

Date : 17.09.2025

SURVEY REPORT

Name of work: Proposal for conducting frequency survey for VHF communication Radio Signal Strength in Western Railway Mumbai Division:

WORK ORDER NO: SG/623/1778/WA(Quotation) Computer No.: 622678

1. LOCATION: MUMBAI CENTRAL YARD

SURVEY OF FREQUENCIES:

Common:160.400 Mhz.: Driver-Guard:161.15Mhz: Shunting:162.1 Mhz.

2. LOCATION: BANDRA TERMINUS YARD

SURVEY OF FREQUENCIES:

Common:160.400 Mhz.: Driver-Guard:161.15Mhz: Shunting:162.1 Mhz.

3. TRAIN ROUTE: MMCT TO SURAT

Running Train: Shatabdi Express-Train No. 12009 Down
Shatabdi Express-Train No. 12010 UP

SURVEY OF FREQUENCY: Driver-Guard:161.15Mhz

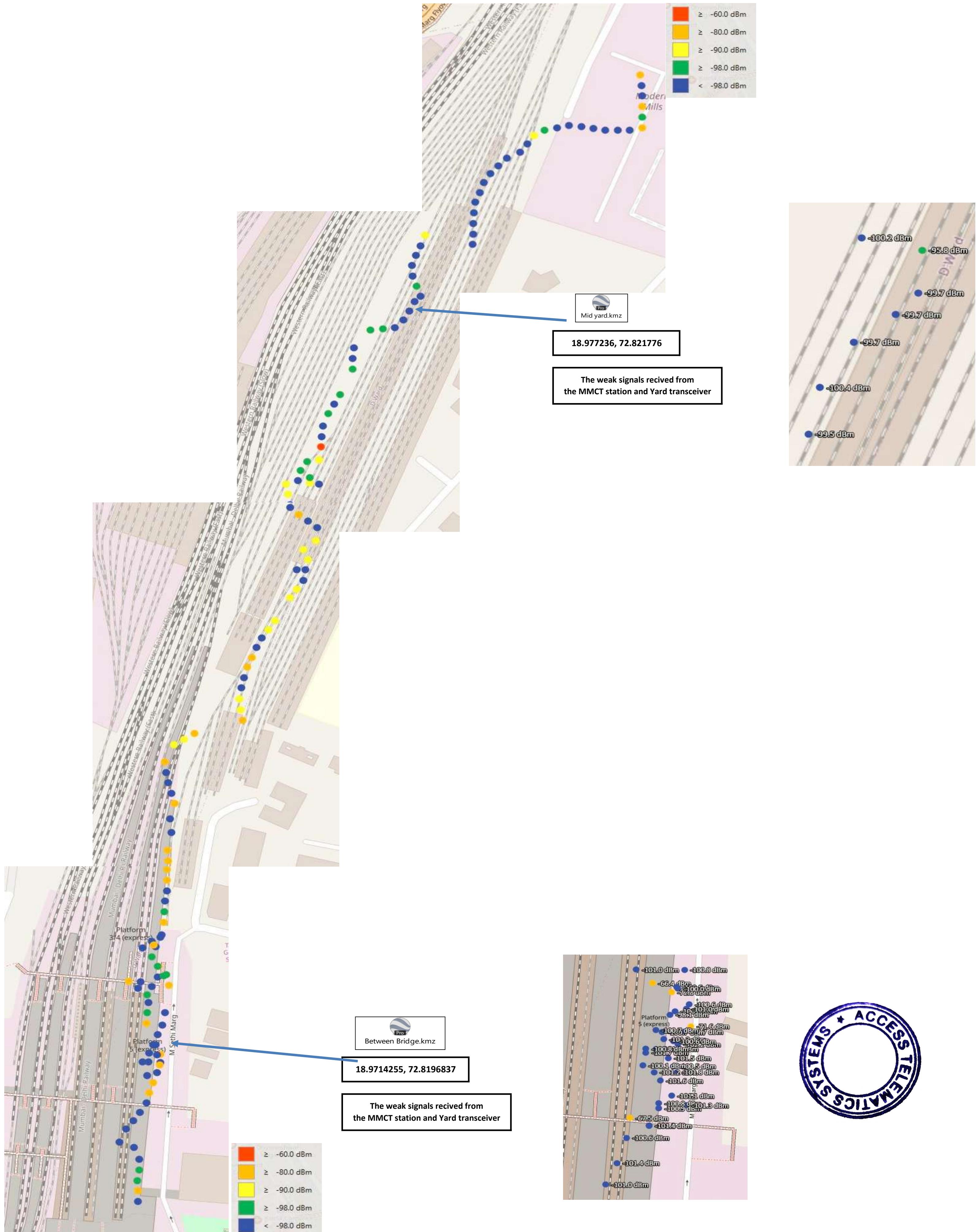


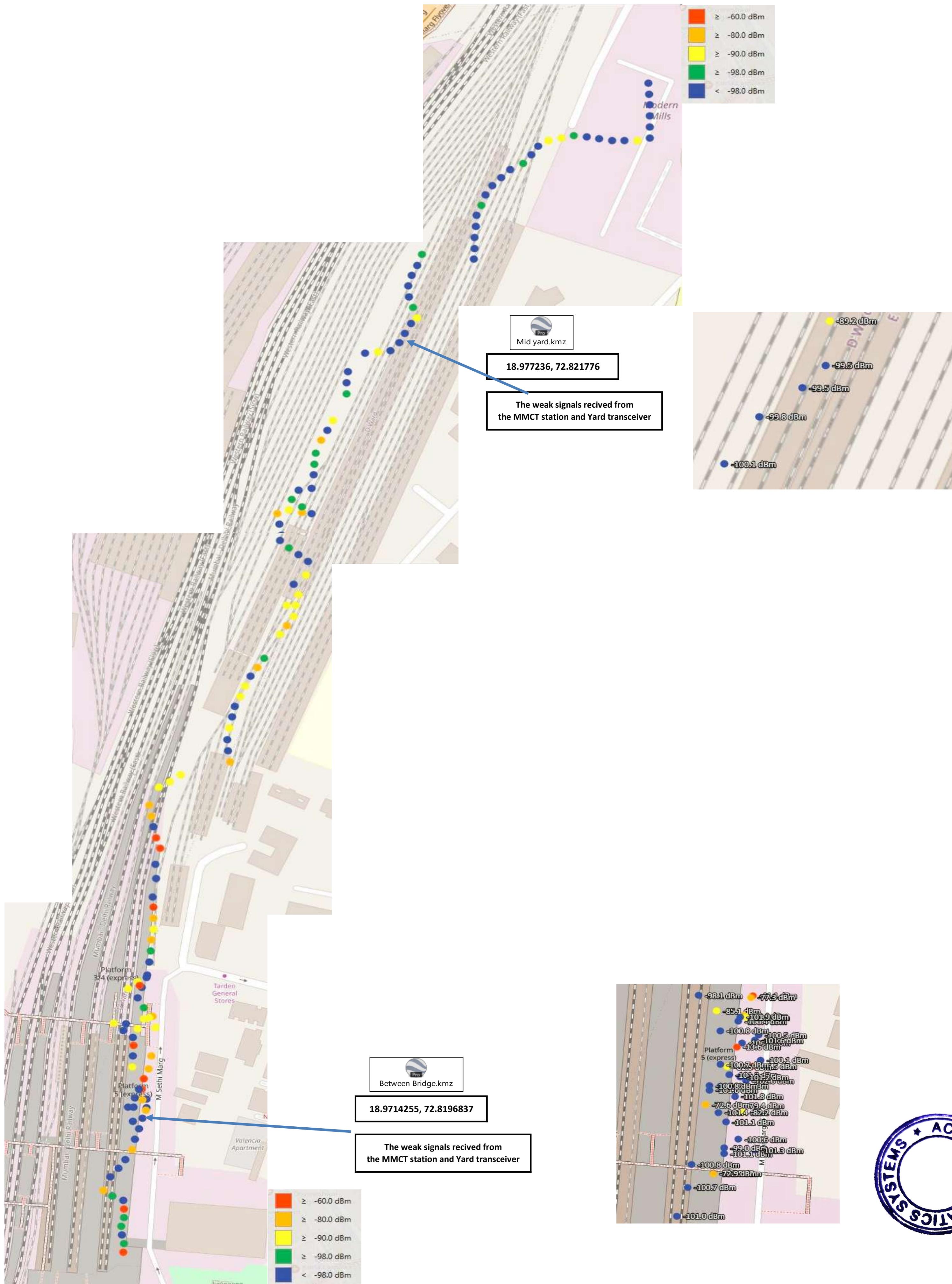
Observation of Dark Zone :- MMCT Yard

SR. NO.	SECTION	Dark Zone	LATITUDE	LONGITUDE	RADIO SIGNAL STRENGTH (in dBm)			Obsevation
					160.4MHz (Command)	161.150MHz (Driver-Guard)	162.1MHz (Shunting)	
1		PF No. 5 North End	18.9714255	72.8196837	100.1	100.2	-101	The weak signals received from the MMCT station and yard transciever
2	MMCT To MX Yard	Middle of Yard	18.977236	72.821776	-100.2	-100.8	-99.8	The weak signals are received from the MMCT station and Yard transceiver

