DEKRA Testing and Certification, S.A.U.
Parque Tecnológico de Andalucía,
c/ Severo Ochoa nº 2 · 29590 Campanillas · Málaga · España
C.I.F. A29 507 456

DEKRA

ENAC ENSAYOS Nº 51/LE147

Test report No:
NIE: 64657REM.001

Test report

FCC Rules and Regulations CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)

(*) Identification of item tested	Transmitter + Receiver
(*) Trademark	JCM TECHNOLOGIES
(*) Model and /or type reference	Transmitter model: GPRMNHIDIC Receiver model: B500-2B IC
Other identification of the product	Transmitter HW Version: 2000821 (S-GO2M-RFP FCC-EL) Transmitter SW Version: GONOAPS_RFPIC_03090000 Transmitter FCC ID: U5Z-GOMINI Transmitter IC: 8572A-GOMINI Receiver HW Version: 2000123_01 (S-BASE500X-2B) Receiver SW Version: RECMOT500_01080000 Receiver FCC ID: U5Z-BASE500-2B Receiver IC: 8572A-BASE500-2B
(*) Features	Not provided data
Manufacturer	JCM TECHNOLOGIES, S.A. C/ Costa d'en Paratge, 6B. 08500, Vic. Barcelona. Spain.
Test method requested, standard	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Rafael López Martín EMC Consumer & RF Lab. Manager RAFAEL LÓPEZ MARTÍN 2020.08.03 14:25:31 +02'00'
Date of issue	2020-08-03
Report template No	FDT08_22 (*) "Data provided by the client"

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Competences and guarantees

DEKRA Testing and Certification is a testing laboratory accredited by the National Accreditation Body (ENAC - Entidad Nacional de Acreditación), to perform the tests indicated in the Certificate No. 51/LE 147.

DEKRA Testing and Certification is a FCC recognized accredited testing laboratory with appropriate scope of accreditation that include testing performed in this test report, FCC designation number ES0004.

In order to assure the traceability to other national and international laboratories, DEKRA Testing and Certification has a calibration and maintenance program for its measurement equipment.

DEKRA Testing and Certification guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Testing and Certification at the time of performance of the test.

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The results presented in this Test Report apply only to the particular item under test established in this document.

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General conditions

1. This report is only referred to the item that has undergone the test.
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Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Testing and Certification internal document PODT000.

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 30 MHz to 1000 MHz is I = ± 4,9 dB for quasi-peak measurements, I = ± 4,6 dB for peak measurements (k= 2).

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 1000 MHz to 12.75 GHz is I = ± 2,6 dB for peaks and average measurements (k = 2).

Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested).
2. The sample consists of:

   Transmitter: a 868MHz radio transmitters with high security rolling code and side-prog system.

   Receiver: a receiver two channels, compatible with MOTION range transmitters (868MHz)

jcm tech

Date: 22/07/2020
Contact Person: David Clos Bonet

JCM Technologies, S.A.
C/ Costa d'en Paratge, 6B
08500 VIC (SPAIN)
Tel. +34 93 883 32 31
www.jcm-tech.com

Statement from the applicant – Declaration:

Model name:
GPRMNHIDIC and GPRMNHIDIC-CAM

Models that are used in for applied standard test:

To whom it may concern,

This statement letter is to declare following products

GPRMNHIDIC and GPRMNHIDIC-CAM
These Model names and part numbers should be listed in test reports

These products have same electronics part, but below features are different between models:

Only change the customer logo and the product reference

Jordi Beringues Algué

jcm tech

Date: 22/07/2020
Contact Person: David Clos Bonet

JCM Technologies, S.A.
C/ Costa d'en Paratge, 6B
08500 VIC (SPAIN)
Tel. +34 93 883 32 31
www.jcm-tech.com

Statement from the applicant – Declaration:

Model name:
B500-2B IC, B500-2B IC-CAM and 500-2B IC-ALW

Models that are used in for applied standard test:

To whom it may concern,

This statement letter is to declare following products

B500-2B IC and B500-2B IC-CAM and B500-2B IC-ALW
These Model names and part numbers should be listed in test reports

These products have same electronics part, but below features are different between models:

Only change the customer logo and the product reference

Jordi Beringues Algué

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples under test have been selected by: The client.

