Nokia Customer Care
6235/6235i/6236i (RM-60)
Mobile Terminals

Service Tools

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Service Tools

FLS-4S Flashing Device

The FLS-4S allows Point of Sale (POS) locations to flash the handset and power the FLA-44 Flash-loading Adapter. The FLS-4S works with the XCS-1 Service Cable (not included).

FPS-8 Flash Prommer

The FPS-8 is used for mobile terminal flashing at authorized service centers.

JBV-1 Docking Station

The JBV-1 connects flash prommers. The docking station can be powered by the FPS-8 Flash Prommer or by an external power supply.

DA-54 Docking Station Adapter

The DA-54 works in conjunction with the JBV-1 Docking Station and the FPS-8, FPS-10, and FPS-11 Prommer Boxes to allow calibration, tuning, and software flashing of the handset. It supports the LYNX battery interface, which does not require BTEMP. The DA-54 also has a built-in RUIM card reader.

PKD-1 Software Security Dongle

The PKD-1 is a hardware dongle that, when connected to the parallel (LPT) port of the PC, enables the use of the service software. It is not possible to use the service software without the dongle. Printers or other peripheral devices can be connected to the PC through the dongle, if needed.

Caution: Make sure that you have switched off the PC and the printer before making connections.

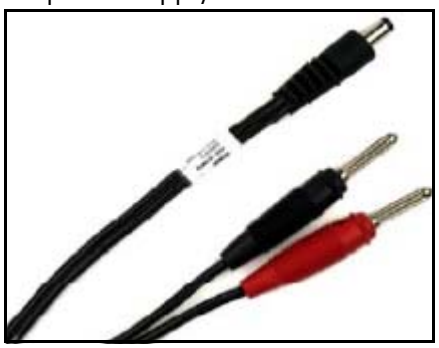
Caution: Do not connect the PKD-1 to the serial port. You may damage your PKD-1 and/or your PC.

XCS-4 MBUS/FBUS Cable

The XCS-4 is a general purpose cable for flashing and communicating with the mobile terminal. It is used to connect the FPS-8 Flash Prommer to the docking station adapter or the service jig.

PCS-1 Power Cable

The PCS-1 is used to connect the service tools (e.g., JBV-1 Docking Station, MJS-82 Service Jig) to an external power supply.

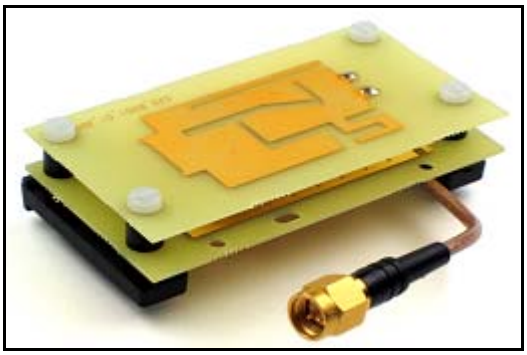


CA-5S DC Service Cable

The CA-5S is used for energy management calibration with the JVB-1 Docking Station.

CPL-8 GPS Antenna Coupler

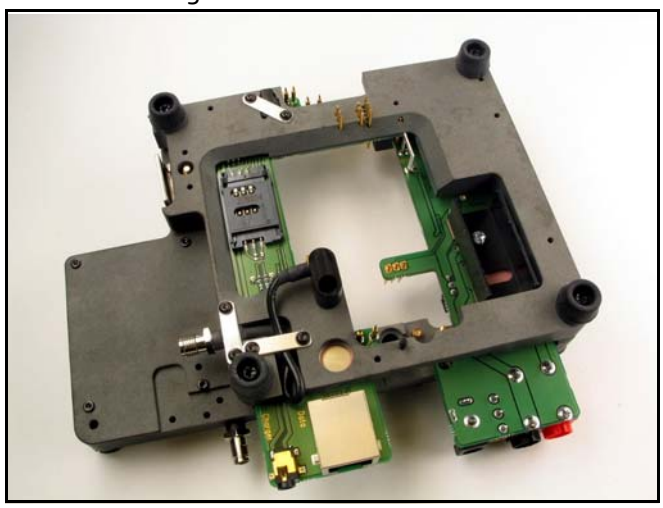
The CPL-8 allows authorized service centers to test the GPS antenna during handset troubleshooting. The coupler is attached to (and detached from) the MJF-28 Docking Station Adapter.



