

## William Graff

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**From:** ellis@adt.com.tw  
**Sent:** Tuesday, December 23, 2003 11:19 PM  
**To:** William Graff  
**Cc:** stephanie@adt.com.tw; ellis@adt.com.tw  
**Subject:** ? ? : RE: ? ? : MXF-R921212G Comments

Bill,

Merry Christmas.

Assume conducted output power equal to 14.5dBm and antenna gain is 3dBi, we can use the formula of field strength to EIRP as below to calculate the field strength.

$P = (E_d)^2 / 30G$   
Where  
 $P = 14.5\text{dBm} = 0.028\text{W}$   
 $d = 3\text{ meter}$   
 $G = 3\text{dBi} = 2\text{ (numeric)}$

We can get the field strength =  $0.432\text{V/m} = 112.7\text{dBuV/m}$ , and we confirm the test report, the peak value of fundamental frequency is about  $110\text{dBuV/m}$ , so the test result is reasonable.

Thanks and happy new year.

Best Regards.

? ? ? / Ellis Wu  
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"William Graff"  
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2003/12/24 ? ?  
11:39

? ? ?  
<stephanie@adt.com.tw>  
? ? ? ?  
<ellis@adt.com.tw>  
? ?  
RE: ? ? : MXF-R921212G Comments

Something is wrong. I should be able to estimate the RF Pout using the radiated field strength and backwards calculate the power loaded to the antenna. Even assuming that there is error in measurement because we are measuring a broadband emission with a spectrum analyzer using a 1MHz wide emission, something doesn't make sense. I see about a 10dB error. Can you have Ellis provide for me some sort of calculation?

Bill

-----Original Message-----

From: stephanie@adt.com.tw [mailto:stephanie@adt.com.tw]

Sent: Wednesday, December 24, 2003 10:44 AM

To: William Graff

Cc: ellis@adt.com.tw

Subject: ? ? : MXF-R921212G Comments

Dear Bill:

We did confirm about it, but find the result is same as the report. And we also compare between the test mode four (3dBi) and the test mode three (2.75dBi), the field strength is really higher than that.

Thank you for your kind assistance.

Best Regards,

Stephanie Hung ( ? ? ? )

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"William Graff"  
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? ? ?

<ellis@adt.com.tw>

2003/12/24 ? ?  
08:58

? ? ? ?

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MXF-R921212G Comments

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(See attached file: ATCB Comments 12232003.pdf)