Sample **S/01** is composed of the following element:

Control Nº	Description	Model	Serial Nº	Date of reception
64657D/015	Transmitter	GPRMNHIDIC	---	2020-06-19

Auxiliary element used with the sample S/01:

Control Nº	Description	Model	Serial Nº	Date of reception
64657D/007	Receiver	B500-2B IC	---	2020-06-19

Sample **S/02** is composed of the following element:

Control Nº	Description	Model	Serial Nº	Date of reception
64657D/007	Receiver	B500-2B IC	---	2020-06-19

Auxiliary element used with the sample S/02:

Control Nº	Description	Model	Serial Nº	Date of reception
64657D/015	Transmitter	GPRMNHIDIC	---	2020-06-19

Auxiliary element used with the sample S/01 and S/02 (generic AC/DC adapter, property of Dekra TC):

Control Nº	Description	Model	Serial Nº	Date of reception
64657D/017	AC/DC adapter	APS 1500 traveller	---	2020-06-19

Test sample description

Ports…… :	Port name and description		Cable				
			Specified length [m]	Attached during test		Shielded	
	Sensor cable (Transmitter)		20m	☐		☐	
	Output R1 (Receiver)		Not specified	☒		☐	
				☐		☐	
Supplementary information to the ports…… :							
Rated power supply .....:	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☒	AC: 12Vac/24Vac (Receiver)	☒	☐	☐	☒	☐
	☒	DC: 3Vdc (Transmitter); 12Vdc/24Vdc (Receiver)					
Rated Power .....:	26mW (Transmitter) 60mA/90mA (Receiver)						
Clock frequencies.....:	26MHz (Transmitter) 13,45856MHz (Receiver)						

Other parameters .....:	Not provided data		
Software version .....:	Transmitter SW Version: GONOAPS_RFPIC_03090000 Receiver SW Version: RECMOT500_01080000		
Hardware version .....:	Transmitter HW Version: 2000821 (S-GO2M-RFP FCC-EL) Receiver HW Version: 2000123_01 (S-BASE500X-2B)		
Dimensions in mm (L x W x D)....:	32 x 50 x 9mm (Transmitter) 63 x 74 x 25mm (Receiver)		
Mounting position .....:	☐	Table top equipment	
	☒	Wall/Ceiling mounted equipment (Receiver)	
	☐	Floor standing equipment	
	☒	Hand-held equipment (Transmitter)	
	☐	Other:	
Modules/parts.....:	Module/parts of test item	Type	Manufacturer
	N/A		
Accessories (not part of the test item) .....:	Description	Type	Manufacturer
	N/A		
Documents as provided by the applicant.....:	Description	File name	Issue date
	UM_1246057_Rev00 (User's manual) (Transmitter)		18/06/2020
	Descripción Técnica emisores GO-PROMNHID-CAD (Transmitter)		18/06/2020
	UM_3201495_BASE30-500_EN (User's manual) (Receiver)		18/06/2020
	Descripción Técnica Receptor BASE500-2B-CAD (Receiver)		18/06/2020

Identification of the client

JCM TECHNOLOGIES, S.A.
C/ Costa d'en Paratge, 6B.
08500, Vic. Barcelona. Spain.

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2020-06-24
Date (finish)	2020-07-01

Document history

Report number	Date	Description
64657REM.001	2020-08-03	First release

List of equipment used during the test

Control Number	Description	Model	Manufacturer	Next Calibration
0246	HORN ANTENNA 1-18GHz	11966E	HEWLETT PACKARD	2021-10-13
5152	TRANSIENT LIMITER 10DB N CONNECTOR	VTSD 9561-F	SCHWARZBECK	2021-05-13
6129	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2021-06-12
6195	PRE-AMPLIFIER G>55dB 1-18GHz	AMF-7D-01001800-22-10P	NARDA	2021-05-19
6205	THREE-PHASE ARTIFICIAL NETWORK 32A	PMM L3-32	NARDA	2020-09-26
6607	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2021-04-29
6666	EMI TEST RECEIVER 2Hz-44GHz	ESW44	ROHDE AND SCHWARZ	2022-02-05
6815	HYBRID BILOG ANTENNA 30MHz-6GHz	3142E	ETS LINDGREN	2022-02-01
7615	SHIELDED ROOM	S101	ETS LINDGREN	---

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 30 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

In the semianechoic chamber, the following limits were not exceeded during the test.

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 30 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

In the chamber for conducted measurements, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 30 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

Remarks and comments

The test have been performed by the technical personnel: Daniel López, Alejandro Marín & Fco. Jesús Olmo.

Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

Summary

Emission Test Requirement – Test case	Verdict	Remark
Radiated emission. Electromagnetic field measure (30 MHz – 1000 MHz)	P	---
Radiated emission. Electromagnetic field measure (1 GHz – 12.75 GHz)	P	---
Radiated emission. Electromagnetic field measure (12.75 GHz – 40 GHz)	N/A	(1)
Continuous conducted emission (150 KHz – 30 MHz)	P	---
Supplymentary information and remarks: (1) Range: f>12.75 GHz. Test required only if the 5th harmonics of the maximum internal work frequency EUT is higher than 12.75GHz.		

