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93-235

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VIA FEDERAL EXPRESS

December 22, 1993

Office of the Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, DC 20554

Re: REPLY COMMENTS OF ZENITH ELECTRONICS TO AMENDMENT OF PARTS 15 AND 90 OF THE COMMISSION'S RULES TO PROVIDE ADDITIONAL FREQUENCIES FOR CORDLESS TELEPHONES

Dear Mr. Secretary:

Enclosed please find an original and nine copies of the Reply Comments of Zenith Electronics Corporation on the above-captioned matter.

Sincerely,

Stephen K. Weber

SKW/ds
enclosure

No. of Copies rec'd 0+10
List A B C D E

Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, DC 20554

In the Matter of

Amendment of Parts 15 and 90 of the Commission's Rule to Provide Additional Frequencies for Cordless Telephones	))))	ET Docket No. 93-235

REPLY COMMENTS OF ZENITH ELECTRONICS CORPORATION

Zenith certainly recognizes the growing popularity of cordless telephones. However, Zenith must reiterate that an assignment for cordless telephones directly in the middle of the picture information area of television IF presents a high potential for interference with television reception on all channels, most particularly in multi-family housing environments or in narrowly-separated single family (or rowhouse) housing often found in urban areas. Multi-family or attached single family units make up about 35 percent of all residential housing in the country (or about 35 million households), according to recent Census Bureau Reports.

In an apartment or condominium complex, it is quite plausible to expect that a cordless phone base unit placed at the separating wall of one living unit (e.g., on a bedroom lamp table) could well be located within

2-3 feet of a television receiver in the immediately adjoining unit; it could also be within approximately 8-9 feet from televisions also placed against common or contiguous unit-separating walls in as many as ten other units in the same building. While the proposed field strength limit in Part 15 is stated at a 3-meter measurement distance, it must be kept in mind that the higher sensitivity of receivers at the new frequencies is likely to result in interference at greater separation distances than three meters.

If apartments were also to have a cordless phone base unit at the same wall, television reception in all of the units could be, during all available waking hours, subject to virtually constant interference. In any event, the television user experiencing periodic interference caused by a cordless phone will only be able to locate the source of the interference by knocking on a number of doors, and even then isolation of all the sources may be difficult.

As indicated in our initial Comment, Zenith has made representative model measurements and found that interference to TV reception is far more likely in the proposed frequencies (by a factor of 10 to 100 times) compared to the existing frequencies for such devices. (See Attachments I, II and III) We believe these measurements are representative of receiver (and VCR) models from most manufacturers.

