

# PULSED RF POWER AMPLIFIER

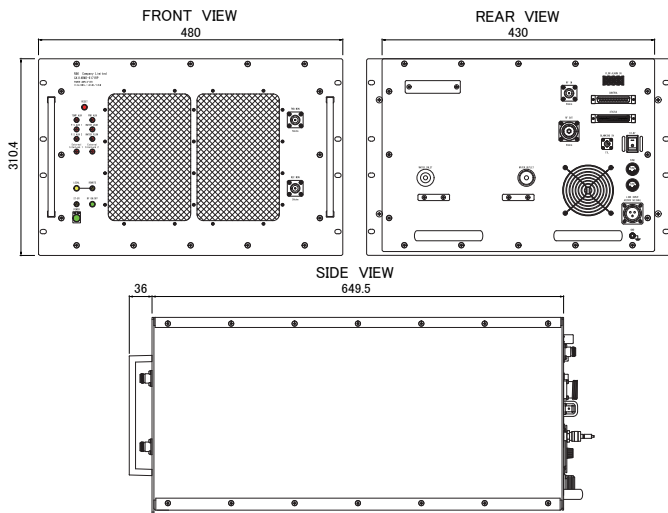


## R&K-CA114BW2-6171RP



### OUTLINE DRAWING

※IN MILLIMETERS



### TYPICAL PERFORMANCE (Temp @+25°C)

- All Solid-State Amplifier
- Frequency Range: 114.24MHz ± 1MHz
- Output Power (Pulse) : 12kW @Peak

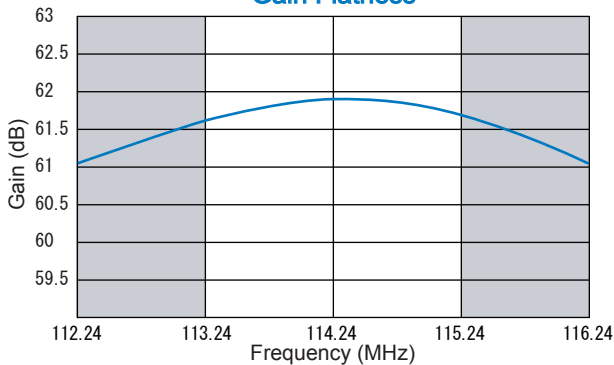
#### APPLICATION

- Accelerator Application

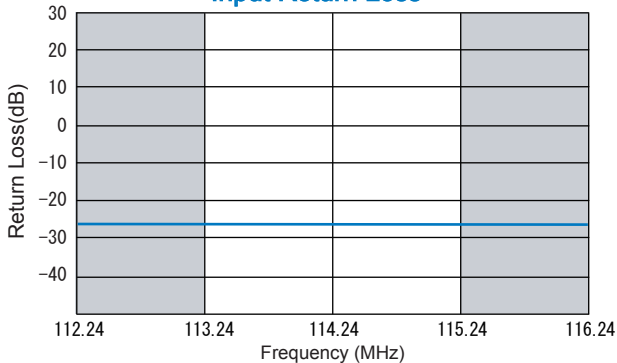
#### SPECIFICATIONS @ +25°C

Frequency Range	: 114.24Hz ± 1MHz
Gain	: +60.8dB (min.) @Po=12kW
Output Power (Pulse)	: 12kW (min.) @Peak
Pulse Width	: 10μs ~ 100μs
Repetition	: 50pps (max.)
Duty	: 0.5% (max.)
Input Return Loss	: 20.8dB (min.) / VSWR : 1.2 (max.)
Voltage Fluctuation	: ±0.1% (max.) @114.24MHz : Po=12kW
Phase Fluctuation	: ±0.1° (max.) @114.24MHz : Po=12kW
Impedance	: 50 Ω
Maximum RF Input Power:	+10dBm @Peak
AC Supply Input	: AC200V ± 10% / 1 φ, 50 / 60Hz, 500VA
Operating Temperature	: +15°C to +35°C
Storage Temperature	: -15°C to +55°C
Connectors	: RF-IN N -FEMALE @REAR PANEL RF-OUT 7/16"-FEMALE @REAR PANEL
Size	: (W)480mm × (D)649.5mm × (H)310.4mm (EIA:7U)
Weight	: 76.0kg (typ.)
Cooling	: Water Cooling
Water Input Pressure	: 1MPa
Water Temperature	: +30°C
Water Flow Rate	: 3ℓ/minute
Protection Circuits	: Over Temperature Protection Power Supply Voltage Protection Output Over Power Protection (@12.6kW) With Output Circulator (each final device)
Other Function	: Forward RF Monitor Out (Coupling:60dB) Reflected RF Monitor Out (Coupling:60dB)

