



CURRICULUM VITAE



PERSONAL DETAILS

Name : CHUA TIEN HAN

Gender : Male

Date of Birth : 05 April 1980

Nationality : Malaysian

Marital Status : Single

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ID Staff : 9600

Expertise : Radiowave Propagation, Wireless Communication

ACADEMIC QUALIFICATIONS

NO	LEVEL OF EDUCATION	COURSE	UNIVERSITY	STARTING DATE	ENDING DATE
1	Bachelor Degree	Bachelor of Engineering (Electrical – Telecommunication) with First Class Honours	Universiti Teknologi Malaysia	1999	2003
2	Master Degree	Master of Engineering (Electrical)	Universiti Teknologi Malaysia	2003	2007

AWARD AND HONOURS RECEIVED

NO	AWARD	LEVEL	YEAR
1	Silver Medal Award, British Invention Show (BIS 2005), London, United Kingdom. Product: <i>WiFiGeoLoc</i> – WLAN-based Indoor Location Estimation System	International	2005
2	Gold Medal Award, British Invention Show (BIS 2005), London, United Kingdom. Product: B-Smart Telematic Solution – Intelligent Fleet Management System with Concurrent GSM and GPS Positioning	International	2005
3	Special Award, British Invention Show (BIS 2005), London, United Kingdom. Product: B-Smart Telematic Solution – Intelligent Fleet Management System with Concurrent GSM and GPS Positioning	International	2005
4	Special Award, Malaysia Technology Expo (MTE 2015) PWTC, Kuala Lumpur, Malaysia. Product: Smart LTE-WiFi Mobile Hotspot	International	2015
5	Gold Award, Malaysia Technology Expo (MTE 2015) PWTC, Kuala Lumpur, Malaysia. Product: Smart LTE-WiFi Mobile Hotspot	International	2015

WORKING EXPERIENCE

NO	POSITION	STARTING DATE	ENDING DATE	DEPARTMENT/ORGANISATION
1	Tutor	4 Jan 2005	16 May 2007	Faculty of Electrical Engineering, Universiti Teknologi Malaysia.
2	Lecturer	17 May 2007	Current	School of Electrical Engineering, Universiti Teknologi Malaysia.

UNIVERSITY / FACULTY / RESEARCH CENTRE COMMITTEE APPOINTMENT

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
1	Pasukan Tindakan Kecemasan Fakulti Kejuruteraan Elektrik	Committee Member	1 January 2013	1 January 2015
2	WCC HICoE Taskforce	Taskforce Member	2014	Current
3	Propagation Laboratory at Wireless Communication Centre (WCC)	Head of Laboratory	2014	Current
4	Jawatankuasa Khas Promosi Program Pascasiswazah Kejuruteraan Komunikasi MKET	Committee Member	3-11-2019	30-6-2021
5	UTM-Ericsson IC5G Working Committee	Deputy Chairman	1-1-2020	31-12-2021
6	Ahli Jawatankuasa Berkaitan Proses Perolehan Di PTJ Di Bawah Jabatan Tncpi (PTJ: WCC)	Committee Member	1-11-2020	30-10-2022

NATIONAL APPOINTMENT COMMITTEE

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
1	Malaysian Technical Standards Forum Bhd (MTSFB) - IMT Working Group	Member	2014	2018
2	Malaysian Technical Standards Forum Bhd (MTSFB) - IMT & Future Networks (IFN) Working Group	Member	2019	Current
3	Malaysian Technical Standards Forum Bhd (MTSFB) – Working Group on EMF	Member	2019	Current
4	Sub-Working Group on Spectrum Bandwidth Requirement, National 5G Taskforce	Chairman	1-2-2019	31-12-2019

