FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8

CERTIFICATION TEST REPORT

FOR

Fibaro Button

MODEL NUMBER: FGPB-101

FCC ID: 2AA9MFGPB101
IC: 20430- FGPB101

REPORT NUMBER: 11027505

ISSUE DATE: September 30, 2016

Prepared for
Fibar Group S.A.
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Poznań, Poland 60-421

Prepared by
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Revision History

Rev.	Issue Date	Revisions	Revised By
--	August 22, 2016	Initial Issue	V Sabalvaro
REV1	September 30, 2016	Editorial Changes	V Sabalvaro

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Fibar Group S.A.
Ul. Lotnicza 1
Poznań, Poland 60-421

EUT DESCRIPTION: Fibaro Button

MODEL: FGPB-101

SERIAL NUMBER: Non-serialized

DATE TESTED: August 11 – August 18, 2016

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Pass
CFR 47 Part 15 Subpart B	Pass
INDUSTRY CANADA RSS-210 Issue 8 Annex A2.9	Pass
INDUSTRY CANADA RSS-GEN Issue 4	Pass

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL LLC based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL LLC By:

Bart Mucha
Staff Engineer

UL LLC

Tested By:

Vincent Sabalvaro
EMC WISE Engineer
Consumer Technology
UL LLC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 4, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 333 Pfingsten Road, Northbrook, IL 60062 USA.

UL NBK is accredited by NVLAP, Laboratory Code 100414-0. The full scope of accreditation can be viewed at http://ts.nist.gov

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Sample Calculations
Radiated Field Strength and Conducted Emissions data contained within this report is calculated on the following basis:
Field Strength (dBuV/m) = Meter Reading (dBuV) + AF (dB/m) - Gain (dB) + Cable Loss (dB)
Conducted Voltage (dBuV) = Meter Reading (dBuV) + Cable Loss (dB) + LISN IL (dB)
Conducted Current (dBuA) = Meter Reading (dBuV) + Cable Loss (dB) - Transducer Factor (dBohms)

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test	Range	Equipment	Uncertainty k=2
Radiated Emissions	9k-30MHz	H-Field Loop	3.15dB
Radiated Emissions	30-200MHz	Bicon 3m Horz	3.64dB
Radiated Emissions	30-200MHz	Bicon 3m Vert	5.10dB
Radiated Emissions	200-1000MHz	LogP 3m Horz	4.00dB
Radiated Emissions	200-1000MHz	LogP 3m Vert	5.36dB
Radiated Emissions	30-200MHz	Bicon 10m Horz	4.48dB
Radiated Emissions	30-200MHz	Bicon 10m Vert	4.49dB
Radiated Emissions	200-1000MHz	LogP 10m Horz	3.79dB
Radiated Emissions	200-1000MHz	LogP 10m Vert	3.84dB
Radiated Emissions	1-18GHz	Horn	4.32dB
Conducted Ant Port	30MHz-26GHz	Spectrum Analyzer	2.94dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a 908.4MHz, 908.42MHz, and 916MHz transceiver. It is internal battery powered. The transmitter utilizes Z-wave technologies to communicate with other devices for home automation.
The device is manufactured by Fibar Group S.A

5.2. MAXIMUM OUTPUT E-FIELD STRENGTH

The transmitter has a maximum output peak E-field as follows:

Frequency Range (MHz)	Mode	Output QP E-field Strength (dBuV/m)
908.4 - 916	TX	83.00

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio is equipped with an embedded, impedance matched quarter-wave antenna. Antenna was designed as a trace on PCB.

5.4. WORST-CASE CONFIGURATION AND MODE

The EUT was set in worst axis as found in preliminary testing. The Y-axis was determined to be the worst axis.
For radiated emissions, the worst-case configuration is determined to be the transmitting channel with the highest measured output power.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
None	-	-	-	-

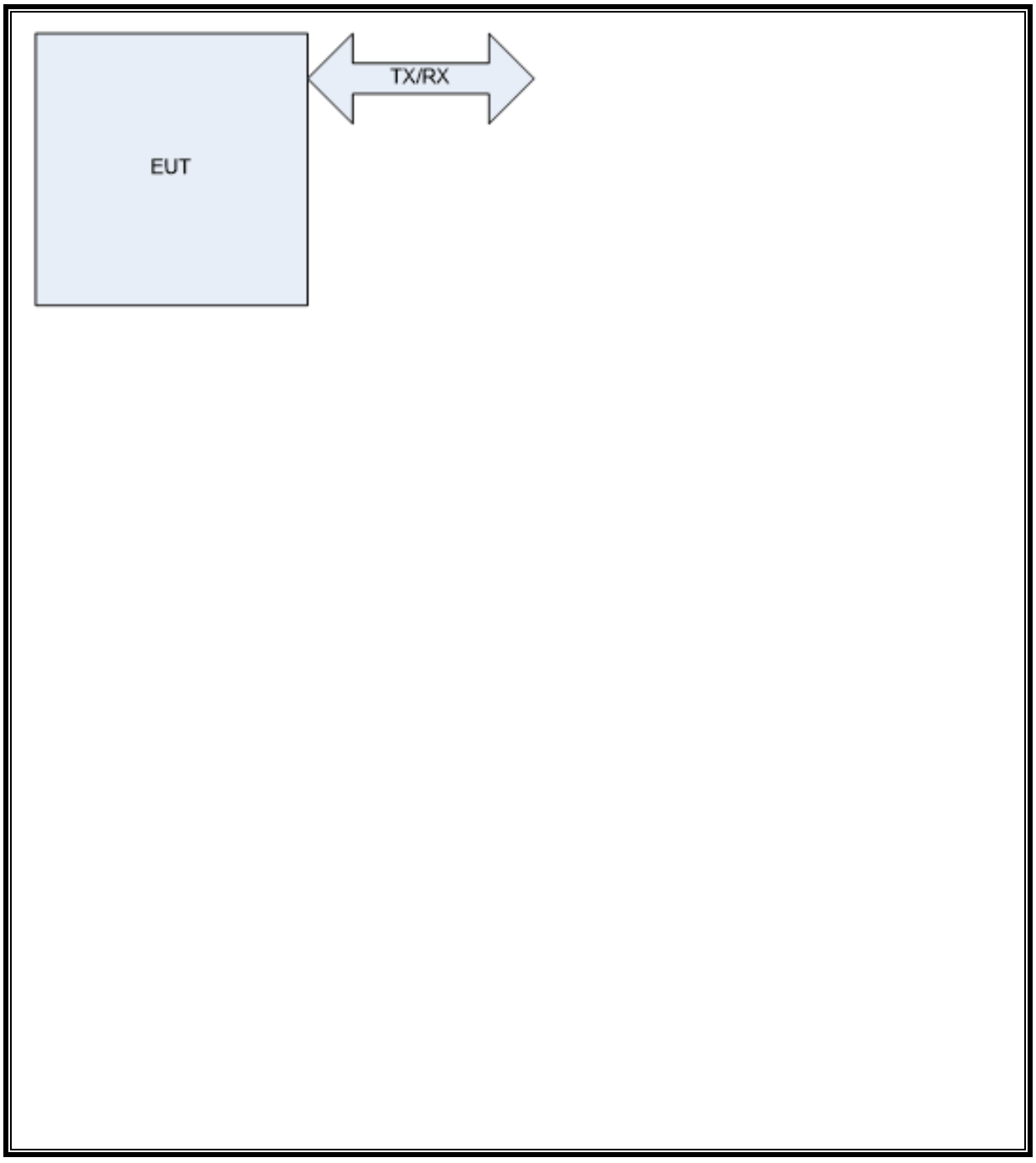
I/O CABLES

Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
0	Enclosure	-	Non-Electrical	-	-	None

