUENCIES 30MHz-200MHz 30MHz-200MHz 200MHz-1GHz	100kHz 100kHz 100kHz 100kHz	VBW 300kHz 300kHz 300kHz	Lander of transport	PCC/15.209 : 2 PCC/15	O18 - Ocréte/3 Ocréte	1GHz
Position Vertical Horizontal Horizontal Vertical	FREQUENCIES 30MHz-200MHz 30MHz-200MHz	RBW 100kHz 100kHz	vBW 300kHz 300kHz	Language Annual	FCC/15.209 : 2 FCC/15	O18 - Ocréte/3 Ocréte	1GHz
POSITION Vertical Horizontal Horizontal	FREQUENCIES 30MHz-200MHz 30MHz-200MHz 200MHz-1GHz	100kHz 100kHz 100kHz 100kHz	VBW 300kHz 300kHz 300kHz		PCC/15.209 : 2 PCC/15	O18 - Ocréte/3 Ocréte	1GHz



Frequency (MHz)	Polarisation	Peak (dBµV/m)	QP (dBμV/m)	QP Limit (dBµV/m)	Margin (dB)
64.0996215	Vertical	34.33	24.71	40	-15.29
65.9675253	Vertical	36.91	24.83	40	-15.17
67.5863753	Vertical	33.88	24.08	40	-15.92
74.9334636	Vertical	28.74	19	40	-21
78.959834	Vertical	28.72	18.77	40	-21.23
84.0654377	Vertical	33.11	25.76	40	-14.24
63.393969	Horizontal	40.21	32.62	40	-7.38
65.9882798	Horizontal	43.04	31.68	40	-8.32
68.7071176	Horizontal	39.87	32.13	40	-7.87
70.2844586	Horizontal	32.13	23.7	40	-16.3
71.156147	Horizontal	28.2	19.5	40	-20.5
71.5712367	Horizontal	27.5	18.54	40	-21.46
71.9863265	Horizontal	34.92	28.39	40	-11.61
73.6051764	Horizontal	29.72	20.69	40	-19.31
76.0126969	Horizontal	33.47	24.38	40	-15.62
77.5070199	Horizontal	31.86	22.14	40	-17.86
81.3881089	Horizontal	32.26	24.09	40	-15.91
83.9824197	Horizontal	39.66	33.11	40	-6.89







Frequency (MHz)	Polarisation	Peak (dBμV/m)	QP (dBμV/m)	QP Limit (dBµV/m)	Margin (dB)
68.6863631	Vertical	36.37	27.62	40	-12.38
71.9863265	Vertical	29.95	23.07	40	-16.93
76.0957148	Vertical	29.54	20.53	40	-19.47
80.7862288	Vertical	28.96	19.67	40	-20.33
83.9616652	Vertical	35.61	28.53	40	-11.47
63.9958491	Horizontal	31.06	21.58	40	-18.42
68.7278721	Horizontal	37.67	29.6	40	-10.4
71.965572	Horizontal	30.6	24.15	40	-15.85
75.4523257	Horizontal	31.09	22.18	40	-17.82
84.0031742	Horizontal	36.31	29.52	40	-10.48



6.4. Field strength in the band 13.553-13.567MHz

Reference standard:	FCC part 15 Radio part 15.225 a) & RSS-210
Test method:	FCC part 15 Radio part 15.225 a) & RSS-210

General test setup: EUT is set on an insulating support at 80cm. Measurements were then performed in a 10-meter Open Area Test Site that complies to CISPR 16.

The EUT was rotated 360° in order to maximize radiated levels. Test antenna was oriented in 3 axes (0°, 45° and 90°).

For portable equipements a research of maximum level is done on the 3 axes. Only the highest levels are recorded.

TEST CASE	EUT MODE	SEVERITY	RESULT TAB.	VERDICT
Tx mode	Permanent emission mode	15848µV/m at 30m	-	PASS

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

TEST EQUIPMENT USED					
CATEGORY	BRAND	Түре	IDENTIFIER	CAL. DATE	CAL. DUE
Antenna	Rohde & Schwarz	HFH2-Z2	5825	20/09/2017	20/11/2019
Antenna mast	INNCO	MA4000-EP-O	10261		
Cable	Huber + Suhner	N-20m	8385	11/10/2017	11/12/2019
Mast controller	Heinrich Deisel	HD100	4036		
Open area test site	EMITECH	Salinelles	3482	10/10/2017	10/12/2020
Receiver	Rohde & Schwarz	ESHS10	3371	20/09/2018	20/11/2019
Turntable	Heinrich Deisel	D4420	4038		

