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LAB N° 0168

Independent Testing Laboratory
Accredited by ACCREDIA according to UNI CEI EN ISO/IEC 17025 cert. nr. 0168

TEST REPORT nr. R15149301

Federal Communication Commission (FCC)

Test item

Description .....: PET FLAP

Trademark .....: FERPLAST

Model/Type .....: SWING MICROCHIP

Test Specification

Standard.....: FCC Rules & Regulations, Title 47:2014
Part 15 paragraph(s): 207 and 209

Client's name .....: FERPLAST S.p.A.

Address .....: Via I° Maggio, 5 Z.I. – 36070 Castelgomberto (VI) – ITALY

Manufacturer's name : FERPLAST SLOVAKIA S.r.o.

Address .....: Novozámocká cesta 58 – 946 51 Nesvady – SLOVAKIA

Report

Tested by .....: G. Gandini – *Technician*

Approved by .....: R. Beghetto – *Laboratory Manager*

Date of issue .....: 23.03.16

Contents.....: 18 pages

This test report shall not be reproduced except in full without the written approval of CMC.
The test results presented in this report relate only to the item tested.

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11.1 RADIATED DISTURBANCE TEST 14

ANNEX 1: components list

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1. Summary

Emission Test:

FCC Rules & Regulations, Title 47:2014
Part 15 paragraph(s): 207 and 209

Test specifications	*Environmental Phenomena*	*Port*	*Tests sequence*	*Result*
Part 15.207	Continuous disturbance voltage	Mains terminal	--	N.A. (+)
Part 15.209	Radiated disturbance	Enclosure	1	Complies

(+) Devices which only employ battery power. See FCC Part 15.207 (c)

The Test Report was given to the Client representatives for necessary documentation of ratification of the tested equipment and it is valid for the FCC certification.

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2. Description of Equipment under test (EUT)

Power supply ..... : 9 Vdc from battery
Power cable ..... : Unshielded
Serial Number ..... : --
Components list ..... : Annex 1

2.1 Test Site

Company ..... : CMC Centro Misure Compatibilità S.r.l.
Address ..... : Via dell'Elettronica, 12/C
36016 Thiene (VI) – ITALY
Test site facility's FCC registration number ..... : 271947

3. Testing and sampling

Date of receipt of test item ..... : 24.07.15
Testing start date ..... : 22.02.16
Testing end date ..... : 22.02.16
Samples tested nr. ..... : 1
Sampling procedure. ..... : Equipment used for testing was picked up by the manufacturer, at the end of the production process with random criterion
Internal identification ..... : adhesive label with the product number P150876

4. Operative conditions

EUT exercising ..... : Transceiver, "cat presence" simulation
Auxiliary equipment ..... : None

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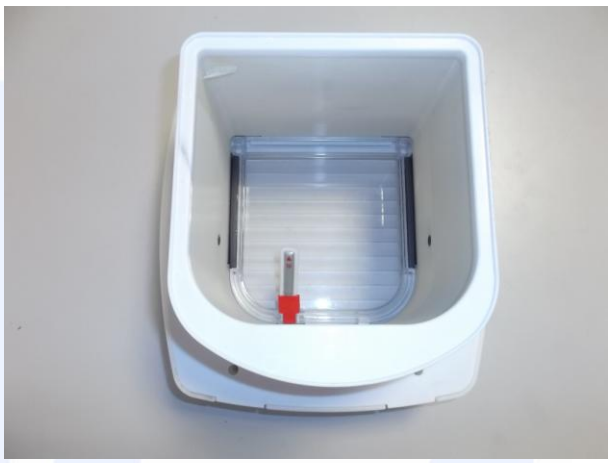
5. Photograph(s) of EUT