Appendix A: Test results

Appendix A Content

DESCRIPTION OF THE OPERATION MODES

The operation modes described in this paragraph constitute a functionality of the sample under test for itself. The operation modes used by the samples to which the present report refers, are shown in the following table:

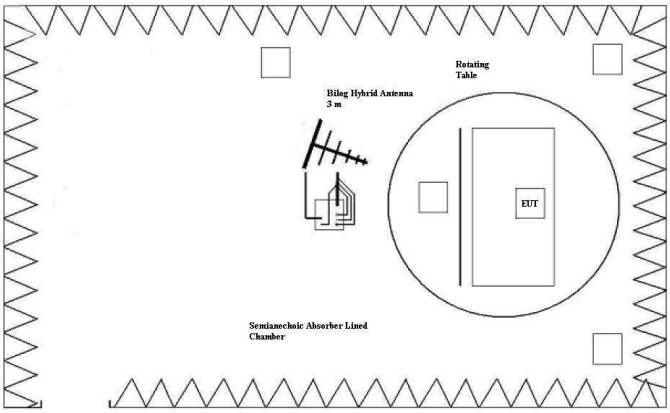
OPERATION MODE	DESCRIPTION
OM#01	EUT ON. Standby mode. Transmitter power supply: 3Vdc (internal battery). Receiver power supply 12Vdc (through a generic AC/DC powered by 110Vac)
OM#02	EUT ON. Equipment without receiving signal. Transmitter power supply: 3Vdc (internal battery). Receiver power supply 12Vdc (through a generic AC/DC powered by 110Vac)
OM#03	EUT ON. Equipment receiving signal. Activation of R1 output (N.O) Transmitter power supply: 3Vdc (internal battery). Receiver power supply 12Vdc (through a generic AC/DC powered by 110Vac)

RADIATED EMISSION. ELECTROMAGNETIC FIELD MEASURE

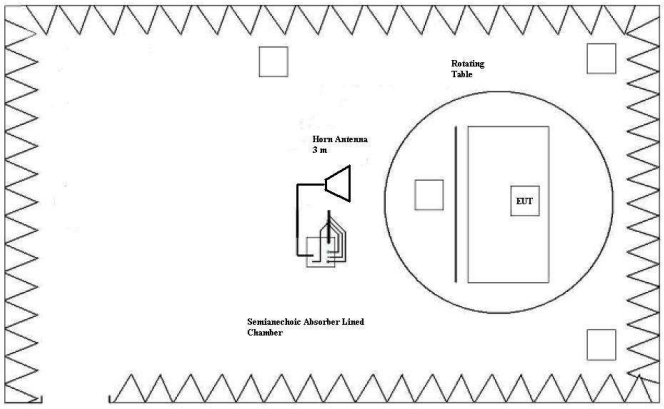
LIMITS:	Product standard:	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)
	Test standard:	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)

Limits of interference Class B
The applied limit for radiated emissions, 3 m distance, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B (10-1-19 Edition), Secs. 15.109 & ICES-003 Issue 6 (Updated 04-2019)

Frequency of emission (MHz)	Field strength (microvolt/meter)
30-88	100
88-216	150
21-960	200
Above 960	500



Setup for measurements < 1GHz.



Setup for measurements > 1GHz.

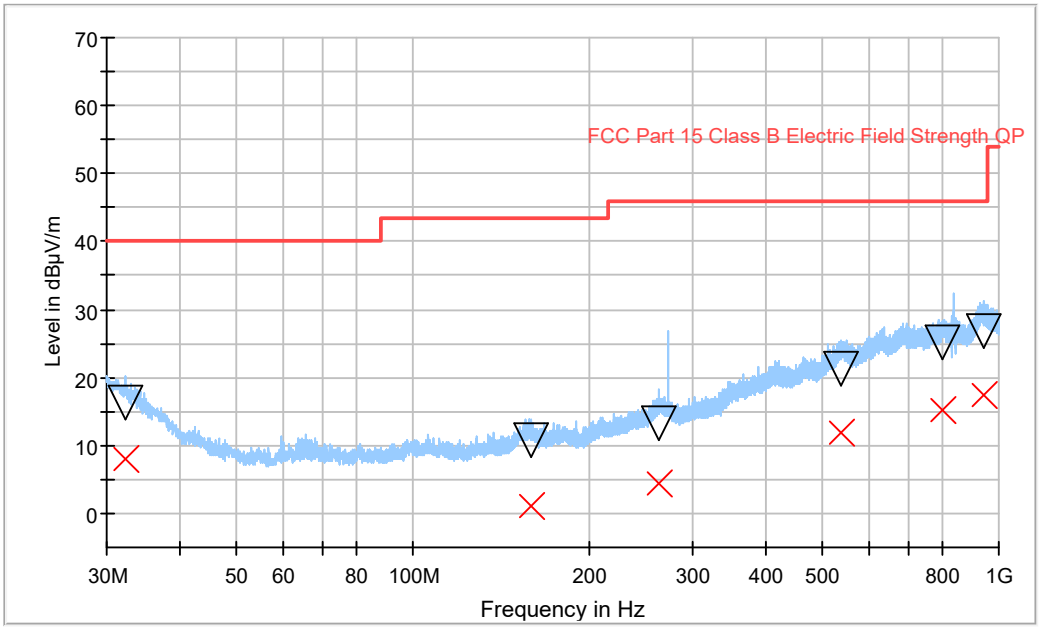
TESTED SAMPLE:	S/01
TESTED OPERATION MODES:	OM#01
TEST RESULTS:	CRmmnnRRPP: CR, Radiated Condition; mm: Sample number; nn: Operation mode; RR: Range; PP: Polarization.

