EMITECH GROUPE

RC-030-GTE-14-105110-2-A

"This report cancels and replaces the test report N° RC-030-GTE-14-105110-2-A Edition 0"

E.M.C Test Report

According to the standard:
FCC 47 CFR PART 15 : 2014 (§15.247)

Equipment under test:
Microphone
Type CONFIDEA DV G3
FCC ID : WM7CONFIDEA WDUG3

Company:
TELEVIC

FCC accredited: FR0004

DISTRIBUTION: Mr DUMEZ **(Company:** TELEVIC)

Number of pages: 40 with 6 annexes

Ed.	Date	Modified pages	Written by Name	Written by Visa	Technical Verification and Quality Approval Name	Technical Verification and Quality Approval Visa
1	17/02/12	1 ; 4	F. LHEUREUX	FL	B. Pellegri	

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.

TEST CERTIFICATION FOR:	FCC Certification
***NAME OF THE EQUIPMENT UNDER TEST*:**	Microphone Type: CONFIDEA DV G3
Serial number:	134101215110000
Reference / model (P/N):	71.98.0006 V 1.01
Software version:	-
NAME OF THE MANUFACTURER:	TELEVIC
ADDRESS OF THE APPLICANT:	
Company:	TELEVIC
Address:	Leo Bekaertlaan 1 8870 Izegem BELGIUM
Person in charge:	Mr DUMEZ
DATES OF TESTS:	02/10/2014 to 10/10/2014
TESTS LOCATION:	Open area test site in Aunainville (28) - FRANCE
TESTS OPERATOR:	F. LHEUREUX

TABLE OF CONTENTS

1. INTRODUCTION

This document presents the results of Electromagnetic Compatibility tests performed on the equipment **«Microphone type: CONFIDEA DV G3»** according to reference documents listed below.

2. REFERENCE DOCUMENTS

FCC 47 CFR Part 15: 2014
Code of Federal Regulations
Title 47- Telecommunication
Chapter 1- Federal Communication Commission
Part 15- Radio frequency devices

ANSI C63.4: 2003
Methods of Measurement of Radio-Noise Emissions from Low Voltage Electrical and Electronics Equipment in the range of 9 kHz to 40 GHz.

KDB 558074 D01 DTS Meas Guidance V03r02
Guidance for performing compliance measurement on Digital Transmission Systems (DTS) operating under § 15.247

3. PRODUCT DESCRIPTION

Class:	B (residential environment)
Utilization:	The units (delegates/chairman) are table top units that make a wireless link to a Wireless Conference Access Point called WCAP G3.
Antenna type and gain:	internal antenna: Not communicated
Operating frequency range:	from 2412 MHz to 2462 MHz
Number of channels:	11 (802.11 g)
Channel spacing:	5 MHz
Modulation:	OFDM @ 54 Mbits/sec
Power source:	7.2 Vdc
Software power setting:	The microphone is paired with the wireless conference access point system. (The power is not adjustable, only the channels)

Modification of the equipment during the tests: No.

4. TESTS AND CONCLUSION

The following table summarizes test results of the EUT.

Subpart B of the standard FCC part 15 – Unintentional radiators

Test procedure	Designation of test	Test results				Comments
		Pass	Fail	N.A.	N.P.	
15.107	Measurement of conducted emission on AC mains ports			X		
15.109	Radiated emission limits	X				

Subpart C of the standard FCC part 15 – Intentional radiators

Test procedure	Designation of test	Test results				Comments
		Pass	Fail	N.A.	N.P.	
15.205	Restricted bands of operation	X				
15.207	Measurement of conducted emission on AC mains ports	X				
15.209	Radiated emission limits; general requirements	X				
15.215	Additional provisions to the general radiated emission limitations					
	(a) Alternative to general radiated emission limits	X				
	(b) Unwanted emissions outside of § 15.247 frequency bands	X				
	(c) 20 dB bandwidth and band-edge compliance	X				
15.247	Intentional radiated emissions					
	a) frequency hopping and digitally modulated					
	a) (1) hopping mode			X		
	a) (1) (i) frequency hopping in the band 902-928 MHz			X		
	a) (1) (ii) frequency hopping in the band 5725–5850 MHz			X		
	a) (1) (iii) frequency hopping in the band 2400–2483.5 MHz			X		
	a) (2) systems using digital modulation in the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz (6 dB bandwith)	X				
	b) maximum peak conducted					
	b) (1) frequency hopping in the bands 2400–2483.5 MHz or 5725–5850 MHz			X		
	b) (2) frequency hopping in the band 902-928 MHz			X		
	b) (3) systems using digital modulation in the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz	X				
	b) (4) maximum peak conducted > 6 dBi					

Test procedure	Designation of test	Test results				Comments
		Pass	Fail	N.A.	N.P.	
	b) (4) (i) frequency hopping in the band 2400–2483.5 MHz			X		
	b) (4) (ii) frequency hopping in the band 5725–5850 MHz			X		
	b) (4) (iii) fixed, point-to-point			X		
	c) directional antenna > 6 dBi					
	c) (1) fixed, point-to-point operation					
	c) (1) (i) in the band 2400–2483.5 MHz			X		
	c) (1) (ii) in the band 5725–5850 MHz			X		
	c) (1) (iii) fixed, point-to-point			X		
	c) (2) multiple directional beams in the band 2400–2483.5 MHz					
	c) (2) (i) information			X		
	c) (2) (ii) sum of the power supplied to all antennas			X		
	c) (2) (iii) one antenna for multiple directional beams			X		
	c) (2) (iv) single directional beam			X		
	d) intentional radiator	X				
	e) peak power spectral density	X				
	f) hybrid system			X		
	g) continuous data stream during the test					
	h) to avoid hopping on occupied channels					
	i) RF exposure compliance			X		P < 500 mW

N.A.: Not Applicable
N.P.: Not Performed

Conclusion:

The tested sample " **Microphone type: CONFIDEA DV G3** " submitted to the tests complies with the requirements of the standard:

- FCC 47 CFR PART 15 : 2014

According to the limits specified in this report.

