

TEST REPORT

of the accredited test laboratory

TÜV Nr.:INE-AT/FG-21/165

Applicant: Speech Processing Solutions GmbH
Gutheil-Schoder-Gasse 8-12
A – 1100 Vienna

Tested Product: wireless dictation system USB-Dongle

FCC-ID: 2AD4M-A4100

IC-ID: 26381-A4100

Manufacturer: Speech Processing Solutions GmbH
Gutheil-Schoder-Gasse 8-12
A – 1100 Vienna

Output power: 8,51 mW eirp max. **power supply:** 5 VDC via USB

Frequency range: 2406,1 - 2474,1 MHz **Channel separation:** 4MHz

Standard: FCC: 47 CFR Part 15 (August 4, 2021 edition)
RSS-247 Issue 2, February 2017

TÜV AUSTRIA SERVICES GMBH
Test laboratory for EMC



Wolfram Topka, BSc.

**examined by / Testing
Laboratory**
**TÜV AUSTRIA SERVICES
GMBH**



09.08.2021



Ing. Andreas Malek

**approved by / Testing
Laboratory**
**TÜV AUSTRIA SERVICES
GMBH**



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Inspection Body,
Certification Body,
Calibration Laboratory,
Verifizierungsstelle

Notified Body 0408

**Non-executive
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The results of this test report only refer to the provided equipment.

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1. Applicant

Company: Speech Processing Solutions GmbH

Department: ---

Address: Austria; 1100 Wien; Gutheil-Schoder-Gasse 8-12

Contact person: Gerhard PODHRADSKY

EUT received on: 29.07.2021

Tests were performed on: 09.08.2021

2. Description of EUT

EUT: USB Dongle ACC4100

Serial Number: ---

Manufacturer: Speech Processing Solutions GmbH

Description: Speech Processing Solutions GmbH provided the following configuration for the measurements:

ACC4100 attached via Radio link to SpeechOne wireless Headset and transmitting 1kHz sine wave audio signal

Operating mode: The measurements were carried out at the following running states:
normal operation

Technical data EUT: Rated voltage: 5VDC
Rated current: max. 20mA
Rated frequency: DC

Mains voltage during the tests: 5VDC via USB

Climatic conditions in the emc laboratory: Relative humidity: 39%
Temperature: 23°C

3. Standards / Final result

Name	Title	Deviation	Result
Title 47 CFR Part 15 August 4 2021 edition	RADIO FREQUENCY DEVICES	*)	OK
RSS-247 Issue 2, February 2017	Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices	*)	OK
Result: Opinions and interpretation of testing laboratory OK: EUT passed NOK: EUT failed			

*) only Duty Cycle measurement was performed

4. Test results

4.1. Test Object Data

General EUT Description

This device is a USB Dongle used in wireless dictation systems.

2.1033 (c) Technical description

2.1033 (4) Type of emission: 2M06F1D – Channel spacing 4 MHz

2.1033 (5) Frequency range: 2404,1 to 2474,1 MHz (channel center frequencies).

2.1033 (6) Power range and Controls: The maximum peak output power is 8,51 mW and there is no power regulation.

2.1033 (7) Maximum output power rating: 8,51 mW.

2.1033 (8) DC Voltage and Current: 5 V DC
maximum current consumption: 20mA

RSS-135 This standard does not apply to:

- 1.1.(a) a receiver that scans radio frequencies for the purpose of enabling its associated transmitter to avoid transmitting in an occupied frequency but which does not have the capability of decoding the message (e.g. converting it to audio voice) contained in the radio signal