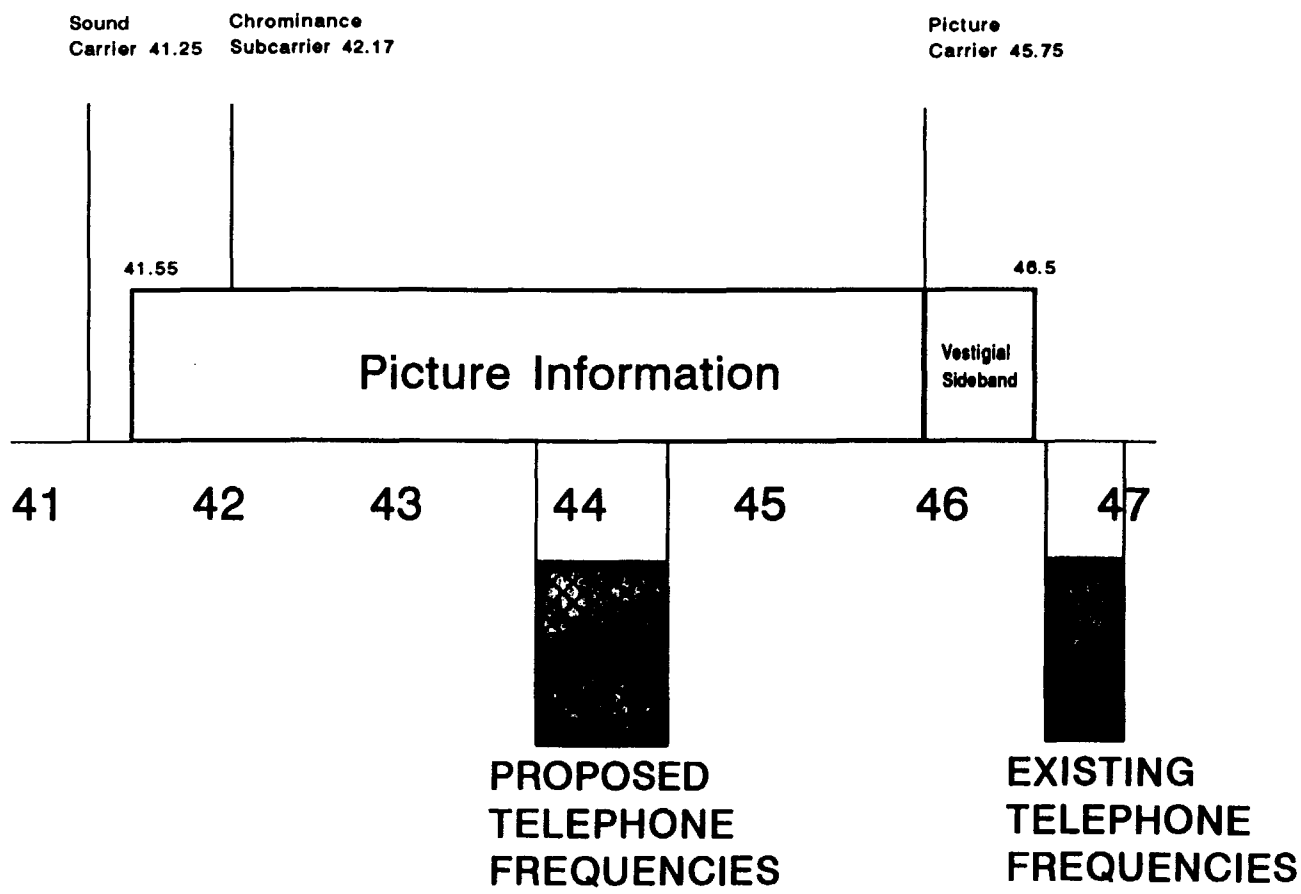
We also believe it is crucial not to overlook the focus on an IF interface for television equipment in the Cable-Consumer Electronics compatibility matter (ET Docket No. 93-7). Such an interface is proposed for future product designated as "cable ready" in the current Notice of Proposed Rulemaking in that proceeding, with substantial support in both the consumer electronics and cable industries. Unfortunately, products equipped with an IF interface to solve cable compatibility problems will present an additional concern with respect to potential IF interference if this allocation is granted.

Moreover, we do not believe these problems can be avoided by instructions. While the kinds of instructions proposed by the EIA/CEG and Thomson may to some degree help cordless phone users avoid interference with their own TV receivers, they do not address the multi-family environment. Moreover, given the possibility of interference by a single phone with a number of receivers in different living units, we do not believe <u>any</u> instructions could be crafted to eliminate such concerns.

Respectfully submitted,

Stephen Sigman
VP Consumer Affairs
Zenith Electronics Corporation
1000 Milwaukee Avenue
Glenview, IL 60025
December 22, 1993