TEST SETUP

The EUT is programmed for continuous TX mode

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List					
Description	**Manufacturer**	**Model**	**T No.**	**Cal Date**	**Cal Due**
Radiated Software	UL	UL EMC	Ver 9.5, Nov, 2015		
EMI Test Receiver	Rohde & Schwarz	ESR	EMC4377	4/26/2016	4/30/2017
Transient Limiter	Electro-Metrics	EM7600-2	EMC4224	N/A	N/A
HighPass Filter	Solar Electronics	2803-150	EMC4327	N/A	N/A
Attenuator	HP	8494B	2831A0083	N/A	N/A
LISN - L1	Solar	8602-50-TS-50-N	EMC4052	2/16/2016	2/28/2017
LISN - L2	Solar	8602-50-TS-50-N	EMC4064	2/16/2016	2/28/2017
Signal Analyzer	Agilent	PXA	EMC4360	1/8/2016	1/31/2017
Near Field Probe	EMCO	7405	1270	N/A	N/A
Test Receiver	Rhode & Schwarz	ESCI	EMC4328	11/18/2015	11/30/2016
Log-P Antenna	Chase	UPA6109	EMC4313	1/22/2016	1/31/2017
Bicon Antenna	Chase	UPA6106A	EMC4078	12/28/2015	12/31/2016
Antenna Array	UL	BOMS	EMC4276	12/1/2015	12/31/2016
Test Receiver	Rhode & Schwarz	ESU	EMC4323	1/2/2016	1/31/2017
Loop Antenna	EMCO	6502/1	EMC4026	7/22/2016	7/31/2017

7. TEST RESULTS

7.1. 20 dB AND 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

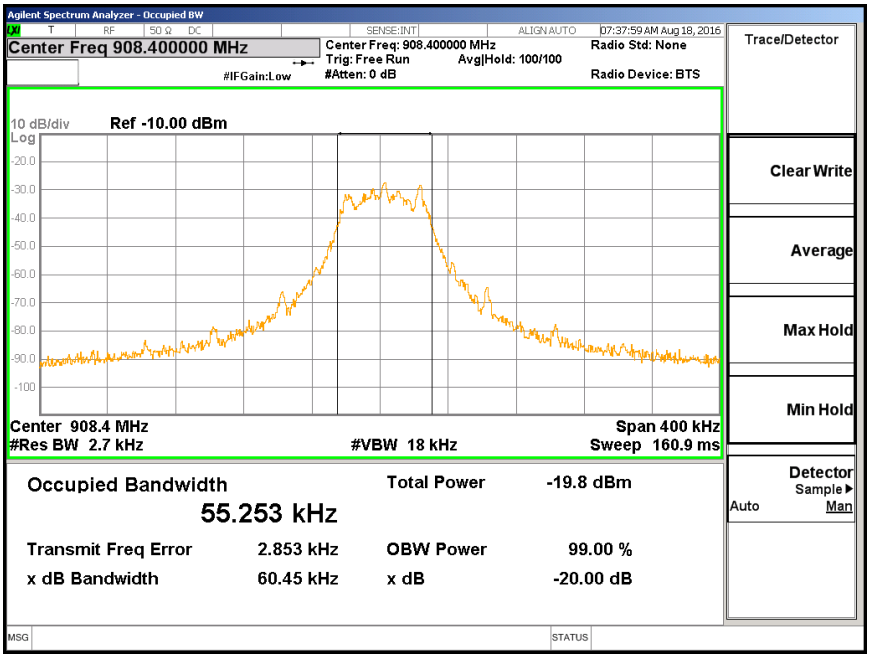
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 5% of the Occupied bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

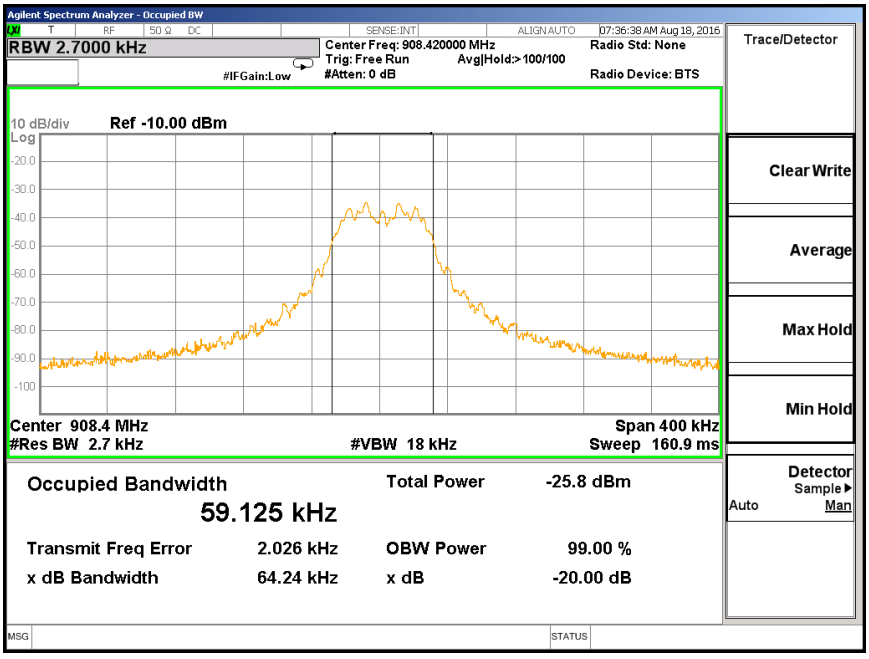
Channel	Frequency (MHz)	20 dB Bandwidth (kHz)	99% Bandwidth (kHz)
Low	908.4	63.03	55.253
Middle	908.42	65.96	59.125
High	916	80.74	74.287

