

MEASUREMENT REPORT

FCC PART 22 & 24 & 27

FCC ID: 2ADZR4G0812WA

Application: Nokia Shanghai Bell Co., Ltd

Application Type: Certification

Product: FastMile 4G Gateway

Model No.: 4G08-12W-A

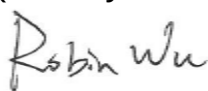
Brand Name: NOKIA

FCC Rule Part(s): Part 22 Subpart H, Part 24 Subpart E,
Part 27 Subpart L & M

Test Procedure(s): ANSI C63.26-2015, KDB 971168 D01v03r01,
KDB 662911 D01v02r01

Test Date: November 02, 2019 ~ April 12, 2020

Reviewed By: 
(Sunny Sun)

Approved By: 
(Robin Wu)



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.26-2015. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
1911RSU040-U4	Rev. 01	Initial Report	04-27-2020	Valid

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General Information

Applicant:	Nokia Shanghai Bell Co., Ltd
Applicant Address:	388#, Ningqiao Road, China (Shanghai) Pilot Free Trade Zone, Shanghai 201206, China
Manufacturer:	Nokia Shanghai Bell Co., Ltd
Manufacturer Address:	388#, Ningqiao Road, China (Shanghai) Pilot Free Trade Zone, Shanghai 201206, China
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT facility is a FCC registered (MRT Designation No. CN1166) test facility with the site description report on file and has met all the requirements specified in ANSI C63.4-2014.
- MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.
- MRT facility is a VCCI registered (R-20025, G-20034, C-20020, T-20020) test laboratory with the site description on file at VCCI Council.
- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications, Radio and SAR testing.



1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.



2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	FastMile 4G Gateway
Model No.:	4G08-12W-A
Brand Name:	NOKIA
Wi-Fi Specification:	802.11a/b/g/n/ac
LTE Specification:	Band 2, 4, 5, 7, 25, 38, 48, 66
Operating Temperature:	0 ~ 45 °C
Power Type:	AC adapter input

2.2. Product Specification Subjective to this Report

FDD Tx Frequency Range:	Band 2: 1850 ~ 1910 MHz; Band 4: 1710 ~ 1755 MHz Band 5: 824 ~ 849 MHz; Band 7: 2500 ~ 2570 MHz Band 25: 1850 ~ 1915 MHz; Band 66: 1710 ~ 1780 MHz
FDD Rx Frequency Range:	Band 2: 1930 ~ 1990 MHz; Band 4: 2110 ~ 2155 MHz Band 5: 869 ~ 894 MHz; Band 7: 2620 ~ 2690 MHz Band 25: 1930 ~ 1995 MHz; Band 66: 2110 ~ 2200 MHz
TDD Tx & Rx Frequency Range:	Band 38: 2570 ~ 2620 MHz
UL-MIMO Band:	Band 2, 4, 5, 7, 25, 38, 66
Type of Modulation:	QPSK, 16QAM, 64QAM, 256QAM (DL)

Note: For other features of this EUT, test report will be issued separately.

2.3. Description of Available Antennas

Technology	Frequency Range (MHz)	Antenna Type	Max Peak Gain (dBi)		Directional Gain (dBi)			
					CDD Mode		Beam-Forming Mode	
			Ant 8	Ant 9	For Power	For PSD	For Power	For PSD
2.4GHz Wi-Fi	2400 ~ 2483.5	PCB	3.81	3.95	3.95	6.96	6.96	6.96
5GHz Wi-Fi	5150 ~ 5350	Dipole	4.13	3.99	4.13	7.14	7.14	7.14
	5470 ~ 5725		4.42	4.65	4.65	7.66	7.66	7.66
	5725 ~ 5850		4.56	4.67	4.67	7.68	7.68	7.68
Technology		Frequency Range (MHz)		Antenna Type		Max Peak Gain (dBi)		
LTE Band 2		1850 ~ 1910		PCB		4.27		
LTE Band 4		1710 ~ 1755				4.49		
LTE Band 5		824 ~ 849				0.10		
LTE Band 7		2500 ~ 2570				4.70		
LTE Band 25		1850 ~ 1915				4.27		
LTE Band 38		2570 ~ 2620				4.70		
LTE Band 48		3550 ~ 3700				4.80		
LTE Band 66		1710 ~ 1780				4.49		

Note 1: The EUT supports Cyclic Delay Diversity (CDD) with 802.11a/g/n/ac, CDD signals are correlated.

If all antennas have the same gain, G_{ANT} , Directional gain = $G_{ANT} + \text{Array Gain}$, where Array Gain is as follows.

- For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log (N_{ANT}/N_{SS})$ dB = 3.01;

- For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB for $N_{ANT} \leq 4$;

If antenna gains are not equal, Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

Note 2: The EUT supports Beam Forming mode, Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS})$ dBi, Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

Note 3: For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

2.4. Device Capabilities

This device contains the following capabilities:

2.4GHz WLAN, 5GHz WLAN, LTE Band 2 & 4 & 5 & 7 & 25 & 38 & 66.

LTE Band 66 (1710 - 1780 MHz) overlaps the entire frequency range of LTE Band 4 (1710 - 1755 MHz). Therefore, test data provided in this report covers Band 4 as well as Band 66.

LTE Band 25 (1850 - 1915 MHz) overlaps the entire frequency range of LTE Band 2 (1850 - 1910 MHz). Therefore, test data provided in this report covers Band 2 as well as Band 25.

2.5. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.6. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlets supplied to the user and be readily visible to the purchaser at the time of purchase.

However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

3. DESCRIPTION of TEST

3.1. Evaluation Procedure

The measurement procedure described in the document titled “American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services” (ANSI C63.26-2015) was used in the measurement.

3.2. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-40GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst-case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna

was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, which produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. TEST EQUIPMENT CALIBRATION DATE

Radiated Emissions - AC1

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2020/08/01
PXA Signal Analyzer	Keysight	9030B	MRTSUE06395	1 year	2020/09/03
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2020/11/10
Bilog Period Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2021/03/31
Broad Band Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2020/10/13
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2021/02/23
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2020/11/15
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2020/06/11
Thermohygrometer	Testo	608-H1	MRTSUE06403	1 year	2020/08/08
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2020/04/30

Radiated Emission - AC2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Keysight	N9038A	MRTSUE06125	1 year	2020/08/01
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2020/11/10
Bilog Period Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2020/10/13
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06171	1 year	2020/10/27
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2021/02/23
Broadband Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2020/11/15
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2020/06/11
Temperature/Humidity Meter	Minggao	ETH529	MRTSUE06170	1 year	2020/12/15
Anechoic Chamber	RIKEN	Chamber-AC2	MRTSUE06213	1 year	2020/04/30

Conducted Test Equipment - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2020/04/15
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06452	1 year	2020/07/11
Signal Analyzer	R&S	FSV40	MRTSUE06218	1 year	2020/04/15
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2020/11/18
USB wideband power sensor	Keysight	U2021XA	MRTSUE06446	1 year	2020/06/30
USB wideband power sensor	Keysight	U2021XA	MRTSUE06447	1 year	2020/06/30
Bluetooth Test Set	Anritsu	MT8852B-042	MRTSUE06389	1 year	2020/06/13
Audio Analyzer	Agilent	U8903B	MRTSUE06143	1 year	2020/06/13
Modulation Analyzer	HP	8901A	MRTSUE06098	1 year	2020/10/10
Wideband Radio Communication Tester	R&S	CMW 500	MRTSUE06243	1 year	2020/11/07
DC Power Supply	GWINSTEK	DPS-3303C	MRTSUE06064	N/A	N/A
Temperature & Humidity Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2020/11/07
Thermohygrometer	testo	608-H1	MRTSUE06401	1 year	2020/08/08

Software	Version	Function
e3	9.160520a	EMI Test Software

5. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

AC Conducted Emission Measurement - SR2	
The maximum measurement uncertainty is evaluated as:	
9kHz~150kHz: 3.84dB	
150kHz~30MHz: 3.46dB	
Radiated Emission Measurement - AC1	
The maximum measurement uncertainty is evaluated as:	
Horizontal:	30MHz~300MHz: 4.07dB
	300MHz~1GHz: 3.63dB
	1GHz~18GHz: 4.16dB
Vertical:	30MHz~300MHz: 4.18dB
	300MHz~1GHz: 3.60dB
	1GHz~18GHz: 4.76dB
Radiated Emission Measurement - AC2	
The maximum measurement uncertainty is evaluated as:	
Horizontal:	30MHz~300MHz: 3.75dB
	300MHz~1GHz: 3.53dB
	1GHz~18GHz: 4.28dB
Vertical:	30MHz~300MHz: 3.86dB
	300MHz~1GHz: 3.53dB
	1GHz~18GHz: 4.33dB

6. TEST RESULT

6.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	Occupied Bandwidth	N/A	Conducted	Pass	Section 6.2
2.1055, 22.355 24.235, 27.54	Frequency Stability	< 2.5 ppm		Pass	Section 6.3
22.913(a)(5)	Equivalent Radiated Power (Band 5)	< 7 Watts Max ERP		Pass	Section 6.4
24.232(c) 27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 25/2, 7, 38)	< 2 Watts Max EIRP			
27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 66/4)	< 1 Watts Max EIRP			
2.1051, 2.917(a) 22.917(a), 24.238(a) 27.53(c), 27.53(g) 27.53(h)	Conducted Spurious Emissions; Band Edge Emissions at Antenna Terminal	> 43 + 10log10 (P _[Watts]) at Band Edge and for all out-of band emissions		Pass	Section 6.5, 6.7
27.53(m)		Undesirable emissions must meet the limits detailed in 27.53(m)			
27.53(a)		Undesirable emissions must meet the limits detailed in 27.53(a)			
24.232(d), 27.50(d)(5)	Peak to Average Ratio	< 13dB		Pass	Section 6.6
2.1053, 22.917(a) 24.238(a), 27.53(c) 27.53(g), 27.53(h)	Radiated Spurious Emissions (Band 5, 66/4, 25/2)	> 43 + 10log10 (P _[Watts]) for all out-of-band emissions	Radiated	Pass	Section 6.8
27.53(m)	Radiated Spurious Emissions (Band 7, 38)	Undesirable emissions must meet the limits detailed in 27.53(m)			

Notes:

- 1) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- 2) All supported modulation types were evaluated. The worst-case emission of modulation was selected. Therefore, the Frequency Stability, Occupied Bandwidth, Channel Band Edge, Radiated & Conducted Spurious Emission were presented in the test report.

6.2. Occupied Bandwidth

6.2.1. Test Limit

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured.

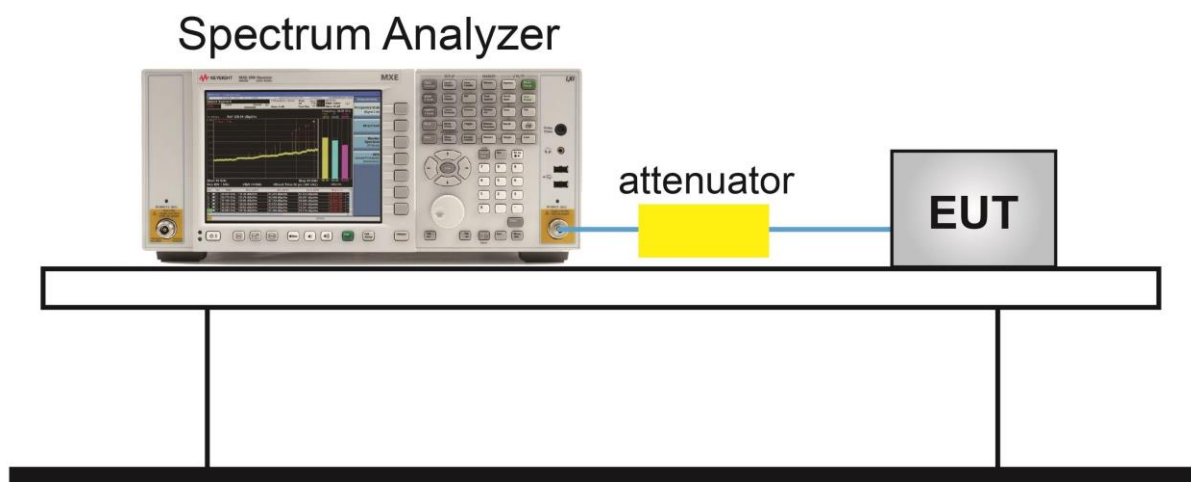
6.2.2. Test Procedure

ANSI C63.26-2015 - Section 5.4.4

6.2.3. Test Setting

1. Set center frequency to the nominal EUT channel center frequency
2. RBW = The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize
8. Use the 99% power bandwidth function of the instrument and report the measured bandwidth.

6.2.4. Test Setup



6.2.5. Test Result

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	56%
Test Site	SR5	Test Date	2020/03/26
Test Band	Band 25/2	Test Mode	SISO Mode

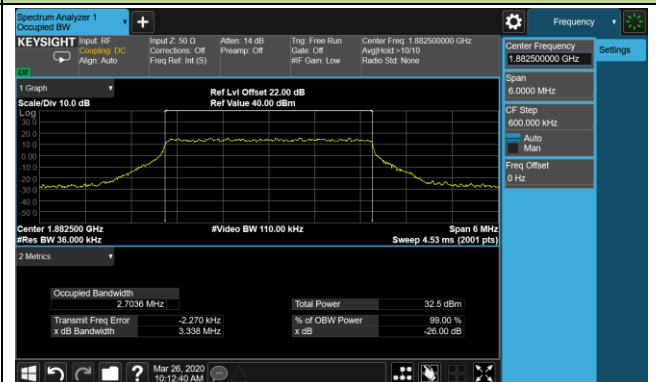
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
26365	1882.5	1.4	1.09
26365	1882.5	3	2.70
26365	1882.5	5	4.49
26365	1882.5	10	8.93
26365	1882.5	15	13.36
26365	1882.5	20	17.81
16QAM			
26365	1882.5	1.4	1.09
26365	1882.5	3	2.70
26365	1882.5	5	4.49
26365.	1882.5	10	8.92
26365	1882.5	15	13.40
26365	1882.5	20	17.82
64QAM			
26365	1882.5	1.4	1.08
26365	1882.5	3	2.71
26365	1882.5	5	4.49
26365.	1882.5	10	8.92
26365	1882.5	15	13.37
26365	1882.5	20	17.86

