RC-030-M42-08-104280-2-A

RADIO test report

According to the standard:
FCC PART 15 : 2008

Equipment under test:
USB RF transceiver with link Zigbee at 2.4 GHz

Company:
ENERSYS S.A.R.L.

FCC listed : 910 701

DISTRIBUTION: Mr BEAUCAMP

(COMPANY: ENERSYS S.A.R.L.)

Number of pages: 38 with 4 annexes

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TEST CERTIFICATION FOR:	FCC Certification
EQUIPMENT UNDER TEST:	USB RF transceiver with link Zigbee at 2.4 GHz
Reference:	WI-IQ
Serial number:	AC-2000 DF
MANUFACTURER:	ENERSYS S.A.R.L.
APPLICANT:	
Company:	ENERSYS S.A.R.L.
Address:	Site de Brebières Parc d'activité Horizon 2000 62117 BREBIERES FRANCE
Product manager:	Mr BEAUCAMP
DATES OF TESTS:	2008, the 19th of December
TESTS SITES:	EMITECH open site at AUNAINVILLE (28) - FRANCE
TESTS OPERATOR:	F. LHEUREUX / B. PELLERIN

CONTENTS

1. *INTRODUCTION*

This report presents the results of Electromagnetic Compatibility tests performed on the equipment: "USB RF Transceiver with link Zigbee at 2.4 GHz" according to reference document listed below.

2. *REFERENCE DOCUMENT*

FCC Part 15 : 2008
Code of Federal Regulations
Title 47 – Telecommunication
Chapter 1 – Federal Commission
Part 15 – Radio frequency devices

3. *PRODUCT DESCRIPTION*

ITU Emission code:	-
Class:	B (residential environment)
Utilization:	USB RF transceiver with radio link
Operating frequency range:	From 2402 MHz to 2483 MHz
Number of channels:	Limited to 16 channels
Channel spacing:	5 MHz
Frequency generation:	-
Modulation:	O - QPSK
Power source:	5 Vdc

4. *EQUIPMENT UNDER TEST (EUT) CONFIGURATION*

- See antenna factors, insertion losses and amplifier values in annex 1.
- See internal photographies in annex 2.
- See setup photographies in annex 3.

Modification of the equipment during the tests: No.

5. *TESTS AND CONCLUSION*

The following table summarizes test results of the EUT.

Test procedure	Designation of test	Test results				Comments
		Pass	Fail	N.A.	N.P.	
15.207	Measurement of conducted emission on AC mains ports			X		
15.247 (b) (3)	Maximum peak power measurement	X				
15.247 (b) (1)	RF exposure compliance			X		Note 1
15.247 (e)	Power spectral density measurement	X				
15.247 (a) (2)	6 dB bandwidth measurement	X				
15.247 (d)	Band edge measurement	X				
15.109	Unintentional radiated emissions in the band 30 MHz – 25 GHz	X				
15.247 (a) (1)	Hopping mode measurement			X		
15.247 (a) (1) (iii)	Hopping timing measurement			X		
15.205 and 15.209	Intentional radiated emissions in the band 30 MHz – 25 GHz					

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

Note 1: This type of equipment uses less than 0.5 W

Conclusion:

The tested sample "USB RF Transceiver with link Zigbee at 2.4 GHz " submitted to the tests complies with the requirements of the standard:

- FCC PART 15: 2008

According to the limits specified in this report.

6. *MAXIMUM PEAK POWER MEASUREMENT*

Standard: FCC PART 15: 2008

Section: 15.247 (b) (3)

Test procedure: Public Notice DA 00-705, alternative test procedure.

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 analyzer was recorded.

Distance of antenna: 3 meters.

Test equipment used:

Nr Emitech	Category	Brand	Type
3374	Antenna	Emco	Cornet 3115
2341	Antenna mast	HD GmbH	MA 240
5624	Band pass filter	BL Microwave	Band pass
2896	Cable	Cables & Connectiques	N-13m
2342	Mast controller	HD GmbH	HD 100
187	Open site	Emitech	Aunainville
2205	Spectrum analyzer	Agilent	E7405A

Equipment under test operating condition:

EUT is in continuous transmission on channel 0, channel 7 and channel 15.

Measure conditions:

Ambient temperature (°C): 5
Relative humidity (%): 80

Power source: 24 Vd.c.

For RF peak level: Resolution bandwidth: 1 MHz
Video bandwidth: 1 MHz

Results:

Polarization of test antenna: vertical (height: 123 cm, Az: 26°).

Channel 0 (2404.53 MHz) Curve 1

		Level dBµV	Cable loss dB	Antenna factor dB	Electro-magnetic field (dBµV/m)	P* (W)
Normal test conditions	Nominal power source (V): 5	59.41	2.0	28.6	90.01	0.117×10^{-3}

Channel 7 (2440.5 MHz) Curve 2

		Level dBµV	Cable loss dB	Antenna factor dB	Electro-magnetic field (dBµV/m)	P* (W)
Normal test conditions	Nominal power source (V): 5	57.66	2.0	28.6	88.26	0.078×10^{-3}

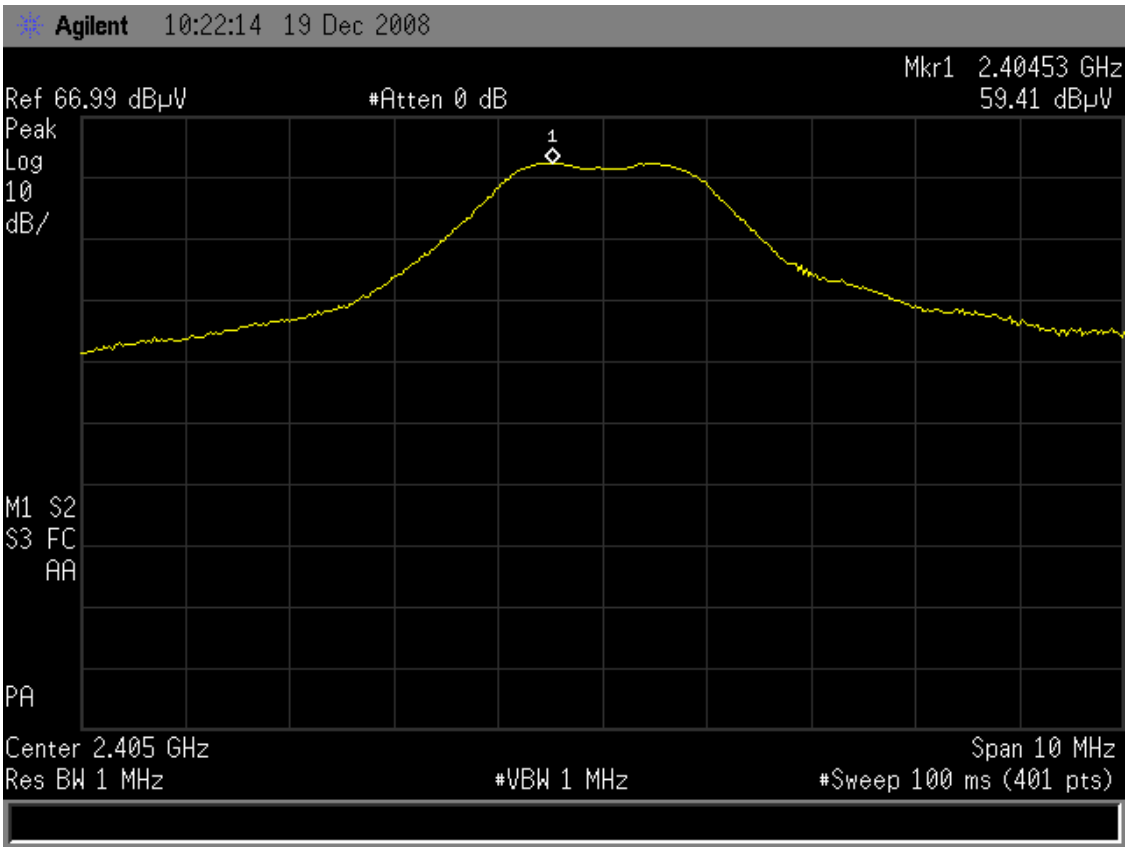
Channel 15 (2479.8 MHz) Curve 3

		Level dBµV	Cable loss dB	Antenna factor dB	Electro-magnetic field (dBµV/m)	P* (W)
Normal test conditions	Nominal power source (V): 5	60.20	2.0	28.6	90.8	0.140×10^{-3}

