NSG 4070B APPLICATION FOR RTCA DO160 SECTION 20

<table>
<thead>
<tr>
<th>Test parameter</th>
<th>Equipment</th>
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<tbody>
<tr>
<td>Standards: RTCA DO160 section 20 CS</td>
<td>Signal generation: NSG 4070B-0</td>
</tr>
<tr>
<td>Frequency range: 10 kHz to 400 MHz</td>
<td>Modulator: included in NSG 4070B-0</td>
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<tr>
<td>Test levels: see diagram</td>
<td>Power meter: 3x included in NSG 4070B-0</td>
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<tr>
<td>Modulation: as given in the standard</td>
<td>Power amplifier: CBA 400M-110</td>
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<tr>
<td>Test method: Substitution method with</td>
<td>Directional coupler: DCP 0100</td>
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<tr>
<td>monitoring probe</td>
<td>Current injection probe: CIP 9136A</td>
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<tr>
<td>Monitoring probe: no requirements in the</td>
<td>Monitoring probe: MD 4070</td>
</tr>
<tr>
<td>standard, only for information, no limiting/</td>
<td>Calibration jig: PCJ 9201B</td>
</tr>
<tr>
<td>control of the injected level</td>
<td>Termination: 50 Ω 10 W</td>
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<tr>
<td></td>
<td>Attenuation: 26 dB 30 W, 10 dB 30 W, 20 dB 10 W</td>
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<td></td>
<td>Software: optional C5i or WIN 6000</td>
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WARNING: The power meter inputs are very sensitive. It is the user’s responsibility to ensure that the selected test levels does not damage the equipment. Any hardware/setup changes should be calculated before starting the test.

Calibration set-up for monitoring probe

Remarks:
The monitoring probe MD 4070 needs to be calibrated in the way of its use (active, passive or with switching at a specific frequency from active to passive).
Calibration set-up (for categories S and T)

Power meter
ch. 1 stress level
ch. 3 reverse power

Test set-up with monitoring probe (for categories S and T)

Power meter
ch. 1 level monitoring
ch. 2 forward power
ch. 3 reverse power

Attention: 26 dB 30 W
Termination: 50 Ω 10 W
Caution:
Stress levels below 3 mA cannot be adjusted due to the power amplifier noise floor. This requires to work with an increased test level or additional attenuator on the BCI probe.

Use of MD 4070 in the active mode.
Caution:
The low stress levels of category S below 30 kHz cannot be measured with MD 4070.
Calibration set-up (for categories M and R)

Use of MD 4070 in the active mode in the range below 50 kHz.
Use of MD 4070 in the passive mode above 50 kHz.

Caution:
The use of the MD 4070 in the active mode during tests with stress levels above 20 mA could damage power meter channel 1 of NSG 4070.

Test set-up with monitoring probe (for categories M and R)

Use of MD 4070 in the active mode in the range below 50 kHz.
Use of MD 4070 in the passive mode above 50 kHz.

Caution:
The use of the MD 4070 in the active mode during tests with stress levels above 20 mA could damage power meter channel 1 of NSG 4070.
Calibration set-up (for categories O, W and Y)

Power meter
- ch. 1 stress level
- ch. 2 forward power
- ch. 3 reverse power

- Attenuator: 20 dB, 10 W
- Termination: 50 Ω, 10 W

Remarks:
- Power meter channel 1 needs to be protected with a 20 dB attenuator.

Test set-up with monitoring probe (for categories O, W and Y)

Power meter
- ch. 1 level monitoring
- ch. 2 forward power
- ch. 3 reverse power

Remarks:
- Use of MD 4070 in the passive mode.