

PV

Sample

Packet

Single Family Homes

(Paired home)

Required Documentation

1. Plot Plan

2. Panel Layout w/required verbiage:

“No conduit, j-box or racks will be visible on the roof. All conduit will be routed through the attic and all panels will be flush mounted.”

3. Conduit Run: Conduit must run in a straight line down from the attic (must show attic entry point) to the equipment, then along the base of the home to the HECO meter and disconnect. Must show full conduit run (conduit must be flushed to trim, window trim or at base of home) & is painted to match existing color of the home.

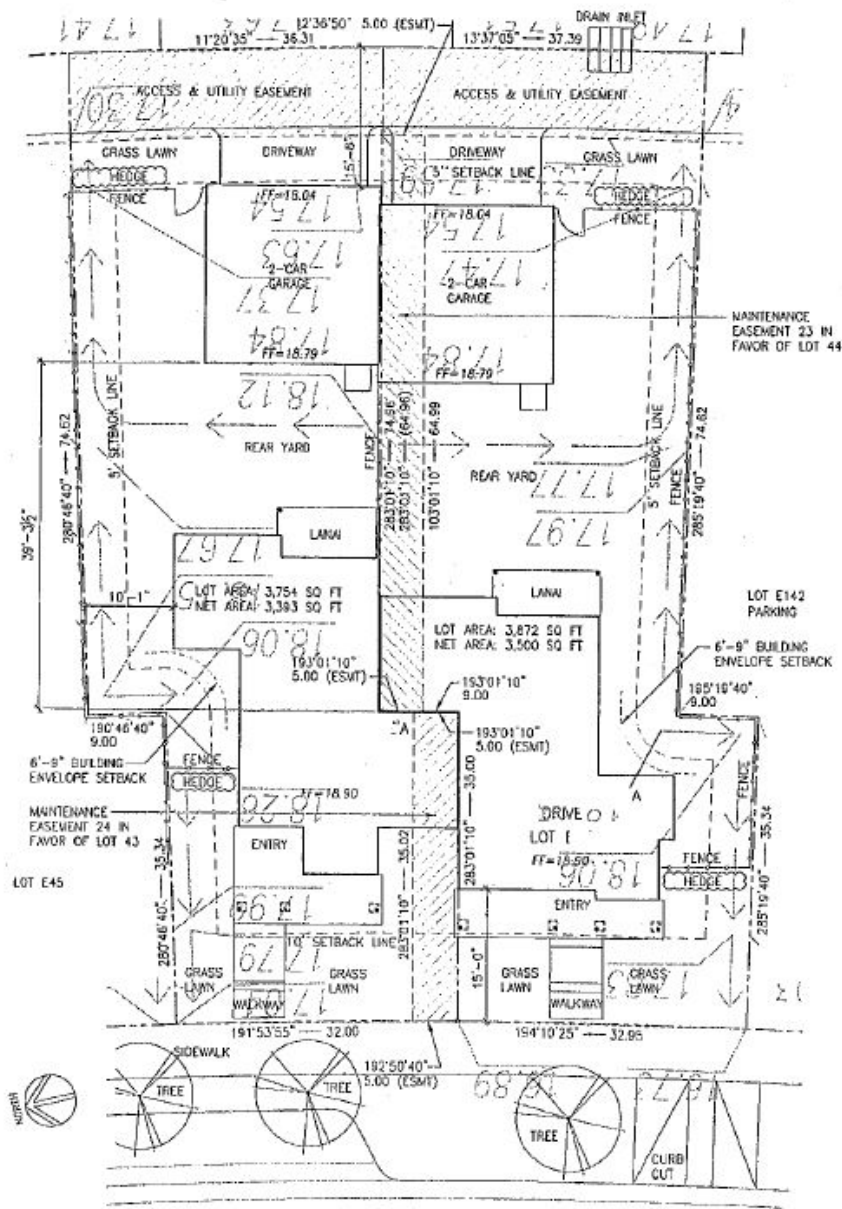
4. Color Photo Schematics: Must submit color photos of panel placement, equipment & conduit location to match Elevation Layout.

