



TEST REPORT Nr. R20230701	
Industry Canada (IC)	
Report Reference No.	R20230701
Date of issue:	14.12.2020
Total number pages:	44
Applicant's name	D-Air Lab S.r.l.
Address	Via dell'Economia, 64/C – 36100 Vicenza (VI) – Italy
Test specification:	
Standards	ICES-003 Issue 6: January 19, 2016, updated April 2019
Non-standard test method	N/A
Test Report Form No.	15-107_15-109CMC
Test Report Form(s) Originator ..	CMC Centro Misure Compatibilità S.r.l.
Master TRF	2020-09
General disclaimer:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of CMC Centro Misure Compatibilità S.r.l.	
Test item description	Equipment with integrated technology that activates the inflation of the Air-Bag Devices
Trademark	DAirLab
Manufacturer	D-Air Lab S.r.l.
Model / Type reference	002_W
Rating(s)	3,7 Vdc from battery 5 Vdc from USB
Report	
Tested by (name + signature)	F. De Rosso
Approved by (name + signature)	R. Beghetto



1 Summary

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2 Reference standard	
ICES-003 Issue 6: January 19, 2016, updated April 2019	Information Technology Equipment (ITE) – Limits and Methods of Measurement
3 List of attachments	
Attachment 1: Instruments list, measurement uncertainty, judgement of compliance and quality manual references	
Attachment 2: Components list	
4 Deviation(s) from test specification	
None	
5 Testing location	
CMC Centro Misure Compatibilità S.r.l. Via della Fisica, 20 – 36016 Thiene (VI) – Italy Test site facility's IC registration number: 9055A	

Revision index	Date	Change history
1.0	14.12.2020	--



Testing and sampling:	
Date of receipt of test item	25.11.2020
Testing start date	26.11.2020
Testing end date	10.12.2020
Sampling procedure.....	Equipment used for testing was picked up by the manufacturer, at the end of the production process with random criterion. The results relate to the sample as it has been received.
Internal identification	Adhesive label with the product number P201243
General remarks:	
This 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 object tested. “(see appended table)”: refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. Tests reported in this test report marked by wording: “Test not accredited by ACCREDIA” are not part of the ACCREDIA accreditation of this laboratory.	
Possible test case verdicts:	
Test case does not apply to the test object:	N/A (Not Applicable)
Test object does meet the requirement:	P (Pass)
Test object does not meet the requirement:	F (Fail)
Test object does not performed:	N/E (Not Executed)
Definition of symbols used in this test report:	
☒ Indicates that the listed condition, standard or equipment is applicable for this report. ☐ Indicates that the listed condition, standard or equipment is not applicable for this report.	



6 General description of test item(s)

Description	Equipment with integrated technology that activates the inflation of the Air-Bag Devices						
Model Number	002_W						
Serial Number	--						
Brand name	DAirlab						
Type of device	TV Broadcast Receiver	☐					
	FM Broadcast Receiver	☐					
	CB Receiver	☐					
	Superregenerative Receiver	☐					
	Scanning Receiver	☐					
	Radar Detector	☐					
	All other receivers subject to Part 15	☐					
	TV Interface Device	☐					
	Cable System Terminal Device	☐					
	Stand-alone Cable input selector switch	☐					
	Class B personal computers and peripherals	☐					
	CPU boards and internal power supplies used with Class B personal computers	☐					
	Class B personal computers assembled using authorized CPU boards or power supplies	☐					
	Class B external switching power supplies	☐					
	Other Class B digital devices & peripherals	☒					
	Class A digital devices, peripherals & external switching power supplies	☐					
	Access Broadband over Power Line (Access BPL)	☐					
	All other devices	☐					
Rated power supply		Voltage and Frequency	Reference poles				
			N	L1	L2	L3	PE
	☐	AC:	☐	☐	☐	☐	☐
	☐	AC:	☐	☐	☐	☐	☐
	☒	DC: 5 V from USB					☐
Emission class	Class B						
Software version	1.0						
Hardware version.....	2.0						



Mounting position..... :	☐	Table top equipment	
	☐	Wall/Ceiling mounted equipment	
	☐	Floor standing equipment	
	☐	Hand-held equipment	
	☒	Other: wearable device	
Components list	Attachment 2		
Operating modes	No.	Operating mode of test item	
	1	USB test with auxiliary PC	
Accessories (not part of the test item)	Accessory	Type	Manufacturer
	PC	U32U	Asus
	USB charger	PSM03E-050Q-3	Phihong Technology C.o.
Declination of responsibility	Components list and software/hardware version (if reported) are provided by the manufacturer. CMC Centro Misure Compatibilità S.r.l. cannot be considered responsible for these information, for any other document sent by the manufacturer and for any difference between the software version present in the tested sample and that present in the object intended for final sale. In some cases, the software in the tested sample is in a version dedicated exclusively to the test, and therefore does not represent the software installed in the final version of the product.		



6.1 Photos of the test item









7 Verdict summary section

ICES-003 Issue 6: January 19, 2016, updated April 2019				
Clause	Requirement – Test case	Basic standard	Test sequence	Verdict
ICES-003 cl. 6.1	AC Power Line Conducted Emissions	ANSI C63.4	1	P
ICES-003 cl. 6.2	Radiated emission	ANSI C63.4	2	P





Normative references	
Reference no.	Description
ICES-003 Issue 6: January 19, 2016, updated April 2019	Information Technology Equipment (ITE) – Limits and Methods of Measurement
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





8 Test conditions

8.1 General

Environmental reference conditions.....:	The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:		
	Temperature	Humidity	Atmospheric pressure
	15 °C – 35 °C	30 % - 60 %	800 hPa – 1060 hPa
	If explicitly required in the basic standard or applied product standard the climatic values are recorded and documented separately in this test report.		
Measurement uncertainties	Attachment 1		



9 Emission

9.1 AC Power Line Conducted Emissions

Tested by	F. De Rosso	
Test date	26.11.2020	
Test location (stand)	Shielded chamber (CMC A001)	
Reference standards	ICES-003 cl. 6.1 ANSI C63.4 cl. 7	
Test set-up description	☒	Table top equipment set-up (80 cm above the reference ground plane)
	☐	Floor standing equipment set-up (insulating material up to 12 mm thick)
	☐	False floor installation equipment set-up (insulating material up to 34 cm above the reference ground plane)
Supplementary Test set-up description	--	
Test method applied	☒	Artificial mains network, 50 μ H/50 Ω LISN
	☐	Other:

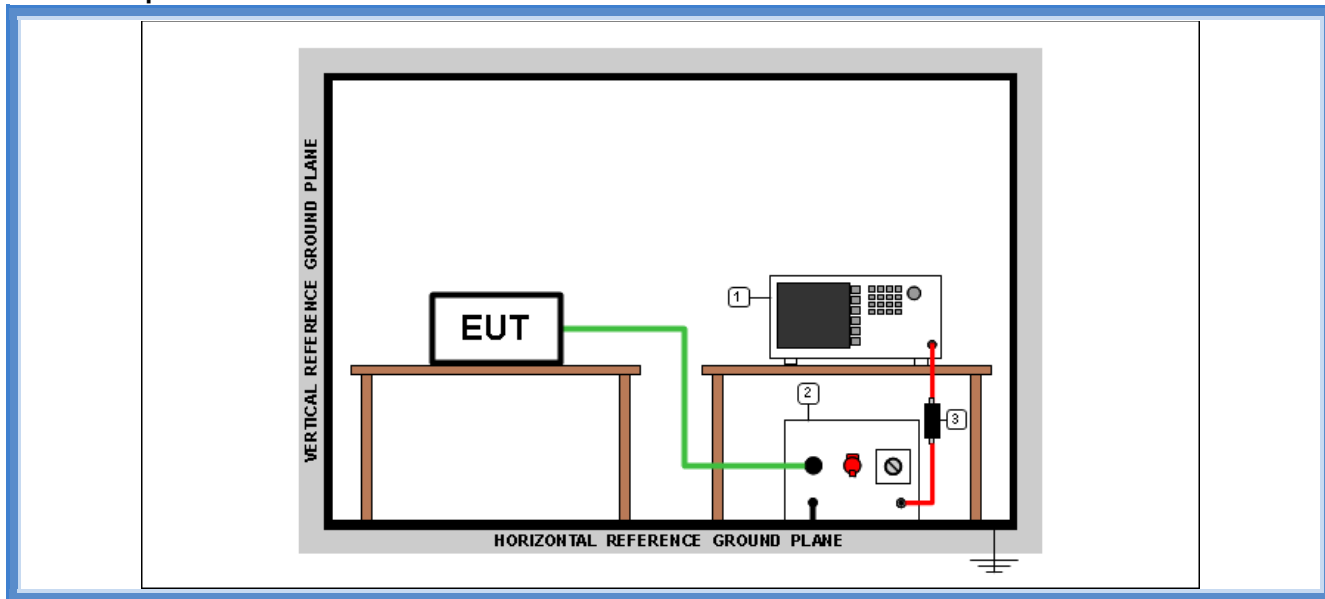
Acceptance limits

Limits for class A equipment		
Frequency range (MHz)	$\text{dB}(\mu\text{V})$ Quasi-peak	$\text{dB}(\mu\text{V})$ Average
0,15 to 0,50	79	66
0,5 to 5	73	60
5 to 30	73	60

