1. GENERAL

1.1. All systems and components shall have been thoroughly tested and proven in actual use.

1.2. All systems and components shall be provided with the availability of a toll-free 24-hour technical assistance program (TAP) from the supplier. The TAP shall allow for immediate technical assistance for either the dealer/installer or the end user as long as the product is installed.

1.3. All systems and components shall be provided with a two-day turnaround repair express and parts replacement. The repair and parts express shall be guaranteed by the supplier on warranty and non-warranty items.

2. PRODUCTS

2.1. Features

2.1.1. The Smart home system shall at least, but not limited to, include the following modules or components:-

- Smart home gateway with built-in 720p HD camera
- Motion Sensor
- IR Extender
- Smart Plug (Plug in Switch)
- Contact Sensor
- Digital Door Lock (Push-pull and Mortise lock type)
- Door Lock Controller
- IP Camera
- Smart home mobile application (iOS and Andriod)

2.1.2. The Smart home system shall provide the following basic features;-

- Real-time monitoring and control of associated devices
- Intrusion detection and mobile push notification
- Up to 5 simultaneous mobile applications lock in
- Real-time streaming of video from built-in camera of the Smart home gateway to mobile app
- Video clips recording when motion is detected via the Smart home gateway built-in camera. Playback of recorded video shall be provided by mobile app
- Ability to set up Scenarios and create chains of conditional statements "IF This Then That(IFTTT)"

2.1.3. The Smart home gateway and its associated devices must be approved by authorized type approval agencies (e.g., Singapore IDA)

2.1.4. The Smart home gateway must be Z-Wave compatible and shall run on the operating frequency that is assigned for the country (e.g, Singapore: 868.42MHz)

2.1.5. The Smart home gateway shall be able to control Digital door locks of the following brand(s)

- Brand: SAMSUNG
- Model: SHP-DP728, SHP-DP727, SHS-P718, SHS-P717, SHS-H505

2.1.6. The Smart home gateway must be able to relay video stream from Video intercom to mobile app in real-time

2.1.7. The Smart home gateway shall fit in a back box (W:86mm x H:86mm) without any modification

2.1.8. The Smart home gateway shall provide min 8GB edge storage (MicroSD)

2.1.9. The viewing angle of the built-in camera of the Smart home gateway shall be 130 degree

2.1.10.　　　Scenario ("If and Then") shall work even though the internet connection to the public internet is not available.(However, the gateway power must be 'ON')

2.2. Manufactured Units/Products (model number/description table)

Description	Model Number
Trueeye Smart Home Gateway	HMSH100
PIR Motion Sensor	ZP3102EU-5
IR Extender	BW8377EU
Smart Plug (Plug in Switch)	TZ68E
Contact Sensor	ZD2102EU-5
Door Lock Controller	HMDM100
IP Camera	SNH-P6410BN
Trueeye Mobile App	-

2.3. Technical Description

2.3.1. Trueeye Smart Home Gateway

2.3.1.1.	Model	HMSH-100
2.3.1.2.	Make	Hanman Technology
2.3.1.3.	Protocol	Z-WAVE™ (ZM5304-E), Wi-Fi 801.11b/g/n

- Z-WAVE range up to 30m in open space
- Wi-Fi range up to 10m in open space

2.3.1.4.	Frequency	Z-WAVE™ 868.42MHz, Wi-Fi 2.4GHz
2.3.1.5.	Max. Radiated Power	+4 dBm
2.3.1.6.	Camera	HD 720P (Max 30fps)
2.3.1.7.	Angular View	120 degree diagonal viewing angle
2.3.1.8.	Power Supply	5V
2.3.1.9.	Power Source	AC Power Adaptor
2.3.1.10.	Power Consumption	1.5A
2.3.1.11.	Dimension(mm)	86 x 86 x 29
2.3.1.12.	Operation Temperature	0-50 Degrees
2.3.1.13.	Event Recording	

- 720p HD Camera
- MP4 format in micro SD card
- Streaming VGA 640 x 480 (MJPEG)
- Playback via Trueeye mobile app at 720p (H.264)

2.3.1.14. Features:

- Real time monitoring & control of installed devices
- Intrusion detection & notification via Push Message
- Event Alert & video recording
- Multi-user log-in & control by Smart Phones
- Gateway connection to internet through user's Wi-Fi router
- Support Android and i-OS Smart Phone
- Built-in camera for real time viewing
- Mounting on wall or ceiling using back box

