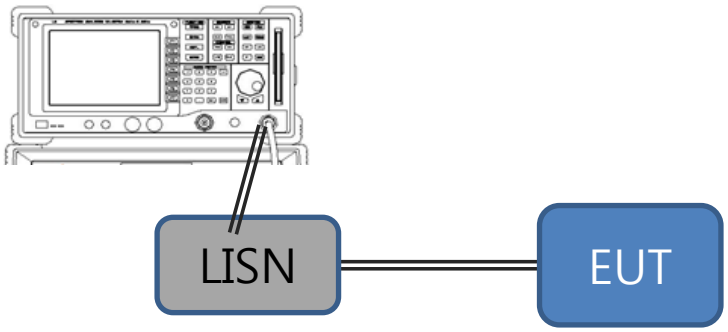
Principle of EMCIS Technique

- ❖ EMCIS Instruments are designed for Pre-Compliance application
- ❖ EMCIS Instruments are for the customers who are needed EMI debugging + EMI filter
- ❖ EMI Noise Measurement is for EMI debugging ; means EMI filter Design
- ❖ EMCIS Instruments are for helping these needs

Stage 1. without EA-2100



- ➢ Set up the system with your LISN
- ➢ Measure the noise (L1 and L2)
- ➢ Measured data is mixture of CM & DM

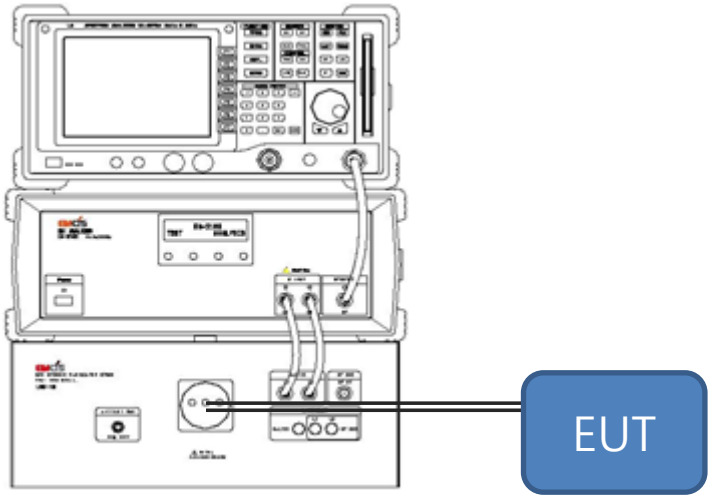
Next stage of the customer's action shall be

1. **Try EMI-debugging by himself – mostly based on his experience**
2. **Send his EUT to any of lab/expert to EMI debugging**
3. **With debugging results, he buy(maybe design) an EMI filter**

- ➢ **EMCIS' instruments/solution starts from this,**

1. **PROVIDING EASY APPROACH TO EMI DEBUGGING**
2. **GIVING A BETTER & EFFICIENT GUIDANCE IN EMI FILTER SELECTION/DESIGN**
3. **DIY, both EMI debugging and EMI filter design**

Stage 2. Set up the system – with EA-2100



- Set up the system with two port LISN
- Measure and separate / analyze noises in CM & DM

- LISN should has two port – connected to EA-2100
- Both lines should be connected to separate CM & DM

Yes, measured CM & DM noises respectively

And what I can do with these CM & DM ????

Step by Step, CM or DM, try to select the suitable size of components

You know how much dB you should cut off from the current noise level, to pass the limit line
You can choose the suitable size of components from the components catalog