Limits for class B equipment		
Frequency range (MHz)	$\text{dB}(\mu\text{V})$ Quasi-peak	$\text{dB}(\mu\text{V})$ Average
0,15 to 0,50	66 to 56	56 to 46
0,5 to 5	56	46
5 to 30	60	50



Test setup



Test setup PE001_01				
Nr.	Id. Number	Manufacturer	Model	Description
3	CMC S010	Rohde & Schwarz	ESH3-Z2	Pulse limiter
2	CMC S200	Schwarzbeck	NSLK 8128	V-LISN
1	CMC S353	Rohde & Schwarz	ESW26	EMI Test Receiver 1 Hz - 26.5 GHz

Photograph(s) of setup





Result

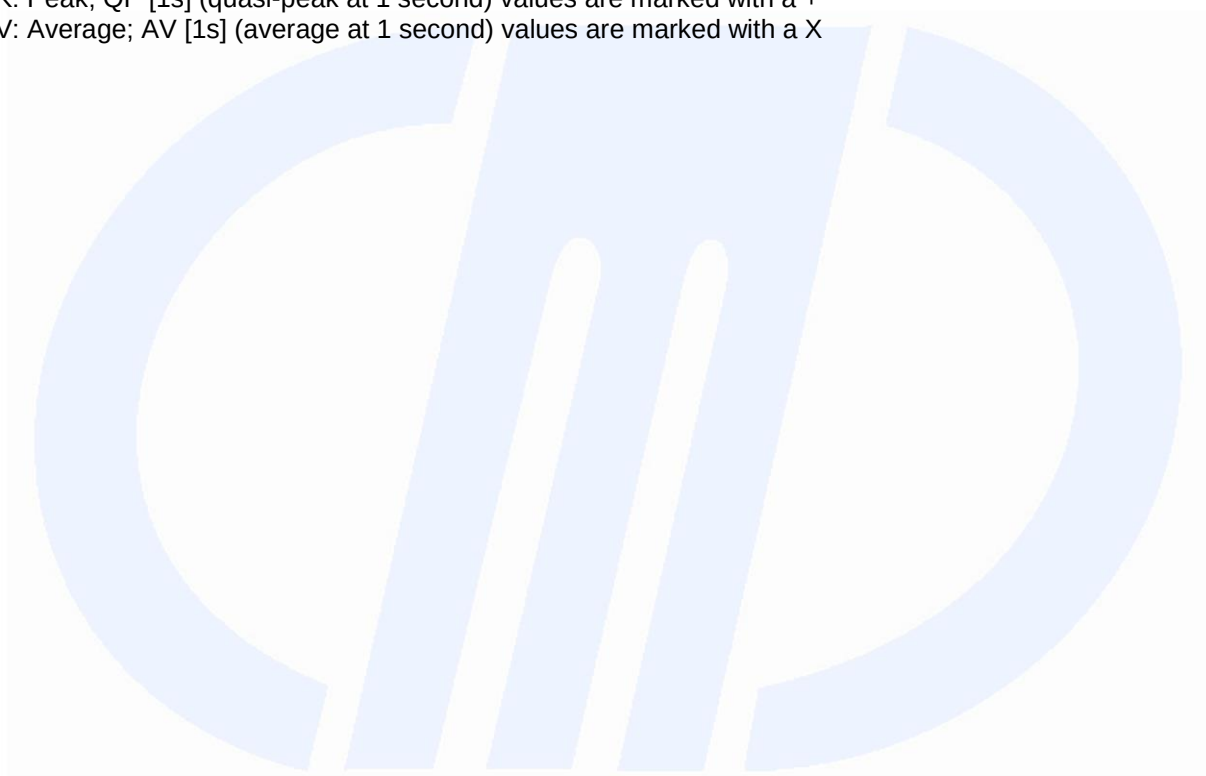
Line	Frequency Range (MHz)	Graphs	Remarks	Result
N	0,15 – 30	G20230601	--	P
L1	0,15 – 30	G20230602	--	P

Remarks: tests performed on 100 Vac side of USB charger

Graphs Legend

PK: Peak; QP [1s] (quasi-peak at 1 second) values are marked with a +

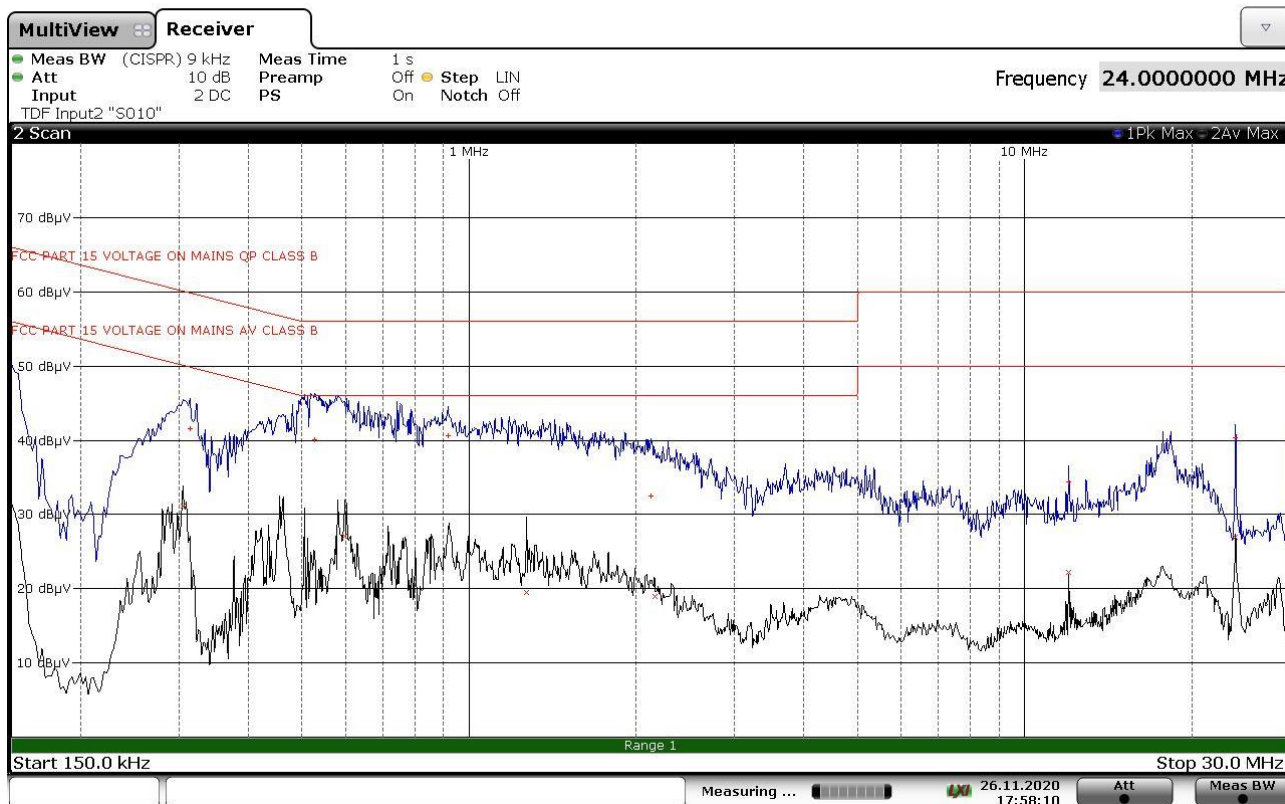
AV: Average; AV [1s] (average at 1 second) values are marked with a X