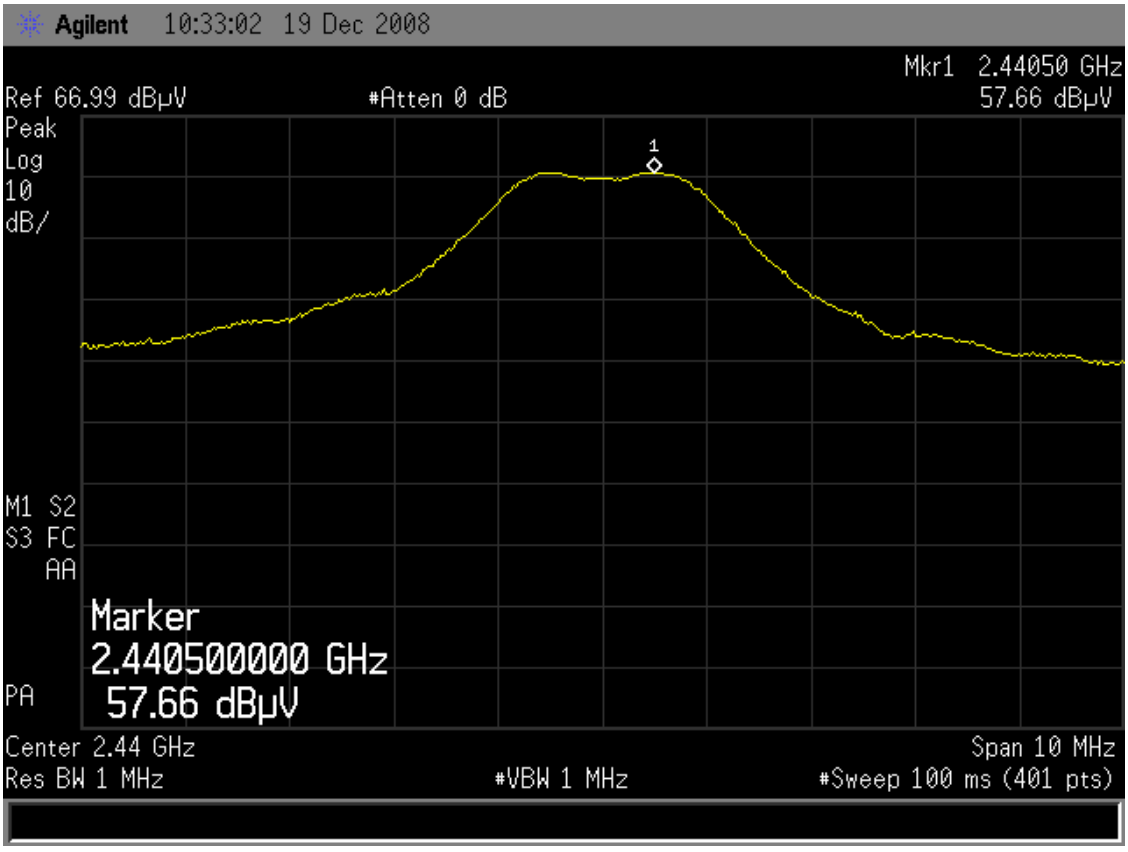
* $P = (E \times d)^2 / (30 \times Gp)$ with d = 3m and Gp = 2.57

Test conclusion: Complies with the requirements of the standard.

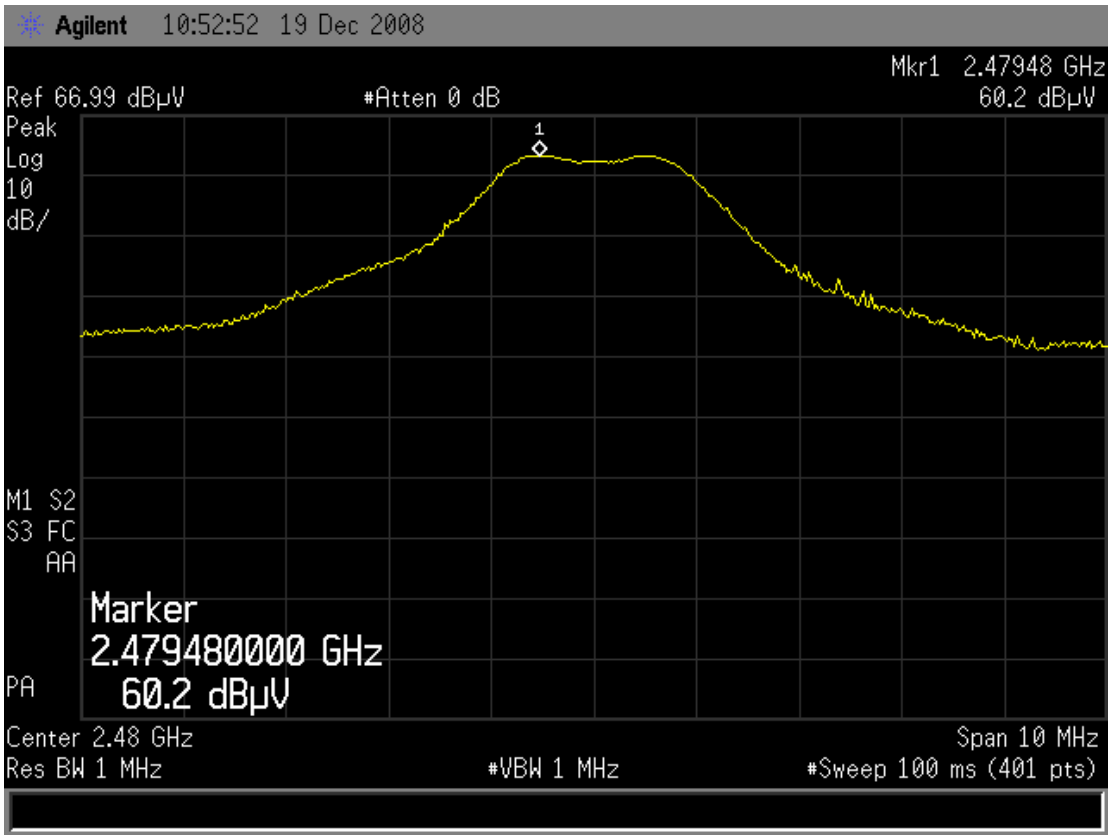
Curve 1



Curve 2



Curve 3


Agilent 10:52:52 19 Dec 2008
Mkr1 2.47948 GHz
60.2 dBµV
Ref 66.99 dBµV
#Atten 0 dB
Peak
Log
10
dB/
1
M1 S2
S3 FC
AA
Marker
2.479480000 GHz
60.2 dBµV
PA
Center 2.48 GHz
Span 10 MHz
Res BW 1 MHz
#VBW 1 MHz
#Sweep 100 ms (401 pts)

7. *POWER SPECTRAL DENSITY MEASUREMENT*

Standard: FCCC PART 15 : 2008

Section: 15.247 (e)

Test procedure: Public Notice DA 00-705, alternative test procedure.