CRmmnnRRPP	Description	Result
CR0101LR	Range: 30 MHz - 1000 MHz.	P
CR0101HR_PH	Range: 1 GHz – 12.75 GHz. Horizontal polarization.	P
CR0101HR_PV	Range: 1 GHz – 12.75 GHz. Vertical polarization.	P

Radiated Emission. CR0101LR

Project:	64657REM.001
Company:	JCM TECHNOLOGIES S.A.
Sample:	S/01
Operation mode:	OM#01
Description:	EUT ON. Standby mode. Transmitter power supply: 3Vdc (internal battery). Receiver power supply 12Vdc (through a generic AC/DC powered by 110Vac)

Full Spectrum

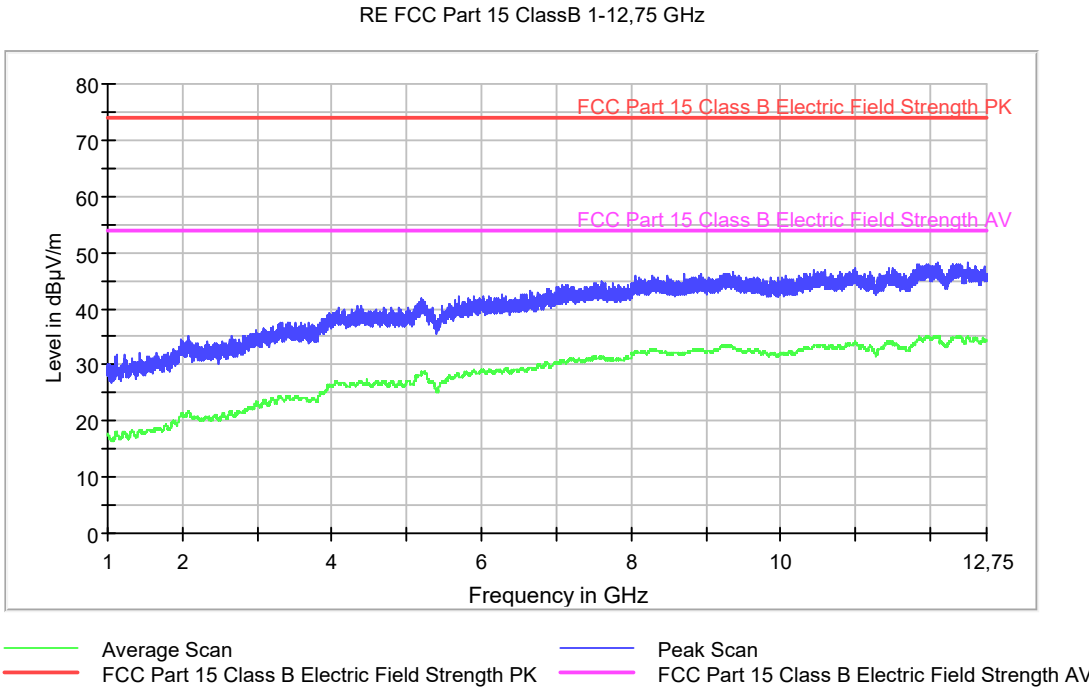


Maximizations

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Height (cm)	Pol	Azimuth (deg)
32.356000	8.04	16.39	241.0	V	178.0
158.679000	1.04	10.85	216.0	V	123.0
262.618000	4.29	13.38	303.0	H	82.0
537.789000	11.91	21.23	400.0	H	135.0
802.288000	15.24	25.24	400.0	H	217.0
940.052000	17.31	26.92	326.0	H	202.0

Radiated Emission. CR0101HR_PH

Project:	64657REM.001
Company:	JCM TECHNOLOGIES S.A.
Sample:	S/01
Operation mode:	OM#01
Description:	EUT ON. Standby mode. Transmitter power supply: 3Vdc (internal battery). Receiver power supply 12Vdc (through a generic AC/DC powered by 110Vac). Horizontal Polarization



