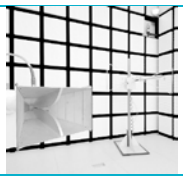
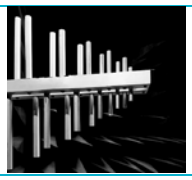
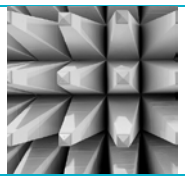

CTC advanced
member of RWTÜV group

Bundesnetzagentur

BNetzA-CAB-02/21-102

DAkkS Deutsche Akkreditierungsstelle D-PL-12076-01-03

Maximum Permissible Exposure (MPE) & Exposure evaluation

Report identification number: 1-1524/20-01-07 MPE (FCC_ISED)

Certification numbers and labeling requirements	
FCC ID	2AU6N-VO8161C
ISED number	25704-VO8161C
HVIN (Hardware Version Identification Number)	VO8161C
PMN (Product Marketing Name)	Vokkero ELITE 915 Wireless Interface
FVIN (Firmware Version Identification Number)	V01-07.00-07.00
HMN (Host Marketing Name)	-/-

This report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

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EUT technologies:

Technologies:	Max. power [dBm]		Antenna gain max.: [dBi] *
	conducted	EIRP	
DTS 900MHz	decl. 14.0 (avg) meas. 13.9 (avg)	decl. 17.5 (avg) meas. 17.4 (avg)	3.5
FHSS 900MHz	decl. 19.0 (avg) meas. 17.7 (avg)	decl. 22.5 (avg) meas. 21.2 (avg)	3.5

)* worst case of all antenna types, channels and modulations (overrated)

NOTE: Measurements where performed with a test mode that uses 13.52% duty cycle and corrected up to 25% duty cycle for matching "real life" hopping configuration.

Prediction of MPE limit at given distance - FCC

Equation from page 18 of OET Bulletin 65, Edition 97-01

$S = PG / 4\pi R^2$

where: S = Power density
P = Power input to the antenna
G = Antenna gain
R = Distance to the center of radiation of the antenna
PG = Output Power including antenna gain

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled "Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure"

Frequency Range (MHz)	Power Density (mW/cm^2)	Averaging Time (minutes)
300 -1500	f/1500	30
1500 - 100000	1.0	30

where f = Frequency (MHz)

Prediction: worst case

	Technologies:	FHSS	
	Frequency (MHz)	900	
PG	Declared max power (EIRP)	22.5	dBm
R	Distance	20	cm
S	MPE limit for uncontrolled exposure	0.6	mW/cm^2
	Calculated Power density:	0.0354	mW/cm^2
	Calculated percentage of Limit:	5.90%	

This prediction demonstrates the following:

The power density levels for FCC at a distance of 20 cm are below the maximum levels allowed by regulations.

Prediction of MPE limit at given distance - ISED

RSS-102, Issue 5, 2.5.2

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2}\ f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

Prediction: worst case

		FHSS	
	Frequency	900	MHz
R	Distance	20	cm
P	Max power input to the antenna	19	dBm
G	Antenna gain	3.5	dBi
PG	Maximum EIRP	22.5	dBm
PG	**Maximum EIRP**	177.8	mW
	Exclusion Limit from above:	1.37	W
	Calculated percentage of Limit:	13.00%	

Conclusion: RF exposure evaluation is not required.