ATTACHMENT I

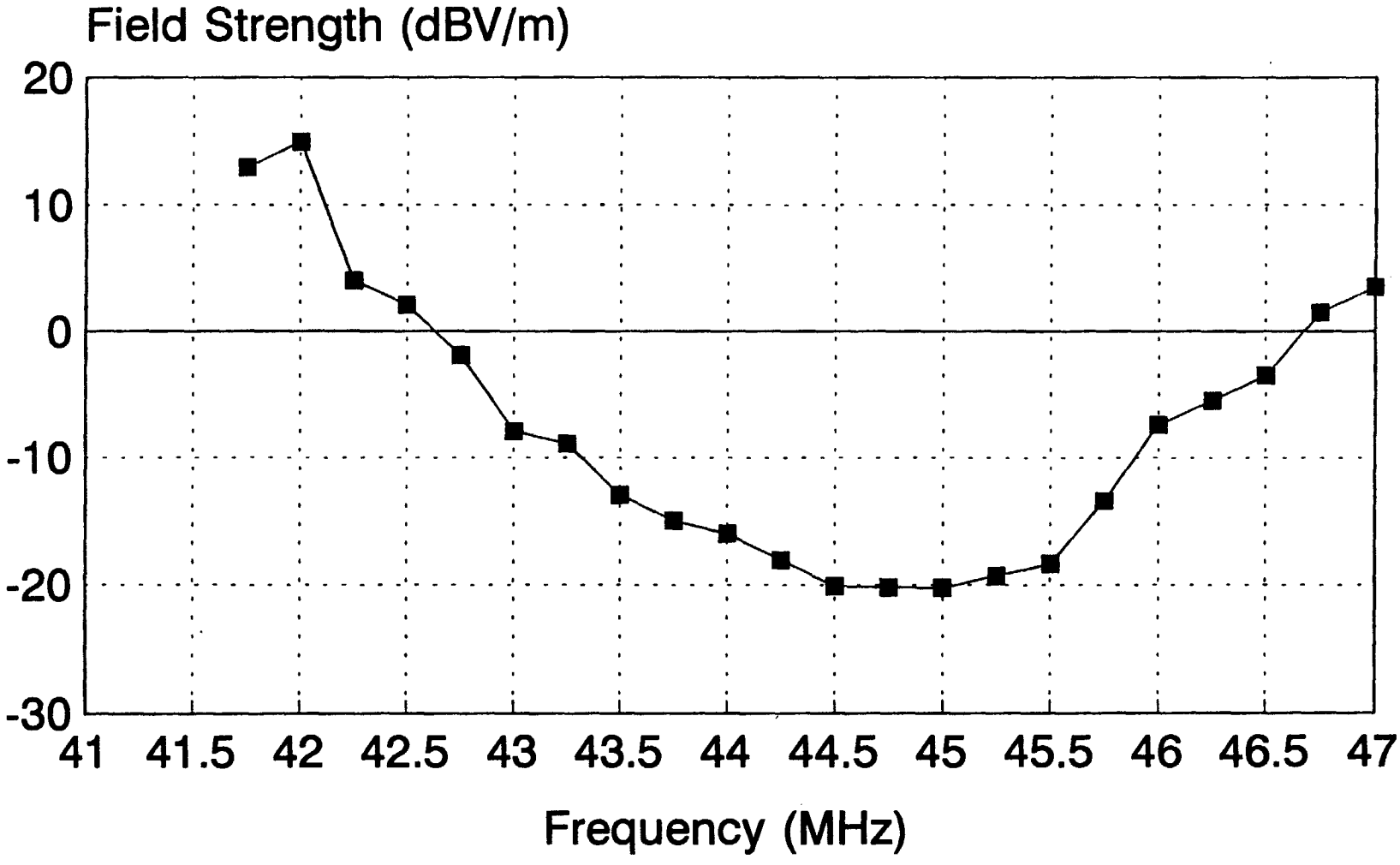


ATTACHMENT II

IF IMMUNITY TO AN EXTERNAL FIELD

REPRESENTATIVE MODEL IN A TEM CELL, 10 KHZ FM CARRIER

Monoscope pattern on channel 2



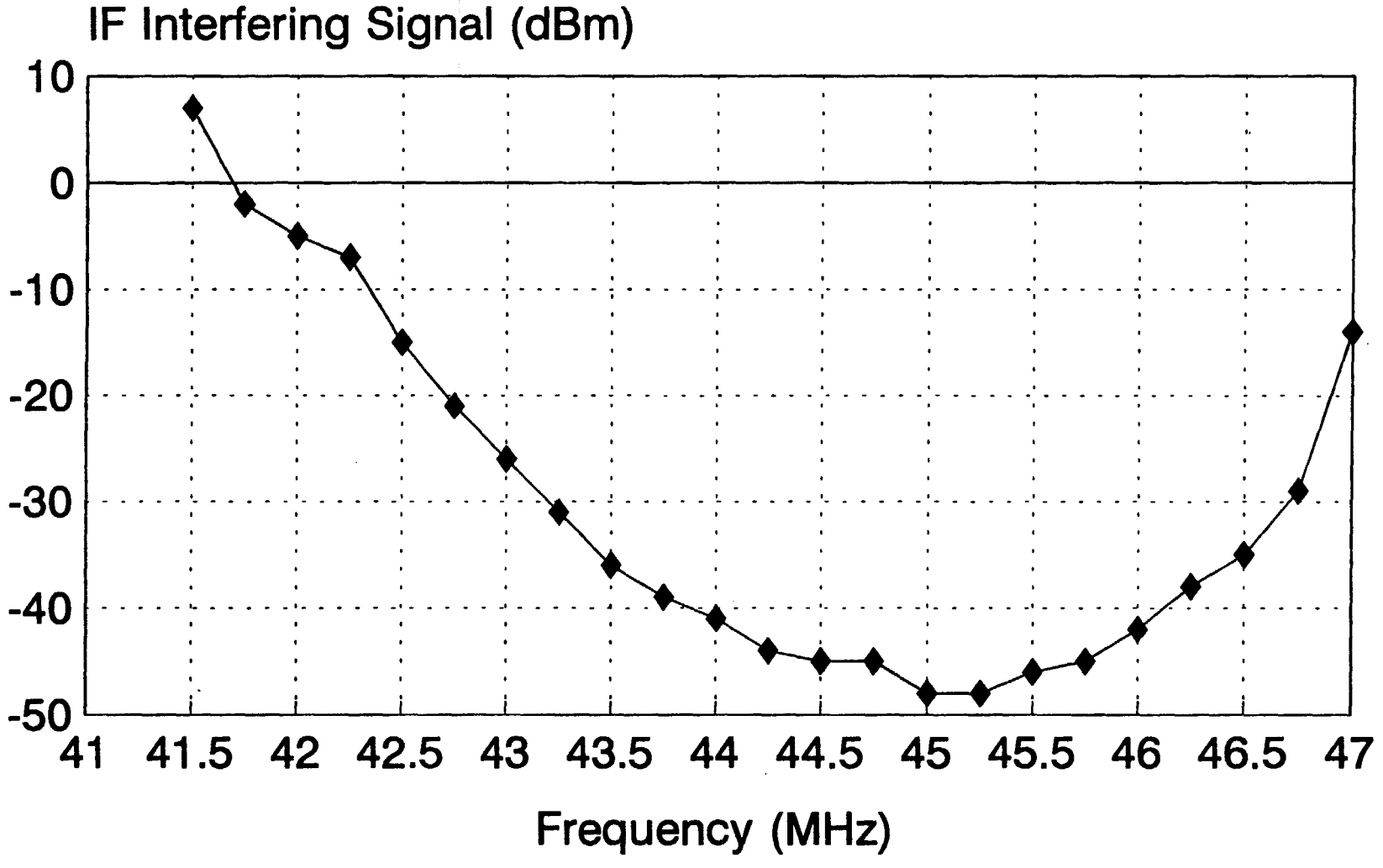
D. Utt 10/26/93 IFTEL1.CH3

ATTACHMENT III

IF IMMUNITY TO AN INTERFERING ANTENNA SIGNAL

REPRESENTATIVE MODEL ANTENNA CONDUCTED, 10 KHZ FM CARRIER

Monoscope pattern on channel 2 (300 uV input)



D. Utt 10/27/93 IFTEL2.CH3

NOTE: -26 dBm corresponds with the proposed FCC limit at three meters distance.