



Consiglio Nazionale delle Ricerche



IEIT
Istituto di Elettronica
e di Ingegneria dell'Informazione
e delle Telecomunicazioni



Technical Report

Measured characteristics of the components of the Bar-SPOrt radiometer @ 32 GHz: part C of {A, B, C, D}

IRA 368/04

Measurements performed by Oscar Antonio Peverini (IEIT), Augusto Olivieri (IEIT), Jader Monari (IRA), Marco Poloni (IRA), Sergio Mariotti (IRA) at the IEIT-CNR institute.

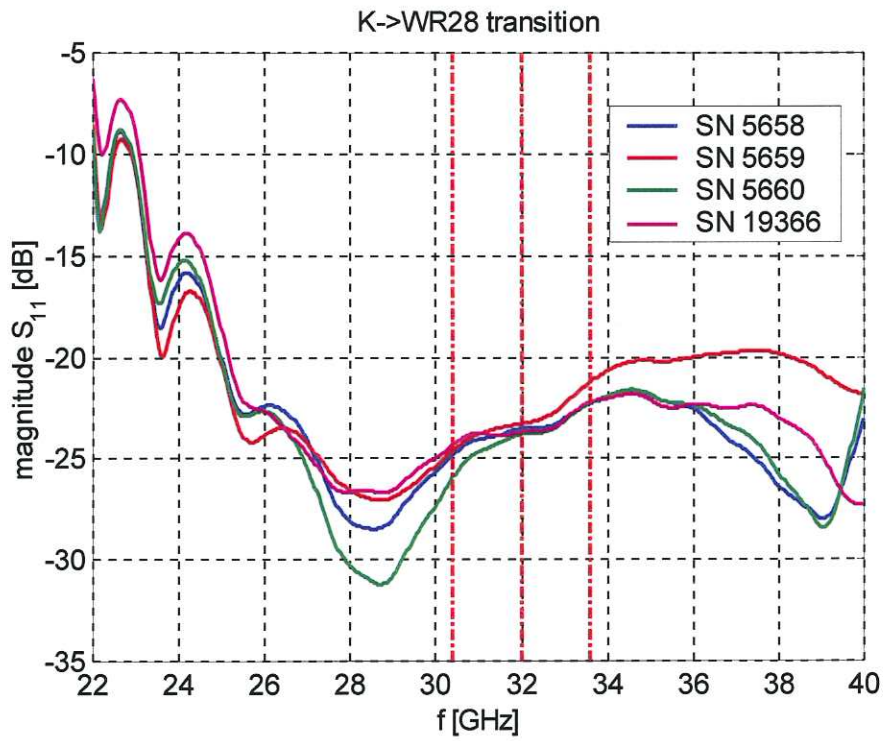
This part C contains the measured data of the following components:

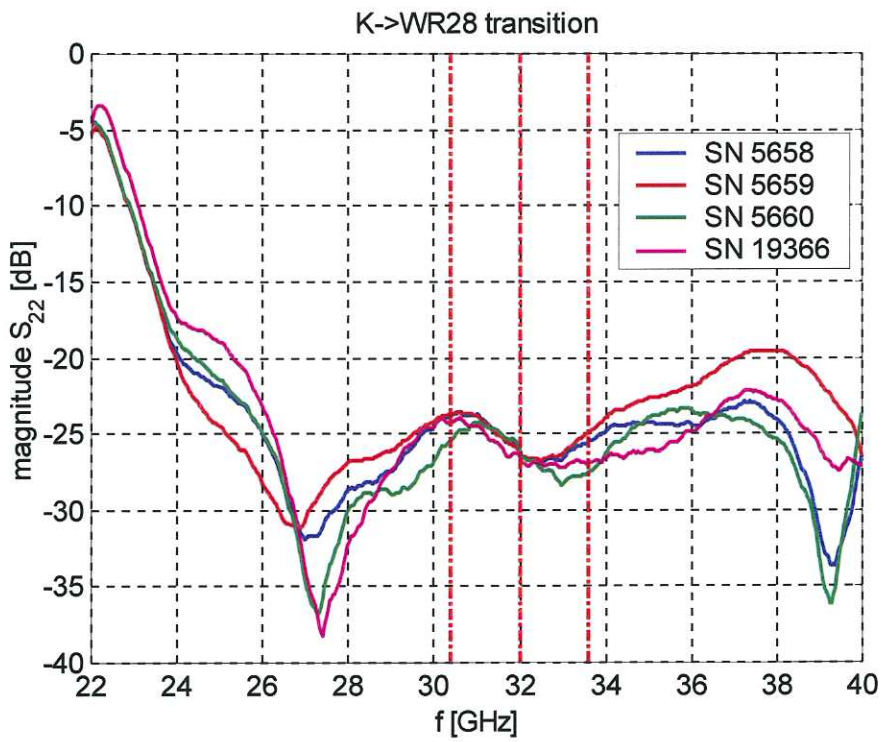
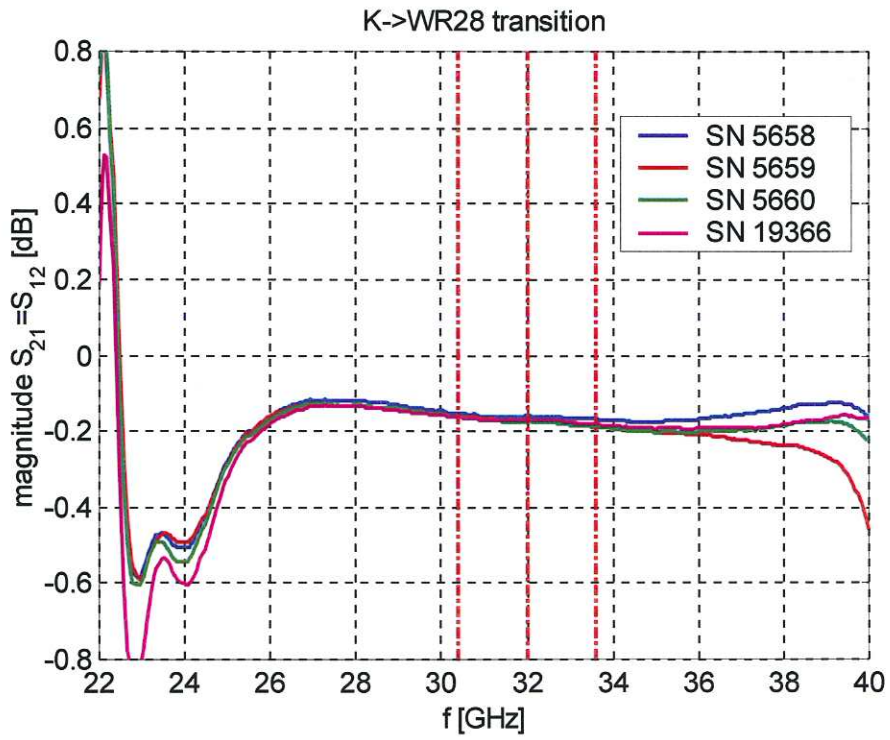
- 4 transitions from K-connector to WR28 waveguide
- 3 switches GENERAL MICROWAVE
- 6 cables ROSENBERGER

