## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OMMIC INTRODUCTION</strong></td>
<td></td>
</tr>
<tr>
<td>WHO WE ARE</td>
<td>6</td>
</tr>
<tr>
<td>PRODUCTS &amp; SERVICES</td>
<td>8</td>
</tr>
<tr>
<td>THE FACTORY</td>
<td>8</td>
</tr>
<tr>
<td>STRATEGY &amp; ROADMAP</td>
<td>9</td>
</tr>
<tr>
<td>LATEST NEWS</td>
<td>10</td>
</tr>
<tr>
<td><strong>PRODUCT PORTFOLIO</strong></td>
<td></td>
</tr>
<tr>
<td>MMICs OFFERING</td>
<td>12</td>
</tr>
<tr>
<td>AMPLIFIER</td>
<td>13</td>
</tr>
<tr>
<td>CORECHIP</td>
<td>17</td>
</tr>
<tr>
<td>FREQUENCY CONVERTER</td>
<td>19</td>
</tr>
<tr>
<td>DIODE</td>
<td>22</td>
</tr>
<tr>
<td>OPTICAL</td>
<td>22</td>
</tr>
<tr>
<td><strong>III-V TECHNOLOGIES &amp; FOUNDRY</strong></td>
<td></td>
</tr>
<tr>
<td>ALL PROCESSES</td>
<td>22</td>
</tr>
<tr>
<td>GaN TECHNOLOGY</td>
<td>23</td>
</tr>
<tr>
<td>GaAs TECHNOLOGY</td>
<td>24</td>
</tr>
<tr>
<td>FOUNDRY SERVICE</td>
<td>26</td>
</tr>
<tr>
<td>SPACE QUALIFICATION</td>
<td>28</td>
</tr>
<tr>
<td><strong>FAB+ SERVICES</strong></td>
<td></td>
</tr>
<tr>
<td>GETTING FURTHER</td>
<td>30</td>
</tr>
<tr>
<td>CUSTOM DESIGN</td>
<td>30</td>
</tr>
<tr>
<td>RELIABILITY CENTER</td>
<td>31</td>
</tr>
<tr>
<td>MMIC PACKAGING</td>
<td>32</td>
</tr>
<tr>
<td>HELP &amp; SUPPORT</td>
<td>32</td>
</tr>
</tbody>
</table>
FOREWORD

OMMIC is a pioneer and leader in the III-V domain, in particular in GaN and GaAs semiconductor technologies. With the release of its new 6-inch production line, OMMIC has positioned itself as French industrial leader in the development of the European telecommunications. Its current technologies provides solutions for the 5G base station market at 28 and 40 GHz, as much for the 5G backhaul part of the network.

Indeed, OMMC's GaN processes can be used at frequencies above 30 GHz with power output that has never been reached before in the industry. In addition, OMMIC is continuously investing in research and development to help its customers built new technologies.

With this unique line in Europe, OMMIC affirms its ambition to strengthen its leadership in the market with ever-increasing production volumes. »
OMMIC INTRODUCTION

WHO WE ARE

OMMIC is a supplier of epitaxial wafers, foundry services and MMICs based around the most advanced III-V processes, particularly in GaN and GaAs semiconductor technologies.

In recent years, our activity has been focussing on Gallium Nitride on Silicon (GaN/Si) technology, which is characterized by a higher power density than GaAs—an optimal candidate for emerging applications.

By supplying our advanced technology, we enable our customers to be leaders in a more and more demanding market place. We provide our customers with high-performance RF solutions mainly for:

- **space**: flight model, GPS system, etc.
- **telecommunication**: repeaters, radio communication, 5G base station, backhaul system, mobile phone switches, autonomous car, etc.
- **defense**: AESA radar, missile seeker, electronic warfare, passive and active imaging, etc.

A QUALITY POLICY

OMMIC advocates a strict quality, safety and environmental policy strictly ingrained in our corporate culture. For a sustainable commitment, we only work with suppliers who adhere to the same policy as us to ensure the protection of everyone. In short, we care about everything that enters and leaves of our company.

In addition, we also comply with ethic environmental standards such as RoHS and REACH which concerns the production and use of chemicals and their potential impacts on human health and our planet.

Responsive and competitive, as part of our continuous improvement process, we constantly strive to follow the demanding criteria of ISO standards. Indeed, we have been ISO 9001 certified since 1994 and ISO 14001 since 2002. This sustainable commitment is fully supported by its quality management system.

AN INTERNATIONAL PRESENCE

Based in France, near Paris, we occupy a central position in Europe, but also in the world, to deliver the right product in the right time. Thanks to our reactive regional representative network (contact details on the back of the catalog), we are able to follow customers in their most challenging projects in the entire world.

HELP & SUPPORT

Meeting your requirements is our top priority, so we strive to provide you with the best experience. We have dedicated a support team at your service to bring you the best support with design or technical application assistance within 24 hours. OMMIC provides practical solutions and support at no cost!

In addition, we also comply with ethic environmental standards such as RoHS and REACH which concerns the production and use of chemicals and their potential impacts on human health and our planet.

Responsive and competitive, as part of our continuous improvement process, we constantly strive to follow the demanding criteria of ISO standards. Indeed, we have been ISO 9001 certified since 1994 and ISO 14001 since 2002. This sustainable commitment is fully supported by its quality management system.

A QUALITY POLICY

OMMIC advocates a strict quality, safety and environmental policy strictly ingrained in our corporate culture. For a sustainable commitment, we only work with suppliers who adhere to the same policy as us to ensure the protection of everyone. In short, we care about everything that enters and leaves of our company.

In addition, we also comply with ethic environmental standards such as RoHS and REACH which concerns the production and use of chemicals and their potential impacts on human health and our planet.

Responsive and competitive, as part of our continuous improvement process, we constantly strive to follow the demanding criteria of ISO standards. Indeed, we have been ISO 9001 certified since 1994 and ISO 14001 since 2002. This sustainable commitment is fully supported by its quality management system.

AN INTERNATIONAL PRESENCE

Based in France, near Paris, we occupy a central position in Europe, but also in the world, to deliver the right product in the right time. Thanks to our reactive regional representative network (contact details on the back of the catalog), we are able to follow customers in their most challenging projects in the entire world.

