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Registration number
Numéro d'accréditation
Akkreditierungsnummer **STS 024**

Schweizerischer Prüfstellendienst
Service suisse d'essai
Swiss testing service

Report:	***Electromagnetic compatibility and Radio spectrum Matters***	Report no:	***14-MO-0056.12A ****
Product name:	***MyLink GuideU DM***	Mandate no:	***14-MO-0056***
Serial no:	***Sample #2***	Model number:	***- - -***
Customer:	***Phonak Communications AG Länggasse 17 CH-3280 Murten Switzerland***	Date of test:	***March 24 – 28, 2014***

* Replaces report 14-MO-0056.12

Standards		Result
47 CFR, Part 15	(Subpart C, Intentional radiators: §§ 15.209/249)	***Pass***
	(Subpart B, Class B digital devices: §§ 15.107/109)	***Pass***
47 CFR, Part 2	(General rules and regulations: §§ 2.201, 2.202)	***Pass***
Industry Canada	RSS-Gen (General Requirements and Information for the Certification of Radio Apparatus)	***Pass***
	RSS-210 (Licence-exempt Radio Apparatus: Category I Equipment)	***Pass***
	ICES-003 (Digital Apparatus)	***Pass***

These results were achieved without modifications of the EUT

Test performed by

Mr B. Itzcovich
EMC test engineer

Report prepared by

Mr B. Itzcovich
EMC test engineer

Report controlled and approved by

Mr C. Perrenoud
Technical director

Rossens, April 10, 2014 (Issue Date) 2014-01-20

Main language : *English*

The present document results from tests on one specimen and does not prejudge to the conformity of all the manufactured products.

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1. Summary of test results

✓ Pass ✗ Fail ∅ Not applicable to this product — Not tested # Not required / No requirements

§	Test Type		Result
7	**Emission**		***CFR 47 Part 15 Industry Canada***
7.1	Conducted emission – charging mode	CFR 47 § 15.107 ICES-003 Table 2	✓ [1]
7.2	Radiated emission – Carrier	CFR 47 § 15.249 RSS-210 § A2.9	✓
7.3 7.4	Radiated emission – transmit mode	CFR 47 § 15.209 RSS-Gen Table 5	✓
7.3 7.4	Radiated emission – receive and charging modes	CFR 47 § 15.109 RSS-Gen Table 2	✓
7	**Emission**		***CFR 47 Part 2***
7.5	Designation of emission	FCC 47 §2.201 FCC 47 §2.202	***2M36FXD***

1. EUT cannot transmit in charging mode.

2. Applied standards

47 CFR Part 2	Code of Federal Regulations - Title 47 - Telecommunication, Part 2 – Frequency allocations and radio treaty matters; General rules and regulations
47 CFR Part 15 Subpart C	Code of Federal Regulations - Title 47 - Telecommunication, Part 15, Subpart C: "Intentional Radiators"
47 CFR Part 15 Subpart B	Code of Federal Regulations - Title 47 - Telecommunication, Part 15, Subpart B: "Unintentional Radiators"
RSS-Gen issue 3, December 2010	Spectrum Management and Telecommunications - Radio Standards Specification General Requirements and Information for the Certification of Radio Apparatus
RSS-210 issue 8, December 2010	Spectrum Management and Telecommunications - Radio Standards Specification Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment
ICES-003 Issue 5, August 2012	Spectrum Management and Telecommunications Policy - Interference-Causing Equipment Standard Digital Apparatus

3. Abbreviations

Electromagnetic compatibility and radio spectrum matters:

AC	Alternating current
AFA	Adaptive Frequency Agility
AM	Amplitude Modulation
AV	Average
BW	Bandwidth
CDN	Coupling Decoupling Network
CW	Continuous Wave
d(t)	Relative voltage change characteristic
DAA	Detect And Avoid spectrum access technique
dB	Decibel
dBi	gain in decibels relative to an isotropic antenna
DC	Direct current
DL	Downlink
dmax	Maximum relative voltage change
DSSS	Direct Sequence Spread Spectrum
e.i.r.p.	equivalent isotropic radiated power
EMC	ElectroMagnetic Compatibility
ERC	European Radiocommunication Committee
ESD	Electro Static Discharge
EUT	Equipment under Test
FHSS	Frequency Hopping Spread Spectrum
GBSAR	Ground Based Synthetic Aperture Radar
GRP	Ground reference plane
GTEM	Gigahertz Transverse ElectroMagnetic cell
ICNIRP	International Commission on Non-Ionizing Radiation Protection
ISM	Industrial Scientific Medical (frequency band)
ITU-R	International Telecommunications Union, Radio Sector
ITU-T	International Telecommunications Union, Telecommunications Sector
L1,L2,L3	Phase
LBT	Listen Before Talk
LISN	Line impedance substitution network
MDS	Absorbing measuring clamp
MU	Master Unit
N	Neutral
NNB	Line impedance substitution network
NRI	National Radio Interfaces
PE	Protective earth
PK	Peak
Plt	Long-term flicker indicator
PM	Pulse Modulation
Pst	Short-term flicker Indicator
R&TTE	Radio and Telecommunications Terminal Equipment
RF	Radio Frequency
RFID	Radio Frequency Identification
RU	Remote Unit
SCU	System Control Unit
SF-CW	Step Frequency Continuous Wave (spread spectrum)
SND/ND	Signal + Noise + Distortion divided by Noise + Distortion
SRD	Short Range Device
TEM	Transverse ElectroMagnetic cell
TETRA	Terrestrial Trunked Radio
Tx	Transmitter
UL	Uplink
UWB	Ultra Wide Band
VSWR	Voltage Standing Wave Ratio

General vocabulary: http://www.electropedia.com

4. Client

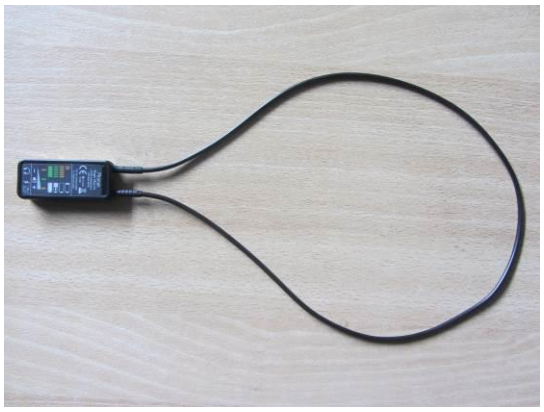
Client name and address	*Phonak Communications AG* *Länggasse 17* *CH-3280 Murten* *Switzerland*
Contact Person	*Mr Antoine Ribordy*
Telephone	*+41 26 672 96 45*
Fax	*+41 26 672 93 80*
E-mail	*antoine.ribordy@phonak.com*
Mandate no	*14-MO-0056*

5. Equipment under test

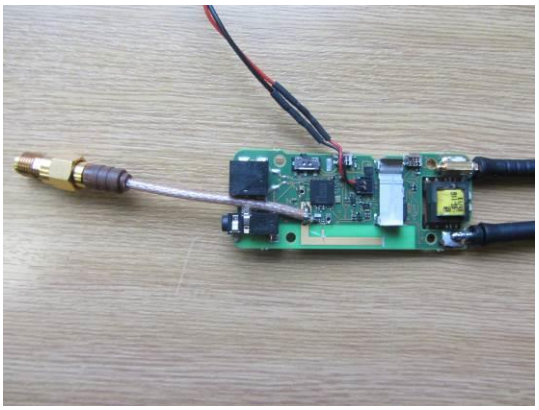
5.1 Identification

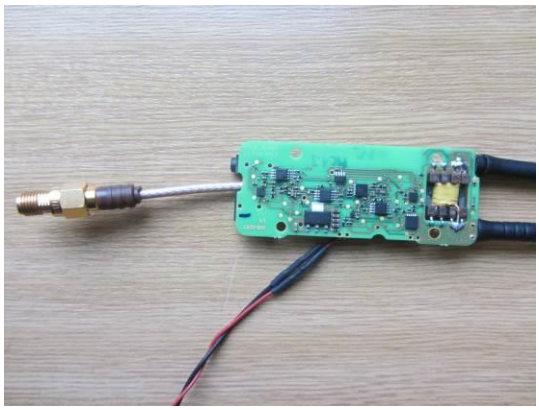
Manufacturer name and address	*Phonak Communications AG* *Länggasse 17* *CH-3280 Murten* *Switzerland*
Production country	*Vietnam*
Brand name	*Phonak*
Product name	*MyLink GuideU DM*
Product description	*2.4 GHz transceiver*
Model number	*- - -*
Serial no	*Sample #2*
Software version	*Test Software AQS SVN 10243*
Highest frequency	*26 MHz (µController oscillator) / 2.48 GHz (Transmitter)*
Supply	*Battery: U = 3.7 VDC (Lithium polymer) / I =15 mA*
Dimension	*~ 65 mm x 30 mm x 12 mm (l x w x h)*
Weight	*~ 45 g*
Technical documentation	*None. The equipment is completely identified by the above-mentioned information. Phonak Communications AG assures the traceability of the documentation and is responsible for the product identification.*

5.2 Pictures of the EUT



EUT (bottom view)





EUT with temporary antenna & supply connectors (for § 7.5 test) (top & bottom view)

5.3 Classification

CFR 47 Part 15	☐ Unintentional radiator (Subpart B), EUT in Charging mode ☐ Class A digital device ☒ Class B digital device ☒ The highest frequency of the internal sources of the EUT is less than 108 MHz (measurement shall be made up to 1 GHz). ☐ The highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz (measurement shall be made up to 2 GHz). ☐ The highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz (measurement shall be made up to 5 GHz). ☐ The highest frequency of the internal sources of the EUT is above 1 GHz (measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is lower). ☒ Intentional radiator (Subpart C), EUT in Transmit mode ☒ The highest fundamental frequency of the EUT is less than 10 GHz (measurement shall be made up to the tenth harmonic or 40 GHz, whichever is lower). ☐ The highest fundamental frequency of the EUT is between 10 GHz and 30 GHz (measurement shall be made up to the fifth harmonic or 100 GHz, whichever is lower). ☐ The highest fundamental frequency of the EUT is above 30 GHz (measurement shall be made up to the fifth harmonic or 200 GHz, whichever is lower).

5.4 Ports

Port	**Cable**			**Remark**
	Max. length	**Type**	**Screen**	
DC In	*1 m*	*2-wires*	*No*	*Connected to external charger*
Audio Out	*1 m*	*3-wires*	*Yes*	*- - -*

6. Test conditions

6.1 Climatic conditions, location and date

Location:	Date:	Temp	Pressure [QFF]:	Rel. humidity:
Electrosuisse montena emc 1728 Rossens Switzerland	*March 24 – 28, 2014*	*21 – 26 °C*	*1000 – 1020 hPa*	*25 – 35 %*

6.2 Test facility and methodology

The alternate test site (ferrite chamber) is accepted by FCC (Reg. No. 90808) and by Industry Canada (Site number 3625A-2).

Conducted and radiated measurements are performed according to the ANSI C63.4 (2003) procedure.

6.3 Attendant persons

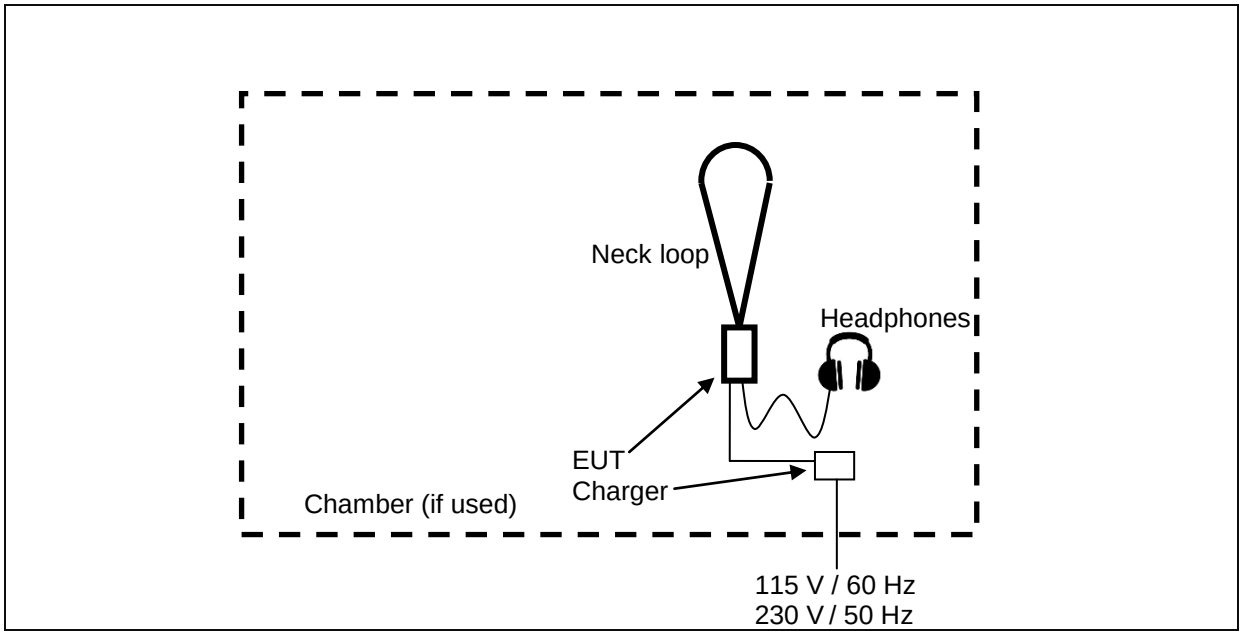
Test Engineer(s):

