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North Texas NTMS Microwave Society

Phase Noise Workshop Results

MUD 2009, Dallas

Dave WW2R, & Steve N2CEI & Chuck AF8Z & Eric KC4YOE & John KE5FX

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Topics

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- 10MHz
- VHF Sources
- 1G comparison
- Apollo 1136 v 1152MHz
- Apollo 1136 v references
- Microwave Sources
- HP8662

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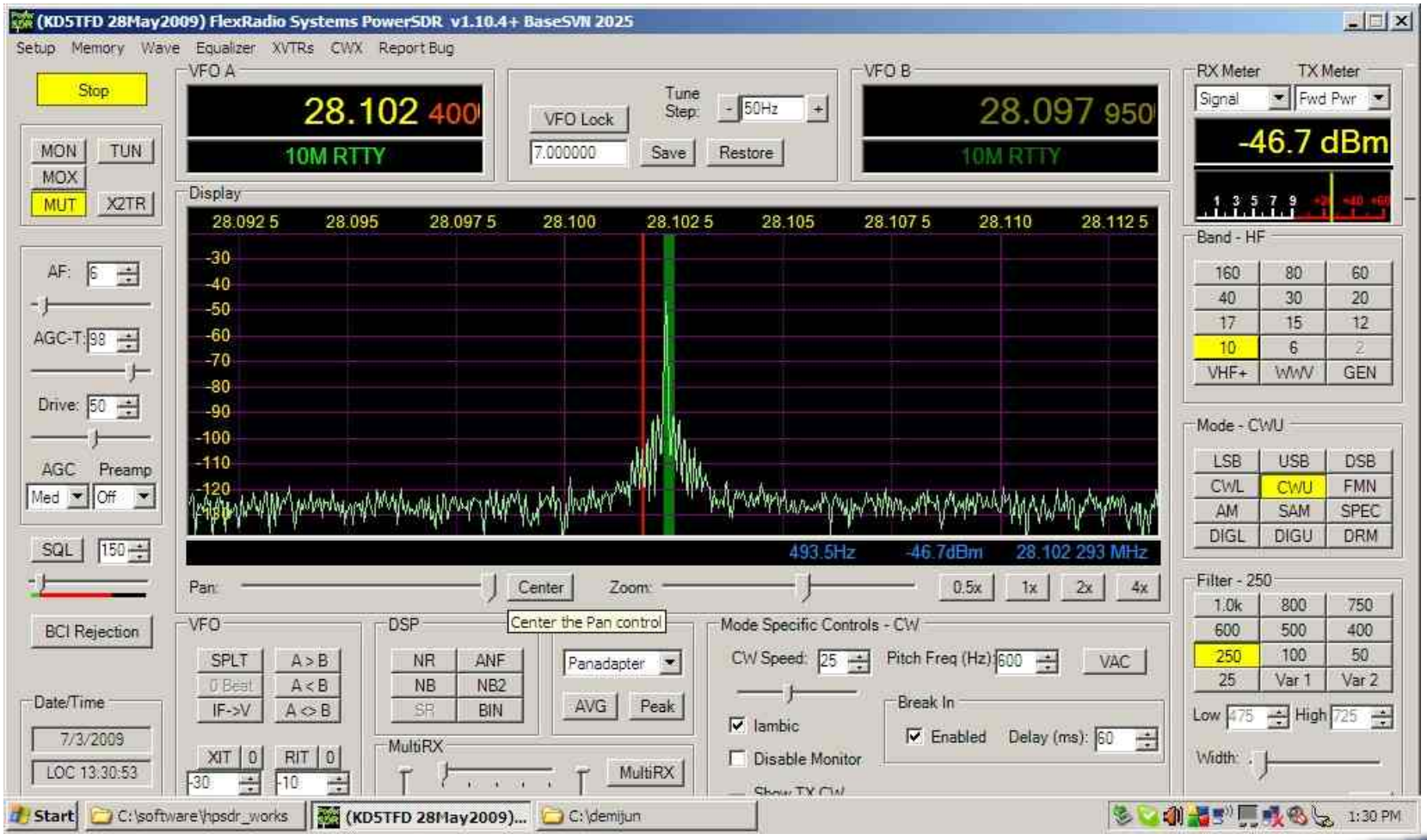

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E5052 Signal Source Analyser

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E5052B measurement Capabilities

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Table 1-3. SSB phase noise sensitivity (dBc/Hz) in normal capture range mode (E5052B)

LO optimization: < 150 kHz, Ref. BW: narrow, correlation = 1, RF input: +5 dBm, start offset frequency: 1 Hz, measurement time

RF input frequency		Offset frequency [Hz] from the carrier						
		1	10	100	1 k	10 k	100 k	1 M
10 MHz	specification				–148	–156	–166	–168
	SPD	–100	–131	–151	–164	–172	–178	–178
100 MHz	specification				–147	–156	–163	–168
	SPD	–80	–111	–136	–154	–164	–171	–175
1 GHz	specification				–128	–137	–144	–160
	SPD	–60	–91	–116	–135	–146	–155	–171
3 GHz	specification				–118	–127	–133	–149
	SPD	–50	–81	–106	–127	–135	–142	–161
7 GHz	specification				–111	–120	–127	–143
	SPD	–43	–74	–99	–121	–129	–138	–154

