# TYPICAL CHARACTERISTICS
# ON
# PUC-21D5G32D5G-40-29-292F-SFF

**PMI MODEL: PUC-21D5G32D5G-40-29-292F-SFF IS AN UPCONVERTER WITH AN AMPLIFIED RF OUTPUT PATH COVERING 21.5 – 32.5 GHz. THE RF OUTPUT LOWER SIDEBAND IS LOCATED AT 2*LO – IF AND THE UPPER SIDEBAND IS LOCATED AT 2*LO + IF.**

**January 6, 2016**

**DESIGNED BY: PMI ENGINEERING**

**TESTED & REPORTED BY: D. DURBIN**


7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
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# TABLE OF CONTENTS

Outline Drawing…….……..…… Page 3

Summary Test Data…….…… Page 4

Spectrum Analyzer RF Output Plots……..…….. Page 5


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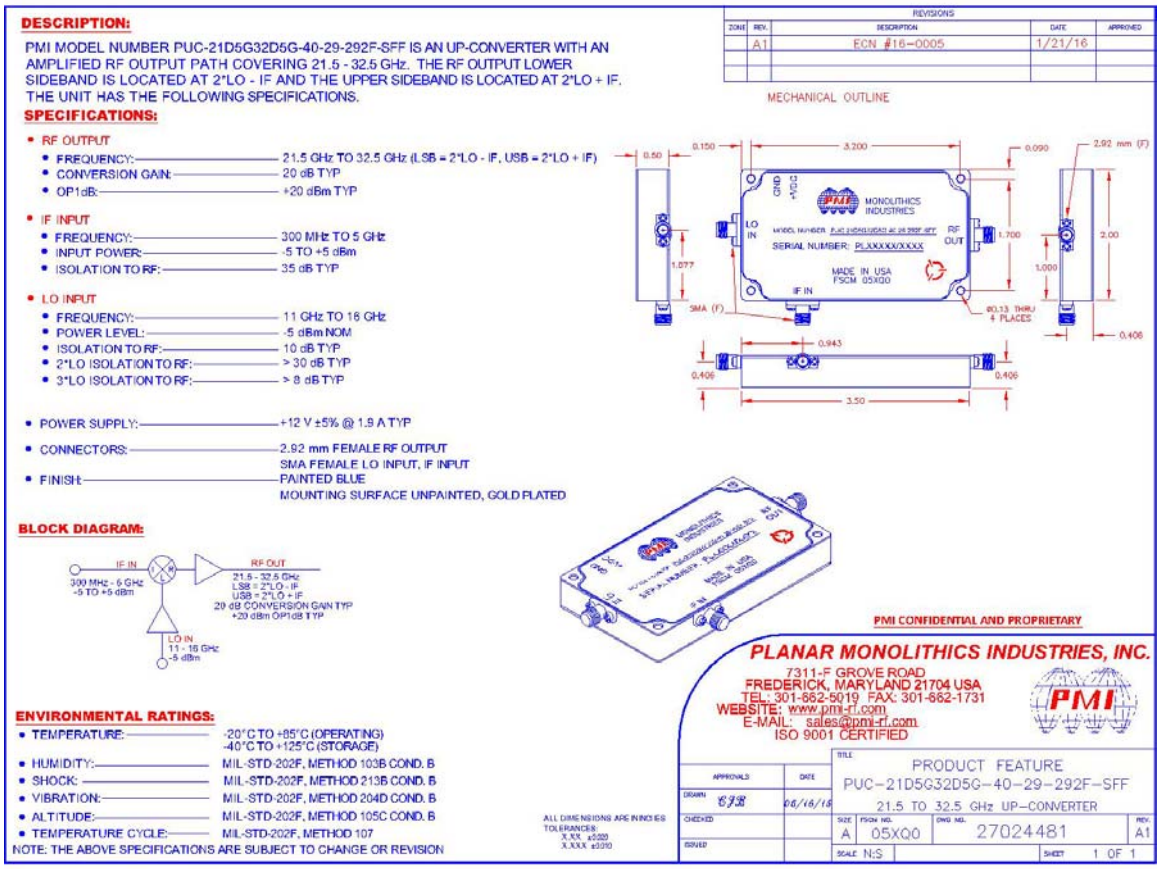
## OUTLINE DRAWING



**DESCRIPTION:**

PMI MODEL NUMBER PUC-21D5G32D5G-40-29-292F-SFF IS AN UP-CONVERTER WITH AN AMPLIFIED RF OUTPUT PATH COVERING 21.5 - 32.5 GHz. THE RF OUTPUT LOWER SIDEBAND IS LOCATED AT 2*LO - IF AND THE UPPER SIDEBAND IS LOCATED AT 2*LO + IF. THE UNIT HAS THE FOLLOWING SPECIFICATIONS.

**SPECIFICATIONS:**

- RF OUTPUT
  - FREQUENCY: 21.5 GHz TO 32.5 GHz (LSB = 2*LO - IF, USB = 2*LO + IF)
  - CONVERSION GAIN: 20 dB TYP
  - OP1dB: +20 dBm TYP
- IF INPUT
  - FREQUENCY: 300 MHz TO 5 GHz
  - INPUT POWER: -5 TO +5 dBm
  - ISOLATION TO RF: 35 dB TYP
- LO INPUT
  - FREQUENCY: 11 GHz TO 16 GHz
  - POWER LEVEL: -5 dBm NOM
  - ISOLATION TO RF: 10 dB TYP
  - 2*LO ISOLATION TO RF: > 30 dB TYP
  - 3*LO ISOLATION TO RF: > 8 dB TYP
- POWER SUPPLY: +12 V ±5% @ 1.9 A TYP
- CONNECTORS: 2.92 mm FEMALE RF OUTPUT
  SMA FEMALE LO INPUT, IF INPUT
- FINISH: PAINTED BLUE
  MOUNTING SURFACE UNPAINTED, GOLD PLATED

**BLOCK DIAGRAM:**



**ENVIRONMENTAL RATINGS:**

- TEMPERATURE: -20°C TO +85°C (OPERATING)
  -40°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
X.XX ±0.020
X.XXX ±0.010

REVISIONS

| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
|---|---|---|---|---|
| | A1 | ECN #16-0005 | 1/21/16 | |

MECHANICAL OUTLINE



PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.
7311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: 301-662-5019 FAX: 301-662-1731
WEBSITE: www.pmi-rf.com
E-MAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED

| APPROVALS | DATE |
|---|---|
| DRAWN 638 | 06/16/15 |
| CHECKED | |
| ISSUED | |

TITLE: PRODUCT FEATURE
PUC-21D5G32D5G-40-29-292F-SFF
21.5 TO 32.5 GHz UP-CONVERTER

| SIZE | FSCM NO. | DWG NO. | REV. |
|---|---|---|---|
| A | 05XQ0 | 27024481 | A1 |

SCALE N/S SHEET 1 OF 1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# TEST DATA SUMMARY

| TEST. ITEM NO | PARAMETERS | SPECIFIED VALUE | TEST RESULTS | QA QC |
|---|---|---|---|---|
| | | **RF OUTPUT** | | |
| | Frequency: | 21.5 GHz TO 32.5 GHz | **21.5 – 32.5 GHz** | |
| | CONVERSION GAIN: | 20 dB TYP | **> 20 dB Typical** | |
| | OP1dB: | +20 dBm TYP | **+20 dBm Typical** | |
| | | **IF INPUT** | | |
| | FREQUENCY: | 300 MHz TO 5 GHz | **300 MHz - 5 GHz** | |
| | INPUT POWER: | -5 TO +5 dBm | **-5 TO +5 dBm** | |
| | ISOLATION TO RF: | 35 dB TYP | **35 dB Typical** | |
| | | **LO INPUT** | | |
| | FREQUENCY: | 11 GHz TO 16 GHz | **11 - 16 GHz** | |
| | POWER LEVEL: | -5 dBm NOM | **-5 dBm Typical** | |
| | ISOLATION TO RF: | 10 dB TYP | **10 dB Typical** | |
| | 2*LO ISOLATION TO RF: | > 30 dB TYP | **30 dB Typical** | |
| | 3*LO ISOLATION TO RF: | > 8 dB TYP | **8 dB Typical** | |
| | POWER SUPPLY: | +12 V ±5% @ 1.9 A TYP | **+12 V @ 1.9 A** | |


