SPOTLIGHT: Accurate, Explainable and Efficient Anomaly Detection for Open RAN

Schema for Dataset

Per thread (Collection interval for these kpi is ~1 sec)

Note: These are collected for each thread running on the system.

	NAME	DESCRIPTION	Derived (yes/no)	COMMENTS
1.	timestamp			
2.	Process_name	Process name	no	
3.	Process_id	Process id given by os	no	We can drop this I think
4.	Thread_id	Thread id given by os	no	We can drop this if going per thread (chaunhao wants to train the GAN for each ran thread)
5.	Thread_name	Thread name	no	
6.	Max_runtime	Max reported runtime for given thread	no	
7.	Total_events	Number of times this thread was either running or interrupt	no	
8.	Total_runtime	Total runtime of thread	yes	Calculated using bin obtained from histogram assuming values are uniformly distributed in bucket. See procedure-1 in appendix section
9.	Cpu_id	CPU on which thread was running	no	
10.	mean	The average value of the data points.	yes	
11.	Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (Min value is estimated from histogram. Max is absolute value and not an estimate)
12.	Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
13.	Variance	A measure of how much the data points deviate from the mean.	yes	
14.	Standard Deviation	The square root of the variance	yes	
15.	skewness	Indicates the asymmetry of the data distribution.	yes	$mean((data - mean)^3) / (std\_deviation)^3$
16.	kurtosis	Measures the peakness or flatness of the distribution.	yes	$mean((data - mean)^4) / (std\_deviation^4) - 3$
17.	outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
18.	others_runtime	Total runtime of all other thread running on the same core	yes	Calculated using bin obtained from histogram assuming values are uniformly distributed in bucket.

				See procedure-1 in appendix section
19.	Max	Max reported runtime of all other thread running on the same core	Yes	By taking max of max running reported by each thread
20.	Other_runtime_mean	The average value of the data points of all other thread running on the same core	yes	
21.	Other_runtime_Range	The difference between the maximum and minimum values in the dataset of all other thread running on the same core	yes	max(data) - min(data) (Min value is estimated from histogram. Max is absolute value and not an estimate)
22.	Other_runtime_Interquartile range	The range between the first quartile and the third quartile. of all other thread running on the same core	yes	75 percentile data – 25 percentile of data
23.	Other_runtime_Variance	A measure of how much the data points deviate from the mean of all other thread running on the same core	yes	
24.	Other_runtime_ Standard Deviation	The square root of the variance of all other thread running on the same core	yes	
25.	Other_runtime_skewness	Indicates the asymmetry of the data distribution of all other thread running on the same core	yes	$\text{mean}((\text{data} - \text{mean})^3) / (\text{std\_deviation})^3$
26.	Other_runtime_kurtosis	Measures the peakness or flatness of the distribution of all other thread running on the same core	yes	$\text{mean}((\text{data} - \text{mean})^4) / (\text{std\_deviation}^4) - 3$
27.	Other_runtime_outliers	Extreme values that significantly deviate from the rest of the data points of all other thread running on the same core	yes	If less or more than mean - 2 * std_deviation

	Name	Description	Derived (yes/no)	Comments
28.	Ru_port_dl	Traffic going to RU	yes	The switch generates reports every 5 seconds, each containing the total number of bytes transferred up to that point. To calculate the rate at which traffic is flowing, the difference in the number of bytes transferred between two consecutive reports is computed. And converted into gbps.
29.	Ru_port_ul	Traffic from RU	yes	The switch generates reports every 5 seconds, each containing the total number of bytes transferred up to that point. To calculate the rate at which traffic is flowing, the difference in the number of bytes transferred between two consecutive reports is computed. And converted into gbps.

