**Vaunix Technology Corporation**

**Lab Brick® Microwave Frequency Synthesizer**

**Windows x64 SDK Release Notes**

**Overview**

The Lab Brick Microwave Frequency Synthesizer (“LMS”) x64 SDK supports developers who want to control LMS devices from Windows programs on 64 bit Intel or AMD platforms, or who want to control the synthesizers from LabVIEW[[1]](#footnote-1) or other National Instruments programming environments running on 64 bit versions of Microsoft Windows[[2]](#footnote-2). The SDK includes an x64 dll which provides an API to find, initialize, and control the synthesizers, along with header files and an example x64 C program which demonstrates the use of the API. The API is unchanged from the Win32 version of the LMS API except for the addition of a couple of functions described below. The x64 version of the LMS DLL uses Microsoft’s standard x64 dll linkage, which includes standard Microsoft style function name decoration.

**Changes in the SDK**

The x64 SDK includes vnx\_fmsynth.dll, the 64bit dll, vnx\_fmsynth.lib, the library for linking, and vnx\_LMS\_api.h, an include file with the function declarations for the dll.

**New x64 API functions in the SDK**

The Win32 dll function fnLMS\_GetModelName which returned a C style ASCII string ModelName has been replaced with two functions, one which returns a C style ASCII string, the other which returns a Unicode (wchar\_t) string. The function names end in A or W to indicate their string output type:

VNX\_FSYNSTH\_API int fnLMS\_GetModelNameA(DEVID deviceID, char \*ModelName)

This new function is used to get the model name of the synthesizer as an ASCII string. If the function is called with a null pointer, it returns just the length of the model name string. If the function is called with a non-null string pointer it copies the model name into the string and returns the length of the string. The string length will never be greater than the constant MAX\_MODELNAME which is defined in vnx\_LMS\_api.h This function can be used regardless of whether or not the synthesizer has been initialized with the fnLMS\_InitDevice function.

VNX\_FSYNSTH\_API int fnLMS\_GetModelNameW(DEVID deviceID, wchar\_t \*ModelName)

This new function is used to get the model name of the synthesizer as a Unicode string. If the function is called with a null pointer, it returns just the length of the model name string. If the function is called with a non-null string pointer it copies the model name into the string and returns the length of the string. The string length will never be greater than the constant MAX\_MODELNAME which is defined in vnx\_LMS\_api.h This function can be used regardless of whether or not the synthesizer has been initialized with the fnLMS\_InitDevice function.

VNX\_FSYNSTH\_API int fnLMS\_GetDLLVersion()

This function returns the version of the dll. It is also present in the Win32 SDK.

VNX\_FSYNSTH\_API int fnLMS\_GetAbsPowerLevel(DEVID deviceID);

This new function returns the current absolute output power level setting as an integer number of .25 db units. As an example, an output power level of +3 dbm would result in the value 12 being returned, while an output power level of +3.5 dbm would result in the value 14 being returned. The output power resolution is .5 db. Note that the fnLMS\_GetPowerLevel returns the power output relative to the maximum output power level.

1. LabView is a trademark of National Instruments [↑](#footnote-ref-1)
2. Windows is a trademark of Microsoft Corporation [↑](#footnote-ref-2)