Mr B. Itzcovich
EMC test engineer

Other(s):

Name	Company
- - -	- - -

6.4 Test configuration



6.5 Operating conditions

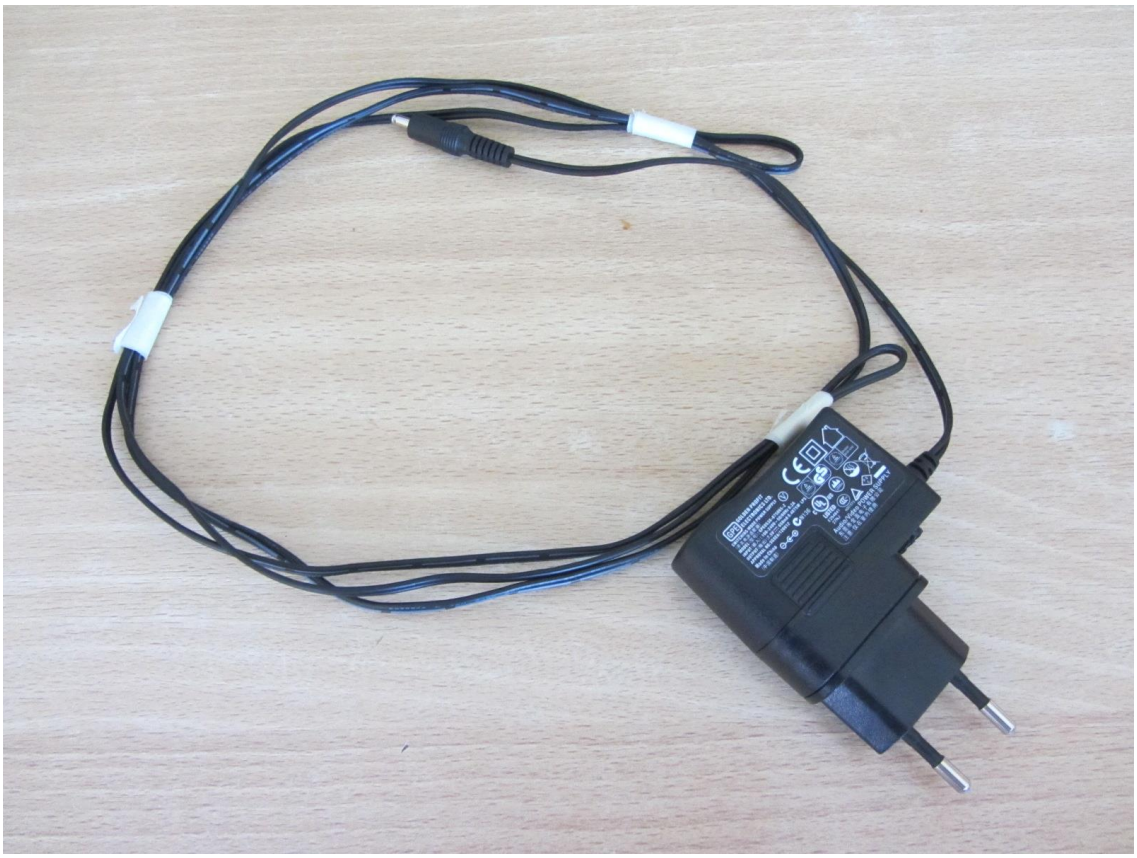
If not stated otherwise in § 7 :

- *Power supply: 3.7 V_{DC} battery*
- *Transceiver frequency: 2.44 GHz*
- *Emission power: maximum level (modulated)*

6.6 Auxiliary equipment

The following pieces of equipment are used for the monitoring of the EUT or are necessary for the EUT but they are not part of the EUT.

Product	Brand	Model No.	ID	Remark
Charger	*Phonak*	*GPE053A-075065-Z*	*- - -*	*AC 100–240 V, 50/60 Hz input DC 7.5 V output. EUT cannot transmit when connected to charger.*



7. Emission tests

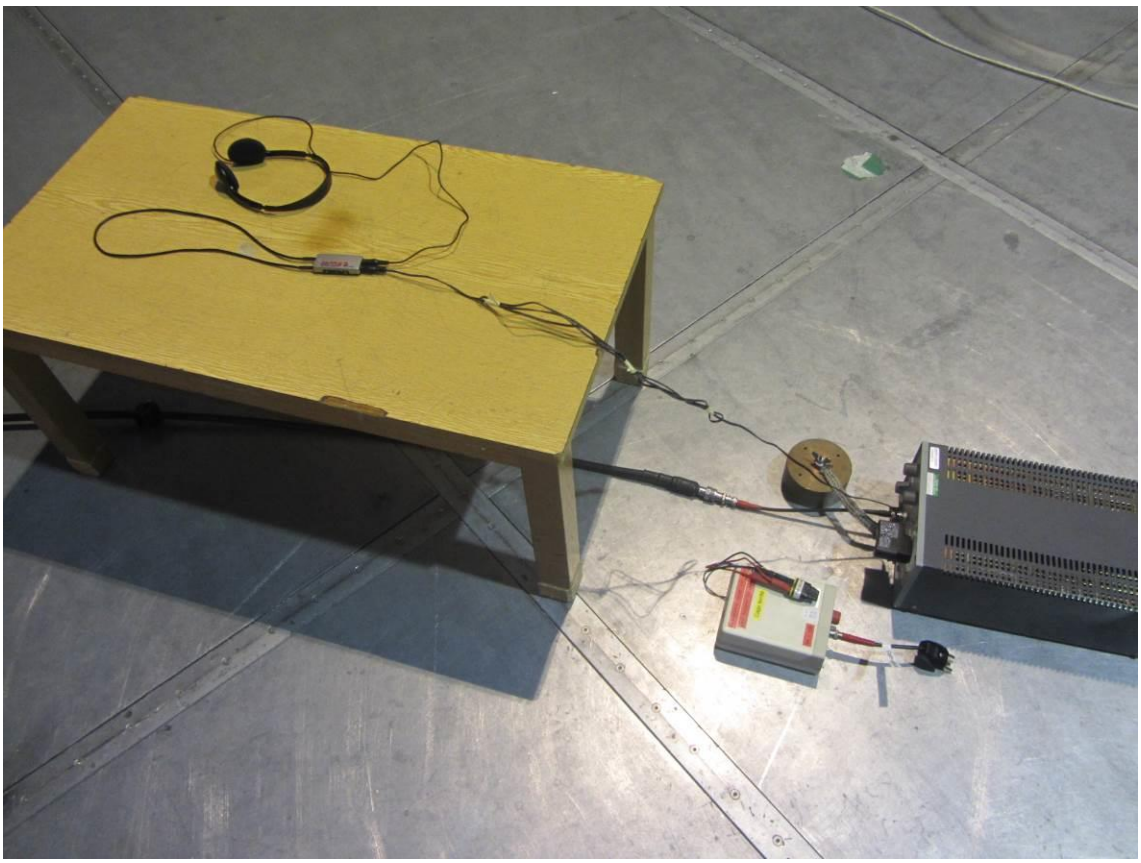
7.1 Conducted emission - Interference voltage

Test site: ☒ semi-anechoic chamber (ferrites) ☐ semi-anechoic chamber (foam)
☐ semi-anechoic chamber (hybrid) ☐ laboratory
☐ open test site ☐ shielded room

Meas. uncertainty: ± 3.6 dB

Measuring method: The conducted disturbance is measured using a spectrum analyser and a line impedance substitution network (LISN). The measurement of the voltage against the earth is carried out successively. The peak values are recorded continuously on the graph. The values that exceed the limit are remeasured with a measuring receiver.

Test set-up:



Remarks: *EUT cannot transmit in charging mode*

Test equipment:

Spectrum analyser	☐ 88-14	☐ 02-06	☐ 07-53	☒ 10-70			
Receiver	☐ 94-34	☒ 10-70					
LISN	☐ 85-13	☐ 90-08	☐ 94-36	☒ 94-40	☐ 95-12	☐ 00-43	☐ 04-04
Protection 10 dB	☐ 91-45 ☐ 96-38	☐ 91-44 ☒ included in LISN	☐ 95-30	☐ 95-33	☐ 95-35	☐ 95-36	
Protection 20 dB	☐ 91-46	☐ 95-33	☐ 95-38	☐ included in LISN			
Cables	☐ 06-00	☒ 06-01	☒ 161				
Artificial hand	☐ 10-45a ☐ 10-58a	☐ 10-45b ☐ 10-58b	☐ 10-45c ☐ 10-58c	☐ 10-45d ☐ 10-58d	☐ 10-45e ☐ 10-58e		
Power source	☐ 01-16	☒ 11-50					

Result: ☒ **pass** ☐ **fail** ☐ **not applicable** ☐ **partly tested**

Measurement Type : Voltage Interference
Supply : Line 1
Other : 115 V / 60 Hz

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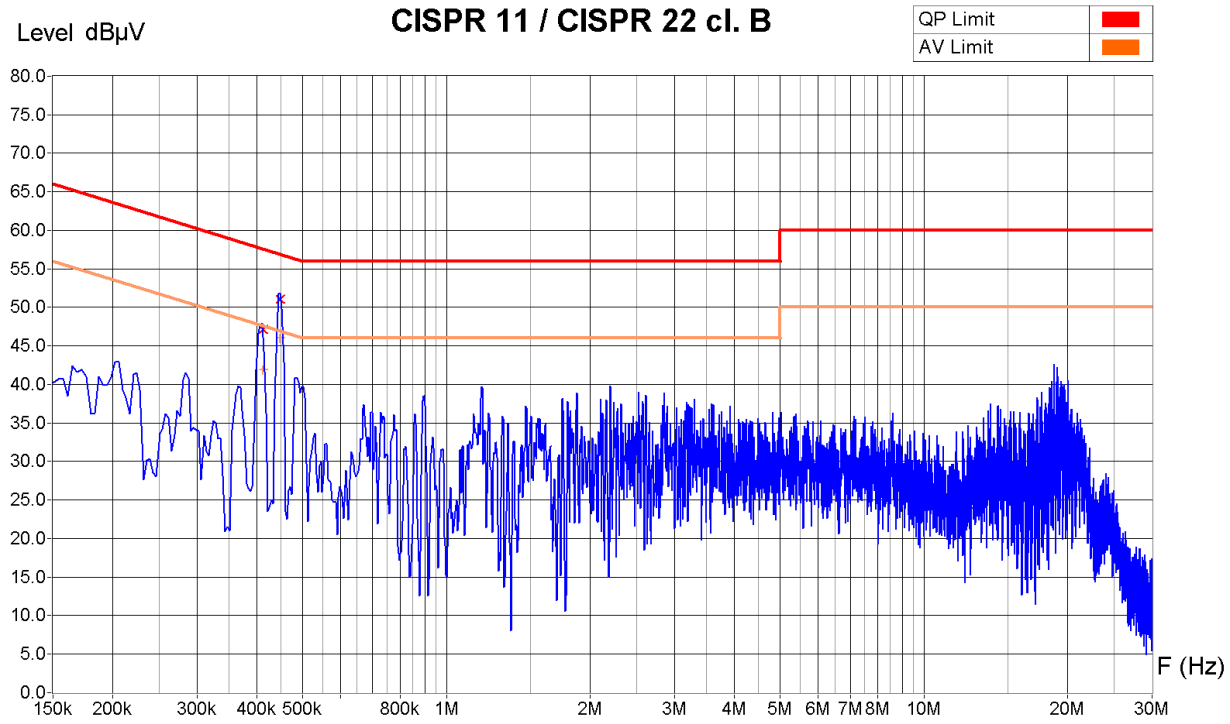
Equipment Under Test : MyLink (Sample #2)
Set-Up : With charger. Cage 06-01. See photo
Operating Conditions : Charging
Remarks :



Zone	150 KHz - 30 MHz
Video Bandwidth	30 KHz
Resol Bandwidth	9 KHz

Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
412.50 KHz	49.1 dBµV	47.1 dBµV	41.9 dBµV	10.5 dB
448.01 KHz	52.6 dBµV	51.1 dBµV	46.0 dBµV	5.8 dB

Operator: B. Itzcovich
Date/Time: 28.03.2014 12:27
Filename: 051_CV_150k-30M_Charging_115V_L.png/.txt