TRANSITIONS LABEL WR28 \Rightarrow K SN 5658, 5659, 5660, 19366



the same picture applies for all the transitions;
NA port 1 = K connector;
NA port 2 = WR28 waveguide;



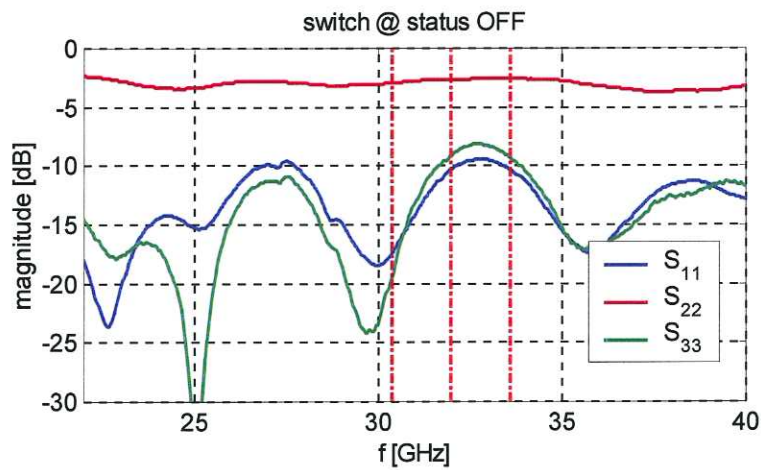
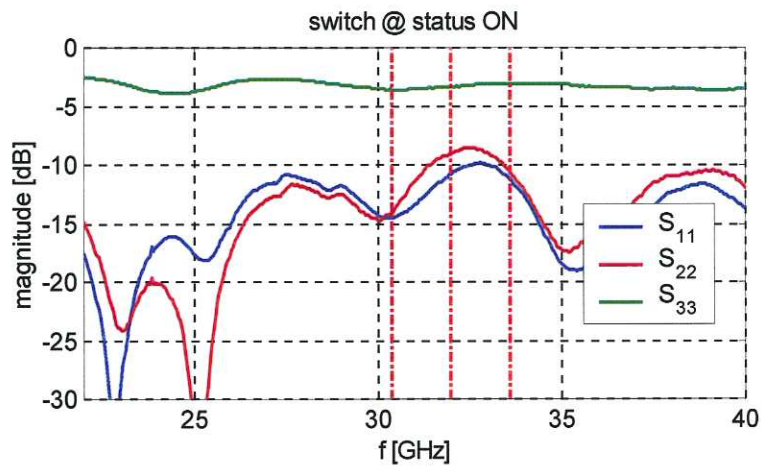