Instrumentation test list:

Nr Emitech	Category	Brand	Type
3374	Antenna	Emco	3115
2341	Antenna mast	HD GmbH	MA 240
5624	Band pass filter	BL Microwave	Band pass
2896	Cable	Cables & Connectiques	N-13m
2342	Mast controller	HD GmbH	HD 100
187	Open site	Emitech	Aunainville
2205	Spectrum analyzer	Agilent	E7405A

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 analyzer was recorded.

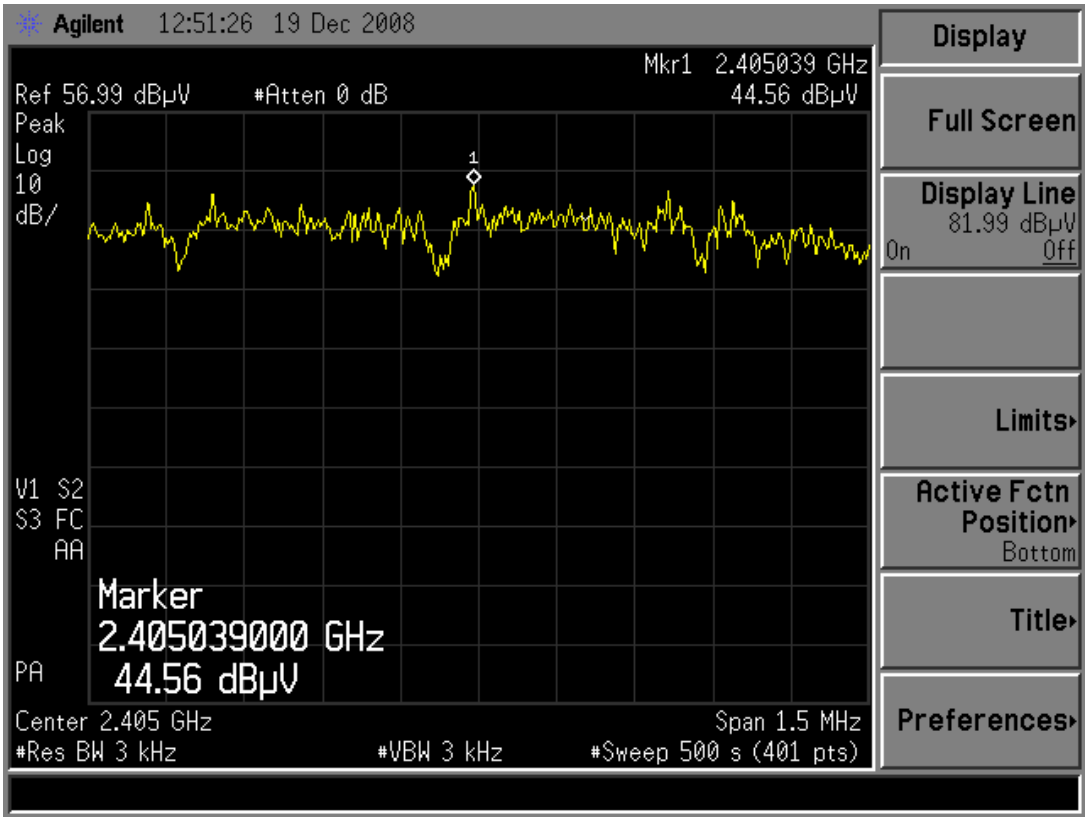
Measured condition: Resolution bandwidth: 3 kHz.
Video bandwidth: 3 kHz.
SPAN: 1.5 MHz.
Sweep: 500 seconds.
Ambient temperature C°: 5
Relative humidity (%): 80

Result:

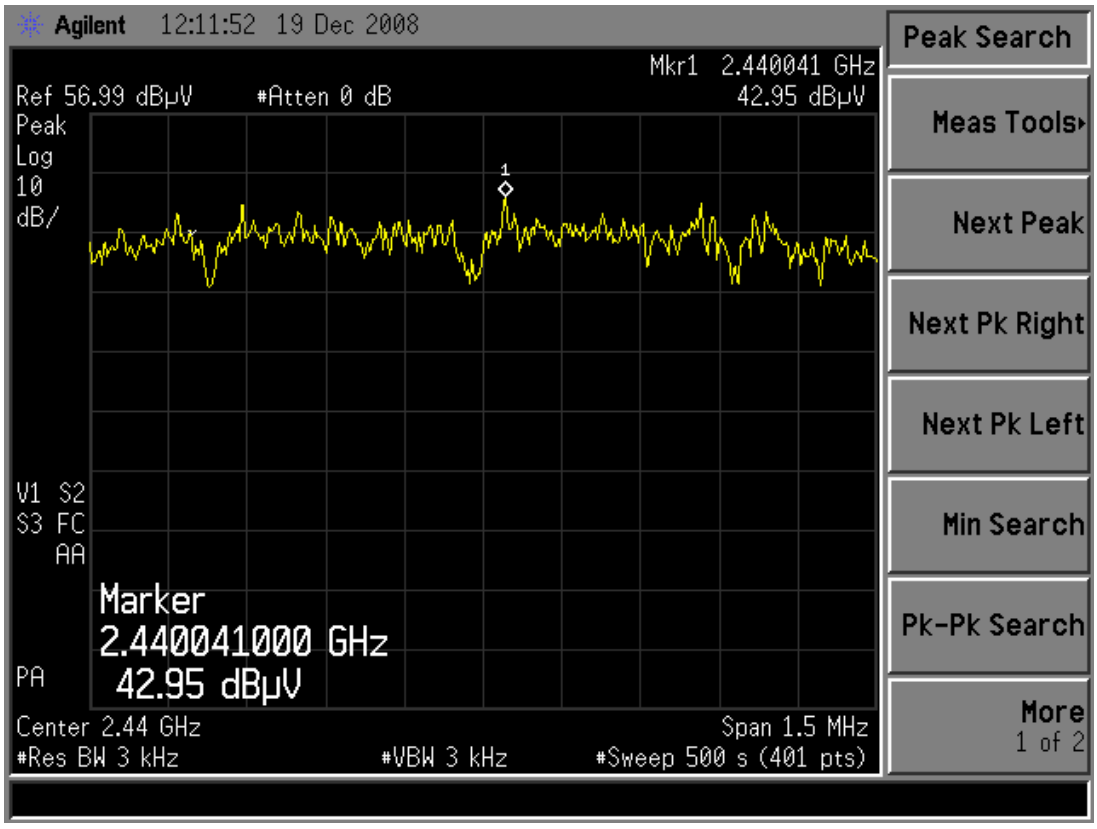
Channel	Channel frequency (MHz)	RF power level (dBm)	Limit (dBm)	Curve reference
0	2405	- 24.2	8	Curve 4
7	2440	- 25.8	8	Curve 5
15	2480	- 24.2	8	Curve 6

Test conclusion: Respect the standard.

