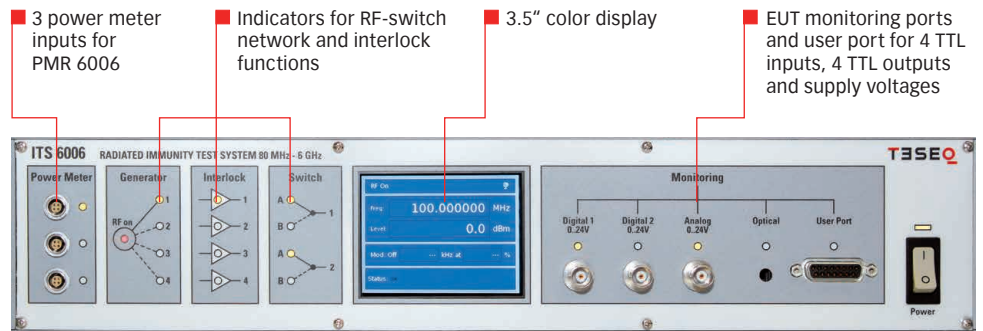## ITS 6006B
RADIATED IMMUNITY TEST SYSTEM 6 GHz

- ■ **Integrated signal generator 80 MHz to 6 GHz**
- ■ **Integrated RF switch network**
- ■ **Integrated 3 freely configurable pulse modulators (1 µs to 200 s) for radar pulse profiles**
- ■ **Multiple EUT monitoring options**
- ■ **3.5" TFT color display**
- ■ **Safety interlock function**
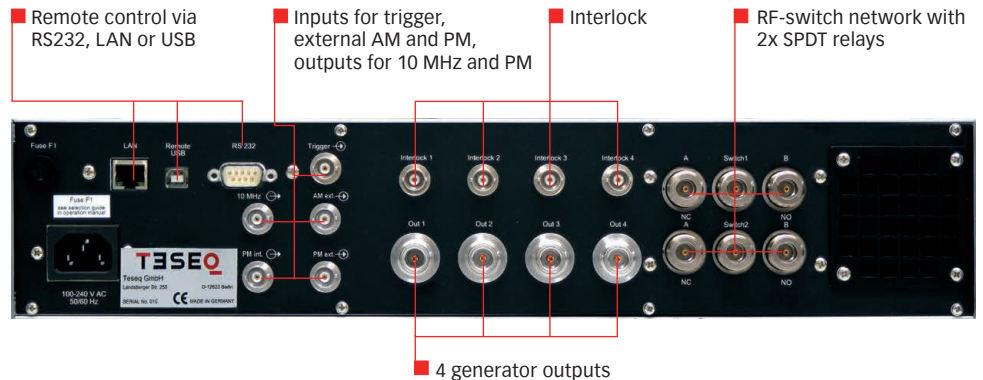- ■ **Remote control via USB, RS232 or LAN**

The ITS 6006 consist of an integrated RF signal generator, RF switch and EUT monitoring interfaces. The unit is designed for various radiated EMC applications in the 80 MHz to 6 GHz frequency range. In addition to the generator, the system includes the AM and PM modulators necessary for EMC testing. The second generation, called ITS 6006B, includes 3 freely configurable pulse modulators (1 µs to 200 s) for radar pulse profiles as required e.g. by Ford FMC1278 or VW TL81000. The RF signal can be switched to one of four outputs, where up to four power amplifiers can be connected directly. Two RF switches are supplied for combining four amplifier into two antenna paths.

ITS 6006 interlock outputs ensure the activation of the power amplifier for only the selected signal path. The 3.5" color display shows the generator parameters. LEDs indicate the state of further functions.