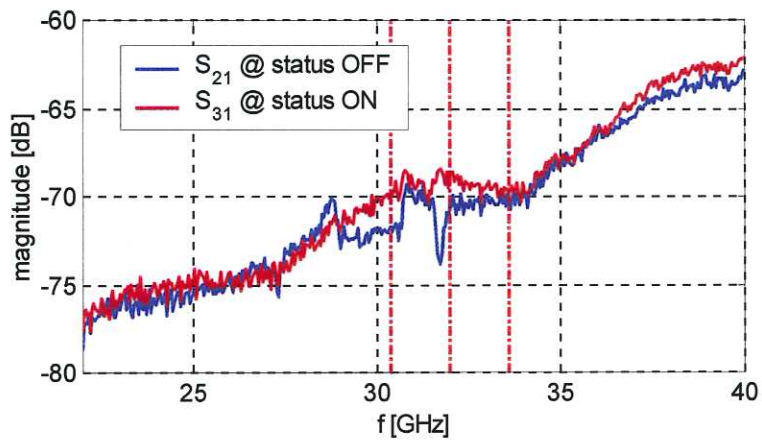
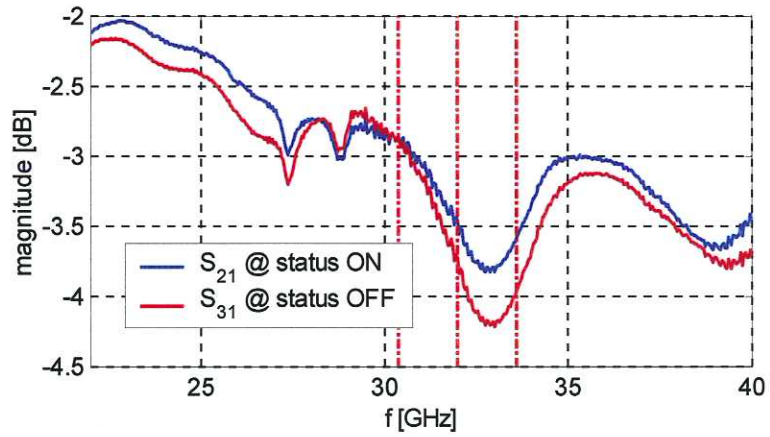
component	mean value of return loss @ port 1	mean value of return loss @ port 2	mean value of insertion loss @ port 1	mean value of insertion loss @ port 2
SN 5658	23.530 dB	25.369 dB	0.162 dB	0.162 dB
SN 5659	23.076 dB	25.282 dB	0.171 dB	0.171 dB
SN 5660	23.875 dB	26.038 dB	0.176 dB	0.176 dB
SN 19366	23.504 dB	25.966 dB	0.172 dB	0.172 dB

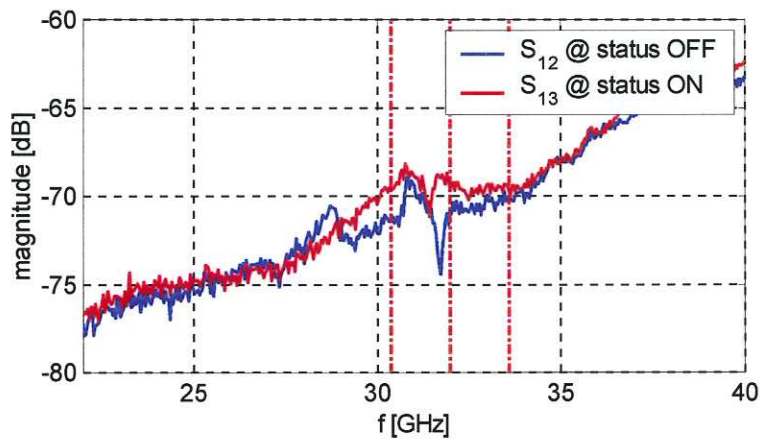
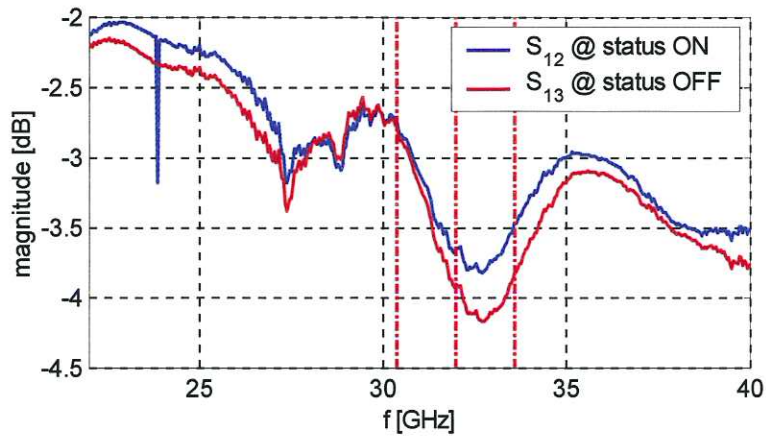
SWITCH GENERAL MICROWAVE SN 01050093



switch port # 1 = J1;
switch port # 2 = J2;
switch port # 3 = J3;
@ status ON port J1 couples to port J2;
@ status OFF port J1 couples to port J3;
ports J2 & J3 are always isolated at a level of about 70 dB.