Graphs

De Rosso 20230601 Line N usb test



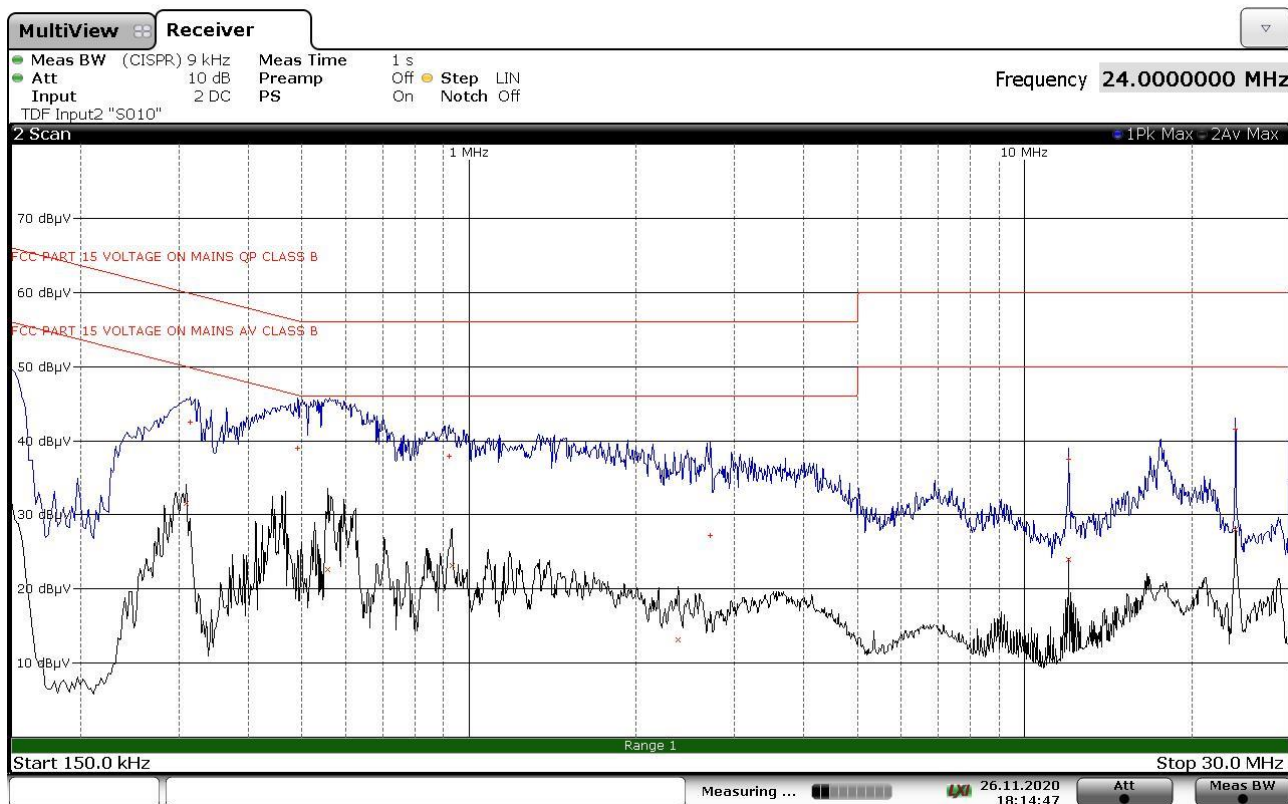
FINAL RESULT TABLE

QUASI PEAK			AVERAGE		
Freq Hz	Lev dBuV	Margin dB	Freq Hz	Lev dBuV	Margin dB
314250	+41.56	-18.30	305250	+31.14	-18.96
528000	+40.10	-15.90	597750	+27.10	-18.90
917250	+40.64	-15.36	1270500	+19.55	-26.45
2127750	+32.44	-23.56	2157000	+18.92	-27.08
11998500	+34.42	-25.58	12000750	+22.14	-27.86
24000000	+40.33	-19.67	24000000	+26.94	-23.06

20230601_2



De Rosso 20230602 Line L usb test



FINAL RESULT TABLE

QUASI PEAK

Freq Hz	Lev dBuV	Margin dB
314250	+42.47	-17.39
492000	+39.05	-17.08
919500	+37.95	-18.05
2719500	+27.20	-28.80
12000750	+37.52	-22.48
24000000	+41.55	-18.45

AVERAGE

Freq Hz	Lev dBuV	Margin dB
309750	+31.58	-18.40
557250	+22.57	-23.43
930750	+23.21	-22.79
2382000	+13.18	-32.82
12000750	+24.01	-25.99
24000000	+27.97	-22.03

20230602_2



9.2 Radiated emission

Tested by	F. De Rosso	
Test date	10.12.2020	
Test location (stand)	Semi-anechoic chamber (CMC A070)	
Reference standards	ICES-003 cl. 6.2 ANSI C63.4 cl. 8	
Test set-up description	☒	Table top equipment set-up (80 cm above the reference ground plane)
	☐	Floor standing equipment set-up (insulating material up to 12 mm thick)
	☐	False floor installation equipment set-up (insulating material up to 34 cm above the reference ground plane)
Supplementary test set-up description	--	
Test method applied	OATS or SAC with measurement distance [m]: 10 m for frequencies below 1 GHz 3 m for frequencies above 1 GHz	
Supplementary information	--	

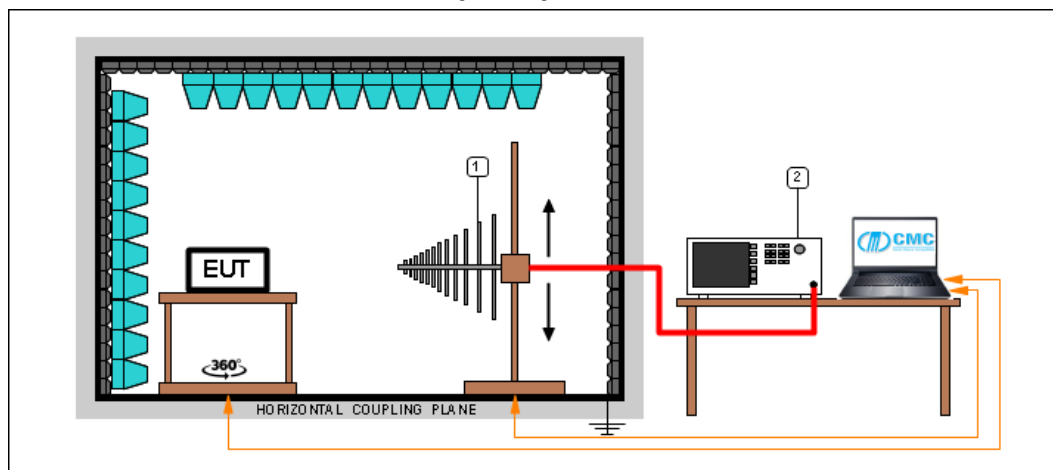
Acceptance limits

Class A radiated limits		
Frequency range (MHz)	Limits [dB(μV/m)]	Measurement distance (m)
30 to 88	39,08	10
88 to 216	43,52	10
216 to 960	46,44	10
Above 960	49,54	10

Class B radiated limits		
Frequency range (MHz)	Limits [dB(μV/m)]	Measurement distance (m)
30 to 88	40	3
88 to 216	43,52	3
216 to 960	46,02	3
Above 960	53,98	3

Test setup

Frequency ≤ 1 GHz



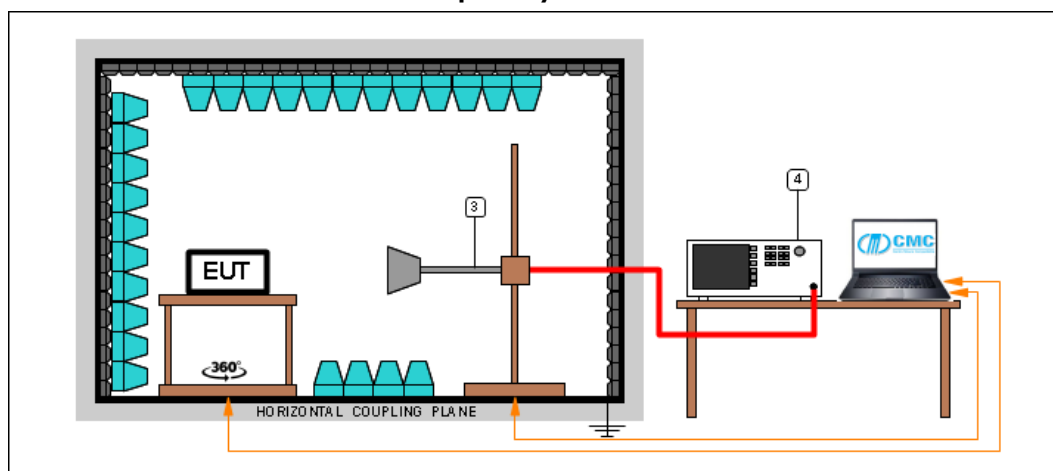
Test setup PE004_02

Nr.	Id. Number	Manufacturer	Model	Description
2	CMC S164	Rohde & Schwarz	ESU26	Receiver 20 Hz - 26.5 GHz
1	CMC S271	Schwarzbeck	BBA 9106 + VHBB 9124	Broadband Antenna

Test setup PE004_03

Nr.	Id. Number	Manufacturer	Model	Description
2	CMC S164	Rohde & Schwarz	ESU26	Receiver 20 Hz - 26.5 GHz
1	CMC S287	Schwarzbeck	VUSLP 9111B	Broadband Antenna