5. DIGITAL MODULATION SYSTEMS

Standard: FCC 47 CFR PART 15 : 2014

Section: 15.247 a) (2)

Test configuration:

The system is tested in an open area test site (OATS).

The test unit is placed on a rotating table, 0.8 m from a ground plane. Zero degree azimuth corresponds to the front of the equipment under test.

The level was maximised in antenna height, azimuth and polarization. The maximum level measured on the spectrum analyser was recorded.

Distance of antenna: 3 meters

Instrumentation test list:

CATEGORY	BRAND	TYPE	Nr EMITECH
Antenna	Emco	Cornet 3115	3374
Antenna mast	Maturo	AM 4.0-O	7625
Cable	Micro-Coax	N-13m	8063
Open area test site	Emitech	Aunainville	0187
Receiver	Rohde & Schwarz	R&S FSU8	9129
Turntable	Maturo	MCU	7626

Equipment under test operating condition:

EUT is in continuous transmission mode.

Measure conditions:

Ambient temperature (°C): 15
Relative humidity (%): 69

Resolution bandwidth: 100 kHz

Results:

Power source: 7.2 Vdc

Frequency	Mode	Results	Comments
2412 MHz	802.11g	16.10 MHz	See annex n°4
2452 MHz		16.49 MHz	See annex n°4
2462 MHz		16.44 MHz	See annex n°4

Test conclusion: Complies with the requirements of the standard.

6. TRANSMITTER OUTPUT POWER

Standard: FCC 47 CFR PART 15 : 2014

Section: 15.247 b) (3)

Test configuration:

The system is tested in an open area test site (OATS).

The test unit is placed on a rotating table, 0.8 m from a ground plane. Zero degree azimuth corresponds to the front of the equipment under test.

The level was maximised in antenna height, azimuth and polarization. The maximum level measured on the spectrum analyser was recorded.

Distance of antenna: 3 meters

Instrumentation test list:

CATEGORY	BRAND	TYPE	Nr EMITECH
Antenna	Emco	Cornet 3115	3374
Antenna mast	Maturo	AM 4.0-O	7625
Cable	Micro-Coax	N-13m	8063
Open area test site	Emitech	Aunainville	0187
Receiver	Rohde & Schwarz	R&S FSU8	9129
Turntable	Maturo	MCU	7626

Equipment under test operating condition:

EUT is in continuous transmission mode.

Measure conditions:

Ambient temperature (°C): 15
Relative humidity (%): 69

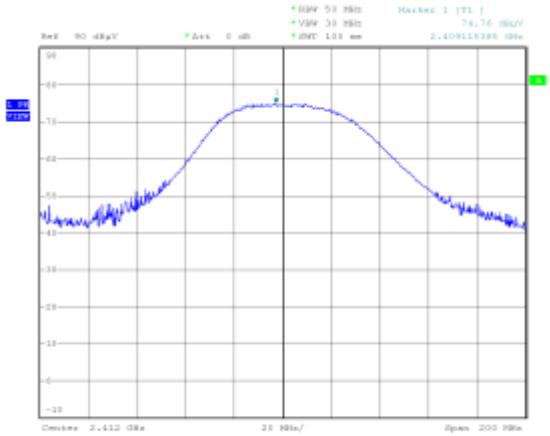
Resolution bandwidth: 50 MHz

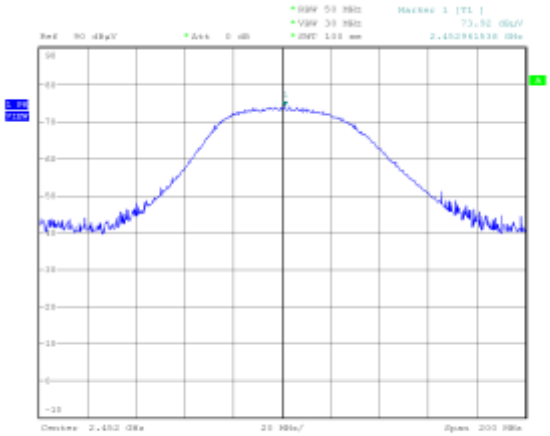
Results:

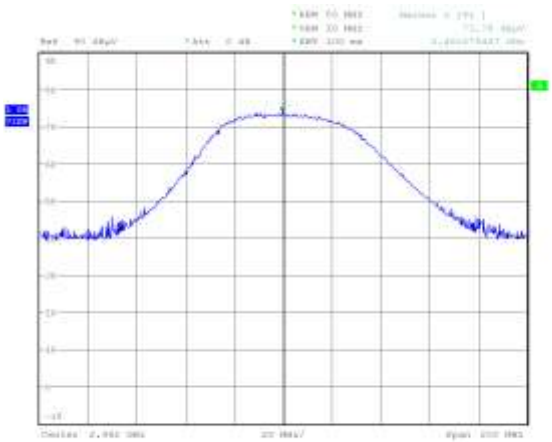
Power source: 7.2 Vdc

Frequency	Mode	Electro-magnetic field (dBµV/m)	TP* (dBm)	Limit (dBm)
2412 MHz	802.11 g	108.26	13.1	30
2452 MHz		107.62	12.4	
2462 MHz		107.48	12.3	

* TP = E (dBµV/m) – 95.2 for d = 3 m







Test conclusion: Complies with the requirements of the standard.

7. PEAK POWER SPECTRAL DENSITY

Standard: FCC 47 CFR PART 15 : 2014

Section: 15.247 e)

Test configuration:

The system is tested in an open area test site (OATS).

The test unit is placed on a rotating table, 0.8 m from a ground plane. Zero degree azimuth corresponds to the front of the equipment under test.

The level was maximised in antenna height, azimuth and polarization. The maximum level measured on the spectrum analyser was recorded.

Distance of antenna: 3 meters

Instrumentation test list:

CATEGORY	BRAND	TYPE	Nr EMITECH
Antenna	Emco	Cornet 3115	3374
Antenna mast	Maturo	AM 4.0-O	7625
Cable	Micro-Coax	N-13m	8063
Open area test site	Emitech	Aunainville	0187
Receiver	Rohde & Schwarz	R&S FSU8	9129
Turntable	Maturo	MCU	7626

Equipment under test operating condition:

EUT is in continuous transmission mode.

