VIAVI Solutions

VIAVI
RF Expansion Module
for SPHEREA ATEC® Test Systems

The RF Expansion Module (RFEM) is specifically designed to support testing of airborne RF components on the ATEC® Test System. Developed and manufactured by VIAVI Solutions, in partnership with SPHEREA, the RFEM provides a convenient platform that is compatible with new and existing ATEC® Test Systems.

A library of TPS solutions has been developed by VIAVI Solutions that will test the full range of navigation, communication, TCAS, transponder, and other RF systems. The product strategy has full OEM support and CMM listing.

The RF instrumentation package includes PXI format synthetic instrument modules and the VIAVI NextGen bench test equipment.

Key Customer Advantages

- VIAVI designed RF test system, fully integrated into the ATEC® Test System

- Simple Ethernet interface between RFEM and ATEC® Test System permits easy retrofit to existing ATE installations

- Powerful test executive interface offers many advantages to the test operator

- Global service and support provided jointly by SPHEREA and VIAVI Solutions

- Extensive CMM-listed TPS library developed to test Nav, Comm, TCAS, Transponder, GPS, and other RF systems

- Complete RFEM and TPS information can be consulted on the SPHEREA Customer Support & Services MySpherea Internet web site

ATEC® Series 6

ATEC® Series 7
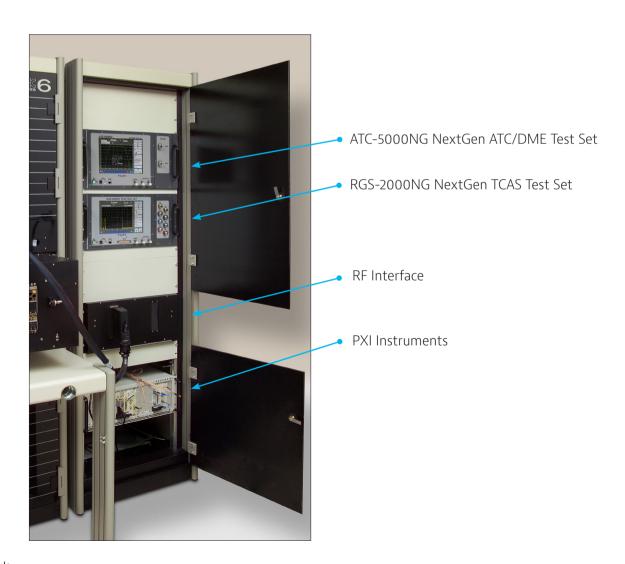
In partnership with

SPHEREA

PXI Instruments

The PXI instruments offer very high performance signal generation and analysis in a compact size, permitting greater resource density in the RFEM tower. For Transponder, DME, TCAS and MMR testing, the VIAVI ATC-5000NG NextGen ATC/DME Test Set, RGS-2000NG NextGen TCAS Test Set and ATES-GNSS GPS/Galileo 12CH Simulator (PXI) were selected and integrated into the RFEM making it fully NextGen capable and ready to perform testing required by the modernization of Global Air Traffic Management transformations led by FAA's NextGen and Europe's SESAR, and soon to be followed by other countries.

User Interface

Display and controls are provided via the ATEC® Test System operator console PC. The Test Unit Adapters (TUAs) for individual RF units, designed and manufactured by VIAVI, mount to the matrix switch on the ATEC® Test System tower. A TUA cable transfers all RF signals between the TUA and test resources via an RF expansion interface in the RFEM. The interface panel has been designed to accommodate significant future growth. Visual, guided operator instructions for each RF unit are presented in each test program.

Options and Accessories

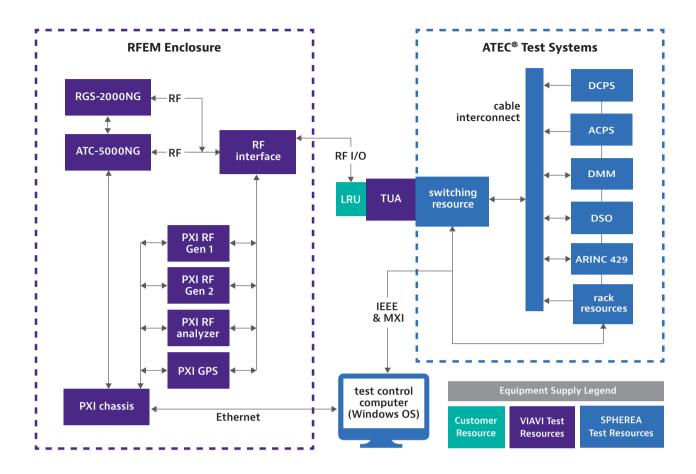Each Test Unit Adapter kit is supplied complete with software, adapter hardware, interface cable and self-test adapter.

