TAS278X_Mono Speaker Characterization

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Setup of Mono Speaker Characterization

Software

- TAS2781_v3.0.1-alpha50 or newer

Hardware

- TAS2781 Mono EVM
- 5V adapter
- LK laser meter(Optional)

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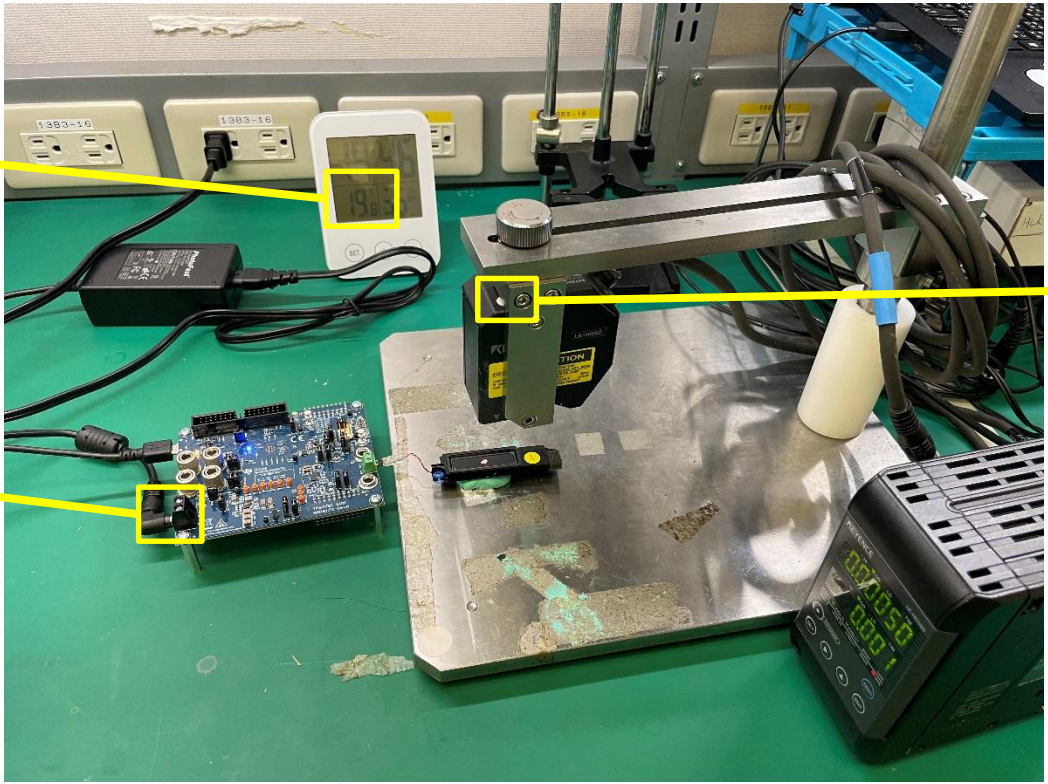
Hareware Setup



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Flow

1. Go to Audio Processing set parameters
   a) Set Re value to 4 ohm(Default is 6.7ohm)
   b) Set Sd
2. Connect
3. Go to Audio Processing to load algorithm
4. Go to Char page and start Char

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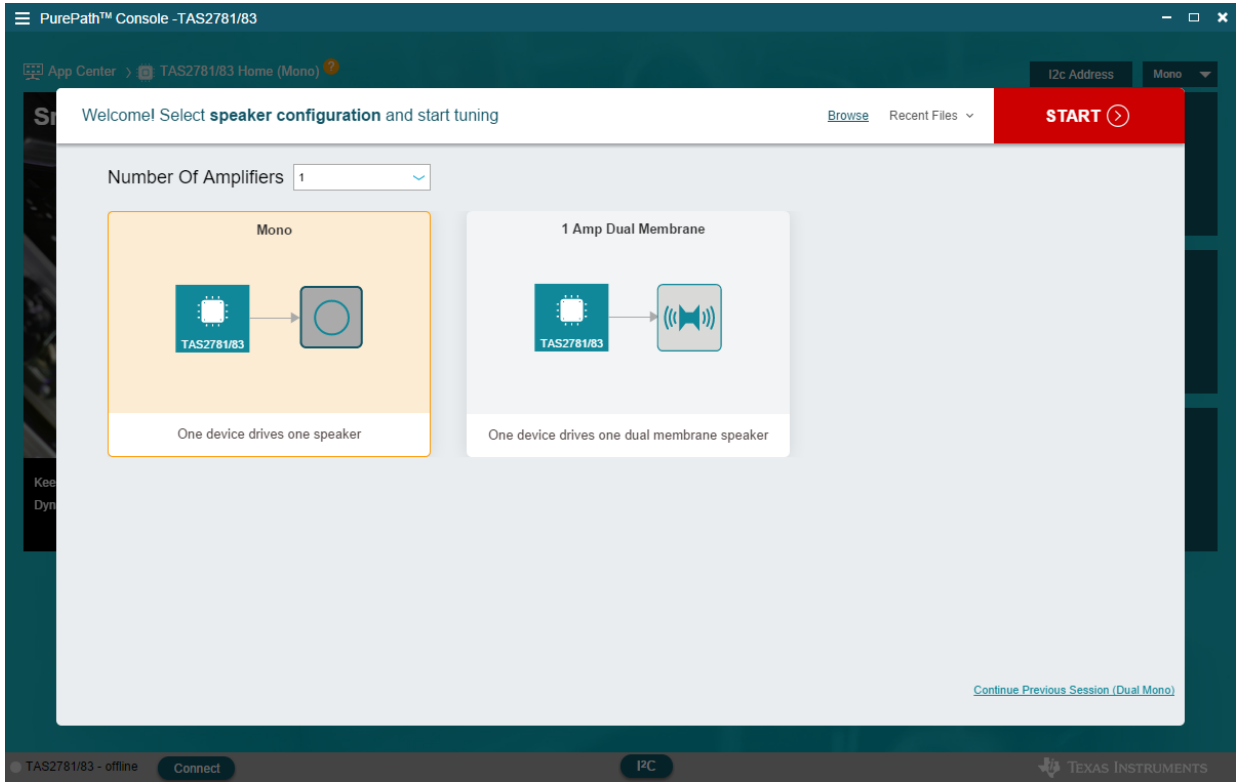
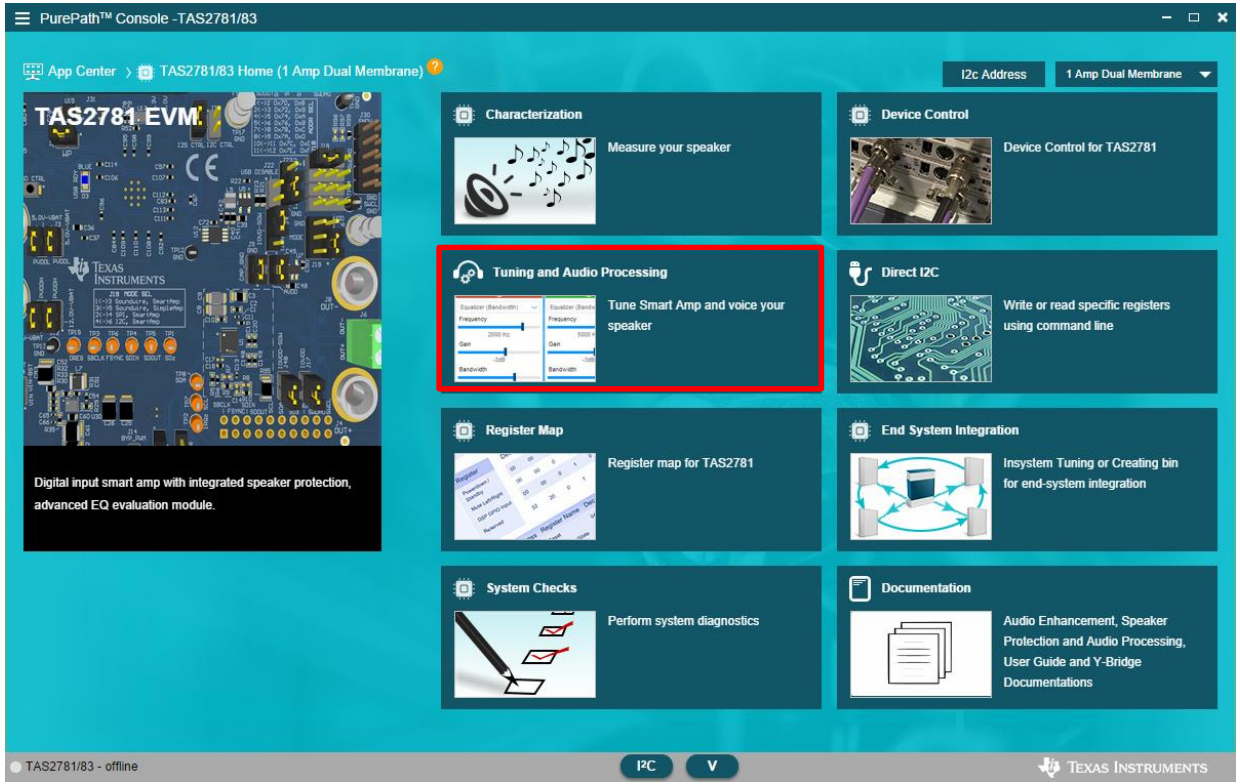
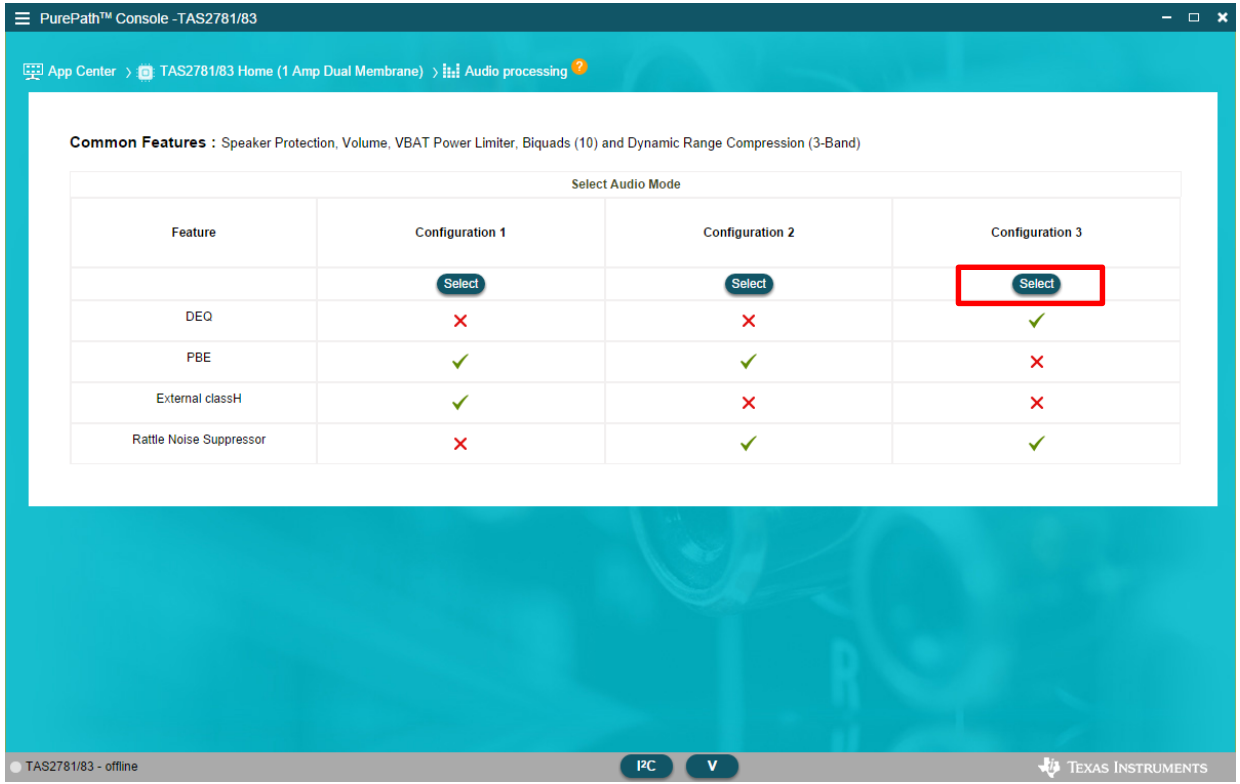
Choose speaker config – Mono => Start