Network Interface KPI's (Collection interval for these KPI is 5 sec)

PTP KPI (Collection interval for these kpi is 1 second)

	Name	Description	Derived (yes/no)	Comments
30.	Ptp4l_rms	offset root mean square (in nanoseconds)	no	
31.	Ptp4l_max	the maximum measured offset in that interval. (in nanoseconds)	no	
32.	Ptp4l_freq	frequency offset (in parts per billion (ppb))	no	
33.	Ptp4l_freq_tolerance	Std dev of frequency offset	no	
34.	Ptp4l_delay	path delay (in nanoseconds)	no	
35.	Ptp4l_delay_tolerance	Std dev of frequency offset	no	
36.	phc2sys_rms	offset root mean square (in nanoseconds)	no	
37.	phc2sys_max	the maximum measured offset in that interval. (in nanoseconds)	no	
38.	phc2sys_freq	frequency offset (in parts per billion (ppb))	no	
39.	phc2sys_freq_tolerance	Std dev of frequency offset	no	
40.	phc2sys_delay	Mean path delay (in nanoseconds)	no	
41.	phc2sys_delay_tolerance	Std dev of frequency offset	no	

RAN KPI's (Collection interval for these kpi is ~100 msec)

Abbreviation :

BHTX : Downlink Traffic coming from Backhaul

BHRX : Uplink Traffic going towards Backhaul

MHTX : Downlink Traffic from CU to Midhul

MHRX : Uplink Traffic towards Midhul from DU

BO : Buffer occupancy

BSR : Buffer Status Report

CSI : Channel state indicator

MCS : Modulation and Coding Scheme

PRB : Physical Resource Block

	Name	Description	Derived (yes/no)	Comments
42.	Timestamp			
43.	Bhtx_in_size	DL traffic from BH at L3 in entering the queue (Received and queued on the ingress queue)	Yes.	Traffic is combined for all UE into a one value.
44.	Bhtx_in_min	Min size packet	no	
45.	Bhtx_in_max	Max size packet	no	
46.	Bhtx_in_mean	Average size of bhtx packet	yes	Average calculate form histogram
47.	Bhtx_in_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (Max and min values are absolute value and not estimates)
48.	Bhtx_in_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
49.	Bhtx_in_Variance	A measure of how much the data points deviate from the mean.	yes	
50.	Bhtx_in_Standard Deviation	The square root of the variance	yes	
51.	Bhtx_in_skewness	Indicates the asymmetry of the data distribution.	yes	$mean((data - mean)^3) / (std\_deviation)^3$
52.	Bhtx_in_kurtosis	Measures the peakness or flatness of the distribution.	yes	$mean((data - mean)^4) / (std\_deviation^4) - 3$
53.	Bhtx_in_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation

54.	Bhtx_out_size	DL traffic at L3 leaving the queue (DL packet is picked up for processing by PDCP.)	Yes.	Traffic is combined for all UE into a one value.
55.	Bhtx_out_min	Min size packet	no	
56.	Bhtx_out_max	Max size packet	no	
57.	Bhtx_out_mean	Average size of bhtx_out packet	yes	Average calculate form histogram
58.	Bhtx_out_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
59.	Bhtx_out_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
60.	Bhtx_out_Variance	A measure of how much the data points deviate from the mean.	yes	
61.	Bhtx_out_Standard Deviation	The square root of the variance	yes	
62.	Bhtx_out_skewness	Indicates the asymmetry of the data distribution.	yes	$\text{mean}((data - mean)^3) / (std\_deviation)^3$
63.	Bhtx_out_kurtosis	Measures the peakness or flatness of the distribution.	yes	$\text{mean}((data - mean)^4) / (std\_deviation^4) - 3$
64.	Bhtx_out_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
65.	Bhrx_in_size	UL traffic from L3 at exit to core queue (queue an outgoing UL packet for the core into the egress queue)		
66.	Bhrx_in_min	Min size packet	no	
67.	Bhrx_in_max	Max size packet	no	
68.	Bhrx_in_mean	Average size of Bhrx_in packet	yes	Average calculate form histogram
69.	Bhrx_in_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
70.	Bhrx_in_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
71.	Bhrx_in_Variance	A measure of how much the data points deviate from the mean.	yes	
72.	Bhrx_in_Standard Deviation	The square root of the variance	yes	
73.	Bhrx_in_skewness	Indicates the asymmetry of the data distribution.	yes	$\text{mean}((data - mean)^3) / (std\_deviation)^3$
74.	Bhrx_in_kurtosis	Measures the peakness or flatness of the distribution.	yes	$\text{mean}((data - mean)^4) / (std\_deviation^4) - 3$
75.	Bhrx_in_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
76.	Bhrx_out_size	UL traffic at L3 leaving the queue (the UL packet is actually transmitted on the network.)		

