

COMB GENERATOR / FREQUENCY MULTIPLIER

1 Introduction

The TBCG2 is a passive, step recovery diode based comb generator / frequency multiplier. It is optimized for moderate drive power and spectrum flatness in the frequency range 1 MHz to 2.5GHz.

The recommended drive power is +10 dBm to +20 dBm

The frequency range for the drive signal is 1 MHz to 350MHz



2 Specification

Input power: +10dBm to +20dBm; 25dBm max.

Input frequency: 1MHz to 350 MHz

Comb spectrum: 1MHz – 2.5GHz

Input connector: N female

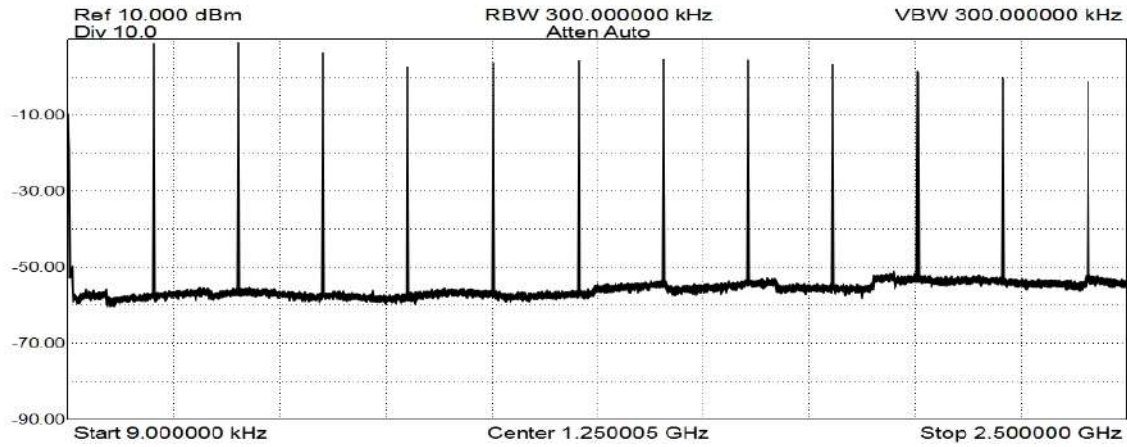
Output connector: N male

Dimensions: 81mm x 26mm x 26mm

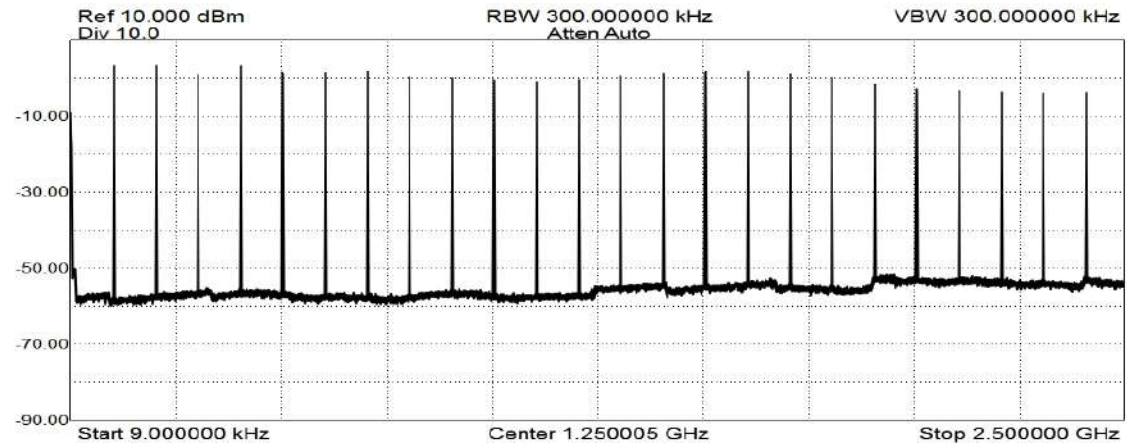
Weight: 96g

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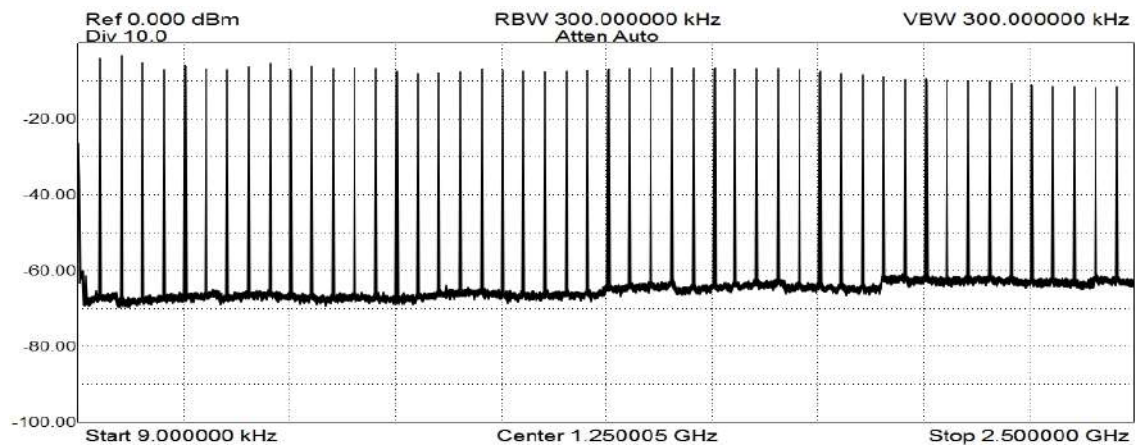
3 Spectrum Plots