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10MHz Sources

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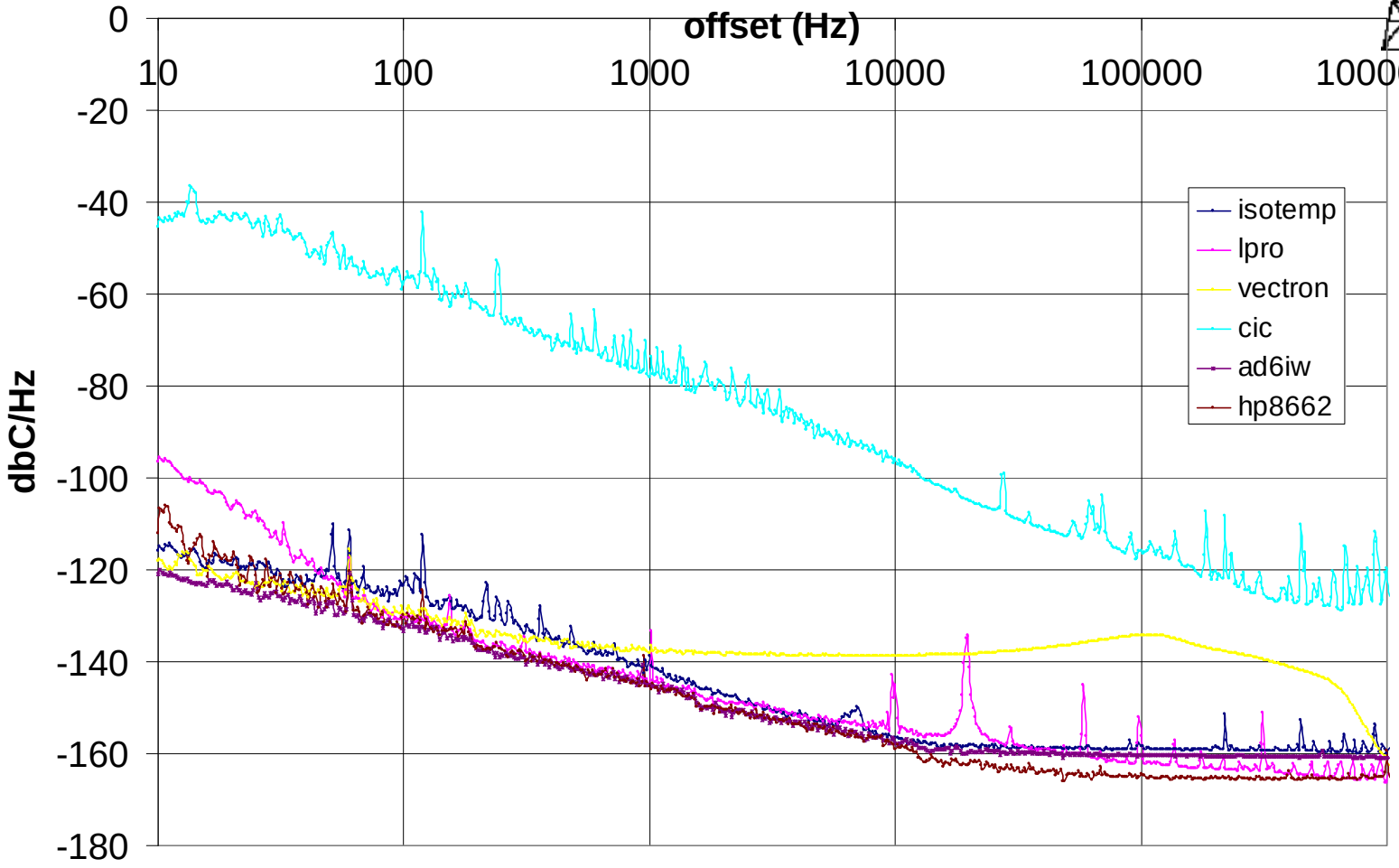

