




Title:	RADIOCOM@GUT-LMS	  
Responsible person:	Piotr Rajchowski	
Institution:	Gdańsk University of Technology (GUT)	
Short description:	The heterogeneous mobile stand RADIOCOM@GUT-LMS of the Department of Radio Communication Systems and Networks (RADIOCOM) at Gdańsk University of Technology (GUT) includes hardware and software developed nodes and data acquisition server (DAS).	
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Equipment:	Three types of devices were developed: reference node (RN) with dimensions of 130 mm × 35 mm × 31 mm and connected via a wired RS232 interface to the DAS; miniaturized mobile nodes (MN) with dimensions of 58 mm × 16 mm × 35 mm and can be attached i.e. to the human body; computer with dedicated software is used as DAS. Each node consists of two parallel working radio interfaces: narrowband (NB) radio module CC1120 produced by Texas Instruments company, working in the 868 MHz band (UHF); ultra-wideband (UWB) radio module DWM1000 produced by DecaWave company, working in the 6489 MHz band (SHF), used to perform the radio distance measurements and channel impulse response estimation.	
Aims:	The localization measurement stand (LMS) is designed for developing localization systems including algorithms for hybrid localization systems, testing inertial navigation in 3D scenarios, realizing high frequency radio distance measurements in UWB radio interface, measuring movement parameter, testing Off-Body communication in localization systems. The stand is dedicated for operation in harsh and indoor environments.	
Availability:	For the IRACON members the equipment of the RADIOCOM@GUT-LMS can be used for free, but only on site (in Gdańsk, Poland), e.g. under STSM scheme, and only for non-commercial academic purposes. The equipment is not remotely accessible.	
Annex:		

Place in IRACON RESEARCH MATRIX

	EWG-IoT	EWG-LT	EWG-RA
Working group		X	

	Antennas and Propagation	PHY	MAC	NET
eHealth	X	X		
Factory of the Future	X	X		
Connected Cars				
Energy Management				