5.1 Photograph(s) of EUT



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6. Equipment list

Id. number	Manufacturer	Model	Description	Serial number
CMC S001	Rohde & Schwarz	ESHS30	EMC Interference Receiver	862024/003
CMC S002	Rohde & Schwarz	ESVS30	EMC Interference Receiver	826638/011
CMC S003	SCHAFFNER	NSG 2025-4	Burst Source with CDN	1010
CMC S004	SCHAFFNER	NSG 435-01	ESD Simulator	1166
CMC S005	XITRON	2503	Harmonic & Flicker Analyser	2503592013
CMC S006	Chauvin Arnoux	CA43	Field Meter	218541RLV
CMC S007	Rohde & Schwarz	SMY01	RF Signal Generators	841403/038
CMC S009	Rohde & Schwarz	ESH2-Z5	Artificial Network	839497/007
CMC S010	Rohde & Schwarz	ESH3-Z2	Impulses Limiting Device	- - -
CMC S013	Rohde & Schwarz	EZ-17	Current Probe	840411/009
CMC S014	Rohde & Schwarz	ESH2-Z3	Passive Probe	- - -
CMC S015	RKB	LOG801000	Broadband Antenna	- - -
CMC S016	Rohde & Schwarz	HK116	Broadband Antenna	839472/001
CMC S017	Rohde & Schwarz	HL223	Broadband Antenna	825584/009
CMC S018	SCHAFFNER	CDN 126	Coupling Clamp	128
CMC S019	FCC	FCC 801-M5-25	CDN Power Line	06
CMC S021	CMC	TRBS 01	Balance-to-unbalance transformer	- - -
CMC S022	Teseo	LAS 1	Loop Antenna	3971
CMC S024	CMC	CTL-01	Voltage change for LISN	- - -
CMC S025	Salmoiraghi	1750-1	Hygro – Thermograph	323.601
CMC S026	Chroma	C6530	Power Supply Source	653000095
CMC S027	Amplifier Research	75A250	RF Amplifier	19349
CMC S028	FCC	FCC-203I	Injection Clamp	209
CMC S029	Keytek	Cemaster	Surge/Dip/Burst Generator	9609258
CMC S030	Rohde & Schwarz	ESPC	EMC Interference Receiver	844006/013
CMC S031	Tektronix	TDS 210	Digital Oscilloscope	B010552
CMC S032	SCHAFFNER	NSG 2050	Surge Source with CDN	200111-253AR
CMC S034	Schwarzbeck	UHA 9105	Dipole	UHA 91052234
CMC S037	Rohde & Schwarz	NRVS	Power Meter	845127/023
CMC S039	CMC	BI 01	Induction Coil	- - -
CMC S040	Walker Scientific	ELF 50-D	Magnetic Field Meter	K71484-290
CMC S042	Fluke	Fluke 73	Multimeter	67771510
CMC (S051-075)	CMC	LFXXX	Dummy Lamp	- - -
CMC S076	Altitude	25438	Barometer	- - -
CMC S078	Amplifier Research	100W1000M1	RF Amplifier	21849
CMC S079	AH System, Inc	SAS-200/542	Broadband Antenna	504
CMC S080	AH System; Inc	SAS-200/510	Broadband Antenna	807
CMC S082	AH System; Inc	SAS-200/560	Loop Antenna	635
CMC S083	AH System; Inc	BCP-200/510	Current Probe	564
CMC S084	AH System; Inc	BCP-200/511	Current Probe	579
CMC S085	AH System; Inc	SAS-200/530	Broadband Dipole	504
CMC S086	CMC	RHCP01	Resistance 470Kohm	- - -
CMC S087	CMC	RHCP01	Resistance 470Kohm	- - -
CMC S088	CMC	LFAS20	Dummy Lamp	- - -
CMC S089	CMC	CSTARTER	Capacitor 5000pF	- - -
CMC S090	CMC	CSTARTER	Capacitor 5000pF	- - -
CMC S091	CMC	DIPLP	Dipole for Loop Antenna control	- - -
CMC S093	LeCroy	9370	Digital oscilloscope	937001338
CMC S094	Schwarzbeck	NNBM 8126-A	LISN 5µH	8126A161
CMC S095	FCC	FCC 801-M3-16	CDN power line	9821
CMC S096	B & K	2260	Phonometer	1847463
CMC S105	Decca	PA-50	Broadband antenna	34/17977 - b
CMC S106	Gigatronix	900	RF Signal Generator	323001