5. Equipment Elevation: All back & front equipment must be located below the fenceline & is painted to match existing color of home. Elevation Layout must match color photo schematics; Front conduit must fit between wall & fence. Conduit cannot go over fence & must be trenched at least 18” deep to back equipment; Only AC Disconnect & CGS Meter can be located next to HECO Meter.

5. Design Variances: If the proposed improvement has significant merit, the DRC may issue an approval together with a variance approval notice.

6. Equipment Spec Sheets: Provide all Manufacturer Specifications of all equipment & Panel.

DPP Approved Plot Plan



LEGEND

PROPERTY LINE (PL)	ACCESS/UTILITY EASEMENTS	FF = 25.00	FLOOR FLOOR ELEVATION
SETBACK LINE	EASEMENTS	16.50 - 27.25	LOT DIMENSIONS
FENCE	SINGLE SIGN	19.57	DRAINAGE DIRECTION/DRAIN
STEAK GATE	DRAIN INLET/CRUISE		FINI GROUND ELEVATION (SEE CIV.)
CONCRETE PAD	UTILITY BOX		REVISED FINI GROUND ELEVATION

PLOT PLAN

NOTE: NET AREA IS EXCLUSIVE OF THE ACCESS & UTILITY EASEMENT ONLY.

THIS IS A PRELIMINARY PLOT PLAN WHICH SELLER INTENDS TO USE TO OBTAIN THE BUILDING PERMIT FOR THE IMPROVEMENTS SHOWN ON THE PLAN. THIS PLOT PLAN IS FURNISHED TO ILLUSTRATE THE APPROXIMATE LOCATION AND LAYOUT OF THE IMPROVEMENTS AS CURRENTLY PLANNED BY SELLER. THE ACTUAL IMPROVEMENTS MAY NOT BE CONSTRUCTED EXACTLY AS DEPICTED IN THIS PLOT PLAN.