Measurement Type :	Voltage Interference
Supply :	Neutral
Other :	115 V / 60 Hz

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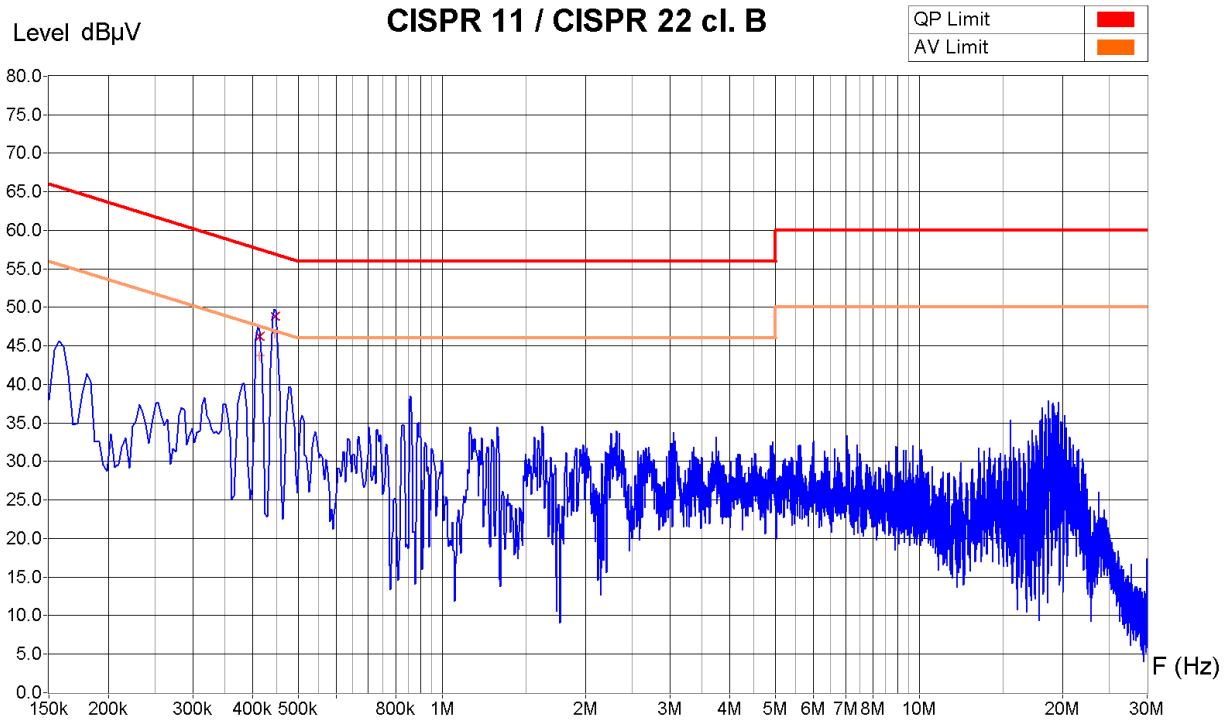
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	With charger. Cage 06-01. See photo
Operating Conditions :	Charging
Remarks :	



Zone	150 KHz - 30 MHz
Video Bandwidth	30 KHz
Resol Bandwidth	9 KHz

Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
415 KHz	50.0 dBµV	46.2 dBµV	43.7 dBµV	11.3 dB
446 KHz	52.8 dBµV	48.8 dBµV	46.7 dBµV	8.1 dB

Operator: B. Itzcovich
Date/Time: 28.03.2014 12:30
Filename: 052_CV_150k-30M_Charging_115V_N.png/.txt

Measurement Type : Voltage Interference
Supply : Line 1
Other : 230 V / 50 Hz

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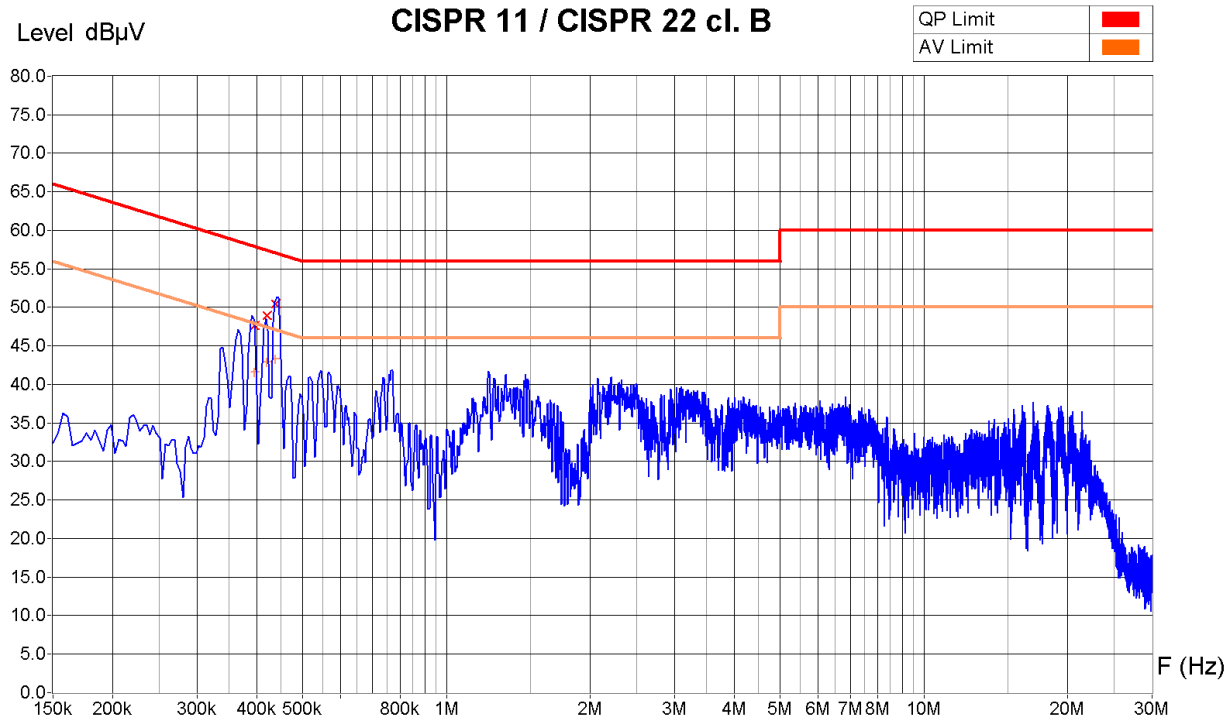
Equipment Under Test : MyLink (Sample #2)
Set-Up : With charger. Cage 06-01. See photo
Operating Conditions : Charging
Remarks :



Zone	150 KHz - 30 MHz
Video Bandwidth	30 KHz
Resol Bandwidth	9 KHz

Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
396.70 KHz	49.4 dBµV	47.7 dBµV	41.6 dBµV	10.3 dB
421 KHz	51.1 dBµV	49.0 dBµV	42.9 dBµV	8.4 dB
438 KHz	53.7 dBµV	50.4 dBµV	43.4 dBµV	6.7 dB

Operator: B. Itzcovich
Date/Time: 28.03.2014 12:39
Filename: 053_CV_150k-30M_Charging_230V_L.png/.txt

Measurement Type :	Voltage Interference
Supply :	Neutral
Other :	230 V / 50 Hz

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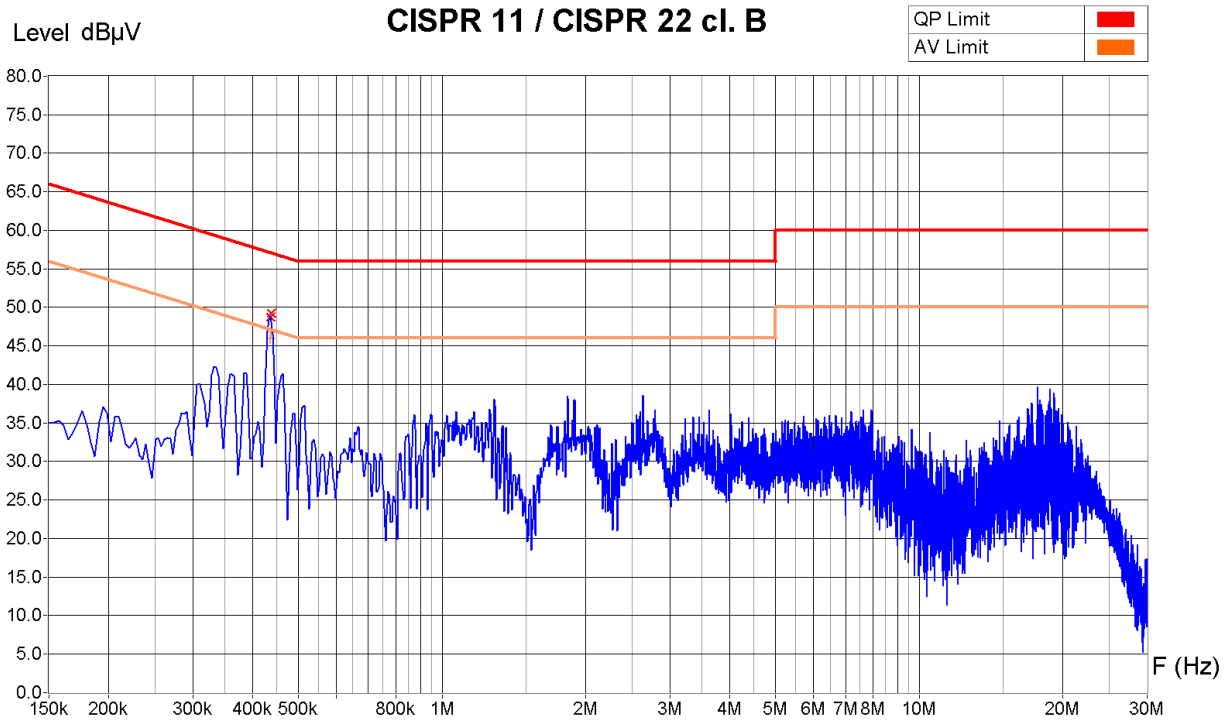
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	With charger. Cage 06-01. See photo
Operating Conditions :	Charging
Remarks :	



Zone	150 KHz - 30 MHz
Video Bandwidth	30 KHz
Resol Bandwidth	9 KHz

Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
436.50 KHz	53.8 dBµV	48.8 dBµV	45.9 dBµV	8.3 dB
438 KHz	53.2 dBµV	49.3 dBµV	46.7 dBµV	7.8 dB

Operator: B. Itzcovich
Date/Time: 28.03.2014 12:34
Filename:
054_CV_150k-30M_Charging_230V_N.png/.txt

7.2 Carrier - Radiated emission

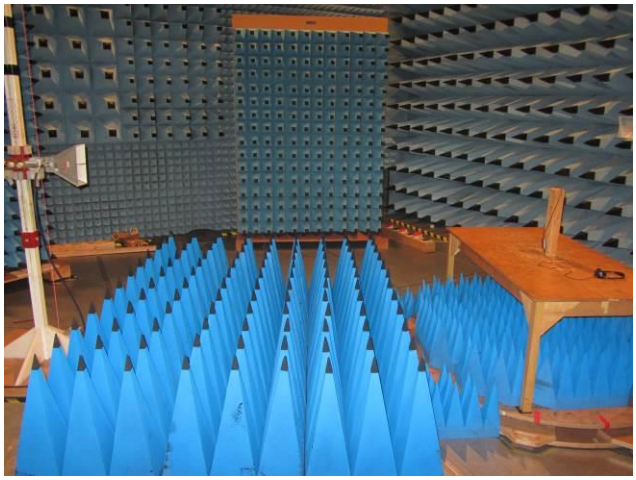
Test site:	☐ semi-anechoic chamber (ferrites)		☐ open test site	
	☒ semi-anechoic chamber (foam)		☐	
Meas. distance:	☐ 1 m	☒ 3 m	☐ 10 m	☐ 30 m

Meas. uncertainty: ± 4.7 dB

Position of EUT: *0.8 m* (height above floor of equipment under test)

Measuring method: The carrier radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is placed at the same height as the EUT successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:



Remarks: Limit values expressed in dBµV/m and transformed to a measuring distance of 1m (factor used = 20 dB/decade) if necessary
e.g.: for f = 2.43GHz the limit is 50mV/m at 3m (average detector);

$$20\log\left(\frac{50\,\frac{mV}{m}}{1\,\frac{\mu V}{m}}\right) = 94\,\frac{dB\mu V}{m}\ at\ 3m$$

Test equipment:

Spectrum analyser	☐ 88-14	☐ 02-06	☐ 03-45	☐ 05-39	☒ 07-53	☐ 10-70	
Receiver	☐ 94-35	☐ 04-29	☐ 10-70				
Preamplifier	☐ 90-01	☐ 95-86	☐ 05-56	☐ 05-59	☐ 05-62	☐ 05-87	☒ 11-29
Antenna (horn)	☒ 90-24	☐ 98-12	☐ 98-13	☐ 07-31			
Cables	☒ 06-00	☐ 06-01					

Result:	**☒ pass**	**☐ fail**	**☐ not applicable**	**☐ partly tested**

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360° (275° is max. emission)
Antenna Height :	1.0 - 2.5m (1.35m is max. emission)

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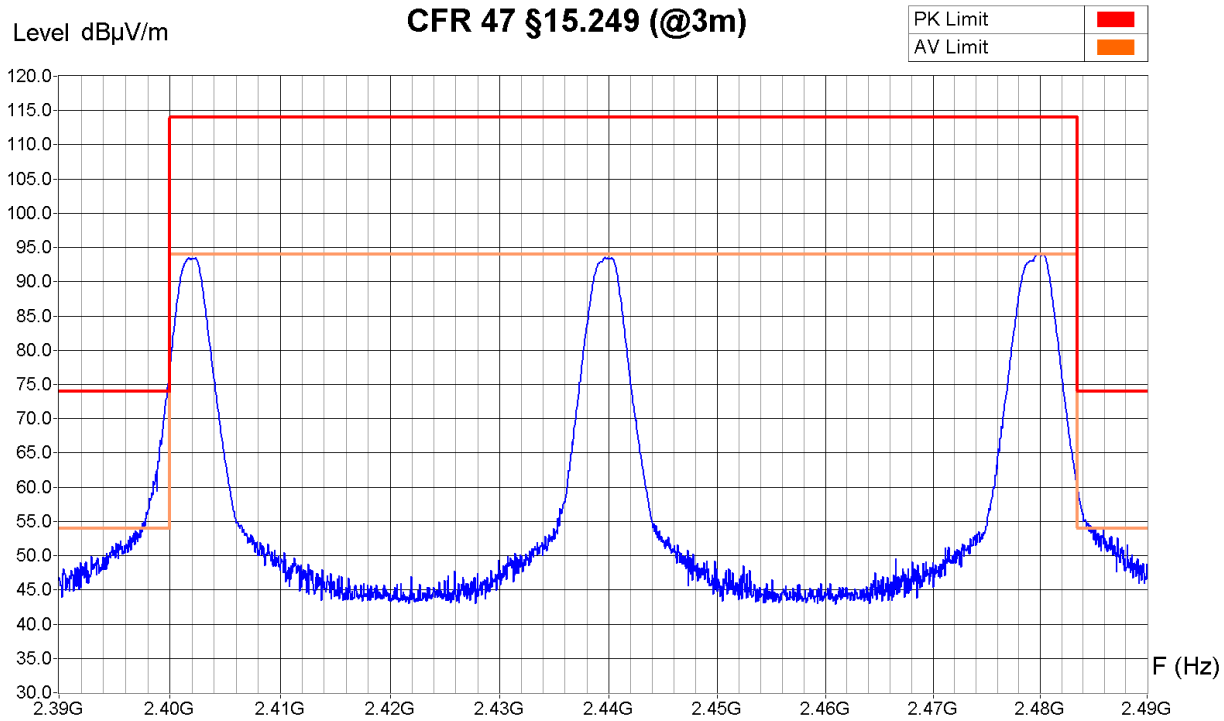
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Hopping emission (f = 2.402, 2.440, 2.480 GHz), max. power, modulated
Remarks :	EUT h = 0.8 m
	Peak detector sweep, ST = 60 s (2001 pts)