99% Bandwidth - QPSK

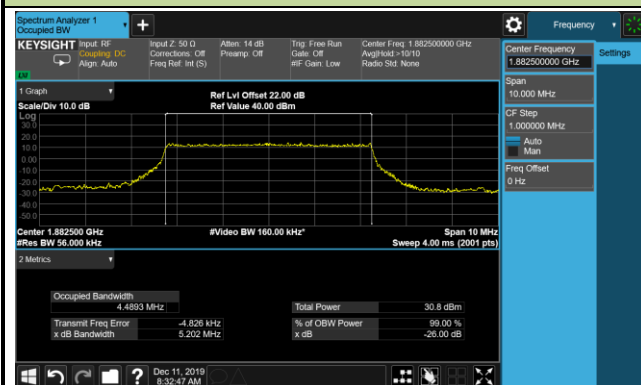
1.4MHz Channel Bandwidth



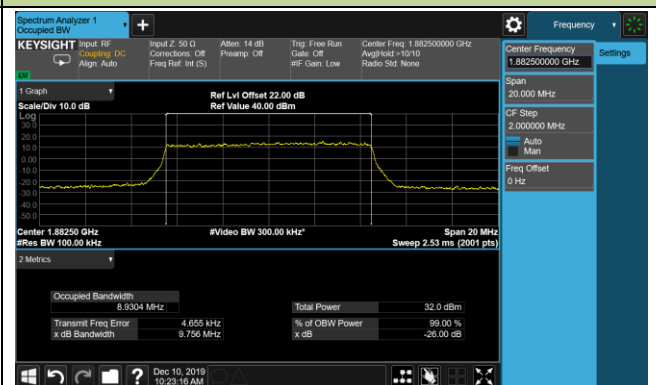
3MHz Channel Bandwidth



5MHz Channel Bandwidth



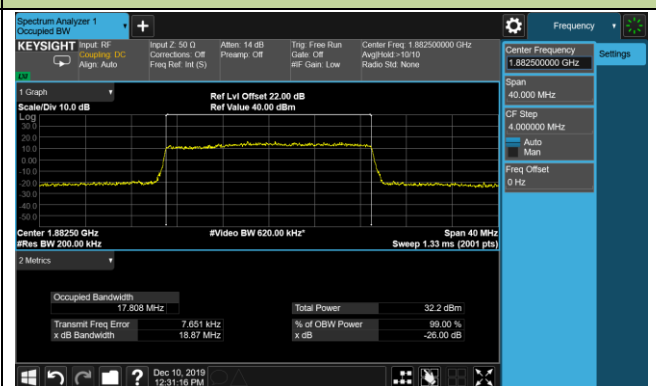
10MHz Channel Bandwidth



15MHz Channel Bandwidth

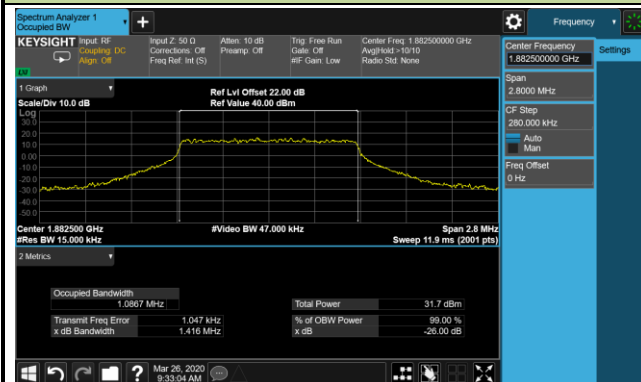


20MHz Channel Bandwidth

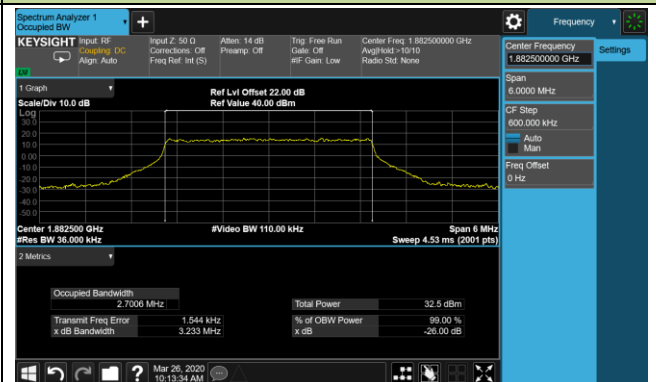


99% Bandwidth – 16QAM

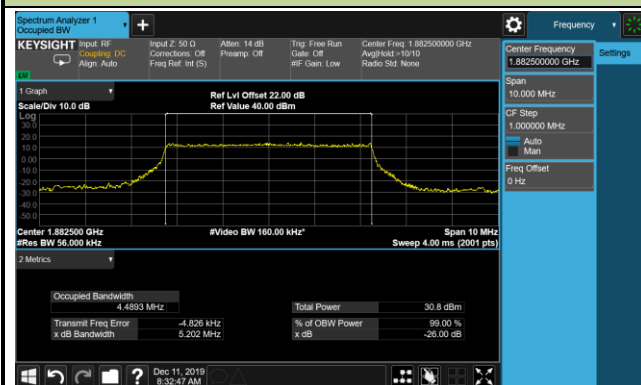
1.4MHz Channel Bandwidth



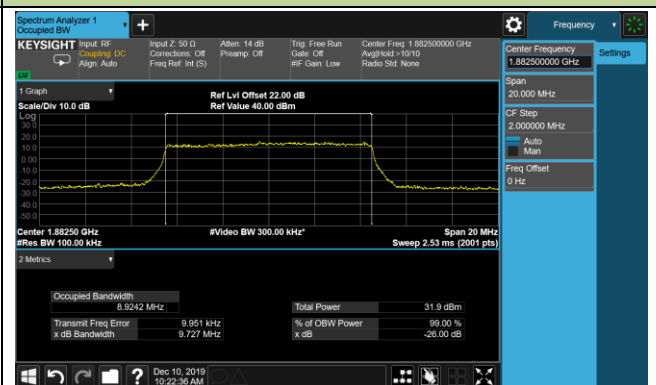
3MHz Channel Bandwidth



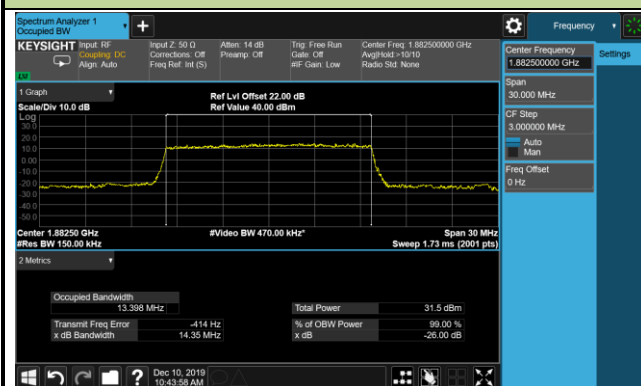
5MHz Channel Bandwidth



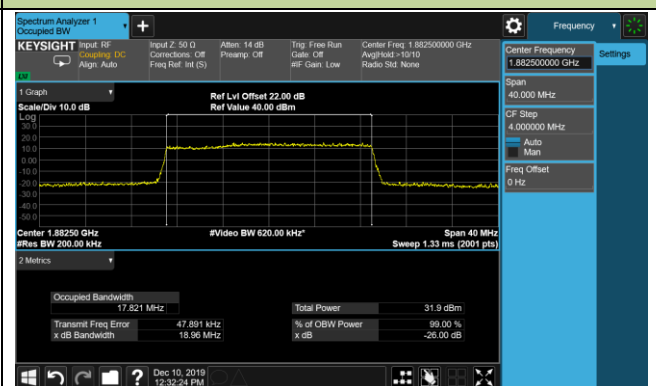
10MHz Channel Bandwidth



15MHz Channel Bandwidth

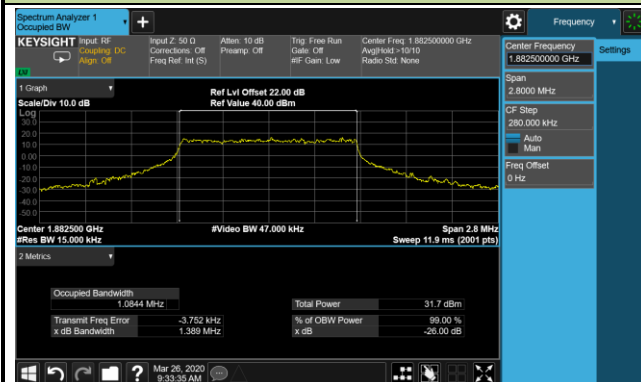


20MHz Channel Bandwidth

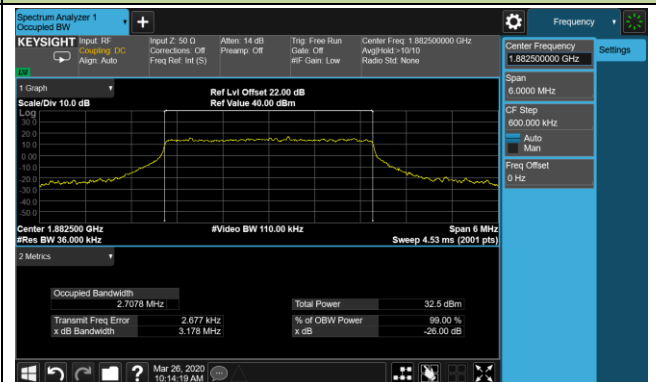


99% Bandwidth – 64QAM

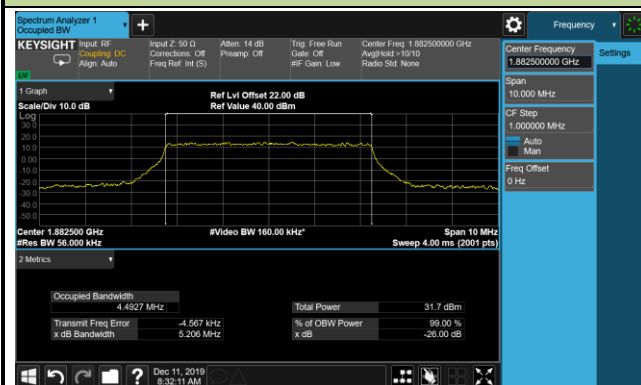
1.4MHz Channel Bandwidth



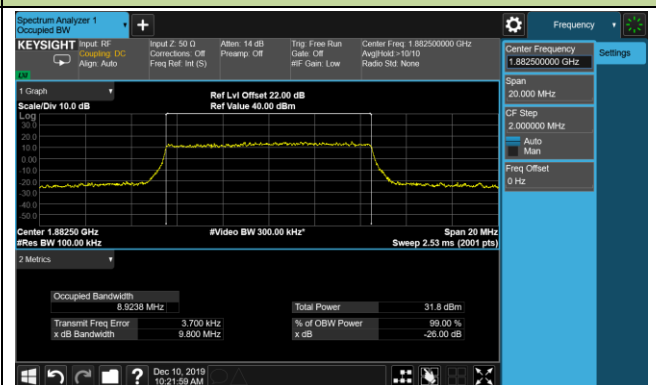
3MHz Channel Bandwidth



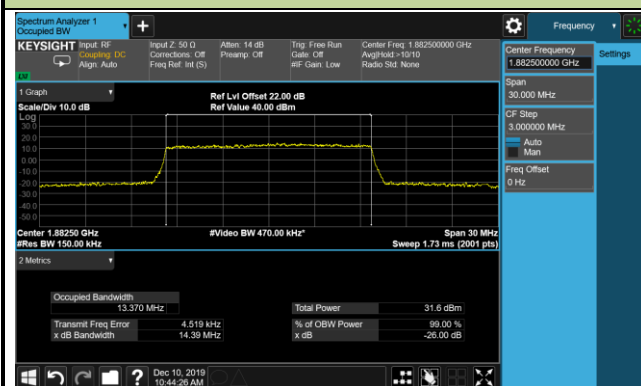
5MHz Channel Bandwidth



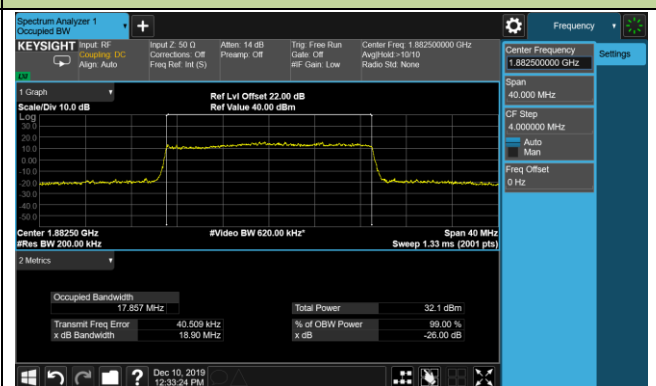
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

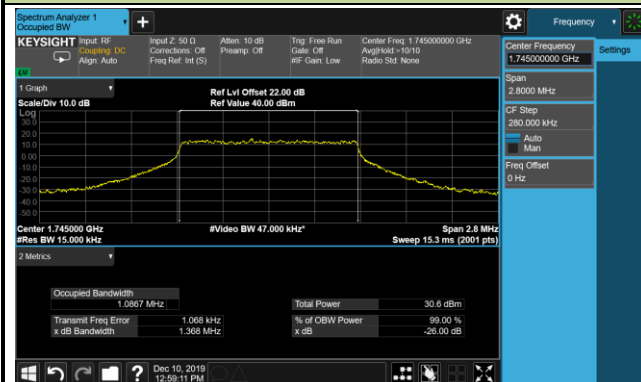


Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	56%
Test Site	SR5	Test Date	2019/12/10
Test Band	Band 66/4	Test Mode	SISO Mode

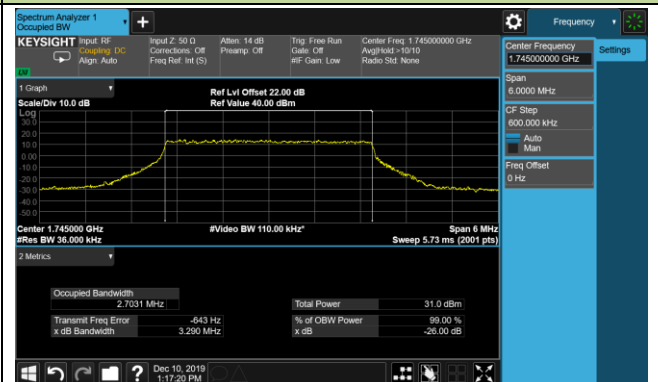
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
132322	1745.0	1.4	1.09
132322	1745.0	3	2.70
132322	1745.0	5	4.48
132322	1745.0	10	8.93
132322	1745.0	15	13.40
132322	1745.0	20	17.85
16QAM			
132322	1745.0	1.4	1.09
132322	1745.0	3	2.70
132322	1745.0	5	4.48
132322	1745.0	10	8.95
132322	1745.0	15	13.41
132322	1745.0	20	17.82
64QAM			
132322	1745.0	1.4	1.08
132322	1745.0	3	2.69
132322	1745.0	5	4.51
132322	1745.0	10	8.94
132322	1745.0	15	13.39
132322	1745.0	20	17.84

99% Bandwidth - QPSK

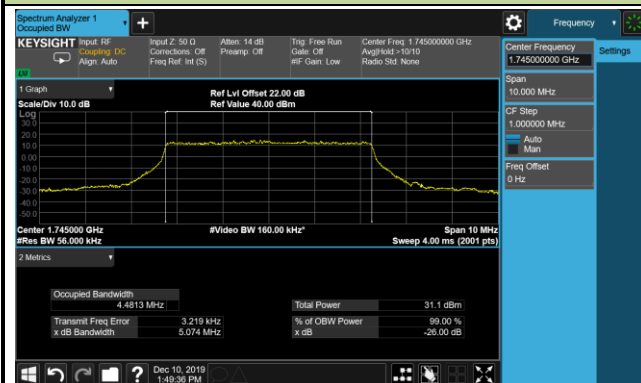
1.4MHz Channel Bandwidth



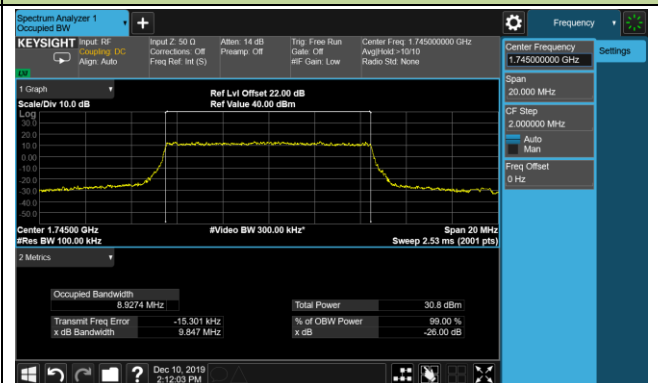
3MHz Channel Bandwidth



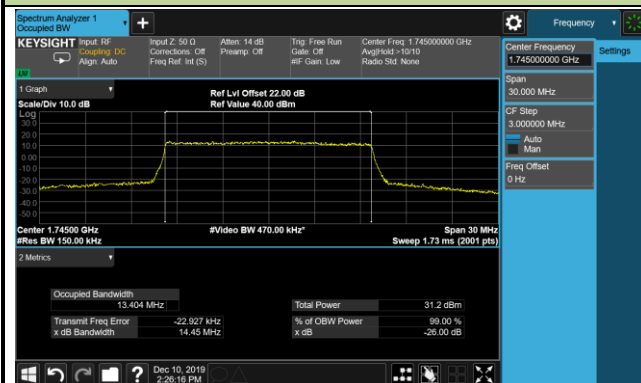
5MHz Channel Bandwidth



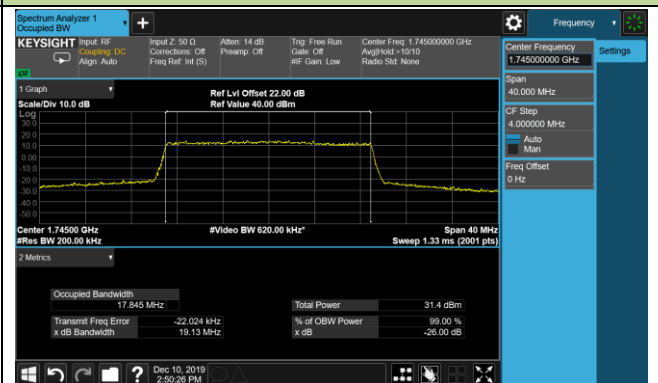
10MHz Channel Bandwidth



15MHz Channel Bandwidth

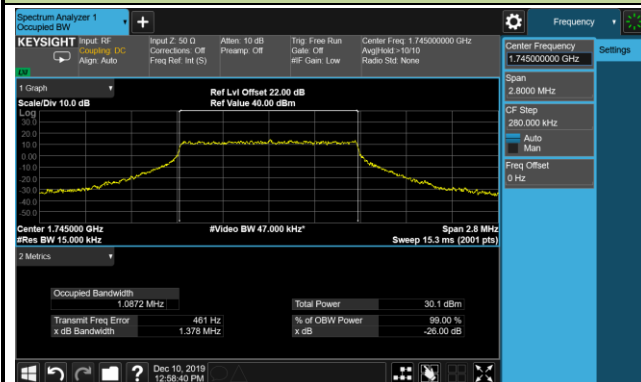


20MHz Channel Bandwidth

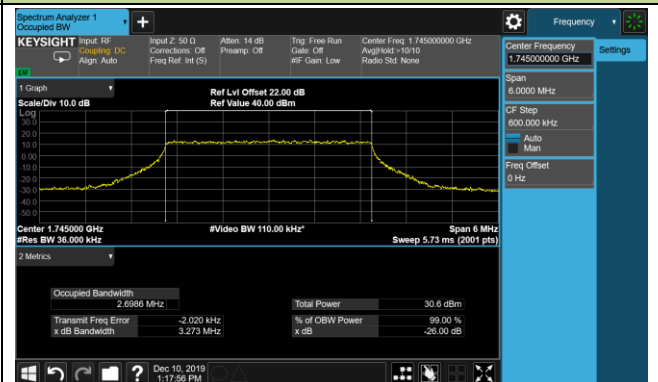


99% Bandwidth – 16QAM

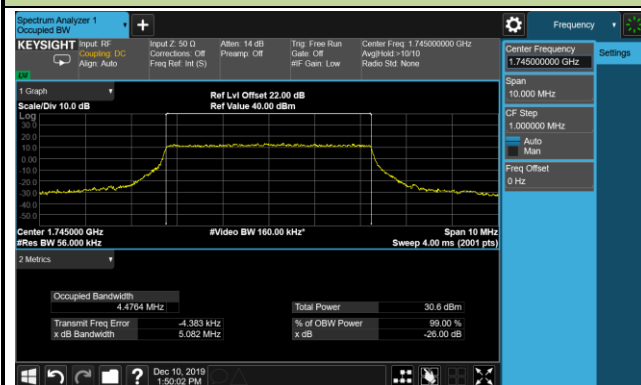
1.4MHz Channel Bandwidth



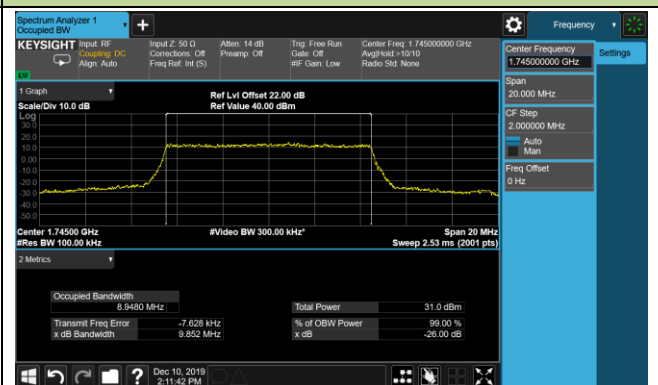
3MHz Channel Bandwidth



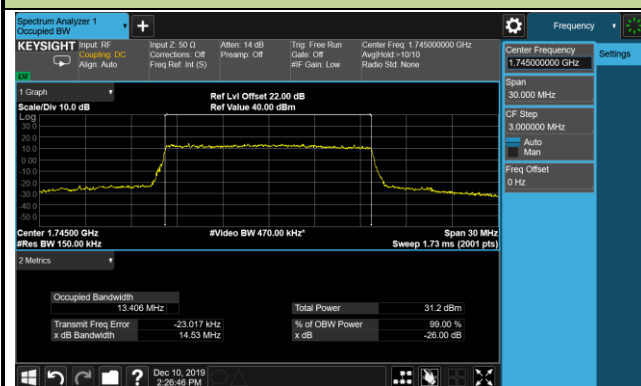
5MHz Channel Bandwidth



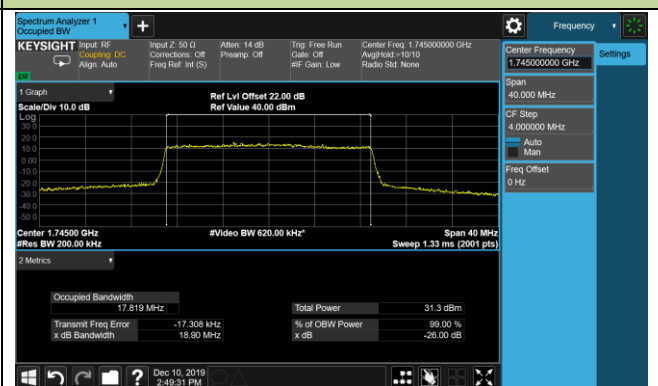
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

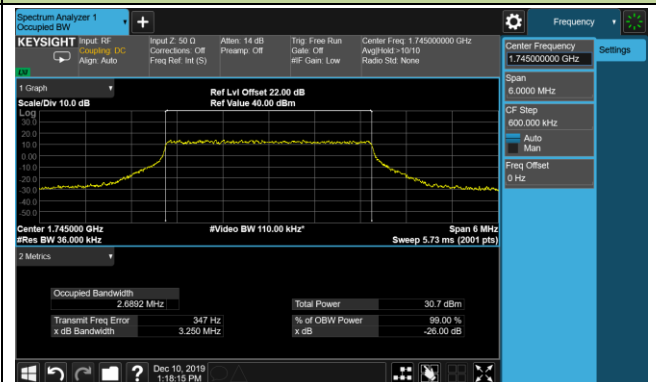


99% Bandwidth – 64QAM

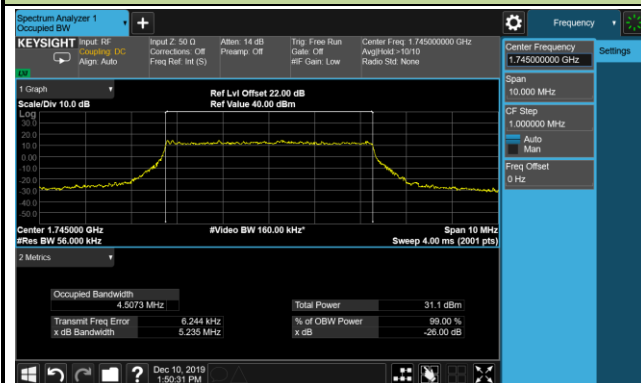
1.4MHz Channel Bandwidth



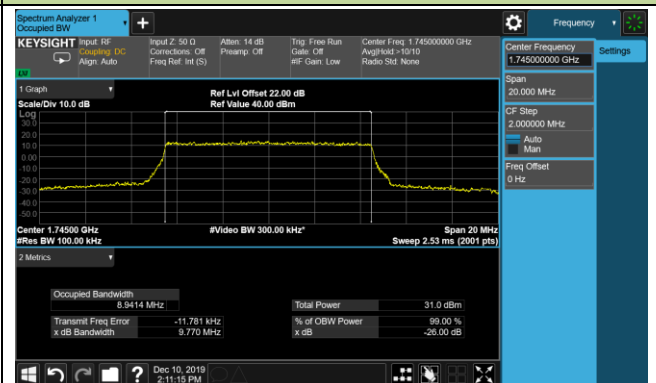
3MHz Channel Bandwidth



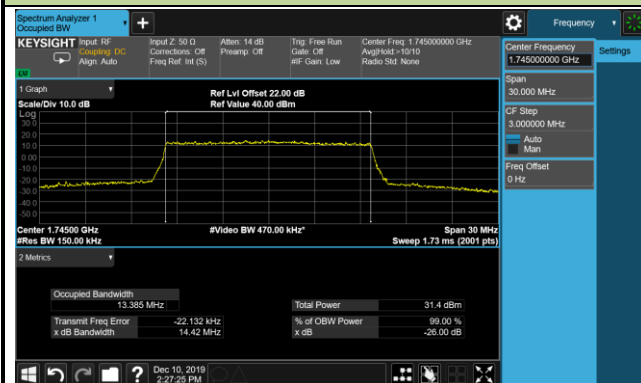
5MHz Channel Bandwidth



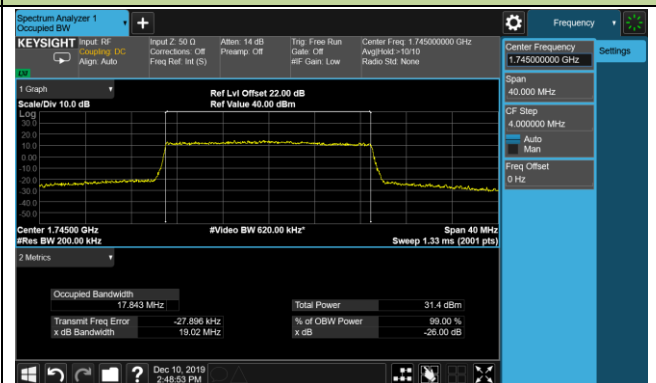
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