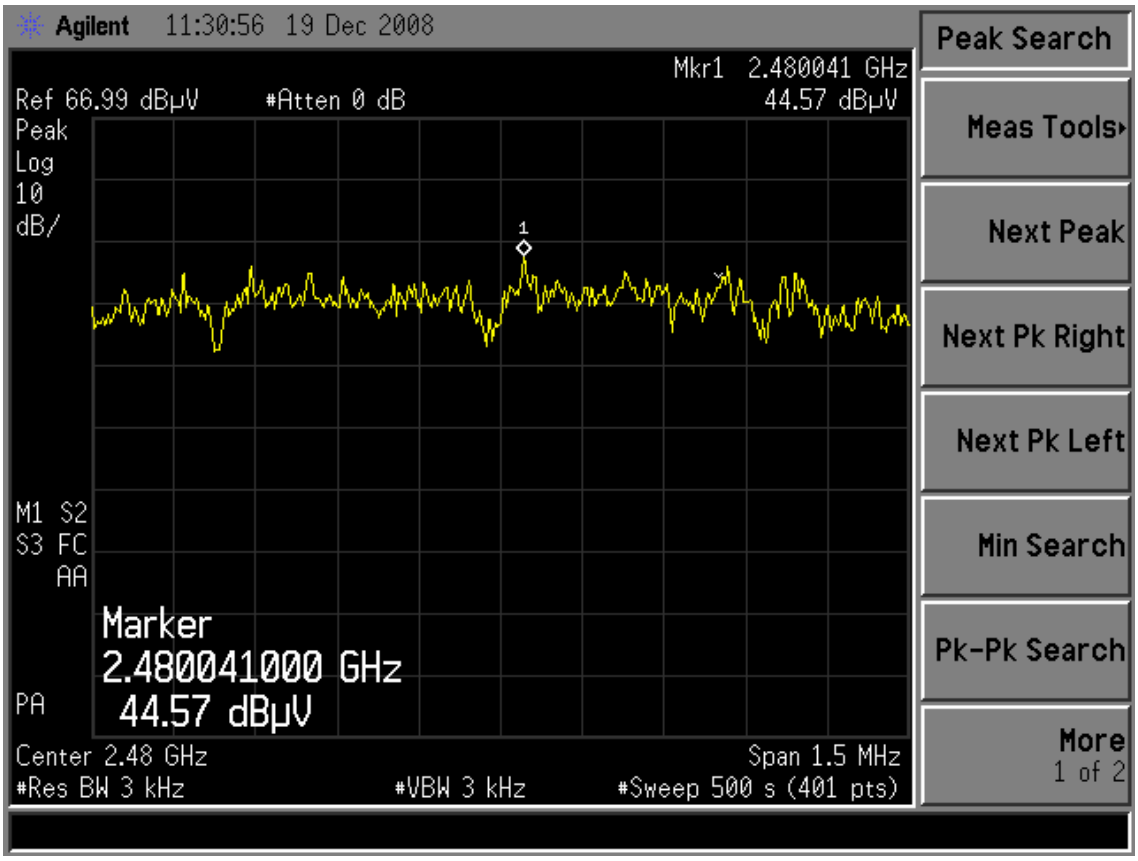
Curve 4


Agilent 12:51:26 19 Dec 2008
Mkr1 2.405039 GHz
Ref 56.99 dBµV
#Atten 0 dB
44.56 dBµV
Peak
Log
10
dB/
V1 S2
S3 FC
AA
Marker
2.405039000 GHz
44.56 dBµV
PA
Center 2.405 GHz
Span 1.5 MHz
#Res BW 3 kHz
#VBW 3 kHz
#Sweep 500 s (401 pts)
Display
Full Screen
Display Line
81.99 dBµV
On Off
Limits
Active Fctn
Position
Bottom
Title
Preferences

Curve 5


Agilent 12:11:52 19 Dec 2008
Mkr1 2.440041 GHz
Ref 56.99 dBµV
#Atten 0 dB
42.95 dBµV
Peak
Log
10
dB/
V1 S2
S3 FC
AA
Marker
2.440041000 GHz
42.95 dBµV
PA
Center 2.44 GHz
Span 1.5 MHz
#Res BW 3 kHz
#VBW 3 kHz
#Sweep 500 s (401 pts)
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

Curve 6


Agilent 11:30:56 19 Dec 2008
Mkr1 2.480041 GHz
44.57 dBµV
Ref 66.99 dBµV
#Atten 0 dB
Peak
Log
10
dB/
M1 S2
S3 FC
AA
Marker
2.480041000 GHz
44.57 dBµV
PA
Center 2.48 GHz
#Res BW 3 kHz
#VBW 3 kHz
Span 1.5 MHz
#Sweep 500 s (401 pts)
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

8. *6 dB BANDWIDTH MEASUREMENT*

Standard: FCC PART 15 : 2008

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 6 dB bandwidth was recorded on spectrum analyzer.

Instrumentation test list:

Nr Emitech	Category	Brand	Type
3374	Antenna	Emco	3115
2341	Antenna mast	HD GmbH	MA 240
5624	Band pass filter	BL Microwave	Band pass
2896	Cable	Cables & Connectiques	N-13m
2342	Mast controller	HD GmbH	HD 100
187	Open site	Emitech	Aunainville
2205	Spectrum analyzer	Agilent	E7405A

Equipment under test operating condition:

EUT is in continuous transmission mode on channel 0, channel 7 and channel 15.

Measure condition:

Resolution bandwidth: 100 kHz
Video bandwidth: 100 kHz

Ambient temperature (°C): 8
Relative humidity (%): 80

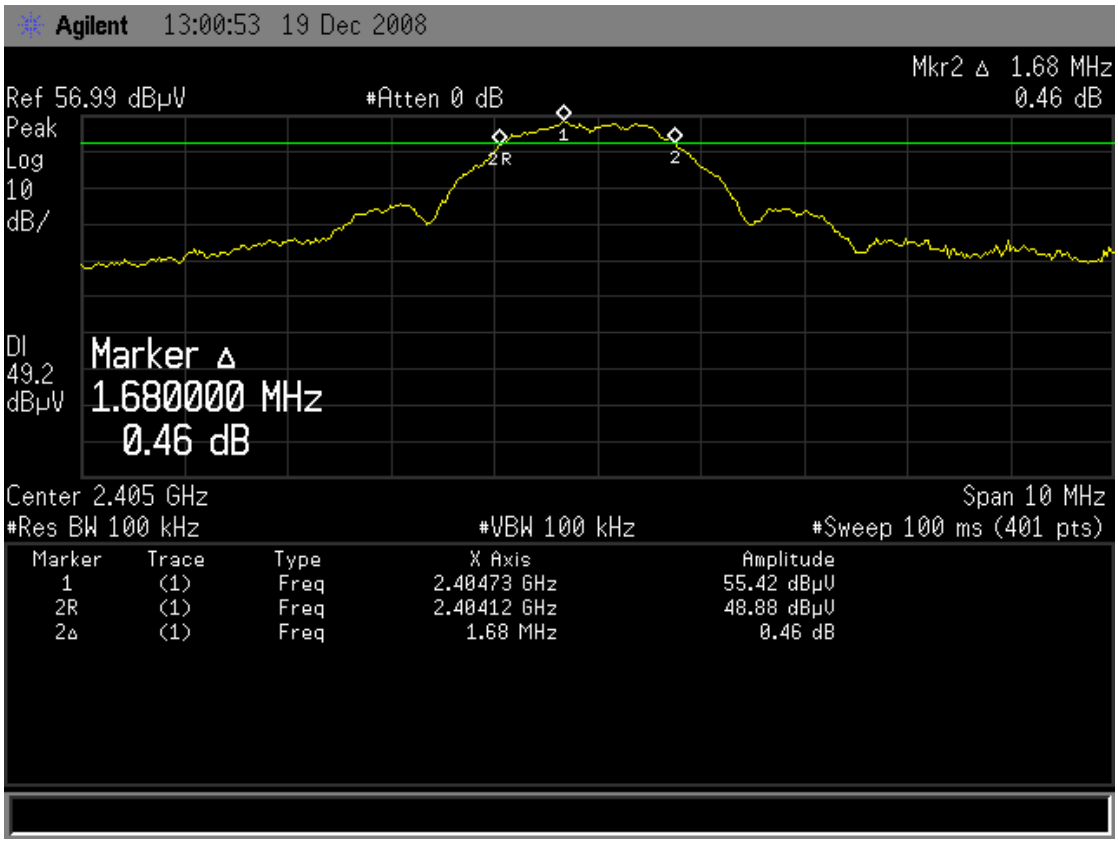
Results:

Polarization of test antenna: Horizontal (height: 126 cm, Az: 36°)

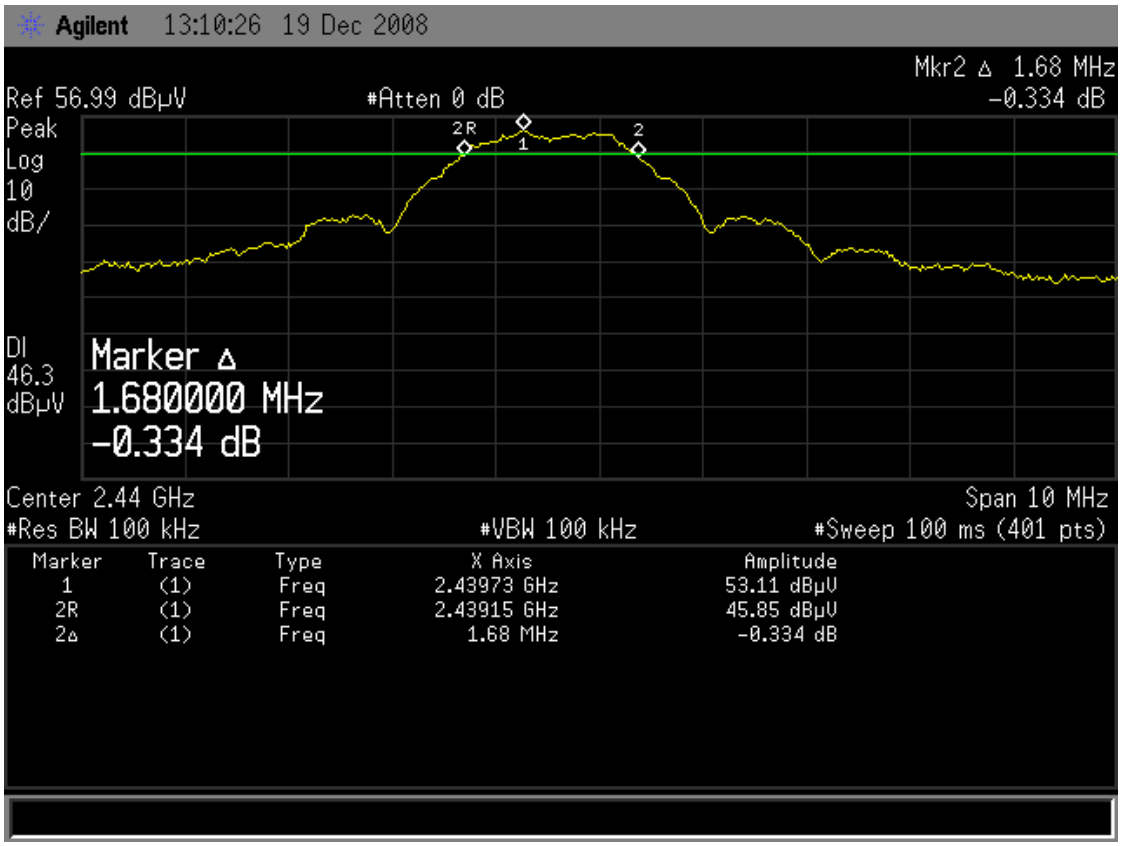
Channel frequency (MHz)	Limit (kHz)	6 dB bandwidth (MHz)	Curve reference
2405	> 500	1.68	Curve 7
2440	> 500	1.68	Curve 8
2480	> 500	1.53	Curve 9

Test conclusion: Complies with the requirements of the standard.

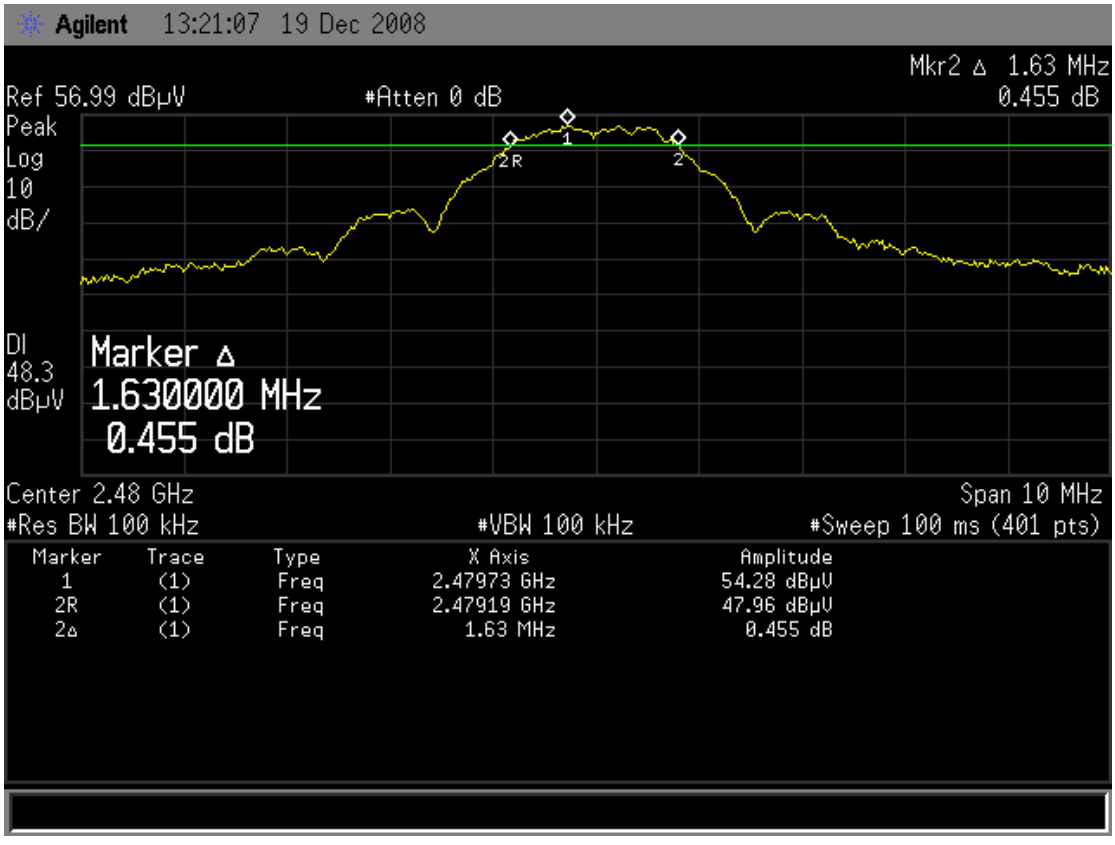
Curve 7



Curve 8



Curve 9



9. *BAND EDGE MEASUREMENT*

Standard: FCC PART 15 : 2008

Section: 15.247 (d)

Test procedure: Public Notice DA 00-705, Delta Marker method.

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. Then the level at 20 dB under the maximum level on the analyzer was recorded.

Distance of antenna: 3 meters.

Test equipment used:

Nr Emitech	Category	Brand	Type
3374	Antenna	Emco	3115
2341	Antenna mast	HD GmbH	MA 240
2896	Cable	Cables & Connectiques	N-13m
1097	High pass filter	Trilithic	6HC1300-2.5-KK
2342	Mast controller	HD GmbH	HD 100
187	Open site	Emitech	Aunainville
2205	Spectrum analyzer	Agilent	E7405A

Equipment under test operating condition:

EUT is in continuous transmission mode on channel 0 and channel 15.