Frequency > 1 GHz

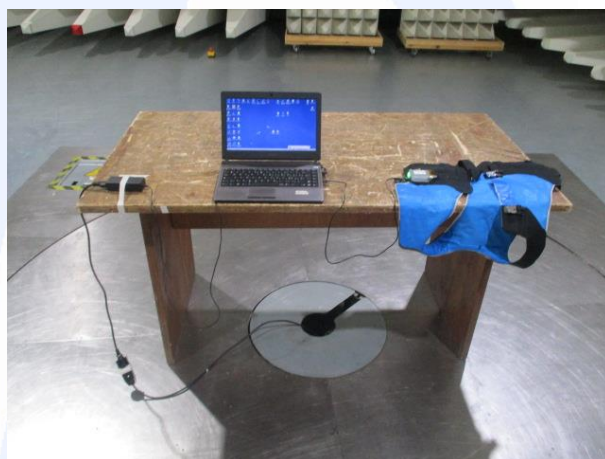
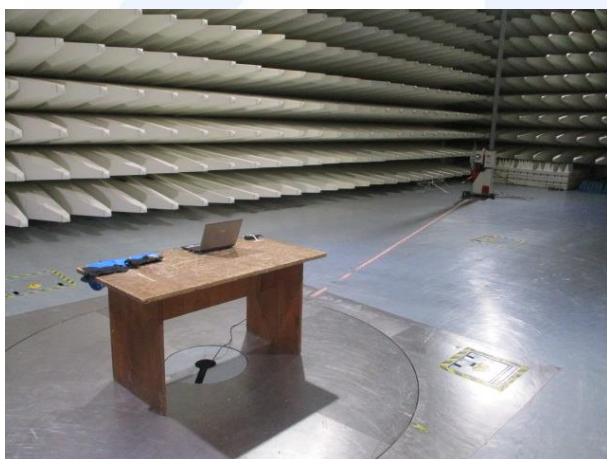
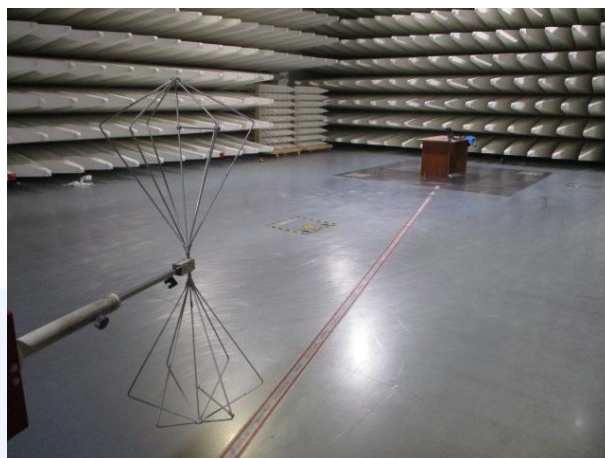
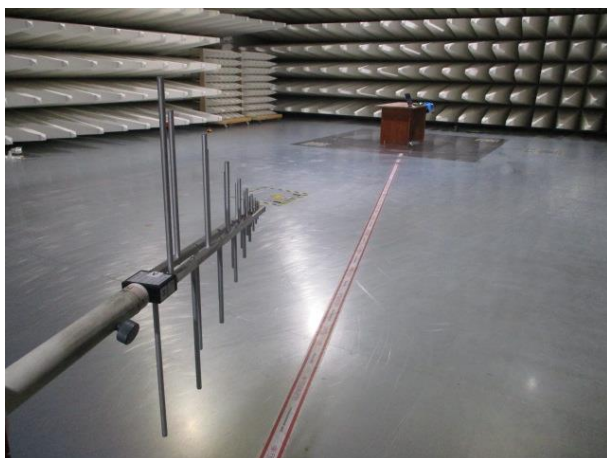


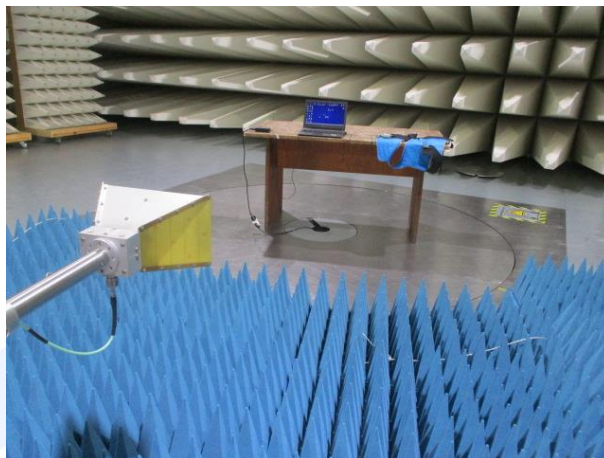
Test setup PE004_04

Nr.	Id. Number	Manufacturer	Model	Description
4	CMC S164	Rohde & Schwarz	ESU26	Receiver 20 Hz - 26.5 GHz
3	CMC S108	Emco	3115	Waveguide antenna



Photograph(s) of setup





Result

Polarization	Frequency Range (MHz)	Graphs	Remarks	Result
V	30 – 300	G20230603	--	P
H	30 – 300	G20230604	--	P
V	300 – 1000	G20230605	--	P
H	300 – 1000	G20230606	--	P
V	1000 – 6000	G20230607	--	P
H	1000 – 6000	G20230608	--	P

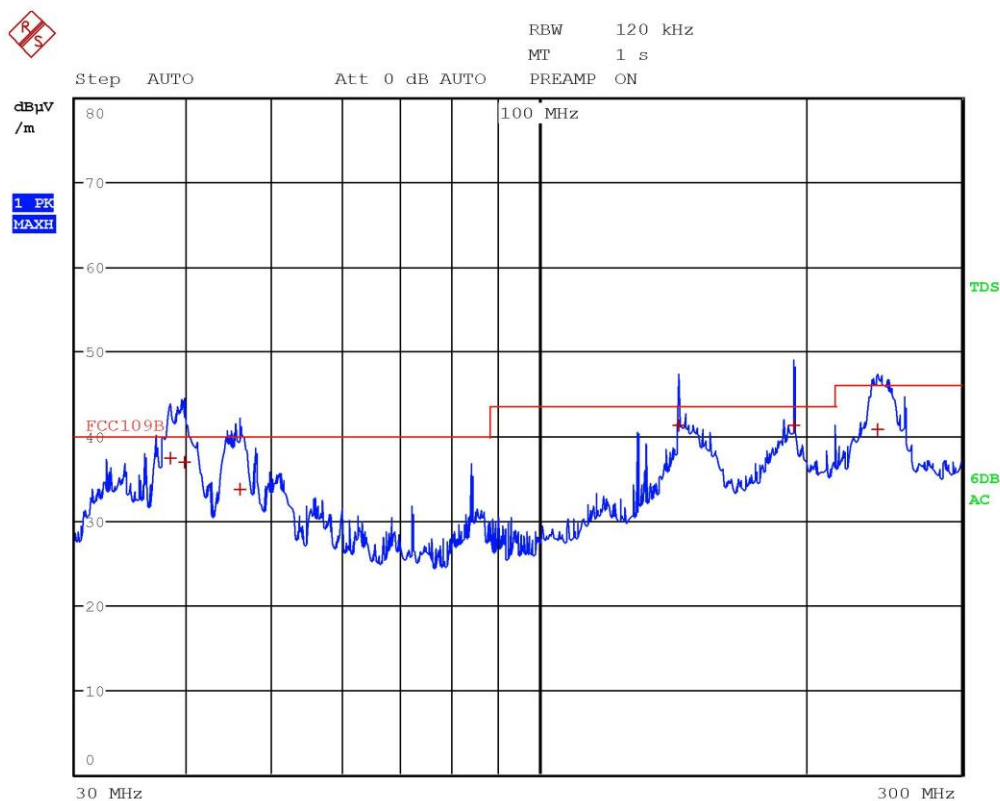
Remarks: measurements at frequencies lower than 1000 MHz have been performed with an EUT – antenna distance of 10 m. Measured values have been corrected with conversion factor $20\log(\text{test distance}/10)$, based on the measuring distance provided by the standard, using the transducer factor of the test receiver

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



Graphs

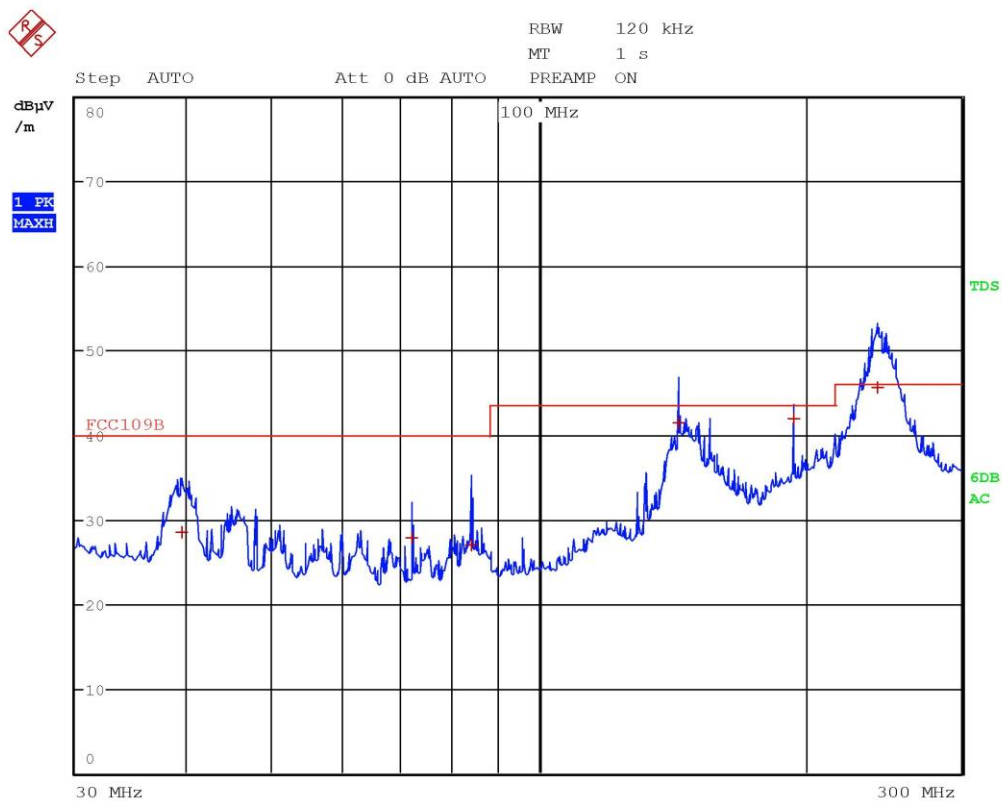


De Rosso 20230603 vert 3m usb test pc Asus U32U



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC109B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	38.32 MHz	37.43	-2.56
1 Quasi Peak	39.8 MHz	36.86	-3.13
1 Quasi Peak	46 MHz	33.71	-6.28
1 Quasi Peak	143.96 MHz	41.28	-2.23
1 Quasi Peak	194.4 MHz	41.33	-2.18
1 Quasi Peak	241.52 MHz	40.80	-5.21