99% BANDWIDTH

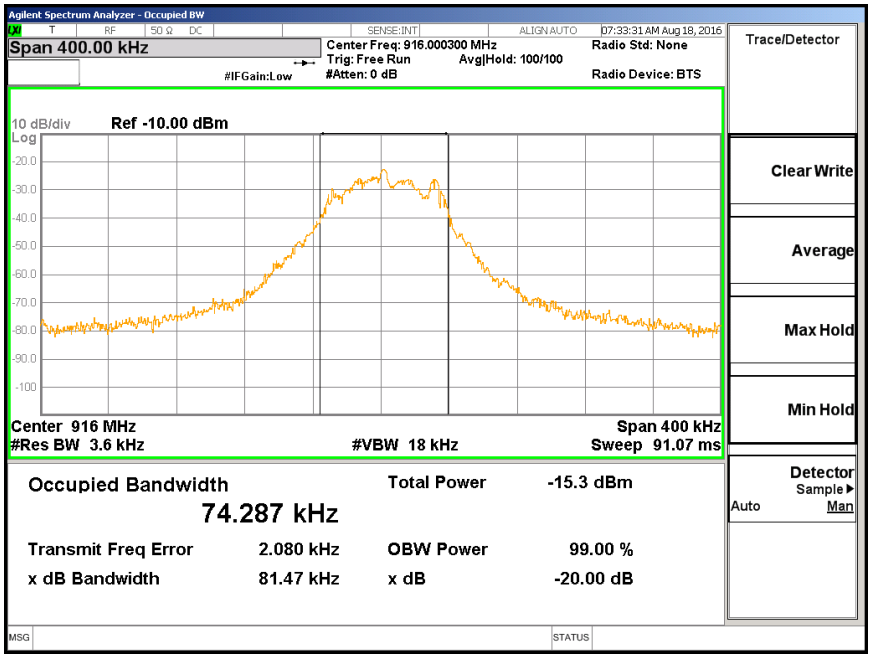
99% BANDWIDTH LOW CH



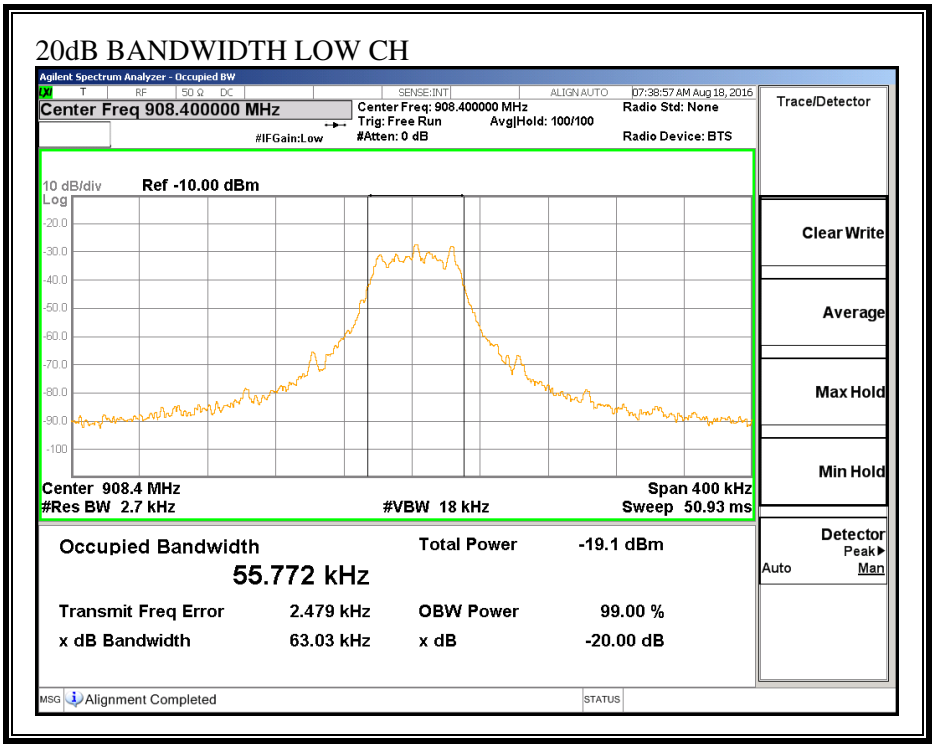
99% BANDWIDTH MID CH



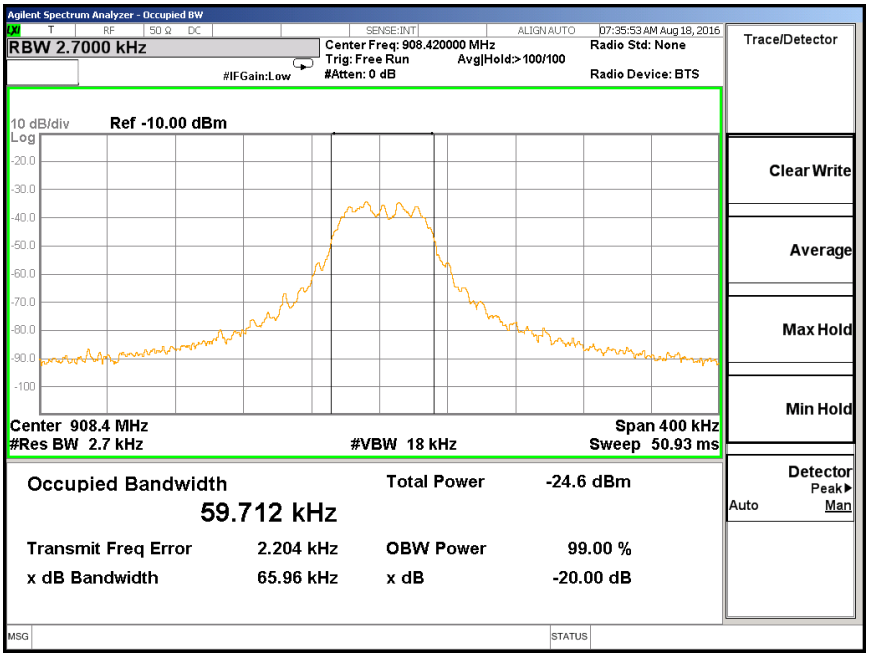
99% BANDWIDTH HIGH CH



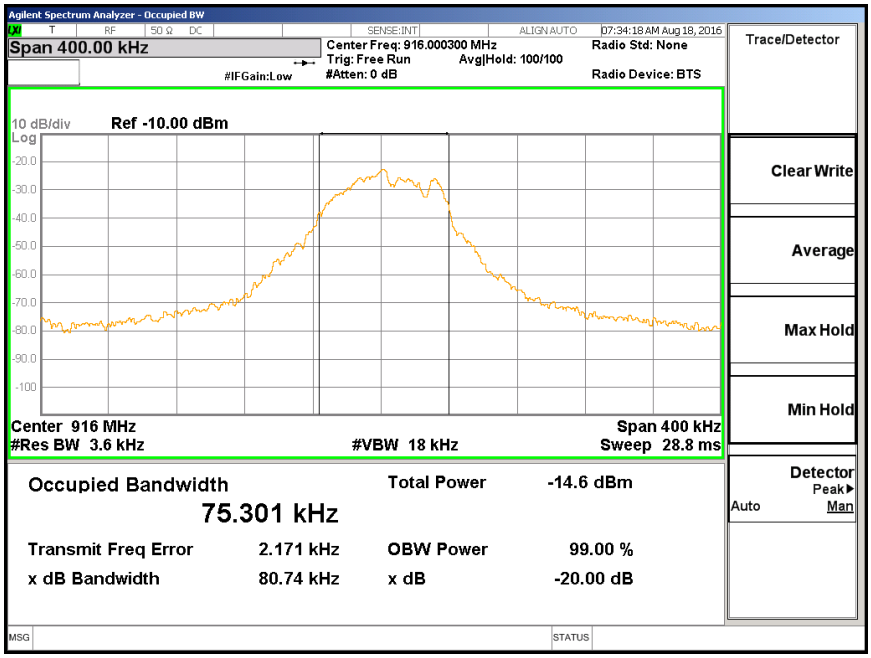
20dB BANDWIDTH



20dB BANDWIDTH MID CH



20dB BANDWIDTH HIGH CH



7.2. RADIATED EMISSIONS

LIMIT

IC RSS-210, A2.9
FCC 15.249

Operation within the bands 902–928 MHz, 2400–2483.5 MHz, 5725–5875 MHZ, and 24.0–24.25 GHz.
(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100 **	3
88–216	150 **	3
216–960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