77.	Bhrx_out_min	Min size packet	no	
78.	Bhrx_out_max	Max size packet	no	
79.	Bhrx_out_mean	Average size of Bhrx_out packet	yes	Average calculate form histogram
80.	Bhrx_out_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
81.	Bhrx_out_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
82.	Bhrx_out_Variance	A measure of how much the data points deviate from the mean.	yes	
83.	Bhrx_out_Standard Deviation	The square root of the variance	yes	
84.	Bhrx_out_skewness	Indicates the asymmetry of the data distribution.	yes	$mean((data - mean)^3) / (std\_deviation)^3$
85.	Bhrx_out_kurtosis	Measures the peakness or flatness of the distribution.	yes	$mean((data - mean)^4) / (std\_deviation^4) - 3$
86.	Bhrx_out_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
87.	Mhtx_in_size	DL traffic from CU to DU entering the queue. (L3/PDCP when we queue an outgoing DL packet for the L2 into the egress Queue)	Yes.	Traffic is combined for all UE into a one value.
88.	Mhtx_in_min	Min size packet	no	
89.	Mhtx_in_max	Max size packet	no	
90.	Mhtx_in_mean	Average size of Mhtx_in packet	yes	Average calculate form histogram
91.	Mhtx_in_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
92.	Mhtx_in_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
93.	Mhtx_in_Variance	A measure of how much the data points deviate from the mean.	yes	
94.	Mhtx_in_Standard Deviation	The square root of the variance	yes	
95.	Mhtx_in_skewness	Indicates the asymmetry of the data distribution.	yes	$mean((data - mean)^3) / (std\_deviation)^3$
96.	Mhtx_in_kurtosis	Measures the peakness or flatness of the distribution.	yes	$mean((data - mean)^4) / (std\_deviation^4) - 3$
97.	Mhtx_in_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
98.	Mhtx_out_size	DL traffic from CU to DU leaving the queue. (When the DL packet is actually transmitted on the network.)	Yes.	Traffic is combined for all UE into a one value.
99.	Mhtx_out_min	Min size packet	no	
100.	Mhtx_out_max	Max size packet	no	

101.	Mhtx_out_mean	Average size of Mhtx_out packet	yes	Average calculate form histogram
102.	Mhtx_out_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
103.	Mhtx_out_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
104.	Mhtx_out_Variance	A measure of how much the data points deviate from the mean.	yes	
105.	Mhtx_out_Standard Deviation	The square root of the variance	yes	
106.	Mhtx_out_skewness	Indicates the asymmetry of the data distribution.	yes	mean((data - mean) ^{3}) / (std_deviation)^3
107.	Mhtx_out_kurtosis	Measures the peakness or flatness of the distribution.	yes	mean((data - mean)^4) / (std_deviation ^{4}) - 3
108.	Mhtx_out_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
109.	Mhrx_in_size	UL traffic from L2 at L3 in entering the queue (UL packet is received and queued on the ingress queue.)	Yes.	Traffic is combined for all UE into a one value.
110.	Mhrx_in_min	Min size packet	no	
111.	Mhrx_in_max	Max size packet	no	
112.	Mhrx_in_mean	Average size of Mhrx_in packet	yes	Average calculate form histogram
113.	Mhrx_in_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
114.	Mhrx_in_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
115.	Mhrx_in_Variance	A measure of how much the data points deviate from the mean.	yes	
116.	Mhrx_in_Standard Deviation	The square root of the variance	yes	
117.	Mhrx_in_skewness	Indicates the asymmetry of the data distribution.	yes	mean((data - mean) ^{3}) / (std_deviation)^3
118.	Mhrx_in_kurtosis	Measures the peakness or flatness of the distribution.	yes	mean((data - mean)^4) / (std_deviation ^{4}) - 3
119.	Mhrx_in_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
120.	Mhrx_out_size	UL traffic from L2 at L3 in leaving the queue (UL packet is picked up for processing by PDCP.)	Yes.	Traffic is combined for all UE into a one value.
121.	Mhrx_out_min	Min size packet	no	
122.	Mhrx_out_max	Max size packet	no	
123.	Mhrx_out_mean	Average size of Mhrx_out packet	yes	Average calculate form histogram