Note: The MJF-28 and the coupler assembly fit into the JXS-1 Shield Box

MJ-71 Module Jig

The MJ-71 allows PWB-level service and troubleshooting for authorized service centers. It supports regulated and unregulated DC input voltages and includes Local and Normal Mode operations, a headset jack for audio tests, a RUIM card reader, and a second DC input for VCHAR used in EM tuning. The MJ-71 also supports simultaneous RF connections to the CDMA engine.



RJ-83 Soldering Jig

The RJ-83 serves as a mechanical holder for desoldering and soldering of components. It provides a convenient means to replace components on the PWB when they are changed during service repairs at authorized AMS locations. The RJ-83 allows soldering of the engine PWB as well as the UI-PWB.

DKU-2 Flash Cable

The DKU-2 is used for USB flashing. Use this flash cable with the FLC-20 Flashing Device or with the FLS-4S Flashing Device.

SS-13 Tuning Docking Station

The SS-13 is used with the DA-54 Docking Station Adapters for CDMA RF autotuning.

JXS-1 Shield Box

Use the JXS-1 with the JBV-1 Docking Station with adapter and coupler when radiated tests are required.

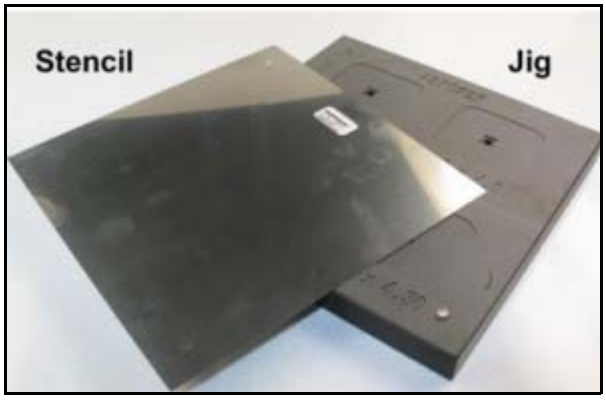
Note: Developed and used only by the Americas AMS group.

XRS-6 RF Cable

The XRS-6 is used to connect service tools to RF measuring equipment.

RJ-18 Power Amp LGA Rework Jig and ST-16 PA Stencil

The ST-16 stencil allows rework on LGA-type components that do not have pre-tinned pads. Both power amps require the use of this stencil. The stencil is designed to specifically fit the PA pad configuration and dimensions. The RJ-18 fits the physical dimension of the PAs.

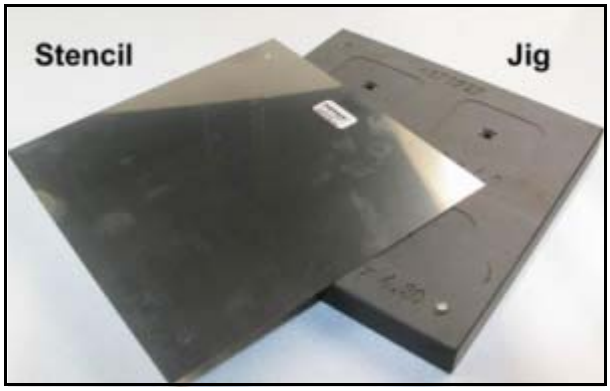


Note: Used in conjunction with the SPS-1 Paste Spreader.

Note: The RJ-13 is not intended to serve as a test jig.

RJ-64 LNA LGA Rework Jig and ST-24 Stencil

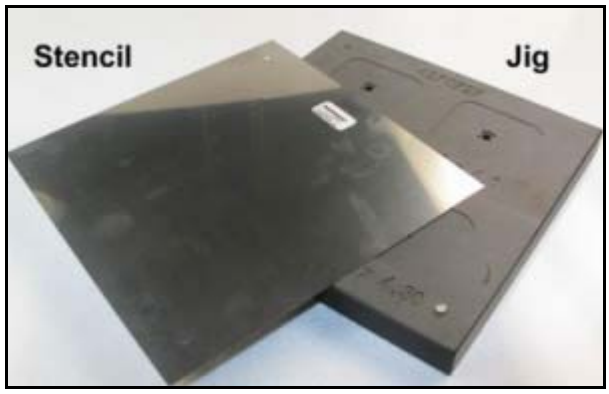
The ST-24 stencil allows rework on LGA-type components that do not have pre-tinned pads. The LNA requires the use of this stencil. The stencil is designed to specifically fit the pad configuration and dimensions while the rework jig fits the physical dimension of the LNA.