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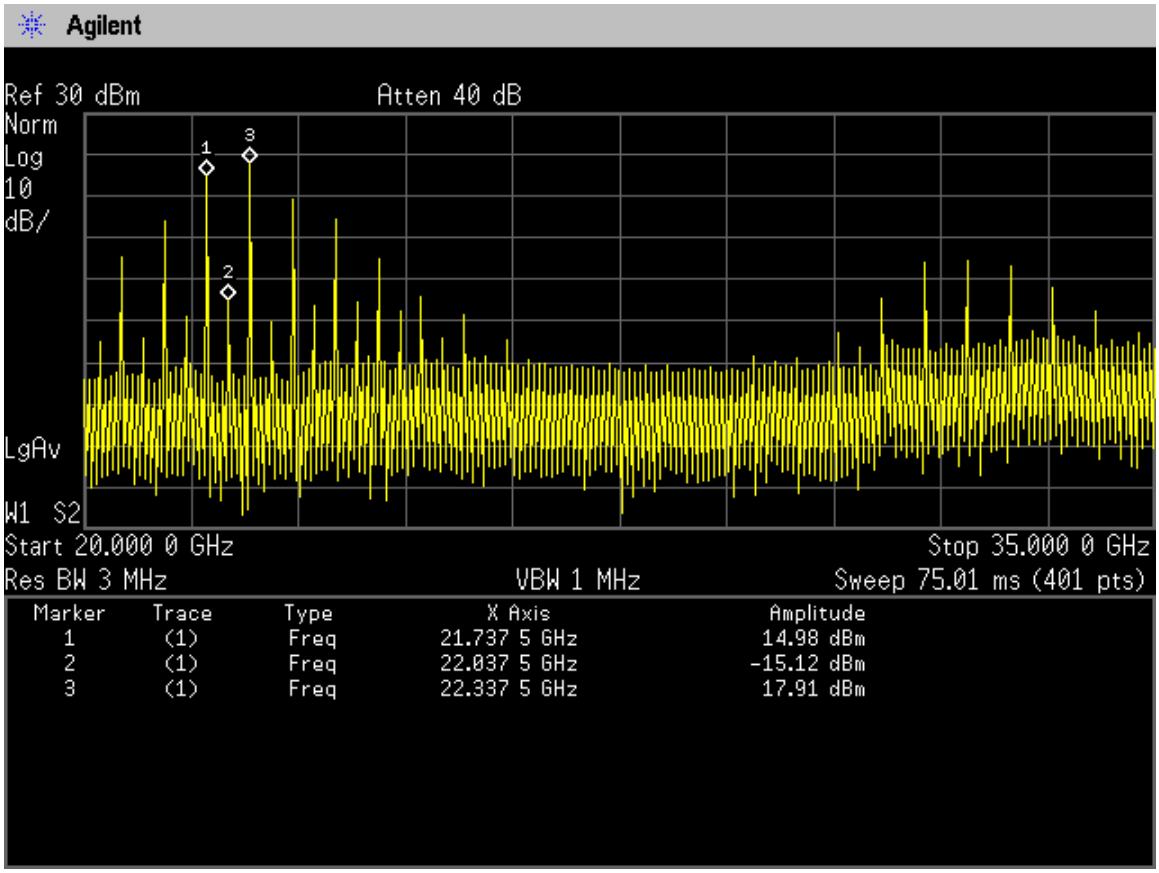
## RF OUTPUT:
## LO 11 GHz @ -5dBm
## IF 300 MHz @ 0dBm





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# TYPICAL CHARACTERISTICS
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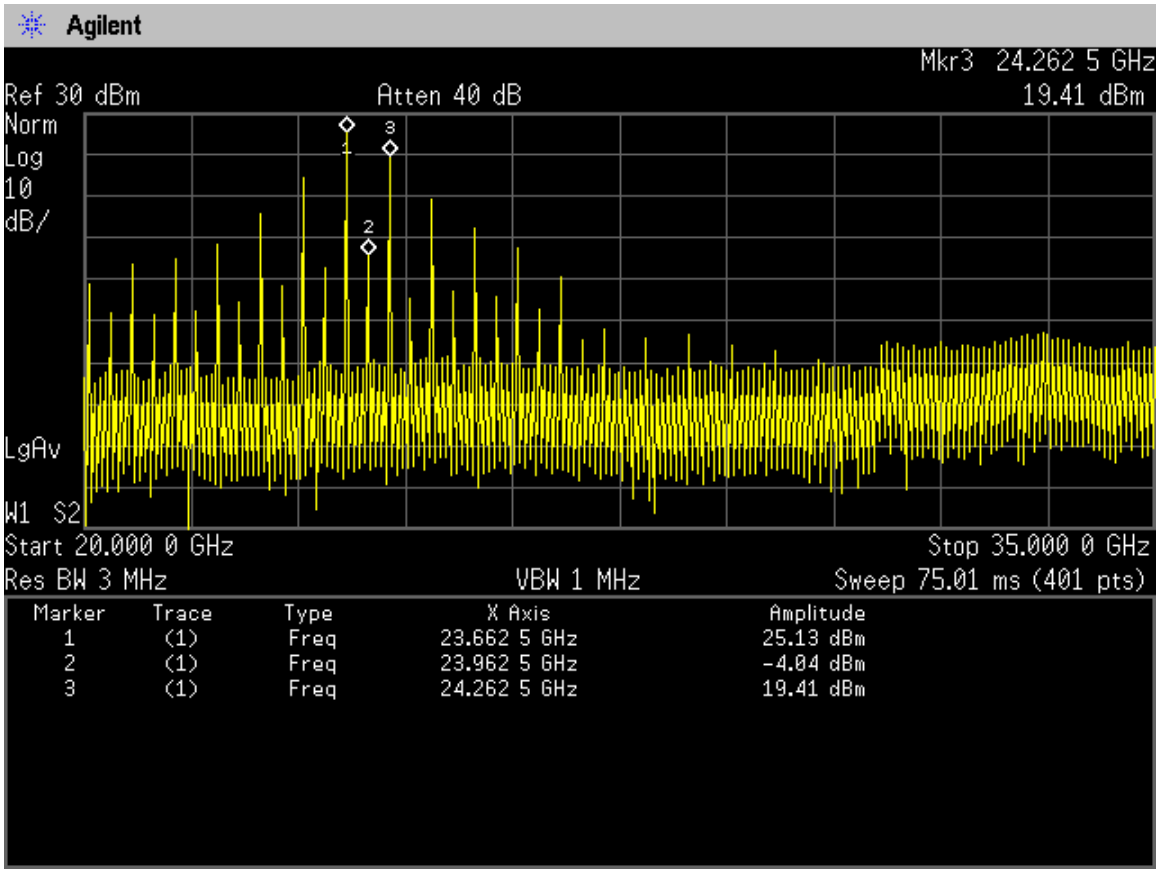
## RF OUTPUT:
## LO 12 GHz @ -5dBm
## IF 300 MHz @ 0dBm





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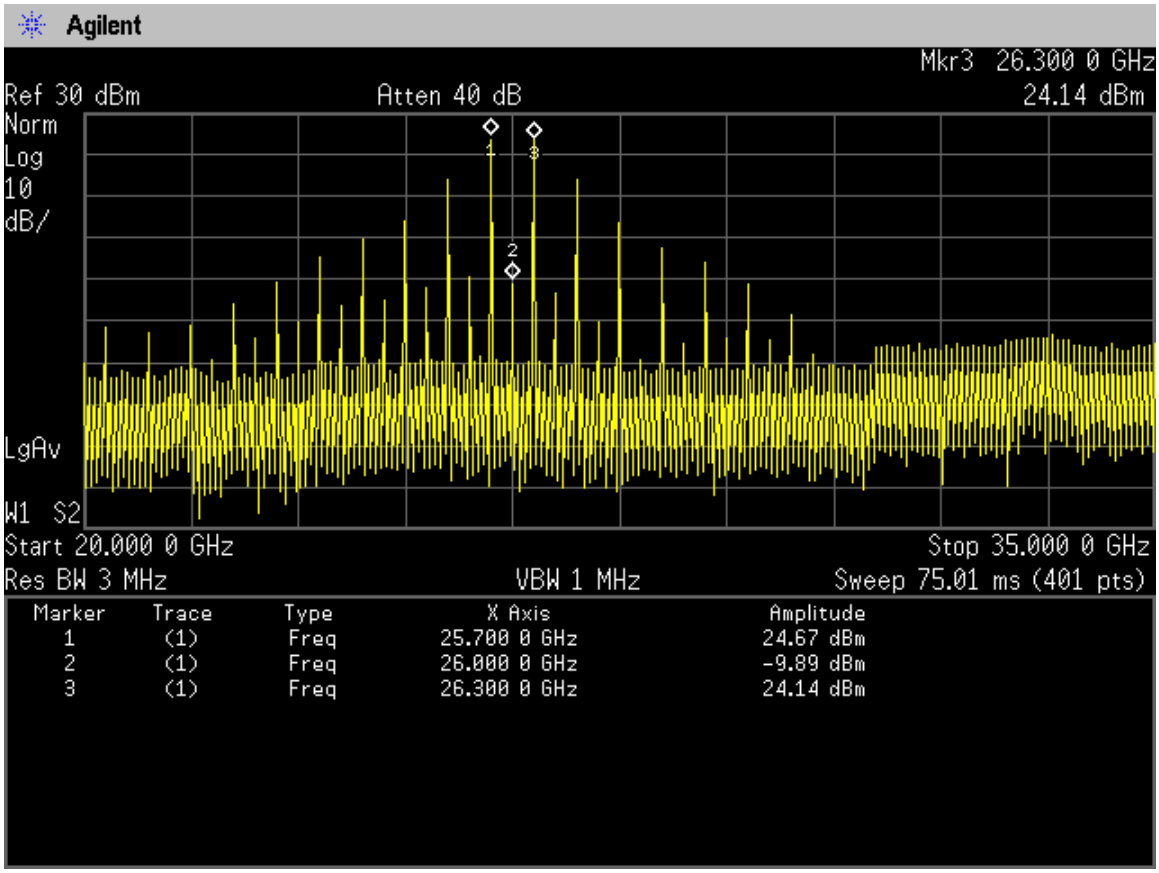
**IF 300 MHz @ 0dBm**