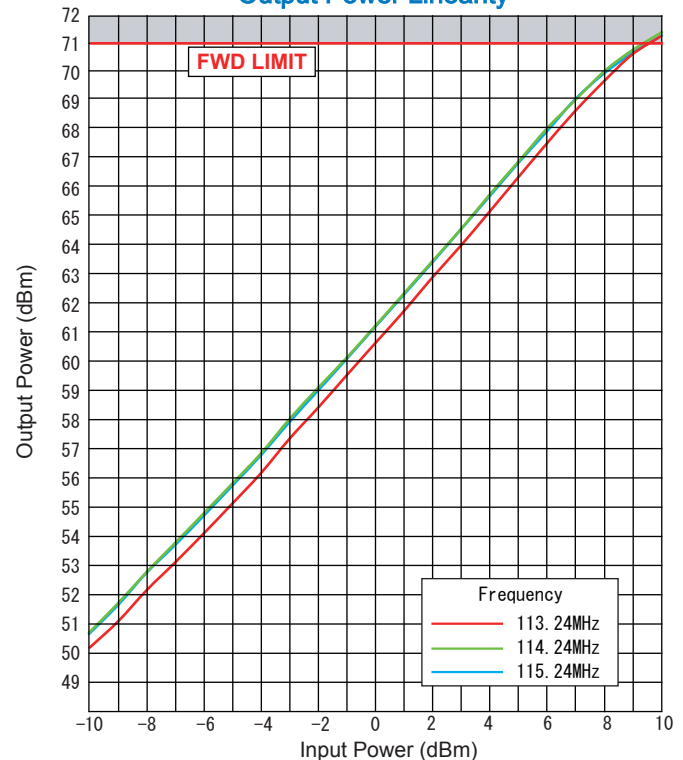
#### Gain Flatness



#### Input Return Loss



#### Output Power Linearity



R&K reserves the right to make changes in the specifications of or discontinue products at any time without notice. R&K products shall not be used for or in connection with equipment that requires an extremely high level of reliability and safety such as aerospace uses or medical life support equipment. Further, the export of R&K products from Japan may be subject to an export license by the government of Japan, based on Japan's "Foreign Exchange and Foreign Trade Law".

## R&K Company Limited

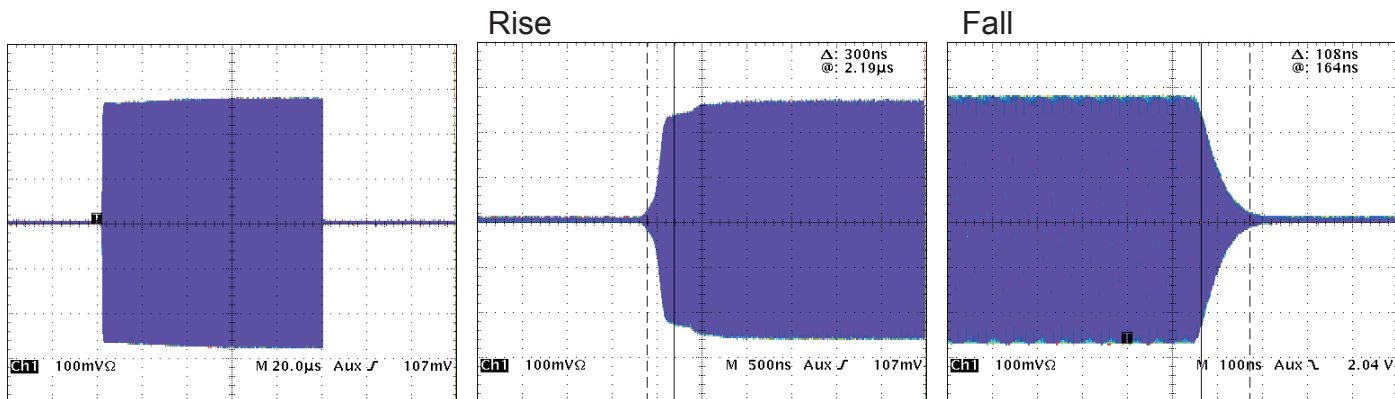
721-1 Maeda, Fuji-City, Shizuoka-Pref. 416-8577 Japan  
Tel : +81-545-31-2600 E-mail : info@rkco.jp  
Fax : +81-545-31-1600 URL : http://rk-microwave.com