De Rosso 20230603 vert 3m usb test pc Asus U32U

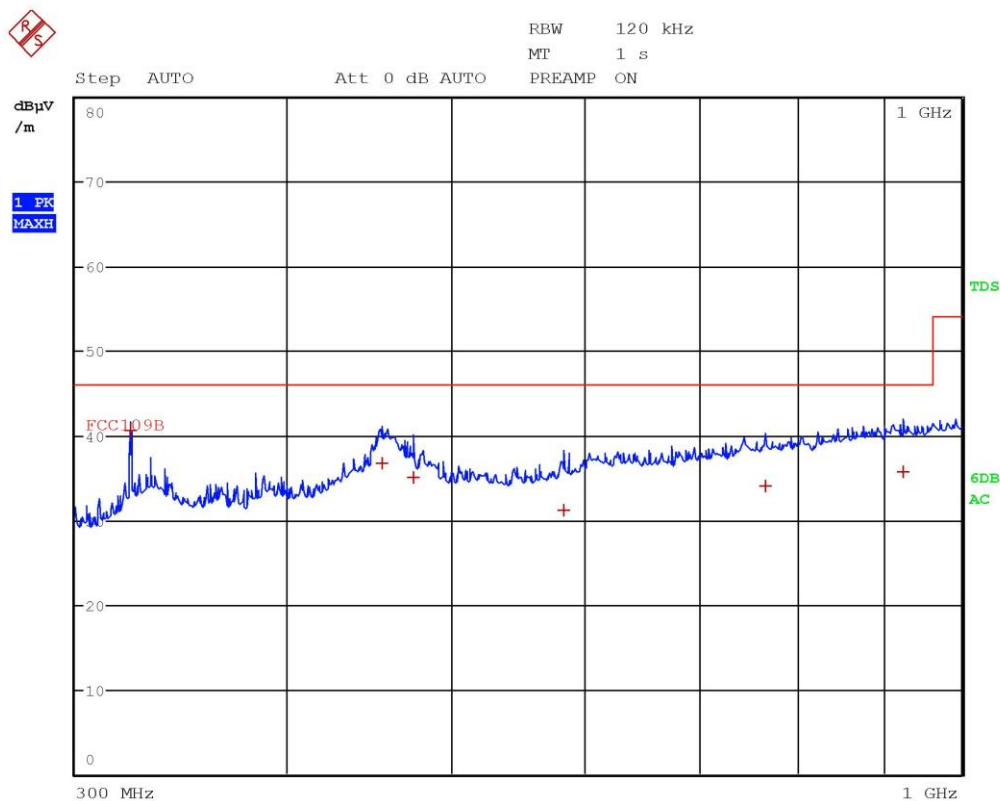


De Rosso 20230604 horiz 3m usb test pc Asus U32U



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC109B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	39.52 MHz	28.44	-11.55
1 Quasi Peak	72 MHz	27.82	-12.17
1 Quasi Peak	84 MHz	27.01	-12.98
1 Quasi Peak	143.92 MHz	41.47	-2.04
1 Quasi Peak	193.96 MHz	41.86	-1.66
1 Quasi Peak	241.36 MHz	45.66	-0.35

De Rosso 20230604 horiz 3m usb test pc Asus U32U

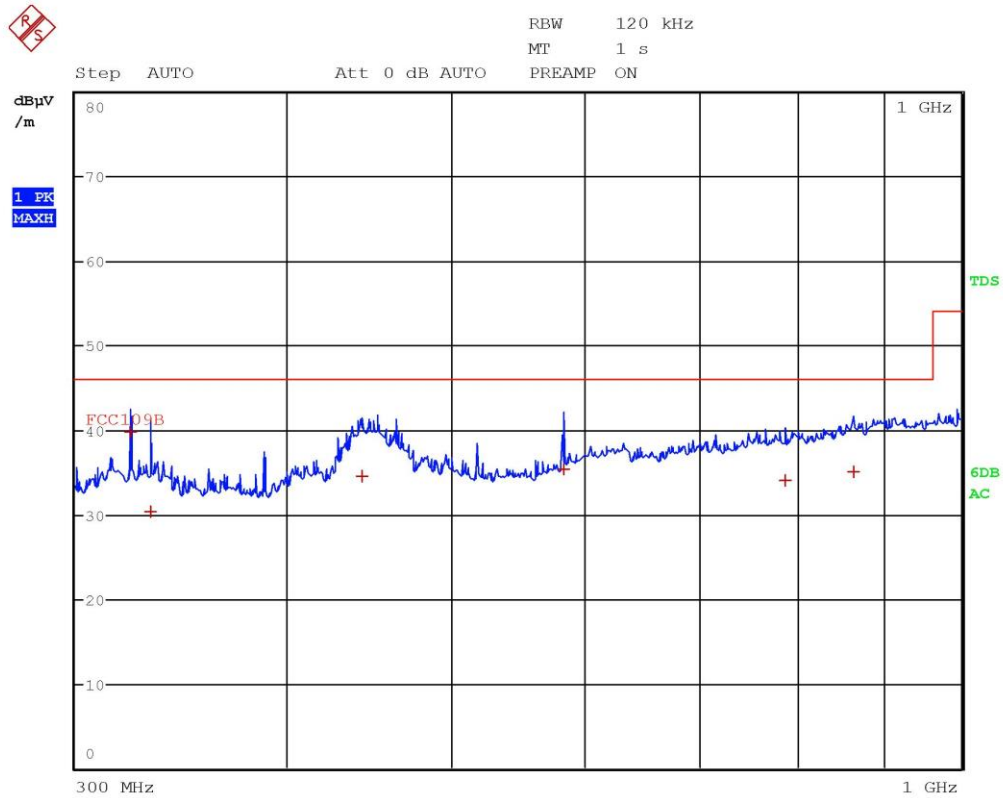


De Rosso 20230605 vert 3m usb test pc Asus U32U



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC109B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	323.48 MHz	40.54	-5.47
1 Quasi Peak	455.48 MHz	36.67	-9.34
1 Quasi Peak	475.04 MHz	35.07	-10.94
1 Quasi Peak	582.44 MHz	31.23	-14.78
1 Quasi Peak	766.88 MHz	33.96	-12.05
1 Quasi Peak	923.64 MHz	35.71	-10.30

De Rosso 20230605 vert 3m usb test pc Asus U32U

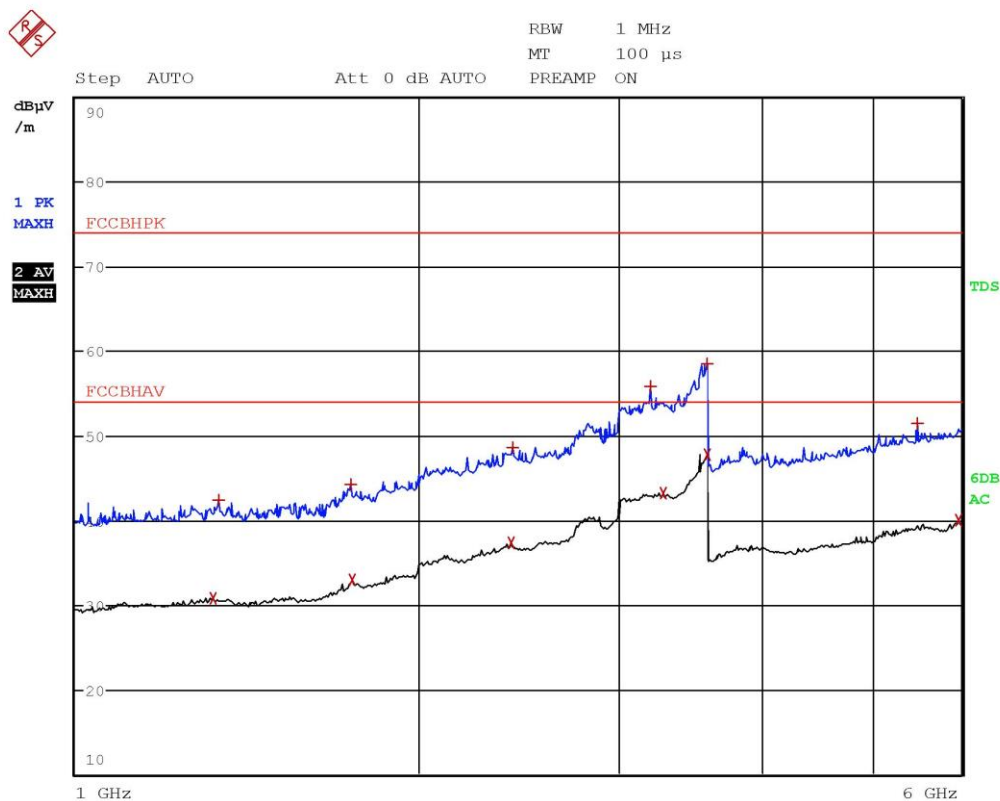


De Rosso 20230606 horiz 3m usb test pc Asus U32U



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC109B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	323.52 MHz	39.81	-6.20
1 Quasi Peak	332.28 MHz	30.36	-15.65
1 Quasi Peak	443.24 MHz	34.47	-11.54
1 Quasi Peak	582.52 MHz	35.45	-10.56
1 Quasi Peak	787.72 MHz	34.04	-11.97
1 Quasi Peak	863.48 MHz	35.08	-10.93