Zone	2.39 GHz - 2.49
Video Bandwidth	1 MHz
Resol Bandwidth	1 MHz

Operator: B. Itzcovich
Date/Time: 24.03.2014 17:29
Filename: 003_Carrier_MyLink_TX3f_0m8_V.png/.txt

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360° (275° is max. emission)
Antenna Height :	1.0 - 2.5m (1.35m is max. emission)

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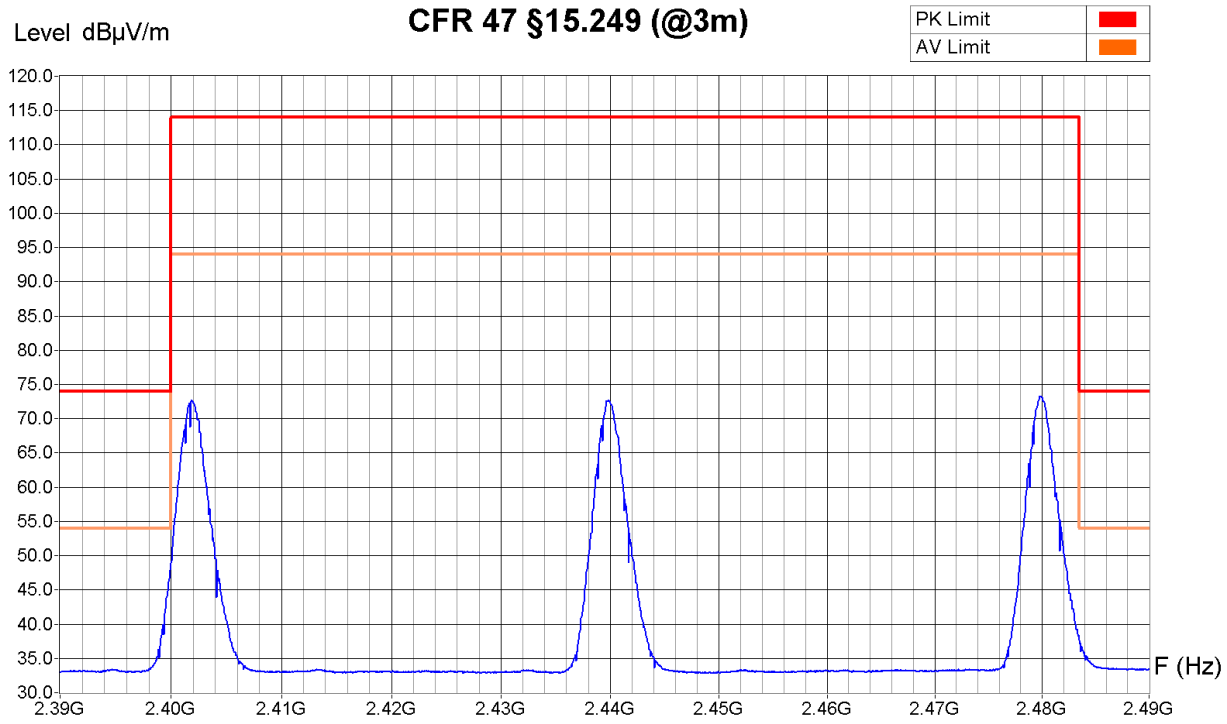
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Hopping emission (f = 2.402, 2.440, 2.480 GHz), max. power, modulated
Remarks :	EUT h = 0.8 m
	Average RMS detector sweep, ST = 60 s (2001 pts)



Zone	2.39 GHz - 2.49
Video Bandwidth	1 MHz
Resol Bandwidth	1 MHz

Operator: B. Itzcovich
Date/Time: 24.03.2014 17:38
Filename: 004_Carrier_MyLink_TX3f_0m8_V_AVG.png/.txt

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360° (295° is max. emission)
Antenna Height :	1.0 - 2.5m (1.45m is max. emission)

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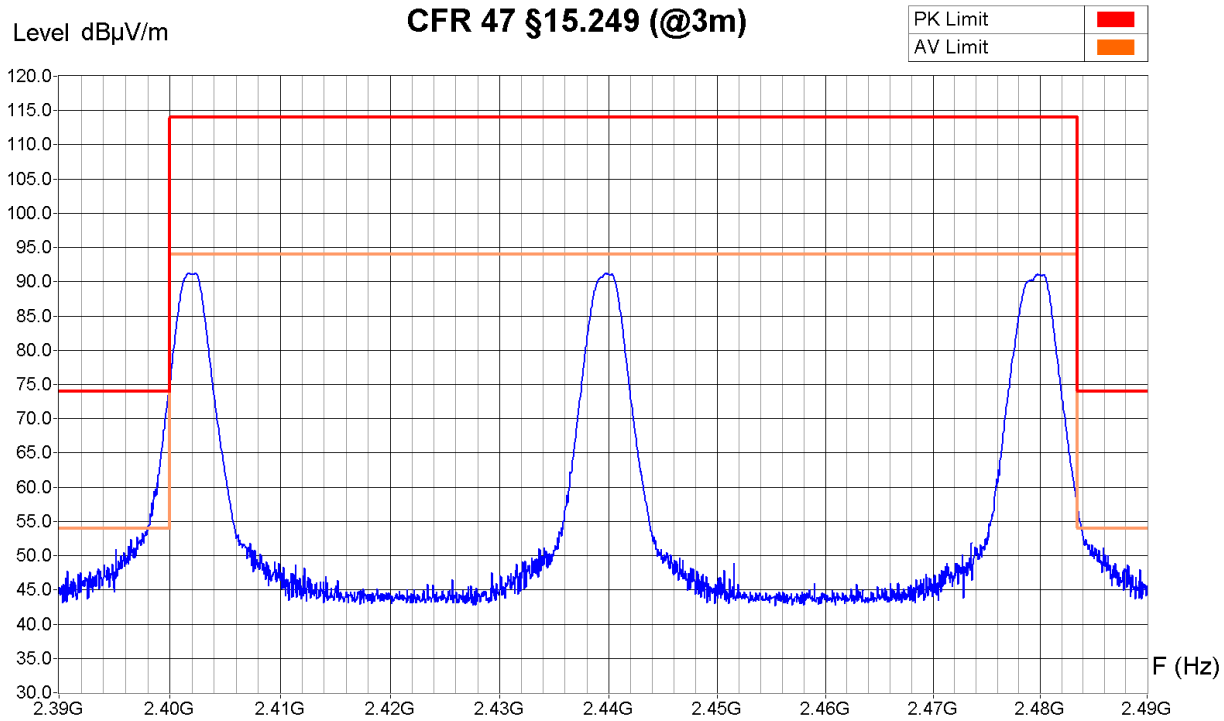
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Hopping emission (f = 2.402, 2.440, 2.480 GHz), max. power, modulated
Remarks :	EUT h = 0.8 m
	Peak detector sweep, ST = 60 s (2001 pts)



Zone	2.39 GHz - 2.49
Video Bandwidth	1 MHz
Resol Bandwidth	1 MHz

Operator: B. Itzcovich
Date/Time: 24.03.2014 17:47
Filename:
005_Carrier_MyLink_TX3f_0m8_H
.png/.txt

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360° (295° is max. emission)
Antenna Height :	1.0 - 2.5m (1.45m is max. emission)

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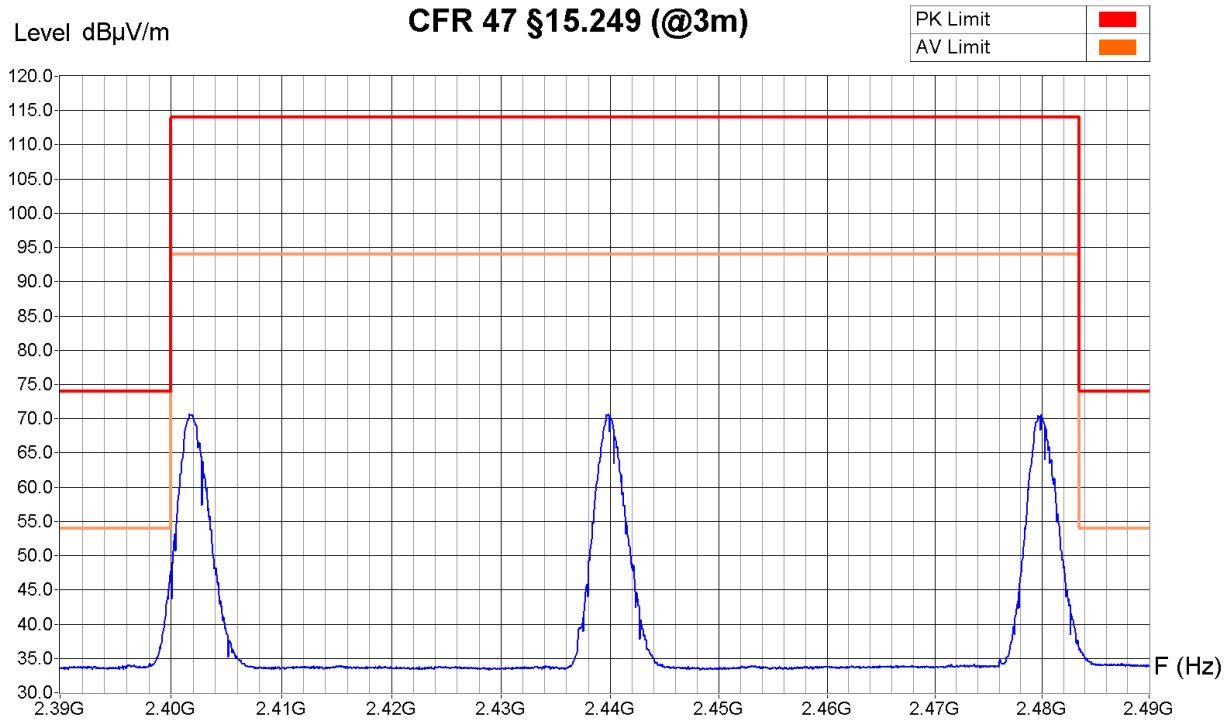
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Hopping emission (f = 2.402, 2.440, 2.480 GHz), max. power, modulated
Remarks :	EUT h = 0.8 m
	Average RMS detector sweep, ST = 60 s (2001 pts)



Zone	2.39 GHz - 2.49
Video Bandwidth	1 MHz
Resol Bandwidth	1 MHz

Operator: B. Itzcovich
Date/Time: 24.03.2014 17:50
Filename: 006_Carrier_MyLink_TX3f_0m8_H_AVG.png/.txt

7.3 Radiated electromagnetic field (30 MHz to 1 GHz)

Test site: ☒ semi-anechoic chamber (ferrites) ☐ semi-anechoic chamber (foam)
☐ semi-anechoic chamber (hybrid) ☐ laboratory

Distance: ☒ 3 m ☐ 10 m ☐ 30m

Position of EUT: *0.8 m* (height of the equipment under test above floor)

Meas. uncertainty: ± 4.6 dB

Measuring method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:

charging mode

TX and RX modes

Remarks:
- *EUT cannot transmit when connected to charger*

Test equipment:

Spectrum analyser	☐ 88-14	☐ 02-06	☐ 03-45	☐ 05-39	☐ 07-53	☒ 10-70
Receiver	☐ 94-35	☐ 04-29	☒ 10-70			
Preamplifier	☐ 90-01	☐ 95-86	☐ 05-56	☒ 05-59	☐ 05-62	☐ 05-87
Antenna, (biconical)	☐ 82-02	☐ 87-05	☐ 87-16	☐ 91-05	☐ 94-37	
Antenna, (log-per)	☐ 88-20	☐ 90-30	☐ 91-35	☐ 94-64		
Antenna, (bilog)	☒ 94-03	☐ 05-38				
Antenna, (horn)	☐ 90-24	☐ 98-12	☐ 98-13	☐ 07-31		
Cables	☐ 06-00	☒ 06-01				