Measure conditions:

Ambient temperature (°C): 15
Relative humidity (%): 69

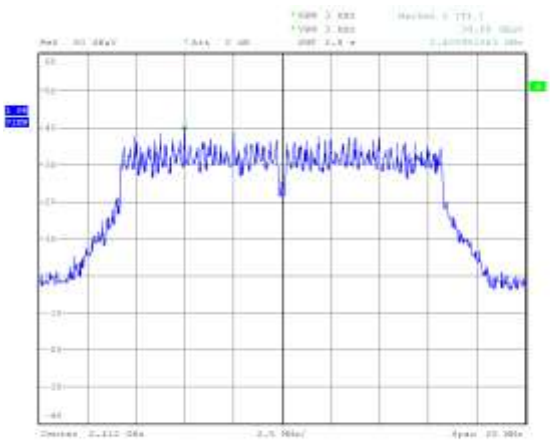
Resolution bandwidth: 3 kHz
Video bandwidth: 3 kHz

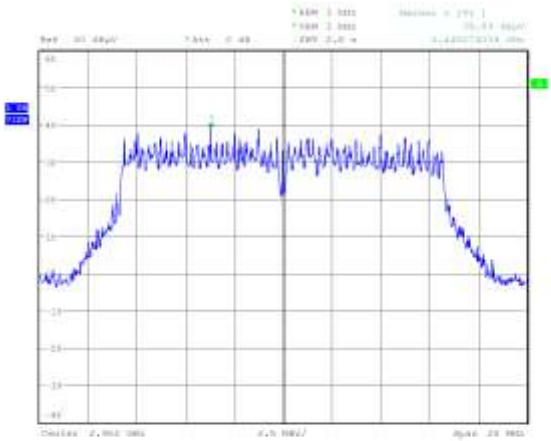
Results:

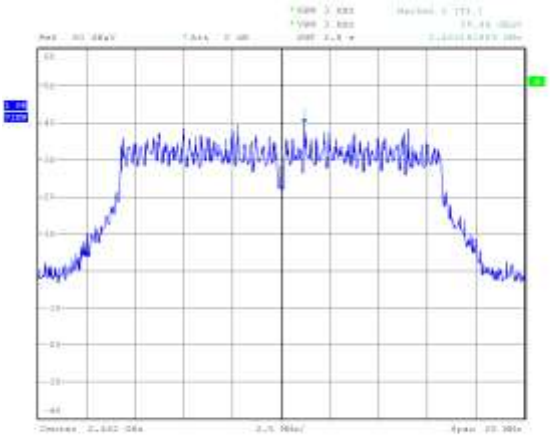
Power source: 7.2 Vdc

Frequency	Mode	Electro-magnetic field (dBµV/m)	PPSD* (dBm)	Limit (dBm)
2412 MHz	802.11 g	72.18	- 23.0	+ 8.0
2452 MHz		72.59	- 22.6	
2462 MHz		73.14	- 22.1	

* PPSD = E (dBµV/m) – 95.2 for d = 3 m







Test conclusion: Complies with the requirements of the standard.

8. ADDITIONAL PROVISIONS TO THE GENERAL RADIATED EMISSIONS LIMITATION

Standard: FCC 47 CFR PART 15 : 2014

Sections: 15.215 (b) and 15.247 (d)

Instrumentation test list:

CATEGORY	BRAND	TYPE	Nr EMITECH
Antenna	Emco	Cornet 3115	3374
Antenna mast	Maturo	AM 4.0-O	7625
Cable	Micro-Coax	N-13m	8063
Open area test site	Emitech	Aunainville	0187
Receiver	Rohde & Schwarz	R&S FSU8	9129
Turntable	Maturo	MCU	7626

Equipment under test arrangement:

The system is tested in an open area test site (OATS).
The test unit is placed on a rotating table, 0.8 m from a ground plane. Zero degree azimuth corresponds to the front of the equipment under test.

Results:

Ambient temperature (°C): 15
Relative humidity (%): 69

Lower Band Edge: from 2310 MHz to 2390 MHz
Upper Band Edge: from 2483.5 MHz to 2500 MHz

- Mode 802.11 g

Fundamental frequency (MHz)	Field Strength Level of fundamental (dBµV/m)	Detector (Peak or Average)	Frequency of maximum Band-edges Emission (MHz)	Delta Marker (dB) *	Calculated Max Out of Band Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)
2413.46	87.34	Peak	2310.98	- 36.4	50.9	54.0	3.1
2455.71	87.39	Peak	2484.16	- 41.0	46.4	54.0	7.6

* according to step 2 of Marker-Delta Method DA 00-705.

Band-edge curves are given in annex 5.

9. UNINTENTIONAL RADIATED EMISSIONS AND TRANSMITTER UNWANTED EMISSION IN THE BAND 9 KHz – 25 GHz

Standard: FCC 47 CFR PART 15 : 2014

Sections: 15.205; 15.209 and 15.247

Equipment under test arrangement:

The equipment under test (EUT) is placed on a non-conductive test table at 0.8 m above the horizontal metal ground plane.

For maximum meter reading at each frequency, the antenna height is adjusted between 1 m and 4 m above the ground plane. A 360 degrees rotation of the EUT is performed in vertical and horizontal polarization. The frequency azimuth and antenna height are presented in the table on the next pages.

The E.U.T. is blocked in continuous transmission.

Frequency range: 9 kHz – 30 MHz
30 MHz - 1 GHz
1 GHz – 25 GHz

Detection mode: Quasi-peak for 9 kHz – 30 MHz
Quasi-peak for 30 MHz - 1 GHz
Average for 1 GHz – 25 GHz

Resolution bandwidth: 200 Hz for 9 kHz – 150 kHz
9 kHz for 150 kHz – 30 MHz
120 kHz for 30 MHz - 1 GHz
1 MHz for 1 GHz – 25 GHz

Measurement distance: 30 meters from 9 kHz to 30 MHz
3 meters from 30 MHz to 25 GHz

- Limit for emission radiated outside the frequency band, except the harmonics, shall be attenuated by at least 20 dB below the level of fundamental or the general radiated emission limits.

