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June 24, 1999

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JUN 24 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
The Portals, TW-A325
445 12th Street, S.W.
Washington, DC 20554

Re: Ex Parte Notification - RM-9375

Dear Ms. Salas:

On June 23, 1999, Alain Berthon, Rick Heimann, and Randy Roebuck of Texas Instruments and I met with Karen Rackley, John Reed, Fred Thomas and Rodney Conway of the Office of Engineering and Technology to discuss the above-referenced petition for rule making, which seeks changes in Section 15.225 of the Commission's Rules. We noted that the goal of the petition was to achieve a large measure of international compatibility in the operation of radio frequency identification devices centered at 13.56 MHz. In this regard, we discussed the development of a common air interface for certain RF ID operations.

We also discussed possible modifications to the emissions mask sought in the petition for rule making, including the concept of specifying that all emissions outside of 13.56 MHz +/- 150 kHz be reduced to 29.5 dB uV/m at 30 meters. We expressed the view that while some modification of the proposal to reduce emissions well outside of the region near 13.56 MHz would be feasible, reducing the level to 29.5 dB uV/m outside of 13.56 MHz +/- 150 kHz would severely degrade the performance of radio frequency tags to the extent that operation in the United States would be impractical for many applications. To this end, we showed spectrum graphs depicting operations under various masks. Copies of the presentations are attached. In

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summary, we explained that if the requested emissions mask were to be scaled back, it would be better to reduce emissions to 29.5 dB uV/m outside of 13.56 MHz +/- 450 kHz for this would at least allow for the needed compatibility with emissions levels internationally, even though such an emissions mask would not provide for levels as high as those allowed for short range devices in other countries.

Please contact me regarding any questions concerning this matter.

Respectfully,

David E. Hilliard

David E. Hilliard
Counsel for Texas Instruments

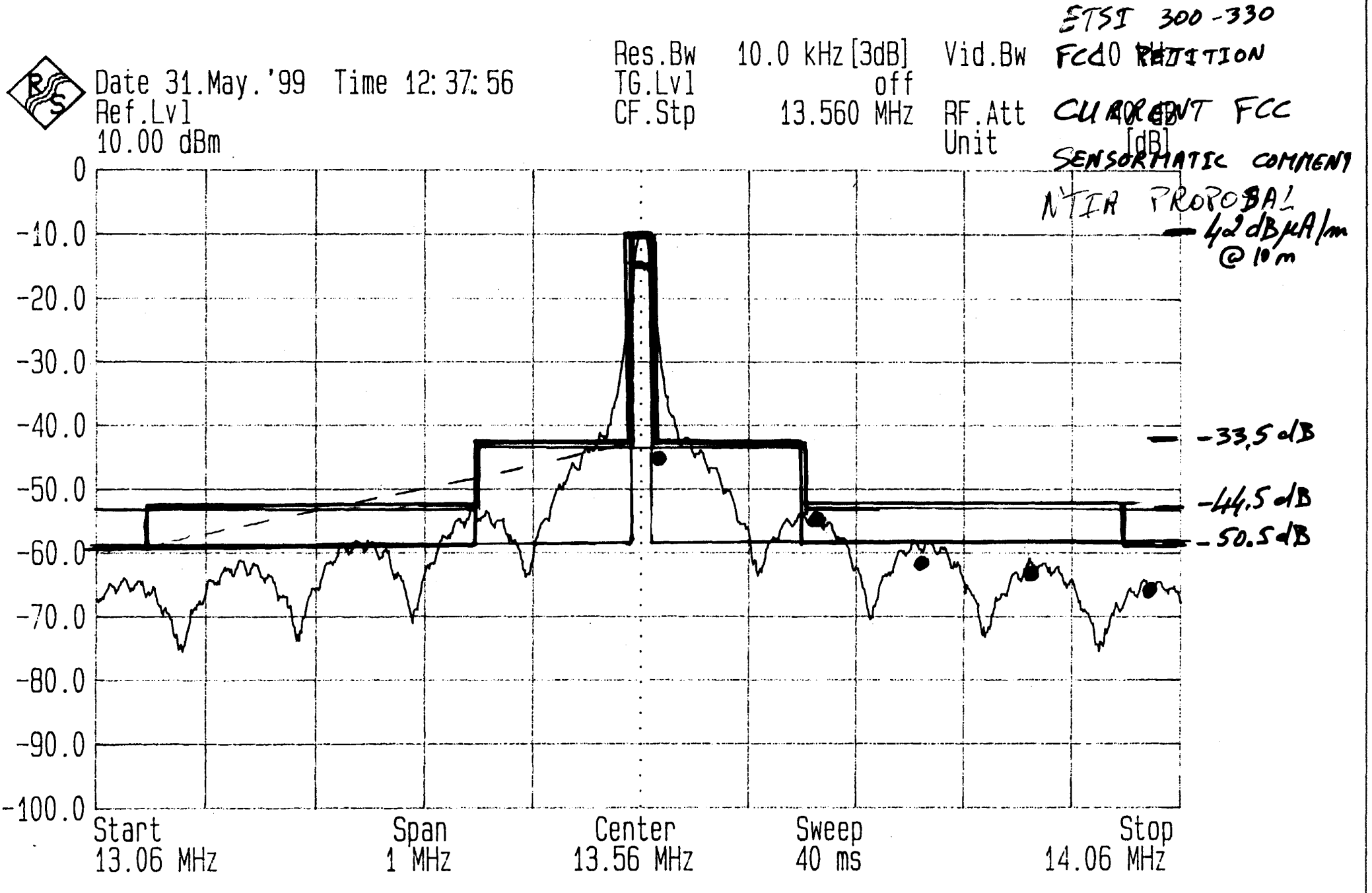
Enclosures
cc: Ms. Rackley, Messrs. Reed, Thomas, and Conway (w/encl.)

