AirNav Indonesia

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Palembang, 1 Februari 2017

Nomor : 10.10/03/LPPNPI/02/2017/ 085
Lampiran : -
Perihal : Izin Pengambilan Data

Kepada Yth,

PEMBANTU DIREKTUR I
POLITEKNIK NEGERI SRIWIJAYA

Di
PALEMBANG

1. Menindaklanjuti Surat dari Pembantu Direktur I Politeknik Negeri Sriwijaya nomor : 0765/PL6.3.1/SP/2017 tanggal 25 Januari 2017 perihal Pengambilan Data.

2. Mengalir butir 1 (satu) disampaikan bahwa kami memberikan izin untuk pengambilan data tersebut, mohon di disampaikan waktu dan lama pelaksanaannya, dalam pelaksanaan pengambilan data yang bersangkutan tidak diberikan Akomodasi dan Transportasi.

3. Demikian disampaikan, atas perhatiannya diucapkan terimakasih.

GENERAL MANAGER

TEGUH HARNOMO

Tembusan Yth. :
- Manager Teknik.

CBPE/Wido/Surat Gm 2017

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SURAT KETERANGAN

Nomor : KET.03.06.02/03/LPPNPI/07/2017/ 039

Yang bertanda-tangan di bawah ini menerangkan bahwa :

Nama	: Ria Oktavia Manalu
NIM	: 061340351497
Jurusan / Prodi	: Teknik Elektro / Sarjana Terapan T. Telekomunikasi
	Politeknik Negeri Sriwijaya

Telah melaksanakan penelitian di Perum LPPNPI Kantor Cabang Madya Palembang yang dilaksanakan tanggal 06 Maret 2017 s/d 31 Maret 2017 guna pengambilan data pembuatan laporan akhir.

Demikian surat ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Dikeluarkan di :
Palembang, 21 Juli 2017
a.n GENERAL MANAGER
MANAGER TEKNIK

SRIYONO WAHYUDI

6	RF Cables VSWR	NA	≤1.5
7	RF Cables Loss *)	4 dB	±1.5 dB
8	Rx Sensitivity	≤ -85 dBm	NA
9	Transponder RF Carrier Frequency	1090 MHz	±1 MHz
10	Transponder Tx Peak Power	Maximum Power: 5 W ±3 dB (37 dBm ±3 dBm) ... The power is adjusted individually according to given site.	2.5 W – 10 W 34 – 40 dBm It is checked power, which was adjusted during installation, toleration is ±3 dB.

Note: *) ... this value depend on real lenght of installed RF cables between transmitters and antenna.

The measurements should be carried out by a trained personnel certified to maintain and operate the MSSR-1 radar.

3.3.1 Tx Frequency and Peak Power Measurement

The radar should operate in Mode 3/A or Mode C. The Tx power of the standby interrogator should be switched ON.

Tx peak power and is measured for the signal taken from the R6143 directional couplers. Two couplers for SUM and OMEGA transmitters are assembled in the EPS panel, see ***Fig. 12***. The input of the coupler is connected to the transmitter of the interrogator, which is in hot-standby mode. The coupler output is terminated on a 50 Ω dummy load.

The peak power is measured by the Power Meter supplied with the radar equipment. The power sensor of the Power Meter has to be connected to XT3 (N connector) directly. The cable that connects XT3 connector and a nearby detector connector (shown in a bold line in ***Fig. 12***) should be disconnected.

The Power Meter mode is set into "Pulse Mode".

The R6143 coupler has a calibrated insertion loss that should be added to the Power Meter reading. The insertion loss of each coupler is provided on the label attached to the coupler. The coupler 51 dB insertion loss shown in the figure below is a typical example; the real value of insertion loss should be used instead.

If a RF jumper is used to connect the power sensor to the XT3 connector, the jumper's loss should be added to the Power Meter reading as well.

The Tx signal carrier frequency is measured with a Protek Frequency Counter connected to the TMOS block 1030 MHz OUT connector (SMA).

3.3 Parameters Measurements

MSSR-1 electronics do not require any tunings or adjustments. However, regular measurements are desirable to make sure that the electronics are in a good order. This is also useful for diagnostics to prevent potential degradation of the radar due to aging parts.

Most of the measurements do not require an interruption of radar operation. However, if an interruption is required, it is recommended that measurements are taken about during a low-traffic period.

The following parameters are to be measured annually:

- Tx RF carrier frequency
- Tx Peak Power
- Tx Pulse Shape
- Tx Spurious Radiation and Signal Spectrum Bandwidth
- SUM, DIFF and OMEGA Rx Sensitivity
- Test Transponder RF Carrier Frequency
- Test Transponder Peak Power

The following parameters are measured only at failure of RF cable route to antenna.

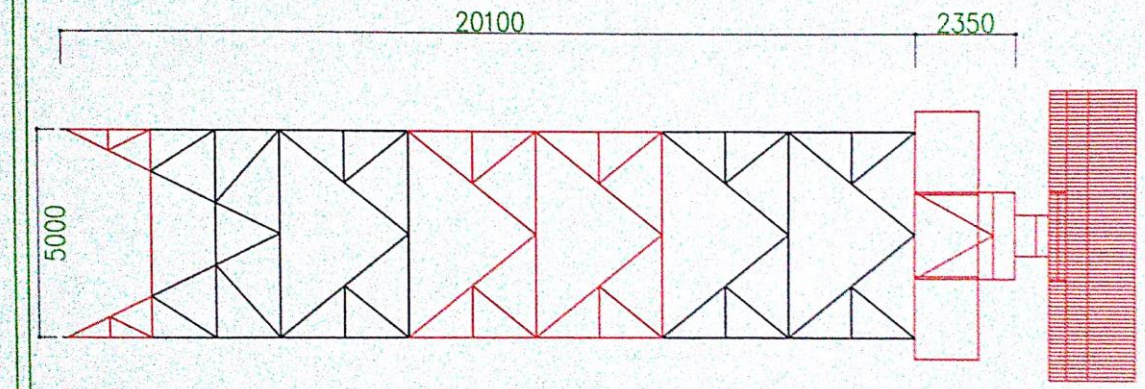
- SUM, DIFF and OMEGA RF Cables VSWR and Insertion Loss

The last two annual measurements are not related directly to the functionality of the radar interrogators. They are conducted to verify the current status of the Test Transponder only.

The nominal values and tolerances of the measured parameters are given in the ***Table 1.***

Table 1: Nominal Value and Tolerance of Measured Parameters

	Parameter	**Nominal**	**Tolerance**
1	Tx RF Carrier Frequency	1030 MHz	±0.01 MHz
2	Tx Peak Power	2.8 kW (64.47 dBm)	2.4 – 3.6 KW (-0.6 dB – +1.1 dB)
3	Tx Signal Spectrum	As per Section 3.1.2.1.2 of Annex 10, Volume 4 to Convention on International Civil Aviation	NA
4	Tx Spurious Radiation	As per Section 3.1.1.11.1 of Annex 10, Volume 4 to Convention on International Civil Aviation	NA
5	Tx Pulse Shape	As per Section 3.1.2.1.4.1 of Annex 10, Volume 4 to Convention on International Civil Aviation	NA



SHOP DRAWING

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The Very Best For Safety

PROYEK :
RADAR ELDIS MSSR

DI GAMBAR	DI SETUJUI
SKALA	NO LEMBAR
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