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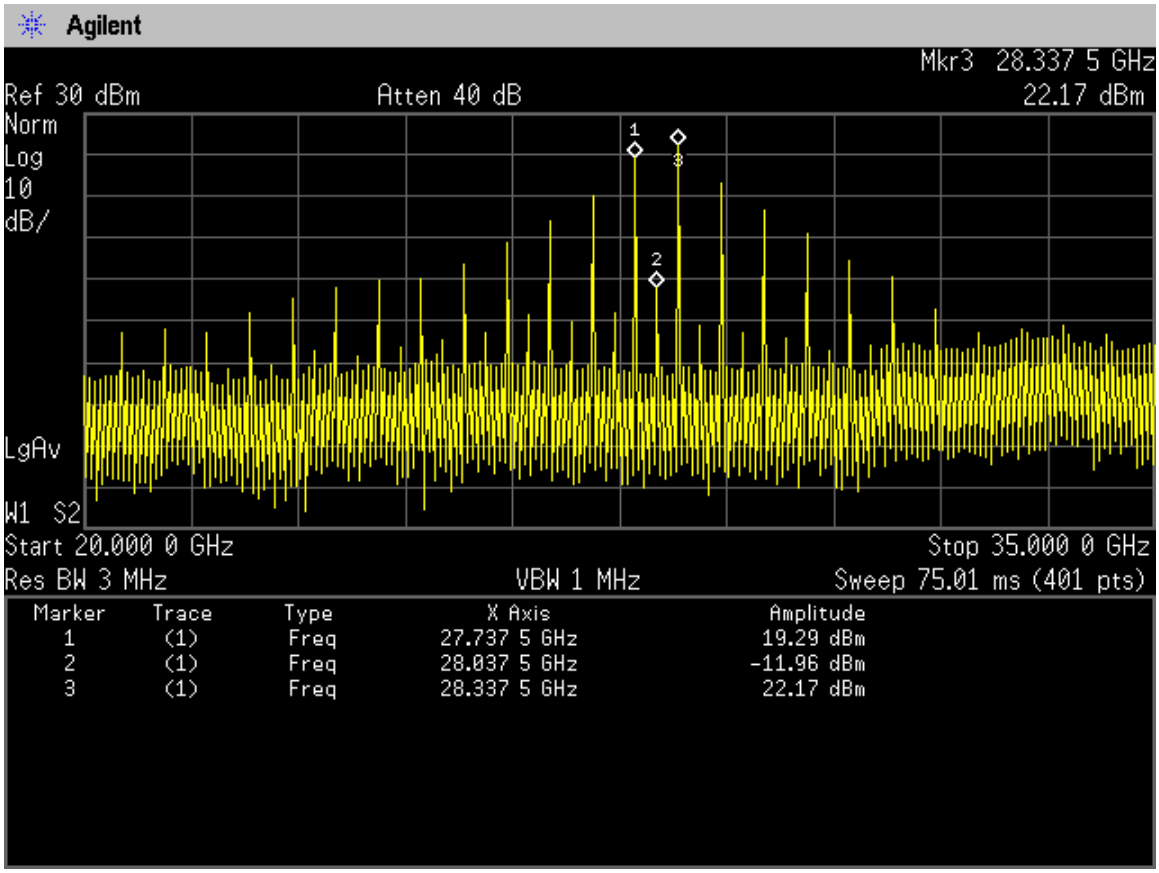
## RF OUTPUT:
## LO 14 GHz @ -5dBm
## IF 300 MHz @ 0dBm





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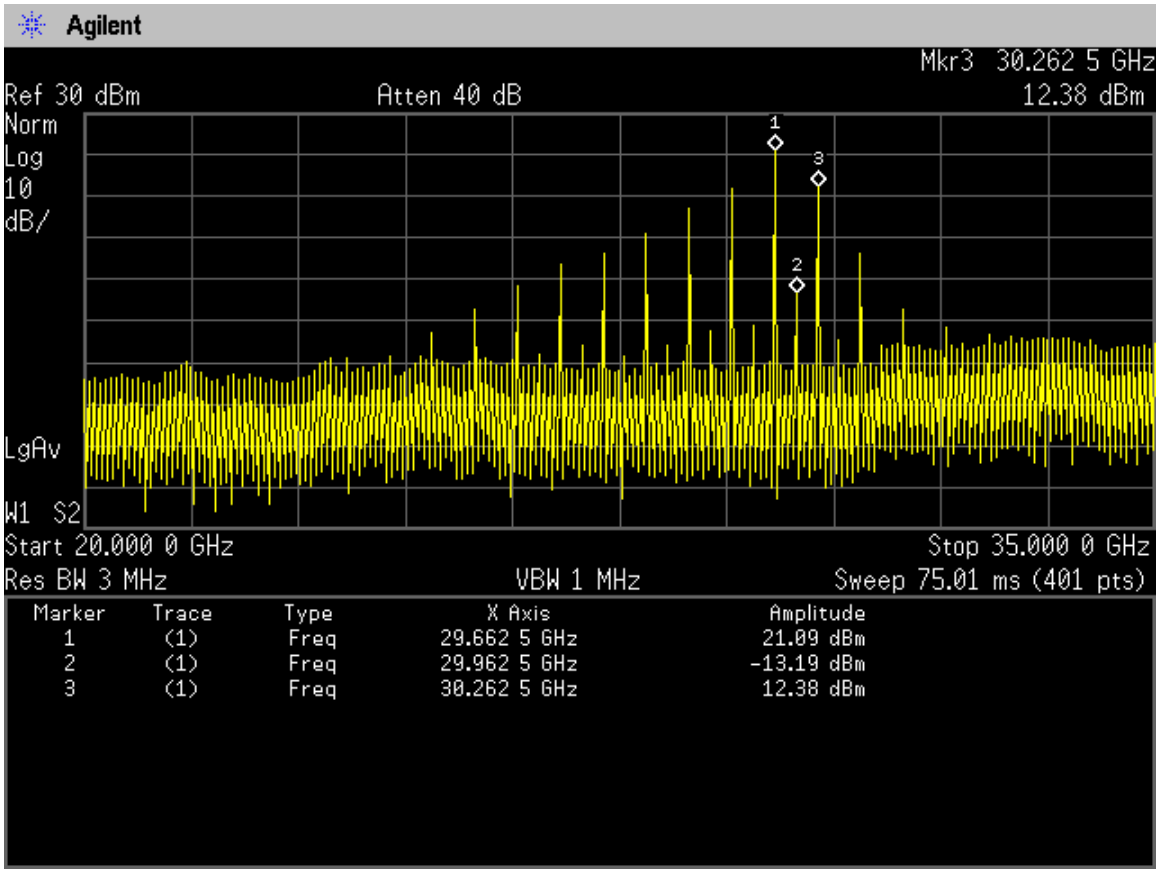
## RF OUTPUT:
**LO 15 GHz @ -5dBm**
**IF 300 MHz @ 0dBm**





