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Development of Multi-Frequency (105-140) GHz Gyrotron ALEXANDER LITVAK, GRIGORIY DENISOV, Institute of Applied Physics, Russian Academy of Sciences, Nizhny Novgorod, Russia, VADIM MYASNIKOV, VADIM NECHIPORENKO, EVGENII TAI, VLADIMIR ZAPEVALOV, GYCOM Ltd., Nizhny Novgorod, Russia — The paper presents last time achievement in the development of a step tunable multi-frequency gyrotron with a megawatt power level. The mock-up of such gyrotron with a new principle broadband electrodynamics system containing Brewster output window was successfully tested. In the frequency range (100-150) GHz the generation of power exceeding 1 MW was demonstrated at 6 frequencies with a very low (about 2%) internal diffraction losses. On the basis of this result industrial gyrotron with a CVD diamond output window was constructed for 10 sec operation. The full time tests are planned for September 2007.

Alexander Litvak
Institute of Applied Physics, Russian Academy of Sciences,
Nizhny Novgorod, Russia

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