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DESIGN AND IMPLEMENTATION OF MULTIPLATFORM INDOOR AND OUTDOOR TRACKING SYSTEM

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DESIGN AND IMPLEMENTATION OF MULTIPLATFORM INDOOR AND OUTDOOR TRACKING SYSTEM

by

FARHANA BINTI AHMAD POAD

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LIST OF ABBREVIATIONS

AC	Alternating Current
ACK	Acknowledge
ADC	Analog-Digital-Converter
AIE	Alarm Interrupt Enable
ANOVA	Analysis of Variance
API	Application Programming Interface
AT	Application Transparent
BCD	Binary-Coded Decimal
BRGH	High Baud Rate Select Bit
BS2	Basic Stamp 2
CDMA	Code Division Multiple Access
CPU	Central Process Unit
CS	Chip Select
CSMA-CA	Carrier Sense Multiple Access with Collision Avoidance
CTS	Clear To Send
DB	Decibel
DC	Direct Current
DH	Destination Address High
DL	Destination Address Low
DOE	Design of Experiment
DSSS	Direct Sequence Spread Spectrum
EEPROM	Electronically Erasable Programmable Read Only Memory
EM	Electromagnetic
EPC	Electronic Product Code
EUSART	Enhanced Universal Synchronous Asynchronous Receiver Transmitter
FCC	Federal Communications Commission
FCS	Frame Check Sequence
FDD	Frequency Division Duplex
FFD	Full Function Devices
FSK	Frequency Shift Keying
FHSS	Frequency Hopped Spread Spectrum

GIE	Global Interrupt Enable
GND	Ground
GPRS	General Packet Radio Service
GPS	Global Positioning System
GSM	Global System for Mobile
H2M	Human to Machine
HEX	Hexadecimal
HF	High Frequency
HSPA	High Speed Packet Access
I/O	Input/output
IC	Integrated Circuit
I^2C	Inter IC
ICSP	In-Circuit Serial Programming
IFF	Identify Friend or Foe
ID	Identification
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronic Engineer
INTCON	Interrupt Control Register
IOT	Internet of Things
IR	Impulse Radio
IR	Infra Red
ISM	Industrial Scientific Medical
ISO	International Standardization Organisation
ISR	Interrupt Service Routine
ITU	International Telecommunication Union
LAN	Local Area Network
LF	Low Frequency
LOS	Line-of Sight
MAC	Medium Access Control
MAN	Metropolitan Area Network
M2M	Machine to Machine
MCLR	Master Clear
MCU	Microcontroller Unit

MFR	MAC Footer
MHR	MAC Header
MPDU	MAC Protocol Data Unit
MSDU	MAC Service Data Unit
NFC	Near Field Communication
NLOS	Non-Line-of-Sight
NMEA	National Marine Electronics Association
OUI	Organizational Unique Identifier
PAN	Personal Area Network
P2P	Peer to Peer
P2P	Point to Point
PC	Personal Computer
PCB	Printed Circuit Board
PEIE	Peripheral Interrupt Enable
PGC	Programming Clock
PGD	Programming Data
PHR	Physical Header
PHY	Physical Layer
PIC	Programmable Interface Controller
PIR	Passive Infra Red
PLC	Programmable Logic Controller
POC	Proof of Concept
PPDU	PHY Protocol Data Unit
PSDU	PHY Service Data Unit
PWM	Pulse Width Modulation
RAM	Random Access Memory
RBIE	RB Interrupt Enable
RF	Radio Frequency
RFD	Reduced Function Devices
RFID	Radio Frequency Identification
ROM	Read Only Memory
RSSI	Received Signal Strength Indication
RTC	Real-Time Clock

RTF	Reader-Talks-First
RTLS	Real Time Location System
RTS	Ready To Send
RX	Receive Mode
SCLK	Serial Clock
SDI	Serial Data In
SDO	Serial Data Out
SHR	Synchronization Header
SI	Serial In
SM	Sleep Mode
SMS	Short Message System
SO	Serial Out
SP	Sleep Period
SPBRG	Synchronous Baud Rate Register Generator
SPI	Serial Peripheral Interface
SRD	Short Range Device
SS	Slave Select
ST	Time Before Sleep
TDMA	Time Division Multiple Access
TTF	Tag-Talks-First
TTL	Transistor Transistor Logic
TUT	Tag Under Test
TX	Transmit Mode
TXSTA	Transmit Status and Control
UART	Universal Asynchronous Receiver Transmitter
UHF	Ultra High Frequency
UID	User Identification
UML	Unified Modelling Language
USART	Universal Synchronous and Asynchronous Receiver Transmitter
USB	Universal Serial Bus
US DOD	United States Department of Defense
UWB	Ultra – Wide Band
VCC	Collector Common Voltage

VDD	Drain Voltage
WIFI	Wireless Fidelity
WLAN	Wireless Local Area Network
WMSN	Wireless Mesh Sensor Network
WPAN	Wireless Personal Area Network
WSN	Wireless Sensor Network
ZC	ZigBee Coordinator
ZED	ZigBee End Device
ZMN	ZigBee Mesh Networking
ZWMN	ZigBee Wireless Mesh Networking
ZR	ZigBee Router