Mean values of the scattering parameters @ status ON

port	1	2	3
1	-11.389 dB	-3.468 dB	-69.360 dB
2	-3.425 dB	-9.898 dB	~ -70 dB
3	-69.291 dB	~ -70 dB	-3.290 dB

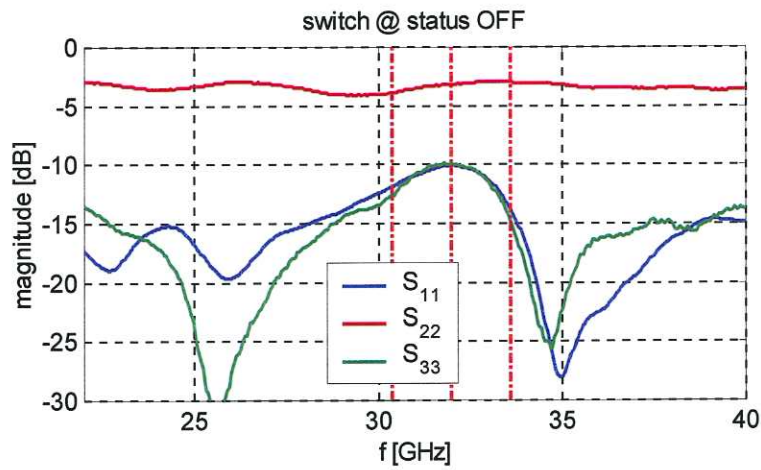
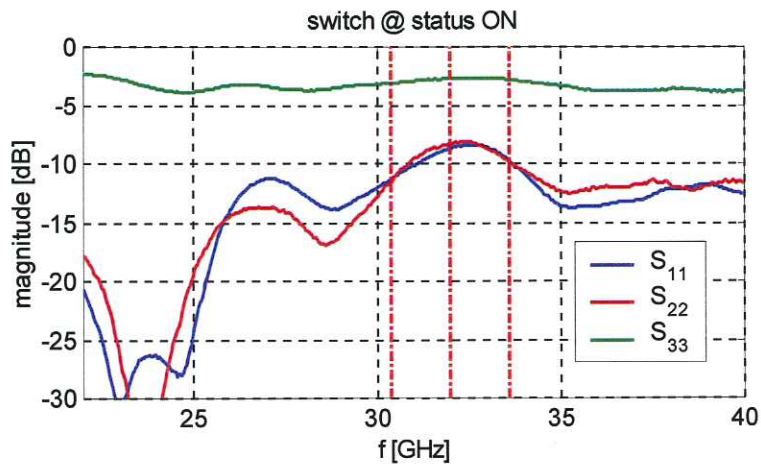
Mean values of the scattering parameters @ status OFF

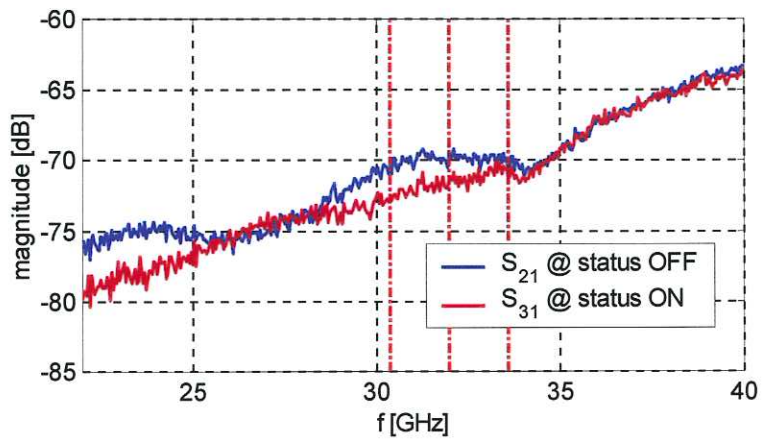
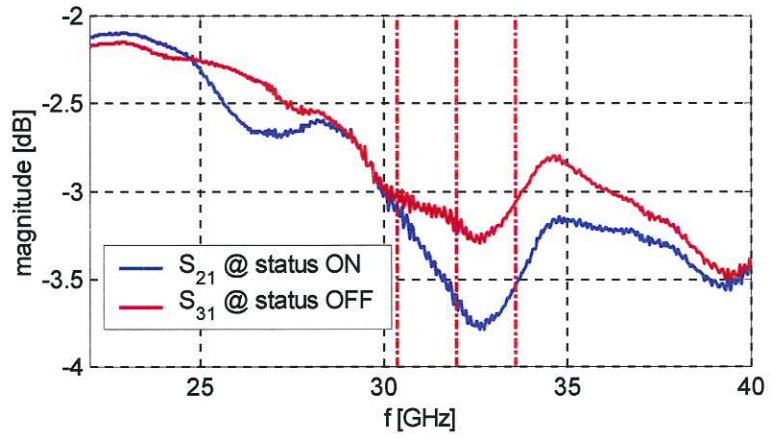
port	1	2	3
1	-11.269 dB	-70.655 dB	-3.695 dB
2	-70.563 dB	-2.649 dB	~ -70 dB
3	-3.662 dB	~ -70 dB	-10.173 dB