RESEARCH ACTIVITIES

NO	NAME OF GRANT	ROLE	CATEGORY OF GRANT	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	Study on RF-EMF Radiation from 4G and 5G Radiocommunication Infrastructure and RF-EMF Exposure Limit Compliance	Principle Investigator	MOHE	HICoE Research Grant	85,000	1-11-2020	31-10-2021	R.J1300.00.7851.4J493
2	CRG 21.4 : Air-to-Ground Channel Model for UAV Hotspot	Principle Investigator	MOHE	Collaborative Research Grant National	20,000	1-11-2019	31-10-2021	R.J1300.00.7351.4B516
3	Narrowband Measurement, Characterization and Modelling of Radiowave Propagation through Tropical Vegetation at Centimetre-wave and Millimetre-Wave Frequencies for 5G	Principle Investigator	MOHE	HICoE Research Grant	119,910	1-6-2016	31-5-2019	R.J1300.00.7823.4J216
4	Mobile Edge Computing and Non Orthogonal Multiple Access for Connected and Autonomous Vehicles	Research Member	UTM RUG	UTMShine	40,000	1-3-2020	31-8-2022	Q.J1300.00.2451.09G15
5	CRG 21.0 : UAV-Enabled Wireless Hotspot for 5G	Research Member	UTM RUG	Collaborative Research Grant	100,000	1-11-2019	30-4-2022	Q.J1300.00.2451.09G10
6	CRG 21.2 : NON-ORTHOGONAL MULTIPLE ACCESS DESIGN	Research Member	MOHE	Collaborative Research Grant National	20,000	1-11-2019	31-10-2021	R.J1300.00.7351.4B468
7	Microwave Radio Backhaul for 5G M2M Application in Malaysia	Research Member	MOHE	HICoE Research Grant	85,000	1-10-2019	30-6-2021	R.J1300.00.7851.4J413
8	Non-Orthogonal Multiple Access for 5G massive machine-type communication IoT systems	Research Member	MOHE	Fundamental Research Grant Scheme	69,200	1-9-2019	31-5-2022	R.J1300.00.7851.5F177
9	Propagation Study And Antenna Design For Smart Flood Monitoring	Research Member	UTM RUG	Matching Grant	40,000	15-3-2019	30-11/2021	Q.J1300.00.3009.02M42
10	The Smart Flood Monitoring System Based on Internet of Thing	Research Member	International	Matching Grant	40,000	15-3-2019	30-11-2021	R.J1300.00.7309.4B571
11	HIR 8.1 : Design and Development of Smart Water Sensor Device	Research Member	UTM	High Impact Research Grant	148,100	1-4-2018	3-9-2021	Q.J1300.00.2409.04G26
12	Deployment of Narrow Band Internet of Things (NB-IoT) for Smart Agriculture	Research Member	UTM RUG	Tier 1	50,000	1-2-2018	31-1-2020	Q.J1300.00.2509.19H38
13	Random Multiple Access Schemes using Graph-Based Method for 5G	Research Member	UTM RUG	UTMShine	50,000	15-11-2017	14-11-2019	Q.J1300.00.2423.03G79
14	Measurement and Analysis of Rain Attenuation in E-Band 5G Wireless Backhaul Link	Research Member	UTM RUG	Tier 1	40,000	1-7-2017	30-6-2019	Q.J1300.00.2523.18H01
15	Wideband and Narrowband Channel Measurements and Modelling	Research Member	MOHE	HICoE Research Grant	119,910	1-6-2016	30-11-2018	R.J1300.00.7809.4J209

NO	NAME OF GRANT	ROLE	CATEGORY OF GRANT	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
16	Physical Layer Techniques for Cooperative Spectrum Sensing Schemes in 5G Wireless Communication Systems	Research Member	MOHE	HICOE Research Grant	119,910	1-6-2016	28-2-2019	R.J1300 00.7823. 4J218
17	Compact MIMO Antenna for 4G LTE-WLAN Mobile Hotspot	Research Member	MOHE	Prototype Development Research Grant Scheme	86,000	1-12-2015	30-11-2017	R.J1300 00.7809. 4L665
18	Measurement and Analysis of Foliage Attenuation in Milimeter-Wave Band	Research Member	UTM RUG	Tier 1	50,000	15-11-2015	14-11-2017	Q.J1300 00.2523. 12H35
19	Wireless Industry Emission(WIE): Mobile Base Station EMF Monitoring and Exposure Analysis	Research Member	UTM RUG	Tier 1	50,000	1-5-2015	31-10-2016	Q.J1300 00.2509. 10H24
20	Design and Development of 4G LTE-WLAN Customer Premise Equipment	Research Member	MESTECC	Sciencefund	242,500	1-6-2014	30-11-2016	R.J1300 00.7909. 4S105
21	Unequal Size of Witricity Device Design Through the Characterization of Its Coupling Coefficient for Wireless Communication Applications	Research Member	UTM RUG	Tier 1	95,000	1-4-2014	31-3-2016	Q.J1300 00.2509. 05H43
22	The Upgrade of Long Term Evolution Laboratory	Research Member	MCMC	Industry Grant	499,000	14-11-2013	28-2-2015	R.J1300 00.7323. 4B124
23	The Establishment of Specific Absorption Rate Measurement Facility	Research Member	MCMC	Industry Grant	499,500	1-11-2013	28-2-2015	R.J1300 00.7323. 4B125
24	Multiple Band Antenna For Long Term Evolution (LTE) Applications	Research Member	MOHE	Prototype Development Research Grant Scheme	88,000	1-8-2013	31-7-2015	R.J1300 00.7823. 4L628
25	The Research and Training Facilities Related to the RF Propagation	Research Member	MCMC	Industry Grant	198,500	12-6-2013	28-2-2015	R.J1300 00.7323. 4B127

