

FCC PART 15 B TEST REPORT

For

Interglobe Connection Corp

8228 NW 30th Terrace, Doral, Florida, United States

FCC ID: 2AC7ISOLEC22N

Report Type: Product Name:
Original Report Mobile phone

Report Number: RDG170710013-00A

Report Date: 2017-08-17

Jerry Zhang

Reviewed By: EMC Manager

Test Laboratory:

Bay Area Compliance Laboratories Corp. (Dongguan)

Jerry Zhang

No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China

Tel: +86-769-86858888 Fax: +86-769-86858891

www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp.(Dongguan).

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *Interglobe Connection Corp*'s product, model: *C22 (FCC ID: 2AC7ISOLEC22N)*, which was measured approximately:111 mm (H) x 47 mm (W) x 13.9 mm (H), rated input voltage: DC3.7V from battery or DC 5V from adapter. The highest operation frequency is 2480 MHz.

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Adapter Information:

INPUT: AC 100-240V, 50/60Hz OUTPUT: DC 5V, 500mA

All measurement and test data in this report was gathered from production sample serial number: 170710013 (Assigned by BACL Dongguan). The EUT was received on 2017-07-11.

Objective

This test report is prepared on behalf of *Interglobe Connection Corp* in accordance with Part 2, Subpart J, and Part 15-Subparts A and B of the Federal Communications Commission's rules.

The objective of the manufacturer is to determine the compliance of EUT with FCC Part 15 B Class B.

Related Submittal(s)/Grant(s)

FCC Part 15C DSS submissions with FCC ID: 2AC7ISOLEC22N . FCC Part 22H, 24E PCE submissions with FCC ID: 2AC7ISOLEC22N .

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Dongguan).

Measurement Uncertainty

Parameter	Measurement Uncertainty
Unwanted Emissions, radiated	30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical 1G~6GHz: 4.45 dB, 6G~18GHz: 5.23 dB
Temperature	±1℃
Humidity	±5%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

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Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China

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Bay Area Compliance Laboratories Corp. (Dongguan) has been accredited to ISO 17025 by CNAS(Lab code: L5662). And accredited to ISO 17025 by NVLAP(Test Laboratory Accreditation Certificate Number 500069-0), the FCC Designation No. CN5002 under the KDB 974614 D01.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Bay Area Compliance Laboratories Corp. (Dongguan) was registered with ISED Canada under ISED Canada Registration Number 3062D.

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SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

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EUT Exercise Software

The software "winthrax.exe" was used during test.

Equipment Modifications

No modification was made to the EUT tested.

Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	Laptop	PP11L	QDS-BRCM1017
НР	Printer	Printer C3941A JPTVOB2337	
DELL	Keyboard	L100	CNORH656658907BL05DC
SAST	Modem	AEM-2100	0293
SAMSUNG	TF Card	N/A	N/A

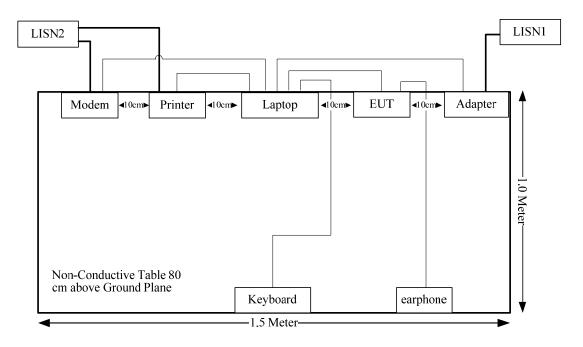
Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	То
Serial Cable	yes	No	1.2	Serial Port of Laptop	Modem
Parallel Cable	yes	No	1.2	Parallel Port of Laptop	Printer
Keyboard Cable	yes	yes	1.8	USB Port of Laptop	Keyboard
USB Cable	Yes	No	0.81	EUT	Laptop
Earphone Cable	No	No	0.86	EUT	Earphone