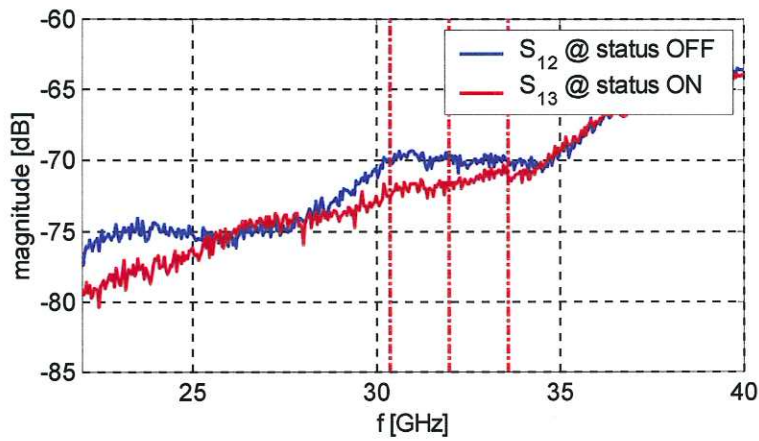
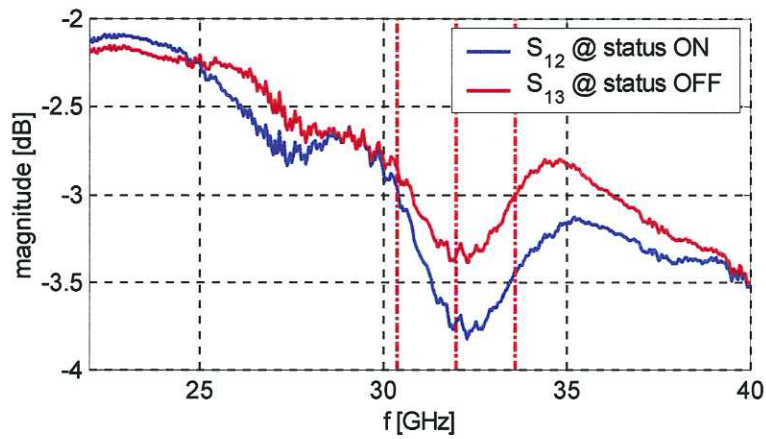
SWITCH GENERAL MICROWAVE SN 01050094



switch port # 1 = J1;
switch port # 2 = J2;
switch port # 3 = J3;
@ status ON port J1 couples to port J2;
@ status OFF port J1 couples to port J3;
ports J2 & J3 are always isolated at a level of about 70 dB.







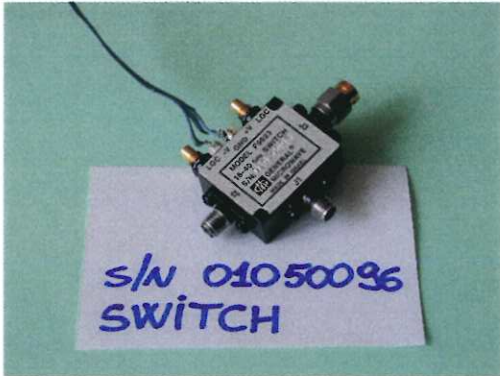
Mean values of the scattering parameters @ status ON

port	1	2	3
1	-9.208 dB	-3.542 dB	-71.528 dB
2	-3.528 dB	-8.968 dB	~ -70 dB
3	-71.514 dB	~ -70 dB	-2.756 dB

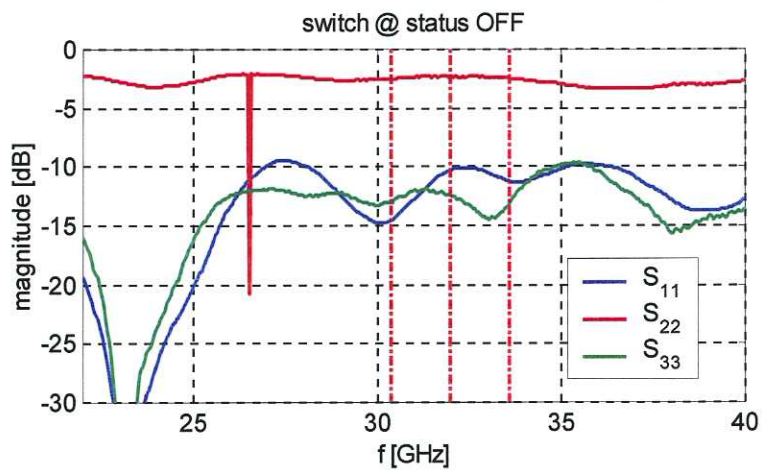
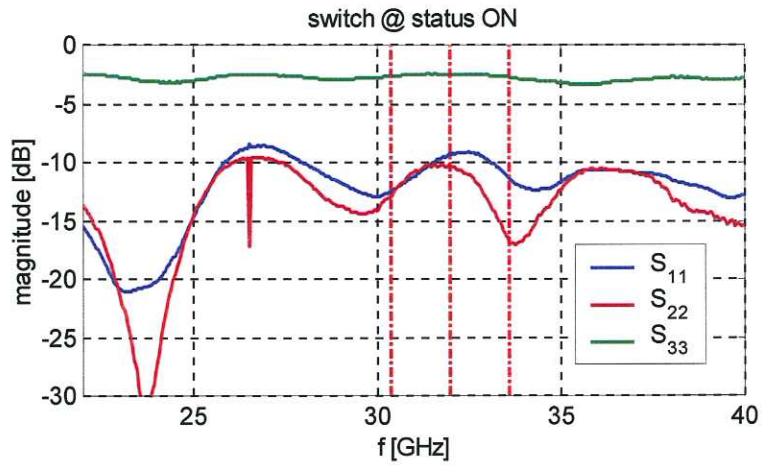
Mean values of the scattering parameters @ status OFF