RESULTS

7.2.1. FUNDAMENTAL FREQUENCY RADIATED EMISSION

Fibar Group S.A.
Button
TX Y-Axis
Battery
Radiated Emission Data

Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path dB	Corrected Reading dB(uVolts/ meter)	PK Limit	PK Margin (dB)	QP Limit	QP Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
TX 908.4MHz Low CH												
908.4214	38.53	Pk	23.1	9.5	71.13	114	-42.87	-	-	236	180	V
908.40954	38.33	Qp	23.1	9.5	70.93	-	-	94	-23.07	236	180	V
908.397	47.12	Pk	23.1	9.5	79.72	114	-34.28	-	-	129	157	H
908.40954	46.98	Qp	23.1	9.5	79.58	-	-	94	-14.42	129	157	H
TX 908.42MHz Mid CH												
908.3985	36.91	Pk	23.1	9.5	69.51	114	-44.49	-	-	347	192	V
908.40301	36.77	Qp	23.1	9.5	69.37	-	-	94	-24.63	347	191	V
908.4318	44.74	Pk	23.1	9.5	77.34	114	-36.66	-	-	246	165	H
908.44396	44.62	Qp	23.1	9.5	77.22	-	-	94	-16.78	246	165	H
TX 916MHz High CH												
915.9705	50.27	Pk	23.3	9.6	83.17	114	-30.83	-	-	66	169	H
915.98695	50.1	Qp	23.3	9.6	83	-	-	94	-11	66	169	H
915.993	41.5	Pk	23.3	9.6	74.4	114	-39.6	-	-	357	171	V
915.98695	41.13	Qp	23.3	9.6	74.03	-	-	94	-19.97	357	171	V

Pk - Peak detector
Qp - Quasi-Peak detector

7.2.2. HARMONICS AND SPURIOUS EMISSIONS ABOVE 1GHz

Transmitter Low Channel – GRAPH

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter Low Channel – DATA

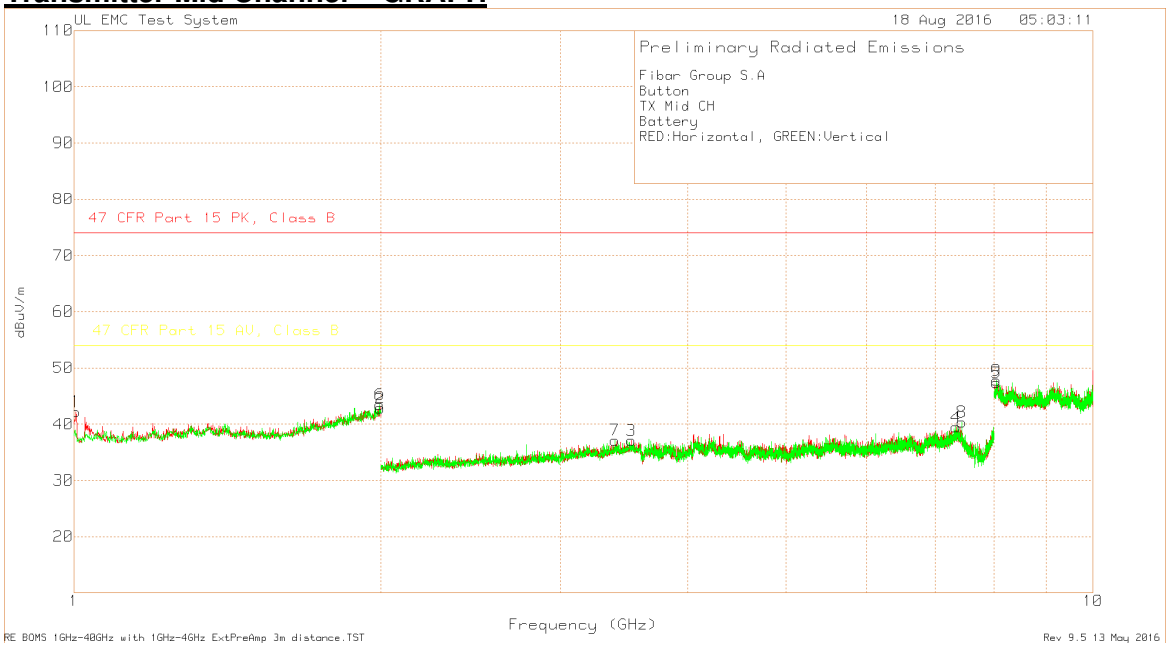
Fibar Group S.A
Button
TX Low CH
Battery

Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path (dB)	Corrected Reading dBuV/m	PK Limit	PK Margin (dB)	AV Limit	AV Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	1.004	72.13	Pk	27.5	-57.26	42.37	74	-31.63	54	-11.63	0-360	150	H
2	1.963	65.26	Pk	31.6	-54.19	42.67	74	-31.33	54	-11.33	0-360	150	H
3	3.575	64.56	Pk	23.3	-50.57	37.29	74	-36.71	54	-16.71	0-360	100	H
4	7.374	55.47	Pk	31	-46.53	39.94	74	-34.06	54	-14.06	0-360	148	H
5	8.054	57.49	Pk	36.2	-46.46	47.23	74	-26.77	54	-6.77	0-360	150	H
3	3.575	64.56	Pk	23.3	-50.57	37.29	74	-36.71	54	-16.71	0-360	100	H
6	1.176	71.11	Pk	28.2	-57.38	41.93	74	-32.07	54	-12.07	0-360	100	V
7	1.877	66.71	Pk	31	-54.71	43	74	-31	54	-11	0-360	100	V
8	3.901	64.74	Pk	23.8	-50.93	37.61	74	-36.39	54	-16.39	0-360	150	V
8	3.901	64.74	Pk	23.8	-50.93	37.61	74	-36.39	54	-16.39	0-360	150	V
9	7.341	54.66	Pk	30.8	-46.21	39.25	74	-34.75	54	-14.75	0-360	150	V
10	8.077	58.52	Pk	36.2	-46.85	47.87	74	-26.13	54	-6.13	0-360	150	V

