DFS Test Report

Report No.: RFBGSN-WTW-P20080589-12

FCC ID: NKS-MA1BA1TE1

Test Model: Trimble Gateway-MA1, Trimble Gateway-BA1, Trimble Gateway-TE1
(refer to item 3.1 for more details)

Received Date: Aug. 29, 2020

Test Date: Oct. 15, 2020

Issued Date: Nov. 13, 2020

Applicant: PeopleNet Communications Corporation

Address: 4400 Baker Road, Minnetonka Minnesota 55343-8684 United States

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN

FCC Registration / Designation Number: 788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RFBGSN-WTW-P20080589-12	Original Release	Nov. 13, 2020

1   Certificate of Conformity

Product:	Trimble Gateway NA
Brand:	Trimble
Test Model:	Trimble Gateway-MA1, Trimble Gateway-BA1, Trimble Gateway-TE1 (refer to item 3.1 for more details)
Sample Status:	Engineering Sample
Applicant:	PeopleNet Communications Corporation
Test Date:	Oct. 15, 2020
Standards:	FCC Part 15, Subpart E (Section 15.407)
References Test Guidance:	KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02
	KDB 905462 D03 Client Without DFS New Rules v01r02

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : _Vera Huang_ , **Date:** Nov. 13, 2020

Vera Huang / Specialist

Approved by : , **Date:** Nov. 13, 2020

Dylan Chiou / Senior Project Engineer

2 EUT Information

2.1 Operating Frequency Bands and Mode of EUT

Table 1: Operating Frequency Bands and Mode of EUT

Operational Mode	Operating Frequency Range	
	5250~5350MHz	5470~5725MHz
Client without radar detection and ad hoc function	✓	✓

2.2 EUT Software and Firmware Version

Table 2: The EUT Software/Firmware Version

No.	Product	Model No.	Software/Firmware Version
1	Trimble Gateway NA	Trimble Gateway-MA1, Trimble Gateway-BA1, Trimble Gateway-TE1	1.363 RC125.17 wl0: Dec 14 2017 22:58:32 version 7.45.100.10(r679648 CY)FWID 01-e8d4c160

Note:

1. The difference between all models are listed as below.

Ant.	Brand	Model	Ant. Type	Remark	EUT Model		
					Trimble Gateway-MA2	Trimble Gateway-BA2	Trimble Gateway-TE2
WWAN Antenna 1	TAOGLAS	PCS.06.A	SMD Antenna	Internal, Main Antenna	V		V
WWAN Antenna 2	TAOGLAS	PCS.06.B	SMD Antenna	Internal, Aux. Antenna	V	V	V
WWAN Antenna 3	TAOGLAS	MA240.LBI.001	Adhesive Mount Combination Antenna	External, Main Antenna	V		
WWAN Antenna 4	TAOGLAS	MA240.LBI.001	Adhesive Mount Combination Antenna	External, Aux. Antenna	V		
WWAN Antenna 5	PACCAR	PP407031	Exterior-mount Antenna	External, Main Antenna		V	
WLAN Antenna	TAOGLAS	FXP826.07.0120C	FPC Antenna	--	V	V	V

Module	Brand	Model	EUT Model		
			Trimble Gateway-MA2	Trimble Gateway-BA2	Trimble Gateway-TE2
BT/WLAN Module	msi	BM25	V	V	V
WWAN Module	Quectel	EC25-A	V	V	V

2. Since the sample 'Trimble Gateway-PA1, Trimble Gateway-MA1, Trimble Gateway-BA1, Trimble Gateway-TE1 have the same layout, circuit, and components, but different WWAN antenna. Due to no effect on any test items, the test result please refer to BV CPS report no. RFBGSN-WTW-P20080589-3.

2.3 Description of Available Antennas to the EUT

Table 3: Antenna List

Ant. No.	Antenna Type	Operation Frequency Range (MHz)	Max. Gain (dBi)
1	FPC	5250-5350	1.22
1	FPC	5470-5725	3.58

Note: The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

7. Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The address and road map of all our labs can be found in our web site also.

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