A Tutorial on NB-IoT Physical Layer Design

IEEE Communications Surveys and Tutorials 22, 2408-2446

DOI: 10.1109/comst.2020.3022751

Citation Report

#	Article	IF	CITATIONS
1	Radio Coverage and Device Capacity Dimensioning Methodologies for IoT LoRaWAN and NB-IoT Deployments in Urban Environments. Future Internet, 2021, 13, 144.	3.8	1
2	A Novel DTX Detection Approach for NB-IoT NPUSCH Format 1 Receiver. , 2021, , .		O
3	Empirical Path Loss Channel Characterization Based on Air-to-Air Ground Reflection Channel Modeling for UAV-Enabled Wireless Communications. Wireless Communications and Mobile Computing, 2021, 2021, 1-10.	1.2	1
4	An Efficient Turbo Decoding and Frequency Domain Turbo Equalization for LTE Based Narrowband Internet of Things (NB-IoT) Systems. Sensors, 2021, 21, 5351.	3.8	5
6	The Art of Designing Remote IoT Devicesâ€"Technologies and Strategies for a Long Battery Life. Sensors, 2021, 21, 913.	3.8	44
7	Predictive Control and Communication Co-Design via Two-Way Gaussian Process Regression and Aol-Aware Scheduling. IEEE Transactions on Communications, 2021, 69, 7077-7093.	7.8	19
8	On Time-Frequency Synchronization in LoRa System: From Analysis to Near-Optimal Algorithm. IEEE Internet of Things Journal, 2022, 9, 10200-10211.	8.7	3
9	Next Generation Auto-Identification and Traceability Technologies for Industry 5.0: A Methodology and Practical Use Case for the Shipbuilding Industry. IEEE Access, 2021, 9, 140700-140730.	4.2	37
10	Balanced-Offset Joint Acquisition of Physical Cell Identity and Radio Frame Number for NB-IoT Communication Systems. IEEE Internet of Things Journal, 2022, 9, 8669-8680.	8.7	2
11	Capacitive Sensors Integrated in SIW Structures – A Proof of Concept. , 2021, , .		1
13	Learning, Computing, and Trustworthiness in Intelligent IoT Environments: Performance-Energy Tradeoffs. IEEE Transactions on Green Communications and Networking, 2022, 6, 629-644.	5 . 5	7
14	NB-loT Preamble Signal: A Survey. , 2021, , .		1
15	NB-IoT for Satellite Communications: Physical Layer Analysis and Performance. , 2021, , .		4
16	Cellular, Wide-Area, and Non-Terrestrial IoT: A Survey on 5G Advances and the Road Toward 6G. IEEE Communications Surveys and Tutorials, 2022, 24, 1117-1174.	39.4	172
17	Phase Noise Resilient Three-Level Continuous-Phase Modulation for DFT-Spread OFDM. IEEE Open Journal of the Communications Society, 2022, 3, 282-300.	6.9	0
18	Toward a Live BBU Container Migration in Wireless Networks. IEEE Open Journal of the Communications Society, 2022, 3, 301-321.	6.9	4
19	Wireless Communication Technologies for IoT in 5G: Vision, Applications, and Challenges. Wireless Communications and Mobile Computing, 2022, 2022, 1-12.	1.2	64
20	Modeling and Experimental Validation for Battery Lifetime Estimation in NB-IoT and LTE-M. IEEE Internet of Things Journal, 2022, 9, 9804-9819.	8.7	13