COLLABORATION / MOU

NO	NAME OF MOU	LEVEL OF MOU	STARTING DATE	ENDING DATE
1	MoU between Altel Communicatons Sdn Bhd and WCC-UTM	National	2013	Completed
2	MoU between Propel Network Sdn Bhd and WCC-UTM	National	2014	Current
3	MoA between PJSC Visicom (Ukraine), WCC (UTM) and WCC Telco Sdn Bhd (UTM)	International	2015	Current
4	MoU between ATDI South Pacific Pty Ltd (Australia) and WCC-UTM (Malaysia)	International	2015	Current
5	5G Propagation Laboratory Collaboration Program among UTM, Keysight and Tekmark	National	1-12-2017	1-12-2020

NO	NAME OF MOU	LEVEL OF MOU	STARTING DATE	ENDING DATE
6	UTM-ERICSSON IC5G Collaboration with Celcom in the Field of 5G and IoT among UTM, Ericsson Malaysia and Celcom	National	30-1-2020	29-1-2021
7	Smart Flood Monitoring System based on Internet of Thing between UTM (Malaysia) and Universitas Sriwijaya (Indonesia)	International	30-1-2020	29-1-2022
8	Memorandum of Understanding between UTM (Malaysia) And KTH Royal Institute of Technology (Sweden)	International	1-7-2020	30-6-2024
9	5G Garage Program Year 2021-2023 for UTM-Ericsson Innovation Centre for 5G (IC5G)	National	2021	2023

TEACHING ACTIVITIES

UNDERGRADUATE *(Excluding Lab Supervision)*

YEAR	SEM	SUBJECT CODE	NAME OF SUBJECT	CREDIT HOUR	SECTION (TOTAL STUDENTS)
2016/2017	1	SKAA2032	Mechanical and Electrical System	6	Section 1 (37) Section 2 (38) Section 3 (54)
2016/2017	2	SKEU1003	Fundamental of Electrical Engineering	3	Section 1 (6)
2017/2018	1	SKEU2003	Electrical Technology	3	Section 6 (31)
2017/2018	2	SKEU1002	Electrical Technology	2	Section 5 (35)
2018/2019	1	SKEU1002	Electrical Technology	2	Section 3 (46)
2018/2019	2	SKEE1223	Digital Electronic	6	Section 3 (23) Section 4 (28)
2019/2020	1	SKEU2003	Electrical Technology	3	Section 1 (38)
2019/2020	1	SEEU2003	Electrical Technology	3	Section 1 (14)
2019/2020	2	SKEU2012	Electronic	2	Section 1 (73)
2020/2021	1	SKEE3533	Principles of Communication	6	Section 7 (26) Section 8 (29)