Measured condition:

Resolution bandwidth: 100 kHz Ambient temperature (°C): 8

Video bandwidth: 100 kHz Relative humidity (%): 80

Results:

Polarization of test antenna: horizontal (height: 126 cm, Az: 36°).

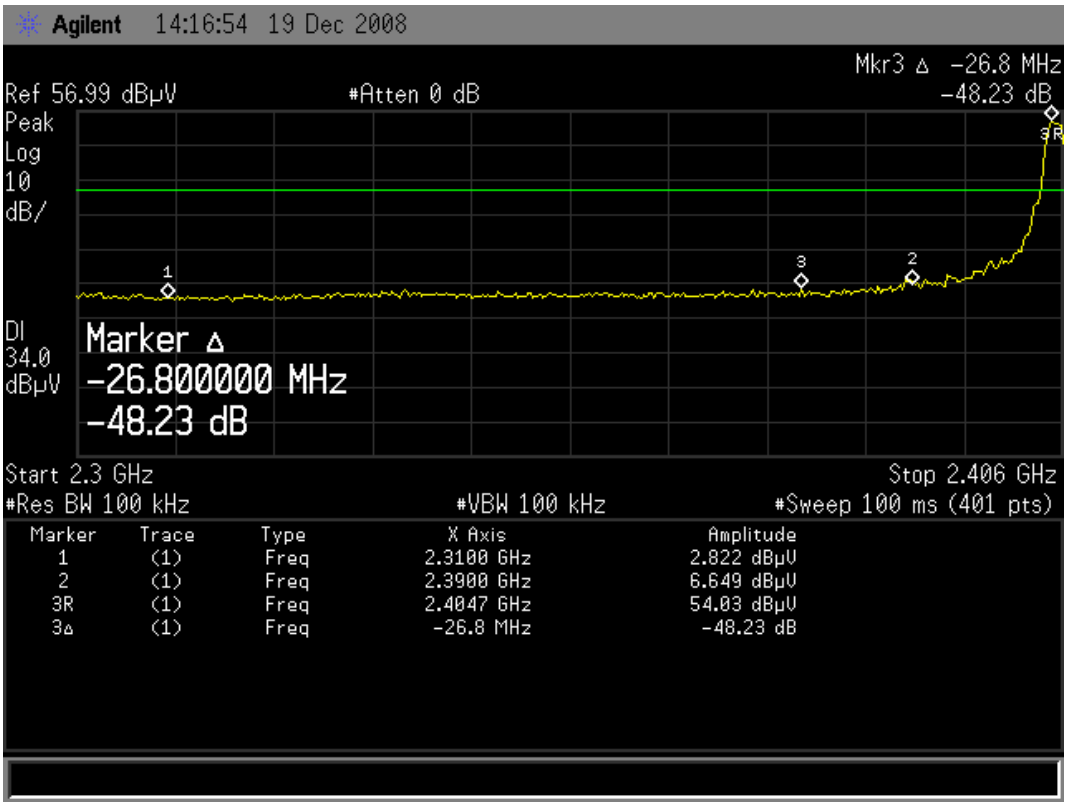
Lowest frequency limit: from 2310 MHz to 2390 MHz, curve n° 10
Upper Band Edge: from 2483.5 MHz to 2500 MHz, curve n° 11

Fundamental frequency (MHz)	Field Strength Level of fundamental (dBµV)	Detector	Frequency of maximum Band-edges Emission (MHz)	Delta Marker (dB)*	Calculated Max Out of Band Emission Level (dBµV)**	Limit (dBµV/m)	Margin (dB)
2405	54.03	Peak	2377.9	- 48.2	5.83	34.0	28.17
2480	54.16	Peak	2484.3	- 37.3	17.03	34.2	17.17

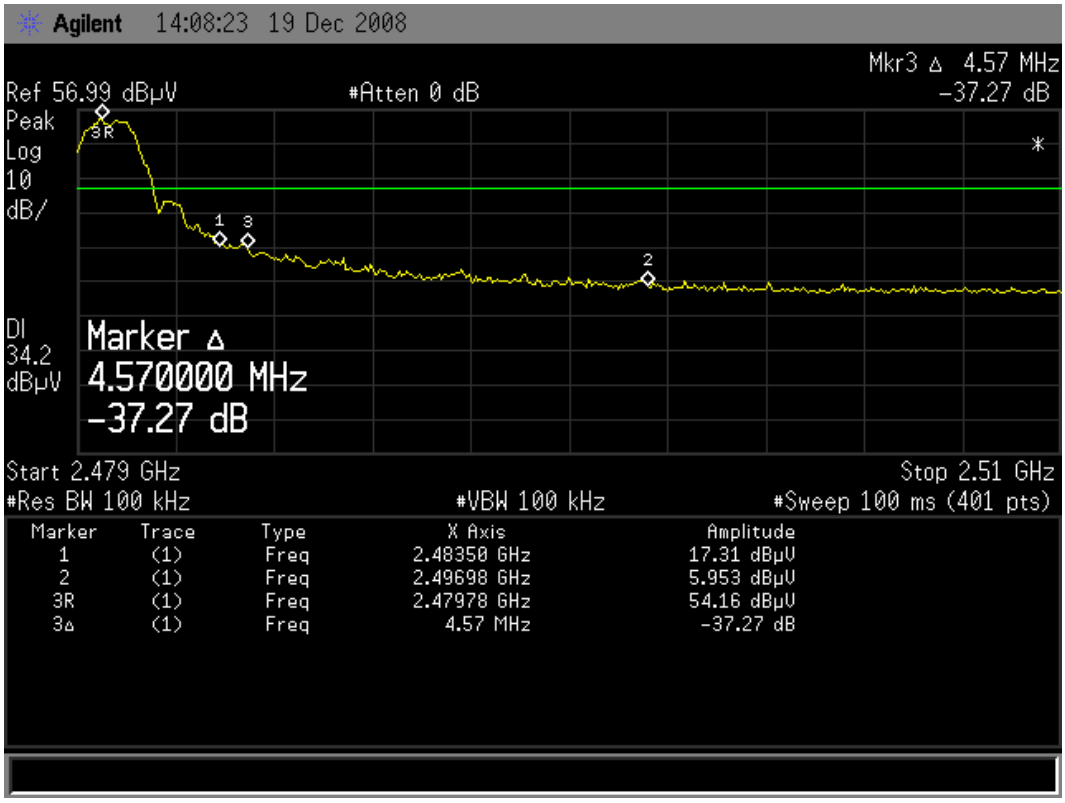
* According to step 2 of Marker-Delta Method DA 00-705.
** According to step 3 of Marker-Delta Method:
Calculated Emission Level = Field Strength Level - Delta Marker Level

Test conclusion: Complies with the requirements of the standard.

Channel 0 *Curve 10*



Channel 15 *Curve 11*



10. *INTENTIONAL RADIATED EMISSIONS IN THE BAND 30 MHZ – 25 GHZ*

Standard: FCC PART 15: 2008

Sections: 15.205 and 15.209

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 equipment is in continuous transmission on channel 0.
The equipment is in continuous transmission on channel 7.
The equipment is in continuous transmission on channel 15.

Frequency range: 30 MHz – 1 GHz
1 GHZ – 25 GHz

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

Resolution bandwidth: 120 kHz for 30 MHz – 1 GHz
1 MHz for 1 GHz – 25 GHz

Measurement distance: 3 meters

Limit: For restrictive bands (see paragraph 15.205), the EUT must satisfy requirements of the section 15.209 as shown in table below (for 3 m).