## TYPICAL PERFORMANCE (Temp @+25°C)

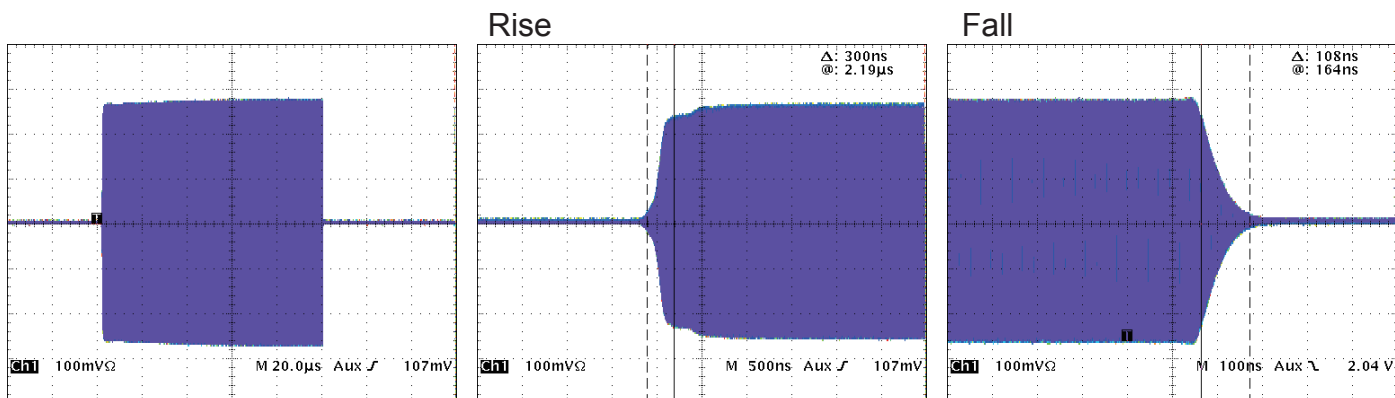
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### ■ Pulse characteristics RF OUTPUT