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Id. number	Manufacturer	Model	Description	Serial number
CMC S107	Hewlett Packard	HP8563E	Spectrum Analyser	3846A09658
CMC S108	Emco	3115	Horn Antenna	9811-5622
CMC S109	Farnell	LFM4	LF Signal Generator	531
CMC S110	CMC	OPS800	Open Strip Line 800mm	- - -
CMC S111	LEM HEME	PR 1001	Current Probes	- - -
CMC S112	Amplifier Research	DC3010	Directional Coupler	15238
CMC S114	Schwarzbeck	VHA 9103	Dipole	VHA 91031801
CMC S116	CMC	BCIP01	Current Injection Probe	--
CMC S117	MARCONI	2019A	RF Signal Generator	118453/014
CMC S118	Hewlett Packard	E3632A	Programmable Power Supply	KR75301881
CMC S119	Hewlett Packard	HP8903B	Audio Analyzer	3011A09055
CMC S120	FCC	FC130-A	Current Injection Probe	118
CMC S121	Wavetek	LCR55	Bridge LCR	20104738
CMC S122	Fluke	336	Amperometric Clamp Meter	81754972
CMC S123	Rohde & Schwarz	SML03	RF Signal Generator	100625
CMC S124	Spin	AMTP42-20	Horn Antenna	103
CMC S125	SCHAFFNER	PNW 2003	Dips source	200234-014SC
CMC S126	LDS + Dactron	V730-335+LASER	Vibration testing system	132+133+4512698
CMC S127	SCHAFFNER	HLA6120	Loop Antenna	1191
CMC S128	SCHAFFNER	CBA9428	RF Amplifier	1006
CMC S129	Rohde & Schwarz	ESPI7	Receiver	836.914/004
CMC S130	SCHAFFNER	NSG 5000	Automotive Impulse Generator	02032579-1
CMC S131	SCHAFFNER	CDN 500	Capacitive Clamp	400-151/0128
CMC S132	CMC	OPS150	Open Strip Line 150mm	- - -
CMC S133	RKB	LOG8002500	Broadband Antenna	- - -
CMC S135	LEM HEME	PR 30	Current Probe	P04217832830
CMC S136	Schwarzbeck	VULB 9136	Broadband Antenna	9136-205
CMC S138	Agilent	33220A	Function/Arbitrary Waveform Gener.	MY44003979
CMC S139	Wilcoxon	736	Accelerometer	12245
CMC S140	Wilcoxon	732A	Accelerometer	1424
CMC S141	Dytran	3023A1	Accelerometer Triaxial	383
CMC S142	Narda	ELT-400+B-sensor	Exposure level tester	D-0034+D-0032
CMC S144	Rohde & Schwarz	URV5	Power Meter	881375/004
CMC S145	Hewlett Packard	778D	Directional Coupler	17237
CMC S146	Amplifier Research	10W1000B	RF Amplifier	18451
CMC S148	CMC	W1	Shielded Cable	- - -
CMC S149	CMC	W2	Shielded Cable	- - -
CMC S150	RKB	LOG3080	Broadband Antenna	- - -
CMC S151	CMC	CI 02	Induction Multi Coil	- - -
CMC S152	CMC	CDN100	Direct injection device	- - -
CMC S155	Chroma	61705	Power supply source	000000088
CMC S156	Yokogawa	DL9040	Digital Oscilloscope	91F643771
CMC S159	Rohde & Schwarz	SM300	RF signal generator	1006114
CMC S161	EM TEST	EFT 500 M4 S1	Burst source with CDN	V0739102946
CMC S162	FCC	FCC 801-M2-16	CDN power line	07047
CMC S163	NOISEKEN	ESS-2002+TC-815R	ESD simulator	ESS0787336
CMC S164	Rohde & Schwarz	ESU26	EMC interference receiver	100052
CMC S170	Amplifier Research	FL7006	Field meter	0327425
CMC S171	Schwarzbeck	BBHA 9120 LF(A)	Broadband Antenna	284
CMC S172	Schwarzbeck	VHBD9134+BBAL9136	Broadband Antenna	9134-037
CMC S173	Luthi	CDN L-801 AF4	CDN I/O line	2481
CMC S174	Luthi	CDN L-801 AF8	CDN I/O line	2482
CMC S175	Luthi	CDN L-801 T2	CDN I/O line	2473
CMC S176	Luthi	CDN L-801 T4	CDN I/O line	2475
CMC S177	Luthi	CDN L-801 T8	CDN I/O line	2476

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Id. number	Manufacturer	Model	Description	Serial number
CMC S178	Schwarzbeck	STLP 9128 C	Broadband Antenna	086
CMC S179	Frankonia	FLL-250A	RF Amplifier	1023
CMC S180	Milmega	RF350	RF Amplifier	1031422
CMC S181	Milmega	AS0822-200	RF Amplifier	1031424
CMC S182	Milmega	AS0206-50	RF Amplifier	1031425
CMC S183	Minicircuits	PWR-SEN-6G+	Power Sensor	0809070042
CMC S184	ARRAY	3400A	Arbitrary Waveform Generation	TW00009164
CMC S185	EM TEST	OCS 500 M6 S4	Oscillatory compact simulator	V0915104789
CMC S187	Rohde & Schwarz	SMB100A	RF signal generator	102572
CMC S190	Spin	AMDR-10180	Horn Antenna	01-309-09
CMC S191	EM TEST	UCS 500 N5	Burst/Surge/PFQ compact simulator	V0947105547
CMC S193	Solar	6552-1A	BF Amplifier	- - -
CMC S194	CMC	CDN 16 PL	CDN Power line	- - -
CMC S195	Schwarzbeck	VULB 9118 E sp.	Broadband Antenna	827
CMC S196	EM TEST	BS 200N	Electronic switch	V100510506
CMC S197	EM TEST	UCS 200N	Pulse generator	V0825103901
CMC S198	FCC	F - 55	RF Current Probe	100999
CMC S199	EM TEST	CNI 503	CDN for Burst and Surge	V1026106843
CMC S200	Schwarzbeck	NSLK 8128	V-LISN	8128-273
CMC S201	S.M. ELECTRONICS	SA3N150-06F	Attenuator	- - -
CMC S202	Rohde & Schwarz	CMU200	Universal radio communication tester	104099
CMC S203	CMC	VH	Van der Hoofden test-head	- - -
CMC S204	Amplifier Research	150L	RF Amplifier	10939
CMC S205	Schwarzbeck	NNBM 8124	LISN 5µH	065
CMC S206	Rohde & Schwarz	ESCI 7	EMC Receiver	100781
CMC S207	AlphaLab	ASMGM	Milligauss meter	584
CMC S209	Elettrotest	TPS40K 30K60S	AC Source	002.11
CMC S210	EM TEST	PFS 200N30	Power Fail simulator	V1130110311
CMC S211	Luthi	CDN L-801 M1	CDN M line	2811
CMC S212	Luthi	CDN L-801 M2	CDN M line	2812
CMC S213	Luthi	CDN L-801 M3	CDN M line	2813
CMC S214	EM TEST	VDS200N10	Voltage drop simulator	V1150111222
CMC S215	FCC	F-130A-1	BCI Probe	112166
CMC S216	Luthi	MDS21	Absorbing Clamp	4101
CMC S217	Schwarzbeck	TK9420	Voltage Probe	458
CMC S218	RS	50WCW	50 ohm Load	- - -
CMC S219	EM TEST	CNV 504 N1.2	Box Surge	V1210112161
CMC S220	Minicircuits	PWR-SEN-6GHS	USB POWER SENSOR	110082250012
CMC S221	Minicircuits	BW-N20W5+	Attenuator	0612
CMC S222	A-INFOMW	ACB06-100SN	Attenuator	J3081111111003
CMC S223	Minicircuits	BW-N20W20+	Attenuator	1217
CMC S224	Fairview microwave	SMC4037-20	Directional Coupler	JSDF568-081
CMC S225	Fairview microwave	SA3550N	Step Attenuator	201237026
CMC S226	Werlatone	C6021-10	Dual Directional Coupler	99019
CMC S227	Rohde & Schwarz	ESR7	EMI Test Receiver 7GHz	101121
CMC S228	Agilent	U3401A	Digital Multimeter	MY52270047
CMC S229	Schwarzbeck	CAT5 8158	ISN 8-Wire	CAT5-8158-0074
CMC S230	Werlatone	C1795-10	Dual Directional Coupler	100140
CMC S232	CMC	W3	Shielded Cable	- - -
CMC S233	CMC	W4	Shielded Cable	- - -
CMC S234	Schwarzbeck	VTSD 9561-F	Pulse Limiter/Attenuator	9561-F023
CMC S235	Schwarzbeck	VUSLP 9111B	Broadband Antenna	9111B-118
CMC S236	Schwarzbeck	BBA 9106 + VHBB 9124	Broadband Antenna	9124-672
CMC S237	EM TEST	DPA 503N	Harmonic & Flicker analyser	P1338124620
CMC S238	Minicircuits	PWR-SEN-6GHS	USB POWER SENSOR	11302250023
CMC S239	Schwarzbeck	UAH 9105	Dipole	9105-2599