Output spectrum: input signal 200 MHz / +20dBm

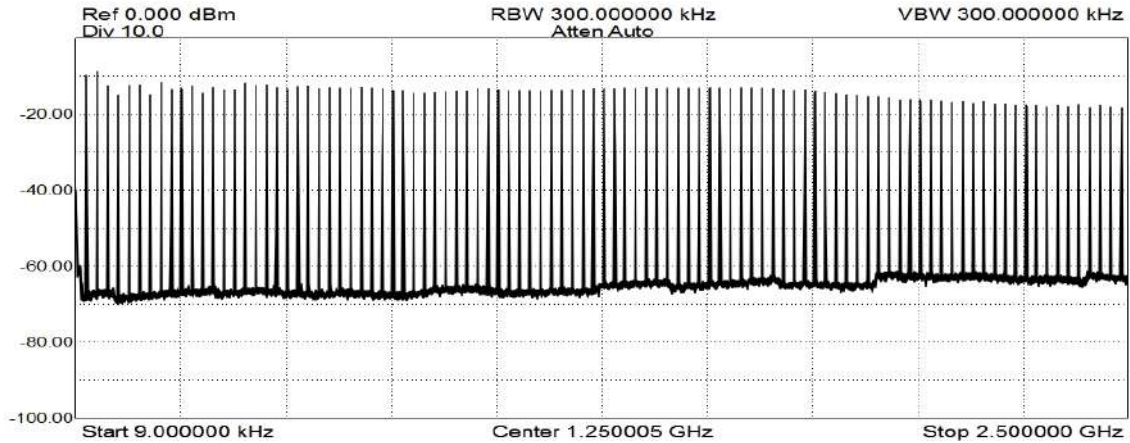


Output spectrum: input signal 100 MHz / +20dBm

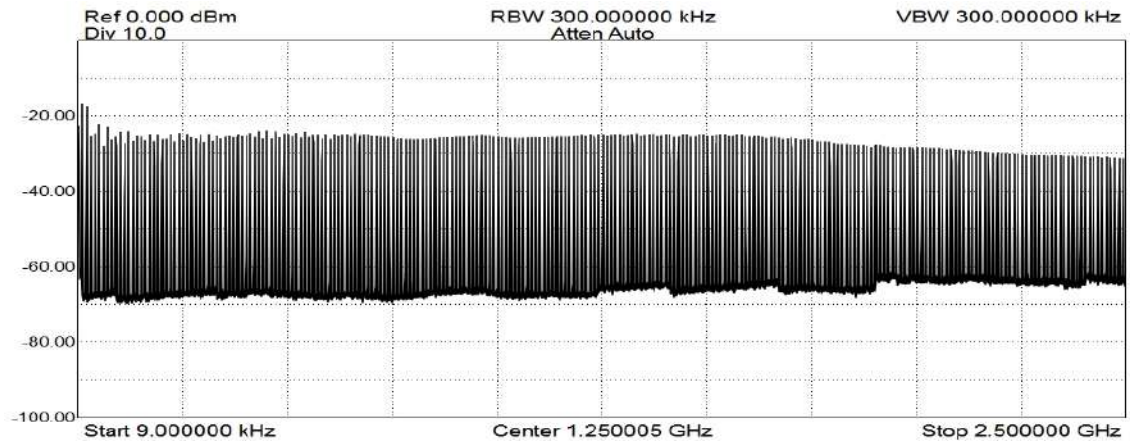


Output spectrum: input signal 50 MHz / +20dBm

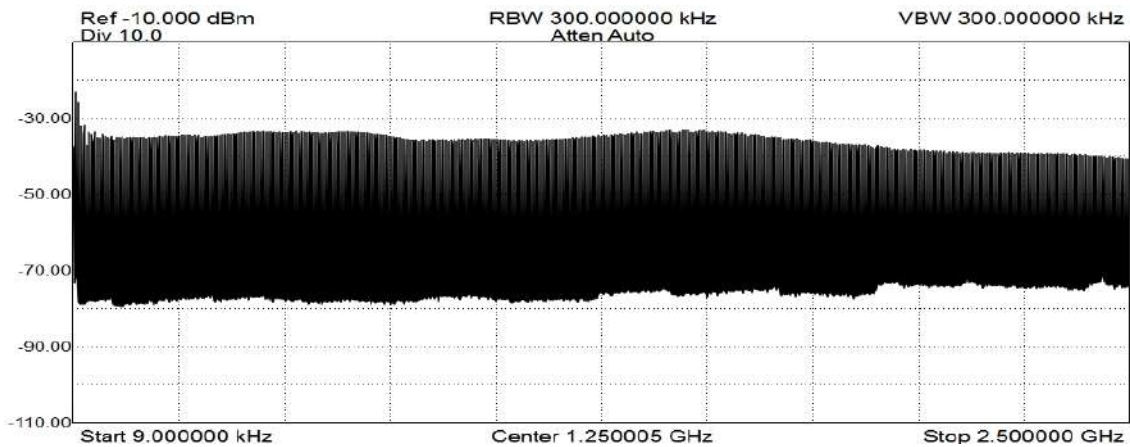
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Output spectrum: input signal 25 MHz / +20dBm

