



This scanning principle is comparable with the correlation principle and therefore results in a powerful filter effect. In this way even extreme low power emitted pulses are sufficient for the level measurement with high accuracy.

Summary of the electrical characteristics values of the S / E part:

Emitting frequency	26	GHz
Emission pulse clock frequency	3.579545	MHz
Scanning pulse clock frequency	3.57952315	MHz
Frame frequency of the PN-generator	27.96	kHz
Emitting pulse with 6 dB app.	0.8	ns
Emitting pulse peak envelope power	< -9	dBm
Antenna gain	< 26	dBi

Calculation of pulse spectrum:

$$f_{\text{centre}} = 26.0\text{GHz} \quad \text{centre frequency}$$

$$T_{\text{pulse}} = 0.8\text{nsec} \quad \text{pulse length}$$

$$B = 2/T_{\text{pulse}} \quad \text{band width}$$

$$f_{\text{min}} = f_{\text{centre}} - 1/T_{\text{pulse}} = 26\text{GHz} - 1.25\text{GHz} = 24.75\text{GHz} = >24.0\text{GHz}$$

Assembly:

A Radar Module III.2 consists of a multilayer printed circuit board built in a plastic housing. The surface of the housing is electrically conductive.

One face of the printed circuit board of the Radar Module III.2 is the HF Front end according to the schematic 960402-3023 called "Radar- Module III.2"; the other face of the printed circuit board contains the frequency treatment stage according to the schematic 960402-3022 called "Radar Module III.2 frequency excitation".

Inputs / Outputs:

The electrical connection from the Radar Module III.2 to the evaluation stage of the Micropilot FMR24x is made via connector.

The Radar Module has following input / output ports (see drawing n° 960402-3022 / -3023):

- Supply
- Standby input
- Intermediate frequency output
- Trigger output signal
- GND

The microwave signals are led to the antenna systems of the Micropilot series by a coaxial cable.

Operating data:

Supply voltage. 3,5V

FMR 240

Hornantenne / Horn antenna

T12-Gehäuse
T12-Housing

F12-Gehäuse
F12-Housing

threaded boss version, also



Agency controlled drawing.
No changes without prior
Agency approval.

GEOMETRICAL TOLERANCING DIN ISO 1101 SURFACE TEXTURE DIN ISO 1302 EDGES OF WORKING PARTS DIN 6784	H						DATE	NAME		Endress+Hauser Maulburg, Germany
	G					DESIGN				
	F					DRAWN	28.06.00	fb	DOCUMENT PROTECTED BY DIN 34	
	E					APPROVED	28.06.00	ES		
	D					SCALE	TITLE			DRAWING NO.
	C					Micropilot M FMR 24x			960402-3000 A	
	B				TOLERANCE					
A							REPL. FOR	C	SHEET SIZE	
	NO.	DRAWN	APP'D	DATE			REPL. BY			A4