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106.5MHz Sources

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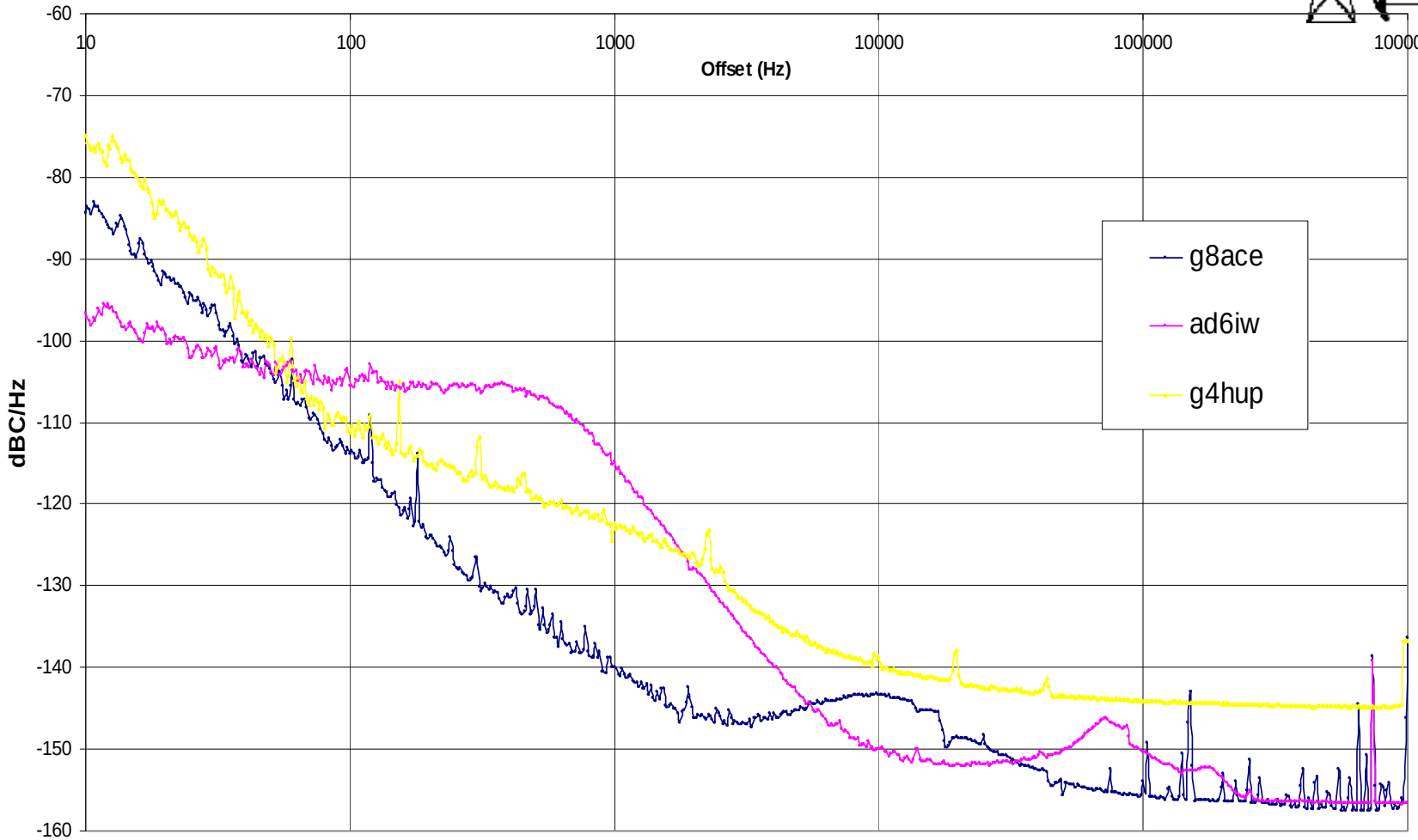

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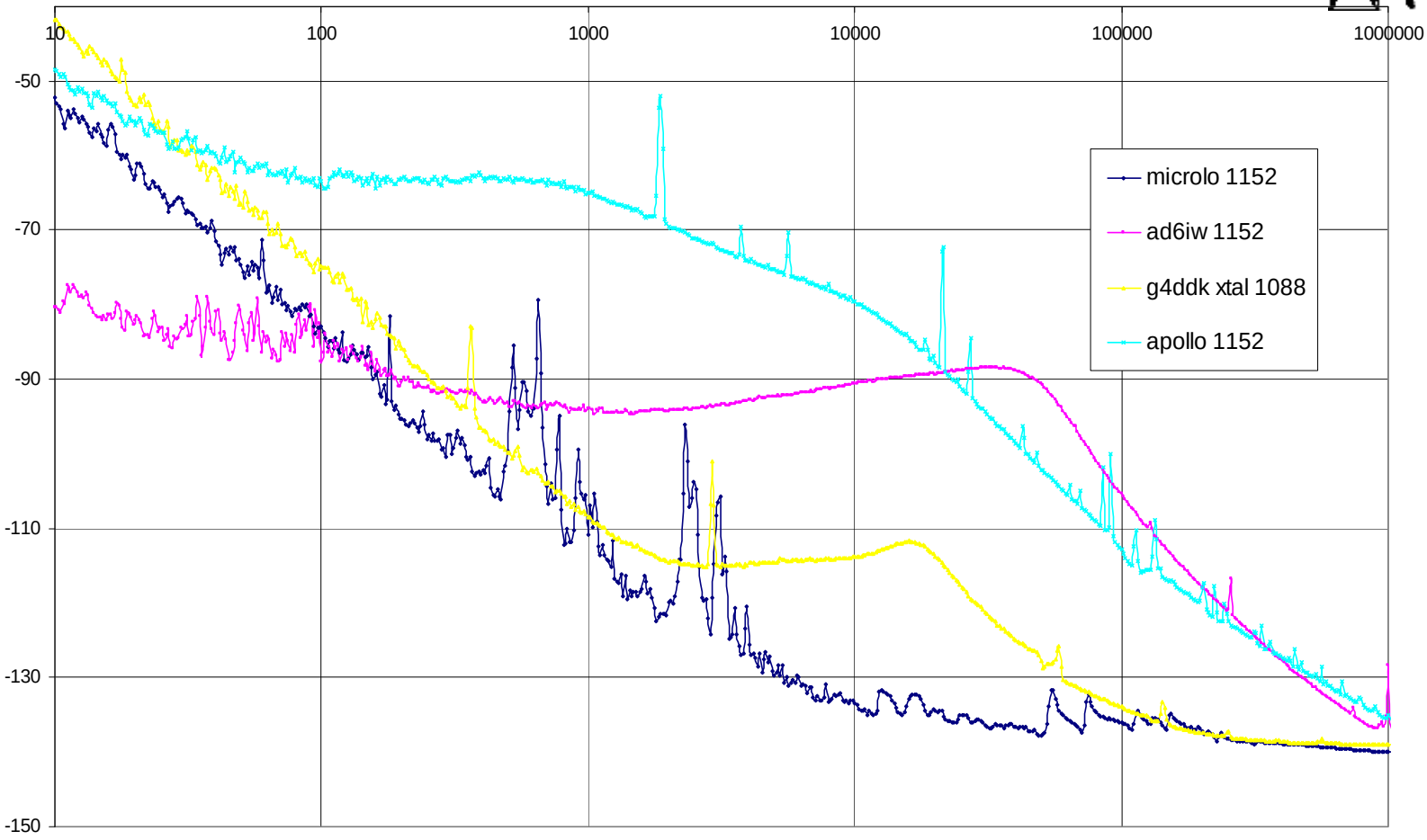
1GHz comparison