From 9 kHz to 30 MHz

Frequency range	Limit µV/m
9 – 490 kHz	2400/F (F in kHz) *
490 – 1705 kHz	24000/F (F in kHz)
1.705 – 30 MHz	30

* Limits in µV/m can be extrapolated to 30 m using 20 dB / decade.

From 30 MHz to 25 GHz

Frequency range (MHz)	Limit (dBµV/m)	µV/m
30 to 88	40.0	100
88 to 216	43.5	150
216 to 960	46.0	200
Above 960	54.0	500

Instrumentation test list:

CATEGORY	BRAND	TYPE	Nr EMITECH
Antenna	Oritel	Cornet CM 42-25	1045
Antenna	Emco	Cornet 3115	3374
Antenna	Chase	Bilog CBL6111	4428
Antenna	Eaton	Cadre Eaton 96009/2	4713
Antenna mast	Maturo	AM 4.0-O	7625
Antenna mast	Maturo	MCU	7626
Cable	Câbles & Connectiques	N-13m	2452
Cable	-	N-2m	2805
Cable	Câbles & Connectiques	N-SMA	2864
Cable	-	N-30m	4359
Cable	-	N-8m	8021
Cable	Micro-Coax	N-13m	8063
Filter	Trilithic	Passe haut	1097
Filter	Micro-tronics	Passe haut	4691
Open area test site	Emitech	Aunainville	0187
Preamplifier	Hewlett Packard	HF	0051
Preamplifier	Mini Circuits	RF	5437
Voltmeter	Rohde & Schwarz	R&S ESVS10	1216
Wattmeter	Agilent Technologies	Agilent E7405A	2205

Results:

Ambient temperature (°C): 15
Relative humidity (%): 69
Power source: 7.2 Vdc

Frequency 2412 MHz

FREQUENCY (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	Resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBµV/m)	Limits (dBµV/m)	Margin (dB)
344.072	Quasi-peak	155	20	120	V	36.1	46.0	9.9
344.072	Quasi-peak	100	270	120	H	34.7	46.0	11.3

Frequency 2452 MHz

FREQUENCY (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	Resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBµV/m)	Limits (dBµV/m)	Margin (dB)
344.072	Quasi-peak	155	20	120	V	36.1	46.0	9.9
344.072	Quasi-peak	100	270	120	H	34.7	46.0	11.3

Frequency 2462 MHz

FREQUENCY (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	Resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBµV/m)	Limits (dBµV/m)	Margin (dB)
344.072	Quasi-peak	155	20	120	V	36.1	46.0	9.9
344.072	Quasi-peak	100	270	120	H	34.7	46.0	11.3

Test conclusion:

The equipment complies with the requirements of the standard.

10. RADIATED EMISSION LIMIT

Standard: FCC 47 CFR PART 15 : 2014

Section: 15.109

Instrumentation test list:

CATEGORY	BRAND	TYPE	Nr EMITECH
Antenna	Chase	Bilog CBL6111	4428
Antenna	Emco	Cornet 3115	3374
Antenna mast	Maturo	AM 4.0-O	7625
Antenna mast	Maturo	MCU	7626
Cable	Câbles & Connectiques	N-13m	2452
Cable	-	N-2m	2805
Cable	Câbles & Connectiques	N-SMA	2864
Cable	-	N-8m	8021
Cable	Micro-Coax	N-13m	8063
Filter	Trilithic	Passe haut	1097
Filter	Micro-tronics	Passe haut	4691
Open area test site	Emitech	Aunainville	0187
Preamplifier	Mini Circuits	RF	5437
Preamplifier	Hewlett Packard	HF	0051
Wattmeter	Agilent Technologies	Agilent E7405A	2205

Equipment under test arrangement:

The system is tested in an open area test site (OATS).
The test unit is placed on a rotating table, 0.8 m from a ground plane. Zero degree azimuth corresponds to the front of the equipment under test.

Frequency range: From 30 MHz to harmonic 5 (highest frequency used = 2400 MHz).

Bandwidth: 120 kHz (F<1 GHz)
1 MHz (F>1 GHz)

Detection mode: Quasi-peak (F < 1 GHz)
Average (F > 1 GHz)

Distance of antenna: 3 meters.

Antenna height: 1 to 4 meters

Antenna polarization: vertical and horizontal.

Operating mode during the test:

The E.U.T. is in standby mode.

Results:

Ambient temperature (°C): 15
Relative humidity (%): 69
Power source: 7.2 Vdc

Frequency 2412 MHz

FREQUENCY (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBµV/m)	Limits (dBµV/m)	Margin (dB)
344.072	Quasi-peak	155	20	120	V	36.1	46.0	9.9
344.072	Quasi-peak	100	270	120	H	34.7	46.0	11.3

Frequency 2452 MHz

FREQUENCY (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBµV/m)	Limits (dBµV/m)	Margin (dB)
344.072	Quasi-peak	155	20	120	V	36.1	46.0	9.9
344.072	Quasi-peak	100	270	120	H	34.7	46.0	11.3

Frequency 2462 MHz

FREQUENCY (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBµV/m)	Limits (dBµV/m)	Margin (dB)
344.072	Quasi-peak	155	20	120	V	36.1	46.0	9.9
344.072	Quasi-peak	100	270	120	H	34.7	46.0	11.3

No significant frequency has been found other than those given above between 1 GHz to 13 GHz.

Test conclusion: Standard respected

« □□□ *End of report, 6 annexes to be forwarded* □□□ »

ANNEX 1

ANTENNA FACTORS, INSERTION LOSSES AND AMPLIFIER VALUES

BILL OF MATERIAL

The test antenna used for the radiated emission between 9 kHz and 30 MHz is the active loop antenna n°4713. Antenna factors are given in table 1.

The test antenna used for the radiated emission between 30 MHz and 1 GHz is the biclog antenna n°4428. Antenna factors are given in table 2.

The measuring receiver n°1216 used in the frequency range 30 MHz to 1 GHz has an integrated preamplifier.