Blank cells = Permanent validity

FIELD STRENGTH - TABULATED RESULTS – CONFIG TAG					
Frequency (MHz)	Polarization (°)	Level at 10m (dBµA/m)	Limit at 10m (dBµA/m)	Limit at 30m (µV/m)	
13.56	0	-1.91	51.58	15848	
13.56	45	-0.41	51.58	15848	
13.56	90	2.69	51.58	15848	

Maximun level at 10m is 2.69dBµA/m for a limit at 51.58 dBµA/m.

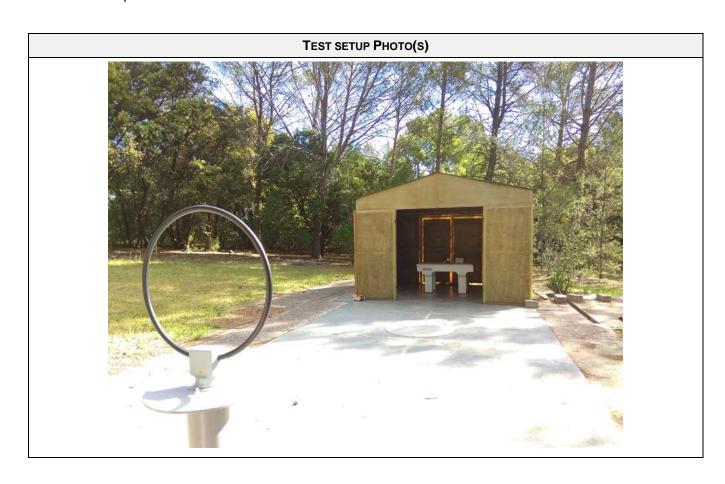
Using an extrapolation factor of 40dB/dec and a conversion factor of -51.5dB, level at 30m is 35.11 dB μ V/m for a limit at 84 dB μ V/m.



FIELD STRENGTH - TABULATED RESULTS – CARD EMULATION					
Frequency (MHz)	Polarization (°)	Level at 10m (dBµA/m)	Limit at 10m (dBµA/m)	Limit at 30m (µV/m)	
13.56	0	-5.71	51.58	15848	
13.56	45	-4.21	51.58	15848	
13.56	90	-1.01	51.58	15848	

Maximun level at 10m is -1.01dBμA/m for a limit at 51.58 dBμA/m.

Using an extrapolation factor of 40dB/dec and a conversion factor of -51.5dB, level at 30m is 31.41 dB μ V/m for a limit at 84 dB μ V/m.





6.5. Field strength outside the band 13.110-14.010MHz

Reference standard:	FCC part 15 Radio part 15.225 b) c) & d) & RSS-210
Test method:	FCC part 15 Radio part 15.225 a) c) & d) & RSS-210

General test setup: EUT is set inside the climatic enclosure.

Carrier level are correlated with the maximum carrier level measured in normal conditions.

FREQUENCY BAND	SEVERITY	RESULT TAB.	VERDICT
Below 13.110MHz	§15.209	See graphic & §6.3 of this report	PASS
13.110-13.410MHz	106µV/m at 30m	See graphic	PASS
13.410-13.553MHz	334µV/m at 30m	See graphic	PASS
13.553-13.567MHz	15,848µV/m at 30m	See graphic & §6.4 of this report	PASS
13.567-13.710MHz	334µV/m at 30m	See graphic	PASS
13.710-14.010MHz	106µV/m at 30m	See graphic	PASS
Above 14.010MHz	§15.209	See graphic & §6.3 of this report	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)
Atmospheric pressure	N/A	See Graph(es)

Test method deviation: N/A

Supplementary information: Test are done in the worst configuration mode: Config Tag which presents the higher carrier level (All modulations activated at the same time).