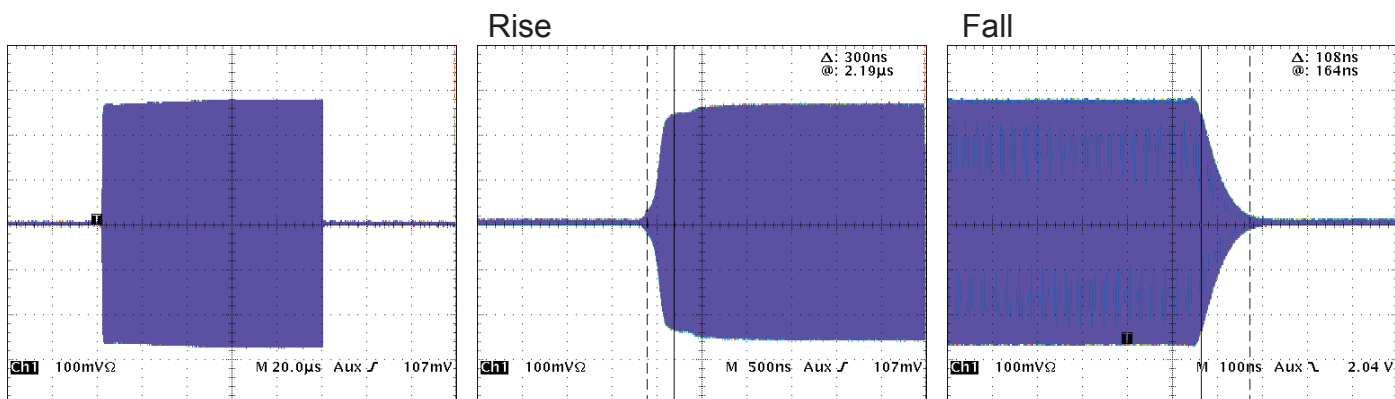
- Frequency = 113.24MHz /  $P_o = 12kW$



- Frequency = 114.24MHz /  $P_o = 12kW$



- Frequency = 115.24MHz /  $P_o = 12kW$



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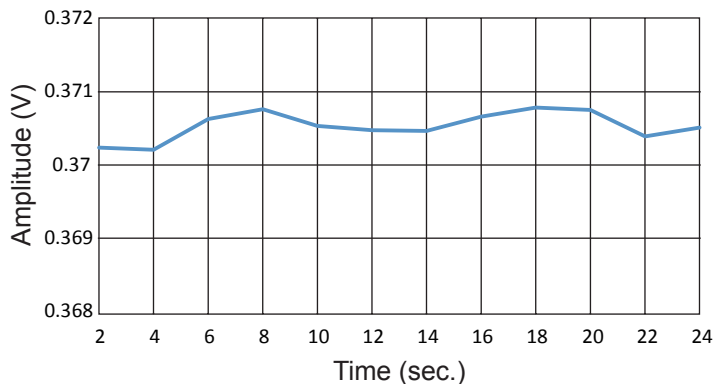
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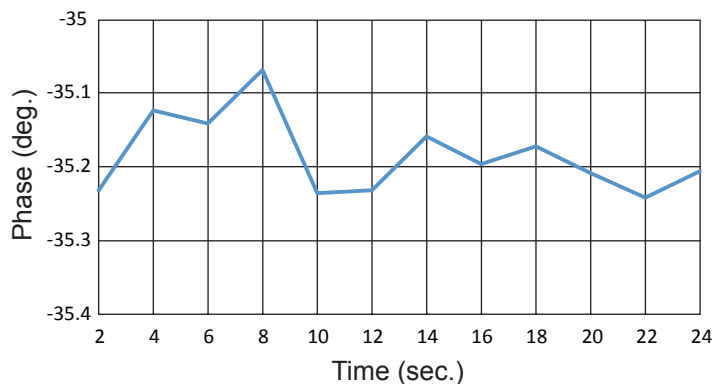
### Short-Term Voltage & Phase Fluctuation