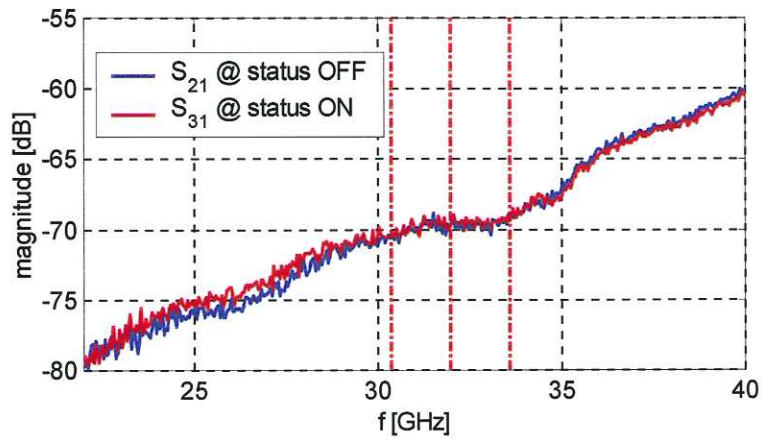
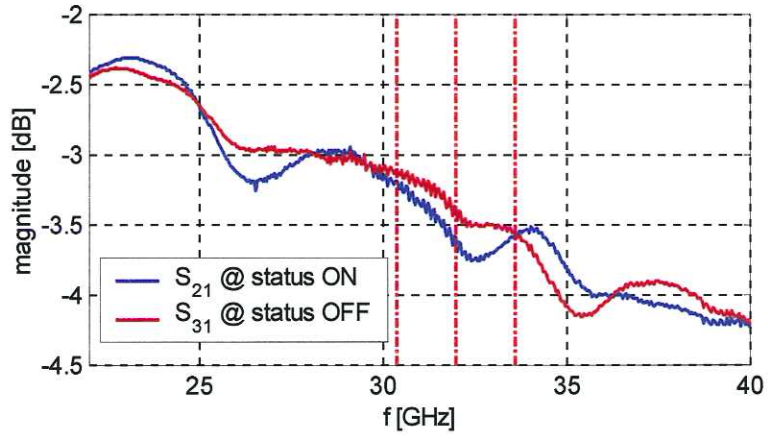
port	1	2	3
1	-10.881 dB	-69.858 dB	-3.194 dB
2	-69.879 dB	-3.217 dB	~ -70 dB
3	-3.157 dB	~ -70 dB	-10.950 dB

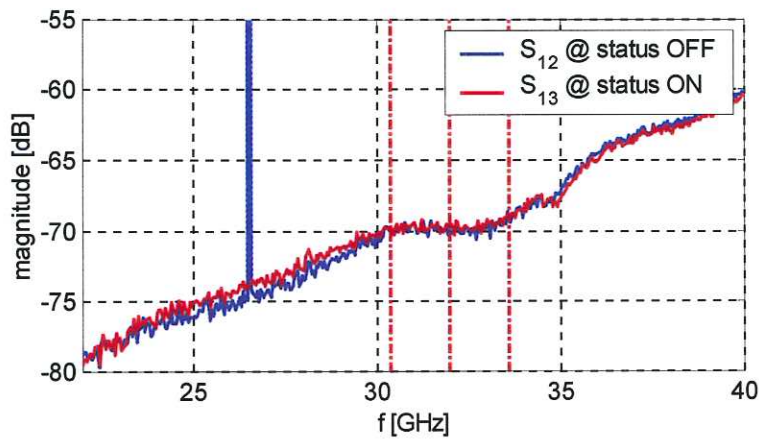
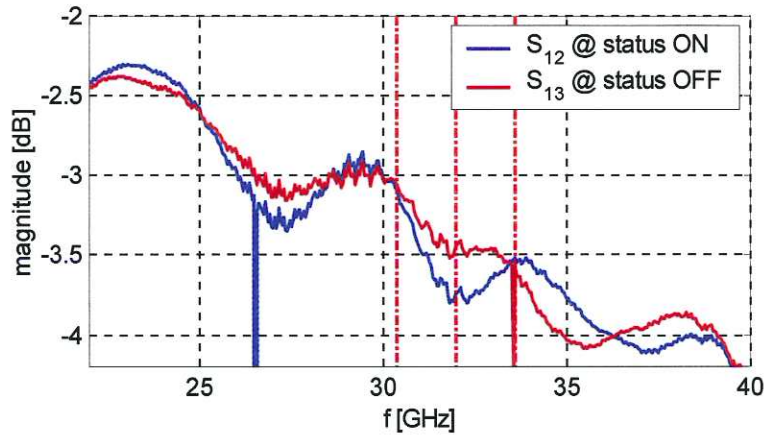
SWITCH GENERAL MICROWAVE SN 01050096



switch port # 1 = J1;
switch port # 2 = J2;
switch port # 3 = J3;
@ status ON port J1 couples to port J2;
@ status OFF port J1 couples to port J3;
ports J2 & J3 are always isolated at a level of about 70 dB.