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Id. number	Manufacturer	Model	Description	Serial number
CMC S240	CMC	ITF2	Three-phase Impedances cabinet	- - -
CMC S241	Schwarzbeck	BBV 9718	Broadband Preamplifier	9718-126
CMC S242	CMC	W-IM1	Shielded Cable	- - -
CMC S243	Minicircuits	ZX60-33LN-S+	Low Noise Amplifier	S F558500921
CMC S244	EM TEST	AutoWave	Automotive Waveforms Gen.	P1303110740
CMC S245	CMC	AEP1	Automotive ESD Plane	- - -
CMC S246	Minicircuits	ZFBT-6GW	Bias Tee	RF405100521
CMC S247	Minicircuits	ZFBT-6GW+	Bias Tee	RF476100846
CMC S249	Schwarzbeck	NNBM 8124	LISN 5µH	685
CMC S250	Pico Technology	PicoLog1216	USB Data Logger	CO117/017
CMC S251	Schwarzbeck	BBV 9745	Broadband Preamplifier	9745-0019
CMC S252	Agilent	34972A	Data Acquisition	MY49018010
CMC S253	Minicircuits	PWR-SEN-6GHS	USB POWER SENSOR	11405260039
CMC S254	Prana	DR220	RF Amplifier	1610
CMC S255	S.M.ELECTRONICS	SA3N100-03F	Attenuator	- - -
CMC S256	HAMEG	HM8135	RF signal generator	014759546
CMC S257	Schwarzbeck	VAMP 9243	Active Monopole Antenna	9243-468
CMC S260	CMC	Wfr_N	Shielded Cable	Wfr_ant10-1
CMC S261	CMC	Wfr_N	Shielded Cable	Wfr_ant20-1
CMC S262	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix32-1
CMC S263	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix31-1
CMC S264	CMC	Wfr_N	Shielded Cable	Wfr_ext03-1
CMC S265	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix22-1
CMC S266	CMC	Wfr_N	Shielded Cable	Wfr_ext02-1
CMC S267	CMC	Wfr_N	Shielded Cable	Wfr_ant20-2
CMC A001	Sispe	F5123	Shield chamber	- - -
CMC A002	SIDT	951130	Anechoic chamber	- - -
CMC A007	CMC	10707	Semi-anechoic chamber	- - -
CMC A008	CMC	BPA	Track for absorbing clamp	- - -
CMC A013	CMC	TR01	Rotary motorized table	- - -
CMC A014	CMC	PM01	Antenna positioning Mast	- - -
CMC A070	Frankonia	SAC10	Semi-anechoic chamber	F159003
CMC A071	Frankonia	FC06	Controller Turntable & Antenna mast	FC06-2014-015
CMC A072	Frankonia	FAM2-4	Antenna mast	- - -
CMC A073	Frankonia	FTM 3-3	Turntable	FC062015029
CMC B026	Angelantoni	UY 245 IU	Climatic chamber	1059.78
CMC B087	Yokogawa	WT3000	Precision Power analyzer	91JB15155

