

HTS Filter Development for 2.5G Application

Kyunglim Lee ^a, Seunguk Jung ^a, Jaeuk Jung ^a, Sunju Lee ^a,
Yunseong Choi ^a, Janggeun Choi ^a, and K. Char ^a

^a *Rftron Inc., Seoul, Korea*

We are developing a HTS-based front end filter subsystem for 2.5 G wireless application. The latest new wireless applications such as video-telephony are expected to make the wireless network increasingly capacity-limited. We will discuss the requirements of the HTS-filter subsystem for the capacity-limited application. The subsystem consists of six 12-pole filters for 3-sectors with cryogenic low noise amplifiers. We will describe the core technologies necessary to build the subsystem that satisfies the requirements for this application. These include design capability, wafer and device fabrication, rf tuning and matching capability, packaging technique, vacuum technique, cooler technology, and so on. We have experienced the gap between the core technologies and the capability to make prototype subsystems. The gap has been generated mainly by equipment-related and human resource-related problems. We will discuss how we have overcome the gap and the first data of a complete subsystem will be presented. The future need of the fledgling industry, mainly in research and human resource, will be described.

Keywords : HTS filter, wireless application, low noise amplifier, filter subsystem