The EUT monitoring is provided by six digital, one analog and one optical input, as well as four digital outputs. Up to three power meters PMR 6006 can be connected directly to the ITS 6006. The ITS 6006 provides remote control through its network, RS232 and USB interfaces.
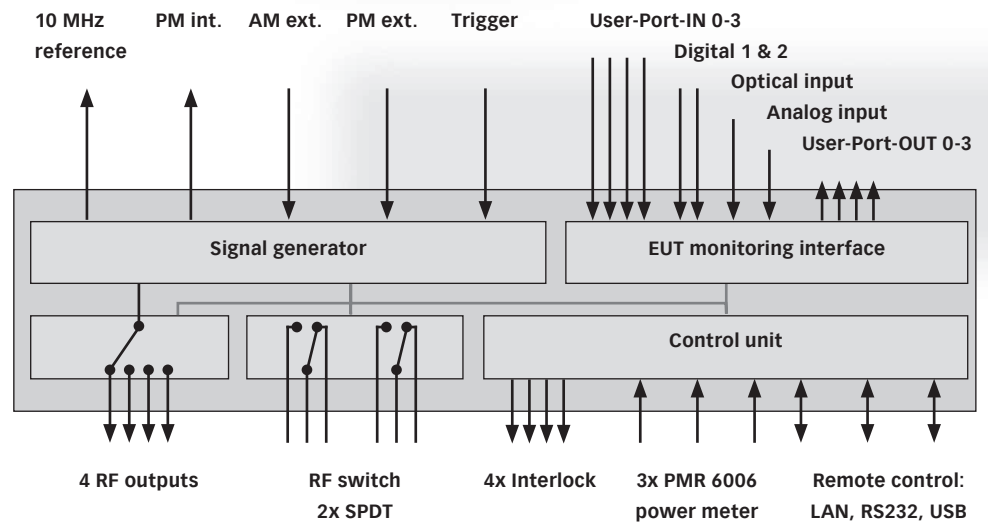
■ 3 power meter inputs for PMR 6006 ■ Indicators for RF-switch network and interlock functions ■ 3.5" color display ■ EUT monitoring ports and user port for 4 TTL inputs, 4 TTL outputs and supply voltages

Standards:
- ■ **IEC / EN 61000-4-3**
- ■ **IEC / EN 61000-4-20**
- ■ **IEC / EN 61000-4-21**
- ■ **Ford FMC1278**
- ■ **VW TL81000**
- ■ **And others**

■ Remote control via RS232, LAN or USB ■ Inputs for trigger, external AM and PM, outputs for 10 MHz and PM ■ Interlock ■ RF-switch network with 2x SPDT relays

■ 4 generator outputs

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ITS 6006B
RADIATED IMMUNITY TEST SYSTEM 6 GHz

ITS 6006B Block diagram

10 MHz reference	PM int.	AM ext.	PM ext.	Trigger	User-Port-IN 0-3
					Digital 1 & 2
					Optical input
					Analog input
					User-Port-OUT 0-3

| Signal generator | | EUT monitoring interface |
| | | Control unit |

| 4 RF outputs | RF switch 2x SPDT | 4x Interlock | 3x PMR 6006 power meter | Remote control: LAN, RS232, USB |

Technical specifications

Generator

RF	
Frequency range:	80 MHz to 6 GHz
Resolution:	1 Hz
Reference frequency:	10 MHz
Max. adjustment deviation:	±50 Hz
Aging:	5 ppm
Level range:	-60 dBm to +10 dBm (-60 dBm to +8 dBm at f>3 GHz & ϑ>30°C)
Resolution:	0.1 dB
Accuracy:	<1 dB, typ. <0.5 dB (+15 to +25°C)
Spectral distortion	
Harmonics (level ≤0 dBm):	<-30 dBc, typ. <-35 dBc
Harmonics (level ≤+10 dBm):	<-25 dBc
Non harmonics:	<-35 dBc
Amplitude modulation	
Modulation depth:	0 to 100%
Resolution:	0.5%
Modulation frequency range:	1 Hz to 20 kHz
Frequency resolution:	1 Hz

Generator (continued)

Pulse modulation	
Modulation frequency range:	5 mHz to 1 MHz
Frequency resolution:	5 mHz
Duty cycle:	0.05% to 100%
Pulse on time:	≥ 500 ns
External amplitude modulation (AM)	
Level:	1 Vpp to get 100% AM, 1 Hz to 10 kHz