Result:	**☒ pass**	**☐ fail**	**☐ not applicable**	**☐ partly tested**

7.3.1 Transmit mode

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1 - 4m

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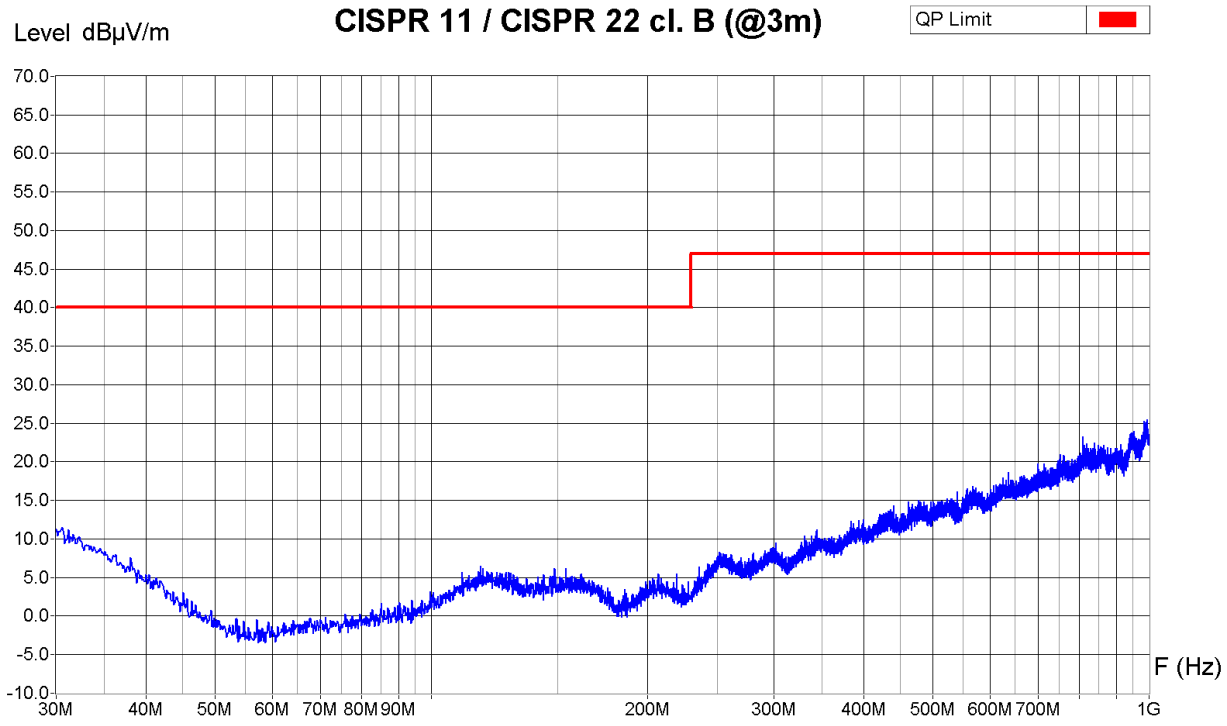
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-01. See photo
Operating Conditions :	Continuous emission (f = 2.440 GHz), max. power, modulated
Remarks :	



Zone	30 MHz - 1 GHz
Video Bandwidth	300 KHz
Resol Bandwidth	120 KHz

Operator: B. Itzcovich
Date/Time: 28.03.2014 09:24
Filename: 041_RE_30M-1G_TX2440_0m8_V_CISPR.png/

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1 - 4m

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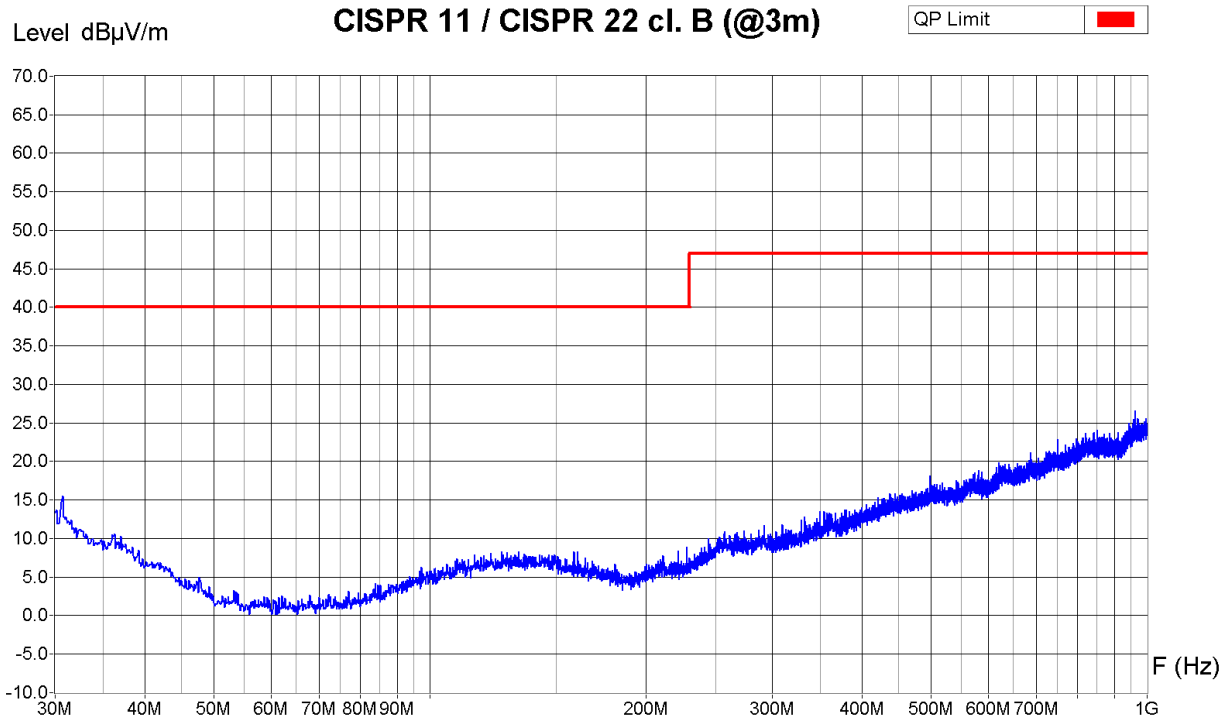
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-01. See photo
Operating Conditions :	Continuous emission (f = 2.440 GHz), max. power, modulated
Remarks :	

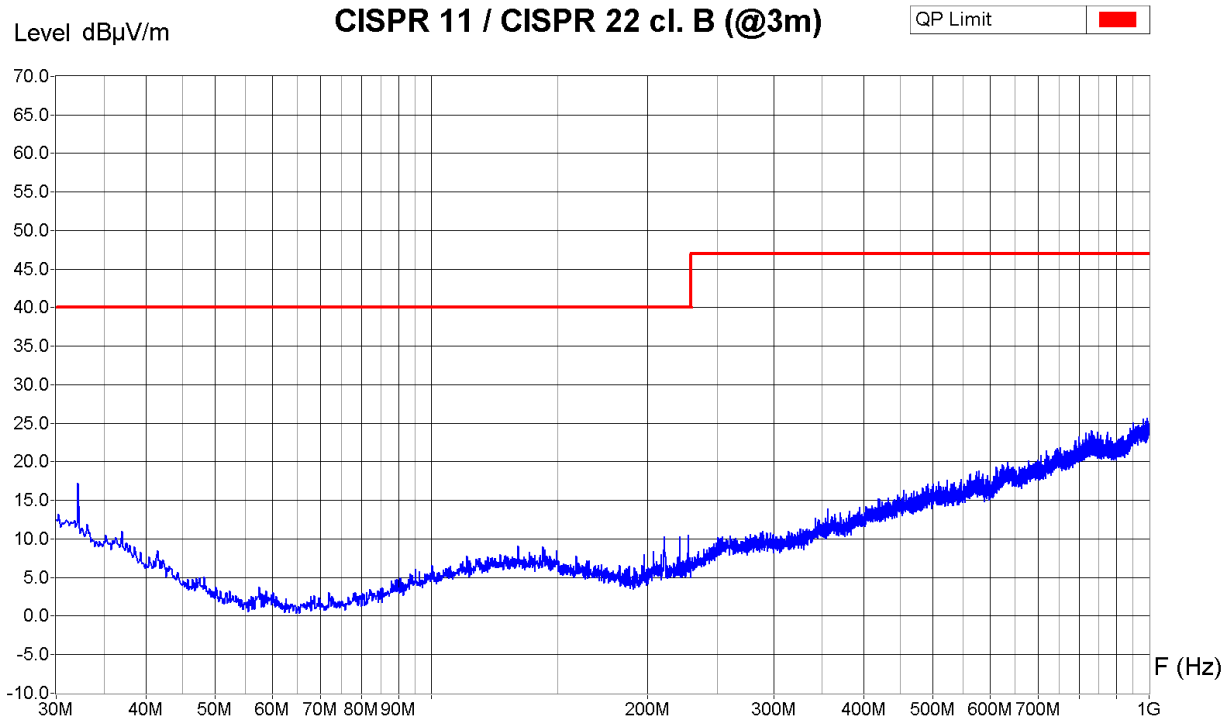


Zone	30 MHz - 1 GHz
Video Bandwidth	300 KHz
Resol Bandwidth	120 KHz

Operator: B. Itzcovich
Date/Time: 28.03.2014 09:47
Filename: 042_RE_30M-1G_TX2440_0m8_H_CISPR.png/

7.3.2 Receive mode

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1 - 4m
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-01. See photo
Operating Conditions :	Continuous reception (f = 2.440 GHz)
Remarks :	



Zone	30 MHz - 1 GHz
Video Bandwidth	300 KHz
Resol Bandwidth	120 KHz

Operator: B. Itzcovich
Date/Time: 28.03.2014 09:57
Filename: 043_RE_30M-1G_RX2440_0m8_V_CISPR.png/

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1 - 4m
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-01. See photo
Operating Conditions :	Continuous reception (f = 2.440 GHz)
Remarks :	

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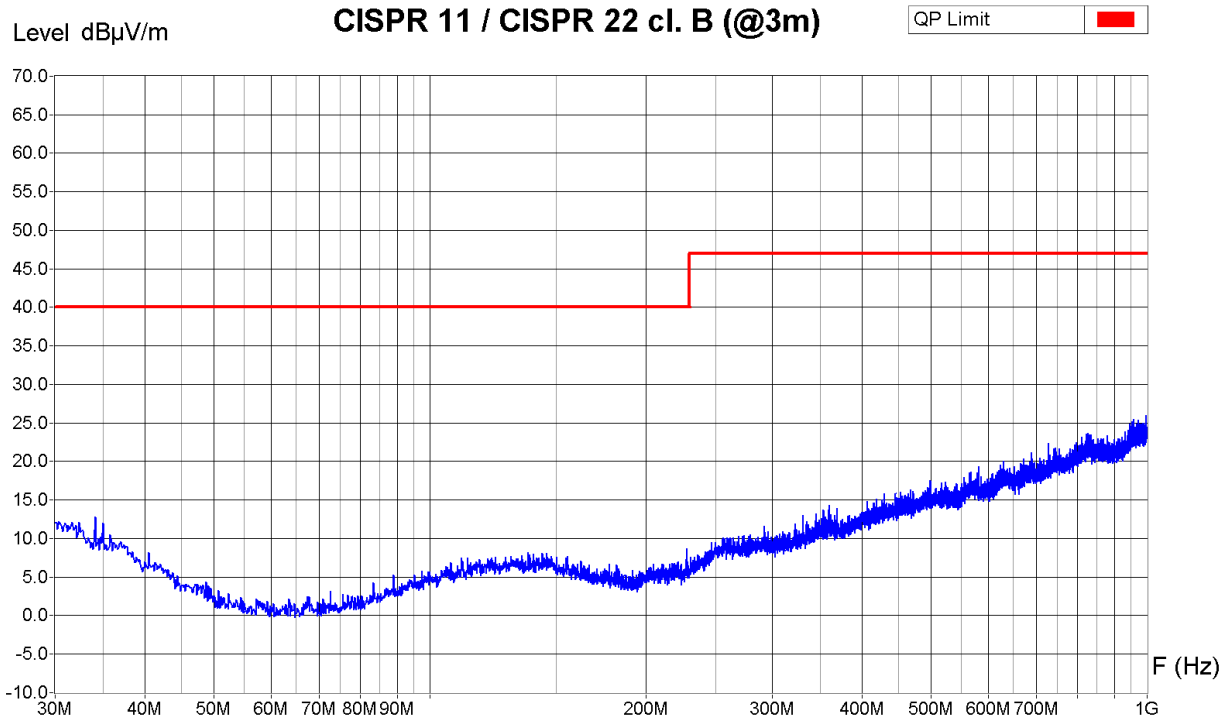

Zone	30 MHz - 1 GHz
Video Bandwidth	300 KHz
Resol Bandwidth	120 KHz

Operator: B. Itzcovich
Date/Time: 28.03.2014 10:14
Filename: 044_RE_30M-1G_RX2440_0m8_H_CISPR.png/

7.3.3 Charging mode

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1 - 4m
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	With charger. Cage 06-01. See photo
Operating Conditions :	Charging
Remarks :	