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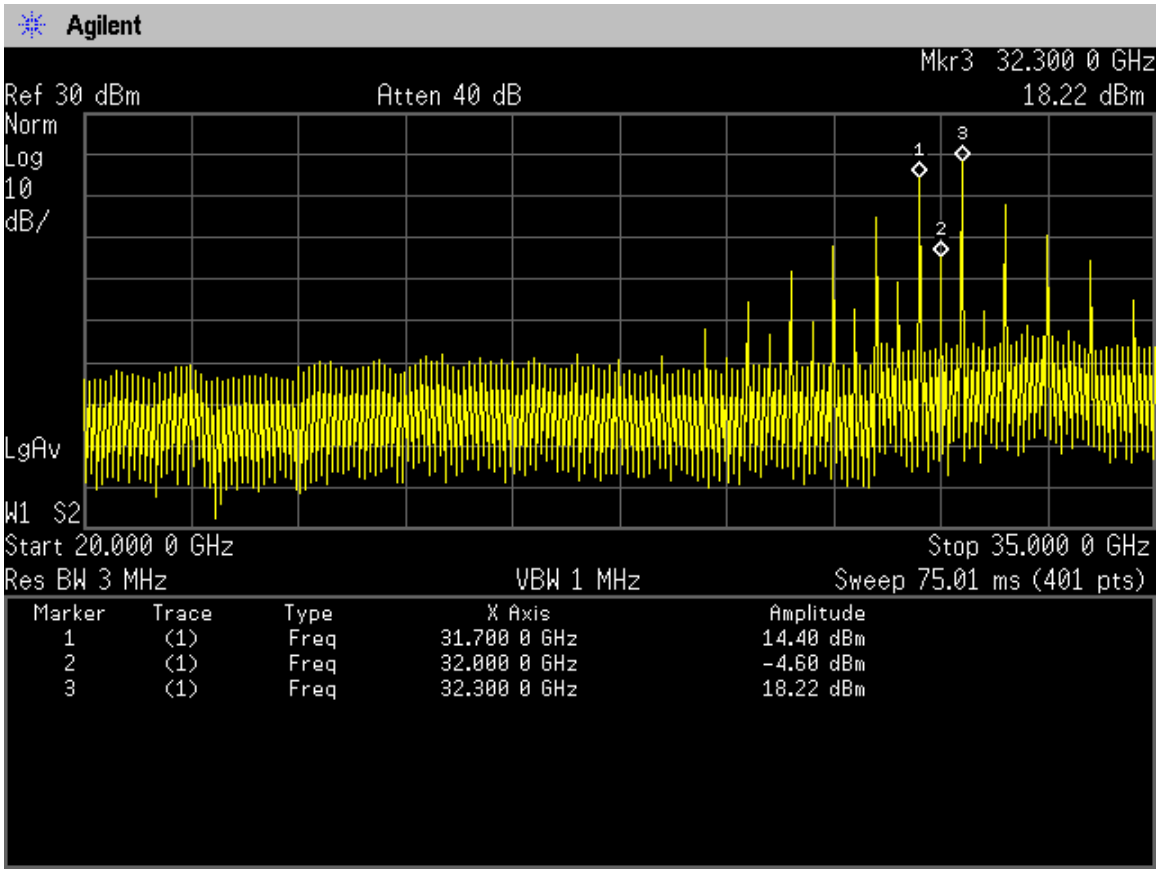
## RF OUTPUT:
## LO 16 GHz @ -5dBm
## IF 300 MHz @ 0dBm





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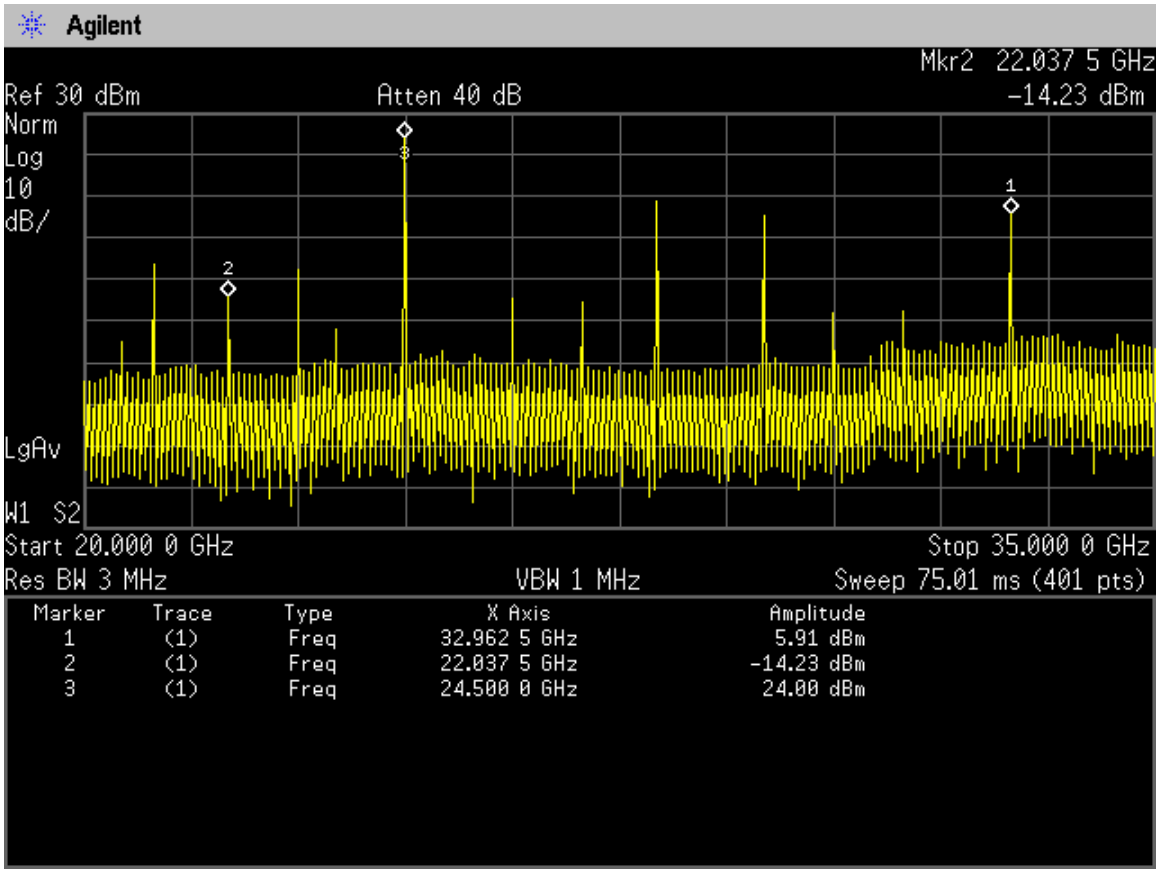
## RF OUTPUT:
**LO 11 GHz @ -5dBm**
**IF 2.5 GHz @ 0dBm**





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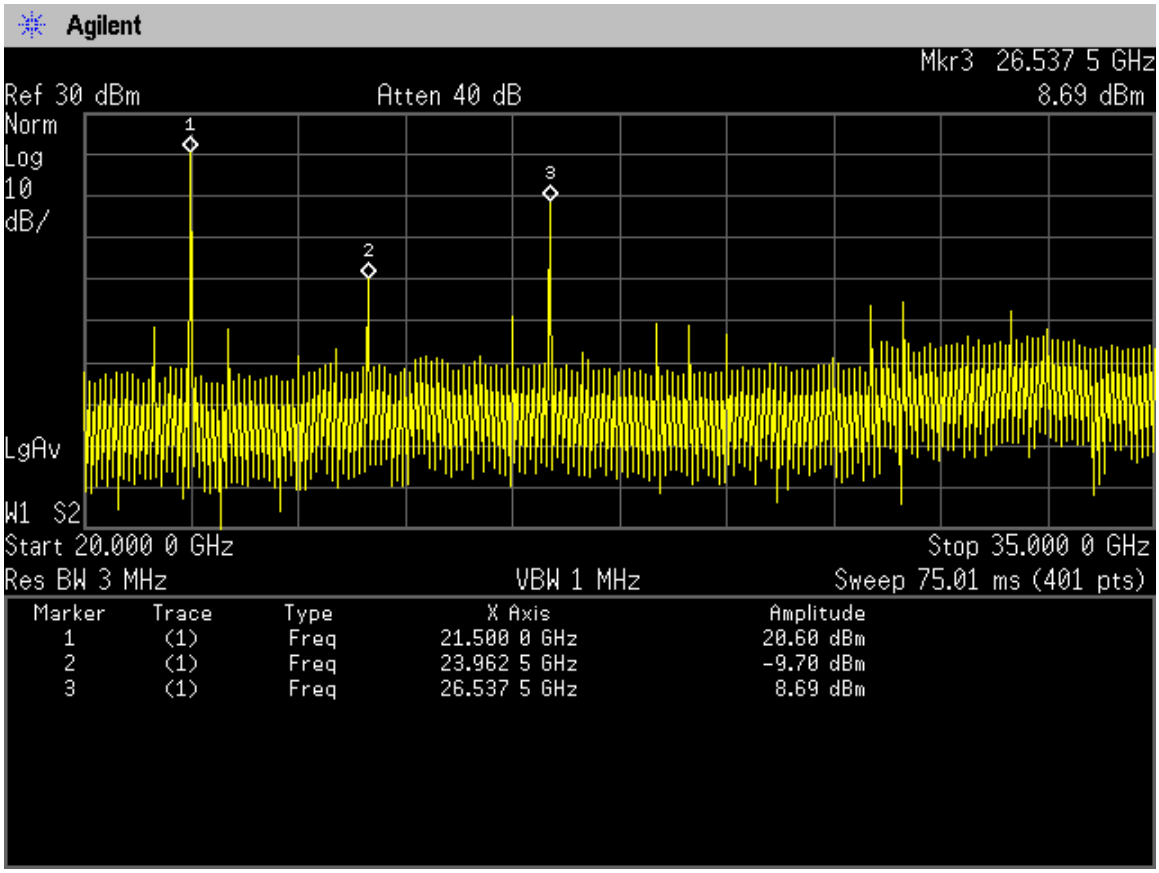
## RF OUTPUT:
**LO 12 GHz @ -5dBm**
**IF 2.5 GHz @ 0dBm**