124.	Mhrx_out_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
125.	Mhrx_out_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
126.	Mhrx_out_Variance	A measure of how much the data points deviate from the mean.	yes	
127.	Mhrx_out_Standard Deviation	The square root of the variance	yes	
128.	Mhrx_out_skewness	Indicates the asymmetry of the data distribution.	yes	$mean((data - mean)^3) / (std\_deviation)^3$
129.	Mhrx_out_kurtosis	Measures the peakness or flatness of the distribution.	yes	$mean((data - mean)^4) / (std\_deviation^4) - 3$
130.	Mhrx_out_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
131.	F1u_rlc_size	Downlink traffic from f1 to rlc	Yes.	Traffic is combined for all UE into a one value.
132.	F1u_rlc_min	Min size packet	no	
133.	F1u_rlc_max	Max size packet	no	
134.	F1u_rlc_mean	Average size of F1u_rlc packet	yes	Average calculate form histogram
135.	F1u_rlc_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
136.	F1u_rlc_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
137.	F1u_rlc_Variance	A measure of how much the data points deviate from the mean.	yes	
138.	F1u_rlc_Standard Deviation	The square root of the variance	yes	
139.	F1u_rlc_skewness	Indicates the asymmetry of the data distribution.	yes	$mean((data - mean)^3) / (std\_deviation)^3$
140.	F1u_rlc_kurtosis	Measures the peakness or flatness of the distribution.	yes	$mean((data - mean)^4) / (std\_deviation^4) - 3$
141.	F1u_rlc_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
142.	Rlc_f1_size	uplink traffic from rlc to f1	Yes.	Traffic is combined for all UE into a one value.
143.	Rlc_f1_min	Min size packet	no	
144.	Rlc_f1_max	Max size packet	no	
145.	Rlc_f1_mean	Average size of Rlc_f1 packet	yes	Average calculate form histogram
146.	Rlc_f1_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)

147.	Rlc_f1_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
148.	Rlc_f1_Variance	A measure of how much the data points deviate from the mean.	yes	
149.	Rlc_f1_Standard Deviation	The square root of the variance	yes	
150.	Rlc_f1_skewness	Indicates the asymmetry of the data distribution.	yes	$mean((data - mean)^3) / (std\_deviation)^3$
151.	Rlc_f1_kurtosis	Measures the peakness or flatness of the distribution.	yes	$mean((data - mean)^4) / (std\_deviation^4) - 3$
152.	Rlc_f1_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
153.	Rlc_mac_size	downlink traffic from rlc to mac	Yes.	Traffic is combined for all UE into a one value.
154.	Rlc_mac_min	Min size packet	no	
155.	Rlc_mac_max	Max size packet	no	
156.	Rlc_mac_mean	Average size of Rlc_mac packet	yes	Average calculate form histogram
157.	Rlc_mac_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
158.	Rlc_mac_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
159.	Rlc_mac_Variance	A measure of how much the data points deviate from the mean.	yes	
160.	Rlc_mac_Standard Deviation	The square root of the variance	yes	
161.	Rlc_mac_skewness	Indicates the asymmetry of the data distribution.	yes	$mean((data - mean)^3) / (std\_deviation)^3$
162.	Rlc_mac_kurtosis	Measures the peakness or flatness of the distribution.	yes	$mean((data - mean)^4) / (std\_deviation^4) - 3$
163.	Rlc_mac_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
164.	Mac_rlc_size	uplink traffic from mac to rlc	Yes.	Traffic is combined for all UE into a one value.
165.	Mac_rlc_hist	Histogram of Mac_rlc packets	no	
166.	Mac_rlc_min	Min size packet	no	
167.	Mac_rlc_max	Max size packet	no	
168.	Mac_rlc_mean	Average size of Mac_rlc packet	yes	Average calculate form histogram
169.	Mac_rlc_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
170.	Mac_rlc_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data