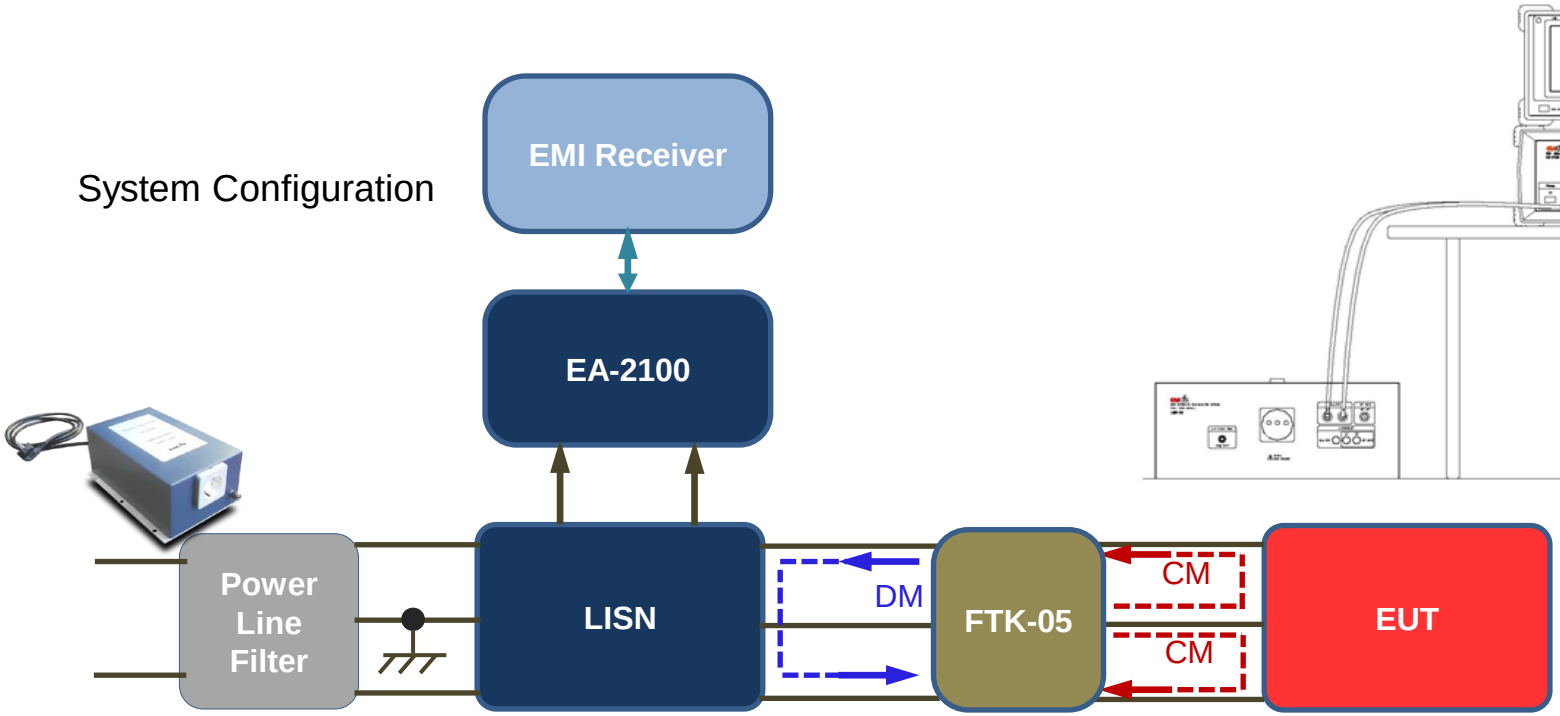
Debugging – Do It Yourself

Preparation – System Set Up

- Set up the system = EMI Receiver + EA-2100 + FTK-05 + LISN
- Set up EMI Receiver as your selected measurement condition

Most EMI Receiver has EMI software which set up the limit lines, frequency ranges, and etc, by only selecting the regulation/standard, like CISPR14..

System Configuration



- Check the ground of each unit/item = **Good ground condition is Important**
- Power Line Filters shall be recommended to protect any outer noise influence

Stage 3. Advanced Approach

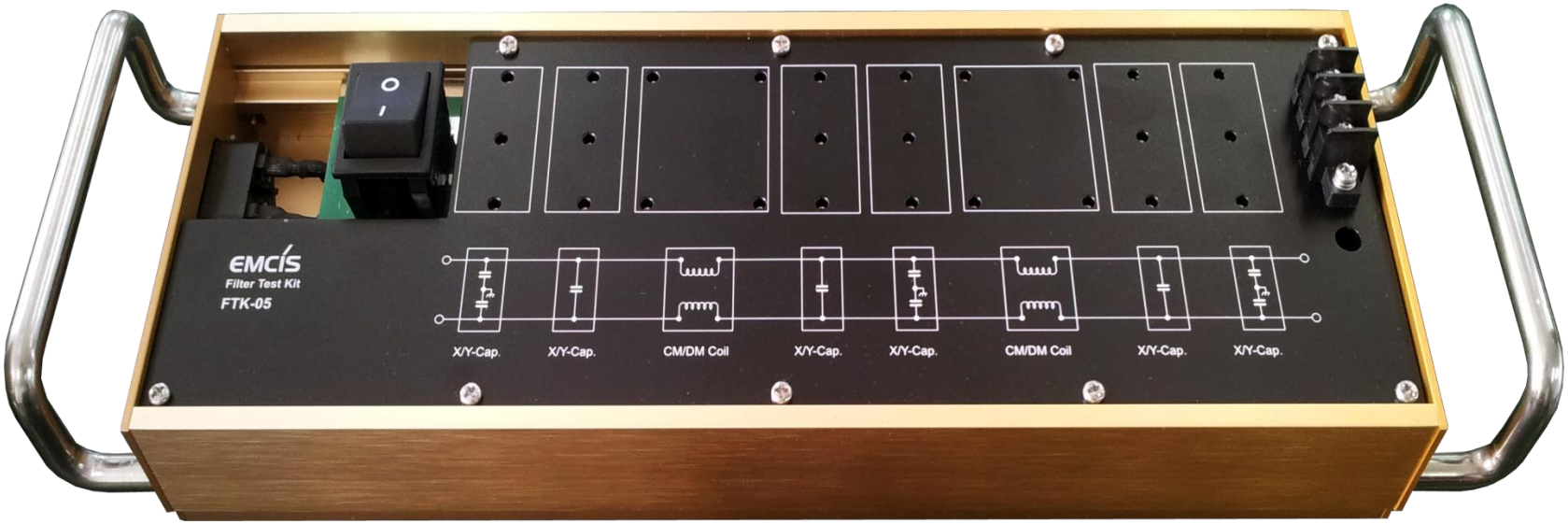
Filter Test Kit (FTK-05)

This is for an advanced trial for engineers in filter design / components tests / self-training

Customer put in the selected components on the kit and check the noise changing
Customer can design “primary” filter through this exercise

This designed filter should have different results when actually the filter put in EUT, because of Filter position & other reasons…
But, it can give the guidance to the customers in filter design

FTK-05



FTK-05 is designed as 5A, but reverted as 16A

Accessories – Sample components