De Rosso 20230606 horiz 3m usb test pc Asus U32U

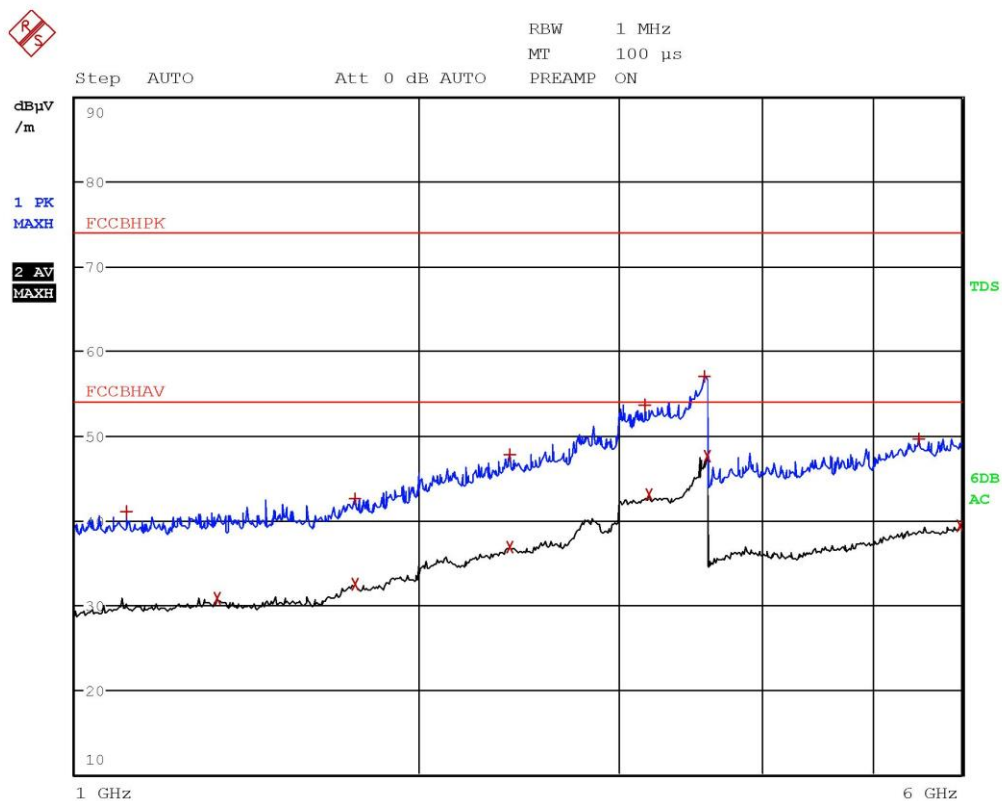


De Rosso 20230607 vert 3m usb test pc Asus U32U



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	1.322 GHz	30.82	-23.15
1 Max Peak	1.3364 GHz	42.31	-31.66
1 Max Peak	1.7464 GHz	44.25	-29.73
2 Average	1.7504 GHz	32.89	-21.08
2 Average	2.4168 GHz	37.33	-16.64
1 Max Peak	2.42 GHz	48.56	-25.41
1 Max Peak	3.1944 GHz	55.78	-18.19
2 Average	3.2848 GHz	43.21	-10.76
1 Max Peak	3.5912 GHz	58.50	-15.47
2 Average	3.5944 GHz	47.78	-6.19
1 Max Peak	5.4888 GHz	51.49	-22.48
2 Average	5.9628 GHz	40.07	-13.90

De Rosso 20230607 vert 3m usb test pc Asus U32U



De Rosso 20230608 horiz 3m usb test pc Asus U32U



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Max Peak	1.1072 GHz	40.93	-33.04
2 Average	1.3304 GHz	30.83	-23.15
1 Max Peak	1.7596 GHz	42.48	-31.49
2 Average	1.7608 GHz	32.39	-21.58
2 Average	2.4084 GHz	36.80	-17.17
1 Max Peak	2.4096 GHz	47.78	-26.19
1 Max Peak	3.1664 GHz	53.65	-20.32
2 Average	3.186 GHz	42.95	-11.02
1 Max Peak	3.566 GHz	57.04	-16.93
2 Average	3.5964 GHz	47.50	-6.47
1 Max Peak	5.5052 GHz	49.65	-24.32
2 Average	5.9812 GHz	39.30	-14.67

De Rosso 20230608 horiz 3m usb test pc Asus U32U



Attachment 1

Instruments list

<i>Id. number</i>	<i>Manufacturer</i>	<i>Model</i>	<i>Description</i>	<i>Serial number</i>
CMC S003	SCHAFFNER	NSG 2025-4	Burst Source with CDN	1010
CMC S006	Chauvin Arnoux	CA43	Field Meter	218541RLV
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 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 S022	Teseo	LAS 1	Loop Antenna	3971
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 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 S035	Eutron	BVR 1800 30-50	DC Power Source	3004
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 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 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 S106	Gigatronix	900	RF Signal Generator	323001
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 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	Calibration BCI-JIG	--
CMC S117	MARCONI	2019A	RF Signal Generator	118453/014
CMC S118	Hewlett Packard	E3632A	Programmable Power Supply	KR75301881



Attachment 1

<i>Id. number</i>	<i>Manufacturer</i>	<i>Model</i>	<i>Description</i>	<i>Serial number</i>
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 S124	Spin	AMTP42-20	Horn Antenna	103
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 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 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 S150	RKB	LOG3080	Broadband Antenna	---
CMC S151	CMC	CI 02	Induction Multi Coil	---
CMC S152	CMC	CDN100	Direct injection device	001
CMC S155	Chroma	61705	Power supply source	000000088
CMC S156	Yokogawa	DL9040	Digital Oscilloscope	91F643771
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 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
CMC S178	Schwarzbeck	STLP 9128 C	Broadband Antenna	086
CMC S179	Frankonia	FLL-250A	RF Amplifier	1023
CMC S181	Milmega	AS0822-200	RF Amplifier	1031424
CMC S182	Milmega	AS0206-50	RF Amplifier	1031425
CMC S183	Minicircuits	PWR-SEN-6G+	USB Power Sensor	0809070042
CMC S184	ARRAY	3400A	Arbitrary Waveform Generation	TW00009164
CMC S185	EM TEST	OCS 500 M6 S4	Oscillatory compact simulator	V0915104789
CMC S186	Schwarzbeck	SBA 9119	Broadband Antenna	009
CMC S187	Rohde & Schwarz	SMB100A	RF signal generator	102572
CMC S189	Eutron	BVR 1800 300V5A	DC Power Source	9100
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	---



Attachment 1

<i>Id. number</i>	<i>Manufacturer</i>	<i>Model</i>	<i>Description</i>	<i>Serial number</i>
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 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 drope 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 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	JSD568-081
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 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
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



Attachment 1

<i>Id. number</i>	<i>Manufacturer</i>	<i>Model</i>	<i>Description</i>	<i>Serial number</i>
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 S259	Schwarzbeck	SBA 9113 B	Broadband Antenna	247
CMC S260	CMC	Wfr_N_white	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 S268	Schwarzbeck	HLC 27	Compact Dipole Antenna	005
CMC S269	Fairview microwave	FMCP1005	Dual Directional Coupler	1520
CMC S270	Schwarzbeck	SBA 9112	Broadband Antenna	295
CMC S271	Schwarzbeck	BBA 9106 + VHBB 9124	Broadband Antenna	831
CMC S272	Minicircuits	PWR-SEN-6GHS	USB Power Sensor	11408040322
CMC S273	Minicircuits	PWR-SEN-6GHS	USB Power Sensor	11408040304
CMC S274	Minicircuits	PWR-SEN-6GHS	USB Power Sensor	11408040326
CMC S275	Schwarzbeck	NNHV 8123	LISN 5μH	8123-200#76
CMC S276	Schwarzbeck	NNHV 8123	LISN 5μH	8123-200#77
CMC S277	CMC	Wsac03_N_fix	Shielded Cable	Wsac03_fix21-1
CMC S278	CMC	Wsac03_N_fix	Shielded Cable	Wsac03_fix12-1
CMC S279	CMC	Wsac03_N_fix	Shielded Cable	Wsac03_fix12-2
CMC S280	CMC	Wsac03_N_white	Shielded Cable	Wsac03_ant10-1
CMC S281	CMC	Wsac03_N	Shielded Cable	Wsac03_ext02-1
CMC S282	CMC	Wsac03_N	Shielded Cable	Wsac03_int20-1
CMC S283	CMC	Wsac03_N_white	Shielded Cable	Wsac03_bci20-1
CMC S284	Rohde & Schwarz	SMB100A	RF signal generator	3.20.390.24
CMC S287	Schwarzbeck	VUSLP 9111B	Broadband Antenna	9111B-203
CMC S288	CMC	W_sma_white	Joint Shielded Cable	W_001
CMC S290	Schwarzbeck	BBHA 9170	Horn Antenna	733
CMC S291	Milmega	AS0860-40/25	RF Amplifier	1076710
CMC S292	BONN	BLWA 0310-300	RF Amplifier	1610818
CMC S293	Schwarzbeck	422NJ	Antenna Flat Elements	422NJ-051
CMC S294	TESEQ	NGS 437	ESD Simulator	899
CMC S295	Rohde & Schwarz	FSW43	Spectrum Analyzer	104059
CMC S296	Milmega	80RF1000-300	RF Amplifier	1078225
CMC S298	RIGOL	DSG3060	RF signal generator	DSG3A183600076
CMC S299	CMC	Wfr_sma	Shielded Cable	Wfr_ant20-2