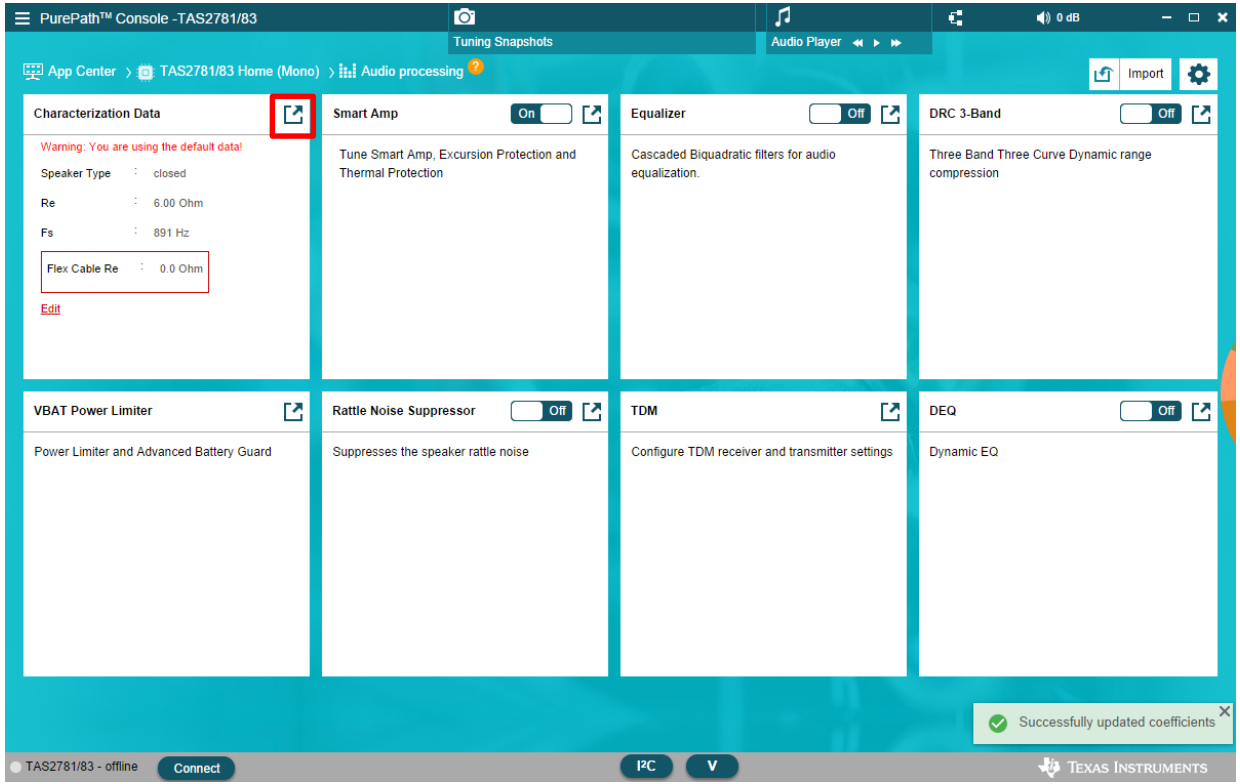
Go to Tuning and Audio Processing



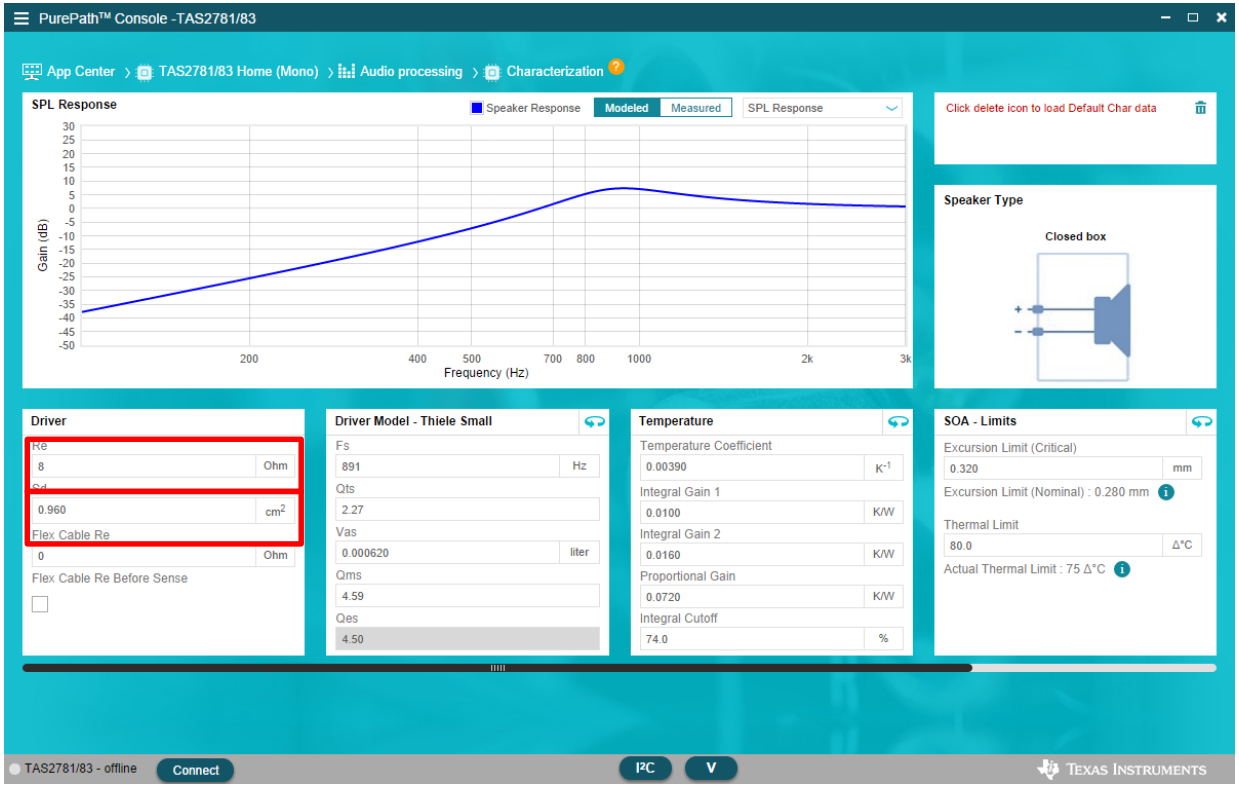
Select configuration 3



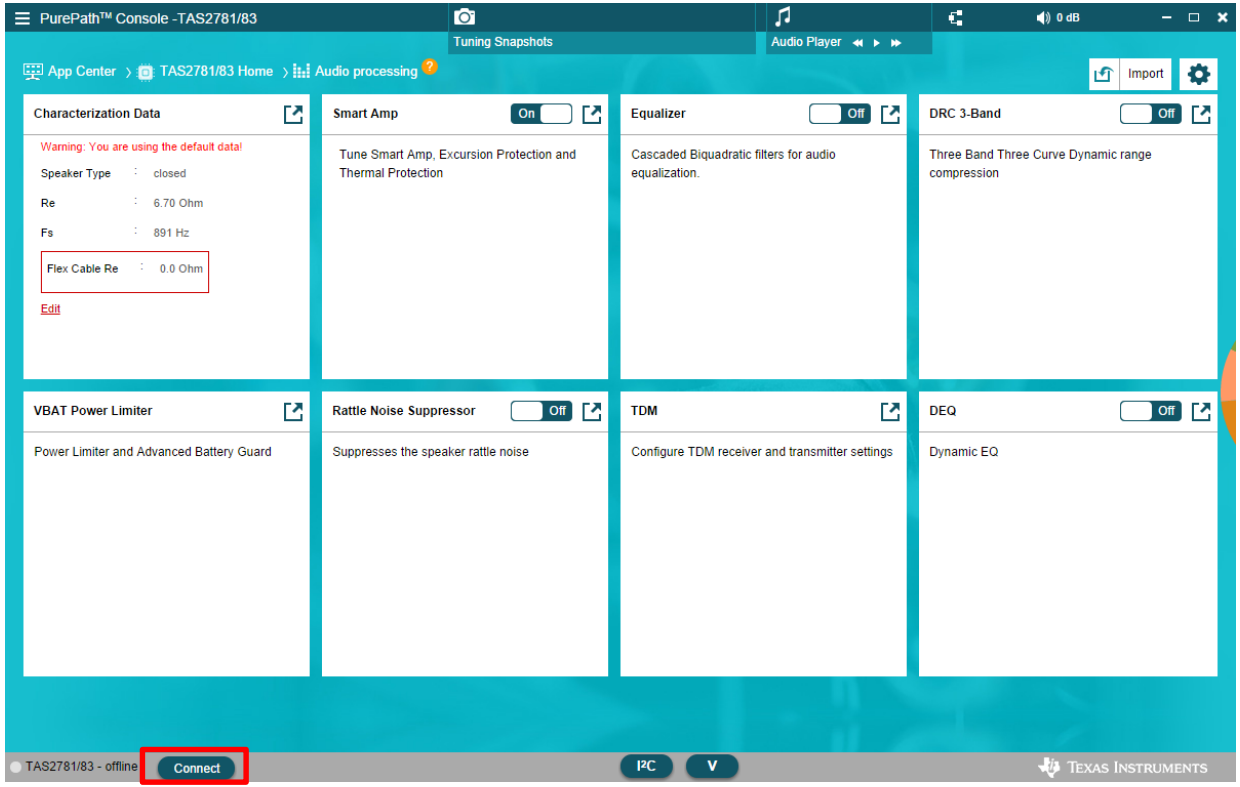
1.Go to Audio Processing chose characterization Data