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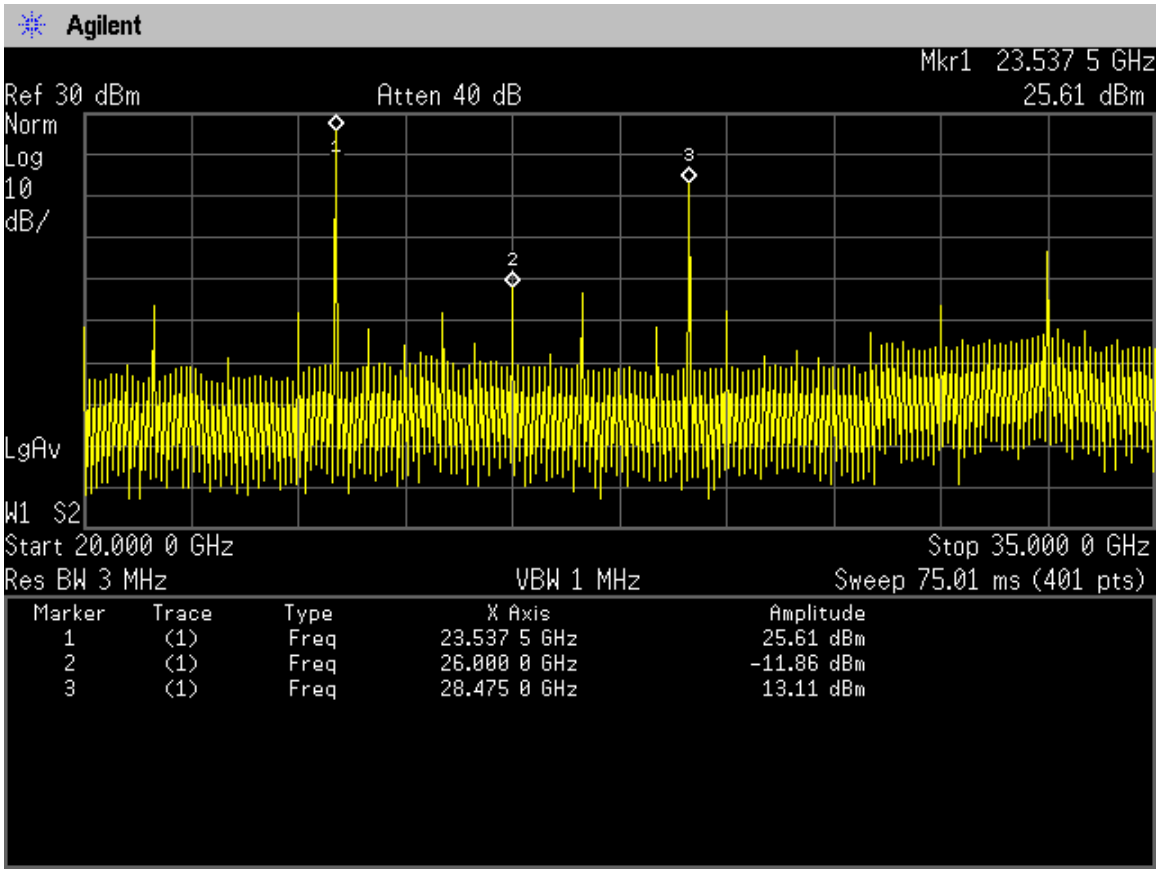



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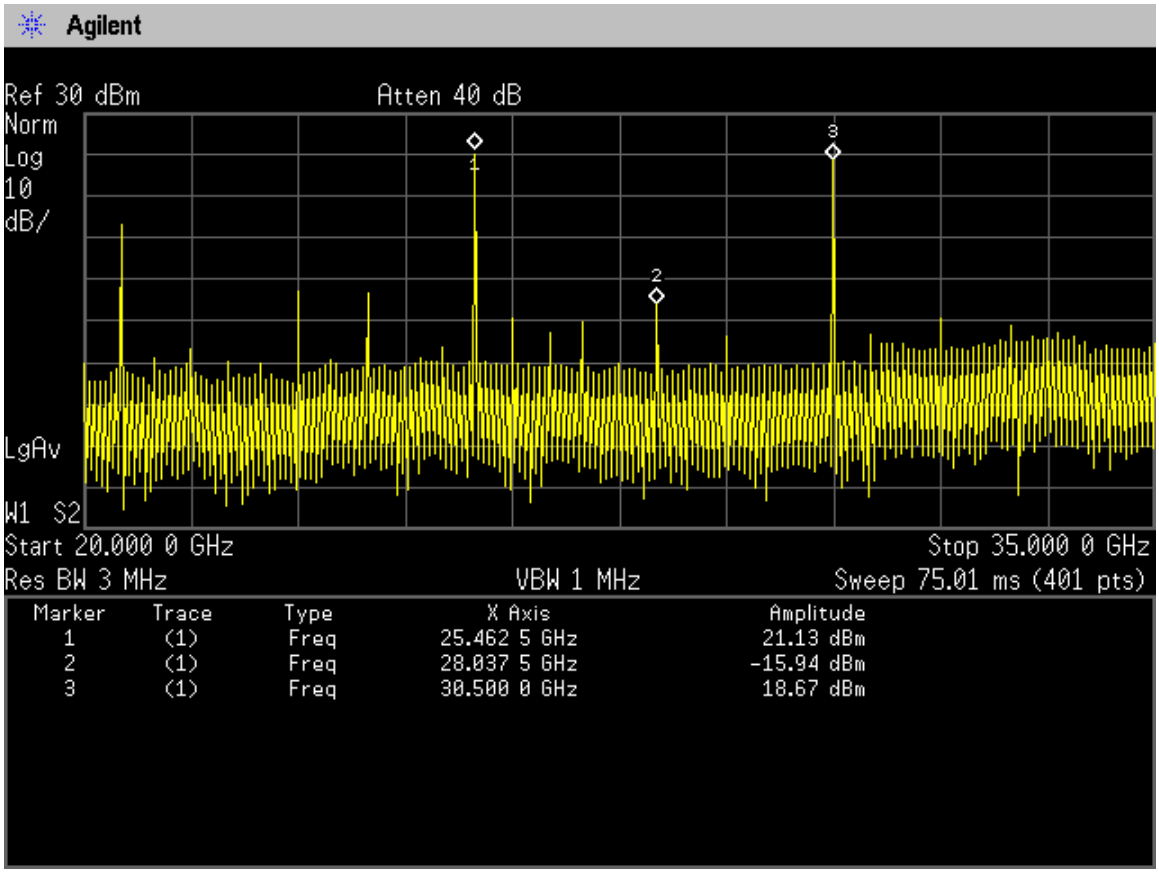