Note: Used in conjunction with the SPS-1 Paste Spreader.

RJ-65 TX IC LGA Rework Jig and ST-25 Stencil

The ST-25 stencil allows rework on LGA-type components that do not have pre-tinned pads. The Tx RF IC requires the use of this stencil. The stencil is designed to specifically fit the IC pad configuration and dimensions while the rework jig fits the physical dimension of the IC.



Note: Used in conjunction with the SPS-1 Paste Spreader.

DAU-9S FBUS/MBUS Cable

The DAU-9S is a general purpose cable that supports FBUS/MBUS communication between a Mod-10 device and a PC.

Flashing, Testing, and Tuning

These setups are intended to be with the Phoenix Service Software. Both manual testing and automated tuning are permitted with Phoenix Service Software.

Service Configuration 1: Point of Sales Flashing

This is the typical configuration used at the Point of Sales locations. This setup allows easy software upgrades and minor handset configuration through USB. Customer-specific flash packages are created for each product.

Name	Type
FLS-4S flash device (sales pack) (ACF-8 power supply is included in the FLS-4S sale pack)	FLS-4S
Service cable	DKU-2
Point-of-sale service software	Diego Phoenix

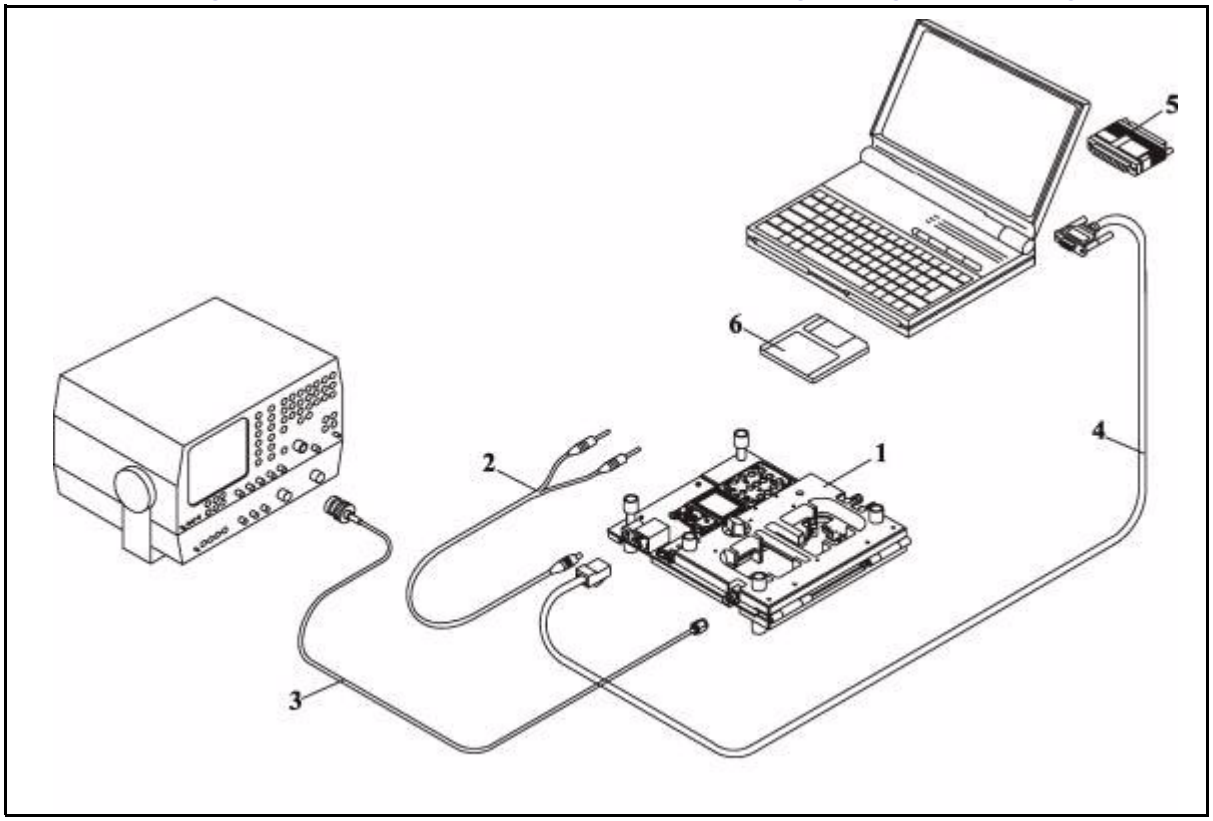
Note: The DKU-2 data cable connects to directly to the USB port on the computer, not to the FLS-4S device.