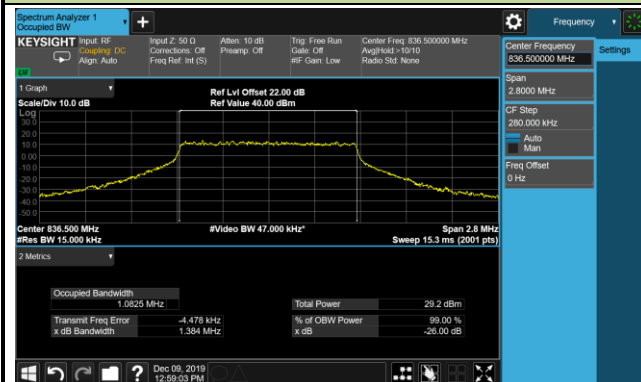


Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	56%
Test Site	SR5	Test Date	2019/12/09
Test Band	LTE Band 5	Test Mode	SISO Mode

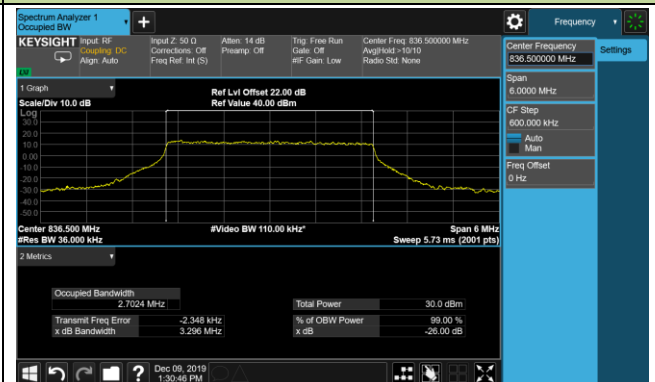
Modulation	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK	836.5	1.4	1.08
		3	2.70
		5	4.49
		10	8.97
16QAM	836.5	1.4	1.08
		3	2.71
		5	4.49
		10	8.97
64QAM	836.5	1.4	1.08
		3	2.70
		5	4.49
		10	8.95

99% Bandwidth - QPSK

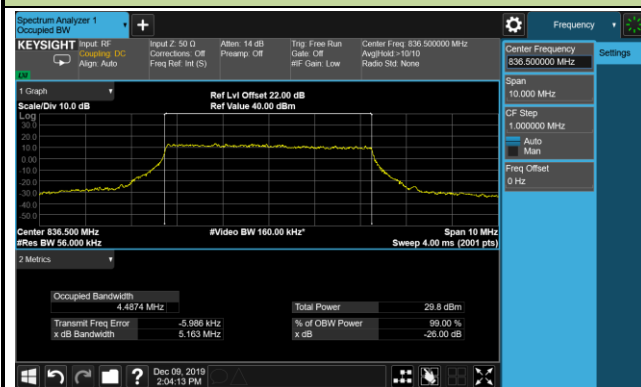
1.4MHz Channel Bandwidth



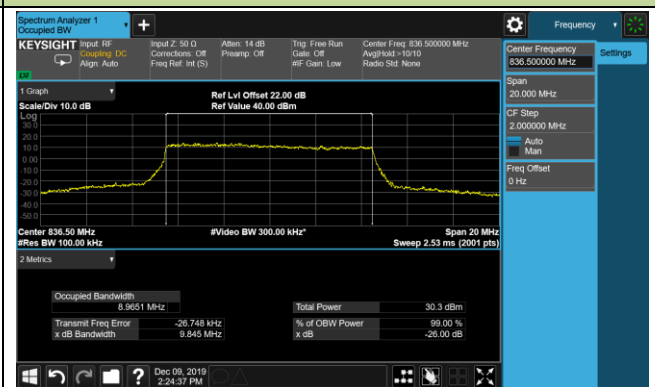
3MHz Channel Bandwidth



5MHz Channel Bandwidth



10MHz Channel Bandwidth

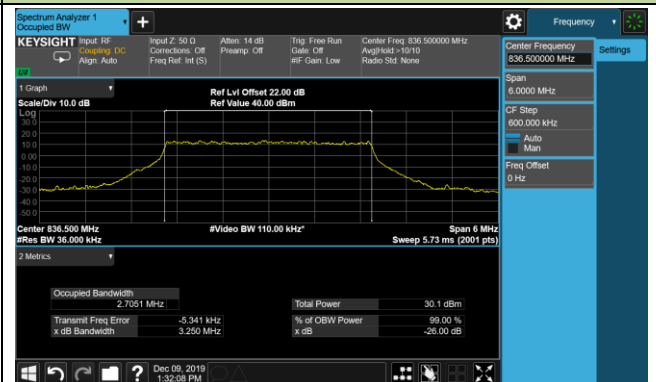


99% Bandwidth – 16QAM

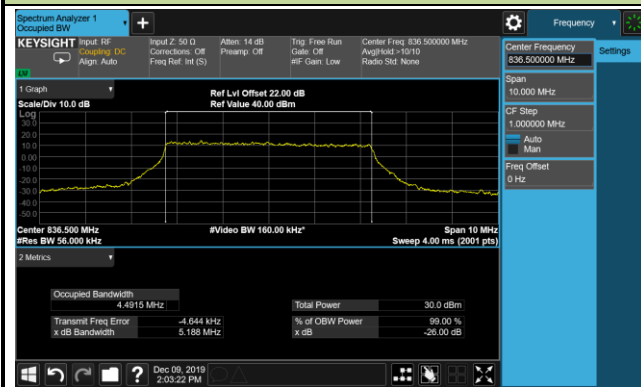
1.4MHz Channel Bandwidth



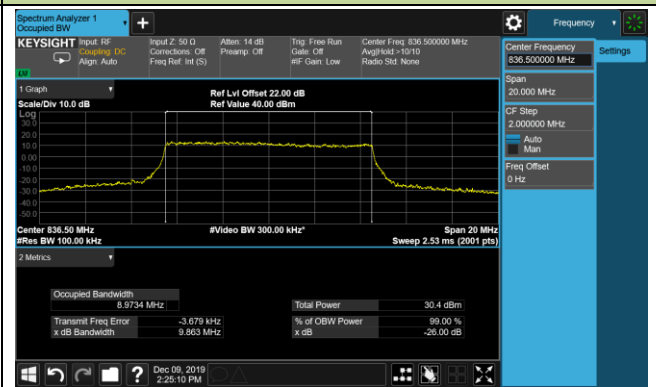
3MHz Channel Bandwidth



5MHz Channel Bandwidth



10MHz Channel Bandwidth

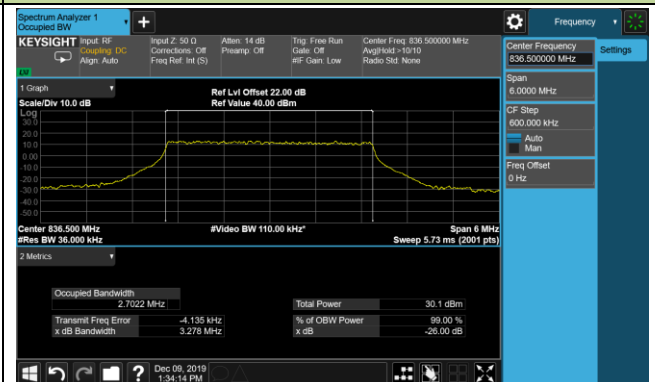


99% Bandwidth – 64QAM

1.4MHz Channel Bandwidth



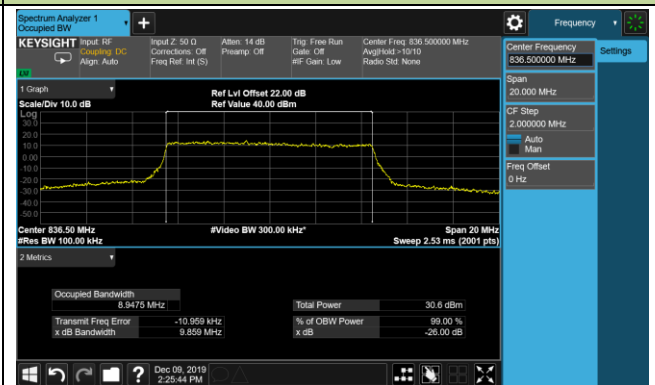
3MHz Channel Bandwidth



5MHz Channel Bandwidth



10MHz Channel Bandwidth

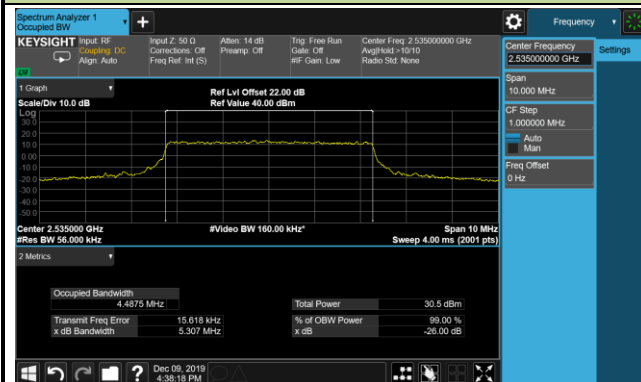


Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	56%
Test Site	SR5	Test Date	2019/12/09
Test Band	LTE Band 7	Test Mode	SISO Mode

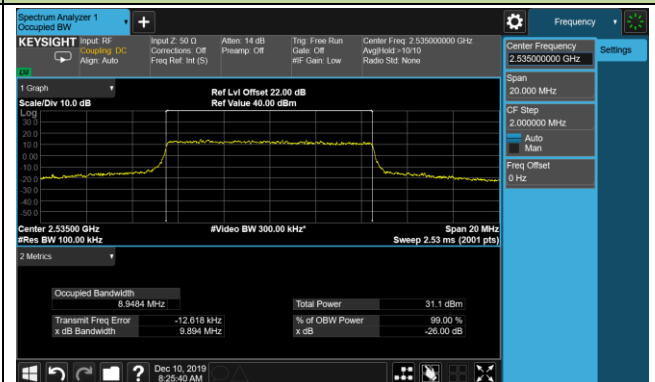
Modulation	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK	2535.0	5	4.49
		10	8.95
		15	13.42
		20	17.87
16QAM	2535.0	5	4.50
		10	8.95
		15	13.44
		20	17.88
64QAM	2535.0	5	4.51
		10	8.96
		15	13.43
		20	17.89

99% Bandwidth – QPSK

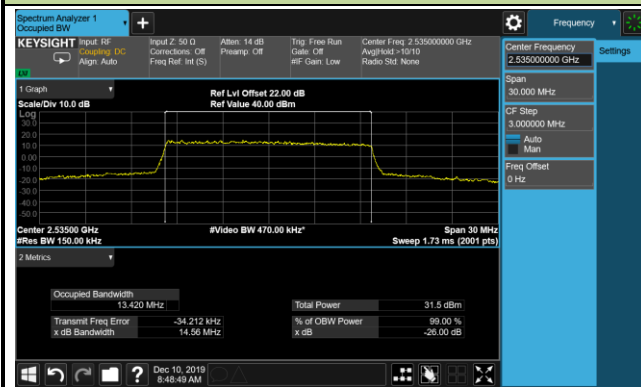
5MHz Channel Bandwidth



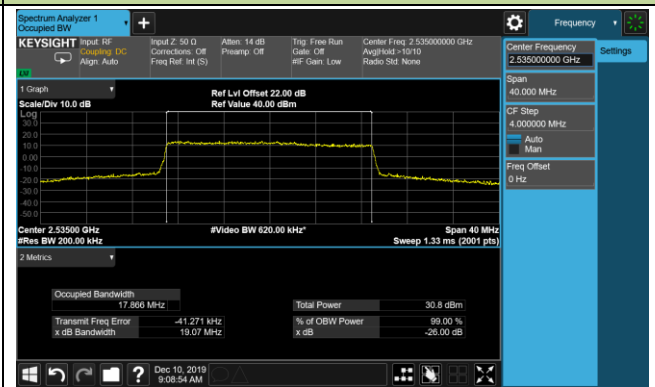
10MHz Channel Bandwidth



15MHz Channel Bandwidth

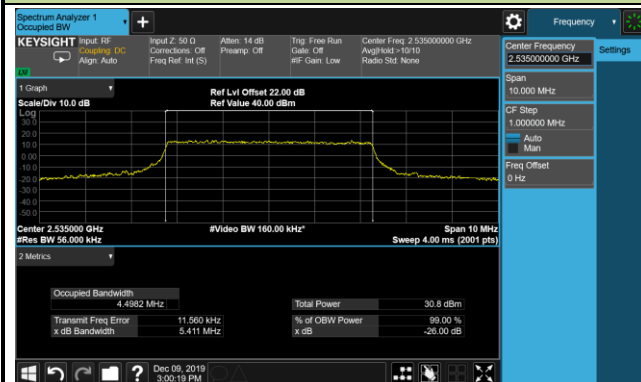


20MHz Channel Bandwidth

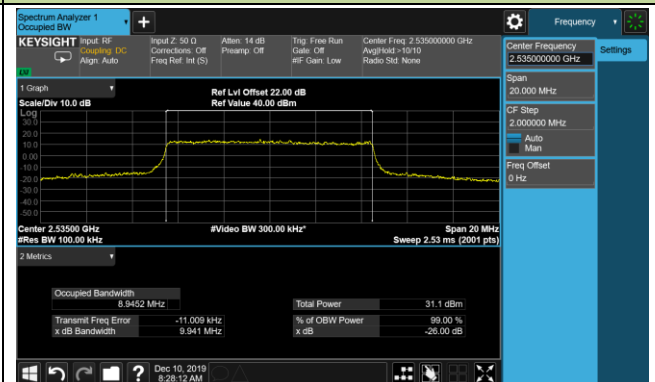


99% Bandwidth – 16QAM

5MHz Channel Bandwidth



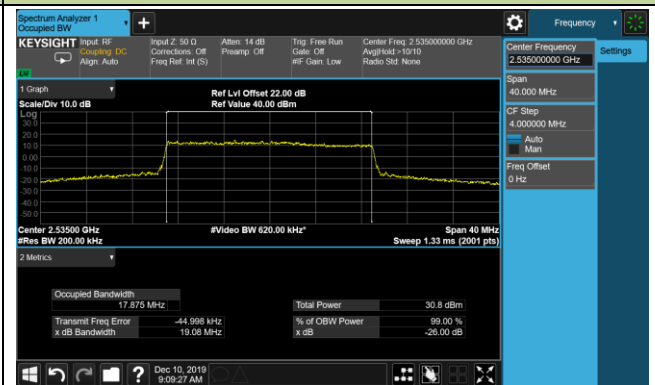
10MHz Channel Bandwidth



15MHz Channel Bandwidth

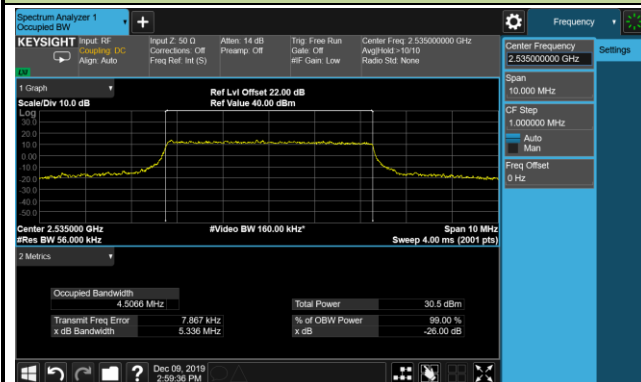


20MHz Channel Bandwidth

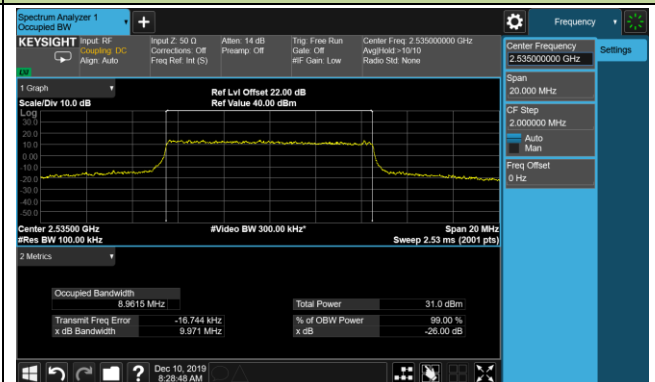


99% Bandwidth – 64QAM

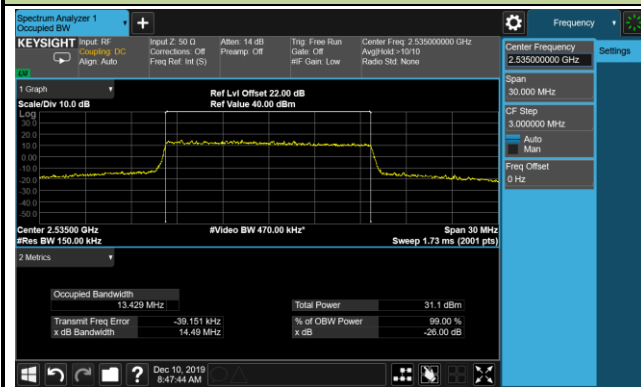
5MHz Channel Bandwidth



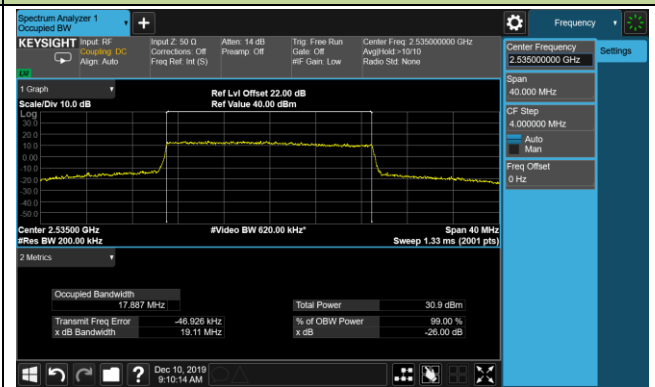
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

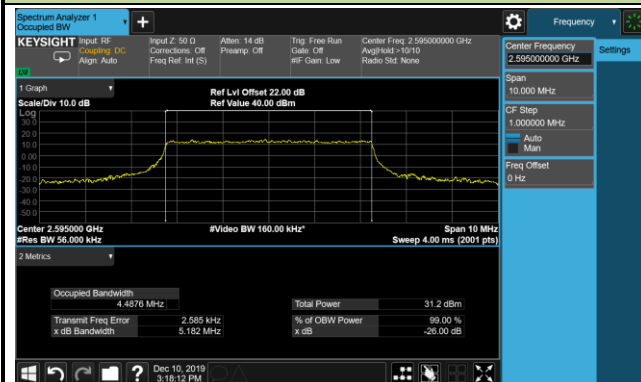


Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	56%
Test Site	SR5	Test Date	2019/12/10
Test Band	LTE Band 38	Test Mode	SISO Mode

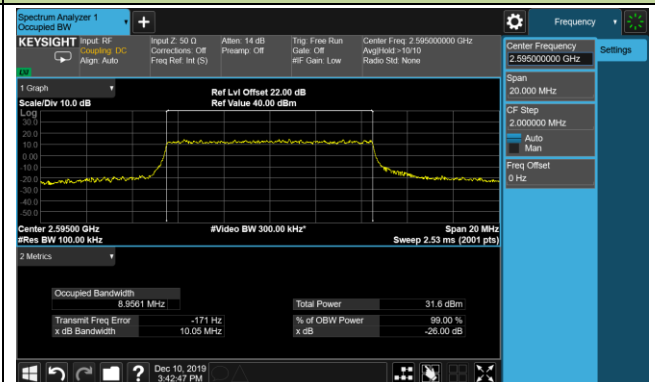
Modulation	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK	2595.0	5	4.49
		10	8.96
		15	13.42
		20	17.86
16QAM	2595.0	5	4.49
		10	8.94
		15	13.41
		20	17.86
64QAM	2595.0	5	4.49
		10	8.95
		15	13.41
		20	17.89