The spectrum analyzer n°2205 is used in the frequency range 1 GHz to 25 GHz.

The test cable used between 9 kHz and 30 MHz to connect the antennas to the receiver for measurements at a distance of 30 meters has losses given in table 3.

The test cable used between 30 MHz and 1 GHz to connect the antennas to the receiver for measurements at a distance of 3 meters has losses given in table 4.

The test antenna used for the radiated emission between 1 GHz and 18 GHz is the horn antenna n°3374. Factors are given in table 5.

The test antenna used for the radiated emission between 18 GHz and 25 GHz is the horn antenna n°1045. Factors are given in table 6.

The amplifier n°3229 used to connect the spectrum analyzer to the test cable has gain values given in the table 7.

The test cable used between 1 GHz and 26 GHz to connect the horn antenna to the amplifier for measurements at a distance of 3 meters has losses given in table 8.

Frequency (MHz)	Antenna factor (dB/m)	Frequency (MHz)	Antenna factor (dB/m)
0.009	26.3	0.8	9.9
0.01	25.6	1	10.0
0.015	22.8	1.5	10.1
0.02	21.0	2	10.1
0.03	18.7	3	10.0
0.05	15.4	5	10.0
0.08	12.8	8	9.8
0.1	11.8	10	9.7
0.15	10.5	15	9.2
0.2	9.9	20	8.5
0.3	9.7	25	7.4
0.5	9.7	30	5.6

TABLE 1 : ACTIVE LOOP ANTENNA

Frequency (MHz)	Antenna factor (dB/m)	Frequency (MHz)	Antenna factor (dB/m)
30	20.2	180	9.6
35	17.4	200	11.7
40	13.9	250	12.0
45	12.8	300	13.7
50	10.2	400	16.5
60	7.0	500	18.3
70	6.9	600	20.3
80	8.0	700	21.6
90	9.2	800	22.2
100	11.0	900	23.2
120	12.3	1000	23.7
140	11.4	-	-
160	10.9	-	-

TABLE 2 : BILOG ANTENNA

Frequency (MHz)	Loss (dB)	Frequency (MHz)	Loss (dB)
0.009	0.0	6.000	0.5
0.020	0.0	7.000	0.5
0.050	0.0	8.000	0.5
0.100	0.1	9.000	0.6
0.500	0.1	10.00	0.6
1.000	0.2	15.00	0.8
2.000	0.3	20.00	0.9
3.000	0.3	25.00	1.0
4.000	0.4	30.00	1.1
5.000	0.4	-	-

TABLE 3 : TEST CABLE FOR 30M MEASUREMENT INTO 9 kHz AND 30 MHz

Frequency (MHz)	Loss (dB)	Frequency (MHz)	Loss (dB)
30	0.7	250	1.8
40	0.7	300	2.1
50	0.9	400	2.3
60	0.9	500	2.5
70	0.9	600	3.0
80	0.9	700	3.4
90	1.1	800	3.6
100	1.1	900	3.9
150	1.4	1000	4.1
200	1.6	-	-

TABLE 4 : TEST CABLE FOR 3M MEASUREMENT INTO 30 MHz AND 1 GHz

Frequency (GHz)	Antenna factor (dB/m)	Frequency (GHz)	Antenna factor (dB/m)
1.0	23.7	10.0	37.6
1.5	25.0	10.5	37.8
2.0	27.5	11.0	38.1
2.5	28.8	11.5	38.3
3.0	29.8	12.0	38.8
3.5	31.2	12.5	38.8
4.0	32.5	13.0	39.4
4.5	32.5	13.5	40.0
5.0	33.5	14.0	40.1
5.5	34.1	14.5	40.6
6.0	34.1	15.0	40.6
6.5	34.4	15.5	39.7
7.0	35.4	16.0	39.3
7.5	36.6	16.5	39.9
8.0	36.6	17.0	41.4
8.5	37.0	17.5	45.1
9.0	37.1	18.0	46.3
9.5	37.2	-	-

TABLE 5 : HORN ANTENNA

Frequency (GHz)	Antenna factor (dB/m)	Frequency (GHz)	Antenna factor (dB/m)
18.0	31.5	22.5	32.7
18.5	31.8	23.0	33.2
19.0	31.9	23.5	33.1
19.5	32.1	24.0	33.2
20.0	32.2	24.5	33.3
20.5	32.4	25.0	33.3
21.0	32.5	25.5	33.2
21.5	32.4	26.0	33.1
22.0	32.4	-	-

TABLE 6 : HORN ANTENNA

Frequency (GHz)	Gain value (dB)	Frequency (GHz)	Gain value (dB)
1.0	33.4	13.0	32.5
1.5	33.7	14.0	31.6
2.0	33.9	15.0	33.0
2.5	34.0	16.0	33.5
3.0	33.9	17.0	33.9
4.0	34.3	18.0	34.3
5.0	35.2	19.0	34.4
6.0	34.7	20.0	32.9
7.0	34.0	21.0	33.2
8.0	33.7	22.0	34.3
9.0	31.8	23.0	34.6
9.5	31.1	24.0	34.4
10.0	30.5	25.0	34.5
10.5	30.7	26.0	32.5
11.0	31.1	-	-
12.0	32.4	-	-