Pk - Peak detector

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter Mid Channel – GRAPH



All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter Mid Channel – DATA

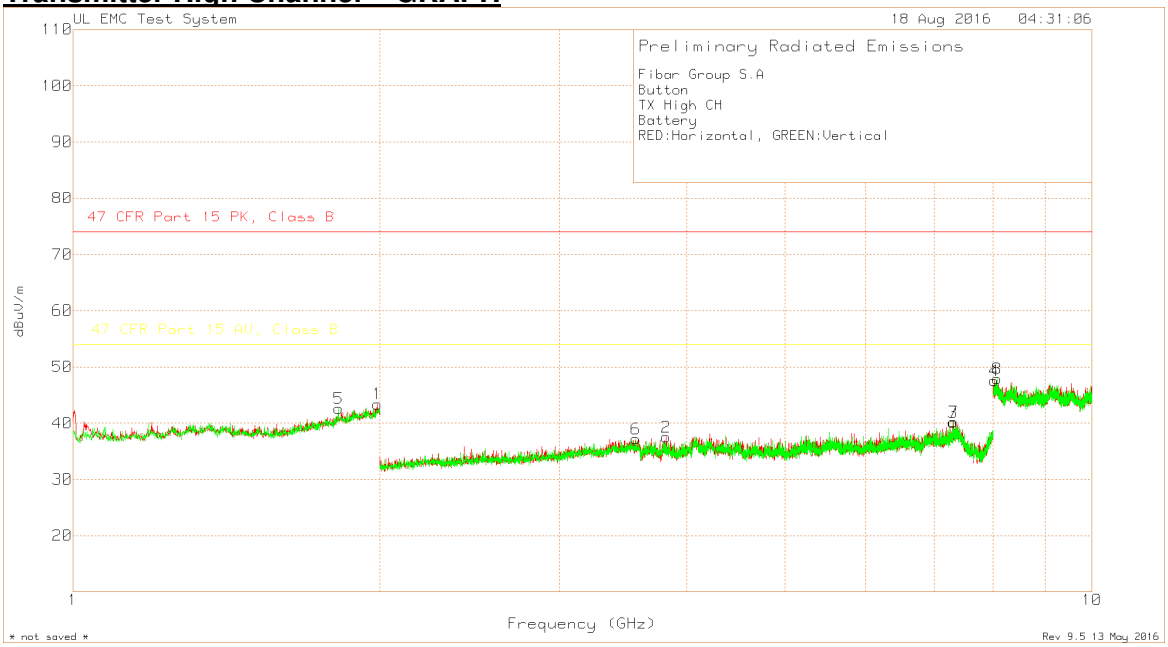
Fibar Group S.A
Button
TX Mid CH
Battery

Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path (dB)	Corrected Reading dBuV/m	PK Limit	PK Margin (dB)	AV Limit	AV Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	1.004	71.98	Pk	27.5	-57.26	42.22	74	-31.78	54	-11.78	0-360	149	H
2	1.997	65.11	Pk	31.8	-54.02	42.89	74	-31.11	54	-11.11	0-360	149	H
3	3.522	63.61	Pk	23.4	-49.89	37.12	74	-36.88	54	-16.88	0-360	149	H
4	7.34	54.9	Pk	30.8	-46.2	39.5	74	-34.5	54	-14.5	0-360	148	H
5	8.042	57.89	Pk	36.2	-46.71	47.38	74	-26.62	54	-6.62	0-360	98	H
6	1.994	65.81	Pk	31.7	-54.03	43.48	74	-30.52	54	-10.52	0-360	150	V
7	3.397	63.9	Pk	23.5	-50.24	37.16	74	-36.84	54	-16.84	0-360	150	V
8	7.437	57.05	Pk	30.6	-47.27	40.38	74	-33.62	54	-13.62	0-360	149	V
9	8.039	58.39	Pk	36.1	-46.73	47.76	74	-26.24	54	-6.24	0-360	150	V

Pk - Peak detector

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter High Channel – GRAPH



All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter High Channel – DATA

Fibar Group S.A
Button
TX High CH
Battery

Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path (dB)	Corrected Reading dBuV/m	PK Limit	PK Margin (dB)	AV Limit	AV Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	1.99	65.76	Pk	31.7	-54.04	43.42	74	-30.58	54	-10.58	0-360	100	H
2	3.82	63.63	Pk	24	-50.07	37.56	74	-36.44	54	-16.44	0-360	150	H
3	7.306	55.65	Pk	30.5	-45.99	40.16	74	-33.84	54	-13.84	0-360	101	H
4	8.018	58.5	Pk	36.1	-47.03	47.57	74	-26.43	54	-6.43	0-360	100	H
5	1.822	66.91	Pk	30.4	-54.71	42.6	74	-31.4	54	-11.4	0-360	150	V
6	3.567	64.43	Pk	23.3	-50.5	37.23	74	-36.77	54	-16.77	0-360	100	V
7	7.318	55.65	Pk	30.6	-46.01	40.24	74	-33.76	54	-13.76	0-360	100	V
8	8.077	58.57	Pk	36.2	-46.85	47.92	74	-26.08	54	-6.08	0-360	150	V