HELP & SUPPORT

Meeting your requirements is our top priority, so we strive to provide you with the best experience. We have dedicated a support team at your service to bring you the best support with design or technical application assistance within 24 hours. OMMIC provides practical solutions and support at no cost!

In addition, we also comply with ethic environmental standards such as RoHS and REACH which concerns the production and use of chemicals and their potential impacts on human health and our planet.

Responsive and competitive, as part of our continuous improvement process, we constantly strive to follow the demanding criteria of ISO standards. Indeed, we have been ISO 9001 certified since 1994 and ISO 14001 since 2002. This sustainable commitment is fully supported by its quality management system.
PRODUCTS & SERVICES

We are supporting you in all your innovative projects by offering:

STANDARD MMICs
We offer a comprehensive portfolio of standard products using GaN/Si and GaAs processes. High performance technologies are available including high power amplifiers, ultra low Noise amplifiers, T/R chips, corechips, switches and more... from DC to 110 GHz.

CUSTOM DESIGN
Can’t find the product you need? OMMIC has a team of designers ready to follow you in your most challenging projects.

FOUNDERY SERVICE
For companies with design capacity, foundry service is the best way to have reliable sourcing. Indeed, with foundry service, there is no unexpected end of life; our processes are conceived to last for more than 30 years. We offer high performance HEMT & HBT processes using GaN, GaAs or InP technology. Our Processes Design Kit (PDK) are available under ADS or Microwave Office and come with thorough design manual.

THE FACTORY
OMMIC’s know-how is not limited to fabricating wafers but also includes epitaxy and back-end services. All of OMMIC’s divisions are located on our historical site in Paris (an area of 27,000 m²) — this proximity is a key asset to develop innovative technology.

TEST
Once the wafers are fabricated, all dies are measured with DC and RF metrics verified. This includes the bias levels, but also S-parameters, power measurements, noise measurements, etc. This ensures OMMIC delivers only working dies with stunning performances.

Our experience in microwave and millimetre waves tests and probe card’s design, leads us to design complex tests procedures allowing testing the main performances and functionalities of our MMIC products in order to guarantee the delivery of know good dies. We open to our customers our RF-test capabilities and knowledge to design and conduct tests on their own prototypes, in order to help them to validate and improve their products.

INSPECTION
The visual inspection process plays an essential role in our manufacturing steps to ensure anomaly detection. We can therefore implement prompt corrective or preventive responses and verify the final quality of each die before sending them to our customers. In order to do so, we perform preliminary visual inspections at each critical step in the production line with sampling and a final visual inspection. Two levels of screening are available:

- ✓ space grade for the highest reliability
- ✓ commercial grade for product with less stringent requirements

STRATEGY & ROADMAP
OMMIC strategy is articulated around GaN/Si technology. With its wide bandgap and high electron mobility, GaN is a perfect candidate for emerging applications. Our strategy includes:

FULL UPDATE OF GaAs SOLUTIONS
OMMIC plans to fully update its GaAs pHEMT MMICs by our more efficient GaN/Si technology, offering the best III-V RF solutions, complementary to Silicon RF solutions.

HIGH-END DEFENSE INDUSTRY
We continue to serve high-end high value-added military market, by taking advantage of state-of-the-art processes.

SPACE QUALIFIED PROCESSES
We continue to serve high-end high value-added space industry, by taking advantage of avant-garde Hi-Reliability processes. This is why, we space qualify all our processes. Currently, the D007IH and D01GH are being evaluated by ESA.

PRODUCTS & SERVICES
We are supporting you in all your innovative projects by offering:

STANDARD MMICs
We offer a comprehensive portfolio of standard products using GaN/Si and GaAs processes. High performance technologies are available including high power amplifiers, ultra low Noise amplifiers, T/R chips, corechips, switches and more... from DC to 110 GHz.

CUSTOM DESIGN
Can’t find the product you need? OMMIC has a team of designers ready to follow you in your most challenging projects.

FOUNDERY SERVICE
For companies with design capacity, foundry service is the best way to have reliable sourcing. Indeed, with foundry service, there is no unexpected end of life; our processes are conceived to last for more than 30 years. We offer high performance HEMT & HBT processes using GaN, GaAs or InP technology. Our Processes Design Kit (PDK) are available under ADS or Microwave Office and come with thorough design manual.

THE FACTORY
OMMIC’s know-how is not limited to fabricating wafers but also includes epitaxy and back-end services. All of OMMIC’s divisions are located on our historical site in Paris (an area of 27,000 m²) — this proximity is a key asset to develop innovative technology.

TEST
Once the wafers are fabricated, all dies are measured with DC and RF metrics verified. This includes the bias levels, but also S-parameters, power measurements, noise measurements, etc. This ensures OMMIC delivers only working dies with stunning performances.

Our experience in microwave and millimetre waves tests and probe card’s design, leads us to design complex tests procedures allowing testing the main performances and functionalities of our MMIC products in order to guarantee the delivery of know good dies. We open to our customers our RF-test capabilities and knowledge to design and conduct tests on their own prototypes, in order to help them to validate and improve their products.

INSPECTION
The visual inspection process plays an essential role in our manufacturing steps to ensure anomaly detection. We can therefore implement prompt corrective or preventive responses and verify the final quality of each die before sending them to our customers. In order to do so, we perform preliminary visual inspections at each critical step in the production line with sampling and a final visual inspection. Two levels of screening are available:

- ✓ space grade for the highest reliability
- ✓ commercial grade for product with less stringent requirements

STRATEGY & ROADMAP
OMMIC strategy is articulated around GaN/Si technology. With its wide bandgap and high electron mobility, GaN is a perfect candidate for emerging applications. Our strategy includes:

FULL UPDATE OF GaAs SOLUTIONS
OMMIC plans to fully update its GaAs pHEMT MMICs by our more efficient GaN/Si technology, offering the best III-V RF solutions, complementary to Silicon RF solutions.

HIGH-END DEFENSE INDUSTRY
We continue to serve high-end high value-added military market, by taking advantage of state-of-the-art processes.