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Configuration of Test Setup



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SUMMARY OF TEST RESULTS

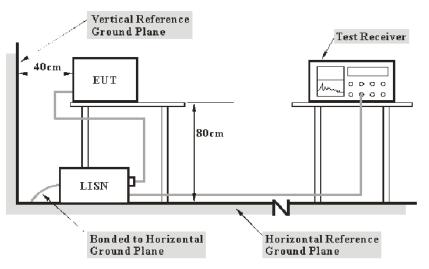
FCC Rules	Description of Test	Results
§15.107	Conducted Emissions	Compliance
§15.109	Radiated Emissions	Compliance

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FCC§15.107 - CONDUCTED EMISSIONS

EUT Setup



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Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15 B Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The adapter was connected to the Main LISN with 120V/60Hz AC power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W	
150 kHz – 30 MHz	9 kHz	

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Test Equipment List and Details

Manufacturer	Description Model Serial Number		Calibration Date	Calibration Due Date	
R&S	EMI Test Receiver	ESCS 30	830245/006	2016-12-08	2017-12-08
R&S	L.I.S.N	ESH2-Z5	892107/021	2016-09-01	2017-09-01
R&S	Two-line V-network	ENV 216	3560.6550.12	2016-12-08	2017-12-08
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A
Unknown	Coaxial Cable	2m	Con-1	2016-09-01	2017-09-01

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Test Procedure

During the conducted emission test, the adapter of laptop was connected to the outlet of the first LISN and the other support equipments were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

 $V_C = V_R + A_C + VDF$

Herein,

V_C: corrected voltage amplitude

V_R: reading voltage amplitude

A_c: attenuation caused by cable loss

VDF: voltage division factor of AMN or ISN

The "Margin" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

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^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15 B Class B.

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Test Data

Environmental Conditions

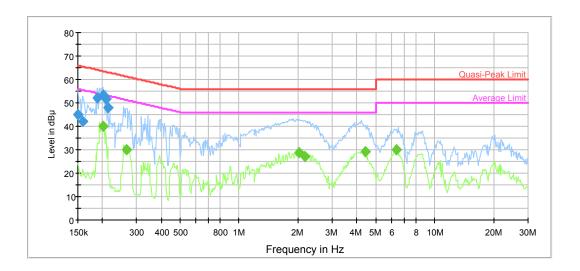
Temperature:	26.6 °C
Relative Humidity:	48 %
ATM Pressure:	99.9 kPa

The testing was performed by Gaochao Gong on 2017-08-10.

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Test Mode: Downloading

AC120V, 60Hz, Line:



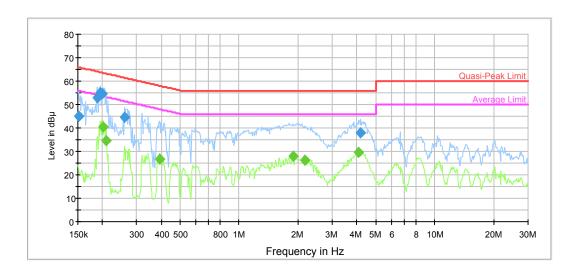
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Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	45.1	9.000	L1	11.2	20.9	66.0	Compliance
0.158604	42.2	9.000	L1	11.1	23.3	65.5	Compliance
0.188994	51.9	9.000	L1	10.7	12.1	64.1	Compliance
0.201433	53.5	9.000	L1	10.6	10.1	63.6	Compliance
0.209621	51.7	9.000	L1	10.6	11.5	63.2	Compliance
0.212988	48.1	9.000	L1	10.5	15.0	63.1	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.203045	39.9	9.000	L1	10.6	13.6	53.5	Compliance
0.266226	30.1	9.000	L1	10.3	21.1	51.2	Compliance
2.030886	28.9	9.000	L1	9.7	17.1	46.0	Compliance
2.164561	27.1	9.000	L1	9.7	18.9	46.0	Compliance
4.399032	29.0	9.000	L1	9.8	17.0	46.0	Compliance
6.397380	30.1	9.000	L1	9.8	19.9	50.0	Compliance

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AC120V, 60Hz, Neutral:



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Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.151200	45.2	9.000	N	11.1	20.7	65.9	Compliance
0.188994	52.7	9.000	N	10.7	11.4	64.1	Compliance
0.195114	54.8	9.000	N	10.6	9.0	63.8	Compliance
0.199835	54.5	9.000	N	10.6	9.1	63.6	Compliance
0.259937	44.7	9.000	N	10.3	16.7	61.4	Compliance
4.193667	37.9	9.000	N	9.8	18.1	56.0	Compliance