171.	Mac_rlc_Variance	A measure of how much the data points deviate from the mean.	yes	
172.	Mac_rlc_Standard Deviation	The square root of the variance	yes	
173.	Mac_rlc_skewness	Indicates the asymmetry of the data distribution.	yes	$mean((data - mean)^3) / (std\_deviation)^3$
174.	Mac_rlc_kurtosis	Measures the peakness or flatness of the distribution.	yes	$mean((data - mean)^4) / (std\_deviation^4) - 3$
175.	Mac_rlc_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
176.	Mac_dl_bo_min	Min size packet	no	
177.	Mac_dl_bo_max	Max size packet	no	
178.	Mac_dl_bo_mean	Average size of Mac_dl_bo packet	yes	Average calculate form histogram
179.	Mac_dl_bo_Range	The difference between the maximum and minimum values in the dataset.	yes	max(data) - min(data) (max and min values are absolute value and not estimates)
180.	Mac_dl_bo_Interquartile range	The range between the first quartile and the third quartile.	yes	75 percentile data – 25 percentile of data
181.	Mac_dl_bo_Variance	A measure of how much the data points deviate from the mean.	yes	
182.	Mac_dl_bo_Standard Deviation	The square root of the variance	yes	
183.	Mac_dl_bo_skewness	Indicates the asymmetry of the data distribution.	yes	$mean((data - mean)^3) / (std\_deviation)^3$
184.	Mac_dl_bo_kurtosis	Measures the peakness or flatness of the distribution.	yes	$mean((data - mean)^4) / (std\_deviation^4) - 3$
185.	Mac_dl_bo_outliers	Extreme values that significantly deviate from the rest of the data points.	yes	If less or more than mean - 2 * std_deviation
186.	DL_harq_ack	Total harq ack	no	
187.	Dl_harq_nack	Total harq nack	yes	Nack = nack+dtx
188.	Dl_harq_total	Total harq report	no	
189.	Dl_harq_loss_rate	Nack to total ratio	Yes.	NACK/TOTAL Ratio is fine or in percentage?
190.	Dl_harq_max_cons	Maximum consecutive nack	no	
191.	UL_CRC_LOSS	Total crc loss	no	
192.	UL_CRC_TOTAL	Total crc report	no	
193.	UL_CRC_LOSS_RATE	Ratio of loss to total	Yes	LOSS/TOTAL
194.	Sinr_min	MIN SINR amongst all ue	Yes.	$MIN(SINR_i)$ where $SINR_i$ is SINR for i_{th} UE/RNTI.
195.	Sinr_max	Max SINR amongst all ue	Yes.	$MAX(SINR_i)$ where $SINR_i$ is SINR for i_{th} UE/RNTI.
196.	Sinr_Average	Average SINR	yes	calculated using bin obtained from histogram assuming values are uniformly distributed in