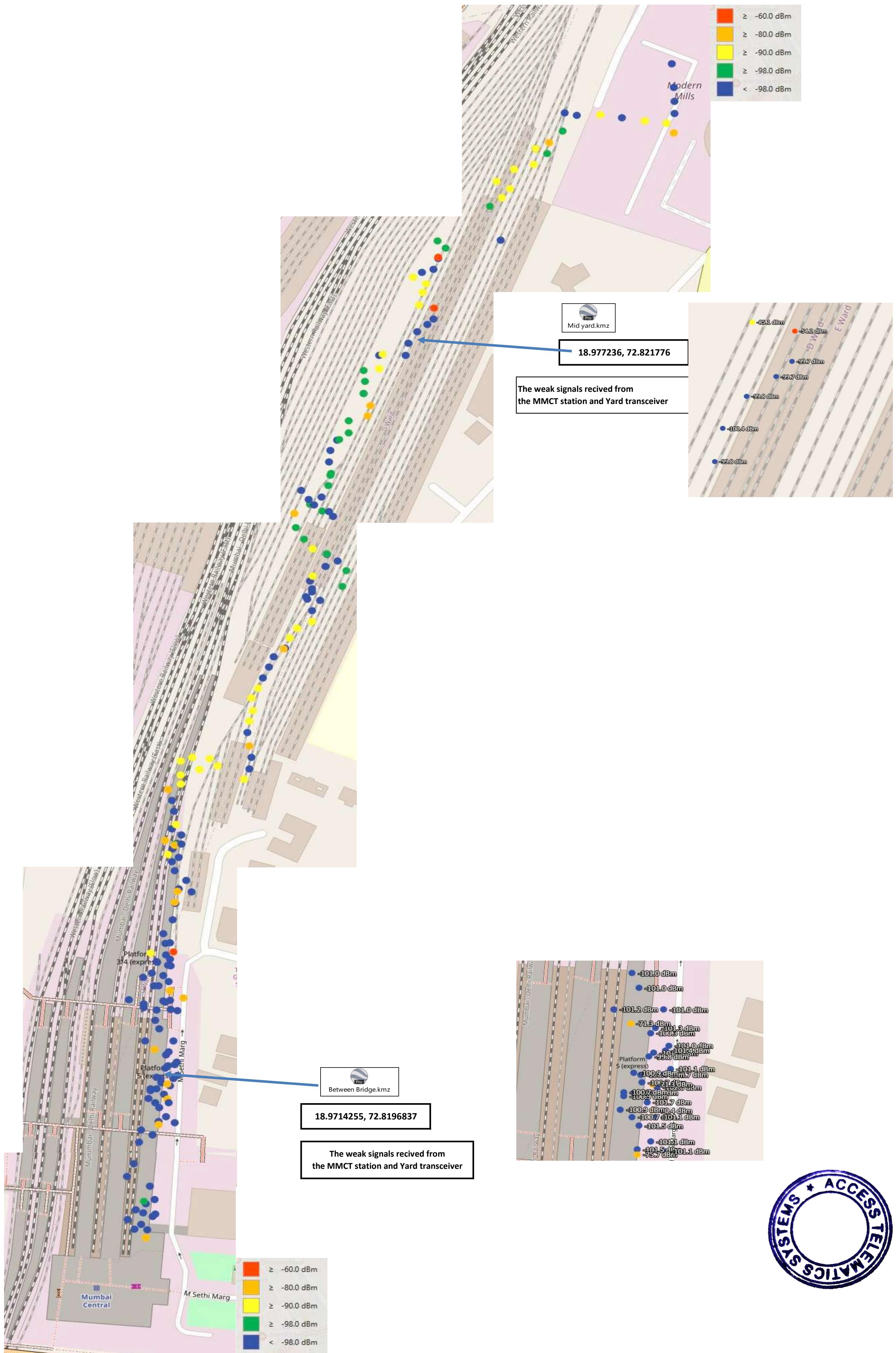


160.400MHz(Comman)-Hit Map





162.100MHz(Shunting)

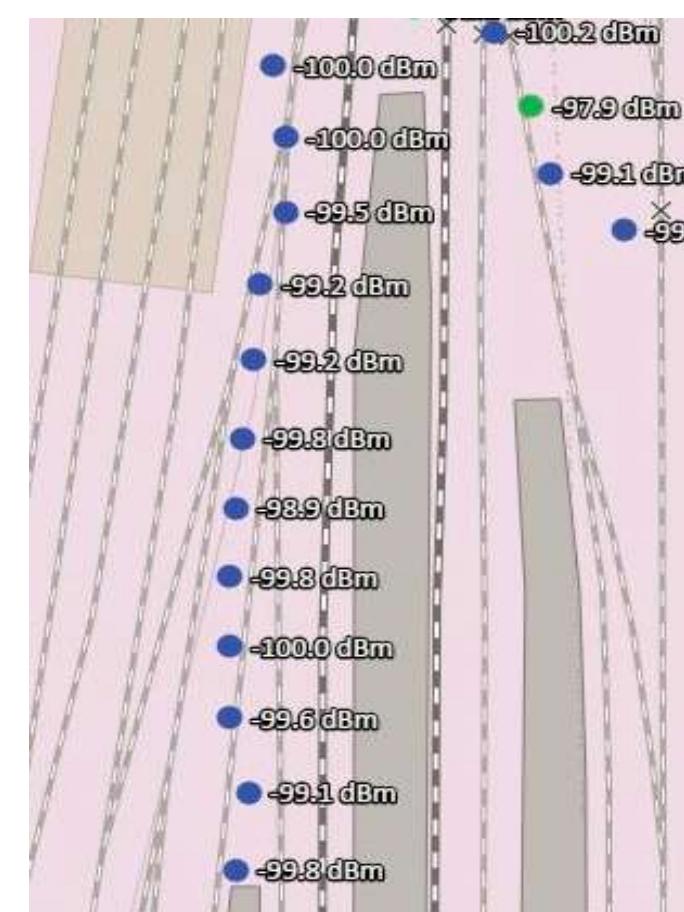
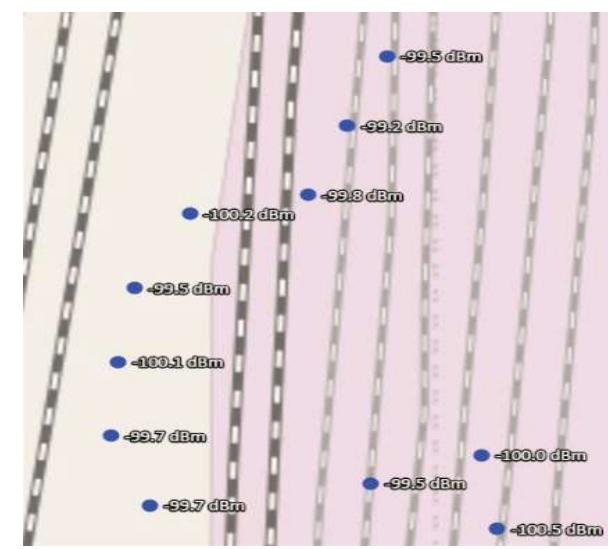
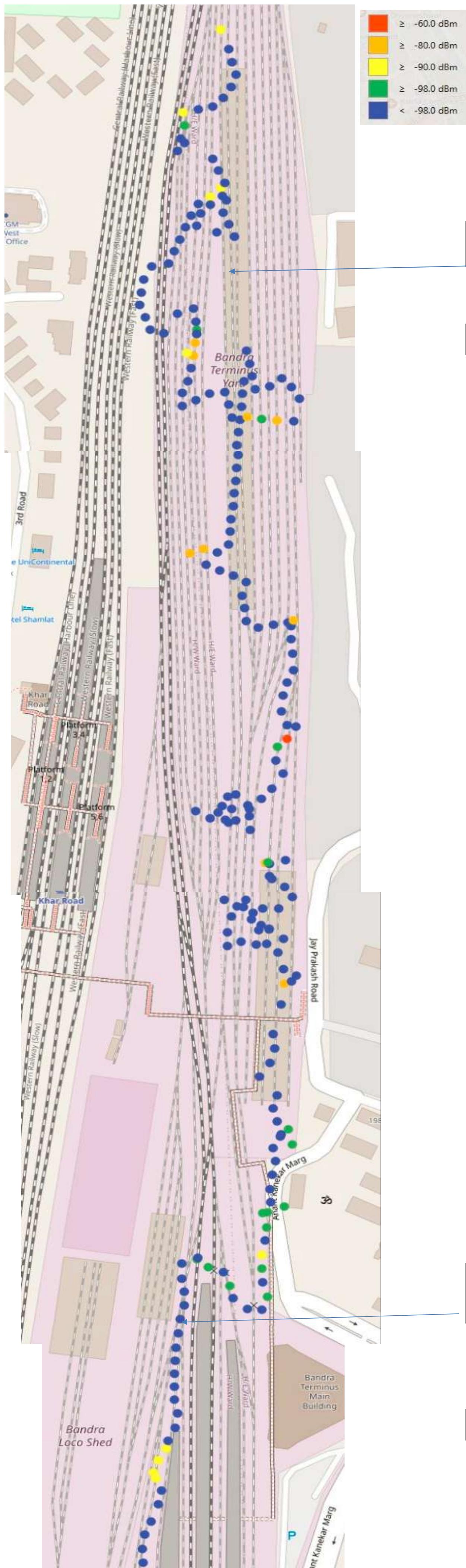