SPACE QUALIFIED PROCESSES
We continue to serve high-end high value-added space industry, by taking advantage of avant-garde Hi-Reliability processes. This is why, we space qualify all our processes. Currently, the D007IH and D01GH are being evaluated by ESA.
LATEST NEWS

NEW PRODUCTS

This year, new standard products were released, we want to highlight 4 of them:
- a 44 - 70 GHz LOW NOISE AMPLIFIER (CGY2272UH)
- a 24 - 36 GHz LOW NOISE AMPLIFIER (CGY2550UH)
- a 6 - 18 GHz 40 dBm GaN POWER AMPLIFIER (CGY2631UH)
- a 13 - 17 GHz 40 dBm GaN POWER AMPLIFIER (CGY2632UH)

For further details, please do not hesitate to contact our engineering team at information@ommic.com

FOLLOW US
Stay connected about OMMIC's news: product introductions, upcoming events, projects, etc. by following us our social networks and subscribing to newsletter.
Scan QR codes bellow to follow us.

PRODUCT PORTFOLIO

MMICs OFFERING
- AMPLIFIER
- CONTROL FUNCTION
- FREQUENCY CONVERTER
- DIODE
- OPTICAL

Because we make sure that you can work in the best conditions, we regularly update OMMIC’s Processes Design Kit.
After long weeks of work, our design center has made improvements on D007IH PDK, GaN PDK (D01CH & D006CH) and D01PH(S) PDK. New versions are available in your personal account on our website.
OMMIC offers a comprehensive portfolio of products using GaN/Si and GaAs processes. High performance technology is available from DC to 110 GHz including:

- amplifiers
- control functions
- frequency converters
- diodes
- opticals

Because meeting customer expectations is our top priority, we have chosen to space qualify all our processes in order to carry out your most demanding requirements. Thus, our GaN/Si and GaAs technologies are space qualified or currently being evaluated by the European Space Agency (cf page 28).

In order to get the highest level of reliability, all OMMIC’s MMICs use gold bonding pads, backside metallization and are fully protected with Silicon Nitride passivation. Please note that, as a company that cares about the environment and the protection of all, OMMIC’s products are RoHS and REACH compliant.

AMPLIFIER
OMMIC portfolio offers a wide range of amplifiers including T/R chips, Low Noise Amplifiers (LNAs), Power Amplifiers (PAs), wideband and gain blocks amplifiers. OMMIC’s amplifiers can be used for applications such as radar, telecom, satcom and also electronic warfare. Our strategy is to fully replace our GaAs pHEMT products by our more efficient GaN/Si technology. Today, our portfolio cover L- to W-band. This includes GaN products for power application, robust LNA and front end chips.

POWER AMPLIFIER
Need power and efficiency? We offer power amplifiers (drivers & HPA) from L- to Q-band. PAs using the trusted reliability of GaAs pHEMT technology have been space qualified and are well suited for flight models. Take advantage of the high power density if our GaN amplifiers featuring outstanding performances with output power above 40 dBm, high linearity, low noise, no noticeable memory effect and efficiency up to 45%.

PERFORMANCE TABLE FOR POWER AMPLIFIERS

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>FREQ (GHz)</th>
<th>GAIN (dB)</th>
<th>PSAT (dBm)</th>
<th>PAE (%)</th>
<th>BIAS CURRENT (A)</th>
<th>DRAIN VOLTAGE (V)</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2540UH</td>
<td>0.5 - 20</td>
<td>22</td>
<td>35</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Die</td>
<td>Dvlp</td>
</tr>
<tr>
<td>CGY2631UH</td>
<td>6 - 18</td>
<td>20</td>
<td>41</td>
<td>38</td>
<td>2</td>
<td>12</td>
<td>Die</td>
<td>Sample</td>
</tr>
<tr>
<td>CGY2620UH/CT</td>
<td>8 - 11</td>
<td>25</td>
<td>412</td>
<td>28</td>
<td>3.25</td>
<td>9</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2632UH</td>
<td>13 - 17</td>
<td>30</td>
<td>40</td>
<td>41</td>
<td>-</td>
<td>-</td>
<td>Die</td>
<td>Dvlp</td>
</tr>
<tr>
<td>CGY2134UH/CT</td>
<td>18 - 23</td>
<td>23</td>
<td>23</td>
<td>15</td>
<td>0.4</td>
<td>4.5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2135UH/CT</td>
<td>18 - 23</td>
<td>23</td>
<td>23</td>
<td>15</td>
<td>0.4</td>
<td>4.5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2650UH/CT</td>
<td>20.9 - 33.5</td>
<td>20</td>
<td>40</td>
<td>31</td>
<td>1.2</td>
<td>12</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2651UH/CT</td>
<td>37 - 43</td>
<td>22</td>
<td>41</td>
<td>35</td>
<td>2.7</td>
<td>12</td>
<td>Die</td>
<td>Prod</td>
</tr>
</tbody>
</table>

*MMIC labeled in blue are using GaN/Si technology

© GPSEA
LOW NOISE AMPLIFIER

We offer LNAs from 100 MHz to 110 GHz. All of OMMIC processes are designed to minimize the noise figure of the transistors. Metamorphic technology (e.g. D007IH & D004IH) is especially good for providing low noise at high frequencies.

Looking for a robust LNA (Pin > 40 dBm)? The large breakdown voltage combined with the low noise of our GaN/Si technology makes it perfect for such feature. They have been designed so that maximum input power is higher than 33 dBm in CW. This is handy because, in most settings, no limiter is needed in front of the LNA. Moreover, GaN LNAs feature high power saturation, which allows high dynamic range radars.