1. Set parameters(Re/Sd)



2. Connect


PurePath™ Console -TAS2781/83
Tuning Snapshots
Audio Player
0 dB
App Center
TAS2781/83 Home
Audio processing
Import
Characterization Data
Warning: You are using the default data!
Speaker Type : closed
Re : 6.70 Ohm
Fs : 891 Hz
Flex Cable Re : 0.0 Ohm
Edit
Smart Amp
On
Tune Smart Amp, Excursion Protection and Thermal Protection
Equalizer
Off
Cascaded Biquadratic filters for audio equalization.
DRC 3-Band
Off
Three Band Three Curve Dynamic range compression
VBAT Power Limiter
Power Limiter and Advanced Battery Guard
Rattle Noise Suppressor
Off
Suppresses the speaker rattle noise
TDM
Configure TDM receiver and transmitter settings
DEQ
Off
Dynamic EQ
TAS2781/83 - offline
Connect
I²C
V
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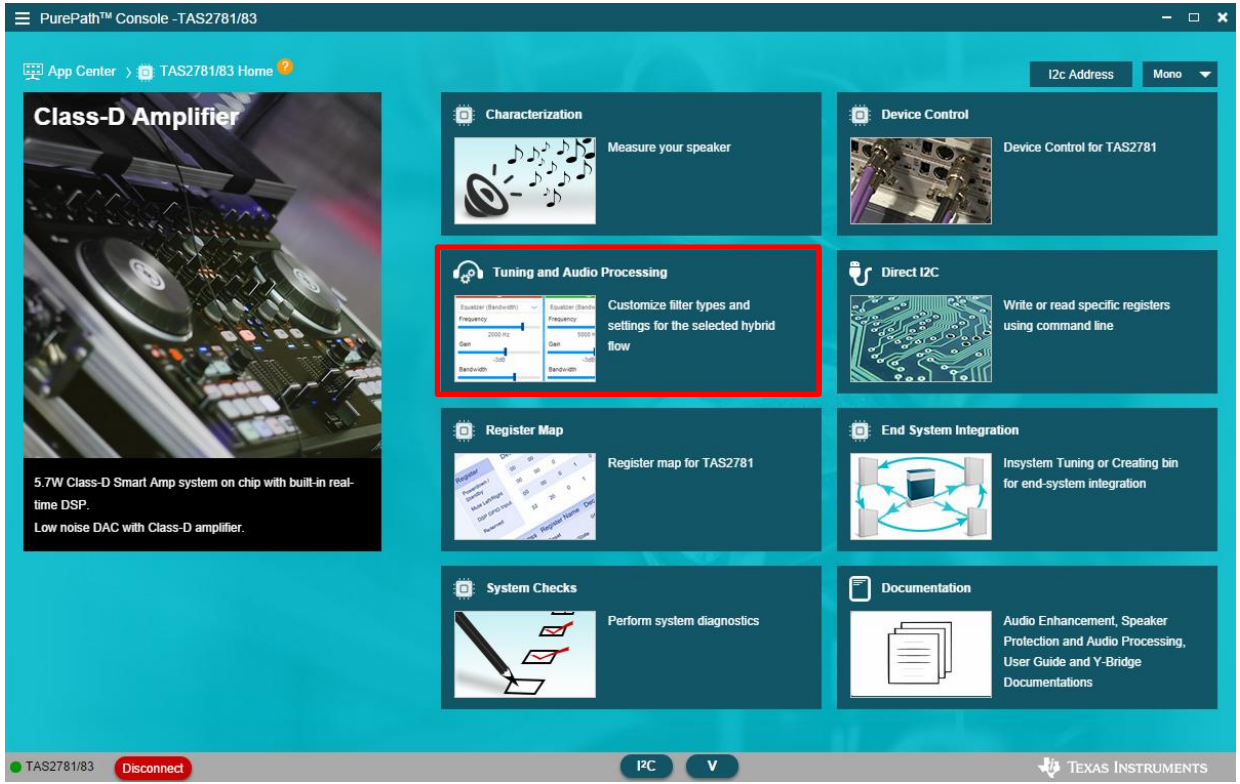
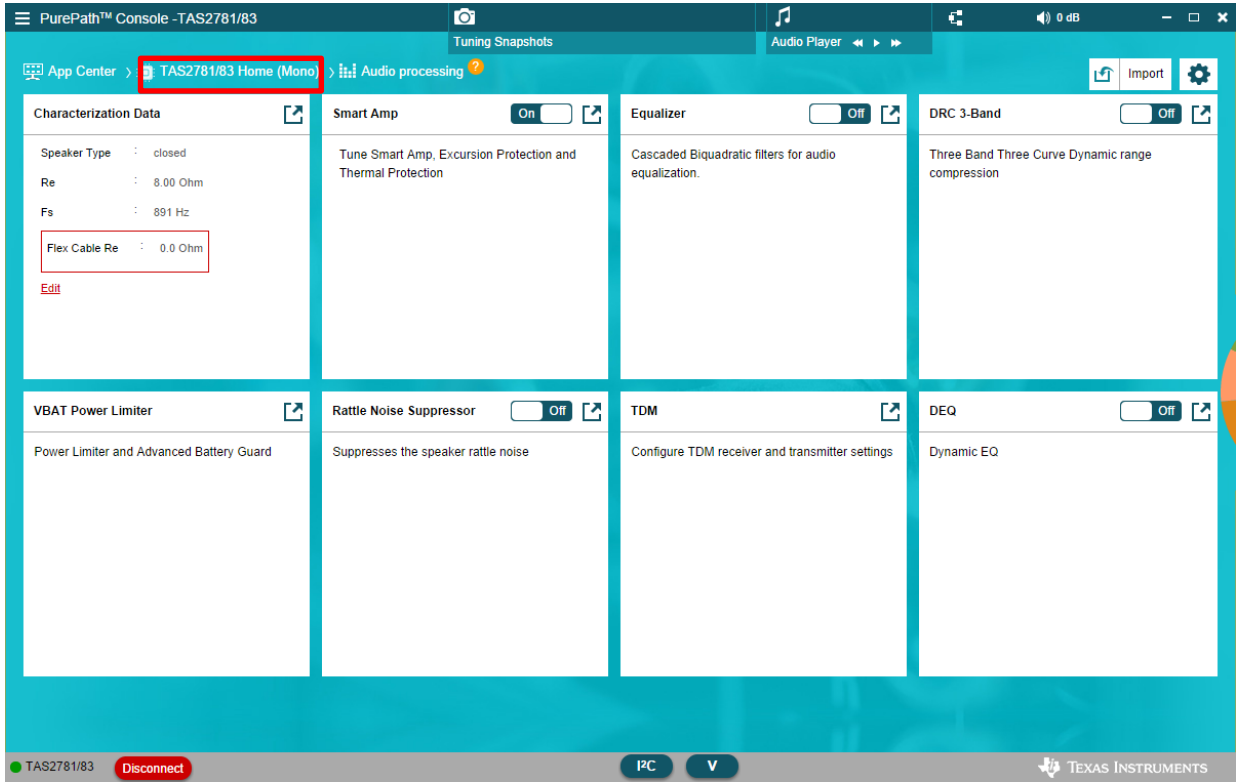
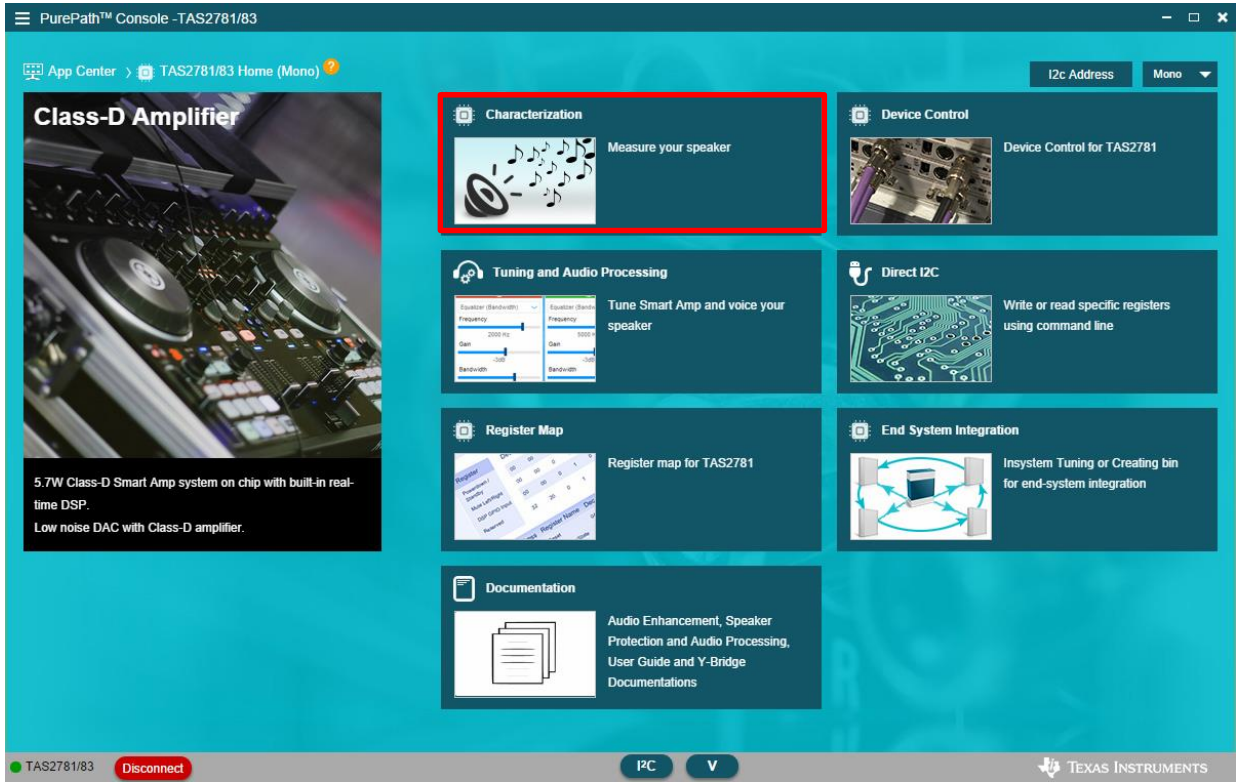
3. Go to Audio Processing to load algorithm