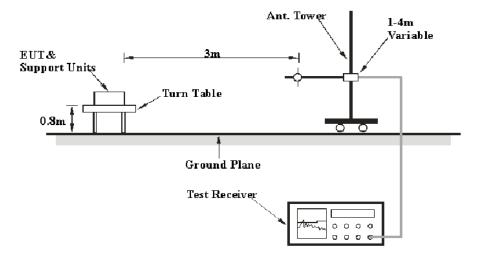
Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.201433	40.3	9.000	N	10.6	13.3	53.6	Compliance
0.209621	34.8	9.000	N	10.5	18.4	53.2	Compliance
0.393383	26.9	9.000	N	10.0	21.1	48.0	Compliance
1.890344	27.7	9.000	N	9.7	18.3	46.0	Compliance
2.164561	26.2	9.000	N	9.8	19.8	46.0	Compliance
4.094608	29.8	9.000	N	9.8	16.2	46.0	Compliance

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FCC §15.109 - RADIATED SPURIOUS EMISSIONS

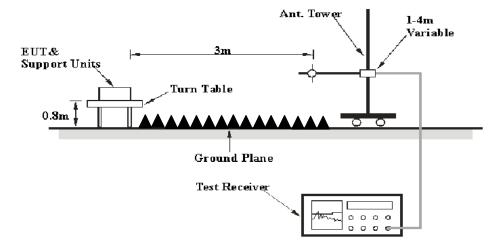
EUT Setup

Below 1GHz:



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Above 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site for the range 30MHz to 1GHz and the 3 meters chamber test site for above 1GHz, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109 Class B limits.

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EMI Test Receiver Setup

The system was investigated from 30 MHz to 13 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
ADOVE I GHZ	1 MHz	10 Hz	/	AVG

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Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The data was recorded in the Quasi-peak detection mode for below 1 GHz, peak and average detection mode above 1 GHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2016-09-01	2017-08-31
Sunol Sciences	Antenna	JB3	A060611-1	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2016-09-01	2017-09-01
R&S	Spectrum Analyzer	FSU 26	200256	2016-12-08	2017-12-08
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-04
Mini-Circuit	Amplifier	ZVA-213-S+	SN054201245	2017-02-19	2018-02-19
Unknown	Coaxial Cable	Chamber 10-1	0.75m	2016-09-01	2017-09-01
Unknown	Coaxial Cable	Chamber B-1	0.75m	2016-09-01	2017-09-01
Unknown	Coaxial Cable	Chamber 10-2	14m	2016-09-01	2017-09-01
Unknown	Coaxial Cable	Chamber B-2	8m	2016-09-01	2017-09-01
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A

^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

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Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

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Corrected Amplitude = Meter Reading + Antenna factor + Cable Loss - Amplifier Gain

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation

is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15 B Class B.

Test Data

Environmental Conditions

Temperature:	25.4 °C		
Relative Humidity:	64 %		
ATM Pressure:	99.1 kPa		

^{*} The testing was performed by Mark Pan on 2017-07-31.

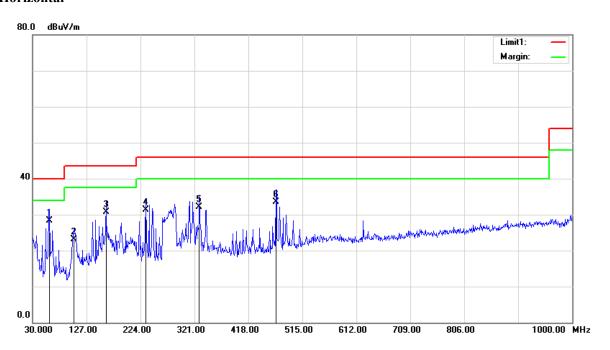
Test Result: Compliance

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Test Mode: Downloading

1) Below 1GHz:

Horizontal

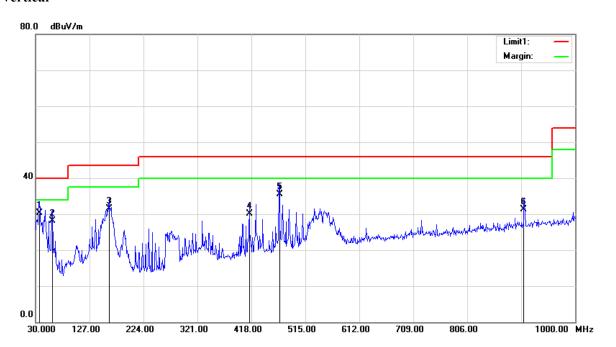


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Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBμV/m)	Margin (dB)
60.0700	40.80	QP	-12.40	28.40	40.00	11.60
104.6900	30.60	QP	-7.40	23.20	43.50	20.30
161.9200	37.35	QP	-6.65	30.70	43.50	12.80
233.7000	38.98	QP	-7.58	31.40	46.00	14.60
329.7300	36.93	QP	-4.73	32.20	46.00	13.80
467.4700	34.56	QP	-0.96	33.60	46.00	12.40

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Vertical



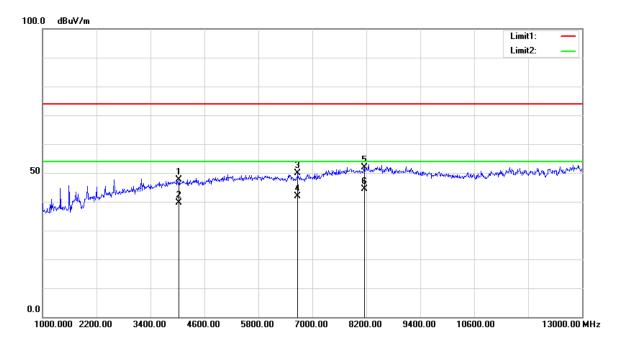
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Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBμV/m)	Margin (dB)
36.7900	33.81	QP	-3.41	30.40	40.00	9.60
60.0700	40.50	QP	-12.40	28.10	40.00	11.90
161.9200	38.15	QP	-6.65	31.50	43.50	12.00
414.1200	32.58	QP	-2.38	30.20	46.00	15.80
468.4400	36.53	QP	-0.93	35.60	46.00	10.40
907.8500	26.19	QP	5.21	31.40	46.00	14.60

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2) Above 1GHz:

Horizontal

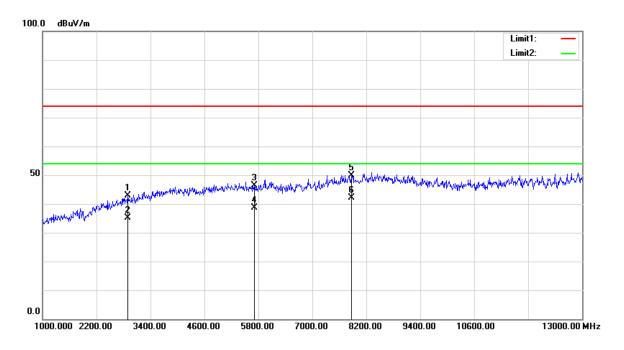


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Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBμV/m)	Margin (dB)
4042.000	46.68	peak	0.99	47.67	74.00	26.33
4042.000	38.56	AVG	0.99	39.55	54.00	14.45
6676.000	46.01	peak	3.78	49.79	74.00	24.21
6676.000	38.19	AVG	3.78	41.97	54.00	12.03
8152.000	45.25	peak	6.59	51.84	74.00	22.16
8152.000	37.87	AVG	6.59	44.46	54.00	9.54

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Vertical



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Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBμV/m)	Margin (dB)
2896.000	45.20	peak	-2.25	42.95	74.00	31.05
2896.000	37.47	AVG	-2.25	35.22	54.00	18.78
5704.000	43.64	peak	2.80	46.44	74.00	27.56
5704.000	35.79	AVG	2.80	38.59	54.00	15.41
7870.000	43.11	peak	6.65	49.76	74.00	24.24
7870.000	35.59	AVG	6.65	42.24	54.00	11.76

***** END OF REPORT *****

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