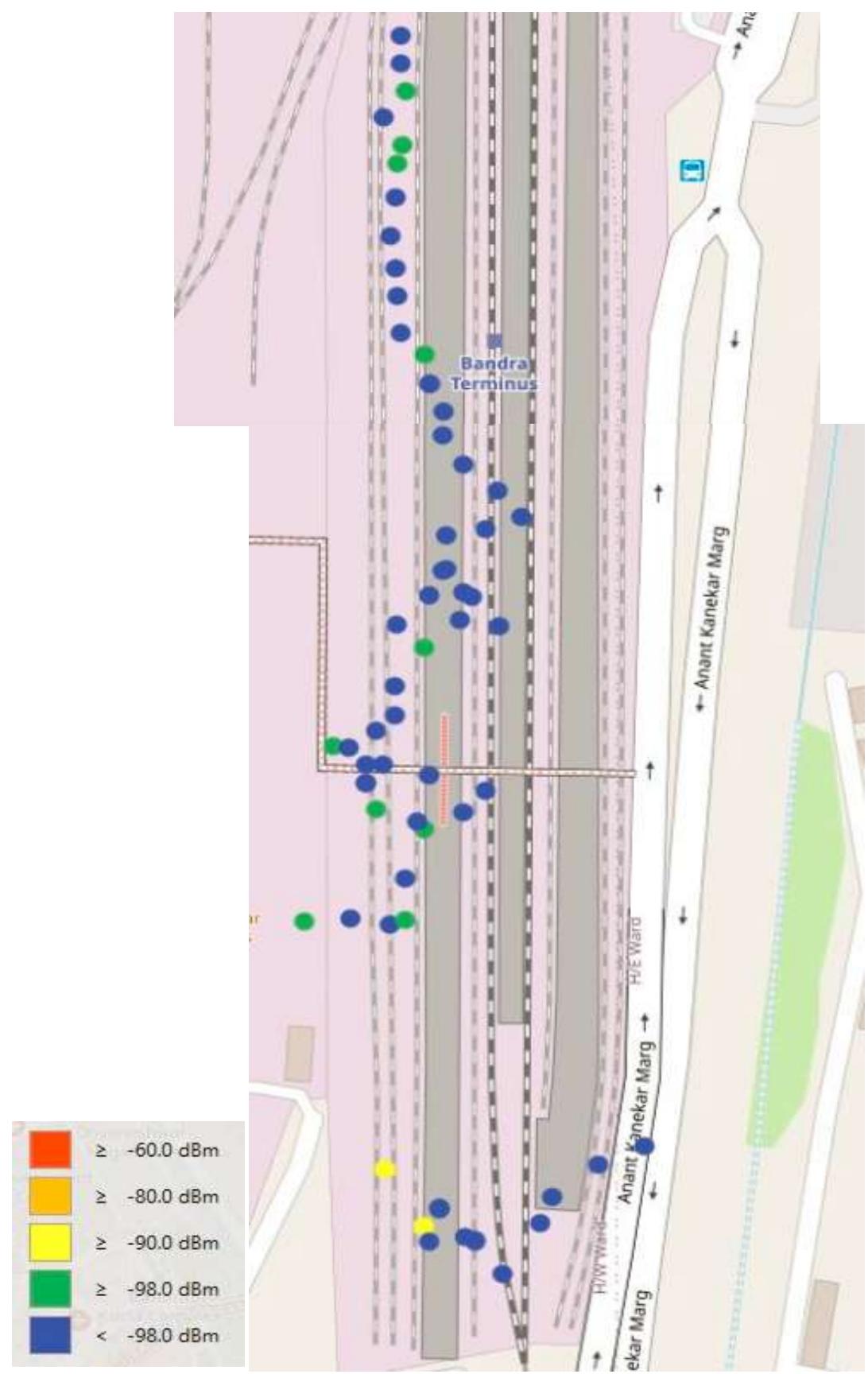
Observation of Dark Zone :- BDTS Yard

SR. NO.	SECTION	Dark Zone	LATITUDE	LONGITUDE	RADIO SIGNAL STRENGTH (in dBm)			Observation
					160.4MHz (Command)	161.150MHz (Driver-Guard)	162.1MHz (Shunting)	
1	Bandra Terminus To Yard	PF No. 6 South End	19.065352	72.840808	-99.5	-99.8	-99.5	The received signals strength are poor at PF no. 6 End Point from BDTS YARD MASTER
2		Washing line Yard start ,OHE NO POLE NO.	19.070149	72.841559	-100	-99.5	-99.7	The weak signals are received from Santacruz Control Tower
3		Washing line Yard middle	19.072187	72.841203	-100.9	-100.4	-99.7	The received signals strength are poor at middle of washing line yard from both transreceiver Santacruz Control Tower and BDTS Yard Master
4		Washing line Yard STC End OHE POLE	19.22883	72.85671202	-99.9	-99.1	-99.2	The weak signals are received from BDTS Yard Master

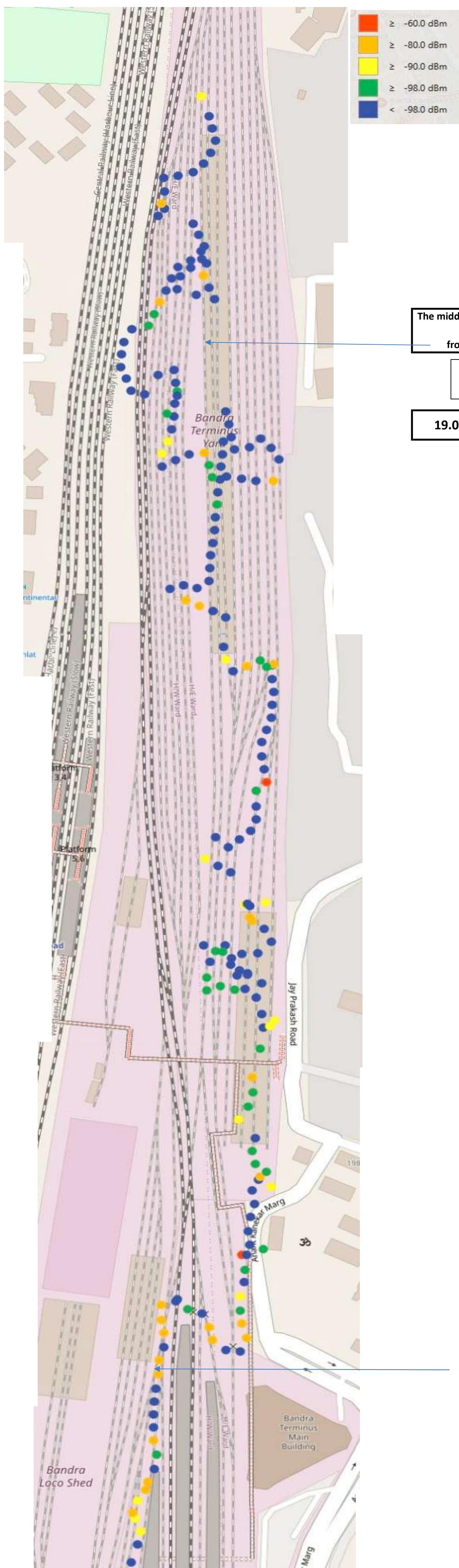


160.400 MHz(Common) -Hit Map





161.150MHz (Driver-Guard)Hit Map

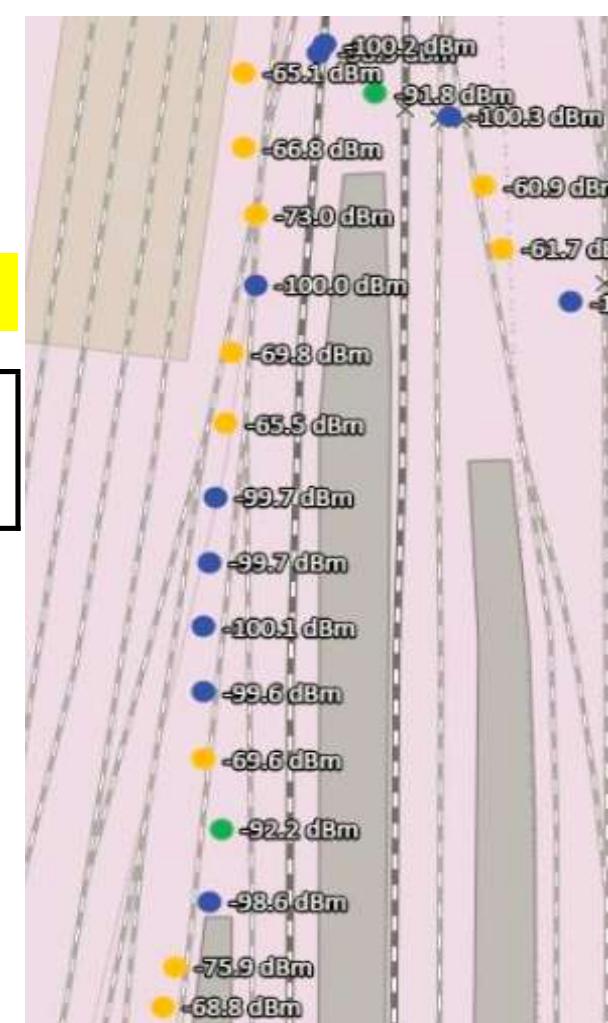
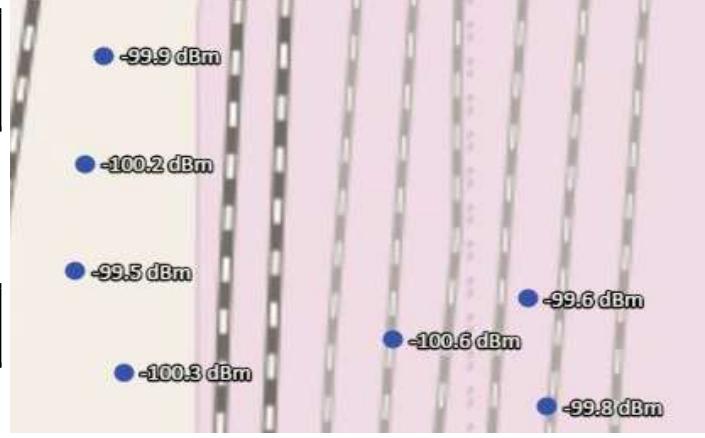