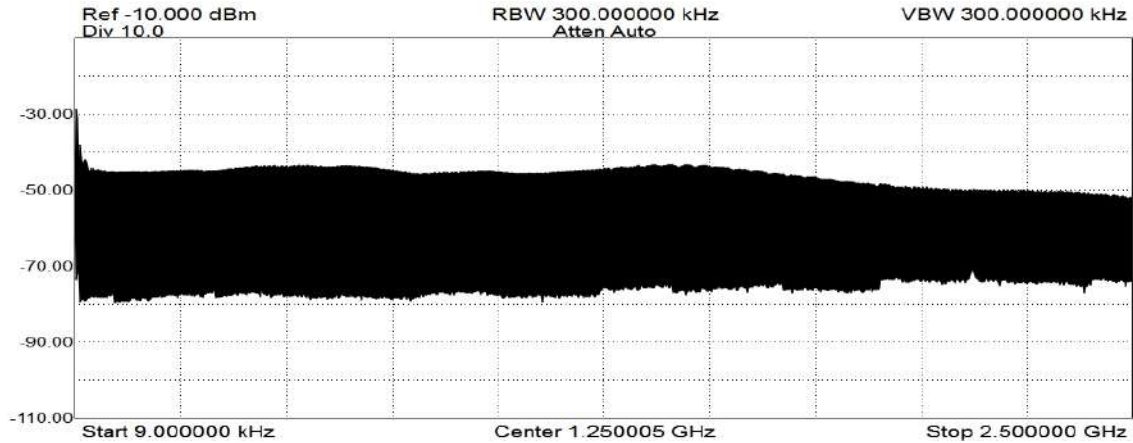


Output spectrum: input signal 10 MHz / +20dBm

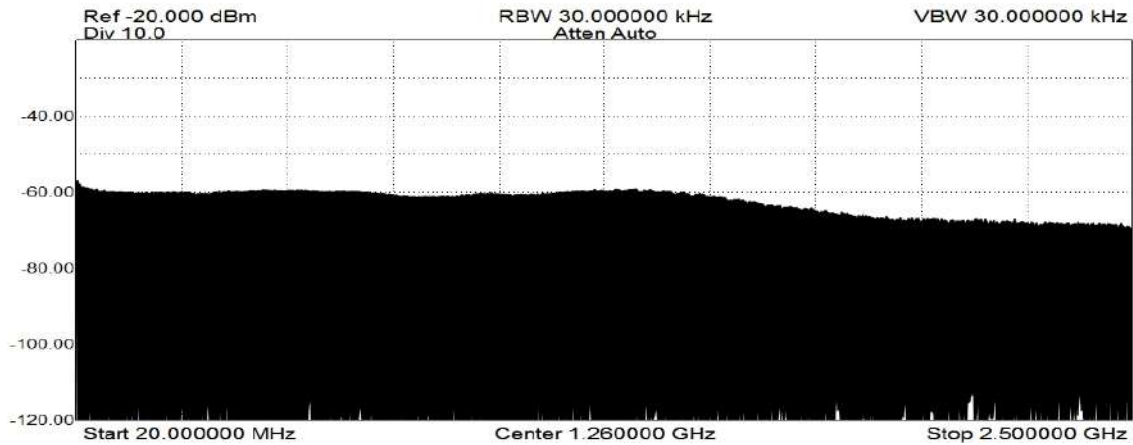


Output spectrum: input signal 5 MHz / +20dBm

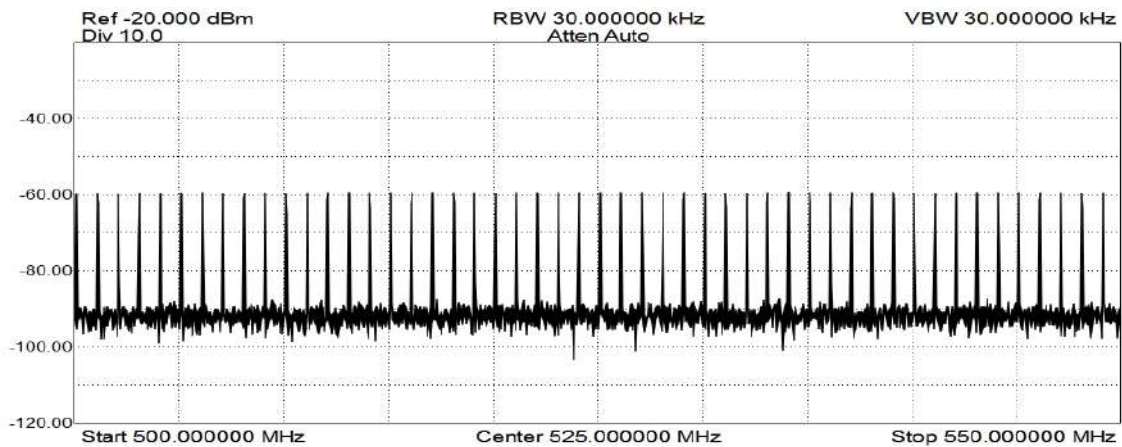
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Output spectrum: input signal 2.5 MHz / +20dBm