PUBLICATIONS

JOURNAL

1. Shayea, M. Hadri Azmi, T. Abd. Rahman, M. Ergen, C. Tien Han and A. Arsad, "Spectrum Gap Analysis With Practical Solutions for Future Mobile Data Traffic Growth in Malaysia," in *IEEE Access*, vol. 7, pp. 24910-24933, 2019, doi: 10.1109/ACCESS.2018.2890302
2. Nur Ilham Aliyaa Ishak, Norhudah Seman, Tien Han Chua, "Antenna Array Design with Rectangular Ring Slot for 5G Technology," in *Telkomnika*, vol. 17, no. 5, pp. 2258-2267, 2019, doi: 10.12928/TELKOMNIKA.v17i5.12816
3. Lai Ly Pon, Sharul Kamal Abdul Rahim, Chee Yen Leow, Tien Han Chua, "Non-radiative wireless energy transfer with single layer dual-band printed spiral resonator," in *Bulletin of Electrical Engineering and Informatics*, vol. 8, no. 3, pp. 744-752, 2019, doi:10.11591/eei.v8i3.1593
4. Norhudah Seman, Nazleen Syahira Mohd Suhaimi; Chua Tien Han, "26 GHz phase shifters for multi-beam nolen matrix towards fifth generation (5G) technology," in *Bulletin of Electrical Engineering and Informatics*, vol. 8, no. 3, pp. 1028-1035, 2019, doi:10.11591/eei.v8i3.1577
5. Muhammad Afiq Abdul Aziz, Norhudah Seman, Tien Han Chua, "Microstrip antenna design with partial ground at frequencies above 20 GHz for 5G telecommunication systems," in *Indonesia Journal of Electrical Engineering and Computer Science*, vol. 15, no. 5, pp. 1466-1473, 2019, doi:10.11591/ijeecs.v15.i3.pp1466-1473
6. Olakunle Elijah, Abdelmoneim A. bakhit, Tharek A. Rahman, Tien Han Chua, Siti Fatimah Ausordin, Rifhan Narrissa Razali, "Production of strawberry using internet of things: a review," in *Indonesia Journal of Electrical Engineering and Computer Science*, vol. 15, no. 3, pp. 1621-1628, 2019, doi:10.11591/ijeecs.v15.i3.pp1621-1628
7. Nurul Inshirah Mohd Razali, Norhudah Seman, Tien Han Chua, "Designs of rectangular-shaped planar Inverted-F antennas at mobile operating frequencies with different ground plane techniques," in *Indonesia Journal of Electrical Engineering and Computer Science*, vol. 15, no. 2, pp. 927-935, 2019, doi:10.11591/ijeecs.v15.i2.pp927-935
8. Shayea, I., Abd. Rahman, T., Hadri Azmi, M., Tien Han, C. and Arsad, A., "Predicting required licensed spectrum for the future considering big data growth," in *ETRI Journal*, vol. 41, no. 2, pp. 224-234, 2019, doi:10.4218/etrij.2017-0273
9. Elijah, T. A. Rahman, C. Y. Leow, H. C. Yeen, M. A. Sarijari, A. Aris, J. Salleh, T. H. Chua, "A Concept Paper on Smart River Monitoring System for Sustainability in River," in *International Journal of Integrated Engineering*, vol.10, no. 7, pp. 130-139, 2018, doi:10.30880/ijie.2018.10.07.012
10. Ahmed M. Al-Samman, Tharek A. Rahman, Marwan Hadri, Imdad Khan, Tien Han Chua, "Experimental UWB indoor channel characterization in stationary and mobility scheme," in *Measurement*, vol. 111, pp. 333-339, 2017, doi:10.1016/j.measurement.2017.07.053

11. Moradikordalivand, A., Leow, C., Rahman, T., Ebrahimi, S., & Chua, T., "Wideband MIMO antenna system with dual polarization for WiFi and LTE applications," in *International Journal of Microwave and Wireless Technologies*, vol. 8, no. 3, pp. 643-650, 2015, doi:10.1017/S175907871500032X

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PROCEEDINGS/CONFERENCE

1. Y. K. L. Vincent, R. Ngah, C. T. Han, "Capacity Estimation for 5G Cellular Networks," 4th International Conference on Emerging Trends on Engineering Science, Technology and Management (ICETESTM-2020), Jakarta, Indonesia, 2020, pp. 1-6.
2. O. Elijah, T. A. Rahman, H. C. Yeen, C. Y. Leow, M. A. Sarijari, A. Aris, J. Salleh, C. T. Han, "Application of UAV and Low Power Wide Area Communication Technology for Monitoring of River Water Quality," 2018 2nd International Conference on Smart Sensors and Application (ICSSA), Kuching, Malaysia, 2018, pp. 105-110, doi:10.1109/ICSSA.2018.8535994
3. Shayea, T. A. Rahman, M. H. Azmi, C. T. Han and A. Arsad, "Indoor network signal coverage of mobile telecommunication networks in West Malaysia: Selangor and Johor Bahru," 2017 IEEE 13th Malaysia International Conference on Communications (MICC), Johor Bahru, 2017, pp. 288-293, doi: 10.1109/MICC.2017.8311774
4. N. R. Zulkefly *et al.*, "Channel characterization for indoor environment at 17 GHz for 5G communications," 2015 IEEE 12th Malaysia International Conference on Communications (MICC), Kuching, Malaysia, 2015, pp. 241-245, doi: 10.1109/MICC.2015.7725441
5. T. H. Chua, I. J. Wassell and T. Abd. Rahman, "Wind-Induced Slow Fading in Foliated Fixed Wireless Links," 2012 IEEE 75th Vehicular Technology Conference (VTC Spring), Yokohama, Japan, 2012, pp. 1-5, doi: 10.1109/VETECS.2012.6240319
6. T. H. Chua, I. J. Wassell and T. A. Rahman, "Combined effects of wind speed and wind direction on received signal strength in foliated broadband fixed wireless links," *Proceedings of the Fourth European Conference on Antennas and Propagation*, Barcelona, Spain, 2010, pp. 1-5
7. S. T. S. Thong, C. T. Han and T. A. Rahman, "Intelligent Fleet Management System with Concurrent GPS & GSM Real-Time Positioning Technology," 2007 7th International Conference on ITS Telecommunications, Sophia Antipolis, France, 2007, pp. 1-6, doi: 10.1109/ITST.2007.4295849