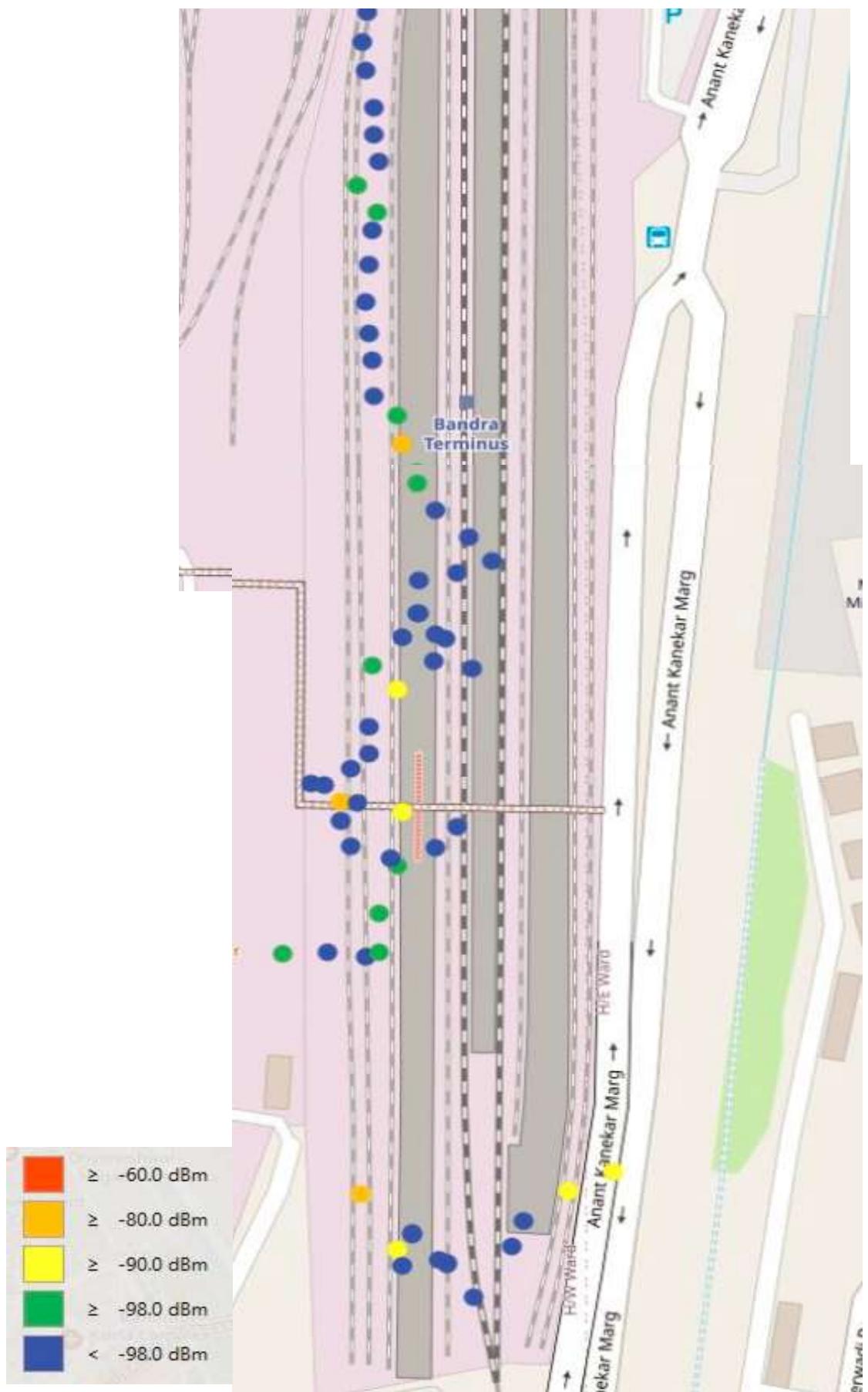
The middle of yard location getting weak signals from both transmitter

19.072317, 72.841162

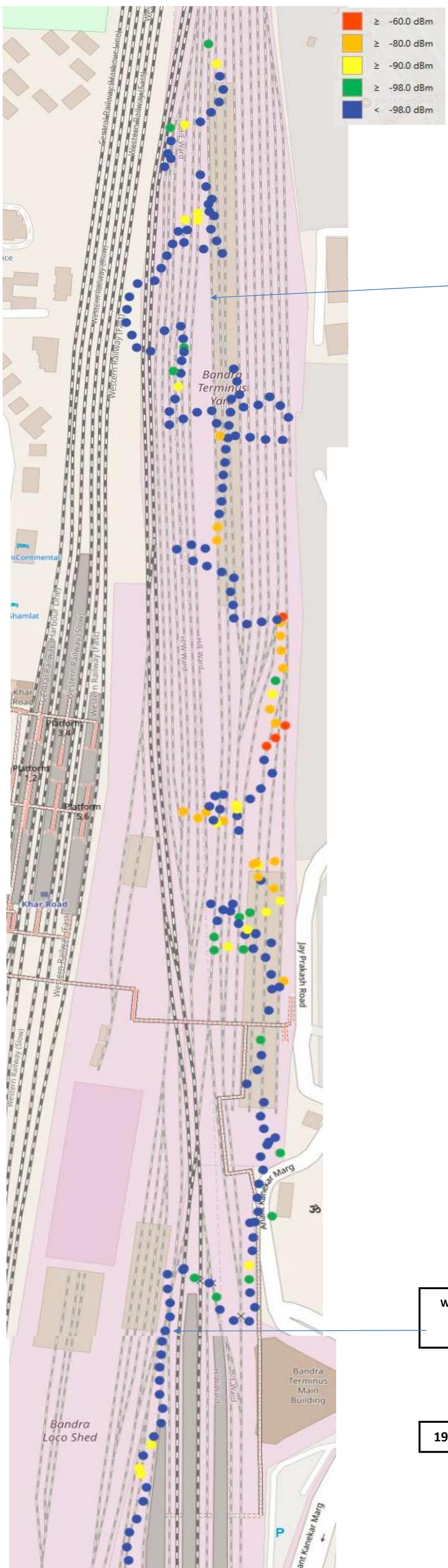
Note: The Strong signals comes from running loco

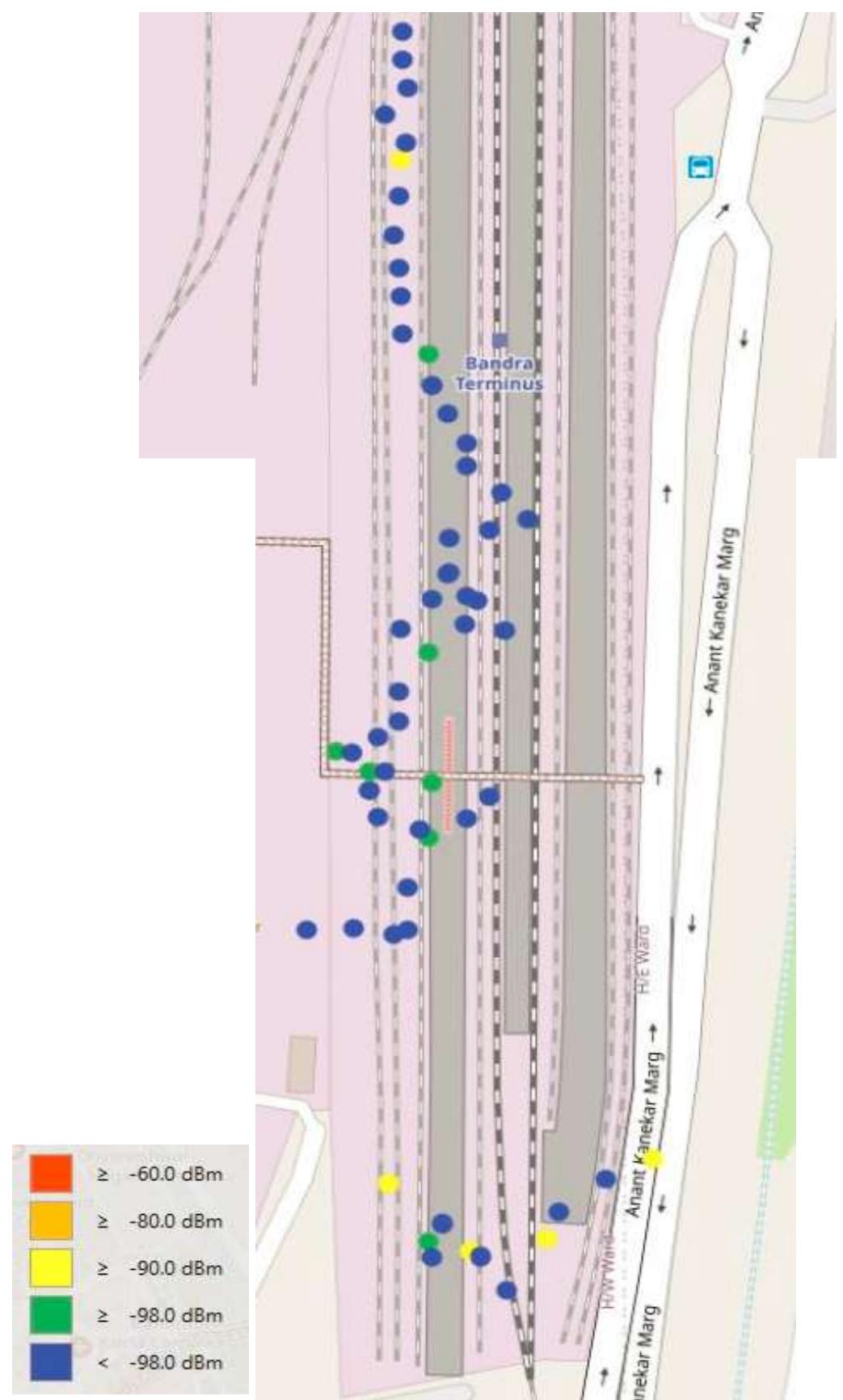
We observed weak signal from both transmitter between PF 6 end and loco shed.