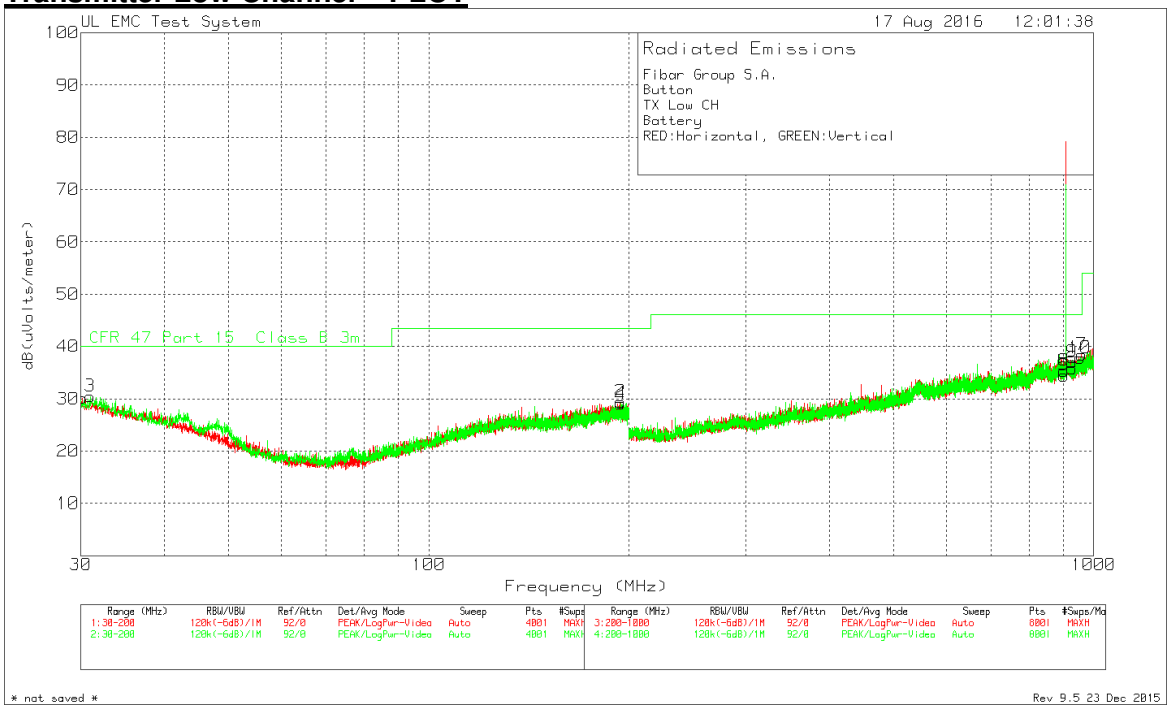
Pk - Peak detector

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

7.2.3. WORST-CASE BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz

Transmitter Low Channel – PLOT



All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter Low Channel – DATA

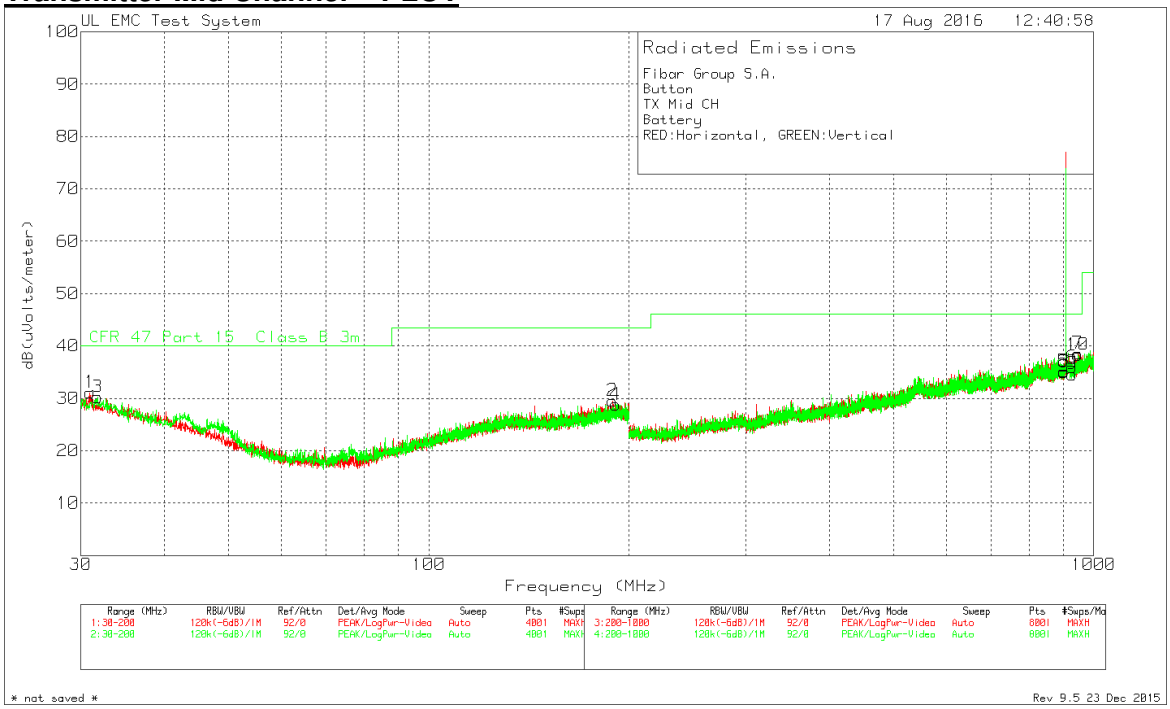
Fibar Group S.A.
Button
TX Low CH
Battery

Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path dB	10m to 3m Factor dB	Corrected Reading dB(uVolts/ meter)	QP Limit	QP Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	30.1275	31.52	Pk	18.1	-30	10.5	30.12	40	-9.88	0-360	398	H
2	194.4325	31.72	Pk	16	-28.8	10.5	29.42	43.52	-14.1	0-360	248	H
3	30.9775	32.15	Pk	17.8	-30	10.5	30.45	40	-9.55	0-360	252	V
4	194.4325	31.42	Pk	16	-28.8	10.5	29.12	43.52	-14.4	0-360	252	V
5*	902	29.23	Pk	22.7	-28	10.5	34.43	46.02	-11.59	0-360	98	H
6*	928	30.22	Pk	22.7	-27.6	10.5	35.82	46.02	-10.2	0-360	199	H
7	958.1	31.64	Pk	23.6	-27.3	10.5	38.44	46.02	-7.58	0-360	98	H
8*	902	30.15	Pk	22.7	-28	10.5	35.35	46.02	-10.67	0-360	199	V
9*	928	31.37	Pk	22.7	-27.6	10.5	36.97	46.02	-9.05	0-360	399	V
10	953.4	30.98	Pk	23.5	-27.2	10.5	37.78	46.02	-8.24	0-360	399	V

Pk - Peak detector
* - Bandedge markers

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter Mid Channel – PLOT



All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter Mid Channel – DATA

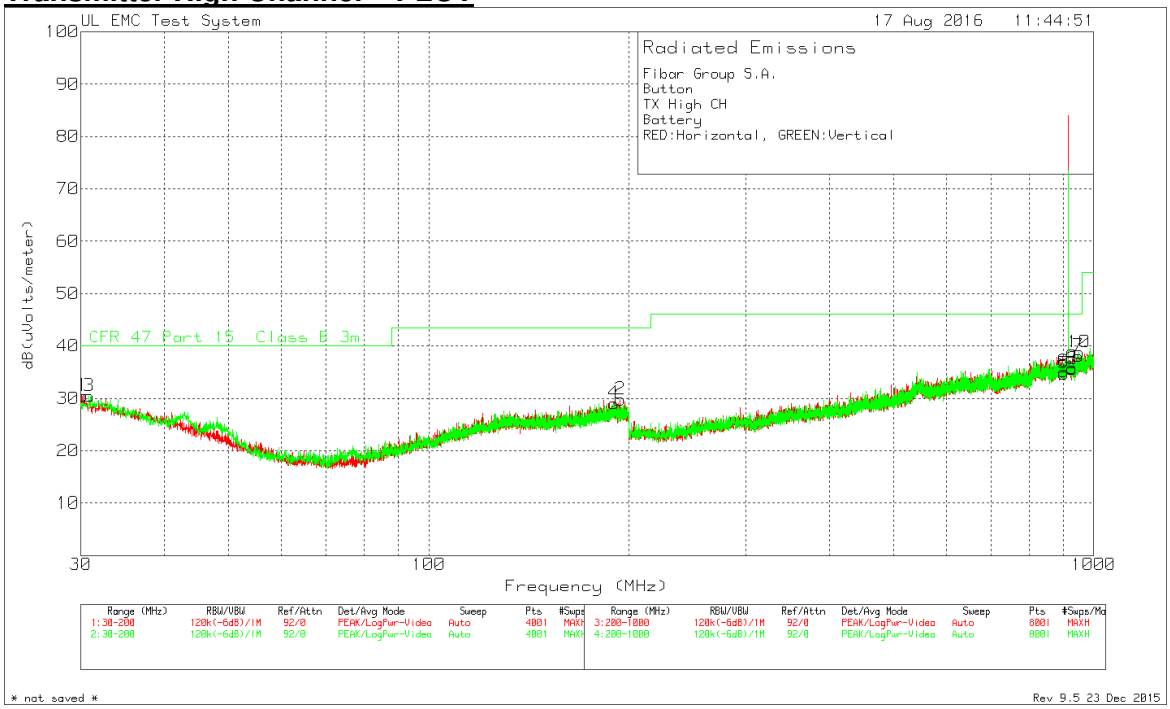
Fibar Group S.A.
Button
TX Mid CH
Battery

Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path dB	10m to 3m Factor dB	Corrected Reading dB(uVolts/ meter)	QP Limit	QP Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	30.935	32.82	Pk	17.8	-30	10.5	31.12	40	-8.88	0-360	248	H
2	189.035	32.03	Pk	16	-29	10.5	29.53	43.52	-13.99	0-360	248	H
3	31.785	32.32	Pk	17.4	-30	10.5	30.22	40	-9.78	0-360	251	V
4	190.9475	31.22	Pk	16	-28.9	10.5	28.82	43.52	-14.7	0-360	101	V
5	902	29.98	Pk	22.7	-28	10.5	35.18	46.02	-10.84	0-360	399	H
6	928	30.34	Pk	22.7	-27.6	10.5	35.94	46.02	-10.08	0-360	399	H
7	946.3	32.25	Pk	23.4	-27.6	10.5	38.55	46.02	-7.47	0-360	98	H
8	902	29.83	Pk	22.7	-28	10.5	35.03	46.02	-10.99	0-360	198	V
9	928	28.99	Pk	22.7	-27.6	10.5	34.59	46.02	-11.43	0-360	302	V
10	945.9	32.01	Pk	23.4	-27.6	10.5	38.31	46.02	-7.71	0-360	198	V