PLENARY/CHAIRPERSON/ORAL POSTER PRESENTER/KEYNOTE ADDRESS / INVITED GUEST SPEAKER

NO	ROLE	TITLE OF PROGRAMME	DATE	LOCATION
1	Invited Speaker	"RF-EMF: Are We Safe ?" The Digital Outlook Series 2019, 5G Showcase Putrajaya.	20-4-2019	Dewan Sri Siantan, Kompleks Perbadanan Putrajaya, Putrajaya.
2	Invited Speaker	"RF-EMF and Smart Meter: Facts & Myths" TNB Media Event: Smart Meter Installation at Klang Valley	19-9-2019	Hotel Pullman, Bangsar.
3	Invited Speaker	"Performance Measurement In Mobile Communication Network" The National Digital Infrastructure Laboratory Program Taskforce	4-8-2020	MCMC Tower 1, Cyberjaya.

PROFESSIONAL SERVICES

Industry Consultation

NO	NAME OF CONSULTANCY	ROLE	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	The Provisioning of Training Program for RF-EMF Awareness in Communications and Multimedia Industry	Project Leader	174,666.80	1-Dec-2020	31-8-2021	1816
2	Consultancy and Public Education Program on Radio Frequency (RF) Radiation Health Concern for TNB Smart Meter Project	Project Leader	806,130.00	22-10-2021	21-1-2025	1826
3	Study on Spectrum Harmonization between International Mobile Telecommunications (IMT) Systems with Other Technologies in the Frequency Bands Below 1GHz	Consultant	99,995.50	7-8-2014	7-11-2014	UTSB
4	Technical Consultancy Service To WCC Telco Sdn. Bhd. (LTE-WiFi Mobile CPE)	Lead Consultant	12,000.00	1-4-2014	30-10-2014	UTSB
5	Band 5 & Band 8 Coexistence Study for Telekom Malaysia	Lead Consultant	15,900.00	1-12-2014	31-12-2014	UTSB
6	Study on Band 5 and Band 8 Coexistence Interference Issue for Telekom Malaysia – Additional Analyses	Lead Consultant	10,000.00	9-2-2015	18-2-2015	UTSB

NO	NAME OF CONSULTANCY	ROLE	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
7	Study on Band 5 and Band 8 Coexistence Interference Issue for Telekom Malaysia – SRD-LTE850 Coexistence at 869-870 MHz	Lead Consultant	16,500.00	3-3-2015	27-3-2015	UTSB
8	Study on The Coexistence Of LTE And WCDMA/GSM Technologies At E-UTRA Operating Band 5 And Band 8	Lead Consultant	46,400.00	5-11-2015	4-12-2015	UTSB
9	Perspective on Malaysia Mobile Broadband Development - Experiment & Whitepaper Writing For Huawei Technologies	Consultant	80,000.00	25-11-2015	31-12-2015	UTSB
10	UTM-Huawei Industry Consultancy Whitepaper Project on Malaysia Mobile Broadband Prospect 2015-2020	Consultant	120,000.00	1-1-2016	31-12-2016	UTSB
11	Development of Industry Training Module: Electromagnetic Field (EMF) Awareness in Communications and Multimedia Industry	Lead Consultant & Course Designer	26,500.00	1-7-2018	21-7-2018	UTSB
12	5G And VSAT Coexistence Field Trial at UTM KL (Collaboration among MCMC, Telecom Operator, Fixed Satellite Service Provider, Vendors And UTM-WCC)	Consultant	Community Service	2-7-2020	29-9-2020	-