99% Bandwidth – QPSK

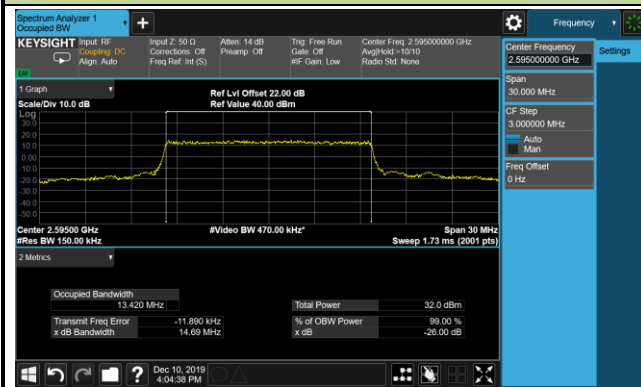
5MHz Channel Bandwidth



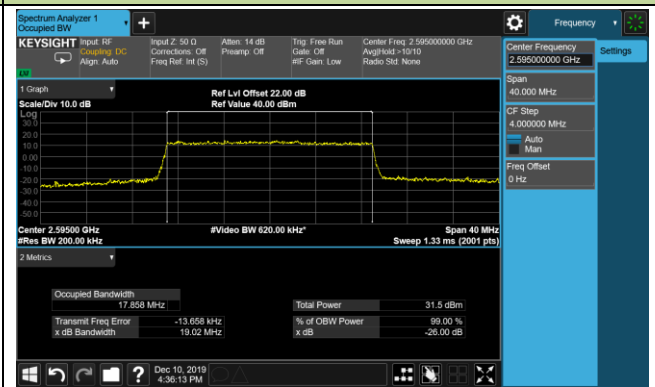
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth

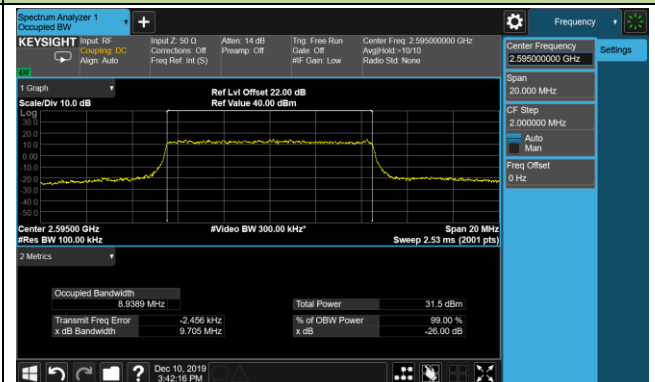


99% Bandwidth – 16QAM

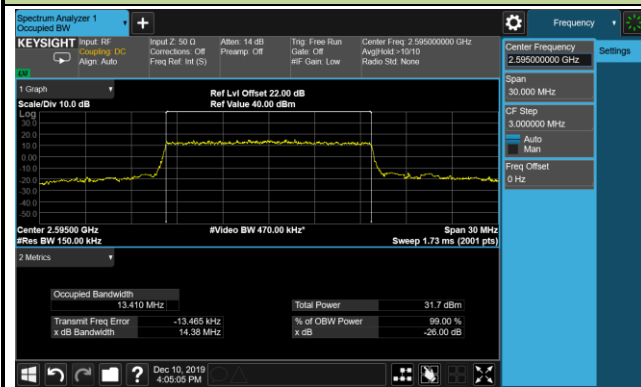
5MHz Channel Bandwidth



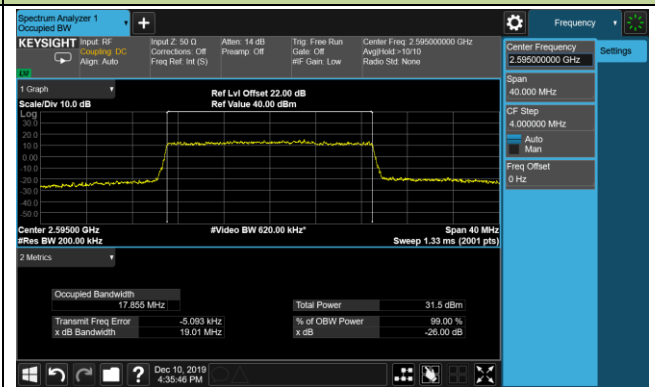
10MHz Channel Bandwidth



15MHz Channel Bandwidth

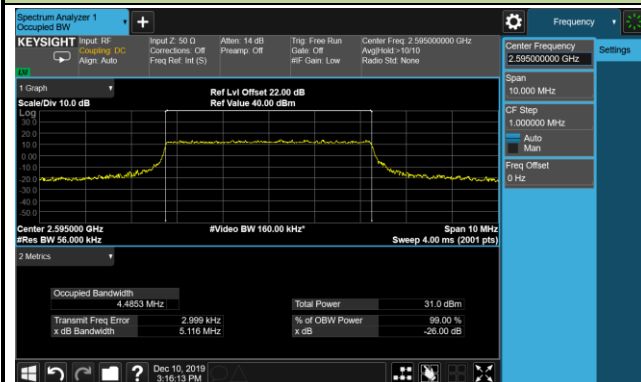


20MHz Channel Bandwidth

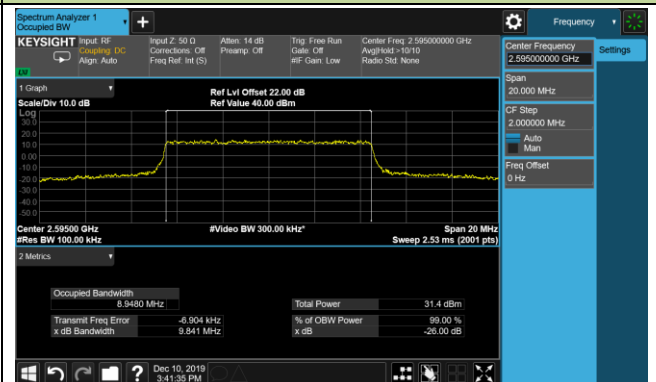


99% Bandwidth – 64QAM

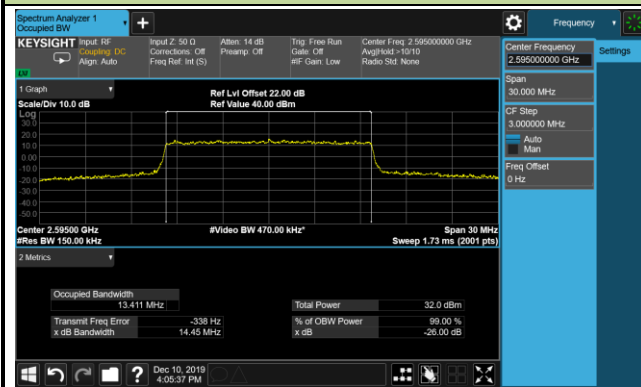
5MHz Channel Bandwidth



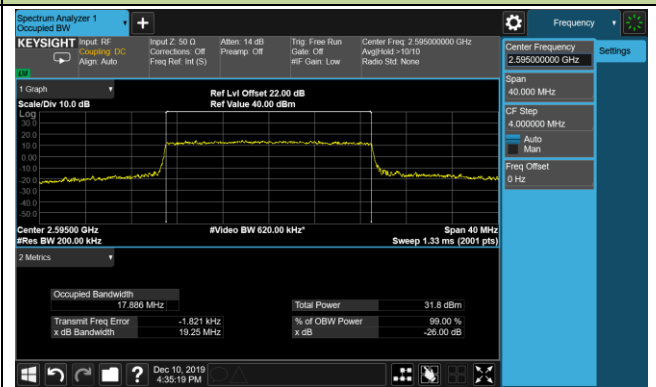
10MHz Channel Bandwidth



15MHz Channel Bandwidth



20MHz Channel Bandwidth



6.3. Frequency Stability Measurement

6.3.1. Test Limit

The applicant shall ensure compliance with frequency stability requirements by showing that f_L minus the frequency offset and f_H plus the frequency offset is within the frequency range in which the equipment is designed to operate.

6.3.2. Test Procedures Used

ANSI C63.26-2015 - Section 5.6

6.3.3. Test Setting

Frequency Stability Under Temperature Variations:

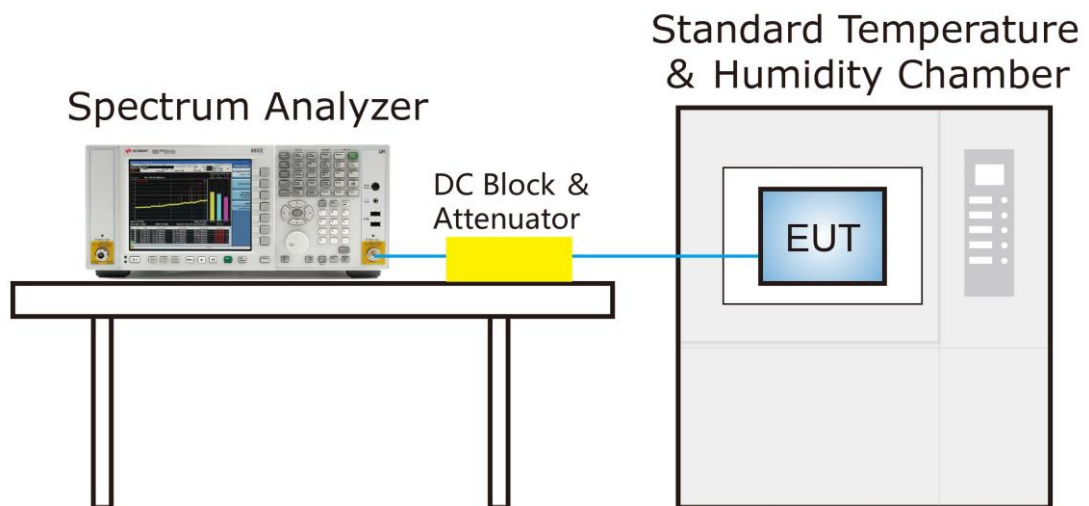
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

6.3.4. Test Setup



6.3.5. Test Result

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	52%
Test Site	TR3	Test Date	2020/01/15
Test Band	LTE Band 25/2	Test Mode	SISO Mode

Voltage (%)	Power (W)	Temp (°C)	Frequency Tolerance (ppm)
100%	120	- 30	0.42
		- 20	-0.18
		- 10	-0.21
		0	-0.24
		+ 10	-0.18
		+ 20 (Ref)	-0.21
		+ 30	-0.22
		+ 40	-0.18
		+ 50	-0.21
115%	138	+ 20	-0.22
85%	102	+ 20	-0.18

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	52%
Test Site	TR3	Test Date	2020/01/15
Test Band	LTE Band 66/4	Test Mode	SISO Mode

Voltage (%)	Power (VAC)	Temp (°C)	Frequency Tolerance (ppm)
100%	120	- 30	-0.30
		- 20	-0.24
		- 10	-0.19
		0	0.15
		+ 10	0.42
		+ 20 (Ref)	-0.20
		+ 30	-0.28
		+ 40	-0.22
		+ 50	-0.17
115%	138	+ 20	-0.18
85%	102	+ 20	-0.15

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	52%
Test Site	TR3	Test Date	2020/01/15
Test Band	LTE Band 5	Test Mode	SISO Mode

Voltage (%)	Power (VAC)	Temp (°C)	Frequency Tolerance (ppm)
100%	120	- 30	-0.27
		- 20	-0.80
		- 10	-0.71
		0	-0.26
		+ 10	-0.78
		+ 20 (Ref)	-0.70
		+ 30	-0.23
		+ 40	-0.76
		+ 50	-0.21
115%	138	+ 20	-0.78
85%	102	+ 20	-0.68

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	52%
Test Site	TR3	Test Date	2020/01/15
Test Band	LTE Band 7	Test Mode	SISO Mode

Voltage (%)	Power (W)	Temp (°C)	Frequency Tolerance (ppm)
100%	120	- 30	-0.26
		- 20	1.79
		- 10	-1.16
		0	-0.26
		+ 10	-0.26
		+ 20 (Ref)	-0.22
		+ 30	-0.37
		+ 40	-0.25
		+ 50	-0.20
115%	138	+ 20	-0.35
85%	102	+ 20	-0.25

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	52%
Test Site	TR3	Test Date	2020/01/15
Test Band	LTE Band 38	Test Mode	SISO Mode

Voltage (%)	Power (VAC)	Temp (°C)	Frequency Tolerance (ppm)
100%	120	- 30	-0.21
		- 20	-0.16
		- 10	-0.10
		0	-0.25
		+ 10	-0.20
		+ 20 (Ref)	-0.14
		+ 30	-0.09
		+ 40	-0.24
		+ 50	-0.20
115%	138	+ 20	-0.14
85%	102	+ 20	-0.09

6.4. Equivalent Isotropically Radiated Power Measurement

6.4.1. Test Limit

Band 5:

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

Band 25/2, 7, 38:

Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

Band 66/4:

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

6.4.2. Test Procedures Used

ANSI C63.26-2015 - Section 5.2.4.2 & 5.2.5.5

6.4.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation (1) as follows:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T$$

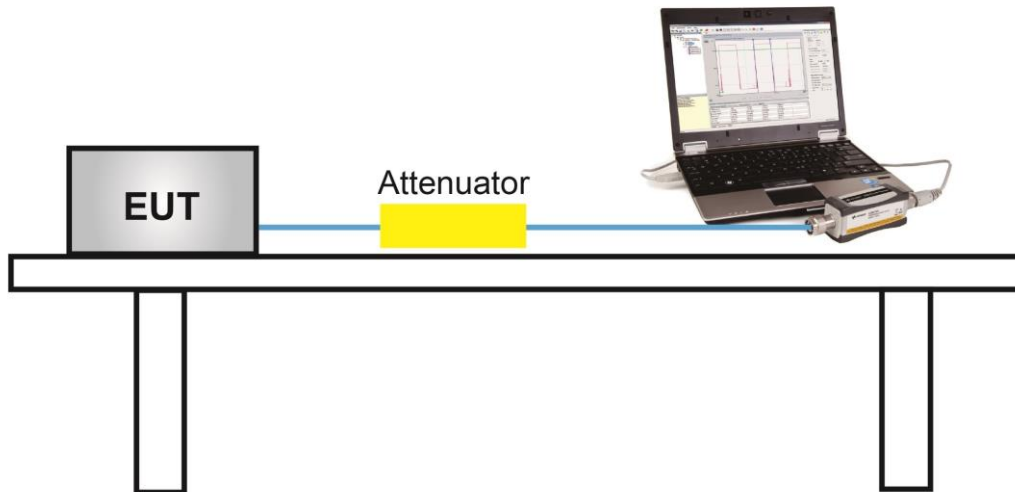
where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas} , e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

6.4.4. Test Setup



6.4.5. Test Result

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	50%
Test Site	SR5	Test Date	2020/04/08
Test Band	Band 25/2	Test Mode	SISO Mode