#	Article	IF	CITATIONS
21	Exploring Tradeoffs between Energy Consumption and Network Performance in Cellular-IoT: a Survey. , $2021, \dots$		3
22	Software-Defined NB-IoT Uplink Framework—The Design, Implementation and Use Cases. Sensors, 2021, 21, 8234.	3.8	3
23	UAV-Aided Data Acquisition Using Gaining-Sharing Knowledge Optimization Algorithm. Computers, Materials and Continua, 2022, 72, 5999-6013.	1.9	1
24	Radio Over Plastic Optical Fiber Transmission for Short-Range Future Networks. , 2022, , .		2
25	Optimizing NB-IoT Communication Patterns for Permanently Connected mMTC Devices. , 2022, , .		6
26	NB-IoT Coverage and Sensor Node Connectivity in DenseÂUrbanÂEnvironments: An Empirical Study. ACM Transactions on Sensor Networks, 2022, 18, 1-36.	3.6	2
27	Secure Transmission and Intelligent Analysis of Demand-Side Data in Smart Grids: A 5G NB-IoT Framework. Frontiers in Energy Research, 2022, 10, .	2.3	5
28	Analysis and optimization of downlink energy in NB-IoT. Sustainable Computing: Informatics and Systems, 2022, 35, 100757.	2.2	1
29	NeuroMessenger: Towards Error Tolerant Distributed Machine Learning Over Edge Networks. , 2022, , .		2
30	Offset-Aware Resource Allocation in NB-IoT Networks. IEEE Internet of Things Journal, 2022, 9, 23967-23980.	8.7	4
31	5G Early Data Transmission (Rel-16): Security Review and Open Issues. IEEE Access, 2022, 10, 93289-93308.	4.2	1
32	QoE-Driven IoT Architecture: A Comprehensive Review on System and Resource Management. IEEE Access, 2022, 10, 84579-84621.	4.2	7
33	NB-IoT latency evaluation with real measurements. , 2022, , .		1
34	NB-IoT: BLER and Throughput Analysis in Downlink Physical Shared Channel. , 2022, , .		0
35	Performance Evaluation of Wi-Fi HaLow, NB-IoT and LoRa for Smart City Applications., 2022,,.		3
36	Case Study of AGV in Industry 4.0 Environments – An Evaluation of Wireless Communication Protocols. , 2022, , .		4
37	A Comprehensive Study on LPWANs With a Focus on the Potential of LoRa/LoRaWAN Systems. IEEE Communications Surveys and Tutorials, 2023, 25, 825-867.	39.4	15
38	Link Budget Analysis for Backscatter-Based Passive IoT. IEEE Access, 2022, 10, 128890-128922.	4.2	15

#	Article	IF	CITATIONS
39	Hardware Acceleration of a Fully Parallel Viterbi Decoder Architecture for Narrow Band IOT. , 2022, , .		0
40	Sensor Deployment and Link Analysis in Satellite IoT Systems for Wildfire Detection. , 2022, , .		2
41	Deep Learning-Based Synchronization for Uplink NB-IoT. , 2022, , .		2
42	IoT solution for smart water distribution networks based on a low-power wireless network, combined at the device-level: A case study. Internet of Things (Netherlands), 2023, 22, 100746.	7.7	5
43	Towards Ultra-Low Power OFDMA Downlink Demodulation. , 2022, , .		0
44	Mission-based PTR triangle for multi-UAV systems flight planning. Ad Hoc Networks, 2023, 142, 103115.	5 . 5	3
45	Coding Techniques for Backscatter Communications—A Contemporary Survey. IEEE Communications Surveys and Tutorials, 2023, 25, 1020-1058.	39.4	12
46	A Sub-mW Cortex-M4 Microcontroller Design for IoT Software-Defined Radios. IEEE Open Journal of Circuits and Systems, 2023, 4, 165-175.	1.9	1
47	Design and FPGA-Based Hardware Implementation of NB-IoT Physical Uplink Shared Channel Transmitter and Physical Downlink Shared Channel Receiver. Electronics (Switzerland), 2023, 12, 1966.	3.1	0
48	DNS for IoT: A Survey. Sensors, 2023, 23, 4473.	3.8	5
49	Performance Analysis of a UAV-based Non-Terrestrial Network (NTN) using NB-IoT., 2023,,.		0
50	Monitoring routing status of UAV networks with NB-IoT. Journal of Supercomputing, 2023, 79, 19064-19094.	3.6	O
51	An Efficient NB-IoT Compatible GF-NOMA PHY Mechanism for mMTC. IEEE Internet of Things Journal, 2023, 10, 17949-17963.	8.7	3
52	Transmission Control in NB-IoT With Model-Based Reinforcement Learning. IEEE Access, 2023, 11, 57991-58005.	4.2	O
53	An Efficient Random Access Reception Algorithm for ToA Estimation in NB-IoT. Electronics (Switzerland), 2023, 12, 2636.	3.1	0
54	Soft-decision detection for phase/frequency modulation with symbol-wise Viterbi decoding. IEICE Communications Express, 2023, , .	0.4	0
55	A Platform Architecture forÂm-Health Internet ofÂThings Applications. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2023, , 168-179.	0.3	1
56	Deep Reinforcement Learning For Connection Density Maximization in NOMA-based NB-IoT Networks. , 2023, , .		1