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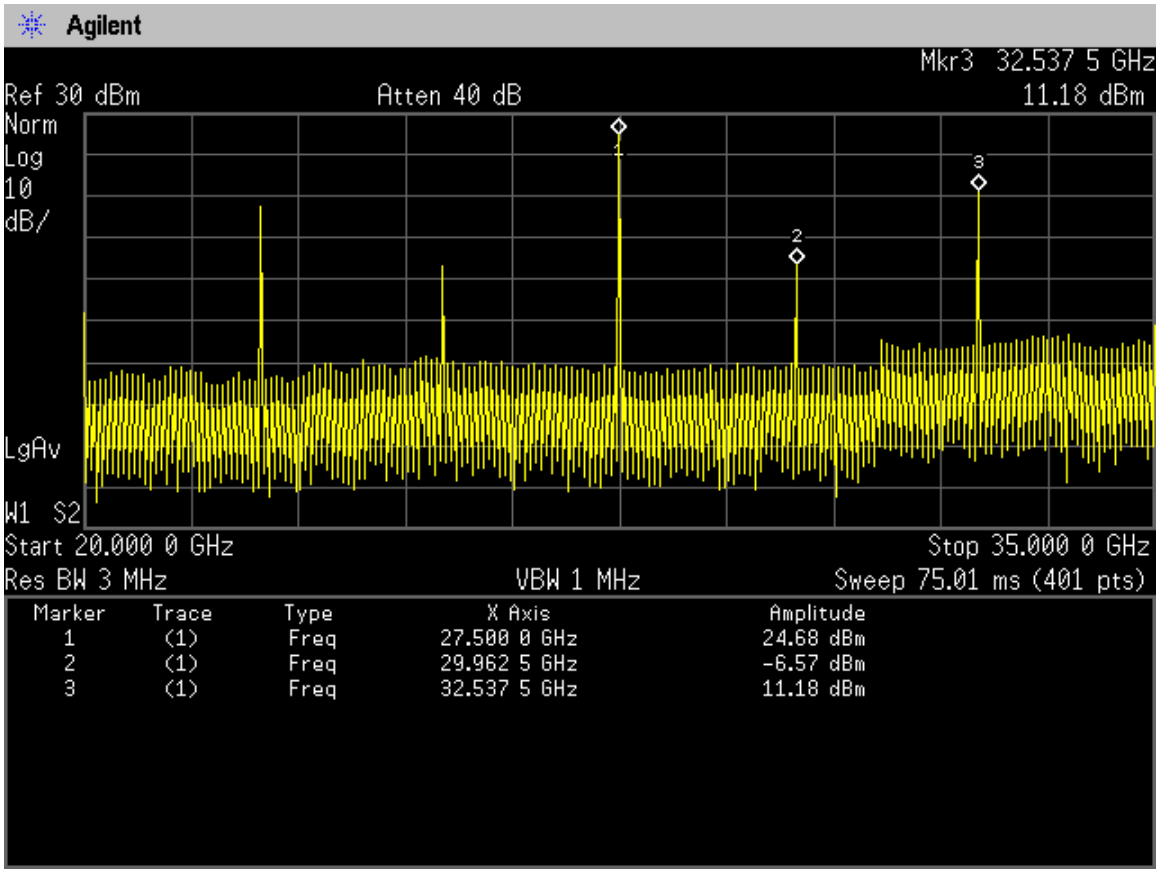



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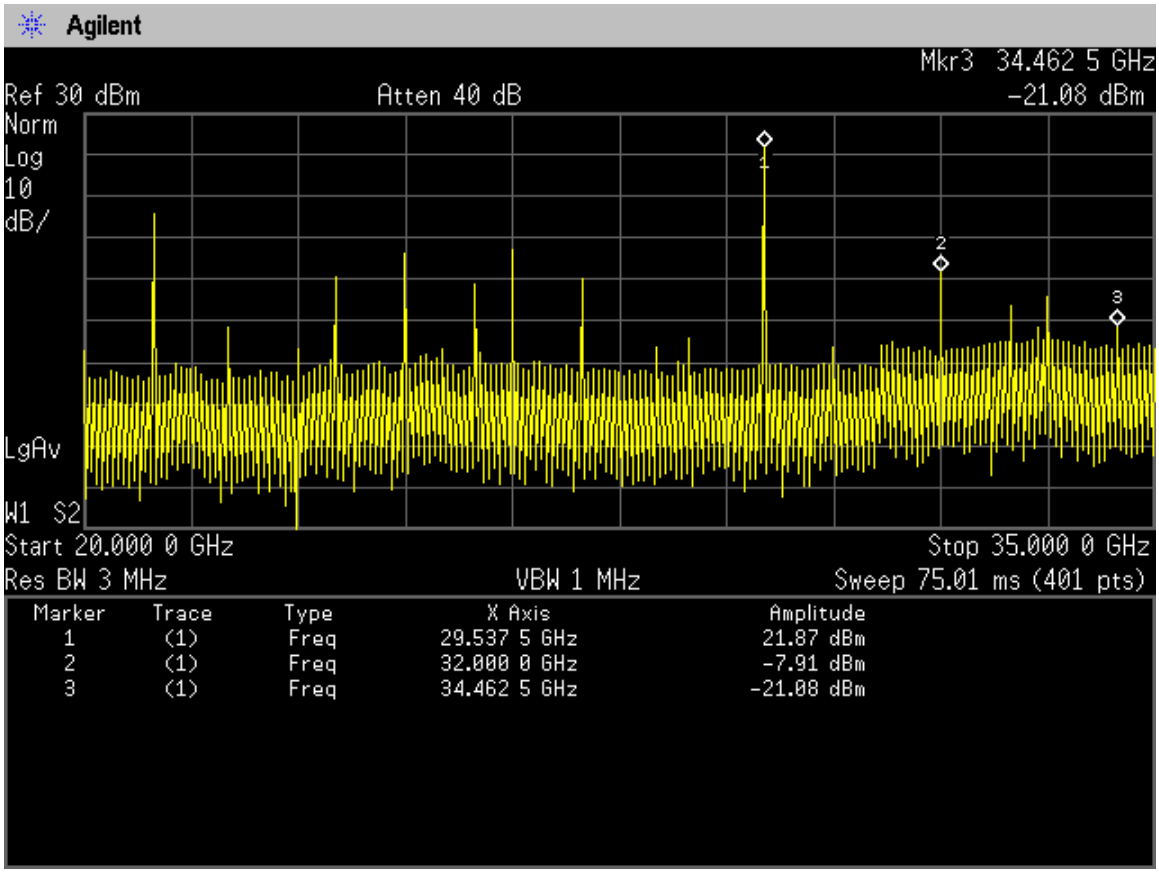



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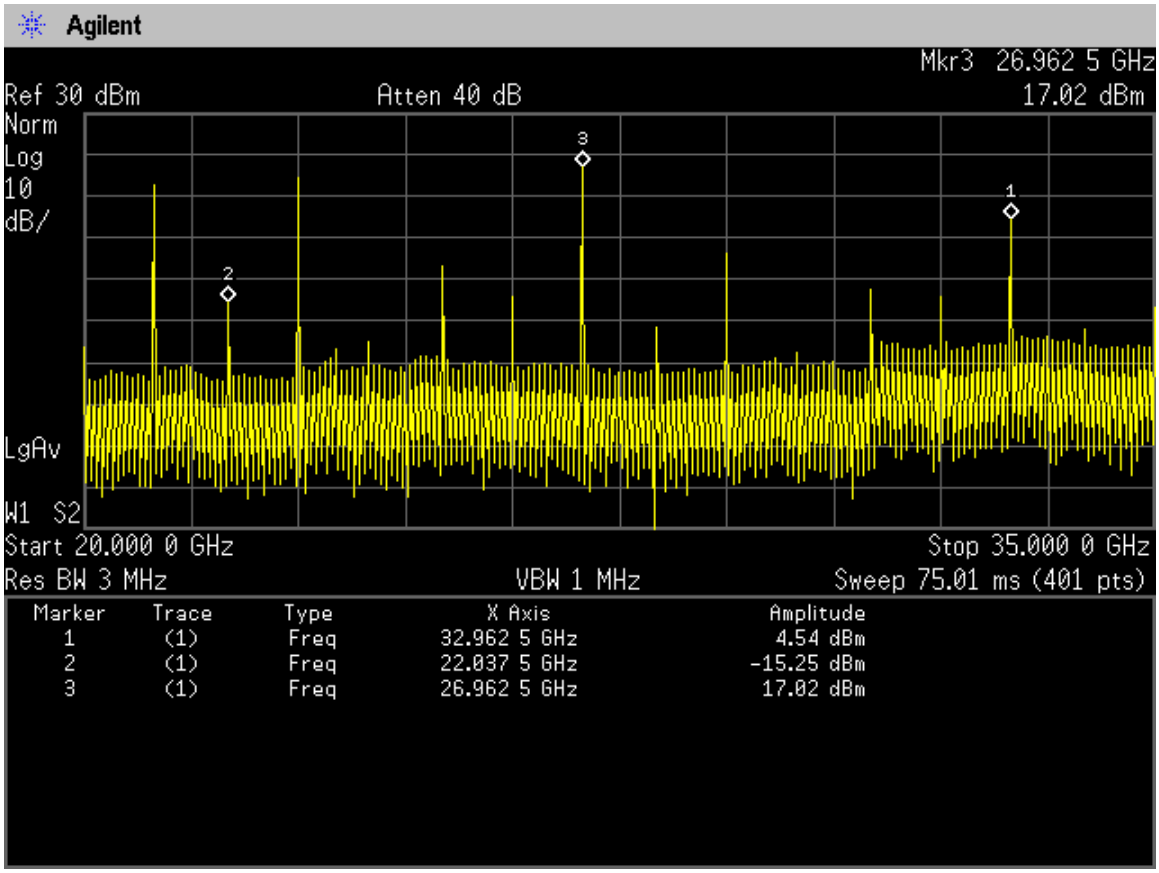
## RF OUTPUT:
## LO 11 GHz @ -5dBm
## IF 5 GHz @ 0dBm