Attachment 1

<i>Id. number</i>	<i>Manufacturer</i>	<i>Model</i>	<i>Description</i>	<i>Serial number</i>
CMC S300	CMC	Wfr_sma_fix	Shielded Cable	Wfr_fix32-3
CMC S301	CMC	Wfr_sma	Shielded Cable	Wfr_ext03-2
CMC S302	Testo	175H1	Data Logger	40370182 610
CMC S303	Schwarzbeck	VHBD 9134 + BBAE 9179	Broadband Antenna	9134-037 + 00020
CMC S304	Rohde & Schwarz	CMW290	Functional radio communication tester	101637
CMC S308	CMC	CDN100	Direct injection device	002
CMC S309	EM TEST	compact NX5	Burst/Surge/PFQ compact simulator	P1640185047
CMC S310	TESEQ	CDN M432	CDN M line	48108
CMC S311	Rohde & Schwarz	BBA150	RF Amplifier	103021
CMC S312	EM TEST	coupling NX5	CDN for Burst and Surge	P1737203098
CMC S313	EM TEST	NetWave 30-400	AC Source	P1751211689
CMC S318	RIGOL	DSG815	RF signal generator	DSG8A202600203
CMC S319	TESEQ	KEMZ 801A	Injection Clamp	51292
CMC S322	Werlatone	C5960-10	Dual Directional Coupler	117666
CMC S323	Vectawave	VBA250-800	RF Amplifier	123091
CMC S324	CMC	CCC01	Coupling Clamp	001
CMC S326	RIGOL	DSG3060	RF signal generator	DSG3A204600091
CMC S327	Minicircuits	PWR-SEN-6GHS	USB Power Sensor	11901020110
CMC S328	Minicircuits	PWR-SEN-6GHS	USB Power Sensor	11901020127
CMC S329	Schwarzbeck	BBHA 9120 J	Horn Antenna	9120J-0167
CMC S331	Brüel & Kjær	2260 + 4231	Phonometer	1847463 + 2095024
CMC S332	Schwarzbeck	STLP 9128 D	Double Log-periodic Antenna	91028 D 049
CMC S333	CMC	Wfr_sma_fix	Shielded Cable	Wfr_fix32-4
CMC S334	Wainwright Instruments	WHKX12-935-1000-15000-40SS	High Pass Filter	46
CMC S335	Wainwright Instruments	WHKX12-2487.1-2660-18000-40SS	High Pass Filter	01
CMC S336	Narda	EP601	Field Meter	711WX90802
CMC S337	Milmega	AS0860A-100/50	RF Amplifier	1087595
CMC S338	RIGOL	DSG815	RF signal generator	DSG8A212700221
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 & Antennamast	FC06-2014-015
CMC A072	Frankonia	FAM2-4	Antenna mast	---
CMC A073	Frankonia	FTM 3-3	Turntable	FC062015029
CMC A075	Schwarzbeck	AM9144	Modular Antenna Mast	---
CMC A076	Frankonia	SAC03	Semi-anechoic chamber	F159002
CMC B026	Angelantoni	UY 245 IU	Climatic chamber	1059.78
CMC B069	Angelantoni	CH 600C	Climatic Chamber	41973
CMC B087	Yokogawa	WT3000	Precision Power analyzer	91JB15155



Attachment 1

Measurement uncertainty

Test	Test Setup	Expanded uncertainty	Note
Conducted emission CISPR 16 LISN 50uH 0,009-0,0150 MHz	PE001_01	3,4 dB	1
Conducted emission CISPR 16 LISN 50uH 0,150-30,0 MHz	PE001_01	3,0 dB	1
Conducted emission CISPR 16 Voltage Probe 0,15-30 MHz	PE001_02	2,9 dB	1
Conducted emission CISPR 16 Current Probe 0,15-30 MHz	PE001_03	2,6 dB	1
Conducted emission CISPR 16 ISN 0,15-30 MHz	PE001_04	4,7 dB	1
Clic CISPR 16 LISN 50uH 0,150-30,0 MHz	PE001_05	2,9 dB	1
Radiated Emission CDNE 30-300 MHz	PE001_06	3,3 dB	1
Disturbance Power 30-300 MHz	PE002_01	3,6 dB	1
Radiated Emission LAS 0,15-30 MHz	PE003_01	2,0 dB	1
Radiated Emission CISPR 16 Loop Ant. 0,15-30 MHz	PE004_01	4,0 dB	1
Radiated Emission CISPR 16 Bicon. Ant. 30-300 MHz	PE004_02	3,9 dB	1
Radiated Emission CISPR 16 LogP. Ant. 300-1000 MHz	PE004_03	3,8 dB	1
Radiated Emission CISPR 16 Horn Ant. 1-18 GHz	PE004_04	4,2 dB	1
Human Exposure to electromagnetic fields	PE005_01	23,6 %	1
Harmonics	PE006_01	10 mA + 2,6 %	1
Flicker	PE007_01	4,79 %	1
Radiated Immunity 80 MHz - 6 GHz	PE102_XX	1,95 dB 0,75 V/m a 3V/m	1
Conducted Immunity 0,15 - 230 MHz	PE105_XX	1,20 dB 0,44 V a 3V	1
AC Magnetic field	PE106_01	1,55 % 0,15 A/m a 10A/m	1
Pulse Magnetic field	PE107_01	6,25 % 18,7 A/m a 300A/m	1
Dumped Magnetic field	PE108_01	6,25 % 1,87 A/m a 30A/m	1
Common mode conducted immunity	PE112_01	2,21 % 0,22 V a 10V	1



Attachment 1

Test	Test Setup	Expanded uncertainty	Note
Power/Spurious 9kHz-30MHz	PR001_01	4,0 dB	1
Power/Spurious ERP 30-1000MHz d=10m	PR001_02+03	4,7 dB	1
Misura della potenza EIRP 1-18GHz d=3m	PR001_04+05	4,7 dB	1
Misura della potenza EIRP 18-40GHz d=3m	PR001_06	5,4 dB	1
Frequency error	PR002_01+02	$< 1 \times 10^{-7}$	1
Timing zero span (1001pts.)	PR002_01+02	0,2 % SWT	1
Modulation bandwidth	PR002_01+02	$< 1 \times 10^{-7}$	1
Conducted RF power and spurious emission	PR002_01+02	1,1 dB	1
Adjacent channel power	PR002_01+02	1,1 dB	1
Blocking	PR002_01+02	1,1 dB	1

Test	Test Setup	Expanded uncertainty	Note
Electrostatic discharge immunity test	PE101_0X		2
Electrical fast transients / burst immunity test	PE103_0X		2
Surge immunity test	PE104_0X		2
Short interruption immunity test	PE109_01		2
Ring Wave immunity test	PE110_01		2
Low frequency immunity test	PE111_01		2
Dumped Oscillatory immunity test	PE113_01		2
Rev. 20_02 date 24/02/2020			

Note 1:

The expanded uncertainty reported according to the document EA-4-02 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 $k=2$



Attachment 1

Judgement of compliance

Case 1	Case 2	Case 3	Case 4
The sample complies with the requirements.	The sample complies with the requirements.	The sample does not comply with the requirements.	The sample does not comply with the requirements.
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

Quality manual references – Internal procedure

Internal Procedure PM001 rev. 3.0 (Quality Manual)	Measure procedure
Internal Procedure INC_M rev. 9.1 (Quality Manual)	Measurement uncertainty calculation



Attachment 2

Components list

	BOM 002_W		
	Componente	Descrizione	Composizione
A	03810016	KIT ELETTR.(EL. 002_W)	—
B	03810017	BATTERIA 3.7V 950~1000mAh - LP-553450-1S-3M	—
C	03610002	KIT CASE WA (base + coperchio + controplacca)	100% ABS
D	03610003	ACCESSORIO CASE WA (guarnizione)	100% VMQ
E	03610005	ACCESSORIO CASE WA (tasto)	100% VMQ
F	03810013	CABLAGGIO WORK-AIR DS0047 (KIT 2 PZ)	—
G	03820001	CAVO USB YL-PI01-02	—
H	03770005	N.I. WORK AIR DL001 T U 002_W R.00	—