Analog ports

Front panel	
Monitoring input analog:	BNC socket, 0-24 V Ri=15 kΩ, 6 mV resolution
User port:	D-Sub 15 pole
PIN 15:	+12 V / max. 200 mA
PIN 14:	-12 V / max. 200 mA
PIN 13:	+5 V / max. 200 mA
PIN 5 and 10:	GND
Back panel	
Generator outputs:	4x N sockets 50 Ω, 80 MHz to 6 GHz
Interlock outputs:	4x BNC sockets
External AM input:	BNC socket, impedance >10 kΩ
External PM input:	BNC socket, TTL
External PM output:	BNC socket, TTL, impedance >1.2 kΩ
10 MHz reference output:	BNC socket, approx. 0 dBm / 50 Ω
RF Switch network:	Relay type 2x SPDT, N sockets 50 Ω
Power up to 100 MHz:	1500 W
Power up to 400 MHz:	800 W
Power up to 1 GHz:	500 W
Power up to 3 GHz:	300 W
Power up to 6 GHz:	200 W

Digital ports

Front panel	
Power meter inputs 1 to 3:	for connecting up to 3 Teseq PMR 6006
Monitoring digital input 1 and 2:	BNC socket, 0 to 24 V via optical coupler Ri=1.5 kΩ, switching threshold approx. 2 to 3 V

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ITS 6006B
RADIATED IMMUNITY TEST SYSTEM 6 GHz

ITS 6006 with 2 amplifiers in a rack

Digital ports (continued)

Monitoring optical input:	POF (Polymeric optical fiber), HP versatile link HFBR0501 series 40 kBd, (avoid scattered light on the front panel)
User port:	D-Sub 15 pole, 4 TTL inputs, 4 TTL outputs
Back panel	
Trigger input:	BNC socket, TTL for external triggering, max. frequency 100 Hz, trigger delay <50 ms
Remote ports	
RS232:	D-Sub 9 pole, up to 115200 Bd
USB device connector:	connector type "B"
Network:	RJ45, Ethernet 10/100 BASE-T

Power supply

Operating range:	100 to 240 VAC, 50/60 Hz, autoranging
Power consumption:	90 VA
Fuse:	1.5 A (slow) for 110 V, 1 A (slow) for 230 V

General data

|	
Operating temperature range:	0°C to 40°C
Storage temperature range:	-20°C to 60°C
Relative humidity:	95%/30°C (no moisture condensation)
EMC:	DIN/EN 61326-1:2006
Shock:	DIN/EN 60068-2-27
Vibration:	DIN/EN 60068-2-6
Protection class:	DIN/EN 61010-1/IEC 61010-1

Mechanical specifications

|	
Size (W x H x D) :	45 cm (19") x 10.6 cm (2HU) x 42.3 cm
Weight:	approx. 9.5 kg
Cardboard box:	60 cm x 55 cm x 37 cm (additional space for option PMR 6006 available), weight of cardboard box approx. 2.3 kg (empty)