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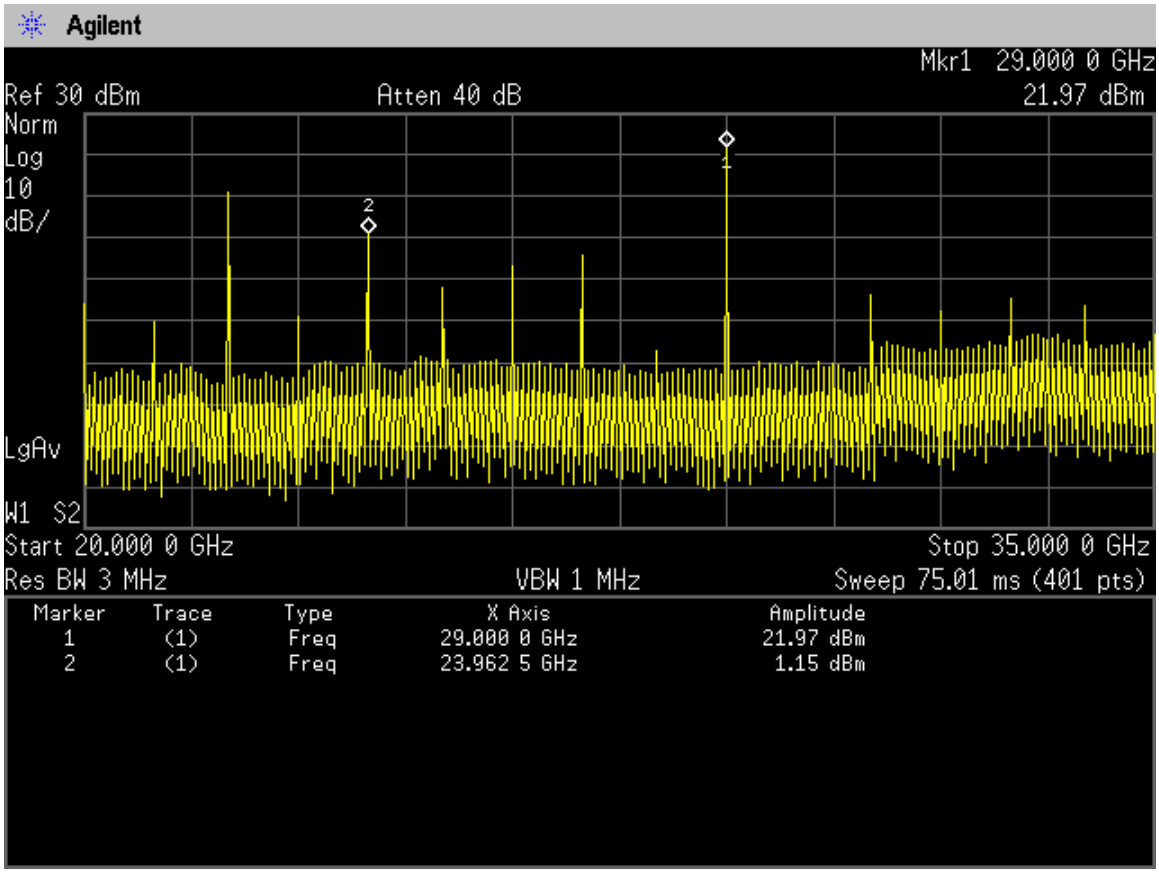



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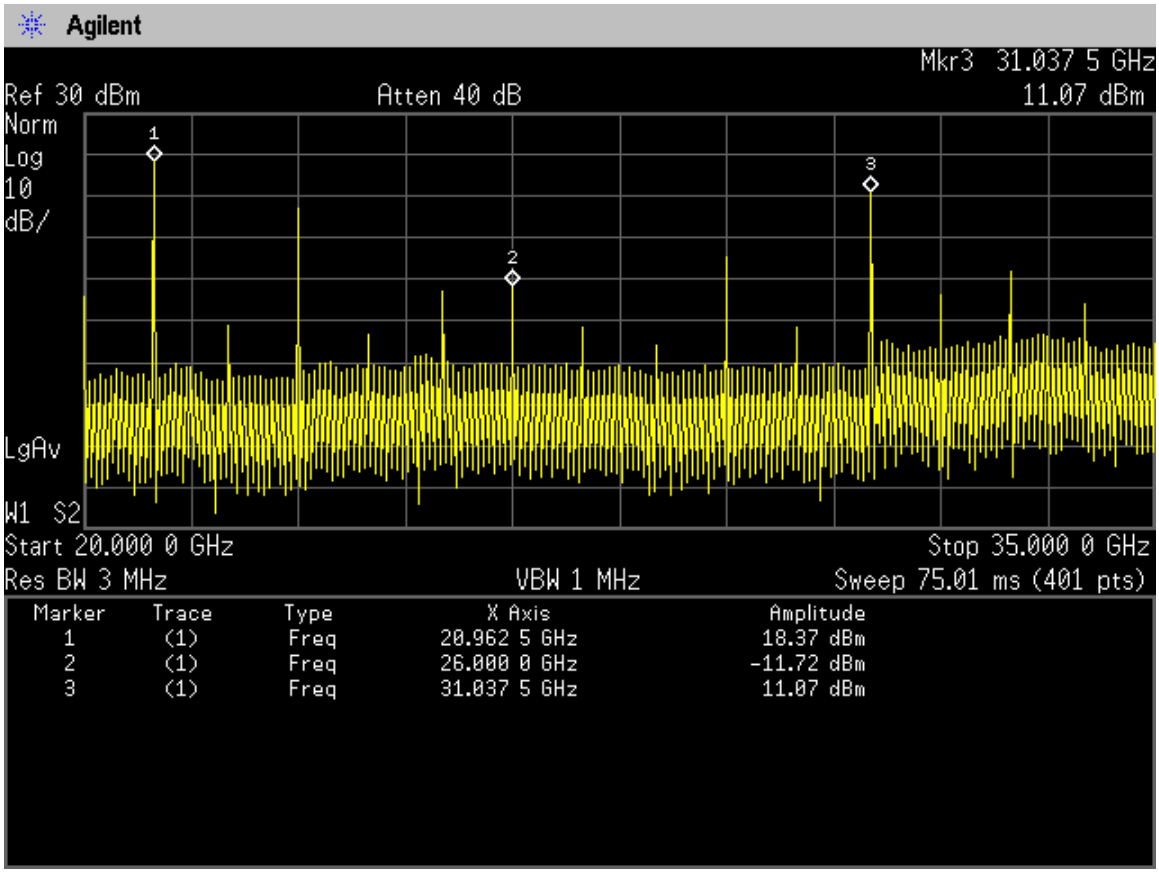