- ATC-5000NG NextGen ATC/DME Test Set
- RGS-2000NG NextGen TCAS Test Set
- RF Interface
- PXI Instruments

TPS Library

FUNCTION	LRU MODEL	LRU P/N	AIRFRAMES	TPS RUN TIME ESTIMATE
Radio Altimeter	ALA-52B	Honeywell P/N 066-50007-xxxx	707, 717, 727, 737CL, 737NG, 747, 757, 767, 777, 787, A300/310/320/330/340, DC9/10,MD11/80/90, Military	20 min
DME	DMA-37B	Honeywell P/N 066-50013-xxxx	707, 717, 727, 737CL, 737NG, 747, 757, 767, 777, 787, A300/310/320/330/340, DC9/10, MD11/80/90, Military	60 min
ADF	DFA-75B	Honeywell P/N 066-50014-xxxx	707, 717, 727, 737CL, 737NG, 747, 757, 767, 777, 787, A300/310/320/330/340, DC9/10, MD11/80/90, Military	30 min
Navigation Receiver	INR	Honeywell P/N 940-2001-xxx	787, all air transport types	120 min
VHF COMM/DATA	RTA-44D	Honeywell P/N 064-50000-xxxx	707, 717, 727, 737CL, 737NG, 747, 757, 767, 777, 787, A300/310/320/330/340, DC9/10, MD11/80/90, Military	45 min
VOR	RVA-36B	Honeywell P/N 066-50012-xxxx	707, 717, 727, 737CL, 737NG, 747, 757, 767, 777, 787, A300/310/320/330/340, DC9/10, MD11/80/90, Military	30 min
Mode S Transponder	TRA-67A	Honeywell P/N 066-01127-xxxx	707, 717, 727, 737CL, 737NG, 747, 757, 767, 777, A300/310/320/330/340, DC9/10, MD11/80/90, Military	60 min
	MST-67A	Honeywell P/N 066-01143-xxxx	Regional and Business Aviation	25 min
TCAS	TPA-81A	Honeywell P/N 066-50000-xxxx	707, 717, 727, 737CL, 737NG, 747, 757, 767, 777, 787, A300/310/320/330/340, DC9/10, MD11/80/90, Military	120 min
	TPA-100A TPA-100B	Honeywell P/N 940-0300-xxx P/N 940-0351-xxx P/N 940-0352-xxx P/N 940-0400-xxx P/N 940-0451-xxx P/N 940-0452-xxx P/N 940-1431-xxx		90 min
Weather Radar	RDR-4000 (RP-1, TR-1)	Honeywell P/N 930-100x-xxx P/N 930-200x-xxx	777, 737, A320/330/340	130 min (RP-1) 20 min (TR-1)
Environment Surveillance	AESU	Honeywell P/N 965-1694-xxx	A350/380/400M	180 min
Multi-mode Receiver	RMA-55B	Honeywell P/N 066-50029-0101 P/N 066-50029-1101 P/N 066-50029-1151 P/N 066-50029-1161 P/N 066-50029-1201	767-200/300 A320	54 min

ATEC® Test Systems – RFEM System Interface Design

RFEM Enclosure

RGS-2000NG

ATC-5000NG

RF — (between RGS-2000NG and ATC-5000NG)

RF interface

RF (RGS-2000NG → RF interface)

RF (ATC-5000NG → RF interface)

RF I/O

PXI RF Gen 1

PXI RF Gen 2

PXI RF analyzer

PXI GPS

PXI chassis

Ethernet

ATEC® Test Systems

cable interconnect

DCPS

ACPS

DMM

DSO

ARINC 429

rack resources

LRU

TUA

switching resource

IEEE & MXI

test control computer (Windows OS)

Equipment Supply Legend

Customer Resource	VIAVI Test Resources	SPHEREA Test Resources

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test.sales@spherea.com
www.spherea.com

VIAVI Solutions

viavisolutions.com