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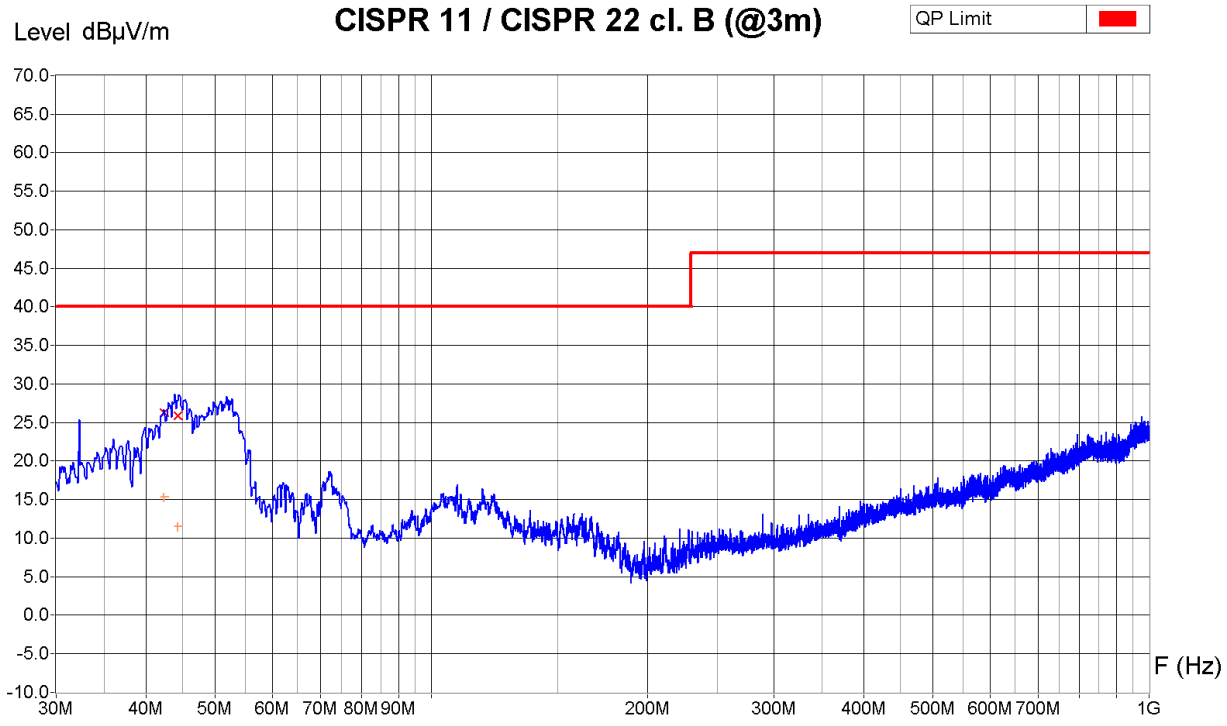

Zone	30 MHz - 1 GHz
Video Bandwidth	300 KHz
Resol Bandwidth	120 KHz

Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
42.34 MHz	29.0 dBµV/m	26.3 dBµV/m	15.3 dBµV/m	13.7 dB
44.37 MHz	31.6 dBµV/m	25.9 dBµV/m	11.5 dBµV/m	14.1 dB

Operator: B. Itzcovich
Date/Time: 28.03.2014 10:53
Filename: 045_RE_30M-1G_Charging_V.png/.txt

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1 - 4m

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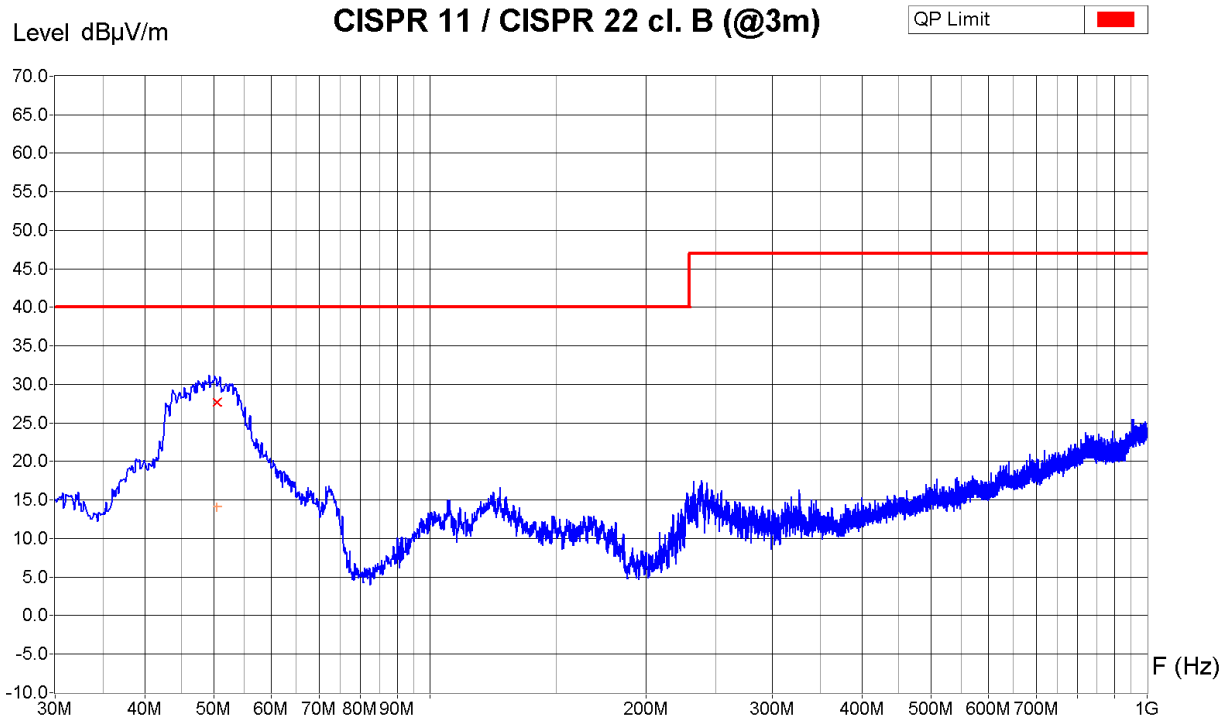
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	With charger. Cage 06-01. See photo
Operating Conditions :	Charging
Remarks :	



Zone	30 MHz - 1 GHz
Video Bandwidth	300 KHz
Resol Bandwidth	120 KHz

Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
50.42 MHz	32.9 dBµV/m	27.7 dBµV/m	14.2 dBµV/m	12.3 dB

Operator: B. Itzcovich
Date/Time: 28.03.2014 11:03
Filename: 046_RE_30M-1G_Charging_H.png/.txt

7.4 Radiated electromagnetic field (1 GHz to 26.5 GHz)

Test site: ☐ semi-anechoic chamber (ferrites) ☒ semi-anechoic chamber (foam)
☐ semi-anechoic chamber (hybrid) ☐ laboratory

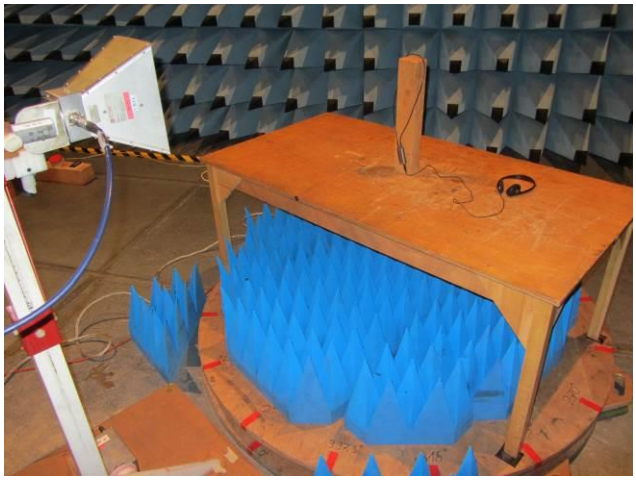
Distance: ☒ 1 m ☐ 3 m ☐ 10 m ☐ 30m

Position of EUT: *0.8 m* (height of the equipment under test above floor)

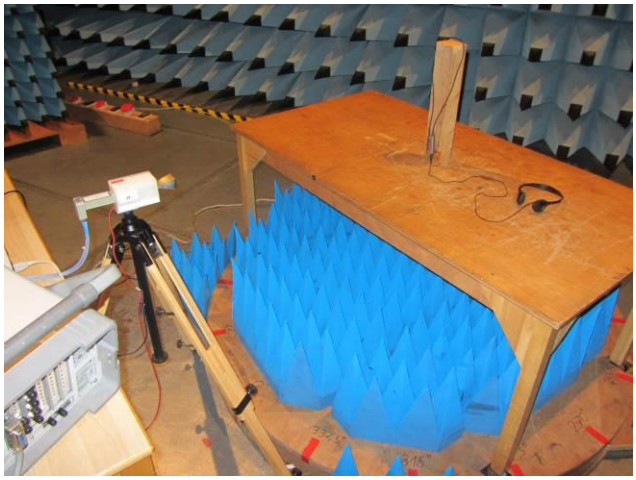
Meas. uncertainty: ± 4.7 dB

Measuring method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:



f < 18 GHz



f > 18 GHz

Remarks:

- *Max. power*
- *Special communication test mode*
- *Modulated*

Harmonics #2, #3 and #4 have been measured with a longer sweep time and are below the limits

Test equipment:

Spectrum analyser	☐ 88-14	☐ 94-24	☐ 02-06	☐ 03-45	☐ 05-39	☒ 07-53	☐ 10-70
Receiver	☐ 94-35	☐ 04-29	☐ 10-70				
Preamplifier	☐ 90-01	☐ 95-86	☐ 05-56	☐ 05-59	☐ 05-62	☐ 05-87	☒ 11-29
Antenna (horn)	☒ 90-24	☐ 98-10	☐ 98-12	☐ 07-31			
Antenna with mixer	☒ 98-12	☐ 98-13					
Cables	☒ 11-61	☒ 10-75	☒ 10-81	☒ 11-62			
Power supply	☐ 99-04	☐ 99-07	☒ 06-62				

Result:	**☒ pass**	**☐ fail**	**☐ not applicable**	**☐ partly tested**

7.4.1 Transmit mode

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1.0 - 2.0m

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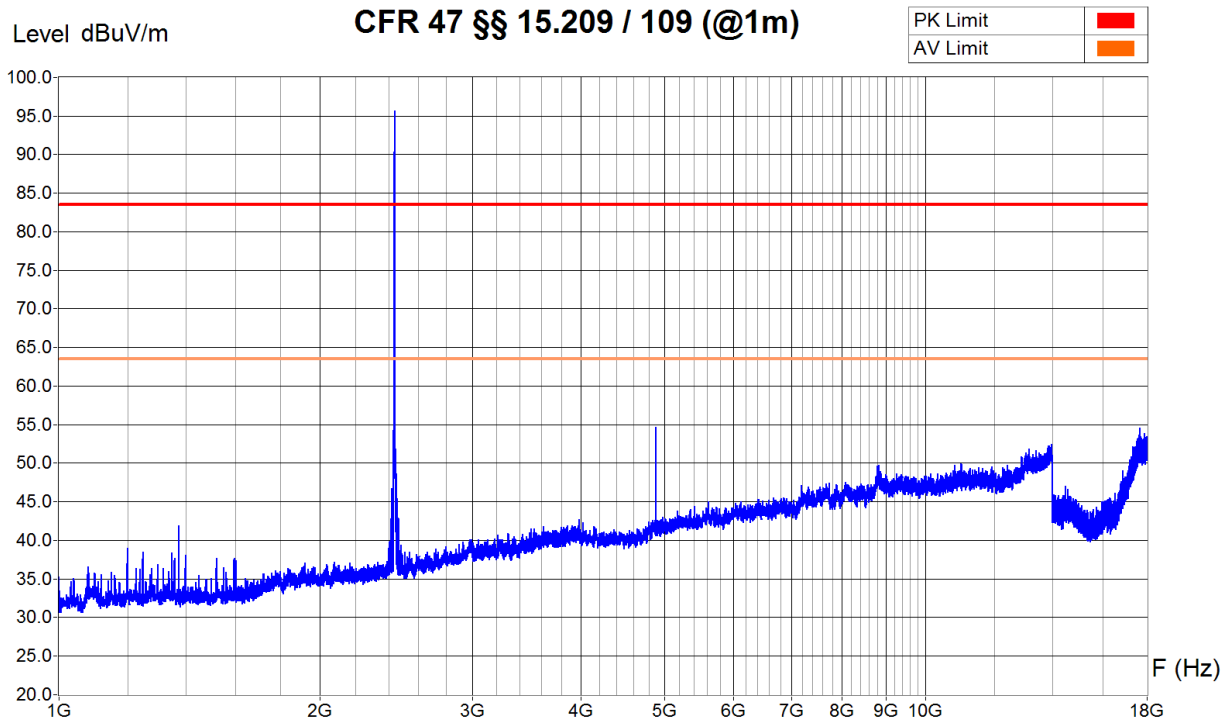
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Continuous emission (f = 2.440 GHz), max. power, modulated
Remarks :	EUT h = 0.8 m
	Peak detector sweep



Zone	1 GHz - 4 GHz	4 GHz - 14 GHz	14 GHz - 18 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz

Operator: B. Itzcovich
Date/Time: 25.03.2014 15:15
Filename: 015_RE_1-18G_TX2440_0m8_V_FCC.png/