Pk - Peak detector
* - Bandedge markers

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter High Channel – PLOT



All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter High Channel – DATA

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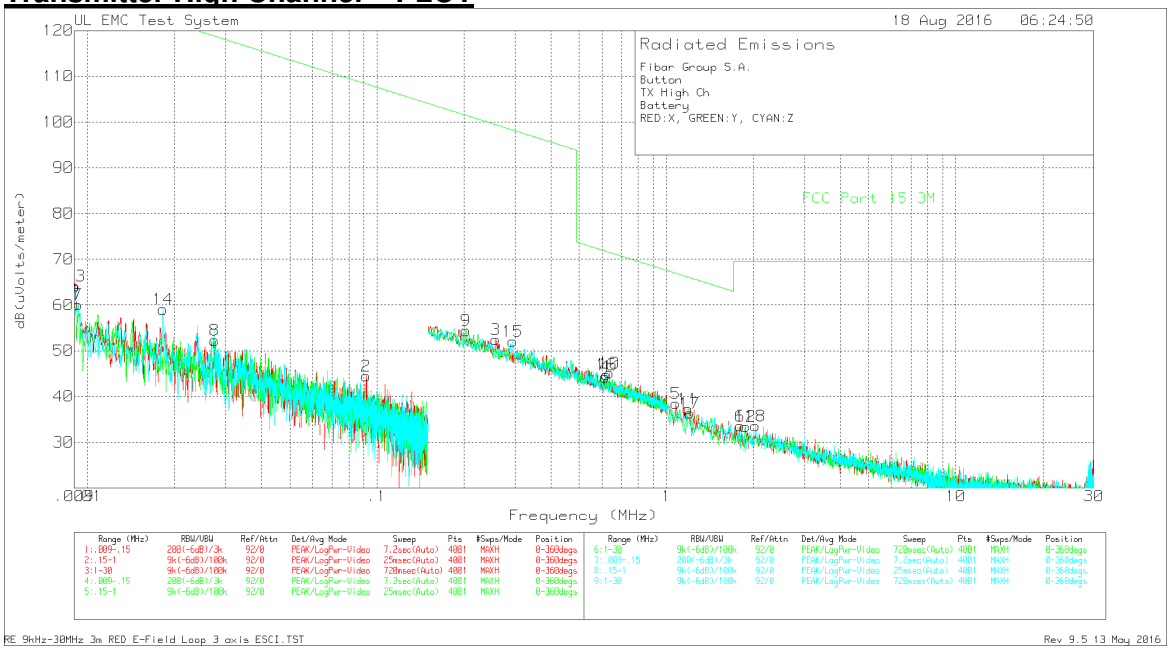
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path dB	10m to 3m Factor dB	Corrected Reading dB(uVolts/ meter)	QP Limit	QP Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	30.17	31.88	Pk	18.1	-30	10.5	30.48	40	-9.52	0-360	398	H
2	194.0925	32.07	Pk	16	-28.8	10.5	29.77	43.52	-13.75	0-360	398	H
3	30.85	32.02	Pk	17.9	-30	10.5	30.42	40	-9.58	0-360	101	V
4	189.8425	31.55	Pk	16	-29	10.5	29.05	43.52	-14.47	0-360	251	V
5*	902	29.53	Pk	22.7	-28	10.5	34.73	46.02	-11.29	0-360	100	H
6*	928	30.03	Pk	22.7	-27.6	10.5	35.63	46.02	-10.39	0-360	100	H
7	947.6	31.67	Pk	23.5	-27.6	10.5	38.07	46.02	-7.95	0-360	299	H
8*	902	29.92	Pk	22.7	-28	10.5	35.12	46.02	-10.9	0-360	98	V
9*	928	30.23	Pk	22.7	-27.6	10.5	35.83	46.02	-10.19	0-360	98	V
10	950.4	32.17	Pk	23.5	-27.4	10.5	38.77	46.02	-7.25	0-360	199	V

Pk - Peak detector
* - Bandedge markers

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

SPURIOUS EMISSIONS 9 kHz TO 30 MHz

Transmitter High Channel – PLOT



Although these tests were performed other than open area test site, adequate comparisonmeasurements were confirmed against 30 m open are test site. Therefore sufficient tests weremade to demonstrate that the alternative site produces results that correlate with the ones oftests made in an open field based on KDB 937606.

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter High Channel – DATA

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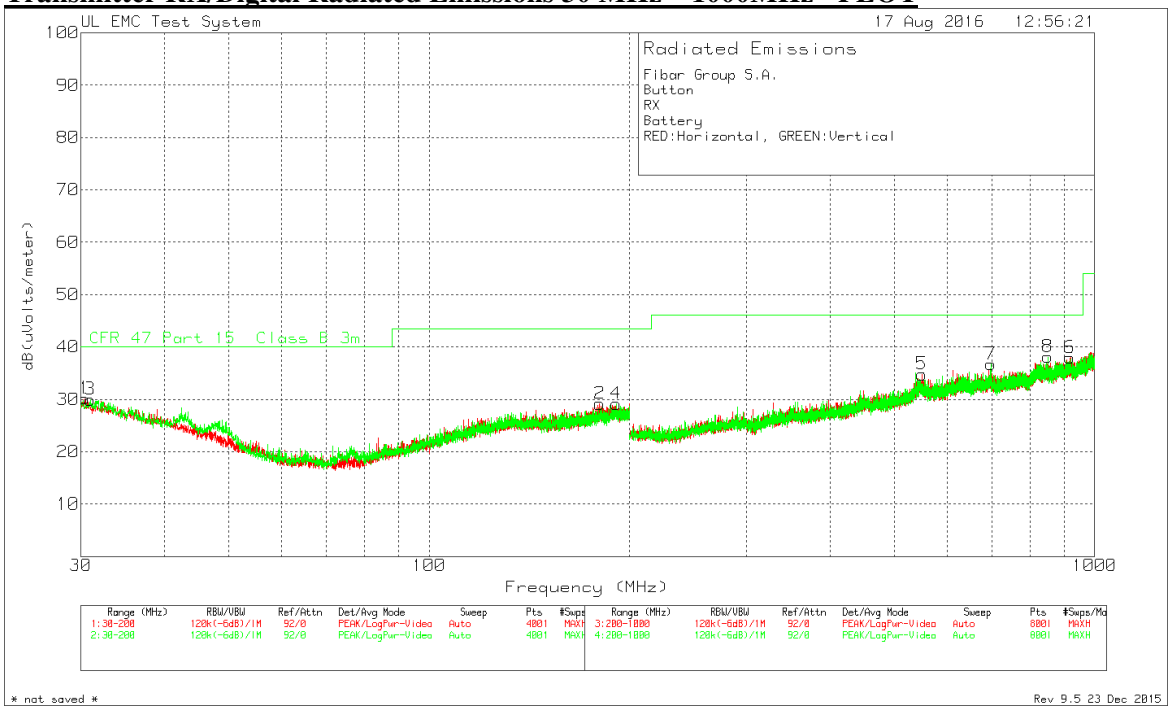
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path dB	Corrected Reading dB(uVolts/ meter)	AV Limit	Margin (dB)	Azimuth [Degs]	Polarity
1	0.009035	44.39	Pk	19.6	0	63.99	128.47	-64.48	0-360	X
2	0.09195	32.86	Pk	11.6	0	44.46	108.32	-63.86	0-360	X
3	0.25735	40.84	Pk	11.6	0	52.44	99.39	-46.95	0-360	X
4	0.6137	32.69	Pk	11.6	0	44.29	71.84	-27.55	0-360	X
5	1.07975	26.8	Pk	11.6	0.1	38.5	66.94	-28.44	0-360	X
6	1.7975	21.77	Pk	11.7	0.1	33.57	69.54	-35.97	0-360	X
7	0.009245	40.71	Pk	19.4	0	60.11	128.27	-68.16	0-360	Y
8	0.027515	38.37	Pk	13.9	0	52.27	118.8	-66.53	0-360	Y
9	0.20304	42.81	Pk	11.6	0	54.41	101.45	-47.04	0-360	Y
10	0.63585	33.5	Pk	11.6	0	45.1	71.54	-26.44	0-360	Y
11	1.1885	25.6	Pk	11.6	0.1	37.3	66.1	-28.8	0-360	Y
12	1.87725	21.6	Pk	11.7	0.1	33.4	69.54	-36.14	0-360	Y
13	0.00907	44.68	Pk	19.5	0	64.18	128.43	-64.25	0-360	Z
14	0.01824	43.77	Pk	15.3	0	59.07	122.37	-63.3	0-360	Z
15	0.29473	40.42	Pk	11.6	0	52.02	98.21	-46.19	0-360	Z
16	0.6218	33.2	Pk	11.6	0	44.8	71.73	-26.93	0-360	Z
17	1.203	24.65	Pk	11.6	0.1	36.35	66	-29.65	0-360	Z
18	2.0295	21.79	Pk	11.7	0.1	33.59	69.54	-35.95	0-360	Z