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Apollo 1136 v 1152.022MHz

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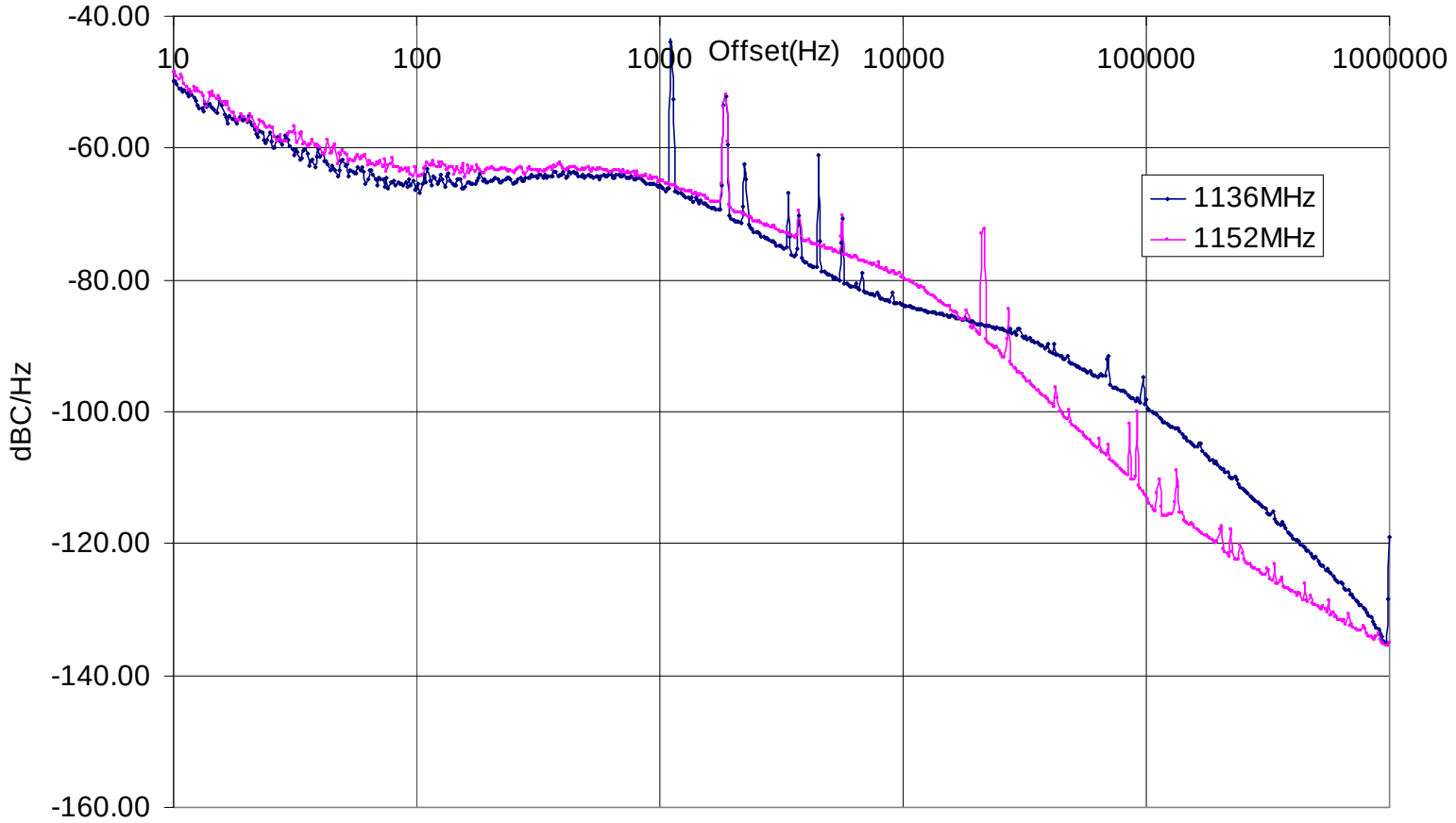