				bucket.
197.	Csi_min	MIN Cqi value reported amongst all ue	Yes.	$MIN(CSI_i)$ where csi_i is csi value for i_{th} UE/RNTI.
198.	Csi_max	MIN Cqi value reported amongst all ue	Yes.	$MAX(CSI_i)$ where CSI_i is CSI value for i_{th} UE/RNTI.
199.	Csi_Average	Average SINR amongst all ue	yes	calculated using bin obtained from histogram assuming values are uniformly distributed in bucket.
200.	Brs_min	Min bsr value reported amongst all ue	Yes.	$MIN(mcs_i)$ where mcs_i is mcs for i_{th} UE/RNTI.
201.	Bsr_max	Max bsr value reported amongst all ue	Yes.	$MAX(mcs_i)$ where mcs_i is mcs for i_{th} UE/RNTI.
202.	Bsr_Average	Average bsr value reported amongst all ue		calculated using bin obtained from histogram assuming values are uniformly distributed in bucket.
203.	Dl_fapi_total_pdsch_count	Count of total pdcsh	Yes.	Calculating by adding 'cnt' in histogram from for all rnti
204.	Dl_fapi_Average_pdsch	Average number of pdcsh	Yes	(total_pdsch/number of users)
205.	Dl_fapi_mcs_max	Max MCS amongst all user	yes	$MAX(mcs_i)$ where mcs_i is mcs for i_{th} UE/RNTI.
206.	Dl_fapi_mcs_min	Min MCS amongst all user	yes	$MIN(mcs_i)$ where mcs_i is mcs for i_{th} UE/RNTI.
207.	Dl_fapi_prb_max	Max PRB amongst all user	yes	$MAX(prb_i)$ where prb_i is prb for i_{th} UE/RNTI.
208.	Dl_fapi_prb_min	Min PRB amongst all user	yes	$MIN(prb_i)$ where prb_i is prb for i_{th} UE/RNTI.
209.	Dl_fapi_tbs_max	Max TBS amongst all user	yes	$MAX(tbs_i)$ where tbs_i is tbs for i_{th} UE/RNTI.

210.	Dl_fapi_tbs_min	Min TBS amongst all user	yes	MIN(tbs_i) where tbs_i is tbs for i_{th} UE/RNTI.
211.	Dl_fapi_mcs_Average	Average MCS	yes	calculated using bin obtained from histogram assuming values are uniformly distributed in bucket.
212.	Dl_fapi_prb_Average	Average PRB	yes	calculated using bin obtained from histogram assuming values are uniformly distributed in bucket.
213.	Dl_fapi_tbs_Average	Average TBS	yes	calculated using bin obtained from histogram assuming values are uniformly distributed in bucket.
214.	ul_fapi_total_pusch_count	Count of total pucsh	yes	Calculating by adding 'cnt' in histogram from for all rnti
215.	ul_fapi_Average_pusch	Average number of pucsh	yes	(total_pusch/number of users)
216.	ul_fapi_mcs_max	Max MCS amongst all user	yes	MAX(mcs_i) where mcs_i is mcs for i_{th} UE/RNTI.
217.	ul_fapi_mcs_min	MIN MCS amongst all user	yes	MIN(mcs_i) where mcs_i is mcs for i_{th} UE/RNTI.
218.	ul_fapi_prb_max	Max PRB amongst all user	yes	MAX(prb_i) where prb_i is prb for i_{th} UE/RNTI.
219.	ul_fapi_prb_min	Min PRB amongst all user	yes	MIN(prb_i) where prb_i is prb for i_{th} UE/RNTI.
220.	ul_fapi_tbs_max	Max TBS amongst all user	yes	MAX(tbs_i) where tbs_i is tbs for i_{th} UE/RNTI.
221.	ul_fapi_tbs_min	Min TBS amongst all user	yes	MIN(tbs_i) where tbs_i is tbs for i_{th} UE/RNTI.
222.	ul_fapi_mcs_Average	Average MCS	yes	calculated using bin obtained from histogram assuming values are uniformly distributed in bucket.

223.	ul_fapi_prb_Average	Average PRB	yes	calculated using bin obtained from histogram assuming values are uniformly distributed in bucket.
224.	ul_fapi_tbs_Average	Average TBS	yes	calculated using bin obtained from histogram assuming values are uniformly distributed in bucket.