ITS 6006B
RADIATED IMMUNITY TEST SYSTEM 6 GHz

Software

The included software allows configuration and application of the ITS 6006 as an signal generator with many additional features like scalar quadripole measurements for measuring, for example, the insertion loss of the RF cable. For EMC testing, the ITS 6006 can be used in combination with Teseq's WIN 6000 or Compliance comprehensive test system software.
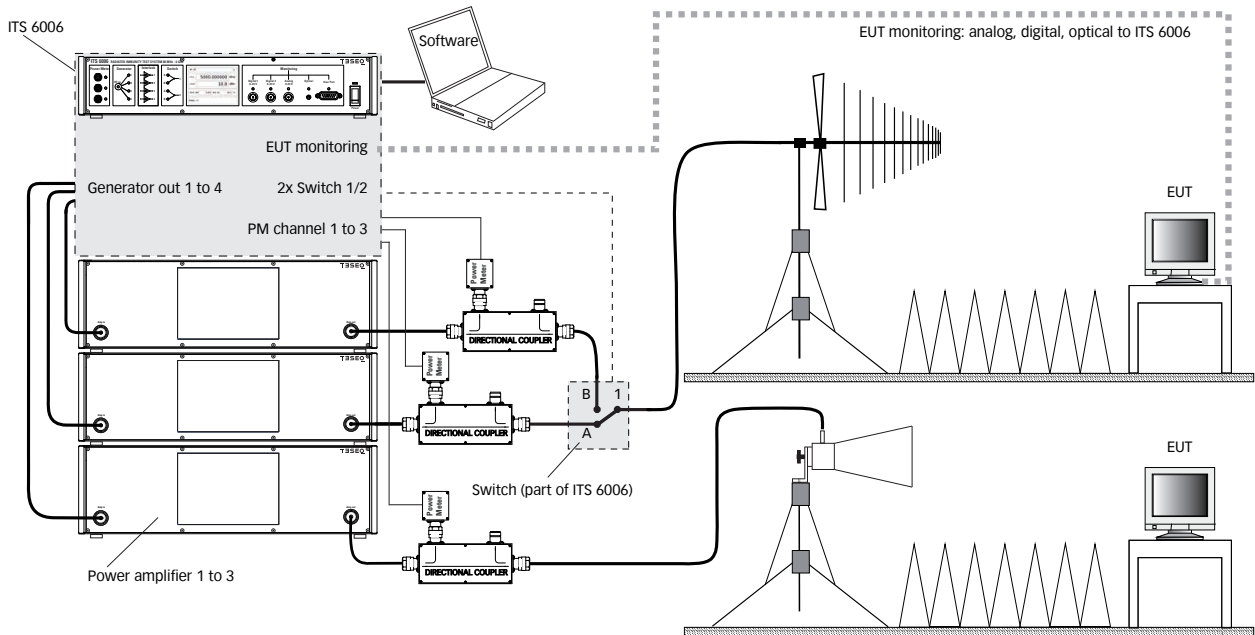
Application with 2 power amplifiers and 1 antenna
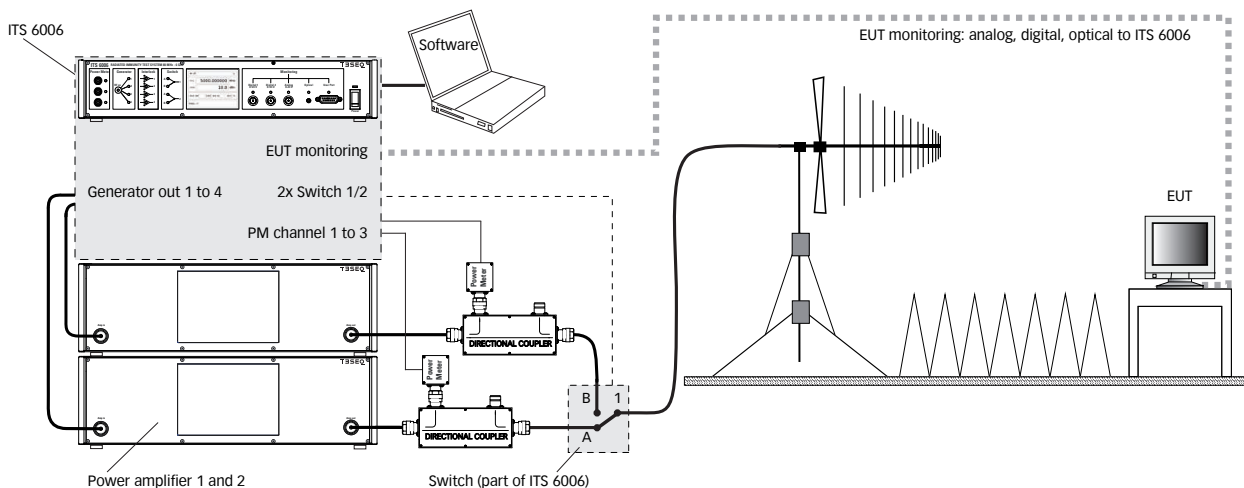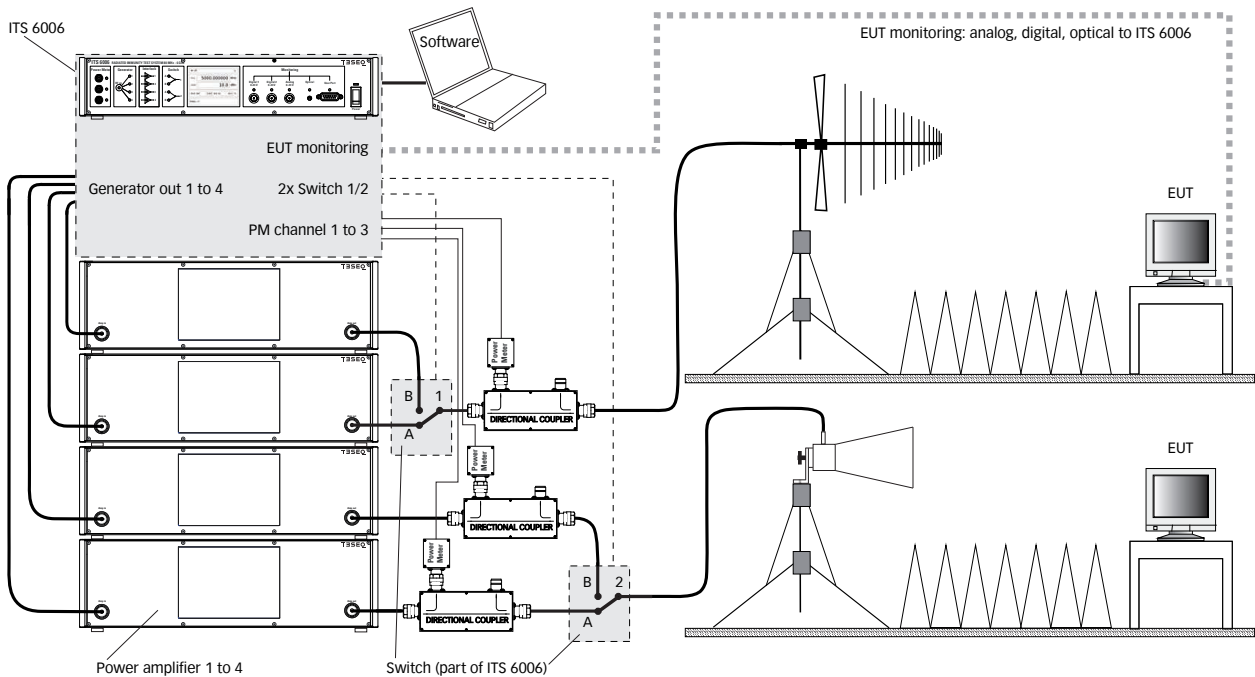

