## Microwave Faraday Effect and Propagation in a Circular Solid-State Plasma Waveguide[1]

On page 663 it is stated, in reference to (14), that in general $k_T^2$ is a complex quantity. It is also stated that, since the imaginary part of $k_T^2$ is very small, the dissipation term that is due to the imaginary part of $k_T$ is treated as a perturbation.

It has been pointed out to us by Dr. Fred E. Gardiol, Electronics Research Laboratories, Louvain University, Belgium, that $k_T^2$ is constrained to pure real values by the perfect conductor wall assumption, viz., assumption 5), and the choice made on $k_T$ to be real value is not an approximation but an exact consequence of the boundary condition. Under this condition, the relationship given by (14) can always be met by letting $k$ be complex.

The authors wish to express their appreciation to Dr. Gardiol.

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[1] H. J. Kuno and W. D. Hershberger, *IEEE Trans. Microwave Theory and Techniques*, vol. MTT-15, pp. 661-668, December 1967.

TABLE I

MINIMUM STOPBAND ATTENUATION ($A_s$) FOR NORMALIZED ($\Omega_{3dB}=1$) DIGITAL ELLIPTIC PSEUDO-COMPLEMENTARY FILTER PAIRS $n=4, 6, 8, 10, 12$ BRANCHES
PROTOTYPE PASSBAND RIPPLE = 1.00 dB (0.06 dB TRANSMISSION RIPPLE)

| $k$ | $\eta=4$ Branches Table I | $\eta=6$ Branches Table II | $\eta=8$ Branches Tables III and IV(P) | $\eta=10$ Branches Tables V and VI(P) | $\eta=12$ Branches Tables VII and VIII(P) |
|---|---|---|---|---|---|
| $k<0.80$ | Values Listed in Original Tables[1] are Correct to Within 1 dB | | | | |
| 0.80 | 25 dB | 50 dB | 75 dB | 100 dB | 124 dB |
| 0.82 | — | — | 72 dB | 46 dB | 119 dB |
| 0 84 | — | — | 69 dB | 92 dB | 115 dB |
| 0.85 | 21 dB | 45 dB | — | — | — |
| 0.86 | — | — | 66 dB | 88 dB | 110 dB |
| 0.88 | — | — | 62 dB | 84 dB | 105 dB |
| 0.90 | — | 38 dB | 59 dB | 79 dB | 99 dB |
| 0.92 | — | — | 55 dB | 74 dB | 93 dB |
| 0.94 | — | — | 50 dB | 68 dB | 86 dB |
| 0.96 | — | — | 45 dB | 61 dB | 78 dB |
| 0.98 | — | — | 37 dB | 52 dB | 66 dB |

## Wideband, High-Selectivity Diplexers Utilizing Digital-Elliptic Filters[1]

The author wishes to thank Dr. E. M. T. Jones of Technology for Communications International for pointing out a discrepancy between the minimum stopband attenuation values ($A_s$ dB) listed in the element value tables and those obtained by direct analysis for high values of the selectivity parameter $k$. The minimum stopband attenuation values ($A_s$ dB) have been recomputed and the correct values (to within 1 dB) are listed in Table I above.

The errors in the original tables are small for $k<0.90$, but become substantial as $k$ approaches unity. The element values and maximum input standing-wave ratio ($VSWR_M$) are correct as given, and have been verified by direct analysis of each complete diplexer network.

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[1] R. J. Wenzel, *IEEE Trans. Microwave Theory and Techniques*, vol. MTT-15, pp. 669-680, December 1967.