Ke'aloahi Kai at Ocean Pointe 

Area III-E Lot No. - Model -

Bldg Type: _____ Elevation: _____

Date: 07/28/06

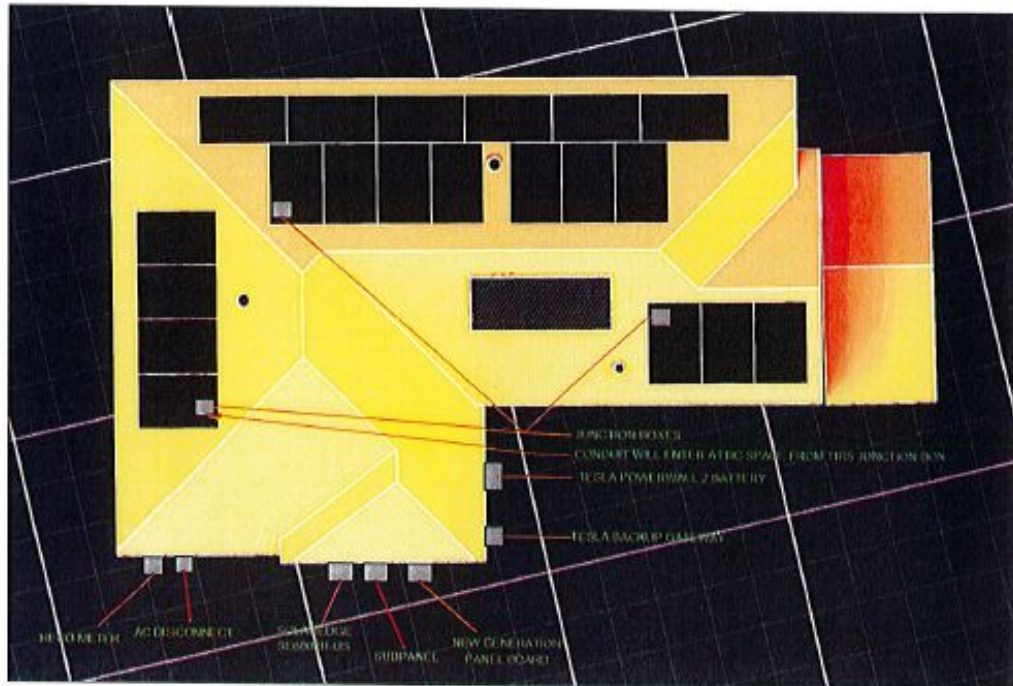
PURCHASER'S DATE _____

EXHIBIT B

Panel Layout

****No conduit, j-box or racks will be visible on the roof. All conduit will be routed through the attic. Panels will be flush mounted****

PANEL LAYOUT



NO CONDUIT, J-BOXES OR RACKS WILL BE VISIBLE ON THE ROOF
 ALL CONDUIT WILL BE ROUTED THROUGH ATTIC
 PANELS WILL BE FLUSH MOUNTED
 NO PANELS WILL BE FACING THE FRONT OF THE HOME
 NO FLASHINGS WILL BE EXPOSED ON ROOF

SOLAREGE POWER OPTIMIZERS WILL BE INSTALLED UNDER EACH MODULE.

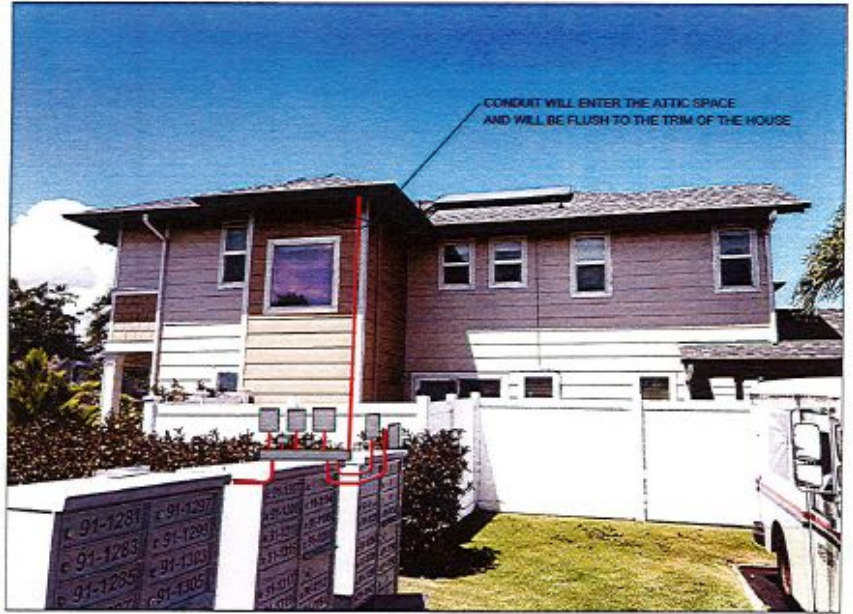
PV Modules- UL Approved	
Manufacturer	REC SOLAR
Model	REC320NP
Electrical Specifications	
Rated Power Output @STC	320W
Open Circuit Voltage (Voc)	40.8W
Maximum Power Voltage (Vmp)	34.2W
Short Circuit Current (Isc)	10.18W
Maximum Power Current (Imp)	9.37W

	TMK:	20 PV MODULES 6.4KW SYSTEM	CONTRACTOR:
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NOTE:
 1. ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL ORDINANCES.
 2. ALL WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE LOCAL AUTHORITY.
 3. ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.