Application with 3 power amplifiers and 1 antenna
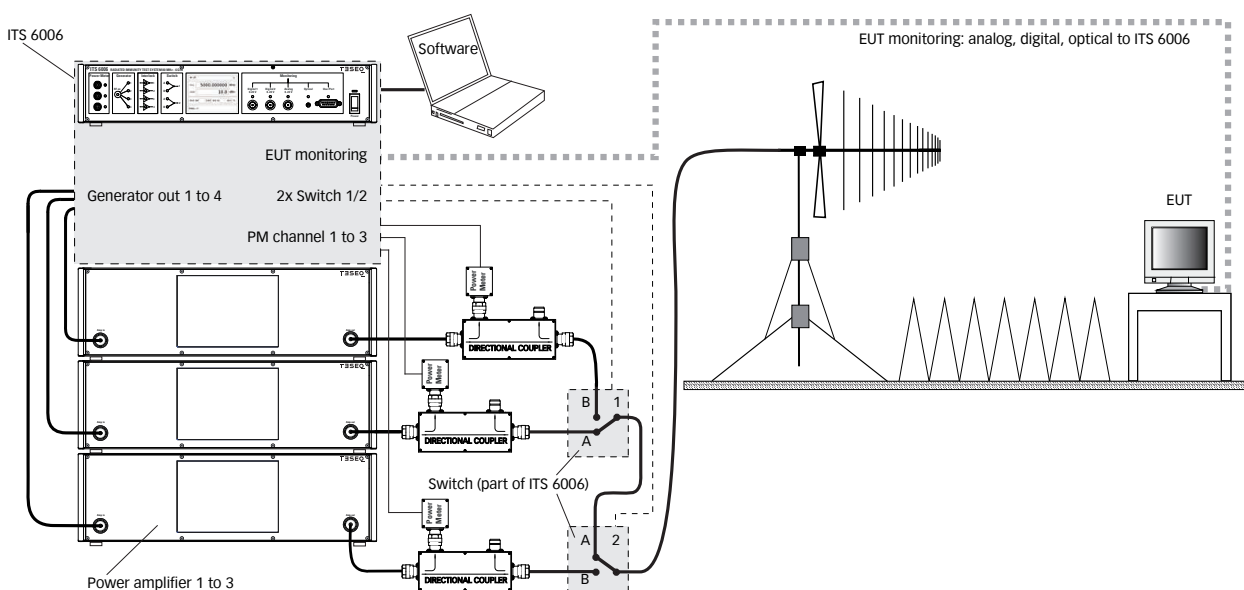
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Application with 3 power amplifiers and 2 antennas