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
26047	1850.70	1.4	1	0	24.16	28.43	< 33.01
26365	1882.50				24.34	28.61	< 33.01
26683	1914.30				23.21	27.48	< 33.01
26047	1850.70	1.4	1	2	24.19	28.46	< 33.01
26365	1882.50				24.46	28.73	< 33.01
26683	1914.30				23.30	27.57	< 33.01
26047	1850.70	1.4	1	6	23.98	28.25	< 33.01
26365	1882.50				24.33	28.60	< 33.01
26683	1914.30				23.41	27.68	< 33.01
26047	1850.70	1.4	6	0	23.01	27.28	< 33.01
26365	1882.50				23.47	27.74	< 33.01
26683	1914.30				22.65	26.92	< 33.01
26055	1851.50	3	1	0	24.27	28.54	< 33.01
26365	1882.50				24.47	28.74	< 33.01
26675	1913.50				23.21	27.48	< 33.01
26055	1851.50	3	1	7	24.40	28.67	< 33.01
26365	1882.50				24.69	28.96	< 33.01
26675	1913.50				23.50	27.77	< 33.01
26055	1851.50	3	1	14	24.04	28.31	< 33.01
26365	1882.50				24.56	28.83	< 33.01
26675	1913.50				23.52	27.79	< 33.01
26055	1851.50	3	15	0	23.32	27.59	< 33.01
26365	1882.50				23.68	27.95	< 33.01
26675	1913.50				22.96	27.23	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
26065	1852.50	5	1	0	24.31	28.58	< 33.01
26365	1882.50				24.60	28.87	< 33.01
26665	1912.50				23.47	27.74	< 33.01
26065	1852.50	5	1	12	24.51	28.78	< 33.01
26365	1882.50				24.62	28.89	< 33.01
26665	1912.50				23.82	28.09	< 33.01
26065	1852.50	5	1	24	24.17	28.44	< 33.01
26365	1882.50				24.39	28.66	< 33.01
26665	1912.50				23.73	28.00	< 33.01
26065	1852.50	5	25	0	23.09	27.36	< 33.01
26365	1882.50				23.49	27.76	< 33.01
26665	1912.50				22.92	27.19	< 33.01
16390	1855.00	10	1	0	23.83	28.10	< 33.01
26365	1882.50				24.33	28.60	< 33.01
26640	1910.00				24.19	28.46	< 33.01
16390	1855.00	10	1	24	23.79	28.06	< 33.01
26365	1882.50				24.16	28.43	< 33.01
26640	1910.00				23.80	28.07	< 33.01
16390	1855.00	10	1	49	24.11	28.38	< 33.01
26365	1882.50				24.13	28.40	< 33.01
26640	1910.00				23.23	27.50	< 33.01
16390	1855.00	10	50	0	23.23	27.50	< 33.01
26365	1882.50				23.25	27.52	< 33.01
26640	1910.00				23.01	27.28	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
26115	1857.50	15	1	0	23.82	28.09	< 33.01
26365	1882.50				24.28	28.55	< 33.01
26615	1907.50				24.20	28.47	< 33.01
26115	1857.50	15	1	37	23.98	28.25	< 33.01
26365	1882.50				24.27	28.54	< 33.01
26615	1907.50				24.21	28.48	< 33.01
26115	1857.50	15	1	74	24.09	28.36	< 33.01
26365	1882.50				24.13	28.40	< 33.01
26615	1907.50				23.09	27.36	< 33.01
26115	1857.50	15	75	0	23.15	27.42	< 33.01
26365	1882.50				23.18	27.45	< 33.01
26615	1907.50				22.92	27.19	< 33.01
26140	1860.00	20	1	0	23.99	28.26	< 33.01
26365	1882.50				24.55	28.82	< 33.01
26590	1905.00				24.21	28.48	< 33.01
26140	1860.00	20	1	49	24.12	28.39	< 33.01
26365	1882.50				24.36	28.63	< 33.01
26590	1905.00				24.20	28.47	< 33.01
26140	1860.00	20	1	99	24.32	28.59	< 33.01
26365	1882.50				24.28	28.55	< 33.01
26590	1905.00				23.23	27.50	< 33.01
26140	1860.00	20	100	0	23.12	27.39	< 33.01
26365	1882.50				23.33	27.60	< 33.01
26590	1905.00				23.10	27.37	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
26047	1850.70	1.4	1	0	23.29	27.56	< 33.01
26365	1882.50				23.48	27.75	< 33.01
26683	1914.30				22.64	26.91	< 33.01
26047	1850.70	1.4	1	2	23.18	27.45	< 33.01
26365	1882.50				23.76	28.03	< 33.01
26683	1914.30				23.09	27.36	< 33.01
26047	1850.70	1.4	1	6	22.78	27.05	< 33.01
26365	1882.50				23.44	27.71	< 33.01
26683	1914.30				23.06	27.33	< 33.01
26047	1850.70	1.4	6	0	21.72	25.99	< 33.01
26365	1882.50				22.37	26.64	< 33.01
26683	1914.30				21.51	25.78	< 33.01
26055	1851.50	3	1	0	23.41	27.68	< 33.01
26365	1882.50				23.67	27.94	< 33.01
26675	1913.50				22.94	27.21	< 33.01
26055	1851.50	3	1	7	23.52	27.79	< 33.01
26365	1882.50				24.07	28.34	< 33.01
26675	1913.50				23.13	27.40	< 33.01
26055	1851.50	3	1	14	22.95	27.22	< 33.01
26365	1882.50				23.54	27.81	< 33.01
26675	1913.50				23.21	27.48	< 33.01
26055	1851.50	3	15	0	21.82	26.09	< 33.01
26365	1882.50				22.51	26.78	< 33.01
26675	1913.50				21.53	25.80	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
26065	1852.50	5	1	0	23.62	27.89	< 33.01
26365	1882.50				23.68	27.95	< 33.01
26665	1912.50				22.76	27.03	< 33.01
26065	1852.50	5	1	12	23.48	27.75	< 33.01
26365	1882.50				23.83	28.10	< 33.01
26665	1912.50				23.36	27.63	< 33.01
26065	1852.50	5	1	24	23.05	27.32	< 33.01
26365	1882.50				23.63	27.90	< 33.01
26665	1912.50				23.29	27.56	< 33.01
26065	1852.50	5	25	0	21.81	26.08	< 33.01
26365	1882.50				22.38	26.65	< 33.01
26665	1912.50				21.69	25.96	< 33.01
16390	1855.00	10	1	0	23.03	27.30	< 33.01
26365	1882.50				23.37	27.64	< 33.01
26640	1910.00				23.64	27.91	< 33.01
16390	1855.00	10	1	24	22.87	27.14	< 33.01
26365	1882.50				23.18	27.45	< 33.01
26640	1910.00				23.25	27.52	< 33.01
16390	1855.00	10	1	49	23.21	27.48	< 33.01
26365	1882.50				23.14	27.41	< 33.01
26640	1910.00				22.99	27.26	< 33.01
16390	1855.00	10	50	0	21.98	26.25	< 33.01
26365	1882.50				22.17	26.44	< 33.01
26640	1910.00				22.14	26.41	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
26115	1857.50	15	1	0	23.10	27.37	< 33.01
26365	1882.50				23.75	28.02	< 33.01
26615	1907.50				23.35	27.62	< 33.01
26115	1857.50	15	1	37	23.07	27.34	< 33.01
26365	1882.50				23.55	27.82	< 33.01
26615	1907.50				23.58	27.85	< 33.01
26115	1857.50	15	1	74	23.40	27.67	< 33.01
26365	1882.50				23.66	27.93	< 33.01
26615	1907.50				22.84	27.11	< 33.01
26115	1857.50	15	75	0	21.81	26.08	< 33.01
26365	1882.50				22.32	26.59	< 33.01
26615	1907.50				22.22	26.49	< 33.01
26140	1860.00	20	1	0	23.46	27.73	< 33.01
26365	1882.50				23.90	28.17	< 33.01
26590	1905.00				23.52	27.79	< 33.01
26140	1860.00	20	1	49	23.26	27.53	< 33.01
26365	1882.50				23.52	27.79	< 33.01
26590	1905.00				23.34	27.61	< 33.01
26140	1860.00	20	1	99	23.52	27.79	< 33.01
26365	1882.50				23.36	27.63	< 33.01
26590	1905.00				22.68	26.95	< 33.01
26140	1860.00	20	100	0	22.10	26.37	< 33.01
26365	1882.50				22.26	26.53	< 33.01
26590	1905.00				22.27	26.54	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
64QAM							
26047	1850.70	1.4	1	0	22.25	26.52	< 33.01
26365	1882.50				22.65	26.92	< 33.01
26683	1914.30				21.76	26.03	< 33.01
26047	1850.70	1.4	1	2	22.24	26.51	< 33.01
26365	1882.50				22.85	27.12	< 33.01
26683	1914.30				22.14	26.41	< 33.01
26047	1850.70	1.4	1	6	21.92	26.19	< 33.01
26365	1882.50				22.61	26.88	< 33.01
26683	1914.30				21.95	26.22	< 33.01
26047	1850.70	1.4	6	0	20.92	25.19	< 33.01
26365	1882.50				21.56	25.83	< 33.01
26683	1914.30				20.67	24.94	< 33.01
26055	1851.50	3	1	0	22.40	26.67	< 33.01
26365	1882.50				22.93	27.20	< 33.01
26675	1913.50				22.08	26.35	< 33.01
26055	1851.50	3	1	7	22.25	26.52	< 33.01
26365	1882.50				22.88	27.15	< 33.01
26675	1913.50				22.32	26.59	< 33.01
26055	1851.50	3	1	14	21.99	26.26	< 33.01
26365	1882.50				22.82	27.09	< 33.01
26675	1913.50				22.06	26.33	< 33.01
26055	1851.50	3	15	0	21.07	25.34	< 33.01
26365	1882.50				21.76	26.03	< 33.01
26675	1913.50				20.71	24.98	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
64QAM							
26065	1852.50	5	1	0	22.28	26.55	< 33.01
26365	1882.50				22.78	27.05	< 33.01
26665	1912.50				21.97	26.24	< 33.01
26065	1852.50	5	1	12	22.33	26.60	< 33.01
26365	1882.50				23.00	27.27	< 33.01
26665	1912.50				22.32	26.59	< 33.01
26065	1852.50	5	1	24	22.01	26.28	< 33.01
26365	1882.50				22.71	26.98	< 33.01
26665	1912.50				21.97	26.24	< 33.01
26065	1852.50	5	25	0	21.04	25.31	< 33.01
26365	1882.50				21.58	25.85	< 33.01
26665	1912.50				20.93	25.20	< 33.01
16390	1855.00	10	1	0	21.95	26.22	< 33.01
26365	1882.50				22.58	26.85	< 33.01
26640	1910.00				22.75	27.02	< 33.01
16390	1855.00	10	1	24	21.83	26.10	< 33.01
26365	1882.50				22.34	26.61	< 33.01
26640	1910.00				22.39	26.66	< 33.01
16390	1855.00	10	1	49	22.34	26.61	< 33.01
26365	1882.50				22.35	26.62	< 33.01
26640	1910.00				22.06	26.33	< 33.01
16390	1855.00	10	50	0	21.03	25.30	< 33.01
26365	1882.50				21.30	25.57	< 33.01
26640	1910.00				21.18	25.45	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
64QAM							
26115	1857.50	15	1	0	22.08	26.35	< 33.01
26365	1882.50				22.72	26.99	< 33.01
26615	1907.50				22.49	26.76	< 33.01
26115	1857.50	15	1	37	22.09	26.36	< 33.01
26365	1882.50				22.53	26.80	< 33.01
26615	1907.50				22.65	26.92	< 33.01
26115	1857.50	15	1	74	22.38	26.65	< 33.01
26365	1882.50				22.55	26.82	< 33.01
26615	1907.50				21.95	26.22	< 33.01
26115	1857.50	15	75	0	20.95	25.22	< 33.01
26365	1882.50				21.23	25.50	< 33.01
26615	1907.50				21.11	25.38	< 33.01
26140	1860.00	20	1	0	22.35	26.62	< 33.01
26365	1882.50				22.96	27.23	< 33.01
26590	1905.00				22.57	26.84	< 33.01
26140	1860.00	20	1	49	22.44	26.71	< 33.01
26365	1882.50				22.61	26.88	< 33.01
26590	1905.00				22.49	26.76	< 33.01
26140	1860.00	20	1	99	22.68	26.95	< 33.01
26365	1882.50				22.56	26.83	< 33.01
26590	1905.00				21.89	26.16	< 33.01
26140	1860.00	20	100	0	21.06	25.33	< 33.01
26365	1882.50				21.33	25.60	< 33.01
26590	1905.00				21.25	25.52	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	50%
Test Site	SR5	Test Date	2020/04/08
Test Band	Band 66/4	Test Mode	SISO Mode

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
131979	1710.70	1.4	1	0	23.99	28.48	< 30.00
132322	1745.00				24.29	28.78	< 30.00
132665	1779.30				24.37	28.86	< 30.00
131979	1710.70	1.4	1	2	23.50	27.99	< 30.00
132322	1745.00				24.57	29.06	< 30.00
132665	1779.30				24.49	28.98	< 30.00
131979	1710.70	1.4	1	6	23.08	27.57	< 30.00
132322	1745.00				24.45	28.94	< 30.00
132665	1779.30				24.53	29.02	< 30.00
131979	1710.70	1.4	6	0	22.23	26.72	< 30.00
132322	1745.00				24.30	28.79	< 30.00
132665	1779.30				23.19	27.68	< 30.00
131987	1711.50	3	1	0	21.19	25.68	< 30.00
132322	1745.00				23.27	27.76	< 30.00
132657	1778.50				24.07	28.56	< 30.00
131987	1711.50	3	1	7	23.18	27.67	< 30.00
132322	1745.00				24.08	28.57	< 30.00
132657	1778.50				24.35	28.84	< 30.00
131987	1711.50	3	1	14	23.17	27.66	< 30.00
132322	1745.00				24.11	28.60	< 30.00
132657	1778.50				21.94	26.43	< 30.00
131987	1711.50	3	15	0	22.07	26.56	< 30.00
132322	1745.00				23.07	27.56	< 30.00
132657	1778.50				22.95	27.44	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
131997	1712.50	5	1	0	23.63	28.12	< 30.00
132322	1745.00				23.60	28.09	< 30.00
132647	1777.50				23.68	28.17	< 30.00
131997	1712.50	5	1	12	24.11	28.60	< 30.00
132322	1745.00				23.84	28.33	< 30.00
132647	1777.50				23.76	28.25	< 30.00
131997	1712.50	5	1	24	23.93	28.42	< 30.00
132322	1745.00				23.94	28.43	< 30.00
132647	1777.50				22.49	26.98	< 30.00
131997	1712.50	5	25	0	22.02	26.51	< 30.00
132322	1745.00				22.93	27.42	< 30.00
132647	1777.50				22.58	27.07	< 30.00
132022	1715.00	10	1	0	23.46	27.95	< 30.00
132322	1745.00				24.13	28.62	< 30.00
132622	1775.00				24.04	28.53	< 30.00
132022	1715.00	10	1	24	23.70	28.19	< 30.00
132322	1745.00				24.19	28.68	< 30.00
132622	1775.00				24.12	28.61	< 30.00
132022	1715.00	10	1	49	24.54	29.03	< 30.00
132322	1745.00				24.46	28.95	< 30.00
132622	1775.00				24.24	28.73	< 30.00
132022	1715.00	10	50	0	22.78	27.27	< 30.00
132322	1745.00				23.41	27.90	< 30.00
132622	1775.00				23.15	27.64	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
132047	1717.50	15	1	0	23.56	28.05	< 30.00
132322	1745.00				24.11	28.60	< 30.00
132597	1772.50				24.10	28.59	< 30.00
132047	1717.50	15	1	37	24.14	28.63	< 30.00
132322	1745.00				24.22	28.71	< 30.00
132597	1772.50				24.35	28.84	< 30.00
132047	1717.50	15	1	74	24.23	28.72	< 30.00
132322	1745.00				24.28	28.77	< 30.00
132597	1772.50				24.42	28.91	< 30.00
132047	1717.50	15	75	0	22.87	27.36	< 30.00
132322	1745.00				23.17	27.66	< 30.00
132597	1772.50				23.08	27.57	< 30.00
132072	1720.00	20	1	0	23.50	27.99	< 30.00
132322	1745.00				23.89	28.38	< 30.00
132572	1770.00				23.95	28.44	< 30.00
132072	1720.00	20	1	49	24.31	28.80	< 30.00
132322	1745.00				24.21	28.70	< 30.00
132572	1770.00				24.22	28.71	< 30.00
132072	1720.00	20	1	99	23.72	28.21	< 30.00
132322	1745.00				24.27	28.76	< 30.00
132572	1770.00				24.33	28.82	< 30.00
132072	1720.00	20	100	0	22.73	27.22	< 30.00
132322	1745.00				23.15	27.64	< 30.00
132572	1770.00				23.04	27.53	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
131979	1710.70	1.4	1	0	22.81	27.30	< 30.00
132322	1745.00				23.43	27.92	< 30.00
132665	1779.30				23.47	27.96	< 30.00
131979	1710.70	1.4	1	2	22.77	27.26	< 30.00
132322	1745.00				23.64	28.13	< 30.00
132665	1779.30				23.59	28.08	< 30.00
131979	1710.70	1.4	1	6	22.43	26.92	< 30.00
132322	1745.00				23.51	28.00	< 30.00
132665	1779.30				23.45	27.94	< 30.00
131979	1710.70	1.4	6	0	21.26	25.75	< 30.00
132322	1745.00				23.69	28.18	< 30.00
132665	1779.30				22.31	26.80	< 30.00
131987	1711.50	3	1	0	21.18	25.67	< 30.00
132322	1745.00				22.14	26.63	< 30.00
132657	1778.50				22.98	27.47	< 30.00
131987	1711.50	3	1	7	22.71	27.20	< 30.00
132322	1745.00				23.33	27.82	< 30.00
132657	1778.50				23.26	27.75	< 30.00
131987	1711.50	3	1	14	22.40	26.89	< 30.00
132322	1745.00				23.34	27.83	< 30.00
132657	1778.50				21.11	25.60	< 30.00
131987	1711.50	3	15	0	20.96	25.45	< 30.00
132322	1745.00				22.14	26.63	< 30.00
132657	1778.50				22.00	26.49	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
131997	1712.50	5	1	0	22.80	27.29	< 30.00
132322	1745.00				22.79	27.28	< 30.00
132647	1777.50				23.06	27.55	< 30.00
131997	1712.50	5	1	12	23.36	27.85	< 30.00
132322	1745.00				22.56	27.05	< 30.00
132647	1777.50				23.14	27.63	< 30.00
131997	1712.50	5	1	24	23.33	27.82	< 30.00
132322	1745.00				22.91	27.40	< 30.00
132647	1777.50				21.95	26.44	< 30.00
131997	1712.50	5	25	0	21.03	25.52	< 30.00
132322	1745.00				21.79	26.28	< 30.00
132647	1777.50				21.82	26.31	< 30.00
132022	1715.00	10	1	0	22.59	27.08	< 30.00
132322	1745.00				23.26	27.75	< 30.00
132622	1775.00				23.33	27.82	< 30.00
132022	1715.00	10	1	24	22.87	27.36	< 30.00
132322	1745.00				23.51	28.00	< 30.00
132622	1775.00				23.40	27.89	< 30.00
132022	1715.00	10	1	49	24.00	28.49	< 30.00
132322	1745.00				23.35	27.84	< 30.00
132622	1775.00				23.57	28.06	< 30.00
132022	1715.00	10	50	0	21.69	26.18	< 30.00
132322	1745.00				22.27	26.76	< 30.00
132622	1775.00				22.17	26.66	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
132047	1717.50	15	1	0	22.57	27.06	< 30.00
132322	1745.00				23.54	28.03	< 30.00
132597	1772.50				23.53	28.02	< 30.00
132047	1717.50	15	1	37	23.11	27.60	< 30.00
132322	1745.00				23.62	28.11	< 30.00
132597	1772.50				23.92	28.41	< 30.00
132047	1717.50	15	1	74	23.43	27.92	< 30.00
132322	1745.00				23.29	27.78	< 30.00
132597	1772.50				23.58	28.07	< 30.00
132047	1717.50	15	75	0	21.83	26.32	< 30.00
132322	1745.00				22.26	26.75	< 30.00
132597	1772.50				22.17	26.66	< 30.00
132072	1720.00	20	1	0	22.78	27.27	< 30.00
132322	1745.00				23.17	27.66	< 30.00
132572	1770.00				23.01	27.50	< 30.00
132072	1720.00	20	1	49	23.21	27.70	< 30.00
132322	1745.00				23.46	27.95	< 30.00
132572	1770.00				23.35	27.84	< 30.00
132072	1720.00	20	1	99	22.90	27.39	< 30.00
132322	1745.00				23.15	27.64	< 30.00
132572	1770.00				23.28	27.77	< 30.00
132072	1720.00	20	100	0	21.86	26.35	< 30.00
132322	1745.00				22.13	26.62	< 30.00
132572	1770.00				22.24	26.73	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
64QAM							
131979	1710.70	1.4	1	0	22.02	26.51	< 30.00
132322	1745.00				22.58	27.07	< 30.00
132665	1779.30				22.56	27.05	< 30.00
131979	1710.70	1.4	1	2	21.87	26.36	< 30.00
132322	1745.00				22.69	27.18	< 30.00
132665	1779.30				22.80	27.29	< 30.00
131979	1710.70	1.4	1	6	21.63	26.12	< 30.00
132322	1745.00				22.42	26.91	< 30.00
132665	1779.30				22.45	26.94	< 30.00
131979	1710.70	1.4	6	0	20.38	24.87	< 30.00
132322	1745.00				22.62	27.11	< 30.00
132665	1779.30				21.21	25.70	< 30.00
131987	1711.50	3	1	0	20.18	24.67	< 30.00
132322	1745.00				21.11	25.60	< 30.00
132657	1778.50				22.13	26.62	< 30.00
131987	1711.50	3	1	7	21.61	26.10	< 30.00
132322	1745.00				22.35	26.84	< 30.00
132657	1778.50				22.48	26.97	< 30.00
131987	1711.50	3	1	14	21.43	25.92	< 30.00
132322	1745.00				22.25	26.74	< 30.00
132657	1778.50				20.02	24.51	< 30.00
131987	1711.50	3	15	0	20.18	24.67	< 30.00
132322	1745.00				21.07	25.56	< 30.00
132657	1778.50				20.90	25.39	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
64QAM							
131997	1712.50	5	1	0	21.97	26.46	< 30.00
132322	1745.00				21.85	26.34	< 30.00
132647	1777.50				22.10	26.59	< 30.00
131997	1712.50	5	1	12	22.24	26.73	< 30.00
132322	1745.00				21.68	26.17	< 30.00
132647	1777.50				22.06	26.55	< 30.00
131997	1712.50	5	1	24	22.37	26.86	< 30.00
132322	1745.00				22.09	26.58	< 30.00
132647	1777.50				20.83	25.32	< 30.00
131997	1712.50	5	25	0	20.14	24.63	< 30.00
132322	1745.00				20.85	25.34	< 30.00
132647	1777.50				20.71	25.20	< 30.00
132022	1715.00	10	1	0	21.81	26.30	< 30.00
132322	1745.00				22.18	26.67	< 30.00
132622	1775.00				22.41	26.90	< 30.00
132022	1715.00	10	1	24	22.08	26.57	< 30.00
132322	1745.00				22.42	26.91	< 30.00
132622	1775.00				22.45	26.94	< 30.00
132022	1715.00	10	1	49	22.88	27.37	< 30.00
132322	1745.00				22.43	26.92	< 30.00
132622	1775.00				22.55	27.04	< 30.00
132022	1715.00	10	50	0	20.83	25.32	< 30.00
132322	1745.00				21.36	25.85	< 30.00
132622	1775.00				21.12	25.61	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
64QAM							
132047	1717.50	15	1	0	21.56	26.05	< 30.00
132322	1745.00				22.46	26.95	< 30.00
132597	1772.50				22.61	27.10	< 30.00
132047	1717.50	15	1	37	22.15	26.64	< 30.00
132322	1745.00				22.56	27.05	< 30.00
132597	1772.50				22.82	27.31	< 30.00
132047	1717.50	15	1	74	22.62	27.11	< 30.00
132322	1745.00				22.38	26.87	< 30.00
132597	1772.50				22.53	27.02	< 30.00
132047	1717.50	15	75	0	20.94	25.43	< 30.00
132322	1745.00				21.15	25.64	< 30.00
132597	1772.50				21.09	25.58	< 30.00
132072	1720.00	20	1	0	21.79	26.28	< 30.00
132322	1745.00				22.28	26.77	< 30.00
132572	1770.00				22.19	26.68	< 30.00
132072	1720.00	20	1	49	22.31	26.80	< 30.00
132322	1745.00				22.56	27.05	< 30.00
132572	1770.00				22.34	26.83	< 30.00
132072	1720.00	20	1	99	21.96	26.45	< 30.00
132322	1745.00				22.30	26.79	< 30.00
132572	1770.00				22.49	26.98	< 30.00
132072	1720.00	20	100	0	20.77	25.26	< 30.00
132322	1745.00				21.13	25.62	< 30.00
132572	1770.00				21.12	25.61	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	50%
Test Site	SR5	Test Date	2020/04/08
Test Band	Band 5	Test Mode	SISO Mode