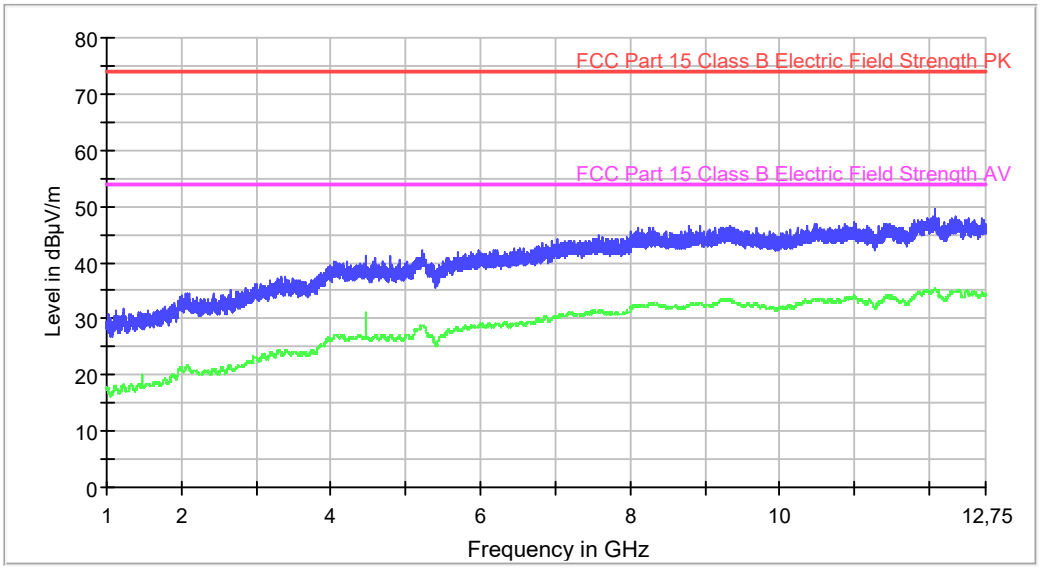
Subrange Maxima

Frequency (MHz)	PK+_CLRWR (dBµV/m)	AVG_CLRWR (dBµV/m)
2081.200000	35.2	21.6
3332.400000	37.5	23.8
4348.800000	40.4	26.7
5690.400000	42.3	28.4
6868.800000	43.3	30.3
8045.200000	45.2	32.2
8712.800000	46.3	32.0
9356.400000	46.5	33.2
11438.400000	47.3	33.9
12497.600000	48.2	35.0

Radiated Emission. CR0101HR_PV

Project:	64657REM.001
Company:	JCM TECHNOLOGIES S.A.
Sample:	S/01
Operation mode:	OM#01
Description:	EUT ON. Standby mode. Transmitter power supply: 3Vdc (internal battery). Receiver power supply 12Vdc (through a generic AC/DC powered by 110Vac). Vertical Polarization

RE FCC Part 15 ClassB 1-12,75 GHz



Average Scan
FCC Part 15 Class B Electric Field Strength PK
Peak Scan
FCC Part 15 Class B Electric Field Strength AV

Subrange Maxima

Frequency (MHz)	PK+_CLRWR (dBµV/m)	AVG_CLRWR (dBµV/m)
2069.600000	34.5	21.4
3328.000000	37.4	23.9
4454.800000	41.0	31.0
5218.800000	42.1	28.9
6832.000000	43.5	29.7
8010.000000	45.6	32.1
8783.200000	46.4	32.5
10361.200000	46.5	33.1
10994.400000	47.1	34.0
12064.800000	49.5	35.3

CONTINUOUS CONDUCTED EMISSION

LIMITS:	Product standard :	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition), Secs. 15.107; ICES-003 Issue 6 (January 2016, updated April 2019)
	Test standard :	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition), Secs. 15.107; ICES-003 Issue 6 (January 2016, updated April 2019)

CLASS B

The applied limit for continuous conducted emissions in power leads, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B (10-1-19 Edition), Secs. 15.107 & ICES-003 Issue 6 (January 2019), in the frequency range 0,15 to 30 MHz, for Class B equipment was:

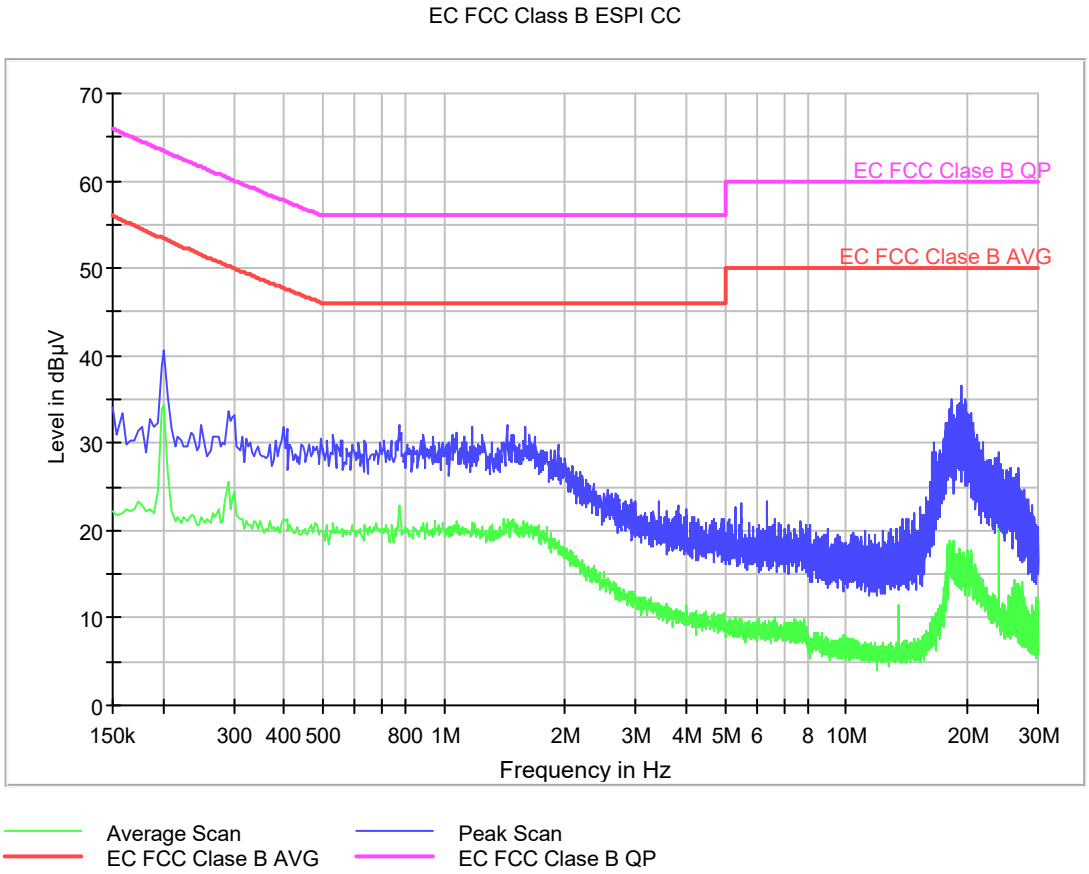
Frequency range	**Limit (dBµV)**	
(MHz)	**Quasi-peak**	**Average**
0,15 to 0,5	66 - 56	56 - 46
0,5 to 5	56	46
5 to 30	60	50

TESTED SAMPLES:	S/02
TESTED OPERATION MODES:	OM#02 & OM#03
TEST RESULTS:	CCmmnnhh: CC, Conducted Condition; mm: Sample number; nn: Operation mode; hh: wire

CCmmnnhh	**DESCRIPTION**	**RESULT**
CC02020N	Range: 150kHz – 30MHz. Neutral AC wire noise.	P
CC0202L1	Range: 150kHz – 30MHz. Phase AC wire noise.	P
CC02030N	Range: 150kHz – 30MHz. Neutral AC wire noise.	P
CC0203L1	Range: 150kHz – 30MHz. Phase AC wire noise.	P

Conducted Emission. CC0202ON

Project:	64657REM.001
Company:	JCM TECHNOLOGIES SA
Sample:	S/02
Operation mode:	OM#02
Description:	EUT ON. Equipment without receiving signal. Transmitter power supply: 3Vdc (internal battery). Receiver power supply 12Vdc (through a generic AC/DC powered by 110Vac). Neutral AC wire noise.