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1.0 - 2.0m

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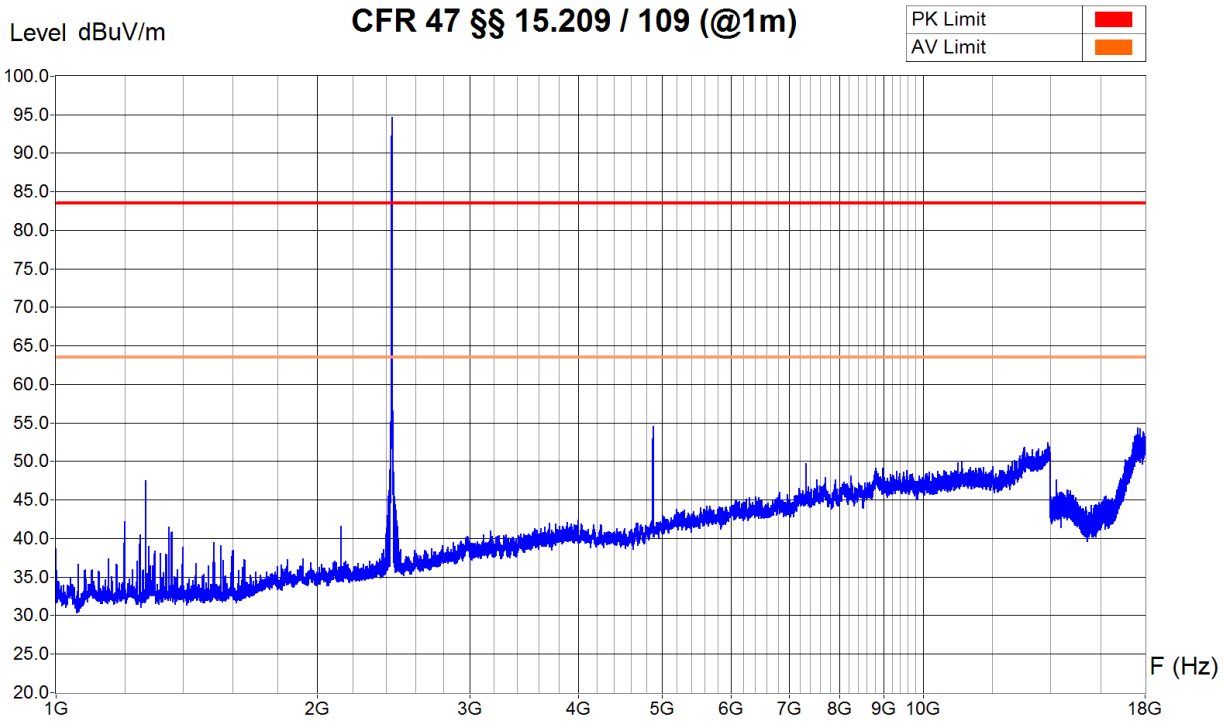
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Continuous emission (f = 2.440 GHz), max. power, modulated
Remarks :	EUT h = 0.8 m
	Peak detector sweep



Zone	1 GHz - 4 GHz	4 GHz - 14 GHz	14 GHz - 18 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz

Operator: B. Itzcovich
Date/Time: 25.03.2014 15:30
Filename: 016_RE_1-18G_TX2440_0m8_H_FCC.png/

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1m

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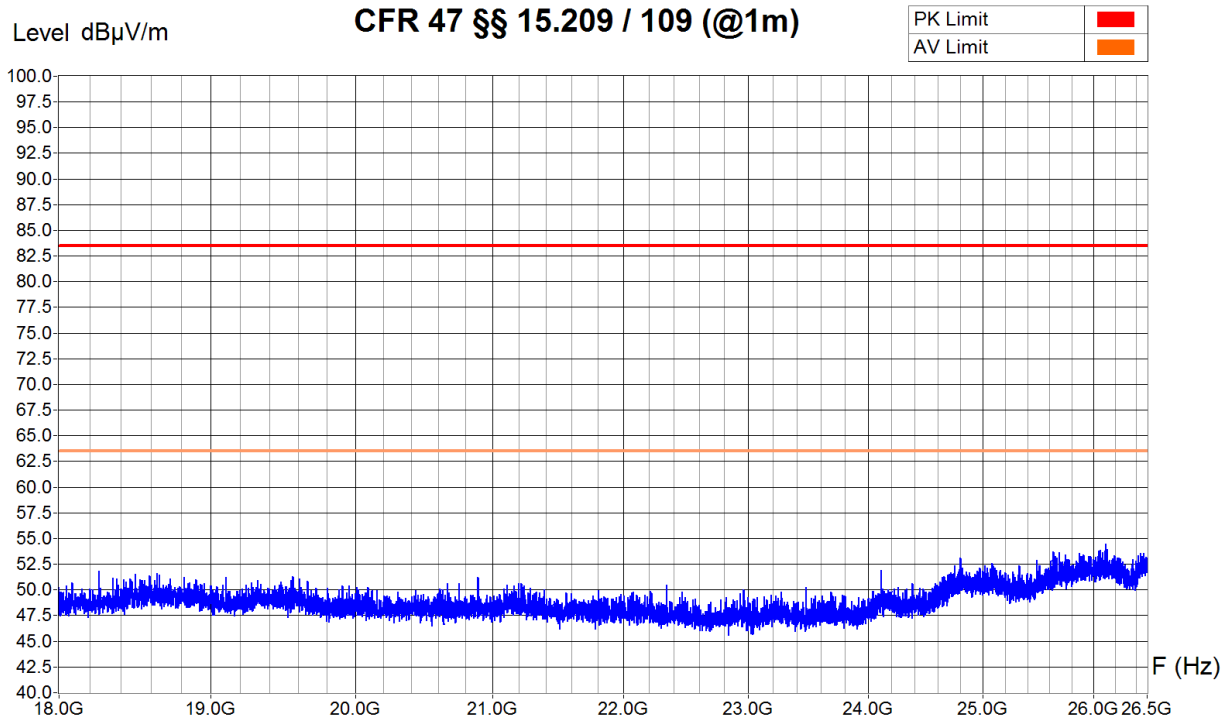
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Continuous emission (f = 2.440 GHz), max. power, modulated
Remarks :	EUT h = 0.8 m
	Peak detector sweep



Zone	18 GHz - 26.50 GHz
Video Bandwidth	1 MHz
Resol Bandwidth	1 MHz

Operator: B. Itzcovich
Date/Time: 26.03.2014 11:11
Filename: 023_RE_18-26G5_TX2440_0m8_V_FCC.png/

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1m

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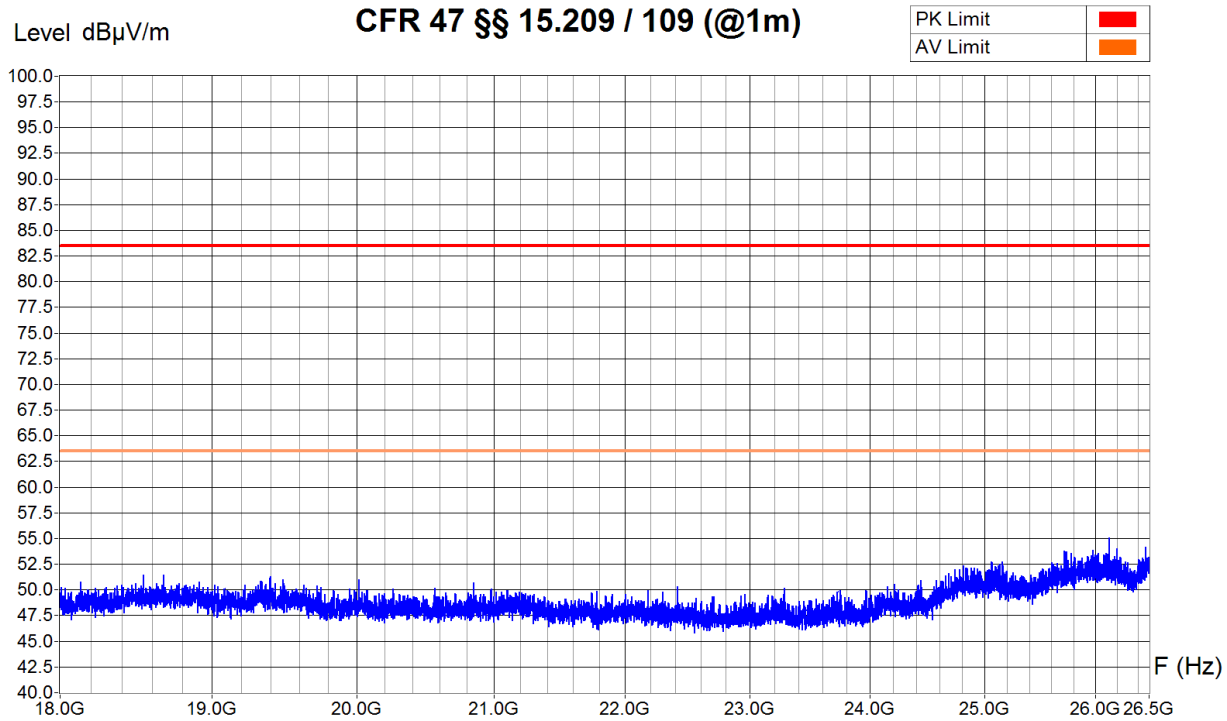
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Continuous emission (f = 2.440 GHz), max. power, modulated
Remarks :	EUT h = 0.8 m
	Peak detector sweep

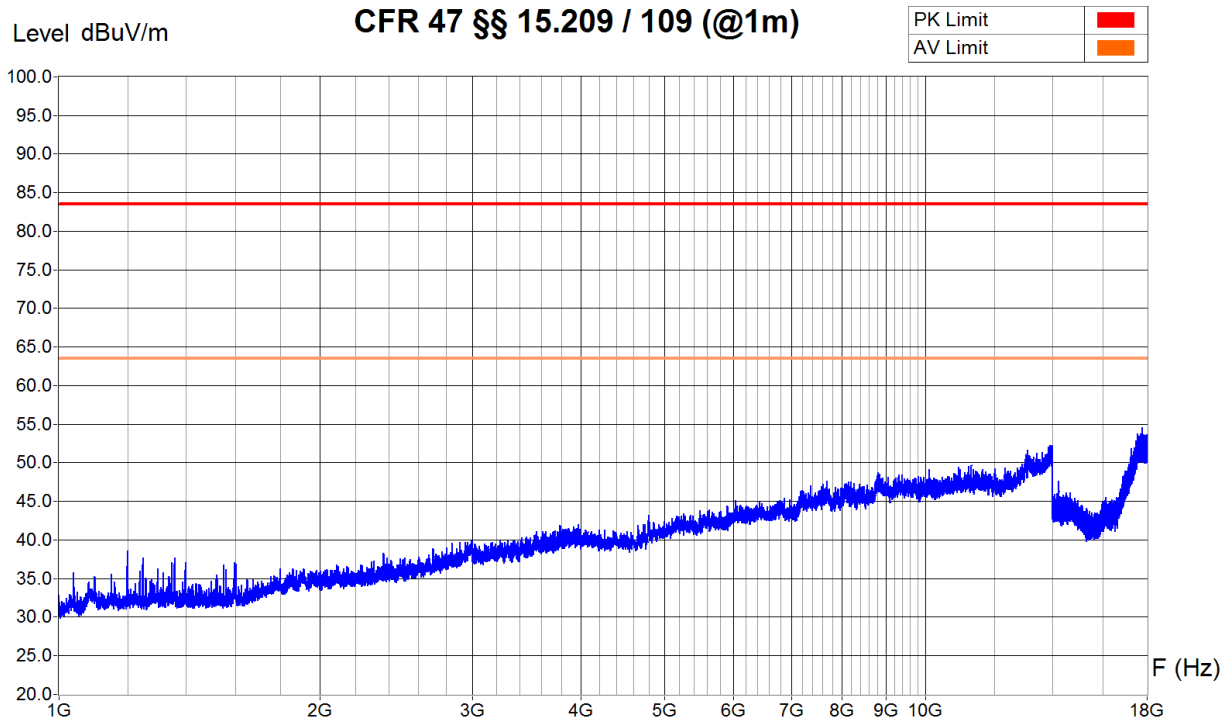


Zone	18 GHz - 26.50 GHz
Video Bandwidth	1 MHz
Resol Bandwidth	1 MHz

Operator: B. Itzcovich
Date/Time: 26.03.2014 11:14
Filename: 024_RE_18-26G5_TX2440_0m8_H_FCC.png/

7.4.2 Receive mode

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1.0 - 2.0m
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Continuous reception (f = 2.440 GHz)
Remarks :	EUT h = 0.8 m
	Peak detector sweep



Zone	1 GHz - 4 GHz	4 GHz - 14 GHz	14 GHz - 18 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz

Operator: B. Itzcovich
Date/Time: 25.03.2014 15:54
Filename: 017_RE_1-18G_RX2440_0m8_V_FCC.png/