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7. Measurement uncertainty

Test	Expanded Uncertainty	note
Conducted Emission		
(50Ω/50μH AMN) - (9 kHz – 150 kHz)	±3.6 dB	1
(50Ω/50μH AMN) - (150 kHz – 30 MHz)	±3.0 dB	1
(Voltage probe) - (150 kHz – 30 MHz)	±2.8 dB	1
(50Ω/5μH AMN) - (150 kHz – 108 MHz)	±2.6 dB	1
Discontinuous Conducted Emission		
Conducted Emission (50Ω/50μH AMN) - (150 kHz – 30 MHz)	±3.0 dB	1
Disturbance Power (30 MHz – 300 MHz)	±3.7 dB	1
Radiated Emission		
(0,150 MHz – 30 MHz)	±4.0 dB	1
(30 MHz – 1000 MHz)	±4.3 dB	1
(1 GHz – 6 GHz)	±4.5 dB	1
Electromagnetic field EMF	±10.5 %	1
Harmonic current emissions test	±1.8 %	1
Voltage fluctuation and flicker test	±2.6 %	1
Insertion loss test	±2.0 dB	1
Radiated electromagnetic disturbance test (loop antenna)	±2.1 dB	1
Radiated electromagnetic field immunity test	0.81 V/m at 3V/m	1
Pulse modulated radiated electromagnetic field immunity test	0.81 V/m at 3V/m	1
Injected currents immunity test	0.45 V at 3V	1
Bulk current	3.7 mA at 60 mA	1
Power frequency magnetic field immunity test	0.1 A/m at 10 A/m	1
Effective radiated power (F < 1GHz)	±4.3 dB	1
Effective radiated power (F > 1GHz)	±3.7 dB	1
Frequency error	< 1x10-7	1
Modulation bandwidth	< 1x10-7	1
Conducted RF power and spurious emission	±0.7 dB	1
Adjacent channel power	±1.2 dB	1
Blocking	±1.2 dB	1
Electrostatic discharge immunity test		2
Electrical fast transients / burst immunity test		2
Surge immunity test		2
Pulse magnetic field immunity test		2
Damped oscillatory magnetic field immunity test		2
Short interruption immunity test		2
Voltage transient emission test	±2.2 %	1
Transient immunity test		2
Rev_15_01 date 04/05/2015		

Note 1:
The expanded uncertainty reported according to EN55016-4-2:2011 is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of p = 95%

Note 2:

It has been demonstrated that the used test equipment meets the specified requirements in the standard with at least a 95% confidence, covering factor k = 2.

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8. Reference documents

Reference no.	*Description*
FCC Rules and Regulation Title 47 part 15:2014	--
ANSI C63.4:2014	American National Standard for Methods of Measuring of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz – 40 GHz
Internal Procedure PM001 rev. 2.0 (Quality Manual)	Measure procedure
Internal procedure INC_M rev. 8.2 (Quality Manual)	Measurement uncertainty calculation

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9. Deviation from test specification

In agreement with the client, emission tests were performed with peak detector.

At the frequencies where the measures exceed the limit or within 6 dB from it, the test was repeated with quasi-peak detector and/or average detector.

10. Test case verdicts

Test case does not apply to the test object..... : N.A.

Test item does meet the requirement..... : Complies

Test item does not meet the requirement..... : Does not comply

Test not performed ..... : N.E.

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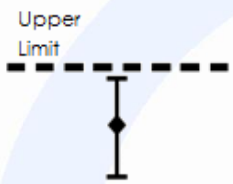
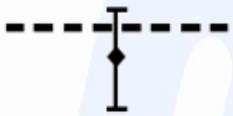
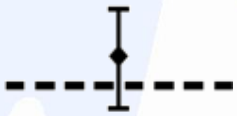
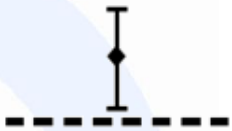
11. Results

In this clause tests results are reported.

Measurement uncertainty is in accordance with document CMC INC_M rev. 8.2.

Judgement of compliance:

Case 1	Case 2	Case 3	Case 4
			
The sample complies with the requirement.	The sample complies with the requirement.	The sample does not comply with the requirement.	The sample does not comply with the requirement.
The measurement results is within the specification limit when the measurement uncertainty is taken into account.	It is not possible to state compliance using a 95% coverage probability for the expanded uncertainty although the measurement result is below the limit.	It is not possible to state compliance using a 95% coverage probability for the expanded uncertainty also the measurement result is upper the limit.	The measurement results is outside the specification limit when the measurement uncertainty is taken into account.

In agreement with ILAC-G8: 03/2009 Guidelines on the Reporting of Compliance with Specification.