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Internal v External Apollo

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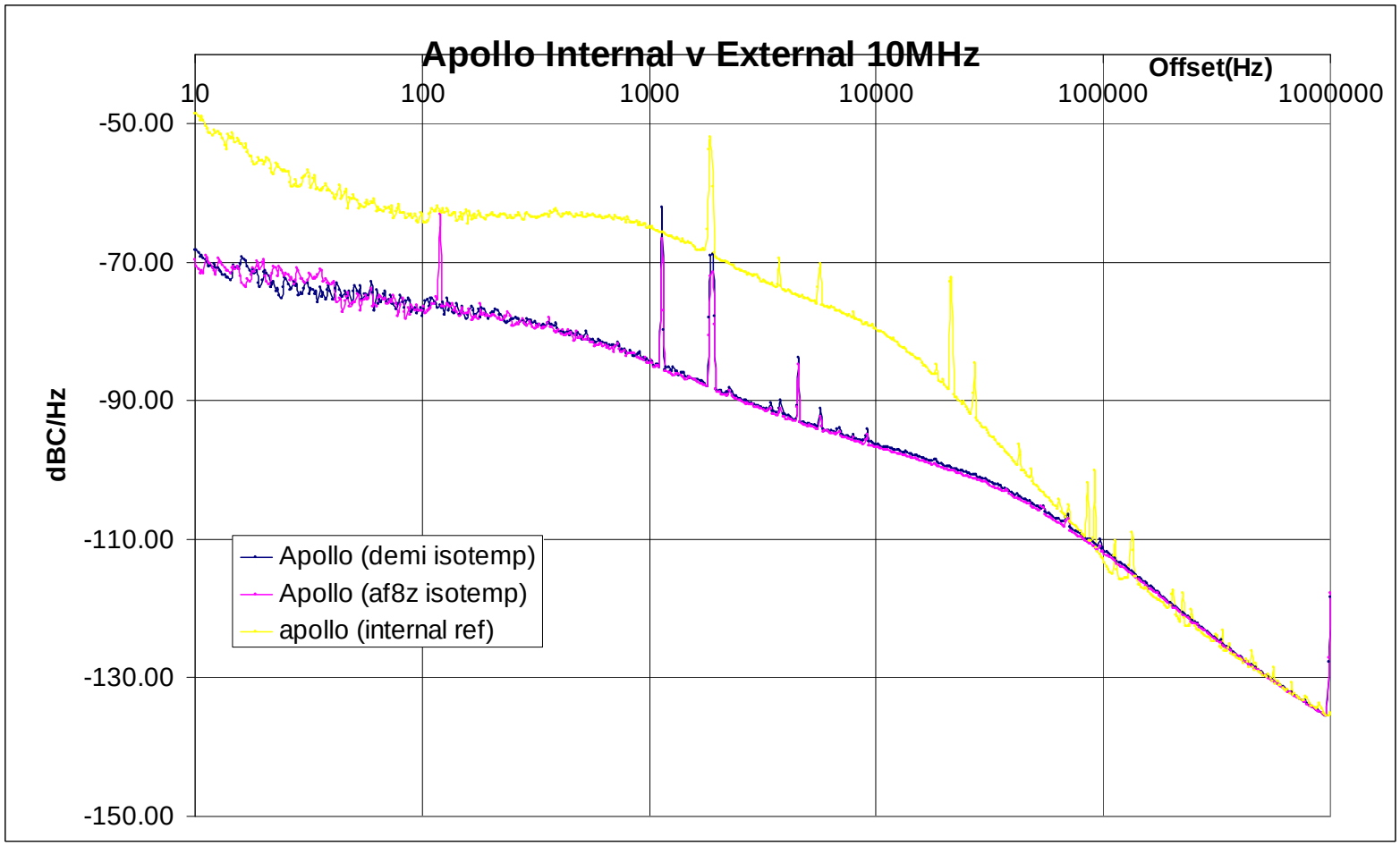

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Apollo 1136MHz different REF

