MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC KAZAKHSTAN

Non-profit joint-stock company
Gumarbek Daukeev
ALMATY UNIVERSITY OF POWER
ENGINEERING AND TELECOMMUNICATIONS

S.V. Konshin, G.D. Demidova, E.A. Shabelnikov

WIRELESS COMMUNICATIONS TECHNOLOGY

TEXTBOOK
(2ND EDITION)

ALMATY
AUES
2020

UDC 621.396.2(075.8)
LBC 32.88я73
K 72

Reviewers:
Director of the Institute of space technique and technology, academician of th International Academy of communication, d.t.s.
D.Sh. Ahmetov
Associate Professor, IUIT,
G.I.Hasenova
Candidate engineering sciences AUPET
E.G.Satimova
The textbook is recommended for publication by the Academic Council of th Gumarbek Daukeev Almaty University of Power Engineering and Telecommunications (Minutes No. 3 of 17.10.2017).

S.V. Konshin, G.D. Demidova, E.A. Shabelnikov
K 72 Wireless communications technology: Textbook for students (2nd Editio S.V. Konshin, G.D. Demidova, E.A. Shabelnikov. Gumarbek Daukeev Alm University of Power Engineering and Telecommunications, 2020, 158 pp.: Table IL.49, Bibliography. - 39 titles.

ISBN 978-601-7889-62-3

Based on the existing variety of educational and methodological literatu and Internet resources on communication technologies. The presented textbo summarizes, systematizes and presents information about modern wirele technologies taking into account the needs of students in studying speci technologies used in the telecommunications industry in Kazakhstan.

e specialties "Rad
en technology a
tec students of oti
sp

96.2(075.8)
.88я73

ISBN 978-601-7889-62-3

Content

MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC KAZAKHSTAN

Non-profit joint-stock company
«Gumarbek Daukeev Almaty University of Power Engineering and Telecommunications»

S.V. Konshin, G.D. Demidova, E.A. Shabelnikov

WIRELESS COMMUNICATIONS TECHNOLOGY

Textbook
(2nd Edition)

Almaty
AUES
2020

Konshin Sergei Vladimirovich
Demidova Galina Dmitrievna
Shabelnikov Evgeniy Alekseevich

WIRELESS COMMUNICATIONS TECHNOLOGY

Textbook

Editor:

Passed to the set 30.01.2020
Format 60x84 1/16

Paper typographical No. 2
Stud. ed. sheet.- 10.00. Circulation 100_ copies. Order 913
Price 5000 tenge.
Signed in print ___ ___. 2020

26 Konshin S.V. Tehnologii besprovodnoi svyazi: Uchebnoe posobie Almati. AIES. 2006.

27 Garanin M.V., Juravlev V.I., Kunegin S.V. Sistemi i seti peredacl informacii: Uchebnoe posobie dlya vuzov. – M.: Radio i svyaz. 2001.

28 Galkin V.A. Cifrovaya mobilnaya radiosvyaz. –M.: Goryachaya liniya telekom. 2007.

29 Babkov V.Yu., Voznyuk M.A. Seti mobilnoi svyazi. Chastotn territorialnoe planirovanie. –M.: Goryachaya liniya-telekom. 2007.

30 Odinskii A. Perspektivnie tehnologii podvijnoi radiosvyazi Informos №2 (20) 2008.

31 Orlov I.Ya. Perspektivnie metodi zaschiti informacionnih radiosisten ot pomeh. Uchebno- metodicheskii material po programme povisheniya kvalifikaci «Sovremennie sistemi mobilnoi cifrovoi svyazi, problemi pomehozaschischennost i zaschiti informacii». – Nijnii Novgorod: Izd- vo Nijegorodskogo gosuniversiteta 2.

32 Stollings V. Besprovodnie linii svyazi i seti. –M.: Vilms. 2003.

33 Borisov V.I. i dr. Pomehozaschischennost sistem radiosvyazi rasshireniem spektra signalov modulyaciei nesuschei psevdosluchaino posledovatelnostyu. – M.: Radio i svyaz_ 2003.

34 Zakirov Z.G. Sotovaya svyaz standarta GSM. –M.: Ekotrendz. 2004.

35 Materials from site http://www.ixbt.com/comm/wlan.shtml

36 Rusev D. Tehnologii besprovodnogo dostupa: Spravochnik. - SPb. BHV- Peterburg. 2007.

37 Materials from site http://leeet.net/technology_bluetooth.php