Pk - Peak detector

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

7.2.4. Transmitter RX/Digital Radiated Emissions

Transmitter RX/Digital Radiated Emissions 30 MHz – 1000MHz - PLOT



All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter RX/Digital Radiated Emissions 30 MHz – 1000MHz - DATA

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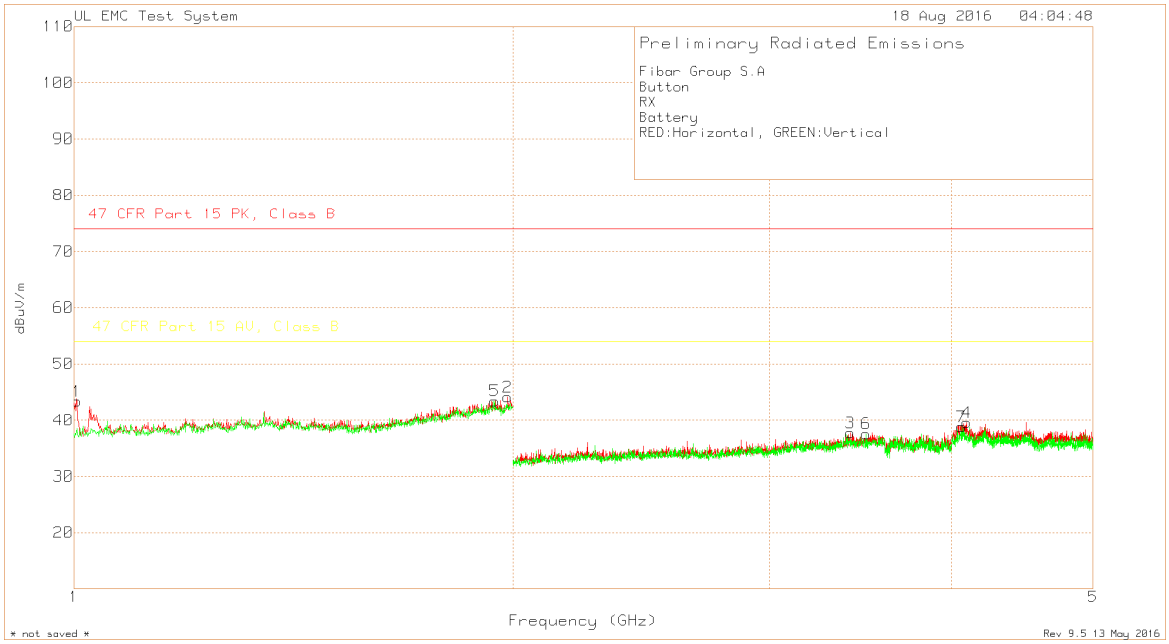
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path dB	10m to 3m Factor dB	Corrected Reading dB(uVolts/ meter)	QP Limit	QP Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	30.3825	31.65	Pk	18	-30	10.5	30.15	40	-9.85	0-360	249	H
2	180.4075	32.44	Pk	15.4	-29.2	10.5	29.14	43.52	-14.38	0-360	398	H
3	30.9775	31.64	Pk	17.8	-30	10.5	29.94	40	-10.06	0-360	398	V
4	190.99	31.54	Pk	16	-28.9	10.5	29.14	43.52	-14.38	0-360	398	V
5	550	31.94	Pk	19.9	-27.6	10.5	34.74	46.02	-11.28	0-360	399	H
6	917.8	32.04	Pk	23.2	-27.8	10.5	37.94	46.02	-8.08	0-360	199	H
7	697.8	32.53	Pk	20.9	-27.2	10.5	36.73	46.02	-9.29	0-360	98	V
8	849.8	32.52	Pk	22.8	-27.7	10.5	38.12	46.02	-7.9	0-360	98	V

Pk - Peak detector

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter RX/Digital Radiated Emissions 1 GHz – 10GHz - PLOT



All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.

Transmitter RX/Digital Radiated Emissions 1 GHz – 10GHz - DATA

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RX
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Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path (dB)	Corrected Reading dBuV/m	PK Limit	PK Margin (dB)	AV Limit	AV Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	1.005	73.11	Pk	27.5	-57.26	43.35	74	-30.65	54	-10.65	0-360	150	H
2	1.984	66.49	Pk	31.7	-54.08	44.11	74	-29.89	54	-9.89	0-360	100	H
3	3.408	64.61	Pk	23.5	-50.34	37.77	74	-36.23	54	-16.23	0-360	150	H
4	4.095	62.7	Pk	28.4	-51.51	39.59	74	-34.41	54	-14.41	0-360	148	H
5	1.943	66.37	Pk	31.4	-54.35	43.42	74	-30.58	54	-10.58	0-360	150	V
6	3.495	64.37	Pk	23.5	-50.28	37.59	74	-36.41	54	-16.41	0-360	99	V
7	4.063	62.15	Pk	28.4	-51.69	38.86	74	-35.14	54	-15.14	0-360	99	V

Pk - Peak detector

All visible emissions are at least 6dB below the limit or under the noise floor, therefore no further measurement needed.