

Originator: Fernando Martinez

Status: CLOSED

Company: UMS

Accepted: 2015-07-03

EPPL Part: 2

Group: MICROCIRCUITS

Subgroup:

MICROWAVE MONOLITIC  
INTEGRATED CIRCUITS  
(MMIC)

Part type:

CHA5350-99F

Description: K-band Power Amplifier

Detail spec: detail\_spec\_mmic\_cha5350\_150205\_vmgp26022015.docx

Package: -

Manufacturer: UMS

## APPROVAL STATUS

Qualification: Others

Other: MMIC process PPH15X-10 is listed in EPPL part2  
Space validation of this die has been completed satisfactorily under ESA ECI  
2 program

Highest screening level (MIL): -

Evaluation programmes or other approvals: MMIC design fully validated in accordance with ECSS-Q-ST-60-12

Former space usage: -

## PREVIOUS PROCUREMENT AND TEST DATA

Test data (Evaluation, Lot acceptance, DPA, MIL QCI/TCI, ...): Summary report available

## RADIATION HARDNESS DATA

Total dose effects: Radiation tests were performed on the process for TID and Displacement  
Damage

Displacement damage:

Single event effects (SEL/SEU/SET/SEFI/SEB/SEGR/others): SEE test with RF on the MMIC has been performed at  
UCL. The MMIC (CHA5350) manufactured on PPH15X-10  
technology has been submitted successfully to Xenon  
heavy ion beam up to a fluency of 107 ions/cm-2 (ESCC  
Basic Specification No. 25100). No catastrophic failure has  
been observed up to Vds = 7V and 5dB of compression.  
The circuit safe operating area of Vds = 6V and 4dB of  
compression has been successfully covered.



## EPPL COMPONENT

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REMARKS