2.3.1.15. Certifications and Test Report

- CE
- EMC Test Report

2.3.2. PIR Motion Sensor

2.3.2.1.	Model	ZP3102EU-5
2.3.2.2.	Protocol	Z-WAVE ™ (ZM5202) Up to 30meters in open space

2.3.2.3.	Frequency	868.42MHz
2.3.2.4.	Operation Temperature	-10~40 Degrees
2.3.2.5.	Working Voltage	3V
2.3.2.6.	Dimension (mm)	84 x 62 x 50
2.3.2.7.	Battery	1 x CR123A Lithium Battery
2.3.2.8.	Features:	

- Passive Infrared Sensor (PIR)
- 120 degree Horizontal Angle Coverage Horizontal Angle
- 2~10 meters Motion range
- 3~5 years Battery Life by years triggered by 20 times per day
- Flexible Installation Angle design(Flat to 90 degree)
- Hidden Tamper Prevention Trigger
- LED Status Indicator

2.3.2.9.   Certifications & Test Report

- CE
- EN 62479 Test Report

2.3.3. IR Extender

2.3.3.1.	Model	BW8377EU
2.3.3.2.	Protocol	Z-WAVE ™ (ZM5202)
		Up to 30 meters in Open Space
2.3.3.3.	Frequency	868.42MHz
2.3.3.4.	IR emitter Range	Up to 7.5 meters line of sight in Unobstructed environment
2.3.3.5.	Operating Temperature	0 to 40 Degrees
2.3.3.6.	Working Voltage	5V
2.3.3.7.	Power	USB Power DC 5V 100mA or Dry battery AAA x 3pcs
2.3.3.8.	Power Consumption	100mA
2.3.3.9.	Dimension	Diameter=70mm, Thickness =33.5mm

2.3.3.10. Feature

- Built-in temperature sensor
- Built-in 5 direction IR emitters (hemispherical coverage), plus 3.5mm jack for external wired IR emitter
- Built-in AC IR code library with Configuration Learning capability
- Programmable power level (LOW or HIGH) for external IR emitter to avoid saturation of IR receivers
- Dual mode (FLiRS mode when working on battery, Always Listening mode when work on AC power)
- Dismountable battery box

2.3.3.11. Certification and Test Report
- CE
- TUV Radio Test Report
- TUV Safety test report for R&TTE approval

2.3.4. Smart Plug

2.3.4.1.	Model	TZ68E
2.3.4.2.	Standby power	0.5W Switch/LED Off, No load
2.3.4.3.	Operating power	1.0W Switch/LED On, No load
2.3.4.4.	Overload	14.5A
2.3.4.5.	Supply voltage	90 ~ 260 VAC
2.3.4.6.	LED Indicator	1 Red LED on the top side
2.3.4.7.	RF	Z-WAVE™ 500 series Module, 100M in open space
2.3.4.8.	RF frequency	868.4MHz, 868.4MHz, 869.85MHz (EU) 908.4MHz,916.0MHz(USA) 922~927 MHz (Taiwan/JP) 868.4Mhz (SG)
2.3.4.9.	Output current	13A (Resistive Load)
2.3.4.10.	Output power	3000W (Resistive Load)
2.3.4.11.	Protection	Zero Crossing Design

2.3.4.12. Measurement

Measurement Error	3W(Under 40W)
Measurement Error Rate	5%(Under 40W)

2.3.4.13. Mechanical

Dimension(mm)	110(L) x 110(W) x19(H)
Weight	115.2 g (PAN11-1)

2.3.4.14. Environment

Operation Temperature	5~35 (degree Celsius)
Humidity	85%RH max

2.3.4.15. Features

- Z-Wave 500 series module for higher output power to enhance the communication range (+5dBm output power as compared to -2.5dBm 300 series)
- Easy install overload protection
- Auto report switch states when manually push the ON/OFF button Auto report the wattage when variation over 5%
- Voltage, current, power factor, instant power wattage and accumulated power consumption KWh report EN 300 220-2 EN 301 489-1, EN 301 489-03 EN 68479:2010 EN 61058-

1:2002+A2 EN 61000-6-3, EN 61000-6-1 R&TT FCC Part 15 B
FCC Part 15 C

2.3.4.16. Certification and Test Report
- CE

2.3.5. Contact Sensor

2.3.5.1.	Model	ZD2102EU-5
2.3.5.2.	Protocol	Z-WAVE ™ (ZM5202)
		Up to 30 meters in Open Space
2.3.5.3.	Frequency	868.42MHz
2.3.5.4.	Operating Temperature	-10 to 40 Degrees
2.3.5.5.	Working Voltage	3V
2.3.5.6.	Power	1x CR123A Lithium Battery
2.3.5.7.	Power Consumption	<4uA
2.3.5.8.	Dimension(mm)	88 x 25 x 21