Conduit Run

CONDUIT RUN

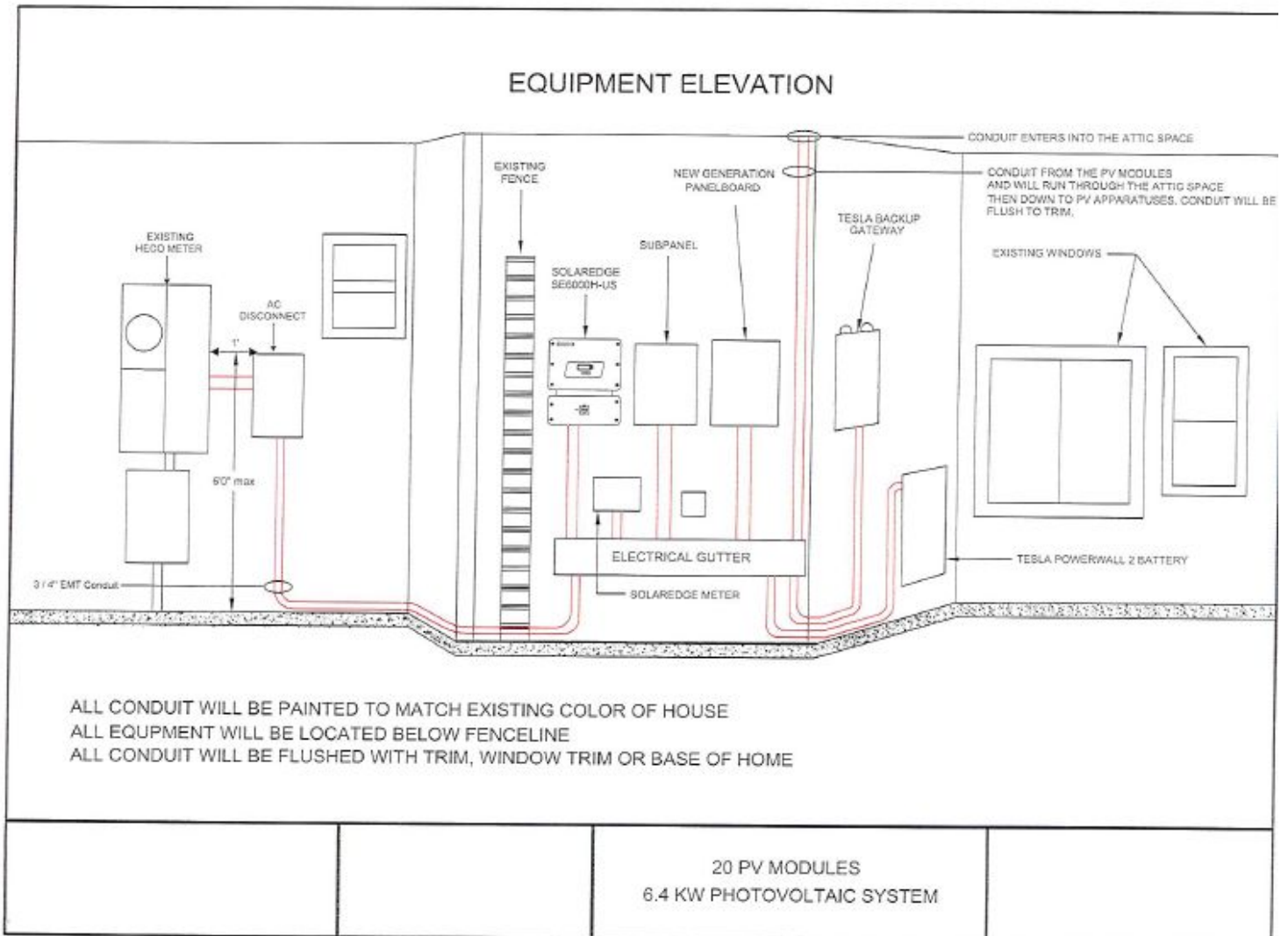


CONDUIT WILL ENTER THE ATTIC SPACE
AND WILL BE FLUSH TO THE TRIM OF THE HOUSE

ALL CONDUIT WILL BE PAINTED TO MATCH EXISTING COLOR OF HOUSE
ALL EQUIPMENT WILL BE LOCATED BELOW FENCELINE

20 PV MODULES
6.4 KW PHOTOVOLTAIC SYSTEM

Equipment Elevation



Spec Sheets

EGUANA AC BATTERY™

BATTERY READY
COMMAND READY
SYSTEM CERTIFIED

ENERGY STORAGE IN YOUR CONTROL

Egana's AC Battery is a certified, grid ready power control solution pre-integrated with industry leading Li-Ion batteries. Our solution can be seamlessly integrated with a local energy management system or a distributed fleet control network using open communication protocols to provide a fully functional energy storage installation.