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11.1 Radiated disturbance test

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part. 15.209
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
Semi-anechoic chamber (CMC A007)

Auxiliary equipment:
See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S127, CMC S136, CMC S164
Measurement uncertainty: See clause 7 of this test report

Test specification

Port: Enclosure
Frequency range: 0,009 MHz – 10000 MHz
Antenna polarization: Horizontal (H) – Vertical (V)
EUT – Antenna distance: 3 m

Acceptance limits

Frequency range (MHz)	*Limits [dB(µV/m)]*
0,009 to 0,490	128,51 to 93,80
0,490 to 1,705	73,80 to 62,97
1,705 to 30	69,54
30 to 88	40
88 to 216	43,52
216 to 960	46,02
Above 960	53,98
Remarks: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.	

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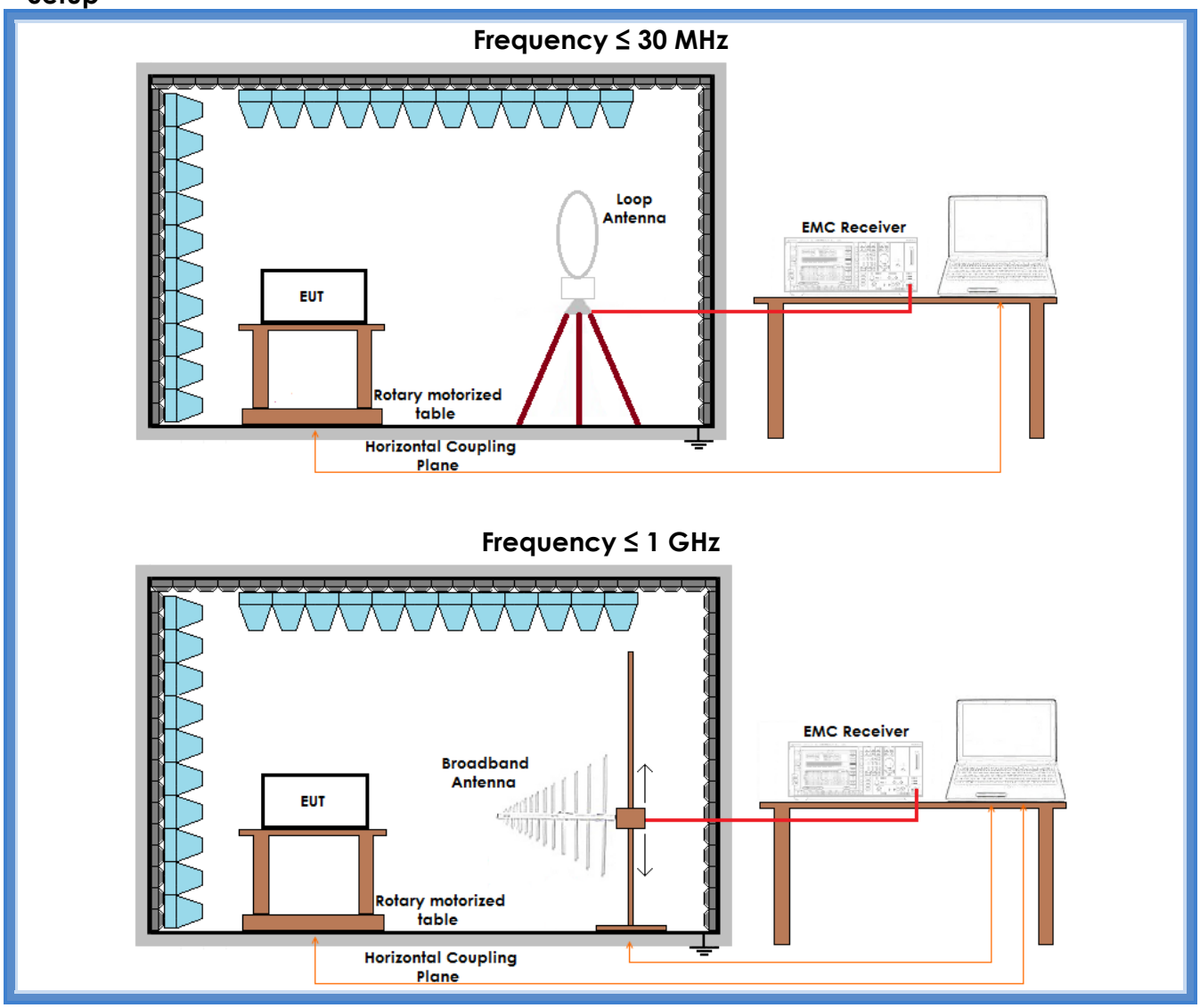
Setup



Result

Polarization	*Frequency Range (MHz)*	*Graphs*	*Remarks*	*Result*
H	30 – 1000	G15149301	--	Complies
V	30 – 1000	G15149302	--	Complies
Loop	0,009 – 30	G15149353	--	Complies
Remarks: --				

Graphs Legend
PK: Peak; QP [1s] (quasi-peak at 1 second) values are marked with a +
AV: Average; AV [1s] (average at 1 second) values are marked with a x