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
20407	824.70	1.4	1	0	24.33	22.28	< 40.61
20525	836.50				24.69	22.64	< 40.61
20643	848.30				24.28	22.23	< 40.61
20407	824.70	1.4	1	2	24.46	22.41	< 40.61
20525	836.50				24.54	22.49	< 40.61
20643	848.30				24.86	22.81	< 40.61
20407	824.70	1.4	1	6	24.59	22.54	< 40.61
20525	836.50				24.12	22.07	< 40.61
20643	848.30				23.54	21.49	< 40.61
20407	824.70	1.4	6	0	23.74	21.69	< 40.61
20525	836.50				23.68	21.63	< 40.61
20643	848.30				23.59	21.54	< 40.61
20415	825.50	3	1	0	24.43	22.38	< 40.61
20525	836.50				25.17	23.12	< 40.61
20635	847.50				24.80	22.75	< 40.61
20415	825.50	3	1	7	24.58	22.53	< 40.61
20525	836.50				24.17	22.12	< 40.61
20635	847.50				25.12	23.07	< 40.61
20415	825.50	3	1	14	25.20	23.15	< 40.61
20525	836.50				25.04	22.99	< 40.61
20635	847.50				25.23	23.18	< 40.61
20415	825.50	3	15	0	24.44	22.39	< 40.61
20525	836.50				24.22	22.17	< 40.61
20635	847.50				23.85	21.80	< 40.61
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) – 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
20425	826.50	5	1	0	24.74	22.69	< 40.61
20525	836.50				25.01	22.96	< 40.61
20625	846.50				24.92	22.87	< 40.61
20425	826.50	5	1	12	24.93	22.88	< 40.61
20525	836.50				24.51	22.46	< 40.61
20625	846.50				24.55	22.50	< 40.61
20425	826.50	5	1	24	24.85	22.80	< 40.61
20525	836.50				24.88	22.83	< 40.61
20625	846.50				25.36	23.31	< 40.61
20425	826.50	5	25	0	23.90	21.85	< 40.61
20525	836.50				24.03	21.98	< 40.61
20625	846.50				23.91	21.86	< 40.61
20450	829.00	10	1	0	24.64	22.59	< 40.61
20525	836.50				24.79	22.74	< 40.61
20600	844.00				24.96	22.91	< 40.61
20450	829.00	10	1	24	24.72	22.67	< 40.61
20525	836.50				24.72	22.67	< 40.61
20600	844.00				24.48	22.43	< 40.61
20450	829.00	10	1	49	25.00	22.95	< 40.61
20525	836.50				24.58	22.53	< 40.61
20600	844.00				25.04	22.99	< 40.61
20450	829.00	10	50	0	23.96	21.91	< 40.61
20525	836.50				24.17	22.12	< 40.61
20600	844.00				23.80	21.75	< 40.61
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) – 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
20407	824.70	1.4	1	0	23.74	21.69	< 40.61
20525	836.50				23.33	21.28	< 40.61
20643	848.30				23.10	21.05	< 40.61
20407	824.70	1.4	1	2	23.75	21.70	< 40.61
20525	836.50				23.59	21.54	< 40.61
20643	848.30				23.41	21.36	< 40.61
20407	824.70	1.4	1	6	23.52	21.47	< 40.61
20525	836.50				23.21	21.16	< 40.61
20643	848.30				22.15	20.10	< 40.61
20407	824.70	1.4	6	0	22.26	20.21	< 40.61
20525	836.50				22.59	20.54	< 40.61
20643	848.30				22.58	20.53	< 40.61
20415	825.50	3	1	0	22.97	20.92	< 40.61
20525	836.50				23.78	21.73	< 40.61
20635	847.50				24.61	22.56	< 40.61
20415	825.50	3	1	7	23.57	21.52	< 40.61
20525	836.50				22.94	20.89	< 40.61
20635	847.50				24.40	22.35	< 40.61
20415	825.50	3	1	14	24.17	22.12	< 40.61
20525	836.50				23.87	21.82	< 40.61
20635	847.50				24.77	22.72	< 40.61
20415	825.50	3	15	0	23.36	21.31	< 40.61
20525	836.50				22.71	20.66	< 40.61
20635	847.50				22.74	20.69	< 40.61
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) – 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
20425	826.50	5	1	0	23.72	21.67	< 40.61
20525	836.50				23.81	21.76	< 40.61
20625	846.50				23.79	21.74	< 40.61
20425	826.50	5	1	12	23.60	21.55	< 40.61
20525	836.50				23.30	21.25	< 40.61
20625	846.50				24.14	22.09	< 40.61
20425	826.50	5	1	24	23.69	21.64	< 40.61
20525	836.50				23.73	21.68	< 40.61
20625	846.50				23.71	21.66	< 40.61
20425	826.50	5	25	0	23.12	21.07	< 40.61
20525	836.50				23.06	21.01	< 40.61
20625	846.50				22.76	20.71	< 40.61
20450	829.00	10	1	0	24.02	21.97	< 40.61
20525	836.50				23.75	21.70	< 40.61
20600	844.00				24.25	22.20	< 40.61
20450	829.00	10	1	24	23.87	21.82	< 40.61
20525	836.50				23.30	21.25	< 40.61
20600	844.00				23.26	21.21	< 40.61
20450	829.00	10	1	49	23.92	21.87	< 40.61
20525	836.50				23.68	21.63	< 40.61
20600	844.00				23.89	21.84	< 40.61
20450	829.00	10	50	0	22.71	20.66	< 40.61
20525	836.50				22.42	20.37	< 40.61
20600	844.00				22.82	20.77	< 40.61
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) – 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
64QAM							
20407	824.70	1.4	1	0	22.81	20.76	< 40.61
20525	836.50				22.40	20.35	< 40.61
20643	848.30				22.16	20.11	< 40.61
20407	824.70	1.4	1	2	22.50	20.45	< 40.61
20525	836.50				22.77	20.72	< 40.61
20643	848.30				22.57	20.52	< 40.61
20407	824.70	1.4	1	6	22.51	20.46	< 40.61
20525	836.50				22.04	19.99	< 40.61
20643	848.30				21.34	19.29	< 40.61
20407	824.70	1.4	6	0	21.62	19.57	< 40.61
20525	836.50				21.59	19.54	< 40.61
20643	848.30				21.36	19.31	< 40.61
20415	825.50	3	1	0	22.41	20.36	< 40.61
20525	836.50				22.95	20.90	< 40.61
20635	847.50				23.66	21.61	< 40.61
20415	825.50	3	1	7	22.82	20.77	< 40.61
20525	836.50				21.92	19.87	< 40.61
20635	847.50				23.76	21.71	< 40.61
20415	825.50	3	1	14	23.20	21.15	< 40.61
20525	836.50				23.19	21.14	< 40.61
20635	847.50				23.85	21.80	< 40.61
20415	825.50	3	15	0	22.90	20.85	< 40.61
20525	836.50				22.04	19.99	< 40.61
20635	847.50				22.05	20.00	< 40.61
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) – 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
64QAM							
20425	826.50	5	1	0	22.49	20.44	< 40.61
20525	836.50				22.95	20.90	< 40.61
20625	846.50				22.68	20.63	< 40.61
20425	826.50	5	1	12	22.81	20.76	< 40.61
20525	836.50				22.64	20.59	< 40.61
20625	846.50				23.41	21.36	< 40.61
20425	826.50	5	1	24	22.64	20.59	< 40.61
20525	836.50				22.59	20.54	< 40.61
20625	846.50				23.20	21.15	< 40.61
20425	826.50	5	25	0	21.92	19.87	< 40.61
20525	836.50				21.79	19.74	< 40.61
20625	846.50				21.61	19.56	< 40.61
20450	829.00	10	1	0	22.98	20.93	< 40.61
20525	836.50				22.67	20.62	< 40.61
20600	844.00				23.05	21.00	< 40.61
20450	829.00	10	1	24	22.57	20.52	< 40.61
20525	836.50				22.67	20.62	< 40.61
20600	844.00				22.61	20.56	< 40.61
20450	829.00	10	1	49	22.94	20.89	< 40.61
20525	836.50				22.57	20.52	< 40.61
20600	844.00				22.87	20.82	< 40.61
20450	829.00	10	50	0	21.70	19.65	< 40.61
20525	836.50				21.96	19.91	< 40.61
20600	844.00				21.63	19.58	< 40.61
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) – 2.15							

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	50%
Test Site	SR5	Test Date	2020/04/08
Test Band	Band 7	Test Mode	SISO Mode

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
20775	2502.50	5	1	0	24.37	29.07	< 33.01
21100	2535.00				24.46	29.16	< 33.01
21425	2567.50				24.37	29.07	< 33.01
20775	2502.50	5	1	12	24.60	29.30	< 33.01
21100	2535.00				24.85	29.55	< 33.01
21425	2567.50				24.54	29.24	< 33.01
20775	2502.50	5	1	24	24.55	29.25	< 33.01
21100	2535.00				24.30	29.00	< 33.01
21425	2567.50				23.46	28.16	< 33.01
20775	2502.50	5	25	0	23.42	28.12	< 33.01
21100	2535.00				23.79	28.49	< 33.01
21425	2567.50				23.57	28.27	< 33.01
20800	2505.00	10	1	0	23.96	28.66	< 33.01
21100	2535.00				25.09	29.79	< 33.01
21400	2565.00				24.91	29.61	< 33.01
20800	2505.00	10	1	24	24.49	29.19	< 33.01
21100	2535.00				24.37	29.07	< 33.01
21400	2565.00				24.94	29.64	< 33.01
20800	2505.00	10	1	49	24.72	29.42	< 33.01
21100	2535.00				25.14	29.84	< 33.01
21400	2565.00				25.17	29.87	< 33.01
20800	2505.00	10	50	0	24.08	28.78	< 33.01
21100	2535.00				23.89	28.59	< 33.01
21400	2565.00				23.86	28.56	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
20825	2507.50	15	1	0	24.87	29.57	< 33.01
21100	2535.00				24.83	29.53	< 33.01
21375	2562.50				24.66	29.36	< 33.01
20825	2507.50	15	1	37	25.21	29.91	< 33.01
21100	2535.00				24.79	29.49	< 33.01
21375	2562.50				24.70	29.40	< 33.01
20825	2507.50	15	1	74	25.11	29.81	< 33.01
21100	2535.00				24.71	29.41	< 33.01
21375	2562.50				24.62	29.32	< 33.01
20825	2507.50	15	75	0	24.11	28.81	< 33.01
21100	2535.00				24.21	28.91	< 33.01
21375	2562.50				23.81	28.51	< 33.01
20850	2510.00	20	1	0	24.97	29.67	< 33.01
21100	2535.00				24.91	29.61	< 33.01
21350	2560.00				24.98	29.68	< 33.01
20850	2510.00	20	1	49	24.66	29.36	< 33.01
21100	2535.00				24.27	28.97	< 33.01
21350	2560.00				24.55	29.25	< 33.01
20850	2510.00	20	1	99	25.25	29.95	< 33.01
21100	2535.00				24.74	29.44	< 33.01
21350	2560.00				25.31	30.01	< 33.01
20850	2510.00	20	100	0	23.57	28.27	< 33.01
21100	2535.00				23.66	28.36	< 33.01
21350	2560.00				23.47	28.17	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
20775	2502.50	5	1	0	23.53	28.23	< 33.01
21100	2535.00				23.17	27.87	< 33.01
21425	2567.50				23.37	28.07	< 33.01
20775	2502.50	5	1	12	23.93	28.63	< 33.01
21100	2535.00				23.49	28.19	< 33.01
21425	2567.50				23.57	28.27	< 33.01
20775	2502.50	5	1	24	23.29	27.99	< 33.01
21100	2535.00				23.53	28.23	< 33.01
21425	2567.50				22.36	27.06	< 33.01
20775	2502.50	5	25	0	22.48	27.18	< 33.01
21100	2535.00				22.47	27.17	< 33.01
21425	2567.50				22.72	27.42	< 33.01
20800	2505.00	10	1	0	22.82	27.52	< 33.01
21100	2535.00				24.22	28.92	< 33.01
21400	2565.00				24.29	28.99	< 33.01
20800	2505.00	10	1	24	23.65	28.35	< 33.01
21100	2535.00				23.00	27.70	< 33.01
21400	2565.00				24.39	29.09	< 33.01
20800	2505.00	10	1	49	24.35	29.05	< 33.01
21100	2535.00				23.75	28.45	< 33.01
21400	2565.00				24.51	29.21	< 33.01
20800	2505.00	10	50	0	23.23	27.93	< 33.01
21100	2535.00				22.92	27.62	< 33.01
21400	2565.00				22.83	27.53	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
20825	2507.50	15	1	0	23.62	28.32	< 33.01
21100	2535.00				23.85	28.55	< 33.01
21375	2562.50				23.71	28.41	< 33.01
20825	2507.50	15	1	37	23.84	28.54	< 33.01
21100	2535.00				23.70	28.40	< 33.01
21375	2562.50				23.94	28.64	< 33.01
20825	2507.50	15	1	74	23.74	28.44	< 33.01
21100	2535.00				23.78	28.48	< 33.01
21375	2562.50				24.04	28.74	< 33.01
20825	2507.50	15	75	0	23.13	27.83	< 33.01
21100	2535.00				22.86	27.56	< 33.01
21375	2562.50				22.51	27.21	< 33.01
20850	2510.00	20	1	0	24.39	29.09	< 33.01
21100	2535.00				23.87	28.57	< 33.01
21350	2560.00				24.14	28.84	< 33.01
20850	2510.00	20	1	49	23.40	28.10	< 33.01
21100	2535.00				23.44	28.14	< 33.01
21350	2560.00				23.41	28.11	< 33.01
20850	2510.00	20	1	99	24.27	28.97	< 33.01
21100	2535.00				23.71	28.41	< 33.01
21350	2560.00				24.01	28.71	< 33.01
20850	2510.00	20	100	0	22.71	27.41	< 33.01
21100	2535.00				22.79	27.49	< 33.01
21350	2560.00				22.70	27.40	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
64QAM							
20775	2502.50	5	1	0	22.59	27.29	< 33.01
21100	2535.00				22.31	27.01	< 33.01
21425	2567.50				22.14	26.84	< 33.01
20775	2502.50	5	1	12	22.72	27.42	< 33.01
21100	2535.00				22.66	27.36	< 33.01
21425	2567.50				22.46	27.16	< 33.01
20775	2502.50	5	1	24	22.75	27.45	< 33.01
21100	2535.00				22.43	27.13	< 33.01
21425	2567.50				21.36	26.06	< 33.01
20775	2502.50	5	25	0	21.35	26.05	< 33.01
21100	2535.00				21.66	26.36	< 33.01
21425	2567.50				21.44	26.14	< 33.01
20800	2505.00	10	1	0	21.91	26.61	< 33.01
21100	2535.00				23.11	27.81	< 33.01
21400	2565.00				23.38	28.08	< 33.01
20800	2505.00	10	1	24	22.89	27.59	< 33.01
21100	2535.00				22.37	27.07	< 33.01
21400	2565.00				23.60	28.30	< 33.01
20800	2505.00	10	1	49	23.05	27.75	< 33.01
21100	2535.00				22.93	27.63	< 33.01
21400	2565.00				23.57	28.27	< 33.01
20800	2505.00	10	50	0	22.16	26.86	< 33.01
21100	2535.00				21.79	26.49	< 33.01
21400	2565.00				21.80	26.50	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
64QAM							
20825	2507.50	15	1	0	22.57	27.27	< 33.01
21100	2535.00				22.68	27.38	< 33.01
21375	2562.50				22.50	27.20	< 33.01
20825	2507.50	15	1	37	22.99	27.69	< 33.01
21100	2535.00				22.74	27.44	< 33.01
21375	2562.50				23.10	27.80	< 33.01
20825	2507.50	15	1	74	22.89	27.59	< 33.01
21100	2535.00				22.95	27.65	< 33.01
21375	2562.50				22.77	27.47	< 33.01
20825	2507.50	15	75	0	22.27	26.97	< 33.01
21100	2535.00				22.05	26.75	< 33.01
21375	2562.50				21.61	26.31	< 33.01
20850	2510.00	20	1	0	23.42	28.12	< 33.01
21100	2535.00				23.09	27.79	< 33.01
21350	2560.00				22.90	27.60	< 33.01
20850	2510.00	20	1	49	22.53	27.23	< 33.01
21100	2535.00				22.25	26.95	< 33.01
21350	2560.00				22.41	27.11	< 33.01
20850	2510.00	20	1	99	23.07	27.77	< 33.01
21100	2535.00				22.61	27.31	< 33.01
21350	2560.00				23.02	27.72	< 33.01
20850	2510.00	20	100	0	21.59	26.29	< 33.01
21100	2535.00				21.84	26.54	< 33.01
21350	2560.00				21.43	26.13	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	50%
Test Site	SR5	Test Date	2020/04/08
Test Band	Band 38	Test Mode	SISO Mode

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
37775	2572.50	5	1	0	24.57	29.27	< 33.01
38000	2595.00				24.52	29.22	< 33.01
38225	2617.50				24.51	29.21	< 33.01
37775	2572.50	5	1	12	24.75	29.45	< 33.01
38000	2595.00				24.75	29.45	< 33.01
38225	2617.50				24.79	29.49	< 33.01
37775	2572.50	5	1	24	24.54	29.24	< 33.01
38000	2595.00				24.52	29.22	< 33.01
38225	2617.50				23.69	28.39	< 33.01
37775	2572.50	5	25	0	23.77	28.47	< 33.01
38000	2595.00				23.80	28.50	< 33.01
38225	2617.50				23.78	28.48	< 33.01
37800	2575.00	10	1	0	24.17	28.87	< 33.01
38000	2595.00				25.04	29.74	< 33.01
38200	2615.00				24.96	29.66	< 33.01
37800	2575.00	10	1	24	24.68	29.38	< 33.01
38000	2595.00				24.21	28.91	< 33.01
38200	2615.00				24.97	29.67	< 33.01
37800	2575.00	10	1	49	25.30	30.00	< 33.01
38000	2595.00				25.09	29.79	< 33.01
38200	2615.00				25.27	29.97	< 33.01
37800	2575.00	10	50	0	24.28	28.98	< 33.01
38000	2595.00				24.18	28.88	< 33.01
38200	2615.00				24.02	28.72	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
37825	2577.50	15	1	0	25.05	29.75	< 33.01
38000	2595.00				24.98	29.68	< 33.01
38175	2612.50				24.93	29.63	< 33.01
37825	2577.50	15	1	37	25.05	29.75	< 33.01
38000	2595.00				24.80	29.50	< 33.01
38175	2612.50				24.86	29.56	< 33.01
37825	2577.50	15	1	74	25.11	29.81	< 33.01
38000	2595.00				24.85	29.55	< 33.01
38175	2612.50				25.13	29.83	< 33.01
37825	2577.50	15	75	0	24.16	28.86	< 33.01
38000	2595.00				24.02	28.72	< 33.01
38175	2612.50				23.93	28.63	< 33.01
37850	2580.00	20	1	0	25.12	29.82	< 33.01
38000	2595.00				24.92	29.62	< 33.01
38150	2610.00				24.85	29.55	< 33.01
37850	2580.00	20	1	49	24.82	29.52	< 33.01
38000	2595.00				24.27	28.97	< 33.01
38150	2610.00				24.63	29.33	< 33.01
37850	2580.00	20	1	99	25.05	29.75	< 33.01
38000	2595.00				24.62	29.32	< 33.01
38150	2610.00				25.09	29.79	< 33.01
37850	2580.00	20	100	0	23.95	28.65	< 33.01
38000	2595.00				23.87	28.57	< 33.01
38150	2610.00				23.75	28.45	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
37775	2572.50	5	1	0	23.82	28.52	< 33.01
38000	2595.00				23.16	27.86	< 33.01
38225	2617.50				23.32	28.02	< 33.01
37775	2572.50	5	1	12	23.79	28.49	< 33.01
38000	2595.00				23.71	28.41	< 33.01
38225	2617.50				23.55	28.25	< 33.01
37775	2572.50	5	1	24	23.50	28.20	< 33.01
38000	2595.00				23.38	28.08	< 33.01
38225	2617.50				22.37	27.07	< 33.01
37775	2572.50	5	25	0	22.36	27.06	< 33.01
38000	2595.00				22.62	27.32	< 33.01
38225	2617.50				22.57	27.27	< 33.01
37800	2575.00	10	1	0	22.95	27.65	< 33.01
38000	2595.00				24.09	28.79	< 33.01
38200	2615.00				24.44	29.14	< 33.01
37800	2575.00	10	1	24	23.76	28.46	< 33.01
38000	2595.00				23.11	27.81	< 33.01
38200	2615.00				24.27	28.97	< 33.01
37800	2575.00	10	1	49	24.21	28.91	< 33.01
38000	2595.00				23.77	28.47	< 33.01
38200	2615.00				24.57	29.27	< 33.01
37800	2575.00	10	50	0	23.07	27.77	< 33.01
38000	2595.00				22.96	27.66	< 33.01
38200	2615.00				22.68	27.38	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
37825	2577.50	15	1	0	23.83	28.53	< 33.01
38000	2595.00				23.79	28.49	< 33.01
38175	2612.50				23.72	28.42	< 33.01
37825	2577.50	15	1	37	23.80	28.50	< 33.01
38000	2595.00				23.55	28.25	< 33.01
38175	2612.50				24.08	28.78	< 33.01
37825	2577.50	15	1	74	23.68	28.38	< 33.01
38000	2595.00				23.78	28.48	< 33.01
38175	2612.50				23.82	28.52	< 33.01
37825	2577.50	15	75	0	22.96	27.66	< 33.01
38000	2595.00				23.06	27.76	< 33.01
38175	2612.50				22.55	27.25	< 33.01
37850	2580.00	20	1	0	24.22	28.92	< 33.01
38000	2595.00				23.88	28.58	< 33.01
38150	2610.00				23.95	28.65	< 33.01
37850	2580.00	20	1	49	23.62	28.32	< 33.01
38000	2595.00				23.23	27.93	< 33.01
38150	2610.00				23.43	28.13	< 33.01
37850	2580.00	20	1	99	24.15	28.85	< 33.01
38000	2595.00				23.52	28.22	< 33.01
38150	2610.00				23.94	28.64	< 33.01
37850	2580.00	20	100	0	22.57	27.27	< 33.01
38000	2595.00				22.62	27.32	< 33.01
38150	2610.00				22.52	27.22	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
64QAM							
37775	2572.50	5	1	0	22.80	27.50	< 33.01
38000	2595.00				22.38	27.08	< 33.01
38225	2617.50				22.21	26.91	< 33.01
37775	2572.50	5	1	12	22.80	27.50	< 33.01
38000	2595.00				22.74	27.44	< 33.01
38225	2617.50				22.62	27.32	< 33.01
37775	2572.50	5	1	24	22.65	27.35	< 33.01
38000	2595.00				22.28	26.98	< 33.01
38225	2617.50				21.52	26.22	< 33.01
37775	2572.50	5	25	0	21.53	26.23	< 33.01
38000	2595.00				21.71	26.41	< 33.01
38225	2617.50				21.54	26.24	< 33.01
37800	2575.00	10	1	0	22.10	26.80	< 33.01
38000	2595.00				23.27	27.97	< 33.01
38200	2615.00				23.36	28.06	< 33.01
37800	2575.00	10	1	24	22.96	27.66	< 33.01
38000	2595.00				22.23	26.93	< 33.01
38200	2615.00				23.48	28.18	< 33.01
37800	2575.00	10	1	49	23.24	27.94	< 33.01
38000	2595.00				22.91	27.61	< 33.01
38200	2615.00				23.68	28.38	< 33.01
37800	2575.00	10	50	0	22.14	26.84	< 33.01
38000	2595.00				22.01	26.71	< 33.01
38200	2615.00				21.84	26.54	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
64QAM							
37825	2577.50	15	1	0	22.75	27.45	< 33.01
38000	2595.00				22.83	27.53	< 33.01
38175	2612.50				22.72	27.42	< 33.01
37825	2577.50	15	1	37	22.89	27.59	< 33.01
38000	2595.00				22.66	27.36	< 33.01
38175	2612.50				23.17	27.87	< 33.01
37825	2577.50	15	1	74	22.82	27.52	< 33.01
38000	2595.00				22.73	27.43	< 33.01
38175	2612.50				22.96	27.66	< 33.01
37825	2577.50	15	75	0	21.97	26.67	< 33.01
38000	2595.00				21.96	26.66	< 33.01
38175	2612.50				21.72	26.42	< 33.01
37850	2580.00	20	1	0	23.22	27.92	< 33.01
38000	2595.00				22.96	27.66	< 33.01
38150	2610.00				22.83	27.53	< 33.01
37850	2580.00	20	1	49	22.52	27.22	< 33.01
38000	2595.00				22.35	27.05	< 33.01
38150	2610.00				22.42	27.12	< 33.01
37850	2580.00	20	1	99	23.13	27.83	< 33.01
38000	2595.00				22.59	27.29	< 33.01
38150	2610.00				22.95	27.65	< 33.01
37850	2580.00	20	100	0	21.79	26.49	< 33.01
38000	2595.00				21.75	26.45	< 33.01
38150	2610.00				21.53	26.23	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	50%
Test Site	SR5	Test Date	2020/04/08
Test Band	Band 25/2	Test Mode	MIMO Mode