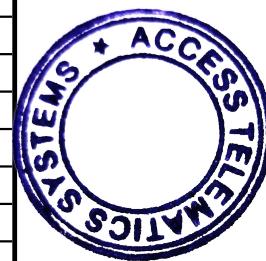


162.100MHz (Shunting)-Hit Map





Observations of Dark Zone for VHF signals 161.15 MHz (Driver-Guard)			
MMCT to SURAT (UP and Down)		Weather condition: Rainy	
Sr.No.	LOCATION NAME	LAT-LONG	Observation
1	Between MMCT and Mahalaxmi	18.980222, 72.822844	Because of Curve and long distance
2	Between Mahalaxmi and Lower Parel	18.98728, 72.82667	Obstruction by Lower Parel Bridge
3	Dadar Station	19.023936, 72.845160	25 watt Antenna situated at station surrounded by brigdges
			Same time Lower Parel Driver-Guard communication was over-laping
4	Between Santacruz and Vile Parle	19.090076, 72.842745	Obstruction by Before Milan Bridge
5	Between Vile Parle and Andheri	19.106350, 72.844822	Obstruction by Captain Gore Flyover bridge
6	Between Andheri and Jogeshwari	19.122775, 72.847009	Obstruction by Metro Bridge(Steel Structure) followed by ROB
7	Jogeshwari Station North-end	19.1377, 72.8489	Obstruction of Balasaheb Thakarey & Mrinal Gore Flyover bridges
8	Between Goregaon and Malad	19.173739, 72.848915	Obstruction by Veer Savarkar Flyover bridge
9	Between Malad and Kandivali	19.198124, 72.850827	Obstruction by Rajguru Flyover bridge
10	Between Kandivali and Borivali	19.198681, 72.850984	Obstruction by Dattapada Flyover bridge
		19.202669, 72.851732	Obstruction by Dattapada Flyover bridge
11	Between Borivali and Dahisar	19.235952, 72.857995	Obstruction by Before Sudhir Phadke Flyover bridge
		19.244168, 72.859138	After Sudhir Phadke Flyover bridge
12	Between Dahisar and Miraroad	19.255060, 72.858740	Obstruction by Dahisar Flyover bridge
		19.268476, 72.857327	Obstruction by After Dahisar Flyover bridge
13	Between Miraroad and Bhayander	19.289982, 72.854814	Obstruction by Mira-Bhayander Flyover bridge
		19.298362, 72.853906	Obstruction by After Mira-Bhayander Flyover bridge
		19.306711, 72.852933	Obstruction by Before Bhayander Station bridge
14	Vasai Creek Railway Bridge South	19.327713, 72.851470	Signals travel over salt water surface, the receiver receive out of phase with the direct signal.
15	Between Vasai and Nallasopara	19.388564, 72.829429	Long Distance No Comunication 740m from Vasai Stn.
16	Between Nallasopara and Virar	19.446939, 72.813373	25 watt Antenna situated at PF 2 and obstructed by brigdge & Buiding
17	Between Virar and Vaitarna	19.543324, 72.85133	No Communication Long distance 5.33 Km from Virar
18	Between Vaitarna and Saphale	19.543324, 72.85133	Because of Curve and 3.8 Km from Vaitarna Stn.
19	Between Saphale and Kelve	19.598794, 72.799739	Because of Curve and long distance 4.2Km From Saphale
20	Between Kelve and Palghar	19.661213, 72.781743	No Communication because of Long distance 11.40KM



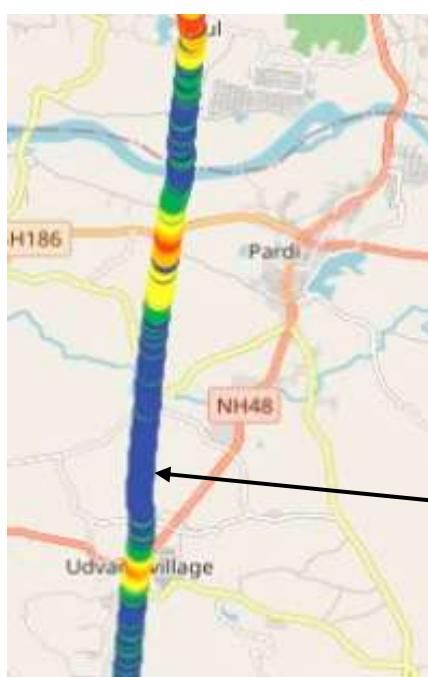
21	Between Palghar and Boisar	19.661222, 72.781750	No Communication because of Long distance and Curve
22	Between Boisar and Vangaon	19.833984, 72.762499	No Communication because of Long distance 9.34 KM
		19.868450, 72.762935	No Communication because of Long distance
23	Between Vangaon and Dahanu Road	19.920223, 72.763995	No Communication because of Long distance and Curve 12.78 KM
24	Between Dahanu Road and Gholvad	20.051377, 72.726523	no communicar because of Curve
25	Between Gholvad and Umargaon	20.114767, 72.760440	No Communication because of Long distance 9.45KM
26	Between Sanjan and Bhilad	20.225204, 72.841150	No Communication because of Long distance 11KM
27	Between Karambeli and Vapi	20.351535, 72.905891	No Communication because of Long distance 6.00 KM
28	Between Vapi and Udvada Village	20.348055, 72.905359	Obstruction by Balitha Bridge
29	Between Udvada Village and Pardi	20.488898, 72.921728	Obstruction of Motiwada Railway Bridge
30	Between Atul and Valsad	20.588911, 72.931801	Obstruction by Wanki River Bridge
31	Between Valsad and Dungri	20.640440, 72.939792	No Communication because of Long distance -9KM
32	Between Dungri and Bilmora	20.722694, 72.962972	Because of Curve path, Wagreich-Desra bridge, Buildings-9.00KM
33	Between Bilmora Amalsad	20.799849, 72.959659	Obstruction by Ambika River Bridge
34	Between Amalsad and Vedchha	20.836583, 72.948250	No Communication because of Long distance-9.64 KM
35	Between Vedchha and Navsari	20.891962, 72.930611	Interference Hansapore Station
36	Between Navsari and Maroli	20.988259, 72.900767	No Communication because of Long distance-8.36 KM
37	Between Maroli and Sachin	21.038166, 72.884696	No Communication because of Long distance- 6.60 KM
38	Between Sachin and Bhestan	21.089715, 72.871589	Obstruction by Between Talangpor and Surat-Kolkata Highway Bridge

Note: Lower Parel CT signal over-lap to Dadar, Matunga Rd. CT
 Mahim CT signal over-ride to Dadar, Matunga Rd. CT Signal