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1.0 - 2.0m

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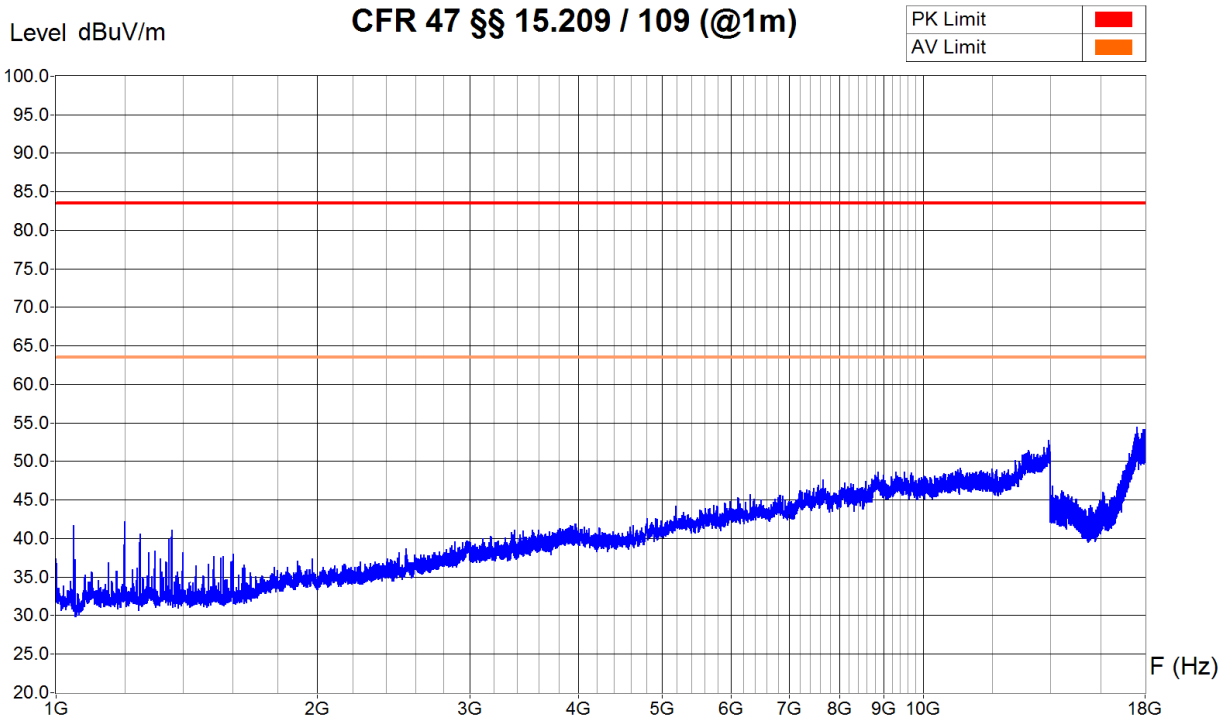
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Continuous reception (f = 2.440 GHz)
Remarks :	EUT h = 0.8 m
	Peak detector sweep



Zone	1 GHz - 4 GHz	4 GHz - 14 GHz	14 GHz - 18 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz

Operator: B. Itzcovich
Date/Time: 25.03.2014 15:47
Filename: 018_RE_1-18G_RX2440_0m8_H_FCC.png/

Measurement Type :	Radiated Field
Polarisation :	Vertical
Table Angle :	0 - 360°
Antenna Height :	1m

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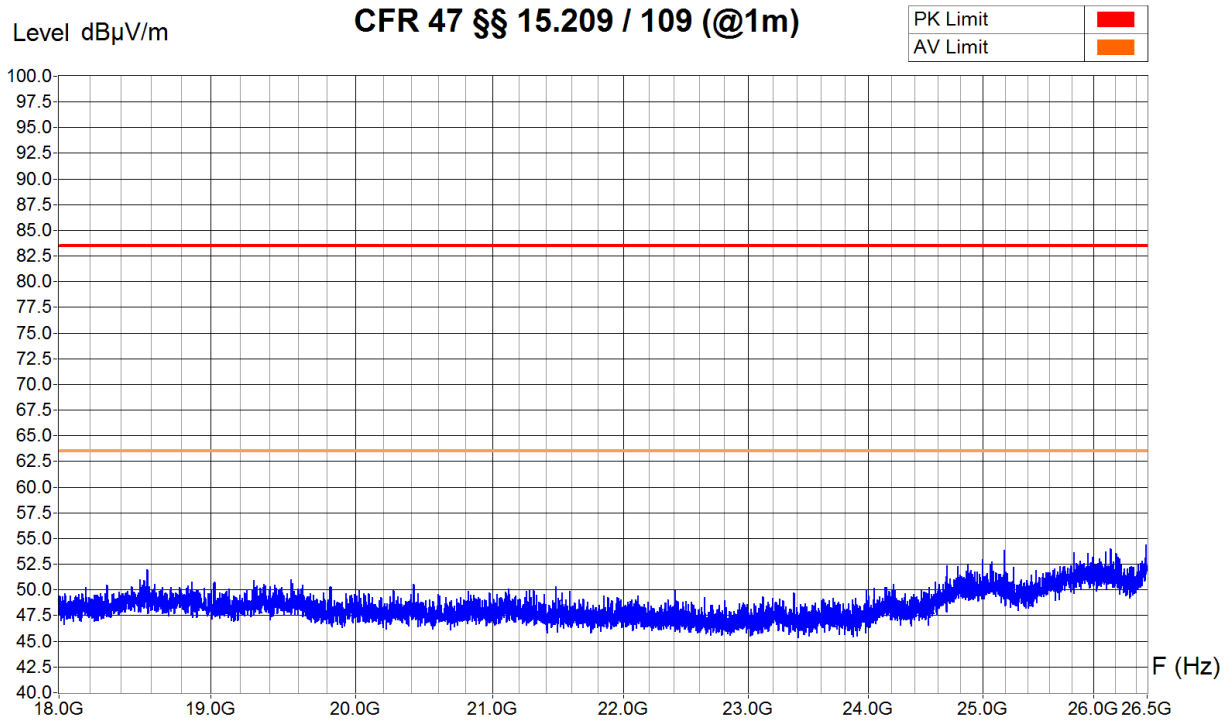
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Continuous reception (f = 2.440 GHz)
Remarks :	EUT h = 0.8 m
	Peak detector sweep



Zone	18 GHz - 26.50 GHz
Video Bandwidth	1 MHz
Resol Bandwidth	1 MHz

Operator: B. Itzcovich
Date/Time: 26.03.2014 11:20
Filename: 025_RE_18-26G5_RX2440_0m8_V_FCC.png/

Measurement Type :	Radiated Field
Polarisation :	Horizontal
Table Angle :	0 - 360°
Antenna Height :	1m

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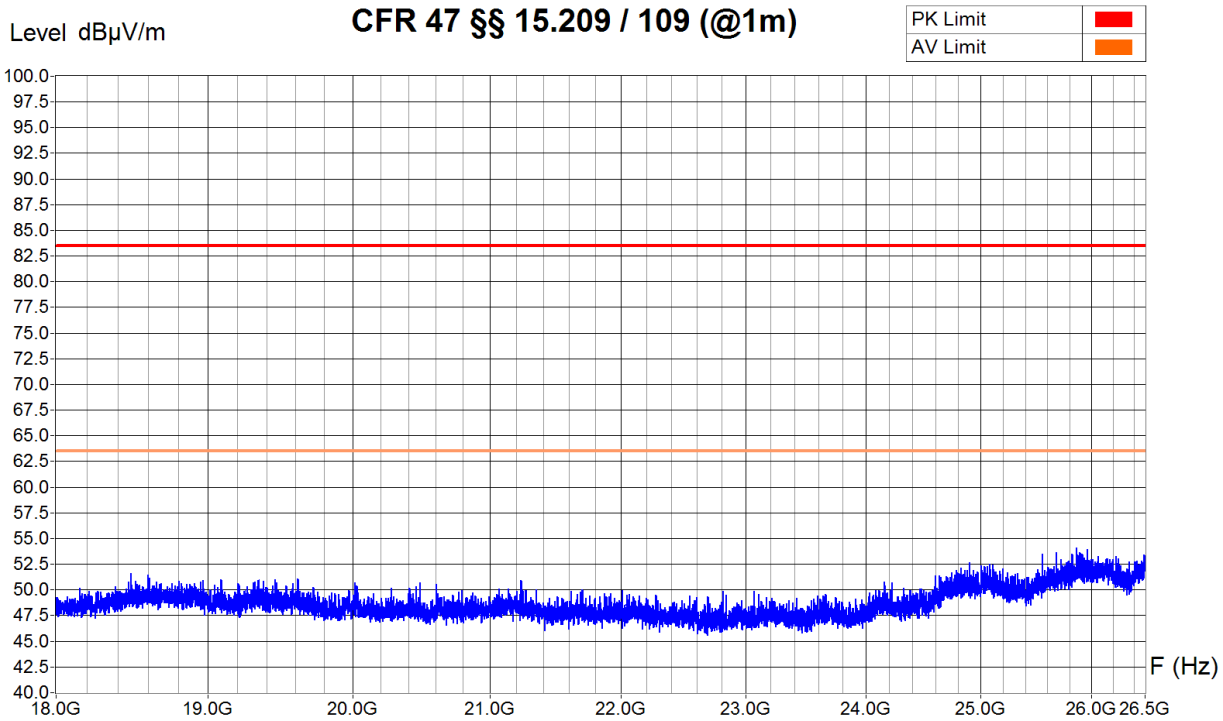
Equipment Under Test :	MyLink (Sample #2)
Set-Up :	Cage 06-00. See photo
Operating Conditions :	Continuous reception (f = 2.440 GHz)
Remarks :	EUT h = 0.8 m
	Peak detector sweep



Zone	18 GHz - 26.50 GHz
Video Bandwidth	1 MHz
Resol Bandwidth	1 MHz

Operator: B. Itzcovich
Date/Time: 26.03.2014 11:17
Filename: 026_RE_18-26G5_RX2440_0m8_H_FCC.png/

7.5 Designation of emission

Standard: United States: 47 CFR "Code of Federal Regulations" – Telecommunication
☒ FCC Part 2, Subpart C: Emission: §2.201 and §2.202

Introduction: A system of designating emission, modulation and transmission characteristics shall be employed.

(a) Emissions are designated according to their classification and their necessary bandwidth.

(b) A minimum of three symbols are used to describe the basic characteristics of radio waves.

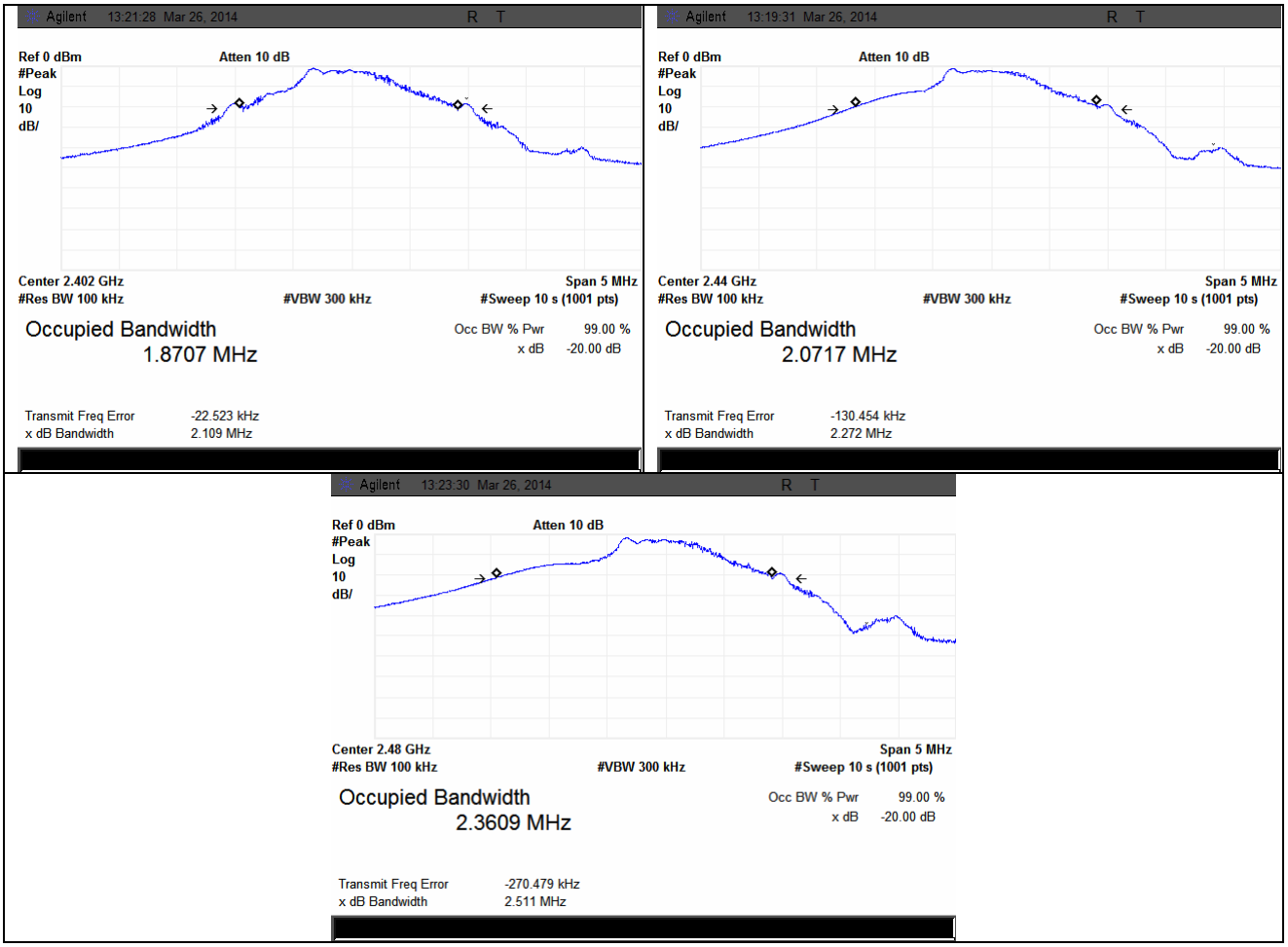
(c) Four symbols are used to describe the necessary bandwidth.

Necessary bandwidth: For a given class of emission, the minimum value of the occupied bandwidth sufficient to ensure the transmission of information at the rate and with the quality required for the system employed, under specified conditions.

B_n = 2.36 MHz (occupied bandwith)

Basic characteristics: FXD
F : frequency modulation
X : Cases not otherwise covered
D : data transmission

Designation of emission: 2M36FXD



Place and date of test: *Rossens, March 26, 2014*
Operator: *B. Itzcovich*