PERFORMANCE TABLE FOR LOW NOISE AMPLIFIERS

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>FREQ. (GHz)</th>
<th>GAIN (dB)</th>
<th>NF (dB)</th>
<th>OP1dB (dBm)</th>
<th>CURRENT (mA)</th>
<th>VOLTAGE (V)</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2106XHV</td>
<td>0.1 - 3</td>
<td>19</td>
<td>0.45</td>
<td>35</td>
<td>100</td>
<td>5</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2105XHV</td>
<td>0.5 - 4</td>
<td>19</td>
<td>0.42</td>
<td>35</td>
<td>100</td>
<td>5</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2107XHV</td>
<td>0.5 - 6</td>
<td>24</td>
<td>0.5</td>
<td>56</td>
<td>100</td>
<td>5</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2108XHV</td>
<td>0.5 - 6</td>
<td>21</td>
<td>0.6</td>
<td>56</td>
<td>100</td>
<td>5</td>
<td>Herl. Class</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2108XHV</td>
<td>0.5 - 6</td>
<td>22</td>
<td>0.5</td>
<td>56</td>
<td>100</td>
<td>5</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2220UH/C1</td>
<td>1 - 12</td>
<td>35</td>
<td>1.3</td>
<td>12</td>
<td>52</td>
<td>1.5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2230UH/C1</td>
<td>1 - 18</td>
<td>35</td>
<td>1.5</td>
<td>12</td>
<td>50</td>
<td>1.5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2270UH/C1</td>
<td>5 - 6</td>
<td>30</td>
<td>1</td>
<td>15</td>
<td>40</td>
<td>3</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2120UH/C1</td>
<td>5 - 7</td>
<td>15</td>
<td>0.5</td>
<td>12</td>
<td>1</td>
<td>50</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2290UH/C1</td>
<td>6 - 18</td>
<td>9</td>
<td>3.3</td>
<td>13</td>
<td>33</td>
<td>5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2221UH/C1</td>
<td>7.5 - 13</td>
<td>16</td>
<td>1.6</td>
<td>17</td>
<td>82</td>
<td>5</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2124UH/C1</td>
<td>8 - 12</td>
<td>33</td>
<td>1.1</td>
<td>11</td>
<td>55</td>
<td>5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2222UH/C1</td>
<td>8 - 12</td>
<td>16</td>
<td>1.6</td>
<td>17</td>
<td>82</td>
<td>5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2222L1</td>
<td>8 - 12</td>
<td>20</td>
<td>1.5</td>
<td>20</td>
<td>160</td>
<td>8</td>
<td>Die</td>
<td>Sample</td>
</tr>
<tr>
<td>CGY2232UH/C1</td>
<td>12 - 15</td>
<td>27</td>
<td>1.3</td>
<td>0</td>
<td>50</td>
<td>3</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2125UH/C1</td>
<td>13 - 15</td>
<td>25</td>
<td>1</td>
<td>5</td>
<td>20</td>
<td>3.3</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2123XUH/C2</td>
<td>18 - 26</td>
<td>19</td>
<td>1.5</td>
<td>5</td>
<td>60</td>
<td>0.8</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2128UH/C2</td>
<td>24 - 34</td>
<td>24</td>
<td>1.3</td>
<td>11</td>
<td>47</td>
<td>3.5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2122UH/C2</td>
<td>25 - 43</td>
<td>32</td>
<td>1</td>
<td>1</td>
<td>30</td>
<td>11</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2260UH/C1</td>
<td>26 - 43</td>
<td>25</td>
<td>15</td>
<td>8</td>
<td>50</td>
<td>1.5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2230UH/C1</td>
<td>26 - 34</td>
<td>20</td>
<td>1.6</td>
<td>17</td>
<td>90</td>
<td>8</td>
<td>Die</td>
<td>Sample</td>
</tr>
<tr>
<td>CGY2272UH</td>
<td>44 - 70</td>
<td>25</td>
<td>2</td>
<td>5</td>
<td>40</td>
<td>11</td>
<td>Die</td>
<td>Sample</td>
</tr>
<tr>
<td>CGY2277UH</td>
<td>71 - 86</td>
<td>25</td>
<td>5</td>
<td>10</td>
<td>40</td>
<td>11</td>
<td>Die</td>
<td>Sample</td>
</tr>
<tr>
<td>CGY2190UH/C2</td>
<td>75 - 110</td>
<td>23</td>
<td>3</td>
<td>1</td>
<td>33</td>
<td>1</td>
<td>Die</td>
<td>Prod</td>
</tr>
</tbody>
</table>

*MMIC labeled in blue are using GaN/Si technology

space qualified product
PRODUCT PORTFOLIO

OMMIC offers gain block for industrial applications, wireless infrastructure, aerospace and defense.

**GAIN BLOCK AMPLIFIER**
Our portfolio of MMICs includes wideband amplifiers from DC to 54 GHz dedicated to applications such as instrumentation, electronic warfare and 43 Gb/s OC-768 EAM driver.

OMMIC’s wideband amplifiers are space qualified because they are manufactured using GaN/Si technology which features high output power, outstanding efficiency as well as great robustness.

**WIDEBAND AMPLIFIER**
Our portfolio of MMICs includes wideband amplifiers from DC to 54 GHz dedicated to applications such as instrumentation, electronic warfare and 43 Gb/s OC-768 EAM driver.

OMMIC’s wideband amplifiers are space qualified because they are manufactured using GaN/Si technology which features high output power, outstanding efficiency as well as great robustness.

Example: CGY2170YHV/C1 a 6 bit packaged Corechip
Each phase and attenuation states are loaded in the shift register (at a clock (CLK) rate up to 250 MHz), then phase and attenuation configuration are changed after latch enable (LE) signal.

**CORECHIP**
Corechips are based on the integration in a single die of digital phase shifters, digital attenuators, LNAs, MPAs and switches for phased array antenna applications. Phase shifters, attenuators, LNAs and MPAs integrated into a single chip controlled through Serial CMOS TTL compatible access.

With our ED02AH process, it is possible to have enhanced (E) and depletion (D) transistors on the same die. Having E- and D- type transistors allows one to design control functions with a serial interface that simplifies the interaction with the device.

**CONTROL FUNCTION**
OMMIC’s portfolio offers a large choice of control functions including corechips, phase shifters, attenuators, true time delays and switches operating from DC to 96 GHz. These devices are ideal for use in civil applications such as radars, telecommunication, instrumentation, GPS systems but also for passive and active imaging.

**T/R CHIP**
Are you designing a RF front-end? We offer T/R chips operating from 26 to 40 GHz which are composed of a PA, a LNA and switches to route the signal.

OMMIC’s T/R chips are design with GaN/Si technology which features high output power, outstanding efficiency as well as great robustness.