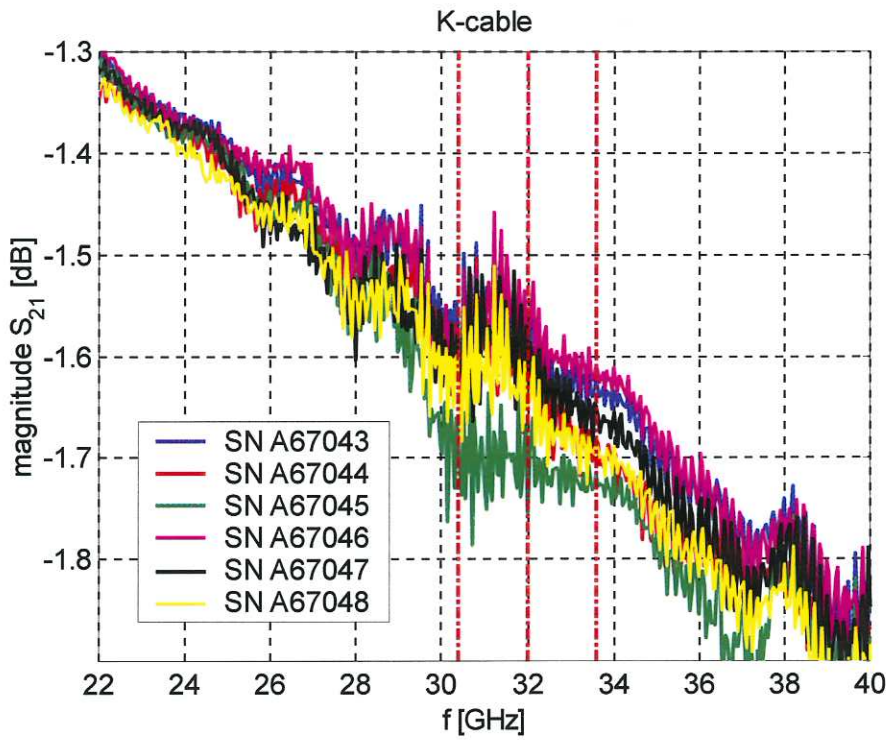
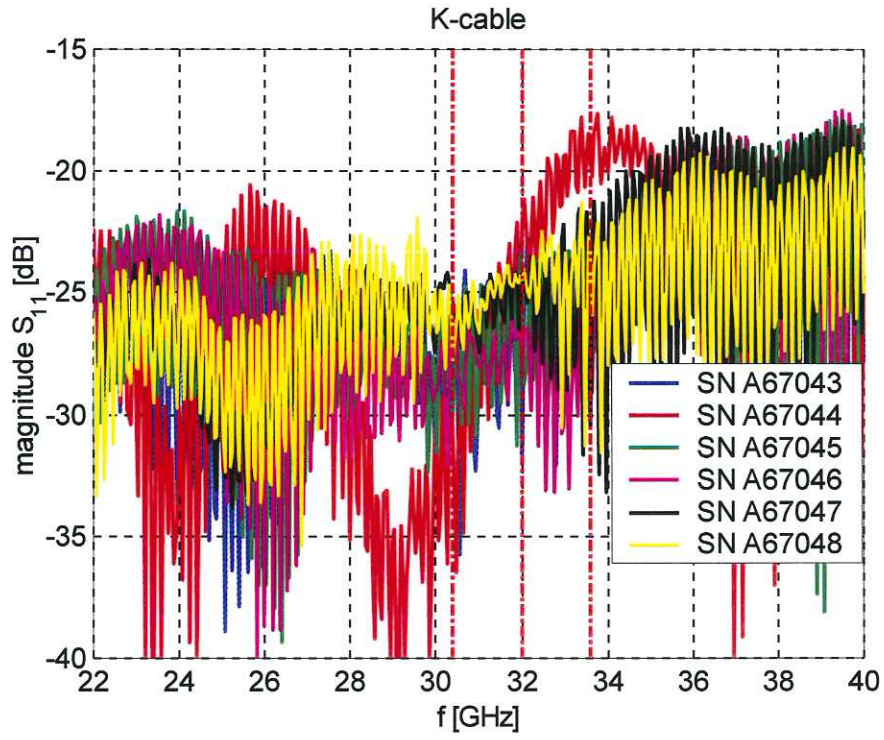
Mean values of the scattering parameters @ status ON