TABLE 7 : AMPLIFIER GAIN VALUE

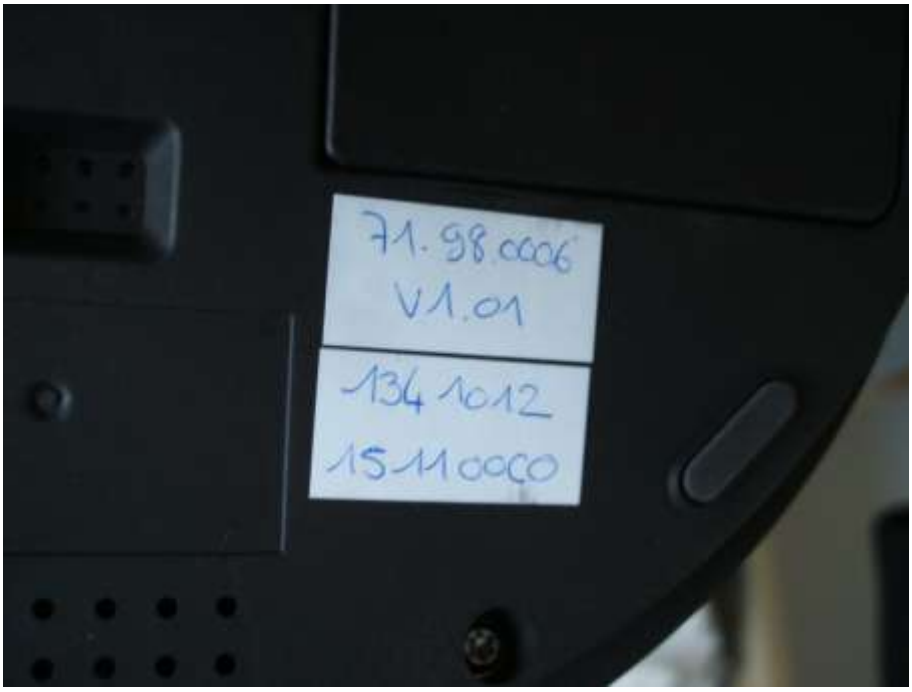
Frequency (GHz)	Loss (dB)	Frequency (GHz)	Loss (dB)
1.0	3.2	12.0	11.8
1.5	4.0	13.0	12.2
2.0	4.6	14.0	12.4
2.5	5.2	15.0	12.9
3.0	5.7	16.0	13.4
3.5	6.2	17.0	13.9
4.5	7.1	18.0	14.5
5	7.3	19.0	14.7
6	7.9	20.0	15.4
8	9.3	22.0	16.3
10	10.5	24.0	16.9
11.0	11.1	26.0	17.7