Industry Training

NO	TITLE OF PROGRAMME	ROLE	DATE	LOCATION	TOTAL INCOME GENERATED (RM)
1	Mobile Communication: Evolution Towards Mobile Broadband	Trainer	28-8-2013 to 30-8-2013	MCMC, Cyberjaya	13,005.00
2	Short Course on 4G Long Term Evolution Technology	Trainer	10-6-2014 to 12-6-2014	UTM Kuala Lumpur	9,860.00
3	Introduction to Broadcast Technology	Trainer	27-6-2014	Cyber Security Malaysia	5,250.00

NO	TITLE OF PROGRAMME	ROLE	DATE	LOCATION	TOTAL INCOME GENERATED (RM)
4	MCMC-UTM Industry Development Program (IDP) – LTE Series 1 <ul style="list-style-type: none"> • LTE (4 days) • LTE-Advanced (2 days) • LTE Radio Planning & Optimization (5 days) 	Trainer	LTE: 8-9-2014 to 11-9-2014 LTE-A: 14-10-2014 to 15-10-2014 LTE Radio Planning: 27-10-2014 to 31-10-2014	UTM Kuala Lumpur	44,365.00
5	MCMC-UTM Industry Development Program (IDP) – LTE Series 2 <ul style="list-style-type: none"> • LTE (4 days) • LTE-Advanced (2 days) • LTE Radio Planning & Optimization (5 days) 	Trainer	LTE: 17-3-2015 to 20-3-2015 LTE-A: 24-3-2015 to 25-3-2015 LTE Radio Planning: 6-4-2015 to 10-4-2015	UTM Kuala Lumpur	44,365.00
6	MCMC-UTM Industry Development Program (IDP) – LTE Series 3 <ul style="list-style-type: none"> • LTE (4 days) 	Trainer	LTE: 11-5-2015 to 14-5-2015	UTM Kuala Lumpur	15,710.00
7	MCMC-UTM Industry Development Program (IDP) – LTE Series 3 <ul style="list-style-type: none"> • LTE-Advanced (2 days) • LTE Radio Planning & Optimization (5 days) 	Trainer	LTE-A: 19-10-2015 to 20-10-2015 LTE Radio Planning: 7-12-2015 to 10-12-2015	UTM Kuala Lumpur	28,655.00
8	Short Course on Microwave Communication for DH41/DH44 Officers from Ministry of Education Malaysia	Trainer	28-9-2015 to 1-10-2015	Hotel Gold Course, Klang, Selangor	
9	Short Course on 4G and 5G Cellular Mobile Communication for RHB Investment Bank Berhad	Trainer	23-3-2016	UTM Kuala Lumpur	5,300.00
10	Short Course on Basic of Telecommunications	Trainer	28-11-2016 to 30-11-2016	MCMC, Cyberjaya	6,360.00
11	Short Course on Fundamentals of Telecommunications	Trainer	7-12-2016 to 8-12-2016	MCMC, Cyberjaya	5,300.00
12	Short Course on Basic of Telecommunications	Trainer	19-12-2016 to 21-12-2016	MCMC, Cyberjaya	6,360.00