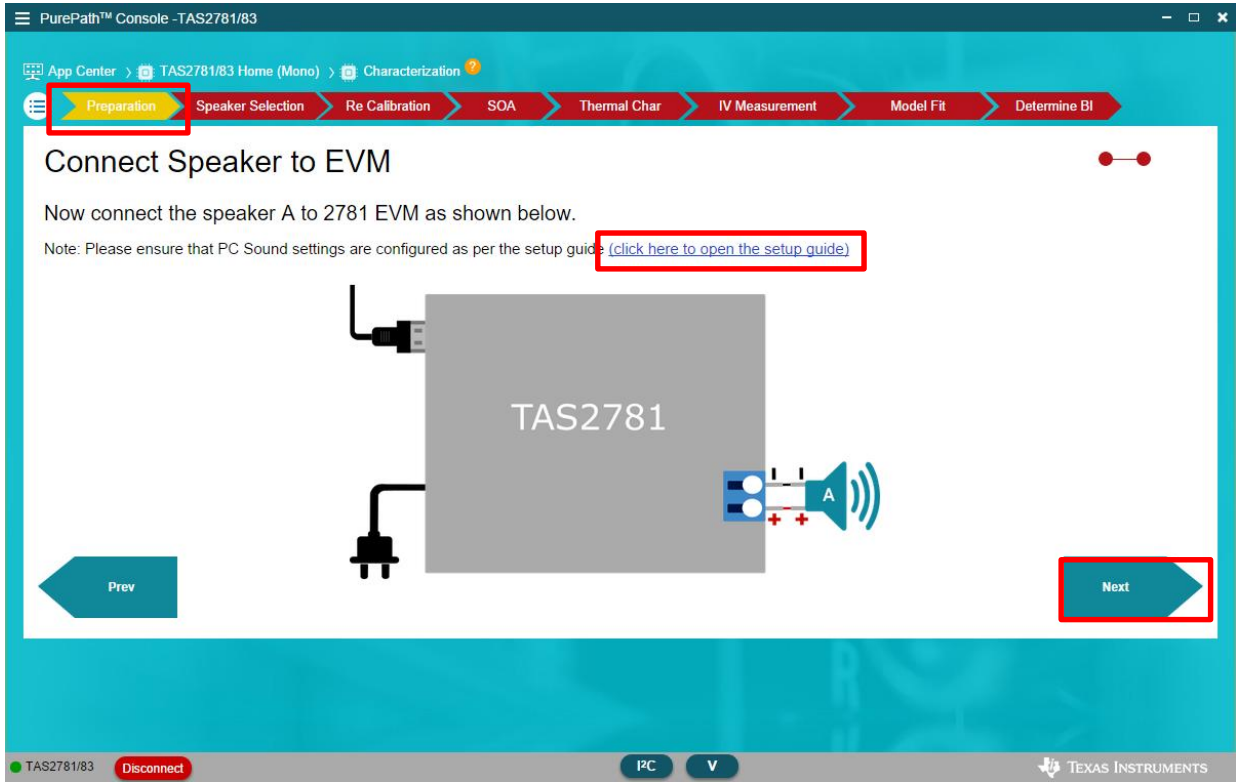
Back to home page



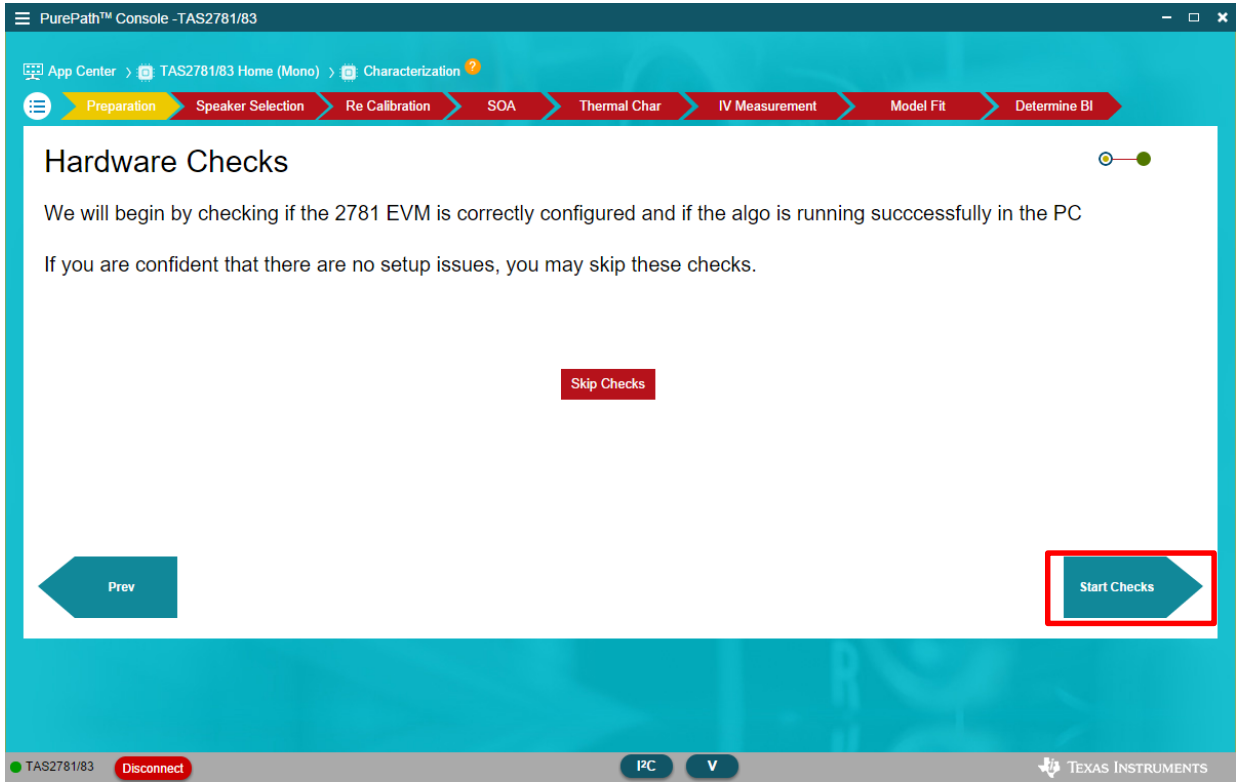
4. Go to Char page and start Char



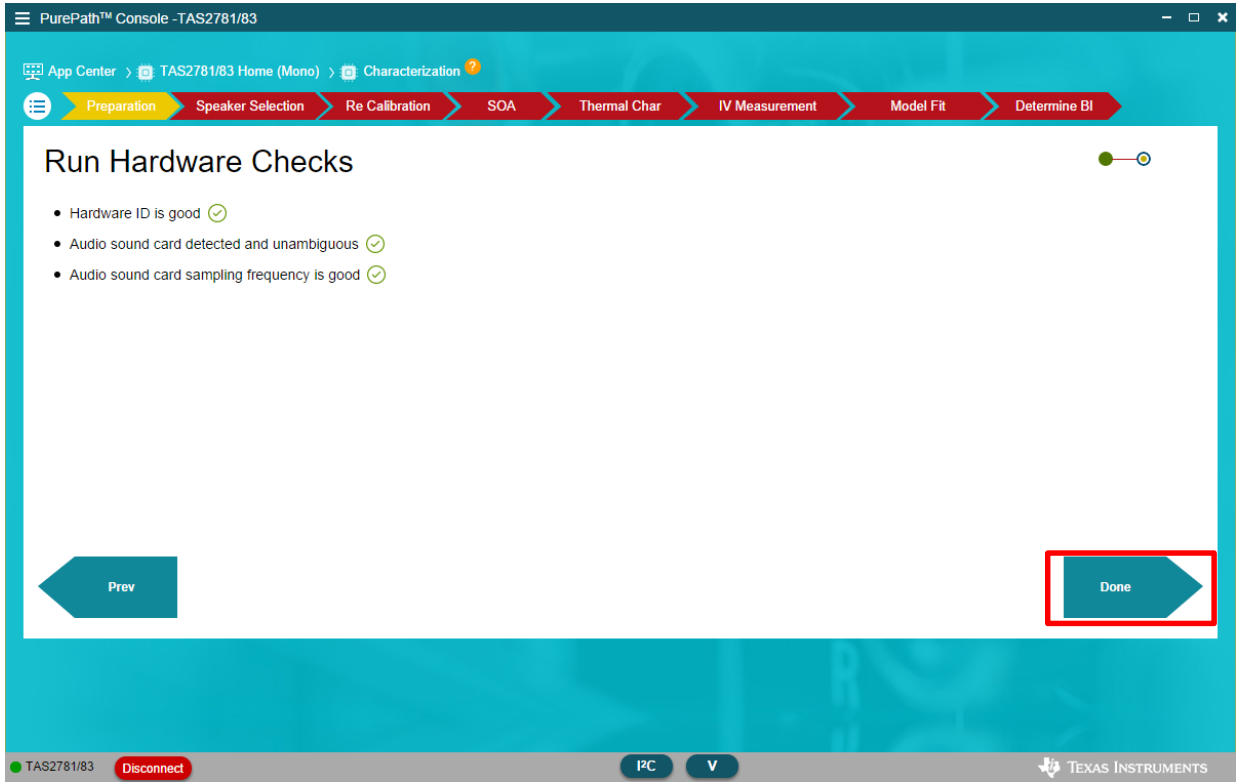
Preparation => Refer to the link to make sure the PC sound setting