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Toal EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
QPSK								
26047	1850.70	1.4	1	0	20.71	20.99	31.14	< 33.01
26365	1882.50				21.08	20.94	31.30	< 33.01
26683	1914.30				20.02	20.19	30.40	< 33.01
26047	1850.70	1.4	1	2	20.60	20.94	31.06	< 33.01
26365	1882.50				21.19	21.26	31.52	< 33.01
26683	1914.30				19.94	19.91	30.22	< 33.01
26047	1850.70	1.4	1	6	20.48	20.47	30.77	< 33.01
26365	1882.50				21.23	20.96	31.39	< 33.01
26683	1914.30				20.25	19.94	30.39	< 33.01
26047	1850.70	1.4	6	0	19.87	19.92	30.19	< 33.01
26365	1882.50				20.40	20.34	30.66	< 33.01
26683	1914.30				19.14	19.63	29.68	< 33.01
26055	1851.50	3	1	0	20.78	20.79	31.08	< 33.01
26365	1882.50				21.08	21.04	31.35	< 33.01
26675	1913.50				20.05	20.14	30.39	< 33.01
26055	1851.50	3	1	7	21.18	21.19	31.48	< 33.01
26365	1882.50				21.41	21.30	31.65	< 33.01
26675	1913.50				20.21	20.38	30.59	< 33.01
26055	1851.50	3	1	14	20.66	20.44	30.84	< 33.01
26365	1882.50				21.40	21.06	31.52	< 33.01
26675	1913.50				20.25	19.96	30.40	< 33.01
26055	1851.50	3	15	0	20.12	20.10	30.40	< 33.01
26365	1882.50				20.46	20.13	30.59	< 33.01
26675	1913.50				19.88	19.83	30.15	< 33.01
Note: The EIRP (dBm) = 10*log(10 ^{^(Ant 0 Power/10)} + 10 ^{^(Ant 1 Power/10)}) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Toal EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
QPSK								
26065	1852.50	5	1	0	20.74	21.29	31.31	< 33.01
26365	1882.50				21.33	21.35	31.63	< 33.01
26665	1912.50				20.20	20.08	30.43	< 33.01
26065	1852.50	5	1	12	21.44	20.90	31.47	< 33.01
26365	1882.50				21.23	21.11	31.46	< 33.01
26665	1912.50				20.77	20.33	30.85	< 33.01
26065	1852.50	5	1	24	20.82	21.03	31.22	< 33.01
26365	1882.50				21.28	21.12	31.49	< 33.01
26665	1912.50				20.31	20.31	30.60	< 33.01
26065	1852.50	5	25	0	19.48	20.00	30.04	< 33.01
26365	1882.50				20.30	20.26	30.57	< 33.01
26665	1912.50				19.71	19.65	29.97	< 33.01
16390	1855.00	10	1	0	20.28	20.67	30.77	< 33.01
26365	1882.50				21.21	21.26	31.53	< 33.01
26640	1910.00				20.60	20.64	30.91	< 33.01
16390	1855.00	10	1	24	20.77	20.55	30.95	< 33.01
26365	1882.50				20.84	21.02	31.22	< 33.01
26640	1910.00				20.80	20.60	30.99	< 33.01
16390	1855.00	10	1	49	20.78	20.64	31.00	< 33.01
26365	1882.50				20.66	20.86	31.05	< 33.01
26640	1910.00				19.71	20.20	30.25	< 33.01
16390	1855.00	10	50	0	20.01	19.92	30.26	< 33.01
26365	1882.50				20.04	19.75	30.19	< 33.01
26640	1910.00				19.44	19.79	29.91	< 33.01
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Toal EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
QPSK								
26115	1857.50	15	1	0	20.22	20.38	30.59	< 33.01
26365	1882.50				21.14	20.77	31.25	< 33.01
26615	1907.50				20.94	20.63	31.08	< 33.01
26115	1857.50	15	1	37	20.97	20.68	31.12	< 33.01
26365	1882.50				20.70	20.94	31.11	< 33.01
26615	1907.50				21.08	21.07	31.37	< 33.01
26115	1857.50	15	1	74	20.88	20.82	31.14	< 33.01
26365	1882.50				21.07	21.05	31.35	< 33.01
26615	1907.50				20.04	19.83	30.23	< 33.01
26115	1857.50	15	75	0	20.13	19.95	30.33	< 33.01
26365	1882.50				20.07	19.87	30.26	< 33.01
26615	1907.50				19.62	19.50	29.85	< 33.01
26140	1860.00	20	1	0	20.90	20.88	31.18	< 33.01
26365	1882.50				21.00	21.11	31.35	< 33.01
26590	1905.00				21.12	21.06	31.38	< 33.01
26140	1860.00	20	1	49	21.02	20.51	31.06	< 33.01
26365	1882.50				20.83	21.18	31.30	< 33.01
26590	1905.00				21.02	20.63	31.12	< 33.01
26140	1860.00	20	1	99	20.95	20.79	31.16	< 33.01
26365	1882.50				21.23	20.99	31.40	< 33.01
26590	1905.00				20.14	19.76	30.24	< 33.01
26140	1860.00	20	100	0	20.01	19.53	30.07	< 33.01
26365	1882.50				19.99	20.07	30.32	< 33.01
26590	1905.00				19.68	20.11	30.19	< 33.01
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Toal EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
16QAM								
26047	1850.70	1.4	1	0	19.99	20.09	30.33	< 33.01
26365	1882.50				20.19	20.02	30.40	< 33.01
26683	1914.30				19.14	19.22	29.47	< 33.01
26047	1850.70	1.4	1	2	20.18	19.77	30.27	< 33.01
26365	1882.50				20.35	20.72	30.83	< 33.01
26683	1914.30				19.68	19.59	29.93	< 33.01
26047	1850.70	1.4	1	6	19.30	19.75	29.82	< 33.01
26365	1882.50				20.29	20.35	30.61	< 33.01
26683	1914.30				20.07	19.47	30.07	< 33.01
26047	1850.70	1.4	6	0	18.38	18.11	28.54	< 33.01
26365	1882.50				19.01	18.80	29.20	< 33.01
26683	1914.30				17.94	18.29	28.41	< 33.01
26055	1851.50	3	1	0	19.87	20.17	30.31	< 33.01
26365	1882.50				20.19	20.23	30.50	< 33.01
26675	1913.50				19.77	19.95	30.15	< 33.01
26055	1851.50	3	1	7	20.16	19.92	30.33	< 33.01
26365	1882.50				20.47	20.64	30.85	< 33.01
26675	1913.50				19.81	20.00	30.20	< 33.01
26055	1851.50	3	1	14	19.46	19.79	29.92	< 33.01
26365	1882.50				20.33	20.55	30.73	< 33.01
26675	1913.50				19.76	20.21	30.28	< 33.01
26055	1851.50	3	15	0	18.45	18.71	28.87	< 33.01
26365	1882.50				19.44	19.32	29.67	< 33.01
26675	1913.50				18.41	18.29	28.64	< 33.01
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Toal EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
16QAM								
26065	1852.50	5	1	0	20.47	20.06	30.56	< 33.01
26365	1882.50				20.55	20.63	30.88	< 33.01
26665	1912.50				19.23	19.68	29.75	< 33.01
26065	1852.50	5	1	12	19.97	20.16	30.36	< 33.01
26365	1882.50				20.70	20.78	31.03	< 33.01
26665	1912.50				19.83	20.29	30.36	< 33.01
26065	1852.50	5	1	24	19.58	19.77	29.97	< 33.01
26365	1882.50				20.11	20.04	30.37	< 33.01
26665	1912.50				19.80	19.83	30.11	< 33.01
26065	1852.50	5	25	0	18.66	18.81	29.03	< 33.01
26365	1882.50				18.95	18.99	29.26	< 33.01
26665	1912.50				18.67	18.33	28.79	< 33.01
16390	1855.00	10	1	0	19.47	19.61	29.83	< 33.01
26365	1882.50				19.84	20.04	30.23	< 33.01
26640	1910.00				20.40	20.52	30.75	< 33.01
16390	1855.00	10	1	24	19.43	19.46	29.74	< 33.01
26365	1882.50				19.71	19.62	29.96	< 33.01
26640	1910.00				20.05	20.23	30.43	< 33.01
16390	1855.00	10	1	49	20.22	20.00	30.40	< 33.01
26365	1882.50				19.75	20.15	30.24	< 33.01
26640	1910.00				19.91	19.79	30.14	< 33.01
16390	1855.00	10	50	0	18.46	18.38	28.71	< 33.01
26365	1882.50				18.97	19.07	29.31	< 33.01
26640	1910.00				18.86	18.97	29.21	< 33.01
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Toal EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
16QAM								
26115	1857.50	15	1	0	20.00	19.75	30.17	< 33.01
26365	1882.50				20.19	20.75	30.77	< 33.01
26615	1907.50				20.02	19.79	30.20	< 33.01
26115	1857.50	15	1	37	19.76	19.61	29.98	< 33.01
26365	1882.50				20.39	20.43	30.70	< 33.01
26615	1907.50				20.33	20.02	30.47	< 33.01
26115	1857.50	15	1	74	19.83	20.09	30.25	< 33.01
26365	1882.50				20.61	20.50	30.85	< 33.01
26615	1907.50				19.68	19.79	30.03	< 33.01
26115	1857.50	15	75	0	18.46	18.49	28.77	< 33.01
26365	1882.50				19.10	18.73	29.21	< 33.01
26615	1907.50				18.69	18.89	29.08	< 33.01
26140	1860.00	20	1	0	19.88	20.06	30.26	< 33.01
26365	1882.50				20.82	20.89	31.15	< 33.01
26590	1905.00				20.46	20.12	30.58	< 33.01
26140	1860.00	20	1	49	20.01	20.18	30.39	< 33.01
26365	1882.50				19.96	20.51	30.53	< 33.01
26590	1905.00				19.87	19.82	30.14	< 33.01
26140	1860.00	20	1	99	20.10	20.35	30.52	< 33.01
26365	1882.50				20.27	19.88	30.37	< 33.01
26590	1905.00				19.63	19.19	29.71	< 33.01
26140	1860.00	20	100	0	19.04	18.64	29.13	< 33.01
26365	1882.50				19.12	19.20	29.45	< 33.01
26590	1905.00				18.91	19.05	29.27	< 33.01
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Toal EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
64QAM								
26047	1850.70	1.4	1	0	18.86	18.99	29.22	< 33.01
26365	1882.50				19.28	19.15	29.51	< 33.01
26683	1914.30				18.41	18.47	28.73	< 33.01
26047	1850.70	1.4	1	2	19.19	18.87	29.32	< 33.01
26365	1882.50				19.77	19.46	29.91	< 33.01
26683	1914.30				18.68	19.13	29.20	< 33.01
26047	1850.70	1.4	1	6	18.46	18.67	28.86	< 33.01
26365	1882.50				19.31	19.33	29.61	< 33.01
26683	1914.30				18.66	18.58	28.91	< 33.01
26047	1850.70	1.4	6	0	17.34	17.91	27.92	< 33.01
26365	1882.50				18.37	18.39	28.67	< 33.01
26683	1914.30				17.66	17.21	27.73	< 33.01
26055	1851.50	3	1	0	19.00	19.31	29.45	< 33.01
26365	1882.50				19.87	19.53	29.99	< 33.01
26675	1913.50				18.73	18.88	29.10	< 33.01
26055	1851.50	3	1	7	18.74	19.19	29.26	< 33.01
26365	1882.50				19.86	19.52	29.98	< 33.01
26675	1913.50				19.21	19.15	29.47	< 33.01
26055	1851.50	3	1	14	18.53	18.57	28.84	< 33.01
26365	1882.50				19.38	19.53	29.75	< 33.01
26675	1913.50				19.02	18.68	29.14	< 33.01
26055	1851.50	3	15	0	17.70	17.64	27.96	< 33.01
26365	1882.50				18.16	18.19	28.47	< 33.01
26675	1913.50				17.22	17.43	27.62	< 33.01
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Toal EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
64QAM								
26065	1852.50	5	1	0	18.98	18.97	29.27	< 33.01
26365	1882.50				19.76	19.54	29.94	< 33.01
26665	1912.50				18.43	18.74	28.88	< 33.01
26065	1852.50	5	1	12	18.72	18.96	29.13	< 33.01
26365	1882.50				19.44	19.63	29.83	< 33.01
26665	1912.50				18.95	18.74	29.14	< 33.01
26065	1852.50	5	1	24	18.69	18.69	28.98	< 33.01
26365	1882.50				19.22	19.38	29.59	< 33.01
26665	1912.50				18.83	18.88	29.15	< 33.01
26065	1852.50	5	25	0	17.98	17.91	28.24	< 33.01
26365	1882.50				18.54	18.11	28.62	< 33.01
26665	1912.50				17.61	17.74	27.97	< 33.01
16390	1855.00	10	1	0	18.50	18.60	28.84	< 33.01
26365	1882.50				19.13	19.54	29.63	< 33.01
26640	1910.00				19.58	19.74	29.95	< 33.01
16390	1855.00	10	1	24	18.67	18.83	29.04	< 33.01
26365	1882.50				18.83	19.13	29.27	< 33.01
26640	1910.00				19.16	18.83	29.29	< 33.01
16390	1855.00	10	1	49	19.21	18.75	29.28	< 33.01
26365	1882.50				18.85	19.30	29.37	< 33.01
26640	1910.00				18.78	18.46	28.91	< 33.01
16390	1855.00	10	50	0	17.81	17.60	28.00	< 33.01
26365	1882.50				17.96	18.14	28.34	< 33.01
26640	1910.00				17.66	17.60	27.92	< 33.01
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Toal EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
64QAM								
26115	1857.50	15	1	0	19.07	18.68	29.17	< 33.01
26365	1882.50				19.66	19.29	29.77	< 33.01
26615	1907.50				19.22	18.98	29.39	< 33.01
26115	1857.50	15	1	37	18.64	18.84	29.03	< 33.01
26365	1882.50				19.00	19.33	29.46	< 33.01
26615	1907.50				19.30	19.63	29.76	< 33.01
26115	1857.50	15	1	74	18.90	19.05	29.27	< 33.01
26365	1882.50				19.12	19.62	29.67	< 33.01
26615	1907.50				18.93	18.61	29.06	< 33.01
26115	1857.50	15	75	0	17.53	17.86	27.99	< 33.01
26365	1882.50				17.88	17.94	28.20	< 33.01
26615	1907.50				17.64	17.63	27.93	< 33.01
26140	1860.00	20	1	0	19.22	19.28	29.54	< 33.01
26365	1882.50				19.47	19.91	29.99	< 33.01
26590	1905.00				19.19	19.28	29.53	< 33.01
26140	1860.00	20	1	49	19.12	18.90	29.30	< 33.01
26365	1882.50				19.11	19.01	29.35	< 33.01
26590	1905.00				19.23	19.08	29.45	< 33.01
26140	1860.00	20	1	99	19.38	19.61	29.79	< 33.01
26365	1882.50				19.04	19.26	29.44	< 33.01
26590	1905.00				18.59	18.76	28.97	< 33.01
26140	1860.00	20	100	0	17.79	17.87	28.12	< 33.01
26365	1882.50				18.01	18.11	28.35	< 33.01
26590	1905.00				17.95	18.20	28.37	< 33.01
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	50%
Test Site	SR5	Test Date	2020/04/08
Test Band	Band 66/4	Test Mode	MIMO Mode

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
QPSK								
131979	1710.70	1.4	1	0	18.99	18.81	29.41	< 30.00
132322	1745.00				19.22	19.04	29.64	< 30.00
132665	1779.30				19.01	19.99	29.51	< 30.00
131979	1710.70	1.4	1	2	19.25	19.03	29.65	< 30.00
132322	1745.00				19.18	19.32	29.76	< 30.00
132665	1779.30				19.03	19.22	29.64	< 30.00
131979	1710.70	1.4	1	6	18.76	18.91	29.35	< 30.00
132322	1745.00				19.20	19.36	29.79	< 30.00
132665	1779.30				19.99	19.45	29.74	< 30.00
131979	1710.70	1.4	6	0	18.83	18.82	29.34	< 30.00
132322	1745.00				18.75	18.97	29.37	< 30.00
132665	1779.30				18.81	18.67	29.25	< 30.00
131987	1711.50	3	1	0	17.96	17.75	28.37	< 30.00
132322	1745.00				19.14	19.12	29.64	< 30.00
132657	1778.50				18.78	18.59	29.20	< 30.00
131987	1711.50	3	1	7	19.14	18.77	29.47	< 30.00
132322	1745.00				18.48	18.79	29.15	< 30.00
132657	1778.50				19.27	18.74	29.52	< 30.00
131987	1711.50	3	1	14	19.16	19.09	29.64	< 30.00
132322	1745.00				18.59	18.82	29.22	< 30.00
132657	1778.50				18.76	18.45	29.12	< 30.00
131987	1711.50	3	15	0	18.90	18.57	29.25	< 30.00
132322	1745.00				18.87	18.59	29.24	< 30.00
132657	1778.50				18.61	18.54	29.09	< 30.00

Note: The EIRP (dBm) = $10 \cdot \log(10^{(\text{Ant 0 Power}/10)} + 10^{(\text{Ant 1 Power}/10)})$ (dBm) + Antenna Gain (dBi) + Array Gain (dBi)