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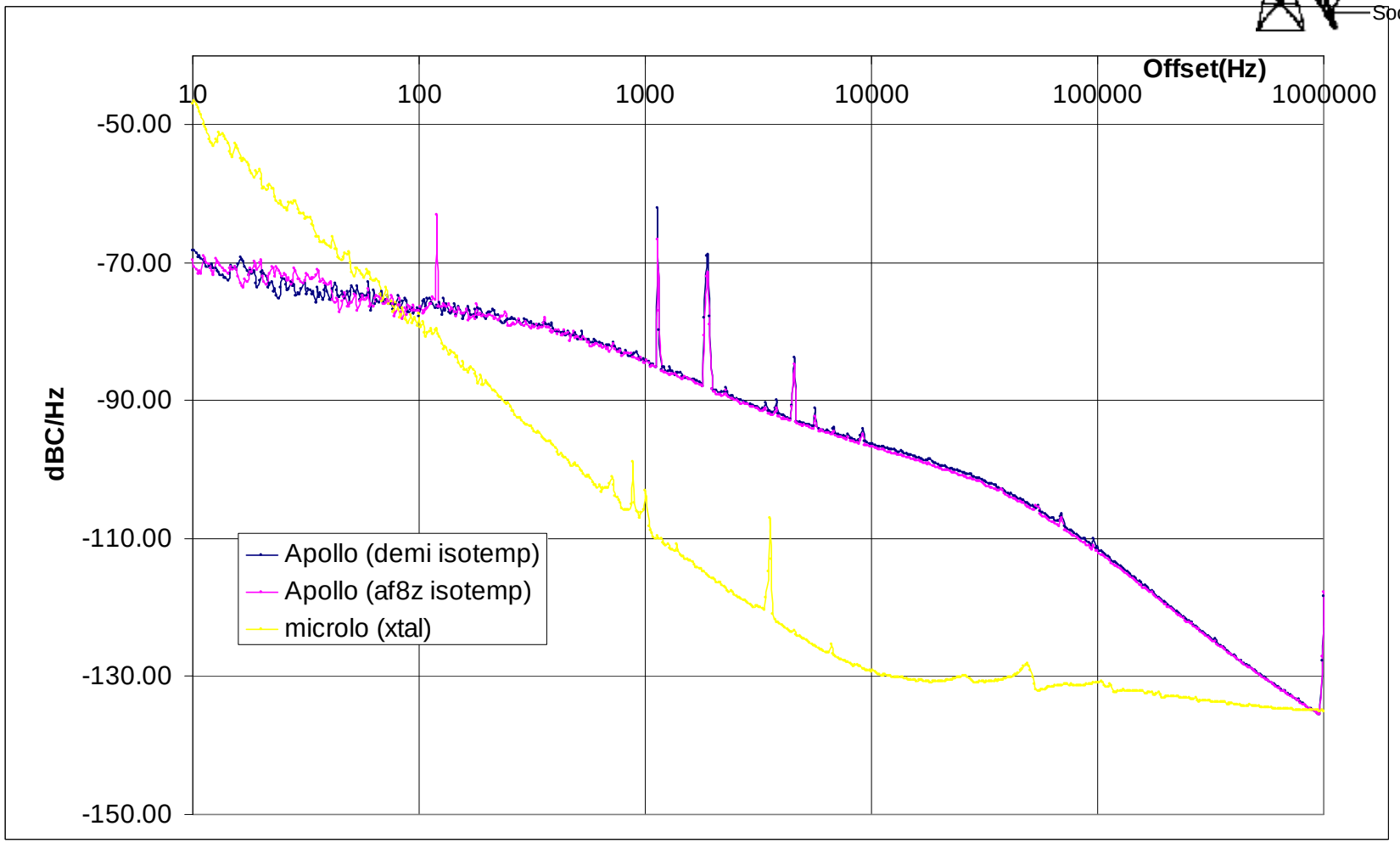