Hardware check



Hardware check => All green light => Done



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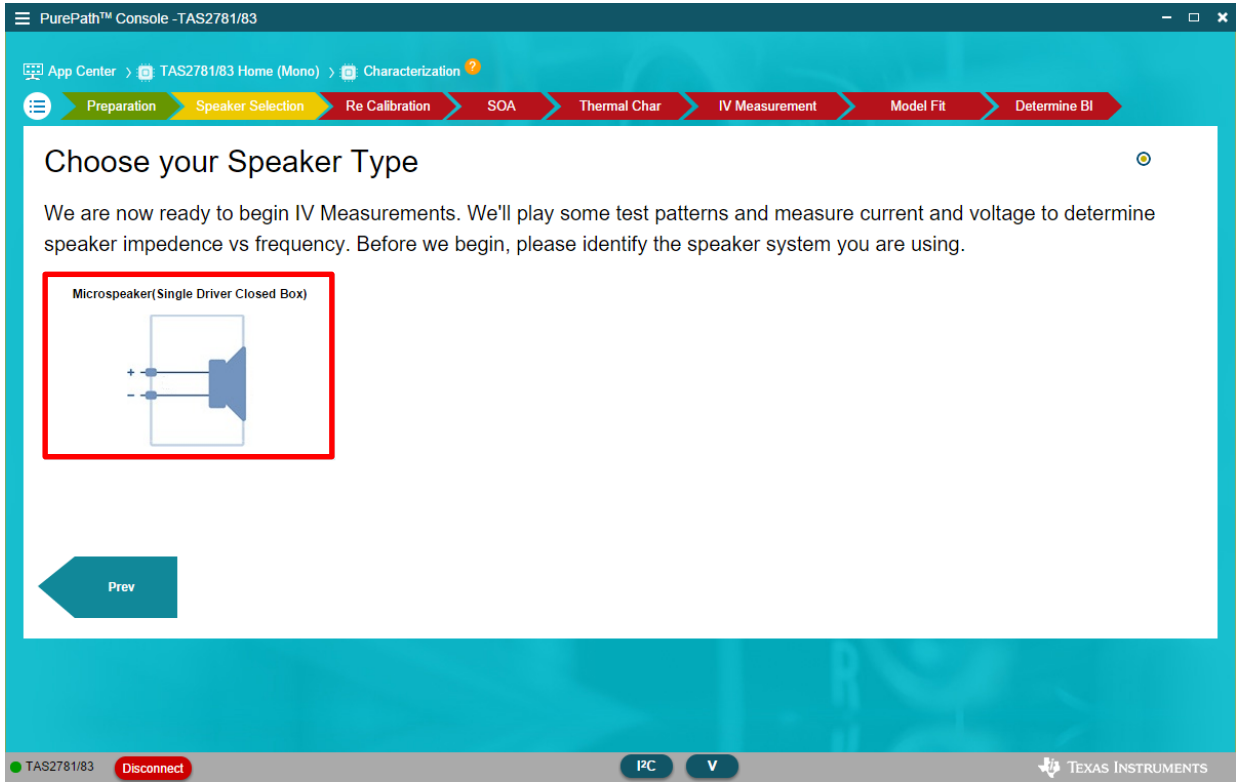
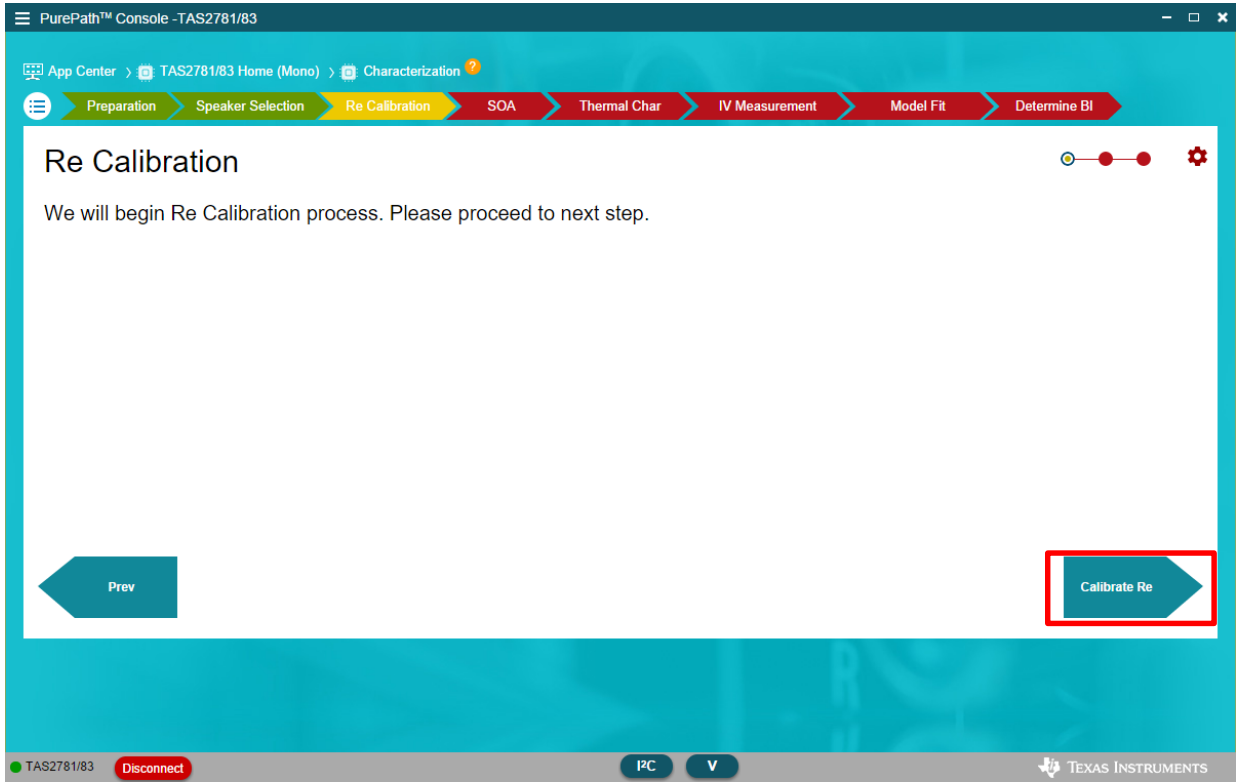
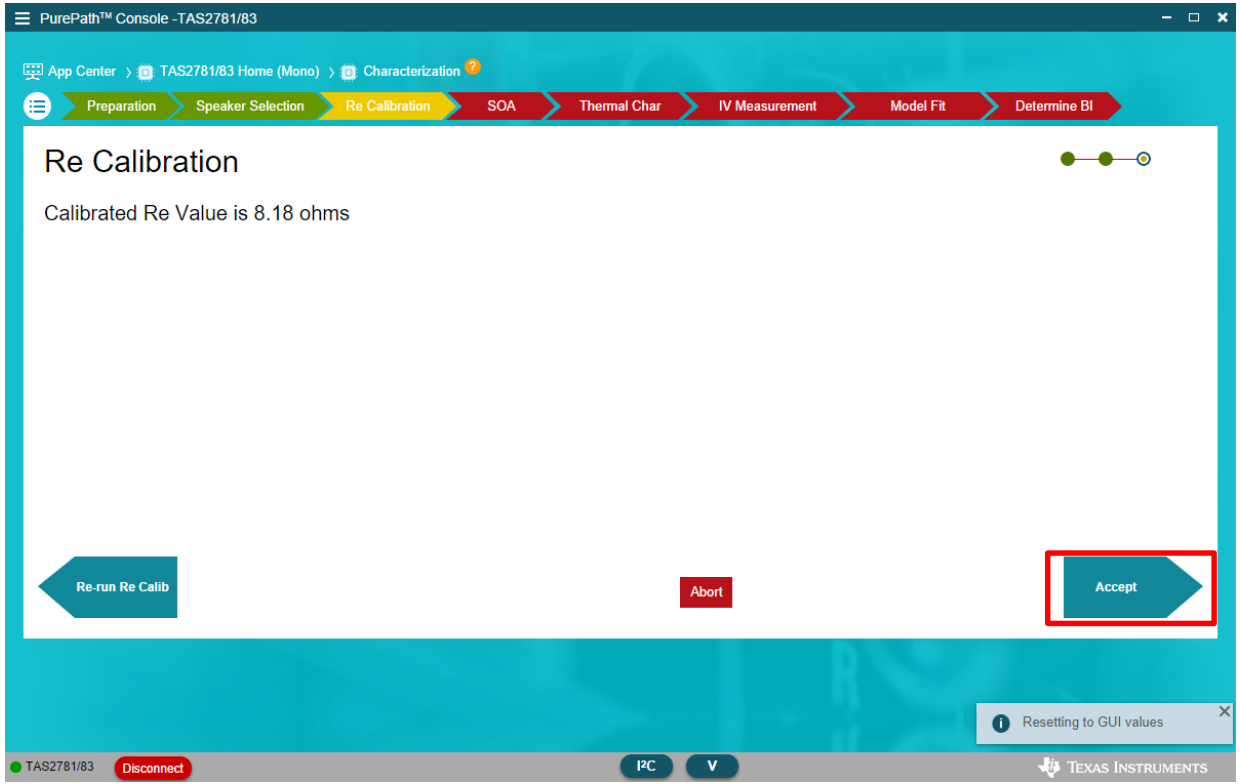
Choose speaker type