- Frequency = 114.24MHz / Pulse Width = 10  $\mu$ s

Amplitude vs Time

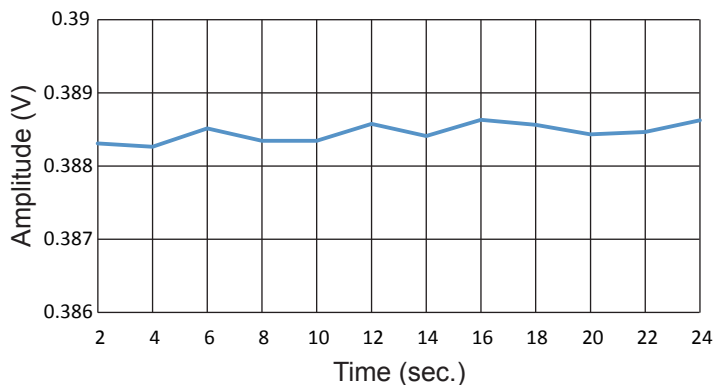


Phase vs Time

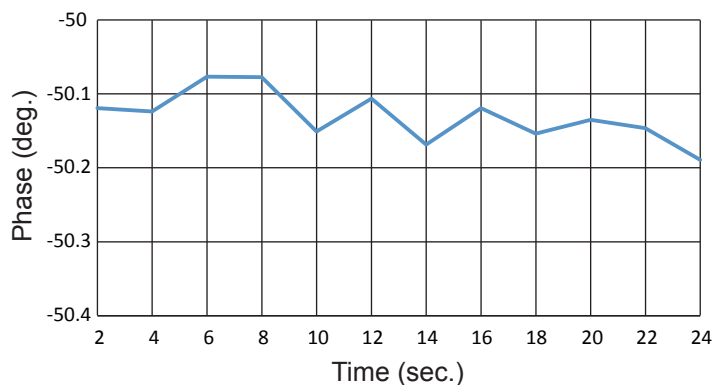


- Frequency = 114.24MHz / Pulse Width = 50  $\mu$ s

Amplitude vs Time

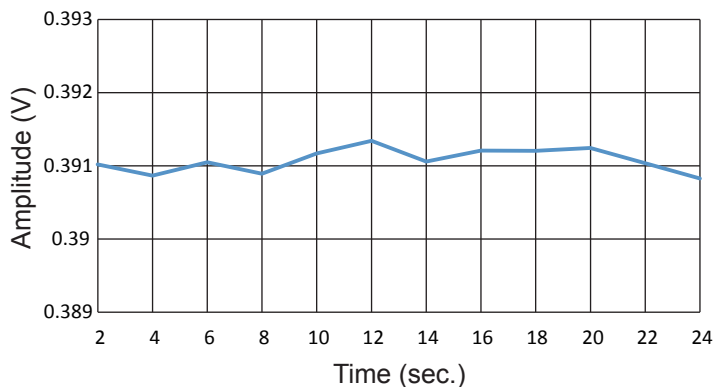


Phase vs Time

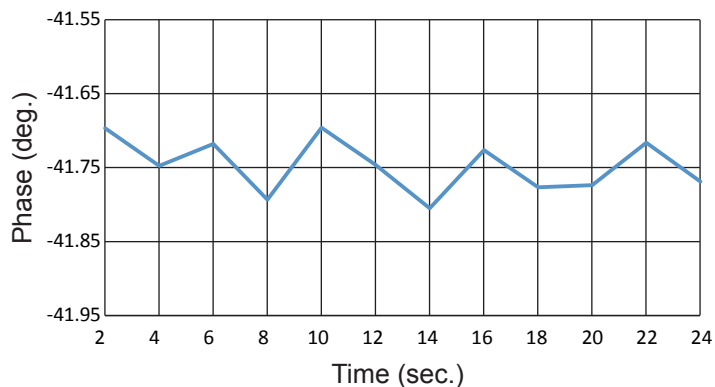