**PERFORMANCE TABLE FOR T/R CHIPS**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>FREQ (GHz)</th>
<th>GAIN Rx / Tx (dB)</th>
<th>POUT (dBm)</th>
<th>RX NF (dB)</th>
<th>TX NF (dB)</th>
<th>SUPPLY VOLTAGE (V)</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2750UH</td>
<td>26 - 34</td>
<td>20 / 20</td>
<td>35</td>
<td>2.7</td>
<td>36</td>
<td>0.45</td>
<td>12</td>
<td>Die</td>
</tr>
<tr>
<td>CGY2760UH</td>
<td>37 - 40</td>
<td>16 / 27</td>
<td>35</td>
<td>3.5</td>
<td>35</td>
<td>1.3</td>
<td>12</td>
<td>Die</td>
</tr>
</tbody>
</table>

*MMIC labeled in blue are using GaN/Si technology

**PERFORMANCE TABLE FOR CORECHIPS (PS + ATT)**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>ACCESS</th>
<th>FREQ (GHz)</th>
<th>INTERFACE</th>
<th>BITS</th>
<th>RMS</th>
<th>ATTENUATION/PHASE RANGE</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2775A/C1</td>
<td>3 ports</td>
<td>4.5 - 6.5</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.5 dB / 2°</td>
<td>315 dB / 360°</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2775A/C2</td>
<td>3 ports</td>
<td>4.5 - 6.5</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.2 dB / 13°</td>
<td>315 dB / 360°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2775Y/C1</td>
<td>3 ports</td>
<td>8 - 12</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.5 dB / 4°</td>
<td>315 dB / 360°</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2775Y/C2</td>
<td>3 ports</td>
<td>8 - 12</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.4 dB / 3°</td>
<td>315 dB / 360°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2330UH/C1</td>
<td>2 ports</td>
<td>12 - 15</td>
<td>Serial</td>
<td>6</td>
<td>0.5 dB / 12.5°</td>
<td>15 dB / 348.8°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2350UH/C1</td>
<td>2 ports</td>
<td>26.5 - 30.5</td>
<td>Serial</td>
<td>6</td>
<td>0.5 dB / 4°</td>
<td>22 dB / 360°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2350UH/C2</td>
<td>2 ports</td>
<td>34 - 36</td>
<td>Serial</td>
<td>5</td>
<td>0.5 dB / 5°</td>
<td>15 dB / 348.8°</td>
<td>Die</td>
<td>Prod</td>
</tr>
</tbody>
</table>

**PERFORMANCE TABLE FOR GAIN BLOCK AMPLIFIERS**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>FREQ (GHz)</th>
<th>GAIN (dB)</th>
<th>NOISE FIGURE (dB)</th>
<th>PSAT (dBm)</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2733UH/C1</td>
<td>12 - 15</td>
<td>19</td>
<td>4</td>
<td>10</td>
<td>Die</td>
<td>Prod</td>
</tr>
</tbody>
</table>

**PERFORMANCE TABLE FOR WIDEBAND AMPLIFIERS**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>FREQ (GHz)</th>
<th>GAIN (dB)</th>
<th>NF (dB)</th>
<th>POUT (dBm)</th>
<th>SUPPLY CURRENT (A)</th>
<th>SUPPLY VOLTAGE (V)</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2141UH/C1</td>
<td>0.01 - 46</td>
<td>16</td>
<td>2</td>
<td>21</td>
<td>195</td>
<td>5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2142UH/C2</td>
<td>0.01 - 54</td>
<td>15</td>
<td>2.5</td>
<td>15</td>
<td>100</td>
<td>Die</td>
<td>Prod</td>
<td></td>
</tr>
<tr>
<td>CGY2145UH/C1</td>
<td>0.5 - 45</td>
<td>13</td>
<td>2.6</td>
<td>18</td>
<td>85</td>
<td>5</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2160UH/C1</td>
<td>1.5 - 47</td>
<td>15</td>
<td>2.5</td>
<td>19</td>
<td>103</td>
<td>5</td>
<td>Die</td>
<td>Prod</td>
</tr>
</tbody>
</table>

**PERFORMANCE TABLE FOR T/R CHIPS**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>ACCESS</th>
<th>FREQ (GHz)</th>
<th>INTERFACE</th>
<th>BITS</th>
<th>RMS</th>
<th>ATTENUATION/PHASE RANGE</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2775A/C1</td>
<td>3 ports</td>
<td>4.5 - 6.5</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.5 dB / 2°</td>
<td>315 dB / 360°</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2775A/C2</td>
<td>3 ports</td>
<td>4.5 - 6.5</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.2 dB / 13°</td>
<td>315 dB / 360°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2775Y/C1</td>
<td>3 ports</td>
<td>8 - 12</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.5 dB / 4°</td>
<td>315 dB / 360°</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2775Y/C2</td>
<td>3 ports</td>
<td>8 - 12</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.4 dB / 3°</td>
<td>315 dB / 360°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2330UH/C1</td>
<td>2 ports</td>
<td>12 - 15</td>
<td>Serial</td>
<td>6</td>
<td>0.5 dB / 12.5°</td>
<td>15 dB / 348.8°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2350UH/C1</td>
<td>2 ports</td>
<td>26.5 - 30.5</td>
<td>Serial</td>
<td>6</td>
<td>0.5 dB / 4°</td>
<td>22 dB / 360°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2350UH/C2</td>
<td>2 ports</td>
<td>34 - 36</td>
<td>Serial</td>
<td>5</td>
<td>0.5 dB / 5°</td>
<td>15 dB / 348.8°</td>
<td>Die</td>
<td>Prod</td>
</tr>
</tbody>
</table>

**PERFORMANCE TABLE FOR Rx CORECHIPS**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>ACCESS</th>
<th>FREQ (GHz)</th>
<th>INTERFACE</th>
<th>BITS</th>
<th>RMS</th>
<th>ATTENUATION/PHASE RANGE</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2775A/C1</td>
<td>3 ports</td>
<td>4.5 - 6.5</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.5 dB / 2°</td>
<td>315 dB / 360°</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2775A/C2</td>
<td>3 ports</td>
<td>4.5 - 6.5</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.2 dB / 13°</td>
<td>315 dB / 360°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2775Y/C1</td>
<td>3 ports</td>
<td>8 - 12</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.5 dB / 4°</td>
<td>315 dB / 360°</td>
<td>QFN</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2775Y/C2</td>
<td>3 ports</td>
<td>8 - 12</td>
<td>CMOS, Serial</td>
<td>6</td>
<td>0.4 dB / 3°</td>
<td>315 dB / 360°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2330UH/C1</td>
<td>2 ports</td>
<td>12 - 15</td>
<td>Serial</td>
<td>6</td>
<td>0.5 dB / 12.5°</td>
<td>15 dB / 348.8°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2350UH/C1</td>
<td>2 ports</td>
<td>26.5 - 30.5</td>
<td>Serial</td>
<td>6</td>
<td>0.5 dB / 4°</td>
<td>22 dB / 360°</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2350UH/C2</td>
<td>2 ports</td>
<td>34 - 36</td>
<td>Serial</td>
<td>5</td>
<td>0.5 dB / 5°</td>
<td>15 dB / 348.8°</td>
<td>Die</td>
<td>Prod</td>
</tr>
</tbody>
</table>