TABLE 8: TEST CABLE FOR 3M MEASUREMENT INTO 1 TO 26 GHz

ANNEX 2

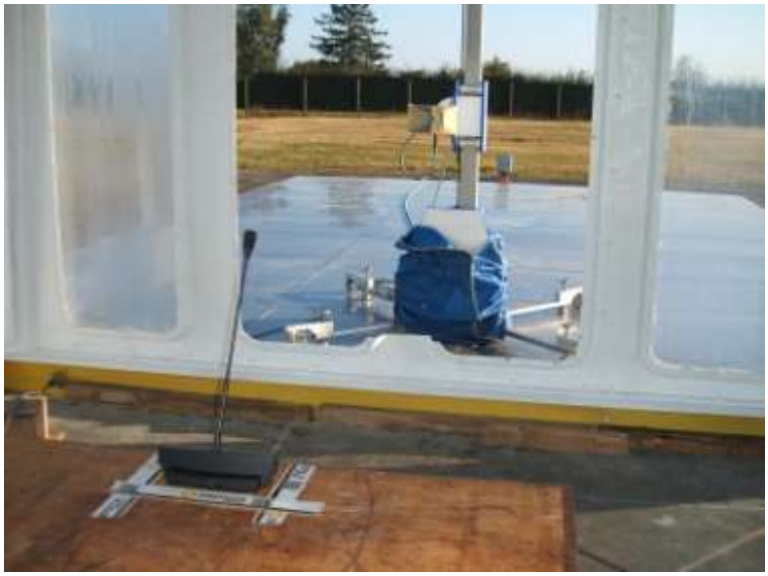
EXTERNAL PHOTOGRAPHIES

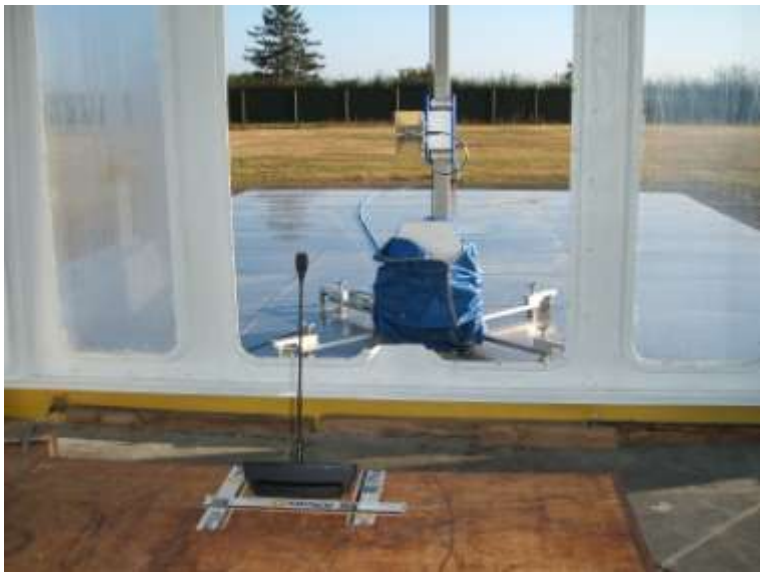

EMITECH

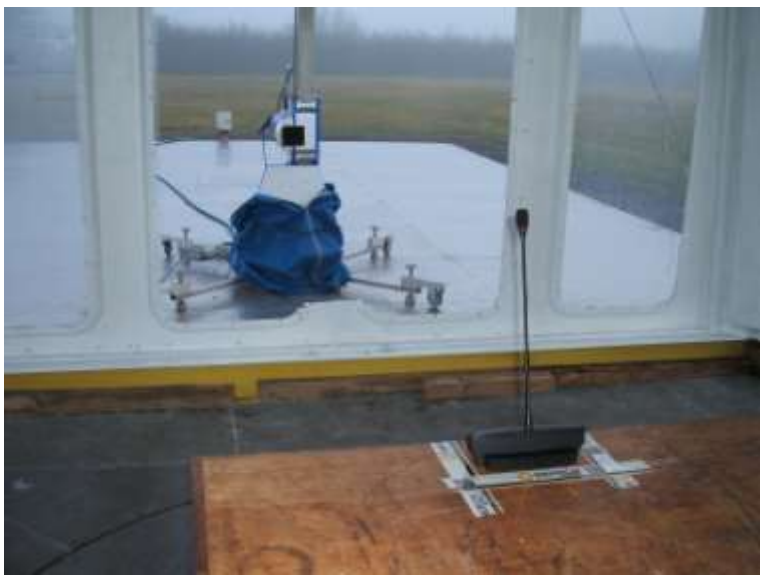

71.98.0006
V1.01
134 1012
15 11 0020

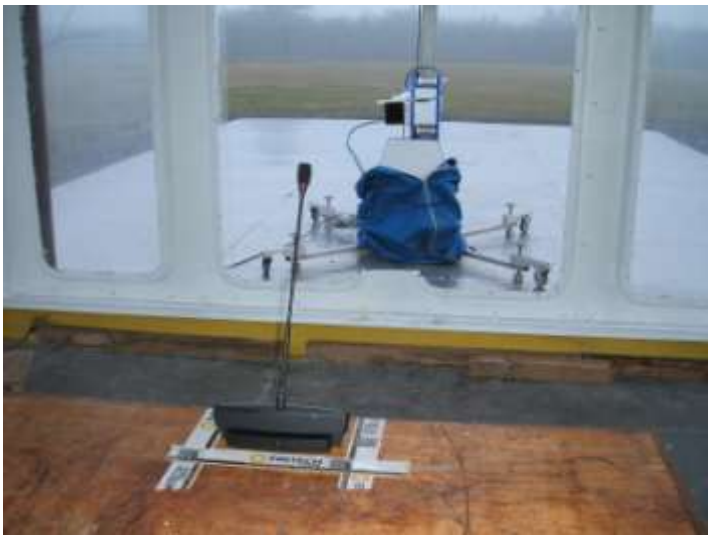
ANNEX 3

TEST SETUP PHOTOGRAPHIES





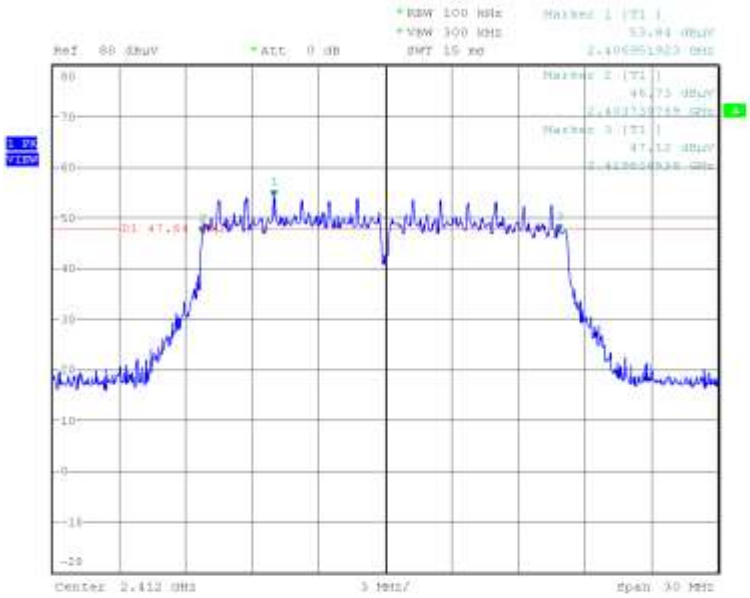




ANNEX 4

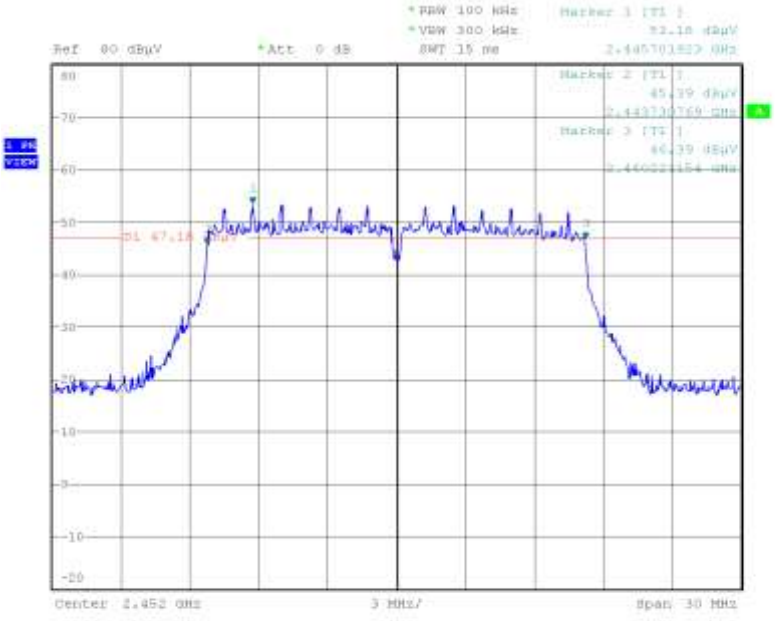
6 dB BANDWIDTH

Frequency 2412 MHz



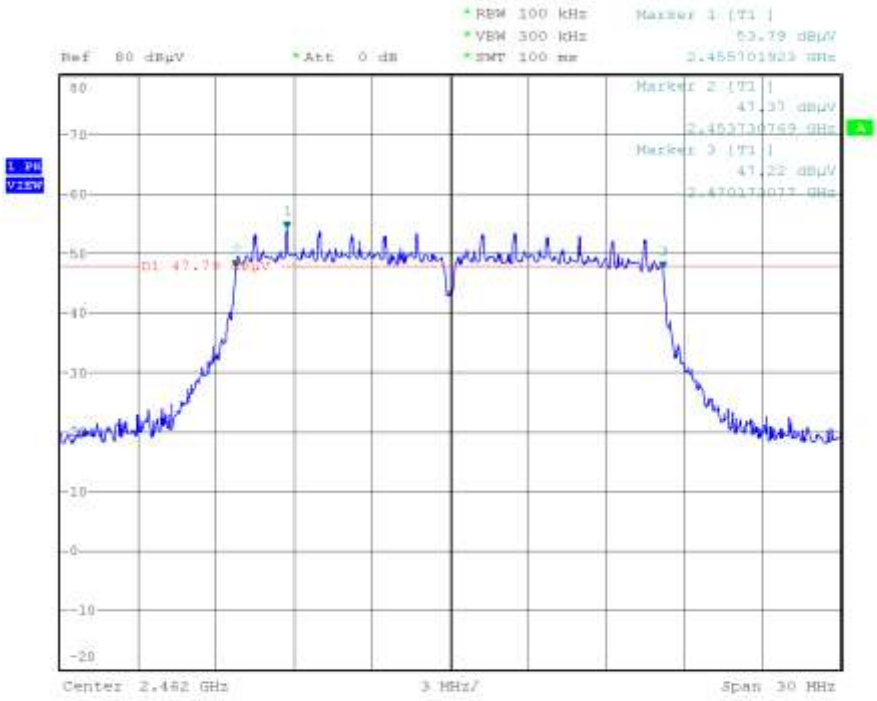
Date: 3.OCT.2014 09:31:24

Frequency 2452 MHz



Date: 3.OCT.2014 09:45:33

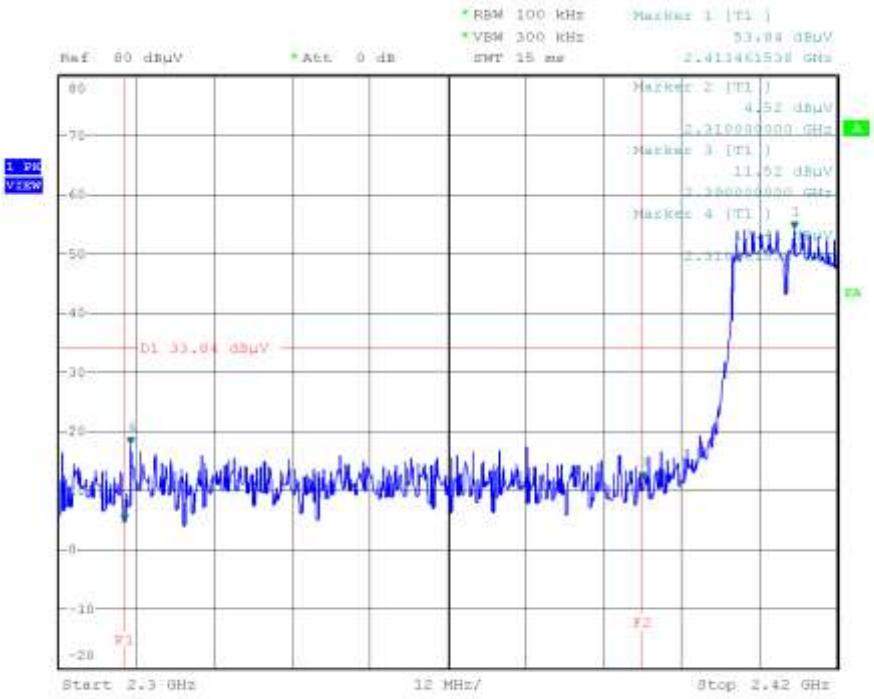
Frequency 2462 MHz