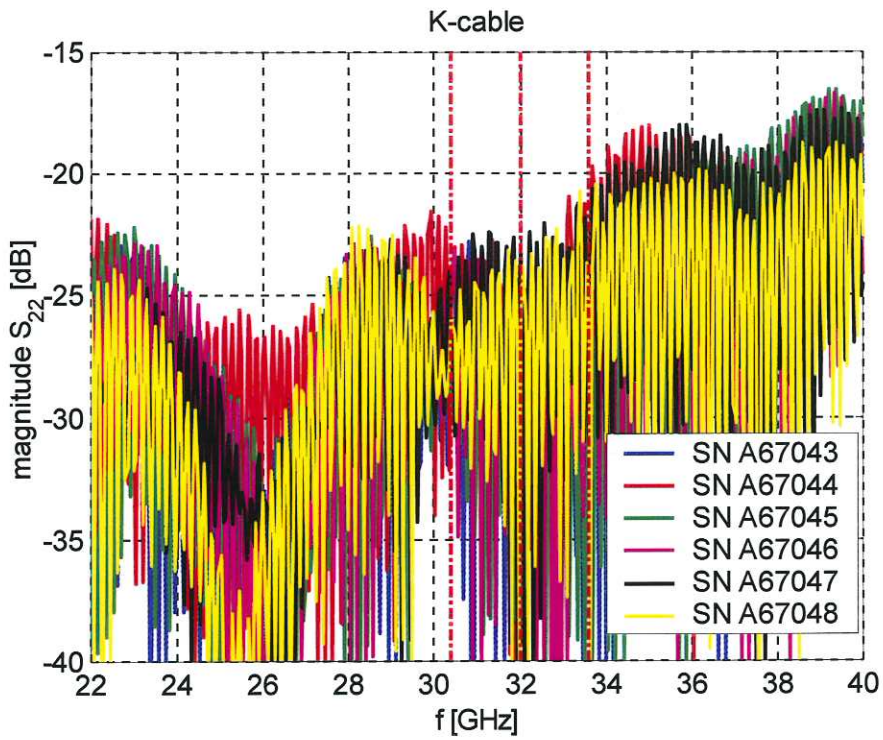
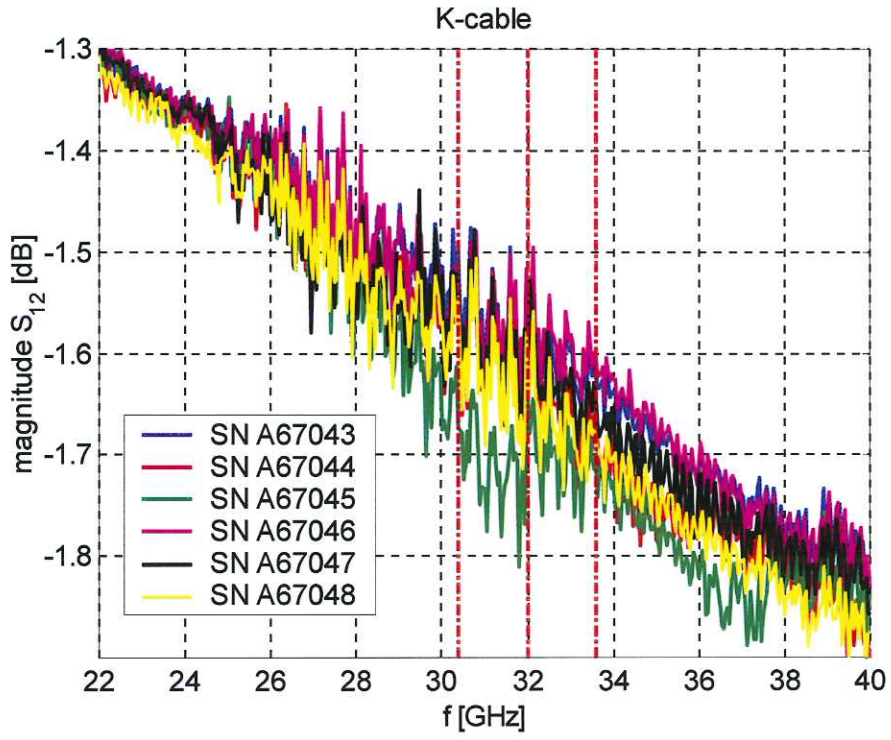
port	1	2	3
1	-10.205 dB	-3.585 dB	-69.656 dB
2	-3.536 dB	-11.596 dB	~ -70 dB
3	-69.636 dB	~ -70 dB	-2.542 dB

Mean values of the scattering parameters @ status OFF

port	1	2	3
1	-11.208 dB	-69.816 dB	-3.411 dB
2	-69.773 dB	-2.346 dB	~ -70 dB
3	-3.366 dB	~ -70 dB	-12.837 dB

K CABLES ROSENBERGER SN A67043-A67048





component	mean value of return loss @ port 1	mean value of return loss @ port 2	mean value of insertion loss @ port 1	mean value of insertion loss @ port 2
SN A67043	26.327 dB	28.733 dB	1.588 dB	1.587 dB
SN A67044	23.311 dB	26.347 dB	1.627 dB	1.624 dB
SN A67045	26.068 dB	29.220 dB	1.709 dB	1.707 dB
SN A67046	27.522 dB	28.403 dB	1.580 dB	1.584 dB
SN A67047	25.210 dB	25.683 dB	1.612 dB	1.615 dB
SN A67048	24.808 dB	26.672 dB	1.644 dB	1.644 dB