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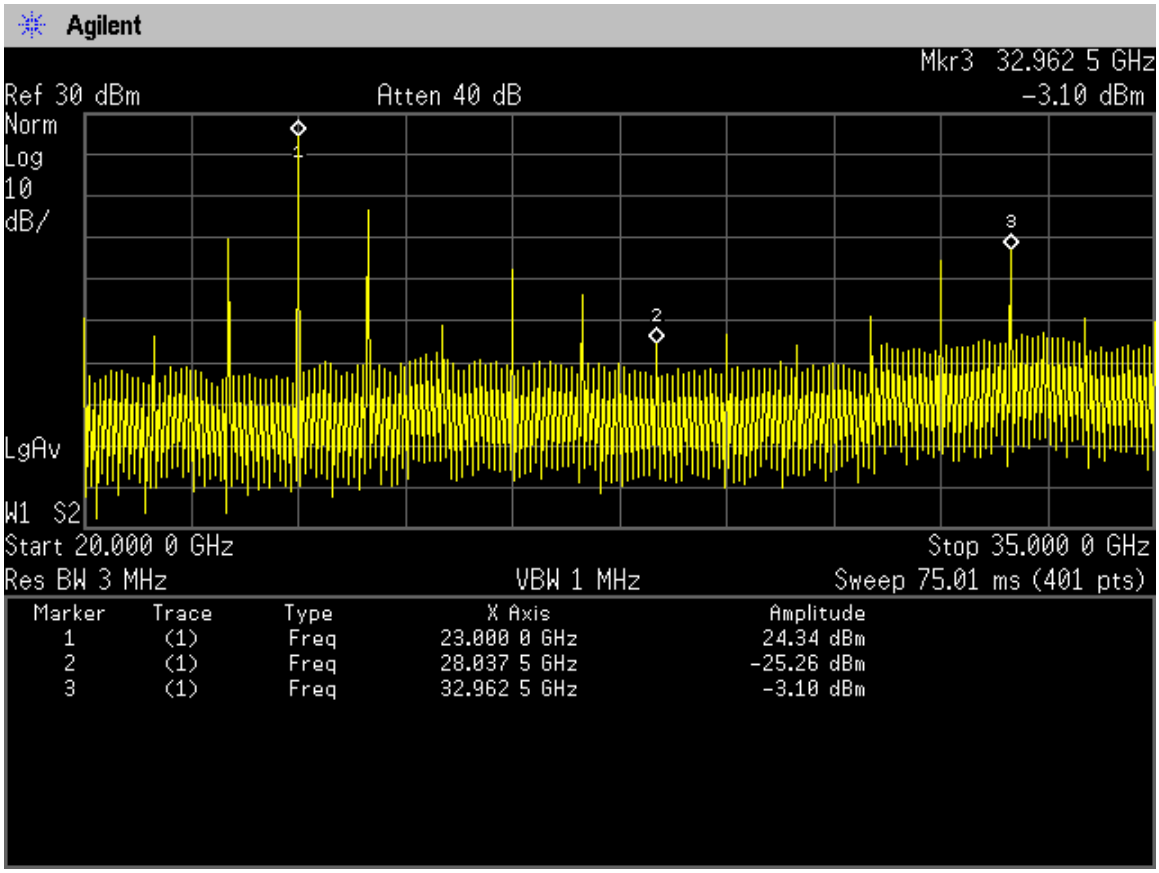



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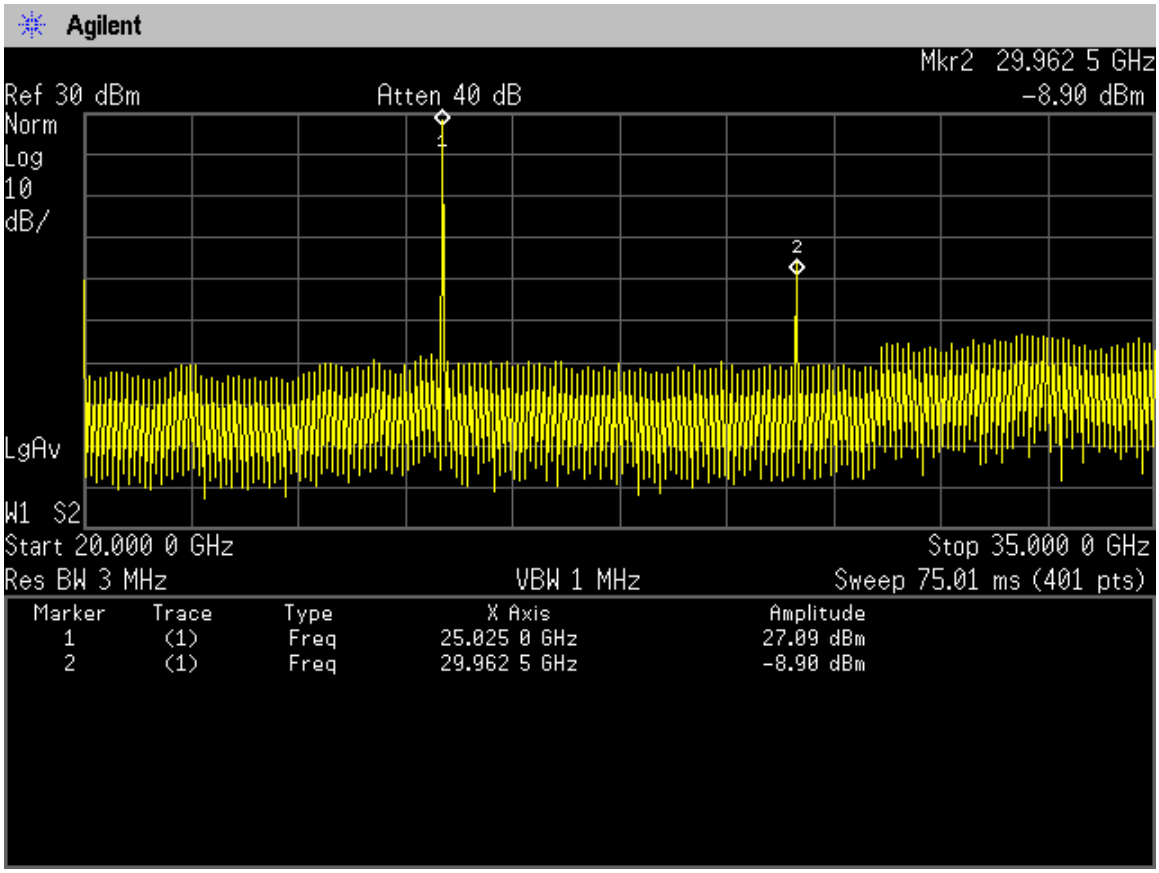



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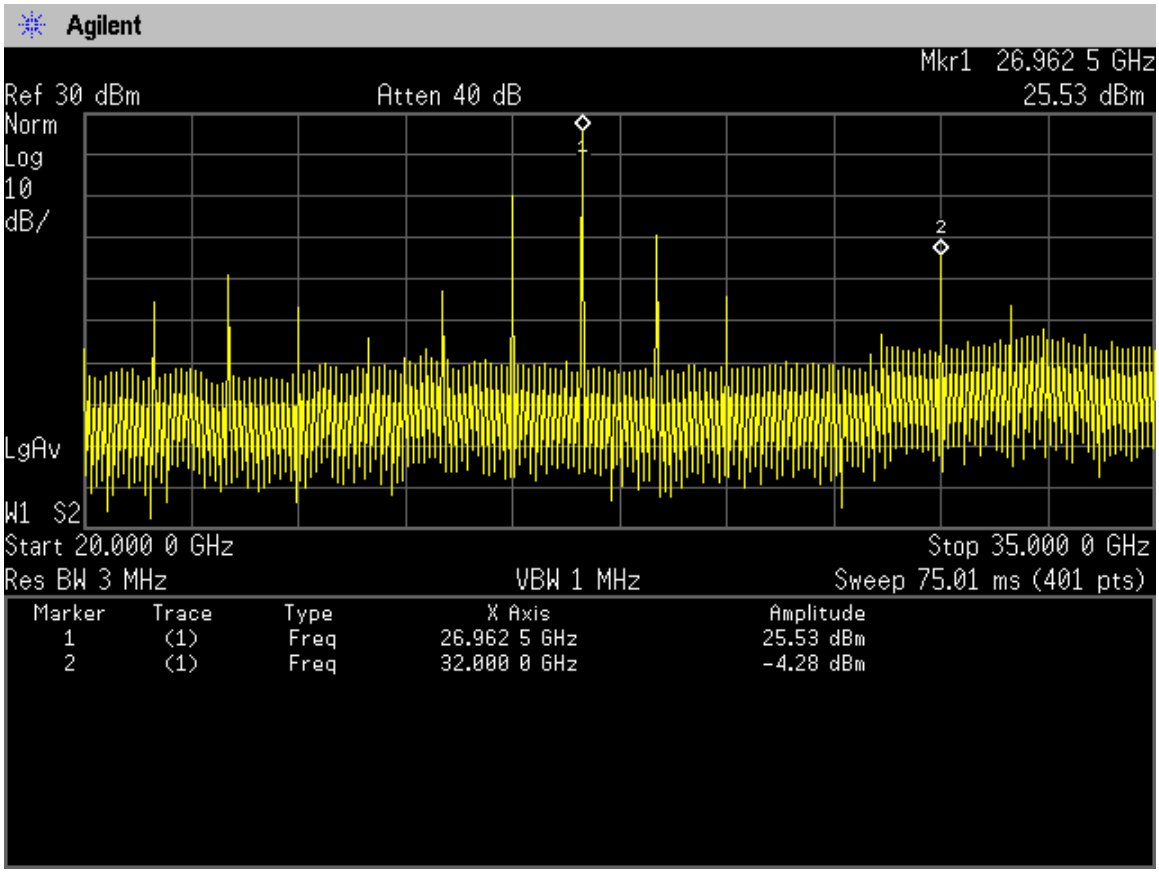



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