- Frequency = 114.24MHz / Pulse Width = 90  $\mu$ s

Amplitude vs Time



Phase vs Time

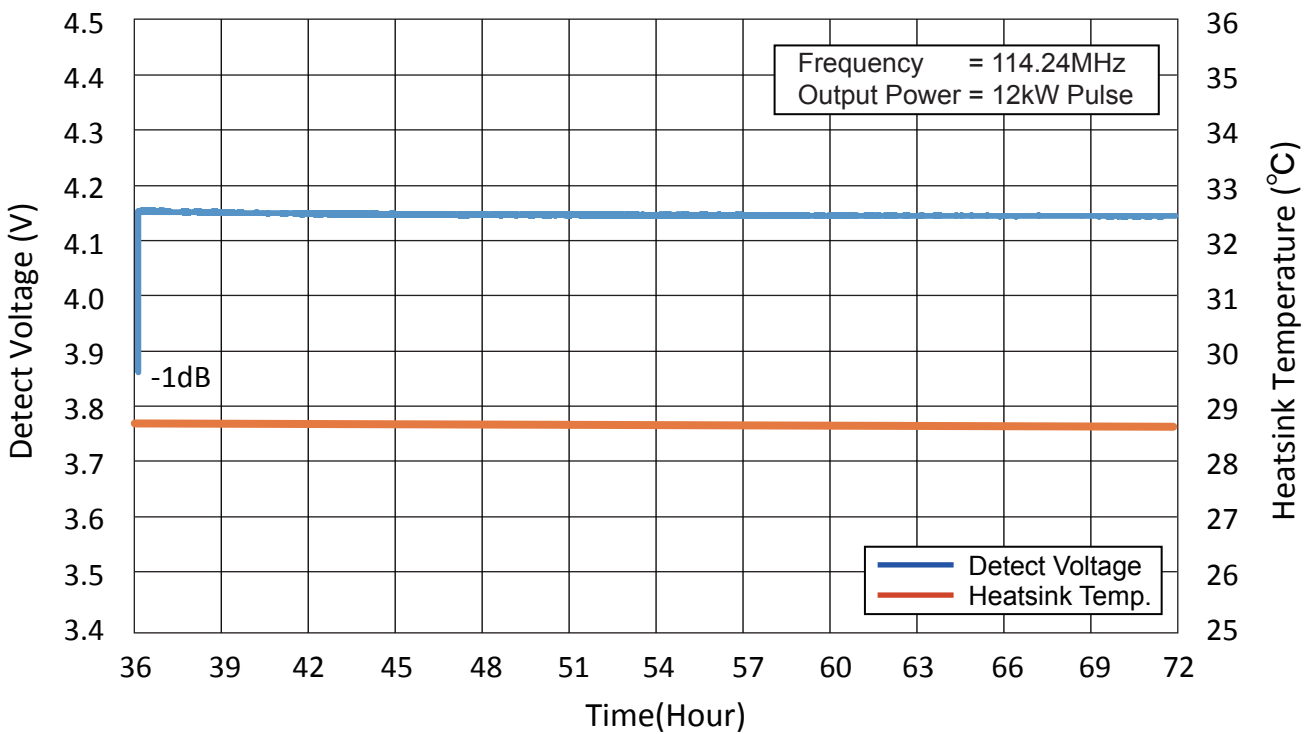
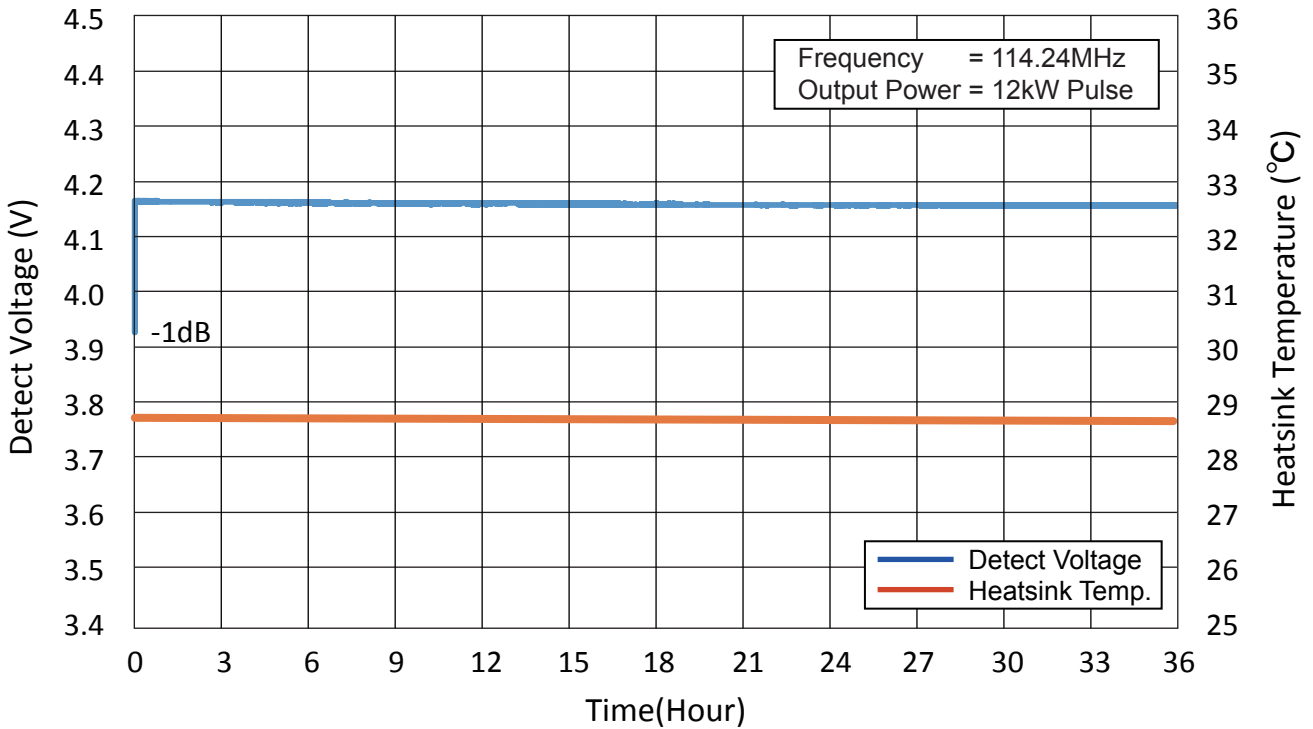


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## RF Stability Output Power vs Time



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