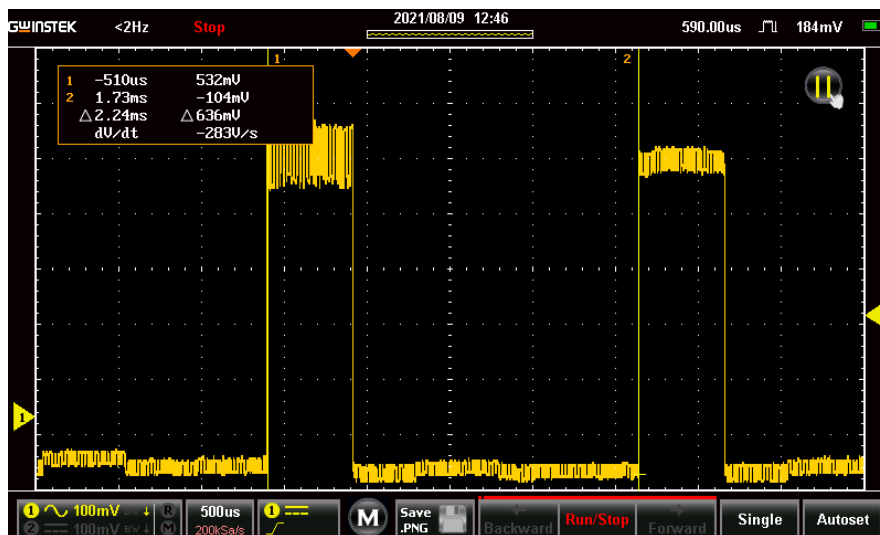
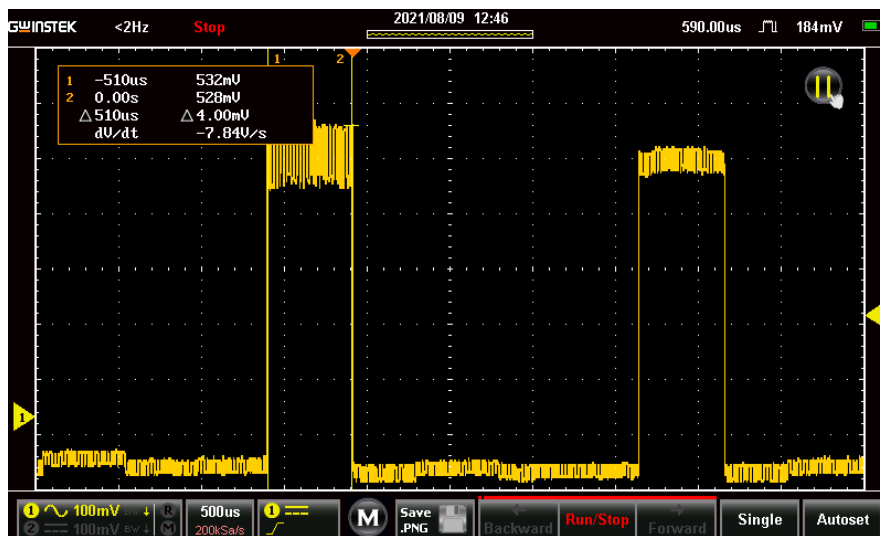
Tests were performed August 9th 2021.

4.2. Duty Cycle

KDB 558074 D01 15.247 Meas Guidance v05

On Time [μs]	Period [ms]	Duty Cycle [%]	Duty Factor [dB]
510,0	2,24	22,76	-6,42

The duty cycle of the transmitter is not constant. The worst-case duty cycle was recorded for this measurement



Limit

No limit is specified. All measurements are to be performed with the EUT transmitting at 100% duty cycle at its maximum power level; however, if 100% duty cycle cannot be achieved, measurements of duty cycle are required

Test Equipment used: NT-600; NT-139; NT-221/1;