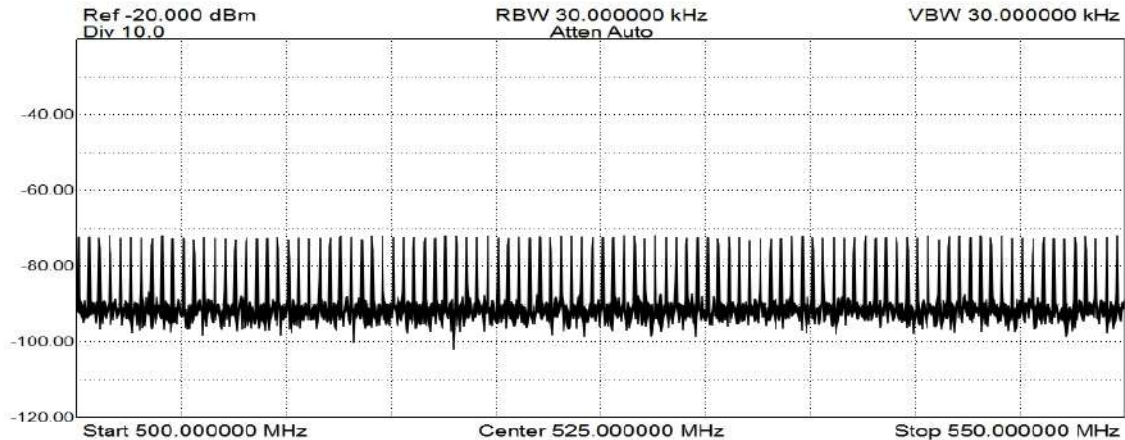


Output spectrum: input signal 1 MHz / +20dBm



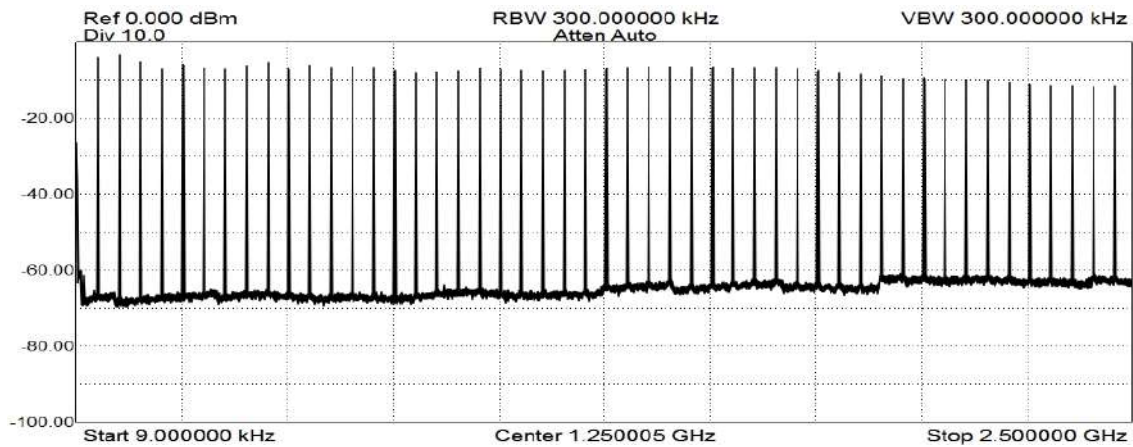
Output spectrum, zoomed: input signal 1 MHz / +20dBm

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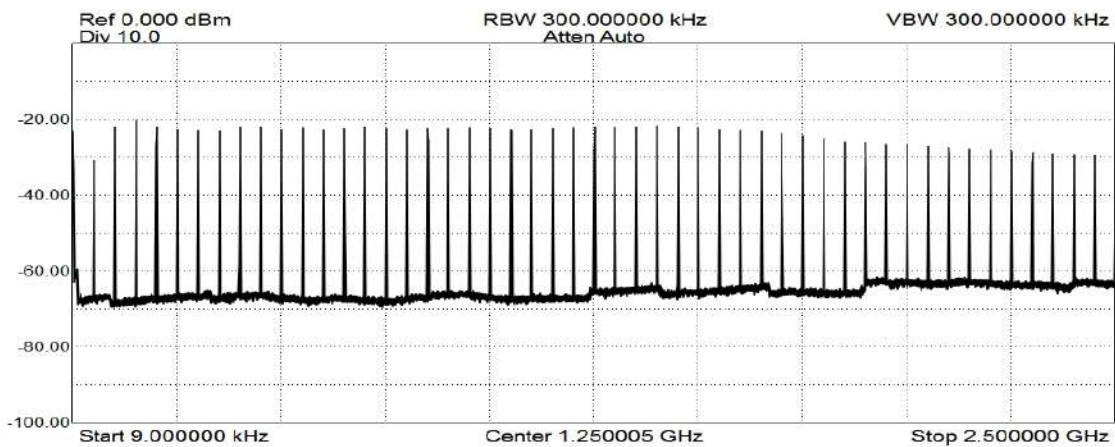