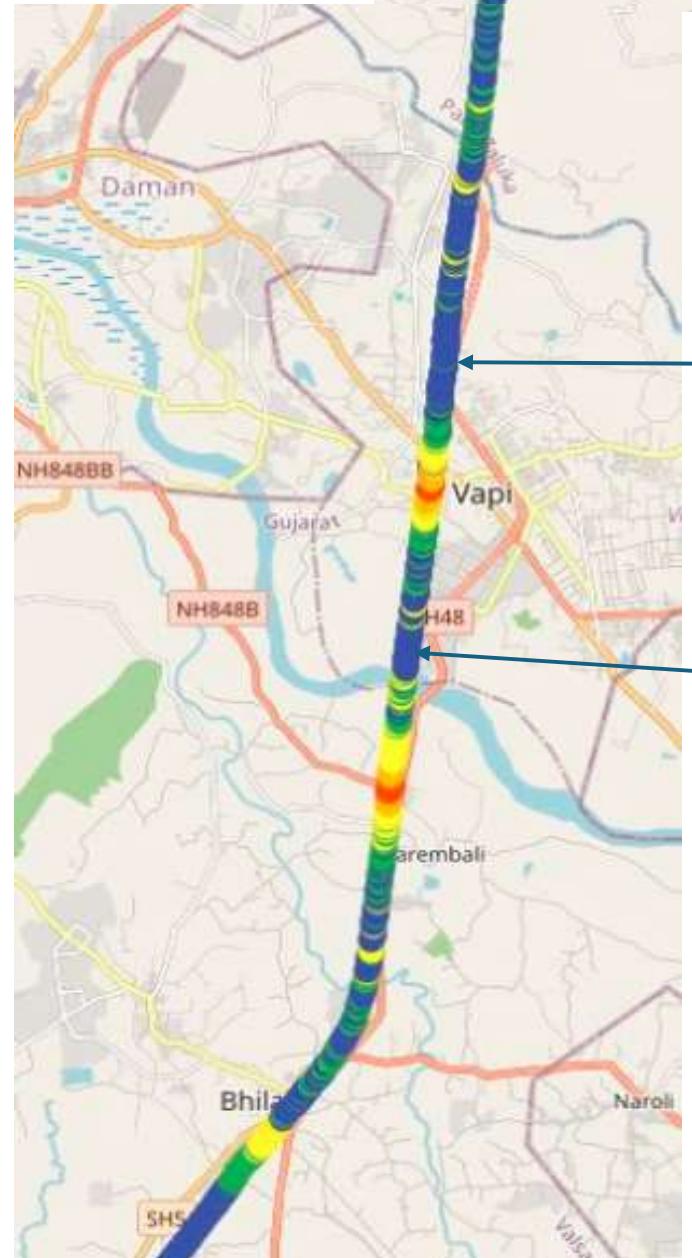


Mumbai Central-Surat- Down line





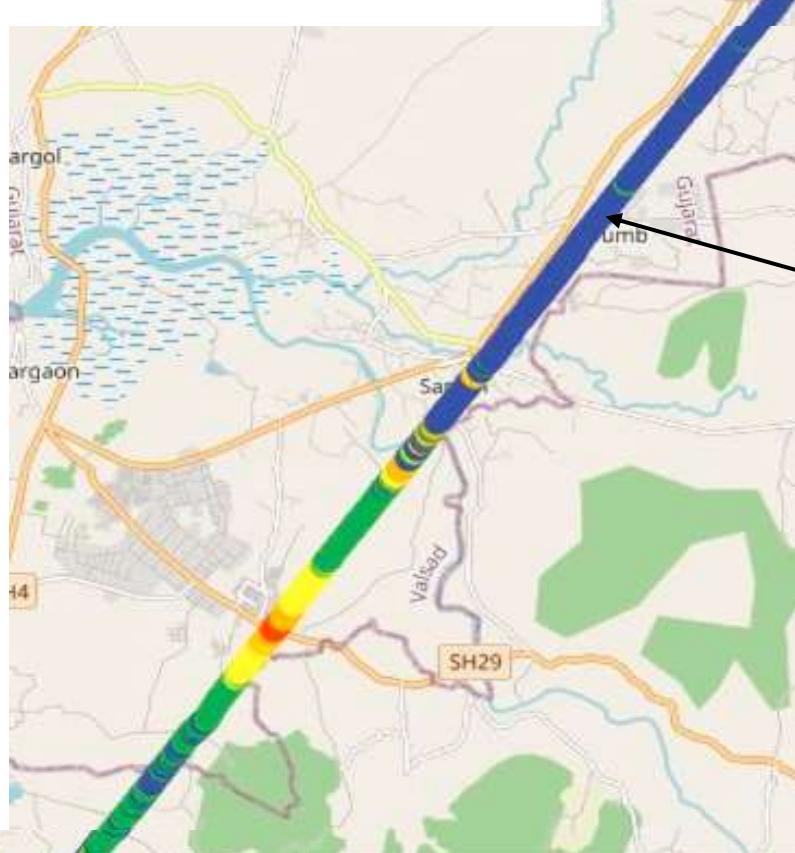
20.488898, 72.921728



20.348055, 72.905359



20.351535, 72.905891



20.225204, 72.841150



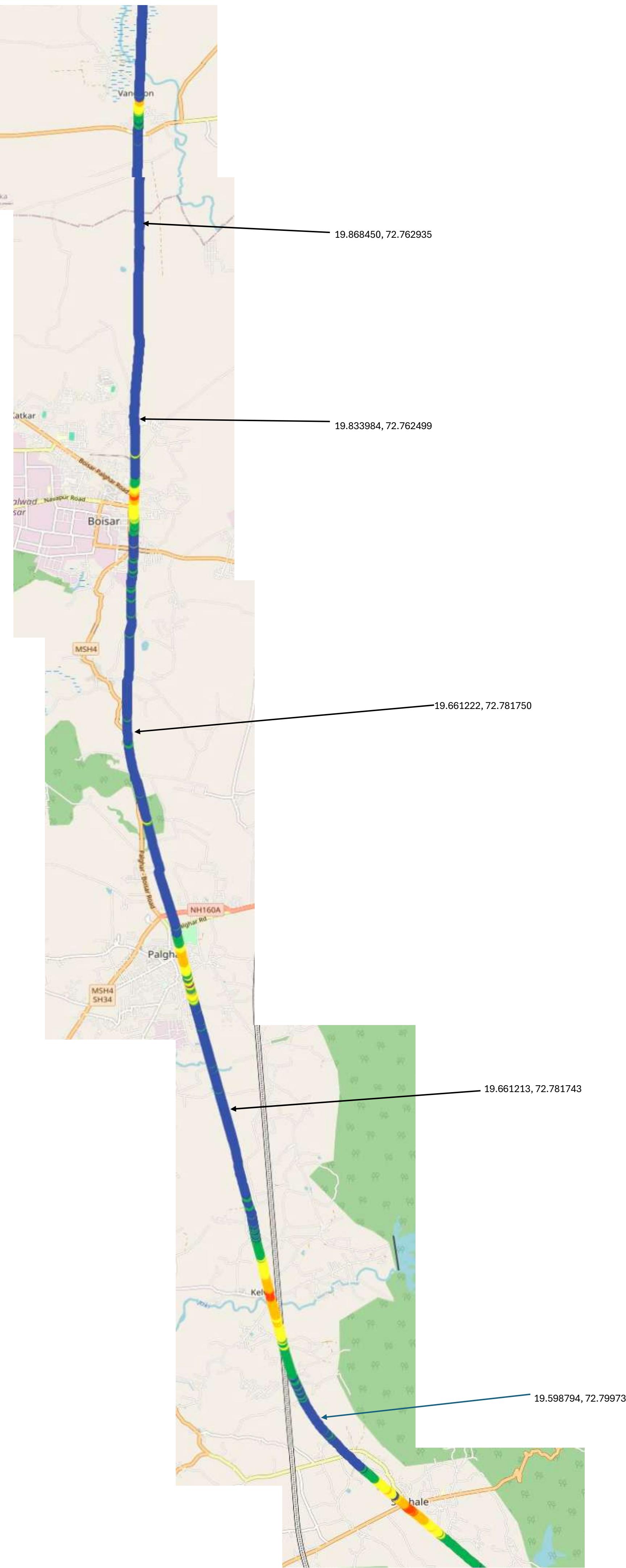
20.114767, 72.760440



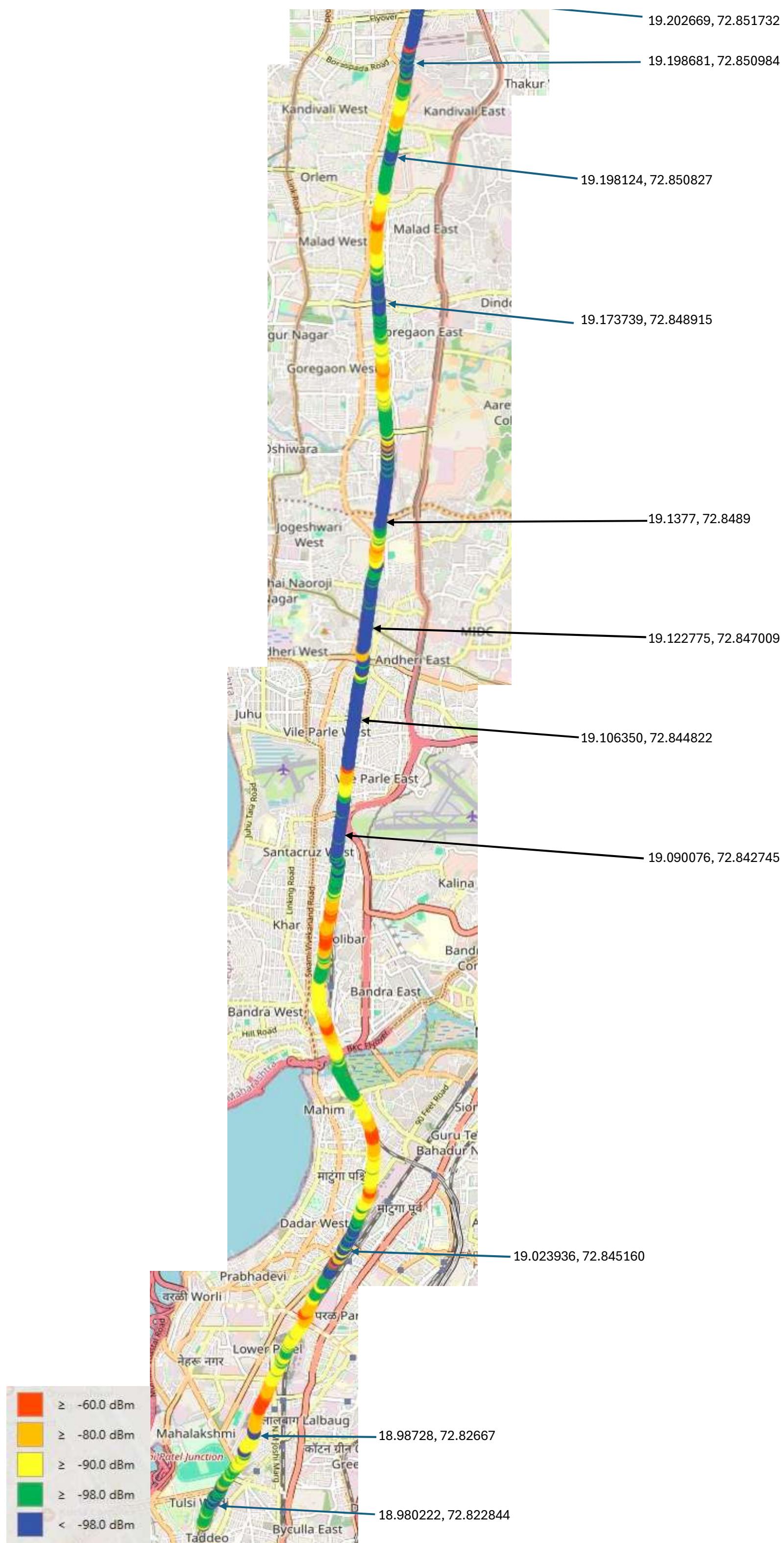
20.051377, 72.726523

19.920223, 72.763995