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G4DDK 1088MHz Source

Showing effect of Decoupling Capacitors

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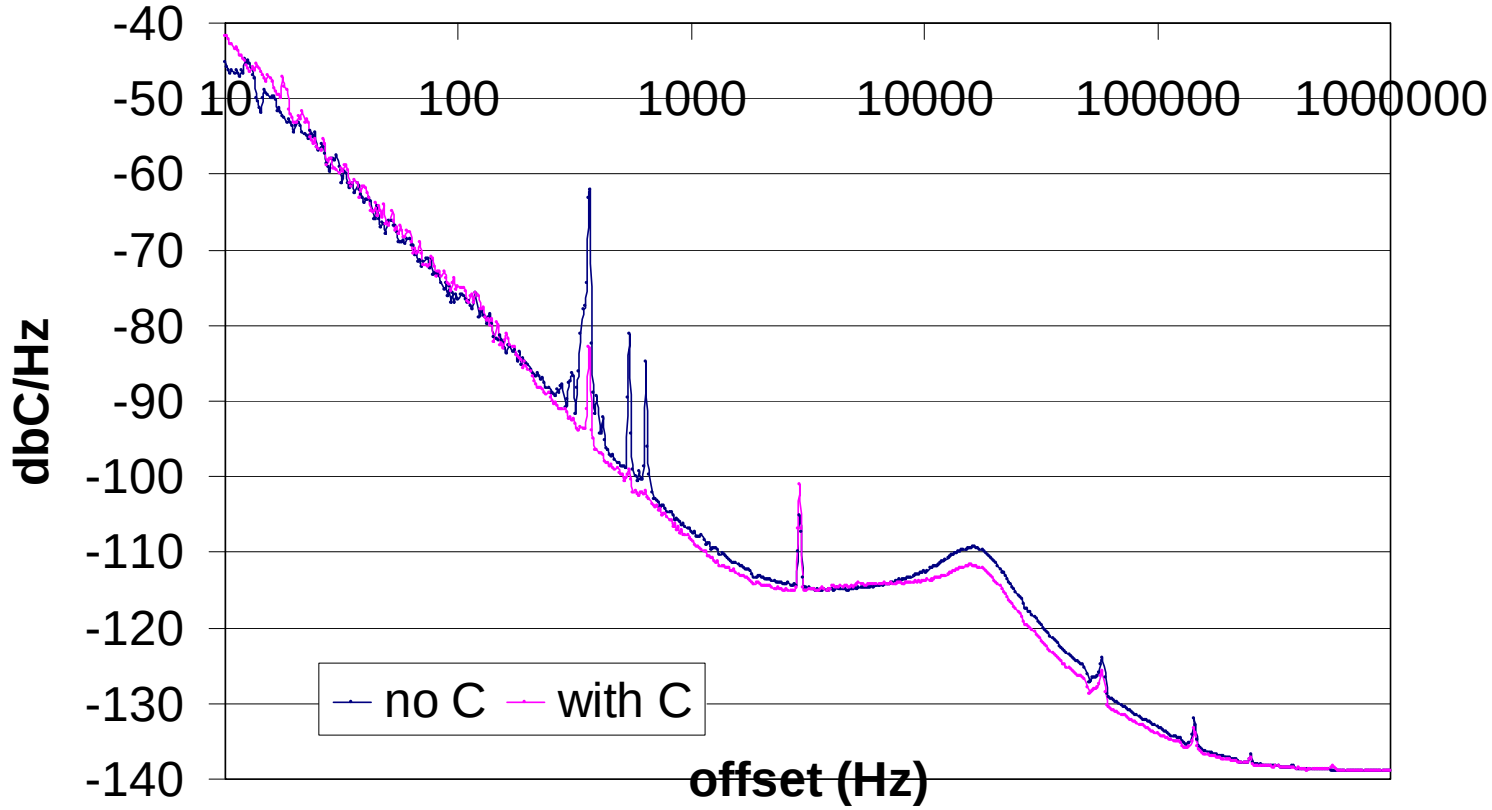

This shows what happens if you don't do as the manufacturer says and put suitable decoupling capacitors on the Voltage regulator

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Microwave Sources

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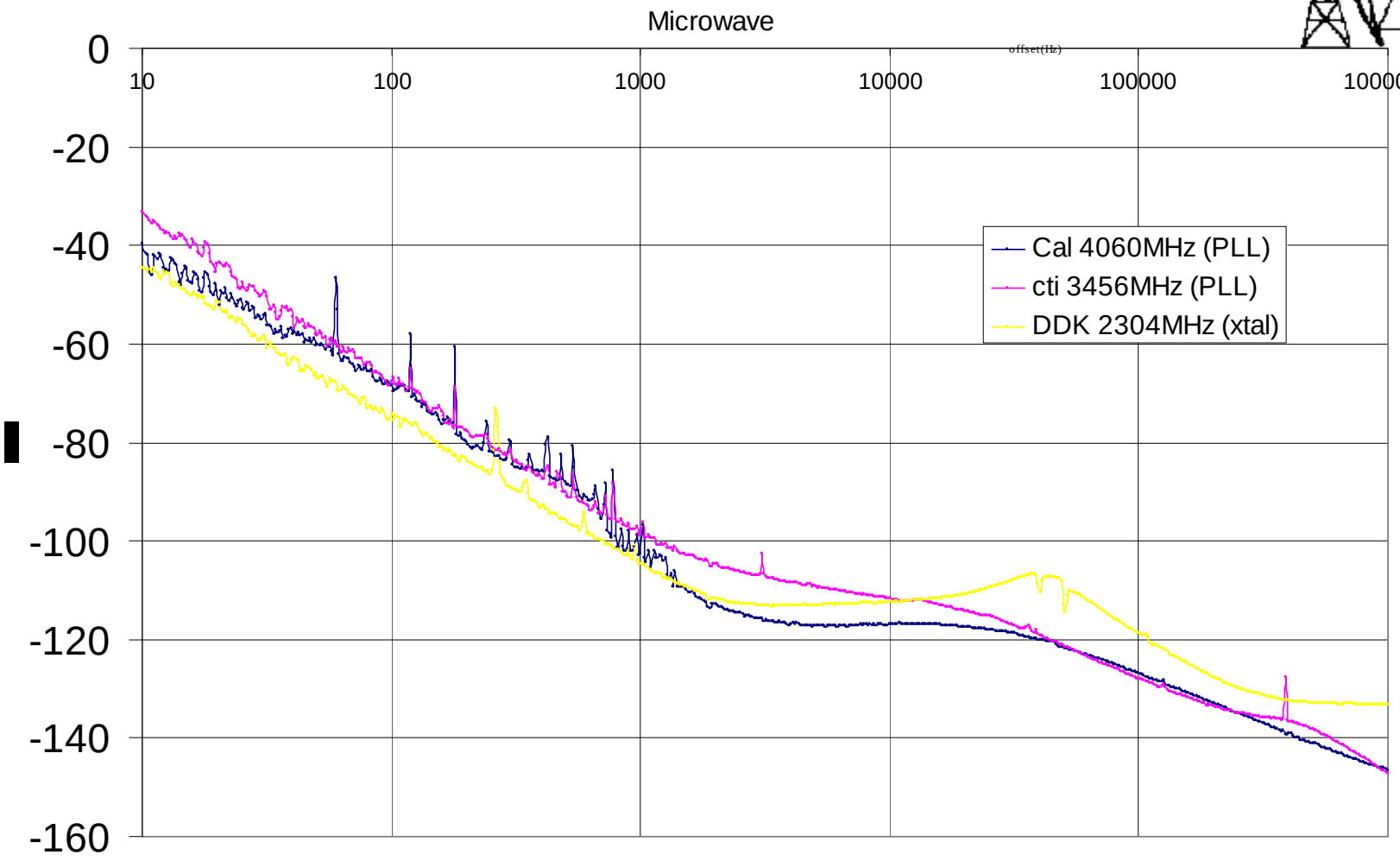