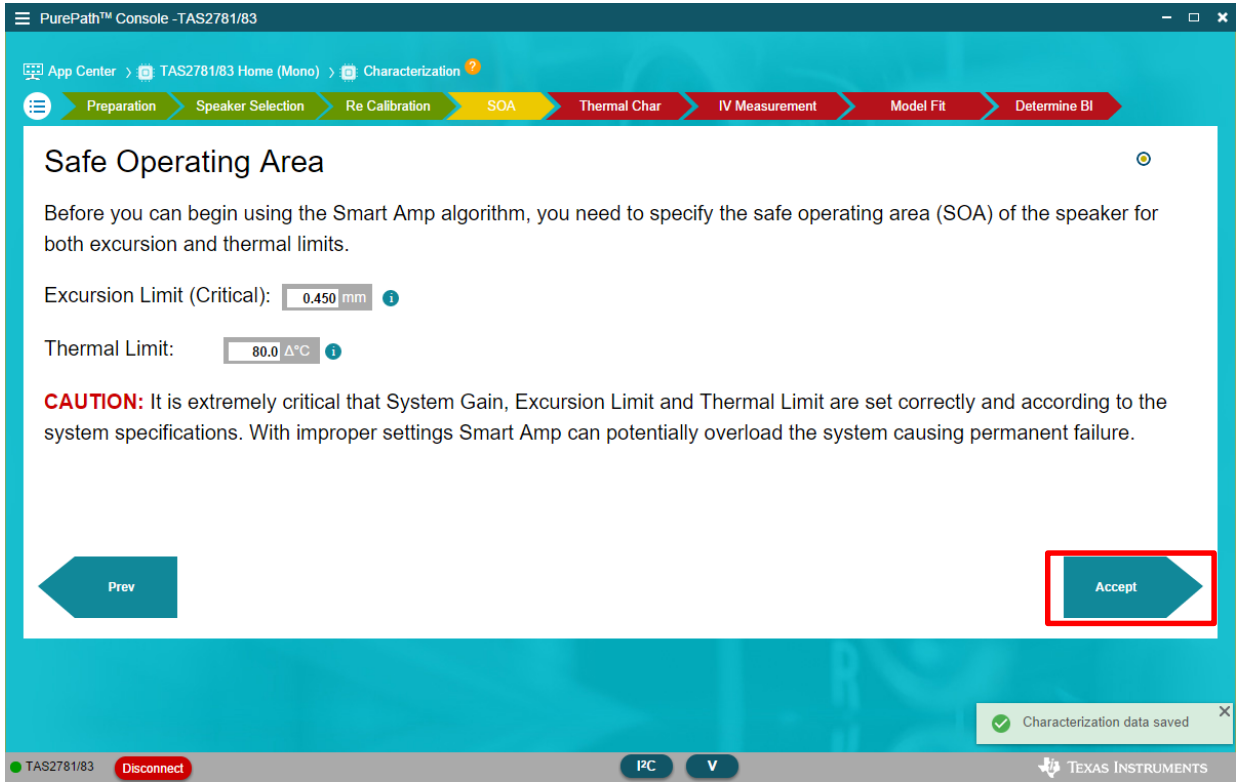
Re calibration



Re calibration



SOA setting


PurePath™ Console -TAS2781/83
App Center
TAS2781/83 Home (Mono)
Characterization
Preparation
Speaker Selection
Re Calibration
SOA
Thermal Char
IV Measurement
Model Fit
Determine BI
Safe Operating Area
Before you can begin using the Smart Amp algorithm, you need to specify the safe operating area (SOA) of the speaker for both excursion and thermal limits.
Excursion Limit (Critical):
0.450 mm
Thermal Limit:
80.0 Δ°C
CAUTION: It is extremely critical that System Gain, Excursion Limit and Thermal Limit are set correctly and according to the system specifications. With improper settings Smart Amp can potentially overload the system causing permanent failure.
Prev
Accept
Characterization data saved
TAS2781/83
Disconnect
I²C
V
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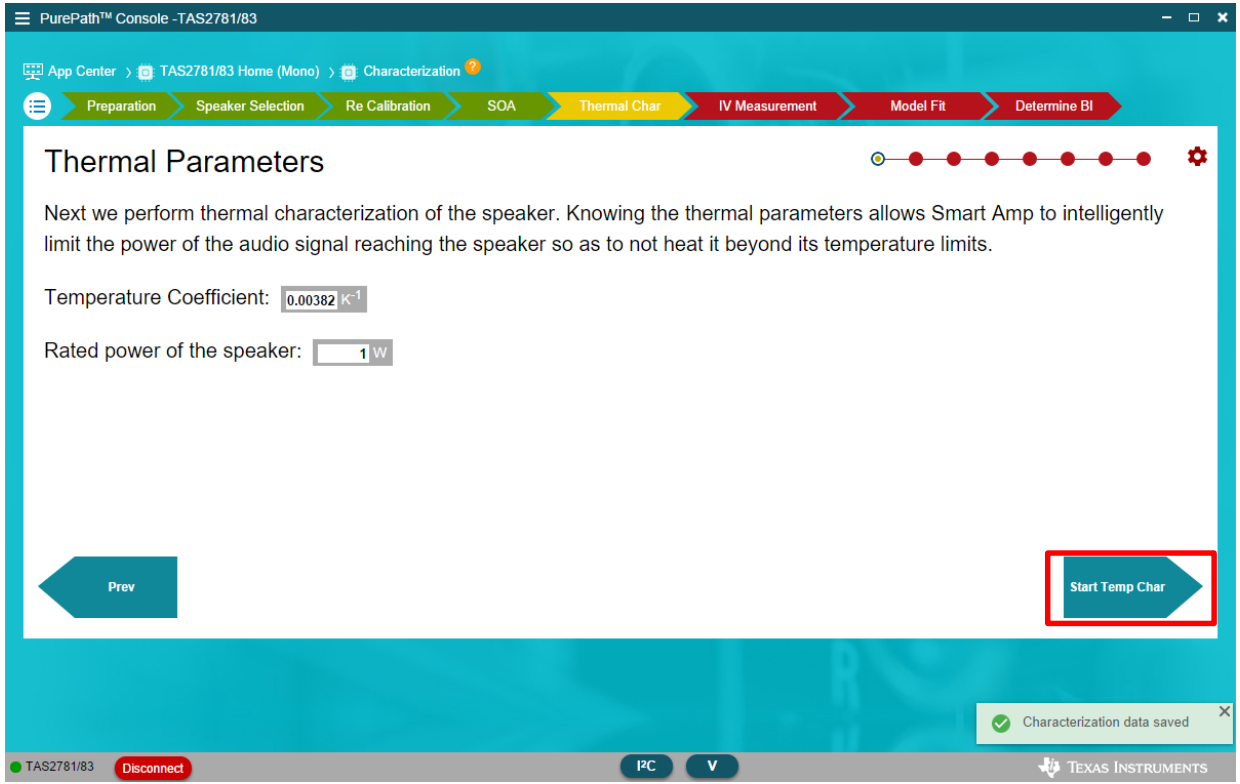
Thermal characterization



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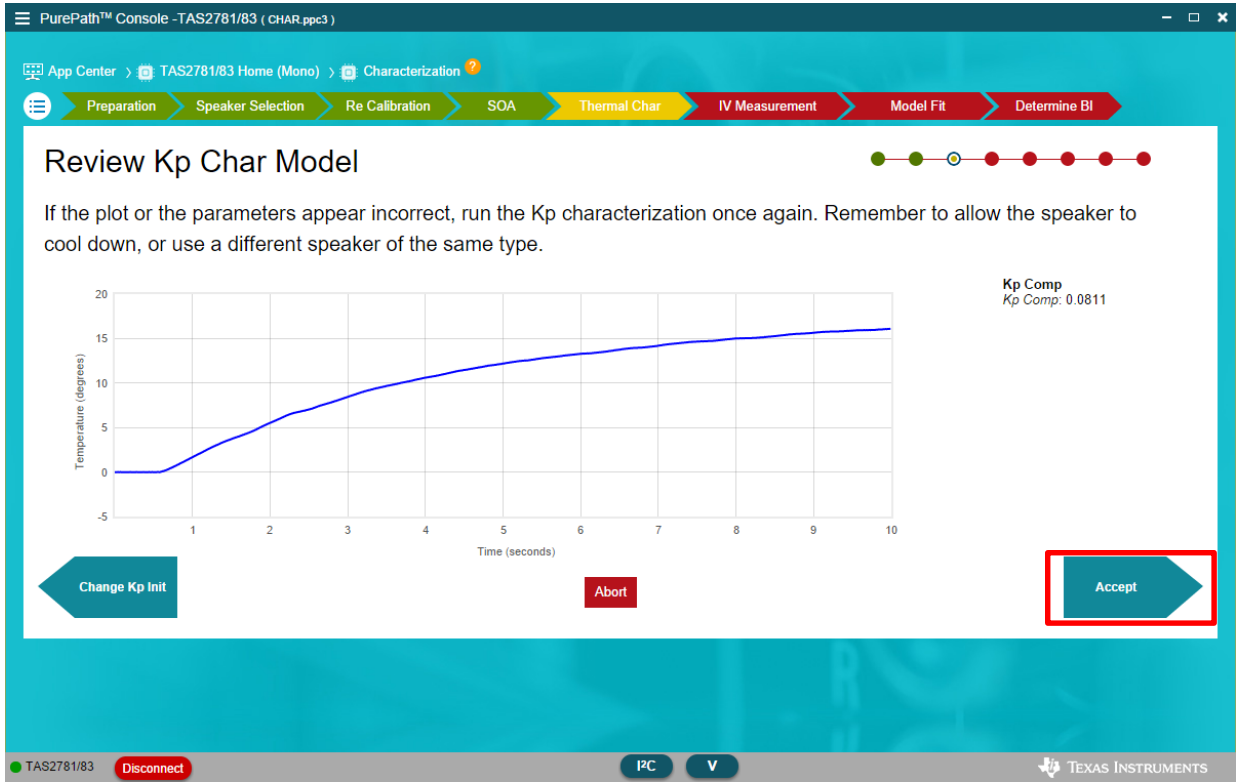
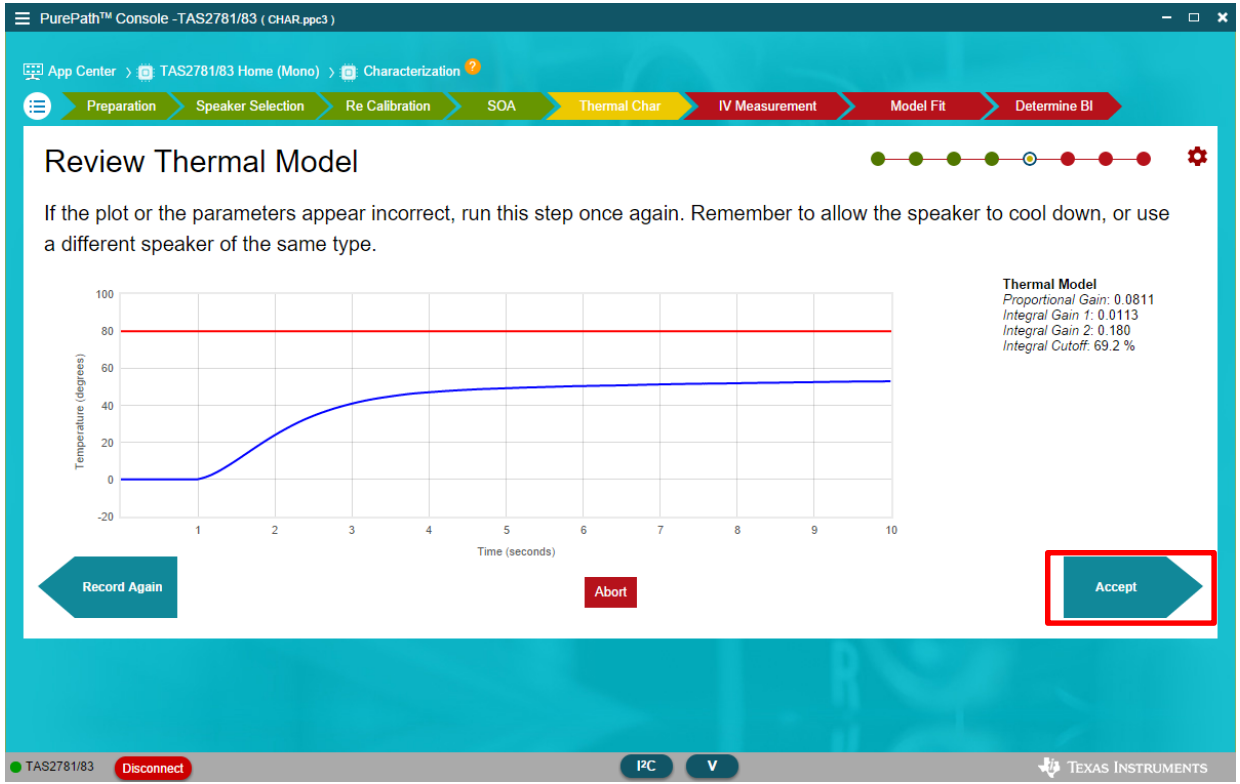
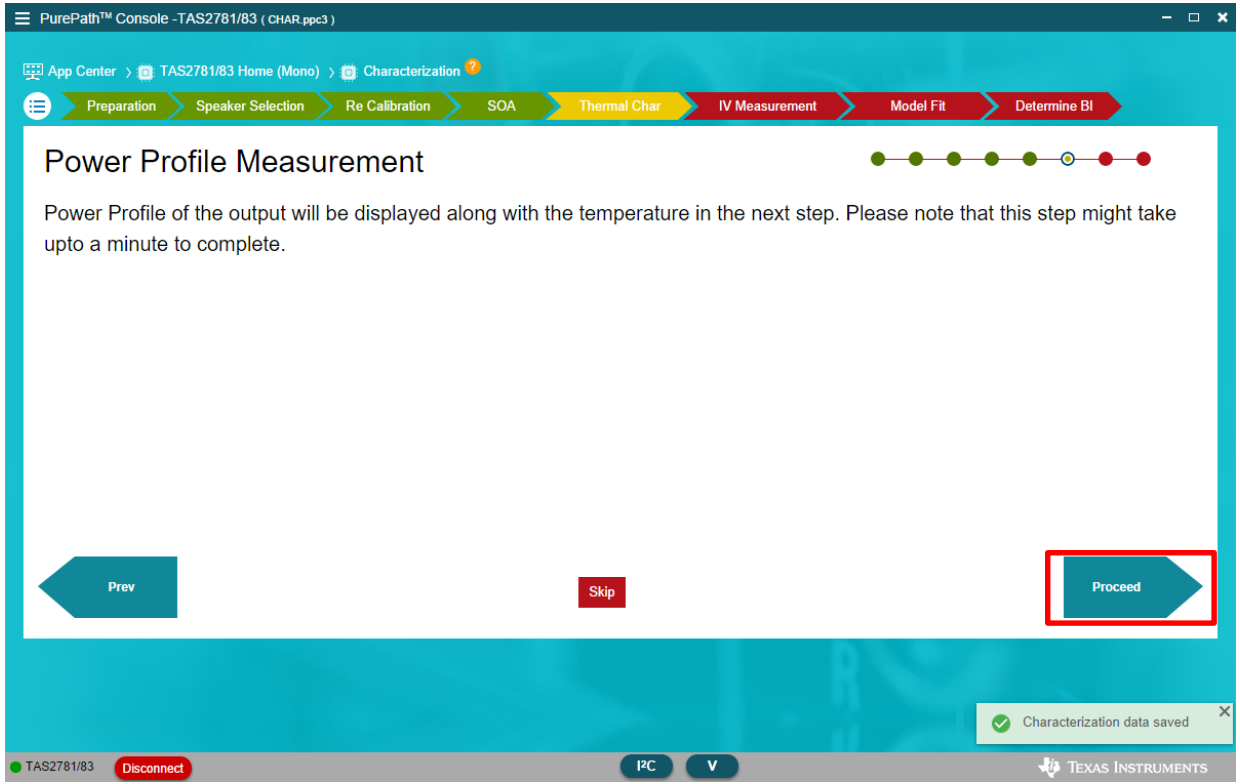
Thermal characterization