**PERFORMANCE TABLE FOR GAIN BLOCK AMPLIFIERS**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>FREQ (GHz)</th>
<th>GAIN (dB)</th>
<th>NOISE FIGURE (dB)</th>
<th>PSAT (dBm)</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2733UH/C1</td>
<td>12 - 15</td>
<td>19</td>
<td>4</td>
<td>10</td>
<td>Die</td>
<td>Prod</td>
</tr>
</tbody>
</table>
PHASE-SHIFTER
Need to change the phase of a signal? OMMIC offers digital phase shifters from 4.8 to 18 GHz with its space qualified ED02AH GaAs pHEMT process. Use 360° phase shifting chips down to 1.09° RMS Phase Error with insertion loss from 5 dB. Phase shifters are dedicated for 5G, communication, aerospace and defense.

ATTENUATOR
Need to reduce amplitude level of incoming signal, protect your systems from high power? We offer attenuators from 1 to 18 GHz with its space qualified ED02AH GaAs pHEMT process. Up to 35 dB attenuation range in 0.5 dB steps.

TRUE TIME DELAY FUNCTION
We offer true time delay functions of 1-bit and 5-bit operating from 6 to 18 GHz introducing a delay from 10 to 330 ps.

SWITCH
Our switches portfolio includes discrete components from single-pole-single-throw (SPST) to single-pole-dual-throw (SPDT). These switch products showcase a great isolation, low losses and large power handling.

FREQUENCY CONVERTER
WIDEBAND MIXER
Looking for high frequencies converters? We have the solution with our range of various up and down converters. Designed to feature high isolation, our wideband mixers can be used for applications such as radars, telecommunication, instrumentation, GPS systems and much more.

MULTIPLIER
Our portfolio of MMICs includes a x8 multiplier as part of our 94 GHz chipset.
**DIODE**

Need a detector diode for your projects? Our portfolio includes a zero bias diode that is a great match with CGY2190UH/C2 for imaging solutions.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>FREQ (GHz)</th>
<th>SENSITIVITY (mV/uW)</th>
<th>BREAKDOWN VOLTAGE (V)</th>
<th>IRL (dB)</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2870UH/C1</td>
<td>80 - 110</td>
<td>9</td>
<td>-15</td>
<td>&gt; 2</td>
<td>Die</td>
<td>Sample</td>
</tr>
</tbody>
</table>

**OPTICAL**

OMMIC’s portfolio includes TransImpedance Amplifiers (TIA) up to 43 Gb/s for optical fibers application.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>DATA RATE (Gb/s)</th>
<th>DIFF GAIN (dB)</th>
<th>INPUT OVERLOAD (mW)</th>
<th>ON CHIP AGC</th>
<th>CURRENT (mA)</th>
<th>POWER SUPPLY (V)</th>
<th>PKG</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGY2102UH/C2</td>
<td>2.5</td>
<td>76</td>
<td>2.5</td>
<td>Yes</td>
<td>45</td>
<td>+3.3</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2110UH/C1/S2</td>
<td>10</td>
<td>72</td>
<td>2.0</td>
<td>Yes</td>
<td>70</td>
<td>+5.0</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2121UH/C1</td>
<td>10.7</td>
<td>72</td>
<td>2.5</td>
<td>Yes</td>
<td>70</td>
<td>+5.0</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2116UH/C2</td>
<td>10.7</td>
<td>74</td>
<td>2.5</td>
<td>Yes</td>
<td>83</td>
<td>+5.0</td>
<td>Die</td>
<td>Prod</td>
</tr>
<tr>
<td>CGY2144UH/C2</td>
<td>43</td>
<td>49</td>
<td>3.5</td>
<td>No</td>
<td>100</td>
<td>+5.0</td>
<td>Die</td>
<td>Prod</td>
</tr>
</tbody>
</table>

Additional technical and commercial information can be provided by our sales team available at information@ommic.com

**III-V TECHNOLOGIES & FOUNDRY**

- **ALL PROCESSES**
- **GaN TECHNOLOGY**
- **GaAs TECHNOLOGY**
- **FOUNDRY SERVICE**
- **SPACE QUALIFICATION**

**CAN’T FIND THE PRODUCT YOU NEED?**

Having trouble finding a product with exotic specification on the market? Do not worry, OMMIC has other options.

SEE PAGE 30
OMMIC has a fully open foundry policy providing the most innovative processes to the world. With foundry service, there is no unexpected end of life, our processes are designed to last for more than 30 years, and remain available as long as needed. Use it to design the devices that are best suited for you!

They are designing using OMMIC’s technologies:

- **GaN TECHNOLOGY**
  - **D01GH PROCESS**
    - TECHNOLOGY GaN on Si
    - STATUS Market Introduction
    - GATE LENGTH 100 nm
    - WAFER SIZE 3 inch / 6 inch
    - THICKNESS 100 µm
    - GATE WRITE E-beam
    - Ft - Fmax 100 - 180 GHz
    - Vbgd 36 V
    - Vds 12 V
    - Idss max 1200 - 1700 mA/mm
    - TRANSCONDUCTION 800 mS/mm
    - MIM CAPACITORS 400 pF/mm²
    - NOISE FIGURE 1.5 dB (40 GHz)
    - POWER DENSITY 4 W/mm CW 5.9 Pulse

- **D006GH PROCESS**
  - TECHNOLOGY GaN on Si
  - STATUS Market Introduction
  - GATE LENGTH 60 nm
  - WAFER SIZE 3 inch / 6 inch
  - THICKNESS 100 µm
  - GATE WRITE E-beam
  - Ft - Fmax 150 - 190 GHz
  - Vbgd 36 V
  - Vds 12 V
  - Idss max 1200 - 1700 mA/mm
  - TRANSCONDUCTION 800 mS/mm
  - MIM CAPACITORS 400 pF/mm²
  - NOISE FIGURE 1 dB (40 GHz)
  - POWER DENSITY 3 mW/mm CW 4 Pulse