NO	TITLE OF PROGRAMME	ROLE	DATE	LOCATION	TOTAL INCOME GENERATED (RM)
13	Short Course on Converged of Telecommunication Policy and Regulation (CTPR) Programme	Trainer	16-1-2017 to 18-1-2017	MCMC, Cyberjaya	6,360.00
14	Short Course on Converged of Telecommunication Policy and Regulation (CTPR) Programme	Trainer	13-2-2017 to 17-2-2017	MCMC, Cyberjaya	6,360.00
15	Short Course on Converged of Telecommunication Policy and Regulation (CTPR) Programme	Trainer	8-3-2017 to 14-3-2017	MCMC, Cyberjaya	6,360.00
16	Short Course on Basic of Telecommunication	Trainer	17-4-2017 to 19-4-2017	MCMC, Cyberjaya	6,360.00
17	Short Course on Converged of Telecommunication Policy and Regulation (CTPR) Programme	Trainer	15-5-2017 to 17-5-2017	MCMC, Cyberjaya	6,360.00
18	Short Course on Converged of Telecommunication Policy and Regulation (CTPR) Programme	Trainer	24-6-2017 to 26-6-2017	MCMC, Cyberjaya	6,360.00
19	Short Course on Basic of Telecommunication	Trainer	7-8-2017 to 9-8-2017	MCMC, Cyberjaya	6,360.00
20	Short Course on Converged of Telecommunication Policy and Regulation (CTPR) Programme	Trainer	25-9-2017 to 27-9-2017	MCMC, Cyberjaya	6,360.00
21	Short Course on Converged of Telecommunication Policy and Regulation (CTPR) Programme	Trainer	3-10-2017 to 5-10-2017	MCMC, Cyberjaya	6,360.00
22	Fundamentals of RF Engineering Training	Trainer & Course Coordinator	10-4-2018 to 11-4-2018	MCMC, Cyberjaya	8,480.00
23	Fundamentals of RF Engineering Training	Trainer & Course Coordinator	27-6-2018 to 28-6-2018	MCMC, Cyberjaya	8,480.00
24	Short Course on Converged of Telecommunication Policy and Regulation (CTPR) Programme	Trainer	1-10-2018 to 3-10-2018	MCMC, Cyberjaya	6,000.00
25	Short Course on Converged of Telecommunication Policy and Regulation (CTPR) Programme	Trainer	26-11-2018 to 28-11-2018	MCMC, Cyberjaya	6,000.00
26	Electromagnetic Field (EMF) Awareness in Communications and Multimedia Industry	Trainer & Course Coordinator	14-8-2018 to 16-8-2018	MCMC, Cyberjaya	10,600.00
27	Electromagnetic Field (EMF) Awareness in Communications and Multimedia Industry	Trainer & Course Coordinator	2-10-2018 to 4-10-2018	MCMC, Cyberjaya	10,600.00
28	Electromagnetic Field (EMF) Awareness in Communications and Multimedia Industry	Trainer & Course Coordinator	16-10-2018 to 18-10-2018	MCMC, Cyberjaya	10,600.00
29	Electromagnetic Field (EMF) Awareness in Communications and Multimedia Industry	Trainer & Course Coordinator	12-11-2018 to 14-11-2018	MCMC, Cyberjaya	10,600.00
30	Briefing Session on EMF Facts And Myths Related to RF-Based Smart Meter to Suruhanjaya Tenaga Malaysia	Trainer & Course Coordinator	11-10-2018 & 18-10-2018	Suruhanjaya Tenaga, Putrajaya	3,000.00

NO	TITLE OF PROGRAMME	ROLE	DATE	LOCATION	TOTAL INCOME GENERATED (RM)
31	Training Program "Spectrum Frequency Management (SFM)" for Angkatan Tentera Malaysia	Trainer & Course Coordinator	14-7-2019 to 8-8-2019	UTM Johor Bahru	
32	Training Program "Advanced Spectrum Frequency Management (ASFM)" for Angkatan Tentera Malaysia	Trainer & Course Coordinator	24-8-2020 to 2-10-2020	MCMC, Cyberjaya, UTM Kuala Lumpur & UTM Johor Bahru	
33	ITU Centre Of Excellence Online Training Course on The Fifth Generation (5G) Radio Access Network Planning and Technology Coexistence	Trainer	22-Sep-2020	Online Training	
34	Short Course on "RF-EMF Radiation & Public Health: 5W1H" for Ministry of Health	Trainer & Course Coordinator	5-11-2020	Online Training	
35	Online Course on Human Exposure To Radio Frequency Electromagnetic Fields for SIRIM (Vot: UTIM 126)	Trainer	22-12-2020	Online Training	5,800.30

Commercialisation

NO	ROLE	NAME OF PRODUCT COMMERCIALISATION	DATE	TOTAL INCOME GENERATED (RM)
1	Researcher & Technical Consultant	WCC Broadband Wireless Bridging and High Speed Internet Solution Client: J-BioTech	PO Date: 20-4-2014	78,500.00
2	Researcher & Technical Consultant	WCC Broadband LTE-WiFi Mobile Hotspot CPE (24 units) Client: UTM Bus Fleet	PO Date: 20-11-2014	50,000.00
3	Researcher & Technical Consultant	WCC Broadband WiFi Network System Client: Kamal Engineering Sdn. Bhd.	PO Date: 15-9-2015	76.300.00
4	Researcher & Technical Consultant	WCC Broadband LTE-WiFi Mobile Hotspot CPE (1 unit) Client: Gates IT Solution Sdn. Bhd.	PO Date: 2-10-2015	3.750.00
5	Researcher & Technical Consultant	WCC Broadband Wireless Bridging and Access Point System Client: Malaysian Bio-XCell Sdn. Bhd.	PO Date: 3-12-2014	8,2500.00
6	Researcher & Technical Consultant	WCC Broadband Wireless Bridging and Access Point System Client: Malaysian Bio-XCell Sdn. Bhd.	PO Date: 18-1-2015	7,250.00



CHUA TIEN HAN

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Tien Han, Chua received his B.Sc. (Honours) degree in Electrical engineering and the Master of Electrical Engineering in Wireless Communication from the Universiti Teknologi Malaysia (UTM) in 2003 and 2007, respectively. He then joined UTM as a Tutor (2005-2007) and later as a Lecturer (2007-present) at the School of Electrical Engineering, UTM.