Thermal characterization



Power Profile Measurement



Power Profile Measurement

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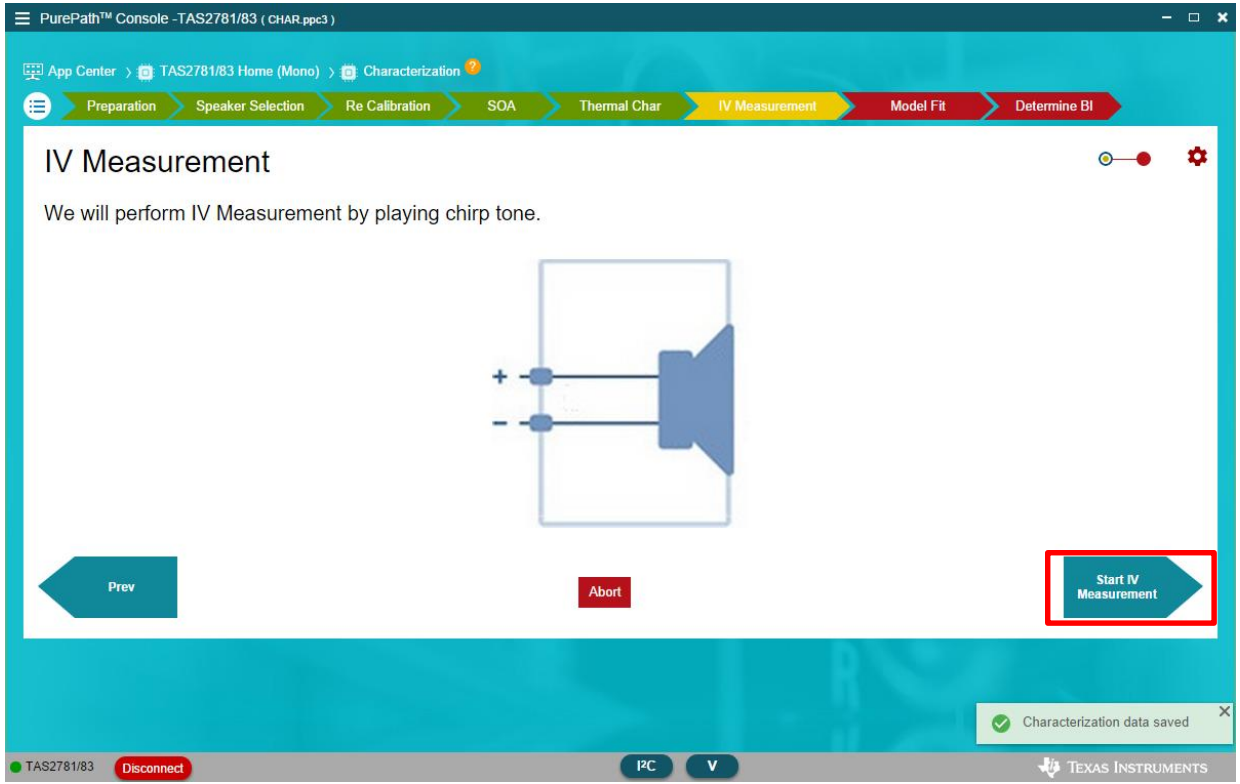
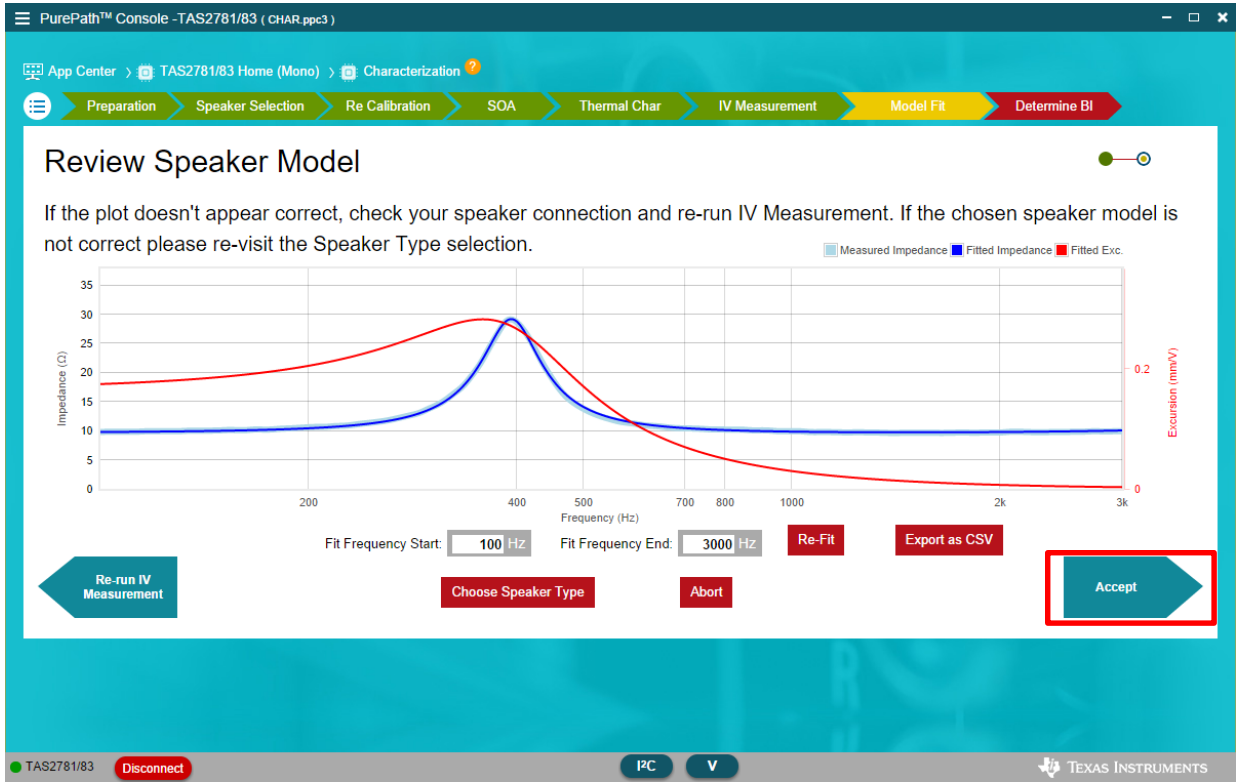
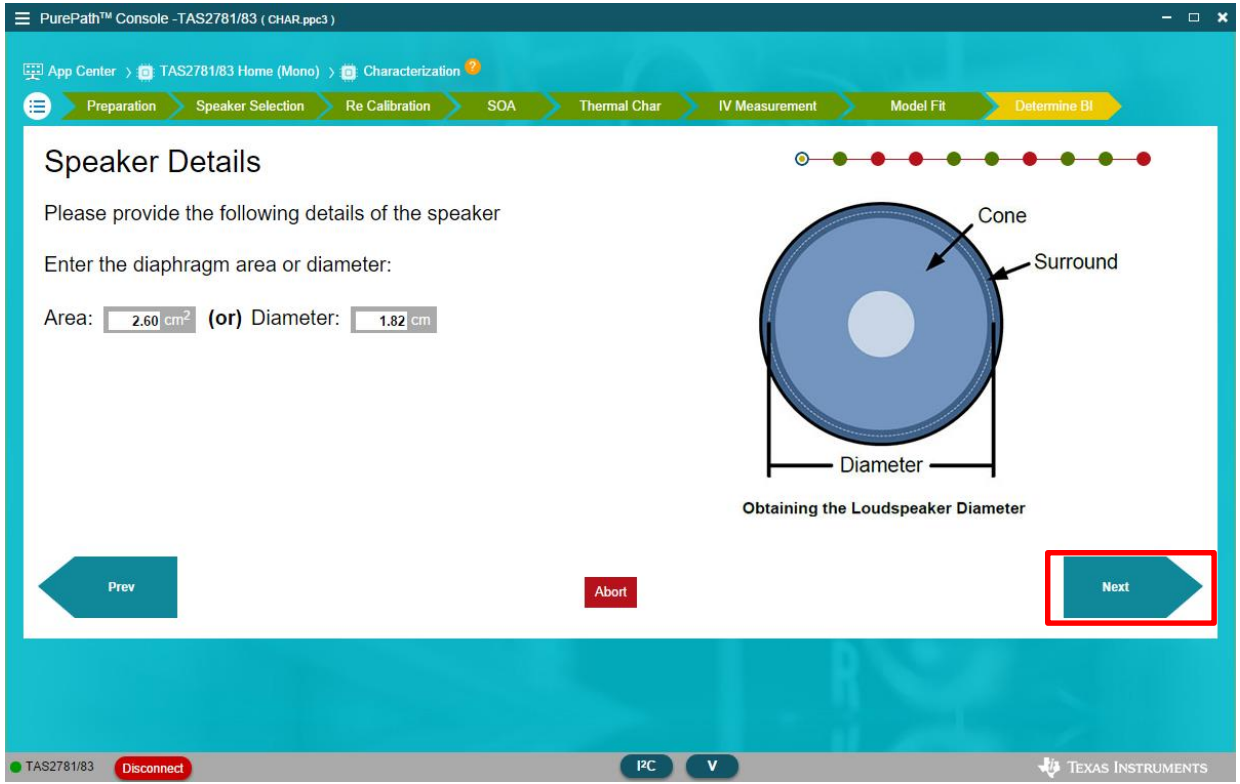
IV measurement



