INTERLLIGENT
RF & Microwave Solutions

Training course programme

RF & microwave engineering 101

International (English) live online course,
80 study hours

Class of 2023,

Begins 11-January 2023

(Wednesday weekly meetings)

RF is our business…
www.int-RF.com

Introduction:

RF and Microwave Engineering 101 is Interlligent's Flagship course for over 20 years. This comprehensive 80-hours course is provided online by live video lectures (via Zoom platform) and focuses on the physical layer (PHY) of RF and Microwave systems. The training programme aims to bring electronics engineering graduates into the level of junior RF and Microwave engineers. The programme includes various topics such as Noise budget, Non-linearity, Impedance matching, S-Parameters, Filters, Basic RF components, Receiver and transmitter architectures, IF digitizers, PLL synthesizers, Antennas and link budget and practical test and measurements set-ups.

The training combines theoretical studies with practical examples from the industry that clearly demonstrate the studied subjects.

Attendees will receive certified electronic copies of our original training materials which include: Theoretical background materials (whitepapers), homework assignments with their explained solutions and copies of the presentations.

An optional online final exam is available for attendees who wish to add a final grade to their certificate of completion.

Access to the recorded meetings:

The participants will be allowed to view to all the web-based recorded presentations for one year from the course's beginning. This may assist attendees to refresh their knowledge and (when required) to complete a missing lesson in case of inability to attend a live presentation.

Target audience:

Electronics engineers who would like to gain RF expertise, and in particular:

- Engineers who are newcomers to the RF and microwave industry.
- DSP / Algo Engineers who would like to expand their knowledge in the PHY world of radio system.
- Experienced microwave engineers who would like to refresh / update their knowledge.

Required prior knowledge:

The participants are expected to have basic familiarity with Fourier transforms, Laplace transforms, random processes, and basic circuit theory. In any case, all relevant subjects in the course which require prior knowledge will be accompanied by theoretical background materials that include the required background.

Presenter:

The course will be presented by Mr. Oren Hagai, the founder of INTERLLIGENT RF and Microwave Solutions. Bio available online at: https://www.linkedin.com/in/4x1vi

Programme's outline:

The course includes 80 study hours. The live presentations will be broadcasted using "Zoom" platform, during 20 weekly meetings, each lasting 4 hours. All weekly meetings shall be held on Wednesdays, starting 11-January-2023. **All meetings will begin at 14:00 (UK time) and will end at 18:00 UK time.**

Meetings timetable and study subjects:

Meeting No.	Date	Subject index	Study subject	Study hours
1	11-JAN-2023	1	Introduction to the exciting world of RF and Microwave engineering	4
2	18-JAN-2023	2A	Thermal noise, SNR and Noise Figure (1)	4
3	25-JAN-2023	2B	Thermal noise, SNR and Noise Figure (2)	4
4	1-FEB-2023	3A	Non-Linear device characterization (1)	4
5	8-FEB-2023	3B	Non-Linear device characterization (2) and dynamic range	4
6	15-FEB-2023	4	RF and microwave Mixers and spur charts	4
7	22-FEB-2023	5	Standard test equipment (1): Spectrum Analysis basics, RF signal generators	4
8	1-MAR-2023	6A	Distributed systems and impedance matching techniques (1)	4
9	8-MAR-2023	6B	Distributed systems and impedance matching techniques (2)	4
10	15-MAR-2023	7	Standard test equipment (2): Network Analysis basics, Power meters, cable and connector care	4
11	22-MAR-2023	8	Passive RF devices and basic building blocks	4
12	29-MAR-2023	9	Signal Sources, PLL Synthesizers, and phase noise	4
	5-APR-2023	N/A	Break	4
	12-APR-2023	N/A	Break	4
13	19-APR-2023	10A	Digital wireless communications and Vector Signal Analysis (1)	4
14	26-APR-2023	10B	Digital wireless communications and Vector Signal Analysis (2)	4
15	3-MAY-2023	11A	RF and IF sampling by RF ADCs (1)	4
16	10-MAY-2023	11B	RF and IF sampling by RF ADCs (2)	4
17	17-MAY-2023	12	Transmitter and Receiver system architectures	4
18	24-MAY-2023	13	Antenna concepts and the wireless channel	4
19	31-MAY-2023	14	Moving up to millimetre waves	4
20	7-JUN-2023	15	Concluding exercise: Receiver system design	4
Total, 20 weekly online meetings, 4 study hours each				**80**
All meetings will begin at 14:00 (UK time), and will end at 18:00 (UK time)				

Pricing and registration:

For pricing quotations and registration, please contact our training centre manager:
Mrs. Ilanit Kalman, Email: Ilanit.k@int-rf.com or at info@int-rf.com