

Federal Communication Commission
Equipment Authorization Division,
Application Processing Branch
7435 Oakland Mills Road
Columbia, MD 21048

Phonak Communications AG

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May 17, 2017

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

Herewith we confirm that the transmitter emissions from the product:

<u>FCC ID Number</u>	<u>Trade Name/Model</u>
<i>KWCR21</i>	<i>Roger 21</i>

is in compliance with the exposure limits for maximum permissible exposure specified in §1.1310, §1.1307(b)(1) and (2), §2.1093(c) of 47 C.F.R. and are categorically excluded from routine RF evaluation. Furthermore, according to section 4.3.1 of the FCC guidance for RF exposure evaluation of mobile and portable devices (KDB publication 447498 D01 General RF exposure guidance) standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or simulation, is not required when the corresponding SAR Exclusion Threshold condition is satisfied. The above mentioned product, which is subject to this Equipment Authorization Filing, is a portable device as defined in §2.1093(b) of 47 CFR, operates in the frequency range 2.402-2.481 GHz with maximum conducted output power 0.02 mW (conducted power measurement results are enclosed as excerpt from Report No: 17-MO-0021.R01 issued by Montena EMC on February 20, 2017). Following the formula in section 4.3.1 (1) for the range 100 MHz to 6 GHz and using the most conservative separation distance of 5 mm we obtain a result of 0.01 which is lower than the 1-g SAR test exclusion threshold. Therefore, the above mentioned product qualifies for SAR test exclusion and in lieu of SAR report we are submitting this statement of justification and compliance.

Should you have further questions, please do not hesitate to contact us.

Sincerely,



Neviana Nikoloski
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8.2 Effective radiated power (conducted)

Introduction: The effective radiated power is the power radiated by the antenna of an interrogator in its direction of maximum gain under specified conditions of measurement.
For EUT's with integral antenna the variations of the conducted power under extreme conditions are measured and expressed relatively to the measurements of the radiated measurement.

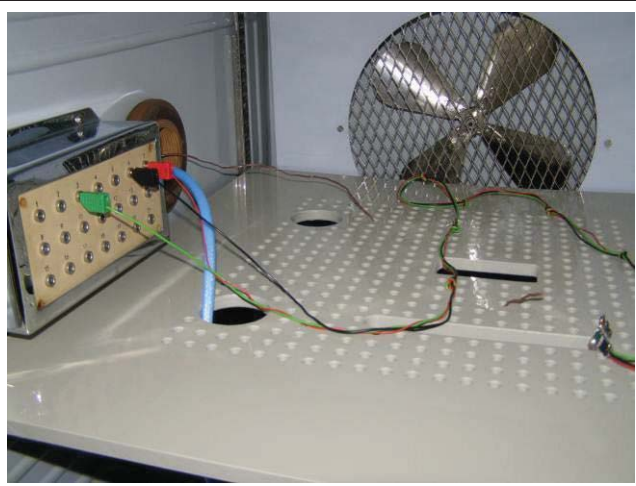
Test site: ☐ semi-anechoic chamber (foam) ☐ open test site
☐ semi-anechoic chamber (ferrites) ☒ laboratory

Meas. uncertainty: 9 kHz – 3 GHz: ± 1 dB
3 GHz – 6.7 GHz: ± 2.1 dB
6.7 GHz – 13.2 GHz: ± 2.6 dB
13.2 GHz – 19 GHz: ± 2.8 dB
19 GHz – 26.5 GHz: ± 3 dB

Test method: Measurement of the conducted power on the antenna connector or a test fixture.

Limit: 10 mW e.i.r.p. (Generic use, 2 400 MHz to 2 483,5 MHz band)

Test set-up:



Remarks: - - -

Test equipment:

Spectrum analyser	<input type="checkbox"/> 88-14	<input checked="" type="checkbox"/> 02-06	<input type="checkbox"/> 03-45	<input type="checkbox"/> 05-39	<input type="checkbox"/> 07-53	<input type="checkbox"/> 10-70	
HF-wattmeter	<input checked="" type="checkbox"/> 95-97	<input type="checkbox"/> 01-15	<input type="checkbox"/> 01-17	<input type="checkbox"/> 03-12	<input type="checkbox"/> 04-96	<input type="checkbox"/> 05-20	<input type="checkbox"/> 05-73
Thermocouple detector	<input checked="" type="checkbox"/> 92-03	<input type="checkbox"/> 05-74	<input type="checkbox"/> 05-88	<input type="checkbox"/> 07-03	<input type="checkbox"/> 09-03	<input type="checkbox"/> 09-04	<input type="checkbox"/> 10-27
	<input type="checkbox"/> 10-28						
Diode detector	<input type="checkbox"/> 99-26	<input type="checkbox"/> 99-27					
Oscilloscope	<input type="checkbox"/> 90-14	<input type="checkbox"/> 93-85	<input type="checkbox"/> 93-86	<input type="checkbox"/> 01-20	<input type="checkbox"/> 04-06	<input type="checkbox"/> 04-50	<input type="checkbox"/> 05-22
	<input type="checkbox"/> 05-28	<input type="checkbox"/> 05-44	<input type="checkbox"/> 06-46	<input type="checkbox"/> 06-64			
Multimeter	<input checked="" type="checkbox"/> 08-17	<input type="checkbox"/> 90-38	<input type="checkbox"/> 92-25	<input type="checkbox"/> 94-51	<input type="checkbox"/> 95-93	<input type="checkbox"/> 02-03	<input type="checkbox"/> 03-22
	<input type="checkbox"/> 04-47	<input type="checkbox"/> 04-104	<input type="checkbox"/> 04-105	<input type="checkbox"/> 06-51	<input type="checkbox"/> 06-52	<input checked="" type="checkbox"/> 05-46	
Power supply	<input type="checkbox"/> 99-04	<input checked="" type="checkbox"/> 99-07	<input checked="" type="checkbox"/> 06-62				
Temperature chamber	<input checked="" type="checkbox"/> 06-66						
Temperature probe	<input type="checkbox"/> 91-11	<input type="checkbox"/> 03-05	<input type="checkbox"/> 05-34	<input checked="" type="checkbox"/> 08-03			
Frequency generator	<input type="checkbox"/> 88-23	<input type="checkbox"/> 00-42	<input type="checkbox"/> 03-39	<input type="checkbox"/> 04-03	<input type="checkbox"/> 04-89	<input type="checkbox"/> 05-78	<input type="checkbox"/> 07-02
Attenuator	<input type="checkbox"/> Weinschel						
Variable transformer	<input type="checkbox"/> 75-04						
Cables	<input type="checkbox"/> 06-00	<input type="checkbox"/> 06-01	<input checked="" type="checkbox"/> 11-45				

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

Results of the test

Client: *Phonak Communications AG*

Equipment: *D Receivers (ML21D)*

Operating mode: *Max. power, special communication test mode, modulated*
T_{on} = 0.184 ms; T = 5.41 ms

Cables connected: *---*

Remarks: *Referenced to the effective radiated power under normal conditions (see § 8.1)*
Measured on temporary antenna connector with power-meter.

f [GHz]	Temp [°C]	U [V]	Duty cycle [%]	Average power [dBm]	P eirp [dBm]	Limit [dBm]	Remarks	Pass	
								Yes	No
2.402	22	1.20	3.40	-16.90	-22.23	10	<i>P eirp value taken from § 8.1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.402	-10	1.00	3.40	-15.99	-21.32	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.402	-10	1.50	3.40	-16.00	-21.33	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.402	60	1.00	3.40	-18.28	-23.61	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.402	60	1.50	3.40	-18.31	-23.64	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.440	22	1.20	3.40	-16.78	-18.47	10	<i>P eirp value taken from § 8.1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.440	-10	1.00	3.40	-15.66	-17.35	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.440	-10	1.50	3.40	-15.69	-17.38	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.440	60	1.00	3.40	-18.15	-19.84	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.440	60	1.50	3.40	-18.13	-19.82	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.480	22	1.20	3.40	-17.00	-22.00	10	<i>P eirp value taken from § 8.1</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.480	-10	1.00	3.40	-15.58	-20.58	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.480	-10	1.50	3.40	-15.59	-20.59	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.480	60	1.00	3.40	-18.16	-23.16	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.480	60	1.50	3.40	-18.21	-23.21	10	<i>---</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Place and date of test: *Rossens, February 8, 2013 & February 1, 2017*

Operator: *B. Itzcovich*