Output spectrum, zoomed: input signal 500 kHz / +20dBm

3.1 Output spectrum vs. input power

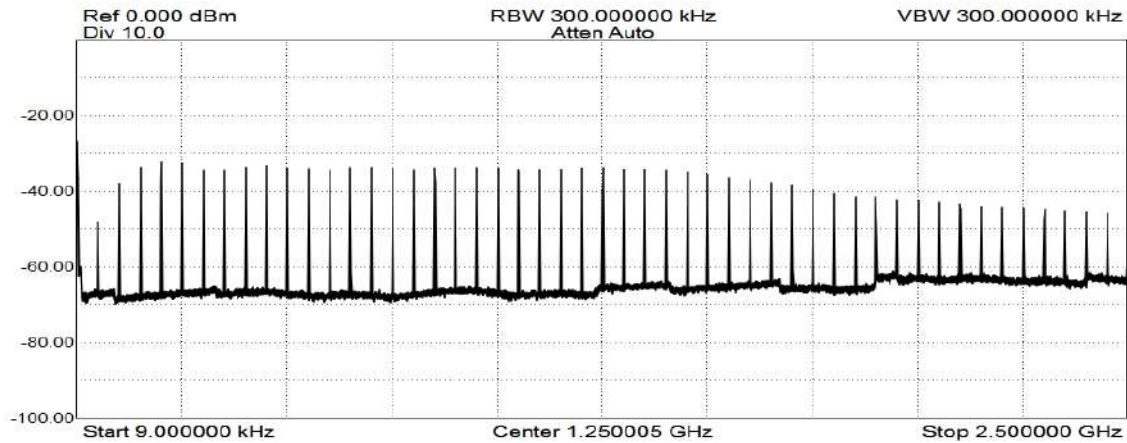


Output spectrum: input signal 50 MHz / +20dBm

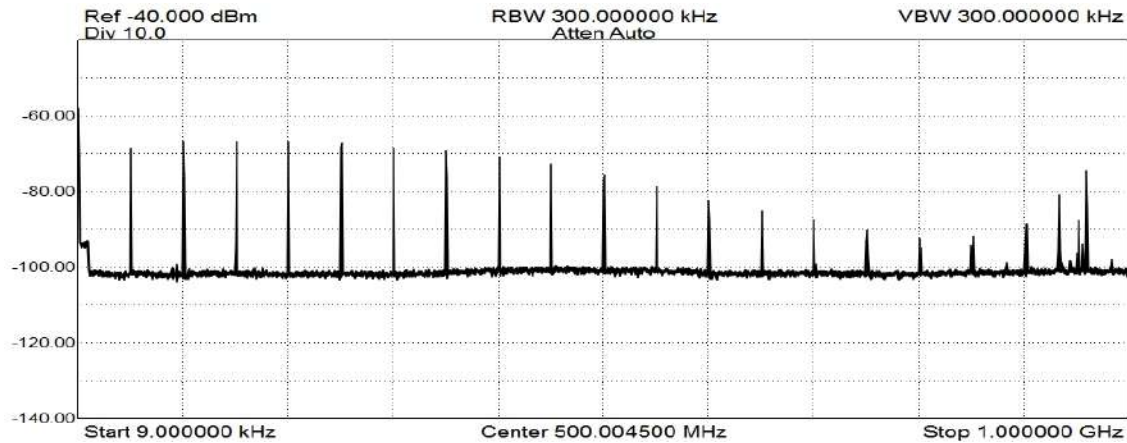


Output spectrum: input signal 50 MHz / +10dBm

COMB GENERATOR / FREQUENCY MULTIPLIER



Output spectrum: input signal 50 MHz / +8dBm



Output spectrum: input signal 50 MHz / +5dBm

4 Ordering Information

Part Number	Description
TBCG2	Passive comb generator/frequency multiplier, N female to N female coaxial adapter, beech-wood box

5 History

Version	Date	Author	Changes
V 1.0	22.06.2017	Mayerhofer	Creation of the document