


HRDF
-MALAYSIA-

REGISTERED TRAINING PROVIDER

PRACTICAL GUIDE TO RF MEASUREMENT


Proposal

Prepared by:

tekmark®
since 1994

1.0 EXECUTIVE SUMMARY

- How often do you encounter technical challenges when the most skillful validation engineer leaves your team, causing junior engineers with close-to-none knowledge about the RF test plan to struggle to meet production deadline?

- How often do you stop your production line due to unaccepted RF test result in which your validation engineers are incapable of troubleshooting and root-causing?

- How often does your team blindly waterfall RF test plan from past projects to the next projects, without considering circuit changes implemented in new projects, simply because your engineer has little knowledge about RF test and measurement methodology?

- Does your team understand what are they measuring with spectrum analyzer and network analyzer, or do they purely executing based on instructions and commands given by your principles or clients?

Tekmark Group, being one of the veterans in supplying test and measurement solutions to the manufacturing industry, acknowledged the competency gap within test engineer, and therefore committed to close the gap by introducing this upskilling program. This course is designed with the intention in mind to help students to better understand proper methodology to perform a RF measurement with sophisticated instruments like spectrum analyzer, network analyzer and power meter, as well as to guide participants to better make sense of the measured data.

In order to achieve that, students will be expose to the fundamental concept of test parameters, correct ways of doing calibration to ensure measurement result accuracy, as well as standard practices to operate test and measurement instruments. Equipping these knowledges in them is essential in boosting confidence towards the measurement made, and at the same time increase engineers' or technicians' competency in performing first-line debug to for shorter troubleshooting turnaround time. This 2-day course will be a covering 30% of measurement theory in classroom lecture, and 70% of practical hands-on via industrial grade instrument.

2.0 TRAINING DETAILS

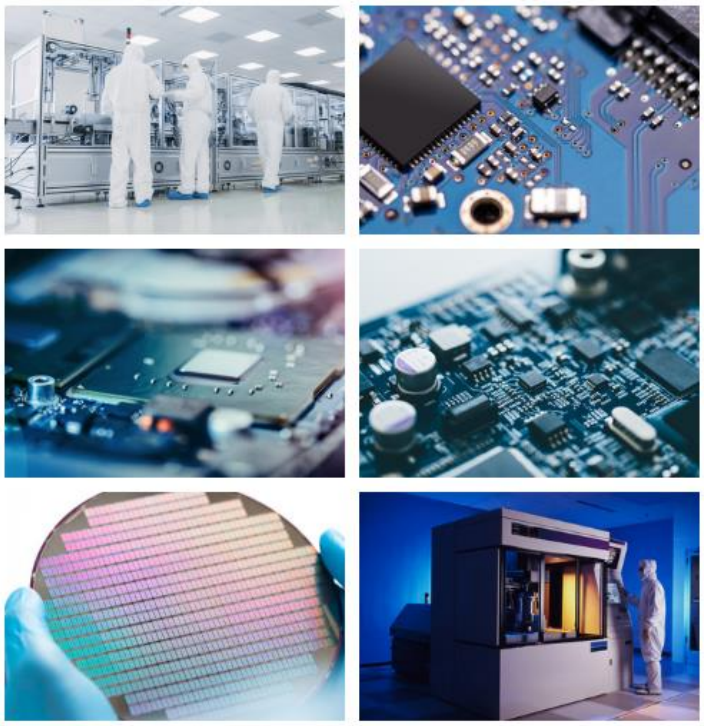
2.1 Learning Outcomes

Upon completion of this course, participants shall be:

- Able to understand the difference in between spectrum analysis and network analysis.
- Able to articulate main measurement parameters by spectrum analyser and network analyser, and the function of each parameters towards RF components characterization.
- Able to operate spectrum analyzer and network analyzer with confidence.
- Able to make sense and explain measurement result collected from RF measurement instruments.

2.2 Who Shall participate?

- Validation and test engineers who is also a frequent user of spectrum analyzer and network analyzer on their daily operations.
- Technicians who wish to upskill their RF measurement competency, enabling them to hold greater product quality portfolio in production line.
- RF circuit designer who wish to close their gap in hands-on practical knowledge, in order for them to better design realistic test plan for production testing.



3.0 PROGRAM OUTLINE

Spectrum Analyzer

Theory

- What is Spectrum and Signal Analysis?
- What measurements are available in spectrum analysis?
- Theory of Operation: Swept Spectrum Analyzer Hardware

Practical Hands-on

- Understanding Channel Power, Occupied Bandwidth, Spectrum Emission mask, adjacent channel power, spurious emissions, field strength, AM/FM audio demodulation.
- Specification: Which are important and why?

Network Analyzer

Theory

- What is Network Analyzer?
- What measurements are available in network analysis?
- Theory of Operation: Network Analyzer Hardware

Practical Hands-on

- Specification: Which are important and why?
- Hands-on tutorial on Network analyzer

4.0 Pre-requisites

Participants are required to have basic understanding in electronics. Understanding of RF theory will be helping participants to better appreciate the course content but is optional. Hands-on experience in dealing with spectrum analyser, network analyser and power meter prior to this class is optional but will definitely help student's engagement with the syllabus.

5.0 Learning Methodology

The course will be conducted in two major ways: lecture on the theory part, while hands-on on the practical part. Classroom discussions will be carried out throughout the entire course.

6.0 CHARGES

Please request for an official quotation from sales representative in contact details below.

7.0 CONTACT INFORMATION

TEKMARK GROUP
B-G-8, Endah Promenade,
No. 5, Jalan 3/149E, Taman Sri Endah,
Sri Petaling, 57000, Kuala Lumpur, Malaysia.

T +603 9057 8999
F +603 9057 3999
E tekmark.kl@tekmarkgroup.com

www.tekmarkgroup.com

Established since 1994, Tekmark Group provides accurate test & measurement science solutions to strategic industries. Tekmark is well equipped with an ISO certified service & calibration lab and has over 10 offices across the ASEAN Region. Tekmark is the Sole Authorized Technology Partner for Keysight Technologies in Malaysia.