

To: The NTIA

Notice of Inquiry

Comments of IEEE 802, Local and Metropolitan Standards Committee

Summary of comments

The NTIA must review and re-evaluate the validity of the proposed plan to reallocate the 2402-2417 MHz band called out in the "Preliminary Spectrum Reallocation Report" 94-27. The intent of Title VI of the Omnibus Budget Reconciliation Act of 1993 is to make available 200 MHz for new and emerging wireless technologies and services for non federal use only. The proposed reallocation for the 2402-2417 MHz band does not meet the intent of the congressional mandate because the band is already used for wireless technologies under FCC part 15 and because the band requires special measures for prevention of interference from equipment intended for ISM applications.

Introduction of IEEE 802

The Institute of Electrical and Electronics Engineers, Inc. (IEEE) is a USA based international professional organization with more than 300,000 members representing a broad segment of the computer and communications industries. IEEE 802 is chartered by the IEEE to produce standards for Local, Metropolitan and Integrated Voice/Digital communications networks. These standards provide for data transfer between computers and/or computer terminals at data rates of 1 to 20 Mbit/s on wire, optical and radio media.

To date, IEEE 802 has developed several widely recognised standards. Many of these have been forwarded to the International Organization for Standardisation (ISO) and have been accepted subsequently as International Standards.

IEEE 802 now has work underway to prepare a Local Area Network standard for data communication over a radio medium. To date our efforts have focused on the frequency band of 2400 - 2483.5 MHz because it is the only spectrum widely available across the globe with reasonably consistent regulation. As the work of IEEE 802 progressed, it has become evident that there will be substantial benefit to American industry from the allocation of other separate and wider frequency spectrum for wireless local area data networks. The Committee is therefore considering the use of these newest emerging technologies allocation now pending via control of the FCC co-ordination.

The Committee is already using the band for wireless technology

As stated in the NTIA report, the 2402-2417 MHz band is part of the band 2400-2483.5 MHz, that is designated for use of Industrial, Scientific and Medical applications and other unlicensed applications per FCC part 15.247 and 15.249. The committee has observed that major or all portions of the band 2400-2483.5 MHz are available in most countries around the globe for application of data communications among computers. It is therefore developing its first standard for wireless data communications between computers with radio devices to operate in this band, in order to allow for world-wide compatibility of wireless network devices. The committee is concerned that the intended use of this part of the 200 MHz spectrum freed for non-governmental use would form a threat to the current and millions of future users of this

band, because devices built according to committee's standard, would be an interferer to the users. Billions of dollars and thousands of jobs are at stake in this matter.

The committee could not use this band for future extension of its standard to satisfy emerging technologies

Operation in this band has the disadvantage that the radio devices have to use spread spectrum to cope with the many interferers present in this band. The data transfer rates that the committee can specify in this band is therefore limited to the lower regions of its charter. The committee is also looking for extensions to its first standard to operate at higher data rates. It has to conclude that use of the subject 15 MHz of spectrum intended for this extension impossible because 1) it would interfere with its own devices and 2) it could not efficiently use this spectrum.

The committee urges the NTIA therefore to consider removing the Part 15 overlapping 15 MHz from the 200 MHz reallocation and replace it with another band that does not conflict with existing ISM allocations.