#	Article	IF	Citations
57	A 5G NB-IoT Infrastructure for Secured Demand-Side Information Transmission and Predictive Analyses in Smarter Grids. , 2023, , .		O
58	Narrowband IoT Network Self Localization. , 2023, , .		0
59	Cellular Internet of Things: Use cases, technologies, and future work. Internet of Things (Netherlands), 2023, 24, 100910.	7.7	3
60	NB-IoT Physical Random Access Channels (NPRACHs) With Intercarrier Interference (ICI) Reduction. IEEE Internet of Things Journal, 2023, , 1-1.	8.7	0
61	The Efficient Cluster Head Selection for NarrowBand Internet of Things. , 2023, , .		0
62	Optimal Physical Shared Channels NB-IOT Design BLER Assessment, for Cellular LTE WAN Network in Smart Healthcare. Wireless Personal Communications, 0, , .	2.7	0
63	Proximity-Based Maritime Internet of Things: A Service-Centric Design. IEEE Access, 2023, 11, 101205-101240.	4.2	0
64	Detecting Targeted Interference in NB-IoT. , 2023, , .		0
65	Fostering new vertical and horizontal IoT applications with intelligence everywhere. , 2023, 2, .		1
66	Coverage Analysis of LoRa and NB-IoT Technologies on LPWAN-Based Agricultural Vehicle Tracking Application. Sensors, 2023, 23, 8859.	3.8	0
67	A Simplistic Downlink Channel Estimation Method for NB-IoT. Applied Sciences (Switzerland), 2023, 13, 12615.	2.5	0
68	Cellular Guardband NB-IoT Performance Over PMMA Plastic Optical Fibers. Journal of Lightwave Technology, 2023, 41, 7302-7308.	4.6	0
69	EP-CuMAC: Energy and performance-efficient integrity protection for narrow-band IoT. Internet of Things (Netherlands), 2024, 25, 101004.	7.7	0
70	Exploiting NB-IoT Network Performance and Capacity for Smart-Metering Use-Cases. , 2023, , .		0
71	A Survey on IoT Security Using Cryptographic Algorithms. E3S Web of Conferences, 2023, 453, 01048.	0.5	0
72	The Impact of Impulsive Traffic on Cellular Internet of Things Network Performance Indicators. Sensors, 2024, 24, 46.	3.8	0
73	Enabling Extremely Energy-Efficient End-to-End Secure Communications for Smart Metering Internet of Things Applications Using Static Context Header Compression. Applied Sciences (Switzerland), 2023, 13, 11921.	2.5	0
74	Link Adaptation Performance in the Narrow Band Internet of Things. Communications in Computer and Information Science, 2024, , 57-68.	0.5	0

CITATION REPORT

#	Article	IF	CITATIONS
75	Detection of explosives in dustbins using deep transfer learning based multiclass classifiers. Applied Intelligence, 2024, 54, 2314-2347.	5.3	0
76	Narrowband IoT. International Journal of Hyperconnectivity and the Internet of Things, 2024, 8, 1-13.	0.5	0
77	TONARI: Reactive Detection of Close Physical Contact Using Unlicensed LPWAN Signals. ACM Transactions on Internet of Things, 2024, 5, 1-30.	4.6	0
78	An optimization NPUSCH uplink scheduling approach for NB-IoT application via the feasible combinations of link adaptation, Resource assignment and energy efficiency. Computer Communications, 2024, 218, 276-293.	5.1	0