ISO/IEC 15693 - Status

- Developed in SC17/WG8/TF3 (Vicinity Cards)
- Initial proposal made jointly by Texas Instruments and Philips
  - Based on optimization of Tag-it and i-code products
- FCD 15693-2 (air interface) with 95% positive votes (except USA)
  - USA (NCITS B10.5) voted YES for FDIS
- WD 15693-3 (protocol & anti-collision) reaches an excellent consensus
- Submitted to SC31 for Item Management : "**Smart labels**"
  - Formal agreement between SC17 and SC31 to collaborate
- THE "opener" to market deployment of RFID at 13.56MHz (R/W)
- Supported by several other S/C and tag-card manufacturers
- ADOPTED BY IATA AIRPORT SERVICES CONFERENCE (ASC)
- FAA TRIALS ON-GOING (PPBM - SECURITY)

ISO/IEC 15693 - Technology

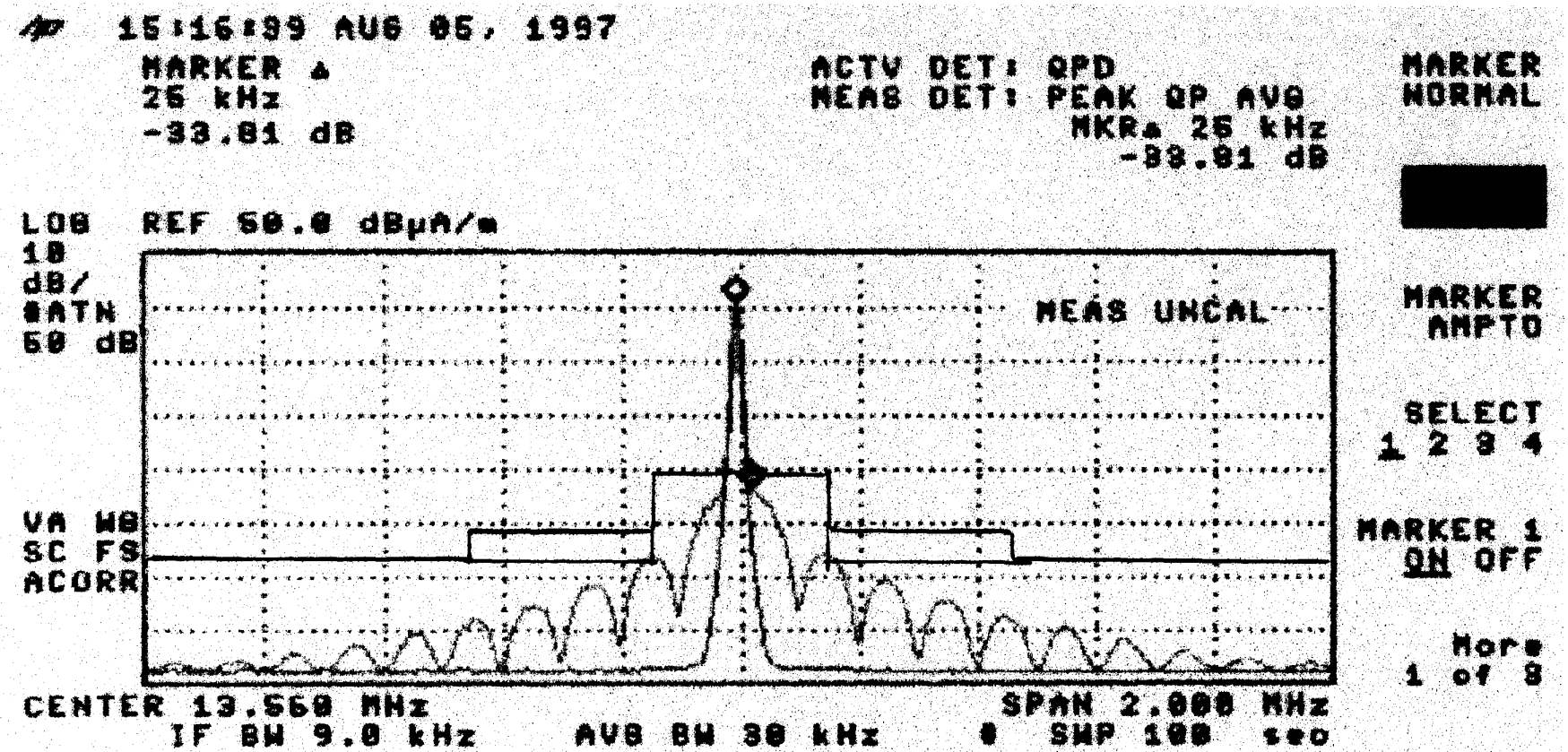
- Bi-directional communication (required for R/W and security)
- Reader-Talk-First (no RF pollution)
- Two bit-coding modes (Reader to Card/Tag)
  - 1 out of 4 : complies with EN 300 330
    - data rate : **<u>26.5KBps</u>**
    - **<u>Full duty cycle</u>**
  - 1 out of 256: meets FCC Part 15 constraints
    - data rate : **<u>1.6 KBps !</u>**
    - **<u>Reduced duty cycle required</u>** → 0.56 KBps !
      (1/3)



TI MEASUREMENTS
ISO/IEC FCD 15693-2

FULL DUTY CYCLE
26.5 KBPS
ASK 10% 1 OUT OF 4

● SWARZBECK EMI RECEIVER
QUASI PEAK (CISPR 16)



PHILIPS MEASUREMENTS
ISO/IEC FCD 15693-2

ASK 10% 1 out of 4 26.5 KBps

REDUCED DUTY CYCLE: 16 BYTES EVERY 40 ms → 2.850 KBps EFFECTIVE