

UWB Antenna and Propagations for Wireless Endoscopy

Author(s) - Institution(s):

Kamya Yekeh Yazdandoost , NICT

Kenichi Takizawa, NICT

Ryu Miura, NICT

Corresponding author email: yazdandoost@nict.go.jp

Corresponding WG group: TWGB

Abstract:

Visualization of stomach and small intestine, nowadays can be done with wireless capsule endoscopy. However, the limitation of bandwidth at low frequencies such as Industrial, Scientific and Medical (ISM) band and Medical Implant Communication Service (MICS) band do not provide clear images. One of the possible frequency band to have clear images from digestive organs is the use of Ultra Wideband (UWB) at frequency of 3.1-10.6 GHz. To have high resolution wireless endoscopy at higher frame rate, we need to investigate the antenna, path-loss model and radio channel behavior at available higher frequency band such as UWB band. This paper discusses on UWB antennas and propagation for digestive organs implanted device.