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4th International Conference on Electrical, Computer and Communication Engineering : Submission (485) has been created.

1 message

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Mon, Dec 9, 2024 at 2:53 AM

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Hello,

The following submission has been created.

Track Name: ECCE2025

Paper ID: 485

Paper Title: Integration of T-shaped Notch Filter Elements into a UWB Antenna to Reduce EMI of WiMAX/N78 and N79 Bands

Abstract:

This study introduces a dual-band notched UWB antenna featuring T-shaped notch filter elements to effectively suppress the interference caused by WiMAX/N78 (3.37-3.72 GHz) and N79 (4.57-5.05 GHz) bands. The compact antenna, with dimensions of 26×28×0.8 mm³, is modeled on an FR-4 substrate with a dielectric constant of $\epsilon_r = 4.3$, loss tangent $\tan \delta = 0.02$, and a thickness of 0.8 mm. It achieves a wider -10 dB impedance bandwidth (2.97 GHz to 10.76 GHz) with a VSWR < 2, except in the notched bands where the VSWR exceeds 2, confirming effective EMI suppression. The gain varies between 1.99 dBi and 3.05 dBi, with notable reductions in the interfering bands. The design exhibits high radiation efficiency above 80%, peaking at 95% at 3 GHz. These results validate the antenna's suitability for interference-free operation in the WiMAX/N78 and [N79 5G](#) sub 6 GHz spectrum in real-world UWB applications.

Created on: Sun, 08 Dec 2024 20:53:14 GMT

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Primary Subject Area: 2. Communication and Networking - Microwave, Antenna and RF Engineering

Secondary Subject Areas: Not Entered

Submission Files:

ECCE-2025-Dual Band-Notched Antenna.pdf (527 Kb, Sun, 08 Dec 2024 20:52:43 GMT)

Submission Questions Response: Not Entered

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