Service Configuration 2: Flash Programming Using Docking Station

Item	Name	Type
1	Flash Prommer Box (sales pack)	FPS-8
	Service Cable (included in FPS-8 sales pack)	CA-10DS
	D9-D9 Serial Cable (included in FPS-8 sales pack)	AXS-4
	Power Supply (included in FPS-8 sales pack)	ACF-8
2	Docking Station (JBV-1)	JBV-1

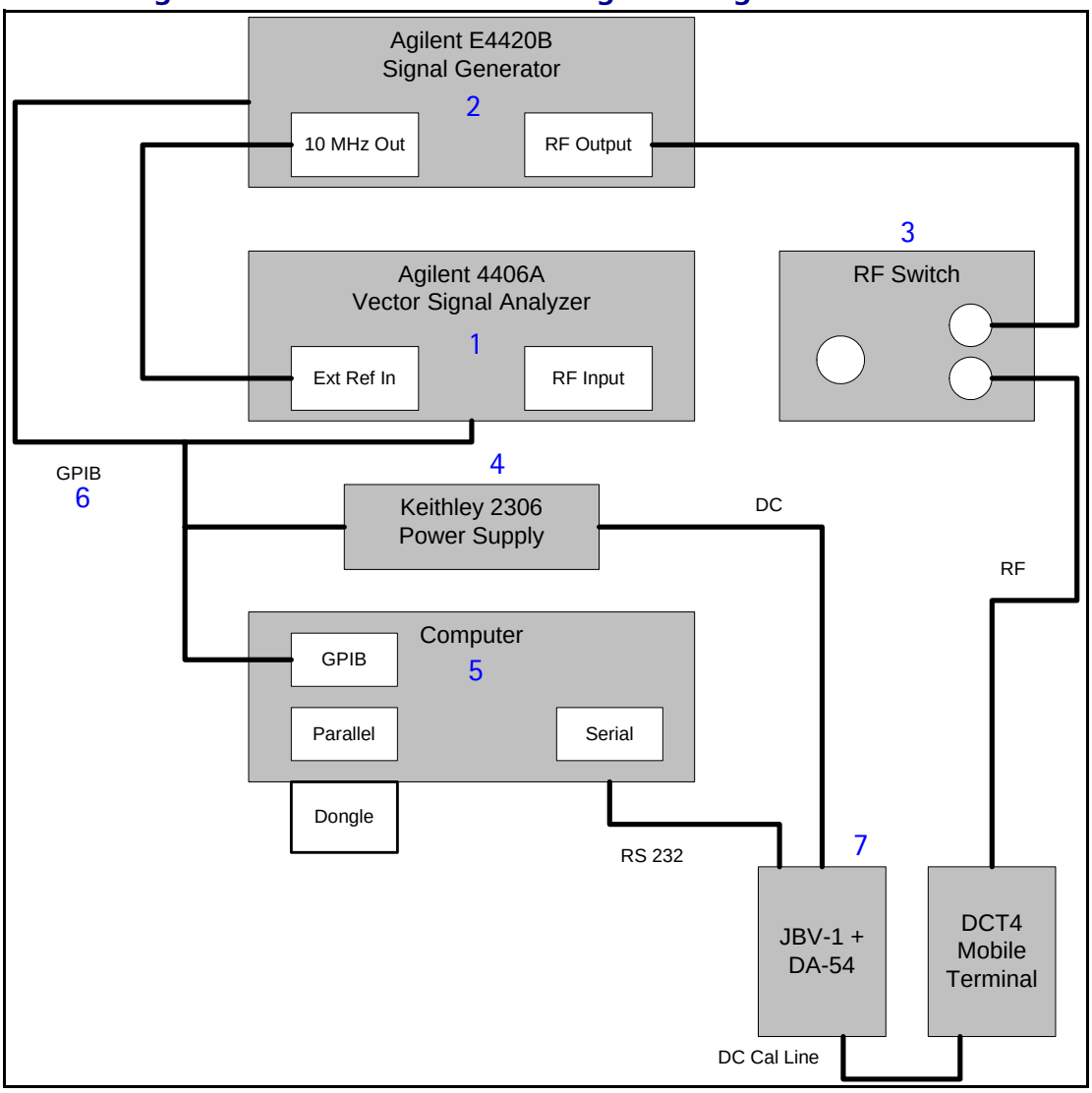
Item	Name	Type
3	Docking Station Adapter (DA-54)	DA-54
4	DC Power Cable	PCS-1
5	Modular Cable	XCS-4
	Software Security Device (not shown)	PKD-1
	Service Software for Level 3 service (not shown)	CDMA Phoenix