Appendix 1

Test equipment used

Division:
Industry & Energy

Department: FG

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☐	Anechoic Chamber with 3m measurement distance	NT-100	☐	Power quality analyzer Fluke 1760 (complete set)	NT-160 - NT-173
☐	Stripline according to ISO 11452-5	NT-108	☐	Spectrumanalyzer – FSP7 9 kHz – 7 GHz	NT-200
☐	MA4000 - Antenna mast 1 - 4 m height	NT-110/1	☐	ESCI - Test receiver 9 kHz - 7 GHz	NT-203/1
☐	DS - Turntable 0 - 400 ° Azimuth	NT-111/1	☐	ESR – Test receiver 20 Hz – 26,5 GHz	NT-207/1
☐	CO3000 Controller Mast+Turntable	NT-112/1	☐	Digital Radio Tester CMW500	NT-208/1
☐	HUF-Z3 - Log. Per. Antenna 200 - 1000 MHz	NT-121	☐	Noise-gen., ITU-R 559-2 20 Hz – 20 kHz	NT-209
☐	FMZB1513 - Loop Antenna 9 kHz - 30 MHz	NT-122/1	☐	CMTA - Radiocommunication analyzer ; 0,1 - 1000 MHz	NT-210
☐	HFH-Z6 - Rod Antenna 9 kHz - 30 MHz	NT-123	☐	3271 - Spectrum analyzer 100 Hz - 26,5 GHz	NT-211
☐	3121C - Dipole Antenna 28 - 1000 MHz	NT-124	☐	Digital Radio Tester Aeroflex 3920	NT-212/1
☐	3115 - Horn Antenna 1 - 18 GHz (immunity)	NT-125	☐	Mixer M28HW 26,5 GHz - 40 GHz	NT-214
☐	3116 - Horn Antenna 18 - 40 GHz	NT-126	☐	RubiSource T&M Timing reference	NT-216
☐	SAS-200/543 - Bicon. Antenna 20 MHz - 300 MHz	NT-127	☐	Radiocommunicationanalyzer SWR 1180 MD	NT-217
☐	AT-1080 - Log. Per. Antenna 80 - 1000 MHz	NT-128	☐	Mixer M19HWD 40 GHz – 60 GHz	NT-218
☐	HK-116 - bicon. Antenna 20 MHz - 300 MHz	NT-129	☐	Mixer M12HWD 60 GHz – 90 GHz	NT-219
☐	HK-116 - bicon. Antenna 20 MHz - 300 MHz	NT-130	☐	DSO9104 Digital scope	NT-220/1
☐	3146 - Log. Per. Antenna 200 – 1000 MHz	NT-131	☐	TPS 2014 Digital scope	NT-222
☐	VULB 9163 Trilog Antenna 30 – 3000 MHz	NT-131/1	☐	Artificial Ear according to IEC 60318	NT-224
☐	Loop Antenna H-Field	NT-132	☐	1 kHz Sound calibrator	NT-225
☐	Horn Antenna 500 MHz - 2900 MHz	NT-133	☐	B10 - Harmonics and flicker analyzer	NT-232
☐	Horn Antenna 500 MHz - 6000 MHz	NT-133/1	☐	SRM-3006 Spectrumanalyzer	NT-233/1a
☐	Log. per. Antenna 800 MHz - 2500 MHz	NT-134	☐	E-field probe SRM 75 MHz – 3 GHz	NT-234
☐	Log. per. Antenna 800 MHz - 2500 MHz	NT-135	☐	Field Meter NBM-500 incl. E- and H-Field probes	NT-240a-e
☐	BiConiLog Antenna 26 MHz – 2000 MHz	NT-137	☐	Magnetometer HP-01	NT-241/1
☐	Conical Dipol Antenna PCD8250	NT-138	☐	EFA-3 H-field- / E-field probe	NT-243
☐	HF 906 - Horn Antenna 1 - 18 GHz (emission)	NT-139	☐	EHP-50F H-field- / E-field probe	NT-243/1
☐	HZ-1 Antenna tripod	NT-150	☐	Field Meter EMR-200 100 kHz – 3 GHz	NT-244
☐	BN 1500 Antenna tripod	NT-151	☐	E-field probe 100 kHz – 3 GHz	NT-245
☐	Ant. tripod for EN61000-4-3 Model TP1000A	NT-156	☐	H-field probe 300 kHz – 30 MHz	NT-246

Appendix 1 (continued)