Having more than 40 years of experience in process development, OMMIC’s engineers conceived a wide portfolio of processes using III-V materials - focused on millimetre wave and terahertz - including GaAs mHEMT and pHEMT, InP HBT and GaN HEMT. These processes enable cut-off frequencies as high as 400 GHz enabling new application at always higher frequencies.
WHY GaN TECHNOLOGY?
At OMMIC, we believe GaN is the third revolution of III-V compounds. With its wide bandgap, high breakdown voltage and high electron mobility, it is a good candidate for power application at high frequencies. Furthermore, D01GH and D006GH have been engineered to reduce traps as much as possible. This is why, unlike most GaN processes on the market OMMIC’s GaN provides few-to-no memory effect. It also features good linearity in terms of ACLR or EVM, which can be further improved using digital predistortion techniques. OMMIC’s GaN processes have also been designed to minimize the overall noise figure of the MMICs.

Today, we focus on providing integrated T/R chips with robust LNAs, high PAs and fast switch on a single die.

DISCOVER GaN MMICs
To offer the best RF III-V solutions, we plan to fully update GaAs pHEMT solutions using GaN/Si technology. OMMIC’s GaN process portfolio includes D01GH for modern millimetre wave application, and D006GH for the sub-Terahertz.

CGY 2170
MMIC Corechip (Phase Shifter + Amplifier + Attenuator)
FREQ 8 - 12 GHz
GAIN 6 dB
PHASE CONTROL 360°
RMS PHASE 3°
ATTEN CONTROL 315 dB
RMS ATTEN 2.25 dB

CGY 2135
MMIC Power Amplifier
FREQ 18 - 23 GHz
GAIN 25 dB
PSAT 33 dBm
POWER CONSUMPTION
- Vd 4 V
- Id 1.2 A

CGY 2128
Low Noise Amplifier
FREQ 24 - 30 GHz
GAIN 23 dB
NOISE FIGURE 3 dBm
OP1dB 1 dBm
POWER CONSUMPTION
- Vd 1 V
- Id 33 mA

CGY 2190
Low Noise Amplifier
FREQ 75 - 110 GHz
GAIN 23 dB
NOISE FIGURE 3 dBm
OP1dB 1 dBm
POWER CONSUMPTION
- Vd 1 V
- Id 33 mA

SEE PAGE 15 - 17

GaAs TECHNOLOGY

D007H PROCESS

TECHNOLOGY GaAs mHEMT
STATUS Production
GATE LENGTH 70 nm
WAFER SIZE 3 inch
THICKNESS 70 - 100 µm
GATE WRITE E-beam
Ft - Fmax 300 - 650 GHz
Vbgd 4 V
Vds q 3 V
Ids - Idss max 200 - 400 mA/mm
TRANSDUCTION 3000 mS/mm
MIM CAPACITORS 400 pF/mm²
NOISE FIGURE 0.5 dB (30 GHz)

D004H PROCESS

TECHNOLOGY GaAs mHEMT
STATUS Development
GATE LENGTH 40 nm
WAFER SIZE 3 inch
THICKNESS 70 - 100 µm
GATE WRITE E-beam
Ft - Fmax 400 - 600 GHz
Vbgd 4 V
Vds q 3 V
Ids - Idss max 200 - 400 mA/mm
TRANSDUCTION 2000 mS/mm
MIM CAPACITORS 400 pF/mm²
NOISE FIGURE 0.4 dB (30 GHz)

D01MH PROCESS

TECHNOLOGY GaAs mHEMT
STATUS Production
GATE LENGTH 125 nm
WAFER SIZE 3 inch
THICKNESS 70 - 100 µm
GATE WRITE E-beam
Ft - Fmax 150 - 250 GHz
Vbgd 8 V
Vds q 6 V
Ids - Idss max 300 - 500 mA/mm
TRANSDUCTION 700 mS/mm
MIM CAPACITORS 400 pF/mm²
NOISE FIGURE 0.8 dB (30 GHz)
POWER DENSITY 30 mW/mm²

D01PH(S) PROCESS

TECHNOLOGY GaAs pHEMT
STATUS Production
GATE LENGTH 135 nm
WAFER SIZE 3 inch
THICKNESS 70 - 100 µm
GATE WRITE E-beam
Ft - Fmax 100 - 180 GHz
Vbgd 12 V
Vds q 10 V
Ids - Idss max 500 - 700 mA/mm
TRANSDUCTION 650 mS/mm
MIM CAPACITORS 400 pF/mm²
NOISE FIGURE 1.1 dB (30 GHz)
POWER DENSITY 640 mW/mm²

D01PH(S) PROCESS

TECHNOLOGY GaAs pHEMT
STATUS Production
GATE LENGTH 135 nm
WAFER SIZE 3 inch
THICKNESS 70 - 100 µm
GATE WRITE E-beam
Ft - Fmax 100 - 180 GHz
Vbgd 12 V
Vds q 10 V
Ids - Idss max 500 - 700 mA/mm
TRANSDUCTION 650 mS/mm
MIM CAPACITORS 400 pF/mm²
NOISE FIGURE 1.1 dB (30 GHz)
POWER DENSITY 640 mW/mm²
FOUNDRY SERVICE

For companies with design capacity, foundry service is the best way to have reliable sourcing. Indeed, with foundry service, there is no unexpected end of life; our processes are designed to last for more than 30 years.

PROCESS DESIGN KIT

We offer high performance HEMT & HBT processes using GaN, GaAs or InP technology. Our Process Design Kit (PDK) includes OMMIC design manuals and design tools that are extremely comprehensive. With our PDK most functions can be designed, this includes mixed signal, low noise, high power, etc from DC to sub-Terahertz. OMMIC PDK is available under ADS or Microwave Office.

OMMIC design kits includes:
- Fully scalable models for all devices
- Linear, non linear and noise models for transistors (and diodes)
- Process statistical variations of all active and passive devices, allowing representative yield analysis
- Temperature effects for all passive and active devices
- Complete auto layout for all devices, including all types of interconnections
- E.M. information allowing advanced analysis
- Electro-thermal simulator
- Design Rules Checking

Design kits are regularly updated on our website in close collaboration with software suppliers. If you need help with PDK, do not hesitate to contact us. We provide hot line support, dedicated training and powerful verification tools.