Service Configuration 3: Covers-off Troubleshooting Using Service Jig



Item	Name	Type
1	Service Jig	MJ-71
2	DC Power Cable	PCS-1
3	RF Test Cable	XRS-6
4	Service M/FBUS Cable	DAU-9S
5	Software protection key	PKD-1
6	Service Software for Level 3 service	CDMA Phoenix

Service Configuration 4: Automated Tuning and Alignment



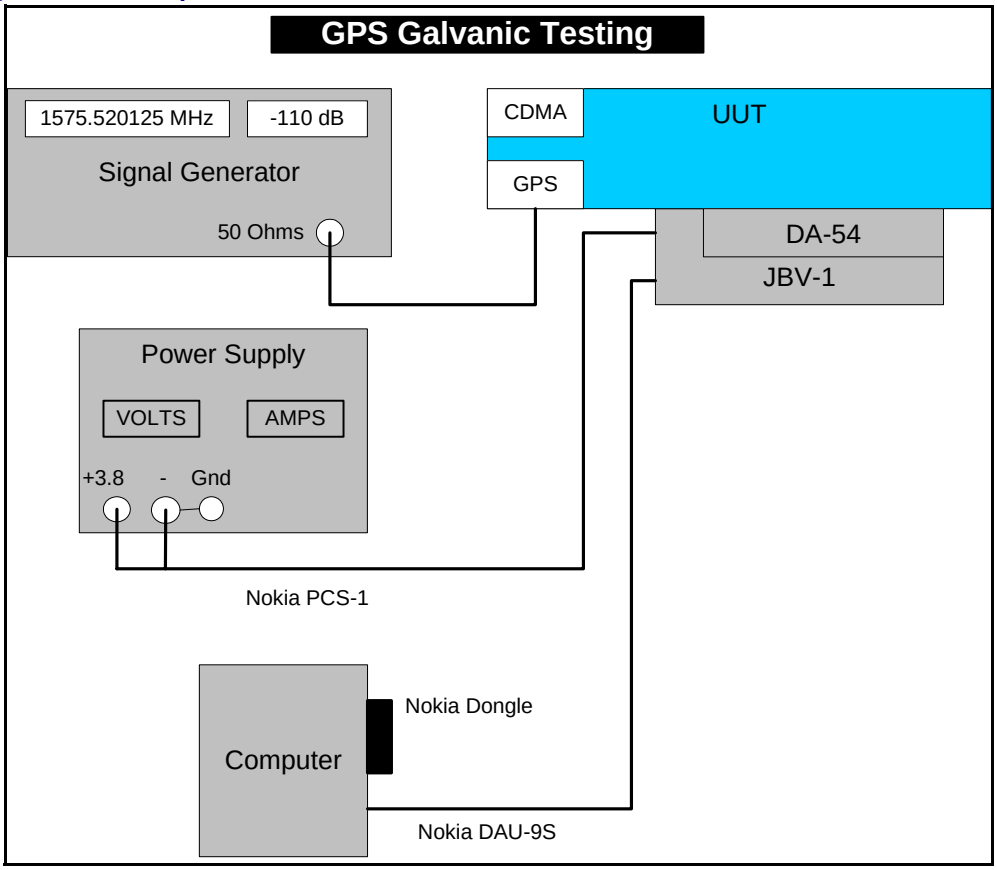
Item	Name	MFR	Model #	QTY	Comment
1	Vector Signal Analyzer	Agilent	E4406A	1	Options B78, BAC and BAE
2	Signal Generator	Agilent	E4420B	1	Digital signal generator with high-stability oscillator and high-spectral purity
3	RF Switch	GreenHill	TVi9901	1	
4	Power Supply	Keithly	K2306	2	Programmable with sense wire
5	Win2000 PC			1	Dell with Pentium III or above, network card, 256M RAM, 20GB HD, CD-ROM, etc.
6	GPIB Interface	NI	GPIB-USB-A	2	USB to GPIB adapter (184983G-01)

Item	Name	MFR	Model #	QTY	Comment
7	Docking Station	Nokia	DA-54/SS-13	1	For DCT4 handset tuning. SS-13 is specifically designed for CDMA RF autotuning.