Tien Han is also a research fellow at Wireless Communication Centre (WCC), the Malaysian's HICoE in 5G communication. His main research interests include (1) radiowave propagation, (2) radio propagation channel measurement and modelling, (3) radio frequency electromagnetic frequency exposure (RF-EMF) exposure assessment, and (4) public education on RF-EMF radiation and health.

Besides academic teaching and research, he has wide experience in providing industry-oriented training, consultancy and contract research to both government agencies and telecommunication related industries, including ITU-Academy, Malaysian Communication and Multimedia Commission (MCMC), MCMC Academy, Ministry of Health, Suruhanjaya Tenaga Malaysia (ST), Tenaga Nasional Berhad (TNB) and others.

RECENT ACTIVITIES RELATED TO RF-EMF EXPOSURE AND PUBLIC HEALTH CONCERN:

Invited Speaker / In-house Training / Public Engagement Seminar

No.	Project	Type of Project	Client	Year
1	"Management of Public Awareness and Complaints on RF-EMF from Telecommunication Infrastructure", An industry training series for state and local agencies.	Contract Training	MCMC	2021
2	"Human Exposure to 5G Electromagnetic Fields: Guidelines, Measurement and Case Studies", ITU-CoE Training Program	Invited Speaker	ITU Academy	2021
3	"5G Technology – Opportunities & Challenges" ITU-CoE Training Program	Invited Speaker	ITU Academy	2021
4	"Human Exposure to 5G RF-EMF: Standards, Measurements & Compliance"	Contract Training	Ministry of Health	2021
5	"RF-EMF Radiation & Public Health: 5W1H"	Contract Training	Ministry of Health	2021
6	"RF-EMF Radiation & Public Health: 5W1H"	Contract Training	Ministry of Health	2020
7	"Overview of Human Exposure from Radiocommunication Base Stations and Devices to Radio Frequency Electromagnetic Fields"	Contract Training	Sirim	2020
8	"RF-EMF Are We Safe?", Digital Outlook Series 2019: Shaping the Digital Landscape, 5G Malaysia Showcase, Putrajaya, 20 Apr 2019. https://www.kkmm.gov.my/en/public/news/14874-bernama-20-april-2019-radiation-used-in-5g-technology-not-harmful-academician	Invited Speaker	MCMC	2019
9	"Human Exposure to Radio Frequency Electromagnetic Field" ITU-Academy Training Program, 3-5 Dec 2019	Invited Speaker	ITU Academy	2019
10	"Smart Meter And RF Radiation: Facts & Myths"	Invited Speaker	Suruhanjaya Tenaga	2019
11	TNB's media briefing session on the TNB smart meter installation at Klang Valley https://www.nst.com.my/news/nation/2019/09/525150/91-million-households-receive-tnb-smart-meter-2026	Invited Speaker Media Q&A	TNB	2019
12	"EMF Awareness Training Module in Communications and Multimedia Industry (Introductory Level & Advanced Level)", An industry training series for MCMC and relevant government agencies.	Contract Training	MCMC	2018

Research & Development

No.	Project	Type of Project	Role	Year
1	RF-EMF Exposure Assessment for 5G Radiocommunication Infrastructure in Malaysia – Methodology and Procedure	HICoE Research	<ul style="list-style-type: none"> ▪ Lead researcher 	2021 ~ current
2	Measurement of RF-EMF Exposure Level from 4G Base Stations in UTM Campus	HICoE Research	<ul style="list-style-type: none"> ▪ Lead Researcher 	2021
3	Measurement of RF-EMF Exposure Level from Smart Electric Metering Network (Phase 2)	Contract Research & Training (TNB)	<ul style="list-style-type: none"> ▪ Lead researcher ▪ Public awareness seminars ▪ Public engagement 	2019 ~ current
4	Measurement of RF-EMF Exposure Level from Smart Electric Metering Network (Phase 1)	Contract Research & Training (TNB)	<ul style="list-style-type: none"> ▪ Lead Researcher ▪ Public awareness seminars ▪ Public engagement 	2017 ~2019