TEST EQUIPMENT USED					
CATEGORY	BRAND	Түре	IDENTIFIER	CAL. DATE	CAL. DUE
AC power source	KIKUSUI	PCR4000L	3074	12/06/2018	12/08/2019
Antenna	Emitech	3.5 cm	4653		
Cable	MICRO-COAX	N-3m	10535	06/04/2017	06/06/2019
Climatic enclosure	CLIMATS	EXCAL 7714-HA	14261	26/04/2018	26/06/2019
Multimeter	FLUKE	8808A	12446	24/04/2018	24/06/2019
Spectrum analyzer	Rohde & Schwarz	FSW43	14830	28/12/2018	28/02/2020
Thermohygrometer	Bioblock Scientific	Météostar	0963	25/01/2019	25/03/2021
Thermohygrometer	Testo	608-H2	12268	27/11/2017	27/01/2020

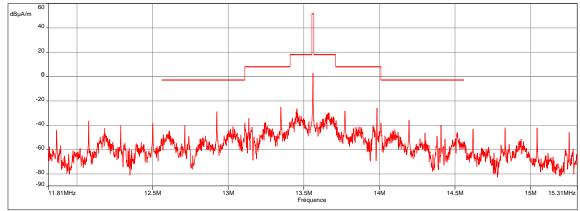
Blank cells = Permanent validity



FIELD STRENGTH IN THE BAND 13.110-14.010MHz AND OUTSIDE - GRAPH					
FIELD STRENGTH IN THE BAND 13.110-14.010MHz AND OUTSIDE EMI5564					
EUT mode:	Tx mode	T (°C):	21.3°C		
Test Date:	10/04/2019	H (%):	39.4 %		
Test Operator:	MPA	P (hPa):	1015hPa		

FCC/FCC Part 15 §225 - Classe:Tx - QCrête/10.0m/

Description Sous-bande 1
Fréquences::11.81 MHz - 15.31 MHz (Mode analyseur) 8000 Points
Régilages: RBW: 30Hz - 15.31 MHz, Auto, Atténuation: Auto, Nombre de Balayages: 1, Preamp: Off, LN Preamp: Off, Preselecteur: Off
Position:Circulaire
Distance: 10 m



RFID MASK / 25°C / 5Vdc - 29/05/2019 14:25 - 4341

Position	FREQUENCIES	RBW	VBW	DETECTOR
RF port	11.81-15.31MHz	300Hz	1kHz	Peak max hold

Configuration: N/A

Limit indicated on these plots are calculated with 40 dB/decade extrapolation factor and **Comments:**

51.5dB conversion factor.



6.6. Measurement of Frequency Stability

Reference standard:	FCC part 15 Radio part 15.225 e) & RSS-210		
Test method :	FCC part 15 Radio part 15.225 e), ANSI C63.10:2013 and RSS Gen		

General test setup: The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

EUT is set inside the climatic enclosure. Carrier level are correlated with the maximum carrier level measured in normal conditions.

A digital temperature probe is set near the equipement in order to ensure a temperature stabilisation.

Measurement are made according to ANSI C63.10:2013 §6.8.1, only extremes tests values are shown in final results.

TEST CASE	EUT MODE	SEVERITY	RESULT TAB.	VERDICT
Tx mode	Tx mode	+/-0.01%	-	PASS

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

TEST EQUIPMENT USED					
CATEGORY	BRAND	Түре	IDENTIFIER	CAL. DATE	CAL. DUE
AC power source	KIKUSUI	PCR4000L	3074	12/06/2018	12/08/2019
Antenna	Emitech	3.5 cm	4653		
Cable	MICRO-COAX	N-3m	10535	06/04/2017	06/06/2019
Climatic enclosure	CLIMATS	EXCAL 7714-HA	14261	26/04/2018	26/06/2019
Digital thermometer	GHM Greisinger	GMH 3710	12968	11/02/2019	11/04/2020
Multimeter	FLUKE	8808A	12446	24/04/2018	24/06/2019
Spectrum analyzer	Rohde & Schwarz	FSW43	14830	28/12/2018	28/02/2020
Thermohygrometer	Bioblock Scientific	Météostar	0963	25/01/2019	25/03/2021
Thermohygrometer	Testo	608-H2	12268	27/11/2017	27/01/2020
Thermometer contactless	GHM Greisinger	GMH 3710	12968	11/02/2019	11/04/2020

Blank cells = Permanent validity



EFFECTIVE RADIATED POWER - TABULATED RESULTS					
Test Case (Temperature variation)	Temperature (°C)	Power supply (Vdc)	Frequency (MHz)	Frequency error (%)	
Normal conditions	25	5	13.560268	-	
Extremes tests conditions	-30	5	13.5602425	0.00179	
Extremes tests conditions	+55	5	13.5602025	0.00149	

TEST SETUP PHOTO(S)



000 End of test report **000**