Service Configuration 5: GPS Engine Testing

Use this setup for testing the GPS engine at Nokia Authorized Service Centers. Both galvanic and radiated tests are supported. The **GPS Test** component in Phoenix provides functionality to perform these tests. (See the *Baseband Description and Troubleshooting* chapter for more information about GPS testing.)

GPS Engine Test Setup

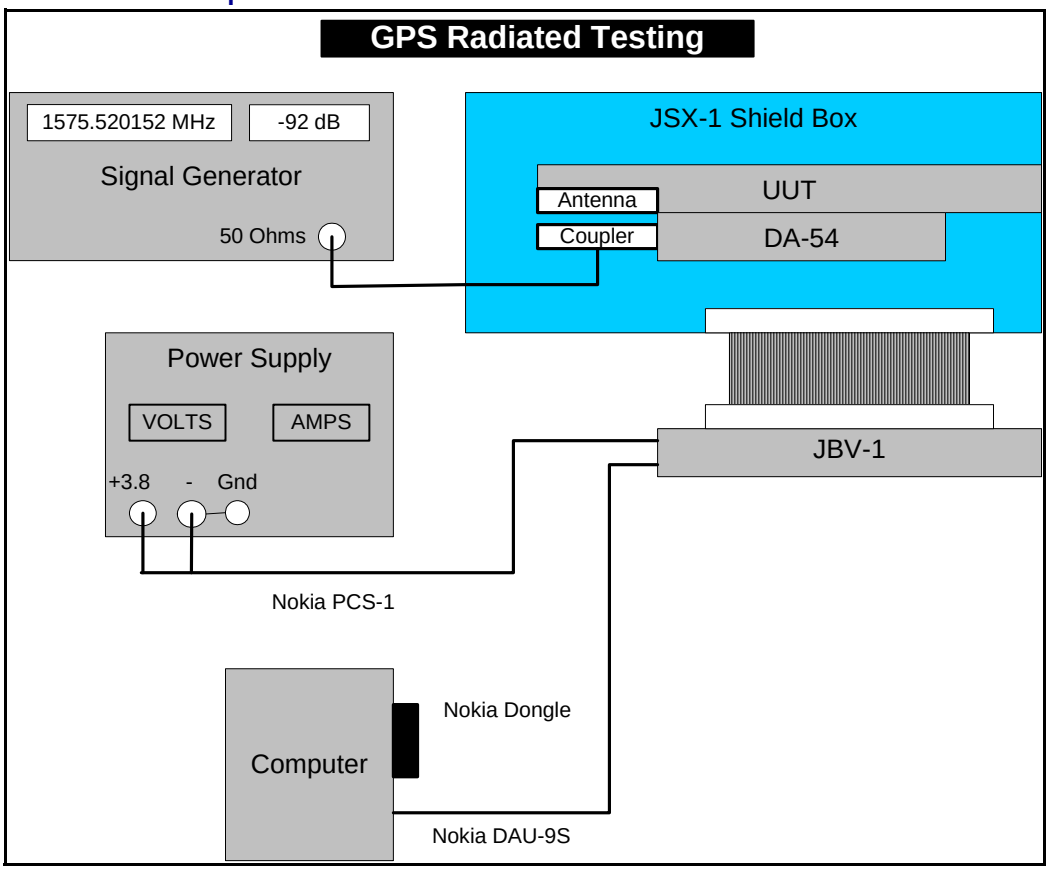


Following is a list of equipment needed for galvanic GPS engine testing:

- Power Supply
- Signal Generator
- Computer (Pentium 3+, Win 2K)
- JBV-1 Docking Station
- DA-54 Docking Station Adapter
- PCS-1 DC Power Cable
- DAU-9S M/F-Bus Cable

- PKD-1 Dongle
- SA-9 RF Support
- XRS-4 RF Test Cable
- Misc RF Cable

GPS Antenna Test Setup



Following is a list of equipment needed for radiated GPS antenna testing:

- 4VDC Power Supply
- Signal Generator
- Computer (Pentium 3+, Win 2K)
- JBV-1 Docking Station
- DA-54 Docking Station Adapter
- PCS-1 DC Power Cable
- DAU-9S M/F-Bus Cable
- PKD-1 Dongle
- CPL-8 Antenna Coupler
- SA-9 RF Support
- XRS-4 RF Test Cable

- JXS-1 Shield Box
- Misc RF Cable

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