

RF Exposure Evaluation

Product : Transceiver

Model Number : CARF-LCDLR; SLRF-LCDLR

Applicant : **Nutek Corporation**

Address : No.167, Lane 235, Bauchiau Rd., Xindian District,
New Taipei City 23145, Taiwan

Issued By : Interocean EMC Technology Corp.
Interocean EMC Technology Tin-Fu Laboratory

LAB Location : No. 5-2, Lin 1, Tin-Fu, Lin-Kou Dist., New Taipei City,
Taiwan 244, R.O.C.

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Prepared by : Ivan Wang
Ivan Wang

Approved: Jerry Chang
Jerry Chang

1 RF Exposure Evaluation

Portable Device

According to §15.247(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to KDB 447498_D01_V06 4.3.1(a) SAR exclusion thresholds by:
[max. power of channel, including tune-up tolerance, mW]/(min, test separation distances, mm)]* $[\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR.

Maximum measured transmitter power

Frequency Range (MHz)	Continuous transmit power (dBm)	Duty Cycle (dB)	Transmit power (dBm)	Tune-up power tolerance (dB)	Total Maximum power	
					(dBm)	(mW)
909.6	11.71	-7.44	4.27	(±)2	6.27	4.236

$$(4.236/5)*(\sqrt{0.9096})=0.808 \leq 3.0$$

Conclusion:

No SAR is required.

SIMULTANEOUS TRANSMISSION EVALUATION

N/A

Duty Cycle Calculation

Duty cycle factor in dB = $20 \log (\text{duty cycle}) = 20 \log (\text{Ton}/\text{Tp})$

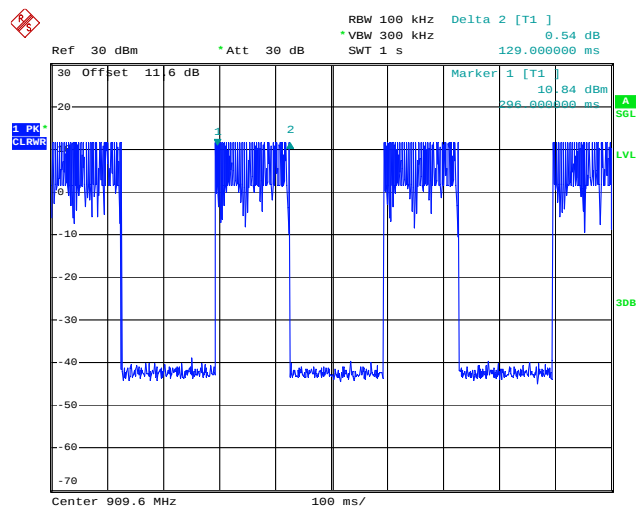
The duration of one cycle = 129.0ms

The transmission time of one cycle = 301.0ms

Duty Cycle = $129.0 \text{ ms} / 304.0 \text{ ms} = 0.42434$

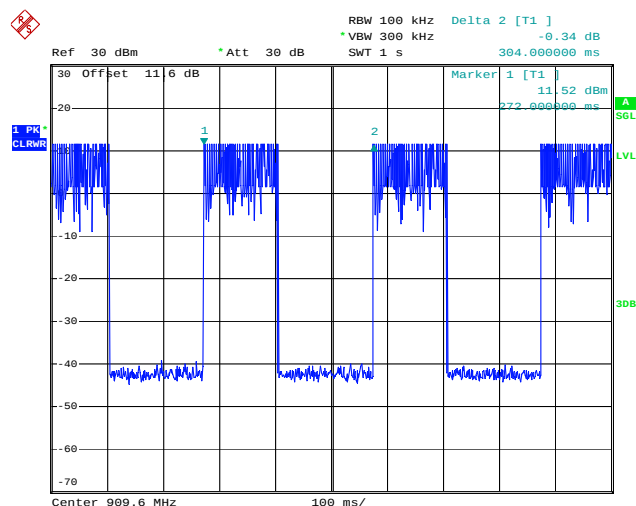
Therefore, the duty cycle factor is found by $20 \log 0.42434 = -7.44 \text{ dB}$

Ton:



Date: 25.MAY.2021 18:57:40

Tp:



Date: 25.MAY.2021 18:54:48