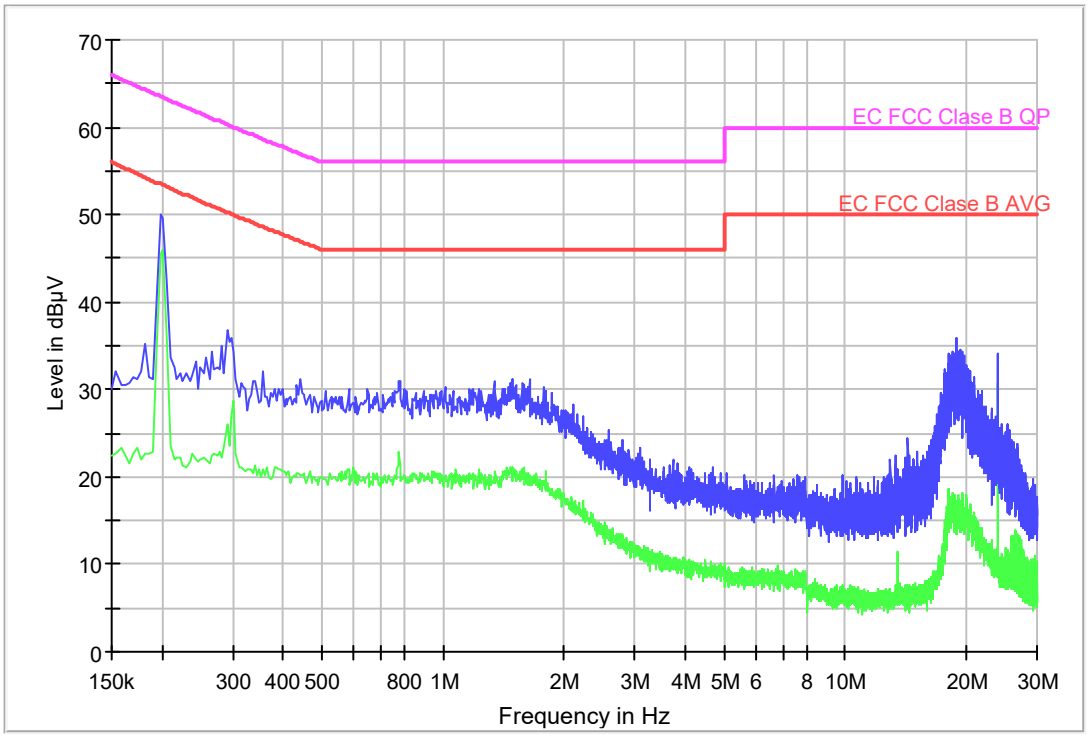
Subrange Maxima

Frequency (MHz)	PK+_CLRWR (dBµV)	AVG_CLRWR (dBµV)
0.202000	40.7	34.4
0.290000	33.6	25.7
0.530000	30.9	20.9
0.774000	32.0	22.9
1.434000	32.0	20.6
2.134000	26.8	17.0
5.470000	23.2	9.4
6.358000	23.4	8.5
17.630000	32.3	14.1
19.426000	36.6	16.5

Conducted Emission. CC0202L1

Project:	64657REM.001
Company:	JCM TECHNOLOGIES SA
Sample:	S/02
Operation mode:	OM#02
Description:	EUT ON. Equipment without receiving signal. Transmitter power supply: 3Vdc (internal battery). Receiver power supply 12Vdc (through a generic AC/DC powered by 110Vac). Phase AC wire noise.

EC FCC Class B ESPI CC



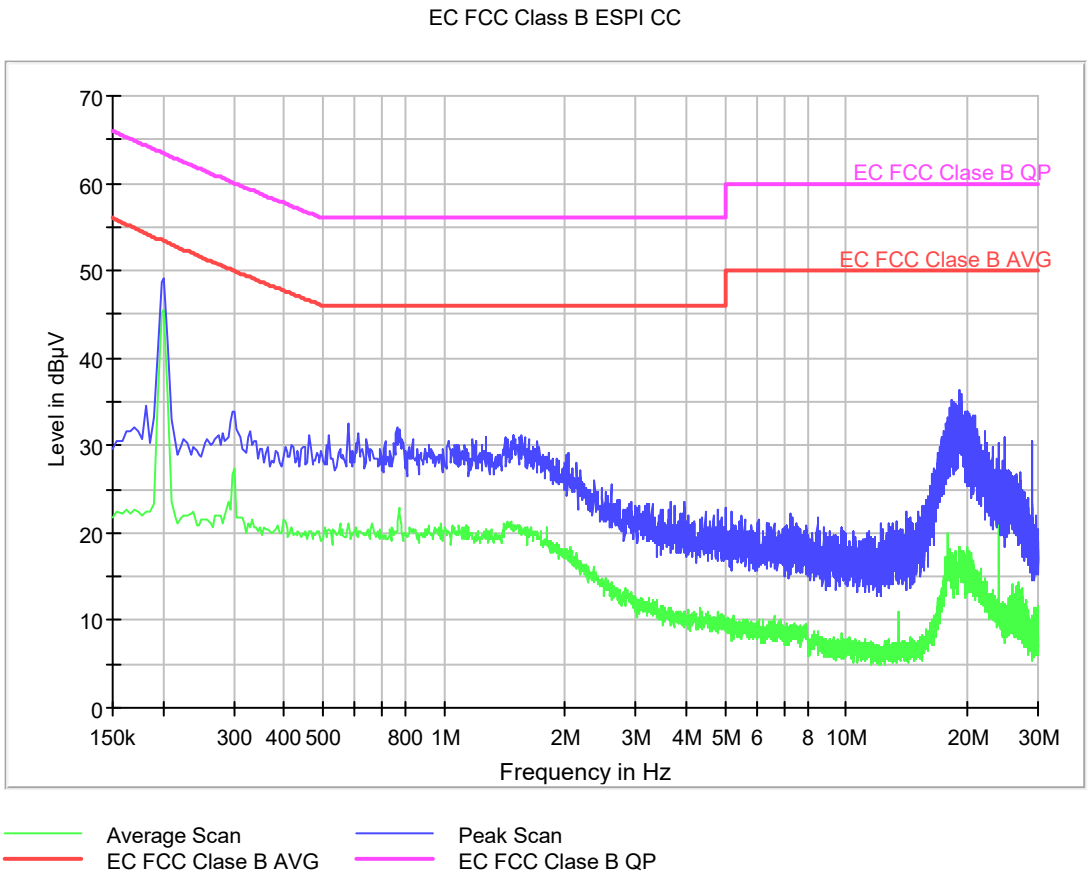
Average Speak
EC FCC Clase B AVG
Peak Scan
EC FCC Clase B QP

Subrange Maxima

Frequency (MHz)	PK+_CLRWR (dBµV)	AVG_CLRWR (dBµV)
0.198000	50.0	45.5
0.290000	36.8	25.9
0.442000	31.1	20.1
0.782000	31.0	21.4
1.490000	31.2	21.0
2.154000	27.1	16.7
3.726000	22.1	9.7
6.682000	20.3	8.5
17.338000	29.7	10.7
18.830000	35.8	15.1

Conducted Emission. CC0203ON

Project:	64657REM.001
Company:	JCM TECHNOLOGIES SA
Sample:	S/02
Operation mode:	OM#03
Description:	EUT ON. Equipment receiving signal. Activation of R1 output (N.O) Transmitter power supply: 3Vdc (internal battery). Receiver power supply 12Vdc (through a generic AC/DC powered by 110Vac). Neutral AC wire noise.

