

P-3

Compact Microwave Energy Transmitter

[COMET]

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IHI Aerospace has developed “Compact Microwave Energy Transmitter” with Kyoto University (RASC) for Space Solar Power Satellite/Station (SSPS) and Power Transmission system on the ground.

This transmitter is small, light, and high efficiency.

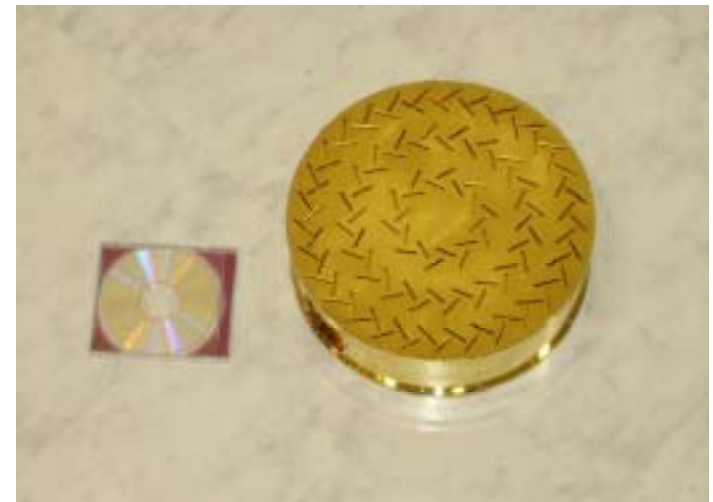


Feature

/ Small size : 310 × 99mm

/ Light weight : 7.1 kg

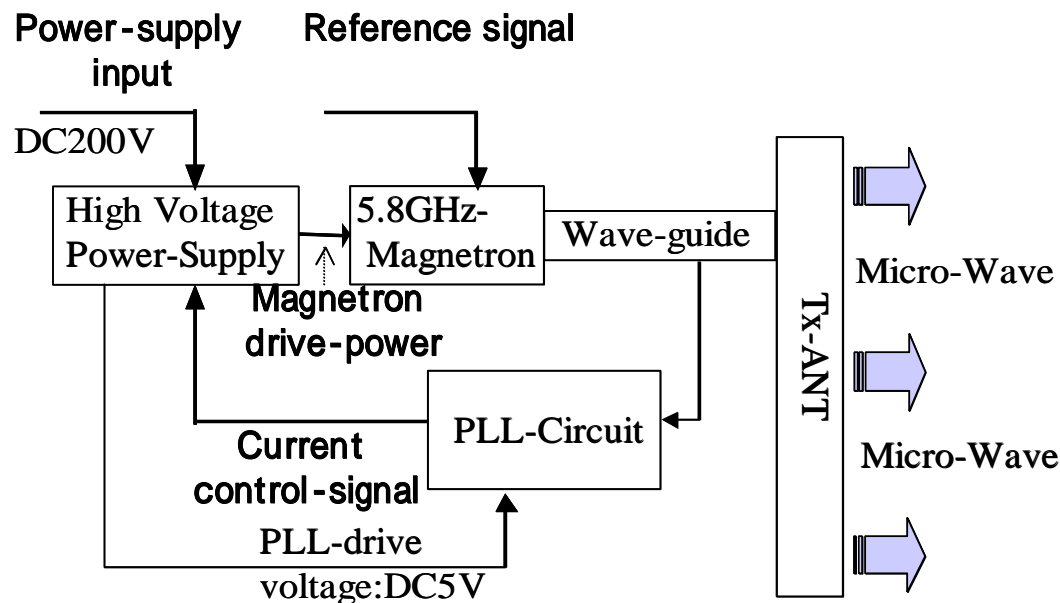
/ High efficiency : 25g/W



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This Transmitter uses “Magnetron” to output high power , and has built-in “Phase-Locked Loop function” for stabilization of transmission frequency and phase.

Moreover, with injection locking function, this transmitter can be more stabilized.