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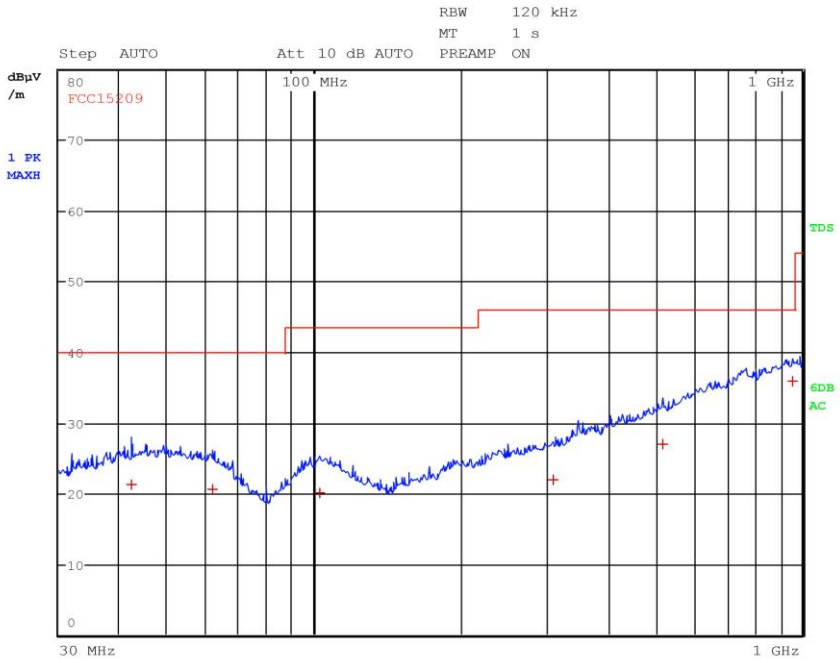
Graphs

Meas Type	Emission
Equipment under Test	
Manufacturer	
OP Condition	Tx-Rx
Operator	Gandini 15149301
Test Spec	

Horiz



Final Measurement

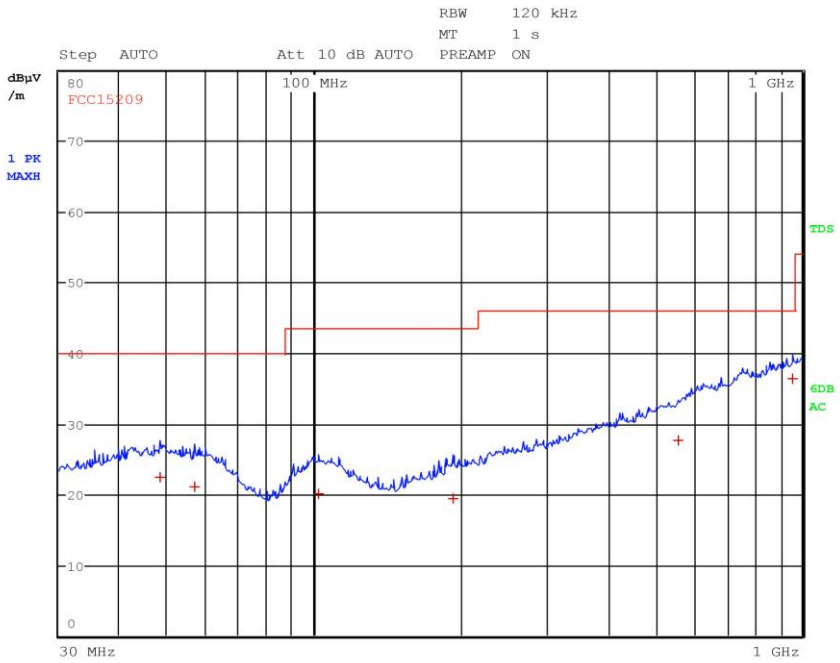
Meas Time: 1 s
Margin: 20 dB
Subranges: 6

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
1	42.120000000 MHz	21.34	Quasi Peak	-18.66
1	61.880000000 MHz	20.65	Quasi Peak	-19.35
1	102.760000000 MHz	20.06	Quasi Peak	-23.46
1	309.680000000 MHz	22.01	Quasi Peak	-24.01
1	519.080000000 MHz	27.05	Quasi Peak	-18.97
1	955.680000000 MHz	35.89	Quasi Peak	-10.13

CMC Centro Misure Compatibilità S.r.l.

Meas Type	Emission
Equipment under Test	
Manufacturer	
OP Condition	Tx-Rx
Operator	Gandini 15149302
Test Spec	