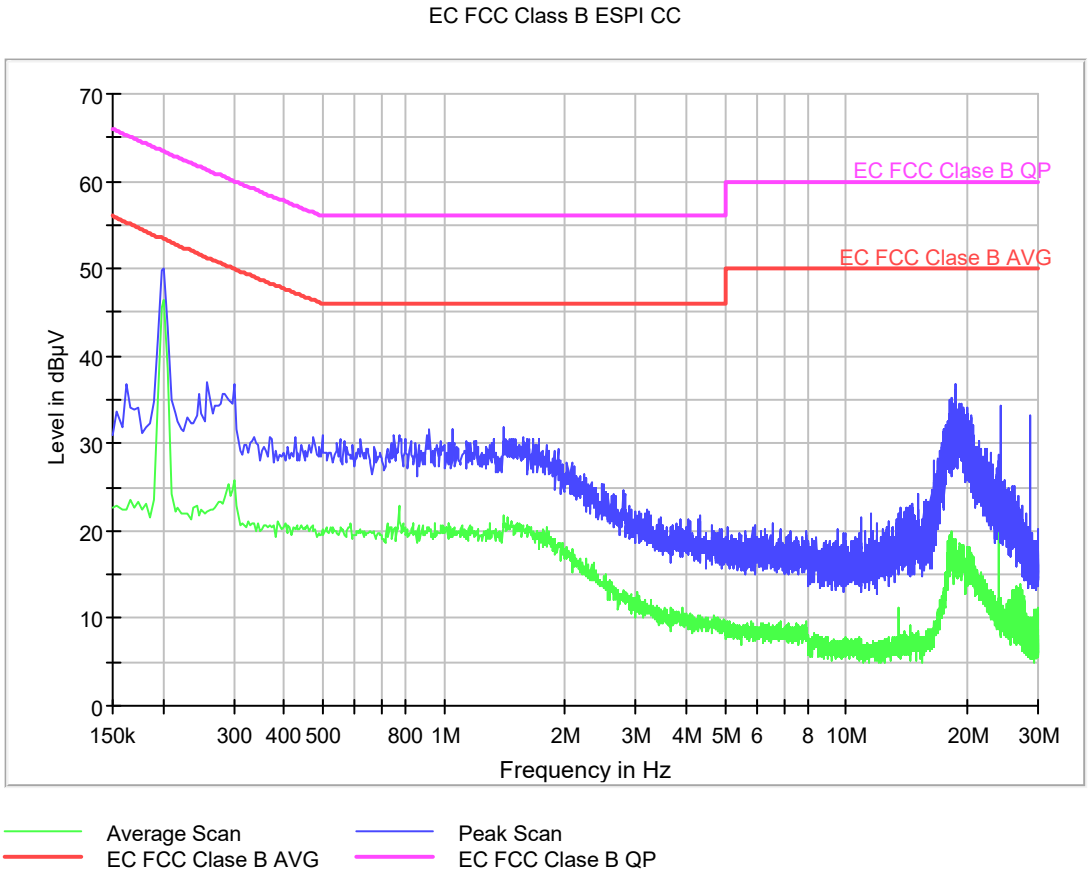


Subrange Maxima

Frequency (MHz)	PK+_CLRWR (dBµV)	AVG_CLRWR (dBµV)
0.202000	49.2	45.5
0.298000	34.0	26.7
0.578000	32.6	21.2
0.766000	32.1	20.2
1.490000	31.1	20.2
2.142000	28.1	17.8
3.962000	23.6	10.9
7.258000	22.2	9.4
17.438000	31.6	14.5
19.070000	36.2	17.4

Conducted Emission. CC0203L1

Project:	64657REM.001
Company:	JCM TECHNOLOGIES SA
Sample:	S/02
Operation mode:	OM#03
Description:	EUT ON. Equipment receiving signal. Activation of R1 output (N.O) Transmitter power supply: 3Vdc (internal battery). Receiver power supply 12Vdc (through a generic AC/DC powered by 110Vac). Phase AC wire noise.



Subrange Maxima

Frequency (MHz)	PK+_CLRWR (dBµV)	AVG_CLRWR (dBµV)
0.202000	50.1	46.5
0.258000	36.9	22.2
0.498000	31.0	20.2
1.050000	31.6	20.2
1.410000	32.0	21.7
2.230000	26.5	15.1
4.342000	21.9	10.3
6.594000	20.8	9.0
17.630000	32.1	13.8
18.634000	36.8	17.4