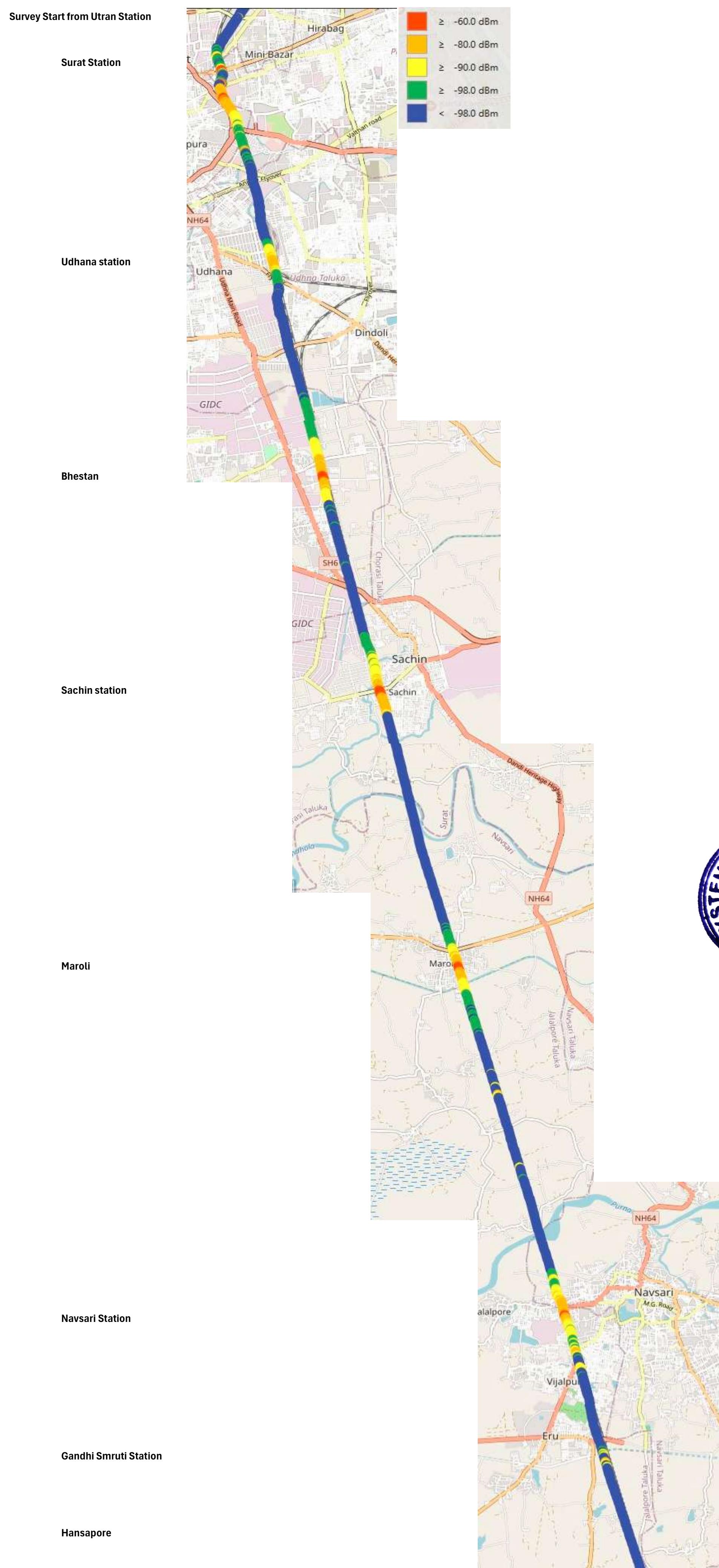


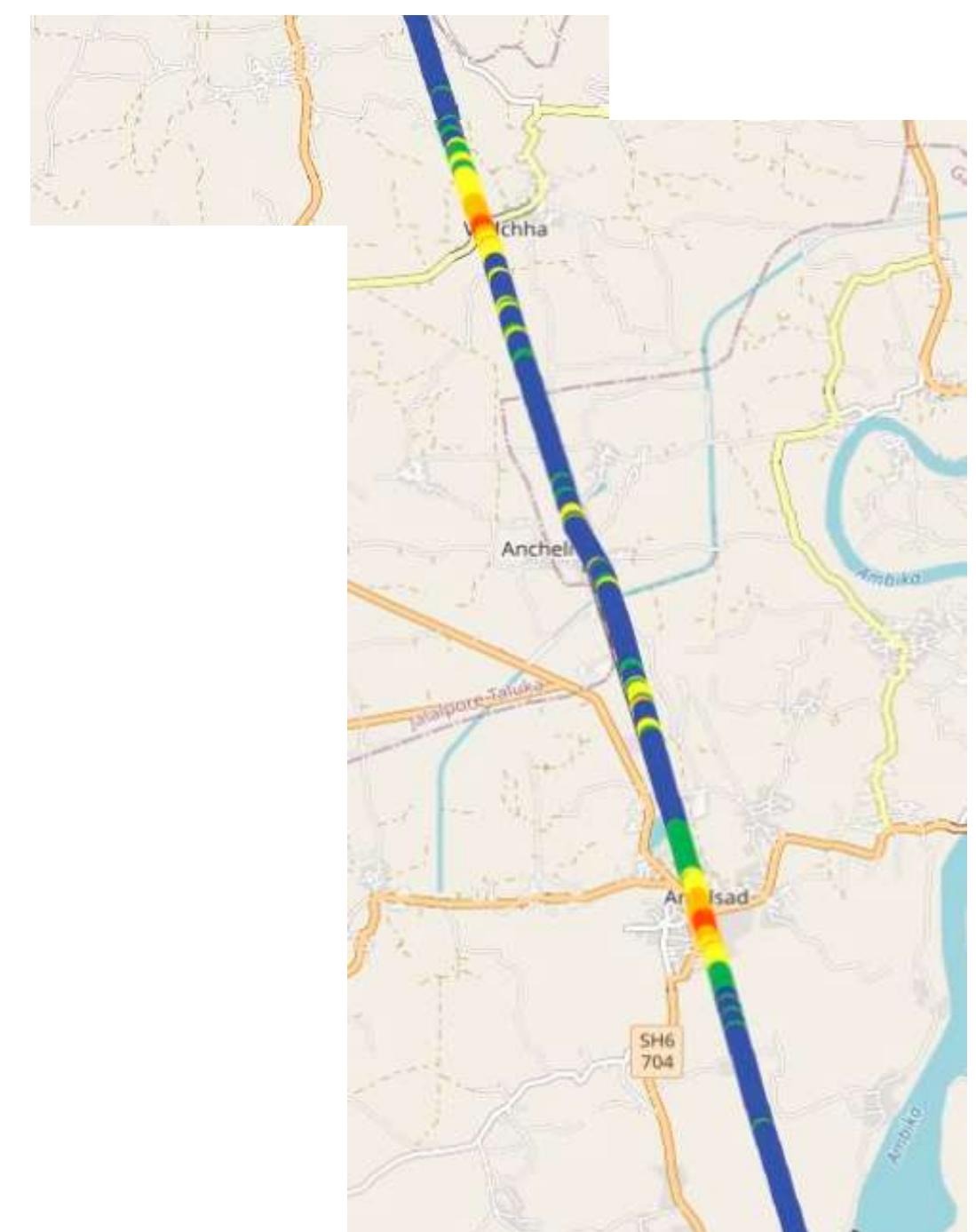






Surat- Mumbai Central- Up Line





Vedchha

Ancheli

Amalsad

Bilimora Junction

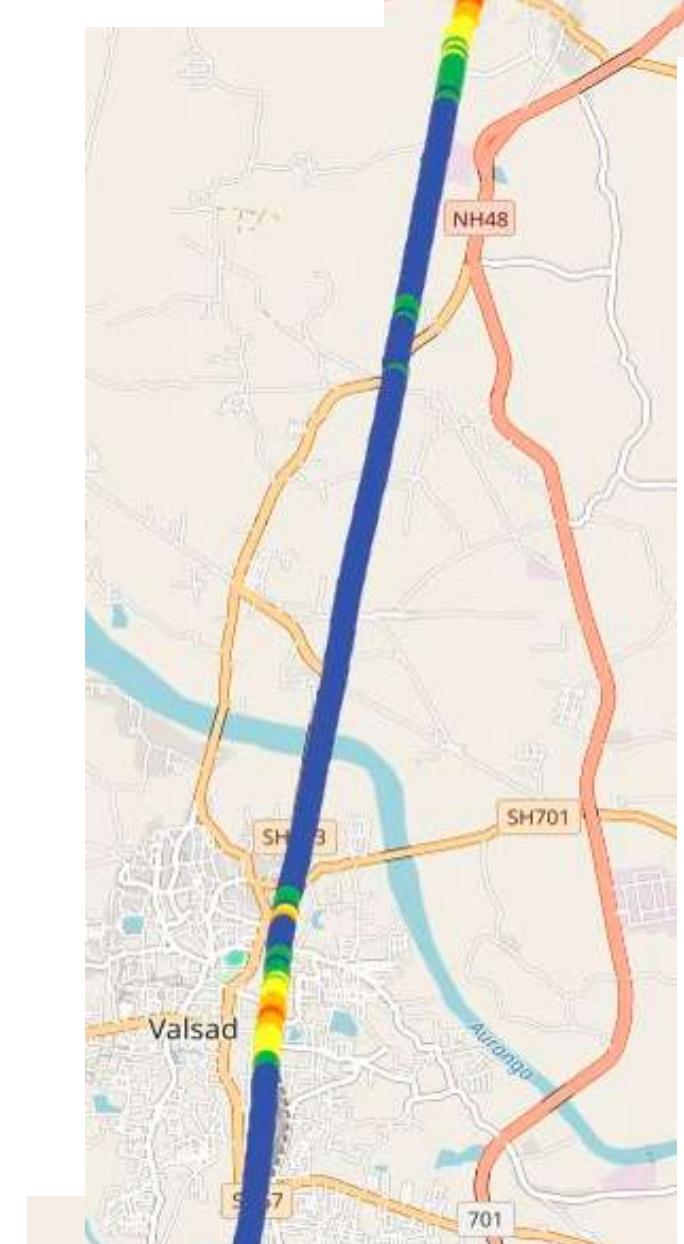
Joravasan

Dungri

Valsad

Atul

Pardi



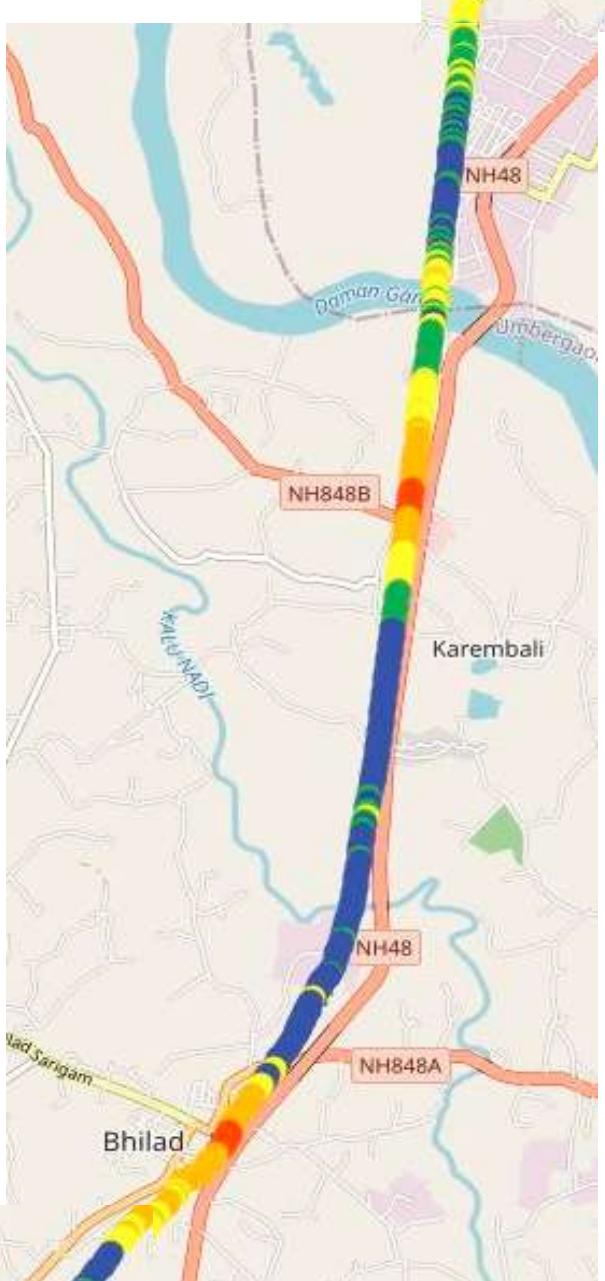
Udvada



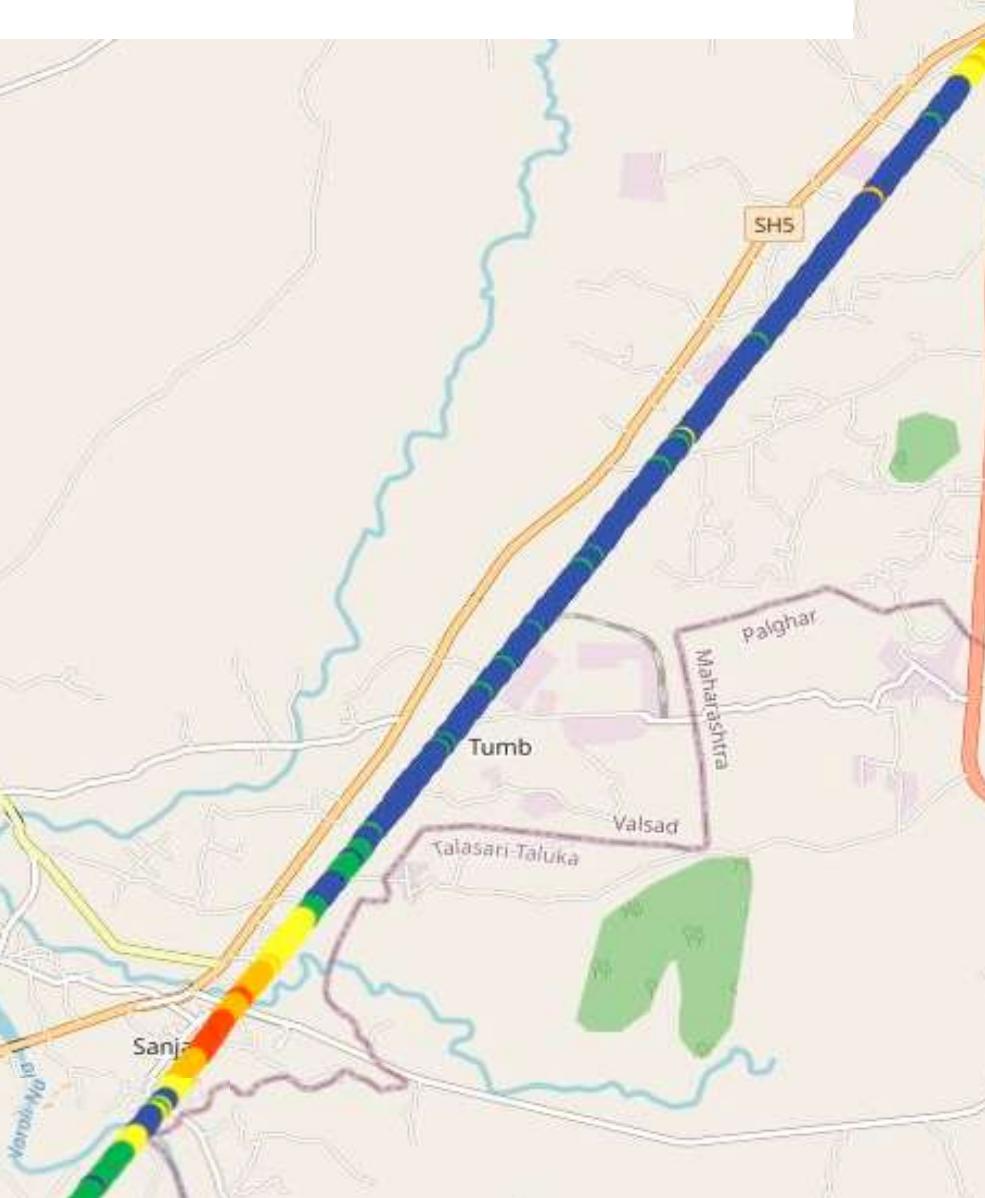
Bagwada



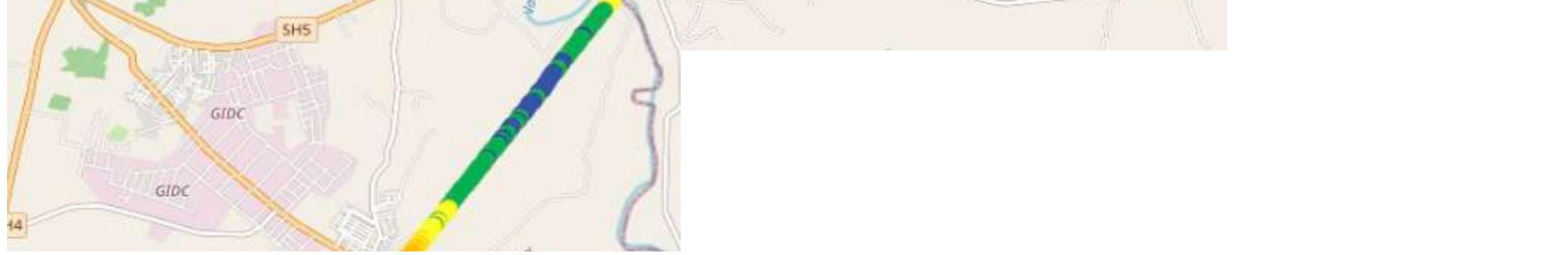
Vapi