Block diagram

· Technology

⟨Very-thin structure⟩

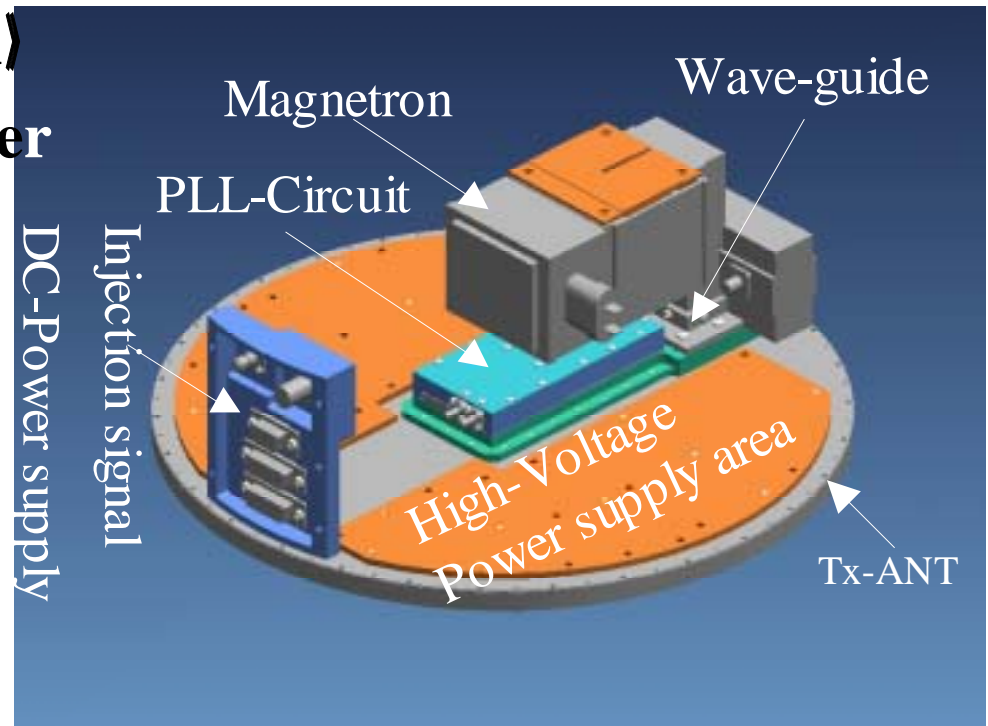
/ Crossed-Slot connection Loss 0.1dB)

/ Thin RLSA (thickness 7mm)

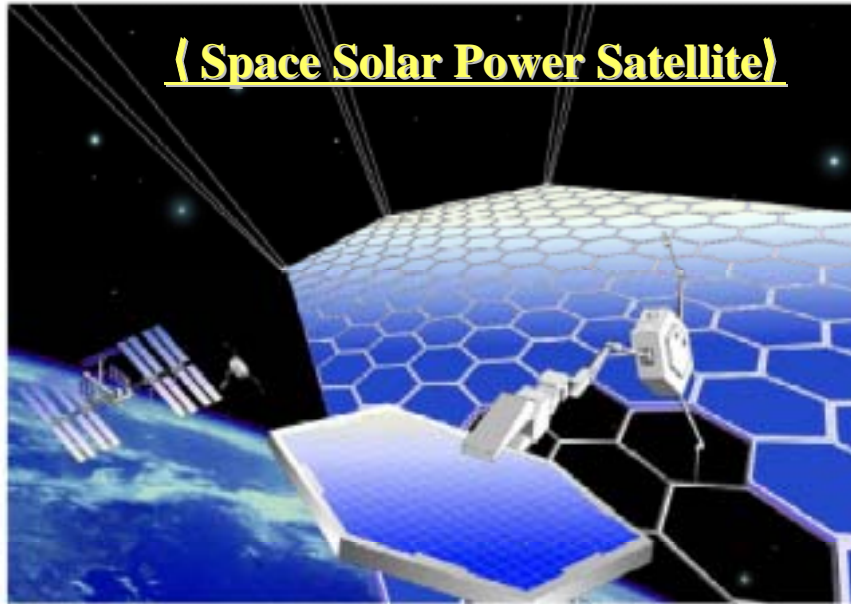
* RLSA = Radial Line Slot Antenna

⟨Injection locking method⟩

/ 4-port directional coupler



Inner structure



Courtesy of NASDA

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- ・天候に関わらず電力供給
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