Test equipment used

☐	E-field probe 3 MHz – 18 GHz	NT-247	☐	500W1000M7 - RF-Amplifier 80 - 1000 MHz / 500 W	NT-332
☐	H-field probe 27 MHz – 1 GHz	NT-248	☐	AS0102-65R - RF-Amplifier 1 GHz - 2 GHz	NT-333
☐	ELT-400 1 Hz – 400 kHz	NT-249	☐	APA01 – RF-Amplifier 0,5 GHz – 2,5 GHz	NT-334
☐	MDS 21 - Absorbing clamp 30 - 1000 MHz	NT-250	☐	Preamplifier 1 GHz - 4 GHz	NT-335
☐	FCC-203I EM Injection clamp	NT-251	☐	Preamplifier for GPS MKU 152 A	NT-336
☐	FCC-203I-DCN Ferrite decoupling network	NT-252	☐	Preamplifier 1 GHz – 18 GHz	NT-337/1
☐	PR50 Current Probe	NT-253	☐	DC Block 10 MHz – 18 GHz Model 8048	NT-338
☐	i310s Current Probe	NT-254/1	☐	2-97201 Electronic load	NT-341
☐	Fluke 87 V True RMS Multimeter	NT-260	☐	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-344
☐	Model 2000 Digital Multimeter	NT-261	☐	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-345
☐	Fluke 87 V Digital Multimeter	NT-262/1	☐	VDS 200 Mobil-impuls-generator	NT-350
☐	ESH2-Z5-U1 Artificial mains network 4x25A	NT-300	☐	LD 200 Mobil-impuls-generator	NT-351
☐	ESH3-Z5-U1 Artificial mains network 2x10A	NT-301	☐	MPG 200 Mobil-Impuls-Generators	NT-352
☐	ESH3-Z6-U1 Artificial mains network 1x100A	NT-302	☐	EFT 200 Mobil-impuls-generator	NT-353
☐	ESH3-Z6-U1 Artificial mains network 1x100A	NT-302a	☐	AN 200 S1 Artificial Network	NT-354
☐	PHE 4500/B Power amplifier	NT-304	☐	FP-EFT 32M 3 ph. Coupling filter (Burst)	NT-400/1
☐	EZ10 T-Artificial Network	NT-305	☐	PHE 4500 - Mains impedance network	NT-401
☐	SMG - Signal generator 0,1 - 1000 MHz	NT-310	☐	IP 6.2 Coupling filter for data lines (Surge)	NT-403
☐	SMA100A - Signal generator 9 kHz - 6 GHz	NT-310/1	☐	TK 9421 High Power Volt. Probe 150 kHz - 30 MHz	NT-409
☐	RefRad Reference generator	NT-312	☐	ESH2-Z3 - Probe 9 kHz - 30 MHz	NT-410
☐	SMP 02 Signal generator 10 MHz - 20 GHz	NT-313	☐	IP 4 - Capacitive clamp (Burst)	NT-411
☐	40 MHz Arbitrary Generator TGA1241	NT-315	☐	Highpass-Filter 100 MHz – 3 GHz	NT-412
☐	Artificial mains network NSLK 8127-PLC	NT-316	☐	Highpass-Filter 600 MHz – 4 GHz	NT-413
☐	PSURGE 4.1 Surge generator	NT-324	☐	Highpass-Filter 1250 MHz – 4 GHz	NT-414
☐	IMU4000 Immunity test system	NT-325/1	☐	Highpass-Filter 1800 MHz – 16 GHz	NT-415
☐	VCS 500-M6 Surge-Generator	NT-326			
☐	Oscillatory Wave Simulator incl. Coupling networks	NT-328a+b+c			
☐	BTA-250 - RF-Amplifier 9 kHz - 220 MHz / 250 W	NT-330			
☐	T82-50 RF-Amplifier 2 GHz – 8 GHz	NT-331			

