

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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SIRIUS XM RADIO INC.,  
Petitioner,

v.

FRAUNHOFER-GESELLSCHAFT ZUR FÖRDERUNG DER  
ANGEWANDTEN FORSCHUNG E.V.,  
Patent Owner.

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Case IPR2018-00682  
Patent No. 6,931,084

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**FRAUNHOFER'S PATENT OWNER PRELIMINARY RESPONSE**

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