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HP8662 front panel v back 640MHz

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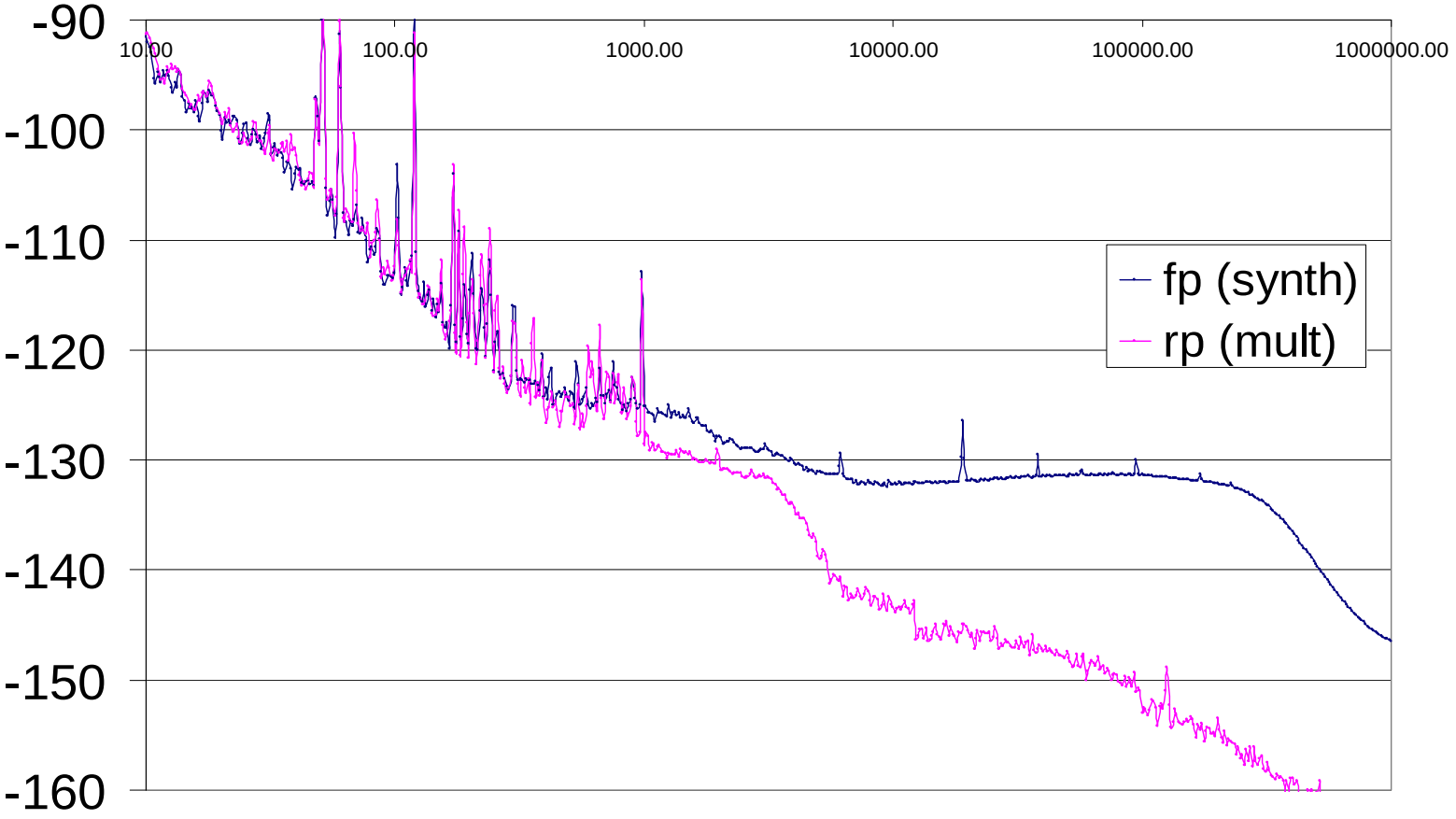

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HP8662 front panel v back 10MHz

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