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☐	Highpass-Filter 3500 MHz – 18 GHz	NT-416	☐	FCC-801-AF10 Coupling decoupling network	NT-461	Division: Industry & Energy
☐	RF-Attenuator 10 dB DC – 18 GHz / 50 W	NT-417/1	☐	FCC-801-S25 Coupling decoupling network	NT-462	Department: FG
☐	RF-Attenuator 6 dB DC – 18 GHz / 50 W	NT-418	☐	FCC-801-T4 Coupling decoupling network	NT-463	Test report number: INE-AT/FG-21/165
☐	RF-Attenuator 3 dB DC – 18 GHz / 50 W	NT-419	☐	FCC-801-C1 Coupling decoupling network	NT-464	Page: 3 of 4
☐	RF-Attenuator 20 dB DC - 1000 MHz / 25 W	NT-421	☐	SW 9605 - Current probe 150 kHz – 30 MHz	NT-465/1	Date: 09.08.2021
☐	RF-Attenuator 30 dB DC - 1000 MHz / 1 W	NT-423	☐	95242-1 – Current probe 1 MHz – 400 MHz	NT-468	
☐	RF-Attenuator 30 dB	NT-424	☐	94106-1L-1 – Current probe 100 kHz – 450 MHz	NT-471	
☐	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-425	☐	GA 1240 Power amplifier according to EN 61000-4-16	NT-480	
☐	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-426	☐	Coupling networks according to EN 61000-4-16	NT-481 - NT-483	
☐	RF-Attenuator 6 dB	NT-428	☐	Van der Hoofden Test Head	NT-484	
☐	RF-Attenuator 0 dB - 81 dB	NT-429	☐	EMC Video/Audiosystem	NT-511/1	
☐	WRU 27 - Band blocking 27 MHz	NT-430	☐	ES-K1 Version 1.71 SP2 Test software	NT-520	
☐	WHJ450C9 AA - High pass 450 MHz	NT-431	☐	EMC32 Version 10.60.20 Test software	NT-520/1	
☐	WHJ250C9 AA - High pass 250 MHz	NT-432	☐	SRM-TS Version 1.3 software for SRM-3000	NT-522	
☐	RF-Load 150 W	NT-433	☐	SRM-TS Version 1.3.1 software for SRM-3006	NT-522/1	
☐	Impedance transducer 1:4 ; 1:9 ; 1:16	NT-435	☐	Spitzenberger und Spies Test software V4.1	NT-525	
☐	RF-Attenuator DC – 18 GHz 6 dB	NT-436	☐	Noise power test apparatus according to EN 55014	NT-530	
☐	RF-Attenuator DC – 18 GHz 6 dB	NT-437	☐	Vertical coupling plane (ESD)	NT-531	
☐	RF-Attenuator DC – 18 GHz 10 dB	NT-438	☐	Test cable #4 for EN 61000-4-6	NT-553	
☐	RF-Attenuator DC – 18 GHz 20 dB	NT-439	☐	Test cable #3 for conducted emission	NT-554	
☐	I+P 7780 Directional coupler 100 - 2000 MHz	NT-440	☐	Test cable #5+#6 ESD-cable (2x470k)	NT-555 + NT-556	
☐	ESH3-Z2 - Pulse limiter 9 kHz - 30 MHz	NT-441	☐	Test cable #8 Sucoflex 104EA	NT-559	
☐	Power Divider 6 dB/1 W/50 Ohm	NT-443	☐	Test cable #9 (for outdoor measurements)	NT-580	
☐	Directional coupler 0,1 MHz – 70 MHz	NT-444	☐	Test cable #10 (for outdoor measurements)	NT-581	
☐	Directional coupler 0,1 MHz – 70 MHz	NT-445	☐	Test cable #13 Sucoflex 104PE	NT-584	
☐	Tube imitations according to EN 55015	NT-450	☐	Test cable #21 for SRM-3000	NT-592	
☐	FCC-801-M3-16A Coupling decoupling network	NT-458	☐	Shield chamber	NT-600	
☐	FCC-801-M2-50A Coupling decoupling network	NT-459	☐	Climatic chamber	M-1200	
☐	FCC-801-M5-25 Coupling decoupling network	NT-460				

Appendix 1 (continued)