- Provides superior performance in utility grid applications, including:
 - PV Self Consumption
 - Frequency Regulation
 - Demand Response
 - Feeder Voltage Support



- Reliable, high quality back-up power when you need it via an integrated transfer circuit for critical load operation

- Command the Egana AC Battery via Sunspec-compliant Modbus interface using a third party energy management system/gateway

- LG Chem Li-Ion batteries with fully integrated battery management system



- Flexible battery capacities from two to six LG Chem battery modules



powered by
LG Chem

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EGUANA AC BATTERY™

AC Specifications

Nominal AC Voltage / (Range)	240/208 V, split-phase / (211 to 264 VAC)
Nominal AC Frequency / (Range)	60 Hz / (59.3 to 61.5 Hz)
Rated AC Output Power / Current	5000 VA / 20.8 Amps
Max. Rated AC Current Protection - Grid	60A
Max. Rated AC Current Protection - Load	60A
Max. Rated AC Current Protection - PV	60A
Power Factor	Fixed, or adjustable: 0.8 lead to 0.8 lag
Harmonic Distortion	< 5 %
Efficiency, peak (avg.), %	96 (94.5)
Galvanic Isolation	Integrated transformer

Battery Specifications

Manufacturer / Chemistry / Model	LG Chem / Lithium type / M4812BP35x
Rated AC Energy (kWh)	6 12 18 24 30 36
Maximum Capacity (6.5C) Ah	63 126 189 252 315 378
Charge/Discharge current	0.5C Max. 0.3C Norm.
DC Volt Operating Range	42 to 58.8
Cycle Life (90% DOD, 0.5C, 25°C)	4000
Battery BMS	Built-in (self-diagnostic, control, and protection)
Communication	Modbus RS-485

General - Functions / Features

External Communication	Modbus RS-485 (optional: Zigbee)
HM / Display	Battery State LED, Operating state LED, Wake/Sleep mode
DC Protection	Integrate 180 Amp Circuit Breaker
Lightning Protection	IEEE 62.14.2, Location Category B, Low exposure
Grid Monitoring	Active in all states
Ground Fault Monitoring	DC grounded system configuration
Configurable Grid Invert Functions	Power reduction, reactive power control
Auxiliary Dry Contacts, x2	Voltage and frequency ride through control (CPUC Rule 21)
Back up power critical load pass-through	240V, 60A rated, programmable
PV coupling method	240V, 60A rated, 120V / 120A AC

AC Coupled Performance

Grid Connect: Max power response rate	zero to full scale (up/down) = 1 second max
Grid Connect: Step control resolution	5 W (0.1% full scale)
Back-up Power surge rating	100% continuous, 120% (30 minute), 170% (5 seconds)
Transfer power internet time	Back-up to grid: no interrupt, Grid to backup: 2 seconds
Self consumption (Watts) sleep / operating	3 Watts / 30 Watts

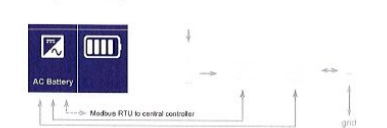
Mechanical Specifications

Operating temperature / humidity	-18 to 42°C / 95% (non-condensing)
Enclosure type	NEMA 3R, Walkout (Indoor/Outdoor)
Cooling	PCS: active cooling, Battery: convection
PCB dimension / weight	625 x 783 x 397 mm (20.7" x 30.8" x 15.6") / 65 kg (145 lbs)
Battery dimension / weight (per 60Wh)	572 x 783 x 397 mm (22.5" x 30.8" x 15.6") / 85 kg (188 lbs)