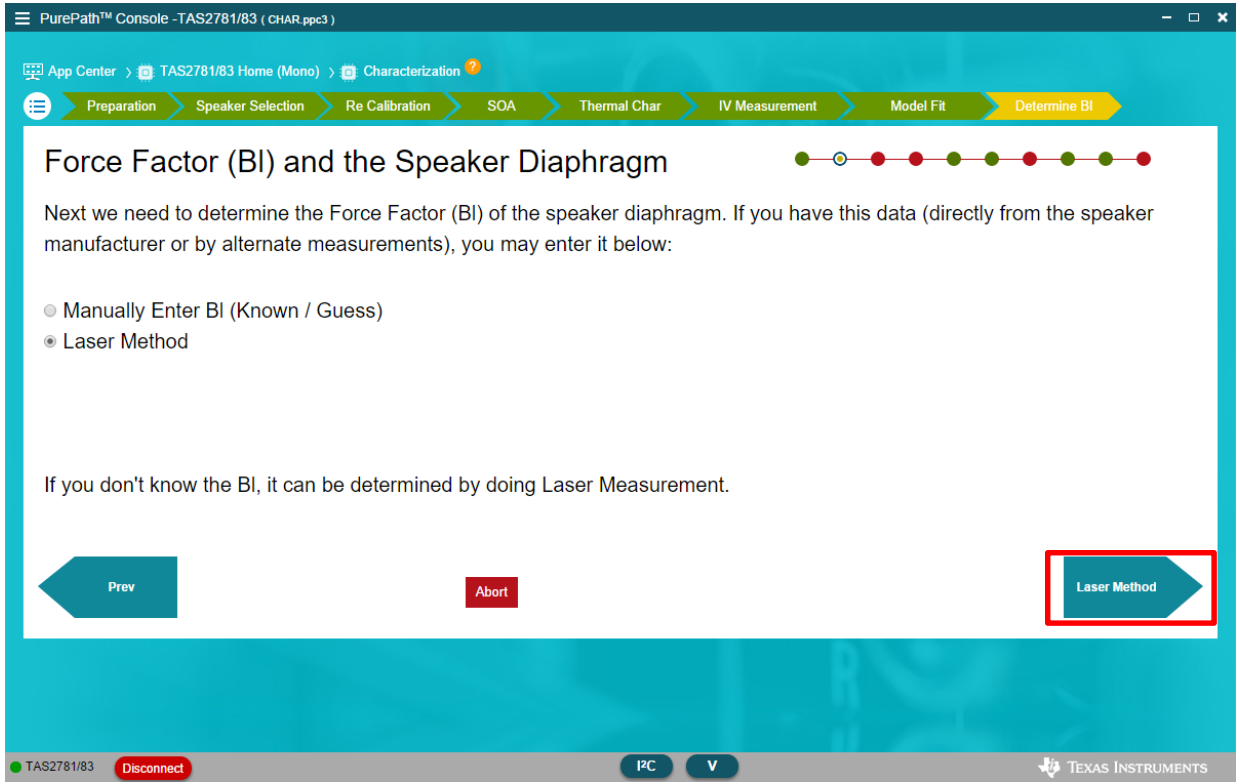
IV measurement



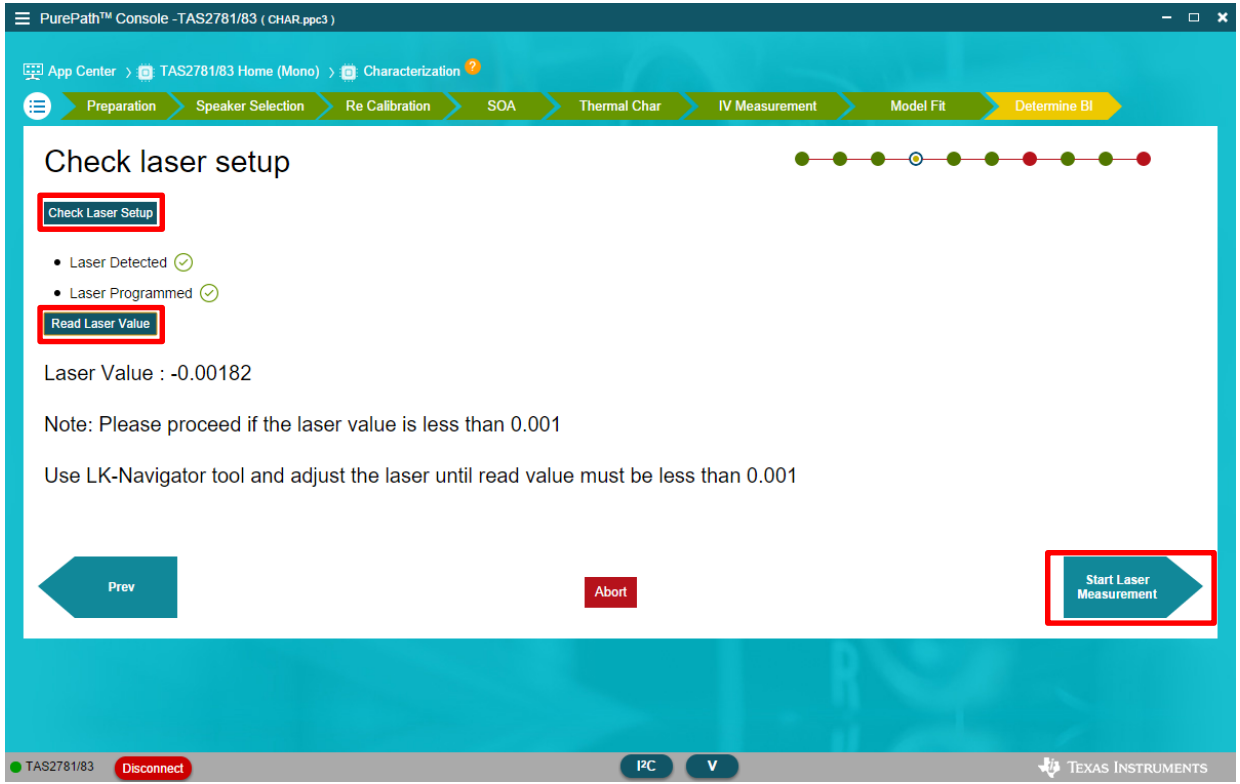
Determine BL



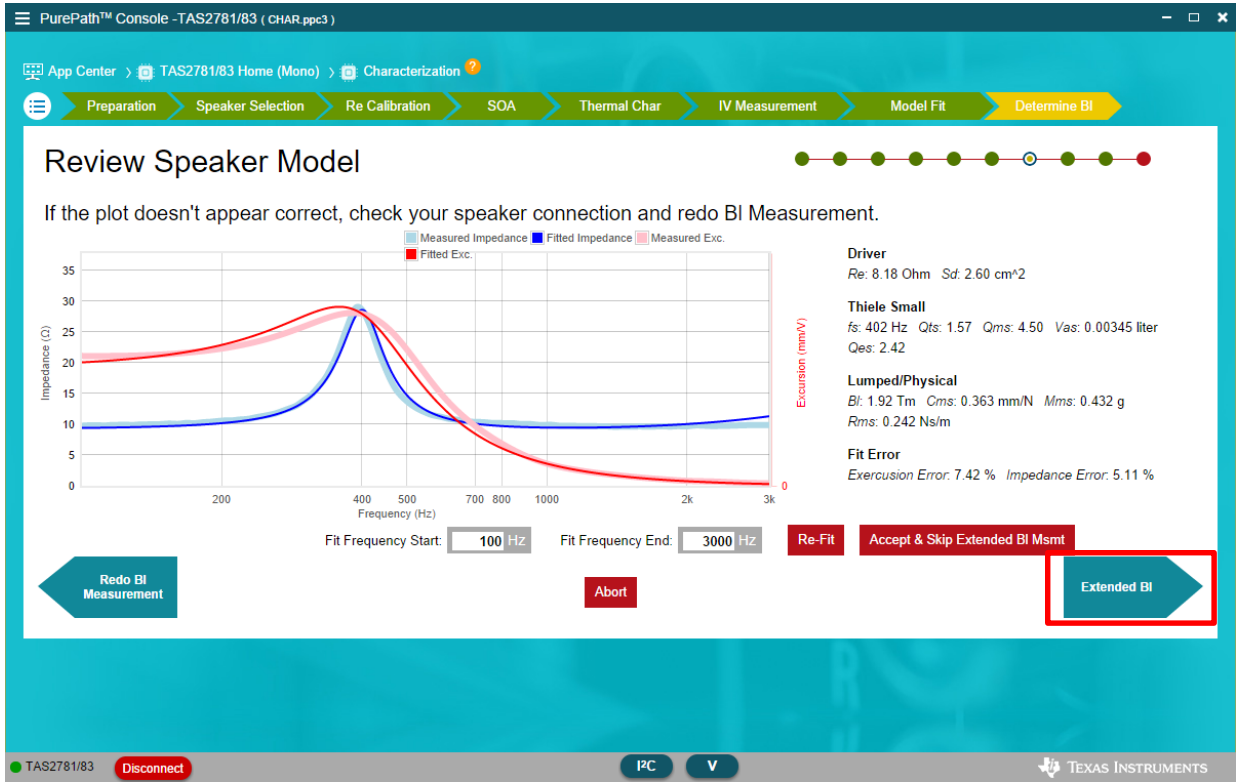
Determine BL



Determine BL



Determine BL



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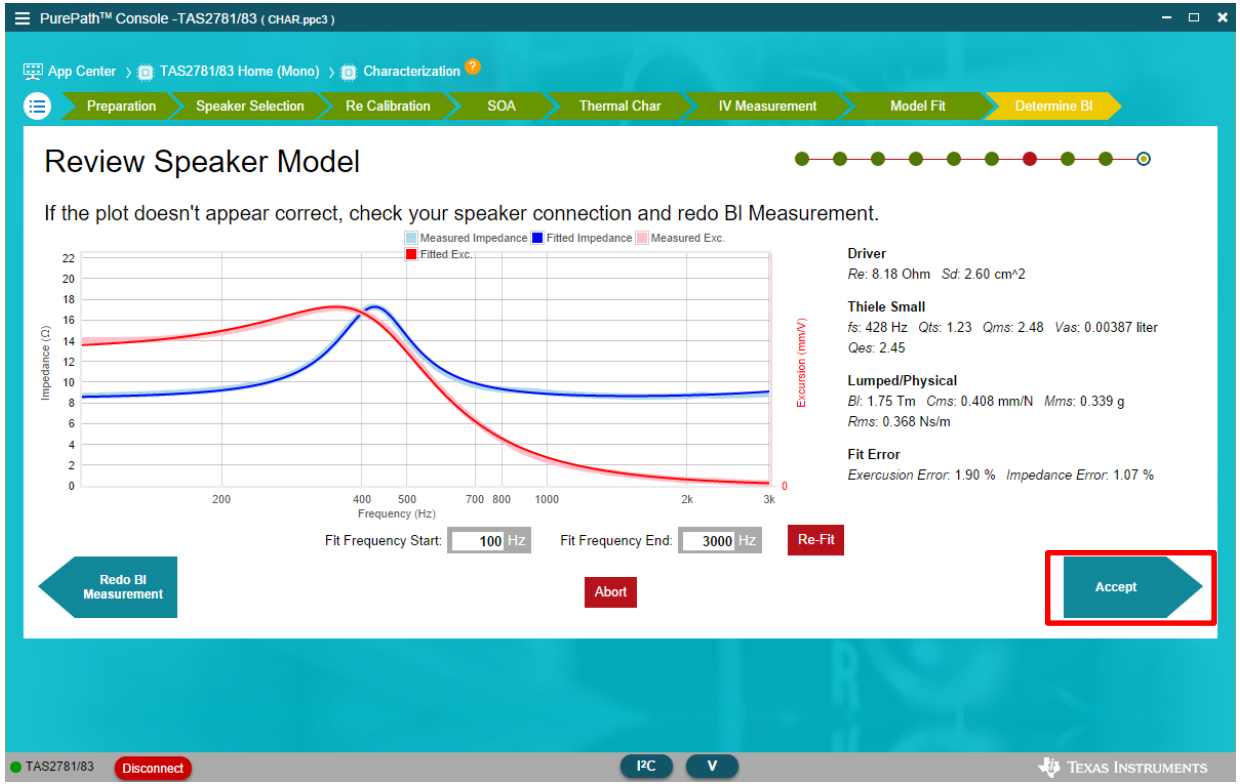
Extend BL => Make excursion closer to Xmax



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Done characterization

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