2.3.6. Door Lock Controller

2.3.6.1.	Model	HMDM100
2.3.6.2.	Make	Hanman Technology
2.3.6.3.	Communication Protocol	Z-WAVE ™ (ZM5202)
2.3.6.4.	Frequency	868.42MHz
2.3.6.5.	Max. Radiated Power	0dBm
2.3.6.6.	Power Supply	3.3V
2.3.6.7.	Power Consumption	<50mA
2.3.6.8.	Dimension(mm)	57(W) * 18.5(H) * 11.5(D)
2.3.6.9.	Operation Temperature	0-50(degree Celsius)

2.3.6.10. Features:
- Support Push-Pull and Mortise type of Samsung Digital Door locks (Samsung SHS-H505,SHS-P717,SHS-P718,SHP-DP727,SHP-DP728)
- Mounting onto door lock's existing receiver compartment
- Power from the digital door lock
- Low power consumption and low battery alert
- Remote control of lock and unlock
- Remote monitoring of lock status, battery level and user entry logs
- Alert signal for intruder and unauthorized attempts to access

2.3.6.11. Certification and Test Report
- CE
- EMC Test
- Safety Test

2.3.7. IP Camera

2.3.7.1.   Model   SNH-P6410BN

2.3.7.2.   Make   Hanwha Techwin

2.3.7.3.   Video

- Imaging Device: 1/2.8" 2M CMOS
- Effective Pixels: 1944(H) x 1224(V)
- Scanning System: Progressive
- Compression: H.264, Motion JPEG
- Multiple Streaming (Up to 4 Profiles)

2.3.7.4.   Audio

- Audio I/O: Built in Spk/Mic
- Audio Compression Format: G.711, G726
- Audio Communication: Bi-directional(Half duplex)

2.3.7.5.   Lens

- Focal Length (Zoom Ratio): 2.8mm
- Angular Field of View: D: 128° , H:111°, V:62°
- Focus Control: Fixed Lens

2.3.7.6.   Wireless Protocol   Wi-Fi: 802.a/b/g/n (dual-band), Max 30m

2.3.7.7.   Low light   0.3 Lux(color), 0 Lux (B/W)

2.3.7.8.   IR-LED   850nm, Viewable Length 5m

2.3.7.9.   Day & Night   True D&N

2.3.7.10. Digital Zoom   4x

2.3.7.11. Intelligent Video Analytics   3 Motion Zone

2.3.7.12. Memory Slot   microSDXC, up to 64GB

2.3.7.13. Security   SSL(AES 256bit)

2.3.7.14. Dimension(mm)   83.9 x 118.6 x 44.5

2.3.7.15. Power Supply   5VDC,max 2.2A, Adapter

2.3.7.16. Features

- WiseNet III Technology from Samsung CCTV

2.3.7.17. Certification and Test Report

- CE
- FCC

2.4. Trueeye Mobile App

2.4.1. Mobile Application OS Requirement

- Trueeye Application ("TrueEye")
- Andriod version 5.0 and above
- iOS version 8.0 and above

2.4.2. Trueeye Mobile App allows users to control and monitor Trueeye Smart Home System and shall have the following minimum capabilities

2.4.2.1.   The Mobile App shall run on both iOS and Android

2.4.2.2.   The Mobile App shall allow users to create user account. Changing password and Deactivating user account shall be available after creating user account.

2.4.2.3.   The Mobile App shall allow users to set up Internet connection by assigning Gateway Name, Serial Number, Router SSID, Router Password

2.4.2.4.   The Mobile App shall allow users to add or remove devices

2.4.2.5.   The Mobile App shall provide sub menus for user to control associated devices such as Lights, Door Lock, Built-in Camera, IP camera, Air-conditioner, Remote Control, Curtains, Sensors, Event, Customize, Scene, and Settings

2.4.2.6.   The Mobile App shall provide Coming Home and Leaving Home button in order to activate a series of customizable controls when pressing Coming Home or Leaving Home

2.4.2.7.   The Mobile App shall allow users to switch to security mode ("Arm Mode"). When the Arm Mode is activated, mobile push notifications and alarm shall be sent to users in real-time when any events are detected by pre-configured sensors or devices

2.4.2.8.   Event and push notifications shall be traced by the Mobile app

2.4.2.9.   The Setting page shall be in ease of use and provide the following capabilities

- Add/Remove devices
- Device Association
- Unreachable device management
- Time zone setting
- Sound notification on/off
- Voice on/off
- Push notification ono/off
- Version check
- Auto Login on/off
- Restart the gateway

3. WARRANTY

3.1. The Smart Home System shall come with at least one(01) year warranty as follow;-

Description	Warranty in Years
Trueeye Smart Home Gateway	1
PIR Motion Sensor	1
IR Extender	1
Smart Plug (Plug in Switch)	1
Contact Sensor	1
Door Lock Controller	1
IP Camera	1