Test equipment used

☐	Anechoic Chamber 3 m / 5 m measuring distance	EMV-100	☐	Log.per Antenna 0,7 – 9 GHz STLP9149	EMV-305
☐	Turntabel 6 m diameter	EMV-101	☐	HF- Amplifier 9 kHz-250 MHz BBA150 (low noise)	EMV-306
☐	Antenna mast + controller	EMV-102+ EMV-103	☐	ISO11451-2 TLS 10 kHz – 30 MHz	EMV-307
☐	EMC Video/Audiosystem	EMV-104	☐	Load Dump Generator LD 200N	EMV-350
☐	EMC Software EMC32 Version 10.60.20	EMV-105	☐	Ultra Compact Symulator UCS 200N100	EMV-351
☐	Hornantenna 1 – 18 GHz HF 907	EMV-110	☐	Automotive Power fail module PFM 200N100.1	EMV-352
☐	Antennapre.amp. 1 – 18 GHz ERZ-LNA0200-1800-30-2	EMV-111	☐	Voltage Drop Symulator VDS 200Q100	EMV-353
☐	Trilog Antenna 30-3000 MHz VULB9163	EMV-112	☐	Arb. Generator AutoWave	EMV-354
☐	Monopol 9 kHz – 30 MHz VAMP 9243	EMV-113	☐	Ultra Compact Symulator UCS 500N7	EMV-355
☐	Antennapre.amp 18 – 40 GHz BBV 9721	EMV-114	☐	Coupling decoupling network CNI 503B7 / 32 A	EMV-356
☐	Hornantenna 200 – 2000 MHz AH-220	EMV-115	☐	Coupling decoupling network CNI 503B7 / 63 A	EMV-357
☐	DC Artificial Network PVDC 8300	EMV-150	☐	Telecom Surge Generator TSurge 7	EMV-358
☐	AC Artificial Network NNLK 8121 RC	EMV-151	☐	Coupling decoupling network CNI 508N2	EMV-359
☐	EMI Receiver ESW44	EMV-200/1	☐	Coupling decoupling network CNV 504N2.2	EMV-360
☐	Signalgenerator 9 kHz – 40 GHz N5173B	EMV-201	☐	Immunity generator NSG4060/NSG4060-1	EMV-361
☐	GPS Frequency normal B-88	EMV-202	☐	Coupling network CDND M316-2	EMV-362
☐	DC Power supply N5745A	EMV-203	☐	Coupling network CT419-5	EMV-363
☐	Spektrum Analyzator FSV40	EMV-205	☐	ESD Generator NSG 437	EMV-364
☐	Thd Multimeter Model 2015	EMV-206	☐	Pulse Limiter VTSD 9561-F BNC	EMV-405
☐	Poweramplifier PAS15000	EMV- 207/abc	☐	Transient emission BSM200N40+BS200N100	EMV- 450+451
☐	Inrush Current Source	EMV- 208/abc	☐	Cap. Coupling Clamp HFK	EMV-455
☐	Arb.-generator Sycore	EMV-209	☐	Mag. Field System MS100N+MC26100+MC2630	EMV- 456-458
☐	Harmonics/Flicker analyzer ARS 16/3	EMV-210	☐	Coupling network CDN M2-100A	EMV-459
☐	HF- Amplifier 9 kHz-225 MHz BBL200	EMV-300/1	☐	Coupling network CDN M3-32A	EMV-460
☐	HF- Amplifier 80 -1000 MHz BBA150	EMV-301	☐	Coupling network CDN M5-100A	EMV-461
☐	HF- Amplifier 0,8 - 6 GHz BBA150	EMV-302	☐	Current Clamp CIP 9136A	EMV-462
☐	High Power Ant. 20-200 MHz HPBA-2510	EMV-303/1	☐	DC Artificial Network HV-AN 150	EMV- 464+465
☐	Log.per Antenna 80-2700 MHz STLP 9128 E special	EMV-304	☐	Coupling Clamp EM 101	EMV-466
			☐	Decoupling Clamp FTC 101	EMV-467
			☐	Power attenuator 10 dB / 250 Watt	EMV-469/2

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Description: Total view #1

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Appendix 2 Photodocumentation

Description: Total view #2

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Appendix 2 Photodocumentation

Description: Total view #3

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Appendix 2 Photodocumentation