<table>
<thead>
<tr>
<th>Product</th>
<th>ADS</th>
<th>AWR</th>
<th>PSpice</th>
</tr>
</thead>
<tbody>
<tr>
<td>D01GH GaN/Al</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>D006CH GaN/Al</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>D004H GaAs mHEMT</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>D007H GaAs mHEMT</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>D014H GaAs mHEMT</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>D013H GaAs pHEMT</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>ED02AH GaAs pHEMT</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

MPW CONDITIONS OF USE

size of the circuit must correspond to one of the fixed patterns for a multi project layout must be supplied according to a predefined time table available on our website, by default 4 dates per year. multi project order should be placed at least 4 weeks before the annonced MPW start date. order needs to complain with minimum order value when it is applicable.

<table>
<thead>
<tr>
<th>1.5 mm²</th>
<th>3 mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mm²</td>
<td>A* = 1.5 mm²</td>
</tr>
<tr>
<td>2 mm²</td>
<td>A* = 3 mm²</td>
</tr>
<tr>
<td>3 mm²</td>
<td>A* = 6 mm²</td>
</tr>
</tbody>
</table>

A* = Area of the reticule / N* = Number of dies delivered

MPW SCHEDULE

MPW runs are available once per quarter. Schedule dates are regularly updated on our website. Please scan the QR Code or click aside to get the latest schedule. For further details, contact us at information@ommic.com

UNIVERSITY PARTNERSHIP

We are committed to give access to OMMIC’s technologies for educational purposes to universities and educational establishments. Please contact us for more details.
SPACE QUALIFICATION

Our processes are built for high reliability and long life-time. This is why, we have been working in close collaboration with the European Space Agency (ESA) for more than 20 years, with the goal to be space qualified.

Currently, ESA has already evaluated three of our processes: ED02AH, D01PH and D01MH. This three processes are now included in the ESA EPPL (European Preferred Part List) for space applications, with long term proven mission history in a very large number of satellites.

In the coming months, after a successful space pre-evaluations, D007IH process is considered to be inserted in the EPPL after ESA monitored evaluation procedures. Regarding our latest GaN/Si technology, D01GH process is currently undergoing space pre-evaluations by ESA.

Follow us on social networks to keep up to date with what’s happening next.

For further details, additional technical and commercial information can be provided by our engineering team available at information@ommic.com
FAB+ SERVICES

GETTING FURTHER

For more than 20 years, we are supporting you in all your most innovative projects in the field of space, telecom or defense by offering you a wide choice of cutting-edge technologies.

CUSTOM DESIGN

OMMIC has a team of MMIC designers ready to follow your most challenging projects based on your specifications and statement of work.

The design flow includes several reviews where close discussions with customers ensure that the final MMIC will really enhances the final system. Based on space standards such as ECSS-Q60-12A, this design flow have been approved for flight model designs.

The fabrication line, test center, reliability center and modeling team are on the same site. This proximity allows our design center to obtain the best performances from all the OMMIC processes, while maintaining yield and reliability.

RELIABILITY CENTER

We have a dedicated reliability team to carry out numerous tests, to guarantee space qualification but also for the reliability of all our components.

We have been supplying many standard parts designed during the European Component Initiative (ECI) programs but also more than 50 000 MMICs for flight models. To date, our components have more than 1 000 000 years of flight life accumulated around the earth in several space missions and satellite equipment from Europe, United States, China, Japan, Russia and other countries.

OMMIC design team has thorough experience in designing space qualified components. Do not hesitate contacting us at information@ommic.com for your most ambitious projects.

QUALIFIED BY ESA

All our millimetre wave processes are built for high reliability and long life-time as requested by space customers. This is why, our processes are developed following European Space Agency (ESA) guidelines, with the goal to be space qualified. Today, all our processes are either qualified or being screened.

THEY TRUST US
MMIC PACKAGING

We are moving towards a world where integration and ease of use are central to the definition of complex electronic subsystems. We invest every day to simplify the use of our products for customers by developing packaged solutions while ensuring optimal performances.

Today, OMMIC’s solutions cover L- to Ka-band. This includes GaN products for power application, robust LNA and T/R chip front ends.

HELP & SUPPORT

Committed to meeting your needs, OMMIC provides practical solutions and support at no cost! Facing an issue? Our engineers are available at information@ommic.com offering design or technical application assistance within 24 hours.

CUSTOMER SUPPORT
Interested in OMMIC? Submit your general questions about product and process availability, status, services, pricing,...

TECHNICAL SUPPORT
Our dedicated technical application team is here to help you with the biggest challenges as well as the simplest technical questions.

DESIGN SUPPORT
For those who conceive their MMICs via our PDK, we provide everything you need to make the experience as optimal as possible.

AFTER SALES SUPPORT
We do our utmost to satisfy you. If you have any questions or if something does not work as you expect, please contact us.
CONTACT US
2 Rue du Moulin
94450 LIMEIL-BRÉVANNES, FRANCE
information@ommic.com
www.ommic.com

SALES REPRESENTATIVE NETWORK

NORDIC
STOWIRA AB
jens.malmgren@stowira.com

RUSSIA
OESSP
p.grishanovich@oessp.ru
NPK FOTONIKA
aleksey.sc@npk-photonica.com

ITALY
CELTE SPA
m.sidoti@celte.com
d.carraro@celte.com

UNITED KINGDOM
MHz TECHNOLOGIES Ltd
aftab@mhztechnologies.co.uk

WESTERN USA
RANKIN COMPONENTS SALES
trakin@rankincomponents.com

EASTERN USA
GM SYSTEM LLC
terlizzi@gmsystems.com

SOUTH AFRICA
RFIBER SOLUTIONS
richard@rfibersolutions.com

ISRAEL
AMERICAN AVIATION
meron@amav.co.il

INDIA
IHE
harkesh@iheindia.com

SOUTH KOREA
TELCOM
jwchoi@telcom.kr

CHINA
YIFENG ELECTRONIC
sales@yifengelectronics.com

JAPAN
NOAH TECHNOLOGY
fkato@noah-techno.com
M-RF
sales@mrf.co.jp