Standards / Certifications / Warranty

EMC	FCC, part 15-B
Utility Interface and safety	UL 1741SA, IEEE 1547, UL 1973, Rule 21 (CA), Rule 14H (RI)
Warranty	10 year standard warranty

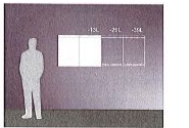
AC Coupled PV System with Egana AC Battery



About Egana Technologies
Based in Calgary, Alberta, Canada, Egana Technologies (EGT: TSX.V) designs and manufactures high performance power electronics for residential and commercial energy storage systems. Egana has more than 15 years experience delivering grid edge power electronics for fuel cell, photovoltaic and battery applications, and delivers proven, durable, high quality solutions from its high capacity manufacturing facilities in Europe and North America. With thousands of its proprietary energy storage inverters deployed in the European and North American markets, Egana is the leading supplier of power controls for solar self-consumption, grid services, and demand charge applications at the grid edge.



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LG NeON R LG36001CA5

Innovation for a Better Life

60 cell

LG NeON R is in new product class with global top level performance. Applied new cell structure without electrodes on the front, LG NeON R maximized the utilization of light and enhanced its reliability. LG NeON R demonstrates LG's efforts to increase customer's value beyond efficiency. It features enhanced warranty, durability, performance under real environment, and aesthetic design suitable for roofs.

- Enhanced Warranty**
LG now offers 25 years product warranty to accommodate performance warranty as well. LG NeON R has an enhanced performance warranty. After 25 years, LG NeON R is guaranteed at least 87.0% of initial performance.
- Aesthetic Roof**
LG NeON R has been designed with aesthetics in mind. Its electrode on the front that enables new product more aesthetic. LG NeON R can increase the value of a property with its modern design.
- Better Performance on a Sunny Day**
LG NeON R now performs better on a sunny days thanks to its improved temperature coefficient.
- High Power Output**
The LG NeON R has been designed to significantly enhance its output making it efficient even in limited space.
- Outstanding Durability**
With its newly reinforced frame design, LG NeON R can endure a front load up to 6000 Pa, and a rear load up to 5400 Pa.
- Near Zero LID (Light Induced Degradation)**
The n-type cells used in LG NeON R have almost no boron, which may cause the initial performance degradation, leading to less LID.

Mechanical Properties	Electrical Properties (STC*)
Cells	6x10
Cell Vender	LG
Cell Type	Monocrystalline / N-type
Cell Dimensions	183.7 x 183.7 mm (6.9 inches)
Dimensions (L x W x H)	1200 x 1516 x 40 mm
Front Load	6000Pa / 13.3 psf
Rear Load	5400Pa / 11.3 psf
Weight	18.5 kg / 40.79 lb
Connector Type	M5.6
Junction Box	IP68 with 3 bypass diodes
Length of Cables	1200 mm x 2 in
Glass	High Transmittance Tempered Glass
Frame	Anodized Aluminum
Module	360
Maximum Power (Pmax)	355
MPP Voltage (Vmpp)	38.5
MPP Current (Impp)	9.21
Open Circuit Voltage (Voc)	42.7
Short Circuit Current (Isc)	10.79
Module Efficiency	20.8
Operating Temperature	-40 to +85
Maximum System Voltage	1500
Maximum System Power Rating	357
Power Tolerance (%)	± 0.3

Certifications and Warranty

Certifications	IEC 61215, IEC 61230-1/2, UL 1703, IEC 61701 (Rohs and cadmium free), IEC 62103 (Anti-radiation electromagnetic), ISO 9001
Module Fire Performance (USA)	Type 1
Fire Resistance Class (CANADA)	Class C (UL / DHD-C1 703)
Product Warranty	25 years
Output Warranty of Power	Linear warranty**

Temperature Characteristics

NOCT	45 ± 3 °C
Temp	-40 to 85 °C
Wet	-0.24 / %/°C
Dc	0.01 / %/°C

Characteristic Curves



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Product specifications are subject to change without notice.
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