

Date of issue: 2018-06-13

Example for the calculation of spurious emissions above 40 GHz

Date: 2017-09-07

Created: P9 Controlled: P4 Released: P1 m. dudde hochfrequenz-technik GmbH & Co. KG **Rottland 5a** D-51429 Bergisch Gladbach/ Germany Tel: +49 2207-96890

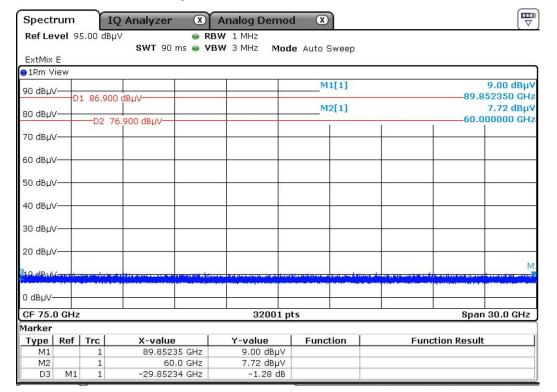
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Plot 1 (noise floor without any corrections)



Plot 2 (noise floor with all corrections)

Spect	um		IQ Analyzer	×	Analog Demod	×					
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⊖1Rm M	ax 🛛 2	Rm Clrv	W		16.0						
90 dBµV/m D1 86.900 dBµ\					M1[1]				56.36 dBµV/m 89.986410 GHz 49.51 dBµV/m		
			DO dBµV/m			M2[1]					
80 dBµV/m			76.900 dBµV/m-			HZ[1]			49.51 dBpv/m 60.000000 GHz		
		UZ	70.900 dbpv/m			1		1			
70 dBµV	/m+										
60 dBµV	/m-									M	
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Marker	GHZ				32001 pt	2			spar	1 30.0 GHZ	
Type			X-value		Y-value	Function		Euro	Function Result		
M1	Ner	1	89.9864	1 GHz	56.36 dBµV/m	i unotion		Fun	T directori Result		
M2		1		0 GHz	49.51 dBµV/m						
D3	M1	1	-29.986	4 GHz	-6.85 dB						

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D-51429 Bergisch Gladbach/ Germany

Rottland 5a

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Example: Calculation for 90 GHz:

corrected level = measuring level + antenna conversion + mixer conversion - distance factor

in which

measuring level at 90 GHz = noise level (see Plot 1) = 9 dB μ V antenna conversion = antenna conversion factor in at 90 GHz = 41.5 dB/m mixer conversion = mixer conversion factor at 90 GHz = 21.6 dB distance factor = distance extrapolation factor for measurement at 0.5 m instead of 3 m = 15.6 dB corrected level = measuring level with all corrections (see Plot 2)

corrected level = 9.0 dB μ V + 41.5 dB/m + 21.6 dB - 15.6 dB = 56.5 dB μ V/m