



# SANCHAR NIGAM EXECUTIVES' ASSOCIATION

## KERALA CIRCLE

(Recognised Majority Association of Executives in BSNL)  
SNEA Bhavan, Dharmalayam Road, TVM-695001

**Circle President**  
**George Varghese**  
**DGM, Ernakulam**  
**Mob: 9447162900**

**Circle Secretary**  
**Jithesh.K.P**  
**SDE, Kannur**  
**Mob: 9447707475**

**Circle Treasurer**  
**Suneer.S**  
**AO, Circle Office**  
**Mob: 9447341693**

**No.SNEA/Kerala/2018-19/II/117**

**dated at TVM**

**the 11<sup>th</sup> July 2020**

To

**Sh. C V Vinod,**  
**Chief General Manager Telecom,**  
**BSNL, Kerala Circle,**  
**Thiruvananthapuram-33**

Respected Sir,

**Sub: Procurement of VSWR meters for the use of BSS field units- suggestions, reg:**

It is learnt that Circle Office has taken some initiative to procure VSWR meters for the use of field BSS units in the Circle. While appreciating the initiative for procurement of tools and testers to check for possible improvement in QoS, we would like to bring the following suggestions while finalising the priorities so as to equip field units with minimum resources required for carrying out passive infrastructure maintenance and rigger works for improving GSM network availability.

1. Field BSS teams have been using Agilent make BTS testers to carryout RF power/ VSWR measurements and spectrum analysis. The last supply of BTS testers to field was during Phase 5 GSM project in 2008-09. Fifty numbers of Agilent E7495B multipurpose BTS testers were procured then spending more than 2.5 crores rupees and given to BSS teams. Majority of them have gone faulty. Cost of spares and maintenance has been very high.
2. The high cost multi function BTS tester weighing around 12kg has been a useful one during the past when count of Motorola and Nortel BTSs in the network was high and due to its accuracy and other related inbuilt features especially during acceptance testing of BTSs. Of course, its heavy weight and low power backup sometimes cause inconvenience at roof top/outdoor BTS sites during prolonged measurements.
3. The vendor wise count of BTSs working in the Circle as on date is given below. It may be noted that more than 80% of 2G BTSs and all 3G BTSs available at present in the network are supplied by Huawei, ZTE & Nokia. VSWR thresholds and alarms can be generated from the RAN itself in the case of these three types of BTSs. Motorola and Nortel RAN doesn't support these features.

SI No.	BTS MAKE	2G	3G	4G
1	HUAWEI	2573	865	0
2	MOTOROLA	331	0	0
3	NOKIA	900	1030	716
4	NORTEL	560	0	0
5	ZTE	1376	2877	0
6	TOTAL	5740	4772	716
		84.48%		

4. Unlike normal VSWR/Power meters, the Agile BTS tester though costly has been helpful to locate the exact point in the RF cable/Antenna/RF connector where reflection losses occur affecting VSWR values. Thus this meter has been useful in sites to locate VSWR faults in Motorola/Nortel and non RRH type Huawei / ZTE BTSs. In RRH type BTSs, normally high VSWR occur at antenna ports/connectors.
5. It is learnt that at least one BTS tester is available at present in every BA to carryout RF testing during emergencies. It is understood from past cost information of VSWR meters that with the cost of a single BTS tester, we may be able to purchase DG battery for BTS sites in one BA or all DGs in BTS sites in a BA can be overhauled or entire rigger payments for a BA for an year can be met so that BAs could ensure some improvement in basic service quality with regard to GSM services. Also, it needs to be considered that mere measurement of VSWR alone doesn't help to improve QoS, but subsequent rigger works are very much required to improve the VSWR values/KPIs. Replacement of faulty RF cables/antennae/RF connectors/RF jumper cables etc may have to be carried out at tower top to improve QoS.
6. As good number of Motorola, Nortel and Non RRH type BTSs in the network are expected to be replaced by RRH/SM type BTSs in upcoming expansion projects, the procurement count of multipurpose BTS tester may be limited to maximum one per BA/District for the time being. The tool can be kept at BA/District HQ and can be shared among BSS sections as per requirement.
7. Also, procurement of some different type of low cost, (compared to multipurpose BTS tester) handy and precise Power/VSWR meter with minimum features may be considered (maximum one per BA/District) to equip field BSS teams. Additional procurement of VSWR meters, if demanded by field units, may be considered at a later stage as and when financial situation of BSNL improves.

Thanking You,

Sincerely Yours



**Jithesh K P**

**Circle Secretary  
SNEA Kerala Circle**

Copy to: The GM (NWO-CM), O/o the CGMT Kerala.