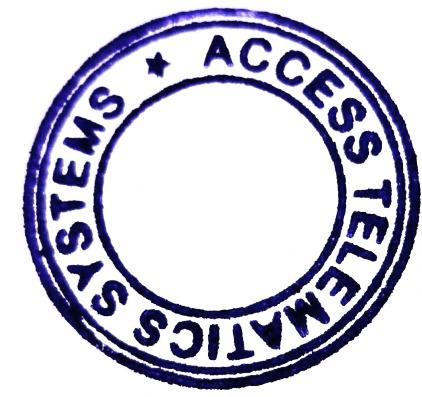


Karambeli



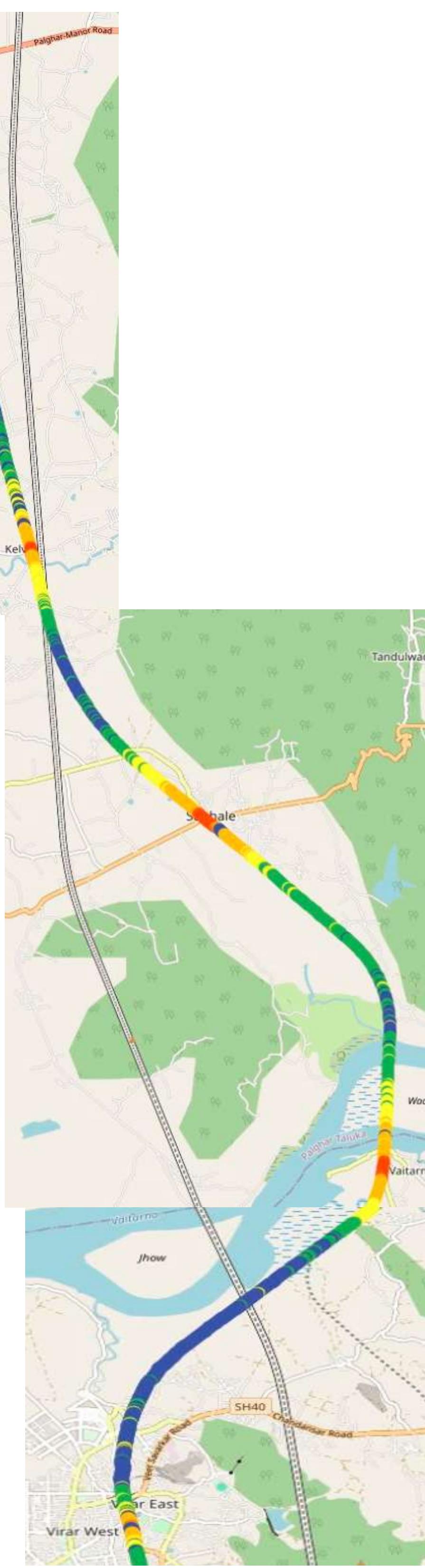
Bhilad







Boisar



Umroli

Palghar

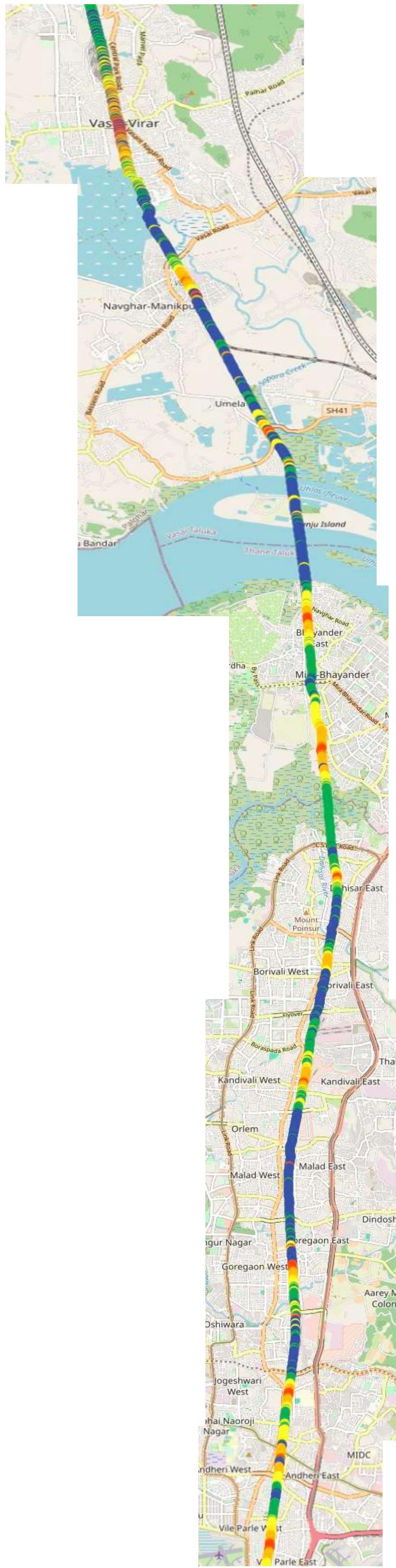
Kelve Road

Saphale

Vaitarna

Virar





Virar Carshed

Nala Sopara

Vasai Road

Naigaon

Bhayandar

Mira Road

Dahisar

Borivali

Kandivali

Malad

Goregaon

Ram Mandir

Jogeshwari

Andheri

Vile Parle

