

ORIGINAL

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of )  
)  
Amendment of Section 15.225 of the )  
Commission's Rules to Facilitate ) RM-9375  
the Operation of Short-Range Devices )  
in the 13.56 ± 0.007 MHz Band )

RECEIVED  
NOV 13 1998  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554

STATEMENT OF SUPPORT FROM MOTOROLA

Motorola hereby submits this Statement of Support in response to the Petition for Rule Making filed by the National Council for Information Technology Standardization Technical Committee B10 ("NCITS B10") concerning the use of 13.56 ± 0.007 MHz for short-range RF identification devices.<sup>1</sup> Motorola supports the changes proposed therein to bring the US rules into conformity with those developed by the European Telecommunications Standardization Institute ("ETSI"), and other organizations around the world. These changes, which are based on valid technological reasoning, will improve the global competitiveness of US manufacturers while ensuring that other existing users of the spectrum continue to receive adequate interference protection.

Technological advancements allowing for cost-effective solutions are fueling explosive growth in the radio frequency identification system ("RFID") industry. These devices are used in many applications in the transportation, manufacturing, retail sales, and access security industries. Examples include "contactless smartcards" used as

<sup>1</sup> Public Notice, Report No. 2301, released October 14, 1998.

No. of Copies rec'd ct5  
List A B C D E

electronic money which have the potential to impact virtually every consumer financial transaction. Other applications include airline baggage tags, electronic ticketing for international travel, electronic travel documents (passports, visas), and parcel tracking. In 1996, the RFID industry was estimated at \$272 million worldwide.<sup>2</sup> Market projections for the year 2002 predict a \$4 billion industry with smartcard applications accounting for more than 70% of this total. Given the standards development for smartcards (ISO 14443) and other RFID technologies (i.e., ISO 15693) a significant portion of this growth is expected to occur in the 13.56 MHz frequency band.

Conforming the US technical standards with those developed in other global regions will help facilitate this growth. Clearly, many of the applications for RFID devices are aided if the user can roam into other countries or regions of the world and continue to expect the device to operate. In addition, the expanded marketplace opportunities will entice more manufacturers to develop products and will allow US manufactured products to be competitive in other regions (and vice versa). Thus, consumers around the world will be able to make buying decisions in a more competitive marketplace, which will lead to lower prices and better equipment.

As explained in the petition for rule making, the most problematic part of the FCC's existing rules is that Section 15.205 allows only spurious emissions in the band from 13.36-13.41 MHz. Noting that the rule is intended to protect the existing users of that band, primarily the radio astronomy community, it is the precise definition of the term "spurious emissions" which causes the problem. Spurious emissions are more

---

<sup>2</sup> Frost and Sullivan.

commonly used in conjunction with licensed, channelized systems with well-defined modulation characteristics. Applying the concept to these devices causes difficulties for the manufacturers of RFID devices for the following reasons.

In the existing rules for licensed mobile services, there is typically no distinction between spurious emissions and out-of-band emissions. In fact, there is no reason to make such a distinction since it is not relevant to the service receiving the interference.<sup>3</sup> The only true relevant factor is the ratio of the desired signal to the sum of the interfering signals. Forcing the distinction between spurious and out-of-band emissions serves no practical purpose, but does confuse the situation for manufacturers of RFID devices. In contrast, the draft standard recently proposed by ETSI for short-range devices does not make this distinction but, rather, requires only that the radiated emissions satisfy an emissions mask. Motorola believes that to be the most straightforward method of protecting other operations.<sup>4</sup>

Motorola also supports the proposed increase in the field strength values in the  $13.56 \pm 0.007$  MHz band and the spectrum immediately adjacent to it. In conjunction

---

<sup>3</sup> In this sense, interfering energy is interfering energy regardless of whether it is generated by a spur or a nearby out-of-band emission.

<sup>4</sup> Motorola notes that in the FCC's recent decisions applicable to the 700 MHz public safety land mobile allocation, the FCC adopted the use of the adjacent channel coupled power (ACCP) ratio in lieu of an emissions mask to control out-of-band emissions. This action was taken at the request of Motorola. *See* WT Docket No. 96-86, First Report and Order and Further Notice of Proposed Rule Making, released September 29, 1998. The FCC subsequently adopted a Notice of Proposed Rule Making in WT Docket No. 98-182 (released October 20, 1998) seeking comment on whether the ACCP methodology should be employed in other Part 90 services. As a firm supporter of ACCP techniques, Motorola would be willing to discuss with FCC staff whether this approach is relevant for controlling out-of-band emissions of unlicensed RFID devices.

with the use of the proposed mask, these proposals will ensure adequate protection to other spectrum users while benefiting the users and manufacturers of RFID technology. As pointed out in the petition, the proposed changes are consistent with current FCC rules for permissible emissions by ISM devices, which are the primary users in the 13.56 +/- 0.007 MHz band. Finally, the appendix to the petition takes great care to demonstrate that RFID devices will not interfere with, or receive substantial interference from, other spectrum users in this or related bands and Motorola supports the conclusions provided therein.

Motorola is committed to participating in the RFID industry and fully supports the removal of any barriers which may impede its growth. The proposals in the instant petition are well crafted to support US consumers and the US RFID industry without disadvantaging other US spectrum users.

Respectfully,

Motorola, Inc.

By Richard C Barth  
Richard C. Barth  
Vice President and Director,  
Telecommunications Strategy and Regulation  
1350 I Street, N.W.  
Washington, D.C. 20005  
202-371-6959  
202-842-3578 (fax)

By Leigh Chirantz  
Leigh Chirantz  
Manager,  
Telecommunications Strategy and Spectrum  
1350 I Street, N.W.  
Washington, D.C. 20005  
202-371-6940  
202-842-3578 (fax)

November 11, 1998