Attachment 2

Bill of Material					
D-Air Lab - WorkAir.PrjPCB					
Variant: WorkAir					
Report Date: 21/10/2020 12:34					
e-novia the enterprises factory					
#	Designator	Quantity	Manufacturer Part Number 1	Manufacturer 1	Description
1	B1	1	Z4FC1B1301781	Jinlong Machinery &	Vibration ERM MOTOR
2	C1	1	C3216XSR1V226M160AC	TDK	CAP CER 22UF 35V XSR
3	C2, C5, C6	3	C2012X5R0J226M125AC	TDK	CAP CER 22UF 6.3V XSR
4	C3, C11, C12,	12	GRT155C81A105KE01D	Murata	CAP CER 1UF 10V X6S
5	C4, C7	2	GRM155R71E473KA88J	Murata	CAP CER 0.047UF 25V
6	C8, C13, C14,	13	CC0402MRX5R5BB106	Yageo	Cap Ceramic 10uF 6.3V
7	C9, C10, C20,	30	GRM155R71C104KA88D	Murata	CAP CER 0.1UF 16V X7R
8	C31	1	CL05C561JB5NNNC	Samsung	CAP CER 560PF 50V
9	C32, C33	2	CL21B106KOQNNNG	Samsung	CAP CER 10UF 16V X7R
10	C34, C35, C36,	4	EEE-FT1C221AV	Panasonic	Condensatori elettrolitici in
11	C39, C42, C63,	4	GRM1555C1H160GA01D	Murata	Multilayer Ceramic
12	C44	1	CGA2B1X7R1A224K050BC	TDK	CAP CER 0.22UF 10V
13	C58	1	GRM188R61C475KAAJD	Murata	4.7uF ±10% 16V
14	C59, C60	2	GRM155R61E225ME15D	Murata	CAP CER 2.2UF 25V XSR
15	C61, C62	2	CL05C050DB5NNNC	Samsung	CAP CER 5PF 50V
16	D1, D2, D4, D18	4	PESD5V0U1UA,115	Nexperia	Ultra low capacitance
17	D3	1	PRT8V50U2F,115	Nexperia	TVS DIODE 5.5VWM
18	D6, D7, D9,	5	PESD3V3U1UA,115	Nexperia	TVS DIODE 3.3V SOD323
19	D17	1	SS24FL	ON Semiconductor /	DIODE SCHOTTKY 40V
20	D19	1	PD3S220L-7	Diodes	Schottky Diode 2A 20V
21	L1	1	BLM15AG102SN1D	Murata	1 kOhms @ 100MHz 1
22	L4, L5	2	BLM21PG221SN1D	Murata	220 Ohms @ 100MHz 1
23	L6	1	FDSD0518-H-1R0M-P3	Murata	FIXED IND 1uH 5A 21
24	L7, L8	2	74437324010	Würth Electronics	FIXED IND 1uH 5A 27
25	L9	1	74437324100	Würth Electronics	FIXED IND 10uH 1.5A
26	L10	1	ML22012N100LT	TDK	FIXED IND 10uH 500MA
27	LED2, LED3	2	QLS6B-FKW-CNSNSF043	Cree	LED RGB 6PLCC SMD
28	M5, M6	2	SIA483DJ-T1-GE3	Vishay Siliconix	MOSFET P-CH 30V 12A
29	M7, M9, M10,	16	SSM3K15AMFV,L3F	Toshiba	MOSFET N-CH 30V 0.1A
30	M8	1	SSM3K341R,LF	Toshiba	MOSFET N-CH 60V 6A
31	M16, M17, M20,	5	RSM002P03T2L	Rohm	MOSFET P-CH 30V
32	P1	1	53261-0371	Molex	CONN HEADER 3POS
33	P3	1	2305018-2	TE Connectivity AMP	Connettori USB USB
34	P4	1	2106056-8	TE Connectivity	Board Connector
35	P7	1	M50-3120545	Harwin	CONN RCPT 1.27MM
36	R1, R2	2	ERJ-2RKF5101X	Panasonic	PANASONIC -
37	R5, R6	2	RMCF0805ZTOR00	Stackpole Electronics	0 Ohms Jumper 0.125W,
38	R8	1	RK73H1ETTP2870F	KOA Speer	287 Ohms ±1% 0.1W,
39	R9, R45, R59,	18	ERJ-2GE0R00X	Panasonic	RES SMD 0 Ohm
40	R10, R11, R12,	57	RMCF0402FT10K0	Stackpole Electronics	RES 10K OHM 1% 1/16W
41	R14, R19, R53	3	RMCF0402FT5K23	Stackpole Electronics	RES SMD 5.23K OHM 1%
42	R16	1	ERJ-2RKF3162X	Panasonic	Resistor, Thick Film, Res
43	R18	1	RK73H1ETTP7683F	KOA Speer	RES 768K OHM 1%
44	R20	1	RK73H1ETTP1373F	KOA Speer	RES 137K OHM 1%
45	R26	1	RMCF0402FT1M62	Stackpole Electronics	RES 1.62M OHM 1%
46	R28	1	ERJ-2RKF1803X	Panasonic	RES SMD 180K OHM 1%
47	R32, R36	2	AC2010FK-0782RL	Yageo	82 Ohms ±1% 0.75W,
48	R33	1	RK73H1ETTP8662F	KOA Speer	86.6 kOhms ±1% 0.1W,
49	R35, R114,	3	ERJ-2RKF1003X	Panasonic	Res Thick Film 0402 100K



Attachment 2

50	R39	1	ERJ-2RKF1004X	Panasonic	RES SMD 1M OHM 1%
51	R58, R62	2	ERJ-2RKF1001X	Panasonic	PANASONIC - ERJ-
52	R63	1	ERJ-6CWFR016V	Panasonic	16 mOhms $\pm 1\%$ 0.5W
53	R66, R67	2	ERJ-2RKF3002X	Panasonic	Res Thick Film 0402 30K
54	R74	1	RC0402FR-073K83L	Yageo	RES SMD 3.83K OHM 1%
55	R75	1	ERJ-2RKF6801X	Panasonic	RES SMD 6.8K OHM 1%
56	R121, R124	2	RK73H1ETTP1200F	KOA Speer	120 Ohms $\pm 1\%$ 0.1W
57	R122, R125	2	RK73H1ETTP2100F	KOA Speer	210 Ohms $\pm 1\%$ 0.1W
58	R123, R126	2	RK73H1ETTP1890F	KOA Speer	189 Ohms $\pm 1\%$ 0.1W
59	R132	1	RK73H1ETTP1741F	KOA Speer	dettagliata 1,74 kOhms
60	S1	1	EVQ-P7A01P	Panasonic	SWITCH TACTILE SPST-
61	U1	1	BQ24296MRGER	Texas Instruments	IC LI ION CHARGER
62	U2	1	LP3985IM5-2.8/NOPB	TI National	IC REG LINEAR 2.8V
63	U3, U5	2	TPS63020DSJT	Texas Instruments	IC ADJ SINGLE
64	U4, U6	2	TP522917DBVR	Texas Instruments	Buffer/Inverter Based
65	U7	1	LMR62421XSD/NOPB	TI National	Switching Regulator,
66	U8	1	SN74LVC1G08DBVR	Texas Instruments	IC GATE AND 1CH 2-IMP
67	U9	1	SN74LVC1G11DRYR	Texas Instruments	AND Gate, LVC/LCX/Z
68	U10	1	SN74LVC1G132DCKR	Texas Instruments	IC GATE NAND SCHMITT
69	U11	1	STC3115A1QT	STMicroelectronics	IC GAS GAUGE ALARM
70	U12	1	STM32H7A3VIT6	STMicroelectronics	Mcu, 32 Bit, 280MHZ,
71	U13	1	ADM8324WCA29ARJZR7	Analog Devices	ANALOG DEVICES
72	U14	1	74AUP1G175GW,125	Nexperia USA	Low-power D-type flip-flop
73	U16	1	S25FL064LABNF013	Cypress	Flash, 16MX4, PDSOB
74	U18	1	LSM6DSOTR	STMicroelectronics	Analog Circuit
75	U21	1	MC33797BPWR2	NXP USA	IC SQUIB DRIVER 4-CH
76	U22, U23	2	NTB0104BQ,115	NXP Semiconductors	TXRX TRANSLATING
77	U26	1	MIC2097-1YMT-TR	Microchip	Power Supply Support
78	Y1	1	TFA322PG327KR	CTS	Parallel - Fundamental
79	Y2	1	ABM3-8.000MHZ-Q2Y-T	Abracon	8MHz ± 20 ppm Cristall
Approved		Notes			
		Alternative passive components in standard packages are permitted only if the same or better performances and/or tolerances are guaranteed. (e.g. resistor with 5 % of tolerance instead of 10 % or X7R capacitor instead of X5R capacitor) Passive components from alternative manufacturers are permitted only if the same or better performances and/or tolerances are guaranteed. Automotive grade components (e.g. AEC-Q200) can be replaced only by same grade components.			