

Web of Science™

1 record(s) printed from Clarivate Web of Science

Record 1 of 1

Title: RTXBEE: Real-time communication module for critical Internet of Things applications

Author(s): Stangaciu, V (Stangaciu, Valentin); Stangaciu, C (Stangaciu, Cristina); Curiac, DI (Curiac, Daniel-Ioan); Micea, MV (Micea, V. Mihai)

Source: PERVASIVE AND MOBILE COMPUTING **Volume:** 115 **Article Number:** 102133 **DOI:** 10.1016/j.pmcj.2025.102133 **Early Access Date:** NOV 2025 **Published Date:** 2026 JAN

Times Cited in Web of Science Core Collection: 0

Total Times Cited: 0

Usage Count (Last 180 days): 2

Usage Count (Since 2013): 2

Cited Reference Count: 56

Abstract: The Internet of Things concept has expanded to a large area of applications evolving to the point of providing even real-time support. Critical applications become increasingly suitable at the Edge Layer where real-time operations need to be supported at both node and network level thus communication becomes crucial. This paper presents a real-time communication solution based on the highly popular XBee modules. We describe a predictable and modular driver for such modules along with a full communication platform ready to be integrated into an IoT design for real-time applications. The proposed communication module has been implemented at prototype level and successfully validated through an extensive set of simulations and experiments.

Accession Number: WOS:001617669600002

Language: English

Document Type: Article

Author Keywords: Real-time communication; Internet of Things; XBEE; Sensor networks

Addresses: [Stangaciu, Valentin; Stangaciu, Cristina; Micea, V. Mihai] Politehn Univ Timisoara, Dept Comp & Informat Technol, 2 Vasile Parvan Blvd, Timis 300006, Romania.

[Curiac, Daniel-Ioan] Politehn Univ Timisoara, Automat & Appl Informat, 2 Vasile Parvan Blvd, Timisoara 300006, Timis, Romania.

Corresponding Address: Stangaciu, V (corresponding author), Politehn Univ Timisoara, Dept Comp & Informat Technol, 2 Vasile Parvan Blvd, Timis 300006, Romania.

E-mail Addresses: valentin.stangaciu@cs.upt.ro

Affiliations: Universitatea Politehnica Timisoara; Universitatea Politehnica Timisoara

Author Identifiers:

Author	Web of Science ResearcherID	ORCID Number
Curiac, Daniel-Ioan	H-1008-2013	0000-0001-6617-073X
Stangaciu, Valentin	AAX-6464-2020	0000-0003-4000-7269
Stangaciu, Cristina	AAX-6452-2020	
Micea, Mihai	B-5581-2011	

Publisher: ELSEVIER

Publisher Address: RADARWEG 29, 1043 NX AMSTERDAM, NETHERLANDS

Web of Science Index: Science Citation Index Expanded (SCI-EXPANDED)

Web of Science Categories: Computer Science, Information Systems; Telecommunications

Research Areas: Computer Science; Telecommunications

IDS Number: 9XX9U

ISSN: 1574-1192

eISSN: 1873-1589

29-char Source Abbrev.: PERVASIVE MOB COMPUT

ISO Source Abbrev.: Pervasive Mob. Comput.

Source Item Page Count: 19

Open Access: hybrid

Output Date: 2026-02-01

End of File

 Clarivate