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
QPSK								
131997	1712.50	5	1	0	19.09	19.37	29.74	< 30.00
132322	1745.00				19.37	19.34	29.87	< 30.00
132647	1777.50				18.68	18.52	29.11	< 30.00
131997	1712.50	5	1	12	18.78	18.52	29.16	< 30.00
132322	1745.00				18.51	18.65	29.09	< 30.00
132647	1777.50				18.66	18.56	29.12	< 30.00
131997	1712.50	5	1	24	18.59	18.44	29.03	< 30.00
132322	1745.00				19.51	19.33	29.93	< 30.00
132647	1777.50				19.39	19.31	29.86	< 30.00
131997	1712.50	5	25	0	18.48	18.64	29.07	< 30.00
132322	1745.00				18.89	18.50	29.21	< 30.00
132647	1777.50				19.14	19.30	29.73	< 30.00
132022	1715.00	10	1	0	19.02	19.45	29.75	< 30.00
132322	1745.00				18.91	18.65	29.29	< 30.00
132622	1775.00				18.44	18.50	28.98	< 30.00
132022	1715.00	10	1	24	19.30	19.22	29.77	< 30.00
132322	1745.00				19.00	19.17	29.60	< 30.00
132622	1775.00				19.13	18.99	29.57	< 30.00
132022	1715.00	10	1	49	19.44	19.30	29.88	< 30.00
132322	1745.00				18.85	19.17	29.52	< 30.00
132622	1775.00				19.20	19.20	29.71	< 30.00
132022	1715.00	10	50	0	18.71	18.75	29.24	< 30.00
132322	1745.00				18.96	19.11	29.55	< 30.00
132622	1775.00				18.87	18.58	29.24	< 30.00
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
QPSK								
132047	1717.50	15	1	0	18.29	17.96	28.64	< 30.00
132322	1745.00				18.73	18.50	29.13	< 30.00
132597	1772.50				18.86	18.52	29.20	< 30.00
132047	1717.50	15	1	37	18.62	19.03	29.34	< 30.00
132322	1745.00				18.76	19.23	29.51	< 30.00
132597	1772.50				19.29	19.25	29.78	< 30.00
132047	1717.50	15	1	74	18.86	19.06	29.47	< 30.00
132322	1745.00				19.28	18.92	29.61	< 30.00
132597	1772.50				19.38	19.03	29.72	< 30.00
132047	1717.50	15	75	0	17.82	17.65	28.25	< 30.00
132322	1745.00				17.72	18.12	28.43	< 30.00
132597	1772.50				17.75	17.89	28.33	< 30.00
132072	1720.00	20	1	0	18.26	18.38	28.83	< 30.00
132322	1745.00				18.42	18.33	28.89	< 30.00
132572	1770.00				18.42	18.47	28.96	< 30.00
132072	1720.00	20	1	49	19.06	18.84	29.46	< 30.00
132322	1745.00				19.05	18.60	29.34	< 30.00
132572	1770.00				18.80	18.65	29.24	< 30.00
132072	1720.00	20	1	99	18.14	18.41	28.79	< 30.00
132322	1745.00				19.10	18.82	29.47	< 30.00
132572	1770.00				18.76	18.76	29.27	< 30.00
132072	1720.00	20	100	0	17.19	17.22	27.72	< 30.00
132322	1745.00				17.57	17.60	28.10	< 30.00
132572	1770.00				17.75	17.87	28.32	< 30.00
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
16QAM								
131979	1710.70	1.4	1	0	19.45	19.24	29.86	< 30.00
132322	1745.00				18.98	19.21	29.61	< 30.00
132665	1779.30				19.22	19.10	29.67	< 30.00
131979	1710.70	1.4	1	2	19.41	19.30	29.87	< 30.00
132322	1745.00				19.09	19.54	29.83	< 30.00
132665	1779.30				19.35	19.42	29.90	< 30.00
131979	1710.70	1.4	1	6	18.97	19.02	29.51	< 30.00
132322	1745.00				19.30	19.46	29.89	< 30.00
132665	1779.30				18.91	19.21	29.57	< 30.00
131979	1710.70	1.4	6	0	17.89	18.13	28.52	< 30.00
132322	1745.00				18.51	18.64	29.09	< 30.00
132665	1779.30				18.99	18.79	29.40	< 30.00
131987	1711.50	3	1	0	17.63	17.95	28.30	< 30.00
132322	1745.00				18.63	18.85	29.25	< 30.00
132657	1778.50				18.79	18.60	29.21	< 30.00
131987	1711.50	3	1	7	18.51	18.54	29.04	< 30.00
132322	1745.00				19.14	19.19	29.68	< 30.00
132657	1778.50				19.09	19.22	29.67	< 30.00
131987	1711.50	3	1	14	19.24	19.04	29.65	< 30.00
132322	1745.00				18.87	19.35	29.63	< 30.00
132657	1778.50				17.96	17.80	28.39	< 30.00
131987	1711.50	3	15	0	17.69	17.39	28.05	< 30.00
132322	1745.00				19.08	18.69	29.40	< 30.00
132657	1778.50				18.75	18.39	29.08	< 30.00
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
16QAM								
131997	1712.50	5	1	0	18.61	18.56	29.10	< 30.00
132322	1745.00				18.39	18.18	28.80	< 30.00
132647	1777.50				18.66	18.80	29.24	< 30.00
131997	1712.50	5	1	12	19.05	19.02	29.55	< 30.00
132322	1745.00				18.35	18.52	28.95	< 30.00
132647	1777.50				18.71	18.65	29.19	< 30.00
131997	1712.50	5	1	24	18.73	19.23	29.50	< 30.00
132322	1745.00				18.31	18.63	28.98	< 30.00
132647	1777.50				17.56	17.88	28.23	< 30.00
131997	1712.50	5	25	0	17.97	18.03	28.51	< 30.00
132322	1745.00				18.64	18.28	28.97	< 30.00
132647	1777.50				18.34	18.36	28.86	< 30.00
132022	1715.00	10	1	0	18.34	18.36	28.86	< 30.00
132322	1745.00				18.99	19.01	29.51	< 30.00
132622	1775.00				19.22	19.22	29.73	< 30.00
132022	1715.00	10	1	24	18.59	18.55	29.08	< 30.00
132322	1745.00				19.34	19.34	29.85	< 30.00
132622	1775.00				19.13	18.81	29.48	< 30.00
132022	1715.00	10	1	49	18.63	18.50	29.08	< 30.00
132322	1745.00				18.83	18.94	29.40	< 30.00
132622	1775.00				19.12	19.41	29.78	< 30.00
132022	1715.00	10	50	0	17.23	17.64	27.95	< 30.00
132322	1745.00				18.25	18.17	28.72	< 30.00
132622	1775.00				18.12	18.08	28.61	< 30.00
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
16QAM								
132047	1717.50	15	1	0	18.24	18.46	28.86	< 30.00
132322	1745.00				18.50	18.55	29.04	< 30.00
132597	1772.50				18.99	19.32	29.67	< 30.00
132047	1717.50	15	1	37	18.69	18.91	29.31	< 30.00
132322	1745.00				19.33	19.10	29.73	< 30.00
132597	1772.50				19.44	19.32	29.89	< 30.00
132047	1717.50	15	1	74	19.13	19.34	29.75	< 30.00
132322	1745.00				19.08	19.03	29.57	< 30.00
132597	1772.50				19.01	19.43	29.74	< 30.00
132047	1717.50	15	75	0	17.73	17.70	28.23	< 30.00
132322	1745.00				17.97	17.89	28.44	< 30.00
132597	1772.50				17.80	18.16	28.49	< 30.00
132072	1720.00	20	1	0	18.78	18.62	29.21	< 30.00
132322	1745.00				18.80	18.61	29.22	< 30.00
132572	1770.00				18.99	18.92	29.47	< 30.00
132072	1720.00	20	1	49	19.10	18.92	29.52	< 30.00
132322	1745.00				19.07	18.85	29.47	< 30.00
132572	1770.00				19.21	18.95	29.59	< 30.00
132072	1720.00	20	1	99	18.83	18.74	29.30	< 30.00
132322	1745.00				19.01	18.87	29.45	< 30.00
132572	1770.00				19.23	19.10	29.68	< 30.00
132072	1720.00	20	100	0	17.70	17.45	28.09	< 30.00
132322	1745.00				17.73	18.04	28.40	< 30.00
132572	1770.00				17.99	18.02	28.52	< 30.00
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
64QAM								
19957	1710.70	1.4	1	0	18.74	18.83	29.30	< 30.00
20399	1732.50				19.34	19.28	29.82	< 30.00
20399	1754.30				19.21	19.18	29.71	< 30.00
19957	1710.70	1.4	1	2	18.82	18.33	29.09	< 30.00
20399	1732.50				19.28	19.14	29.72	< 30.00
20399	1754.30				19.46	19.40	29.94	< 30.00
19957	1710.70	1.4	1	6	18.11	18.44	28.79	< 30.00
20399	1732.50				19.23	19.35	29.80	< 30.00
20399	1754.30				19.34	19.18	29.77	< 30.00
19957	1710.70	1.4	6	0	16.91	17.09	27.51	< 30.00
20399	1732.50				19.24	19.67	29.97	< 30.00
20399	1754.30				17.86	17.94	28.41	< 30.00
19965	1711.50	3	1	0	16.90	16.79	27.36	< 30.00
20175	1732.50				17.95	17.59	28.28	< 30.00
20385	1753.50				18.92	18.82	29.38	< 30.00
19965	1711.50	3	1	7	18.34	18.53	28.95	< 30.00
20175	1732.50				18.96	18.82	29.40	< 30.00
20385	1753.50				19.13	18.87	29.51	< 30.00
19965	1711.50	3	1	14	17.87	18.27	28.58	< 30.00
20175	1732.50				19.02	19.05	29.55	< 30.00
20385	1753.50				16.93	16.61	27.28	< 30.00
19965	1711.50	3	15	0	16.67	16.92	27.31	< 30.00
20175	1732.50				17.76	17.76	28.27	< 30.00
20385	1753.50				17.78	17.34	28.08	< 30.00
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
64QAM								
131997	1712.50	5	1	0	18.93	18.50	29.23	< 30.00
132322	1745.00				18.46	18.52	29.00	< 30.00
132647	1777.50				18.66	18.79	29.24	< 30.00
131997	1712.50	5	1	12	18.90	18.89	29.41	< 30.00
132322	1745.00				18.10	18.49	28.81	< 30.00
132647	1777.50				18.48	18.76	29.13	< 30.00
131997	1712.50	5	1	24	19.15	18.86	29.52	< 30.00
132322	1745.00				18.53	19.04	29.30	< 30.00
132647	1777.50				17.45	17.69	28.08	< 30.00
131997	1712.50	5	25	0	17.02	16.63	27.34	< 30.00
132322	1745.00				17.84	17.66	28.26	< 30.00
132647	1777.50				17.64	17.10	27.89	< 30.00
132022	1715.00	10	1	0	18.82	18.47	29.16	< 30.00
132322	1745.00				18.58	18.82	29.21	< 30.00
132622	1775.00				19.18	19.28	29.74	< 30.00
132022	1715.00	10	1	24	18.90	19.00	29.46	< 30.00
132322	1745.00				19.31	19.35	29.84	< 30.00
132622	1775.00				19.03	18.84	29.45	< 30.00
132022	1715.00	10	1	49	19.09	19.63	29.88	< 30.00
132322	1745.00				19.42	19.08	29.76	< 30.00
132622	1775.00				18.98	19.44	29.73	< 30.00
132022	1715.00	10	50	0	17.57	17.51	28.05	< 30.00
132322	1745.00				17.84	18.26	28.57	< 30.00
132622	1775.00				17.81	17.97	28.40	< 30.00
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total EIRP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
64QAM								
132047	1717.50	15	1	0	18.32	18.22	28.78	< 30.00
132322	1745.00				19.02	19.46	29.76	< 30.00
132597	1772.50				19.02	19.42	29.73	< 30.00
132047	1717.50	15	1	37	18.72	19.03	29.39	< 30.00
132322	1745.00				19.51	19.38	29.96	< 30.00
132597	1772.50				19.39	19.32	29.87	< 30.00
132047	1717.50	15	1	74	19.08	19.45	29.78	< 30.00
132322	1745.00				19.36	19.09	29.74	< 30.00
132597	1772.50				18.96	19.42	29.71	< 30.00
132047	1717.50	15	75	0	17.76	17.58	28.18	< 30.00
132322	1745.00				17.89	17.96	28.44	< 30.00
132597	1772.50				17.99	17.88	28.45	< 30.00
132072	1720.00	20	1	0	18.28	18.59	28.95	< 30.00
132322	1745.00				18.77	18.69	29.24	< 30.00
132572	1770.00				18.65	18.71	29.19	< 30.00
132072	1720.00	20	1	49	18.77	19.07	29.43	< 30.00
132322	1745.00				19.27	19.33	29.81	< 30.00
132572	1770.00				18.90	19.06	29.49	< 30.00
132072	1720.00	20	1	99	18.69	18.86	29.29	< 30.00
132322	1745.00				18.86	18.69	29.29	< 30.00
132572	1770.00				19.15	19.24	29.71	< 30.00
132072	1720.00	20	100	0	17.35	17.21	27.79	< 30.00
132322	1745.00				17.64	17.92	28.29	< 30.00
132572	1770.00				17.66	17.75	28.22	< 30.00
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) + Array Gain (dBi)								

Product	FastMile 4G Gateway	Temperature	25°C
Test Engineer	Larry Yan	Relative Humidity	50%
Test Site	SR5	Test Date	2020/04/08
Test Band	Band 5	Test Mode	MIMO Mode

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total ERP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
QPSK								
20407	824.70	1.4	1	0	20.88	21.23	25.03	< 40.61
20525	836.50				21.14	21.56	25.33	< 40.61
20643	848.30				21.19	20.73	24.94	< 40.61
20407	824.70	1.4	1	2	21.16	21.47	25.29	< 40.61
20525	836.50				21.40	21.13	25.24	< 40.61
20643	848.30				21.33	21.41	25.34	< 40.61
20407	824.70	1.4	1	6	21.58	21.08	25.31	< 40.61
20525	836.50				20.60	20.72	24.63	< 40.61
20643	848.30				20.13	20.49	24.28	< 40.61
20407	824.70	1.4	6	0	20.16	20.61	24.36	< 40.61
20525	836.50				20.57	20.57	24.54	< 40.61
20643	848.30				20.36	20.25	24.28	< 40.61
20415	825.50	3	1	0	21.23	21.02	25.10	< 40.61
20525	836.50				21.97	22.00	25.96	< 40.61
20635	847.50				21.34	21.53	25.41	< 40.61
20415	825.50	3	1	7	21.39	21.29	25.31	< 40.61
20525	836.50				20.56	21.11	24.81	< 40.61
20635	847.50				21.78	22.07	25.90	< 40.61
20415	825.50	3	1	14	21.86	21.91	25.86	< 40.61
20525	836.50				21.83	21.65	25.71	< 40.61
20635	847.50				21.97	22.01	25.96	< 40.61
20415	825.50	3	15	0	21.20	20.87	25.01	< 40.61
20525	836.50				20.78	20.65	24.69	< 40.61
20635	847.50				20.24	20.42	24.30	< 40.61
Note: The EIRP (dBm) = 10*log(10 ^{^(Ant 0 Power/10)} + 10 ^{^(Ant 1 Power/10)}) (dBm) + Antenna Gain (dBi) - 2.15 + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total ERP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
QPSK								
20425	826.50	5	1	0	21.39	21.58	25.46	< 40.61
20525	836.50				21.69	22.00	25.82	< 40.61
20625	846.50				21.80	21.68	25.71	< 40.61
20425	826.50	5	1	12	21.92	21.35	25.61	< 40.61
20525	836.50				21.05	21.52	25.26	< 40.61
20625	846.50				21.05	21.55	25.28	< 40.61
20425	826.50	5	1	24	21.63	21.49	25.53	< 40.61
20525	836.50				21.54	21.36	25.42	< 40.61
20625	846.50				22.07	21.79	25.90	< 40.61
20425	826.50	5	25	0	20.77	20.77	24.74	< 40.61
20525	836.50				20.50	20.83	24.64	< 40.61
20625	846.50				20.77	20.39	24.55	< 40.61
20450	829.00	10	1	0	21.44	21.40	25.39	< 40.61
20525	836.50				21.18	21.56	25.34	< 40.61
20600	844.00				21.49	21.63	25.53	< 40.61
20450	829.00	10	1	24	21.22	21.34	25.25	< 40.61
20525	836.50				21.41	21.63	25.49	< 40.61
20600	844.00				21.39	21.01	25.17	< 40.61
20450	829.00	10	1	49	21.95	21.78	25.84	< 40.61
20525	836.50				21.22	21.17	25.17	< 40.61
20600	844.00				21.77	21.45	25.58	< 40.61
20450	829.00	10	50	0	20.88	20.63	24.73	< 40.61
20525	836.50				20.91	20.69	24.77	< 40.61
20600	844.00				20.62	20.28	24.42	< 40.61
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) - 2.15 + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total ERP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
16QAM								
20407	824.70	1.4	1	0	20.47	20.46	24.44	< 40.61
20525	836.50				20.06	19.86	23.93	< 40.61
20643	848.30				19.88	19.71	23.77	< 40.61
20407	824.70	1.4	1	2	20.21	20.37	24.26	< 40.61
20525	836.50				20.58	20.31	24.42	< 40.61
20643	848.30				19.94	20.34	24.11	< 40.61
20407	824.70	1.4	1	6	20.27	20.01	24.11	< 40.61
20525	836.50				19.90	19.74	23.79	< 40.61
20643	848.30				19.11	18.61	22.84	< 40.61
20407	824.70	1.4	6	0	18.96	19.13	23.02	< 40.61
20525	836.50				19.29	19.15	23.19	< 40.61
20643	848.30				19.22	19.29	23.23	< 40.61
20415	825.50	3	1	0	19.38	19.69	23.51	< 40.61
20525	836.50				20.62	20.30	24.43	< 40.61
20635	847.50				20.81	20.83	24.79	< 40.61
20415	825.50	3	1	7	20.05	20.39	24.19	< 40.61
20525	836.50				19.51	19.68	23.57	< 40.61
20635	847.50				21.12	21.00	25.03	< 40.61
20415	825.50	3	1	14	20.94	21.00	24.94	< 40.61
20525	836.50				20.65	20.39	24.49	< 40.61
20635	847.50				21.54	21.26	25.37	< 40.61
20415	825.50	3	15	0	19.84	19.91	23.85	< 40.61
20525	836.50				19.31	19.24	23.25	< 40.61
20635	847.50				19.15	19.54	23.32	< 40.61
Note: The EIRP (dBm) = 10*log(10^(Ant 0 Power/10) + 10^(Ant 1 Power/10)) (dBm) + Antenna Gain (dBi) - 2.15 + Array Gain (dBi)								

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)		Total ERP (dBm)	Limit (dBm)
					Ant 1	Ant 0		
16QAM								
20425	826.50	5	1	0	20.45	20.29	24.34	< 40.61
20525	836.50				20.49	20.38	24.41	< 40.61
20625	846.50				20.74	20.24	24.47	< 40.61
20425	826.50	5	1	12	20.21	20.25	24.20	< 40.61
20525	836.50				20.17	20.22	24.17	< 40.61
20625	846.50				20.68	20.68	24.65	< 40.61
20425	826.50	5	1	24	20.44	20.28	24.33	< 40.61
20525	836.50				20.54	20.58	24.53	< 40.61
20625	846.50				20.68	20.34	24.48	< 40.61
20425	826.50	5	25	0	19.92	19.74	23.80	< 40.61
20525	836.50				19.76	19.47	23.59	< 40.61
20625	846.50				19.18	19.65	23.39	< 40.61
20450	829.00	10	1	0	20.60	20.62	24.58	< 40.61
20525	836.50				20.45	20.23	24.31	< 40.61
20600	844.00				20.94	20.92	24.90	< 40.61
20450	829.00	10	1	24	20.30	20.27	24.26	< 40.61
20525	836.50				19.92	20.21	24.04	< 40.61
20600	844.00				20.13	20.08	24.08	< 40.61
20450	829.00	10	1	49	20.45	20.35	24.37	< 40.61
20525	836.50				20.27	20.11	24.16	< 40.61
20600	844.00				20.39	20.82	24.58	< 40.61
20450	829.00	10	50	0	19.11	19.39	23.22	< 40.61
20525	836.50				19.23	18.83	23.00	< 40.61
20600	844.00				19.40	19.45	23.40	< 40.61
Note: The EIRP (dBm) = 10*log(10 ^{^(Ant 0 Power/10)} + 10 ^{^(Ant 1 Power/10)}) (dBm) + Antenna Gain (dBi) - 2.15 + Array Gain (dBi)								