Vert

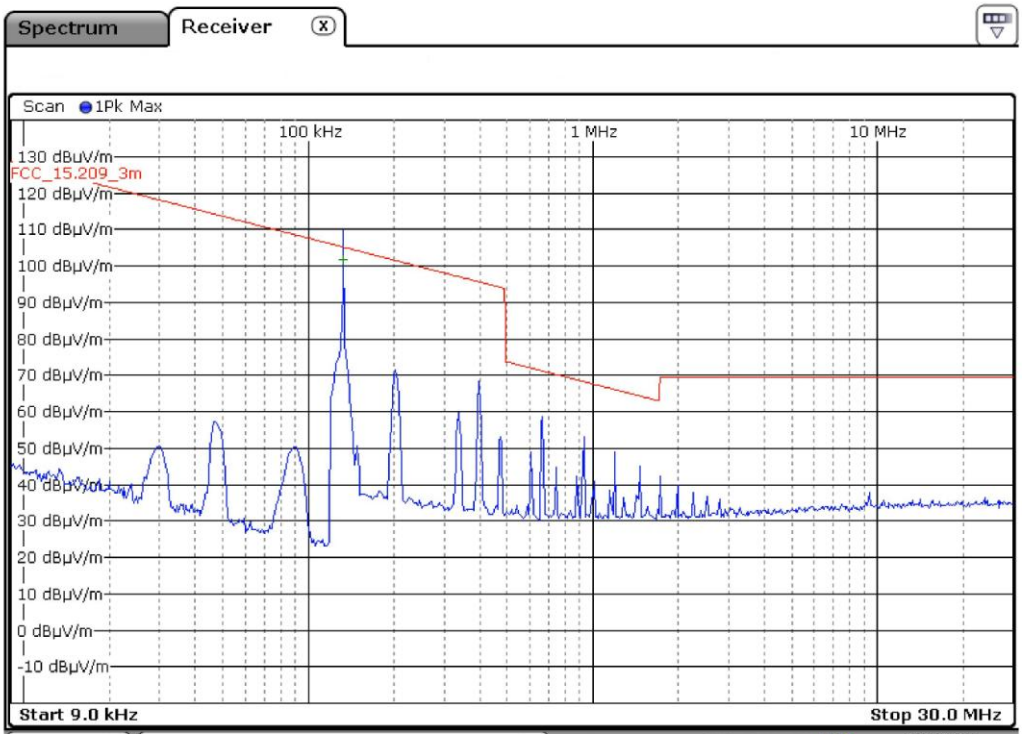


Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 6

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
1	48.360000000 MHz	22.48	Quasi Peak	-17.52
1	57.000000000 MHz	21.12	Quasi Peak	-18.88
1	102.000000000 MHz	20.01	Quasi Peak	-23.51
1	192.760000000 MHz	19.43	Quasi Peak	-24.09
1	556.880000000 MHz	27.71	Quasi Peak	-18.31
1	955.560000000 MHz	36.41	Quasi Peak	-9.61

CMC Centro Misure Compatibilità S.r.l.



Gandini 15149353 LOOP

Trace 1: FCC_15.209_10m

Trace/Detector	Frequency	Level dBµV/m	DeltaLimit
1 Average	132.5000 kHz	76.46	-7.78 dB

Trace 1: FCC_15.209_30m

Trace/Detector	Frequency	Level dBµV/m	DeltaLimit
1 Average	132.5500 kHz	55.40	-28.83 dB

Result: The requirements are met

CMC Centro Misure Compatibilità S.r.l.

SWING MICROCHIP : lista componenti

Descrizione	Q.ty	Materiale	Produttore
CORNICE POSTER.3/5/7 BIANCA	1	plastica polistirolo	ferplast
MANOPOLA ROSSA SWING	1	plastica acetalica	ferplast
CONTROMANOPOLA ROSSA SWING	1	plastica acetalica	ferplast
SPORTELLINO SWING 5/7 TRASP.	1	plastica polistirolo	ferplast
PIASTRINA FISSAG.AUTOF.Ø 4.2mm	4	metallo Fe37	ferplast
PROFILO MAGN.90mm H 3/5/7	2	plastoferrite	ferplast
MAGNETE MEDAGLIETTA d.10x4 mm	2	neodimio	cibas
PROFILO MAGN.90 mm C 3	2	plastoferrite	ferplast
CORNICE ANTER.5/7 BIANCA TAMP.	1	plastica polistirolo	ferplast
BATTENTE SWING 5/7 BIANCO	1	plastica polistirolo	ferplast
CARTER MANOP.SWING 3/5/7 BIANC	1	plastica polistirolo	ferplast
INDICAT.IN-OUT ROSSO SWING 5/7	1	plastica acetalica	ferplast
CORPO PORTINA SWING MICROCHIP	1	plastica polistirolo	ferplast
COPRICORPO PORTINA SWING MICROCHIP	1	plastica polistirolo	ferplast
PORTABATTERIE CON TASTO	1	plastica acetalica	ferplast
SPORTELLO BATTERIE	1	plastica polistirolo	ferplast
ARPIONE SWING MICROCHIP	1	plastica acetalica	ferplast
CAMMA MOTORINO	1	plastica acetalica	ferplast
MOTORINO CON CONNETTORI	1	\	Entity Elettronica
SCHEDA ELETTRONICA CON SENSORI	1	\	Entity Elettronica
FILO AVVOLGIMENTO ANTENNA	1	AWG24 90° 300V (0,22mm2)	tecnosol
LAMELLA DOPPIA BATTERIE	1	bronzo fosforoso	Cerato stampi
LAMELLA DESTRA BATTERIE	1	bronzo fosforoso	Cerato stampi
LAMELLA SINISTRA BATTERIE	1	bronzo fosforoso	Cerato stampi
CAVETTI+CONNET.BATTERIA MANG.	1	\	ferplast
MOLLA d.0.4 Sp.5 Inox	1	acciaio Inox AISI302	Vamm