Frequency range (MHz)	Limit (dBµV/m)
30 to 88	40.0
88 to 216	43.5
216 to 960	46.0
960 to 25000	54.0

Limit for peak detection: 70.0 dBµV/m for channel 0
Limit for peak detection: 68.3 dBµV/m for channel 7
Limit for peak detection: 70.8 dBµV/m for channel 15

Instrumentation tests list:

Nr Emitech	Category	Marque	type
3106	Antenna	Schwarzbeck	UHALP 9108
3374	Antenna	Emco	3115
2341	Antenna mast	HD GmbH	MA 240
317	Biconical antenna	Schwarzbeck	30/300 MHz
2450	Cable	Cables & Connectiques	HF 12m
2451	Cable	Cables & Connectiques	HF 2m
2452	Cable	Cables & Connectiques	HF 13m
2864	Cable	Cables & Connectiques	N-SMA
2896	Cable	Cables & Connectiques	N-13m
1097	High pass filter	Trilithic	6HC1300-2.5-KK
1529	High pass filter	Trilitic	5EHLX500-3-KK
4691	High pass filter	Micro-tronics	-
1045	Horn antenna	Oritel	CM 42/25
187	Open site	Emitech	Aunainville
1057	Receiver	Rohde 1 Schwarz	ESVP
2342	Mast controller	HD GmbH	HD 100
3588	Preamplifier	Miteq	AMF-6D-010250-70-7P
2205	Spectrum analyzer	Agilent	E7405A

Results:

CHANNEL	FREQUENCY (MHz)	POLARIZATION	ANTENNA HEIGHT (cm)	AZIMUTH (degrees)	MEASUREMENT (dBµV/m)	LIMIT (dBµV/m)
0	7216.4	V	197	170	30.0	70.0
	7216.4	H	128	9	26.7	70.0
7	4881.1	V	153	0	33.1	54.0
	7321.5	V	247	0	28.5	54.0
	7321.5	H	123	29	26.9	54.0
15	4961.1	V	171	0	33.1	54.0
	4961.1	H	106	55	32.6	54.0
	7441.4	V	195	0	31.5	54.0
	7441.5	H	127	56	28.6	54.0

V: VERTICAL
H: HORIZONTAL

Test conclusion:

The equipment complies with the requirements of the standard FCC PART 15.205 and 15.209.

11. *UNINTENTIONAL RADIATED EMISSIONS IN THE BAND 30 MHZ – 25 GHZ*

Standard: FCC PART 15: 2008

Sections: 15.109

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 equipment is in continuous transmission on channel 0.
The equipment is in continuous transmission on channel 7.
The equipment is in continuous transmission on channel 15.

Frequency range: 30 MHz – 1 GHz
1 GHZ – 25 GHz

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

Resolution bandwidth: 120 kHz for 30 MHz – 1 GHz
1 MHz for 1 GHz – 25 GHz

Measurement distance: 3 meters

Limit: The EUT must satisfy requirements of the section 15.109 as shown in table below (for 3 m).

Frequency range (MHz)	Limit (dBµV/m)
30 to 88	40.0
88 to 216	43.5
216 to 960	46.0
960 to 25000	54.0

Limit for peak detection: 70.0 dBµV/m for channel 0
Limit for peak detection: 68.3 dBµV/m for channel 7
Limit for peak detection: 70.8 dBµV/m for channel 15

Instrumentation tests list:

Nr Emitech	Category	Marque	type
3106	Antenna	Schwarzbeck	UHALP 9108
3374	Antenna	Emco	3115
2341	Antenna mast	HD GmbH	MA 240
317	Biconical antenna	Schwarzbeck	30/300 MHz
2450	Cable	Cables & Connectiques	HF 12m
2451	Cable	Cables & Connectiques	HF 2m
2452	Cable	Cables & Connectiques	HF 13m
2864	Cable	Cables & Connectiques	N-SMA
2896	Cable	Cables & Connectiques	N-13m
1097	High pass filter	Trilithic	6HC1300-2.5-KK
1529	High pass filter	Trilitic	5EHLX500-3-KK
4691	High pass filter	Micro-tronics	-
1045	Horn antenna	Oritel	CM 42/25
187	Open site	Emitech	Aunainville
1057	Receiver	Rohde 1 Schwarz	ESVP
2342	Mast controller	HD GmbH	HD 100
3588	Preamplifier	Miteq	AMF-6D-010250-70-7P
2205	Spectrum analyzer	Agilent	E7405A

Results:

CHANNEL	FREQUENCY (MHz)	POLARIZATION	ANTENNA HEIGHT (cm)	AZIMUTH (degrees)	MEASUREMENT (dBµV/m)	LIMIT (dBµV/m)
0	120.000	V	100	0	23.0	43.5
	708.078	V	187	46	54.4	70.0
	708.078	H	125	350	59.6	70.0
	1403.9	V	178	12	30.5	54.0
	1364.3	H	107	346	33.1	54.0
	2813.2	H	115	11	29.5	54.0
	4678.3	V	207	260	25.1	54.0
	4678.6	H	137	9	25.1	54.0
7	120.000	V	100	0	23.5	43.5
	708.078	V	193	30	55.1	68.3
	708.078	H	123	350	59.5	68.3
	4677.7	H	216	23	25.2	54.0
15	120.000	V	100	0	23.5	43.5
	708.078	V	197	30	54.4	70.8
	708.078	H	126	344	59.1	70.8

V: VERTICAL
H: HORIZONTAL

Test conclusion:

The equipment complies with the requirements of the standard FCC PART 15.109.

□□□ *End of report, 4 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 30 MHz and 200 MHz is the biconical antenna n°0317. Antenna factors are given in table 1.

The test antenna used for the radiated emission between 200 MHz and 1 GHz is the log-periodic antenna n°3106. Antenna factors are given in table 2.

The measuring receiver n°1057 used in the frequency range 30 MHz to 1 GHz has an integrated preamplifier.

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 3.

The test antennas used for the radiated emission between 1 GHz and 25 GHz are the horn antenna n°3374 and 1045. Antenna factors are given in table 4 and 5.

The amplifier n°3588 and its cable used to connect the spectrum analyzer to the test cable has gain values given in the table 6.

The test cable used between 1 GHz and 25 GHz to connect the horn antenna to the amplifier for measurements at a distance of 3 meters has losses given in table 7.

Frequency (MHz)	Antenna factor (dB/m)	Frequency (MHz)	Antenna factor (dB/m)
30	19.2	120	12.7
35	16.9		
40	15.1	140	13.7
45	13.3		
50	11.5	160	15.0
60	8.1		
70	6.4	180	15.7
80	6.9	200	16.7
90	8.9		
100	10.6		

TABLE 1 : BICONICAL ANTENNA

Frequency (MHz)	Antenna factor (dB/m)	Frequency (MHz)	Antenna factor (dB/m)
200	23.2		
300	14.4	700	20.8
400	16.3	800	21.2
500	17.7	900	21.9
600	19.3	1000	22.5

TABLE 2 : LOG-PERIODIC ANTENNA

Frequency (MHz)	loss (dB)	Frequency (MHz)	loss (dB)
30	0.8		
35	0.9	160	2.0
40	1.0	180	2.2
45	1.1	200	2.3
50	1.1	250	2.6
60	1.2	300	2.8
70	1.3	400	3.3
80	1.4	500	3.7
90	1.5	600	4.0
100	1.6	700	4.3
120	1.7	800	4.7
		900	5.0
140	1.9	1000	5.3