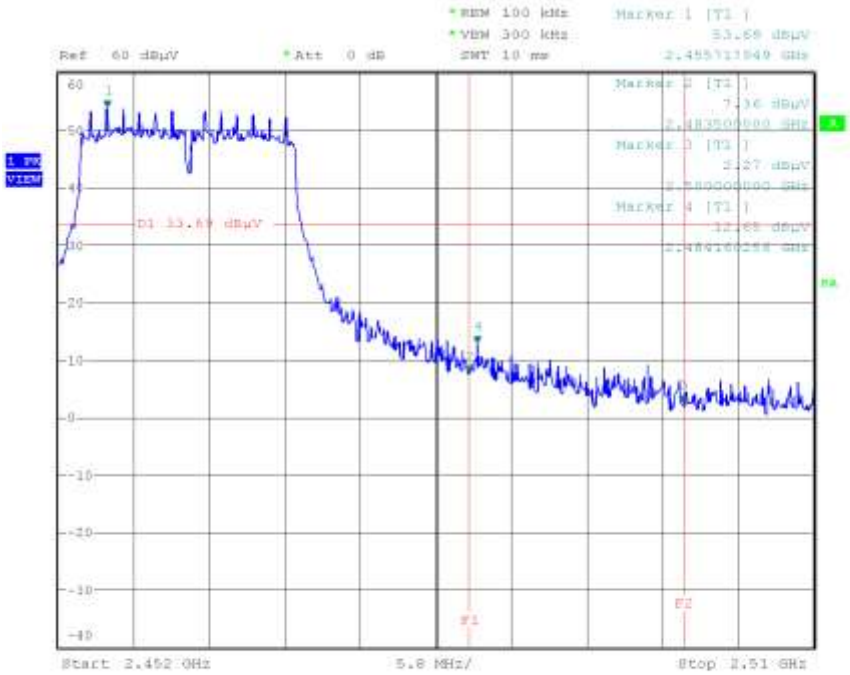
Date: 3.OCT.2014 09:53:59

ANNEX 5

BAND EDGE



Date: 3.OCT.2014 09:37:56



Date: 3.OCT.2014 09:58:31

ANNEX 6

CALIBRATION DATES

N° EMITECH	LAST CALIBRATION	CALIBRATION DUE DATE
1216	23/04/2014	23/04/2016
0187	15/03/2013	15/03/2016
4428	25/02/2014	25/02/2018
2452	24/10/2012	24/10/2014
2805	01/08/2013	01/08/2015
3374	08/02/2012	08/02/2016
2864	06/01/2014	06/01/2016
8063	23/07/2014	23/07/2016
1097	15/03/2013	15/03/2015
1529	15/03/2013	15/03/2015
4691	15/03/2013	15/03/2015
2205	12/06/2013	12/06/2015
4713	11/02/2014	11/02/2016
4359	27/06/2014	27/06/2016
1045	13/12/2010	13/12/2014
0051	09/06/2014	09/06/2015
8021	22/02/2013	22/02/2015