Description: Case opened

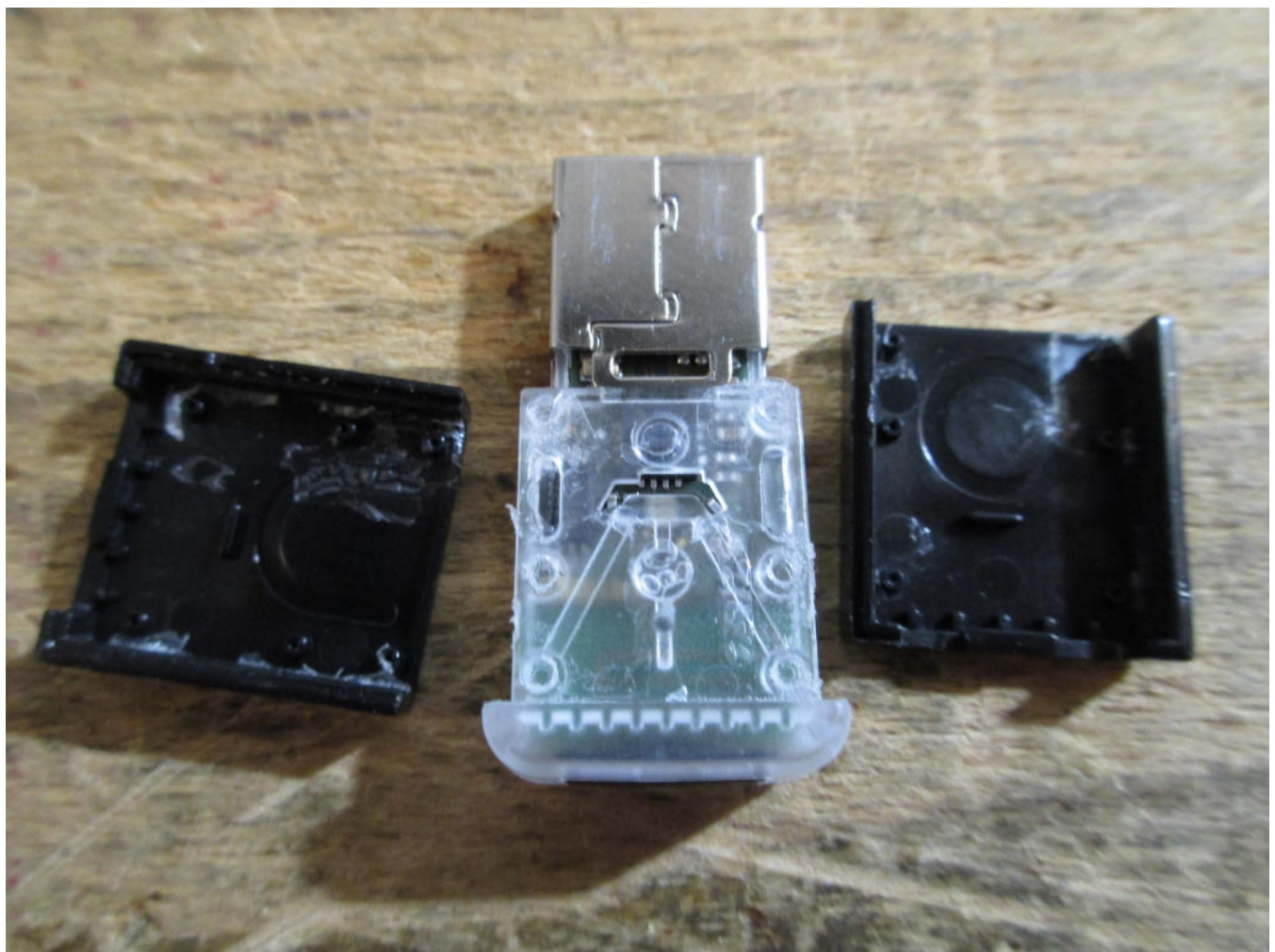
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Appendix 2 Photodocumentation

Description: PCB view #1

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Appendix 2 Photodocumentation

Description: PCB view #2

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