TECHNOLOGY PARTNERSHIP PROGRAM (NN-TPP)
BECOME A SUPPLIER OF VIRTUAL ANTENNA™ PRODUCTS

16th of APRIL, 2020
Outline

Becoming a Virtual Antenna™ supplier
- Why joining a Technology Partnership Program?
- About Virtual Antenna™

NN’s Technology Partnership Program
- NN-TPP, a flexible model to fit your business
- Program Features
- Program Benefits

Virtual Antenna™ in IoT
- Cellular IoT made simpler: Thingy & mangOH
- Virtual Antenna™ applications & markets
- About FRACTUS ANTENNAS
Becoming a Virtual Antenna™ supplier

- Do you want to increase your sales by helping your clients to reduce their design time & manufacturing cost?

- Do you want to offer to your client the latest new range of multiband, multipurpose, miniature chip antenna products?

- Do you want to get access to the latest patented innovation in the antenna field without spending years and millions in R&D and marketing?

Join the FRACTUS ANTENNAS’ TECHNOLOGY PARTNERSHIP PROGRAM and start delivering today your VIRTUAL ANTENNA™ PRODUCTS
About Virtual Antenna™

Virtual Antenna™: the latest generation of **miniature, multiband, multipurpose** chip antenna components for sub 6 GHz cellular/IoT

**Off-the-shelf**
Ready to be delivered ‘as is’ with no need for customization.

**Up to 10 times smaller**
A booster can be 5 mm² providing the same connectivity.

**Versatility**
A phone can be designed with several architectures yet still using the same component.

**Modular**
Modules or standard building blocks can be reused in the design of multiple devices.

**Multiband**
A single antenna provides connectivity in 2G, 3G and 4G band.

**Full performance**
The same performance in a much smaller, off-the-shelf and versatile component.

**Scalability**
The ‘heart’ of the design can be reused across multiple device models.

**Pick & place**
No manual assembly is needed, only a conventional SMT machine.

A game changing technology
About Virtual Antenna™

Use the **same antenna** in every device, regardless of the form factor. Change platform by just changing the matching network.

One antenna
Any band
Any device

Use the **same antenna** for every frequency band, even for multiple of them all together (multiband design). Change protocol and frequency by just changing the matching network.
NN TECHNOLOGY PARTNERSHIP PROGRAM

NN-TPP is FLEXIBLE: CHOOSE THE PROGRAM THAT BETTER FITS YOUR NEEDS...

RESELLER PROGRAM

BRANDING PROGRAM

LICENSING PROGRAM

... or start with RESELLER and move on according to your business evolution...
**NN TPP Features**

**RESELLER PROGRAM**
- Get access to the full range of FRACTUS ANTENNAS (NN) off-the-shelf chip antenna products.
- Agree on a list of customers to supply. List can be expanded according to your business evolution.
- Purchase NN’s products and resell them in the most favourable conditions.
- Use NN Wireless Fast-Track service to speed-up your project offering. Get a design in 24h, free of charge.
- Get your R&D team trained by NN on the new technology to effectively provide a solution to your clients.

**BRANDING PROGRAM**
- Get your full range of NN’s products customized with your own TRADEMARK AND LOGO.
- Identify your products with the original ‘by NN’ technology brand to discourage and detect unfair counterfeits (copy).
- Purchase branded products to NN in the most favourable conditions. Sell to any client worldwide.
- Get access to all technical info, marketing materials. Get your R&D and sales teams trained by NN.
- Use NN Wireless Fast-Track service to speed-up your project offering. Get a design in 24h, free of charge.
- Join the program by investing in a refundable access fee (1 payment) and maintenance fee (yearly).

**LICENSING PROGRAM**
- Supply your full range of NN’s products customized with your own TRADEMARK AND LOGO.
- Identify your products with the original ‘by NN’ technology brand to discourage and detect unfair counterfeits.
- Manufacture your own branded products and sell to any client worldwide through a flexible royalty (FRAND price list).
- Design-in project/customer acquisition protection program included.
- Get access to all technical info, marketing materials. Get your R&D and sales teams trained by NN.
- Use NN Wireless Fast-Track service to speed-up your project offering. Get a design in 24h, free of charge.
- Join the program by investing in a refundable access fee (1 payment) and maintenance fee (yearly).
**NN TPP - PROGRAM BENEFITS**

- **Grow your sales** with the latest new chip antenna technology.
- Access to **new customers** and **additional projects** within your current customer base.
- Get access to the NN **stream of product innovation**.
- **Save years** and **millions** of USD in R&D and Marketing.
- **Flexible** partnership model to develop your **new business**.
- **Open and transparent non-discriminatory** conditions to all NN TPP participants.
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Virtual Antenna™ in the market:

Already introduced in the market the following products and applications:
- fleet management
- smart tracking
- smart metering
- headsets
- smart home
- smart cities
- alarms
- IoT/Mobile modules
- medical devices
- IoT sensors

- Thingy:91 by Nordic Semi
- TRIO mXTEND by NN
- Cellular IoT module
- Mobile + GPS in a single antenna component.

- mangOH Yellow by Sierra Wireless
- RUN mXTEND by NN
- Global Cellular IoT in a small package (<CR80)
Virtual Antenna™ in the media:
FRACTUS ANTENNAS (NN) is a leading antenna technology supplier for the IoT and Mobile wireless industries.

• Leading mobile/wireless OEMs worldwide have licensed antenna technology created by our team.

• Virtual Antenna™ is the proprietary trademark for the patented ‘antenna-less’ chip antenna technology by NN™.

• Virtual Antenna™ is aiming to become the embedded antenna standard for sub 6 GHz IoT and Mobile/Cellular: One Antenna fits Any Band and Any Device

• Virtual Antenna™ is available to antenna manufacturer through NN’s flexible Technology Partnership Program
Want to join the Virtual Antenna™ revolution?

Join the FRACTUS ANTENNAS’ TECHNOLOGY PARTNERSHIP PROGRAM (NN-TPP)

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Josep Portabella, CEO