Application with 4 power amplifiers and 2 antennas

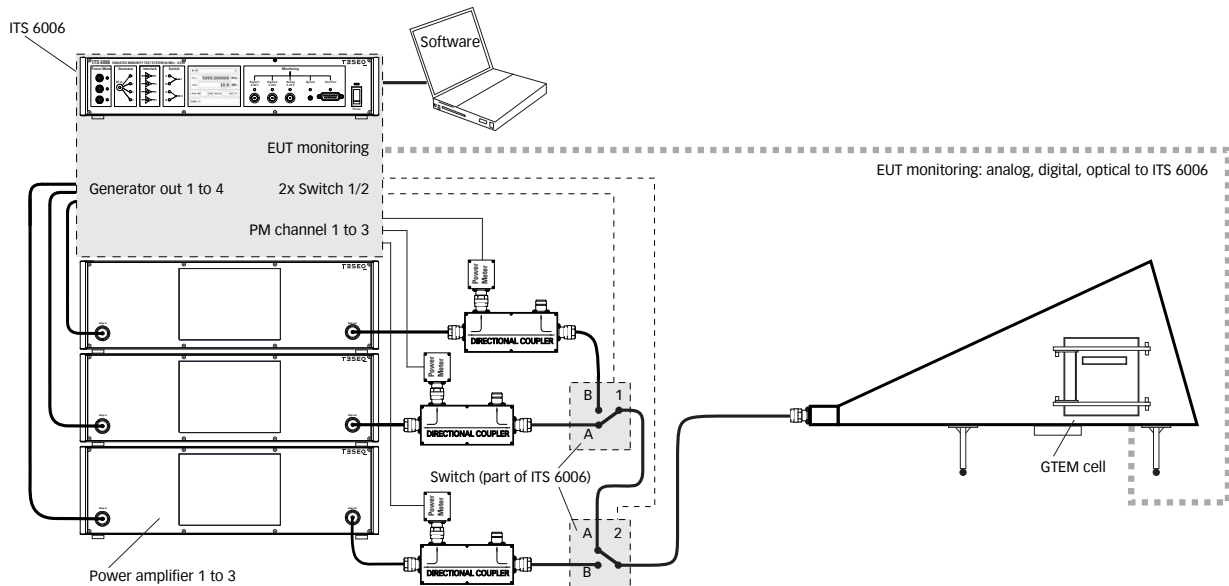TESEQ

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Application with up to 3 GHz with 2 power amplifiers, GTEM cell and connection to the emissions measuring system
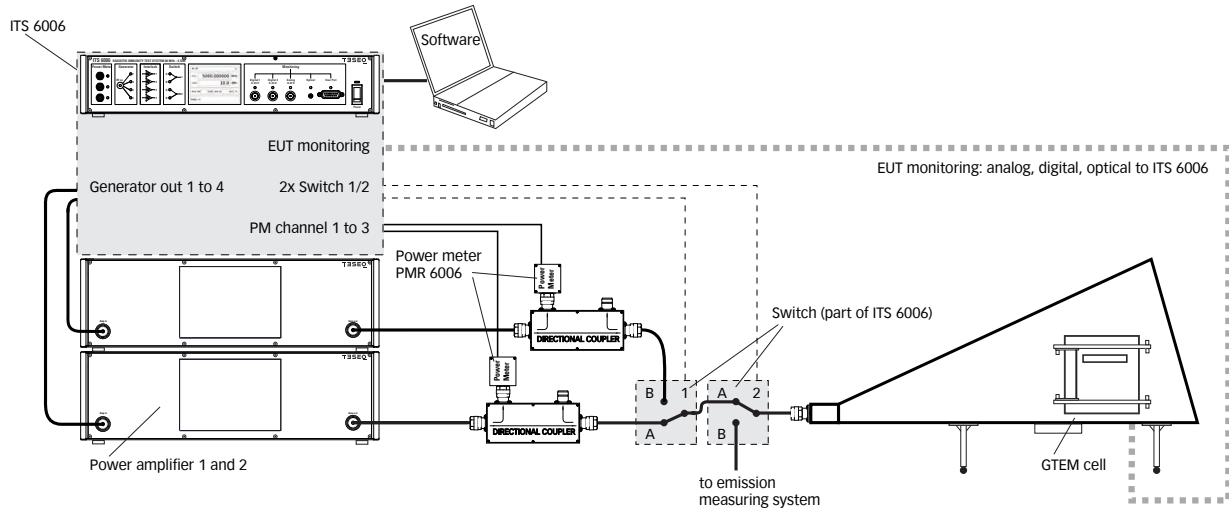
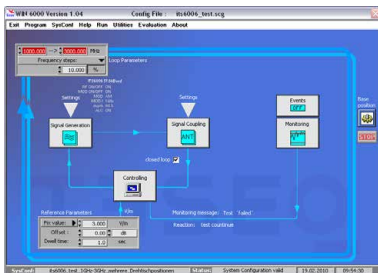**Application with 3 power amplifiers and GTEM cell**

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ITS 6006B
RADIATED IMMUNITY TEST SYSTEM 6 GHz

Power meter PM 6006, available as PMR 6006 or PMU 6006

RF-Switch network SW 6012

WIN 6000, Test house software

82-254005 E03 January 2016

Model range and options

Part number	Description
254005	ITS 6006B Immunity test system, 80 MHz to 6 GHz RF generator, RF switch network, EUT monitoring system, country version EU, UK, US / JP
97-254005	ITS 6006-TC Traceable calibration (ISO17025), order only with the device
98-254005	ITS 6006-DAkkS DAkkS calibration (ISO17025), order only with the device
254725	PMR 6006 Power meter PM 6006, 1 MHz to 6 GHz, version R for direct connection to ITS 6006, cable LE 243-2 included (length 2 m)
254746	PMR 6006-10 Power meter PM 6006, 1 MHz to 6 GHz, version R for direct connection to ITS 6006, cable LE 243-10 included (length 10 m)
254726	PMU 6006 Power meter PM 6006, 1 MHz to 6 GHz, version USB for direct connection to PC, cable LE 244 (length 2 m) and storage case included
97-254725	PM 6006-TC Traceable calibration (ISO17025), order only with the device
98-254725	PM 6006-DAkkS DAkkS calibration (ISO17025), order only with the device
253892	SW 6012 Option for ITS 6006: RF-Switch network 2x SPDT
254747	USO 4013-RS232-20 Converter USB-to-serial / optical, 20 m POF, optical-to-RS232
254700	IOB 4000 Input / output box, battery operated EUT monitoring system with optical interface, incl. USO 4013, 10 m fiber optical cable and storage case included
253715	WIN 6000 Test house software with 15 months support

For power amplifiers, directional couplers and antennas see www.teseq.com.

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