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

Frequency (GHz)	Antenna factor (dB/m)	Frequency (GHz)	Antenna factor (dB/m)	Frequency (GHz)	Antenna factor (dB/m)
1.0	23.6	7.0	35.3	14	41.9
1.5	25.2	7.5	36.7	15	41.0
2.0	27.5	8.0	36.9	16	38.0
2.5	29.0	8.5	37.6	17	39.9
3.0	29.9	9.0	38.0	18	47.4
3.5	31.1	9.5	37.9	18	29.8
4.0	32.6	10.0	38.3	19	30.9
4.5	32.3	10.5	38.1	20	30.6
5.0	33.5	11.0	38.3	21	30.9
5.5	34.2	11.5	38.8	22	30.6
6.0	34.4	12.0	39.2	23	31.5
6.5	34.2	13	39.9	24	31.2

TABLE 4 : HORN ANTENNA 3374 (1 to 18 GHz) and 1045 (18 to 25 GHz)

Frequency (GHz)	Gain value (dB)	Frequency (GHz)	Gain value (dB)	Frequency (GHz)	Gain value (dB)
1.0	32.2	7.0	34.3	14	31.2
1.5	32.7			15	34.3
2.0	33.7	8.0	33.8	16	33.6
2.5	33.1			17	30.6
3.0	34.4	9.0	32.6	18	32.8
				20	30.2
4.0	34.3	10.0	31.3	22	30.5
				24	32.9
5.0	34.3	11.0	31.1	26	26.0
6.0	33.1	12.0	32.8		
		13.0	34.2		

TABLE 5 : AMPLIFIER (1 – 26 GHz)

Frequency (GHz)	loss (dB)	Frequency (GHz)	loss (dB)	Frequency (GHz)	Loss (dB)
1.0	2.4	4.5	5.5	18	11.8
1.5	3.0	5	5.8	21	13.9
2.0	3.6	6	6.4	24	14.6
2.5	4.0	8	7.5		
3.0	4.3	10	8.4		
3.5	4.7	12	9.3		
4.0	5.1	15	10.7		

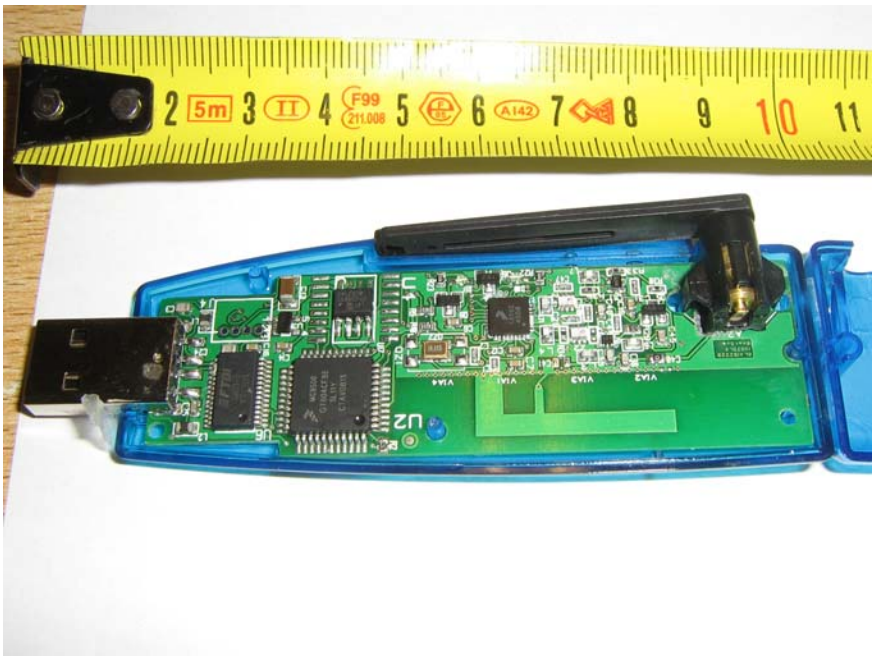
TABLE 6: TEST CABLE FOR 3 M MEASUREMENT

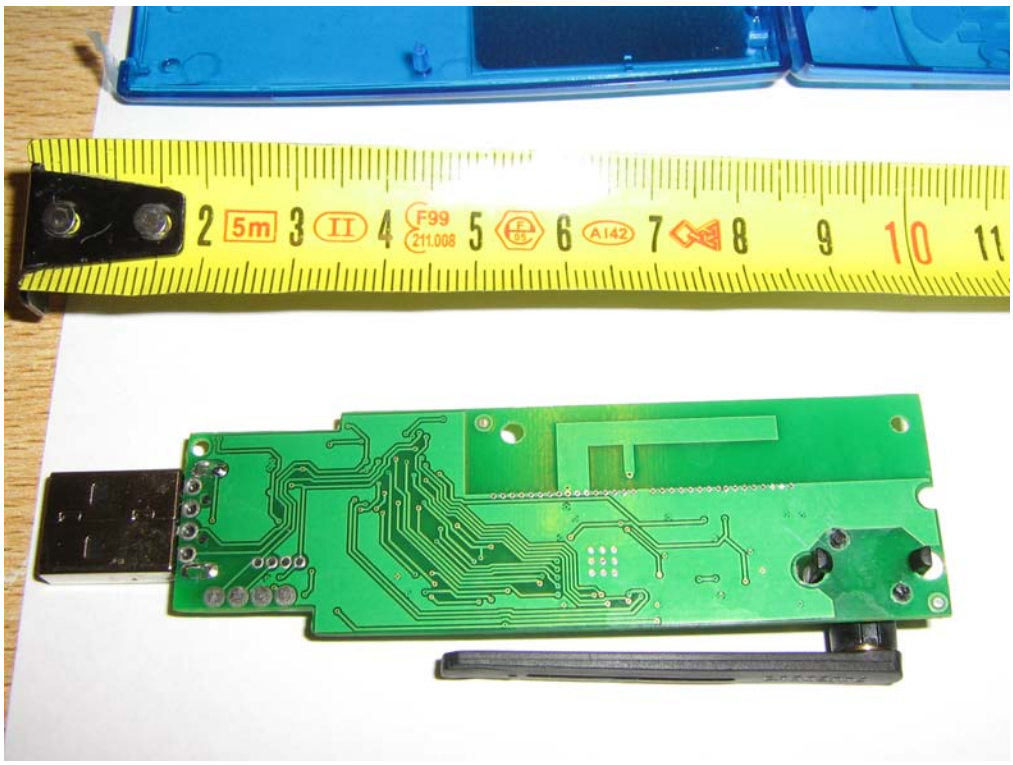
ANNEX 2

EXTERNAL AND INTERNAL PHOTOGRAPHIES

EQUIPMENT UNDER TEST (EUT) PHOTOGRAPHIES

USB RF Transceiver with link Zigbee at 2.4 GHz




2
5m
3
II
4
F99
211.008
5
6
A142
7
8
9
10
11

ANNEX 3:

TEST SETUP PHOTOGRAPHIES


EMITEC


EMITEC


EMITEC

ANNEX 4

CALIBRATION DATE

N° EMITECH	LAST CALIBRATION	CALIBRATION DUE DATE
2205	06/10/08	06/10/10
3374	04/03/08	04/03/10
2896	22/02/07	22/02/09
1097	22/02/07	22/02/09
187	18/06/07	18/06/09
3106	03/07/08	03/07/10
0317	18/06/07	18/06/09
2450	28/05/08	28/05/10
2451	28/05/08	28/05/10
2452	11/06/08	11/06/10
1529	22/02/07	22/02/09
4691	11/01/07	11/01/09
3588	04/01/08	04/01/09
1057	04/07/07	04/07/09
5624	01/04/08	01/04/10
10/45	04/03/08	04/03/10